الاتحاد الدولي للاتصالات
قطاع الاتصالات الراديوية

منشورات ITU
التوصيات

# التوصية ITU-R M.2175-0

**(2026/04)**

السلسلة M: الخدمة المتنقلة وخدمة التحديد الراديوي للموقع وخدمة الهواة والخدمات الساتلية ذات الصلة

# خصائص البث غير المطلوب من المحطات المتنقلة التي تستعمل السطوح البينية الراديوية للأرض للاتصالات المتنقلة الدولية-2020

## تمهيد

يضطلع قطاع الاتصالات الراديوية بدور يتمثل في تأمين الترشيد والإنصاف والفعالية والاقتصاد في استعمال طيف الترددات الراديوية في جميع خدمات الاتصالات الراديوية، بما فيها الخدمات الساتلية، وإجراء دراسات دون تحديد لمدى الترددات، تكون أساساً لإعداد التوصيات واعتمادها.

ويؤدي قطاع الاتصالات الراديوية وظائفه التنظيمية والسياساتية من خلال المؤتمرات العالمية والإقليمية للاتصالات الراديوية وجمعيات الاتصالات الراديوية بمساعدة لجان الدراسات.

## حقوق الملكية الفكرية

يسترعي الاتحاد الانتباه إلى أن تطبيق هذه التوصية أو تنفيذها قد يستلزم استعمال حق من حقوق الملكية الفكرية. ولا يتخذ الاتحاد أي موقف من القرائن المتعلقة بحقوق الملكية الفكرية أو صلاحيتها أو نطاق تطبيقها سواء طالب بها عضو من أعضاء الاتحاد أو طرف آخر لا تشمله عملية إعداد التوصيات.

وعند الموافقة على هذه التوصية، كان الاتحاد قد تلقى إخطاراً بملكية فكرية تحميها براءات الاختراع يمكن المطالبة بها لتنفيذ هذه التوصية. ومع ذلك، ونظراً إلى أن هذه المعلومات قد لا تكون هي الأحدث، يوصى المسؤولون عن تنفيذ هذه التوصية بالاطلاع على معلومات براءات الاختراع ذات الصلة لقطاع الاتصالات الراديوية المتاحة في الموقع الإلكتروني: https://www.itu.int/en/ITU-R/study-groups/Pages/itu-r-patent-information.aspx.

### سلاسل توصيات قطاع الاتصالات الراديوية

(يمكن الاطلاع عليها أيضاً في الموقع الإلكتروني https://www.itu.int/pub/R-REC/ar)

| السلسلة | العنوان |
|---|---|
| **BO** | البث الساتلي |
| **BR** | التسجيل من أجل الإنتاج والأرشفة والعرض؛ الأفلام التلفزيونية |
| **BS** | الخدمة الإذاعية (الصوتية) |
| **BT** | الخدمة الإذاعية (التلفزيونية) |
| **F** | الخدمة الثابتة |
| **M** | **الخدمة المتنقلة وخدمة التحديد الراديوي للموقع وخدمة الهواة والخدمات الساتلية ذات الصلة** |
| **P** | انتشار الموجات الراديوية |
| **RA** | علم الفلك الراديوي |
| **RS** | أنظمة الاستشعار عن بُعد |
| **S** | الخدمة الثابتة الساتلية |
| **SA** | التطبيقات الفضائية والأرصاد الجوية |
| **SF** | تقاسم الترددات والتنسيق بين أنظمة الخدمة الثابتة الساتلية والخدمة الثابتة |
| **SM** | إدارة الطيف |
| **SNG** | التجميع الساتلي للأخبار |
| **TF** | إرسالات الترددات المعيارية وإشارات التوقيت |
| **V** | المفردات والمواضيع ذات الصلة |

***ملاحظة:*** *تمت الموافقة على النسخة الإنكليزية لهذه التوصية الصادرة عن قطاع الاتصالات الراديوية بموجب الإجراء الموضح في القرار ITU-R 1.*

*النشر الإلكتروني*
جنيف، 2026

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التوصية ITU-R M.2175-0

# خصائص البث غير المطلوب من المحطات المتنقلة التي تستعمل السطوح البينية الراديوية للأرض للاتصالات المتنقلة الدولية–2020

(2026)

## مجال التطبيق

تتناول هذه التوصية خصائص البث غير المطلوب من المحطات المتنقلة (معدات المستعمل) التي تستعمل السطوح البينية الراديوية للمكون الأرضي للاتصالات المتنقلة الدولية–2020 والتي تعمل على ترددات ضمن النطاقات المحددة للاتصالات المتنقلة الدولية، استناداً إلى المادة المقدمة إلى الاتحاد من منظمات خارجية.

ويمكن للإدارات أن تستخدم خصائص البث غير المطلوب هذه لضمان التوافق الداخلي بين شبكات الأرض للاتصالات المتنقلة الدولية–2020، شريطة الامتثال للوائح الراديو.

ويمكن اعتبار هذه الخصائص أساساً تقنياً مشتركاً لتداول مطاريف الاتصالات المتنقلة الدولية–2020 على الصعيد العالمي، وقد تتيح أيضاً توجيهات للإدارات فيما يخص وضع اللوائح على المستوى الوطني.

## مصطلحات أساسية

الاتصالات المتنقلة الدولية–2020، خصائص البث، البث خارج النطاق، البث الهامشي، البث غير المطلوب، المحطة المتنقلة

## الاختصارات

ACLR نسبة التسرب في القنوات المجاورة (*Adjacent Channel Leakage Ratio*)

ACS انتقائية القناة المجاورة (*Adjacent Channel Selectivity*)

A-MPR تخفيض إضافي في القدرة القصوى (*Additional Maximum Power Reduction*)

BCS مجموعة توليفة عرض النطاق (*Bandwidth Combination Set*)

CA تجميع الموجات الحاملة (*Carrier Aggregation*)

CC الموجة الحاملة المكونة (*Component Carrier*)

DC التوصيلية المزدوجة (*Dual Connectivity*)

DFT تحويل فورييه المتمايز (*Discrete Fourier Transform*)

DL الوصلة الهابطة (*Downlink*)

EIRP القدرة المشعة المكافئة المتناحية (*Equivalent Isotropically Radiated Power*)

EIS الحساسية المتناحية الفعالة (*Effective Isotropic Sensitivity*)

ENBW عرض النطاق المجمَّع لكتلة فرعية في النفاذ E-UTRA وكتلة فرعية مجاورة لتكنولوجيا الراديو الجديد (NR) (*The aggregated bandwidth of an E-UTRA sub-block and an adjacent NR sub-block*)

EN-DC التوصيلية المزدوجة لمعياري E-UTRA-NR (*E-UTRA/NR DC*)

E-UTRA النفاذ الراديوي للأرض العالمي المتطور (*Evolved-UMTS Terrestrial Radio Access*)

EVM مقدار متّجه الخطأ (*Error Vector Magnitude*)

FDD إرسال مزدوج بتقسيم التردد (*Frequency division duplex*)

FR مدى الترددات (*Frequency Range*)

IMT الاتصالات المتنقلة الدولية (*International Mobile Telecommunications*)

ITS أنظمة النقل الذكية (*Intelligent Transportation System*)

ITU R قطاع الاتصالات الراديوية بالاتحاد الدولي للاتصالات
(*Radio communication Sector of the International Telecommunication Union*)

LTE التطور طويل الأجل (*Long Term Evolution*)

MBW عرض نطاق القياس (*Measurement BandWidth*)

MCG مجموعة الخلايا الرئيسية (*Master Cell Group*)

MPR التخفيض المسموح به في القدرة القصوى (*Allowed maximum power reduction*)

MS المحطات المتنقلة (*Mobile Stations*)

MSD انحطاط الحساسية القصوى (*Maximum Sensitivity Degradation*)

NR الراديو الجديد (*New Radio*)

NS التشوير الشبكي (*Network Signalling*)

NSA أسلوب التشغيل غير القائم بذاته، وهو أسلوب تشغيل يُدعَم فيه نظام راديوي بواسطة نظام راديوي آخر
(*Non-Standalone, a mode of operation where operation of a radio is assisted with another radio*)

OOB خارج النطاق (*Out-of-band*)

OOBE البث خارج النطاق (*Out-of-band emission*)

OTA عبر الأثير (*Over The Air*)

PRB كتلة الموارد المادية (*Physical Resource Block*)

PSCCH قناة مادية للتحكم في الوصلة الجانبية (*Physical Sidelink Control CHannel*)

PSSCH قناة مادية مشتركة للوصلة الجانبية (*Physical Sidelink Shared CHannel*)

RE عنصر الموارد (*Resource Element*)

REFSENS الحساسية المرجعية (*Reference Sensitivity*)

RF الترددات الراديوية (*Radio Frequency*)

RIT تكنولوجيات السطح البيني الراديوي (*Radio interface technologies*)

RR لوائح الراديو (*Radio Regulations*)

Rx مستقبِل (*Receiver*)

SA القائم بذاته (*Standalone*)

SCG زمرة الخلايا الثانوية (*Secondary Cell Group*)

SCS المباعدة بين الموجات الحاملة الفرعية (*Subcarrier spacing*)

SEM قناع البث الطيفي (*Spectrum Emission Mask*)

SL الوصلة الجانبية (*Sidelink*)

SRIT مجموعة تكنولوجيات السطح البيني الراديوي (*Set of radio interface technologies*)

SUL الوصلة الصاعدة التكميلية (*Supplementary uplink*)

TDD إرسال مزدوج بتقسيم الزمن (*Time division duplex*)

TDM تعدد الإرسال بتقسيم الزمن (*Time Division Multiplex*)

TT قيم التفاوت المسموح بها في الاختبارات (*Test Tolerances*)

Tx مرسل (*Transmitter*)

UE معدات المستعمل (*User Equipment*)

UL وصلة صاعدة (*Uplink*)

UL MIMO إرسال متعدد الهوائيات في الوصلة الصاعدة (*Up Link Multiple Antenna transmission*)

ULSUP تقاسم الوصلة الصاعدة من منظور معدات المستعمل (*Uplink sharing from UE perspective*)

V2X من المركبة إلى كل شيء (*Vehicle to Everything*)

ويمكن العثور على مصطلحات إضافية في الوثيقة 3GPP TR 21.905 المعنونة "مفردات مواصفات 3GPP".

**الوثائق ذات الصلة الصادرة عن الاتحاد الدولي للاتصالات[1]**

التوصية ITU-R SM.329 – الإرسالات غير المطلوبة في مجال البث الهامشي

التوصية ITU-R SM.1541 – البث غير المطلوب في مجال البث خارج النطاق

التوصية ITU-R M.1036 – ترتيبات التردد لتنفيذ مكونة الأرض في الاتصالات المتنقلة الدولية (IMT) في النطاقات المحددة في الاتصالات المتنقلة الدولية في لوائح الراديو (RR)

التوصية ITU-R M.1545 – تطبيق عدم التيقن من القياس على حدود الاختبارات لمكونة الأرض في الاتصالات المتنقلة الدولية–2000

التوصية ITU-R M.1579 – التعميم العالمي لمطاريف الاتصالات IMT للأرض

التوصية ITU-R M.2012 – مواصفات مفصلة للسطوح البينية الراديوية للأرض في الاتصالات المتنقلة الدولية–المتقدمة (IMT-Advanced)

التوصية ITU-R M.2070 – خصائص البث غير المطلوب للمحطات القاعدة التي تستعمل السطوح البينية الراديوية للأرض للاتصالات المتنقلة الدولية–المتقدمة (IMT-Advanced)

التوصية ITU-R M.2071 – خصائص البث غير المطلوب للمحطات المتنقلة التي تستعمل السطوح البينية الراديوية الأرضية للاتصالات المتنقلة الدولية–المتقدمة

التوصية ITU-R M.2150 – مواصفات مفصلة للسطوح البينية الراديوية للأرض في الاتصالات المتنقلة الدولية–2020 (IMT-2020)

[1] ينبغي استخدام أحدث طبعة سارية النفاذ من التوصيات/التقارير.

إن جمعية الاتصالات الراديوية للاتحاد الدولي للاتصالات،

*إذ تضع في اعتبارها*

*أ )* أن البث غير المطلوب يشمل البث الهامشي والبث خارج النطاق (OoB)، وفقاً لما جاء في الرقم **146.1** من لوائح الراديو (RR)، وأن البث الهامشي والبث خارج النطاق مُعرَّفان في الرقمين **145.1** و**144.1** من لوائح الراديو، على التوالي؛

*ب)* أن تحديد السويات القصوى المسموح بها للبث غير المطلوب للمحطات المتنقلة (MS) للاتصالات المتنقلة الدولية–2020 (IMT-2020) ضروري لحماية أنظمة وخدمات الاتصالات الراديوية الأخرى من التداخل ولتمكين التعايش بين مختلف التكنولوجيات؛

*ج)* أن أحد المطالب الأساسية لهذه الحركة العالمية هو ألاَّ تسبب المحطات المتنقلة تداخلاً ضاراً في أي بلد أُخِذت إليه؛

*د )* أن تناسق حدود البث غير المطلوب سييسر الاستعمال العالمي للمحطات والنفاذ إلى الأسواق العالمية؛

*هـ )* أن حدود البث غير المطلوب تتوقف على عدة عوامل منها خصائص بث المرسِلات، وحدود البث الهامشي التي حددها الاتحاد الدولي للاتصالات (ITU)، والمعايير واللوائح الوطنية، فضلاً عن الخدمات العاملة في النطاقات الأخرى،

*وإذ تدرك*

*أ )* أحكام الرقم 3.3 من لوائح الراديو؛

*ب)* أن التوصية ITU-R M.1036 توفر ترتيبات الترددات لتنفيذ المكوّن الأرضي للاتصالات المتنقلة الدولية في نطاقات التردد المحددة لهذه الاتصالات في لوائح الراديو؛

*ج)* أن التوصية ITU-R SM.329 توفر حدوداً للبث غير المطلوب في مجال البث الهامشي، وتقدم كذلك طرائق قياس عمليات البث في مجال البث الهامشي؛

*د )* أن التوصية ITU-R SM.1541 توفر حدوداً للبث غير المطلوب في مجال البث خارج النطاق وتشجع على وضع حدود أكثر تحديداً لكل نظام وكل نطاق ترددات؛

*هـ )* أن التوصية ITU-R M.1579 تضع الأساس التقني للحركة العالمية للمحطات المتنقلة لاتصالات IMT-2000 والاتصالات المتنقلة الدولية–المتقدمة؛

*و )* أن التوصية ITU-R M.2150 تقدم "مواصفات مفصلة للسطوح البينية الراديوية للأرض في الاتصالات المتنقلة الدولية–2020 (IMT-2020)" وتوصي، على وجه الخصوص، بأن تكون السطوح البينية الراديوية للأرض للاتصالات المتنقلة الدولية–2020 قائمة على تكنولوجيات "3GPP 5G-SRIT" و"3GPP 5G-RIT" و"5Gi-RIT" و"DECT 5G-SRIT"،

*وإذ تلاحظ*

أن الملاحظات والملحقات الواردة في هذه التوصية – كونها تستند إلى العمل الجاري في هيئات التقييس – ورغبةً في مراعاة إمكانية التطبيق الواسعة لتكنولوجيات السطوح البينية الراديوية للاتصالات المتنقلة الدولية–2020 والحفاظ على الاتساق مع المواصفات التكنولوجية، قد تتضمن مواد تعكس المعلومات المتعلقة باستخدام هذه التكنولوجيات في نطاقات غير النطاقات المحددة للاتصالات المتنقلة الدولية،

*توصي*

1 بمراعاة خصائص البث غير المطلوب للمحطات المتنقلة التي تتوافق مع مواصفات السطح البيني الراديوي 3GPP-5G SRIT للمكون الأرضي للاتصالات المتنقلة الدولية–2020 الواردة في الملحق 1، فيما يتعلق بالنطاقات المحددة في الجداول A1-1 وA1-3 وA1-6[2]، لضمان التوافق بين شبكات الأرض للاتصالات المتنقلة الدولية–2020 التي تستخدم السطح البيني الراديوي 3GPP-5G SRIT؛

2 بمراعاة خصائص البث غير المطلوب للمحطات المتنقلة التي تتوافق مع مواصفات السطح البيني الراديوي 3GPP-5G RIT للمكون الأرضي للاتصالات المتنقلة الدولية–2020 الواردة في الملحق 2[3] لضمان التوافق بين شبكات الأرض للاتصالات المتنقلة الدولية–2020 التي تستخدم السطح البيني الراديوي 3GPP-5G RIT؛

3 بمراعاة خصائص البث غير المطلوب للمحطات المتنقلة التي تتوافق مع مواصفات السطح البيني الراديوي 5Gi للمكون الأرضي للاتصالات المتنقلة الدولية–2020 الواردة في الملحق 3[4] لضمان التوافق بين شبكات الأرض للاتصالات المتنقلة الدولية–2020 التي تستخدم السطح البيني الراديوي 5Gi؛

4 بمراعاة خصائص البث غير المطلوب للمحطات المتنقلة التي تتوافق مع مواصفات السطح البيني الراديوي لمكونات تكنولوجيا DECT-2020 NR-RIT للمكون الأرضي للاتصالات المتنقلة الدولية–2020 الواردة في الملحق 4[5] لضمان التوافق بين شبكات الأرض للاتصالات المتنقلة الدولية–2020 التي تستخدم السطح البيني الراديوي DECT-2020 NR - RIT.

*الملحقات: 4*

[2] بالنسبة للمحطات المتنقلة التي تستخدم تكنولوجيا 3GPP-5G SRIT وتعمل في نطاقات غير محددة للاتصالات المتنقلة الدولية في لوائح الراديو، تقدَّم خصائص البث غير المطلوب الواردة في الجداول A1-2 وA1-4 وA1-7 للعلم، ويمكن الاستعانة بها لاتخاذ قرارات على الصعيد الوطني.

[3] بالنسبة للمحطات المتنقلة التي تستخدم تكنولوجيا 3GPP-5G RIT وتعمل في نطاقات غير محددة للاتصالات المتنقلة الدولية في لوائح الراديو، تقدَّم خصائص البث غير المطلوب الواردة في الملحق 2 للعلم، ويمكن الاستعانة بها لاتخاذ قرارات على الصعيد الوطني.

[4] بالنسبة للمحطات المتنقلة التي تستخدم تكنولوجيا 5Gi وتعمل في نطاقات غير محددة للاتصالات المتنقلة الدولية في لوائح الراديو، تقدَّم خصائص البث غير المطلوب الواردة في الملحق 3 للعلم، ويمكن الاستعانة بها لاتخاذ قرارات على الصعيد الوطني.

[5] بالنسبة للمحطات المتنقلة التي تستخدم المكون DECT-2020 NR-RIT وتعمل في نطاقات غير محددة للاتصالات المتنقلة الدولية في لوائح الراديو، تقدَّم خصائص البث غير المطلوب الواردة في الملحق 4 للعلم، ويمكن الاستعانة بها لاتخاذ قرارات على الصعيد الوطني.

## جدول المحتويات

*الصفحة*


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# الملحق 1

# مجموعة تكنولوجيات السطح البيني الراديوي القائمة على المعيار 5G لمشروع شراكة الجيل الثالث (3GPP 5G-SRIT)[6]

يتضمن هذا الملحق متطلبات البث غير المطلوب الواردة في إصدارات التطور طويل الأجل (LTE) والراديو الجديد (NR) الخاصة بالمحطات المتنقلة. وفي مصطلحات مشروع الشراكة 3GPP، يستعمل مصطلح النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) أيضاً للدلالة على السطح البيني الراديوي لتكنولوجيا LTE.

وينقسم الملحق إلى أربعة أجزاء هي:

– الفصل الأول ويتضمن متطلبات البث غير المطلوب، الصادر عن المحطات المتنقلة للنفاذ الراديوي للأرض العالمي المتطور.

– الفصل الثاني، ويتضمن متطلبات البث غير المطلوب فيه، الصادر عن مدى الترددات 1، للراديو الجديد (NR) في وضع التشغيل القائم بذاته.

– الفصل الثالث، ويتضمن متطلبات البث غير المطلوب فيه، الصادر عن مدى الترددات 2، للراديو الجديد (NR) في وضع التشغيل القائم بذاته.

– الفصل الرابع، ويتضمن تشغيل العمل البيني للمدى 1 والمدى 2 لتكنولوجيا الراديو الجديد (NR) مع المديات الراديوية الأخرى.

وتدخل القيم المحددة في هذا الملحق حدود التفاوت المسموح بها في الاختبار المعرَّفة في التوصية [10] ITU-R M.1545.

ويحتوي الملحق على معلومات مستمدة من المعايير المنقولة ويجري تناولها في جداول وأقسام.

## 1 خصائص البث غير المطلوب فيما يتعلق بالنفاذ الراديوي للأرض العالمي المتطور (E-UTRA)

### 1.1 نطاقات التشغيل وترتيبات القنوات

#### 1.1.1 نطاقات التشغيل

صُمم النفاذ الراديوي الأرضي العالمي المتطور (E-UTRA) للعمل في نطاقات التشغيل ضمن مدى الترددات FR1 المحددة في الجدولين A1-1 وA1-2.

[6] طورتها الجهة مقدمة المشروع في إطار مشروع شراكة الجيل الثالث (3GPP) بعنوان "الجيل الخامس، الإصدار 15 وما بعده – LTE+NR SRIT".

الجدول 1-A1

**نطاقات الترددات التي يستعملها النفاذ الراديوي الأرضي العالمي المتطور (E-UTRA) والمحددة للاتصالات المتنقلة الدولية في لوائح الراديو**

| نطاق تشغيل النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} - F_{UL_high}$ | نطاق التشغيل للإرسال من المحطات القاعدة/استقبال معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} - F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|
| 1 | MHz 1 980 – MHz 1 920 | MHz 2 170 – MHz 2 110 | FDD | **388.5** |
| 2 | MHz 1 910 – MHz 1 850 | MHz 1 990 – MHz 1 930 | FDD | **384A.5 و388.5** |
| 3 | MHz 1 785 – MHz 1 710 | MHz 1 880 – MHz 1 805 | FDD | **384A.5** |
| 4 | MHz 1 755 – MHz 1 710 | MHz 2 155 – MHz 2 110 | FDD | **384A.5 و388.5** |
| 5 | MHz 849 – MHz 824 | MHz 894 – MHz 869 | FDD | **317A.5** |
| 6[1] | MHz 840 – MHz 830 | MHz 885 – MHz 875 | FDD | **317A.5** |
| 7 | MHz 2 570 – MHz 2 500 | MHz 2 690 – MHz 2 620 | FDD | **384A.5** |
| 8 | MHz 915 – MHz 880 | MHz 960 – MHz 925 | FDD | **317A.5** |
| 9 | MHz 1 784,9 – MHz 1 749,9 | MHz 1 879,9 – MHz 1 844,9 | FDD | **384A.5** |
| 10 | MHz 1 770 – MHz 1 710 | MHz 2 170 – MHz 2 110 | FDD | **384A.5 و388.5** |
| 11 | MHz 1 447,9 – MHz 1 427,9 | MHz 1 495,9 – MHz 1 475,9 | FDD | **341A.5 و341B.5 و341C.5 و346.5 و346A.5** |
| 12 | MHz 716 – MHz 699 | MHz 746 – MHz 729 | FDD | **313A.5 و317A.5** |
| 13 | MHz 787 – MHz 777 | MHz 756 – MHz 746 | FDD | **313A.5 و317A.5** |
| 14 | MHz 798 – MHz 788 | MHz 768 – MHz 758 | FDD | **313A.5 و317A.5** |
| 15 | محجوز | محجوز | FDD | |
| 16 | محجوز | محجوز | FDD | |
| 17 | MHz 716 – MHz 704 | MHz 746 – MHz 734 | FDD | **313A.5 و317A.5** |
| 18 | MHz 830 – MHz 815 | MHz 875 – MHz 860 | FDD | **313A.5 و317A.5** |
| 19 | MHz 845 – MHz 830 | MHz 890 – MHz 875 | FDD | **313A.5** |
| 20 | MHz 862 – MHz 832 | MHz 821 – MHz 791 | FDD | **317A.5** |
| 21 | MHz 1 462,9 – MHz 1 447.9 | MHz 1 510,9 – MHz 1 495,9 | FDD | **341A.5 و341B.5 و341C.5 و346.5 و346A.5** |
| 22 | MHz 3 490 – MHz 3 410 | MHz 3 590 – MHz 3 510 | FDD | **430A.5 و431B.5 و432A.5 و432B.5 و433A.5** |
| [1]23 | MHz 2 020 – MHz 2 000 | MHz 2 200 – MHz 2 180 | FDD | **388.5** |
| 25 | MHz 1 915 – MHz 1 850 | MHz 1 995 – MHz 1 930 | FDD | **384A.5 و388.5** |
| 26 | MHz 849 – MHz 814 | MHz 894 – MHz 859 | FDD | **317A.5** |

| نطاق تشغيل النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} – F_{UL_high}$ | نطاق التشغيل للإرسال من المحطات القاعدة/استقبال معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} – F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|
| 27 | MHz 824 – MHz 807 | MHz 869 – MHz 852 | FDD | **317A.5** |
| 28 | MHz 748 – MHz 703 | MHz 803 – MHz 758 | FDD | **313A.5 و317A.5** |
| 29 | NA | MHz 728 – MHz 717 | [2]FDD | **313A.5 و317A.5** |
| 30 | MHz 2 315 – MHz 2 305 | MHz 2 360 – MHz 2 350 | [15]FDD | **384A.5** |
| 31 | MHz 457,5 – MHz 452,5 | MHz 467,5 – MHz 462,5 | FDD | **286AA.5** |
| 32 | NA | MHz 1 496 – MHz 1 452 | [2]FDD | **341A.5 و341B.5 و341C.5 و346.5 و346A.5** |
| 33 | MHz 1 920 – MHz 1 900 | MHz 1 920 – MHz 1 900 | TDD | **388.5** |
| 34 | MHz 2 025 – MHz 2 010 | MHz 2 025 – MHz 2 010 | TDD | **388.5** |
| 35 | MHz 1 910 – MHz 1 850 | MHz 1 910 – MHz 1 850 | TDD | **384A.5 و388.5** |
| 36 | MHz 1 990 – MHz 1 930 | MHz 1 990 – MHz 1 930 | TDD | **388.5** |
| 37 | MHz 1 930 – MHz 1 910 | MHz 1 930 – MHz 1 910 | TDD | **388.5** |
| 38 | MHz 2 620 – MHz 2 570 | MHz 2 620 – MHz 2 570 | TDD | **384A.5** |
| 39 | MHz 1 920 – MHz 1 880 | MHz 1 920 – MHz 1 880 | TDD | **384A.5 و388.5** |
| 40 | MHz 2 400 – MHz 2 300 | MHz 2 400 – MHz 2 300 | TDD | **5.384A** |
| 42 | MHz 3 600 – MHz 3 400 | MHz 3 600 – MHz 3 400 | TDD | **430A.5 و431B.5 و432A.5 و432B.5 و433A.5** |
| 44 | MHz 803 – MHz 703 | MHz 803 – MHz 703 | TDD | **313A.5 و317A.5** |
| 45 | MHz 1 467 – MHz 1 447 | MHz 1 467 – MHz 1 447 | TDD | **341A.5 و341B.5 و341C.5 و346.5 و346A.5** |
| 48 | MHz 3 700 – MHz 3 550 | MHz 3 700 – MHz 3 550 | TDD | **430A.5 و431B.5 و433A.5 و433B.5 و434.5 و434B.5** |
| 50 | MHz 1 517 - MHz 1 432 | MHz 1 517 - MHz 1 432 | [13]TDD | **341A.5 و341B.5 و341C.5 و346.5 و346A.5** |
| 51 | MHz 1 432 - MHz 1 427 | MHz 1 432 - MHz 1 427 | [13]TDD | **341A.5 و341B.5 و341C.5** |
| 65 | MHz 2 010 – MHz 1 920 | MHz 2 200 – MHz 2 110 | FDD | **388.5** |
| 66 | MHz 1 780 – MHz 1 710 | MHz 2 200 – MHz 2 110 | [4]FDD | **384A.5 و388.5** |
| 67 | NA | MHz 758 – MHz 738 | [2]FDD | **313A.5 و317A.5** |
| 68 | MHz 728 – MHz 698 | MHz 783 – MHz 753 | FDD | **313A.5 و317A.5** |
| 69 | NA | MHz 2 620 – MHz 2 570 | [2]FDD | **384A.5** |

| نطاق تشغيل النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} – F_{UL_high}$ | نطاق التشغيل للإرسال من المحطات القاعدة/استقبال معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} – F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|
| 71 | MHz 698 – MHz 663 | MHz 652 – MHz 617 | FDD | **296A.5 و308A.5 و307A.5** |
| 72 | MHz 456 – MHz 451 | MHz 466 – MHz 461 | FDD | **286AA.5** |
| 73 | MHz 455 – MHz 450 | MHz 465 – MHz 460 | FDD | **286AA.5** |
| 74 | MHz 1 470 – MHz 1 427 | MHz 1 518 – MHz 1 475 | FDD | **341A.5 و341B.5 و341C.5 و346.5 و346A.5** |
| 75 | NA | MHz 1 517 – MHz 1 432 | [2]FDD | **341A.5 و341B.5 و341C.5 و346.5 و346A.5** |
| 76 | NA | MHz 1 432 – MHz 1 427 | [2]FDD | **5.341A, 5.341B, 5.341C** |
| 85 | MHz 716 – MHz 698 | MHz 746 – MHz 728 | FDD | **5.313A و5.317A** |

الجدول 2-A1

**نطاقات التردد التي يستعملها النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) والتي لم يتم تحديدها أو تحديدها بالكامل للاتصالات المتنقلة الدولية في لوائح الراديو**

| نطاق تشغيل النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} – F_{UL_high}$ | نطاق التشغيل للإرسال من المحطات القاعدة/الاستقبال من معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} – F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|
| [17]24 | MHz 1 660,5 – MHz 1 626,5 | MHz 1 559 – MHz 1 525 | FDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| 41 | MHz 2 690 – MHz 2 496 | MHz 2 690 – MHz 2 496 | TDD | **384A.5** |
| 43 | MHz 3 800 – MHz 3 600 | MHz 3 800 – MHz 3 600 | TDD | **433B.5 و434.5 و434B.5 و435B.5** |
| 46 | MHz 5 925 – MHz 5 150 | MHz 5 925 – MHz 5 150 | [9 ،8]TDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| 47 | MHz 5 925 – MHz 5 855 | MHz 5 925 – MHz 5 855 | [11]TDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| 53 | MHz 2 495 - MHz 2 483,5 | MHz 2 495 - MHz 2 483,5 | TDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |

| | | | | | | |
|---|---|---|---|---|---|---|
| 70 | MHz 1 695 | – | MHz 1 710 | MHz 1 995 | – | MHz 2 020 | [10]FDD | **388.5** |
| 87 | MHz 410 | – | MHz 415 | MHz 420 | – | MHz 425 | FDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| 88 | MHz 412 | – | MHz 417 | MHz 422 | – | MHz 427 | FDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |

**الملاحظة 1** – لا يسري النطاق 6، 26.

**الملاحظة 2** – يقتصر على تشغيل النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) عندما يكون تجميع الموجات الحاملة مُشكلاً. ويكون نطاق تشغيل الوصلة الهابطة متزاوجاً مع نطاق تشغيل الوصلة الصاعدة (الخارجية) لتشكيلة تجميع الموجات الحاملة (CA) الذي يدعم الخلية الأولية المشكلة (Pcell).

**الملاحظة 3** – ينبغي أن تتوافق معدات المستعمل (UE) المستوفية للمتطلبات الدنيا للنطاق 65 للنفاذ E-UTRA الواردة في هذه المواصفة، أيضاً مع المتطلبات الدنيا للنطاق 1 للنفاذ E-UTRA.

**الملاحظة 4** – يقتصر نطاق تشغيل الوصلة الهابطة في المدى 180 2-200 2 MHz على تشغيل النفاذ E-UTRA عندما يكون تجميع الموجات الحاملة مُشكلاً.

**الملاحظة 5** – معدات المستعمل (UE) التي تدعم النطاق 66 للنفاذ E-UTRA ينبغي أن تستقبل في نطاق تشغيل الوصلة الهابطة بأكمله.

**الملاحظة 6** – معدات المستعمل (UE) التي تدعم النطاق 66 للنفاذ E-UTRA وتشغيل تجميع الموجات الحاملة في أي نطاق للموجات الحاملة يجب أن تتوافق أيضاً مع الحد الأدنى للمتطلبات المحددة لتشكيلات تجميع الموجات الحاملة CA_66B وCA_66C وCA_66A-66A في الوصلة الهابطة.

**الملاحظة 7** – ينبغي أن تتوافق معدات المستعمل (UE) المستوفية للمتطلبات الدنيا للنطاق 66 للنفاذ E-UTRA الواردة في هذه المواصفة، أيضاً مع المتطلبات الدنيا للنطاق 4 للنفاذ E-UTRA.

**الملاحظة 8** – هذا النطاق نطاق غير مرخص يقتصر على التشغيل بمساعدة مرخصة باستعمال بنية الإطار من النوع 3.

**الملاحظة 9** – في هذا الإصدار من المواصفة، يقتصر على تشغيل الوصلة الهابطة للنفاذ E-UTRA عندما يكون تجميع الموجات الحاملة مُشكلاً.

**الملاحظة 10** – يقتصر المدى 010 2-020 2 MHz من نطاق تشغيل الوصلة الهابطة على تشغيل النفاذ E-UTRA عند تشكيل تجميع الموجات الحاملة وعندما يكون فصل الإرسال/الاستقبال TX-RX قدره 300 MHz. كما يقتصر المدى 005 2-020 2 MHz من نطاق تشغيل الوصلة الهابطة على تشغيل النفاذ E-UTRA عند تشكيل تجميع الموجات الحاملة وعندما يكون فصل الإرسال/الاستقبال TX-RX قدره 295 MHz.

**الملاحظة 11** – هذا النطاق غير مرخص ويُستعمل للاتصالات من المركبة إلى كل شيء (V2X). ولا يُتوقع نشر شبكة في هذا النطاق، ولذا يمكن استعمال كل من بنية الإطار من النوع 1.

**الملاحظة 12** – ينبغي أن تتوافق معدات المستعمل (UE) المستوفية للمتطلبات الدنيا للنطاق 74 للنفاذ E-UTRA الواردة في هذه المواصفة، أيضاً مع المتطلبات الدنيا للنطاق 11 والنطاق 21 للنفاذ E-UTRA.

**الملاحظة 13** – ينبغي أن تتوافق معدات المستعمل (UE) المستوفية للمتطلبات الدنيا للنطاق 50 للنفاذ E-UTRA الواردة في هذه المواصفة، أيضاً مع المتطلبات الدنيا للنطاق 51 للنفاذ E-UTRA.

**الملاحظة 14** – ينبغي أن تتوافق معدات المستعمل (UE) المستوفية للمتطلبات الدنيا للنطاق 75 للنفاذ E-UTRA الواردة في هذه المواصفة، أيضاً مع المتطلبات الدنيا للنطاق 76 للنفاذ E-UTRA.

**الملاحظة 15** – لا يُسمح لمعدات المستعمل (UE) التي تحتوي على هوائيات خارجية مثبتة على المركبات بالإرسال عبر الوصلة الصاعدة في هذا النطاق.

**الملاحظة 16** – هذا النطاق يقتصر على التشغيل بمساعدة مرخصة باستعمال بنية الإطار من النوع 3

**الملاحظة 17** – يقتصر تشغيل الوصلة الهابطة في هذا النطاق على المدى MHz 526 1-536 1 MHz، ويقتصر تشغيل الوصلة الصاعدة على المديين 627,5 1-637,5 1 MHz و646,5 1-656,5 1 MHz.

وتُحدد نطاقات تشغيل معدات المستعمل لتجميع الموجات الحاملة في النفاذ E-UTRA في الفقرة 5A.5 من المواصفة التقنية [1] TS 36.101.

وتُحدد نطاقات تشغيل معدات المستعمل للإرسال المتعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في النفاذ E-UTRA في الفقرة 5B.5 من المواصفة التقنية [1] TS 36.101.

وتُحدد نطاقات تشغيل معدات المستعمل للتوصيلية المزدوجة في النفاذ E-UTRA في الفقرة 5C.5 من المواصفة التقنية [1] TS 36.101.

وتُحدد نطاقات تشغيل معدات المستعمل للخدمات المستندة إلى القرب (ProSe) في النفاذ E-UTRA في الفقرة 5D.5 من المواصفة التقنية [1] TS 36.101.

وتُحدد نطاقات تشغيل معدات المستعمل من الفئة 0، ومعدات المستعمل من الفئتين M1 وM2، ومعدات المستعمل من الفئة 1 مكرراً، في الفقرة 5E.5 من المواصفة التقنية [1] TS 36.101.

وتُحدد نطاقات تشغيل معدات المستعمل من الفئتين NB1 وNB2 في الفقرة 5F.5 من المواصفة التقنية [1] TS 36.101.

وتُحدد نطاقات تشغيل معدات المستعمل للاتصالات من المركبة إلى كل شيء (V2X) في الفقرة 5G.5 من المواصفة التقنية [1] TS 36.101.

## 5.5A Operating bands for CA

E-UTRA carrier aggregation is designed to operate in the operating bands defined in Tables 5.5A-1, 5.5A-2, 5.5A-2a, 5.5A-2b, 5.5A-2c and 5.5A-3.

**Table 5.5A-1: Intra-band contiguous CA operating bands**

| E-UTRA CA Band | E-UTRA Band (Table 5.5.1) |
|---|---|
| CA_1 | 1 |
| CA_2 | 2 |
| CA_3 | 3 |
| CA_5 | 5 |
| CA_7 | 7 |
| CA_8 | 8 |
| CA_12 | 12 |
| CA_23 | 23 |
| CA_27 | 27 |
| CA_28 | 28 |
| CA_38 | 38 |
| CA_39 | 39 |
| CA_40 | 40 |
| CA_41 | 41 |
| CA_42 | 42 |
| CA_43 | 43 |
| CA_48 | 48 |
| CA_66 | 66 |
| CA_70 | 70 |

**Table 5.5A-2: Inter-band CA operating bands (two bands)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5.1) |
|---|---|
| CA_1-3 | 1, 3 |
| CA_1-1-3 | 1,3 |
| CA_1-1-5 | 1,5 |
| CA_1-1-7 | 1,7 |
| CA_1-1-28 | 1,28 |
| CA_1-3-3 | 1, 3 |
| CA_1-5 | 1, 5 |
| CA_1-7 | 1, 7 |
| CA_1-7-7 | 1, 7 |
| CA_1-8 | 1, 8 |
| CA_1-11 | 1, 11 |
| CA_1-18 | 1, 18 |
| CA_1-19 | 1, 19 |
| CA_1-20 | 1, 20 |
| CA_1-21 | 1, 21 |

| | | | |
|---|---|---|---|
| | CA_1-26 | 1, 26 | |
| | CA_1-28 | 1, 28 | |
| | CA_1-32 | 1, 32 | |
| | CA_1-38 | 1, 38 | |
| | CA_1-1-38 | 1, 38 | |
| | CA_1-40 | 1, 40 | |
| | CA_1-40-40 | 1, 40 | |
| | CA_1-41 | 1, 41 | |
| | CA_1-42 | 1, 42 | |
| | CA_1-42-42 | 1, 42 | |
| | CA_1-43 | 1, 43 | |
| | CA_1-46 | 1, 46 | |
| | CA_2-4 | 2, 4 | |
| | CA_2-2-4 | 2, 4 | |
| | CA_2-2-4-4 | 2, 4 | |
| | CA_2-4-4 | 2, 4 | |
| | CA_2-5 | 2, 5 | |
| | CA_2-2-5 | 2, 5 | |
| | CA_2-2-7 | 2, 7 | |
| | CA_2-2-7-7 | 2, 7 | |
| | CA_2-7 | 2, 7 | |
| | CA_2-7-7 | 2, 7 | |
| | CA_2-8 | 2, 8 | |
| | CA_2-12 | 2, 12 | |
| | CA_2-2-12 | 2, 12 | |
| | CA_2-2-12-12 | 2, 12 | |
| | CA_2-2-29 | 2, 29 | |
| | CA_2-12-12 | 2, 12 | |
| | CA_2-13 | 2, 13 | |
| | CA_2-2-13 | 2, 13 | |
| | CA_2-14 | 2, 14 | |
| | CA_2-2-14 | 2, 14 | |
| | CA_2-17 | 2, 17 | |
| | CA_2-26 | 2, 26 | |
| | CA_2-28 | 2, 28 | |
| | CA_2-29 | 2, 29 | |
| | CA_2-30 | 2, 30 | |
| | CA_2-2-30 | 2, 30 | |
| | CA_2-46 | 2, 46 | |
| | CA_2-2-46 | 2, 46 | |
| | CA_2-46-46 | 2, 46 | |
| | CA_2-48-48 | 2, 48 | |
| | CA_2-49 | 2, 49 | |
| | CA_2-66 | 2, 66 | |
| | CA_2-48 | 2, 48 | |
| | CA_2-2-66 | 2, 66 | |
| | CA_2-2-66-66 | 2, 66 | |
| | CA_2-66-66 | 2, 66 | |
| | CA_2-66-66-66 | 2, 66 | |
| | CA_2-71 | 2, 71 | |
| | CA_2-2-71 | 2, 71 | |
| | CA_3-5 | 3, 5 | |
| | CA_3-3-5 | 3, 3, 5 | |
| | CA_3-7 | 3, 7 | |
| | CA_3-3-7 | 3, 7 | |
| | CA_3-3-7-7 | 3, 7 | |
| | CA_3-7-7 | 3, 7 | |

| | | | |
|---|---|---|---|
| | CA_3-8 | 3, 8 | |
| | CA_3-3-8 | 3, 8 | |
| | CA_3-11 | 3, 11 | |
| | CA_3-18 | 3, 18 | |
| | CA_3-19 | 3, 19 | |
| | CA_3-3-19 | 3, 19 | |
| | CA_3-20 | 3, 20 | |
| | CA_3-3-20 | 3, 20 | |
| | CA_3-3-21 | 3, 21 | |
| | CA_3-3-28 | 3, 28 | |
| | CA_3-3-41 | 3, 41 | |
| | CA_3-3-42 | 3, 42 | |
| | CA_3-21 | 3, 21 | |
| | CA_3-26 | 3, 26 | |
| | CA_3-27 | 3, 27 | |
| | CA_3-28 | 3, 28 | |
| | CA_3-31 | 3, 31 | |
| | CA_3-32 | 3, 32 | |
| | CA_3-38 | 3, 38 | |
| | CA_3-40 | 3, 40 | |
| | CA_3-40-40 | 3, 40 | |
| | CA_3-41 | 3, 41 | |
| | CA_3-42 | 3, 42 | |
| | CA_3-42-42 | 3, 42 | |
| | CA_3-43 | 3, 43 | |
| | CA_3-46 | 3, 46 | |
| | CA_3-3-46 | 3, 46 | |
| | CA_3-69 | 3, 69 | |
| | CA_4-5 | 4, 5 | |
| | CA_4-4-5 | 4, 5 | |
| | CA_4-7 | 4, 7 | |
| | CA_4-4-7 | 4, 7 | |
| | CA_4-7-7 | 4, 7 | |
| | CA_4-12 | 4, 12 | |
| | CA_4-4-12 | 4, 12 | |
| | CA_4-4-12-12 | 4, 12 | |
| | CA_4-12-12 | 4, 12 | |
| | CA_4-13 | 4, 13 | |
| | CA_4-4-13 | 4, 13 | |
| | CA_4-17 | 4, 17 | |
| | CA_4-27 | 4, 27 | |
| | CA_4-28 | 4, 28 | |
| | CA_4-29 | 4, 29 | |
| | CA_4-4-29 | 4, 29 | |
| | CA_4-30 | 4, 30 | |
| | CA_4-4-30 | 4, 30 | |
| | CA_4-46 | 4, 46 | |
| | CA_4-46-46 | 4, 46 | |
| | CA_4-48 | 4, 48 | |
| | CA_4-71 | 4,71 | |
| | CA_4-4-71 | 4, 71 | |
| | CA_5-5-40 | 5, 40 | |
| | CA_5-7 | 5, 7 | |
| | CA_5-7-7 | 5, 7 | |
| | CA_5-12 | 5, 12 | |
| | CA_5-12-12 | 5, 12 | |
| | CA_5-13 | 5 ,13 | |

| | | | |
|---|---|---|---|
| | CA_5-17 | 5, 17 | |
| | CA_5-25 | 5, 25 | |
| | CA_5-28 | 5, 28 | |
| | CA_5-29 | 5, 29 | |
| | CA_5-30 | 5, 30 | |
| | CA_5-38 | 5, 38 | |
| | CA_5-40 | 5, 40 | |
| | CA_5-40-40 | 5, 40 | |
| | CA_5-41 | 5, 41 | |
| | CA_5-46 | 5, 46 | |
| | CA_5-48 | 5, 48 | |
| | CA_5-66 | 5, 66 | |
| | CA_5-5-66 | 5, 66 | |
| | CA_5-66-66 | 5, 66 | |
| | CA_5-5-66-66 | 5, 66 | |
| | CA_7-8 | 7, 8 | |
| | CA_7-7-8 | 7, 8 | |
| | CA_7-12 | 7, 12 | |
| | CA_7-20 | 7, 20 | |
| | CA_7-22 | 7, 22 | |
| | CA_7-35 | 7, 25 | |
| | CA_7-26 | 7, 26 | |
| | CA_7-7-26 | 7, 26 | |
| | CA_7-28 | 7, 28 | |
| | CA_7-7-28 | 7, 28 | |
| | CA_7-29 | 7,29 | |
| | CA_7-7-29 | 7,29 | |
| | CA_7-30 | 7, 30 | |
| | CA_7-32 | 7, 32 | |
| | CA_7-40 | 7, 40 | |
| | CA_7-40-40 | 7, 40 | |
| | CA_7-42 | 7, 42 | |
| | CA_7-42-42 | 7, 42 | |
| | CA_7-46 | 7, 46 | |
| | CA_7-7-46 | 7, 46 | |
| | CA_7-7-66 | 7, 66 | |
| | CA_7-66 | 7, 66 | |
| | CA_7-66-66 | 7, 66 | |
| | CA_7-7-66-66 | 7, 66 | |
| | CA_8-11 | 8, 11 | |
| | CA_8-20 | 8, 20 | |
| | CA_8-27 | 8, 27 | |
| | CA_8-28 | 8, 28 | |
| | CA_8-32 | 8, 32 | |
| | CA_8-38 | 8, 38 | |
| | CA_8-39 | 8, 39 | |
| | CA_8-40 | 8, 40 | |
| | CA_8-41 | 8, 41 | |
| | CA_8-42 | 8, 42 | |
| | CA_8-46 | 8, 46 | |
| | CA_11-18 | 11, 18 | |
| | CA_11-26 | 11, 26 | |
| | CA_11-28 | 11, 28 | |
| | CA_11-41 | 11, 41 | |
| | CA_11-42 | 11, 42 | |
| | CA_11-46 | 11, 46 | |
| | CA_12-25 | 12, 25 | |

| | | | |
|---|---|---|---|
| | CA_12-30 | 12, 30 | |
| | CA_12-46 | 12, 46 | |
| | CA_12-48 | 12, 48 | |
| | CA_12-48 | 12, 48 | |
| | CA_12-66 | 12, 66 | |
| | CA_12-66-66 | 12, 66 | |
| | CA_13-46 | 13, 46 | |
| | CA_13-46-46 | 13, 46 | |
| | CA_13-48 | 13, 48 | |
| | CA_13-48-48 | 13, 48 | |
| | CA_13-66 | 13, 66 | |
| | CA_13-66-66 | 13, 66 | |
| | CA_14-66 | 14, 66 | |
| | CA_14-66-66 | 14, 66 | |
| | CA_14-66-66-66 | 14, 66 | |
| | CA_14-30 | 14, 30 | |
| | CA_18-28[1] | 18, 28 | |
| | CA_18-42 | 18, 42 | |
| | CA_19-21 | 19, 21 | |
| | CA_19-28[2] | 19, 28 | |
| | CA_19-42 | 19, 42 | |
| | CA_19-46 | 19, 46 | |
| | CA_20-28[1] | 20, 28 | |
| | CA_20-31 | 20, 31 | |
| | CA_20-32 | 20, 32 | |
| | CA_20-38 | 20, 38 | |
| | CA_20-40 | 20, 40 | |
| | CA_20-40-40 | 20, 40 | |
| | CA_20-42 | 20, 42 | |
| | CA_20-42-42 | 20, 42 | |
| | CA_20-43 | 20, 43 | |
| | CA_20-67 | 20, 67 | |
| | CA_20-75 | 20, 75 | |
| | CA_20-76 | 20, 76 | |
| | CA_21-28 | 21, 28 | |
| | CA_21-42 | 21, 42 | |
| | CA_21-46 | 21, 46 | |
| | CA_23-29 | 23, 29 | |
| | CA_25-26 | 25, 26 | |
| | CA_25-25-26 | 25, 26 | |
| | CA_25-41 | 25, 41 | |
| | CA_25-25-41 | 25, 41 | |
| | CA_25-46 | 25, 46 | |
| | CA_25-66 | 25, 66 | |
| | CA_26-41 | 26, 41 | |
| | CA_26-46 | 26, 46 | |
| | CA_26-48 | 26,48 | |
| | CA_26-48-48 | 26,48 | |
| | CA_26-66 | 26, 66 | |
| | CA_28-32 | 28, 32 | |
| | CA_28-38 | 28,38 | |
| | CA_28-40 | 28, 40 | |
| | CA_28-40-40 | 28, 40 | |
| | CA_28-41 | 28, 41 | |
| | CA_28-42 | 28, 42 | |
| | CA_28-42-42 | 28, 42 | |
| | CA_28-46 | 28, 46 | |

| | |
|---|---|
| CA_28-66 | 28, 66 |
| CA_29-30 | 29, 30 |
| CA_29-66 | 29, 66 |
| CA_29-66-66 | 29, 66 |
| CA_29-70 | 29, 70 |
| CA_30-66 | 30, 66 |
| CA_30-66-66 | 30, 66 |
| CA_32-42 | 32, 42 |
| CA_32-43 | 32, 43 |
| CA_34-39 | 34, 39 |
| CA_34-41 | 34, 41 |
| CA_38-40 | 38, 40 |
| CA_38-40-40 | 38, 40 |
| CA_39-41 | 39, 41 |
| CA_39-40 | 39, 40 |
| CA_39-42 | 39, 42 |
| CA_39-46 | 39, 46 |
| CA_40-41 | 40, 41 |
| CA_40-42 | 40, 42 |
| CA_40-43 | 40, 43 |
| CA_40-46 | 40, 46 |
| CA_41-42 | 41, 42 |
| CA_41-42-42 | 41, 42 |
| CA_41-46 | 41, 46 |
| CA_41-48 | 41, 48 |
| CA_42-43 | 42,43 |
| CA_42-46 | 42, 46 |
| CA_46-48 | 46, 48 |
| CA_46-48-48 | 46, 48 |
| CA_46-53 | 46, 53 |
| CA_46-66 | 46, 66 |
| CA_46-46-66 | 46, 66 |
| CA_46-66-66 | 46, 66 |
| CA_46-70 | 46, 70 |
| CA_46-71 | 46, 71 |
| CA_48-53 | 48, 53 |
| CA_48-66 | 48, 66 |
| CA_48-66-66 | 48, 66 |
| CA_48-48-66-66 | 48, 66 |
| CA_48-48-66 | 48, 66 |
| CA_48-71 | 48, 71 |
| CA_48-48-71 | 48, 71 |
| CA_66-70 | 66,70 |
| CA_66-66-70 | 66,70 |
| CA_66-71 | 66, 71 |
| CA_66-66-71 | 66, 71 |
| CA_70-71 | 70, 71 |
| NOTE 1: The frequency range in band 28 is restricted for this CA band combination to 703-733 MHz for the UL and 758-788 MHz for the DL. This restriction also apply for any band combinations when CA_20-28 is a subset of a higher order band combination.<br>NOTE 2: The frequency range in band 28 is restricted for this CA band combination to 718-748 MHz for the UL and 773-803 MHz for the DL | |

**Table 5.5A-2a: Inter-band CA operating bands (three bands)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5.1) |
|---|---|
| CA_1-3-5 | 1, 3, 5 |
| CA_1-3-3-5 | 1, 3, 5 |
| CA_1-1-3-5 | 1, 3, 5 |
| CA_1-1-3-7 | 1, 3, 7 |
| CA_1-1-3-3-7 | 1, 3, 7 |
| CA_1-3-7 | 1, 3, 7 |
| CA_1-3-3-7 | 1, 3, 7 |
| CA_1-3-3-7-7 | 1, 3, 7 |
| CA_1-3-7-7 | 1, 3, 7 |
| CA_1-3-8 | 1, 3, 8 |
| CA_1-3-3-8 | 1, 3, 8 |
| CA_1-3-3-43 | 1, 3, 43 |
| CA_1-3-11 | 1, 3, 11 |
| CA_1-3-18 | 1, 3, 18 |
| CA_1-3-19 | 1, 3, 19 |
| CA_1-3-3-19 | 1, 3, 19 |
| CA_1-3-20 | 1, 3, 20 |
| CA_1-3-3-20 | 1, 3, 20 |
| CA_1-3-21 | 1, 3, 21 |
| CA_1-3-3-21 | 1, 3, 21 |
| CA_1-3-26 | 1, 3, 26 |
| CA_1-3-28 | 1, 3, 28 |
| CA_1-3-3-28 | 1, 3, 28 |
| CA_1-1-3-28 | 1, 3, 28 |
| CA_1-1-3-3-28 | 1, 3, 28 |
| CA_1-3-32 | 1, 3, 32 |
| CA_1-3-38 | 1, 3, 38 |
| CA_1-1-3-38 | 1, 3, 38 |
| CA_1-3-40 | 1, 3, 40 |
| CA_1-3-40-40 | 1, 3, 40, 40 |
| CA_1-3-41 | 1, 3, 41 |
| CA_1-3-42 | 1, 3, 42 |
| CA_1-3-3-42 | 1, 3, 42 |
| CA_1-3-42-42 | 1, 3, 42 |
| CA_1-3-43 | 1, 3, 43 |
| CA_1-3-46 | 1, 3, 46 |
| CA_1-5-7 | 1, 5, 7 |
| CA_1-5-7-7 | 1, 5, 7 |
| CA_1-5-28[2] | 1, 5, 28 |
| CA_1-5-40 | 1, 5, 40 |
| CA_1-5-41 | 1, 5, 41 |
| CA_1-5-46 | 1, 5, 46 |
| CA_1-7-8 | 1, 7, 8 |
| CA_1-7-7-8 | 1, 7, 8 |
| CA_1-7-20 | 1, 7, 20 |
| CA_1-7-7-20 | 1, 7, 20 |
| CA_1-7-26 | 1, 7, 26 |
| CA_1-7-7-26 | 1, 7, 26 |
| CA_1-7-28 | 1, 7, 28 |
| CA_1-7-32 | 1, 7, 32 |
| CA_1-7-38 | 1, 7, 38 |
| CA_1-1-7-38 | 1, 7, 38 |
| CA_1-7-40 | 1, 7, 40 |
| CA_1-7-40-40 | 1, 7, 40, 40 |
| CA_1-7-42 | 1, 7, 42 |
| CA_1-7-46 | 1, 7, 46 |
| CA_1-8-11 | 1, 8, 11 |
| CA_1-8-20 | 1, 8, 20 |
| CA_1-8-28 | 1, 8, 28 |
| CA_1-8-32 | 1, 8, 32 |
| CA_1-8-38 | 1, 8, 38 |

| | | | |
|---|---|---|---|
| | CA_1-8-40 | 1, 8, 40 | |
| | CA_1-8-41 | 1, 8, 41 | |
| | CA_1-8-42 | 1, 8, 42 | |
| | CA_1-11-18 | 1, 11, 18 | |
| | CA_1-11-28 | 1, 11, 28 | |
| | CA_1-11-42 | 1, 11, 42 | |
| | CA_1-18-28[1] | 1, 18, 28 | |
| | CA_1-18-41 | 1, 18, 41 | |
| | CA_1-18-42 | 1, 18, 42 | |
| | CA_1-19-21 | 1, 19, 21 | |
| | CA_1-19-28[2] | 1, 19, 28 | |
| | CA_1-19-42 | 1, 19, 42 | |
| | CA_1-20-28 | 1, 20, 28 | |
| | CA_1-20-32 | 1, 20, 32 | |
| | CA_1-20-38 | 1, 20, 38 | |
| | CA_1-20-42 | 1, 20, 42 | |
| | CA_1-20-43 | 1, 20, 43 | |
| | CA_1-21-28 | 1, 21, 28 | |
| | CA_1-21-42 | 1, 21, 42 | |
| | CA_1-28-32 | 1, 28, 32 | |
| | CA_1-28-38 | 1, 28, 38 | |
| | CA_1-28-40 | 1, 28, 40 | |
| | CA_1-28-40-40 | 1, 28, 40, 40 | |
| | CA_1-28-42 | 1, 28, 42 | |
| | CA_1-32-38 | 1, 32, 38 | |
| | CA_1-32-42 | 1, 32, 42 | |
| | CA_1-32-43 | 1, 32, 43 | |
| | CA_1-40-41 | 1, 40, 41 | |
| | CA_1-41-42 | 1, 41, 42 | |
| | CA_1-42-42 | 1, 42, 42 | |
| | CA_1-42-43 | 1, 42, 43 | |
| | CA_2-4-5 | 2, 4, 5 | |
| | CA_2-2-4-5 | 2, 4, 5 | |
| | CA_2-4-4-5 | 2, 4, 5 | |
| | CA_2-4-12-12 | 2, 4, 12 | |
| | CA_2-5-12-12 | 2, 5, 12 | |
| | CA_2-2-5-7 | 2, 5, 7 | |
| | CA_2-2-5-30 | 2, 5, 30 | |
| | CA_2-5-46 | 2, 5, 46 | |
| | CA_2-2-5-66 | 2, 5, 66 | |
| | CA_2-2-7-12 | 2, 7, 12 | |
| | CA_2-2-7-66 | 2, 7, 66 | |
| | CA_2-7-66-66 | 2, 7, 66 | |
| | CA_2-2-12-30 | 2, 12, 30 | |
| | CA_2-2-12-66 | 2, 12, 66 | |
| | CA_2-2-12-66-66 | 2, 12, 66 | |
| | CA_2-2-13-66 | 2, 13, 66 | |
| | CA_2-2-14-66-66 | 2, 14, 66 | |
| | CA_2-2-30-66 | 2, 30, 66 | |
| | CA_2-4-7 | 2, 4, 7 | |
| | CA_2-4-7-7 | 2, 4, 7 | |
| | CA_2-4-12 | 2, 4, 12 | |
| | CA_2-2-4-12 | 2, 4, 12 | |
| | CA_2-2-5-66-66 | 2, 5, 66 | |
| | CA_2-4-4-12 | 2, 4, 12 | |
| | CA_2-4-13 | 2, 4, 13 | |
| | CA_2-4-28 | 2, 4, 28 | |
| | CA_2-4-29 | 2, 4, 29 | |
| | CA_2-4-30 | 2, 4, 30 | |
| | CA_2-4-71 | 2, 4, 71 | |
| | CA_2-2-4-71 | 2, 4, 71 | |
| | CA_2-5-7 | 2, 5, 7 | |
| | CA_2-5-7-7 | 2, 5, 7 | |
| | CA_2-5-12 | 2, 5, 12 | |
| | CA_2-2-5-12 | 2, 5, 12 | |

| | | | |
|---|---|---|---|
| | CA_2-5-13 | 2, 5, 13 | |
| | CA_2-5-28 | 2, 5, 28 | |
| | CA_2-5-29 | 2, 5, 29 | |
| | CA_2-5-30 | 2, 5, 30 | |
| | CA_2-5-46 | 2, 5, 46 | |
| | CA_2-5-66 | 2, 5, 66 | |
| | CA_2-5-66-66 | 2, 5, 66 | |
| | CA_2-7-12 | 2, 7, 12 | |
| | CA_2-7-13 | 2, 7, 13 | |
| | CA_2-2-7-13 | 2, 7, 13 | |
| | CA_2-2-7-7-13 | 2, 7, 13 | |
| | CA_2-7-26 | 2, 7, 26 | |
| | CA_2-7-28 | 2, 7, 28 | |
| | CA_2-7-29 | 2, 7, 29 | |
| | CA_2-7-30 | 2, 7, 30 | |
| | CA_2-7-46 | 2, 7, 46 | |
| | CA_2-7-66 | 2, 7, 66 | |
| | CA_2-7-7-66 | 2, 7, 66 | |
| | CA_2-7-66-66 | 2, 7, 66 | |
| | CA_2-7-7-66-66 | 2, 7, 66 | |
| | CA_2-2-7-66-66 | 2, 7, 66 | |
| | CA_2-12-30 | 2, 12, 30 | |
| | CA_2-12-66 | 2, 12, 66 | |
| | CA_2-12-66-66 | 2, 12, 66 | |
| | CA_2-13-46 | 2, 13, 46 | |
| | CA_2-13-48 | 2, 13, 48 | |
| | CA_2-13-48-48 | 2, 13, 48 | |
| | CA_2-13-66 | 2, 13, 66 | |
| | CA_2-13-66-66 | 2, 13, 66 | |
| | CA_2-14-30 | 2, 14, 30 | |
| | CA_2-2-14-30 | 2, 14, 30 | |
| | CA_2-14-66 | 2, 14, 66 | |
| | CA_2-2-14-66 | 2, 14, 66 | |
| | CA_2-14-66-66 | 2, 14, 66 | |
| | CA_2-14-66-66-66 | 2, 14, 66 | |
| | CA_2-26-66 | 2, 26, 66 | |
| | CA_2-28-66 | 2, 28, 66 | |
| | CA_2-2-29-30 | 2, 29, 30 | |
| | CA_2-29-30 | 2, 29, 30 | |
| | CA_2-29-66 | 2, 29, 66 | |
| | CA_2-30-66 | 2, 30, 66 | |
| | CA_2-30-66-66 | 2, 30, 66 | |
| | CA_2-46-48 | 2, 46, 48 | |
| | CA_2-46-66 | 2, 46, 66 | |
| | CA_2-46-46-66 | 2, 46, 66 | |
| | CA_2-48-66 | 2, 48,66 | |
| | CA_2-48-48-66 | 2, 48, 66 | |
| | CA_2-66-71 | 2, 66, 71 | |
| | CA_2-2-66-71 | 2, 66, 71 | |
| | CA_2-66-66-71 | 2, 66, 71 | |
| | CA_3-5-7 | 3, 5, 7 | |
| | CA_3-5-7-7 | 3, 5, 7 | |
| | CA_3-5-28 | 3, 5, 28 | |
| | CA_3-3-5-28[2] | 3, 5, 28 | |
| | CA_3-5-40 | 3, 5, 40 | |
| | CA_3-5-40-40 | 3, 5, 40 | |
| | CA_3-5-41 | 3, 5, 41 | |
| | CA_3-3-7-8 | 3, 7, 8 | |
| | CA_3-3-7-7-8 | 3, 7, 8 | |
| | CA_3-7-7-8 | 3, 7, 8 | |
| | CA_3-7-8 | 3, 7, 8 | |
| | CA_3-7-20 | 3, 7, 20 | |
| | CA_3-3-7-20 | 3, 7, 20 | |
| | CA_3-7-7-20 | 3, 7, 20 | |
| | CA_3-7-26 | 3, 7, 26 | |

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|---|---|---|---|
| | CA_3-7-7-26 | 3, 7, 26 | |
| | CA_3-7-28 | 3, 7, 28 | |
| | CA_3-3-7-28 | 3, 7, 28 | |
| | CA_3-7-32 | 3, 7, 32 | |
| | CA_3-7-38 | 3, 7, 38 | |
| | CA_3-3-7-38 | 3, 7, 38 | |
| | CA_3-7-40 | 3, 7, 40 | |
| | CA_3-7-40-40 | 3, 7, 40, 40 | |
| | CA_3-7-42 | 3, 7, 42 | |
| | CA_3-7-46 | 3, 7, 46 | |
| | CA_3-8-11 | 3, 8, 11 | |
| | CA_3-8-20 | 3, 8, 20 | |
| | CA_3-8-28 | 3, 8, 28 | |
| | CA_3-8-32 | 3, 8, 32 | |
| | CA_3-8-38 | 3, 8, 38 | |
| | CA_3-8-40 | 3, 8, 40 | |
| | CA_3-8-41 | 3, 8, 41 | |
| | CA_3-8-42 | 3, 8, 42 | |
| | CA_3-11-18 | 3, 11,18 | |
| | CA_3-11-26 | 3, 11, 26 | |
| | CA_3-11-28 | 3, 11, 28 | |
| | CA_3-18-42 | 3, 18, 42 | |
| | CA_3-19-21 | 3, 19, 21 | |
| | CA_3-3-19-21 | 3, 19, 21 | |
| | CA_3-19-42 | 3, 19, 42 | |
| | CA_3-20-28 | 3, 20, 28 | |
| | CA_3-3-20-28 | 3, 20, 28 | |
| | CA_3-20-32 | 3, 20, 32 | |
| | CA_3-20-38 | 3, 20, 38 | |
| | CA_3-20-42 | 3, 20, 42 | |
| | CA_3-20-43 | 3, 20, 43 | |
| | CA_3-21-28 | 3, 21, 28 | |
| | CA_3-21-42 | 3, 21, 42 | |
| | CA_3-28-32 | 3, 28, 32 | |
| | CA_3-28-38 | 3, 28, 38 | |
| | CA_3-28-40 | 3, 28, 40 | |
| | CA_3-28-40-40 | 3, 28, 40, 40 | |
| | CA_3-28-41 | 3, 28, 41 | |
| | CA_3-28-42 | 3, 28, 42 | |
| | CA_3-28-42-42 | 3, 28, 42 | |
| | CA_3-32-42 | 3, 32, 42 | |
| | CA_3-32-43 | 3, 32, 43 | |
| | CA_3-32-46 | 3, 32, 46 | |
| | CA_3-40-41 | 3, 40, 41 | |
| | CA_3-41-42 | 3, 41, 42 | |
| | CA_3-41-42-42 | 3, 41, 42 | |
| | CA_3-42-43 | 3, 42, 43 | |
| | CA_4-5-12 | 4, 5, 12 | |
| | CA_4-4-5-12 | 4, 5, 12 | |
| | CA_4-5-12-12 | 4, 5, 12 | |
| | CA_4-5-13 | 4, 5, 13 | |
| | CA_4-5-29 | 4, 5, 29 | |
| | CA_4-5-30 | 4, 5, 30 | |
| | CA_4-4-5-30 | 4, 5, 30 | |
| | CA_4-7-12 | 4, 7, 12 | |
| | CA_4-7-28 | 4, 7, 28 | |
| | CA_4-12-30 | 4, 12, 30 | |
| | CA_4-4-12-30 | 4, 12, 30 | |
| | CA_4-29-30 | 4, 29, 30 | |
| | CA_4-4-29-30 | 4, 29, 30 | |
| | CA_5-7-28 | 5, 7, 28 | |
| | CA_5-7-46 | 5, 7, 46 | |
| | CA_5-7-66 | 5, 7, 66 | |
| | CA_5-7-7-66 | 5, 7, 7, 66 | |
| | CA_5-7-66-66 | 5, 7, 66, 66 | |

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| | CA_5-12-46 | 5, 12, 46 | |
| | CA_5-12-48 | 5, 12, 48 | |
| | CA_5-12-66 | 5, 12, 66 | |
| | CA_5-30-66 | 5, 30, 66 | |
| | CA_5-30-66-66 | 5, 30, 66 | |
| | CA_5-40-41 | 5, 40, 41 | |
| | CA_5-46-66 | 5, 46, 66 | |
| | CA_5-46-66-66 | 5, 46, 66 | |
| | CA_5-48-66 | 5, 48, 66 | |
| | CA_5-48-66-66 | 5, 48, 66 | |
| | CA_7-8-20 | 7, 8, 20 | |
| | CA_7-8-28 | 7, 8, 28 | |
| | CA_7-8-32 | 7, 8, 32 | |
| | CA_7-8-38 | 7, 8, 38 | |
| | CA_7-8-40 | 7, 8, 40 | |
| | CA_7-12-66 | 7, 12, 66 | |
| | CA_7-12-66-66 | 7, 12, 66 | |
| | CA_7-13-66 | 7, 13, 66 | |
| | CA_7-7-13-66 | 7, 13, 66 | |
| | CA_7-20-28 | 7, 20, 28 | |
| | CA_7-20-32 | 7, 20, 32 | |
| | CA_7-20-38 | 7, 20, 38 | |
| | CA_7-20-42 | 7, 20, 42 | |
| | CA_7-25-66 | 7, 25, 66 | |
| | CA_7-7-25-66 | 7, 7, 25, 66 | |
| | CA_7-7-25-25-66 | 7, 7, 25, 25, 66 | |
| | CA_7-25-25-66 | 7, 25, 25, 66 | |
| | CA_7-26-66 | 7, 26, 66 | |
| | CA_7-28-32 | 7, 28, 32 | |
| | CA_7-28-38 | 7, 28, 38 | |
| | CA_7-28-40 | 7, 28, 40 | |
| | CA_7-28-40-40 | 7, 28, 40, 40 | |
| | CA_7-28-66 | 7, 28, 66 | |
| | CA_7-29-66 | 7, 29, 66 | |
| | CA_7-7-29-66 | 7, 29, 66 | |
| | CA_7-30-66 | 7, 30, 66 | |
| | CA_7-32-46 | 7, 32, 46 | |
| | CA_7-38-66 | 7, 38, 66 | |
| | CA_7-46-66 | 7, 46, 66 | |
| | CA_8-11-28 | 8, 11, 28 | |
| | CA_8-11-42 | 8, 11, 42 | |
| | CA_8-20-28 | 8, 20, 28 | |
| | CA_8-20-32 | 8, 20, 32 | |
| | CA_8-20-38 | 8, 20, 38 | |
| | CA_8-28-32 | 8, 28, 32 | |
| | CA_8-28-41 | 8, 28, 41 | |
| | CA_8-32-38 | 8, 32, 38 | |
| | CA_8-39-41 | 8, 39 ,41 | |
| | CA_8-40-41 | 8, 40, 41 | |
| | CA_12-30-66 | 12, 30, 66 | |
| | CA_12-30-66-66 | 12, 30, 66 | |
| | CA_13-46-66 | 13, 46, 66 | |
| | CA_13-48-66 | 13, 48, 66 | |
| | CA_13-48-48-66 | 13, 48, 66 | |
| | CA_14-30-66 | 14, 30, 66 | |
| | CA_14-30-66-66 | 14, 30, 66 | |
| | CA_19-21-42 | 19, 21, 42 | |
| | CA_20-28-32 | 20, 28, 32 | |
| | CA_20-28-38 | 20, 28, 38 | |
| | CA_20-32-38 | 20, 32, 38 | |
| | CA_20-32-42 | 20, 32, 42 | |
| | CA_20-32-43 | 20, 32, 43 | |
| | CA_20-38-40 | 20, 38, 40 | |
| | CA_25-26-41 | 25, 26, 41 | |
| | CA_25-25-26-41 | 25, 26, 41 | |

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| CA_20-38-40-40 | 20, 38, 40 |
| CA_21-28-42 | 21, 28, 42 |
| CA_29-30-66-66 | 29, 30, 66 |
| CA_28-41-42 | 28, 41, 42 |
| CA_28-41-42-42 | 28, 41, 42 |
| CA_29-30-66 | 29, 30, 66 |
| CA_29-46-66 | 29, 46, 66 |
| CA_29-66-70 | 29, 66, 70 |
| CA_29-66-66-70 | 29, 66, 70 |
| CA_32-42-43 | 32, 42, 43 |
| CA_46-48-66 | 46, 48, 66 |
| CA_46-48-71 | 46, 48, 71 |
| CA_46-48-48-71 | 46, 48, 71 |
| CA_66-70-71 | 66, 70, 71 |
| CA_66-66-70-71 | 66, 70, 71 |
| NOTE 1: The frequency range in band 28 is restricted for this CA band combination to 703-733 MHz for the UL and 758-788 MHz for the DL<br>NOTE 2: The frequency range in band 28 is restricted for this CA band combination to 718-748 MHz for the UL and 773-803 MHz for the DL | |

**Table 5.5A-2b: Inter-band CA operating bands (four bands)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5) |
|---|---|
| CA_1-3-5-7 | 1, 3, 5, 7 |
| CA_1-3-3-5-7 | 1, 3, 5, 7 |
| CA_1-3-5-7-7 | 1, 3, 5, 7 |
| CA_1-3-5-28[2] | 1, 3, 5, 28 |
| CA_1-3-5-40 | 1, 3, 5, 40 |
| CA_1-3-5-41 | 1, 3, 5, 41 |
| CA_1-3-7-7-26 | 1, 3, 7, 26 |
| CA_1-3-7-8 | 1, 3, 7, 8 |
| CA_1-3-3-7-8 | 1, 3, 7, 8 |
| CA_1-3-7-7-8 | 1, 3, 7, 8 |
| CA_1-3-3-7-7-8 | 1, 3, 7, 8 |
| CA_1-3-7-20 | 1, 3, 7, 20 |
| CA_1-3-7-7-20 | 1, 3, 7, 20 |
| CA_1-3-3-7-20 | 1, 3, 7, 20 |
| CA_1-3-7-26 | 1, 3, 7, 26 |
| CA_1-3-7-28 | 1, 3, 7, 28 |
| CA_1-1-3-7-28 | 1, 3, 7, 28 |
| CA_1-3-3-7-28 | 1, 3, 7, 28 |
| CA_1-1-3-3-7-28 | 1, 3, 7, 28 |
| CA_1-3-7-7-28 | 1, 3, 7, 28 |
| CA_1-3-7-32 | 1, 3, 7, 32 |
| CA_1-3-7-38 | 1, 3, 7, 38 |
| CA_1-1-3-7-38 | 1, 3, 7, 38 |
| CA_1-3-3-7-38 | 1, 3, 7, 38 |
| CA_1-3-7-40 | 1, 3, 7, 40 |
| CA_1-3-7-40-40 | 1, 3, 7, 40 |
| CA_1-3-7-42 | 1, 3, 7, 42 |
| CA_1-3-7-46 | 1, 3, 7, 46 |
| CA_1-3-8-11 | 1, 3, 8, 11 |
| CA_1-3-8-20 | 1, 3, 8, 20 |
| CA_1-3-8-28 | 1, 3, 8, 28 |
| CA_1-3-8-38 | 1, 3, 8, 38 |
| CA_1-3-3-8-38 | 1, 3, 8, 38 |
| CA_1-3-11-28 | 1, 3, 11, 28 |
| CA_1-3-8-40 | 1, 3, 8, 40 |
| CA_1-3-8-41 | 1, 3, 8, 41 |

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| | CA_1-3-8-42 | 1, 3, 8, 42 | |
| | CA_1-3-18-42 | 1, 3, 18, 42 | |
| | CA_1-3-19-21 | 1, 3,19, 21 | |
| | CA_1-3-3-19-21 | 1, 3,19, 21 | |
| | CA_1-3-19-42 | 1, 3,19, 42 | |
| | CA_1-3-20-28[1] | 1, 3, 20, 28 | |
| | CA_1-3-3-20-28[1] | 1, 3, 20, 28 | |
| | CA_1-3-20-32 | 1, 3, 20, 32 | |
| | CA_1-3-20-38 | 1, 3, 20, 38 | |
| | CA_1-3-20-42 | 1, 3, 20, 42 | |
| | CA_1-3-20-43 | 1, 3, 20, 43 | |
| | CA_1-3-21-28 | 1, 3, 21, 28 | |
| | CA_1-3-21-42 | 1, 3, 21, 42 | |
| | CA_1-3-28-32 | 1, 3, 28, 32 | |
| | CA_1-3-28-38 | 1, 3, 28, 38 | |
| | CA_1-3-28-40 | 1, 3, 28, 40 | |
| | CA_1-3-28-42 | 1, 3, 28, 42 | |
| | CA_1-3-32-42 | 1, 3, 32, 42 | |
| | CA_1-3-32-43 | 1, 3, 32, 43 | |
| | CA_1-3-40-41 | 1, 3, 40, 41 | |
| | CA_1-3-41-42 | 1, 3, 41, 42 | |
| | CA_1-3-42-43 | 1, 3, 42, 43 | |
| | CA_1-5-7-28[2] | 1, 5, 7, 28 | |
| | CA_1-5-7-7-28[2] | 1, 5, 7, 28 | |
| | CA_1-5-7-46 | 1, 5, 7, 46 | |
| | CA_1-7-8-20 | 1, 7, 8, 20 | |
| | CA_1-7-8-28 | 1, 7, 8, 28 | |
| | CA_1-7-8-32 | 1, 7, 8, 32 | |
| | CA_1-7-8-38 | 1, 7, 8, 38 | |
| | CA_1-7-8-40 | 1, 7, 8, 40 | |
| | CA_1-7-20-28 | 1, 7, 20, 28 | |
| | CA_1-7-20-32 | 1, 7, 20, 32 | |
| | CA_1-7-20-38 | 1, 7, 20, 38 | |
| | CA_1-7-20-42 | 1, 7, 20, 42 | |
| | CA_1-7-28-32 | 1, 7, 28, 32 | |
| | CA_1-7-28-38 | 1, 7, 28, 38 | |
| | CA_1-7-28-40 | 1, 7, 28, 40 | |
| | CA_1-7-28-40-40 | 1, 7, 28, 40 | |
| | CA_1-7-32-38 | 1, 7, 32, 38 | |
| | CA_1-8-11-28 | 1, 8, 11, 28 | |
| | CA_1-8-11-42 | 1, 8, 11, 42 | |
| | CA_1-8-20-28 | 1, 8, 20, 28 | |
| | CA_1-8-20-32 | 1, 8, 20, 32 | |
| | CA_1-8-20-38 | 1, 8, 20, 38 | |
| | CA_1-8-28-32 | 1, 8, 28, 32 | |
| | CA_1-8-32-38 | 1, 8, 32, 38 | |
| | CA_1-19-21-42 | 1, 19, 21, 42 | |
| | CA_1-20-28-32[1] | 1, 20, 28, 32 | |
| | CA_1-20-28-38[1] | 1, 20, 28, 38 | |
| | CA_1-8-32-38 | 1, 8, 32, 38 | |
| | CA_1-19-21-42 | 1, 19, 21, 42 | |
| | CA_1-20-28-32 | 1, 20, 28, 38 | |
| | CA_1-20-28-38 | 1, 20, 32, 38 | |
| | CA_1-20-32-42 | 1, 20, 32, 42 | |
| | CA_2-2-5-12-66 | 2, 5, 12, 66 | |
| | CA_2-2-5-30-66 | 2, 5, 30, 66 | |
| | CA_2-2-7-12-66 | 2. 7, 12, 66 | |
| | CA_2-7-12-66-66 | 2. 7, 12, 66 | |
| | CA_2-2-12-30-66 | 2, 12, 30, 66 | |
| | CA_2-2-14-30-66 | 2, 14, 30, 66 | |

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| | CA_2-4-5-12 | 2, 4, 5, 12 | |
| | CA_2-4-5-29 | 2, 4, 5, 29 | |
| | CA_2-4-5-30 | 2, 4, 5, 30 | |
| | CA_2-4-7-12 | 2, 4, 7, 12 | |
| | CA_2-4-12-30 | 2, 4, 12, 30 | |
| | CA_2-4-29-30 | 2, 4, 29, 30 | |
| | CA_2-5-7-28 | 2, 5, 7, 28 | |
| | CA_2-5-7-66 | 2, 5, 7, 66 | |
| | CA_2-2-5-7-66 | 2, 5, 7, 66 | |
| | CA_2-5-7-7-66 | 2, 5, 7, 66 | |
| | CA_2-5-7-66-66 | 2, 5, 7, 66 | |
| | CA_2-5-12-66 | 2, 5, 12, 66 | |
| | CA_2-5-30-66 | 2, 5, 30, 66 | |
| | CA_2-5-30-66-66 | 2, 5, 30, 66 | |
| | CA_2-7-12-66 | 2, 7, 12, 66 | |
| | CA_2-7-13-66 | 2, 7, 13, 66 | |
| | CA_2-7-7-13-66 | 2, 7, 13, 66 | |
| | CA_2-7-26-66 | 2, 7, 26, 66 | |
| | CA_2-7-28-66 | 2, 7, 28, 66 | |
| | CA_2-7-29-66 | 2, 7, 29, 66 | |
| | CA_2-7-7-29-66 | 2, 7, 29, 66 | |
| | CA_2-7-46-66 | 2, 7, 46, 66 | |
| | CA_2-12-30-66 | 2, 12, 30, 66 | |
| | CA_2-12-30-66-66 | 2, 12, 30, 66 | |
| | CA_2-13-48-66 | 2, 13, 48, 66 | |
| | CA_2-13-48-48-66 | 2, 13, 48, 66 | |
| | CA_2-14-30-66 | 2, 14, 30, 66 | |
| | CA_2-14-30-66-66 | 2, 14, 30, 66 | |
| | CA_2-29-30-66 | 2, 29, 30, 66 | |
| | CA_2-2-29-30-66 | 2, 29, 30, 66 | |
| | CA_2-46-48-66 | 2, 46, 48, 66 | |
| | CA_3-3-5-7-28[2] | 3, 5, 7, 28 | |
| | CA_3-5-7-28[2] | 3, 5, 7, 28 | |
| | CA_3-5-7-7-28[2] | 3, 5, 7, 28 | |
| | CA_3-7-8-20 | 3, 7, 8, 20 | |
| | CA_3-7-8-28 | 3, 7, 8, 28 | |
| | CA_3-7-8-38 | 3, 7, 8, 38 | |
| | CA_3-7-8-40 | 3, 7, 8, 40 | |
| | CA_3-7-20-28 | 3, 7, 20, 28 | |
| | CA_3-7-20-32 | 3, 7, 20, 32 | |
| | CA_3-7-20-38 | 3, 7, 20, 38 | |
| | CA_3-7-20-42 | 3, 7, 20, 42 | |
| | CA_3-7-28-38 | 3, 7, 28, 38 | |
| | CA_3-7-28-40 | 3, 7, 28, 40 | |
| | CA_3-7-28-40-40 | 3, 7, 28, 40 | |
| | CA_3-7-32-46 | 3, 7, 32, 46 | |
| | CA_3-8-11-28 | 3, 8, 11, 28 | |
| | CA_3-8-20-28 | 3, 8, 20, 28 | |
| | CA_3-8-20-38 | 3, 8, 20, 38 | |
| | CA_3-8-40-41 | 3, 8, 40, 41 | |
| | CA_3-19-21-42 | 3, 19, 21, 42 | |
| | CA_3-20-28-38 | 3, 20, 28, 38 | |
| | CA_3-20-32-42 | 3, 20, 32, 42 | |
| | CA_3-20-32-43 | 3, 20, 32, 43 | |
| | CA_3-21-28-42 | 3, 21, 28, 42 | |
| | CA_3-28-41-42 | 3, 28, 41, 42 | |
| | CA_3-32-42-43 | 3, 32, 42, 43 | |
| | CA_7-8-20-28 | 7, 8, 20, 28 | |
| | CA_7-8-20-32 | 7, 8, 20, 32 | |
| | CA_7-8-20-38 | 7, 8, 20, 38 | |

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| CA_7-8-28-32 | 7, 8, 28, 32 |
| CA_7-8-32-38 | 7, 8, 32, 38 |
| CA_7-20-28-32 | 7, 20, 28, 32 |
| CA_7-20-28-38 | 7, 20, 28, 38 |
| CA_7-20-32-38 | 7, 20, 32, 38 |
| CA_8-20-28-32 | 8, 20, 28, 32 |
| CA_8-20-32-38 | 8, 20, 32, 38 |
| NOTE 1: The frequency range in band 28 is restricted for this CA band combination to 703-733 MHz for the UL and 758-788 MHz for the DL<br>NOTE 2: The frequency range in band 28 is restricted for this CA band combination to 718-748 MHz for the UL and 773-803 MHz for the DL | |

**Table 5.5A-2c: Inter-band CA operating bands (five bands)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5) |
|---|---|
| CA_1-3-5-7-28[2] | 1, 3, 5, 7, 28 |
| CA_1-3-5-7-7-28[2] | 1, 3, 5, 7, 28 |
| CA_1-3-7-8-20 | 1, 3, 7, 8, 20 |
| CA_1-3-7-8-28 | 1, 3, 7, 8, 28 |
| CA_1-3-7-8-38 | 1, 3, 7, 8, 38 |
| CA_1-3-7-8-40 | 1, 3, 7, 8, 40 |
| CA_1-3-7-20-28 | 1, 3, 7, 20, 28 |
| CA_1-3-7-20-32 | 1, 3, 7, 20, 32 |
| CA_1-3-7-20-38 | 1, 3, 7, 20, 38 |
| CA_1-3-7-20-42 | 1, 3, 7, 20, 42 |
| CA_1-3-7-28-38 | 1, 3, 7, 28, 38 |
| CA_1-3-7-28-40 | 1, 3, 7, 28, 40 |
| CA_1-3-8-11-28 | 1, 3, 8, 11, 28 |
| CA_1-3-8-20-28 | 1, 3, 8, 20, 28 |
| CA_1-3-8-20-38 | 1, 3, 8, 20, 38 |
| CA_1-3-20-28-38 | 1, 3, 20, 28, 38 |
| CA_1-3-20-32-42 | 1, 3, 20, 32, 42 |
| CA_1-3-20-32-43 | 1, 3, 20, 32, 43 |
| CA_1-3-32-42-43 | 1, 3, 32, 42, 43 |
| CA_1-7-8-20-28 | 1, 7, 8, 20, 28 |
| CA_1-7-8-20-32 | 1, 7, 8, 20, 32 |
| CA_1-7-8-20-38 | 1, 7, 8, 20, 38 |
| CA_1-7-8-28-32 | 1, 7, 8, 28, 32 |
| CA_1-7-8-32-38 | 1, 7, 8, 32, 38 |
| CA_1-7-20-28-32 | 1, 7, 20, 28, 32 |
| CA_1-7-20-28-38 | 1, 7, 20, 28, 38 |
| CA_1-7-20-32-38 | 1, 7, 20, 32, 38 |
| CA_1-8-20-32-38 | 1, 7, 20, 32, 38 |
| CA_3-7-8-20-28 | 3, 7, 8, 20, 28 |
| CA_3-7-8-20-38 | 3, 7, 8, 20, 38 |
| CA_3-7-20-28-38 | 3, 7, 20, 28, 38 |
| CA_7-8-20-28-32 | 7, 8, 20, 28, 32 |
| CA_7-8-20-32-38 | 7, 8, 20, 32, 38 |
| NOTE 1: The frequency range in band 28 is restricted for this CA band combination to 703-733 MHz for the UL and 758-788 MHz for the DL<br>NOTE 2: The frequency range in band 28 is restricted for this CA band combination to 718-748 MHz for the UL and 773-803 MHz for the DL | |

**Table 5.5A-2d: Inter-band CA operating bands (six bands)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5) |
|---|---|
| CA_1-3-7-8-20-28 | 1, 3, 7, 8, 20, 28 |

| | |
|---|---|
| CA_1-3-7-20-28-38 | 1, 3, 7, 20, 28, 38 |
| CA_1-7-8-20-28-32 | 1, 7, 8, 20, 28, 32 |

**Table 5.5A-3: Intra-band non-contiguous CA operating bands (with two sub-blocks)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5) |
|---|---|
| CA_1-1 | 1 |
| CA_2-2 | 2 |
| CA_3-3 | 3 |
| CA_4-4 | 4 |
| CA_5-5 | 5 |
| CA_7-7 | 7 |
| CA_12-12 | 12 |
| CA_23-23 | 23 |
| CA_25-25 | 25 |
| CA_40-40 | 40 |
| CA_41-41 | 41 |
| CA_42-42 | 42 |
| CA_43-43 | 43 |
| CA_48-48 | 48 |
| CA_66-66 | 66 |

**Table 5.5A-4: Intra-band non-contiguous CA operating bands (with three sub-blocks)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5) |
|---|---|
| CA_25-25-25 | 25 |
| CA_41-41-41 | 41 |
| CA_48-48-48 | 48 |
| CA_66-66-66 | 66 |

**Table 5.5A-5: Intra-band non-contiguous CA operating bands (with four sub-blocks)**

| E-UTRA CA Band | E-UTRA Band (Table 5.5) |
|---|---|
| CA_48-48-48-48 | 48 |

## 5.5B Operating bands for UL-MIMO

E-UTRA UL-MIMO is designed to operate in the operating bands defined in Table 5.5B-1.

**Table 5.5B-1: Void**

## 5.5C Operating bands for Dual Connectivity

E-UTRA dual connectivity is designed to operate in the operating bands defined in Table 5.5C-1.

**Table 5.5C-1: Inter-band dual connectivity operating bands (two bands)**

| E-UTRA DC Band | E-UTRA Band (Table 5.5) |
|---|---|
| DC_1-3 | 1, 3 |
| DC_1-5 | 1, 5 |
| DC_1-7 | 1, 7 |
| DC_1-8 | 1, 8 |
| DC_1-11 | 1, 11 |
| DC_1-19 | 1, 19 |
| DC_1-20 | 1, 20 |

| | |
|---|---|
| DC_1-21 | 1, 21 |
| DC_1-40 | 1, 40 |
| DC_1-42 | 1, 42 |
| DC_2-4 | 2, 4 |
| DC_2-5 | 2, 5 |
| DC_2-7 | 2, 7 |
| DC_2-12 | 2, 12 |
| DC_2-13 | 2, 13 |
| DC_2-14 | 2, 14 |
| DC_2-30 | 2, 30 |
| DC_2-48 | 2, 48 |
| DC_2-66 | 2, 66 |
| DC_3-5 | 3, 5 |
| DC_3-7 | 3, 7 |
| DC_3-8 | 3, 8 |
| DC_3-11 | 3, 11 |
| DC_3-18 | 3, 18 |
| DC_3-19 | 3, 19 |
| DC_3-20 | 3, 20 |
| DC_3-21 | 3, 21 |
| DC_3-26 | 3, 26 |
| DC_3-28 | 3, 28 |
| DC_3-38 | 3, 38 |
| DC_3-40 | 3, 40 |
| DC_3-42 | 3, 42 |
| DC_4-5 | 4, 5 |
| DC_4-7 | 4, 7 |
| DC_4-12 | 4, 12 |
| DC_4-13 | 4, 13 |
| DC_4-17 | 4, 17 |
| DC_4-28 | 4, 28 |
| DC_5-7 | 5, 7 |
| DC_5-12 | 5,12 |
| DC_5-17 | 5,17 |
| DC_5-30 | 5, 30 |
| DC_5-40 | 5, 40 |
| DC_5-66 | 5, 66 |
| DC_7-8 | 7, 8 |
| DC_7-20 | 7, 20 |
| DC_7-26 | 7, 26 |
| DC_7-28 | 7, 28 |
| DC_8-20 | 8, 20 |
| DC_8-28 | 8, 28 |
| DC_8-39 | 8, 39 |
| DC_8-41 | 8, 41 |
| DC_11-18 | 11, 18 |
| DC_11-26 | 11, 26 |
| DC_12-30 | 12, 30 |
| DC_12-66 | 12, 66 |
| DC_13-66 | 13, 66 |
| DC_14-30 | 14, 30 |
| DC_14-66 | 14, 66 |
| DC_19-21 | 19, 21 |
| DC_19-42 | 19, 42 |
| DC_21-42 | 21, 42 |
| DC_21-28 | 21, 28 |
| DC_25-26 | 25, 26 |
| DC_25-41 | 25, 41 |
| DC_26-46 | 26, 46 |
| DC_26-48 | 26, 48 |

| | |
|---|---|
| DC_28-40 | 28, 40 |
| DC_28-41 | 28, 41 |
| DC_28-42 | 28, 42 |
| DC_30-48 | 30, 48 |
| DC_30-66 | 30, 66 |
| DC_39-41 | 39, 41 |
| DC_40-42 | 40, 42 |
| DC_41-42 | 41, 42 |

**Table 5.5C-2: Inter-band dual connectivity operating bands (three bands)**

| E-UTRA DC Band | E-UTRA Band (Table 5.5) |
|---|---|
| DC_1-3-19 | 1, 3, 19 |
| DC_1-19-21 | 1, 19, 21 |

## 5.5D Operating bands for ProSe

E-UTRA ProSe is designed to operate in the operating bands defined in Table 5.5D-1.

**Table 5.5D-1 E-UTRA ProSe operating band**

| E-UTRA ProSe Band | E-UTRA Operating Band | ProSe UE transmit | ProSe UE receive | ProSe Duplex Mode | ProSe Direct | |
|---|---|---|---|---|---|---|
| | | $F_{UL_low}$ – $F_{UL_high}$ | $F_{DL_low}$ – $F_{DL_high}$ | | Disc. | Comm. |
| 2 | 2 | 1 850 MHz – 1 910 MHz | 1 850 MHz – 1 910 MHz | HD | Yes | |
| 3 | 3 | 1 710 MHz – 1 785 MHz | 1 710 MHz – 1 785 MHz | HD | Yes | Yes |
| 4 | 4 | 1 710 MHz – 1 755 MHz | 1 710 MHz – 1 755 MHz | HD | Yes | |
| 7 | 7 | 2 500 MHz – 2 570 MHz | 2 500 MHz – 2 570 MHz | HD | Yes | Yes |
| 14 | 14 | 788 MHz – 798 MHz | 788 MHz – 798 MHz | HD | Yes | Yes |
| 20 | 20 | 832 MHz – 862 MHz | 832 MHz – 862 MHz | HD | Yes | Yes |
| 26 | 26 | 814 MHz – 849 MHz | 814 MHz – 849 MHz | HD | Yes | Yes |
| 28 | 28 | 703 MHz – 748 MHz | 703 MHz – 748 MHz | HD | Yes | Yes |
| 31 | 31 | 452.5 MHz – 457.5 MHz | 452.5 MHz – 457.5 MHz | HD | Yes | Yes |
| 41 | 41 | 2 496 MHz – 2 690 MHz | 2 496 MHz – 2 690 MHz | HD | Yes | |
| 68 | 68 | 698 MHz – 728 MHz | 698 MHz – 728 MHz | HD | Yes | Yes |
| 72 | 72 | 451 MHz – 456 MHz | 451 MHz – 456 MHz | HD | Yes | Yes |

E-UTRA ProSe is designed to operate concurrent with E-UTRA uplink/downlink on the operating bands combinations listed in Table 5.5D-2.

**Table 5.5D-2 Inter-band E-UTRA ProSe / E-UTRA operating bands**

| E-UTRA ProSe Band [Note 1] | E-UTRA band / E-UTRA CA band [Note 2] |
|---|---|
| 2 | 4 |
| | CA_2-4[Note 3] |
| 28 | 1 |
| | CA_1-28[Note 3] |
| NOTE 1: As specified in Table 5.5D-1<br>NOTE 2: As specified in Table 5.5-1 and Table 5.5A-2<br>NOTE 3: Applies when E-UTRA uplink is assigned to one E-UTRA band and ProSe operation is restricted to the uplink frequencies paired with either PCC or SCC. | |

NOTE 4: The concurrency for E-UTRA ProSe Direct Discovery with E-UTRA uplink/downlink applies after allowing for any transmission and/or reception gap requested by the UE.

## 5.5E Operating bands for UE category 0, UE category M1 and M2 and UE category 1bis

UE category 0 is designed to operate in the E-UTRA operating bands 2, 3, 4, 5, 8, 13, 20, 25, 26 and 28 in both half duplex FDD mode and full-duplex FDD mode and in bands 39, 40 and 41 in TDD mode. The E-UTRA bands are defined in Table 5.5-1.

UE category M1 and M2 is designed to operate in the E-UTRA operating bands 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 14, 18, 19, 20, 21, 24, 25, 26, 27, 28, 31, 66, 71, 72, 73, 74, 85, 87 and 88 in both half duplex FDD mode and full-duplex FDD mode, and in bands 39, 40, 41, 42, 43 and 48 in TDD mode. The E-UTRA bands are defined in Table 5.5-1.

UE category 1bis is designed to operate in the E-UTRA operating bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 20, 26, 28, 31, 66 and 72 in full duplex FDD mode and in bands 34, 39, 40 and 41 in TDD mode. The E-UTRA bands are defined in Table 5.5-1

## 5.5F Operating bands for category NB1 and NB2

Category NB1 and NB2 are designed to operate in the E-UTRA operating bands 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 14, 17, 18, 19, 20, 21, 24, 25, 26, 28, 31, 41, 42, 43, 48, 65, 66, 70, 71, 72, 73, 74, 85, 87, 88, and 103 which are defined in Table 5.5-1. Category NB1 and NB2 are designed to operate in the NR operating bands n1, n2, n3, n5, n7, n8, n12, n14, n18, n20, n25, n26, n28, n41, n65, n66, n70, n71, n74, n90.

Category NB1 and NB2 systems operate in HD-FDD duplex mode or in TDD mode.

In case UE receives network signaling value NS_04 on any of the operating bands listed in Table 5.5F-1 then the lower and upper limit of those bands are shown in Table 5.5F-1 to account for the USA emission requirements.

**Table 5.5F-1 E-UTRA operating bands for NB-IoT in the USA**

| E-UTRA Operating Band | Uplink (UL) operating band BS receive UE transmit | Downlink (DL) operating band BS transmit UE receive | Duplex Mode |
|---|---|---|---|
| | $F_{UL_low}$ – $F_{UL_high}$ | $F_{DL_low}$ – $F_{DL_high}$ | |
| 2 | 1 850.1 MHz – 1 909.9 MHz | 1 930.1 MHz – 1 989.9 MHz | FDD |
| 4 | 1 710.1 MHz – 1 754.9 MHz | 2 110.1 MHz – 2 154.9 MHz | FDD |
| 5 | 824.1 MHz – 848.9 MHz | 869.1 MHz – 893.9MHz | FDD |
| 12 | 699 MHz – 715.9 MHz | 729 MHz – 745.9 MHz | FDD |
| 13 | 777 MHz – 786.9 MHz | 746 MHz – 755.9 MHz | FDD |
| 17 | 704.1 MHz – 715.9 MHz | 734.1 MHz – 745.9 MHz | FDD |
| 25 | 1 850.1 MHz – 1 914.9 MHz | 1 930.1 MHz – 1 994.9 MHz | FDD |
| 26 | 814.1 MHz – 848.9 MHz | 859.1 MHz – 893.9 MHz | FDD |
| 66 | 1 710.1 MHz – 1 779.9 MHz | 2 110.1 MHz – 2 199.9 MHz | FDD |
| 70 | 1695.1 MHz – 1 709.9 MHz | 1 995.1 MHz – 2 019.9 MHz | FDD |
| 71 | 663.1 MHz – 697.9 MHz | 617.1 MHz – 651.9 MHz | FDD |
| 85 | 698.1 MHz – 715.9 MHz | 728.1 MHz – 745.9 MHz | FDD |
| 103 | 787.1 MHz – 787.9 MHz | 757.1 MHz – 757.9 MHz | FDD |

## 5.5G Operating bands for V2X Communication

E-UTRA V2X Communication is designed to operate in the operating bands defined in Table 5.5G-1.

**Table 5.5G-1 V2X operating band**

| E-UTRA Operating Band | E-UTRA V2X Operating Band | V2X UE transmit | | V2X UE receive | | Duplex Mode | Interface |
|---|---|---|---|---|---|---|---|
| | | $F_{UL_low}$ – $F_{UL_high}$ | | $F_{DL_low}$ – $F_{DL_high}$ | | | |
| 47 | 47 | 5 855 MHz | 5 925 MHz | 5 855 MHz | 5 925 MHz | HD | PC5 |

E-UTRA V2X communication is designed to operate concurrent with E-UTRA uplink/downlink on the operating bands combinations listed in Table 5.5G-2.

**Table 5.5G-2 Inter-band con-current V2X operating bands**

| V2X con-current band configuration | E-UTRA or V2X Operating Band | Interface | Uplink (UL) operating band BS receive UE transmit | Downlink (DL) operating band BS transmit UE receive | Duplex Mode |
|---|---|---|---|---|---|
| | | | $F_{UL_low}$ – $F_{UL_high}$ | $F_{DL_low}$ – $F_{DL_high}$ | |
| V2X_3-47 | 3 | Uu | 1 710 MHz – 1 785 MHz | 1 805 MHz – 1 880 MHz | FDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_5-47 | 5 | Uu | 824 MHz – 849 MHz | 869 MHz – 894 MHz | FDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz – 5 925 MHz | HD |
| V2X_7-47 | 7 | Uu | 2 500 MHz – 2 570 MHz | 2 620 MHz – 2 690 MHz | FDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_8-47 | 8 | Uu | 880 MHz – 915 MHz | 925 MHz – 960 MHz | FDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_20-47 | 20 | Uu | 832 MHz – 862 MHz | 791 MHz – 821 MHz | FDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_28-47 | 28 | Uu | 703 MHz – 748 MHz | 758 MHz – 803 MHz | FDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_34-47 | 34 | Uu | 2 010 MHz – 2 025 MHz | 2 010 MHz – 2 025 MHz | TDD |
| | 47 | PC5 | 5 855 MHz 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_39-47 | 39 | Uu | 1 880 MHz – 1 920 MHz | 1 880 MHz – 1 920 MHz | TDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_41-47 | 41 | Uu | 2 496 MHz – 2 690 MHz | 2 496 MHz 2 690 MHz | TDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |
| V2X_71-47 | 71 | Uu | 663 MHz – 698 MHz | 617 MHz – 652 MHz | FDD |
| | 47 | PC5 | 5 855 MHz – 5 925 MHz | 5 855 MHz 5 925 MHz | HD |

E-UTRA V2X communication is also designed to operate for intra-band multi-carrier operation in the operating bands defined in Table 5.5G-3.

**Table 5.5G-3: V2X intra-band multi-carrier operation**

| V2X multi-carrier Band configuration | V2X operating Band | Interface |
|---|---|---|
| V2X_47 | 47 | PC5 |

### 2.1.1 عرض نطاق قناة معدات المستعمل

يُحدد عرض نطاق قناة معدات المستعمل لمختلف نطاقات النفاذ E-UTRA في الفقرة 6.5 من المواصفة التقنية [1] TS 36.101-1.

وتُحدَّد تشكيلات تجميع الموجات الحاملة الخاصة بمعدات المستعمل ومجموعات توليفات عرض النطاق المرتبطة بها في الفقرة 6A.5 من المواصفة التقنية [1] TS 36.101-1.

ويُحدد عرض نطاق قناة معدات المستعمل فيما يخص الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 6B.5 من المواصفة التقنية [1] TS 36.101-1.

ويُحدد عرض نطاق قناة معدات المستعمل عند استخدام التوصيلية المزدوجة في الفقرة 6C.5 من المواصفة [1] TS 36.101-1.

ويُحدد عرض نطاق قناة معدات المستعمل للخدمات المستندة إلى القرب (ProSe) في الفقرة 6D.5 من المواصفة [1] TS 36.101-1.

ويُحدد عرض نطاق قناة معدات المستعمل من الفئتين NB1 وNB2 في الفقرة 6F.5 من المواصفة التقنية [1] TS 36.101-1.

وتُحدد تشكيلات الاتصالات من مركبة إلى كل شيء (V2X) لمعدات المستعمل (UE)، وعرض نطاق قناة مجموعات توليفات عرض النطاق، في الفقرة 6G.5 من المواصفة التقنية [1] TS 36.101-1.

## 5.6 Channel bandwidth

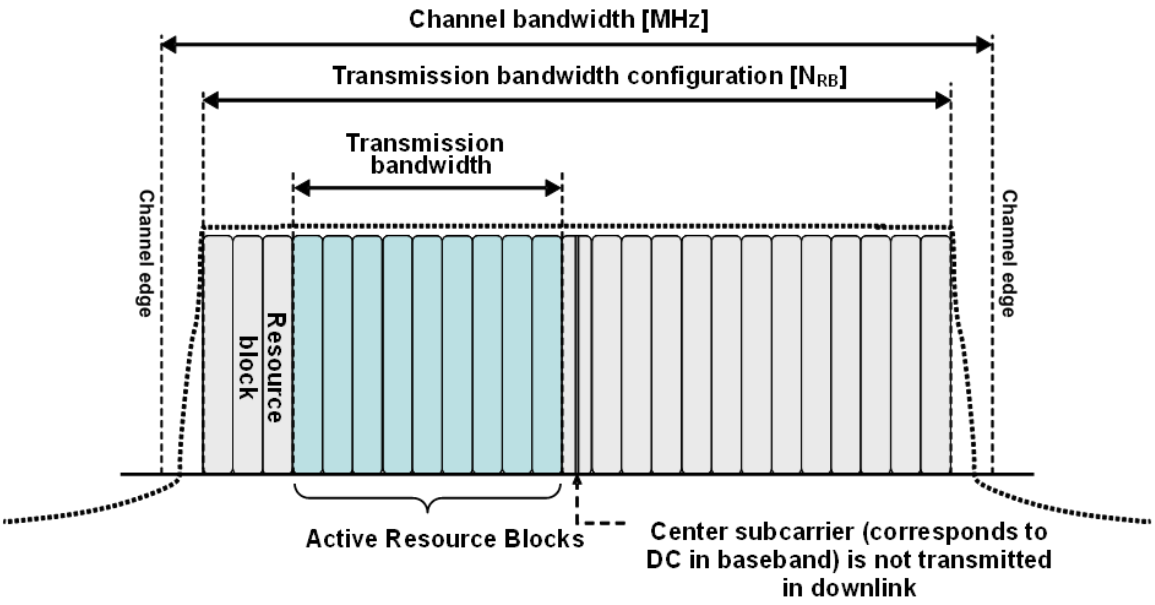
Requirements in present document are specified for the channel bandwidths listed in Table 5.6-1.

**Table 5.6-1: Transmission bandwidth configuration $N_{RB}$ in E-UTRA channel bandwidths**

| Channel bandwidth $BW_{Channel}$ [MHz] | 1.4 | 3 | 5 | 10 | 15 | 20 |
|---|---|---|---|---|---|---|
| Transmission bandwidth configuration $N_{RB}$ | 6 | 15 | 25 | 50 | 75 | 100 |

Figure 5.6-1 shows the relation between the Channel bandwidth ($BW_{Channel}$) and the Transmission bandwidth configuration ($N_{RB}$). The channel edges are defined as the lowest and highest frequencies of the carrier separated by the channel bandwidth, i.e. at $F_C$ +/- $BW_{Channel}$ /2.

**Figure 5.6-1: Definition of channel bandwidth and transmission bandwidth configuration for one E-UTRA carrier**




## 5.6.1 Channel bandwidths per operating band

a) The requirements in this specification apply to the combination of channel bandwidths and operating bands shown in Table 5.6.1-1. The transmission bandwidth configuration in Table 5.6.1-1 shall be supported for each of the specified channel bandwidths. The same (symmetrical) channel bandwidth is specified for both the TX and RX path.

**Table 5.6.1-1: E-UTRA channel bandwidth**

| E-UTRA band / Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| E-UTRA Band | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | | | Yes | Yes | Yes | Yes |
| | 2 | Yes | Yes | Yes | Yes | Yes[1] | Yes[1] |
| | 3 | Yes | Yes | Yes | Yes | Yes[1] | Yes[1] |
| | 4 | Yes | Yes | Yes | Yes | Yes | Yes |
| | 5 | Yes | Yes | Yes | Yes[1] | | |
| | 6 | | | Yes | Yes[1] | | |
| | 7 | | | Yes | Yes | Yes[3] | Yes[1, 3] |
| | 8 | Yes | Yes | Yes | Yes[1] | | |
| | 9 | | | Yes | Yes | Yes[1] | Yes[1] |
| | 10 | | | Yes | Yes | Yes | Yes |
| | 11 | | | Yes | Yes[1] | | |
| | 12 | Yes | Yes | Yes[1] | Yes[1] | | |
| | 13 | | | Yes[1] | Yes[1] | | |
| | 14 | | | Yes[1] | Yes[1] | | |
| | ... | | | | | | |
| | 17 | | | Yes[1] | Yes[1] | | |
| | 18 | | | Yes | Yes[1] | Yes[1] | |
| | 19 | | | Yes | Yes[1] | Yes[1] | |
| | 20 | | | Yes | Yes[1] | Yes[1] | Yes[1] |
| | 21 | | | Yes | Yes[1] | Yes[1] | |
| | 22 | | | Yes | Yes | Yes[1] | Yes[1] |
| | 23 | Yes | Yes | Yes | Yes | Yes[1] | Yes[1] |
| | 24 | | | Yes | Yes | | |
| | 25 | Yes | Yes | Yes | Yes | Yes[1] | Yes[1] |
| | 26 | Yes | Yes | Yes | Yes[1] | Yes[1] | |
| | 27 | Yes | Yes | Yes | Yes[1] | | |
| | 28 | | Yes | Yes | Yes[1] | Yes[1] | Yes[1, 2] |
| | 30 | | | Yes | Yes[1] | | |
| | 31 | Yes | Yes[1] | Yes[1] | | | |
| | ... | | | | | | |
| | 33 | | | Yes | Yes | Yes | Yes |
| | 34 | | | Yes | Yes | Yes | |
| | 35 | Yes | Yes | Yes | Yes | Yes | Yes |
| | 36 | Yes | Yes | Yes | Yes | Yes | Yes |
| | 37 | | | Yes | Yes | Yes | Yes |
| | 38 | | | Yes | Yes | Yes[3] | Yes[3] |
| | 39 | | | Yes | Yes | Yes[3] | Yes[3] |
| | 40 | | | Yes | Yes | Yes | Yes |
| | 41 | | | Yes | Yes | Yes | Yes |
| | 42 | | | Yes | Yes | Yes | Yes |
| | 43 | | | Yes | Yes | Yes | Yes |
| | 44 | | Yes | Yes | Yes | Yes | Yes |
| | 45 | | | Yes | Yes | Yes | Yes |
| | 46 | | | | Yes | | Yes |
| | 47 | | | | Yes | | Yes |
| | 48 | | | Yes | Yes | Yes | Yes |
| | 49 | | | | Yes | | Yes |
| | 50 | | Yes | Yes | Yes | Yes | Yes |
| | 51 | | Yes | Yes | | | |
| | 52 | | | Yes | Yes | Yes | Yes |
| | 53 | Yes | Yes | Yes | Yes | | |
| | … | | | | | | |
| | 64 | Reserved | | | | | |
| | 65 | Yes | Yes | Yes | Yes | Yes | Yes |
| | 66 | Yes | Yes | Yes | Yes | Yes | Yes |
| | 68 | | | Yes | Yes | Yes[5] | |
| | | | | | | | |
| | 70 | | | Yes | Yes | Yes | Yes[4] |
| | 71 | | | Yes | Yes[1] | Yes[1] | Yes[1,6] |
| | 72 | Yes | Yes[1] | Yes[1] | | | |
| | 73 | Yes | Yes | Yes | | | |
| | 74 | Yes | Yes | Yes | Yes[1] | Yes[1] | Yes[1] |
| | 85 | | | Yes[1] | Yes[1] | | |
| | 87 | Yes | Yes[1] | Yes[1] | | | |
| | 88 | Yes | Yes[1] | Yes[1] | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 103 [7] | | | | | | |

NOTE 1: [1] refers to the bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (subclause 7.3) is allowed.

NOTE 2: [2] For the 20 MHz bandwidth, the minimum requirements are specified for E-UTRA UL carrier frequencies confined to either 713-723 MHz or 728-738 MHz

NOTE 3: [3] refers to the bandwidth for which the uplink transmission bandwidth can be restricted by the network for some channel assignments in FDD/TDD co-existence scenarios in order to meet unwanted emissions requirements (Clause 6.6.3.2).

NOTE 4: [4] For the 20 MHz bandwidth, the minimum requirements are restricted to E-UTRA operation when carrier aggregation is configured.

NOTE 5: [5] For the 15 MHz bandwidth, the minimum requirements are specified for E-UTRA UL carrier frequencies confined to either 705.5 MHz or 710.5-720.5 MHz

NOTE 6: [6] For the 20MHz bandwidth, the minimum requirements are specified for E-UTRA UL carrier frequencies confined to either 673-678 MHz or 683-688MHz.

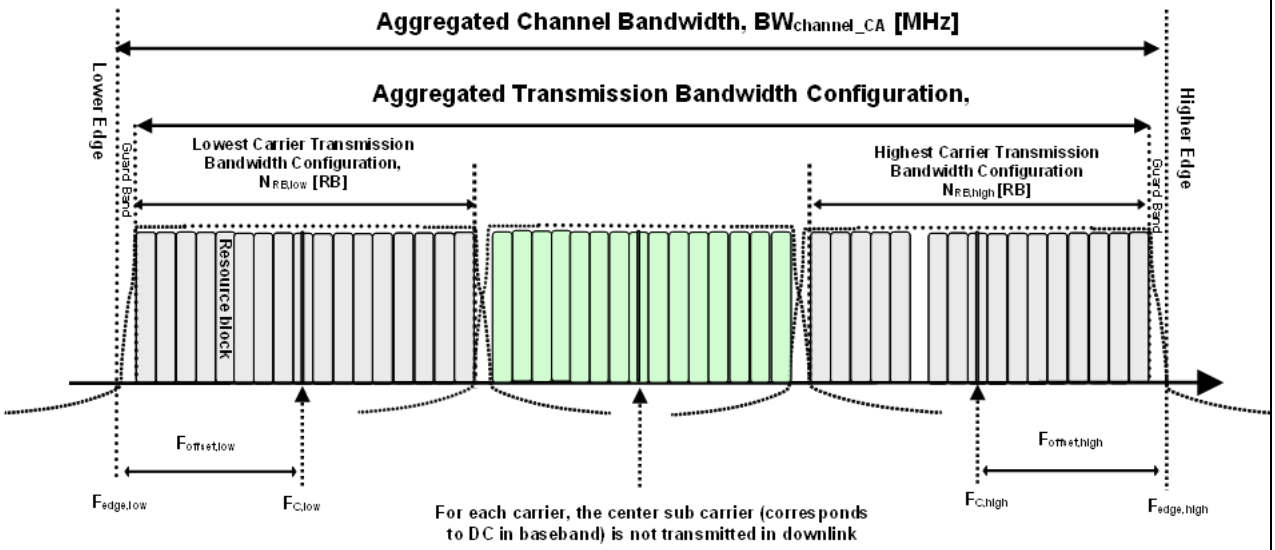
NOTE 7: [7] This band is for standalone NB-IoT operation only. None of E-UTRA standard channel bandwidths is applicable.

b) The use of different (asymmetrical) channel bandwidth for the TX and RX is not precluded and is intended to form part of a later release.

## 5.6A Channel bandwidth for CA

For intra-band contiguous carrier aggregation *Aggregated Channel Bandwidth*, *Aggregated Transmission Bandwidth Configuration* and *Guard Bands* are defined as follows, see Figure 5.6A-1.

**Figure 5.6A-1. Definition of Aggregated channel bandwidth and aggregated channel bandwidth edges**




The *aggregated channel bandwidth,* $BW_{Channel_CA}$, is defined as

$$BW_{Channel_CA} = F_{edge,high} - F_{edge,low} \text{ [MHz]}.$$

The lower bandwidth edge $F_{edge,low}$ and the upper bandwidth edge $F_{edge,high}$ of the aggregated channel bandwidth are used as frequency reference points for transmitter and receiver requirements and are defined by

$$F_{edge,low} = F_{C,low} - F_{offset,low}$$

$$F_{edge,high} = F_{C,high} + F_{offset,high}$$

The lower and upper frequency offsets depend on the transmission bandwidth configurations of the lowest and highest assigned edge component carrier and are defined as

$$F_{offset,low} = (0.18N_{RB,low} + \Delta f_1)/2 + BW_{GB}\ [MHz]$$

$$F_{offset,high} = (0.18N_{RB,high} + \Delta f_1)/2 + BW_{GB}\ [MHz]$$

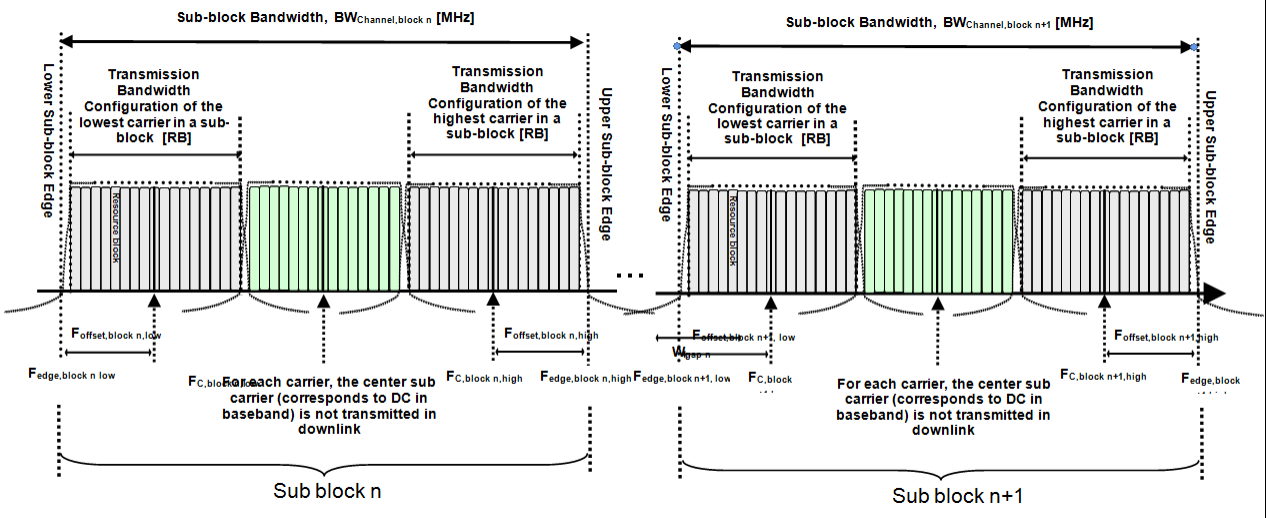
where $\Delta f_1 = \Delta f$ for the downlink with $\Delta f$ the subcarrier spacing and $\Delta f_1 = 0$ for the uplink, while $N_{RB,low}$ and $N_{RB,high}$ are the transmission bandwidth configurations according to Table 5.6-1 for the lowest and highest assigned component carrier, respectively. $BW_{GB}$ denotes the *Nominal Guard Band* and is defined in Table 5.6A-1, and the factor 0.18 is the PRB bandwidth in MHz.

NOTE: The values of $BW_{Channel_CA}$ for UE and BS are the same if the lowest and the highest component carriers are identical.

Aggregated Transmission Bandwidth Configuration is the number of the aggregated RBs within the fully allocated Aggregated Channel bandwidth and is defined per CA Bandwidth Class (Table 5.6A-1).

For intra-band non-contiguous carrier aggregation *Sub-block Bandwidth* and *Sub-block edges* are defined as follows, see Figure 5.6A-2.

Figure 5.6A-2. Non-contiguous intraband CA terms and definitions




The lower sub-block edge of the Sub-block Bandwidth ($BW_{Channel,block}$) is defined as

$$F_{edge,block,\ low} = F_{C,block,low} - F_{offset,block,\ low.}$$

The upper sub-block edge of the Sub-block Bandwidth is defined as

$$F_{edge,block,high} = F_{C,block,high} + F_{offset,block,high}\ .$$

The Sub-block Bandwidth, $BW_{Channel,block}$, is defined as follows:

$$BWChannel,block = F_{edge,block,high} - F_{edge,block,low\ [MHz]}$$

The lower and upper frequency offsets $F_{offset,block,low}$ and $F_{offset,block,high}$ depend on the transmission bandwidth configurations of the lowest and highest assigned edge component carriers within a sub-block and are defined as

$$F_{offset,block,low} = (0.18N_{RB,low} + \Delta f_1)/2 + BW_{GB}\ [MHz]$$

$$F_{offset,block,high} = (0.18N_{RB,high} + \Delta f_1)/2 + BW_{GB}\ [MHz]$$

where $\Delta f_1 = \Delta f$ for the downlink with $\Delta f$ the subcarrier spacing and $\Delta f_1 = 0$ for the uplink, while $N_{RB,low}$ and $N_{RB,high}$ are the transmission bandwidth configurations according to Table 5.6-1 for the lowest and highest assigned component carrier within a sub-block, respectively. $BW_{GB}$ denotes the *Nominal Guard Band* and is defined in Table 5.6A-1, and the factor 0.18 is the PRB bandwidth in MHz.

The sub-block gap size between two consecutive sub-blocks $W_{gap}$ is defined as

$$W_{gap} = F_{edge,block\ n+1,low} - F_{edge,block\ n,high\ [MHz]}$$

**Table 5.6A-1: CA bandwidth classes and corresponding nominal guard bands**

| CA Bandwidth Class | Aggregated Transmission Bandwidth Configuration | Number of contiguous CC | Nominal Guard Band $BW_{GB}$ |
|---|---|---|---|
| A | $N_{RB,agg} \le 100$ | 1 | $a_1\ BW_{Channel(1)} - 0.5\Delta f_1$ (NOTE 2) |
| B | $25 < N_{RB,agg} \le 100$ | 2 | $0.05\ max(BW_{Channel(1)}, BW_{Channel(2)}) - 0.5\Delta f_1$ |
| C | $100 < N_{RB,agg} \le 200$ | 2 | $0.05\ max(BW_{Channel(1)}, BW_{Channel(2)}) - 0.5\Delta f_1$ |
| D | $200 < N_{RB,agg} \le 300$ | 3 | $0.05\ max(BW_{Channel(1)}, BW_{Channel(2)}, BW_{Channel(3)}) - 0.5\Delta f_1$ |
| E | $300 < N_{RB,agg} \le 400$ | 4 | $0.05\ max(BW_{Channel(1)}, BW_{Channel(2)}, BW_{Channel(3)}, BW_{Channel(4)}) - 0.5\Delta f_1$ |
| F | $400 < N_{RB,agg} \le 500$ | 5 | $0.05\ max(BW_{Channel(1)}, BW_{Channel(2)}, BW_{Channel(3)}, BW_{Channel(4)}, BW_{Channel(5)}) - 0.5\Delta f_1$ |
| I | $700 < N_{RB,agg} \le 800$ | 8 | NOTE 3 |

NOTE 1: $BW_{Channel(j)}$, j = 1, 2, 3, 4 is the channel bandwidth of an E-UTRA component carrier according to Table 5.6-1 and $\Delta f_1 = \Delta f$ for the downlink with $\Delta f$ the subcarrier spacing while $\Delta f_1 = 0$ for the uplink.
NOTE 2: $a_1 = 0.16/1.4$ for $BW_{Channel(1)} = 1.4$ MHz whereas $a_1 = 0.05$ for all other channel bandwidths.
NOTE 3: Applicable for later releases.

The channel spacing between centre frequencies of contiguously aggregated component carriers is defined in subclause 5.7.1A.

## 5.6A.1 Channel bandwidths per operating band for CA

The requirements for carrier aggregation in this specification are defined for carrier aggregation configurations with associated bandwidth combination sets. For inter-band carrier aggregation, a *carrier aggregation configuration* is a combination of operating bands, each supporting a carrier aggregation bandwidth class. For intra-band contiguous carrier aggregation, a carrier aggregation configuration is a single operating band supporting a carrier aggregation bandwidth class.

For each carrier aggregation configuration, requirements are specified for all bandwidth combinations contained in a *bandwidth combination set*, which is indicated per supported band combination in the UE radio access capability. A UE can indicate support of several bandwidth combination sets per band combination.

Requirements for intra-band contiguous carrier aggregation are defined for the carrier aggregation configurations and bandwidth combination sets specified in Table 5.6A.1-1. Requirements for inter-band carrier aggregation are defined for the carrier aggregation configurations and bandwidth combination sets specified in Table 5.6A.1-2, Table 5.6A.1-2a, Table 5.6A.1-2b and Table 5.6A.1-2c. Requirements for intra-band non-contiguous carrier aggregation are defined for the carrier aggregation configurations and bandwidth combination sets specified in Table 5.6A.1-3.

The DL component carrier combinations for a given CA configuration shall be symmetrical in relation to channel centre unless stated otherwise in Table 5.6A.1-1, Table 5.6A.1-2, Table 5.6A.1-2a, Table 5.6A.1-2b and Table 5.6A.1-2c.

**Table 5.6A.1-1: E-UTRA CA configurations and bandwidth combination sets defined for intra-band contiguous CA**

| | | E-UTRA CA configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|---|---|
| E-UTRA CA configuration | Uplink CA configurations (NOTE 3) | Component carriers in order of increasing carrier frequency | | | | | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
| | | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | | |
| CA_1C | CA_1C | 15 | 15 | | | | 40 | 0 |
| | | 20 | 20 | | | | | |
| | | 5, 10, 15 | 20 | | | | 40 | 1 |
| | | 20 | 5, 10, 15, 20 | | | | | |
| CA_2C | | 5 | 20 | | | | 40 | 0 |
| | | 10 | 15, 20 | | | | | |
| | | 15 | 10, 15, 20 | | | | | |
| | | 20 | 5, 10, 15, 20 | | | | | |
| CA_3B | | 5 | 3 | | | | 10 | 0 |
| | | 3, 5 | 5 | | | | | |
| CA_3C | CA_3C | 5, 10, 15 | 20 | | | | 40 | 0 |
| | | 20 | 5, 10, 15, 20 | | | | | |
| CA_5B | CA_5B | 5, 10 | 10 | | | | 20 | 0 |
| | | 10 | 5 | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| CA_7B | | 15 | 5 | | | | 20 | 0 |
| CA_7C | CA_7C | 15 | 15 | | | | 40 | 0 |
| | | 20 | 20 | | | | | |
| | | 10 | 20 | | | | 40 | 1 |
| | | 15 | 15, 20 | | | | | |
| | | 20 | 10, 15, 20 | | | | | |
| | | 15 | 10, 15 | | | | 40 | 2 |
| | | 20 | 15, 20 | | | | | |
| CA_8B | CA_8B | 5,10 | 10 | | | | 20 | 0 |
| | | 10 | 5 | | | | | |
| CA_12B | - | 5 | 5, 10 | | | | 15 | 0 |
| CA_23B | - | 10 | 10 | | | | 20 | 0 |
| | | 5 | 15 | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CA_27B | - | 1.4, 3, 5 | 5 | | | | 13 | 0 |
| | | 1.4, 3 | 10 | | | | | |
| CA_28C | - | 5 | 20 | | | | 30 | 0 |
| | | 10 | 15, 20 | | | | | |
| | | 15 | 10, 15 | | | | | |
| | | 20 | 5, 10 | | | | | |
| CA_38C | CA_38C | 15 | 15 | | | | 40 | 0 |
| | | 20 | 20 | | | | | |
| CA_39C | CA_39C | 5,10,15 | 20 | | | | 35 | 0 |
| | | 20 | 5, 10, 15 | | | | | |
| CA_40C | CA_40C | 10 | 20 | | | | 40 | 0 |
| | | 15 | 15 | | | | | |
| | | 20 | 10, 20 | | | | | |
| | | 10, 15 | 20 | | | | 40 | 1 |
| | | 15 | 15 | | | | | |
| | | 20 | 10, 15, 20 | | | | | |
| CA_40D | CA_40C, CA_40D | 10, 15, 20 | 20 | 20 | | | 60 | 0 |
| | | 20 | 10, 15 | 20 | | | | |
| | | 20 | 20 | 10, 15 | | | | |
| | | 15, 20 | 15, 20 | 15, 20 | | | 60 | 1 |
| CA_40E | - | 15, 20 | 15, 20 | 15, 20 | 20 | | 80 | 0 |
| CA_40F | - | 15, 20 | 15, 20 | 15, 20 | 20 | 20 | 100 | 0 |
| CA_41C[5] | CA_41C | 10 | 20 | | | | 40 | 0 |
| | | 15 | 15, 20 | | | | | |
| | | 20 | 10, 15, 20 | | | | | |
| | | 5, 10 | 20 | | | | 40 | 1 |
| | | 15 | 15, 20 | | | | | |
| | | 20 | 5, 10, 15, 20 | | | | | |
| | | 10 | 15, 20 | | | | 40 | 2 |
| | | 15 | 10, 15, 20 | | | | | |
| | | 20 | 10, 15, 20 | | | | | |
| | | 10 | 20 | | | | 40 | 3 |
| | | 20 | 20 | | | | | |
| CA_41D | CA_41C, CA_41D | 10 | 20 | 15 | | | 60 | 0 |
| | | 10 | 15, 20 | 20 | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 15 | 20 | 10, 15 | | | | |
| | | 15 | 10, 15, 20 | 20 | | | | |
| | | 20 | 15, 20 | 10 | | | | |
| | | 20 | 10, 15, 20 | 15, 20 | | | | |
| CA_41E | CA_41C, CA_41D | 15, 20 | 15, 20 | 15, 20 | 20 | | 80 | 0 |
| CA_41F | CA_41C, CA_41D | 10,15, 20 | 15, 20 | 20 | 20 | 20 | 100 | 0 |
| CA_42C[5] | CA_42C | 5, 10, 15, 20 | 20 | | | | 40 | 0 |
| | | 20 | 5, 10, 15 | | | | | |
| | | 10, 15, 20 | 20 | | | | 40 | 1 |
| | | 20 | 10, 15 | | | | | |
| CA_42D | CA_42C | 5,10,15,20 | 20 | 20 | | | 60 | 0 |
| | | 20 | 20 | 5,10,15 | | | | |
| | | 10, 15, 20 | 20 | 20 | | | 60 | 1 |
| | | 20 | 20 | 10, 15 | | | | |
| CA_42E | CA_42C | 5,10,15,20 | 20 | 20 | 20 | | 80 | 0 |
| | | 20 | 20 | 20 | 5,10,15 | | | |
| CA_42F | CA_42C | 5, 10, 15, 20 | 20 | 20 | 20 | 20 | 100 | 0 |
| | | 20 | 20 | 20 | 20 | 5, 10, 15, 20 | | |
| CA_43C | - | 5 | 20 | | | | 40 | 0 |
| | | 10 | 15, 20 | | | | | |
| | | 15 | 10, 15, 20 | | | | | |
| | | 20 | 5, 10, 15, 20 | | | | | |
| CA_46C [4] | - | 20 | 20 | | | | 40 | 0 |
| | | 20 | 10, 20 | | | | 40 | 1 |
| | | 10, 20 | 20 | | | | | |
| CA_46D [4] | - | 20 | 20 | 20 | | | 60 | 0 |
| | | 20 | 20 | 10, 20 | | | 60 | 1 |
| | | 10, 20 | 20 | 20 | | | | |
| CA_46E [4] | - | 20 | 20 | 20 | 20 | | 80 | 0 |
| | | 20 | 20 | 20 | 10, 20 | | 80 | 1 |
| | | 10 | 20 | 20 | 20 | | | |
| CA_48B | CA_48B | 10 | 10 | | | | 20 | 0 |
| CA_48C | CA_48C | 5, 10, 15, 20 | 20 | | | | 40 | 0 |
| | | 20 | 5, 10, 15 | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CA_48D | CA_48C | 5,10,15,20 | 20 | 20 | | | 60 | 0 |
| | | 20 | 20 | 5,10,15 | | | | |
| CA_48E | CA_48C | 5,10,15,20 | 20 | 20 | 20 | | 80 | 0 |
| | | 20 | 20 | 20 | 5,10,15 | | | |
| CA_48F | - | 5, 10, 15, 20 | 20 | 20 | 20 | 20 | 100 | 0 |
| | | 20 | 20 | 20 | 20 | 5, 10, 15, 20 | | |
| CA_66B | CA_66B | 5 | 5, 10, 15 | | | | 20 | 0 |
| | | 10 | 5, 10 | | | | | |
| | | 15 | 5 | | | | | |
| CA_66C | CA_66C | 5 | 20 | | | | 40 | 0 |
| | | 10 | 15, 20 | | | | | |
| | | 15 | 10, 15, 20 | | | | | |
| | | 20 | 5, 10, 15, 20 | | | | | |
| CA_66D | - | 5 | 20 | 20 | | | 60 | 0 |
| | | 20 | 5 | 20 | | | | |
| | | 20 | 20 | 5 | | | | |
| | | 10 | 20 | 15 | | | | |
| | | 15 | 20 | 10 | | | | |
| | | 10, 15, 20 | 15, 20 | 20 | | | | |
| | | 15, 20 | 10 | 20 | | | | |
| | | 15 | 15, 20 | 15 | | | | |
| | | 20 | 15, 20 | 10, 15 | | | | |
| | | 20 | 10 | 15 | | | | |
| CA_70C | - | 5 | 20 | | | | 25 | 0 |
| | | 10 | 15 | | | | | |
| | | 15 | 10 | | | | | |

NOTE 1: The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.
NOTE 2: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.
NOTE 3: Uplink CA configurations are the configurations supported by the present release of specifications.
NOTE 4: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band is paired with the uplink operating band (external) of the carrier aggregation configuration that is supporting the configured Pcell.
NOTE 5: 8Rx Requirements are applicable for this band configuration if UE supports 8Rx.

**Table 5.6A.1-2: E-UTRA CA configurations and bandwidth combination sets defined for inter-band CA (two bands)**

| E-UTRA CA configuration / Bandwidth combination set | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **E-UTRA CA Configuration** | **Uplink CA configurations (NOTE 4)** | **E-UTRA Bands** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Maximum aggregated bandwidth [MHz]** | **Bandwidth combination set** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3A | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 3 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A | - | 1 | See CA_1A-1A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-7A | CA_1A-7A | 1 | See CA_1A-1A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-7C | CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | See CA_7C in Table 5.6A.1-1 of 36.101 Bandwidth combination set 2 | | | | | | | |
| CA_1A-1A-38A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-1A-3A-3A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3C | CA_1A-3A, CA_3C | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-1A-3C | CA_3C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in the Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-5A | CA_1A-5A | 1 | | | | Yes | | | 20 | 0 |
| | | 5 | | | | Yes | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 30 | 1 |
| | | 5 | | | Yes | Yes | | | | |
| CA_1A-1A-5A | - | 1 | See CA_1A-1A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| CA_1C-5A | - | 1 | See CA_1C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| CA_1A-7A | CA_1A-7A | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-7A | CA_1A-7A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-7C | CA_1A-7A, CA_7C | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-8A | CA_1A-8A | 1 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | | | 20 | 1 |
| | | 8 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 30 | 2 |
| | | 8 | | Yes | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-11A | CA_1A-11A | 1 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| CA_1A-18A | CA_1A-18A | 1 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 1 | | | Yes | Yes | | | 20 | 1 |
| | | 18 | | | Yes | Yes | | | | |
| CA_1A-19A | CA_1A-19A | 1 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| CA_1A-20A | CA_1A-20A | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-21A | CA_1A-21A | 1 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_1A-26A | CA_1A-26A | 1 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | |
| | | 1 | | | Yes | Yes | | | 20 | 1 |
| | | 26 | | | Yes | Yes | | | | |
| CA_1A-28A | CA_1A-28A | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | | | 20 | 1 |
| | | 28 | | | Yes | Yes | | | | |
| CA_1A-1A-28A | - | 1 | See CA_1A-1A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-40A | CA_1A-40A | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-40A-40A | CA_1A-40A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-40D | CA_1A-40A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-41A | CA_1A-41A | 1 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-41A[8] | - | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-41C[8] | CA_1A-41A CA_1A-41C | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 41 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-41D[8] | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | See CA_41D Bandwidth combination set 0 at Table 5.6A.1-1 | | | | | | | |
| CA_1A-42A | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-42A-42A | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42A-42A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-42C | CA_1A-42A, CA_1A-42C, CA_42C | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-42A-42C | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 42 | See CA_42A-42C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-42C-42C | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 42 | See CA_42C-42C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-42D | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 42 | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-42E | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 42 | See CA_42E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-43A | - | 1 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-46A | - | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 46 | | | | Yes | | Yes | | |
| CA_1A-46C | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-46D | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 46 | See CA_46D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-46E | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 100 | 1 |
| | | 46 | See CA_46E Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1C-3A | - | 1 | See CA_1C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| CA_1C-20A | - | 1 | See CA_1C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-4A | CA_2A-4A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 2 | | | Yes | Yes | | | 20 | 1 |
| | | 4 | | | Yes | Yes | | | | |
| | | 2 | | | Yes | Yes | Yes | Yes | 40 | 2 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-4A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-4A-4A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-4A-4A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A | CA_2A-5A | 2 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 2 | | | Yes | Yes | | | 20 | 1 |
| | | 5 | | | Yes | Yes | | | | |
| CA_2A-2A-5A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| CA_2A-5A-5A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-46D | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2C-5A | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | | |
| CA_2A-5B | CA_2A-5A | 2 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-2A-5B | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2C-5B | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-2A-7A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-2A-7C | - | 2 | See the CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-7A | CA_2A-7A | 2 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-7A-7A | - | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 7 | See the CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-2A-7A-7A | - | 2 | See the CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 7 | See the CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-7C | - | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 7 | See the CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-8A | - | 2 | | | Yes | Yes | Yes | Yes | | 30 | 0 |
| | | 8 | | | Yes | Yes | | | | | |
| CA_2A-12A | CA_2A-12A | 2 | | | Yes | Yes | Yes | Yes | | 30 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| | | 2 | | | Yes | Yes | Yes | Yes | | 30 | 1 |
| | | 12 | | Yes | Yes | Yes | | | | | |
| | | 2 | | | Yes | Yes | | | | 20 | 2 |
| | | 12 | | | Yes | Yes | | | | | |
| CA_2A-2A-12A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 50 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| CA_2A-12A-12A | - | 2 | | | Yes | Yes | Yes | Yes | | 30 | 0 |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-2A-12A-12A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 50 | 0 |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-12B | CA_2A-12A | 2 | | | Yes | Yes | Yes | Yes | | 35 | 0 |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-2A-12B | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | 55 | 0 |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2C-12A | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 50 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| CA_2A-13A | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | | 30 | 0 |
| | | 13 | | | | Yes | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | Yes | Yes | | | 20 | 1 |
| | | 13 | | | | Yes | | | | |
| | | 2 | | | Yes | Yes | Yes | Yes | 30 | 2 |
| | | 13 | | | Yes | Yes | | | | |
| CA_2A-2A-13A | CA_2A-13A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 13 | | | | Yes | | | | |
| | | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 1 |
| | | 13 | | | Yes | Yes | | | | |
| CA_2A-14A | CA_2A-14A | 2 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| CA_2A-2A-14A | CA_2A-14A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| CA_2A-17A | - | 2 | | | Yes | Yes | | | 20 | 0 |
| | | 17 | | | Yes | Yes | | | | |
| CA_2A-26A | - | 2 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_2A-28A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_2C-28A | - | 2 | See CA_2C Bandwidth Combination Set 0 in table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-29A | - | 2 | | | Yes | Yes | | | 20 | 0 |
| | | 29 | | Yes | Yes | Yes | | | | |
| | | 2 | | | Yes | Yes | | | 20 | 1 |
| | | 29 | | | Yes | Yes | | | | |
| | | 2 | | | Yes | Yes | Yes | Yes | 30 | 2 |
| | | 29 | | | Yes | Yes | | | | |
| CA_2A-2A-29A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| CA_2C-29A | - | 2 | See CA_2C Bandwidth Combination Set 0 in table 5.6A.1-1 | | | | | | 50 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| CA_2A-30A | CA_2A-30A | 2 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-2A-30A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_2C-30A | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 50 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-38A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A | CA_2A-46A | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_2A-2A-46A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_2A-46A-46C | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46A-46C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-46C | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-2A-46C | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-46D | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-46E | - | 2 | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_2A-2A-46E | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 120 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-46A-46A | - | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 46 | See CA_46A-46A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-46A-46A-46A | - | 2 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 46 | See CA_46A-46A-46A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-46A-46D | - | 2 | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 46 | See CA_46A-46D Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-48A | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-48A-48A | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_2A-48A-48A-48A | - | 2 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 48 | See CA_48A-48A-48A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_2A-48C | CA_2A-48A, CA_48C | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-48A-48C | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 48 | See the CA_48A-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_2A-48A-48D | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 48 | See CA_48A-48D Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-48C-48C | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 48 | See CA_48C-48C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-48D | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 48 | See the CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_2A-48E | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 48 | See CA_48E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-49A | CA_2A-49A | 2 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 49 | | | | Yes | | Yes | | | |
| CA_2A-66A | CA_2A-66A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| | | 2 | | | Yes | Yes | | | | 20 | 1 |
| | | 66 | | | Yes | Yes | | | | | |
| | | 2 | | | Yes | Yes | Yes | Yes | | 40 | 2 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-66B | CA_66B | 2 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 66 | See CA_66B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-66C | - | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 66 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-66D | - | 2 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 66 | See CA_66D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-2A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-2A-66A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-2A-66A-66B | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66B Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-2A-66A-66C | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 100 | 0 |
| | | 66 | See CA_66A-66C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-66A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 66 | See CA_66A-66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-4 | | | | | | | | |
| CA_2A-66A-66B | CA_66B | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 66 | See CA_66A-66B Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-66A-66C | | 2 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 66 | See CA_66A-66C Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-2A-66B | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-2A-66C | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-2A-66D | | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 100 | 0 |
| | | 66 | See CA_66D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2C-66A | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2C-66A-66A | | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-71A | - | 2 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | | |
| | | 2 | | | Yes | Yes | | | | 20 | 1 |
| | | 71 | | | Yes | Yes | | | | | |
| CA_2A-2A-71A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | | |
| CA_3A-5A | CA_3A-5A | 3 | | | | Yes | Yes | Yes | | 30 | 0 |
| | | 5 | | | Yes | Yes | | | | | |
| | | 3 | | | | Yes | | | | 20 | 1 |
| | | 5 | | | Yes | Yes | | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | | 30 | 2 |
| | | 5 | | | Yes | Yes | | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | | 30 | 3 |
| | | 5 | | Yes | Yes | Yes | | | | | |
| | | 3 | | Yes | Yes | Yes | | | | 20 | 4 |
| | | 5 | | Yes | Yes | Yes | | | | | |
| CA_3A-3A-5A | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 50 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 5 | | | Yes | Yes | | | | |
| CA_3C-5A | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| CA_3A-7A | CA_3A-7A | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-7A | CA_3A-7A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 50 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-7A-7A | CA_3A-7A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in table 5.6A.1-3 | | | | | | | |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 1 in table 5.6A.1-3 | | | | | | 60 | 1 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 2 in table 5.6A.1-3 | | | | | | | |
| CA_3A-3A-7C | 7C | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | See CA_7C in Table 5.6A.1-1 of 36.101 Bandwidth combination set 2 | | | | | | | |
| CA_3A-3A-38A | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-42D | CA_3A-42A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 42 | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1: | | | | | | | |
| CA_3A-7A-7A | CA_3A-7A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 50 | 1 |
| | | 7 | See CA_7A-7A Bandwidth combination set 2 in table 5.6A.1-3 | | | | | | | |
| CA_3A-7B | - | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 7 | See CA_7B bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| CA_3A-7C | CA_3A-7A CA_7C | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in table 5.6A.1-1 | | | | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | See CA_7C Bandwidth combination set 2 in table 5.6A.1-1 | | | | | | | |
| CA_3C-7A | CA_3A-7A CA_3C | 3 | See CA_3C Bandwidth Combination Set 0 in table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7C | CA_3A-7A, CA_3C, CA_7C | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 1 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-8A | CA_3A-8A | 3 | | | | Yes | Yes | Yes | 30 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 3 | | | | Yes | | | 20 | 1 |
| | | 8 | | | Yes | Yes | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 30 | 2 |
| | | 8 | | Yes | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 | | | Yes | Yes | Yes | Yes | 30 | 3 |
| | | 8 | | | Yes | Yes | | | | |
| CA_3A-8B | - | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-3A-8A | CA_3A-8A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 1 in table 5.6A.1-3 | | | | | | 40 | 1 |
| | | 8 | | | Yes | Yes | | | | |
| CA_3A-3A-8B | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3C-8A | CA_3A-8A, CA_3C | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 50 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| CA_3A-11A | CA_3A-11A | 3 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| CA_3A-18A | CA_3A-18A | 3 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| CA_3A-19A | CA_3A-19A | 3 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| CA_3A-3A-19A | CA_3A-19A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 55 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| CA_3A-20A | CA_3A-20A | 3 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 20 | | | Yes | Yes | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-20A | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-20A | CA_3C | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-21A | CA_3A-21A | 3 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_3A-3A-21A | CA_3A-21A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 55 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_3A-26A | CA_3A-26A | 3 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | |
| | | 3 | | | Yes | Yes | | | 20 | 1 |
| | | 26 | | | Yes | Yes | | | | |
| CA_3C-26A | CA_3C | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 55 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_3A-27A | - | 3 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 27 | | | Yes | Yes | | | | |
| CA_3A-28A | CA_3A-28A | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 3 | | Yes | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-28A | - | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-28A | CA_3C | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-31A | - | 3 | | | Yes | Yes | Yes | Yes | 25 | 0 |
| | | 31 | | Yes | Yes | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_3A-32A | - | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-32A | - | 3 | See the CA_3C Bandwidth combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-38A | CA_3A-38A | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-38A | CA_3C | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-40A | CA_3A-40A | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-40A-40A | - | 3 | | | Yes | Yes | | | 50 | 0 |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | CA_3A-40A | 3 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-40C | CA_3A-40A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-40D | CA_3A-40A | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-40E | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 40 | See CA_40E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3C-40A | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-40C | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-41A | CA_3A-41A | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| | | 3 | | Yes | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-41A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-41C | CA_3A-41A, CA_3A-41C, CA_41C | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-41D | CA_3A-41A, CA_41C | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3C-41A | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-41C | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3C-41D | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 41 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-42A | CA_3A-42A | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-42A | CA_3A-42A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-42C | CA_3A-42A, CA_42C CA_3A-42C | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-42D | CA_3A-42A | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 42 | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-3A-42C | CA_3A-42A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-42A-42A | CA_3A-42A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42A-42A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-42A-42C | CA_3A-42A, CA_42C | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 42 | See CA_42A-42C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-42C-42C | CA_3A-42A, CA_42C | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 42 | See CA_42C-42C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-42E | CA_3A-42A | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 42 | See CA_42E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-43A | - | 3 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-46A | - | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 3 | | Yes | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 46 | | | | Yes | | Yes | | |
| CA_3A-46C | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | - | 3 | | Yes | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-46D | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 3 | | Yes | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 46 | See CA_46D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-46E | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 100 | 1 |
| | | 46 | See CA_46E Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-3A-46A | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_3A-3A-46C | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3C-46A | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_3C-46C | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3C-46D | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_3A-69A | - | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 69 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-5A | CA_4A-5A | 4 | | | Yes | Yes | | | 20 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | Yes | Yes | 30 | 1 |
| | | 5 | | | Yes | Yes | | | | |
| CA_4A-4A-5A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| CA_4A-5B | CA_5B | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-4A-5B | CA_4A-5A, CA_5B | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-7A | CA_4A-7A | 4 | | | Yes | Yes | | | 30 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 4 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-4A-7A | - | 4 | | | Yes | Yes | | | 40 | 0 |
| | | 4 | | | Yes | Yes | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 4 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-7A-7A | - | 4 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | See the CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_4A-7C | CA_4A-7A | 4 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-12A | CA_4A-12A | 4 | Yes | Yes | Yes | Yes | | | 20 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 4 | Yes | Yes | Yes | Yes | Yes | Yes | 30 | 1 |
| | | 12 | | | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | Yes | Yes | 30 | 2 |
| | | 12 | | Yes | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | | | 20 | 3 |
| | | 12 | | | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | Yes | Yes | 30 | 4 |
| | | 12 | | | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | Yes | | 20 | 5 |
| | | 12 | | | Yes | | | | | |
| CA_4A-4A-12A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| CA_4A-12A-12A | - | 4 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_4A-4A-12A-12A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_4A-4A-12B | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 55 | 0 |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-12B | CA_4A-12A | 4 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-13A | CA_4A-13A | 4 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 13 | | | | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 4 | | | Yes | Yes | | | 20 | 1 |
| | | 13 | | | | Yes | | | | |
| CA_4A-4A-13A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 13 | | | | Yes | | | | |
| CA_4A-17A | CA_4A-17A | 4 | | | Yes | Yes | | | 20 | 0 |
| | | 17 | | | Yes | Yes | | | | |
| CA_4A-27A | - | 4 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 27 | | Yes | Yes | Yes | | | | |
| CA_4A-28A | CA_4A-28A | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-29A | - | 4 | | | Yes | Yes | | | 20 | 0 |
| | | 29 | | Yes | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | | | 20 | 1 |
| | | 29 | | | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | Yes | Yes | 30 | 2 |
| | | 29 | | | Yes | Yes | | | | |
| CA_4A-4A-29A | - | 4 | See CA_4A-4A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| CA_4A-30A | - | 4 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-4A-30A | - | 4 | See CA_4A-4A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-46A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_4A-46A-46A | - | 4 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46A-46A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_4A-46A-46C | - | 4 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46A-46C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_4A-46C | - | 4 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-46D | - | 4 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-46A-46D | - | 4 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46A-46D Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_4A-48A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-48C | - | 4 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-48D | - | 4 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-48E | - | 4 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 48 | See CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-71A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-4A-71A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-7A | CA_5A-7A | 5 | Yes | Yes | Yes | Yes | | | 30 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | 30 | 1 |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_5A-7A-7A | CA_5A-7A | 5 | | | Yes | Yes | | | 50 | 0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | | |
| CA_5A-7C | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_5A-12A | CA_5A-12A | 5 | | | Yes | Yes | | | 20 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| CA_5A-12A-12A | - | 5 | | | Yes | Yes | | | 20 | 0 |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_5A-12B | - | 5 | | | Yes | Yes | | | 25 | 0 |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_5A-13A | - | 5 | | | Yes | Yes | | | 20 | 0 |
| | | 13 | | | | Yes | | | | |
| CA_5A-17A | CA_5A-17A | 5 | | | Yes | Yes | | | 20 | 0 |
| | | 17 | | | Yes | Yes | | | | |
| CA_5A-25A | - | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 25 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-28A | - | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-29A | - | 5 | | | Yes | Yes | | | 20 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| CA_5A-30A | CA_5A-30A | 5 | | | Yes | Yes | | | 20 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_5B-30A | - | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 30 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_5A-38A | - | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-40A | CA_5A-40A | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | Yes | Yes | Yes | | | 30 | 1 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-5A-40A | - | 5 | See CA_5A-5A Bandwidth Combination Set 0 in table 6.140.2-2 | | | | | | 40 | 0 |
| | | 40 | | | | Yes | | Yes | | |
| CA_5A-40A-40A | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_5A-40C | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| | | 5 | | Yes | Yes | Yes | | | 50 | 1 |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_5A-41A | - | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 41 | | | | | | Yes | | |
| CA_5A-46A | - | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 5 | | Yes | Yes | Yes | | | 30 | 1 |
| | | 46 | | | | Yes | | Yes | | |
| CA_5A-46C | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | - | 5 | | | Yes | Yes | | | 50 | 1 |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_5A-46D | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 5 | | | Yes | Yes | | | 70 | 1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | See CA_46D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-46E | - | 5 | | | Yes | Yes | | | 90 | 0 |
| | | 46 | See CA_46E of Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 5 | | | Yes | Yes | | | 90 | 1 |
| | | 46 | See CA_46E of Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_5B-46A | - | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_5B-46C | - | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5B-46D | - | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5B-46E | - | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-48A | - | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-48C | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-48D | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_5A-66A | CA_5A-66A | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-5A-66A | CA_5A-66A | 5 | See CA_5A-5A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 40 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-5A-66A-66A | CA_5A-66A | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-5A-66A-66B | CA_5A-66A, CA_66B | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 66 | See CA_66A-66B Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-5A-66A-66C | CA_5A-66A | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66C Bandwidth Combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-5A-66B | CA_5A-66A, CA_66B | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 40 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-5A-66C | CA_5A-66A | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-5A-66D | CA_5A-66A | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 66 | See CA_66D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-66A-66A | CA_5A-66A | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-66A-66C | CA_5A-66A | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 66 | See CA_66A-66C Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_5A-66B | CA_66B | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-66C | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-66D | | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 66 | See CA_66D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5B-66A | CA_5B | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 40 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5B-66A-66A | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-66A-66B | CA_66B | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66A-66B Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5B-66A-66B | - | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 66 | See CA_66A-66B Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5B-66A-66C | - | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5B-66B | CA_5B, CA_66B | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 40 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5B-66C | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-8A | CA_7A-8A | 7 | | | | Yes | Yes | Yes | 30 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | 30 | 1 |
| | | 8 | | | Yes | Yes | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | 30 | 2 |
| | | 8 | | | Yes | Yes | | | | |
| CA_7A-7A-8A | CA_7A-8A | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 2 in Table 5.6A.1-3 | | | | | | 40 | 1 |
| | | 8 | | | Yes | Yes | | | | |
| CA_7A-8B | - | 7 | | | | Yes | Yes | Yes | 40 | 0 |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-7A-8B | - | 7 | See CA_7A-7A Bandwidth Combination Set 2 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-12A | - | 7 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| CA_7A-12B | - | 7 | | | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 12 | See CA_12B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-13A | - | 7 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| CA_7C-13A | - | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | 50 | 0 |
| | | 13 | | | Yes | Yes | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_7A-7A-13A | - | 7 | See CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | 50 | 0 |
| | | 13 | | | Yes | Yes | | | | | |
| CA_7A-20A | CA_7A-20A | 7 | | | | Yes | Yes | Yes | | 30 | 0 |
| | | 20 | | | Yes | Yes | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | 40 | 1 |
| | | 20 | | | Yes | Yes | Yes | Yes | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | 40 | 2 |
| | | 20 | | | Yes | Yes | Yes | Yes | | | |
| CA_7A-7A-20A | - | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | | |
| CA_7C-20A | - | 7 | See CA_7C Bandwidth Combination Set 1 in table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | | |
| CA_7A-22A | - | 7 | | | | Yes | Yes | Yes | | 40 | 0 |
| | | 22 | | | Yes | Yes | Yes | Yes | | | |
| CA_7A-25A | - | 7 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 25 | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| CA_7A-7A-25A | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 25 | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| CA_7C-25A | - | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 25 | Yes | Yes | Yes | Yes | Yes | Yes | | | |
| CA_7A-25A-25A | - | 7 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | | |
| CA_7A-7A-25A-25A | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | | |
| CA_7C-25A-25A | - | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | | |
| CA_7A-26A | CA_7A-26A | 7 | | | Yes | Yes | Yes | Yes | | 35 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | | |
| CA_7A-7A-26A | CA_7A-26A | 7 | See CA_7A-7A bandwidth combination set 3 in table 5.6A.1-3 | | | | | | | 55 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | | |
| CA_7C-26A | CA_7C | 7 | See CA_7C bandwidth combination set 2 in table 5.6A.1-1 | | | | | | | 55 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | | |
| CA_7A-28A | CA_7A-28A | 7 | | | Yes | Yes | Yes | Yes | | 35 | 0 |
| | | 28 | | | Yes | Yes | Yes | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | 40 | 1 |
| | | 28 | | | Yes | Yes | Yes | Yes | | | |
| CA_7A-7A-28A | - | 7 | See CA_7A-7A Bandwidth combination set 3 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 28 | | | | Yes | Yes | Yes | | | |
| CA_7B-28A | - | 7 | See CA_7B bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | 40 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | | |
| CA_7C-28A | CA_7A-28A CA_7C | 7 | See CA_7C bandwidth combination set 2 in table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | 60 | 1 |
| | | 28 | | | Yes | Yes | Yes | Yes | | | |
| CA_7A-29A | - | 7 | | | Yes | Yes | Yes | Yes | | 30 | 0 |
| | | 29 | | | Yes | Yes | | | | | |
| CA_7A-7A-29A | - | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 of 36.101 | | | | | | | 50 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 29 | | | Yes | Yes | | | | |
| CA_7C-29A | - | **7** | See CA_7C Bandwidth combination set 2 in table 5.6A.1-1 of 36.101 | | | | | | 50 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| CA_7A-30A | - | 7 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_7A-32A | - | 7 | | | | Yes | Yes | Yes | 40 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-40A | - | 7 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-40A-40A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-40C | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-40D | - | 7 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 40 | See CA_40D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-40E | - | 7 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 40 | See CA_40E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-42A | - | 7 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-42A-42A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42A-42A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-46A | - | 7 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 46 | | | | Yes | | Yes | | |
| CA_7A-7A-46C | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-46C | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-46D | - | 7 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 46 | See CA_46D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-46E | - | 7 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-7A-46E | - | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 of 36.101 | | | | | | 120 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in table 5.6A.1-3 of 36.101 | | | | | | | |
| CA_7C-46C | - | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7C-46D | - | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7C-46E | - | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | 120 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-7A-46A | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_7A-7A-46D | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-7A-66A-66A | - | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7C-66A | - | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7C-46A | - | 7 | See CA_7C Bandwidth Combination set 2 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_7A-7A-66A | - | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-66A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7C-66A-66A | - | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-71A | - | 7 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-11A | - | 8 | | | Yes | Yes | | | 20 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| CA_8A-20A | CA_8A-20A | 8 | | | Yes | Yes | | | 20 | 0 |
| | | 20 | | | Yes | Yes | | | | |
| | | 8 | | Yes | Yes | Yes | | | 20 | 1 |
| | | 20 | | | Yes | Yes | | | | |
| | | 8 | | | Yes | Yes | | | 30 | 2 |
| | | 20 | | | | Yes | Yes | Yes | | |
| CA_8A-27A | - | 8 | | | Yes | Yes | | | 20 | 0 |
| | | 27 | | | Yes | Yes | | | | |
| CA_8A-28A | CA_8A-28A | 8 | | Yes | Yes | Yes | | | 30 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-32A | - | 8 | | Yes | Yes | Yes | | | 30 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-38A | - | 8 | | | Yes | Yes | | | 30 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-39A | CA_8A-39A | 8 | Yes | Yes | Yes | Yes | | | 30 | 0 |
| | | 39 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-39C | - | 8 | Yes | Yes | Yes | Yes | | | 45 | 0 |
| | | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8B-39A | - | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 40 | 0 |
| | | 39 | | | Yes | Yes | Yes | Yes | | |
| CA_8B-39C | - | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 55 | 0 |
| | | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8A-40A | - | 8 | | | Yes | Yes | | | 30 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | - | 8 | | Yes | Yes | Yes | | | 30 | 1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-40C | - | 8 | | | Yes | Yes | | | 50 | 0 |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_8A-41A | CA_8A-41A | 8 | Yes | Yes | Yes | Yes | | | 30 | 0 |
| | | 41 | | | | Yes | | Yes | | |
| | | 8 | | | Yes | Yes | | | 30 | 1 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-41C | - | 8 | Yes | Yes | Yes | Yes | | | 50 | 0 |
| | | 41 | See CA_41C bandwidth combination set 3 in table 5.6A.1-1 | | | | | | | |
| CA_8A-41D | - | 8 | Yes | Yes | Yes | Yes | | | 70 | 0 |
| | | 41 | See CA_41D bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| CA_8B-41A | - | 8 | See CA_8B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 40 | 0 |
| | | 41 | | | | | | Yes | | |
| CA_8B-41C | - | 8 | See CA_8B bandwidth combination set 0 in table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 41 | See CA_41C bandwidth combination set 3 in table 5.6A.1-1 | | | | | | | |
| CA_8B-41D | - | 8 | See CA_8B bandwidth combination set 0 in table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 41 | See CA_41D bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| CA_8A-42A | - | 8 | Yes | Yes | Yes | Yes | | | 30 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-42C | - | 8 | Yes | Yes | Yes | Yes | | | 50 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8A-46A | - | 8 | Yes | Yes | Yes | Yes | | | 30 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_8A-46C | - | 8 | Yes | Yes | Yes | Yes | | | 50 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8A-46D | - | 8 | Yes | Yes | Yes | Yes | | | 70 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8A-46E | - | 8 | Yes | Yes | Yes | Yes | | | 90 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8B-46A | - | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_8B-46C | - | 8 | See CA_8B bandwidth combination set 0 in table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8B-46D | - | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_11A-18A | CA_11A-18A | 11 | | | Yes | Yes | | | 25 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| CA_11A-26A | CA_11A-26A | 11 | | | Yes | Yes | | | 25 | 0 |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_11A-28A | - | 11 | | | Yes | Yes | | | 30 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_11A-41A | - | 11 | | | Yes | Yes | | | 30 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_11A-41C | - | 11 | | | Yes | Yes | | | 50 | 0 |
| | | 41 | See CA_41C bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| CA_11A-42A | - | 11 | | | Yes | Yes | | | 30 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_11A-42C | - | 11 | | | Yes | Yes | | | 50 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_11A-46A | - | 11 | | | Yes | Yes | | | 30 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_11A-46C | - | 11 | | | Yes | Yes | | | 50 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_11A-46D | - | 11 | | | Yes | Yes | | | 70 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_11A-46E | - | 11 | | | Yes | Yes | | | 90 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_12A-25A | - | 12 | | | Yes | Yes | | | 30 | 0 |
| | | 25 | | | Yes | Yes | Yes | Yes | | |
| CA_12A-30A | CA_12A-30A | 12 | | | Yes | Yes | | | 20 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_12A-46A | - | 12 | | | Yes | Yes | | | 30 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_12A-48A | | 12 | | | Yes | Yes | | | 30 | 0 |
| | | **48** | | | Yes | Yes | Yes | Yes | | |
| CA_12A-46C | - | 12 | | | Yes | Yes | | | 50 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_12A-46D | - | 12 | | | Yes | Yes | | | 70 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_12A-46E | - | 12 | | | Yes | Yes | | | 90 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_12A-48C | - | 12 | | | Yes | Yes | | | 50 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_12A-48D | - | 12 | | | Yes | Yes | | | 70 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_12A-48E | - | 12 | | | Yes | Yes | | | 90 | 0 |
| | | 48 | See CA_48E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_12A-66A | CA_12A-66A | 12 | | | Yes | Yes | | | 20 | 0 |
| | | 66 | Yes | Yes | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | 30 | 1 |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 12 | | Yes | Yes | Yes | | | 30 | 2 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | 20 | 3 |
| | | 66 | | | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | 30 | 4 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | | | | 20 | 5 |
| | | 66 | | | Yes | Yes | Yes | | | |
| CA_12A-66A-66A | - | 12 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_12A-66C | - | 12 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_12B-66A | - | 12 | See CA_12B bandwidth combination set 0 in table 5.6A.1-1 | | | | | | 35 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_12B-66A-66A | - | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | | 55 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-46A | - | 13 | | | Yes | Yes | | | | | | 30 | 0 |
| | | 46 | | | | | | Yes | | | | | |
| CA_13A-46A-46A | - | 13 | | | Yes | Yes | | | | | | 50 | 0 |
| | | 46 | See CA_46A-46A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-46A-46C | - | 13 | | | Yes | Yes | | | | | | 70 | 0 |
| | | 46 | See CA_46A-46C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-46A-46D | - | 13 | | | Yes | Yes | | | | | | 90 | 0 |
| | | 46 | See CA_46A-46D Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-46C | - | 13 | | | Yes | Yes | | | | | | 50 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | | | |
| CA_13A-46D | - | 13 | | | Yes | Yes | | | | | | 70 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | | |
| CA_13A-46E | - | 13 | | | Yes | Yes | | | | | | 90 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | | |
| CA_13A-48A | - | 13 | | | Yes | Yes | | | | | | 30 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | | | | |
| CA_13A-48A-48A | - | 13 | | | Yes | Yes | | | | | | 50 | 0 |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-48A-48C | - | 13 | | | Yes | Yes | | | | | | 70 | 0 |
| | | 48 | See the CA_48A-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-48A-48D | - | 13 | | | Yes | Yes | | | | | | 90 | 0 |
| | | 48 | See CA_48A-48D Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-48C-48C | - | 13 | | | Yes | Yes | | | | | | 90 | 0 |
| | | 48 | See CA_48C-48C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-48B | - | 13 | | | Yes | Yes | | | | | | 30 | 0 |
| | | 48 | See CA_48B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | | |
| CA_13A-48C | - | 13 | | | Yes | Yes | | | | | | 50 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | | |
| CA_13A-48D | - | 13 | | | Yes | Yes | | | | | | 70 | 0 |
| | | 48 | See the CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | | | |
| CA_13A-48E | - | 13 | | | Yes | Yes | | | | | | 90 | 0 |
| | | 48 | See CA_48E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | | | |
| CA_13A-66A | CA_13A-66A | 13 | | | Yes | Yes | | | | | | 30 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | | | |
| CA_13A-66A-66A | CA_13A-66A | 13 | | | Yes | Yes | | | | | | 50 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-66A-66B | - | 13 | | | Yes | Yes | | | | | | 50 | 0 |
| | | 66 | See CA_66A-66B Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-66A-66C | - | 13 | | | Yes | Yes | | | | | | 70 | 0 |
| | | 66 | See CA_66A-66C Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | | | |
| CA_13A-66B | CA_13A-66A | 13 | | | Yes | Yes | | | | | | 30 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_13A-66C | CA_13A-66A | 13 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_13A-66D | - | 13 | | | Yes | Yes | | | 70 | 0 |
| | | 66 | See CA_66D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_14A-30A | CA_14A-30A | 14 | | | Yes | Yes | | | 20 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_14A-66A | CA_14A-66A | 14 | | | Yes | Yes | | | 30 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_14A-66A-66A | CA_14A-66A | 14 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_14A-66A-66A-66A | CA_14A-66A | 14 | | | Yes | Yes | | | 70 | 0 |
| | | 66 | See CA_66A-66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-4 | | | | | | | |
| CA_18A-28A | CA_18A-28A | 18 | | | Yes | Yes | Yes | | 25 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| CA_18A-41A | - | 18 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_18A-41A | CA_18A-41A | 18 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_18A-41C | CA_18A-41A CA_18A-41C | 18 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 41 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_18A-42A | - | 18 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_18A-42C | - | 18 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 42 | See the CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_19A-21A | CA_19A-21A | 19 | | | Yes | Yes | Yes | | 30 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_19A-28A | - | 19 | | | Yes | Yes | Yes | | 25 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| CA_19A-42A | CA_19A-42A | 19 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_19A-42C | CA_19A-42A | 19 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_19A-42D | - | 19 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 42 | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_19A-46A | - | 19 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_19A-46C | - | 19 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_19A-46D | - | 19 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_19A-46E | - | 19 | | | Yes | Yes | Yes | | 95 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_20A-28A[7] | - | 20 | | | | Yes | Yes | Yes | 40 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-31A | - | 20 | | | Yes | Yes | Yes | Yes | 25 | 0 |
| | | 31 | | Yes | Yes | | | | | |
| CA_20A-32A | - | 20 | | | Yes | Yes | | | 30 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-38A | - | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_20A-38C | - | 20 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 38 | See CA_38C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_20A-40A | - | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | | 35 | 1 |
| | | 40 | | | | Yes | Yes | Yes | | |
| CA_20A-40A-40A | - | 20 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_20A-40C | - | 20 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_20A-40D | - | 20 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 40 | See CA_40D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_20A-41A | - | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-41C | - | 20 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 41 | See CA_41C in Table 5.6A.1-1 of 36.101 Bandwidth combination set 1 | | | | | | | |
| CA_20A-41D | - | 20 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | See CA_41D in Table 5.6A.1-1 of 36.101 Bandwidth combination set 0 | | | | | | | |
| CA_20A-42A | - | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-42A-42A | - | 20 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42A-42A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_20A-43A | - | 20 | | | Yes | | | | 25 | 0 |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-67A | - | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 67 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-75A | - | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 75 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-76A | - | 20 | | | Yes | Yes | Yes | Yes | 25 | 0 |
| | | 76 | | | Yes | | | | | |
| CA_21A-28A | CA_21A-28A | 21 | | | Yes | Yes | Yes | | 25 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| CA_21A-42A | CA_21A-42A | 21 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_21A-42C | CA_21A-42A | 21 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_21A-42D | - | 21 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 42 | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_21A-42E | - | 21 | | | Yes | Yes | Yes | | 95 | 0 |
| | | 42 | See CA_42E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_21A-46A | - | 21 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_21A-46C | - | 21 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_21A-46D | - | 21 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_21A-46E | - | 21 | | | Yes | Yes | Yes | | 95 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_23A-29A | - | 23 | | | Yes | Yes | Yes | Yes | 30 | 0 |
| | | 29 | | Yes | Yes | Yes | | | | |
| | | 23 | | | Yes | Yes | | | 20 | 1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 29 | | Yes | Yes | Yes | | | | |
| CA_25A-26A | CA_25A-26A | 25 | | Yes | Yes | Yes | Yes | Yes | 35 | 0 |
| | | 26 | Yes | Yes | Yes | Yes | Yes | | | |
| | | 25 | | Yes | Yes | Yes | | | 20 | 1 |
| | | 26 | | Yes | Yes | Yes | | | | |
| | | 25 | | | Yes | Yes | | | 20 | 2 |
| | | 26 | | | Yes | Yes | | | | |
| CA_25A-25A-26A | CA_25A-26A | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 45 | 0 |
| | | 26 | | Yes | Yes | | | | | |
| CA_25A-41A | CA_25A-41A | 25 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_25A-25A-41A | CA_25A-41A | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_25A-41C | CA_25A-41A | 25 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 41 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-25A-41C | CA_25A-41A | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-41D | CA_25A-41A | 25 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-25A-41D | CA_25A-41A | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 41 | See CA_41D bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| CA_25A-41E | CA_25A-41A | 25 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 41 | See CA_41E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-25A-41E | CA_25A-41A | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 120 | 0 |
| | | 41 | See CA_41E bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| CA_25A-41F | CA_25A-41A | 25 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 41 | See CA_41F Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-25A-41F | CA_25A-41A | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 140 | 0 |
| | | 41 | See CA_41F bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| CA_25A-46A | - | 25 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | Yes | | Yes | | |
| CA_25A-46C | - | 25 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-46D | - | 25 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-66A | - | 25 | Yes | Yes | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_25A-25A-66A | - | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_26A-38A | - | 26 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_26A-38C | - | 26 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 38 | See CA_38C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_26A-41A | - | 26 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_26A-41C | - | 26 | | | Yes | Yes | Yes | | 55 | 0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 41 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_26A-41D | - | 26 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 41 | See CA_41D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_26A-41E | - | 26 | | | Yes | Yes | Yes | | 95 | 0 |
| | | 41 | See CA_41D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_26A-41F | - | 26 | | | Yes | Yes | Yes | | 115 | 0 |
| | | 41 | See CA_41F Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_26A-46A | CA_26A-46A | 26 | | Yes | Yes | Yes | | | 30 | 0 |
| | | 46 | | | | | | Yes | | | |
| CA_26A-48A | CA_26A-48A | 26 | | Yes | Yes | Yes | | | 30 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| CA_26A-48C | CA_26A-48A | 26 | | Yes | Yes | Yes | | | 50 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_26A-48A-48A | CA_26A-48A | 26 | | Yes | Yes | Yes | | | 50 | 0 |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_26A-66A | - | 26 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_28A-32A | - | 28 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | | |
| CA_28A-38A | | 28 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | | |
| CA_28A-40A | CA_28A-40A | 28 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | | |
| CA_28A-40A-40A | CA_28A-40A | 28 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | | |
| CA_28A-40C | CA_28A-40A | 28 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | See CA_40C Bandwidth Combination set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_28A-40D | CA_28A-40A | 28 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_28A-41A | CA_28A-41A | 28 | | | Yes | Yes | | | 30 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 41 | | | Yes | Yes | Yes | Yes | | | |
| CA_28A-41C | | 28 | | | Yes | Yes | | | 50 | 0 |
| | | 41 | See CA_41C Bandwidth Combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_28A-42A | CA_28A-42A | 28 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | | |
| CA_28A-42C | CA_28A-42A, CA_42C | 28 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_28A-42A-42A | - | 28 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42A-42A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_28A-42D | - | 28 | | | Yes | Yes | | | 70 | 0 |
| | | 42 | See CA_42D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_28A-42A-42C | CA_42C | 28 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 42 | See CA_42A-42C Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_28A-42C-42C | CA_42C | 28 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 42 | See CA_42C-42C Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_28A-46A | - | 28 | | | Yes | Yes | Yes | Yes | 40 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | | | | Yes | | Yes | | |
| CA_28A-46C | - | 28 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_28A-46D | - | 28 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_28A-46E | - | 28 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46E Bandwidth Combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_28A-66A | - | 28 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_29A-30A | - | 29 | | | Yes | Yes | | | 20 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| CA_29A-46A | - | 29 | | | Yes | Yes | | | 30 | 0 |
| | | 46 | | | | Yes | | Yes | | |
| CA_29A-66A | - | 29 | | | Yes | Yes | | | 30 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_29A-66C | | 29 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66C Bandwidth Combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_29A-66A-66A | | 29 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_29A-70A | - | 29 | | | Yes | Yes | | | 25 | 0 |
| | | 70 | | | Yes | Yes | Yes | | | |
| CA_29A-70C | - | 29 | | | Yes | Yes | | | 35 | 0 |
| | | 70 | See CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_30A-48A | CA_30A-48A | 30 | | | Yes | Yes | | | 30 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_30A-66A | CA_30A-66A | 30 | | | Yes | Yes | | | 30 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_30A-66A-66A | | 30 | | | Yes | Yes | | | 50 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_30A-66A-66A-66A | - | 30 | | | Yes | Yes | | | 70 | 0 |
| | | 66 | See CA_66A-66A-66A Bandwidth Combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_32A-38A | - | 32 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_32A-42A | - | 32 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_32A-43A | - | 32 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_32A-46A | - | 32 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | Yes | | Yes | | |
| CA_32A-46C | - | 32 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_32A-46D | - | 32 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_32A-46E | - | 32 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_34A-39A | | 34 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 39 | | | | Yes | Yes | Yes | | |
| CA_34A-41A | | 34 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 41 | | | | | | Yes | | |
| CA_38A-40A | - | 38 | | | | Yes | | Yes | 40 | 0 |
| | | 40 | | | | Yes | | Yes | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 38 | | | | Yes | Yes | Yes | 40 | 1 | |
| | | 40 | | | | Yes | Yes | Yes | | | |
| CA_38A-40A-40A | - | 38 | | | | Yes | | Yes | 60 | 0 | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| | | 38 | | | | Yes | Yes | Yes | 60 | 1 | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | | |
| CA_38A-40C | - | 38 | | | | Yes | | Yes | 60 | 0 | |
| | | 40 | See CA_40C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 38 | | | | Yes | Yes | Yes | 60 | 1 | |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_38A-40D | - | 38 | | | | Yes | Yes | Yes | 80 | 0 | |
| | | 40 | See CA_40D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_38A-66A | - | 38 | | | Yes | Yes | Yes | Yes | 40 | 0 | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_38C-66A | - | 38 | See CA_38C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_39A-40A | - | 39 | | | Yes | Yes | Yes | Yes | 40 | 0 | |
| | | 40 | | | Yes | Yes | Yes | Yes | | | |
| CA_39A-40C | - | 39 | | | Yes | Yes | Yes | Yes | 60 | 0 | |
| | | 40 | See CA_40C Bandwidth Combination Set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_39A-40D | - | 39 | | | Yes | Yes | Yes | Yes | 80 | 0 | |
| | | 40 | See CA_40D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_39A-40E | - | 39 | | | Yes | Yes | Yes | Yes | 100 | 0 | |
| | | 40 | See the CA_40E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_39C-40A | - | 39 | See CA_39C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | 55 | 0 | |
| | | 40 | | | Yes | Yes | Yes | Yes | | | |
| CA_39C-40C | - | 39 | See CA_39C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 75 | 0 | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_39C-40D | - | 39 | See the CA_39C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | 95 | 0 | |
| | | 40 | See the CA_40D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_39A-41A | CA_39A-41A | 39 | | | | Yes | Yes | Yes | 40 | 0 | |
| | | 41 | | | | | | Yes | | | |
| CA_39A-41C | CA_41C<br>CA_39A-41A<br>CA_39A-41C | 39 | | | | Yes | Yes | Yes | 60 | 0 | |
| | | 41 | | | | | | Yes | | | |
| | | 41 | | | | | | Yes | | | |
| CA_39A-41D | CA_41C<br>CA_39A-41A | 39 | | | | Yes | Yes | Yes | 80 | 0 | |
| | | 41 | | | | | | Yes | | | |
| | | 41 | | | | | | Yes | | | |
| | | 41 | | | | | | Yes | | | |
| CA_39C-41A | CA_39C<br>CA_39A-41A<br>CA_39C-41A | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 55 | 0 | |
| | | 41 | | | | | | Yes | | | |
| CA_39C-41C | CA_39C<br>CA_41C<br>CA_39A-41A | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 75 | 0 | |
| | | 41 | | | | | | Yes | | | |
| | | 41 | | | | | | Yes | | | |
| CA_39C-41D | - | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 95 | 0 | |
| | | 41 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_39A-42A | - | 39 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_39A-42C | - | 39 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_39A-42D | - | 39 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 42 | See CA_42D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_39A-42E | - | 39 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 42 | See the CA_42E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_39C-42A | - | 39 | See CA_39C Bandwidth Combination Set 0 in the Table 5.6A.1-1 | | | | | | 55 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_39C-42C | - | 39 | See CA_39C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 75 | 0 |
| | | 42 | See CA_42C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_39C-42D | - | 39 | See the CA_39C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | 95 | 0 |
| | | 42 | See the CA_42D Bandwidth combination set 1 in the Table 5.6A.1-1 | | | | | | | |
| CA_39A-46A | - | 39 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_39A-46C | - | 39 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_39A-46D | - | 39 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See the CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_39A-46E | - | 39 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_39C-46A | - | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 55 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_39C-46C | - | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 75 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_39C-46D | - | 39 | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 95 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_40A-41A | - | 40 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_40A-42A | CA_40A-42A | 40 | | | | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_40A-42C | - | 40 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_40A-42A-42A | - | 40 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42A-42A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_40C-42C | - | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_40C-42A-42A | - | 40 | See CA_40C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 42 | See CA_42A-42A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_40A-40A-42A | - | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_40A-40A-42C | - | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_40A-40A-42A-42A | - | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 42 | See CA_42A-42A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_40A-43A | - | 40 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_40A-46A | - | 40 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 46 | | | | Yes | | Yes | | |
| CA_40A-46C | - | 40 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_40A-46D | - | 40 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 46 | See CA_46D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_40A-46E | - | 40 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | 100 | 1 |
| | | 46 | See CA_46E Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_40C-42A | - | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_40C-46A | - | 40 | See CA_40C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_40C-46C | - | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_40C-46D | - | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_40D-46A | - | 40 | See CA_40D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_40D-46C | - | 40 | See CA_40D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_41A[9]-42A[9] | CA_41A-42A | 41 | | | | Yes | Yes | Yes | 40 | 0 |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_41A-42C | CA_41A-42A, CA_42C, CA_41A-42C | 41 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | - | 41 | | | | Yes | Yes | Yes | 60 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_41A-42A-42A | | 42 | See CA_42A-42A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | 80 | 0 |
| CA_41A-42D | - | 41 | | | | | Yes | Yes | Yes | | 80 | 0 |
| | | 42 | See CA_42D Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41A-42A-42C | CA_42C | 41 | | | | | Yes | Yes | Yes | | 80 | 0 |
| | | 42 | See CA_42A-42C Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | | |
| CA_41A-42C-42C | CA_42C | 41 | | | | | Yes | Yes | Yes | | 100 | 0 |
| | | 42 | See CA_42C-42C Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | | |
| CA_41C-42A | CA_41A-42A, CA_41C, CA_41C-42A | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | 60 | 0 |
| | | 42 | | | | | Yes | Yes | Yes | | | |
| CA_41C-42C | CA_41A-42A, CA_41C, CA_42C, CA_41C-42C | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | 80 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41C-42A-42A | - | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | 80 | 0 |
| | | 42 | See CA_42A-42A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | | |
| CA_41C-42D | - | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | 100 | 0 |
| | | 42 | See CA_42D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41C-42A-42C | CA_42C | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | 100 | 0 |
| | | 42 | See CA_42A-42C Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | | |
| CA_41C-42C-42C | CA_42C | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | 120 | 0 |
| | | 42 | See CA_42C-42C Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | | | |
| CA_41D-42A | - | 41 | See CA_41D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | 80 | 0 |
| | | 42 | | | | | Yes | Yes | Yes | | | |
| CA_41D-42C | - | 41 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | 100 | 0 |
| | | 42 | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41A-46A | - | 41 | | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 46 | | | | | | | Yes | | | |
| CA_41A-46C | - | 41 | | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41A-46D | - | 41 | | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41A-46E | - | 41 | | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41C-46A | - | 41 | See CA_41C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | | 60 | 0 |
| | | 46 | | | | | | | Yes | | | |
| CA_41C-46C | - | 41 | See CA_41C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | | 80 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41C-46D | - | 41 | See the CA_41C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | | 100 | 0 |
| | | 46 | See the CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | | |
| CA_41D-46A | - | 41 | See CA_41D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | 80 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | | | | | | Yes | | |
| CA_41D-46C | - | 41 | See the CA_41D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_41A-48A | - | 41 | | | | Yes | Yes | Yes | 40 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_41A-48C | - | 41 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_41A-48D | - | 41 | | | | Yes | Yes | Yes | 80 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_41C-48A | CA_41C | 41 | See the CA_41C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_41C-48C | CA_41C | 41 | See the CA_41C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_41C-48D | CA_41C | 41 | See the CA_41C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 48 | See the CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_41D-48A | CA_41C | 41 | See the CA_41D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_41D-48C | CA_41C | 41 | See the CA_41D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_42A-43A | - | 42 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_42A-46A | - | 42 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 46 | | | | | | Yes | | |
| CA_46A-48A | - | 46 | | | | | | Yes | 40 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48A-48A | - | 46 | | | | | | Yes | 60 | 0 |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_46A-48C | CA_48C | 46 | | | | | | Yes | 60 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_46C-48A | - | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48A-48A | - | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 48 | See CA_48A-48A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_46A-48B | CA_48B | 46 | | | | | | Yes | 40 | 0 |
| | | 48 | See CA_48B Bandwidth combination set 0 in 36.101 Table 5.6A.1-1 | | | | | | | |
| CA_46C-48C | CA_48C | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 48 | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_46C-48B | CA_48B | 46 | See CA_46C Bandwidth combination set 0 in 36.101 Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 48 | See CA_48B Bandwidth combination set 0 in 36.101 Table 5.6A.1-1 | | | | | | | |
| CA_46A-48D | CA_48C | 46 | | | | | | Yes | 80 | 0 |
| | | 48 | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_46D-48A | - | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| CA_46D-48B | CA_48B | 46 | See CA_46D Bandwidth combination set 0 in 36.101 Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 48 | See CA_48B Bandwidth combination set 0 in 36.101 Table 5.6A.1-1 | | | | | | | | |
| CA_46A-46A-66A | - | 46 | See CA_46A-46A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_46A-46C-66A | - | 46 | See CA_46A-46C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_46A-46D-66A | - | 46 | See CA_46A-46D Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 100 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_46A-48E | CA_48C | 46 | | | | | | Yes | | 100 | 0 |
| | | 48 | See CA_48E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_46C-48D | CA_48C | 46 | See CA_46C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_46D-48A-48A | - | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_46D-48C | - | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_46D-48D | - | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 120 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_46E-48A | - | 46 | See CA_46E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| CA_46E-48B | CA_48B | 46 | See CA_46E Bandwidth combination set 0 in 36.101 Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 48 | See CA_48B Bandwidth combination set 0 in 36.101 Table 5.6A.1-1 | | | | | | | | |
| CA_46C-66A | - | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_46A-66A | - | 46 | | | | | | Yes | | 40 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_46A-66A-66A | - | 46 | | | | | | Yes | | 60 | 0 |
| | | 66 | See the CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_46C-66A-66A | - | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_46A-66C | - | 46 | | | | | | Yes | | 60 | 0 |
| | | 66 | See the CA_66C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_46D-66A | - | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_46D-66A-66A | - | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_46C-48E | CA_48C | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 120 | 0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 48 | See the CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_46E-48C | - | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 120 | 0 |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_46A-53A | - | 46 | | | | | | | Yes | 30 | 0 |
| | | 53 | | | | Yes | Yes | | | | |
| CA_46C-53A | - | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 50 | 0 |
| | | 53 | | | | Yes | Yes | | | | |
| CA_46D-53A | - | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 70 | 0 |
| | | 53 | | | | Yes | Yes | | | | |
| CA_46E-53A | - | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 90 | 0 |
| | | 53 | | | | Yes | Yes | | | | |
| CA_46A-46A-46A-66A | - | 46 | See CA_46A-46A-46A Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 66 | | | | Yes | Yes | Yes | Yes | | |
| CA_46E-66A | - | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 66 | | | | Yes | Yes | Yes | Yes | | |
| CA_46E-66A-66A | - | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | 120 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_46A-70A | - | 46 | | | | | | | Yes | 35 | 0 |
| | | 70 | | | | Yes | Yes | Yes | | | |
| CA_46A-71A | - | 46 | | | | | | | Yes | 40 | 0 |
| | | 71 | | | | Yes | Yes | Yes | Yes | | |
| CA_46C-71A | - | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 71 | | | | Yes | Yes | Yes | Yes | | |
| CA_46D-71A | - | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 71 | | | | Yes | Yes | Yes | Yes | | |
| CA_48A-66A | - | 48 | | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 66 | | | | Yes | Yes | Yes | Yes | | |
| CA_48A-48A-66A | - | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 66 | | | | Yes | Yes | Yes | Yes | | |
| CA_48A-48C-66A | - | 48 | See the CA_48A-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 66 | | | | Yes | Yes | Yes | Yes | | |
| CA_48A-48C-66B | - | 48 | See CA_48A-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_48A-48C-66C | - | 48 | See CA_48A-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 100 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| CA_48A-48D-66A | - | 48 | See CA_48A-48D Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 100 | 0 |
| | | 66 | | | | Yes | Yes | Yes | Yes | | |
| CA_48C-48C-66A | - | 48 | See CA_48C-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 100 | 0 |
| | | 66 | | | | Yes | Yes | Yes | Yes | | |
| CA_48A-66A-66A | - | 48 | | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_48A-48A-66A-66A | - | 48 | See CA_48A-48A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 80 | 0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_48A-48A-66B | - | 48 | See CA_48A-48A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_48A-48A-66C | - | 48 | See CA_48A-48A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 66 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_48A-53A | - | 48 | | | Yes | Yes | Yes | Yes | | 30 | 0 |
| | | 53 | | | Yes | Yes | | | | | |
| CA_48C-53A | - | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 50 | 0 |
| | | 53 | | | Yes | Yes | | | | | |
| CA_48D-53A | - | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 70 | 0 |
| | | 53 | | | Yes | Yes | | | | | |
| CA_48B-66A | - | 48 | See CA_48B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 40 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_48C-66A-66A | - | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_48C-66B | - | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_48C-66C | - | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 66 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_48A-66B | - | 48 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 66 | See CA_66B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_48A-66C | - | 48 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | | 66 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_48C-66A | - | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_48D-66A | - | 48 | See the CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 80 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_48D-66A-66A | - | 48 | See the CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_48E-66A-66A | - | 48 | See the CA_48E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 120 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_48E-66A | - | 48 | See CA_48E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | 100 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_48A-71A | - | 48 | | | Yes | Yes | Yes | Yes | | 40 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | | |
| CA_48C-71A | - | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | | |
| CA_48A-48A-71A | - | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | 60 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | | |
| CA_66A-70A | - | 66 | | | Yes | Yes | Yes | Yes | | 35 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 70 | | | Yes | Yes | Yes | | | |
| CA_66A-66A-70A | - | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 55 | 0 |
| | | 70 | | | Yes | Yes | Yes | | | |
| CA_66A-70C | - | 66 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 70 | See CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_66A-66A-70C | - | 66 | See the CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 65 | 0 |
| | | 70 | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_66C-70A | - | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 55 | 0 |
| | | 70 | | | Yes | Yes | Yes | | | |
| CA_66C-70C | - | 66 | See the CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 65 | 0 |
| | | 70 | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_66A-71A | - | 66 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_66C-71A | - | 66 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_66A-66A-71A | - | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_70A-71A | - | 70 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_70C-71A | - | 70 | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 45 | 0 |
| | | 71 | | | Yes | Yes | Yes | Yes | | |

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.
NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.
NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.
NOTE 4: Uplink CA configurations are the configurations supported by the present release of specifications.
NOTE 5: For TDD inter-band Carrier Aggregation only non-simultaneous Rx/Tx uplink CA configurations can be supported by UE supporting corresponding DL CA configuration without simultaneous Rx/Tx.
NOTE 6: Void
NOTE 7: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within 6 dB.
NOTE 8: For the corresponding CA configuration, UE may not support Pcell transmissions in this E-UTRA band.
NOTE 9: 8Rx Requirements are applicable for this band configuration if UE supports 8Rx.

