UNITED STATES OF AMERICA Error! Bookmark not defined.

DRAFT PRELIMINARY VIEWS 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: The concept of designating an allocation for IMT was conceived at WARC-92. Since WARC-92 there has been a tremendous growth in mobile communications including an increasing demand for broadband multimedia capability. However, the bands identified for IMT are currently used by mobile systems or applications of other radiocommunication services.

Conference Preparatory Meeting (CPM) 15-1 created JTG-4-5-6-7 to lead this effort in accordance with the provisions of Resolution **233** (**WRC-12**). The Terms of Reference of the JTG 4-5-6-7 identify that ITU-R WP 5D has the responsibility of identifying suitable frequency ranges for consideration and providing this information to the JTG 4-5-6-7. Both groups have work under way. WP 5D has received numerous inputs from various administrations on suitable frequency ranges, which in their sum include the frequency range 400 MHz to 6,000 MHz as suitable.

The band 3 400-4 200 MHz has been used by the FSS for space-to-Earth links (downlinks) since the 1970's. The technology is mature and equipment is available at low cost. This, together with the wide coverage beams possible in this band, has led to satellites in this band being an integral part of the telecommunications infrastructure in almost every developing country. As of 2008, there are more than 160 geostationary satellites worldwide operating in all or part of the band 3400-4 200 MHz. Nearly two out of three of commercial satellites included payloads using part or all of the 3 400-4 200 MHz FSS allocations This indicates that administrations and operators are still investing substantially in this FSS spectrum. In addition, many satellites that operate in other bands have their telemetry operations (telemetry, tracking and ranging) in the 3 400-4 200 MHz range, especially for the purposes of Launch and Transfer Orbit Operations. This band, in particular the lower part of the band, is also used for feeder inks to satellites in the mobile-satellite service.

Under a similar Agenda Item at World Radiocommunication Conference 2007 (WRC-07) the spectrum 3400-3600 MHz was identified for use by IMT/broadband systems in countries indicated in Nos. **5.430A**, **5.432A**, **5.432B** and **5.433A** under the conditions of the associated provisions. Prior to WRC-07, extensive studies were performed and captured in Report ITU-R M.2109 titled "Sharing studies between IMT Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 and 4 500-4 800 MHz frequency bands."

Subsequent to this WRC, Study Group 4 adopted Report ITU-R S.2199 “Studies on compatibility of broadband wireless access systems and fixed-satellite service networks in the 3 400-4 200 MHz band (2010).” Its Executive summary states,

“The 3 400-4 200 MHz band or parts of the band, where implemented, can be heavily used by the fixed-satellite service (FSS) for space-to-Earth transmissions. In some geographical regions, administrations are introducing broadband wireless access (BWA) systems in all or portions of this frequency band. As BWA is being introduced, harmful interference and loss of service for FSS receivers has been experienced.”

Overall, from the studies reported in this text, it was concluded that co-frequency operation of BWA systems and FSS receive Earth stations in the same geographic area is not feasible. The implications are that BWA deployment would need to respect certain specific separation distances e.g. typically 100-1000 km to protect existing FSS Earth stations, which may adversely affect the future deployment of BWA systems. In addition, when a BWA system is deployed, it would create an exclusion zone within which future deployments of FSS Earth stations would not be possible. This limitation adversely affects the future development particularly in developing countries where FSS in this band is the backbone for infrastructure telecommunications/ICT.

U.S. VIEW: The United States is of the view that compatibility between the FSS and BWA/IMT systems operating in the same band and same geographic area is not possible (see Annex D of Report ITU-R S.2199). Therefore, the 3400-4200 MHz band should be excluded from consideration under WRC-15 Agenda Item 1.1.