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| **The 3rd Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-3)** | **APG23-3/OUT-05** |
| 8 – 13 November 2021, Virtual/Online Meeting | 13 November 2021 |

Working Party 1

**PRELIMINARY VIEWs on WRC-23 agenda item 1.1**

**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)**”.

WP 5B and 5D are the responsible groups, according to the CPM23-1 results (CA/215), to address the ITU-R preparatory work for WRC-23. Documents being developed by the co-responsible groups are listed as below. Both Working Parties have not started development of the draft CPM text for this agenda item yet.

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| Doc. Link | Title |
| [Doc. 5D/886  Annex 4.9](https://www.itu.int/dms_ties/itu-r/md/19/wp5d/c/R19-WP5D-C-0886!H4-N4.09!MSW-E.docx) | WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEWREPORT ITU-R M.[CONDITIONS 1.1]  Technical and regulatory conditions for the protection of stations of  the Aeronautical Mobile Service (AMS) and Maritime Mobile  Service (MMS) located in international airspace or waters (i.e.  outside national territories) and operating in the frequency band  4 800-4 990 MHz |
| [Doc. 5D/886  Annex 4.10](https://www.itu.int/dms_ties/itu-r/md/19/wp5d/c/R19-WP5D-C-0886!H4-N4.10!MSW-E.docx) | Working document towards A draft CPM Text on  WRC-23 agenda item 1.1 |
| [Doc. 5B/355](https://www.itu.int/dms_ties/itu-r/md/19/wp5b/c/R19-WP5B-C-0355!N16!MSW-E.docx)  [Annex 16](https://www.itu.int/dms_ties/itu-r/md/19/wp5b/c/R19-WP5B-C-0355!N16!MSW-E.docx) | WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT REVISION TO RECOMMENDATION ITU-R M.2116-0  Technical characteristics and protection criteria for the systems operating in the aeronautical mobile service and maritime mobile service systems operating within the 4 400-4 990 MHz frequency range |

**2. Documents**

* Input Documents:

APG23-2/INP-[10 (Rev.1)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-10Rev.1.docx) (J), [18](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-18_Contibution_AI_1.1__9.1c_-_Final.docx) (THA), [21](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-21_New_Zealand_input_to_WP1_-_AIs_1.1_1.2_9.1_Topic_C_Art._No_21.5.docx) (NZL), [24](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-24_AUS_contribution_for_WP1_Preliminary_Views_on_WRC-23_Agenda_Items_1.1_1.2_1.3_1.4_1.5_9.1Topic_c_and_No._21.5.docx) (AUS), [30](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-30_WP1_kor.docx) (KOR), [39](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-39_Indonesia_WP1.docx) (INS), [44](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-44_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.1_1.2_1.3_AND_NO.21.5.docx) (CHN), [50](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-50_VTN_WP1_PV_1.1_1.2_1.3_1.4_1.5.docx) (VTN), [53](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-53_LS_from_AWG.docx) (AWG).

APG23-3/[INP-07](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-07_AUS_contribution_for_WP1_Preliminary_Views_on_WRC-23_Agenda_Items_1.1_1.2_1.3_1.4_1.5_9.1Topic_c_and_No._21.5_v2.docx) (AUS), [INP-12](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-12_Thailand_PV_WP1_AI_1.1_1.4_9.1c.docx) (THA), [INP-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-20_New_Zealand_input_to_WP1_AIs_1.1_1.2_1.3_1.5_9.1_Topic_C_Art._No_21.5.docx) (NZL), [INP-24](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-24_WP1_Kor_1.1_1.2_1.4_9.1Topic_C_21.5.docx) (KOR), [INP-28](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-28_J-1_WP1_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.1_1.2_1.3_1.4_AND_RR_NO._21.5.docx) (J), [INP-36](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-36_SNG_WP1__AI1.1_1.2_9.1c.docx) (SNG), [INP-41](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-41_China_WP1.docx) (CHN), [INP-51](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-51_VTN_WP1_PV_1.1_1.2_1.3_1.4_1.5.docx) (VTN).

* Information Documents

APG23-2/INF-[08](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-08_Briefing_on_AI1.1.docx) (DG Chair), [25](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx) (ASMG), [26](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx) (ATU), [30](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-30_GSMA_contribution_APG23-2_final.docx) (GSMA Hong Kong), [34](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC-23.pdf) (CITEL), [35](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf) (CEPT), [36](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.pdf) (RCC).

APG23-3**/**[INF-07](https://www.apt.int/sites/default/files/2021/10/APG23-3-INF-07_Briefing_on_AI1.1.docx) (DG Chair) , [INF-15](https://www.apt.int/sites/default/files/2021/10/APG23-3-INF-15_ICAO-Position_for_ITU_WRC-23.docx) (ICAO), [INF-18](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-18_GSMA_Views.docx) (GSMA Hong Kong), [INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf) (CEPT), [INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf) (ASMG), [INF-39](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-39_Report_of_APM23-2.docx) (ATU).