**Table 5.6A.1-2a: E-UTRA CA configurations and bandwidth combination sets defined for inter-band CA (three bands)**

| E-UTRA CA configuration / Bandwidth combination set | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **E-UTRA CA Configuration** | **Uplink CA configurations (NOTE 5)** | **E-UTRA Bands** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Maximum aggregated bandwidth [MHz]** | **Bandwidth combination set** |
| CA_1A-3A-5A | CA_1A-3A<br>CA_1A-5A[6]<br>CA_3A-5A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | | | 40 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 5 | | | Yes | Yes | | | | |
| CA_1A-1A-3A-5A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_1A-1A-3C-5A | CA_1A-3A, CA_1A-5A CA_3A-5A | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_1A-3A-3A-5A | - | 1 | | | Yes | Yes | Yes | | 65 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_1C-3A-5A | - | 1 | See CA_1C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_1A-3A-3A-7A-7A | CA_1A-3A, CA_1A-7A, CA_3A-7A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See the CA_3A-3A Bandwidth combination set 0 in Table below | | | | | | | |
| | | 7 | See the CA_7A-7A Bandwidth combination set 1 in Table below | | | | | | | |
| CA_1A-3C-5A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_1A-3A-7A | CA_1A-3A CA_1A-7A CA_3A-7A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-7A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3C-7A | - | 1 | See the CA_1A-1A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | 100 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-3A-7A | CA_1A-3A<br>CA_1A-7A<br>CA_3A-7A | 1 | See the CA_1A-1A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | See the CA_3A-3A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-7A | CA_1A-3A,<br>CA_1A-7A,<br>CA_3A-7A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See the CA_3A-3A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-3A-7C | CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 120 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 of 36.101 | | | | | | | |
| CA_1A-3A-3A-7C | 7C | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-7A-7A | CA_1A-3A<br>CA_1A-7A<br>CA_3A-7A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3A-7C | CA_1A-3A,<br>CA_1A-7A,<br>CA_3A-7A,<br>CA_7C | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-1A-3A-7C | CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 of 36.101 | | | | | | | | |
| CA_1A-1A-3C-7A | CA_3C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 of 36.101 | | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| CA_1A-1A-3C-7C | CA_3C<br>CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 120 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 of 36.101 | | | | | | | | |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 of 36.101 | | | | | | | | |
| CA_1A-3C-7A | CA_1A-3A, CA_1A-7A, CA_3A-7A, CA_3C | 1 | | | Yes | Yes | Yes | Yes | | 80 | 0 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | | 80 | 1 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| CA_1A-3C-7C | CA_1A-3A, CA_1A-7A, CA_3A-7A, CA_3C, CA_7C | 1 | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| CA_1A-3A-8A | CA_1A-3A<br>CA_1A-8A<br>CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | | 50 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | | |
| | | 8 | | Yes | Yes | Yes | | | | | |
| | | 1 | | | Yes | Yes | | | | 40 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | | |
| | | 8 | | Yes | Yes | Yes | | | | | |
| | | 1 | | | Yes | Yes | Yes | | | 40 | 2 |
| | | 3 | | | Yes | Yes | Yes | | | | |
| | | 8 | | Yes | Yes | Yes | | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | | 50 | 3 |
| | | 3 | | | Yes | Yes | Yes | Yes | | | |
| | | 8 | | | Yes | Yes | | | | | |
| CA_1A-3A-3A-8A | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | | 70 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_1A-8A<br>CA_3A-8A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-3C-8A | CA_1A-3A<br>CA_1A-8A<br>CA_3A-8A<br>CA_3C | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 8 | | Yes | Yes | Yes | | | | |
| CA_1A-3A-3A-42C | CA_1A-3A, CA_1A-42A, CA_3A-42A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-11A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 11 | | | Yes | Yes | | | | |
| CA_1A-3A-18A | CA_1A-3A, CA_1A-18A[6], CA_3A-18A | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 18 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-19A | CA_1A-3A<br>CA_1A-19A[6]<br>CA_3A-19A | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 19 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-3A-19A | CA_1A-3A<br>CA_1A-19A[6]<br>CA_3A-19A | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 19 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-20A | CA_1A-3A,<br>CA_3A-20A, CA_1A-20A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-20A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-20A | CA_3C<br>CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3A-21A | CA_1A-3A, CA_1A-21A, CA_3A-21A | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-3A-21A | CA_1A-3A, CA_1A-21A, CA_3A-21A | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-26A | CA_1A-3A, CA_1A-26A, CA_3A-26A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 26 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 55 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-3C-26A | CA_3C | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-28A | CA_1A-3A, CA_1A-28A, CA_3A-28A[6] | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-28A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-3A-28A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3C-28A | CA_3C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 of 36.101 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-28A | CA_3C | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3C-28A | CA_1A-3A, CA_1A-28A CA_3A-28A | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-32A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-38A | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-38A | CA_3C CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-38A | - | 1 | See CA_1A-1A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3C-38A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in table 5.6A.1-1 | | | | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-40A | CA_1A-3A, CA_1A-40A, CA_3A-40A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3A-40A-40A | CA_1A-3A, CA_1A-40A, CA_3A-40A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3A-40C | CA_1A-40A CA_3A-40A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-40D | CA_1A-40A CA_3A-40A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3C-40A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-40C | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-41A[9] | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-41C[9] | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-41D[9] | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-42A | CA_1A-3A, CA_1A-42A, CA_3A-42A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-42A | | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_1A-3A, CA_1A-42A, CA_3A-42A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-42A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | See CA_42A-42A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3A-42A-42C | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | See CA_42A-42C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3A-42C | CA_1A-3A, CA_1A-42A, CA_1A-42C, CA_3A-42A, CA_3A-42C CA_42C | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-42C-42C | - | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | See CA_42C-42C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3A-42D | CA_1A-3A, CA_1A-42A, CA_3A-42A, CA_1A-42C, CA_3A-42C | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | See CA_42D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-43A | - | 1 | | | Yes | Yes | Yes | | 50 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-46A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | Yes | | Yes | | |
| | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_1A-3A-46C | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_1A-3A-46D | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46D in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_1A-3A-46E | - | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46E in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_1A-5A-40A | CA_1A-5A[6] | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 40 | | | | Yes | Yes | Yes | | |
| CA_1A-5A-41A[11] | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 41 | | | | | | Yes | | |
| CA_1A-5A-46A | CA_1A-5A[6] | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | | | | | | Yes | | |
| CA_1A-1A-5A-7A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_1A-5A-7A | CA_1A-5A[6] CA_1A-7A CA_5A-7A | 1 | | | Yes | Yes | | | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 50 | 1 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_1A-5A-7A-7A | CA_1A-5A[6] CA_1A-7A CA_5A-7A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-5A-28A | - | 1 | | | Yes | Yes | Yes | | 45 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-5A-46C | CA_1A-5A[6] | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-5A-46D | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-8A | CA_1A-7A, CA_1A-8A CA_7A-8A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 50 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-7A-7A-8A | CA_1A-7A CA_1A-8A CA_7A-8A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-7A-20A | CA_1A-7A CA_1A-20A CA_7A-20A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 60 | 2 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-7A-20A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7C-20A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-26A | CA_1A-7A CA_1A-26A, CA_7A-26A | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 26 | | | Yes | Yes | Yes | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-7A-7A-26A | CA_1A-7A CA_1A-26A, CA_7A-26A | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-7C-26A | CA_7C | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-7A-28A | CA_1A-7A, CA_1A-28A, CA_7A-28A | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 60 | 2 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-7A-28A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-7C-28A | CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-7A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_1A-7C-28A | CA_1A-7A, CA_1A-28A, CA_7A-28A, CA_7C | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_1A-7A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-38A[16] | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-7A-38A[16] | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-40A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-7A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-40D | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-46A | CA_1A-7A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_1A-7A-46A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_1A-7A-46C | CA_1A-7A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-46C | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_1A-7A-46D | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-46D | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46D in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_1A-7A-46E | - | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46E in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_1A-8A-11A | - | 1 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| CA_1A-8A-20A | CA_1A-8A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-38A | CA_1A-8A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-40A | CA_1A-8A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-8A-41A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 8 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-42C | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-11A-18A | - | 1 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 11 | | | Yes | Yes | | | | |
| | | 18 | | | Yes | Yes | | | | |
| CA_1A-11A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-11A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-11A-42C | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-18A-28A | CA_1A-18A[6] CA_1A-28A CA_18A-28A | 1 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 40 | 1 |
| | | 18 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | | | | |
| CA_1A-18A-41A | CA_1A-18A CA_1A-41A CA_18A-41A | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-18A-41C | CA_1A-18A CA_1A-41A CA_1A-41C CA_18A-41A CA_18A-41C CA_41C | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 41 | See CA_41C Bandwidth combination set 1 in Table 5.6A.1-1 in TS36.101 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-18A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-18A-42C | - | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-19A-21A | CA_1A-19A[6]<br>CA_1A-21A<br>CA_19A-21A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_1A-19A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |
| CA_1A-19A-42A | CA_1A-19A[6],<br>CA_1A-42A,<br>CA_19A-42A[6] | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-19A-42C | CA_1A-19A[6]<br>CA_1A-42A<br>CA_19A-42A[6] | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-20A-28A[12] | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 20 | | | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-38A | CA_1A-20A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-20A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-43A | - | 1 | | | Yes | Yes | Yes | | 40 | 0 |
| | | 20 | | | Yes | | | | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-21A-28A | CA_1A-21A, CA_1A-28A, CA_21A-28A | 1 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |
| CA_1A-21A-42A | CA_1A-21A, CA_1A-42A, CA_21A-42A | 1 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-21A-42C | CA_1A-21A<br>CA_1A-42A<br>CA_21A-42A | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-21A-42D | - | 1 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-28A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-28A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-28A-40A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-28A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-28A-40D | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-28A-42A | CA_1A-28A, CA_1A-42A, CA_28A-42A | 1 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-28A-42C | CA_1A-28A, CA_1A-42A, CA_28A-42A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-32A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-32A-42A | - | 1 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-32A-43A | - | 1 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-40A-41A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-41A-42A[10] | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_1A-41A-42C[10] | CA_1A-42A, CA_42C, CA_1A-42C | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42C Bandwidth combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-41C-42A[10] | CA_1A-42A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | See CA_41C Bandwidth combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_1A-41C-42C[10] | CA_1A-42A, CA_42C, CA_1A-42C | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 41 | See CA_41C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | See CA_42C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-42A-43A | - | 1 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-4A-5A | CA_2A-4A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_2A-2A-4A-5A | CA_2A-5A<br>CA_4A-5A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_2A-2A-12A-66A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-14A-66A-66A | CA_2A-14A<br>CA_14A-66A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-4A-5B | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-4A-7A | CA_2A-4A | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-4A-7A-7A | CA_2A-4A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See the CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-4A-7C | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-4A-4A-5A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 5 | | | Yes | Yes | | | | |
| CA_2A-4A-12A | CA_2A-4A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_4A-12A | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_2A-4A-12A-12A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-4A-12B | - | 2 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-2A-4A-12A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_2A-4A-4A-12A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_2A-4A-13A | CA_2A-13A<br>CA_4A-13A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 13 | | | | Yes | | | | |
| CA_2A-4A-28A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-4A-29A | CA_2A-4A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 29 | | | Yes | Yes | | | | |
| CA_2A-4A-30A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-4A-71A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-4A-71A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 4 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-7A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_2A-2A-5A-7A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-7A-7A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-7C | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-12A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_2A-2A-5A-12A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_2A-5A-12A-12A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-46C | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-2A-5A-66A | CA_2A-5A<br>CA_5A-66A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-5A-66A-66A | CA_2A-5A<br>CA_5A-66A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-5A-66B | CA_2A-5A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_5A-66A | 5 | | | Yes | Yes | | | | |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-2A-5A-66C | CA_2A-5A<br>CA_5A-66A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-2A-7A-12A | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_2A-2A-7A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-7A-66A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-12B-66A | - | **2** | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 75 | 0 |
| | | **12** | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | **66** | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-13A-66A | CA_2A-13A<br>CA_13A-66A | **2** | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | **13** | | | Yes | Yes | | | | |
| | | **66** | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-12B | - | 2 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5A-13A | CA_2A-13A[6] | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 13 | | | | Yes | | | | |
| CA_2A-5A-28A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-5A-29A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 29 | | | Yes | Yes | | | | |
| CA_2A-5A-30A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-2A-5A-30A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2C-5A-30A | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-5B-30A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2C-5B-30A | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 70 | 0 |
| | | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-5A-46A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | | | | | | Yes | | |
| CA_2A-5A-46D | CA_2A-5A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5A-46E | - | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5A-48A | **CA_2A-48A** CA_5A-48A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-48C | **CA_2A-48A** **CA_5A-48A** | 2 | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | 70 | 0 |
| | | 5 | | | **Yes** | **Yes** | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_2A-5A | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5A-48D | CA_2A-5A<br>CA_5A-48A<br>CA_2A-48A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5A-66A | CA_2A-5A<br>CA_5A-66A<br>CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-66A-66A | CA_2A-5A<br>CA_5A-66A<br>CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-5A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-5A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 5 | See CA_5A-5A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5B-66A-66A | CA_2A-5A<br>CA_5A-66A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-66B | CA_2A-5A<br>CA_5A-66A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5A-66C | CA_2A-5A<br>CA_5A-66A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5A-66D | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 66 | See CA_66D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5B-66A | CA_2A-5A | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_5A-66A | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5B-66B | CA_2A-5A<br>CA_5A-66A | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5B-66C | CA_2A-5A<br>CA_5A-66A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-5B-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-5B-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-12A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_2A-7A-12B | - | 2 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | See CA_12B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-7A-13A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 13 | | | Yes | Yes | | | | |
| CA_2A-2A-7A-13A | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 13 | | | Yes | Yes | | | | |
| CA_2A-7C-13A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 13 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-7A-7A-13A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 13 | | | Yes | Yes | | | | |
| CA_2A-2A-7C-13A | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 13 | | | Yes | Yes | | | | |
| CA_2A-2A-7A-7A-13A | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 13 | | | Yes | Yes | | | | |
| CA_2A-7A-26A | - | 2 | | Yes | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 26 | | Yes | Yes | Yes | Yes | | | |
| CA_2A-7A-28A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7C-28A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-29A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 29 | | | Yes | Yes | | | | |
| CA_2A-7C-29A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 29 | | | Yes | Yes | | | | |
| CA_2A-7A-7A-29A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 29 | | | Yes | Yes | | | | |
| CA_2A-7A-30A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-7A-38A[17] | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7C-38A[17] | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-46A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | Yes | | Yes | | |
| CA_2A-7A-7A-46A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | | |
| | | 46 | | | | | | Yes | | |
| CA_2A-7A-46C | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-7A-7A-46C | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-7A-46D | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_2A-7A-7A-46D | - | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_2A-7A-46E | - | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-7A-7A-46E | - | 2 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | | |
| | | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-7A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-7A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-7A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-7C-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7C-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 2 in table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-7A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-7A-71A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-7A-71A | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-12A-30A | CA_2A-12A[6] | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-2A-12A-30A | - | 2 | See CA_2A-2A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_2C-12A-30A | - | 2 | See CA_2C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 60 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| | | 30 | | | Yes | Yes | | | | | |
| CA_2A-12A-66A | CA_2A-12A, CA_2A-66A CA_12A-66A | 2 | | | Yes | Yes | Yes | Yes | | 50 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| | | 2 | | | Yes | Yes | | | | 40 | 1 |
| | | 12 | | | Yes | Yes | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-2A-12A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 70 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-12A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | | 70 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-12A-66C | - | 2 | | | Yes | Yes | Yes | Yes | | 70 | 0 |
| | | 12 | | | Yes | Yes | | | | | |
| | | 66 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-12B-66A | - | 2 | | | Yes | Yes | Yes | Yes | | 55 | 0 |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-12B-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | | 75 | 0 |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-13A-46A | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | | 50 | 0 |
| | | 13 | | | Yes | Yes | | | | | |
| | | 46 | | | | | | Yes | | | |
| CA_2A-13A-46C | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | | |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-13A-46D | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | | 90 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-13A-46E | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-13A-46A-46D | CA_2A-13A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46A-46D Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-46A-46C | CA_2A-13A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46A-46C Bandwidth Combination Set 0 in the Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-46A-46A | CA_2A-13A | 2 | Yes | Yes | Yes | 70 | 0 | Yes | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46A-46A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-48A | CA_2A-48A<br>CA_13A-48A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-48A-48A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-48C | CA_2A-48A<br>CA_13A-48A<br>CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-13A-48D | CA_2A-48A<br>CA_13A-48A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_2A-13A-48A-48C | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48A-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-66A | CA_2A-13A<br>CA_13A-66A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 13 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_2A-66A | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-66D | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-13A-66A-66A | CA_2A-13A<br>CA_13A-66A<br>CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-66A-66B | CA_2A-13A<br>CA_13A-66A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66B Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-66A-66C | CA_2A-13A<br>CA_13A-66A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-66B | CA_2A-13A<br>CA_13A-66A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-13A-66C | CA_2A-13A<br>CA_13A-66A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-2A-13A-66B | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-2A-13A-66A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-14A-30A | CA_2A-14A<br>CA_14A-30A | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-2A-14A-30A | CA_2A-14A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_14A-30A | 14 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-14A-66A | CA_2A-14A<br>CA_14A-66A | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-14A-66A | CA_2A-14A<br>CA_14A-66A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-14A-66A-66A | CA_2A-14A<br>CA_14A-66A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-14A-66A-66A-66A | CA_2A-14A<br>CA_14A-66A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-4 | | | | | | | |
| CA_2A-26A-66A | - | 2 | | Yes | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 26 | | Yes | Yes | Yes | Yes | | | |
| | | 66 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_2A-28A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-29A-30A | - | 2 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-2A-29A-30A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2C-29A-30A | - | 2 | See CA_2C Bandwidth Combination set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_2A-29A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-2A-29A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-29A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-29A-66A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-2A-30A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-30A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-30A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A-48A | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A-48C | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-46A-48D | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-46A-48E | - | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 48 | See the CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-46C-48A | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46C-48C | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-46D-48A | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A-66A | CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A-46A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46A-46A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46C-48D | - | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | See the CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-46C-48E | - | 2 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | See the CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_2A-46C-66A | CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 66 | See the CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| CA_2A-46C-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 66 | See the CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_2A-46D-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | | 120 | 0 |
| | | 46 | See the CA_46D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| | | 66 | See the CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_2A-46E-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | | 140 | 0 |
| | | 46 | See the CA_46E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | | |
| | | 66 | See the CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | | |
| CA_2A-46A-46C-66A | - | **2** | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | **46** | See CA_46A-46C Bandwidth Combination Set 0 in the Table 5.6A.1-3 | | | | | | | | |
| | | **66** | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-46D-66A | CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | | 100 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in the Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-46D-48C | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 120 | 0 |
| | | 46 | See the CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-46E-48A | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 120 | 0 |
| | | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-46E-66A | CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | | 120 | 0 |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in the Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-46E-48C | | 2 | | | Yes | Yes | Yes | Yes | | 140 | 0 |
| | | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_2A-48A-66A | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | | 60 | 0 |
| | CA_48A-66A | 48 | | | Yes | Yes | Yes | Yes | | | |
| | CA_2A-66A | 66 | | | Yes | Yes | Yes | Yes | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-48C-66A | CA_2A-48A<br>CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-48C-66A-66A | CA_48A-66A<br>CA_2A-66A<br>CA_2A-48A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| CA_2A-48D-66A | CA_48A-66A<br>CA_2A-48A<br>CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-48D-66A-66A | CA_48A-66A<br>CA_2A-66A<br>CA_2A-48A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| CA_2A-48E-66A | CA_48A-66A<br>CA_2A-66A<br>CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 48 | See CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-48E-66A-66A | CA_48A-66A<br>CA_2A-66A<br>CA_2A-48A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 48 | See CA_48E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| CA_2A-48A-48A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-48A-48C-66A | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 48 | See CA_48A-48C Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-48A-66A-66A | CA_48A-66A<br>CA_2A-48A<br>CA_2A-66A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| CA_2A-66A-71A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-66A-71A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-66A-66A-71A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-66C-71A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 66 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-5A-7A | CA_3A-5A, CA_3A-7A, CA_5A-7A | 3 | | | | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_3A-5A-7A | - | 3 | | | Yes | Yes | Yes | Yes | 50 | 1 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_3A-3A-5A-7A | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_3A-5A-7A-7A | CA_3A-5A, CA_3A-7A, CA_5A-7A | 3 | | | | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-5A-7C | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3C-5A-7A | - | 3 | See CA_3C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_3A-5A-28A | - | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_3A-3A-5A-28A | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | | |
| CA_3A-5A-40A | CA_3A-5A | 3 | | | Yes | Yes | Yes | Yes | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | | |
| | | 40 | | | | Yes | Yes | Yes | | | |
| | | 3 | | Yes | Yes | Yes | | | | 40 | 1 |
| | | 5 | | Yes | Yes | Yes | | | | | |
| | | 40 | | | | | | Yes | | | |
| CA_3A-5A-40A-40A | - | **3** | | | Yes | Yes | | | | 60 | 0 |
| | | **5** | | | Yes | Yes | | | | | |
| | | **40** | See CA_40A-40A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_3A-5A-41A | - | 3 | | | Yes | Yes | Yes | Yes | | 50 | 0 |
| | | 5 | | | Yes | Yes | | | | | |
| | | 41 | | | | | | Yes | | | |
| CA_3C-7A-8A | CA_3C<br>CA_3A-8A | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| | | 8 | | | Yes | Yes | | | | | |
| CA_3A-3A-7A-8A | CA_3A-7A, CA_3A-8A, CA_7A-8A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| | | 8 | | | Yes | Yes | | | | | |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | 60 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| | | 8 | | | Yes | Yes | | | | | |
| CA_3A-3A-7A-8B | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_3A-3A-7A-7A-8A | CA_3A-7A, CA_3A-8A, CA_7A-8A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in table 5.6A.1-3 | | | | | | | 90 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in table 5.6A.1-3 | | | | | | | | |
| | | 8 | | | Yes | Yes | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 | See CA_3A-3A Bandwidth Combination Set 1 in table 5.6A.1-3 | | | | | | 70 | 1 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 2 in table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_3A-3A-7A-7A-8B | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-7A-8A | CA_3A-7A, CA_3A-8A, CA_7A-8A | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 2 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_3A-7A-7A-8B | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-8A | CA_3A-7A, CA_3A-8A, CA_7A-8A | 3 | | | Yes | Yes | Yes | | 40 | 0 |
| | | 7 | | | | Yes | Yes | | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 50 | 1 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 3 | | | Yes | Yes | Yes | Yes | 50 | 2 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_3A-7A-8B | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | See CA_8B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-20A | CA_3A-7A<br>CA_3A-20A<br>CA_7A-20A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 | | | Yes | Yes | Yes | Yes | 60 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-7A-20A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-7A-20A | - | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7A-20A | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7C-20A | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7C-20A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-26A | CA_3A-7A, CA_3A-26A, CA_7A-26A | 3 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_3A-7A-7A-26A | CA_3A-7A, CA_3A-26A, CA_7A-26A | 3 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_3A-7C-26A | CA_7C | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_3C-7A-26A | CA_3C | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 75 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_3C-7C-26A | CA_3C<br>CA_7C | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 95 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_3A-7A-28A | CA_3A-7A,<br>CA_3A-28A[6],<br>CA_7A-28A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-7A-28A | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-7C-28A | CA_7C | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-7A-28A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_3A-7C-28A | CA_3A-7A, CA_7C, CA_7A-28A | 3 | | | | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| | | 3 | | | | Yes | Yes | Yes | 80 | 1 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_3C-7A-28A | CA_3C | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_3C-7C-28A | CA_3C<br>CA_7C | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_3A-7A-32A | CA_3A-7A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7A-32A | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-38A[7] | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-7A-38A[7] | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7A-38A[7] | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-40A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-40A-40A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-7A-40C | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-40D | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-46A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_3A-7C-46A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 46 | | | | | | Yes | | |
| CA_3A-7C-46C | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7C-46D | - | 3 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7C-46E | - | 3 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-46C | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-46D | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-46E | - | 3 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-8A-11A | - | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| CA_3A-8A-20A | CA_3A-8A | 3 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_3C-8A-20A | CA_3C<br>CA_3A-8A | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 60 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | | | | |
| CA_3A-8A-28A | - | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-32A | - | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-38A | CA_3A-8A | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-8A-38A | CA_3C<br>CA_3A-8A | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-8A-38A | - | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-40A | CA_3A-8A | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-40C | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-8A-41A | - | 3 | | Yes | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-42C | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_3A-11A-18A | CA_3A-11A, CA_3A-18A, CA_11A-18A | 3 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 18 | | | Yes | Yes | Yes | | | |
| CA_3A-11A-26A | CA_3A-11A, CA_3A-26A, CA_11A-26A | 3 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_3A-11A-28A | - | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-18A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-18A-42C | - | 3 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-19A-21A | CA_3A-19A, CA_3A-21A, CA_19A-21A | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_3A-3A-19A-21A | CA_3A-19A, CA_3A-21A, CA_19A-21A | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_3A-19A-42A | CA_3A-19A, CA_3A-42A, CA_19A-42A[6] | 3 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-19A-42C | CA_3A-19A CA_3A-42A CA_19A-42A[6] | 3 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-19A-42D | - | 3 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-20A-28A[12] | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_3A-3A-20A-28A[12] | - | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-20A-28A[12] | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-20A-32A | CA_3A-20A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-20A-32A | - | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-20A-38A | CA_3A-20A | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-20A-38A | CA_3C | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-20A-40A | - | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-20A-40C | - | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-20A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-20A-43A | - | 3 | | | Yes | Yes | Yes | | 40 | 0 |
| | | 20 | | | Yes | | | | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-21A-28A | CA_3A-21A, CA_3A-28A[6], CA_21A-28A | 3 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_3A-21A-42A | CA_3A-21A, CA_3A-42A, CA_21A-42A | 3 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-21A-42C | CA_3A-21A, CA_3A-42A, CA_21A-42A | 3 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-21A-42D | - | 3 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-28A-32A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-28A-38A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-28A-38A | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-28A-40A | CA_3A-28A[6] CA_3A-40A CA_28A-40A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-28A-40A-40A | CA_3A-28A[6] CA_3A-40A CA_28A-40A | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-28A-40C | CA_3A-28A[6] | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-28A-40D | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-28A-41A | CA_3A-41A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-28A-41C | CA_3A-41A | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | See CA_41C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-28A-42A | CA_3A-28A[6], CA_3A-42A, CA_28A-42A | 3 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-28A-42A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42A-42A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-28A-42C | CA_3A-28A[6], CA_3A-42A, CA_28A-42A, CA_42C | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-28A-42A-42C | CA_42C | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42A-42C Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-28A-42C-42C | CA_42C | 3 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C-42C Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-28A-42D | - | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-32A-42A | - | 3 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-32A-43A | - | 3 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-32A-46A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_3A-32A-46C | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_3A-32A-46D | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46D in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_3A-32A-46E | - | 3 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46E in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_3A-40A-41A | - | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-41A-42A | CA_3A-41A, CA_41A-42A, CA_3A-42A | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_3A-41A-42A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42A-42A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-41A-42C | CA_3A-41A, CA_3A-42C, CA_3A-42A, CA_41A-42A, CA_41A-42C, CA_42C | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-41A-42A-42C | CA_42C | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42A-42C Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-41A-42C-42C | CA_42C | 3 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42C-42C Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-41C-42A | CA_3A-41A, CA_3A-41C, CA_3A-42A, CA_41A-42A, | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 41 | See CA_41C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_41C<br>CA_41C-42A | 42 | | | | Yes | Yes | Yes | | |
| CA_3A-41C-42C | CA_3A-41A,<br>CA_3A-41C,<br>CA_3A-42A,<br>CA_3A-42C,<br>CA_41A-42A,<br>CA_41A-42C<br>CA_41C,<br>CA_41C-42A,<br>CA_42C | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 41 | See CA_41C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | See CA_42C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-42A-43A | - | 3 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-5A-12A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_4A-5A-12A-12A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | See CA_12A-12A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_4A-5A-12B | - | 4 | | | Yes | Yes | Yes | Yes | 45 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_4A-4A-5A-12A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_4A-5A-13A | CA_4A-13A[6] | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 13 | | | | Yes | | | | |
| CA_4A-5A-29A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 29 | | | Yes | Yes | | | | |
| CA_4A-5A-30A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-4A-5A-30A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 5 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-4A-5B-30A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-5B-30A | - | 4 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-7A-12A | - | 4 | | | Yes | Yes | | | 40 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| | | 4 | | | Yes | Yes | Yes | Yes | 50 | 1 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| CA_4A-7A-28A | - | 4 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_4A-12A-30A | CA_4A-12A | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-4A-12A-30A | - | 4 | See CA_4A-4A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-29A-30A | - | 4 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_4A-4A-29A-30A | - | 4 | See CA_4A-4A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 60 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| CA_5A-7A-28A | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-7A-7A-28A | - | 5 | Yes | Yes | Yes | Yes | | | 70 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_5A-7C-28A | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-7A-46A | CA_5A-7A | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_5A-7A-46C | CA_5A-7A | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_5A-7A-46D | - | 5 | | | Yes | Yes | | | 90 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-7A-66A | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-7A-7A-66A | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-7A-66A-66A | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-7C-66A | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-7C-66A-66A | - | 5 | | | Yes | Yes | | | 90 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-12A-46A | - | 5 | | | Yes | Yes | | | 40 | 0 |
| | | 12 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | | | | | | Yes | | |
| CA_5A-12A-46C | - | 5 | | | Yes | Yes | | | 60 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-12A-46D | - | 5 | | | Yes | Yes | | | 80 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_5A-12A-48A | - | 5 | | | Yes | Yes | | | 40 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-12A-48C | - | 5 | | | Yes | Yes | | | 60 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_5A-12A-48D | - | 5 | | | Yes | Yes | | | 80 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 48 | See the CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| CA_5A-30A-66A | - | 5 | | | Yes | Yes | | | 40 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-30A-66A-66A | - | 5 | | | Yes | Yes | | | 60 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5B-30A-66A | - | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 50 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5B-30A-66A-66A | - | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | 70 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-46A-66A | - | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_5A-46E-66A | - | 5 | | | Yes | Yes | | | 110 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-46A-66A-66A | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-46C-66A-66A | - | 5 | | | Yes | Yes | | | 90 | 0 |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-46D-66A-66A | - | 5 | | | Yes | Yes | | | 110 | 0 |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-46E-66A-66A | - | 5 | | | Yes | Yes | | | 130 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-8A-20A | - | 7 | | | | Yes | Yes | Yes | 40 | 0 |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | | | | |
| CA_7A-8A-32A | - | 7 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-38A[13] | - | 7 | | | | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-40A | - | 7 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-12A-66A | - | 5 | | | Yes | Yes | | | 40 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-40A-41A | - | 5 | | | Yes | Yes | | | 50 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 40 | | | | Yes | | Yes | | |
| | | 41 | | | | | | Yes | | |
| CA_5A-46C-66A | - | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-46D-66A | CA_5A-46A<br>CA_5A-66A | 5 | | | Yes | Yes | | | 90 | 0 |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-48A-66A | CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A | 5 | | | Yes | Yes | | | 50 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_5A-48A-66A-66A | CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-48C-66A | CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A | 5 | | | Yes | Yes | | | 70 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 1.6A.1-1 | | | | | | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_5A-48C-66A-66A | CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A | 5 | | | Yes | Yes | | | 90 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_5A-48D-66A | CA_48A-66A<br>CA_5A-48A | 5 | | | Yes | Yes | | | 90 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_5A-48D-66A-66A | CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A | 5 | | | Yes | Yes | | | 110 | 0 |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-8A-28A | - | 7 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-40C | - | 7 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-12A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-12A-66A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-12B-66A | - | 7 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 12 | See CA_12B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-13A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-7A-13A-66A | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7C-13A-66A | - | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-20A-28A[12] | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-20A-32A | CA_7A-20A | 7 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-20A-38A[8] | - | 7 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-25A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 25 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_7A-7A-25A-66A | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 80 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 25 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_7C-25A-66A | - | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 25 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_7A-25A-25A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_7A-7A-25A-25A-66A | - | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_7C-25A-25A-66A | - | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_7A-26A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 26 | | Yes | Yes | Yes | Yes | | | |
| | | 66 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_7A-28A-32A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-28A-40A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-28A-40A-40A | - | 7 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_7A-28A-40C | - | 7 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-28A-40D | - | 7 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 40 | See CA_40D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_7A-20A-42A | - | 7 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-28A-38A[14] | - | 7 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-28A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7C-28A-66A | - | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-29A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-7A-29A-66A | - | 7 | See CA_7A-7A Bandwidth combination set 1 in table 5.6A.1-3 | | | | | | 70 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7C-29A-66A | - | 7 | See CA_7C Bandwidth combination set 2 in table 5.6A.1-1 | | | | | | 70 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-30A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-32A-46A | - | 7 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_7A-32A-46C | - | 7 | | | | Yes | Yes | Yes | 80 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_7A-32A-46D | - | 7 | | | | Yes | Yes | Yes | 100 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 46 | See CA_46D in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_7A-32A-46E | - | 7 | | | | Yes | Yes | Yes | 120 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46E in Table 5.6A.1-1 of TS 36.101 Bandwidth Combination Set 0 | | | | | | | |
| CA_7A-38A-66A[17] | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-38C-66A[17] | - | 7 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 38 | See CA_38C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-46A-66A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 46 | | | | Yes | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-66A-71A | - | 7 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-11A-28A | - | 8 | | | Yes | Yes | | | 40 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-11A-42A | - | 8 | | | Yes | Yes | | | 40 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-11A-42C | - | 8 | | | Yes | Yes | | | 60 | 0 |
| | | 11 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_8A-20A-28A[15] | - | 8 | | | Yes | Yes | | | 50 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-20A-38A | - | 8 | | | Yes | Yes | | | 50 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-20A-32A | - | 8 | Yes | Yes | Yes | Yes | | | 50 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-28A-32A | - | 8 | Yes | Yes | Yes | Yes | | | 50 | 0 |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-28A-41A | - | 8 | | | Yes | Yes | | | 50 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-32A-38A | - | 8 | | Yes | Yes | Yes | | | 50 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-39A-41A | - | 8 | | | Yes | Yes | | | 50 | 0 |
| | | 39 | | | | Yes | Yes | Yes | | |
| | | 41 | | | | | | Yes | | |
| CA_8A-40A-41A | - | 8 | Yes | Yes | Yes | Yes | | | 50 | 0 |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_12A-30A-66A | - | 12 | | | Yes | Yes | | | 40 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_12A-30A-66A-66A | - | 12 | | | Yes | Yes | | | 60 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_13A-46A-66A | - | 13 | | | Yes | Yes | | | 50 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_13A-46A-66A-66A | - | 13 | | | Yes | Yes | | | 70 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_13A-46C-66A | - | 13 | | | Yes | Yes | | | 70 | 0 |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | - | 13 | | | Yes | Yes | | | 90 | 0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_13A-46C-66A-66A | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_13A-46D-66A | CA_13A-66A | 13 | | | Yes | Yes | | | 90 | 0 | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-46D-66A-66A | - | 13 | | | Yes | Yes | | | 110 | 0 | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_13A-46E-66A | - | 13 | | | Yes | Yes | | | 110 | 0 | |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48A-66A | CA_13A-48A<br>CA_13A-66A<br>CA_48A-66A | 13 | | | Yes | Yes | | | 50 | 0 | |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48A-48A-66A | CA_13A-48A<br>CA_13A-66A<br>CA_48A-66A | 13 | | | Yes | Yes | | | 70 | 0 | |
| | | 48 | See CA_48A-48A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48C-66A | CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 13 | | | Yes | Yes | | | 70 | 0 | |
| | | 48 | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48C-66A-66A | CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 13 | | | **Yes** | **Yes** | | | 90 | 0 | |
| | | 48 | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_13A-48D-66A | CA_48A-66A<br>CA_13A-48A | 13 | | | Yes | Yes | | | 90 | 0 | |
| | | 48 | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48D-66A-66A | CA_48A-66A<br>CA_13A-66A | 13 | | | Yes | Yes | | | **110** | 0 | |
| | | 48 | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA_13A-48A | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_13A-48D-66A | - | 13 | | | Yes | Yes | | | 90 | 0 | |
| | | 48 | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48E-66A | - | 13 | | | Yes | Yes | | | 110 | 0 | |
| | | 48 | See CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48A-48C-66A | - | 13 | | | Yes | Yes | | | 90 | 0 | |
| | | 48 | See CA_48A-48C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_13A-48A-66A-66A | CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 13 | | | Yes | Yes | | | 70 | 0 | |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_13A-48A-66B | - | 13 | | | Yes | Yes | | | 50 | 0 | |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| | | 66 | See CA_66B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_13A-48A-66C | - | 13 | | | Yes | Yes | | | 70 | 0 | |
| | | 48 | | | Yes | Yes | Yes | Yes | | | |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| CA_14A-30A-66A | CA_14A-30A<br>CA_14A-66A | 14 | | | Yes | Yes | | | 40 | 0 | |
| | | 30 | | | Yes | Yes | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_14A-30A-66A-66A | CA_14A-30A<br>CA_14A-66A | 14 | | | Yes | Yes | | | 60 | 0 | |
| | | 30 | | | Yes | Yes | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_19A-21A-42A | CA_19A-21A, CA_19A-42A[6], CA_21A-42A | 19 | | | Yes | Yes | Yes | | 50 | 0 | |
| | | 21 | | | Yes | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | | |
| CA_19A-21A-42C | CA_19A-21A, CA_19A-42A[6], CA_21A-42A | 19 | | | Yes | Yes | Yes | | 70 | 0 | |
| | | 21 | | | Yes | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_20A-28A-32A | - | 20 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-28A-38A[12] | - | 20 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-32A-38A | - | 20 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-32A-42A | - | 20 | | | Yes | | | | 45 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-32A-43A | - | 20 | | | Yes | | | | 45 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_20A-38A-40A | | 20 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 38 | | | | Yes | Yes | Yes | | |
| | | 40 | | | | Yes | Yes | Yes | | |
| CA_20A-38A-40A-40A | - | 20 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 38 | | | | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_20A-38A-40C | - | 20 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 38 | | | | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_20A-38A-40D | - | 20 | | | Yes | Yes | Yes | | 95 | 0 |
| | | 38 | | | | Yes | Yes | Yes | | |
| | | 40 | See CA_40D Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_21A-28A-42A | CA_21A-28A, CA_21A-42A, CA_28A-42A | 21 | | | Yes | Yes | Yes | | 45 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_21A-28A-42C | CA_21A-28A, CA_21A-42A, CA_28A-42A | 21 | | | Yes | Yes | Yes | | 65 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_25A-26A-41A | - | 25 | | Yes | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 26 | Yes | Yes | Yes | Yes | Yes | | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_25A-25A-26A-41A | - | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 65 | 0 |
| | | 26 | | Yes | Yes | | | | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_25A-25A-26A-41C | - | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 85 | 0 |
| | | 26 | | Yes | Yes | | | | | |
| | | 41 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-26A-41C | - | 25 | | Yes | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 26 | Yes | Yes | Yes | Yes | Yes | | | |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-26A-41D | - | 25 | | Yes | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 26 | Yes | Yes | Yes | Yes | Yes | | | |
| | | 41 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-26A-41E | - | 25 | | Yes | Yes | Yes | Yes | Yes | 115 | 0 |
| | | 26 | Yes | Yes | Yes | Yes | Yes | | | |
| | | 41 | See CA_41E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-26A-41F | - | 25 | | Yes | Yes | Yes | Yes | Yes | 135 | 0 |
| | | 26 | Yes | Yes | Yes | Yes | Yes | | | |
| | | 41 | See CA_41F Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-25A-26A-41D | - | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 105 | 0 |
| | | 26 | | Yes | Yes | | | | | |
| | | 41 | See CA_41D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-25A-26A-41E | - | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 125 | 0 |
| | | 26 | | Yes | Yes | | | | | |
| | | 41 | See CA_41E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_25A-25A-26A-41F | - | 25 | See CA_25A-25A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | 145 | 0 |
| | | 26 | | Yes | Yes | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 41 | See CA_41F Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_28A-32A-38A | - | 28 | | | Yes | Yes | | | 50 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_28A-41A-42A | CA_41A-42A | 28 | | | Yes | Yes | | | 50 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_28A-41A-42A-42A | - | 28 | | | Yes | Yes | | | 70 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42A-42A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_28A-41A-42C | CA_41A-42A, CA_42C | 28 | | | Yes | Yes | | | 70 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_28A-41A-42A-42C | CA_42C | 28 | | | Yes | Yes | | | 90 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42A-42C Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_28A-41A-42C-42C | CA_42C | 28 | | | Yes | Yes | | | 110 | 0 |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42C-42C Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_28A-41C-42A | CA_41A-42A | 28 | | | Yes | Yes | | | 70 | 0 |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_28A-41C-42C | CA_42C | 28 | | | Yes | Yes | | | 90 | 0 |
| | | 41 | See CA_41C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | See CA_42C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_29A-30A-66A | - | 29 | | | Yes | Yes | | | 40 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_29A-30A-66A-66A | - | 29 | | | Yes | Yes | | | 60 | 0 |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_29A-46A-66A | - | 29 | | | Yes | Yes | | | 50 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_29A-66A-70A | - | 29 | | | Yes | Yes | | | 45 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | | 70 | | | Yes | Yes | Yes | | | |
| CA_29A-66A-66A-70A | - | 29 | | | Yes | Yes | | | 65 | 0 |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 70 | | | Yes | Yes | Yes | | | |
| CA_29A-66A-70C | - | 29 | | | Yes | Yes | | | 55 | 0 |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | | 70 | See CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_29A-66A-66A-70C | - | 29 | | | Yes | Yes | | | 75 | 0 |
| | | 66 | See the CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 70 | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_29A-66C-70A | - | 29 | | | Yes | Yes | | | 65 | 0 |
| | | 66 | See CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 70 | | | Yes | Yes | Yes | | | |
| CA_29A-66C-70C | - | 29 | | | Yes | Yes | | | 75 | 0 |
| | | 66 | See the CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 70 | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_32A-42A-43A | - | 32 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48A-66A | CA_48A-66A | 46 | | | | | | Yes | 60 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48A-71A | - | 46 | | | | | | Yes | 60 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48A-48A-71A | - | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48C-66A | CA_48A-66A | 46 | | | | | | Yes | 80 | 0 |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48D-66A | - | 46 | | | | | | Yes | 100 | 0 |
| | | 48 | See the CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48E-66A | - | 46 | | | | | | Yes | 120 | 0 |
| | | 48 | See the CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48A-66A | CA_48A-66A | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48C-66A | CA_48A-66A | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48D-66A | - | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 120 | 0 |
| | | 48 | See the CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48E-66A | - | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 140 | 0 |
| | | 48 | See the CA_48E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46D-48A-66A | CA_48A-66A | 46 | See the CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46D-48C-66A | CA_48A-66A | 46 | See the CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 120 | 0 |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46E-48A-66A | - | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 120 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46E-48C-66A | - | 46 | See the CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 140 | 0 |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48A-48A-71A | - | 46 | | | | | | Yes | 80 | 0 |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_46A-48C-71A | - | 46 | | | | | | Yes | 80 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48A-71A | - | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 80 | 0 |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_46C-48C-71A | - | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_66A-70A-71A | - | 66 | | | Yes | Yes | Yes | Yes | 55 | 0 |
| | | 70 | | | Yes | Yes | Yes | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_66C-70A-71A | - | 66 | See the CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 75 | 0 |
| | | 70 | | | Yes | Yes | Yes | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_66A-70C-71A | - | 66 | | | Yes | Yes | Yes | Yes | 65 | 0 |
| | | 70 | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_66A-66A-70A-71A | - | 66 | See the CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 75 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 70 | | | Yes | Yes | Yes | | | |
| | | 71 | | | Yes | Yes | Yes | Yes | | |
| CA_66A-66A-70C-71A | - | **66** | See the CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | 85 | 0 |
| | | **70** | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | **71** | | | Yes | Yes | Yes | Yes | | |
| CA_66C-70C-71A | - | **66** | See the CA_66C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 85 | 0 |
| | | **70** | See the CA_70C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | **71** | | | | Yes | Yes | Yes | | |

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.
NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.
NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.
NOTE 4: A terminal which supports a DL CA configuration shall support all the lower order fallback DL CA combinations and it shall support at least one bandwidth combination set for each of the constituent lower order DL combinations containing all the bandwidths specified within each specific combination set of the upper order DL combination.
NOTE 5: Uplink CA configurations are the configurations supported by the present release of specifications.
NOTE 6: If the UE supports any uplink CA configuration for corresponding downlink CA configuration it shall support this uplink CA configuration.
NOTE 7: UL carrier shall be supported in Band 3 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 8: UL carrier shall be supported in Band 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB
NOTE 9: UL carrier is only supported on Band 1 or Band 3 not Band 41 because the fall back mode 1UL/2DL CA_1A-41A has the limitation that UL carrier is only supported on Band 1.
NOTE 10: UL carrier is only supported on Band 1 or Band 42 not Band 41 because the fall back mode 1UL/2DL CA_1A-41A has the limitation that UL carrier is only supported on Band 1.
NOTE 11: UL carrier is only supported on Band 1 or Band 5 not Band 41 because the fall back mode 1UL/2DL CA_1A-41A has the limitation that UL carrier is only supported on Band 1.
NOTE 12: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within 6 dB.
NOTE 13: UL carrier shall be supported in Band 8 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 14: UL carrier shall be supported in Band 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 15: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within 6 dB.
NOTE 16: UL carrier shall be supported in Band 1 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 17: UL carrier shall be supported in Band 2 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.

**Table 5.6A.1-2b: E-UTRA CA configurations and bandwidth combination sets defined for inter-band CA (four bands)**

| E-UTRA CA configuration / Bandwidth combination set | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **E-UTRA CA Configuration** | **Uplink CA configurations (NOTE 5)** | **E-UTRA Bands** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Maximum aggregated bandwidth [MHz]** | **Bandwidth combination set** |
| CA_1A-3A-5A-7A | CA_1A-3A, CA_1A-5A[6], CA_1A-7A, CA_3A-5A, CA_3A-7A, CA_5A-7A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 70 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_1A-1A-3A-5A-7A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_1A-3A-3A-5A-7A | - | 1 | | | Yes | Yes | Yes | | 85 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_1A-3A-5A-7A-7A | CA_1A-3A, CA_1A-5A[6], CA_1A-7A, CA_3A-5A, CA_3A-7A, CA_5A-7A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3C-5A-7A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| CA_1A-3A-5A-28A | - | 1 | | | Yes | Yes | Yes | | 65 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-5A-40A | CA_1A-3A, CA_1A-5A[6], CA_3A-5A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 40 | | | | Yes | Yes | Yes | | |
| CA_1A-3A-5A-41A[8] | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 41 | | | | | | Yes | | |
| CA_1A-3A-7A-7A-26A | CA_1A-3A, CA_1A-7A, CA_1A-26A, CA_3A-7A, CA_3A-26A, CA_7A-26A | 1 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See the CA_7A-7A Bandwidth combination set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-7A-8A | CA_1A-3A, CA_1A-7A, CA_1A-8A, CA_3A-7A, CA_3A-8A, CA_7A-8A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 70 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-3C-7A-8A | CA_3C CA_1A-3A CA_1A-8A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | See the CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_3A-8A | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-3A-3A-7A-8A | CA_1A-3A, CA_1A-7A, CA_1A-8A, CA_3A-7A, CA_3A-8A, CA_7A-8A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | See the CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-3A-7A-7A-8A | CA_1A-3A, CA_1A-7A, CA_1A-8A, CA_3A-7A, CA_3A-8A, CA_7A-8A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See the CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-3A-3A-7A-7A-8A | CA_1A-3A, CA_1A-7A, CA_1A-8A, CA_3A-7A, CA_3A-8A, CA_7A-8A | 1 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 3 | See the CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | See the CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| CA_1A-3A-7A-20A | CA_1A-3A, CA_1A-7A, CA_1A-20A, CA_3A-7A, CA_3A-20A, CA_7A-20A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7C-20A | CA_7C | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-7A-20A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-7A-20A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-7A-20A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-26A | CA_1A-3A, CA_1A-7A, CA_1A-26A, CA_3A-7A CA_3A-26A, CA_7A-26A | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-7C-26A | CA_7C | 1 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-3C-7A-26A | CA_3C | 1 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 26 | | | Yes | Yes | Yes | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3C-7C-26A | CA_3C CA_7C | 1 | | | Yes | Yes | Yes | Yes | 115 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 26 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-7A-28A | CA_1A-3A, CA_1A-7A, CA_1A-28A, CA_3A-7A, CA_3A-28A[6], CA_7A-28A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | Yes | 80 | 1 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-7A-28A | CA_3C | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7C-28A | CA_1A-3A, CA_1A-7A, CA_1A-28A, CA_3A-7A, CA_3A-28A[6], CA_7A-28A, CA_7C | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_1A-3C-7C-28A | CA_3C CA_7C | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-7A-28A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-7C-28A | CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 120 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3C-7A-28A | CA_3C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 120 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3C-7C-28A | CA_3C CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 140 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-3A-7A-28A | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 120 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-3A-7C-28A | CA_7C | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 140 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-7A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3A-3A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-7C-28A | CA_7C | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | See CA_7C Bandwidth combination set 2 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-7A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7A-7A Bandwidth combination set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_1A-3A-7A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-7A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-38A[9] | CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-7A-38A[9] | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-7A-38A[9] | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3A-7A-38A[9] | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-1A-3C-7A-38A[9] | - | 1 | See CA_1A-1A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 3 | See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3A-7A-40A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-3A-7A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-46A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_1A-3A-7A-46C | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-7A-46D | - | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-7A-46E | - | 1 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-8A-40A | CA_1A-3A, CA_1A-8A, CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | Yes | Yes | Yes | | | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-8A-11A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| CA_1A-3A-8A-20A | CA_1A-3A CA_1A-8A CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-8A-20A | CA_3C CA_1A-3A CA_1A-8A CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-38A | CA_1A-3A CA_1A-8A CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3C-8A-38A | CA_3C<br>CA_1A-3A<br>CA_1A-8A<br>CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-8A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-41A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-42C | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-11A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 11 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-18A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-18A-42C | - | 1 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 18 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-19A-21A | CA_1A-3A,<br>CA_1A-19A[6],<br>CA_1A-21A,<br>CA_3A-19A,<br>CA_3A-21A,<br>CA_19A-21A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-19A-42A | CA_1A-3A,<br>CA_1A-19A[6],<br>CA_1A-42A,<br>CA_3A-19A,<br>CA_3A-42A,<br>CA_19A-42A[6] | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-19A-21A | CA_1A-3A<br>CA_1A-19A[6]<br>CA_1A-21A,<br>CA_3A-19A<br>CA_3A-21A<br>CA_19A-21A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| CA_1A-3A-19A-42C | CA_1A-3A,<br>CA_1A-19A[6],<br>CA_1A-42A,<br>CA_3A-19A,<br>CA_3A-42A,<br>CA_19A-42A[6] | 1 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-20A-28A[7] | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-3A-20A-28A[7] | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3A-3A Bandwidth combination set 0 in in Table 5.6A.1-3 | | | | | | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 1 | | | Yes | Yes | Yes | | 55 | 1 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 20 | | | Yes | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-20A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-38A | CA_1A-3A CA_1A-20A CA_3A-20A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3C-20A-38A | CA_3C CA_1A-3A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-20A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-43A | - | 1 | | | Yes | Yes | Yes | | 55 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 20 | | | Yes | | | | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-21A-28A | CA_1A-3A, CA_1A-21A, CA_1A-28A, CA_3A-21A, CA_3A-28A[6], CA_21A-28A | 1 | | | Yes | Yes | Yes | Yes | 65 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |
| CA_1A-3A-21A-42A | CA_1A-3A, CA_1A-21A, CA_1A-42A, CA_3A-21A, CA_3A-42A, CA_21A-42A | 1 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-21A-42C | CA_1A-3A, CA_1A-21A, CA_1A-42A, CA_3A-21A, | 1 | | | Yes | Yes | Yes | Yes | 95 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CA_3A-42A, CA_21A-42A | | | | | | | | | |
| CA_1A-3A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-28A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-28A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-28A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-28A-42A | CA_1A-3A, CA_1A-28A, CA_1A-42A, CA_3A-28A[6], CA_3A-42A, CA_28A-42A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-28A-42C | CA_1A-3A, CA_1A-28A, CA_1A-42A, CA_3A-28A[6], CA_3A-42A, CA_28A-42A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-32A-42A | - | 1 | | | Yes | Yes | Yes | | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-32A-43A | - | 1 | | | Yes | Yes | Yes | | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-40A-41A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-41A-42A | CA_1A-3A CA_1A-42A CA_3A-42A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-41C-42A | CA_1A-3A CA_1A-42A CA_3A-42A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-41A-42C | CA_1A-3A CA_1A-42A CA_1A-42C CA_3A-42A CA_3A-42C CA_42C | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-41C-42C | CA_1A-3A, CA_1A-42A, CA_1A-42C, CA_3A-42A, CA_3A-42C CA_42C | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3A-42A-43A | - | 1 | | | Yes | Yes | Yes | | 70 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-5A-7A-28A | - | 1 | | | Yes | Yes | Yes | | 65 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-5A-7A-7A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | Yes | Yes | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-32A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 20 | | | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-32A-42A | - | 1 | | | Yes | Yes | Yes | | 60 | 0 |
| | | 20 | | | Yes | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-32A-43A | - | 1 | | | Yes | Yes | Yes | | 60 | 0 |
| | | 20 | | | Yes | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-20A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| CA_1A-7A-8A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-5A-7A-46A | CA_1A-5A[6], CA_1A-7A, CA_5A-7A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_1A-5A-7A-46C | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-8A-38A[10] | CA_1A-8A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-20A-28A[7] | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-7A-20A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-20A-38A[11] | CA_1A-20A | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-20A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-28A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-28A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-28A-40A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_1A-7A-28A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-7A-32A-38A[13] | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-11A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-11A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-11A-42C | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-8A-20A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-20A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-20A-38A | CA_1A-8A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-32A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-19A-21A-42A | CA_1A-19A[6], CA_1A-21A, CA_1A-42A, CA_19A-21A, CA_19A-42A[6], CA_21A-42A | 1 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-19A-21A-42C | CA_1A-19A[6], CA_1A-21A, CA_1A-42A, CA_19A-21A, CA_19A-42A[6], CA_21A-42A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-20A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-20A-28A-38A[7] | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-21A-28A-42A | CA_1A-21A, CA_1A-28A, CA_1A-42A, CA_21A-28A, CA_21A-42A, CA_28A-42A | 1 | | | Yes | Yes | Yes | Yes | 65 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-21A-28A-42C | CA_1A-21A, CA_1A-28A, CA_1A-42A, CA_21A-28A, CA_21A-42A, CA_28A-42A | 1 | | | Yes | Yes | Yes | Yes | 85 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-32A-42A-43A | - | 1 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-5A-12A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-5A-30A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-7A-12A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-12A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-2A-12A-30A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| | | 12 | | | Yes | Yes | | | 80 | 0 | |
| | | 30 | | | Yes | Yes | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-2A-14A-30A-66A | CA_2A-14A CA_14A-30A CA_14A-66A | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| | | 14 | | | Yes | Yes | | | 80 | 0 | |
| | | 30 | | | Yes | Yes | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-4A-5A-12A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 | |
| | | 4 | | | Yes | Yes | Yes | Yes | | | |
| | | 5 | | | Yes | Yes | | | | | |
| | | 12 | | | Yes | Yes | | | | | |
| CA_2A-4A-5A-29A | CA_2A-4A | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 | |
| | | 4 | | | Yes | Yes | Yes | Yes | | | |
| | | 5 | | | Yes | Yes | | | | | |
| | | 29 | | | Yes | Yes | | | | | |
| CA_2A-4A-5A-30A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 | |
| | | 4 | | | Yes | Yes | Yes | Yes | | | |
| | | 5 | | | Yes | Yes | | | | | |
| | | 30 | | | Yes | Yes | | | | | |
| CA_2A-4A-5B-30A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 | |
| | | 4 | | | Yes | Yes | Yes | Yes | | | |
| | | 5 | See CA_5B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 30 | | | Yes | Yes | | | | | |
| CA_2A-4A-7A-12A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 | |
| | | 4 | | | Yes | Yes | Yes | Yes | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| | | 12 | | | Yes | Yes | | | | | |
| CA_2A-4A-12A-30A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 | |
| | | 4 | | | Yes | Yes | Yes | Yes | | | |
| | | 12 | | | Yes | Yes | | | | | |
| | | 30 | | | Yes | Yes | | | | | |
| CA_2A-4A-29A-30A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 | |
| | | 4 | | | Yes | Yes | Yes | Yes | | | |
| | | 29 | | | Yes | Yes | | | | | |
| | | 30 | | | Yes | Yes | | | | | |
| CA_2A-5A-7A-28A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 | |
| | | 5 | | | Yes | Yes | | | | | |
| | | 7 | | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-5A-7A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 | |
| | | 5 | | | Yes | Yes | | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-2A-5A-7A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| | | 5 | | | Yes | Yes | | | 90 | 0 | |
| | | 7 | | | Yes | Yes | Yes | Yes | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-5A-7C-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 | |
| | | 5 | | | Yes | Yes | | | | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-5A-7A-7A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 | |
| | | 5 | | | Yes | Yes | | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | | |
| CA_2A-5A-7A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 | |
| | | 5 | | | Yes | Yes | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-12A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-30A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-30A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5B-30A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | See CA_5B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-46A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | | | | | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-46C-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-46D-66A | - | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-46E-66A | - | 2 | | | Yes | Yes | Yes | Yes | 130 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-46A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | | | | | | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-46C-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-46D-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 130 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-5A-48A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A<br>CA_2A-5A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-48A-66A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA_5A-66A<br>CA_5A-48A<br>CA_2A-5A | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-5A-48C-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A<br>CA_2A-5A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A1-1 | | | | | | | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-48C-66A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 48 | See CA_48C Bandwidth combination set 0 in Table 5.6A1-1 | | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-5A-48D-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A<br>CA_2A-5A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A1-1 | | | | | | | | |
| | | 66 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| CA_2A-5A-48D-66A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_5A-66A<br>CA_5A-48A<br>CA_2A-5A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 130 | 0 |
| | | 5 | Yes | | Yes | Yes | | | | |
| | | 48 | See CA_48D Bandwidth combination set 0 in Table 5.6A1-1 | | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | | |
| CA_2A-7A-12A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-12B-66A | - | 2 | | | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 12 | See CA_12B Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-13A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-7A-13A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | | |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7C-13A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | | |
| | | 13 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-26A-66A | - | 2 | | Yes | Yes | Yes | Yes | Yes | 75 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 26 | | Yes | Yes | Yes | Yes | | | |
| | | 66 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-28A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7C-28A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-29A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 29 | | | Yes | Yes | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7C-29A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-7A-29A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | See CA_7A-7A Bandwidth combination set 3 in Table 5.6A.1-3 | | | | | | | |
| | | 29 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-7A-46A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | Yes | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-7A-66A-71A | - | 2 | See CA_2A-2A Bandwidth combination set 3 in Table 5.6A.1-3 | | | | | | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 66 | | | | Yes | Yes | Yes | | |
| | | 71 | | | | Yes | Yes | Yes | | |
| CA_2A-7A-66A-71A | - | 2 | | 80 | 0 | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 66 | | | | Yes | Yes | Yes | | |
| | | 71 | | | | Yes | Yes | Yes | | |
| CA_2A-12A-30A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-12A-30A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 12 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-46A-66A | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | | | | | | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-46C-66A | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-46D-66A | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-46A-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | | | | | | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-46C-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-46D-66A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 130 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth combination set 0 in Table 5.6A.1-3 | | | | | | | |
| | CA_2A-13A | 2 | | | Yes | Yes | Yes | Yes | 70 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-13A-48A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 13 | | | Yes | Yes | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-48A-66A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-48C-66A | CA_2A-13A<br>CA_2A-48A<br>CA_2A-66A<br>CA_13A-66A<br>CA_13A-48A<br>CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-48C-66A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48C Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-48D-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 2 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-48D-66A-66A | CA_2A-66A<br>CA_2A-48A<br>CA_48A-66A<br>CA_13A-66A<br>CA_13A-48A | 2 | | | Yes | Yes | Yes | Yes | 130 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48D Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-13A-46E-66A | CA_2A-13A | 2 | Yes | Yes | Yes | Yes | Yes | Yes | 130 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 46 | See the CA_46E Bandwidth combination set 0 in the Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-13A-48A-48A-66A | CA_2A-13A<br>CA_13A-66A | 2 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 13 | | | Yes | Yes | | | | |
| | | 48 | See CA_48A-48A Bandwidth combination set 0 in the Table 5.6A.1-3 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-14A-30A-66A | CA_2A-14A<br>CA_14A-30A<br>CA_14A-66A | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-14A-30A-66A-66A | CA_2A-14A<br>CA_14A-30A<br>CA_14A-66A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 14 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | See CA_66A-66A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | | |
| CA_2A-29A-30A-66A | - | 2 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-2A-29A-30A-66A | - | 2 | See CA_2A-2A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 80 | 0 |
| | | 29 | | | Yes | Yes | | | | |
| | | 30 | | | Yes | Yes | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A-48A-66A | CA_2A-48A<br>CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| | CA_2A-48A | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_2A-46A-48C-66A | CA_48A-66A | 46 | | | | | | Yes | | |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46A-48D-66A | - | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 46 | | | | | | Yes | | |
| | | 48 | See the CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46C-48A-66A | CA_2A-48A CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46C-48C-66A | CA_2A-48A CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46C-48D-66A | - | 2 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 46 | See the CA_46C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | See the CA_48D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46D-48A-66A | CA_2A-48A CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 46 | See the CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46D-48C-66A | CA_2A-48A CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 46 | See the CA_46D Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | See the CA_48C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_2A-46E-48A-66A | CA_2A-48A CA_48A-66A | 2 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 46 | See CA_46E Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 48 | | | Yes | Yes | Yes | Yes | | |
| | | 66 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-5A-7A-28A | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-5A-7C-28A | - | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-3A-5A-7A-28A | - | 3 | See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3 | | | | | | 90 | 0 |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-5A-7A-7A-28A | - | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 5 | Yes | Yes | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-8A-20A | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_3A-7A-8A-28A | - | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-8A-32A | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-8A-38A[9] | CA_3A-8A | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7A-8A-38A[1] | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 90 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-8A-40A | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-8A-40C | - | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-20A-28A[7] | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7A-20A-28A[7] | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | | Yes | Yes | Yes | | |
| CA_3A-7A-20A-32A | CA_3A-7A, CA_3A-20A, CA_7A-20A | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-20A-38A[14] | CA_3A-20A | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-20A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-28A-38A[9] | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3C-7A-28A-38A[9] | - | 3 | See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-28A-40A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-28A-40A-40A | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 40 | See CA_40A-40A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| CA_3A-7A-28A-40C | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | See CA_40C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-32A-46A | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | | | | | | Yes | | |
| CA_3A-7A-32A-46C | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-32A-46D | - | 3 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-7A-32A-46E | - | 3 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 46 | See CA_46E of Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-8A-11A-28A | - | 3 | | | Yes | Yes | Yes | Yes | 60 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-20A-28A | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-20A-38A | CA_3A-8A | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-8A-40A-41A | - | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| | | 41 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-19A-21A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-19A-21A-42C | - | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 19 | | | Yes | Yes | Yes | | | |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-20A-28A-38A[7] | - | 3 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-20A-32A-42A | - | 3 | | | Yes | Yes | Yes | | 60 | 0 |
| | | 20 | | | Yes | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-20A-32A-43A | - | 3 | | | Yes | Yes | Yes | | 60 | 0 |
| | | 20 | | | Yes | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-21A-28A-42A | - | 3 | | | Yes | Yes | Yes | Yes | 65 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-21A-28A-42C | - | 3 | | | Yes | Yes | Yes | Yes | 85 | 0 |
| | | 21 | | | Yes | Yes | Yes | | | |
| | | 28 | | | Yes | Yes | | | | |
| | | 42 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-28A-41A-42A | CA_3A-41A, CA_41A-42A | 3 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_3A-28A-41A-42C | CA_42C | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 41 | | | | Yes | Yes | Yes | | |
| | | 42 | See CA_42C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-28A-41C-42A | - | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 41 | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | | | | Yes | Yes | Yes | | |
| CA_3A-28A-41C-42C | CA_42C | 3 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 28 | | | Yes | Yes | | | | |
| | | 41 | See the CA_41C Bandwidth combination set 0 in Table 5.6A.1-1 | | | | | | | |
| | | 42 | See the CA_42C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_3A-32A-42A-43A | - | 3 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-20A-28A | - | 7 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-20A-32A | - | 7 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-20A-38A[15] | - | 7 | | | | Yes | Yes | Yes | 60 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-28A-32A | - | 7 | | | Yes | Yes | Yes | Yes | 70 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-32A-38A[16] | - | 7 | | | | Yes | Yes | Yes | 70 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-20A-28A-32A | - | 7 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-20A-28A-38A[7,17] | - | 7 | | | | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-20A-32A-38A[18] | - | 7 | | | | Yes | Yes | Yes | 80 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-28A-32A-38A | - | 7 | | | | Yes | Yes | Yes | 80 | 0 |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-20A-28A-32A | - | 8 | Yes | Yes | Yes | Yes | | | 70 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_8A-20A-32A-38A | - | 8 | | | Yes | Yes | | | 70 | 0 |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.
NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.
NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.
NOTE 4: A terminal which supports a DL CA configuration shall support all the lower order fallback DL CA combinations and it shall support at least one bandwidth combination set for each of the constituent lower order DL combinations containing all the bandwidths specified within each specific combination set of the upper order DL combination.
NOTE 5: Uplink CA configurations are the configurations supported by the present release of specifications.
NOTE 6: If the UE supports any uplink CA configuration for corresponding downlink CA configuration it shall support this uplink CA configuration.
NOTE 7: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within 6 dB.
NOTE 8: UL carrier is only supported on Band 1, Band 3 or Band 5 not Band 41 because the fall back mode 2DL/1UL CA_1A-41A has the limitation that UL carrier is only supported on Band 1.
NOTE 9: UL carrier shall be supported in Band 1, 3, 8 or 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 10: UL carrier shall be supported in Band 1 or 8 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 11: UL carrier shall be supported in Bands 1 and 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 12: UL carrier shall be supported in Bands 1 and 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 13: UL carrier shall be supported in Band 1 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 14: UL carrier shall be supported in Bands 3 and 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 15: UL carrier shall be supported in Bands 8 and 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 16: UL carrier shall be supported in Band 8 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 17: UL carrier shall be supported in Bands 20 and 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 18: UL carrier shall be supported in Band 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.

**Table 5.6A.1-2c: E-UTRA CA configurations and bandwidth combination sets defined for inter-band CA (five bands)**

| E-UTRA CA configuration / Bandwidth combination set | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **E-UTRA CA Configuration** | **Uplink CA configurations (NOTE 5)** | **E-UTRA Bands** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Maximum aggregated bandwidth [MHz]** | **Bandwidth combination set** |
| CA_1A-3A-5A-7A-28A | - | 1 | | | Yes | Yes | Yes | | 85 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 5 | | | Yes | Yes | | | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CA_1A-3A-5A-7A-7A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 5 | Yes | Yes | Yes | Yes | | | | |
| | | 7 | See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3 | | | | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-8A-20A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| CA_1A-3A-7A-8A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-8A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-8A-38A[8] | CA_1A-3A<br>CA_1A-8A<br>CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-8A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-8A-40C | - | 1 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 40 | See CA_40C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| CA_1A-3A-7A-20A-28A[7] | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-20A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-20A-38A[9] | CA_1A-3A<br>CA_1A-20A<br>CA_3A-20A | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-20A-42A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-28A-38A[10] | CA_1A-3A-7A-28A-38A[10] | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-28A-40A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 40 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-11A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 80 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 11 | | | Yes | Yes | | | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-20A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-8A-20A-38A | CA_1A-3A<br>CA_1A-8A<br>CA_3A-8A | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-28A-38A[7] | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-32A-42A | - | 1 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 20 | | | Yes | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-20A-32A-43A | - | 1 | | | Yes | Yes | Yes | | 75 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 20 | | | Yes | | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-32A-42A-43A | - | 1 | | | Yes | Yes | Yes | | 90 | 0 |
| | | 3 | | | Yes | Yes | Yes | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 42 | | | Yes | Yes | Yes | Yes | | |
| | | 43 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-20A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-20A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-20A-38A[11] | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-32A-38A[12] | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-20A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-20A-28A-38A[7,13] | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-20A-32A-38A[14] | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | Yes | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-8A-20A-32A-38A | - | 1 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-8A-20A-28A | - | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-8A-20A-38A[15] | - | 3 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_3A-7A-20A-28A-38A[7,16] | - | 3 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-20A-28A-32A | - | 7 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_7A-8A-20A-32A-38A[17] | - | 7 | | | Yes | Yes | Yes | Yes | 90 | 0 |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.

NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

NOTE 4: A terminal which supports a DL CA configuration shall support all the lower order fallback DL CA combinations and it shall support at least one bandwidth combination set for each of the constituent lower order DL

combinations containing all the bandwidths specified within each specific combination set of the upper order DL combination.
NOTE 5: Uplink CA configurations are the configurations supported by the present release of specifications.
NOTE 6: If the UE supports uplink CA for corresponding downlink CA it shall support this uplink CA configuration.
NOTE 7: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within 6 dB.
NOTE 8: UL carrier shall be supported in Band 1, 3 or 8 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 9: UL carrier shall be supported in Band 1, 3 or 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 10: UL carrier shall be supported in Band 1, 3, 8 or 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 11: UL carrier shall be supported in Bands 1, 8 and 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 12: UL carrier shall be supported in Band 1 or 8 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 13: UL carrier shall be supported in Bands 1, 20 and 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 14: UL carrier shall be supported in Band 1 or 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 15: UL carrier shall be supported in Bands 3, 8 and 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 16: UL carrier shall be supported in Bands 3, 20 and 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 17: UL carrier shall be supported in Band 8 or 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.

**Table 5.6A.1-2d: E-UTRA CA configurations and bandwidth combination sets defined for inter-band CA (six bands)**

| E-UTRA CA configuration / Bandwidth combination set | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **E-UTRA CA Configuration** | **Uplink CA configurations (NOTE 5)** | **E-UTRA Bands** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Maximum aggregated bandwidth [MHz]** | **Bandwidth combination set** |
| CA_1A-3A-7A-8A-20A-28A | - | 1 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 3 | Yes | Yes | Yes | Yes | Yes | Yes | | |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7A-20A-28A-38A[1,2] | - | 1 | | | Yes | Yes | Yes | Yes | 120 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-3A-7C-20A-28A-38A[1,2] | - | 1 | | | Yes | Yes | Yes | Yes | 140 | 0 |
| | | 3 | | | Yes | Yes | Yes | Yes | | |
| | | 7 | See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1 | | | | | | | |
| | | 20 | | | | Yes | Yes | Yes | | |
| | | 28 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-20A-28A-32A | - | 1 | | | Yes | Yes | Yes | Yes | 110 | 0 |
| | | 7 | | | Yes | Yes | Yes | Yes | | |
| | | 8 | Yes | Yes | Yes | Yes | | | | |
| | | 20 | | | Yes | Yes | Yes | Yes | | |
| | | 28 | | Yes | Yes | Yes | Yes | Yes | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| CA_1A-7A-8A-20A-32A-38A[3] | - | 1 | | | Yes | Yes | Yes | Yes | 100 | 0 |
| | | 7 | | | | Yes | Yes | Yes | | |
| | | 8 | | | Yes | Yes | | | | |
| | | 20 | | | | Yes | | | | |
| | | 32 | | | Yes | Yes | Yes | Yes | | |
| | | 38 | | | Yes | Yes | Yes | Yes | | |

NOTE 1: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within 6 dB.
NOTE 2: UL carrier shall be supported in Bands 1, 3, 20 and 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.
NOTE 3: UL carrier shall be supported in Band 1, 8 or 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6 dB.

**Table 5.6A.1-3: E-UTRA CA configurations and bandwidth combination sets defined for non-contiguous intra-band CA (with two sub-blocks)**

| | | E-UTRA CA configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Component carriers in order of increasing carrier frequency | | | | | | |
| E-UTRACA configuration | Uplink CA configurations (NOTE 1) | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
| CA_1A-1A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| CA_2A-2A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| CA_3A-3A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| | | 5, 10 | 5, 10, 15, 20 | | | | 30 | 1 |
| | | 5 | 3 | | | | 10 | 2 |
| | | 3, 5 | 5 | | | | | |
| CA_4A-4A | CA_4A-4A | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| | | 5, 10 | 5, 10 | | | | 20 | 1 |
| CA_5A-5A | - | 5,10 | 5,10 | | | | 20 | 0 |
| | | 3 | 5 | | | | 8 | 1 |
| CA_7A-7A | - | 5 | 15 | | | | 40 | 0 |
| | | 10 | 10, 15 | | | | | |
| | | 15 | 15, 20 | | | | | |
| | | 20 | 20 | | | | | |
| | | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 1 |
| | | 5, 10, 15, 20 | 5, 10 | | | | 30 | 2 |
| | | 10, 15, 20 | 10, 15, 20 | | | | 40 | 3 |
| CA_12A-12A | - | 5 | 5 | | | | 10 | 0 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CA_23A-23A | - | 5 | 10 | | | | 15 | 0 |
| CA_25A-25A | - | 5, 10 | 5, 10 | | | | 20 | 0 |
| | | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 1 |
| CA_40A-40A | - | 10, 20 | 10, 20 | | | | 40 | 0 |
| | | 10,15,20 | 10,15,20 | | | | 40 | 1 |
| CA_40A-40C | CA_40C | 20 | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | 60 | 0 |
| | | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | 20 | | | | |
| CA_40C-40C | CA_40C | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | See CA_40C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | 80 | 0 |
| CA_41A-41A | - | 10, 15, 20 | 10, 15, 20 | | | | 40 | 0 |
| | | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 1 |
| CA_41A-41C | CA_41C | 5, 10, 15, 20 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | 60 | 0 |
| | | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | 5, 10, 15, 20 | | | | |
| CA_41A-41D | CA_41C | 5, 10, 15, 20 | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 80 | 0 |
| | | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 5, 10, 15, 20 | | | |
| CA_41C-41C | CA_41C | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 80 | 0 |
| CA_41C-41D | CA_41C | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 100 | 0 |
| | | See CA_41D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | See CA_41C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | |
| CA_42A-42A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| | | 10, 15, 20 | 10, 15, 20 | | | | 40 | 1 |
| CA_42A-42C | CA_42C | 5, 10, 15, 20 | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 60 | 0 |
| | | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | 5, 10, 15, 20 | | | | |
| | | 10, 15, 20 | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | | 60 | 1 |
| | | See CA_42C Bandwidth | | 10, 15, 20 | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Combination Set 1 in Table 5.6A.1-1 | | | | | | |
| CA_42A-42D | - | 5, 10, 15, 20 | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 80 | 0 |
| | | See CA_42D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 5, 10, 15, 20 | | | |
| CA_42C-42C | CA_42C | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | See CA_42C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 80 | 0 |
| | | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | See CA_42C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | 80 | 1 |
| CA_43A-43A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| CA_46A-46A[2] | - | 20 | 20 | | | | 40 | 0 |
| CA_46A-46C[2] | - | 20 | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 60 | 0 |
| | | See CA_46C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | 20 | | | | |
| CA_46A-46D[2] | - | 20 | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 80 | 0 |
| | | See CA_46D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 20 | | | |
| CA_48A-48A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| CA_48A-48C | - | 5, 10, 15, 20 | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 60 | 0 |
| | | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | 5, 10, 15, 20 | | | | |
| CA_48A-48D | - | 5, 10, 15, 20 | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 80 | 0 |
| | | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 5, 10, 15, 20 | | | |
| CA_48C-48C | CA_48C | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 80 | 0 |
| CA_48C-48D | - | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | 100 | 0 |
| | | See CA_48D Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | See CA_48C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | |
| CA_48A-48E | - | 5, 10, 15, 20 | See CA_48E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 100 | 0 |
| | | See CA_48E Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 5, 10, 15, 20 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CA_66A-66A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | | 40 | 0 |
| CA_66A-66B | - | 5, 10, 15, 20 | See CA_66B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 40 | 0 |
| | | See CA_66B Bandwidth Combination Set 0 in Table 5.6A.1-1 | | 5, 10, 15, 20 | | | | |
| CA_66A-66C | - | 5, 10, 15, 20 | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | 60 | 0 |
| | | See CA_66C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | 5, 10, 15, 20 | | | | |

NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.
NOTE 2: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band is paired with the uplink operating band (external) of the carrier aggregation configuration that is supporting the configured Pcell.

**Table 5.6A.1-4: E-UTRA CA configurations and bandwidth combination sets defined for non-contiguous intra-band CA (with three sub-blocks)**

| | | E-UTRA CA configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|---|---|
| E-UTRACA configuration | Uplink CA configurations (NOTE 1) | Component carriers in order of increasing carrier frequency | | | | | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
| | | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | | |
| CA_25A-25A-25A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 60 | 0 |
| CA_41A-41A-41A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 60 | 0 |
| CA_41A-41A-41C | CA_41C | 5, 10, 15, 20 | 5, 10, 15, 20 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | | 80 | 0 |
| | | 5, 10, 15, 20 | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | 5, 10, 15, 20 | | | |
| | | See CA_41C Bandwidth Combination Set 1 in Table 5.6A.1-1 | | 5, 10, 15, 20 | 5, 10, 15, 20 | | | |
| CA_46A-46A-46A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 60 | 0 |
| CA_48A-48A-48A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 60 | 0 |
| CA_66A-66A-66A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 60 | 0 |

**Table 5.6A.1-5: E-UTRA CA configurations and bandwidth combination sets defined for non-contiguous intra-band CA (with four sub-blocks)**

| | | E-UTRA CA configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|---|---|
| E-UTRACA configuration | Uplink CA configurations (NOTE 1) | Component carriers in order of increasing carrier frequency | | | | | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
| | | Channel bandwidths | Channel bandwidths | Channel bandwidths | Channel bandwidths | Channel bandwidths | | |

| | | for carrier [MHz] | for carrier [MHz] | for carrier [MHz] | for carrier [MHz] | for carrier [MHz] | | |
|---|---|---|---|---|---|---|---|---|
| CA_48A-48A-48A-48A | - | 5, 10, 15, 20 | 5, 10, 15, 20 | 5, 10, 15, 20 | 5, 10, 15, 20 | | 80 | 0 |

## 5.6B Channel bandwidth for UL-MIMO

The requirements specified in subclause 5.6 are applicable to UE supporting UL-MIMO.

## 5.6C Channel bandwidth for Dual Connectivity

For E-UTRA DC bands specified in 5.5C, the corresponding E-UTRA CA configurations in 5.6A.1, i.e., dual uplink inter-band carrier aggregation with uplink assigned to two E-UTRA bands, are applicable to Dual Connectivity.

NOTE 1: Requirements for the dual connectivity configurations are defined in the section corresponding E-UTRA uplink CA configurations, unless otherwise specified.

NOTE 2: For TDD inter-band dual connectivity configurations, requirements are applicable only for synchronous operation.

## 5.6D Channel bandwidth for ProSe

### 5.6D.1 Channel bandwidths per operating band for ProSe

The ProSe combination of channel bandwidths and operating bands is shown in Table 5.6D.1-1 and Table 5.6D.1-2. The transmission bandwidth configuration in Table 5.6D.1-1 and Table 5.6D.1-2 shall be supported for each of the specified channel bandwidths. The same (symmetrical) channel bandwidth is specified for both the TX and RX path.

**Table 5.6D.1-1 ProSe Direct Discovery channel bandwidth**

| E-UTRA ProSe band / ProSe channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| **E-UTRA ProSe Band** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| 2 | | | Yes | Yes | Yes | Yes |
| 3 | | | Yes | Yes | Yes | Yes |
| 4 | | | Yes | Yes | Yes | Yes |
| 7 | | | Yes | Yes | Yes | Yes |
| 14 | | | Yes | Yes | | |
| 20 | | | Yes | Yes | Yes | Yes |
| 26 | | | Yes | Yes | Yes | |
| 28 | | | Yes | Yes | Yes | Yes |
| 31 | | | Yes | | | |
| 41 | | | Yes | Yes | Yes | Yes |
| 68 | | | Yes | Yes | Yes | |
| 72 | | | Yes | | | |

**Table 5.6D.1-2 ProSe Direct Communication channel bandwidth**

| E-UTRA ProSe band / ProSe channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| **E-UTRA ProSe Band** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| 3 | | | | Yes | | |
| 7 | | | | Yes | | |
| 14 | | | | Yes | | |
| 20 | | | | Yes | | |
| 26 | | | | Yes | | |
| 28 | | | | Yes | | |
| 31 | | | Yes | | | |
| 68 | | | Yes | Yes | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 72 | | | Yes | | | |

## 5.6F Channel bandwidth for category NB1 and NB2

Channel bandwidth for Category NB1 and NB2 is 200 kHz.

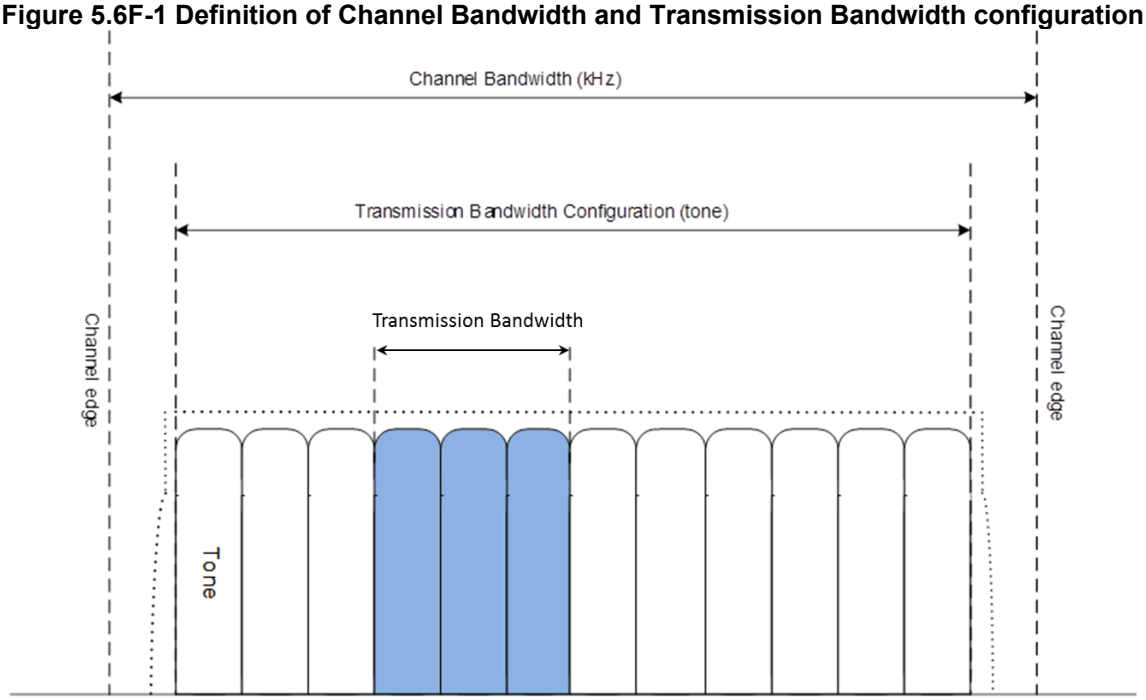
For category NB1 and NB2, requirements in present document are specified for the channel bandwidth listed in Table 5.6F-1.

**Table 5.6F-1: Transmission bandwidth configuration $N_{RB}$, $N_{tone\ 15kHz}$ and $N_{tone\ 3.75kHz}$ in NB1 and NB2 channel bandwidth**

| **Channel bandwidth $BW_{Channel}$ [kHz]** | **200** |
|---|---|
| Transmission bandwidth configuration $N_{RB}$ | 1 |
| Transmission bandwidth configuration $N_{tone\ 15kHz}$ | 12 |
| Transmission bandwidth configuration $N_{tone\ 3.75kHz}$ | 48 |

Figure 5.6F-1 shows the relation between the Category NB1/NB2 channel bandwidth ($BW_{Channel}$) and the Category NB1 /NB2 transmission bandwidth configuration ($N_{tone}$). The channel edges are defined as the lowest and highest frequencies of the carrier separated by the channel bandwidth, i.e. at $F_C$ +/- $BW_{Channel}$ /2.

**Figure 5.6F-1 Definition of Channel Bandwidth and Transmission Bandwidth configuration**




## 5.6G Channel bandwidth for V2X Communication

### 5.6G.1 Channel bandwidths per operating band for V2X Communication

E-UTRA V2X Communication channel bandwidths and operating band is shown in Table 5.6G.1-1. The same (symmetrical) channel bandwidth is specified for both the TX and RX path.

**Table 5.6G.1-1: V2X Communication channel bandwidth**

| E-UTRA V2X band / V2X channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| **E-UTRA V2X Operating Band** | **1.4 MHz** | **3 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| 47 | | | | Yes | | Yes |

For V2X inter-band con-current operation, the V2X Communication channel bandwidths for each operating band is specified in Table 5.6G.1-2.

**Table 5.6G.1-2: Inter-band con-current V2X configurations and bandwidth combination sets**

| Inter-band con-current V2X configuration | Inter-band con-current V2X configuration for TX | E-UTRA or V2X operating Bands | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Maximum bandwidth [MHz] | Bandwidth combination set |
|---|---|---|---|---|---|---|---|---|---|---|
| V2X_3A-47A | V2X_3A-47A | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_3A-47B | V2X_3A-47A, V2X_47B | 3 | Yes | Yes | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_5A-47A | V2X_5A-47A | 5 | | | Yes | Yes | | | 30 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_5A-47B | V2X_5A-47A, V2X_47B | 5 | Yes | Yes | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_7A_47A | V2X_7A_47A | 7 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_7A-47B | V2X_7A-47A, V2X_47B | 7 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_8A-47A | V2X_8A-47A | 8 | Yes | Yes | Yes | Yes | | | 30 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_8A-47B | V2X_8A-47A, V2X_47B | 8 | Yes | Yes | Yes | Yes | | | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_20A-47A | V2X_20A-47A | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_20A-47B | V2X_20A-47A, V2X_47B | 20 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_28A-47A | | 28 | | Yes | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_34A-47A | V2X_34A-47A | 34 | | | Yes | Yes | Yes | | 35 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_34A-47B | V2X_34A-47A, V2X_47B | 34 | | | Yes | Yes | Yes | | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_39A-47A | V2X_39A-47A | 39 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | | | | Yes | | Yes | | |
| V2X_39A-47B | V2X_39A-47A, V2X_47B | 39 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_39A-47C | V2X_39A-47A, V2X_47C | 39 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 47 | See V2X_47C Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| | V2X_41A-47 | 41 | | | Yes | Yes | Yes | Yes | 40 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| V2X_41A-47A | | 47 | | | | Yes | | Yes | | |
| V2X_41A-47B | V2X_41A-47A, V2X_47B | 41 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | See V2X_47B Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_41A-47C | V2X_41A-47A, V2X_47C | 41 | | | Yes | Yes | Yes | Yes | 50 | 0 |
| | | 47 | See V2X_47C Bandwidth combination set 0 in Table 5.6G.1-4 | | | | | | | |
| V2X_71A-47A | | 71 | | | Yes | Yes | Yes | Yes | 40 | 0 |
| | | 47 | | | | Yes | | Yes | | |

V2X Bandwidth Class is specified in Table 5.6G.1-3 for V2X intra-band contiguous multi-carrier operation.

**Table 5.6G.1-3: V2X bandwidth classes and corresponding nominal guard bands**

| V2X Bandwidth Class | Aggregated Transmission Bandwidth Configuration | Number of contiguous CC | Nominal Guard Band $BW_{GB}$ |
|---|---|---|---|
| A | $N_{RB,agg} \le 100$ | 1 | $0.05BW_{Channel(1)} - 0.5\Delta f_1$ |
| B | $25 < N_{RB,agg} \le 100$ | 2 | $0.05\ max(BW_{Channel(1)},BW_{Channel(2)}) - 0.5\Delta f_1$ |
| C | $100 < N_{RB,agg} \le 200$ | 2 | $0.05\ max(BW_{Channel(1)},BW_{Channel(2)}) - 0.5\Delta f_1$ |
| $C_1$ | $100 < N_{RB,agg} \le 200$ | 3 | $0.05\ max(BW_{Channel(1)},BW_{Channel(2)}) - 0.5\Delta f_1$ |
| D | $200 < N_{RB,agg} \le 300$ | 3 | NOTE 3 |
| E | $300 < N_{RB,agg} \le 400$ | 4 | NOTE 3 |
| F | $400 < N_{RB,agg} \le 500$ | 5 | NOTE 3 |
| I | $700 < N_{RB,agg} \le 800$ | 8 | NOTE 3 |
| NOTE 1: $BW_{Channel(j)}$, j = 1, 2, 3, 4 is the channel bandwidth of an E-UTRA component carrier according to Table 5.6-1 and $\Delta f_1 = \Delta f$ for the downlink with $\Delta f$ the subcarrier spacing while $\Delta f_1 = 0$ for the uplink.<br>NOTE 2: Void.<br>NOTE 3: Applicable for later releases. | | | |

For V2X intra-band multi-carrier operation, the V2X communication channel bandwidths for each operating band is specified in Table 5.6G.1-4.

**Table 5.6G.1-4: V2X intra-band multi-carrier configurations**

| | | V2X multi-carrier configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|---|---|
| V2X intra-band multi-carrier configuration | V2X intra-band multi-carrier configuration for TX | Component carriers in order of increasing carrier frequency | | | | | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
| | | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | | |
| V2X_47B | V2X_47B | 10 | 10 | | | | 20 | 0 |
| V2X_47C | V2X_47C | 10 | 20 | | | | 30 | 0 |
| | | 20 | 10 | | | | | |
| V2X_47C1 | V2X_47B | 10 | 10 | 10 | | | 30 | 0 |

### 3.1.1 ترتيب القنوات

ترد تعريفات التباعد بين القنوات لمعدات المستعمل، وشبكة مسح القنوات، ورقم القناة، وفصل ترددات الإرسال/الاستقبال (TX-RX)، في الفقرات 1.7.5 و2.7.5 و3.7.5 و4.7.5، على التوالي، من المواصفة التقنية [1] TS 36.101-1.

## 5.7.1 Channel spacing

The spacing between carriers will depend on the deployment scenario, the size of the frequency block available and the channel bandwidths. The nominal channel spacing between two adjacent E-UTRA carriers is defined as following:

$$\text{Nominal Channel spacing} = (BW_{Channel(1)} + BW_{Channel(2)})/2$$

where $BW_{Channel(1)}$ and $BW_{Channel(2)}$ are the channel bandwidths of the two respective E-UTRA carriers. The channel spacing can be adjusted to optimize performance in a particular deployment scenario.

## 5.7.2 Channel raster

The channel raster is 100 kHz for all bands, which means that the carrier centre frequency must be an integer multiple of 100 kHz.

## 5.7.3 Carrier frequency and EARFCN

The carrier frequency in the uplink and downlink is designated by the E-UTRA Absolute Radio Frequency Channel Number (EARFCN) in the range 0 – 262143. The relation between EARFCN and the carrier frequency in MHz for the downlink is given by the following equation, where $F_{DL_low}$ and $N_{Offs-DL}$ are given in Table 5.7.3-1 and $N_{DL}$ is the downlink EARFCN.

$$F_{DL} = F_{DL_low} + 0.1(N_{DL} – N_{Offs-DL})$$

The relation between EARFCN and the carrier frequency in MHz for the uplink is given by the following equation where $F_{UL_low}$ and $N_{Offs-UL}$ are given in Table 5.7.3-1 and $N_{UL}$ is the uplink EARFCN.

$$F_{UL} = F_{UL_low} + 0.1(N_{UL} – N_{Offs-UL})$$

**Table 5.7.3-1: E-UTRA channel numbers**

| E-UTRA Operating Band | Downlink | | | Uplink | | |
|---|---|---|---|---|---|---|
| | $F_{DL_low}$ (MHz) | $N_{Offs-DL}$ | Range of $N_{DL}$ | $F_{UL_low}$ (MHz) | $N_{Offs-UL}$ | Range of $N_{UL}$ |
| 1 | 2 110 | 0 | 0 – 599 | 1 920 | 18000 | 18000 – 18599 |
| 2 | 1 930 | 600 | 600 – 1199 | 1 850 | 18600 | 18600 – 19199 |
| 3 | 1 805 | 1 200 | 1200 – 1949 | 1 710 | 19200 | 19200 – 19949 |
| 4 | 2 110 | 1 950 | 1950 – 2399 | 1 710 | 19950 | 19950 – 20399 |
| 5 | 869 | 2 400 | 2400 – 2649 | 824 | 20400 | 20400 – 20649 |
| 6 | 875 | 2 650 | 2650 – 2749 | 830 | 20650 | 20650 – 20749 |
| 7 | 2 620 | 2 750 | 2750 – 3449 | 2 500 | 20750 | 20750 – 21449 |
| 8 | 925 | 3 450 | 3450 – 3799 | 880 | 21450 | 21450 – 21799 |
| 9 | 1 844.9 | 3 800 | 3800 – 4149 | 1 749.9 | 21800 | 21800 – 22149 |
| 10 | 2 110 | 4 150 | 4150 – 4749 | 1 710 | 22150 | 22150 – 22749 |
| 11 | 1 475.9 | 4 750 | 4750 – 4949 | 1 427.9 | 22750 | 22750 – 22949 |
| 12 | 729 | 5 010 | 5010 – 5179 | 699 | 23010 | 23010 – 23179 |
| 13 | 746 | 5 180 | 5180 – 5279 | 777 | 23180 | 23180 – 23279 |
| 14 | 758 | 5 280 | 5280 – 5379 | 788 | 23280 | 23280 – 23379 |
| … | | | | | | |
| 17 | 734 | 5 730 | 5730 – 5849 | 704 | 23730 | 23730 – 23849 |
| 18 | 860 | 5 850 | 5850 – 5999 | 815 | 23850 | 23850 – 23999 |
| 19 | 875 | 6 000 | 6000 – 6149 | 830 | 24000 | 24000 – 24149 |
| 20 | 791 | 6 150 | 6150 – 6449 | 832 | 24150 | 24150 – 24449 |
| 21 | 1 495.9 | 6 450 | 6450 – 6599 | 1 447.9 | 24450 | 24450 – 24599 |
| 22 | 3 510 | 6 600 | 6600 – 7399 | 3 410 | 24600 | 24600 – 25399 |
| 23 | 2 180 | 7 500 | 7500 – 7699 | 2 000 | 25500 | 25500 – 25699 |
| 24 | 1 525 | 7 700 | 7700 – 8039 | 1 626.5 | 25700 | 25700 – 26039 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 25 | 1 930 | 8 040 | 8040 – 8689 | 1 850 | 26040 | 26040 – 26689 |
| 26 | 859 | 8 690 | 8690 – 9039 | 814 | 26690 | 26690 – 27039 |
| 27 | 852 | 9 040 | 9040 – 9209 | 807 | 27040 | 27040 – 27209 |
| 28 | 758 | 9 210 | 9210 – 9659 | 703 | 27210 | 27210 – 27659 |
| 29[2] | 717 | 9 660 | 9660 – 9769 | N/A | | |
| 30 | 2 350 | 9 770 | 9770 – 9869 | 2305 | 27660 | 27660 – 27759 |
| 31 | 462.5 | 9 870 | 9870 – 9919 | 452.5 | 27760 | 27760 – 27809 |
| 32[2] | 1 452 | 9 920 | 9920 – 10359 | N/A | | |
| 33 | 1 900 | 36 000 | 36000 – 36199 | 1 900 | 36000 | 36000 – 36199 |
| 34 | 2 010 | 36 200 | 36200 – 36349 | 2 010 | 36200 | 36200 – 36349 |
| 35 | 1 850 | 36 350 | 36350 – 36949 | 1 850 | 36350 | 36350 – 36949 |
| 36 | 1 930 | 36 950 | 36950 – 37549 | 1 930 | 36950 | 36950 – 37549 |
| 37 | 1 910 | 37 550 | 37550 – 37749 | 1 910 | 37550 | 37550 – 37749 |
| 38 | 2 570 | 37 750 | 37750 – 38249 | 2 570 | 37750 | 37750 – 38249 |
| 39 | 1 880 | 38 250 | 38250 – 38649 | 1 880 | 38250 | 38250 – 38649 |
| 40 | 2 300 | 38 650 | 38650 – 39649 | 2 300 | 38650 | 38650 – 39649 |
| 41 | 2 496 | 39 650 | 39650 –41589 | 2 496 | 39650 | 39650 –41589 |
| 42 | 3 400 | 41 590 | 41590 – 43589 | 3 400 | 41590 | 41590 – 43589 |
| 43 | 3 600 | 43 590 | 43590 – 45589 | 3 600 | 43590 | 43590 – 45589 |
| 44 | 703 | 45 590 | 45590 – 46589 | 703 | 45590 | 45590 – 46589 |
| 45 | 1 447 | 46 590 | 46590 – 46789 | 1 447 | 46590 | 46590 – 46789 |
| 46 | 5 150 | 46 790 | 46790 – 54539 | 5 150 | 46790 | 46790 – 54539 |
| 47 | 5 855 | 54 540 | 54540 - 55239 | 5 855 | 54540 | 54540 – 55239 |
| 48 | 3 550 | 55 240 | 55240 – 56739 | 3 550 | 55240 | 55240 – 56739 |
| 49 | 3 550 | 56 740 | 56740 – 58239 | 3 550 | 56740 | 56740 – 58239 |
| 50 | 1 432 | 58 240 | 58240 - 59089 | 1 432 | 58240 | 58240 - 59089 |
| 51 | 1 427 | 59 090 | 59090 - 59139 | 1 427 | 59090 | 59090 - 59139 |
| 52 | 3 300 | 59 140 | 59140 - 60139 | 3 300 | 59140 | 59140 - 60139 |
| 53 | 2 483.5 | 60 140 | 60140 - 60254 | 2 483.5 | 60140 | 60140 - 60254 |
| … | | | | | | |
| 64 | Reserved | | | | | |
| 65 | 2 110 | 65 536 | 65536 – 66435 | 1 920 | 131072 | 131072 – 131971 |
| 66[5] | 2 110 | 66 436 | 66436 – 67335 | 1 710 | 131972 | 131972 – 132671 |
| 67[2] | 738 | 67 336 | 67336 – 67535 | N/A | | |
| 68 | 753 | 67 536 | 67536 - 67835 | 698 | 132672 | 132672 - 132971 |
| 69[2] | 2 570 | 67 836 | 67836 - 68335 | N/A | | |
| 70[6] | 1 995 | 68 336 | 68336 - 68585 | 1 695 | 132972 | 132972 - 133121 |
| 71 | 617 | 68 586 | 68586 - 68935 | 663 | 133122 | 133122 - 133471 |
| 72 | 461 | 68 936 | 68936 - 68985 | 451 | 133472 | 133472 - 133521 |
| 73 | 460 | 68 986 | 68986 - 69035 | 450 | 133522 | 133522 - 133571 |
| 74 | 1 475 | 69 036 | 69036 - 69465 | 1 427 | 133572 | 133572 - 134001 |
| 75[2] | 1 432 | 69 466 | 69466 - 70315 | N/A | | |
| 76[2] | 1 427 | 70 316 | 70316 - 70365 | N/A | | |
| 85 | 728 | 70 366 | 70366 - 70545 | 698 | 134002 | 134002 - 134181 |
| 87 | 420 | 70 546 | 70546 - 70595 | 410 | 134182 | 134182 - 134231 |
| 88 | 422 | 70 596 | 70596 - 70645 | 412 | 134232 | 134232 - 134281 |
| 103 | 757 | 70 646 | 70646 – 70655 | 787 | 134282 | 134282 – 134291 |

NOTE 1: The channel numbers that designate carrier frequencies so close to the operating band edges that the carrier extends beyond the operating band edge shall not be used. This implies that the first 7, 15, 25, 50, 75 and 100 channel numbers at the lower operating band edge and the last 6, 14, 24, 49, 74 and 99 channel numbers at the upper operating band edge shall not be used for channel bandwidths of 1.4, 3, 5, 10, 15 and 20 MHz respectively.

NOTE 2: Restricted to E-UTRA operation when carrier aggregation is configured.

NOTE 3: For ProSe and V2X the corresponding UL channel number are also specified for the DL for the associated ProSe/V2X operating bands i.e. ProSe_$F_{UL}$ = $F_{UL}$ and ProSe_$F_{DL}$ = $F_{UL}$; V2X_$F_{UL}$ = $F_{DL}$ and V2X_$F_{DL}$ = $F_{UL}$.

NOTE 4: Requirements for uplink operations are not specified in this version of the specification.

NOTE 5: The range 2 180-2 200 MHz of the DL operating band is restricted to E-UTRA operation when carrier aggregation is configured.

NOTE 6: The range 2 010-2 020 MHz of the DL operating band is restricted to E-UTRA operation when carrier aggregation is configured and TX-RX separation is 300 MHz The range 2 005-2 020 MHz of the DL operating band is restricted to E-UTRA operation when carrier aggregation is configured and TX-RX separation is 295 MHz.

### 5.7.4 TX–RX frequency separation

a) The default E-UTRA TX channel (carrier centre frequency) to RX channel (carrier centre frequency) separation is specified in Table 5.7.4-1 for the TX and RX channel bandwidths defined in Table 5.6.1-1

**Table 5.7.4-1: Default UE TX-RX frequency separation**

| E-UTRA Operating Band | TX – RX carrier centre frequency separation |
|---|---|
| 1 | 190 MHz |
| 2 | 80 MHz. |
| 3 | 95 MHz. |
| 4 | 400 MHz |
| 5 | 45 MHz |
| 6 | 45 MHz |
| 7 | 120 MHz |
| 8 | 45 MHz |
| 9 | 95 MHz |
| 10 | 400 MHz |
| 11 | 48 MHz |
| 12 | 30 MHz |
| 13 | -31 MHz |
| 14 | -30 MHz |
| 17 | 30 MHz |
| 18 | 45 MHz |
| 19 | 45 MHz |
| 20 | -41 MHz |
| 21 | 48 MHz |
| 22 | 100 MHz |
| 23 | 180 MHz |
| 24 | -101.5[1], -120.5 MHz |
| 25 | 80 MHz |
| 26 | 45 MHz |
| 27 | 45 MHz |
| 28 | 55 MHz |
| 30 | 45 MHz |
| 31 | 10 MHz |
| 65 | 190 MHz |
| 66 | 400 MHz |
| 68 | 55 MHz |
| … | |
| 70 | 295, 300 MHz[1] |
| 71 | -46 MHz |
| 72 | 10 MHz |
| 73 | 10 MHz |
| 74 | 48 MHz |
| 85 | 30 MHz |
| 87 | 10 MHz |
| 88 | 10 MHz |
| 103 | -30 MHz |
| NOTE 1: Default TX-RX carrier centre frequency separation. | |

b) The use of other TX channel to RX channel carrier centre frequency separation is not precluded and is intended to form part of a later release.

وترد تعريفات التباعد بين القنوات لمعدات المستعمل لتجميع الموجات الحاملة، وشبكة مسح القنوات لتجميع الموجات الحاملة، وفصل ترددات الإرسال/الاستقبال (TX-RX) لتجميع الموجات الحاملة، في الفقرات 1A.7.5 و2A.7.5 و4A.7.5، على التوالي، من المواصفة التقنية [1] TS 36.101-1.

### 5.7.1A Channel spacing for CA

For intra-band contiguous carrier aggregation with two or more component carriers, the nominal channel spacing between two adjacent E-UTRA component carriers is defined as the following unless stated otherwise:

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 0.1\left|BW_{Channel(1)} - BW_{Channel(2)}\right|}{0.6} \right\rfloor 0.3 \quad [\text{MHz}]$$

where $BW_{Channel(1)}$ and $BW_{Channel(2)}$ are the channel bandwidths of the two respective E-UTRA component carriers according to Table 5.6-1 with values in MHz. The channel spacing for intra-band contiguous carrier aggregation can be adjusted to any multiple of 300 kHz less than the nominal channel spacing to optimize performance in a particular deployment scenario.

For intra-band contiguous carrier aggregation with two or more component carriers in Band 46, the requirements apply for both 19.8 MHz and 20.1 MHz nominal carrier spacing between two 20 MHz component carriers, and for 15.0 MHz nominal carrier spacing between 10 MHz and 20 MHz component carriers.

For intra-band non-contiguous carrier aggregation the channel spacing between two or more E-UTRA component carriers in different sub-blocks shall be larger than the nominal channel spacing defined in this subclause.

### 5.7.2A Channel raster for CA

For carrier aggregation the channel raster is 100 kHz for all bands, which means that the carrier centre frequency must be an integer multiple of 100 kHz.

### 5.7.4A TX–RX frequency separation for CA

For intra-band contiguous carrier aggregation, the same TX-RX frequency separation as specified in Table 5.7.4-1 is applied to PCC and SCC, respectively.

وترد تعريفات التباعد بين القنوات لمعدات المستعمل من الفئتين NB1 وNB2، وشبكة مسح القنوات من الفئتين NB1 وNB2، ورقم القناة من الفئتين NB1 وNB2، وفصل ترددات الإرسال/الاستقبال (TX-RX) من الفئتين NB1 وNB2، في الفقرات 1F.7.5 و2F.7.5 و3F.7.5 و4A.7.5، على التوالي، من المواصفة التقنية [1] TS 36.101-1.

### 5.7.1F Channel spacing for category NB1 and NB2

Nominal channel spacing for UE category NB1 and NB2 in stand-alone mode is 200 kHz. For in-band and guard-band cases the nominal channel spacing between two adjacent category NB1 or NB2 carriers is 180 kHz.

### 5.7.2F Channel raster for category NB1 and NB2

Channel raster for category NB1 and NB2 in-band, guard-band and standalone operation is 100 kHz.

### 5.7.3F Carrier frequency and EARFCN for category NB1 and NB2

The carrier frequency of category NB1/NB2 in the downlink is designated by the E-UTRA Absolute Radio Frequency Channel Number (EARFCN) in the range 0 – 262143 and the Offset of category NB1/NB2 Channel Number to EARFCN in the range {-10,-9,-8,-7,-6,-5,-4,-3,-2,-1,-0.5,0,1,2,3,4,5,6,7,8,9} for FDD and in the range {-10,-9,-8.5,-8,-7,-6,-5,-4.5,-4,-3,-2,-1,-0.5,0,1,2,3,3.5,4,5,6,7,7.5,8,9} for TDD. The relation between EARFCN, Offset of category NB1/NB2 Channel Number to EARFCN and the carrier frequency in MHz for the downlink is given by the following equation, where $F_{DL}$ is the downlink carrier frequency of category NB1/NB2, $F_{DL_low}$ and $N_{Offs\text{-}DL}$ are given in table 5.7.3-1, $N_{DL}$ is the downlink EARFCN, $M_{DL}$ is the Offset of category NB1/NB2 Channel Number to downlink EARFCN.

$$F_{DL} = F_{DL_low} + 0.1(N_{DL} – N_{Offs\text{-}DL}) + 0.0025*(2M_{DL}+1)$$

The carrier frequency of category NB1/NB2 in the uplink is designated by the E-UTRA Absolute Radio Frequency Channel Number (EARFCN) in the range 0 –262143, and the Offset of category NB1/NB2 Channel Number to EARFCN in the range {-10,-9,-8,-7,-6,-5,-4,-3,-2,-1,0,1,2,3,4,5,6,7,8,9} for FDD and in the range {-11,-10,-9.5,-9,-8.5, -8,-7.5,-7,-6.5,-6,-5.5,-5,-4.5,-4,-3.5,-3,-2.5,-2,-1.5,-1,-0.5,0,0.5,1,1.5,2,2.5,3,3.5,4,4.5,5,5.5,6,6.5,7,7.5,8,8.5,9,9.5,10, 11} for TDD. The relation between EARFCN, Offset of category NB1/NB2 Channel Number to EARFCN and the carrier frequency in MHz for the uplink is given by the following equation, where $F_{UL}$ is the uplink carrier frequency of category NB1/NB2, $F_{UL_low}$ and $N_{Offs\text{-}UL}$ are given in Table 5.7.3-1, $N_{UL}$ is the uplink EARFCN, $M_{UL}$ is the Offset of category NB1/NB2 Channel Number to uplink EARFCN.

$$F_{UL} = F_{UL_low} + 0.1(N_{UL} – N_{Offs\text{-}UL}) + 0.0025*(2M_{UL})$$

NOTE 1: For category NB1/NB2, $N_{DL}$ or $N_{UL}$ is different than the value of EARFCN that corresponds to E-UTRA downlink or uplink carrier frequency for in-band and guard band operation.

NOTE 2: For FDD $M_{DL}$ = -0.5 is not applicable for in-band and guard band operation. For TDD $M_{DL}$ {-0.5,+3.5,-4.5,+7.5,-8.5} is not applicable for in-band and guard band operation.

NOTE 3: For the carrier including NPSS/NSSS for in-band and guard band operation, $M_{DL}$ is selected from {-2,-1,0,1}.

NOTE 4: For the carrier including NPSS/NSSS for stand-alone operation, $M_{DL}$ = -0.5.

### 5.7.4A TX–RX frequency separation for CA

For intra-band contiguous carrier aggregation, the same TX-RX frequency separation as specified in Table 5.7.4-1 is applied to PCC and SCC, respectively.

ويرد تعريف فصل ترددات الإرسال/الاستقبال (TX-RX) الخاصة بمعدات المستعمل للفئة M1 وM2 في الفقرة 4E.7.5 من المواصفة التقنية [1] TS 36.101-1.

### 5.7.4E TX–RX frequency separation for category M1 and M2

For the category M1 and M2 TX-RX frequency separation is flexible within the assigned channel bandwidth of E-UTRA carrier with the TX-RX frequency separation of the E-UTRA carriers as specified in Table 5.7.4-1.

## 4.1.1 مُلغى

## 5.1.1 التعاريف والرموز والمختصرات

### 1.5.1.1 التعاريف

**تجميع الموجات الحاملة (Carrier aggregation)**: تجميع موجتين أو أكثر من الموجات الحاملة المكونة لدعم عروض نطاق أوسع للإرسال.

**تشكيل تجميع الموجات الحاملة (Carrier aggregation configuration)**: توليفة نطاق (نطاقات) تشغيل تجميع الموجات الحاملة وصنف (أصناف) عرض نطاق تجميع الموجات الحاملة التي تدعمها معدات المستعمل (UE).

**عرض نطاق القناة (Channel bandwidth)**: عرض النطاق الراديوي الذي يدعم موجة حاملة ذات تردد وحيد E-UTRA وعرض نطاق إرسال مشكل في الوصلة الصاعدة أو الوصلة الهابطة لخلية ما. ويقاس عرض نطاق القناة بوحدات MHz ويستعمل كمرجع للمتطلبات الراديوية للمرسل والمستقبل.

**تجميع الموجات الحاملة بين النطاقات (Inter-band carrier aggregation)**: تجميع الموجات الحاملة المكونة في نطاقات تشغيل مختلفة.

**تجميع الموجات الحاملة المتجاورة داخل النطاق (Intra-band contiguous carrier aggregation)**: تجميع الموجات الحاملة المتجاورة في نطاق التشغيل ذاته.

**تجميع الموجات الحاملة غير المتجاورة داخل النطاق (Intra-band non-contiguous carrier aggregation)**: تجميع الموجات الحاملة غير المتجاورة في نطاق التشغيل ذاته.

### 2.5.1.1 الرموز

| | |
|---|---|
| $F_{DL_low}$ | أدنى تردد في نطاق تشغيل الوصلة الهابطة |
| $F_{DL_high}$ | أعلى تردد في نطاق تشغيل الوصلة الهابطة |
| $F_{UL_low}$ | أدنى تردد في نطاق تشغيل الوصلة الصاعدة |
| $F_{UL_high}$ | أعلى تردد في نطاق تشغيل الوصلة الصاعدة |

### 3.5.1.1 الاختصارات

| | |
|---|---|
| ACLR | نسبة التسرب في القنوات المجاورة (*Adjacent Channel Leakage Ratio*) |
| CA | تجميع الموجات الحاملة (*Carrier Aggregation*) |
| DC | التوصيلية المزدوجة (*Dual Connectivity*) |
| DL | الوصلة الهابطة (*Downlink*) |
| E-UTRA | النفاذ الراديوي للأرض العالمي المتطور (*Evolved UTRA*) |
| FDD | إرسال مزدوج بتقسيم التردد (*Frequency division duplex*) |
| FR | مدى الترددات (*Frequency Range*) |
| NR | الراديو الجديد (*New Radio*) |
| NS | التشوير الشبكي (*Network Signalling*) |
| TDD | إرسال مزدوج بتقسيم الزمن .(*Time division duplex*) |
| UE | معدات المستعمل (*User equipment*) |
| UL | الوصلة الصاعدة (*Uplink*) |
| UL-MIMO | إرسال متعدد الهوائيات في الوصلة الصاعدة (*Uplink multiple antenna transmission*) |
| V2X | من المركبة إلى كل شيء (*Vehicle-to-everything*) |

## 2.1 بث طيف الترددد الراديوي

### 1.2.1 البث خارج النطاق (Out-of-band emission)

#### 1.1.2.1 قناع البث الطيفي

تُبين الحدود العامة لقناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) في الفقرة 5.1.2.6.6 في المواصفة التقنية [5] TS 36.521-1.

6.6.2.1.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-1 as appropriate, and the power of any UE emission shall fulfil requirements in Table.6.6.2.1.5-1 or Table.6.6.2.1.5-2, as applicable.

Table 6.6.2.1.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≤ 3GHz

| | **Spectrum emission limit (dBm)/ Channel bandwidth** | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.1.5-2: General E-UTRA spectrum emission mask, 3GHz < E-UTRA bands ≤ 4.2GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بتجميع الموجات الحاملة في الفقرة 5.1.1A.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

## 6.6.2.1A.1.5 Test Requirements

The measured UE mean power with the aggregated channel bandwidth as specified in clause 5.4.2A, derived in step 6, shall fulfil requirements in Table 6.2.3A.1.5-1 as appropriate,

and

the power of any UE emission shall fulfil requirements in Table.6.6.2.1A.1.5-1 or Table.6.6.2.1A.1.5-2 for Bandwidth Class C and Table.6.6.2.1A.1.5-3 or Table.6.6.2.1A.1.5-4 for Bandwidth Class B, as applicable.

Table 6.6.2.1A.1.5-1: General E-UTRA spectrum emission mask for CA Bandwidth Class C, E-UTRA bands ≤ 3GHz

| | Spectrum emission limit [dBm]/$BW_{Channel_CA}$ | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 25RB+100RB (24.95MHz) | 50RB+75RB (24.75 MHz) | 50RB+100RB (29.9 MHz) | 75RB+75RB (30 MHz) | 75RB+100RB (34.85 MHz) | 100RB+100RB (39.8 MHz) | Measurement bandwidth |
| ± 0-1 | -20.5 | -20.5 | -21 | -21 | -22 | -22.5 | 30 kHz |
| ± 1-5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| ± 5-24.75 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| ± 24.75-24.95 | | -23.5 | | | | | 1 MHz |
| ± 24.95-29.75 | -23.5 | | | | | | 1 MHz |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ± 29.75-29.9 | | | | | | | 1 MHz |
| ± 29.9-29.95 | | | -23.5 | | | | 1 MHz |
| ± 29.95-30 | | | | | | | 1 MHz |
| ± 30-34.85 | | | | -23.5 | | | 1 MHz |
| ± 34.85-34.9 | | | | | -23.5 | | 1 MHz |
| ± 34.9-35 | | | | | | | 1 MHz |
| ± 35-39.8 | | | | | | | 1 MHz |
| ± 39.8-39.85 | | | | | | -23.5 | 1 MHz |
| ± 39.85-44.8 | | | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth.

**Table 6.6.2.1A.1.5-2: General E-UTRA spectrum emission mask for CA Bandwidth Class C, 3GHz < E-UTRA bands ≤ 4.2GHz**

| Spectrum emission limit [dBm]/$BW_{Channel_CA}$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **25RB+100RB (24.95MHz)** | **50RB+75RB (24.75 MHz)** | **50RB+100RB (29.9 MHz)** | **75RB+75RB (30 MHz)** | **75RB+100RB (34.85 MHz)** | **100RB+100RB (39.8 MHz)** | **Measurement bandwidth** |
| ± 0-1 | -20.2 | -20.2 | -20.7 | -20.7 | -21.7 | -22.2 | 30 kHz |
| ± 1-5 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| ± 5-24.75 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| ± 24.75-24.95 | | -23.2 | | | | | 1 MHz |
| ± 24.95-29.75 | -23.2 | | | | | | 1 MHz |
| ± 29.75-29.9 | | | | | | | 1 MHz |
| ± 29.9-29.95 | | | -23.2 | | | | 1 MHz |
| ± 29.95-30 | | | | | | | 1 MHz |
| ± 30-34.85 | | | | -23.2 | | | 1 MHz |
| ± 34.85-34.9 | | | | | -23.2 | | 1 MHz |
| ± 34.9-35 | | | | | | | 1 MHz |
| ± 35-39.8 | | | | | | | 1 MHz |
| ± 39.8-39.85 | | | | | | -23.2 | 1 MHz |
| ± 39.85-44.8 | | | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth.

**Table 6.6.2.1A.1.5-3: General E-UTRA spectrum emission mask for CA Bandwidth Class B, E-UTRA bands ≤ 3GHz**

| Spectrum emission limit [dBm]/$BW_{Channel_CA}$ | | | | | |
|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 25RB+25RB (9.8MHz) | 25RB+50RB (14.95 MHz) | 25RB+75RB (19.8MHz) | 50RB+50RB (19.9 MHz) | Measurement bandwidth |
| ± 0-1 | -16.5 | -18.5 | -19.5 | -19.5 | 30 kHz |
| ± 1-5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| ± 5-9.8 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| ± 9.8-14.8 | -23.5 | | | | 1 MHz |
| ± 14.8-14.95 | | | | | 1 MHz |
| ± 14.95-19.80 | | -23.5 | | | 1 MHz |
| ± 19.80-19.90 | | | -23.5 | | 1 MHz |
| ± 19.90-19.95 | | | | -23.5 | 1 MHz |
| ± 19.95-24.80 | | | | | 1 MHz |
| ± 24.80-24.90 | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth.

**Table 6.6.2.1A.1.5-4: General E-UTRA spectrum emission mask for CA Bandwidth Class B, 3GHz < E-UTRA bands ≤ 4.2GHz**

| Spectrum emission limit [dBm]/$BW_{Channel_CA}$ | | | | | |
|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 25RB+25RB (9.8MHz) | 25RB+50RB (14.95 MHz) | 25RB+75RB (19.8MHz) | 50RB+50RB (19.9 MHz) | Measurement bandwidth |
| ± 0-1 | -16.2 | -18.2 | -19.2 | -19.2 | 30 kHz |
| ± 1-5 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| ± 5-9.8 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| ± 9.8-14.8 | -23.2 | | | | 1 MHz |
| ± 14.8-14.95 | | | | | 1 MHz |
| ± 14.95-19.80 | | -23.2 | | | 1 MHz |
| ± 19.80-19.90 | | | -23.2 | | 1 MHz |
| ± 19.90-19.95 | | | | -23.2 | 1 MHz |
| ± 19.95-24.80 | | | | | 1 MHz |
| ± 24.80-24.90 | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بالإرسال UL-MIMO في الفقرة 5.1B.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

## 6.6.2.1B.5 Test requirements

The measured sum of mean power at each antenna connector of UE in the channel bandwidth, derived in step 3, shall fulfil requirements in clause 6.2.3B.5 as appropriate,

And the power of any UE emission at each transmit antenna connector shall fulfil requirements in Table.6.6.2.1B.5-1 or Table 6.6.2.1B.5-2 as applicable.

**Table 6.6.2.1B.5-1: General E-UTRA spectrum emission mask, E UTRA bands ≤ 3GHz**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.1B.5-2: General E-UTRA spectrum emission mask, 3GHz < E UTRA bands ≤ 4.2GHz**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بمعدات المستعمل من الفئة 0 في الفقرة 5.1E.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

## 6.6.2.1E.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3E.5-1 as appropriate, and the power of any UE emission shall fulfil requirements in Table 6.6.2.1E.5-1 or Table.6.6.2.1E.5-2, as applicable.

**Table 6.6.2.1E.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.1E.5-2: General E-UTRA spectrum emission mask, 3GHz < E-UTRA bands ≤ 4.2GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بمعدات المستعمل من الفئة M1 في الفقرة 5.1EA.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

### 6.6.2.1EA.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Tables 6.2.3EA.5-1 to 6.2.3EA.5-7a as appropriate, and the power of any UE emission shall fulfil requirements in Table.6.6.2.1EA.5-1, as applicable.

**Table 6.6.2.1EA.5-1: General E-UTRA spectrum emission mask**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بمعدات المستعمل من الفئة 1 مكرراً، في الفقرة 5.1EB.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

### 6.6.2.1EB.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3EB.5-1 as appropriate, and the power of any UE emission shall fulfil requirements in Table.6.6.2.1EB.5-1 or Table.6.6.2.1EB.5-2, as applicable.

**Table 6.6.2.1EB.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.1EB.5-2: General E-UTRA spectrum emission mask, 3GHz < E-UTRA bands ≤ 4.2GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -8.2 | | | | | | 1 MHz |
| 2.5-2.8 | -23.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بمعدات المستعمل من الفئة M2، في الفقرة 5.1EC.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

## 6.6.2.1EC.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Tables 6.2.3EC.5-1 to 6.2.3EC.5-3 as appropriate, and the power of any UE emission shall fulfil requirements in Table.6.6.2.1EC.5-1, as applicable.

**Table 6.6.2.1EC.5-1: General E-UTRA spectrum emission mask**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بالاتصالات من مركبة إلى كل شيء (V2X) في الفقرة 5.1.1G.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

## 6.6.2.1G.1.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3G.1.1.5-1as appropriate, and the power of any UE emission shall fulfil requirements in Table 6.6.2.1G.1.5-1.

**Table 6.6.2.1G.1.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≥ 5GHz**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | |
|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **10 MHz** | **20 MHz** | **Measurement bandwidth** |
| ± 0-1 | -16 | -19 | 30 kHz |
| ± 1-2.5 | -8 | -8 | 1 MHz |
| ± 2.5-2.8 | -8 | -8 | 1 MHz |
| ± 2.8-5 | -8 | -8 | 1 MHz |
| ± 5-6 | -12 | -11 | 1 MHz |
| ± 6-10 | -12 | -11 | 1 MHz |
| ± 10-15 | -23 | -11 | 1 MHz |
| ± 15-20 | | -11 | 1 MHz |
| ± 20-25 | | -23 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بالاتصالات من مركبة إلى كل شيء (V2X)/المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA في الفقرة 5.2.1G.2.6.6 من المواصفة التقنية TS 36.521-1 [5].

## 6.6.2.1G.2.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3 and step 4 shall fulfil requirements in Table 6.2.3G.1.3.5-1, and the power of any UE emission shall fulfil requirements in Table 6.6.2.1G.1.5-1~ Table 6.6.2.1G.2.5-3.

**Table 6.6.2.1G.2.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.1G.2.5-2: General E-UTRA spectrum emission mask, 3GHz < E-UTRA bands ≤ 4.2GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

| |
|---|
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel<br>Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. |

**Table 6.6.2.1G.2.5-3: General E-UTRA V2X spectrum emission mask, E-UTRA bands ≥ 5GHz**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | |
|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **10 MHz** | **20 MHz** | **Measurement bandwidth** |
| ± 0-1 | -16 | -19 | 30 kHz |
| ± 1-2.5 | -8 | -8 | 1 MHz |
| ± 2.5-2.8 | -8 | -8 | 1 MHz |
| ± 2.8-5 | -8 | -8 | 1 MHz |
| ± 5-6 | -12 | -11 | 1 MHz |
| ± 6-10 | -12 | -11 | 1 MHz |
| ± 10-15 | -23 | -11 | 1 MHz |
| ± 15-20 | | -11 | 1 MHz |
| ± 20-25 | | -23 | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.<br>Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.<br>Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel | | | |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بالاتصالات من مركبة إلى كل شيء (V2X)/تشغيل الموجات الحاملة المتعددة المتجاورة داخل النطاق، في الفقرة 5.3.1G.2.6.6 من المواصفة التقنية TS 36.521-1 [5].

6.6.2.1G.3.5 Test Requirement

The power of any UE emission shall fulfil requirements in Table 6.6.2.1G.3.5-1 Bandwidth Class B.

**Table 6.6.2.1G.3.5-1: General E-UTRA spectrum emission mask for CA Bandwidth Class B, E-UTRA bands > 5 GHz**

| Spectrum emission limit [dBm]/$BW_{Channel_CA}$ | | |
|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **50RB+50RB (19.9 MHz)** | **Measurement bandwidth** |
| ± 0-1 | 19 | 30 kHz |
| ± 1-5 | 8 | 1 MHz |
| ± 5-14.95 | 11 | 1 MHz |
| ± 14.95-19.90 | 11 | 1 MHz |
| ± 19.90-19.95 | 23 | 1 MHz |
| ± 19.95-24.90 | 23 | 1 MHz |

وتُبين حدود قناع البث الطيفي للنفاذ الراديوي للأرض العالمي المتطور (E-UTRA) الخاصة بالإرسال على مستوى الفاصل الزمني الفرعي/الفاصل الزمني ضمن مدة الإرسال الزمنية (TTI)، في الفقرة 5.1_s.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.1_s.5 Test requirements

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3_s.5-1 as appropriate, and the power of any UE emission shall fulfil requirements in Table.6.6.2.1_s.5-1 or Table.6.6.2.1_s.5-2, as applicable.

**Table 6.6.2.1_s.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz. | | | | | | | |
| Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively. | | | | | | | |
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel | | | | | | | |
| Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. | | | | | | | |

**Table 6.6.2.1_s.5-2: General E-UTRA spectrum emission mask, 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz. | | | | | | | |
| Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively. | | | | | | | |
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel | | | | | | | |
| Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. | | | | | | | |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 2.1.2.1 قناع البث الطيفي الإضافي

تعطي الشبكة إشارات عن متطلبات البث الطيفي الإضافي للدلالة على أن معدات المستعمل (UE) ينبغي أن تفي أيضاً بمتطلب إضافي لأحد سيناريوهات النشر المحددة باعتبارها جزءاً من رسالة التمرير/البث بين الخلايا.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بوسوم التشوير الشبكي المختلفة في الفقرة 5.2.2.6.6 من المعيار [5] TS 36.521-1.

6.6.2.2.5 Test requirements

6.6.2.2.5.1 Test requirements (network signalled value "NS_03", “NS_11”, “NS_20” and “NS_21”)

When "NS_03" or “NS_11” or “NS_20” or “NS_21” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-1, 6.2.4.5-2, 6.2.4.5-11, 6.2.4.5-20 and 6.2.4.5-21 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2.5.1-1 or 6.6.2.2.5.1-2, as applicable.

**Table 6.6.2.2.5.1-1: Additional requirements (network signalled value "NS_03", “NS_11”, “NS_20” and “NS_21”), E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | | | | | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2.5.1-2: Additional requirements (network signalled value "NS_03", “NS_11”, “NS_20” and “NS_21”), 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | | | | | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بالوصلة الصاعدة عند استخدام التشكيل 64-QAM، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.1_2.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2_1.5 Test requirements

Same test requirements as in clause 6.6.2.2.5

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بالوصلة الصاعدة باستخدام 256-QAM، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.2.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بقفزات التردد في القناة المتقاسمة المادية في الوصلة الصاعدة (PUSCH)، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.3_2.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2_3.5 Test requirements

- the measured UE mean power in the channel bandwidth, derived in step 3 and 4, shall fulfil requirements in Table 6.2.4_3.5-1 and 6.2.4_3.5-2 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2_3.5-1 to 6.6.2.2_3.5-6, as applicable.

**Table 6.6.2.2_3.5-1: Additional requirements (network signalled value "NS_03", "NS_11", "NS_20" and "NS_21"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | | | | | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2_3.5-2: Additional requirements (network signalled value "NS_03", "NS_11", "NS_20" and "NS_21"), 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | | | | | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

**Table 6.6.2.2_3.5-3: Additional requirements (network signalled value "NS_04"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -23.5 | -23.5 | -23.5 | -23.5 | 1 MHz |
| 6-10 | | | | | | | 1 MHz |
| 10-15 | | | | | | | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2_3.5-4: Additional requirements (network signalled value "NS_04"), 3GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -23.2 | -23.2 | -23.2 | -23.2 | 1 MHz |
| 6-10 | | | | | | | 1 MHz |
| 10-15 | | | | | | | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

**Table 6.6.2.2_3.5-5: Additional requirements (network signalled value "NS_06" or "NS_07"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |
| 0-0.1 | -11.5 | -11.5 | -13.5 | -16.5 | 30 kHz |
| 0.1-1 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.5 | | | 1 MHz |
| 6-10 | | | -23.5 | | 1 MHz |
| 10-15 | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel

| | |
|---|---|
| Note 4: | Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1. |
| Note 5: | For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. |

**Table 6.6.2.2_3.5-6: Additional requirements (network signalled value "NS_06" or "NS_07"), 3GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |
| 0-0.1 | -11.2 | -11.2 | -13.2 | -16.2 | 30 kHz |
| 0.1-1 | -11.2 | -11.2 | -11.2 | -11.2 | 100 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.2 | | | 1 MHz |
| 6-10 | | | -23.2 | | 1 MHz |
| 10-15 | | | | -23.2 | 1 MHz |

| | |
|---|---|
| Note 1: | The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz. |
| Note 2: | At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively. |
| Note 3: | The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. |
| Note 4: | Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1. |
| Note 5: | For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. |

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بتجميع الموجات الحاملة، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.1.2A.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2A.1.5 Test Requirements

6.6.2.2A.1.5.1 Test requirement for CA (network signalled value "CA_NS_04")

When "CA_NS_04" is indicated in the cell

- the measured UE mean power with the aggregated channel bandwidth as specified in clause 5.4.2A, derived in step 6 , shall fulfil requirements in Table 6.2.4A.1.5-4 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.2.2A.1.5.1-1.

**Table 6.6.2.2A.1.5.1-1: Additional requirements**

| Spectrum emission limit [dBm]/$BW_{Channel_CA}$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 50+75RB (24.75 MHz) | 25+100RB (24.95 MHz) | 50+100RB (29.9 MHz) | 75+75RB (30 MHz) | 75+100RB (34.85 MHz) | 100+100RB (39.8 MHz) | Measurement bandwidth |
| ± 0-1 | -22 | -22 | -22.5 | -23 | -23.5 | -24 | 30 kHz |
| ± 1-5 | -10 | -10 | -10 | -10 | -10 | -10 | 1 MHz |
| ± 5-22.95 | -13 | -13 | -13 | -13 | -13 | -13 | 1 MHz |
| ± 22.95-23.25 | -13 | -25 | -13 | -13 | -13 | -13 | 1 MHz |
| ±23.25-27.9 | -25 | -25 | -13 | -13 | -13 | -13 | 1 MHz |
| ± 27.9-28.5 | -25 | -25 | -25 | -13 | -13 | -13 | 1 MHz |
| ± 28.5-29.75 | -25 | -25 | -25 | -25 | -13 | -13 | 1 MHz |
| ± 29.75-29.95 | | -25 | -25 | -25 | -13 | -13 | 1 MHz |
| ± 29.95-32.85 | | | -25 | -25 | -13 | -13 | 1 MHz |
| ± 32.85-34.9 | | | -25 | -25 | -25 | -13 | 1 MHz |
| ± 34.9-35 | | | | -25 | -25 | -13 | 1 MHz |
| ± 35-37.8 | | | | | -25 | -13 | 1 MHz |
| ± 37.8-39.85 | | | | | -25 | -25 | 1 MHz |
| ± 39.85-44.8 | | | | | | -25 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value CA_NS_04 as defined in TS 36.101 [2] subclause 6.6.2.2A Table 6.2.2.2A-1.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بالوصلة الصاعدة باستخدام MIMO، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.2.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بمعدات المستعمل من الفئة 0، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.2E.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

### 6.6.2.2E.5 Test requirements

#### 6.6.2.2E.5.1 Test requirements (network signalled value "NS_03"")

When "NS_03" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-1 and 6.2.4.5-2 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2E.5.1-1 or 6.6.2.2E.5.1-2, as applicable.

**Table 6.6.2.2E.5.1-1: Additional requirements (network signalled value "NS_03"), E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | | | | | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2E.5.1-2: Additional requirements (network signalled value "NS_03"), 3GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | | | | | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2E.5.2 Test requirements (network signalled value "NS_04")

When "NS_04" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-3 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2E.5.2-1 or Table.6.6.2.2E.5.2-2, as applicable.

**Table 6.6.2.2E.5.2-1: Additional requirements (network signalled value "NS_04"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -23.5 | -23.5 | -23.5 | -23.5 | 1 MHz |
| 6-10 | | | | | | | 1 MHz |
| 10-15 | | | | | | | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2E.5.2-2: Additional requirements (network signalled value "NS_04"), 3GHz < E-UTRA bands ≤ 4.2GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -23.2 | -23.2 | -23.2 | -23.2 | 1 MHz |
| 6-10 | | | | | | | 1 MHz |
| 10-15 | | | | | | | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result

should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

Test requirements (network signalled value "NS_06" or "NS_07")

When "NS_06" or "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-5, 6.2.4.5-6 and 6.2.4.5-7 as appropriate l,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2E.5.3-1 or Table.6.6.2.2E.5.3-2, as applicable.

**Table 6.6.2.2E.5.3-1: Additional requirements (network signalled value "NS_06" or "NS_07"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |
| 0-0.1 | -11.5 | -11.5 | -13.5 | -16.5 | 30 kHz |
| 0.1-1 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.5 | | | 1 MHz |
| 6-10 | | | -23.5 | | 1 MHz |
| 10-15 | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2E.5.3-2: Additional requirements (network signalled value "NS_06" or "NS_07"), 3GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |
| 0-0.1 | -11.2 | -11.2 | -13.2 | -16.2 | 30 kHz |
| 0.1-1 | -11.2 | -11.2 | -11.2 | -11.2 | 100 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.2 | | | 1 MHz |
| 6-10 | | | -23.2 | | 1 MHz |
| 10-15 | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بمعدات المستعمل من الفئة M1، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.2EA.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2EA.5 Test requirements

6.6.2.2EA.5.1 Test requirements (network signalled value "NS_03"")

When "NS_03" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4EA.5-1 and 6.2.4EA.5-2 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EA.5.1-1, as applicable.

**Table 6.6.2.2EA.5.1-1: Additional requirements (network signalled value "NS_03")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | | | | | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 E Table 6.2.4 E -1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2EA.5.2 Test requirements (network signalled value "NS_04")

When "NS_04" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4EA.5-3 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EA.5.2-1, as applicable.

**Table 6.6.2.2EA.5.2-1: Additional requirements (network signalled value "NS_04")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -23.5 | -23.5 | -23.5 | -23.5 | 1 MHz |
| 6-10 | | | | | | | 1 MHz |
| 10-15 | | | | | | | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz. | | | | | | | |
| Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively. | | | | | | | |
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | | | |
| Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4 E Table 6.2.4 E -1. | | | | | | | |
| Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. | | | | | | | |

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

Test requirements (network signalled value "NS_06" or "NS_07")

When "NS_06" or "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4EA.5-5, 6.2.4EA.5-6 and 6.2.4EA.5-7 as appropriate ,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EA.5.3-1, as applicable.

**Table 6.6.2.2EA.5.3-1: Additional requirements (network signalled value "NS_06" or "NS_07")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |

| | | | | | |
|---|---|---|---|---|---|
| 0-0.1 | -11.5 | -11.5 | -13.5 | -16.5 | 30 kHz |
| 0.1-1 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.5 | | | 1 MHz |
| 6-10 | | | -23.5 | | 1 MHz |
| 10-15 | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 E Table 6.2.4 E -1.

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بمعدات المستعمل من الفئة 1مكرراً، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.2EB.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2EB.5 Test requirements

6.6.2.2EB.5.1 Test requirements (network signalled value "NS_03"")

When "NS_03" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-1 and 6.2.4.5-2 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EB.5.1-1 or 6.6.2.2EB.5.1-2, as applicable.

**Table 6.6.2.2EB.5.1-1: Additional requirements (network signalled value "NS_03"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **ΔfOOB (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | | | | | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2EB.5.1-2: Additional requirements (network signalled value "NS_03"), 3GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | | | | | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 6.6.2.2EB.5.2 Test requirements (network signalled value "NS_04")

When "NS_04" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-3 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EB.5.2-1 or Table.6.6.2.2EB.5.2-2, as applicable.

**Table 6.6.2.2EB.5.2-1: Additional requirements (network signalled value "NS_04"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5-6 | | -23.5 | -23.5 | -23.5 | -23.5 | -23.5 | 1 MHz |
| 6-10 | | | | | | | 1 MHz |
| 10-15 | | | | | | | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz. | | | | | | | |
| Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively. | | | | | | | |
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | | | |
| Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1. | | | | | | | |
| Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. | | | | | | | |

**Table 6.6.2.2EB.5.2-2: Additional requirements (network signalled value "NS_04"), 3GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | | | | | | 1 MHz |
| 2.5-2.8 | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | | | | | 1 MHz |
| 6-10 | | | -23.2 | -23.2 | -23.2 | | 1 MHz |
| 10-15 | | | | | | -23.2 | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz. | | | | | | | |
| Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively. | | | | | | | |
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | | | |
| Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1. | | | | | | | |
| Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. | | | | | | | |

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

Test requirements (network signalled value "NS_06" or "NS_07")

When "NS_06" or "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-5, 6.2.4.5-6 and 6.2.4.5-7 as appropriate l,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EB.5.3-1 or Table.6.6.2.2EB.5.3-2, as applicable.

**Table 6.6.2.2EB.5.3-1: Additional requirements (network signalled value "NS_06" or "NS_07"), E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth |
|---|---|

| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | Measurement bandwidth |
|---|---|---|---|---|---|
| 0-0.1 | -11.5 | -11.5 | -13.5 | -16.5 | 30 kHz |
| 0.1-1 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.5 | | | 1 MHz |
| 6-10 | | | -23.5 | | 1 MHz |
| 10-15 | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2EB.5.3-2: Additional requirements (network signalled value "NS_06" or "NS_07"), 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | Measurement bandwidth |
| 0-0.1 | -11.2 | -11.2 | -13.2 | -16.2 | 30 kHz |
| 0.1-1 | -11.2 | -11.2 | -11.2 | -11.2 | 100 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.2 | | | 1 MHz |
| 6-10 | | | -23.2 | | 1 MHz |
| 10-15 | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بمعدات المستعمل من الفئة M2، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.2EC.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2EC.5 Test requirements

6.6.2.2EC.5.1 Test requirements (network signalled value "NS_03")

When "NS_03" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4EC.5-1 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EC.5.1-1, as applicable.

**Table 6.6.2.2EC.5.1-1: Additional requirements (network signalled value "NS_03")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | | | | | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4E Table 6.2.4E-2.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2EC.5.2 Test requirements (network signalled value "NS_04")

When "NS_04" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4EC.5-2 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EC.5.2-1, as applicable.

**Table 6.6.2.2EC.5.2-1: Additional requirements (network signalled value "NS_04")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -23.5 | -23.5 | -23.5 | -23.5 | 1 MHz |
| 6-10 | | | | | | | 1 MHz |
| 10-15 | | | | | | | 1 MHz |
| 15-20 | | | | | | | 1 MHz |
| 20-25 | | | | | | | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_04 as defined in TS 36.101 [2] subclause 6.2.4E Table 6.2.4E-2.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2EC.5.3 Test requirements (network signalled value "NS_06" or "NS_07")

When "NS_06" or "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4EC.5-4A, 6.2.4EC.5-4B and 6.2.4EC.5-5 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EC.5.3-1, as applicable.

**Table 6.6.2.2EC.5.3-1: Additional requirements (network signalled value "NS_06" or "NS_07")**

| | **Spectrum emission limit (dBm)/ Channel bandwidth** | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |
| 0-0.1 | -11.5 | -11.5 | -13.5 | -16.5 | 30 kHz |
| 0.1-1 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.5 | | | 1 MHz |
| 6-10 | | | -23.5 | | 1 MHz |
| 10-15 | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4E Table 6.2.4E-2.
Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2EC.5.4 Test requirements (network signalled value "NS_35")

When "NS_35" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4EC.5-16 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2EC.5.4-1, as applicable.

**Table 6.6.2.2EC.5.4-1: Additional requirements (network signalled value "NS_35")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth (unless otherwise stated)** |
| ± 0-0.1 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| ± 0.1-6 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| ± 6-10 | -23.5[5] | -11.5 | -11.5 | -11.5 | 100 kHz |
| ± 10-15 | | -23.5[5] | -11.5 | -11.5 | 100 kHz |
| ± 15-20 | | | -23.5[5] | -11.5 | 100 kHz |
| ± 20-25 | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_35 as defined in TS 36.101 [2] subclause 6.2.4E Table 6.2.4E-2.

Note 5: The measurement bandwidth shall be 1 MHz

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بمعدات المستعمل من فئة الاتصالات من مركبة إلى كل شيء (V2X)، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.1.2G.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2G.1.5 Test requirements

When "NS_33" or "NS_34" is indicated in the cell,

- the measured UE mean power in the channel bandwidth, derived in step 2, shall fulfil the requirements described in subclass 6.2.4G.1.5;

And

- The power of any UE emission shall fulfil requirements in Table 6.6.2.2G.1.5-1 as applicable.

The power of any V2X UE emission shall not exceed the levels specified in Table 6.6.2.2G.1.3-1.

**Table 6.6.2.2G.1.5-1: Additional requirements for 10MHz channel bandwidth**

| Spectrum emission limit (dBm)/ Channel bandwidth | | |
|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 10 MHz | Measurement bandwidth |
| ± 0-0.5 | $[-13 - 12(\|\Delta fOOB\|/_{MHz})]$ +2 | 100 kHz |
| ± 0.5-5 | $[-19 - \frac{16}{9}(\|\Delta fOOB\|/_{MHz} - 0.5)]$+2 | 100 kHz |
| ± 5-10 | $[-27 - 2(\|\Delta fOOB\|/_{MHz} - 5.0)]$+2 | 100 kHz |

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بمعدات المستعمل من فئة الاتصالات من مركبة إلى كل شيء (V2X)/إرسالات الوصلة الجانبية المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.2.2G.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2G.2.5 Test requirements

When "NS_33" or "NS_34" is indicated in the cell,

- the measured UE mean power in the channel bandwidth, derived in step 4, shall fulfil the requirements described in subclause 6.2.4G.1.5 for Power Class 3 or Power Class 2 UEs;

And

- The power of any UE emission shall fulfil requirements in Table 6.6.2.2G.2.5-1, 6.6.2.2G.2.5-2 or 6.6.2.2G.2.5-3 as applicable.

The E-UTRA uplink emission derived in step 5 shall fulfil requirements in Table 6.6.2.2G.2.5-1 or Table 6.6.2.2G.2.5-1 as applicable.

**Table 6.6.2.2G.2.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≤ 3GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Measurement bandwidth |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | -8.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |

| |
|---|
| Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.<br>Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.<br>Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.<br>Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. |

**Table 6.6.2.2G.2.5-2: General E-UTRA spectrum emission mask, 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | -8.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |

| |
|---|
| Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.<br>Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.<br>Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.<br>Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. |

The power of any V2X sidelink emission derived in step 6 shall not exceed the levels specified in Table 6.6.2.2G.2.5-3.

**Table 6.6.2.2G.2.5-3: Additional requirements for 10 MHz channel bandwidth**

| Spectrum emission limit (dBm)/ Channel bandwidth | | |
|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | 10 MHz | **Measurement bandwidth** |
| ± 0-0.5 | $[-13 - 12(\|\Delta fOOB\|/_{MHz})] + 2$ | 100 kHz |
| ± 0.5-5 | $[-19 - \frac{16}{9}(\|\Delta fOOB\|/_{MHz} - 0.5)] + 2$ | 100 kHz |
| ± 5-10 | $[-27 - 2(\|\Delta fOOB\|/_{MHz} - 5.0)] + 2$ | 100 kHz |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

وتُحدد متطلبات البث الطيفي الإضافي الخاصة بمعدات المستعمل للإرسال على مستوى الفاصل الزمني الفرعي/الفاصل الزمني ضمن مدة الإرسال الزمنية (TTI)، وفقاً لوسوم التشوير الشبكي المختلفة، في الفقرة 5.s_2.2.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.2.2_s.5 Test requirements

6.6.2.2_s.5.1 Test requirements (network signalled value "NS_03", “NS_11”, “NS_20” and “NS_21”)

When "NS_03" or “NS_11” or “NS_20” or “NS_21” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-1, 6.2.4.5-2 ,6.2.4.5-11, 6.2.4.5-20 and 6.2.4.5-21 as appropriate,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2_s.5.1-1 or 6.6.2.2_s.5.1-2, as applicable.

**Table 6.6.2.2_s.5.1-1: Additional requirements (network signalled value "NS_03", “NS_11”, “NS_20” and “NS_21”), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.5 | -11.5 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.5 | | | | | 1 MHz |
| 6-10 | | | -23.5 | | | | 1 MHz |
| 10-15 | | | | -23.5 | | | 1 MHz |
| 15-20 | | | | | -23.5 | | 1 MHz |
| 20-25 | | | | | | -23.5 | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz. | | | | | | | |
| Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively. | | | | | | | |
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | | | |
| Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1. | | | | | | | |
| Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz. | | | | | | | |

**Table 6.6.2.2_s.5.1-2: Additional requirements (network signalled value "NS_03", “NS_11”, “NS_20” and “NS_21”), 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | -8.2 | -11.2 | -13.2 | -16.2 | -18.2 | -19.2 | 30 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | | | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | -23.2 | | | | | 1 MHz |
| 6-10 | | | -23.2 | | | | 1 MHz |
| 10-15 | | | | -23.2 | | | 1 MHz |
| 15-20 | | | | | -23.2 | | 1 MHz |
| 20-25 | | | | | | -23.2 | 1 MHz |
| Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz. | | | | | | | |
| Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively. | | | | | | | |
| Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | | | |
| Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_03 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1. | | | | | | | |

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2_s.5.2 Test requirements (network signalled value "NS_04")

When "NS_04" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-3,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2_s.5.2-1.

**Table 6.6.2.2_s.5.2-1: Additional requirements (network signalled value "NS_04")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| ± 1-2.5 | -8.5 | --8.5 | -8.5 | -8.5 | 1 MHz |
| ± 2.5-2.8 | | | | | 1 MHz |
| ± 2.8-5 | | | | | 1 MHz |
| ± 5-6 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| ± 6-9 | -23.5 | | | | 1 MHz |
| ± 9-10 | | -23.5 | | | 1 MHz |
| ± 10-13.5 | | | | | 1 MHz |
| ± 13.5-15 | | | -23.5 | | 1 MHz |
| ± 15-18 | | | | | 1 MHz |
| ± 18-20 | | | | -23.5 | 1 MHz |
| ± 20-25 | | | | | 1 MHz |

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2_s.5.3 Test requirements (network signalled value "NS_06" or "NS_07")

When "NS_06" or "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-5, 6.2.4.5-6 and 6.2.4.5-7,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2_s.5.3-1 or Table.6.6.2.2_s.5.3-2, as applicable.

**Table 6.6.2.2_s.5.3-1: Additional requirements (network signalled value "NS_06" or "NS_07"), E-UTRA bands ≤ 3 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |
| 0-0.1 | -11.5 | -11.5 | -13.5 | -16.5 | 30 kHz |
| 0.1-1 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| 1-2.5 | -11.5 | -11.5 | -11.5 | -11.5 | 1 MHz |
| 2.5-2.8 | -23.5 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.5 | | | 1 MHz |
| 6-10 | | | -23.5 | | 1 MHz |
| 10-15 | | | | -23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.2_s.5.3-2: Additional requirements (network signalled value "NS_06" or "NS_07"), 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **Measurement bandwidth** |
| 0-0.1 | -11.2 | -11.2 | -13.2 | -16.2 | 30 kHz |
| 0.1-1 | -11.2 | -11.2 | -11.2 | -11.2 | 100 kHz |
| 1-2.5 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| 2.5-2.8 | -23.2 | | | | 1 MHz |
| 2.8-5 | | | | | 1 MHz |
| 5-6 | | -23.2 | | | 1 MHz |
| 6-10 | | | -23.2 | | 1 MHz |
| 10-15 | | | | -23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.085 MHz. The first and last measurement position with a 100 kHz filter is at ΔfOOB equals to 0.15 MHz and 0.95 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: Above SEM requirement applies to bands corresponding to network signalling value NS_06 and NS_07 as defined in TS 36.101 [2] subclause 6.2.4 Table 6.2.4-1.

Note 5: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: (only for emission measurement) As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement

accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.6.2.2_s.5.4 Test requirements (network signalled value "NS_27")

When "NS_27" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-27,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2_s.5.4-1, as applicable.

**Table 6.6.2.2_s.5.4-1: Additional requirements (network signalled value "NS_27")**

| | Spectrum emission limit (dBm)/ Channel bandwidth | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| ± 0-1 | -11.2 | -11.2 | -11.2 | -11.2 | Note 1 |
| ± 1-10 | -11.2 | -11.2 | -11.2 | -11.2 | 1 MHz |
| ± 10-15 | | -23.2 | -23.2 | -23.2 | 1 MHz |
| ± 15-20 | | | -23.2 | -23.2 | 1 MHz |
| ± 20-25 | | | | -23.2 | 1 MHz |
| Note 1: The measurement bandwidth is 1% of the applicable E-UTRA channel bandwidth. | | | | | |

6.6.2.2_s.5.5 Test requirements (network signalled value "NS_35")

When "NS_35" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-28,

and

- the power of any UE emission shall fulfil requirements in Table 6.6.2.2_s.5.5-1, as applicable.

**Table 6.6.2.2_s.5.5-1: Additional requirements (network signalled value "NS_35")**

| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth (unless otherwise stated)** |
|---|---|---|---|---|---|
| ± 0-0.1 | -13.5 | -16.5 | -18.5 | -19.5 | 30 kHz |
| ± 0.1-6 | -11.5 | -11.5 | -11.5 | -11.5 | 100 kHz |
| ± 6-10 | -23.5[1] | -11.5 | -11.5 | -11.5 | 100 kHz |
| ± 10-15 | | -23.5[1] | -11.5 | -11.5 | 100 kHz |
| ± 15-20 | | | -23.5[1] | -11.5 | 100 kHz |
| ± 20-25 | | | | -23.5 | 1 MHz |
| Note 1: The measurement bandwidth shall be 1 MHz | | | | | |

### 3.1.2.1 نسبة التسرب في القنوات المجاورة (Adjacent channel leakage ratio)

نسبة التسرب في القنوات المجاورة (ACLR) هي نسبة القدرة المتوسطة المرشَّحة المتمركزة في تردد القناة المخصصة إلى القدرة المتوسطة المرشَّحة المتمركزة في تردد قناة مجاورة.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالنفاذ الراديوي للأرض العالمي (UTRA) والنفاذ الراديوي للأرض العالمي المتطور (E-UTRA)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 1.5.3.2.6.6.

6.6.2.3.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 7, shall be higher than the limits in table 6.6.2.3.5.1-1.

**Table 6.6.2.3.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

Test requirements UTRA

If the measured UTRA channel power is greater than –50 dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in table 6.6.2.3.5.2-1.

**Table 6.6.2.3.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+BW$_{UTRA}$/2 / -0.7-BW$_{UTRA}$/2 | 1.5+BW$_{UTRA}$/2 / -1.5-BW$_{UTRA}$/2 | 2.5+BW$_{UTRA}$/2 / -2.5-BW$_{UTRA}$/2 | 5+BW$_{UTRA}$/2 / -5-BW$_{UTRA}$/2 | 7.5+BW$_{UTRA}$/2 / -7.5-BW$_{UTRA}$/2 | 10+BW$_{UTRA}$/2 / -10-BW$_{UTRA}$/2 |
| **UTRA$_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*BW$_{UTRA}$/2 / -2.5-3*BW$_{UTRA}$/2 | 5+3*BW$_{UTRA}$/2 / -5-3*BW$_{UTRA}$/2 | 7.5+3*BW$_{UTRA}$/2 / -7.5-3*BW$_{UTRA}$/2 | 10+3*BW$_{UTRA}$/2 / -10-3*BW$_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5 MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6 MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |

Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.
Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.
Note 3: $BW_{UTRA}$ for UTRA FDD is 5 MHz and for UTRA TDD is 1.6 MHz.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل عالية القدرة (HPUE) في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.2.3_1.5.1.

6.6.2.3_1.5 Test requirement

6.6.2.3_1.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3_1.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-$UTRA_{ACLR}$, derived in step 6, shall be higher than the limits in table 6.6.2.3_1.4.1-1 for Power Class1 UE and in table 6.6.2.3_1.4.1-2 for Power Class 2 UE.

**Table 6.6.2.3_1.4.1-1: E-UTRA UE ACLR for Power Class 1**

| | **Channel bandwidth / E-$UTRA_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-$UTRA_{ACLR1}$** | N/A | N/A | 36.2 dB | 36.2 dB | N/A | N/A |
| **E-UTRA channel Measurement bandwidth** | N/A | N/A | 4.5 MHz | 9.0 MHz | N/A | N/A |
| **UE channel** | N/A | N/A | +5 MHz or -5 MHz | +10 MHz or -10 MHz | N/A | N/A |

Table 6.6.2.3_1.4.1-2: E-UTRA UE ACLR for Power Class 2

| | **Channel bandwidth / E-$UTRA_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-$UTRA_{ACLR1}$** | N/A | N/A | 30.2 dB | 30.2 dB | 30.2 dB | 30.2 dB |
| **E-UTRA channel Measurement bandwidth** | N/A | N/A | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | N/A | N/A | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالقناة المتقاسمة المادية في الوصلة الصاعدة (PUSCH) المتعددة المجموعات، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.2.3_1.5.2.

6.6.2.3_2.5 Test requirement

6.6.2.3_2.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3_2.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 7, shall be higher than the limits in table 6.6.2.3_2.5.1-1.

**Table 6.6.2.3_2.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3_2.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in table 6.6.2.3_2.5.2-1.

**Table 6.6.2.3_2.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+BW$_{UTRA}$/2 / -0.7-BW$_{UTRA}$/2 | 1.5+BW$_{UTRA}$/2 / -1.5-BW$_{UTRA}$/2 | 2.5+BW$_{UTRA}$/2 / -2.5-BW$_{UTRA}$/2 | 5+BW$_{UTRA}$/2 / -5-BW$_{UTRA}$/2 | 7.5+BW$_{UTRA}$/2 / -7.5-BW$_{UTRA}$/2 | 10+BW$_{UTRA}$/2 / -10-BW$_{UTRA}$/2 |
| **UTRA$_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*BW$_{UTRA}$/2 / -2.5-3*BW$_{UTRA}$/2 | 5+3*BW$_{UTRA}$/2 / -5-3*BW$_{UTRA}$/2 | 7.5+3*BW$_{UTRA}$/2 / -7.5-3*BW$_{UTRA}$/2 | 10+3*BW$_{UTRA}$/2 / -10-3*BW$_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |

Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.
Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.

Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 64-QAM، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3_3.5.

6.6.2.3_3.5 Test requirement

6.6.2.3_3.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3_1.5-1 as appropriate, and
- if the measured adjacent channel power is greater than –50 dBm then the measured E-$UTRA_{ACLR}$, derived in step 7, shall be higher than the limits in table 6.6.2.3_3.5.1-1.

**Table 6.6.2.3_3.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-$UTRA_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-$UTRA_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3_3.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50dBm then the measured $UTRA_{ACLR1}$, $UTRA_{ACLR2}$, derived in step 8, shall be higher than the limits in table 6.6.2.3_3.5.2-1.

**Table 6.6.2.3_3.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / $UTRA_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **$UTRA_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+$BW_{UTRA}$/2 / -0.7-$BW_{UTRA}$/2 | 1.5+$BW_{UTRA}$/2 / -1.5-$BW_{UTRA}$/2 | 2.5+$BW_{UTRA}$/2 / -2.5-$BW_{UTRA}$/2 | 5+$BW_{UTRA}$/2 / -5-$BW_{UTRA}$/2 | 7.5+$BW_{UTRA}$/2 / -7.5-$BW_{UTRA}$/2 | 10+$BW_{UTRA}$/2 / -10-$BW_{UTRA}$/2 |
| **$UTRA_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*$BW_{UTRA}$/2 / -2.5-3*$BW_{UTRA}$/2 | 5+3*$BW_{UTRA}$/2 / -5-3*$BW_{UTRA}$/2 | 7.5+3*$BW_{UTRA}$/2 / -7.5-3*$BW_{UTRA}$/2 | 10+3*$BW_{UTRA}$/2 / -10-3*$BW_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Measurement bandwidth[1]** | | | | | | |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.<br>Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz. | | | | | | |

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6.6.2.3_4.5 Test requirement

Same test requirements as in clause 6.6.2.3_2.5 with following exception:

- Instead of Table 6.2.3_2.5-1 → use Table 6.2.3_4.5-1

**Table 6.2.3_4.5-1: UE Power Class test requirements for Multi-Cluster PUSCH with UL 64QAM**

| Configuration ID | EUTRA band | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|---|
| 1 | 31, 51,72 | | | | | 23 | +2.7 / -12.7 |
| 2 | 31, 51, 72 | | | | | 23 | +2.7 / -7.7 |
| 3 | 31, 51, 72 | | | | | 23 | +2.7 / -7.7 |
| 4 | 5, 6, 8, 11, 12, 13, 14, 17, 24, 27, 30 | | | | | 23 | +2.7 / -12.7 |
| 5 | 5, 6, 8, 11, 12, 13, 14, 17, 27, 30 | | | | | 23 | +2.7 / -7.7 |
| 5 | 24 | | | | | 23 | +2.7 / [1,2] -7.7 |
| 6 | 11, 12, 13, 14, 17, 27, 30 | | | | | 23 | +2.7 / -7.7 |
| 6 | 24 | | | | | 23 | +2.7 / [1,2] -7.7 |
| 7 | 18, 19, 21, 26, 34, 68 | | | | | 23 | +2.7 / -11.7 |
| 8 | 18, 19, 21, 26, 34, 68 | | | | | 23 | +2.7 / -7.7 |
| 9 | 18, 19, 21, 26, 34, 68 | | | | | 23 | +2.7 / -7.7 |
| 10 | 1, 2, 3, 4, 7, 9, 10, 20, 23, 25, 28, 33, 35, 36, 37, 38, 39, 40, 41, 44, 45, 50, 65, 66, 70, 71 | | | | | 23 | +2.7 / -13.2 |
| 10 | 22, 42, 43, 48 | | | | | 23 | +2.7 / -13.5 |
| 11 | 1, 2, 3, 4, 7, 9, 10, 20, 23, | | | | | 23 | +2.7 / -7.7 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 25, 28,33, 35, 36, 37, 38, 39, 40, 41, 44, 45, 50, 65, 66, 70, 71 | | | | | | |
| 11 | 22, 42, 43, 48 | | | | | 23 | +2.7 / -8.0 |
| 12 | 1, 2, 3, 4, 7, 9, 10, 20, 23, 25, 28,33, 35, 36, 37, 38, 39, 40, 41, 44, 45, 50, 65, 66, 70, 71 | | | | | 23 | +2.7 / -7.7 |
| 12 | 22, 42, 43, 48 | | | | | 23 | +2.7 / -8.0 |
| Note 1: For transmission bandwidths (Figure 5.4.2-1) confined within FUL_low and FUL_low + 4 MHz or FUL_high – 4 MHz and FUL_high, the maximum output power requirement is relaxed by reducing the lower tolerance limit by 1.5 dB.<br>Note 2: For the UE maximum output power modified by MPR, the power limits specified in Table 6.2.5.3-1 apply | | | | | | | |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 256-QAM، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.2.3_5.5.

6.6.2.3_5.5 Test requirement

6.6.2.3_5.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3_5.5-1 as appropriate, and
- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 7, shall be higher than the limits in table 6.6.2.3_5.5.1-1.

**Table 6.6.2.3_5.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3_5.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in table 6.6.2.3_5.5.2-1.

**Table 6.6.2.3_5.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+$BW_{UTRA}$/2 / -0.7-$BW_{UTRA}$/2 | 1.5+$BW_{UTRA}$/2 / -1.5-$BW_{UTRA}$/2 | 2.5+$BW_{UTRA}$/2 / -2.5-$BW_{UTRA}$/2 | 5+$BW_{UTRA}$/2 / -5-$BW_{UTRA}$/2 | 7.5+$BW_{UTRA}$/2 / -7.5-$BW_{UTRA}$/2 | 10+$BW_{UTRA}$/2 / -10-$BW_{UTRA}$/2 |
| **$UTRA_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*$BW_{UTRA}$/2 / -2.5-3*$BW_{UTRA}$/2 | 5+3*$BW_{UTRA}$/2 / -5-3*$BW_{UTRA}$/2 | 7.5+3*$BW_{UTRA}$/2 / -7.5-3*$BW_{UTRA}$/2 | 10+3*$BW_{UTRA}$/2 / -10-3*$BW_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.<br>Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz. | | | | | | |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالقناة المتقاسمة المادية في الوصلة الصاعدة (PUSCH) المتعددة المجموعات، عند استخدام الوصلة الصاعدة التي تستخدم تشكيل 256-QAM، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.6_3.2.6.6.

6.6.2.3_6.5 Test requirement

Same test requirements as in clause 6.6.2.3_2.5 with following exception:

- Instead of Table 6.2.3_2.5-1 → use Table 6.2.3_6.5-1

**Table 6.2.3_6.5-1: UE Power Class test requirements for Multi-Cluster PUSCH with UL 256QAM**

| Configuration ID | EUTRA band | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|---|
| 1 | 31, 51, 72, 73 | | | | | 23 | +2,7 / -12,7 |
| 2 | 31, 51, 72, 73 | | | | | 23 | +2,7 / -11,2 |
| 3 | 31, 51, 72, 73 | | | | | 23 | +2,7 / -11,2 |
| 4 | 5, 6, 8, 11, 12, 13, 14, 17, 24, 27, 30 | | | | | 23 | +2,7 / -12,7 |
| 5 | 5, 6, 8, 11, 12, 13, 14, 17, 24, 27, 30 | | | | | 23 | +2,7 / -11,2 |
| 6 | 5, 6, 8, 11, 12, 13, 14, 17, 24, 27, 30 | | | | | 23 | +2,7 / -11,2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7 | 18, 19, 21, 26, 34, 68 | | | | | 23 | +2,7 / -11,7 |
| 8 | 18, 19, 21, 26, 34, 68 | | | | | 23 | +2,7 / -11,2 |
| 9 | 18, 19, 21, 26, 34, 68 | | | | | 23 | +2,7 / -11,2 |
| 10 | 1, 2, 3, 4, 7, 9, 10, 20, 23, 25, 28, 33, 35, 36, 37, 38, 39, 40, 41, 44, 45, 50, 65, 66, 70, 71, 74 | | | | | 23 | +2,7 / -13,2 |
| | 22, 42, 43, 48 | | | | | 23 | +3,0 / -13,5 |
| 11 | 1, 2, 3, 4, 7, 9, 10, 20, 23, 25, 28, 33, 35, 36, 37, 38, 39, 40, 41, 44, 45, 50, 65, 66, 70, 71, 74 | | | | | 23 | +2,7 / -11,2 |
| | 22, 42, 43, 48 | | | | | 23 | +3,0 / -11,5 |
| 12 | 1, 2, 3, 4, 7, 9, 10, 20, 23, 25, 28, 33, 35, 36, 37, 38, 39, 40, 41, 44, 45, 50, 65, 66, 70, 71, 74 | | | | | 23 | +2,7 / -11,2 |
| | 22, 42, 43, 48 | | | | | 23 | +3,0 / -11,5 |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بتجميع الموجات الحاملة، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.1.3A.2.6.6.

6.6.2.3A.1.5 Test Requirements

6.6.2.3A.1.5.1 Test requirements of UTRA for CA

If the measured UTRA channel power is greater than –50dBm then the measured $UTRA_{ACLR1}$ and $UTRA_{ACLR2}$, derived in step 11, shall be higher than the limits in table 6.6.2.3A.1.5.1-1.

**Table 6.6.2.3A.1.5.1-1: UTRA UE ACLR for CA**

| | **CA bandwidth class / $UTRA_{ACLR1/2}$ / measurement bandwidth** |
|---|---|
| | **CA bandwidth class B and C** |
| $UTRA_{ACLR1}$ | 32.2 dB |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + $BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ / 2 - $BW_{UTRA}$/2 |
| $UTRA_{ACLR2}$ | 35.2 dB |

| | |
|---|---|
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + 3*$BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ /2 – 3*$BW_{UTRA}$/2 |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| UTRA 5MHz channel Measurement bandwidth (Note 1) | 3.84 MHz |
| UTRA 1.6MHz channel measurement bandwidth (Note 2) | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum. | |

6.6.2.3A.1.5.2 Test requirements of CA E-UTRA

- The measured UE mean power in the channel bandwidth as specified in clause 5.4.2A, derived in step 6, shall fulfil requirements in Table 6.2.3A.1.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured CA E-$UTRA_{ACLR}$, derived in step 10, shall be higher than the limits in table 6.6.2.3A.1.5.2-1.

**Table 6.6.2.3A.1.5.2-1: CA E-UTRA ACLR**

| | **CA bandwidth class / CA E-$UTRA_{ACLR}$ / Measurement bandwidth** |
|---|---|
| | **CA bandwidth class B and C** |
| CA E-$UTRA_{ACLR}$ | 29.2 dB |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$<br>/<br>- $BW_{Channel_CA}$ |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 64-QAM، في حالة تشغيل تجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة المتجاورة داخل النطاق وتجميع الموجات الحاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3A.2.6.6_1.5.

6.6.2.3A.1_1.5 Test requirement

Same test requirement as defined in clause 6.6.2.3A.1.5 with following exceptions:

- Instead of Table 6.2.3A.1.5-1 → use Table 6.2.3A.1_1.5-1.

**Table 6.2.3A.1_1.5-1: CA UE Power Class test requirements, E UTRA bands ≤ 3 GHz**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7/-4.7 |
| 2 | | | | | 23 | +2.7/-6.2 |
| 3 | | | | | 23 | +2.7/-6.2 |
| 4 | | | | | 23 | +2.7/-4.7 |
| 5 | | | | | 23 | +2.7/-6.2 |
| 6 | | | | | 23 | +2.7/-6.2 |
| 7 | | | | | 23 | +2.7/-4.7 |
| 8 | | | | | 23 | +2.7/-6.2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | | | | | 23 | +2.7/-6.2 |
| 10 | | | | | 23 | +2.7/-4.7 |
| 11 | | | | | 23 | +2.7/-6.2 |
| 12 | | | | | 23 | +2.7/-6.2 |
| 13 | | | | | 23 | +2.7/-4.7 |
| 14 | | | | | 23 | +2.7/-6.2 |
| 15 | | | | | 23 | +2.7/-6.2 |
| 16 | | | | | 23 | +2.7/-4.7 |
| 17 | | | | | 23 | +2.7/-6.2 |
| 18 | | | | | 23 | +2.7/-6.2 |
| 19 | | | | | 23 | +2.7/-4.7 |
| 20 | | | | | 23 | +2.7/-6.2 |
| 21 | | | | | 23 | +2.7/-6.2 |
| 22 | | | | | 23 | +2.7/-4.7 |
| 23 | | | | | 23 | +2.7/-6.2 |
| 24 | | | | | 23 | +2.7/-6.2 |
| NOTE 1: Lower limit is assuming ΔTC,c and ΔTIB,c are zero. If non-zero, PCMAX,c will decrease and T(PCMAX_L,c) may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 256-QAM، في حالة تشغيل تجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة المتجاورة داخل النطاق في وتجميع الموجات الحاملة الوصلة الهابطة)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.2.2.6.3A.1_5.2.

6.6.2.3A.1_2.5 Test requirement

Same test requirement as defined in clause 6.6.2.3A.1.5 with following exception:

- Instead of Table 6.2.3A.1.5-1 → use Table 6.2.3A.1_2.5-1.

**Table 6.2.3A.1_2.5-1: CA UE Power Class test requirements, E UTRA bands ≤ 3 GHz**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7/-9.7 |
| 2 | | | | | 23 | +2.7/-9.7 |
| 3 | | | | | 23 | +2.7/-9.7 |
| 4 | | | | | 23 | +2.7/-9.7 |
| 5 | | | | | 23 | +2.7/-9.7 |
| 6 | | | | | 23 | +2.7/-9.7 |
| 7 | | | | | 23 | +2.7/-9.7 |
| 8 | | | | | 23 | +2.7/-9.7 |
| 9 | | | | | 23 | +2.7/-9.7 |
| 10 | | | | | 23 | +2.7/-9.7 |
| 11 | | | | | 23 | +2.7/-9.7 |
| 12 | | | | | 23 | +2.7/-9.7 |
| 13 | | | | | 23 | +2.7/-9.7 |
| 14 | | | | | 23 | +2.7/-9.7 |
| 15 | | | | | 23 | +2.7/-9.7 |
| 16 | | | | | 23 | +2.7/-9.7 |
| 17 | | | | | 23 | +2.7/-9.7 |
| 18 | | | | | 23 | +2.7/-9.7 |
| NOTE 1: Lower limit is assuming ΔTIB,c is zero. If non-zero, PCMAX,c will decrease and T(PCMAX_L,c) may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل عالية القدرة (HPUE)، في حالة تشغيل تجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة المتجاورة داخل النطاق وتجميع الموجات الحاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3A.1_3.5.

6.6.2.3A.1_3.5 Test Requirements

6.6.2.3A.1_3.5.1 Test requirements of UTRA for CA

If the measured UTRA channel power is greater than –50 dBm then the measured $UTRA_{ACLR1}$ and $UTRA_{ACLR2}$, derived in step 11, shall be higher than the limits in Table 6.6.2.3A.1.5.1-1.

**Table 6.6.2.3A.1.5.1-1: UTRA UE ACLR for CA**

| | **CA bandwidth class / $UTRA_{ACLR1/2}$ / measurement bandwidth** |
|---|---|
| | **CA bandwidth class B and C** |
| $UTRA_{ACLR1}$ | 32.2 dB |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + $BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ / 2 - $BW_{UTRA}$/2 |
| $UTRA_{ACLR2}$ | 35.2 dB |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + 3*$BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ /2 – 3*$BW_{UTRA}$/2 |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| UTRA 5MHz channel Measurement bandwidth (Note 1) | 3.84 MHz |
| UTRA 1.6MHz channel measurement bandwidth (Note 2) | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum. | |

6.6.2.3A.1_3.5.2 Test requirements of CA E-UTRA

- The measured UE mean power in the channel bandwidth as specified in clause 5.4.2A, derived in step 6, shall fulfil requirements in Table 6.2.3A.1.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured CA $E\text{-}UTRA_{ACLR}$, derived in step 10, shall be higher than the limits in table 6.6.2.3A.1.5.2-1.

**Table 6.6.2.3A.1_3.5.2-1: CA E-UTRA ACLR**

| | **CA bandwidth class / CA $E\text{-}UTRA_{ACLR}$ / Measurement bandwidth** |
|---|---|
| | **CA bandwidth class B and C** |
| CA $E\text{-}UTRA_{ACLR}$ | 29.2 dB |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$<br>/<br>- $BW_{Channel_CA}$ |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بتجميع الموجات الحاملة، بما يشمل تجميع موجات حاملة بين النطاقات في الوصلة الهابطة، وتجميع موجات حاملة في الوصلة الصاعدة، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.2.3A.2.6.6.

6.6.2.3A.2.5 Test Requirements

6.6.2.3A.2.5.1 Test requirements of UTRA for CA

If the measured UTRA channel power is greater than –50 dBm then the measured $UTRA_{ACLR1}$ and $UTRA_{ACLR2}$, derived in step 11, shall be higher than the limits in Table 6.6.2.3A.2.5.1-1.

**Table 6.6.2.3A.2.5.1-1: UTRA UE ACLR for CA**

| | **Channel bandwidth / $UTRA_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **$UTRA_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+$BW_{UTRA}$/2 / -0.7-$BW_{UTRA}$/2 | 1.5+$BW_{UTRA}$/2 / -1.5-$BW_{UTRA}$/2 | 2.5+$BW_{UTRA}$/2 / -2.5-$BW_{UTRA}$/2 | 5+$BW_{UTRA}$/2 / -5-$BW_{UTRA}$/2 | 7.5+$BW_{UTRA}$/2 / -7.5-$BW_{UTRA}$/2 | 10+$BW_{UTRA}$/2 / -10-$BW_{UTRA}$/2 |
| **$UTRA_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*$BW_{UTRA}$/2 / -2.5-3*$BW_{UTRA}$/2 | 5+3*$BW_{UTRA}$/2 / -5-3*$BW_{UTRA}$/2 | 7.5+3*$BW_{UTRA}$/2 / -7.5-3*$BW_{UTRA}$/2 | 10+3*$BW_{UTRA}$/2 / -10-3*$BW_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.<br>Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz. | | | | | | |

6.6.2.3A.2.5.2 Test requirements of CA E-UTRA

- The measured UE mean power in the channel bandwidth as specified in clause 5.4.2A, derived in step 6, shall fulfil requirements in Table 6.2.3A.2.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured CA $E\text{-}UTRA_{ACLR}$, derived in step 10, shall be higher than the limits in table 6.6.2.3A.2.5.2-1.

**Table 6.6.2.3A.2.5.2-1: CA E-UTRA ACLR**

| | **Channel bandwidth / $E\text{-}UTRA_{ACLR1}$ / measurement bandwidth** |
|---|---|

| | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
|---|---|---|---|---|---|---|
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3A.2.5.3 Test requirements of E-UTRA (network signalled value “NS_29”)

When "NS_29" is indicated in the cell, the UE emission shall meet the additional requirements specified in Table 6.6.2.3A.2.5.3-1 for E-UTRA channels assigned within the frequency ranges 5 150-5 350 MHz and 5 470-5 725 MHz.

- The measured UE mean power in the channel bandwidth as specified in clause 5.4.2A, derived in step 6, shall fulfil requirements in Table 6.2.3A.2.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured CA E-UTRA$_{ACLR2}$, derived in step 10, shall be higher than the limits in table 6.6.2.3A.2.5.3-1.

**Table 6.6.2.3A.2.5.3-1: Additional E-UTRA$_{ACLR}$ requirement**

| | **Channel bandwidth / E-UTRA$_{ACLR2}$ / Measurement bandwidth** |
|---|---|
| | **20 MHz** |
| E-UTRA$_{ACLR2}$ | 38.7 dBc |
| E-UTRA channel Measurement bandwidth | NOTE 1 |
| Adjacent channel centre frequency offset [MHz] | +40<br>/<br>-40 |
| NOTE 1: 18 MHz for E-UTRA channels assigned within 5 150-5 350 MHz; 19 MHz for E-UTRA channels assigned within 5 470-5 725 MHz. | |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 64-QAM، في حالة تشغيل تجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة بين النطاقات وتجميع الموجات الحاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3A.2_5.1.

6.6.2.3A.2_1.5 Test Requirements

Same test requirements as in clause 6.6.2.3A.2.5.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 256-QAM، في حالة تشغيل تجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة بين النطاقات وتجميع الموجات الحاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3A.3_5.1.

6.6.2.3A.3_1.5 Test Requirements

Same test requirements as in clause 6.6.2.3A.3.5.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة غير المتجاورة داخل النطاق وتجميع الموجات الحاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3A.3.5.

6.6.2.3A.3.5 Test Requirements

6.6.2.3A.3.5.1 Test requirements E-UTRA

- The measured UE mean power, derived in step 6, shall fulfil requirements in Table 6.2.3A.3.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 13 and 14, shall be higher than the limits in table 6.6.2.3A.3.5.1-1.

**Table 6.6.2.3A.3.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3A.3.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in steps 15 and 16, shall be higher than the limits in table 6.6.2.3A.3.5.2-1.

**Table 6.6.2.3A.3.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+BW$_{UTRA}$/2 / -0.7-BW$_{UTRA}$/2 | 1.5+BW$_{UTRA}$/2 / -1.5-BW$_{UTRA}$/2 | 2.5+BW$_{UTRA}$/2 / -2.5-BW$_{UTRA}$/2 | 5+BW$_{UTRA}$/2 / -5-BW$_{UTRA}$/2 | 7.5+BW$_{UTRA}$/2 / -7.5-BW$_{UTRA}$/2 | 10+BW$_{UTRA}$/2 / -10-BW$_{UTRA}$/2 |
| **UTRA$_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*BW$_{UTRA}$/2 / -2.5-3*BW$_{UTRA}$/2 | 5+3*BW$_{UTRA}$/2 / -5-3*BW$_{UTRA}$/2 | 7.5+3*BW$_{UTRA}$/2 / -7.5-3*BW$_{UTRA}$/2 | 10+3*BW$_{UTRA}$/2 / -10-3*BW$_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |

| | | | | | | |
|---|---|---|---|---|---|---|
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.<br>Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz. | | | | | | |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 64-QAM، في حالة تشغيل تجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة غير المتجاورة داخل النطاق وتجميع الموجات الحاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] 36.521-1 TS. الفقرة 6.6.2.3A.2.6.6 .5.1_3.3A.

6.6.2.3A.3_1.5 Test Requirements

Same test requirements as in clause 6.6.2.3A.3.5.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالوصلة الصاعدة التي تستخدم تشكيل 256-QAM، في حالة تشغيل تجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة غير المتجاورة داخل النطاق وتجميع الموجات الحاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] 36.521-1 TS. الفقرة 6.6.2.3A.2.6.6 .5.2_3.3A.

6.6.2.3A.3_2.5 Test Requirements

Same as in clause 6.6.2.3A.3_1.5.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بتجميع الموجات الحاملة (تجميع ثلاث موجات حاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] 36.521-1 TS. الفقرة 6.6.2.3A.2.6.6 .5.4.3A.

6.6.2.3A.4.5 Test Requirements

6.6.2.3A.4.5.1 Test requirements of UTRA for CA

If the measured UTRA channel power is greater than –50 dBm then the measured $UTRA_{ACLR1}$ and $UTRA_{ACLR2}$, derived in steps 8d), 9d) 10h) and 10i), shall be higher than the limits in Table 6.6.2.3A.4.5.1-1.

**Table 6.6.2.3A.4.5.1-1: UTRA UE ACLR for CA**

| | **CA bandwidth class / $UTRA_{ACLR1/2}$ / measurement bandwidth** |
|---|---|
| | **CA bandwidth class D** |
| $UTRA_{ACLR1}$ | 32.2 dB |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + $BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ / 2 - $BW_{UTRA}$/2 |
| $UTRA_{ACLR2}$ | 35.2 dB |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + 3*$BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ /2 – 3*$BW_{UTRA}$/2 |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| UTRA 5MHz channel Measurement bandwidth (Note 1) | 3.84 MHz |

| | |
|---|---|
| UTRA 1.6MHz channel measurement bandwidth (Note 2) | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum. | |

6.6.2.3A.4.5.2 Test requirements of CA E-UTRA

- The measured UE mean power in the channel bandwidth as specified in clause 5.4.2A, derived in step 6, shall fulfil requirements in Table 6.2.3A.1.5-1 for intra-band non-contiguous CA, 6.2.3A.2.5-1 for inter-band CA and 6.2.3A.3.5-1 for intra-band non-contiguous CA as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured CA E-UTRA$_{ACLR}$, derived in steps 8c), 9c) 10f)and 10g), shall be higher than the limits in Table 6.6.2.3A.4.5.2-1.

**Table 6.6.2.3A.4.5.2-1: CA E-UTRA ACLR**

| | **CA bandwidth class / CA E-UTRA$_{ACLR}$ / Measurement bandwidth** |
|---|---|
| | **CA bandwidth class D** |
| CA E-UTRA$_{ACLR}$ | 29.2 dB |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$<br>/<br>- $BW_{Channel_CA}$ |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بتجميع الموجات الحاملة (تجميع أربع موجات حاملة في الوصلة الصاعدة)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.5.3A.2.6.6.

6.6.2.3A.5.5 Test Requirements

6.6.2.3A.5.5.1 Test requirements of UTRA for CA

If the measured UTRA channel power is greater than –50 dBm then the measured UTRA$_{ACLR1}$ and UTRA$_{ACLR2}$, derived in step 11, shall be higher than the limits in Table 6.6.2.3A.5.5.1-1.

