

UNION INTERNATIONALE DES TELECOMMUNICATIONS  
BUREAU DES RADIOCOMMUNICATIONS

INTERNATIONAL TELECOMMUNICATION UNION  
RADIOCOMMUNICATION BUREAU

UNIÓN INTERNACIONAL DE TELECOMUNICACIONES  
OFICINA DE RADIOCOMUNICACIONES

<b>RES 609 (Rév.CMR-07)</b>	<b>RES 609 (Rev.WRC-07)</b>	<b>RES 609 (Rev.CMR-07)</b>
<p><b>Quinzième réunion de consultation sur la Résolution 609 (Rév.CMR-07)</b> <b>Abuja, Nigéria,</b> <b>Octobre 2018</b></p>	<p><b>Fifteenth Resolution 609 (Rev.WRC-07)</b> <b>Consultation Meeting held in Abuja, Nigeria</b> <b>October 2018</b></p>	<p><b>Decimoquinta Reunión de consulta sobre la Resolución 609 (Rev.CMR-07),</b> <b>Abuja, Nigeria,</b> <b>octubre de 2018</b></p>
<p>Les présents renseignements sont publiés par le Bureau conformément <i>au point 3 du charge le Bureau</i>, de la Résolution <b>609</b> (Rév.CMR-07) :</p> <p>La <b>Partie A</b> contient la Liste des systèmes du SRNS et le Rapport sur les constatations établi par le Bureau à l'intention des participants à la réunion de consultation chargée de déterminer si le niveau de puissance surfacique visé au <i>point 1 du recommande</i> de la Recommandation <b>608</b> (Rév.CMR-07) est dépassé par une station spatiale considérée.</p> <p>La <b>Partie B</b> contient les renseignements publiés au <i>point 8 du décide</i> de la Résolution <b>609</b> (Rév.CMR-07), à savoir les résultats concernant la répartition du brouillage cumulatif en application du <i>point 2 du décide</i> de ladite Résolution, que ces résultats correspondent ou non à des modifications éventuelles des caractéristiques publiées de leurs systèmes ou réseaux respectifs.</p>	<p>This information is published by the Bureau in accordance with Resolution <b>609</b> (Rev.WRC-07) <i>instructs the Bureau 3</i>:</p> <p><b>Part A</b> includes the List of RNSS systems and the Report of the findings by the Bureau to the participants of the Consultation meeting on the determination of whether the power flux-density level in <i>recommends 1</i> of Recommendation <b>608</b> (Rev.WRC-07) is exceeded by any subject space station.</p> <p><b>Part B</b> includes the information referred to in <i>resolves 8</i> of the Resolution <b>609</b> (Rev.WRC-07), as results of any aggregate sharing determinations made in application of <i>resolves 2</i> of the Resolution <b>609</b> (Rev.WRC-07), without regard to whether such determinations result in any modifications to the published characteristics of their respective systems or networks.</p>	<p>Esta información se publica por la Oficina con arreglo al <i>encarga a la Oficina 3</i> de la Resolución <b>609</b> (Rev.CMR-07):</p> <p>La <b>Parte A</b> incluye la lista de sistemas del SRNS y el Informe de las conclusiones de la Oficina dirigido a los participantes de la reunión de consulta para determinar si el nivel de densidad de flujo de potencia indicado en el <i>recomienda 1</i> de la Recomendación <b>608</b> (Rev.CMR-07) es rebasado por alguna estación espacial en cuestión.</p> <p>La <b>Parte B</b> incluye la información a la que se refiere el <i>resuelve 8</i> de la Resolución <b>609</b> (Rev.CMR-07), como resultado de cualquier decisión sobre compartición combinada tomada en aplicación del <i>resuelve 2</i> de la Resolución <b>609</b> (Rev.CMR-07), sin tener en cuenta si dichas decisiones tienen como resultado cualquier modificación en las características publicadas de sus respectivos sistemas o redes.</p>

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国际电信联盟  
无线电通信局

МЕЖДУНАРОДНЫЙ СОЮЗ ЭЛЕКТРОСВЯЗИ  
БЮРО РАДИОСВЯЗИ

الاتحاد الدولي للاتصالات  
مكتب الاتصالات الراديوية

第 609 号决议 (WRC-07 修订版)	РЕЗ 609 (Пересм.ВКР-07)	القرار 609 (Rev.WRC-07)
关于第 609 号决议 (WRC-07, 修订版) 第十五次磋商会议于 2018 年 10 月在尼日利亚阿布贾召开	Пятнадцатое консультативное собрание согласно Резолюции 609 (Пересм. ВКР-07), состоявшееся в Абудже, Нигерия, в октябре 2018 года	الاجتماع التشاوري الخامس عشر بشأن القرار 609 (Rev.WRC-07) الذي عُقد في أبوجا، نيجيريا، أكتوبر 2018
<p>无线电通信局根据第 609 号决议 (WRC-07 修订版) 责成无线电通信局 3 公布本信息:</p> <p><b>A 部分</b> 包括卫星无线电导航业务 (RNSS) 系统列表和无线电通信局向参加磋商会议的与会者提供的该局的审查结果报告。磋商会议旨在确定第 608 号建议 (WRC-07 修订版) 建议 1 中的功率通量密度限值是否被某个特定空间台站所超过。</p> <p><b>B 部分</b> 包括第 609 号决议 (WRC-07 修订版) 做出决议 8 所列的信息, 即有关执行第 609 号决议 (WRC-07 修订版) 作出决议 2 中的集总干扰分摊的确定结果, 不论这一确定结果是否修改其各自系统或网络的已公布特性。</p>	<p>Настоящая информация публикуется Бюро в соответствии с п. 3 раздела "порукает Бюро" Резолюции 609 (Пересм.ВКР-07):</p> <p><b>Часть А</b> содержит список систем РНСС, а также Отчет участникам консультативного собрания о заключениях Бюро относительно определения, превышает ли уровень потока мощности, определенный в п.1 раздела "рекомендует" Рекомендации 608 (Пересм.ВКР-07), какой-либо из рассматриваемых космических станций или нет.</p> <p><b>Часть В</b> содержит информацию, о которой идет речь в п.8 раздела "решает" Резолюции 609 (Пересм.ВКР-07) и которая является результатом любого определения условий совместного использования суммарного допустимого уровня согласно пункту 2 раздела "решает" Резолюции 609 (Пересм.ВКР-07), независимо от того, достигнуты ли эти результаты путем изменения объявленных характеристик их соответствующих систем или сетей или нет.</p>	<p>ينشر المكتب هذه المعلومات وفقاً للبند 3 من "يكلف مكتب الاتصالات الراديوية" في القرار 609 (Rev.WRC-07):</p> <p>يتضمن الجزء A قائمة بأنظمة خدمة الملاحة الراديوية الساتلية وتقريراً أعده المكتب يتضمن النتائج التي توصل إليها موجهاً للمشاركين في هذا الاجتماع التشاوري المكلف بتحديد ما إذا كانت حدود كثافة تدفق القدرة المنصوص عليها في البند 1 من "يوصي" في التوصية 608 (Rev.WRC-07) قد تجاوزتها أي محطة من المحطات الفضائية المعنية.</p> <p>ويتضمن الجزء B المعلومات المشار إليها في البند 8 من منطوق القرار 609 (Rev.WRC-07)، أي نتائج ترتيبات التقاسم التراكمي التي يتم التوصل إليها تنفيذاً للبند 2 من منطوق القرار 609 (Rev.WRC-07)، بغض النظر عما إذا كانت هذه الترتيبات سيسفر عنها أي تعديلات في الخصائص المنشورة لأنظمة الإدارات المعنية وشبكاتهما.</p>

