|  |  |  |
| --- | --- | --- |
|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 6th Meeting of the APT Conference Preparatory**  **Group for WRC-23 (APG23-6)** | **APG23-6/OUT-11** |
| 14 – 19 August 2023, Brisbane, Australia | 18 August 2023 |

Working Party 1

**APT VIEW and Preliminary APT Common Proposal on WRC-23 agenda item 1.4 [[1]](#footnote-1)**

**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**

This agenda item was initiated by APT ([24A24-A4](https://www.itu.int/dms_pub/itu-r/md/16/wrc19/c/R16-WRC19-C-0024!A24-A4!MSW-E.docx)), ATU ([46A24-A8](https://www.itu.int/dms_ties/itu-r/md/16/wrc19/c/R16-WRC19-C-0046!A24-A8!MSW-E.docx)), CITEL ([11A24-A2)](https://www.itu.int/dms_pub/itu-r/md/16/wrc19/c/R16-WRC19-C-0011!A24-A2!MSW-E.docx) and PNG ([67A24](https://www.itu.int/dms_pub/itu-r/md/16/wrc19/c/R16-WRC19-C-0067!A24!MSW-E.docx)) in WRC-19. CPM Report contains the following Methods to satisfy this agenda item:

|  |  |  |
| --- | --- | --- |
| Frequency range | Methods to satisfy the agenda item | |
| Issue A:  694-960 MHz | A1 | NOC |
| A2 | Identification for the use of HIBS globally |
| A3 | Identification for the use of HIBS globally not claiming protection and additional provisions |
| A4 | Identification for the use of HIBS per region or country |
| Issue B:  1 710-1 885 MHz | B1 | NOC |
| B2 | Identification for the use of HIBS globally |
| B3 | Identification for the use of HIBS globally not claiming protection and additional provisions |
| B4 | Identification for the use of HIBS per region |
| Issue C:  1 885-1 980 MHz,  2 010-2 025 MHz,  2 110-2 170 MHz | C1 | NOC |
| C2 | Review existing conditions for the use of HIBS |
| C3 | Review existing conditions for the use of HIBS not claiming protection and additional provisions |
| Issue D:  2 500-2 690 MHz | D1 | NOC |
| D2 | Identification for the use of HIBS globally |
| D3 | Identification for the use of HIBS globally not claiming protection and additional provisions |
| D4 | Identification for the use of HIBS per region |

**2. Documents**

* Input Documents APG23-6/[INP-06](https://www.apt.int/sites/default/files/2023/06/APG23-6-INP-06_WP1_Report.docx) (WP1 Co-Chairs), [INP-13](https://www.apt.int/sites/default/files/2023/07/APG23-6-INP-13_Cambodia_WP1_PACP_for__WRC-23_Agenda_Items.docx) (CBG), [INP-17](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-17_India_WP1_PACP_WRC-23_Agenda_Items.docx) (IND), [INP-23](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-23_Bangladesh_WP1_PACP_WRC-23_Agenda_Items.docx) (BGD), [INP-30](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-30_Multicountry_WP1_PACP_WRC-23_Agenda_Item_1.4.docx) (J, PNG, PLW, VUT, FSM, SMO), [INP-47](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-47_Indonesia_WP1_PACP_WRC-23_Agenda_Items.docx) (INS), [INP-58](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-58_Thailand_WP1_PACP_WRC-23_Agenda_Items.docx) (THA), [INP-65(Rev.1)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-65R1_Iran_WP1_Preliminary_Views_on_WRC-23_Agenda_Items.docx) (IRN), [INP-80(Rev.1)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-80R1_Australia_WP1_PACP_WRC-23_Agenda_Items_and_WRC-19_Document_550.docx) (AUS), [INP-87](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-87_KOR_WP1_PACP_WRC-23_Agenda_Items.docx) (KOR), [INP-92](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-92_Philippines_WP1_PACP_WRC-23_Agenda_Items.docx) (PHL), [INP-103](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-103_China_WP1_PACP_WRC-23_Agenda_Items.docx) (CHN), [INP-109](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-109_Malaysia_WP1_PACP_WRC-23_Agenda_Items.docx) (MLA), [INP-118](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-118_VietNam_WP1_PACP_WRC-23_Agenda_Items.docx) (VTN)
* Information Documents APG23-6/[INF-02](https://www.apt.int/sites/default/files/2023/06/APG23-6-INF-02_WMO_Position_on_WRC-23_Agenda.docx) (WMO), [INF-06](https://www.apt.int/sites/default/files/2023/07/APG23-6-INF-06_Brief_on_AI1.4.docx) (DG Chair), [INF-25](https://www.apt.int/sites/default/files/2023/07/APG23-6-INF-25_ICAO-Position_for_ITU-WRC23.docx) (ICAO), [INF-36](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-36_HAPS_Alliance_views_on_WRC-23_Agenda_1.4.docx) (Softbank Corporation, *et al.*), [INF-45](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-45_Status_of_RCC_preparation_to_WRC-23.pdf) (RCC), [INF-46](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-46_Status_of_CEPT_preparation_for_WRC-23_and_RA-23.pdf) (CEPT),   
  [INF-52](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-52_CITEL_preparation_for_WRC-23.pdf) (CITEL)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Cambodia (Kingdom of)** - **Document APG23-6/INP-13**

