



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>
<b>Douzième réunion de consultation sur la Résolution 609 (Rév.CMR-07) tenue par correspondance, septembre 2015</b>	<b>12th Resolution 609 (Rev.WRC-07) Consultation Meeting held by correspondence, September 2015</b>	<b>Duodécima Reunión de consulta sobre la Resolución 609 (Rev.CMR-07), celebrada por correspondencia, septiembre 2015</b>
<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) 的第 12 次磋商会议 2015 年 9 月	Двенадцатое консультативное собрание по Резолюции 609 (Пересм. ВКР-07), состоявшееся по переписке, сентябрь 2015 года	الاجتماع التشاوري الثاني عشر بشأن القرار 609 (Rev.WRC-07) الذي عُقد بالمراسلة، سبتمبر 2015
<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 "поручает 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 "рекомендует" Рекомендации <b>608</b> (Пересм.ВКР-07), какой-либо из рассматриваемых космических станций или нет.	قائمة بأنظمة خدمة الملاحة 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 <b>608</b> (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 "рекомендует" Рекомендации <b>608</b> (Пересм.ВКР-07) указывается, что при применении пункта 5 раздела "решает" 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 <b>608</b> (Rev.WRC-07) على أنه, في تطبيق البند 5 من منطوق القرار <b>609</b> (Rev.WRC-07), ينبغي ألا تتجاوز كثافة تدفق القدرة القصوى الناتجة عند سطح الأرض عن إرسالات محطة فضائية في خدمة الملاحة الراديوية الساتلية في نطاق الترددات 1 164 – 1 215 MHz، القيمة -129 dB(W/m <sup>2</sup> )، في 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**

<b>Item</b>	<b>Description</b>	<b>Description</b>	<b>Descripción</b>
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 08.04.2015) 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 **
1125412	ALG		ALCOMSAT-24.8W	-24.8	A	29.11.2012	API/A	8114	2739	29.11.2019	11th meeting DOC*	A
1135201	ALG		ALCOMSAT-24.8W	-24.8	C	29.05.2013	CR/C	3389	2766	23.02.2011	11th meeting DOC*	N
1125412	ALG		ALCOMSAT-33.5W	-33.5	A	29.11.2012	API/A	8115	2739	29.11.2019	NO Input DOC	A
1095404	ARG		ARSAT-C	-81	A	29.05.2009	API/A	5685	2648	29.05.2016	NO Input DOC	A
1085406	ARS	ARB	ARABSAT 7A-30.5E	30.5	A	24.11.2008	API/A	5397	2702	23.11.2015	NO Input DOC	A
1095201	ARS	ARB	ARABSAT 7A-30.5E	30.5	C	24.05.2009	CR/C	2406	2701	23.11.2015	NO Input DOC	Y
1085406	ARS	ARB	ARABSAT 7B-26E	26	A	24.11.2008	API/A	5398	2702	23.11.2015	NO Input DOC	A
1095201	ARS	ARB	ARABSAT 7B-26E	26	C	24.05.2009	CR/C	2407	2701	23.11.2015	NO Input DOC	Y
1085406	ARS	ARB	ARABSAT 7C-20E	20	A	24.11.2008	API/A	5399	2702	23.11.2015	NO Input DOC	A
1095201	ARS	ARB	ARABSAT 7C-20E	20	C	24.05.2009	CR/C	2408	2701	23.11.2015	NO Input DOC	Y
1085406	ARS	ARB	ARABSAT 7D-7.5E	7.5	A	24.11.2008	API/A	5400	2702	23.11.2015	NO Input DOC	A
1095201	ARS	ARB	ARABSAT 7D-7.5E	7.5	C	24.05.2009	CR/C	2409	2701	23.11.2015	NO Input DOC	Y
1085406	ARS	ARB	ARABSAT 7E-34.5E	34.5	A	24.11.2008	API/A	5401	2702	23.11.2015	NO Input DOC	A
1095201	ARS	ARB	ARABSAT 7E-34.5E	34.5	C	24.05.2009	CR/C	2410	2701	23.11.2015	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).

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1085406	ARS	ARB	ARABSAT 7F-44.5E	44.5	A	24.11.2008	API/A	5402	2702	23.11.2015	NO Input DOC	A
1095201	ARS	ARB	ARABSAT 7F-44.5E	44.5	C	24.05.2009	CR/C	2411	2701	23.11.2015	NO Input DOC	Y
1085406	ARS	ARB	ARABSAT 7G-11E	11	A	24.11.2008	API/A	5403	2702	23.11.2015	NO Input DOC	A
1095201	ARS	ARB	ARABSAT 7G-11E	11	C	24.05.2009	CR/C	2412	2701	23.11.2015	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8A-30.5E	30.5	A	18.07.2012	API/A	7901	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8A-30.5E	30.5	C	18.01.2013	CR/C	3331	2759	01.01.2018	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8B-26E	26	A	18.07.2012	API/A	7902	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8B-26E	26	C	18.01.2013	CR/C	3332	2759	01.01.2018	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8C-20E	20	A	18.07.2012	API/A	7903	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8C-20E	20	C	18.01.2013	CR/C	3333	2759	01.01.2018	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8D-7.5E	7.5	A	18.07.2012	API/A	7904	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8D-7.5E	7.5	C	18.01.2013	CR/C	3334	2759	01.01.2018	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8E-34.5E	34.5	A	18.07.2012	API/A	7905	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8E-34.5E	34.5	C	18.01.2013	CR/C	3335	2759	01.01.2018	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8F-44.5E	44.5	A	18.07.2012	API/A	7906	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8F-44.5E	44.5	C	18.01.2013	CR/C	3336	2759	01.01.2018	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8G-11E	11	A	18.07.2012	API/A	7907	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8G-11E	11	C	18.01.2013	CR/C	3337	2759	01.01.2018	NO Input DOC	Y
1125408	ARS	ARB	ARABSAT 8H-17E	17	A	18.07.2012	API/A	7908	2729	01.01.2018	NO Input DOC	A
1135200	ARS	ARB	ARABSAT 8H-17E	17	C	18.01.2013	CR/C	3338	2759	01.01.2018	NO Input DOC	Y
1125413	ARS	ARB	ARABSAT 8I-34E	34	A	19.12.2012	API/A	8248	2741	01.01.2018	NO Input DOC	A
1135400	ARS	ARB	ARABSAT 8J-39E	39	A	18.02.2013	API/A	8259	2744	01.01.2018	NO Input DOC	A
1135201	ARS	ARB	ARABSAT 8J-39E	39	C	22.08.2013	CR/C	3435	2760	01.01.2018	NO Input DOC	Y
1135407	ARS	ARB	ARABSAT 8K-67.1E	67.1	A	16.12.2013	API/A	8892	2763	01.01.2018	NO Input DOC	A
1115408	B		B-SAT-1W-1	-48	A	07.10.2011	API/A	7203	2710	07.10.2018	NO Input DOC	A
1125201	B		B-SAT-1W-1	-48	C	07.04.2012	CR/C	3179	2742	07.10.2018	NO Input DOC	N
1095407	B		B-SAT-2E	-87	A	04.09.2009	API/A	5878	2657	04.09.2016	NO Input DOC	A
1105200	B		B-SAT-2E	-87	C	04.03.2010	CR/C	2620	2692	04.09.2016	NO Input DOC	N
1135408	CHN		APMTSAT1-37.5E	37.5	A	18.12.2013	API/A	8955	2764		NO Input DOC	A
1105402	CHN		CGSAT-98W	-94.5	A	24.05.2010	API/A	6257	2686	01.05.2017	NO Input DOC	A
1145404	CHN		CGSAT-A02	-104	A	02.07.2014	API/A	9326	2778		NO Input DOC	A
1145404	CHN		CGSAT-A03	-37	A	02.07.2014	API/A	9333	2778		NO Input DOC	A
1145404	CHN		CGSAT-A04	-23	A	02.07.2014	API/A	9334	2778		NO Input DOC	A
1145404	CHN		CGSAT-A05	-16	A	02.07.2014	API/A	9335	2778		NO Input DOC	A
1145404	CHN		CGSAT-A06	-2	A	02.07.2014	API/A	9336	2778		NO Input DOC	A
1145404	CHN		CGSAT-A07	1	A	02.07.2014	API/A	9337	2778		NO Input DOC	A
1145404	CHN		CGSAT-A08	13.5	A	02.07.2014	API/A	9338	2778		NO Input DOC	A