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PARTIE A	PART A	PARTE A
Liste des systèmes du SRNS et Rapport sur les constatations établi par le Bureau à l'intention des participants à la réunion de consultation chargée de déterminer si le niveau de puissance surfacique visé au <i>point 1 du recommande</i> de la Recommandation <b>608</b> (Rév.CMR-07) est dépassé par une station spatiale considérée.	List of the RNSS systems and Report of the findings by the Bureau to the participants of the Consultation meeting on the determination of whether the power flux-density level in <i>recommends 1</i> of Recommendation <b>608</b> (Rev.WRC-07) is exceeded by any subject space station.	Lista de sistemas del SRNS e Informe de las conclusiones de la Oficina dirigido a los participantes de la reunión de consulta para determinar si el nivel de densidad de flujo de potencia del <i>recomienda 1</i> de la Recomendación <b>608</b> (Rev.CMR-07) es rebasado por alguna estación espacial en cuestión.
Aux termes du <i>point 1 du recommande</i> de la Recommandation <b>608</b> (Rév.CMR-07), lors de l'application des dispositions du <i>point 5 du décide</i> de la Résolution <b>609</b> (Rév.CMR-07), dans la bande 1 164 – 1 215 MHz, la puissance surfacique maximale rayonnée à la surface de la Terre par les émissions d'une station spatiale du SRNS, pour tous les angles d'arrivée, ne dépasse pas -129 dB(W/m <sup>2</sup> ) dans une bande quelconque de 1 MHz dans des conditions de propagation en espace libre.	Recommendation <b>608</b> (Rev.WRC-07) <i>recommends 1</i> , indicates that in the implementation of <i>resolves 5</i> of Resolution <b>609</b> (Rev.WRC-07), in the frequency band 1 164 – 1 215 MHz, the maximum power flux-density produced at the surface of the Earth by emissions from a space station in the radionavigation-satellite service, for all angles of arrival, should not exceed -129 dB(W/m <sup>2</sup> ) in any 1 MHz band under free space propagation conditions.	La Recomendación <b>608</b> (Rev.CMR-07) en su <i>recomienda 1</i> señala que en la aplicación del <i>resuelve 5</i> de la Resolución <b>609</b> (Rev.CMR-07), en la banda de frecuencias 1 164 – 1 215 MHz, la máxima densidad de flujo de potencia producida en la superficie de la Tierra por las emisiones de una estación espacial del servicio de radionavegación por satélite, para todos los ángulos de llegada, no deberá superar -129 dB(W/m <sup>2</sup> ) en cualquier banda de 1 MHz en condiciones de propagación en espacio libre.

A 部分	ЧАСТЬ А	الجزء A
RNSS 系统列表和无线电通信局向参加磋商会议的与会者提供的该局的审查结果报告。磋商会议旨在确定第 <b>608</b> 号建议 (WRC-07 修订版) 建议 1 中的功率通量密度限值是否被某个特定空间台站所超过。	Список систем РНСС и Отчет участникам консультативного собрания о заключениях Бюро относительно определения, превышает ли уровень потока мощности, определенный в п.1 раздела " <i>рекомендует</i> " Рекомендации <b>608</b> (Пересм.ВКР-07), какой-либо из рассматриваемых космических станций или нет.	قائمة بأنظمة خدمة الملاحه الراديوية الساتلية وتقرير أعده المكتب يتضمن النتائج التي توصل إليها موجهاً للمشاركين في هذا الاجتماع التشاوري المكلف بتحديد ما إذا كانت حدود كثافة تدفق القدرة المنصوص عليها في البند 1 من "يوصي" في التوصية -608 (Rev.WRC-07) قد تجاوزتها أي محطة من المحطات الفضائية المعنية.
第 <b>608</b> 号建议 (WRC-07 修订版) 建议 1 指出, 在执行第 <b>609</b> 号决议 (WRC-07 修订版) 做出决议第 5 段时, 在 1 164-1 215MHz 频带内和在所有到达角上, 卫星无线电导航业务空间台站的发射在地球表面产生的最大功率通量密度, 在自由空间传播条件下, 在任何 1MHz 频带内, 不得超过 -129 dB (W/m <sup>2</sup> )。	В п.1 раздела " <i>рекомендует</i> " Рекомендации <b>608</b> (Пересм.ВКР-07) указывается, что при применении пункта 5 раздела " <i>решает</i> " Резолюции <b>609</b> (Пересм.ВКР-07) в полосе частот 1 164–1 215 МГц максимальная плотность потока мощности, создаваемая у поверхности Земли излучениями космической станции радионавигационной спутниковой службы, для всех углов прихода не должна превышать -129 дБ(Вт/м <sup>2</sup> ) в любой полосе шириной 1 МГц при условиях распространения в свободном пространстве.	ينص البند 1 من "يوصي" في التوصية -608 (Rev.WRC-07) على أنه, في تطبيق البند 5 من منطوق القرار (Rev.WRC-07) 609, ينبغي ألا تتجاوز كثافة تدفق القدرة القصوى الناتجة عند سطح الأرض عن إرسالات محطة فضائية في خدمة الملاحه الراديوية الساتلية في نطاق الترددات 1 164 – 1 215 MHz، القيمة -129 dB(W/m <sup>2</sup> )، وفي أي نطاق يبلغ 1 MHz، لجميع زوايا الوصول، وفي ظروف الانتشار في الفضاء الحر.

**Liste des systèmes du SRNS – Description des colonnes / List of the RNSS systems - Description of the columns /  
Listas de los sistemas del SRNS - Descripción de las columnas**

Item	Description	Description	Descripción
ntc_id	Numéro d'identification du réseau à satellite	Identification number of the network	BR Número de identificación de la red
adm	Administration notificatrice (voir le Tableau 1 de la Préface)	Notifying administration (Refer to Table 1 of the Preface)	Administración notificante (véase el cuadro 1 del Prefacio)
ntw_org	Organisation Intergouvernementale de Satellite	Intergovernmental Satellite Organization	Organización Intergubernamental de Satélite
sat_name	Identité du réseau à satellite	Identity of the satellite network	Identidad de la red de satélite
long_nom	Longitude nominale d'une station spatiale géostationnaire (degré)	Nominal longitude of a geostationary space station (degree)	Longitud nominal de una estación espacial geoestacionaria (grado)
ntf_rsn	A = Réseau au stade API C = Réseau au stade de la coordination N = Réseau au stade de la notification	A = Network in API stage C = Network in coordination stage N = Network in notification stage	B = Red en etapa de API C = Red en etapa de coordinación N = Red en etapa de notificación
d_rcv	Date de réception	Date of receipt	Fecha de recepción
sns_ref+ssn_no	Référence aux Sections Spéciales	Reference to Special Sections	Referencia a las Secciones Especiales
ific_no	Numéro de la BR IFIC	BR IFIC number	Número de la BR IFIC
dBiU	Date of bringing into use	Date de mise en service	Fecha de puesta en servicio
Annex to RES-609	Systèmes du SRNS ayant des assignations de fréquence dans la bande 1 164 – 1 215 MHz pour lesquels les informations demandées dans l'Annexe de la Résolution <b>609</b> ont été fournies à la réunion de consultation.	RNSS systems with frequency assignments in the band 1 164-1 215 MHz for which Annex to Resolution <b>609</b> information has been provided to the Consultation meeting.	Sistemas del SRNS con asignaciones de frecuencias en la banda 1 164 - 1 215 MHz para los cuales se ha proporcionado la información de la Resolución <b>609</b> a la reunión de consulta.
BR Report (RES 609 instructs the Bureau 2)	Rapport du Bureau contenant des conclusions relatives à la détermination des valeurs de puissance surfacique indiquées sous <i>recommande 1</i> de la Recommandation <b>608</b> (Rév.CMR-07) en utilisant les informations demandées au titre de l'Annexe 1 de ladite Recommandation.	Bureau's Report with findings relating to determination of the PFD values indicated in <i>recommends 1</i> of Recommendation <b>608</b> (rev.WRC-07) using Annex 1 information of this Recommendation.	Informe de la Oficina con las conclusiones relativas a la determinación de los valores de DFP indicados en el <i>recomienda 1</i> de la Recomendación <b>608</b> (Rev.CMR-07) utilizando la información del Anexo 1 de esta Recomendación.

