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| **The 4th Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-4)** | **APG23-4/INP-xx** |
| 15 – 20 August 2022, Bangkok, Thailand | xx August 2022 |

Thailand

**preliminary views on WRC-23 agenda items 1.1, 1.2, AND 1.4**

**Agenda Item 1.1:**

*to consider, based on the results of the ITU-R studies, possible measures to address, in the frequency band 4 800-4 990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the pfd criteria in No.* ***5.441B*** *in accordance with Resolution* ***223 (Rev.WRC 19)****.*

 **1. Background**

WRC-19 approved WRC-23 agenda item 1.1 calling upon WRC-23 “to consider, based on the results of ITU-R studies, possible measures to address, in the frequency band 4 800-4 990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the power flux-density criteria in RR No. **5.441B** in accordance with Resolution **223 (Rev.WRC-19)**”. This Resolution invites ITU-R to study the technical and regulatory conditions for the protection of stations of the AMS and the maritime mobile service (MMS) located in international airspace or waters (i.e. outside national territories) and operated in the frequency band 4 800-4 990 MHz.

**2. Preliminary Views**

Thailand maintains its preliminary view on agenda item 1.1 expressed at APG23-3 in which Thailand supports ITU-R study on the technical and regulatory conditions for the protection of stations of the aeronautical and maritime mobile services located in international airspace or waters (i.e. outside national territories) and operated in the frequency band 4 800-4 990 MHz. With respect to the review of the pfd criteria contained in RR No. 5.441B, the protection of existing services shall be ensured.

**Agenda Item 1.2:**

*to consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-
7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 245 (WRC-19).*

**1. Background**

Resolution 245 (WRC-19) invites the ITU Radiocommunication Sector to conduct the sharing and compatibility studies with a view to ensuring the protection of services to which the frequency band is allocated on a primary basis, without imposing additional regulatory or technical constraints on those services, and also, as appropriate, on services in adjacent bands, for the frequency bands:

- 3 600-3 800 MHz and 3 300-3 400 MHz (Region 2);

- 3 300-3 400 MHz (amend footnote in Region 1);

- 7 025-7 125 MHz (globally);

- 6 425-7 025 MHz (Region 1);

- 10 000-10 500 MHz (Region 2).

In light of *considering e)* and *j)* of Resolution **245 (WRC-19)**, global harmonisation of spectrum for IMT being considered in the frequency band 7 025 – 7 125 MHz would be beneficial to APT members in terms of economies of scale in IMT ecosystems and enhancing mid-band spectrum supply, which is crucial to providing both capacity and coverage in IMT network deployment.

**2. Preliminary Views**

Thailand supports the possible global IMT identification in the frequency band 7 025 – 7 125 MHz, subject to the results of ITU-R studies under the condition that the existing services can be protected, particularly Fixed Service in 6 425 – 7 125 MHz band.

**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*.

**1. Background**

The high-altitude platform stations as IMT base stations (HIBS) are located in the stratosphere, providing both uplink and downlink mobile connectivity to the ground-based user
equipment (UE). HIBS are intended to be used as part of terrestrial International Mobile Telecommunications (IMT) networks, as an application of the mobile service, and may use the same frequency bands with ground-based IMT base stations. The UE to be served by the HIBS are proposed to be the same as the ground-based IMT base stations. Currently, the UE support a variety of frequency bands identified for IMT, including bands below 2.7 GHz.

WRC-2000 identified through RR No. **5.388A** the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz in Regions 1 and 3, and the bands 1 885-1 980 MHz and 2 110-2 160 MHz in Region 2 that may be used by high-altitude platform stations as base stations to provide IMT, in accordance with Resolution **221 (Rev.WRC-07)**. Furthermore, Resolution **221 (Rev.WRC-07)** provides the technical conditions that need to be met by these high-altitude platform stations to ensure that emissions to neighboring countries does not cause co-channel harmful interference to the other services and applications allocated in these bands, including terrestrial IMT-2000 stations.

The work under WRC-23 agenda item 1.4, in accordance with Resolution **247** **(WRC-19)**, includes studying sharing and compatibility in the frequency bands 694-960 MHz, 1 710-1 885 MHz and 2 500-2 690 MHz, as well as studying appropriate modifications to the existing RR No. **5.388A** and associated Resolution **221 (Rev.WRC-07)**. These studies aim to provide more flexibility on the use of such frequency bands by HIBS, including the use of the most recent radio interface technologies of IMT. This would allow HIBS to provide mobile-broadband connectivity to underserved communities, and in rural and remote areas, while ensuring the protection of existing primary services in the same and adjacent bands.

**2. Preliminary Views**

Thailand maintains its Preliminary View expressed at APG23-3 in which Thailand supports the ongoing ITU-R studies for establishing a new globally or regionally harmonised regulatory framework for HIBS with a view to providing flexibility of spectrum usage for HIBS in certain frequency bands below 2.7 GHz already identified for IMT referred to in Resolution 247
(WRC-19), while ensuring protection of the existing primary services, to which the frequency band is allocated and in the adjacent frequency bands, without imposing any additional technical or regulatory constraints in their deployment including other IMT uses, existing systems and the planned development of primary services.

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