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1145404	CHN		CGSAT-A09	35	A	02.07.2014	API/A	9339	2778		NO Input DOC	A
1145404	CHN		CGSAT-A10	75	A	02.07.2014	API/A	9340	2778		NO Input DOC	A
1145404	CHN		CGSAT-A11	82.5	A	02.07.2014	API/A	9341	2778		NO Input DOC	A
1145404	CHN		CGSAT-A12	131	A	02.07.2014	API/A	9342	2778		NO Input DOC	A
1145404	CHN		CGSAT-A13	142	A	02.07.2014	API/A	9343	2778		NO Input DOC	A
1145404	CHN		CGSAT-A14	158	A	02.07.2014	API/A	9344	2778		NO Input DOC	A
1005438	CHN		COMPASS-110.5E	110.5	A	05.01.2004	API/A	1302	2512	17.08.2006	11th meeting DOC*	A
1015200	CHN		COMPASS-110.5E	110.5	C	10.01.2001	CR/C	800	2543	31.12.2003	11th meeting DOC*	N
1035004	CHN		COMPASS-110.5E	110.5	N	17.10.2007	PART	II-S	2681	17.08.2006	11th meeting DOC*	N
1005438	CHN		COMPASS-140E	140	A	05.01.2004	API/A	1303	2570	17.04.2007	11th meeting DOC*	A
1015200	CHN		COMPASS-140E	140	C	10.01.2001	CR/C	801	2543	17.04.2007	11th meeting DOC*	N
1035004	CHN		COMPASS-140E	140	N	17.10.2007	PART	II-S	2684	17.10.2006	11th meeting DOC*	N
1035409	CHN		COMPASS-160E	160	A	31.12.2003	API/A	2996	2539	16.11.2010	11th meeting DOC*	A
1055200	CHN		COMPASS-160E	160	C	07.01.2005	CR/C	1526	2588	16.11.2010	11th meeting DOC*	N
1095008	CHN		COMPASS-160E	160	N	16.12.2010	PART	II-S	2701	16.11.2010	11th meeting DOC*	N
1005438	CHN		COMPASS-58.75E	58.75	A	05.01.2004	API/A	1300	2570	17.04.2007	11th meeting DOC*	A
1015200	CHN		COMPASS-58.75E	58.75	C	10.01.2001	CR/C	798	2543	17.04.2007	11th meeting DOC*	N
1035004	CHN		COMPASS-58.75E	58.75	N	17.10.2007	PART	II-S	2687	08.12.2006	11th meeting DOC*	N
1125410	CHN		COMPASS-80.3E	80.3	A	24.09.2012	API/A	7978	2733	08.10.2014	11th meeting DOC*	A
1145200	CHN		COMPASS-80.3E	80.3	C	25.02.2014	CR/C	3567	2777	08.10.2014	11th meeting DOC*	N
1005438	CHN		COMPASS-80E	80	A	05.01.2004	API/A	1301	2570	17.04.2007	11th meeting DOC*	A
1015200	CHN		COMPASS-80E	80	C	10.01.2001	CR/C	799	2543	17.04.2007	11th meeting DOC*	N
1035004	CHN		COMPASS-80E	80	N	17.10.2007	PART	II-S	2689	17.06.2006	11th meeting DOC*	N
1095405	CHN		COMPASS-B-144.5E	144.5	A	06.07.2009	API/A	5749	2650	10.07.2011	11th meeting DOC*	A
1115202	CHN		COMPASS-B-144.5E	144.5	C	31.05.2011	CR/C	2934	2702	10.07.2011	11th meeting DOC*	Y
1095405	CHN		COMPASS-B-84E	84	A	06.07.2009	API/A	5748	2650	10.07.2011	11th meeting DOC*	A
1115202	CHN		COMPASS-B-84E	84	C	31.05.2011	CR/C	2933	2702	10.07.2011	11th meeting DOC*	N
1005438	CHN		COMPASS-H	N-GSO	A	05.01.2004	API/A	1305	2570	17.04.2007	11th meeting DOC*	A
1035004	CHN		COMPASS-H	N-GSO	N	31.12.2003	PART	II-S	2596	26.03.2007	11th meeting DOC*	N
1115405	CHN		COMPASS-IGSO	N-GSO	A	11.07.2011	API/A	7021	2714	20.04.2017	11th meeting DOC*	A
1125200	CHN		COMPASS-IGSO	N-GSO	C	18.02.2012	CR/C	3118	2741	20.04.2017	11th meeting DOC*	N
1005438	CHN		COMPASS-M	N-GSO	A	05.01.2004	API/A	1304	2570	17.04.2007	11th meeting DOC*	A
1035004	CHN		COMPASS-M	N-GSO	N	31.12.2003	PART	II-S	2596	16.04.2007	11th meeting DOC*	N
1105401	CHN		COMPASS-MEO	N-GSO	A	01.04.2010	API/A	6204	2683	10.12.2012	11th meeting DOC*	A
1105202	CHN		COMPASS-MEO	N-GSO	C	01.10.2010	CR/C	2740	2705	10.12.2012	11th meeting DOC*	N
1125404	CHN		ITS-105E	105	A	12.03.2012	API/A	7574	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-105W	-105	A	12.03.2012	API/A	7560	2721	01.01.2019	NO Input DOC	A