RNSS 系统列表 – 栏目描述 / Список систем РНСС – Описание столбцов /

قائمة بأنظمة خدمة الملاحة الراديوية الساتلية – وصف الأعمدة

Item	描述	Описание	الوصف
ntc_id	卫星网络标识号码	Идентификационный номер спутниковой сети	رقم هوية الشبكة الساتلية
adm	通知主管部门（参阅前言表 1）	Заявляющая администрация (см. таблицу 1 Предисловия)	الإدارة المبلغة (انظر الجدول 1 في المقدمة)
ntw_org	政府间卫星组织	Межправительственная спутниковая организация	منظمة ساتلية دولية حكومية
sat_name	卫星网络的标识	Название спутниковой сети	هوية الشبكة الساتلية
long_nom	静止空间台站标称经度（度）	Номинальная долгота геостационарной космической станции (градусы)	خط الطول الاسمي لمحطة فضائية مستقرة بالنسبة إلى الأرض (بالدرجات)
ntf_rsn	A= 处于 API 阶段的网络 C= 处于协调阶段的网络 N= 处于通知阶段的网络	A = Сеть на этапе API C = Сеть на этапе координации N = Сеть на этапе заявления	A = شبكة في مرحلة "معلومات النشر المسبق" C = شبكة في مرحلة التنسيق N = شبكة في مرحلة التبليغ
d_rcv	收到日期	Дата получения	تاريخ الاستلام
sns_ref+ssn_no	引证特节	Ссылка на Специальные секции	إحالة إلى الأقسام الخاصة
ific_no	无线电通信局国际频率信息通报编号	Номер ИФИК БР	رقم النشرة الإعلامية الدولية للترددات
dBiU	启用日期	Дата ввода в действие	تاريخ الدخول في الخدمة
Annex to RES-609	在 1164-1215MHz 频带内有频率指配的、第 609 号决议（WRC-03）附件中所要求的信息已提供给磋商会议的 RNSS 系统	Системы РНСС с присвоениями в полосе частот 1164–1215 МГц, по которым информация в соответствии с Дополнением к Резолюции 609 представлена консультативному собранию.	أنظمة خدمة الملاحة الراديوية الساتلية التي لها تخصيصات تردد في النطاق 1164 - 1215 MHz تم بشأنها تقديم المعلومات المطلوبة في الملحق بالقرار 609 إلى الاجتماع التشاوري.
BR Report (RES 609 instructs the Bureau 2)	无线电通信局的报告，包括该局通过使用第 608 号建议（WRC-07 修订版）附件 1 建议 1 的信息做出的有关功率通量密度值的确定结果	Отчет Бюро с заключениями относительно определения значений ППМ, обозначенных в п. 1 раздела "рекомендует" Рекомендации 608 (rev.ВКР-07) с использованием информации Дополнения 1 к данной Рекомендации.	تقرير المكتب الذي يتضمن النتائج المحددة بشأن قيم كثافة تدفق القدرة المبينة في البند 1 من "يوصي" في التوصية (rev.WRC-07) 608، باستعمال المعلومات المطلوبة في الملحق 1 بالتوصية المذكورة.

## ANNEX 1

**List of the RNSS systems (as of 04.04.2018) with frequency assignments in the band 1 164-1 215 MHz that meet the criteria listed in Annex to RES 609 (Rev.WRC-07) and Bureau's Report with findings relating to determination of the PFD values**

ntc_id	adm	ntwk_org	sat_name	long_nom	ntf_rsn	d_rev	pub_ref	pub_no	ific_no	dBiU	Annex to RES-609	BR Report **
113520121	ALG		ALCOMSAT-24.8W	-24.8	C	29.05.2013	CR/C	3389	2766		11th meeting DOC *	N
113520014	ARS	ARB	ARABSAT 8A-30.5E	30.5	C	18.01.2013	CR/C	3331	2759		NO Input DOC	Y
113520015	ARS	ARB	ARABSAT 8B-26E	26	C	18.01.2013	CR/C	3332	2759		NO Input DOC	Y
113520016	ARS	ARB	ARABSAT 8C-20E	20	C	18.01.2013	CR/C	3333	2759		NO Input DOC	Y
113520017	ARS	ARB	ARABSAT 8D-7.5E	7.5	C	18.01.2013	CR/C	3334	2759		NO Input DOC	Y
113520018	ARS	ARB	ARABSAT 8E-34.5E	34.5	C	18.01.2013	CR/C	3335	2759		NO Input DOC	Y
113520019	ARS	ARB	ARABSAT 8F-44.5E	44.5	C	18.01.2013	CR/C	3336	2759		NO Input DOC	Y
113520020	ARS	ARB	ARABSAT 8G-11E	11	C	18.01.2013	CR/C	3337	2759		NO Input DOC	Y
113520021	ARS	ARB	ARABSAT 8H-17E	17	C	18.01.2013	CR/C	3338	2759		NO Input DOC	Y
117520218	ARS	ARB	ARABSAT-9AS-81.5E	81.5	C	26.06.2017	CR/C	4515	2863		NO Input DOC	Y
117520216	ARS	ARB	ARABSAT-9F-44.5E	44.5	C	26.06.2017	CR/C	4513	2863		NO Input DOC	Y
117520215	ARS	ARB	ARABSAT-9L-1E	1	C	26.06.2017	CR/C	4514	2863		NO Input DOC	Y
117520217	ARS	ARB	ARABSAT-9M-67.5E	67.5	C	26.06.2017	CR/C	4516	2863		NO Input DOC	Y

\* Administrations that have submitted materials pursuant to §§ 11 b) and/or c) of the *RES-609 ToR* to one Consultation Meeting, and have had the subject RNSS system or network reflected in the aggregate sharing determination agreed by a Consultation Meeting, need not resubmit the same information to a subsequent Consultation Meeting under the timetable established in §§ 11 b) and/or c), provided that:

- a. The subject network or system remains on the list to be provided for the subsequent Consultation Meeting by the BR under § 11 a) above; and
- b. The administration that submitted the information provides to all administrations on the list provided by the BR in § 11 a) above, with a copy to the BR for information, on or before the deadline established under §§ 11 b) and c) for the subsequent Consultation Meeting, a statement that there have been no material changes in the information previously provided under §§ 11 b) and/or c) for the subject system or network.