**Table 6.6.2.3A.5.5.1-1: UTRA UE ACLR for CA**

| | **CA bandwidth class / UTRA$_{ACLR1/2}$ / measurement bandwidth** |
|---|---|
| | **CA bandwidth class D** |
| UTRA$_{ACLR1}$ | 32.2 dB |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + $BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ / 2 - $BW_{UTRA}$/2 |
| UTRA$_{ACLR2}$ | 35.2 dB |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ /2 + 3*$BW_{UTRA}$/2<br>/<br>- $BW_{Channel_CA}$ /2 – 3*$BW_{UTRA}$/2 |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| UTRA 5MHz channel Measurement bandwidth (Note 1) | 3.84 MHz |
| UTRA 1.6MHz channel measurement bandwidth (Note 2) | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum. | |

6.6.2.3A.5.5.2 Test requirements of CA E-UTRA

The measured UE mean power in the channel bandwidth as specified in clause 5.4.2A, derived in step 6, shall fulfil requirements in Table 6.2.3A.5.5-1 and if the measured adjacent channel power is greater than –50 dBm then the measured CA E-UTRA$_{ACLR}$, derived in step 10 shall be higher than the limits in Table 6.6.2.3A.5.5.2-1.

**Table 6.6.2.3A.5.5.2-1: CA E-UTRA ACLR**

| | **CA bandwidth class / CA E-UTRA$_{ACLR}$ / Measurement bandwidth** |
|---|---|
| | **CA bandwidth class D** |
| CA E-UTRA$_{ACLR}$ | 29.2 dB |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$<br>/<br>- $BW_{Channel_CA}$ |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3B.2.6.6.

6.6.2.3B.5 Test requirement

6.6.2.3B.5.1 Test requirements E-UTRA

- The measured sum of mean power at each transmit antenna connector for UE in the channel bandwidth, derived in step 3, shall fulfil requirements in clause 6.2.3B.5 as appropriate,

and

- The requirements apply to each transmit antenna connector.
- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRAACLR, derived in step 7, shall be higher than the limits in Table 6.6.2.3B.5.1-1.

**Table 6.6.2.3B.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3B.5.2 Test requirements UTRA

The requirements apply to each transmit antenna connector.

If the measured UTRA channel power is greater than –50dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in Table 6.6.2.3B.5.2-1.

**Table 6.6.2.3B.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+$BW_{UTRA}$/2 / -0.7-$BW_{UTRA}$/2 | 1.5+$BW_{UTRA}$/2 / -1.5-$BW_{UTRA}$/2 | 2.5+$BW_{UTRA}$/2 / -2.5-$BW_{UTRA}$/2 | 5+$BW_{UTRA}$/2 / -5-$BW_{UTRA}$/2 | 7.5+$BW_{UTRA}$/2 / -7.5-$BW_{UTRA}$/2 | 10+$BW_{UTRA}$/2 / -10-$BW_{UTRA}$/2 |
| **$UTRA_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*$BW_{UTRA}$/2 / -2.5-3*$BW_{UTRA}$/2 | 5+3*$BW_{UTRA}$/2 / -5-3*$BW_{UTRA}$/2 | 7.5+3*$BW_{UTRA}$/2 / -7.5-3*$BW_{UTRA}$/2 | 10+3*$BW_{UTRA}$/2 / -10-3*$BW_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.<br>Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz. | | | | | | |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل من الفئة 0، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3E.2.6.6.

6.6.2.3E.5 Test requirement

6.6.2.3E.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3E.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-$UTRA_{ACLR}$, derived in step 7, shall be higher than the limits in Table 6.6.2.3E.5.1-1.

**Table 6.6.2.3E.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-$UTRA_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-$UTRA_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

Test requirements UTRA

If the measured UTRA channel power is greater than –50 dBm then the measured $UTRA_{ACLR1}$, $UTRA_{ACLR2}$, derived in step 8, shall be higher than the limits in Table 6.6.2.3E.5.2-1.

**Table 6.6.2.3E.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / $UTRA_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **$UTRA_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+$BW_{UTRA}$/2 / -0.7-$BW_{UTRA}$/2 | 1.5+$BW_{UTRA}$/2 / -1.5-$BW_{UTRA}$/2 | 2.5+$BW_{UTRA}$/2 / -2.5-$BW_{UTRA}$/2 | 5+$BW_{UTRA}$/2 / -5-$BW_{UTRA}$/2 | 7.5+$BW_{UTRA}$/2 / -7.5-$BW_{UTRA}$/2 | 10+$BW_{UTRA}$/2 / -10-$BW_{UTRA}$/2 |
| **$UTRA_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*$BW_{UTRA}$/2 / -2.5-3*$BW_{UTRA}$/2 | 5+3*$BW_{UTRA}$/2 / -5-3*$BW_{UTRA}$/2 | 7.5+3*$BW_{UTRA}$/2 / -7.5-3*$BW_{UTRA}$/2 | 10+3*$BW_{UTRA}$/2 / -10-3*$BW_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |

Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.
Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.
Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل من الفئة M1، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.2.6.3EA.5.

6.6.2.3EA.5 Test requirement

6.6.2.3EA.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3EA.5-1 to 6.2.3EA.5-7, as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured $E\text{-}UTRA_{ACLR}$, derived in step 7, shall be higher than the limits in Table 6.6.2.3EA.5.1-1.

**Table 6.6.2.3EA.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / $E\text{-}UTRA_{ACLR1}$ / measurement bandwidth** |
|---|---|

| | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
|---|---|---|---|---|---|---|
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5MHz or -5MHz | +10MHz or -10MHz | +15MHz or -15MHz | +20MHz or -20MHz |

6.6.2.3EA.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50 dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in Table 6.6.2.3EA.5.2-1.

**Table 6.6.2.3EA.5.2-1: UTRA UE ACLR**

| | Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+BW$_{UTRA}$/2 / -0.7-BW$_{UTRA}$/2 | 1.5+BW$_{UTRA}$/2 / -1.5-BW$_{UTRA}$/2 | 2.5+BW$_{UTRA}$/2 / -2.5-BW$_{UTRA}$/2 | 5+BW$_{UTRA}$/2 / -5-BW$_{UTRA}$/2 | 7.5+BW$_{UTRA}$/2 / -7.5-BW$_{UTRA}$/2 | 10+BW$_{UTRA}$/2 / -10-BW$_{UTRA}$/2 |
| **UTRA$_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*BW$_{UTRA}$/2 / -2.5-3*BW$_{UTRA}$/2 | 5+3*BW$_{UTRA}$/2 / -5-3*BW$_{UTRA}$/2 | 7.5+3*BW$_{UTRA}$/2 / -7.5-3*BW$_{UTRA}$/2 | 10+3*BW$_{UTRA}$/2 / -10-3*BW$_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |

Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.
Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.
Note 3: BW$_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل من الفئة 1 مكرراً، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3EB.5.

6.6.2.3EB.5 Test requirement

6.6.2.3EB.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3EB.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 7, shall be higher than the limits in Table 6.6.2.3EB.5.1-1.

**Table 6.6.2.3EB.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3EB.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50 dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in Table 6.6.2.3EB.5.2-1.

**Table 6.6.2.3EB.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+BW$_{UTRA}$/2 / -0.7-BW$_{UTRA}$/2 | 1.5+BW$_{UTRA}$/2 / -1.5-BW$_{UTRA}$/2 | 2.5+BW$_{UTRA}$/2 / -2.5-BW$_{UTRA}$/2 | 5+BW$_{UTRA}$/2 / -5-BW$_{UTRA}$/2 | 7.5+BW$_{UTRA}$/2 / -7.5-BW$_{UTRA}$/2 | 10+BW$_{UTRA}$/2 / -10-BW$_{UTRA}$/2 |
| **UTRA$_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*BW$_{UTRA}$/2 / -2.5-3*BW$_{UTRA}$/2 | 5+3*BW$_{UTRA}$/2 / -5-3*BW$_{UTRA}$/2 | 7.5+3*BW$_{UTRA}$/2 / -7.5-3*BW$_{UTRA}$/2 | 10+3*BW$_{UTRA}$/2 / -10-3*BW$_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |

Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.
Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.
Note 3: BW$_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل من الفئة M2، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3EC.2.6.6.

6.6.2.3EC.5 Test requirement

6.6.2.3EC.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3EC.5-1, 6.2.3EC.5-2 and 6.2.3EC.5-3 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 7, shall be higher than the limits in Table 6.6.2.3EC.5.1-1.

**Table 6.6.2.3EC.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3EC.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50 dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in Table 6.6.2.3EC.5.2-1.

**Table 6.6.2.3EC.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+BW$_{UTRA}$/2 / -0.7-BW$_{UTRA}$/2 | 1.5+BW$_{UTRA}$/2 / -1.5-BW$_{UTRA}$/2 | 2.5+BW$_{UTRA}$/2 / -2.5-BW$_{UTRA}$/2 | 5+BW$_{UTRA}$/2 / -5-BW$_{UTRA}$/2 | 7.5+BW$_{UTRA}$/2 / -7.5-BW$_{UTRA}$/2 | 10+BW$_{UTRA}$/2 / -10-BW$_{UTRA}$/2 |
| **UTRA$_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | - | - | 2.5+3*BW$_{UTRA}$/2 / -2.5-3*BW$_{UTRA}$/2 | 5+3*BW$_{UTRA}$/2 / -5-3*BW$_{UTRA}$/2 | 7.5+3*BW$_{UTRA}$/2 / -7.5-3*BW$_{UTRA}$/2 | 10+3*BW$_{UTRA}$/2 / -10-3*BW$_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |

| | | | | | | |
|---|---|---|---|---|---|---|
| **measurement bandwidth[2]** | | | | | | |

Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.
Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.
Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz.

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل من الفئتين NB1 وNB2، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3F.2.6.6.

6.6.2.3F.5 Test requirement

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3F.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured $GSM_{ACLR}$ derived in step 7 and $UTRA_{ACLR}$ derived in step 8 shall be higher than the limits in Table 6.6.2.3F.5-1.

**Table 6.6.2.3F.5-1: Category NB1 and UE ACLR Test requirements**

| | **$GSM_{ACLR}$** | **$UTRA_{ACLR}$** |
|---|---|---|
| **ACLR** | 19.2 dB | 36.2 dB |
| **Adjacent channel centre frequency offset from category NB1 or NB2 Channel edge** | ±200 kHz | ±2.5 MHz |
| **Adjacent channel measurement bandwidth** | 180 kHz | 3.84 MHz |
| **Measurement filter** | Rectangular | RRC-filter α=0.22 |
| **Category NB1 and NB2 channel measurement bandwidth** | 180 kHz | 180 kHz |
| **Category NB1 and NB2 channel Measurement filter** | Rectangular | Rectangular |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بمعدات المستعمل من الفئتين NB1 وNB2/صنف القدرة 6، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3FA.2.6.6.

6.6.2.3FA.5 Test requirement

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3FA.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured $GSM_{ACLR}$ derived in step 7 and $UTRA_{ACLR}$ derived in step 8 shall be higher than the limits in Table 6.6.2.3FA.5-1.

**Table 6.6.2.3FA.5-1: Category NB1 and UE ACLR Test requirements**

| | GSMACLR | UTRAACLR |
|---|---|---|
| **ACLR** | 19.2 dB | 36.2 dB |
| **Adjacent channel centre frequency offset from category NB1 or NB2 Channel edge** | ±200 kHz | ±2.5 MHz |
| **Adjacent channel measurement bandwidth** | 180 kHz | 3.84 MHz |
| **Measurement filter** | Rectangular | RRC-filter α=0.22 |
| **Category NB1 and NB2 channel measurement bandwidth** | 180 kHz | 180 kHz |
| **Category NB1 and NB2 channel Measurement filter** | Rectangular | Rectangular |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالاتصالات من المركبة إلى كل شيء (V2X)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.2.3G.1.5.

6.6.2.3G.1.5 Test requirements

- The measured UE mean power in the channel bandwidth, derived in step 2, shall fulfil requirements in subclause 6.2.3G.1 for power class 3 UE, and shall meet the requirements described in subclass 6.2.3G.2 for power class 2 UE as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured $E\text{-}UTRA_{ACLR}$, derived in step 6, shall be higher than the limits in Table 6.6.2.3.5.1-1.

**Table6.6.2.3G.1.5-1: E-UTRA UE ACLR for power class 3 UE**

| | Channel bandwidth / $E\text{-}UTRA_{ACLR1}$ / measurement bandwidth | |
|---|---|---|
| | **10 MHz** | **20 MHz** |
| **$E\text{-}UTRA_{ACLR1}$** | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 9.0 MHz | 18 MHz |
| **UE channel** | +10 MHz or -10 MHz | +20 MHz or -20 MHz |

**Table6.6.2.3G.1.5-2: E-UTRA UE ACLR for power class 2 UE**

| | Channel bandwidth / $E\text{-}UTRA_{ACLR1}$ / measurement bandwidth | |
|---|---|---|
| | **10 MHz** | **20 MHz** |
| **$E\text{-}UTRA_{ACLR1}$** | 30.2 dB | 30.2 dB |
| **E-UTRA channel Measurement bandwidth** | 9.0 MHz | 18 MHz |

| | | |
|---|---|---|
| **UE channel** | +10 MHz or<br>-10 MHz | +20 MHz or<br>-20 MHz |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالاتصالات من المركبة إلى كل شيء (V2X)/إرسالات الوصلة الجانبية للنفاذ E-UTRA V2X، المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.2.3G.2.6.6.

6.6.2.3G.2.5 Test requirements

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in subclause 6.2.3G.1.3.5 for power class 3 UE as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 6, shall be higher than the limits in Table 6.6.2.3G.2.5-1 and 6.6.2.3G.2.5-2.

**Table 6.6.2.3G.2.5-1: E-UTRA UE ACLR for power class 3 UE**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

**Table 6.6.2.3G.2.5-2: E-UTRA UE ACLR for power class 2 UE**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 30.2 dB | 30.2 dB | 30.2 dB | 30.2 dB | 30.2 dB | 30.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالاتصالات من المركبة إلى كل شيء (V2X)/عملية الموجات الحاملة المتعددة المتجاورة داخل النطاق، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3.3G.2.6.6.

6.6.2.3G.3.5 Test requirements

- The measured UE mean power in the channel bandwidth, derived in step 2, shall fulfil requirements in subclause 6.2.3G.1.4.5 for power class 3 UE as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 5, shall be higher than the limits in Table 6.6.2.3G.3.5-1.

**Table 6.6.2.3G.3.5-1: V2X UE ACLR for intra-band multi carrier operation**

| | CA bandwidth class / CA E-UTRA$_{ACLR}$ / Measurement bandwidth |
|---|---|
| | **CA bandwidth class B and C** |
| CA E-UTRA$_{ACLR}$ | 29.2 dB |
| CA E-UTRA channel Measurement bandwidth | $BW_{Channel_CA}$ - 2* $BW_{GB}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$ / - $BW_{Channel_CA}$ |

وتُحدد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالإرسال على مستوى الفاصل الزمني الفرعي/الفاصل الزمني ضمن مدة الإرسال الزمنية (TTI)، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.2.6.3_s.5.

6.6.2.3_s.5 Test requirement

6.6.2.3_s.5.1 Test requirements E-UTRA

- The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-1 as appropriate,

and

- if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA$_{ACLR}$, derived in step 7, shall be higher than the limits in Table 6.6.2.3_s.5.1-1.

**Table 6.6.2.3_s.5.1-1: E-UTRA UE ACLR**

| | **Channel bandwidth / E-UTRA$_{ACLR1}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **E-UTRA$_{ACLR1}$** | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB | 29.2 dB |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UE channel** | +1.4 MHz or -1.4 MHz | +3 MHz or -3 MHz | +5 MHz or -5 MHz | +10 MHz or -10 MHz | +15 MHz or -15 MHz | +20 MHz or -20 MHz |

6.6.2.3_s.5.2 Test requirements UTRA

If the measured UTRA channel power is greater than –50 dBm then the measured UTRA$_{ACLR1}$, UTRA$_{ACLR2}$, derived in step 8, shall be higher than the limits in Table 6.6.2.3_s.5.2-1.

**Table 6.6.2.3_s.5.2-1: UTRA UE ACLR**

| | **Channel bandwidth / UTRA$_{ACLR1/2}$ / measurement bandwidth** | | | | | |
|---|---|---|---|---|---|---|
| | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** |
| **UTRA$_{ACLR1}$** | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB | 32.2 dB |
| **Adjacent channel centre frequency offset (in MHz)** | 0.7+$BW_{UTRA}$/2 / -0.7-$BW_{UTRA}$/2 | 1.5+$BW_{UTRA}$/2 / -1.5-$BW_{UTRA}$/2 | 2.5+$BW_{UTRA}$/2 / -2.5-$BW_{UTRA}$/2 | 5+$BW_{UTRA}$/2 / -5-$BW_{UTRA}$/2 | 7.5+$BW_{UTRA}$/2 / -7.5-$BW_{UTRA}$/2 | 10+$BW_{UTRA}$/2 / -10-$BW_{UTRA}$/2 |
| **UTRA$_{ACLR2}$** | - | - | 35.2 dB | 35.2 dB | 35.2 dB | 35.2 dB |
| **Adjacent channel** | - | - | 2.5+3*$BW_{UTRA}$/2 | 5+3*$BW_{UTRA}$/2 | 7.5+3*$BW_{UTRA}$/2 | 10+3*$BW_{UTRA}$/2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **centre frequency offset (in MHz)** | | | / -2.5- 3*$BW_{UTRA}$/2 | / -5- 3*$BW_{UTRA}$/2 | / -7.5- 3*$BW_{UTRA}$/2 | / -10- 3*$BW_{UTRA}$/2 |
| **E-UTRA channel Measurement bandwidth** | 1.08 MHz | 2.7 MHz | 4.5 MHz | 9.0 MHz | 13.5 MHz | 18 MHz |
| **UTRA 5MHz channel Measurement bandwidth[1]** | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz | 3.84 MHz |
| **UTRA 1.6MHz channel measurement bandwidth[2]** | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz | 1.28 MHz |
| Note 1: Applicable for E-UTRA FDD co-existence with UTRA FDD in paired spectrum.<br>Note 2: Applicable for E-UTRA TDD co-existence with UTRA TDD in unpaired spectrum.<br>Note 3: $BW_{UTRA}$ for UTRA FDD is 5MHz and for UTRA TDD is 1.6 MHz. | | | | | | |

### 2.2.1 البث الهامشي للمرسل

البث الهامشي هو بث ناجم عن آثار غير مرغوبة للمرسِل مثل البث التوافقي، والبث الطفيلي، ومنتجات التشكيل البيني ومنتجات تحويل التردد، ولكنه لا يشمل البث خارج النطاق ما لم يُنص على خلاف ذلك. وتُبيَّن حدود البث الهامشي من حيث المتطلبات العامة تمشياً مع التوصية ITU-R SM.329 [9] ومتطلبات نطاق تشغيل NR لمعالجة تعايش معدات المستعمل (UE).

ولتحسين دقة القياس وحساسيته وكفاءته، يمكن أن يكون عرض نطاق الاستبانة أقل من عرض نطاق القياس. وفي هذه الحالة، ينبغي أن تكون النتيجة متكاملة على مدى عرض نطاق القياس من أجل الحصول على ما يعادل عرض نطاق الضوضاء لعرض نطاق القياس.

#### 1.2.2.1 متطلبات البث الهامشي

تُبين حدود البث الهامشي العام للنفاذ E-UTRA في الفقرة 5.1.3.6.6 في المواصفة التقنية [5] TS 36.521-1.

6.6.3.1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1.5-1.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1.3-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |

| | | | |
|---|---|---|---|
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | Note 1 |
| Note 1: Applies for Band 22, Band 42 and Band 43 | | | |

تُبين حدود البث الهامشي العام الخاصة بالقناة المتقاسمة المادية في الوصلة الصاعدة (PUSCH) المتعددة المجموعات، في الفقرة 5.1_1.3.6.6 في المواصفة التقنية [5] TS 36.521-1.

6.6.3.1_1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1_1.5-1.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3.1_1.5-1.

The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1_1.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1_1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | Note 1 |
| Note 1: Applies for Band 22, Band 42 and Band 43 | | | |

وتُبين حدود البث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة المتجاورة داخل النطاق وتجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.1.1A.3.6.6 في المواصفة التقنية [5] TS 36.521-1.

6.6.3.1A.1.5 Test Requirements

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1A.1.5-1.

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3.1A.0-1the measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.1A.1.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1A.1.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | Note 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | Note 2 |
| Note1: Applies for Band 22, Band 42, Band 43 and Band 48.<br>Note 2: Applies for Band 46 and Band 47. | | | |

وتُبين حدود البث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة بين النطاقات وتجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.2.1A.3.6.6 في المواصفة التقنية [5] TS 36.521-1.

6.6.3.1A.2.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1A.2.5-1.

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3.1A.0-1the measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.1A.2.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1A.2.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| **Test requirements for CA_1A-3A Configuration** | | | |
| 135 MHz ≤ f ≤ 270 MHz | –36 dBm | 100 kHz | |
| 1 440 MHz ≤ f ≤ 1 650 MHz<br>2 055 MHz ≤ f ≤ 2 250 MHz<br>3 630 MHz ≤ f ≤ 3 765 MHz<br>5 340 MHz ≤ f ≤ 5 745 MHz | –30 dBm | 1 MHz | |
| **Test requirements for CA_1A-5A Configuration** | | | |
| 222 MHz ≤ f ≤ 332 MHz | –36 dBm | 100 kHz | |
| 1 071 MHz ≤ f ≤ 1 156 MHz<br>2 744 MHz ≤ f ≤ 2 829 MHz<br>2 991 MHz ≤ f ≤ 3 136 MHz | –30 dBm | 1 MHz | |

| | | | | |
|---|---|---|---|---|
| | 3 568 MHz ≤ f ≤ 3 678 MHz<br>4 664 MHz ≤ f ≤ 4 809 MHz | | | |
| | **Test requirements for CA_1A-7A Configuration** | | | |
| | 520 MHz ≤ f ≤ 650 MHz | –36 dBm | 100 kHz | |
| | 1 270 MHz ≤ f ≤ 1 460 MHz<br>3 020 MHz ≤ f ≤ 3 220 MHz<br>4 420 MHz ≤ f ≤ 4 550 MHz<br>6 340 MHz ≤ f ≤ 6 530 MHz<br>6 920 MHz ≤ f ≤ 7 120 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_1A-8A Configuration** | | | |
| | 90 MHz ≤ f ≤ 220 MHz | –36 dBm | 100 kHz | |
| | 1 005 MHz ≤ f ≤ 1 100 MHz<br>2 800 MHz ≤ f ≤ 2 895 MHz<br>2 925 MHz ≤ f ≤ 3 080 MHz<br>3 680 MHz ≤ f ≤ 3 810 MHz<br>4 720 MHz ≤ f ≤ 4 875 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_1A-18A Configuration** | | | |
| | 260 MHz ≤ f ≤ 350 MHz | –36 dBm | 100 kHz | |
| | 1 090 MHz ≤ f ≤ 1 165 MHz<br>2 735 MHz ≤ f ≤ 2 810 MHz<br>3 010 MHz ≤ f ≤ 3 145 MHz<br>3 550 MHz ≤ f ≤ 3 640 MHz<br>4 655 MHz ≤ f ≤ 4 790 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_1A-19A Configuration** | | | |
| | 230 MHz ≤ f ≤ 320 MHz | –36 dBm | 100 kHz | |
| | 1 075 MHz ≤ f ≤ 1 150 MHz<br>2 750 MHz ≤ f ≤ 2 825 MHz<br>2 995 MHz ≤ f ≤ 3 130 MHz<br>3 580 MHz ≤ f ≤ 3 670 MHz<br>4 670 MHz ≤ f ≤ 4 805 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_1A-21A Configuration** | | | |
| | 457.1 MHz ≤ f ≤ 532.1 MHz<br>915.8 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| | 1 000 MHz ≤ f ≤ 1 005.8 MHz<br>2 377.1 MHz ≤ f ≤ 2 512.1 MHz<br>3 367.9 MHz ≤ f ≤ 3 442.9 MHz<br>4 515.8 MHz ≤ f ≤ 4 905.8 MHz<br>5 287.9 MHz ≤ f ≤ 5 422.9 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_1A-26A Configuration** | | | |
| | 222 MHz ≤ f ≤ 352 MHz | –36 dBm | 100 kHz | |
| | 1 071 MHz ≤ f ≤ 1 166 MHz<br>2 734 MHz ≤ f ≤ 2 829 MHz<br>2 991 MHz ≤ f ≤ 3 146 MHz<br>3 548 MHz ≤ f ≤ 3 678 MHz<br>4 654 MHz ≤ f ≤ 4 809 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_1A-28A Configuration** | | | |
| | 424 MHz ≤ f ≤ 574 MHz | –36 dBm | 100 kHz | |
| | 1 172 MHz ≤ f ≤ 1 277 MHz<br>2 623 MHz ≤ f ≤ 2 728 MHz<br>3 092 MHz ≤ f ≤ 3 257 MHz<br>3 326 MHz ≤ f ≤ 3 476 MHz<br>4 543 MHz ≤ f ≤ 4 708 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_1A-42A Configuration** | | | |
| | 240 MHz ≤ f ≤ 560 MHz | –36 dBm | 100 kHz | |
| | 1 420 MHz ≤ f ≤ 1 680 MHz<br>4 820 MHz ≤ f ≤ 5 280 MHz<br>5 320 MHz ≤ f ≤ 5 580 MHz<br>7 240 MHz ≤ f ≤ 7 560 MHz<br>8 720 MHz ≤ f ≤ 9 180 MHz | –30 dBm | 1 MHz | |

| | | | | |
|---|---|---|---|---|
| **Test requirements for CA_2A-4A Configuration** | | | | |
| 95 MHz ≤ f ≤ 200 MHz | –36 dBm | 100 kHz | | |
| 1 510 MHz ≤ f ≤ 1 660 MHz<br>1 945 MHz ≤ f ≤ 2 110 MHz<br>3 560 MHz ≤ f ≤ 3 665 MHz<br>5 270 MHz ≤ f ≤ 5 575 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_2A-5A Configuration** | | | | |
| 152 MHz ≤ f ≤ 262 MHz | –36 dBm | 100 kHz | | |
| 1 001 MHz ≤ f ≤ 1 086 MHz<br>2 674 MHz ≤ f ≤ 2 759 MHz<br>2 851 MHz ≤ f ≤ 2 996 MHz<br>3 498 MHz ≤ f ≤ 3 608 MHz<br>4 524 MHz ≤ f ≤ 4 669 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_2A-7A Configuration** | | | | |
| 590 MHz ≤ f ≤ 720 MHz | –36 dBm | 100 kHz | | |
| 1 130 MHz ≤ f ≤ 1 320 MHz<br>3 090 MHz ≤ f ≤ 3 290 MHz<br>4 350 MHz ≤ f ≤ 4 480 MHz<br>6 200 MHz ≤ f ≤ 6 390 MHz<br>6 850 MHz ≤ f ≤ 7 050 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_2A-12A Configuration** | | | | |
| 418 MHz ≤ f ≤ 512 MHz | –36 dBm | 100 kHz | | |
| 1 134 MHz ≤ f ≤ 1 211 MHz<br>2 549 MHz ≤ f ≤ 2 626 MHz<br>2 984 MHz ≤ f ≤ 3 121 MHz<br>3 248 MHz ≤ f ≤ 3 342 MHz<br>4 399 MHz ≤ f ≤ 4 536 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_2A-13A Configuration** | | | | |
| 276 MHz ≤ f ≤ 356 MHz | –36 dBm | 100 kHz | | |
| 1 063 MHz ≤ f ≤ 1 133 MHz<br>2 627 MHz ≤ f ≤ 2 697 MHz<br>2 913 MHz ≤ f ≤ 3 043 MHz<br>3 404 MHz ≤ f ≤ 3 484 MHz<br>4 477 MHz ≤ f ≤ 4 607 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_2A-30A Configuration** | | | | |
| 395 MHz ≤ f ≤ 465 MHz | –36 dBm | 100 kHz | | |
| 1 385 MHz ≤ f ≤ 1 515 MHz<br>2 700 MHz ≤ f ≤ 2 780 MHz<br>4 155 MHz ≤ f ≤ 4 225 MHz<br>6 005 MHz ≤ f ≤ 6 135 MHz<br>6 460 MHz ≤ f ≤ 6 540 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_2A-46A Configuration** | | | | |
| 1330 MHz ≤ f ≤ 2225 MHz<br>3240 MHz ≤ f ≤ 4075 MHz<br>7000 MHz ≤ f ≤ 7835 MHz<br>8390 MHz ≤ f ≤ 10000 MHz<br>12150 MHz ≤ f ≤ 13760 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_2A-66A Configuration** | | | | |
| 70 MHz ≤ f ≤ 200 MHz | –36 dBm | 100 kHz | | |
| 1 510 MHz ≤ f ≤ 1 710 MHz<br>1 920 MHz ≤ f ≤ 2 110 MHz<br>3 560 MHz ≤ f ≤ 3 690 MHz<br>5 270 MHz ≤ f ≤ 5 600 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_3A-5A Configuration** | | | | |
| 12 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | | |
| 30 MHz ≤ f ≤ 137 MHz<br>861 MHz ≤ f ≤ 961 MHz | –36 dBm | 100 kHz | | |
| 2 534 MHz ≤ f ≤ 2 746 MHz<br>3 358 MHz ≤ f ≤ 3 483 MHz<br>4 244 MHz ≤ f ≤ 4 419 MHz | –30 dBm | 1 MHz | | |
| **Test requirements for CA_3A-7A Configuration** | | | | |
| 715 MHz ≤ f < 1000 MHz | –36 dBm | 100 kHz | | |
| 1 000 MHz ≤ f ≤ 1 070 MHz<br>3 215 MHz ≤ f ≤ 3 430 MHz | –30 dBm | 1 MHz | | |

| | | | | |
|---|---|---|---|---|
| | 4 210 MHz ≤ f ≤ 4 355 MHz<br>5 920 MHz ≤ f ≤ 6 140 MHz<br>6 710 MHz ≤ f ≤ 6 925 MHz | | | |
| | **Test requirements for CA_3A-8A Configuration** | | | |
| | 25 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| | 30 MHz ≤ f ≤ 120 MHz<br>795 MHz ≤ f ≤ 905 MHz | –36 dBm | 100 kHz | |
| | 2 505 MHz ≤ f ≤ 2 700 MHz<br>3 470 MHz ≤ f ≤ 3 615 MHz<br>4 300 MHz ≤ f ≤ 4 485 MHz | –30 dBm | 1 MHz | |
| | Test requirements for CA_3A-18A Configuration | | | |
| | 50 MHz ≤ f ≤ 155 MHz<br>880 MHz ≤ f ≤ 970 MHz | –36 dBm | 100 kHz | |
| | 2 525 MHz ≤ f ≤ 2 755 MHz<br>3 340 MHz ≤ f ≤ 3 445 MHz<br>4 235 MHz ≤ f ≤ 4 400 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_3A-19A Configuration** | | | |
| | 20 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| | 30 MHz ≤ f ≤ 125 MHz<br>865 MHz ≤ f ≤ 955 MHz | –36 dBm | 100 kHz | |
| | 2 540 MHz ≤ f ≤ 2 740 MHz<br>3 370 MHz ≤ f ≤ 3 475 MHz<br>4 250 MHz ≤ f ≤ 4 415 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_3A-20A Configuration** | | | |
| | 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| | 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| | 30 MHz ≤ f ≤ 121 MHz<br>848 MHz ≤ f ≤ 953 MHz | –36 dBm | 100 kHz | |
| | 2 542 MHz ≤ f ≤ 2 738 MHz<br>3 374 MHz ≤ f ≤ 3 509 MHz<br>4 252 MHz ≤ f ≤ 4 432 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_3A-26A Configuration** | | | |
| | 12 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| | 30 MHz ≤ f ≤ 157 MHz | –36 dBm | 100 kHz | |
| | 861 MHz ≤ f ≤ 971 MHz | –36 dBm | 100 kHz | |
| | 2 524 MHz ≤ f ≤ 2 756 MHz<br>3 338 MHz ≤ f ≤ 3 483 MHz<br>4 234 MHz ≤ f ≤ 4 419 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_3A-28A Configuration** | | | |
| | 214 MHz ≤ f ≤ 379 MHz<br>962 MHz ≤ f ≤ 1000 MHz | –36 dBm | 100 kHz | |
| | 1 000 MHz ≤ f ≤ 1 082 MHz<br>2 413 MHz ≤ f ≤ 2 533 MHz<br>2 672 MHz ≤ f ≤ 2 867 MHz<br>3 116 MHz ≤ f ≤ 3 281 MHz<br>4 123 MHz ≤ f ≤ 4 318 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_3A-41A Configuration** | | | |
| | 711 MHz ≤ f < 1000 MHz | –36 dBm | 100 kHz | |
| | 1 000 MHz ≤ f ≤ 1 074 MHz<br>3 207 MHz ≤ f ≤ 3 670 MHz<br>4 206 MHz ≤ f ≤ 4 475 MHz<br>5 916 MHz ≤ f ≤ 6 260 MHz<br>6 702 MHz ≤ f ≤ 7 165 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_3A-42A Configuration** | | | |
| | 170 MHz ≤ f ≤ 180 MHz | –36 dBm | 100 kHz | |
| | 1615 MHz ≤ f ≤ 1 890 MHz<br>5 015 MHz ≤ f ≤ 5 490 MHz<br>6 820 MHz ≤ f ≤ 7 170 MHz<br>8 510 MHz ≤ f ≤ 8 985 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_4A-5A Configuration** | | | |
| | 12 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |

| | | | | |
|---|---|---|---|---|
| | 30 MHz ≤ f ≤ 107 MHz<br>861 MHz ≤ f ≤ 931 MHz | –36 dBm | 100 kHz | |
| | 2 534 MHz ≤ f ≤ 2 686 MHz<br>3 358 MHz ≤ f ≤ 3 453 MHz<br>4 244 MHz ≤ f ≤ 4 359 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_4A-7A Configuration** | | | |
| | 745 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| | 1 000 MHz ≤ f ≤ 1 010 MHz<br>3 245 MHz ≤ f ≤ 3 430 MHz<br>4 210 MHz ≤ f ≤ 4 325 MHz<br>5 920 MHz ≤ f ≤ 6 080 MHz<br>6 710 MHz ≤ f ≤ 6 895 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_4A-12A Configuration** | | | |
| | 278 MHz ≤ f ≤ 357 MHz<br>994 MHz ≤ f < 1000 MHz | –36 dBm | 100 kHz | |
| | 1 000 MHz ≤ f ≤ 1 056 MHz<br>2 409 MHz ≤ f ≤ 2 471 MHz<br>2 704 MHz ≤ f ≤ 2 811 MHz<br>3 108 MHz ≤ f ≤ 3 187 MHz<br>4 119 MHz ≤ f ≤ 4 226 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_4A-13A Configuration** | | | |
| | 136 MHz ≤ f ≤ 201 MHz<br>923 MHz ≤ f ≤ 978 MHz | –36 dBm | 100 kHz | |
| | 2 487 MHz ≤ f ≤ 2 542 MHz<br>2 633 MHz ≤ f ≤ 2 733 MHz<br>3 264 MHz ≤ f ≤ 3 329 MHz<br>4 197 MHz ≤ f ≤ 4 297 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_4A-17A Configuration** | | | |
| | 278 MHz ≤ f ≤ 347 MHz<br>994 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| | 1 000 MHz ≤ f ≤ 1 056 MHz<br>2 414 MHz ≤ f ≤ 2 471 MHz<br>2 704 MHz ≤ f ≤ 2 806 MHz<br>3 118 MHz ≤ f ≤ 3 187 MHz<br>4 124 MHz ≤ f ≤ 4 226 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_5A-7A Configuration** | | | |
| | 802 MHz ≤ f ≤ 922 MHz | –36 dBm | 100 kHz | |
| | 1 651 MHz ≤ f ≤ 1 746 MHz<br>3 324 MHz ≤ f ≤ 3 419 MHz<br>4 148 MHz ≤ f ≤ 4 316 MHz<br>5 824 MHz ≤ f ≤ 5 989 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_5A-12A Configuration** | | | |
| | 108 MHz ≤ f ≤ 150 MHz<br>549 MHz ≤ f ≤ 608 MHz<br>932 MHz ≤ f ≤ 999 MHz | –36 dBm | 100 kHz | |
| | 1 523 MHz ≤ f ≤ 1 565 MHz<br>2 222 MHz ≤ f ≤ 2 281 MHz<br>2 347 MHz ≤ f ≤ 2 414 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_5A-17A Configuration** | | | |
| | 108 MHz ≤ f ≤ 145 MHz<br>559 MHz ≤ f ≤ 608 MHz<br>932 MHz ≤ f ≤ 99e4 MHz | –36 dBm | 100 kHz | |
| | 1 528 MHz ≤ f ≤ 1 565 MHz<br>2 232 MHz ≤ f ≤ 2 281 MHz<br>2 352 MHz ≤ f ≤ 2 414 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_5A-30A Configuration** | | | |
| | 607 MHz ≤ f ≤ 667 MHz | –36 dBm | 100 kHz | |
| | 1 456 MHz ≤ f ≤ 1 491 MHz<br>3 129 MHz ≤ f ≤ 3 164 MHz<br>3 761 MHz ≤ f ≤ 3 806 MHz<br>3 953 MHz ≤ f ≤ 4 013 MHz<br>5 434 MHz ≤ f ≤ 5 479 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_5A-66A Configuration** | | | |

| | | | | |
|---|---|---|---|---|
| | 12 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| | 30 MHz ≤ f ≤ 132 MHz<br>861 MHz ≤ f ≤ 956 MHz | –36 dBm | 100 kHz | |
| | 2 534 MHz ≤ f ≤ 2 736 MHz<br>3 358 MHz ≤ f ≤ 3 478 MHz<br>4 244 MHz ≤ f ≤ 4 409 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_7A-20A Configuration** | | | |
| | 776 MHz ≤ f ≤ 906 MHz | –36 dBm | 100 kHz | |
| | 1 638 MHz ≤ f ≤ 1 738 MHz<br>3 332 MHz ≤ f ≤ 3 432 MHz<br>4 138 MHz ≤ f ≤ 4 308 MHz<br>5 832 MHz ≤ f ≤ 6 002 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_7A-28A Configuration** | | | |
| | 1 004 MHz ≤ f ≤ 1 164 MHz<br>1 752 MHz ≤ f ≤ 1 867 MHz<br>3 203 MHz ≤ f ≤ 3 318 MHz<br>3 906 MHz ≤ f ≤ 4 066 MHz<br>4 252 MHz ≤ f ≤ 4 437 MHz<br>5 703 MHz ≤ f ≤ 5 888 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_11A-18A Configuration** | | | |
| | 182.1 MHz ≤ f ≤ 232.1 MHz<br>597.9 MHz ≤ f ≤ 632.9 MHz | –36 dBm | 100 kHz | |
| | 2 025.8 MHz ≤ f ≤ 2 080.8 MHz<br>2 242.9 MHz ≤ f ≤ 2 277.9 MHz<br>3 057.9 MHz ≤ f ≤ 3 107.9 MHz<br>3 670.8 MHz ≤ f ≤ 3 725.8 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_12A-30A Configuration** | | | |
| | 873 MHz ≤ f ≤ 917 MHz | –36 dBm | 100 kHz | |
| | 1 589 MHz ≤ f ≤ 1 616 MHz<br>3 004 MHz ≤ f ≤ 3 031 MHz<br>3 703 MHz ≤ f ≤ 3 747 MHz<br>3 894 MHz ≤ f ≤ 3 931 MHz<br>5 009 MHz ≤ f ≤ 5 046 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_18A-28A Configuration** | | | |
| | 82 MHz ≤ f ≤ 127 MHz<br>576 MHz ≤ f ≤ 651 MHz<br>897 MHz ≤ f ≤ 957 MHz | –36 dBm | 100 kHz | |
| | 1 518 MHz ≤ f ≤ 1 563 MHz<br>2 221 MHz ≤ f ≤ 2 296 MHz<br>2 333 MHz ≤ f ≤ 2 393 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_19A-21A Configuration** | | | |
| | 197.1 MHz ≤ f ≤ 242.1 MHz<br>602.9 MHz ≤ f ≤ 632.9 MHz | –36 dBm | 100 kHz | |
| | 2 050.8 MHz ≤ f ≤ 2 095.8 MHz<br>2 277.9 MHz ≤ f ≤ 2 307.9 MHz<br>3 107.9 MHz ≤ f ≤ 3 152.9 MHz<br>3 725.8 MHz ≤ f ≤ 3 770.8 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_26A-46A Configuration** | | | |
| | 3 542 MHz ≤ f ≤ 4 297 MHz<br>4 301 MHz ≤ f ≤ 5 111 MHz<br>5 964 MHz ≤ f ≤ 6 774 MHz<br>6 778 MHz ≤ f ≤ 7 623 MHz<br>9 541 MHz ≤ f ≤ 11 036 MHz<br>11 114 MHz ≤ f ≤ 12 699 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for CA_39A-41A Configuration** | | | |
| | 576 MHz ≤ f ≤ 810 MHz | –36 dBm | 100 kHz | |

| | | | |
|---|---|---|---|
| 1 070 MHz ≤ f ≤ 1 344 MHz<br>3 072 MHz ≤ f ≤ 3 500 MHz<br>4 376 MHz ≤ f ≤ 4 610 MHz<br>6 256 MHz ≤ f ≤ 6 530 MHz<br>6 872 MHz ≤ f ≤ 7 300 MHz | –30 dBm | 1 MHz | |
| **Test requirements for CA_41A-42A Configuration** | | | |
| 710 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 104 MHz<br>1 392 MHz ≤ f ≤ 1 980 MHz<br>4 110 MHz ≤ f ≤ 4 704 MHz<br>5 896 MHz ≤ f ≤ 6 290 MHz<br>8 392 MHz ≤ f ≤ 8 980 MHz<br>9 296 MHz ≤ f ≤ 9 890 MHz | –30 dBm | 1 MHz | |

وتُبين حدود البث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة في الوصلة الهابطة غير المتجاورة داخل النطاق وتجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.3.1A.3.6.6 في المواصفة التقنية [5] 1-TS 36.521.

6.6.3.1A.3.5 Test Requirements

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1A.3.5-1.

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3.1A.0-1the measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.1A.3.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1A.3.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

تُبين حدود البث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع ثلاث موجات حاملة في الوصلة الصاعدة)، ثلاث موجات حاملة مكونة للوصلة الصاعدة في الفقرة 5.1.4.1A.3.6.6 في المواصفة التقنية [5] 1-TS 36.521.

6.6.3.1A.4.1.5 Test Requirements

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1A.4.1.5-1.

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3.1A.0-1the measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.1A.4.1.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1A.4.1.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | |

وتُبين حدود البث الهامشي الخاصة بتجميع الموجات الحاملة، بما يشمل تجميع ثلاث موجات حاملة بين النطاقات في الوصلة الهابطة، وتجميع ثلاث موجات حاملة في الوصلة الصاعدة، في الفقرة 5.2.4.1A.3.6.6 من المواصفة التقنية [5] 1-TS 36.521.

6.6.3.1A.4.2.5 Test Requirements

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1A.4.2.5-1.

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3.1A.0-1the measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.1A.4.2.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1A.4.2.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | |

وتُبين حدود البث الهامشي الخاصة بتجميع الموجات الحاملة، بما يشمل تجميع ثلاث موجات حاملة في الوصلة الصاعدة، (تجميع ثلاث موجات حاملة غير متجاورة داخل النطاق في الوصلة الهابطة، وتجميع ثلاث موجات حاملة في الوصلة الصاعدة)، في الفقرة 5.3.4.1A.6.6 من المواصفة التقنية [5] 1-TS 36.521.

6.6.3.1A.4.3.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1A.4.3.5-1.

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3.1A.0-1the measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.1A.4.3.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1A.4.3.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

وتُبين حدود البث الهامشي الخاصة بتجميع الموجات الحاملة، بما يشمل تجميع أربع موجات حاملة في الوصلة الصاعدة، في الفقرة 5.5.1A.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.1A.5.5 Test Requirements

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3.1A.5.5-1.

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3.1A.0-1 the measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.1A.5.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.1A.5.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| **Test requirements for CA_41C-42C Configuration** | | | |
| 710 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 104 MHz<br>1 392 MHz ≤ f ≤ 1 980 MHz<br>4 110 MHz ≤ f ≤ 4 704 MHz<br>5 896 MHz ≤ f ≤ 6 290 MHz<br>8 392 MHz ≤ f ≤ 8 980 MHz<br>9 296 MHz ≤ f ≤ 9 890 MHz | –30 dBm | 1 MHz | |

### 2.2.2.1 البث الهامشي لتعايش معدات المستعمل (UE)

تعتمد متطلبات التعايش الخاصة بمعدات المستعمل (UE) على إصدارات محددة.

ويمكن الاطلاع على متطلبات التعايش العامة حتى الإصدار 16 في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.2.3.6.6.

### 6.6.3.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Tables 6.6.3.2.3-1 to 6.6.3.2.3-1G according to the following rule:

The requirements for the UE are release specific and can be found in Tables 6.6.3.2.3-1 to 6.6.3.2.3-1G. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3.2.5-1.

**Table 6.6.3.2.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA band**

| Band | UE Requirements per release | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Rel-8 | Rel-9 | Rel-10 | Rel-11 | Rel-12 | Rel-13 | Rel-14 | Rel-15 | Rel-16 |
| 1 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 2 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 3 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 4 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 5 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 6 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 7 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 8 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 9 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 10 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 11 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 12 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 13 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 14 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| … | | | | | | | | | |
| 17 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 18 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 20 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 21 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 22 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 23 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 24 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 25 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 26 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 27 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 28 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 30 | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 31 | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| … | | | | | | | | | |
| 33 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 34 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 35 | | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 39 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 40 | Table 6.6.3.2.3-1 | Table 6.6.3.2.3-1A | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 41 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 42 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 43 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 44 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 45 | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| … | | | | | | | | | |
| 48 | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| ….. | | | | | | | | | |
| 53 | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H | Table 6.6.3.2.3-1H |
| … | | | | | | | | | |
| 65 | N/A [1] | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 66 | N/A [2] | N/A [2] | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| … | | | | | | | | | |
| 68 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| … | | | | | | | | | |
| 71 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 72 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| ….. | | | | | | | | | |
| 74 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 87 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 88 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 74 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |
| 85 | N/A [1] | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1H |

Note 1: Operating band with number > 64 requires Rel-9 signalling (refer to TS 36.307 Ch. 3A.1 [16]) and tests can only be done from Rel-9 and onwards.

Note 2: Asymmetric operating band is release independent from release 10 (refer to TS 36.307 Ch. 3A.1 [16]) and tests can only be done from Rel-10 and onwards.

Note 3: Protected bands with Note 38 in Table 6.6.3.2.3-1E are tested in 6.6.3EA.2 or 6.6.3F.2.

NOTE 1: The frequency range applicable with network signalled values of NS_05, NS_08, NS_09, NS_15,NS_16, NS_27, NS_36, NS_45 are covered in 6.6.3.3 Additional Spurious Emissions.

NOTE 2: The following is applied to Note2 in Table 6.6.3.2.3-1, Table 6.6.3.2.3-1A, Table 6.6.3.2.3-1B, Table 6.6.3.2.3-1C and Table 6.6.3.2.3-1E. For frequency with 2nd, 3rd or 4th harmonic spurious emissions, the measurements are covered in 6.6.3.1.

NOTE 2: The restriction on the maximum uplink transmission to 54 RB in Notes 14 and 15 of Table 6.6.3.2.5-1 is intended for conformance testing and may be applied to network operation to facilitate coexistence when the aggressor and victim bands are deployed in the same geographical area. The applicable spurious emission requirement of −15.5 dBm/5 MHz is a least restrictive technical condition for FDD/TDD coexistence and may have to be revised in the future.

ويمكن الاطلاع على متطلبات التعايش الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة المتجاورة داخل النطاق في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة) في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.1.2A.3.6.6.

6.6.3.2A.1.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 6, shall not exceed the described value in Tables 6.6.3.2A.1.5-1.

The requirements for the UE are release specific and can be found in Tables 6.6.3.2A.0-2a to 6.6.3.2A.0-2f. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3.2A.1.5-1.

**Table 6.6.3.2A.1.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA CA configuration**

| E-UTRA CA Configuration | UE Requirements per release | | | | | |
|---|---|---|---|---|---|---|
| | Rel-10 | Rel-11 | Rel-12 | Rel-13 | Rel-14 | Rel-15 |
| CA_1C | Table 6.6.3.2A.0-2a | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |
| CA_3C | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |
| CA_7C | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |
| CA_8B | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |
| CA_38C | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |
| CA_39C | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |
| CA_40C | Table 6.6.3.2A.0-2a | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |
| CA_41C | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2b | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2e | Table 6.6.3.2A.0-2f |
| CA_42C | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2c | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2d | Table 6.6.3.2A.0-2f |

ويمكن الاطلاع على متطلبات التعايش الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة بين النطاقات في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة) في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.2.2A.3.6.6.

6.6.3.2A.2.5 Test requirement

The measured average power of spurious emission, derived in step 6, shall not exceed the described value in Tables 6.6.3.2A.2.5-1 to 6.6.3.2A.2.5-4 according to the following rule:

The requirements for the UE are release specific and can be found in Tables 6.6.3.2A.2.5-1 to 6.6.3.2A.2.5-5. If the UE supports a CA configuration, which is not defined in the table corresponding to UE's release, the requirements for this CA configuration are taken from the table of earliest release where requirements for this CA Configuration are defined. This has been described in following Table 6.6.3.2A.2.5-0.

**Table 6.6.3.2A.2.5-0: UE Requirements according to UE E-UTRA release and supported E-UTRA CA Configuration**

| E-UTRA CA Configuration | UE Requirements per release | | | | |
|---|---|---|---|---|---|
| | Rel-11 | Rel-12 | Rel-13 | Rel-14 | Rel-15 |
| CA_1A-3A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-5A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-7A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-8A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-18A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-19A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-21A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-26A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-28A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_1A-42A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_2A-4A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_2A-5A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_2A-7A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_2A-12A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_2A-13A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.25-3 | Table 6.6.3.2A.25-4 |
| CA_3A-5A | Table 6.6.3.2A.25-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.25-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_3A-7A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_3A-8A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_3A-18A | Table 6.6.3.2A.2.5-4 | Table 6.6.3.2A.2.5-4 | Table 6.6.3.2A.2.5-4 | Table 6.6.3.2A.2.5-4 | Table 6.6.3.2A.2.5-4 |
| CA_3A-19A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_3A-20A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_3A-21A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 |
| CA_3A-26A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_3A-28A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_3A-42A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 |
| CA_4A-5A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_4A-7A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_4A-12A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |

| | | | | | |
|---|---|---|---|---|---|
| CA_4A-13A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_4A-17A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_5A-7A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_5A-12A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_5A-17A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_7A-20A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_7A-28A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_8A-41A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 |
| CA_11A-18A | 6.6.3.2A.2.5-4 | 6.6.3.2A.2.5-4 | 6.6.3.2A.2.5-4 | 6.6.3.2A.2.5-4 | 6.6.3.2A.2.5-4 |
| CA_18A-28A | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA_19A-21A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA 19A-42A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 |
| CA 21A-42A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 |
| CA 39A-41A | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-1 | Table 6.6.3.2A.2.5-2 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-4 |
| CA 41A-42A | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 | Table 6.6.3.2A.2.5-3 |

**Table 6.6.3.2A.2.5-1: Requirements for dual-uplink inter-band carrier aggregation for Rel-11 and Rel-12**

| E-UTRA CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | Note |
| CA_1A-3A | E-UTRA Band 1, 32, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 10 |
| CA_1A-5A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-7A | E-UTRA Band 32 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-8A | E-UTRA band43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_1A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-21A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_2A-4A | E-UTRA Band 4, 10, 22, 24 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-13A | E-UTRA Band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_3A-5A | E-UTRA Band 5, 7, 8, 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_3A-7A | E-UTRA Band 5,8, 20, 26, 27, 28, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-8A | E-UTRA Band 20, 28, 38, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 7, 22, 41, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 860 | - | 890 | -40 | 1 | 3,11,17 |
| CA_3A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| | Frequency range | 2595 | - | 2645 | -50 | 1 | |
| CA_3A-20A | E-UTRA Band 7, 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-26A | E-UTRA Band 5, 7, 26 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_4A-7A | E-UTRA Band 5, 12, 13, 14, 17, 26, 27, 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_4A-12A | No requirement | | | | | | |
| CA_4A-13A | E-UTRA Band 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_4A-17A | No requirement | | | | | | |
| CA_5A-7A | E-UTRA Band 5, 28, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_5A-12A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_5A-17A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_7A-20A | E-UTRA Band 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_7A-28A | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_19A-21A | No requirement | | | | | | |
| CA_39A-41A | E-UTRA Band 42, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.2-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1.3-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.4.2-1) for which the 2nd, 3rd or 4th harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 3: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 and Table 6.6.3.1A.0-1 from the edge of the aggregated channel bandwidth.

NOTE 4-9: Void.

NOTE10: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1 744.9 MHz and 1 784.9 MHz.

NOTE 11: This requirement is applicable only for the following cases:
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 902.5 MHz ≤ $F_c$ < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 907.5 MHz ≤ $F_c$ ≤ 912.5 MHz without any restriction on uplink transmission bandwidth.
- for carriers of 10 MHz channel bandwidth when carrier centre frequency ($F_c$) is $F_c$ = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with $RB_{start}$ > 3.

NOTE 12: Void.

NOTE13: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 14: This requirement is applicable for any channel bandwidths within the range 2 500-2 570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2 560.5-2 562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2 552-2 560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 15: Void.

NOTE 16: Void.

NOTE 17: This requirement is applicable only when Band 3 transmission frequency is less than or equal to 1 765 MHz.

NOTE 18-20: Void.

**Table 6.6.3.2A.2.5-2: Requirements for dual-uplink inter-band carrier aggregation for Rel-13**

| E-UTRA CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | Note |
| CA_1A-3A | E-UTRA Band 1, 32, 43, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 10 |
| CA_1A-5A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-7A | E-UTRA Band 32 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-8A | E-UTRA band43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_1A-18A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CA_1A-21A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_1A-26A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-28A | E-UTRA Band 7, 31, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 470 | - | 694 | -42 | 8 | 3, 22 |
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_1A-42A | E-UTRA Band 11, 21, 31, 32 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-4A | E-UTRA Band 4, 10, 22, 24, 66 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-5A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 41, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-12A | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-13A | E-UTRA Band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_3A-5A | E-UTRA Band 5, 7, 8, 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_3A-7A | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-8A | E-UTRA Band 20, 28, 38, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 7, 22, 41, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 860 | - | 890 | -40 | 1 | 3,11,17 |
| CA_3A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| | Frequency range | 2595 | - | 2645 | -50 | 1 | |
| CA_3A-20A | E-UTRA Band 7, 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-26A | E-UTRA Band 5, 7, 26 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_4A-5A | E-UTRA Band 5,7 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_4A-7A | E-UTRA Band 5, 12, 13, 14, 17, 26, 27, 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_4A-12A | No requirement | | | | | | |
| CA_4A-13A | E-UTRA Band 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_4A-17A | No requirement | | | | | | |
| CA_5A-7A | E-UTRA Band 5, 28, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_5A-12A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_5A-17A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_7A-20A | E-UTRA Band 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_7A-28A | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_18A-28A | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_19A-21A | No requirement | | | | | | |
| CA_39A-41A | E-UTRA Band 42, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.2-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1.3-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.4.2-1) for which the 2nd, 3rd or 4th harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 3: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 and Table 6.6.3.1A.0-1 from the edge of the aggregated channel bandwidth.

NOTE 4-9: Void.

NOTE10: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1 744.9 MHz and 1 784.9 MHz.

NOTE 11: This requirement is applicable only for the following cases:
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 902.5 MHz ≤ $F_c$ < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 907.5 MHz ≤ $F_c$ ≤ 912.5 MHz without any restriction on uplink transmission bandwidth.
- for carriers of 10 MHz channel bandwidth when carrier centre frequency ($F_c$) is $F_c$ = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with $RB_{start}$ > 3.

NOTE 12: Void.

NOTE13: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 14: This requirement is applicable for any channel bandwidths within the range 2500 - 2570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2 560.5-2 562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2 552-2 560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 15-21: Void.

NOTE 22: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of –25 dBm with a measurement bandwidth of 8 MHz applies.

NOTE 23: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.

**Table 6.6.3.2A.2.5-3: Requirements for dual-uplink inter-band carrier aggregation for Rel-14**

| E-UTRA CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA_1A-3A | E-UTRA Band 1, 32, 43, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 10 |
| CA_1A-5A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-7A | E-UTRA Band 32 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-8A | E-UTRA band 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_1A-18A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-21A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_1A-26A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-28A | E-UTRA Band 7, 31, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 470 | - | 694 | -42 | 8 | 3, 22 |
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_1A-42A | E-UTRA Band 11, 21, 31, 32 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-4A | E-UTRA Band 4, 10, 22, 24, 66, 70 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-5A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 41, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-7A | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-12A | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-13A | E-UTRA Band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_3A-5A | E-UTRA Band 5, 7, 8, 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_3A-7A | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-8A | E-UTRA Band 20, 28, 38, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 7, 22, 41, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 860 | - | 890 | -40 | 1 | 3,11,17 |
| CA_3A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| | Frequency range | 2595 | - | 2645 | -50 | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CA_3A-20A | E-UTRA Band 7, 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-26A | E-UTRA Band 5, 7, 26 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_3A-28A | E-UTRA Band 1, 22, 42, 43, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 5, 6 |
| | E-UTRA band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 31, 34, 38, 40, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | |
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_3A-41A | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 18, 19 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 18 |
| CA_4A-5A | E-UTRA Band 5, 7 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 26 | 859 | - | 869 | -27 | 1 | |
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_4A-7A | E-UTRA Band 5, 12, 13, 14, 17, 26, 27, 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_4A-12A | No requirement | | | | | | |
| CA_4A-13A | E-UTRA Band 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_4A-17A | No requirement | | | | | | |
| CA_5A-7A | E-UTRA Band 5, 28, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_5A-12A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_5A-17A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_7A-20A | E-UTRA Band 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_7A-28A | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_18A-28A | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_19A-21A | No requirement | | | | | | |
| CA_39A-41A | E-UTRA Band 42, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_41A-42A | E-UTRA Band 3, 5, 8, 26, 28, 33, 39, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 9, 11, 18, 19, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 18 |
| | Frequency range | 1839.9 | - | 1879.9 | -50 | 1 | 18 |
| | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 4, 18 |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.5-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. In case the exceptions are allowed due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3 or 4 for the 2nd, 3rd or 4th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the aggregated channel bandwidth.

NOTE 4: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7 MHz.

NOTE 5-9: Void.

NOTE10: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1 744.9 MHz and 1 784.9 MHz.

NOTE 11: This requirement is applicable only for the following cases:
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 902.5 MHz ≤ $F_c$ < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 907.5 MHz ≤ $F_c$ ≤ 912.5 MHz without any restriction on uplink transmission bandwidth.
- for carriers of 10 MHz channel bandwidth when carrier centre frequency ($F_c$) is $F_c$ = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with $RB_{start}$ > 3.

NOTE 12-16: Void.

NOTE 17: This requirement is applicable only when Band 3 transmission frequency is less than or equal to 1 765 MHz.
NOTE 18: This requirement applies when the E-UTRA carrier is confined within 2 545-2 575 MHz or 2 595-2 645 MHz and the channel bandwidth is 10 or 20 MHz.
NOTE 19-21: Void
NOTE 22: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of –25 dBm with a measurement bandwidth of 8 MHz applies.
NOTE 23: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.

**Table 6.6.3.2A.2.5-4: Requirements for dual-uplink inter-band carrier aggregation for Rel-15**

| E-UTRA CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA_1A-3A | E-UTRA Band 1, 32, 43, 50, 65, 74, 75 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 10 |
| CA_1A-5A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-7A | E-UTRA Band 32, 50, 51, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-8A | E-UTRA band 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_1A-18A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-21A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_1A-26A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-28A | E-UTRA Band 7, 31, 41, 72, 73 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 470 | - | 694 | -42 | 8 | 3, 22 |
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_1A-42A | E-UTRA Band 11, 21, 31, 32, 50, 51, 72, 73, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-4A | E-UTRA Band 4, 10, 22, 24, 50, 66, 70, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-5A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 41, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-7A | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-12A | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-13A | E-UTRA Band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_3A-5A | E-UTRA Band 5, 7, 8, 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_3A-7A | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-8A | E-UTRA Band 20, 28, 38, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 7, 22, 41, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 860 | - | 890 | -40 | 1 | 3,11,17 |
| CA_3A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| | Frequency range | 2595 | - | 2645 | -50 | 1 | |
| CA_3A-20A | E-UTRA Band 7, 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-26A | E-UTRA Band 5, 7, 26 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_3A-28A | E-UTRA Band 1, 11, 18, 19, 21, 22, 42, 43, 50, 51, 52, 65, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 5, 6 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | E-UTRA band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 5, 7, 8, 20, 26, 27, 31, 34, 38, 40, 41, 72, 73 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | |
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_3A-41A | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 18, 19 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 18 |
| CA_4A-5A | E-UTRA Band 5, 7 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 26 | 859 | - | 869 | -27 | 1 | |
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_4A-7A | E-UTRA Band 5, 12, 13, 14, 17, 26, 27, 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_4A-12A | No requirement | | | | | | |
| CA_4A-13A | E-UTRA Band 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_4A-17A | No requirement | | | | | | |
| CA_5A-7A | E-UTRA Band 5, 28, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_5A-12A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_5A-17A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_7A-20A | E-UTRA Band 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_7A-28A | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_11A-18A | E-UTRA Band 1, 3, 11, 18, 19, 21, 28, 34, 42, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 860 | - | 890 | -40 | 1 | 3 |
| | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 4 |
| | Frequency range | 2545 | - | 2575 | -50 | 1 | |
| | Frequency range | 2595 | - | 2645 | -50 | 1 | |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_18A-28A | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_19A-21A | No requirement | | | | | | |
| CA_39A-41A | E-UTRA Band 42, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_41A-42A | E-UTRA Band 3, 5, 8, 26, 28, 33, 39, 44, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 9, 11, 18, 19, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 18 |
| | Frequency range | 1839.9 | - | 1879.9 | -50 | 1 | 18 |
| | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 4, 18 |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.5-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. In case the exceptions are allowed due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3 or 4 for the 2nd, 3rd or 4th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the aggregated channel bandwidth.

NOTE 4: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7 MHz.

NOTE 5-9: Void.

NOTE10: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1 744.9 MHz and 1 784.9 MHz.

NOTE 11: This requirement is applicable only for the following cases:
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 902.5 MHz ≤ $F_c$ < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 907.5 MHz ≤ $F_c$ ≤ 912.5 MHz without any restriction on uplink transmission bandwidth.
- for carriers of 10 MHz channel bandwidth when carrier centre frequency ($F_c$) is $F_c$ = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with $RB_{start}$ > 3.

NOTE 12-16: Void.

NOTE 17: This requirement is applicable only when Band 3 transmission frequency is less than or equal to 1 765 MHz.

NOTE 18: This requirement applies when the E-UTRA carrier is confined within 2 545-2 575 MHz or 2 595-2 645 MHz and the channel bandwidth is 10 or 20 MHz.
NOTE 19-21: Void.
NOTE 22: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of –25 dBm with a measurement bandwidth of 8 MHz applies.
NOTE 23: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.
NOTE 24-25: Void.

**Table 6.6.3.2A.2.5-5: Requirements for dual-uplink inter-band carrier aggregation for Rel-16**

| E-UTRA CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA_1A-3A | E-UTRA Band 1, 32, 43, 50, 65, 74, 75 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 10 |
| CA_1A-5A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-7A | E-UTRA Band 32, 50, 51, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-8A | E-UTRA band 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_1A-18A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-21A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_1A-26A | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_1A-28A | E-UTRA Band 7, 31, 41, 72, 73 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 470 | - | 694 | -42 | 8 | 3, 22 |
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| CA_1A-42A | E-UTRA Band 11, 21, 31, 32, 50, 51, 72, 73, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-4A | E-UTRA Band 4, 10, 22, 24, 50, 66, 70, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | E-UTRA Band 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-5A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 41, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_2A-7A | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-12A | E-UTRA Band 41, 53 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_2A-13A | E-UTRA Band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| CA_3A-5A | E-UTRA Band 5, 7, 8, 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| CA_3A-7A | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-8A | E-UTRA Band 20, 28, 38, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 7, 22, 41, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 860 | - | 890 | -40 | 1 | 3,11,17 |
| CA_3A-19A | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| | Frequency range | 2595 | - | 2645 | -50 | 1 | |
| CA_3A-20A | E-UTRA Band 7, 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 38, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| CA_3A-26A | E-UTRA Band 5, 7, 26 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 945 | - | 960 | -50 | 1 | |
| CA_3A-28A | E-UTRA Band 1, 11, 18, 19, 21, 22, 42, 43, 50, 51, 52, 65, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 5, 6 |
| | E-UTRA band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | E-UTRA Band 5, 7, 8, 20, 26, 27, 31, 34, 38, 40, 41, 72, 73 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | |
| | | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| | CA_3A-41A | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | E-UTRA Band 18, 19 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 18 |
| | CA_4A-5A | E-UTRA Band 5, 7 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | E-UTRA Band 26 | 859 | - | 869 | -27 | 1 | |
| | | E-UTRA band 41, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | CA_4A-7A | E-UTRA Band 5, 12, 13, 14, 17, 26, 27, 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | CA_4A-12A | No requirement | | | | | | |
| | CA_4A-13A | E-UTRA Band 7, 41, 53 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | CA_4A-17A | No requirement | | | | | | |
| | CA_5A-7A | E-UTRA Band 5, 28, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | E-UTRA band 26 | 859 | - | 869 | -27 | 1 | |
| | CA_5A-12A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | CA_5A-17A | E-UTRA Band 24, 30 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | CA_7A-20A | E-UTRA Band 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | E-UTRA Band 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | CA_7A-28A | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | CA_11A-18A | E-UTRA Band 1, 3, 11, 18, 19, 21, 28, 34, 42, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | Frequency range | 860 | - | 890 | -40 | 1 | 3 |
| | | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 4 |
| | | Frequency range | 2545 | - | 2575 | -50 | 1 | |
| | | Frequency range | 2595 | - | 2645 | -50 | 1 | |
| | | Frequency range | 945 | - | 960 | -50 | 1 | |
| | CA_18A-28A | Frequency range | 470 | - | 710 | -26.2 | 6 | 23 |
| | CA_19A-21A | No requirement | | | | | | |
| | CA_39A-41A | E-UTRA Band 42, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | CA_41A-42A | E-UTRA Band 3, 5, 8, 26, 28, 33, 39, 44, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | | E-UTRA Band 9, 11, 18, 19, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 18 |
| | | Frequency range | 1839.9 | - | 1879.9 | -50 | 1 | 18 |
| | | Frequency range | 1884.5 | - | 1915.7 | -41 | 0.3 | 4, 18 |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.5-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. In case the exceptions are allowed due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3 or 4 for the 2nd, 3rd or 4th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the aggregated channel bandwidth.

NOTE 4: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7 MHz.

NOTE 5-9: Void.

NOTE10: This requirement applies for 5, 10, 15 and 20 MHz E-UTRA channel bandwidth allocated within 1 744.9MHz and 1 784.9MHz.

NOTE 11: This requirement is applicable only for the following cases:
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 902.5 MHz ≤ $F_c$ < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB
- for carriers of 5 MHz channel bandwidth when carrier centre frequency ($F_c$) is within the range 907.5 MHz ≤ $F_c$ ≤ 912.5 MHz without any restriction on uplink transmission bandwidth.
- for carriers of 10 MHz channel bandwidth when carrier centre frequency ($F_c$) is $F_c$ = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with $RB_{start}$ > 3.

NOTE 12-16: Void.

NOTE 17: This requirement is applicable only when Band 3 transmission frequency is less than or equal to 1 765 MHz.

NOTE 18: This requirement applies when the E-UTRA carrier is confined within 2 545-2 575MHz or 2 595-2 645MHz and the channel bandwidth is 10 or 20 MHz.
NOTE 19-21: Void.
NOTE 22: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of –25 dBm with a measurement bandwidth of 8 MHz applies.
NOTE 23: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.
NOTE 24-25: Void.

ويمكن الاطلاع على متطلبات التعايش الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة غير المتجاورة داخل النطاق في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة) في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3.2A.3.6.6.

6.6.3.2A.3.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.6.3.2A.3.5-1.

The requirements for the UE are release specific and can be found in Table 6.6.3.2A.0-3. If the UE supports a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the Table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3.2A.3.5-1.

**Table 6.6.3.2A.3.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA CA configuration**

| E-UTRA CA Configuration | UE Requirements per release |
|---|---|
| | Rel-12 |
| CA_4A-4A | Table 6.6.3.2A.0-3 |

ويمكن الاطلاع على متطلبات التعايش الخاصة بتجميع الموجات الحاملة (تجميع ثلاث موجات حاملة في الوصلة الصاعدة) في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.4.2A.3.6.6.

6.6.3.2A.4.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 6, shall not exceed the described value in Tables 6.6.3.2A.4.5-1.

The requirements for the UE are release specific and can be found in Tables 6.6.3.2A.0-2a to 6.6.3.2A.0-2f for intra-band contiguous carrier aggregation and Tables 6.6.3.2A.0-1a to 6.6.3.2A.0-1e for inter-band carrier aggregation. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3.2A.4.5-1.

**Table 6.6.3.2A.4.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA CA configuration**

| E-UTRA CA Configuration | UE Requirements per release | | | | |
|---|---|---|---|---|---|
| | Rel-13 | Rel-14 | Rel-15 | Rel-16 | |
| CA_40D | N/A | Table 6.6.3.2A.0-2e | Table 6.6.3.2A.0-2f | | |
| CA_39A-41C | Table 6.6.3.2A.0-1b | Table 6.6.3.2A.0-1c | Table 6.6.3.2A.0-1d | Table 6.6.3.2A.0-1e | |
| CA_39C-41A | Table 6.6.3.2A.0-1b | Table 6.6.3.2A.0-1c | Table 6.6.3.2A.0-1d | Table 6.6.3.2A.0-1e | |

ويمكن الاطلاع على متطلبات التعايش الخاصة بتجميع الموجات الحاملة (تجميع أربع موجات حاملة في الوصلة الصاعدة) في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.5.2A.3.6.6.

6.6.3.2A.5.5 Test requirement

The measured average power of spurious emission, derived in step 6, shall not exceed the described value in Tables 6.6.3.2A.5.5-1.

**Table 6.6.3.2A.5.5-1: Requirements for dual-uplink inter-band carrier aggregation**

| E-UTRA CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | Note |
| CA_41C-42C | E-UTRA Band 3, 5, 8, 26, 28, 33, 39, 44, 45, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 9, 11, 18, 19, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 3 |
| | NR Band n79 | | | | -50 | 1 | 2 |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.5-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. In case the exceptions are allowed due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3 or 4 for the 2nd, 3rd or 4th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: This requirement applies when the E-UTRA carrier is confined within 2 545-2 575 MHz or 2 595-2 645 MHz and the channel bandwidth is 10 or 20 MHz.

### 3.2.2.1 البث الهامشي الإضافي

تُحدَّد هذه المتطلبات بدلالة المتطلبات الإضافية للبث الطيفي. تعطي الشبكة إشارات عن المتطلبات الإضافية للبث الهامشي للدلالة على أن معدات المستعمل (UE) ينبغي أن تفي أيضاً بمتطلب إضافي لأحد سيناريوهات النشر المحددة باعتبارها جزءاً من رسالة التمرير/البث بين الخلايا.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_04" في الجدول 6.6.3.3.5.1-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.1-1: Additional requirements**

| Frequency band | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20 MHz | |
| 2 490.5 MHz ≤ f < 2495 MHz | –13 | 1 MHz |
| 9 kHz < f < 2 490.5 MHz | –25 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_05" في الفقرة 2.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3.5.2 Test requirement (network signalled value "NS_05")

When "NS_05" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-4 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described requirements for the corresponding Release as defined in Table 6.6.3.3.5.2-0. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.2-0: Applicable requirements per UE release**

| UE Release | Rel-10 and earlier | Rel-11 (number 1 bit in modifiedMPRbehavior=0) | Rel-11 (number 1 bit in modifiedMPRbehavior=1) | Rel-12 and later |
|---|---|---|---|---|
| ID | 1 | 2 | 3 | 4 |
| Applicable Requirements | Table 6.6.3.3.5.2-1 & 6.6.3.3.5.2-2 | Table 6.6.3.3.5.2-1 & 6.6.3.3.5.2-2 | Table 6.6.3.3.5.2-3 | Table 6.6.3.3.5.2-3 |

**Table 6.6.3.3.5.2-1: Additional test requirements (PHS) (Rel-11 and earlier)**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | | Measurement bandwidth |
|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | |
| 1 884.5 ≤ f ≤1 915.7[*1] | –41 | –41 | –41 | –41 | 300 KHz |
| Note 1: Applicable when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is larger than or equal to the upper edge of PHS band (1 915.7 MHz) + 4 MHz + the Channel BW assigned, where Channel BW is as defined in sub-clause 5.4.2. Additional restrictions apply for operations below this point. | | | | | |

The requirements in Table 6.6.3.3.5.2-1 apply with the additional restrictions specified in Table 6.6.3.3.5.2-2 when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is less than the upper edge of PHS band (1 915.7 MHz) + 4 MHz + the channel BW assigned.

**Table 6.6.3.3.5.2-2: RB restrictions for additional requirement (PHS)**

| 15 MHz channel bandwidth with $f_c$ = 1932.5 MHz | | | |
|---|---|---|---|
| $RB_{start}$ | 0-7 | 8-66 | 67-74 |

| | | | |
|---|---|---|---|
| $L_{CRB}$ | N/A | ≤ MIN(30, 67 – $RB_{start}$) | N/A |
| **20 MHz channel bandwidth with $f_c$ = 1930 MHz** | | | |
| $RB_{start}$ | 0-23 | 24-75 | 76-99 |
| $L_{CRB}$ | N/A | ≤ MIN(24, 76 – $RB_{start}$) | N/A |

**Table 6.6.3.3.5.2-3: Additional test requirements (PHS) (Rel-12 and onwards)**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | | Measurement bandwidth |
|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | |
| 1 884.5 ≤ f ≤1 915.7 | –41 | –41 | –41 | –41 | 300 KHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_07" في الجدول 6.6.3.3.5.3-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.3-1: Additional requirements (network signalled value "NS_07")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 769 ≤ f ≤ 775 | –55.5 | 6.25 kHz |
| Note: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_08" في الجدول 6.6.3.3.5.4-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.4-1: Additional requirements (network signalled value "NS_08")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | Measurement bandwidth |
|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | |
| 860 ≤ f ≤ 895 | –40 | –40 | –40 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_09" في الجدول 6.6.3.3.5.5-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.5-1: Additional requirements (network signalled value "NS_09")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | Measurement bandwidth |
|---|---|---|---|---|
| | 5MHz | 10MHz | 15MHz | |
| 1475.9 ≤ f ≤ 1510.9 | -35 | -35 | -35 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_11" في الجدول 6.6.3.3.6.6-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.6-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 1.4, 3, 5, 10, 15, 20 MHz | | |
| E-UTRA Band 2 | –50 | 1 MHz | |
| 1 998 ≤ f ≤ 1 999 | –21 | 1 MHz | |
| 1 997 ≤ f < 1 998 | –27 | 1 MHz | |
| 1 996 ≤ f < 1 997 | –32 | 1 MHz | |
| 1 995 ≤ f < 1 996 | –37 | 1 MHz | |
| 1 990 ≤ f < 1 995 | –40 | 1 MHz | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_12" في الجدول 6.6.3.3.7.6-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.7-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth/ Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz | |
| 806 ≤ f ≤ 813.5 | –42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 814.2 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_13" في الجدول 6.6.3.3.8.6-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.8-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth/ Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4, 3, 5 MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 819 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_14" في الجدول 1-9.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.9-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth/ Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz, 15 MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 824 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_15" في الجدول 1-10.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.10-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 1.4, 3, 5, 10, 15 MHz | | |
| 851 ≤ f ≤ 859 | –53 | 6.25 kHz | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_16" في الجدول 6.6.3.3.5.11-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.11-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 1.4, 3, 5, 10 MHz | | |
| 790 ≤ f ≤ 803 | –32 | 1 MHz | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_17" في الجدول 6.6.3.3.5.12-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.12-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 5, 10 MHz | | |
| 470 ≤ f ≤ 710 | –26.2 | 6 MHz | 1 |
| Note 1: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz. | | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_18" في الجدول 6.6.3.3.5.13-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.13-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 5, 10, 15, 20 MHz | | |
| 692 ≤ f ≤ 698 | –26.2 | 6 MHz | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_19" في الجدول 6.6.3.3.5.14-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.14-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 3, 5, 10, 15, 20 MHz | | |
| 662 ≤ f ≤ 694 | –25 | 8 MHz | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_20" في الجدول 6.6.3.3.5.15-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.15-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 5, 10, 15, 20 MHz | | |
| 1 990 ≤ f < 1 999 | –40 | 1 MHz | |
| 1 999 ≤ f ≤ 2 000 | –40 | Note 1 | |
| Note 1: The measurement bandwidth is 1% of the applicable E-UTRA channel bandwidth (5.4.2.1-1). | | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_21" في الجدول 6.6.3.3.5.16-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.16-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10 MHz | |
| 2 200 ≤ f < 2 288 | –40 | 1 MHz |
| 2 288 ≤ f < 2 292 | –37 | 1 MHz |
| 2 292 ≤ f < 2 296 | –31 | 1 MHz |
| 2 296 ≤ f < 2 300 | –25 | 1 MHz |
| 2 320 ≤ f < 2 324 | –25 | 1 MHz |
| 2 324 ≤ f < 2 328 | –31 | 1 MHz |
| 2 328 ≤ f < 2 332 | –37 | 1 MHz |
| 2 332 ≤ f ≤ 2 395 | –40 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_22" في الجدول 6.6.3.3.5.17-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.17-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | MBW |
|---|---|---|
| | 5, 10, 15, 20 MHz | |

| | | |
|---|---|---|
| 3 400 ≤ f ≤ 3 800 | –23 (NOTE 1, NOTE 3) | 5 MHz |
| | –40 (NOTE 2) | 1 MHz |
| NOTE 1: This requirement applies within an offset between 5 MHz and 25 MHz from the lower and from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band.<br>NOTE 2: This requirement applies from 3400 MHz to 25 MHz below the lower E-UTRA channel edge and from 25 MHz above the upper E-UTRA channel edge to 3 800 MHz.<br>NOTE 3: This emission limit might imply risk of harmful interference to UE(s) operating in the protected operating band | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_23" في الجدول 1-18.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.18-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | MBW |
|---|---|---|
| | **5, 10, 15, 20 MHz** | |
| 3 400 ≤ f ≤ 3 800 | –23 (NOTE 1, NOTE 4) | 5 MHz |
| | –40 (NOTE 2) | 1 MHz |
| NOTE 1: This requirement applies within an offset between 5 MHz + $F_{offset_NS_23}$ and 25 MHz + $F_{offset_NS_23}$ from the lower and from the upper edges of the channel bandwidth, whenever these frequencies overlap with the specified frequency band.<br>NOTE 2: This requirement applies from 3 400 MHz to 25 MHz + $F_{offset_NS_23}$ below the lower E-UTRA channel edge and from 25 MHz + Foffset$_{NS_23}$ above the upper E-UTRA channel edge to 3 800 MHz.<br>NOTE 3: $F_{offset_NS_23}$ is: 0 MHz for 5 MHz channel BW, 5 MHz for 10 MHz channel BW, 9 MHz for 15 MHz channel BW and 12 MHz for 20 MHz channel BW.<br>NOTE 4: This emission limit might imply risk of harmful interference to UE(s) operating in the protected operating band. | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_24" في الجدول 1-19.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.19-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | **5 MHz, 10 MHz, 15 MHz, 20 MHz** | |
| Band 34 | –50 | MHz |
| Note 1: This requirement applies at a frequency offset equal or larger than 5 MHz from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band. | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_25" في الجدول 6.6.3.3.5.20-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.20-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| Band 34 | –40 | MHz |
| Note 1: This requirement applies at a frequency offset equal or larger than 5 MHz from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band. | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_27" في الجدول 6.6.3.3.5.21-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.21-1: Additional requirements**

| Frequency band | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20 MHz | |
| 9 kHz ≤ f ≤ 3 530 MHz | –40 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_36" في الجدول 6.6.3.3.5.22-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.22-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz and 15 MHz | |
| 470 ≤ f ≤ 694 | –42 | 8 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_38" في الجدول 6.6.3.3.5.23-1 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.23-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 1 400 ≤ f ≤ 1 427 | –32 | 27 MHz |
| NOTE 1: This requirement shall be verified with UE transmission power of 15 dBm. | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_39" في الجدول 1-24.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.24-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 1 475 ≤ f ≤ 1 488 | –28 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_45" في الفقرة 25.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3.5.25 Test requirement (network signalled value “NS_45”)

When "NS 45" is indicated in the cell:

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.25-1 & Table 6.6.3.3.5.25-2. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.25-1: Additional requirements**

**Table 6.6.3.3.5.25-1: Additional requirements for 1.4,3 and 5 MHz channel bandwidths**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz | |
| 0.009 < f ≤ 2 477.5 | –25 | 1 MHz |
| 2 477.5 < f ≤ 2 478.5 | –13 | 1 MHz |
| 2 478.5< f ≤ 2 483.5 | –10 | 1 MHz |
| 2 495 ≤ f < 2 501 | –13 | 1 MHz |

| | | |
|---|---|---|
| 2 501 ≤ f ≤ 5th harmonic of the upper frequency edge of the UL operating band | –25 | 1 MHz |

**Table 6.6.3.3.5.25-2: Additional requirements for 10 MHz channel bandwidths**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 0.009 < f ≤ 2 473.5 | –25 | 1 MHz |
| 2 473.5 < f ≤ 2 478.5 | –13 | 1 MHz |
| 2 478.5< f ≤ 2 483.5 | –10 | 1 MHz |
| 2 495 ≤ f < 2 505 | –13 | 1 MHz |
| 2 505 ≤ f ≤ 5th harmonic of the upper frequency edge of the UL operating band | –25 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_44" في الجدول 1-26.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.26-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5, 10, 15, 20 | | |
| 2 620-2 645 | –15.5 | 5 MHz | 1 |
| 2 645-2 690 | –40 | 1 MHz | 1 |
| Note 1: The E-UTRA carrier with channel bandwidth is confined within 2 570 MHz and 2 615 MHz. | | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_56" في الجدول 1-27.5.3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

**Table 6.6.3.3.5.27-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit[1] (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5 MHz, 10 MHz | | |
| 1 541 ≤ f ≤ 1 559 | -102 | 2 kHz | Averaged over any 2 millisecond active transmission interval |
| 1 559≤ f ≤ 1 608 | -85 | 700 Hz | |
| 1 608≤ f ≤ 1 610 | -85 +5/2 (f-1608) | 700 Hz | |
| 1 610≤ f ≤ 1 625 | -80+ 66/15 (f-1610) | 700 Hz | |

| | | | | |
|---|---|---|---|---|
| | 1 541 ≤ f ≤ 1 608 | -75 | 1 MHz | Averaged over any 2 millisecond active transmission interval |
| | 1 608≤ f ≤ 1 610 | -75 + 5/2 (f-1608) | 1 MHz | |
| | 1 610≤ f ≤ 1 627.5 | -70+ 57/17.5 (f-1610) | 1 MHz | |
| | 1 627.5 | -37 | 4 kHz | |
| | 1 638.5 ≤f ≤ 1 645.5 | -28 | 4 kHz | |
| | 1 657.5 ≤f ≤ 1 660.5 | -28 | 4 kHz | |
| | NOTE 1: The EIRP requirement in regulation is converted to conducted requirement using a 0 dBi antenna. | | | |

### 4.2.2.1 البث الهامشي الإضافي لإرسالات الوصلة الصاعدة بتشكيل 64-QAM

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بإرسالات الوصلة الصاعدة باستخدام تشكيل 64-QAM في الفقرة 5.1_3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3_1.5 Test requirement

Same test requirement as in clause 6.6.3.3.5.

6.6.3.3.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for an additional spectrum emission requirement with protected bands as indicated from Table 6.6.3.3.5.1-1 to table 6.6.3.3.5.25-2.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

6.6.3.3.5.1 Test requirement (network signalled value “NS_04”)

When "NS 04" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-3 or 6.2.4_1.5-2 as appropriate, and
- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.1-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.1-1: Additional requirements**

| Frequency band | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20 MHz | |
| 2 490.5 MHz ≤ f < 2 495 MHz | –13 | 1 MHz |
| 9 kHz < f < 2490.5 MHz | -25 | 1 MHz |

6.6.3.3.5.2 Test requirement (network signalled value "NS_05")

When "NS_05" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-4 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described requirements for the corresponding Release as defined in Table 6.6.3.3.5.2-0. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.2-0: Applicable requirements per UE release**

| **UE Release** | Rel-10 and earlier | Rel-11 (number 1 bit in modifiedMPRbehavior=0) | Rel-11 (number 1 bit in modifiedMPRbehavior=1) | Rel-12 and later |
|---|---|---|---|---|
| **ID** | 1 | 2 | 3 | 4 |
| **Applicable Requirements** | Table 6.6.3.3.5.2-1 & 6.6.3.3.5.2-2 | Table 6.6.3.3.5.2-1 & 6.6.3.3.5.2-2 | Table 6.6.3.3.5.2-3 | Table 6.6.3.3.5.2-3 |

**Table 6.6.3.3.5.2-1: Additional test requirements (PHS) (Rel-11 and earlier)**

| **Frequency band (MHz)** | **Channel bandwidth / Spectrum emission limit (dBm)** | | | | **Measurement bandwidth** |
|---|---|---|---|---|---|
| | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | |
| 1 884.5 ≤ f ≤1 915.7[*1] | –41 | –41 | –41 | –41 | 300 KHz |
| Note 1: Applicable when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is larger than or equal to the upper edge of PHS band (1 915.7 MHz) + 4 MHz + the Channel BW assigned, where Channel BW is as defined in sub-clause 5.4.2. Additional restrictions apply for operations below this point. | | | | | |

The requirements in Table 6.6.3.3.5.2-1 apply with the additional restrictions specified in Table 6.6.3.3.5.2-2 when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is less than the upper edge of PHS band (1915.7 MHz) + 4 MHz + the channel BW assigned.

**Table 6.6.3.3.5.2-2: RB restrictions for additional requirement (PHS)**

| **15 MHz channel bandwidth with $f_c$ = 1932.5 MHz** | | | |
|---|---|---|---|
| $RB_{start}$ | 0-7 | 8-66 | 67-74 |
| $L_{CRB}$ | N/A | ≤ MIN(30, 67 – $RB_{start}$) | N/A |
| **20 MHz channel bandwidth with $f_c$ = 1930 MHz** | | | |
| $RB_{start}$ | 0-23 | 24-75 | 76-99 |
| $L_{CRB}$ | N/A | ≤ MIN(24, 76 – $RB_{start}$) | N/A |

**Table 6.6.3.3.5.2-3: Additional test requirements (PHS) (Rel-12 and onwards)**

| **Frequency band (MHz)** | **Channel bandwidth / Spectrum emission limit (dBm)** | | | | **Measurement bandwidth** |
|---|---|---|---|---|---|
| | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | |
| 1 884.5 ≤ f ≤1 915.7 | –41 | –41 | –41 | –41 | 300 KHz |

6.6.3.3.5.3 Test requirement (network signalled value "NS_07")

When "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-7 as appropriate,

and

- the measured average power of spurious emission, derived in step 4, shall not exceed the described value in Table 6.6.3.3.5.3-1. These requirements also apply for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.3-1: Additional requirements (network signalled value "NS_07")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 769 ≤ f ≤ 775 | –55.5 | 6.25 kHz |
| Note: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB | | |

6.6.3.3.5.4 Test requirement (network signalled value "NS_08")

When "NS_08" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-8 as appropriate,

and

the measured average power of spurious emission, derived in step 4, shall not exceed the described value in Table 6.6.3.3.5.4-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.4-1: Additional requirements (network signalled value "NS_08")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | Measurement bandwidth |
|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | |
| 860 ≤ f ≤ 895 | –40 | –40 | –40 | 1 MHz |

6.6.3.3.5.5 Test requirement (network signalled value "NS_09")

When "NS_09" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-9 as appropriate,

and

- the measured average power of spurious emission, derived in step 4, shall not exceed the described value in table 6.6.3.3.5.5-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.5-1: Additional requirements (network signalled value "NS_09")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | Measurement bandwidth |
|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | |
| 1 475.9 ≤ f ≤ 1 510.9 | -35 | -35 | -35 | 1 MHz |

NOTE 1: To improve measurement accuracy, A-MPR values for NS_09 specified in Table 6.2.4.3-1 in sub-clause 6.2.4 are derived based on 100 kHz RBW.

6.6.3.3.5.6 Test requirement (network signalled value "NS_11")

When "NS 11" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-11 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.6-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.6-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 1.4, 3, 5, 10, 15, 20 MHz | | |
| E-UTRA Band 2 | –50 | 1 MHz | |
| 1 998 ≤ f ≤ 1 999 | –21 | 1 MHz | |
| 1 997 ≤ f < 1 998 | –27 | 1 MHz | |
| 1 996 ≤ f < 1 997 | –32 | 1 MHz | |
| 1 995 ≤ f < 1 996 | –37 | 1 MHz | |
| 1 990 ≤ f < 1 995 | –40 | 1 MHz | |

6.6.3.3.5.7 Test requirement (network signalled value "NS_12")

When "NS 12" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-12 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.7-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.7-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth/ Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz | |
| 806 ≤ f ≤ 813.5 | -42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 814.2 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

6.6.3.3.5.8 Test requirement (network signalled value "NS_13")

When "NS 13" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-13 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.8-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.8-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth/ Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4, 3, 5 MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 819 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

6.6.3.3.5.9 Test requirement (network signalled value "NS_14")

When "NS 14" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-14 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.9-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.9-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth/ Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz, 15 MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 824 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

6.6.3.3.5.10 Test requirement (network signalled value "NS_15")

When "NS 15" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-15 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.10-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.10-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 1.4, 3, 5, 10, 15 MHz | | |
| 851 ≤ f ≤ 859 | –53 | 6.25 kHz | |

6.6.3.3.5.11 Test requirement (network signalled value "NS_16")

When "NS 16" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-16 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.11-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.11-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 1.4, 3, 5, 10 MHz | | |
| 790 ≤ f ≤ 803 | –32 | 1 MHz | |

6.6.3.3.5.12 Test requirement (network signalled value "NS_17")

When "NS 17" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-17 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.12-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.12-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 5, 10 MHz | | |
| 470 ≤ f ≤ 710 | –26.2 | 6 MHz | 1 |
| Note 1: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz. | | | |

6.6.3.3.5.13 Test requirement (network signalled value "NS_18")

When "NS 18" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-18 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.13-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.13-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 5, 10, 15, 20 MHz | | |
| 692 ≤ f ≤ 698 | –26.2 | 6 MHz | |

6.6.3.3.5.14 Test requirement (network signalled value "NS_19")

When "NS 19" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-19 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.14-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.14-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 3, 5, 10, 15, 20 MHz | | |
| 662 ≤ f ≤ 694 | –25 | 8 MHz | |

6.6.3.3.5.15 Test requirement (network signalled value "NS_20")

When "NS 20" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-20 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.15-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.15-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | Note |
|---|---|---|---|
| | 5, 10, 15, 20 MHz | | |
| 1 990 ≤ f < 1 999 | –40 | 1 MHz | |
| 1 999 ≤ f ≤ 2 000 | –40 | Note 1 | |
| Note 1: The measurement bandwidth is 1% of the applicable E-UTRA channel bandwidth (5.4.2.1-1). | | | |

6.6.3.3.5.16 Test requirement (network signalled value “NS_21”)

When “NS_21” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-21 as appropriate, and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.16-1. These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 and Table 6.6.3.1A-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.16-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10 MHz | |
| 2 200 ≤ f < 2 288 | –40 | 1 MHz |
| 2 288 ≤ f < 2 292 | –37 | 1 MHz |
| 2 292 ≤ f < 2 296 | –31 | 1 MHz |
| 2 296 ≤ f < 2 300 | –25 | 1 MHz |
| 2 320 ≤ f < 2 324 | –25 | 1 MHz |
| 2 324 ≤ f < 2 328 | –31 | 1 MHz |
| 2 328 ≤ f < 2 332 | –37 | 1 MHz |
| 2 332 ≤ f ≤ 2 395 | –40 | 1 MHz |

6.6.3.3.5.17 Test requirement (network signalled value “NS_22”)

When "NS 22" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-22 as appropriate, and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.17-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.17-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | MBW |
|---|---|---|
| | 5, 10, 15, 20 MHz | |
| 3 400 ≤ f ≤ 3 800 | –23 (NOTE 1, NOTE 3) | 5 MHz |
| | –40 (NOTE 2) | 1 MHz |
| NOTE 1: This requirement applies within an offset between 5 MHz and 25 MHz from the lower and from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band.<br>NOTE 2: This requirement applies from 3 400 MHz to 25 MHz below the lower E-UTRA channel edge and from 25 MHz above the upper E-UTRA channel edge to 3 800 MHz.<br>NOTE 3: This emission limit might imply risk of harmful interference to UE(s) operating in the protected operating band | | |

6.6.3.3.5.18 Test requirement (network signalled value “NS_23”)

When "NS 23" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-23 as appropriate, and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.18-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.18-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | MBW |
|---|---|---|
| | 5, 10, 15, 20 MHz | |
| 3 400 ≤ f ≤ 3 800 | –23 (NOTE 1, NOTE 4) | 5 MHz |
| | –40 (NOTE 2) | 1 MHz |
| NOTE 1: This requirement applies within an offset between 5 MHz + $F_{offset_NS_23}$ and 25 MHz + $F_{offset_NS_23}$ from the lower and from the upper edges of the channel bandwidth, whenever these frequencies overlap with the specified frequency band.<br>NOTE 2: This requirement applies from 3 400 MHz to 25 MHz + $F_{offset_NS_23}$ below the lower E-UTRA channel edge and from 25 MHz + Foffset$_{NS_23}$ above the upper E-UTRA channel edge to 3 800 MHz.<br>NOTE 3: $F_{offset_NS_23}$ is: 0 MHz for 5 MHz channel BW, 5 MHz for 10 MHz channel BW, 9 MHz for 15 MHz channel BW and 12 MHz for 20 MHz channel BW.<br>NOTE 4: This emission limit might imply risk of harmful interference to UE(s) operating in the protected operating band. | | |

6.6.3.3.5.19 Test requirement (network signalled value “NS_24”)

When "NS 24" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-24 as appropriate, and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.19-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.19-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| Band 34 | –50 | MHz |
| Note 1: This requirement applies at a frequency offset equal or larger than 5 MHz from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band. | | |

6.6.3.3.5.20 Test requirement (network signalled value “NS_25”)

When "NS 25" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-25 as appropriate, and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.20-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.20-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| Band 34 | –40 | MHz |
| Note 1: This requirement applies at a frequency offset equal or larger than 5 MHz from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band. | | |

6.6.3.3.5.21 Test requirement (network signalled value “NS_27”)

When "NS 27" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-27 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.21-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.21-1: Additional requirements**

| Frequency band | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20 MHz | |
| 9 kHz ≤ f ≤ 3 530 MHz | –40 | 1 MHz |

6.6.3.3.5.22 Test requirement (network signalled value “NS_36”)

When "NS 36" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-29 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.22-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.22-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz and 15 MHz | |
| 470 ≤ f ≤ 694 | –42 | 8 MHz |

6.6.3.3.5.23 Test requirement (network signalled value “NS_38”)

When "NS 38" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-29 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.23-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.23-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 1 400 ≤ f ≤ 1 427 | –32 | 27 MHz |
| NOTE 1: This requirement shall be verified with UE transmission power of 15 dBm. | | |

6.6.3.3.5.24 Test requirement (network signalled value “NS_39”)

When "NS 39" is indicated in the cell:

the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-29 as appropriate,

and

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.24-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.24-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 1 475 ≤ f ≤ 1 488 | –28 | 1 MHz |

6.6.3.3.5.25 Test requirement (network signalled value “NS_45”)

When "NS 45" is indicated in the cell:

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.25-1 & Table 6.6.3.3.5.25-2. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.25-1: Additional requirements**

**Table 6.6.3.3.5.25-1: Additional requirements for 1.4,3 and 5 MHz channel bandwidths**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 1.4 MHz, 3 MHz, 5 MHz | |
| 0.009 < f ≤ 2 477.5 | –25 | 1 MHz |
| 2 477.5 < f ≤ 2 478.5 | –13 | 1 MHz |
| 2 478.5< f ≤ 2 483.5 | –10 | 1 MHz |
| 2 495 ≤ f < 2 501 | –13 | 1 MHz |
| 2 501 ≤ f ≤ 5th harmonic of the upper frequency edge of the UL operating band | –25 | 1 MHz |

**Table 6.6.3.3.5.25-2: Additional requirements for 10 MHz channel bandwidths**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 0.009 < f ≤ 2 473.5 | –25 | 1 MHz |
| 2 473.5 < f ≤ 2 478.5 | –13 | 1 MHz |
| 2 478.5< f ≤ 2 483.5 | –10 | 1 MHz |
| 2 495 ≤ f < 2 505 | –13 | 1 MHz |
| 2 505 ≤ f ≤ 5th harmonic of the upper frequency edge of the UL operating band | –25 | 1 MHz |

6.6.3.3.5.26 Test requirement (network signalled value “NS_44”)

When "NS 44" is indicated in the cell:

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.26-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

Table 6.6.3.3.5.26-1: Additional requirements

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5, 10, 15, 20 | | |
| 2 620-2 645 | –15.5 | 5 MHz | 1 |
| 2 645-2 690 | –40 | 1 MHz | 1 |
| Note 1: The E-UTRA carrier with channel bandwidth is confined within 2 570 MHz and 2 615 MHz. | | | |

6.6.3.3.5.27 Test requirement (network signalled value “NS_56”)

When "NS 56" is indicated in the cell:

- the power of any UE emission shall not exceed the levels specified in Table 6.6.3.3.5.27-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3.5.27-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit[1] (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5 MHz, 10MHz | | |
| 1 541 ≤ f ≤ 1 559 | -102 | 2 kHz | Averaged over any 2 millisecond active transmission interval |
| 1 559≤ f ≤ 1 608 | -85 | 700 Hz | |
| 1 608≤ f ≤ 1 610 | -85 +5/2 (f-1608) | 700 Hz | |
| 1 610≤ f ≤ 1 625 | -80+ 66/15 (f-1610) | 700 Hz | |
| 1 541 ≤ f ≤ 1 608 | -75 | 1 MHz | Averaged over any 2 millisecond active transmission interval |
| 1 608≤ f ≤ 1 610 | -75 + 5/2 (f-1608) | 1 MHz | |
| 1 610≤ f ≤ 1 627.5 | -70+ 57/17.5 (f-1610) | 1 MHz | |
| 1 627.5 | -37 | 4 kHz | |
| 1 638.5 ≤f ≤ 1 645.5 | -28 | 4 kHz | |
| 1 657.5 ≤f ≤ 1 660.5 | -28 | 4 kHz | |
| NOTE 1: The EIRP requirement in regulation is converted to conducted requirement using a 0 dBi antenna. | | | |

### 5.2.2.1 البث الهامشي الإضافي لإرسالات الوصلة الصاعدة بتشكيل 256-QAM

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بإرسالات الوصلة الصاعدة باستخدام تشكيل 256-QAM في الفقرة 5.2_3.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3_2.5 Test requirement

Same test requirement as in clause 6.6.3.3.5.

### 6.2.2.1 البث الهامشي الإضافي لتجميع الموجات الحاملة

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة المتجاورة داخل النطاق في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.1.3A.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3A.1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for an additional spectrum emission for CA requirement with protected bands as indicated from Table 6.6.3.3A.1.5.1-1 to Table 6.6.3.3A.1.5.6-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

6.6.3.3A.1.5.1 Test requirement for CA (network signalled value "CA_NS_01")

When "CA_NS_01" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4A.1.5-1 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3.3A.1.5.1-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1A.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3A.1.5.1-1: Additional requirements (PHS) for CA**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | Note |
|---|---|---|---|---|---|---|
| E-UTRA band 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| Frequency range | 1884.5 | - | 1915.7 | –41 | 0.3 | 1 |
| Note 1: Applicable when the aggregated channel bandwidth is confined within frequency range 1 940-1 980 MHz. | | | | | | |

6.6.3.3A.1.5.2 Test requirement for CA (network signalled value “CA_NS_02")

When “CA_NS_02” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4A.1.5-2 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3.3A.1.5.2-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1A.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3A.1.5.2-1: Additional requirements for CA**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) |
|---|---|---|---|---|---|
| E-UTRA band 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 |
| Frequency range | 1 900 | - | 1 915 | -15.5 | 5 |
| Frequency range | 1 915 | - | 1 920 | +1.6 | 5 |

6.6.3.3A.1.5.3 Test requirement for CA (network signalled value “CA_NS_03")

When “CA_NS_03” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4A.1.5-3 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3.3A.1.5.3-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1A.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3A.1.5.3-1: Additional requirement for CA**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) |
|---|---|---|---|---|---|
| E-UTRA band 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 |
| Frequency range | 1 880 | - | 1 895 | –40 | 1 |
| Frequency range | 1 895 | - | 1 915 | –15.5 | 5 |
| Frequency range | 1 915 | - | 1 920 | +1.6 | 5 |

6.6.3.3A.1.5.4 Test requirement for CA (network signalled value “CA_NS_05")

When “CA_NS_05” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4A.1.5-5 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3.3A.1.5.4-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1A.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3A.1.5.4-1: Additional requirement for CA**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) |
|---|---|---|---|---|---|
| Frequency range | 2 620 | - | 2 645 | –15.5 | 5 |
| Frequency range | 2 645 | - | 2 690 | –40 | 1 |

6.6.3.3A.1.5.5 Test requirement for CA (network signalled value “CA_NS_06")

When “CA_NS_06” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4A.1.5-6 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3.3A.1.5.5-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1A.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3A.1.5.5-1: Additional requirements**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) |
|---|---|---|---|---|---|
| Frequency range | 2 570 | - | 2 575 | +1.6 | 5 |
| Frequency range | 2 575 | - | 2 595 | –15.5 | 5 |
| Frequency range | 2 595 | - | 2 620 | –40 | 1 |

6.6.3.3A.1.5.6 Test requirement for CA (network signalled value “CA_NS_07")

When “CA_NS_07” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4A.1.5-7 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3.3A.1.5.6-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1A.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3A.1.5.6-1: Additional requirement for CA**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 1 805 | - | 1 855 | –40 | 1 | 1 |
| Frequency range | 1 855 | - | 1 880 | –15.5 | 5 | 1, 2, 3 |
| NOTE 1: This requirement is applicable for carriers with aggregated channel bandwidths confined in 1885-1920 MHz<br>NOTE 2: The requirement also applies for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1.3-1 and Table 6.6.3.1A.0-1 from the edge of the channel bandwidth.<br>NOTE 3: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

6.6.3.3A.1.5.7 Test requirement for CA (network signalled value “CA_NS_08")

Not available

6.6.3.3A.1.5.8 Test requirement for CA (network signalled value “CA_NS_04")

When “CA_NS_04” is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4A.1.5-4 as appropriate,

and

the measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3.3A.1.5.8-1. This requirement also applies for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1A.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3.3A.1.5.8-1: Additional requirement for CA**

| Frequency band | Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| 2 490.5 MHz ≤ f < 2 495 MHz | –13 | 1 MHz |
| 9 kHz < f < 2490.5 MHz | –25 | 1 MHz |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة المتجاورة داخل النطاق في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة)، لإرسالات الوصلة الصاعدة باستخدام تشكيل 64-QAM، في الفقرة 5.1_1.4A.2.6 من المواصفة التقنية [5] TS 36.521-1.

6.2.4A.1_1.5 Test requirements

The maximum output power, derived in step 3 shall be within the range prescribed by the nominal maximum output power and tolerance in the applicable table from Table 6.2.4A.1_1.5-1 to Table 6.2.4A.1_1.5-7. For uplink QPSK or 16-QAM, the allowed maximum output power reduction is specified in Table 6.2.4A.1_1.3-1 and clause 6.2.3A.1 does not apply, i.e. carrier aggregation MPR = 0. For uplink 64-QAM, the applied maximum output power reduction is obtained by taking the maximum value of MPR requirements specified in Table 6.2.3A.1_1.3-1 and A-MPR requirements specified in Table 6.2.4A.1_1.3-1. For the UE maximum output power modified by MPR specified in Table 6.2.3A.1_1.3-1 or A-MPR specified in Table 6.2.4A.1_1.3-1, the power limits specified in Table 6.2.5A.1.3-1 apply.

**Table 6.2.4A.1_1.5-1: Test requirement (network signalled value "CA_NS_01")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -17.7 |
| 2 | | | | | 23 | +2.7 / -11.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -4.7 |
| 5 | | | | | 23 | +2.7 / -11.7 |
| 6 | | | | | 23 | +2.7 / -24.7 |
| 7 | | | | | 23 | +2.7 / -18.7 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | | | | | 23 | +2.7 / -18.7 |
| 9 | | | | | 23 | +2.7 / -11.7 |
| 10 | | | | | 23 | +2.7 / -9.7 |
| 11 | | | | | 23 | +2.7 / -6.2 |
| 12 | | | | | 23 | +2.7 / -24.7 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_1.5-2: Test requirement (network signalled value "CA_NS_02")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -4.7 |
| 2 | | | | | 23 | +2.7 / -6.2 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -11.7 |
| 5 | | | | | 23 | +2.7 / -4.7 |
| 6 | | | | | 23 | +2.7 / -4.7 |
| 7 | | | | | 23 | +2.7 / -24.7 |
| 8 | | | | | 23 | +2.7 / -8.2 |
| 9 | | | | | 23 | +2.7 / -6.2 |
| 10 | | | | | 23 | +2.7 / -6.2 |
| 11 | | | | | 23 | +2.7 / -11.7 |
| 12 | | | | | 23 | +2.7 / -15.7 |
| 13 | | | | | 23 | +2.7 / -4.7 |
| 14 | | | | | 23 | +2.7 / -24.7 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_1.5-3: Test requirement (network signalled value "CA_NS_03")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -15.7 |
| 2 | | | | | 23 | +2.7 / -8.2 |
| 3 | | | | | 23 | +2.7 / -6.2 |
| 4 | | | | | 23 | +2.7 / -9.7 |
| 5 | | | | | 23 | +2.7 / |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | -13.7 |
| 6 | | | | | 23 | +2.7 / -11.7 |
| 7 | | | | | 23 | +2.7 / -4.7 |
| 8 | | | | | 23 | +2.7 / -25.2 |
| 9 | | | | | 23 | +2.7 / -15.7 |
| 10 | | | | | 23 | +2.7 / -11.7 |
| 11 | | | | | 23 | +2.7 / -4.7 |
| 12 | | | | | 23 | +2.7 / -8.2 |
| 13 | | | | | 23 | +2.7 / -12.7 |
| 14 | | | | | 23 | +2.7 / -15.7 |
| 15 | | | | | 23 | +2.7 / -4.7 |
| 16 | | | | | 23 | +2.7 / -25.2 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_1.5-4: Test requirement (network signalled value "CA_NS_04")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -8.2 |
| 2 | | | | | 23 | +2.7 / -8.2 |
| 3 | | | | | 23 | +2.7 / -8.2 |
| 4 | | | | | 23 | +2.7 / -18.7 |
| 5 | | | | | 23 | +2.7 / -8.2 |
| 6 | | | | | 23 | +2.7 / -8.2 |
| 7 | | | | | 23 | +2.7 / -18.7 |
| 8 | | | | | 23 | +2.7 / -8.2 |
| 9 | | | | | 23 | +2.7 / -8.2 |
| 10 | | | | | 23 | +2.7 / -8.2 |
| 11 | | | | | 23 | +2.7 / -18.7 |
| 12 | | | | | 23 | +2.7 / -8.2 |
| 13 | | | | | 23 | +2.7 / -8.2 |
| 14 | | | | | 23 | +2.7 / -8.2 |
| 15 | | | | | 23 | +2.7 / -8.2 |
| 16 | | | | | 23 | +2.7 / -18.7 |

Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1.

**Table 6.2.4A.1_1.5-5: Test requirement (network signalled value "CA_NS_05")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -6.2 |
| 2 | | | | | 23 | +2.7 / -9.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -9.7 |
| 5 | | | | | 23 | +2.7 / -11.7 |
| 6 | | | | | 23 | +2.7 / -24.2 |
| 7 | | | | | 23 | +2.7 / -9.7 |
| 8 | | | | | 23 | +2.7 / -6.2 |
| 9 | | | | | 23 | +2.7 / -11.7 |
| 10 | | | | | 23 | +2.7 / -17.7 |
| 11 | | | | | 23 | +2.7 / -24.2 |

Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1.

**Table 6.2.4A.1_1.5-6: Test requirement (network signalled value "CA_NS_06")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -12.2 |
| 2 | | | | | 23 | +2.7 / -6.2 |
| 3 | | | | | 23 | +2.7 / -6.2 |
| 4 | | | | | 23 | +2.7 / -11.7 |
| 5 | | | | | 23 | +2.7 / -15.7 |
| 6 | | | | | 23 | +2.7 / -26.7 |
| 7 | | | | | 23 | +2.7 / -11.2 |
| 8 | | | | | 23 | +2.7 / -6.2 |
| 9 | | | | | 23 | +2.7 / -6.2 |
| 10 | | | | | 23 | +2.7 / -9.7 |
| 11 | | | | | 23 | +2.7 / -15.7 |
| 12 | | | | | 23 | +2.7 / -26.7 |

| Note 1: | Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. |
|---|---|

**Table 6.2.4A.1_1.5-7: Test requirement (network signalled value "CA_NS_07")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -8.2 |
| 2 | | | | | 23 | +2.7 / -11.7 |
| 3 | | | | | 23 | +2.7 / -6.2 |
| 4 | | | | | 23 | +2.7 / -6.2 |
| 5 | | | | | 23 | +2.7 / -28.7 |
| 6 | | | | | 23 | +2.7 / -17.7 |
| 7 | | | | | 23 | +2.7 / -6.2 |
| 8 | | | | | 23 | +2.7 / -11.7 |
| 9 | | | | | 23 | +2.7 / -9.7 |
| 10 | | | | | 23 | +2.7 / -6.2 |
| 11 | | | | | 23 | +2.7 / -9.7 |
| 12 | | | | | 23 | +2.7 / -28.7 |
| 13 | | | | | 23 | +2.7 / -17.7 |
| 14 | | | | | 23 | +2.7 / -6.2 |
| 15 | | | | | 23 | +2.7 / -12.7 |
| 16 | | | | | 23 | +2.7 / -6.2 |
| 17 | | | | | 23 | +2.7 / -9.7 |
| 18 | | | | | 23 | +2.7 / -28.7 |
| Note 1: | Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة المتجاورة داخل النطاق في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة)، لإرسالات الوصلة الصاعدة باستخدام تشكيل 256-QAM، في الفقرة 5.2_1.4A.2.6 من المواصفة التقنية [5] TS 36.521-1.

6.2.4A.1_2.5 Test requirements

The maximum output power, derived in step 6 shall be within the range prescribed by the nominal maximum output power and tolerance in the applicable table from Table 6.2.4A.1_2.5-1 to Table 6.2.4A.1_2.5-7.

**Table 6.2.4A.1_2.5-1: Test requirement (network signalled value "CA_NS_01")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -17.7 |
| 2 | | | | | 23 | +2.7 / -11.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -9.7 |
| 5 | | | | | 23 | +2.7 / -11.7 |
| 6 | | | | | 23 | +2.7 / -24.7 |
| 7 | | | | | 23 | +2.7 / -18.7 |
| 8 | | | | | 23 | +2.7 / -18.7 |
| 9 | | | | | 23 | +2.7 / -11.7 |
| 10 | | | | | 23 | +2.7 / -9.7 |
| 11 | | | | | 23 | +2.7 / -9.7 |
| 12 | | | | | 23 | +2.7 / -24.7 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_2.5-2: Test requirement (network signalled value "CA_NS_02")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -9.7 |
| 2 | | | | | 23 | +2.7 / -9.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -11.7 |
| 5 | | | | | 23 | +2.7 / -9.7 |
| 6 | | | | | 23 | +2.7 / -9.7 |
| 7 | | | | | 23 | +2.7 / -24.7 |
| 8 | | | | | 23 | +2.7 / -9.7 |
| 9 | | | | | 23 | +2.7 / -9.7 |
| 10 | | | | | 23 | +2.7 / -9.7 |
| 11 | | | | | 23 | +2.7 / -11.7 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 12 | | | | | 23 | +2.7 / -15.7 |
| 13 | | | | | 23 | +2.7 / -9.7 |
| 14 | | | | | 23 | +2.7 / -24.7 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_2.5-3: Test requirement (network signalled value "CA_NS_03")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -15.7 |
| 2 | | | | | 23 | +2.7 / -9.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -9.7 |
| 5 | | | | | 23 | +2.7 / -13.7 |
| 6 | | | | | 23 | +2.7 / -11.7 |
| 7 | | | | | 23 | +2.7 / -9.7 |
| 8 | | | | | 23 | +2.7 / -25.2 |
| 9 | | | | | 23 | +2.7 / -15.7 |
| 10 | | | | | 23 | +2.7 / -11.7 |
| 11 | | | | | 23 | +2.7 / -9.7 |
| 12 | | | | | 23 | +2.7 / -9.7 |
| 13 | | | | | 23 | +2.7 / -12.7 |
| 14 | | | | | 23 | +2.7 / -15.7 |
| 15 | | | | | 23 | +2.7 / -9.7 |
| 16 | | | | | 23 | +2.7 / -25.2 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_2.5-4: Test requirement (network signalled value "CA_NS_04")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -9.7 |
| 2 | | | | | 23 | +2.7 / -9.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -19.2 |
| 5 | | | | | 23 | +2.7 / |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | -9.7 |
| 6 | | | | | 23 | +2.7 / -9.7 |
| 7 | | | | | 23 | +2.7 / -19.2 |
| 8 | | | | | 23 | +2.7 / -9.7 |
| 9 | | | | | 23 | +2.7 / -9.7 |
| 10 | | | | | 23 | +2.7 / -9.7 |
| 11 | | | | | 23 | +2.7 / -19.2 |
| 12 | | | | | 23 | +2.7 / -9.7 |
| 13 | | | | | 23 | +2.7 / -9.7 |
| 14 | | | | | 23 | +2.7 / -9.7 |
| 15 | | | | | 23 | +2.7 / -9.7 |
| 16 | | | | | 23 | +2.7 / -19.2 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_2.5-5: Test requirement (network signalled value "CA_NS_05")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -9.7 |
| 2 | | | | | 23 | +2.7 / -9.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -9.7 |
| 5 | | | | | 23 | +2.7 / -11.7 |
| 6 | | | | | 23 | +2.7 / -24.2 |
| 7 | | | | | 23 | +2.7 / -9.7 |
| 8 | | | | | 23 | +2.7 / -9.7 |
| 9 | | | | | 23 | +2.7 / -11.7 |
| 10 | | | | | 23 | +2.7 / -17.7 |
| 11 | | | | | 23 | +2.7 / -24.2 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_2.5-6: Test requirement (network signalled value "CA_NS_06")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 (low range) | | | | | 23 | +2.7 / -12.2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 (high range) | | | | | 23 | +2.7 / -9.7 |
| 2 | | | | | 23 | +2.7 / -9.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -11.7 |
| 5 | | | | | 23 | +2.7 / -15.7 |
| 6 | | | | | 23 | +2.7 / -26.7 |
| 7 (low range) | | | | | 23 | +2.7 / -12.2 |
| 7 (high range) | | | | | 23 | +2.7 / -9.7 |
| 8 | | | | | 23 | +2.7 / -9.7 |
| 9 | | | | | 23 | +2.7 / -9.7 |
| 10 | | | | | 23 | +2.7 / -9.7 |
| 11 | | | | | 23 | +2.7 / -15.7 |
| 12 | | | | | 23 | +2.7 / -26.7 |
| Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

**Table 6.2.4A.1_2.5-7: Test requirement (network signalled value "CA_NS_07")**

| Configuration ID | Class 1 (dBm) | Tol. (dB) | Class 2 (dBm) | Tol. (dB) | Class 3 (dBm) | Tol. (dB) |
|---|---|---|---|---|---|---|
| 1 | | | | | 23 | +2.7 / -9.7 |
| 2 | | | | | 23 | +2.7 / -11.7 |
| 3 | | | | | 23 | +2.7 / -9.7 |
| 4 | | | | | 23 | +2.7 / -9.7 |
| 5 | | | | | 23 | +2.7 / -28.7 |
| 6 | | | | | 23 | +2.7 / -17.7 |
| 7 | | | | | 23 | +2.7 / -9.7 |
| 8 | | | | | 23 | +2.7 / -11.7 |
| 9 | | | | | 23 | +2.7 / -9.7 |
| 10 | | | | | 23 | +2.7 / -9.7 |
| 11 | | | | | 23 | +2.7 / -9.7 |
| 12 | | | | | 23 | +2.7 / -28.7 |
| 13 | | | | | 23 | +2.7 / -17.7 |
| 14 | | | | | 23 | +2.7 / -9.7 |
| 15 | | | | | 23 | +2.7 / -12.7 |
| 16 | | | | | 23 | +2.7 / |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | -9.7 |
| | 17 | | | | | 23 | +2.7 / -9.7 |
| | 18 | | | | | 23 | +2.7 / -28.7 |
| | Note 1: Lower limit is assuming $\Delta T_{IB,c}$ is zero. If non-zero, $P_{CMAX,c}$ will decrease and $T(P_{CMAX_L,c})$ may be higher resulting in different test requirements according to Table 6.2.5A.1.3-1. | | | | | | |

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة بين النطاقات في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.2.3A.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3A.2.5 Test requirement

Same test requirements as in clause 6.6.3.3.5 depending on network signal value.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة بين النطاقات في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة)، لإرسالات الوصلة الصاعدة باستخدام تشكيل 64-QAM، في الفقرة 5.1_2.3A.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3A.2_1.5 Test requirement

Same test requirements as in clause 6.6.3.3A.2.5.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة بين النطاقات في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة)، لإرسالات الوصلة الصاعدة باستخدام تشكيل 256-QAM، في الفقرة 5.2_2.3A.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3A.2_2.5 Test requirement

Same test requirements as in clause 6.6.3.3A.2.5.6.6.3.3A.3 Additional spurious emissions for CA (intra-band non-contiguous DL CA and UL CA)

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع ثلاث موجات حاملة في الوصلة الصاعدة)، في الفقرة 5.4.3A.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3.3A.4.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for an additional spectrum emission for CA requirement with protected bands as indicated from Table 6.6.3.3A.4.5.1-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3.3A.4.5.1-1: Additional requirement for CA**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 1 805 | - | 1 855 | –40 | 1 | 1 |
| Frequency range | 1 855 | - | 1 880 | –15.5 | 5 | 1, 2, 3 |

NOTE 1: This requirement is applicable for carriers with aggregated channel bandwidths confined in 1 885-1 920 MHz

NOTE 2: The requirement also applies for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1.3-1 and Table 6.6.3.1A.0-1 from the edge of the channel bandwidth.

NOTE 3: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بتجميع الموجات الحاملة (تجميع أربع موجات حاملة في الوصلة الصاعدة)، في الفقرة 5.3A.3.6.6 من المواصفة التقنية [5] TS 36.521-1.

### 6.6.3.3A.5 Additional spurious emissions for CA (4UL CA)

#### 6.6.3.3A.5.1 Test purpose

To verify that UE transmitter does not cause unacceptable interference to other channels or other systems in terms of transmitter spurious emissions in intra-band contiguous carrier aggregation under the deployment scenarios where additional requirements are specified.

#### 6.6.3.3A.5.2 Test applicability

This test case applies to all types of E-UTRA UE release 11 and forward that support inter-band and 4UL CA.

#### 6.6.3.3A.5.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 6.6.3.3A.1.3

#### 6.6.3.3A.5.4 Test description

##### 6.6.3.3A.5.4.1 Initial conditions

Initial conditions are a set of test configurations the UE needs to be tested in and the steps for the SS to take with the UE to reach the correct measurement state. For the UE maximum output power modified by A-MPR specified in table 6.6.3.3A.5.4.1-1, the power limits specified in subclause 6.2.5A.6.3 apply.

**Table 6.6.3.3A.2.4.1-1: Additional spurious emissions for inter-band CA**

| Uplink CA Configuration | NS-value per CC (in same order as UL CA Configuration column) | | Applicable emissions requirements (in same order as UL CA Configuration column) | |
|---|---|---|---|---|
| CA_41C-42C | CA_NS_04 | CA_NS_08 | Table 6.6.3.3A.1.3.8-1 | Table 6.6.3.3A.1.3.7-1 |
| Note 1: A-MPR values for NS-values in this table are the same as in section 6.2.4.3. | | | | |

The initial test configurations consist of environmental conditions, test frequencies, and CC combinations based on E-UTRA CA configurations specified in Table 5.4.2A.1-2. All of these configurations shall be tested with applicable test parameters for each CA Configuration, and are shown in Table 6.6.3.3A.5.4.1-2. The details of the uplink reference measurement channels (RMCs) are specified in Annexes A.2. Configurations of PDSCH and PDCCH before measurement are specified in Annex C.2.

**Table 6.6.3.3A.5.4.1-2: Test Configuration Table (network signalled value CA_NS_04/CA_NS_08)**

| Initial Conditions | |
|---|---|
| Test Environment as specified in TS 36.508 [7] subclause 4.1 | NC |
| Test Frequencies as specified in TS 36.508 [7] subclause 4.3.1 for different CA bandwidth classes | Low and High range for both PCC and SCC |
| Test CC Combination setting (NRB_agg) as specified in subclause 5.4.2A.1 for the CA Configuration across bandwidth combination sets supported by the UE. | Lowest and Highest $N_{RBagg}$ |

1. Connect the SS to the UE to the UE antenna connectors as shown in Figure TS 36.508 [7] Annex A, Figure group A.56 as appropriate.
2. The parameter settings for the cell are set up according to TS 36.508 [7] subclause 4.4.3.
3. Downlink signals for PCC are initially set up according to Annex C.0, C.1 and C.3.0, and uplink signals according to Annex H.1 and H.3.0.
4. The UL Reference Measurement channels are set according to Table 6.6.3.3A.5.4.1-2.

5. Propagation conditions are set according to Annex B.0.
6. Ensure the UE is in State 3A-RF according to TS 36.508 [7] clause 5.2A.2. Message contents are defined in clause 6.6.3.3A.5.4.3.

6.6.3.3A.5.4.2 Test procedure

1. Configure SCCs according to Annex C.0, C.1 and Annex C.3.0 for all downlink physical channels.
2. The SS shall configure SCC as per TS 36.508 [7] clause 5.2A.4. Message contents are defined in clause 6.6.3.3A.5.4.3
3. SS activates SCCs by sending the activation MAC-CE (Refer TS 36.321 [13], clauses 5.13, 6.1.3.8). Wait for at least 2 seconds (Refer TS 36.133, clauses 8.3.3.2).
4. SS sends uplink scheduling information for each UL HARQ process via PDCCH DCI format 0 for C_RNTI to schedule the UL RMC on both PCC and SCC, according to Table 6.6.3.3A.5.4.1-2. Since the UE has no payload and no loopback data to send the UE sends uplink MAC padding bits on the UL RMC.
5. Send continuously uplink power control "up" commands in every uplink scheduling information to the UE until the UE transmits at $P_{UMAX}$ level.
6. Measure the mean power of the UE in the channel bandwidth of the radio access mode according to the test configuration. The period of the measurement shall be at least one sub-frame (1ms).
7. Measure the power of the transmitted signal with a measurement filter of bandwidths according to Table 6.6.3.3A.1.5.1-1 to 6.6.3.3A.1.5.8-1 as appropriate. The centre frequency of the filter shall be stepped in contiguous steps according to the same table. The measured power shall be verified for each step. The measurement period shall capture the active time slots.

6.6.3.3A.5.4.3 Message contents

Same message contents as in clause 6.2.4A.5.4.3.

6.6.3.3A.2.5 Test requirement

Same test requirements as in clause 6.6.3.3A.1.5 depending on network signal value.

### 3.2.1 البث الهامشي للمُرسل فيما يخص الإرسال UL-MIMO

ويُحدد البث الهامشي للمُرسِل الخاص بالنفاذ E-UTRA لإرسال UL-MIMO، في الفقرة 5.1.3B.6.6 من المواصفة التقنية TS 36.521-1 [5].

6.6.3B.1.5 Test requirement

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3B.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than ΔfOOB (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1.3-1.

**Table 6.6.3B.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

| | | | |
|---|---|---|---|
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | Note 1 |
| Note 1: Applies for Band 22, Band 42 and Band 43. | | | |

NOTE: In order that the measurement of spurious emissions falls within the frequency ranges that are more than ΔfOOB (MHz) from the edge of the channel bandwidth, the minimum offset of the measurement frequency from each edge of the channel should be ΔfOOB + MBW/2. MBW denotes the measurement bandwidth defined in Table 6.6.3B.1.5-1.

وتُحدد متطلبات التعايش لإرسال UL-MIMO، في الفقرة 5.2.3B.6.6 من المواصفة التقنية [5] TS 36.521-1.

### 6.6.3B.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence for UL-MIMO are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Tables 6.6.3.2.3-1B to 6.6.3.2.3-1G according to the following rule:

The requirements for the UE are release specific and can be found in Tables 6.6.3.2.3-1B to 6.6.3.2.3-1G. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3B.2.5-1.

The spurious emission limits apply for the frequency ranges that are more than ΔfOOB (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1.3-1.

**Table 6.6.3B.2.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA band**

| Band | UE Requirements per release | | | | | |
|---|---|---|---|---|---|---|
| | Rel-10 | Rel-11 | Rel-12 | Rel-13 | Rel-14 | Rel-15 |
| 1 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 2 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 3 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 4 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 5 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 6 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 7 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 8 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 9 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 10 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 11 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 12 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 13 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 14 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | ... | | | | | | | |
| | 17 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 18 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 19 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 20 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 21 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 22 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 23 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 24 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 25 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 26 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 27 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 28 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 30 | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 31 | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | ... | | | | | | | |
| | 33 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 34 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G | |
| | 35 | | | | | | | |
| | 36 | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 37 | | | | | | |
| 38 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 39 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 40 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 41 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 42 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 43 | Table 6.6.3.2.3-1B | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 44 | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1C | Table 6.6.3.2.3-1D | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| 45 | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| … | | | | | | |
| 48 | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| | | | | | | |
| 65 | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1E | Table 6.6.3.2.3-1F | Table 6.6.3.2.3-1G |
| … | | | | | | |
| 68 | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G |
| … | | | | | | |
| 71 | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G |
| 72 | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G | Table 6.6.3.2.3-1G |

NOTE: The frequency range applicable with network signalled values of NS_05, NS_08, and NS_09 are covered in 6.6.3B.3 Additional Spurious Emissions for UL-MIMO.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بإرسال UL-MIMO، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3.3B.6.6.

6.6.3B.3.5 Test requirement

Same test requirements as defined in clause 6.6.3.3.5.

### 4.2.1 البث الهامشي للمُرسِل فيما يخص معدات المستعمل من الفئة 0

ويُحدد البث الهامشي للمُرسِل الخاص بالنفاذ E-UTRA لمعدات المستعمل من الفئة 0، في الفقرة 5.1.3E.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3E.1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3E.1.5-1.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3E.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1.3-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3E.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

وتُحدد متطلبات التعايش الخاصة بمعدات المستعمل من الفئة 0، في الفقرة 5.2.3E.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3E.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3E.2.3-1 according to the following rule:

The requirements for the UE are release specific and can be found in Tables 6.6.3E.2.3-1. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3E.2.5-1.

**Table 6.6.3E.2.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA band**

| Band | UE Requirements per release |
|---|---|
| | Rel-12 |
| 2 | Table 6.6.3E.2.3-1 |
| 3 | Table 6.6.3E.2.3-1 |
| 4 | Table 6.6.3E.2.3-1 |
| 5 | Table 6.6.3E.2.3-1 |
| 8 | Table 6.6.3E.2.3-1 |

| | |
|---|---|
| 13 | Table 6.6.3E.2.3-1 |
| 20 | Table 6.6.3E.2.3-1 |
| 39 | Table 6.6.3E.2.3-1 |
| 41 | Table 6.6.3E.2.3-1 |

NOTE 1: The following is applied to Note2 in Table 6.6.3E.2.3-1. For frequency with 2nd, 3rd or 4th harmonic spurious emissions, the measurements are covered in 6.6.3.1.

NOTE 2: The restriction on the maximum uplink transmission to 36 RB in Notes 14 and 15 of Table 6.6.3E.2.5-1 is intended for conformance testing and may be applied to network operation to facilitate coexistence when the aggressor and victim bands are deployed in the same geographical area. The applicable spurious emission requirement of -15.5 dBm/5 MHz is a least restrictive technical condition for FDD/TDD coexistence and may have to be revised in the future.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بمعدات المستعمل من الفئة 0، في الفقرة 5.3.3E.6.6 من المواصفة التقنية TS 36.521-1 [5].

6.6.3E.3.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for an additional spectrum emission requirement with protected bands as indicated from Table 6.6.3E.3.5.1-1 to Table 6.6.3E.3.5.2-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

6.6.3E.3.5.1 Test requirement (network signalled value "NS_07")

When "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-7 as appropriate,

and

- the measured average power of spurious emission, derived in step 4, shall not exceed the described value in Table 6.6.3E.3.5.1-1. These requirements also apply for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3E.3.5.1-1: Additional requirements (network signalled value "NS_07")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 769 ≤ f ≤ 775 | –55.5 | 6.25 kHz |
| Note: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

### 5.2.1 البث الهامشي للمُرسِل فيما يخص معدات المستعمل من الفئة M1

وتُحدد متطلبات البث الهامشي للمُرسِل الخاصة بالنفاذ E-UTRA لمعدات المستعمل من الفئة M1، في الفقرة 5.1.3EA.6.6 من المواصفة التقنية TS 36.521-1 [5].

6.6.3EA.1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3EA.1.5-1.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3EA.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1.3-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3EA.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

وتُحدد متطلبات التعايش الخاصة بمعدات المستعمل من الفئة M1، في الفقرة 5.2.3EA.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3EA.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3EA.2.3-1 to 6.6.3EA.2.3-1C according to the following rule:

The requirements for the UE are release specific and can be found in Tables 6.6.3EA.2.3-1 to 6.6.3EA.2.3-1C. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3EA.2.5-1.

**Table 6.6.3EA.2.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA band**

| Band | | UE Requirements per release | | |
|---|---|---|---|---|
| | Rel-13 | Rel-14 | Rel-15 | Rel-16 |
| 1 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 2 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 3 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 4 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 5 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 7 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 8 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 11 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 12 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 13 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 14 | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 18 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |

| | | | | |
|---|---|---|---|---|
| 19 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 20 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 21 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 26 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 27 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 28 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 31 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 39 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 41 | Table 6.6.3EA.2.3-1 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 42 | Table 6.6.3EA.2.3-1C | Table 6.6.3EA.2.3-1C | Table 6.6.3EA.2.3-1C | Table 6.6.3EA.2.3-1C |
| 43 | Table 6.6.3EA.2.3-1C | Table 6.6.3EA.2.3-1C | Table 6.6.3EA.2.3-1C | Table 6.6.3EA.2.3-1C |
| 66 | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1A | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |
| 71 | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1B | Table 6.6.3EA.2.3-1C |

NOTE 1: The following is applied to Note2 in Tables 6.6.3EA.2.3-1 to 6.6.3EA.2.3-1C. For frequency with 2nd, 3rd or 4th harmonic spurious emissions, the measurements are covered in 6.6.3.1.

NOTE 2: The restriction on the maximum uplink transmission to 36 RB in Notes 14 and 15 of Table 6.6.3EA.2.5-1 is intended for conformance testing and may be applied to network operation to facilitate coexistence when the aggressor and victim bands are deployed in the same geographical area. The applicable spurious emission requirement of –15.5 dBm/5 MHz is a least restrictive technical condition for FDD/TDD coexistence and may have to be revised in the future 6.6.3EA.3 Additional spurious emissions for UE category M1

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بمعدات المستعمل من الفئة M1، في الفقرة 5.3.3EA.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3EA.3.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Tables 6.2.4EA.5-1 to 6.2.4EA.5-22 as appropriate,

and

With the exception of NS_07, test requirements for Additional Spurious Emissions are the same as the minimum requirements and are not repeated in this section.

6.6.3EA.3.5.1 Test requirement (network signalled value "NS_07")

When "NS_07" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.6.3EA.3.5.1-1. This requirement also applies for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3EA.3.5.1-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 769 ≤ f ≤ 775 | –55.5 | 6.25 kHz |
| NOTE: The emissions measurement shall be sufficiently power averaged to ensure standard deviation < 0.5 dB. | | |

6.6.3EA.3.5.2 Test requirement (network signalled value "NS_05")

When "NS_05" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.6.3EA.3.5.2-1. This requirement also applies for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

Table 6.6.3EA.3.5.2-1: Additional requirements

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | | Measurement bandwidth | NOTE |
|---|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | | |
| 1 884.5 ≤ f ≤1 915.7 | –41 | –41 | –41 | –41 | 300 KHz | 1 |

### 6.2.1 البث الهامشي للمُرسِل الخاص بمعدات المستعمل من الفئة 1 مكرراً

وتُحدد متطلبات البث الهامشي للمُرسِل الخاصة بالنفاذ E-UTRA لمعدات المستعمل من الفئة 1 مكرراً، في الفقرة 5.1.3EB.6.6 من المواصفة التقنية [5] 1-36.521 TS.

6.6.3EB.1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3EB.1.5-1.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3EB.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1.3-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3EB.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

وتُحدد متطلبات التعايش الخاصة بمعدات المستعمل من الفئة 1 مكرراً، في الفقرة 5.2.3EB.6.6 من المواصفة التقنية [5] 1-36.521 TS.

6.6.3EB.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بمعدات المستعمل من الفئة 1 مكرراً، في الفقرة 5.3.3EB.6.6 من المواصفة التقنية [5] 1-36.521 TS.

6.6.3E.3.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for an additional spectrum emission requirement with protected bands as indicated from table 6.6.3.1.5-1 to table 6.6.3.2.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

6.6.3E.3.5.1 Test requirement (network signalled value "NS_07")

When "NS_07" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.4.5-7 as appropriate,

and

- the measured average power of spurious emission, derived in step 4, shall not exceed the described value in Table 6.6.3EB.3.5.1-1. These requirements also apply for the frequency ranges that are less than $\Delta f_{OOB}$ (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3EB.3.5.1-1: Additional requirements (network signalled value "NS_07")**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 769 ≤ f ≤ 775 | –55.5 | 6.25 kHz |
| Note: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

### 7.2.1 البث الهامشي للمُرسِل فيما يخص معدات المستعمل من الفئة M2

وتُحدد متطلبات البث الهامشي للمُرسِل الخاصة بالنفاذ E-UTRA لمعدات المستعمل من الفئة M2، في الفقرة 5.1.3EC.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3EC.1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3EC.1.5-1.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3EC.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3.1.3-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3EC.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

وتُحدد متطلبات التعايش الخاصة بمعدات المستعمل من الفئة M2، في الفقرة 5.2.3EC.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3EC.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Tables 6.6.3EA.2.3-1 to 6.6.3EC.2.3-1A according to the following rule:

The requirements for the UE are release specific and can be found in Tables 6.6.3EA.2.3-1 to 6.6.3EC.2.3-1A. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3EC.2.5-1.

**Table 6.6.3EC.2.5-1: UE Requirements according to UE E-UTRA release and supported E-UTRA band**

| Band | UE Requirements per release | UE Requirements per release | UE Requirements per release |
|---|---|---|---|
| | Rel-14 | Rel-15 | Rel-16 |
| 1 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 2 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 3 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 4 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 5 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 7 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 8 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 11 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |

| | | | |
|---|---|---|---|
| 12 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 13 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 14 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 18 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 19 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 20 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 21 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 25 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 26 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 27 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 28 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 31 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 39 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 40 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 41 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 42 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 43 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 66 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 70 | Table 6.6.3EC.2.3-1 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 71 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 72 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 73 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 74 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |
| 85 | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1A | Table 6.6.3EC.2.3-1B |

NOTE 1: The following is applied to Note 2 in Table 6.6.3EC.2.3-1. For frequency with 2nd, 3rd or 4th harmonic spurious emissions, the measurements are covered in 6.6.3.1.

وتُحدد المتطلبات الإضافية للبث الهامشي الخاصة بمعدات المستعمل من الفئة M2، في الفقرة 5.3.3EC.6.6 من المواصفة التقنية TS 36.521-1 [5].

6.6.3EC.3.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Tables 6.2.4EC.5-1 to 6.2.4EC.5-16 as appropriate,

and

With the exception of NS_07, test requirements for Additional Spurious Emissions are the same as the minimum requirements and are not repeated in this section.

6.6.3EC.3.5.1 Test requirement (network signalled value "NS_07")

When "NS_07" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.6.3EC.3.5.1-1. This requirement also applies for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3EC.3.5.1-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz | |
| 769 ≤ f ≤ 775 | –55.5 | 6.25 kHz |
| NOTE: The emissions measurement shall be sufficiently power averaged to ensure standard deviation < 0.5 dB. | | |

6.6.3EC.3.5.1 Test requirement (network signalled value "NS_05")

When "NS_05" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.6.3EC.3.5.1-2. This requirement also applies for the frequency ranges that are less than FOOB (MHz) in Table 6.6.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.6.3EC.3.5.1-2: Additional requirements (PHS)**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | | | Measurement bandwidth | NOTE |
|---|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | | |
| 1 884.5 ≤ f ≤1 915.7 | –41 | –41 | –41 | –41 | 300 KHz | 1 |

### 8.2.1 البث الهامشي للمُرسِل فيما يخص معدات المستعمل من الفئتين NB1 وNB2

ويُحدد البث الهامشي للمُرسِل الخاص بالنفاذ E-UTRA لمعدات المستعمل من الفئتين NB1 وNB2، في الفقرة 5.1.3F.6.6 من المواصفة التقنية [5] TS 36.521-1.

6.6.3F.1.5 Test requirement

This clause specifies the requirements for the specified E-UTRA band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.6.3F.1.5-1.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.6.3F.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3F.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |

وتُحدد متطلبات التعايش الخاصة بمعدات المستعمل من الفئتين NB1 وNB2، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.2.3F.6.6.

## 6.6.3F.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements and are not repeated in this section.

The measured average power of spurious emission, derived in step 2, shall not exceed the described value in Tables 6.6.3F.2.3-1 to 6.6.3F.2.3-1C according to the following rule:

The requirements for the UE are release specific and can be found in Tables 6.6.3F.2.3-1 to 6.6.3F.2.3-1C. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.6.3F.2.5-1.

**Table 6.6.3F.2.5-1: UE Requirements according to UE NB-IoT release and supported NB-IoT band**

| Band | UE Requirements per release | | | |
|---|---|---|---|---|
| | Rel-13 | Rel-14 | Rel-15 | Rel-16 |
| 1 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 2 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 3 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 4 | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 5 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 7 | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C |
| 8 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 11 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 12 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 13 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 14 | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 17 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 18 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 19 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 20 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 21 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 25 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 26 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 28 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 31 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 42 | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C |
| 43 | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C |
| 65 | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C | Table 6.6.3F.2.3-1C |
| 66 | Table 6.6.3F.2.3-1 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |

| | | | | |
|---|---|---|---|---|
| 70 | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1A | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 71 | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 72 | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 74 | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |
| 85 | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1B | Table 6.6.3F.2.3-1C |

### 9.2.1 البث الهامشي للمُرسل فيما يخص الاتصالات من مركبة إلى كل شيء (V2X)

ويُحدد البث الهامشي للاتصالات من مركبة إلى كل شيء (V2X)/غير المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.3G.1.5.

6.6.3G.1.5 Test requirement

The measured average power of transmitter spurious emissions measured in step 2 shall not exceed the value in table 6.6.3G.1.5-1.The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3G.1.3-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3G.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1MHz | 2 |
| NOTE 1: Applies for Band 22, Band 42, Band 43 and Band 48.<br>NOTE 2: Applies for Band 46 and Band 47. | | | |

ويرد تعريف تعايش معدات المستعمل في نطاق البث الهامشي للاتصالات من مركبة إلى كل شيء (V2X)/غير المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.3G.1.5_1.

6.6.3G.1_1.5 Test requirement

The measured average power of spurious emission, derived in step 2, shall not exceed the described value in Table 6.6.3G.1_1.5-1 for the operating bands for V2X sidelink communication specified in 5.2G.

**Table 6.6.3G.1_1.5-1: Spurious emission band UE co-existence limits Rel-14(TP2)**

| E-UTRA Band | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| 47 | E-UTRA Band 1, 3, 5, 7, 8, 22, 26, 28, 34, 39, 40, 41, 42, 44, 45, 65,68 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 5 925 | - | 5 950 | –30 EIRP | 1 | 38, 40, 41 |
| | Frequency range | 5 815 | - | 5 855 | –30 EIRP | 1 | 38, 41, 43 |
| | | | | | | | |
| NOTE 38: Applicable when NS_33 or NS_34 is configured by the pre-configured radio parameters.<br>NOTE 40: In the frequency range x-5 950 MHz, SE requirement of –30 dBm/MHz should be applied; where x = max (5925, fc + 15), where fc is the channel centre frequency.<br>NOTE 41: The EIRP requirement is converted to conducted requirement depend on the supported post antenna connector gain $G_{post\ connector}$ declared by the UE following the principle described in annex I.<br>NOTE 43: Resolution BW is 10% of the measurement BW and the result should be integrated to achieve the measurement bandwidth. The sweep time shall be set at least as 10*symbol length to improve the measurement accuracy. | | | | | | | |

ويُحدد البث الهامشي الخاص بالاتصالات من مركبة إلى كل شيء (V2X)/إرسالات الوصلة الجانبية، المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.2.3G.6.6.

6.6.3G.2.5 Test requirement

For frequencies $\Delta f_{OOB}$ greater than $F_{OOB}$ as specified in Table 6.6.3G.2.3-1 the measured average power of spurious emission, derived in step 4 and 5, shall not exceed the described value in Table 6.6.3G.2.5-1.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.6.3G.2.5-1: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| **Test requirements for V2X_3A-47A Configuration** | | | |
| 2 285 MHz ≤ f ≤ 2 505 MHz<br>4 070 MHz ≤ f ≤ 4 215 MHz<br>7 565 MHz ≤ f ≤ 7 710 MHz<br>9 275 MHz ≤ f ≤ 9 495 MHz<br>9 925 MHz ≤ f ≤ 10 140 MHz | –30 dBm | 1 MHz | |
| 13 420 MHz ≤ f ≤13 635 MHz | –30 dBm | 1 MHz | 2 |
| **Test requirements for V2X_5A-47A Configuration** | | | |
| 4 157 MHz<=f< 4 277 MHz<br>5 006 MHz<=f< 5 101 MHz<br>6 679 MHz<=f< 6 774 MHz<br>7 503 MHz<=f< 7 623 MHz | –30 dBm | 1 MHz | |

| | | | | |
|---|---|---|---|---|
| | 10 861 MHz<=f< 11 026 MHz<br>12 534 MHz<=f< 12 699 MHz | | | |
| | **Test requirements for V2X_7A-47A Configuration** | | | |
| | 715 MHz<=f< 925 MHz | –36 dBm | 100 kHz | |
| | 3 285 MHz<=f< 3 425 MHz<br>8 355 MHz<=f< 8 495 MHz<br>9 140 MHz<=f< 9 350 MHz<br>10 855 MHz<=f< 11 065 MHz | –30 dBm | 1 MHz | |
| | 14 210 MHz<=f< 14 420 MHz | –30 dBm | 1 MHz | 2 |
| | **Test requirements for V2X_8A-47A Configuration** | | | |
| | 4 025 MHz<=f< 4 165 MHz<br>4 940 MHz<=f< 5 045 MHz<br>6 735 MHz<=f< 6 840 MHz<br>7 615 MHz<=f< 7 755 MHz<br>10 795 MHz<=f< 10 970 MHz<br>12 590 MHz<=f< 12 765 MHz | –30 dBm | 1 MHz | |
| | 12 590 MHz<=f< 12 765 MHz | –30 dBm | 1 MHz | 2 |
| | **Test requirements for V2X_20A-47A Configuration** | | | |
| | 4 131 MHz<=f< 4 261 MHz<br>4 993 MHz<=f< 5 093 MHz<br>6 687 MHz<=f< 6 787 MHz<br>7 519 MHz<=f< 7 649 MHz<br>10 848 MHz<=f< 11 018 MHz<br>12 542 MHz<=f< 12 712 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for V2X_28A-47A Configuration** | | | |
| | 4 359 MHz<=f< 4 519 MHz<br>5 107 MHz<=f< 5 222 MHz<br>6 558 MHz<=f< 6 673 MHz<br>7 261 MHz<=f< 7 421 MHz<br>10 962 MHz<=f< 11 147 MHz<br>12 413 MHz<=f< 12 598 MHz | –30 dBm | 1 MHz | |
| | **Test requirements for V2X_34A-47A Configuration** | | | |
| | 1 805 MHz<=f< 1 905 MHz<br>3 830 MHz<=f< 3 915 MHz<br>7 865 MHz<=f< 7 950 MHz<br>9 685 MHz<=f< 9 840 MHz<br>9 875 MHz<=f< 9 975 MHz | –30 dBm | 1 MHz | |
| | 13 720 MHz<=f< 13 875 MHz | –30 dBm | 1 MHz | 2 |
| | **Test requirements for V2X_39A-47A Configuration** | | | |
| | 2 015 MHz<=f< 2 165 MHz<br>3 935 MHz<=f< 4 045 MHz<br>7 735 MHz<=f< 7 845 MHz<br>9 615 MHz<=f< 9 765 MHz<br>9 790 MHz<=f< 9 970 MHz | –30 dBm | 1 MHz | |
| | 13 590 MHz<=f< 13 770 MHz | –30 dBm | 1 MHz | 2 |
| | **Test requirements for V2X_41A-47A Configuration** | | | |
| | 475 MHz<=f< 933 MHz | –36 dBm | 100 kHz | |
| | 3 165 MHz<=f< 3 429 MHz<br>8 351 MHz<=f< 8 615 MHz<br>9 020 MHz<=f< 9 354 MHz<br>10 847 MHz<=f< 11 305 MHz | –30 dBm | 1 MHz | |
| | 14 206 MHz<=f< 14 540 MHz | –30 dBm | 1 MHz | 2 |
| | **Test requirements for V2X_71A-47A Configuration** | | | |
| | 4 459 MHz<=f< 4 599 MHz<br>5 157 MHz<=f< 5 262 MHz<br>6 518 MHz<=f< 6 623 MHz<br>7 181 MHz<=f< 7 321 MHz<br>11 012 MHz<=f< 11 187 MHz<br>12 373 MHz<=f< 12 548 MHz | –30 dBm | 1 MHz | |

ويرد تعريف تعايش معدات المستعمل في نطاق البث الهامشي للاتصالات من مركبة إلى كل شيء (V2X)/إرسالات الوصلة الجانبية، المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA، في المواصفة التقنية [5] TS 36.521-1. الفقرة 6.6.3G.2_1.5.1.

6.6.3G.2_1.5 Test requirement

The measurement average power of spurious emission, derived in step 4 and 5, shall not exceed the described value specified in Table 6.6.3G.2_1.5-1.

**6.6.3G.2_1.5-1 Test Requirement on Spurious Emission band UE co-existence for V2X Communication / Sidelink simultaneous with E-UTRA uplink transmissions**

| V2X con-current band Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| V2X_3A-47A | E-UTRA Band 1, 5, 7, 8, 26, 28, 34, 39, 40, 44, 45, 65, 87, 88 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 3 |
| | E-UTRA Band 22, 41, 42, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7,8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_5A-47A | E-UTRA Band 1, 3, 5, 7, 8, 10, 12, 13, 14, 17, 40, 65, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 26 | 859 | - | 869 | –27 | 1 | |
| | E-UTRA Band 41, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_7A-47A | E-UTRA Band 1, 3, 5, 7, 8, 22, 26, 28, 34, 39, 40, 41, 42, 44, 45, 52, 65, 87, 88 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 2 570 | - | 2 575 | +1.6 | 5 | 3, 6, 4 |
| | Frequency range | 2 575 | - | 2 595 | –15.5 | 5 | 3, 6, 4 |
| | Frequency range | 2 595 | - | 2 620 | –40 | 1 | 3, 6 |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_8A-47A | E-UTRA Band 1, 5, 26, 28, 34, 39, 40, 44, 45, 65, 87, 88 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 7, 22, 41, 42, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 3, 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2, 3 |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_20A-47A | E-UTRA Band 1, 3, 7, 8, 22, 31, 32, 33, 34, 40, 43, 65, 67, 87, 88 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 3 |
| | E-UTRA Band 38, 42, 52, 69 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 758 | - | 788 | –50 | 1 | |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_28A-47A | E-UTRA Band 1, 22, 42, 43, 65, 87, 88 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 10, 11 |
| | E-UTRA Band 3, 7, 8, 20, 31, 38, 40 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 470 | - | 694 | –42 | 8 | 3, 12 |
| | Frequency range | 470 | - | 710 | –26.2 | 6 | 13 |
| | Frequency range | 662 | - | 694 | –26.2 | 6 | 3 |
| | Frequency range | 758 | - | 773 | –32 | 1 | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 773 | - | 803 | –50 | 1 | |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_34A-47A | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 22, 26, 28, 31, 32, 33, 34, 38,39, 40, 41, 42, 43, 44, 45, 52, 65, 67, 69, 87, 88 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 9 |
| | Frequency range | 5 925 | - | 5 950 | -30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | -30 | 1 | 7 |
| V2X_39A-47A | E-UTRA Band 1, 3,5,7,8, 22, 26, 28, 34, 39, 40, 41, 42, 44, 45, 52, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 1 805 | - | 1 855 | –40 | 1 | 5 |
| | Frequency range | 1 855 | - | 1 880 | –15.5 | 5 | 3, 4, 5 |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_41A-47A | E-UTRA Band 1, 3, 5, 7, 8, 22, 26, 28, 34, 39, 40, 41, 42, 44, 45, 52, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |
| V2X_71A-47A | E-UTRA Band 5, 26 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 5 925 | - | 5 950 | –30 | 1 | 7, 8 |
| | Frequency range | 5 815 | - | 5 855 | –30 | 1 | 7 |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.5-1

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 are permitted for each assigned E-UTRA carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. In case the exceptions are allowed due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3 or 4 for the 2nd, 3rd or 4th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1-1 and Table 6.6.3.1A-1 from the edge of the aggregated channel bandwidth.

NOTE 4: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 5: This requirement is only applicable for carriers with bandwidth confined within 1 885-1 920 MHz (requirement for carriers with at least 1RB confined within 1 880-1 885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for carriers of 15 MHz bandwidth when carrier center frequency is within the range 1 892.5-1 894.5 MHz and for carriers of 20 MHz bandwidth when carrier center frequency is within the range 1 895-1 903 MHz.

NOTE 6: As exceptions, measurements with a level up to the applicable requirement of –38 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 7: Applicable when NS_33 or NS_34 is configured by the pre-configured radio parameters.

NOTE 8: In the frequency range x-5 950 MHz, SE requirement of –30 dBm/MHz should be applied; where x = max (5925, fc + 15), where fc is the channel centre frequency.

NOTE 9: For non synchronised TDD operation to meet these requirements some restriction will be needed for either the operating band or protected band

NOTE 10: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.

NOTE 11: As exceptions, measurements with a level up to the applicable requirement of –36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 12: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of –25 dBm with a measurement bandwidth of 8 MHz applies.

NOTE 13: This requirement is applicable for 5 and 10 MHz E-UTRA channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart<48.

ويُحدد البث الهامشي الخاص بالاتصالات من مركبة إلى كل شيء (V2X)/عملية الموجات الحاملة المتعددة المتجاورة داخل النطاق، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.3.3G.6.6.

6.6.3G.3.5 Test requirement

The measured average power of transmitter spurious emissions measured in step 2 shall not exceed the value in Table 6.6.3G.3.3-1.The spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.6.3G.3.3-2.

Table 6.6.3G.3.3-1: Boundary between E-UTRA out of band and spurious emission domain for intra-band contiguous carrier aggregation

| CA Bandwidth Class | OOB boundary $F_{OOB}$ (MHz) |
|---|---|
| A | Table 6.6.3.1.3-1 |
| B | $BW_{Channel_CA}$ + 5 |
| C | $BW_{Channel_CA}$ + 5 |

**Table 6.6.3G.3.3-2: Spurious emissions limits**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |
| NOTE 1: Applies for Band 22, Band 42, Band 43 and Band 48.<br>NOTE 2: Applies for Band 46 and Band 47. | | | |

ويرد تعريف تعايش معدات المستعمل في نطاق البث الهامشي الخاص بالاتصالات من مركبة إلى كل شيء (V2X)/عملية الموجات الحاملة المتعددة المتجاورة داخل النطاق، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.1_3.3G.6.6.

6.6.3G.3_1.5 Test requirement

The measured average power of transmitter spurious emissions measured in step 2 shall not exceed the value in table 6.6.3G.3_1.3-1.

**Table 6.6.3G.3_1.3-1: Requirements for intraband multi-carrier V2X operation**

| V2X multi-carrier Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| V2X_47B | E-UTRA Band 1, 3, 5, 7, 8, 22, 26, 28, 34, 39, 40, 41, 42, 44, 45, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |

### 3.1 البث الهامشي للمستقبِل

وتُحدد المتطلبات العامة للبث الهامشي للمستقبِل، في المواصفة التقنية [5] TS 36.521-1. الفقرة 5.7.7.

## 7.7.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7.5-1 and 7.7.5-2.

**Table 7.7.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |

Table 7.7.5-2: Spurious Response

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

For the UE which supports inter band CA configuration in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{uw}$ power defined in Table 7.7.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد المتطلبات العامة للبث الهامشي للمستقبِل المزوّد بأربعة منافذ هوائيات للاستقبال في الفقرة 7.7_5.1 من المواصفة التقنية [5] TS 36.521-1.

## 7.7_1.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7_1.5-1 and 7.7_1.5-2.

**Table 7.7_1.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. Note 3: The REFSENS power level is specified in Table 7.3.3-1a. | | | | | | | |

**Table 7.7_1.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

For the UE which supports inter band CA configuration in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{uw}$ power defined in Table 7.7_1.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة المتجاورة داخل النطاق في الوصلة الهابطة، وتجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.1.7A.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7A.1.5 Test Requirement

The throughput measurement of each carrier derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Table 7.7A.1.5-1 and 7.7A.1.5-2.

**Table 7.7A.1.5-1: Spurious response parameters**

| Rx Parameter | Units | CA Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| Pw in Transmission Bandwidth Configuration, per CC | dBm | REFSENS + CA Bandwidth Class specific value below | | | | |
| | | 9 | 9 | | | |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ or $P_{CMAX_L_CA}$ as defined in subclause 6.2.5 for one uplink carrier and in subclause 6.2.5A for two uplink carriers. | | | | | | |
| Note 2: Reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | |

**Table 7.7A.1.5-2: Spurious response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | -44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

For the UE which supports inter band CA configuration in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{Interferer}$ power defined in Table 7.7A.1.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة المتجاورة داخل النطاق في الوصلة الهابطة، دون تجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.2.7A.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7A.2.5 Test Requirement

Same test requirement as in clause 7.7A.1.5 with the following exceptions :

- Instead of Table 7.7A.1.5-1 → use Table 7.7A.2.5-1.

**Table 7.7A.2.5-1: Spurious response parameters**

| Rx Parameter | Units | CA Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| Pw in Transmission Bandwidth Configuration, per CC | dBm | REFSENS + CA Bandwidth Class specific value below | | | | |
| | | 9 | 9 | | | |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ or $P_{CMAX_L_CA}$ as defined in subclause 6.2.5.<br>Note 2: Reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة بين النطاقات في الوصلة الهابطة، دون تجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.3.7A.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7A.3.5 Test Requirement

For inter-band carrier aggregation with uplink assigned to one E-UTRA band the spurious response requirements are defined with the uplink active on the band other than the band whose downlink is being tested i.e. the requirements are tested only for the SCell downlink. The UE shall meet the requirement for each component carrier, when operated as SCell, while both downlink carriers are active.

The throughput measured during the test procedure for each component carrier, when operated as SCell, shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annexes A.2.2, A.2.3 and A.3.2 (with one sided dynamic OCNG Pattern OP.1 FDD/TDD for the DL-signal as described in Annex A.5.1.1/A.5.2.1) with parameters specified in Tables 7.7A.3.5-1 (originated from the single carrier Table 7.7.5-1) and 7.7A.3.5-2 (originated from Table 7.6.2A.3.5-2).

**Table 7.7A.3.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Pw in Transmission Bandwidth Configuration, per CC | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5.<br>Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |

**Table 7.7A.3.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

For the UE which supports inter band CA configuration in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{uw}$ power defined in Table 7.7A.3.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع الموجات الحاملة (تجميع الموجات الحاملة غير المتجاورة داخل النطاق في الوصلة الهابطة، دون تجميع الموجات الحاملة في الوصلة الصاعدة)، في الفقرة 5.4.7A.7 من المواصفة التقنية [5] TS 36.521-1.

### 7.7A.4.5 Test Requirement

For intra-band non-contiguous carrier aggregation with one uplink carrier and two downlink carriers, the spurious response requirements are defined with the uplink configuration of the PCC being in accordance with Table 7.3A.0-3. The UE shall meet the requirements specified in Tables 7.7A.4.5-1and 7.7A.4.5-2 for each component carrier while both downlink carriers are active.

The requirements for each component carrier are the same as single carrier requirements in Tables 7.7.5-1 and 7.7.5-2.

**Table 7.7A.4.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Pw in Transmission Bandwidth Configuration, per CC | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5.<br>Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |

**Table 7.7A.4.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | -44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

For the UE which supports inter band CA configuration in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{uw}$ power defined in Table 7.7A.4.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع ثلاث موجات حاملة في الوصلة الهابطة، في الفقرة 5.5.7A.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7A.5.5 Test Requirement

The throughput measurement of each carrier derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Table s below, according to the type of CA.

**Table 7.7A.5.5-1: Spurious response parameters (Intra-band contiguous)**

| Rx Parameter | Units | CA Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| Power per CC in Aggregated Transmission Bandwidth Configuration | dBm | REFSENS + CA Bandwidth Class specific value below | | | | |
| | | 9 | 9 | 9 | | |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ or $P_{CMAX_L_CA}$ as defined in subclause 6.2.5. | | | | | | |
| Note 2: Reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | |

**Table 7.7A.5.5-2: Spurious response (All types of CA)**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

**Table 7.7A.5.5-3: Spurious response parameters (Inter-band, Intra-band non-contiguous)**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration for each CC | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. | | | | | | | |
| Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |
| Note 3: For intra-band non-contiguous + inter-band CA, $\Delta R_{IBNC}$ = 0 dB for all sub-block gaps. | | | | | | | |

For a UE, which supports CA configuration in Tables 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{uw}$ power defined in Table 7.7A.5.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Tables 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع أربع موجات حاملة في الوصلة الهابطة، في الفقرة 5.7.7A.7 من المواصفة التقنية TS 36.521-1 [5].

## 7.7A.7.5 Test Requirement

The throughput measurement of each carrier derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Table s below, according to the type of CA.

**Table 7.7A.7.5-1: Spurious response parameters (Intra-band contiguous)**

| Rx Parameter | Units | CA Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| Power per CC in Aggregated Transmission Bandwidth Configuration | dBm | REFSENS + CA Bandwidth Class specific value below | | | | |
| | | 9 | 9 | 9 | 9 | |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ or $P_{CMAX_L_CA}$ as defined in subclause 6.2.5A. | | | | | | |
| Note 2: Reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | |

**Table 7.7A.7.5-2: Spurious response (All types of CA)**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

**Table 7.7A.7.5-3: Spurious response parameters (Inter-band, Intra-band non-contiguous)**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration for each CC | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. | | | | | | | |
| Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |
| Note 3: For intra-band non-contiguous + inter-band CA, $\Delta R_{IBNC}$ = 0 dB for all sub-block gaps. | | | | | | | |

For a UE, which supports CA configuration in Tables 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{uw}$ power defined in Table 7.7A.7.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Tables 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع خمس موجات حاملة في الوصلة الهابطة، في الفقرة 5.8.7A.7 من المواصفة التقنية TS 36.521-1 [5].

## 7.7A.8.5 Test Requirement

The throughput measurement of each carrier derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Table s below, according to the type of CA.

**Table 7.7A.8.5-1: Spurious response parameters (Intra-band contiguous)**

| Rx Parameter | Units | CA Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| | dBm | REFSENS + CA Bandwidth Class specific value below | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Power per CC in Aggregated Transmission Bandwidth Configuration | | 9 | 9 | 9 | 9 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ or $P_{CMAX_L_CA}$ as defined in subclause 6.2.5A.<br>Note 2: Reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | |

**Table 7.7A.8.5-2: Spurious response (All types of CA)**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

**Table 7.7A.8.5-3: Spurious response parameters (Inter-band, Intra-band non-contiguous)**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration for each CC | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5.<br>Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1.<br>Note 3: For intra-band non-contiguous + inter-band CA, $\Delta R_{IBNC}$ = 0 dB for all sub-block gaps. | | | | | | | |

For a UE, which supports CA configuration in Tables 7.3.3-1A, 7.3.3-1B, 7.3.3-1C and 7.3.3-1D, $P_{uw}$ power defined in Table 7.7A.8.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Tables 7.3.3-1A, 7.3.3-1B, 7.3.3-1C and 7.3.3-1D.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع ست موجات حاملة في الوصلة الهابطة، في الفقرة 5.9.7A.7 من المواصفة التقنية TS 36.521-1 [5].

## 7.7A.9.5 Test Requirement

The throughput measurement of each carrier derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Table s below, according to the type of CA.

**Table 7.7A.9.5-1: Spurious response parameters (Intra-band contiguous)**

| Rx Parameter | Units | CA Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| Power per CC in Aggregated Transmission Bandwidth Configuration | dBm | REFSENS + CA Bandwidth Class specific value below | | | | |
| | | 9 | 9 | 9 | 9 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ or $P_{CMAX_L_CA}$ as defined in subclause 6.2.5A.<br>Note 2: Reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | |

**Table 7.7A.9.5-2: Spurious response (All types of CA)**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

**Table 7.7A.9.5-3: Spurious response parameters (Inter-band, Intra-band non-contiguous)**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration for each CC | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. | | | | | | | |
| Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |
| Note 3: For intra-band non-contiguous + inter-band CA, $\Delta R_{IBNC}$ = 0 dB for all sub-block gaps. | | | | | | | |

For a UE, which supports CA configuration in Tables 7.3.3-1A, 7.3.3-1B, 7.3.3-1C and 7.3.3-1D, $P_{uw}$ power defined in Table 7.7A.9.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Tables 7.3.3-1A, 7.3.3-1B, 7.3.3-1C and 7.3.3-1D.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع سبع موجات حاملة في الوصلة الهابطة، في الفقرة 5.7A10.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7A.10.5 Test Requirement

The throughput measurement of each carrier derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Table s below, according to the type of CA.

**Table 7.7A.10.5-1: Spurious response parameters (Intra-band contiguous)**

| Rx Parameter | Units | CA Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| Power per CC in Aggregated Transmission Bandwidth Configuration | dBm | REFSENS + CA Bandwidth Class specific value below | | | | |
| | | 9 | 9 | 9 | 9 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ or $P_{CMAX_L_CA}$ as defined in subclause 6.2.5A. | | | | | | |
| Note 2: Reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | |

**Table 7.7A.10.5-2: Spurious response (All types of CA)**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

**Table 7.7A.10.5-3: Spurious response parameters (Inter-band, Intra-band non-contiguous)**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration for each CC | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. | | | | | | | |
| Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |
| Note 3: For intra-band non-contiguous + inter-band CA, $\Delta R_{IBNC}$ = 0 dB for all sub-block gaps. | | | | | | | |

For a UE, which supports CA configuration in Tables 7.3.3-1A, 7.3.3-1B, 7.3.3-1C and 7.3.3-1D, $P_{uw}$ power defined in Table 7.7A.10.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Tables 7.3.3-1A, 7.3.3-1B, 7.3.3-1C and 7.3.3-1D.

وتُحدد متطلبات البث الهامشي للمستقبِل فيما يخص الإرسال UL-MIMO، في الفقرة 5.7B.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7B.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7B.5-1 and 7.7B.5-2.

**Table 7.7B.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4 dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |

**Table 7.7B.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

For the UE which supports inter band CA configuration in Tables 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{uw}$ power defined in Table 7.7B.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Tables 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بالاكتشاف المباشر للخدمات القائمة على القرب (ProSe)، في الفقرة 5.1.7D.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7D.1.5 Test Requirement

The throughput measurement of each carrier derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.6.2 with parameters specified in Table 7.7D.1.5-1 and 7.7D.1.5-2.

**Table 7.7D.1.5-1: Spurious response parameters for ProSe Direct Discovery**

| Rx parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | $P_{REFSENS_ProSe}$ + channel bandwidth specific value below+ $P_{offset}$ | | | | | |
| | | | | 6 | 6 | 7 | 9 |
| $P_{offset}$ | dB | | | 10.9 | 13.9 | 15.7 | 16.9 |
| NOTE 1: Reference measurement channel is specified in Annex A.6.2. | | | | | | | |

**Table 7.7D.1.5-2: Spurious response for ProSe**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

For the UE which supports inter band CA configuration in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C, $P_{Interferer}$ power defined in Table 7.7D.1.5-2 is increased by the amount given by $\Delta R_{IB,c}$ in Table 7.3.3-1A, 7.3.3-1B and 7.3.3-1C.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بالاتصالات المباشرة للخدمات ProSe، في الفقرة 5.2.7D.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7D.2.5 Test Requirement

Same test requirement as in clause 7.7D.1.5 with the following exceptions:

- Instead of Table 7.7D.1.5-1 → use Table 7.7D.2.5-1.

**Table 7.7D.2.5-1: Spurious response parameters for ProSe Direct Communication**

| Rx parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | $P_{REFSENS_ProSe}$ + channel bandwidth specific value below | | | | | |
| | | | | 6 | 6 | 7 | 9 |
| NOTE 1: Reference measurement channel is specified in Annex A.6.2. | | | | | | | |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بمعدات المستعمل من الفئة 0، في الفقرة 5.7E.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7E.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7E.5-1 and 7.7E.5-2.

**Table 7.7E.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5.<br>Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |

**Table 7.7E.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بمعدات المستعمل من الفئة M1، في الفقرة 5.7EA.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7EA.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7EA.5-1 and 7.7EA.5-2.

**Table 7.7EA.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5EA.<br>Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |

**Table 7.7EA.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بمعدات المستعمل من الفئة 1 مكرراً، في الفقرة 5.7EB.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7EB.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7EB.5-1 and 7.7EB.5-2.

**Table 7.7EB.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5. | | | | | | | |
| Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |
| Note 3: The REFSENS power level is specified in Table 7.3EB.3-1 for main antenna port. | | | | | | | |

**Table 7.7EB.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بمعدات المستعمل من الفئة M2، في الفقرة 5.7EC.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7EC.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7EC.5-1 and 7.7EC.5-2.

**Table 7.7EC.5-1: Spurious response parameters**

| Rx Parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | REFSENS + channel bandwidth specific value below | | | | | |
| | | 6 | 6 | 6 | 6 | 7 | 9 |
| Note 1: The transmitter shall be set to 4dB below $P_{CMAX_L}$ with $P_{CMAX_L}$ as defined in clause 6.2.5EC. | | | | | | | |
| Note 2: The reference measurement channel is specified in Annex A.3.2 with one sided dynamic OCNG Pattern OP.1 FDD/TDD as described in Annex A.5.1.1/A.5.2.1. | | | | | | | |

**Table 7.7EC.5-2: Spurious Response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | -44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بالفئتين NB1 وNB2، في الفقرة 5.7F.7 من المواصفة التقنية [5] TS 36.521-1.

7.7F.5 Test requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.3.2 with parameters specified in Tables 7.7F.5-1.

**Table 7.7F.5-1: Spurious response parameters for category NB1 and NB2**

| Parameter | Unit | Level |
|---|---|---|
| $P_{signal}$ | dBm | REFSENS+6 |
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |
| Number of spurious response frequencies | | 24 (in OOB range 1, 2, 3) |
| NOTE 1: The REFSENS power level is specified in 7.3.1F.1-1.<br>NOTE 2: OOB range 1, 2, 3 refers to Table 7.6.2.1F-1. | | |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بالاتصالات من مركبة إلى كل شيء (V2X)/غير المتزامنة مع إرسالات الوصلة الصاعدة للنفاذ E-UTRA، في الفقرة 5.1.7G.7 من المواصفة التقنية [5] TS 36.521-1.

7.7G.1.5 Test Requirement

The throughput measurement derived in test procedure shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.8.2 with parameters specified in Tables 7.7G.1.5-1 and 7.7G.1.5-2.

**Table 7.7G.1.5-1: Spurious response parameters**

| Rx parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | $P_{REFSENS_V2X}$ + channel bandwidth specific value below | | | | | |
| | | | | | 6 | | 9 |
| NOTE 1: Reference measurement channel is specified in TS36.101[2] Annex A.8.2. | | | | | | | |

**Table 7.7G.1.5-2: Spurious response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بالاتصالات من مركبة إلى كل شيء (V2X)/المتزامنة مع إرسالات الوصلة الجانبية للنفاذ E-UTRA V2X وإرسالات الوصلة الصاعدة للنفاذ E-UTRA، في الفقرة 5.2.7G.7 من المواصفة التقنية [5] TS 36.521-1.

7.7G.2.5 Test Requirement

The throughput shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.8.2 with parameters specified in Tables 7.7G.2.5-1 and 7.7G.2.5-2.

**Table 7.7G.2.5-1: Spurious response parameters**

| Rx parameter | Units | Channel bandwidth | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.4 MHz | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| Power in Transmission Bandwidth Configuration | dBm | $P_{REFSENS_V2X}$ + channel bandwidth specific value below | | | | | |
| | | | | | 6 | | 9 |
| NOTE 1: Reference measurement channel is specified in Annex A.8.2. | | | | | | | |

**Table 7.7G.2.5-2: Spurious response**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |

When UE is configured for simultaneous E-UTRA V2X sidelink and E-UTRA downlink reception for inter-band E-UTRA V2X / E-UTRA bands specified in Table 5.5G-2, the requirements in subclause 7.7G.2.5 apply for the E-UTRA V2X sidelink reception and the requirements in subclause 7.7.3 apply for the E-UTRA downlink reception while all downlink carriers are active.

وتُحدد متطلبات البث الهامشي للمستقبِل الخاصة بالاتصالات من مركبة إلى كل شيء (V2X)/عملية الموجات الحاملة المتعددة المتجاورة داخل النطاق، في الفقرة 5.3.7G.7 من المواصفة التقنية [5] TS 36.521-1.

## 7.7G.3.5 Test Requirement

For intra-band contiguous multi-carrier operation, the V2X UE throughput shall be ≥ 95% of the maximum throughput of the reference measurement channels as specified in Annex A.8.2 with parameters specified in Table 7.7G.3.5-1 and Table 7.7G.3.5-2.

**Table 7.7G.3.5-1: Spurious response parameters for intra-band contiguous multi-carrier for V2X UE**

| Rx Parameter | Units | V2X Bandwidth Class | | | | |
|---|---|---|---|---|---|---|
| | | B | C | D | E | F |
| Pw in Transmission Bandwidth Configuration, per CC | dBm | REFSENS + V2X Bandwidth Class specific value below | | | | |
| | | 9 | | | | |
| NOTE 1: The requirement is applied for multi- carrier intra--band con concurrent receptions when 2 carrier transmissions are activated at the same time | | | | | | |

**Table 7.7.G.3.5-2: Spurious response for intra-band contiguous multi-carrier for V2X UE**

| Parameter | Unit | Level |
|---|---|---|
| $P_{Interferer}$ (CW) | dBm | –44 |
| $F_{Interferer}$ | MHz | Spurious response frequencies |
| NOTE 1: The requirement is applied for multi- carrier intra--band con concurrent receptions when 2 carrier transmissions are activated at the same time | | |

# 2 الخصائص العامة للبث غير المطلوب فيه لتكنولوجيا الراديو الجديد (NR) في المدى الترددي 1 للتشغيل القائم بذاته

## 1.2 نطاقات التشغيل وترتيبات القنوات

تُحدد المتطلبات في جميع مواصفات الترددات الراديوية، في كثير من الحالات، بصورة منفصلة لمختلف مديات الترددات (FR). ويرد في الجدول 3-A1 وصفٌ لمديات الترددات التي يمكن أن تعمل فيها تكنولوجيا NR، وفقاً لهذا الإصدار من المواصفة.

الجدول 3-A1

**تعريف مديات الترددات**

| تعيين مديات الترددات | مدى الترددات المقابل* |
|---|---|
| FR1 | MHz 7 125 – MHz 410 |
| FR2 | MHz 52 600 – MHz 24 250 |

*لا تحدَّد جميع نطاقات الترددات في هذه المديات للاتصالات المتنقلة الدولية في لوائح الراديو.

### 1.1.2 نطاقات التشغيل

صُممت تكنولوجيا NR للتشغيل في نطاقات التشغيل ضمن مدى الترددات FR1 المحددة في الجدولين 4-A1 و5-A1.

الجدول 4-1A

**نطاقات تشغيل تكنولوجيا NR في مدى الترددات FR1**

**نطاقات الترددات التي تستخدمها تكنولوجيا NR والمحددة للاتصالات المتنقلة الدولية في لوائح الراديو**

| نطاق تشغيل تكنولوجيا NR | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} – F_{UL_high}$ | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} – F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|
| n1 | MHz 1 980– MHz 1 920 | MHz 2 170 – MHz 2 110 | FDD | **388.5** |
| n2 | MHz 1 910 – MHz 1 850 | MHz 1 990 – MHz 1 930 | FDD | **388.5 ،384A.5** |
| n3 | MHz 1 785 – MHz 1 710 | MHz 1 880 – MHz 1 805 | FDD | **384A.5** |
| n5 | MHz 849 – MHz 824 | MHz 894 – MHz 869 | FDD | **317A.5** |
| n7 | MHz 2 570 – MHz 2 500 | MHz 2 690 – MHz 2 620 | FDD | **384A.5** |
| n8 | MHz 915 – MHz 880 | MHz 960 – MHz 925 | FDD | **317A.5** |
| n12 | MHz 716 – MHz 699 | MHz 746 – MHz 729 | FDD | **317A.5** |
| n14 | MHz 798 – MHz 788 | MHz 768 – MHz 758 | FDD | **317A.5** |
| n20 | MHz 862 – MHz 832 | MHz 821 – MHz 791 | FDD | **317A.5** |
| n25 | MHz 1 915 – MHz 1 850 | MHz 1 995 – MHz 1 930 | FDD | **388.5 ،384A.5** |
| n26 | MHz 849 – MHz 814 | MHz 894 – MHz 859 | FDD | **317A.5** |
| n28 | MHz 748 – MHz 703 | MHz 803 – MHz 758 | FDD | **317A.5** |
| n29 | N/A | MHz 728 – MHz 717 | SDL | **317A.5** |
| [3]n30 | MHz 2 315 – MHz 2 305 | MHz 2 360 – MHz 2 350 | FDD | **384A.5** |

| نطاق تشغيل تكنولوجيا NR | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} - F_{UL_high}$ | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} - F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|
| n34 | MHz 2 025 – MHz 2 010 | MHz 2 025 – MHz 2 010 | TDD | **388.5** |
| [10]n38 | MHz 2 620 – MHz 2 570 | MHz 2 620 – MHz 2 570 | TDD | **384A.5** |
| n39 | MHz 1 920 – MHz 1 880 | MHz 1 920 – MHz 1 880 | TDD | **388.5** |
| n40 | MHz 2 400 – MHz 2 300 | MHz 2 400 – MHz 2 300 | TDD | **384A.5** |
| n48 | MHz 3 700 – MHz 3 550 | MHz 3 700 – MHz 3 550 | TDD | **430A.5، 431B.5 433A.5، 5.434** |
| n51 | MHz 1 432 – MHz 1 427 | MHz 1 432 – MHz 1 427 | TDD | **341A.5، 341B.5 341C.5** |
| n65 | MHz 2 010 – MHz 1 920 | MHz 2 200 – MHz 2 110 | FDD4 | **388.5** |
| n66 | MHz 1 780 – MHz 1 710 | MHz 2 200 – MHz 2 110 | FDD | **384A.5، 388.5** |
| n71 | MHz 698 – MHz 663 | MHz 652 – MHz 617 | FDD | **296A.5** |
| n74 | MHz 1 470 – MHz 1 427 | MHz 1 518 – MHz 1 475 | FDD | **341A.5، 341B.5 341C.5** |
| n75 | لا ينطبق | MHz 1 517 – MHz 1 432 | SDL | **341A.5، 341B.5 341C.5** |
| n76 | لا ينطبق | MHz 1 432 – MHz 1 427 | SDL | **341A.5، 341B.5 341C.5** |
| n81 | MHz 915 – MHz 880 | لا ينطبق | SUL | **317A.5** |
| n82 | MHz 862 – MHz 832 | لا ينطبق | SUL | **317A.5** |
| n84 | MHz 1 980 – MHz 1 920 | لا ينطبق | SUL | **388.5** |
| [8]n95 | MHz 2 025 – MHz 2 010 | لا ينطبق | SUL | **388.5** |
| [15]n97 | MHz 2 400 – MHz 2 300 | لا ينطبق | SUL | **.5384A** |
| [15]n98 | MHz 1 920 – MHz 1 880 | لا ينطبق | SUL | **384.5، 388.5** |
| n100 | MHz 880 – MHz 874,4 | MHz 925 – MHz 919,4 | FDD | **317A.5** |
| n101 | MHz 1 910 – MHz 1 900 | MHz 1 910 – MHz 1 900 | TDD | **388.5** |
| [17]n104 | MHz 7 125 – MHz 6 425 | MHz 7 125 – MHz 6 425 | TDD | **6A12.5، 6C12.5 6B12.5** |

الجدول 5-A1

## نطاقات تشغيل تكنولوجيا الراديو الجديد (NR) في مدى الترددات FR1

**نطاقات الترددات التي تستخدمها تكنولوجيا الراديو الجديد (NR)، وغير المحددة أو غير المحددة بالكامل للاتصالات المتنقلة الدولية (IMT) في لوائح الراديو**

| نطاق تشغيل تكنولوجيا الراديو الجديد (NR) | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} - F_{UL_high}$ | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} - F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|
| [16]n24 | MHz 1 660,5 – MHz 1 626,5 | MHz 1 559 – MHz 1 525 | FDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| n41 | MHz 2 690 – MHz 2 496 | MHz 2 690 – MHz 2 496 | TDD | **384A.5** |
| n46 | MHz 5 925 – MHz 5 150 | MHz 5 925 – MHz 5 150 | TDD13 | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| [11]n47 | MHz 5925 – MHz 5855 | MHz 5 925 – MHz 5 855 | TDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| n53 | MHz 2495 – MHz 2483,5 | MHz 2 495 – MHz 2 483,5 | TDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| n70 | MHz 1 710 – MHz 1 695 | MHz 2 020 – MHz 1995 | FDD | **388.5** |
| [12]n77 | MHz 4 200 – MHz 3 300 | MHz 4 200 – MHz 3 300 | TDD | **429D ،429B.5 ،429F.5 ،430A.5 ،431B.5 ،432A.5 ،433A.5 ،432B.5 ،434.5 ،A13C.5 ،36A12.5 ،A13D.5** |
| n78 | MHz 3 300 – MHz 3 800 | MHz 3 800 – MHz 3 300 | TDD | **429D.5 ،429B.5 ،430A.5 ،429F.5 ،432A.5 ،431B.5 ،433A.5 ،432B.5 ،A13C.5 ،.434.5 ،36A12.5 ،A13D.5** |
| n79 | MHz 4 400 – MHz 5 000 | MHz 5 000 – MHz 4 400 | TDD | **441B.5 ،441A.5** |
| [14]n96 | MHz 5 925 – MHz 7 125 | MHz 7 125 – MHz 5 925 | [13]TDD | **6C12.5 ،6A12.5 6B12.5** |
| [16]n99 | MHz 1 626.5 – MHz 1 660.5 | N/A | SUL | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |
| [14]n102 | MHz 5 925 – MHz 6 425 | MHz 6 425 – MHz 5 925 | [13]TDD | غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو |

**الملاحظة 1** – معدات المستعمل (UE) التي تتوافق مع المتطلبات الدنيا للنطاق NR Band n50 في هذه المواصفة، ينبغي أن تتوافق أيضاً مع المتطلبات الدنيا للنطاق NR Band n51.

| نطاق تشغيل تكنولوجيا الراديو الجديد (NR) | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الصاعدة (UL) $F_{UL_low} - F_{UL_high}$ | نطاق التشغيل للاستقبال من المحطات القاعدة/الإرسال من معدات المستعمل في الوصلة الهابطة (DL) $F_{DL_low} - F_{DL_high}$ | أسلوب الإرسال المزدوج | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|---|

**الملاحظة 2** – معدات المستعمل (UE) التي تتوافق مع المتطلبات الدنيا للنطاق NR Band n75 في هذه المواصفة، ينبغي أن تتوافق أيضاً مع المتطلبات الدنيا للنطاق NR Band n76.

**الملاحظة 3** – لا يُسمح لمعدات المستعمل (UE) التي تحتوي على هوائيات خارجية مثبتة على المركبات بالإرسال عبر الوصلة الصاعدة في هذا النطاق.

**الملاحظة 4** – ينبغي أن تتوافق معدات المستعمل (UE) المستوفية للمتطلبات الدنيا للنطاق NR Band n65 الواردة في هذه المواصفة، أيضاً مع المتطلبات الدنيا للنطاق NR Band n1.

**الملاحظة 5** – غير مستخدمة

**الملاحظة 6** – معدات المستعمل (UE) التي تدعم النطاق NR Band n66 ينبغي أن تستقبل في نطاق تشغيل الوصلة الهابطة بأكمله.

**الملاحظة 7** – ينبغي أن تتوافق معدات المستعمل (UE) التي تدعم النطاق NR Band n66 وتشغيل تجميع الموجات الحاملة في أي نطاق للموجات الحاملة، أيضاً، مع الحد الأدنى للمتطلبات المحددة لتشكيلات تجميع الموجات الحاملة n66B وn66(2A) في الوصلة الهابطة، وفقاً للنسخة الحالية من هذه المواصفة.

**الملاحظة 8** – لا ينطبق هذا النطاق إلا في الصين.

**الملاحظة 9** – غير مستخدمة

**الملاحظة 10** – عند استخدام هذا النطاق لإرسالات الوصلة الجانبية للاتصالات من المركبة إلى كل شيء (V2X SL)، يقتصر استخدامه على خدمة NR V2X في مناطق محددة.

**الملاحظة 11** – هذا النطاق غير مرخص ويُستعمل لخدمة المركبة إلى كل شيء (V2X). ولا يُتوقع نشر شبكة في هذا النطاق.

**الملاحظة 12** – في الولايات المتحدة الأمريكية، يقتصر هذا النطاق على النطاقين 450 MHz 3 -550 MHz 3 و700 MHz -980 MHz 3.

**الملاحظة 13** – يقتصر تشغيل هذا النطاق على النفاذ إلى قناة الطيف المشتركة، وفقاً لما هو محدد في المواصفة التقنية TS 37.213.

**الملاحظة 14** – لا ينطبق هذا النطاق في الولايات المتحدة إلا وفقاً لتقرير وأوامر لجنة الاتصالات الفيدرالية (FCC 20-51).

**الملاحظة 15** – لا تنطبق المتطلبات المتعلقة بهذا النطاق إلا في الحالات التي لا يُستعمل فيها واحد (أو أكثر) من نطاقات التشغيل الأخرى NR أو E-UTRA بأسلوب الإرسال المزدوج TDD ضمن مدى ترددات هذا النطاق في المنطقة الجغرافية نفسها. وبالنسبة للسيناريوهات التي يُستعمل فيها واحد (أو أكثر) من نطاقات التشغيل الأخرى NR أو E-UTRA بأسلوب الإرسال المزدوج TDD ضمن مدى ترددات هذا النطاق في المنطقة الجغرافية نفسها، يجوز تطبيق متطلبات خاصة للتعايش لا تشملها مواصفات مشروع الشراكة 3GPP.

**الملاحظة 16** – يقتصر تشغيل الوصلة الهابطة في هذا النطاق على المدى 526 MHz 1 -536 MHz 1، ويقتصر تشغيل الوصلة الصاعدة على المديين 627.5 MHz 1 -637.5 MHz 1 و646.5 MHz 1 -656.5 MHz 1.