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1125404	CHN		ITS-10W	-10	A	12.03.2012	API/A	7566	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-114.5E	114.5	A	12.03.2012	API/A	7575	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-120.5E	120.5	A	12.03.2012	API/A	7576	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-13.5E	13.5	A	12.03.2012	API/A	7568	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-13W	-13	A	12.03.2012	API/A	7565	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-23.5E	23.5	A	12.03.2012	API/A	7569	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-36E	36	A	12.03.2012	API/A	7570	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-48.5W	-48.5	A	12.03.2012	API/A	7564	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-6E	6	A	12.03.2012	API/A	7567	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-70.5E	70.5	A	12.03.2012	API/A	7571	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-78.5E	78.5	A	12.03.2012	API/A	7572	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-85.5W	-85.5	A	12.03.2012	API/A	7563	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-90.5E	90.5	A	12.03.2012	API/A	7573	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-93W	-93	A	12.03.2012	API/A	7562	2721	01.01.2019	NO Input DOC	A
1125404	CHN		ITS-97W	-97	A	12.03.2012	API/A	7561	2721	01.01.2019	NO Input DOC	A
1145406	CHN		ZH-1	N-GSO	A	30.09.2014	API/A	9576	2784		NO Input DOC	A
1005440	D	GLS	GALILEO-NAV-2004	N-GSO	A	03.06.2000	API/A	1397	2562	01.05.2004	2nd meeting DOC*	A
1015003	D	GLS	GALILEO-NAV-2004	N-GSO	N	02.08.2001	PART	II-S	2582	03.03.2006	2nd meeting DOC*	N
1095403	EGY		NAVISAT-11A	28.25	A	12.05.2009	API/A	5647	2664	01.01.2012	NO Input DOC	A
1095203	EGY		NAVISAT-11A	28.25	C	15.12.2009	CR/C	2533	2686	11.05.2016	NO Input DOC	N
1095403	EGY		NAVISAT-12A	35.5	A	12.05.2009	API/A	5648	2664	01.01.2012	NO Input DOC	A
1095203	EGY		NAVISAT-12A	35.5	C	15.12.2009	CR/C	2534	2686	11.05.2016	NO Input DOC	N
1095403	EGY		NAVISAT-14A	44	A	12.05.2009	API/A	5650	2664	01.01.2012	NO Input DOC	A
1095203	EGY		NAVISAT-14A	44	C	12.05.2009	CR/C	2535	2686	11.05.2016	NO Input DOC	N
1095403	EGY		NAVISAT-2A	21	A	12.05.2009	API/A	5638	2647	01.01.2012	NO Input DOC	A
1095203	EGY		NAVISAT-2A	21	C	15.12.2009	CR/C	2531	2686	11.05.2016	NO Input DOC	N
1095403	EGY		NAVISAT-7A	1	A	12.05.2009	API/A	5643	2686	01.01.2012	NO Input DOC	A
1105204	EGY		NAVISAT-7A	1	C	02.12.2010	CR/C	2780	2716	01.01.2012	NO Input DOC	N
1095403	EGY		NAVISAT-9A	14	A	12.05.2009	API/A	5645	2664	01.01.2012	NO Input DOC	A
1095203	EGY		NAVISAT-9A	14	C	15.12.2009	CR/C	2532	2686	11.05.2016	NO Input DOC	N
1135405	F		AST-W2-115W	-115	A	30.07.2013	API/A	8674	2756	01.06.2016	NO Input DOC	A
1135405	F		AST-W2-121W	-121	A	30.07.2013	API/A	8673	2756	01.06.2016	NO Input DOC	A
1135405	F		AST-W2-127W	-127	A	30.07.2013	API/A	8672	2756	01.06.2016	NO Input DOC	A
1135405	F		AST-W2-132W	-132	A	30.07.2013	API/A	8671	2756	01.06.2016	NO Input DOC	A
1135405	F		AST-W2-135W	-135	A	30.07.2013	API/A	8670	2756	01.06.2016	NO Input DOC	A
1145408	F		F-SAT-N4-111W	-111	A	10.12.2014	API/A	9751	2787		NO Input DOC	A
1145405	F		F-SAT-N4-115W	-115	A	13.08.2014	API/A	9512	2780		NO Input DOC	A

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1145404	F		F-SAT-N4-133W	-133	A	19.12.2014	API/A	9368	2787		NO Input DOC	A
1095404	F	GLS	GALILEO-2	N-GSO	A	12.06.2009	API/A	5724	2651	22.04.2016	NO Input DOC	A
1095203	F	GLS	GALILEO-2	N-GSO	C	18.12.2009	CR/C	2542	2686	22.04.2016	NO Input DOC	N
1135400	F		GEONAVSAT-A	-8	A	05.04.2013	API/A	8310	2746		NO Input DOC	A
1135400	F		GEONAVSAT-B	4	A	05.04.2013	API/A	8311	2746		NO Input DOC	A
1135400	F		GEONAVSAT-C	16	A	05.04.2013	API/A	8312	2746		NO Input DOC	A
9954386	F	GLS	MSATNAV-2	N-GSO	A	03.12.1999	API/A	1182	2562	12.09.2007	2nd meeting DOC*	A
1005003	F	GLS	MSATNAV-2	N-GSO	N	04.10.2000	PART	II-S	2588	03.03.2006	2nd meeting DOC*	N
1005439	F	GLS	MSATNAV-3	N-GSO	A	03.06.2000	API/A	1387	2562	12.09.2007	2nd meeting DOC*	A
1015000	F	GLS	MSATNAV-3	N-GSO	N	30.01.2001	PART	II-S	2588	03.03.2006	2nd meeting DOC*	N
1025403	F	GLS	MSATNAV-4	N-GSO	A	24.09.2002	API/A	2434	2562	12.09.2007	2nd meeting DOC*	A
1035000	F	GLS	MSATNAV-4	N-GSO	N	28.04.2003	PART	II-S	2588	03.03.2006	2nd meeting DOC*	N
1145408	G		GIBSAT-G14-2	-135	A	03.12.2014	API/A	9736	2787		NO Input DOC	A
9654005	G		INMARSAT GSO-2H	65	A	12.01.2001	API/A	1211	2586	01.05.2006	NO Input DOC	A
9752033	G		INMARSAT GSO-2H	65	C	07.08.2001	CR/C	412	2548	01.05.2006	NO Input DOC	N
1065001	G		INMARSAT GSO-2H	65	N	10.05.2006	PART	II-S	2658	28.05.2005	NO Input DOC	N
9654005	G		INMARSAT GSO-2J	-54	A	12.01.2001	API/A	1213	2534	31.12.2004	NO Input DOC	A
9752032	G		INMARSAT GSO-2J	-54	C	07.08.2001	CR/C	413	2548	31.12.2004	NO Input DOC	N
1095002	G		INMARSAT GSO-2J	-54	N	10.05.2006	PART	II-S	2668	23.01.2006	NO Input DOC	N
1015402	G		INMARSAT GSO-2L	-53	A	07.08.2001	API/A	2030	2534	31.12.2005	NO Input DOC	A
1025200	G		INMARSAT GSO-2L	-53	C	07.02.2002	CR/C	1024	2555	23.01.2006	NO Input DOC	N
1085010	G		INMARSAT GSO-2L	-53	N	15.02.2010	PART	II-S	2686	23.01.2006	NO Input DOC	N
1025402	G		INMARSAT GSO-2N	64	A	11.06.2002	API/A	2379	2534	31.12.2005	11th meeting DOC*	A
1025201	G		INMARSAT GSO-2N	64	C	11.12.2002	CR/C	1150	2558	31.12.2004	11th meeting DOC*	N
1095002	G		INMARSAT GSO-2N	64	N	02.08.2010	PART	II-S	2696	31.12.2004	11th meeting DOC*	N
1035405	G		INMARSAT-4 143.5E	143.5	A	11.07.2003	API/A	2870	2504	01.07.2008	11th meeting DOC*	A
1045200	G		INMARSAT-4 143.5E	143.5	C	11.01.2004	CR/C	1358	2684	01.07.2008	11th meeting DOC*	N
1125000	G		INMARSAT-4 143.5E	143.5	N	12.01.2012	PART	II-S	2725	01.07.2008	11th meeting DOC*	N
1035405	G		INMARSAT-4 25E	25	A	11.07.2003	API/A	2872	2504	01.07.2008	11th meeting DOC*	A
1045200	G		INMARSAT-4 25E	25	C	11.01.2004	CR/C	1355	2684	01.07.2008	11th meeting DOC*	N
1105001	G		INMARSAT-4 25E	25	N	13.01.2012	PART	II-S	2723	01.07.2008	11th meeting DOC*	N
1045404	G		INMARSAT-4 98W	-98	A	20.07.2004	API/A	3269	2527	01.07.2008	11th meeting DOC*	A
1055200	G		INMARSAT-4 98W	-98	C	20.01.2005	CR/C	1530	2627	01.07.2008	11th meeting DOC*	N
1105001	G		INMARSAT-4 98W	-98	N	28.06.2010	PART	II-S	2710	07.01.2009	11th meeting DOC*	N
1075404	G		INMARSAT-4A 143.5E	143.5	A	25.06.2007	API/A	4686	2600	24.06.2014	11th meeting DOC*	A
1075203	G		INMARSAT-4A 143.5E	143.5	C	25.12.2007	CR/C	2134	2649	01.05.2014	11th meeting DOC*	Y
1145000	G		INMARSAT-4A 143.5E	143.5	N	19.06.2014	PART	I-S	2776	19.02.2014	11th meeting DOC*	N