\*\* Characteristics of the satellite networks used by administrations were representative of intended or actual operating characteristics, and thus may be different from those characteristics that may be included in the corresponding Article 9 and/or Article 11 filings. These former characteristics were not made available to the Bureau in the standard electronic AP4 form necessary to perform PFD calculations. The Bureau therefore calculated PFD values based on information available to the BR in Article 9 or 11 submissions. “Y” in this column indicates PFD excess, “N” in this column indicates no PFD excess, “A” in this column indicates a short form API filing (Article 9, Sub-Section IB) for which the Bureau could not calculate PFD values.

PFD values calculated by administrations and submitted under § 1.4 and 1.5 of the Annex to REC 608 (Rev.WRC-07), that are separately available to the participating administrations on the RES-609 web page at: <http://groups.itu.int/res-609> show no PFD excess over the limit of REC 608 (Rev.WRC-07).

ntc_id	adm	ntwk_org	sat_name	long_nom	ntf_rsn	d_rev	pub_ref	pub_no	ific_no	dBiU	Annex to RES-609	BR Report **
112520148	B		B-SAT-1W-1	-48	C	07.04.2012	CR/C	3179	2744		NO Input DOC	N
103500418	CHN		COMPASS-110.5E	110.5	N	17.10.2007	PART	II-S	2681	17.08.2006	11th meeting DOC *	N
103500419	CHN		COMPASS-140E	140	N	17.10.2007	PART	II-S	2684	17.10.2006	11th meeting DOC *	N
109500803	CHN		COMPASS-160E	160	N	16.12.2010	PART	II-S	2701	16.11.2010	11th meeting DOC *	N
103500416	CHN		COMPASS-58.75E	58.75	N	17.10.2007	PART	II-S	2687	08.12.2006	11th meeting DOC *	N
114520052	CHN		COMPASS-80.3E	80.3	C	25.02.2014	CR/C	3567	2791		NO Input DOC	N
103500417	CHN		COMPASS-80E	80	N	17.10.2007	PART	II-S	2689	17.06.2006	11th meeting DOC *	N
111520204	CHN		COMPASS-B-144.5E	144.5	C	31.05.2011	CR/C	2934	2741		11th meeting DOC *	Y
111520203	CHN		COMPASS-B-84E	84	C	31.05.2011	CR/C	2933	2741		11th meeting DOC *	Y
103500420	CHN		COMPASS-H	N-GSO	N	05.01.2004	PART	II-S	2596	26.03.2007	11th meeting DOC *	N
112520031	CHN		COMPASS-IGSO	N-GSO	C	18.02.2012	CR/C	3118	2741		11th meeting DOC *	N
103500421	CHN		COMPASS-M	N-GSO	N	31.12.2003	PART	II-S	2596	16.04.2007	11th meeting DOC *	N
110520285	CHN		COMPASS-MEO	N-GSO	C	01.10.2010	CR/C	2740	2742		11th meeting DOC *	N
117500038	CHN		COMPASS-MEO	N-GSO	N	23.93.2017	PART	I-S	2849	25.07.2019	11th meeting DOC *	N
101500300	D	GLS	GALILEO-NAV-2004	N-GSO	N	02.08.2001	PART	II-S	2582	03.03.2006	2nd meeting DOC *	N
109520327	F	GLS	GALILEO-2	N-GSO	C	18.12.2009	CR/C	2542	2796		NO Input DOC	N
100500321	F	GLS	MSATNAV-2	N-GSO	N	04.10.2000	PART	II-S	2588	03.03.2006	2nd meeting DOC *	N
101500014	F	GLS	MSATNAV-3	N-GSO	N	30.01.2001	PART	II-S	2588	03.03.2006	2nd meeting DOC *	N
103500093	F	GLS	MSATNAV-4	N-GSO	N	28.04.2003	PART	II-S	2588	03.03.2006	2nd meeting DOC *	N
116520115	G		GIBSAT-G14-2	-129	C	03.05.2016	CR/C	4088	2832		NO Input DOC	Y
109500253	G		INMARSAT GSO-2J	-54	N	10.05.2016	PART	II-S	2668	23.01.2006	11th meeting DOC *	N
109500230	G		INMARSAT GSO-2N	64	N	02.08.2010	PART	II-S	2696	31.12.2004	11th meeting DOC *	N
112500010	G		INMARSAT-4 143.5E	143.5	N	12.01.2012	PART	II-S	2725	01.07.2008	11th meeting DOC *	N
110500192	G		INMARSAT-4 25E	25	N	13.01.2012	PART	II-S	2723	01.07.2008	11th meeting DOC *	N
110500194	G		INMARSAT-4 98W	-98	N	28.06.2010	PART	II-S	2710	07.01.2009	11th meeting DOC *	N
115500141	G		INMARSAT-4A 143.5E	143.5	N	19.06.2014	PART	I-S	2813	19.02.2014	11th meeting DOC *	N
115520009	G		INMARSAT-4B 64E	64	C	19.02.2015	CR/C	3773	2816		11th meeting DOC *	N
116520191	G		INMARSAT-6-108.5E	108.5	C	13.07.2016	CR/C	4157	2838		NO Input DOC	N
116520192	G		INMARSAT-6-147E	147	C	13.07.2016	CR/C	4158	2838		NO Input DOC	N
116520185	G		INMARSAT-6-147W	-147	C	13.07.2016	CR/C	4161	2838		NO Input DOC	N
116520187	G		INMARSAT-6-17.5W	-17.5	C	13.07.2016	CR/C	4159	2838		NO Input DOC	N
116520184	G		INMARSAT-6-175W	-175	C	13.07.2016	CR/C	4162	2838		NO Input DOC	N
116520188	G		INMARSAT-6-21.5E	21.5	C	13.07.2016	CR/C	4154	2838		NO Input DOC	N