**الملاحظة 17** – بالنسبة لهذا النطاق، تُطبَّق قيم CORESET#0 الواردة في الجدول 13-5 أو الجدول 13-6 من المواصفة التقنية TS 38.213، بغض النظر عن الحد الأدنى لعرض نطاق القناة.

وتُحدد نطاقات تشغيل معدات المستعمل لتجميع الموجات الحاملة في الفقرة 2A.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.2A Operating bands for CA

### 5.2A.0 General

CA operating bands including Band n90 are defined by the corresponding CA operating bands including Band n41 with Band n90 replacing Band n41. For brevity the said CA operating bands including Band n90 are not listed in the tables below but are covered by this specification.

### 5.2A.1 Intra-band CA

NR intra-band carrier aggregation is designed to operate in the operating bands defined in Table 5.2A.1-1 and Table 5.2A.1-2, where all operating bands are within FR1.

**Table 5.2A.1-1: Intra-band contiguous CA operating bands in FR1**

| NR CA Band | NR Band (Table 5.2-1) |
|---|---|
| CA_n1 | n1 |
| CA_n2 | n2 |
| CA_n3 | n3 |
| CA_n5 | n5 |
| CA_n7 | n7 |
| CA_n25 | n25 |
| CA_n38 | n38 |
| CA_n40 | n40 |
| CA_n41 | n41 |
| CA_n46 | n46 |
| CA_n48 | n48 |
| CA_n66 | n66 |
| CA_n71 | n71 |
| CA_n77 | n77 |
| CA_n78 | n78 |
| CA_n79 | n79 |
| CA_n96 | n96 |
| NOTE 1: The minimum requirements only apply for non simultaneous Tx/Rx between all carriers for TDD combinations. | |

**Table 5.2A.1-2: Intra-band non-contiguous CA operating bands in FR1**

| NR CA Band | NR Band (Table 5.2-1) |
|---|---|
| CA_n1(*) | n1 |
| CA_n3(*) | n3 |
| CA_n5(*) | n5 |
| CA_n7(*) | n7 |
| CA_n12(*) | n12 |
| CA_n25(*) | n25 |
| CA_n41(*) | n41 |
| CA_n48(*) | n48 |
| CA_n66(*) | n66 |
| CA_n71(*) | n71 |
| CA_n77(*) | n77 |
| CA_n78(*) | n78 |
| CA_n96(*) | n96 |
| NOTE 1: The minimum requirements only apply for non simultaneous Tx/Rx between all carriers for TDD combinations.<br>NOTE 2: The notation CA_nX(*) in this table indicates intra-band non-contiguous CA for band nX. The configurations for each band are in 5.5A.2. | |

## 5.2A.2 Inter-band CA

NR inter-band carrier aggregation is designed to operate in the operating bands defined in Table 5.2A.2.1-1, 5.2A.2.2-1 and Table 5.2A.2.3-1, where all operating bands are within FR1.

If the mandatory simultaneous Rx/Tx capability applies for a band combination, the mandatory simultaneous Rx/Tx capability also applies for the band combination when the applicable band combination is a subset of a higher order band combination.

Table 5.2A.2-1: Void

Table 5.2A.2-2: Void

Table 5.2A.2-3: Void

### 5.2A.2.1 Inter-band CA (two bands)

**Table 5.2A.2.1-1: Inter-band CA operating bands involving FR1 (two bands)**

| NR CA Band | NR Band (Table 5.2-1) | DL interruption allowed (Note 8) |
|---|---|---|
| CA_n1-n3 | n1, n3 | |
| CA_n1-n5 | n1, n5 | |
| CA_n1-n7 | n1, n7 | |
| CA_n1-n8 | n1, n8 | |
| CA_n1-n18 | n1, n18 | |
| CA_n1-n20 | n1, n20 | |
| CA_n1-n28 | n1, n28 | |
| CA_n1-n38 | n1, n38 | |
| CA_n1-n40 | n1, n40 | |
| CA_n1-n41[1] | n1, n41 | |
| CA_n1-n67 | n1, n67 | |
| CA_n1-n74 | n1, n74 | |
| CA_n1-n77[1] | n1, n77 | No |
| CA_n1-n78[1] | n1, n78 | No |
| CA_n1-n79[1] | n1, n79 | No |
| CA_n2-n5 | n2, n5 | |
| CA_n2-n7 | n2, n7 | |
| CA_n2-n12 | n2, n12 | |
| CA_n2-n14 | n2, n14 | |
| CA_n2-n29 | n2, n29 | |
| CA_n2-n30 | n2, n30 | |
| CA_n2-n48 | n2, n48 | |
| CA_n2-n66 | n2, n66 | |
| CA_n2-n77 | n2, n77 | |
| CA_n2-n78 | n2, n78 | |
| CA_n3-n5 | n3, n5 | |
| CA_n3-n7 | n3, n7 | |
| CA_n3-n8 | n3, n8 | |
| CA_n3-n18 | n3, n18 | |
| CA_n3-n20 | n3, n20 | |
| CA_n3-n28 | n3, n28 | |
| CA_n3-n34[1] | n3, n34 | |
| CA_n3-n38 | n3, n38 | |
| CA_n3-n40[1] | n3, n40 | No |
| CA_n3-n41[1] | n3, n41 | No |
| CA_n3-n67 | n3, n67 | |
| CA_n3-n74 | n3, n74 | |
| CA_n3-n77[1] | n3, n77 | No |
| CA_n3-n78[1] | n3, n78 | No |
| CA_n3-n79[1] | n3, n79 | No |

| | | | | |
|---|---|---|---|---|
| | CA_n5-n7 | n5, n7 | | |
| | CA_n5-n12 | n5, n12 | | |
| | CA_n5-n14 | n5, n14 | | |
| | CA_n5-n25 | n5, n25 | | |
| | CA_n5-n28 | n5, n28 | | |
| | CA_n5-n29 | n5, n29 | | |
| | CA_n5-n30 | n5, n30 | | |
| | CA_n5-n40 | n5, n40 | | |
| | CA_n5-n48 | n5, n48 | | |
| | CA_n5-n66 | n5, n66 | | |
| | CA_n5-n77[1] | n5, n77 | | |
| | CA_n5-n78[1] | n5, n78 | No | |
| | CA_n5-n79[1] | n5, n79 | No | |
| | CA_n7-n8 | n7, n8 | | |
| | CA_n7-n25 | n7, n25 | | |
| | CA_n7-n28 | n7, n28 | | |
| | CA_n7-n40 | n7, n40 | | |
| | CA_n7-n46 | n7, n46 | | |
| | CA_n7-n66 | n7, n66 | | |
| | CA_n7-n77 | n7, n77 | | |
| | CA_n7-n78[1] | n7, n78 | | |
| | CA_n7-n79 | n7, n79 | | |
| | CA_n8-n20 | n8, n20 | | |
| | CA_n8-n28 | n8, n28 | | |
| | CA_n8-n34[1] | n8, n34 | | |
| | CA_n8-n38 | n8, n38 | | |
| | CA_n8-n39[1] | n8, n39 | | |
| | CA_n8-n40[1] | n8, n40 | | |
| | CA_n8-n41[1] | n8, n41 | No | |
| | CA_n8-n75[1] | n8, n75 | | |
| | CA_n8-n77[1] | n8, n77 | | |
| | CA_n8-n78[1] | n8, n78 | No | |
| | CA_n8-n79[1] | n8, n79 | No | |
| | CA_n12-n25 | n12, n25 | | |
| | CA_n12-n30 | n12, n30 | | |
| | CA_n12-n48 | n12, n48 | | |
| | CA_n12-n66 | n12, n66 | | |
| | CA_n12-n71 | n12, n71 | | |
| | CA_n12-n77 | n12, n77 | | |
| | CA_n13-n25 | n13, n25 | | |
| | CA_n13-n66 | n13, n66 | | |
| | CA_n13-n77 | n13, n77 | | |
| | CA_n14-n30 | n14, n30 | | |
| | CA_n14-n66 | n14, n66 | | |
| | CA_n14-n77 | n14, n77 | | |
| | CA_n18-n28 | n18, n28 | | |
| | CA_n18-n41 | n18, n41 | | |
| | CA_n18-n74 | n18, n74 | | |
| | CA_n18-n77[10] | n18, n77 | | |
| | CA_n18-n78[11] | n18, n78 | | |
| | CA_n20-n28[2] | n20, n28 | | |
| | CA_n20-n40 | n20, n40 | | |
| | CA_n20-n67 | n20, n67 | | |
| | CA_n20-n75 | n20, n75 | | |
| | CA_n20-n78 | n20, n78 | | |
| | CA_n24-n41 | n24, n41 | | |
| | CA_n24-n48 | n24, n48 | | |
| | CA_n24-n77 | n24, n77 | | |
| | CA_n25-n29 | n25, n29 | | |
| | CA_n25-n38 | n25, n38 | | |
| | CA_n25-n41 | n25, n41 | | |
| | CA_n25-n46[6] | n25, n46 | | |
| | CA_n25-n48 | n25, n48 | | |
| | CA_n25-n66 | n25, n66 | | |
| | CA_n25-n71 | n25, n71 | | |

| | | | |
|---|---|---|---|
| CA_n25-n77 | n25, n77 | | |
| CA_n25-n78 | n25, n78 | | |
| CA_n26-n66 | n26, n66 | | |
| CA_n26-n70 | n26, n70 | | |
| CA_n28-n34 | n28, n34 | | |
| CA_n28-n38 | n28, n38 | | |
| CA_n28-n39 | n28, n39 | | |
| CA_n28-n40 | n28, n40 | | |
| CA_n28-n41[1] | n28, n41 | | |
| CA_n28-n46 | n28, n46 | | |
| CA_n28-n50 | n28, n50 | | |
| CA_n28-n71[12] | n28, n71 | | |
| CA_n28-n74 | n28, n74 | | |
| CA_n28-n75[2] | n28, n75 | | |
| CA_n28-n77[1] | n28, n77 | No | |
| CA_n28-n78[1] | n28, n78 | No | |
| CA_n28-n79[1] | n28, n79 | | |
| CA_n29-n30 | n29, n30 | | |
| CA_n29-n66 | n29, n66 | | |
| CA_n29-n70 | n29, n70 | | |
| CA_n29-n71 | n29, n71 | | |
| CA_n29-n77 | n29, n77 | | |
| CA_n30-n66 | n30, n66 | | |
| CA_n30-n77 | n30, n77 | | |
| CA_n34-n40 | n34, n40 | | |
| CA_n34-n41[9] | n34, n41 | | |
| CA_n34-n79[1] | n34, n79 | | |
| CA_n38-n40[9] | n38, n40 | | |
| CA_n38-n66 | n38, n66 | | |
| CA_n38-n78[1] | n38, n78 | | |
| CA_n38-n79[1] | n38, n79 | | |
| CA_n39-n40 | n39, n40 | | |
| CA_n39-n41 | n39, n41 | No | |
| CA_n39-n79[1] | n39, n79 | No | |
| CA_n40-n41 | n40, n41 | | |
| CA_n40-n77[1] | n40, n77 | | |
| CA_n40-n78[1] | n40, n78 | | |
| CA_n40-n79[1,4] | n40, n79 | No | |
| CA_n41-n48[1] | n41, n48 | | |
| CA_n41-n50[1] | n41, n50 | | |
| CA_n41-n66 | n41, n66 | | |
| CA_n41-n70 | n41, n70 | | |
| CA_n41-n71[1] | n41, n71 | | |
| CA_n41-n74 | n41, n74 | | |
| CA_n41-n77[1] | n41, n77 | | |
| CA_n41-n78[1] | n41, n78 | | |
| CA_n41-n79[1,3] | n41, n79 | No | |
| CA_n46-n48[1,6] | n46, n48 | | |
| CA_n46-n66[6] | n46, n66 | | |
| CA_n46-n78[1,6] | n46, n78 | | |
| CA_n46-n96[15,16,17,18] | n46, n96 | | |
| CA_n48-n53[9] | n48, n53 | | |
| CA_n48-n66 | n48, n66 | | |
| CA_n48-n70 | n48, n70 | | |
| CA_n48-n71 | n48, n71 | | |
| CA_n48-n77[13,14,18] | n48, n77 | | |
| CA_n48-n96[1,9] | n48, n96 | | |
| CA_n50-n78 | n50, n78 | | |
| CA_n66-n70 | n66, n70 | | |
| CA_n66-n71 | n66, n71 | | |
| CA_n66-n77 | n66, n77 | | |
| CA_n66-n78 | n66, n78 | | |
| CA_n70-n71 | n70, n71 | | |
| CA_n70-n78 | n70, n78 | | |
| CA_n71-n77 | n71, n77 | | |

| | | |
|---|---|---|
| CA_n71-n78 | n71, n78 | |
| CA_n74-n77[1] | n74, n77 | |
| CA_n74-n78[1] | n74, n78 | |
| CA_n75-n78[1] | n75, n78 | |
| CA_n76-n78[1] | n76, n78 | |
| CA_n77-n79[5,7] | n77, n79 | |
| CA_n78-n79[5] | n78, n79 | |
| CA_n78-n92 | n78, n92 | |

NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability.
NOTE 2: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.
NOTE 3: The frequency range below 2 506 MHz for Band n41 is not used in this combination.
NOTE 4: Applicable for frequency range above 4 800 MHz for Band n79 in this combination.
NOTE 5: For UEs supporting band n77, the minimum requirements apply only when there is non-simultaneous Rx/Tx operation between n78-n79 NR carriers. This restriction applies also for these carriers when applicable NR CA configuration is part of a higher order configuration.
NOTE 6: The PCell is allocated in the licensed band in this combination.
NOTE 7: The minimum requirements apply only when there is non-simultaneous Rx/Tx operation between n77-n79 NR carriers. This restriction applies also for these carriers when applicable NR CA configuration is part of a higher order configuration.
NOTE 8: Applicable when dynamic Tx switching is conducted. The DL interruption requirement is specified in clause 8.2.2.2.10 of 38.133 [13].
NOTE 9: Only applicable for UE supporting inter-band carrier aggregation without simultaneous Rx/Tx.
NOTE 10 The frequency range in band n77 is restricted for this band combination to 3 520-3 560 MHz, 3 700-3 800 MHz, 4 000-4 100 MHz.
NOTE 11: The frequency range in band n78 is restricted for this band combination to 3 520-3 560 MHz and 3 700-3 800 MHz.
NOTE 12: The implementation with 4 antennas is targeted for FWA form factor for this band combination.
NOTE 13: Simultaneous Rx/Tx capability for TDD combinations does not apply for UEs supporting band n48 with an n77 implementation.
NOTE 14: The band n48 and n77 will synchronize their uplink and downlink configurations and in commonly TDD network coordination.
NOTE 15: Simultaneous Rx/Tx capability does not apply for UEs supporting CA_n46-n96. Same restrictions are applied when applicable NR CA configuration is part of a higher order configurations
NOTE 16: The minimum requirements for intra-band non-contiguous CA/DC apply for CA_n46-n96 and related higher order CA/DC configurations.
NOTE 17: The combination is not used alone as fall back mode of other band combinations in which UL in Band 48 is not used.
NOTE 18: The minimum requirements for inter-band CA apply when the maximum power spectral density imbalance between downlink carriers is within 6 dB. The power spectral density imbalance condition also applies for these carriers when applicable CA configuration is a subset of a higher order CA configuration.

### 5.2A.2.2 Inter-band CA (three bands)

**Table 5.2A.2.2-1: Inter-band CA operating bands involving FR1 (three bands)**

| NR CA Band | NR Band (Table 5.2-1) | DL interruption allowed (Note 4) |
|---|---|---|
| CA_n1-n3-n5 | n1, n3, n5 | |
| CA_n1-n3-n7 | n1, n3, n7 | |
| CA_n1-n3-n8 | n1, n3, n8 | |
| CA_n1-n3-n18 | n1, n3, n18 | |
| CA_n1-n3-n20 | n1, n3, n20 | |
| CA_n1-n3-n28 | n1, n3, n28 | |
| CA_n1-n3-n41[3] | n1, n3, n41 | |
| CA_n1-n3-n77 | n1, n3, n77 | |
| CA_n1-n3-n78[3] | n1, n3, n78 | No for CA_n1-n78, CA_n3-n78 |
| CA_n1-n3-n79[3] | n1, n3, n79 | |
| CA_n1-n5-n7 | n1, n5, n7 | |

| | | | | |
|---|---|---|---|---|
| | CA_n1-n5-n28 | n1, n5, n28 | | |
| | CA_n1-n5-n78 | n1, n5, n78 | | |
| | CA_n1-n7-n8 | n1, n7, n8 | | |
| | CA_n1-n7-n28 | n1, n7, n28 | | |
| | CA_n1-n7-n40 | n1, n7, n40 | | |
| | CA_n1-n7-n78[3] | n1, n7, n78 | | |
| | CA_n1-n7-n79 | n1, n7, n79 | | |
| | CA_n1-n8-n28 | n1, n8, n28 | | |
| | CA_n1-n8-n40 | n1, n8, n40 | | |
| | CA_n1-n8-n77 | n1, n8, n77 | | |
| | CA_n1-n8-n78[3] | n1, n8, n78 | | |
| | CA_n1-n8-n79 | n1, n8, n79 | | |
| | CA_n1-n18-n28 | n1, n18, n28 | | |
| | CA_n1-n18-n41 | n1, n18, n41 | | |
| | CA_n1-n18-n77 | n1, n18, n77 | | |
| | CA_n1-n20-n67 | n1, n20, n67 | | |
| | CA_n1-n20-n78 | n1, n20, n78 | | |
| | CA_n1-n28-n38 | n1, n28, n38 | | |
| | CA_n1-n28-n40 | n1, n28, n40 | | |
| | CA_n1-n28-n41[3] | n1, n28, n41 | | |
| | CA_n1-n28-n77[3] | n1, n28, n77 | | |
| | CA_n1-n28-n79[3] | n1, n28, n79 | | |
| | CA_n1-n28-n78[3] | n1, n28, n78 | | |
| | CA_n1-n38-n78 | n1, n38, n78 | | |
| | CA_n1-n40-n78 | n1, n40, n78 | | |
| | CA_n1-n41-n77[3] | n1, n41, n77 | | |
| | CA_n1-n77-n79 | n1, n77, n79 | | |
| | CA_n1-n78-n79 | n1, n78, n79 | | |
| | CA_n2-n5-n30 | n2, n5, n30 | | |
| | CA_n2-n5-n48 | n2, n5, n48 | | |
| | CA_n2-n5-n66 | n2, n5, n66 | | |
| | CA_n2-n5-n77 | n2, n5, n77 | | |
| | CA_n2-n12-n30 | n2, n12, n30 | | |
| | CA_n2-n12-n66 | n2, n12, n66 | | |
| | CA_n2-n12-n77 | n2, n12, n77 | | |
| | CA_n2-n14-n30 | n2, n14, n30 | | |
| | CA_n2-n14-n66 | n2, n14, n66 | | |
| | CA_n2-n14-n77 | n2, n14, n77 | | |
| | CA_n2-n29-n30 | n2, n29, n30 | | |
| | CA_n2-n29-n66 | n2, n29, n66 | | |
| | CA_n2-n29-n77 | n2, n29, n77 | | |
| | CA_n2-n30-n66 | n2, n30, n66 | | |
| | CA_n2-n30-n77 | n2, n30, n77 | | |
| | CA_n2-n48-n66 | n2, n48, n66 | | |
| | CA_n2-n48-n77 | n2, n48, n77 | | |
| | CA_n2-n66-n77 | n2, n66, n77 | | |
| | CA_n2-n66-n78 | n2, n66, n78 | | |
| | CA_n2-n71-n78 | n2, n71, n78 | | |
| | CA_n3-n5-n7 | n3, n5, n7 | | |
| | CA_n3-n5-n28 | n3, n5, n28 | | |
| | CA_n3-n5-n78 | n3, n5, n78 | | |
| | CA_n3-n7-n8 | n3, n7, n8 | | |
| | CA_n3-n7-n28 | n3, n7, n28 | | |
| | CA_n3-n7-n78[3] | n3, n7, n78 | | |
| | CA_n3-n8-n28 | n3, n8, n28 | | |
| | CA_n3-n8-n41 | n3, n8, n41 | | |
| | CA_n3-n8-n79 | n3, n8, n79 | | |
| | CA_n3-n8-n77 | n3, n8, n77 | | |
| | CA_n3-n8-n78[3] | n3, n8, n78 | | |
| | CA_n3-n18-n28 | n3, n18, n28 | | |
| | CA_n3-n18-n41 | n3, n18, n41 | | |
| | CA_n3-n18-n77 | n3, n18, n77 | | |
| | CA_n3-n20-n67 | n3, n20, n67 | | |
| | CA_n3-n20-n78 | n3, n20, n78 | | |
| | CA_n3-n28-n41[3] | n3, n28, n41 | | |

| | | | | |
|---|---|---|---|---|
| | CA_n3-n28-n77[3] | n3, n28, n77 | | |
| | CA_n3-n28-n78[3] | n3, n28, n78 | | |
| | CA_n3-n28-n79[3] | n3, n28, n79 | | |
| | CA_n3-n38-n40 | n3, n38, n40 | | |
| | CA_n3-n40-n41 | n3, n40, n41 | No for CA n3-n40, CA n3-n41 | |
| | CA_n3-n41-n77[3] | n3, n41, n77 | | |
| | CA_n3-n41-n78[3] | n3, n41, n78 | | |
| | CA_n3-n41-n79[3] | n3, n41, n79 | No | |
| | CA_n3-n77-n79 | n3, n77, n79 | | |
| | CA_n5-n7-n28 | n5, n7, n28 | | |
| | CA_n5-n7-n78 | n5, n7, n78 | | |
| | CA_n5-n12-n77 | n5, n12, n77 | | |
| | CA_n5-n14-n77 | n5, n14, n77 | | |
| | CA_n5-n25-n66 | n5, n25, n66 | | |
| | CA_n5-n25-n77 | n5, n25, n77 | | |
| | CA_n5-n25-n78 | n5, n25, n78 | | |
| | CA_n5-n29-n77 | n5, n29, n77 | | |
| | CA_n5-n30-n66 | n5, n30, n66 | | |
| | CA_n5-n30-n77 | n5, n30, n77 | | |
| | CA_n5-n40-n78 | n5, n40, n78 | | |
| | CA_n5-n48-n77 | n5, n48, n77 | | |
| | CA_n5-n48-n66 | n5, n48, n66 | | |
| | CA_n5-n66-n77 | n5, n66, n77 | | |
| | CA_n5-n66-n78 | n5, n66, n78 | | |
| | CA_n7-n8-n28 | n7, n8, n28 | | |
| | CA_n7-n8-n40 | n7, n8, n40 | | |
| | CA_n7-n8-n78 | n7, n8, n78 | | |
| | CA_n7-n25-n66 | n7, n25, n66 | | |
| | CA_n7-n25-n77 | n7, n25, n77 | | |
| | CA_n7-n25-n78 | n7, n25, n78 | | |
| | CA_n7-n28-n78 | n7, n28, n78 | | |
| | CA_n7-n46-n78 | n7, n46, n78 | | |
| | CA_n7-n66-n78 | n7, n66, n78 | | |
| | CA_n7-n66-n77 | n7, n66, n77 | | |
| | CA_n8-n28-n78[3] | n8, n28, n78 | | |
| | CA_n8-n38-n40 | n8, n38, n40 | | |
| | CA_n8-n39-n41 | n8, n39, n41 | No for CA n8-n41, CA n39-n41 | |
| | CA_n8-n40-n41 | n8, n40, n41 | | |
| | CA_n8-n40-n78 | n8, n40, n78 | | |
| | CA_n8-n41-n79[3] | n8, n41, n79 | No | |
| | CA_n8-n78-n79 | n8, n78, n79 | | |
| | CA_n12-n30-n66 | n12, n30, n66 | | |
| | CA_n12-n30-n77 | n12, n30, n77 | | |
| | CA_n12-n66-n77 | n12, n66, n77 | | |
| | CA_n13-n25-n66 | n13, n25, n66 | | |
| | CA_n13-n25-n77 | n13, n25, n77 | | |
| | CA_n13-n66-n77 | n13, n66, n77 | | |
| | CA_n14-n30-n66 | n14, n30, n66 | | |
| | CA_n14-n30-n77 | n14, n30, n77 | | |
| | CA_n14-n66-n77 | n14, n66, n77 | | |
| | CA_n18-n28-n41 | n18, n28, n41 | | |
| | CA_n18-n28-n77 | n18, n28, n77 | | |
| | CA_n18-n41-n77 | n18, n41, n77 | | |
| | CA_n20-n28-n78 | n20, n28, n78 | | |
| | CA_n24-n41-n48 | n24, n41, n48 | | |
| | CA_n24-n41-n77 | n24, n41, n77 | | |
| | CA_n24-n48-n77 | n24, n48, n77 | | |
| | CA_n25-n41-n77 | n25, n41, n77 | | |
| | CA_n25-n29-n66 | n25, n29, n66 | | |
| | CA_n25-n38-n78 | n25, n38, n78 | | |
| | CA_n25-n41-n66 | n25, n41, n66 | | |
| | CA_n25-n41-n71 | n25, n41, n71 | | |

| | | |
|---|---|---|
| CA_n25-n41-n77 | n25, n41, n77 | No for CA_n1-n78, CA_n3-n78 |
| CA_n25-n41-n78 | n25, n41, n78 | |
| CA_n25-n48-n66 | n25, n48, n66 | |
| CA_n25-n66-n71 | n25, n66, n71 | |
| CA_n25-n66-n77 | n25, n66, n77 | |
| CA_n25-n66-n78 | n25, n66, n78 | |
| CA_n25-n71-n77 | n25, n71, n77 | |
| CA_n25-n71-n78 | n25, n71, n78 | |
| CA_n26-n66-n70 | n26, n66, n70 | |
| CA_n28-n40-n79 | n28, n40, n79 | |
| CA_n28-n41-n79[3] | n28, n41, n79 | |
| CA_n28-n46-n78 | n28, n46, n78 | |
| CA_n28-n77-n79 | n28, n77, n79 | |
| CA_n28-n78-n79 | n28, n78, n79 | |
| CA_n28-n38-n78 | n28, n38, n78 | |
| CA_n28-n39-n40 | n28, n39, n40 | |
| CA_n28-n39-n41 | n28, n39, n41 | |
| CA_n28-n39-n79 | n28, n39, n79 | |
| CA_n28-n40-n78 | n28, n40, n78 | |
| CA_n28-n41-n77[3] | n28, n41, n77 | |
| CA_n28-n41-n78[3] | n28, n41, n78 | |
| CA_n29-n30-n66 | n29, n30, n66 | |
| CA_n29-n30-n77 | n29, n30, n77 | |
| CA_n29-n66-n70 | n29, n66, n70 | |
| CA_n29-n66-n77 | n29, n66, n77 | |
| CA_n30-n66-n77 | n30, n66, n77 | |
| CA_n38-n66-n78 | n38, n66, n78 | |
| CA_n39-n40-n41 | n39, n40, n41 | |
| CA_n39-n40-n79 | n39, n40, n79 | |
| CA_n39-n41-n79 | n39, n41, n79 | No |
| CA_n40-n41-n79[1,2] | n40, n41, n79 | No for CA n40-n79, CA n41-n79 |
| CA_ n41-n66-n71 | n41, n66, n71 | |
| CA_n41-n66-n78 | n41, n66, n78 | |
| CA_ n41-n66-n77 | n41, n66, n77 | |
| CA_n41-n70-n78 | n41, n70, n78 | |
| CA_n41-n71-n77 | n41, n71, n77 | |
| CA_n41-n71-n78 | n41, n71, n78 | |
| CA_n48-n66-n70 | n48, n66, n70 | |
| CA_n48-n66-n71 | n48, n66, n71 | |
| CA_n48-n66-n77 | n48, n66, n77 | |
| CA_n48-n70-n71 | n48, n70, n71 | |
| CA_n66-n70-n71 | n66, n70, n71 | |
| CA_n66-n71-n77 | n66, n71, n77 | |
| CA_n66-n71-n78 | n66, n71, n78 | |

NOTE 1: The frequency range below 2506 MHz for Band n41 is not used in this band combination.

NOTE 2: Applicable for frequency range above 4800 MHz for Band n79 in this band combination.

NOTE 3: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability

NOTE 4: Applicable when dynamic Tx switching is conducted. The DL interruption requirement is specified in clause 8.2.2.2.10 of 38.133 [13].

### 5.2A.2.3 Inter-band CA (four bands)

**Table 5.2A.2.3-1: Inter-band CA operating bands involving FR1 (four bands)**

| NR CA Band | NR Band (Table 5.2-1) |
|---|---|
| CA_n1-n3-n5-n7 | n1, n3, n5, n7 |
| CA_n1-n3-n5-n78 | n1, n3, n5, n78 |
| CA_n1-n3-n7-n28 | n1, n3, n7, n28 |
| CA_n1-n3-n7-n78 | n1, n3, n7, n78 |

| | | |
|---|---|---|
| CA_n1-n3-n8-n77 | n1, n3, n8, n77 | |
| CA_n1-n3-n8-n78 | n1, n3, n8, n78 | |
| CA_n1-n3-n18-n28 | n1, n3, n18, n28 | |
| CA_n1-n3-n18-n41 | n1, n3, n18, n41 | |
| CA_n1-n3-n18-n77 | n1, n3, n18, n77 | |
| CA_n1-n3-n28-n41 | n1, n3, n28, n41 | |
| CA_n1-n3-n28-n77[1] | n1, n3, n28, n77 | |
| CA_n1-n3-n28-n78 | n1, n3, n28, n78 | |
| CA_n1-n3-n28-n79[1] | n1, n3, n28, n79 | |
| CA_n1-n3-n41-n77 | n1, n3, n41, n77 | |
| CA_n1-n3-n77-n79 | n1, n3, n77, n79 | |
| CA_n1-n5-n7-n78 | n1, n5, n7, n78 | |
| CA_n1-n7-n8-n40 | n1, n7, n8, n40 | |
| CA_n1-n7-n8-n78 | n1, n7, n8, n78 | |
| CA_n1-n7-n28-n78 | n1, n7, n28, n78 | |
| CA_n1-n7-n40-n78 | n1, n7, n40, n78 | |
| CA_n1-n8-n40-n78 | n1, n8, n40, n78 | |
| CA_n1-n8-n78-n79 | n1, n8, n78, n79 | |
| CA_n1-n18-n28-n41 | n1, n18, n28, n41 | |
| CA_n1-n18-n28-n77 | n1, n18, n28, n77 | |
| CA_n1-n18-n41-n77 | n1, n18, n41, n77 | |
| CA_n1-n28-n40-n78 | n1, n28, n40, n78 | |
| CA_n1-n28-n41-n77 | n1, n28, n41, n77 | |
| CA_n1-n28-n77-n79 | n1, n28, n77, n79 | |
| CA_n2-n5-n30-n66 | n2, n5, n30, n66 | |
| CA_n2-n5-n30-n77 | n2, n5, n30, n77 | |
| CA_n2-n5-n48-n66 | n2, n5, n48, n66 | |
| CA_n2-n5-n48-n77 | n2, n5, n48, n77 | |
| CA_n2-n5-n66-n77 | n2, n5, n66, n77 | |
| CA_n2-n12-n30-n66 | n2, n12, n30, n66 | |
| CA_n2-n12-n30-n77 | n2, n12, n30, n77 | |
| CA_n2-n12-n66-n77 | n2, n12, n66, n77 | |
| CA_n2-n14-n30-n66 | n2, n14, n30, n66 | |
| CA_n2-n14-n30-n77 | n2, n14, n30, n77 | |
| CA_n2-n14-n66-n77 | n2, n14, n66, n77 | |
| CA_n2-n29-n30-n66 | n2, n29, n30, n66 | |
| CA_n2-n29-n30-n77 | n2, n29, n30, n77 | |
| CA_n2-n29-n66-n77 | n2, n29, n66, n77 | |
| CA_n2-n48-n66-n77 | n2, n48, n66, n77 | |
| CA_n2-n66-n71-n78 | n2, n66, n71, n78 | |
| CA_n3-n5-n7-n78 | n3, n5, n7, n78 | |
| CA_n3-n7-n28-n78 | n3, n7, n28, n78 | |
| CA_n3-n18-n28-n41 | n3, n18, n28, n41 | |
| CA_n3-n18-n28-n77 | n3, n18, n28, n77 | |
| CA_n3-n18-n41-n77 | n3, n18, n41, n77 | |
| CA_n3-n28-n41-n77 | n3, n28, n41, n77 | |
| CA_n3-n28-n77-n79 | n3, n28, n77, n79 | |
| CA_n3-n28-n41-n78 | n3, n28, n41, n78 | |
| CA_n5-n25-n66-n77 | n5, n25, n66, n77 | |
| CA_n5-n25-n66-n78 | n5, n25, n66, n78 | |
| CA_n5-n30-n66-n77 | n5, n30, n66, n77 | |
| CA_n5-n48-n66-n77 | n5, n48, n66, n77 | |
| CA_n7-n8-n40-n78 | n7, n8, n40, n78 | |
| CA_n7-n25-n66-n77 | n7, n25, n66, n77 | |
| CA_n7-n25-n66-n78 | n7, n25, n66, n78 | |
| CA_n12-n30-n66-n77 | n12, n30, n66, n77 | |
| CA_n13-n25-n66-n77 | n13, n25, n66, n77 | |
| CA_n14-n30-n66-n77 | n14, n30, n66, n77 | |
| CA_n18-n28-n41-n77 | n18, n28, n41, n77 | |
| CA_n25-n38-n66-n78 | n25, n38, n66, n78 | |
| CA_n25-n41-n66-n71 | n25, n41, n66, n71 | |
| CA_n25-n41-n66-n77 | n25, n41, n66, n77 | |
| CA_n25-n41-n66-n78 | n25, n41, n66, n78 | |
| CA_n25-n41-n71-n77 | n25, n41, n71, n77 | |
| CA_n25-n41-n71-n78 | n25, n41, n71, n78 | |

| | |
|---|---|
| CA_n25-n66-n71-n77 | n25, n66, n71, n77 |
| CA_n25-n66-n71-n78 | n25, n66, n71, n78 |
| CA_n29-n30-n66-n77 | n29, n30, n66, n77 |
| CA_n41-n66-n70-n78 | n41, n66, n70, n78 |
| CA_n41-n66-n71-n77 | n41, n66, n71, n77 |
| CA_n41-n66-n71-n78 | n41, n66, n71, n78 |
| NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability. | |

### 5.2A.2.4 Inter-band CA (five bands)

**Table 5.2A.2.4-1: Inter-band CA operating bands involving FR1 (five bands)**

| NR CA Band | NR Band (Table 5.2-1) |
|---|---|
| CA_n1-n3-n5-n7-n78 | n1, n3, n5, n7, n78 |
| CA_n1-n3-n7-n28-n78 | n1, n3, n7, n28, n78 |

وتُحدد نطاقات تشغيل معدات المستعمل للتوصيلية المزدوجة في الفقرة 2B.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.2B Operating bands for DC

The operating bands are specified in clause 5.5B for operation with NR dual connectivity configured, where all operating bands are within FR1.

If the mandatory simultaneous Rx/Tx capability applies for a band combination, the mandatory simultaneous Rx/Tx capability also applies for the band combination when the applicable band combination is a subset of a higher order band combination.

## 5.5B Configurations for DC

For an NR DC configuration specified in 5.5B.1-1, the bandwidth combination sets for the corresponding NR CA configuration in 5.5A.3,i.e.,dual uplink inter-band carrier aggregation with uplink assigned to two NR bands, are applicable to Dual Connectivity.

**Table 5.5B.1-1: Inter-band NR DC configurations (two bands)**

| NR DC configuration | Uplink NR DC configuration |
|---|---|
| DC_n1A-n3A | DC_n1A-n3A |

| | | | |
|---|---|---|---|
| | DC_n1A-n7A | DC_n1A-n7A | |
| | DC_n1A-n28A | DC_n1A-n28A | |
| | DC_n1A-n41A | DC_n1A-n41A | |
| | DC_n1A-n77A[2] | DC_n1A-n77A | |
| | DC_n1A-n78A | DC_n1A-n78A | |
| | DC_n1A-n79A[2] | DC_n1A-n79A | |
| | DC_n2A-n5A<br>DC_n2A-n5B | DC_n2A-n5A | |
| | DC_n2A-n48A<br>DC_n2A-n48B<br>DC_n2A-n48C | DC_n2A-n48A | |
| | DC_n2A-n48(2A)<br>DC_n2A-n48(A-C) | DC_n2A-n48A | |
| | DC_n2A-n66A<br>DC_n2A-n66B | DC_n2A-n66A | |
| | DC_n2A-n77A<br>DC_n2A-n77C | DC_n2A-n77A | |
| | DC_n2A-n77(2A)<br>DC_n2(2A)-n77A<br>DC_n2(2A)-n77C | DC_n2A-n77A | |
| | DC_n3A-n28A | DC_n3A-n28A | |
| | DC_n3A-n41A | DC_n3A-n41A | |
| | DC_n3A-n77A[2] | DC_n3A-n77A | |
| | DC_n3A-n77(2A)[2] | DC_n3A-n77A | |
| | DC_n3A-n78A[2] | DC_n3A-n78A | |
| | DC_n3A-n79A | DC_n3A-n79A | |
| | DC_n5A-n48A<br>DC_n5A-n48B<br>DC_n5A-n48C | DC_n5A-n48A | |
| | DC_n5A-n48(2A) | DC_n5A-n48A | |
| | DC_n5A-n66A<br>DC_n5B-n66A | DC_n5A-n66A | |
| | DC_n5A-n66(2A)<br>DC_n5B-n66(2A) | DC_n5A-n66A | |
| | DC_n5A-n77A<br>DC_n5A-n77C | DC_n5A-n77A | |
| | DC_n5A-n77(2A)<br>DC_n5(2A)-n77A<br>DC_n5(2A)-n77C | DC_n5A-n77A | |
| | DC_n7A-n46A<br>DC_n7A-n46C<br>DC_n7A-n46D | DC_n7A-n46A | |
| | DC_n7A-n78A | DC_n7A-n78A | |
| | DC_n12A-n77A | DC_n12A-n77A | |
| | DC_n12A-n77(2A) | DC_n12A-n77A | |
| | DC_n28A-n41A | DC_n28A-n41A | |
| | DC_n28A-n46A<br>DC_n28A-n46C<br>DC_n28A-n46D | DC_n28A-n46A | |
| | DC_n28A-n77A[2] | DC_n28A-n77A | |
| | DC_n28A-n77(2A) | DC_n28A-n77A | |
| | DC_n28A-n78A[2] | DC_n28A-n78A | |
| | DC_n28A-n79A | DC_n28A-n79A | |
| | DC_n41A-n77A | DC_n41A-n77A | |
| | DC_n41A-n78A | DC_n41A-n78A | |
| | DC_n46A-n48A<br>DC_n46A-n48B<br>DC_n46A-n48C<br>DC_n46B-n48A<br>DC_n46B-n48B<br>DC_n46B-n48C<br>DC_n46C-n48A<br>DC_n46C-n48B<br>DC_n46C-n48C<br>DC_n46D-n48A<br>DC_n46D-n48B | DC_n46A-n48A<br>DC_n46A-n48B | |

| | |
|---|---|
| DC_n46D-n48C<br>DC_n46N-n48A<br>DC_n46N-n48B<br>DC_n46N-n48C | |
| DC_n46A-n78A<br>DC_n46C-n78A<br>DC_n46D-n78A | DC_n46A-n78A |
| DC_n48A-n66A<br>DC_n48B-n66A<br>DC_n48C-n66A | DC_n48A-n66A |
| DC_n48A-n66(2A)<br>DC_n48B-n66(2A)<br>DC_n48(2A)-n66A<br>DC_n48(2A)-n66(2A)<br>DC_n48(A-C)-n66A | DC_n48A-n66A |
| DC_n48A-n70A<br>DC_n48B-n70A | DC_n48A-n70A |
| DC_n48(2A)-n70A | DC_n48A-n70A |
| DC_n48A-n71A<br>DC_n48B-n71A<br>DC_n48C-n71A | DC_n48A-n71A |
| DC_n48A-n71(2A)<br>DC_n48(2A)-n71A<br>DC_n48(2A)-n71(2A)<br>DC_n48(3A)-n71A<br>DC_n48(4A)-n71A<br>DC_n48B-n71(2A) | DC_n48A-n71A |
| DC_n48A-n96A<br>DC_n48B-n96A<br>DC_n48C-n96A<br>DC_n48A-n96B<br>DC_n48B-n96B<br>DC_n48C-n96B<br>DC_n48A-n96C<br>DC_n48B-n96C<br>DC_n48C-n96C<br>DC_n48A-n96D<br>DC_n48B-n96D<br>DC_n48C-n96D<br>DC_n48A-n96E<br>DC_n48B-n96E<br>DC_n48C-n96E | DC_n48A-n96A<br>DC_n48B-n96A |
| DC_n66A-n77A<br>DC_n66A-n77C<br>DC_n66B-n77A<br>DC_n66B-n77C | DC_n66A-n77A |
| DC_n66A-n77(2A) | DC_n66A-n77A |
| DC_n66(2A)-n77(2A)<br>DC_n66(2A)-n77C | DC_n66A-n77A |
| DC_n71A-n77A | DC_n71A-n77A |
| DC_n71A-n77(2A) | DC_n71A-n77A |
| DC_n77A-n79A[1] | DC_n77A-n79A |
| DC_n77(2A)-n79A[1] | DC_n77A-n79A |
| NOTE 1: The minimum requirements apply only when there is non-simultaneous Rx/Tx operation between n77-n79 NR carriers. This restriction applies also for these carriers when applicable NR DC configuration is part of a higher order configuration.<br>NOTE 2: Applicable for UE supporting inter-band NR DC with mandatory simultaneous Rx/Tx capability. | |

**Table 5.5B.1-2: Inter-band NR DC configurations (three bands)**

| NR DC configuration | Uplink NR DC configuration |
|---|---|
| DC_n1A-n3A-n28A | DC_n1A-n3A |

| | | | |
|---|---|---|---|
| | | DC_n1A-n28A<br>DC_n3A-n28A | |
| | DC_n1A-n3A-n41A | DC_n1A-n3A<br>DC_n1A-n41A<br>DC_n3A-n41A | |
| | DC_n1A-n3A-n77A | DC_n1A-n3A<br>DC_n3A-n77A<br>DC_n1A-n77A | |
| | DC_n1A-n3A-n78A | DC_n1A-n3A<br>DC_n3A-n78A<br>DC_n1A-n78A | |
| | DC_n1A-n3A-n79A | DC_n1A-n3A<br>DC_n3A-n79A<br>DC_n1A-n79A | |
| | DC_n1A-n7A-n78A | DC_n1A-n7A<br>DC_n7A-n78A<br>DC_n1A-n78A | |
| | DC_n1A-n28A-n41A | DC_n1A-n28A<br>DC_n1A-n41A<br>DC_n28A-n41A | |
| | DC_n1A-n28A-n77A | DC_n1A-n28A<br>DC_n1A-n77A<br>DC_n28A-n77A | |
| | DC_n1A-n28A-n78A | DC_n1A-n28A<br>DC_n1A-n78A<br>DC_n28A-n78A | |
| | DC_n1A-n28A-n79A | DC_n1A-n28A<br>DC_n1A-n79A<br>DC_n28A-n79A | |
| | DC_n1A-n41A-n77A | DC_n1A-n41A<br>DC_n1A-n77A<br>DC_n41A-n77A | |
| | DC_n1A-n77A-n79A | DC_n1A-n77A<br>DC_n1A-n79A<br>DC_n77A-n79A | |
| | DC_n3A-n28A-n41A | DC_n3A-n28A<br>DC_n3A-n41A<br>DC_n28A-n41A | |
| | DC_n3A-n28A-n77A | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n28A-n77A | |
| | DC_n3A-n28A-n77(2A) | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n28A-n77A | |
| | DC_n3A-n28A-n78A | DC_n3A-n28A<br>DC_n3A-n78A<br>DC_n28A-n78A | |
| | DC_n3A-n28A-n79A | DC_n3A-n28A<br>DC_n3A-n79A<br>DC_n28A-n79A | |
| | DC_n3A-n41A-n77A | DC_n3A-n41A<br>DC_n3A-n77A<br>DC_n41A-n77A | |
| | DC_n28A-n41A-n77A | DC_n28A-n41A<br>DC_n28A-n77A<br>DC_n41A-n77A | |
| | DC_n3A-n77A-n79A | DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n77A-n79A | |
| | DC_n3A-n77(2A)-n79A | DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n77A-n79A | |
| | DC_n7A-n46A-n78A | DC_n7A-n46A<br>DC_n7A-n78A<br>DC_n46A-n78A | |

| | |
|---|---|
| DC_n7A-n46C-n78A | DC_n7A-n46A<br>DC_n7A-n78A<br>DC_n46A-n78A |
| DC_n7A-n46D-n78A | DC_n7A-n46A<br>DC_n7A-n78A<br>DC_n46A-n78A |
| DC_n28A-n46A-n78A<br>DC_n28A-n46C-n78A<br>DC_n28A-n46D-n78A | DC_n28A-n46A<br>DC_n28A-n78A<br>DC_n46A-n78A |
| DC_n28A-n77A-n79A | DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A |
| DC_n28A-n77(2A)-n79A | DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A |

**Table 5.5B.1-3: Inter-band NR DC configurations (four bands)**

| NR DC configuration | Uplink NR DC configuration |
|---|---|
| DC_n1A-n3A-n28A-n77A | DC_n1A-n3A<br>DC_n1A-n28A<br>DC_n1A-n77A<br>DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n28A-n77A |
| DC_n1A-n3A-n28A-n79A | DC_n1A-n3A<br>DC_n1A-n28A<br>DC_n1A-n79A<br>DC_n3A-n28A<br>DC_n3A-n79A<br>DC_n28A-n79A |
| DC_n1A-n3A-n77A-n79A | DC_n1A-n3A<br>DC_n1A-n77A<br>DC_n1A-n79A<br>DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n77A-n79A |
| DC_n1A-n28A-n77A-n79A | DC_n1A-n28A<br>DC_n1A-n77A<br>DC_n1A-n79A<br>DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A |
| DC_n3A-n28A-n41A-n77A | DC_n3A-n28A<br>DC_n3A-n41A<br>DC_n3A-n77A<br>DC_n28A-n41A<br>DC_n28A-n77A<br>DC_n41A-n77A |
| DC_n3A-n28A-n77A-n79A | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A |
| DC_n3A-n28A-n77(2A)-n79A | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A |

وتُحدد توليفة نطاق تشغيل معدات المستعمل الخاصة بالوصلة الصاعدة التكميلية (SUL) في الفقرة 2C.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.2C Operating band combination for SUL

NR operation is designed to operate in the operating band combination defined in Table 5.2C-1, Table 5.2C-2, Table 5.2C-3 and Table 5.2C-4, where all operating bands are within FR1.

If the mandatory simultaneous Rx/Tx capability applies for a band combination, the mandatory simultaneous Rx/Tx capability also applies for the band combination when the applicable band combination is a subset of a higher order band combination.

**Table 5.2C-1: Operating band combination for SUL in FR1**

| NR Band combination for SUL | NR Band (Table 5.2-1) |
|---|---|
| SUL_n24-n99[2] | n24, n99 |
| SUL_n41-n80[2] | n41, n80 |
| SUL_n41-n81[2] | n41, n81 |
| SUL_n41-n83[2] | n41, n83 |
| SUL_n41-n95[2] | n41, n95 |
| SUL_n41-n97[2] | n41, n97 |
| SUL_n41-n98[2] | n41, n98 |
| SUL_n41-n99[2] | n41, n99 |
| SUL_n48-n99[2] | n48, n99 |
| SUL_n77-n80[2] | n77, n80 |
| SUL_n77-n84[2] | n77, n84 |
| SUL_n77-n99[2] | n77, n99 |
| SUL_n78-n80[2] | n78, n80 |
| SUL_n78-n81[2] | n78, n81 |
| SUL_n78-n82[2] | n78, n82 |
| SUL_n78-n83[2] | n78, n83 |
| SUL_n78-n84[2] | n78, n84 |
| SUL_n78-n86[2] | n78, n86 |
| SUL_n79-n80[2] | n79, n80 |
| SUL_n79-n81[2] | n79, n81 |
| SUL_n79-n83[2] | n79, n83 |
| SUL_n79-n84[2] | n79, n84 |
| SUL_n79-n95[2] | n79, n95 |
| SUL_n79-n97[2] | n79, n97 |
| SUL_n79-n98[2] | n79, n98 |
| NOTE 1: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier is 0 us.<br>NOTE 2: For UE supporting SUL band combination simultaneous Rx/Tx capability is mandatory. | |

**Table 5.2C-2: Operating SUL band combination with intra-band non-contiguous CA in FR1**

| NR Band combination for SUL | NR Band (Table 5.2-1) |
|---|---|
| SUL_n41(*)-n99[2] | n41, n99 |
| SUL_n48(*)-n99[2] | n48, n99 |
| SUL_n77(*)-n99[2] | n77, n99 |
| SUL_n78(*)-n86[2] | n78, n86 |

| |
|---|
| NOTE 1: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier is 0 us.<br>NOTE 2: For UE supporting SUL band combination simultaneous Rx/Tx capability is mandatory.<br>NOTE 3: The notation CA_nX(*) in this table indicates intra-band non-contiguous CA for band nX. The configurations for each band are in Table 5.5C-2. |

**Table 5.2C-3: Operating SUL band combination with intra-band contiguous CA in FR1**

| NR Band combination for SUL | NR Band (Table 5.2-1) |
|---|---|
| SUL_n41-n80 | n41, n80 |
| SUL_n41-n83 | n41, n83 |
| SUL_n41-n95 | n41, n95 |
| SUL_n78-n80 | n78, n80 |
| SUL_n78-n84 | n78, n84 |
| SUL_n79-n80 | n79, n80 |
| SUL_n79-n83 | n79, n83 |
| SUL_n79-n95 | n79, n95 |
| NOTE 1: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier is 0 us.<br>NOTE 2: For UE supporting SUL band combination simultaneous Rx/Tx capability is mandatory. | |

**Table 5.2C-4: Operating SUL band combination with inter-band CA in FR1**

| NR Band combination for SUL | NR Band (Table 5.2-1) |
|---|---|
| CA_n1_SUL_n78-n80 | n1, n78, n80 |
| CA_n1_SUL_n78-n84 | n1, n78, n84 |
| CA_n3_SUL_n41-n80 | n3, n41, n80 |
| CA_n3_SUL_n78-n80 | n3, n78, n80 |
| CA_n3_SUL_n79-n80 | n3, n79, n80 |
| CA_n28_SUL_n41-n83 | n28, n41, n83 |
| CA_n28_SUL_n79-n83 | n28, n79, n83 |
| CA_n41_SUL_n79-n80 | n41, n79, n80 |
| CA_n41_SUL_n79-n83 | n41, n79, n83 |
| CA_n41_SUL_n79-n97 | n41, n79, n97 |
| CA_n79_SUL_n41-n80 | n41, n79, n80 |
| CA_n79_SUL_n41-n83 | n41, n79, n83 |
| CA_n79_SUL_n41-n97 | n41, n79, n97 |
| CA_n28-n79_SUL_n41-n83 | n28, n41, n79, n83 |
| CA_n28-n41_SUL_n79-n83 | n28, n41, n79, n83 |
| NOTE 1: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier is 0 us.<br>NOTE 2: For UE supporting SUL band combination simultaneous Rx/Tx capability is mandatory. | |

وتُحدد توليفة نطاق تشغيل معدات المستعمل الخاصة بالإرسال المتعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 2D.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.2D Operating bands for UL MIMO

NR is designed to support UL MIMO where all of the operating bands are in FR1 defined in Table 5.2D-1.

**Table 5.2D-1: NR operating bands for UL MIMO in FR1**

| NR operating band |
|---|
| n1 |
| n2 |
| n3 |
| n7 |
| n24 |
| n25 |
| n30[1] |
| n34 |
| n38 |
| n39 |
| n40 |
| n41 |
| n46 |
| n48 |
| n66 |
| n70 |
| n71[2] |
| n77 |
| n78 |
| n79 |
| n80 |
| n84 |
| n95 |
| n96 |
| n97 |
| n98 |
| n99 |
| n102 |
| NOTE 1: Uplink transmission is not allowed at this band for UE with external vehicle-mounted antennas.<br>NOTE 2: UL MIMO is targeted for FWA form factor. |

وتُحدد توليفة نطاق تشغيل معدات المستعمل الخاصة بالاتصالات من المركبة إلى كل شيء (V2X) في الفقرة 5.2E من المواصفة التقنية [1] TS 38.101-1.

## 5.2E Operating band for V2X

### 5.2E.1 V2X operating bands

NR V2X is designed to operate in the operating bands in FR1 defined in Table 5.2E.1-1.

**Table 5.2E.1-1 V2X operating bands in FR1**

| V2X Operating Band | Sidelink (SL) Transmission operating band | Sidelink (SL) Reception operating band | Duplex Mode | Interface |
|---|---|---|---|---|
| | $F_{UL_low} – F_{UL_high}$ | $F_{DL_low} – F_{DL_high}$ | | |
| n14[2] | 788 MHz - 798 MHz | 788 MHz - 798 MHz | HD | PC5 |
| n38[1] | 2 570 MHz - 2 620 MHz | 2 570 MHz - 2 620 MHz | HD | PC5 |
| n47 | 5 855 MHz - 5 925 MHz | 5 855 MHz - 5 925 MHz | HD | PC5 |
| n79 | 4 400 MHz - 5 000 MHz | 4 400 MHz - 5 000 MHz | HD | PC5 |
| Note 1: When this band is used for V2X SL service, the band is exclusively used for NR V2X in particular regions.<br>Note 2: When this band is used for public safety service, the NR band is operated with both in-coverage scenarios and out-of-coverage scenarios. | | | | |

### 5.2E.2 V2X operating bands for con-current operation

NR V2X operation is designed to operate concurrent with NR uplink/downlink on the operating bands combinations listed in Table 5.2E.2-1 and Table 5.2E.2-2.

**Table 5.2E.2-1 Inter-band con-current V2X operating bands**

| V2X con-current operating Band | NR or V2X Operating Band | Interface |
|---|---|---|
| V2X_n1-n47 | n1 | Uu |
| | n47 | PC5 |
| V2X_n5-n47 | n5 | Uu |
| | n47 | PC5 |
| V2X_n8-n47 | n8 | Uu |
| | n47 | PC5 |
| V2X_n39-n47 | n39 | Uu |
| | n47 | PC5 |
| V2X_n40-n47 | n40 | Uu |
| | n47 | PC5 |
| V2X_n41-n47 | n41 | Uu |
| | n47 | PC5 |
| V2X_n71-n47 | n71 | Uu |
| | n47 | PC5 |
| V2X_n78-n47 | n78 | Uu |
| | n47 | PC5 |
| V2X_n79-n47 | n79 | Uu |
| | n47 | PC5 |

**Table 5.2E.2-2 Intra-band con-current V2X operating bands**

| V2X con-current operating Band | NR or V2X Operating Band | Interface |
|---|---|---|
| V2X_n79-n79 | n79 | Uu |
| | n79 | PC5 |

### 2.1.2 عرض نطاق قناة معدات المستعمل

يُحدد عرض نطاق قناة معدات المستعمل لمختلف نطاقات NR في الفقرة 3.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.3 UE channel bandwidth

### 5.3.1 General

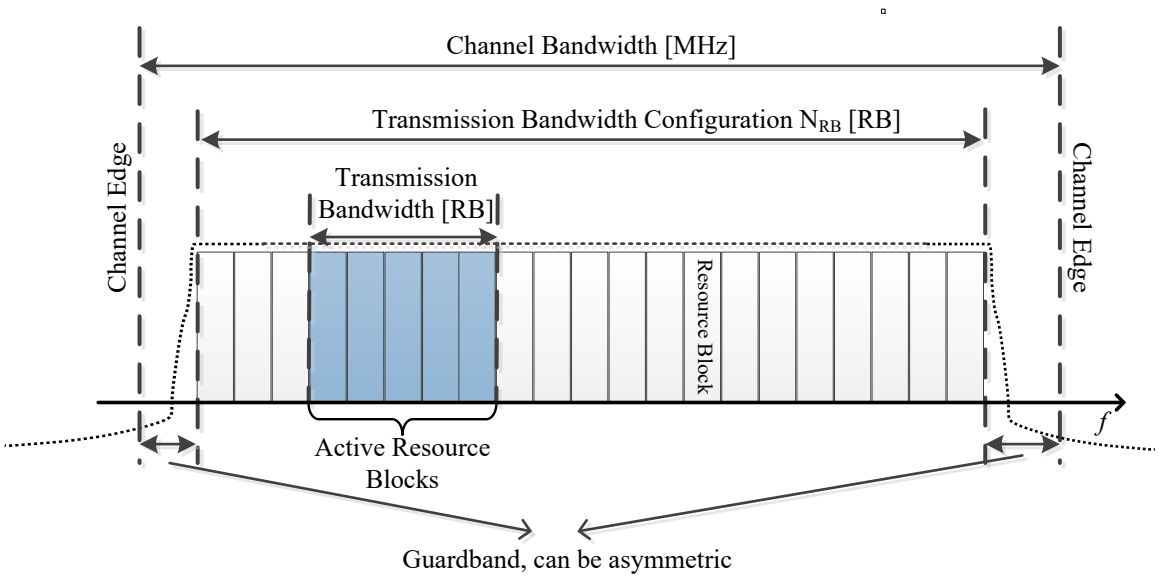
The UE channel bandwidth supports a single NR RF carrier in the uplink or downlink at the UE. From a BS perspective, different UE channel bandwidths may be supported within the same spectrum for transmitting to and receiving from UEs connected to the BS. Transmission of multiple carriers to the same UE (CA) or multiple carriers to different UEs within the BS channel bandwidth can be supported.

From a UE perspective, the UE is configured with one or more BWP / carriers, each with its own UE channel bandwidth. The UE does not need to be aware of the BS channel bandwidth or how the BS allocates bandwidth to different UEs.

The placement of the UE channel bandwidth for each UE carrier is flexible but can only be completely within the BS channel bandwidth.

The relationship between the channel bandwidth, the guardband and the maximum transmission bandwidth configuration is shown in Figure 5.3.1-1.

**Figure 5.3.1-1: Definition of the channel bandwidth and the maximum transmission bandwidth configuration for one NR channel**




### 5.3.2 Maximum transmission bandwidth configuration

The maximum transmission bandwidth configuration $N_{RB}$ for each UE channel bandwidth and subcarrier spacing is specified in Table 5.3.2-1.

**Table 5.3.2-1: Maximum transmission bandwidth configuration $N_{RB}$**

| SCS (kHz) | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 35 MHz | 40 MHz | 45 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100 MHz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ |
| 15 | 25 | 52 | 79 | 106 | 133 | 160 | 188 | 216 | 242 | 270 | N/A | N/A | N/A | N/A | N/A |
| 30 | 11 | 24 | 38 | 51 | 65 | 78 | 92 | 106 | 119 | 133 | 162 | 189 | 217 | 245 | 273 |
| 60 | N/A | 11 | 18 | 24 | 31 | 38 | 44 | 51 | 58 | 65 | 79 | 93 | 107 | 121 | 135 |

## 5.3.3 Minimum guardband and transmission bandwidth configuration

The minimum guardband for each UE channel bandwidth and SCS is specified in Table 5.3.3-1,

Table 5.3.3-1: Minimum guardband for each UE channel bandwidth and SCS (kHz)

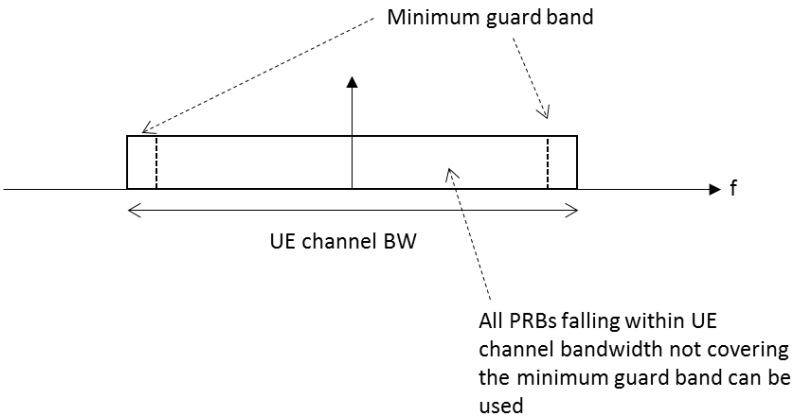
| SCS (kHz) | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 35 MHz | 40 MHz | 45 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100 MHz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 242.5 | 312.5 | 382.5 | 452.5 | 522.5 | 592.5 | 572.5 | 552.5 | 712.5 | 692.5 | N/A | N/A | N/A | N/A | N/A |
| 30 | 505 | 665 | 645 | 805 | 785 | 945 | 925 | 905 | 1065 | 1045 | 825 | 965 | 925 | 885 | 845 |
| 60 | N/A | 1010 | 990 | 1330 | 1310 | 1290 | 1630 | 1610 | 1590 | 1570 | 1530 | 1490 | 1450 | 1410 | 1370 |

NOTE: The minimum guardbands have been calculated using the following equation: ($BW_{Channel}$ x 1000 (kHz) - $N_{RB}$ x SCS x 12) / 2 - SCS/2, where $N_{RB}$ are from Table 5.3.2-1.

**Figure 5.3.3-1: Void**

The number of RBs configured in any channel bandwidth shall ensure that the minimum guardband specified in this clause is met.

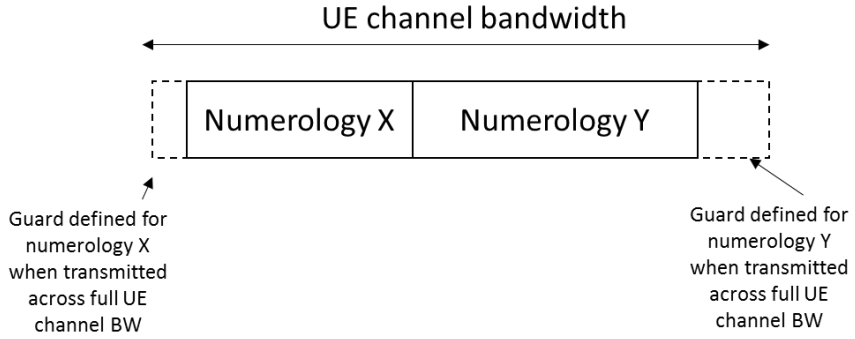
Figure 5.3.3-2: UE PRB utilization




In the case that multiple numerologies are multiplexed in the same symbol due to BS transmission of SSB, the minimum guardband on each side of the carrier is the guardband applied at the configured channel bandwidth for the numerology that is received immediately adjacent to the guard.

If multiple numerologies are multiplexed in the same symbol and the UE channel bandwidth is >50 MHz, the minimum guardband applied adjacent to 15 kHz SCS shall be the same as the minimum guardband defined for 30 kHz SCS for the same UE channel bandwidth.

**Figure 5.3.3-3 Guard band definition when transmitting multiple numerologies**




NOTE: Figure 5.3.3-3 is not intended to imply the size of any guard between the two numerologies. Inter-numerology guard band within the carrier is implementation dependent.

For a UE supporting wideband operation, the nominal intra-cell guard bands and the corresponding sizes of the RB sets separated by the said guard bands are as specified in Table 5.3.3-2 for each UE channel bandwidth and sub-carrier spacing for the downlink and uplink. The nominal intra-cell guard bands in Table 5.3.3-2 are applicable when the respective IE *intraCellGuardBandsUL-List* and *intraCellGuardBandsDL-List* [7] for the uplink and downlink are not provided, as specified in [10] clause 7.

**Table 5.3.3-2: Nominal intra-cell guard bands for wideband operation**

| SCS (kHz) | 40 MHz | 60 MHz | 80 MHz | 100 MHz |
|---|---|---|---|---|
| 15 | 105-6-105 (216) | N/A | N/A | N/A |
| 30 | 50-6-50 (106) | 50-6-50-6-50 (162) | 50-6-50-5-50-6-50 (217) | 50-6-50-6-49-6-50-6-50 (273) |
| 60 | 23-5-23 (51) | 23-5-23-5-23 (79) | 23-5-23-5-23-5-23 (107) | 23-5-23-5-23-5-23-5-23 (135) |

NOTE 1: The intra-cell guard band is denoted $TBW_0$-$GB_0$-…-$GB_{N_RBset-2}$-$TBW_{N_RBset-1}$ for N_RBset > 1 number of RB-sets with $TBW_r$ the maximum transmission bandwidth (PRB) of RB-set *r* and $GB_r$ the guard band (PRB) above the upper edge of RB-set *r*. The RB-set 0 is starting at the first common resource block (CRB) of the carrier as indicated by *offsetToCarrier*. The total transmission bandwidth configuration (size of resource grid) including guard bands is given in between parentheses.

For a UE that supports shared spectrum channel access, there are no uplink or downlink intra-cell guard bands for operation with 10 MHz and 20 MHz channel bandwidths; the maximum transmission bandwidth configurations for these channel bandwidths are in accordance with clause 5.3.2.

For each UE channel bandwidth and sub-carrier spacing given by Table 5.3.3-2, the maximum transmission bandwidth configuration of the carrier including intra-cell guard bands, if configured for the uplink and downlink by the respective IE *intraCellGuardBandsUL-List* and *intraCellGuardBandsDL-List* [7], and corresponding RB-set(s) shall be in accordance with clause 5.3.2 with a minimum inter-cell guard band of the UE channel bandwidth as specified in Table 5.3.3-1 for the uplink and downlink. Minimum requirements specified for wideband operation in Clause 6 and Clause 7 also apply for intra-cell guard bands larger than the nominal sizes in Table 5.3.3-2 as listed in Table 5.3.3-3 for each sub-carrier spacing; each guard band in order of CRB index must be larger than or equal to the corresponding nominal guard band specified in Table 5.3.3-2 for each channel bandwidth.

**Table 5.3.3-3: Applicable intra-cell guard bands for wideband operation**

| Parameter | Unit | SCS | |
|---|---|---|---|
| | | 15 kHz | 30 kHz |
| Intra-cell guard band (size) | PRB | 6,7 | 5,6,7 |
| Transmission bandwidth (size) of RB-set | PRB | 104,105 | 49,50,51 |

If the UE is configured with zero width intra-cell guard bands for the uplink and downlink by the IE *intraCellGuardBandsUL-List* and *intraCellGuardBandsDL-List* [7] on a carrier greater than 20 MHz, the maximum transmission bandwidth configuration for the uplink and downlink shall be in accordance with clause 5.3.2 with a minimum inter-cell guard band of the UE channel bandwidth as specified in Table 5.3.3-1.

## 5.3.4 RB alignment

For each numerology, its common resource blocks are specified in Clause 4.4.4.3 in TS 38.211 [6], and the starting point of its transmission bandwidth configuration on the common resource block grid for a given channel bandwidth is indicated by an offset to "Reference point A" in the unit of the numerology. The *UE transmission bandwidth configuration* is indicated by the higher layer parameter *carrierBandwidth* [7] and will fulfil the minimum UE guardband requirement specified in Clause 5.3.3.

## 5.3.5 UE channel bandwidth per operating band

The requirements in this specification apply to the combination of channel bandwidths, SCS and operating bands shown in Table 5.3.5-1. The transmission bandwidth configuration in Table 5.3.2-1 shall be supported for each of the specified channel bandwidths. The channel bandwidths are specified for both the TX and RX path.

**Table 5.3.5-1 Channel bandwidths for each NR band**

| NR Band | SCS (kHz) | UE Channel bandwidth (MHz) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 | 70 | 80 | 90 | 100 |
| n1 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | 45[4] | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | 45[4] | 50 | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | 45[4] | 50 | | | | | |
| n2 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | | | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | | | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | | | | | | | |
| n3 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[4] | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[4] | 50 | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[4] | 50 | | | | | |
| n5 | 15 | 5 | 10 | 15 | 20 | 25[3] | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | 25[3] | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n7 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | | 50 | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | | 50 | | | | | |
| n8 | 15 | 5 | 10 | 15 | 20 | | | 35[3,4] | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | 35[3,4] | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n12 | 15 | 5 | 10 | 15 | | | | | | | | | | | | |
| | 30 | | 10 | 15 | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n13 | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n14[10] | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n18 | 15 | 5 | 10 | 15 | | | | | | | | | | | | |
| | 30 | | 10 | 15 | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n20 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n24 | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | 10 | | | | | | | | | | | | | |
| n25 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[3,4] | | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[3,4] | | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[3,4] | | | | | | |
| n26 | 15 | 5 | 10 | 15 | 20 | 25[3] | 30[3] | | | | | | | | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | 10 | 15 | 20 | 25[3] | 30[3] | | | | | | | | | |
| n28 | 15 | 5 | 10 | 15 | 20[7] | 25[7] | 30[7] | | | | | | | | | |
| | 30 | | 10 | 15 | 20[7] | 25[7] | 30[7] | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n29 | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n30 | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n34 | 15 | 5 | 10 | 15 | | | | | | | | | | | | |
| | 30 | | 10 | 15 | | | | | | | | | | | | |
| | 60 | | 10 | 15 | | | | | | | | | | | | |
| n38[10] | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| n39 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| n40 | 15 | 5[5] | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| n41 | 15 | | 10 | 15 | 20 | 25[4] | 30 | 35[4] | 40 | 45[4] | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25[4] | 30 | 35[4] | 40 | 45[4] | 50 | 60 | 70 | 80 | 90 | 100 |
| | 60 | | 10 | 15 | 20 | 25[4] | 30 | 35[4] | 40 | 45[4] | 50 | 60 | 70 | 80 | 90 | 100 |
| n46 | 15 | | 10[5] | | 20 | | | | 40 | | | | | | | |
| | 30 | | 10[5] | | 20 | | | | 40 | | | 60 | | 80 | | 100[4] |
| | 60 | | 10[5] | | 20 | | | | 40 | | | 60 | | 80 | | 100[4] |
| n47[10] | 15 | | 10 | | 20 | | 30 | | 40 | | | | | | | |
| | 30 | | 10 | | 20 | | 30 | | 40 | | | | | | | |
| | 60 | | 10 | | 20 | | 30 | | 40 | | | | | | | |
| n48 | 15 | 5[5] | 10 | 15 | 20 | | 30 | | 40 | | 50[6] | | | | | |
| | 30 | | 10 | 15 | 20 | | 30 | | 40 | | 50[6] | 60[6] | 70[6] | 80[6] | 90[6] | 100[6] |
| | 60 | | 10 | 15 | 20 | | 30 | | 40 | | 50[6] | 60[6] | 70[6] | 80[6] | 90[6] | 100[6] |
| n50 | 15 | 5[5] | 10 | 15 | 20 | | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | | 30 | | 40 | | 50 | 60 | | 80[3] | | |
| | 60 | | 10 | 15 | 20 | | 30 | | 40 | | 50 | 60 | | 80[3] | | |
| n51 | 15 | 5 | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n53 | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | 10 | | | | | | | | | | | | | |
| n65 | 15 | 5 | 10 | 15 | 20 | | | | | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | 50 | | | | | |
| | 60 | | 10 | 15 | 20 | | | | | | 50 | | | | | |
| n66 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[4] | | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[4] | | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | 35[4] | 40 | 45[4] | | | | | | |
| n67 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n70 | 15 | 5 | 10 | 15 | 20[3] | 25[3] | | | | | | | | | | |
| | 30 | | 10 | 15 | 20[3] | 25[3] | | | | | | | | | | |
| | 60 | | 10 | 15 | 20[3] | 25[3] | | | | | | | | | | |
| n71 | 15 | 5 | 10 | 15 | 20 | 25[3] | 30[3] | 35[3,4] | | | | | | | | |
| | 30 | | 10 | 15 | 20 | 25[3] | 30[3] | 35[3,4] | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n74 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | 10 | 15 | 20 | | | | | | | | | | | |
| n75 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| n76 | 15 | 5 | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n77 | 15 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| n78 | 15 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| n79[10] | 15 | | 10 | | 20 | | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | | 20 | | 30 | | 40 | | 50 | 60 | 70[4] | 80 | 90 | 100 |
| | 60 | | 10 | | 20 | | 30 | | 40 | | 50 | 60 | 70[4] | 80 | 90 | 100 |
| n80 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| n81 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n82 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n83 | 15 | 5 | 10 | 15 | 20[7] | 25[7] | 30[7] | | | | | | | | | |
| | 30 | | 10 | 15 | 20[7] | 25[7] | 30[7] | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n84 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| n85 | 15 | 5 | 10 | 15 | | | | | | | | | | | | |
| | 30 | | 10 | 15 | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n86 | 15 | 5 | 10 | 15 | 20 | | | | 40 | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | 40 | | | | | | | |
| | 60 | | 10 | 15 | 20 | | | | 40 | | | | | | | |
| n89 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | | | | | | | | | 50 | | | | | |
| n90 | 15 | 5[4] | 10 | 15 | 20 | 25[4] | 30 | 35[4] | 40 | 45[4] | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25[4] | 30 | 35[4] | 40 | 45[4] | 50 | 60 | 70 | 80 | 90 | 100 |
| | 60 | | 10 | 15 | 20 | 25[4] | 30 | 35[4] | 40 | 45[4] | 50 | 60 | 70 | 80 | 90 | 100 |
| n91 | 15 | 5 | 10[8] | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n92 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n93 | 15 | 5 | 10[8] | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n94 | 15 | 5 | 10 | 15 | 20 | | | | | | | | | | | |
| | 30 | | 10 | 15 | 20 | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n95 | 15 | 5 | 10 | 15 | | | | | | | | | | | | |
| | 30 | | 10 | 15 | | | | | | | | | | | | |
| | 60 | | 10 | 15 | | | | | | | | | | | | |
| n96 | 15 | | | | 20 | | | | 40 | | | | | | | |
| | 30 | | | | 20 | | | | 40 | | | 60 | | 80 | | 100[4] |
| | 60 | | | | 20 | | | | 40 | | | 60 | | 80 | | 100[4] |
| n97 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| n98 | 15 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 30 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| | 60 | | 10 | 15 | 20 | 25 | 30 | | 40 | | | | | | | |
| n99 | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | 10 | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n100 | 15 | 5 | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n101 | 15 | 5 | 10 | | | | | | | | | | | | | |
| | 30 | | 10 | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| n102 | 15 | | | | 20 | | | | 40 | | | | | | | |
| | 30 | | | | 20 | | | | 40 | | | 60 | | 80 | | 100[4] |
| | 60 | | | | 20 | | | | 40 | | | 60 | | 80 | | 100[4] |
| n104 | 15 | | | | 20 | | 30 | | 40 | | 50 | | | | | |
| | 30 | | | | 20 | | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |
| | 60 | | | | 20 | | 30 | | 40 | | 50 | 60 | 70 | 80 | 90 | 100 |

NOTE 1: Void.
NOTE 2: Void.
NOTE 3: This UE channel bandwidth is applicable only to downlink.
NOTE 4: This UE channel bandwidth is optional in this release of the specification.
NOTE 5: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as an SCell part of DC or CA configuration.
NOTE 6: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as a downlink SCell part of CA configuration.
NOTE 7: For the 20 MHz bandwidth, the minimum requirements are specified for NR UL carrier frequencies confined to either 713-723 MHz or 728-738 MHz. For the 25 MHz bandwidth, the minimum requirements are specified for NR UL carrier frequencies confined to either 715.5-720.5 MHz or 730.5-735.5 MHz. For the 30 MHz bandwidth, the minimum requirements are specified for NR UL transmission bandwidth configuration confined to either 703-733 or 718-748 MHz.
NOTE 8: This UE channel bandwidth is applicable only to uplink.
NOTE 9: Void.
NOTE 10: For this band, UE channel bandwidths which are applicable to sidelink operation are specified in Table 5.3E.1-1.

## 5.3.6 Asymmetric channel bandwidths

The UE channel bandwidth can be asymmetric in downlink and uplink. In asymmetric channel bandwidth operation, the narrower carrier shall be confined within the frequency range of the wider channel bandwidth.

In FDD, the confinement is defined as a maximum deviation to the Tx-Rx carrier center frequency separation (defined in table 5.4.4-1) as following:

$$\Delta F_{TX\text{-}RX} = | (BW_{DL} - BW_{UL})/2 |$$

The operating bands and supported asymmetric channel bandwidth combinations are defined in Table 5.3.6-1.

**Table 5.3.6-1: FDD asymmetric UL and DL channel bandwidth combinations**

| NR Band | Channel bandwidths for UL (MHz) | Channel bandwidths for DL (MHz) | Asymmetric channel bandwidth combination set |
|---|---|---|---|
| n5 | 20 | 25 | 0 |
| n8 | 20 | 35 | 0 |
| n24 | 10 | 5 | 0 |
| n25 | 40 | 45 | 0 |
| n26 | 20 | 25, 30 | 0 |
| n66 | 5, 10 | 20, 40 | 0 |
| | 20 | 40 | |
| | 5, 10 | 20, 25, 30, 40 | 1 |
| | 20, 25, 30 | 40 | |
| n70 | 5, 10 | 15 | 0 |
| | 5, 10, 15 | 20, 25 | |
| n71 | 5 | 10 | 0 |
| | 10 | 15 | |
| | 15 | 20 | |
| | 5 | 10 | 1 |
| | 10 | 15 | |
| | 15 | 20 | |

| | | | |
|---|---|---|---|
| | 20 | 35 | |
| | 20 | 25, 30, 35 | 2 |
| n91[1] | 10 | 5 | 0 |
| n92[1] | 5 | 10, 15, 20 | 0 |
| | 10 | 15, 20 | |
| n93[1] | 10 | 5 | 0 |
| n94[1] | 5 | 10, 15, 20 | 0 |
| | 10 | 15, 20 | |
| NOTE 1: The assignment of the paired UL and DL channels are subject to a TX-RX separation as specified in clause 5.4.4.<br>NOTE 2: As indicated in TS38.306 [15], it is mandatory for UEs to support asymmetric channel BCS0 if there is an asymmetric BCS0 defined for the band. | | | |

In TDD, the operating bands and supported asymmetric channel bandwidth combinations are defined in Table 5.3.6-2.

**Table 5.3.6-2: TDD asymmetric UL and DL channel bandwidth combinations**

| NR Band | Channel bandwidths for UL (MHz) | Channel bandwidths for DL (MHz) |
|---|---|---|
| n50 | 60 | 80 |
| NOTE 1: Both centre frequency and BWP-ID shall match between DL and UL carriers as defined in TS 38.331 [7] cl. 6.3.2 and TS 38.213 [8] clause 12.<br>NOTE 2: In a case a UE is configured with a full width of BWP within both UL/ DL channels, the centre frequency of UL/ DL channels shall be same.<br>NOTE 3: A position of Point A is common between UL and DL carriers as defined in TS 38.331 [7] cl. 6.3.2. | | |

ويُحدد عرض نطاق قناة معدات المستعمل الخاصة بتجميع الموجات الحاملة في الفقرة 3A.5 من المواصفة [1] TS 38.101-1.

## 5.3A UE channel bandwidth for CA

### 5.3A.1 General

Figure 5.3A.1-1: Void

Figure 5.3A.1-2: Void

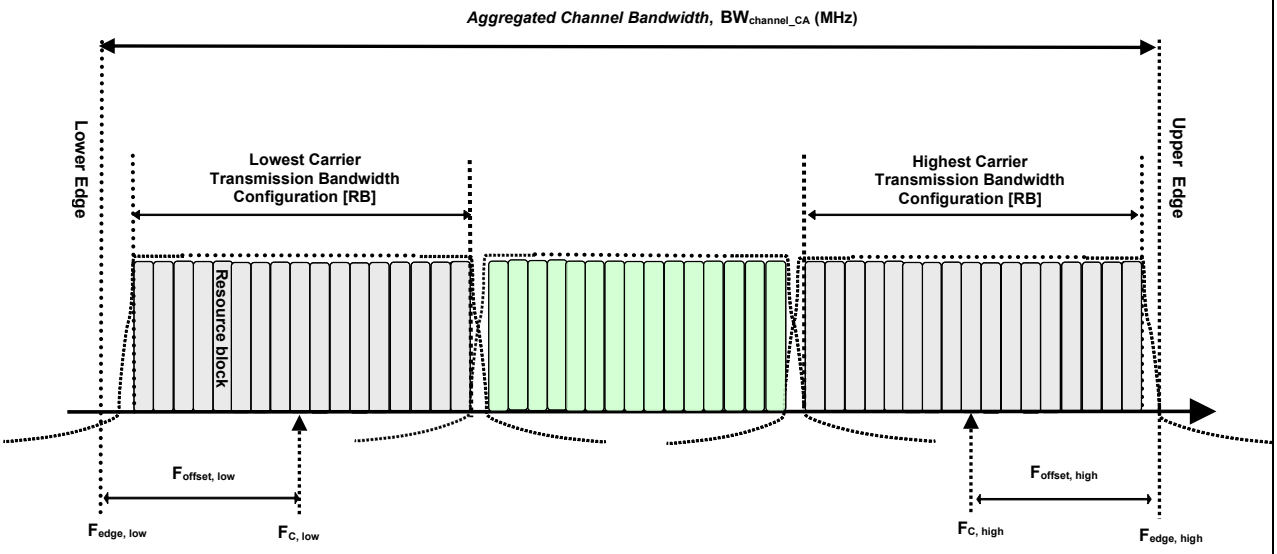
### 5.3A.2 Maximum transmission bandwidth configuration for CA

For carrier aggregation, the maximum transmission bandwidth configuration is defined per component carrier and the requirement is specified in clause 5.3.2.

### 5.3A.3 Minimum guardband and transmission bandwidth configuration for CA

For intra-band contiguous carrier aggregation, *Aggregated Channel Bandwidth* and *Guard Bands* are defined as follows, see Figure 5.3A.3-1.

**Figure 5.3A.3-1: Definition of *Aggregated Channel Bandwidth* for intra-band carrier aggregation**




The *aggregated channel bandwidth,* $BW_{Channel_CA}$, is defined as

$$BW_{Channel_CA} = F_{edge,high} - F_{edge,low} \text{ (MHz)}.$$

The lower bandwidth edge $F_{edge,\ low}$ and the upper bandwidth edge $F_{edge,high}$ of the aggregated channel bandwidth are used as frequency reference points for transmitter and receiver requirements and are defined by

$$F_{edge,low} = F_{C,low} - F_{offset,low}$$

$$F_{edge,high} = F_{C,high} + F_{offset,high}$$

The lower and upper frequency offsets depend on the transmission bandwidth configurations of the lowest and highest assigned edge component carrier and are defined as

$$F_{offset,low} = (N_{RB,low}*12 + 1)*SCS_{low}/2 + BW_{GB} \text{ (MHz)}$$

$$F_{offset,high} = (N_{RB,high}*12 - 1)*SCS_{high}/2 + BW_{GB} \text{ (MHz)}$$

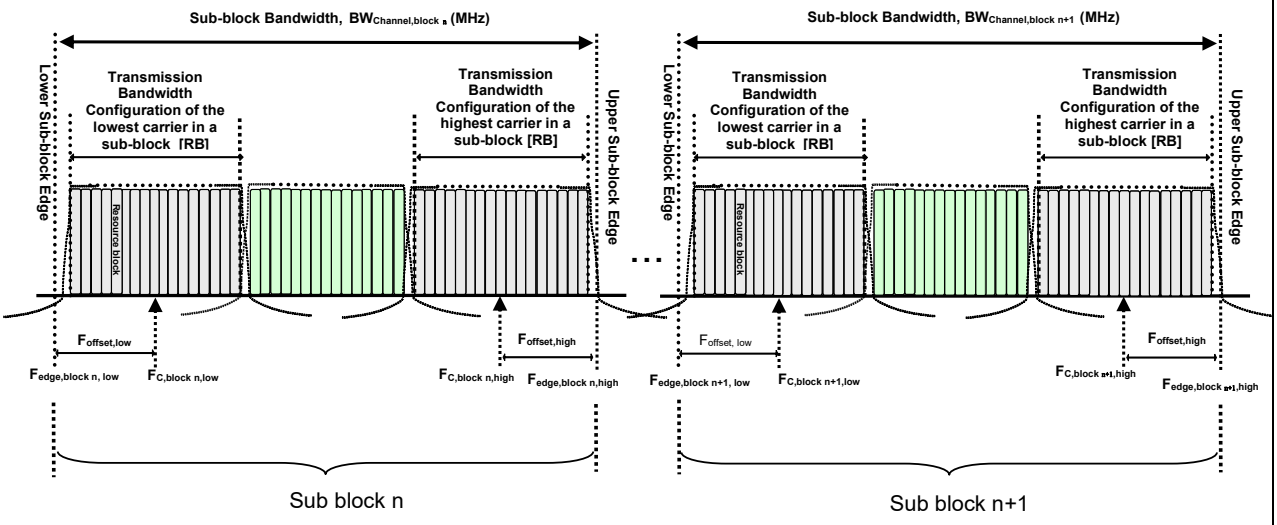
$$BW_{GB} = \max(BW_{GB,Channel(k)})$$

$N_{RB,low}$ and $N_{RB,high}$ are the transmission bandwidth configurations according to Table 5.3.2-1 for the lowest and highest assigned component carrier, $SCS_{low}$ and $SCS_{high}$ are the sub-carrier spacing for the lowest and highest assigned component carrier respectively. $SCS_{low}$, $SCS_{high}$, $N_{RB,low}$, $N_{RB,high}$, and $BW_{GB,Channel(k)}$ use the largest μ value among the subcarrier spacing configurations supported in the operating band for both of the channel bandwidths according to Table 5.3.5-1 and $BW_{GB,Channel(k)}$ is the minimum guard band for carrier k according to Table 5.3.3-1 for the said $\mu$ value.

In case there is no common μ value for both of the channel bandwidths, $\mu$=1 is used for $SCS_{low}$, $SCS_{high}$, $N_{RB,low}$, $N_{RB,high}$, and $BW_{GB,Channel(k)}$.

For intra-band non-contiguous carrier aggregation *Sub-block Bandwidth* and *Sub-block edges* are defined as follows, see Figure 5.3A.3-2.

**Figure 5.3A.3-2: Definition of sub-block bandwidth for intra-band non-contiguous spectrum**




The lower sub-block edge of the Sub-block Bandwidth ($BW_{Channel,block}$) is defined as

$$F_{edge,block,\ low} = F_{C,block,low} - F_{offset,\ low.}$$

The upper sub-block edge of the Sub-block Bandwidth is defined as

$$F_{edge,block,high} = F_{C,block,high} + F_{offset,high.}$$

The Sub-block Bandwidth, $BW_{Channel,block}$, is defined as follows:

$$BW_{Channel,block} = F_{edge,block,high} - F_{edge,block,low}\ (MHz)$$

The lower and upper frequency offsets $F_{offset,block,low}$ and $F_{offset,block,high}$ depend on the transmission bandwidth configurations of the lowest and highest assigned edge component carriers within a sub-block and are defined as

$$F_{offset,block,low} = (N_{RB,low}*12 + 1)*SCS_{low}/2 + BW_{GB}\ (MHz)$$

$$F_{offset,block,high} = (N_{RB,high}*12 - 1)*SCS_{high}/2 + BW_{GB}(MHz)$$

$$BW_{GB} = \max(BW_{GB,Channel(k)})$$

where $N_{RB,low}$ and $N_{RB,high}$ are the transmission bandwidth configurations according to Table 5.3.2-1 for the lowest and highest assigned component carrier within a sub-block, respectively. $SCS_{low}$ and $SCS_{high}$ are the sub-carrier spacing for the lowest and highest assigned component carrier within a sub-block, respectively. $SCS_{low}$, $SCS_{high}$, $N_{RB,low}$, $N_{RB,high}$, and $BW_{GB,Channel(k)}$ use the largest μ value among the subcarrier spacing configurations supported in the operating band for both of the channel bandwidths according to Table 5.3.5-1 and $BW_{GB,Channel(k)}$ is the minimum guard band for carrier k according to Table 5.3.3-1 for the said $\mu$ value. In case there is no common μ value for both of the channel bandwidths, $\mu$=1 is used for $SCS_{low}$, $SCS_{high}$, $N_{RB,low}$, $N_{RB,high}$, and $BW_{GB,Channel(k)}$.

The sub-block gap size between two consecutive sub-blocks $W_{gap}$ is defined as

$$W_{gap} = F_{edge,block\ n+1,low} - F_{edge,block\ n,high}\ (MHz)$$

## 5.3A.4 Void

## 5.3A.5 UE channel bandwidth per operating band for CA

The requirements for carrier aggregation in this specification are defined for carrier aggregation configurations.

For intra-band contiguous carrier aggregation, a carrier aggregation configuration is a single operating band supporting a carrier aggregation bandwidth class with associated bandwidth combination sets specified in clause 5.5A.1. For each carrier aggregation configuration, requirements are specified for all aggregated channel bandwidths contained in a bandwidth combination set, a UE can indicate support of several bandwidth combination sets per

carrier aggregation configuration. For intra-band non-contiguous carrier aggregation, a carrier aggregation configuration is a single operating band supporting two or more sub-blocks, each supporting a carrier aggregation bandwidth class.

For intra-band non-contiguous uplink carrier aggregation, frequency separation class (Fs) specified in Table 5.3A.5-2 indicates the maximum frequency span between lower edge of lowest component carrier and upper edge of highest component carrier that UE can support per band combination in uplink in non-contiguous intra-band operation when the signalling is absent for dualPA-Architecture IE.

For inter-band carrier aggregation, a carrier aggregation configuration is a combination of operating bands, each supporting a carrier aggregation bandwidth class.

**Table 5.3A.5-1: NR CA bandwidth classes**

| NR CA bandwidth class | Aggregated channel bandwidth | Number of contiguous CC | Fallback group |
|---|---|---|---|
| A | $BW_{Channel} \leq BW_{Channel,max}$ | 1 | 1, 2, 3[4] |
| B | 20 MHz ≤ $BW_{Channel_CA} \leq$ 100 MHz | 2 | 2, 3[4] |
| C | 100 MHz < $BW_{Channel_CA} \leq 2 \times BW_{Channel,max}$ | 2 | 1, 3[4] |
| D | 200 MHz < $BW_{Channel_CA} \leq 3 \times BW_{Channel,max}$ | 3 | |
| E | 300 MHz < $BW_{Channel_CA} \leq 4 \times BW_{Channel,max}$ | 4 | |
| G | 100 MHz < $BW_{Channel_CA} \leq$ 150 MHz | 3 | 2 |
| H | 150 MHz < $BW_{Channel_CA} \leq$ 200 MHz | 4 | |
| I | 200 MHz < $BW_{Channel_CA} \leq$ 250 MHz | 5 | |
| J | 250 MHz < $BW_{Channel_CA} \leq$ 300 MHz | 6 | |
| K | 300 MHz < $BW_{Channel_CA} \leq$ 350 MHz | 7 | |
| L | 350 MHz < $BW_{Channel_CA} \leq$ 400 MHz | 8 | |
| M[3] | 50 MHz ≤ $BW_{Channel_CA} \leq$ 200 MHz | 3 | 3[4] |
| N[3] | 80 MHz ≤ $BW_{Channel_CA} \leq$ 300 MHz | 4 | |
| O[3] | 100 MHz ≤ $BW_{Channel_CA} \leq$ 400 MHz | 5 | |

NOTE 1: $BW_{Channel,\ max}$ is maximum channel bandwidth supported among all bands in a release
NOTE 2: It is mandatory for a UE to be able to fallback to lower order NR CA bandwidth class configuration within a fallback group. It is not mandatory for a UE to be able to fallback to lower order NR CA bandwidth class configuration that belong to a different fallback group.
NOTE 3: This bandwidth class is only applicable to bands identified for use with shared spectrum channel access in Table 5.2-1.
NOTE 4: Fallback group 3 is only applicable to bands identified for use with shared spectrum channel access in Table 5.2-1.

**Table 5.3A.5-2: NR intra-band non-contiguous UL CA frequency separation classes**

| NR NC UL CA frequency separation class | Maximum allowed frequency separation |
|---|---|
| I | 100 MHz |
| II | 200 MHz |
| III | 600MHz |

ويُحدد عرض نطاق قناة معدات المستعمل الخاصة بالاتصالات من المركبة إلى كل شيء (V2X) في الفقرة 3E.5 من المواصفة [1] TS 38.101-1.

## 5.3E Channel bandwidth for V2X

### 5.3E.1 General

NR V2X operation channel bandwidths for each operating band is specified in Table 5.3E.1-1. The same (symmetrical) channel bandwidth is specified for both the transmission and reception path. The maximum channel bandwidth for SL operation in licensed band is 40 MHz.

**Table 5.3E.1-1 NR V2X operation channel bandwidths for each operating band**

| NR band / SCS / UE Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| **NR Band** | **SCS kHz** | **5 MHz** | **10 MHz** | **20 MHz** | **30 MHz** | **40 MHz** |
| n14 | 15 | Yes | Yes | | | |
| | 30 | | Yes | | | |
| | 60 | | | | | |
| n38 | 15 | | Yes | Yes | Yes | Yes |
| | 30 | | Yes | Yes | Yes | Yes |
| | 60 | | Yes | Yes | Yes | Yes |
| n47 | 15 | | Yes | Yes | Yes | Yes |
| | 30 | | Yes | Yes | Yes | Yes |
| | 60 | | Yes | Yes | Yes | Yes |
| n79 | 15 | | Yes | Yes | Yes | Yes |
| | 30 | | Yes | Yes | Yes | Yes |
| | 60 | | Yes | Yes | Yes | Yes |

## 5.3E.2 Channel bandwidth for V2X concurrent operation

For NR V2X inter-band con-current operation in FR1, the NR V2X channel bandwidths for each operating band is specified in Table 5.3E.2-1.

**Table 5.3E.2-1: Inter-band con-current operation configurations**

| NR V2X inter-band con-current operating configuration | NR Band | Interface | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| V2X_n1A-n47A | n1 | Uu | 5, 10, 15, 20, 25, 30, 40, 45, 50 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n5A-n47A | n5 | Uu | 5, 10, 15, 20, 25 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n8A-n47A | n8 | Uu | 5, 10, 15, 20, 35 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n39A-n47A | n39 | Uu | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n40A-n47A | n40 | Uu | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n41A-n47A | n41 | Uu | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n71A-n47A | n71 | Uu | 5, 10, 15, 20 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n78A-n47A | n78 | Uu | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| V2X_n79A-n47A | n79 | Uu | 40, 50, 60, 80, 100 | 0 |
| | n47 | PC5 | 10, 20, 30, 40 | |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

For NR V2X intra-band con-current operation in FR1, the NR V2X channel bandwidths for each operating band is specified in Table 5.3E.2-2.

**Table 5.3E.2-2: Intra-band con-current operation configurations**

| NR V2X intra-band con-current operating configuration | NR Band | Interface | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| V2X_n79B | n79 | Uu | 40, 50, 60, 80, 100 | 0 |
| | n79 | PC5 | 10, 20, 30, 40 | |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

### 3.1.2 ترتيب القنوات

يُحدَّد ترتيب القنوات الخاص بمعدات المستعمل، بما في ذلك التباعد بين القنوات، وشبكة مسح القنوات، وخطوط المزامنة النقطية، وفصل تردد الإرسال/الاستقبال، في الفقرة 4.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.4 Channel arrangement

### 5.4.1 Channel spacing

#### 5.4.1.1 Channel spacing for adjacent NR carriers

The spacing between carriers will depend on the deployment scenario, the size of the frequency block available and the channel bandwidths. The nominal channel spacing between two adjacent NR carriers is defined as following:

- For NR operating bands with 100 kHz channel raster,

  Nominal Channel spacing = $(BW_{Channel(1)} + BW_{Channel(2)})/2$

- For NR operating bands with 15 kHz channel raster,

  Nominal Channel spacing = $(BW_{Channel(1)} + BW_{Channel(2)})/2$+{-5 kHz, 0 kHz, 5 kHz} for $\Delta F_{Raster}$ equals 15 kHz

  Nominal Channel spacing = $(BW_{Channel(1)} + BW_{Channel(2)})/2$+{-10 kHz, 0 kHz, 10 kHz} for $\Delta F_{Raster}$ equals 30 kHz

where $BW_{Channel(1)}$ and $BW_{Channel(2)}$ are the channel bandwidths of the two respective NR carriers. The channel spacing can be adjusted depending on the channel raster to optimize performance in a particular deployment scenario.

### 5.4.2 Channel raster

#### 5.4.2.1 NR-ARFCN and channel raster

The global frequency channel raster defines a set of RF reference frequencies $F_{REF.}$ The RF reference frequency is used in signalling to identify the position of RF channels, SS blocks and other elements.

The global frequency raster is defined for all frequencies from 0 to 100 GHz. The granularity of the global frequency raster is $\Delta F_{Global}$.

RF reference frequencies are designated by an NR Absolute Radio Frequency Channel Number (NR-ARFCN) in the range (0…2016666) on the global frequency raster. The relation between the NR-ARFCN and the RF reference frequency $F_{REF}$ in MHz is given by the following equation, where $F_{REF-Offs}$ and $N_{Ref-Offs}$ are given in Table 5.4.2.1-1 and $N_{REF}$ is the NR-ARFCN.

$$F_{REF} = F_{REF-Offs} + \Delta F_{Global} (N_{REF} – N_{REF-Offs})$$

**Table 5.4.2.1-1: NR-ARFCN parameters for the global frequency raster**

| Frequency range (MHz) | $\Delta F_{Global}$ (kHz) | $F_{REF-Offs}$ (MHz) | $N_{REF-Offs}$ | Range of $N_{REF}$ |
|---|---|---|---|---|
| 0–3 000 | 5 | 0 | 0 | 0 – 599999 |
| 3 000–24 250 | 15 | 3 000 | 600000 | 600000 – 2016666 |

The channel raster defines a subset of RF reference frequencies that can be used to identify the RF channel position in the uplink and downlink. The RF reference frequency for an RF channel maps to a resource element on the carrier. For each operating band, a subset of frequencies from the global frequency raster are applicable for that band and forms a channel raster with a granularity $\Delta F_{Raster}$, which may be equal to or larger than $\Delta F_{Global}$.

For SUL bands except n95, n97, n98 and for the uplink of all FDD bands defined in Table 5.2-1, and for TDD bands n34, n39, n48, n90, n38 and n40

$$F_{REF, shift} = F_{REF} + \Delta_{shift}, \Delta_{shift} = 0 \text{ kHz or } 7.5 \text{ kHz}.$$

where $\Delta_{shift}$ is signalled by the network in higher layer parameter *frequencyShift7p5khz* [7]. For Band n34, n38, n39, n40, n48 $F_{REF, shift}$ is only applicable to uplink transmissions using a 15 kHz SCS.

The mapping between the channel raster and corresponding resource element is given in clause 5.4.2.2. The applicable entries for each operating band are defined in Clause 5.4.2.3.

## 5.4.2.2 Channel raster to resource element mapping

The mapping between the RF reference frequency on the channel raster and the corresponding resource element is given in Table 5.4.2.2-1 and can be used to identify the RF channel position. The mapping depends on the total number of RBs that are allocated in the channel and applies to both UL and DL. The mapping must apply to at least one numerology supported by the UE.

**Table 5.4.2.2-1: Channel raster to resource element mapping**

| | $N_{RB}$mod2 = 0 | $N_{RB}$mod2 = 1 |
|---|---|---|
| Resource element index $k$ | 0 | 6 |
| Physical resource block number $n_{PRB}$ | $n_{\mathrm{PRB}} = \left\lfloor \frac{N_{\mathrm{RB}}}{2} \right\rfloor$ | $n_{\mathrm{PRB}} = \left\lfloor \frac{N_{\mathrm{RB}}}{2} \right\rfloor$ |

$k$ , $n_{PRB}$, $N_{RB}$ are as defined in TS 38.211[6].

## 5.4.2.3 Channel raster entries for each operating band

The RF channel positions on the channel raster in each NR operating band are given through the applicable NR-ARFCN in Table 5.4.2.3-1, using the channel raster to resource element mapping in clause 5.4.2.2.

For NR operating bands with 100 kHz channel raster, $\Delta F_{Raster} = 20 \times \Delta F_{Global}$. In this case every 20$^{th}$ NR-ARFCN within the operating band are applicable for the channel raster within the operating band and the step size for the channel raster in Table 5.4.2.3-1 is given as <20>.

For NR operating bands with 15 kHz channel raster below 3GHz, $\Delta F_{Raster} = I \times \Delta F_{Global}$, where $I \in \{3,6\}$. Every $I^{th}$ NR-ARFCN within the operating band are applicable for the channel raster within the operating band and the step size for the channel raster in Table 5.4.2.3-1 is given as < *I* >.

For NR operating bands with 15 kHz channel raster above 3GHz, $\Delta F_{Raster} = I \times \Delta F_{Global}$, where $I \in \{1,2\}$. Every $I^{th}$ NR-ARFCN within the operating band are applicable for the channel raster within the operating band and the step size for the channel raster in table 5.4.2.3-1 is given as <*I*>.

In frequency bands with two or more $\Delta F_{Raster}$, the higher $\Delta F_{Raster}$: For 15 kHz and 30 kHz channel raster applies to channels using only the SCS that is equal to or larger than the higher $\Delta F_{Raster}$ and SSB SCS is equal to the higher $\Delta F_{Raster}$.

**Table 5.4.2.3-1: Applicable NR-ARFCN per operating band**

| NR operating band | $\Delta F_{Raster}$ (kHz) | Uplink Range of $N_{REF}$ (First – <Step size> – Last) | Downlink Range of $N_{REF}$ (First – <Step size> – Last) |
|---|---|---|---|
| n1 | 100 | 384000 – <20> – 396000 | 422000 – <20> – 434000 |
| n2 | 100 | 370000 – <20> – 382000 | 386000 – <20> – 398000 |
| n3 | 100 | 342000 – <20> – 357000 | 361000 – <20> – 376000 |
| n5 | 100 | 164800 – <20> – 169800 | 173800 – <20> – 178800 |
| n7 | 100 | 500000 – <20> – 514000 | 524000 – <20> – 538000 |
| n8 | 100 | 176000 – <20> – 183000 | 185000 – <20> – 192000 |
| n12 | 100 | 139800 – <20> – 143200 | 145800 – <20> – 149200 |
| n13 | 100 | 155400 – <20> – 157400 | 149200 – <20> – 151200 |
| n14 | 100 | 157600 – <20> – 159600 | 151600 – <20> – 153600 |
| n18 | 100 | 163000 – <20> – 166000 | 172000 – <20> – 175000 |
| n20 | 100 | 166400 – <20> – 172400 | 158200 – <20> – 164200 |
| n24 | 100 | 325300 – <20> – 332100 | 305000 – <20> – 311800 |
| n25 | 100 | 370000 – <20> – 383000 | 386000 – <20> – 399000 |
| n26 | 100 | 162800 – <20> – 169800 | 171800 – <20> – 178800 |

| | | | |
|---|---|---|---|
| n28 | 100 | 140600 – <20> – 149600 | 151600 – <20> – 160600 |
| n29 | 100 | N/A | 143400 – <20> – 145600 |
| n30 | 100 | 461000 – <20> – 463000 | 470000 – <20> – 472000 |
| n34 | 100 | 402000 – <20> – 405000 | 402000 – <20> – 405000 |
| n38 | 100 | 514000 – <20> – 524000 | 514000 – <20> – 524000 |
| n39 | 100 | 376000 – <20> – 384000 | 376000 – <20> – 384000 |
| n40 | 100 | 460000 – <20> – 480000 | 460000 – <20> – 480000 |
| n41 | 15 | 499200 – <3> – 537999 | 499200 – <3> – 537999 |
| | 30 | 499200 – <6> – 537996 | 499200 – <6> – 537996 |
| n46[2] | 15 | 743334 – <1> – 795000 | 743333 – <1> – 795000 |
| n47 | 15 | 790334 – <1> – 795000 | 790334 – <1> – 795000 |
| n48 | 15 | 636667 – <1> – 646666 | 636667 – <1> – 646666 |
| | 30 | 636668 – <2> – 646666 | 636668 – <2> – 646666 |
| n50 | 100 | 286400 – <20> – 303400 | 286400 – <20> – 303400 |
| n51 | 100 | 285400 – <20> – 286400 | 285400 – <20> – 286400 |
| n53 | 100 | 496700 – <20> – 499000 | 496700 – <20> – 499000 |
| n65 | 100 | 384000 – <20> – 402000 | 422000 – <20> – 440000 |
| n66 | 100 | 342000 – <20> – 356000 | 422000 – <20> – 440000 |
| n67 | 100 | N/A | 147600 – <20> – 151600 |
| n70 | 100 | 339000 – <20> – 342000 | 399000 – <20> – 404000 |
| n71 | 100 | 132600 – <20> – 139600 | 123400 – <20> – 130400 |
| n74 | 100 | 285400 – <20> – 294000 | 295000 – <20> – 303600 |
| n75 | 100 | N/A | 286400 – <20> – 303400 |
| n76 | 100 | N/A | 285400 – <20> – 286400 |
| n77 | 15 | 620000 – <1> – 680000 | 620000 – <1> – 680000 |
| | 30 | 620000 – <2> – 680000 | 620000 – <2> – 680000 |
| n78 | 15 | 620000 – <1> – 653333 | 620000 – <1> – 653333 |
| | 30 | 620000 – <2> – 653332 | 620000 – <2> – 653332 |
| n79 | 15 | 693334 – <1> – 733333 | 693334 – <1> – 733333 |
| | 30 | 693334 – <2> – 733332 | 693334 – <2> – 733332 |
| n80 | 100 | 342000 – <20> – 357000 | N/A |
| n81 | 100 | 176000 – <20> – 183000 | N/A |
| n82 | 100 | 166400 – <20> – 172400 | N/A |
| n83 | 100 | 140600 – <20> –149600 | N/A |
| n84 | 100 | 384000 – <20> – 396000 | N/A |
| n85 | 100 | 139600 – <20> – 143200 | 145600 – <20> – 149200 |
| n86 | 100 | 342000 – <20> – 356000 | N/A |
| n89 | 100 | 164800 – <20> – 169800 | N/A |
| n90 | 15 | 499200 – <3> – 537999 | 499200 – <3> – 537999 |
| | 30 | 499200 – <6> – 537996 | 499200 – <6> – 537996 |
| | 100 | 499200 – <20> – 538000 | 499200 – <20> – 538000 |
| n91 | 100 | 166400 – <20> – 172400 | 285400 – <20> – 286400 |
| n92 | 100 | 166400 – <20> – 172400 | 286400 – <20> – 303400 |
| n93 | 100 | 176000 – <20> – 183000 | 285400 – <20> – 286400 |
| n94 | 100 | 176000 – <20> – 183000 | 286400 – <20> – 303400 |
| n95 | 100 | 402000 – <20> – 405000 | N/A |
| n96[3] | 15 | 795000 – <1> – 875000 | 795000 – <1> – 875000 |
| n97 | 100 | 460000 – <20> – 480000 | N/A |
| n98 | 100 | 376000 – <20> – 384000 | N/A |
| n99 | 100 | 325300 – <20> – 332100 | N/A |
| n100 | 100 | 174880 – <20> – 176000 | 183880 – <20> – 185000 |
| n101 | 100 | 380000 – <20> – 382000 | 380000 – <20> – 382000 |
| n102[4] | 15 | 795000 – <1> – 828333 | 795000 – <1> – 828333 |
| n104 | 15 | 828334 – <1> – 875000 | 828334 – <1> – 875000 |
| | 30 | 828334 – <2> – 875000 | 828334 – <2> – 875000 |

NOTE 1: The channel numbers that designate carrier frequencies so close to the operating band edges that the carrier extends beyond the operating band edge shall not be used.
NOTE 2: The following $N_{REF}$ are allowed for operation in Band n46: see Table 5.4.2.3-2.
NOTE 3: The following $N_{REF}$ are allowed for operation in Band n96: see Table 5.4.2.3-3.
NOTE 4: The following $N_{REF}$ are allowed for operation in Band n102: see Table 5.4.2.3-4.

**Table 5.4.2.3-2: Allowed $N_{REF}$ (NR-ARFCN) for operation in Band n46**

| Channel Bandwidth | Allowed $N_{REF}$ |
|---|---|

| | |
|---|---|
| 10 MHz | 782000, 788668 |
| 20 MHz | 744000, 745332, 746668, 748000, 749332, 750668, 752000, 753332, 754668, 756000, 765332, 766668, 768000, 769332, 770668, 772000, 773332, 774668, 776000, 777332, 778668, 780000, 781332, 783000, 784332, 785668, 787000, 788332, 789668, 791000, 792332, 793668 |
| 40 MHz | 744668, 746000, 748668, 751332, 754000, 755332, 766000, 767332, 770000, 772668, 775332, 778000, 780668, 783668, 786332, 787668, 790332, 793000 |
| 60 MHz | 745332, 746668, 748000, 752000, 753332, 754668, 766668, 768000, 769332, 773332, 774668, 778668, 780000, 784332, 785668, 791000, 792332 |
| 80 MHz | 746000, 747332, 752668, 754000, 767332, 768668, 774000, 779332, 785000, 791668 |
| 100 MHz | 746668, 753332, 768000, 791000 |

NOTE: 10 MHz channel bandwidth shall only apply in certain regions where the absence of non 3GPP technologies can be guaranteed on a long-term basis in this version of specification.

**Table 5.4.2.3-3: Allowed $N_{REF}$ (NR-ARFCN) for operation in Band n96**

| Channel Bandwidth | Allowed $N_{REF}$ |
|---|---|
| 20 MHz | 797000, 798332, 799668, 801000, 802332, 803668, 805000, 806332, 807668, 809000, 810332, 811668, 813000, 814332, 815668, 817000, 818332, 819668, 821000, 822332, 823668, 825000, 826332, 827668, 829000, 830332, 831668, 833000, 834332, 835668, 837000, 838332, 839668, 841000, 842332, 843668, 845000, 846332, 847668, 849000, 850332, 851668, 853000, 854332, 855668, 857000, 858332, 859668, 861000, 862332, 863668, 865000, 866332, 867668, 869000, 870332, 871668, 873000, 874332 |
| 40 MHz | 797668, 800332, 803000, 805668, 808332, 811000, 813668, 816332, 819000, 821668, 824332, 827000, 829668, 832332, 835000, 837668, 840332, 843000, 845668, 848332, 851000, 853668, 856332, 859000, 861668, 864332, 867000, 869668, 872332 |
| 60 MHz | 798332, 799668, 803668, 805000, 809000, 810332, 814332, 815668, 819668, 821000, 825000, 826332, 830332, 831668, 835668, 837000, 841000, 842332, 846332, 847668, 851668, 853000, 857000, 858332, 862332, 863668, 867668, 869000, 873000 |
| 80 MHz | 799000, 804332, 809668, 815000, 820332, 825668, 831000, 836332, 841668, 847000, 852332, 857668, 863000, 868332 |
| 100 MHz | 799668, 803668, 810332, 814332, 821000, 825000, 831668, 835668, 842332, 846332, 853000, 857000, 863668, 867668, 869000, 870332, 871668 |

**Table 5.4.2.3-4: Allowed $N_{REF}$ (NR-ARFCN) for operation in Band n102**

| Channel Bandwidth | Allowed $N_{REF}$ |
|---|---|
| 20 MHz | 797000, 798332, 799668, 801000, 802332, 803668, 805000, 806332, 807668, 809000, 810332, 811668, 813000, 814332, 815668, 817000, 818332, 819668, 821000, 822332, 823668, 825000, 826332, 827668 |
| 40 MHz | 797668, 800332, 803000, 805668, 808332, 811000, 813668, 816332, 819000, 821668, 824332, 827000 |
| 60 MHz | 798332, 799668, 803668, 805000, 809000, 810332, 814332, 815668, 819668, 821000, 825000, 826332 |
| 80 MHz | 799000, 804332, 809668, 815000, 820332, 825668 |
| 100 MHz | 799668, 803668, 810332, 814332, 821000, 825000 |

## 5.4.3 Synchronization raster

### 5.4.3.1 Synchronization raster and numbering

The synchronization raster indicates the frequency positions of the synchronization block that can be used by the UE for system acquisition when explicit signalling of the synchronization block position is not present.

A global synchronization raster is defined for all frequencies. The frequency position of the SS block is defined as $SS_{REF}$ with corresponding number GSCN. The parameters defining the $SS_{REF}$ and GSCN for all the frequency ranges are in Table 5.4.3.1-1.

The resource element corresponding to the SS block reference frequency $SS_{REF}$ is given in clause 5.4.3.2. The synchronization raster and the subcarrier spacing of the synchronization block is defined separately for each band.

**Table 5.4.3.1-1: GSCN parameters for the global frequency raster**

| Frequency range | SS Block frequency position $SS_{REF}$ | GSCN | Range of GSCN |
|---|---|---|---|
| 0-3 000 MHz | N * 1 200 kHz + M * 50 kHz,<br>N=1:2499, M ϵ {1,3,5} (Note 1) | 3N + (M-3)/2 | 2-7 498 |
| 3 000-24 250 MHz | 3 000 MHz + N * 1.44 MHz<br>N = 0:14756 | 7 499 + N | 7 499-22 255 |
| NOTE 1: The default value for operating bands with which only support SCS spaced channel raster(s) is M=3. | | | |

### 5.4.3.2 Synchronization raster to synchronization block resource element mapping

The mapping between the synchronization raster and the corresponding resource element of the SS block is given in Table 5.4.3.2-1.

**Table 5.4.3.2-1: Synchronization raster to SS block resource element mapping**

| | |
|---|---|
| Resource element index $_k$ | 120 |

$_k$ is the subcarrier number of SS/PBCH block defined in TS 38.211 clause 7.4.3.1 [6].

### 5.4.3.3 Synchronization raster entries for each operating band

The synchronization raster for each band is give in Table 5.4.3.3-1. The distance between applicable GSCN entries is given by the <Step size> indicated in Table 5.4.3.3-1.

**Table 5.4.3.3-1: Applicable SS raster entries per operating band**

| NR operating band | SS Block SCS | SS Block pattern[1] | Range of GSCN (First – <Step size> – Last) |
|---|---|---|---|
| n1 | 15 kHz | Case A | 5279 – <1> – 5419 |
| n2 | 15 kHz | Case A | 4829 – <1> – 4969 |
| n3 | 15 kHz | Case A | 4517 – <1> – 4693 |
| n5 | 15 kHz | Case A | 2177 – <1> – 2230 |
| | 30 kHz | Case B | 2183 – <1> – 2224 |
| n7 | 15 kHz | Case A | 6554 – <1> – 6718 |
| n8 | 15 kHz | Case A | 2318 – <1> – 2395 |
| n12 | 15 kHz | Case A | 1828 – <1> – 1858 |
| n13 | 15 kHz | Case A | 1871 – <1> – 1885 |
| n14 | 15 kHz | Case A | 1901 – <1> – 1915 |
| n18 | 15 kHz | Case A | 2156 – <1> – 2182 |
| n20 | 15 kHz | Case A | 1982 – <1> – 2047 |
| n24 | 15 kHz | Case A | 3818 – <1> – 3892 |
| | 30 kHz | Case B | 3824 – <1> – 3886 |
| n25 | 15 kHz | Case A | 4829 – <1> – 4981 |
| n26 | 15 kHz | Case A | 2153 – <1> – 2230 |
| n28 | 15 kHz | Case A | 1901 – <1> – 2002 |
| n29 | 15 kHz | Case A | 1798 – <1> – 1813 |
| n30 | 15 kHz | Case A | 5879 – <1> – 5893 |
| n34 | 15 kHz | Case A | NOTE 5 |
| | 30 kHz | Case C | 5036 – <1> – 5050 |

| | | | |
|---|---|---|---|
| n38 | 15 kHz | Case A | NOTE 2 |
| | 30 kHz | Case C | 6437 – <1> – 6538 |
| n39 | 15 kHz | Case A | NOTE 6 |
| | 30 kHz | Case C | 4712 – <1> – 4789 |
| n40 | 30 kHz | Case C | 5762 – <1> – 5989 |
| n41 | 15 kHz | Case A | 6246 – <3> – 6717 |
| | 30 kHz | Case C | 6252 – <3> – 6714 |
| n46[3] | 30 kHz | Case C | 8993 – <1> – 9530 |
| n48 | 30 kHz | Case C | 7884 – <1> – 7982 |
| n50 | 30 kHz | Case C | 3590 – <1> – 3781 |
| n51 | 15 kHz | Case A | 3572 – <1> – 3574 |
| n53 | 15 kHz | Case A | 6215 – <1> – 6232 |
| n65 | 15 kHz | Case A | 5279 – <1> – 5494 |
| n66 | 15 kHz | Case A | 5279 – <1> – 5494 |
| | 30 kHz | Case B | 5285 – <1> – 5488 |
| n67 | 15 kHz | Case A | 1850 – <1> – 1888 |
| n70 | 15 kHz | Case A | 4993 – <1> – 5044 |
| n71 | 15 kHz | Case A | 1547 – <1> – 1624 |
| n74 | 15 kHz | Case A | 3692 – <1> – 3790 |
| n75 | 15 kHz | Case A | 3584 – <1> – 3787 |
| n76 | 15 kHz | Case A | 3572 – <1> – 3574 |
| n77 | 30 kHz | Case C | 7711 – <1> – 8329 |
| n78 | 30 kHz | Case C | 7711 – <1> – 8051 |
| n79 | 30 kHz | Case C | 8480 – <16> – 8880[7] |
| | | | 8475 – <1> – 8884[8] |
| n85 | 15 kHz | Case A | 1826 – <1> – 1858 |
| n90 | 15 kHz | Case A | 6246 – <1> – 6717[10] |
| | | | 6245 – <1> – 6718[11] |
| | 30 kHz | Case C | 6252 – <1> – 6714 |
| n91 | 15 kHz | Case A | 3572 – <1> – 3574 |
| n92 | 15 kHz | Case A | 3584 – <1> – 3787 |
| n93 | 15 kHz | Case A | 3572 – <1> – 3574 |
| n94 | 15 kHz | Case A | 3584 – <1> – 3787 |
| n96[4] | 30 kHz | Case C | 9531 – <1> – 10363 |
| n100 | 15 kHz | Case A | 2303 – <1> – 2307 |
| n101 | 15 kHz | Case A | 4754 – <1> – 4768 |
| | 30 kHz | Case C | 4760 – <1> – 4764 |
| n102[9] | 30 kHz | Case C | 9531 – <1> – 9877 |
| n104 | 30 kHz | Case C | 9882 – <7> – 10358 |

NOTE 1: SS Block pattern is defined in clause 4.1 in TS 38.213 [8].
NOTE 2: The applicable SS raster entries are GSCN = {6432, 6443, 6457, 6468, 6479, 6493, 6507, 6518, 6532, 6543}.
NOTE 3: The following GSCN are allowed for operation in band n46:
GSCN = {8996, 9010, 9024, 9038, 9051, 9065, 9079, 9093, 9107, 9121, 9218, 9232, 9246, 9260, 9274, 9288, 9301, 9315, 9329, 9343, 9357, 9371, 9385, 9402, 9416, 9430, 9444, 9458, 9472, 9485, 9499, 9513}.
NOTE 4: The following GSCN are allowed for operation in band n96:
GSCN = {9548, 9562, 9576, 9590, 9603, 9617,9631, 9645, 9659, 9673, 9687, 9701, 9714, 9728, 9742, 9756, 9770, 9784, 9798, 9812, 9826, 9840, 9853, 9867, 9881, 9895, 9909, 9923, 9937, 9951, 9964, 9978, 9992, 10006, 10020, 10034, 10048, 10062, 10076, 10090, 10103, 10117, 10131, 10145, 10159, 10173, 10187, 10201, 10214, 10228, 10242, 10256, 10270, 10284, 10298, 10312, 10325, 10339, 10353}.
NOTE 5: The applicable SS raster entries are GSCN = {5032, 5043, 5054}
NOTE 6: The applicable SS raster entries are GSCN = {4707, 4715, 4718, 4729, 4732, 4743, 4747, 4754, 4761, 4768, 4772, 4782, 4786, 4793}
NOTE 7: The SS raster entries apply for channel bandwidths larger than or equal to 40 MHz
NOTE 8: The SS raster entries apply for channel bandwidths smaller than 40 MHz
NOTE 9: The following GSCN are allowed for operation in band n102:
GSCN = {9548, 9562, 9576, 9590, 9603, 9617,9631, 9645, 9659, 9673, 9687, 9701, 9714, 9728, 9742, 9756, 9770, 9784, 9798, 9812, 9826, 9840, 9853, 9867}.
NOTE 10: The SS raster entries apply for channel bandwidths larger than or equal to 10 MHz.
NOTE 11: The SS raster entries apply for channel bandwidth equal to 5 MHz

### 5.4.4 TX–RX frequency separation

The default TX channel (carrier centre frequency) to RX channel (carrier centre frequency) separation for operating bands is specified in Table 5.4.4-1.

**Table 5.4.4-1: UE TX-RX frequency separation**

| NR Operating Band | TX – RX carrier centre frequency separation |
|---|---|
| n1 | 190 MHz |
| n2 | 80 MHz |
| n3 | 95 MHz |
| n5 | 45 MHz |
| n7 | 120 MHz |
| n8 | 45 MHz |
| n12 | 30 MHz |
| n13 | -31 MHz |
| n14 | -30 MHz |
| n18 | 45 MHz |
| n20 | -41 MHz |
| n24 | -101.5, -120.5 MHz |
| n25 | 80 MHz |
| n26 | 45 MHz |
| n28 | 55 MHz |
| n30 | 45 MHz |
| n65 | 190 MHz |
| n66 | 400 MHz |
| n70 | 300 MHz |
| n71 | -46 MHz |
| n74 | 48 MHz |
| n85 | 30 MHz |
| n91 | 570 MHz – 595 MHz (NOTE 2) |
| n92 | 575 MHz – 680 MHz ($\mu$ = 0)<br>580 MHz – 675 MHz ($\mu$ = 1)<br>(NOTE 2) |
| n93 | 517 MHz – 547 MHz (NOTE 2) |
| n94 | 522 MHz – 632 MHz ($\mu$ = 0)<br>527 MHz – 627 MHz ($\mu$ = 1)<br>(NOTE 2) |
| n100 | 45 MHz |

NOTE 1: Void

NOTE 2: The range of TX-RX frequency separation given paired UL and DL channel bandwidths $BW_{UL}$ and $BW_{DL}$ is given by the respective lower and upper limit $F_{DL_low} - F_{UL_high} + 0.5(BW_{DL} + BW_{UL})$ and $F_{DL_high} - F_{UL_low} - 0.5(BW_{DL} + BW_{UL})$. The UL and DL channel bandwidth combinations specified in Table 5.3.5-1 and 5.3.6-1 depend on the subcarrier spacing configuration $\mu$ [6].

ويُحدَّد ترتيب القنوات الخاص بمعدات المستعمل لتجميع الموجات الحاملة في الفقرة 4A.5 من المواصفة [1] TS 38.101-1.

## 5.4A Channel arrangement for CA

### 5.4A.1 Channel spacing for CA

For intra-band contiguous carrier aggregation with two or more component carriers, the nominal channel spacing between two adjacent NR component carriers is defined as the following unless stated otherwise:

For NR operating bands with a 100 kHz channel raster:

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 2\left|GB_{Channel(1)} - GB_{Channel(2)}\right|}{0.6} \right\rfloor 0.3\,[\text{MHz}]$$

while for NR operating bands without a 100 kHz channel raster:

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 2\left|GB_{Channel(1)} - GB_{Channel(2)}\right|}{0.015 * 2^{n+1}} \right\rfloor 0.015 * 2^{n}\ [\text{MHz}]$$

with

$$n = \mu_0$$

where $BW_{Channel(1)}$ and $BW_{Channel(2)}$ are the channel bandwidths of the two respective NR component carriers according to Table 5.3.2-1 with values in MHz, $\mu_0$ is the largest $\mu$ value among the subcarrier spacing configurations supported in the operating band for both of the channel bandwidths according to Table 5.3.5-1 and $GB_{Channel(i)}$ is the minimum guard band for channel bandwidth i according to Table 5.3.3-1 for the said $\mu$ value with $\mu$ as defined in TS 38.211. In case there is no common μ value for both of the channel bandwidths, $\mu_0$=1 is selected and $GB_{Channel(i)}$ is the minimum guard band for channel bandwidth i according to Table 5.3.3-1 for $\mu$=1 with $\mu$ as defined in TS 38.211.

The channel spacing for intra-band contiguous carrier aggregation can be adjusted to any multiple of least common multiple of channel raster and sub-carrier spacing less than the nominal channel spacing to optimize performance in a particular deployment scenario.

For intra-band non-contiguous carrier aggregation, the channel spacing between two NR component carriers in different sub-blocks shall be larger than the nominal channel spacing defined in this clause.

### 5.4A.2 Channel raster for CA

For inter-band and intra-band contiguous carrier aggregation, the channel raster requirements in clause 5.4.2 apply for each operating band.

### 5.4A.3 Synchronization raster for CA

For inter-band and intra-band contiguous carrier aggregation, the synchronization raster requirements in clause 5.4.3 apply for each operating band.

### 5.4A.4 Tx-Rx frequency separation for CA

For inter-band carrier aggregation, the Tx-Rx frequency separation requirements in clause 5.4.4 apply for each operating band.

For intra-band contiguous carrier aggregation, the same TX-RX frequency separation as specified in Table 5.4.4-1 is applied to PCC and SCC, respectively.

ويُحدَّد ترتيب القنوات الخاص بمعدات المستعمل للاتصالات من مركبة إلى كل شيء (V2X) في الفقرة 4.5 من المواصفة [1] TS 38.101-1.

### 4.1.2 التشكيلات

تُحدَّد التشكيلات الخاصة بمعدات المستعمل لنطاقات تشغيل تجميع الموجات الحاملة في الفقرة 5A.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.5A Configurations for CA

### 5.5A.0 General

The configurations for CA operating band including Band n41 also apply for the corresponding CA operating bands with Band n90 replacing Band n41 but with otherwise identical parameters. For brevity the said configuration for CA operating bands with Band n90 are not listed in the tables below but are covered by this specification. For BCS4 and BCS5 combinations with n41, the n90 equivalents also include 5 MHz.

Non-contiguous resource allocation and almost contiguous allocation are not applicable for each NR carrier of intra-band contiguous and non-contiguous CA configurations.

For a CA configuration with one or more operating band supporting asymmetric channel bandwidths as specified in sub-clause 5.3.6, requirements are defined for an asymmetric UL and DL channel bandwidth combination of a supported asymmetric channel bandwidth combination set for an operating band of the CA configuration when the said UL and DL channel bandwidths are also contained in a supported bandwidth combination set of the CA configuration.

For a higher order band combination of which CA_n20-n28 is a subset, the frequency range in band n28 is restricted for the higher order band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.

The configuration tables for CA describe Bandwidth Combination Sets. Bandwidth Combination Set 4 and 5 contain all possible defined channel bandwidths for each band in the combination. The fact that BCS4 and BCS5 contain all channel bandwidths for each band does not alter if a bandwidth is mandatory or optional for a given band. Bandwidths that are identified as optional in Table 5.3.5-1 for a given release are still optional for UEs that support BCS4 or BCS5, where the bandwidths the UE supports for each band, the maximum bandwidth and/or minimum bandwidth for the band in the band combination are indicated in the UE capabilities. Note that the minimum bandwidth is indicated only in BCS5 and BCS5 shall not be indicated together with BCS4 for a CA configuration. For inter-band CA combinations including FR1 intra-band CA and with BCS4 or BCS5, the Bandwidth Combination Sets for the FR1 intra-band CA are BCS4 or BCS5.

### 5.5A.1 Configurations for intra-band contiguous CA

Power class 3 is supported for all uplinks. Power classes other than power class 3 are supported as indicated in Table 5.5A.1-1.

**Table 5.5A.1-1: NR CA configurations and bandwidth combination sets defined for intra-band contiguous CA**

| NR CA configuration / Bandwidth combination set | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NR CA configuration** | **Uplink CA configurations or single uplink carrier[5]** | **Channel bandwidths for carrier (MHz)** | **Channel bandwidths for carrier (MHz)** | **Channel bandwidths for carrier (MHz)** | **Channel bandwidths for carrier (MHz)** | **Channel bandwidths for carrier (MHz)** | **Maximum aggregated bandwidth (MHz)** | **Bandwidth combination set** |
| CA_n1B | - | 10 | 10,15 | | | | 40 | 0 |
| | | 15 | 15,20 | | | | | |
| | | 20 | 20 | | | | | |
| CA_n2B | - | 5 | 15 | | | | 20 | 0 |
| | | 10 | 10 | | | | | |
| CA_n3B | - | 5 | 15, 20, 25, 30 | | | | 60 | 0 |
| | | 10 | 10, 15, 20, 25, 30 | | | | | |
| | | 15, 20, 25, 30 | 5, 10, 15, 20, 25, 30 | | | | | |
| CA_n5B | CA_n5B | 5, 10, 15 | 5, 10, 15 | | | | 20 | 0 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CA_n7B | CA_n7B | 10 | 10, 15, 20, 30, 40 | | | | 50 | 0 |
| | | 15 | 15, 20, 30 | | | | | |
| | | 20 | 20, 30 | | | | | |
| CA_n25B | - | 5 | 15 | | | | 20 | 0 |
| | | 10 | 10 | | | | | |
| CA_n38B | - | 5 | 15, 20, 25 | | | | 50 | 0 |
| | | 10 | 10, 15, 20, 25 | | | | | |
| | | 15, 20, 25 | 5, 10, 15, 20, 25 | | | | | |
| CA_n40B | - | 20 | 80 | | | | 100 | 0 |
| | | 50 | 50 | | | | | |
| | CA_n40B | 10,15, 20, 30, 40, 50, 60, 80 | 10, 15, 20, 30, 40, 50, 60, 80 | | | | 100 | 1 |
| CA_n41B | CA_n41B | 10, 20, 30, 40, 50 | 10, 20, 30, 40, 50 | | | | 100 | 0 |
| CA_n41C | n41[3,4] CA_n41C | 40 | 80, 100 | | | | 180 | 0 |
| | | 50, 60, 80 | 60, 80, 100 | | | | | |
| | | 10 | 100 | | | | 190 | 1 |
| | | 15, 20 | 90, 100 | | | | | |
| | | 40 | 80, 90, 100 | | | | | |
| | | 50, 60, 80, 90 | 60, 80, 90, 100 | | | | | |
| | | 10 | 100 | | | | 190 | 2 |
| | | 15, 20 | 90, 100 | | | | | |
| | | 30, 40 | 80, 90, 100 | | | | | |
| | | 50, 60, 80, 90 | 60, 80, 90, 100 | | | | | |
| | | See n41 channel bandwidths in Table 5.3.5-1 for each carrier[2] | | | | | 190 | 4 and 5 |
| CA_n46B | - | 20, 40, 60 | 20, 40 | | | | 100 | 0 |
| CA_n46C | - | 60, 80 | 60, 80 | | | | 160 | 0 |
| CA_n46D | - | 60, 80 | 80 | 80 | | | 240 | 0 |
| CA_n46M | - | 20, 40, 60 | 20, 40 | 20, 40 | | | 140 | 0 |
| CA_n46N | - | 20, 40, 80 | 20, 40 | 20, 40 | 20, 40 | | 200 | 0 |
| CA_n46O | - | 20, 60 | 20, 40 | 20, 40 | 20, 40 | 20, 40 | 220 | 0 |
| CA_n48B | CA_n48B | 5 | 15, 20 | | | | 40 | 0 |
| | | 10, 15, 20 | 10, 15, 20 | | | | | |
| | | 15, 20 | 15, 20 | | | | | |
| | - | 10 | 50, 60, 80, 90 | | | | 100 | 1 |
| | | 15, 20 | 40, 50, 60, 80 | | | | | |
| | | 40 | 40, 50, 60 | | | | | |
| | - | 10, 15, 20, 30, 40 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90 | | | | 100 | 2 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CA_n48C | - | 10 | 100 | | | | 140 | 0 |
| | | 15 | 90,100 | | | | | |
| | | 20 | 90, 100 | | | | | |
| | | 40 | 80, 90, 100 | | | | | |
| | - | 10, 15, 20, 30, 40 | 70, 80, 90, 100 | | | | 140 | 1 |
| CA_n66B | - | 5 [1] | 20, 40 | | | | 50 | 0 |
| | | 10 | 15, 20, 40 | | | | | |
| | | 15 | 15, 20 | | | | | |
| CA_n71B | - | 5 | 20 | | | | 25 | 0 |
| | | 10 | 15 | | | | | |
| | | 10 | 20 | | | | 35 | 1 |
| | | 15 | 15, 20 | | | | | |
| | | 5, 10, 15 | 15, 20 | | | | 35 | 2 |
| | | See n71 channel bandwidths in Table 5.3.5-1 for each carrier[2] | | | | | 35 | 4 and 5 |
| CA_n77B | - | 20 | 25, 30, 40 | | | | 60 | 0 |
| | | 25 | 30 | | | | | |
| CA_n77C | CA_n77C | 50 | 60, 80, 100 | | | | 200 | 0 |
| | | 60 | 60, 80, 100 | | | | | |
| | | 80 | 80, 100 | | | | | |
| | | 100 | 100 | | | | | |
| | | 10 | 100 | | | | 200 | 1 |
| | | 15, 20 | 90, 100 | | | | | |
| | | 25, 30 | 80, 90, 100 | | | | | |
| | | 40 | 70, 80, 90, 100 | | | | | |
| | | 50, 60, 70, 80, 90, 100 | 60, 70, 80, 90, 100 | | | | | |
| CA_n77D | - | 100 | 100 | 100 | | | 300 | 0 |
| CA_n78B | - | 20 | 50 | | | | 70 | 0 |
| CA_n78C | CA_n78C | 50 | 60, 80, 100 | | | | 200 | 0 |
| | | 60 | 60, 80, 100 | | | | | |
| | | 80 | 80, 100 | | | | | |
| | | 100 | 100 | | | | | |
| | | 10 | 100 | | | | 200 | 1 |
| | | 15, 20 | 90, 100 | | | | | |
| | | 25, 30 | 80, 90, 100 | | | | | |
| | | 40 | 70, 80, 90, 100 | | | | | |
| | | 50, 60, 70, 80, 90, 100 | 60, 70, 80, 90, 100 | | | | | |
| CA_n78D | - | 100 | 100 | 100 | | | 300 | 0 |
| CA_n79C | CA_n79C | 50 | 60, 80, 100 | | | | 200 | 0 |
| | | 60 | 60, 80, 100 | | | | | |
| | | 80 | 80, 100 | | | | | |
| | | 100 | 100 | | | | | |
| CA_n79D | - | 100 | 100 | 100 | | | 300 | 0 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CA_n96B | CA_n96B | 20, 40 | 20, 40, 60, 80 | | | | 100 | 0 |
| CA_n96C | CA_n96C | 80 | 40, 60, 80 | | | | 160 | 0 |
| CA_n96D | | 80 | 80 | 60, 80 | | | 240 | 0 |
| CA_n96E | | 80 | 80 | 80 | 80 | | 320 | 0 |

NOTE 1: 5 MHz is not applicable for 30/60 kHz SCS.
NOTE 2: The aggregated bandwidth must be greater than or equal to the minimum for the bandwidth class defined in Table 5.3A.5-1, and smaller than or equal to the maximum aggregated bandwidth.
NOTE 3: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination.
NOTE 4: Power Class 1.5 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination.
NOTE 5: Only single uplink carriers with power class other than PC3 are listed.

**Table 5.5A.1-2: Void**

## 5.5A.2 Configurations for intra-band non-contiguous CA

**Table 5.5A.2-1: NR CA configurations and bandwidth combination sets defined for intra-band non-contiguous CA**

| NR CA Configuration | Uplink CA Configurations or single uplink carrier[5] | Channel bandwidths for carrier (MHz) | Channel bandwidths for carrier (MHz) | Channel bandwidths for carrier (MHz) | Channel bandwidths for carrier (MHz) | Maximum Aggregated bandwidth (MHz) | Bandwidth combination set |
|---|---|---|---|---|---|---|---|
| CA_n1(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 40 | 0 |
| CA_n2(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 40 | 0 |
| CA_n3(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 40 | 0 |
| | - | 5, 10, 15, 20, 25, 30 | 5, 10, 15, 20, 25, 30 | | | 60 | 1 |
| CA_n5(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 25 | 0 |
| CA_n7(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 40 | 0 |
| CA_n12(2A) | - | 5 | 5 | | | 10 | 0 |
| CA_n25(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20 | | | 40 | 0 |
| | | 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 | | | 60 | 1 |
| | | See n25 channel bandwidths in Table 5.3.5-1 for each carrier | | | | 60 | 4 and 5 |
| CA_n25(3A) | - | 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 | | 55 | 0 |
| | | See n25 channel bandwidths in Table 5.3.5-1 for each carrier | | | | 55 | 4 and 5 |
| CA_n41(2A) | n41[3,4] CA_n41(2A) | 40, 50, 60, 80, 100 | 40, 50, 60, 80, 100 | | | 180 | 0 |
| | | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | | | 190 | 1 |
| | - | 10, 15, 20, 30, 40, 50, 60, 80, 90 | 15, 20, 30, 40, 50, 60, 80, 90, 100 | | | 190 | 2 |
| | | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | | | 190 | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | See n41 channel bandwidths in Table 5.3.5-1 for each carrier | | | | 190 | 4 and 5 |
| CA_n41(3A) | n41[3,4] | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | | 190 | 0 |
| | | See n41 channel bandwidths in Table 5.3.5-1 for each carrier | | | | 190 | 4 and 5 |
| CA_n41(4A) | - | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 190 | 0 |
| | | See n41 channel bandwidths in Table 5.3.5-1 for each carrier | | | | 190 | 4 and 5 |
| CA_n48(2A) | | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | | | 140[2] | 0 |
| | | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | | | 140[2] | 1 |
| CA_n48(3A) | - | 10, 15, 20, 40,50, 60, 80, 90, 100 | 10, 15, 20, 40,50, 60, 80, 90, 100 | 10, 15, 20, 40,50, 60, 80, 90, 100 | | 140[2] | 0 |
| | | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | | 140[2] | 1 |
| CA_n48(4A) | - | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 135[2] | 0 |
| | | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 135[2] | 1 |
| CA_n66(2A) | - | 5, 10, 15, 20 | 5, 10, 15, 20, 40 | | | 60 | 0 |
| | | 5, 10, 15, 20, 25, 30, 40 | 5, 10, 15, 20, 25, 30, 40 | | | 80 | 1 |
| | | 5, 10, 15, 20, 40 | 5, 10, 15, 20, 40 | | | 80 | 2 |
| | | See n66 channel bandwidths in Table 5.3.5-1 for each carrier | | | | 85 | 4 and 5 |
| CA_n66(3A) | - | 5, 10, 15, 20, 40 | 5, 10, 15, 20, 40 | 5, 10, 15, 20, 40 | | 80 | 0 |
| CA_n71(2A) | - | 5, 10, 15, 20 | 5,10,15, 20 | | | 30 | 0 |
| | | See n71 channel bandwidths in Table 5.3.5-1 for each carrier up to 25 MHz per carrier | | | | 30 | 4 and 5 |
| CA_n77(2A) | n77[3,4] CA_n77(2A) | 20, 40, 80, 100 | 20, 40, 80, 100 | | | 200 | 0 |
| | | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | | | 200 | 1 |
| | | See n77 channel bandwidths in Table 5.3.5-1 for each carrier | | | | 200 | 4 and 5 |
| CA_n77(3A) | - | 20, 40, 80, 100 | 20, 40, 80, 100 | 20, 40, 80, 100 | | 300 | 0 |
| | | 10, 15, 20, 25, 30, 40, | 10, 15, 20, 25, 30, 40, | 10, 15, 20, 25, 30, 40, | | 300 | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 50, 60, 70, 80, 90, 100 | 50, 60, 70, 80, 90, 100 | 50, 60, 70, 80, 90, 100 | | | |
| CA_n78(2A) | CA_n78(2A) | 10, 20, 40, 50, 60, 80, 90, 100 | 10, 20, 40, 50, 60, 80, 90, 100 | | | 200 | 0 |
| | | 10, 20, 25, 30, 40, 50, 60, 80, 90, 100 | 10, 20, 25, 30, 40, 50, 60, 80, 90, 100 | | | 200 | 1 |
| | | 10, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 10, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | | | 200 | 2 |
| CA_n96(2A) | - | 20, 40, 60, 80 | 20, 40, 60, 80 | | | 160 | 0 |
| CA_n96(3A) | - | 20, 40, 60, 80 | 20, 40, 60, 80 | 20, 40, 60, 80 | | 240 | 0 |
| CA_n96(4A) | - | 20, 40, 60, 80 | 20, 40, 60, 80 | 20, 40, 60, 80 | 20, 40, 60, 80 | 320 | 0 |

NOTE 1: Void.
NOTE 2: Parameter value accounts for both, the maximum frequency range of band n48 (150 MHz), and the minimum frequency gaps in between NR non-contiguous component carriers.
NOTE 3: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination.
NOTE 4: Power Class 1.5 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination.
NOTE 5: Only single uplink carriers with power class other than PC3 are listed.

**Table 5.5A.2-2: NR CA configurations and bandwidth combination sets defined for mixed intra-band contiguous and non-contiguous CA**

| NR CA configuration | Uplink CA configuration or single uplink carrier[4] | NR Band | Channel bandwidth (MHz) | | | | | | | | | | | | | Bandwidth combination set |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
| CA_n41 (A-C) | n41[2,3] | n41 | | 10 | 15 | 20 | | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 0 |
| | | n41 | See CA_n41C Bandwidth Combination Set 2 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| | | n41 | See n41 channel bandwidths in Table 5.3.5-1 | | | | | | | | | | | | | 4 and 5 |
| | | n41 | See CA_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| CA_n41 (2A-C) | - | n41 | See CA_n41(2A) Bandwidth Combination Set 3 in Table 5.5A.2-1 | | | | | | | | | | | | | 0 |
| | | n41 | See CA_n41C Bandwidth Combination Set 1 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| | | n41 | See CA_n41(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.2-1 | | | | | | | | | | | | | 4 and 5 |
| | | n41 | See CA_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| CA_n48 (A-B) | CA_n48B | n48 | 5 | 10 | 15 | 20 | | | 40 | 50[1] | 60[1] | | 80[1] | 90[1] | 100[1] | 0 |
| | | n48 | See CA_n48B Bandwidth Combination Set 0 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| | CA_n48B | n48 | 5 | 10 | 15 | 20 | | 30 | 40 | 50[1] | 60[1] | 70[1] | 80[1] | 90[1] | 100[1] | 1 |
| | | n48 | See CA_n48B Bandwidth Combination Set 2 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| CA_n48 (A-C) | - | n48 | 5 | 10 | 15 | 20 | | | 40 | 50[1] | 60[1] | | 80[1] | 90[1] | 100[1] | 0 |
| | | n48 | See CA_n48C Bandwidth Combination Set 0 in Table 5.5A.1-1 | | | | | | | | | | | | | |
| | - | n48 | 5 | 10 | 15 | 20 | | 30 | 40 | 50[1] | 60[1] | 70[1] | 80[1] | 90[1] | 100[1] | 1 |
| | | n48 | See CA_n48C Bandwidth Combination Set 1 in Table 5.5A.1-1 | | | | | | | | | | | | | |

NOTE 1: This UE channel bandwidth is applicable only to downlink
NOTE 2: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination
NOTE 3: Power Class 1.5 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination
NOTE 4: Only single uplink carriers with power class other than PC3 are listed.

## 5.5A.3 Configurations for inter-band CA

**Table 5.5A.3-1: Void**

**Table 5.5A.3-2: Void**

**Table 5.5A.3-3: Void**

### 5.5A.3.1 Configurations for inter-band CA (two bands)

**Table 5.5A.3.1-1a: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n1A-n3A | CA_n1A-n3A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n1A-n3B | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | CA_n3B_BCS0 | |
| CA_n1B-n3A | CA_n1A-n3A | n1 | CA_n1B_BCS0 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n1 | CA_n1B_BCS0 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n1A-n3(2A) | CA_n1A-n3A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | CA_n3(2A)_BCS0 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n3 | CA_n3(2A)_BCS0 | |
| | | n1 | 5, 10, 15, 20 | 2 |
| | | n3 | CA_n3(2A)_BCS1 | |
| CA_n1(2A)-n3A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n1(2A)-n3(2A) | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n3 | CA_n3(2A)_BCS1 | |
| CA_n1(2A)-n3B | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n3 | CA_n3B_BCS0 | |
| CA_n1A-n5A | CA_n1A-n5A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| CA_n1(2A)-n5A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| CA_n1A-n7A | CA_n1A-n7A | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1A-n7B | CA_n1A-n7A CA_n7B | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| CA_n1(2A)-n7A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1A-n8A | CA_n1A-n8A | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n8 | 5, 10, 15, 20 | |
| CA_n1(2A)-n8A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| CA_n1A-n18A | CA_n1A-n18A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n18 | 5, 10, 15 | |
| CA_n1A-n20A | CA_n1A-n20A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n20 | 5, 10, 15, 20 | |
| CA_n1A-n28A | CA_n1A-n28A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n1(2A)-n28A | - | n1 | CA_n1(2A)_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n28 | 5, 10, 15, 20 | |
| CA_n1A-n38A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n1(2A)-n38A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n1A-n40A | CA_n1A-n40A | n1 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n1A-n40B | - | n1 | 5, 10, 15, 20 | 0 |
| | | n40 | CA_n40B_BCS0 | |
| CA_n1A-n41A | CA_n1A-n41A | n1 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n67A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n67 | 5, 10, 15, 20 | |
| CA_n1A-n74A | CA_n1A-n74A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n74 | 5, 10, 15, 20 | |
| CA_n1A-n77A | CA_n1A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n77(2A) | CA_n1A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n1A-n77(3A) | CA_n1A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(3A)_BCS1 | |
| CA_n1A-n78A | n78[8] CA_n1A-n78A[8] | n1 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20 | 3 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n78(2A) | CA_n1A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n1 | 5, 10, 15, 20 | 2 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n1A-n78C | CA_n78C CA_n1A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78C_BCS0 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n78 | CA_n78C_BCS0 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n78 | CA_n78C_BCS0 | |
| CA_n1(2A)-n78A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n79A | CA_n1A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n79C | CA_n1A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n1(2A)-n79A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n79 | 40, 60, 80, 100 | |
| CA_n1(2A)-n79C | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n79 | CA_n79C_BCS0 | |

**Table 5.5A.3.1-1b: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|

| | single uplink carrier[10] | | | |
|---|---|---|---|---|
| CA_n2A-n5A | CA_n2A-n5A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| CA_n2A-n5B | CA_n2A-n5A CA_n5B | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | CA_n5B_BCS0 | |
| CA_n2(2A)-n5A | CA_n2A-n5A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| CA_n2A-n7A | CA_n2A-n7A | n2 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n2A-n7(2A) | CA_n2A-n7A | n2 | 5, 10, 15, 20 | 0 |
| | | n7 | CA_n7(2A)_BCS0 | |
| CA_n2A-n12A | CA_n2A-n12A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| CA_n2(2A)-n12A | CA_n2A-n12A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n12 | 5, 10, 15 | |
| CA_n2A-n14A | CA_n2A-n14A | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| CA_n2(2A)-n14A | CA_n2A-n14A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n14 | 5, 10 | |
| CA_n2A-n29A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| CA_n2(2A)-n29A | - | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n29 | 5, 10 | |
| CA_n2A-n30A | CA_n2A-n30A | n2 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| CA_n2(2A)-n30A | CA_n2A-n30A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n30 | 5, 10 | |
| CA_n2A-n38A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n38 | 5, 10, 15, 20, 40 | |
| CA_n2A-n41A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n2A-n48A | CA_n2A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | |
| CA_n2A-n48B | CA_n2A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n2A-n48C | CA_n2A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n2A-n48(2A) | CA_n2A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n2A-n48(A-B) | CA_n2A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(A-B)_BCS0 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48(A-B)_BCS1 | |
| CA_n2A-n48(A-C) | CA_n2A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(A-C)_BCS0 | |
| CA_n2A-n66A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | CA_n2A-n66A | n2 | 5, 10, 15, 20 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n66A | CA_n2A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n66(2A) | CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2(2A)-n66(2A) | CA_n2A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2(2A)-n66(3A) | CA_n2A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n2A-n66(3A) | CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n2A-n66B | CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66B_BCS0 | |
| CA_n2A-n71A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n71 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| CA_n2A-n77A | n77[8,9] CA_n2A-n77A[8] | n2 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n77(2A) | n77[8,9] CA_n2A-n77A[8] CA_n77(2A)[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2A-n77C | n77[8, 9] CA_n2A-n77A[8] | n2 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| CA_n2(2A)-n77A | n77[8, 9] CA_n2A-n77A[8] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2(2A)-n77(2A) | n77[8] CA_n2A-n77A[8] CA_n77(2A)[7] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2(2A)-n77C | n77[8, 9] CA_n2A-n77A[8] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n2A-n78A | n78 CA_n2A-n78A | n2 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n78(2A) | CA_n2A-n78A | n2 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |

**Table 5.5A.3.1-1c: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n3A-n5A | CA_n3A-n5A | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| CA_n3(2A)-n5A | - | n3 | CA_n3(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| CA_n3A-n7A | CA_n3A-n7A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n3A-n7B | CA_n3A-n7A CA_n7B | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n7 | CA_n7B_BCS0 | |
| CA_n3(2A)-n7A | - | n3 | CA_n3(2A)_BCS0 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n3 | CA_n3(2A)_BCS1 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n3B-n7A | - | n3 | CA_n3B_BCS0 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n3A-n8A | CA_n3A-n8A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n8 | 5, 10, 15, 20 | |
| CA_n3(2A)-n8A | - | n3 | CA_n3(2A)_BCS0 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| CA_n3A-n18A | CA_n3A-n18A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n18 | 5, 10, 15 | |
| CA_n3A-n20A | CA_n3A-n20A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n20 | 5, 10, 15, 20 | |
| CA_n3A-n28A | CA_n3A-n28A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n28 | 5, 10, 15, 20 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 2 |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n3(2A)-n28A | - | n3 | CA_n3(2A)_BCS0 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| CA_n3A-n34A | CA_n3A-n34A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n34 | 5, 10, 15 | |
| CA_n3A-n38A | CA_n3A-n38A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n38 | 5, 10, 15, 20, 40 | |
| CA_n3B-n38A | - | n3 | CA_n3B_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n3(2A)-n38A | - | n3 | CA_n3(2A)_BCS1 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n3A-n40A | CA_n3A-n40A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n3A-n41A | n41[8]<br>CA_n3A-n41A[8] | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n3 | 5, 10, 15, 20, 25, 30 | 1 |
| | | n41 | 10, 15, 20, 40, 50, 60 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n41B | CA_n3A-n41A | n3 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41B_BCS0 | |
| CA_n3A-n41C | CA_n3A-n41A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| CA_n3A-n41(2A) | CA_n3A-n41A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n41 | CA_n41(2A)_BCS0 | |
| CA_n3A-n67A | - | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n67 | 5, 10, 15, 20 | |
| CA_n3A-n74A | CA_n3A-n74A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n74 | 5, 10, 15, 20 | |
| CA_n3A-n77A | CA_n3A-n77A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n77(2A) | CA_n77(2A)<br>CA_n3A-n77A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n3A-n77(3A) | CA_n3A-n77A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n77 | CA_n77(3A)_BCS0 | |
| CA_n3A-n78A | n78[8]<br>CA_n3A-n78A[8] | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n78C | CA_n78C<br>CA_n3A-n78A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n78 | CA_n78C_BCS0 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n78 | CA_n78C_BCS0 | |
| CA_n3A-n78(2A) | CA_n3A-n78A<br>CA_n78(2A) | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n78 | CA_n78(2A)_BCS0 | |
| | CA_n3A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n3(2A)-n78A | - | n3 | CA_n3(2A)_BCS0 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n3 | CA_n3(2A)_BCS1 | 1 |

| | | | | |
|---|---|---|---|---|
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3B-n78A | - | n3 | CA_n3B_BCS0 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n79A | CA_n3A-n79A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n3(2A)-n79A | CA_n3A-n79A | n3 | CA_n3(2A)_BCS1 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n3A-n79C | CA_n79C CA_n3A-n79A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n3(2A)-n79C | CA_n3A-n79A | n3 | CA_n3(2A)_BCS1 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n3B-n79A | - | n3 | CA_n3B_BCS0 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n3B-n79C | - | n3 | CA_n3B_BCS0 | 0 |
| | | n79 | CA_n79C_BCS0 | |

**Table 5.5A.3.1-1d: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n5A-n7A | CA_n5A-n7A | n5 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n5A-n7B | CA_n5A-n7A CA_n7B | n5 | 5, 10, 15, 20 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| CA_n5A-n12A | CA_n5A-n12A | n5 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| CA_n5A-n14A | CA_n5A-n14A | n5 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| CA_n5A-n25A | CA_n5A-n25A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n25(2A) | CA_n5A-n25A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| CA_n5A-n28A | - | n5 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n5A-n29A | - | n5 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| CA_n5A-n30A | CA_n5A-n30A | n5 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| CA_n5A-n40A | CA_n5A-n40A | n5 | 5, 10, 15, 20, 25[1] | 0 |
| | | n40 | 5[5], 10, 15, 20, 25, 30, 40, 50, 60, 70, 80,90,100 | |
| CA_n5A-n48A | CA_n5A-n48A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n5A-n48(2A) | CA_n5A-n48A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n5A-n48B | CA_n5A-n48A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n5A-n48C | CA_n5A-n48A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n5A-n48(A-B) | CA_n5A-n48A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(A-B)_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48(A-B)_BCS1 | |
| CA_n5A-n66A | CA_n5A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |

| | | | | |
|---|---|---|---|---|
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5B-n66A | CA_n5A-n66A CA_n5B | n5 | CA_n5B_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n66(2A) | CA_n5A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n5A-n66(3A) | CA_n5A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n5B-n66(2A) | CA_n5A-n66A CA_n5B | n5 | CA_n5B_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n5A-n77A | n77[8, 9] CA_n5A-n77A[8] | n5 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n77(2A) | n77[8] CA_n5A-n77A[8] CA_n77(2A) | n5 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5(2A)-n77A | n77[8] CA_n5A-n77A[8] | n5 | CA_n5(2A)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n77C | 77[8, 9] CA_n5A-n77A[8] | n5 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n5(2A)-n77C | n77[8] CA_n5A-n77A[8] | n5 | CA_n5(2A)_BCS0 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | CA_n5(2A)_BCS0 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n5B-n77A | n77[8] CA_n5A-n77A[8] CA_n5B | n5 | CA_n5B_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5B-n77C | n77[8] CA_n5A-n77A[8] CA_n5B | n5 | CA_n5B_BCS0 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | CA_n5B_BCS0 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n5A-n78A | n77[8] CA_n5A-n78A[8] | n5 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n78(2A) | CA_n5A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n78C | CA_n5A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78C_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n78 | CA_n78C_BCS1 | |
| CA_n5A-n79A | CA_n5A-n79A | n5 | 5, 10, 15, 20 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n5A-n79C | CA_n5A-n79A | n5 | 5, 10, 15, 20 | 0 |
| | | n79 | CA_n79C_BCS0 | |

**Table 5.5A.3.1-1e: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n7A-n8A | - | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| CA_n7A-n25A | CA_n7A-n25A | n7 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7A-n25(2A) | CA_n7A-n25A | n7 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| CA_n7(2A)-n25A | CA_n7A-n25A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7(2A)-n25(2A) | CA_n7A-n25A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| CA_n7A-n28A | CA_n7A-n28A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| CA_n7B-n28A | CA_n7A-n28A CA_n7B | n7 | CA_n7B_BCS0 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| CA_n7A-n40A | CA_n7A-n40A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n46A | CA_n7A-n46A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n46 | 20, 40, 60, 80 | |
| CA_n7A-n46C | CA_n7A-n46A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n46 | CA_n46C_BCS0 | |
| CA_n7A-n46D | CA_n7A-n46A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n46 | CA_n46D_BCS0 | |
| CA_n7A-n66A | CA_n7A-n66A | n7 | 5, 10, 15, 20 | 0 |
| | | n66 | 10, 15, 20, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7A-n66(2A) | CA_n7A-n66A | n7 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n7(2A)-n66A | CA_n7A-n66A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7(2A)-n66(2A) | CA_n7A-n66A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n7A-n77A | CA_n7A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n77A | CA_n7A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n77(2A) | CA_n7A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n77(2A) | CA_n7A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n78A | n77[8] CA_n7A-n78A[8] | n7 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7B-n78A | n77[8] CA_n7A-n78A[8] CA_n7B | n7 | CA_n7B_BCS0 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n78(2A) | CA_n7A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |

| | | | | |
|---|---|---|---|---|
| CA_n7(2A)-n78A | CA_n7A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n7 | CA_n7(2A)_BCS0 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n78(2A) | CA_n7A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n7 | CA_n7(2A)_BCS0 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7A-n79A | - | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n7A-n79C | - | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n8A-n20A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n20 | 5, 10, 15, 20 | |
| CA_n8A-n28A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n8A-n34A | CA_n8A-n34A | n8 | 5, 10, 15, 20 | 0 |
| | | n34 | 5, 10, 15 | |
| CA_n8A-n38A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n8A-n39A | CA_n8A-n39A | n8 | 5, 10, 15, 20 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n8A-n40A | CA_n8A-n40A | n8 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n8A-n41A | CA_n8A-n41A | n8 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n8 | 5, 10, 15, 20 | 1 |
| | | n41 | 10, 15, 20, 40, 50, 60 | |
| CA_n8A-n75A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n75 | 5, 10, 15, 20 | |
| CA_n8A-n77A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n8A-n77(2A) | - | n8 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n8A-n78A | CA_n8A-n78A | n8 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n8 | 5, 10, 15, 20 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n8A-n78(2A) | CA_n8A-n78A | n8 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| CA_n8A-n79A | CA_n8A-n79A | n8 | 5, 10, 15, 20 | 0 |
| | | n79 | 10, 20, 40, 50, 60, 80, 100 | |

**Table 5.5A.3.1-1f: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidt combinati set |
|---|---|---|---|---|
| CA_n12A-n25A | - | n12 | 5, 10, 15 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n12A-n30A | CA_n12A-n30A | n12 | 5, 10, 15 | 0 |
| | | n30 | 5, 10 | |
| CA_n12A-n48A | - | n12 | 5, 10, 15 | 0 |
| | | n48 | 10, 15, 20, 30, 40 | |
| CA_n12A-n66A | CA_n12A-n66A | n12 | 5, 10, 15 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| CA_n12A-n66(2A) | CA_n12A-n66A | n12 | 5, 10, 15 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n12A-n66(3A) | CA_n12A-n66A | n12 | 5, 10, 15 | 0 |
| | | n66 | CA_n66(3A)_BCS0 | |

| | | | | |
|---|---|---|---|---|
| CA_n12A-n71A | - | n12 | 5, 10, 15 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n12A-n77A | n77[8, 9]<br>CA_n12A-n77A[8] | n12 | 5, 10, 15 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n12A-n77(2A) | n77[8, 9]<br>CA_n12A-n77A[8] | n12 | 5, 10, 15 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n13A-n25A | CA_n13A-n25A | n13 | 5, 10 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n13A-n66A | CA_n13A-n66A | n13 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n13 | 5, 10, | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n13A-n77A | n77[8, 9]<br>CA_n13A-n77A[8] | n13 | 5, 10 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n30A | CA_n14A-n30A | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| CA_n14A-n66A | CA_n14A-n66A | n14 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n14A-n66(2A) | CA_n14A-n66A | n14 | 5, 10 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n14A-n66(3A) | CA_n14A-n66A | n14 | 5, 10 | 0 |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n14A-n77A | n77[8, 9]<br>CA_n14A-n77A[8] | n14 | 5, 10 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n77(2A) | n77[8, 9]<br>CA_n14A-n77A[8] | n14 | 5, 10 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n18A-n28A | n77[8]<br>CA_n14A-n77A[8] | n18 | 5, 10, 15 | 0 |
| | | n28 | 5, 10 | |
| CA_n18A-n41A | CA_n18A-n41A | n18 | 5, 10, 15 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n18A-n74A | CA_n18A-n74A | n18 | 5, 10, 15 | 0 |
| | | n74 | 5, 10, 15, 20 | |
| CA_n18A-n77A | CA_n18A-n77A | n18 | 5, 10, 15 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n18A-n77(2A) | CA_n18A-n77A | n18 | 5, 10, 15 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n18A-n77(3A) | CA_n18A-n77A | n18 | 5, 10, 15 | 0 |
| | | n77 | CA_n77(3A)_BCS1 | |
| CA_n18A-n78A | CA_n18A-n78A | n18 | 5, 10, 15 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n18A-n78(2A) | CA_n18A-n78A | n18 | 5, 10, 15 | 0 |
| | | n78 | CA_n78(2A)_BCS2 | |

**Table 5.5A.3.1-1g: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n20A-n28A | CA_n20A-n28A | n20 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n20 | 5, 10, 15, 20 | 1 |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n20A-n40A | - | n20 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n20A-n67A | - | n20 | 5, 10, 15, 20 | 0 |
| | | n67 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| CA_n20A-n75A | - | n20 | 5, 10, 15, 20 | 0 |
| | | n75 | 5, 10, 15, 20 | |
| CA_n20A-n78A | CA_n20A-n78A | n20 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n24A-n41A | CA_n24A-n41A | n24 | 5, 10 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n24A-n41(2A) | CA_n24A-n41A | n24 | 5, 10 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| CA_n24A-n48A | CA_n24A-n48A | n24 | 5, 10 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n24A-n48B | CA_n24A-n48A | n24 | 5, 10 | 0 |
| | | n48 | CA_n48B_BCS1 | |
| CA_n24A-n48(2A) | CA_n24A-n48A | n24 | 5, 10 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n24A-n48(3A) | CA_n24A-n48A | n24 | 5, 10 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| CA_n24A-n77A | CA_n24A-n77A | n24 | 5, 10 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n24A-n77C | CA_n24A-n77A | n24 | 5, 10 | 0 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n24A-n77(2A) | CA_n24A-n77A | n24 | 5, 10 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n25A-n29A | - | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n29 | 5, 10 | |
| CA_n25A-n38A | CA_n25A-n38A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25(2A)-n38A | CA_n25A-n38A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25A-n41A | n41[8, 9] CA_n25A-n41A[8] | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n41A | n41[8, 9] CA_n25A-n41A[8] | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n25 | CA_n25(2A)_BCS1 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n41C | n41[8, 9] CA_n25A-n41A[8] | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n41 | CA_n41C_BCS2 | |
| CA_n25(2A)-n41(2A) | n41[8, 9] CA_n25A-n41A [8] | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n41 | CA_n41(2A)_BCS3 | |
| CA_n25A-n41C | n41[8, 9] CA_n25A-n41A[8] CA_n41C | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41C_BCS1 | |
| CA_n25A-n41(2A) | n41[8, 9] CA_n25A-n41A[8] | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41(2A)_BCS3 | |
| CA_n25A-n41(3A) | n41[8, 9] CA_n25A-n41A[8] | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41(3A)_BCS0 | |
| CA_n25A-n41(A-C) | n41[8, 9] CA_n25A-n41A[8] | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41(A-C)_BCS0 | |
| CA_n25A-n46A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n46 | 20, 40, 60, 80 | |

| | | | | |
|---|---|---|---|---|
| CA_n25A-n48A | CA_n25A-n48A | n25 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n25A-n48(2A) | CA_n25A-n48A | n25 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n25A-n48C | CA_n25A-n48A | n25 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n25A-n66A | CA_n25A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 30, 40 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n66(2A) | CA_n25A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | |
| CA_n25(2A)-n66A | CA_n25A-n66A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | 10, 15, 20, 30, 40 | |
| | | n25 | CA_n25(2A)_BCS0 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n25 | CA_n25(2A)_BCS1 | 2 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n25 | CA_n25(2A)_BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n66(2A) | CA_n25A-n66A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n25 | CA_n25(2A)_BCS0 | 1 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n25 | CA_n25(2A)_BCS1 | 2 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n25 | CA_n25(2A)_BCS 4 and 5 | 4 and 5 |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | |
| CA_n25A-n71A | CA_n25A-n71A | n25 | 5, 10, 15, 20 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n71 | 5, 10, 15, 20 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n71B | CA_n25A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | CA_n71B_BCS0 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n71 | CA_n71B_BCS2 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71B_BCS 4 and 5 | |
| CA_n25A-n71(2A) | CA_n25A-n71A | n25 | 5, 10, 15, 20 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | |
| CA_n25(2A)-n71A | CA_n25A-n71A | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n25 | CA_n25(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n71(2A) | CA_n25A-n71A | n25 | CA_n25(2A)_BCS1 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n25 | CA_n25(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | |
| CA_n25(2A)-n71B | CA_n25A-n71A | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n71 | CA_n71B_BCS2 | |
| | | n25 | CA_n25(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71B_BCS 4 and 5 | |
| CA_n25A-n77A | n77[8,9] CA_n25A-n77A[8] | n25 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n77(2A) | n77[8,9] CA_n25A-n77A[8] | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n25(2A)-n77A | n77[8,9] CA_n25A-n77A[8] | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | CA_n25(2A)_BCS0 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | CA_n25(2A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n77(2A) | CA_n25A-n77A | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n25 | CA_n25(2A)_BCS0 | 1 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n25 | CA_n25(2A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n25A-n78A | CA_n25A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n78(2A) | CA_n25A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25(2A)-n78A | CA_n25A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n25 | CA_n25(2A)_BCS0 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n78(2A) | CA_n25A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n25 | CA_n25(2A)_BCS0 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |

**Table 5.5A.3.1-1h: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidt combinati set |
|---|---|---|---|---|
| CA_n26A-n66A | CA_n26A-n66A | n26 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n26A-n66(2A) | CA_n26A-n66A | n26 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| CA_n26A-n70A | CA_n26A-n70A | n26 | 5, 10, 15, 20 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n28A-n34A | CA_n28A-n34A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n34 | 5, 10, 15 | |
| CA_n28A-n38A | - | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n28A-n39A | CA_n28A-n39A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n28A-n40A | CA_n28A-n40A | n28 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n28A-n40B | - | n28 | 5, 10, 15, 20 | 0 |
| | | n40 | CA_n40B_BCS0 | |
| CA_n28A-n41A | n41[8] CA_n28A-n41A[8] | n28 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n28 | 5, 10, 15, 20, 30 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n28A-n41B | CA_n28A-n41A | n28 | 5, 10 | 0 |
| | | n40 | CA_n41B_BCS0 | |
| CA_n28A-n41C | CA_n28A-n41A CA_n41C | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n41 | CA_n41C_BCS1 | |
| CA_n28A-n46A | CA_n28A-n46A | n28 | 5, 10, 15, 20 | 0 |
| | | n46 | 20, 40, 60, 80 | |
| CA_n28A-n46C | CA_n28A-n46A | n28 | 5, 10, 15, 20 | 0 |
| | | n46 | CA_n46C_BCS0 | |
| CA_n28A-n46D | CA_n28A-n46A | n28 | 5, 10, 15, 20 | 0 |
| | | n46 | CA_n46D_BCS0 | |
| CA_n28A-n50A | CA_n28A-n50A | n28 | 5, 10, 15, 20 | 0 |
| | | n50 | 5, 10, 15, 20, 40, 50, 60, 80[1] | |
| CA_n28A-n71A | - | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n28A-n74A | CA_n28A-n74A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n74 | 5, 10, 15, 20 | |
| CA_n28A-n75A | - | n28 | 5, 10, 15, 20 | 0 |
| | | n75 | 5, 10, 15, 20 | |
| | - | n28 | 5, 10, 15, 20 | 1 |
| | | n75 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n28A-n77A | CA_n28A-n77A | n28 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n28A-n77(2A) | CA_n77(2A) CA_n28A-n77A | n28 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n28A-n77(3A) | CA_n28A-n77A | n28 | 5, 10 | 0 |
| | | n77 | CA_n77(3A)_BCS0 | |
| CA_n28A-n78A | n77[8] CA_n28A-n78A[8] | n28 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n28 | 5, 10, 15, 20, 30 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n78(2A) | CA_n78(2A) CA_n28A-n78A | n28 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n28 | 5, 10, 15, 20 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n28A-n79A | n79[8] CA_n28A-n79A[8] | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n28A-n79C | CA_n79C | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n29A-n30A | - | n29 | 5, 10 | 0 |
| | | n30 | 5, 10 | |

| | | | | |
|---|---|---|---|---|
| CA_n29A-n66A | - | n29 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n29 | 5, 10 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n29A-n66B | - | n29 | 5, 10 | 0 |
| | | n66 | CA_n66B_BCS0 | |
| CA_n29A-n66(2A) | - | n29 | 5, 10 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n29 | 5, 10 | 1 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n29A-n66(3A) | - | n29 | 5, 10 | 0 |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n29A-n70A | - | n29 | 5, 10 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n29A-n71A | - | n29 | 5, 10 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n29A-n77A | n77[8, 9] | n29 | 5, 10 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n29A-n77(2A) | n77[8, 9] | n29 | 5, 10 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |

**Table 5.5A.3.1-1i: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidt combinati set |
|---|---|---|---|---|
| CA_n30A-n66A | CA_n30A-n66A | n30 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n30A-n66(2A) | CA_n30A-n66A | n30 | 5, 10 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n30A-n66(3A) | CA_n30A-n66A | n30 | 5, 10 | 0 |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n30A-n77A | n77[8, 9] CA_n30A-n77A[8] | n30 | 5, 10 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n30A-n77(2A) | n77[8, 9] CA_n77(2A) CA_n30A-n77A[8] | n30 | 5, 10 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n34A-n40A | CA_n34A-n40A | n34 | 5, 10, 15 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n34A-n41A | CA_n34A-n41A | n34 | 5, 10, 15 | 0 |
| | | n41 | 10, 15, 20, 30 ,40 ,50, 60, 70, 80, 90, 100 | |
| CA_n34A-n41C | CA_n34A-n41A | n34 | 5, 10, 15 | 0 |
| | | n41 | CA_n41C_BCS1 | |
| CA_n34A-n79A | CA_n34A-n79A | n34 | 5, 10, 15 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n34A-n79C | CA_n34A-n79A | n34 | 5, 10, 15 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n38A-n40A | - | n38 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n40 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n38A-n66A | CA_n38A-n66A | n38 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 30, 40 | |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n38A-n66(2A) | CA_n38A-n66A | n38 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n38A-n71A | - | n38 | 5, 10, 15, 20 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n38A-n78A | CA_n38A-n78A | n38 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n38A-n78(2A) | CA_n38A-n78A | n38 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n38 | 5, 10, 15, 20 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n38A-n79A | - | n38 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n38A-n79C | - | n38 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n39A-n40A | CA_n39A-n40A | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n39A-n41A | CA_n39A-n41A | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n39A-n41C | CA_n39A-n41A | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| CA_n39A-n41(2A) | CA_n39A-n41A | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41(2A)_BCS0 | |
| CA_n39A-n79A | CA_n39A-n79A | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n40A-n41A | n41[8] CA_n40A-n41A[8] | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 40, 50, 60 | |
| CA_n40A-n41C | CA_n41C CA_n40A-n41A | n40 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| CA_n40A-n77A | CA_n40A-n77A | n40 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90[4], 100 | |
| CA_n40A-n77(2A) | CA_n40A-n77A | n40 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n40A-n77C | - | n40 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n40B-n77A | CA_n40A-n77A | n40 | CA_n40B_BCS1 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90[4], 100 | |
| CA_n40B-n77(2A) | CA_n40A-n77A | n40 | CA_n40B_BCS1 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n40B-n77C | CA_n40A-n77A | n40 | CA_n40B_BCS1 | 0 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n40A-n78A | CA_n40A-n78A | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n40A-n78(2A) | CA_n40A-n78A | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| CA_n40A-n78C | CA_n40A-n78A | n40 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n78 | CA_n78C_BCS1 | |
| CA_n40B-n78A | - | n40 | CA_n40B_BCS0 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | CA_n40A-n78A | n40 | CA_n40B_BCS1 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n40B-n78(2A) | CA_n40A-n78A | n40 | CA_n40B_BCS1 | 0 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n40B-n78C | CA_n40A-n78A | n40 | CA_n40B_BCS1 | 0 |
| | | n78 | CA_n78C_BCS1 | |
| CA_n40A-n79A | CA_n40A-n79A | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n79 | 40, 50, 60, 80, 100 | |

**Table 5.5A.3.1-1j: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n41A-n48A | CA_n41A-n48A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n41A-n48B | CA_n41A-n48A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n48 | CA_n48B_BCS2 | |
| CA_n41A-n48C | CA_n41A-n48A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n48 | CA_n48C_BCS1 | |
| CA_n41A-n48(2A) | CA_n41A-n48A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n41C-n48A | CA_n41A-n48A | n41 | CA_n41C_BCS2 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n41C-n48B | CA_n41A-n48A | n41 | CA_n41C_BCS2 | 0 |
| | | n48 | CA_n48B_BCS2 | |
| CA_n41C-n48C | CA_n41A-n48A | n41 | CA_n41C_BCS2 | 0 |
| | | n48 | CA_n48C_BCS1 | |
| CA_n41(2A)-n48A | CA_n41A-n48A | n41 | CA_n41(2A)_BCS3 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n41(2A)-n48B | CA_n41A-n48A | n41 | CA_n41(2A)_BCS3 | 0 |
| | | n48 | CA_n48B_BCS2 | |
| CA_n41(2A)-n48C | CA_n41A-n48A | n41 | CA_n41(2A)_BCS3 | 0 |
| | | n48 | CA_n48C_BCS1 | |
| CA_n41(2A)-n48(2A) | CA_n41A-n48A | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n41A-n50A | CA_n41A-n50A | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n50 | 5, 10, 15, 20, 40, 50, 60, 80[1] | |
| CA_n41A-n66A | n41[8,9] CA_n41A-n66A[8] | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(2A)-n66A | n41[8, 9] | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | n41[8, 9] CA_n41A-n66A[8] | n41 | CA_n41(2A)_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | CA_n41(2A)_BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n66(2A) | n41[8, 9] CA_n41A-n66A[8] | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 1 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | |
| CA_n41C-n66A | n41[8, 9] | n41 | CA_n41C_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | n41[8, 9] CA_n41C CA_n41A-n66A[8] | n41 | CA_n41C_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | CA_n41C_BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n66(2A) | n41[8, 9] CA_n41A-n66A[8] | n41 | CA_n41C_BCS2 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n41 | CA_n41C_BCS 4 and 5 | 4 and 5 |

| | | | | |
|---|---|---|---|---|
| | | n66 | CA_n66(2A)_BCS 4 and 5 | |
| CA_n41(2A)-n66(2A) | n41[8, 9] CA_n41A-n66A[8] | n41 | CA_n41(2A)_BCS3 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n41 | CA_n41(2A)_BCS 4 and 5 | 4 and 5 |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | |
| CA_n41(3A)-n66A | n41[8, 9] CA_n41A-n66A[8] | n41 | CA_n41(3A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40, | |
| | | n41 | CA_n41(3A)_BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(A-C)-n66A | n41[8, 9] CA_n41A-n66A[8] | n41 | CA_n41(A-C)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | CA_n41(A-C)_BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n70A | CA_n41A-n70A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n41A-n71A | n41[8,9] CA_n41A-n71A[8] | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n71B | n41[8,9] CA_n41A-n71A[8] | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n71 | CA_n71B_BCS0 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n71 | CA_n71B_BCS2 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71B_BCS 4 and 5 | |
| CA_n41A-n71(2A) | n41[8,9] CA_n41A-n71A[8] | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | |
| CA_n41C-n71A | n41[8, 9] CA_n41C CA_n41A-n71A[8] | n41 | CA_n41C_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | CA_n41C_BCS1 | 1 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | CA_n41C_BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n71(2A) | n41[8,9] CA_n41A-n71A[8] | n41 | CA_n41C_BCS1 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n41 | CA_n41C_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | |
| CA_n41(2A)-n71A | n41[8, 9] CA_n41A-n71A[8] | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | CA_n41(2A)_BCS3 | 1 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | CA_n41(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(2A)-n71(2A) | n41[8,9] CA_n41A-n71A[8] | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n41 | CA_n41(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | |
| CA_n41(2A)-n71B | n41[8,9] CA_n41A-n71A[8] | n41 | CA_n41(2A)_BCS1 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n71 | CA_n71B_BCS0 | |
| | | n41 | CA_n41(2A)_BCS1 | 1 |
| | | n71 | CA_n71B_BCS2 | |
| | | n41 | CA_n41(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71B_BCS 4 and 5 | |
| CA_n41(3A)-n71A | n41[8,9] CA_n41A-n71A[8] | n41 | CA_n41(3A)_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | CA_n41(3A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(A-C)-n71A | n41[8,9] CA_n41A-n71A[8] | n41 | CA_n41(A-C)_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n41 | CA_n41(A-C)_BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n71B | n41[8,9] CA_n41A-n71A[8] | n41 | CA_n41C_BCS0 | 0 |
| | | n71 | CA_n71B_BCS0 | |
| | | n41 | CA_n41C_BCS1 | 1 |
| | | n71 | CA_n71B_BCS2 | |
| | | n41 | CA_n41C_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71B_BCS 4 and 5 | |
| CA_n41A-n74A | CA_n41A-n74A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n74 | 5, 10, 15, 20 | |
| CA_n41A-n77A | n41[8,9] n77[8,9] CA_n41A-n77A[8] | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41B-n77A | CA_n41A-n77A | n41 | CA_n41B_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41(2A)-n77A | n41[8,9] n77[8,9] CA_n41A-n77A[8] | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | CA_n41(2A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(3A)-n77A | n41[8,9] n77[8,9] CA_n41A-n77A[8] | n41 | CA_n41(3A)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | CA_n41(3A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(A-C)-n77A | n41[8,9] n77[8,9] CA_n41A-n77A[8] | n41 | CA_n41(A-C)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | CA_n41(A-C)_BCS 4 and 5 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n77A | n41[8,9] n77[8,9] CA_n41A-n77A[8] CA_n41C | n41 | CA_n41C_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | CA_n41C_BCS 4 and 5 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n77(2A) | n41[8,9] n77[8,9] CA_n41A-n77A[8] | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n41A-n77(3A) | CA_n41A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n77 | CA_n77(3A)_BCS0 | |
| CA_n41(2A)-n77(2A) | - | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n41A-n77C | CA_n41A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| CA_n41A-n78A | CA_n41A-n78A | n41 | 10, 15, 20, 40, 50, 60, 80, 100 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n78(2A) | CA_n41A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n41A-n78C | CA_n41A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n78 | CA_n78C_BCS0 | |
| CA_n41A-n79A | n41[8]<br>n79[8]<br>CA_n41A-n79A[8] | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n41 | 10, 15, 20, 40, 50, 60 | 1 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 2 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n41C-n79A | CA_n41A-n79A<br>CA_n41C | n41 | CA_n41C_BCS0 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |

**Table 5.5A.3.1-1k: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n46A-n48A | CA_n46A-n48A | n46 | 20, 40, 60, 80 | 0 |
| | | n48 | 20 | |
| | | n46 | 20, 40, 60, 80 | 1 |
| | | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | |
| CA_n46A-n48(2A) | CA_n46A-n48A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n46A-n48(3A) | CA_n46A-n48A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| CA_n46A-n48(4A) | CA_n46A-n48A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| CA_n46A-n48B | CA_n46A-n48A<br>CA_n46A-n48B | n46 | 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n46A-n48C | CA_n46A-n48A<br>CA_n46A-n48B | n46 | 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n46B-n48A | CA_n46A-n48A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | 20 | |
| | | n46 | CA_n46B_BCS0 | 1 |
| | | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | |
| CA_n46B-n48(2A) | CA_n46A-n48A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n46B-n48(3A) | CA_n46A-n48A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| CA_n46B-n48(4A) | CA_n46A-n48A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| CA_n46B-n48B | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n46B-n48C | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |

| | | | | |
|---|---|---|---|---|
| CA_n46C-n48A | CA_n46A-n48A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | 20 | |
| | | n46 | CA_n46C_BCS0 | 1 |
| | | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | |
| CA_n46C-n48(2A) | CA_n46A-n48A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n46C-n48(3A) | CA_n46A-n48A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| CA_n46C-n48(4A) | CA_n46A-n48A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| CA_n46C-n48B | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n46C-n48C | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n46D-n48A | CA_n46A-n48A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | 20 | |
| | | n46 | CA_n46D_BCS0 | 1 |
| | | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | |
| CA_n46D-n48(2A) | CA_n46A-n48A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n46D-n48(3A) | CA_n46A-n48A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| CA_n46D-n48(4A) | CA_n46A-n48A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| CA_n46D-n48B | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n46D-n48C | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n46M-n48A | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | 20 | |
| CA_n46M-n48(2A) | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n46M-n48(3A) | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| CA_n46M-n48(4A) | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| CA_n46M-n48B | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n46M-n48C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n46N-n48A | CA_n46A-n48A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | |
| CA_n46N-n48(2A) | CA_n46A-n48A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| CA_n46N-n48(3A) | CA_n46A-n48A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| CA_n46N-n48(4A) | CA_n46A-n48A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| CA_n46N-n48B | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| CA_n46N-n48C | CA_n46A-n48A<br>CA_n46A-n48B | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| CA_n46A-n66A | - | n46 | 20, 40, 60, 80 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n46A-n78A | CA_n46A-n78A | n46 | 20, 40, 60, 80 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n46C-n78A | CA_n46A-n78A | n46 | CA_n46C_BCS0 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n46D-n78A | CA_n46A-n78A | n46 | CA_n46D_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n46A-n96A | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46B-n96A | - | n46 | CA_n46B_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46C-n96A | - | n46 | CA_n46C_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46D-n96A | - | n46 | CA_n46D_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46M-n96A | - | n46 | CA_n46M_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46N-n96A | - | n46 | CA_n46N_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46A-n96B | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46B-n96B | - | n46 | CA_n46B_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46C-n96B | - | n46 | CA_n46C_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46D-n96B | - | n46 | CA_n46D_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46M-n96B | - | n46 | CA_n46M_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46N-n96B | - | n46 | CA_n46N_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46A-n96C | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46B-n96C | - | n46 | CA_n46B_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46C-n96C | - | n46 | CA_n46C_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46D-n96C | - | n46 | CA_n46D_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46M-n96C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46N-n96C | - | n46 | CA_n46N_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46A-n96D | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46B-n96D | - | n46 | CA_n46B_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46C-n96D | - | n46 | CA_n46C_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46D-n96D | - | n46 | CA_n46D_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46M-n96D | - | n46 | CA_n46M_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46N-n96D | - | n46 | CA_n46N_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46A-n96E | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46B-n96E | - | n46 | CA_n46B_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46C-n96E | - | n46 | CA_n46C_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46D-n96E | - | n46 | CA_n46D_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46M-n96E | - | n46 | CA_n46M_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46N-n96E | - | n46 | CA_n46N_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |

