**UNITED STATES OF AMERICA**

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

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**:

Mobile broadband plays an increasingly crucial role in providing access to businesses and consumers worldwide. According to International Telecommunications Union (ITU) statistics, “Mobile-broadband subscriptions have grown more than 20% annually in the last five years and are expected to reach 4.3 billion globally by end 2017.” while “Mobile-broadband prices as a percentage of GNI per capita halved between 2013 and 2016 worldwide.[[1]](#footnote-2) Incredible technological innovation has enabled the use of higher frequency bands (e.g. mmWave) to help meet the ever-increasing demand for mobile broadband.  It is important to note that the properties of higher frequency bands, such as shorter wavelength, would better enable the use of advanced antenna systems, including multiple-input and multiple-output (MIMO) and beam-forming techniques in supporting enhanced mobile broadband.

The frequency range 50.4-52.6 GHz, or parts thereof, is allocated to the Fixed Service (FS), Fixed Satellite Service (FSS) and Mobile Service (MS). The frequency bands adjacent to this frequency range are allocated to the Earth Exploration Satellite Service (EESS) (passive) and Space Research Service (SRS) (passive). The results of studies between IMT-2020 and FSS showed that sharing was feasible with a large margin. Studies between IMT-2020 and FSS in these frequencies under agenda item 9.1/Issue 9.1.9 showed even better results; CPM text for Issue 9.1.9 states “separation distances between FSS earth stations and IMT base station and IMT user equipment are 260 and 330 metres, respectively. These values may be further reduced by consideration of propagation losses other than free space, the pointing of the IMT-2020 antennas in directions other than that of the FSS earth station, and the high likelihood that the antenna pattern of the FSS earth station is more directive than the 29-25 log *θ* pattern assumed in the analysis.”

With respect to the EESS (passive), Radio Regulations No. 5.340.1 applies.

5.340.1 The allocation to the Earth exploration-satellite service (passive) and the space research service (passive) in the band 50.2-50.4 GHz should not impose undue constraints on the use of the adjacent bands by the primary allocated services in those bands.

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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**

47.5-51.4 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
|  | | |
| 50.4-51.4 FIXED  FIXED-SATELLITE (Earth-to-space) 5.338A  MOBILE ADD 5.AI113  Mobile-satellite (Earth-to-space) | | |

**Reasons:** Taking into account No. 5.340.1, sharing is feasible between IMT-2020 and other services in 50.2-51.4 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.

**MOD USA/1.13/2**

51.4-55.78 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 51.4-52.6 FIXED 5.338A  MOBILE ADD 5.AI113  5.547 5.556 | | |

**Reasons:** Taking into account No. 5.340.1, sharing is feasible between IMT-2020 and other services in 51.4-52.6 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/1.13/3**

5.A113 The frequency band 50.4-52.6 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 this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

**Reasons:** This facilitates harmonized worldwide bands for IMT, which are highly desirable in order to achieve global roaming and the benefits of economies of scale.

1. ICT Facts and Figures 2017, p 4 and 5. See: https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2017.pdf [↑](#footnote-ref-2)