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1075404	G		INMARSAT-4A 98W	-98	A	25.06.2007	API/A	4690	2600	24.06.2014	11th meeting DOC*	A
1075203	G		INMARSAT-4A 98W	-98	C	25.12.2007	CR/C	2138	2635	01.05.2014	11th meeting DOC*	Y
1145000	G		INMARSAT-4A 98W	-98	N	17.06.2014	PART	I-S	2774	19.02.2014	11th meeting DOC*	N
1145405	G		INMARSAT-4B 64E	64	A	19.08.2014	API/A	9521	2780		NO Input DOC	A
1145408	G		INMARSAT-6-142W	-142	A	08.12.2014	API/A	9743	2787		NO Input DOC	A
1145408	G		INMARSAT-6-143.5E	143.5	A	08.12.2014	API/A	9749	2787		NO Input DOC	A
1145408	G		INMARSAT-6-15.5W	-15.5	A	08.12.2014	API/A	9746	2787		NO Input DOC	A
1145408	G		INMARSAT-6-178E	178	A	08.12.2014	API/A	9750	2787		NO Input DOC	A
1145408	G		INMARSAT-6-25E	25	A	08.12.2014	API/A	9747	2787		NO Input DOC	A
1145408	G		INMARSAT-6-54W	-54	A	08.12.2014	API/A	9745	2787		NO Input DOC	A
1145408	G		INMARSAT-6-64E	64	A	08.12.2014	API/A	9748	2787		NO Input DOC	A
1145408	G		INMARSAT-6-98W	-98	A	08.12.2014	API/A	9744	2787		NO Input DOC	A
1135403	G		UKJKSAT-2	21.5	A	24.06.2013	API/A	8495	2764		NO Input DOC	A
1145200	G		UKJKSAT-2	21.5	C	28.01.2014	CR/C	3548	2776		NO Input DOC	N
1125404	G		UKUBE-1	N-GSO	A	24.05.2012	API/A	7615	2737	01.11.2012	NO Input DOC	A
1025400	I	GLS	GALILEO-M-NAVSTAR	N-GSO	A	21.02.2002	API/A	2259	2652	31.12.2006	2nd meeting DOC*	A
1035000	I	GLS	GALILEO-M-NAVSTAR	N-GSO	N	31.03.2003	PART	II-S	2639	03.03.2006	2nd meeting DOC*	N
1095405	I		INTERACT-KA	9	A	03.07.2009	API/A	5747	2650	15.06.2015	NO Input DOC	A
1105200	I		INTERACT-KA	9	C	03.01.2010	CR/C	2550	2688	01.09.2012	NO Input DOC	N
1095400	I		NEWSAT-1A	1	A	13.03.2009	API/A	5539	2644	20.12.2015	NO Input DOC	A
1105200	I		NEWSAT-1A	1	C	02.03.2010	CR/C	2619	2692	12.03.2016	NO Input DOC	N
1125404	IND		CHANDRAYAAN-2	N-GSO	A	20.04.2012	API/A	7529	2735	01.01.2014	NO Input DOC	A
1075400	IND		INSAT-NAV(55)	55	A	27.02.2007	API/A	4526	2592	28.09.2013	10th meeting DOC*	A
1075202	IND		INSAT-NAV(55)	55	C	12.12.2007	CR/C	2123	2635	27.02.2014	10th meeting DOC*	N
1145001	IND		INSAT-NAV(55)	55	N	24.10.2014	PART	I-S	2788	09.07.2013	10th meeting DOC*	N
1125409	IND		INSAT-NAV(93.5)	93.5	A	11.09.2012	API/A	7965	2732	03.07.2019	NO Input DOC	A
1145200	IND		INSAT-NAV(93.5)	93.5	C	05.03.2014	CR/C	3580	2778	03.07.2019	NO Input DOC	N
1075405	IND		INSAT-NAV-A-GS	N-GSO	A	17.08.2007	API/A	4720	2684	01.08.2014	10th meeting DOC*	A
1085200	IND		INSAT-NAV-A-GS	N-GSO	C	17.02.2008	CR/C	2160	2674	01.08.2014	10th meeting DOC*	N
1125002	IND		INSAT-NAV-A-GS	N-GSO	N	23.11.2012	PART	I-S	2739	30.04.2012	10th meeting DOC*	N
1105409	IND		INSAT-NAV-NGSA	N-GSO	A	08.12.2010	API/A	6644	2688	30.11.2017	10th meeting DOC*	A
1125200	IND		INSAT-NAV-NGSA	N-GSO	C	20.01.2012	CR/C	3120	2724	30.11.2017	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(120.5)	120.5	A	22.07.2011	API/A	7046	2705	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR(120.5)	120.5	C	22.01.2012	CR/C	3124	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(121.5)	121.5	A	22.07.2011	API/A	7047	2705	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR(121.5)	121.5	C	22.01.2012	CR/C	3125	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(123.5)	123.5	A	22.07.2011	API/A	7048	2705	30.06.2018	10th meeting DOC*	A