**Table 5.5A.3.1-1l: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n48A-n53A | - | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n53 | 5, 10 | |
| CA_n48(2A)-n53A | - | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n53 | 5, 10 | |
| CA_n48A-n66A | CA_n48A-n66A | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n48 | 5, 10, 15, 20, 40, 50[1], 60[1], 80[1], 90[1], 100[1] | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50[1], 60[1], 70[1] , 80[1], 90[1], 100[1] | 2 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40, | |
| CA_n48A-n66(2A) | CA_n48A-n66A | n48 | 5, 10, 15, 20, 30, 40, 50[1], 60[1], 70[1] , 80[1], 90[1], 100[1] | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| CA_n48B-n66A | CA_n48A-n66A | n48 | CA_n48B_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n48 | CA_n48B_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n48 | CA_n48B_BCS2 | 2 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n48B-n66(2A) | CA_n48A-n66A | n48 | CA_n48B_BCS2 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| CA_n48C-n66A | CA_n48A-n66A | n48 | CA_n48C_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n48 | CA_n48C_BCS0 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n48(2A)-n66A | CA_n48A-n66A | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n48 | CA_n48(2A)_BCS0 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n48 | CA_n48(2A)_BCS1 | 2 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n48(2A)-n66(2A) | CA_n48A-n66A | n48 | CA_n48(2A)_BCS1 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| CA_n48(A-B)-n66A | CA_n48A-n66A | n48 | CA_n48(A-B)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n48 | CA_n48(A-B)_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n48(A-C)-n66A | CA_n48A-n66A | n48 | CA_n48(A-C)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n48 | CA_n48(A-C)_BCS0 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n48A-n70A | CA_n48A-n70A | n48 | 5, 10, 15, 20, 30, 40, 50[1], 60[1], 70[1] , 80[1], 90[1], 100[1] | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n48(2A)-n70A | CA_n48A-n70A | n48 | CA_n48(2A)_BCS1 | 0 |
| | | n70 | 5, 10, 15, 20, 25 | |
| CA_n48B-n70A | CA_n48A-n70A | n48 | CA_n48B_BCS2 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n48A-n71A | CA_n48A-n71A | n48 | 5, 10, 15, 20, 30, 40, 50[1], 60[1], 70[1], 80[1], 90[1], 100[1] | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48A-n71(2A) | CA_n48A-n71A | n48 | 5, 10, 15, 20, 30, 40, 50[1], 60[1], 70[1] , 80[1], 90[1], 100[1] | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| CA_n48(2A)-n71A | CA_n48A-n71A | n48 | CA_n48(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| CA_n48(2A)-n71(2A) | CA_n48A-n71A | n48 | CA_n48(2A)_BCS1 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| CA_n48(3A)-n71A | CA_n48A-n71A | n48 | CA_n48(3A)_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48(4A)-n71A | CA_n48A-n71A | n48 | CA_n48(4A)_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48B-n71A | CA_n48A-n71A | n48 | CA_n48B_BCS2 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48B-n71(2A) | CA_n48A-n71A | n48 | CA_n48B_BCS2 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| CA_n48C-n71A | CA_n48A-n71A | n48 | CA_n48C_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48A-n77A | n77[8,9] | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n48A-n77C | n77[8,9] | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n48A-n77(2A) | - | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n48(2A)-n77A | n77[8,9] | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n48 | CA_n48(2A)_BCS1 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n48(2A)-n77C | n77[8,9] | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | CA_n48(2A)_BCS0 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| | | n48 | CA_n48(2A)_BCS1 | 2 |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | CA_n48(2A)_BCS1 | 3 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n48(2A)-n77(2A) | - | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n48B-n77A | n77[8,9] | n48 | CA_n48B_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n48 | CA_n48B_BCS1 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n48 | CA_n48B_BCS2 | 2 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n48B-n77C | n77[8,9] | n48 | CA_n48B_BCS0 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | CA_n48B_BCS0 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| | | n48 | CA_n48B_BCS2 | 2 |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | CA_n48B_BCS2 | 3 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n48(A-B)-n77A | n77[8,9] | n48 | CA_n48(A-B)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n48 | CA_n48(A-B)_BCS1 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n48A-n96A | CA_n48A-n96A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n48(2A)-n96A | CA_n48A-n96A | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n48(2A)-n96B | CA_n48A-n96B | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n48(2A)-n96C | CA_n48A-n96A | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n48(2A)-n96D | CA_n48A-n96A | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n48(2A)-n96E | CA_n48A-n96A | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n48(3A)-n96A | CA_n48A-n96A | n48 | CA_n48(3A)_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n96 | 20, 40, 60, 80 | |
| CA_n48(3A)-n96B | CA_n48A-n96B | n48 | CA_n48(3A)_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n48(3A)-n96C | CA_n48A-n96A | n48 | CA_n48(3A)_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n48(3A)-n96D | CA_n48A-n96A | n48 | CA_n48(3A)_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n48(3A)-n96E | CA_n48A-n96A | n48 | CA_n48(3A)_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n48(4A)-n96A | CA_n48A-n96A | n48 | CA_n48(4A)_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n48(4A)-n96B | CA_n48A-n96A | n48 | CA_n48(4A)_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n48(4A)-n96C | CA_n48A-n96A | n48 | CA_n48(4A)_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n48(4A)-n96D | CA_n48A-n96A | n48 | CA_n48(4A)_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n48(4A)-n96E | CA_n48A-n96A | n48 | CA_n48(4A)_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n48A-n96B | CA_n48A-n96A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n48A-n96C | CA_n48A-n96A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n48A-n96D | CA_n48A-n96A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n48A-n96E | CA_n48A-n96A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n48B-n96A | CA_n48A-n96A<br>CA_n48B-n96A | n48 | CA_n48B_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n48B-n96B | CA_n48A-n96A<br>CA_n48B-n96A | n48 | CA_n48B_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n48B-n96C | CA_n48A-n96A<br>CA_n48B-n96A | n48 | CA_n48B_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n48B-n96D | CA_n48A-n96A<br>CA_n48B-n96A | n48 | CA_n48B_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n48B-n96E | CA_n48A-n96A<br>CA_n48B-n96A | n48 | CA_n48B_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n48C-n96A | CA_n48A-n96A | n48 | CA_n48C_BCS0 | 0 |
| | | n96 | 20, 40, 60, 80 | |
| CA_n48C-n96B | CA_n48A-n96A | n48 | CA_n48C_BCS0 | 0 |
| | | n96 | CA_n96B_BCS0 | |
| CA_n48C-n96C | CA_n48A-n96A | n48 | CA_n48C_BCS0 | 0 |
| | | n96 | CA_n96C_BCS0 | |
| CA_n48C-n96D | CA_n48A-n96A | n48 | CA_n48C_BCS0 | 0 |
| | | n96 | CA_n96D_BCS0 | |
| CA_n48C-n96E | CA_n48A-n96A | n48 | CA_n48C_BCS0 | 0 |
| | | n96 | CA_n96E_BCS0 | |
| CA_n50A-n78A | CA_n50A-n78A | n50 | 5, 10, 15, 20, 30, 40, 50, 60, 80[1] | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |

**Table 5.5A.3.1-1m: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n66A-n70A | - | n66 | 5, 10, 15, 20, 40 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |

| | | | | |
|---|---|---|---|---|
| CA_n66B-n70A | - | n66 | CA_n66B_BCS0 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n66(2A)-n70A | - | n66 | CA_n66(2A)_BCS0 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n66A-n71A | CA_n66A-n71A | n66 | 5, 10, 15, 20, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n71 | 5, 10, 15, 20 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n66A-n71B | CA_n66A-n71A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | CA_n71B_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n71 | CA_n71B_BCS2 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71B_BCS 4 and 5 | |
| CA_n66A-n71(2A) | - | n66 | 5, 10, 15, 20, 40 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | CA_n66A-n71A | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | |
| CA_n66(2A)-n71A | CA_n66A-n71A | n66 | CA_n66(2A)_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n66 | CA_n66(2A)_BCS1 | 1 |
| | | n71 | 5, 10, 15, 20 | |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n66(2A)-n71B | CA_n66A-n71A | n66 | CA_n66(2A)_BCS1 | 0 |
| | | n71 | CA_n71B_BCS2 | |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71B_BCS 4 and 5 | |
| CA_n66(2A)-n71(2A) | CA_n66A-n71A | n66 | CA_n66(2A)_BCS1 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | 4 and 5 |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | |
| CA_n66B-n71A | CA_n66A-n71A | n66 | CA_n66B_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n66A-n77A | n77[8,9] CA_n66A-n77A[8] | n66 | 5, 10, 15, 20, 40 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n66(2A)-n77A | n77[8,9] CA_n66A-n77A[8] | n66 | CA_n66(2A)_BCS1 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | CA_n66(2A)_BCS1 | 1 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n66A-n77(2A) | n77[8,9] CA_n66A-n77A[8] CA_n77(2A) | n66 | 5, 10, 15, 20, 40 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |

| | | | | |
|---|---|---|---|---|
| CA_n66(3A)-n77A | n77[8] CA_n66A-n77A[8] | n66 | CA_n66(3A)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n66(2A)-n77(2A) | n77[8] CA_n66A-n77A[8] CA_n77(2A) | n66 | CA_n66(2A)_BCS0 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | 1 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n66 | CA_n66(2A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n66A-n77C | n77[8,9] CA_n66A-n77A[8] | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n77 | CA_n77C_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n66(2A)-n77C | n77[8,9] CA_n66A-n77A[8] | n66 | CA_n66(2A)_BCS0 | 0 |
| | | n77 | CA_n77C_BCS1 | |
| | | n66 | CA_n66(2A)_BCS1 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n66B-n77A | n77[8,9] CA_n66A-n77A[8] | n66 | CA_n66B_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n66B-n77C | n77[8,9] CA_n66A-n77A[8] | n66 | CA_n66B_BCS0 | 0 |
| | | n77 | CA_n77C_BCS0 | |
| | | n66 | CA_n66B_BCS0 | 1 |
| | | n77 | CA_n77C_BCS1 | |
| CA_n66A-n78A | CA_n66A-n78A | n66 | 5, 10, 15, 20, 40 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n66A-n78(2A) | CA_n66A-n78A | n66 | 5, 10, 15, 20, 30, 40 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n66(2A)-n78A | CA_n66A-n78A | n66 | CA_n66(2A)_BCS0 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n66 | CA_n66(2A)_BCS1 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n66(2A)-n78(2A) | CA_n66A-n78A | n66 | CA_n66(2A)_BCS0 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n66 | CA_n66(2A)_BCS1 | 1 |
| | | n78 | CA_n78(2A)_BCS2 | |

**Table 5.5A.3.1-1n: NR CA configurations and bandwidth combinations sets defined for inter-band CA (two bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[10] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n70A-n71A | CA_n70A-n71A | n70 | 5, 10, 15, 20[1], 25[1] | 0 |
| | | n71 | 5, 10, 15, 20 | |
| CA_n70A-n71(2A) | CA_n70A-n71A | n70 | 5, 10, 15, 20[1], 25[1] | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| CA_n70A-n78A | CA_n70A-n78A | n70 | 5, 10, 15, 20[1], 25[1] | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n71A-n77A | n77[8, 9] CA_n71A-n77A[8] | n71 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n71A-n77(2A) | n77[8, 9] CA_n71A-n77A[8] | n71 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n71B-n77A | n77[8, 9] CA_n71A-n77A[8] | n71 | CA_n71B_BCS2 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n71 | CA_n71B_BCS 4 and 5 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n71B-n77(2A) | CA_n71A-n77A | n71 | CA_n71B_BCS2 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n71 | CA_n71B_BCS 4 and 5 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n71(2A)-n77A | n77[8, 9] CA_n71A-n77A[8] | n71 | CA_n71(2A)_BCS0 | 0 |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n71(2A)-n77(2A) | CA_n71A-n77A | n71 | CA_n71(2A)_BCS0 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n71 | CA_n71(2A)_BCS 4 and 5 | 4 and 5 |
| | | n77 | CA_n77(2A)_BCS 4 and 5 | |
| CA_n71A-n78A | CA_n71A-n78A | n71 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n71A-n78(2A) | CA_n71A-n78A | n71 | 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n74A-n77A | CA_n74A-n77A | n74 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n74A-n78A | CA_n74A-n78A | n74 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n75A-n78A | - | n75 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n75A-n78(2A) | - | n75 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| CA_n76A-n78A | - | n76 | 5 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n77A-n78A[2] | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n77A-n79A | CA_n77A-n79A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n77(2A)-n79A | CA_n77A-n79A | n77 | CA_n77(2A)_BCS1 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n77(3A)-n79A | CA_n77A-n79A | n77 | CA_n77(3A)_BCS1 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n78A-n79A | CA_n78A-n79A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | 1 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n78A-n79C | - | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n79 | CA_n79C_BCS0 | |
| CA_n78(2A)-n79A | CA_n78A-n79A | n78 | CA_n78(2A)_BCS1 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n78A-n92A | CA_n78A-n92A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | | n92 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| CA_n78(2A)-n92A | CA_n78A-n92A | n78 | CA_n78(2A)_BCS0 | 0 |
| | | n92 | 5, 10, 15, 20 | |

The following notes are applied to the above tables:

NOTE 1: This UE channel bandwidth is applicable only to downlink.
NOTE 2: The minimum requirements for intra-band contiguous or non-contiguous CA apply.
NOTE 3: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1.
NOTE 4: This UE channel bandwidth is optional in this release of the specification.
NOTE 5: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as an SCell part of DC or CA configuration.
NOTE 6: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as an downlink SCell part of CA configuration
NOTE 7: Limited to operation at 3 450-3 550 MHz and 3 700-3 980 MHz.
NOTE 8: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination
NOTE 9: Power Class 1.5 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination
NOTE 10: Only single uplink carriers with power class other than PC3 are listed.
NOTE 11: The CA configurations are given in Table 5.5A.1-1 or Table 5.5A.2-1 in this specification

## 5.5A.3.2 Configurations for inter-band CA (three bands)

**Table 5.5A.3.2-1: NR CA configurations and bandwidth combinations sets defined for inter-band CA (three bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier[6] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n1A-n3A-n5A | CA_n1A-n3A<br>CA_n1A-n5A<br>CA_n3A-n5A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n5 | 5, 10, 15, 20 | |
| CA_n1A-n3A-n7A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n3A-n7A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n1 | 5, 10, 15, 20 | 2 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1A-n3A-n7B | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n7 | CA_n7B_BCS0 | |
| | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n3A-n7A<br>CA_n7B | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n7 | CA_n7B_BCS0 | |
| CA_n1A-n3(2A)-n7A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | CA_n3(2A)_BCS1 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1(2A)-n3A-n7A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1(2A)-n3B-n7A | - | n1 | CA_n1(2A)_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n3 | CA_n3B_BCS0 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1(2A)-n3(2A)-n7A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n3 | CA_n3(2A)_BCS1 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1A-n3A-n8A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n8 | 5, 10, 15, 20 | |
| CA_n1A-n3A-n18A | CA_n1A-n3A<br>CA_n1A-n18A<br>CA_n3A-n18A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n18 | 5, 10, 15 | |
| CA_n1A-n3A-n20A | CA_n1A-n3A<br>CA_n1A-n20A<br>CA_n3A-n20A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n20 | 5, 10, 15, 20 | |
| CA_n1A-n3A-n28A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n28 | 5, 10, 15, 20[2] | |
| | CA_n1A-n3A<br>CA_n1A-n28A<br>CA_n3A-n28A | n1 | 5, 10, 15, 20 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 2 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20[1], 30[1] | |
| CA_n1A-n3A-n41A | CA_n1A-n3A<br>CA_n1A-n41A<br>CA_n3A-n41A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n3A-n67A | CA_n1A-n3A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n67 | 5, 10, 15, 20 | |
| CA_n1A-n3A-n77A | CA_n1A-n3A<br>CA_n1A-n77A<br>CA_n3A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n3A-n77(2A) | CA_n1A-n3A<br>CA_n1A-n77A<br>CA_n3A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n1A-n3A-n78A | CA_n1A-n3A<br>CA_n1A-n78A[7]<br>CA_n3A-n78A[7] | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20 | 2 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n78(2A) | CA_n1A-n3A<br>CA_n1A-n78A<br>CA_n3A-n78A | n1 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n1A-n3A-n79A | CA_n1A-n3A<br>CA_n1A-n79A<br>CA_n3A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n5A-n7A | CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n5A-n7A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1A-n5A-n7B | CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n5A-n7A<br>CA_n7B | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | CA_n7B_BCS0 | |
| CA_n1A-n5A-n28A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | 28 | 5, 10, 15, 20, 30 | |
| CA_n1A-n5A-n78A | CA_n1A-n5A<br>CA_n1A-n78A<br>CA_n5A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n1A-n7A-n8A | CA_n1A-n7A<br>CA_n1A-n8A<br>CA_n7A-n8A | n1 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n8 | 5, 10, 15, 20 | |
| CA_n1A-n7A-n40A | CA_n1A-n7A<br>CA_n1A-n40A<br>CA_n7A-n40A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n1A-n7A-n79A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n7A-n79C | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n79 | CA_n79C_BCS0 | |
| CA_n1(2A)-n7A-n79A | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1(2A)-n7A-n79C | - | n1 | CA_n1(2A)_BCS0 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n79 | CA_n79C_BCS0 | |
| CA_n1A-n8A-n28A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n28 | 10, 15, 20 | |
| CA_n1A-n8A-n40A | CA_n1A-n8A<br>CA_n1A-n40A<br>CA_n8A-n40A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n1A-n8A-n77A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n8A-n77(2A) | - | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |

| | | | | |
|---|---|---|---|---|
| CA_n1A-n7A-n28A | CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n7A-n28A | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| CA_n1A-n7B-n28A | CA_n1A-n28A<br>CA_n1A-n7A<br>CA_n7A-n28A<br>CA_n7B | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n28 | 5, 10, 15, 20 | |
| CA_n1A-n7A-n78A | CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n7A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90[1], 100 | |
| | | n1 | 5, 10, 15, 20 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90[1], 100 | |
| CA_n1A-n7B-n78A | CA_n1A-n78A<br>CA_n1A-n7A<br>CA_n7A-n78A<br>CA_n7B | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n1A-n7A-n78(2A) | CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n7A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n1 | 5, 10, 15, 20 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n1A-n8A-n78A | CA_n1A-n8A<br>CA_n1A-n78A<br>CA_n8A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | - | n1 | 5, 10, 15, 20 | 1 |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n8A-n78(2A) | - | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS1 | |
| CA_n1A-n8A-n79A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n18A-n28A | CA_n1A-n18A<br>CA_n1A-n28A<br>CA_n18A-n28A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n28 | 5, 10 | |
| CA_n1A-n18A-n41A | CA_n1A-n18A<br>CA_n1A-n41A<br>CA_n18A-n41A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n18A-n77A | CA_n1A-n18A<br>CA_n1A-n77A<br>CA_n18A-n77A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n1A-n18A-n77(2A) | CA_n1A-n18A<br>CA_n1A-n77A<br>CA_n18A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n1A-n20A-n67A | CA_n1A-n20A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n20 | 5, 10, 15, 20 | |
| | | n67 | 5, 10, 15, 20 | |
| CA_n1A-n20A-n78A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n20 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n28A-n38A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n1A-n28A-n40A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n1A-n28A-n40B | - | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n40 | CA_n40B_BCS0 | |
| CA_n1A-n28A-n41A | CA_n1A-n28A<br>CA_n1A-n41A<br>CA_n28A-n41A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n28A-n77A | CA_n1A-n28A<br>CA_n1A-n77A<br>CA_n28A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n28A-n77(2A) | CA_n1A-n28A<br>CA_n1A-n77A<br>CA_n28A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n1 | 5, 10, 15, 20 | 1 |
| | | n28 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n1A-n28A-n78A | CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20 | 1 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 2 |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n28A-n78(2A) | CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n1A-n28A-n79A | CA_n1A-n28A<br>CA_n1A-n79A<br>CA_n28A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n38A-n78A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n40A-n78A | CA_n1A-n40A<br>CA_n1A-n78A<br>CA_n40A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | CA_n1A-n40A<br>CA_n1A-n78A<br>CA_n40A-n78A | n1 | 5, 10, 15, 20 | 1 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | CA_n1A-n40A<br>CA_n1A-n78A<br>CA_n40A-n78A | n1 | 5, 10, 15, 20 | 2 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n40B-n78A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n40 | CA_n40B_BCS0 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n41A-n77A | CA_n1A-n41A<br>CA_n1A-n77A<br>CA_n41A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n41A-n77(2A) | CA_n1A-n41A<br>CA_n1A-n77A<br>CA_n41A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n1A-n77A-n79A[4] | CA_n1A-n77A<br>CA_n1A-n79A<br>CA_n77A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n77(2A)-n79A[4] | CA_n1A-n77A<br>CA_n1A-n79A<br>CA_n77A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n78A-n79A[5] | CA_n1A-n78A<br>CA_n1A-n79A<br>CA_n78A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n1 | 5, 10, 15, 20 | 1 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n78(2A)-n79A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n2A-n5A-n30A | CA_n2A-n5A<br>CA_n2A-n30A<br>CA_n5A-n30A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n30 | 5, 10 | |
| CA_n2A-n5A-n48A | CA_n2A-n5A | n2 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n2A-n48A<br>CA_n5A-n48A | | | |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n48B | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n5A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48B_BCS0 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48B_BCS1 | |
| | | n2 | 5, 10, 15, 20 | 2 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48B_BCS2 | |
| CA_n2A-n5A-n48(2A) | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n5A-n48A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48(2A)_BCS1 | |
| CA_n2A-n5A-n48(A-B) | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n5A-n48A | n2 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n5 | 5, 10, 15, 20, 25[1] | |
| | | n48 | CA_n48(A-B)_BCS0 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25[1] | |
| | | n48 | CA_n48(A-B)_BCS1 | |
| CA_n2(2A)-n5A-n30A | CA_n2A-n5A<br>CA_n2A-n30A<br>CA_n5A-n30A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n30 | 5, 10 | |
| CA_n2A-n5A-n66A | CA_n2A-n5A<br>CA_n2A-n66A<br>CA_n5A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n5A-n66A | CA_n2A-n5A<br>CA_n2A-n66A<br>CA_n5A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n5A-n66(2A) | CA_n2A-n5A<br>CA_n2A-n66A<br>CA_n5A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n5A-n66(2A) | CA_n2A-n5A<br>CA_n2A-n66A<br>CA_n5A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | CA_n66(2A)_BCS0 | |
| CA_n2A-n5A-n66(3A) | CA_n2A-n5A<br>CA_n2A-n66A<br>CA_n5A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n2A-n5A-n77A | n77[7, 9]<br>CA_n2A-n5A<br>CA_n2A-n77A[7]<br>CA_n5A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n5 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n77C | CA_n2A-n5A<br>CA_n2A-n77A<br>CA_n5A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n5 | 5, 10, 15, 20, 25[1] | |
| | | n77 | CA_n77C_BCS0 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25[1] | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n2A-n5A-n77(2A) | n77[7]<br>CA_n2A-n5A<br>CA_n2A-n77A[7]<br>CA_n5A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2(2A)-n5A-n77A | n77[7]<br>CA_n2A-n5A<br>CA_n2A-n77A[7]<br>CA_n5A-n77A[7] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n12A-n30A | CA_n2A-n12A<br>CA_n2A-n30A<br>CA_n12A-n30A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n30 | 5, 10 | |
| CA_n2(2A)-n12A-n30A | CA_n2A-n12A<br>CA_n2A-n30A<br>CA_n12A-n30A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n30 | 5, 10 | |
| CA_n2A-n12A-n66A | CA_n2A-n12A<br>CA_n2A-n66A<br>CA_n12A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n12A-n66A | CA_n2A-n12A<br>CA_n2A-n66A<br>CA_n12A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n12A-n66(2A) | CA_n2A-n12A<br>CA_n2A-n66A<br>CA_n12A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2(2A)-n12A-n66(2A) | CA_n2A-n12A<br>CA_n2A-n66A<br>CA_n12A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n12A-n66(3A) | CA_n2A-n12A<br>CA_n2A-n66A<br>CA_n12A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n2A-n12A-n77A | n77[7]<br>CA_n2A-n12A<br>CA_n2A-n77A[7]<br>CA_n12A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n2(2A)-n12A-n77A | n77[7] CA_n2A-n12A CA_n2A-n77A[7] CA_n12A-n77A[7] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n12A-n77(2A) | n77[7] CA_n2A-n12A CA_n2A-n77A[7] CA_n12A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2A-n14A-n30A | CA_n2A-n14A CA_n2A-n30A CA_n14A-n30A | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n30 | 5, 10 | |
| CA_n2(2A)-n14A-n30A | CA_n2A-n14A CA_n2A-n30A CA_n14A-n30A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n14 | 5, 10 | |
| | | n30 | 5, 10 | |
| CA_n2A-n14A-n66A | CA_n2A-n14A CA_n2A-n66A CA_n14A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n14A-n66A | CA_n2A-n14A CA_n2A-n66A CA_n14A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n14 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n14A-n66(2A) | CA_n2A-n14A CA_n2A-n66A CA_n14A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n14 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n14A-n66(2A) | CA_n2A-n14A CA_n2A-n66A CA_n14A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n14A-n66(3A) | CA_n2A-n14A CA_n2A-n66A CA_n14A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n2A-n14A-n77A | n77[7] CA_n2A-n14A CA_n2A-n77A[7] CA_n14A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n14A-n77(2A) | n77[7] CA_n2A-n14A CA_n2A-n77A[7] CA_n14A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2(2A)-n14A-n77A | n77[7] CA_n2A-n14A CA_n2A-n77A[7] CA_n14A-n77A[7] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n14 | 5, 10 | |

| | | | | |
|---|---|---|---|---|
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n29A-n30A | CA_n2A-n30A | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n30 | 5, 10 | |
| CA_n2(2A)-n29A-n30A | CA_n2A-n30A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n29 | 5, 10 | |
| | | n30 | 5, 10 | |
| CA_n2A-n29A-n66A | CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n29A-n66A | CA_n2A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n29 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n29A-n66(2A) | CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2(2A)-n29A-n66(2A) | CA_n2A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n29 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n29A-n77A | n77[7] CA_n2A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2(2A)-n29A-n77A | n77[7] CA_n2A-n77A[7] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n29 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n29A-n77(2A) | n77[7] CA_n2A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2A-n30A-n66A | CA_n2A-n30A CA_n30A-n66A CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| CA_n2(2A)-n30A-n66A | CA_n2A-n30A CA_n30A-n66A CA_n2A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| CA_n2(2A)-n30A-n66(2A) | CA_n2A-n30A CA_n30A-n66A CA_n2A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n30A-n66(2A) | CA_n2A-n30A CA_n30A-n66A CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS0 | |
| CA_n2A-n30A-n66(3A) | CA_n2A-n30A CA_n30A-n66A CA_n2A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(3A)_BCS0 | |

| | | | | |
|---|---|---|---|---|
| CA_n2A-n30A-n77A | n77[7]<br>CA_n2A-n30A<br>CA_n2A-n77A[7]<br>CA_n30A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n30A-n77(2A) | n77[7]<br>CA_n2A-n30A<br>CA_n2A-n77A[7]<br>CA_n30A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2(2A)-n30A-n77A | n77[7]<br>CA_n2A-n30A<br>CA_n2A-n77A[7]<br>CA_n30A-n77A[7] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n48A-n66A | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n48A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n48(A-B)-n66A | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n48A-n66A | n2 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n48 | CA_n48(A-B)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | CA_n48(A-B)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n48B-n66A | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n48A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48B_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n2 | 5, 10, 15, 20 | 2 |
| | | n48 | CA_n48B_BCS2 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n48(2A)-n66A | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n48A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n48A-n77A | n77[7, 9]<br>CA_n2A-n48A<br>CA_n2A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n48A-n77C | CA_n2A-n48A<br>CA_n2A-n77A<br>CA_n77C | n2 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | CA_n77C_BCS0 | |

| | | | | |
|---|---|---|---|---|
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n2A-n48B-n77A | CA_n2A-n48A CA_n2A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48B_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20 | 2 |
| | | n48 | CA_n48B_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n48(2A)-n77A | CA_n2A-n48A CA_n2A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n66A-n71A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n2A-n66A-n77A | n77[7, 9] CA_n2A-n66A CA_n66A-n77A[7] CA_n2A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2(2A)-n66A-n77A | n77[7] CA_n2A-n66A CA_n66A-n77A[7] CA_n2A-n77A[7] | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n66(2A)-n77A | n77[7] CA_n2A-n66A CA_n66A-n77A[7] CA_n2A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n66A-n77C | CA_n2A-n66A CA_n66A-n77A CA_n2A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n2A-n66A-n77(2A) | n77[7] CA_n2A-n66A CA_n66A-n77A[7] CA_n2A-n77A[7] | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |

| | | | | |
|---|---|---|---|---|
| CA_n2A-n66A-n78A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n66A-n78(2A) | - | n2 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n2A-n71A-n78A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n71A-n78(2A) | - | n2 | 5, 10, 15, 20 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n3A-n5A-n7A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40 | |
| | CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n5A-n7A | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n3A-n5A-n7B | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | CA_n7B_BCS0 | |
| | CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n5A-n7A<br>CA_n7B | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | CA_n7B_BCS0 | |
| CA_n3A-n5A-n28A | - | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n3A-n5A-n78A | CA_n3A-n5A<br>CA_n3A-n78A<br>CA_n5A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n7A-n8A | - | n3 | 5, 10, 15, 20, 25, 30, 35, 40, 50 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 35, 40, 50 | |
| | | n8 | 5, 10, 15, 20, 35 | |
| CA_n3A-n7A-n28A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| | CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n7A-n28A | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 2 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| CA_n3A-n7B-n28A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n28 | 5, 10, 15, 20 | |
| | CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n7A-n28A<br>CA_n7B | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n7 | CA_n7B_BCS0 | |

| | | | | |
|---|---|---|---|---|
| | | n28 | 5, 10, 15, 20 | |
| CA_n3A-n7A-n78A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n7A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n3A-n7B-n78A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n7A-n78A<br>CA_n7B | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n3A-n7A-n78(2A) | CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n7A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n3A-n8A-n28A | - | n3 | 5, 10, 15, 20, 25, 30, 35, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20, 35 | |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n3A-n8A-n41A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n8A-n77A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n8A-n77(2A) | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n3A-n8A-n78A | CA_n3A-n8A<br>CA_n3A-n78A<br>CA_n8A-n78A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n18A-n28A | CA_n3A-n18A<br>CA_n3A-n28A<br>CA_n18A-n28A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n28 | 5, 10 | |
| CA_n3A-n18A-n41A | CA_n3A-n41A<br>CA_n3A-n18A<br>CA_n18A-n41A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n28A-n41B | - | n3 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10 | |
| | | n41 | CA_n41B_BCS0 | |
| CA_n3A-n18A-n77A | CA_n3A-n18A<br>CA_n3A-n77A<br>CA_n18A-n77A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n18A-n77(2A) | CA_n3A-n18A<br>CA_n3A-n77A | n3 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n18A-n77A | | | |
| | | n18 | 5, 10, 15 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n3A-n20A-n67A | CA_n3A-n20A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n20 | 5, 10, 15, 20 | |
| | | n67 | 5, 10, 15, 20 | |
| CA_n3A-n20A-n78A | - | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n20 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n28A-n41A | CA_n3A-n28A CA_n3A-n41A CA_n28A-n41A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n28A-n41B | CA_n3An28A CA_n3A-n41A CA_n28A-n41A | n3 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10 | |
| | | n41 | CA_n41B_BCS0 | |
| CA_n3A-n28A-n77A | CA_n3A-n28A CA_n3A-n77A CA_n28A-n77A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n28A-n77(2A) | CA_n3A-n28A CA_n3A-n77A CA_n28A-n77A CA_n77(2A) | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n77 | CA_n77(2A)_BCS0 | |
| CA_n3A-n28A-n77(3A) | CA_n3A-n28A CA_n3A-n77A CA_n28A-n77A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(3A)_BCS0 | |
| CA_n3A-n28A-n78A | CA_n3A-n28A CA_n3A-n78A CA_n28A-n78A | n3 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n28 | 5, 10 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n28A-n78(2A) | CA_n3A-n28A CA_n3A-n78A CA_n28A-n78A | n3 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n28 | 5, 10 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n3A-n28A-n79A | CA_n3A-n28A CA_n3A-n79A | n3 | 5, 10, 15, 20, 25, 30 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n28A-n79A | | | |
| | | n28 | 5, 10, 15, 20 | |
| | | n79 | 40, 50, 80, 100 | |
| CA_n3A-n38A-n40A | - | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n77A-n79A[4] | CA_n3A-n77A<br>CA_n3A-n79A<br>CA_n77A-n79A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n3A-n77(2A)-n79A[4] | CA_n3A-n77A<br>CA_n3A-n79A<br>CA_n77A-n79A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n3A-n40A-n41A | CA_n3A-n40A<br>CA_n3A-n41A<br>CA_n40A-n41A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n41A-n77A | CA_n3A-n41A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | CA_n3A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n41A-n77A | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n41B-n77A | CA_n3A-n41A<br>CA_n3A-n77A<br>CA_n41A-n77A | n3 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41B_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n41A-n77(2A) | CA_n3A-n41A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | CA_n3A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n41A-n77A | n77 | CA_n77(2A)_BCS0 | |
| CA_n3A-n41A-n77(3A) | CA_n3A-n41A<br>CA_n3A-n77A<br>CA_n41A-n77A | n3 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(3A)_BCS1 | |
| CA_n3A-n41A-n78A | - | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n3A-n41A<br>CA_n3A-n78A<br>CA_n41A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n41A-n78(2A) | CA_n3A-n41A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | CA_n3A-n78A<br>CA_n41A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n3A-n41A-n79A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n3 | 5, 10, 15, 20, 25, 30 | 1 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n5A-n7A-n28A | - | n5 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n5A-n7A-n78A | CA_n5A-n78A[7] | n5 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n7A-n78A[7] | | | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n5A-n7A<br>CA_n5A-n78A<br>CA_n7A-n78A | n5 | 5, 10, 15, 20 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n5A-n7B-n78A | CA_n5A-n78A[7]<br>CA_n7A-n78A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n5A-n7A<br>CA_n5A-n78A<br>CA_n7A-n78A<br>CA_n7B | n5 | 5, 10, 15, 20 | 1 |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n5A-n12A-n77A | n77[7]<br>CA_n5A-n12A<br>CA_n5A-n77A[7]<br>CA_n12A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n12A-n77(2A) | n77[7]<br>CA_n5A-n12A<br>CA_n5A-n77A[7]<br>CA_n12A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n14A-n77A | n77[7]<br>CA_n5A-n14A<br>CA_n5A-n77A[7]<br>CA_n14A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n14A-n77(2A) | n77[7]<br>CA_n5A-n14A<br>CA_n5A-n77A[7]<br>CA_n14A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n25A-n66A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n25A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n25(2A)-n66A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n25A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n25A-n66(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n25A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n5A-n25(2A)-n66(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n25A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |

| | | | | |
|---|---|---|---|---|
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n5A-n25A-n77A | CA_n5A-n25A | n5 | 5, 10, 15, 20 | 0 |
| | CA_n5A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | CA_n25A-n77A | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25(2A)-n77A | CA_n5A-n25A<br>CA_n5A-n77A<br>CA_n25A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25A-n77(2A) | CA_n5A-n25A<br>CA_n5A-n77A<br>CA_n25A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n25(2A)-n77(2A) | CA_n5A-n25A<br>CA_n5A-n77A<br>CA_n25A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n25A-n78A | CA_n5A-n25A<br>CA_n5A-n78A<br>CA_n25A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25(2A)-n78A | CA_n5A-n25A<br>CA_n5A-n78A<br>CA_n25A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25A-n78(2A) | CA_n5A-n25A<br>CA_n5A-n78A<br>CA_n25A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n25(2A)-n78(2A) | CA_n5A-n25A<br>CA_n5A-n78A<br>CA_n25A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n29A-n77A | n77[7]<br>CA_n5A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n29A-n77(2A) | n77[7]<br>CA_n5A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n30A-n66A | CA_n5A-n30A<br>CA_n30A-n66A<br>CA_n5A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| CA_n5A-n30A-n66(2A) | CA_n5A-n30A<br>CA_n30A-n66A<br>CA_n5A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS0 | |
| CA_n5A-n30A-n66(3A) | CA_n5A-n30A<br>CA_n30A-n66A<br>CA_n5A-n66A | n5 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n5A-n30A-n77A | n77[7]<br>CA_n5A-n30A<br>CA_n5A-n77A[7]<br>CA_n30A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n30A-n77(2A) | n77[7]<br>CA_n5A-n30A<br>CA_n5A-n77A[7]<br>CA_n30A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n40A-n78A | CA_n5A-n40A<br>CA_n5A-n78A<br>CA_n40A-n78A | n5 | 5, 10, 15, 20, 25[1] | 0 |
| | | n40 | 5[8], 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90,100 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90,100 | |
| CA_n5A-n48A-n66A | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n48A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n48(A-B)-n66A | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n48A-n66A | n5 | 5, 10, 15, 20, 25[1] | 0 |
| | | n48 | CA_n48(A-B)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n5 | 5, 10, 15, 20, 25[1] | 1 |
| | | n48 | CA_n48(A-B)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n48B-n66A | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n48A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48B_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n5 | 5, 10, 15, 20 | 2 |
| | | n48 | CA_n48B_BCS2 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n48(2A)-n66A | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n48A-n66A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n5A-n48A-n77A | n77[7, 9]<br>CA_n5A-n48A<br>CA_n5A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n48A-n77C | CA_n5A-n48A<br>CA_n5A-n77A<br>CA_n77C | n5 | 5, 10, 15, 20, 25[1] | 0 |

| | | | | |
|---|---|---|---|---|
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | 5, 10, 15, 20, 25[1] | 1 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n5A-n48B-n77A | CA_n5A-n48A CA_n5A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48B_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20 | 2 |
| | | n48 | CA_n48B_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n48B-n77C | CA_n5A-n48A CA_n5A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48B_BCS0 | |
| | | n77 | CA_n77C BCS1 | |
| | | n5 | 5, 10, 15, 20 | 2 |
| | | n48 | CA_n48B_BCS1 | |
| | | n77 | CA_n77C BCS0 | |
| | | n5 | 5, 10, 15, 20 | 3 |
| | | n48 | CA_n48B_BCS1 | |
| | | n77 | CA_n77C BCS1 | |
| CA_n5A-n48(2A)-n77A | CA_n5A-n48A CA_n5A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n48(2A)-n77C | CA_n5A-n48A CA_n5A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n77 | CA_n77C_BCS1 | |
| | | n5 | 5, 10, 15, 20 | 2 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | 5, 10, 15, 20 | 3 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n5A-n66A-n77A | n77[7, 9] CA_n5A-n66A CA_n66A-n77A[7] CA_n5A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n66(2A)-n77A | n77[7] CA_n5A-n66A CA_n66A-n77A[7] CA_n5A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n66(2A)-n77(2A) | CA_n5A-n66A<br>CA_n66A-n77A<br>CA_n5A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n66A-n77C | CA_n5A-n66A<br>CA_n66A-n77A<br>CA_n5A-n77A | n5 | 5, 10, 15, 20, 25[1] | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n5 | 5, 10, 15, 20, 25[1] | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n5A-n66A-n77(2A) | n77[7]<br>CA_n5A-n66A<br>CA_n66A-n77A[7]<br>CA_n5A-n77A[7] | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n66A-n78A | CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n66(2A)-n78A | CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n66A-n78(2A) | CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n66(2A)-n78(2A) | CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7A-n8A-n28A | - | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n28 | 5, 10, 15, 20, 30 | |
| CA_n7A-n8A-n40A | CA_n7A-n8A<br>CA_n7A-n40A<br>CA_n8A-n40A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n7A-n8A-n78A | CA_n7A-n8A<br>CA_n7A-n78A<br>CA_n8A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25A-n66A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |

| | | | | |
|---|---|---|---|---|
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7A-n25(2A)-n66A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7A-n25(2A)-n66(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n7A-n25A-n66(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n7(2A)-n25A-n66A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7(2A)-n25(2A)-n66A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n7(2A)-n25A-n66(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n7(2A)-n25(2A)-n66(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n25A-n66A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n7A-n25A-n77A | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25(2A)-n77A | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25A-n77(2A) | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n25(2A)-n77(2A) | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n25A-n77A | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n25(2A)-n77A | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n25A-n77(2A) | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n25(2A)-n77(2A) | CA_n7A-n25A<br>CA_n7A_n77A<br>CA_n25A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n25A-n78A | CA_n7A-n25A<br>CA_n7A-n78A<br>CA_n25A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90[4], 100 | |
| CA_n7(2A)-n25A-n78A | - | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90[4], 100 | |
| CA_n7A-n25(2A)-n78A | - | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90[4], 100 | |
| CA_n7(2A)-n25(2A)-n78A | - | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90[4], 100 | |
| CA_n7A-n25A-n78(2A) | CA_n7A-n25A<br>CA_n7A-n78A<br>CA_n25A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS0 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n25A-n78(2A) | - | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS0 | |
| CA_n7A-n25(2A)-n78(2A) | - | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n78 | CA_n78(2A)_BCS0 | |
| CA_n7(2A)-n25(2A)-n78(2A) | - | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n78 | CA_n78(2A)_BCS0 | |
| CA_n7A-n28A-n78(2A) | CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7A-n28A-n78A | CA_n7A-n78A[7]<br>CA_n28A-n78A[7] | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n7A-n28A<br>CA_n7A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |

| | | | | |
|---|---|---|---|---|
| | CA_n28A-n78A | | | |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n7B-n28A-n78A | CA_n7A-n78A[7] CA_n28A-n78A[7] | n7 | CA_n7B_BCS0 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n7A-n28A CA_n7A-n78A CA_n28A-n78A CA_n7B | n7 | CA_n7B_BCS0 | 1 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70[4], 80, 90, 100 | |
| CA_n7A-n40A-n78A | CA_n7A-n40A CA_n7A-n78A CA_n40A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n40 | 5, 10, 15, 20, 30, 40, 50, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n46A-n78A | CA_n7A-n46A CA_n7A-n78A CA_n46A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n46 | 20, 40, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n46C-n78A | CA_n7A-n46A CA_n7A-n78A CA_n46A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n46 | CA_n46C_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n46D-n78A | CA_n7A-n46A CA_n7A-n78A CA_n46A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n46 | CA_n46D_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n66A-n77A | CA_n7A-n66A CA_n7A-n77A CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n66(2A)-n77A | CA_n7A-n66A CA_n7A-n77A CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n66A-n77(2A) | CA_n7A-n66A CA_n7A-n77A CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n66(2A)-n77(2A) | CA_n7A-n66A CA_n7A-n77A CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n66A-n77A | CA_n7A-n66A CA_n7A-n77A CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |

| | | | | |
|---|---|---|---|---|
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n66(2A)-n77A | CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n66A-n77(2A) | CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n66(2A)-n77(2A) | CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n66A-n78A | CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n66A-n78(2A) | CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n66A-n78A | CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n66(2A)-n78A | CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n66(2A)-n78A | CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n66(2A)-n78(2A) | - | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n66A-n78(2A) | CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n66(2A)-n78(2A) | CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n8A-n28A-n78A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n8A-n38A-n40A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n8A-n39A-n41A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 100 | |
| | | n8 | 5, 10, 15, 20 | 1 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | 10, 15, 20, 40, 50, 60 | |
| CA_n8A-n39A-n79A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n8A-n40A-n41A | CA_n8A-n40A CA_n8A-n41A CA_n40A-n41A | n8 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n8A-n40A-n78A | CA_n8A-n40A CA_n8A-n78A CA_n40A-n78A | n8 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 30, 40, 50, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n8A-n41A-n79A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n8 | 5, 10, 15, 20 | 1 |
| | | n41 | 10, 15, 20, 40, 50, 60 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n8A-n78A-n79A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n8A-n78(2A)-n79A | - | n8 | 5, 10, 15, 20 | 0 |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n12A-n30A-n66A | CA_n12A-n30A CA_n12A-n66A CA_n30A-n66A | n12 | 5, 10, 15 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n12A-n30A-n66(2A) | CA_n12A-n30A CA_n12A-n66A CA_n30A-n66A | n12 | 5, 10, 15 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n12A-n30A-n66(3A) | CA_n12A-n30A CA_n12A-n66A CA_n30A-n66A | n12 | 5, 10, 15 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n12A-n30A-n77A | n77[7] CA_n12A-n30A, | n12 | 5, 10 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n12A-n77A[7]<br>CA_n30A-n77A[7] | | | |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n12A-n30A-n77(2A) | n77[7]<br>CA_n12A-n30A<br>CA_n12A-n77A[7]<br>CA_n30A-n77A[7] | n12 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n12A-n66A-n77A | n77[7]<br>CA_n12A-n66A<br>CA_n12A-n77A[7]<br>CA_n66A-n77A[7] | n12 | 5, 10, 15 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n12A-n66(2A)-n77A | n77[7]<br>CA_n12A-n66A<br>CA_n12A-n77A[7]<br>CA_n66A-n77A[7] | n12 | 5, 10, 15 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n12A-n66A-n77(2A) | n77[7]<br>CA_n12A-n66A<br>CA_n12A-n77A[7]<br>CA_n66A-n77A[7] | n12 | 5, 10, 15 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n13A-n25A-n66A | CA_n13A-n25A<br>CA_n13A-n66A<br>CA_n25A-n66A | n13 | 5, 10 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n13A-n25A-n77A | - | n13 | 5, 10 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n13A-n66A-n77A | n77[7, 9] | n13 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n30A-n66A | CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n30A-n66A | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n14A-n30A-n66(2A) | CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n30A-n66A | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n14A-n30A-n66(3A) | CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n30A-n66A | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(3A)_BCS0 | |
| CA_n14A-n30A-n77A | n77[7]<br>CA_n14A-n30A<br>CA_n14A-n77A[7]<br>CA_n30A-n77A[7] | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |

| | | | | |
|---|---|---|---|---|
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n30A-n77(2A) | n77[7]<br>CA_n14A-n30A<br>CA_n14A-n77A[7]<br>CA_n30A-n77A[7] | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n14A-n66A-n77A | n77[7]<br>CA_n14A-n66A<br>CA_n14A-n77A[7]<br>CA_n66A-n77A[7] | n14 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n66(2A)-n77A | n77[7]<br>CA_n14A-n66A<br>CA_n14A-n77A[7]<br>CA_n66A-n77A[7] | n14 | 5, 10 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n66A-n77(2A) | n77[7]<br>CA_n14A-n66A<br>CA_n14A-n77A[7]<br>CA_n66A-n77A[7] | n14 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n18A-n28A-n41A | CA_n18A-n28A<br>CA_n18A-n41A<br>CA_n28A-n41A | n18 | 5, 10, 15 | 0 |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n18A-n28A-n77A | CA_n18A-n28A<br>CA_n18A-n41A<br>CA_n28A-n41A | n18 | 5, 10, 15 | 0 |
| | | n28 | 5, 10 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n18A-n28A-n77(2A) | CA_n18A-n28A<br>CA_n18A-n77A<br>CA_n28A-n77A | n18 | 5, 10, 15 | 0 |
| | | n28 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n18A-n41A-n77A | CA_n18A-n28A<br>CA_n18A-n41A<br>CA_n28A-n41A | n18 | 5, 10, 15 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n18A-n41A-n77(2A) | CA_n18A-n41A<br>CA_n18A-n77A<br>CA_n41A-n77A | n18 | 5, 10, 15 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n20A-n28A-n78A | - | n20 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n24A-n41A-n48A | CA_n24A-n41A<br>CA_n24A_n48A<br>CA_n41A_n48A | n24 | 5, 10 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n24A-n41(2A)-n48A | CA_n24A-n41A<br>CA_n24A_n48A<br>CA_n41A_n48A | n24 | 5, 10 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n41 | CA_n41(2A) BCS1 | |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n24A-n41A-n48(2A) | CA_n24A-n41A<br>CA_n24A_n48A<br>CA_n41A_n48A | n24 | 5, 10 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n48 | CA_n48(2A) BCS0 | |
| CA_n24A-n41(2A)-n48(2A) | CA_n24A-n41A<br>CA_n24A_n48A<br>CA_n41A_n48A | n24 | 5, 10 | 0 |
| | | n41 | CA_n41(2A) BCS1 | |
| | | n48 | CA_n48(2A) BCS0 | |
| CA_n24A-n41A-n77A | CA_n24A-n41A<br>CA_n24A_n77A<br>CA_n41A_n77A | n24 | 5, 10 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n24A-n41(2A)-n77A | CA_n24A-n41A<br>CA_n24A_n77A<br>CA_n41A_n77A | n24 | 5, 10 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n24 | 5, 10 | 1 |
| | | n41 | CA_n41(2A) BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n24A-n41A-n77(2A) | CA_n24A-n41A<br>CA_n24A_n77A<br>CA_n41A_n77A | n24 | 5, 10 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n24 | 5, 10 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(2A) BCS0 | |
| CA_n24A-n41(2A)-n77(2A) | CA_n24A-n41A<br>CA_n24A_n77A<br>CA_n41A_n77A | n24 | 5, 10 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n24 | 5, 10 | 1 |
| | | n41 | CA_n41(2A) BCS1 | |
| | | n77 | CA_n77(2A) BCS0 | |
| CA_n24A-n48A-n77A | | n24 | 5, 10 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n24A-n48(2A)-n77A | | n24 | 5, 10 | 0 |
| | | n48 | CA_n48(2A) BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n24A-n48A-n77(2A) | | n24 | 5, 10 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | CA_n77(2A) BCS0 | |
| CA_n24A-n48(2A)-n77(2A) | | n24 | 5, 10 | 0 |
| | | n48 | CA_n48(2A) BCS0 | |
| | | n77 | CA_n77(2A) BCS0 | |
| CA_n25A-n29A-n66A | CA_n25A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n29 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25A-n38A-n66A | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n38A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25(2A)-n38A-n66A | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n38A-n66A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25(2A)-n38A-n66(2A) | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n38A-n66A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n25A-n38A-n66(2A) | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n38A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n25A-n38A-n78A | CA_n25A-n38A<br>CA_n25A-n78A<br>CA_n38A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n38A-n78(2A) | CA_n25A-n38A<br>CA_n25A-n78A<br>CA_n38A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25(2A)-n38A-n78A | CA_n25A-n38A<br>CA_n25A-n78A<br>CA_n38A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n38A-n78(2A) | CA_n25A-n38A<br>CA_n25A-n78A<br>CA_n38A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n41A-n66A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n66(2A) | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | CA_n66(2A)_BCS1 | |

| | | | | |
|---|---|---|---|---|
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n66 | CA_n66(2A) BCS 4 and 5 | |
| CA_n25A-n41C-n66A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41C_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | CA_n41C BCS 4 and 5 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41(2A)-n66A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | CA_n41(2A) BCS 4 and 5 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n41A-n66A | - | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | CA_n25(2A)_BCS1 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 30, 40 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n41A-n66A | n25 | CA_n25(2A) BCS 4 and 5 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n71A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| | CA_n25A-n71A | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n71B | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n71 | CA_n71B_BCS2 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | 5, 10, 15, 20, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n71 | CA_n71B_BCS2 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | CA_n71B BCS 4 and 5 | |
| CA_n25A-n41A-n71(2A) | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n71 | CA_n71(2A)_BCS0 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | 5, 10, 15, 20, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n71 | CA_n71(2A)_BCS0 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | CA_n71(2A) BCS 4 and 5 | |
| CA_n25A-n41(2A)-n71A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | CA_n41(2A) BCS 4 and 5 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41C-n71A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41C_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A<br>CA_n41C | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |

| | | | | |
|---|---|---|---|---|
| | | n41 | CA_n41C BCS 4 and 5 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n41A-n71A | - | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | CA_n25(2A)_BCS1 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n41A-n71A<br>CA_n25A-n71A | n25 | CA_n25(2A) BCS 4 and 5 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n77A | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41(2A)-n77A | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | CA_n41(2A) BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n77(2A) | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n25A-n41(2A)-n77(2A) | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |

| | | | | |
|---|---|---|---|---|
| | | n41 | CA_n41(2A) BCS 4 and 5 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n25(2A)-n41A-n77A | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | CA_n25(2A) BCS 4 and 5 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41C-n77A | CA_n41C<br>CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41C_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n41C<br>CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | CA_n41C BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41C-n77(2A) | CA_n41C<br>CA_n25A-n41A<br>CA_n25A-n77A<br>CA_n41A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | CA_n41C BCS 4 and 5 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n25A-n41A-n78A | CA_n25A-n41A<br>CA_n25A-n78A<br>CA_n41A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n41A-n78(2A) | CA_n25A-n41A<br>CA_n25A-n78A<br>CA_n41A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n48A-n66A | CA_n25A-n48A<br>CA_n25A-n66A<br>CA_n48A-n66A | n25 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 40, 50 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25A-n48(2A)-n66A | CA_n25A-n48A<br>CA_n25A-n66A<br>CA_n48A-n66A | n25 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |

| | | | | |
|---|---|---|---|---|
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25A-n48C-n66A | CA_n25A-n48A<br>CA_n25A-n66A<br>CA_n48A-n66A | n25 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | CA_n48C_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n25A-n66A-n71A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n66A-n71B | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | CA_n71B_BCS2 | |
| | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | CA_n71B BCS 4 and 5 | |
| CA_n25A-n66A-n71(2A) | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | CA_n71(2A)_BCS0 | |
| | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | CA_n71(2A) BCS 4 and 5 | |
| CA_n25A-n66(2A)-n71A | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | CA_n66(2A) BCS 4 and 5 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n66A-n71A | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n66A-n71A | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n66A<br>CA_n25A-n71A | n25 | CA_n25(2A) BCS 4 and 5 | 4 and 5 |

| | | | | |
|---|---|---|---|---|
| | CA_n66A-n71A | | | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n66A-n77A | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n66(2A)-n77A | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | CA_n66(2A) BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n66A-n77(2A) | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n25A-n66(2A)-n77(2A) | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n25(2A)-n66A-n77A | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | CA_n25(2A) BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n66(2A)-n77A | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n66A-n77(2A) | CA_n25A-n66A<br>CA_n25A-n77A | n25 | CA_n25(2A)_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n66A-n77A | | | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n25(2A)-n66(2A)-n77(2A) | CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n25A-n66A-n78A | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n66A-n78A | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n66(2A)-n78A | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n66A-n78(2A) | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25(2A)-n66(2A)-n78A | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n66A-n78(2A) | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n66(2A)-n78(2A) | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25(2A)-n66(2A)-n78(2A) | CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n71A-n77A | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |

| | | | | |
|---|---|---|---|---|
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n71B-n77A | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | CA_n71B_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71B BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n71(2A)-n77A | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71(2A) BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25(2A)-n71A-n77A | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | CA_n25(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n71A-n77A | n25 | CA_n25(2A) BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n71A-n78A | CA_n25A-n71A<br>CA_n25A-n78A<br>CA_n71A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n71A-n78(2A) | CA_n25A-n71A<br>CA_n25A-n78A<br>CA_n71A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n26A-n66A-n70A | CA_n26A-n66A<br>CA_n26A-n70A | n26 | 5, 10, 15, 20 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n26A-n66(2A)-n70A | CA_n26A-n66A<br>CA_n26A-n70A | n26 | 5, 10, 15, 20 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n28A-n38A-n78A | - | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n39A-n40A | - | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |

| | | | | |
|---|---|---|---|---|
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100 | |
| CA_n28A-n39A-n41A | CA_n28A-n39A<br>CA_n28A-n41A<br>CA_n39A-n41A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n39A-n41C | CA_n28A-n39A<br>CA_n28A-n41A<br>CA_n39A-n41A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n41 | CA_n41C_BCS1 | |
| CA_n28A-n39A-n79A | - | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n28A-n40A-n41A | CA_n28A-n40A<br>CA_n28A-n41A<br>CA_n40A-n41A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n40A-n78A | CA_n28A-n40A<br>CA_n28A-n78A<br>CA_n40A-n78A | n28 | 5, 10, 15, 20 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | CA_n28A-n40A<br>CA_n28A-n78A<br>CA_n40A-n78A | n28 | 5, 10, 15, 20 | 1 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n28A-n40B-n78A | - | n28 | 5, 10, 15, 20 | 0 |
| | | n40 | CA_n40_BCS0 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n28A-n40A-n79A | CA_n28A-n40A<br>CA_n28A-n79A<br>CA_n40A-n79A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n40 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n28A-n41A-n77A | CA_n28A-n41A | n28 | 5, 10, 15, 20, 30 | 0 |
| | CA_n28A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n41A-n77A | n77 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n41B-n77A | CA_n28A-n41A<br>CA_n28A-n77A<br>CA_n41A-n77A | n28 | 5, 10 | 0 |
| | | n41 | CA_n41B_BCS0 | |
| | | n77 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n41A-n77(2A) | CA_n28A-n41A | n28 | 5, 10, 15, 20, 30 | 0 |
| | CA_n28A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | CA_n41A-n77A | n77 | CA_n77(2A)_BCS0 | |
| CA_n28A-n41A-n77(3A) | CA_n28A-n41A<br>CA_n28A-n77A<br>CA_n41A-n77A | n28 | 5, 10 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(3A)_BCS1 | |
| CA_n28A-n41A-n78A | CA_n28A-n41A<br>CA_n41A-n78A | n28 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n28A-n78A | | | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 90, 100 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n28A-n41A-n78(2A) | CA_n78(2A) | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n28A-n41A-n79A | CA_n28A-n41A<br>CA_n28A-n79A<br>CA_n41A-n79A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n28A-n41C-n79A | CA_n28A-n41A<br>CA_n28A-n79A<br>CA_n41A-n79A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n41 | CA_n41C_BCS1 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n28A-n46A-n78A | CA_n28A-n46A<br>CA_n28A-n78A<br>CA_n46A-n78A | n28 | 5, 10, 15, 20 | 0 |
| | | n46 | 20, 40, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n46C-n78A | CA_n28A-n46A<br>CA_n28A-n78A<br>CA_n46A-n78A | n28 | 5, 10, 15, 20 | 0 |
| | | n46 | CA_n46C_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n46D-n78A | CA_n28A-n46A<br>CA_n28A-n78A<br>CA_n46A-n78A | n28 | 5, 10, 15, 20 | 0 |
| | | n46 | CA_n46D_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n77A-n79A[4] | CA_n28A-n77A<br>CA_n28A-n79A<br>CA_n77A-n79A | n28 | 5, 10, 15, 20 | 0 |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n28A-n77(2A)-n79A[4] | CA_n28A-n77A<br>CA_n28A-n79A<br>CA_n77A-n79A | n28 | 5, 10, 15, 20 | 0 |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n28A-n78A-n79A | CA_n28A-n78A<br>CA_n28A-n79A<br>CA_n78A-n79A | n28 | 5, 10, 15, 20 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n29A-n30A-n66A | CA_n30A-n66A | n29 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n29A-n30A-n66(2A) | CA_n30A-n66A | n29 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n29A-n30A-n77A | n77[7]<br>CA_n30A-n77A[7] | n29 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n29A-n30A-n77(2A) | n77[7]<br>CA_n30A-n77A[7] | n29 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n29A-n66A-n70A | - | n29 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n29A-n66B-n70A | - | n29 | 5, 10 | 0 |
| | | n66 | CA_n66B_BCS0. | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n29A-n66(2A)-n70A | - | n29 | 5, 10 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n29A-n66A-n77A | n77[7]<br>CA_n66A-n77A[7] | n29 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n29A-n66(2A)-n77A | n77[7]<br>CA_n66A-n77A[7] | n29 | 5, 10 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n29A-n66A-n77(2A) | n77[7]<br>CA_n66A-n77A[7] | n29 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n30A-n66A-n77A | n77[7]<br>CA_n30A-n66A<br>CA_n30A-n77A[7]<br>CA_n66A-n77A[7] | n30 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n30A-n66(2A)-n77A | n77[7]<br>CA_n30A-n66A<br>CA_n30A-n77A[7]<br>CA_n66A-n77A[7] | n30 | 5, 10 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n30A-n66A-n77(2A) | n77[7]<br>CA_n30A-n66A<br>CA_n30A-n77A[7]<br>CA_n66A-n77A[7] | n30 | 5, 10 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n38A-n66A-n78A | CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n38 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n38A-n66A-n78(2A) | CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n38 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n38A-n66(2A)-n78A | CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n38 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |

| | | | | |
|---|---|---|---|---|
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n38A-n66(2A)-n78(2A) | CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n38 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n39A-n40A-n41A | CA_n39A-n40A<br>CA_n39A-n41A<br>CA_n40A-n41A | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n39A-n40A-n79A | CA_n39A-n40A<br>CA_n40A-n79A<br>CA_n39A-n79A | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n39A-n41A-n79A | - | n39 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n39 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 40, 50, 60 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n40A-n41A-n79A | CA_n40A-n41A<br>CA_n40A-n79A<br>CA_n41A-n79A | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 0 |
| | | n41 | 10, 15, 20, 40, 50, 60, 80, 100 | |
| | | n79 | , 40, 50, 60, 80, 100 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 40, 50, 60 | |
| | | n79 | , 40, 50, 60, 80, 100 | |
| CA_n41A-n66A-n70A | CA_n41A-n66A<br>CA_n41A-n70A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n41A-n66A-n71A | - | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n41A-n71A<br>CA_n66A-n71A<br>CA_n41A-n66A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n41A-n71A<br>CA_n66A-n71A<br>CA_n41A-n66A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n66A-n71B | CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n66A-n71A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | CA_n71B_BCS2 | |
| | CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n66A-n71A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | CA_n71B BCS 4 and 5 | |
| CA_n41A-n66A-n71(2A) | CA_n41A-n66A<br>CA_n41A-n71A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n66A-n71A | | | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n71(2A)_BCS0 | |
| | CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n66A-n71A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | CA_n71(2A) BCS 4 and 5 | |
| CA_n41A-n66(2A)-n71A | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n41A-n71A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n41A-n71A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | CA_n66(2A) BCS 4 and 5 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(2A)-n66A-n71A | - | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n41A-n71A<br>CA_n66A-n71A<br>CA_n41A-n66A | n41 | CA_n41(2A)_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n41A-n71A<br>CA_n66A-n71A<br>CA_n41A-n66A | n41 | CA_n41(2A) BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n66A-n71A | - | n41 | CA_n41C_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n41A-n71A<br>CA_n66A-n71A<br>CA_n41A-n66A | n41 | CA_n41C_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n41A-n71A<br>CA_n66A-n71A<br>CA_n41A-n66A<br>CA_n41C | n41 | CA_n41C BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n66A-n77A | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |

| | | | | |
|---|---|---|---|---|
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n66A-n77(2A) | CA_n41A-n77A<br>CA_n66A-n77A<br>CA_n41A-n66A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | CA_n41A-n77A<br>CA_n66A-n77A<br>CA_n41A-n66A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n41A-n66(2A)-n77A | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | CA_n66(2A) BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n66(2A)-n77(2A) | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | CA_n66(2A) BCS 4 and 5 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n41(2A)-n66A-n77A | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | CA_n41(2A) BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(2A)-n66A-n77(2A) | CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | CA_n41(2A) BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n41C-n66A-n77A | CA_41C<br>CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | CA_n41C_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_41C<br>CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | CA_n41C BCS 4 and 5 | 4 and 5 |

| | | | | |
|---|---|---|---|---|
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n66A-n77(2A) | CA_41C<br>CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n41 | CA_n41C BCS 4 and 5 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n41A-n66A-n78A | CA_n41A-n66A<br>CA_n41A-n78A<br>CA_n66A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n66A-n78(2A) | CA_n41A-n66A<br>CA_n41A-n78A<br>CA_n66A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n41A-n66(2A)-n78A | CA_n41A-n66A<br>CA_n41A-n78A<br>CA_n66A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n66(2A)-n78(2A) | CA_n41A-n66A<br>CA_n41A-n78A<br>CA_n66A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n41A-n70A-n78A | CA_n41A-n70A<br>CA_n41A-n78A<br>CA_n70A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n70 | 5, 10, 15, 20, 25 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n71A-n77A | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n71B-n77A | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n71 | CA_n71B_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71B BCS 4 and 5 | |

| | | | | |
|---|---|---|---|---|
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n71(2A)-n77A | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71(2A) BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n71A-n77(2A) | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n41(2A)-n71A-n77A | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | CA_n41(2A) BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(2A)-n71A-n77(2A) | | n41 | CA_n41(2A) BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n41C-n71A-n77A | CA_41C<br>CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | CA_n41C_BCS0 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_41C<br>CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | CA_n41C BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n71A-n77(2A) | CA_41C<br>CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n41 | CA_n41C BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n41A-n71A-n78A | CA_n41A-n71A<br>CA_n41A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n71A-n78A | | | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n71A-n78(2A) | CA_n41A-n71A<br>CA_n41A-n78A<br>CA_n71A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n46A-n48A-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46B-n48A-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46C-n48A-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46D-n48A-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46M-n48A-n96A | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46N-n48A-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46A-n48B-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46B-n48B-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46C-n48B-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46D-n48B-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |

| | | | | |
|---|---|---|---|---|
| CA_n46M-n48B-n96A | | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46N-n48B-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46A-n48C-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46B-n48C-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46C-n48C-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46D-n48C-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46M-n48C-n96A | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46N-n48C-n96A | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46A-n48A-n96B | CA_n46A-n48A<br>CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46B-n48A-n96B | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46C-n48A-n96B | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46D-n48A-n96B | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46M-n48A-n96B | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46N-n48A-n96B | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46A-n48A-n96C | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46B-n48A-n96C | - | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46C-n48A-n96C | - | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46D-n48A-n96C | - | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46M-n48A-n96C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46N-n48A-n96C | - | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46A-n48B-n96C | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46B-n48B-n96C | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46C-n48B-n96C | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46D-n48B-n96C | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |

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|---|---|---|---|---|
| | CA_n46A-n48B<br>CA_n48B-n96A | | | |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46M-n48B-n96C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46N-n48B-n96C | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48B_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46A-n48C-n96C | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46B-n48C-n96C | - | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46C-n48C-n96C | - | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46D-n48C-n96C | - | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46M-n48C-n96C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46N-n48C-n96C | - | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46A-n48A-n96D | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46B-n48A-n96D | - | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46C-n48A-n96D | - | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46D-n48A-n96D | - | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46M-n48A-n96D | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46N-n48A-n96D | - | n46 | CA_n46N_BCS0 | 0 |

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|---|---|---|---|---|
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46A-n48C-n96D | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46B-n48C-n96D | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46C-n48C-n96D | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46D-n48C-n96D | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46M-n48C-n96D | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46N-n48C-n96D | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46A-n48A-n96E | - | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46B-n48A-n96E | - | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46C-n48A-n96E | - | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46D-n48A-n96E | - | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46M-n48A-n96E | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96E_BCS0 | |

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|---|---|---|---|---|
| CA_n46N-n48A-n96E | - | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46A-n48C-n96E | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46B-n48C-n96E | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46C-n48C-n96E | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46D-n48C-n96E | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46M-n48C-n96E | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46N-n48C-n96E | CA_n48B<br>CA_n46A-n48A<br>CA_n48A-n96A<br>CA_n46A-n48B<br>CA_n48B-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48C_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46A-n48(2A)-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46B-n48(2A)-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46C-n48(2A)-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46D-n48(2A)-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46M-n48(2A)-n96A | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46N-n48(2A)-n96A | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |

| | | | | |
|---|---|---|---|---|
| | | n96 | 20, 40, 60, 80 | |
| CA_n46A-n48(2A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46B-n48(2A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46C-n48(2A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46D-n48(2A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46M-n48(2A)-n96B | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46N-n48(2A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46A-n48(2A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46B-n48(2A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46C-n48(2A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46D-n48(2A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46M-n48(2A)-n96C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46N-n48(2A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46A-n48(2A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46B-n48(2A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46C-n48(2A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46D-n48(2A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |

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|---|---|---|---|---|
| CA_n46M-n48(2A)-n96D | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46N-n48(2A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46A-n48(2A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46B-n48(2A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46C-n48(2A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46D-n48(2A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46M-n48(2A)-n96E | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46N-n48(2A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46A-n48(3A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46B-n48(3A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46C-n48(3A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46D-n48(3A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46M-n48(3A)-n96A | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46N-n48(3A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46A-n48(3A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46B-n48(3A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46C-n48(3A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46D-n48(3A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46M-n48(3A)-n96B | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46N-n48(3A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46A-n48(3A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46B-n48(3A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46C-n48(3A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46D-n48(3A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46M-n48(3A)-n96C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46N-n48(3A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46A-n48(3A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46B-n48(3A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46C-n48(3A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46D-n48(3A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46M-n48(3A)-n96D | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46N-n48(3A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46A-n48(3A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |

| | | | | |
|---|---|---|---|---|
| CA_n46B-n48(3A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46C-n48(3A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46D-n48(3A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46M-n48(3A)-n96E | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46N-n48(3A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(3A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46A-n48(4A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46B-n48(4A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46C-n48(4A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46D-n48(4A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46M-n48(4A)-n96A | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46N-n48(4A)-n96A | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | 20, 40, 60, 80 | |
| CA_n46A-n48(4A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46B-n48(4A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46C-n48(4A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46D-n48(4A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46M-n48(4A)-n96B | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46N-n48(4A)-n96B | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96B_BCS0 | |
| CA_n46A-n48(4A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46B-n48(4A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46C-n48(4A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46D-n48(4A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46M-n48(4A)-n96C | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46N-n48(4A)-n96C | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96C_BCS0 | |
| CA_n46A-n48(4A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46B-n48(4A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46C-n48(4A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46D-n48(4A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46M-n48(4A)-n96D | | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46N-n48(4A)-n96D | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96D_BCS0 | |
| CA_n46A-n48(4A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | 10, 20, 40, 60, 80 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46B-n48(4A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46B_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46C-n48(4A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46C_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46D-n48(4A)-n96E | CA_n46A-n48A CA_n48A-n96A | n46 | CA_n46D_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |

| | | | | |
|---|---|---|---|---|
| CA_n46M-n48(4A)-n96E | - | n46 | CA_n46M_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n46N-n48(4A)-n96E | CA_n46A-n48A<br>CA_n48A-n96A | n46 | CA_n46N_BCS0 | 0 |
| | | n48 | CA_n48(4A)_BCS0 | |
| | | n96 | CA_n96E_BCS0 | |
| CA_n48A-n66A-n70A | CA_n48A-n66A<br>CA_n48A-n70A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n48A-n66(2A)-n70A | CA_n48A-n66A<br>CA_n48A-n70A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n48(2A)-n66A-n70A | CA_n48A-n66A<br>CA_n48A-n70A | n48 | CA_n48(2A)_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n48B-n66A-n70A | CA_n48A-n66A<br>CA_n48A-n70A | n48 | CA_n48B_BCS2 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| CA_n48A-n66A-n71A | CA_n48A-n71A<br>CA_n66A-n71A<br>CA_n48A-n66A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48A-n66(2A)-n71A | CA_n48A-n71A<br>CA_n66A-n71A<br>CA_n48A-n66A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS0 | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48(2A)-n66A-n71A | CA_n48A-n71A<br>CA_n66A-n71A<br>CA_n48A-n66A | n48 | CA_n48(2A)_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48B-n66A-n71A | CA_n48A-n71A<br>CA_n66A-n71A<br>CA_n48A-n66A | n48 | CA_n48B_BCS2 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48A-n66A-n71(2A) | CA_n48A-n71A<br>CA_n66A-n71A<br>CA_n48A-n66A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | CA_n71(2A)_BCS0 | |
| CA_n48A-n66A-n77A | n77[7, 9]<br>CA_n48A-n66A<br>CA_n66A-n77A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n48A-n66A-n77C | CA_n48A-n66A<br>CA_n66A-n77A<br>CA_n77C | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n48B-n66A-n77A | CA_n48A-n66A<br>CA_n66A-n77A | n48 | CA_n48B_BCS0 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n48 | CA_n48B_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n48 | CA_n48B_BCS2 | 2 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n48(2A)-n66A-n77A | CA_n48A-n66A<br>CA_n66A-n77A | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n48 | CA_n48(2A)_BCS1 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n48(2A)-n66A-n77C | CA_n48A-n66A<br>CA_n66A-n77A | n48 | CA_n48(2A)_BCS0 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | CA_n48(2A)_BCS0 | 1 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| | | n48 | CA_n48(2A)_BCS1 | 2 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n48 | CA_n48(2A)_BCS1 | 3 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n48A-n70A-n71A | CA_n48A-n71A<br>CA_n70A-n71A<br>CA_n48A-n70A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48(2A)-n70A-n71A | CA_n48A-n71A<br>CA_n70A-n71A<br>CA_n48A-n70A | n48 | CA_n48(2A)_BCS1 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48B-n70A-n71A | CA_n48A-n71A<br>CA_n70A-n71A<br>CA_n48A-n70A | n48 | CA_n48B_BCS2 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n48A-n70A-n71(2A) | CA_n48A-n71A<br>CA_n70A-n71A<br>CA_n48A-n70A | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | CA_n71(2A)_BCS0 | |
| CA_n66A-n70A-n71A | CA_n66A-n71A<br>CA_n70A-n71A | n66 | 5, 10, 15, 20, 40 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n66A-n70A-n78A | CA_n66A-n78A<br>CA_n70A-n78A | n66 | 10, 15, 20, 25, 30, 40 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n66A-n70A-n71(2A) | CA_n66A-n71A<br>CA_n70A-n71A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | CA_n71(2A)_BCS0 | |

| | | | | |
|---|---|---|---|---|
| CA_n66B-n70A-n71A | CA_n66A-n71A<br>CA_n70A-n71A | n66 | CA_n66B_BCS0 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n66(2A)-n70A-n71A | CA_n66A-n71A<br>CA_n70A-n71A | n66 | CA_n66(2A)_BCS0 | 0 |
| | | n70 | 5, 10, 15, 20[1], 25[1] | |
| | | n71 | 5, 10, 15, 20 | |
| CA_n66A-n71A-n77A | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n66A-n71B-n77A | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | CA_n71B_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71B BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n66A-n71(2A)-n77A | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | CA_n71(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | CA_n71(2A) BCS 4 and 5 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n66(2A)-n71A-n77A | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | CA_n66(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | CA_n66(2A) BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n66A-n71A-n77(2A) | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | n66 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |

| | | | | |
|---|---|---|---|---|
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n66(2A)-n71A-n77(2A) | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | CA_n66(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A | n66 | CA_n66(2A) BCS 4 and 5 | 4 and 5 |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | CA_n77(2A) BCS 4 and 5 | |
| CA_n66A-n71A-n78A | CA_n66A-n78A<br>CA_n66A-n71A<br>CA_n71A-n78A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n66A-n71A-n78(2A) | CA_n66A-n78A<br>CA_n66A-n71A<br>CA_n71A-n78A | n66 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n66(2A)-n71A-n78A | CA_n66A-n78A<br>CA_n66A-n71A<br>CA_n71A-n78A | n66 | CA_n66(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n66(2A)-n71A-n78(2A) | CA_n66A-n78A<br>CA_n66A-n71A<br>CA_n71A-n78A | n66 | CA_n66(2A)_BCS1 | 0 |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |

NOTE 1: This UE channel bandwidth is applicable only to downlink
NOTE 2: For the 20 MHz bandwidth, the minimum requirements are specified for NR UL carrier frequencies confined to either 713-723 MHz or 728-738 MHz.
NOTE 3: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1.
NOTE 4: The minimum requirements only apply for non-simultaneous Tx/Rx between all carriers for TDD combinations.
NOTE 5: Simultaneous Rx/Tx capability for TDD combinations does not apply for UEs supporting band n78 with an n77 implementation.
NOTE 6: Only single uplink carriers with power class other than PC3 are listed.
NOTE 7: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination
NOTE 8: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as an SCell part of DC or CA configuration.
NOTE 9: Power Class 1.5 is allowed for single uplink carrier in this downlink/uplink combination

## 5.5A.3.3 Configurations for inter-band CA (four bands)

**Table 5.5A.3.3-1: NR CA configurations and bandwidth combinations sets defined for inter-band CA (four bands)**

| NR CA configuration | Uplink CA configuration or single uplink carrier [4] | NR Band | Channel bandwidth (MHz) (NOTE 3) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n1A-n3A-n5A-n7A | CA_n1A-n3A<br>CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n5A-n7A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |

| | | | | |
|---|---|---|---|---|
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1A-n3A-n5A-n7B | CA_n1A-n3A<br>CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n5A-n7A<br>CA_n7B | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | CA_n7B_BCS0 | |
| CA_n1A-n3A-n5A-n78A | CA_n1A-n3A<br>CA_n1A-n5A<br>CA_n1A-n78A<br>CA_n3A-n5A<br>CA_n3A-n78A<br>CA_n5A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n5 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n7A-n28A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n7A-n28A | n1 | 5, 10, 15, 20 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20[2] | |
| CA_n1A-n3A-n7B-n28A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n7 | CA_n7B_BCS0 | |
| | | n28 | 5, 10, 15, 20 | |
| | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n7B<br>CA_n7A-n28A | n1 | 5, 10, 15, 20 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | CA_n7B_BCS0 | |
| | | n28 | 5, 10, 15, 20 | |
| CA_n1A-n3A-n7A-n78A | | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n7A-n78A | n1 | 5, 10, 15, 20 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |

| | | | | |
|---|---|---|---|---|
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 2 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n7A-n78(2A) | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n7A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n1A-n3A-n7B-n78A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n7A-n78A<br>CA_n7B | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n8A-n77A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n8 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n3A-n8A-n77(2A) | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n8 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n1A-n3A-n8A-n78A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90[1], 100 | |
| CA_n1A-n3A-n18A-n28A | CA_n1A-n3A<br>CA_n1A-n18A<br>CA_n1A-n28A<br>CA_n3A-n18A<br>CA_n3A-n28A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20 | |
| | | n18 | 5, 10, 15 | |
| | | n28 | 5, 10 | |
| CA_n1A-n3A-n18A-n41A | CA_n1A-n3A<br>CA_n1A-n18A<br>CA_n1A-n41A<br>CA_n3A-n18A<br>CA_n3A-n41A<br>CA_n18A-n41A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20 | |
| | | n18 | 5, 10, 15 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n1A-n3A-n18A-n77A | CA_n1A-n3A<br>CA_n1A-n18A<br>CA_n1A-n77A<br>CA_n3A-n18A<br>CA_n3A-n77A<br>CA_n18A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20 | |
| | | n18 | 5, 10, 15 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n28A-n41A | CA_n1A-n3A<br>CA_n1A-n28A<br>CA_n1A-n41A<br>CA_n3A-n28A<br>CA_n3A-n41A<br>CA_n28A-n41A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20 | |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n3A-n28A-n77A | CA_n1A-n3A<br>CA_n1A-n28A<br>CA_n1A-n77A<br>CA_n3A-n28A<br>CA_n3A-n77A<br>CA_n28A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | CA_n1A-n3A<br>CA_n1A-n28A<br>CA_n1A-n77A<br>CA_n3A-n28A<br>CA_n3A-n77A<br>CA_n28A-n77A | n1 | 5, 10, 15, 20 | 1 |
| | | n3 | 5, 10, 15, 20 | |
| | | n28 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n28A-n78A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30 | |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | 10, 15, 20, 40, 50, 60, 80, 90[1], 100 | |
| | CA_n1A-n3A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 2 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20[2],30[2] | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n28A-n78(2A) | CA_n1A-n3A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20[2], 30[2] | |

| | | | | |
|---|---|---|---|---|
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n1A-n3A-n28A-n79A | CA_n1A-n3A<br>CA_n1A-n28A<br>CA_n1A-n79A<br>CA_n3A-n28A<br>CA_n3A-n79A<br>CA_n28A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25,30 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n3A-n41A-n77A | CA_n1A-n3A<br>CA_n1A-n41A<br>CA_n1A-n77A<br>CA_n3A-n41A<br>CA_n3A-n77A<br>CA_n41A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n77A-n79A | CA_n1A-n3A<br>CA_n1A-n77A<br>CA_n1A-n79A<br>CA_n3A-n77A<br>CA_n3A-n79A<br>CA_n77A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25,30 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n5A-n7A-n78A | CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n5A-n7A<br>CA_n5A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n5A-n7B-n78A | CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n5A-n7A<br>CA_n5A-n78A<br>CA_n7A-n78A<br>CA_n7B | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n7A-n8A-n40A | CA_n1A-n7A<br>CA_n1A-n8A<br>CA_n1A-n40A<br>CA_n7A-n8A<br>CA_n7A-n40A<br>CA_n8A-n40A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n8 | 5, 10, 15, 20 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| CA_n1A-n7A-n8A-n78A | CA_n1A-n7A<br>CA_n1A-n8A<br>CA_n1A-n78A<br>CA_n7A-n8A<br>CA_n7A-n78A<br>CA_n8A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |

| | | | | |
|---|---|---|---|---|
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n7A-n28A-n78A | CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n7B-n28A-n78A | CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n7B<br>CA_n28A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n7A-n28A-n78(2A) | CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n1A-n7A-n40A-n78A | CA_n1A-n7A<br>CA_n1A-n40A<br>CA_n1A-n78A<br>CA_n7A-n40A<br>CA_n7A-n78A<br>CA_n40A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n8A-n40A-n78A | CA_n1A-n8A<br>CA_n1A-n40A<br>CA_n1A-n78A<br>CA_n8A-n40A<br>CA_n8A-n78A<br>CA_n40A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n8A-n78A-n79A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n8A-n78(2A)-n79A | - | n1 | 5, 10, 15, 20 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS1 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n1A-n18A-n28A-n41A | CA_n1A-n18A<br>CA_n1A-n28A | n1 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n1A-n41A<br>CA_n18A-n28A<br>CA_n18A-n41A<br>CA_n28A-n41A | | | |
| | | n18 | 5, 10, 15 | |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n1A-n18A-n28A-n77A | CA_n1A-n18A<br>CA_n1A-n28A<br>CA_n1A-n77A<br>CA_n18A-n28A<br>CA_n18A-n77A<br>CA_n28A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n28 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n18A-n41A-n77A | CA_n1A-n18A<br>CA_n1A-n41A<br>CA_n1A-n77A<br>CA_n18A-n41A<br>CA_n18A-n77A<br>CA_n41A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n28A-n40A-n78A | CA_n1A-n28A<br>CA_n1A-n40A<br>CA_n1A-n78A<br>CA_n28A-n40A<br>CA_n28A-n78A<br>CA_n40A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n28A-n40B-n78A | CA_n1A-n28A<br>CA_n1A-n40A<br>CA_n1A-n78A<br>CA_n28A-n40A<br>CA_n28A-n78A<br>CA_n40A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n40 | CA_n40B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n28A-n41A-n77A | CA_n1A-n28A<br>CA_n1A-n41A<br>CA_n1A-n77A<br>CA_n28A-n41A<br>CA_n28A-n77A<br>CA_n41A-n77A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n28A-n77A-n79A | CA_n1A-n28A<br>CA_n1A-n77A<br>CA_n1A-n79A<br>CA_n28A-n77A<br>CA_n28A-n79A<br>CA_n77A-n79A | n1 | 5, 10, 15, 20 | 0 |
| | | n28 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| CA_n2A-n5A-n30A-n66A | CA_n2A-n5A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n5A-n30A<br>CA_n5A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n30 | 5, 10 | |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n5A-n30A-n66A | CA_n2A-n5A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n5A-n30A<br>CA_n5A-n66A<br>CA_n30A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n30 | 5, 10 | |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n5A-n30A-n66(2A) | CA_n2A-n5A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n5A-n30A<br>CA_n5A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n5A-n30A-n77A | n77[5]<br>CA_n2A-n5A<br>CA_n2A-n30A<br>CA_n2A-n77A[5]<br>CA_n5A-n30A<br>CA_n5A-n77A[5]<br>CA_n30A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n30A-n77(2A) | n77[5]<br>CA_n2A-n5A<br>CA_n2A-n30A<br>CA_n2A-n77A[5]<br>CA_n5A-n30A<br>CA_n5A-n77A[5]<br>CA_n30A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n30 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2A-n5A-n48A-n66A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n48A-n66A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |

| | | | | |
|---|---|---|---|---|
| CA_n2A-n5A-n48B-n66A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48B_BCS2 | |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n48A-n66A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48B_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48B_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 3 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48B_BCS2 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n5A-n48(2A)-n66A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n48A-n66A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n5A-n48(A-B)-n66A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48(A-B)_BCS1 | |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n5A-n48A-n77A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n2A-n48A<br>CA_n2A-n5A<br>CA_n2A-n77A<br>CA_n5A-n48A<br>CA_n5A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n48A-n77C | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n77A<br>CA_n5A-n48A | n2 | 5, 10, 15, 20, 25, 30, 40 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n5A-n77A | | | |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n2A-n5A-n48B-n77A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48B_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n77A<br>CA_n5A-n48A<br>CA_n5A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48B_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48B_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 3 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48B_BCS2 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n48(2A)-n77A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n77A<br>CA_n5A-n48A<br>CA_n5A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n5 | 5, 10, 15, 20, 25 | |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n66A-n77A | n77[5]<br>CA_n2A-n5A<br>CA_n2A-n66A<br>CA_n2A-n77A[5]<br>CA_n5A-n66A<br>CA_n5A-n77A[5]<br>CA_n66A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n2A-n5A-n66A-n77(2A) | n77[5]<br>CA_n2A-n5A<br>CA_n2A-n66A<br>CA_n2A-n77A[5]<br>CA_n5A-n66A<br>CA_n5A-n77A[5]<br>CA_n66A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2A-n5A-n66A-n77C | CA_n2A-n5A<br>CA_n2A-n77A<br>CA_n2A-n66A<br>CA_n5A-n77A<br>CA_n5A-n66A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n2A-n12A-n30A-n66A | CA_n2A-n12A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n12A-n30A<br>CA_n12A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n12A-n30A-n66A | CA_n2A-n12A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n12A-n30A<br>CA_n12A-n66A<br>CA_n30A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n12A-n30A-n66(2A) | CA_n2A-n12A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n12A-n30A<br>CA_n12A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n12A-n30A-n77A | CA_n2A-n12A<br>CA_n2A-n30A<br>CA_n2A-n77A<br>CA_n12A-n30A<br>CA_n12A-n77A<br>CA_n30A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n12A-n66A-n77A | CA_n2A-n12A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n12A-n66A<br>CA_n12A-n77A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n12 | 5, 10, 15 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n2A-n14A-n30A-n66A | CA_n2A-n14A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n14A-n30A-n66A | CA_n2A-n14A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n30A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n14 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n14A-n30A-n66(2A) | CA_n2A-n14A<br>CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n14A-n30A-n77A | n77[5]<br>CA_n2A-n14A<br>CA_n2A-n30A<br>CA_n2A-n77A[5]<br>CA_n14A-n30A<br>CA_n14A-n77A[5]<br>CA_n30A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n14A-n30A-n77(2A) | n77[5]<br>CA_n2A-n14A<br>CA_n2A-n30A<br>CA_n2A-n77A[5]<br>CA_n14A-n30A<br>CA_n14A-n77A[5]<br>CA_n30A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2A-n14A-n66A-n77A | n77[5]<br>CA_n2A-n14A<br>CA_n2A-n66A<br>CA_n2A-n77A[5]<br>CA_n14A-n66A<br>CA_n14A-n77A[5]<br>CA_n66A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n14A-n66A-n77(2A) | n77[5]<br>CA_n2A-n14A<br>CA_n2A-n66A<br>CA_n2A-n77A[5]<br>CA_n14A-n66A<br>CA_n14A-n77A[5]<br>CA_n66A-n77A[5] | n2 | 5, 10, 15, 20 | 0 |
| | | n14 | 5, 10 | |

| | | | | |
|---|---|---|---|---|
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n2A-n29A-n30A-n66A | CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2(2A)-n29A-n30A-n66A | CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n30A-n66A | n2 | CA_n2(2A)_BCS0 | 0 |
| | | n29 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n2A-n29A-n30A-n66(2A) | CA_n2A-n30A<br>CA_n2A-n66A<br>CA_n30A-n66A | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| CA_n2A-n29A-n30A-n77A | CA_n2A-n30A<br>CA_n2A-n77A<br>CA_n30A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n30 | 5, 10 | |
| | | n77 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n29A-n66A-n77A | CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n29 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n48A-n66A-n77A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n48B-n66A-n77A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | CA_n48B_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n48 | CA_n48B_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 3 |
| | | n48 | CA_n48B_BCS2 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n48(2A)-n66A-n77A | - | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | CA_n48(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n48A-n66A-n77C | - | n2 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| | CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS0 | |
| | | n2 | 5, 10, 15, 20, 25, 30, 40 | 2 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n2A-n66A-n71A-n78A | - | n2 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n5A-n7A-n78A | - | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n5A-n7A | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |

| | | | | |
|---|---|---|---|---|
| | CA_n5A-n78A<br>CA_n7A-n78A | | | |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n5A-n7B-n78A | - | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n5A-n7A<br>CA_n5A-n78A<br>CA_n7A-n78A<br>CA_n7B | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | CA_n7B_BCS0 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n7A-n28A-n78A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n7A-n28A-n78(2A) | CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20[2] | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n3A-n7B-n28A-n78A | - | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n7 | CA_n7B_BCS0 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A<br>CA_n7B | n3 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n7 | CA_n7B_BCS0 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n18A-n28A-n41A | CA_n3A-n18A<br>CA_n3A-n28A | n3 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n3A-n41A<br>CA_n18A-n28A<br>CA_n18A-n41A<br>CA_n28A-n41A | | | |
| | | n18 | 5, 10, 15 | |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| CA_n3A-n18A-n28A-n77A | CA_n3A-n18A<br>CA_n3A-n28A<br>CA_n3A-n77A<br>CA_n18A-n28A<br>CA_n18A-n77A<br>CA_n28A-n77A | n3 | 5, 10, 15, 20 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n28 | 5, 10 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n18A-n41A-n77A | CA_n3A-n18A<br>CA_n3A-n41A<br>CA_n3A-n77A<br>CA_n18A-n41A<br>CA_n18A-n77A<br>CA_n41A-n77A | n3 | 5, 10, 15, 20 | 0 |
| | | n18 | 5, 10, 15 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n28A-n41A-n77A | CA_n3A-n28A<br>CA_n3A-n41A<br>CA_n3A-n77A<br>CA_n28A-n41A<br>CA_n28A-n77A<br>CA_n41A-n77A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n28A-n41A-n77(2A) | CA_n3A-n28A<br>CA_n3A-n41A<br>CA_n3A-n77A<br>CA_n28A-n41A<br>CA_n28A-n77A<br>CA_n41A-n77A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(2A)_BCS0 | |
| | CA_n3A-n28A<br>CA_n3A-n41A<br>CA_n3A-n77A<br>CA_n28A-n41A<br>CA_n28A-n77A<br>CA_n41A-n77A | n3 | 5, 10, 15, 20 | 1 |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n3A-n28A-n41A-n78A | CA_n3A-n28A<br>CA_n3A-n41A<br>CA_n3A-n78A<br>CA_n28A-n41A<br>CA_n28A-n78A<br>CA_n41A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n28 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n3A-n28A-n41A-n78(2A) | CA_n3A-n28A<br>CA_n3A-n41A<br>CA_n3A-n78A<br>CA_n28A-n41A<br>CA_n28A-n78A<br>CA_n41A-n78A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n3A-n28A-n77A-n79A | CA_n3A-n28A<br>CA_n3A-n77A<br>CA_n3A-n79A<br>CA_n28A-n77A<br>CA_n28A-n79A<br>CA_n77A-n79A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 80, 100 | |
| CA_n3A-n28A-n77(2A)-n79A | CA_n3A-n28A<br>CA_n3A-n77A<br>CA_n3A-n79A<br>CA_n28A-n77A<br>CA_n28A-n79A<br>CA_n77A-n79A | n3 | 5, 10, 15, 20, 25, 30 | 0 |
| | | n28 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS0 | |
| | | n79 | 40, 50, 80, 100 | |
| CA_n5A-n25A-n66A-n77A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25(2A)-n66A-n77A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25A-n66(2A)-n77A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25A-n66A-n77(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A | n5 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n66A-n77A | | | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n25(2A)-n66(2A)-n77A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25(2A)-n66A-n77(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n25A-n66(2A)-n77(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n25(2A)-n66(2A)-n77(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n25A-n66A-n78A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25(2A)-n66A-n78A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25A-n66(2A)-n78A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25A-n66A-n78(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n25(2A)-n66(2A)-n78A | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n25(2A)-n66A-n78(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n25A-n66(2A)-n78(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n25(2A)-n66(2A)-n78(2A) | CA_n5A-n25A<br>CA_n5A-n66A<br>CA_n5A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n5 | 5, 10, 15, 20 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n5A-n30A-n66A-n77A | n77[5]<br>CA_n5A-n30A<br>CA_n5A-n66A<br>CA_n5A-n77A[5]<br>CA_n30A-n66A<br>CA_n30A-n77A[5]<br>CA_n66A-n77A[5] | n5 | 5, 10, 15, 20 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n30A-n66A-n77(2A) | n77[5]<br>CA_n5A-n30A<br>CA_n5A-n66A<br>CA_n5A-n77A[5]<br>CA_n30A-n66A<br>CA_n30A-n77A[5] | n5 | 5, 10, 15, 20 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n66A-n77A[5] | | | |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n5A-n48A-n66A-n77A | - | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20, 25 | 1 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n48A-n66A-n77C | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77C_BCS1 | |
| CA_n5A-n48B-n66A-n77A | - | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48B_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20, 25 | 1 |
| | | n48 | CA_n48B_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20, 25 | 2 |
| | | n48 | CA_n48B_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20, 25 | 3 |
| | | n48 | CA_n48B_BCS2 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n5A-n48(2A)-n66A-n77A | - | n5 | 5, 10, 15, 20 | 0 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n5 | 5, 10, 15, 20, 25 | 1 |
| | | n48 | CA_n48(2A)_BCS0 | |

| | | | | |
|---|---|---|---|---|
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n5 | 5, 10, 15, 20, 25 | 2 |
| | | n48 | CA_n48(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n8A-n40A-n78A | CA_n7A-n8A<br>CA_n7A-n40A<br>CA_n7A-n78A<br>CA_n8A-n40A<br>CA_n8A-n78A<br>CA_n40A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n8 | 5, 10, 15, 20 | |
| | | n40 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25A-n66A-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n25A-n66A-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25(2A)-n66A-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25A-n66(2A)-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25A-n66A-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |

| | | | | |
|---|---|---|---|---|
| CA_n7(2A)-n25(2A)-n66A-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n25A-n66(2A)-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n25A-n66A-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n25(2A)-n66(2A)-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25(2A)-n66A-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n25A-n66(2A)-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n25(2A)-n66(2A)-n77A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n7(2A)-n25A-n66(2A)-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n25(2A)-n66A-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n25(2A)-n66(2A)-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7(2A)-n25(2A)-n66(2A)-n77(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n7A-n25A-n66A-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25(2A)-n66A-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25A-n66(2A)-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n7A-n25A-n66A-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n25A-n66A-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25(2A)-n66A-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7A-n25(2A)-n66(2A)-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7A-n25A-n66(2A)-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n25(2A)-n66A-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n25A-n66(2A)-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| CA_n7(2A)-n25A-n66A-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7A-n25(2A)-n66(2A)-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n25(2A)-n66A-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n25(2A)-n66(2A)-n78A | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n7(2A)-n25A-n66(2A)-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n7(2A)-n25(2A)-n66(2A)-n78(2A) | CA_n7A-n25A<br>CA_n7A-n66A<br>CA_n7A-n78A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n66A-n78A | n7 | CA_n7(2A)_BCS0 | 0 |
| | | n25 | CA_n25(2A)_BCS0 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n12A-n30A-n66A-n77A | CA_n12A-n30A<br>CA_n12A-n66A<br>CA_n12A-n77A<br>CA_n30A-n66A<br>CA_n30A-n77A<br>CA_n66A-n77A | n12 | 5, 10,15 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n13A-n25A-n66A-n77A | CA_n13A-n25A<br>CA_n13A-n66A | n13 | 5, 10 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n13A-n77A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n66A-n77A | | | |
| | | n25 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n30A-n66A-n77A | n77[5]<br>CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n14A-n77A[5]<br>CA_n30A-n66A<br>CA_n30A-n77A[5]<br>CA_n66A-n77A[5] | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n14A-n30A-n66A-n77(2A) | n77[5]<br>CA_n14A-n30A<br>CA_n14A-n66A<br>CA_n14A-n77A[5]<br>CA_n30A-n66A<br>CA_n30A-n77A[5]<br>CA_n66A-n77A[5] | n14 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n18A-n28A-n41A-n77A | CA_n18A-n28A<br>CA_n18A-n41A<br>CA_n18A-n77A<br>CA_n28A-n41A<br>CA_n28A-n77A<br>CA_n41A-n77A | n18 | 5, 10, 15 | 0 |
| | | n28 | 5, 10 | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n38A-n66A-n78A | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n38A-n66A-n78A | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n38A-n66(2A)-n78A | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |

| | | | | |
|---|---|---|---|---|
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n38A-n66A-n78(2A) | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25(2A)-n38A-n66(2A)-n78A | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25(2A)-n38A-n66A-n78(2A) | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n38A-n66(2A)-n78(2A) | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25(2A)-n38A-n66(2A)-n78(2A) | CA_n25A-n38A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n38A-n66A<br>CA_n38A-n78A<br>CA_n66A-n78A | n25 | CA_n25(2A)_BCS0 | 0 |
| | | n38 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n41A-n66A-n71A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n66A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41(2A)-n66A-n71A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41(2A)_BCS0 | |
| | | n66 | 5, 10, 15, 20 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n66A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | See CA_n41(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.2-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41C-n66A-n71A | - | n25 | 5, 10, 15, 20 | 0 |
| | | n41 | CA_n41C_BCS0 | |
| | | n66 | 5, 10, 15, 20, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n66A-n71A | n25 | 5, 10, 15, 20, 25, 30, 40 | 1 |
| | | n41 | CA_n41C_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | See CA_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n66A-n77A | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41C-n66A-n77A | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41C_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | See CA_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41(2A)-n66A-n77A | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n25A-n77A<br>CA_n41A-n66A<br>CA_n41A-n77A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | See CA_n41(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.1-2 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n66A-n77(2A) | - | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | See CA_n77(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.2-1 | |
| CA_n25A-n41A-n66A-n78A | CA_n25A-n41A<br>CA_n25A-n66A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n25A-n78A<br>CA_n41A-n66A<br>CA_n41A-n78A<br>CA_n66A-n78A | | | |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n41A-n66A-n78(2A) | CA_n25A-n41A<br>CA_n25A-n66A<br>CA_n25A-n78A<br>CA_n41A-n66A<br>CA_n41A-n78A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n41A-n71A-n77A | CA_n25A-n41A<br>CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41C-n71A-n77A | CA_n25A-n41A<br>CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41C_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | See CA_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41(2A)-n71A-n77A | CA_n25A-n41A<br>CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n41A-n71A<br>CA_n41A-n77A<br>CA_n71A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | CA_n41(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |

| | | | | |
|---|---|---|---|---|
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n41 | See CA_n41(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.1-2 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n41A-n71A-n78A | - | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n66A-n71A-n77A | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n25A-n77A<br>CA_n66A-n71A<br>CA_n66A-n77A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n25 | n25 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n25A-n66A-n71A-n78A | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n25A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A<br>CA_n71A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n66(2A)-n71A-n78A | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n25A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A<br>CA_n71A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n25A-n66A-n71A-n78(2A) | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n25A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A<br>CA_n71A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n25A-n66(2A)-n71A-n78(2A) | CA_n25A-n66A<br>CA_n25A-n71A<br>CA_n25A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A | n25 | 5, 10, 15, 20, 25, 30, 40 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n71A-n78A | | | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n29A-n30A-n66A-n77A | CA_n30A-n66A<br>CA_n30A-n77A<br>CA_n66A-n77A | n29 | 5, 10 | 0 |
| | | n30 | 5, 10 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n66A-n70A-n78A | CA_n41A-n66A<br>CA_n41A-n70A<br>CA_n41A-n78A<br>CA_n66A-n78A<br>CA_n70A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 10, 15, 20, 25, 30, 40 | |
| | | n70 | 5, 10, 15, 20, 25 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n66A-n71A-n77A | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A<br>CA_n41A-n71A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41C-n66A-n71A-n77A | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A<br>CA_n41A-n71A | n41 | CA_n41C_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | See CA_n41C Bandwidth Combination Set 4 and 5 in Table 5.5A.1-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41(2A)-n66A-n71A-n77A | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n66A-n77A<br>CA_n71A-n77A<br>CA_n41A-n71A | n41 | CA_n41(2A)_BCS1 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | See CA_n41(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.2-1 | 4 and 5 |

| | | | | |
|---|---|---|---|---|
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n66(2A)-n71A-n77A | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n71A-n77A<br>CA_n41A-n71A<br>CA_n66A-n77A<br>CA_n41A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | See CA_n66(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.2-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | n77 channel bandwidths in Table 5.3.5-1 | |
| CA_n41A-n66A-n71A-n77(2A) | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n71A-n77A<br>CA_n41A-n71A<br>CA_n66A-n77A<br>CA_n41A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| | | n41 | n41 channel bandwidths in Table 5.3.5-1 | 4 and 5 |
| | | n66 | n66 channel bandwidths in Table 5.3.5-1 | |
| | | n71 | n71 channel bandwidths in Table 5.3.5-1 | |
| | | n77 | See CA_n77(2A) Bandwidth Combination Set 4 and 5 in Table 5.5A.2-1 | |
| CA_n41A-n66(2A)-n71A-n77(2A) | CA_n41A-n66A<br>CA_n66A-n71A<br>CA_n71A-n77A<br>CA_n41A-n71A<br>CA_n66A-n77A<br>CA_n41A-n77A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n77 | CA_n77(2A)_BCS1 | |
| CA_n41A-n66A-n71A-n78A | CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n41A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A<br>CA_n71A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n66(2A)-n71A-n78A | CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n41A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |

| | | | | |
|---|---|---|---|---|
| | CA_n71A-n78A | | | |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n41A-n66A-n71A-n78(2A) | CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n41A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A<br>CA_n71A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |
| CA_n41A-n66(2A)-n71A-n78(2A) | CA_n41A-n66A<br>CA_n41A-n71A<br>CA_n41A-n78A<br>CA_n66A-n71A<br>CA_n66A-n78A<br>CA_n71A-n78A | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | | n66 | CA_n66(2A)_BCS1 | |
| | | n71 | 5, 10, 15, 20 | |
| | | n78 | CA_n78(2A)_BCS2 | |

NOTE 1: This UE channel bandwidth is optional in this release of the specification.
NOTE 2: For the 20 MHz bandwidth, the minimum requirements are specified for NR UL carrier frequencies confined to either 713-723 MHz or 728-738 MHz. For the 30 MHz bandwidth, the minimum requirements are specified for NR UL transmission bandwidth configuration confined to either 703-733 or 718-748 MHz.
NOTE 3: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1.
NOTE 4: Only single uplink carriers with power class other than PC3 are listed.
NOTE 5: Power Class 2 is allowed for this uplink combination or single uplink carrier in this downlink/uplink combination.

### 5.5A.3.4 Configurations for inter-band CA (five bands)

**Table 5.5A.3.4-1: NR CA configurations and bandwidth combinations sets defined for inter-band CA (five bands)**

| NR CA configuration | Uplink configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n1A-n3A-n5A-n7A-n78A | CA_n1A-n3A<br>CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n5A-n7A<br>CA_n5A-n78A<br>CA_n7A-n78A | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n5A-n7B-n78A | CA_n1A-n3A<br>CA_n1A-n5A<br>CA_n1A-n7A<br>CA_n1A-n78A<br>CA_n3A-n5A<br>CA_n3A-n7A<br>CA_n3A-n78A<br>CA_n5A-n7A<br>CA_n5A-n78A<br>CA_n7A-n78A<br>CA_n7B | n1 | 5, 10, 15, 20 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n5 | 5, 10, 15, 20 | |
| | | n7 | See CA_n7B bandwidth combination set 0 in Table 5.5A.1-1 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n7A-n28A-n78A | - | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20, 30 | |

| | | | | |
|---|---|---|---|---|
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20 | 1 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n7B-n28A-n78A | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A<br>CA_n7B | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n7 | See CA_n7B bandwidth combination set 0 in Table 5.5A.1-1 | |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n1A-n3A-n7A-n28A-n78(2A) | CA_n1A-n3A<br>CA_n1A-n7A<br>CA_n1A-n28A<br>CA_n1A-n78A<br>CA_n3A-n7A<br>CA_n3A-n28A<br>CA_n3A-n78A<br>CA_n7A-n28A<br>CA_n7A-n78A<br>CA_n28A-n78A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n3 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n7 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| | | n28 | 5, 10, 15, 20, 30 | |
| | | n78 | See CA_n78(2A) Bandwidth Combination Set 2 in Table 5.5A.2-1 | |
| CA_n2A-n5A-n48A-n66A-n77A | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n48B-n66A-n77A | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A<br>CA_n48B | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |

| | | | | |
|---|---|---|---|---|
| | | n48 | See CA_n48B Bandwidth Combination Set 2 in Table 5.5A.1-1 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n2A-n5A-n48A-n66A-n77C | CA_n2A-n5A<br>CA_n2A-n48A<br>CA_n2A-n66A<br>CA_n2A-n77A<br>CA_n5A-n48A<br>CA_n5A-n66A<br>CA_n5A-n77A<br>CA_n48A-n66A<br>CA_n66A-n77A<br>CA_n77C | n2 | 5, 10, 15, 20 | 0 |
| | | n5 | 5, 10, 15, 20 | |
| | | n48 | 5, 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | |
| | | n66 | 5, 10, 15, 20, 25, 30, 40 | |
| | | n77 | See CA_n77C Bandwidth Combination Set 1 in Table 5.5A.1-1 | |
| NOTE 1: The SCS of each channel bandwidth for NR FR1 and NR FR2 band refers to Table 5.3.5-1 of TS 38.101-1 and TS 38.101-2 respectively. | | | | |

وتُحدَّد التشكيلات الخاصة بمعدات المستعمل لنطاقات تشغيل التوصيلية المزدوجة (DC) في الفقرة 5B.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.5B Configurations for DC

For an NR DC configuration specified in 5.5B.1-1, the bandwidth combination sets for the corresponding NR CA configuration in 5.5A.3,i.e.,dual uplink inter-band carrier aggregation with uplink assigned to two NR bands, are applicable to Dual Connectivity.

**Table 5.5B.1-1: Inter-band NR DC configurations (two bands)**

| NR DC configuration | Uplink NR DC configuration |
|---|---|
| DC_n1A-n3A | DC_n1A-n3A |
| DC_n1A-n7A | DC_n1A-n7A |
| DC_n1A-n28A | DC_n1A-n28A |
| DC_n1A-n41A | DC_n1A-n41A |
| DC_n1A-n77A[2] | DC_n1A-n77A |
| DC_n1A-n78A | DC_n1A-n78A |
| DC_n1A-n79A[2] | DC_n1A-n79A |
| DC_n2A-n5A<br>DC_n2A-n5B | DC_n2A-n5A |
| DC_n2A-n48A<br>DC_n2A-n48B<br>DC_n2A-n48C | DC_n2A-n48A |
| DC_n2A-n48(2A)<br>DC_n2A-n48(A-C) | DC_n2A-n48A |
| DC_n2A-n66A<br>DC_n2A-n66B | DC_n2A-n66A |
| DC_n2A-n77A<br>DC_n2A-n77C | DC_n2A-n77A |
| DC_n2A-n77(2A)<br>DC_n2(2A)-n77A<br>DC_n2(2A)-n77C | DC_n2A-n77A |
| DC_n3A-n28A | DC_n3A-n28A |
| DC_n3A-n41A | DC_n3A-n41A |
| DC_n3A-n77A[2] | DC_n3A-n77A |
| DC_n3A-n77(2A)[2] | DC_n3A-n77A |

| | | | |
|---|---|---|---|
| | DC_n3A-n78A[2] | DC_n3A-n78A | |
| | DC_n3A-n79A | DC_n3A-n79A | |
| | DC_n5A-n48A<br>DC_n5A-n48B<br>DC_n5A-n48C | DC_n5A-n48A | |
| | DC_n5A-n48(2A) | DC_n5A-n48A | |
| | DC_n5A-n66A<br>DC_n5B-n66A | DC_n5A-n66A | |
| | DC_n5A-n66(2A)<br>DC_n5B-n66(2A) | DC_n5A-n66A | |
| | DC_n5A-n77A<br>DC_n5A-n77C | DC_n5A-n77A | |
| | DC_n5A-n77(2A)<br>DC_n5(2A)-n77A<br>DC_n5(2A)-n77C | DC_n5A-n77A | |
| | DC_n7A-n46A<br>DC_n7A-n46C<br>DC_n7A-n46D | DC_n7A-n46A | |
| | DC_n7A-n78A | DC_n7A-n78A | |
| | DC_n12A-n77A | DC_n12A-n77A | |
| | DC_n12A-n77(2A) | DC_n12A-n77A | |
| | DC_n28A-n41A | DC_n28A-n41A | |
| | DC_n28A-n46A<br>DC_n28A-n46C<br>DC_n28A-n46D | DC_n28A-n46A | |
| | DC_n28A-n77A[2] | DC_n28A-n77A | |
| | DC_n28A-n77(2A) | DC_n28A-n77A | |
| | DC_n28A-n78A[2] | DC_n28A-n78A | |
| | DC_n28A-n79A | DC_n28A-n79A | |
| | DC_n41A-n77A | DC_n41A-n77A | |
| | DC_n41A-n78A | DC_n41A-n78A | |
| | DC_n46A-n48A<br>DC_n46A-n48B<br>DC_n46A-n48C<br>DC_n46B-n48A<br>DC_n46B-n48B<br>DC_n46B-n48C<br>DC_n46C-n48A<br>DC_n46C-n48B<br>DC_n46C-n48C<br>DC_n46D-n48A<br>DC_n46D-n48B<br>DC_n46D-n48C<br>DC_n46N-n48A<br>DC_n46N-n48B<br>DC_n46N-n48C | DC_n46A-n48A<br>DC_n46A-n48B | |
| | DC_n46A-n78A<br>DC_n46C-n78A<br>DC_n46D-n78A | DC_n46A-n78A | |
| | DC_n48A-n66A<br>DC_n48B-n66A<br>DC_n48C-n66A | DC_n48A-n66A | |
| | DC_n48A-n66(2A)<br>DC_n48B-n66(2A)<br>DC_n48(2A)-n66A<br>DC_n48(2A)-n66(2A)<br>DC_n48(A-C)-n66A | DC_n48A-n66A | |
| | DC_n48A-n70A<br>DC_n48B-n70A | DC_n48A-n70A | |
| | DC_n48(2A)-n70A | DC_n48A-n70A | |
| | DC_n48A-n71A<br>DC_n48B-n71A<br>DC_n48C-n71A | DC_n48A-n71A | |

| | |
|---|---|
| DC_n48A-n71(2A)<br>DC_n48(2A)-n71A<br>DC_n48(2A)-n71(2A)<br>DC_n48(3A)-n71A<br>DC_n48(4A)-n71A<br>DC_n48B-n71(2A) | DC_n48A-n71A |
| DC_n48A-n96A<br>DC_n48B-n96A<br>DC_n48C-n96A<br>DC_n48A-n96B<br>DC_n48B-n96B<br>DC_n48C-n96B<br>DC_n48A-n96C<br>DC_n48B-n96C<br>DC_n48C-n96C<br>DC_n48A-n96D<br>DC_n48B-n96D<br>DC_n48C-n96D<br>DC_n48A-n96E<br>DC_n48B-n96E<br>DC_n48C-n96E | DC_n48A-n96A<br>DC_n48B-n96A |
| DC_n66A-n77A<br>DC_n66A-n77C<br>DC_n66B-n77A<br>DC_n66B-n77C | DC_n66A-n77A |
| DC_n66A-n77(2A) | DC_n66A-n77A |
| DC_n66(2A)-n77(2A)<br>DC_n66(2A)-n77C | DC_n66A-n77A |
| DC_n71A-n77A | DC_n71A-n77A |
| DC_n71A-n77(2A) | DC_n71A-n77A |
| DC_n77A-n79A[1] | DC_n77A-n79A |
| DC_n77(2A)-n79A[1] | DC_n77A-n79A |
| NOTE 1: The minimum requirements apply only when there is non-simultaneous Rx/Tx operation between n77-n79 NR carriers. This restriction applies also for these carriers when applicable NR DC configuration is part of a higher order configuration.<br>NOTE 2: Applicable for UE supporting inter-band NR DC with mandatory simultaneous Rx/Tx capability. | |

**Table 5.5B.1-2: Inter-band NR DC configurations (three bands)**

| NR DC configuration | Uplink NR DC configuration |
|---|---|
| DC_n1A-n3A-n28A | DC_n1A-n3A<br>DC_n1A-n28A<br>DC_n3A-n28A |
| DC_n1A-n3A-n41A | DC_n1A-n3A<br>DC_n1A-n41A<br>DC_n3A-n41A |
| DC_n1A-n3A-n77A | DC_n1A-n3A<br>DC_n3A-n77A<br>DC_n1A-n77A |
| DC_n1A-n3A-n78A | DC_n1A-n3A<br>DC_n3A-n78A<br>DC_n1A-n78A |
| DC_n1A-n3A-n79A | DC_n1A-n3A<br>DC_n3A-n79A<br>DC_n1A-n79A |
| DC_n1A-n7A-n78A | DC_n1A-n7A<br>DC_n7A-n78A<br>DC_n1A-n78A |
| DC_n1A-n28A-n41A | DC_n1A-n28A<br>DC_n1A-n41A<br>DC_n28A-n41A |
| DC_n1A-n28A-n77A | DC_n1A-n28A |

| | |
|---|---|
| | DC_n1A-n77A<br>DC_n28A-n77A |
| DC_n1A-n28A-n78A | DC_n1A-n28A<br>DC_n1A-n78A<br>DC_n28A-n78A |
| DC_n1A-n28A-n79A | DC_n1A-n28A<br>DC_n1A-n79A<br>DC_n28A-n79A |
| DC_n1A-n41A-n77A | DC_n1A-n41A<br>DC_n1A-n77A<br>DC_n41A-n77A |
| DC_n1A-n77A-n79A | DC_n1A-n77A<br>DC_n1A-n79A<br>DC_n77A-n79A |
| DC_n3A-n28A-n41A | DC_n3A-n28A<br>DC_n3A-n41A<br>DC_n28A-n41A |
| DC_n3A-n28A-n77A | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n28A-n77A |
| DC_n3A-n28A-n77(2A) | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n28A-n77A |
| DC_n3A-n28A-n78A | DC_n3A-n28A<br>DC_n3A-n78A<br>DC_n28A-n78A |
| DC_n3A-n28A-n79A | DC_n3A-n28A<br>DC_n3A-n79A<br>DC_n28A-n79A |
| DC_n3A-n41A-n77A | DC_n3A-n41A<br>DC_n3A-n77A<br>DC_n41A-n77A |
| DC_n28A-n41A-n77A | DC_n28A-n41A<br>DC_n28A-n77A<br>DC_n41A-n77A |
| DC_n3A-n77A-n79A | DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n77A-n79A |
| DC_n3A-n77(2A)-n79A | DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n77A-n79A |
| DC_n7A-n46A-n78A | DC_n7A-n46A<br>DC_n7A-n78A<br>DC_n46A-n78A |
| DC_n7A-n46C-n78A | DC_n7A-n46A<br>DC_n7A-n78A<br>DC_n46A-n78A |
| DC_n7A-n46D-n78A | DC_n7A-n46A<br>DC_n7A-n78A<br>DC_n46A-n78A |
| DC_n28A-n46A-n78A<br>DC_n28A-n46C-n78A<br>DC_n28A-n46D-n78A | DC_n28A-n46A<br>DC_n28A-n78A<br>DC_n46A-n78A |
| DC_n28A-n77A-n79A | DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A |
| DC_n28A-n77(2A)-n79A | DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A |

**Table 5.5B.1-3: Inter-band NR DC configurations (four bands)**

| NR DC configuration | Uplink NR DC configuration |
|---|---|
| DC_n1A-n3A-n28A-n77A | DC_n1A-n3A<br>DC_n1A-n28A |

| | | | |
|---|---|---|---|
| | | DC_n1A-n77A<br>DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n28A-n77A | |
| | DC_n1A-n3A-n28A-n79A | DC_n1A-n3A<br>DC_n1A-n28A<br>DC_n1A-n79A<br>DC_n3A-n28A<br>DC_n3A-n79A<br>DC_n28A-n79A | |
| | DC_n1A-n3A-n77A-n79A | DC_n1A-n3A<br>DC_n1A-n77A<br>DC_n1A-n79A<br>DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n77A-n79A | |
| | DC_n1A-n28A-n77A-n79A | DC_n1A-n28A<br>DC_n1A-n77A<br>DC_n1A-n79A<br>DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A | |
| | DC_n3A-n28A-n41A-n77A | DC_n3A-n28A<br>DC_n3A-n41A<br>DC_n3A-n77A<br>DC_n28A-n41A<br>DC_n28A-n77A<br>DC_n41A-n77A | |
| | DC_n3A-n28A-n77A-n79A | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A | |
| | DC_n3A-n28A-n77(2A)-n79A | DC_n3A-n28A<br>DC_n3A-n77A<br>DC_n3A-n79A<br>DC_n28A-n77A<br>DC_n28A-n79A<br>DC_n77A-n79A | |

وتُحدَّد التشكيلات الخاصة بمعدات المستعمل لنطاقات تشغيل الوصلة الصاعدة التكميلية (SUL) في الفقرة 5C.5 من المواصفة التقنية [1] TS 38.101-1.

## 5.5C Configurations for SUL

The configuration tables for SUL describe Bandwidth Combination Sets. Bandwidth Combination Set 4 and 5 contains all possible defined channel bandwidths for each band in the combination. The fact that BCS4 and BCS5 contains all channel bandwidths for each band does not alter if a bandwidth is mandatory or optional for a given band. Bandwidths that are identified as optional in Table 5.3.5-1 for a given release are still optional for UEs that support BCS4 or BCS5. , where the bandwidths the UE supports for each band, the maximum bandwidth and/or minimum bandwidth for the band in the band combination are indicated in the UE capabilities. Note that the minimum bandwidth is indicated only in BCS5 and BCS5 shall not be indicated together with BCS4 for a SUL configuration. For SUL band combinations including FR1 intra-band CA and with BCS4 or BCS5, the Bandwidth Combination Sets for the FR1 intra-band CA are BCS4 or BCS5.

**Table 5.5C-1: Supported channel bandwidths per SUL band combination**

| SUL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
|---|---|---|---|
| SUL_n24A-n99A | n24 | 5, 10 | 0 |
| | n99 | 5, 10 | |
| SUL_n41A-n80A | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n80 | 5, 10, 15, 20, 25, 30 | |
| | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 1 |
| | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| SUL_n41A-n81A | n41 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n81 | 5, 10, 15, 20 | |
| SUL_n41A-n83A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | n83 | 5, 10, 15, 20, 30 | |
| SUL_n41A-n95A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | n95 | 5, 10, 15 | |
| SUL_n41A-n97A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| SUL_n41A-n98A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | n98 | 5, 10, 15, 20, 25, 30, 40 | |
| SUL_n41A-n99A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | n99 | 5, 10 | |
| SUL_n48A-n99A | n48 | 5, 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n99 | 5, 10 | |
| SUL_n77A-n80A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n80 | 5, 10, 15, 20, 25, 30 | |
| SUL_n77A-n84A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n84 | 5, 10, 15, 20 | |
| SUL_n77A-n99A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n99 | 5, 10 | |
| SUL_n78A-n80A | n77 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n80 | 5, 10, 15, 20, 25, 30 | |
| | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| SUL_n78A-n81A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n81 | 5, 10, 15, 20 | |
| SUL_n78A-n82A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n82 | 5, 10, 15, 20 | |
| SUL_n78A-n83A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n83 | 5, 10, 15, 20 | |
| | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | n83 | 5, 10, 15, 20, 30 | |
| SUL_n78A-n84A | n78 | 10, 15, 20, 40, 50, 60, 80, 90, 100 | 0 |
| | n84 | 5, 10, 15, 20 | |
| | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | 1 |
| | n84 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| SUL_n78A-n86A | n78 | 10, 15, 20, 40, 50, 60, 70, 80, 90, 100 | 0 |
| | n86 | 5, 10, 15, 20 | |
| SUL_n79A-n80A | n79 | 40, 50, 60, 80, 100 | 0 |
| | n80 | 5, 10, 15, 20, 25, 30 | |
| | n79 | 40, 50, 60, 80, 100 | 1 |
| | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| SUL_n79A-n81A | n79 | 40, 50, 60, 80, 100 | 0 |
| | n81 | 5, 10, 15, 20 | |
| SUL_n79A-n83A | n79 | 40, 50, 60, 80, 100 | 0 |
| | n83 | 5, 10, 15, 20, 30 | |
| SUL_n79A-n84A | n79 | 40, 50, 60, 80, 100 | 0 |
| | n84 | 5, 10, 15, 20 | |

| | | | |
|---|---|---|---|
| SUL_n79A-n95A | n79 | 40, 50, 60, 80, 100 | 0 |
| | n95 | 5, 10, 15 | |
| SUL_n79A-n97A | n79 | 40, 50, 60, 80, 100 | 0 |
| | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | |
| | n79 | 40, 50, 60, 80, 100 | 1 |
| | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | n79 | See n79 channel bandwidths in Table 5.3.5-1 for each carrier | BCS4 and BCS5 |
| | n97 | See n97 channel bandwidths in Table 5.3.5-1 for each carrier | |
| SUL_n79A-n98A | n79 | 40, 50, 60, 80, 100 | 0 |
| | n98 | 5, 10, 15, 20, 25, 30, 40 | |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | |

**Table 5.5C-2: Supported channel bandwidths per SUL band combination with intra-band non-contiguous CA**

| SUL band combination with intra-band non-contiguous CA | SUL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
|---|---|---|---|---|
| SUL_n41(2A)-n99A | SUL_n41A-n99A | n41 | See CA_n41(2A) Bandwidth Combination Set 0 in Table 5.5A.2-1 | 0 |
| | | n99 | 5, 10 | |
| SUL_n48(2A)-n99A | SUL_n48A-n99A | n48 | See CA_n48(2A) Bandwidth Combination Set 0 in Table 5.5A.2-1 | 0 |
| | | n99 | 5, 10 | |
| SUL_n77(2A)-n99A | SUL_n77A-n99A | n77 | See CA_n77(2A) Bandwidth Combination Set 0 in Table 5.5A.2-1 | 0 |
| | | n99 | 5, 10 | |
| SUL_n78(2A)-n86A | SUL_n78A-n86A | n78 | See CA_n78(2A) Bandwidth Combination Set 0 in Table 5.5A.2-1 | 0 |
| | | n86 | 5, 10, 15, 20 | |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

**Table 5.5C-3: Supported channel bandwidths per SUL band combination with intra-band contiguous CA**

| SUL band combination with CA | SUL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
|---|---|---|---|---|
| SUL_n41C-n80A | SUL_n41A-n80A | n41 | See CA_n41C Bandwidth Combination Set 1 in Table 5.5A.1-1 | 0 |
| | SUL_n41C-n80A | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| SUL_n41C-n83A | SUL_n41A-n83A | n41 | See CA_n41C Bandwidth Combination Set 1 in Table 5.5A.1-1 | 0 |
| | SUL_n41C-n83A | n83 | 5, 10, 15, 20, 30 | |
| SUL_n41C-n95A | SUL_n41A-n95A | n41 | See CA_n41C Bandwidth Combination Set 1 in Table 5.5A.1-1 | 0 |
| | SUL_n41C-n95A | n95 | 5, 10, 15 | |

| | | | | |
|---|---|---|---|---|
| SUL_n78C-n80A | SUL_n78A-n80A | n78 | See CA_n78C Bandwidth Combination Set 1 in Table 5.5A.1-1 | 0 |
| | SUL_n78C-n80A | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| SUL_n78C-n84A | SUL_n78A-n84A | n78 | See CA_n78C Bandwidth Combination Set 1 in Table 5.5A.1-1 | 0 |
| | SUL_n78C-n84A | n84 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| SUL_n79C-n80A | SUL_n79A-n80A | n79 | See CA_n79C Bandwidth Combination Set 0 in Table 5.5A.1-1 | 0 |
| | SUL_n79C-n80A | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| SUL_n79C-n83A | SUL_n79A-n83A | n79 | See CA_n79C Bandwidth Combination Set 0 in Table 5.5A.1-1 | 0 |
| | SUL_n79C-n83A | n83 | 5, 10, 15, 20, 30 | |
| SUL_n79C-n95A | SUL_n79A-n95A | n79 | See CA_n79C Bandwidth Combination Set 0 in Table 5.5A.1-1 | 0 |
| | SUL_n79C-n95A | n95 | 5, 10, 15 | |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

**Table 5.5C-4: Supported channel bandwidths per SUL band combination with inter-band CA**

| SUL band combination with CA | SUL configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n1A_SUL_n78A-n80A | SUL_n78A-n80A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n1A_SUL_n78A-n84A | SUL_n78A-n84A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n84 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n1A_SUL_n78C-n84A | SUL_n78A-n84A | n1 | 5, 10, 15, 20, 25, 30, 40, 50 | 0 |
| | SUL_n78C-n84A | n78 | See CA_n78C Bandwidth Combination Set 1 in Table 5.5A.1-1 | |
| | | n84 | 5, 10, 15, 20, 25, 30, 40, 50 | |
| CA_n3A_SUL_n41A-n80A | SUL_n41A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n3A_SUL_n41C-n80A | SUL_n41A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n41 | See CA_n41C Bandwidth Combination Set 1 in Table 5.5A.1-1 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n3A_SUL_n78A-n80A | SUL_n78A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n78 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n3A_SUL_n78C-n80A | SUL_n78A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | SUL_n78C-n80A | n78 | See CA_n78C Bandwidth Combination Set 1 in Table 5.5A.1-1 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n3A_SUL_n79A-n80A | SUL_n79A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n3A_SUL_n79C-n80A | SUL_n79A-n80A | n3 | 5, 10, 15, 20, 25, 30, 40 | 0 |

| | | | | |
|---|---|---|---|---|
| | SUL_n79C-n80A | n79 | See CA_n79C Bandwidth Combination Set 0 in Table 5.5A.1-1 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n28A_SUL_n41A-n83A | SUL_n41A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| CA_n28A_SUL_n41C-n83A | SUL_n41A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
| | SUL_n41C-n83A | n41 | See CA_n41C Bandwidth Combination Set 1 in Table 5.5A.1-1 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| CA_n28A_SUL_n79A-n83A | SUL_n79A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| CA_n28A_SUL_n79C-n83A | SUL_n79A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
| | SUL_n79C-n83A | n79 | See CA_n79C Bandwidth Combination Set 0 in Table 5.5A.1-1 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| CA_n41A_SUL_n79A-n80A | SUL_n79A-n80A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n41A_SUL_n79A-n83A | SUL_n79A-n83A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| CA_n41A_SUL_n79A-n97A | SUL_n79A-n97A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n79A_SUL_n41A-n80A | SUL_n41A-n80A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n80 | 5, 10, 15, 20, 25, 30, 40 | |
| CA_n79A_SUL_n41A-n83A | SUL_n41A-n83A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| CA_n79A_SUL_n41A-n97A | SUL_n41A-n97A | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | 0 |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n97 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | |
| CA_n28A-n79A_SUL_n41A-n83A | SUL_n41A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| CA_n28A-n41A_SUL_n79A-n83A | SUL_n79A-n83A | n28 | 5, 10, 15, 20, 30 | 0 |
| | | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | |
| | | n79 | 40, 50, 60, 80, 100 | |
| | | n83 | 5, 10, 15, 20, 30 | |
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1. | | | | |

### 5.1.2 التعاريف والرموز والمختصرات

#### 1.5.1.2 التعاريف

**تجميع الموجات الحاملة (Carrier aggregation)**: تجميع موجتين أو أكثر من الموجات الحاملة المكونة لدعم عروض نطاق أوسع للإرسال.

**عرض نطاق القناة (Channel bandwidth)**: عرض نطاق التردد الراديوي الذي يدعم موجة حاملة ذات تردد وحيد E-UTRA وعرض نطاق إرسال مشكل في الوصلة الصاعدة أو الوصلة الهابطة لخلية ما. ويقاس عرض نطاق القناة بوحدات MHz ويستخدم كمرجع لمتطلبات الترددات الراديوية للمرسل والمستقبل.

#### 2.5.1.2 الرموز

$F_{DL_low}$ أدنى تردد في *نطاق تشغيل* الوصلة الهابطة

$F_{DL_high}$ أعلى تردد في *نطاق تشغيل* الوصلة الهابطة

$F_{UL_low}$ أدنى تردد في *نطاق تشغيل* الوصلة الصاعدة

$F_{UL_high}$ أعلى تردد في *نطاق تشغيل* الوصلة الصاعدة

#### 3.5.1.2 الاختصارات

ACLR نسبة التسرب في القنوات المجاورة (*Adjacent Channel Leakage Ratio*)

CA تجميع الموجات الحاملة (*Carrier Aggregation*)

DC التوصيلية المزدوجة (*Dual Connectivity*)

FDD إرسال مزدوج بتقسيم التردد (*Frequency division duplex*)

FR مدى الترددات (*Frequency Range*)

NR الراديو الجديد (*New Radio*)

NS التشوير الشبكي (*Network Signalling*)

SUL الوصلة الصاعدة التكميلية (*Supplementary uplink*)

TDD إرسال مزدوج بتقسيم الزمن .(*Time division duplex*)

UE معدات المستعمل (*User equipment*)

V2X من المركبة إلى كل شيء (*Vehicle-to-everything*)

## 2.2 بث طيف التردد الراديوي

يمكن للشبكة أن تعطي إشارات عن متطلبات البث الإضافي. ويرتبط كل متطلب بث إضافي بوسم تشوير شبكي (NS) فريد. وترد قائمة بوسوم التشوير الشبكي وما يقابلها من نطاقات تردد NR في الجدول 1-1.3.3.2.6 من المواصفة [1] TS 38.521-1.

**Table 6.2.3.3.1-1: Additional maximum power reduction (A-MPR)**

| Network signalling label | Requirements (subclause) | NR Band | Channel bandwidth (MHz) | Resources blocks ($N_{RB}$) | A-MPR (dB) |
|---|---|---|---|---|---|
| NS_01 | | Table 5.2-1<br>(NOTE 8) | 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | Table 5.3.2-1 | N/A |
| NS_03 | 6.5.2.3.3.3 | n2, n25, n66, n70, n86 | | | Clause 6.2.3.3.7 |
| NS_03U | 6.5.2.3.3.3, 6.5.2.4.2.3 | n2, n25, n66, n86 | | | Clause 6.2.3.3.7 |
| NS_04 | 6.5.2.3.3.2, 6.5.3.3.3.1 | n41 | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 | | Clause 6.2.3.3.2 |
| NS_05 | 6.5.3.3.3.4 | n1, n65, n84 | 5, 10, 15, 20<br>(Note 2) | | Clause 6.2.3.3.4<br>(NOTE 7) |
| NS_05U | 6.5.3.3.3.4, 6.5.2.4.2.3 | n1, n65, n84 | 5, 10, 15, 20 | | Clause 6.2.3.3.4<br>(NOTE 7) |
| NS_06 | 6.5.2.3.3.4 | n12 | 5, 10, 15 | | N/A |
| | | n14 | 5, 10 | | |
| NS_10 | | n20 | 15, 20 | Table 6.2.3.3.3-1 | Table 6.2.3.3.3-1 |
| NS_12 | 6.5.3.3.17 | n26 | 5, 10 | Table 6.2.3.3.21-1 | Table 6.2.3.3.21-2 |
| NS_13 | 6.5.3.3.18 | n26 | 5 | Table 6.2.3.3.22-1 | Table 6.2.3.3.22-2 |
| NS_14 | 6.5.3.3.19 | n26 | 10, 15, 20 | Table 6.2.3.3.23-1 | Table 6.2.3.3.23-2 |
| NS_15 | 6.5.3.3.20 | n26 | 5, 10, 15, 20 | Table 6.2.3.3.24-1 | Table 6.2.3.3.24-2 |
| NS_17 | 6.5.3.3.3.2 | n28, n83 | 5, 10 | Table 5.3.2-1 | N/A |
| NS_18 | 6.5.3.3.3.3 | n28, n83 | 5 | | Table 6.2.3.3.13-1, A1 |
| | | | 10, 15, 20 | | Table 6.2.3.3.13-1, A2 |
| | | | 30 | | Table 6.2.3.3.13-1, A3, A4, A5 |
| NS_21 | 6.5.3.3.3.12 | n30 | 5,10 | | Table 6.5.3.3.3.12-1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | NS_24 | 6.5.3.3.3.13 | n65 (Note 4) | 5, 10, 15, 20 | Table 6.2.3.3.15-1 | Subclause 6.2.3.3.15 | |
| | NS_27 | 6.5.2.3.3.8<br>6.5.3.3.3.14 | n48 | 5, 10, 15, 20, 40 | Table 6.2.3.3.16-1 | Table 6.2.3.3.16-2 | |
| | NS_35 | 6.5.2.3.3.1 | n71 | 5, 10, 15, 20 | Table 5.3.2-1 | N/A | |
| | NS_37 | 6.5.3.3.3.6 | n74 (Note 3) | 10, 15 | Table 6.2.3.3.8-1 | Table 6.2.3.3.8-1 | |
| | NS_38 | 6.5.3.3.3.7 | n74 | 5, 10, 15, 20 | Table 6.2.3.3.9-1 | Table 6.2.3.3.9-1 | |
| | NS_39 | 6.5.3.3.3.8 | n74 | 10, 15, 20 | Table 6.2.3.3.10-1 | Table 6.2.3.3.10-1 | |
| | NS_40 | 6.5.3.3.3.9 | n51 | 5 | | Table 6.2.3.3.5-1 | |
| | NS_41 | 6.5.3.3.3.10 | n50 | 5, 10, 15, 20, 40, 50, 60 | | Table 6.2.3.3.11-1 | |
| | NS_42 | 6.5.3.3.3.11 | n50 | 5, 10, 15, 20, 40, 50, 60 | | Table 6.2.3.3.12-1 | |
| | NS_43 | 6.5.3.3.3.5 | n8, n81 | 5, 10, 15 | | Clause 6.2.3.3.6 | |
| | NS_43U | 6.5.3.3.3.5, 6.5.2.4.2.3 | n8, n81 | 5, 10, 15 | | Clause 6.2.3.3.6 | |
| | NS_44 | 6.5.3.3.24 | n38 | 25,30,40 | Table 6.2.3.3.20-1 | Table 6.2.3.3.20-1 | |
| | NS_45 | 6.5.3.3.3.21 | n53 | 5, 10 | | Clause 6.2.3.3.25 | |
| | NS_46 | 6.5.3.3.3.25 | n7 | 25, 30, 40, 50 | Table 6.2.3.3.17-1 | Table 6.2.3.3.17-2 | |
| | NS_47 | 6.5.3.3.3.15 | n41 (Note 5) | 30 | Table 6.2.3.3.18-1 | Table 6.2.3.3.18-2 | |
| | NS_48 | 6.5.3.3.3.22 | n1 and n84 | 10, 15, 20, 25, 30, 40, 45, 50 | Table 6.2.3.3.26-1,<br>Table 6.2.3.3.26-3 | Table 6.2.3.3.26-2,<br>Table 6.2.3.3.26-4 (NOTE 7) | |
| | NS_49 | 6.5.3.3.3.23 | n1 and n84 | 25, 30, 40, 50 | Table 6.2.3.3.27-1 | Table 6.2.3.3.27-1 | |
| | NS_50 | 6.5.3.3.3.16 | n39 | 10, 15, 20, 25, 30, 40 | | Clause 6.2.3.3.19 | |
| | NS_55 | NOTE 6 | n77 | 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100 | | N/A | |
| | NS_56 | 6.5.3.3.3.27 | n24, n99 | 5, 10 | Table 6.2.3.3.30 | Clause 6.2.3.3.30 | |
| | NS_100 | 6.5.2.4.2.3 | n1, n2, n3, n5, n8, n25, n26, n66, n80, n81, | | | Table 6.2.3.3.1-2 | |

| | | | | | |
|---|---|---|---|---|---|
| | | n84, n86 (Note 1) | | | |

NOTE 1: This NS can be signalled for NR bands that have UTRA services deployed.
NOTE 2: No A-MPR is applied for 5 MHz $BW_{channel}$ where the lower channel edge is ≥1 930 MHz, 10 MHz $BW_{channel}$ where the lower channel edge is ≥1 950 MHz and 15 MHz $BW_{channel}$ where the lower channel edge is ≥1 955 MHz.
NOTE 3: Applicable when the NR carrier is within 1 447.9-1 462.9 MHz.
NOTE 4: Applicable when the upper edge of the channel bandwidth frequency is greater than 1 980 MHz.
NOTE 5: Applicable when the NR carrier is within 2 545-2 575 MHz.
NOTE 6: This NS value is applicable for cells in the range 3 450-3 550 MHz for operations in the USA. This NS value does not indicate any additional spurious emission and maximum output power reduction requirements.
NOTE 7: The 1Tx architecture is assumed. For power class 2 UE indicating *txDiversity-r16* TS 38.306, the additional relaxation of 2 dB is applicable.
NOTE 8: The NS_01 label with the field *additionalPmax* [7] absent is default for all NR bands.

### 1.2.2 البث خارج النطاق (Out-of-band emission)

#### 1.1.2.2 قناع البث الطيفي

تُبين الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) في الجدول 5.2.2.5.6-1 من المواصفة التقنية TS 38.521-1، بينما تُوضح قيم التفاوت المسموح به في الاختبارات في الجدول 5.2.2.5.6-2

**Table 6.5.2.2.5-1: General NR spectrum emission mask**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **70 MHz** | **80 MHz** | **90 MHz** | **100 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | | | | | | | 1 % channel bandwidth |
| ± 0-1 | | | | | | | | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | 30 kHz |
| ± 1-5 | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | 1 MHz |
| ± 5-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | |
| ± 6-10 | -25 + TT | | | | | | | | | | | | | |
| ± 10-15 | | -25 + TT | | | | | | | | | | | | |
| ± 15-20 | | | -25 + TT | | | | | | | | | | | |
| ± 20-25 | | | | -25 + TT | | | | | | | | | | |
| ± 25-30 | | | | | -25 + TT | | | | | | | | | |
| ± 30-35 | | | | | | -25 + TT | | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | | |
| ± 40-45 | | | | | | | -25 + TT | | | | | | | |
| ± 45-50 | | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 + TT | | | | | | |
| ± 55-60 | | | | | | | | | | | | | | |
| ± 60-65 | | | | | | | | | -25 + TT | | | | | |
| ± 65-70 | | | | | | | | | | | | | | |
| ± 70-75 | | | | | | | | | | -25 + TT | | | | |
| ± 75-80 | | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | | -25 + TT | | | |
| ± 85-90 | | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | | -25 + TT | | |
| ± 95-100 | | | | | | | | | | | | | | |
| ± 100-105 | | | | | | | | | | | | | -25 + TT | |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: TT for each frequency and channel bandwidth is specified in Table 6.5.2.2.5-2.

**Table 6.5.2.2.5-2: Test Tolerance (Spectrum Emission Mask)**

| | **f ≤ 3.0GHz** | **3.0GHz < f ≤ 4.2GHz** | **4.2GHz < f ≤ 6.0GHz** |
|---|---|---|---|

| | | | |
|---|---|---|---|
| BW ≤ 100 MHz | 1.5 dB | 1.8 dB | 1.8 dB |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 2.1.2.2 قناع البث الطيفي الإضافي

تعطي الشبكة إشارات عن متطلبات البث الطيفي الإضافي للدلالة على أن معدات المستعمل (UE) ينبغي أن تفي أيضاً بمتطلب إضافي لأحد سيناريوهات النشر المحددة باعتبارها جزءاً من رسالة التمرير/البث بين الخلايا.

وتُحدَّد متطلبات البث الطيفي الإضافي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_35" في الجدول 6.5.3.2.5.6-1 من المواصفة التقنية [1] TS 38.521-1، بينما ترد قيم التفاوت المسموح به في الاختبارات في الجدول 6.5.3.2.5.6-1.

**Table 6.5.2.3.5.1-1: Additional test requirements "NS_35"**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth (unless otherwise stated)** |
| ± 0-0.1 | -15.0 + TT | -18.0 + TT | -20.0 + TT | -21.0 + TT | 30 kHz |
| ± 0.1-6 | -13.0 + TT- | -13.0 + TT | -13.0 + TT | -13.0 + TT | 100 kHz |
| ± 6-10 | -25 [1] + TT | -13.0 + TT | -13.0 + TT | -13.0 + TT | 100 kHz |
| ± 10-15 | | -25[1] 0 + TT | -13.0 + TT | -13.0 + TT | 100 kHz |
| ± 15-20 | | | -25 [1]0 + TT | -13.0 + TT | 100 kHz |
| ± 20-25 | | | | -25 + TT | 1 MHz |
| NOTE 1: The measurement bandwidth shall be 1 MHz.<br>NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1. | | | | | |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

**Table 6.5.2.3.5-1: Test Tolerance (Additional spectrum emission mask)**

| | **f ≤ 3.0GHz** | **3.0GHz < f ≤ 4.2GHz** | **4.2GHz < f ≤ 6.0GHz** |
|---|---|---|---|
| BW ≤ 100 MHz | 1.5 dB | 1.8 dB | 1.8 dB |

وتُحدَّد متطلبات البث الطيفي الإضافي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_04" في الجدول 6.5.3.2.5.6-2 من المواصفة التقنية [1] TS 38.521-1، بينما ترد قيم التفاوت المسموح به في الاختبارات في الجدول 6.5.3.2.5.6-1.

وتُحدَّد متطلبات البث الطيفي الإضافي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_03" و"NS_21" في الجدول 6.5.2.3.5.2-1 من المواصفة التقنية [1] TS 38.521-1، بينما ترد قيم التفاوت المسموح به في الاختبارات في الجدول 6.5.2.3.5.2-1.

**Table 6.5.2.3.5.2-1: Additional test requirements for "NS_04"**

| $\Delta f_{OOB}$ MHz | Spectrum emission limit (dBm) / measurement bandwidth for each channel bandwidth (MHz) | | | | | | | | | | | Measurement bandwidth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | 15 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
| ± 0 - 1 | -10+TT | -10+TT | -10+TT | -10+TT | -10+TT | | | | | | | 2 % channel bandwidth |
| | | | | | | -10 | | | | | | 1 MHz |
| ± 1 - 5 | -10 + TT | | | | | | | | | | | 1 MHz |
| ± 5 - X | -13 + TT | | | | | | | | | | | |
| ± X - ($BW_{Channel}$ + 5 MHz) | -25 + TT | | | | | | | | | | | |
| NOTE 1: X is defined in Table 6.5.2.3.3.2-1 for CP-OFDM and 6.5.2.3.3.2-2 for DFT-S-OFDM.<br>NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1. | | | | | | | | | | | | |

وتُحدَّد متطلبات البث الطيفي الإضافي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_06" في الجدول 6.5.2.3.5.2-1 من المواصفة التقنية [1] TS 38.521-1، بينما ترد قيم التفاوت المسموح به في الاختبارات في الجدول 6.5.2.3.5.2-1.

**Table 6.5.2.3.5.3-1: Additional requirements for "NS_03" and "NS_21"**

| $\Delta f_{OOB}$ MHz | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | | | | | | | Measurement bandwidth |
|---|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 40 | |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 % of channel BW |
| ± 1-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 6-10 | -25 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 10-15 | | -25 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 15-20 | | | -25 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 20-25 | | | | -25 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 25-30 | | | | | -25 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 30-35 | | | | | | -25 + TT | -13 + TT | 1 MHz |
| ± 35-40 | | | | | | | -13 + TT | 1 MHz |
| ± 40-45 | | | | | | | -25 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1. | | | | | | | | |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 3.1.2.2 نسبة التسرب في القنوات المجاورة (Adjacent channel leakage ratio)

نسبة التسرب في القنوات المجاورة (ACLR) هي نسبة القدرة المتوسطة المرشَّحة المتمركزة في تردد القناة المخصصة إلى القدرة المتوسطة المرشَّحة المتمركزة في تردد قناة مجاورة.

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بتكنولوجيا الراديو الجديد (NR) في الفقرة 5.1.4.2.5.6 من المواصفة التقنية [1] TS 38.521-1.

6.5.2.4.1.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in clause 6.2.2.5 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR, derived in step 6, shall be higher than the limits in Table 6.5.2.4.1.5-2.

The measured UE mean power in the channel bandwidth, derived in step 7, shall fulfil power class 3 requirements in Tables 6.2.2.5-1 and 6.2.2.5-3 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR, derived in step 7, shall be higher than the power class 3 limits in Table 6.5.2.4.1.5-2.

**Table 6.5.2.4.1.5-1: NR ACLR measurement bandwidth**

| NR channel bandwidth / NR ACLR measurement bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **70 MHz** | **80 MHz** | **90 MHz** | **100 MHz** |
| **NR ACLR measurement bandwidth (MHz)** | 4.515 | 9.375 | 14.235 | 19.095 | 23.955 | 28.815 | 38.895 | 48.615 | 58.35 | 68.07 | 78.15 | 88.23 | 98.31 |

**Table 6.5.2.4.1.5-2: NR ACLR requirement**

| | **Power class 1[2]** | **Power class 1.5** | **Power class 2** | **Power class 3** |
|---|---|---|---|---|
| **NR ACLR** | 37 - TT dB[2] | 31 - TT dB | 31 - TT dB | 30 - TT dB |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.4.1.5-3.<br>NOTE 2: Applicable for power class 1 UE operating in Band n14. | | | | |

**Table 6.5.2.4.1.5-3: Test Tolerance (NR ACLR)**

| | **f ≤ 3.0GHz** | **3.0GHz < f ≤ 4.2GHz** | **4.2GHz < f ≤ 6.0GHz** |
|---|---|---|---|
| BW ≤ 100 MHz | 0.8 dB | 0.8 dB | 0.8 dB |

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) الخاصة بالنفاذ UTRA في الفقرة 5.2.4.2.5.6 من المواصفة التقنية [1] TS 38.521-1.

6.5.2.4.2.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements described in 6.2.3.5 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured UTRA ACLR, derived in step 6, shall be higher than the limits in table 6.5.2.4.2.5-2.

**Table 6.5.2.4.2.5-1: Void**

**Table 6.5.2.4.2.5-2: UTRA ACLR requirement**

| | Power class 3 |
|---|---|
| $UTRA_{ACLR1}$ | 33 dB -TT |
| $UTRA_{ACLR2}$ | 36 dB - TT |
| NOTE 1: TT = 0.8 dB | |

### 2.2.2 البث الهامشي للمرسِل

البث الهامشي هو بث ناجم عن آثار غير مرغوبة للمرسِل مثل البث التوافقي، والبث الطفيلي، ومنتجات التشكيل البيني ومنتجات تحويل التردد، ولكنه لا يشمل البث خارج النطاق ما لم يُنص على خلاف ذلك. وتُبيَّن الحدود العامة للبث الهامشي بما يتوافق مع التوصية ITU-R SM.329، ومع متطلبات نطاقات تشغيل تكنولوجيا الراديو الجديد (NR)، لمعالجة تعايش معدات المستعمل (UE).

ولتحسين دقة القياس وحساسيته وكفاءته، يمكن أن يكون عرض نطاق الاستبانة أقل من عرض نطاق القياس. وفي هذه الحالة، ينبغي أن تكون النتيجة متكاملة على مدى عرض نطاق القياس من أجل الحصول على ما يعادل عرض نطاق الضوضاء لعرض نطاق القياس.

#### 1.2.2.2 متطلبات البث الهامشي

تُبين الحدود العامة للبث الهامشي لتكنولوجيا الراديو الجديد (NR) في الجدول 5.1.3.5.6-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | 4 |
| | –25 dBm | 1 MHz | 3 |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |

NOTE 1: Applies for Band for which the upper frequency edge of the UL Band is greater than 2.55 GHz and less than or equal to 5.2 GHz
NOTE 2: Applies for Band that the upper frequency edge of the UL Band more than 5.2 GHz
NOTE 3: Applies for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in sub-clause 5.2B of 38.101-3 [4] when NS_04 is signalled.
NOTE 4: Does not apply for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in subclause 5.2B of TS 38.101-3 [4] when NS_04 is signalled.

### 2.2.2.2 البث الهامشي لتعايش معدات المستعمل (UE)

تختلف متطلبات التعايش الخاصة بمعدات المستعمل (UE) باختلاف الإصدار. وتُحدد المتطلبات الخاصة بالإصدارين 15 و16 في الجدول 5.2.3.5.6-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.2.5-1: UE Requirements according to UE NR release and supported E-UTRA and NR band**

| UE Requirements per release | | | |
|---|---|---|---|
| **NR Band** | **Rel-15** | **Rel-16** | **R17** |
| n1 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n2 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n3 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n5 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n7 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n8 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n12 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n14 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n18 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n20 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n24 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 |
| n25 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n26 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n28 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n30 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n34 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n38 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n39 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n40 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n41 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n48 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n50 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n51 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n53 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n65 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n66 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n70 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n71 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n74 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n77, n78 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n79 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| NOTE 1: The frequency range applicable with network signalling values of NS_04, NS_17, NS_18, NS_05, NS_43, NS_37, NS_38, NS_39, NS_40, NS_41, NS_42, NS_45 and NS_56 are covered in subclause 6.5.3.3 Additional Spurious Emissions | | | |

| |
|---|
| NOTE 2: The restriction on the maximum uplink transmission to 54 RB in Notes 21 and 22 of Tables 6.5.3.2.3-1 to 6.5.3.2.3-3 is intended for conformance testing and may be applied to network operation to facilitate coexistence when the aggressor and victim bands are deployed in the same geographical area. The applicable spurious emission requirement of -15.5 dBm/5 MHz is a least restrictive technical condition for FDD/TDD coexistence and may have to be revised in the future. |

### 3.2.2.2 البث الهامشي الإضافي

تُحدَّد هذه المتطلبات استناداً إلى متطلبات بث الطيف الإضافي. تعطي الشبكة إشارات عن المتطلبات الإضافية للبث الهامشي للدلالة على أن معدات المستعمل (UE) ينبغي أن تفي أيضاً بمتطلب إضافي لأحد سيناريوهات النشر المحددة باعتبارها جزءاً من رسالة التمرير/البث بين الخلايا.

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_04" في الجدول 6.5.3.3.5.1-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.1-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 (MHz) | |
| 2 495 ≤ f < 2 496 | –13 | 1% of Channel BW |
| 2 490.5 ≤ f < 2 495 | –13 | 1 MHz |
| 0.009 < f < 2 490.5 | –25 | 1 MHz |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_17" في الجدول 6.5.3.3.5.2-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.2-1: Additional requirements for "NS_17"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5, 10 MHz | | |
| 470 ≤ f ≤ 710 | –26.2 | 6 MHz | 1 |
| NOTE 1: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz. | | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_18" في الجدول 6.5.3.3.5.3-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.3-1: Additional requirements for "NS_18"**

| Frequency range (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | |
|---|---|---|---|
| | 5, 10, 15, 20, 30 MHz | | |
| 692-698 | –26.2 | 6 MHz | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_05" في الجدول 6.5.3.3.5.4-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.4-1: Additional requirements for "NS_05"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | |
|---|---|---|---|
| | 5, 10, 15, 20 MHz | | |
| 1 884.5 ≤ f ≤ 1 915.7 | –41 | 300 kHz | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_43" في الجدول 6.5.3.3.5.5-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.5-1: Additional requirement for "NS_43"**

| Frequency range (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15 MHz | |
| 860 ≤ f ≤ 890 | –40 | 1 MHz |
| NOTE 1: Applicable for 5 MHz and 15 MHz channel BW confined between 900 MHz and 915 MHz and for 10 MHz channel BW confined between 905 MHz and 915 MHz | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_37" في الجدول 6.5.3.3.5.6-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.6-1: Additional requirement for "NS_37"**

| Frequency band (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20 | |
| 1 475.9 ≤ f ≤ 1 510.9 | –35 | 1 MHz |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_21" في الجدول 6.5.3.3.5.6-12.1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.12-1: Additional requirements for "NS_21"**

| Frequency band (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10 | |
| 2 200 ≤ f < 2 288 | –40 | 1 MHz |
| 2 288 ≤ f < 2 292 | –37 | 1 MHz |
| 2 292 ≤ f < 2 296 | –31 | 1 MHz |
| 2 296 ≤ f < 2 300 | –25 | 1 MHz |
| 2 320 ≤ f < 2 324 | –25 | 1 MHz |
| 2 324 ≤ f < 2 328 | –31 | 1 MHz |
| 2 328 ≤ f < 2 332 | –37 | 1 MHz |
| 2 332 ≤ f ≤ 2 395 | –40 | 1 MHz |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_24" في الجدول 6.5.3.3.5.13-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.13-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 2 010 ≤ f ≤ 2 025 | –50 | 1 MHz |
| NOTE 1: This requirement applies at a frequency offset equal or larger than 5 MHz from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band. | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_27" في الجدول 6.5.3.3.5.14-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.14-1: Additional requirement for "NS_27"**

| Frequency range (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20, 40 | |
| 9 kHz – 3 530 MHz | –40 | 1 MHz |
| 3 530 MHz – 3 540 MHz | –25 | |
| 3 710 MHz – 3 720 MHz | –25 | |
| 3 720 MHz – 12.75 GHz | –40 | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_47" في الجدول 6.5.3.3.5.15-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.15-1: Additional requirement for "NS_47"**

| Frequency band (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 30 | |
| 2 530 ≤ f ≤ 2 535 | –25 | 1 MHz |
| 2 505 ≤ f ≤ 2 530 | –30 | 1 MHz |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_50" في الجدول 6.5.3.3.5.16-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.16-1: Additional requirements for "NS_50"**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 1 805 | - | 1 855 | –40 | 1 | 1 |
| Frequency range | 1 855 | - | 1 880 | –15.5 | 5 | 1, 2, 3 |
| NOTE 1: This requirement is applicable for carriers with aggregated channel bandwidths confined in 1885-1920 MHz for ≤ 30MHz channel BWs and confined in 1 880-1 920 MHz for 40 MHz channel BW.<br>NOTE 2: The requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.<br>NOTE 3: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_12" في الجدول 6.5.3.3.5.17-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.17-1: Additional requirements for "NS_12"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz | |
| 806 ≤ f ≤ 813.5 | –42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 814 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_13" في الجدول 6.5.3.3.5.18-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.18-1: Additional requirements for "NS_13"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |

| |
|---|
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 817 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_14" في الجدول 6.5.3.3.5.19-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.19-1: Additional requirements for "NS_14"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz, 15 MHz, 20MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |
| NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 817 MHz.<br>NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_15" في الجدول 6.5.3.3.5.20-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.20-1: Additional requirements for "NS_15"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 851 ≤ f ≤ 859 | –53 | 6.25 kHz |
| NOTE 1: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_45" في الجدول 6.5.3.3.5.21-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.21-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | Measurement bandwidth |
|---|---|---|---|
| | 5 MHz | 10 MHz | |
| 0.009 < f ≤ 2 473.5 | –25 | –25 | 1 MHz |
| 2 473.5 < f ≤ 2 477.5 | –25 | –13 | 1 MHz |
| 2 477.5 < f ≤ 2 478.5 | –13 | –13 | 1 MHz |
| 2 478.5< f ≤ 2 483.5 | –10 | –10 | 1 MHz |
| 2 495 ≤ f < 2 496 | –13 | –13 | 1% of Channel Bandwidth |
| 2 496 ≤ f < 2 501 | –13 | –13 | 1 MHz |

| | | | |
|---|---|---|---|
| 2 501 < f ≤ 2 505 | –25 | –13 | 1 MHz |
| 2 505 ≤ f ≤ 5th harmonic of the upper frequency edge of the UL operating band | –25 | –25 | 1 MHz |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_48" في الجدول 6.5.3.3.5.22-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.22-1: Additional requirements**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| E-UTRA band 34 – NR band n34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| Frequency range | 1 900 | - | 1 915 | –15.5 | 5 | 1 |
| Frequency range | 1 915 | - | 1 920 | +1.6 | 5 | 1 |
| NOTE 1: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_49" في الجدول 6.5.3.3.5.23-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.23-1: Additional requirements**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| E-UTRA band 34 - NR band n34 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| Frequency range | 1 880 | - | 1 895 | –40 | 1 | |
| Frequency range | 1 895 | | 1 915 | –15.5 | 5 | 1 |
| Frequency range | 1 915 | - | 1 920 | 1.6 | 5 | 1 |
| NOTE 1: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_44" في الجدول 6.5.3.3.5.24-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.24-1: Additional requirements**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 2 620 | - | 2 645 | –15.5 | 5 | 1, 2 |
| Frequency range | 2 645 | - | 2 690 | –40 | 1 | 1 |
| NOTE 1: This requirement is applicable for carriers confined in 2 570-2 615 MHz.<br>NOTE 2: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_46" في الجدول 6.5.3.3.5.25-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.25-1: Additional requirements for "NS_46"**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 2 570 | - | 2 575 | +1.6 | 5 | 1, 2 |
| Frequency range | 2 575 | - | 2 595 | –15.5 | 5 | 1, 2 |
| Frequency range | 2 595 | - | 2 620 | –40 | 1 | 1 |
| NOTE 1: This requirement is applicable for all carriers confined in 2 500-2 570 MHz. Special restrictions apply for channel bandwidths up to 20 MHz: For carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2 560.5-2 562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2 552-2 560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB with the minimum supported SCS of 15 KHz. | | | | | | |
| NOTE 2: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_56" في الجدول 6.5.3.3.5.6-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 6.5.3.3.5.27-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit[1] (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5 MHz, 10MHz | | |
| 1 541 ≤ f ≤ 1 559 | –102 | 2 kHz | Averaged over any 2millisecond active transmission interval |
| 1 559≤ f ≤ 1 608 | –85 | 700 Hz | |
| 1 608≤ f ≤ 1 610 | –85 +5/2 (f-1608) | 700 Hz | |
| 1 610≤ f ≤ 1 625 | –80+ 66/15 (f-1610) | 700 Hz | |
| 1 541 ≤ f ≤ 1 608 | –75 | 1 MHz | Averaged over any 2millisecond active transmission interval |
| 1 608≤ f ≤ 1 610 | –75 + 5/2 (f-1608) | 1 MHz | |
| 1 610≤ f ≤ 1 627.5 | –70+ 57/17.5 (f-1610) | 1 MHz | |
| 1 627.5 | –37 | 4 kHz | |
| 1 638.5 ≤f ≤ 1 645.5 | –28 | 4 kHz | |
| 1 657.5 ≤f ≤ 1 660.5 | –28 | 4 kHz | |
| NOTE 1: The EIRP requirement in regulation is converted to conducted requirement using a 0 dBi antenna. | | | |

### 2.2.3 البث الهامشي للمستقبِل

تُحدَّد المتطلبات العامة للبث الهامشي للمستقبِل، في الجدول 5.9.7-1 من المواصفة التقنية [1] TS 38.521-1.

وتُحدَّد متطلبات البث الهامشي للمستقبِل الخاصة بتجميع الموجات الحاملة، في الجدول 5.9.7-1 من المواصفة التقنية [1] TS 38.521-1.

**Table 7.9.5-1: General receiver spurious emission requirements**

| Frequency range | Measurement bandwidth | Maximum level | NOTE |
|---|---|---|---|
| 30 MHz ≤ f < 1 GHz | 100 kHz | –57 dBm | |
| 1 GHz ≤ f ≤ 12.75 GHz | 1 MHz | –47 dBm | |

| | | | |
|---|---|---|---|
| 12.75 GHz ≤ f ≤ 5th harmonic of the upper frequency edge of the DL operating band in GHz | 1 MHz | –47 dBm | 2 |
| 12.75 GHz – 26 GHz | 1 MHz | –47 dBm | 3 |
| NOTE 1: Unused PDCCH resources are padded with resource element groups with power level given by PDCCH as defined in Annex C.3.1.<br>NOTE 2: Applies for Band that the upper frequency edge of the DL Band more than 2.69 GHz.<br>NOTE 3: Applies for Band that the upper frequency edge of the DL Band more than 5.2 GHz. | | | |

## 2A.2 بث طيف الترددات الراديوية للخرج لتجميع الموجات الحاملة

### 1.2A.2 البث خارج النطاق

بالنسبة لتجميع الموجات الحاملة بين النطاقات، عندما تُخصَّص موجة حاملة واحدة للوصلة الصاعدة لنطاق NR واحد، تنطبق متطلبات بث طيف الترددات الراديوية للخرج الواردة في الفقرة 2.2.

### 1.1.2A.2 قناع البث الطيفي

تُحدَّد الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) عند استخدام تجميع الموجات الحاملة داخل النطاق، في الفقرة 5.1.2.2.5A.6 من المواصفة التقنية [1] TS 38.521-1.

6.5A.2.2.1.5 Test requirement

The measured UE mean power in the channel bandwidth for each CC, derived in step 6, shall fulfil requirements in clause 6.2A.2 as appropriate, and the power of any UE emission for each CC, derived in step 7, shall fulfil requirements in Table 6.5A.2.2.1.5-1 for inter-band CA and Table 6.5A.2.2.1.5-3 for intra-band contiguous CA. If for some frequency spectrum emission masks of component carriers overlap then spectrum emission mask allowing higher power spectral density applies for that frequency. If for some frequency a component carrier spectrum emission mask overlaps with the channel bandwidth of another component carrier, then the emission mask does not apply for that frequency.

**Table 6.5A.2.2.1.5-1: NR General spectrum emission mask**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100 MHz | Measurement bandwidth |
| ± 0-1 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | | | | | | | 1 % channel bandwidth |
| ± 0-1 | | | | | | | | -24 | -24 | -24 | -24 | -24 | -24 | 30 kHz |
| ± 1-5 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | 1 MHz |
| ± 5-6 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | |
| ± 6-10 | -25 | | | | | | | | | | | | | |
| ± 10-15 | | -25 | | | | | | | | | | | | |
| ± 15-20 | | | -25 | | | | | | | | | | | |
| ± 20-25 | | | | -25 | | | | | | | | | | |
| ± 25-30 | | | | | -25 | | | | | | | | | |
| ± 30-35 | | | | | | -25 | | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | | |
| ± 40-45 | | | | | | | -25 | | | | | | | |
| ± 45-50 | | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ± 55-60 | | | | | | | | | | | | | | |
| ± 60-65 | | | | | | | | | -25 | | | | | |
| ± 65-70 | | | | | | | | | | | | | | |
| ± 70-75 | | | | | | | | | | -25 | | | | |
| ± 75-80 | | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | | -25 | | | |
| ± 85-90 | | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | | -25 | | |
| ± 95-100 | | | | | | | | | | | | | | |
| ± 100-105 | | | | | | | | | | | | | -25 | |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

**Table 6.5A.2.2.1.5-2: Test Tolerance for Spectrum emission mask**

| | **f ≤ 3.0 GHz** | **3.0 GHz < f ≤ 6 GHz** |
|---|---|---|
| **BW ≤ 40 MHz** | 1.5 dB | 1.8 dB |
| **40 MHz < BW ≤ 100 MHz** | 1.5 dB | 1.8 dB |

Table 6.5A.2.2.1.5-3: NR General spectrum emission mask for intra-band contiguous CA

| $\Delta f_{OOB}$ (MHz) | Spectrum emission limit (dBm) | MBW (MHz) |
|---|---|---|
| ± 0 - 1 | –13 | $Min(0.01*BW_{channel_CA}, 0.4)$ |
| ± 1 - 5 | –10 | 1 MHz |
| ± 5 – $BW_{channel_CA}$ | –13 | 1 MHz |
| ±$BW_{channel_CA}$- $BW_{channel_CA}$+5 | –25 | 1 MHz |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 2.1.2A.2 مُلغى

### 3.1.2A.2 نسبة التسرب في القنوات المجاورة

تُبيَّن الحدود العامة لنسبة التسرب في القنوات المجاورة (ACLR) لتكنولوجيا الراديو الجديد (NR) عند استخدام تجميع الموجات الحاملة، في الفقرة 5.1.1.4.2.5A.6 من المواصفة التقنية [1] TS 38.521-1.

6.5A.2.4.1.1.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 6, shall fulfil requirements in clause 6.2A.2.1 as appropriate, and if the measured adjacent channel power is greater than –50 dBm, then the measured NR ACLR

derived in step 7c, step 8e, step 6c and step 9f, shall be higher than the limits in Table 6.5A.2.4.1.1.5-1, 6.5A.2.4.1.1.5-2 and 6.5A.2.4.1.1.5-3 respectively.

**Table 6.5A.2.4.1.1.5-1: General requirements for intra-band contiguous CA ACLR**

| | **ACLR / Measurement bandwidth** |
|---|---|
| CA ACLR | 30 - TT dB |
| CA Measurement bandwidth (NOTE 1) | Nominal channel space+$MBW_{ACLR,low}$/2+ $MBW_{ACLR,high}$/2 |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$<br>/<br>- $BW_{Channel_CA}$ |
| Difference between ACLR MBW center and $F_{c,low}$ | $MBW_{shift}$= ($MBW_{ACLR_CA}$-$MBW_{ACLR,low}$)/2 |
| NOTE 1: $MBW_{ACLR,low}$ and $MBW_{ACLR,high}$ are the single-channel ACLR measurement bandwidths specified for channel bandwidths $BW_{channel(low)}$ and $BW_{channel(high)}$ in 6.5.2.4.1, respectively. | |

**Table 6.5A.2.4.1.1.5-2: General requirements for intra-band non-contiguous CA ACLR**

| | **ACLR / Measurement bandwidth** |
|---|---|
| CA ACLR | 30 - TT dB |
| CA Measurement bandwidth for each sub block (NOTE 1) | $MBW_{ACLR}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel}$<br>/<br>- $BW_{Channel}$ |
| NOTE 1: $MBW_{ACLR}$ is the single-channel ACLR measurement bandwidths specified in 6.5.2.4.1. | |

**Table 6.5A.2.4.1.1.5-3: General requirements for inter-band CA ACLR**

| | **Power class 1** | **Power class 2** | **Power class 3** |
|---|---|---|---|
| **NR ACLR** | | 31 - TT dB | 30 - TT dB |

**Table 6.5A.2.4.1.1.5-4: NR ACLR measurement bandwidth for inter-band CA**

| **NR channel bandwidth / NR ACLR measurement bandwidth** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **80 MHz** | **90 MHz** | **100 MHz** |
| **NR ACLR measurement bandwidth** | 4.515 | 9.375 | 14.235 | 19.095 | 23.955 | 28.815 | 38.895 | 48.615 | 58.35 | 78.15 | 88.23 | 98.31 |

**Table 6.5A.2.4.1.1.5-5: Test Tolerance for NR ACLR**

| | **f ≤ 3.0 GHz** | **3.0 GHz < f ≤ 6 GHz** |
|---|---|---|
| **BW ≤ 100 MHz** | 0.8 dB | 0.8 dB |

وتُبيَّن الحدود العامة لقناع البث الطيفي للنفاذ UTRA عند استخدام تجميع الموجات الحاملة، في الفقرة 5.1.2.4.2.5A.6 من المواصفة التقنية [1] TS 38.521-1.

6.5A.2.4.2.1.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 6, shall fulfil requirements in clause 6.2A.3.1 as appropriate, and if the measured adjacent channel power is greater than –50 dBm, then the measured UTRA ACLR for each CC, derived in step 9 and step 13, shall be higher than the limits in Table 6.5A.2.4.2.1.5-2.

**Table 6.5A.2.4.2.1.5-1: Measurement bandwidth for NR carrier**

| | NR channel bandwidth / UTRA ACLR measurement bandwidth | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100 MHz |
| NR channel measurement bandwidth (MHz) | 4.515 | 9.375 | 14.235 | 19.095 | 23.955 | 28.815 | 38.895 | 48.615 | 58.35 | 68.07 | 78.15 | 88.23 | 98.31 |
| UTRA channel Measurement bandwidth (MHz) | 3.84 | | | | | | | | | | | | |
| 1st Adjacent channel centre frequency offset | ± 2.5 MHz from NR channel edge | | | | | | | | | | | | |
| 2nd Adjacent channel centre frequency offset | ± 7.5 MHz from NR channel edge | | | | | | | | | | | | |

**Table 6.5A.2.4.2.1.5-2: UTRA ACLR requirement**

| | Power class 3 |
|---|---|
| $UTRA_{ACLR1}$ | 33 dB -TT |
| $UTRA_{ACLR2}$ | 36 dB - TT |

**Table 6.5A.2.4.2.1.5-3: Test Tolerance for UTRA ACLR**

| | f ≤ 3.0 GHz | 3.0 GHz < f ≤ 6 GHz |
|---|---|---|
| BW ≤ 100 MHz | 0.8 dB | 0.8 dB |

## 2.2A.2 البث الهامشي للمُرسل الخاص بتجميع الموجات الحاملة

تُبيَّن الحدود العامة للبث الهامشي عند استخدام تجميع الموجات الحاملة، في الفقرة 5.1.1.3.5A.6 من المواصفة التقنية [1] TS 38.521-1.

6.5A.3.1.1.5 Test requirement

This clause specifies the requirements for the specified NR band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.5A.3.1.1.5-1. The test requirement of configurations for CA operating band including Band n41 also apply for the corresponding CA operating bands with Band n90 replacing Band n41.

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth. If for some frequency a spurious emission requirement of individual component carrier overlaps with the spectrum emission mask or channel bandwidth of another component carrier then it does not apply.

The measured average power of spurious emission, derived in step 6, shall not exceed the described value in Table 6.5A.3.1.1.5-1.

**Table 6.5A.3.1.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Notes |
|---|---|---|---|
| **Test requirements for CA_n3A-n78A Configuration** | | | |
| 270 MHz ≤ f ≤ 380 MHz | –36 dBm+TT | 100 kHz | |
| 1 515 MHz ≤ f ≤ 2 090 MHz<br>3 270 MHz ≤ f ≤ 3 830 MHz<br>4 815 MHz ≤ f ≤ 5 890 MHz<br>6 720 MHz ≤ f ≤ 7 370 MHz<br>8 310 MHz ≤ f ≤ 9 385 MHz | –30 dBm+TT | 1 MHz | |
| **Test requirements for CA_n8A-n78A Configuration** | | | |
| 780 MHz ≤f ≤1 000 MHz | –36 dBm+TT | 100 kHz | |
| 1 000MHz £ f £ 1 015 MHz<br>1 470 MHz £ f £ 2 040 MHz<br>2 385 MHz ≤ f ≤ 2 920 MHz<br>3 290 MHz ≤ f ≤ 3 810 MHz<br>4 180 MHz ≤ f ≤ 4 715 MHz<br>5 060 MHz ≤ f ≤ 5 630 MHz<br>5 685 MHz ≤ f ≤ 6 720 MHz<br>7 480 MHz ≤ f ≤ 8 515 MHz | –30 dBm+TT | 1 MHz | |
| **Test requirements for CA_n24A-n41A Configuration** | | | |
| 563 MHz ≤ f ≤ 825 MHz<br>835.5 MHz ≤ f ≤ 1 000 MHz | –36 dBm+TT | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 063.5 MHz<br>3 331.5 MHz ≤ f ≤ 3 753.5 MHz<br>4 122.5 MHz ≤ f ≤ 4 350.5 MHz<br>5 749 MHz ≤ f ≤ 6 011 MHz<br>6 618.5 MHz ≤ f ≤ 7 040.5 MHz | –25 dBm+TT | 1 MHz | |
| **Test requirements for CA_n24A-n48A Configuration** | | | |
| 229 MHz ≤ f ≤ 447 MHz | –36 dBm+TT | 100 kHz | |
| 1 889.5 MHz ≤ f ≤ 2 073.5 MHz<br>5 176.5 MHz ≤ f ≤ 5 360.5 MHz<br>5 439.5 MHz ≤ f ≤ 5 773.5 MHz<br>6 803 MHz ≤ f ≤ 7 021 MHz<br>8 726.5 MHz ≤ f ≤ 9 060.5 MHz | –30 dBm+TT | 1 MHz | |
| **Test requirements for CA_n24A-n77A Configuration** | | | |
| 21 MHz ≤ f < 30 MHz | –36 dBm+TT | 10 kHz | |
| 30 MHz ≤ f < 947 MHz | –36 dBm+TT | 100 kHz | |
| 1 639.5 MHz ≤ f ≤ 2 573.5 MHz<br>4 926.5 MHz ≤ f ≤ 7 521 MHz | –30 dBm+TT | 1 MHz | |

| | | | |
|---|---|---|---|
| 8 226.5 MHz ≤ f ≤ 10 060.5 MHz | | | |
| **Test requirements for CA_n28A-n41A Configuration** | | | |
| 1 000MHz ≤ f ≤ 1 284 MHz<br>1 748MHz ≤ f ≤ 1 987 MHz<br>3 199MHz ≤ f ≤ 3 438 MHz<br>3 902MHz ≤ f ≤ 4 186 MHz<br>4 244MHz ≤ f ≤ 4 677 MHz<br>5 695MHz ≤ f ≤ 6 128MHz | –25 dBm+TT | 1MHz | |
| **Test requirements for CA_n41A-n79A Configuration** | | | |
| 8 MHz ≤ f ≤ 30 MHz | –36 dBm+TT | 10kHz | |
| 30 MHz ≤ f ≤ 980 MHz | –36 dBm+TT | 100kHz | |
| 1 710MHz ≤ f ≤ 2 504MHz | –30 dBm+TT | 1MHz | |
| 6 110MHz ≤ f ≤ 7 690MHz | | | |
| 9 392MHz ≤ f ≤ 10 380MHz | | | |
| 11 296MHz ≤ f ≤ 12 690MHz | | | |

**Table 6.5A.3.1.1.5-2: Test Tolerance for General spurious emissions**

| | f ≤ 3.0 GHz | 3.0 GHz < f ≤ 6 GHz |
|---|---|---|
| **BW ≤ 40 MHz** | 0 | 0 |
| **40MHz < BW ≤ 100 MHz** | 0 | 0 |

كما تُبيَّن حدود البث الهامشي الخاصة بتعايش معدات المستعمل (UE) عند استخدام تجميع الموجات الحاملة، في الفقرة 5.1.2.3.5A.6 من المواصفة التقنية TS 38.521-1 [1].

6.5A.3.2.1.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as the minimum requirements. The measured average power of spurious emission, derived in step 6, shall not exceed the described value in Tables 6.5A.3.2.1.5-1, 6.5A.3.2.1.5-1a (Rel-16) and 6.5A.3.2.1.5-1 (Rel-17). The test requirement of configurations for CA operating band including Band n41 also apply for the corresponding CA operating bands with Band n90 replacing Band n41.

**Table 6.5A.3.2.1.5-1: Requirements for uplink inter-band carrier aggregation (two bands) Rel-15**

| NR CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected Band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA_n1-n28 | E-UTRA Band 5, 7, 8, 18, 19, 20, 26, 27, 31, 38, 40, 41, 72, 73<br>NR band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 1, 22, 32, 42, 43, 50, 51, 52, 65, 74, 75, 76<br>NR band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 3, 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 11, 12 |
| | E-UTRA Band 1, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 11, 15 |
| | Frequency range | 470 | - | 694 | -42+TT | 8 | 4, 14 |
| | Frequency range | 470 | - | 710 | -26.2+TT | 6 | 15 |
| | Frequency range | 758 | - | 773 | -30+TT | 1 | 4 |
| | Frequency range | 773 | - | 803 | -50+TT | 1 | |
| | Frequency range | 662 | - | 694 | -26.2+TT | 6 | 4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n1-n40 | E-UTRA Band 1, 5, 7, 8, 11, 18, 19, 20, 21, 22, 26, 27, 28, 31, 32, 38, 41, 42, 43, 44, 45, 50, 51, 52, 65, 67, 68, 69, 72, 73, 74, 75, 76<br>NR band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Band 3, 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| | NR band n77, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 880 | | 1 895 | -40+TT | 1 | 4, 14 |
| | Frequency range | 1 895 | | 1 915 | -15.5+TT | 5 | 4, 7, 14 |
| | Frequency range | 1 915 | | 1 920 | +1.6+TT | 5 | 4, 7, 14 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n1-n78 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 40, 41, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n1-n79 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 40, 41, 42, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n3-n28 | E-UTRA Band 5, 7, 8, 18, 19, 20, 26, 27, 31 38, 40, 41, 72 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 32, 42, 43, 50, 51, 74, 75, 76<br>NR band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 3, 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 11, 12 |
| | E-UTRA Band 1, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 11, 15 |
| | Frequency range | 470 | - | 694 | -42+TT | 8 | 4, 14 |
| | Frequency range | 470 | - | 710 | -26.2+TT | 6 | 15 |
| | Frequency range | 758 | - | 773 | -30+TT | 1 | 4 |
| | Frequency range | 773 | - | 803 | -50+TT | 1 | |
| | Frequency range | 662 | - | 694 | -26.2+TT | 6 | 4 |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 839.9 | - | 1 879.9 | -50+TT | 1 | 4 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3, 11 |
| CA_n3-n40 | E-UTRA Band 1, 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 43, 44. 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| | UTRA Band 22, 42, 52<br>NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1884.5 | - | 1915.7 | -41+TT | 0.3 | 3 |
| CA_n3-n78 | E-UTRA Band 3, 34, 39 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n8-n78 | E-UTRA Band 8, 20, 28, 34, 39, 40 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 3, 7,41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CA_n40-n78 | UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 44, 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n40-n79 | E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 26, 28, 34, 39, 41, 42, 65, 74,<br>NR band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n78-n79 | E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 28, 34, 40, 41, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |

NOTE 1: FDL_low and FDL_high refer to each frequency band specified in Table 5.2-1 or Table 5.5-1 in TS 36.101

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.5.3.1-2 are permitted for each assigned NR carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x LCRB x 180 kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7MHz

NOTE 4: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1-1 and Table 6.5A.3.1-1 from the edge of the channel bandwidth.

**Table 6.5A.3.2.1.5-1a: Requirements for uplink inter-band carrier aggregation (two bands) Rel-16**

| NR CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected Band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA_n1-n28 | E-UTRA Band 5, 7, 8, 18, 19, 20, 26, 27, 31, 38, 40, 41, 72, 73<br>NR band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 1, 22, 32, 42, 43, 50, 51, 52, 65, 74, 75, 76<br>NR band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 3, 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 11, 12 |
| | E-UTRA Band 1, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 11, 15 |
| | Frequency range | 470 | - | 694 | -42+TT | 8 | 4, 14 |
| | Frequency range | 470 | - | 710 | -26.2+TT | 6 | 15 |
| | Frequency range | 758 | - | 773 | -30+TT | 1 | 4 |
| | Frequency range | 773 | - | 803 | -50+TT | 1 | |
| | Frequency range | 662 | - | 694 | -26.2+TT | 6 | 4 |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n1-n40 | E-UTRA Band 1, 5, 7, 8, 11, 18, 19, 20, 21, 22, 26, 27, 28, 31, 32, 38, 41, 42, 43, 44, 45, 50, 51, 52, 65, 67, 68, 69, 72, 73, 74, 75, 76<br>NR band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Band 3, 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| | NR band n77, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 880 | | 1 895 | -40+TT | 1 | 4, 14 |
| | Frequency range | 1 895 | | 1 915 | -15.5+TT | 5 | 4, 7, 14 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 1 915 | | 1 920 | +1.6+TT | 5 | 4, 7, 14 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n1-n78 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 40, 41, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n1-n79 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 40, 41, 42, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n3-n40 | E-UTRA Band 1, 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 43, 44. 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 4 |
| | UTRA Band 22, 42, 52<br>NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n3-n78 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 39, 40, 41, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n5-n77 | E-UTRA Band 1, 2, 3, 4, 8, 11, 12, 13, 14, 17, 18, 19, 21, 25, 26, 28, 29, 30, 34, 40, 65, 66, 70, 71, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n8-n39 | E-UTRA Band 1, 34, 40, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 22, 41, 42<br>NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| CA_n8-n40 | E-UTRA Bands 1, 5, 11, 18, 19, 20, 21, 26, 28, 31, 32, 33, 34, 38, 39, 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Bands 3, 7, 22, 41, 42, 43, 52<br>NR Bands n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | E-UTRA Band 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 4 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n8-n78 | E-UTRA Band 1, 8, 11, 20, 21, 28, 34, 39, 40, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 3, 7,41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n28-n40 | E-UTRA Band 1, 3, 5, 7, 8, 18, 19, 20, 26, 27, 28, 31, 34, 38, 41, 72 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 11, 21, 22, 32, 42, 43, 50, 51, 52, 65, 73, 74, 75, 76<br>NR band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n28-n41 | E-UTRA Band 2, 3, 5, 8, 25, 26, 27, 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | E-UTRA Band 4, 42, 50, 51, 52, 65, 66, 73, 74<br>NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | E-UTRA Band 18, 19 | FDL_low | - | FDL_high | -50 | 1 | 11 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 11, 15 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 11, 12 |
| | Frequency range | 470 | - | 694 | -42 | 8 | 4, 14 |
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 13 |
| | Frequency range | 662 | - | 694 | -26.2 | 6 | 4 |
| | Frequency range | 758 | - | 773 | -32 | 1 | 4 |
| | Frequency range | 773 | - | 803 | -50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3, 11 |
| CA_n39-n40 | E-UTRA Band 1, 8, 22, 26, 28, 34, 41, 42, 44, 45, 50, 51, 52, 73, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 805 | | 1 855 | -40 | 1 | 8 |
| | Frequency range | 1 855 | | 1 880 | -15.5 | 5 | 4, 7, 8 |
| CA_n39-n41 | E-UTRA Band 1, 8, 26, 28, 34, 40, 42, 44, 45, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 805 | - | 1 855 | -40 | 1 | 4 |
| | Frequency range | 1 855 | - | 1 880 | -15.5 | 5 | 4, 7, 8 |
| CA_n39-n79 | E-UTRA Band 1, 8, 28, 34, 40, 41, 44, 45 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 805 | - | 1 855 | -40 | 1 | 4, 8 |
| | Frequency range | 1 855 | - | 1 880 | -15.5 | 5 | 4, 7, 8 |
| CA_n40-n41 | E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 26, 27, 28, 34, 39, 42, 44, 45, 50, 51, 65, 73, 74,<br>NR Band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n40-n78 | UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 27, 28, 31, 32, 33, 34, 38, 39, 41, 44, 45, 50, 51, 65, 67, 68, 69, 72, 73, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n40-n79 | E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 26, 28, 34, 39, 41, 42, 65, 74,<br>NR band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n41-n79 | E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 28, 34, 42, 44, 45, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 40 | $F_{DL_low}$ | - | $F_{DL_high}$ | -40 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n48-n66 | E-UTRA Band 2, 4, 5, 7, 12, 13, 14, 17, 24, 25, 26, 27, 29, 30, 41, 50, 51, 66, 70, 71, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| CA_n66-n71 | E-UTRA Band 4, 5, 12, 13, 14, 17, 26, 27, 30, 43, 50, 51, 53, 66, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 2, 25, 41, 42, 48, 70<br>NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -38+TT | 1 | 4 |
| | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| CA_n70-n71 | E-UTRA Band 4, 5, 12, 13, 14, 17, 26, 27, 30, 48, 66, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 2, 7, 25, 41, 70, NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -38+TT | 1 | 4 |
| | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | -38+TT | 1 | 4 |

NOTE 1: FDL_low and FDL_high refer to each frequency band specified in Table 5.2-1 or Table 5.5-1 in TS 36.101

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.5.3.1-2 are permitted for each assigned NR carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x LCRB x 180 kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7MHz.

NOTE 4: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1-1 and Table 6.5A.3.1-1 from the edge of the channel bandwidth.

NOTE 5: This requirement is applicable only for the following cases: - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth. - for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart> 3.

NOTE 6: This requirement is applicable for any channel bandwidths within the range 1 920-1 980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 927.5-1 929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 930-1 938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 7: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 8: This requirement is only applicable for carriers with bandwidth confined within 1 885-1 920 MHz (requirement for carriers with at least 1RB confined within 1 880-1 885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 892.5-1 894.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 895-1 903 MHz.

NOTE 9: Void.

NOTE 10: Void.

NOTE 11: Applicable when the assigned NR carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.

NOTE 12: As exceptions, measurements with a level up to the applicable requirement of -38 dBm/MHz is permitted for each assigned NR carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.3.1-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 13: This requirement is applicable for 5 and 10 MHz NR channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and Rbstart < 48.

NOTE 14: This requirement is applicable in the case of a 10 MHz NR carrier confined within 703 MHz and 733 MHz, otherwise the requirement of -25 dBm with a measurement bandwidth of 8 MHz applies.

NOTE 15: As exceptions, measurements with a level up to the applicable requirement of -36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).

