



# PUBLIC NOTICE

Federal Communications Commission  
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**THE FCC'S ADVISORY COMMITTEE FOR THE  
2007 WORLD RADIOCOMMUNICATION CONFERENCE APPROVES  
RECOMMENDATIONS ON WRC-07 ISSUES**

**IB Docket No. 04-286**

On January 25, 2006, the World Radiocommunication Conference Advisory Committee (WRC-07 Advisory Committee) approved recommendations to the Commission on a number of issues that will be considered by the 2007 World Radiocommunication Conference (WRC-07). The WRC-07 Advisory Committee was established by the Commission in January 2004 to assist it in the development of proposals for WRC-07. To that end, the WRC-07 Advisory Committee has forwarded the recommendations it has developed since the beginning of 2004 to the Commission for consideration. We appreciate the substantial amount of work that the WRC-07 Advisory Committee has put into developing its recommendations. We have attached to this Public Notice the WRC-07 Advisory Committee's recommendations that were approved at the January 25, 2006 meeting and request comments on these recommendations.

Based upon our initial review of the recommendations forwarded to the Commission, the International Bureau in coordination with other Commission Bureaus and Offices tentatively concludes that we can generally support the attached WRC-07 Advisory Committee recommendations. We seek comments on the recommendations that appear in all of the WRC-07 Advisory Committee documents and on our initial impressions.

In addition, the National Telecommunications and Information Administration (NTIA) has provided to the Commission draft preliminary views and proposals that have been developed by the Executive Branch Agencies. We also request comments on these documents.

The comments provided will assist the FCC in its upcoming consultations with the U.S. Department of State and NTIA in the development of U.S. positions for WRC-07. The recommendations that are attached to this Public Notice may evolve in the course of interagency discussions as we approach WRC-07 and, therefore, do not constitute a final U.S. Government position on any issue.

The complete text of these recommendations is also available in the FCC's Reference Information Center, Room CY-A257, 445 12<sup>th</sup> Street, SW, Washington, DC 20554 or by accessing the FCC's WRC-07 world wide web site at: <http://www.fcc.gov/wrc-07>. Comments on the recommendations may be filed by referencing IB Docket 04-286 using the Commission's Electronic Comment Filing System (ECFS) or by

filing paper copies. Parties are encouraged to file electronically by following the instructions at: <http://www.fcc.gov/cgb/ecfs> Parties who choose to file paper copies only should submit an original and four copies of each filing. Guidelines and address for paper filings are available at: <http://www.fcc.gov/osec> . In addition, please submit one copy of your comments electronically or by paper to Alexander Roytblat, FCC WRC-07 Director, Federal Communications Commission, Room 6-A865, 445 12<sup>th</sup> Street, SW, Washington, DC 20554; e-mail: [WRC07@fcc.gov](mailto:WRC07@fcc.gov). Comments should refer to IB Docket No. 04-286 and to specific recommendations by document number. The deadline for comments on the recommendations is February 24, 2006.

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# **I. Recommendations by the Advisory Committee for the 2007 World Radiocommunication Conference:**

## **INFORMAL WORKING GROUP 1 (IWG-1)** **Terrestrial and Space Science Services**

**Document WAC/086(25.01.06):**

### **DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.2 (Res 746):** to consider allocations and regulatory issues related to the Earth exploration-satellite (passive) service, space research (passive) service and the meteorological satellite service in accordance with Resolutions **746 (WRC-03)** and **742 (WRC-03)**;

**Background Information:** This proposal addresses *resolves 1 of Resolutions 746 (WRC-03)*, “to invite ITU-R to conduct sharing analyses between geostationary meteorological satellites operating in the space-to-Earth direction and the fixed, fixed-satellite and mobile services in the band 18.0-18.4 GHz to define appropriate sharing criteria with a view to extending the current 18.1-18.3 GHz geostationary meteorological satellite allocation in the space-to-Earth direction to 300 MHz of contiguous spectrum.” Presently the meteorological-satellite (MetSat) service (space-to-Earth), limited to the geostationary-satellite orbit (GSO), is allocated by footnote **5.519** in the band 18.1-18.3 GHz. The band is allocated on a primary basis to the fixed-satellite service (FSS), the fixed service and the mobile service in all three Regions and these allocations also exist for these same services in the band 17.8-18.1 GHz in all Regions. In both bands, the FSS is allocated in both the space-to-Earth and Earth-to-space directions. Additionally, in the 18.1-18.4 GHz band, the FSS (space-to-Earth) allocation has associated with it Nos. **5.484A** and **5.516B**. The first provision applies to non-Geostationary FSS satellite systems. The latter provision states that the band 18.3-19.3 GHz has been identified for use by high-density applications in the FSS in Region 2.

WP-7B has been the lead ITU-R group concerned with analyzing the sharing potential with other services in the band and it has exchanged several Liaison Statements with WP-4A. As a consequence of the information provided by WP-4A, those involved in the design of the next generation GSO meteorological satellites have optimized the design to maximize the level of homogeneity between FSS and Metsat systems. It is envisioned that this would maximize compatibility and facilitate coordination under No. **9.7** for operation of both types of systems in the space-to-Earth direction.

In accordance with No. **5.516** the band 18.0-18.1 GHz in the Earth-to-space direction is used for feeder links for the broadcasting-satellite service. Compatibility studies have been performed to estimate the typical required separation distances in reverse band sharing situations between receiving MetSat earth stations and transmitting BSS feeder uplink stations. In the worst case, it has been determined that around 40 km separation is required. Therefore it is expected that with some care in situating the limited number of MetSat receive stations international coordination would rarely be required under No. **9.17A**.

While the expected design of the GSO MetSat satellite networks envisioned for operation in the 300 MHz wide band appears to be generally compatible with FSS systems being implemented, it would appear that, for Region 2, operating MetSat systems below 18.3 GHz would avoid several potential difficulties. Given the desire to have a common MetSat allocation in all three Regions, it is proposed to expand the additional allocation in No. **5.519** from 18.1-18.3 GHz to 18.0-18.3 GHz, including the limitation to geostationary satellites and the requirement to meet the provisions of Article **21**, Table 21-4.

In addition, ITU-R studies have shown that, in conjunction with extending the MetSat allocation, extending the existing FSS coordination arc principle in this band to the case of MetSat systems coordinating with FSS networks has the potential to reduce the workload of the Bureau in identifying affected administrations and fulfils the purposes envisioned by Resolution **901 (WRC-03)**. As such, a consequential modification to Table 5-1 of Appendix **5** to include this change is also proposed. It is noted that as with the current No. **9.7**, an administration may request, pursuant to No. **9.41**, to be included in requests for coordination involving the MetSat or FSS service in this band, indicating the networks for which the value of  $\Delta T/T$  calculated by the method in § 2.2.1.2 and 3.2 of Appendix **8** exceeds 6%.

**Proposal:**

**USA/ 1        MOD**

**5.519**        *Additional allocation:* the band 18.0-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article **21**, Table **21-4**.

**Reasons:** Expanding the current 18.1-18.3 GHz geostationary meteorological-satellite service (space-to-Earth) allocation to the band 18.0-18.1 GHz by modifying No. **5.519** will provide greater flexibility for the meteorological-satellite service and extend the current criteria (i.e., the limitation to geostationary satellites and the requirement to meet the provisions of Article **21**, Table 21-4) to protect existing services.

**5.Metsat** In the band 18.0-18.1 GHz, earth stations of the meteorological satellite service (space-to-Earth) in Region 1 and 3 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link.

**Reasons:** Analysis has shown that under worst case assumptions a maximum separation distance of 40 km would be required between a Metsat receiving station and a BSS feeder-link transmitting station in order to protect the Metsat receiving station. This minimal separation requirement should ensure that operation of a Metsat receive station would be a domestic issue. Nevertheless, this provision would ensure that Metsat receive stations could not affect the APP 30 A Plan.

USA/ /2 MOD

15.4-18.4 GHz

Allocation to services		
Region 1	Region 2	Region 3
15.4-15.43	AERONAUTICAL RADIONAVIGATION 5.511D	
15.43-15.63	FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	
15.63-15.7	AERONAUTICAL RADIONAVIGATION 5.511D	
15.7-16.6	RADIOLOCATION 5.512 5.513	
16.6-17.1	RADIOLOCATION Space research (deep space) (Earth-to-space) 5.512 5.513	
17.1-17.2	RADIOLOCATION 5.512 5.513	
17.2-17.3	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513 5.513A	
17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 BROADCASTING-SATELLITE Radiolocation 5.514 5.515 5.517	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 Radiolocation  5.514
17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE <b>ADD 5.519 <u>5.Metsat</u></b>	17.7-17.8 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.516 BROADCASTING-SATELLITE Mobile 5.518 5.515 5.517	17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE <b>ADD 5.519 <u>5.Metsat</u></b>
	17.8-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE <b>ADD 5.519</b>	

18.1-18.4	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE <b>MOD</b> 5.519 5.521
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**Reasons:** Consequential to adding the additional 100 MHz in the band 18.0-18.1 GHz to **No. 5.519**. In addition, 5.Metsat ensures that Metsat receive stations cannot affect the App 30A Plan.

TABLE 5-1 (continued) (Rev.WRC-037)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. 9.7 GSO/GSO (cont.)		3) 17.7-20.2 GHz, (Regions 2 and 3), 17.3-20.2 GHz (Region 1) and 27.5-30 GHz	i) Bandwidth overlap, and ii) any network in the FSS and any associated space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 8^\circ$ of the nominal orbital position of a proposed network in the FSS		
		4) <u>18.0-18.3 GHz</u>  <del>5</del> 4) Bands above 17.3 GHz, except those defined in § 3) <u>and 4)</u>  <del>5</del> 5) Bands above 17.3 GHz	i) <u>Bandwidth overlap, and</u> ii) <u>any network in the FSS or MetSat service and any associated space operation functions (see No. 1.23) with a space station within an orbital arc of <math>\pm 8^\circ</math> of the nominal orbital position of a proposed network in the FSS or MetSat service</u>  i) Bandwidth overlap, and ii) any network in the FSS and any associated space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 8^\circ$ of the nominal orbital position of a proposed network in the FSS (see also Resolution <b>901 (WRC-03)</b> )  i) Bandwidth overlap, and ii) any network in the FSS or BSS, not subject to a Plan, and any associated		

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. 9.7 GSO/GSO (cont.)		<p><del>7</del>6) All frequency bands, other than those in 1), 2), 3), 4), <del>5</del> and <del>6</del>5), allocated to a space service, and the bands in 1), 2), 3), 4), <del>5</del> and <del>6</del>5) where the radio service of the proposed network or affected networks is other than the space services listed in the threshold/condition column, or in the case of coordination of space stations operating in the opposite direction of transmission</p>	<p>space operation functions (see No. 1.23) with a space station within an orbital arc of <math>\pm 16^\circ</math> of the nominal orbital position of a proposed network in the FSS or BSS, not subject to a Plan, except in the case of a network in the FSS with respect to a network in the FSS (see also Resolution 901 (WRC-03))</p> <p>i) Bandwidth overlap, and</p> <p>ii) Value of <math>\Delta T/T</math> exceeds 6%</p>	Appendix 8	<p>In application of Article 2A of Appendix 30 for the space operation functions using the guardbands defined in § 3.9 of Annex 5 of Appendix 30, the threshold/condition specified for the FSS in the bands in 2) applies.</p> <p>In application of Article 2A of Appendix 30A for the space operation functions using the guardbands defined in § 3.1 and 4.1 of Annex 3 of Appendix 30A, the threshold/condition specified for the FSS in the bands in 4) applies</p>

**Reasons:** Consequential modification to the additional allocation to MetSat in the band 18.0-18.1 GHz. ITU studies have shown that extending the  $\pm 8^\circ$  coordination arc, currently applicable to FSS networks in this band, to the meteorological-satellite (MetSat) services in this band would reduce the workload of the Bureau in identifying affected administrations and the number of unnecessary coordinations for such systems while maintaining the rights of administrations to be included in requests for coordination involving the MetSat or FSS service in this band.

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**INFORMAL WORKING GROUP 4 (IWG-4)**  
**Broadcasting and Amateur Issues**

**Document WAC/083(25.01.06):**

**DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.6 (Res. 414):** *to consider additional allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution 414 (WRC-03) and, to study current satellite frequency allocations, that will support the modernization of civil aviation telecommunication systems, taking into account Resolution 415 (WRC-03);*

**Background Information:** This proposal considers additional allocations for the aeronautical mobile (R) service (AM(R)S) in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution 414 (WRC-03).

Existing AM(R)S bands are nearing saturation in high traffic areas. In addition, new applications and concepts in air traffic management put further pressure on existing AM(R)S bands.

Resolution 414 (WRC-03) states that new technologies to support air navigation may not conform to the definition of aeronautical radionavigation in the Radio Regulations. WRC-03 provided a mechanism to implement these new aviation technologies by adding AM(R)S use in the band 108 - 117.975 MHz by footnote 5.197A in accordance with Resolution 413 (WRC-03). One emerging application driving requirements for new AM(R)S spectrum is the integration of command and control for unmanned aircraft (UA) into air traffic services (ATS) airspace. Conversely, AM(R)S spectrum is not appropriate for UA payload data use, such as downlinking information and operational data from the UA.