* Cambodia supports the ITU-R studies on the use of HIBS in the frequency bands below 2.7 GHz that already identified for IMT, as referred to in Resolution **247 (WRC-19)**. The regulatory framework should ensure protection of the existing primary services, including IMT ground systems, broadcasting and aeronautical services, in the same and in adjacent frequency bands, as appropriate and without imposing any additional technical or regulatory constraints in their deployment including other IMT uses, existing systems and the planned development of primary services.
* Therefore, Cambodia supports the following Methods as indicated in the table below:

|  |  |  |
| --- | --- | --- |
| Frequency range  Issue | | Cambodia |
| A | 694-960 MHz | A3 |
| B | 1 710-1 885 MHz | B3 |
| C | 1 885-1 980 MHz, 2 010-2 025 MHz,  2 110-2 170 MHz | C3 |
| D | 2 500-2 690 MHz | D3 |

**3.1.2 India (Republic of)** - **Document APG23-6/INP-17**

* While considering the feasibility of HIBS in the IMT bands below 2.7 GHz, India supports technical and regulatory provision for the protection of existing and planned satellite services in the band 2500-2690 MHz and in the adjacent band 2483.5 - 2500 MHz. The frequency band 2483.5-2500 MHz is used in NavIC user receivers; and frequency bands 2500-2535 MHz, 2555-2635 MHz and 2655-2690 MHz used in S-band MSS & BSS satellites of India and currently experiencing interference into the satellite receivers.
* In addition, India supports technical and regulatory provisions required for protection of existing and planned IMT services in the proposed bands below 2.7 GHz
* In view of above usages, India supports the following Methods:
* Issue A - 694-960 MHz
  + - Method A3: Identification of the frequency band 694-960 MHz, or portions thereof, for the use of HIBS not claiming protection from existing primary services and to include a new WRC Resolution for the use of this band by HIBS as contained in sections 1/1.4/5.1.3 and 1/1.4/5.1.5. HIBS shall be notified to the Bureau and RR Nos. 11.2, 11.9 and 11.26A are applicable for purposes of aiding planning and coordination with neighbouring and concerned countries.
* Issue B - 1 710-1 885 MHz
  + - Method B3: Identification of the frequency band 1 710-1 885 MHz, or portions thereof, for the use of HIBS not claiming protection from existing primary services in accordance with revised RR No. **5.388A** and revised Resolution **221 (Rev.WRC-07)** as contained in sections 1/1.4/5.2.3 and 1/1.4/5.2.5. HIBS shall be notified to the Bureau and RR Nos. 11.2, 11.9 and 11.26A are applicable for purposes of aiding planning and coordination with neighbouring and concerned countries.
* Issue C - 1 885-1 980 MHz, 2 010-2 025 MHz, and 2 110-2 170 MHz
  + - Method C3: Review of existing conditions in the frequency bands 1 885-1 980 MHz, 2 010-2 025 MHz, and 2 110-2 170 MHz, or portions thereof, for the use of HIBS not claiming protection from existing primary services in accordance with revised RR No. **5.388A** and revised Resolution **221 (Rev.WRC-07)** as contained in sections 1/1.4/5.3.3 and 1/1.4/5.3.4. HIBS shall be notified to the Bureau and RR Nos. 11.2, 11.9 and 11.26A are applicable for purposes of aiding planning and coordination with neighbouring and concerned countries.
* Issue D - 2 500-2 690 MHz
  + - Method D1: No change to the Radio Regulations (RR)