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1125200	IND		INSAT-NAVR(123.5)	123.5	C	22.01.2012	CR/C	3126	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(126.5)	126.5	A	22.07.2011	API/A	7051	2705	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR(126.5)	126.5	C	22.01.2012	CR/C	3127	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(127.5)	127.5	A	22.07.2011	API/A	7052	2705	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR(127.5)	127.5	C	22.01.2012	CR/C	3128	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(129.5)	129.5	A	22.07.2011	API/A	7054	2705	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR(129.5)	129.5	C	22.01.2012	CR/C	3129	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(32.5)	32.5	A	22.07.2011	API/A	7044	2705	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR(32.5)	32.5	C	22.01.2012	CR/C	3122	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR(83)	83	A	22.07.2011	API/A	7045	2705	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR(83)	83	C	22.01.2012	CR/C	3123	2724	30.06.2018	10th meeting DOC*	N
1115405	IND		INSAT-NAVR-GS	N-GSO	A	22.07.2011	API/A	7043	2709	30.06.2018	10th meeting DOC*	A
1125200	IND		INSAT-NAVR-GS	N-GSO	C	22.01.2012	CR/C	3121	2724	30.06.2018	10th meeting DOC*	N
1125410	INS		PSN-146E	146	A	25.10.2012	API/A	8013	2734	30.12.2015	NO Input DOC	A
1025404	J		N-SAT-HEO2	N-GSO	A	27.12.2002	API/A	2471	2599	01.10.2007	10th meeting DOC*	A
1045005	J		N-SAT-HEO2	N-GSO	N	28.12.2004	PART	II-S	2603	28.12.2007	10th meeting DOC*	Y
1125403	J		QZSS	N-GSO	A	04.04.2012	API/A	7594	2722	01.03.2019	10th meeting DOC*	A
1125204	J		QZSS	N-GSO	C	28.12.2012	CR/C	3322	2758	01.03.2019	10th meeting DOC*	Y
1065404	J		QZSS-1	N-GSO	A	01.09.2006	API/A	4295	2581	31.08.2013	10th meeting DOC*	A
1075200	J		QZSS-1	N-GSO	C	01.03.2007	CR/C	1952	2623	31.08.2013	10th meeting DOC*	Y
1105001	J		QZSS-1	N-GSO	N	27.01.2012	PART	II-S	2724	31.08.2013	10th meeting DOC*	Y
1125404	J		QZSS-GS1	90.5	A	04.04.2012	API/A	7595	2742	01.03.2019	10th meeting DOC*	A
1125204	J		QZSS-GS1	90.5	C	28.12.2012	CR/C	3317	2758	01.03.2019	10th meeting DOC*	Y
1125404	J		QZSS-GS3	123	A	04.04.2012	API/A	7597	2742	01.03.2019	10th meeting DOC*	A
1125204	J		QZSS-GS3	123	C	28.12.2012	CR/C	3318	2758	01.03.2019	10th meeting DOC*	Y
1125404	J		QZSS-GS4	127	A	04.04.2012	API/A	7598	2742	01.03.2019	10th meeting DOC*	A
1125204	J		QZSS-GS4	127	C	28.12.2012	CR/C	3319	2758	01.03.2019	10th meeting DOC*	Y
1125404	J		QZSS-GS5	137	A	04.04.2012	API/A	7599	2722	01.03.2019	10th meeting DOC*	A
1125204	J		QZSS-GS5	137	C	28.12.2012	CR/C	3320	2758	01.03.2019	10th meeting DOC*	Y
1125404	J		QZSS-GS8	168	A	04.04.2012	API/A	7602	2742	01.03.2019	10th meeting DOC*	A
1125204	J		QZSS-GS8	168	C	28.12.2012	CR/C	3321	2758	01.03.2019	10th meeting DOC*	Y
1095400	LUX		LUX-G6-2-E	5	A	03.03.2009	API/A	5535	2642	01.03.2016	7th meeting DOC*	A
1095202	LUX		LUX-G6-2-E	5	C	22.10.2009	CR/C	2483	2683	01.01.2014	7th meeting DOC*	N
1115401	LUX		LUX-G7-9-E2	31.5	A	10.02.2011	API/A	6760	2693	10.02.2018	9th meeting DOC*	A
1115204	LUX		LUX-G7-9-E2	31.5	C	01.12.2011	CR/C	3062	2718	10.02.2018	9th meeting DOC*	N
1085407	NIG		NIGCOMSAT-1R	42.5	A	10.12.2008	API/A	5429	2702	08.12.2010	4th meeting DOC*	A
1095200	NIG		NIGCOMSAT-1R	42.5	C	10.06.2009	CR/C	2425	2688	23.02.2011	4th meeting DOC*	N

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1145409	NIG		NIGSAT-10E	10	A	19.12.2014	API/A	9824	2789		NO Input DOC	A
1145409	NIG		NIGSAT-14W	-14	A	19.12.2014	API/A	9819	2789		NO Input DOC	A
1145409	NIG		NIGSAT-15W	-15	A	19.12.2014	API/A	9818	2789		NO Input DOC	A
1145409	NIG		NIGSAT-16E	16	A	19.12.2014	API/A	9825	2789		NO Input DOC	A
1145409	NIG		NIGSAT-20W	-20	A	19.12.2014	API/A	9817	2789		NO Input DOC	A
1145409	NIG		NIGSAT-22E	22	A	19.12.2014	API/A	9826	2789		NO Input DOC	A
1145409	NIG		NIGSAT-22W	-22	A	19.12.2014	API/A	9816	2789		NO Input DOC	A
1145409	NIG		NIGSAT-26W	-26	A	19.12.2014	API/A	9815	2789		NO Input DOC	A
1145409	NIG		NIGSAT-28E	28	A	19.12.2014	API/A	9827	2789		NO Input DOC	A
1145409	NIG		NIGSAT-2W	-2	A	19.12.2014	API/A	9822	2789		NO Input DOC	A
1145409	NIG		NIGSAT-34E	34	A	19.12.2014	API/A	9828	2789		NO Input DOC	A
1145409	NIG		NIGSAT-41.8E	41.8	A	19.12.2014	API/A	9829	2789		NO Input DOC	A
1145409	NIG		NIGSAT-42.5E	42.5	A	19.12.2014	API/A	9830	2789		NO Input DOC	A
1145409	NIG		NIGSAT-4E	4	A	19.12.2014	API/A	9823	2789		NO Input DOC	A
1145409	NIG		NIGSAT-8W	-8	A	19.12.2014	API/A	9821	2789		NO Input DOC	A
1145409	NIG		NIGSAT-9W	-9	A	19.12.2014	API/A	9820	2789		NO Input DOC	A
1125412	PAK		PAKSAT-MM1-38.2E	38.2	A	03.12.2012	API/A	8119	2740	30.11.2019	NO Input DOC	A
1135203	PAK		PAKSAT-MM1-38.2E	38.2	C	26.12.2013	CR/C	3530	2772	30.11.2019	NO Input DOC	N
1115407	PNG		RAGGIANA-18	-117	A	12.08.2011	API/A	7166	2706	25.02.2018	11th meeting DOC*	A
1135201	PNG		RAGGIANA-18	-117	C	01.07.2013	CR/C	3415	2768	25.02.2018	11th meeting DOC*	Y
1145407	PNG		RAGGIANA-19	-113	A	11.04.2014	API/A	9101	2771		NO Input DOC	A
1145407	PNG		RAGGIANA-20	-115	A	11.04.2014	API/A	9102	2771		NO Input DOC	A
1145403	PNG		RAGGIANA-21	119.5	A	23.06.2014	API/A	9312	2777		NO Input DOC	A
1145408	PNG		RAGGIANA-23	108	A	06.12.2014	API/A	9737	2787		NO Input DOC	A
1145408	PNG		RAGGIANA-25	55	A	06.12.2014	API/A	9738	2787		NO Input DOC	A
1145408	PNG		RAGGIANA-26	46	A	06.12.2014	API/A	9739	2787		NO Input DOC	A
1145408	PNG		RAGGIANA-28	11	A	06.12.2014	API/A	9740	2787		NO Input DOC	A
1145408	PNG		RAGGIANA-29	3	A	06.12.2014	API/A	9741	2787		NO Input DOC	A
1145407	PNG		RAGGIANA-31	-59	A	28.11.2014	API/A	9663	2787		NO Input DOC	A
1145407	PNG		RAGGIANA-32	-67.5	A	28.11.2014	API/A	9664	2787		NO Input DOC	A
1145407	PNG		RAGGIANA-33	-80	A	28.11.2014	API/A	9665	2787		NO Input DOC	A
1145407	PNG		RAGGIANA-34	-87	A	28.11.2014	API/A	9666	2787		NO Input DOC	A
9254000	RUS		GLONASS-M	N-GSO	A	12.03.2002	API/A	2264	2476	01.01.2003	11th meeting DOC*	A
1145200	RUS		GLONASS-M	N-GSO	C	12.02.2014	CR/C	3560	2777	17.01.2009	11th meeting DOC*	N
9750030	RUS		GLONASS-M	N-GSO	N	21.05.2003	PART	II-S	2645	17.01.2009	11th meeting DOC*	N
1135407	S		SMMSAT-1	-61	A	21.11.2013	API/A	8831	2761		NO Input DOC	A
1135407	S		SMMSAT-10	165	A	21.11.2013	API/A	8840	2761		NO Input DOC	A