ITU-R Working Party 8B (WP 8B) and the International Civil Aviation Organization (ICAO) developed a draft operational concept, and technology selection criteria and procedures for new aviation technology. WP 8B and ICAO determined that the new aviation systems require two distinct categories of AM(R)S spectrum. The first category for surface applications could support high data throughput over moderate transmission distances. There is a high degree of reuse of this spectrum. For surface applications, ICAO and WP8B recommended 5 091 - 5 150 MHz as a suitable band. WP 8B is also studying the band 5 091-5 150 MHz under agenda item 1.5 for the purpose of aeronautical mobile telemetry applications.<sup>1</sup>

The second category for bidirectional air to ground applications could support a moderate data throughput over longer propagation distances out to radio line-of-sight. These applications require a number of distinct channels to allow for sector-to-sector assignments. For radio line-of-sight applications, ICAO and WP 8B recommended 960 - 1 024 MHz as a suitable band.

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<sup>1</sup> Note that frequencies in the band 108-117.975 MHz are not currently being considered by the U.S. for new aviation technology.



**USA/ / 2      MOD**

**4 800-5 570 MHz**

Allocation to services		
Region 1	Region 2	Region 3
4 800-4 990	FIXED MOBILE 5.442 Radio astronomy 5.149 5.339 5.443	
4 990-5 000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	
5 000-5 010	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.367	
5 010-5 030	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-space) 5.328B 5.443B 5.367	
5 030-5 150	AERONAUTICAL RADIONAVIGATION 5.367 5.444 5.444A <b>ADD 5.367[A]</b>	

**Reasons:** To provide allocations to support evolving AM(R)S applications.

**USA/ / 3      ADD**

**5.328C**The band 960 - 1 024 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **AM(R)S 960** and shall not cause harmful interference to nor claim protection from stations operating in the aeronautical radionavigation service operating in accordance with international aeronautical standards.

**Reasons:** To provide allocations to support evolving AM(R)S applications. Compatibility with regard to existing aeronautical radionavigation service (ARNS) systems will be addressed as a part of standards development for the new AM(R)S system.

**USA/ / 4      ADD**

**5.367A**The band 5 091-5 150 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems operating in accordance with recognized international aeronautical standards.

**Reasons:** To provide allocations to support evolving AM(R)S applications. Compatibility with regard to existing aeronautical radionavigation service (ARNS) systems will be addressed as a part of standards development for the new AM(R)S system.

**USA/ /5 ADD**

## RESOLUTION AM(R)S 960 (WRC-07)

### **Use of the band 960-1 024 MHz by aeronautical services**

The World Radiocommunication Conference (Geneva, 2007),

*considering*

- a) the current allocation of the frequency band 960-1 164 MHz to the aeronautical radionavigation service (ARNS);
- b) the use of the band 960 - 1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities per No. **5.328**;
- c) that new technologies are being developed to support communications and air navigation, including airborne and ground surveillance applications;
- d) that new applications and concepts in air traffic management which are data intensive are being developed,

*recognizing*

- a) that precedence must be given to the ARNS operating in the frequency band 960 - 1 164 MHz;
- b) that, in accordance with Annex 10 of the Convention of the International Civil Aviation Organization (ICAO) on international civil aviation, all aeronautical systems must meet standards and recommended practices (SARPs) requirements;
- c) that compatibility criteria between aeronautical mobile (route) service (AM(R)S) systems and the ARNS operating in the frequency band 960-1 024 MHz will be established by ICAO through the development of relevant Standards and Recommended Practices (SARPs) for the communication systems;
- d) that all compatibility issues between AM(R)S systems operating in the 960-1024 MHz band and ARNS systems in that band must be addressed and resolved prior to such AM(R)S systems being placed into use,

*noting*

that no compatibility criteria currently exist between AM(R)S systems proposed for operations in the frequency band 960 - 1 024 MHz and the existing ARNS aeronautical systems in the band,

*resolves*

1 that the provisions of this Resolution and of No. **5.328C** shall enter into force on [x] November 2007;

2 that any AM(R)S systems planned to operate in the frequency band 960-1 024 MHz shall, as a minimum, have performance standards published in Annex 10 of the ICAO Convention on International Civil Aviation, and that those performance standards will ensure compatibility with ARNS systems operating in accordance with international (ICAO) standards;

3 that any AM(R)S systems operating in the band 960-1 024 MHz shall impose no constraints on the operation and future development of co-band aeronautical radionavigation systems operating in accordance with international (ICAO) standards,

*instructs the Secretary-General*

to bring this Resolution to the attention of ICAO.

USA/ 16 NOC

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RESOLUTION 413 (WRC-03)

**Use of the band 108-117.975 MHz by Aeronautical Service**

**INFORMAL WORKING GROUP 5 (IWG-5)**

**Regulatory Issues**

**Document WAC/084(25.01.06):**

**DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**MODIFICATIONS TO APPENDIX 4**

**ADVANCE PUBLICATION  
OF A NON-GEOSTATIONARY-SATELLITE NETWORK  
NOT SUBJECT TO COORDINATION UNDER SECTION II OF ARTICLE 9**

**Agenda Item 1.12:** to consider possible changes in response to Resolution **86 (Rev. Marrakesh, 2002)** of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks” in accordance with Resolution **86 (WRC-03)**;

**Background information:** Resolution **86 (Rev. Marrakesh, 2002)** requested that WRC-03 and subsequent Conferences review the regulatory procedures associated with the advance publication, coordination, notification and recording of frequency assignments pertaining to satellite networks. WRC-03 identified in Resolution **86 (WRC-03)** the scope and the criteria to be used for the implementation of Resolution **86 (Rev. Marrakesh, 2002)**. Resolves 1 of Resolution **86 (WRC-03)** specifically states that WRC-07 should “consider any proposals which deal with deficiencies in the advance publication, coordination, notification and recording procedures of the Radio Regulations (RR) for space services which have either been identified by the Board and included in the Rules of Procedure or which have been identified by administrations or by the Bureau as appropriate.”

Currently, Appendix 4 makes certain data elements optional for the case of “Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9”. These fields include i) the necessary bandwidth; ii) the carrier frequency or frequencies of the emission; iii) the maximum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type; iv) the minimum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type; v) the minimum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type; and vi) the required C/N ratio. This information is required in order to determine whether unacceptable interference may be caused by the planned satellite network or system and communicate this information to the publishing administration and the Bureau under No. **9.3**. To only require this information at the notification stage makes any analysis too late to benefit either administration. While most administrations have been supplying this data as part of the Advance Publication Information (API), there have been instances where the information was not made available. Therefore modifications to Appendix 4 are necessary to allow necessary analysis to take place during API.

**Proposal**

**APPENDIX 4**

**ANNEX 2 Characteristics of satellite networks, earth stations or radio astronomy stations**

**USA/ /1 MOD**

Table of characteristics to be submitted for space and radio astronomy services  
(WRC-0307)

Items in Appendix	<b>C - CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS FOR A SATELLITE ANTENNA BEAM OR AN EARTH STATION OR RADIO ASTRONOMY ANTENNA</b>	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9
<b>C.7</b>	<b>NECESSARY BANDWIDTH AND CLASS OF EMISSION</b> (in accordance with Article 2 and Appendix 1)	
C.7.a	the necessary bandwidth and the class of emission: for each carrier In the case of Appendix <b>30B</b> , required only for notification under Article 8	$\underline{O}X^3$
C.7.b	the carrier frequency or frequencies of the emission(s)	$\underline{O}X^3$
<b>C.8</b>	<b>POWER CHARACTERISTICS OF THE TRANSMISSION</b>	
C.8.a	<b>For the case where individual carriers can be identified:</b>	
C.8.a.1	the maximum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type Required if C.8.b.1 is not provided	$\underline{O}^+{}^3$
C.8.a.2	the maximum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type <sup>2</sup> Required if C.8.b.2 is not provided	<b>+</b>
C.8.b	<b>For the case where it is not appropriate to identify individual carriers:</b>	
C.8.b.1	the total peak envelope power, in dBW, supplied to the input of the antenna For coordination or notification of an Appendix <b>30A</b> earth station the values shall include the maximum range of power control Required if C.8.a.1 is not provided	$\underline{O}^+{}^3$
C.8.b.2	the maximum power density, in dB(W/Hz), supplied to the input of the antenna <sup>2</sup> For coordination or notification of an Appendix <b>30A</b> earth station the values shall include the maximum range of power control Required if C.8.a.2 is not provided	<b>+</b>

C.8.c.1	the minimum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type If not provided, the reason for absence under C.8.c.2	$\Theta_{+}^3$
C.8.c.2	if C.8.c.1 is not provided, the reason for absence of the minimum value of the peak envelope power	$_{+}^3$
C.8.c.3	the minimum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type <sup>2</sup> If not provided, the reason for absence under C.8.c.4	$\Theta_{+}^3$
C.8.c.4	if C.8.c.3 is not provided, the reason for absence of the minimum power density	$_{+}^3$
C.8.e.1	for space-to-Earth, Earth-to-space or space-to-space links. for each carrier type, the greater of either the carrier-to-noise ratio, in dB, required to meet the performance of the link under clear-sky conditions or the carrier-to-noise ratio, in dB, required to meet the short-time objectives of the link inclusive of necessary margins If not provided, the reason for absence under C.8.e.2	$\Theta_{+}^3$
C.8.e.2	if C.8.e.1 is not provided, the reason for absence of the carrier-to-noise ratio	$_{+}^3$

<sup>3</sup> This item is optional for amateur satellite frequency assignments.

**Reasons:** In order to allow for meaningful interference analysis to take place for the case of “Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9”, make additional technical information mandatory at the API stage.

**Document WAC/085(25.01.06):**

### DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

**Agenda Item 7.2** to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution **802 (WRC-03)**,

**Background Information:** In the Preliminary Agenda for WRC-2010, agenda item 2.2 states: “to consider frequency allocations between 275 GHz and 3 000 GHz taking into account the result of ITU-R studies in accordance with Resolution **950 (WRC-03)**;”

Studies in the ITU-R, most notably WP1A, WP3J, WP3M, WP4A, WP7B, WP7C, WP7D, WP8A, WP9B, have very clearly identified the interest within the active and passive services in using frequencies in the spectral region above 275 GHz. Resolution **950 (WRC-03)** has allowed for the submission of details on systems operating in this range into the Master International Frequency Register (MIFR). However, there is no registered use to date by any of the active services. On the other hand, the radio astronomy, Earth exploration-satellite (passive) and the space research (passive) services all make extensive use of this spectral region. Within the radio astronomy service, several administrations have already made significant infrastructure investments in radio astronomy sites around the world. This extensive use of this spectral region by the passive services along with the lack of use of the same by the various active services indicates that the general consideration of frequency allocations between 275 and 3000 GHz is premature and such consideration would likely take up a great deal of resources in preparing for

the 2010 Conference. As an alternative, reviewing and revising No. **5.565** would be desirable while at the same time require far less preparation by administrations for the 2010 Conference.

**Proposal:**

USA/ / 1 MOD

RESOLUTION 803 (WRC-0307)

**~~Preliminary~~ Agenda for the 2010 World Radiocommunication Conference**

The World Radiocommunication Conference (Geneva, 20037),

USA/ / 2 SUP

~~2.2 to consider frequency allocations between 275 GHz and 3 000 GHz taking into account the result of ITU-R studies in accordance with Resolution 950 (WRC-03);~~

USA/ / 3 ADD

**2.X** to review and revise No. **5.565** with a view to updating the list of frequencies for passive services in the spectral region from 275 – 3000 GHz, taking into account the results of ITU-R studies in accordance with Resolution 950.

**Reasons:** The extensive use of this spectral region by the passive services along with the lack of use of the same by the various active services indicates that the general consideration of frequency allocations between 275 and 3000 GHz is premature and such consideration would likely take up a great deal of resources in preparing for the 2010 Conference. As an alternative, reviewing and revising No. **5.565** would be desirable while at the same time require far less preparation by administrations for the 2010 Conference.

USA/ / 4 MOD

RESOLUTION 950 (WRC-0307)

**Consideration of the use of the frequencies  
between 275 and 3 000 GHz**

The World Radiocommunication Conference (Geneva, 2003),

*considering*

- a) that, in the Table of Frequency Allocations, frequency bands above 275 GHz are not allocated;
- b) that, notwithstanding *considering a)*, No. **5.565** makes provision for the use of the frequency band 275-1 000 GHz for ~~the experimentation with, and~~ development of various passive services and all other services and recognizes the need to conduct further ~~experimentation and research;~~

- c) that No. **5.565** also makes provision for the protection of passive services until, and if, such time as the Table of Frequency Allocations may be extended;
- d) that, in addition to the spectral lines identified by No. **5.565**, research activities in the bands above 275 GHz may yield other spectral lines of interest, such as those listed in Recommendation ITU-R RA.314;
- e) that within various Radiocommunication Study Groups, studies on systems between 275 and 3 000 GHz, including system characteristics of suitable applications, are being considered;
- f) that the present use of the bands between 275 and 3 000 GHz is mainly related to the passive services, however, with anticipated technology development, the bands may become increasingly important for suitable active service applications;
- g) that sharing studies in ITU-R among passive services and all other services operating in frequencies between 275 and 3 000 GHz have not been completed,

*recognizing*

- a) that propagation characteristics at frequencies above 275 GHz, such as atmospheric absorption and scattering, have a significant impact on the performance of both active and passive systems and need to be studied;
- b) that it is necessary to investigate further the potential uses of the bands between 275 and 3 000 GHz by suitable applications,

*noting*

- a) that significant infrastructure investments are being made under international collaboration for the use of these bands between 275 and 3 000 GHz, for example, the Atacama Large Millimetre Array (ALMA), a facility under construction that will provide new insights on the structure of the universe;
- b) that Radiocommunication Bureau Circular Letter CR/137 identified additional information for the Bureau to record characteristics of active and passive sensors for Earth exploration-satellite service and space research service satellites, in frequency bands below 275 GHz,

*further noting*

- a) that a process and format similar to that provided in *noting b)* could be used to record systems operating in the 275 to 3 000 GHz band;
- b) that recording active and passive systems operating in the 275 to 3 000 GHz band will provide information until the date when, and if, it is determined that changes to the Radio Regulations are needed,

*resolves*

~~1 — to consider at WRC-10 frequency allocations between 275 GHz and 3 000 GHz taking into account the result of the ITU-R studies;~~

2 that administrations may submit for inclusion in the Master International Frequency Register details on systems which operate between 275 and 3 000 GHz and which may be recorded by the Radiocommunication Bureau under Nos. **8.4**, **11.8** and **11.12**,

*invites ITU-R*

to conduct the necessary studies in time for consideration by WRC-10 with a view to the modification of No. ~~5.565~~ or the possible extension of the Table of Frequency Allocations above 275 GHz, including advice on the applications suitable for such bands,

*instructs the Director of the Radiocommunication Bureau*

to accept submissions referred to in *resolves-2*, and to record them in the Master International Frequency Register.