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116520186	G		INMARSAT-6-57W	-57	C	13.07.2016	CR/C	4160	2838		NO Input DOC	N
116520189	G		INMARSAT-6-58E	58	C	13.07.2016	CR/C	4155	2838		NO Input DOC	N
116520190	G		INMARSAT-6-86E	86	C	13.07.2016	CR/C	4156	2838		NO Input DOC	N
114520020	G		UKJKSAT-2	21.5	C	28.01.2014	CR/C	3548	2790		NO Input DOC	N
117520079	HOL		NSS-G7 135W	-135	C	01.01.2017	CR/C	4398	2863		NO Input DOC	Y
117520080	HOL		NSS-G7 137W	-137	C	01.01.2017	CR/C	4399	2863		NO Input DOC	Y
117520082	HOL		NSS-G7 77W	-77	C	01.01.2017	CR/C	4397	2863		NO Input DOC	Y
103500082	I	GLS	GALILEO-M-NAVSTAR	N-GSO	N	31.03.2003	PART	II-S	2639	03.03.2006	2nd meeting DOC *	N
116520110	I		NEWSAT-1A-1E	1	C	15.06.2016	CR/C	4146	2837		NO Input DOC	N
116500029	IND		INSAT-NAV(55)	55	N	24.10.2014	PART	I-S	2816	09.07.2013	10th meeting DOC *	N
116500264	IND		INSAT-NAV(93.5)	93.5	N	02.12.2016	PART	I-S	2840	04.08.2016	NO Input DOC	N
112500274	IND		INSAT-NAV-A-GS	N-GSO	N	23.11.2012	PART	II-S	2744	30.04.2012	10th meeting DOC *	N
117520274	IND		INSAT-NAV-GS17	N-GSO	C	17.07.2017	CR/C	4544	2856		15 <sup>th</sup> meeting DOC *	N
112520043	IND		INSAT-NAV-NGSA	N-GSO	C	20.01.2012	CR/C	3120	2741		10th meeting DOC *	N
112520046	IND		INSAT-NAVR(120.5)	120.5	C	22.01.2012	CR/C	3124	2789		10th meeting DOC *	N
112520047	IND		INSAT-NAVR(121.5)	121.5	C	22.01.2012	CR/C	3125	2789		10th meeting DOC *	N
112520048	IND		INSAT-NAVR(123.5)	123.5	C	22.01.2012	CR/C	3126	2789		10th meeting DOC *	N
112520049	IND		INSAT-NAVR(126.5)	126.5	C	22.01.2012	CR/C	3127	2789		10th meeting DOC *	N
112520050	IND		INSAT-NAVR(127.5)	127.5	C	22.01.2012	CR/C	3128	2789		10th meeting DOC *	N
112520051	IND		INSAT-NAVR(129.5)	129.5	C	22.01.2012	CR/C	3129	2789		10th meeting DOC *	N
112520044	IND		INSAT-NAVR(32.5)	32.5	C	22.01.2012	CR/C	3122	2789		10th meeting DOC *	N
117500215	IND		INSAT-NAVR(32.5)	32.5	N	25.08.2017	PART	I-S	2855	20.03.2016	10th meeting DOC *	N
115500195	IND		INSAT-NAVR(83)	83	N	23.11.2015	PART	I-S	2817	26.07.2015	10th meeting DOC *	N
112520052	IND		INSAT-NAVR-GS	N-GSO	C	22.01.2012	CR/C	3121	2741		10th meeting DOC *	N
104500548	J		N-SAT-HEO2	N-GSO	N	28.12.2004	PART	II-S	2603	28.12.2007	10th meeting DOC *	Y
112520494	J		QZSS	N-GSO	C	28.12.2012	CR/C	3322	2770		10th meeting DOC *	Y
110500199	J		QZSS-1	N-GSO	N	27.01.2012	PART	II-S	2724	31.08.2013	10th meeting DOC *	Y
112520495	J		QZSS-GS1	90.5	C	28.12.2012	CR/C	3317	2770		10th meeting DOC *	Y
112520496	J		QZSS-GS3	123	C	28.12.2012	CR/C	3318	2810		10th meeting DOC *	Y
117500337	J		QZSS-GS4	127	N	19.09.2017	PART	I-S	2863		10th meeting DOC *	Y
112520498	J		QZSS-GS5	137	C	28.12.2012	CR/C	3320	2810		10th meeting DOC *	Y
112520499	J		QZSS-GS8	168	C	28.12.2012	CR/C	3321	2770		10th meeting DOC *	Y
116520022	LUX		LUX-G10-37-A	-135	C	17.06.2016	CR/C	4147	2837		NO Input DOC	Y



ntc_id	adm	ntwk_org	sat_name	long_nom	ntf_rsn	d_rev	pub_ref	pub_no	ific_no	dBiU	Annex to RES-609	BR Report **
109520247	LUX		LUX-G6-2-E	5	C	22.10.2009	CR/C	2483	2683		7th meeting DOC *	N
117500155	LUX		LUX-G6-2-E	5	N	30.06.2017	PART	I-S	2851		7th meeting DOC *	N
117500168	LUX		LUX-G7 105W	-105	C	01.01.2017	CR/C	4370	2851		NO Input DOC	Y
111520428	LUX		LUX-G7-9-E2	31.5	C	01.12.2011	CR/C	3062	2733		9th meeting DOC *	N
115520108	LUX		LUX-G9-38-A	-129	C	08.06.2015	CR/C	3817	2804		NO Input DOC	Y
117520015	NCG		NICASAT-1L	-84.4	C	01.01.2017	CR/C	4367	2851		NO Input DOC	Y
115500126	NIG		NIGCOMSAT-1R	42.5	N	17.08.2015	PART	I-S	2809	19.04.2015	4th meeting DOC *	N
113520316	PAK		PAKSAT-MM1-38.2E	38.2	C	26.12.2013	CR/C	3530	2787		NO Input DOC	N
113520165	PNG		RAGGIANA-18	-117	C	01.07.2013	CR/C	3415	2803		11th meeting DOC *	Y
97500304	RUS		GLONASS-M	N-GSO	N	21.05.2003	PART	II-S	2645	17.01.2009	11th meeting DOC *	N
114520045	RUS		GLONASS-M	N-GSO	C	12.02.2014	CR/C	3560	2777		11th meeting DOC *	N
117500168	RUS		GLONASS-M	N-GSO	N	30.03.2017	PART	I-S	2857	28.02.2019	11th meeting DOC *	N
116520165	S		SMMSAT-11	123	C	09.06.2016	CR/C	4143	2836		NO Input DOC	Y
115520178	S		SMMSAT-7	55	C	21.11.2013	CR/C	3868	2812		NO Input DOC	Y
101500582	USA		INTNL SPACE STATION	N-GSO	N	24.09.2002	PART	II-S	2592	01.02.2001	NO Input DOC	N
109500412	USA		LM-RPS-107.3W	-107.3	N	31.05.2007	PART	II-S	2665	20.01.2006	2nd meeting DOC *	Y
109500413	USA		LM-RPS-133W	-133	N	31.05.2007	PART	II-S	2663	03.11.2006	2nd meeting DOC *	Y
103500110	USA		NAVSTAR GPS-IIRF	N-GSO	N	02.05.2003	PART	II-S	2645	10.04.2009	7th meeting DOC *	N
110520280	USA		USRSR	N-GSO	C	14.09.2010	CR/C	2729	2705		7th meeting DOC *	Y
116500105	USA		USRSR	N-GSO	N	10.04.2017	PART	II-S	2867	09.12.2015	7th meeting DOC *	N

<p style="text-align: center;"><b>PARTIE B</b></p> <p>Renseignements publiés conformément au <i>point 8 du décide</i> de la Résolution <b>609</b> (Rév.CMR-07), en tant que résultats concernant la répartition du brouillage cumulatif en application du <i>point 2 du décide</i> de la Résolution <b>609</b> (Rév.CMR-07), que ces résultats correspondent ou non à des modifications éventuelles des caractéristiques publiées de leurs systèmes ou réseaux respectifs.</p>	<p style="text-align: center;"><b>PART B</b></p> <p>Information referred to in <i>resolves 8</i> of the Resolution <b>609</b> (Rev.WRC-07), as results of any aggregate sharing determinations made in application of <i>resolves 2</i> of the Resolution <b>609</b> (Rev.WRC-07), without regard to whether such determinations result in any modifications to the published characteristics of their respective systems or networks.</p>	<p style="text-align: center;"><b>PARTE B</b></p> <p>Información publicada con arreglo al <i>resuelve 8</i> de la Resolución <b>609</b> (Rev.CMR-07), como resultado de cualquier decisión sobre compartición combinada tomada en aplicación del <i>resuelve 2</i> de la Resolución <b>609</b> (Rev.CMR-07), sin tener en cuenta si dichas decisiones tienen como resultado cualquier modificación en las características publicadas de sus respectivos sistemas o redes.</p>
<p>Ces renseignements ont été communiqués au Bureau par l'Administration de la France le <b>12.11.2018</b>, en application des Sections 2 et 14 du mandat de la réunion de consultation organisée conformément à la Résolution <b>609</b> (Rév.CMR-07).</p>	<p>This information was communicated to the Bureau by the administration of France on <b>12.11.2018</b>, pursuant to Section 2 and Section 14 of the Resolution <b>609</b> (Rev.WRC-07) Consultation Meeting Terms of Reference.</p>	<p>Esta información fue comunicada a la Oficina por la Administración de Francia el <b>12.11.2018</b> con arreglo al punto 2 y al punto 14 del mandato de la reunión de consulta de la Resolución <b>609</b> (Rev.CMR-07).</p>

