

**United States of America****DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda item 1.25:** *to consider possible additional allocations to the mobile-satellite service in accordance with Resolution 231 (WRC-07);*

Note: This revised proposal represents a compromise approach between agenda items 1.21 and 1.25 within IWG-1 and IWG-3 and assumes that a companion proposal under agenda item 1.21 in Document IWG-1/aaa that provides for a radiolocation service allocation in the 15.4-15.7 GHz band is also adopted.

If this document and the companion proposal under Agenda Item 1.21 are both adopted, the authors of this proposal withdraw document IWG-3/49.

**Background**

The Executive Summary of the CPM text for this agenda item indicates that studies of possible bands for new allocations to the mobile-satellite service (MSS) were developed in the (Earth-to-space) and (space-to-Earth) directions, with particular focus on the range 4-16 GHz, taking into account sharing and compatibility, without placing undue constraints on existing services in this band. Based on the results of studies, an appropriate amount of spectrum may be made available to the MSS systems in the 4-16 GHz range to overcome the shortfall of spectrum for the present and future MSS systems. The total requirements for the MSS in the 4-16 GHz range for the year 2020 are estimated to be between 240 and 335 MHz in each direction, and are contained in PDNRep ITU-R M.[MSS-REQS].

The CPM text sets forth several Methods for each of the bands under consideration. With respect to the 15 GHz band, the Method of interest to the MSS proponents, Method F2, provides for sharing with the incumbent services, and is reflected in the proposals below for this band.

Introduction of a MSS primary uplink allocation in the band 15.4-15.6 GHz in RR Article 5 is proposed, together with additional provisions in the RR to ensure necessary protection of existing services, developed based on the studies conducted in the Working Document towards a Preliminary Draft New Report ITU-R M.[MSS-SHARING], subject to the further development of the studies anticipated before WRC-12. The band allocated to MSS would take into account the need for an allocation in the range 15.4-15.7 GHz to address the requirements of radiolocation systems (WRC-12 Agenda item 1.21). In this proposal, an allocation to MSS is made with a separate, complimentary proposal under agenda 1.21 making the allocation to the radiolocation service in the range 15.4-15.7 GHz.

This method entails the following provisions:

- Footnote in RR Article 5 limiting use of the MSS allocation to GSO systems.
- Regulatory measures to address sharing between MSS and ARNS (RR No. 4.10 applies); and between MSS and FSS (limited to non-GSO MSS feeder links).
- Measures for protection of the radio astronomy service in the nearby band, 15.35-15.4 GHz.
- Resolution providing mechanism for providing detailed information from administrations operating MSS to administrations operating RLS systems
- Protection of MSS space station receivers at the geostationary orbit

Recognizing that additional studies are being conducted in the ITU-R, these provisions may be modified or additional provisions may be developed based on review of those additional studies.

**PROPOSALS:**

ARTICLE 5

**Frequency allocations**

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

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**MOD** USA/1.25/1

15.4-18.4 GHz

Allocation to services		
Region 1	Region 2	Region 3
15.4-15.43	AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) 5.A125	
5.511D	5.B125 5.C125 5.D125	
15.43-15.6	FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION MOBILE-SATELLITE (Earth-to-space) 5.A125	
	5.511C 5.B125 5.C125 5.D125	
15.6-15.63	FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	
15.63-15.7	AERONAUTICAL RADIONAVIGATION 5.511D	
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**Reason:** These allocations indicate the shared and compatible use of these frequencies and can provide support to several services.

**ADD** USA/1.25/2

**5.A125** The use of the band 15.4-15.6 GHz by the mobile-satellite service is limited to geostationary satellite networks, and is subject to coordination under No. 9.11A with non-GSO systems in the FSS in the band 15.43-15.6 GHz.

**Reason:** provides a better basis for the shared use of the allocation by multiple services

**ADD** USA/1.25/3

**5.B125** In order to protect the radio astronomy service in the band 15.35-15.4 GHz, mobile satellite service stations operating in the 15.4-15.6 GHz band shall not exceed the power flux density level of -156 dB(W/m<sup>2</sup>) in the band 15.35-15.4 GHz, at any radio astronomy observatory site for more than 2% of the time.

**Reason:** Minimizes the impact on the Radio Astronomy Service

**ADD** USA/1.25/4

**5.C125** In the band 15.4-15.6 GHz stations operating in mobile-satellite service shall not cause harmful interference to, nor claim protection from, stations operating in the aeronautical radionavigation service in [Sweden, Norway, Finland, United States....]

**Reason:** Preserves the regulatory status and minimizes the impact on an incumbent service.

**ADD** USA/1.25/5

**5.D125** Resolution [RLS-MSS] applies to stations in the radiolocation service and in the mobile-satellite service in the band 15.4-15.6 GHz. Stations in the radiolocation service shall not exceed a pfd level of XX dB(W/m<sup>2</sup>/MHz) at the satellite receiver antenna for MSS satellite networks in the geostationary arc that have been brought into use and/or notified under the Radio Regulations.

**Reason:** Ensures compatibility between the mobile-satellite service and radiolocation.

**ADD** USA/1.25/6

## RESOLUTION [RLS-MSS] (WRC-12)

### **Radiolocation and mobile satellite service sharing and compatibility in the frequency band 15.4-15.6 GHz**

The World Radiocommunication Conference (Geneva, 2012),

*considering*

- a) the band 15.4-15.7 GHz was allocated to the radiolocation service (RLS) on a primary basis by World Radiocommunication Conference -2012;
- b) the band 15.4-15.6 GHz was allocated to the mobile-satellite service (MSS) on a primary basis by World Radiocommunication Conference -2012;

*recognizing*

- a) that ITU-R studies have shown the potential for interference between the radiolocation and mobile-satellite service when they are co-frequency;
- b) the need for RLS and MSS stations and networks to operate without causing harmful interference to each other in the band 15.4-15.6 GHz;

*resolves*

1 that, upon receiving a request from an administration operating or planning to operate RLS stations in the 15.4-15.6 GHz band, administrations who are operating MSS earth stations in the band 15.4-15.6 GHz shall provide the following information to the requesting administration within 60 days of receiving the request:

- MSS earth station (MES) operational locations or service area, such that RLS station operators are able to avoid receiving interference from MESs;
  - Operational MSS satellite receiver locations, such that RLS station operators are able to avoid interfering with MSS satellite receivers;
- 2 to invite ITU-R as a priority, to conduct sharing and compatibility studies between RLS stations and MSS networks with a view towards defining operational and technical sharing recommendations that provide mutually adequate access to the band 15.4-15.6 GHz;

*invites administrations*

to contribute to these sharing and compatibility studies;

*invites ITU-R*

to complete the necessary studies and create recommendations as a matter of urgency.

**Reasons:** This resolution provides a method for radiolocation service and mobile satellite service sharing of the band 15.4-15.6 GHz and guidance to the ITU-R on conducting studies to produce final recommendations.

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