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**Draft Preliminary Views and Proposals\***  
**for the**  
**2007**  
**World Radiocommunication Conference**  
**developed by the**  
**Executive Branch Agencies**  
**and provided by the**  
**National Telecommunications and**  
**Information Administration (NTIA)**

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\* These draft preliminary views and proposals are being reviewed by the Informal Working Groups of the Advisory Committee, and a number of them have received recommendations for changes as set forth in the in the previous section of this public notice.

## **II. Draft Proposals on WRC-07 Agenda Items received from the National Telecommunications and Information Administration (NTIA):**

**Document WAC/075(25.01.06):**

### **DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.2 (Res 746):** to consider allocations and regulatory issues related to the Earth exploration-satellite (passive) service, space research (passive) service and the meteorological satellite service in accordance with Resolutions **746 (WRC-03)** and **742 (WRC-03)**;

**Background Information:** This proposal addresses *resolves 1* of Resolutions **746 (WRC-03)**, “to invite ITU-R to conduct sharing analyses between geostationary meteorological satellites operating in the space-to-Earth direction and the fixed, fixed-satellite and mobile services in the band 18.0-18.4 GHz to define appropriate sharing criteria with a view to extending the current 18.1-18.3 GHz geostationary meteorological satellite allocation in the space-to-Earth direction to 300 MHz of contiguous spectrum.” Presently the meteorological-satellite (MetSat) service (space-to-Earth), limited to the geostationary-satellite orbit (GSO), is allocated by footnote **5.519** in the band 18.1-18.3 GHz. The band is allocated on a primary basis to the fixed-satellite service (FSS), the fixed service and the mobile service in all three Regions and these allocations also exist for these same services in the band 17.8-18.1 GHz in all Regions. In both bands, the FSS is allocated in both the space-to-Earth and Earth-to-space directions. Additionally, in the 18.1-18.4 GHz band, the FSS (space-to-Earth) allocation has associated with it Nos. **5.484A** and **5.516B**. The first provision applies to non-Geostationary FSS satellite systems. The latter provision states that the band 18.3-19.3 GHz has been identified for use by high-density applications in the FSS in Region 2.

WP-7B has been the lead ITU-R group concerned with analyzing the sharing potential with other services in the band and it has exchanged several Liaison Statements with WP-4A. As a consequence of the information provided by WP-4A, those involved in the design of the next generation GSO meteorological satellites have optimized the design to maximize the level of homogeneity between FSS and Metsat systems. It is envisioned that this would maximize compatibility and facilitate coordination under No. **9.7** for operation of both types of systems in the space-to-Earth direction.

In accordance with No. **5.516** the band 18.0-18.1 GHz in the Earth-to-space direction is used for feeder links for the broadcasting-satellite service. Compatibility studies have been performed to estimate the typical required separation distances in reverse band sharing situations between receiving MetSat earth stations and transmitting BSS feeder uplink stations. In the worst case, it has been determined that around 40 km separation is required. Therefore it is expected that with some care in situating the limited number of MetSat receive stations international coordination would rarely be required under No. **9.17A**.

While the expected design of the GSO MetSat satellite networks envisioned for operation in the 300 MHz wide band appears to be generally compatible with FSS systems being implemented, it would appear that, for Region 2, operating MetSat systems below 18.3 GHz would avoid several potential difficulties. Given the desire to have a common MetSat allocation in all three Regions, it is proposed

to expand the additional allocation in No. **5.519** from 18.1-18.3 GHz to 18.0-18.3 GHz, including the limitation to geostationary satellites and the requirement to meet the provisions of Article **21**, Table 21-4.

In addition, ITU-R studies have shown that, in conjunction with extending the MetSat allocation, extending the existing FSS coordination arc principle in this band to the case of MetSat systems coordinating with FSS networks has the potential to reduce the workload of the Bureau in identifying affected administrations and fulfils the purposes envisioned by Resolution **901 (WRC-03)**. As such, a consequential modification to Table 5-1 of Appendix **5** to include this change is also proposed. It is noted that as with the current No. **9.7**, an administration may request, pursuant to No. **9.41**, to be included in requests for coordination involving the MetSat or FSS service in this band, indicating the networks for which the value of  $\Delta T/T$  calculated by the method in § 2.2.1.2 and 3.2 of Appendix **8** exceeds 6%.

**Proposal:**

ARTICLE 5

**Frequency allocations**

Section IV – Table of Frequency Allocations  
(See No. 2.1)

**USA/ / 1 MOD**

**5.519** *Additional allocation:* the band 18.0-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article **21**, Table **21-4**.

**Reasons:** Expanding the current 18.1-18.3 GHz geostationary meteorological-satellite service (space-to-Earth) allocation to the band 18.0-18.1 GHz by modifying No. **5.519** will provide greater flexibility for the meteorological-satellite service and extend the current criteria (i.e., the limitation to geostationary satellites and the requirement to meet the provisions of Article **21**, Table 21-4) to protect existing services.

**USA/ / 2 MOD**

15.4-18.4 GHz

Allocation to services		
Region 1	Region 2	Region 3
.....		
	<b>17.8-18.40</b> FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	

**18.40-18.4**

FIXED

FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B  
(Earth-to-space) 5.520

MOBILE

MOD 5.519 5.521

**Reasons:** Consequential changes due to the modification of No. **5.519**.

APPENDIX 5 (REV.WRC-03)

**Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9**

TABLE 5-1 (REV.WRC-03)  
**Technical conditions for coordination**  
 (see Article 9)

TABLE 5-1 (CONTINUED) (REV.WRC-03)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. 9.7 GSO/GSO (cont.)		3) 17.7-20.2 GHz, (Regions 2 and 3), 17.3-20.2 GHz (Region 1) and 27.5-30 GHz	i) Bandwidth overlap, and ii) any network in the FSS and <u>or MetSat service</u> any associated space operation functions (see No. 1.23) with a space station within an orbital arc of $\pm 8^\circ$ of the nominal orbital position of a proposed network in the FSS <u>or MetSat service</u>		

**Reasons:** Consequential modification to the additional allocation to MetSat in the band 18.0-18.1 GHz. ITU studies have shown that extending the  $\pm 8^\circ$  coordination arc, currently applicable to FSS networks in this band, to the meteorological-satellite (MetSat) services in this band would reduce the workload of the Bureau in identifying affected administrations and the number of unnecessary coordinations for such systems while maintaining the rights of administrations to be included in requests for coordination involving the MetSat or FSS service in this band.

**Document WAC/082(25.01.06):**

**DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.3:** in accordance with Resolution **747 (WRC-03)**, consider upgrading the radiolocation service to primary allocation status in the bands 9 000 - 9 200 MHz and 9 300 - 9 500 MHz, and extending by up to 200 MHz the existing primary allocations to the Earth exploration-satellite service (active) and the space research service (active) in the band 9 500 - 9 800 without placing undue constraint on the services to which the bands are allocated.

**Background Information:** The proposal addresses the upgrade of radiolocation service in the band 9 000-9 200 MHz and 9 300-9 500 MHz. As identified in Resolution **747 (WRC-03)**, there is a need to provide contiguous primary spectrum around the 9 GHz band in order for existing and planned radiolocation systems to satisfy their required missions. Changes in technology and emerging requirements for increased image resolution and increased range accuracy necessitate wider contiguous emission bandwidths. Therefore, there is a need to upgrade the status of frequency allocations to the radiolocation service in the frequency range 9 000 - 9 200 MHz and 9 300 - 9 500 MHz.

The bands 9 000 - 9 200 MHz and 9 300 - 9 500 MHz are allocated on a primary basis to aeronautical radionavigation and radionavigation, respectively. The Radio Regulation No. **4.10** recognizes radionavigation as a safety service. The radiolocation services and the radionavigation service have demonstrated compatible operations over many years through the use of similar system characteristics such as low-duty cycle emissions, scanning beams and interference reduction techniques. For example, past operational experience in the 2 900-3 100 MHz band as found in Report ITU-R M.2032 “Tests illustrating the compatibility between maritime radionavigation radars and emissions from radiolocation radars in the band 2 900 - 3 100 MHz” confirms that it is possible to mitigate interference from radiolocation radars to maritime radionavigation radars in the band.

Some studies have been completed within ITU-R WP 8B that characterize the technical performance and protection criteria of radiolocation and radionavigation systems that ensure compatible operations in the bands 9 000 - 9 200 MHz and 9 300 - 9 500 MHz. Recommendation ITU-R M.1313 contains the technical characteristics and protection criteria for maritime radars in the band 9 300 - 9 500 MHz and that Recommendation ITU-R M.1372 identifies interference reduction techniques which enhance compatibility among radar systems.

The ITU-R studies that have been completed so far, such as on maritime radionavigation radars and emissions from radiolocation radars in the band 9 200 – 9 500 MHz illustrate compatibility between the two services in this band and are an indicator of how the sharing would be with other radionavigation systems. These studies indicate that typical maritime radionavigation radars can suppress emissions from other radars, even when the maritime radars receive interference with very high interference-to-noise (I/N) ratios if the unwanted pulsed waveform is asynchronous and has a low effective duty cycle. These study results support the successful historical sharing experience between the two services in the 9 200-9 500 MHz band. As most maritime radars in the 9 000 - 9 500 MHz bands are very similar in design and operation, one

does not expect a great variation from the protection criteria that was derived from the radars that were used for these studies. Therefore, there is an indication that the results could apply to other similar radars that operate in the 9 000 - 9 500 MHz bands as well. Therefore a primary allocation for radiolocation can be added to the 9 000 - 9 200 and 9 300 - 9 500 MHz bands.

**Proposal**

**USA/ /01      MOD**

**8 500-10 000 MHz**

Allocation to services		
Region 1	Region 2	Region 3
.....		
<b>9 000-9 200</b>	AERONAUTICAL RADIONAVIGATION 5.337 <u>RADIOLOCATION</u> Radiolocation 5.471 <u>ADD 5.[9GHZ]</u>	
<b>9 200-9 300</b>	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473 5.474	
<b>9 300-9 500</b>	RADIONAVIGATION 5.476 <u>RADIOLOCATION</u> Radiolocation 5.427 5.474 <u>MOD 5.475 ADD 5.[9GHZ]</u>	
.....		

**Reasons:** Provides a worldwide contiguous primary allocation to meet the required missions of radiolocation systems.

**USA/ /02      MOD**

**5.475** The use of the band 9 300-9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9 300-9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. ~~In the band 9 300-9 500 MHz, ground based radars used for meteorological purposes have priority over other radiolocation devices.~~

**Reasons:** Priority of the meteorological ground-based radars will be covered under the new footnote 5.[9GHZ].

USA/03      ADD

**5.[9GHZ]** In the bands 9 000 - 9 200 MHz and 9 300 - 9 500 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from systems operating in the aeronautical radionavigation service (9 000 - 9 200 MHz) or in the radionavigation service (9 300 - 9 500 MHz). In the 9 300 - 9 500 MHz band, ground-based radars used for meteorological purposes have priority over other radiolocation uses.

**Reasons:** Provide primary allocation to the radiolocation service, contiguous across 8 500 – 10 000 MHz, with sufficient bandwidth to meet emerging requirement for increased image resolution and increased range accuracy. The radionavigation service and the meteorological ground-based radars will continue to be protected from stations of the radiolocation service.

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**Document WAC/080(25.01.06):**

### **DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.6 (Res. 414):** to consider additional allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution **414 (WRC-03)** and, to study current satellite frequency allocations, that will support the modernization of civil aviation telecommunication systems, taking into account Resolution **415 (WRC-03)**;

**Background Information:** This proposal considers additional allocations for the aeronautical mobile (R) service (AM(R)S) in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution **414 (WRC-03)**.