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1** **Australia** - **Document APG23-3/**[**INP-07**](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-07_AUS_contribution_for_WP1_Preliminary_Views_on_WRC-23_Agenda_Items_1.1_1.2_1.3_1.4_1.5_9.1Topic_c_and_No._21.5_v2.docx)

Australia supports protection of stations of the aeronautical mobile service (AMS) and the maritime mobile service (MMS) located in international airspace or waters (i.e. outside national territories) and operated in the 4 800-4 990 MHz frequency band (from other stations located within national territories) while enabling the use of this band for IMT as practicable.

**3.1.2** **Thailand (Kingdom of)** - **Document APG23-3/**[**INP-12**](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-12_Thailand_PV_WP1_AI_1.1_1.4_9.1c.docx)

Thailand maintains its preliminary view on agenda item 1.1 expressed at APG23-2 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.

**3.1.3** **New Zealand** - **Document APG23-3/**[**INP-20**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-20_New_Zealand_input_to_WP1_AIs_1.1_1.2_1.3_1.5_9.1_Topic_C_Art._No_21.5.docx)

New Zealand supports studies with a view to ensure that stations of the aeronautical mobile service (AMS) and maritime mobile services (MMS) located in international airspace or waters and operating in the frequency band 4 800-4 990 MHz remain protected on the basis of the pfd limit provided in RR **5.441B.**

**3.1.4** **Korea** - **Document APG23-3/**[**INP-24**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-24_WP1_Kor_1.1_1.2_1.4_9.1Topic_C_21.5.docx)

The Republic of Korea is of the preliminary view that protection of aeronautical mobile and maritime mobile service and/or applications of the primary mobile service from harmful interference caused by IMT stations in the frequency band 4 800-4 990 MHz cannot be ensured solely through application of No. **9.21**.

Therefore, the Republic of Korea supports the study on the technical and regulatory conditions for the protection of aeronautical mobile and maritime mobile services and/or applications 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 No. **5.441B**, the continued protection of aeronautical mobile and maritime mobile services and/or applications of the Mobile Service must be ensured.

**3.1.5** **Japan** - **Document APG23-3/**[**INP-28**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-28_J-1_WP1_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.1_1.2_1.3_1.4_AND_RR_NO._21.5.docx)

Japan supports ITU-R studies on the technical and regulatory conditions for the protection of stations of the aeronautical mobile service and maritime mobile service located in international airspace or waters (i.e. outside national territories) and operated in the frequency band 4 800-4 990 MHz in accordance with Resolution **223 (Rev.WRC-19)**.

**3.1.6** **Singapore (Republic of)** - **Document APG23-3/**[**INP-36**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-36_SNG_WP1__AI1.1_1.2_9.1c.docx)

Singapore holds the view that technical and regulatory conditions should be studied for the protection of stations of the AMS and the MMS that are located in international airspace or waters and are operating in the frequency band 4 800-4 990 MHz in accordance with Resolution **223 (Rev.WRC-19)**.

**3.1.7** **China (People’s Republic of)**

**Document APG23-2/**[**INP-44**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-44_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.1_1.2_1.3_AND_NO.21.5.docx)

China hold the view that AI 1.1 should be studied with due consideration given to the need of administrations that have a strong desire to use IMT systems within their own territory in 4800-4990 MHz, without restrictions from other services in international airspace and waters.

**Document APG23-3/**[**INP-41**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-41_China_WP1.docx)

China support the on-going ITU-R studies relating to agenda item 1.1, and considers that these studies should be carried out based on the relevant provisions in ITU and other international organizations (such as IMO, ICAO , etc.).

**3.1.8** **Viet Nam (Socialist Republic of)** – **Document APG23-3/**[**INP-51**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-51_VTN_WP1_PV_1.1_1.2_1.3_1.4_1.5.docx)

With above discussions (see section 2 discussion in Document APG23-3/INP-51), Viet Nam is of the view that there is no need for the protection of AMS and MMS stations located in the international airspace and international waters.

Therefore, technical study on possible measures called for under WRC 23 agenda item 1.1 is not required and pfd criteria in No. 5.441B should be removed.

**3.2 Summary of issues raised during the meeting**

Some APT Members expressed the view that the studies under this agenda item should be carried out based on the relevant provisions in the ITU and other international organizations (such as IMO, ICAO, etc.). Some APT Members indicated that consideration of the provisions in international organizations other than ITU would not be necessary for the studies under this agenda item.

Based on the regulatory studies results, some APT Members expressed the view that there is no need for the protection of AMS and MMS stations located in international airspace and international waters. Some APT Members indicated that they did not share this view as it looked like not addressing the purpose of this agenda item which was adopted by WRC-19 to include both technical and regulatory study and expressed that the protection of the AMS and MMS stations located in international airspace and international waters should be ensured, and some other APT Members did not share this indication.

