**WRC-19 Agenda Item 1.13**

**(43.5-47.2 GHz)**

IWG-2 members were not able to reach consensus on a proposal for WRC-19 Agenda Item 1.13 regarding the identification of frequency bands for the future development of International Mobile Telecommunications (IMT), in accordance with Resolution 238 (WRC-15) for the frequency range 43.5 - 47.2 GHz. The views on the appropriate regulatory changes the FCC should support are provided.

View A is supported by: AT&T, CTIA, Ericsson, GSMA, Intel, Nokia, Samsung, Sprint, T-Mobile, Verizon

View B is supported by: GPSIA, ARRL, SES Americom, Inc, Lockheed Martin

VIEW A

**UNITED STATES OF AMERICA**

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

**Agenda Item 1.13**:*to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution***238 (WRC-15)**

**Background information:**  Large amounts of spectrum will be needed for IMT services to support the growth in IMT-2020 services in future. Therefore, serious consideration should be given to all bands under study for Agenda item 1.13 to accommodate such growth. Any IMT identification in a given band does not preclude the use of that frequency band by other services to which they are allocated, while at the same time providing flexibility to the national regulators to select parts of a given band for IMT use, taking into account their needs for new services as well those of the incumbents.

The frequency range 45.5-47 GHz, or parts thereof, is allocated to the Mobile Service (MS), Mobile Satellite Service (MSS), Radionavigation Service (RNS), and Radionavigation Satellite Service (RNSS). The 47-47.2 GHz frequency band is allocated to the Amateur and Amateur Satellite Services. The focus of the studies within ITU-R for Agenda Item 1.13 was on bands below 45 GHz due to significant interest in the 26 GHz and 40 GHz bands. With regards to sharing with MSS in both uplink and downlink directions in the 45.5-47 GHz frequency range, studies submitted to the CPM-19-2 show that large margins exist for the protection of MSS. Specifically, the sharing studies indicate that for MSS uplink, there is a large positive margin between aggregate interference from IMT and any MSS protection criteria. For MSS downlink, separation distances are small, and protection of MSS earth stations can be addressed on a national / case-by-case basis. Characteristics were not provided to TG 5/1 for RNS and RNSS in this band so no studies were performed. With regards to the band 47-47.2 GHz, any use by IMT would take into account the use under these existing allocations noting that very short propagations distance are involved at these frequencies. Further, ARS and ARRS services are able to coexist in other millimeter Wave bands with much higher power use than that by IMT systems such as by Industrial Scientific and Medical (ISM) applications in the 24-24.05 GHz and Radiolocation Services in the 77.5-78 GHz band than that by the IMT systems.

Finally, there is no need for a WRC Resolution specifying technical and operational constraints on IMT to be associated with this proposed identification for IMT. Operational characteristics that are used by cellular providers, such as base station downtilt, that change on time scales needed to minimize intra- and inter-cell interference and also guarantee quality of service should not be encoded in the Radio Regulations.

**Proposal**:

ARTICLE 5

Frequency allocations

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

MOD USA/1.13/1

40-47.5 GHz

|  |  |  |  |
| --- | --- | --- | --- |
| Allocation to services | | | |
| Region 1 | Region 2 | Region 3 | |
| 43.5-47 MOBILE 5.553 ADD 5.113  MOBILE-SATELLITE  RADIONAVIGATION  RADIONAVIGATION-SATELLITE  5.554 | | |
| 47-47.2 AMATEUR  AMATEUR-SATELLITE  MOBILE except aeronautical mobile ADD 5.113 | | |

**Reasons:** As studies show sharing with other services is feasible, these modifications provide an identification for IMT in the frequency range 45.5 to 47.2 GHz. This facilitates harmonized worldwide bands for IMT, which are highly desirable in order to achieve global roaming and the benefits of economies of scale.

ADD USA/1.13/2

5.113The frequency range 45.5-47.2 GHz is identified for use by administrations wishing to implement the terrestrial component of International Mobile Telecommunications (IMT). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.     (WRC‑19)

**Reasons**: Harmonized worldwide bands for IMT enable global roaming and the benefits of economies of scale as the same user equipment can be used to serve the global market**.**

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VIEW B

**VIEW B:**

WAC members GPS Innovation Alliance, the American Radio Relay League, SES Americom, Inc., and Lockheed Martin Corporation endorse the NTIA proposal for No Change to the Table of Allocations under Agenda Item 1.13 for the 45.5-47 GHz and 47-47.2 GHz bands.

During the course of studies in the ITU-R between 2015 and 2018 under Agenda Item 1.13 in Task Group 5/1, there were no sharing and compatibility studies performed between IMT-2020 systems and the relevant incumbent services in the 45.5-47 GHz and 47-47.2 GHz bands. In each band, there are a number of incumbent services for which sharing and compatibility studies were required under Resolution 238 (WRC-15).