Existing AM(R)S bands are nearing saturation in high traffic areas. In addition, new applications and concepts in air traffic management put further pressure on existing AM(R)S bands. Resolution **414 (WRC-03)** states that new technologies to support air navigation may not conform to the definition of aeronautical radionavigation in the Radio Regulations. WRC-03 provided a mechanism to implement these new aviation technologies by adding AM(R)S use in the 108-117.975 MHz band by footnote **5.197A**. One emerging application driving requirements for new AM(R)S spectrum is the integration of command and control for unmanned aircraft (UAs) into air traffic services (ATS) airspace. Conversely, AM(R)S spectrum is not appropriate for UA payload data use, such as downlinking information and operational data from the UA. ITU-R Working Party 8B (WP8B) and the International Civil Aviation Organization (ICAO) developed a draft operational concept, and technology selection criteria and procedures for new aviation technology. WP8B and ICAO determined that the new aviation systems require two distinct categories of AM(R)S spectrum. The first category for surface applications could support high data throughput over moderate transmission distances. There is a high degree of reuse of this spectrum. For surface applications, ICAO and WP8B recommended 5 091-5 150 MHz as a suitable band. WP8B is also studying the band 5 091-5 150 MHz under agenda item 1.5 for the purpose of aeronautical mobile telemetry applications.

The second category for bidirectional air to ground applications could support a moderate data throughput over longer propagation distances out to radio line-of-sight. These applications

require a number of distinct channels to allow for sector-to-sector assignments. For radio line-of-sight applications, ICAO and WP8B recommended 960-1 024 MHz as a suitable band.

**Proposal:**

**USA/ / 1      MOD**

**890-1 300 MHz**

Allocation to services		
Region 1	Region 2	Region 3
890-942 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation          5.323	890-902 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.318 5.325	890-942 FIXED MOBILE 5.317A BROADCASTING Radiolocation          5.327
	902-928 FIXED Amateur Mobile except aeronautical mobile 5.325A Radiolocation 5.150 5.325 5.326	
	928-942 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.325	
942-960 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.323	942-960 FIXED MOBILE 5.317A	942-960 FIXED MOBILE 5.317A BROADCASTING  5.320
960-1 164	AERONAUTICAL RADIONAVIGATION 5.328 <b>ADD 5.328[C]</b>	

**Reasons:** To provide allocations to support evolving AM(R)S applications.

**USA/ / 2      MOD**

**4 800-5 570 MHz**

Allocation to services		
Region 1	Region 2	Region 3
4 800-4 990	FIXED MOBILE 5.442 Radio astronomy 5.149 5.339 5.443	
4 990-5 000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	
5 000-5 010	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.367	
5 010-5 030	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-space) 5.328B 5.443B 5.367	
5 030-5 150	AERONAUTICAL RADIONAVIGATION 5.367 5.444 5.444A <b>ADD 5.367[A]</b>	

**Reasons:** To provide allocations to support evolving AM(R)S applications.

**USA/ / 3      ADD**

**5.328[C]** The band 960-1 024 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution [AM(R)S 960] and shall not cause harmful interference to nor claim protection from stations operating in the aeronautical radionavigation service operating in accordance with international aeronautical standards.

**Reasons:** To provide allocations to support evolving AM(R)S applications. Compatibility with regard to existing aeronautical radionavigation service (ARNS) systems will be addressed as a part of standards development for the new AM(R)S system.

**USA/ / 4      ADD**

**5.367[A]** The band 5 091-5 150 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems operating in accordance with recognized international aeronautical standards.

**Reasons:** To provide allocations to support evolving AM(R)S applications. Compatibility with regard to existing aeronautical radionavigation service (ARNS) systems will be addressed as a part of standards development for the new AM(R)S system.

RESOLUTION [AM(R)S 960] (WRC-07)

**Use of the band 960-1 024 MHz by aeronautical services**

The World Radiocommunication Conference (Geneva, 2007),

*considering*

- a) the current allocation of the frequency band 960-1 164 MHz to the aeronautical radionavigation service (ARNS);
- b) the use of the band 960-1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities per No. **5.328**;
- c) that new technologies are being developed to support communications and air navigation, including airborne and ground surveillance applications;
- d) that new applications and concepts in air traffic management which are data intensive are being developed,

*recognizing*

- a) that precedence must be given to the ARNS operating in the frequency band 960-1 164 MHz;
- b) that, in accordance with Annex 10 of the Convention of the International Civil Aviation Organization (ICAO) on international civil aviation, all aeronautical systems must meet standards and recommended practices (SARPs) requirements;
- c) that compatibility criteria between aeronautical mobile (route) service (AM(R)S) systems and the ARNS operating in the frequency band 960-1 024 MHz will be established by ICAO through the development of relevant Standards and Recommended Practices (SARPs) for the communication systems;
- d) that all compatibility issues between AM(R)S systems operating in the 960-1024 MHz band and ARNS systems in that band must be addressed and resolved prior to such AM(R)S systems being placed into use,

*noting*

that no compatibility criteria currently exist between AM(R)S systems proposed for operations in the frequency band 960-1 024 MHz and the existing ARNS aeronautical systems in the band,

*resolves*

1 that the provisions of this Resolution and of No. **5.328C** shall enter into force on [x] November 2007;

2 that any AM(R)S systems planned to operate in the frequency band 960-1 024 MHz shall, as a minimum, have performance standards published in Annex 10 of the ICAO Convention on International Civil Aviation, and that those performance standards will ensure compatibility with ARNS systems operating in accordance with international (ICAO) standards;

3 that any AM(R)S systems operating in the band 960-1 024 MHz shall impose no constraints on the operation and future development of co-band aeronautical radionavigation systems operating in accordance with international (ICAO) standards,

*instructs the Secretary-General*

to bring this Resolution to the attention of ICAO.

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**Document WAC/076(25.01.06):**

## **DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.12:** to consider possible changes in response to Resolution **86 (Rev. Marrakesh, 2002)** of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks” in accordance with Resolution **86 (WRC-03)**;

**Background information:** Resolution **86 (Rev. Marrakesh, 2002)** requested that WRC-03 and subsequent Conferences review the regulatory procedures associated with the advance publication, coordination, notification and recording of frequency assignments pertaining to satellite networks. WRC-03 identified in Resolution **86 (WRC-03)** the scope and the criteria to be used for the implementation of Resolution **86 (Rev. Marrakesh, 2002)**. Resolves 1 of Resolution **86 (WRC-03)** specifically states that WRC-07 should “consider any proposals which deal with deficiencies in the advance publication, coordination, notification and recording procedures of the Radio Regulations (RR) for space services which have either been identified by the Board and included in the Rules of Procedure or which have been identified by administrations or by the Bureau as appropriate.”

Currently, Appendix 4 makes certain data elements optional for the case of “Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9”. These fields include i) the necessary bandwidth; ii) the carrier frequency or frequencies of the emission; iii) the maximum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type; iv) the minimum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type; v) the minimum power density, in

dB(W/Hz), supplied to the input of the antenna for each carrier type; and vi) the required C/N ratio. This information is required in order to determine whether unacceptable interference may be caused by the planned satellite network or system and communicate this information to the publishing administration and the Bureau under No. 9.3. To only require this information at the notification stage makes any analysis too late to benefit either administration. While most administrations have been supplying this data as part of the Advance Publication Information (API), there have been instances where the information was not made available. Therefore modifications to Appendix 4 are necessary to allow necessary analysis to take place during API.

**Proposal**

**APPENDIX 4**

**ANNEX 2 Characteristics of satellite networks, earth stations or radio astronomy stations**

**USA/ /1 MOD**

Table of characteristics to be submitted for space and radio astronomy services  
(WRC-0307)

Items in Appendix	<b>C - CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS FOR A SATELLITE ANTENNA BEAM OR AN EARTH STATION OR RADIO ASTRONOMY ANTENNA</b>	Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9
<b>C.7</b>	<b>NECESSARY BANDWIDTH AND CLASS OF EMISSION</b> (in accordance with Article 2 and Appendix 1)	
C.7.a	the necessary bandwidth and the class of emission: for each carrier In the case of Appendix 30B, required only for notification under Article 8	<del>OX</del>
C.7.b	the carrier frequency or frequencies of the emission(s)	<del>OX</del>
<b>C.8</b>	<b>POWER CHARACTERISTICS OF THE TRANSMISSION</b>	
C.8.a	<b>For the case where individual carriers can be identified:</b>	
C.8.a.1	the maximum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type Required if C.8.b.1 is not provided	$\frac{O}{I}+$
C.8.a.2	the maximum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type <sup>2</sup> Required if C.8.b.2 is not provided	+

C.8.b	<b>For the case where it is not appropriate to identify individual carriers:</b>	
C.8.b.1	the total peak envelope power, in dBW, supplied to the input of the antenna For coordination or notification of an Appendix 30A earth station the values shall include the maximum range of power control Required if C.8.a.1 is not provided	$\Theta_{\pm}$
C.8.b.2	the maximum power density, in dB(W/Hz), supplied to the input of the antenna <sup>2</sup> For coordination or notification of an Appendix 30A earth station the values shall include the maximum range of power control Required if C.8.a.2 is not provided	+
C.8.c.1	the minimum value of the peak envelope power, in dBW, supplied to the input of the antenna for each carrier type If not provided, the reason for absence under C.8.c.2	$\Theta_{\pm}$
C.8.c.2	if C.8.c.1 is not provided, the reason for absence of the minimum value of the peak envelope power	$\pm$
C.8.c.3	the minimum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type <sup>2</sup> If not provided, the reason for absence under C.8.c.4	$\Theta_{\pm}$
C.8.c.4	if C.8.c.3 is not provided, the reason for absence of the minimum power density	$\pm$
C.8.d.1	the maximum total peak envelope power, in dBW, supplied to the input of the antenna for each contiguous satellite bandwidth For a satellite transponder, this corresponds to the maximum saturated peak envelope power Required only for a space-to-Earth or space-to-space link	$\underline{0}$
C.8.d.2	each contiguous satellite bandwidth For the maximum saturated peak envelope power of the satellite transponder, this corresponds to the bandwidth of each transponder Required only for a space-to-Earth or space-to-space link	$\underline{0}$
C.8.e.1	for space-to-Earth, Earth-to-space or space-to-space links. for each carrier type, the greater of either the carrier-to-noise ratio, in dB, required to meet the performance of the link under clear-sky conditions or the carrier-to-noise ratio, in dB, required to meet the short-time objectives of the link inclusive of necessary margins If not provided, the reason for absence under C.8.e.2	$\Theta_{\pm}$
C.8.e.2	if C.8.e.1 is not provided, the reason for absence of the carrier-to-noise ratio	$\pm$

**Reasons:** In order to allow for meaningful interference analysis to take place for the case of “Advance publication of a non-geostationary-satellite network not subject to coordination under Section II of Article 9”, make additional technical information mandatory at the API stage.

**Document WAC/081(25.01.06):**

## **DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 1.21:** to consider the results of studies, regarding the compatibility between the radio astronomy service and the active space services in accordance with Resolution **740 (WRC-03)**, in order to review and update, if appropriate, the tables of threshold levels used for consultation that appear in the Annex to Resolution **739 (WRC-03)**;

**Background information:** In preparation for WRC-03, Task Group 1/7 conducted studies that led to the adoption of Recommendation ITU-R SM.1633, which contains nine Annexes that, using the methodology contained in the Recommendation, assess the compatibility of various band pairs between the radio astronomy service and space services. Not all studies in the Annexes were completed prior to WRC-03. On the basis of Recommendation SM.1633 and associated studies, WRC-03 adopted Resolutions **739** and **740**.

Resolution **739** contains guidance to administrations operating space and radio astronomy stations in the band pairs contained in Tables 1-1 and 1-2, in order to come to acceptable solutions regarding space station unwanted emissions at a radio astronomy station. The Resolution includes a consultation process adopted at WRC-03 to assist administrations in reaching mutually acceptable solutions when unwanted emissions from space services exceed specified levels in certain radio astronomy bands. The consultation process is included in Resolution **739** and it will not be considered at WRC-07.

Resolution **740** calls for the completion of studies for the band pairs indicated in its associated band-pair Table. Comprehensive studies were needed to determine whether any of the band pairs from the Table of Resolution **740** should be added to the tables in Resolution **739**, taking into consideration the impact on all the concerned active and passive services, and to determine the appropriate threshold levels for consultation. In accordance with the *resolves 1* of the Resolution **740**, only the band pairs listed in the Table of Resolution **740** will be considered by WRC-07.

Studies have been conducted in TG 1/9 on a number of the band pairs listed in Resolution **740**, and it is proposed at WRC-07 to add these band pairs to Table 1-2 of the Annex to Resolution **739**. In a number of instances, existing NGSO systems already comply with the limits; systems that do not comply but that are already operating, or that have been advanced published prior to the entry in force of the Final Acts of, either WRC-03 or WRC-07, depending on the band (see *resolves 5* of the proposed draft revision of Resolution **739**), are clearly grandfathered under the terms of Resolution **739**, and are not subject to the consultation process.

Studies carried out in TG 1/9 have been documented in the appropriate Annexes of ITU-R Recommendation SM.1633, and, for some satellite systems, indicate levels of unwanted emissions in radio astronomy bands that will not be exceeded.

Proposal:

USA/ /1 (MOD)

RESOLUTION 739 (REV. WRC-0307)

**Compatibility between the radio astronomy service and the active space services in certain adjacent and nearby frequency bands**

The World Radiocommunication Conference (Geneva, 2003~~7~~),

**Reasons:** Editorial changes.

USA/ /2 MOD

*resolves*

5 that the space stations to be considered in the application of the above *resolves* are:

a) those designed to operate in the space service frequency bands listed in Table 1-1 of the Annex 1 or in the band 1613.8-1626.5 MHz listed in Table 1-2 of Annex 1, and for which advance publication information ~~is~~was received by the Bureau following the entry into force of the Final Acts of ~~this conference~~WRC-03; and

b) those designed to operate in all other space service frequency bands included in Table 1-2 of Annex 1, and for which advance publication information is received by the Bureau following the entry into force of the Final Acts of this conference;

**Reasons:** Following the pattern of the existing text, *resolves* 5 is modified to indicate that space systems advance published before the entry into force of the Final Acts of WRC-07 in the bands that are being added to Res. 739 are not to be considered in the application of *resolves* 1 to 3.

