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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 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.

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ITU-R studies demonstrate compatibility between the radiolocation service and other services allocated in the 15.4-15.7 GHz band. ITU-R M.2170 addresses compatibility between radiolocation and radionavigation, fixed satellite systems in this band and radio astronomy in the 15.3-15.4 GHz adjacent band. These studies demonstrate that sharing between these types of systems in the band 15.4-15.7 GHz is feasible, provided the systems maintain appropriate separation distances. ITU-R studies used technical characteristics and protection criteria of System 6 in ITU-R M.1730 to represent the radiolocation radars proposed for the band 15.4-17.3 GHz. ITU-R M.1372 identifies interference mitigation techniques that ensure compatibility among radar systems operating in different radiodetermination services. Additionally, ITU-R M.2076 contains further mitigation techniques for interference from radiolocation radars into radionavigation radars operating in the 9 GHz band.

There is no ITU-R Recommendation in force that specifies frequency sharing characteristics of any FSS system in any portion of the 15.4-15.7 GHz band. Currently there are no FSS systems operating in the 15.4-15.7 GHz. A review of ITU-R S.1328-4 revealed that currently there are no systems specified for this band. However, ITU-R S.1328-3, the previous version of this Recommendation, included several FSS systems. FSS system characteristics from ITU-R S.1328-3 were used for the compatibility studies contained in ITU-R M.2170. Based on the above recommendations, the radiolocation service and fixed satellite service can both operate in the 15.4-15.7 GHz band and no additional protection is needed by the fixed satellite service. In the bands 15.4-15.43 GHz and 15.63-15.7 GHz, the fixed satellite service does not have a primary allocation and operates under No. 4.10 with respect to incumbent radio services. Additional protection is not warranted in those bands as well.

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 ADD RADIOLOCATION ADD 5.A121 ADD 5.B121 5.511D	
15.43-15.63	FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION ADD RADIOLOCATION ADD 5.A121 ADD 5.B121 5.511C	
15.63-15.7	AERONAUTICAL RADIONAVIGATION ADD RADIOLOCATION ADD 5.A121 ADD 5.B121 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.

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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 dB(W/m^2) 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.

SUP USA/AI1.21/4

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.