

UNITED STATES OF AMERICA**Draft Proposals for the Work of the Conference**

Agenda Item 1.21: *to consider a primary allocation for radiolocation services in the band 15.4-15.7 GHz, taking into account the results of ITU-R studies, in accordance with Resolution 614 (WRC-07)*

Background Information: Resolution 614 (WRC-07) calls for WRC-12 to consider a new primary Radiolocation Service (RLS) allocation in the band 15.4-15.7 GHz to provide additional spectrum for new radar systems, to enhance surveillance, mapping, navigation and weather observation. The additional bandwidth will provide greater image resolution, improve range accuracy, allow for greater radar density, improve interference performance, lower system costs, and increase ability to collect more information about an object or area observed by a radar. Operation of these radars must not adversely affect other co-primary services in the band, or the radio astronomy service in the adjacent band, 15.35-15.40 GHz. This proposal also takes into account the need for an allocation in the range 15.4-15.6 GHz to address the requirements of mobile-satellite service systems under WRC-12 Agenda item 1.25. A separate, complimentary proposal under Agenda item 1.25 makes the allocation to the mobile-satellite service in the range 15.4-15.6 GHz.

Note: This proposal represents a compromise approach between agenda items 1.21 and 1.25 within IWG-1 and IWG-3. It assumes that a companion proposal under Agenda Item 1.25 that provides for a Mobile Satellite Service (MSS) allocation in the 15.4-15.6 GHz band is also adopted. The difference between this document and document IWG-1/53r1 is addition of the following proposals:

1. USA/AI1.21/4 adds a footnote to protect MSS receivers from RLS interference.
2. USA/AI1.21/5 adds a footnote that invokes a resolution for administrations who MSS Earth Stations in the 15.4-15.6 GHz band to provide information to administrations operating or planning to operate RLS stations that will help mitigate interference to RLS receivers. It also calls upon the ITU-R to conduct sharing and compatibility studies between RLS stations and MSS networks.

If this document and the companion proposal under Agenda Item 1.25 are both adopted, the authors of this proposal withdraw document IWG-1/53r1.

Proposal:**MOD USA/AI1.21/1****15.4-18.4 GHz**

Allocation to services		
Region 1	Region 2	Region 3
15.4-15.43	AERONAUTICAL RADIONAVIGATION <u>ADD RADIOLOCATION ADD 5.A121 ADD 5.B121 ADD 5.C121</u> 5.511D <u>ADD 5.D121</u>	
15.43-15.6	FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION <u>ADD RADIOLOCATION ADD 5.A121 ADD 5.B121 ADD 5.C121</u> 5.511D <u>ADD 5.D121</u>	
15.6-15.63	FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION <u>ADD RADIOLOCATION ADD 5.A121 ADD 5.B121</u> 5.511C	
15.63-15.7	AERONAUTICAL RADIONAVIGATION <u>ADD RADIOLOCATION ADD 5.A121 ADD 5.B121</u> 5.511D	

Reason: This allocation will provide additional spectrum for new advanced radar systems. This allocation will support modern radars that employ sophisticated techniques for surveillance, mapping, navigation and weather observation. The additional bandwidth will provide greater image resolution, improve range accuracy, allow for greater radar density, improve interference performance, lower system costs, and increase ability to collect more information about an object or area observed by a radar.

ADD USA/AI1.21/2

5.A121 In the band 15.4-15.7 GHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, stations operating in the aeronautical radionavigation service.

Reason: This footnote preserves the regulatory status and minimizes the impact to one of the incumbent radio services.

ADD USA/AI1.21/3

5.B121 In order to protect the radio astronomy service in the band 15.35-15.4 GHz, radiolocation stations operating in the 15.4-15.7 GHz band shall not exceed the power flux density level of $-156 \text{ dB(W/m}^2\text{)}$ in the 15.35-15.4 GHz, at any radio astronomy observatory site for more than 2% of the time.

Reason: This footnote minimizes the impact to radio astronomy service.

ADD USA/AI1.21/4

5.C121 Stations in the radiolocation service shall not exceed a power flux density level of XX dB(W/m²/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: This footnote prevents harmful interference to operational MSS satellite receivers.

ADD USA/AI1.21/5

5.D121 Resolution [RLS-MSS] (WRC-12) applies to stations in the radiolocation service and in the mobile-satellite service in the band 15.4-15.6 GHz.

Reason: This footnote provides mechanisms to prevent harmful interference between the radiolocation service and in the mobile-satellite service in the band 15.4-15.6 GHz.

SUP USA/AI1.21/6

RESOLUTION 614 (WRC-07)

Use of the band 15.4-15.7 GHz by the radiolocation service

Reason: Resolution 614 is no longer relevant since the requested studies have been completed.

ADD USA/AI1.21/7

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 mobile-satellite earth stations (MES) in the band 15.4-15.6 GHz shall provide the following information to the requesting administration within 60 days of receiving the request:

- MES operational locations or service areas, 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.