USA/ /3 (MOD)

ANNEX 1 TO RESOLUTION 739 (REV. WRC-0307)

**Unwanted emission threshold levels**

**Reasons:** Editorial changes.

TABLE 1-1

**pdf thresholds for unwanted emissions from geostationary space stations  
at a radio astronomy station**

Space service	Space service band	Radio astronomy band	Single dish, continuum observations		Single dish, spectral line observations		VLBI <sup>(1)</sup>
			pdf <sup>(2)</sup>	Reference bandwidth	pdf <sup>(2)</sup>	Reference bandwidth	pdf <sup>(2)</sup>
	(MHz)	(MHz)	(dB(W/m <sup>2</sup> ))	(MHz)	(dB(W/m <sup>2</sup> ))	(kHz)	(dB(W/m <sup>2</sup> ))
BSS (space-to-Earth) MSS (space-to-Earth)	1 452-1 492 1 525-1 559	1 400-1 427	-180	27	-196	20	-166
MSS (space-to-Earth) MSS (space-to-Earth)	1 525-1 559 1 613.8-1 626.5	1 610.6-1 613.8	NA	NA	-194	20	-166
BSS (space-to-Earth) FSS (space-to-Earth)	2 655-2 670	2 690-2 700	-177	10	NR	25	-161
FSS (space-to-Earth)	2 670-2 690	2 690-2 700 (in Regions 1 and 3)	-177	10	NR	20	-161
	<b>(GHz)</b>	<b>(GHz)</b>	-	-	-	-	-
BSS (space-to-Earth)	21.4-22.0	22.21-22.5	NR	NR	NR	250	-128

NA: Not applicable, measurements of this type are not made in this band.

NR: No result available.

NOTE: Some annexes of Recommendation ITU-R SM. 1633 indicate levels of unwanted emissions in radio astronomy bands that certain satellite systems, by design, will not exceed.

<sup>(1)</sup> The reference bandwidth used for spectral line observations has also been used as reference bandwidth for very long baseline interferometry (VLBI) observations. In VLBI bands, where no spectral line observations are conducted, the reference bandwidth for VLBI observations has been determined using the assumption of Recommendation ITU-R RA.769 for a typical spectrometer channel (3 km/s).

<sup>(2)</sup> Integrated over the reference bandwidth with an integration time of 2 000 s.

TABLE 1-2

**epfd thresholds\* for unwanted emissions from non-GSO satellite systems  
at a radio astronomy station**

Space service	Space service band	Radio astronomy band	Single dish, continuum observations		Single dish, spectral line observations		VLBI <sup>(1)</sup>
			epfd <sup>(2)</sup>	Reference bandwidth	epfd <sup>(2)</sup>	Reference bandwidth	epfd <sup>(2)</sup>
			(dB(W/m <sup>2</sup> ))	(MHz)	(dB(W/m <sup>2</sup> ))	(kHz)	(dB(W/m <sup>2</sup> ))
<u>MSS (space-to-Earth)</u>	<u>137–138</u>	<u>150.05–153.0</u>	<u>–238</u>	<u>2.95</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>MSS (space-to-Earth)</u>	<u>387–390</u>	<u>322–328.6</u>	<u>–240</u>	<u>6.6</u>	<u>–255</u>	<u>10</u>	<u>–226</u>
<u>MSS (space-to-Earth)</u>	<u>400.15–401</u>	<u>406.1–410</u>	<u>–242</u>	<u>3.9</u>	<u>NA</u>	<u>NA</u>	<u>–226</u>
<u>BSS (space-to-Earth)</u>	<u>620–790</u>	<u>608–614</u>	<u>–241</u>	<u>6.0</u>	<u>NA</u>	<u>NA</u>	<u>–224</u>
<u>MSS (space-to-Earth)</u>	<u>1525–1559</u>	<u>1400–1427</u>	<u>–243</u>	<u>27.0</u>	<u>–259</u>	<u>20</u>	<u>–229</u>
<u>MSS (space-to-Earth)</u>	<u>1525–1559</u>	<u>1610.6–1613.8</u>	<u>NA</u>	<u>NA</u>	<u>–258</u>	<u>20</u>	<u>–230</u>
<u>RNSS (space-to-Earth)</u>	<u>1559–1610</u>	<u>1610.6–1613.8</u>	<u>NA</u>	<u>NA</u>	<u>–258</u>	<u>20</u>	<u>–230</u>
<u>MSS (space-to-Earth)</u>	<u>1 613.8–1 626.5</u>	<u>1 610.6–1 613.8</u>	<u>NA</u>	<u>NA</u>	<u>–258</u>	<u>20</u>	<u>–230</u>

NA: Not applicable, measurements of this type are not made in this band.

NOTE: Some annexes in Recommendation ITU-R SM.1633 indicate levels of unwanted emissions in radio astronomy bands that certain satellite systems, by design, will not exceed.

\* These epfd thresholds should not be exceeded for more than 2% of time.

<sup>(1)</sup> ~~The reference bandwidth used for spectral line observations has also been used as reference bandwidth for VLBI observations. In VLBI bands, where no spectral line observations are conducted, the reference bandwidth for VLBI observations has been determined using the assumption of Recommendation ITU-R RA.769 for a typical spectrometer channel (3 km/s). Reference bandwidths of 10 kHz and 20 kHz, respectively, were assumed when calculating the VLBI threshold levels for the 406.1-410 MHz and 608-614 MHz radio astronomy bands, where no spectral line observations are made.~~

<sup>(2)</sup> Integrated over the reference bandwidth with an integration time of 2 000 s.

**Reasons:** Studies in TG 1/9 have been completed on the band pairs added to Table 1-2, and they have been incorporated into Recommendation ITU-R SM.1633. The notes added to the Tables reflect compliance with *resolves* 1 for some systems.

USA/ 15 (MOD)

RESOLUTION 740 (REV. WRC-0307)

**Future compatibility analyses between the radio astronomy service and active space services in certain adjacent and nearby frequency bands**

The World Radiocommunication Conference (Geneva, 2003~~7~~),

**Reasons:** Editorial changes.

USA/ 16 MOD

*considering*

a) that adjacent or nearby primary service allocations have been made to the radio astronomy service (RAS), and to various space services, such as the fixed-satellite service (FSS) and the ~~mobile-satellite service (MSS), broadcasting-satellite service (BSS), and radionavigation satellite service (RNSS),~~ hereafter referred to as “active space services”;

**Reasons:** Consequential to the removal of entries in the Table for these services.

TABLE

**Band-pairs to be considered for further studies**

Space service band	Space service	Radio astronomy service band
MHz		MHz
<del>137-138</del>	<del>MSS (space-to-Earth)</del>	<del>150.05-153.0 (No. 5.208A)</del>
<del>387-390</del>	<del>MSS (space-to-Earth)</del>	<del>322-328.6 (No. 5.208A)</del>
<del>400.15-401</del>	<del>MSS (space-to-Earth)</del>	<del>406.1-410 (No. 5.208A)</del>
<del>620-790 (No. 5.311) see Resolution 545 (WRC-03)</del>	<del>BSS (space-to-Earth)</del>	608-614
1 452-1 492	BSS (space-to-Earth) (non-GSO systems only)	1 400-1 427
<del>1 525-1 559</del>	<del>MSS (space-to-Earth) (non-GSO systems only)</del>	<del>1 400-1 427</del>
<del>1 525-1 559</del>	<del>MSS (space-to-Earth) (non-GSO systems only)</del>	<del>1 610.6-1 613.8</del>
<del>1 559-1 610</del>	<del>RNSS (space-to-Earth)</del>	<del>1 610.6-1 613.8</del>
2 655-2 670	BSS (space-to-Earth)	2 690-2 700
2 655-2 670	FSS (space-to-Earth) (Region 2)	2 690-2 700
2 670-2 690	FSS (space-to-Earth) (Region 2)	2 690-2 700
GHz		GHz
10.7-10.95	FSS (space-to-Earth)	10.6-10.7
21.4-22.0	BSS (space-to-Earth)	22.21-22.5

**Reasons:** Band pairs for which values were added to Table 1-2 of Resolution 739 are eliminated from Resolution 740.

## USA/ 18 MOD

*resolves*

- 1 to invite ITU-R to study the compatibility between the RAS and the corresponding active space services as listed in the Table only, with a view to updating or developing ITU-R Recommendations, if appropriate;
- ~~2 that WRC-07 should consider the results of the studies as identified in *resolves* 1, in order to review and update, if appropriate, the tables of threshold levels for consultation in the Annex to Resolution 739 (WRC-03),~~

**Reasons:** The Conference has completed consideration of these studies.

**Document WAC/077(25.01.06):**

**Draft Preliminary View**

**WRC-07 - Agenda Item 2:** to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with Resolution **28 (Rev. WRC-03)**, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with the principles contained in the Annex to Resolution **27 (Rev. WRC-03)**;

RECOMMENDATION	SUP	MOD	NOC	Comments		BR and OTHER SOURCES
M.257-3 Sequential single frequency selective-calling system for use in the maritime mobile service			X			
TF.460-6 Standard-frequency and time-signal emissions			X			
M.476-5 Direct-printing telegraph equipment in the maritime mobile service			X			
M.489-2 Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz			X			
M.492-6 Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service			X			
M.541-8 Operational procedures for the use of digital selective-calling equipment in the maritime mobile service		X		Update to Rev 9.		-9 (5/04)
M.625-3 Direct-printing telegraph equipment employing automatic identification in the maritime mobile service			X			
M.627-1 Technical characteristics for HF maritime radio equipment using narrow-band phase-shift keying (NBPSK) telegraphy			X			
S.672-4 Satellite antenna radiation pattern for use as a design objective in the fixed-satellite service employing geostationary satellites			X			

RECOMMENDATION	SUP	MOD	NOC	Comments		BR and OTHER SOURCES
M.690-1 Technical characteristics of emergency position-indicating radio beacons (EPIRBs) operating on the carrier frequencies of 121.5 MHz and 243 MHz			X			
P.838-2 Specific attenuation model for rain for use in prediction methods		X		Update to Rev. 3.		-3 (3/05)
SM.1138 Determination of necessary bandwidths including examples for their calculation and associated examples for the designation of emissions			X			
SA.1154 Provisions to protect the space research (SR), space operations (SO) and Earth-exploration satellite services (EES) and to facilitate sharing with the mobile service in the 2 025-2 110 MHz and 2 200-2 290 MHz bands			X			
M.1169 Hours of service of ship stations			X			
M.1171 Radiotelephony procedures in the maritime mobile service			X			
M.1172 Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service			X			
M.1173 Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz			X			
M.1174-1 Technical characteristics of equipment used for on-board vessel communications in the bands between 450 and 470 MHz		X		Update to rev 2.		-2 (5/04)
M.1175 Automatic receiving equipment for radiotelegraph and radiotelephone alarm signals			X			
M.1187 A method for the calculation of the potentially affected region for a mobile-satellite service (MSS) network in the 1-3 GHz range using circular orbits			X			
S.1256 Methodology for determining the maximum aggregate power flux-density at the geostationary-satellite orbit in the band 6 700-7 075 MHz from feeder links of non-geostationary satellite systems in the mobile-satellite service in the space-to-Earth direction			X			

RECOMMENDATION	SUP	MOD	NOC	Comments		BR and OTHER SOURCES
SA.1260-1 Feasibility of sharing between active spaceborne sensors and other services in the range 420-470 MHz			X			
BO.1293-2 Protection masks and associated calculation methods for interference into broadcast-satellite systems involving digital emissions			X			
S.1340 Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the Earth-to-space direction in the band 15.4-15.7 GHz			X			
S.1341 Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the space-to-Earth direction in the band 15.4-15.7 GHz and the protection of the radio astronomy service in the band 15.35-15.4 GHz			X			
S.1428-1 Reference FSS earth-station radiation patterns for use in interference assessment involving non-GSO satellites in frequency bands between 10.7 GHz and 30 GHz			X			
BO.1443-1 Reference BSS earth station antenna patterns for use in interference assessment involving non-GSO satellites in frequency bands covered by RR Appendix 30			X			
S.1586 Calculation of unwanted emission levels produced by a non-geostationary fixed-satellite service system at radio astronomy sites			X			
F.1613 Operational and deployment requirements for fixed wireless access systems in the fixed service in Region 3 to ensure the protection of systems in the Earth exploration-satellite service (active) and the space research service (active) in the band 5 250-5 350 MHz			X			
RA.1631 Reference radio astronomy antenna pattern to be used for compatibility analyses between non-GSO systems and radio astronomy service stations based on the efpd concept			X			
SA.1632 Sharing in the band 5 250-5 350 MHz between the Earth exploration-satellite service (active) and wireless access systems (including radio local area networks) in the mobile service			X			

RECOMMENDATION	SUP	MOD	NOC	Comments		BR and OTHER SOURCES
M.1638 Characteristics of and protection criteria for sharing studies for radiolocation, aeronautical radionavigation and meteorological radars operating in the frequency bands between 5 250 and 5 850 MHz			X			
M.1643 Technical and operational requirements for aircraft earth stations of aeronautical mobile-satellite service including those using fixed-satellite service network transponders in the band 14-14.5 GHz (Earth-to-space)			X			