**4. APT Preliminary View(s)**

APT Members support the on-going ITU-R studies relating to Agenda Item 1.1

**5. Other View(s) from APT Members**

None

**6. Issues for Consideration at Next APG Meeting**

APT Members are encouraged to submit their contributions for further considerations in the next APG23-4 meeting, taking into account progress of ITU-R studies.

**7. Views from Other Organisations** (as provided in the information documents to

APG23-3)

**7.1 Regional Groups**

**7.1.1 ASMG** - **Document APG23-3/**[**INF-37**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf)

* To invite the Arab group to participate in the study of the scope and follow-up studies on this subject in the WP 5D, taking into account the current difficulties and challenges and determining the position in the upcoming ASMG meetings.
* To emphasis on protecting existing services and not imposing additional restriction on them.

**7.1.2 ATU** - **Document APG23-3/**[**INF-39**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-39_Report_of_APM23-2.docx)

* Support ongoing studies within ITU-R WP 5D, and encourage administrations to actively participate and contribute meaningfully in the development of the draft CPM text on AI 1.1
* Support, based on the results of the studies, global/regional harmonization of the frequency band 4800-4990 MHz for the implementation of IMT, taking into account the protection of incumbent services;
* Consider including their names in footnote **5.441B** for African Administrations not in the footnote, in order to achieve global/regional harmonization of the frequency band 4800-4990 MHz for the implementation of IMT;
* Decide that any appropriate measures to ensure the protection of AMS and MMS operating in international airspace/waters (as maybe deemed applicable) should be informed by the outcome of the studies,
* Decide that, in the case of protection of Radio Astronomy, within 4800-4990 MHz (secondary) and the adjacent band 4990-5000 MHz, it should be addressed as a national matter (where applicable).

**7.1.3 CITEL**

Contribution has not been submitted to APG23-3. More information may be found in [Document](https://www.citel.oas.org/en/SiteAssets/PCCII/WRC/CITEL%20Preparation%20for%20WRC23_april%202021_revclean_RevF.pdf) linked to the ITU web site on [Regional Preparation for WRC-23](https://www.itu.int/en/ITU-R/conferences/wrc/2023/Pages/reg-prep.aspx)

* Some Administration is of the view that protection of aeronautical mobile and maritime mobile service and/or applications of the primary Mobile Service in the frequency band 4 800-4 990 MHz cannot be fulfilled solely through application of No**. 9.21**. This Administration supports the study of the technical and regulatory conditions for the protection of aeronautical mobile and maritime mobile service and/or applications 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 No. **5.441B**, the continued protection of aeronautical mobile and maritime mobile service and/or applications of the Mobile Service must be ensured.
* Some Administration supports appropriate sharing studies under Agenda Item 1.1 in the band 4 800-4 990 MHz. This Administration believes this band will be important to satisfy the needs of IMT in mid-band spectrum and plans to use it for IMT services.
  + 1. **CEPT** - **Document APG23-3/**[**INF-20**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf)

CEPT is of the view that, AMS and MMS stations located in international airspace or waters and operated in the band 4800‐4990 MHz shall be protected on the basis of the pfd limit provided in RR No. **5.441B**, which will be reviewed taking into account all detailed AMS and MSS characteristics and protection criteria.

**7.1.5 RCC**

Contribution has not been submitted to APG23-3. More information may be found in [Document](https://www.itu.int/oth/R0A0200000B/en) linked to the ITU web site on [Regional Preparation for WRC-23](https://www.itu.int/en/ITU-R/conferences/wrc/2023/Pages/reg-prep.aspx)

The RCC Administrations the pfd limits to protect stations of the aeronautical and maritime mobile services located in international airspace and waters (i.e, outside national territories), and operating in the frequency band 4 800−4 990 MHz, since this imposes unjustified restrictions on the use of this frequency band by radio services within national territories.

RCC administrations consider that since administrations do not hold exclusive spectrum rights in international airspace and waters and there is no notification and registration procedure for frequency assignments in international airspace and waters, AMS and MMS frequency assignments are not internationally recognized and therefore cannot claim protection, and AMS and MMS applications do not have priority over other applications of terrestrial services used in international airspace and waters or within national territories of countries.

Protection of stations’ frequency assignments in international airspace and waters can only be provided if agreed by concerned administration(s) since it can impose restrictions on their frequency assignments within national territories. Such agreement may be reached, for example, through developing the relevant harmonized spectrum utilization plans for AMS and MMS, based on the standards approved by ICAO and IMO.

**7.2 International Organisations**

**7.2.1 ICAO** - **Document APG23-3/**[**INF-15**](https://www.apt.int/sites/default/files/2021/10/APG23-3-INF-15_ICAO-Position_for_ITU_WRC-23.docx)

To support any measures taken to enhance the protection of flight testing in international airspace that are consistent with the results of agreed studies.

To oppose any proposed measure that is not in line with the results of agreed studies and reduces the level of protection afforded to flight test operations in international airspace and above international waters.

To ensure that the proposed methods to satisfy this agenda item do not have a negative impact on the use of aviation systems in other frequency bands.

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