**Table 6.5A.3.2.1.5-1b: Requirements for uplink inter-band carrier aggregation (two bands) Rel-17**

| NR CA Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected Band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA_n1-n78 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 40, 41, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n1-n79 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 21, 26, 28, 34, 40, 41, 42, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 880 | - | 1 895 | -40+TT | 1 | 4, 6 |
| | Frequency range | 1 895 | - | 1 915 | -15.5+TT | 5 | 4, 6, 7 |
| | Frequency range | 1 915 | - | 1 920 | +1.6+TT | 5 | 4, 6, 7 |
| CA_n3-n78 | E-UTRA Band 1, 3, 5, 7, 8, 11, 18, 19, 20, 21, 26, 28, 34, 39, 40, 41, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n8-n39 | E-UTRA Band 1, 34, 40, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 22, 41, 42 NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| CA_n8-n78 | E-UTRA Band 1, 8, 11, 20, 21, 28, 34, 39, 40, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 3, 7,41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n24-n41 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 25, 26, 29, 30, 48, 66, 70, 71, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| CA_n24-n48 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 25, 26, 29, 30, 41, 66, 70, 71, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| CA_n24-n77 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 25, 26, 29, 30, 41, 66, 70, 71, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| CA_n26-n66 | E-UTRA Band 2, 4, 5, 10, 12, 13, 14, 17, 24, 25, 26, 29, 30, 43, 47, 50, 51, 66, 70, 71, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 41, 42, 48, 53 NR band 77 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n26-n70 | E-UTRA Band 2, 5, 10, 12, 13, 14, 17, 24, 25, 29, 30, 48, 66, 70, 71, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 41, 53 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41+TT | 0.3 | 3 |
| CA_n28-n41 | E-UTRA Band 2, 3, 5, 8, 25, 26, 27, 34 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 4, 42, 50, 51, 52, 65, 66, 73, 74 NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | E-UTRA Band 18, 19 | FDL_low | - | FDL_high | -50 | 1 | 11 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 11, 15 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 11, 12 |
| | Frequency range | 470 | - | 694 | -42 | 8 | 4, 14 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 470 | - | 710 | -26.2 | 6 | 13 |
| | Frequency range | 662 | - | 694 | -26.2 | 6 | 4 |
| | Frequency range | 758 | - | 773 | -32 | 1 | 4 |
| | Frequency range | 773 | - | 803 | -50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3, 11 |
| CA_n39-n40 | E-UTRA Band 1, 8, 22, 26, 28, 34, 41, 42, 44, 45, 50, 51, 52, 73, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 805 | | 1 855 | -40 | 1 | 8 |
| | Frequency range | 1 855 | | 1 880 | -15.5 | 5 | 4, 7, 8 |
| CA_n39-n41 | E-UTRA Band 1, 8, 26, 28, 34, 40, 42, 44, 45, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 805 | - | 1 855 | -40 | 1 | 4 |
| | Frequency range | 1 855 | - | 1 880 | -15.5 | 5 | 4, 7, 8 |
| CA_n39-n79 | E-UTRA Band 1, 8, 28, 34, 40, 41, 44, 45 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | NR Band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | 2 |
| | Frequency range | 1 805 | - | 1 855 | -40 | 1 | 4, 8 |
| | Frequency range | 1 855 | - | 1 880 | -15.5 | 5 | 4, 7, 8 |
| CA_n41-n79 | E-UTRA Band 1, 3, 5, 8, 11, 18, 19, 21, 28, 34, 42, 44, 45, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 40 | $F_{DL_low}$ | - | $F_{DL_high}$ | -40 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| CA_n48-n66 | E-UTRA Band 2, 4, 5, 7, 12, 13, 14, 17, 24, 25, 26, 27, 29, 30, 41, 50, 51, 66, 70, 71, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| CA_n48-n70 | E-UTRA Band 2, 4, 5, 12, 13, 14, 17, 24, 25, 26, 29, 30, 66, 70, 71, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 16 |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2, 16 |
| CA_n48-n71 | E-UTRA Band 4, 5, 12, 13, 14, 17, 24, 26, 30, 50, 51, 53, 66, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 2, 25, 41, 70 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -38+TT | 1 | 15 |
| | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 15 |
| CA_n66-n71 | E-UTRA Band 4, 5, 12, 13, 14, 17, 26, 27, 30, 43, 50, 51, 53, 66, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 2, 25, 41, 42, 48, 70<br>NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -38+TT | 1 | 4 |
| | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 4 |
| CA_n70-n71 | E-UTRA Band 4, 5, 12, 13, 14, 17, 26, 27, 30, 48, 66, 74, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | |
| | E-UTRA Band 2, 7, 25, 41, 70,<br>NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50+TT | 1 | 2 |
| | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | -38+TT | 1 | 4 |
| | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | -38+TT | 1 | 4 |

NOTE 1: FDL_low and FDL_high refer to each frequency band specified in Table 5.2-1 or Table 5.5-1 in TS 36.101

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.5.3.1-2 are permitted for each assigned NR carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2MHz + N x

LCRB x 180kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: Applicable when co-existence with PHS system operating in 1 884.5 -1 915.7 MHz.

NOTE 4: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1-1 and Table 6.5A.3.1-1 from the edge of the channel bandwidth.

NOTE 5: This requirement is applicable only for the following cases: - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB - for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth. - for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart> 3.

NOTE 6: This requirement is applicable for any channel bandwidths within the range 1 920-1 980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 927.5-1 929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 930-1 938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 7: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 8: This requirement is only applicable for carriers with bandwidth confined within 1 885-1 920 MHz (requirement for carriers with at least 1RB confined within 1 880-1 885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 892.5-1 894.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 895-1 903 MHz.

NOTE 9: Void.

NOTE 10: Void.

NOTE 11: Applicable when the assigned NR carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.

NOTE 12: As exceptions, measurements with a level up to the applicable requirement of –38 dBm/MHz is permitted for each assigned NR carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.3.1-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 13: This requirement is applicable for 5 and 10 MHz NR channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and Rbstart < 48.

NOTE 14: This requirement is applicable in the case of a 10 MHz NR carrier confined within 703 MHz and 733 MHz, otherwise the requirement of -25 dBm with a measurement bandwidth of 8 MHz applies.

NOTE 15: As exceptions, measurements with a level up to the applicable requirement of –36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 16: The same configuration applies to corresponding NR-DC configuration in Table 4.3.1.1.7.1-1 in [5]. If UE supporting NR-DC configuration do not support the corresponding CA configuration, NR-DC configuration is used in this test.

**Table 6.5A.3.2.1.5-2: Test Tolerance for uplink inter-band carrier aggregation (two bands)**

| | **f ≤ 3.0 GHz** | **3.0 GHz < f ≤ 6 GHz** |
|---|---|---|
| **BW ≤ 40 MHz** | 0 | 0 |
| **40MHz < BW ≤ 100 MHz** | 0 | 0 |

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) in Table 6.5.3.2.3-1 from the edge of the channel bandwidth. The spurious emission limits in Table 6.5.3.2.3-1 apply for all transmitter band configurations (NRB) and channel bandwidths for all CC combinations.

## 2B.2 بث طيف الترددات الراديوية للخرج الخاص بالتوصيلية المزدوجة لمعياري (NR-DC)

### 1.2B.2 قناع البث الطيفي الخاص بالتوصيلية المزدوجة لمعياري (NR-DC)

في حالة التوصيلية المزدوجة لمعياري (NR-DC) بين النطاقات، مع تخصيص موجة حاملة واحدة للوصلة الصاعدة لكل نطاق NR، تنطبق متطلبات بث طيف الترددات الراديوية للخرج الخاصة بتشكيلة تجميع الموجات الحاملة المقابلة بين النطاقات، والمحددة في الفقرة 1.1.2A.2.

### 2.2B.2 نسبة التسرب في القنوات المجاورة الخاص بالتوصيلية المزدوجة لمعياري (NR-DC)

في حالة التوصيلية المزدوجة بين النطاقات، تنطبق متطلبات البث الهامشي الخاصة بتشكيلة تجميع الموجات الحاملة المقابلة بين النطاقات، والمحددة في الفقرة 3.1.2A.2.

## 2C.2 بث طيف الترددات الراديوية للخرج الخاص بالوصلة الصاعدة التكميلية

### 1.2C.2 قناع البث الطيفي الخاص بالوصلة الصاعدة التكميلية

تُبيَّن حدود قناع البث الطيفي الخاصة بالوصلة الصاعدة التكميلية (SUL) في الفقرة 5.2.2.5C.6 من المواصفة التقنية [1] TS 38.521-1.

6.5C.2.2.5 Test requirement

The measured sum of the UE mean power in the channel bandwidth on the SUL carrier, derived in step 3, shall fulfil requirements in Tables 6.2C.4.5-1 as appropriate, and the power of any UE emission shall fulfil requirements in Table 6.5C.2.2.5-1.

**Table 6.5C.2.2.5-1: NR General spectrum emission mask**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100 MHz | Measurement bandwidth |
| ± 0-1 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | | | | | | | 1 % channel bandwidth |
| ± 0-1 | | | | | | | | -24 | -24 | -24 | -24 | -24 | -24 | 30 kHz |
| ± 1-5 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | -10 | 1 MHz |
| ± 5-6 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | -13 | |
| ± 6-10 | -25 | | | | | | | | | | | | | |
| ± 10-15 | | -25 | | | | | | | | | | | | |
| ± 15-20 | | | -25 | | | | | | | | | | | |
| ± 20-25 | | | | -25 | | | | | | | | | | |
| ± 25-30 | | | | | -25 | | | | | | | | | |
| ± 30-35 | | | | | | -25 | | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | | |
| ± 40-45 | | | | | | | -25 | | | | | | | |
| ± 45-50 | | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 | | | | | | |
| ± 55-60 | | | | | | | | | | | | | | |
| ± 60-65 | | | | | | | | | -25 | | | | | |
| ± 65-70 | | | | | | | | | | | | | | |
| ± 70-75 | | | | | | | | | | -25 | | | | |
| ± 75-80 | | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | | -25 | | | |
| ± 85-90 | | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | | -25 | | |
| ±95-100 | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ±100-105 | | | | | | | | | | | | -25 | |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.

Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and –0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.

Note 4: TT = 1.5 dB for f ≤ 3 GHz, TT = 1.8 dB for 3 GHz < f ≤ 4.2 GHz, TT = 1.8 dB for 4.2 GHz < f ≤ 6.0 GHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 2.2C.2 قناع البث الطيفي الإضافي الخاصة بالوصلة الصاعدة التكميلية

تُبيَّن حدود قناع البث الطيفي الإضافي الخاصة بالوصلة الصاعدة التكميلية في الفقرة 5.3.2.5C.6 من المواصفة التقنية [1] TS 38.521-1.

6.5C.2.3.5 Test requirement

6.5C.2.3.5.1 Test requirements (network signalling value "NS_03")

When "NS_03" is indicated in the cell:

- the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2C.5.5-1 for a NR UE.

and

- the power of any UE emission shall fulfil requirements in Table 6.5C.2.3.5-1, as applicable.

**Table 6.5C.2.3.5-1: Additional requirements for "NS_03"**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| **ΔfOOB (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **40 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 % of channel BW |
| ± 1-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 6-10 | -25+ TT | -13+ TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 10-15 | | -25+ TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 15-20 | | | -25+ TT | -13 + TT | -13 + TT | 1 MHz |
| ± 20-25 | | | | -25+ TT | -13+ TT | 1 MHz |
| ± 25-40 | | | | | -13+ TT | 1 MHz |
| ± 40-45 | | | | | -25+ TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1. | | | | | | |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 3.2C.2 نسبة التسرب في القنوات المجاورة الخاصة بالوصلة الصاعدة التكميلية

تُبيَّن حدود نسبة التسرب في القنوات المجاورة (ACLR) بالنسبة إلى تكنولوجيا الراديو الجديد (NR) عند استخدام الوصلة الصاعدة التكميلية في الفقرة 5.1.4.2.5C.6 من المواصفة التقنية [1] TS 38.521-1.

6.5C.2.4.1.5 Test requirement

The measured UE mean power in the channel bandwidth on SUL carrier, derived in step 3, shall fulfil requirements in Clause 6.2C.4.5 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR, derived in step 6, shall be higher than the limits in Table 6.5C.2.4.1.5-1.

**Table 6.5C.2.4.1.5-1: NR ACLR measurement bandwidth**

| NR channel bandwidth / NR ACLR measurement bandwidth | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 80 MHz | 90 MHz | 100 MHz |
| NR ACLR measurement bandwidth | 4.515 | 9.375 | 14.235 | 19.095 | 23.955 | 28.815 | 38.895 | 48.615 | 58.35 | 78.15 | 88.23 | 98.31 |

**Table 6.5C.2.4.1.5-2: NR ACLR requirement**

| | Power class 1 | Power class 2 | Power class 3 |
|---|---|---|---|
| NR ACLR | | | 30 + TT dB |
| NOTE 1: TT = 0.8 dB for f ≤ 4.0 GHz, TT = 1.0 dB for 4.0 GHz < f ≤ 6.0 GHz, | | | |

كما تُبيَّن حدود نسبة التسرب في القنوات المجاورة (ACLR) بالنسبة إلى النفاذ الراديوي للأرض العالمي (UTRA)، عند استخدام الوصلة الصاعدة التكميلية، في الفقرة 5.2.4.2.5C.6 من المواصفة التقنية [1] TS 38.521-1.

6.5C.2.4.2.5 Test requirement

UTRA ACLR requirement is applicable when signalled by the network with network signalling value indicated by the field *additionalSpectrumEmission*.

The measured UE mean total power in the channel bandwidth on SUL carrier, derived in step 3, shall fulfil requirements in Clause 6.2C.5.5 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured UTRA ACLR, derived in step 6, shall be higher than the limits in Table 6.5C.2.4.2.5-1.

**Table 6.5C.2.4.2.5-1: NR ACLR requirement**

| | **Power class 3** |
|---|---|
| **$UTRA_{ACLR1}$** | 33 dB - TT |
| **$UTRA_{ACLR2}$** | 36 dB - TT |
| NOTE 1: TT = 0.8 dB | |

## 4.2C.2 البث الهامشي الخاص بالوصلة الصاعدة التكميلية

### 1.4.2C.2 البث الهامشي العام الخاص بالوصلة الصاعدة التكميلية

تُبين الحدود العامة للبث الهامشي عند استخدام الوصلة الصاعدة التكميلية، في الفقرة 5.1.3.5C.6 من المواصفة التقنية [1] TS 38.521-1.

6.5C.3.1.5 Test requirement

The measured average power of spurious emission on the SUL carrier, derived in step 3, shall not exceed the described value in Table 6.5C.3.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than ΔfOOB (MHz) in Table 6.5.3.1.3-1from the edge of the channel bandwidth.

**Table 6.5C.3.1.5-1: General spurious emissions test requirements**

| **Frequency Range** | **Maximum Level** | **Measurement bandwidth** | **NOTE** |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |
| NOTE 1: Applies for Band that the upper frequency edge of the UL Band more than 2.69 GHz.<br>NOTE 2: Applies for Band that the upper frequency edge of the UL Band more than 5.2 GHz. | | | |

## 2.4.2C.2 التعايش في نطاق البث الهامشي الخاص بالوصلة الصاعدة التكميلية

تُحدَّد القيم الحدية للتعايش في نطاق البث الهامشي عند استخدام الوصلة الصاعدة التكميلية في الفقرة 5.2.3.5C.6 من المواصفة التقنية [1] TS 38.521-1.

6.5C.3.2.5 Test requirement

Test requirements for Spurious Emissions UE Co-existence are the same as specified in clause 6.5.3.2.3.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.5.3.2.3-1 to Table 6.5.3.2.3-3. If the UE support a band, which is not defined in the table corresponding UE's release, the requirements for this band are taken from the table of earliest release where requirements for this band are defined. This has been described in following Table 6.5C.3.2.5-1.

**Table 6.5C.3.2.5-1: UE Requirements according to UE NR release and supported NR band**

| UE Requirements per release | | | |
|---|---|---|---|
| **NR Band** | **Rel-15** | **Rel-16** | **R17** |
| n80 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n81 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n82 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n83 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n84 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n86 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n89 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n95 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n97 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 |
| n98 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 |
| n99 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 |

### 3.4.2C.2 البث الهامشي الإضافي الخاص بالوصلة الصاعدة التكميلية

تُبيَّن حدود البث الهامشي الإضافي في الفقرة 3.2.2.2.

## 2D.2 بث طيف الترددات الراديوية للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

### 1.2D.2 البث خارج النطاق للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

#### 1.1.2D.2 قناع البث الطيفي عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

تُحدَّد متطلبات قناع البث الطيفي للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 5.2.2.5D.6 من المواصفة التقنية TS 38.521-1 [1].

6.5D.2.2.5 Test requirement

The measured sum of the UE mean power in the channel bandwidth, derived in step 3, shall fulfill requirements in Tables 6.2D.2.5-1, 6.2D.2.5-2, 6.2D.2.5-2a and 6.2D.2.5-2b as appropriate, and the sum of power of any UE emission measured from both antennas in step 4 and step 5 shall fulfill requirements in Table 6.5D.2.2.5-1.

**Table 6.5D.2.2.5-1: NR General spectrum emission mask**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **70 MHz** | **80 MHz** | **90 MHz** | **100 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | | | | | | | 1 % channel bandwidth |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ± 0-1 | | | | | | | | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | 30 kHz |
| ± 1-5 | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | 1 MHz |
| ± 5-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | |
| ± 6-10 | -25 + TT | | | | | | | | | | | | | |
| ± 10-15 | | -25 + TT | | | | | | | | | | | | |
| ± 15-20 | | | -25 + TT | | | | | | | | | | | |
| ± 20-25 | | | | -25 + TT | | | | | | | | | | |
| ± 25-30 | | | | | -25 + TT | | | | | | | | | |
| ± 30-35 | | | | | | -25 + TT | | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | | |
| ± 40-45 | | | | | | | -25 + TT | | | | | | | |
| ± 45-50 | | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 + TT | | | | | | |
| ± 55-60 | | | | | | | | | | | | | | |
| ± 60-65 | | | | | | | | | -25 + TT | | | | | |
| ± 65-70 | | | | | | | | | | | | | | |
| ± 70-75 | | | | | | | | | | -25 + TT | | | | |
| ± 75-80 | | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | | -25 + TT | | | |
| ± 85-90 | | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | | -25 + TT | | |
| ±95-100 | | | | | | | | | | | | | | |
| ±100-105 | | | | | | | | | | | | | -25 + TT | |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: TT = 1.5 dB for f ≤ 3 GHz, TT = 1.8 dB for 3 GHz < f ≤ 4.2GHz, TT = 1.8 dB for 4.2 GHz < f ≤ 6.0 GHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the

measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 2.1.2D.2 قناع البث الطيفي الإضافي عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

تُحدَّد متطلبات البث الطيفي الإضافي عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 5.3.2.5D.6 من المواصفة التقنية [1] TS 38.521-1.

6.5D.2.3.5 Test requirement

The measured sum of the UE mean power in the channel bandwidth, derived in step 3 shall fulfill the requirements as specified in clause 6.2D.3.5 for NS_35 and NS_04 as appropriate, and the sum of power of any UE emission measured from both antennas in step 4 shall fulfill requirements in Table 6.5D.2.3.5-1for NS_35 and Table 6.5D.2.3.5-3 for NS_04.

**Table 6.5D.2.3.5-1: Additional requirements for "NS_35"**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth (unless otherwise stated)** |
| ± 0-0.1 | -15 + TT | -18 + TT | -20 + TT | -21 + TT | 30 kHz |
| ± 0.1-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 100 kHz |
| ± 6-10 | -25[1] + TT | -13 + TT | -13 + TT | -13 + TT | 100 kHz |
| ± 10-15 | | -25[1] + TT | -13 + TT | -13 + TT | 100 kHz |
| ± 15-20 | | | -25[1] + TT | -13 + TT | 100 kHz |
| ± 20-25 | | | | -25 + TT | 1 MHz |
| NOTE 1: The measurement bandwidth shall be 1 MHz;<br>NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5D.2.3.5-2 | | | | | |

**Table 6.5D.2.3.5-2: Test Tolerance (Spectrum Emission Mask)**

| | **f ≤ 3.0GHz** | **3.0GHz < f ≤ 4.2GHz** | **4.2GHz < f ≤ 6.0GHz** |
|---|---|---|---|
| BW ≤ 100 MHz | 1.5 dB | 1.8 dB | 1.8 dB |

**Table 6.5D.2.3.5-3: Additional requirements for "NS_04"**

| | **Spectrum emission limit (dBm) / measurement bandwidth for each channel bandwidth** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **80 MHz** | **90 MHz** | **100 MHz** | **Measurement bandwidth** |
| ± 0 - 1 | -10 + TT | -10 + TT | -10 + TT | -10 + TT | | | | | | 2 % channel bandwidth |
| | | | | | -10 + TT | | | | | 1 MHz |
| ± 1 - 5 | -10 + TT | | | | | | | | | 1 MHz |
| ± 5 - X | -13 + TT | | | | | | | | | |

| | | |
|---|---|---|
| ± X - ($BW_{Channel}$ + 5 MHz) | -25 + TT | |
| NOTE 1: X is defined in Table 6.5D.2.3.5-3a for CP-OFDM<br>NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5D.2.3.5-2. | | |

**Table 6.5D.2.3.5-3a: n41 maximum transmission bandwidths (MHz) for CP-OFDM**

| SCS (kHz) | Channel bandwidths (MHz) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 10 | 15 | 20 | 40 | 50 | 60 | 80 | 90 | 100 |
| 15 | 9.36 | 14.22 | 19.08 | 38.88 | 48.6 | N/A | N/A | N/A | N/A |
| 30 | 8.64 | 13.68 | 18.36 | 38.16 | 47.88 | 58.32 | 78.12 | 88.02 | 98.28 |
| 60 | 7.92 | 12.96 | 17.28 | 36.72 | 46.8 | 56.88 | 77.04 | 87.12 | 97.20 |

**Table 6.5D.2.3.5-4: Additional requirements for "NS_03 and NS_03U"**

| $\Delta f_{OOB}$ MHz | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | | | | | | | Measurement bandwidth |
|---|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 40 | |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 % of channel BW |
| ± 1-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 6-10 | -25 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 10-15 | | -25 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 15-20 | | | -25 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 20-25 | | | | -25 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 25-30 | | | | | -25 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 30-35 | | | | | | -25 + TT | -13 + TT | 1 MHz |
| ± 35-40 | | | | | | | -13 + TT | 1 MHz |
| ± 40-45 | | | | | | | -25 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1. | | | | | | | | |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 3.1.2D.2 نسبة التسرب في القنوات المجاورة عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) بالنسبة إلى تكنولوجيا الراديو الجديد (NR) عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 5.1.4.2.5D.6 من المواصفة التقنية [1] TS 38.521-1.

| |
|---|
| 6.5D.2.4.1.5 Test requirement |

The measured UE mean total power derived in step 3, shall fulfil requirements in Clause 6.2D.2.5 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR, derived in step 6 for each antenna connector, shall be higher than the limits in Table 6.5D.2.4.1.5-2.

**Table 6.5D.2.4.1.5-1: Void**

**Table 6.5D.2.4.1.5-2: NR ACLR requirement**

| | Power class 1 | Power class 2 | Power class 3 |
|---|---|---|---|
| **NR ACLR** | | 31 - TT dB | 30 - TT dB |
| NOTE 1: TT = 0.8 dB | | | |

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) بالنسبة إلى النفاذ UTRA عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 5.2.4.2.5D.6 من المواصفة التقنية [1] TS 38.521-1.

6.5D.2.4.2.5 Test requirement

UTRA ACLR requirement is applicable when signalled by the network with network signalling value indicated by the field *additionalSpectrumEmission*.

The measured UE mean total power in the channel bandwidth at all the antenna connectors, derived in step 3, shall fulfil requirements in Clause 6.2D.3.5 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured UTRA ACLR, derived in step 6 for each antenna connector, shall be higher than the limits in Table 6.5D.2.4.2.5-1.

**Table 6.5D.2.4.2.5-1: UTRA ACLR requirement**

| | Power class 3 |
|---|---|
| **$UTRA_{ACLR1}$** | 33 dB - TT |
| **$UTRA_{ACLR2}$** | 36 dB - TT |
| NOTE 1: TT = 0.8 dB | |

## 2.2D.2 البث الهامشي الخاص بالإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

### 1.2.2D.2 متطلبات البث الهامشي

تُبين الحدود العامة للبث الهامشي عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، في الفقرة 5.1.3.5D.6 من المواصفة التقنية [1] TS 38.521-1.

6.5D.3.1.5 Test requirement

The measured average power of spurious emission at each antenna connector, derived in step 3, shall not exceed the described value in Table 6.5D.3.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than ΔfOOB (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5D.3.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |
| NOTE 1: Applies for Band that the upper frequency edge of the UL Band more than 2.69 GHz.<br>NOTE 2: Applies for Band that the upper frequency edge of the UL Band more than 5.2 GHz. | | | |

وتُبين الحدود العامة للبث الهامشي عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، ابتداءً من الإصدار 16، في الفقرة 5.1.1_3.5D.6 من المواصفة التقنية [1] TS 38.521-1.

6.5D.3_1.1.5 Test requirement

The measured average power of spurious emission, derived in step 3 or step 4, shall not exceed the described value in Table 6.5D.3_1.1.5-1.

The spurious emission limits apply for the frequency ranges that are more than ΔfOOB (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5D.3_1.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |
| NOTE 1: Applies for Band that the upper frequency edge of the UL Band more than 2.69 GHz.<br>NOTE 2: Applies for Band that the upper frequency edge of the UL Band more than 5.2 GHz. | | | |

### 2.2.2D.2 البث الهامشي لتعايش معدات المستعمل (UE)

تُبيَّن حدود التعايش عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 2.2.2.2.

### 3.2.2D.2 البث الهامشي الإضافي

تُبيَّن حدود البث الهامشي الإضافي عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 3.2.2.2 لمختلف قيم التشوير الشبكي (NS).

## 2E.2 بث طيف الترددات الراديوية الخاص بالاتصالات من مركبة إلى كل شيء (V2X)

### 1.1.2E.2 قناع البث الطيفي الخاص بالاتصالات من مركبة إلى كل شيء (V2X)

تُحدَّد متطلبات قناع البث الطيفي عند استخدام الاتصالات من مركبة إلى كل شيء (V2X) في الفقرتين 5.1.2.2.5E.6 و5.1D.2.2.5E.6 من المواصفة التقنية [1] TS 38.521-1.

6.5E.2.2.1.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 4 of Subtest 1, step 5 of Subtest 2 and step 4 of Subtest 3, shall fulfil requirements in Table 6.2E.2.2.1.5-1 as appropriate, and the power of any UE emission shall fulfil requirements in Table 6.5E.2.2.1.5-1.

**Table 6.5E.2.2.1.5-1: General NR spectrum emission mask for V2X / non-concurrent operation**

| | Spectrum emission limit (dBm) / Channel bandwidth | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **80 MHz** | **90 MHz** | **100 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | | | | | | 1 % channel bandwidth |
| ± 0-1 | | | | | | | | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | 30 kHz |
| ± 1-5 | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | 1 MHz |
| ± 5-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | |
| ± 6-10 | -25 + TT | | | | | | | | | | | | |
| ± 10-15 | | -25 + TT | | | | | | | | | | | |
| ± 15-20 | | | -25 + TT | | | | | | | | | | |
| ± 20-25 | | | | -25 + TT | | | | | | | | | |
| ± 25-30 | | | | | -25 + TT | | | | | | | | |
| ± 30-35 | | | | | | -25 + TT | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | |
| ± 40-45 | | | | | | | -25 + TT | | | | | | |
| ± 45-50 | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 + TT | | | | | |
| ± 55-60 | | | | | | | | | | | | | |
| ± 60-65 | | | | | | | | | -25 + TT | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ± 65-80 | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | -25 + TT | | | |
| ± 85-90 | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | -25 + TT | | |
| ± 95-100 | | | | | | | | | | | | | |
| ± 100-105 | | | | | | | | | | | | -25 + TT | |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.2.1.5-2.

6.5E.2.2.1D.5 Test requirement

The measured sum of mean power of each antenna connector in the channel bandwidth, derived in step 2, shall fulfil requirements as appropriate, and the power of any UE emission at each antenna connector shall fulfil requirements in Table 6.5E.2.2.1D.5-1.

**Table 6.5E.2.2.1D.5-1: General NR spectrum emission mask for V2X / non-concurrent operation / SL-MIMO**

| | **Spectrum emission limit (dBm) / Channel bandwidth** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **80 MHz** | **90 MHz** | **100 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | | | | | | 1 % channel bandwidth |
| ± 0-1 | | | | | | | | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | 30 kHz |
| ± 1-5 | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | 1 MHz |
| ± 5-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | |
| ± 6-10 | -25 + TT | | | | | | | | | | | | |
| ± 10-15 | | -25 + TT | | | | | | | | | | | |
| ± 15-20 | | | -25 + TT | | | | | | | | | | |
| ± 20-25 | | | | -25 + TT | | | | | | | | | |
| ± 25-30 | | | | | -25 + TT | | | | | | | | |
| ± 30-35 | | | | | | -25 + TT | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | |
| ± 40-45 | | | | | | | -25 + TT | | | | | | |
| ± 45-50 | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 + TT | | | | | |
| ± 55-60 | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ± 60-65 | | | | | | | | | -25 + TT | | | | |
| ± 65-80 | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | -25 + TT | | | |
| ± 85-90 | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | -25 + TT | | |
| ± 95-100 | | | | | | | | | | | | | |
| ± 100-105 | | | | | | | | | | | | -25 + TT | |

Note 1: The first and last measurement position with a 30 kHz filter is at ΔfOOB equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.2.5-2.

### 2.1.2E.2 قناع البث الطيفي الإضافي الخاص بالاتصالات من مركبة إلى كل شيء (V2X)

تُحدَّد متطلبات البث الطيفي الإضافي عند استخدام الاتصالات من مركبة إلى كل شيء (V2X) في الفقرتين 5.1.3.2.5E.6 و5.1D.3.2.5E.6 من المواصفة التقنية TS 38.521-1 [1].

6.5E.2.3.1.5 Test requirement

6.5E.2.3.1.5.1 Requirements for network signalling value "NS_33"

When "NS_33" is indicated in the cell, the power of any NR V2X UE emission shall fulfil requirements in Table 6.5E.2.3.1.5.1-1.

**Table 6.5E.2.3.1.5.1-1: Additional spectrum mask requirements for 10 MHz channel bandwidth**

| Spectrum emission limit (dBm EIRP)/ Channel bandwidth | | |
|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **10 MHz** | **Measurement bandwidth** |
| ± 0-0.5 | $[-13 - 12\left(\left\|\Delta fOOB\right\|/_{MHz}\right)]$+TT | 100 kHz |
| ± 0.5-5 | $[-19 - \frac{16}{9}\left(\left\|\Delta fOOB\right\|/_{MHz} - 0.5\right)]$+TT | 100 kHz |
| ± 5-10 | $[-27 - 2\left(\left\|\Delta fOOB\right\|/_{MHz} - 5.0\right)]$+TT | 100 kHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.3.1.5-1. | | |

6.5E.2.3.1.5.2 Requirements for network signalling value "NS_52"

When "NS_52" is indicated in the cell, the power of any NR V2X UE emission shall fulfil requirements in Table 6.5E.2.3.1.5.2-1.

**Table 6.5E.2.3.1.5.2-1: Additional spectrum mask requirements for 40MHz channel bandwidth (fc = 5 885 MHz)**

| $\Delta f_{OOB}$ (MHz) | Emission Limit (dBm) | Measurement Bandwidth |
|---|---|---|
| ±0-2 | -32+TT | 100kHz |
| ±2-10 | -36+TT | 100kHz |
| ±10-20 | -38+TT | 100kHz |
| ±20-40 | -43+TT | 100kHz |
| ±40-100 | -50+TT | 100kHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.3.1.5-1. | | |

6.5E.2.3.1D.5 Test requirement

6.5E.2.3.1D.5.1 Requirements for network signalling value "NS_33"

When "NS_33" is indicated in the cell, the power of any NR V2X UE emission at each antenna connector shall fulfil requirements in Table 6.5E.2.3.1D.5.1-1.

**Table 6.5E.2.3.1D.5.1-1: Additional spectrum mask requirements for 10 MHz channel bandwidth**

| Spectrum emission limit (dBm EIRP)/ Channel bandwidth | | |
|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 10 MHz | Measurement bandwidth |
| ± 0-0.5 | $[-13 - 12\left(\left\|\Delta fOOB\right\|/_{MHz}\right)]$+TT | 100 kHz |
| ± 0.5-5 | $[-19 - \frac{16}{9}\left(\left\|\Delta fOOB\right\|/_{MHz} - 0.5\right)]$+TT | 100 kHz |
| ± 5-10 | $[-27 - 2\left(\left\|\Delta fOOB\right\|/_{MHz} - 5.0\right)]$+TT | 100 kHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.3.1D.5-1. | | |

6.5E.2.3.1D.5.2 Requirements for network signalling value "NS_52"

When "NS_52" is indicated in the cell, the power of any NR V2X UE emission at each antenna connector shall fulfil requirements in Table 6.5E.2.3.1D.5.2-1.

**Table 6.5E.2.3.1D.5.2-1: Additional spectrum mask requirements for 40 MHz channel bandwidth (fc = 5 885 MHz)**

| $\Delta f_{OOB}$ (MHz) | Emission Limit (dBm) | Measurement Bandwidth |
|---|---|---|
| ±0-2 | –32+TT | 100 kHz |
| ±2-10 | –36+TT | 100 kHz |
| ±10-20 | –38+TT | 100 kHz |
| ±20-40 | –43+TT | 100 kHz |
| ±40-100 | –50+TT | 100 kHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.3.1D.5-1. | | |

### 3.1.2E.2 نسبة التسرب في القنوات المجاورة الخاص بالاتصالات من مركبة إلى كل شيء (V2X)

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) عند استخدام الاتصالات من مركبة إلى كل شيء (V2X) في الفقرتين 5.1.4.2.5E.6 و5.1D.4.2.5E.6 من المواصفة التقنية [1] TS 38.521-1.

6.5E.2.4.1.5 Test requirement

The measured mean power of V2X UE in the channel bandwidth, derived in step 6 of Subtest 1, step 7 of Subtest 2 and step 6 of Subtest 3, shall fulfil requirements in clause 6.2E.2.1.5, and if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR, derived in step 5, shall be higher than the limits in Table 6.5E.2.4.1.5-2.

**Table 6.5E.2.4.1.5-1: Measurement bandwidth**

| NR channel bandwidth / NR ACLR measurement bandwidth | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 80 MHz | 90 MHz | 100 MHz |
| NR ACLR measurement bandwidth | 4.515 | 9.375 | 14.235 | 19.095 | 23.955 | 28.815 | 38.895 | 48.615 | 58.35 | 78.15 | 88.23 | 98.31 |

**Table 6.5E.2.4.1.5-2: NR ACLR requirement for V2X / non-concurrent operation**

| | Power class 1 | Power class 2 | Power class 3 |
|---|---|---|---|
| **NR ACLR** | | | 30 - TT dB |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.4.1.5-3. | | | |

6.5E.2.4.1D.5 Test requirement

The measured sum of mean power of V2X UE at both antenna connector in the channel bandwidth, derived in step 2, shall fulfil requirements in clause 6.2E.2.1D.5, and if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR for each antenna connector, derived in step 5, shall be higher than the limits in Table 6.5E.2.4.1D.5-2.

**Table 6.5E.2.4.1D.5-1: Measurement bandwidth**

| NR channel bandwidth / NR ACLR measurement bandwidth | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **80 MHz** | **90 MHz** | **100 MHz** |
| **NR ACLR measurement bandwidth** | 4.515 | 9.375 | 14.235 | 19.095 | 23.955 | 28.815 | 38.895 | 48.615 | 58.35 | 78.15 | 88.23 | 98.31 |

**Table 6.5E.2.4.1D.5-2: NR ACLR requirement for V2X / non-concurrent operation / SL-MIMO**

| | Power class 1 | Power class 2 | Power class 3 |
|---|---|---|---|
| **NR ACLR** | | | 30 - TT dB |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5E.2.4.1D.5-3. | | | |

## 2.2E.2 البث الهامشي الخاص بالاتصالات من مركبة إلى كل شيء (V2X)

### 1.2.2E.2 متطلبات البث الهامشي

تُحدَّد الحدود العامة للبث الهامشي عند استخدام الاتصالات من مركبة إلى كل شيء (V2X) في الفقرة 1.2.2.2.

### 2.2.2E.2 البث الهامشي لتعايش معدات المستعمل (UE)

تُبيَّن حدود التعايش عند استخدام الاتصالات من مركبة إلى كل شيء (V2X) في الفقرة 2.2.2.2.

### 3.2.2E.2 البث الهامشي الإضافي

تُبيَّن حدود البث الهامشي الإضافي عند استخدام الاتصالات من مركبة إلى كل شيء (V2X) في الفقرة 5.1.3.3.5E.6 من المواصفة التقنية TS 38.521-1 [1] لمختلف قيم التشوير الشبكي (NS).

6.5E.3.3.1.5 Test requirement

6.5E.3.3.1.5.1 Message contents exceptions (network signalling value "NS_33")

The transmitted spurious emission power derived in step 2 should be converted to EIRP value depend on the supported post antenna connector gain $G_{post\ connector}$ declared by the UE following the principle described in annex I in [11]. The EIPR value should not exceed test requirements in Table 6.5E.3.3.1.5.1-1.

**Table 6.5E.3.3.1.5.1-1: Test requirements for "NS_33"**

| Protected band | Frequency range (MHz) | | | Maximum Level (EIRP[2]) | MBW (MHz) |
|---|---|---|---|---|---|
| Frequency range | 5 925 | - | 5 950 | –30 | 1 |
| Frequency range | 5 815 | - | 5 855 | –30 | 1 |

## 2F.2 بث طيف الترددات الراديوية عند النفاذ إلى قنوات تقاسم الطيف

### 1.1.2F.2 قناع البث الطيفي عند النفاذ إلى قنوات تقاسم الطيف

تُحدَّد متطلبات قناع البث الطيفي للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 5.2.2.5F.6 من المواصفة التقنية [1] TS 38.521-1.

6.5F.2.2.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2F.1.5-1, and the power of any UE emission shall fulfil requirements in Table 6.5F.2.2.5-1.

**Table 6.5F.2.2.5-1: Test Tolerance (Spectrum Emission Mask)**

| | f ≤ 3.0 GHz | 3.0 GHz < f ≤ 4.2 GHz | 4.2 GHz < f ≤ 6.0 GHz |
|---|---|---|---|
| BW ≤ 100 MHz | 1.5 dB | 1.8 dB | 1.8 dB |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 2.1.2F.2 نسبة التسرب في القنوات المجاورة عند النفاذ إلى قنوات تقاسم الطيف

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) عند النفاذ إلى قنوات تقاسم الطيف في الفقرة 5.1.4.2.5F.6 من المواصفة التقنية [1] TS 38.521-1.

6.5F.2.4.1.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in clause 6.2F.2.5, and if the measured adjacent channel power is greater than –47 dBm then the measured NR ACLR, derived in step 6, shall be higher than the limits in Table 6.5F.2.4.1.5-2.

**Table 6.5F.2.4.1.5-1: NR ACLR measurement bandwidth**

| | **10 MHz** | **20 MHz** | **40 MHz** | **60 MHz** | **80 MHz** |
|---|---|---|---|---|---|
| **NR ACLR measurement bandwidth (MHz)** | 9.375 | 19.095 | 38.895 | 58.35 | 78.15 |

**Table 6.5F.2.4.1.5-2: NR ACLR requirement**

| | **Power class 5** |
|---|---|
| **NR ACLR** | 27 - TT dB |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5F.2.4.1.5-3. | |

**Table 6.5F.2.4.1.5-3: Test Tolerance (TT) (NR ACLR)**

| | **f ≤ 3.0 GHz** | **3.0 GHz < f ≤ 4.2 GHz** | **4.2 GHz < f ≤ 5.925 GHz** | **5.925 GHz < f ≤ 7.125 GHz** |
|---|---|---|---|---|
| BW ≤ 100 MHz | 0.8 dB | 0.8 dB | 0.8 dB | 0.8 dB |

## 2.2F.2 البث الهامشي عند النفاذ إلى قنوات تقاسم الطيف

### 1.2.2F.2 متطلبات البث الهامشي

تُحدَّد الحدود العامة للبث الهامشي عند النفاذ إلى قنوات تقاسم الطيف في الفقرة 5.1.3.5F.6 من المواصفة التقنية [1] TS 38.521-1.

6.5F.3.1.5 Test requirement

This clause specifies the requirements for the specified NR standalone shared spectrum channel access for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.5F.3.1.5-1.

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth. The spurious emission limits in Table 6.5F.3.1.5-1 apply for all transmitter band configurations (NRB) and channel bandwidths for shared spectrum channel access.

The measured average power of spurious emission, derived in step 3, shall not exceed the described value in Table 6.5F.3.1.5-1.

**Table 6.5F.3.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | 4 |
| | –25 dBm | 1 MHz | 3 |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |
| NOTE 1: Applies for Band that the upper frequency edge of the UL Band more than 2.69 GHz.<br>NOTE 2: Applies for Band that the upper frequency edge of the UL Band more than 5.2 GHz. | | | |

### 2.2.2F.2 البث الهامشي لتعايش معدات المستعمل (UE)

ولا تنطبق متطلبات البث الهامشي لتعايش تجهيزات المستعمِل على النطاقات التي تقتصر على التشغيل القائم بذاته.

## 2G.2 بث طيف الترددات الراديوية الخاص بتنوع الإرسال (TX Diversity)

### 1.1.2G.2 مُلغى

### 2.1.2G.2 نسبة التسرب في القنوات المجاورة الخاصة بتنوع الإرسال

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) عند استخدام نمط تنوع الإرسال (TX Diversity) في الفقرة 5.1.3.2.5G.6 من المواصفة التقنية [1] TS 38.521-1.

6.5G.2.3.1.5 Test requirement

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in clause 6.2G.2.5 as appropriate, and if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR, derived in step 6, shall be higher than the limits in Table 6.5G.2.3.1.5-2 with TT applying for the sum of power at each of UE antenna connector.

**Table 6.5G.2.3.1.5-1: NR ACLR measurement bandwidth**

| NR channel bandwidth / NR ACLR measurement bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 MHz | 10 MHz | 15 MHz | 20 MHz | 25 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100 MHz |
| NR ACLR measurement bandwidth (MHz) | 4.515 | 9.375 | 14.235 | 19.095 | 23.955 | 28.815 | 38.895 | 48.615 | 58.35 | 68.07 | 78.15 | 88.23 | 98.31 |

**Table 6.5G.2.3.1.5-2: NR ACLR requirement for Tx Diversity**

| | Power class 1.5 | Power class 2 |
|---|---|---|
| NR ACLR | 31 - TT dB | 31 - TT dB |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5G.2.3.1.5-3.<br>NOTE 2: TT for the sum of power at each of UE antenna connector. | | |

**Table 6.5G.2.3.1.5-3: Test Tolerance (NR ACLR)**

| | f ≤ 3.0GHz | 3.0GHz < f ≤ 4.2GHz | 4.2GHz < f ≤ 6.0GHz |
|---|---|---|---|
| BW ≤ 100 MHz | 0.8 dB | 0.8 dB | 0.8 dB |

# 3 الخصائص العامة للبث غير المطلوب فيه لتكنولوجيا NR في المدى 2 المستقل

## 1.3 نطاقات التشغيل وترتيبات القنوات

تُحدَّد المتطلبات في جميع مواصفات التردد الراديوي، في كثير من الحالات، بصورة منفصلة لمختلف مديات الترددات (FR). ويرد وصفٌ لمديات الترددات التي يمكن أن تعمل فيها تكنولوجيا الراديو الجديد (NR)، وفقاً لهذا الإصدار من المواصفة، في الجدول A1-6.

الجدول A1-6

**تعريف مديات الترددات**

| تعيين مديات الترددات | مدى الترددات المقابل* |
|---|---|
| FR1 | MHz 7 125 – MHz 410 |
| FR2 | MHz 52 600 – MHz 24 250 |

* لا تحدَّد جميع نطاقات الترددات في هذه المديات للاتصالات المتنقلة الدولية في لوائح الراديو.

### 1.1.3 نطاقات التشغيل

صُممت تكنولوجيا الراديو الجديد (NR) للتشغيل في نطاقات التشغيل ضمن مدى الترددات FR2 المحددة في الجدولين 11A-1.1.3 و1B-1.1.3.

الجدول 7-A1

**نطاقات تشغيل تكنولوجيا الراديو الجديد (NR) في مدى الترددات FR 2**

**نطاقات الترددات التي تستخدمها تكنولوجيا الراديو الجديد (NR) والمحددة للاتصالات المتنقلة الدولية في لوائح الراديو**

| الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم | أسلوب الإرسال المزدوج | نطاق التشغيل لإرسال المحطة القاعدة (BS)/ استقبال معدات المستعمل (UE) في الوصلة الهابطة (DL) | نطاق التشغيل لاستقبال المحطة القاعدة (BS)/ إرسال معدات المستعمل (UE) في الوصلة الصاعدة (UL) | نطاق التشغيل |
|---|---|---|---|---|
| TABLE V. | TABLE IV. | $F_{DL_low} – F_{DL_high}$ TABLE III. | $F_{UL_low} – F_{UL_high}$ TABLE II. | TABLE I. |
| **532AB.5** | TDD | MHz 27 500 – MHz 24 250 | MHz 27 500 – MHz 24 250 | n258 |
| **550B.5** | TDD | MHz 43 500 – MHz 39 500 | MHz 43 500 – MHz 39 500 | n259 |
| **550B.5** | TDD | MHz 40 000 – MHz 37 000 | MHz 40 000 – MHz 37 000 | n260 |

الجدول 8-A1

**نطاقات تشغيل تكنولوجيا الراديو الجديد (NR) في مدى الترددات FR2**

**نطاقات الترددات التي تستخدمها تكنولوجيا الراديو الجديد (NR) وغير المحددة، أو غير المحددة بالكامل، للاتصالات المتنقلة الدولية في لوائح الراديو**

| الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم | أسلوب الإرسال المزدوج | نطاق التشغيل لإرسال المحطة القاعدة (BS)/ استقبال معدات المستعمل (UE) في الوصلة الهابطة (DL) | نطاق التشغيل لاستقبال المحطة القاعدة (BS)/ إرسال معدات المستعمل (UE) في الوصلة الصاعدة (UL) | نطاق التشغيل |
|---|---|---|---|---|
| TABLE X. | TABLE IX. | $F_{DL_low} – F_{DL_high}$ TABLE VIII. | $F_{DL_low} – F_{DL_high}$ TABLE VII. | TABLE VI. |
| **532AB.5** | TDD | MHz 29 500 – MHz 26 500 | MHz 29 500 – MHz 26 500 | n257 |
| غير محدد للاتصالات المتنقلة الدولية في لوائح الراديو | TDD | MHz 28 350 – MHz 27 500 | MHz 28 350 – MHz 27 500 | n261 |

تُحدَّد نطاقات تشغيل معدات المستعمل (UE) الخاصة بتجميع الموجات الحاملة في الفقرة 2A.5 من المواصفة التقنية [3] TS 38.101-2.

5.2A Operating bands for CA

5.2A.1 Intra-band CA

NR intra-band contiguous and non-contiguous carrier aggregation is designed to operate in the operating bands defined in Table 5.2A.1-1, where all operating bands are within FR2.

**Table 5.2A.1-1: Intra-band contiguous and non-contiguous CA operating bands in FR2**

| NR CA Band | NR Band (Table 5.2-1) |
|---|---|
| CA_n257 | n257 |
| CA_n258 | n258 |
| CA_n259 | n259 |
| CA_n260 | n260 |
| CA_n261 | n261 |

## 5.2A.2 Inter-band CA

NR inter-band carrier aggregation is designed to operate in the operating bands defined in Table 5.2A.2-1, where all operating bands are within FR2.

Beam management type is according to UE capability declaration IE beamManagementType-r16 or beamManagementType-CBM-r17. The requirements in the following clauses are only applicable to inter-band CA with IBM type.

**Table 5.2A.2-1: Inter-band CA operating bands in FR2**

| NR CA Band | NR Band (Table 5.2-1) |
|---|---|
| CA_n257-n259[1] | n257, n259 |
| CA_n258-n260[1] | n258, n260 |
| CA_n258-n261[1] | n258, n261 |
| CA_n260-n261[1] | n260, n261 |
| NOTE 1: The minimum requirements apply only when there is non-simultaneous Rx/Tx operation between inter-band NR carriers in the current version of this specification. | |

وتُحدَّد توليفة نطاق تشغيل معدات المستعمل (UE) الخاصة بالإرسال المتعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 2D.5 من المواصفة التقنية [3] TS 38.101-2.

## 5.2D Operating bands for UL MIMO

NR UL MIMO is designed to operate in the operating bands defined in Table 5.2D-1.

**Table 5.2D-1: NR UL MIMO operating bands**

| UL MIMO operating band (Table 5.2-1) |
|---|
| n257 |
| n258 |
| n259 |
| n260 |
| n261 |
| n262 |

### 2.1.3 عرض نطاق قناة لمعدات المستعمل

يُحدَّد عرض نطاق قناة لمعدات المستعمل لمختلف نطاقات NR في الفقرة 3.5 من المواصفة التقنية [3] TS 38.101-2.

## 5.3 UE Channel bandwidth

### 5.3.1 General

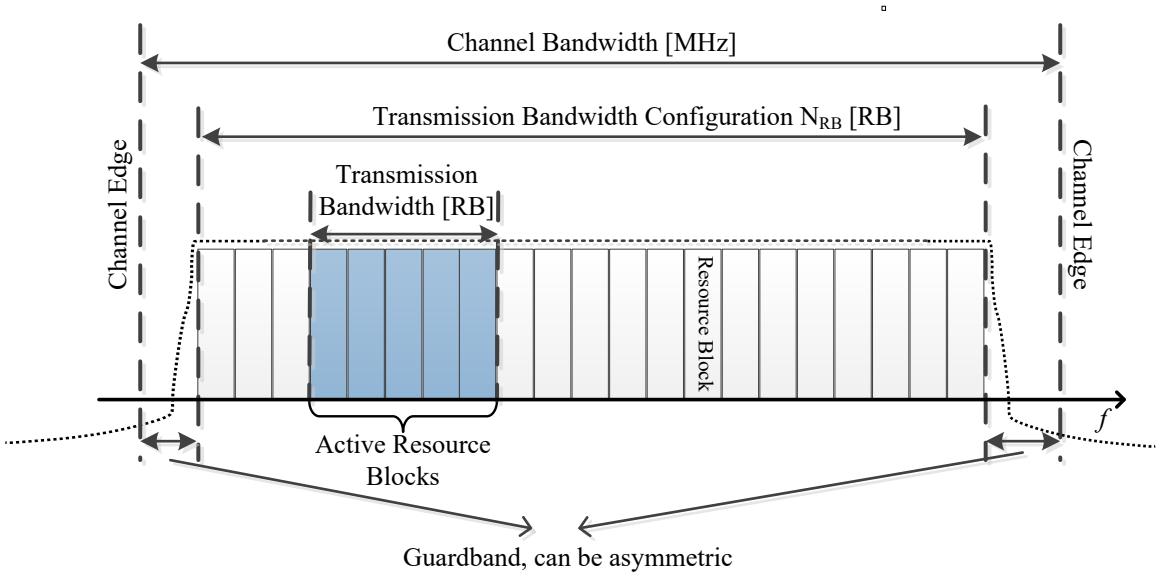
The UE channel bandwidth supports a single NR RF carrier in the uplink or downlink at the UE. From a BS perspective, different UE channel bandwidths may be supported within the same spectrum for transmitting to and receiving from UEs connected to the BS. Transmission of multiple carriers to the same UE (CA) or multiple carriers to different UEs within the BS channel bandwidth can be supported.

From a UE perspective, the UE is configured with one or more BWP / carriers, each with its own UE channel bandwidth. The UE does not need to be aware of the BS channel bandwidth or how the BS allocates bandwidth to different UEs.

The placement of the UE channel bandwidth for each UE carrier is flexible but can only be completely within the BS channel bandwidth.

The relationship between the channel bandwidth, the guardband and the transmission bandwidth configuration is shown in Figure 5.3.1-1.

**Figure 5.3.1-1: Definition of channel bandwidth and transmission bandwidth configuration for one NR channel**




### 5.3.2 Maximum transmission bandwidth configuration

The maximum transmission bandwidth configuration $N_{RB}$ for each UE channel bandwidth and subcarrier spacing is specified in Table 5.3.2-1

**Table 5.3.2-1: Maximum transmission bandwidth configuration $N_{RB}$**

| SCS (kHz) | 50 MHz | 100 MHz | 200 MHz | 400 MHz | 800 MHz | 1600 MHz | 2000 MHz |
|---|---|---|---|---|---|---|---|
| | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ | $N_{RB}$ |
| 60 | 66 | 132 | 264 | N/A | N/A | N/A | N/A |
| 120 | 32 | 66 | 132 | 264 | N/A | N/A | N/A |
| 480[1] | N/A | N/A | N/A | 66 | 124 | 248 | N/A |
| 960[1] | N/A | N/A | N/A | 33 | 62 | 124 | 148 |
| Note 1: This SCS is optional in this release of the specification. | | | | | | | |

### 5.3.3 Minimum guardband and transmission bandwidth configuration

The minimum guardband for each UE channel bandwidth and SCS is specified in Table 5.3.3-1.

**Table 5.3.3-1: Minimum guardband for each UE channel bandwidth and SCS (kHz)**

| SCS (kHz) | 50 MHz | 100 MHz | 200 MHz | 400 MHz | 800 MHz | 1 600 MHz | 2 000 MHz |
|---|---|---|---|---|---|---|---|
| 60 | 1210 | 2450 | 4930 | N/A | N/A | N/A | N/A |
| 120 | 1900 | 2420 | 4900 | 9860 | N/A | N/A | N/A |
| 480 | N/A | N/A | N/A | 9680 | 42640 | 85520 | N/A |
| 960 | N/A | N/A | N/A | 9440 | 42400 | 85280 | 147040 |

NOTE: The minimum guardbands have been calculated using the following equation: ($BW_{Channel}$ x 1 000 (kHz) - $N_{RB}$ x SCS x 12) / 2 - SCS/2, where $N_{RB}$ are from Table 5.3.2-1.

The minimum guardband of receiving BS SCS 240 kHz SS/PBCH block for each UE channel bandwidth is specified in table 5.3.3-2 for FR2.

**Table: 5.3.3-2: Minimum guardband (kHz) of SCS 240 kHz SS/PBCH block in FR2-1**

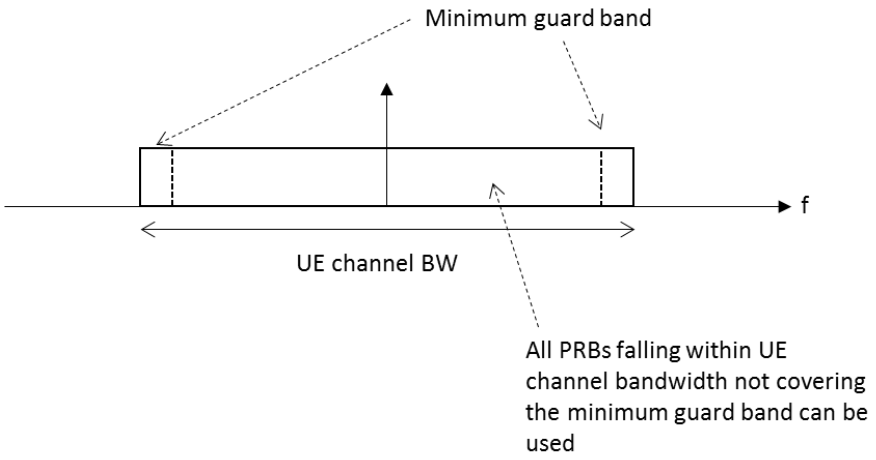
| SCS (kHz) | 100 MHz | 200 MHz | 400 MHz |
|---|---|---|---|
| 240 | 3800 | 7720 | 15560 |

NOTE: In FR2-1, the minimum guardband in Table 5.3.3-2 is applicable only when the SCS 240 kHz SS/PBCH block is received adjacent to the edge of the UE channel bandwidth within which the SS/PBCH block is located.

**Figure 5.3.3-1: Void**

The number of RBs configured in any channel bandwidth shall ensure that the minimum guardband specified in this clause is met.

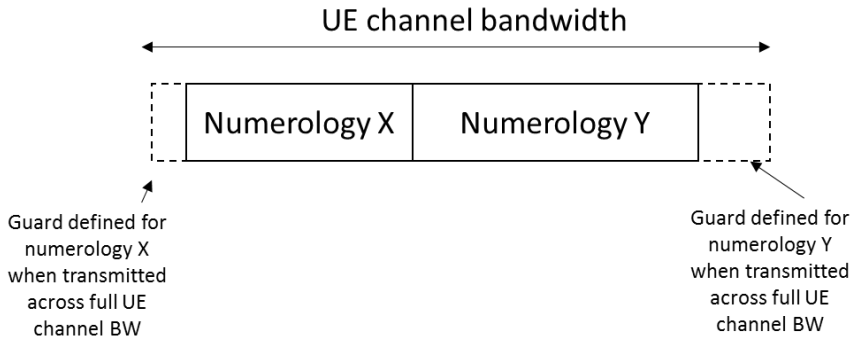
**Figure 5.3.3-2 UE PRB utilization**




In the case that multiple numerologies are multiplexed in the same symbol due to BS transmission of SSB, the minimum guardband on each side of the carrier is the guardband applied at the configured channel bandwidth for the numerology that is transmitted immediately adjacent to the guard band.

If multiple numerologies are multiplexed in the same symbol and the UE channel bandwidth is > 200 MHz, the minimum guardband applied adjacent to 60 kHz SCS shall be the same as the minimum guardband defined for 120 kHz SCS for the same UE channel bandwidth.

**Figure 5.3.3-3 Guard band definition when transmitting multiple numerologies**




Note: Figure 5.3.3-3 is not intended to imply the size of any guard between the two numerologies. Inter-numerology guard band within the carrier is implementation dependent.

## 5.3.4 RB alignment

For each numerology, its common resource blocks are specified in Clause 4.4.4.3 in [9], and the starting point of its transmission bandwidth configuration on the common resource block grid for a given channel bandwidth is indicated by an offset to "Reference point A" in the unit of the numerology. The *UE transmission bandwidth configuration* is indicated by the higher layer parameter *carrierBandwidth* [13] and will fulfil the minimum UE guardband requirement specified in Clause 5.3.3.

## 5.3.5 Channel bandwidth per operating band

The requirements in this specification apply to the combination of channel bandwidths, SCS and operating bands shown in Table 5.3.5-1. The transmission bandwidth configuration in Table 5.3.2-1 shall be supported for each of the specified channel bandwidths. The channel bandwidths are specified for both the Tx and Rx path.

**Table 5.3.5-1: Channel bandwidths for each NR band**

| Operating band | SCS (kHz) | UE channel bandwidth (MHz) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 50 | 100 | 200 | 400 | 800 | 1600 | 2000 |
| n257 | 60 | 50 | 100 | 200 | | | | |
| | 120 | 50 | 100 | 200 | 400[1] | | | |
| n258 | 60 | 50 | 100 | 200 | | | | |
| | 120 | 50 | 100 | 200 | 400[1] | | | |
| n259 | 60 | 50 | 100 | 200 | | | | |
| | 120 | 50 | 100 | 200 | 400[1] | | | |
| n260 | 60 | 50 | 100 | 200 | | | | |
| | 120 | 50 | 100 | 200 | 400[1] | | | |
| n261 | 60 | 50 | 100 | 200 | | | | |
| | 120 | 50 | 100 | 200 | 400[1] | | | |
| n262 | 60 | 50 | 100 | 200 | | | | |
| | 120 | 50 | 100 | 200 | 400[1] | | | |
| n263 | 120 | | 100 | | 400 | | | |
| | 480[2] | | | | 400 | 800[1] | 1600[1] | |
| | 960[2] | | | | 400 | 800[1] | 1600[1] | 2000[1] |
| NOTE 1: This UE channel bandwidth is optional in this release of the specification.<br>NOTE 2: This SCS is optional in this release of the specification. | | | | | | | | |

ويُحدَّد عرض نطاق قناة لمعدات المستعمل الخاصة بتجميع الموجات الحاملة في الفقرة 3A.5 من المواصفة [3] TS 38.101-2.

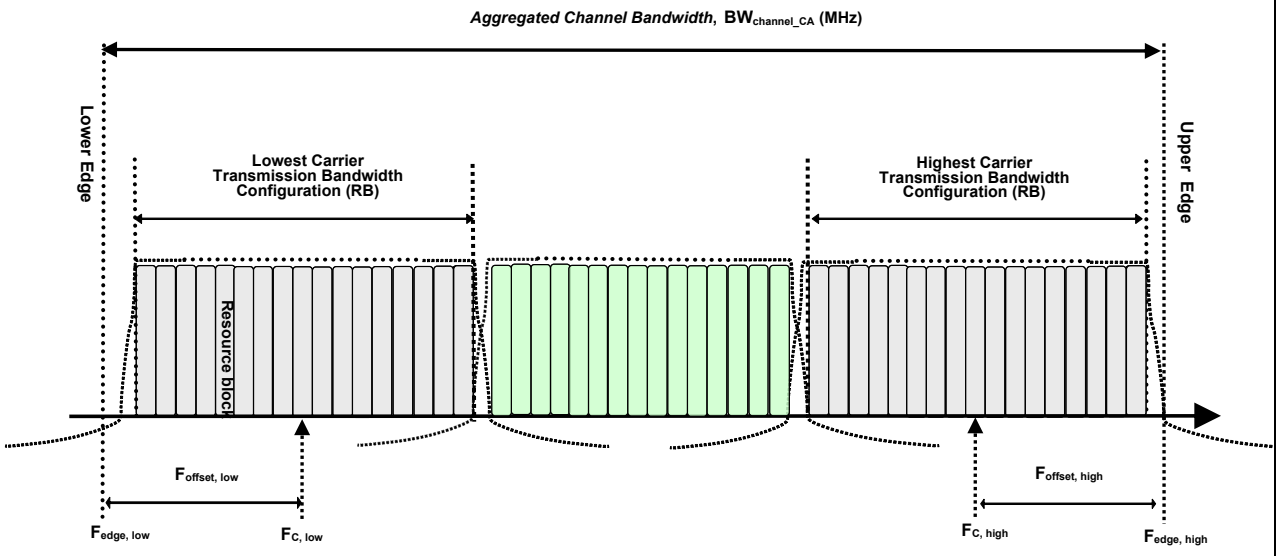
## 5.3A UE channel bandwidth for CA

### 5.3A.1 General

### 5.3A.2 Minimum guardband and transmission bandwidth configuration for CA

For intra-band contiguous carrier aggregation, *Aggregated Channel Bandwidth* and *Guard Bands* are defined as follows, see Figure 5.3A.2-1.

**Figure 5.3A.2-1: Definition of *Aggregated Channel Bandwidth* for intra-band carrier aggregation**




The *aggregated channel bandwidth,* $BW_{Channel_CA}$, is defined as

$$BW_{Channel_CA} = F_{edge,high} - F_{edge,low} \text{ (MHz)}.$$

The lower bandwidth edge $F_{edge,\ low}$ and the upper bandwidth edge $F_{edge,high}$ of the aggregated channel bandwidth are used as frequency reference points for transmitter and receiver requirements and are defined by

$$F_{edge,low} = F_{C,low} - F_{offset,low}$$

$$F_{edge,high} = F_{C,high} + F_{offset,high}$$

The lower and upper frequency offsets depend on the transmission bandwidth configurations of the lowest and highest assigned edge component carrier and are defined as

$$F_{offset,low} = (N_{RB,low}*12 + 1)*SCS_{low}/2 + BW_{GB} \text{ (MHz)}$$

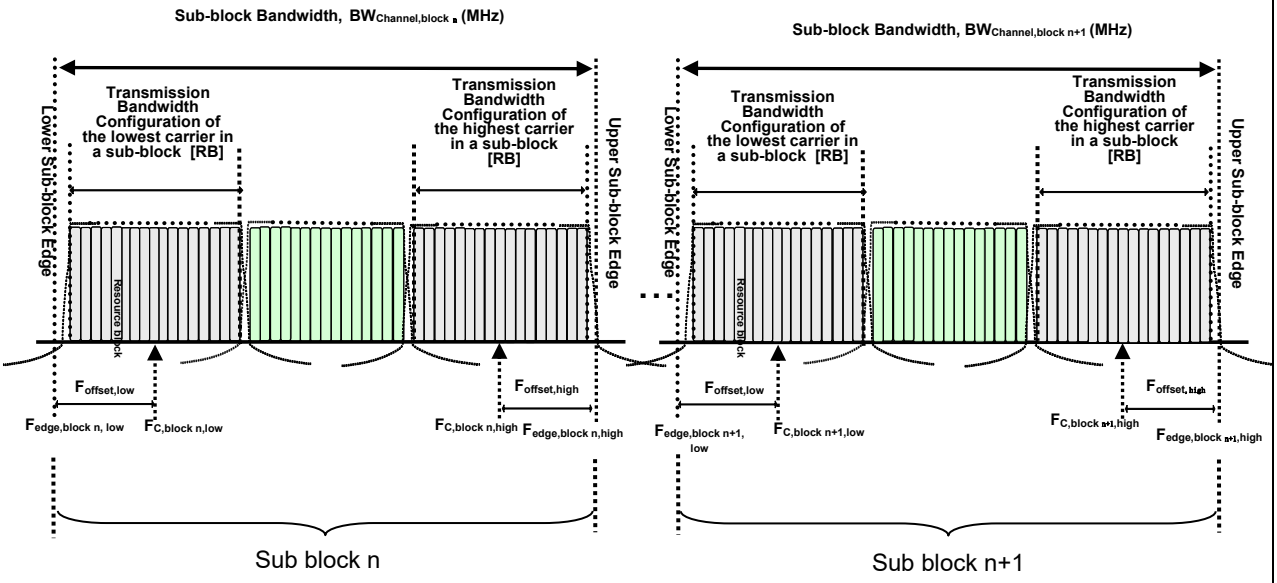
$$F_{offset,high} = (N_{RB,high}*12 - 1)*SCS_{high}/2 + BW_{GB} \text{ (MHz)}$$

$$BW_{GB} = \max(BW_{GB,Channel(k)})$$

$N_{RB,low}$ and $N_{RB,high}$ are the transmission bandwidth configurations according to Table 5.3.2-1 for the lowest and highest assigned component carrier, $SCS_{low}$ and $SCS_{high}$ are the sub-carrier spacing for the lowest and highest assigned component carrier respectively. $SCS_{low}$, $SCS_{high}$, $N_{RB,low}$, $N_{RB,high}$, and $BW_{GB,Channel(k)}$ use the largest μ value among the subcarrier spacing configurations supported in the operating band for both of the channel bandwidths according to Table 5.3.5-1 and $BW_{GB,Channel(k)}$ is the minimum guard band for carrier k according to Table 5.3.3-1 for the said $\mu$ value.

For intra-band non-contiguous carrier aggregation *Sub-block Bandwidth* and *Sub-block edges* are defined as follows, see Figure 5.3A.2-2.

**Figure 5.3A.2-2: Definition of sub-block bandwidth for intra-band non-contiguous spectrum**




The lower sub-block edge of the Sub-block Bandwidth ($BW_{Channel,block}$) is defined as

$$F_{edge,block,\ low} = F_{C,block,low} - F_{offset,\ low.}$$

The upper sub-block edge of the Sub-block Bandwidth is defined as

$$F_{edge,block,high} = F_{C,block,high} + F_{offset,\ high.}$$

The Sub-block Bandwidth, $BW_{Channel,block}$, is defined as follows:

$$BW_{Channel,block} = F_{edge,block,high} - F_{edge,block,low}\ (MHz)$$

The lower and upper frequency offsets $F_{offset,block,low}$ and $F_{offset,block,high}$ depend on the transmission bandwidth configurations of the lowest and highest assigned edge component carriers within a sub-block and are defined as

$$F_{offset,block,low} = (N_{RB,low}*12 + 1)*SCS_{low}/2 + BW_{GB}\ (MHz)$$

$$F_{offset,block,high} = (N_{RB,high}*12 - 1)*SCS_{high}/2 + BW_{GB}\ (MHz)$$

$$BW_{GB} = \max(BW_{GB,Channel(k)})$$

where $N_{RB,low}$ and $N_{RB,high}$ are the transmission bandwidth configurations according to Table 5.3.2-1 for the lowest and highest assigned component carrier within a sub-block, respectively. $SCS_{low}$ and $SCS_{high}$ are the sub-carrier spacing for the lowest and highest assigned component carrier within a sub-block, respectively. $SCS_{low}$, $SCS_{high}$, $N_{RB,low}$, $N_{RB,high}$, and $BW_{GB,Channel(k)}$ use the largest μ value among the subcarrier spacing configurations supported in the operating band for both of the channel bandwidths according to Table 5.3.5-1 and $BW_{GB,Channel(k)}$ is the minimum guard band for carrier k according to Table 5.3.3-1 for the said $\mu$ value.

The sub-block gap size between two consecutive sub-blocks $W_{gap}$ is defined as

$$W_{gap} = F_{edge,block\ n+1,low} - F_{edge,block\ n,high}\ (MHz)$$

## 5.3A.3 RB alignment with different numerologies for CA

## 5.3A.4 UE channel bandwidth per operating band for CA

For intra-band contiguous carrier aggregation, a carrier aggregation configuration is a single operating band supporting a carrier aggregation bandwidth class with associated bandwidth combination sets specified in clause 5.5A.1. For each carrier aggregation configuration, requirements are specified for all aggregated channel bandwidths contained in a bandwidth combination set, UE can indicate support of several bandwidth combination sets per carrier aggregation configuration. The requirements are applicable only when Uplink CCs are configured within the frequency range between lower edge of lowest downlink component carrier and upper edge of highest downlink component carrier.

For intra-band non-contiguous carrier aggregation, a carrier aggregation configuration is a single operating band supporting two or more sub-blocks, each supporting a carrier aggregation bandwidth class. The requirements are applicable only when Uplink CCs in each UL sub-block are configured within the frequency range between lower edge of lowest downlink component carrier and upper edge of highest downlink component carrier of a DL sub-block.

Frequency separation class (Fs) specified in Table 5.3A.4-2 indicates the maximum frequency span between lower edge of lowest component carrier and upper edge of highest component carrier that UE can support per band in downlink or uplink (DL Fs or UL Fs) respectively in non-contiguous intra-band operation within the bidirectional spectrum.

The DL-only frequency spectrum is the width of UE frequency spectrum available to network to configure DL CCs only, and it extends on one-side of the bidirectional spectrum in contiguous manner with no frequency gap between the two. Frequency separation class for DL-only spectrum (Fsd) specified in Table 5.3A.4-3 and is declared per band. The frequency separation class for DL-only spectrum (Fsd) can be equal but not larger than the frequency separation (DL Fs). The combined downlink spectrum (DL Fs + Fsd) cannot exceed 2 400 MHz. A UE may configure DL-only spectrum only if the combined downlink spectrum (DL Fs + Fsd) exceeds 1 400 MHz. When a UE configures DL-only spectrum, it shall not expect a CC to be configured across the boundary between bidirectional spectrum and DL-only spectrum UE can support respectively.

For inter-band carrier aggregation, a carrier aggregation configuration is a combination of operating bands, each supporting a carrier aggregation bandwidth class.

**Table 5.3A.4-1: CA bandwidth classes**

| NR CA bandwidth class | Aggregated channel bandwidth | Number of contiguous CC | Fallback group |
|---|---|---|---|
| A | $BW_{Channel} \leq 400$ MHz | 1 | 1,2,3,4,5 |
| B | 400 MHz < $BW_{Channel_CA} \leq 800$ MHz | 2 | 1 |
| C | 800 MHz < $BW_{Channel_CA} \leq 1\,200$ MHz | 3 | |
| D | 200 MHz < $BW_{Channel_CA} \leq 400$ MHz | 2 | 2 |
| E | 400 MHz < $BW_{Channel_CA} \leq 600$ MHz | 3 | |
| F | 600 MHz < $BW_{Channel_CA} \leq 800$ MHz | 4 | |
| R | 800 MHz < $BW_{Channel_CA} \leq 1\,000$ MHz | 5 | |
| S | 1 000 MHz < $BW_{Channel_CA} \leq 1\,200$ MHz | 6 | |
| T | 1 200 MHz < $BW_{Channel_CA} \leq 1\,400$ MHz | 7 | |
| U | 1 400 MHz < $BW_{Channel_CA} \leq 1\,600$ MHz | 8 | |
| G | 100 MHz < $BW_{Channel_CA} \leq 200$ MHz | 2 | 3 |
| H | 200 MHz < $BW_{Channel_CA} \leq 300$ MHz | 3 | |
| I | 300 MHz < $BW_{Channel_CA} \leq 400$ MHz | 4 | |
| J | 400 MHz < $BW_{Channel_CA} \leq 500$ MHz | 5 | |
| K | 500 MHz < $BW_{Channel_CA} \leq 600$ MHz | 6 | |
| L | 600 MHz < $BW_{Channel_CA} \leq 700$ MHz | 7 | |
| M | 700 MHz < $BW_{Channel_CA} \leq 800$ MHz | 8 | |
| O | 100 MHz ≤ $BW_{Channel_CA} \leq 200$ MHz | 2 | 4 |
| P | 150 MHz ≤ $BW_{Channel_CA} \leq 300$ MHz | 3 | |
| Q | 200 MHz ≤ $BW_{Channel_CA} \leq 400$ MHz | 4 | |
| R2 | 200 MHz ≤ $BW_{Channel_CA} \leq 400$ MHz | 2 | 5 |
| R3 | 300 MHz ≤ $BW_{Channel_CA} \leq 600$ MHz | 3 | |
| R4 | 400 MHz ≤ $BW_{Channel_CA} \leq 800$ MHz | 4 | |
| R5 | 500 MHz ≤ $BW_{Channel_CA} \leq 1\,000$ MHz | 5 | |
| R6 | 600 MHz ≤ $BW_{Channel_CA} \leq 1\,200$ MHz | 6 | |
| R7 | 700 MHz ≤ $BW_{Channel_CA} \leq 1\,400$ MHz | 7 | |

| | | | |
|---|---|---|---|
| R8 | 800 MHz ≤ $BW_{Channel_CA}$ ≤ 1 600 MHz | 8 | |
| R9 | 900 MHz ≤ $BW_{Channel_CA}$ ≤ 1 800 MHz | 9 | |
| R10 | 1 000 MHz ≤ $BW_{Channel_CA}$ ≤ 2 000 MHz | 10 | |
| R11 | 1 100 MHz ≤ $BW_{Channel_CA}$ ≤ 2 200 MHz | 11 | |
| R12 | 1 200 MHz ≤ $BW_{Channel_CA}$ ≤ 2 400 MHz | 12 | |
| NOTE 1: Maximum supported component carrier bandwidths for fallback groups 1, 2, 3, 4 and 5 are 400 MHz, 200 MHz, 100 MHz, 100 MHz and 200 MHz respectively except for CA bandwidth class A. For CA bandwidth classes of fallback group 5, requirements apply for non-interlaced 100 MHz and 200 MHz channel bandwidths (each CA bandwidth class consisting of up to two contiguous sub-blocks each with component carriers of a single channel bandwidth).<br>NOTE 2: It is mandatory for a UE to be able to fallback to lower order CA bandwidth class configuration within a fallback group. It is not mandatory for a UE to be able to fallback to lower order CA bandwidth class configuration that belong to a different fallback group.<br>NOTE 3: In this release of the specification, the minimum requirements for intra-band contiguous CA configurations apply for aggregated channel bandwidths up to 1600 MHz (this note is not relevant for UE capability parsing by the network). | | | |

**Table 5.3A.4-2: Frequency separation classes for non-contiguous intra-band operation**

| Frequency separation class | Max. allowed frequency separation (Fs) |
|---|---|
| I | 800 MHz |
| II | 1 200 MHz |
| III | 1 400 MHz |
| IV | 1 000 MHz |
| V | 1 600 MHz |
| VI | 1 800 MHz |
| VII | 2 000 MHz |
| VIII | 2 200 MHz |
| IX | 2 400 MHz |
| X | 400 MHz |
| XI | 600 MHz |
| NOTE 1: Fs values larger than 1 400 MHz apply only to downlink frequency separation. | |

**Table 5.3A.4-3: Frequency separation classes for DL-only spectrum**

| Frequency separation class | Max. allowed frequency separation (Fsd) |
|---|---|
| I | 200 MHz |
| II | 400 MHz |
| III | 600 MHz |
| IV | 800 MHz |
| V | 1000 MHz |
| VI | 1200 MHz |

### 3.1.3 ترتيب القنوات

يُحدَّد ترتيب القنوات لمعدات المستعمل، بما في ذلك التباعد بين القنوات، وشبكة مسح القنوات، وخطوط المزامنة النقطية، وفصل تردد الإرسال/الاستقبال، في الفقرة 4.5 من المواصفة التقنية [3] TS 38.101-2.

5.4 Channel arrangement

5.4.1 Channel spacing

5.4.1.1 Channel spacing for adjacent NR carriers

The spacing between carriers will depend on the deployment scenario, the size of the frequency block available and the channel bandwidths. The nominal channel spacing between two adjacent NR carriers is defined as following:

For NR operating bands with 60 kHz channel raster,

Nominal Channel spacing = $(BW_{Channel(1)} + BW_{Channel(2)})/2$ + {-20 kHz, 0 kHz, 20 kHz} for $\Delta F_{Raster}$ equals to 60 kHz

Nominal Channel spacing = $(BW_{Channel(1)} + BW_{Channel(2)})/2$ + {-40 kHz, 0 kHz, 40 kHz} for $\Delta F_{Raster}$ equals to 120 kHz

where $BW_{Channel(1)}$ and $BW_{Channel(2)}$ are the channel bandwidths of the two respective NR carriers. The channel spacing can be adjusted depending on the channel raster to optimize performance in a particular deployment scenario.

## 5.4.2 Channel raster

### 5.4.2.1 NR-ARFCN and channel raster

The global frequency raster defines a set of RF reference frequencies $F_{REF}$. The RF reference frequency is used in signalling to identify the position of RF channels, SS blocks and other elements.

The global frequency raster is defined for all frequencies from 0 to 100 GHz. The granularity of the global frequency raster is $\Delta F_{Global}$.

*RF reference frequency* is designated by an NR Absolute Radio Frequency Channel Number (NR-ARFCN) in the range 2016667...3279165 on the global frequency raster. The relation between the NR-ARFCN and the RF reference frequency $F_{REF}$ in MHz is given by the following equation, where $F_{REF-Offs}$ and $N_{Ref-Offs}$ are given in Table 5.4.2.1-1 and $N_{REF}$ is the NR-ARFCN

$$F_{REF} = F_{REF-Offs} + \Delta F_{Global} (N_{REF} - N_{REF-Offs})$$

**Table 5.4.2.1-1: NR-ARFCN parameters for the global frequency raster**

| Frequency range (MHz) | $\Delta F_{Global}$ (kHz) | $F_{REF-Offs}$ [MHz] | $N_{REF-Offs}$ | Range of $N_{REF}$ |
|---|---|---|---|---|
| 24 250 – 100 000 | 60 | 24 250.08 | 2016667 | 2016667 – 3279165 |

The *channel raster* defines a subset of *RF reference frequencies* that can be used to identify the RF channel position in the uplink and downlink. The *RF reference frequency* for an RF channel maps to a resource element on the carrier. For each operating band, a subset of frequencies from the global frequency raster are applicable for that band and forms a channel raster with a granularity $\Delta F_{Raster}$, which may be equal to or larger than $\Delta F_{Global}$.

The mapping between the channel raster and corresponding resource element is given in Clause 5.4.2.2. The applicable entries for each operating band are defined in clause 5.4.2.3

### 5.4.2.2 Channel raster to resource element mapping

The mapping between the RF reference frequency on channel raster and the corresponding resource element is given in Table 5.4.2.2-1 and can be used to identify the RF channel position. The mapping depends on the total number of RBs that are allocated in the channel and applies to both UL and DL. The mapping must apply to at least one numerology supported by the UE.

**Table 5.4.2.2-1: Channel raster to resource element mapping**

| | $N_{RB}$ mod 2 = 0 | $N_{RB}$ mod 2 = 1 |
|---|---|---|
| Resource element index $k$ | 0 | 6 |
| Physical resource block number $n_{PRB}$ | $n_{\mathrm{PRB}} = \left\lfloor \frac{N_{\mathrm{RB}}}{2} \right\rfloor$ | $n_{\mathrm{PRB}} = \left\lfloor \frac{N_{\mathrm{RB}}}{2} \right\rfloor$ |

$k$, $n_{RB}$ , $N_{RB}$ are as defined in TS 38.211 [9].

### 5.4.2.3 Channel raster entries for each operating band

The RF channel positions on the channel raster in each NR operating band are given through the applicable NR-ARFCN in Table 5.4.2.3-1, using the channel raster to resource element mapping in clause 5.4.2.2.

- For NR operating bands with 60 kHz channel raster above 24 GHz, $\Delta F_{Raster} = I \times \Delta F_{Global}$, where $I \in \{1,2\}$. Every $I^{th}$ NR-ARFCN within the operating band are applicable for the channel raster within the operating band and the step size for the channel raster in table 5.4.2.3-1 is given as <I>.
- In frequency bands with two $\Delta F_{Raster}$, the higher $\Delta F_{Raster}$ applies to channels using only the SCS that equals the higher $\Delta F_{Raster}$ and the SSB SCS that is equal to or larger than the higher $\Delta F_{Raster}$.

**Table 5.4.2.3-1: Applicable NR-ARFCN per operating band**

| Operating Band | $\Delta F_{Raster}$ (kHz) | Uplink and Downlink Range of $N_{REF}$ (First – <Step size> – Last) |
|---|---|---|
| n257 | 60 | 2054166 – <1> – 2104165 |
| | 120 | 2054167 – <2> – 2104165 |
| n258 | 60 | 2016667 – <1> – 2070832 |
| | 120 | 2016667 – <2> – 2070831 |
| n259 | 60 | 2270833 – <1> – 2337499 |
| | 120 | 2270833 – <2> – 2337499 |
| n260 | 60 | 2229166 – <1> – 2279165 |
| | 120 | 2229167 – <2> – 2279165 |
| n261 | 60 | 2070833 – <1> – 2084999 |
| | 120 | 2070833 – <2> – 2084999 |
| n262 | 60 | 2399166 – <1> – 2415832 |
| | 120 | 2399167 – <2> – 2415831 |
| n263 | 120 | See Table 5.4.2.3-2 |
| | 480 | |
| | 960 | |

**Table 5.4.2.3-2: Applicable NR-ARFCN for operation in band n263**

| Channel Bandwidth | Applicable NR-ARFCN |
|---|---|
| 100 MHz | 2564083 + 1680 * N, N = 0:137 |
| 400 MHz | 2566603 + 6720 * N, N = 0:33 |
| 800 MHz | 2569963 + 6720 * N, N = 0:32 |
| 1600 MHz | 2576683 + 6720 * N, N =0:30 |
| 2000 MHz | 2580043 + 6720 * N, N=0:29,<br>2585083, 2655643, 2692603, 2764843 |

## 5.4.3 Synchronization raster

### 5.4.3.1 Synchronization raster and numbering

The synchronization raster indicates the frequency positions of the synchronization block that can be used by the UE for system acquisition when explicit signalling of the synchronization block position is not present.

A global synchronization raster is defined for all frequencies. The frequency position of the SS block is defined as $SS_{REF}$ with corresponding number GSCN. The parameters defining the $SS_{REF}$ and GSCN for all the frequency ranges are in Table 5.4.3.1-1.

The resource element corresponding to the SS block reference frequency $SS_{REF}$ is given in clause 5.4.3.2. The synchronization raster and the subcarrier spacing of the synchronization block is defined separately for each band.

**Table 5.4.3.1-1: GSCN parameters for the global frequency raster**

| Frequency range | SS block frequency position $SS_{REF}$ | GSCN | Range of GSCN |
|---|---|---|---|
| 24250 – 100000 MHz | 24250.08 MHz + N * 17.28 MHz, N = 0:4383 | 22256 + N | 22256 – 26639 |

## 5.4.3.2 Synchronization raster to synchronization block resource element mapping

The mapping between the synchronization raster and the corresponding resource element of the SS block is given in Table 5.4.3.2-1.

**Table 5.4.3.2-1: Synchronization raster to SS block resource element mapping**

| Resource element index *k* | 120 |
|---|---|
| | |

*k* is the subcarrier number of SS/PBCH block defined in TS 38.211 clause 7.4.3.1 [9].

## 5.4.3.3 Synchronization raster entries for each operating band

The synchronization raster for each band is give in Table 5.4.3.3-1. The distance between applicable GSCN entries is given by the <Step size> indicated in Table 5.4.3.3-1.

**Table 5.4.3.3-1: Applicable SS raster entries per operating band**

| NR Operating Band | SS Block SCS | SS Block pattern[1] | Range of GSCN (First – <Step size> – Last) |
|---|---|---|---|
| n257 | 120 kHz | Case D | 22388 - <1> - 22558 |
| | 240 kHz | Case E | 22390 - <2> - 22556 |
| n258 | 120 kHz | Case D | 22257 - <1> - 22443 |
| | 240 kHz | Case E | 22258 - <2> - 22442 |
| n259 | 120 kHz | Case D | 23140 – <1> – 23369 |
| | 240 kHz | Case E | 23142 – <2> – 23368 |
| n260 | 120 kHz | Case D | 22995 - <1> - 23166 |
| | 240 kHz | Case E | 22996 - <2> - 23164 |
| n261 | 120 kHz | Case D | 22446 - <1> - 22492 |
| | 240 kHz | Case E | 22446 - <2> - 22490 |
| n262 | 120 kHz | Case D | 23586 – <1> – 23641 |
| | 240 kHz | Case E | 23588 – <2> – 23640 |
| n263 | 120 kHz | Case D | Table 5.4.3.3-2 |
| | 480 kHz | Case F | |
| | 960 kHz[2] | Case G | 24162 – <6> – 24954 |

NOTE 1: SS Block pattern is defined in clause 4.1 in TS 38.213 [10].
NOTE 2: SS Block SCS of 960 kHz is not used for initial access.

**Table 5.4.3.3-2: Allowed GSCN for operation in band n263 for 120 kHz and 480 kHz**

| SS Block SCS | Range of GSCN |
|---|---|
| 120 kHz | 24156 + 6 * N – 3 * floor((N+5)/18), N=0:137 |
| 480 kHz | 24162 + 24 * N – 12 * floor((N+4)/18), N=0:33 |

ويُحدَّد ترتيب القنوات لمعدات المستعمل الخاصة بتجميع الموجات الحاملة في الفقرة 4A.5 من المواصفة [3] TS 38.101-2.

## 5.4A Channel arrangement for CA

### 5.4A.1 Channel spacing for CA

For intra-band contiguous carrier aggregation with two or more component carriers, the nominal channel spacing between two adjacent NR component carriers is defined as the following unless stated otherwise:

For NR operating bands with 60 kHz channel raster:

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 2\left|GB_{Channel(1)} - GB_{Channel(2)}\right|}{0.06 * 2^{n+1}} \right\rfloor 0.06 * 2^{n} \text{ [MHz]}$$

with

$$n = \mu_0 - 2$$

where $BW_{Channel(1)}$ and $BW_{Channel(2)}$ are the channel bandwidths of the two respective NR component carriers according to Table 5.3.2-1 with values in MHz, $\mu_o$ is the largest $\mu$ value among the subcarrier spacing configurations supported in the operating band for both of the channel bandwidths according to Table 5.3.5-1, and $GB_{Channel(i)}$ is the minimum guard band for channel bandwidth *i* according to Table 5.3.3-1 for the said $\mu$ value, with $\mu$ as defined in TS 38.211 [9].

The channel spacing for intra-band contiguous carrier aggregation can be adjusted to any multiple of least common multiple of channel raster and sub-carrier spacing less than the nominal channel spacing to optimize performance in a particular deployment scenario.

For intra-band non-contiguous carrier aggregation, the channel spacing between two NR component carriers in different sub-blocks shall be larger than the nominal channel spacing defined in this clause.

### 4.1.3 التشكيلات

تُحدَّد تشكيلات معدات المستعمل (UE) الخاصة بنطاقات تشغيل تجميع الموجات الحاملة في الفقرة 5A.5 من المواصفة التقنية [3] TS 38.101-2.

5.5A Configurations for CA

5.5A.1 Configurations for intra-band contiguous CA

**Table 5.5A.1-1: NR CA configurations, bandwidth combination sets, and fallback group defined for intra-band contiguous CA**

| NR CA configuration / Bandwidth combination set / Fallback group | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NR CA configuration** | **Uplink CA configurations** | **$BW_{Channel}$ (MHz)** | **$BW_{Channel}$ (MHz)** | **$BW_{Channel}$ (MHz)** | **$BW_{Channel}$ (MHz)** | **$BW_{Channel}$ (MHz)** | **$BW_{Channel}$ (MHz)** | **$BW_{Channel}$ (MHz)** | **$BW_{Channel}$ (MHz)** | **Maximum aggregated BW (MHz)** | **BCS** | **Fallback group** |
| CA_n257B | CA_n257B | 50, 100, 200, 400 | 400 | | | | | | | 800 | 0 | 1 |
| CA_n257C | CA_n257B | 50, 100, 200, 400 | 400 | 400 | | | | | | 1200 | 0 | |
| CA_n257D | CA_n257D | 50, 100, 200 | 200 | | | | | | | 400 | 0 | 2 |
| CA_n257E | CA_n257D CA_n257E | 50, 100, 200 | 200 | 200 | | | | | | 600 | 0 | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_n257F | CA_n257D<br>CA_n257E<br>CA_n257F | 50,<br>100,<br>200 | 200 | 200 | 200 | | | | | 800 | 0 | |
| CA_n257G | CA_n257G | 50,<br>100 | 100 | | | | | | | 200 | 0 | 3 |
| CA_n257H | CA_n257G<br>CA_n257H | 50,<br>100 | 100 | 100 | | | | | | 300 | 0 | |
| CA_n257I | CA_n257G<br>CA_n257H<br>CA_n257I | 50,<br>100 | 100 | 100 | 100 | | | | | 400 | 0 | |
| CA_n257J | CA_n257G<br>CA_n257H<br>CA_n257I<br>CA_n257J | 50,<br>100 | 100 | 100 | 100 | 100 | | | | 500 | 0 | |
| CA_n257K | CA_n257G<br>CA_n257H<br>CA_n257I<br>CA_n257J<br>CA_n257K | 50,<br>100 | 100 | 100 | 100 | 100 | 100 | | | 600 | 0 | |
| CA_n257L | CA_n257G<br>CA_n257H<br>CA_n257I<br>CA_n257J<br>CA_n257K<br>CA_n257L | 50,<br>100 | 100 | 100 | 100 | 100 | 100 | 100 | | 700 | 0 | |
| CA_n257M | CA_n257G<br>CA_n257H<br>CA_n257I<br>CA_n257J<br>CA_n257K<br>CA_n257L<br>CA_n257M | 50,<br>100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 0 | |
| CA_n258B | CA_n258B | 50,<br>100,<br>200,<br>400 | 400 | | | | | | | 800 | 0 | 1 |
| CA_n258C | CA_n258B<br>CA_n258C | 50,<br>100,<br>200,<br>400 | 400 | 400 | | | | | | 1200 | 0 | |
| CA_n258D | CA_n258D | 50,<br>100,<br>200 | 200 | | | | | | | 400 | 0 | 2 |
| CA_n258E | CA_n258D<br>CA_n258E | 50,<br>100,<br>200 | 200 | 200 | | | | | | 600 | 0 | |
| CA_n258F | CA_n258D<br>CA_n258E<br>CA_n258F | 50,<br>100,<br>200 | 200 | 200 | 200 | | | | | 800 | 0 | |
| CA_n258G | CA_n258G | 50,<br>100 | 100 | | | | | | | 200 | 0 | 3 |
| CA_n258H | CA_n258G<br>CA_n258H | 50,<br>100 | 100 | 100 | | | | | | 300 | 0 | |
| CA_n258I | CA_n258G<br>CA_n258H<br>CA_n258I | 50,<br>100 | 100 | 100 | 100 | | | | | 400 | 0 | |
| CA_n258J | CA_n258G<br>CA_n258H<br>CA_n258I<br>CA_n258J | 50,<br>100 | 100 | 100 | 100 | 100 | | | | 500 | 0 | |
| CA_n258K | CA_n258G<br>CA_n258H<br>CA_n258I<br>CA_n258J<br>CA_n258K | 50,<br>100 | 100 | 100 | 100 | 100 | 100 | | | 600 | 0 | |
| CA_n258L | CA_n258G<br>CA_n258H | 50,<br>100 | 100 | 100 | 100 | 100 | 100 | 100 | | 700 | 0 | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA_n258I<br>CA_n258J<br>CA_n258K<br>CA_n258L | | | | | | | | | | | |
| CA_n258M | CA_n258G<br>CA_n258H<br>CA_n258I<br>CA_n258J<br>CA_n258K<br>CA_n258L<br>CA_n258M | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 0 | |
| CA_n258O | CA_n258O | 50, 100 | 50, 100 | | | | | | | 200 | 0 | 4 |
| CA_n258P | CA_n258O<br>CA_n258P | 50, 100 | 50, 100 | 50, 100 | | | | | | 300 | 0 | |
| CA_n258Q | CA_n258O<br>CA_n258P<br>CA_n258Q | 50, 100 | 50, 100 | 50, 100 | 50, 100 | | | | | 400 | 0 | |
| CA_n259B | CA_n259B | 50, 100, 200, 400 | 400 | | | | | | | 800 | 0 | 1 |
| CA_n259C | CA_n259B | 50, 100, 200, 400 | 400 | 400 | | | | | | 1200 | 0 | |
| CA_n259G | CA_n259G | 50, 100 | 100 | | | | | | | 200 | 0 | 3 |
| CA_n259H | CA_n259G<br>CA_n259H | 50, 100 | 100 | 100 | | | | | | 300 | 0 | |
| CA_n259I | CA_n259G<br>CA_n259H<br>CA_n259I | 50, 100 | 100 | 100 | 100 | | | | | 400 | 0 | |
| CA_n259J | CA_n259G<br>CA_n259H<br>CA_n259I<br>CA_n259J | 50, 100 | 100 | 100 | 100 | 100 | | | | 500 | 0 | |
| CA_n259K | CA_n259G<br>CA_n259H<br>CA_n259I<br>CA_n259J<br>CA_n259K | 50, 100 | 100 | 100 | 100 | 100 | 100 | | | 600 | 0 | |
| CA_n259L | CA_n259G<br>CA_n259H<br>CA_n259I<br>CA_n259J<br>CA_n259K<br>CA_n259L | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | | 700 | 0 | |
| CA_n259M | CA_n259G<br>CA_n259H<br>CA_n259I<br>CA_n259J<br>CA_n259K<br>CA_n259L<br>CA_n259M | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 0 | |
| CA_n260B | CA_n260B | 50, 100, 200, 400 | 400 | | | | | | | 800 | 0 | 1 |
| CA_n260C | CA_n260B | 50, 100, 200, 400 | 400 | 400 | | | | | | 1200 | 0 | |
| CA_n260D | CA_n260D | 50, 100, 200 | 200 | | | | | | | 400 | 0 | 2 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_n260E | CA_n260D CA_n260E | 50, 100, 200 | 200 | 200 | | | | | | 600 | 0 | |
| CA_n260F | CA_n260D CA_n260E CA_n260F | 50, 100, 200 | 200 | 200 | 200 | | | | | 800 | 0 | |
| CA_n260G | CA_n260G | 50, 100 | 100 | | | | | | | 200 | 0 | 3 |
| CA_n260H | CA_n260G CA_n260H | 50, 100 | 100 | 100 | | | | | | 300 | 0 | |
| CA_n260I | CA_n260G CA_n260H CA_n260I | 50, 100 | 100 | 100 | 100 | | | | | 400 | 0 | |
| CA_n260J | CA_n260G CA_n260H CA_n260I CA_n260J | 50, 100 | 100 | 100 | 100 | 100 | | | | 500 | 0 | |
| CA_n260K | CA_n260G CA_n260H CA_n260I CA_n260J CA_n260K | 50, 100 | 100 | 100 | 100 | 100 | 100 | | | 600 | 0 | |
| CA_n260L | CA_n260G CA_n260H CA_n260I CA_n260J CA_n260K CA_n260L | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | | 700 | 0 | |
| CA_n260M | CA_n260G CA_n260H CA_n260I CA_n260J CA_n260K CA_n260L CA_n260M | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 0 | |
| CA_n260O | CA_n260O | 50, 100 | 50, 100 | | | | | | | 200 | 0 | 4 |
| CA_n260P | CA_n260O CA_n260P | 50, 100 | 50, 100 | 50, 100 | | | | | | 300 | 0 | |
| CA_n260Q | CA_n260O CA_n260P CA_n260Q | 50, 100 | 50, 100 | 50, 100 | 50, 100 | | | | | 400 | 0 | |
| CA_n261B | CA_n261B | 50, 100, 200, 400 | 400 | | | | | | | 800 | 0 | 1 |
| CA_n261C | CA_n261B | 50 | 400 | 400 | | | | | | 850 | 0 | |
| CA_n261D | CA_n261D | 50, 100, 200 | 200 | | | | | | | 400 | 0 | 2 |
| CA_n261E | CA_n261D CA_n261E | 50, 100, 200 | 200 | 200 | | | | | | 600 | 0 | |
| CA_n261F | CA_n261D CA_n261E CA_n261F | 50, 100, 200 | 200 | 200 | 200 | | | | | 800 | 0 | |
| CA_n261G | CA_n261G | 50, 100 | 100 | | | | | | | 200 | 0 | 3 |
| CA_n261H | CA_n261G CA_n261H | 50, 100 | 100 | 100 | | | | | | 300 | 0 | |
| CA_n261I | CA_n261G CA_n261H CA_n261I | 50, 100 | 100 | 100 | 100 | | | | | 400 | 0 | |
| CA_n261J | CA_n261G CA_n261H CA_n261I | 50, 100 | 100 | 100 | 100 | 100 | | | | 500 | 0 | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CA_n261J | | | | | | | | | | | |
| CA_n261K | CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K | 50, 100 | 100 | 100 | 100 | 100 | 100 | | | 600 | 0 | |
| CA_n261L | CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | | 700 | 0 | |
| CA_n261M | CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 0 | |
| CA_n261O | CA_n261O | 50, 100 | 50, 100 | | | | | | | 200 | 0 | 4 |
| CA_n261P | CA_n261O<br>CA_n261P | 50, 100 | 50, 100 | 50, 100 | | | | | | 300 | 0 | |
| CA_n261Q | CA_n261O<br>CA_n261P<br>CA_n261Q | 50, 100 | 50, 100 | 50, 100 | 50, 100 | | | | | 400 | 0 | |
| CA_n262G | CA_n262G | 50, 100 | 100 | | | | | | | 200 | 0 | 3 |
| CA_n262H | CA_n262G<br>CA_n262H | 50, 100 | 100 | 100 | | | | | | 300 | 0 | |
| CA_n262I | CA_n262G<br>CA_n262H<br>CA_n262I | 50, 100 | 100 | 100 | 100 | | | | | 400 | 0 | |
| CA_n262J | CA_n262G<br>CA_n262H<br>CA_n262I<br>CA_n262J | 50, 100 | 100 | 100 | 100 | 100 | | | | 500 | 0 | |
| CA_n262K | CA_n262G<br>CA_n262H<br>CA_n262I<br>CA_n262J<br>CA_n262K | 50, 100 | 100 | 100 | 100 | 100 | 100 | | | 600 | 0 | |
| CA_n262L | CA_n262G<br>CA_n262H<br>CA_n262I<br>CA_n262J<br>CA_n262K<br>CA_n262L | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | | 700 | 0 | |
| CA_n262M | CA_n262G<br>CA_n262H<br>CA_n262I<br>CA_n262J<br>CA_n262K<br>CA_n262L<br>CA_n262M | 50, 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 0 | |

NOTE 1: Void
NOTE 2: For the NR CA configuration with more than two component carries, the bandwidths in a BCS which may introduce combinations more than requested unintentionally should be listed in a row separately.

## 5.5A.2 Configurations for intra-band non-contiguous CA

Configurations listed in this clause apply to downlink carrier aggregation only.

NOTE: Sub-blocks belonging to a CA configuration can be in any order. In other words certain CA configuration acronym includes all sub-block arrangements which have exactly the same sub-block set. As an

example, CA_n260(2G-3O) denotes CA_n260(2O-2G-O), CA_n260(G-3O-G) etc. but these are not listed in tables separately.

**Table 5.5A.2-1: NR CA configurations with single CA bandwidth class defined for intra-band non-contiguous CA**

| NR CA configuration / Bandwidth combination set | | | |
|---|---|---|---|
| **NR configuration** | **Uplink CA configurations** | **$\Sigma(BW_{Channel,block})$ (MHz)** | **BCS** |
| CA_n257(2A) | - | 800 | 0 |
| CA_n258(2A) | - | 800 | 0 |
| CA_n258(3A) | - | 1 200 | 0 |
| CA_n258(4A) | - | 1 600 | 0 |
| CA_n258(5A) | - | 2 000 | 0 |
| CA_n258(2G) | CA_n258G | 400 | 0 |
| CA_n260(2A) | CA_n260(2A) | 800 | 0 |
| CA_n260(3A) | CA_n260(3A) | 1 200 | 0 |
| CA_n260(4A) | - | 1 600 | 0 |
| CA_n260(5A) | - | 2 000 | 0 |
| CA_n260(6A) | - | 2 400 | 0 |
| CA_n260(7A) | - | 2 800 | 0 |
| CA_n260(8A) | - | 2 900 | 0 |
| CA_n260(9A) | - | 2 950 | 0 |
| CA_n260(10A) | - | 2 950 | 0 |
| CA_n260(2D) | - | 800 | 0 |
| CA_n260(2G) | CA_n260G | 400 | 0 |
| CA_n260(3G) | - | 600 | 0 |
| CA_n260(4G) | - | 800 | 0 |
| CA_n260(2H) | CA_n260G<br>CA_n260H | 600 | 0 |
| CA_n260(2O) | - | 400 | 0 |
| CA_n260(3O) | - | 600 | 0 |
| CA_n260(4O) | - | 800 | 0 |
| CA_n260(2P) | - | 600 | 0 |
| CA_n260(3P) | - | 900 | 0 |
| CA_n260(4P) | - | 1 200 | 0 |
| CA_n260(2Q) | - | 800 | 0 |
| CA_n261(2A) | - | 800 | 0 |
| CA_n261(3A) | - | 800 | 0 |
| CA_n261(4A) | - | 800 | 0 |
| CA_n261(5A) | - | 800 | 0 |
| CA_n261(6A) | - | 800 | 0 |
| CA_n261(7A) | - | 800 | 0 |
| CA_n261(8A) | - | 800 | 0 |
| CA_n261(2D) | - | 800 | 0 |
| CA_n261(2G) | CA_n261G | 400 | 0 |
| CA_n261(3G) | - | 600 | 0 |
| CA_n261(4G) | - | 800 | 0 |
| CA_n261(2H) | CA_n261G<br>CA_n261H | 600 | 0 |
| CA_n261(2I) | CA_n261G<br>CA_n261H<br>CA_n261I | 800 | 0 |
| CA_n261(2O) | - | 400 | 0 |
| CA_n261(3O) | - | 600 | 0 |
| CA_n261(4O) | - | 800 | 0 |
| CA_n261(5O) | - | 800 | 0 |
| CA_n261(6O) | - | 800 | 0 |
| CA_n261(7O) | - | 800 | 0 |
| CA_n261(2P) | - | 600 | 0 |
| CA_n261(2Q) | - | 800 | 0 |
| NOTE 1: Void<br>NOTE 2: Void<br>NOTE 3: Void<br>NOTE 4: Void | | | |

NOTE 5: Channel bandwidth per operating band defined in Table 5.3.5-1.
NOTE 6: Unless otherwise stated, BCS0 is referred in each constituent CA configuration.
NOTE 7: $\Sigma(BW_{Channel,block})$ denotes the maximum total bandwidth from the summation of the sub-block bandwidths and shall be less than the bandwidth of the operating band.

**Table 5.5A.2-2: NR CA configurations with multiple CA bandwidth classes defined for intra-band non-contiguous CA**

| NR CA configuration / Bandwidth combination set | | | |
|---|---|---|---|
| **CA configuration** | **Uplink CA configurations** | **$\Sigma(BW_{Channel,block})$ (MHz)** | **BCS** |
| CA_n258(A-G) | CA_n258G | 600 | 0 |
| CA_n258(A-H) | CA_n258G<br>CA_n258H | 700 | 0 |
| CA_n258(2G) | CA_n258G | 400 | 0 |
| CA_n258(G-H) | CA_n258G<br>CA_n258H | 500 | 0 |
| CA_n260(A-D) | - | 800 | 0 |
| CA_n260(A-E) | - | 1 000 | 0 |
| CA_n260(2A-D) | - | 1 200 | 0 |
| CA_n260(3A-D) | - | 1 600 | 0 |
| CA_n260(4A-D) | - | 2 000 | 0 |
| CA_n260(A-2D) | - | 1 200 | 0 |
| CA_n260(2A-2D) | - | 1 600 | 0 |
| CA_n260(A-D-O) | - | 1 000 | 0 |
| CA_n260(A-D-G) | - | 1 000 | 0 |
| CA_n260(2A-D-O) | - | 1 400 | 0 |
| CA_n260(3A-D-O) | - | 1 800 | 0 |
| CA_n260(A-D-2O) | - | 1 200 | 0 |
| CA_n260(2A-D-2O) | - | 1 600 | 0 |
| CA_n260(A-G) | CA_n260G | 600 | 0 |
| CA_n260(A-G-H) | - | 900 | 0 |
| CA_n260(2A-G) | CA_n260G | 1000 | 0 |
| CA_n260(A-2G) | CA_n260G | 800 | 0 |
| CA_n260(A-3G) | - | 1 000 | 0 |
| CA_n260(A-4G) | - | 1 200 | 0 |
| CA_n260(2A-2G) | CA_n260G | 1 200 | 0 |
| CA_n260(2A-3G) | - | 1 400 | 0 |
| CA_n260(2A-2G-O) | - | 1 400 | 0 |
| CA_n260(2A-2G-2O) | - | 1 600 | 0 |
| CA_n260(3A-2G) | - | 1 600 | 0 |
| CA_n260(3A-2G-O) | - | 1 800 | 0 |
| CA_n260(4A-G) | - | 1 800 | 0 |
| CA_n260(4A-G-O) | - | 2 000 | 0 |
| CA_n260(4A-2G) | - | 2 000 | 0 |
| CA_n260(5A-G) | - | 2 200 | 0 |
| CA_n260(A-2G-2O) | - | 1 200 | 0 |
| CA_n260(A-2G-3O) | - | 1 400 | 0 |
| CA_n260(2A-G-H) | - | 1 300 | 0 |
| CA_n260(2A-G-2O) | - | 1 400 | 0 |
| CA_n260(2A-G-3O) | - | 1 600 | 0 |
| CA_n260(3A-G) | CA_n260G | 1 400 | 0 |
| CA_n260(3A-G-O) | - | 1 600 | 0 |
| CA_n260(3A-G-2O) | - | 1 800 | 0 |
| CA_n260(A-2H) | - | 1 000 | 0 |
| CA_n260(2A-H) | - | 1 100 | 0 |
| CA_n260(3A-H) | - | 1 500 | 0 |
| CA_n260(2A-2H) | - | 1 400 | 0 |
| CA_n260(A-H) | CA_n260G<br>CA_n260H | 700 | 0 |

| | | | | |
|---|---|---|---|---|
| CA_n260(A-H-O) | - | 900 | 0 | |
| CA_n260(A-O) | - | 600 | 0 | |
| CA_n260(A-O-P) | - | 900 | 0 | |
| CA_n260(A-O-P-Q) | - | 1 300 | 0 | |
| CA_n260(A-O-2P) | - | 1 200 | 0 | |
| CA_n260(A-O-3P) | - | 1 500 | 0 | |
| CA_n260(2A-O-P) | - | 1 300 | 0 | |
| CA_n260(2A-O-P-Q) | - | 1 700 | 0 | |
| CA_n260(2A-O-2P) | - | 1 600 | 0 | |
| CA_n260(2A-O-3P) | - | 1 900 | 0 | |
| CA_n260(2A-2O-P) | - | 1 500 | 0 | |
| CA_n260(2A-2O-P-Q) | - | 1 900 | 0 | |
| CA_n260(A-O-Q) | - | 1 000 | 0 | |
| CA_n260(A-O-2Q) | - | 1 400 | 0 | |
| CA_n260(2A-O-Q) | - | 1 400 | 0 | |
| CA_n260(2A-O-2Q) | - | 1 800 | 0 | |
| CA_n260(2A-2O-Q) | - | 1 600 | 0 | |
| CA_n260(2A-O) | - | 1 000 | 0 | |
| CA_n260(A-2O) | - | 800 | 0 | |
| CA_n260(A-2O-P) | - | 1 100 | 0 | |
| CA_n260(A-2O-P-Q) | - | 1 500 | 0 | |
| CA_n260(A-2O-2P) | - | 1 400 | 0 | |
| CA_n260(A-2O-Q) | - | 1 200 | 0 | |
| CA_n260(A-2O-2Q) | - | 1 600 | 0 | |
| CA_n260(A-3O-P) | - | 1 300 | 0 | |
| CA_n260(A-3O-Q) | | 1 400 | 0 | |
| CA_n260(2A-2O) | - | 1 200 | 0 | |
| CA_n260(2A-2O-2P) | - | 1 800 | 0 | |
| CA_n260(2A-2O-2Q) | - | 2 000 | 0 | |
| CA_n260(2A-3O) | - | 1 400 | 0 | |
| CA_n260(2A-3O-P) | - | 1 700 | 0 | |
| CA_n260(2A-3O-Q) | - | 1 800 | 0 | |
| CA_n260(3A-2O) | - | 1 600 | 0 | |
| CA_n260(3A-2O-P) | - | 1 900 | 0 | |
| CA_n260(3A-2O-Q) | - | 2 000 | 0 | |
| CA_n260(4A-O) | - | 1 800 | 0 | |
| CA_n260(4A-O-P) | - | 2 100 | 0 | |
| CA_n260(4A-O-Q) | - | 2 200 | 0 | |
| CA_n260(5A-O-P) | - | 2 500 | 0 | |
| CA_n260(6A-O-P) | - | 2 900 | 0 | |
| CA_n260(4A-3O) | - | 2 200 | 0 | |
| CA_n260(5A-O) | - | 2 200 | 0 | |
| CA_n260(6A-O) | - | 2 600 | 0 | |
| CA_n260(7A-O) | - | 2 950 | 0 | |
| CA_n260(8A-O) | - | 2 950 | 0 | |
| CA_n260(4A-2O) | - | 2 000 | 0 | |
| CA_n260(4A-2Q) | - | 2 400 | 0 | |
| CA_n260(3A-3O) | - | 1 800 | 0 | |
| CA_n260(A-G-O) | - | 800 | 0 | |
| CA_n260(A-G-2O) | - | 1 000 | 0 | |
| CA_n260(A-G-3O) | - | 1 200 | 0 | |
| CA_n260(A-G-4O) | - | 1 400 | 0 | |
| CA_n260(2A-G-O) | - | 1 200 | 0 | |
| CA_n260(A-2G-O) | - | 1 000 | 0 | |
| CA_n260(A-3G-O) | - | 1 200 | 0 | |
| CA_n260(A-3O) | - | 1 000 | 0 | |
| CA_n260(3A-O) | - | 1 400 | 0 | |
| CA_n260(3A-O-P) | CA_n260O<br>CA_n260P | 1 700 | 0 | |
| CA_n260(3A-O-P-Q) | - | 2 100 | 0 | |
| CA_n260(3A-O-2P) | - | 2 000 | 0 | |
| CA_n260(3A-O-Q) | - | 1 800 | 0 | |
| CA_n260(3A-O-2Q) | - | 2 200 | 0 | |
| CA_n260(A-4O) | - | 1 200 | 0 | |
| CA_n260(2A-4O) | - | 1 600 | 0 | |

| | | | | |
|---|---|---|---|---|
| CA_n260(3A-4O) | - | 2 000 | 0 | |
| CA_n260(4A-4O) | - | 2 400 | 0 | |
| CA_n260(5A-4O) | - | 2 800 | 0 | |
| CA_n260(A-P) | - | 700 | 0 | |
| CA_n260(A-3P) | - | 1 300 | 0 | |
| CA_n260(A-4P) | - | 1 600 | 0 | |
| CA_n260(A-P-Q) | CA_n260P<br>CA_n260Q | 1 100 | 0 | |
| CA_n260(2A-P) | - | 1 100 | 0 | |
| CA_n260(2A-P-Q) | - | 1 500 | 0 | |
| CA_n260(3A-P) | - | 1 500 | 0 | |
| CA_n260(3A-P-Q) | - | 1 900 | 0 | |
| CA_n260(4A-P) | - | 1 900 | 0 | |
| CA_n260(4A-P-Q) | - | 2 300 | 0 | |
| CA_n260(5A-P) | - | 2 300 | 0 | |
| CA_n260(6A-P) | - | 2 700 | 0 | |
| CA_n260(7A-P) | - | 3 000? | 0 | |
| CA_n260(A-2P) | - | 1 000 | 0 | |
| CA_n260(2A-2P) | - | 1 400 | 0 | |
| CA_n260(2A-3P) | - | 1 700 | 0 | |
| CA_n260(2A-4P) | - | 2 000 | 0 | |
| CA_n260(3A-2P) | - | 1 800 | 0 | |
| CA_n260(3A-3P) | - | 2 100 | 0 | |
| CA_n260(4A-2P) | - | 2 200 | 0 | |
| CA_n260(5A-2P) | - | 2 600 | 0 | |
| CA_n260(5A-2O) | - | 2 400 | 0 | |
| CA_n260(6A-2O) | - | 2 800 | 0 | |
| CA_n260(5A-3O) | - | 2 600 | 0 | |
| CA_n260(6A-3O) | - | 2 950 | 0 | |
| CA_n260(7A-2O) | - | 2950 | 0 | |
| CA_n260(7A-3O) | - | 2950 | 0 | |
| CA_n260(6A-2P) | - | 2950 | 0 | |
| CA_n260(8A-2O) | - | 2550 | 0 | |
| CA_n260(9A-O) | - | 3000? | 0 | |
| CA_n260(A-Q) | - | 800 | 0 | |
| CA_n260(A-2Q) | - | 1 200 | 0 | |
| CA_n260(2A-Q) | - | 1 200 | 0 | |
| CA_n260(2A-2Q) | - | 1 600 | 0 | |
| CA_n260(3A-Q) | - | 1 600 | 0 | |
| CA_n260(3A-2Q) | - | 2 000 | 0 | |
| CA_n260(4A-Q) | - | 2 000 | 0 | |
| CA_n260(5A-Q) | - | 2 400 | 0 | |
| CA_n260(D-2G) | - | 800 | 0 | |
| CA_n260(2D-O) | - | 1 000 | 0 | |
| CA_n260(D-2O) | - | 800 | 0 | |
| CA_n260(A-I) | CA_n260I | 800 | 0 | |
| CA_n260(D-G) | CA_n260D<br>CA_n260G | 600 | 0 | |
| CA_n260(D-H) | CA_n260D<br>CA_n260H | 700 | 0 | |
| CA_n260(D-I) | CA_n260D<br>CA_n260I | 800 | 0 | |
| CA_n260(D-O) | CA_n260D<br>CA_n260O | 600 | 0 | |
| CA_n260(D-P) | CA_n260D<br>CA_n260P | 700 | 0 | |
| CA_n260(D-Q) | CA_n260D<br>CA_n260Q | 800 | 0 | |
| CA_n260(E-O) | CA_n260E<br>CA_n260O | 800 | 0 | |
| CA_n260(E-P) | | 800 | 0 | |

| | | | | |
|---|---|---|---|---|
| | CA_n260E<br>CA_n260P | | | |
| CA_n260(E-Q) | CA_n260E<br>CA_n260Q | 1 000 | 0 | |
| CA_n260(G-H) | CA_n260G<br>CA_n260H | 500 | 0 | |
| CA_n260(G-H-O) | - | 700 | 0 | |
| CA_n260(G-I) | CA_n260G<br>CA_n260I | 600 | 0 | |
| CA_n260(G-O) | - | 400 | 0 | |
| CA_n260(G-2O) | - | 600 | 0 | |
| CA_n260(2G-O) | - | 600 | 0 | |
| CA_n260(2G-2O) | - | 800 | 0 | |
| CA_n260(G-3O) | - | 800 | 0 | |
| CA_n260(3G-O) | - | 800 | 0 | |
| CA_n260(2G-3O) | - | 1 000 | 0 | |
| CA_n260(G-4O) | - | 1 000 | 0 | |
| CA_n260(2G-4O) | - | 1 200 | 0 | |
| CA_n260(4G-O) | - | 1 000 | 0 | |
| CA_n260(H-O) | - | 500 | 0 | |
| CA_n260(2H-O) | - | 800 | 0 | |
| CA_n260(O-2P) | - | 800 | 0 | |
| CA_n260(O-3P) | - | 1 100 | 0 | |
| CA_n260(O-2Q) | - | 1 000 | 0 | |
| CA_n260(O-P) | - | 500 | 0 | |
| CA_n260(O-P-Q) | - | 900 | 0 | |
| CA_n260(2O-P) | - | 700 | 0 | |
| CA_n260(2O-P-Q) | - | 1 100 | 0 | |
| CA_n260(2O-2P) | - | 1 000 | 0 | |
| CA_n260(3O-P) | | 900 | 0 | |
| CA_n260(3O-Q) | | 1 000 | 0 | |
| CA_n260(O-Q) | - | 600 | 0 | |
| CA_n260(2O-Q) | - | 800 | 0 | |
| CA_n260(2O-2Q) | - | 1 200 | 0 | |
| CA_n260(P-Q) | - | 700 | 0 | |
| CA_n261(A-D) | - | 800 | 0 | |
| CA_n261(A-E) | - | 800 | 0 | |
| CA_n261(2A-D) | - | 800 | 0 | |
| CA_n261(2A-D-O) | - | 800 | 0 | |
| CA_n261(A-2D) | - | 800 | 0 | |
| CA_n261(A-D-G) | - | 800 | 0 | |
| CA_n261(A-D-H) | - | 800 | 0 | |
| CA_n261(A-D-O) | - | 800 | 0 | |
| CA_n261(A-D-2O) | - | 800 | 0 | |
| CA_n261(A-G) | CA_n261G | 600 | 0 | |
| CA_n261(A-G-H) | CA_n261G<br>CA_n261H | 800 | 0 | |
| CA_n261(A-G-I) | CA_n261G<br>CA_n261H<br>CA_n261I | 800 | 0 | |
| CA_n261(A-G-O) | - | 800 | 0 | |
| CA_n261(2A-G-O) | - | 800 | 0 | |
| CA_n261(A-G-2O) | - | 800 | 0 | |
| CA_n261(2A-G-2O) | - | 800 | 0 | |
| CA_n261(A-2G-O) | - | 800 | 0 | |
| CA_n261(A-2G-2O) | - | 800 | 0 | |
| CA_n261(A-3G) | - | 800 | 0 | |
| CA_n261(A-3G-O) | - | 800 | 0 | |
| CA_n261(A-2G) | CA_n261G | 800 | 0 | |
| CA_n261(A-4G) | - | 800 | 0 | |
| CA_n261(A-H) | CA_n261G<br>CA_n261H | 700 | 0 | |
| CA_n261(A-2H) | - | 800 | 0 | |
| CA_n261(A-H-I) | - | 800 | 0 | |

| | | | | |
|---|---|---|---|---|
| CA_n261(A-I) | CA_n261G<br>CA_n261H<br>CA_n261I | 800 | 0 | |
| CA_n261(A-2I) | - | 800 | 0 | |
| CA_n261(A-J) | CA_n261G<br>CA_n261H<br>CA_n261I | 700 | 0 | |
| CA_n261(A-K) | CA_n261G<br>CA_n261H<br>CA_n261I | 800 | 0 | |
| CA_n261(A-L) | CA_n261A<br>CA_n261G<br>CA_n261H<br>CA_n261I | 800 | 0 | |
| CA_n261(A-O) | - | 600 | 0 | |
| CA_n261(A-O-P) | - | 800 | 0 | |
| CA_n261(A-O-Q) | - | 800 | 0 | |
| CA_n261(2A-O) | - | 800 | 0 | |
| CA_n261(A-2O) | - | 800 | 0 | |
| CA_n261(A-3O) | - | 800 | 0 | |
| CA_n261(A-4O) | - | 800 | 0 | |
| CA_n261(A-5O) | - | 800 | 0 | |
| CA_n261(A-6O) | - | 800 | 0 | |
| CA_n261(A-7O) | - | 800 | 0 | |
| CA_n261(A-P) | - | 700 | 0 | |
| CA_n261(A-P-Q) | - | 800 | 0 | |
| CA_n261(2A-P) | - | 800 | 0 | |
| CA_n261(A-2P) | - | 800 | 0 | |
| CA_n261(A-Q) | - | 800 | 0 | |
| CA_n261(2A-Q) | - | 800 | 0 | |
| CA_n261(A-2Q) | - | 800 | 0 | |
| CA_n261(2A-G) | CA_n261G | 800 | 0 | |
| CA_n261(2A-2G) | - | 800 | 0 | |
| CA_n261(2A-2G-O) | - | 800 | 0 | |
| CA_n261(2A-3G) | - | 800 | 0 | |
| CA_n261(2A-2O) | - | 800 | 0 | |
| CA_n261(2A-3O) | - | 800 | 0 | |
| CA_n261(2A-4O) | - | 800 | 0 | |
| CA_n261(2A-5O) | - | 800 | 0 | |
| CA_n261(2A-6O) | - | 800 | 0 | |
| CA_n261(2A-H) | CA_n261G<br>CA_n261H | 800 | 0 | |
| CA_n261(2A-I) | CA_n261G<br>CA_n261H<br>CA_n261I | 800 | 0 | |
| CA_n261(3A-G) | CA_n261G | 800 | 0 | |
| CA_n261(3A-G-O) | - | 800 | 0 | |
| CA_n261(3A-2G) | - | 800 | 0 | |
| CA_n261(3A-D) | - | 800 | 0 | |
| CA_n261(3A-O) | - | 800 | 0 | |
| CA_n261(3A-2O) | - | 800 | 0 | |
| CA_n261(3A-3O) | - | 800 | 0 | |
| CA_n261(3A-4O) | - | 800 | 0 | |
| CA_n261(3A-5O) | - | 800 | 0 | |
| CA_n261(4A-G) | - | 800 | 0 | |
| CA_n261(4A-O) | - | 800 | 0 | |
| CA_n261(4A-2O) | - | 800 | 0 | |
| CA_n261(4A-3O) | - | 800 | 0 | |
| CA_n261(4A-4O) | - | 800 | 0 | |
| CA_n261(5A-O) | - | 800 | 0 | |
| CA_n261(5A-2O) | - | 800 | 0 | |
| CA_n261(5A-3O) | - | 800 | 0 | |
| CA_n261(6A-O) | - | 800 | 0 | |
| CA_n261(6A-2O) | - | 800 | 0 | |
| CA_n261(7A-O) | - | 800 | 0 | |

| | | | |
|---|---|---|---|
| CA_n261(D-G) | CA_n261D<br>CA_n261G | 600 | 0 |
| CA_n261(D-H) | CA_n261D<br>CA_n261H | 700 | 0 |
| CA_n261(D-I) | CA_n261D<br>CA_n261I | 800 | 0 |
| CA_n261(D-O) | CA_n261D<br>CA_n261O | 600 | 0 |
| CA_n261(D-2O) | - | 800 | 0 |
| CA_n261(D-P) | CA_n261D<br>CA_n261P | 700 | 0 |
| CA_n261(D-Q) | CA_n261D<br>CA_n261Q | 800 | 0 |
| CA_n261(E-O) | CA_n261E<br>CA_n261O | 800 | 0 |
| CA_n261(E-P) | CA_n261E<br>CA_n261P | 800 | 0 |
| CA_n261(E-Q) | CA_n261E<br>CA_n261Q | 800 | 0 |
| CA_n261(G-I) | CA_n261G<br>CA_n261H<br>CA_n261I | 600 | 0 |
| CA_n261(G-H) | CA_n261G<br>CA_n261H | 500 | 0 |
| CA_n261(G-J) | CA_n261A<br>CA_n261G<br>CA_n261H<br>CA_n261I | 700 | 0 |
| CA_n261(2G-2O) | - | 800 | 0 |
| CA_n261(G-O) | - | 400 | 0 |
| CA_n261(G-2O) | - | 600 | 0 |
| CA_n261(2G-O) | - | 600 | 0 |
| CA_n261(3G-O) | - | 800 | 0 |
| CA_n261(H-I) | CA_n261G<br>CA_n261H<br>CA_n261I | 700 | 0 |
| CA_n261(O-P) | - | 500 | 0 |
| CA_n261(O-Q) | - | 600 | 0 |
| CA_n261(P-Q) | - | 700 | 0 |

NOTE 1: Void.
NOTE 2: Void.
NOTE 3: Channel bandwidth per operating band defined in Table 5.3.5-1.
NOTE 4: Configurations for intra-band contiguous CA defined in Table 5.5A.1-1.
NOTE 5: Configurations for intra-band non-contiguous CA defined in Table 5.5A.2-1.
NOTE 6: Void.
NOTE 7: Unless otherwise stated, BCS0 is referred in each constituent CA configuration.
NOTE 8: $\Sigma(BW_{Channel,block})$ denotes the maximum total bandwidth from the summation of the sub-block bandwidths and shall be less than the bandwidth of the operating band.

## 5.5A.3 Configurations for inter-band CA

**Table 5.5A.3-1: NR CA configurations for inter-band CA**

| NR CA configuration | Uplink CA configuration | NR Band | Channel bandwidth (MHz) (NOTE 1) | Bandwidth combination set |
|---|---|---|---|---|
| CA_n257A-n259A | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |

| | | | | |
|---|---|---|---|---|
| | | n259 | 50, 100, 200, 400 | |
| CA_n257A-n259G | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |
| | | n259 | CA_n259G | |
| CA_n257A-n259H | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |
| | | n259 | CA_n259H | |
| CA_n257A-n259I | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |
| | | n259 | CA_n259I | |
| CA_n257A-n259J | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |
| | | n259 | CA_n259J | |
| CA_n257A-n259K | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |
| | | n259 | CA_n259K | |
| CA_n257A-n259L | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |
| | | n259 | CA_n259L | |
| CA_n257A-n259M | CA_n257A-n259A[3] | n257 | 50, 100, 200, 400 | 0 |
| | | n259 | CA_n259M | |
| CA_n257G-n259A | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | 50, 100, 200, 400 | |
| CA_n257G-n259G | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | CA_n259G | |
| CA_n257G-n259H | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | CA_n259H | |
| CA_n257G-n259I | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | CA_n259I | |
| CA_n257G-n259J | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | CA_n259J | |
| CA_n257G-n259K | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | CA_n259K | |
| CA_n257G-n259L | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | CA_n259L | |
| CA_n257G-n259M | CA_n257A-n259A[3] | n257 | CA_n257G | 0 |
| | | n259 | CA_n259M | |
| CA_n257H-n259A | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | 50, 100, 200, 400 | |
| CA_n257H-n259G | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | CA_n259G | |
| CA_n257H-n259H | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | CA_n259H | |
| CA_n257H-n259I | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | CA_n259I | |
| CA_n257H-n259J | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | CA_n259J | |
| CA_n257H-n259K | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | CA_n259K | |
| CA_n257H-n259L | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | CA_n259L | |
| CA_n257H-n259M | CA_n257A-n259A[3] | n257 | CA_n257H | 0 |
| | | n259 | CA_n259M | |
| CA_n257I-n259A | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | 50, 100, 200, 400 | |
| CA_n257I-n259G | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | CA_n259G | |
| CA_n257I-n259H | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | CA_n259H | |
| CA_n257I-n259I | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | CA_n259I | |
| CA_n257I-n259J | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | CA_n259J | |
| CA_n257I-n259K | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | CA_n259K | |
| CA_n257I-n259L | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | CA_n259L | |
| CA_n257I-n259M | CA_n257A-n259A[3] | n257 | CA_n257I | 0 |
| | | n259 | CA_n259M | |
| CA_n258A-n260A | - | n258 | 50, 100, 200, 400 | 0 |
| | | n260 | 50, 100, 200, 400 | |

| | | | | |
|---|---|---|---|---|
| CA_n258A-n261A | - | n258 | 50, 100, 200, 400 | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260A-n261A | CA_n260A-n261A[3] | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260A-n261G | **CA_n260A-n261A[3]**<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | CA_n261G | |
| CA_n260A-n261H | | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | CA_n261H | |
| CA_n260A-n261I | | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | CA_n261I | |
| CA_n260A-n261J | | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | CA_n261J | |
| CA_n260A-n261K | | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | CA_n261K | |
| CA_n260A-n261L | | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | CA_n261L | |
| CA_n260A-n261M | | n260 | 50, 100, 200, 400 | 0 |
| | | n261 | CA_n261M | |
| CA_n260G-n261A | **CA_n260A-n261A[3]**<br>CA_n260G<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | CA_n260G | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260G-n261G | | n260 | CA_n260G | 0 |
| | | n261 | CA_n261G | |
| CA_n260G-n261H | | n260 | CA_n260G | 0 |
| | | n261 | CA_n261H | |
| CA_n260G-n261I | | n260 | CA_n260G | 0 |
| | | n261 | CA_n261I | |
| CA_n260G-n261J | | n260 | CA_n260G | 0 |
| | | n261 | CA_n261J | |
| CA_n260G-n261K | | n260 | CA_n260G | 0 |
| | | n261 | CA_n261K | |
| CA_n260G-n261L | | n260 | CA_n260G | 0 |
| | | n261 | CA_n261L | |
| CA_n260G-n261M | | n260 | CA_n260G | 0 |
| | | n261 | CA_n261M | |
| CA_n260H-n261A | **CA_n260A-n261A[3]**<br>CA_n260G<br>CA_n260H<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | CA_n260H | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260H-n261G | | n260 | CA_n260H | 0 |
| | | n261 | CA_n261G | |
| CA_n260H-n261H | | n260 | CA_n260H | 0 |
| | | n261 | CA_n261H | |
| CA_n260H-n261I | | n260 | CA_n260H | 0 |
| | | n261 | CA_n261I | |
| CA_n260H-n261J | | n260 | CA_n260H | 0 |
| | | n261 | CA_n261J | |
| CA_n260H-n261K | | n260 | CA_n260H | 0 |
| | | n261 | CA_n261K | |
| CA_n260H-n261L | | n260 | CA_n260H | 0 |
| | | n261 | CA_n261L | |
| CA_n260H-n261M | | n260 | CA_n260H | 0 |
| | | n261 | CA_n261M | |
| CA_n260I-n261A | **CA_n260A-n261A[3]**<br>CA_n260G<br>CA_n260H<br>CA_n260I<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | CA_n260I | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260I-n261G | | n260 | CA_n260I | 0 |
| | | n261 | CA_n261G | |
| CA_n260I-n261H | | n260 | CA_n260I | 0 |
| | | n261 | CA_n261H | |
| CA_n260I-n261I | | n260 | CA_n260I | 0 |
| | | n261 | CA_n261I | |
| CA_n260I-n261J | | n260 | CA_n260I | 0 |
| | | n261 | CA_n261J | |
| CA_n260I-n261K | | n260 | CA_n260I | 0 |
| | | n261 | CA_n261K | |
| CA_n260I-n261L | | n260 | CA_n260I | 0 |
| | | n261 | CA_n261L | |
| CA_n260I-n261M | | n260 | CA_n260I | 0 |

| | | | | |
|---|---|---|---|---|
| | | n261 | CA_n261M | |
| CA_n260J-n261A | **CA_n260A-n261A[3]**<br>CA_n260G<br>CA_n260H<br>CA_n260I<br>CA_n260J<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | CA_n260J | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260J-n261G | | n260 | CA_n260J | 0 |
| | | n261 | CA_n261G | |
| CA_n260J-n261H | | n260 | CA_n260J | 0 |
| | | n261 | CA_n261H | |
| CA_n260J-n261I | | n260 | CA_n260J | 0 |
| | | n261 | CA_n261I | |
| CA_n260J-n261J | | n260 | CA_n260J | 0 |
| | | n261 | CA_n261J | |
| CA_n260J-n261K | | n260 | CA_n260J | 0 |
| | | n261 | CA_n261K | |
| CA_n260J-n261L | | n260 | CA_n260J | 0 |
| | | n261 | CA_n261L | |
| CA_n260J-n261M | | n260 | CA_n260J | 0 |
| | | n261 | CA_n261M | |
| CA_n260K-n261A | **CA_n260A-n261A[3]**<br>CA_n260G<br>CA_n260H<br>CA_n260I<br>CA_n260J<br>CA_n260K<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | CA_n260K | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260K-n261G | | n260 | CA_n260K | 0 |
| | | n261 | CA_n261G | |
| CA_n260K-n261H | | n260 | CA_n260K | 0 |
| | | n261 | CA_n261H | |
| CA_n260K-n261I | | n260 | CA_n260K | 0 |
| | | n261 | CA_n261I | |
| CA_n260K-n261J | | n260 | CA_n260K | 0 |
| | | n261 | CA_n261J | |
| CA_n260K-n261K | | n260 | CA_n260K | 0 |
| | | n261 | CA_n261K | |
| CA_n260K-n261L | | n260 | CA_n260K | 0 |
| | | n261 | CA_n261L | |
| CA_n260K-n261M | | n260 | CA_n260K | 0 |
| | | n261 | CA_n261M | |
| CA_n260L-n261A | **CA_n260A-n261A[3]**<br>CA_n260G<br>CA_n260H<br>CA_n260I<br>CA_n260J<br>CA_n260K<br>CA_n260L<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | CA_n260L | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260L-n261G | | n260 | CA_n260L | 0 |
| | | n261 | CA_n261G | |
| CA_n260L-n261H | | n260 | CA_n260L | 0 |
| | | n261 | CA_n261H | |
| CA_n260L-n261I | | n260 | CA_n260L | 0 |
| | | n261 | CA_n261I | |
| CA_n260L-n261J | | n260 | CA_n260L | 0 |
| | | n261 | CA_n261J | |
| CA_n260L-n261K | | n260 | CA_n260L | 0 |
| | | n261 | CA_n261K | |
| CA_n260L-n261L | | n260 | CA_n260L | 0 |
| | | n261 | CA_n261L | |
| CA_n260L-n261M | | n260 | CA_n260L | 0 |
| | | n261 | CA_n261M | |
| CA_n260M-n261A | **CA_n260A-n261A[3]**<br>CA_n260G<br>CA_n260H<br>CA_n260I<br>CA_n260J<br>CA_n260K<br>CA_n260L<br>CA_n260M<br>CA_n261G<br>CA_n261H<br>CA_n261I<br>CA_n261J<br>CA_n261K<br>CA_n261L<br>CA_n261M | n260 | CA_n260M | 0 |
| | | n261 | 50, 100, 200, 400 | |
| CA_n260M-n261G | | n260 | CA_n260M | 0 |
| | | n261 | CA_n261G | |
| CA_n260M-n261H | | n260 | CA_n260M | 0 |
| | | n261 | CA_n261H | |
| CA_n260M-n261I | | n260 | CA_n260M | 0 |
| | | n261 | CA_n261I | |
| CA_n260M-n261J | | n260 | CA_n260M | 0 |
| | | n261 | CA_n261J | |
| CA_n260M-n261K | | n260 | CA_n260M | 0 |
| | | n261 | CA_n261K | |
| CA_n260M-n261L | | n260 | CA_n260M | 0 |
| | | n261 | CA_n261L | |
| CA_n260M-n261M | | n260 | CA_n260M | 0 |
| | | n261 | CA_n261M | |

| |
|---|
| NOTE 1: The SCS of each channel bandwidth for NR band refers to Table 5.3.5-1.<br>NOTE 2: Unless otherwise stated, BCS0 is referred in each constituent CA configuration<br>NOTE 3: UL CA combination applicable to power classes 1, 2 and 5 only |

وتُحدَّد تشكيلات معدات المستعمل (UE) الخاصة بالإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 5D.5 من المواصفة التقنية [3] TS 38.101-2.

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| 5.5D Configurations for UL MIMO<br>The requirements specified in clause 5.5 are applicable to UE supporting UL MIMO. |

### 5.1.3 التعاريف والرموز والمختصرات

#### 1.5.1.3 التعاريف

**عرض نطاق القناة الكلي (Aggregated channel bandwidth)**: عرض النطاق الراديوي حيث يجري تشكيل معدات المستعمل (UE) لإرسال واستقبال موجات حاملة متعددة مجمعة متجاورة.

**تجميع الموجات الحاملة (Carrier aggregation)**: تجميع موجتين أو أكثر من الموجات الحاملة المكونة لدعم عروض نطاق أوسع للإرسال.

**عرض نطاق القناة (Channel bandwidth)**: عرض النطاق الراديوي الذي يدعم موجة حاملة ذات تردد وحيد E-UTRA وعرض نطاق إرسال مشكل في الوصلة الصاعدة أو الوصلة الهابطة لخلية ما. ويقاس عرض نطاق القناة بوحدات MHz ويستخدم كمرجع لمتطلبات الترددات الراديوية للمرسل والمستقبل.

**القدرة المشعة المكافئة المتناحية (EIRP) (وصلة الاتصال = زاوية الوصلة، زاوية القياس = زاوية الوصلة)**: قياس معدات المستعمل (UE) بحيث تكون زاوية الوصلة متراصفة مع زاوية القياس. ويمكن الاستعاضة عن القدرة المشعة المكافئة المتناحية (EIRP) (المؤشر الواجب قياسه) بالحساسية المكافئة المتناحية أو تردد الموجة الحاملة، أو مقدار متجه الخطأ (EVM)، أو تسرب الموجة الحاملة، أو البث داخل النطاق، أو عرض النطاق المشغول.

**القدرة المشعة المكافئة المتناحية (EIRP) (الوصلة = اتجاه ذروة حزمة الإرسال، زاوية القياس = زاوية الوصلة)**: قياس مستوى القدرة المشعة المكافئة المتناحية (EIRP) لمعدات المستعمل (UE) بحيث تكون زاوية القياس متراصفة مع اتجاه ذروة الحزمة، ضمن حدود الخطأ المقبولة لعدم اليقين في القياس. ويمكن الاستعاضة عن القدرة المشعة المكافئة المتناحية (EIRP) (المؤشر الواجب قياسه) بتردد الموجة الحاملة، أو مقدار متجه الخطأ (EVM)، أو تسرب الموجة الحاملة، أو البث داخل النطاق، أو عرض النطاق المشغول.

**القدرة المشعة المكافئة المتناحية (EIRP) (الوصلة = شبكة التغطية الكروية، زاوية القياس = زاوية الوصلة)**: قياس التوزيع الكروي للقدرة المشعة المكافئة المتناحية (EIRP) المتعلقة بمعدات المستعمل (UE) بحيث تكون وصلة القدرة المشعة المكافئة المتناحية وزوايا القياس متراصفة مع جميع الاتجاهات المحددة على شبكة التغطية الكروية، ضمن حدود الخطأ المقبولة لعدم اليقين في القياس. وبدلاً من ذلك، يمكن الاستعاضة عن شبكة التغطية الكروية، بشبكة للبحث عن اتجاه ذروة حزمة الإرسال، بحيث يمكن إعادة استخدام نتائج البحث للحصول على التغطية الكروية.

**الحساسية المكافئة المتناحية (EIS)**: حساسية جهاز ذي اتجاهية متناحية تكون مكافئة لحساسية الجهاز قيد المناقشة عند تعرضه لموجة واردة من زاوية ورود (AOA) محددة.

**الحساسية المكافئة المتناحية (EIS) (الوصلة = اتجاه ذروة حزمة الاستقبال، زاوية القياس = زاوية الوصلة):** قياس مستوى الحساسية المكافئة المتناحية (EIS) لمعدات المستعمل (UE) بحيث تكون زاوية القياس متراصفة مع اتجاه ذروة حزمة الاستقبال، ضمن حدود الخطأ المقبولة لعدم اليقين في القياس.

**ملاحظة 1:** تمثل الحساسية الحد الأدنى للقدرة المستقبلة الذي يُستوفى عنده أحد المتطلبات المحددة.

**ملاحظة 2:** تكون الاتجاهية المتناحية متساوية في جميع الاتجاهات (أي 0 dBi).

**المجموعة الاحتياطية (Fallback group):** هي مجموعة من أصناف عرض نطاق تجميع الموجات الحاملة التي تستلزم دعم معدات المستعمل للانتقال إلى توليفات احتياطية ذات ترتيب أدنى في تشكيل عرض نطاق تجميع الموجات الحاملة، وذلك لضمان استمرار التشغيل. ولا يُشترط أن تدعم معدات المستعمل الانتقال إلى توليفات احتياطية ذات ترتيب أدنى في تشكيل عرض نطاق تجميع الموجات الحاملة إذا كانت هذه التوليفات تنتمي إلى مجموعة احتياطية مختلفة.

**تجميع الموجات الحاملة المتجاورة داخل النطاق (Intra-band contiguous carrier aggregation):** تجميع الموجات الحاملة المتجاورة في نطاق التشغيل ذاته.

**تجميع الموجات الحاملة غير المتجاورة داخل النطاق (Intra-band non-contiguous carrier aggregation):** تجميع الموجات الحاملة غير المتجاورة في نطاق التشغيل ذاته.

**زاوية الوصلة (Link angle):** زاوية الورود لإشارة الوصلة الهابطة من منظور معدات المستعمل (UE)، على النحو المبين في الملحق J. وعند استخدام وظيفة قفل الحزمة لحزمة واحدة أو أكثر من حزم معدات المستعمل (UE)، قد تصبح زاوية الوصلة أي زاوية ورود عشوائية بمجرد تفعيل وظيفة قفل الحزمة.

**زاوية القياس (Measurement angle):** زاوية قياس المؤشر المطلوب من منظور معدات المستعمل (UE)، على النحو المبين في الملحق J.

**حدود السطح البيني المشع (Radiated Interface Boundary):** مرجع لمتطلبات الإشعاع الخاصة بنطاق التشغيل الذي تنطبق عليه متطلبات الإشعاع.

**النقطة المرجعية للمتطلبات المشعة (radiated requirements reference point):** في إعدادات قياس الترددات الراديوية، تقع النقطة المرجعية للمتطلبات المشعة عند مركز منطقة الصمت. ومن منظور معدات المستعمل (UE)، تكون النقطة المرجعية عند مدخل صفيف الهوائي في معدات المستعمل (UE).

**اتجاه ذروة حزمة الاستقبال (RX Beam Peak Direction):** الاتجاه الذي تُسجَّل عنده أعلى قيمة للمكوّن الكلي لقدرة الإشارة المرجعية المستقبَلة (RSRP)، ومن ثم تتحقق عنده أفضل قيمة للمكوّن الكلي للحساسية المكافئة المتناحية (EIS).

**المجموعة الفرعية (Sub-block):** مجموعة واحدة متجاورة وموزعة من الطيف تستخدمها معدات المستعمل (UE) نفسها في الإرسال والاستقبال. وقد يكون هناك حالات متعددة من المجموعات الفرعية في عرض نطاق التردد الراديوي.

**اتجاه ذروة حزمة الإرسال (TX beam peak direction):** الاتجاه الذي تُسجَّل عنده أعلى قيمة للمكوّن الكلي لقدرة الإشارة المرجعية المستقبَلة (RSRP)، ومن ثم تتحقق عنده أفضل قيمة للمكوّن الكلي للقدرة المشعة المكافئة المتناحية (EIRP).

**قياس القدرة المشعة الإجمالية (TRP) (الوصلة = اتجاه ذروة حزمة الإرسال، القياس = شبكة قياس القدرة المشعة الإجمالية):** يُقاس مستوى القدرة المشعة الإجمالية (TRP) لمعدات المستعمل (UE) بحيث تكون زوايا القياس متراصفة مع اتجاهات نقاط شبكة قياس القدرة المشعة الإجمالية، ضمن حدود عدم اليقين المقبولة في القياس، في حين تكون زاوية الوصلة متراصفة مع اتجاه ذروة حزمة الإرسال.

### 2.5.1.3 الرموز

$F_{DL_low}$ أدنى تردد في نطاق تشغيل الوصلة الهابطة

$F_{DL_high}$ أعلى تردد في نطاق تشغيل الوصلة الهابطة

$F_{UL_low}$ أدنى تردد في نطاق تشغيل الوصلة الصاعدة

$F_{UL_high}$ أعلى تردد في نطاق تشغيل الوصلة الصاعدة

### 3.5.1.3 الاختصارات

ACLR نسبة التسرب في القنوات المجاورة (*Adjacent Channel Leakage Ratio*)

CA تجميع الموجات الحاملة (*Carrier Aggregation*)

DC التوصيلية المزدوجة (*Dual Connectivity*)

FDD إرسال مزدوج بتقسيم التردد (*Frequency division duplex*)

FR مدى الترددات (*Frequency Range*)

NR الراديو الجديد (*New Radio*)

NS التشوير الشبكي (*Network Signalling*)

SUL الوصلة الصاعدة التكميلية (*Supplementary uplink*)

TDD إرسال مزدوج بتقسيم الزمن .(*Time division duplex*)

UE معدات المستعمل (*User Equipment*)

EIRP القدرة المشعة المكافئة المتناحية (*Effective Isotropic Radiated Power*)

EIS الحساسية المتناحية الفعالة (*Effective Isotropic Sensitivity*)

UL MIMO إرسال متعدد الهوائيات في الوصلة الصاعدة (*Uplink multiple antenna transmission*)

## 2.3 بث طيف التردد الراديوي

يمكن للشبكة أن تعطي إشارات عن متطلبات البث الإضافي. ويرتبط كل متطلب بث إضافي بوسم تشوير شبكي (NS) فريد. وترد قائمة بوسوم التشوير الشبكي وما يقابلها من نطاقات تردد NR في الجدول 1-1.3.3.2.6 والجدول 2-1.3.3.2.6 من المواصفة التقنية [6] TS 38.521-2.

**Table 6.2.3.3.1-1: Additional maximum power reduction (A-MPR)**

| Network Signalling label | Requirements (subclause) | NR Band | Channel bandwidth (MHz) | Resources Blocks ($N_{RB}$) | A-MPR (dB) |
|---|---|---|---|---|---|
| NS_200 | | | | | N/A |
| NS_201 (NOTE 1) | 6.5.3.3.3 | n258 | | | 6.2.3.3.2 |
| NS_202 | 6.5.3.3.3 | n257, n258 | 50, 100, 200, 400 | Table 5.3.2-1 | 6.2.3.3.3 |
| NS_203 | 6.5.3.3.3 | n258 | 50, 100, 200, 400 | Table 5.3.2-1 | 6.2.3.3.4 |
| NOTE 1: NS_201 is obsolete, the associated additional spurious emission requirements are not applicable. | | | | | |

**Table 6.2.3.3.1-2: Mapping of Network Signalling label**

| NR Band | Value of *additionalSpectrumEmission* (NOTE 1) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| n257 | NS_200 | NS_202 | | | | | | |
| n258 | NS_200 | NS_201[2] | NS_202 | NS_203 | | | | |
| n260 | NS_200 | | | | | | | |
| n261 | NS_200 | | | | | | | |
| NOTE 1: *additionalSpectrumEmission* corresponds to an information element of the same name defined in sub-clause 6.3.2 of TS 38.331 [19].<br>NOTE 2: NS_201 is obsolete, the associated additional spurious emission requirements are not applicable. | | | | | | | | |

### 1.2.3 البث خارج النطاق

### 1.1.2.3 قناع البث الطيفي

تُبين الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) في الجدول 1-5.1.2.5.6 من المواصفة التقنية [6] TS 38.521-2، بينما ترد قيم التفاوت المسموح به في الاختبارات في الجدول 1a-5.1.2.5.6.

**Table 6.5.2.1.5-1: General NR spectrum emission mask for Range 2**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **50 MHz** | **100 MHz** | **200 MHz** | **400 MHz** | **Measurement bandwidth** |
| ± 0-5 | -5 + TT | -5 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 5-10 | -13 + TT | -5 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 10-20 | -13 + TT | -13 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 20-40 | -13 + TT | -13 + TT | -13 + TT | -5 + TT | 1 MHz |
| ± 40-100 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 100-200 | | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 200-400 | | | -13 + TT | -13 +TT | 1 MHz |
| ± 400-800 | | | | -13 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.1.5-1a<br>NOTE 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.<br>NOTE 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | |

**Table 6.5.2.1.5-1a: Test Tolerance (Spectrum emission mask)**

| Test Metric | 23.45 GHz ≤ f ≤ 32.125 GHz | 32.125 GHz < f ≤ 40.8 GHz |
|---|---|---|
| IFF (Max device size ≤ 30 cm) | 3.21 dB | 3.46 dB |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 2.2.3 البث الهامشي للمرسِل

البث الهامشي هو بث ناجم عن آثار غير مرغوبة للمرسِل مثل البث التوافقي، والبث الطفيلي، ومنتجات التشكيل البيني ومنتجات تحويل التردد، ولكنه لا يشمل البث خارج النطاق ما لم يُنص على خلاف ذلك. وتُبيَّن الحدود العامة للبث الهامشي بما يتوافق مع التوصية ITU-R SM.329 [9]، ومع متطلبات نطاقات تشغيل تكنولوجيا الراديو الجديد (NR)، لمعالجة تعايش معدات المستعمل (UE).

ولتحسين دقة القياس وحساسيته وكفاءته، يمكن أن يكون عرض نطاق الاستبانة أقل من عرض نطاق القياس. وفي هذه الحالة، ينبغي أن تكون النتيجة متكاملة على مدى عرض نطاق القياس من أجل الحصول على ما يعادل عرض نطاق الضوضاء لعرض نطاق القياس.

#### 1.2.2.3 متطلبات البث الهامشي

تُبين الحدود العامة للبث الهامشي لتكنولوجيا الراديو الجديد (NR) في الجدول 5.1.3.5.6-1 من المواصفة التقنية [6] TS 38.521-2.

**Table 6.5.3.1.5-1: Spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 6 GHz ≤ f < 12.75 GHz | -30 dBm | 1 MHz | |
| 12.75 GHz ≤ f ≤ 2nd harmonic of the upper frequency edge of the UL operating band in GHz | -13 dBm | 1 MHz | |
| NOTE 1: Applies for Band n257, n258, n260, n261 | | | |

#### 2.2.2.3 البث الهامشي لتعايش معدات المستعمل (UE)

تُحدد متطلبات التعايش الخاصة بمعدات المستعمل (UE)، في الجدول 5.2.3.5.6-1 من المواصفة التقنية [6] TS 38.521-2.

**Table 6.5.3.2.5-1: Spurious emissions UE co-existence test requirements**

| NR Band | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band/frequency range | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| n257 | NR Band n260 | $F_{DL_low}$ | - | $F_{DL_high}$ | -2 + 5.0 | 100 | NOTE 3 |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| | Frequency range | 23600 | - | 24000 | 1 + 0.3 | 200 | NOTE 6 |
| n258 | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| n259 | NR Band 257 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | n259, NOTE 4 |
| | NR Band 261 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | NOTE 4 |
| | Frequency range | 36000 | - | 37000 | 7 + 6.0 | 1000 | NOTE 5 |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| n260 | NR Band 257 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | NOTE 4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NR Band 261 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | NOTE 4 |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| n261 | NR Band 260 | $F_{DL_low}$ | - | $F_{DL_high}$ | -2 + 5.0 | 100 | NOTE 3 |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each NR frequency band specified in Table 5.2-1.
NOTE 2: Void.
NOTE 3: 5.0 dB relaxation due to testability limit
NOTE 4: 3.3 dB relaxation due to testability limit
NOTE 5: 6.0 dB relaxation due to testability limit
NOTE 6: 0.3 dB relaxation due to testability limit

### 3.2.2.3 البث الهامشي الإضافي

تُحدَّد هذه المتطلبات استناداً إلى متطلبات بث الطيف الترددي الإضافي. تعطي الشبكة إشارات عن المتطلبات الإضافية للبث الهامشي للدلالة على أن معدات المستعمل (UE) ينبغي أن تفي أيضاً بمتطلب إضافي لأحد سيناريوهات النشر المحددة باعتبارها جزءاً من رسالة التمرير/البث بين الخلايا.

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_202" في الجدول 6.5.3.3.3-2 من المواصفة التقنية [6] TS 38.521-2.

**Table 6.5.3.3.3-2: Additional spurious emissions (NS_202) test limits**

| Frequency Range | Maximum Level | Measurement bandwidth |
|---|---|---|
| 7.25 GHz ≤ f ≤ 2nd harmonic of the upper frequency edge of the UL operating band | -10 dBm | 100 MHz |
| 23.6 GHz ≤ f ≤ 24.0 GHz | +1 dBm | 200 MHz |
| NOTE 1: This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth. The protection of frequency range 23600 - 24000 MHz is meant for protection of satellite passive services. | | |

وتُحدَّد المتطلبات الإضافية للبث الهامشي الخاصة بوسم التشوير الشبكي ذي القيمة "NS_203" في الجدول 6.5.3.3.3-3 من المواصفة التقنية [6] TS 38.521-2.

**Table 6.5.3.3.3-3: Additional spurious emissions (NS_203) test limits**

| Frequency band (GHz) | Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| 23.6 ≤ f ≤ 24.0 | +1 | 200 MHz |

## 2A.3 بث طيف الترددات الراديوية للخرج لتجميع الموجات الحاملة

### 1.2A.3 البث خارج النطاق

#### 1.1.2A.3 قناع البث الطيفي

تُحدَّد الحدود العامة لقناع بث الطيف الترددي لتكنولوجيا الراديو الجديد (NR) عند استخدام تجميع الموجات الحاملة المتجاورة داخل النطاق، في الفقرة 5.1.1.2.5A.6 من المواصفة التقنية [6] TS 38.521-2.

6.5A.2.1.1.5 Test Requirements

The measured TRP of any UE emission derived in step 7, shall fulfil requirements in Table.6.5A.2.1.1.5-1.

**Table 6.5A.2.1.1.5-1: General NR spectrum emission mask for intra-band contiguous CA in frequency range 2**

| $\Delta f_{OOB}$ (MHz) | Any carrier aggregation bandwidth class | Measurement bandwidth |
|---|---|---|
| $\pm$ 0-0.1*$BW_{Channel_CA}$ | -5 + TT | 1 MHz |
| $\pm$ 0.1*$BW_{Channel_CA}$ - 2*$BW_{Channel_CA}$ | -13 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5A.2.1.1.5-1a<br>NOTE 2: If carrier leakage or I/Q image lands inside the spectrum occupied by the configured UL and DL CCs, exception to the general spectrum emission mask limit applies. For carrier leakage the requirements specified in section 6.4A.2.2.0 shall apply. For I/Q image the requirements specified in section 6.4A.2.3.0 shall apply.<br>NOTE 3: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and -0.5 MHz, respectively.<br>NOTE 4: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth. | | |

**Table 6.5A.2.1.1.5-1a: Test Tolerance (Aggregated BW ≤ 400 MHz)**

| Test Metric | FR2a | FR2b |
|---|---|---|
| IFF (Max device size ≤ 30 cm) | 3.21 dB | 3.46 dB |

#### 2.1.2A.3 مُلغى

#### 3.1.2A.3 نسبة التسرب في القنوات المجاورة

تُحدَّد الحدود العامة لنسبة التسرب في القنوات المجاورة (ACLR) لتكنولوجيا الراديو الجديد (NR) عند استخدام تجميع الموجات الحاملة، في الفقرة 5.1.2.2.5A.6 من المواصفة التقنية [6] TS 38.521-2.

6.5A.2.2.1.5 Test Requirements

If the measured adjacent channel power, derived in step 8, is greater than -35 dBm then the measured $NR_{ACLR}$, derived in step 9, shall be higher than the limits in Table 6.5A.2.2.1.5-1.

**Table 6.5A.2.2.1.5-1: General requirements for CA $NR_{ACLR}$**

| | **CA bandwidth class / CA $NR_{ACLR}$ / Measurement bandwidth** |
|---|---|
| | **Any CA bandwidth class** |
| CA $NR_{ACLR}$ for band n257, n258, n261 | 17 - TT- R dB |
| CA $NR_{ACLR}$ for band n260 | 16 - TT dB |
| NR channel measurement bandwidth[1] | $BW_{Channel_CA} - 2*BW_{GB}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$<br>/<br>- $BW_{Channel_CA}$ |
| NOTE 1: $BW_{GB}$ is defined in clause 5.3A.2.<br>NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5A.2.2.1.5-1a<br>NOTE 3: R for each frequency, channel bandwidth and test point is specified in Table 6.5A.2.2.1.5-1b | |

**Table 6.5A.2.2.1.5-1a: Test Tolerance (Aggregated BW ≤ 400 MHz)**

| **Test Metric** | **Any CA bandwidth class** | **23.45 GHz ≤ f ≤ 30.3 GHz** | **30.3 GHz < f ≤ 40.8 GHz** |
|---|---|---|---|
| IFF (Max device size ≤ 30 cm) | $BW_{Channel_CA}$ ≤ 100 MHz | 4.96 dB | 4.96 dB |
| | 100 MHz < $BW_{Channel_CA}$ ≤ 200 MHz | 4.96 dB | 4.96 dB |
| | 200 MHz < $BW_{Channel_CA}$ ≤ 400 MHz | 4.96 dB | 4.96 dB |

**Table 6.5A.2.2.1.5-1b: Relaxation due to testability limit (Aggregated BW ≤ 400MHz)**

| | | **Channel bandwidth / $NR_{ACLR}$ / Measurement bandwidth** | | |
|---|---|---|---|---|
| | **Test ID** | **$BW_{Channel_CA}$ ≤ 100 MHz** | **100 MHz < $BW_{Channel_CA}$ ≤ 200 MHz** | **200 MHz < $BW_{Channel_CA}$ ≤ 400 MHz** |
| **$NR_{ACLR}$ for band n257, n258, n261** | 1 | 0 | 3 | 6 |
| | 2 | 0 | 3 | 6 |
| | 3 | 0 | 0 | 3 |
| | 4 | 0 | 3 | 6 |
| | 5 | 0 | 3 | 6 |
| | 6 | 0 | 0 | 3 |
| | 7 | 0 | 3 | 6 |
| | 8 | 0 | 3 | 6 |
| | 9 | 0 | 2.5 | 5.5 |
| | 10 | 2 | 5 | 8 |
| | 11 | 0 | 3 | 6 |

| | | | | |
|---|---|---|---|---|
| | 12 | 0 | 3 | 6 |
| | 13 | 0 | 0 | 3 |
| NOTE 1: Relaxation value is 0 for FR2b. | | | | |

### 2.2A.3 البث الهامشي للمُرسل فيما يخص تجميع الموجات الحاملة

تُبيَّن الحدود العامة للبث الهامشي عند استخدام تجميع الموجات الحاملة، في الفقرة 5.1.1.3.5A.6 من المواصفة التقنية [6] TS 38.521-2.

6.5A.3.1.1.5 Test Requirements

This clause specifies the requirements for the specified *NR* band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.5A.3.1.1.5-1.

The maximum TRP power of spurious emission, measured using RMS detector, shall not exceed the described value in Table 6.5A.3.1.1.5-1.

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 starting from the edge of the assigned *NR* channel bandwidth. The spurious emission limits in Table 6.5A.3.1.1.5-1 apply for all transmitter band configurations (NRB) and channel bandwidths.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.5A.3.1.1.5-1: Spurious emissions for CA test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 6 GHz ≤ f < 12.75 GHz | -30 dBm | 1 MHz | |
| 12.75 GHz ≤ f ≤ 2nd harmonic of the upper frequency edge of the UL operating band in GHz | -13 dBm | 1 MHz | |
| NOTE 1: Applies for Band n257, n258, n260 | | | |

كما تُبيَّن حدود البث الهامشي الخاصة بتعايش معدات المستعمل (UE) عند استخدام تجميع الموجات الحاملة، في الفقرة 5.1.2.3.5A.6 من المواصفة التقنية [6] TS 38.521-2.

6.5A.3.2.1.5 Test requirement

This clause specifies the requirements for the specified *NR* band for Transmitter Spurious emissions for UE co-existence requirement with frequency range as indicated in Table 6.5A.3.2.1.5-1.

The maximum TRP power of spurious emission for UE co-existence, measured using RMS detector, shall not exceed the described value in Table 6.5A.3.2.1.5-1.

The spurious emission UE co-existence limits in Table 6.5A.3.2.1.5-1 apply for all transmitter band configurations (NRB) and channel bandwidths.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.5A.3.2.1.5-1: Spurious emissions UE co-existence CA test requirements**

| UL CA for any CA bandwidth class | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band / frequency range | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| CA_n257 | NR Band n260 | $F_{DL_low}$ | - | $F_{DL_high}$ | -2 | 100 | |
| | Frequency range | 23600 | - | 24000 | 1 | 200 | 2 |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| CA_n258 | | | | | | | |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| CA_n259 | NR Band 257 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 | 100 | |
| | NR Band 261 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 | 100 | |
| | Frequency range | 36000 | - | 37000 | 7 | 1000 | |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| CA_n260 | NR Band 257 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 | 100 | |
| | NR Band 261 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 | 100 | |
| | | | | | | | |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |
| CA_n261 | NR Band 260 | $F_{DL_low}$ | - | $F_{DL_high}$ | -2 | 100 | |
| | | | | | | | |
| | Frequency range | 57000 | - | 66000 | 2 | 100 | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each NR frequency band specified in Table 5.2-1
NOTE 2: The protection of frequency range 23 600-24 00 MHz is meant for protection of satellite passive services.

## 2D.3 بث طيف الترددات الراديوية للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

### 1.2D.3 البث خارج النطاق للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

#### 1.1.2D.3 قناع البث الطيفي للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

تُحدَّد متطلبات قناع البث الطيفي للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 5.1.2.5D.6 من المواصفة التقنية TS 38.521-2 [6].

6.5D.2.1.5 Test requirements

The test requirement is the same as in clause 6.5.2.1.5.

6.5.2.1.5 Test requirement

The measured TRP of any UE emission derived in step 5, shall fulfil requirements in Table 6.5.2.1.5-1.

**Table 6.5.2.1.5-1: General NR spectrum emission mask for Range 2**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **50 MHz** | **100 MHz** | **200 MHz** | **400 MHz** | **Measurement bandwidth** |
| ± 0-5 | -5 + TT | -5 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 5-10 | -13 + TT | -5 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 10-20 | -13 + TT | -13 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 20-40 | -13 + TT | -13 + TT | -13 + TT | -5 + TT | 1 MHz |
| ± 40-100 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 100-200 | | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 200-400 | | | -13 + TT | -13 +TT | 1 MHz |
| ± 400-800 | | | | -13 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.1.5-1a<br>NOTE 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.<br>NOTE 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | |

**Table 6.5.2.1.5-1a: Test Tolerance (Spectrum emission mask)**

| Test Metric | 23.45 GHz ≤ f ≤ 32.125 GHz | 32.125 GHz < f ≤ 40.8 GHz |
|---|---|---|
| IFF (Max device size ≤ 30 cm) | 3.21 dB | 3.46 dB |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

### 3.1.2D.3 نسبة التسرب في القنوات المجاورة للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

تُحدَّد متطلبات نسبة التسرب في القنوات المجاورة (ACLR) بالنسبة إلى تكنولوجيا الراديو الجديد (NR) عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 3.3.5D.6 من المواصفة التقنية [6] TS 38.521-2.

6.5D.3.3 Additional spurious emissions for UL MIMO

6.5D.3.3.1 Test purpose

Additional spurious emission requirements are signalled by the network to indicate that the UE shall meet an additional requirement for a specific deployment scenario as part of the cell handover/broadcast message.

6.5D.3.3.2 Test applicability

This test case applies to all types of NR UE release 15 and forward supporting UL MIMO.

6.5D.3.3.3 Minimum conformance requirements

For UE configured with UL MIMO, the minimum conformance requirements are defined in clause 6.5.3.3.3. The requirements shall be met with the UL MIMO configurations specified in Table 6.5D.3.1.3-1.

The normative reference for this requirement is TS 38.101-2 [3] clause 6.5D.3.

6.5D.3.3.4 Test description

6.5D.3.3.4.1 Initial condition

Same initial condition in clause 6.5.3.3.4.1 with following exceptions:

- Instead of DFT-s -OFDM → use CP-OFDM.

6.5D.3.3.4.2 Test procedure

Same test procedure as in clause 6.5.3.3.4.2 with the following added to step 3 for UL MIMO configuration:

3.1 The PDCCH DCI format 0_1 is specified with the condition 2TX_UL_MIMO in 38.508-1 [10] subclause 4.3.6.1.1.2.

6.5D.3.3.4.3 Message contents

Message contents are according to TS 38.508-1 [10] subclause 4.6 ensuring Table 4.6.3-182 with condition 2TX_UL_MIMO.

6.5D.3.3.5 Test requirements

The test requirement is the same as in clause 6.5.3.3.5.

## 2.2D.3 البث الهامشي للإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)

### 1.2.2D.3 متطلبات البث الهامشي

تُبين الحدود العامة للبث الهامشي عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، في الفقرة 5.1.3.5D.6 من المواصفة التقنية [6] TS 38.521-2.

6.5D.3.1.5 Test requirements

The test requirement is the same as in clause 6.5.3.1.5.

6.5.3.1.5 Test requirement

This clause specifies the requirements for the specified *NR* band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.5.3.1.5-1.

The maximum TRP power of spurious emission, measured using RMS detector, shall not exceed the described value in Table 6.5.3.1.5-1.

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 starting from the edge of the assigned *NR* channel bandwidth. The spurious emission limits in Table 6.5.3.1.5-1 apply for all transmitter band configurations (NRB) and channel bandwidths.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.5.3.1.5-1: Spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 6 GHz ≤ f < 12.75 GHz | -30 dBm | 1 MHz | |
| 12.75 GHz ≤ f ≤ 2nd harmonic of the upper frequency edge of the UL operating band in GHz | -13 dBm | 1 MHz | |
| NOTE 1: Applies for Band n257, n258, n260, n261 | | | |

### 2.2.2D.3 البث الهامشي لتعايش معدات المستعمل (UE)

تُبين حدود البث الهامشي الخاصة بتعايش معدات المستعمل (UE) عند استخدام إرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO) في الفقرة 2.3.5D.6 من المواصفة التقنية [6] TS 38.521-2.

6.5D.3.2 Spurious emission band UE co-existence for UL MIMO

6.5D.3.2.1 Test purpose

To verify that UL MIMO configured UE's transmitter does not cause unacceptable interference when in co-existence with protected bands in terms of transmitter spurious emissions.

6.5D.3.2.2 Test applicability

This test case applies to all types of NR UE release 15 and forward supporting UL MIMO.

6.5D.3.2.3 Minimum conformance requirements

For UE configured with UL MIMO, the minimum conformance requirements are defined in clause 6.5.3.2.3. The requirements shall be met with the UL MIMO configurations specified in Table 6.5D.3.1.3-1.

The normative reference for this requirement is TS 38.101-2 [3] clause 6.5D.3.

6.5D.3.2.4 Test description

6.5D.3.2.4.1 Initial condition

Same initial condition in clause 6.5.3.2.4.1 with following exceptions:

- Instead of DFT-s -OFDM → use CP-OFDM.

6.5D.3.2.4.2 Test procedure

Same test procedure as in clause 6.5.3.2.4.2 with the following added to step 3 for UL MIMO configuration:

3.1 The PDCCH DCI format 0_1 is specified with the condition 2TX_UL_MIMO in 38.508-1 [10] subclause 4.3.6.1.1.2.

6.5D.3.2.4.3 Message contents

Message contents are according to TS 38.508-1 [10] subclause 4.6 ensuring Table 4.6.3-182 with condition 2TX_UL_MIMO.

6.5D.3.2.5 Test requirements

The test requirement is the same as in clause 6.5.3.2.5.

### 3.2.2D.3 البث الهامشي الإضافي

وتُبيَّن حدود البث الهامشي الخاصة بتعايش معدات المستعمل (UE) عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، في الفقرة 3.3.5D.6 من المواصفة التقنية [6] TS 38.521-2.

## 4 الخصائص العامة للبث غير المطلوب فيه في المدى NR1 والمدى NR2، والعمل البيني مع المديات الراديوية الأخرى.

### 1.4 نطاقات التشغيل وترتيبات القنوات

#### 1.1.4 نطاقات التشغيل

وتُحدَّد نطاقات تشغيل معدات المستعمل (UE) الخاصة بتجميع الموجات الحاملة لتكنولوجيا الراديو الجديد (NR) بين النطاقات، لترتيبات المدى الترددي 1 (FR1) والمدى الترددي 2 (FR2)، في الجدول 1-1.2A.5 من المواصفة التقنية [8] TS 38.521-3.

**Table 5.2A.1-1: Band combinations for inter-band NR CA between FR1 and FR2**

| NR CA Band | NR Band |
|---|---|
| CA_n8-n258[1] | n8, n258 |
| CA_n71-n257[1] | n71, n257 |
| CA_n77-n257[1] | n77, n257 |
| CA_n78-n257[1] | n78, n257 |
| CA_n79-n257[1] | n79, n257 |
| NOTE 1: Applicable for UE supporting inter-band carrier aggregation with mandatory simultaneous Rx/Tx capability. | |

كما تُحدَّد نطاقات تشغيل معدات المستعمل (UE) الخاصة بترتيبات التوصيلية المزدوجة في الفقرة الفرعية 5B.5 من المواصفة التقنية TS 38.521-3 V16.7.0.

## 5.5B Configuration for DC

### 5.5B.1 General

The operating bands and bandwidth classes are specified for operation with EN-DC, NGEN-DC, NE-DC or NR-DC configured. The EN-DC, NE-DC or NGEN-DC band combinations include at least one E-UTRA operating band.

For EN-DC or NE-DC configurations indicated by column "Single Uplink allowed" (e.g., problematic band combinations as defined in TS 38.306 [16]) in tables in this clause the UE may indicate capability of not supporting simultaneous dual and triple uplink operation due to possible intermodulation interference to its own primary downlink channel bandwidth of PCell or PSCell if the intermodulation order is 2 or if the intermodulation order is 3 for the combinations when both operating bands are between 450 MHz – 960 MHz or between 1 427 MHz – 2 690 MHz.

In the case for EN-DC or NE-DC configurations listed in tables in this clause for which the intermodulation products caused by the dual and triple uplink operation fall into the receive band but do not interfere with its own primary downlink channel bandwidth of PCell or PSCell as defined in Annex I the UE is mandated to operate in dual and triple uplink mode. Single Uplink is also allowed for certain band combinations where intermodulation or reverse intermodulation products could create difficulty for meeting emission requirements.

For EN-DC combinations of order 3 or higher, "Single Uplink allowed" UL configurations captured in Table 5.5B.2-1, Table 5.5B.3-1, and Table 5.5B.4-1 apply.

Non-contiguous resource allocation and almost contiguous allocation are not applicable for E-UTRA or NR carrier part of intra-band EN-DC configuration.

If multiple UL DC configurations are listed for multiple DL DC configurations, valid uplink configurations are such that uplink does not have more carriers than downlink.

Non-contiguous resource allocation and almost contiguous allocation are not applicable for E-UTRA or NR carrier part of intra-band EN-DC configuration.

### 5.5B.2 Intra-band contiguous EN-DC

Supported channel bandwidths for E-UTRA operating bands are defined in TS 36.521-1 [10] and for NR operating bands in TS 38.521-1 [8].

**Table 5.5B.2-1: Intra-band contiguous EN-DC configurations**

| EN-DC Configuration | Uplink EN-DC configuration (NOTE 1) | Single UL allowed |
|---|---|---|
| DC_(n)41AA[5]<br>DC_(n)41CA[5]<br>DC_(n)41DA[5] | DC_(n)41AA | Yes[3] |
| DC_(n)41CA[5]<br>DC_(n)41DA[5] | DC_41A_n41A | Yes[3] |
| DC_(n)71AA[2] | DC_(n)71AA | No[4] |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Requirements in this specification apply for NR SCS of 15 kHz only.<br>NOTE 3: Single UL allowed due to potential emission issues, not self-interference.<br>NOTE 4: For UE(s) supporting dynamic power sharing it is mandatory to do dual simultaneous UL. For UE(s) not supporting dynamic power sharing single UL is allowed.<br>NOTE 5: The minimum requirements only apply for non-simultaneous Tx/Rx between all carriers. | | |

## 5.5B.3 Intra-band non-contiguous EN-DC

Supported channel bandwidths for E-UTRA operating bands are defined in TS 36.521-1 [10] and for NR operating bands in TS 38.521-1 [8].

**Table 5.5B.3-1: Intra-band non-contiguous EN-DC configurations**

| EN-DC Configuration | Uplink EN-DC configuration (NOTE 1) | Single UL allowed |
|---|---|---|
| DC_3A_n3A | DC_3A_n3A[2] | Yes[2] |
| DC_41A_n41A[3]<br>DC_41C_n41A[3]<br>DC_41D_n41A[3] | DC_41A_n41A | Yes[4] |
| DC_66A_n66A | DC_66A_n66A[5] | Yes[5] |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Only single switched UL is supported in Rel-15<br>NOTE 3: The minimum requirements only apply for non-simultaneous Tx/Rx between all carriers.<br>NOTE 4: Single UL allowed due to potential emission issues, not self-interference.<br>NOTE 5: Only single switched UL is supported. | | |

## 5.5B.4 Inter-band EN-DC within FR1

Supported channel bandwidths for E-UTRA operating bands and CA configurations are defined in TS 36.521-1 [10] and for NR operating bands and CA configurations in TS 38.521-1 [8] and present document.

### 5.5B.4.1 Inter-band EN-DC configurations within FR1 (two bands)

**Table 5.5B.4.1-1: Inter-band EN-DC configurations within FR1 (two bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) | Single UL allowed |
|---|---|---|
| DC_1A_n3A | DC_1A_n3A | DC_1_n3 |
| DC_1A_n28A | DC_1A_n28A | No |
| DC_1A_n40A | DC_1A_n40A | No |
| DC_1A_n51A | DC_1A_n51A | No |
| DC_1A_n77A[7]<br>DC_1A_n77C[7] | DC_1A_n77A | DC_1_n77 |
| DC_1A_n78A[7]<br>DC_1A_n78C[7] | DC_1A_n78A | No |
| DC_1A_n79A[7]<br>DC_1A_n79C[7] | DC_1A_n79A | No |
| DC_2A_n5A | DC_2A_n5A | No |
| DC_2A_n41A<br>DC_2C_n41A | DC_2A_n41A<br>DC_2C_n41A | No |
| DC_2A_n66A | DC_2A_n66A | DC_2_n66 |
| DC_2A_n71A | DC_2A_n71A | No |
| DC_2A_n78A | DC_2A_n78A | DC_2_n78 |
| DC_3A_n1A | DC_3A_n1A | DC_3_n1 |
| DC_3A_n7A | DC_3A_n7A | No |
| DC_3A_n28A | DC_3A_n28A | No |
| DC_3A_n40A | DC_3A_n40A | No |
| DC_3A_n41A<br>DC_3C_n41A | DC_3A_n41A<br>DC_3C_n41A | DC_3_n41 |
| DC_3A_n51A | DC_3A_n51A | No |
| DC_3A_n77A[7]<br>DC_3A_n77C[7] | DC_3A_n77A | DC_3_n77 |
| DC_3A_n78A[7]<br>DC_3A_n78C[7]<br>DC_3C_n78A[7] | DC_3A_n78A | DC_3_n78 |
| DC_3A_n79A[7]<br>DC_3A_n79C[7] | DC_3A_n79A | No |
| DC_5A_n2A | DC_5A_n2A | No |

| | | | |
|---|---|---|---|
| DC_5A_n40A | DC_5A_n40A | No | |
| DC_5A_n66A | DC_5A_n66A | DC_5_n66 | |
| DC_5A_n78A[7] | DC_5A_n78A | No | |
| DC_7A_n1A | DC_7A_n1A | No | |
| DC_7A_n3A | DC_7A_n3A | No | |
| DC_7A_n28A | DC_7A_n28A | No | |
| DC_7A_n51A | DC_7A_n51A | No | |
| DC_7A_n66A<br>DC_7C_n66A | DC_7A_n66A | No | |
| DC_7A_n78A[7] | DC_7A_n78A | No | |
| DC_7C_n78A[7] | DC_7A_n78A | No | |
| DC_7A-7A_n78A[7] | DC_7A_n78A | No | |
| DC_8A_n1A | DC_8A_n1A | No | |
| DC_8A_n3A | DC_8A_n3A | No | |
| DC_8A_n40A[7] | DC_8A_n40A | No | |
| DC_8A_n41A<br>DC_8A_n41C<br>DC_8A_n41(2A) | DC_8A_n41A | No | |
| DC_8A_n77A[7] | DC_8A_n77A | No | |
| DC_8A_n78A[7] | DC_8A_n78A | No | |
| DC_8A_n79A[7] | DC_8A_n79A | No | |
| DC_11A_n77A[7] | DC_11A_n77A | No | |
| DC_11A_n78A[7] | DC_11A_n78A | No | |
| DC_11A_n79A[7] | DC_11A_n79A | No | |
| DC_12A_n5A | DC_12A_n5A | No | |
| DC_12A_n66A | DC_12A_n66A | No | |
| DC_12A_n78A | DC_12A_n78A | DC_12_n78 | |
| DC_13A_n2A | DC_13A_n2A | No | |
| DC_13A_n66A | DC_13A_n66A | No | |
| DC_14A_n2A | DC_14A_n2A | No | |
| DC_14A_n66A | DC_14A_n66A | No | |
| DC_18A_n77A[7] | DC_18A_n77A | No | |
| DC_18A_n78A[7] | DC_18A_n78A | No | |
| DC_18A_n79A[7] | DC_18A_n79A | No | |
| DC_19A_n77A[7]<br>DC_19A_n77C[7] | DC_19A_n77A | No | |
| DC_19A_n78A[7]<br>DC_19A_n78C[7] | DC_19A_n78A | No | |
| DC_19A_n79A[7]<br>DC_19A_n79C[7] | DC_19A_n79A | No | |
| DC_20A_n1A | DC_20A_n1A | No | |
| DC_20A_n3A | DC_20A_n3A | No | |
| DC_20A_n8A | DC_20A_n8A | DC_20_n8 | |
| DC_20A_n28A[8,10] | DC_20A_n28A | No | |
| DC_20A_n51A | DC_20A_n51A | No | |
| DC_20A_n77A[7] | DC_20A_n77A | No | |
| DC_20A_n78A[7] | DC_20A_n78A | No | |
| DC_21A_n77A[7]<br>DC_21A_n77C[7] | DC_21A_n77A | No | |
| DC_21A_n78A[7]<br>DC_21A_n78C[7] | DC_21A_n78A | No | |
| DC_21A_n79A[7]<br>DC_21A_n79C[7] | DC_21A_n79A | No | |
| DC_25A_n41A | DC_25A_n41A | No | |
| DC_26A_n41A | DC_26A_n41A | No | |
| DC_26A_n77A[7] | DC_26A_n77A | No | |
| DC_26A_n78A[7] | DC_26A_n78A | No | |
| DC_26A_n79A[7] | DC_26A_n79A | No | |
| DC_28A_n3A | DC_28A_n3A | No | |
| DC_28A n51A | DC_28A_n51A | No | |

| | | |
|---|---|---|
| DC_28A_n77A[7]<br>DC_28A_n77C[7] | DC_28A_n77A | No |
| DC_28A_n78A[7]<br>DC_28A_n78C[7] | DC_28A_n78A | No |
| DC_28A_n79A[7]<br>DC_28A_n79C[7] | DC_28A_n79A | No |
| DC_30A_n5A | DC_30A_n5A | No |
| DC_30A_n66A | DC_30A_n66A | No |
| DC_38A_n78A[7] | N/A | No |
| DC_39A_n41A<br>DC_39C_n41A | DC_39A_n41A<br>DC_39C_n41A | No |
| DC_39A_n78A[5, 7] | DC_39A_n78A | No |
| DC_39A_n79A[7] | DC_39A_n79A | No |
| DC_40A_n1A | DC_40A_n1A | No |
| DC_40A_n41A | DC_40A_n41A | No |
| DC_40A_n77A | N/A | No |
| DC_40A_n78A<br>DC_40C_n78A | DC_40A_n78A<br>DC_40C_n78A | No |
| DC_41A_n77A<br>DC_41C_n77A | DC_41A_n77A | No |
| DC_41A_n78A<br>DC_41C_n78A | DC_41A_n78A | No |
| DC_41A_n79A[6,7]<br>DC_41C_n79A[6,7] | DC_41A_n79A | No |
| DC_42A_n51A | DC_42A_n51A | No |
| DC_42A_n77A[3,4,9,11]<br>DC_42A_n77C[3,4,9]<br>DC_42C_n77A[3,4,9]<br>DC_42C_n77C[3,4,9]<br>DC_42D_n77A[3,4,9]<br>DC_42E_n77A[3,4,9] | N/A | N/A |
| DC_42A_n78A[3,4,9]<br>DC_42A_n78C[3,4,9]<br>DC_42C_n78A[3,4,9]<br>DC_42C_n78C[3,4,9]<br>DC_42D_n78A[3,4,9]<br>DC_42E_n78A[3,4,9] | N/A | N/A |
| DC_42A_n79A[9]<br>DC_42A_n79C[9]<br>DC_42C_n79A[9]<br>DC_42C_n79C[9]<br>DC_42D_n79A[9]<br>DC_42E_n79A[9] | N/A | N/A |
| DC_46A_n78A[2]<br>DC_46C_n78A[2]<br>DC_46D_n78A[2]<br>DC_46E_n78A[2] | N/A | N/A |
| DC_48A_n5A | DC_48A_n5A | No |
| DC_48A_n66A | DC_48A_n66A | No |
| DC_66A_n2A | DC_66A_n2A | DC_66_n2 |
| DC_66A_n5A | DC_66A_n5A | DC_66_n5 |
| DC_66A_n41A | DC_66A_n41A | No |
| DC_66A_n71A | DC_66A_n71A | No |
| DC_66A_n78A | DC_66A_n78A | No |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band for Band 46 is paired with the uplink operating band (external E-UTRA band) of the carrier aggregation configuration that is supporting the configured PCell.<br>NOTE 3: The minimum requirements apply only when there is non-simultaneous Tx/Rx operation between E-UTRA and NR carriers. This restriction applies also for these carriers when applicable EN-DC configuration is part of a higher order EN-DC configuration. | | |

NOTE 4: The minimum requirements for intra-band contiguous or non-contiguous EN-DC apply. The intra-band requirements also apply for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration.
NOTE 5: The frequency range above 3 600 MHz for Band n78 is not used in this combination.
NOTE 6: The frequency range below 2 506 MHz for Band 41 is not used in this combination.
NOTE 7: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability.
NOTE 8: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.
NOTE 9: The combination is not used alone as fall back mode of other band combinations in which UL in Band 42 is not used.
NOTE 10: The maximum power spectral density imbalance between downlink carriers is within 6 dB. The power spectral density imbalance condition also applies for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration.
NOTE 11: The minimum requirements for inter-band EN-DC apply when the maximum power spectral density imbalance between downlink carriers is within 6 dB. The power spectral density imbalance condition also applies for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration.