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**Document WAC/079(25.01.06):**

**Draft Preliminary View**

**WRC-07 Agenda Item 4**

“in accordance with Resolution 95 (Rev.WRC-2003), to review the Resolutions and Recommendations of the previous Conferences with a view to their possible revision, replacement or abrogation”

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
RESOLUTION 1 (Rev.WRC-97) Notification of frequency assignments			X				
RESOLUTION 2 (Rev. WRC-03) Relating to the equitable use, by all countries, with equal rights, of the geostationary-satellite orbit and of frequency bands for space radiocommunication services			X				
RESOLUTION 4 (Rev. WRC-03) Period of validity of frequency assignments to space stations using the geostationary-satellite orbit			X				
RESOLUTION 5 (Rev. WRC-03) Relating to technical cooperation with the developing countries in the study of propagation in tropical areas			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
RESOLUTION 7 (Rev. WRC-03) Relating to the development of national radio frequency management			X				
RESOLUTION 10 (Rev. WRC-2000) Use of two-way wireless telecommunications by the Red Cross and Red Crescent Movement			X				
RESOLUTION 13 (Rev. WRC-97) Formation of call signs and allocation of new international series			X				
RESOLUTION 15 (Rev. WRC-03) Relating to international cooperation and technical assistance in the field of space radiocommunications			X				
RESOLUTION 18 (Mob-83) Relating to the procedure for identifying and announcing the position of ships and aircraft of States not parties to an armed conflict			X				
RESOLUTION 20 (Rev. WRC-03) Technical cooperation with developing countries in the field of aeronautical telecommunications			X				
RESOLUTION 21 (Rev. WRC-03) Implementation of changes in frequency allocations between 5 900 kHz and 19 020 kHz					Pending decision on WRC-07 Agenda Item 1.13		

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
RESOLUTION 25 (Rev. WRC-03) Operation of global satellite systems for personal communications			X				
RESOLUTION 26 (Rev. WRC-97) Footnotes to the Table of Frequency Allocations in Article 5 of the Radio Regulations			X				WRC-07 Agenda Item 1.1 WRC-10 Agenda Item 2.1
RESOLUTION 27 (Rev. WRC-03) References to ITU-R and ITU-T Recommendations in the Radio Regulations		X			Possible modification to include reference in Vol 4 of RR for IBR of parts of recommendations.		WRC-07 Agenda Item 2 WRC-10 Agenda Item 4
RESOLUTION 28 (Rev. WRC-03) Revision of references to ITU-R Recommendations incorporated by reference in the Radio Regulations			X				WRC-07 Agenda Item 2 WRC-10 Agenda Item 4
RESOLUTION 33 (Rev. WRC-03) Bringing into use of space stations in the broadcasting-satellite service, prior to the entry into force of agreements and associated plans for the broadcasting-satellite service			X				
RESOLUTION 34 (Rev. WRC-03) Relating to the establishment of the broadcasting-satellite service in Region 3 in the 12.5-12.75 GHz frequency band and to sharing with space and terrestrial services in Regions 1, 2 and 3			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
RESOLUTION 42 (Rev. WRC-03) Use of interim systems in Region 2 in the broadcasting-satellite and fixed-satellite (feeder-link) services in Region 2 for the bands covered by Appendices S30 and S30A			X				
RESOLUTION 49 (Rev. WRC-03) Administrative due diligence applicable to some satellite communication services	X				RCS Proposal for WRC-07 Agenda Item 1.12		
RESOLUTION 51 (Rev. WRC-2000) Transitional arrangements relating to the advance publication and coordination of satellite networks	X				Overtaken by events. Possible Abrogation item.		
RESOLUTION 55 (WRC-2000) Temporary procedures for improving satellite network coordination and notification procedures	X						
RESOLUTION 56 (Rev. WRC-03) Modifications of the procedures and requirements for advanced publication					Pending decisions under WRC-07 Agenda Item 1.12		
RESOLUTION 57 (WRC-2000) Modification of bringing into use and administrative due diligence requirements as a consequence of allocation changes above 71 GHz					Pending decision under WRC-07 Agenda Item 1.12		

RESOLUTION / RECOMMENDATION	S U P	M O D	N O C	N O <u>C</u>	NOTES	OTHER	BR and OTHER SOURCES
RESOLUTION 58 (WRC-2000) Transitional measures for coordination between certain specific GSO FSS receive earth stations and non-GSO FSS transmit space stations in the frequency bands 10.7-12.75 GHz, 17.8-18.6 GHz, and 19.7-20.2 GHz where efd down limits apply			X				
RESOLUTION 63 (Rev. WRC-03) Relating to the protection of radiocommunication services against interference caused by radiation from industrial, scientific and medical (ISM) equipment			X				
RESOLUTION 72 (Rev.WRC-2000) Regional preparations for World Radiocommunication Conferences			X				
RESOLUTION 73 (Rev.WRC-2000) Measures to solve the incompatibility between the broadcasting-satellite service in Region 1 and the fixed-satellite service in Region 3 in the frequency band 12.2-12.5 GHz			X				
RESOLUTION 74 (Rev. WRC-03) Process to keep the technical bases of Appendix 7 current			X				
RESOLUTION 75 (WRC-2000) Development of the technical basis			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
for determining the coordination area for coordination of a receiving earth station in the space research service (deep space) with transmitting stations of high-density systems in the fixed service in the 31.8-32.3 GHz and 37-38 GHz bands							
RESOLUTION 76 (WRC-2000) Protection of GSO FSS and GSO BSS networks from the maximum aggregate equivalent power flux-density produced by multiple non-GSO FSS systems in frequency bands where equivalent power flux-density limits have been adopted			X				
RESOLUTION 79 (WRC-2000) Development of the technical basis for coordination of radio astronomy stations with transmitting high-density fixed systems in the fixed service, in the band 42.5-43.5 GHz			X				
RESOLUTION 80 (Rev.WRC-2000) Due diligence in applying the principles embodied in the Constitution			X				WRC-07 Agenda Item 7.1
RESOLUTION 81 (WRC-2000) Evaluation of the administrative due diligence procedure for satellite networks	X				Pending decisions under WRC-07 Agenda Item 1.12		
RESOLUTION 85 (WRC-03) Application of Article 22 of the			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
Radio Regulations to the protection of geostationary fixed-satellite service and broadcasting-satellite service networks from non-geostationary fixed-satellite service systems							
RESOLUTION 86 (WRC-03) Scope and criteria to be used for the implementation of Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference			X		Consequential to WRC-07 Agenda Item 1.12		WRC-07 Agenda Item 1.12
RESOLUTION 87 (WRC-03) Date of entry into force of certain provisions of the Radio Regulations relating to the non-payment of cost-recovery fees	X						
RESOLUTION 88 (WRC-03) Rationalization of Articles 9 and 11 of the Radio Regulations	X						Tie to WRC-07 Agenda Item 1.12
RESOLUTION 89 (WRC-03) Backlog in satellite filings			X				
RESOLUTION 95 (Rev. WRC-03) General review of the Resolutions and Recommendations of world administrative radio conferences and world radiocommunication conferences			X				WRC-07 Agenda Item 4 WRC-10 Agenda Item 6
RESOLUTION 96 (WRC-03) Provisional application of certain provisions of the Radio Regulations as revised by WRC-03	X						

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
and abrogation of certain Resolutions and Recommendations							
RESOLUTION 105 (Orb-88) Improvement of the quality of certain allotments in Part A of the fixed-satellite service Plan			X				
RESOLUTION 111 (Orb-88) Planning of the fixed-satellite service in the bands 18.1-18.3 GHz, 18.3-20.2 GHz and 27-30 GHz			X				
RESOLUTION 114 (Rev. WRC-03) Use of the band 5 091-5 150 MHz by the fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite service)			X				WRC-10 Agenda Item 3.1
RESOLUTION 122 (Rev. WRC-03) Use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz by high altitude platform stations in the fixed service and by other services	X						WRC-07 Agenda Item 1.8
RESOLUTION 124 (REV. WRC-00) Protection of the fixed service in the frequency band 8 025-8 400 MHz sharing with geostationary-satellite systems of the earth exploration-satellite service (space-to-earth)	X				Consequential to change in footnote 5.462A to include values contained in F.1502.		
RESOLUTION 125 (WRC-97) Frequency sharing in the bands					Pending decisions under WRC-07 Agenda Item 1.7		

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
1 610.6-1 613.8 MHz and 1 660-1 660.5 MHz between the mobile-satellite service and the radio astronomy service							
RESOLUTION 132 (WRC-97) Use of the bands 18.8-19.3 GHz and 28.6-29.1 GHz by networks operating in the fixed-satellite service			X				
RESOLUTION 136 (Rev. WRC-03) Frequency sharing in the range 37.5-50.2 GHz between geostationary fixed-satellite service networks and non-geostationary fixed-satellite service systems	X						WRC-10 Agenda Item 2.5
RESOLUTION 139 (WRC-2000) Use of FSS systems for the provision of direct-to-home television broadcasting			X				
RESOLUTION 140 (WRC-03) Measures and studies associated with the equivalent power flux-density (epfd) limits in the band 19.7-20.2 GHz			X				
RESOLUTION 141 (WRC-03) Sharing between certain types of non-geostationary satellite systems in the fixed-satellite service and stations in the fixed service in the 17.7-19.7 GHz band					Pending decisions of WRC-07		WRC-07 Agenda Item 1.18
RESOLUTION 142 (WRC-03) Transitional arrangements			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
relating to use of the frequency band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2							
RESOLUTION 143 (WRC-03) Guidelines for the implementation of high-density applications in the fixed-satellite service in frequency bands identified for these applications			X				
RESOLUTION 144 (WRC-03) Special requirements of geographically small or narrow countries operating earth stations in the fixed-satellite service in the band 13.75-14.0 GHz	X						
RESOLUTION 145 (WRC-03) Potential use of the bands 27.5-28.35 GHz and 31-31.3 GHz by high altitude platform stations (HAPS) in the fixed service	X				Consequential to WRC-07 Agenda Item 1.8		
RESOLUTION 146 (WRC-03) Transitional arrangements for the application of modified provisions of Appendix 30B			X				
RESOLUTION 205 (Rev.Mob-87) Protection of the band 406-406.1 MHz allocated to the mobile-satellite service			X				
RESOLUTION 207 (Rev. WRC-			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
03) Unauthorized use of frequencies in the bands allocated to the maritime mobile service and to the aeronautical mobile (R) service							
RESOLUTION 212 (Rev.WRC-97) Implementation of International Mobile Telecommunications-2000 (IMT-2000)			X				
RESOLUTION 215 (Rev.WRC-97) Coordination process among mobile-satellite systems and efficient use of the allocations to the mobile-satellite service in the 1-3 GHz range			X				
RESOLUTION 217 (WRC-97) Implementation of wind profiler radars			X				
RESOLUTION 221 (Rev. WRC-03) Use of high altitude platform stations providing IMT-2000 in the bands 1885-1980 MHz, 2010-2025 MHz, 2110-2170 MHz in Regions 1 and 3 and 1885-1980 MHz and 2110-2160 MHz in Region 2			X				
RESOLUTION 222 (WRC-2000) Use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite service			X				WRC-10 Agenda Item 2.3

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
RESOLUTION 223 (WRC-2000) Additional frequency bands identified for IMT-2000					Further analysis needed		
RESOLUTION 224 (WRC-2000) Frequency bands for the terrestrial component of IMT-2000 below 1 GHz					Further analysis needed		
RESOLUTION 225 (Rev. WRC- 03) Use of additional frequency bands for the satellite component of IMT-2000					Further analysis needed		
RESOLUTION 228 (Rev. WRC- 03) Studies on frequency-related matters for future development of IMT-2000 and systems beyond IMT-2000 as defined by ITU-R					Pending decisions of WRC-07 under agenda item 1.4		WRC-07 Agenda Item 1.4
RESOLUTION 229 (WRC-03) Use of the bands 5150-5250 MHz, 5250-5350 MHz, and 5470-5725 MHz by the mobile service for the implementation of wireless access systems including radio local area networks					Further analysis needed		
RESOLUTION 230 (WRC- 03) Consideration of mobile allocations for wideband aeronautical telemetry and associated telecommand	<b>X</b>				Consequential to WRC-07 Agenda Item 1.5		WRC-07 Agenda Item 1.5
RESOLUTION 331 (Rev. WRC- 03) Transition to the Global Maritime Distress and Safety System (GMDSS) and continuation	<b>X</b>				Consequential to WRC-07 Agenda Item 1.14		WRC-07 Agenda Item 1.14