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1135407	S		SMMSAT-2	-41	A	21.11.2013	API/A	8832	2761		NO Input DOC	A
1135407	S		SMMSAT-3	-33.5	A	21.11.2013	API/A	8833	2761		NO Input DOC	A
1135407	S		SMMSAT-4	21.5	A	21.11.2013	API/A	8834	2761		NO Input DOC	A
1135407	S		SMMSAT-5	31	A	21.11.2013	API/A	8835	2761		NO Input DOC	A
1135407	S		SMMSAT-6	39	A	21.11.2013	API/A	8836	2761		NO Input DOC	A
1135407	S		SMMSAT-7	55	A	21.11.2013	API/A	8837	2761		NO Input DOC	A
1135407	S		SMMSAT-8	61.5	A	21.11.2013	API/A	8838	2761		NO Input DOC	A
1135407	S		SMMSAT-9	159	A	21.11.2013	API/A	8839	2761		NO Input DOC	A
1145400	TUR		TURKSAT-19E-D	19	A	31.01.2014	API/A	9030	2767		NO Input DOC	A
1125408	TUR		TURKSAT-23W-A	-23	A	23.12.2013	API/A	7898	2763		NO Input DOC	A
1145400	TUR		TURKSAT-28.1E-D	28.1	A	31.01.2014	API/A	9031	2767		NO Input DOC	A
1145400	TUR		TURKSAT-31.5E-D	31.5	A	31.01.2014	API/A	9032	2767		NO Input DOC	A
1145400	TUR		TURKSAT-32.5E-D	32.5	A	31.01.2014	API/A	9033	2767		NO Input DOC	A
1145400	TUR		TURKSAT-41E-D	41	A	31.01.2014	API/A	9034	2767		NO Input DOC	A
1145400	TUR		TURKSAT-43.5E-D	43.5	A	31.01.2014	API/A	9035	2767		NO Input DOC	A
1145400	TUR		TURKSAT-50.5E-D	50.5	A	31.01.2014	API/A	9036	2767		NO Input DOC	A
1145400	TUR		TURKSAT-5E-D	5	A	31.01.2014	API/A	9029	2767		NO Input DOC	A
1145400	TUR		TURKSAT-73E-D	73	A	31.01.2014	API/A	9037	2767		NO Input DOC	A
1015403	USA		INTNL SPACE	N-GSO	A	19.02.2001	API/A	1804	2442	01.02.2001	NO Input DOC	A
1015005	USA		INTNL SPACE	N-GSO	N	24.09.2002	PART	II-S	2592	01.02.2001	NO Input DOC	N
1005440	USA		LM-RPS-107.3W	-107.3	A	02.06.2000	API/A	1385	2515	01.06.2005	2nd meeting DOC*	A
1005204	USA		LM-RPS-107.3W	-107.3	C	30.01.2004	CR/C	770	2666	01.06.2005	2nd meeting DOC*	Y
1095004	USA		LM-RPS-107.3W	-107.3	N	31.05.2007	PART	II-S	2665	20.01.2006	2nd meeting DOC*	Y
1005440	USA		LM-RPS-133W	-133	A	02.06.2000	API/A	1386	2515	01.06.2005	2nd meeting DOC*	A
1005204	USA		LM-RPS-133W	-133	C	30.01.2004	CR/C	771	2666	01.06.2005	2nd meeting DOC*	Y
1095004	USA		LM-RPS-133W	-133	N	31.05.2007	PART	II-S	2663	03.11.2006	2nd meeting DOC*	Y
1025403	USA		NAVSTAR GPS-IIRF	N-GSO	A	26.08.2002	API/A	2429	2578	26.08.2009	7th meeting DOC*	A
1035001	USA		NAVSTAR GPS-IIRF	N-GSO	N	02.05.2003	PART	II-S	2645	10.04.2009	7th meeting DOC*	N
1095405	USA		USRSR	N-GSO	A	24.06.2009	API/A	5741	2695	01.03.2016	7th meeting DOC*	A
1105202	USA		USRSR	N-GSO	C	14.09.2010	CR/C	2729	2705	01.03.2016	7th meeting DOC*	Y

<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 République populaire de Chine le <b>20.10.2015</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 P.R. China on <b>20.10.2015</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 la R.P. China el <b>20.10.2015</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 <b>609</b> (Rev.WRC-07)، أي نتائج ترتيبات التقاسم التراكمي التي يتم التوصل إليها تنفيذاً للبند 2 من منطوق القرار <b>609</b> (Rev.WRC-07)، بغض النظر عما إذا كانت هذه الترتيبات سيسفر عنها أي تعديلات في الخصائص المنشورة لأنظمة الإدارات المعنية وشبكاتهما.</p>
<p>本资料是由中华人民共和国主管部门根据第 <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 2015 年 10 月 20 日提交无线电通信局的。</p>	<p>Настоящая информация направлена в Бюро администрацией Китайской Народной Республики <b>20.10.2015</b> года в соответствии с разделом 2 и разделом 14 круга ведения консультативного собрания по Резолюции <b>609</b> (Пересм. ВКР-07).</p>	<p>أبلغت إدارة جمهورية الصين الشعبية المكتب بهذه المعلومات في <b>20.10.2015</b>، تطبيقاً للقسمين 2 و 14 من اختصاصات الاجتماع التشاوري المنظم وفقاً للقرار <b>609</b> (Rev.WRC-07).</p>



**Report of the Twelfth 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  $-121.5$  dB ( $W/(m^2 \cdot MHz)$ ), (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).