In the absence of studies conducted in the ITU-R, the only sustainable conclusion is that it has not been demonstrated that the incumbent services in either band – the mobile-satellite service, the radionavigation service, and the radionavigation-satellite service in the 45.5-47 GHz band, and the amateur and amateur-satellite services in the 47-47.2 GHz band – can be protected, as required by Resolution **238 (WRC-15)**.

In this regard, the View A proposal to identify mobile spectrum in the 45.5-47 GHz band for the terrestrial component of IMT, and to allocate spectrum in the 47-47.2 GHz band to the mobile service and identify the same for the terrestrial component of IMT, is fatally flawed. The absence of studies in the responsible ITU-R task group leaves the proposals unsubstantiated and incapable of adoption.

In addition, there is no proposal to establish by resolution the technical conditions (e.g., power limits, beam downtilt, and more) under which the terrestrial component of IMT would be operated. Without these conditions, there can be no compatibility assurance for the long term.

In the end, the View B proponents urge the Commission to accept the proposals of NTIA in Doc. WAC/084 for no change (NOC) to the Table of Allocations in the 45.5-47 GHz and 47-47.2 GHz bands.

**United States of America**

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 1.13

1.13 *to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution* ***238 (WRC-15)****;*

**Background Information**:Resolution **238 (WRC-15)** invites ITU-R to conduct and complete in time for WRC-19 appropriate studies to determine the spectrum needs for the terrestrial component of IMT in the frequency range between 24.25 GHz and 86 GHz, as well as sharing and compatibility studies, taking into account the protection of services to which the frequency band is allocated on a primary basis, for the frequency bands:

– 24.25-27.5 GHz[[1]](#footnote-1), 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4‑52.6 GHz, 66-76 GHz and 81-86 GHz, which have allocations to the mobile service on a primary basis; and

– 31.8-33.4 GHz, 40.5-42.5 GHz and 47-47.2 GHz, which may require additional allocations to the mobile service on a primary basis.

The Resolution further invites WRC-19 to consider, based on the results of these studies, additional spectrum allocations to the mobile service on a primary basis and identification of frequency bands for the terrestrial component of IMT. The bands to be considered are limited to part or all of the bands listed above.

No studies were performed in the ITU-R during the study cycle leading up to WRC-19 between IMT-2020 systems and the relevant incumbent services in the 45.5-47 GHz and 47-47.2 GHz bands. In each band, there are a number of incumbent services for which sharing and compatibility studies were required under Resolution 238 (WRC-15).

In the absence of studies, there is no basis for any determination by WRC-19 that the frequency band 45.5-47 GHz, which is allocated on a primary basis to the mobile-satellite service, the radionavigation service, and the radionavigation-satellite service (in addition to the mobile service), can be identified for the terrestrial component of IMT. In addition, in the absence of studies, there is no basis for any determination by WRC-19 that the frequency band 47-47.2 GHz, which is allocated on a primary basis to the amateur and amateur-satellite services, can be allocated to the mobile service and identified for the terrestrial component of IMT.

**Proposals:**

ARTICLE 5

**Frequency allocations**

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

**NOC** USA/A13/1

**40-47.5 GHz**

|  |  |  |
| --- | --- | --- |
| **Allocation to services** | | |
| **Region 1** | **Region 2** | **Region 3** |
| **43.5-47** MOBILE 5.553  MOBILE-SATELLITE  RADIONAVIGATION  RADIONAVIGATION-SATELLITE  5.554 | | |
| **47-47.2** AMATEUR  AMATEUR-SATELLITE | | |

**Reasons:** No studies were performed between IMT-2020 systems in the 45.5-47 GHz band or the 47-47.2 GHz band and the incumbent services; therefore, it has not been demonstrated that the incumbent services can be protected, as required by Resolution **238 (WRC-15)**.

**SUP** USA/A13/2

RESOLUTION 238 (WRC‑15)

**Studies on frequency-related matters for International Mobile Telecommunications identification including possible additional   
allocations to the mobile services on a primary basis in portion(s)   
of the frequency range between 24.25 and 86 GHz for the future   
development of International Mobile Telecommunications   
for 2020 and beyond**

The World Radiocommunication Conference (Geneva, 2015),

**Reasons:** The studies called for under the agenda item for most of the bands have been completed. The fact that no studies on the 45.5-47 GHz band or the 47-47.2 GHz band, which were called for under the agenda item, have been performed indicates no interest in these bands for IMT-2020. There is no need to retain Resolution **238 (WRC-15)**.

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1. “When conducting studies in the frequency band 24.5-27.5 GHz, to take into account the need to ensure the protection of existing earth stations and the deployment of future receiving earth stations under the EESS (space-to-Earth) and SRS (space-to-Earth) allocation in the frequency band 25.5‑27 GHz.” [↑](#footnote-ref-1)