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
of the distress and safety provisions in Appendix S13							
RESOLUTION 339 (Rev. WRC-03) Coordination of NAVTEX services			X				
RESOLUTION 340 (WRC-97) Need for additional search and rescue information in databases			X				
RESOLUTION 342 (Rev. WRC-2000) New technologies to provide improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service	X				Consequential to WRC-07 Agenda Item 1.14		WRC-07 Agenda Item 1.14
RESOLUTION 343 (WRC-97) Maritime certification for personnel of ship stations and ship earth stations for which a radio installation is not compulsory			X				
RESOLUTION 344 (Rev. WRC-03) Exhaustion of the maritime mobile service identity numbering resource					Pending decisions under agenda item 1.16		WRC-07 Agenda Item 1.16
RESOLUTION 345 (WRC-97) Operation of Global Maritime Distress and Safety System equipment on and assignment of maritime mobile service identities to non-compulsory fitted vessels			X				
RESOLUTION 349 (WRC-97) Operational procedures for cancelling false distress alerts in the			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
Global Maritime Distress and Safety System							
RESOLUTION 351 (WRC-03) Review of the frequency and channel arrangements in the MF and HF bands allocated to the maritime mobile service with a view to improving efficiency by considering the use of new digital technology by the maritime mobile service		X					WRC-07 Agenda Item 1.13
RESOLUTION 352 (WRC-03) Use of the carrier frequencies 12290 kHz and 16420 kHz for safety-related calling to and from rescue coordination centres			X				
RESOLUTION 353 (WRC-03) Maritime mobile service identities for equipment other than shipborne mobile equipment			X				WRC-07 Agenda Item 1.16
RESOLUTION 405 Relating to the use of frequencies of the aeronautical mobile (R) service	X						
RESOLUTION 413 (WRC-03) Use of the band 108-117.975 MHz by aeronautical services			X		May relate to decisions under WRC-07agenda item 1.6		
RESOLUTION 414 (WRC-03) Consideration of the frequency range between 108 Hz and 6 GHz for new aeronautical applications	X						WRC-07 Agenda Item 1.6
RESOLUTION 415 (WRC-03) Study of current satellite	X						WRC-07 Agenda Item 1.6

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
frequency allocations that will support the modernization of civil aviation telecommunication systems							
RESOLUTION 506 (Rev.WRC-97) Use by space stations in the broadcasting-satellite service operating in the 12 GHz frequency bands allocated to the broadcasting-satellite service of the geostationary-satellite orbit and no other			X				
RESOLUTION 507 (Rev. WRC-03) Relating to the establishment of agreements and associated plans for the broadcasting-satellite service			X				
RESOLUTION 517 (Rev. WRC-03) Transition from double-sideband to single-sideband or other spectrum-efficient modulation techniques in the high-frequency bands between 5 900 kHz and 26 100 kHz allocated to the broadcasting service					Pending decisions of WRC-07 under Agenda Item 1.13		
RESOLUTION 525 (Rev. WRC-03) Introduction of high-definition television (HDTV) systems of the broadcasting-satellite service (BSS) in the band 21.4-22.0 GHz in Regions 1 and 3			X				
RESOLUTION 526 (WARC-92)			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
Future adoption of procedures to ensure flexibility in the use of the frequency band allocated to the broadcasting-satellite service (BSS) for wide RF-band high-definition television (HDTV) and to the associated feeder links							
RESOLUTION 527 (WARC-92) Terrestrial VHF digital sound broadcasting	<b>X</b>						
RESOLUTION 528 (Rev. WRC-03) Introduction of the broadcasting-satellite service (sound) systems and complementary terrestrial broadcasting in the bands allocated to these services within the range 1-3 GHz	<b>X</b>						
RESOLUTION 533 (Rev.WRC-2000) Implementation of the decisions of the WRC-2000 relating to processing of proposed networks submitted under Articles 4, 6 and 7 of Appendices 30 and 30A to the Radio Regulations			<b>X</b>				
RESOLUTION 535 (Rev. WRC-03) Information needed for the application of Article 12 of the Radio Regulations			<b>X</b>				
RESOLUTION 536 (WRC-97) Operation of broadcasting satellites			<b>X</b>				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
serving other countries							
RESOLUTION 539 (Rev. WRC-03) Use of the band 2605-2655 MHz in certain Region 3 countries by non-geostationary satellite systems in the broadcasting-satellite service (sound)			X				
RESOLUTION 543 (WRC-03) Provisional RF protection ratio values for analogue and digitally modulated emissions in the HF broadcasting service				<u>X</u>			WRC-10 Agenda Item 2.6
RESOLUTION 544 (WRC-03) Identification of additional spectrum for the broadcasting service in the HF bands	X				Noting RRC issue		WRC-07 Agenda Item 1.13
RESOLUTION 545 (WRC-03) Technical and regulatory procedures relating to the broadcasting-satellite service networks operating in the 620-790 MHz band			X				WRC-07 Agenda Item 1.11
RESOLUTION 546 (WRC-03) Implementation of the decisions of WRC-03 relating to processing of networks under Appendices 30 and 30A of the Radio Regulations			X				
RESOLUTION 547 (WRC-03) Updating of the “Remarks” columns in the Tables of Article 9A of Appendix 30A and Article 11 of Appendix 30 in the Radio			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
Regulations							
RESOLUTION 548 (WRC-03) Application of the grouping concept in Appendices 30 and 30A in Regions 1 and 3			X				
RESOLUTION 608 (WRC-03) Use of the frequency band 1215-1300 MHz by systems of the radionavigation satellite service (space-to-Earth)			X				
RESOLUTION 609 (WRC-03) Protection of aeronautical radionavigation service systems from the equivalent power flux-density (epfd) produced by radionavigation-satellite service networks and systems in the 1164-1215 MHz frequency band					Further analysis needed		
RESOLUTION 610 (WRC-03) Coordination and bilateral resolution of technical compatibility issues for radionavigation-satellite service networks and systems in the bands 1164-1300 MHz, 1559-1610 MHz and 5010-5030 MHz					Further analysis needed		
RESOLUTION 641 (Rev.HFBC-87) Use of the frequency band 7 000-7 100 kHz			X				
RESOLUTION 642 Relating to the bringing into use of earth			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
stations in the amateur-satellite service							
RESOLUTION 644 (Rev.WRC-2000) Telecommunication resources for disaster mitigation and relief operations			X				
RESOLUTION 646 (WRC-03) Public protection and disaster relief			X				
RESOLUTION 670 (WRC-03) Notification and protection of earth stations in the meteorological-satellite service in the band 1670-1675 MHz					Further analysis needed		
RESOLUTION 703 (Rev. WRC-03) Calculation methods and interference criteria recommended by the ITU-R for sharing frequency bands between space radiocommunication and terrestrial radiocommunication services or between space radiocommunication services			X				
RESOLUTION 705 (Mob-87) Mutual protection of radio services operating in the band 70-130 kHz			?		Navy		
RESOLUTION 716 (Rev.WRC-2000) Use of the frequency bands 1 980-2 010 MHz and 2 170-2 200 MHz in all three Regions and			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
2 010-2 025 MHz and 2 160-2 170 MHz in Region 2 by the fixed and mobile-satellite services and associated transition arrangements							
RESOLUTION 728 (Rev.WRC-2000) Studies relating to consideration of allocations in the broadcasting band 470-862 MHz to non-geostationary mobile-satellite services	<b>X</b>						
RESOLUTION 729 (WRC-97) Use of frequency adaptive systems in the MF and HF bands	<b>X</b>						WRC-07 Agenda Item 1.13
RESOLUTION 731 (WRC-2000) Consideration by a future competent world radiocommunication conference of issues dealing with sharing and adjacent-band compatibility between passive and active services above 71 GHz			<b>X</b>				WRC-10 Agenda Item 2.7
RESOLUTION 732 (WRC-2000) Consideration by a future competent world radiocommunication conference of issues dealing with sharing between active services above 71 GHz			<b>X</b>				WRC-10 Agenda Item 2.7
RESOLUTION 734 (Rev. WRC-03) Feasibility of use of high altitude platform stations in the	<b>X</b>						

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
fixed and mobile service in the frequency bands above 3 GHz allocated exclusively for terrestrial radiocommunication							
RESOLUTION 738 (WRC-03) Compatibility analyses between the Earth exploration-satellite service (passive) and active services	<b>X</b>				Consequential to WRC-07 Agenda Item 1.20		WRC-07 Agenda Item 1.20
RESOLUTION 739 (WRC-03) Compatibility between the radio astronomy service and the active space services in certain adjacent and nearby frequency bands			<b>X</b>		Consequential to WRC-07 Agenda Item 1.21		WRC-07 Agenda Item 1.21
RESOLUTION 740 (WRC-03) Future compatibility analyses between the radio astronomy service and the active space services in certain adjacent and nearby frequency bands	<b>X</b>				Consequential to WRC-07 Agenda Item 1.21		WRC-07 Agenda Item 1.21
RESOLUTION 741 (WRC-03) Protection of the radio astronomy service in the band 4990-5000 MHz from unwanted emissions of the radionavigation-satellite service (space-to-Earth) operating in the frequency band 5010-5030 MHz			<b>X</b>				
RESOLUTION 742 (WRC-03) Use of the frequency band 36-37 GHz							WRC-07 Agenda Item 1.2
RESOLUTION 743 (WRC-			<b>X</b>				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
03) Protection of single-dish radio astronomy stations in Region 2 in the 42.5-43.5 GHz band							
RESOLUTION 744 (WRC-03) Sharing between the mobile-satellite service (Earth-to-space) and the space research (passive) service in the band 1668-1668.4 MHz and between the mobile-satellite service (Earth-to-space) and the fixed and mobile services in the band 1668.4-1675 MHz	<b>X</b>				Consequential to WRC-07 Agenda Item 1.7		WRC-07 Agenda Item 1.7
RESOLUTION 745 (WRC-03) Protection of existing services in all Regions from non-geostationary-satellite networks in the fixed-satellite service using the frequency bands around 1.4 GHz on a secondary basis	<b>X</b>				Consequential to WRC-07 Agenda Item 1.17		WRC-07 Agenda Item 1.17
RESOLUTION 746 (WRC-03) Issues dealing with allocations to science services	<b>X</b>				Consequential to WRC-07 Agenda Item 1.2		WRC-07 Agenda Item 1.2
RESOLUTION 747 (WRC-03) Possible upgrade of the radiolocation service to primary allocation status in the frequency bands 9000-9200 MHz and 9300-9500 MHz, and possible extension of the existing primary allocations to the Earth exploration-satellite service (active) and the space research service (active) in the band	<b>X</b>						WRC-07 Agenda Item 1.3

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
9500-9800 MHz							
RESOLUTION 802 (WRC-03) Agenda for the 2007 World Radiocommunication Conference	X						
RESOLUTION 803 (WRC-03) Preliminary Agenda for the 2010 World Radiocommunication Conference							WRC-07 Agenda Item 7.2
RESOLUTION 900 (WRC-03) Review of the Rule of Procedure for No. 9.35 of the Radio Regulations					Abrogate?		
RESOLUTION 901 (WRC-03) Determination of the orbital arc separation for which coordination would be required between two satellite networks operating in a space service not subject to a Plan			X		Pending decisions under WRC-07 Agenda Item 1.12		
RESOLUTION 902 (WRC-03) Provisions relating to earth stations located on board vessels which operate in fixed-satellite service networks in the uplink bands 5925-6425 MHz and 14-14.5 GHz			X				
RESOLUTION 950 (WRC-03) Consideration of the use of the frequencies between 275-3000 GHz		X					WRC-10 Agenda Item 2.2
RESOLUTION 951 (WRC-03) Options to improve the international spectrum regulatory framework			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
RESOLUTION 952 (WRC-03) Studies regarding devices using ultra-wideband technology	X						
RECOMMENDATION 7 (Rev.WRC-97) Adoption of standard forms for ship station and ship earth station licences and aircraft station and aircraft earth station licences			X				
RECOMMENDATION 8 Relating to automatic identification of stations			X				
RECOMMENDATION 9 Relating to the measures to be taken to prevent the operation of broadcasting stations on board ships or aircraft outside national territories			X				
RECOMMENDATION 14 (Mob-87) Identification and location of special vessels, such as medical transports, by means of standard maritime radar transponders	X						
RECOMMENDATION 34 (WRC-95) Principles for allocation of frequency bands			X				
RECOMMENDATION 36 (WRC-97) Role of international monitoring in reducing apparent	X						

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
congestion in the use of orbit and spectrum resources							
RECOMMENDATION 37 (WRC-03) Operational procedures for earth stations on board vessels (ESVs) use			X				
RECOMMENDATION 63 Relating to the provision of formulae and examples for the calculation of necessary bandwidths			X		Further analysis may be appropriate		
RECOMMENDATION 71 Relating to the standardization of the technical and operational characteristics of radio equipment			X				
RECOMMENDATION 75 (WRC-03) Study of the boundry between the out-of-band and spurious domains of primary radars using magnetrons			X				
RECOMMENDATION 100 (Rev. WRC-03) Preferred frequency bands for systems using tropospheric scatter			X				
RECOMMENDATION 104 (WRC-95) Development of power flux-density and equivalent isotropically radiated power limits to be met by feeder links of non-geostationary satellite networks in the mobile-satellite service for the			X				

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
protection of geostationary-satellite networks in the fixed-satellite service in bands where No. S22.2/2613 of the Radio Regulations applies							
RECOMMENDATION 316 (Rev.Mob-87) Use of ship earth stations within harbours and other waters under national jurisdiction			X				
RECOMMENDATION 318 (Mob-87) Improved efficiency in the use of the Appendix S18/18 VHF frequency spectrum for maritime mobile communications			X				
RECOMMENDATION 401 Relating to the efficient use of aeronautical mobile (R) worldwide frequencies			X				
RECOMMENDATION 503 (Rev.WRC-2000) High-frequency broadcasting					Further analysis pending WRC-07 decisions under agenda item 1.13		
RECOMMENDATION 506 Relating to the harmonics of the fundamental frequency of broadcasting-satellite stations			X				
RECOMMENDATION 517 (Rev. WRC-03) Relative RF protection ratio values for single-sideband (SSB) emissions in the HF bands	X				Pending decisions of WRC-07 under agenda item 1.13		