**3.1.3 Bangladesh (People's Republic of)** - **Document APG23-6/INP-23**

* Bangladesh is a small country. It is one of the most densely populated countries in the world. Most of the geographical area is flat and easily accessible. Almost 100% area of Bangladesh is covered by the cellular mobile network installing IMT base stations. HIBS will use multi-beam operation to provide mobile connectivity over a wide area, in certain cases HIBS is deployed in remote areas, where ground-based IMT base stations are yet to be deployed. Study results shows that co-frequency compatibility between HIBS and IMT systems in the same geographical area is conditionally feasible but technically very difficult, and compatibility in a cross-border scenario is also challenging. Moreover, sharing and compatibility between broadcasting services and HIBS may not be feasible.
* Based on the above circumstances, Bangladesh administration supports method A1 for the band A, method B1 for the band B, method C1 for the band C and method D1 for the band D of the CPM report to WRC-2023 i.e., no change to the Radio Regulation.

**3.1.4 Japan, Papua New Guinea, Vanuatu (Republic of), Palau (Republic of), Micronesia (Federated States of), Samoa (Independent State of)** - **Document APG23-6/INP-30**

* The Member States cosponsoring this input contribution support Methods A2, B2, C2 and D2 and the relevant regulatory conditions in the Final CPM Report for WRC-23 for the use of HIBS in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global level, subject to ensuring the protection of the existing services, without adversely affecting in their deployment, to which the frequency band is allocated on a primary basis, including other IMT uses, existing systems and the planned development of primary services, and adjacent bands, as appropriate. The methods and regulatory conditions supported by the Member States cosponsoring this input contribution are as embedded below.



* The Member States cosponsoring this input contribution are of the view that the frequency band 698-790 MHz in Region 3 is within the scope of this agenda items for the following reasons:
  + - While RR No. **5.2.1** indicates that the words “regions” or “regional” without a capital “R” do not relate to the three Regions, invites the WRC-23 of Resolution **247** uses "regional", which does not mean the use of HIBS on Region basis (i.e. Regions 1, 2 or 3).
    - recognizing d) of Resolution **247**is a reference to the existing footnotes for IMT identifications below 2.7 GHz and does not mention the frequency bands being subject to this agenda item. In fact, although this recognizing states “some frequency bands below 2.7 GHz are globally or regionally identified for IMT”, this does not exclude all country footnote for the IMT identification and includes No. **5.346** for the frequency band 1452-1492 MHz in some parts of Region 1 countries.
    - 694-960 MHz has no specific condition in invite ITU-R 2 of Resolution **247**, while other frequency bands have explicit conditions for Region 3 (e.g.1 710-1 815 MHz to be used for uplink only in Region 3).
    - No. **5.313A** identifies the frequency band 698-790 MHz for IMT in 27 countries out of 37 countries in Region 3 (out of 38 countries in APT). This situation can be considered that 694-790MHz is regionally identified for IMT in Region 3.
* The Member States cosponsoring this input contribution propose to develop a Preliminary APT Common Proposal as embedded below.