### 5.5B.4.2 Inter-band EN-DC configurations within FR1 (three bands)

**Table 5.5B.4.2-1: Inter-band EN-DC configurations within FR1 (three bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A_n28A | DC_1A_n28A<br>DC_3A_n28A |
| DC_1A-3A_n77A[5]<br>DC_1A-3A_n77C[5] | DC_1A_n77A<br>DC_3A_n77A |
| DC_1A-3A_n78A[5]<br>DC_1A-3A_n78C[5]<br>DC_1A-3C_n78A[5] | DC_1A_n78A<br>DC_3A_n78A |
| DC_1A-3A_n79A[5]<br>DC_1A-3A_n79C[5] | DC_1A_n79A<br>DC_3A_n79A |
| DC_1A-5A_n78A[5] | DC_1A_n78A<br>DC_5A_n78A |
| DC_1A-7A_n3A | DC_1A_n3A<br>DC_7A_n3A |
| DC_1A-7A_n28A[5] | DC_1A_n28A<br>DC_7A_n28A |
| DC_1A-7A_n78A[5] | DC_1A_n78A<br>DC_7A_n78A |
| DC_1A-7A-7A_n78A[5] | DC_1A_n78A<br>DC_7A_n78A |
| DC_1A-8A_n3A | DC_1A_n3A<br>DC_8A_n3A |
| DC_1A-8A_n78A[5] | DC_1A_n78A<br>DC_8A_n78A |
| DC_1A-18A_n77A[5] | DC_1A_n77A<br>DC_18A_n77A |
| DC_1A-18A_n78A[5] | DC_1A_n78A<br>DC_18A_n78A |
| DC_1A-18A_n79A | DC_1A_n79A<br>DC_18A_n79A |
| DC_1A-19A_n77A[5]<br>DC_1A-19A_n77C[5] | DC_1A_n77A<br>DC 19A_n77A |
| DC_1A-19A_n78A[5]<br>DC_1A-19A_n78C[5] | DC_1A_n78A<br>DC_19A_n78A |
| DC_1A-19A_n79A[5]<br>DC_1A-19A_n79C[5] | DC_1A_n79A<br>DC_19A_n79A |
| DC_1A-20A_n3A | DC_1A_n3A<br>DC_20A_n3A |

| | |
|---|---|
| DC_1A-20A_n28A[6] | DC_1A_n28A<br>DC_20A_n28A |
| DC_1A-20A_n78A[5] | DC_1A_n78A<br>DC_20A_n78A |
| DC_1A-21A_n77A[5]<br>DC_1A-21A_n77C[5] | DC_1A_n77A<br>DC_21A_n77A |
| DC_1A-21A_n78A[5]<br>DC_1A-21A_n78C[5] | DC_1A_n78A<br>DC_21A_n78A |
| DC_1A-21A_n79A[5]<br>DC_1A-21A_n79C[5] | DC_1A_n79A<br>DC_21A_n79A |
| DC_1A-28A_n3A | DC_1A_n3A<br>DC_28A_n3A |
| DC_1A-28A_n77A[5]<br>DC_1A-28A_n77C[5] | DC_1A_n77A<br>DC_28A_n77A |
| DC_1A-28A_n78A[5]<br>DC_1A-28A_n78C[5] | DC_1A_n78A<br>DC_28A_n78A |
| DC_1A_n28A-n78A[5] | DC_1A_n28A,<br>DC_1A_n78A |
| DC_1A-28A_n79A<br>DC_1A-28A_n79C | DC_1A_n79A<br>DC_28A_n79A |
| DC_1A-41A_n77A<br>DC_1A-41C_n77A | DC_1A_n77A<br>DC_41A_n77A |
| DC_1A-41A_n78A<br>DC_1A-41C_n78A | DC_1A_n78A<br>DC_41A_n78A |
| DC_1A-41C_n79A | DC_1A_n79A |
| DC_1A-42A_n77A<br>DC_1A-42A_n77C<br>DC_1A-42C_n77A<br>DC_1A-42C_n77C<br>DC_1A-42D_n77A<br>DC_1A-42E_n77A | DC_1A_n77A |
| DC_1A-42A_n78A<br>DC_1A-42A_n78C<br>DC_1A-42C_n78A<br>DC_1A-42C_n78C<br>DC_1A-42D_n78A<br>DC_1A-42E_n78A | DC_1A_n78A |
| DC_1A-42A_n79A<br>DC_1A-42A_n79C<br>DC_1A-42C_n79A<br>DC_1A-42C_n79C<br>DC_1A-42D_n79A<br>DC_1A-42E_n79A | DC_1A_n79A |
| DC_1A_n77A-n79A | DC_1A_n77A<br>DC_1A_n79A |
| DC_1A_n78A-n79A | DC_1A_n78A<br>DC_1A_n79A |
| DC_1A_SUL_n78A-n84A[5] | DC_1A_n78A<br>DC_1A_n84A_ULSUP-TDM_n78A<br>DC_1A_n84A_ULSUP-FDM_n78A |
| DC_2A-5A_n66A | DC_2A_n66A<br>DC_5A_n66A |
| DC_2A-12A_n66A | DC_2A_n66A<br>DC_12A_n66A |
| DC_2A-14A_n2A | DC_2A_n2A[2]<br>DC_14A_n2A |
| DC_2A-14A_n66A | DC_2A_n66A<br>DC_14A_n66A |
| DC_2A-2A-14A_n66A | DC_2A_n66A<br>DC_14A_n66A |

| | | | |
|---|---|---|---|
| | DC_2A-30A_n66A | DC_2A_n66A<br>DC_30A_n66A | |
| | DC_2A-66A_n5A | DC_2A_n5A<br>DC_66A_n5A | |
| | DC_2A-66A_n41A | DC_2A_n41A<br>DC_66A_n41A | |
| | DC_2A-66A_n71A | DC_2A_n71A<br>DC_66A_n71A | |
| | DC_2A-(n)71AA | DC_2A_n71A<br>DC_(n)71AA | |
| | DC_3A_n3A-n77A | DC_3A_n77A<br>DC_3A_n3A[2] | |
| | DC_3A_n3A-n78A | DC_3A_n78A<br>DC_3A_n3A[2] | |
| | DC_3A-5A_n78A[5] | DC_3A_n78A<br>DC_5A_n78A | |
| | DC_3A-7A_n28A | DC_3A_n28A<br>DC_7A_n28A | |
| | DC_3A-7A_n78A[5]<br>DC_3C-7A_n78A[5] | DC_3A_n78A<br>DC_7A_n78A | |
| | DC_3A-7C_n78A[5]<br>DC_3C-7C_n78A[5] | DC_3A_n78A<br>DC_7A_n78A | |
| | DC_3A-7A-7A_n78A[5] | DC_3A_n78A<br>DC_7A_n78A | |
| | DC_3A-8A_n1A | DC_3A_n1A<br>DC_8A_n1A | |
| | DC_3A-8A_n78A | DC_3A_n78A<br>DC_8A_n78A | |
| | DC_3A-18A_n78A | DC_3A_n78A<br>DC_18A_n78A | |
| | DC_3A-19A_n77A[5]<br>DC_3A-19A_n77C[5] | DC_3A_n77A<br>DC_19A_n77A | |
| | DC_3A-19A_n78A[5]<br>DC_3A-19A_n78C[5] | DC_3A_n78A<br>DC_19A_n78A | |
| | DC_3A-19A_n79A[5]<br>DC_3A-19A_n79C[5] | DC_3A_n79A<br>DC_19A_n79A | |
| | DC_3A-20A_n1A | DC_3A_n1A<br>DC_20A_n1A | |
| | DC_3A-20A_n28A[5,6] | DC_3A_n28A<br>DC_20A_n28A | |
| | DC_3A-20A_n78A[5]<br>DC_3C-20A_n78A[5] | DC_3A_n78A<br>DC_20A_n78A | |
| | DC_3A-21A_n77A[5]<br>DC_3A-21A_n77C[5] | DC_3A_n77A<br>DC_21A_n77A | |
| | DC_3A-21A_n78A[5]<br>DC_3A-21A_n78C[5] | DC_3A_n78A<br>DC_21A_n78A | |
| | DC_3A-21A_n79A[5]<br>DC_3A-21A_n79C[5] | DC_3A_n79A<br>DC_21A_n79A | |
| | DC_3A-28A_n77A<br>DC_3A-28A_n77C | DC_3A_n77A<br>DC_28A_n77A | |
| | DC_3A-28A_n78A[5]<br>DC_3A-28A_n78C[5] | DC_3A_n78A<br>DC_28A_n78A | |
| | DC_3A_n28A-n78A[5] | DC_3A_n28A,<br>DC_3A_n78A | |
| | DC_3A-28A_n79A<br>DC_3A-28A_n79C | DC_3A_n79A<br>DC_28A_n79A | |
| | DC_3A-38A_n78A | DC_3A_n78A | |
| | DC_3A-40A_n1A | DC_3A_n1A<br>DC_40A_n1A | |

| | |
|---|---|
| DC_3A-41A_n78A | DC_3A_n78A<br>DC_41A_n78A |
| DC_3A-42A_n77A<br>DC_3A-42A_n77C<br>DC_3A-42C_n77A<br>DC_3A-42C_n77C<br>DC_3A-42D_n77A<br>DC_3A-42E_n77A | DC_3A_n77A |
| DC_3A-42A_n78A<br>DC_3A-42A_n78C<br>DC_3A-42C_n78A<br>DC_3A-42C_n78C<br>DC_3A-42D_n78A<br>DC_3A-42E_n78A | DC_3A_n78A |
| DC_3A-42A_n79A<br>DC_3A-42A_n79C<br>DC_3A-42C_n79A<br>DC_3A-42C_n79C<br>DC_3A-42D_n79A<br>DC_3A-42E_n79A | DC_3A_n79A |
| DC_3A_n77A-n79A | DC_3A_n77A<br>DC_3A_n79A |
| DC_3A_n78A-n79A | DC_3A_n78A<br>DC_3A_n79A |
| DC_3A_SUL_n78A-n80A[5] | DC_3A_n78A<br>DC_3A_n80A_ULSUP-TDM_n78A<br>DC_3A_n80A_ULSUP-FDM_n78A |
| DC_3A_SUL_n78A-n82A[5] | DC_3A_n78A<br>DC_3A_n82A |
| DC_3A_SUL_n79A-n80A[5] | DC_3A_n79A<br>DC_3A_n80A_ULSUP-TDM_n79A<br>DC_3A_n80A_ULSUP-FDM_n79A |
| DC_5A-7A_n78A | DC_5A_n78A<br>DC_7A_n78A |
| DC_5A-7A-7A_n78A | DC_5A_n78A<br>DC_7A_n78A |
| DC_5A-30A_n66A | DC_5A_n66A<br>DC_30A_n66A |
| DC_7A-8A_n1A | DC_7A_n1A<br>DC_8A_n1A |
| DC_7A-20A_n1A | DC_7A_n1A<br>DC_20A_n1A |
| DC_7A-20A_n3A | DC_7A_n3A<br>DC_20A_n3A |
| DC_7A-20A_n28A[6] | DC_7A_n28A<br>DC_20A_n28A |
| DC_7A-20A_n78A[5] | DC_7A_n78A<br>DC_20A_n78A |
| DC_7A-28A_n3A | DC_7A_n3A<br>DC_28A_n3A |
| DC_7A-28A_n78A[5] | DC_7A_n78A<br>DC_28A_n78A |
| DC_7C-28A_n78A[5] | DC_7A_n78A<br>DC_28A_n78A |
| DC_7A_n28A-n78A[5] | DC_7A_n28A,<br>DC_7A_n78A |
| DC_7A-46A_n78A[3]<br>DC_7A-46C_n78A[3]<br>DC_7A-46D_n78A[3]<br>DC_7A-46E_n78A[3] | DC_7A_n78A |
| DC_8A_SUL_n78A-n81A[5] | DC_8A_n78A |

| | | | |
|---|---|---|---|
| | | DC_8A_n81A_ULSUP-TDM_n78A<br>DC_8A_n81A_ULSUP-FDM_n78A | |
| | DC_8A_SUL_n79A-n81A[5] | DC_8A_n79A<br>DC_8A_n81A_ULSUP-TDM_n79A<br>DC_8A_n81A_ULSUP-FDM_n79A | |
| | DC_12A-30A_n66A | DC_12A_n66A<br>DC_30A_n66A | |
| | DC_18A-28A_n77A[5] | DC_18A_n77A<br>DC_28A_n77A | |
| | DC_18A-28A_n78A[5] | DC_18A_n78A<br>DC_28A_n78A | |
| | DC_18A-28A_n79A[5] | DC_18A_n79A<br>DC_28A_n79A | |
| | DC_19A-21A_n77A[5]<br>DC_19A-21A_n77C[5] | DC_19A_n77A<br>DC_21A_n77A | |
| | DC_19A-21A_n78A[5]<br>DC_19A-21A_n78C[5] | DC_19A_n78A<br>DC_21A_n78A | |
| | DC_19A-21A_n79A[5]<br>DC_19A-21A_n79C[5] | DC_19A_n79A<br>DC_21A_n79A | |
| | DC_19A-42A_n77A<br>DC_19A-42A_n77C | DC_19A_n77A | |
| | DC_19A-42A_n78A<br>DC_19A-42A_n78C | DC_19A_n78A | |
| | DC_19A-42A_n79A<br>DC_19A-42A_n79C | DC_19A_n79A | |
| | DC_19A-42C_n77A<br>DC_19A-42C_n77C | DC_19A_n77A | |
| | DC_19A-42C_n78A<br>DC_19A-42C_n78C | DC_19A_n78A | |
| | DC_19A-42C_n79A<br>DC_19A-42C_n79C | DC_19A_n79A | |
| | DC_19A_n77A-n79A | DC_19A_n77A<br>DC_19A_n79A | |
| | DC_19A_n78A-n79A | DC_19A_n78A<br>DC_19A_n79A | |
| | DC_20A_n8A-n75A[6] | DC_20A_n8A | |
| | DC_20A_n28A-n75A[6] | DC_20A_n28A | |
| | DC_20A_n28A-n78A[5,6] | DC_20A_n28A<br>DC_20A_n78A | |
| | DC_20A_n75A-n78A[5] | DC_20A_n78A | |
| | DC_20A_n76A-n78A[5] | DC_20A_n78A | |
| | DC_20A_SUL_n78A-n82A[5] | DC_20A_n78A<br>DC_20A_n82A_ULSUP-TDM_n78A<br>DC_20A_n82A_ULSUP-FDM_n78A | |
| | DC_20A_SUL_n78A-n83A[5] | DC_20A_n78A<br>DC_20A_n83A | |
| | DC_21A-28A_n77A<br>DC_21A-28A_n77C | DC_21A_n77A<br>DC_28A_n77A | |
| | DC_21A-28A_n78A<br>DC_21A-28A_n78C | DC_21A_n78A<br>DC_28A_n78A | |
| | DC_21A-28A_n79A<br>DC_21A-28A_n79C | DC_21A_n79A<br>DC_28A_n79A | |
| | DC_21A-42A_n77A<br>DC_21A-42A_n77C<br>DC_21A-42C_n77A<br>DC_21A-42C_n77C | DC_21A_n77A | |
| | DC_21A-42A_n78A<br>DC_21A-42A_n78C<br>DC_21A-42C_n78A | DC_21A_n78A | |

| | |
|---|---|
| DC_21A-42C_n78C | |
| DC_21A-42A_n79A<br>DC_21A-42A_n79C<br>DC_21A-42C_n79A<br>DC_21A-42C_n79C | DC_21A_n79A |
| DC_21A_n77A-n79A | DC_21A_n77A<br>DC_21A_n79A |
| DC_21A_n78A-n79A | DC_21A_n78A<br>DC_21A_n79A |
| DC_28A-42A_n77A<br>DC_28A-42A_n77C<br>DC_28A-42C_n77A | DC_28A_n77A |
| DC_28A-42A_n78A<br>DC_28A-42A_n78C<br>DC_28A-42C_n78A | DC_28A_n78A |
| DC_28A-42A_n79A<br>DC_28A-42A_n79C<br>DC_28A-42C_n79A | DC_28A_n79A |
| DC_28A_SUL_n78A-n83A[5] | DC_28A_n78A<br>DC_28A_n83A_ULSUP-TDM_n78A<br>DC_28A_n83A_ULSUP-FDM_n78A |
| DC_41A-42A_n77A<br>DC_41A-42C_n77A<br>DC_41C-42A_n77A<br>DC_41C-42C_n77A | DC_41A_n77A |
| DC_41A-42A_n78A<br>DC_41A-42C_n78A<br>DC_41C-42A_n78A<br>DC_41C-42C_n78A | DC_41A_n78A |
| DC_41A-42A_n79A<br>DC_41A-42C_n79A<br>DC_41C-42A_n79A<br>DC_41C-42C_n79A | DC_41A_n79A |
| DC_66A_(n)71AA | DC_66A_n71A<br>DC_(n)71AA |
| DC_66A_SUL_n78A-n86A[5] | DC_66A_n78A<br>DC_66A_n86A_ULSUP-TDM_n78A<br>DC_66A_n86A_ULSUP-FDM_n78A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Only single switched UL is supported.<br>NOTE 3: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band for Band 46 is paired with the uplink operating band (external E-UTRA band) of the carrier aggregation configuration that is supporting the configured PCell.<br>NOTE 4: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier can be up to 140us and placed in SUL resources.<br>NOTE 5: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability<br>NOTE 6: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL. | |

### 5.5B.4.3 Inter-band EN-DC configurations within FR1 (four bands)

**Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_5A_n78A |

| | | | |
|---|---|---|---|
| | DC_1A-3A-7A_n28A | DC_1A_n28A<br>DC_3A_n28A<br>DC_7A_n28A | |
| | DC_1A-3A-7A_n78A[2]<br>DC_1A-3C-7A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_7A_n78A | |
| | DC_1A-3A-7A-7A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_7A_n78A | |
| | DC_1A-3A-8A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_8A_n78A | |
| | DC_1A-3A-19A_n77A[2]<br>DC_1A-3A-19A_n77C[2] | DC_1A_n77A<br>DC_3A_n77A<br>DC_19A_n77A | |
| | DC_1A-3A-19A_n78A[2]<br>DC_1A-3A-19A_n78C[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_19A_n78A | |
| | DC_1A-3A-19A_n79A[2]<br>DC_1A-3A-19A_n79C[2] | DC_1A_n79A<br>DC_3A_n79A<br>DC_19A_n79A | |
| | DC_1A-3A-20A_n28A[3] | DC_1A_n28A<br>DC_3A_n28A<br>DC_20A_n28A | |
| | DC_1A-3A-20A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_20A_n78A | |
| | DC_1A-3A-21A_n77A[2]<br>DC_1A-3A-21A_n77C[2] | DC_1A_n77A<br>DC_3A_n77A<br>DC_21A_n77A | |
| | DC_1A-3A-21A_n78A[2]<br>DC_1A-3A-21A_n78C[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_21A_n78A | |
| | DC_1A-3A-21A_n79A[2]<br>DC_1A-3A-21A_n79C[2] | DC_1A_n79A<br>DC_3A_n79A<br>DC_21A_n79A | |
| | DC_1A-3A-28A_n77A[2] | DC_1A_n77A<br>DC_3A_n77A<br>DC_28A_n77A | |
| | DC_1A-3A-28A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_28A_n78A | |
| | DC_1A-3A-28A_n79A[2] | DC_1A_n79A<br>DC_3A_n79A<br>DC_28A_n79A | |
| | DC_1A-3A_n28A-n78A[2] | DC_1A_n28A<br>DC_1A_n78A<br>DC_3A_n28A<br>DC_3A_n78A | |
| | DC_1A-3A-42A_n77A<br>DC_1A-3A-42A_n77C<br>DC_1A-3A-42C_n77A<br>DC_1A-3A-42C_n77C | DC_1A_n77A<br>DC_3A_n77A | |
| | DC_1A-3A-42A_n78A<br>DC_1A-3A-42A_n78C<br>DC_1A-3A-42C_n78A<br>DC_1A-3A-42C_n78C<br>DC_1A-3A-42D_n78A | DC_1A_n78A<br>DC_3A_n78A | |
| | DC_1A-3A-42A_n79A<br>DC_1A-3A-42A_n79C<br>DC_1A-3A-42C_n79A<br>DC_1A-3A-42C_n79C | DC_1A_n79A<br>DC_3A_n79A | |

| | |
|---|---|
| DC_1A-3A-42D_n79A | |
| DC_1A-5A-7A_n78A | DC_1A_n78A<br>DC_5A_n78A<br>DC_7A_n78A |
| DC_1A-5A-7A-7A_n78A | DC_1A_n78A<br>DC_5A_n78A<br>DC_7A_n78A |
| DC_1A-7A-20A_n28A[3] | DC_1A_n28A<br>DC_7A_n28A<br>DC_20A_n28A |
| DC_1A-7A-20A_n78A[2] | DC_1A_n78A<br>DC_7A_n78A<br>DC_20A_n78A |
| DC_1A-7A_n28A-n78A[2] | DC_1A_n28A<br>DC_1A_n78A<br>DC_7A_n28A<br>DC_7A_n78A |
| DC_1A-18A-28A_n77A | DC_1A_n77A<br>DC_18A_n77A<br>DC_28A_n77A |
| DC_1A-18A-28A_n78A | DC_1A_n78A<br>DC_18A_n78A<br>DC_28A_n78A |
| DC_1A-18A-28A_n79A[2] | DC_1A_n79A<br>DC_18A_n79A<br>DC_28A_n79A |
| DC_1A-19A-21A_n77A<br>DC_1A-19A-21A_n77C | DC_1A_n77A<br>DC_19A_n77A<br>DC_21A_n77A |
| DC_1A-19A-21A_n78A<br>DC_1A-19A-21A_n78C | DC_1A_n78A<br>DC_19A_n78A<br>DC_21A_n78A |
| DC_1A-19A-21A_n79A<br>DC_1A-19A-21A_n79C | DC_1A_n79A<br>DC_19A_n79A<br>DC_21A_n79A |
| DC_1A-19A-42A_n77A<br>DC_1A-19A-42A_n77C<br>DC_1A-19A-42C_n77A<br>DC_1A-19A-42C_n77C | DC_1A_n77A<br>DC_19A_n77A |
| DC_1A-19A-42A_n78A<br>DC_1A-19A-42A_n78C<br>DC_1A-19A-42C_n78A<br>DC_1A-19A-42C_n78C | DC_1A_n78A<br>DC_19A_n78A |
| DC_1A-19A-42A_n79A<br>DC_1A-19A-42A_n79C<br>DC_1A-19A-42C_n79A<br>DC_1A-19A-42C_n79C | DC_1A_n79A<br>DC_19A_n79A |
| DC_1A-20A_n28A-n78A[2,3] | DC_1A_n28A<br>DC_1A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |
| DC_1A-21A-28A_n77A[2] | DC_1A_n77A<br>DC_21A_n77A<br>DC_28A_n77A |
| DC_1A-21A-28A_n78A[2] | DC_1A_n78A<br>DC_21A_n78A<br>DC_28A_n78A |
| DC_1A-21A-28A_n79A[2] | DC_1A_n79A<br>DC_21A_n79A<br>DC_28A_n79A |
| DC_1A-21A-42A_n77A<br>DC_1A-21A-42A_n77C | DC_1A_n77A<br>DC_21A_n77A |

| | | | |
|---|---|---|---|
| | DC_1A-21A-42C_n77A<br>DC_1A-21A-42C_n77C | | |
| | DC_1A-21A-42A_n78A<br>DC_1A-21A-42A_n78C<br>DC_1A-21A-42C_n78A<br>DC_1A-21A-42C_n78C | DC_1A_n78A<br>DC_21A_n78A | |
| | DC_1A-21A-42A_n79A<br>DC_1A-21A-42A_n79C<br>DC_1A-21A-42C_n79A<br>DC_1A-21A-42C_n79C | DC_1A_n79A<br>DC_21A_n79A | |
| | DC_1A-28A-42A_n77A<br>DC_1A-28A-42C_n77A | DC_1A_n77A<br>DC_28A_n77A | |
| | DC_1A-28A-42A_n78A<br>DC_1A-28A-42C_n78A | DC_1A_n78A<br>DC_28A_n78A | |
| | DC_1A-28A-42A_n79A<br>DC_1A-28A-42C_n79A | DC_1A_n79A<br>DC_28A_n79A | |
| | DC_1A-41A-42A_n77A<br>DC_1A-41A-42C_n77A<br>DC_1A-41C-42A_n77A<br>DC_1A-41C-42C_n77A | DC_1A_n77A<br>DC_41A_n77A | |
| | DC_1A-41A-42A_n78A<br>DC_1A-41A-42C_n78A<br>DC_1A-41C-42A_n78A<br>DC_1A-41C-42C_n78A | DC_1A_n78A<br>DC_41A_n78A | |
| | DC_1A-41A-42A_n79A<br>DC_1A-41A-42C_n79A<br>DC_1A-41C-42A_n79A<br>DC_1A-41C-42C_n79A | DC_1A_n79A<br>DC_41A_n79A | |
| | DC_2A-7A-7A-13A_n66A<br>DC_2A-7C-13A_n66A | DC_2A_n66A<br>DC_7A_n66A<br>DC_13A_n66A | |
| | DC_2A-7C-66A_n66A<br>DC_2A-7A-7A-66A_n66A | DC_2A_n66A<br>DC_7A_n66A<br>DC_66A_n66A[4] | |
| | DC_2A-7A-7A-66A_n78A<br>DC_2A-7C-66A_n78A | DC_2A_n78A<br>DC_7A_n78A<br>DC_66A_n78A | |
| | DC_2A-7A-13A_n66A | DC_2A_n66A<br>DC_7A_n66A<br>DC_13A_n66A | |
| | DC_2A-7A-66A_n66A | DC_2A_n66A<br>DC_7A_n66A<br>DC_66A_n66A[4] | |
| | DC_2A-14A-66A_n2A | DC_2A_n2A[4]<br>DC_14A_n2A<br>DC_66A_n2A | |
| | DC_2A-14A-66A-66A_n2A | DC_2A_n2A[4]<br>DC_14A_n2A<br>DC_66A_n2A | |
| | DC_2A-14A-66A_n66A | DC_2A_n66A<br>DC_14A_n66A<br>DC_66A_n66A[4] | |
| | DC_2A-2A-14A-66A_n66A | DC_2A_n66A<br>DC_14A_n66A<br>DC_66A_n66A[4] | |
| | DC_2A-66A-(n)71AA | DC_2A_n71A<br>DC_66A_n71A<br>DC_(n)71AA | |
| | DC_3A-5A-7A_n78A | DC_3A_n78A<br>DC_5A_n78A<br>DC_7A_n78A | |
| | DC_3A-5A-7A-7A_n78A | DC_3A_n78A | |

| | | |
|---|---|---|
| | | DC_5A_n78A<br>DC_7A_n78A |
| | DC_3A-7A-20A_n28A[3] | DC_3A_n28A<br>DC_7A_n28A<br>DC_20A_n28A |
| | DC_3A-7A-20A_n78A[2] | DC_3A_n78A<br>DC_7A_n78A<br>DC_20A_n78A |
| | DC_3A-7A-28A_n78A[2]<br>DC_3A-7C-28A_n78A[2] | DC_3A_n78A<br>DC_7A_n78A<br>DC_28A_n78A |
| | DC_3A-7A_n28A-n78A[2] | DC_3A_n28A<br>DC_3A_n78A<br>DC_7A_n28A<br>DC_7A_n78A |
| | DC_3A-19A-21A_n77A[2]<br>DC_3A-19A-21A_n77C[2] | DC_3A_n77A<br>DC_19A_n77A<br>DC_21A_n77A |
| | DC_3A-19A-21A_n78A[2]<br>DC_3A-19A-21A_n78C[2] | DC_3A_n78A<br>DC_19A_n78A<br>DC_21A_n78A |
| | DC_3A-19A-21A_n79A[2]<br>DC_3A-19A-21A_n79C[2] | DC_3A_n79A<br>DC_19A_n79A<br>DC_21A_n79A |
| | DC_3A-19A-42A_n77A<br>DC_3A-19A-42A_n77C<br>DC_3A-19A-42C_n77A<br>DC_3A-19A-42C_n77C | DC_3A_n77A<br>DC_19A_n77A |
| | DC_3A-19A-42A_n78A<br>DC_3A-19A-42A_n78C<br>DC_3A-19A-42C_n78A<br>DC_3A-19A-42C_n78C | DC_3A_n78A<br>DC_19A_n78A |
| | DC_3A-19A-42A_n79A[2]<br>DC_3A-19A-42A_n79C[2]<br>DC_3A-19A-42C_n79A[2]<br>DC_3A-19A-42C_n79C[2] | DC_3A_n79A<br>DC_19A_n79A |
| | DC_3A-20A_n28A-n78A[2,3] | DC_3A_n28A<br>DC_3A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |
| | DC_3A-21A-42A_n77A<br>DC_3A-21A-42A_n77C<br>DC_3A-21A-42C_n77A<br>DC_3A-21A-42C_n77C | DC_3A_n77A<br>DC_21A_n77A |
| | DC_3A-21A-42A_n78A<br>DC_3A-21A-42A_n78C<br>DC_3A-21A-42C_n78A<br>DC_3A-21A-42C_n78C | DC_3A_n78A<br>DC_21A_n78A |
| | DC_3A-21A-42A_n79A<br>DC_3A-21A-42A_n79C<br>DC_3A-21A-42C_n79A<br>DC_3A-21A-42C_n79C | DC_3A_n79A<br>DC_21A_n79A |
| | DC_3A-28A-42A_n77A<br>DC_3A-28A-42C_n77A | DC_3A_n77A<br>DC_28A_n77A |
| | DC_3A-28A-42A_n78A<br>DC_3A-28A-42C_n78A | DC_3A_n78A<br>DC_28A_n78A |
| | DC_3A-28A-42A_n79A<br>DC_3A-28A-42C_n79A | DC_3A_n79A<br>DC_28A_n79A |
| | DC_7A-20A_n28A-n78A[2,3] | DC_7A_n28A<br>DC_7A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |

| | |
|---|---|
| DC_19A-21A-42A_n77A<br>DC_19A-21A-42A_n77C<br>DC_19A-21A-42C_n77A<br>DC_19A-21A-42C_n77C | DC_19A_n77A<br>DC_21A_n77A |
| DC_19A-21A-42A_n78A<br>DC_19A-21A-42A_n78C<br>DC_19A-21A-42C_n78A<br>DC_19A-21A-42C_n78C | DC_19A_n78A<br>DC_21A_n78A |
| DC_19A-21A-42A_n79A<br>DC_19A-21A-42A_n79C<br>DC_19A-21A-42C_n79A<br>DC_19A-21A-42C_n79C | DC_19A_n79A<br>DC_21A_n79A |
| DC_21A-28A-42A_n77A<br>DC_21A-28A-42C_n77A | DC_21A_n77A<br>DC_28A_n77A |
| DC_21A-28A-42A_n78A<br>DC_21A-28A-42C_n78A | DC_21A_n78A<br>DC_28A_n78A |
| DC_21A-28A-42A_n79A<br>DC_21A-28A-42C_n79A | DC_21A_n79A<br>DC_28A_n79A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability<br>NOTE 3: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.<br>NOTE 4: Only single switched UL is supported. | |

### 5.5B.4.4 Inter-band EN-DC configurations within FR1 (five bands)

**Table 5.5B.4.4-1: Inter-band EN-DC configurations within FR1 (five bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A-7A_n78A | DC_1A_n78A<br>DC_3A_n78A<br>DC_5A_n78A<br>DC_7A_n78A |
| DC_1A-3A-5A-7A-7A_n78A | DC_1A_n78A<br>DC_3A_n78A<br>DC_5A_n78A<br>DC_7A_n78A |
| DC_1A-3A-5A-41A_n79A | DC_1A_n79A<br>DC_3A_n79A<br>DC_5A_n79A<br>DC_41A_n79A |
| DC_1A-3A-7A-20A_n28A[3] | DC_1A_n28A<br>DC_3A_n28A<br>DC_7A_n28A<br>DC_20A_n28A |
| DC_1A-3A-7A-20A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_7A_n78A<br>DC_20A_n78A |
| DC_1A-3A-7A_n28A-n78A[2] | DC_1A_n28A<br>DC_1A_n78A<br>DC_3A_n28A<br>DC_3A_n78A<br>DC_7A_n28A<br>DC_7A_n78A |
| DC_1A-3A-19A-21A_n77A[2]<br>DC_1A-3A-19A-21A_n77C[2] | DC_1A_n77A<br>DC_3A_n77A<br>DC_19A_n77A<br>DC_21A_n77A |
| DC_1A-3A-19A-21A_n78A[2] | DC_1A_n78A |

| | | |
|---|---|---|
| | DC_1A-3A-19A-21A_n78C[2] | DC_3A_n78A<br>DC_19A_n78A<br>DC_21A_n78A |
| | DC_1A-3A-19A-21A_n79A[2]<br>DC_1A-3A-19A-21A_n79C[2] | DC_1A_n79A<br>DC_3A_n79A<br>DC_19A_n79A<br>DC_21A_n79A |
| | DC_1A-3A-19A-42A_n77A<br>DC_1A-3A-19A-42A_n77C<br>DC_1A-3A-19A-42C_n77A<br>DC_1A-3A-19A-42C_n77C | DC_1A_n77A<br>DC_3A_n77A<br>DC_19A_n77A |
| | DC_1A-3A-19A-42A_n78A<br>DC_1A-3A-19A-42A_n78C<br>DC_1A-3A-19A-42C_n78A<br>DC_1A-3A-19A-42C_n78C | DC_1A_n78A<br>DC_3A_n78A<br>DC_19A_n78A |
| | DC_1A-3A-19A-42A_n79A<br>DC_1A-3A-19A-42A_n79C<br>DC_1A-3A-19A-42C_n79A<br>DC_1A-3A-19A-42C_n79C | DC_1A_n79A<br>DC_3A_n79A<br>DC_19A_n79A |
| | DC_1A-3A-20A_n28A-n78A[2,3] | DC_1A_n28A<br>DC_1A_n78A<br>DC_3A_n28A<br>DC_3A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |
| | DC_1A-3A-21A-42A_n77A<br>DC_1A-3A-21A-42A_n77C<br>DC_1A-3A-21A-42C_n77A<br>DC_1A-3A-21A-42C_n77C | DC_1A_n77A<br>DC_3A_n77A<br>DC_21A_n77A |
| | DC_1A-3A-21A-42A_n78A<br>DC_1A-3A-21A-42A_n78C<br>DC_1A-3A-21A-42C_n78A<br>DC_1A-3A-21A-42C_n78C | DC_1A_n78A<br>DC_3A_n78A<br>DC_21A_n78A |
| | DC_1A-3A-21A-42A_n79A<br>DC_1A-3A-21A-42A_n79C<br>DC_1A-3A-21A-42C_n79A<br>DC_1A-3A-21A-42C_n79C | DC_1A_n79A<br>DC_3A_n79A<br>DC_21A_n79A |
| | DC_1A-3A-28A-42A_n77A<br>DC_1A-3A-28A-42C_n77A | DC_1A_n77A<br>DC_3A_n77A<br>DC_28A_n77A |
| | DC_1A-3A-28A-42A_n78A<br>DC_1A-3A-28A-42C_n78A | DC_1A_n78A<br>DC_3A_n78A<br>DC_28A_n78A |
| | DC_1A-3A-28A-42A_n79A<br>DC_1A-3A-28A-42C_n79A | DC_1A_n79A<br>DC_3A_n79A<br>DC_28A_n79A |
| | DC_1A-7A-20A_n28A-n78A[2,3] | DC_1A_n28A<br>DC_1A_n78A<br>DC_7A_n28A<br>DC_7A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |
| | DC_1A-19A-21A-42A_n77A<br>DC_1A-19A-21A-42A_n77C<br>DC_1A-19A-21A-42C_n77A<br>DC_1A-19A-21A-42C_n77C | DC_1A_n77A<br>DC_19A_n77A<br>DC_21A_n77A |
| | DC_1A-19A-21A-42A_n78A<br>DC_1A-19A-21A-42A_n78C<br>DC_1A-19A-21A-42C_n78A<br>DC_1A-19A-21A-42C_n78C | DC_1A_n78A<br>DC_19A_n78A<br>DC_21A_n78A |
| | DC_1A-19A-21A-42A_n79A<br>DC_1A-19A-21A-42A_n79C<br>DC_1A-19A-21A-42C_n79A | DC_1A_n79A<br>DC_19A_n79A<br>DC_21A_n79A |

| | |
|---|---|
| DC_1A-19A-21A-42C_n79C | |
| DC_1A-21A-28A-42A_n77A<br>DC_1A-21A-28A-42C_n77A | DC_1A_n77A<br>DC_21A_n77A<br>DC_28A_n77A |
| DC_1A-21A-28A-42A_n78A<br>DC_1A-21A-28A-42C_n78A | DC_1A_n78A<br>DC_21A_n78A<br>DC_28A_n78A |
| DC_1A-21A-28A-42A_n79A<br>DC_1A-21A-28A-42C_n79A | DC_1A_n79A<br>DC_21A_n79A<br>DC_28A_n79A |
| DC_3A-7A-20A_n28A-n78A[2,3] | DC_3A_n28A<br>DC_3A_n78A<br>DC_7A_n28A<br>DC_7A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |
| DC_3A-19A-21A-42A_n78A<br>DC_3A-19A-21A-42C_n78A | DC_3A_n78A<br>DC_19A_n78A<br>DC_21A_n78A |
| DC_3A-19A-21A-42A_n79A<br>DC_3A-19A-21A-42C_n79A | DC_3A_n79A<br>DC_19A_n79A<br>DC_21A_n79A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability.<br>NOTE 3: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL. | |

### 5.5B.4.5 Inter-band EN-DC configurations within FR1 (six bands)

**Table 5.5B.4.5-1: Inter-band EN-DC configurations within FR1 (six bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-7A-20A_n28A-n78A[2,3] | DC_1A_n28A<br>DC_1A_n78A<br>DC_3A_n28A<br>DC_3A_n78A<br>DC_7A_n28A<br>DC_7A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability.<br>NOTE 3: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL. | |

### 5.5B.4a Inter-band NE-DC within FR1

### 5.5B.4a.1 Inter-band NE-DC configurations within FR1 (two bands)

**Table 5.5B.4a.1-1: Inter-band NE-DC configurations within FR1 (two bands)**

| NE-DC configuration | Uplink NE-DC configuration (NOTE 1) | Single UL allowed |
|---|---|---|
| DC_n1A_28A | DC_n1A_28A | No |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | | |

## 5.5B.5 Inter-band EN-DC including FR2

Supported channel bandwidths for E-UTRA operating bands and CA configurations are defined in TS 36.521-1 [10] and for NR operating bands and CA configurations in TS 38.521-1 [8], TS 38.521-2 [9] and present document.

### 5.5B.5.1 Inter-band EN-DC configurations including FR2 (two bands)

**Table 5.5B.5.1-1: Inter-band EN-DC configurations including FR2 (two bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A_n257A<br>DC_1A_n257D<br>DC_1A_n257E<br>DC_1A_n257F<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_1A_n257J<br>DC_1A_n257K<br>DC_1A_n257L<br>DC_1A_n257M | DC_1A_n257A<br>DC_1A_n257D<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_1A_n257J<br>DC_1A_n257K<br>DC_1A_n257L<br>DC_1A_n257M |
| DC_2A_n257A<br>DC_2C_n257A | DC_2A_n257A |
| DC_2A_n257(2A) | DC_2A_n257A |
| DC_2A-2A_n257A | DC_2A_n257A |
| DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I<br>DC_2A_n260J<br>DC_2A_n260K<br>DC_2A_n260L<br>DC_2A_n260M<br>DC_2C_n260A | DC_2A_n260A |
| DC_2A_n260(2A) | DC_2A_n260A |
| DC_2A-2A_n260A<br>DC_2A-2A_n260G<br>DC_2A-2A_n260H<br>DC_2A-2A_n260I<br>DC_2A-2A_n260J<br>DC_2A-2A_n260K<br>DC_2A-2A_n260L<br>DC_2A-2A_n260M | DC_2A_n260A |
| DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257E<br>DC_3A_n257F<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I | DC_3A_n257A<br>DC_3A_n257B<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I |
| DC_3A_n258A | DC_3A_n258A |
| DC_5A_n257A<br>DC_5B_n257A | DC_5A_n257A<br>DC_5B_n257A |
| DC_5A-5A_n257A | DC_5A_n257A |
| DC_5A_n260A<br>DC_5A_n260B<br>DC_5A_n260C<br>DC_5A_n260D<br>DC_5A_n260E<br>DC_5A_n260F<br>DC_5A_n260G<br>DC_5A_n260H | DC_5A_n260A<br>DC_5B_n260A |

| | | | |
|---|---|---|---|
| | DC_5A_n260I<br>DC_5A_n260J<br>DC_5A_n260K<br>DC_5A_n260L<br>DC_5A_n260M<br>DC_5A_n260O<br>DC_5A_n260P<br>DC_5A_n260Q<br>DC_5B_n260A | | |
| | DC_5A_n260(2A)<br>DC_5A_n260(3A)<br>DC_5A_n260(4A)<br>DC_5A_n260(A-I)<br>DC_5A_n260(D-G)<br>DC_5A_n260(D-H)<br>DC_5A_n260(D-I)<br>DC_5A_n260(D-O)<br>DC_5A_n260(D-P)<br>DC_5A_n260(D-Q)<br>DC_5A_n260(E-O)<br>DC_5A_n260(E-P)<br>DC_5A_n260(E-Q)<br>DC_5A_n260(G-I) | DC_5A_n260A | |
| | DC_5A-5A_n260A | DC_5A_n260A | |
| | DC_5A_n261A<br>DC_5A_n261B<br>DC_5A_n261C<br>DC_5A_n261D<br>DC_5A_n261E<br>DC_5A_n261F<br>DC_5A_n261G<br>DC_5A_n261H<br>DC_5A_n261I<br>DC_5A_n261J<br>DC_5A_n261K<br>DC_5A_n261L<br>DC_5A_n261M<br>DC_5A_n261O<br>DC_5A_n261P<br>DC_5A_n261Q | DC_5A_n261A | |
| | DC_5A_n261(2A)<br>DC_5A_n261(3A)<br>DC_5A_n261(4A)<br>DC_5A_n261(D-G)<br>DC_5A_n261(D-H)<br>DC_5A_n261(D-I)<br>DC_5A_n261(D-O)<br>DC_5A_n261(D-P)<br>DC_5A_n261(D-Q)<br>DC_5A_n261(E-O)<br>DC_5A_n261(E-P)<br>DC_5A_n261(E-Q) | DC_5A_n261A | |
| | DC_7A_n257A | DC_7A_n257A | |
| | DC_7A-7A_n257A | DC_7A_n257A | |
| | DC_7A_n258A | DC_7A_n258A | |
| | DC_8A_n257A | DC_8A_n257A | |
| | DC_8A_n258A | DC_8A_n258A | |
| | DC_11A_n257A | DC_11A_n257A | |
| | DC_12A_n260A<br>DC_12A_n260G<br>DC_12A_n260H<br>DC_12A_n260I<br>DC_12A_n260J<br>DC_12A_n260K | DC_12A_n260A | |

| | | | |
|---|---|---|---|
| | DC_12A_n260L<br>DC_12A_n260M | | |
| | DC_12A_n260(A-I)<br>DC_12A_n260(G-I) | DC_12A_n260A | |
| | DC_13A_n257A | DC_13A_n257A | |
| | DC_13A_n260A | DC_13A_n260A | |
| | DC_18A_n257A | DC_18A_n257A | |
| | DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257E<br>DC_19A_n257F<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I | DC_19A_n257A<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I | |
| | DC_20A_n258A | DC_20A_n258A | |
| | DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257E<br>DC_21A_n257F<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I | DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I | |
| | DC_26A_n257A | DC_26A_n257A | |
| | DC_28A_n257A<br>DC_28A_n257D<br>DC_28A_n257E<br>DC_28A_n257F | DC_28A_n257A | |
| | DC_28A_n258A | DC_28A_n258A | |
| | DC_30A_n260A<br>DC_30A_n260G<br>DC_30A_n260H<br>DC_30A_n260I<br>DC_30A_n260J<br>DC_30A_n260K<br>DC_30A_n260L<br>DC_30A_n260M | DC_30A_n260A | |
| | DC_30A_n260(A-I)<br>DC_30A_n260(G-I) | DC_30A_n260A | |
| | DC_39A_n258A | DC_39A_n258A | |
| | DC_41A_n257A<br>DC_41C_n257A | DC_41A_n257A<br>DC_41C_n257A | |
| | DC_41A_n258A | DC_41A_n258A | |
| | DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257E<br>DC_42A_n257F<br>DC_42C_n257A<br>DC_42C_n257D<br>DC_42C_n257E<br>DC_42C_n257F<br>DC_42D_n257A<br>DC_42E_n257A | DC_42A_n257A<br>DC_42C_n257A | |
| | DC_48A_n257A<br>DC_48C_n257A | DC_48A_n257A<br>DC_48C_n257A | |
| | DC_48A-48A_n257A | DC_48A_n257A | |
| | DC_48A_n260A<br>DC_48C_n260A | DC_48A_n260A<br>DC_48C_n260A | |
| | DC_48A-48A_n260A | DC_48A_n260A | |
| | DC_66A_n257A<br>DC_66A_n257(2A) | DC_66A_n257A | |

| | | | |
|---|---|---|---|
| | DC_66A_n257G<br>DC_66A_n257H<br>DC_66A_n257I<br>DC_66A_n257J<br>DC_66A_n257K<br>DC_66A_n257L<br>DC_66A_n257M<br>DC_66C_n257A | | |
| | DC_66A-66A_n257A | DC_66A_n257A | |
| | DC_66A_n260A<br>DC_66A_n260D<br>DC_66A_n260E<br>DC_66A_n260F<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I<br>DC_66A_n260J<br>DC_66A_n260K<br>DC_66A_n260L<br>DC_66A_n260M<br>DC_66A_n260O<br>DC_66A_n260P<br>DC_66A_n260Q | DC_66A_n260A | |
| | DC_66A_n260(2A)<br>DC_66A_n260(3A)<br>DC_66A_n260(4A)<br>DC_66A_n260(A-I)<br>DC_66A_n260(D-G)<br>DC_66A_n260(D-H)<br>DC_66A_n260(D-I)<br>DC_66A_n260(D-O)<br>DC_66A_n260(D-P)<br>DC_66A_n260(D-Q)<br>DC_66A_n260(E-O)<br>DC_66A_n260(E-P)<br>DC_66A_n260(E-Q)<br>DC_66A_n260(G-I) | DC_66A_n260A | |
| | DC_66A-66A_n260A<br>DC_66A-66A_n260G<br>DC_66A-66A_n260H<br>DC_66A-66A_n260I<br>DC_66A-66A_n260J<br>DC_66A-66A_n260K<br>DC_66A-66A_n260L<br>DC_66A-66A_n260M | DC_66A_n260A | |
| | DC_66A_n261A<br>DC_66A_n261D<br>DC_66A_n261E<br>DC_66A_n261F<br>DC_66A_n261G<br>DC_66A_n261H<br>DC_66A_n261I<br>DC_66A_n261J<br>DC_66A_n261K<br>DC_66A_n261L<br>DC_66A_n261M<br>DC_66A_n261O<br>DC_66A_n261P<br>DC_66A_n261Q | DC_66A_n261A | |
| | DC_66A_n261(2A)<br>DC_66A_n261(3A)<br>DC_66A_n261(4A)<br>DC_66A_n261(D-G)<br>DC_66A_n261(D-H)<br>DC_66A_n261(D-I)<br>DC_66A_n261(D-O) | DC_66A_n261A | |

| | |
|---|---|
| DC_66A_n261(D-P)<br>DC_66A_n261(D-Q)<br>DC_66A_n261(E-O)<br>DC_66A_n261(E-P)<br>DC_66A_n261(E-Q) | |

NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.
NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability for all of the above combinations

## 5.5B.5.2 Inter-band EN-DC configurations including FR2 (three bands)

**Table 5.5B.5.2-1: Inter-band EN-DC configurations including FR2 (three bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A_n257A[2]<br>DC_1A-3A_n257D[2]<br>DC_1A-3A_n257E[2]<br>DC_1A-3A_n257F[2]<br>DC_1A-3A_n257G<br>DC_1A-3A_n257H<br>DC_1A-3A_n257I | DC_1A_n257A<br>DC_1A_n257D<br>DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I |
| DC_1A-5A_n257A[2] | DC_1A_n257A<br>DC_5A_n257A |
| DC_1A-7A_n257A[2] | DC_1A_n257A<br>DC_7A_n257A |
| DC_1A-7A-7A_n257A[2] | DC_1A_n257A<br>DC_7A_n257A |
| DC_1A-8A_n257A[2] | DC_1A_n257A<br>DC_8A_n257A |
| DC_1A-18A_n257A[2] | DC_1A_n257A<br>DC_18A_n257A |
| DC_1A-19A_n257A[2]<br>DC_1A-19A_n257D[2]<br>DC_1A-19A_n257E[2]<br>DC_1A-19A_n257F[2]<br>DC_1A-19A_n257G<br>DC_1A-19A_n257H<br>DC_1A-19A_n257I | DC_1A_n257A<br>DC_1A_n257D<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_19A_n257A<br>DC_19A_n257D |
| DC_1A-21A_n257A[2]<br>DC_1A-21A_n257D[2]<br>DC_1A-21A_n257E[2]<br>DC_1A-21A_n257F[2]<br>DC_1A-21A_n257G<br>DC_1A-21A_n257H<br>DC_1A-21A_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I |
| DC_1A-28A_n257A[2]<br>DC_1A-28A_n257D[2]<br>DC_1A-28A_n257E[2]<br>DC_1A-28A_n257F[2] | DC_1A_n257A<br>DC_28A_n257A |
| DC_1A-41A_n257A<br>DC_1A-41C_n257A | DC_1A_n257A<br>DC_41A_n257A<br>DC_41C_n257A |
| DC_1A-42A_n257A<br>DC_1A-42A_n257D<br>DC_1A-42A_n257E<br>DC_1A-42A_n257F<br>DC_1A-42A_n257G<br>DC_1A-42A_n257H<br>DC_1A-42A_n257I<br>DC_1A-42C_n257A<br>DC_1A-42C_n257D | DC_1A_n257A<br>DC_1A_n257D<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_42A_n257A<br>DC_42A_n257D |

| | | | |
|---|---|---|---|
| | DC_1A-42C_n257E<br>DC_1A-42C_n257F<br>DC_1A-42D_n257A<br>DC_1A-42D_n257G<br>DC_1A-42D_n257H<br>DC_1A-42D_n257I<br>DC_1A-42E_n257A<br>DC_1A-42E_n257G<br>DC_1A-42E_n257H<br>DC_1A-42E_n257I | | |
| | DC_2A-5A_n257A[2] | DC_2A_n257A<br>DC_5A_n257A | |
| | DC_2A-5A_n260A<br>DC_2A-5A_n260G<br>DC_2A-5A_n260H<br>DC_2A-5A_n260I<br>DC_2A-5A_n260J<br>DC_2A-5A_n260K<br>DC_2A-5A_n260L<br>DC_2A-5A_n260M | DC_2A_n260A<br>DC_5A_n260A | |
| | DC_2A-12A_n260A<br>DC_2A-12A_n260G<br>DC_2A-12A_n260H<br>DC_2A-12A_n260I<br>DC_2A-12A_n260J<br>DC_2A-12A_n260K<br>DC_2A-12A_n260L<br>DC_2A-12A_n260M | DC_2A_n260A<br>DC_12A_n260A | |
| | DC_2A-13A_n257A[2] | DC_2A_n257A<br>DC_13A_n257A | |
| | DC_2A-13A_n260A[2] | DC_2A_n260A<br>DC_13A_n260A | |
| | DC_2A-30A_n260A<br>DC_2A-30A_n260G<br>DC_2A-30A_n260H<br>DC_2A-30A_n260I<br>DC_2A-30A_n260J<br>DC_2A-30A_n260K<br>DC_2A-30A_n260L<br>DC_2A-30A_n260M | DC_2A_n260A<br>DC_30A_n260A | |
| | DC_2A-66A_n257A[2] | DC_2A_n257A<br>DC_66A_n257A | |
| | DC_2A-66A_n260A<br>DC_2A-66A_n260G<br>DC_2A-66A_n260H<br>DC_2A-66A_n260I<br>DC_2A-66A_n260J<br>DC_2A-66A_n260K<br>DC_2A-66A_n260L<br>DC_2A-66A_n260M | DC_2A_n260A<br>DC_66A_n260A | |
| | DC_3A-5A_n257A[2] | DC_3A_n257A<br>DC_5A_n257A | |
| | DC_3A-7A_n257A[2] | DC_3A_n257A<br>DC_7A_n257A | |
| | DC_3A-7A-7A_n257A[2] | DC_3A_n257A<br>DC_7A_n257A | |
| | DC_3A-19A_n257A[2]<br>DC_3A-19A_n257D[2]<br>DC_3A-19A_n257E[2]<br>DC_3A-19A_n257F[2]<br>DC_3A-19A_n257G<br>DC_3A-19A_n257H<br>DC_3A-19A_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A<br>DC_19A_n257D | |
| | DC_3A-21A_n257A[2] | DC_3A_n257A | |

| | | | |
|---|---|---|---|
| | DC_3A-21A_n257D[2]<br>DC_3A-21A_n257E[2]<br>DC_3A-21A_n257F[2]<br>DC_3A-21A_n257G<br>DC_3A-21A_n257H<br>DC_3A-21A_n257I | DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_21A_n257A<br>DC_21A_n257D | |
| | DC_3A-28A_n257A[2]<br>DC_3A-28A_n257D[2]<br>DC_3A-28A_n257E[2]<br>DC_3A-28A_n257F[2] | DC_3A_n257A<br>DC_28A_n257A | |
| | DC_3A-41A_n257A | DC_3A_n257A<br>DC_41A_n257A | |
| | DC_3A-42A_n257A[2]<br>DC_3A-42A_n257D[2]<br>DC_3A-42A_n257E[2]<br>DC_3A-42A_n257F[2]<br>DC_3A-42A_n257G<br>DC_3A-42A_n257H<br>DC_3A-42A_n257I<br>DC_3A-42C_n257A[2]<br>DC_3A-42C_n257D[2]<br>DC_3A-42C_n257E[2]<br>DC_3A-42C_n257F[2]<br>DC_3A-42C_n257G<br>DC_3A-42C_n257H<br>DC_3A-42C_n257I<br>DC_3A-42D_n257A[2]<br>DC_3A-42D_n257G<br>DC_3A-42D_n257H<br>DC_3A-42D_n257I<br>DC_3A-42E_n257A[2]<br>DC_3A-42E_n257G<br>DC_3A-42E_n257H<br>DC_3A-42E_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_42A_n257A<br>DC_42A_n257D | |
| | DC_5A-7A_n257A[2] | DC_5A_n257A<br>DC_7A_n257A | |
| | DC_5A-7A-7A_n257A | DC_5A_n257A<br>DC_7A_n257A | |
| | DC_5A-30A_n260A<br>DC_5A-30A_n260G<br>DC_5A-30A_n260H<br>DC_5A-30A_n260I<br>DC_5A-30A_n260J<br>DC_5A-30A_n260K<br>DC_5A-30A_n260L<br>DC_5A-30A_n260M | DC_5A_n260A<br>DC_30A_n260A | |
| | DC_5A-66A_n257A | DC_5A_n257A<br>DC_66A_n257A | |
| | DC_5A-66A_n260A<br>DC_5A-66A_n260G<br>DC_5A-66A_n260H<br>DC_5A-66A_n260I<br>DC_5A-66A_n260J<br>DC_5A-66A_n260K<br>DC_5A-66A_n260L<br>DC_5A-66A_n260M | DC_5A_n260A<br>DC_66A_n260A | |
| | DC_12A-30A_n260A<br>DC_12A-30A_n260G<br>DC_12A-30A_n260H<br>DC_12A-30A_n260I<br>DC_12A-30A_n260J<br>DC_12A-30A_n260K<br>DC_12A-30A_n260L<br>DC_12A-30A_n260M | DC_12A_n260A<br>DC_30A_n260A | |
| | DC_12A-66A_n260A | DC_12A_n260A | |

| | | |
|---|---|---|
| DC_12A-66A_n260G<br>DC_12A-66A_n260H<br>DC_12A-66A_n260I<br>DC_12A-66A_n260J<br>DC_12A-66A_n260K<br>DC_12A-66A_n260L<br>DC_12A-66A_n260M | DC_66A_n260A | |
| DC_13A-66A_n257A[2] | DC_13A_n257A<br>DC_66A_n257A | |
| DC_13A-66A_n260A[2] | DC_13A_n260A<br>DC_66A_n260A | |
| DC_18A-28A_n257A[2] | DC_18A_n257A<br>DC_28A_n257A | |
| DC_19A-21A_n257A[2]<br>DC_19A-21A_n257D[2]<br>DC_19A-21A_n257E[2]<br>DC_19A-21A_n257F[2]<br>DC_19A-21A_n257G<br>DC_19A-21A_n257H<br>DC_19A-21A_n257I | DC_19A_n257A<br>DC_19A_n257D<br>DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257G | |
| DC_19A-42A_n257A[2]<br>DC_19A-42A_n257D[2]<br>DC_19A-42A_n257E[2]<br>DC_19A-42A_n257F[2]<br>DC_19A-42A_n257G[2]<br>DC_19A-42A_n257H[2]<br>DC_19A-42A_n257I[2]<br>DC_19A-42C_n257A[2]<br>DC_19A-42C_n257G[2]<br>DC_19A-42C_n257H[2]<br>DC_19A-42C_n257I[2] | DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I<br>DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I | |
| DC_21A-28A_n257A[2]<br>DC_21A-28A_n257D[2]<br>DC_21A-28A_n257E[2]<br>DC_21A-28A_n257F[2] | DC_21A_n257A<br>DC_28A_n257A | |
| DC_21A-42A_n257A[2]<br>DC_21A-42A_n257D[2]<br>DC_21A-42A_n257E[2]<br>DC_21A-42A_n257F[2]<br>DC_21A-42A_n257G<br>DC_21A-42A_n257H<br>DC_21A-42A_n257I<br>DC_21A-42C_n257A[2]<br>DC_21A-42C_n257G<br>DC_21A-42C_n257H<br>DC_21A-42C_n257I | DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A<br>DC_42A_n257D | |
| DC_28A-42C_n257A[2]<br>DC_28A-42A_n257A[2] | DC_28A_n257A<br>DC_42A_n257A | |
| DC_30A-66A_n260A<br>DC_30A-66A_n260G<br>DC_30A-66A_n260H<br>DC_30A-66A_n260I<br>DC_30A-66A_n260J<br>DC_30A-66A_n260K<br>DC_30A-66A_n260L<br>DC_30A-66A_n260M | DC_30A_n260A<br>DC_66A_n260A | |
| DC_41A-42A_n257A<br>DC_41A-42C_n257A<br>DC_41C-42A_n257A<br>DC_41C-42C_n257A | DC_41A_n257A<br>DC_42A_n257A | |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability. | | |

5.5B.5.3 Inter-band EN-DC configurations including FR2 (four bands)

**Table 5.5B.5.3-1: Inter-band EN-DC configurations including FR2 (four bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A_n257A[2] | DC_1A_n257A<br>DC_3A_n257A<br>DC_5A_n257A |
| DC_1A-3A-7A_n257A[2] | DC_1A_n257A<br>DC_3A_n257A<br>DC_7A_n257A |
| DC_1A-3A-7A-7A_n257A | DC_1A_n257A<br>DC_3A_n257A<br>DC_7A_n257A |
| DC_1A-3A-19A_n257A[2]<br>DC_1A-3A-19A_n257G<br>DC_1A-3A-19A_n257H<br>DC_1A-3A-19A_n257I | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A |
| DC_1A-3A-21A_n257A[2]<br>DC_1A-3A-21A_n257G<br>DC_1A-3A-21A_n257H<br>DC_1A-3A-21A_n257I | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_21A_n257A |
| DC_1A-3A-28A_n257A[2] | DC_1A_n257A<br>DC_3A_n257A<br>DC_28A_n257A |
| DC_1A-3A-42A_n257A<br>DC_1A-3A-42A_n257G<br>DC_1A-3A-42A_n257H<br>DC_1A-3A-42A_n257I<br>DC_1A-3A-42C_n257A<br>DC_1A-3A-42C_n257D<br>DC_1A-3A-42C_n257E<br>DC_1A-3A-42C_n257F<br>DC_1A-3A-42C_n257G<br>DC_1A-3A-42C_n257H<br>DC_1A-3A-42C_n257I<br>DC_1A-3A-42D_n257G<br>DC_1A-3A-42D_n257H<br>DC_1A-3A-42D_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_3A_n257ADC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I |
| DC_1A-5A-7A_n257A[2] | DC_1A_n257A<br>DC_5A_n257A<br>DC_7A_n257A |
| DC_1A-5A-7A-7A_n257A | DC_1A_n257A<br>DC_5A_n257A<br>DC_7A_n257A |
| DC_1A-18A-28A_n257A[2] | DC_1A_n257A<br>DC_18A_n257A<br>DC_28A_n257A |
| DC_1A-19A-21A_n257A<br>DC_1A-19A-21A_n257D<br>DC_1A-19A-21A_n257E<br>DC_1A-19A-21A_n257F<br>DC_1A-19A-21A_n257G<br>DC_1A-19A-21A_n257H<br>DC_1A-19A-21A_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_19A_n257A<br>DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I |
| DC_1A-19A-42A_n257A<br>DC_1A-19A-42A_n257G | DC_1A_n257A<br>DC_1A_n257G |

| | | | |
|---|---|---|---|
| | DC_1A-19A-42A_n257H<br>DC_1A-19A-42A_n257I<br>DC_1A-19A-42C_n257A<br>DC_1A-19A-42C_n257D<br>DC_1A-19A-42C_n257E<br>DC_1A-19A-42C_n257F<br>DC_1A-19A-42C_n257G<br>DC_1A-19A-42C_n257H<br>DC_1A-19A-42C_n257I | DC_1A_n257H<br>DC_1A_n257I<br>DC_19A_n257A<br>DC_42A_n257A | |
| | DC_1A-21A-28A_n257A[2] | DC_1A_n257A<br>DC_21A_n257A<br>DC_28A_n257A | |
| | DC_1A-21A-42A_n257A<br>DC_1A-21A-42A_n257G<br>DC_1A-21A-42A_n257H<br>DC_1A-21A-42A_n257I<br>DC_1A-21A-42C_n257A<br>DC_1A-21A-42C_n257D<br>DC_1A-21A-42C_n257E<br>DC_1A-21A-42C_n257F<br>DC_1A-21A-42C_n257G<br>DC_1A-21A-42C_n257H<br>DC_1A-21A-42C_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A<br>DC_42A_n257D | |
| | DC_1A-28A-42A_n257A<br>DC_1A-28A-42C_n257A | DC_1A_n257A<br>DC_28A_n257A<br>DC_42A_n257A | |
| | DC_1A-41A-42A_n257A<br>DC_1A-41A-42C_n257A<br>DC_1A-41C-42A_n257A<br>DC_1A-41C-42C_n257A | DC_1A_n257A<br>DC_41A_n257A<br>DC_42A_n257A | |
| | DC_3A-5A-7A_n257A[2] | DC_3A_n257A<br>DC_5A_n257A<br>DC_7A_n257A | |
| | DC_3A-5A-7A-7A_n257A[2] | DC_3A_n257A<br>DC_5A_n257A<br>DC_7A_n257A | |
| | DC_3A-19A-21A_n257A[2] | DC_3A_n257A<br>DC_19A_n257A<br>DC_21A_n257A | |
| | DC_3A-19A-42A_n257A<br>DC_3A-19A-42A_n257G<br>DC_3A-19A-42A_n257H<br>DC_3A-19A-42A_n257I<br>DC_3A-19A-42C_n257A<br>DC_3A-19A-42C_n257D<br>DC_3A-19A-42C_n257E<br>DC_3A-19A-42C_n257F<br>DC_3A-19A-42C_n257G<br>DC_3A-19A-42C_n257H<br>DC_3A-19A-42C_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I<br>DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I | |
| | DC_3A-21A-42A_n257A<br>DC_3A-21A-42A_n257G<br>DC_3A-21A-42A_n257H<br>DC_3A-21A-42A_n257I<br>DC_3A-21A-42C_n257A<br>DC_3A-21A-42C_n257D<br>DC_3A-21A-42C_n257E<br>DC_3A-21A-42C_n257F<br>DC_3A-21A-42C_n257G<br>DC_3A-21A-42C_n257H<br>DC_3A-21A-42C_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A | |

| | |
|---|---|
| | DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I |
| DC_3A-28A-42A_n257A<br>DC_3A-28A-42C_n257A | DC_3A_n257A<br>DC_28A_n257A<br>DC_42A_n257A |
| DC_19A-21A-42A_n257A[2]<br>DC_19A-21A-42A_n257G[2]<br>DC_19A-21A-42A_n257H[2]<br>DC_19A-21A-42A_n257I[2]<br>DC_19A-21A-42C_n257A[2]<br>DC_19A-21A-42C_n257D[2]<br>DC_19A-21A-42C_n257E[2]<br>DC_19A-21A-42C_n257F[2]<br>DC_19A-21A-42C_n257G[2]<br>DC_19A-21A-42C_n257H[2]<br>DC_19A-21A-42C_n257I[2] | DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I<br>DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I |
| DC_21A-28A-42A_n257A[2]<br>DC_21A-28A-42C_n257A[2] | DC_21A_n257A<br>DC_28A_n257A<br>DC_42A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability. | |

## 5.5B.5.4 Inter-band EN-DC configurations including FR2 (five bands)

**Table 5.5B.5.4-1: Inter-band EN-DC configurations including FR2 (five bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A-7A_n257A | DC_1A_n257A<br>DC_3A_n257A<br>DC_5A_n257A<br>DC_7A_n257A |
| DC_1A-3A-5A-7A-7A_n257A | DC_1A_n257A<br>DC_3A_n257A<br>DC_5A_n257A<br>DC_7A_n257A |
| DC_1A-3A-19A-21A_n257A<br>DC_1A-3A-19A-21A_n257D<br>DC_1A-3A-19A-21A_n257E<br>DC_1A-3A-19A-21A_n257F | DC_1A_n257A<br>DC_3A_n257A<br>DC_19A_n257A<br>DC_21A_n257A |
| DC_1A-3A-19A-42A_n257A<br>DC_1A-3A-19A-42A_n257D<br>DC_1A-3A-19A-42A_n257E<br>DC_1A-3A-19A-42A_n257F<br>DC_1A-3A-19A-42A_n257G<br>DC_1A-3A-19A-42A_n257H<br>DC_1A-3A-19A-42A_n257I<br>DC_1A-3A-19A-42C_n257A<br>DC_1A-3A-19A-42C_n257D<br>DC_1A-3A-19A-42C_n257E<br>DC_1A-3A-19A-42C_n257F<br>DC_1A-3A-19A-42C_n257G<br>DC_1A-3A-19A-42C_n257H<br>DC_1A-3A-19A-42C_n257I | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A<br>DC_42A_n257A |
| DC_1A-3A-21A-42A_n257A<br>DC_1A-3A-21A-42C_n257A | DC_1A_n257A<br>DC_3A_n257A |

| | |
|---|---|
| DC_1A-3A-21A-42C_n257D<br>DC_1A-3A-21A-42C_n257E<br>DC_1A-3A-21A-42C_n257F<br>DC_1A-3A-21A-42C_n257G<br>DC_1A-3A-21A-42C_n257H<br>DC_1A-3A-21A-42C_n257I | DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_3A_n257J<br>DC_21A_n257A<br>DC_42A_n257A |
| DC_1A-3A-28A-42A_n257A<br>DC_1A-3A-28A-42C_n257A | DC_1A_n257A<br>DC_3A_n257A<br>DC_28A_n257A<br>DC_42A_n257A |
| DC_1A-19A-21A-42A_n257A<br>DC_1A-19A-21A-42A_n257D<br>DC_1A-19A-21A-42A_n257E<br>DC_1A-19A-21A-42A_n257F<br>DC_1A-19A-21A-42A_n257G<br>DC_1A-19A-21A-42A_n257H<br>DC_1A-19A-21A-42A_n257I<br>DC_1A-19A-21A-42C_n257A<br>DC_1A-19A-21A-42C_n257D<br>DC_1A-19A-21A-42C_n257E<br>DC_1A-19A-21A-42C_n257F<br>DC_1A-19A-21A-42C_n257G<br>DC_1A-19A-21A-42C_n257H<br>DC_1A-19A-21A-42C_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_19A_n257A<br>DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A |
| DC_1A-19A-28A-42C_n257A | DC_1A_n257A<br>DC_19A_n257A<br>DC_28A_n257A<br>DC_42A_n257A |
| DC_1A-21A-28A-42A_n257A | DC_1A_n257A<br>DC_21A_n257A<br>DC_28A_n257A<br>DC_42A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | |

### 5.5B.5.5 Void

## 5.5B.6 Inter-band EN-DC including FR1 and FR2

Supported channel bandwidths for E-UTRA operating bands and CA configurations are defined in TS 36.521-1 [10] and for NR operating bands and CA configurations in TS 38.521-1 [8], TS 38.521-2 [9] and present document.

### 5.5B.6.1 Void

### 5.5B.6.2 Inter-band EN-DC configurations including FR1 and FR2 (three bands)

**Table 5.5B.6.2-1: Inter-band EN-DC configurations including FR1 and FR2 (three bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A_n77A-n257A<br>DC_1A_n77A-n257D<br>DC_1A_n77A-n257E<br>DC_1A_n77A-n257F<br>DC_1A_n77C-n257A<br>DC_1A_n77C-n257D<br>DC_1A_n77C-n257E<br>DC_1A_n77C-n257F | DC_1A_n77A<br>DC_1A_n257A<br>DC_1A_n77A-n257A |
| DC_1A_n78A-n257A<br>DC_1A_n78A-n257D<br>DC_1A_n78A-n257E<br>DC_1A_n78A-n257F<br>DC_1A_n78C-n257A<br>DC_1A_n78C-n257D | DC_1A_n78A<br>DC_1A_n257A<br>DC_1A_n78A-n257A |

| | | |
|---|---|---|
| | DC_1A_n78C-n257E<br>DC_1A_n78C-n257F | |
| | DC_1A_n79A-n257A<br>DC_1A_n79A-n257D<br>DC_1A_n79A-n257E<br>DC_1A_n79A-n257F<br>DC_1A_n79C-n257A<br>DC_1A_n79C-n257D<br>DC_1A_n79C-n257E<br>DC_1A_n79C-n257F | DC_1A_n79A<br>DC_1A_n257A<br>DC_1A_n79A-n257A |
| | DC_3A_n77A-n257A<br>DC_3A_n77A-n257D<br>DC_3A_n77A-n257E<br>DC_3A_n77A-n257F<br>DC_3A_n77C-n257A<br>DC_3A_n77C-n257D<br>DC_3A_n77C-n257E<br>DC_3A_n77C-n257F | DC_3A_n77A<br>DC_3A_n257A<br>DC_3A_n77A-n257A |
| | DC_3A_n78A-n257A<br>DC_3A_n78A-n257D<br>DC_3A_n78A-n257E<br>DC_3A_n78A-n257F<br>DC_3A_n78C-n257A<br>DC_3A_n78C-n257D<br>DC_3A_n78C-n257E<br>DC_3A_n78C-n257F | DC_3A_n78A<br>DC_3A_n257A<br>DC_3A_n78A-n257A |
| | DC_3A_n79A-n257A<br>DC_3A_n79A-n257D<br>DC_3A_n79A-n257E<br>DC_3A_n79A-n257F<br>DC_3A_n79C-n257A<br>DC_3A_n79C-n257D<br>DC_3A_n79C-n257E<br>DC_3A_n79C-n257F | DC_3A_n79A<br>DC_3A_n257A<br>DC_3A_n79A-n257A |
| | DC_5A_n78A-n257A[2] | DC_5A_n78A<br>DC_5A_n257A |
| | DC_7A_n78A-n257A | DC_7A_n78A<br>DC_7A_n257A |
| | DC_7A-7A_n78A-n257A | DC_7A_n78A<br>DC_7A_n257A<br>DC_7A_n78A-n257A |
| | DC_19A_n77A-n257A<br>DC_19A_n77A-n257D<br>DC_19A_n77A-n257E<br>DC_19A_n77A-n257F<br>DC_19A_n77C-n257A<br>DC_19A_n77C-n257D<br>DC_19A_n77C-n257E<br>DC_19A_n77C-n257F | DC_19A_n77A<br>DC_19A_n257A<br>DC_19A_n77A-n257A |
| | DC_19A_n78A-n257A<br>DC_19A_n78A-n257D<br>DC_19A_n78A-n257E<br>DC_19A_n78A-n257F<br>DC_19A_n78C-n257A<br>DC_19A_n78C-n257D<br>DC_19A_n78C-n257E<br>DC_19A_n78C-n257F | DC_19A_n78A<br>DC_19A_n257A<br>DC_19A_n78A-n257A |
| | DC_19A_n79A-n257A<br>DC_19A_n79A-n257D<br>DC_19A_n79A-n257E<br>DC_19A_n79A-n257F<br>DC_19A_n79C-n257A<br>DC_19A_n79C-n257D<br>DC_19A_n79C-n257E<br>DC_19A_n79C-n257F | DC_19A_n79A<br>DC_19A_n257A<br>DC_19A_n79A-n257A |

| | |
|---|---|
| DC_21A_n77A-n257A | DC_21A_n77A<br>DC_21A_n257A |
| DC_21A_n78A-n257A | DC_21A_n78A<br>DC_21A_n257A |
| DC_21A_n79A-n257A | DC_21A_n79A<br>DC_21A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability. | |

### 5.5B.6.3 Inter-band EN-DC configurations including FR1 and FR2 (four bands)

**Table 5.5B.6.3-1: Inter-band EN-DC configurations including FR1 and FR2 (four bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A_n78A-n257A<br>DC_1A-3A_n78A-n257G<br>DC_1A-3A_n78A-n257H<br>DC_1A-3A_n78A-n257I | DC_1A_n78A<br>DC_1A_n257A<br>DC_1A_n257D<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I |
| DC_1A-5A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_5A_n78A<br>DC_5A_n257A |
| DC_1A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-7A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-5A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A |
| DC_3A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-7A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_5A-7A_n78A-n257A | DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_5A-7A-7A_n78A-n257A | DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | |

### 5.5B.6.4 Inter-band EN-DC configurations including FR1 and FR2 (five bands)

**Table 5.5B.6.4-1: Inter-band EN-DC configurations including FR1 and FR2 (five bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A |
| DC_1A-3A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-3A-7A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-5A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-5A-7A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-5A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-5A-7A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | |

### 5.5B.6.5 Inter-band EN-DC configurations including FR1 and FR2 (six bands)

**Table 5.5B.6.5-1: Inter-band EN-DC configurations including FR1 and FR2 (six bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |

NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.

## 5.5B.7 Inter-band NR-DC between FR1 and FR2

Supported channel bandwidths for E-UTRA operating bands and CA configurations are defined in TS 36.521-1 [10] and for NR operating bands and CA configurations in TS 38.521-1 [8], TS 38.521-2 [9] and present document.

### 5.5B.7.1 Inter-band NR-DC configurations between FR1 and FR2 (two bands)

**Table 5.5B.7-1: Inter-band NR-DC configurations between FR1 and FR2 (two bands)**

| Downlink NR-DC configuration | Uplink NR-DC configuration |
|---|---|
| DC_n77A-n257A<br>DC_n77A-n257D<br>DC_n77A-n257E<br>DC_n77A-n257F<br>DC_n77A-n257G<br>DC_n77A-n257H<br>DC_n77A-n257I<br>DC_n77A-n257J<br>DC_n77A-n257K<br>DC_n77A-n257L<br>DC_n77A-n257M<br>DC_n77C-n257A<br>DC_n77C-n257D<br>DC_n77C-n257E<br>DC_n77C-n257F | DC_n77A-n257A |
| DC_n78A-n257A<br>DC_n78A-n257D<br>DC_n78A-n257E<br>DC_n78A-n257F<br>DC_n78A-n257G<br>DC_n78A-n257H<br>DC_n78A-n257I<br>DC_n78A-n257J<br>DC_n78A-n257K<br>DC_n78A-n257L<br>DC_n78A-n257M<br>DC_n78C-n257A<br>DC_n78C-n257D<br>DC_n78C-n257E<br>DC_n78C-n257F | DC_n78A-n257A |
| DC_n79A-n257A<br>DC_n79A-n257D<br>DC_n79A-n257E<br>DC_n79A-n257F<br>DC_n79A-n257G<br>DC_n79A-n257H<br>DC_n79A-n257I<br>DC_n79A-n257J<br>DC_n79A-n257K<br>DC_n79A-n257L<br>DC_n79A-n257M<br>DC_n79C-n257A<br>DC_n79C-n257D<br>DC_n79C-n257E<br>DC_n79C-n257F | DC_n79A-n257A |
| NOTE 1: NR configuration for FR1 and FR2 are defined in TS 38.521-1 [8] and TS 38.521-2 [9] respectively. | |

وتُحدَّد نطاقات تشغيل معدات المستعمل (UE) الخاصة بتشغيل تكنولوجيا الراديو الجديد (NR) للاتصالات من مركبة إلى كل شيء (V2X)، والمتزامنة مع ترتيبات الوصلة الصاعدة/الوصلة الهابطة أو ترتيبات الوصلة الجانبية في النفاذ E-UTRA، في الفقرة الفرعية 2E.5 من المواصفة التقنية TS 38.521-3 V16.7.0.

5.2E Operating bands for V2X

5.2E.1 Intra-band V2X bands

NR V2X operation is designed to operate concurrent with E-UTRA uplink/downlink or sidelink on the operating bands combinations listed in Table 5.2E.1-1.

**Table 5.2E.1-1: Intra-band V2X operating bands**

| V2X con-current operating band | E-UTRA or NR Band | Interface |
|---|---|---|
| V2X_47_n47[1] | 47 | PC5 |
| | n47 | PC5 |
| NOTE 1: Only single switched SL is supported. | | |

5.2E.2 Inter-band V2X bands

NR V2X operation is designed to operate concurrent with E-UTRA uplink/downlink on the operating bands combinations listed in Table 5.2E.2-1.

**Table 5.2E.2-1: Inter-band con-current V2X operating bands**

| E-UTRA-NR V2X Band Combination | E-UTRA or NR Band | Interface |
|---|---|---|
| V2X_20_n38 | 20 | Uu |
| | n38 | PC5 |
| V2X_n71_47 | 47 | PC5 |
| | n71 | Uu |
| V2X_n71_(n) 47[1] | 47 | PC5 |
| | n47 | PC5 |
| | n71 | Uu |
| NOTE 1: Only single switched SL in ITS band is supported. | | |

### 2.1.4 عرض نطاق قناة معدات المستعمل (UE)

يُحدَّد عرض نطاق قناة معدات المستعمل (UE)، فيما يخص تجميع الموجات الحاملة بين النطاقات لتكنولوجيا الراديو الجديد (NR)، لترتيبات FR1 وFR2، في الفقرة 3A.5 من المواصفة التقنية [8] TS 38.521-3.

5.3A UE Channel bandwidth for CA

5.3A.1 Inter-band CA between FR1 and FR2

For inter-band NR CA between FR1 and FR2, a carrier aggregation configuration is a combination of operating bands, each supporting a carrier aggregation bandwidth class as specified in clause 5.3A.5 of TS 38.101-1 [2] and clause 5.3A.4 of TS 38.101-2 [3] independently.

كما يُحدَّد عرض نطاق قناة معدات المستعمل (UE) لتوصيلية E-UTRA-NR المزدوجة (EN-DC)، في الفقرة 3B.5 من المواصفة التقنية [8] TS 38.521-3.

## 5.3B UE Channel bandwidth for EN-DC

### 5.3B.0 General

For intra-band contiguous EN-DC, the aggregated channel bandwidth is sum of the individual NR and E-UTRA channel bandwidths assuming nominal EN-DC channel with 0 kHz offset spacing as specified in clause 5.4.

$$ENBW = BW_{NR_Channel} + BW_{E\text{-}UTRA_Channel}$$

In the case where the NR sub-block and/or the E-UTRA sub-block itself is composed of intra-band contiguous CA carriers, the EN-DC aggregated channel bandwidth is the sum of the aggregated channel bandwidths of the NR and E-UTRA sub-blocks assuming nominal EN-DC channel spacing between the NR sub-block and E-UTRA sub-block.

$$ENBW = BW_{NR_Channel_CA} + BW_{E\text{-}UTRA_Channel_CA}$$

For NR inter-band dual connectivity specified in 5.5B.7, the corresponding NR CA configurations in 5.5A.1, i.e., dual uplink inter-band carrier aggregation between FR1 and FR2 with uplink assigned to two NR bands, are applicable to Dual Connectivity.

NOTE: Requirements for the dual connectivity configurations are defined in the clause corresponding NR uplink CA between FR1 and FR2 configurations, unless otherwise specified.

Intra-band contiguous EN-DC configurations are defined using intra-band contiguous EN-DC bandwidth class notation DC_(n)Xyz where the first EN-DC bandwidth class letter indicates the number of contiguous E-UTRA carriers and the second EN-DC bandwidth class letter indicates the number of contiguous NR carriers for the EN-DC combination of E-UTRA Band X and NR Band nX. Applicable contiguous intraband EN-DC bandwidth classes are listed in Table 5.3B.0-1.

**Table 5.3B.0-1: Intra-band contiguous EN-DC bandwidth classes**

| Intra-band contiguous EN-DC bandwidth class | Number of contiguous CC | |
|---|---|---|
| | E-UTRA | NR |
| AA | 1 | 1 |
| AB | 1 | 2 |
| CA | 2 | 1 |
| DA | 3 | 1 |

### 5.3B.1 Intra-band EN-DC in FR1

#### 5.3B.1.1 General

The requirements for intra-band EN-DC in this specification are defined for EN-DC configurations with associated bandwidth combination sets.

For each EN-DC configuration, requirements are specified for all bandwidth combinations contained in a *bandwidth combination set*, which is indicated per supported band combination in the UE radio access capability. A UE can indicate support of several bandwidth combination sets per band combination.

#### 5.3B.1.2 BCS for Intra-band contiguous EN-DC

For intra-band contiguous EN-DC, an EN-DC configuration is a single operating band supporting an intra-band contiguous EN-DC bandwidth class.

Bandwidth combination sets for intra-band contiguous EN-DC are specified in Table 5.3B.1.2-1. The EN-DC configurations and bandwidth combination sets in Table 5.3B.1.2-1 also apply to higher order EN-DC combinations that include inter-band and intra-band EN-DC on the downlink and inter-band EN-DC on the uplink. If no BCS is reported in the UE capabilities for an intra-band combination the default is that the UE supports BCS0.

**Table 5.3B.1.2-1: EN-DC configurations and bandwidth combination sets defined for intra-band contiguous EN-DC**

| E-UTRA – NR configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|
| Downlink EN-DC configuration | Uplink EN-DC configurations | Component carriers in order of increasing carrier frequency | | | Maximum aggregated bandwidth (MHz) | Bandwidth combination set |
| | | Channel bandwidths for E-UTRA carrier (MHz) | Channel bandwidths for NR carrier (MHz) | Channel bandwidths for E-UTRA carrier (MHz) | | |
| DC_(n)41AA | DC_(n)41AA | 20 | 40, 60, 80,100 | | 120 | 0 |
| | | | 40, 60, 80,100 | 20 | | |
| | | 20 | 40, 50, 60, 80,100 | | 120 | 1 |
| | | | 40, 50, 60, 80,100 | 20 | | |
| DC_(n)41CA | DC_(n)41AA, DC_41A_n41A | 20+20 | 40, 60, 80,100 | | 140 | 0 |
| | | | 40, 60, 80,100 | 20+20 | | |
| | | 20+20 | 40, 50, 60, 80,100 | | 140 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20 | | |
| DC_(n)41DA | DC_(n)41AA, DC_41A_n41A | 20+20+20 | 40, 60, 80,100 | | 160 | 0 |
| | | | 40, 60, 80,100 | 20+20+20 | | |
| | | 20+20+20 | 40, 50, 60, 80,100 | | 160 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20+20 | | |
| DC_(n)71AA | DC_(n)71AA | 15 | 5 | | 20 | 0 |
| | | 10 | 5, 10 | | | |
| | | 5 | 5, 10, 15 | | | |
| | | | 5 | 15 | | |
| | | | 5, 10 | 10 | | |
| | | | 5, 10, 15 | 5 | | |

NOTE 1: Void
NOTE 2: Void
NOTE 3: Void
NOTE 4: The channel bandwidths for E-UTRA or NR carrier should be at least supported in one of the BCS indicated in E-UTRA bandwidth combination sets or NR bandwidth combination sets if reported.

## 5.3B.1.3 BCS for Intra-band non-contiguous EN-DC

For intra-band non-contiguous EN-DC, an EN-DC configuration is a single operating band supporting E-UTRA and NR carriers, where E-UTRA configuration is indicated by using E-UTRA CA bandwidth class as defined in TS 36.101 [5] and NR configuration is indicated by using NR CA bandwidth class as defined in TS 38.101-1 [2].

Requirements for intra-band non-contiguous EN-DC are defined for the EN-DC configurations and bandwidth combination sets specified in Table 5.3B.1.3-1. The EN-DC configurations and bandwidth combination sets in Table 5.3B.1.3-1 also apply to higher order EN-DC combinations that include inter-band and intra-band EN-DC on the downlink and inter-band EN-DC on the uplink. If no BCS is reported in the UE capabilities for an intra-band combination the default is that the UE supports BCS0.

**Table 5.3B.1.3-1: EN-DC configurations and bandwidth combination sets defined for intra-band non-contiguous EN-DC**

| E-UTRA – NR configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|
| Downlink EN-DC configuration | Uplink EN-DC configurations | Component carriers in order of increasing carrier frequency | | | Maximum aggregated bandwidth (MHz) | Bandwidth combination set |
| | | Channel bandwidths for E-UTRA carrier (MHz) | Channel bandwidths for NR carrier (MHz) | Channel bandwidths for E-UTRA carrier (MHz) | | |
| DC_3A_n3A | DC_3A_n3A(1) | | 5, 10, 15, 20, 25, 30 | 5, 10, 15, 20 | 50 | 0 |
| DC_41A_n41A | DC_41A_n41A | 20 | 40, 60, 80,100 | | 120 | 0 |
| | | | 40, 60, 80,100 | 20 | | |
| | | 20 | 40, 50, 60, 80,100 | | 120 | 1 |
| | | | 40, 50, 60, 80,100 | 20 | | |
| DC_41C_n41A | DC_41A_n41A | 20+20 | 40, 60, 80,100 | | 140 | 0 |
| | | | 40, 60, 80,100 | 20+20 | | |
| | | 20+20 | 40, 50, 60, 80,100 | | 140 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20 | | |
| DC_41D_n41A | DC_41A_n41A | 20+20+20 | 40, 60, 80,100 | | 160 | 0 |
| | | | 40, 60, 80,100 | 20+20+20 | | |
| | | 20+20+20 | 40, 50, 60, 80,100 | | 160 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20+20 | | |
| NOTE 1: Only single switched UL is supported in Rel-15. | | | | | | |

ويُحدَّد عرض نطاق قناة معدات المستعمل (UE) لتشغيل تكنولوجيا الراديو الجديد (NR) للاتصالات من مركبة إلى كل شيء (V2X)، والمتزامنة مع ترتيبات الوصلة الصاعدة/الوصلة الهابطة أو ترتيبات الوصلة الجانبية في النفاذ E-UTRA، في الفقرة 3E.5 من المواصفة التقنية [8] TS 38.521-3.

## 5.3E UE Channel bandwidth for V2X

### 5.3E.0 General

The requirements specified in clause 5.3B are applicable to NR V2X UE.

### 5.3E.1 Intra-band contiguous V2X in FR1

For intra-band contiguous E-UTRA NR V2X UE, an EN-DC bandwidth class in Table 5.3B.0-1 are considered to specify the V2X transmission/reception configurations.

Bandwidth combination sets and V2X transmission/reception configurations for intra-band contiguous V2X UE are specified in Table 5.3E.1-1.

**Table 5.3E.1-1: E-UTRA-NR V2X configurations and bandwidth combination sets for intra-band contiguous V2X UE**

| V2X configuration | SL transmission band | Channel bandwidths for E-UTRA carrier (MHz) | Channel bandwidths for NR carrier (MHz) | Maximum aggregated bandwidth (MHz) | Bandwidth combination set |
|---|---|---|---|---|---|
| V2X_(n)47AA | E-UTRA Band 47 or NR band n47 | 10 | 10,20,30,40 | 60 | 0 |
| | | 20 | 10,20,30,40 | | |

## 5.3E.2 Intra-band non-contiguous V2X in FR1

For intra-band non-contiguous E-UTRA NR V2X UE, an EN-DC bandwidth class in Table 5.3B.0-1 are considered to specify the V2X transmission/reception configurations.

Bandwidth combination sets and SL transmission/reception configurations for intra-band non-contiguous V2X are specified in Table 5.3E.2-1.

**Table 5.3E.2-1: E-UTRA-NR V2X configurations and bandwidth combination sets for intra-band non-contiguous V2X UE**

| V2X configuration | SL transmission band | Channel bandwidths for E-UTRA carrier (MHz) | Channel bandwidths for NR carrier (MHz) | Maximum aggregated bandwidth (MHz) | Bandwidth combination set |
|---|---|---|---|---|---|
| V2X_47A_n47A | E-UTRA Band 47 or NR band n47 | 10 | 10,20,30,40 | 60 | 0 |
| | | 20 | 10,20,30,40 | | |

## 5.3E.3 Inter-band V2X in FR1

For inter-band E-UTRA NR V2X UE, the each channel bandwidth for inter-band V2X operations in FR1 is specified in TS 36.101 [4] and TS 38.101-1 [2], respectively.

### 3.1.4 ترتيب القنوات

يُحدَّد ترتيب قنوات معدات المستعمل (UE) الخاص بتجميع الموجات الحاملة بين النطاقات لتكنولوجيا الراديو الجديد (NR)، لترتيبات FR1 وFR2، في الفقرة 4A.5 من المواصفة التقنية [8] TS 38.521-3.

## 5.4A Channel arrangement for CA

The channel arrangement for CA operations in FR1 and FR2 as specified in TS 38.101-1 [2] and TS 38.101-2 [3], respectively.

ويُحدَّد ترتيب قنوات معدات المستعمل (UE) الخاص بتشكيلات التوصيلية المزدوجة (DC) في الفقرة 4B.5 من المواصفة التقنية [8] TS 38.521-3.

## 5.4B Channel arrangement for DC

### 5.4B.0 General

The channel arrangement for intra-band EN-DC operations in FR1 is specified in TS 36.101 [5] and TS 38.101-1 [2], respectively.

### 5.4B.1 Channel spacing for intra-band EN-DC carriers

The spacing between carriers will depend on the deployment scenario, the size of the frequency block available and the channel bandwidths. The nominal channel spacing between E-UTRA carrier and an adjacent NR carrier for intra-band contiguous EN-DC is defined as following:

- For NR operating bands with 100 kHz channel raster,

  Nominal Channel spacing = $(BW_{E\text{-}UTRA_Channel} + BW_{NR_Channel})/2$

- For NR operating bands with 15 kHz channel raster,

  Nominal Channel spacing = $(BW_{E\text{-}UTRA_Channel} + BW_{NR_Channel})/2+\{-5kHz, 0kHz, 5kHz\}$ for $\Delta F_{Raster}$ equals to 15 kHz

  Nominal Channel spacing = $(BW_{E\text{-}UTRA_Channel} + BW_{NR_Channel})/2+\{-10kHz, 0kHz, 10kHz\}$ for $\Delta F_{Raster}$ equals to 30 kHz.

where $BW_{E\text{-}UTRA_Channel}$ and $BW_{NR_Channel}$ are the channel bandwidths of the E-UTRA and NR carriers, $\Delta F_{Raster}$ is the band dependent channel raster granularity defined in TS38.101-1[2]. The channel spacing can be adjusted depending on the channel raster to optimize performance in a particular deployment scenario.

For intra-band non-contiguous EN-DC the channel spacing between E-UTRA and NR carriers shall be larger than the nominal channel spacing defined in this clause.

### 4.1.4 التشكيلات

تحدَّد تشكيلات تجميع الموجات الحاملة المدعومة بين النطاقات بين FR1 وFR2 في الجدول 1-1.5A.5 من المواصفة التقنية TS 38.521-3 [8].

**Table 5.5A.1-1: Inter-band CA configurations and bandwidth combinations sets between FR1 and FR2 (two bands)**

| NR CA configuration | Uplink CA configuration | NR Band | Channel bandwidth (MHz) (NOTE 3) | | | | | | | | | | | | | | | Bandwidth combination set |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 200 | 400 | |
| CA_n1A-n258A | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n1A-n258D | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258D | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258D | | | | | | | | | | | | | | | |
| CA_n1A-n258E | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258E | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258E | | | | | | | | | | | | | | | |
| CA_n1A-n258F | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258F | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258F | | | | | | | | | | | | | | | |
| CA_n1A-n258G | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258G | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258G | | | | | | | | | | | | | | | |
| CA_n1A-n258H | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258H | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258H | | | | | | | | | | | | | | | |
| CA_n1A-n258I | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258I | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258I | | | | | | | | | | | | | | | |
| CA_n1A-n258J | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258J | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258J | | | | | | | | | | | | | | | |
| CA_n1A-n258K | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258K | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258K | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_n1A-n258L | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258L | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258L | | | | | | | | | | | | | | | |
| CA_n1A-n258M | CA_n1A-n258A | n1 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | CA_n258M | | | | | | | | | | | | | | | |
| | | n1 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | | | | | | | | 1 |
| | | n258 | CA_n258M | | | | | | | | | | | | | | | |
| CA_n8A-n258A | CA_n8A-n258A | n8 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n258 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n71A-n257A | - | n71 | 5 | 10 | 15 | 20 | | | | | | | | | | | | 0 |
| | | n257 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n77A-n257A | CA_n77A-n257A | n77 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n77A-n257D | CA_n77A-n257A | n77 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | CA_n257D | | | | | | | | | | | | | | | |
| CA_n77A-n257E | CA_n77A-n257A | n77 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | CA_n257E | | | | | | | | | | | | | | | |
| CA_n77A-n257F | CA_n77A-n257A | n77 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | CA_n257F | | | | | | | | | | | | | | | |
| CA_n77C-n257A | CA_n77A-n257A | n77 | CA_n77C | | | | | | | | | | | | | | | 0 |
| | | n257 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n77C-n257D | CA_n77A-n257A | n77 | CA_n77C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257D | | | | | | | | | | | | | | | |
| CA_n77C-n257E | CA_n77A-n257A | n77 | CA_n77C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257E | | | | | | | | | | | | | | | |
| CA_n77C-n257F | CA_n77A-n257A | n77 | CA_n77C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257F | | | | | | | | | | | | | | | |
| CA_n78A-n257A | CA_n78A-n257A | n78 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n78A-n257D | CA_n78A-n257A | n78 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | CA_n257D | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CA_n78A-n257E | CA_n78A-n257A | n78 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | CA_n257E | | | | | | | | | | | | | | | |
| CA_n78A-n257F | CA_n78A-n257A | n78 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n257 | CA_n257F | | | | | | | | | | | | | | | |
| CA_n78C-n257A | CA_n78A-n257A | n78 | CA_n78C | | | | | | | | | | | | | | | 0 |
| | | n257 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n78C-n257D | CA_n78A-n257A | n78 | CA_n78C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257D | | | | | | | | | | | | | | | |
| CA_n78C-n257E | CA_n78A-n257A | n78 | CA_n78C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257E | | | | | | | | | | | | | | | |
| CA_n78C-n257F | CA_n78A-n257A | n78 | CA_n78C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257F | | | | | | | | | | | | | | | |
| CA_n78A-n258D | CA_n78A-n258A | n78 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n258 | CA_n258D | | | | | | | | | | | | | | | |
| | | n78 | | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | | 1 |
| | | n258 | CA_n258D | | | | | | | | | | | | | | | |
| CA_n78A-n258E | CA_n78A-n258A | n78 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n258 | CA_n258E | | | | | | | | | | | | | | | |
| | | n78 | | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | | 1 |
| | | n258 | CA_n258E | | | | | | | | | | | | | | | |
| CA_n78A-n258F | CA_n78A-n258A | n78 | | 10 | 15 | 20 | | | 40 | 50 | 60 | | 80 | 90 | 100 | | | 0 |
| | | n258 | CA_n258F | | | | | | | | | | | | | | | |
| | | n78 | | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | | 1 |
| | | n258 | CA_n258F | | | | | | | | | | | | | | | |
| CA_n79A-n257A | CA_n79A-n257A | n79 | | | | | | | 40 | 50 | 60 | | 80 | | 100 | | | 0 |
| | | n257 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n79A-n257D | CA_n79A-n257A | n79 | | | | | | | 40 | 50 | 60 | | 80 | | 100 | | | 0 |
| | | n257 | CA_n257D | | | | | | | | | | | | | | | |
| CA_n79A-n257E | CA_n79A-n257A | n79 | | | | | | | 40 | 50 | 60 | | 80 | | 100 | | | 0 |
| | | n257 | CA_n257E | | | | | | | | | | | | | | | |
| CA_n79A-n257F | CA_n79A-n257A | n79 | | | | | | | 40 | 50 | 60 | | 80 | | 100 | | | 0 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | n257 | CA_n257F | | | | | | | | | | | | | | | |
| CA_n79C-n257A | CA_n79A-n257A | n79 | CA_n79C | | | | | | | | | | | | | | | 0 |
| | | n257 | | | | | | | | 50 | | | | | 100 | 200 | 400 | |
| CA_n79C-n257D | CA_n79A-n257A | n79 | CA_n79C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257D | | | | | | | | | | | | | | | |
| CA_n79C-n257E | CA_n79A-n257A | n79 | CA_n79C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257E | | | | | | | | | | | | | | | |
| CA_n79C-n257F | CA_n79A-n257A | n79 | CA_n79C | | | | | | | | | | | | | | | 0 |
| | | n257 | CA_n257F | | | | | | | | | | | | | | | |

NOTE 1: Reserved.
NOTE 2: The CA configurations are given in Table 5.5A.1-1 of either TS 38.521-1 [8] or TS 38.521-2 [9] where unless otherwise stated BCS0 is referred to.
NOTE 3: The SCS of each channel bandwidth for NR FR1 and NR FR2 band refers to Table 5.3.5-1 of TS 38.521-1 [8] and TS 38.521-2 [9] respectively.

وتُحدَّد تشكيلات التوصيلية المزدوجة المدعومة لمعيار (EN-DC) المتجاورة داخل النطاق، في الجدول 5.5B.2-1 من المواصفة التقنية [8] 3-TS 38.521.

**Table 5.5B.2-1: Intra-band contiguous EN-DC configurations**

| EN-DC Configuration | Uplink EN-DC configuration (NOTE 1) | Single UL allowed |
|---|---|---|
| DC_(n)41AA[5]<br>DC_(n)41CA[5]<br>DC_(n)41DA[5] | DC_(n)41AA | Yes[3] |
| DC_(n)41CA[5]<br>DC_(n)41DA[5] | DC_41A_n41A | Yes[3] |
| DC_(n)71AA[2] | DC_(n)71AA | No[4] |

NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.
NOTE 2: Requirements in this specification apply for NR SCS of 15 kHz only.
NOTE 3: Single UL allowed due to potential emission issues, not self-interference.
NOTE 4: For UE(s) supporting dynamic power sharing it is mandatory to do dual simultaneous UL. For UE(s) not supporting dynamic power sharing single UL is allowed.
NOTE 5: The minimum requirements only apply for non-simultaneous Tx/Rx between all carriers.

وتُحدَّد تشكيلات التوصيلية المزدوجة المدعومة لمعيار (EN-DC) غير المتجاورة داخل النطاق، في الجدول 5.5B.3-1 من المواصفة التقنية [8] 3-TS 38.521.

**Table 5.5B.3-1: Intra-band non-contiguous EN-DC configurations**

| EN-DC Configuration | Uplink EN-DC configuration (NOTE 1) | Single UL allowed |
|---|---|---|
| DC_3A_n3A | DC_3A_n3A[2,7] | Yes[2,7] |
| DC_41A_n41A[3]<br>DC_41C_n41A[3]<br>DC_41D_n41A[3] | DC_41A_n41A | Yes[4] |
| DC_66A_n66A | DC_66A_n66A[5] | Yes[5] |

NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.
NOTE 2: Only single switched UL is supported in Rel-15.
NOTE 3: The minimum requirements only apply for non-simultaneous Tx/Rx between all carriers.
NOTE 4: Single UL allowed due to potential emission issues, not self-interference.
NOTE 5: Only single switched UL is supported.
NOTE 6: Reserve.
NOTE 7: Single UL allowed due to potential emission issues and self-interference.

وتُحدَّد تشكيلات التوصيلية المزدوجة المدعومة لمعيار (EN-DC) بين النطاقات في المدى FR1، في الجداول 5.5B.4.1-1 و5.5B.4.2-1 و5.5B.4.3-1 و5.5B.4.4-1 و5.5B.4.5-1 من المواصفة التقنية [8] 3-TS 38.521.

**Table 5.5B.4.1-1: Inter-band EN-DC configurations within FR1 (two bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) | Single UL allowed | DL interruption allowed (Note 14) |
|---|---|---|---|
| DC_1A_n3A | DC_1A_n3A | DC_1_n3 | |
| DC_1A_n5A | DC_1A_n5A | No | |
| DC_1A_n7A | DC_1A_n7A | No | |
| DC_1A_n28A | DC_1A_n28A | No | |
| DC_1A_n40A | DC_1A_n40A | No | |
| DC_1A_n51A | DC_1A_n51A | No | |
| DC_1A_n77A[7]<br>DC_1A_n77C[7] | DC_1A_n77A | DC_1_n77 | No |
| DC_1A_n78A[7]<br>DC_1A_n78C[7] | DC_1A_n78A | No | No |
| DC_1A-1A_n78A | DC_1A_n78A | No | |
| DC_1A_n79A[7]<br>DC_1A_n79C[7] | DC_1A_n79A | No | No |
| DC_2A_n5A | DC_2A_n5A | No | |
| DC_2A_n41A<br>DC_2C_n41A | DC_2A_n41A<br>DC_2C_n41A | No | |
| DC_2A_n66A | DC_2A_n66A | DC_2_n66 | |
| DC_2A_n71A | DC_2A_n71A | No | |
| DC_2A_n77A | DC_2A_n77A | DC_2_n77 | |
| DC_2A_n78A | DC_2A_n78A | DC_2_n78 | |
| DC_3A_n1A | DC_3A_n1A | DC_3_n1 | |
| DC_3A_n5A | DC_3A_n5A | DC_3_n5 | |
| DC_3A_n7A | DC_3A_n7A | No | |
| DC_3A_n28A | DC_3A_n28A | No | |
| DC_3A_n40A | DC_3A_n40A | No | |
| DC_3A_n41A[7]<br>DC_3C_n41A | DC_3A_n41A<br>DC_3C_n41A | DC_3_n41 | No |
| DC_3A_n51A | DC_3A_n51A | No | |
| DC_3A_n77A[7]<br>DC_3A_n77C[7] | DC_3A_n77A | DC_3_n77 | No |
| DC_3A_n78A[7]<br>DC_3A_n78C[7]<br>DC_3C_n78A[7] | DC_3A_n78A | DC_3_n78 | No |
| DC_3A_n79A[7]<br>DC_3A_n79C[7] | DC_3A_n79A | No | No |
| DC_5A_n2A | DC_5A_n2A | No | |
| DC_5A_n40A | DC_5A_n40A | No | |
| DC_5A_n66A | DC_5A_n66A | DC_5_n66 | |
| DC_5A_n77A | DC_5A_n77A | No | |
| DC_5A_n78A[7]<br>DC_5A_n78C[7] | DC_5A_n78A | No | No |
| DC_7A_n1A | DC_7A_n1A | No | |
| DC_7A_n3A | DC_7A_n3A | No | |
| DC_7A_n5A | DC_7A_n5A | DC_7_n5 | |
| DC_7A_n28A | DC_7A_n28A | No | |
| DC_7A_n51A | DC_7A_n51A | No | |
| DC_7A_n66A<br>DC_7C_n66A | DC_7A_n66A | No | |
| DC_7A_n78A[7]<br>DC_7C_n78A[7] | DC_7A_n78A | No | |
| DC_7A-7A_n78A[7] | DC_7A_n78A | No | |
| DC_8A_n1A | DC_8A_n1A | No | |
| DC_8A_n3A | DC_8A_n3A | No | |
| DC_8A_n20A | DC_8A_n20A | Yes | |
| DC_8A_n40A[7] | DC_8A_n40A | No | |
| DC_8A_n41A[7]<br>DC_8A_n41C | DC_8A_n41A | No | No |
| DC_8A_n41(2A) | DC_8A_n41A | No | No |
| DC_8A_n77A[7] | DC_8A_n77A | No | No |
| DC_8A_n78A[7] | DC_8A_n78A | No | No |
| DC_8A_n79A[7] | DC_8A_n79A | No | No |

| | | | |
|---|---|---|---|
| DC_11A_n77A[7] | DC_11A_n77A | No | No |
| DC_11A_n78A[7] | DC_11A_n78A | No | No |
| DC_11A_n79A[7] | DC_11A_n79A | No | |
| DC_12A_n5A | DC_12A_n5A | No | |
| DC_12A_n66A | DC_12A_n66A | No | |
| DC_12A_n78A | DC_12A_n78A | DC_12_n78 | |
| DC_13A_n2A | DC_13A_n2A | No | |
| DC_13A_n66A | DC_13A_n66A | No | |
| DC_13A_n77A | DC_13A_n77A | No | |
| DC_14A_n2A | DC_14A_n2A | No | |
| DC_14A_n66A | DC_14A_n66A | No | |
| DC_18A_n77A[7] | DC_18A_n77A | No | No |
| DC_18A_n78A[7] | DC_18A_n78A | No | No |
| DC_18A_n79A[7] | DC_18A_n79A | No | |
| DC_19A_n1A | DC_19A_n1A | No | |
| DC_19A_n77A[7]<br>DC_19A_n77C[7] | DC_19A_n77A | No | |
| DC_19A_n78A[7]<br>DC_19A_n78C[7] | DC_19A_n78A | No | No |
| DC_19A_n79A[7]<br>DC_19A_n79C[7] | DC_19A_n79A | No | No |
| DC_20A_n1A | DC_20A_n1A | No | |
| DC_20A_n3A | DC_20A_n3A | No | |
| DC_20A_n7A | DC_20A_n7A | DC_20_n7 | |
| DC_20A_n8A | DC_20A_n8A | DC_20_n8 | |
| DC_20A_n28A[8,11,13] | DC_20A_n28A | No | |
| DC_20A_n51A | DC_20A_n51A | No | |
| DC_20A_n77A[7] | DC_20A_n77A | No | |
| DC_20A_n78A[7] | DC_20A_n78A | No | |
| DC_21A_n1A | DC_21A_n1A | No | |
| DC_21A_n28A[17] | DC_21A_n28A | DC_21_n28 | |
| DC_21A_n77A[7]<br>DC_21A_n77C[7] | DC_21A_n77A | No | |
| DC_21A_n78A[7]<br>DC_21A_n78C[7] | DC_21A_n78A | No | No |
| DC_21A_n79A[7]<br>DC_21A_n79C[7] | DC_21A_n79A | No | No |
| DC_25A_n41A | DC_25A_n41A | No | |
| DC_26A_n41A | DC_26A_n41A | No | |
| DC_26A_n77A[7] | DC_26A_n77A | No | |
| DC_26A_n78A[7] | DC_26A_n78A | No | |
| DC_26A_n79A[7] | DC_26A_n79A | No | |
| DC_28A_n3A | DC_28A_n3A | No | |
| DC_28A_n5A[8] | DC_28A_n5A | No | |
| DC_28A_n7A | DC_28A_n7A | No | |
| DC_28A_n51A | DC_28A_n51A | No | |
| DC_28A_n77A[7]<br>DC_28A_n77C[7] | DC_28A_n77A | No | No |
| DC_28A_n78A[7]<br>DC_28A_n78C[7] | DC_28A_n78A | No | No |
| DC_28A_n79A[7]<br>DC_28A_n79C[7] | DC_28A_n79A | No | |
| DC_30A_n5A | DC_30A_n5A | No | |
| DC_30A_n66A | DC_30A_n66A | No | |
| DC_38A_n78A[7] | DC_38A_n78A | No | |
| DC_39A_n41A[3]<br>DC_39C_n41A[3] | DC_39A_n41A<br>DC_39C_n41A | No | No |
| DC_39A_n78A[5,7] | DC_39A_n78A | No | |
| DC_39A_n79A[7] | DC_39A_n79A | No | No |
| DC_40A_n1A | DC_40A_n1A | No | |
| DC_40A_n41A[3] | DC_40A_n41A | No | |
| DC_40A_n77A | DC_40A_n77A | No | |
| DC_40A_n78A<br>DC_40C_n78A | DC_40A_n78A<br>DC_40C_n78A | No | |
| DC_40A_n79A[7,12]<br>DC_40C_n79A[7,12] | DC_40A_n79A | No | No |

| | | | |
|---|---|---|---|
| DC_41A_n77A<br>DC_41C_n77A | DC_41A_n77A | No | |
| DC_41A_n78A<br>DC_41C_n78A | DC_41A_n78A | No | |
| DC_41A_n79A[6,7]<br>DC_41C_n79A[6,7] | DC_41A_n79A | No | No |
| DC_42A_n51A | DC_42A_n51A | No | |
| DC_42A_n77A[3,4,9,11]<br>DC_42A_n77C[3,4,9,11]<br>DC_42C_n77A[3,4,9,11]<br>DC_42C_n77C[3,4,9,11]<br>DC_42D_n77A[3,4,9,11]<br>DC_42E_n77A[3,4,9,11] | N/A | N/A | |
| DC_42A_n78A[3,4,9,11]<br>DC_42A_n78C[3,4,9,11]<br>DC_42C_n78A[3,4,9,11]<br>DC_42C_n78C[3,4,9,11]<br>DC_42D_n78A[3,4,9,11]<br>DC_42E_n78A[3,4,9,11] | N/A | N/A | |
| DC_42A_n79A[9,15]<br>DC_42A_n79C[9,15]<br>DC_42C_n79A[9,15]<br>DC_42C_n79C[9,15]<br>DC_42D_n79A[9,15]<br>DC_42E_n79A[9,15] | N/A | N/A | |
| DC_46A_n78A[2]<br>DC_46C_n78A[2]<br>DC_46D_n78A[2]<br>DC_46E_n78A[2] | N/A | N/A | |
| DC_48A_n5A | DC_48A_n5A | No | |
| DC_48A_n66A | DC_48A_n66A | No | |
| DC_66A_n2A | DC_66A_n2A | DC_66_n2 | |
| DC_66A_n5A | DC_66A_n5A | DC_66_n5 | |
| DC_66A_n41A | DC_66A_n41A | No | |
| DC_66A_n71A | DC_66A_n71A | No | |
| DC_66A_n78A | DC_66A_n78A | No | |

NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.

NOTE 2: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band for Band 46 is paired with the uplink operating band (external E-UTRA band) of the carrier aggregation configuration that is supporting the configured PCell.

NOTE 3: The minimum requirements apply only when there is non-simultaneous Tx/Rx operation between E-UTRA and NR carriers. This restriction applies also for these carriers when applicable EN-DC configuration is part of a higher order EN-DC configuration.

NOTE 4: For UEs not indicating interBandMRDC-WithOverlapDL-Bands-r16, the minimum requirements for intra-band non-contiguous EN-DC apply for the Band 42/48 and Band n77/n78 combination. For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, when UE capability *interBandContiguousMRDC* is indicated, the minimum requirements for intra-band-contiguous EN-DC also should be met in addition to intra-band non-contiguous EN-DC. The intra-band requirements also apply for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration.

NOTE 5: The frequency range above 3 600 MHz for Band n78 is not used in this combination.

NOTE 6: The frequency range below 2 506 MHz for Band 41 is not used in this combination.

NOTE 7: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability.

NOTE 8: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.

NOTE 9: The combination is not used alone as fall back mode of other band combinations in which UL in Band 42 is not used.

NOTE 10: Void.

NOTE 11: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for inter-band EN-DC apply when the maximum power spectral density imbalance between downlink carriers is within 6 dB. For UEs indicating interBandMRDC-WithOverlapDL-Bands-r16, the power imbalance requirement defined in clause 7.6B.2.6 of 38.101-3 [4] apply. For these UEs, the power spectral density imbalance condition also applies for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration.

NOTE 12: Applicable for frequency range above 4 800 MHz for Band n79 in this combination.

NOTE 13: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements apply for synchronized DL carriers with a maximum receive time difference ≤ 3 usec. The requirements also apply for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration.

NOTE 14: Applicable when dynamic switching between two uplink carriers is conducted. The DL interruption requirements for NR DL carrier(s) and E-UTRA DL carrier(s) are specified in clause 8.2.1.2.14 of 38.133 [25] and clause 7.32.2.12 of 36.133 [12] respectively.
NOTE 15: Simultaneous Rx/Tx capability does not apply for UEs supporting band 42 with a n77 implementation only. Same restrictions are applied to related higher order configurations.
NOTE 16: Reserved.
NOTE 17: The frequency range in band n28 is restricted for this band combination to 728-738 MHz for the UL and 783-793 MHz for the DL. This restriction applies also for these band combinations when applicable EN-DC configuration is part of a higher order EN-DC configuration.

**Table 5.5B.4.2-1: Inter-band EN-DC configurations within FR1 (three bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A_n28A | DC_1A_n28A<br>DC_3A_n28A |
| DC_1A-3A_n77A[5]<br>DC_1A-3A_n77C[5] | DC_1A_n77A<br>DC_3A_n77A |
| DC_1A-3A_n78A[5]<br>DC_1A-3A_n78C[5]<br>DC_1A-3C_n78A[5] | DC_1A_n78A<br>DC_3A_n78A<br>DC_3C_n78A |
| DC_1A-1A-3A_n78A<br>DC_1A-1A-3C_n78A | DC_1A_n78A<br>DC_3A_n78A<br>DC_3C_n78A |
| DC_1A-3C_n78(2A)[5] | DC_1A_n78A<br>DC_3A_n78A<br>DC_3C_n78A |
| DC_1A-3A_n79A[5]<br>DC_1A-3A_n79C[5] | DC_1A_n79A<br>DC_3A_n79A |
| DC_1A-5A_n78A[5]<br>DC_1A-5A_n78C[5] | DC_1A_n78A<br>DC_5A_n78A |
| DC_1A-1A-5A_n78A | DC_1A_n78A<br>DC_5A_n78A |
| DC_1A-7A_n3A | DC_1A_n3A<br>DC_7A_n3A |
| DC_1A-7A_n28A[5] | DC_1A_n28A<br>DC_7A_n28A |
| DC_1A-7A_n78A[5] | DC_1A_n78A<br>DC_7A_n78A |
| DC_1A-7A-7A_n78A[5] | DC_1A_n78A<br>DC_7A_n78A |
| DC_1A-8A_n3A | DC_1A_n3A<br>DC_8A_n3A |
| DC_1A-8A_n78A[5] | DC_1A_n78A<br>DC_8A_n78A |
| DC_1A-8A_n78(2A)[5] | DC_1A_n78A<br>DC_8A_n78A |
| DC_1A-18A_n77A[5] | DC_1A_n77A<br>DC_18A_n77A |
| DC_1A-18A_n78A[5] | DC_1A_n78A<br>DC_18A_n78A |
| DC_1A-18A_n79A | DC_1A_n79A<br>DC_18A_n79A |
| DC_1A-19A_n77A[5]<br>DC_1A-19A_n77C[5] | DC_1A_n77A<br>DC_19A_n77A |
| DC_1A-19A_n78A[5]<br>DC_1A-19A_n78C[5] | DC_1A_n78A<br>DC_19A_n78A |
| DC_1A-19A_n79A[5]<br>DC_1A-19A_n79C[5] | DC_1A_n79A<br>DC_19A_n79A |
| DC_1A-20A_n3A | DC_1A_n3A<br>DC_20A_n3A |

| | | | |
|---|---|---|---|
| | DC_1A-20A_n8A | DC_1A_n8A<br>DC_20A_n8A | |
| | DC_1A-20A_n28A[6,11,12] | DC_1A_n28A<br>DC_20A_n28A | |
| | DC_1A-20A_n78A[5] | DC_1A_n78A<br>DC_20A_n78A | |
| | DC_1A-21A_n77A[5]<br>DC_1A-21A_n77C[5] | DC_1A_n77A<br>DC_21A_n77A | |
| | DC_1A-21A_n78A[5]<br>DC_1A-21A_n78C[5] | DC_1A_n78A<br>DC_21A_n78A | |
| | DC_1A-21A_n79A[5]<br>DC_1A-21A_n79C[5] | DC_1A_n79A<br>DC_21A_n79A | |
| | DC_1A-28A_n3A | DC_1A_n3A<br>DC_28A_n3A | |
| | DC_1A-28A_n5A[6] | DC_1A_n5A<br>DC_28A_n5A | |
| | DC_1A-28A_n77A[5]<br>DC_1A-28A_n77C[5] | DC_1A_n77A<br>DC_28A_n77A | |
| | DC_1A-28A_n78A[5]<br>DC_1A-28A_n78C[5] | DC_1A_n78A<br>DC_28A_n78A | |
| | DC_1A_n28A-n78A[5] | DC_1A_n28A<br>DC_1A_n78A | |
| | DC_1A-28A_n79A<br>DC_1A-28A_n79C | DC_1A_n79A<br>DC_28A_n79A | |
| | DC_1A-41A_n28A[5]<br>DC_1A-41C_n28A[5] | DC_1A_n28A<br>DC_41A_n28A<br>DC_41C_n28A | |
| | DC_1A-41A_n77A<br>DC_1A-41C_n77A | DC_1A_n77A<br>DC_41A_n77A | |
| | DC_1A-41A_n78A<br>DC_1A-41C_n78A | DC_1A_n78A<br>DC_41A_n78A | |
| | DC_1A-41C_n79A | DC_1A_n79A | |
| | DC_1A-42A_n77A[10,11]<br>DC_1A-42A_n77C[10,11]<br>DC_1A-42C_n77A[10,11]<br>DC_1A-42C_n77C[10,11]<br>DC_1A-42D_n77A[10,11]<br>DC_1A-42E_n77A[10,11] | DC_1A_n77A | |
| | DC_1A-42A_n78A[10,11]<br>DC_1A-42A_n78C[10,11]<br>DC_1A-42C_n78A[10,11]<br>DC_1A-42C_n78C[10,11]<br>DC_1A-42D_n78A[10,11]<br>DC_1A-42E_n78A[10,11] | DC_1A_n78A | |
| | DC_1A-42A_n79A<br>DC_1A-42A_n79C<br>DC_1A-42C_n79A<br>DC_1A-42C_n79C<br>DC_1A-42D_n79A<br>DC_1A-42E_n79A | DC_1A_n79A | |
| | DC_1A_n77A-n79A | DC_1A_n77A<br>DC_1A_n79A | |
| | DC_1A_n78A-n79A | DC_1A_n78A<br>DC_1A_n79A | |
| | DC_1A_SUL_n78A-n84A[5] | DC_1A_n78A<br>DC_1A_n84A_ULSUP-TDM_n78A<br>DC_1A_n84A_ULSUP-FDM_n78A | |
| | DC_2A-5A_n66A | DC_2A_n66A<br>DC_5A_n66A | |
| | DC_2A-12A_n66A | DC_2A_n66A<br>DC_12A_n66A | |

| | | | |
|---|---|---|---|
| | DC_2A-13A_n77A | DC_2A_n77A<br>DC_13A_n77A | |
| | DC_2A-14A_n2A | DC_2A_n2A[2]<br>DC_14A_n2A | |
| | DC_2A-14A_n66A | DC_2A_n66A<br>DC_14A_n66A | |
| | DC_2A-2A-14A_n66A | DC_2A_n66A<br>DC_14A_n66A | |
| | DC_2A-30A_n66A | DC_2A_n66A<br>DC_30A_n66A | |
| | DC_2A-66A_n5A | DC_2A_n5A<br>DC_66A_n5A | |
| | DC_2A-66A_n41A | DC_2A_n41A<br>DC_66A_n41A | |
| | DC_2A-66A_n71A | DC_2A_n71A<br>DC_66A_n71A | |
| | DC_2A-66A_n77A | DC_2A_n77A<br>DC_66A_n77A | |
| | DC_2A-(n)71AA | DC_2A_n71A<br>DC_(n)71AA | |
| | DC_3A_n1A-n78A[5] | DC_3A_n1A<br>DC_3A_n78A | |
| | DC_3A_n1A-n79A[5] | DC_3A_n1A<br>DC_3A_n79A | |
| | DC_3A_n3A-n77A | DC_3A_n77A<br>DC_3A_n3A[2] | |
| | DC_3A_n3A-n78A | DC_3A_n78A<br>DC_3A_n3A[2] | |
| | DC_3A-5A_n78A[5]<br>DC_3A-5A_n78C[5] | DC_3A_n78A<br>DC_5A_n78A | |
| | DC_3A-7A_n5A | DC_3A_n5A<br>DC_7A_n5A | |
| | DC_3A-7A_n28A | DC_3A_n28A<br>DC_7A_n28A | |
| | DC_3A-7A_n78A[5]<br>DC_3C-7A_n78A[5] | DC_3A_n78A<br>DC_7A_n78A | |
| | DC_3A-7C_n78A[5]<br>DC_3C-7C_n78A[5] | DC_3A_n78A<br>DC_7A_n78A | |
| | DC_3A-7A-7A_n78A[5] | DC_3A_n78A<br>DC_7A_n78A | |
| | DC_3A-8A_n1A | DC_3A_n1A<br>DC_8A_n1A | |
| | DC_3A-8A_n28A | DC_3A_n28A<br>DC_8A_n28A | |
| | DC_3A-8A_n78A[5] | DC_3A_n78A<br>DC_8A_n78A | |
| | DC_3A-18A_n77A | DC_3A_n77A<br>DC_18A_n77A | |
| | DC_3A-8A_n78(2A) | DC_3A_n78A<br>DC_8A_n78A | |
| | DC_3A-18A_n78A | DC_3A_n78A<br>DC_18A_n78A | |
| | DC_3A-19A_n77A[5]<br>DC_3A-19A_n77C[5] | DC_3A_n77A<br>DC_19A_n77A | |
| | DC_3A-19A_n78A[5]<br>DC_3A-19A_n78C[5] | DC_3A_n78A<br>DC_19A_n78A | |
| | DC_3A-19A_n79A[5]<br>DC_3A-19A_n79C[5] | DC_3A_n79A<br>DC_19A_n79A | |
| | DC_3A-20A_n1A | DC_3A_n1A | |

| | | |
|---|---|---|
| | | DC_20A_n1A |
| DC_3A-20A_n28A[5,6,11,12] | DC_3A_n28A<br>DC_20A_n28A | |
| DC_3A-20A_n78A[5]<br>DC_3C-20A_n78A[5] | DC_3A_n78A<br>DC_20A_n78A | |
| DC_3A-21A_n77A[5]<br>DC_3A-21A_n77C[5] | DC_3A_n77A<br>DC_21A_n77A | |
| DC_3A-21A_n78A[5]<br>DC_3A-21A_n78C[5] | DC_3A_n78A<br>DC_21A_n78A | |
| DC_3A-21A_n79A[5]<br>DC_3A-21A_n79C[5] | DC_3A_n79A<br>DC_21A_n79A | |
| DC_3A-28A_n77A<br>DC_3A-28A_n77C | DC_3A_n77A<br>DC_28A_n77A | |
| DC_3A-28A_n78A[5]<br>DC_3A-28A_n78C[5] | DC_3A_n78A<br>DC_28A_n78A | |
| DC_3A_n28A-n78A[5] | DC_3A_n28A<br>DC_3A_n78A | |
| DC_3A-28A_n79A<br>DC_3A-28A_n79C | DC_3A_n79A<br>DC_28A_n79A | |
| DC_3A-38A_n78A | DC_3A_n78A | |
| DC_3A-40A_n1A | DC_3A_n1A<br>DC_40A_n1A | |
| DC_3A-41A_n28A[5]<br>DC_3A-41C_n28A[5] | DC_3A_n28A<br>DC_41A_n28A<br>DC_41C_n28A | |
| DC_3A-41A_n41A | DC_3A_n41A | |
| DC_3A-41A_n77A<br>DC_3A-41C_n77A | DC_3A_n77A<br>DC_41A_n77A | |
| DC_3A-41A_n77(2A) | DC_3A_n77A<br>DC_41A_n77A | |
| DC_3A-41A_n78A | DC_3A_n78A<br>DC_41A_n78A | |
| DC_3A-42A_n77A[10,11]<br>DC_3A-42A_n77C[10,11]<br>DC_3A-42C_n77A[10,11]<br>DC_3A-42C_n77C[10,11]<br>DC_3A-42D_n77A[10,11]<br>DC_3A-42E_n77A[10,11] | DC_3A_n77A | |
| DC_3A-42A_n78A[10,11]<br>DC_3A-42A_n78C[10,11]<br>DC_3A-42C_n78A[10,11]<br>DC_3A-42C_n78C[10,11]<br>DC_3A-42D_n78A[10,11]<br>DC_3A-42E_n78A[10,11] | DC_3A_n78A | |
| DC_3A-42A_n79A<br>DC_3A-42A_n79C<br>DC_3A-42C_n79A<br>DC_3A-42C_n79C<br>DC_3A-42D_n79A<br>DC_3A-42E_n79A | DC_3A_n79A | |
| DC_3A_n77A-n79A | DC_3A_n77A<br>DC_3A_n79A | |
| DC_3A_n78A-n79A | DC_3A_n78A<br>DC_3A_n79A | |
| DC_3A_SUL_n78A-n80A[5] | DC_3A_n78A<br>DC_3A_n80A_ULSUP-TDM_n78A<br>DC_3A_n80A_ULSUP-FDM_n78A | |
| DC_3A_SUL_n78A-n82A[5] | DC_3A_n78A<br>DC_3A_n82A | |
| DC_3A_SUL_n79A-n80A[5] | DC_3A_n79A | |

| | |
|---|---|
| | DC_3A_n80A_ULSUP-TDM_n79A<br>DC_3A_n80A_ULSUP-FDM_n79A |
| DC_5A-7A_n78A | DC_5A_n78A<br>DC_7A_n78A |
| DC_5A-7A-7A_n78A | DC_5A_n78A<br>DC_7A_n78A |
| DC_5A-30A_n66A | DC_5A_n66A<br>DC_30A_n66A |
| DC_7A_n5A-n78A<br>DC_7C_n5A-n78A | DC_7A_n5A<br>DC_7C_n5A<br>DC_7A_n78A<br>DC_7C_n78A |
| DC_7A-8A_n1A | DC_7A_n1A<br>DC_8A_n1A |
| DC_7A-8A_n3A | DC_7A_n3A<br>DC_8A_n3A |
| DC_7A-20A_n1A | DC_7A_n1A<br>DC_20A_n1A |
| DC_7A-20A_n3A | DC_7A_n3A<br>DC_20A_n3A |
| DC_7A-20A_n8A | DC_7A_n8A<br>DC_20A_n8A |
| DC_7A-20A_n28A[6,11,12] | DC_7A_n28A<br>DC_20A_n28A |
| DC_7A-20A_n78A[5] | DC_7A_n78A<br>DC_20A_n78A |
| DC_7A-28A_n3A | DC_7A_n3A<br>DC_28A_n3A |
| DC_7A-28A_n5A[6] | DC_7A_n5A<br>DC_28A_n5A |
| DC_7A-28A_n78A[5] | DC_7A_n78A<br>DC_28A_n78A |
| DC_7C-28A_n78A[5] | DC_7A_n78A<br>DC_28A_n78A |
| DC_7A_n28A-n78A[5]<br>DC_7C_n28A-n78A | DC_7A_n28A<br>DC_7A_n78A<br>DC_7C_n28A<br>DC_7C_n78A |
| DC_7A-46A_n78A[3]<br>DC_7A-46C_n78A[3]<br>DC_7A-46D_n78A[3]<br>DC_7A-46E_n78A[3] | DC_7A_n78A |
| DC_8A_SUL_n78A-n81A[5] | DC_8A_n78A<br>DC_8A_n81A_ULSUP-TDM_n78A<br>DC_8A_n81A_ULSUP-FDM_n78A |
| DC_8A_SUL_n79A-n81A[5] | DC_8A_n79A<br>DC_8A_n81A_ULSUP-TDM_n79A<br>DC_8A_n81A_ULSUP-FDM_n79A |
| DC_12A-30A_n66A | DC_12A_n66A<br>DC_30A_n66A |
| DC_13A-66A_n77A | DC_13A_n77A<br>DC_66A_n77A |
| DC_18A-28A_n77A[5] | DC_18A_n77A<br>DC_28A_n77A |
| DC_18A-28A_n78A[5] | DC_18A_n78A<br>DC_28A_n78A |
| DC_18A-28A_n79A[5] | DC_18A_n79A<br>DC_28A_n79A |
| DC_18A-41A_n3A | DC_18A_n3A<br>DC_41A_n3A |

| | | | |
|---|---|---|---|
| | DC_18A-41A_n77A<br>DC_18A-41C_n77A | DC_18A_n77A<br>DC_41A_n77A<br>DC_41C_n77A | |
| | DC_18A-41A_n78A<br>DC_18A-41C_n78A | DC_18A_n78A<br>DC_41A_n78A<br>DC_41C_n78A | |
| | DC_19A_n1A-n78A[5] | DC_19A_n1A<br>DC_19A_n78A | |
| | DC_19A_n1A-n79A[5] | DC_19A_n1A<br>DC_19A_n79A | |
| | DC_19A-21A_n77A[5]<br>DC_19A-21A_n77C[5] | DC_19A_n77A<br>DC_21A_n77A | |
| | DC_19A-21A_n78A[5]<br>DC_19A-21A_n78C[5] | DC_19A_n78A<br>DC_21A_n78A | |
| | DC_19A-21A_n79A[5]<br>DC_19A-21A_n79C[5] | DC_19A_n79A<br>DC_21A_n79A | |
| | DC_19A-42A_n77A<br>DC_19A-42A_n77C | DC_19A_n77A | |
| | DC_19A-42A_n78A<br>DC_19A-42A_n78C | DC_19A_n78A | |
| | DC_19A-42A_n79A<br>DC_19A-42A_n79C | DC_19A_n79A | |
| | DC_19A-42C_n77A<br>DC_19A-42C_n77C | DC_19A_n77A | |
| | DC_19A-42C_n78A<br>DC_19A-42C_n78C | DC_19A_n78A | |
| | DC_19A-42C_n79A<br>DC_19A-42C_n79C | DC_19A_n79A | |
| | DC_19A_n77A-n79A | DC_19A_n77A<br>DC_19A_n79A | |
| | DC_19A_n78A-n79A | DC_19A_n78A<br>DC_19A_n79A | |
| | DC_20A_n8A-n75A[6] | DC_20A_n8A | |
| | DC_20A_n28A-n75A[6,11,12] | DC_20A_n28A | |
| | DC_20A_n28A-n78A[5,6,11,12] | DC_20A_n28A<br>DC_20A_n78A | |
| | DC_20A_n75A-n78A[5] | DC_20A_n78A | |
| | DC_20A_n76A-n78A[5] | DC_20A_n78A | |
| | DC_20A_SUL_n78A-n82A[5] | DC_20A_n78A<br>DC_20A_n82A_ULSUP-TDM_n78A<br>DC_20A_n82A_ULSUP-FDM_n78A | |
| | DC_20A_SUL_n78A-n83A[5] | DC_20A_n78A<br>DC_20A_n83A | |
| | DC_21A_n1A-n78A[5] | DC_21A_n1A<br>DC_21A_n78A | |
| | DC_21A_n1A-n79A[5] | DC_21A_n1A<br>DC_21A_n79A | |
| | DC_21A-28A_n77A<br>DC_21A-28A_n77C | DC_21A_n77A<br>DC_28A_n77A | |
| | DC_21A-28A_n78A<br>DC_21A-28A_n78C | DC_21A_n78A<br>DC_28A_n78A | |
| | DC_21A-28A_n79A<br>DC_21A-28A_n79C | DC_21A_n79A<br>DC_28A_n79A | |
| | DC_21A-42A_n77A[10,11]<br>DC_21A-42A_n77C[10,11]<br>DC_21A-42C_n77A[10,11]<br>DC_21A-42C_n77C[10,11] | DC_21A_n77A | |
| | DC_21A-42A_n78A[10,11]<br>DC_21A-42A_n78C[10,11] | DC_21A_n78A | |

| | |
|---|---|
| DC_21A-42C_n78A[10,11]<br>DC_21A-42C_n78C[10,11] | |
| DC_21A-42A_n79A<br>DC_21A-42A_n79C<br>DC_21A-42C_n79A<br>DC_21A-42C_n79C | DC_21A_n79A |
| DC_21A_n77A-n79A | DC_21A_n77A<br>DC_21A_n79A |
| DC_21A_n78A-n79A | DC_21A_n78A<br>DC_21A_n79A |
| DC_28A_n7A-n78A | DC_28A_n7A<br>DC_28A_n78A |
| DC_28A-42A_n77A[10,11]<br>DC_28A-42A_n77C[10,11]<br>DC_28A-42C_n77A[10,11] | DC_28A_n77A |
| DC_28A-42A_n78A[10,11]<br>DC_28A-42A_n78C[10,11]<br>DC_28A-42C_n78A[10,11] | DC_28A_n78A |
| DC_28A-42A_n79A<br>DC_28A-42A_n79C<br>DC_28A-42C_n79A | DC_28A_n79A |
| DC_28A_SUL_n78A-n83A[5] | DC_28A_n78A<br>DC_28A_n83A_ULSUP-TDM_n78A<br>DC_28A_n83A_ULSUP-FDM_n78A |
| DC_41A-42A_n77A[10,11]<br>DC_41A-42C_n77A[10,11]<br>DC_41C-42A_n77A[10,11]<br>DC_41C-42C_n77A[10,11] | DC_41A_n77A |
| DC_41A-42A_n78A[10,11]<br>DC_41A-42C_n78A[10,11]<br>DC_41C-42A_n78A[10,11]<br>DC_41C-42C_n78A[10,11] | DC_41A_n78A |
| DC_41A-42A_n79A<br>DC_41A-42C_n79A<br>DC_41C-42A_n79A<br>DC_41C-42C_n79A | DC_41A_n79A |
| DC_66A-(n)71AA | DC_66A_n71A<br>DC_(n)71AA |
| DC_66A_SUL_n78A-n86A[5] | DC_66A_n78A<br>DC_66A_n86A_ULSUP-TDM_n78A<br>DC_66A_n86A_ULSUP-FDM_n78A |

NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.
NOTE 2: Only single switched UL is supported.
NOTE 3: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band for Band 46 is paired with the uplink operating band (external E-UTRA band) of the carrier aggregation configuration that is supporting the configured PCell.
NOTE 4: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier can be up to 140us and placed in SUL resources.
NOTE 5: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability.
NOTE 6: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.
NOTE 7: Void.
NOTE 8: Reserved.
NOTE 9: Reserved.
NOTE 10: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for intra-band non-contiguous EN-DC apply for the Band 42 and Band n77/n78 combination. For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, when UE capability *interBandContiguousMRDC* is indicated, the minimum requirements for intra-band-contiguous EN-DC also should be met in addition to intra-band non-contiguous EN-DC.

NOTE 11: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for inter-band EN-DC apply when the maximum power spectral density imbalance between downlink carriers contained in overlapping or partially overlapping DL bands is within 6 dB.

NOTE 12: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements apply for synchronized DL carriers with a maximum receive time difference ≤ 3 usec between overlapping or partially overlapping DL bands contained in different cell groups.

**Table 5.5B.4.4-1: Inter-band EN-DC configurations within FR1 (five bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A-7A_n78A | DC_1A_n78A<br>DC_3A_n78A<br>DC_5A_n78A<br>DC_7A_n78A |
| DC_1A-3A-5A-7A-7A_n78A | DC_1A_n78A<br>DC_3A_n78A<br>DC_5A_n78A<br>DC_7A_n78A |
| DC_1A-3A-5A-41A_n79A | DC_1A_n79A<br>DC_3A_n79A<br>DC_5A_n79A<br>DC_41A_n79A |
| DC_1A-3A-7A-20A_n28A[3,6,7] | DC_1A_n28A<br>DC_3A_n28A<br>DC_7A_n28A<br>DC_20A_n28A |
| DC_1A-3A-7A-20A_n78A[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_7A_n78A<br>DC_20A_n78A |
| DC_1A-3A-7A_n28A-n78A[2] | DC_1A_n28A<br>DC_1A_n78A<br>DC_3A_n28A<br>DC_3A_n78A<br>DC_7A_n28A<br>DC_7A_n78A |
| DC_1A-3A-7A-28A_n78A | DC_1A_n78A<br>DC_3A_n78A<br>DC_7A_n78A<br>DC_28A_n78A |

| | | |
|---|---|---|
| DC_1A-3A-19A-21A_n77A[2]<br>DC_1A-3A-19A-21A_n77C[2] | DC_1A_n77A<br>DC_3A_n77A<br>DC_19A_n77A<br>DC_21A_n77A | |
| DC_1A-3A-19A-21A_n78A[2]<br>DC_1A-3A-19A-21A_n78C[2] | DC_1A_n78A<br>DC_3A_n78A<br>DC_19A_n78A<br>DC_21A_n78A | |
| DC_1A-3A-19A-21A_n79A[2]<br>DC_1A-3A-19A-21A_n79C[2] | DC_1A_n79A<br>DC_3A_n79A<br>DC_19A_n79A<br>DC_21A_n79A | |
| DC_1A-3A-19A-42A_n77A[5,6]<br>DC_1A-3A-19A-42A_n77C[5,6]<br>DC_1A-3A-19A-42C_n77A[5,6]<br>DC_1A-3A-19A-42C_n77C[5,6] | DC_1A_n77A<br>DC_3A_n77A<br>DC_19A_n77A | |
| DC_1A-3A-19A-42A_n78A[5,6]<br>DC_1A-3A-19A-42A_n78C[5,6]<br>DC_1A-3A-19A-42C_n78A[5,6]<br>DC_1A-3A-19A-42C_n78C[5,6] | DC_1A_n78A<br>DC_3A_n78A<br>DC_19A_n78A | |
| DC_1A-3A-19A-42A_n79A<br>DC_1A-3A-19A-42A_n79C<br>DC_1A-3A-19A-42C_n79A<br>DC_1A-3A-19A-42C_n79C | DC_1A_n79A<br>DC_3A_n79A<br>DC_19A_n79A | |
| DC_1A-3A-20A_n28A-n78A[2,3,6,7] | DC_1A_n28A<br>DC_1A_n78A<br>DC_3A_n28A<br>DC_3A_n78A<br>DC_20A_n28A<br>DC_20A_n78A | |
| DC_1A-3A-21A-42A_n77A[5,6]<br>DC_1A-3A-21A-42A_n77C[5,6]<br>DC_1A-3A-21A-42C_n77A[5,6]<br>DC_1A-3A-21A-42C_n77C[5,6] | DC_1A_n77A<br>DC_3A_n77A<br>DC_21A_n77A | |
| DC_1A-3A-21A-42A_n78A[5,6]<br>DC_1A-3A-21A-42A_n78C[5,6]<br>DC_1A-3A-21A-42C_n78A[5,6]<br>DC_1A-3A-21A-42C_n78C[5,6] | DC_1A_n78A<br>DC_3A_n78A<br>DC_21A_n78A | |
| DC_1A-3A-21A-42A_n79A<br>DC_1A-3A-21A-42A_n79C<br>DC_1A-3A-21A-42C_n79A<br>DC_1A-3A-21A-42C_n79C | DC_1A_n79A<br>DC_3A_n79A<br>DC_21A_n79A | |
| DC_1A-3A-28A-42A_n77A[5,6]<br>DC_1A-3A-28A-42C_n77A[5,6] | DC_1A_n77A<br>DC_3A_n77A<br>DC_28A_n77A | |
| DC_1A-3A-28A-42A_n78A[5,6]<br>DC_1A-3A-28A-42C_n78A[5,6] | DC_1A_n78A<br>DC_3A_n78A<br>DC_28A_n78A | |
| DC_1A-3A-28A-42A_n79A<br>DC_1A-3A-28A-42C_n79A | DC_1A_n79A<br>DC_3A_n79A<br>DC_28A_n79A | |
| DC_1A-7A-20A_n28A-n78A[2,3,6,7] | DC_1A_n28A<br>DC_1A_n78A<br>DC_7A_n28A<br>DC_7A_n78A<br>DC_20A_n28A<br>DC_20A_n78A | |
| DC_1A-19A-21A-42A_n77A[5,6]<br>DC_1A-19A-21A-42A_n77C[5,6]<br>DC_1A-19A-21A-42C_n77A[5,6]<br>DC_1A-19A-21A-42C_n77C[5,6] | DC_1A_n77A<br>DC_19A_n77A<br>DC_21A_n77A | |
| DC_1A-19A-21A-42A_n78A[5,6]<br>DC_1A-19A-21A-42A_n78C[5,6] | DC_1A_n78A<br>DC_19A_n78A | |

| | |
|---|---|
| DC_1A-19A-21A-42C_n78A[5,6]<br>DC_1A-19A-21A-42C_n78C[5,6] | DC_21A_n78A |
| DC_1A-19A-21A-42A_n79A<br>DC_1A-19A-21A-42A_n79C<br>DC_1A-19A-21A-42C_n79A<br>DC_1A-19A-21A-42C_n79C | DC_1A_n79A<br>DC_19A_n79A<br>DC_21A_n79A |
| DC_1A-21A-28A-42A_n77A<br>DC_1A-21A-28A-42C_n77A | DC_1A_n77A<br>DC_21A_n77A<br>DC_28A_n77A |
| DC_1A-21A-28A-42A_n78A<br>DC_1A-21A-28A-42C_n78A | DC_1A_n78A<br>DC_21A_n78A<br>DC_28A_n78A |
| DC_1A-21A-28A-42A_n79A<br>DC_1A-21A-28A-42C_n79A | DC_1A_n79A<br>DC_21A_n79A<br>DC_28A_n79A |
| DC_3A-7A-20A_n28A-n78A[2,3,6,7] | DC_3A_n28A<br>DC_3A_n78A<br>DC_7A_n28A<br>DC_7A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |
| DC_3A-19A-21A-42A_n78A[5,6]<br>DC_3A-19A-21A-42C_n78A[5,6] | DC_3A_n78A<br>DC_19A_n78A<br>DC_21A_n78A |
| DC_3A-19A-21A-42A_n79A[5,6]<br>DC_3A-19A-21A-42C_n79A[5,6] | DC_3A_n79A<br>DC_19A_n79A<br>DC_21A_n79A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability<br>NOTE 3: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL<br>NOTE 4: Reserved.<br>NOTE 5: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for intra-band non-contiguous EN-DC apply for the Band 42 and Band n77/n78 combination. For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, when UE capability *interBandContiguousMRDC* is indicated, the minimum requirements for intra-band-contiguous EN-DC also should be met in addition to intra-band non-contiguous EN-DC.<br>NOTE 6: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for inter-band EN-DC apply when the maximum power spectral density imbalance between downlink carriers contained in overlapping or partially overlapping DL bands is within 6 dB.<br>NOTE 7: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements apply for synchronized DL carriers with a maximum receive time difference ≤ 3 usec between overlapping or partially overlapping DL bands contained in different cell groups. | |

**Table 5.5B.4.5-1: Inter-band EN-DC configurations within FR1 (six bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-7A-20A_n28A-n78A[2,3,5,6] | DC_1A_n28A<br>DC_1A_n78A<br>DC_3A_n28A<br>DC_3A_n78A<br>DC_7A_n28A<br>DC_7A_n78A<br>DC_20A_n28A<br>DC_20A_n78A |

NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.
NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability.
NOTE 3: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758-788 MHz for the DL.
NOTE 4: Reserved
NOTE 5: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for inter-band EN-DC apply when the maximum power spectral density imbalance between downlink carriers contained in overlapping or partially overlapping DL bands is within 6 dB.
NOTE 6: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements apply for synchronized DL carriers with a maximum receive time difference ≤ 3 usec between overlapping or partially overlapping DL bands contained in different cell groups.

وتُحدَّد تشكيلات التوصيلية المزدوجة المدعومة لمعيار (NE-DC) بين النطاقات في المدى الترددي FR1، في الجدول 1-1.4a.5B.5 من المواصفة التقنية [8] 3-TS 38.521.

**Table 5.5B.4a.1-1: Inter-band NE-DC configurations within FR1 (two bands)**

| NE-DC configuration | Uplink NE-DC configuration (NOTE 1) | Single UL allowed |
|---|---|---|
| DC_n1A_28A | DC_n1A_28A | No |
| DC_n28A_3A<br>DC_n28A_3C | DC_n28A_3A | No |
| DC_n28A_39A<br>DC_n28A_39C | DC_n28A_39A | No |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | | |

وتُحدَّد تشكيلات التوصيلية المزدوجة المدعومة لمعيار (EN-DC) بين النطاقات، والتي تشمل المدى الترددي FR2، في الجداول 1-1.5.5B.5 و1-2.5.5B.5 و1-3.5.5B.5 و1-4.5.5B.5 من المواصفة التقنية [8] 3-TS 38.521.

**Table 5.5B.5.1-1: Inter-band EN-DC configurations including FR2 (two bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A_n257A | DC_1A_n257A |
| DC_2A_n257A<br>DC_2C_n257A | DC_2A_n257A |
| DC_2A_n257(2A) | DC_2A_n257A |
| DC_2A-2A_n257A | DC_2A_n257A |
| DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I<br>DC_2A_n260J<br>DC_2A_n260K<br>DC_2A_n260L<br>DC_2A_n260M<br>DC_2C_n260A | DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H |
| DC_2A_n261A<br>DC_2A_n261G<br>DC_2A_n261H | DC_2A_n261G<br>DC_2A_n261H<br>DC_2A_n261I |

| | | |
|---|---|---|
| DC_2A_n261I<br>DC_2A_n261J<br>DC_2A_n261M | | |
| DC_2A_n261(2A)<br>DC_2A_n261(3A)<br>DC_2A_n261(4A) | DC_2A_n261A | |
| DC_2A_n261(2G)<br>DC_2A_n261(2H)<br>DC_2A_n261(2I) | DC_2A_n261A<br>DC_2A_n261G<br>DC_2A_n261H<br>DC_2A_n261I | |
| DC_2A_n261(A-G)<br>DC_2A_n261(A-2G)<br>DC_2A_n261(A-H)<br>DC_2A_n261(A-I)<br>DC_2A_n261(A-K)<br>DC_2A_n261(G-H)<br>DC_2A_n261(G-I)<br>DC_2A_n261(G-J)<br>DC_2A_n261(H-I)<br>DC_2A_n261(2A-G)<br>DC_2A_n261(2A-I)<br>DC_2A_n261(3A-G) | DC_2A_n261A<br>DC_2A_n261G<br>DC_2A_n261H<br>DC_2A_n261I | |
| DC_2A_n261(A-G-H)<br>DC_2A_n261(A-G-I) | DC_2A_n261A<br>DC_2A_n261G<br>DC_2A_n261H<br>DC_2A_n261I | |
| DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I | DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I | |
| DC_5A_n260A<br>DC_5A_n260G<br>DC_5A_n260H<br>DC_5A_n260I<br>DC_5A_n260J<br>DC_5A_n260K<br>DC_5A_n260L<br>DC_5A_n260M<br>DC_5A_n260O<br>DC_5A_n260P<br>DC_5A_n260Q<br>DC_5B_n260A | DC_5A_n260A<br>DC_5A_n260G<br>DC_5A_n260H<br>DC_5A_n260O<br>DC_5A_n260P<br>DC_5A_n260Q | |
| DC_5A_n261A<br>DC_5A_n261G<br>DC_5A_n261H<br>DC_5A_n261I<br>DC_5A_n261J<br>DC_5A_n261M | DC_5A_n261A<br>DC_5A_n261G<br>DC_5A_n261H<br>DC_5A_n261I | |
| DC_5A_n261(2A)<br>DC_5A_n261(3A)<br>DC_5A_n261(4A) | DC_5A_n261A<br>DC_5A_n261G<br>DC_5A_n261H<br>DC_5A_n261I | |
| DC_8A_n257A<br>DC_8A_n257D<br>DC_8A_n257E<br>DC_8A_n257F<br>DC_8A_n257G<br>DC_8A_n257H<br>DC_8A_n257I<br>DC_8A_n257J<br>DC_8A_n257K<br>DC_8A_n257L<br>DC_8A_n257M | DC_8A_n257A | |
| DC_13A_n257A | DC_13A_n257A | |
| DC_13A_n260A | DC_13A_n260A | |

| | |
|---|---|
| DC_13A_n260G<br>DC_13A_n260H<br>DC_13A_n260I<br>DC_13A_n260J<br>DC_13A_n260M | DC_13A_n260G<br>DC_13A_n260H<br>DC_13A_n260O |
| DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I | DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I |
| DC_18A_n257A | DC_18A_n257A |
| DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257E<br>DC_19A_n257F<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I | DC_19A_n257A<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I |
| DC_20A_n257A | DC_20A_n257A |
| DC_21A_n257A<br>DC_21A_n257G | DC_21A_n257A<br>DC_21A_n257G |
| DC_26A_n257A | DC_26A_n257A |
| DC_66A_n260A<br>DC_66A_n260D<br>DC_66A_n260E<br>DC_66A_n260F<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I<br>DC_66A_n260J<br>DC_66A_n260K<br>DC_66A_n260L<br>DC_66A_n260M<br>DC_66A_n260O<br>DC_66A_n260P<br>DC_66A_n260Q | DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260O<br>DC_66A_n260P<br>DC_66A_n260Q |
| DC_66A-66A_n260A<br>DC_66A-66A_n260G<br>DC_66A-66A_n260H<br>DC_66A-66A_n260I<br>DC_66A-66A_n260J<br>DC_66A-66A_n260K<br>DC_66A-66A_n260L<br>DC_66A-66A_n260M | DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I |
| DC_66A_n261G<br>DC_66A_n261H<br>DC_66A_n261I<br>DC_66A_n261J<br>DC_66A_n261K<br>DC_66A_n261L<br>DC_66A_n261M | DC_66A_n261A<br>DC_66A_n261G<br>DC_66A_n261H<br>DC_66A_n261I |
| DC_66A_n261(2G)<br>DC_66A_n261(2H)<br>DC_66A_n261(2I) | DC_66A_n261A<br>DC_66A_n261G<br>DC_66A_n261H<br>DC_66A_n261I |
| DC_66A_n261(A-K)<br>DC_66A_n261(A-2G)<br>DC_66A_n261(A-2H)<br>DC_66A_n261(2A-G)<br>DC_66A_n261(2A-H)<br>DC_66A_n261(2A-I)<br>DC_66A_n261(3A-G) | DC_66A_n261A<br>DC_66A_n261G<br>DC_66A_n261H<br>DC_66A_n261I |
| DC_66A_n261(A-G-H)<br>DC_66A_n261(A-G-I) | DC_66A_n261A<br>DC_66A_n261G<br>DC_66A_n261H |

| | |
|---|---|
| | DC_66A_n261I |
| DC_66A-66A_n260G<br>DC_66A-66A_n260H<br>DC_66A-66A_n260I<br>DC_66A-66A_n260J<br>DC_66A-66A_n260K<br>DC_66A-66A_n260L<br>DC_66A-66A_n260M | DC_66A_n261A<br>DC_66A_n261G<br>DC_66A_n261H<br>DC_66A_n261I |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability for all of the above combinations. | |

**Table 5.5B.5.2-1: Inter-band EN-DC configurations including FR2 (three bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A_n257A[2]<br>DC_1A-3A_n257G<br>DC_1A-3A_n257H<br>DC_1A-3A_n257I | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I |
| DC_1A-19A_n257A[2]<br>DC_1A-19A_n257E[2]<br>DC_1A-19A_n257F[2]<br>DC_1A-19A_n257G<br>DC_1A-19A_n257H<br>DC_1A-19A_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_19A_n257A |
| DC_1A-21A_n257A[2]<br>DC_1A-21A_n257D[2]<br>DC_1A-21A_n257E[2]<br>DC_1A-21A_n257F[2]<br>DC_1A-21A_n257G<br>DC_1A-21A_n257H<br>DC_1A-21A_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I |
| DC_1A-42A_n257A<br>DC_1A-42A_n257G<br>DC_1A-42A_n257H<br>DC_1A-42A_n257I<br>DC_1A-42C_n257A<br>DC_1A-42D_n257A<br>DC_1A-42D_n257G<br>DC_1A-42D_n257H<br>DC_1A-42D_n257I<br>DC_1A-42E_n257A<br>DC_1A-42E_n257G<br>DC_1A-42E_n257H<br>DC_1A-42E_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_42A_n257A |
| DC_2A-5A_n257A[2] | DC_2A_n257A<br>DC_5A_n257A |
| DC_2A-5A_n260A<br>DC_2A-5A_n260G<br>DC_2A-5A_n260H<br>DC_2A-5A_n260I<br>DC_2A-5A_n260J<br>DC_2A-5A_n260K<br>DC_2A-5A_n260L<br>DC_2A-5A_n260M | DC_2A_n260A<br>DC_5A_n260A |
| DC_2A-5A_n261A<br>DC_2A-5A_n261G<br>DC_2A-5A_n261H<br>DC_2A-5A_n261I<br>DC_2A-5A_n261J | DC_2A_n261A<br>DC_5A_n261A<br>DC_2A_n261G<br>DC_5A_n261G<br>DC_2A_n261H |

| | | |
|---|---|---|
| DC_2A-5A_n261K<br>DC_2A-5A_n261L<br>DC_2A-5A_n261M | DC_5A_n261H<br>DC_2A_n261I<br>DC_5A_n261I | |
| DC_2A-13A_n257A[2] | DC_2A_n257A<br>DC_13A_n257A | |
| DC_2A-13A_n260A[2] | DC_2A_n260A<br>DC_13A_n260A | |
| DC_2A-13A_n261A<br>DC_2A-13A_n261G<br>DC_2A-13A_n261H<br>DC_2A-13A_n261I<br>DC_2A-13A_n261J<br>DC_2A-13A_n261K<br>DC_2A-13A_n261L<br>DC_2A-13A_n261M | DC_2A_n261A<br>DC_13A_n261A<br>DC_2A_n261G<br>DC_13A_n261G<br>DC_2A_n261H<br>DC_13A_n261H | |
| DC_2A-13A_n261(2A)<br>DC_2A-13A_n261(2G)<br>DC_2A-13A_n261(2H)<br>DC_2A-13A_n261(3A)<br>DC_2A-13A_n261(4A) | DC_2A_n261A<br>DC_13A_n261A<br>DC_2A_n261G<br>DC_13A_n261G<br>DC_2A_n261H<br>DC_13A_n261H | |
| DC_2A-13A_n261(A-G)<br>DC_2A-13A_n261(A-2G)<br>DC_2A-13A_n261(A-H)<br>DC_2A-13A_n261(A-I)<br>DC_2A-13A_n261(A-J)<br>DC_2A-13A_n261(A-K)<br>DC_2A-13A_n261(G-H)<br>DC_2A-13A_n261(G-I)<br>DC_2A-13A_n261(G-J)<br>DC_2A-13A_n261(H-I)<br>DC_2A-13A_n261(2A-G)<br>DC_2A-13A_n261(2A-H)<br>DC_2A-13A_n261(2A-I)<br>DC_2A-13A_n261(3A-G) | DC_2A_n261A<br>DC_13A_n261A<br>DC_2A_n261G<br>DC_13A_n261G<br>DC_2A_n261H<br>DC_13A_n261H | |
| DC_2A-13A_n261(A-G-H)<br>DC_2A-13A_n261(A-G-I) | DC_2A_n261A<br>DC_13A_n261A<br>DC_2A_n261G<br>DC_13A_n261G<br>DC_2A_n261H<br>DC_13A_n261H | |
| DC_2A-14A_n260A<br>DC_2A-14A_n260G<br>DC_2A-14A_n260H<br>DC_2A-14A_n260I | DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I<br>DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I | |
| DC_2A-2A-14A_n260A<br>DC_2A-2A-14A_n260G<br>DC_2A-2A-14A_n260H<br>DC_2A-2A-14A_n260I | DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I<br>DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I | |
| DC_2A-30A_n260A<br>DC_2A-30A_n260G<br>DC_2A-30A_n260H<br>DC_2A-30A_n260I<br>DC_2A-30A_n260J<br>DC_2A-30A_n260K<br>DC_2A-30A_n260L<br>DC_2A-30A_n260M | DC_2A_n260A<br>DC_30A_n260A | |

| | | |
|---|---|---|
| DC_2A-66A_n257A[2] | DC_2A_n257A<br>DC_66A_n257A |
| DC_2A-66A_n260A<br>DC_2A-66A_n260G<br>DC_2A-66A_n260H<br>DC_2A-66A_n260I<br>DC_2A-66A_n260J<br>DC_2A-66A_n260K<br>DC_2A-66A_n260L<br>DC_2A-66A_n260M | DC_2A_n260A<br>DC_66A_n260A<br>DC_2A_n260G<br>DC_66A_n260G<br>DC_2A_n260H<br>DC_66A_n260H<br>DC_2A_n260I<br>DC_66A_n260I |
| DC_3A-5A_n257A[2] | DC_3A_n257A<br>DC_5A_n257A |
| DC_3A-7A_n257A[2] | DC_3A_n257A<br>DC_7A_n257A |
| DC_3A-7A-7A_n257A[2] | DC_3A_n257A<br>DC_7A_n257A |
| DC_3A-19A_n257A[2]<br>DC_3A-19A_n257D[2]<br>DC_3A-19A_n257E[2]<br>DC_3A-19A_n257F[2]<br>DC_3A-19A_n257G<br>DC_3A-19A_n257H<br>DC_3A-19A_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A<br>DC_19A_n257D |
| DC_3A-21A_n257A[2]<br>DC_3A-21A_n257D[2]<br>DC_3A-21A_n257E[2]<br>DC_3A-21A_n257F[2]<br>DC_3A-21A_n257G<br>DC_3A-21A_n257H<br>DC_3A-21A_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_21A_n257A<br>DC_21A_n257D |
| DC_3A-28A_n257A[2]<br>DC_3A-28A_n257D[2]<br>DC_3A-28A_n257E[2]<br>DC_3A-28A_n257F[2] | DC_3A_n257A<br>DC_28A_n257A |
| DC_3A-41A_n257A | DC_3A_n257A<br>DC_41A_n257A |
| DC_3A-42A_n257A[2]<br>DC_3A-42A_n257D[2]<br>DC_3A-42A_n257E[2]<br>DC_3A-42A_n257F[2]<br>DC_3A-42A_n257G<br>DC_3A-42A_n257H<br>DC_3A-42A_n257I<br>DC_3A-42C_n257A[2]<br>DC_3A-42C_n257D[2]<br>DC_3A-42C_n257E[2]<br>DC_3A-42C_n257F[2]<br>DC_3A-42C_n257G<br>DC_3A-42C_n257H<br>DC_3A-42C_n257I<br>DC_3A-42D_n257A[2]<br>DC_3A-42D_n257G<br>DC_3A-42D_n257H<br>DC_3A-42D_n257I<br>DC_3A-42E_n257A[2]<br>DC_3A-42E_n257G<br>DC_3A-42E_n257H<br>DC_3A-42E_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_42A_n257A<br>DC_42A_n257D |
| DC_5A-7A_n257A[2] | DC_5A_n257A<br>DC_7A_n257A |
| DC_5A-7A-7A_n257A | DC_5A_n257A<br>DC_7A_n257A |
| DC_5A-30A_n260A<br>DC_5A-30A_n260G | DC_5A_n260A<br>DC_30A_n260A |

| | | |
|---|---|---|
| DC_5A-30A_n260H<br>DC_5A-30A_n260I<br>DC_5A-30A_n260J<br>DC_5A-30A_n260K<br>DC_5A-30A_n260L<br>DC_5A-30A_n260M | | |
| DC_5A-66A_n257A | DC_5A_n257A<br>DC_66A_n257A | |
| DC_5A-66A_n260A<br>DC_5A-66A_n260G<br>DC_5A-66A_n260H<br>DC_5A-66A_n260I<br>DC_5A-66A_n260J<br>DC_5A-66A_n260K<br>DC_5A-66A_n260L<br>DC_5A-66A_n260M | DC_5A_n260A<br>DC_66A_n260A | |
| DC_12A-30A_n260A<br>DC_12A-30A_n260G<br>DC_12A-30A_n260H<br>DC_12A-30A_n260I<br>DC_12A-30A_n260J<br>DC_12A-30A_n260K<br>DC_12A-30A_n260L<br>DC_12A-30A_n260M | DC_12A_n260A<br>DC_30A_n260A | |
| DC_12A-66A_n260A<br>DC_12A-66A_n260G<br>DC_12A-66A_n260H<br>DC_12A-66A_n260I<br>DC_12A-66A_n260J<br>DC_12A-66A_n260K<br>DC_12A-66A_n260L<br>DC_12A-66A_n260M | DC_12A_n260A<br>DC_66A_n260A | |
| DC_13A-66A_n257A[2] | DC_13A_n257A<br>DC_66A_n257A | |
| DC_13A-66A_n260A[2] | DC_13A_n260A<br>DC_66A_n260A | |
| DC_14A-30A_n260A<br>DC_14A-30A_n260G<br>DC_14A-30A_n260H<br>DC_14A-30A_n260I | DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_30A_n260A<br>DC_30A_n260G<br>DC_30A_n260H<br>DC_30A_n260I | |
| DC_14A-66A_n260A<br>DC_14A-66A_n260G<br>DC_14A-66A_n260H<br>DC_14A-66A_n260I | DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I | |
| DC_14A-66A-66A_n260A<br>DC_14A-66A-66A_n260G<br>DC_14A-66A-66A_n260H<br>DC_14A-66A-66A_n260I | DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I | |
| DC_18A-28A_n257A[2] | DC_18A_n257A<br>DC_28A_n257A | |
| DC_19A-21A_n257A[2]<br>DC_19A-21A_n257D[2]<br>DC_19A-21A_n257E[2] | DC_19A_n257A<br>DC_19A_n257D<br>DC_21A_n257A | |

| | |
|---|---|
| DC_19A-21A_n257F[2]<br>DC_19A-21A_n257G<br>DC_19A-21A_n257H<br>DC_19A-21A_n257I | DC_21A_n257D<br>DC_21A_n257G |
| DC_19A-42A_n257A[2]<br>DC_19A-42A_n257D[2]<br>DC_19A-42A_n257E[2]<br>DC_19A-42A_n257F[2]<br>DC_19A-42A_n257G[2]<br>DC_19A-42A_n257H[2]<br>DC_19A-42A_n257I[2]<br>DC_19A-42C_n257A[2]<br>DC_19A-42C_n257G[2]<br>DC_19A-42C_n257H[2]<br>DC_19A-42C_n257I[2] | DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I<br>DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I |
| DC_21A-28A_n257A[2]<br>DC_21A-28A_n257D[2] | DC_21A_n257A<br>DC_28A_n257A |
| DC_21A-42A_n257A[2]<br>DC_21A-42A_n257D[2]<br>DC_21A-42A_n257E[2]<br>DC_21A-42A_n257F[2]<br>DC_21A-42A_n257G<br>DC_21A-42A_n257H<br>DC_21A-42A_n257I<br>DC_21A-42C_n257A[2]<br>DC_21A-42C_n257G<br>DC_21A-42C_n257H<br>DC_21A-42C_n257I | DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A<br>DC_42A_n257D |
| DC_28A-42C_n257A[2]<br>DC_28A-42A_n257A[2] | DC_28A_n257A<br>DC_42A_n257A |
| DC_30A-66A_n260A<br>DC_30A-66A_n260G<br>DC_30A-66A_n260H<br>DC_30A-66A_n260I<br>DC_30A-66A_n260J<br>DC_30A-66A_n260K<br>DC_30A-66A_n260L<br>DC_30A-66A_n260M | DC_30A_n260A<br>DC_66A_n260A |
| DC_41A-42A_n257A | DC_41A_n257A<br>DC_42A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability for all of the above combinations. | |

**Table 5.5B.5.3-1: Inter-band EN-DC configurations including FR2 (four bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-19A_n257A[2]<br>DC_1A-3A-19A_n257G<br>DC_1A-3A-19A_n257H<br>DC_1A-3A-19A_n257I | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A |
| DC_1A-3A-21A_n257A[2]<br>DC_1A-3A-21A_n257G<br>DC_1A-3A-21A_n257H<br>DC_1A-3A-21A_n257I | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_21A_n257A |

| | | |
|---|---|---|
| DC_1A-3A-42A_n257A<br>DC_1A-3A-42A_n257G<br>DC_1A-3A-42A_n257H<br>DC_1A-3A-42A_n257I<br>DC_1A-3A-42C_n257A<br>DC_1A-3A-42C_n257G<br>DC_1A-3A-42C_n257H<br>DC_1A-3A-42C_n257I<br>DC_1A-3A-42D_n257G<br>DC_1A-3A-42D_n257H<br>DC_1A-3A-42D_n257I | | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I |
| DC_1A-19A-21A_n257G<br>DC_1A-19A-21A_n257H<br>DC_1A-19A-21A_n257I | | DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I |
| DC_1A-19A-42A_n257A<br>DC_1A-19A-42A_n257G<br>DC_1A-19A-42A_n257H<br>DC_1A-19A-42A_n257I<br>DC_1A-19A-42C_n257A<br>DC_1A-19A-42C_n257D<br>DC_1A-19A-42C_n257E<br>DC_1A-19A-42C_n257F<br>DC_1A-19A-42C_n257G<br>DC_1A-19A-42C_n257H<br>DC_1A-19A-42C_n257I | | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_19A_n257A<br>DC_42A_n257A |
| DC_1A-21A-28A_n257A[2] | | DC_1A_n257A<br>DC_21A_n257A<br>DC_28A_n257A |
| DC_1A-21A-42A_n257A<br>DC_1A-21A-42A_n257G<br>DC_1A-21A-42A_n257H<br>DC_1A-21A-42A_n257I<br>DC_1A-21A-42C_n257A<br>DC_1A-21A-42C_n257D<br>DC_1A-21A-42C_n257E<br>DC_1A-21A-42C_n257F<br>DC_1A-21A-42C_n257G<br>DC_1A-21A-42C_n257H<br>DC_1A-21A-42C_n257I | | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A<br>DC_42A_n257D |
| DC_1A-28A-42A_n257A<br>DC_1A-28A-42C_n257A | | DC_1A_n257A<br>DC_28A_n257A<br>DC_42A_n257A |
| DC_1A-41A-42A_n257A<br>DC_1A-41A-42C_n257A<br>DC_1A-41C-42A_n257A<br>DC_1A-41C-42C_n257A | | DC_1A_n257A<br>DC_41A_n257A<br>DC_42A_n257A |
| DC_2A-14A-30A_n260A<br>DC_2A-14A-30A_n260G<br>DC_2A-14A-30A_n260H<br>DC_2A-14A-30A_n260I | | DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I<br>DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_30A_n260A<br>DC_30A_n260G<br>DC_30A_n260H<br>DC_30A_n260I |
| DC_2A-14A-66A_n260A<br>DC_2A-14A-66A_n260G<br>DC_2A-14A-66A_n260H<br>DC_2A-14A-66A_n260I | | DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I |

| | | | |
|---|---|---|---|
| | | DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I | |
| | DC_2A-14A-66A-66A_n260A<br>DC_2A-14A-66A-66A_n260G<br>DC_2A-14A-66A-66A_n260H<br>DC_2A-14A-66A-66A_n260I | DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I<br>DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I | |
| | DC_3A-5A-7A_n257A[2] | DC_3A_n257A<br>DC_5A_n257A<br>DC_7A_n257A | |
| | DC_3A-5A-7A-7A_n257A[2] | DC_3A_n257A<br>DC_5A_n257A<br>DC_7A_n257A | |
| | DC_3A-19A-21A_n257A[2] | DC_3A_n257A<br>DC_19A_n257A<br>DC_21A_n257A | |
| | DC_3A-19A-42A_n257A<br>DC_3A-19A-42A_n257G<br>DC_3A-19A-42A_n257H<br>DC_3A-19A-42A_n257I<br>DC_3A-19A-42C_n257A<br>DC_3A-19A-42C_n257D<br>DC_3A-19A-42C_n257E<br>DC_3A-19A-42C_n257F<br>DC_3A-19A-42C_n257G<br>DC_3A-19A-42C_n257H<br>DC_3A-19A-42C_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I<br>DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I | |
| | DC_3A-21A-42A_n257A<br>DC_3A-21A-42A_n257G<br>DC_3A-21A-42A_n257H<br>DC_3A-21A-42A_n257I<br>DC_3A-21A-42C_n257A<br>DC_3A-21A-42C_n257D<br>DC_3A-21A-42C_n257E<br>DC_3A-21A-42C_n257F<br>DC_3A-21A-42C_n257G<br>DC_3A-21A-42C_n257H<br>DC_3A-21A-42C_n257I | DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I | |
| | DC_3A-28A-42A_n257A<br>DC_3A-28A-42C_n257A | DC_3A_n257A<br>DC_28A_n257A<br>DC_42A_n257A | |
| | DC_14A-30A-66A_n260A<br>DC_14A-30A-66A_n260G<br>DC_14A-30A-66A_n260H | DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H | |

| | |
|---|---|
| DC_14A-30A-66A_n260I | DC_14A_n260I<br>DC_30A_n260A<br>DC_30A_n260G<br>DC_30A_n260H<br>DC_30A_n260I<br>DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I |
| DC_14A-30A-66A-66A_n260A<br>DC_14A-30A-66A-66A_n260G<br>DC_14A-30A-66A-66A_n260H<br>DC_14A-30A-66A-66A_n260I | DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_30A_n260A<br>DC_30A_n260G<br>DC_30A_n260H<br>DC_30A_n260I<br>DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I |
| DC_19A-21A-42A_n257A[2]<br>DC_19A-21A-42A_n257G[2]<br>DC_19A-21A-42A_n257H[2]<br>DC_19A-21A-42A_n257I[2]<br>DC_19A-21A-42C_n257A[2]<br>DC_19A-21A-42C_n257D[2]<br>DC_19A-21A-42C_n257E[2]<br>DC_19A-21A-42C_n257F[2]<br>DC_19A-21A-42C_n257G[2]<br>DC_19A-21A-42C_n257H[2]<br>DC_19A-21A-42C_n257I[2] | DC_19A_n257A<br>DC_19A_n257D<br>DC_19A_n257G<br>DC_19A_n257H<br>DC_19A_n257I<br>DC_21A_n257A<br>DC_21A_n257D<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A<br>DC_42A_n257D<br>DC_42A_n257G<br>DC_42A_n257H<br>DC_42A_n257I |
| DC_21A-28A-42A_n257A[2]<br>DC_21A-28A-42C_n257A[2] | DC_21A_n257A<br>DC_28A_n257A<br>DC_42A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability for all of the above combinations. | |

**Table 5.5B.5.4-1: Inter-band EN-DC configurations including FR2 (five bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-19A-42A_n257A<br>DC_1A-3A-19A-42A_n257D<br>DC_1A-3A-19A-42A_n257E<br>DC_1A-3A-19A-42A_n257F<br>DC_1A-3A-19A-42A_n257G<br>DC_1A-3A-19A-42A_n257H<br>DC_1A-3A-19A-42A_n257I<br>DC_1A-3A-19A-42C_n257A<br>DC_1A-3A-19A-42C_n257D<br>DC_1A-3A-19A-42C_n257E<br>DC_1A-3A-19A-42C_n257F<br>DC_1A-3A-19A-42C_n257G<br>DC_1A-3A-19A-42C_n257H<br>DC_1A-3A-19A-42C_n257I | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I<br>DC_19A_n257A<br>DC_42A_n257A |
| DC_1A-3A-21A-42A_n257A<br>DC_1A-3A-21A-42C_n257A<br>DC_1A-3A-21A-42C_n257D<br>DC_1A-3A-21A-42C_n257E | DC_1A_n257A<br>DC_3A_n257A<br>DC_3A_n257G<br>DC_3A_n257H |

| | | |
|---|---|---|
| DC_1A-3A-21A-42C_n257F<br>DC_1A-3A-21A-42C_n257G<br>DC_1A-3A-21A-42C_n257H<br>DC_1A-3A-21A-42C_n257I | DC_3A_n257I<br>DC_3A_n257J<br>DC_21A_n257A<br>DC_42A_n257A | |
| DC_1A-19A-21A-42A_n257A<br>DC_1A-19A-21A-42A_n257G<br>DC_1A-19A-21A-42A_n257H<br>DC_1A-19A-21A-42A_n257I<br>DC_1A-19A-21A-42C_n257A<br>DC_1A-19A-21A-42C_n257D<br>DC_1A-19A-21A-42C_n257E<br>DC_1A-19A-21A-42C_n257F<br>DC_1A-19A-21A-42C_n257G<br>DC_1A-19A-21A-42C_n257H<br>DC_1A-19A-21A-42C_n257I | DC_1A_n257A<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_19A_n257A<br>DC_21A_n257A<br>DC_21A_n257G<br>DC_21A_n257H<br>DC_21A_n257I<br>DC_42A_n257A | |
| DC_2A-14A-30A-66A_n260A<br>DC_2A-14A-30A-66A_n260G<br>DC_2A-14A-30A-66A_n260H<br>DC_2A-14A-30A-66A_n260I | DC_2A_n260A<br>DC_2A_n260G<br>DC_2A_n260H<br>DC_2A_n260I<br>DC_14A_n260A<br>DC_14A_n260G<br>DC_14A_n260H<br>DC_14A_n260I<br>DC_30A_n260A<br>DC_30A_n260G<br>DC_30A_n260H<br>DC_30A_n260I<br>DC_66A_n260A<br>DC_66A_n260G<br>DC_66A_n260H<br>DC_66A_n260I | |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | | |

وتُحدَّد تشكيلات التوصيلية المزدوجة المدعومة لمعيار (EN-DC) بين النطاقات، والتي تشمل المدى الترددي FR1 والمدى الترددي FR2، في الجداول 5.5B.2-1 و5.5B.3-1 و5.5B.4-1 و5.5B.5-1 من المواصفة التقنية [8] TS 38.521-3.

**Table 5.5B.6.2-1: Inter-band EN-DC configurations including FR1 and FR2 (three bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A_n77A-n257A[2]<br>DC_1A_n77A-n257D[2]<br>DC_1A_n77A-n257E[2]<br>DC_1A_n77A-n257F[2]<br>DC_1A_n77C-n257A[2]<br>DC_1A_n77C-n257D[2]<br>DC_1A_n77C-n257E[2]<br>DC_1A_n77C-n257F[2] | DC_1A_n77A<br>DC_1A_n257A<br>DC_1A_n77A-n257A |
| DC_1A_n78A-n257A[2]<br>DC_1A_n78A-n257D[2]<br>DC_1A_n78A-n257E[2]<br>DC_1A_n78A-n257F[2]<br>DC_1A_n78C-n257A[2]<br>DC_1A_n78C-n257D[2]<br>DC_1A_n78C-n257E[2]<br>DC_1A_n78C-n257F[2] | DC_1A_n78A<br>DC_1A_n257A<br>DC_1A_n78A-n257A |

| | |
|---|---|
| DC_1A_n79A-n257A[2]<br>DC_1A_n79A-n257D[2]<br>DC_1A_n79A-n257E[2]<br>DC_1A_n79A-n257F[2]<br>DC_1A_n79C-n257A[2]<br>DC_1A_n79C-n257D[2]<br>DC_1A_n79C-n257E[2]<br>DC_1A_n79C-n257F[2] | DC_1A_n79A<br>DC_1A_n257A<br>DC_1A_n79A-n257A |
| DC_3A_n77A-n257A[2]<br>DC_3A_n77A-n257D[2]<br>DC_3A_n77A-n257E[2]<br>DC_3A_n77A-n257F[2]<br>DC_3A_n77C-n257A[2]<br>DC_3A_n77C-n257D[2]<br>DC_3A_n77C-n257E[2]<br>DC_3A_n77C-n257F[2] | DC_3A_n77A<br>DC_3A_n257A<br>DC_3A_n77A-n257A |
| DC_3A_n78A-n257A[2]<br>DC_3A_n78A-n257D[2]<br>DC_3A_n78A-n257E[2]<br>DC_3A_n78A-n257F[2]<br>DC_3A_n78C-n257A[2]<br>DC_3A_n78C-n257D[2]<br>DC_3A_n78C-n257E[2]<br>DC_3A_n78C-n257F[2] | DC_3A_n78A<br>DC_3A_n257A<br>DC_3A_n78A-n257A |
| DC_3A_n79A-n257A[2]<br>DC_3A_n79A-n257D[2]<br>DC_3A_n79A-n257E[2]<br>DC_3A_n79A-n257F[2]<br>DC_3A_n79C-n257A[2]<br>DC_3A_n79C-n257D[2]<br>DC_3A_n79C-n257E[2]<br>DC_3A_n79C-n257F[2] | DC_3A_n79A<br>DC_3A_n257A<br>DC_3A_n79A-n257A |
| DC_5A_n78A-n257A[2] | DC_5A_n78A<br>DC_5A_n257A |
| DC_7A_n78A-n257A[2] | DC_7A_n78A<br>DC_7A_n257A |
| DC_7A-7A_n78A-n257[2]A | DC_7A_n78A<br>DC_7A_n257A<br>DC_7A_n78A-n257A |
| DC_19A_n77A-n257A[2]<br>DC_19A_n77A-n257D[2]<br>DC_19A_n77A-n257E[2]<br>DC_19A_n77A-n257F[2]<br>DC_19A_n77C-n257A[2]<br>DC_19A_n77C-n257D[2]<br>DC_19A_n77C-n257E[2]<br>DC_19A_n77C-n257F[2] | DC_19A_n77A<br>DC_19A_n257A<br>DC_19A_n77A-n257A |
| DC_19A_n78A-n257A[2]<br>DC_19A_n78A-n257D[2]<br>DC_19A_n78A-n257E[2]<br>DC_19A_n78A-n257F[2]<br>DC_19A_n78C-n257A[2]<br>DC_19A_n78C-n257D[2]<br>DC_19A_n78C-n257E[2]<br>DC_19A_n78C-n257F[2] | DC_19A_n78A<br>DC_19A_n257A<br>DC_19A_n78A-n257A |
| DC_19A_n79A-n257A[2]<br>DC_19A_n79A-n257D[2]<br>DC_19A_n79A-n257E[2]<br>DC_19A_n79A-n257F[2]<br>DC_19A_n79C-n257A[2]<br>DC_19A_n79C-n257D[2]<br>DC_19A_n79C-n257E[2]<br>DC_19A_n79C-n257F[2] | DC_19A_n79A<br>DC_19A_n257A<br>DC_19A_n79A-n257A |
| DC_21A_n77A-n257A[2] | DC_21A_n77A<br>DC_21A_n257A |

| | |
|---|---|
| DC_21A_n78A-n257A[2] | DC_21A_n78A<br>DC_21A_n257A |
| DC_21A_n79A-n257A[2] | DC_21A_n79A<br>DC_21A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability. | |

**Table 5.5B.6.3-1: Inter-band EN-DC configurations including FR1 and FR2 (four bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A_n78A-n257A[2]<br>DC_1A-3A_n78A-n257G[2]<br>DC_1A-3A_n78A-n257H[2]<br>DC_1A-3A_n78A-n257I[2] | DC_1A_n78A<br>DC_1A_n257A<br>DC_1A_n257D<br>DC_1A_n257G<br>DC_1A_n257H<br>DC_1A_n257I<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_3A_n257D<br>DC_3A_n257G<br>DC_3A_n257H<br>DC_3A_n257I |
| DC_1A-5A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_5A_n78A<br>DC_5A_n257A |
| DC_1A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-7A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-5A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A |
| DC_3A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-7A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_5A-7A_n78A-n257A | DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_5A-7A-7A_n78A-n257A | DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.<br>NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability. | |

**Table 5.5B.6.4-1: Inter-band EN-DC configurations including FR1 and FR2 (five bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A |
| DC_1A-3A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-3A-7A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-5A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_1A-5A-7A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-5A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| DC_3A-5A-7A-7A_n78A-n257A | DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | |

**Table 5.5B.6.5-1: Inter-band EN-DC configurations including FR1 and FR2 (six bands)**

| EN-DC configuration | Uplink EN-DC configuration (NOTE 1) |
|---|---|
| DC_1A-3A-5A-7A_n78A-n257A | DC_1A_n78A<br>DC_1A_n257A<br>DC_3A_n78A<br>DC_3A_n257A<br>DC_5A_n78A<br>DC_5A_n257A<br>DC_7A_n78A<br>DC_7A_n257A |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications. | |

تُحدَّد تشكيلات التوصيلية المزدوجة المدعومة لمعيار (NR-DC) بين النطاقات، بين FR1 وFR2، في الجدول 5.5B.7-1 من المواصفة التقنية [8] 3-TS 38.521.

**Table 5.5B.7-1: Inter-band NR-DC configurations between FR1 and FR2 (two bands)**

| Downlink NR-DC configuration | Uplink NR-DC configuration |
|---|---|
| DC_n77A-n257A<br>DC_n77A-n257D<br>DC_n77A-n257E<br>DC_n77A-n257F<br>DC_n77A-n257G<br>DC_n77A-n257H<br>DC_n77A-n257I<br>DC_n77A-n257J<br>DC_n77A-n257K<br>DC_n77A-n257L<br>DC_n77A-n257M<br>DC_n77C-n257A<br>DC_n77C-n257D<br>DC_n77C-n257E<br>DC_n77C-n257F | DC_n77A-n257A |
| DC_n78A-n257A<br>DC_n78A-n257D<br>DC_n78A-n257E<br>DC_n78A-n257F<br>DC_n78A-n257G<br>DC_n78A-n257H<br>DC_n78A-n257I<br>DC_n78A-n257J<br>DC_n78A-n257K<br>DC_n78A-n257L<br>DC_n78A-n257M<br>DC_n78C-n257A<br>DC_n78C-n257D<br>DC_n78C-n257E<br>DC_n78C-n257F | DC_n78A-n257A |
| DC_n79A-n257A<br>DC_n79A-n257D<br>DC_n79A-n257E<br>DC_n79A-n257F<br>DC_n79A-n257G<br>DC_n79A-n257H<br>DC_n79A-n257I<br>DC_n79A-n257J<br>DC_n79A-n257K<br>DC_n79A-n257L<br>DC_n79A-n257M<br>DC_n79C-n257A<br>DC_n79C-n257D<br>DC_n79C-n257E<br>DC_n79C-n257F | DC_n79A-n257A |

وتُحدَّد تشكيلات الاتصالات من مركبة إلى كل شيء (V2X) المدعومة بين النفاذ E-UTRA وتكنولوجيا الراديو الجديد (NR)، في الجداول 5.2E.5-1 و5.3E.5-1 و5.1-4.5E.5 من المواصفة التقنية [8] 3-TS 38.521.

**Table 5.5E.2-1: Intra-band contiguous V2X configurations**

| V2X configuration | SL transmission |
|---|---|
| V2X_(n)47AA | E-UTRA Band 47 or NR band n47 |
| NOTE 1: Only single switched SL is supported. | |

**Table 5.5E.3-1: Intra-band non-contiguous V2X configurations**

| V2X configuration | SL transmission |
|---|---|
| V2X_47A_n47A | E-UTRA Band 47 or NR band n47 |
| NOTE 1: Only single switched SL is supported. | |

**Table 5.5E.4.1-1: Inter-band V2X configurations**

| V2X configuration | V2X transmission configuration |
|---|---|
| V2X_20A_n38A | V2X_20A_n38A |
| V2X_n71A_47A | V2X_n71A_47A |
| NOTE 1: V2X transmission configurations are the configurations supported by the present release of specifications. | |

### 5.1.4 التعاريف والرموز والمختصرات

#### 1.5.1.4 التعاريف

**التشغيل المتزامن:** يكون الإرسال والاستقبال المتزامنان عبر السطح البيني للوصلة الجانبية والسطح البيني Uu أثناء التشغيل مستقلَّين عن الخدمة المستخدمة على كل سطح بيني.

#### 2.5.1.4 الرموز

تُستعمل الرموز التالية لأغراض هذه الوثيقة:

$\Delta R_{IB,c}$ تخفيف الحساسية المرجعية المسموح بها بسبب دعم تشغيل التوصيلية المزدوجة (DC) أو تجميع الموجات الحاملة (CA) لخدمة الخلية c

$\Delta T_{IB,c}$ تخفيف قدرة الخرج القصوى المشكَّلة المسموح بها بسبب دعم تشغيل التوصيلية المزدوجة (DC) أو تجميع الموجات الحاملة (CA) لخدمة الخلية c

$BW_{E\text{-}UTRA_Channel}$ عرض نطاق القناة لموجة حاملة في النفاذ E-UTRA

$BW_{E\text{-}UTRA_Channel_CA}$ عرض نطاق قناة الكتلة الفرعية للنفاذ E-UTRA، المكوَّنة من تجميع الموجات الحاملة المكوِّنة المتجاورة داخل النطاق.

$BW_{NR_Channel}$ عرض نطاق القناة الخاصة بالموجة الحاملة NR

$BW_{NR_Channel_CA}$ عرض نطاق قناة الكتلة الفرعية لتكنولوجيا الراديو الجديد (NR)، والمكوَّنة من تجميع موجات حاملة مكوِّنة متجاورة داخل النطاق.

