

IWG-2 Recommendation in Response to WAC/105

AGENDA ITEM 1.1: 4 400-4 990 MHz PRELIMINARY PROPOSAL FOR WRC-15

Agenda Item 1.1: *to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 (WRC-12)*

Background Information: The 2012 World Radiocommunication Conference (WRC-12) recognized a need for additional radio spectrum to support the increasing mobile data traffic, and placed consideration of additional spectrum allocations for terrestrial mobile broadband applications on the agenda for WRC-15. The ITU established the Joint Task Group (JTG) 4-5-6-7 to develop sharing studies and draft CPM text for WRC-15 Agenda Item 1.1.

The 4400-4500 MHz and 4800-4990 MHz frequency bands are allocated to the fixed service (FS) and mobile service (MS) on a co-primary basis, while the 4500-4800 MHz frequency band is allocated on a co-primary basis to the fixed, fixed-satellite, and mobile services. ITU-R conducted compatibility studies between IMT and FS, as well as between IMT and MS systems operating in the 4 400-4 990 MHz frequency range. The [final](#) JTG 4-5-6-7 Chairman's Report ([document 4-5-6-7/715](#)) contains the [completed](#) studies between IMT systems and the FS in Annex 18; and [the preliminary](#) studies between IMT systems and the MS [are](#) in Annex 33. Study Group 5 (SG 5) approved the IMT-FS sharing studies at its November 10-11, 2014 meeting. The JTG did not agree to the IMT-MS sharing studies; consequently, SG 5 did not consider the IMT-MS sharing studies.

The ITU-R studies generally show significant separation distances (hundreds of kilometers) would be required between IMT [macro](#) stations and both FS and MS stations. These ~~results~~ show that co-frequency, ~~co-coverage~~ sharing is difficult or infeasible between FS or MS systems and IMT [macro cells](#) in the same geographical area. The IMT [macro cell](#)-MS sharing studies show ~~extreme~~ separation distance requirements, including distances exceeding 500 km. ~~Moreover, the JTG did not agree on the underlying premise of the MS-IMT studies for the 4 400-4 500 and 4 800-4 990 MHz bands and that incumbent systems would have to vacate portions of the frequency range to allow use by IMT applications. The JTG studies noted this would result in loss of spectrum for the incumbent services. If systems in incumbent services, the FS and the MS, currently use the entire band, the use of adjacent channel solutions would result in a loss of spectrum for these services which may impact operations and future planning for the incumbent services.~~ The United States believes this [spectrum segmentation](#) would negatively affect operations and future planning of the incumbent FS and MS uses in the 4 400-4 990 MHz frequency range.

Given the results of the JTG studies, and the adverse effects on the incumbent services' operations by IMT use of the bands, the United States proposes no changes to the ITU Radio Regulations for the contiguous 4 400-4 990 MHz frequency range in ~~all three regions~~ Region 2. The United States realizes that other administrations have submitted proposals to regional bodies to identify this frequency range for IMT in response to agenda item 1.1. Recognizing the frequency range has already been allocated to the mobile service, the US does not make any proposals regarding other Regions in order to allow flexible use of the spectrum to meet different national administration priorities.

Proposal:

NOC

USA/1.1/1

ARTICLE 5

Frequency allocations

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

2 700-4 800 MHz

Allocation to services		
Region 1	Region 2	Region 3
<u>*****</u>	4 400-4 500 FIXED MOBILE 5.440A	<u>*****</u>
<u>*****</u>	4 500-4 800 FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A	<u>*****</u>

4 800-5 570 MHz

Allocation to services		
Region 1	Region 2	Region 3
<u>****</u>	4 800-4 990 FIXED MOBILE 5.440A 5.442 Radio astronomy 5.149 5.339 5.443	<u>****</u>

Reasons: ITU-R studies show co-frequency sharing between IMT [macro cells](#) and incumbent fixed and mobile service systems is not feasible in the 4 400-4 990 MHz frequency range in the same geographical area without disrupting in countries where current and planned incumbent operations in-utilize the entire frequency range. Given operations and future planning of the incumbent FS and MS applications in the 4 400-4 990 MHz frequency range, the United States does not support identification to IMT [in Region 2](#).