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O C</b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
allocated exclusively to the broadcasting service							
RECOMMENDATION 520 (WARC-92) Elimination of HF broadcasting on frequencies outside the HF bands allocated to the broadcasting service	<b>X</b>						
RECOMMENDATION 522 (WRC-97) Coordination of high-frequency broadcasting schedules in the bands allocated to the broadcasting service between 5 900 kHz and 26 100 kHz			<b>X</b>				
RECOMMENDATION 604 (Rev.Mob-87) Future use and characteristics of emergency position-indicating radiobeacons (EPIRBs)	<b>X</b>						
RECOMMENDATION 605 (Rev.Mob-87) Technical characteristics and frequencies for shipborne transponders			<b>X</b>				
RECOMMENDATION 606 (Mob-87) The possibility of reducing the band 4 200-4 400 MHz used by radio altimeters in the aeronautical radionavigation service	<b>X</b>						
RECOMMENDATION 608 (WRC-03) Guidelines for					Further analysis needed		

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
consultation meetings established in Resolution 609 (WRC-03)							
RECOMMENDATION 622 (WRC-97) Use of the frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz by the space research, space operation, Earth exploration-satellite, fixed and mobile services			X				
RECOMMENDATION 705 Criteria to be applied for frequency sharing between the broadcasting-satellite service and the terrestrial broadcasting service in the band 620-790 MHz			X				
RECOMMENDATION 707 Relating to the use of the frequency band 32-33 GHz shared between the inter-satellite service and the radionavigation service					Further analysis needed		
RECOMMENDATION 722 (WRC-03) Review of technical, operational and frequency issues for terrestrial wireless interactive multimedia applications on a global basis	X						WRC-10 Agenda Item 2.8
RECOMMENDATION 723 (WRC-03) Spectrum usage and operational characteristics of electronic news gathering systems	X						
RECOMMENDATION 800 (WRC-03) Principles for establishing agendas for world				X			

<b>RESOLUTION / RECOMMENDATION</b>	<b>S U P</b>	<b>M O D</b>	<b>N O C</b>	<b>N O <u>C</u></b>	<b>NOTES</b>	<b>OTHER</b>	<b>BR and OTHER SOURCES</b>
radiocommunication conferences							

**Document WAC/078(25.01.06) – Proposal 1:**

**DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 7.2:** to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution **802 (WRC-03)**,

**Background Information:** At WRC-2003, a primary space research service (space-to-Earth) allocation in the band 25.5-27.0 GHz was added to the Table of Allocations to support a wide range of space research missions.

It is envisioned that future exploration missions to the Moon and Mars will be robotic for the foreseeable future and manned in the long-term. Prior to 2015, there will be extensive robotic missions, examining the lunar terrain, environment and potential landing sites.

To support the SRS missions in near Earth orbit, including missions in transit to the moon and at or near the moon, downlink (space-to-Earth) transmissions will operate in the 25.5-27.0 GHz SRS allocation. This 1.5 GHz wide downlink band will be used for both scientific data retrieval and voice/video communication with the Earth.

However, there is a need for a companion uplink (Earth-to-space) band to provide the mission data, command and control links for these missions. Due to the potential for many concurrent exploration related systems and the large bandwidth requirements of these systems, especially those supporting manned missions, it is envisioned that a total uplink bandwidth of up to 500 MHz will be needed.

The 22.55-23.55 GHz band is used by tracking and data relay satellite systems to communicate with user satellites (forward links) via an existing primary inter-satellite service allocation. These forward links are paired with inter-satellite return links in the 25.25-27.5 GHz band. In addition, the 22.55-23.55 GHz band is both far enough from the 25.5-27.0 GHz band to provide adequate frequency separation and wide enough to accommodate a 500 MHz sub-band, while allowing adequate bandwidth to protect existing systems. Thus the 22.55-23.55 GHz band is the logical companion band to provide the necessary uplink bandwidth and by using the same band as for communication in the Earth-to-space direction, it provides a degree of redundancy and coverage that may prove vital for future missions.

**Proposal:**

**USA/ / 1 MOD**

**RESOLUTION 803 (WRC-~~03~~07)**

**Preliminary Agenda for the 2010 World Radiocommunication Conference**

The World Radiocommunication Conference (Geneva, 20037),

**USA/ / 2 ADD**

**2.XB** to consider the addition of up to a 500 MHz primary space research service (Earth-to-space) allocation in the 22.55-23.55 GHz band, taking into account the results of ITU-R studies and recognizing the need to protect existing systems in the band.

**Reasons:** Allocating sufficient primary space research service frequency spectrum in the 22.55-23.55 GHz band will provide the space exploration initiatives adequate uplink (Earth-to-space) bandwidth capacity in a band that is linked for the inter-satellite service and thus is a reasonable companion to the primary space research service 25.5-27.0 GHz space-to-Earth band.

**USA/ / 3 ADD**

**RESOLUTION USXXX (WRC-07)**

**Use of the Band 22.55-23.55 GHz by the Space Research Service**

The World Radiocommunication Conference (Geneva, 2007),

*considering*

- a)* that there is growing interest by space agencies around the World in the comprehensive exploration of the Moon;
- b)* that the lunar exploration missions, examining the terrain, environment and potential landing sites, will be robotic for the foreseeable future and manned in the long-term;
- c)* that a primary space research service (space-to-Earth) allocation in the band 25.5-27.0 GHz was added to the Table of Allocations to support a wide range of space research missions;
- d)* that space research service (space-to-Earth) transmissions in the 25.5-27.0 GHz band will be used to support space research service missions in near Earth orbit, including missions in transit to the moon and at or near the moon;
- e)* that the space research service (space-to-Earth) transmissions in the 25.5-27.0 GHz band will be used for both scientific data retrieval and voice/video communication with the Earth;
- f)* that there is a need for a companion uplink space research service (Earth-to-space) band to provide the mission data, command and control links for the lunar exploration missions;
- g)* that due to the potential for many concurrent exploration related systems and the large bandwidth requirements of these systems, especially those supporting manned missions, it is

envisioned that a total uplink bandwidth of up to 500 MHz will be needed;

*h)* that the 22.55-23.55 GHz band is both far enough from the 25.5-27.0 GHz band to provide adequate frequency separation and wide enough to accommodate a 500 MHz sub-band, while allowing adequate bandwidth to protect existing systems;

*i)* that the 22.55-23.55 GHz band is used by tracking and data relay satellite systems to communicate with user satellites (forward links) via the existing primary inter-satellite service allocation;

*j)* that the 22.55-23.55 GHz band is the logical companion band to provide the necessary uplink bandwidth and by using the same band as for communication in the Earth-to-space direction, it provides a degree of redundancy and coverage that may prove vital for future missions;

*recognizing*

1 that the band 22.55-23.55 GHz is allocated to the fixed, inter-satellite and mobile services;

2 that the inter-satellite forward links in the 22.55-23.55 GHz band are paired with inter-satellite return links in the 25.25-27.5 GHz band;

3 that sharing between space research service (Earth-to-space) and the fixed, inter-satellite and mobile services may be feasible in the band 22.55-23.55 GHz;

*resolves*

1 to invite ITU-R to conduct sharing analyses between space research service systems operating in the Earth-to-space direction and the fixed, inter-satellite and mobile services in the band 22.55-23.55 GHz to define appropriate sharing criteria with a view to allocating up to 500 MHz in the band 22.55-23.55 GHz for the space research service in the Earth-to-space direction;

2 to recommend that WRC-10 review the results of the studies under *resolves* 1 and consider the inclusion of the sharing criteria within the Radio Regulations and appropriate modifications to the Table of Frequency Allocations, based on proposals from administrations;

*invites administrations*

to contribute to the sharing studies between the space research service and the fixed, inter-satellite and mobile services in the 22.55-23.55 GHz band;

*invites ITU-R*

to complete the necessary studies, as a matter of urgency, taking into account the present use of the allocated band, with a view to presenting, at the appropriate time, the technical information likely to be required as a basis for the work of the Conference;

*instructs the Secretary-General*

to bring this Resolution to the attention of the international and regional organizations concerned.

**Reasons:** Consequential change required by the addition of new agenda item 2.XB to the Agenda for WRC-10.

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**Document WAC/078(25.01.06) – Proposal 2:**

### **DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 7.2** to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution **802 (WRC-03)**,

**Background Information:** In the Preliminary Agenda for WRC-2010, agenda item 2.2 states: “to consider frequency allocations between 275 GHz and 3 000 GHz taking into account the result of ITU-R studies in accordance with Resolution **950 (WRC-03)**,”

Studies in the ITU-R, most notably WP1A, WP3J, WP3M, WP4A, WP7B, WP7C, WP7D, WP8A, WP9B, have very clearly identified the interest within the active and passive services in using frequencies in the spectral region above 275 GHz. Resolution **950 (WRC-03)** has allowed for the submission of details on systems operating in this range into the Master International Frequency Register (MIFR). However, there is no registered use to date by any of the active services. On the other hand, the radio astronomy, Earth exploration-satellite (passive) and the space research (passive) services all make extensive use of this spectral region. Within the radio astronomy service, several administrations have already made significant infrastructure investments in radio astronomy sites around the world. This extensive use of this spectral region by the passive services along with the lack of use of the same by the various active services indicates that the general consideration of frequency allocations between 275 and 3000 GHz is premature and such consideration would likely take up a great deal of resources in preparing for the 2010 Conference. As an alternative, reviewing and revising No. **5.565** would be desirable while at the same time require far less preparation by administrations for the 2010 Conference.

**Proposal:**

**USA/ / 1 MOD**

**RESOLUTION 803 (WRC-0307)**

## **Preliminary Agenda for the 2010 World Radiocommunication Conference**

The World Radiocommunication Conference (Geneva, 2003~~7~~),

### **USA/ / 2 SUP**

~~2.2 to consider frequency allocations between 275 GHz and 3 000 GHz taking into account the result of ITU-R studies in accordance with Resolution **950 (WRC-03)**;~~

### **USA/ / 3 ADD**

**2.X** to review and revise No. **5.565** with a view to identifying additional frequencies for passive services in the spectral region from 275 – 3000 GHz, taking into account the results of ITU-R studies in accordance with Resolution 950.

**Reasons:** The extensive use of this spectral region by the passive services along with the lack of use of the same by the various active services indicates that the general consideration of frequency allocations between 275 and 3000 GHz is premature and such consideration would likely take up a great deal of resources in preparing for the 2010 Conference. As an alternative, reviewing and revising No. **5.565** would be desirable while at the same time require far less preparation by administrations for the 2010 Conference.

### **USA/ / 4 MOD**

#### **RESOLUTION 950 (WRC-03~~07~~)**

#### **Consideration of the use of the frequencies between 275 and 3 000 GHz**

The World Radiocommunication Conference (Geneva, 2003),

*considering*

- a) that, in the Table of Frequency Allocations, frequency bands above 275 GHz are not allocated;
- b) that, notwithstanding *considering a)*, No. **5.565** makes provision for the use of the frequency band 275-1 000 GHz for ~~the experimentation with, and~~ development of various passive services and all other services and recognizes the need to conduct further ~~experimentation and~~ research;
- c) that No. **5.565** also makes provision for the protection of passive services until, and if, such time as the Table of Frequency Allocations may be extended;
- d) that, in addition to the spectral lines identified by No. **5.565**, research activities in the bands above 275 GHz may yield other spectral lines of interest, such as those listed in Recommendation ITU-R RA.314;
- e) that within various Radiocommunication Study Groups, studies on systems between 275 and 3 000 GHz, including system characteristics of suitable applications, are being considered;
- f) that the present use of the bands between 275 and 3 000 GHz is mainly related to the passive services, however, with anticipated technology development, the bands may become increasingly important for suitable active service applications;

g) that sharing studies in ITU-R among passive services and all other services operating in frequencies between 275 and 3 000 GHz have not been completed,  
*recognizing*

c) that propagation characteristics at frequencies above 275 GHz, such as atmospheric absorption and scattering, have a significant impact on the performance of both active and passive systems and need to be studied;

d) that it is necessary to investigate further the potential uses of the bands between 275 and 3 000 GHz by suitable applications,

*noting*

a) that significant infrastructure investments are being made under international collaboration for the use of these bands between 275 and 3 000 GHz, for example, the Atacama Large Millimetre Array (ALMA), a facility under construction that will provide new insights on the structure of the universe;

b) that Radiocommunication Bureau Circular Letter CR/137 identified additional information for the Bureau to record characteristics of active and passive sensors for Earth exploration-satellite service and space research service satellites, in frequency bands below 275 GHz,

*further noting*

a) that a process and format similar to that provided in *noting b)* could be used to record systems operating in the 275 to 3 000 GHz band;

b) that recording active and passive systems operating in the 275 to 3 000 GHz band will provide information until the date when, and if, it is determined that changes to the Radio Regulations are needed,

*resolves*

~~1 to consider at WRC-10 frequency allocations between 275 GHz and 3 000 GHz taking into account the result of the ITU-R studies;~~

~~2~~ that administrations may submit for inclusion in the Master International Frequency Register details on systems which operate between 275 and 3 000 GHz and which may be recorded by the Radiocommunication Bureau under Nos. **8.4, 11.8 and 11.12**,

*invites ITU-R*

to conduct the necessary studies in time for consideration by WRC-10 with a view to the modification of No. **5.565** ~~or the possible extension of the Table of Frequency Allocations above 275 GHz, including advice on the applications suitable for such bands,~~

*instructs the Director of the Radiocommunication Bureau*

to accept submissions referred to in *resolves-2*, and to record them in the Master International Frequency Register.

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