Ceil(x) التقريب إلى العدد الصحيح الأعلى؛ وتمثل ceil(x) أصغر عدد صحيح أكبر من أو يساوي x

| | |
|---|---|
| $EN\text{-}DC_{ACLR}$ | هي نسبة القدرة المتوسطة المرشَّحة، والمتمركزة في عرض نطاق الكتلة الفرعية المجمَّعة باستخدام مرشح ذي عرض نطاق ضوضاء مكافئ، إلى القدرة المتوسطة المرشَّحة، والمتمركزة في عرض نطاق مجاور ذي عرض نطاق ضوضاء مكافئ بالحجم نفسه. |
| $E\text{-}UTRA_{ACLR}$ | نسبة تسرّب القدرة في القنوات المجاورة (ACLR) في النفاذ الراديوي للأرض العالمي المتطور (E-UTRA) |
| $F_C$ | التردد المرجعي لمركز الموجة الحاملة في شبكة مسح القنوات |
| $F_{DL_low}$ | أدنى تردد في نطاق تشغيل الوصلة الهابطة |
| $F_{DL_high}$ | أعلى تردد في نطاق تشغيل الوصلة الهابطة |
| $F_{UL_low}$ | أدنى تردد في نطاق تشغيل الوصلة الصاعدة |
| $F_{UL_high}$ | أعلى تردد في نطاق تشغيل الوصلة الصاعدة |
| $F_{OOB}$ | الحد الفاصل بين مجالي البث خارج النطاق والبث الهامشي لتكنولوجيا الراديو الجديد (NR) |
| $L_{CRB}$ | عرض نطاق الإرسال، والذي يمثل طول توزيع مجموعات الموارد المتجاورة معبر عنه بوحدات مجموعات الموارد |
| Max() | أكبر عدد من بين الأعداد المعطاة |
| Min() | أصغر عدد من بين الأعداد المعطاة |
| $NR_{ACLR}$ | نسبة تسرّب القدرة في القنوات المجاورة (ACLR) في تكنولوجيا الراديو الجديد (NR) |
| $N_{RB}$ | تشكيل عرض نطاق الإرسال، ويُعبَّر عنه بوحدات كتل الموارد. |
| $N_{RB_agg}$ | عدد كتل الموارد في عرض نطاق القناة المجمَّع الموزع كلياً |
| $P_{CMAX}$ | قدرة الخرج القصوى المشكلة لمعدات المستعمل (UE) |
| $RB_{start}$ | يشير إلى مؤشر RB الأدنى لمجموعات الموارد المرسَلة |
| $W_{gap}$ | الفجوة بين الكتل الفرعية بين كتلتين فرعيتين. |

### 3.5.1.4 الاختصارات

| | |
|---|---|
| ACLR | نسبة التسرب في القنوات المجاورة (*Adjacent Channel Leakage Ratio*) |
| ACS | انتقائية القناة المجاورة (*Adjacent Channel Selectivity*) |
| A-MPR | تخفيض إضافي في القدرة القصوى (*Additional Maximum Power Reduction*) |
| BCS | مجموعة توليفة عرض النطاق (*Bandwidth Combination Set*) |
| CA | تجميع الموجات الحاملة (*Carrier Aggregation*) |
| CC | الموجة الحاملة المكونة (*Component Carrier*) |
| DC | التوصيلية المزدوجة (*Dual Connectivity*) |
| EN-DC | التوصيلية المزدوجة لمعياري E-UTRA-NR (*E-UTRA/NR DC*) |
| e.i.r.p. | القدرة المشعة المكافئة المتناحية (*equivalent isotropically radiated power*) |
| EVM | مقدار متّجه الخطأ (*Error Vector Magnitude*) |

FR مدى التردد (*Frequency Range*)

ENBW عرض النطاق المجمَّع لكتلة فرعية في النفاذ E-UTRA وكتلة فرعية مجاورة لتكنولوجيا الراديو الجديد (NR)
(*The aggregated bandwidth of an E-UTRA sub-block and an adjacent NR sub-block*)

ITS أنظمة النقل الذكية (*Intelligent Transportation System*)

ITU-R قطاع الاتصالات الراديوية بالاتحاد الدولي للاتصالات
(*Radio communication Sector of the International Telecommunication Union*)

MBW عرض نطاق القياس المحدَّد للنطاق المحمي (*Measurement bandwidth defined for the protected band*)

MPR التخفيض المسموح به في القدرة القصوى (*Allowed maximum power reduction*)

MSD انحطاط الحساسية القصوى (*Maximum Sensitivity Degradation*)

MCG مجموعة الخلايا الرئيسية (*Master Cell Group*)

NR الراديو الجديد (*New Radio*)

NS التشوير الشبكي (*Network Signalling*)

NSA أسلوب التشغيل غير القائم بذاته، وهو أسلوب تشغيل يُدعَم فيه نظام راديوي بواسطة نظام راديوي آخر
(*Non-Standalone, a mode of operation where operation of a radio is assisted with another radio*)

OOB خارج النطاق (*Out-of-band*)

OOBE البث خارج النطاق (*Out-of-band emission*)

OTA عبر الأثير (*Over The Air*)

PRB كتلة الموارد المادية (*Physical Resource Block*)

PSCCH قناة مادية للتحكم في الوصلة الجانبية (*Physical Sidelink Control Channel*)

PSSCH قناة مادية مشتركة للوصلة الجانبية (*Physical Sidelink Shared Channel*)

RE عنصر الموارد (*Resource Element*)

REFSENS الحساسية المرجعية (*Reference Sensitivity*)

RF الترددات الراديوية (*Radio Frequency*)

Rx مستقبِل (*Receiver*)

SCG زمرة الخلايا الثانوية (*Secondary Cell Group*)

SCS المباعدة بين الموجات الحاملة الفرعية (*Subcarrier spacing*)

SEM قناع البث الطيفي (*Spectrum Emission Mask*)

SL الوصلة الجانبية (*Sidelink*)

SUL الوصلة الصاعدة التكميلية (*Supplementary uplink*)

TDM تعدد الإرسال بتقسيم الزمن (*Time Division Multiplex*)

Tx المرسِل (*Transmitter*)

UE معدات المستعمل (*User Equipment*)

UL وصلة صاعدة (*Uplink*)

UL MIMO إرسال متعدد الهوائيات في الوصلة الصاعدة (*Up Link Multiple Antenna transmission*)

ULSUP تقاسم الوصلة الصاعدة من منظور معدات المستعمل (UE) (*Uplink sharing from UE perspective*)

V2X من المركبة إلى كل شيء (*Vehicle to Everything*)

### 6.1.4 إمكانية تطبيق الحد الأدنى من المتطلبات

أ ) في المواصفة التقنية [4] 3-38.101 TS، تُصنَّف الحدود الدنيا للمتطلبات إلى متطلبات عامة ومتطلبات إضافية. وحيثما يُحدَّد متطلبٌ بوصفه متطلباً عاماً، فيجب استيفاؤه في جميع السيناريوهات.

ب) أما في السيناريوهات التي يُحدَّد لها متطلبٌ إضافي، فينبغي أن تستوفي معدات المستعمل المتطلبات الإضافية، بالإضافة إلى استيفاء المتطلبات العامة.

ج) تنطبق متطلبات قدرة البث الهامشي على متوسط القدرة على المدى الطويل. وللحد من عدم اليقين في القياس، يجوز حساب متوسط القدرة المقيسة على مدى فترة زمنية كافية للحد من عدم اليقين الناتج عن الطبيعة الإحصائية للإشارة.

د ) ينبغي أن يفي المطراف الذي يدعم تشكيلة التوصيلية المزدوجة لمعياري (EN-DC) بمتطلبات النفاذ E-UTRA، على النحو المحدد في المواصفة التقنية [1] 36.101 TS، وبمتطلبات تكنولوجيا الراديو الجديد (NR)، على النحو المحدد في المواصفتين التقنيتين [2] 1-38.101 TS و[3] 2-38.101 TS، ما لم يُحدَّد خلاف ذلك في المواصفة التقنية [4] 3-38.101 TS.

هـ ) تنطبق جميع متطلبات التوصيلية المزدوجة لمعياري (EN-DC)، سواء المتجاورة أو غير المتجاورة داخل النطاق، على أساس افتراض استخدام التشكيلات نفسها للوصلة الصاعدة/الوصلة الهابطة والإطار الفرعي الخاص في النفاذE-UTRA، ونسق الفتحة الزمنية المشار إليه في المعلمتين UL-DL-configurationCommon وul-DL-configurationDedicated في تكنولوجيا الراديو الجديد (NR)، طوال مدة تشغيل التوصيلية المزدوجة لمعياري (EN-DC).

و ) في توليفات التوصيلية المزدوجة لمعياري (EN-DC) التي تشمل تشكيلات تجميع الموجات الحاملة في النفاذ E-UTRA و/أو تكنولوجيا الراديو الجديد (NR)، تنطبق جميع متطلبات تجميع الموجات الحاملة، سواء المتجاورة أو غير المتجاورة داخل النطاق، الخاصة بالنفاذ E-UTRA و/أو تكنولوجيا الراديو الجديد (NR)، عند استخدام خلايا تكنولوجيا الراديو الجديد (NR) (PSCell وSCells) نسق الفتحة الزمنية نفسه المشار إليه في المعلمتين UL-DL-configurationCommon وUL-DL-configurationDedicated، واستخدام خلايا النفاذ E-UTRA (PCell وSCells) تشكيلات الوصلة الصاعدة/الوصلة الهابطة والإطار الفرعي الخاص نفسها.

ينبغي للمطراف الذي يدعم تشكيل التوصيلية المزدوجة لمعياري (EN-DC) أن يدعم ما يلي:

– إذا لم تُحدَّد، بالنسبة إلى أي مجموعة فرعية من تشكيل التوصيلية المزدوجة لمعياري (EN-DC)، مجموعات توليفات عرض النطاق الخاصة بها في الفقرة 3B.5 من المواصفة التقنية [8] 3-38.521 TS، فينبغي أن يدعم المطراف مجموعات توليفات عرض النطاق الخاصة بالنفاذ E-UTRA التي أعلن دعمها لتشكيل تجميع الموجات الحاملة في النفاذ E-UTRA، وكذلك مجموعات توليفات عرض النطاق الخاصة بتكنولوجيا الراديو الجديد (NR) التي أعلن دعمها لتشكيل تجميع الموجات الحاملة في تكنولوجيا الراديو الجديد (NR) ضمن تشكيل التوصيلية المزدوجة لمعياري (EN-DC).

– أما إذا حددت إحدى المجموعات الفرعية من تشكيلة التوصيلية المزدوجة لمعياري (EN-DC) مجموعات توليفات عرض النطاق الخاصة بها في الفقرة 3B.5 من المواصفة التقنية [8] 3-38.521 TS، فينبغي أن يدعم المطراف، لكل نطاق تشغيل ذي صلة، جميع تشكيلات عرض نطاق القنوات الواردة في مجموعات توليفات عرض نطاق النفاذ E-UTRA، ومجموعات توليفات

عرض نطاق تكنولوجيا الراديو الجديد (NR)، ومجموعات توليفات عرض نطاق التوصيلية المزدوجة لمعياري (EN-DC)، التي أعلن دعمها.

## 5.3B UE Channel bandwidth for EN-DC

### 5.3B.0 General

For intra-band contiguous EN-DC, the aggregated channel bandwidth is sum of the individual NR and E-UTRA channel bandwidths assuming nominal EN-DC channel with 0 kHz offset spacing as specified in clause 5.4.

$$ENBW = BW_{NR_Channel} + BW_{E\text{-}UTRA_Channel}$$

In the case where the NR sub-block and/or the E-UTRA sub-block itself is composed of intra-band contiguous CA carriers, the EN-DC aggregated channel bandwidth is the sum of the aggregated channel bandwidths of the NR and E-UTRA sub-blocks assuming nominal EN-DC channel spacing between the NR sub-block and E-UTRA sub-block.

$$ENBW = BW_{NR_Channel_CA} + BW_{E\text{-}UTRA_Channel_CA}$$

For NR inter-band dual connectivity specified in 5.5B.7, the corresponding NR CA configurations in 5.5A.1, i.e., dual uplink inter-band carrier aggregation between FR1 and FR2 with uplink assigned to two NR bands, are applicable to Dual Connectivity.

NOTE: Requirements for the dual connectivity configurations are defined in the clause corresponding NR uplink CA between FR1 and FR2 configurations, unless otherwise specified.

Intra-band contiguous EN-DC configurations are defined using intra-band contiguous EN-DC bandwidth class notation DC_(n)Xyz where the first EN-DC bandwidth class letter indicates the number of contiguous E-UTRA carriers and the second EN-DC bandwidth class letter indicates the number of contiguous NR carriers for the EN-DC combination of E-UTRA Band X and NR Band nX. Applicable contiguous intraband EN-DC bandwidth classes are listed in Table 5.3B.0-1.

**Table 5.3B.0-1: Intra-band contiguous EN-DC bandwidth classes**

| Intra-band contiguous EN-DC bandwidth class | Number of contiguous CC | |
|---|---|---|
| | E-UTRA | NR |
| AA | 1 | 1 |
| AB | 1 | 2 |
| CA | 2 | 1 |
| DA | 3 | 1 |

### 5.3B.1 Intra-band EN-DC in FR1

#### 5.3B.1.1 General

The requirements for intra-band EN-DC in this specification are defined for EN-DC configurations with associated bandwidth combination sets.

For each EN-DC configuration, requirements are specified for all bandwidth combinations contained in a *bandwidth combination set*, which is indicated per supported band combination in the UE radio access capability. A UE can indicate support of several bandwidth combination sets per band combination.

#### 5.3B.1.2 BCS for Intra-band contiguous EN-DC

For intra-band contiguous EN-DC, an EN-DC configuration is a single operating band supporting an intra-band contiguous EN-DC bandwidth class.

Bandwidth combination sets for intra-band contiguous EN-DC are specified in Table 5.3B.1.2-1. The EN-DC configurations and bandwidth combination sets in Table 5.3B.1.2-1 also apply to higher order EN-DC combinations

that include inter-band and intra-band EN-DC on the downlink and inter-band EN-DC on the uplink. If no BCS is reported in the UE capabilities for an intra-band combination the default is that the UE supports BCS0.

**Table 5.3B.1.2-1: EN-DC configurations and bandwidth combination sets defined for intra-band contiguous EN-DC**

| E-UTRA – NR configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|
| Downlink EN-DC configuration | Uplink EN-DC configurations | Component carriers in order of increasing carrier frequency | | | Maximum aggregated bandwidth (MHz) | Bandwidth combination set |
| | | Channel bandwidths for E-UTRA carrier (MHz) | Channel bandwidths for NR carrier (MHz) | Channel bandwidths for E-UTRA carrier (MHz) | | |
| DC_(n)41AA | DC_(n)41AA | 20 | 40, 60, 80,100 | | 120 | 0 |
| | | | 40, 60, 80,100 | 20 | | |
| | | 20 | 40, 50, 60, 80,100 | | 120 | 1 |
| | | | 40, 50, 60, 80,100 | 20 | | |
| DC_(n)41CA | DC_(n)41AA, DC_41A_n41A | 20+20 | 40, 60, 80,100 | | 140 | 0 |
| | | | 40, 60, 80,100 | 20+20 | | |
| | | 20+20 | 40, 50, 60, 80,100 | | 140 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20 | | |
| DC_(n)41DA | DC_(n)41AA, DC_41A_n41A | 20+20+20 | 40, 60, 80,100 | | 160 | 0 |
| | | | 40, 60, 80,100 | 20+20+20 | | |
| | | 20+20+20 | 40, 50, 60, 80,100 | | 160 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20+20 | | |
| DC_(n)71AA | DC_(n)71AA | 15 | 5 | | 20 | 0 |
| | | 10 | 5, 10 | | | |
| | | 5 | 5, 10, 15 | | | |
| | | | 5 | 15 | | |
| | | | 5, 10 | 10 | | |
| | | | 5, 10, 15 | 5 | | |

NOTE 1: Void
NOTE 2: Void
NOTE 3: Void
NOTE 4: The channel bandwidths for E-UTRA or NR carrier should be at least supported in one of the BCS indicated in E-UTRA bandwidth combination sets or NR bandwidth combination sets if reported.

## 5.3B.1.3 BCS for Intra-band non-contiguous EN-DC

For intra-band non-contiguous EN-DC, an EN-DC configuration is a single operating band supporting E-UTRA and NR carriers, where E-UTRA configuration is indicated by using E-UTRA CA bandwidth class as defined in TS 36.101 [5] and NR configuration is indicated by using NR CA bandwidth class as defined in TS 38.101-1 [2].

Requirements for intra-band non-contiguous EN-DC are defined for the EN-DC configurations and bandwidth combination sets specified in Table 5.3B.1.3-1. The EN-DC configurations and bandwidth combination sets in Table 5.3B.1.3-1 also apply to higher order EN-DC combinations that include inter-band and intra-band EN-DC on the downlink and inter-band EN-DC on the uplink. If no BCS is reported in the UE capabilities for an intra-band combination the default is that the UE supports BCS0.

**Table 5.3B.1.3-1: EN-DC configurations and bandwidth combination sets defined for intra-band non-contiguous EN-DC**

| E-UTRA – NR configuration / Bandwidth combination set | | | | | | |
|---|---|---|---|---|---|---|
| Downlink EN-DC configuration | Uplink EN-DC configurations | Component carriers in order of increasing carrier frequency | | | Maximum aggregated bandwidth (MHz) | Bandwidth combination set |
| | | Channel bandwidths for E-UTRA carrier (MHz) | Channel bandwidths for NR carrier (MHz) | Channel bandwidths for E-UTRA carrier (MHz) | | |
| DC_3A_n3A | DC_3A_n3A(1) | | 5, 10, 15, 20, 25, 30 | 5, 10, 15, 20 | 50 | 0 |
| DC_41A_n41A | DC_41A_n41A | 20 | 40, 60, 80,100 | | 120 | 0 |
| | | | 40, 60, 80,100 | 20 | | |
| | | 20 | 40, 50, 60, 80,100 | | 120 | 1 |
| | | | 40, 50, 60, 80,100 | 20 | | |
| DC_41C_n41A | DC_41A_n41A | 20+20 | 40, 60, 80,100 | | 140 | 0 |
| | | | 40, 60, 80,100 | 20+20 | | |
| | | 20+20 | 40, 50, 60, 80,100 | | 140 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20 | | |
| DC_41D_n41A | DC_41A_n41A | 20+20+20 | 40, 60, 80,100 | | 160 | 0 |
| | | | 40, 60, 80,100 | 20+20+20 | | |
| | | 20+20+20 | 40, 50, 60, 80,100 | | 160 | 1 |
| | | | 40, 50, 60, 80,100 | 20+20+20 | | |
| NOTE 1: Only single switched UL is supported in Rel-15. | | | | | | |

إذا كان مطراف يدعم تشكيلاً للتوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات باستخدام تشكيل معيّن للوصلة الصاعدة، فينبغي أن يدعم أيضاً جميع تشكيلات الوصلة الهابطة ذات الترتيب الأدنى، المنتمية إلى تشكيلات التوصيلية المزدوجة لمعياري (EN-DC) ذات الترتيب الأدنى، التي تستخدم تشكيل الوصلة الصاعدة نفسه وتشكيلاته الاحتياطية ذات الترتيب الأدنى.

إذا كان المطراف يدعم تشكيلات التوصيلية المزدوجة (DC) أو تجميع الموجات الحاملة (CA)، التي تتضمن توليفات لتجميع الموجات الحاملة داخل النطاق في المدى الترددي FR2، وتضم مجموعات فرعية متعددة، تكون واحدة منها على الأقل مكوَّنة من توليفة متجاورة لتجميع الموجات الحاملة، فلا يُلزم المطراف بدعم جميع التشكيلات الاحتياطية ذات الترتيب الأدنى الممكنة. وبدلاً من ذلك، يمكنه التبديل مباشرةً إلى موجة حاملة واحدة في المدى الترددي FR2. ويظل تعطيل الموجات الحاملة ضمن توليفة التوصيلية المزدوجة (DC) أو تجميع الموجات الحاملة (CA) أمراً ممكناً.

وينبغي للمطراف الذي يدعم التوصيلية المزدوجة لمعياري (EN-DC) بين المديين الترددين FR1 وFR2 بين النطاقات أن يستوفي متطلبات تشكيل تجميع الموجات الحاملة المقابل (اللاحقة A)، ما لم يُنص على خلاف ذلك.

### 7.1.4 القواعد المتعلقة بإمكانية التطبيق ونطاق الاختبار

#### 1.7.1.4 اعتبارات عامة

(1) ينبغي أن تتضمن القواعد المتعلقة بإمكانية التطبيق ونطاق الاختبار، بالنسبة إلى الأجهزة المزوَّدة بإمكانات التشغيل غير القائم بذاته (NSA) فقط، ما يلي:

أ) بالنسبة إلى جميع نطاقات تكنولوجيا الراديو الجديد (NR) التي يدعمها الجهاز، ينبغي إجراء اختبار جميع المتطلبات المستثناة للتوصيلية المزدوجة لمعياري (EN-DC)، وفقاً لإجراءات الاختبار الواردة في المواصفة التقنية [8] TS 38.521-3.

ب) ينبغي إجراء اختبار جميع المتطلبات غير المستثناة الخاصة بالتوصيلية المزدوجة لمعياري (EN-DC) الواردة في هذه المواصفة، لكل نطاق من نطاقات تكنولوجيا الراديو الجديد (NR) في المدى الترددي FR2، وفقاً لإجراءات الاختبار المشار إليها في الفقرة 3. ومع ذلك، ينبغي اختبار توليفة واحدة فقط من تشكيلات التوصيلية المزدوجة لمعياري (EN-DC) لكل نطاق من نطاقات المدى الترددي FR2، على النحو المحدد في الفقرة 4.1.4، باستخدام نهج مستقل عن خلية الارتكاز في LTE.

ج) ينبغي إجراء اختبار جميع المتطلبات غير المستثناة الخاصة بالتوصيلية المزدوجة لمعياري (EN-DC) الواردة في هذه المواصفة، لكل نطاق من نطاقات تكنولوجيا الراديو الجديد (NR) في المدى الترددي FR 1، وفقاً لإجراءات الاختبار المشار إليها في الفقرة 2. ومع ذلك، ينبغي اختبار توليفة واحدة فقط من تشكيلات التوصيلية المزدوجة لمعياري (EN-DC) لكل نطاق من نطاقات المدى الترددي FR1، على النحو المحدد في الفقرة 4.1.4، باستخدام نهج مستقل عن خلية الارتكاز في LTE.

(2) بالنسبة إلى الأجهزة المزوَّدة بإمكانات التشغيل القائم بذاته (SA) وغير القائم بذاته (NSA)، ينبغي أن تتضمن القواعد المتعلقة بإمكانية تطبيق المتطلبات ونطاق الاختبار ما يلي:

أ) لكل نطاق من نطاقات تكنولوجيا الراديو الجديد (NR) التي يدعمها الجهاز، ينبغي إجراء اختبار جميع المتطلبات المستثناة للتوصيلية المزدوجة لمعياري (EN-DC)، وفقاً لإجراءات الاختبار الواردة في المواصفة التقنية [8] TS 38.521-3.

ب) بالنسبة إلى جميع نطاقات تكنولوجيا الراديو الجديد (NR)، ينبغي إجراء جميع الاختبارات اللازمة لمتطلبات التشغيل القائم بذاته في المدى FR2 وفقاً لإجراءات الاختبار الواردة في الفقرة 3. ويؤدي ذلك إلى استيفاء جميع متطلبات اختبار التوصيلية المزدوجة لمعياري (EN-DC) غير المستثناة في المدى FR2 لذلك النطاق، ولا يلزم إعادة اختبارها. إذا تعذر إجراء اختبار بشأن التشغيل القائم بذاته في المدى FR2 بسبب عدم اكتمال حالة الاختبار، فيجوز، بدلاً من ذلك، إجراء الاختبار وفق أسلوب التوصيلية المزدوجة لمعياري (EN-DC)، وفقاً للفقرة (1) (ب) أعلاه.

ج) بالنسبة إلى جميع نطاقات تكنولوجيا الراديو الجديد (NR)، ينبغي إجراء جميع اختبارات التشغيل القائم بذاته في المدى FR1، وفقاً لإجراءات الاختبار الواردة في الفقرة 2. ويؤدي ذلك إلى استيفاء جميع متطلبات اختبار التوصيلية المزدوجة لمعياري (EN-DC) غير المستثناة في المدى FR1 لذلك النطاق، ولا يلزم إعادة اختبارها. إذا تعذر إجراء اختبار التشغيل القائم بذاته في المدى FR1 بسبب عدم اكتمال حالة الاختبار أو بسبب عدم دعم معدات المستعمل (UE) للنطاق، فيجوز، بدلاً من ذلك، إجراء الاختبار وفق أسلوب التوصيلية المزدوجة لمعياري (EN-DC)، وفقاً للفقرة (1) (ج) أعلاه.

#### 2.7.1.4 نطاق الاختبار عبر خيارات توصيلية 5G NR

تشمل حالات الاختبار الواردة في هذه المواصفة كلاً من اختبارات التشغيل القائم بذاته (SA)، بما في ذلك تجميع الموجات الحاملة بين المديين FR1 وFR2 دون استخدام التوصيلية المزدوجة، واختبارات التشغيل غير القائم بذاته (NSA) في المديين FR1 وFR2، القائمة على العمل البيني بين النفاذ E-UTRA وتكنولوجيا الراديو الجديد (NR). وتنطبق القاعدة التالية على نطاق الاختبار عبر خيارات معمارية تكنولوجيا الراديو الجديد للجيل الخامس (5G NR):

1) ما لم يُنص على خلاف ذلك في حالة الاختبار، ينبغي أن يُفهم أن متطلبات الاختبار لا تعتمد على خيار معمارية التشغيل غير القائم بذاته (NSA) المشكَّل في الاختبار. ويُعتبر نطاق الاختبار مستوفًى إذا أُجري الاختبار على أحد

خيارات معمارية التشغيل غير القائم بذاته (NSA). وعندئذٍ يمكن الاستفادة من نتائج تنفيذ الاختبار ونتائجه لتطبيقها على خيارات معمارية التشغيل غير القائم بذاته (NSA) الأخرى.

2) تُحدِّد كل حالة اختبار في مواصفة الاختبار نوعاً واحداً فقط من خيارات معمارية التشغيل، سواء القائمة بذاتها (SA) أو غير القائمة بذاتها (NSA). وتُشكَّل حالات اختبار التشغيل غير القائم بذاته (NSA) باستخدام التوصيلية المزدوجة لمعياري (EN-DC)، أي خيار التشغيل غير القائم بذاته (الخيار 3)، بينما تُشكَّل حالات اختبار التشغيل القائم بذاته (SA) باستخدام توصيلية تكنولوجيا الراديو الجديد (NR)، أي خيار التشغيل القائم بذاته (الخيار 2). وينبغي اعتماد هذين الخيارين بوصفهما خياري المعمارية الافتراضيين لتنفيذ اختبارات التشغيل غير القائم بذاته (NSA) والتشغيل القائم بذاته (SA)، على التوالي.

3) إذا كانت معدات المستعمل (UE) لا تدعم خيار التشغيل غير القائم بذاته (الخيار 3)، فيمكن تشكيل الاختبار باستخدام أي خيار تشغيل غير قائم بذاته آخر تدعمه معدات المستعمل (UE). وتنطبق في هذه الحالة قاعدة الاستفادة من نتائج الاختبار المبينة في الفقرة (1).

## 2.4 بث طيف الترددات الراديوية للخرج

### 1.2.4 بث طيف الترددات الراديوية للخرج لتجميع الموجات الحاملة بين النطاقات، بين المديين FR1 وFR2

بالنسبة إلى تجميع الموجات الحاملة لتكنولوجيا الراديو الجديد (NR) بين النطاقات بين المديين FR1 وFR2، تنطبق متطلبات البث خارج النطاق المحددة في الفقرتين 2 و3 على كل مدى ترددي، على حدة.

### 2.2.4 بث طيف الترددات الراديوية للخرج للتوصيلية المزدوجة EN-DC

#### 1.2.2.4 البث خارج النطاق

##### 1.1.2.2.4 قناع البث الطيفي العام

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبين الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) في الجدول 1-5.1.1.2.5B.6 من المواصفة التقنية [8] TS 38.521-3، بينما تُبيَّن قيم التفاوت المسموح بها في الاختبارات في الجدول 2-5.1.1.2.5B.6.

**Table 6.5B.2.1.1.5-1: General spectrum emission mask for intra-band contiguous EN-DC**

| $\Delta f_{OOB}$ (MHz) | Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| ± 0-1 | Max(Round(10*log(0.15/ENBW)),-24) | 30 kHz |
| ± 1-5 | –10 + TT | 1 MHz |
| ± 5 - ENBW | –13 + TT | 1 MHz |
| ± ENBW – (ENBW+5) | –25 + TT | 1 MHz |
| NOTE: ENBW refers to the aggregated channel bandwidth in MHz as defined in clause 5.3B. | | |

**Table 6.5B.2.1.1.5-2: Test Tolerance (Spectrum Emission Mask)**

| f ≤ 3.0 GHz | 3.0 GHz < f ≤ 4.2 GHz | 4.2 GHz < f ≤ 6.0 GHz |
|---|---|---|
| 1.5 dB | 1.8 dB | 1.8 dB |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) غير المتجاورة داخل النطاق، تُبين الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) في الفقرة 5.1.2.2.5B.6 من المواصفة التقنية [8] 3-TS 38.521.

6.5B.2.2.1.5 Test requirement

- For NR carrier frequency masks not overlapping with E-UTRA carrier frequency masks, the power of any UE emission shall fulfil requirements in Table 6.5.2.2.5-1 defined in TS 38.521-1 [8].

- For E-UTRA carrier frequency masks not overlapping with NR carrier frequency masks, the power of any UE emission shall fulfil requirements in Table 6.6.2.1.5-1 or 6.6.2.1.5-2 in TS 36.521-1 [10], as applicable.

- For NR carrier frequency masks overlapping with E-UTRA carrier frequency masks, the most relaxed limit is used between requirements in Table 6.5.2.2.5-1 defined in TS 38.521-1 [8] and Table 6.6.2.1.5-1 or 6.6.2.1.5-2 in TS 36.521-1 [10], as applicable.

**Table 6.5.2.2.5-1: General NR spectrum emission mask**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **70 MHz** | **80 MHz** | **90 MHz** | **100 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | | | | | | | 1 % channel bandwidth |
| ± 0-1 | | | | | | | | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | 30 kHz |
| ± 1-5 | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | 1 MHz |
| ± 5-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | |
| ± 6-10 | -25 + TT | | | | | | | | | | | | | |
| ± 10-15 | | -25 + TT | | | | | | | | | | | | |
| ± 15-20 | | | -25 + TT | | | | | | | | | | | |
| ± 20-25 | | | | -25 + TT | | | | | | | | | | |
| ± 25-30 | | | | | -25 + TT | | | | | | | | | |
| ± 30-35 | | | | | | -25 + TT | | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | | |
| ± 40-45 | | | | | | | -25 + TT | | | | | | | |
| ± 45-50 | | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 + TT | | | | | | |
| ± 55-60 | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ± 60-65 | | | | | | | | | -25 + TT | | | | |
| ± 65-70 | | | | | | | | | | | | | |
| ± 70-75 | | | | | | | | | | -25 + TT | | | |
| ± 75-80 | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | | -25 + TT | | |
| ± 85-90 | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | | -25 + TT | |
| ± 95-100 | | | | | | | | | | | | | |
| ± 100-105 | | | | | | | | | | | | | -25 + TT |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: TT for each frequency and channel bandwidth is specified in Table 6.5.2.2.5-2.

**Table 6.6.2.1.5-1: General E-UTRA spectrum emission mask, E-UTRA bands ≤ 3 GHz**

| | **Spectrum emission limit (dBm)/ Channel bandwidth** | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | –8.5 | –11.5 | –13.5 | –16.5 | –18.5 | –19.5 | 30 kHz |
| 1-2.5 | –8.5 | | | | | | 1 MHz |
| 2.5-2.8 | –23.5 | –8.5 | –8.5 | –8.5 | –8.5 | –8.5 | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | –23.5 | –11.5 | –11.5 | –11.5 | –11.5 | 1 MHz |
| 6-10 | | | –23.5 | | | | 1 MHz |
| 10-15 | | | | –23.5 | | | 1 MHz |
| 15-20 | | | | | –23.5 | | 1 MHz |
| 20-25 | | | | | | –23.5 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5MHz and -0.5MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

**Table 6.6.2.1.5-2: General E-UTRA spectrum emission mask, 3 GHz < E-UTRA bands ≤ 4.2 GHz**

| | **Spectrum emission limit (dBm)/ Channel bandwidth** | | | | | | |
|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **1.4 MHz** | **3.0 MHz** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth** |
| 0-1 | –8.2 | –11.2 | –13.2 | –16.2 | –18.2 | –19.2 | 30 kHz |
| 1-2.5 | –8.2 | | | | | | 1 MHz |
| 2.5-2.8 | –23.2 | –8.2 | –8.2 | –8.2 | –8.2 | –8.2 | 1 MHz |
| 2.8-5 | | | | | | | 1 MHz |
| 5-6 | | –23.2 | –11.2 | –11.2 | –11.2 | –11.2 | 1 MHz |
| 6-10 | | | –23.2 | | | | 1 MHz |
| 10-15 | | | | –23.2 | | | 1 MHz |
| 15-20 | | | | | –23.2 | | 1 MHz |
| 20-25 | | | | | | –23.2 | 1 MHz |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.

Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: For the 2.5-2.8 MHz offset range with 1.4 MHz channel bandwidth, the measurement position is at $\Delta f_{OOB}$ equals to 3 MHz.

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات في المدى الترددي FR1، تُبين الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) في الفقرة 5.1.3.2.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.2.3.1.5 Test requirement

Power of any UE emission shall fulfil requirements in Table 6.5.2.2.5-1 defined in TS 38.521-1 [8] for the NR carrier.6.5B.2.3.2.

**Table 6.5.2.2.5-1: General NR spectrum emission mask**

| Spectrum emission limit (dBm) / Channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **25 MHz** | **30 MHz** | **40 MHz** | **50 MHz** | **60 MHz** | **70 MHz** | **80 MHz** | **90 MHz** | **100 MHz** | **Measurement bandwidth** |
| ± 0-1 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | | | | | | | 1 % channel bandwidth |
| ± 0-1 | | | | | | | | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | -24 + TT | 30 kHz |
| ± 1-5 | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | -10 + TT | 1 MHz |
| ± 5-6 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | -13 + TT | |
| ± 6-10 | -25 + TT | | | | | | | | | | | | | |
| ± 10-15 | | -25 + TT | | | | | | | | | | | | |
| ± 15-20 | | | -25 + TT | | | | | | | | | | | |
| ± 20-25 | | | | -25 + TT | | | | | | | | | | |
| ± 25-30 | | | | | -25 + TT | | | | | | | | | |
| ± 30-35 | | | | | | -25 + TT | | | | | | | | |
| ± 35-40 | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ± 40-45 | | | | | | | -25 + TT | | | | | | | |
| ± 45-50 | | | | | | | | | | | | | | |
| ± 50-55 | | | | | | | | -25 + TT | | | | | | |
| ± 55-60 | | | | | | | | | | | | | | |
| ± 60-65 | | | | | | | | | -25 + TT | | | | | |
| ± 65-70 | | | | | | | | | | | | | | |
| ± 70-75 | | | | | | | | | | -25 + TT | | | | |
| ± 75-80 | | | | | | | | | | | | | | |
| ± 80-85 | | | | | | | | | | | -25 + TT | | | |
| ± 85-90 | | | | | | | | | | | | | | |
| ± 90-95 | | | | | | | | | | | | -25 + TT | | |
| ±95-100 | | | | | | | | | | | | | | |
| ±100-105 | | | | | | | | | | | | | -25 + TT | |

Note 1: The first and last measurement position with a 30 kHz filter is at $\Delta f_{OOB}$ equals to 0.015 MHz and 0.985 MHz.
Note 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.
Note 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel.
Note 4: TT for each frequency and channel bandwidth is specified in Table 6.5.2.2.5-2.

### 6.5B.2.3.2 Additional Spectrum emissions mask for Inter-band EN-DC within FR1 (1 NR CC)

#### 6.5B.2.3.2.1 Test purpose

Same test purpose as in clause 6.5.2.3.1 in TS 38.521-1 [8] for the NR carrier.

#### 6.5B.2.3.2.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC within FR1 with 1 NR UL.

#### 6.5B.2.3.2.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 6.5.2.3.3 in TS 38.521-1 [8] for the NR carrier.

The normative reference for this requirement is TS 38.101-3 [4] clause 6.5B.2.3.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

#### 6.5B.2.3.2.4 Test description

Same test description as in clause 6.5.2.3.4 in TS 38.521-1 [8] for the NR carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.6-1. For Initial conditions as in clause 6.5.2.3.4.1 in TS 38.521-1 [8], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 6.5.2.3.4.1 in TS 38.521-1 [8] is replaced by the following two steps:

6. Ensure the UE is in state RRC_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG according to TS 38.508 [6] clause 4.5.

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

6.5B.2.3.2.5 Test requirement

Power of any UE emission shall fulfil requirements in applicable table from Table 6.5.2.3.5-1 to Table 6.5.2.3.5.2-1 defined in TS 38.521-1 [8] for the NR carrier.

6.5B.2.3.3 Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)

6.5B.2.3.3.1 NR - Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)

6.5B.2.3.3.1.1 Test purpose

Same test purpose as in clause 6.5.2.4.1.1 in TS 38.521-1 [8].

6.5B.2.3.3.1.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC within FR1 with 1 NR UL.

6.5B.2.3.3.1.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 6.5.2.4.1.3 in TS 38.521-1 [8] for the NR carrier.

The normative reference for this requirement is TS 38.101-3 [4] clause 6.5B.2.3.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied

6.5B.2.3.3.1.4 Test description

Same test description as in clause 6.5.2.4.1.4 in TS 38.521-1 [8] for the NR carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.6-1.

For Initial conditions as in clause 6.5.2.4.1.4.1 in TS 38.521-1 [8], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 6.5.2.4.1.4.1 in TS 38.521-1 [8] is replaced by the following two steps:

6. Ensure the UE is in state RRC_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

6.5B.2.3.3.1.5 Test requirement

Same test requirement as in clause 6.5.2.4.1.5 in TS 38.521-1 [8].

6.5B.2.3.3.2 UTRA - Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)

6.5B.2.3.3.2.1 Test purpose

Same test purpose as in clause 6.5.2.4.2.1 in TS 38.521-1 [8].

6.5B.2.3.3.2.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC within FR1 with 1 NR UL.

6.5B.2.3.3.2.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 6.5.2.4.2.3 in TS 38.521-1 [8] for the NR carrier.

The normative reference for this requirement is TS 38.101-3 [4] clause 6.5B.2.3.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied

6.5B.2.3.3.2.4 Test description

Same test description as in clause 6.5.2.4.2.4 in TS 38.521-1 [8] for the NR carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.6-1.

For Initial conditions as in clause 6.5.2.4.2.4.1 in TS 38.521-1 [8], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 6.5.2.4.2.4.1 in TS 38.521-1 [8] is replaced by the following two steps:

6. Ensure the UE is in state RRC_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

6.5B.2.3.3.2.5 Test requirement

Same test requirement as in clause 6.5.2.4.2.5 in TS 38.521-1 [8].

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2، تُبين الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) في الفقرات 5.1.4.2.5B.6 و5.1.1_1.4.2.5B.6 و5.2.1_1.4.2.5B.6 و5.3.1_1.4.2.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.2.4.1.5 Test requirement

Same test requirement as in clause 6.5.2.1.5 in TS 38.521-2 [9] for the NR carrier.

6.5.2.1.5 Test requirement

The measured TRP of any UE emission derived in step 5, shall fulfil requirements in Table.6.5.2.1.5-1.

**Table 6.5.2.1.5-1: General NR spectrum emission mask for Range 2**

| Spectrum emission limit (dBm)/ Channel bandwidth | | | | | |
|---|---|---|---|---|---|
| $\Delta f_{OOB}$ (MHz) | 50 MHz | 100 MHz | 200 MHz | 400 MHz | Measurement bandwidth |
| ± 0-5 | -5 + TT | -5 + TT | -5 + TT | -5 + TT | 1 MHz |

| | | | | | |
|---|---|---|---|---|---|
| ± 5-10 | -13 + TT | -5 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 10-20 | -13 + TT | -13 + TT | -5 + TT | -5 + TT | 1 MHz |
| ± 20-40 | -13 + TT | -13 + TT | -13 + TT | -5 + TT | 1 MHz |
| ± 40-100 | -13 + TT | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 100-200 | | -13 + TT | -13 + TT | -13 + TT | 1 MHz |
| ± 200-400 | | | -13 + TT | -13 +TT | 1 MHz |
| ± 400-800 | | | | -13 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.1.5-1a<br>NOTE 2: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.<br>NOTE 3: The measurements are to be performed above the upper edge of the channel and below the lower edge of the channel. | | | | | |

**Table 6.5.2.1.5-1a: Test Tolerance (Spectrum emission mask)**

| Test Metric | 23.45GHz ≤ f ≤ 32.125GHz | 32.125GHz < f ≤ 40.8GHz |
|---|---|---|
| IFF (Max device size ≤ 30 cm) | 3.21 dB | 3.46 dB |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

6.5B.2.4.1_1.1.5 Test Requirements

Same test requirement as in clause 6.5A.2.1.1.5 in TS 38.521-2 [9] for the *NR* carrier.

6.5A.2.1.1.5 Test Requirements

The measured TRP of any UE emission derived in step 7, shall fulfil requirements in Table.6.5A.2.1.1.5-1.

**Table 6.5A.2.1.1.5-1: General NR spectrum emission mask for intra-band contiguous CA in frequency range 2**

| $\Delta f_{OOB}$ (MHz) | Any carrier aggregation bandwidth class | Measurement bandwidth |
|---|---|---|
| ± 0-0.1*$BW_{Channel_CA}$ | –5 + TT | 1 MHz |
| ± 0.1*$BW_{Channel_CA}$ - 2*$BW_{Channel_CA}$ | –13 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5A.2.1.1.5-1a<br>NOTE 2: If carrier leakage or I/Q image lands inside the spectrum occupied by the configured UL and DL CCs, exception to the general spectrum emission mask limit applies. For carrier leakage the requirements specified in section 6.4A.2.2.0 shall apply. For I/Q image the requirements specified in section 6.4A.2.3.0 shall apply.<br>NOTE 3: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.<br>NOTE 4: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth. | | |

**Table 6.5A.2.1.1.5-1a: Test Tolerance (Aggregated BW ≤ 400 MHz)**

| Test Metric | FR2a | FR2b |
|---|---|---|
| IFF (Max device size ≤ 30 cm) | 3.21 dB | 3.46 dB |

6.5B.2.4.1_1.2.5 Test Requirements

Same test requirement as in clause 6.5A.2.1.2.5 in TS 38.521-2 [9] for the *NR* carrier.

6.5A.2.1.2.5 Test Requirements

The measured TRP of any UE emission derived in step 7, shall fulfil requirements in Table.6.5A.2.1.2.5-1.

**Table 6.5A.2.1.2.5-1: General NR spectrum emission mask for intra-band contiguous CA in frequency range 2**

| $\Delta f_{OOB}$ (MHz) | Any carrier aggregation bandwidth class | Measurement bandwidth |
|---|---|---|
| $\pm$ 0-0.1*$BW_{Channel_CA}$ | –5 + TT | 1 MHz |
| $\pm$ 0.1*$BW_{Channel_CA}$ - 2*$BW_{Channel_CA}$ | –13 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5A.2.1.2.5-1a<br>NOTE 2: If carrier leakage or I/Q image lands inside the spectrum occupied by the configured UL and DL CCs, exception to the general spectrum emission mask limit applies. For carrier leakage the requirements specified in section 6.4A.2.2.0 shall apply. For I/Q image the requirements specified in section 6.4A.2.3.0 shall apply.<br>NOTE 3: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.<br>NOTE 4: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth | | |

**Table 6.5A.2.1.2.5-1a: Test Tolerance (Aggregated BW ≤ 400MHz)**

| Test Metric | FR2a | FR2b |
|---|---|---|
| IFF (Max device size ≤ 30 cm) | 3.21 dB | 3.46 dB |

6.5B.2.4.1_1.3.5 Test Requirements

Same test requirement as in clause 6.5A.2.1.3.5 in TS 38.521-2 [9] for the *NR* carrier.

6.5A.2.1.3.5 Test Requirements

The measured TRP of any UE emission derived in step 7, shall fulfil requirements in Table.6.5A.2.1.3.5-1.

**Table 6.5A.2.1.3.5-1: General NR spectrum emission mask for intra-band contiguous CA in frequency range 2**

| $\Delta f_{OOB}$ (MHz) | Any carrier aggregation bandwidth class | Measurement bandwidth |
|---|---|---|
| $\pm$ 0-0.1*$BW_{Channel_CA}$ | –5 + TT | 1 MHz |
| $\pm$ 0.1*$BW_{Channel_CA}$ - 2*$BW_{Channel_CA}$ | –13 + TT | 1 MHz |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5A.2.1.3.5-1a<br>NOTE 2: If carrier leakage or I/Q image lands inside the spectrum occupied by the configured UL and DL CCs, exception to the general spectrum emission mask limit applies. For carrier leakage the requirements specified in section 6.4A.2.2.0 shall apply. For I/Q image the requirements specified in section 6.4A.2.3.0 shall apply.<br>NOTE 3: At the boundary of spectrum emission limit, the first and last measurement position with a 1 MHz filter is the inside of +0.5 MHz and –0.5 MHz, respectively.<br>NOTE 4: The measurements are to be performed above the upper edge of the aggregated channel bandwidth and below the lower edge of the aggregated channel bandwidth. | | |

**Table 6.5A.2.1.3.5-1a: Test Tolerance (Aggregated BW ≤ 400 MHz)**

| Test Metric | FR2a | FR2b |
|---|---|---|
| IFF (Max device size ≤ 30 cm) | 3.21 dB | 3.46 dB |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2 عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، تُبيَّن الحدود العامة لقناع البث الطيفي لتكنولوجيا الراديو الجديد (NR) في الفقرة 5.1D.4.2.5B.6 من المواصفة التقنية [8] 3-TS 38.521.

6.5B.2.4.1D.5 Test Requirement

Same test requirement as in clause 6.5D.2.1.5 of TS 38.521-2 [9] for the NR carrier.

6.5D.2.1.5 Test requirements

The test requirement is the same as in clause 6.5.2.1.5.

### 2.1.2.2.4 قناع البث الطيفي الإضافي

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبيَّن حدود قناع البث الطيفي الإضافي للقيمة NS_35 في الجدول 1-1.5.2.1.2.5B.6 من المواصفة التقنية [8] 3-TS 38.521، بينما تُبيَّن قيم التفاوت المسموح بها في الاختبارات في الجدول 1-5.2.1.2.5B.6.

**Table 6.5B.2.1.2.5.1-1: Additional requirements for "NS_35"**

| $\Delta f_{OOB}$ | Frequency offset of measurement filter centre frequency, f_offset | Minimum requirement [dBm] | Measurement bandwidth |
|---|---|---|---|
| 0 MHz ≤ Δf < 0.1 MHz | 0.015 MHz ≤ f_offset < 0.085 MHz | –13+TT | 30 kHz |
| 0.1 MHz ≤ Δf < ENBW | 0.15 MHz ≤ f_offset < ENBW – 0.05 MHz | –13+TT | 100 kHz |
| ENBW ≤ Δf < ENBW +5 MHz | ENBW + 0.5 MHz ≤ f_offset < ENBW + 4.5 MHz | –25+TT | 1 MHz |

NOTE: ENBW is the aggregated bandwidth of an E-UTRA sub-block and an adjacent NR sub-block; there is no frequency separation between the said sub-blocks. The sub-block bandwidths include any internal guard bands.

**Table 6.5B.2.1.2.5-1: Test Tolerance (Additional Spectrum Emission Mask)**

| f ≤ 3.0 GHz | 3.0 GHz < f ≤ 4.2 GHz | 4.2 GHz < f ≤ 6.0 GHz |
|---|---|---|
| 1.5 dB | 1.8 dB | 1.8 dB |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبيَّن حدود قناع البث الطيفي الإضافي للقيمة NS_04 في الجدول 1-2.5.2.1.2.5B.6 من المواصفة التقنية [8] 3-TS 38.521، بينما تُبيَّن قيم التفاوت المسموح بها في الاختبارات في الجدول 1-5.2.1.2.5B.6.

**Table 6.5B.2.1.2.5.2-1: Additional requirements for n41 SEM with NS_04**

| | Spectrum emission limit (dBm)/ measurement bandwidth for each channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|---|
| $\Delta f_{OOB}$ MHz | 10 MHz | 15 MHz | 20 MHz | 40 MHz | 50 MHz | > 50 MHz | Measurement bandwidth |
| ± 0 - 1 | –18+TT | –20+TT | –21+TT | –24+TT | –25+TT | | 30 kHz |
| ± 1 - 5 | –10+TT | | | | | | 1 MHz |
| ± 5 - X | –13+TT | | | | | | |
| ± X - (BWChannel + 5 MHz) | –25+TT | | | | | | |
| NOTE 1: X is defined as the sum of the emission bandwidth of the component carriers plus the guard band between contiguous CCs. | | | | | | | |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) غير المتجاورة داخل النطاق، تُبين حدود قناع البث الطيفي الإضافي في الفقرة 5.2.2.2.5B.6 من المواصفة التقنية [8] 3-TS 38.521.

6.5B.2.2.2.5 Test requirement

For Wgap > NR $\Delta f_{OOB}$ + E-UTRA $\Delta f_{OOB}$:

Power of any UE emission shall fulfil requirements in Table 6.5.2.3.5-1 defined in TS 38.521-1 [8] for the NR carrier.

**Table 6.5.2.3.5-1: Test Tolerance (Additional spectrum emission mask)**

| | f ≤ 3.0 GHz | 3.0 GHz < f ≤ 4.2 GHz | 4.2 GHz < f ≤ 6.0 GHz |
|---|---|---|---|
| BW ≤ 100 MHz | 1.5 dB | 1.8 dB | 1.8 dB |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات في المدى الترددي FR1، تُبيَّن حدود قناع البث الطيفي الإضافي في الفقرة 5.2.3.2.5B.6 من المواصفة التقنية [8] 3-TS 38.521.

6.5B.2.3.2.5 Test requirement

Power of any UE emission shall fulfil requirements in applicable table from Table 6.5.2.3.5-1 to Table 6.5.2.3.5.2-1 defined in TS 38.521-1 [8] for the NR carrier.

**Table 6.5.2.3.5-1: Test Tolerance (Additional spectrum emission mask)**

| | **f ≤ 3.0 GHz** | **3.0 GHz < f ≤ 4.2 GHz** | **4.2 GHz < f ≤ 6.0 GHz** |
|---|---|---|---|
| BW ≤ 100 MHz | 1.5 dB | 1.8 dB | 1.8 dB |

**Table 6.5.2.3.5.1-1: Additional test requirements "NS_35"**

| **Spectrum emission limit (dBm) / Channel bandwidth** | | | | | |
|---|---|---|---|---|---|
| **$\Delta f_{OOB}$ (MHz)** | **5 MHz** | **10 MHz** | **15 MHz** | **20 MHz** | **Measurement bandwidth (unless otherwise stated)** |
| ± 0-0.1 | –15.0 + TT | –18.0 + TT | –20.0 + TT | –21.0 + TT | 30 kHz |
| ± 0.1-6 | –13.0 + TT- | –13.0 + TT | –13.0 + TT | –13.0 + TT | 100 kHz |
| ± 6-10 | –25 [1] + TT | –13.0 + TT | –13.0 + TT | –13.0 + TT | 100 kHz |
| ± 10-15 | | –25[1] 0 + TT | –13.0 + TT | –13.0 + TT | 100 kHz |
| ± 15-20 | | | –25 [1]0 + TT | –13.0 + TT | 100 kHz |
| ± 20-25 | | | | –25 + TT | 1 MHz |
| NOTE 1: The measurement bandwidth shall be 1 MHz.<br>NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1. | | | | | |

NOTE: As a general rule, the resolution bandwidth of the measuring equipment should be equal to the measurement bandwidth. However, to improve measurement accuracy, sensitivity and efficiency, the resolution bandwidth may be smaller than the measurement bandwidth. When the resolution bandwidth is smaller than the measurement bandwidth, the result should be integrated over the measurement bandwidth in order to obtain the equivalent noise bandwidth of the measurement bandwidth.

**Table 6.5.2.3.5.2-1: Additional test requirements for "NS_04"**

| **$\Delta f_{OOB}$ MHz** | **Spectrum emission limit (dBm) / measurement bandwidth for each channel bandwidth (MHz)** | | | | | | | | | | | **Measurement bandwidth** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **10** | **15** | **20** | **30** | **40** | **50** | **60** | **70** | **80** | **90** | **100** | |
| ± 0 - 1 | -10+TT | -10+TT | -10+TT | -10+TT | -10+TT | | | | | | | 2 % channel bandwidth |
| | | | | | | -10 | | | | | | 1 MHz |
| ± 1 - 5 | -10 + TT | | | | | | | | | | | 1 MHz |
| ± 5 - X | -13 + TT | | | | | | | | | | | |
| ± X - ($BW_{Channel}$ + 5 MHz) | -25 + TT | | | | | | | | | | | |
| NOTE 1: X is defined in Table 6.5.2.3.3.2-1 for CP-OFDM and 6.5.2.3.3.2-2 for DFT-S-OFDM.<br>NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1. | | | | | | | | | | | | |

### 3.1.2.2.4 نسبة التسرب في القنوات المجاورة

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبين حدود نسبة التسرب في القنوات المجاورة في الجدول 1-5.3.1.2.5B.6 من المواصفة التقنية [8] TS 38.521-3، بينما تُبيَّن قيم التفاوت المسموح بها في الاختبارات في الجدول 2-5.3.1.2.5B.6.

**Table 6.5B.2.1.3.5-1: ACLR requirement for intra-band EN-DC (contiguous sub-blocks)**

| | Power class 2 | Power class 3 |
|---|---|---|
| **NR ACLR** | 31 - TT dBc | 30 - TT dBc |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5B.2.1.3.5-2. | | |

**Table 6.5B.2.1.3.5-2: Test Tolerance**

| | f ≤ 4.0GHz | 4.0GHz < f ≤ 6.0GHz |
|---|---|---|
| BW ≤ 100 MHz | 0.8 dB | 1.0 dB |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) غير المتجاورة داخل النطاق، تُبين حدود نسبة التسرب في القنوات المجاورة في الفقرة 5.3.2.2.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.2.2.3.5 Test requirement

For NR ACLR, if the measured adjacent channel power is greater than –50 dBm then the measured NR ACLR shall be higher than the limits in Table 6.5.2.4.1.5-2 defined in clause 6.5.2.4.1.5 in TS 38.521-1 [8] for the NR carrier.

For E-UTRA ACLR, if the measured adjacent channel power is greater than –50 dBm then the measured E-UTRA ACLR shall be higher than the limits in Table 6.6.2.3.5.1-1 defined in clause 6.6.2.3.5 in TS 36.521-1 [10] for the E-UTRA carrier.

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات في المدى الترددي FR1، تُبين حدود نسبة التسرب في القنوات المجاورة في الفقرة 3.3.3.2.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.2.3.3 Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)

6.5B.2.3.3.1 NR - Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)

6.5B.2.3.3.1.1 Test purpose

Same test purpose as in clause 6.5.2.4.1.1 in TS 38.521-1 [8].

6.5B.2.3.3.1.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC within FR1 with 1 NR UL.

6.5B.2.3.3.1.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 6.5.2.4.1.3 in TS 38.521-1 [8] for the NR carrier.

The normative reference for this requirement is TS 38.101-3 [4] clause 6.5B.2.3.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied

6.5B.2.3.3.1.4 Test description

Same test description as in clause 6.5.2.4.1.4 in TS 38.521-1 [8] for the NR carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.6-1.

For Initial conditions as in clause 6.5.2.4.1.4.1 in TS 38.521-1 [8], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 6.5.2.4.1.4.1 in TS 38.521-1 [8] is replaced by the following two steps:

6. Ensure the UE is in state RRC_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

6.5B.2.3.3.1.5 Test requirement

Same test requirement as in clause 6.5.2.4.1.5 in TS 38.521-1 [8].

6.5B.2.3.3.2 UTRA - Adjacent channel leakage ratio for inter-band EN-DC within FR1 (1 NR CC)

6.5B.2.3.3.2.1 Test purpose

Same test purpose as in clause 6.5.2.4.2.1 in TS 38.521-1 [8].

6.5B.2.3.3.2.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC within FR1 with 1 NR UL.

6.5B.2.3.3.2.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 6.5.2.4.2.3 in TS 38.521-1 [8] for the NR carrier.

The normative reference for this requirement is TS 38.101-3 [4] clause 6.5B.2.3.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied

6.5B.2.3.3.2.4 Test description

Same test description as in clause 6.5.2.4.2.4 in TS 38.521-1 [8] for the NR carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.6-1.

For Initial conditions as in clause 6.5.2.4.2.4.1 in TS 38.521-1 [8], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 6.5.2.4.2.4.1 in TS 38.521-1 [8] is replaced by the following two steps:

6. Ensure the UE is in state RRC_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

6.5B.2.3.3.2.5 Test requirement

Same test requirement as in clause 6.5.2.4.2.5 in TS 38.521-1 [8].

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2، تُبين حدود نسبة التسرب في القنوات المجاورة في الفقرتين 5.3.4.2.5B.6 و5.1.1_3.4.2.5B.6 من المواصفة التقنية [8] 3-TS 38.521.

6.5B.2.4.3.5 Test requirement

Same test requirement as in clause 6.5.2.3.5 in TS 38.521-2 [9] for the NR carrier.

6.5.2.3.5Test requirement

The measured NR ACLR, derived in step 7, shall be higher than the limits in Table 6.5.2.3.5-1.

**Table 6.5.2.3.5-1: General requirements for $NR_{ACLR}$**

| | **Channel bandwidth / $NR_{ACLR}$ / Measurement bandwidth** | | | |
|---|---|---|---|---|
| | **50 MHz** | **100 MHz** | **200 MHz** | **400 MHz** |
| **$NR_{ACLR}$ for band n257, n258, n261** | 17 - TT – R dB | 17 - TT – R dB | 17 - TT – R dB | 17 - TT – R dB |
| **$NR_{ACLR}$ for band n260** | 16 - TT dB | 16 - TT dB | 16 - TT dB | 16 - TT dB |
| **NR channel Measurement bandwidth (MHz)** | 47.58 | 95.16 | 190.20 | 380.28 |
| **Adjacent channel centre frequency offset [MHz]** | +50 / -50 | +100 / -100 | +200 / -200 | +400 / -400 |
| NOTE 1: TT for each frequency and channel bandwidth is specified in Table 6.5.2.3.5-1a. NOTE 2: R for each frequency, channel bandwidth and test point is specified in Table 6.5.2.3.5-1b. | | | | |

**Table 6.5.2.3.5-1a: Test Tolerance (Adjacent channel leakage ratio)**

| | | **Channel bandwidth / $NR_{ACLR}$ / Measurement bandwidth** | | | |
|---|---|---|---|---|---|
| | **Test ID** | **50 MHz** | **100 MHz** | **200 MHz** | **400 MHz** |
| **$NR_{ACLR}$ for band n257, n258, n261** | 1-2, 4-5 | 4.10 | 4.49 | 4.66 | 5.06 |
| | 3, 6 | 4.08 | 4.45 | 4.59 | 5.06 |
| | 7-9 | 4.15 | 4.59 | 4.85 | 3.34 |
| | 10-12 | 4.36 | 4.98 | 4.06 | 1.46 |
| | 13-15 | 4.17 | 4.62 | 4.91 | 2.99 |
| **$NR_{ACLR}$ for band n260** | 1-2, 4-5 | 4.48 | 4.65 | 4.97 | - |
| | 3, 6 | 4.45 | 4.58 | 4.84 | - |
| | 7-9 | 4.58 | 4.84 | 5.31 | - |
| | 10-12 | 4.97 | - | - | - |
| | 13-15 | 4.62 | 4.90 | - | - |

**Table 6.5.2.3.5-1b: Relaxation due to testability limit (Adjacent channel leakage ratio)**

| | | Channel bandwidth / $NR_{ACLR}$ / Measurement bandwidth | | | |
|---|---|---|---|---|---|
| | **Test ID** | **50 MHz** | **100 MHz** | **200 MHz** | **400 MHz** |
| **$NR_{ACLR}$ for band n257, n258, n261** | 1-6 | 0 | 0 | 0 | 0 |
| | 7 | 0 | 0 | 0 | 2.5 |
| | 8 | 0 | 0 | 0 | 2.5 |
| | 9 | 0 | 0 | 0 | 2.5 |
| | 10 | 0 | 0 | 1.5 | 5.5 |
| | 11 | 0 | 0 | 1.5 | 5.5 |
| | 12 | 0 | 0 | 1.5 | 5.5 |
| | 13 | 0 | 0 | 0 | 3 |
| | 14 | 0 | 0 | 0 | 3 |
| | 15 | 0 | 0 | 0 | 3 |
| NOTE 1: Relaxation value is derived by Table 6.5.2.3.5-1c for FR2a.<br>NOTE 2: Relaxation value is 0 for FR2b. | | | | | |

**Table 6.5.2.3.5-1c: Relaxation value for FR2a ACLR**

| | CA bandwidth class | | |
|---|---|---|---|
| **MPR** | **100 MHz** | **200 MHz** | **400 MHz** |
| 0 | 0 | 0 | 0 |
| 0.5 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 |
| 1.5 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 |
| 2.5 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 |
| 3.5 | 0 | 0 | 0.5 |
| 4 | 0 | 0 | 1 |
| 4.5 | 0 | 0 | 2.5 |
| 5 | 0 | 0 | 3 |
| 5.5 | 0 | 1.5 | 4.5 |
| 6 | 0 | 2 | 5 |
| 6.5 | 0 | 2.5 | 5.5 |
| 7 | 0 | 3 | 6 |
| 7.5 | 0.5 | 3.5 | 6.5 |
| 8 | 1 | 4 | 7 |
| 8.5 | 1.5 | 4.5 | 7.5 |
| 9 | 2 | 5 | 8 |

6.5B.2.4.3_1.1.5 Test Requirements

Same test requirement as in clause 6.5A.2.2.1.5 in TS 38.521-2 [9] for the *NR* carrier.

6.5A.2.2.1.5 Test Requirements

If the measured adjacent channel power, derived in step 8, is greater than -35 dBm then the measured $NR_{ACLR}$, derived in step 9, shall be higher than the limits in Table 6.5A.2.2.1.5-1.

**Table 6.5A.2.2.1.5-1: General requirements for CA $NR_{ACLR}$**

| | **CA bandwidth class / CA $NR_{ACLR}$ / Measurement bandwidth** |
|---|---|
| | **Any CA bandwidth class** |
| CA $NR_{ACLR}$ for band n257, n258, n261 | 17 - TT- R dB |
| CA $NR_{ACLR}$ for band n260 | 16 - TT dB |
| NR channel measurement bandwidth[1] | $BW_{Channel_CA} - 2*BW_{GB}$ |
| Adjacent channel centre frequency offset (in MHz) | + $BW_{Channel_CA}$<br>/<br>- $BW_{Channel_CA}$ |

NOTE 1: $BW_{GB}$ is defined in clause 5.3A.2.
NOTE 2: TT for each frequency and channel bandwidth is specified in Table 6.5A.2.2.1.5-1a.
NOTE 3: R for each frequency, channel bandwidth and test point is specified in Table 6.5A.2.2.1.5-1b.

**Table 6.5A.2.2.1.5-1a: Test Tolerance (Aggregated BW ≤ 400 MHz)**

| Test Metric | Any CA bandwidth class | 23.45GHz ≤ f ≤ 30.3GHz | 30.3GHz < f ≤ 40.8GHz |
|---|---|---|---|
| IFF (Max device size ≤ 30 cm) | $BW_{Channel_CA}$ ≤ 100 MHz | 4.96 dB | 4.96 dB |
| | 100 MHz < $BW_{Channel_CA}$ ≤ 200 MHz | 4.96 dB | 4.96 dB |
| | 200 MHz < $BW_{Channel_CA}$ ≤ 400 MHz | 4.96 dB | 4.96 dB |

**Table 6.5A.2.2.1.5-1b: Relaxation due to testability limit (Aggregated BW ≤ 400 MHz)**

| | | Channel bandwidth / $NR_{ACLR}$ / Measurement bandwidth | | |
|---|---|---|---|---|
| | Test ID | $BW_{Channel_CA}$ ≤ 100 MHz | 100 MHz < $BW_{Channel_CA}$ ≤ 200 MHz | 200 MHz < $BW_{Channel_CA}$ ≤ 400 MHz |
| $NR_{ACLR}$ for band n257, n258, n261 | 1 | 0 | 3 | 6 |
| | 2 | 0 | 3 | 6 |
| | 3 | 0 | 0 | 3 |
| | 4 | 0 | 3 | 6 |
| | 5 | 0 | 3 | 6 |
| | 6 | 0 | 0 | 3 |
| | 7 | 0 | 3 | 6 |
| | 8 | 0 | 3 | 6 |
| | 9 | 0 | 2.5 | 5.5 |
| | 10 | 2 | 5 | 8 |
| | 11 | 0 | 3 | 6 |
| | 12 | 0 | 3 | 6 |
| | 13 | 0 | 0 | 3 |
| NOTE 1: Relaxation value is 0 for FR2b. | | | | |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2 عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، تُبين حدود نسبة التسرب في القنوات المجاورة في الفقرة 5.3.4D.2.5B.6 من المواصفة التقنية TS 38.521-3 [8].

6.5B.2.4D.3.5 Test Requirement

Same test requirement as in clause 6.5D.2.2 of TS 38.521-2 [9] for the NR carrier.

## 6.5D.2.2 Adjacent channel leakage ratio for UL MIMO

### 6.5D.2.2.1 Test purpose

To verify that the power of any UE emission shall not exceed specified lever for the specified channel bandwidth.

### 6.5.2.2.2 Test applicability

This test case applies to all types of NR UE release 15 and forward supporting UL MIMO.

### 6.5D.2.2.3 Minimum conformance requirements

For UE(s) supporting UL MIMO, the Adjacent channel leakage ratio requirements in clause 6.5.2.3.3 apply. The requirements shall be met with the UL MIMO configurations specified in Table 6.2D.1.0-1.

The normative reference for this requirement is TS 38.101-2 [3] clause 6.5D.2.

6.5D.2.2.4 Test description

6.5D.2.2.4.1 Initial condition

Same initial condition in clause 6.5.2.3.4.1 with following exceptions:

- Instead of Table 6.5.2.3.4.1-1→ use Table 6.5D.2.2.4.1-1.
- Instead of Table 6.5.2.3.4.1-2 → use Table 6.5D.2.2.4.1-2.

**Table 6.5D.2.2.4.1-1: Test Configuration Table (Power Class 1)**

| **Default Conditions** | | | | | | |
|---|---|---|---|---|---|---|
| Test Environment as specified in TS 38.508-1 [10] subclause 4.1 | | | | | Normal, TL, TH | |
| Test Frequencies as specified in TS 38.508-1 [10] subclause 4.3.1 | | | | | Low range, Mid range, High range | |
| Test Channel Bandwidths as specified in TS 38.508-1 [10] subclause 4.3.1 | | | | | Lowest, Highest | |
| Test SCS as specified in Table 5.3.5-1 | | | | | Lowest, Highest | |
| **Test Parameters** | | | | | | |
| **Test ID** | **Freq** | **ChBw** | **SCS** | **Downlink Configuration** | **Uplink Configuration** | |
| | | Default | Default | - | **Modulation** | **RB allocation (NOTE 1)** |
| 1 | Low | | | | CP-OFDM QPSK | 8@0 |
| 2 | High | | | | CP-OFDM QPSK | 8@$N_{RB}$-8 |
| 3 | Mid | | | | CP-OFDM QPSK | Outer_Full |
| 4 | Low | | | | CP-OFDM 16-QAM | 8@0 |
| 5 | High | | | | CP-OFDM 16-QAM | 8@$N_{RB}$-8 |
| 6 | Mid | | | | CP-OFDM 16-QAM | Outer_Full |
| 7 | Low | | | | CP-OFDM 64-QAM | 8@0 |
| 8 | High | | | | CP-OFDM 64-QAM | 8@$N_{RB}$-8 |
| 9 | Mid | | | | CP-OFDM 64-QAM | Outer_Full |
| NOTE 1: The specific configuration of each RF allocation is defined in Table 6.1-1 for PC2, PC3 and PC4 or Table 6.1-2 for PC1.<br>NOTE 2: All test points in this table must also exist in Table 6.2.2.4.1-1, Table 6.2.2.4.1-2, Table 6.2.2.4.1-3 (MPR). | | | | | | |

**Table 6.5D.2.2.4.1-2: Test Configuration Table (Power Class 2, 3 and 4)**

| **Default Conditions** | | | | | | |
|---|---|---|---|---|---|---|
| Test Environment as specified in TS 38.508-1 [10] subclause 4.1 | | | | | Normal, TL, TH | |
| Test Frequencies as specified in TS 38.508-1 [10] subclause 4.3.1 | | | | | Low range, High range | |
| Test Channel Bandwidths as specified in TS 38.508-1 [10] subclause 4.3.1 | | | | | Lowest, Highest | |
| Test SCS as specified in Table 5.3.5-1 | | | | | Lowest, Highest | |
| **Test Parameters** | | | | | | |
| **Test ID** | **Freq** | **ChBw** | **SCS** | **Downlink Configuration** | **Uplink Configuration** | |
| | | Default | Default | - | **Modulation** | **RB allocation (NOTE 1)** |
| 1 | Low | | | | CP-OFDM QPSK | Outer_1RB_Left |
| 2 | High | | | | CP-OFDM QPSK | Outer_1RB_Right |
| 3 | Default | | | | CP-OFDM QPSK | Outer Full |
| 4 | Low | | | | CP-OFDM 16-QAM | Outer_1RB_Left |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | High | | | | CP-OFDM 16-QAM | Outer_1RB_Right |
| 6 | Default | | | | CP-OFDM 16-QAM | Outer Full |
| 7 | Low | | | | CP-OFDM 64-QAM | Outer_1RB_Left |
| 8 | High | | | | CP-OFDM 64-QAM | Outer_1RB_Right |
| 9 | Default | | | | CP-OFDM 64-QAM | Outer Full |
| NOTE 1: The specific configuration of each RF allocation is defined in Table 6.1-1 for PC2, PC3 and PC4 or Table 6.1-2 for PC1.<br>NOTE 2: Following Test IDs shall be skipped for FR2b<br>- All Test IDs for 400 MHz Channel Bandwidth<br>- All Test IDs for 200 MHz Channel Bandwidth<br>- Test ID 7-9 for 100 MHz Channel Bandwidth<br>NOTE 3: All test points in this table must also exist in Table 6.2D.2.4.1-4, Table 6.2D.2.4.1-5, Table 6.2D.2.4.1-6 (MPR). | | | | | | |

6.5D.2.2.4.2 Test procedure

Same test procedure as in clause 6.5.2.3.4.2.

6.5D.2.2.4.3 Message contents

Message contents are according to TS 38.508-1 [10] subclause 4.6 ensuring Table 4.6.3-182 with condition 2TX_UL_MIMO.

6.5D.2.2.5 Test requirements

The test requirement is the same as in clause 6.5.2.3.5 with the following exceptions:

- Instead of Table 6.5.2.3.5-1b→ use Table 6.5D.2.2.5-1 for Power class 3.

**Table 6.5D.2.2.5-1: Relaxation due to testability limit (Adjacent channel leakage ratio) for (Power Class 3)**

| | | Channel bandwidth / $NR_{ACLR}$ / Measurement bandwidth | | | |
|---|---|---|---|---|---|
| | Test ID | 50 MHz | 100 MHz | 200 MHz | 400 MHz |
| $NR_{ACLR}$ for band n257, n258, n261 | 1 | 0 | 0 | 0 | 3 |
| | 2 | 0 | 0 | 0 | 3 |
| | 3 | 0 | 0 | 0 | 3 |
| | 4 | 0 | 0 | 0 | 5.5 |
| | 5 | 0 | 0 | 0 | 5.5 |
| | 6 | 0 | 0 | 0 | 5.5 |
| | 7 | 0 | 0.5 | 3.5 | 8 |
| | 8 | 0 | 0.5 | 3.5 | 8 |
| | 9 | 0 | 0.5 | 3.5 | 8 |
| NOTE 1: Relaxation value is derived by Table 6.5.2.3.5-1c for FR2a. | | | | | |

## 2.2.2.4 البث الهامشي للمُرسِل

### 1.2.2.2.4 المتطلّبات العامة للبث الهامشي

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبين الحدود العامة للبث الهامشي في الجدول 1-5.1.1.3.5B.6 من المواصفة التقنية [8] 3-TS 38.521.

**Table 6.5B.3.1.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |

| | | | |
|---|---|---|---|
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | 4 |
| | –25 dBm | 1 MHz | 3 |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |
| NOTE 1: Applies for Band that the upper frequency edge of the UL Band more than 2.69 GHz.<br>NOTE 2: Applies for Band that the upper frequency edge of the UL Band more than 5.2 GHz.<br>NOTE 3: Applies for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in clause 5.2B of TS 36.101 [5] when NS_04 is signalled.<br>NOTE 4: Does not apply for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in subclause 5.2B of TS 38.101-3 [4] when NS_04 is signalled. | | | |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) غير المتجاورة داخل النطاق، تُبين الحدود العامة للبث الهامشي في الفقرة 5.1.2.3.5B.6 من المواصفة التقنية TS 38.521-3 [8].

6.5B.3.2.1.5 Test Requirement

Same test requirement as in clause 6.5B.3.1.1.5.

6.5B.3.1.1.5 Test Requirement

The measured average power of spurious emission, derived in step 5, shall not exceed the described value in Table 6.5B.3.1.1.5-1.

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $\Delta f_{OOB}$ (MHz) from the edge of the channel bandwidth shown in Table 6.5.3.1.3-1 of TS 38.521-1 [8] for NR carrier, and Table 6.6.3.1.3-1 of TS 36.521-1[10] for E-UTRA carrier.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.5B.3.1.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 9 kHz ≤ f < 150 kHz | –36 dBm | 1 kHz | |
| 150 kHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | 4 |
| | –25 dBm | 1 MHz | 3 |
| 12.75 GHz ≤ f < 5th harmonic of the upper frequency edge of the UL operating band in GHz | –30 dBm | 1 MHz | 1 |
| 12.75 GHz < f < 26 GHz | –30 dBm | 1 MHz | 2 |

NOTE 1: Applies for Band that the upper frequency edge of the UL Band more than 2.69 GHz.
NOTE 2: Applies for Band that the upper frequency edge of the UL Band more than 5.2 GHz.
NOTE 3: Applies for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in clause 5.2B of TS 36.101 [5] when NS_04 is signalled.
NOTE 4: Does not apply for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in subclause 5.2B of TS 38.101-3 [4] when NS_04 is signalled.

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات في المدى الترددي FR1، تُبين الحدود العامة للبث الهامشي في الجدول 1-5.1.3.3.5B.6 من المواصفة التقنية [8] TS 38.521-3.

**Table 6.5B.3.3.1.5-1: General spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement Bandwidth | Note |
|---|---|---|---|
| **Test requirements for DC_1A_n3A configuration** | | | |
| 135 MHz ≤ f ≤ 270 MHz | –36 dBm | 100 kHz | |
| 1 440 MHz ≤ f ≤ 1 650 MHz<br>2 055 MHz ≤ f ≤ 2 250 MHz<br>3 630 MHz ≤ f ≤ 3 765 MHz<br>5 340 MHz ≤ f ≤ 5 745 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_1A_n5A configuration** | | | |
| 222 MHz ≤ f ≤ 332 MHz | –36 dBm | 100 kHz | |
| 1 071 MHz ≤ f ≤ 1 156 MHz<br>2 744 MHz ≤ f ≤ 2 829 MHz<br>2 991 MHz ≤ f ≤ 3 136 MHz<br>3 568 MHz ≤ f ≤ 3 678 MHz<br>4 664 MHz ≤ f ≤ 4 809 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_1A_n7A configuration** | | | |
| 520 MHz ≤ f ≤ 650 MHz | –36 dBm | 100 kHz | |
| 1 270 MHz ≤ f ≤ 1 460 MHz<br>3 020 MHz ≤ f ≤ 3 220 MHz<br>4 420 MHz ≤ f ≤ 4 550 MHz<br>6 340 MHz ≤ f ≤ 6 530 MHz<br>6 920 MHz ≤ f ≤ 7 120 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_1A_n8A configuration** | | | |
| 90 MHz ≤ f ≤ 220 MHz | –36 dBm | 100 kHz | |
| 1 005 MHz ≤ f ≤ 1 100 MHz<br>2 800 MHz ≤ f ≤ 2 895 MHz<br>2 925 MHz ≤ f ≤ 3 080 MHz<br>3 680 MHz ≤ f ≤ 3 810 MHz<br>4 720 MHz ≤ f ≤ 4 875 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_1A_n28A configuration** | | | |
| 424 MHz ≤ f ≤ 574 MHz | –36 dBm | 100 kHz | |
| 1 172 MHz ≤ f ≤ 1 277 MHz<br>2 623 MHz ≤ f ≤ 2 728 MHz<br>3 092 MHz ≤ f ≤ 3 257 MHz<br>3 326 MHz ≤ f ≤ 3 476 MHz<br>4 543 MHz ≤ f ≤ 4 708 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_1A_n77A Configuration** | | | |
| 360 MHz ≤ f ≤ 660 MHz | –36 dBm | 100 kHz | |
| 1 320 MHz ≤ f ≤ 2 280 MHz<br>4 620 MHz ≤ f ≤ 6 480 MHz<br>7 140 MHz ≤ f ≤ 8 160 MHz<br>8 520 MHz ≤ f ≤ 10 380 MHz | –30 dBm | 1 MHz | |

| | | | |
|---|---|---|---|
| **Test requirements for DC_1A_n78A Configuration** | | | |
| 40 MHz ≤ f ≤ 660 MHz | –36 dBm | 100 kHz | |
| 1 320 MHz ≤ f ≤ 1 880 MHz<br>4 620 MHz ≤ f ≤ 5 780 MHz<br>7 140 MHz ≤ f ≤ 7 760 MHz<br>8 520 MHz ≤ f ≤ 9 580 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_1A_n79A Configuration** | | | |
| 440 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 160 MHz<br>2 420 MHz ≤ f ≤ 3 080 MHz<br>6 320 MHz ≤ f ≤ 8 080 MHz<br>8 240 MHz ≤ f ≤ 8 960 MHz<br>10 720 MHz ≤ f ≤ 11 980 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_2A_n5A Configuration** | | | |
| 152 MHz ≤ f ≤ 262 MHz | –36 dBm | 100 kHz | |
| 2 674 MHz ≤ f ≤ 2 759 MHz<br>2 851 MHz ≤ f ≤ 2 996 MHz<br>3 498 MHz ≤ f ≤ 3 608 MHz<br>4 524 MHz ≤ f ≤ 4 669 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_2A_n71A Configuration** | | | |
| 454 MHz ≤ f ≤ 584 MHz | –36 dBm | 100 kHz | |
| 1 152 MHz ≤ f ≤ 1 247 MHz<br>2 513 MHz ≤ f ≤ 2 608 MHz<br>3 002 MHz ≤ f ≤ 3 157 MHz<br>3 176 MHz ≤ f ≤ 3 306 MHz<br>4 363 MHz ≤ f ≤ 4 518 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_2A_n77A Configuration** | | | |
| 500 MHz ≤ f ≤ 520 MHz | –36 dBm | 100 kHz | |
| 1 390 MHz ≤ f ≤ 2 350 MHz<br>4 690 MHz ≤ f ≤ 6 550 MHz<br>7 000 MHz ≤ f ≤ 8 020 MHz<br>8 450 MHz ≤ f ≤ 10 310 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_3A_n1A Configuration** | | | |
| 135 MHz ≤ f ≤ 270 MHz | –36 dBm | 100 kHz | |
| 1 440 MHz ≤ f ≤ 1 650 MHz<br>2 055 MHz ≤ f ≤ 2 250 MHz<br>3 630 MHz ≤ f ≤ 3 765 MHz<br>5 340 MHz ≤ f ≤ 5 745 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_3A_n5A Configuration** | | | |
| 12 MHz ≤ f ≤ 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 137 MHz<br>861 MHz ≤ f ≤ 961 MHz | –36 dBm | 100 kHz | |
| 2 534 MHz ≤ f ≤ 2 746 MHz<br>3 358 MHz ≤ f ≤ 3 483 MHz<br>4 244 MHz ≤ f ≤ 4 419 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_3A_n7A Configuration** | | | |
| 715 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 070 MHz<br>3 215 MHz ≤ f ≤ 3 430 MHz<br>4 210 MHz ≤ f ≤ 4 355 MHz<br>5 920 MHz ≤ f ≤ 6 140 MHz<br>6 710 MHz ≤ f ≤ 6 925 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_3A_n28A Configuration** | | | |
| 214 MHz ≤ f ≤ 379 MHz<br>962 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 082 MHz<br>2 413 MHz ≤ f ≤ 2 533 MHz<br>2 672 MHz ≤ f ≤ 2 867 MHz<br>3 116 MHz ≤ f ≤ 3 281 MHz<br>4 123 MHz ≤ f ≤ 4 318 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_3A_n41A Configuration** | | | |
| 711 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 074 MHz<br>3 207 MHz ≤ f ≤ 3 670 MHz | –30 dBm | 1 MHz | 2 |

| | | | |
|---|---|---|---|
| 4 206 MHz ≤ f ≤ 4 475 MHz<br>5 916 MHz ≤ f ≤ 6 260 MHz<br>6 702 MHz ≤ f ≤ 7 165 MHz | | | |
| 1 000 MHz ≤ f ≤ 1 074 MHz<br>3 207 MHz ≤ f ≤ 3 670 MHz<br>4 206 MHz ≤ f ≤ 4 475 MHz<br>5 916 MHz ≤ f ≤ 6 260 MHz<br>6 702 MHz ≤ f ≤ 7 165 MHz | –25 dBm | 1 MHz | 1 |
| **Test requirements for DC_3A_n77A Configuration** | | | |
| 270 MHz ≤ f ≤ 780 MHz | –36 dBm | 100 kHz | |
| 1 515 MHz ≤ f ≤ 2 490 MHz<br>4 815 MHz ≤ f ≤ 6 690 MHz<br>6 720 MHz ≤ f ≤ 7 770 MHz<br>8 310 MHz ≤ f ≤ 10 185 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_3A_n78A Configuration** | | | |
| 270 MHz ≤ f ≤ 380 MHz | –36 dBm | 100 kHz | |
| 1 515 MHz ≤ f ≤ 2 090 MHz<br>4 815 MHz ≤ f ≤ 5 890 MHz<br>6 720 MHz ≤ f ≤ 7 370 MHz<br>8 310 MHz ≤ f ≤ 9 385 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_3A_n79A Configuration** | | | |
| 830 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 580 MHz<br>2 615 MHz ≤ f ≤ 3 290 MHz<br>6 110 MHz ≤ f ≤ 6 785 MHz<br>7 015 MHz ≤ f ≤ 8 570 MHz<br>10 510 MHz ≤ f ≤ 11 785 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_5A_n2A Configuration** | | | |
| 152 MHz ≤ f ≤ 262 MHz | –36 dBm | 100 kHz | |
| 1 001 MHz ≤ f ≤ 1 086 MHz<br>2 674 MHz ≤ f ≤ 2 759 MHz<br>2 851 MHz ≤ f ≤ 2 996 MHz<br>3 498 MHz ≤ f ≤ 3 608 MHz<br>4 524 MHz ≤ f ≤ 4 669 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_5A_n66A Configuration** | | | |
| 12 MHz ≤ f ≤ 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 132 MHz<br>861 MHz ≤ f ≤ 956 MHz | –36 dBm | 100 kHz | |
| 2 534 MHz ≤ f ≤ 2 736 MHz<br>3 358 MHz ≤ f ≤ 3 478 MHz<br>4 244 MHz ≤ f ≤ 4 409 MHz | –30 dBm | 1 MHz | |
| Test requirements for DC_5A_n77A Configuration | | | |
| 1 602 MHz ≤ f ≤ 3 376 MHz<br>4 124 MHz ≤ f ≤ 9 249 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_5A_n78A Configuration** | | | |
| 1 602 MHz ≤ f ≤ 2 152 MHz<br>2 451 MHz ≤ f ≤ 2 976 MHz<br>4 124 MHz ≤ f ≤ 4 649 MHz<br>4 948 MHz ≤ f ≤ 5 498 MHz<br>5 751 MHz ≤ f ≤ 6 776 MHz<br>7 424 MHz ≤ f ≤ 8 449 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_7A_n1A Configuration** | | | |
| 520 MHz ≤ f ≤ 650 MHz | –36 dBm | 100 kHz | |
| 1 270 MHz ≤ f ≤ 1 460 MHz<br>3 020 MHz ≤ f ≤ 3 220 MHz<br>4 420 MHz ≤ f ≤ 4 550 MHz<br>6 340 MHz ≤ f ≤ 6 530 MHz<br>6 920 MHz ≤ f ≤ 7 120 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_7A_n3A Configuration** | | | |
| 715 MHz ≤ f < 1000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 070 MHz<br>3 215 MHz ≤ f ≤ 3 430 MHz<br>4 210 MHz ≤ f ≤ 4 355 MHz<br>5 920 MHz ≤ f ≤ 6 140 MHz<br>6 710 MHz ≤ f ≤ 6 925 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_7A_n5A Configuration** | | | |
| 802 MHz ≤ f ≤ 922 MHz | –36 dBm | 100 kHz | |

| | | | |
|---|---|---|---|
| 1 651 MHz ≤ f ≤ 1 746 MHz<br>3 324 MHz ≤ f ≤ 3 419 MHz<br>4 148 MHz ≤ f ≤ 4 316 MHz<br>5 824 MHz ≤ f ≤ 5 989 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_7A_n8A Configuration** | | | |
| 670 MHz ≤ f ≤ 810 MHz | –36 dBm | 100 kHz | |
| 1 585 MHz ≤ f ≤ 1 690 MHz<br>3 380 MHz ≤ f ≤ 3 485 MHz<br>4 085 MHz ≤ f ≤ 4 400 MHz<br>5 880 MHz ≤ f ≤ 6 055 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_7A_n28A Configuration** | | | |
| 1 004 MHz ≤ f ≤ 1 164 MHz<br>1 752 MHz ≤ f ≤ 1 867 MHz<br>3 203 MHz ≤ f ≤ 3 318 MHz<br>3 906 MHz ≤ f ≤ 4 066 MHz<br>4 252 MHz ≤ f ≤ 4 437 MHz<br>5 703 MHz ≤ f ≤ 5 888 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_7A_n78A Configuration** | | | |
| 730 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 840 MHz<br>4 030 MHz ≤ f ≤ 5 100 MHz<br>5 800 MHz ≤ f ≤ 6 370 MHz<br>8 300 MHz ≤ f ≤ 8 940 MHz<br>9 100 MHz ≤ f ≤ 10 170 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_8A_n1A Configuration** | | | |
| 90 MHz ≤ f ≤ 220 MHz | –36 dBm | 100 kHz | |
| 1 005 MHz ≤ f ≤ 1 100 MHz<br>2 800 MHz ≤ f ≤ 2 895 MHz<br>2 925 MHz ≤ f ≤ 3 080 MHz<br>3 680 MHz ≤ f ≤ 3 810 MHz<br>4 720 MHz ≤ f ≤ 4 875 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_8A_n3A Configuration** | | | |
| 25 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 120 MHz<br>795 MHz ≤ f ≤ 905 MHz | –36 dBm | 100 kHz | |
| 2 505 MHz ≤ f ≤ 2 700 MHz<br>3 470 MHz ≤ f ≤ 3 615 MHz<br>4 300 MHz ≤ f ≤ 4 485 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_8A_n20A Configuration** | | | |
| 18 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 83 MHz<br>749 MHz ≤ f ≤ 844 MHz<br>898 MHz ≤ f ≤ 998 MHz | –36 dBm | 100 kHz | |
| 1 712 MHz ≤ f ≤ 1 777 MHz<br>2 544 MHz ≤ f ≤ 2 692 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_8A_n28A Configuration** | | | |
| 132 MHz ≤ f ≤ 212 MHz<br>491 MHz ≤ f ≤ 616 MHz | –36 dBm | 100 kHz | |
| 1 012 MHz ≤ f ≤ 1 127 MHz<br>1 583 MHz ≤ f ≤ 1 663 MHz<br>2 286 MHz ≤ f ≤ 2 411 MHz<br>2 463 MHz ≤ f ≤ 2 578 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_8A_n41A Configuration** | | | |
| 666 MHz ≤ f < 930 MHz | –36 dBm | 100 kHz | |
| 1 581 MHz ≤ f ≤ 1 810 MHz<br>3 376 MHz ≤ f ≤ 3 605 MHz<br>4 077 MHz ≤ f ≤ 4 520 MHz<br>5 872 MHz ≤ f ≤ 6 295 MHz | –30 dBm | 1 MHz | 2 |
| 1 581 MHz ≤ f ≤ 1 810 MHz<br>3 376 MHz ≤ f ≤ 3 605 MHz<br>4 077 MHz ≤ f ≤ 4 520 MHz<br>5 872 MHz ≤ f ≤ 6 295 MHz | –25 dBm | 1 MHz | 1 |
| **Test requirements for DC_8A_n77A Configuration** | | | |
| 1 470 MHz ≤ f ≤ 3 320 MHz<br>4 180 MHz ≤ f ≤ 9 315 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_8A_n78A Configuration** | | | |

| | | | |
|---|---|---|---|
| 1 470 MHz ≤ f ≤ 2 040 MHz<br>2 385 MHz ≤ f ≤ 2 920 MHz<br>4 180 MHz ≤ f ≤ 4 715 MHz<br>5 060 MHz ≤ f ≤ 5 630 MHz<br>5 685 MHz ≤ f ≤ 6 720 MHz<br>7 480 MHz ≤ f ≤ 8 515 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_11A_n77A Configuration** | | | |
| 404.2 MHz ≤ f ≤ 1000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 344.2 MHz<br>1 852.1 MHz ≤ f ≤ 2 772.1 MHz<br>4 727.9 MHz ≤ f ≤ 7 095.8 MHz<br>8 027.9 MHz ≤ f ≤ 9 847.9 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_11A_n78A Configuration** | | | |
| 404.2 MHz ≤ f ≤ 944.2 MHz | –36 dBm | 100 kHz | |
| 1 852.1 MHz ≤ f ≤ 2 372.1 MHz<br>4 727.9 MHz ≤ f ≤ 6 695.8 MHz<br>8 027.9 MHz ≤ f ≤ 9 047.9 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_11A_n79A Configuration** | | | |
| 1 504.2 MHz ≤ f ≤ 2 144.2 MHz<br>2 952.1 MHz ≤ f ≤ 3 572.1 MHz<br>5 827.9 MHz ≤ f ≤ 6 447.9 MHz<br>7 255.8 MHz ≤ f ≤ 8 572.1 MHz<br>10 227.9 MHz ≤ f ≤ 11 447.9 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_12A_n66A Configuration** | | | |
| 278 MHz ≤ f ≤ 382 MHz<br>994 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 081 MHz<br>2 409 MHz ≤ f ≤ 2 496 MHz<br>2 704 MHz ≤ f ≤ 2 861 MHz<br>3 108 MHz ≤ f ≤ 3 212 MHz<br>4 119 MHz ≤ f ≤ 4 276 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_12A_n78A Configuration** | | | |
| 1 868 MHz ≤ f ≤ 2 402 MHz<br>2 584 MHz ≤ f ≤ 3 101 MHz<br>3 999 MHz ≤ f ≤ 4 516 MHz<br>4 698 MHz ≤ f ≤ 5 232 MHz<br>5 884 MHz ≤ f ≤ 6 901 MHz<br>7 299 MHz ≤ f ≤ 8 316 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_13A_n2A Configuration** | | | |
| 276 MHz ≤ f ≤ 356 MHz | –36 dBm | 100 kHz | |
| 1063 MHz ≤ f ≤ 1133 MHz<br>2627 MHz ≤ f ≤ 2697 MHz<br>2913 MHz ≤ f ≤ 3043 MHz<br>3404 MHz ≤ f ≤ 3484 MHz<br>4477 MHz ≤ f ≤ 4607 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_13A_n66A Configuration** | | | |
| 136 MHz ≤ f ≤ 226 MHz<br>923 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 003 MHz<br>2 487 MHz ≤ f ≤ 2 567 MHz<br>2 633 MHz ≤ f ≤ 2 783 MHz<br>3 264 MHz ≤ f ≤ 3 354 MHz<br>4 197 MHz ≤ f ≤ 4 347 MHz | –30 dBm | 1 MHz | |
| Test requirements for DC_13A_n77A Configuration | | | |
| 1 726 MHz ≤ f ≤ 3 423 MHz<br>4 077 MHz ≤ f ≤ 5 774 MHz<br>5 813 MHz ≤ f ≤ 9 187 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_14A_n2A Configuration** | | | |
| 254 MHz ≤ f ≤ 334 MHz | –36 dBm | 100 kHz | |
| 1 052 MHz ≤ f ≤ 1 122 MHz<br>2 638 MHz ≤ f ≤ 2 708 MHz<br>2 902 MHz ≤ f ≤ 3 032 MHz<br>3 426 MHz ≤ f ≤ 3 506 MHz<br>4 488 MHz ≤ f ≤ 4 618 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_14A_n66A Configuration** | | | |
| 114 MHz ≤ f ≤ 204 MHz | –36 dBm | 100 kHz | |

| | | | |
|---|---|---|---|
| 912 MHz ≤ f ≤ 992 MHz | | | |
| 2 498 MHz ≤ f ≤ 2 578 MHz<br>2 622 MHz ≤ f ≤ 2 772 MHz<br>3 286 MHz ≤ f ≤ 3 376 MHz<br>4 208 MHz ≤ f ≤ 4 358 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_19A_n1A Configuration** | | | |
| 230 MHz <= f <= 320 MHz | –36 dBm | 100 kHz | |
| 1 075 MHz <= f <= 1 150 MHz<br>2 750 MHz <= f <= 2 825 MHz<br>2 995 MHz <= f <= 3 130 MHz<br>3 580 MHz <= f <= 3 670 MHz<br>4 670 MHz <= f <= 4 805 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_19A_n77A Configuration** | | | |
| 1 610 MHz ≤ f ≤ 3 370 MHz<br>4 130 MHz ≤ f ≤ 5 890 MHz<br>5 755 MHz ≤ f ≤ 9 245 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_19A_n78A Configuration** | | | |
| 1 610 MHz ≤ f ≤ 2 140 MHz<br>2 455 MHz ≤ f ≤ 2 970 MHz<br>4 130 MHz ≤ f ≤ 4 645 MHz<br>4 960 MHz ≤ f ≤ 5 490 MHz<br>5 755 MHz ≤ f ≤ 6 770 MHz<br>7 430 MHz ≤ f ≤ 8 445 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_19A_n79A Configuration** | | | |
| 2 710 MHz ≤ f ≤ 3 340 MHz<br>3 555 MHz ≤ f ≤ 4 170 MHz<br>5 230 MHz ≤ f ≤ 5 845 MHz<br>6 060 MHz ≤ f ≤ 6 690 MHz<br>7 955 MHz ≤ f ≤ 9 170 MHz<br>9 630 MHz ≤ f ≤ 10 845 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_20A_n1A Configuration** | | | |
| 196 MHz ≤ f ≤ 316 MHz | –36 dBm | 100 kHz | |
| 1 058 MHz ≤ f ≤ 1 148 MHz<br>2 752 MHz ≤ f ≤ 2 842 MHz<br>2 978 MHz ≤ f ≤ 3 128 MHz<br>3 584 MHz ≤ f ≤ 3 704 MHz<br>4 672 MHz ≤ f ≤ 4 822 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_20A_n3A Configuration** | | | |
| 14 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 121 MHz<br>848 MHz ≤ f ≤ 953 MHz | –36 dBm | 100 kHz | |
| 2 542 MHz ≤ f ≤ 2 738 MHz<br>3 374 MHz ≤ f ≤ 3 509 MHz<br>4 252 MHz ≤ f ≤ 4 432 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_20A_n7A Configuration** | | | |
| 776 MHz ≤ f ≤ 906 MHz | –36 dBm | 100 kHz | |
| 1 638 MHz ≤ f ≤ 1 738 MHz<br>3 332 MHz ≤ f ≤ 3 432 MHz<br>4 138 MHz ≤ f ≤ 4 308 MHz<br>5 832 MHz ≤ f ≤ 6 002 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_20A_n8A Configuration** | | | |
| 18 MHz ≤ f < 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 83 MHz<br>749 MHz ≤ f ≤ 844 MHz<br>898 MHz ≤ f ≤ 998 MHz | –36 dBm | 100 kHz | |
| 1 712 MHz ≤ f ≤ 1 777 MHz<br>2 544 MHz ≤ f ≤ 2 692 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_20A_n28A Configuration** | | | |
| 84 MHz ≤ f ≤ 159 MHz<br>544 MHz ≤ f ≤ 664 MHz<br>916 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 021 MHz<br>1 535 MHz ≤ f ≤ 1 610 MHz<br>2 238 MHz ≤ f ≤ 2 358 MHz<br>2 367 MHz ≤ f ≤ 2 472 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_20A_n78A Configuration** | | | |

| | | | |
|---|---|---|---|
| 1 576 MHz ≤ f ≤ 2 136 MHz<br>2 438 MHz ≤ f ≤ 2 968 MHz<br>4 132 MHz ≤ f ≤ 4 662 MHz<br>4 964 MHz ≤ f ≤ 5 524 MHz<br>5 738 MHz ≤ f ≤ 6 768 MHz<br>7 432 MHz ≤ f ≤ 8 462 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_21A_n1A Configuration** | | | |
| 457.1 MHz ≤ f ≤ 532.1 MHz<br>915.8 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 2 377.1 MHz ≤ f ≤ 2 512.1 MHz<br>3 367.9 MHz ≤ f ≤ 3 442.9 MHz<br>4 815.8 MHz ≤ f ≤ 4 905.8 MHz<br>5 287.9 MHz ≤ f ≤ 5 422.9 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_21A_n77A Configuration** | | | |
| 374.2 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 304.2 MHz<br>1 837.1 MHz ≤ f ≤ 2 752.1 MHz<br>4 747.9 MHz ≤ f ≤ 7 125.8 MHz<br>8 047.9 MHz ≤ f ≤ 9 862.9 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_21A_n78A Configuration** | | | |
| 374.2 MHz ≤ f ≤ 904.2 MHz | –36 dBm | 100 kHz | |
| 1 837.1 MHz ≤ f ≤ 2 352.1 MHz<br>4 747.9 MHz ≤ f ≤ 6 152.1 MHz<br>6 195.8 MHz ≤ f ≤ 6 725.8 MHz<br>8 047.9 MHz ≤ f ≤ 9 062.9 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_21A_n79A Configuration** | | | |
| 1474.2 MHz ≤ f ≤ 2 104.2 MHz<br>2937.1 MHz ≤ f ≤ 3 552.1 MHz<br>5847.9 MHz ≤ f ≤ 6 462.9 MHz<br>7 295.8 MHz ≤ f ≤ 8 552.1 MHz<br>10 247.9 MHz ≤ f ≤ 11 462.9 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_25A_n41A Configuration** | | | |
| 581 MHz ≤ f ≤ 840 MHz | –36 dBm | 100 kHz | |
| 1 010 MHz ≤ f ≤ 1 334 MHz<br>3 077 MHz ≤ f ≤ 3 530 MHz<br>4 346 MHz ≤ f ≤ 4 605 MHz<br>6 196 MHz ≤ f ≤ 6 520 MHz<br>6 842 MHz ≤ f ≤ 7 295 MHz | –30 dBm | 1 MHz | 2 |
| 1 010 MHz ≤ f ≤ 1 334 MHz<br>3 077 MHz ≤ f ≤ 3 530 MHz<br>4 346 MHz ≤ f ≤ 4 605 MHz<br>6 196 MHz ≤ f ≤ 6 520 MHz<br>6 842 MHz ≤ f ≤ 7 295 MHz | –25 dBm | 1 MHz | 1 |
| **Test requirements for DC_26A_n41A Configuration** | | | |
| 798 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 062 MHz<br>1 647 MHz ≤ f ≤ 1 876 MHz<br>3 310 MHz ≤ f ≤ 3 539 MHz<br>4 124 MHz ≤ f ≤ 4 566 MHz<br>5 806 MHz ≤ f ≤ 6 229 MHz | –30 dBm | 1 MHz | 2 |
| 1 000 MHz ≤ f ≤ 1 062 MHz<br>1 647 MHz ≤ f ≤ 1 876 MHz<br>3 310 MHz ≤ f ≤ 3 539 MHz<br>4 124 MHz ≤ f ≤ 4 566 MHz<br>5 806 MHz ≤ f ≤ 6 229 MHz | –25 dBm | 1 MHz | 1 |
| **Test requirements for DC_26A_n77A Configuration** | | | |
| 1 602 MHz ≤ f ≤ 3 386 MHz<br>4 114 MHz ≤ f ≤ 5 898 MHz<br>5 751 MHz ≤ f ≤ 9 249 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_26A_n78A Configuration** | | | |
| 1 602 MHz ≤ f ≤ 2 172 MHz<br>2 451 MHz ≤ f ≤ 2 986 MHz<br>4 114 MHz ≤ f ≤ 4 649 MHz<br>4 928 MHz ≤ f ≤ 5 498 MHz<br>5 751 MHz ≤ f ≤ 6 786 MHz<br>7 414 MHz ≤ f ≤ 8 449 MHz | –30 dBm | 1 MHz | |

| | | | |
|---|---|---|---|
| **Test requirements for DC_26A_n79A Configuration** | | | |
| 2 702 MHz ≤ f ≤ 3 372 MHz<br>3 551 MHz ≤ f ≤ 4 186 MHz<br>5 214 MHz ≤ f ≤ 5 849 MHz<br>6 028 MHz ≤ f ≤ 6 698 MHz<br>7 951 MHz ≤ f ≤ 9 186 MHz<br>9 614 MHz ≤ f ≤ 10 849 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_28A_n3A Configuration** | | | |
| 214 MHz ≤ f ≤ 379 MHz<br>962 MHz ≤ f < 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 082 MHz<br>2 413 MHz ≤ f ≤ 2 533 MHz<br>2 672 MHz ≤ f ≤ 2 867 MHz<br>3 116 MHz ≤ f ≤ 3 281 MHz<br>4 123 MHz ≤ f ≤ 4 318 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_28A_n5A Configuration** | | | |
| 76 MHz ≤ f ≤ 146 MHz<br>557 MHz ≤ f ≤ 672 MHz<br>900 MHz ≤ f ≤ 995 MHz | –36 dBm | 100 kHz | |
| 1 527 MHz ≤ f ≤ 1 597 MHz<br>2 230 MHz ≤ f ≤ 2 345 MHz<br>2 351 MHz ≤ f ≤ 2 446 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_28A_n7A Configuration** | | | |
| 1 004 MHz ≤ f ≤ 1 164 MHz<br>1 752 MHz ≤ f ≤ 1 867 MHz<br>3 203 MHz ≤ f ≤ 3 318 MHz<br>3 906 MHz ≤ f ≤ 4 066 MHz<br>4 252 MHz ≤ f ≤ 4 437 MHz<br>5 703 MHz ≤ f ≤ 5 888 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_28A_n77A Configuration** | | | |
| 1 804 MHz ≤ f ≤ 3 497 MHz<br>4 003 MHz ≤ f ≤ 5 696 MHz<br>5 852 MHz ≤ f ≤ 9 148 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_28A_n78A Configuration** | | | |
| 1804 MHz ≤ f ≤ 2394 MHz<br>2552 MHz ≤ f ≤ 3097 MHz<br>4003 MHz ≤ f ≤ 4548 MHz<br>4706 MHz ≤ f ≤ 5296 MHz<br>5852 MHz ≤ f ≤ 6897 MHz<br>7303 MHz ≤ f ≤ 8348 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_28A_n79A Configuration** | | | |
| 2 904 MHz ≤ f ≤ 3 594 MHz<br>3 652 MHz ≤ f ≤ 4 297 MHz<br>5 103 MHz ≤ f ≤ 5 748 MHz<br>5 806 MHz ≤ f ≤ 6 496 MHz<br>8 052 MHz ≤ f ≤ 9 297 MHz<br>9 503 MHz ≤ f ≤ 10 748 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_30A_n5A Configuration** | | | |
| 607 MHz ≤ f ≤ 667 MHz | –36 dBm | 100 kHz | |
| 1 456 MHz ≤ f ≤ 1 491 MHz<br>3 129 MHz ≤ f ≤ 3 164 MHz<br>3 761 MHz ≤ f ≤ 3 806 MHz<br>3 953 MHz ≤ f ≤ 4 013 MHz<br>5 434 MHz ≤ f ≤ 5 479 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_39A_n41A Configuration** | | | |
| 576 MHz ≤ f < 810 MHz | –36 dBm | 100 kHz | |
| 1 070 MHz ≤ f ≤ 1 344 MHz<br>3 072 MHz ≤ f ≤ 3 500 MHz<br>4 376 MHz ≤ f ≤ 4 610 MHz<br>6 256 MHz ≤ f ≤ 6 530 MHz<br>6 872 MHz ≤ f ≤ 7 300 MHz | –30 dBm | 1 MHz | 2 |
| 1 070 MHz ≤ f ≤ 1 344 MHz<br>3 072 MHz ≤ f ≤ 3 500 MHz<br>4 376 MHz ≤ f ≤ 4 610 MHz<br>6 256 MHz ≤ f ≤ 6 530 MHz<br>6 872 MHz ≤ f ≤ 7 300 MHz | –25 dBm | 1 MHz | 1 |
| **Test requirements for DC_39A_n79A Configuration** | | | |

| | | | | |
|---|---|---|---|---|
| 560 MHz ≤ f ≤ 1000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 240 MHz<br>2 480 MHz ≤ f ≤ 3 120 MHz<br>6 280 MHz ≤ f ≤ 8 120 MHz<br>8 160 MHz ≤ f ≤ 8 840 MHz<br>10 680 MHz ≤ f ≤ 11 920 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_40A_n1A Configuration** | | | |
| 320 MHz ≤ f ≤ 480 MHz | –36 dBm | 100 kHz | |
| 1 440 MHz ≤ f ≤ 1 660 MHz<br>2 620 MHz ≤ f ≤ 2 880 MHz<br>4 220 MHz ≤ f ≤ 4 380 MHz<br>6 140 MHz ≤ f ≤ 6 360 MHz<br>6 520 MHz ≤ f ≤ 6 780 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_40A_n41A Configuration** | | | |
| 96 MHz ≤ f < 390 MHz | –36 dBm | 100 kHz | |
| 1 910 MHz ≤ f ≤ 2 304 MHz<br>2 592 MHz ≤ f ≤ 3 080 MHz<br>4 796 MHz ≤ f ≤ 5 090 MHz<br>7 096 MHz ≤ f ≤ 7 780 MHz | –30 dBm | 1 MHz | 2 |
| 1 910 MHz ≤ f ≤ 2 304 MHz<br>2 592 MHz ≤ f ≤ 3 080 MHz<br>4 796 MHz ≤ f ≤ 5 090 MHz<br>7 096 MHz ≤ f ≤ 7 780 MHz | –25 dBm | 1 MHz | 1 |
| **Test requirements for DC_40A_n78A Configuration** | | | |
| 800 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 1 500 MHz<br>4 200 MHz ≤ f ≤ 5 300 MHz<br>5 600 MHz ≤ f ≤ 6 200 MHz<br>7 900 MHz ≤ f ≤ 8 600 MHz<br>8 900 MHz ≤ f ≤ 10 000 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_40A_n79A Configuration** | | | |
| 2 000 MHz ≤ f ≤ 2 700 MHz<br>6 400 MHz ≤ f ≤ 7 700 MHz<br>9 000 MHz ≤ f ≤ 9 800 MHz<br>11 100 MHz ≤ f ≤ 12 400 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_41A_n77A Configuration** | | | |
| 610 MHz ≤ f ≤ 1 000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 2 080 MHz<br>3 910 MHz ≤ f ≤ 6 890 MHz<br>8 292 MHz ≤ f ≤ 11 090 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_41A_n78A Configuration** | | | |
| 610 MHz ≤ f ≤ 1000 MHz | –36 dBm | 100 kHz | |
| 1 000 MHz ≤ f ≤ 2 080 MHz<br>3 910 MHz ≤ f ≤ 5 104 MHz<br>5 796 MHz ≤ f ≤ 6 490 MHz<br>8 292 MHz ≤ f ≤ 10 290 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_41A_n79A Configuration** | | | |
| 8 MHz ≤ f ≤ 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 980 MHz | –36 dBm | 100 kHz | |
| 1 710 MHz ≤ f ≤ 2 504 MHz<br>6 110 MHz ≤ f ≤ 7 690 MHz<br>9 392 MHz ≤ f ≤ 10 380 MHz<br>11 296 MHz ≤ f ≤ 12 690 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_42A_n77A Configuration** | | | |
| 300 MHz ≤ f ≤ 800 MHz | –36 dBm | 100 kHz | |
| 2 600 MHz ≤ f ≤ 5 000 MHz<br>6 700 MHz ≤ f ≤ 7 800 MHz<br>10 000 MHz ≤ f ≤ 12 000 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_66A_n5A Configuration** | | | |
| 12 MHz ≤ f ≤ 30 MHz | –36 dBm | 10 kHz | |
| 30 MHz ≤ f ≤ 132 MHz<br>861 MHz ≤ f ≤ 956 MHz | –36 dBm | 100 kHz | |
| 2 534 MHz ≤ f ≤ 2 736 MHz<br>3 358 MHz ≤ f ≤ 3 478 MHz<br>4 244 MHz ≤ f ≤ 4 409 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_66A_n71A Configuration** | | | |
| 314 MHz ≤ f ≤ 454 MHz | –36 dBm | 100 kHz | |

| | | | |
|---|---|---|---|
| 1 102 MHz ≤ f ≤ 1 117 MHz<br>2 373 MHz ≤ f ≤ 2 478 MHz<br>2 722 MHz ≤ f ≤ 2 897 MHz<br>3 036 MHz ≤ f ≤ 3 176 MHz<br>4 083 MHz ≤ f ≤ 4 258 MHz | –30 dBm | 1 MHz | |
| Test requirements for DC_66A_n77A Configuration | | | |
| 260 MHz ≤ f ≤ 780 MHz | –36 dBm | 100 kHz | |
| 1 520 MHz ≤ f ≤ 2 490MHz<br>5 010 MHz ≤ f ≤ 6 690 MHz<br>6 720 MHz ≤ f ≤ 7 760 MHz<br>8 310 MHz ≤ f ≤ 10 180 MHz | –30 dBm | 1 MHz | |
| **Test requirements for DC_66A_n78A Configuration** | | | |
| 260 MHz ≤ f ≤ 380 MHz | –36 dBm | 100 kHz | |
| 1 520 MHz ≤ f ≤ 2 090 MHz<br>4 820 MHz ≤ f ≤ 5 890 MHz<br>6 720 MHz ≤ f ≤ 7 360 MHz<br>8 310 MHz ≤ f ≤ 9 380 MHz | –30 dBm | 1 MHz | |
| NOTE 1: Applies for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in clause 5.2B of TS 36.101 [5] when NS_04 is signalled.<br>NOTE 2: Does not apply for Band n41, CA configurations including Band n41, and EN-DC configurations that include n41 specified in subclause 5.2B of TS 38.101-3 [4] when NS_04 is signalled. | | | |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2، تُبين الحدود العامة للبث الهامشي في الفقرتين 5.1.4.3.5B.6 و5.1.1_1.4.3.5B.6 من المواصفة التقنية [8] 3-38.521 TS.

6.5B.3.4.1.5 Test requirement

Same test requirement as in clause 6.5.3.1.5 in TS 38.521-2 [9] for the NR carrier.

6.5.3.1.5Test requirement

This clause specifies the requirements for the specified *NR* band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.5.3.1.5-1.

The maximum TRP power of spurious emission, measured using RMS detector, shall not exceed the described value in Table 6.5.3.1.5-1.

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 starting from the edge of the assigned *NR* channel bandwidth. The spurious emission limits in Table 6.5.3.1.5-1 apply for all transmitter band configurations (NRB) and channel bandwidths.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.5.3.1.5-1: Spurious emissions test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 6 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f ≤ 2nd harmonic of the upper frequency edge of the UL operating band in GHz | –13 dBm | 1 MHz | |
| NOTE 1: Applies for Band n257, n258, n260, n261 | | | |

6.5B.3.4.1_1.1.5 Test Requirements

Same test requirement as in clause 6.5A.3.1.1.5 in TS 38.521-2 [9] for the *NR* carrier.

6.5A.3.1.1.5 Test Requirements

This clause specifies the requirements for the specified *NR* band for Transmitter Spurious emissions requirement with frequency range as indicated in Table 6.5A.3.1.1.5-1.

The maximum TRP power of spurious emission, measured using RMS detector, shall not exceed the described value in Table 6.5A.3.1.1.5-1.

Unless otherwise stated, the spurious emission limits apply for the frequency ranges that are more than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 starting from the edge of the assigned *NR* channel bandwidth. The spurious emission limits in Table 6.5A.3.1.1.5-1 apply for all transmitter band configurations (NRB) and channel bandwidths.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.5A.3.1.1.5-1: Spurious emissions for CA test requirements**

| Frequency Range | Maximum Level | Measurement bandwidth | NOTE |
|---|---|---|---|
| 6 GHz ≤ f < 12.75 GHz | –30 dBm | 1 MHz | |
| 12.75 GHz ≤ f ≤ 2nd harmonic of the upper frequency edge of the UL operating band in GHz | –13 dBm | 1 MHz | |
| NOTE 1: Applies for Band n257, n258, n260 | | | |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2 عند استخدام الإرسال متعدد الهوائيات في الوصلة الصاعدة (UL-MIMO)، تُبيَّن الحدود العامة للبث الهامشي في الفقرة 5.1D.4.3.5B.6 من المواصفة التقنية TS 38.521-3 [8].

6.5B.3.4.1D.5 Test Requirement

Same test requirement as specified in clause 6.5D.3.1.5 of TS 38.521-2 [9] for the NR carrier(s).

6.5D.3.1.5 Test requirements

The test requirement is the same as in clause 6.5.3.1.5.

### 2.2.2.2.4 تعايش معدات المستعمل (UE) في نطاق البث الهامشي

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبين الحدود العامة للبث الهامشي في الفقرة 5.2.1.3.5B.6 من المواصفة التقنية TS 38.521-3 [8].

6.5B.3.1.2.5 Test Requirement

Test requirements for Spurious Emissions UE Co-existence for intra-band contiguous EN-DC are the same as the minimum requirements described in clause 6.5B.3.1.2.3 minimum requirements and are not repeated in this clause.

For EN-DC only capable devices, in addition to Table 6.5B.3.1.2.3-1, test requirements for NR carrier are the same as Table 6.5.3.2.5-1 in TS 38.521-1 [8].

6.5B.3.1.2.3 Minimum conformance requirements

This clause specifies the requirements for the specified EN-DC configurations for coexistence with protected bands.

The requirements in Table 6.5B.3.1.2.3-1 apply on each component carrier with all component carriers are active.

**Table 6.5B.3.1.2.3-1: Requirements for intra band contiguous EN-DC**

| EN-DC Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| DC_(n)71 | E-UTRA Band 4, 5, 12, 13, 14, 17, 24, 26, 30, 48, 66 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 2, 25, 41, 70<br>NR Band n77 [5] | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 29 | $F_{DL_low}$ | - | $F_{DL_high}$ | –38 | 1 | 3 |
| | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 3 |
| DC_(n)41 | E-UTRA Band 1, 2, 3, 4, 5, 8, 10, 11, 12, 13, 14, 17, 18, 19, 21, 24, 25, 26, 27, 28, 29, 30, 34, 39, 42, 44, 45, 48, 50, 51, 66, 70, 71, 73, 74<br>NR Band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 4 |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each frequency band specified in Table 5.5-1 in TS 36.101 [5] or in Table 5.2-1 in TS 38.101-1 [2].

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 in TS 36.101 [5] and Table 6.5.3.1-2 in TS 38.101-1 [2] are permitted for each assigned carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1-1, Table 6.6.3.1A-1 in TS 36.101 [5] or in Table 6.5.3.1-1 in TS 38.101-1 [2] from the edge of the channel bandwidth.

NOTE 4: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7 MHz.

NOTE 5: Only applies to NR UE release 16 and forward supporting intra-band contiguous EN-DC.

NOTE: To simplify the above Table, E-UTRA band numbers are listed for bands which are specified only for E-UTRA operation or both E-UTRA and NR operation. NR band numbers are listed for bands which are specified only for NR operation.

The normative reference for this requirement is TS 38.101-3 [4] clause 6.5B.3.1.2.

Exception requirements for both NR and E-UTRA are defined for this test and therefore LTE anchor agnostic approach is not applied. E-UTRA test point analysis is included, and E-UTRA measurements are performed.

**Table 6.5.3.2.5-1: UE Requirements according to UE NR release and supported E-UTRA and NR band**

| UE Requirements per release | | | |
|---|---|---|---|
| **NR Band** | **Rel-15** | **Rel-16** | **R17** |
| n1 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n2 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n3 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n5 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n7 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n8 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n12 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n14 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n18 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n20 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n24 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 | Table 6.5.3.2.3-3 |
| n25 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n26 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n28 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n30 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n34 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n38 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n39 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n40 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n41 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n48 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n50 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n51 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n53 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n65 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n66 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n70 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n71 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n74 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n77, n78 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| n79 | Table 6.5.3.2.3-1 | Table 6.5.3.2.3-2 | Table 6.5.3.2.3-3 |
| NOTE 1: The frequency range applicable with network signalling values of NS_04, NS_17, NS_18, NS_05, NS_43, NS_37, NS_38, NS_39, NS_40, NS_41, NS_42, NS_45 and NS_56 are covered in subclause 6.5.3.3 Additional Spurious Emissions. | | | |
| NOTE 2: The restriction on the maximum uplink transmission to 54 RB in Notes 21 and 22 of Tables 6.5.3.2.3-1 to 6.5.3.2.3-3 is intended for conformance testing and may be applied to network operation to facilitate coexistence when the aggressor and victim bands are deployed in the same geographical area. The applicable spurious emission requirement of -15.5 dBm/5 MHz is a least restrictive technical condition for FDD/TDD coexistence and may have to be revised in the future. | | | |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) غير المتجاورة داخل النطاق، تُبين الحدود العامة للبث الهامشي في الفقرة 5.2.2.3.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.3.2.2.5 Test Requirement

Test requirements for Spurious Emissions UE Co-existence for intra-band non-contiguous EN-DC are the same as the minimum requirements described in clause 6.5B.3.2.2.3 and are not repeated in this clause.

For EN-DC only capable devices, in addition to Table 6.5B.3.2.2.3-1, test requirements for NR carrier are the same as Table 6.5.3.2.5-1 in TS 38.521-1 [8].

6.5B.3.2.2.3 Minimum conformance requirements

This clause specifies the requirements for the specified EN-DC configurations for co-existence with protected bands.

The requirements in Table 6.5B.3.2.2.3-1 apply with all component carriers are active.

**Table 6.5B.3.2.2.3-1: Requirements for intra-band non-contiguous EN-DC**

| EN-DC Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| ... | | | | | | | |
| DC_41A_n41A | E-UTRA Band 1, 2, 3, 4, 5, 8, 10, 11, 12, 13, 14, 17, 18, 19, 21, 24, 25, 26, 27, 28, 29, 34, 39, 42, 44, 45, 48, 50, 51, 66, 70, 71, 73, 74 NR Band n77, n78 and n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | -41 | 0.3 | 3 |
| | E-UTRA Band 30, 40 | $F_{DL_low}$ | - | $F_{DL_high}$ | -40 | 1 | |
| ... | | | | | | | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each E-UTRA frequency band specified in Table 5.5-1 in TS 36.101 [5] or in Table 5.2-1 in TS 38.101-1 [2].

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 in TS 36.101 [5] and Table 6.5.3.1-2 in TS 38.101-1 [2] are permitted for each assigned carrier used in the measurement due to 2nd, 3rd, 4th, or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7 MHz.

NOTE: To simplify the above Table, E-UTRA band numbers are listed for bands which are specified only for EUTRA operation or both E-UTRA and NR operation. NR band numbers are listed for bands which are specified only for NR operation.

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات في المدى الترددي FR1، تُبين الحدود العامة للبث الهامشي في الجدولين 6.5B.3.3.5-1 و6.5B.3.3.5-2 من المواصفة التقنية [8] TS 38.521-3.

**Table 6.5B.3.3.2.5-1: Requirements for inter-band within FR1 for Rel-15**

| EN-DC Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| DC_1_n28 | E-UTRA Band 7, 31, 41, 72, 73 NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 42, 52 NR Band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 470 | - | 694 | –42 | 8 | 5, 17 |
| | Frequency range | 470 | - | 710 | –26.2 | 6 | 14 |
| DC_1_n77 | E-UTRA Band 1, 3, 11, 21, 34, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 880 | - | 1 895 | –40 | 1 | 5, 8 |
| | Frequency range | 1 895 | - | 1 915 | –15.5 | 5 | 5, 7, 8 |
| | Frequency range | 1 915 | - | 1 920 | 1.6 | 5 | 5, 7, 8 |
| DC_1_n78 | E-UTRA Band 3, 11, 21, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 880 | - | 1 895 | –40 | 1 | 5, 8 |
| DC_1_n79 | E-UTRA Band 5, 7, 8, 18, 19, 26, 28, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_2_n5 | E-UTRA Band 42, 48 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_2_n66 | E-UTRA Band 4, 10, 24, 50, 66, 70, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| | E-UTRA Band 42, 48 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_2_n71 | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_2_n78 | E-UTRA Band 24, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_3_n7 | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_3_n28 | NR band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_3_n77 | E-UTRA Band 1, 3, 28, 34, 39, 40, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_3_n78 | E-UTRA Band 3, 34, 39 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_3_n79 | E-UTRA Band 5, 8, 11, 18, 19, 21, 41, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_5_n66 | E-UTRA Band 5, 6, 7, 8, 38 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 26 | 859 | - | 869 | –27 | 1 | |
| | E-UTRA Band 41, 42, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | | | | | | | |
| DC_5_n78 | E-UTRA Band 1, 2, 3, 4, 7, 25, 34, 38, 65, 66, 70 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2, 7 |
| DC_7_n28 | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_7_n78 | E-UTRA Band 3, 5, 8, 11, 18, 19, 20, 21, 26, 27, 28, 32, 50, 51, 67, 68, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_8_n77 | E-UTRA Band 1, 32, 33, 34, 38, 39, 40,50, 65, 69, 74, 75 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA band 3, 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 12 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 12 |
| DC_8_n78 | E-UTRA band 34, 39, 40, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 3, 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 12 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 12 |
| DC_11_n77 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 945 | - | 960 | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_11_n78 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_11_n79 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 42, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2545 | - | 2575 | –50 | 1 | |
| | Frequency range | 2595 | - | 2645 | –50 | 1 | |
| DC_12_n66 | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_19_n77 | E-UTRA Band 1, 3, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_19_n78 | E-UTRA Band 1, 3, 34, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_19_n79 | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_20_n28 | E-UTRA Band 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_20_n78 | E-UTRA Band 1, 3, 7, 33, 34, 65 | FDL_low | - | FDL_high | –50 | 1 | |
| | E-UTRA Band 38, 69 | FDL_low | - | FDL_high | –50 | 1 | 2 |
| DC_21_n77 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 945 | - | 960 | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_21_n78 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_21_n79 | E-UTRA Band 3, 21, 34, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_25_n41 | E-UTRA Band 12, 13, 14, 17, 28, 29, 42, 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| DC_26_n41 | E-UTRA Band 3, 5, 18, 19, 26, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 799 | - | 803 | –40 | 1 | 5 |
| | Frequency range | 945 | - | 960 | –50 | 1 | |
| DC_26_n77 | E-UTRA Band 1, 3, 34, 39, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_26_n78 | E-UTRA Band 1, 3, 34, 39, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | 2 |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_28_n77 | E-UTRA Band 3, 7, 34, 39, 40, 41 | FDL_low | - | FDL_high | –50 | 1 | |
| | E-UTRA Band 1, 65 | FDL_low | - | FDL_high | –50 | 1 | 2 |
| | E-UTRA Band 1 | FDL_low | - | FDL_high | –50 | 1 | 9, 11 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 9 |
| DC_28_n78 DC_28_n83_ULSUP-TDM_n78 | E-UTRA Band 3, 7, 34, 39, 40, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | E-UTRA Band 1, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 9, 11 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_28_n79 | E-UTRA Band 42 | FDL_low | - | FDL_high | –50 | 1 | 2 |
| DC_30_n5 | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_39_n41 | E-UTRA Band 42, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_39_n79 | E-UTRA Band 8, 41, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_40_n41 | Bands 1, 34, 39, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 19 |
| DC_41_n77 | E-UTRA Band 3, 5, 8, 11, 18, 19, 21, 26, 28, 33, 34, 39, 44, 45, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | | 1 915.7 | –41 | 0.3 | 3 |
| DC_41_n78 | E-UTRA Band 3, 5, 8, 11, 18, 19, 21, 26, 28, 34, 39, 44, 45, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_41_n79 | E-UTRA Band 1, 3, 5, 8, 18, 19, 26, 28, 34, 40, 44, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_66_n5 | E-UTRA Band 5, 6, 7, 8, 26, 38 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41, 42, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_66_n78 | E-UTRA Band 3, 34, 39 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each frequency band specified in Table 5.5-1 of TS 36.101 [5] or in Table 5.2-1 in TS 38.101-1 [2].

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 in TS 36.101 [5] and Table 6.5.3.1-2 in TS 38.101-1 [2] are permitted for each assigned carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.

NOTE 3: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7 MHz.

NOTE 4: Void.

NOTE 5: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1-1, Table 6.6.3.1A-1in TS 36.101 [5] or in Table 6.5.3.1-1 in TS 38.101-1 [2] from the edge of the channel bandwidth.

NOTE 6: This requirement is applicable for any channel bandwidths within the range 2500 - 2570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2560.5 - 2562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2 552-2 560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 7: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

NOTE 8: This requirement is applicable for any channel bandwidths within the range 1 920-1 980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 927.5-1 929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 930-1 938 MHz the requirement is applicable only for an uplink.

NOTE 9: Applicable when the assigned E-UTRA or NR carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.

NOTE 10: As exceptions, measurements with a level up to the applicable requirement of –38 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 11: As exceptions, measurements with a level up to the applicable requirement of –36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).

NOTE 12: This requirement is applicable only for the following cases:
A: for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB:
B: for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth;
C: for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with RBstart > 3.

NOTE 13: Void.

NOTE 14: This requirement is applicable for 5 and 10 MHz E-UTRA or NR channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with RBstart > 1 and RBstart < 48.

NOTE 15: Void.

NOTE 16: This requirement is applicable for any channel bandwidths within the range 1 920-1 980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 927.5-1 929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 930-1 938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.

NOTE 17: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of –25 dBm with a measurement bandwidth of 8 MHz applies.

NOTE 18: This requirement is only applicable for E-UTRA carriers with bandwidth confined within 1 885-1 920 MHz (requirement for carriers with at least 1RB confined within 1 880-1 885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for E-UTRA carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 892.5-1 894.5 MHz and for E-UTRA carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 895-1 903 MHz.

NOTE 19: Void.

**Table 6.5B.3.3.2.5-2: Requirements for inter-band within FR1 for Rel-16**

| EN-DC Configuration | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band | Frequen cy range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| DC_1_n3 | E-UTRA Band 1, 11, 21, 32, 43, 50, 65, 74, 75 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band 77, 78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_1_n5 | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_1_n7 | E-UTRA Band 32, 50, 51, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_1_n8 | E-UTRA Band 43<br>NR band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_1_n28 | E-UTRA Band 7, 31, 41, 72, 73<br>NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 42, 52<br>NR Band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 470 | - | 694 | –42 | 8 | 5, 17 |
| | Frequency range | 470 | - | 710 | –26.2 | 6 | 14 |
| DC_1_n77 | E-UTRA Band 1, 3, 11, 21, 34, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 880 | - | 1 895 | –40 | 1 | 5, 8 |
| | Frequency range | 1 895 | - | 1 915 | –15.5 | 5 | 5, 7, 8 |
| | Frequency range | 1 915 | - | 1 920 | 1.6 | 5 | 5, 7, 8 |
| DC_1_n78 | E-UTRA Band 3, 11, 21, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 1 880 | - | 1 895 | –40 | 1 | 5, 8 |
| DC_1_n79 | E-UTRA Band 5, 7, 8, 18, 19, 26, 28, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_2_n5 | E-UTRA Band 42, 48<br>NR band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_2_n41 | E-UTRA Band 12, 13, 14, 17, 28, 29, 42, 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Bands 2 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| DC_2_n66 | E-UTRA Band 4, 10, 24, 50, 66, 70, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| | E-UTRA Band 42, 48 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_2_n71 | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_2_n78 | E-UTRA Band 24, 50, 51, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_3_n1 | E-UTRA Band 1, 11, 21, 32, 50, 65, 74, 75 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_3_n5 | E-UTRA Band 5, 7, 8, 18,19, 26, 38 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 42, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | NR Band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_3_n7 | E-UTRA Band 5, 8, 20, 26, 27, 28, 44, 67 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_3_n28 | NR band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_3_n41 | E-UTRA Band 5, 8, 20, 26, 27, 28, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 18, 19 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 14, 20 |
| | E-UTRA Band 42,<br>NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_3_n77 | E-UTRA Band 1, 3, 28, 34, 39, 40, 65, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_3_n78 | E-UTRA Band 3, 34, 39 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_3_n79 | E-UTRA Band 5, 8, 11, 18, 19, 21, 41, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_5_n2 | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41, 43<br>NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_5_n66 | E-UTRA Band 5, 6, 7, 8, 38 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 26 | 859 | - | 869 | –27 | 1 | |
| | E-UTRA Band 41, 42, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | NR Band n77 | | | | | | |
| DC_5_n78 | E-UTRA Band 1, 2, 3, 4, 7, 25, 34, 38, 65, 66, 70 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2, 7 |
| DC_7_n1 | E-UTRA Band 32, 50, 51, 75, 76 or NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_7_n3 | E-UTRA Band 5, 8, 20, 26, 27, 28, 67, 68 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA band 42, 52<br>NR Band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_7_n5 | E-UTRA Band 5, 26, 28, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | NR Band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_7_n8 | E-UTRA Band 20, 28, 67, 68 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 42, 52<br>NR band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_7_n28 | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR band n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_7_n66 | E-UTRA Band 5, 12, 13, 14, 17, 26, 27, 28, 29, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_7_n78 | E-UTRA Band 3, 5, 8, 11, 18, 19, 20, 21, 26, 27, 28, 32, 50, 51, 67, 68, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_8_n1 | E-UTRA Band 43 or NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_8_n3 | E-UTRA Band 20, 28, 38, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 7, 22, 41, 42, 43 or NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 860 | - | 890 | –40 | 1 | 5, 12 |
| DC_8_n20 | E-UTRA Band 67, 68 | 749 | - | 783 | –50 | 1 | |
| | E-UTRA Band 7, 38, 69 | 2 570 | - | 2 690 | –50 | 1 | 2 |
| | E-UTRA Band 8, 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| | Frequency range | 758 | - | 788 | –50 | 1 | |
| DC_8_n28 | E-UTRA Band 38, 40 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Frequency range | 491 | - | 616 | –42 | 8 | 5, 17 |
| | Frequency range | 491 | - | 616 | –26.2 | 6 | 14 |
| DC_8_n41 | E-UTRA Band 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA band 3, 42, 52<br>NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| | Frequency range | 860 | - | 890 | –40 | 1 | 5, 12 |
| DC_8_n77 | E-UTRA Band 1, 32, 33, 34, 38, 39, 40,50, 65, 69, 74, 75 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA band 3, 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 12 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 12 |
| DC_8_n78 | E-UTRA band 34, 39, 40, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 3, 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 11, 21 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 12 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 12 |
| DC_11_n77 | E-UTRA Band 1, 3, 18, 19, 28, 34, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 945 | - | 960 | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_11_n78 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | -50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_11_n79 | E-UTRA Band 1, 3, 34, 42, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_12_n78 | E-UTRA Band 2, 7, 25, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 4, 66 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_13_n2 | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_13_n66 | E-UTRA Band 41, 53 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_14_n2 | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_14_n66 | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_19_n77 | E-UTRA Band 1, 3, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_19_n78 | E-UTRA Band 1, 3, 34, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_19_n79 | E-UTRA Band 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_20_n1 | E-UTRA Band 22, 42, 43 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band 77, 78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_20_n3 | E-UTRA Band 7, 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 38, 42, 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_20_n7 | E-UTRA Band 68 | 776 | - | 783 | –50 | 1 | |
| | E-UTRA Band 42, 52 | 3 332 | - | 3 432 | –50 | 1 | 2 |
| | NR band n77, n78 | 3 332 | - | 3 432 | –50 | 1 | 2 |
| | E-UTRA Band 20 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| DC_20_n8 | E-UTRA Band 28 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 7, 38 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_20_n28 | E-UTRA Band 8 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_20_n78 | E-UTRA Band 1, 3, 7, 33, 34, 65 | FDL_low | - | FDL_high | –50 | 1 | |
| | E-UTRA Band 38, 69 | FDL_low | - | FDL_high | –50 | 1 | 2 |
| DC_21_n77 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 945 | - | 960 | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_21_n78 | E-UTRA Band 1, 3, 18, 19, 28, 34, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_21_n79 | E-UTRA Band 3, 21, 34, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_25_n41 | E-UTRA Band 12, 13, 14, 17, 28, 29, 42, 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_26_n41 | E-UTRA Band 3, 5, 18, 19, 26, 42 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 799 | - | 803 | –40 | 1 | 5 |
| | Frequency range | 945 | - | 960 | –50 | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DC_26_n77 | E-UTRA Band 1, 3, 34, 39, 40, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_26_n78 | E-UTRA Band 1, 3, 34, 39, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| | Frequency range | 2 545 | - | 2 575 | –50 | 1 | 2 |
| | Frequency range | 2 595 | - | 2 645 | –50 | 1 | |
| DC_28_n3 | NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 7, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_28_n5 | E-UTRA Band 8, 40, 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 24 | 1 527 | - | 1 559 | –50 | 1 | |
| | E-UTRA Band 30 | 2 351 | - | 2 360 | –50 | 1 | |
| | Frequency range | 557 | - | 672 | –42 | 8 | 5, 17 |
| | Frequency range | 557 | - | 672 | –26.2 | 6 | 14 |
| | Frequency range | 662 | - | 672 | –26.2 | 6 | 5 |
| DC_28_n7 | E-UTRA Band 3 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 52 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | NR band n77, n78 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_28_n77 | E-UTRA Band 3, 7, 34, 39, 40, 41 | FDL_low | - | FDL_high | –50 | 1 | |
| | E-UTRA Band 1, 65 | FDL_low | - | FDL_high | –50 | 1 | 2 |
| | E-UTRA Band 1 | FDL_low | - | FDL_high | –50 | 1 | 9, 11 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 9 |
| DC_28_n78<br>DC_28_n83_ULSUP-TDM_n78 | E-UTRA Band 3, 7, 34, 39, 40, 41 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 1, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | E-UTRA Band 1 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 9, 11 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_28_n79 | E-UTRA Band 42 | FDL_low | - | FDL_high | –50 | 1 | 2 |
| DC_30_n5 | E-UTRA Band 71 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_39_n41 | E-UTRA Band 42, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n77, n78, n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_39_n79 | E-UTRA Band 8, 28, 41, 44 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_40_n1 | E-UTRA Band 7, 31, 32, 41, 45, 50, 72, 73, 74, 75 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_40_n41 | Bands 1, 34, 39, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3, 19 |
| DC_40_n78 | E-UTRA Band 5, 8, 11, 18, 19, 20, 21, 26, 27, 28, 32, 44, 45, 50, 51, 74, 75, 76 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | NR Band n79 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_40_n79 | E-UTRA Band 1, 34, 41, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_41_n77 | E-UTRA Band 3, 5, 8, 11, 18, 19, 21, 26, 28, 33, 34, 39, 44, 45, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | | 1 915.7 | –41 | 0.3 | 3 |
| DC_41_n78 | E-UTRA Band 3, 5, 8, 11, 18, 19, 21, 26, 28, 34, 39, 44, 45, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_41_n79 | E-UTRA Band 1, 3, 5, 8, 9, 18, 19, 26, 28, 34, 40, 44, 65 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_48_n5 | E-UTRA Band 25, 70 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | Frequency range | 1 884.5 | - | 1 915.7 | –41 | 0.3 | 3 |
| DC_48_n66 | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| DC_66_n2 | E-UTRA Band 4, 10, 22, 24, 50, 66, 70, 74 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 2, 25 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 5 |
| | E-UTRA Band 42, 43<br>NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_66_n5 | E-UTRA Band 5, 6, 7, 8, 26, 38 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 41, 42, 52<br>NR Band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_66_n41 | E-UTRA Band 5, 12, 13, 14, 17, 26, 27, 28, 29, 43, 85 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| | E-UTRA Band 42, 48, NR band n77 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | 2 |
| DC_66_n78 | E-UTRA Band 3, 34, 39 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each frequency band specified in Table 5.5-1 in TS 36.101 [5] or in Table 5.2-1 in TS 38.101-1 [2].

NOTE 2: As exceptions, measurements with a level up to the applicable requirements defined in Table 6.6.3.1-2 in TS 36.101 [5] and Table 6.5.3.1-2 in TS 38.101-1 [2] are permitted for each assigned carrier used in the measurement due to 2nd, 3rd, 4th or 5th harmonic spurious emissions. Due to spreading of the harmonic emission the exception is also allowed for the first 1 MHz frequency range immediately outside the harmonic emission on both sides of the harmonic emission. This results in an overall exception interval centred at the harmonic emission of (2 MHz + N x $L_{CRB}$ x 180 kHz), where N is 2, 3, 4, 5 for the 2nd, 3rd, 4th or 5th harmonic respectively. The exception is allowed if the measurement bandwidth (MBW) totally or partially overlaps the overall exception interval.
NOTE 3: Applicable when co-existence with PHS system operating in 1 884.5-1 915.7 MHz
NOTE 4: Void.
NOTE 5: These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.6.3.1-1, Table 6.6.3.1A-1 in TS 36.101 [5] or in Table 6.5.3.1-1 in TS 38.101-1 [2] from the edge of the channel bandwidth.
NOTE 6: This requirement is applicable for any channel bandwidths within the range 2 500-2 570 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2 560.5-2 562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 2 552-2 560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.
NOTE 7: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.
NOTE 8: This requirement is applicable for any channel bandwidths within the range 1 920-1 980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 927.5-1 929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 930-1 938 MHz the requirement is applicable only for an uplink
NOTE 9: Applicable when the assigned E-UTRA or NR carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz.
NOTE 10: As exceptions, measurements with a level up to the applicable requirement of –38 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 2nd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 2nd harmonic totally or partially overlaps the measurement bandwidth (MBW).
NOTE 11: As exceptions, measurements with a level up to the applicable requirement of –36 dBm/MHz is permitted for each assigned E-UTRA carrier used in the measurement due to 3rd harmonic spurious emissions. An exception is allowed if there is at least one individual RB within the transmission bandwidth (see Figure 5.6-1) for which the 3rd harmonic totally or partially overlaps the measurement bandwidth (MBW).
NOTE 12: This requirement is applicable only for the following cases: A: for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 902.5 MHz ≤ Fc < 907.5 MHz with an uplink transmission bandwidth less than or equal to 20 RB; B: for carriers of 5 MHz channel bandwidth when carrier centre frequency (Fc) is within the range 907.5 MHz ≤ Fc ≤ 912.5 MHz without any restriction on uplink transmission bandwidth; C: for carriers of 10 MHz channel bandwidth when carrier centre frequency (Fc) is Fc = 910 MHz with an uplink transmission bandwidth less than or equal to 32 RB with $RB_{start}$ > 3.
NOTE 13: Void.
NOTE 14: This requirement is applicable for 5 and 10 MHz E-UTRA or NR channel bandwidth allocated within 718-728 MHz. For carriers of 10 MHz bandwidth, this requirement applies for an uplink transmission bandwidth less than or equal to 30 RB with $RB_{start}$ > 1 and $RB_{start}$ < 48.
NOTE 15: Void.
NOTE 16: This requirement is applicable for any channel bandwidths within the range 1 920-1 980 MHz with the following restriction: for carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 927.5-1 929.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 930-1 938 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB.
NOTE 17: This requirement is applicable in the case of a 10 MHz E-UTRA carrier confined within 703 MHz and 733 MHz, otherwise the requirement of –25 dBm with a measurement bandwidth of 8 MHz applies.
NOTE 18: This requirement is only applicable for E-UTRA carriers with bandwidth confined within 1 885-1 920 MHz (requirement for carriers with at least 1RB confined within 1 880-1 885 MHz is not specified). This requirement applies for an uplink transmission bandwidth less than or equal to 54 RB for E-UTRA carriers of 15 MHz bandwidth when carrier centre frequency is within the range 1 892.5-1 894.5 MHz and for E-UTRA carriers of 20 MHz bandwidth when carrier centre frequency is within the range 1 895-1 903 MHz.
NOTE 19: Void.
NOTE 20: Void.
NOTE 21: Void.

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2، تُبيَّن الحدود العامة للبث الهامشي في الفقرة 5.2.4.3.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.3.4.2.5 Test requirement

Same Test requirement as in clause 6.5.3.2.5 in TS 38.521-2 [9] for the *NR* carrier.

6.5.3.2.5Test requirement

This clause specifies the requirements for the specified *NR* band for Transmitter Spurious emissions for UE co-existence requirement with frequency range as indicated in Table 6.5.3.2.5-1.

The maximum TRP power of spurious emission for UE co-existence, measured using RMS detector, shall not exceed the described value in Table 6.5.3.2.5-1.

The spurious emission UE co-existence limits in Table 6.5.3.2.5-1 apply for all transmitter band configurations (NRB) and channel bandwidths.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

**Table 6.5.3.2.5-1: Spurious emissions UE co-existence test requirements**

| NR Band | Spurious emission | | | | | | |
|---|---|---|---|---|---|---|---|
| | Protected band/frequency range | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
| n257 | NR Band n260 | $F_{DL_low}$ | - | $F_{DL_high}$ | -2 + 5.0 | 100 | NOTE 3 |
| | Frequency range | 57 000 | - | 66 000 | 2 | 100 | |
| | Frequency range | 23 600 | - | 24 000 | 1 + 0.3 | 200 | NOTE 6 |
| n258 | Frequency range | 57 000 | - | 66 000 | 2 | 100 | |
| n259 | NR Band 257 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | n259, NOTE 4 |
| | NR Band 261 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | NOTE 4 |
| | Frequency range | 36 000 | - | 37 000 | 7 + 6.0 | 1000 | NOTE 5 |
| | Frequency range | 57 000 | - | 66 000 | 2 | 100 | |
| n260 | NR Band 257 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | NOTE 4 |
| | NR Band 261 | $F_{DL_low}$ | - | $F_{DL_high}$ | -5 + 3.3 | 100 | NOTE 4 |
| | Frequency range | 57 000 | - | 66 000 | 2 | 100 | |
| n261 | NR Band 260 | $F_{DL_low}$ | - | $F_{DL_high}$ | -2 + 5.0 | 100 | NOTE 3 |
| | Frequency range | 57 000 | - | 66 000 | 2 | 100 | |

NOTE 1: $F_{DL_low}$ and $F_{DL_high}$ refer to each NR frequency band specified in Table 5.2-1.
NOTE 2: Void.
NOTE 3: 5.0 dB relaxation due to testability limit.
NOTE 4: 3.3 dB relaxation due to testability limit.
NOTE 5: 6.0 dB relaxation due to testability limit.
NOTE 6: 0.3 dB relaxation due to testability limit.

### 3.2.2.2.4 البث الهامشي الإضافي

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبين حدود البث الهامشي الإضافي في الفقرة 5.1.4.5B.6 من المواصفة التقنية [8] 3-TS 38.521.

6.5B.4.1.5 Test Requirement

Test requirements for additional spurious emissions for intra-band contiguous EN-DC are the same as the minimum requirements described in clause 6.5B.4.1.3 and are not repeated in this clause.

6.5B.4.1.3 Minimum conformance requirements

These requirements are specified in terms of an additional spectrum emission requirement. Additional spurious emission requirements are signalled by the network to indicate that the UE shall meet an additional requirement for a specific deployment scenario as part of the cell handover/broadcast message.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

6.5B.4.1.3.1 Minimum requirement (network signalled value "NS_04")

When "NS 04" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.5B.4.1.3.1-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 of TS 38.521-1 [8] from the edge of the channel bandwidth.

**Table 6.5B.4.1.3.1-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| 2495 ≤ f < 2496 | -13 | 1% of Channel BW for contiguous BW up to 100 MHz,<br>1 MHz for contiguous BW > 100 MHz |
| 2490.5 ≤ f < 2495 | -13 | 1 MHz |
| 0 < f < 2490.5 | -25 | 1 MHz |

The normative reference for this requirement is TS 38.101-3 [4] clause 6.5B.4.1.1.

Exception requirements for both NR and E-UTRA are defined for this test. LTE anchor agnostic approach is not applied. E-UTRA test point analysis is included, and E-UTRA measurements are performed.

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) غير المتجاورة داخل النطاق، تُبين حدود البث الهامشي الإضافي في الفقرة 5.2.4.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.4.2.5 Test Requirement

Test requirements for Spurious Emissions for intra-band non-contiguous EN-DC are the same as the minimum requirements described in 6.5B.4.2.3 and are not repeated in this clause.

6.5B.4.2.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 6.5B.4.1.3.

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات في المدى الترددي FR1، تُبيَّن حدود البث الهامشي الإضافي في الفقرة 5.3.4.5B.6 من المواصفة التقنية [8] TS 38.521-3.

6.5B.4.3.5 Test Requirement

Same test requirement as in clause 6.5.3.3.5 in TS 38.521-1 [8] for the NR carrier.

6.5.3.3.5 Test requirement

This clause specifies the requirements for the specified NR band for an additional spectrum emission requirement with protected bands as indicated from Table 6.5.3.3.5.1 to Table 6.5.3.3.5.27 for different NS_values.

NOTE: For measurement conditions at the edge of each frequency range, the lowest frequency of the measurement position in each frequency range should be set at the lowest boundary of the frequency range plus MBW/2. The highest frequency of the measurement position in each frequency range should be set at the highest boundary of the frequency range minus MBW/2. MBW denotes the measurement bandwidth defined for the protected band.

6.5.3.3.5.1 Test requirement (network signalling value “NS_04”)

When "NS 04" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-2 for power class 2 UE, and Table 6.2.3.5-3 for power class 3 UE.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.1-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.1-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100 (MHz) | |
| 2 495 ≤ f < 2 496 | –13 | 1% of Channel BW |
| 2 490.5 ≤ f < 2 495 | –13 | 1 MHz |
| 0.009 < f < 2 490.5 | –25 | 1 MHz |

6.5.3.3.5.2 Test requirement (network signalling value “NS_17”)

When "NS_17" is indicated in the cell,

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.2-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 and Table 6.5.3.1.3-2 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.2-1: Additional requirements for "NS_17"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5, 10 MHz | | |
| 470 ≤ f ≤ 710 | –26.2 | 6 MHz | 1 |
| NOTE 1: Applicable when the assigned E-UTRA carrier is confined within 718 MHz and 748 MHz and when the channel bandwidth used is 5 or 10 MHz. | | | |

6.5.3.3.5.3 Test requirement (network signalling value “NS_18”)

When "NS_18" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-8 for power class 3 UE.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.3-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.3-1: Additional requirements for "NS_18"**

| Frequency range (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | |
|---|---|---|---|
| | 5, 10, 15, 20, 30 MHz | | |
| 692-698 | –26.2 | 6 MHz | |

6.5.3.3.5.4 Test requirement (network signalling value “NS_05”)

When "NS 05" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-6 for power class 3 UE.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.4-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.4-1: Additional requirements for "NS_05"**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth | |
|---|---|---|---|
| | 5, 10, 15, 20 MHz | | |
| 1 884.5 ≤ f ≤ 1 915.7 | –41 | 300 kHz | |

6.5.3.3.5.5 Test requirement (network signalling value “NS_43”)

When "NS_43" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-10 for power class 3 UE.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.5-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.5-1: Additional requirement for "NS_43"**

| Frequency range (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15 MHz | |
| 860 ≤ f ≤ 890 | –40 | 1 MHz |
| NOTE 1: Applicable for 5 MHz and 15 MHz channel BW confined between 900 MHz and 915 MHz and for 10 MHz channel BW confined between 905 MHz and 915 MHz | | |

6.5.3.3.5.6 Test requirement (network signalling value “NS_37”)

When "NS_37" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-14 for power class 3 UE.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.6-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.6-1: Additional requirement for "NS_37"**

| Frequency band (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20 | |
| 1 475.9 ≤ f ≤ 1 510.9 | –35 | 1 MHz |

6.5.3.3.5.7 Test requirement (network signalling value “NS_38”)

Not available

6.5.3.3.5.8 Test requirement (network signalling value “NS_39”)

Not available

6.5.3.3.5.9 Test requirement (network signalling value “NS_40”)

Not available

6.5.3.3.5.10 Test requirement (network signalling value “NS_41”)

Not available

6.5.3.3.5.11 Test requirement (network signalling value “NS_42”)

Not available

6.5.3.3.5.12 Test requirement (network signalling value “NS_21”)

When "NS_21" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.12-1. These requirements also apply for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.12-1: Additional requirements for "NS_21"**

| Frequency band (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10 | |
| 2 200 ≤ f < 2 288 | –40 | 1 MHz |
| 2 288 ≤ f < 2 292 | –37 | 1 MHz |
| 2 292 ≤ f < 2 296 | –31 | 1 MHz |
| 2 296 ≤ f < 2 300 | –25 | 1 MHz |
| 2 320 ≤ f < 2 324 | –25 | 1 MHz |
| 2 324 ≤ f < 2 328 | –31 | 1 MHz |
| 2 328 ≤ f < 2 332 | –37 | 1 MHz |
| 2 332 ≤ f ≤ 2 395 | –40 | 1 MHz |

6.5.3.3.5.13 Test requirement (network signalling value “NS_24”)

When "NS 24" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-17.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.13-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.13-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 2 010 ≤ f ≤ 2 025 | –50 | 1 MHz |
| NOTE 1: This requirement applies at a frequency offset equal or larger than 5 MHz from the upper edge of the channel bandwidth, whenever these frequencies overlap with the specified frequency band. | | |

6.5.3.3.5.14 Test requirement (network signalling value “NS_27”)

When "NS_27" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-18 for power class 3 UE.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.14-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.14-1: Additional requirement for "NS_27"**

| Frequency range (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5, 10, 15, 20, 40 | |
| 9 kHz – 3 530 MHz | –40 | 1 MHz |
| 3 530 MHz – 3 540 MHz | –25 | |
| 3 710 MHz – 3 720 MHz | –25 | |
| 3 720 MHz – 12.75 GHz | –40 | |

6.5.3.3.5.15 Test requirement (network signalling value “NS_47”)

When "NS 47" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.15-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.15-1: Additional requirement for "NS_47"**

| Frequency band (MHz) | Channel bandwidth (MHz) / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 30 | |
| 2 530 ≤ f ≤ 2 535 | –25 | 1 MHz |
| 2 505 ≤ f ≤ 2 530 | –30 | 1 MHz |

6.5.3.3.5.16 Test requirement (network signalling value “NS_50”)

When "NS_50" is indicated in the cell, the power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.16-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.16-1: Additional requirements for "NS_50"**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 1 805 | - | 1 855 | –40 | 1 | 1 |
| Frequency range | 1 855 | - | 1 880 | –15.5 | 5 | 1, 2, 3 |

NOTE 1: This requirement is applicable for carriers with aggregated channel bandwidths confined in 1 885-1 920 MHz for ≤ 30 MHz channel BWs and confined in 1 880-1 920 MHz for 40 MHz channel BW.
NOTE 2: The requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.
NOTE 3: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

6.5.3.3.5.17 Test requirement (network signalling value “NS_12”)

**Table 6.5.3.3.5.17-1: Additional requirements for “NS_12”**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz | |
| 806 ≤ f ≤ 813.5 | –42 | 6.25 kHz |

NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 814 MHz.
NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB.

6.5.3.3.5.18 Test requirement (network signalling value “NS_13”)

**Table 6.5.3.3.5.18-1: Additional requirements for “NS_13”**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |

NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 817 MHz.
NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB.

6.5.3.3.5.19 Test requirement (network signalling value “NS_14”)

**Table 6.5.3.3.5.19-1: Additional requirements for “NS_14”**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 10 MHz, 15 MHz, 20 MHz | |
| 806 ≤ f ≤ 816 | –42 | 6.25 kHz |

NOTE 1: The requirement applies for E-UTRA carriers with lower channel edge at or above 817 MHz.
NOTE 2: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB.

6.5.3.3.5.20 Test requirement (network signalling value “NS_15”)

**Table 6.5.3.3.5.20-1: Additional requirements for “NS_15”**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | Measurement bandwidth |
|---|---|---|
| | 5 MHz, 10 MHz, 15 MHz, 20 MHz | |
| 851 ≤ f ≤ 859 | –53 | 6.25 kHz |
| NOTE 1: The emissions measurement shall be sufficiently power averaged to ensure a standard deviation < 0.5 dB. | | |

6.5.3.3.5.21 Test requirement (network signalling value “NS_45”)

When "NS 45" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-29.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.21-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.21-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit (dBm) | | Measurement bandwidth |
|---|---|---|---|
| | 5 MHz | 10 MHz | |
| 0.009 < f ≤ 2 473.5 | –25 | –25 | 1 MHz |
| 2 473.5 < f ≤ 2 477.5 | –25 | –13 | 1 MHz |
| 2 477.5 < f ≤ 2 478.5 | –13 | –13 | 1 MHz |
| 2 478.5< f ≤ 2 483.5 | –10 | –10 | 1 MHz |
| 2 495 ≤ f < 2 496 | –13 | –13 | 1% of Channel Bandwidth |
| 2 496 ≤ f < 2 501 | –13 | –13 | 1 MHz |
| 2 501 < f ≤ 2 505 | –25 | –13 | 1 MHz |
| 2 505 ≤ f ≤ 5th harmonic of the upper frequency edge of the UL operating band | –25 | –25 | 1 MHz |

6.5.3.3.5.22 Test requirement (network signalling value “NS_48”)

When "NS 48" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-24.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.22-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.22-1: Additional requirements**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| E-UTRA band 34 – NR band n34 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| Frequency range | 1 900 | - | 1 915 | –15.5 | 5 | 1 |
| Frequency range | 1 915 | - | 1 920 | +1.6 | 5 | 1 |
| NOTE 1: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

6.5.3.3.5.23 Test requirement (network signalling value “NS_49”)

When "NS 49" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-33.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.23-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.23-1: Additional requirements**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| E-UTRA band 34 - NR band n34 | $F_{DL_low}$ | - | $F_{DL_high}$ | –50 | 1 | |
| Frequency range | 1 880 | - | 1 895 | –40 | 1 | |
| Frequency range | 1 895 | | 1 915 | –15.5 | 5 | 1 |
| Frequency range | 1 915 | - | 1 920 | 1.6 | 5 | 1 |
| NOTE 1: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

6.5.3.3.5.24 Test requirement (network signalling value “NS_44”)

When "NS 44" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-31.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.24-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.24-1: Additional requirements**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 2 620 | - | 2 645 | –15.5 | 5 | 1, 2 |
| Frequency range | 2 645 | - | 2 690 | –40 | 1 | 1 |
| NOTE 1: This requirement is applicable for carriers confined in 2570-2615 MHz.<br>NOTE 2: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band. | | | | | | |

6.5.3.3.5.25 Test requirement (network signalling value “NS_46”)

When "NS_46" is indicated in the cell, the measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-30. The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.25-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.25-1: Additional requirements for “NS_46”**

| Protected band | Frequency range (MHz) | | | Maximum Level (dBm) | MBW (MHz) | NOTE |
|---|---|---|---|---|---|---|
| Frequency range | 2 570 | - | 2 575 | +1.6 | 5 | 1, 2 |
| Frequency range | 2 575 | - | 2 595 | –15.5 | 5 | 1, 2 |
| Frequency range | 2 595 | - | 2 620 | –40 | 1 | 1 |
| NOTE 1: This requirement is applicable for all carriers confined in 2 500-2 570 MHz. Special restrictions apply for channel bandwidths up to 20 MHz: For carriers of 15 MHz bandwidth when carrier centre frequency is within the range 2 560.5-2 562.5 MHz and for carriers of 20 MHz bandwidth when carrier centre frequency | | | | | | |

is within the range 2 552-2 560 MHz the requirement is applicable only for an uplink transmission bandwidth less than or equal to 54 RB with the minimum supported SCS of 15 KHz.

NOTE 2: For these adjacent bands, the emission limit could imply risk of harmful interference to UE(s) operating in the protected operating band.

6.5.3.3.5.26 Test requirement (network signalling value “NS_07”)

Not available

6.5.3.3.5.27 Test requirement (network signalling value “NS_56”)

When "NS 56" is indicated in the cell,

The measured UE mean power in the channel bandwidth, derived in step 3, shall fulfil requirements in Table 6.2.3.5-36.

The power of any UE emission shall not exceed the levels specified in Table 6.5.3.3.5.27-1. This requirement also applies for the frequency ranges that are less than $F_{OOB}$ (MHz) in Table 6.5.3.1.3-1 from the edge of the channel bandwidth.

**Table 6.5.3.3.5.27-1: Additional requirements**

| Frequency band (MHz) | Channel bandwidth / Spectrum emission limit[1] (dBm) | Measurement bandwidth | NOTE |
|---|---|---|---|
| | 5 MHz, 10 MHz | | |
| 1 541 ≤ f ≤ 1 559 | –102 | 2 kHz | Averaged over any 2 millisecond active transmission interval |
| 1 559≤ f ≤ 1 608 | –85 | 700 Hz | |
| 1 608≤ f ≤ 1 610 | –85 +5/2 (f-1608) | 700 Hz | |
| 1 610≤ f ≤ 1 625 | –80+ 66/15 (f-1610) | 700 Hz | |
| 1 541 ≤ f ≤ 1 608 | -75 | 1 MHz | Averaged over any 2 millisecond active transmission interval |
| 1 608≤ f ≤ 1 610 | –75 + 5/2 (f-1608) | 1 MHz | |
| 1 610≤ f ≤ 1 627.5 | –70+ 57/17.5 (f-1610) | 1 MHz | |
| 1 627.5 | –37 | 4 kHz | |
| 1 638.5 ≤f ≤ 1 645.5 | –28 | 4 kHz | |
| 1 657.5 ≤f ≤ 1 660.5 | –28 | 4 kHz | |
| NOTE 1: The EIRP requirement in regulation is converted to conducted requirement using a 0 dBi antenna. | | | |

### 3.2.2.4 البث الهامشي للمستقبِل

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) المتجاورة داخل النطاق، تُبيَّن حدود البث الهامشي للمُستقبِل في الفقرة 5.1.9B.7 من المواصفة التقنية [8] 3-TS 38.521.

7.9B.1.5 Test requirement

Same test requirement as in clause 7.9.5 in TS 38.521-1 [8].

7.9.5 Test requirement

The measured spurious emissions derived in step 1), shall not exceed the maximum level specified in Table 7.9.5-1.

**Table 7.9.5-1: General receiver spurious emission requirements**

| Frequency range | Measurement bandwidth | Maximum level | NOTE |
|---|---|---|---|
| 30 MHz ≤ f < 1 GHz | 100 kHz | –57 dBm | |
| 1 GHz ≤ f ≤ 12.75 GHz | 1 MHz | –47 dBm | |
| 12.75 GHz ≤ f ≤ 5th harmonic of the upper frequency edge of the DL operating band in GHz | 1 MHz | –47 dBm | 2 |
| 12.75 GHz – 26 GHz | 1 MHz | –47 dBm | 3 |
| NOTE 1: Unused PDCCH resources are padded with resource element groups with power level given by PDCCH as defined in Annex C.3.1.<br>NOTE 2: Applies for Band that the upper frequency edge of the DL Band more than 2.69 GHz.<br>NOTE 3: Applies for Band that the upper frequency edge of the DL Band more than 5.2 GHz. | | | |

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) غير المتجاورة داخل النطاق، تُبيَّن حدود البث الهامشي للمُستقبِل في الفقرة 5.2.9B.7 من المواصفة التقنية [8] TS 38.521-3.

7.9B.2.5 Test requirement

Same test requirement as in clause 7.9.5 in TS 38.521-1 [8].

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات في المدى الترددي FR1، تُبيَّن الحدود الإضافية للبث الهامشي للمُستقبِل في الفقرتين 5.3.9B.7 و5.1.1_3.9B.7 من المواصفة التقنية [8] TS 38.521-3.

7.9B.3.5 Test requirement

Same test requirement as in clause 7.9.5 in TS 38.521-1 [8].

7.9B.3_1.1.5 Test requirement

Same test requirement as in clause 7.9.5 in TS 38.521-1 [8].

بالنسبة إلى التوصيلية المزدوجة لمعياري (EN-DC) بين النطاقات، بما في ذلك المدى الترددي FR2، تُبيَّن حدود البث الهامشي للمستقبِل في الفقرة 5.4.9B.7 من المواصفة التقنية [8] TS 38.521-3.

7.9B.4.5 Test requirements

Same test requirement as in clause 7.9.5 in TS 38.521-2 [9] for the *NR* carrier.

7.9.5 Test requirement

The measured spurious emissions derived in step 5, shall not exceed the maximum level specified in Table 7.9.5-1.

**Table 7.9.5-1: General receiver spurious emission requirements (Band n257, n258, n260, n261)**

| Frequency range | Measurement bandwidth | Maximum level | NOTE |
|---|---|---|---|
| 6 GHz ≤ f < 20 GHz | 1 MHz | –47 + 10.2 dBm | 1 |
| 20 GHz ≤ f < 40 GHz | 1 MHz | –47 + 17.2 dBm | 1 |
| 40 GHz ≤ f ≤ 2nd harmonic of the upper frequency edge of the DL operating band in GHz | 1 MHz | –47 + 33.1 dBm | 1 |
| NOTE 1: Unused PDCCH resources are padded with resource element groups with power level given by PDCCH as defined in Annex C.3.1. | | | |

## 5 المراجع


[1] ARIB STD-T120-36.101 V17.6.0, ETSI TS 136 101 V17.6.0 or TTAT.3G-36.101V17.6.0 these standards refer to 3GPP TS 36.101 V17.6.0 (06-2022)، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ النفاذ الراديوي للأرض العالمي المتطور (E-UTRA)؛ الإرسال والاستقبال الراديوي في معدات المستعمل (UE) (الإصدار 17)"

[2] ARIB STD-T120-38.101-1 V17.6.0, ETSI TS 138 1-101 V17.6.0 or TTAT.3G-38.101-1V17.6.0 these standards refer to 3GPP TS 38.101-1 V17.6.0 (06-2022)، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ NR؛ الإرسال والاستقبال الراديوي في معدات المستعمل (UE) الجزء 1: المدى 1 المستقل؛ (الإصدار 17)"

[3] ARIB STD-T120-38.101-2 V17.6.0, ETSI TS 138 2-101 V17.6.0 or TTAT.3G-38.101-2V17.6.0 these standards refer to 3GPP TS 38.101-2 V17.6.0 (06-2022)، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ NR؛ الإرسال والاستقبال الراديوي في معدات المستعمل (UE) الجزء 2: المدى 2 المستقل؛ (الإصدار 17)"

[4] ARIB STD-T120-38.101-3 V17.6.0, ETSI TS 138 3-101 V17.6.0 or TTAT.3G-38.101-3V17.6.0 these تشير هذه المعايير إلى 3GPP TS 38.101-3 V17.6.0 (2022-06)، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ NR؛ الإرسال والاستقبال الراديوي في معدات المستعمل (UE) الجزء 3: تشغيل العمل البيني للمدى 1 والمدى 2 مع المديات الراديوية الأخرى (الإصدار 17)"

[5] ARIB STD-T120-36.521-1 V17.3.0, ETSI TS 136 1-521 V17.3.0 or TTA TTAT.3G-36.521-1V17.3.0، تشير هذه المعايير إلى 3GPP TS 36.521-1 [5] (2022-06)، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ النفاذ الراديوي للأرض العالمي المتطور (E-UTRA)؛ مواصفة مطابقة معدات المستعملين (UE)؛ الإرسال والاستقبال الراديوي؛ الجزء 1: اختبار المطابقة (الإصدار 17)"

[6] ARIB STD-T120-38.521-1 V17.5.0, ETSI TS 138 1-521 V17.5.0 or TTA TTAT.3G-38.521-1V17.5.0، تشير هذه المعايير إلى (2022-06) 3GPP 38.521-1 V17.5.0، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ NR؛ مواصفة مطابقة معدات المستعملين (UE)؛ الإرسال والاستقبال الراديوي؛ الجزء 1: المدى 1 المستقل؛ (الإصدار 17)"

[7] ARIB STD-T120-38.521-2 V16.12.0, ETSI TS 138 2-521 V16.12.0 or TTA TTAT.3G-38.521-2V16.12.0، تشير هذه المعايير إلى (2022-06) 3GPP 38.521-2 V16.12.0، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ NR; مواصفة مطابقة معدات المستعملين (UE)؛ الإرسال والاستقبال الراديوي؛ الجزء 2: المدى 2 المستقل؛ (الإصدار 16)"

[8] ARIB STD-T120-38.521-3 V17.5.0, ETSI TS 138 3-521 V17.5.0 or TTA TTAT.3G-38.521-3V17.5.0، تشير هذه المعايير إلى (2022-06) 3GPP 38.521-3 V17.5.0، "مشروع شراكة الجيل الثالث (3GPP)، فريق التوصيف التقني لشبكة النفاذ الراديوي؛ NR؛ مواصفة مطابقة معدات المستعملين (UE)؛ الإرسال والاستقبال الراديوي؛ الجزء 3: تشغيل العمل البيني للمدى 1 والمدى 2 مع المديات الراديوية الأخرى (الإصدار 17)"

[9] التوصية ITU-R SM.329: الإرسالات غير المطلوبة في مجال البث الهامشي

[10] التوصية ITU-R M.1545: "تطبيق عدم التيقن من القياس على حدود الاختبارات لمكونة الأرض في الاتصالات المتنقلة الدولية–2000".

# المرفق 1
# بالملحق 1

## تعريف التفاوت المسموح به في الاختبار

### التفاوت المسموح به في الاختبار

بالرجوع إلى التوصية [10] ITU-R M.1545، "التفاوت المسموح به في الاختبار" هو درجة التخفيف المشار إليها في الفقرة 2 من "توصي" من التوصية [10] ITU-R M.1545، أي الفرق بين قيمة المواصفة الأساسية وقيمة الاختبار الحدية المقيَّمة بتطبيق مبدأ تقاسم المخاطر وفقاً للشكلين 2 و3 من الملحق 1 بالتوصية [10] ITU-R M.1545. وفي حال تساوي قيمة المواصفة الأساسية مع قيمة الاختبار الحدية (الشكل 3 من الملحق 1 بالتوصية ([10] ITU-R M.1545، فإن "حدود التفاوت المسموح بها في الاختبار" تساوي الصفر.

# الملحق 2

## تكنولوجيا السطح البيني الراديوي القائمة على المعيار 5G لمشروع شراكة الجيل الثالث (3GPP 5G-RIT)

ويمكن الاطلاع على خصائص البث غير المطلوب للمحطات المتنقلة التي تستخدم تكنولوجيا 3GPP-5G RIT في الأقسام 2 و3 و4 من الملحق 1 بهذه التوصية بعنوان " مجموعة تكنولوجيات السطح البيني الراديوي القائمة على المعيار 5G لمشروع شراكة الجيل الثالث (3GPP 5G-SRIT)".

# الملحق 3

# تكنولوجيا السطح البيني الراديوي القائمة على المعيار 5Gi (5Gi RIT)

ينبغي أن تنطبق خصائص البث غير المطلوب الواردة في الملحق 2 على تكنولوجيا 5Gi RIT.

# الملحق 4

# المكون DECT-2020 NR-RIT

**مقدمة**

تتألف مجموعة تكنولوجيات السطح البيني الراديوي القائمة على المعيار 5G للاتصالات اللاسلكية الرقمية المحسَّنة (DECT 5G-SRIT) من مكونتين:

- المكون DECT-2020 NR-RIT.
- المكون 3GPP NR-RIT.

ويقدم هذا الملحق خصائص البث غير المطلوب للمحطات المتنقلة (المعدات الراديوية بأسلوب المطراف المحمول) التي تستعمل السطح البيني الراديوي DECT-2020 NR، الملحق [1] و[2].

وترد في الملحق 2 بهذه التوصية خصائص البث غير المطلوب للمحطات المتنقلة التي تستعمل السطح البيني الراديوي 3GPP NR.

## 1 خصائص البث غير المطلوب فيما يتعلق بتكنولوجيا DECT-2020 NR

### 1.1 نطاقات التشغيل

يحدد الجدولان 1-A4 و2-A4 ترقيم نطاقات التشغيل. ويمكن أن يدعم الجهاز الراديوي نطاقاً واحداً أو أكثر تبعاً لقدراته.

الجدول 1-A4

**ترقيم نطاقات التشغيل**

**نطاقات الترددات التي تستخدمها تكنولوجيا DECT-2020 NR والمحددة للاتصالات المتنقلة الدولية في لوائح الراديو**

| رقم النطاق | نطاق الاستقبال (MHz) | نطاق الإرسال (MHz) | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|
| 1 | من 1 880 إلى 1 900 | من 1 880 إلى 1 900 | **388.5** |
| 2 | من 1 900 إلى 1 920 | من 1 900 إلى 1 920 | **388.5** |
| 5 | من 450 إلى 470 | من 450 إلى 470 | **286AA.5** |
| 6 | من 698 إلى 806 | من 698 إلى 806 | **317A.5 ،312B.5** |
| 7 | من 716 إلى 728 | من 716 إلى 728 | **317A.5 ،312B.5** |
| 8 | من 1 432 إلى 1 517 | من 1 432 إلى 1 517 | **341C.5 ،341B.5 ،341A.5** |
| 9 | من 1 920 إلى 1 930 | من 1 920 إلى 1 930 | **388.5** |

| رقم النطاق | نطاق الاستقبال (MHz) | نطاق الإرسال (MHz) | الحاشية (الحواشي) التي تحدد النطاق، أو جزءاً منه، للاتصالات المتنقلة الدولية في مختلف البلدان/الأقاليم |
|---|---|---|---|
| 10 | من 2 010 إلى 2 025 | من 2 010 إلى 2 025 | **388.5** |
| 11 | من 2 300 إلى 2 400 | من 2 300 إلى 2 400 | **384A.5** |
| 12 | من 2 500 إلى 2 620 | من 2 500 إلى 2 620 | **384A.5** |
| 13 | من 3 300 إلى 3 400 | من 3 300 إلى 3 400 | **429G.5** |
| 14 | من 3 400 إلى 3 600 | من 3 400 إلى 3 600 | **431B.5 ،431A.5** |
| 15 | من 3 600 إلى 3 700 | من 3 600 إلى 3 700 | **434.5** |
| 16 | من 4 800 إلى 4 990 | من 4 800 إلى 4 990 | **441B.5 ،441A.5 ،440A.5** |
| 21 | من 3 700 إلى 3 800 | من 3 700 إلى 3 800 | **435B.5** |
| 22 | من 1 910 إلى 1 930 | من 1 910 إلى 1 930 | **388.5** |

الجدول 2-A4

**ترقيم نطاقات التشغيل**

**نطاقات الترددات التي تستخدمها تكنولوجيا DECT-2020 NR وغير المحددة للاتصالات المتنقلة الدولية في لوائح الراديو**

| رقم النطاق | نطاق الاستقبال (MHz) | نطاق الإرسال (MHz) |
|---|---|---|
| 3 | من 2 400 إلى 2 483,5 | من 2 400 إلى 2 483,5 |
| 4 | من 902 إلى 928 | من 902 إلى 928 |
| 17 | من 5 725 إلى 5 875 | من 5 725 إلى 5 875 |
| 18 | من 5 150 إلى 5 350 | من 5 150 إلى 5 350 |
| 19 | من 5 470 إلى 5 725 | من 5 470 إلى 5 725 |
| 20 | من 3 800 إلى 4 200 | من 3 800 إلى 4 200 |

## 2.1 التعاريف والرموز والمختصرات

### 1.2.1 الرموز

$\beta$ عامل مقايسة تحويل فوريه [2]

$\mu$ عامل مقايسة الموجات الحاملة الفرعية [2]

$\Delta f_{oob}$ Δ تردد البث خارج النطاق [1]

$B_N$ عرض نطاق القناة الاسمي

$B_G$ الفرق بين عرض نطاق القناة الاسمي وعرض نطاق الإرسال

$Fc$ التردد المركزي للموجة الحاملة

$Pmax$ قدرة الإرسال القصوى لصنف قدرة الجهاز الراديوي

### 2.2.1 الاختصارات

ACLR نسبة التسرب في القنوات المجاورة (*Adjacent Channel Leakage Ratio*)

DFT تحويل فوريه المتمايز (*Discrete Fourier Transform*)

MBW عرض نطاق القياس (*Measurement BandWidth*)

## 2 متطلبات البث الطيفي للمرسِل في الاتصالات اللاسلكية الرقمية المحسَّنة–2020 (DECT-2020)

### 1.2 اعتبارات عامة

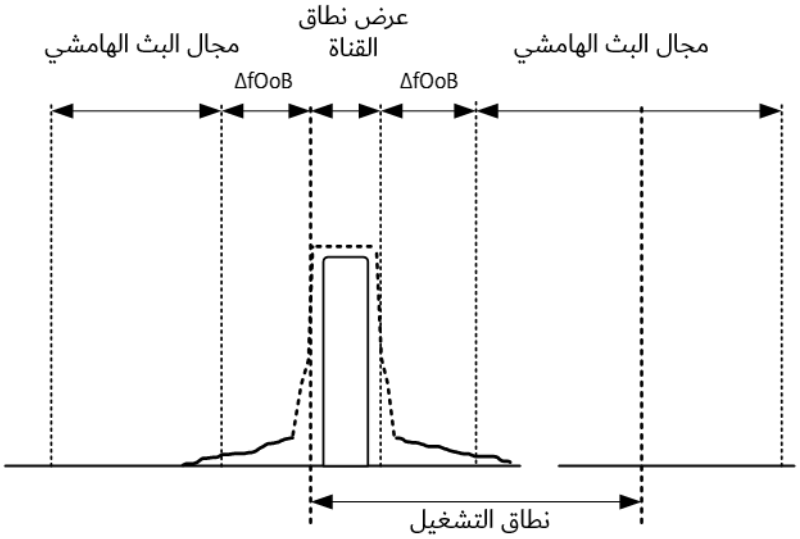
يتألف البث الطيفي لمرسلات المعدات الراديوية من بث القناة المشغولة والبث خارج النطاق والبث الهامشي. ويوضح الشكل 1-A4 العلاقة بين مكونات البث هذه.

وتحدَّد خصائص المرسِل عند موصل (موصلات) هوائي المعدات الراديوية. وبالنسبة للمعدات الراديوية التي تحتوي على هوائي مدمج فقط، ينبغي افتراض هوائي مرجعي (هوائيات مرجعية) بكسب قدره 0 dBi لكل منفذ هوائي.

وتنطبق قيم القدرة على التشغيل بدون نظام هوائي نشط.

الشكل 1-A4

**طيف الترددات الراديوية للمرسل**




### 2.2 عرض نطاق القناة المشغول

عرض النطاق المشغول هو عرض نطاق الترددات الذي تكون فيه القدرتان المتوسطتان المرسَلتان تحت التردد الحدي السفلي وفوق التردد الحدي العلوي مساوية كل منهما لنسبة 0,5% من إجمالي القدرة المتوسطة المرسَلة.

وينبغي أن يكون عرض النطاق المشغول أقل من عرض نطاق القناة الاسمي على النحو المحدد في الجدول 3-A4.

الجدول 3-A4

**عرض نطاق القناة**

| المعلمة | عرض نطاق قناة التشغيل I | عرض نطاق قناة التشغيل II | عرض نطاق قناة التشغيل III | | |
|---|---|---|---|---|---|
| عرض نطاق القناة الاسمي (MHz) | 1 728 | 3 456 | 6 912 | | |
| $(\mu, \beta)$ | (1,1) | (1,2) | (2,1) | (1,4) | (2,2) |
| عرض نطاق قناة الإرسال (MHz) | 1 539 | 3 051 | 6 075 | 6 102 | 6 156 |

### 3.2 قدرة الخرج القصوى

تعرَّف قدرة الخرج القصوى (*Pmax*) بأنها القدرة المتوسطة للرزمة المرسَلة. ويحدد الجدول 4-A4 قدرة الخرج القصوى للمرسِل. ويمكن للجهاز الراديوي أن يستخدم واحداً أو أكثر من أصناف القدرة عند تشغيله.

الجدول 4-A4

**قدرة الخرج القصوى**

| صنف قدرة الجهاز الراديوي | عرض نطاق قناة التشغيل (MHz) | | |
|---|---|---|---|
| | 1 728 | 3 456 | 6 912 |
| | قدرة الخرج (dBm) | | |
| الصنف I | 23 | 23 | 23 |
| الصنف II | 21 | 21 | 21 |
| الصنف III | 19 | 19 | 19 |
| الصنف IV | 10 | 10 | 10 |

**الملاحظة 1**: عرض نطاق القياس يساوي عرض نطاق الإرسال لعرض نطاق قناة التشغيل المحدد في الجدول 3-A4.

### 4.2 البث خارج النطاق

البث خارج النطاق هو بث غير مطلوب يحدث مباشرة خارج عرض نطاق القناة المخصص وينتج عن عملية التشكيل واللاخطية في المرسِل، ولكنه لا يشمل البث الهامشي.

وينطبق قناع بث الطيف للجهاز الراديوي (RD) على تخالف ترددات البث خارج النطاق ($\Delta f_{OOB}$) بدءاً من ± الحافة (من $F_c + B_N/2$ أو من $F_c - B_N/2$) للقناة المخصصة. وبالنسبة لتخالف الترددات الأكبر من $\Delta f_{OOB}$ كما هو محدد في الجدول 4-A4، تنطبق متطلبات البث الهامشي الواردة في الفقرة 5.2.

الجدول 5-A4

**حدود البث الطيفي بعرض نطاق قياس قدرة 30 kHz**

| عرض نطاق القياس (kHz) | الحد (dBm) | $\Delta f_{oob}$ | |
|---|---|---|---|
| | | $B_G/2 < 1$ MHz | $B_G/2 \geq 1$ MHz |
| 30 | $-10 - 10\log10(B_N/1{,}728)$ | من 0 إلى $\frac{B_G}{2}$ | - |
| 30 | $-10 - 10\,log10(B_N/1{,}728)$ | من −0 إلى $-B_G/2$ | - |
| 30 | $-21 - 10\log10(B_N/1{,}728)$ | من 0 إلى 1 MHz | من 0 إلى 1 MHz |
| 30 | $-21 - 10\log10(B_N/1{,}728)$ | من 0 إلى −1 MHz | من 0 إلى −1 MHz |

**الملاحظة 1**: يكون التردد المركزي الأول لمرشاح قياس بعرض 30 kHz عند = 0,015 MHz أي $B_N/2$ + 0,015 MHz من التردد المركزي للموجة الحاملة $\Delta f_{oob}$

**الملاحظة 2**: يكون التردد المركزي الأول لمرشاح قياس بعرض 30 kHz في المدى من إلى 1 MHz عند = MHz، أي على مسافة MHz من التردد المركزي للموجة الحاملة.

**الملاحظة 3**: على نحو متناظر ومماثل لما ورد في الملاحظة 1 والملاحظة 2 عند ترددات التخالف السالب $\Delta f_{oob}$

الجدول 6-A4

**حدود البث الطيفي بعرض نطاق قياس قدرة 1 MHz**

| $\Delta f_{oob}$ | الحد (dbm) | | عرض نطاق القياس (MHz) |
|---|---|---|---|
| | $B_N \leq 6.912\ MHz$ | $B_N > 6.912\ MHz$ | |
| من 1 MHz إلى $B_N$ | $10-$ | $-10-10\log10(B_N/6{,}912)$ | 1 |
| من -1 MHz إلى $-B_N$ | $10-$ | $-10-10\log10(B_N/6{,}912)$ | 1 |
| $B_N$ إلى $2B_N$ | $25-$ | $-25-10\log10(B_N/6{,}912)$ | 1 |
| $-B_N$ إلى $-2B_N$ | $25-$ | $-25-10\log10(B_N/6{,}912)$ | 1 |

**الملاحظة 1:** يكون التردد المركزي الأول لمرشاح قياس بعرض 1 MHz في المدى من 1 MHz إلى $B_N$ عند $\Delta f_{oob}$ = 1 MHz.

**الملاحظة 2:** يكون التردد المركزي الأول لمرشاح قياس بعرض 1 MHz في المدى من $B_N$ إلى $2B_N$ عند $\Delta f_{oob}= B_N + 0{,}5$ MHz .

**الملاحظة 3:** على نحو متناظر ومماثل لما ورد في الملاحظة 1 والملاحظة 2 عند ترددات التخالف السالب $\Delta f_{oob}$

وينبغي أن يكون عرض نطاق استبانة معدات القياس مساوياً لعرض نطاق القياس (MBW). ومع ذلك، لتحسين دقة القياس وحساسيته وكفاءته، يمكن أن يكون عرض نطاق الاستبانة أصغر من عرض نطاق القياس، أو يمكن استخدام مرشاح قناة مستطيل ذي استجابة انتقالية شديدة الانحدار. وحين يكون عرض نطاق الاستبانة أصغر من عرض نطاق القياس، ينبغي أن تكون النتيجة متكاملة في عرض نطاق القياس من أجل الحصول على عرض نطاق الضوضاء المكافئ لعرض نطاق القياس.

### 2.5 البث الهامشي

البث الهامشي هو بث ناجم عن آثار غير مرغوبة للمرسِل مثل البث التوافقي، والبث الطفيلي، ومنتجات التشكيل البيني ومنتجات تحويل التردد، ولكنه لا يشمل البث خارج النطاق ما لم يُنص على خلاف ذلك. وتُبيَّن حدود البث الهامشي من حيث المتطلبات العامة تمشياً مع التوصية ITU-R SM.329.

وما لم يُنص على خلاف ذلك، تنطبق القيم الحدية للبث الهامشي على مديات الترددات التي تتجاوز تخالف تردد البث خارج النطاق (MHz) في الجدول 4-A4 عن حافة عرض نطاق القناة. وتنطبق القيم الحدية للبث الهامشي الواردة في الجدول 5-A4 على جميع نطاقات المرسِل وعروض نطاق القناة $\Delta f_{oob}$.

وينبغي قياس البث الهامشي أثناء الفترة الزمنية التي يكون فيها المرسل نشطاً باستثناء أي فترات عابرة.

وبالنسبة لشروط القياس عند حافة كل مدى ترددي، ينبغي ضبط التردد الأدنى لموضع القياس في كل مدى ترددي عند الحد الأدنى للمدى الترددي مضافاً إليه (MBW/2). وينبغي ضبط التردد الأعلى لموضع القياس في كل مدى ترددي عند الحد الأعلى لمدى التردد مطروحاً منه MBW/2. ويشير MBW إلى عرض نطاق القياس المحدَّد للنطاق المحمي.

الجدول 7-A4

**حدود البث الهامشي**

| مدى التردد | المستوى الأقصى | عرض نطاق القياس |
|---|---|---|
| 9 kHz $\geq f <$ 150 kHz | dBm 36– | KHz 1 |
| 150 kHz $\geq f <$ 30 MHz | dBm 36– | KHz 10 |
| 30 MHz $\geq f <$ 1 000 MHz | dBm 36– | KHz 100 |
| 1 GHz $\geq f <$ 12,75 GHz | dBm 36– | MHz 1 |
| 12,75 GHz $< f \leq$ التوافقية الخامسة لحافة التردد الأعلى بوحدات GHz | dBm 36– | MHz 1 |

### 2.6 نسبة التسرب في القنوات المجاورة

تُستخدم نسبة التسرب في القناة المجاورة (ACLR) كمقياس لكمية قدرة الإرسال المتسربة في القنوات المجاورة. والنسبة ACLR هي نسبة القدرة المتوسطة المرشَّحة المتمركزة على تردد القناة المخصص، إلى القدرة المتوسطة المرشَّحة المتمركزة على تردد قناة مجاورة بعرض نطاق قياس يساوي عرض نطاق الإرسال.

وتقاس هذه النسبة باستخدام نافذة مربعة في القناة المجاورة. ويُجرى تحويل فورييه (DFT) لإشارة الإرسال وطاقة الأجزاء المناسبة المستخدمة لحساب قدرات القنوات المجاورة.

وينبغي استيفاء متطلبات النسبة ACLR الواردة في الجدول 8-A4 لجميع قدرات الإرسال من –40 dBm إلى صنف القدرة القصوى $PMAX$.

الجدول 8-A4

**حدود نسبة التسرب في القنوات المجاورة**

| الحد (dBc) |
|---|
| 30- |

## 3 المراجع


[1] ETSI TS 103 2-636 v1.5.1: DECT-2020 NR New Radio (NR)؛ الجزء 2: متطلبات الاستقبال والإرسال الراديويين، الإصدار 1

[2] ETSI TS 103 3-636 v1.5.1: DECT-2020 NR New Radio (NR)؛ الجزء 3: الطبقة المادية، الإصدار 1

[3] التوصية ITU-R SM.329: "الإرسالات غير المطلوبة في مجال البث الهامشي"

[4] التوصية ITU-R M.1545: "تطبيق عدم التيقن من القياس على حدود الاختبارات لمكونة الأرض في الاتصالات المتنقلة الدولية–2000".


# المرفق 1
# بالملحق 4

## تعريف التفاوت المسموح به في الاختبار

### التفاوت المسموح به في الاختبار

بالرجوع إلى التوصية [10] ITU-R M.1545، "التفاوت المسموح به في الاختبار" هو درجة التخفيف المشار إليها في الفقرة 2 من "توصي" من التوصية [10] ITU-R M.1545، أي الفرق بين قيمة المواصفة الأساسية وقيمة الاختبار الحدية المقيَّمة بتطبيق مبدأ تقاسم المخاطر وفقاً للشكلين 2 و3 من الملحق 1 بالتوصية [10] ITU-R M.1545. وفي حال تساوي قيمة المواصفة الأساسية مع قيمة الاختبار الحدية (الشكل 3 من الملحق 1 بالتوصية [10] ITU-R M.1545)، فإن "حدود التفاوت المسموح بها في الاختبار" تساوي الصفر.

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