<p style="text-align: center;"><b>B 部分</b></p> <p>第 <b>609</b> 号决议 (WRC-07 修订版) 做出决议第 8 段所列的信息, 即有关执行第 <b>609</b> 号决议 (WRC-07 修订版) 作出决议第 2 段的集总干扰分摊的确定结果, 不论这一确定结果是否修改其各自系统或网络的已公布特性。</p>	<p style="text-align: center;"><b>ЧАСТЬ В</b></p> <p>Информация, о которой идет речь в п. 8 раздела "<i>решает</i>" Резолюции <b>609</b> (Пересм.ВКР-07) и которая является результатом любого определения условий совместного использования суммарного допустимого уровня согласно пункту 2 раздела "<i>решает</i>" Резолюции <b>609</b> (Пересм.ВКР-07), независимо от того, достигнуты ли эти результаты путем изменения объявленных характеристик их соответствующих систем или сетей или нет.</p>	<p style="text-align: center;"><b>الجزء B</b></p> <p>المعلومات المشار إليها في البند 8 من منطوق القرار (Rev.WRC-07) <b>609</b>، أي نتائج ترتيبات التقاسم التراكمي التي يتم التوصل إليها تنفيذاً للبند 2 من منطوق القرار (Rev.WRC-07) <b>609</b>، بغض النظر عما إذا كانت هذه الترتيبات سيسفر عنها أي تعديلات في الخصائص المنشورة لأنظمة الإدارات المعنية وشبكاتهما.</p>
<p>本资料由法国主管部门根据第 <b>609</b> 号决议 (WRC-07, 修订版) 磋商会议职责范围第 2 节和第 14 节, 于 <b>2018 年 11 月 12 日</b> 提交无线电通信局。</p>	<p>Настоящая информация направлена в Бюро администрацией Франции <b>12 ноября 2018 года</b> в соответствии с разделом 2 и разделом 14 круга ведения консультативного собрания, проводимого согласно Резолюции <b>609</b> (Пересм. ВКР-07).</p>	<p>أبلغت إدارة فرنسا المكتب بهذه المعلومات في <b>2018.11.12</b>، تطبيقاً للقسمين 2 و 14 من اختصاصات الاجتماع التشاوري المنظم وفقاً للقرار (Rev.WRC-07) <b>609</b>.</p>

**Report of the Fifteenth Resolution 609 (Rev WRC-07) Consultation Meeting  
to the ITU Radiocommunication Bureau**

**1 INTRODUCTION**

Resolution 609 (Rev WRC-07) is titled “Protection of aeronautical radionavigation service systems from the equivalent power flux-density (epfd) produced by radionavigation satellite service networks and systems in the 1 164-1 215 MHz frequency band.”

The resolves: establish the aggregate protection criterion of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , (resolves 1), establish the basis for Consultation Meetings to achieve this objective (resolves 6); and identify the ITU-R Recommendation M.1642-2 to use to conduct the aggregate calculations (resolves 10).

Resolution 609 (Rev WRC-97) requires administrations with filings and concrete plans to operate RNSS systems in the 1 164-1 215 MHz band to participate fully and on a continuing basis in the mandatory Resolution 609 consultation process, including submitting materials in accordance with the Terms of Reference, and attending the meetings.

This report reflects the results of the Fifteenth Resolution 609 Consultation Meeting (CM) and is provided in accordance with the provisions of resolves 8 of Resolution 609.

**2 PRIOR CONSULTATION MEETINGS (CM)**

**2.1 First Consultation Meeting (Geneva, 2003)**

The first CM, held in Geneva, Switzerland, December 8-9, 2003, agreed on Terms of Reference for the operation of future CMs. Among other things the Terms of Reference establish specific timelines for the submission of information in satisfaction of the Criteria in the Annex to Resolution 609, for the submission of technical information on individual systems and networks in an agreed format, and for the exchange of aggregate interference calculations among the participants. No aggregate sharing determination was made at the first CM.

**2.2 Second Consultation Meeting (Ottawa, 2004)**

At the second CM a determination of the epfd level produced by all space stations of 15 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the assessed RNSS systems and networks was  $-125.7 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 4.2 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It was noted that the results were based on the use of worst-case assumptions in terms of interference from these RNSS systems and networks into the ARNS.

**2.3 Third Consultation Meeting (Munich, 2005)**

At the Third CM a determination of the epfd level produced by all space stations of 19 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the assessed RNSS systems and networks was  $-125.7 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 4.2 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It was noted that the results were based on the use of worst-case assumptions in terms of interference from these RNSS systems and networks into the ARNS.

**2.4 Fourth Consultation Meeting (Bangalore, 2006)**

At the Fourth CM a determination of the epfd level produced by all space stations of 22 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the assessed RNSS

systems and networks was  $-125.7 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 4.2 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It was noted that the results were based on the use of worst-case assumptions in terms of interference from these RNSS systems and networks into the ARNS.

### **2.5 Fifth Consultation Meeting (Xi'an, May 2008)**

At the Fifth CM a determination of the epfd level produced by all space stations of 26 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the assessed RNSS systems and networks was  $-122.33 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.83 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.6 Sixth Consultation Meeting (By correspondence, June 2009)**

At the Sixth CM a determination of the epfd level produced by all space stations of 25 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the assessed RNSS systems and networks was  $-122.82 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 1.32 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.7 Seventh Consultation Meeting (Toulouse, June 2010)**

At the Seventh CM a determination of the epfd level produced by all space stations of 25 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the assessed RNSS systems and networks was  $-122.58 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 1.08 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.8 Eighth Consultation Meeting (Geneva, September 2011)**

At the Eighth CM a determination of the epfd level produced by all space stations of 23 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the referenced RNSS networks and systems was  $-122.64 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 1.14 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.9 Ninth Consultation Meeting (Tokyo, October 2012)**

At the Ninth CM a determination of the epfd level produced by all space stations of 23 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the referenced RNSS networks and systems was  $-121.93 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.43 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.10 Tenth Consultation Meeting (Los Angeles, September 2013)**

At the Tenth CM a determination of the epfd level produced by all space stations of 23 RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the referenced RNSS networks and systems was  $-121.93 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.43 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.11 Eleventh Consultation Meeting (Shenzhen, China, October 2014)**

At the Eleventh CM a determination of the epfd level produced by all space stations of RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the referenced RNSS networks and systems was  $-122.01 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.51 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.12 Twelfth Consultation Meeting (By correspondence, September 2015)**

At the Twelfth CM a determination of the epfd level produced by all space stations of RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the referenced RNSS networks and systems was  $-122.00 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.50 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.13 Thirteenth Consultation Meeting (Auckland, New Zealand, September 2016)**

At the Thirteenth CM a determination of the epfd level produced by all space stations of RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the referenced RNSS networks and systems was  $-121.98 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.48 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

### **2.14 Fourteenth Consultation Meeting (By correspondence, September 2017)**

At the Fourteenth CM a determination of the epfd level produced by all space stations of RNSS systems and networks was made and agreed. The maximum epfd of all satellites associated with the referenced RNSS networks and systems was  $-121.98 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.48 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

## **3 THE FIFTEENTH CONSULTATION MEETING (ABUJA, NIGERIA, OCTOBER 2018)**

Calculations of the equivalent PFD (epfd) level produced by all space stations of the referenced RNSS systems and networks from Table 1 were compared and agreed at the Fifteenth Consultation Meeting. The agreed calculations by the participants can be found in Table 2 in the attachment to this Report, along with the aggregate spectral emissions profile in Figure 1.