This report reflects the results of the Twelfth 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  $-125.7$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 4.2 dB below the Resolution 609 limit of  $-121.5$  dB ( $W/(m^2 \cdot MHz)$ ). 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  $-125.7$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 4.2 dB below the Resolution 609 limit of  $-121.5$  dB ( $W/(m^2 \cdot MHz)$ ). 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 efd level produced by all space stations of 22 RNSS systems and networks was made and agreed. The maximum efd of all satellites associated with the assessed RNSS systems and networks was  $-125.7$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 4.2 dB below the Resolution 609 limit of  $-121.5$  dB( $W/(m^2 \cdot MHz)$ ). 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 efd level produced by all space stations of 26 RNSS systems and networks was made and agreed. The maximum efd of all satellites associated with the assessed RNSS systems and networks was  $-122.33$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 0.83 dB below the Resolution 609 limit of  $-121.5$  dB( $W/(m^2 \cdot MHz)$ ). 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 efd level produced by all space stations of 25 RNSS systems and networks was made and agreed. The maximum efd of all satellites associated with the assessed RNSS systems and networks was  $-122.82$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 1.32 dB below the Resolution 609 limit of  $-121.5$  dB( $W/(m^2 \cdot MHz)$ ). 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 efd level produced by all space stations of 25 RNSS systems and networks was made and agreed. The maximum efd of all satellites associated with the assessed RNSS systems and networks was  $-122.58$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 1.08 dB below the Resolution 609 limit of  $-121.5$  dB( $W/(m^2 \cdot MHz)$ ). 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 efd level produced by all space stations of 23 RNSS systems and networks was made and agreed. The maximum efd of all satellites associated with the referenced RNSS networks and systems was  $-122.64$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 1.14 dB below the Resolution 609 limit of  $-121.5$  dB( $W/(m^2 \cdot MHz)$ ). 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 efd level produced by all space stations of 23 RNSS systems and networks was made and agreed. The maximum efd of all satellites associated with the referenced RNSS networks and systems was  $-121.93$  dB ( $W/(m^2 \cdot MHz)$ ), i.e. 0.43 dB below the Resolution 609 limit of  $-121.5$  dB( $W/(m^2 \cdot MHz)$ ). 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 efd level produced by all space stations of 23 RNSS systems and networks was made and agreed. The maximum efd 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)**

In conformity with the 13 Jun 2014 deadline established at the Tenth CM, some administrations submitted updated or new technical characteristics for some RNSS systems and networks. The RNSS systems and networks which provided submissions to this CM in accordance with the criteria defined in the Terms of Reference are listed in Table 1 of the attachment.

Calculations of the efd level produced by space stations of the referenced RNSS systems and networks from Table 1 were compared and agreed at the Eleventh Consultation Meeting, October, 2014. The agreed calculations by the participants can be found in Table 2 along with the aggregate spectral emissions profile in Figure 1. The calculated results were determined to be below the Resolution 609 limit of  $-121.5 \text{ dB (W/(m}^2\cdot\text{MHz))}$ , i.e. 0.51 dB below the Resolution 609 limit of  $-121.5 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , but within 2 dB of that level and therefore, according to the CM Terms of Reference, the calculations were performed using data with a 1-degree latitude / longitude resolution.

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

Calculations of the efd level produced by space stations of the referenced RNSS systems and networks from Table 1 were compared and agreed at the Twelfth Consultation Meeting. The agreed calculations by the participants can be found in Table 2 along with the aggregate spectral emissions profile in Figure 1. The maximum efd 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.

## **3 Conclusion**

The maximum aggregate efd of satellites associated with the referenced RNSS networks and systems in Table 1 is determined to be no greater than  $-122.00 \text{ dB(W/(m}^2\cdot\text{MHz))}$ , 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.

## 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 provided characteristics to the twelfth Consultation Meeting**

	ntc_id	Adm	twk_org	sat_name	long_nom	ntf_rsn	d_rcv	ssn_ref	ssn_no	ific_no	ntc_type
1	112541248	ALG		ALCOMSAT-24.8W	-24.8	C	29.05.2013	CR/C	3389	2766	G
2	103500418	CHN		COMPASS-110.5E <sup>1</sup>	110.5	N	31.12.2003	PART	2	2681	G
3	103500419	CHN		COMPASS-140E <sup>1</sup>	140	N	31.12.2003	PART	2	2684	G
4	105520009	CHN		COMPASS-160E <sup>1</sup>	160	C	07.01.2005	/CR/C	1526	2552	G
5	103500416	CHN		COMPASS-58.75E <sup>1</sup>	58.75	N	31.12.2003	PART	2	2681	G
6	103500417	CHN		COMPASS-80E <sup>1</sup>	80	N	31.12.2003	PART	2	2658	G
7	112541042	CHN		COMPASS-80.3E <sup>1</sup>	80.3	A	24.09.2012	API/A	7978	2733	G
8	111520203	CHN		COMPASS-B-84E <sup>1</sup>	84	C	31.05.2011	CR/C	2933	2702	G
9	111520204	CHN		COMPASS-B-144.5E <sup>1</sup>	144.5	C	31.05.2011	CR/C	2934	2702	G
10	103500420	CHN		COMPASS-H <sup>1</sup>	N-GSO	N	31.12.2003	PART	2	2563	N
11	112520031	CHN		COMPASS-IGSO <sup>1</sup>	N-GSO	C	18.01.2012	CR/C	3118	2724	N
12	103500421	CHN		COMPASS-M <sup>1</sup>	N-GSO	N	31.12.2003	PART	2	2563	N
13	110520285	CHN		COMPASS-MEO <sup>1</sup>	N-GSO	C	01.10.2010	CR/C	2740	2686	N
14	100500321	F	GLS	MSATNAV-2 <sup>2</sup>	N-GSO	N	04.10.2000	PART	2	2536	N
15	104520033	G		INMARSAT-4 25E <sup>3</sup>	25	C	11.01.2004	CR/C	1355	2684	G
16	107520298	G		INMARSAT-4A 25E <sup>3</sup>	25	C	25.06.2007	CR/C	2132	2641	G
17	102520123	G		INMARSAT GSO-2N	64	C	11.12.2002	CR/C	1150	2507	G
18	104520036	G		INMARSAT-4 143.5E <sup>3</sup>	143.5	C	11.01.2004	CR/C	1358	2684	G
19	107520300	G		INMARSAT-4A 143.5E <sup>3</sup>	143.5	C	25.12.2007	CR/C	2134	2635	G
20	105520012	G		INMARSAT-4 98W <sup>3</sup>	-98	C	20.01.2005	CR/C	1530	2553	G
21	107520304	G		INMARSAT-4A 98W <sup>3</sup>	-98	C	25.12.2007	CR/C	2138	2635	G
22	108520073	IND		INSAT-NAVR(32.5)	32.5	C	22.01.2012	CR/C	3122	2724	G
23	107520285	IND		INSAT-NAV(55)	55	C	12.12.2007	CR/C	2123	2617	G
24	108520074	IND		INSAT-NAVR(83)	83	C	22.01.2012	CR/C	3123	2724	G
25	108520024	IND		INSAT-NAVR-GS <sup>4</sup>	N-GSO	C	22.01.2012	CR/C	3121	2724	N
26	110540953	IND		INSAT-NAV-NGSA <sup>4</sup>	N-GSO	C	20.01.2012	CR/C	3120	2724	N
27	104500548	J		N-SAT-HEO2 <sup>5</sup>	N-GSO	N	28.12.2004	PART	2	2603	N

