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| **36 MEETING OF PERMANENT**  **CONSULTATIVE COMMITTEE II:**  **RADIOCOMMUNICATIONS**  **November 30 to December 4, 2020**  ***Virtual meeting*** | | **OEA/Ser.L/XVII.4.2.36**  **CCP.II-RADIO/doc. /20**  **7 November 2020**  **Original: English** | |
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|  | **U.S. PRELIMINARY VIEW ON WRC-23 AGENDA ITEM 1.4** | |  |
|  | **(Item on the Agenda: 3.1)** | |  |
|  | **(Document submitted by the United States of America)** | |  |

**Introduction:**

This document contains an attachment including the USA preliminary view on WRC-23 Agenda Item 1.4 for consideration in CITEL’s preparation for WRC-23.

**UNITED STATES OF AMERICA**

**DRAFT PRELIMINARY VIEWS ON WRC-23**

**AGENDA ITEM 1.4**: to consider, in accordance with Resolution **247 (WRC-19)**, the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level;

**BACKGROUND:**

WRC-23 agenda item 1.4 will consider the use of HIBS in certain frequency bands currently identified for IMT operations below 2700 MHz, or portions thereof, in accordance with Resolution **247 (WRC-19)**. The frequency bands, under consideration are:

* + 694-960 MHz
  + 1 710-1 885 MHz (1 710-1 815 MHz to be used for uplink only in Region 3)
  + 2 500-2 690 MHz (2 500-2 535 MHz to be used for uplink only in Region 3, except 2 655-2 690 MHz in Region 3)

HIBS are high-altitude platform stations as IMT base stations intended to be used as part of terrestrial IMT networks and may use the same frequency bands with IMT base stations to provide mobile broadband connectivity. No. **1.66A** defines a high altitude platform station as a station located on an object at an altitude of 20 to 50 km and at a specified, nominal, fixed point relative to the Earth. No. **4.23** limits transmissions to or from high altitude platform stations to bands specifically identified in Article 5.

WRC-2000 identified through No. **5.388A** the bands 1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz in Regions 1 and 3 and the bands 1885-1980 MHz and 2110-2160 MHz in Region 2 that may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications (IMT), in accordance with Resolution **221 (Rev.WRC-07)**. Furthermore, Resolution **221 (Rev.WRC-07)** provides the technical conditions that must be met by these high altitude platform stations to protect the various services allocated in these bands, including IMT stations, from emissions from co-channel interference caused by a HAPS operating as an IMT base station in neighboring countries.

The United States has a number of important uses for the bands under consideration for WRC-23 Agenda Item 1.4:

* Commercial wireless, public safety communications, and other private radio services operate within the 694-960 MHz band.
* Aviation safety systems operate in both the aeronautical radionavigation and aeronautical mobile (route) services in the 960-1164 MHz band. These systems operate in accordance with International Civil Aviation Organization standards in all phases of flight.
* Operational tactical radio relay, terrestrial telemetering operations, and fixed point-to-point microwave applications operate in the fixed and mobile/aeronautical mobile services and space operations Earth-to-space in the 1780-1850 MHz band.

The United States has operational experience with interference to radars operating in the 2 700-2 900 MHz band from terrestrial broadband wireless base stations. By placing the IMT base stations at a high altitude, the HIBS will potentially fall in or near the antenna mainbeam of satellite earth stations and radar stations.

In addition, aviation safety systems operating in both the aeronautical radionavigation and aeronautical mobile (route) services in the 960-1 164 MHz band may be impacted. These systems operate in accordance with International Civil Aviation Organization standards in all phases of flight.

Further, the United States has radio astronomy observatories operating in the adjacent 2 690-2 700 MHz range, which is subject to footnote RRNo. **5.340**, and may be especially susceptible to transmissions from high altitudes.

Amongst the studies that must be performed are the evaluation of adjacent band compatibility with aeronautical radionavigation and aeronautical mobile (route) services in the 960-1 164 MHz band, meteorological satellite earth stations in the 1 695-1 710 MHz band, meteorological and aeronautical radionavigation radars operating in the 2 700-2 900 MHz band, and radio astronomy systems operating in the RRNo. **5.340** 2 690-2 700 MHz band, as well as in-band sharing with fixed/mobile services and space operations Earth-to-space in the 1 780-1 850 MHz band.

The United States has also recently made the 2500-2690 MHz band, a swath of vital mid-band spectrum, available for mobile terrestrial networks, which includes IMT.

**U.S. VIEW:**

The United States supports studies in accordance with Resolution **247 (WRC-19)** on the use of high-altitude platform stations as IMT base stations to ensure the protection of co-allocated primary services, and primary services in adjacent bands as appropriate and without imposing any technical or regulatory constraints on these services.

Modifications to the identifications to IMT (RR Nos. **5.286AA, 5.317A, 5.341A, 5.341B, 5.341C, 5.346, 5.346A, 5.384A** and **5.388)** in the Radio Regulations are outside the scope of WRC-23 Agenda Item 1.4; there should be no additional regulatory or technical constraints imposed on the deployment of terrestrial IMT in the frequency bands referred to in those footnotes.