## **4 CONCLUSION**

The maximum aggregate epfd of satellites associated with the referenced RNSS networks and systems in Table 1 is determined to be no greater than  $-121.89 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , i.e. 0.39 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ . It is noted that the result is based on the use of worst-case assumptions in terms of interference from RNSS into ARNS.

## ATTACHMENT

### 1 Results of the Calculation of the Maximum RNSS Aggregate epfd per Megahertz

Within this Attachment is the description of results of calculating the maximum RNSS aggregate epfd for every one megahertz within the band 1 164 – 1 215 MHz. The methodology for the calculation of the aggregate epfd of an RNSS system, which was used, is described in ITU-R Recommendation M.1642-2, “Methodology for assessing the maximum aggregate epfd at an aeronautical radionavigation service station from all radionavigation satellite service systems operating in the 1 164 -1 215 MHz band”.

### 2 Results of the Calculation

For the purpose of the calculation, data given by the following RNSS system providers was used:

**Table 1: RNSS systems having confirmed characteristics to the Fifteenth Consultation Meeting before the 4 May 2018 submission deadline**

	ntc_id	Adm	twk_org	sat_name	long_nom	ntf_rsn	d_rcv	ssn_ref	ssn_no	ific_no	ntc_type
1	118500098	ALG		ALCOMSAT-24.8W	-24.8	N	17.05.2018	PART	1	2873	G
2	103500418	CHN		COMPASS-110.5E <sup>1</sup>	110.5	N	17.10.2007	PART	2	2681	G
3	103500419	CHN		COMPASS-140E <sup>1</sup>	140	N	17.10.2007	PART	2	2684	G
4	105520009	CHN		COMPASS-160E <sup>1</sup>	160	N	16.12.2010	PART	2	2701	G
5	103500416	CHN		COMPASS-58.75E <sup>1</sup>	58.75	N	17.10.2007	PART	2	2687	G
6	103500417	CHN		COMPASS-80E <sup>1</sup>	80	N	17.10.2007	PART	2	2689	G
7	114520052	CHN		COMPASS-80.3E	80.3	C	25.02.2014	CR/C	3567	2791	G
8	111520203	CHN		COMPASS-B-84E <sup>1</sup>	84	C	31.05.2011	CR/C	2933	2741	G
9	111520204	CHN		COMPASS-B-144.5E <sup>1</sup>	144.5	C	31.05.2011	CR/C	2934	2741	G
10	103500420	CHN		COMPASS-H <sup>1</sup>	N-GSO	N	05.01.2004	PART	2	2596	N
11	112520031	CHN		COMPASS-IGSO <sup>1</sup>	N-GSO	C	18.02.2012	CR/C	3118	2741	N
12	103500421	CHN		COMPASS-M <sup>1</sup>	N-GSO	N	31.12.2003	PART	2	2596	N
13	117500038	CHN		COMPASS-MEO <sup>1</sup>	N-GSO	N	23.03.2017	PART	1	2849	N
14	100500321	F	GLS	MSATNAV-2 <sup>2</sup>	N-GSO	N	04.10.2000	PART	2	2588	N
15	102520123	G		INMARSAT GSO-2N	64	N	02.08.2010	PART	2	2696	G
16	104520036	G		INMARSAT-4 143.5E <sup>3</sup>	143.5	N	12.01.2012	PART	2	2725	G
17	115500141	G		INMARSAT-4A 143.5E <sup>3</sup>	143.5	N	02.10.2015	PART	2	2825	G
18	105520012	G		INMARSAT-4 98W <sup>3</sup>	-98	N	28.06.2010	PART	2	2710	G
19	107520304	G		INMARSAT-4A 98W <sup>3</sup>	-98	N	30.06.2011	PART	2	2822	G
20	117500215	IND		INSAT-NAVR(32.5)	32.5	N	25.08.2017	PART	1	2855	G
21	116500029	IND		INSAT-NAV(55)	55	N	24.02.2016	PART	2	2834	G
22	117500127	IND		INSAT-NAVR(83)	83	N	02.06.2017	PART	2	2872	G
23	112520051	IND		INSAT-NAVR(129.5)	129.5	N	28.03.2018	PART	1	2872	G
24	116500272	IND		INSAT-NAVR-GS <sup>4</sup>	N-GSO	N	20.12.2016	PART	1	2871	N
25	117520274	IND		INSAT-NAV-GS17 <sup>4</sup>	N-GSO	C	17.07.2017	CR/C	4544	2866	N
26	104500548	J		N-SAT-HEO2 <sup>5</sup>	N-GSO	N	28.12.2004	PART	2	2603	N
27	110500199	J		QZSS-1 <sup>5</sup>	N-GSO	N	27.01.2012	PART	2	2724	N

	ntc_id	Adm	twk_org	sat_name	long_nom	ntf_rsn	d_rev	ssn_ref	ssn_no	ific_no	ntc_type
28	116500181	J		QZSS <sup>5</sup>	N-GSO	N	19.09.2017	PART	1	2863	N
29	112520496	J		QZSS-GS3 <sup>5</sup>	123	C	28.12.2012	CR/C	3318	2810	G
30	117500337	J		QZSS-GS4 <sup>5</sup>	127	N	19.09.2017	PART	1	2863	G
31	97500304	RUS		GLONASS-M	N-GSO	N	21.05.2003	PART	2	2645	N
32	117500168	RUS		GLONASS-M	N-GSO	N	30.03.2017	PART	1	2857	N
33	107500170	USA		LM-RPS-107.3W	-107.3	N	31.05.2007	PART	2	2665	G
34	107500171	USA		LM-RPS-133W	-133	N	31.05.2007	PART	2	2663	G
35	103500110	USA		NAVSTAR GPS-IIRF <sup>6</sup>	N-GSO	N	02.05.2003	PART	2	2645	N
36	117500155	LUX		LUX-G6-2-E	5	N	30.06.2017	PART	1	2851	G
37	117500334	LUX		LUX-G7-9-E2	31.5	N	14.12.2017	PART	1	2870	G
38	117500335	LUX		LUX-G9-38-A	-129	N	12.12.2017	PART	1	2871	G
39	113520165	PNG		RAGGIANA-18	-117	N	23.04.2018	PART	1	2872	G

<sup>1</sup> In accordance with item 5 of the Resolution 609 (Rev.WRC-07) Consultation Meeting Terms of Reference (MOD, Geneva, September 2011), all the listed filings remain available for the COMPASS system and shall be treated as a single RNSS system for purposes of performing the epfd calculations having the characteristics presented in this document.

<sup>2</sup> In accordance with § 5 of Terms of Reference for the Resolution 609 (Rev. WRC-07) Consultation Meetings, the following filings remain available for Galileo and shall be treated with MSATNAV-2 filing as a single planned RNSS system for purposes of performing the epfd calculations having the characteristics presented in this document: MSATNAV-3 and 4, GALILEO-NAV-2004, GALILEO-M-NAVSTAR and GALILEO-2.