	ntc_id	Adm	twk_org	sat_name	long_nom	ntf_rsn	d_rcv	ssn_ref	ssn_no	ific_no	ntc_type
28	110500199	J		QZSS-1 <sup>5</sup>	N-GSO	N	27.01.2012	PART	2	2724	N
29	112520494	J		QZSS <sup>5</sup>	N-GSO	C	28.12.2012	CR/C	3322	2743	N
30	112520496	J		QZSS-GS3 <sup>5</sup>	123	C	28.12.2012	CR/C	3318	2743	G
31	112520497	J		QZSS-GS4 <sup>5</sup>	127	C	28.12.2013	CR/C	3319	2743	G
32	92540003	RUS		GLONASS-M	N-GSO	A	12.03.2002	API/A	2264	2469	N
33	97500304	RUS		GLONASS-M	N-GSO	N	21.05.2003	PART	2	2578	N
34	114520045	RUS		GLONASS-M	N-GSO	C	12.02.2014	CR/C	3560	2777	N
35	107500170	USA		LM-RPS-107.3W	-107.3	N	31.05.2007	PART	1	2598	G
36	107500171	USA		LM-RPS-133W	-133	N	31.05.2007	PART	1	2598	G
37	103500110	USA		NAVSTAR GPS-IIRF <sup>6</sup>	N-GSO	N	02.05.2003	PART	2	2538	N
38	109520247	LUX		LUX-G6-2-E	5	C	22.10.2009	CR/C	2483	2663	G
39	111520428	LUX		LUX-G7-9-E2	31.5	C	01.12.2011	CR/C	3062	2718	G
40	113520165	PNG		RAGGIANA-18	-117	C	01.07.2013	CR/C	3415	2768	G
41	109520005	NIG		NIGCOMSAT-1R	42.5	C	10.06.2009	CR/C	2425	2688	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-NAVR-NGSA 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 (BR Network ID: 107520015 and 110500199, ITU Publication Reference: CR/C/1952 and Part II-S, IFIC: 2597 and 2724, respectively), QZSS (BR Network ID: 112520494, ITU Publication Reference: CR/C/3322, IFIC: 2743), QZSS-GS1 (BR Network ID: 112520495, ITU Publication Reference: CR/C/3317, IFIC: 2743) QZSS-GS2 (BR Network ID: 112540401, ITU Publication Reference: API/A/7596, IFIC: 2597) QZSS-GS3 (BR Network ID: 112520496, ITU Publication Reference: CR/C/3318, IFIC: 2743) QZSS-GS4 (BR Network ID: 112520497, ITU Publication Reference: CR/C/3319, IFIC: 2743) QZSS-GS5 (BR Network ID: 112520498, ITU Publication Reference: CR/C/3320, IFIC: 2743) QZSS-GS6 (BR Network ID: 112540405, ITU Publication Reference: API/A/7600, IFIC: 2597) QZSS-GS7 (BR Network ID: 112540406, ITU Publication Reference: API/A/7601, IFIC: 2597) QZSS-GS8 (BR Network ID: 112520499, 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 (BR Network ID: 109540048 and 110520280, ITU Publication Reference: API/A/5535 and CR/C/2729, IFIC: 2642 and 2685, respectively)

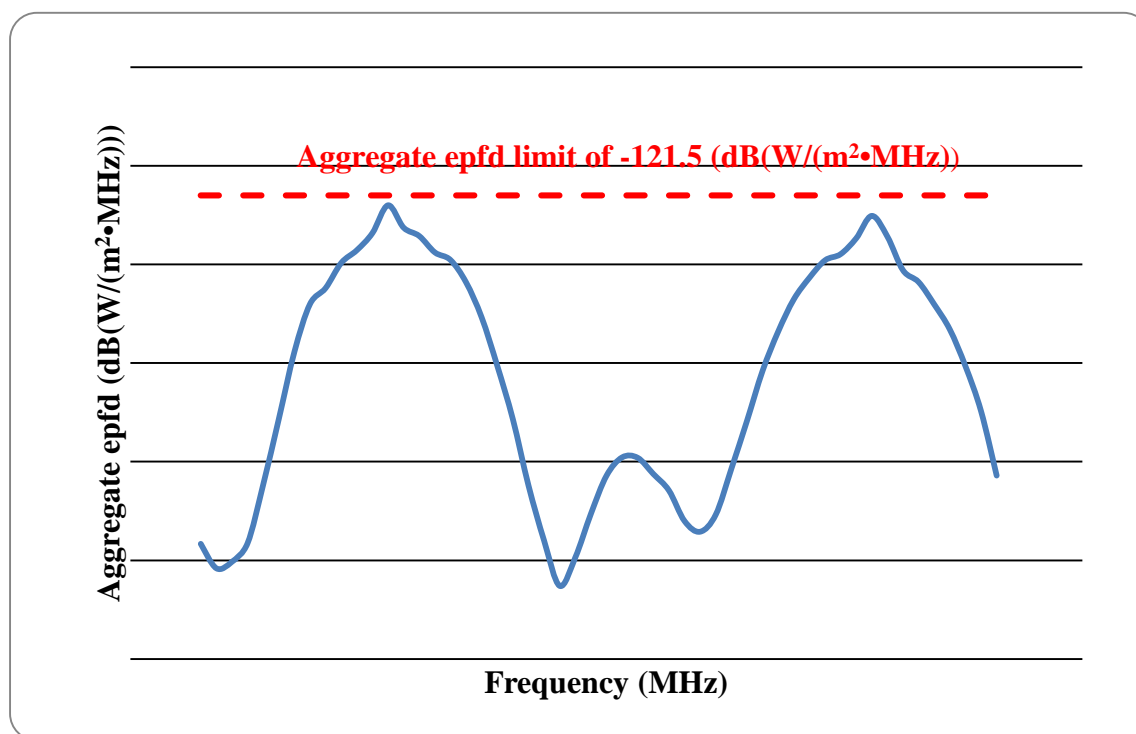
Detailed characteristics of these systems, which were used for the aggregate computation, are available on the Resolution 609 Forum page within the ITU web site:

<http://www.itu.int/ITU-R/space/res609/>: see attachment 3 to the Record of Decisions from the Eleventh 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 with 1° steps**

Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/(m <sup>2</sup> ·MHz)))	Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/(m <sup>2</sup> ·MHz)))	Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/(m <sup>2</sup> ·MHz)))	Center Frequency (MHz)	Max RNSS Agg epfd (dB(W/(m <sup>2</sup> ·MHz)))
1164	-139.16	1177	-123.14	1190	-135.66	1203	-125.66
1165	-140.41	1178	-123.56	1191	-134.66	1204	-124.78
1166	-140.07	1179	-124.39	1192	-134.74	1205	-124.46
1167	-139.13	1180	-124.78	1193	-135.55	1206	-123.66
1168	-136.17	1181	-125.91	1194	-136.44	1207	-122.55
1169	-132.84	1182	-127.69	1195	-137.97	1208	-123.57
1170	-129.43	1183	-130.14	1196	-138.55	1209	-125.19
1171	-127.01	1184	-132.85	1197	-137.69	1210	-125.79
1172	-126.20	1185	-136.21	1198	-135.36	1211	-126.92
1173	-124.93	1186	-139.00	1199	-132.92	1212	-128.19
1174	-124.28	1187	-141.30	1200	-130.39	1213	-130.05
1175	-123.41	1188	-139.86	1201	-128.39	1214	-132.33
1176	-122.00	1189	-137.64	1202	-126.76	1215	-135.60



**Figure 1: Plot of Table 2 (Maximum RNSS Aggregate epfd per MHz with 1° steps)**