<sup>3</sup> where multiple INMARSAT filings are shown for the same orbital location, these represent a single network for the purposes of the Resolution 609 (Rev. WRC-07) consultation process.

<sup>4</sup> INSAT-NAVR-GS and INSAT-NAV-GS17 shall be treated as a single planned RNSS system for purposes of performing the epfd calculations having the characteristics presented in this document.

<sup>5</sup> In accordance with item 5 of the Resolution 609 (Rev. WRC-07) Consultation Meeting Terms of Reference (MOD September 2006, Bangalore), the following filings remain available for the Quasi-Zenith Satellite System (QZSS) and shall be treated with the N-SAT-HEO2 filing as a single planned RNSS system for purposes of performing the epfd calculations having the characteristics presented in this document: QZSS-1 (ITU Publication Reference: Part II-S, IFIC: 2724), QZSS (ITU Publication Reference: CR/C/3322, IFIC: 2743), QZSS-GS1 (ITU Publication Reference: CR/C/3317, IFIC: 2743), QZSS-GS3 (ITU Publication Reference: CR/C/3318, IFIC: 2743), QZSS-GS4 (ITU Publication Reference: CR/C/3319, IFIC: 2743), QZSS-GS5 (ITU Publication Reference: CR/C/3320, IFIC: 2743), QZSS-GS8 (ITU Publication Reference: CR/C/3321, IFIC: 2743).

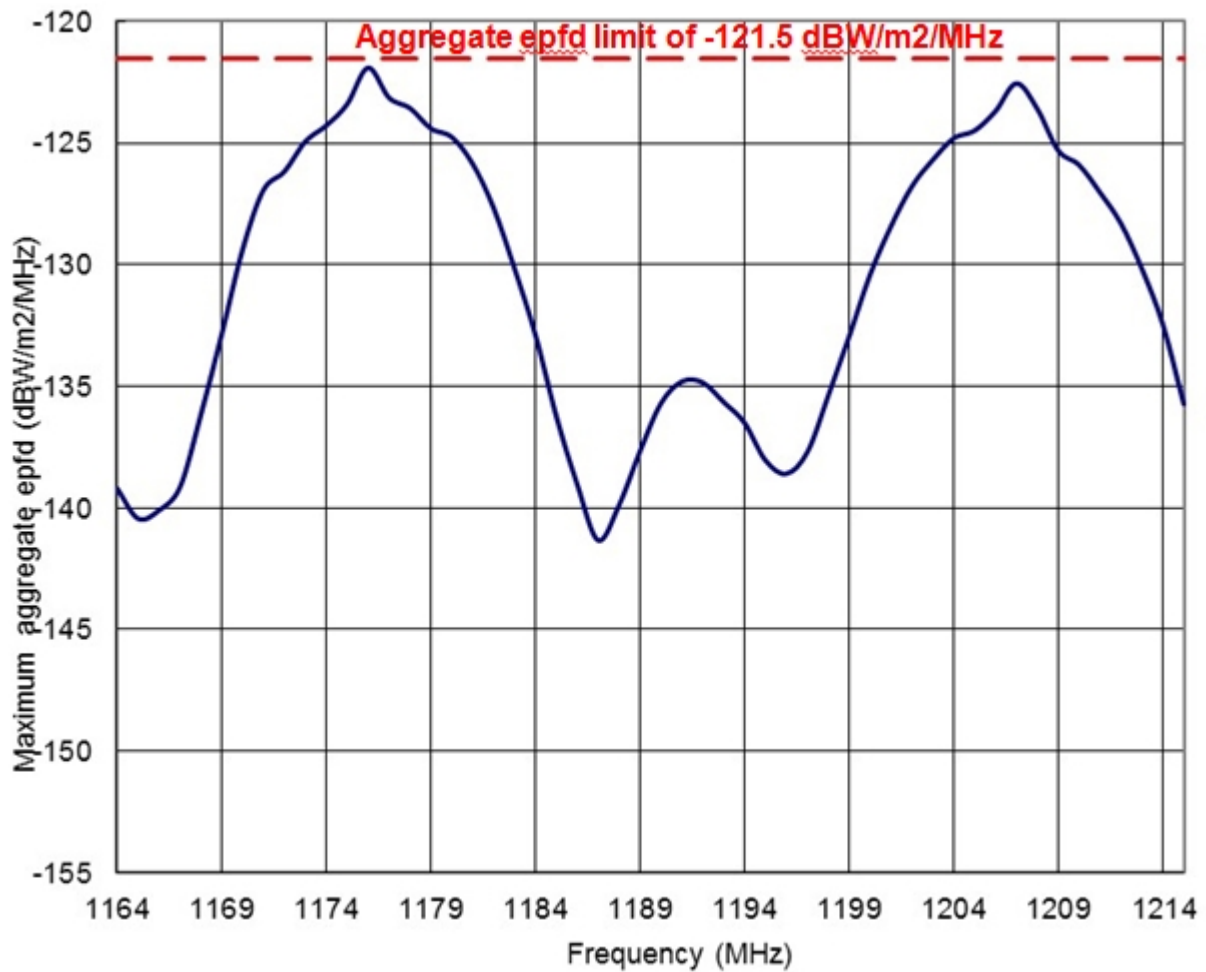
<sup>6</sup>In accordance with item 5 of the Resolution 609 (Rev. WRC-07) Consultation Meeting Terms of Reference, the following filings remain available for NAVSTAR GPS system and shall be treated with the NAVSTAR GPS-IIRF filings as a single planned RNSS system for purposes of performing the epfd calculations having the characteristics presented in this document: USRSR (ITU Publication Reference: API/A/5535 and CR/C/2729, IFIC: 2642 and 2685, respectively)

Detailed characteristics of these systems, which were used for the aggregate computation, are available on the Resolution 609 Forum page within the ITU web site (<http://www.itu.int/ITU-R/space/res609/>): see attachment 3 to the Record of Decisions from the Fifteenth Consultation Meeting.

Table 2 and Figure 1 give the results of the maximum aggregate epfd values per MHz, calculated using 1-degree steps in latitude/longitude based on the RNSS systems in Table 1.

**Table 2: Maximum RNSS aggregate epfd values per MHz**

Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/m2/MHz))	Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/m2/MHz))	Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/m2/MHz))	Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/m2/MHz))
1164	-139.16	1177	-123.12	1190	-135.68	1203	-125.67
1165	-140.40	1178	-123.55	1191	-134.78	1204	-124.79
1166	-140.07	1179	-124.39	1192	-134.82	1205	-124.48
1167	-139.13	1180	-124.74	1193	-135.62	1206	-123.67
1168	-136.15	1181	-125.84	1194	-136.47	1207	-122.54
1169	-132.85	1182	-127.65	1195	-138.01	1208	-123.59
1170	-129.36	1183	-130.13	1196	-138.56	1209	-125.29
1171	-126.91	1184	-132.86	1197	-137.68	1210	-125.89
1172	-126.16	1185	-136.20	1198	-135.36	1211	-127.02
1173	-124.92	1186	-139.00	1199	-132.93	1212	-128.30
1174	-124.27	1187	-141.29	1200	-130.39	1213	-130.16
1175	-123.39	1188	-139.85	1201	-128.40	1214	-132.44
1176	-121.89	1189	-137.64	1202	-126.77	1215	-135.70



**Figure 1: Plot of Table 3 (Maximum RNSS Aggregate epfd per MHz)**