**3.1.5 Indonesia (Republic of)** - **Document APG23-6/INP-47**

* Views
  + - Indonesia is of the view that future HIBS implementation in the frequency bands under this agenda item will be beneficial for complementing the existing ground-based IMT base stations deployment.
    - By taking into account the CPM23-2 Report, a global harmonised spectrum allocation to HIBS without claiming protection and additional provisions against other services should become the appropriate approach to ensure protection of incumbent services, to which the frequency band is allocated on the primary basis.
    - In this regard, Indonesia supports Methods A3, B3, C3 and D3 in the CPM23-2 Report to satisfy agenda item 1.4.
* Proposals for the PACP on Agenda Item 1.4
  + - The APT Members support a global harmonised spectrum allocation of HIBS for complementing the existing ground-based IMT base stations deployment, particularly for the unconnected and underserved communities, including the rural and remote areas.
    - Therefore, the implementation of HIBS in the frequency bands under agenda item 1.4 shall complement the ground-based IMT base stations and shall not claim protection from nor impose additional provisions on other primary services to which these frequency bands are already allocated, to ensure the protection of incumbent services.

**3.1.6 Thailand (Kingdom of)** - **Document APG23-6/INP-58**

* Thailand supports Method A2 B2 C2 and D2 for establishment of the new globally harmonized 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)**. The regulatory framework should ensure 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.



**3.1.7 Iran (Islamic Republic of)** - **Document APG23-6/INP-65**

* The Islamic Republic of Iran is of the view that existing services allocated in the frequency bands considered under this agenda item and the adjacent bands, particularly, when neighboring countries use terrestrial IMT base stations and mobile stations, shall be protected based on sharing and compatibility studies, with no additional technical or regulatory impact / adverse effect on those existing uses and planned development.
* This should be included in the relevant resolution that the compliance to the corresponding Resolutions relying to this agenda items does in no way, what so ever, release the notifying administration(s) from its obligation to not causing unacceptable interference nor claiming protection from the incumbent services as indicated in the Resolution.
* Views of the I.R. of Iran on methods for various bands are as embedded below.



**3.1.8 Australia** - **Document APG23-6/INP-80**

* Australia supports establishing a new globally or regionally harmonised regulatory framework that responds to changing technology and improves the efficient use of frequency bands below 2.7 GHz already identified for IMT, by facilitating the use of HIBS. Australia notes that any change must ensure the protection of services in and adjacent to the bands allocated for IMT and should not give priority to HIBS over existing IMT identifications. Also, there should be no additional regulatory or technical constraints imposed on the deployment of terrestrial IMT in the frequency bands used by HIBS.
* Australia does not propose a Preliminary APT Common Proposal for this agenda item.

**3.1.9 Korea (Republic of)** - **Document APG23-6/INP-87**

* The Republic of Korea supports Methods X3 with no claim protection from the other services including IMT in the CPM Report. The Republic of Korea also supports Example 1 for resolves 1.1 and 1.2 for Method D3 in the CPM Report and proposes PACP as embedded as below.
* The Republic of Korea is also of the view that;
  + - Protection of RAS in 1 610.6-1 613.8 MHz from HIBS 2nd harmonics operating in 805.3-806.9 MHz is out of the scope with respect to Resolution **247 (WRC-19)** resolves to invite ITU-R.
    - Regarding frequency band 698-790 MHz in Region 3 countries, consideration of the using HIBS in 698-790 MHz in the countries listed in RR No. 5.313A is within the scope of this agenda item. RR No. 5.2.1 indicates that “It should be noted that where the words “regions” or “regional” are without a capital “R” in these Regulations, they do not relate to the three Regions here defined for purposes of frequency allocation.”
* The Republic of Korea proposes that the above views should be reflected properly in section 4 (APT Views), if APG agreed. If not, it should be included in section 6 (Issues for Consideration at APG Coordination Meeting at WRC-23) of [the template of the APT OUTPUT](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-09Rev.1_TMP_and_OUT_Template_for_PACP.docx).
* The proposed additional provisions to the new Resolution are embedded as follows:

****

**3.1.10 Philippines (Republic of the)** - **Document APG23-6/INP-92**

* Issue A: HIBS in the frequency band 694-960 MHz
  + - Philippines supports Method A3 for the identification of the frequency band 694-960 MHz, or portions thereof, for the use of HIBS not claiming protection from existing primary services and the development of a new WRC Resolution for the use of this band by HIBS.
* Issue B: HIBS in the frequency band 1 710-1 885 MHz
  + - Philippines supports Method B3 for the identification of the frequency band 1 710-1 885 MHz, or portions thereof, for the use of HIBS not claiming protection from existing primary services in accordance with revised RR No. **5.388A** and revised Resolution **221 (Rev.WRC-07)**.
* Issue C: HIBS in the frequency bands 1 885-1 980 MHz, 2 010-2 025 MHz, and
* 2 110-2 170 MHz
  + - Philippines supports Method C3 for the review of existing conditions in the frequency bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz, or portions thereof, for the use of HIBS not claiming protection from existing primary services in accordance with revised RR No. **5.388A** and revised Resolution **221 (Rev.WRC-07)**.
* Issue D: HIBS in the frequency band 2 500-2 690 MHz
  + - Philippines supports Method D3 for the identification of the frequency band 2 500-2 690 MHz, or portions thereof, for the use of HIBS not claiming protection from existing primary services and the development of a new WRC Resolution for the use of this band by HIBS.

**3.1.11 China (People’s Republic of)** - **Document APG23-6/INP-103**

* Based on the results of the sharing and compatibility studies, China supports Methods A1, B3, C3 and D3 and the relevant regulatory conditions in the CPM Report.
* The methods and regulatory conditions supported by China are as embedded below.



**3.1.12 Malaysia** - **Document APG23-6/INP-109**

* Malaysia supports establishing regulatory provisions for the use of HIBS in certain frequency bands below 2.7 GHz which are already identified for IMT referred to in Resolution **247 (WRC-19)**, while ensuring the protection of the existing services, to which the frequency bands are allocated on a primary basis, and adjacent bands, without adversely affecting in their deployment including other IMT uses, existing systems and the planned development of primary services.
* In view of the above, Malaysia could support the following methods to satisfy this agenda item:

| Frequency bands | Methods |
| --- | --- |
| A: 694-960 MHz | A2 or A3 |
| B: 1 710-1 885 MHz | B2 or B3 |
| C: 1 885-1 980 MHz, 2 010-2 025 MHz, and 2 110-2 170 MHz | C2 or C3 |
| D: 2 500-2 690 MHz | D2 or D3 |

**3.1.13 Viet Nam (Socialist Republic of)** - **Document APG23-6/INP-118**

* Viet Nam supports the ITU-R studies on the use of HIBS in frequency bands from resolve to invite ITU-R 2 of Resolution 247 (WRC-19) with the views that ensuring the protection of existing primary services, including IMT ground systems, broadcasting and aeronautical services, in the same and in adjacent frequency bands, as appropriate and without imposing any technical or regulatory constraints on these services, in accordance with Resolution 247 (WRC-19).

a) For band A (694-960 MHz)

* Viet Nam is of the view that the use of HIBS in the frequency band 694-960MHz shall not cause interferences to and impose any additional restrictions on the use of existing systems in the same and adjacent frequency bands, therefore Method A3 could be consider. Otherwise, Method A1 is supported.

b) For bands B (1 710-1 885 MHz), C (1 885-1 980 MHz, 2 010- 2 025 MHz, and 2 110-2 170 MHz) and D (2 500-2 690 MHz)

* Method B3, C3, D3 could be supported in the conditions of:
  + - Appropriately revised Resolution 212 (Rev. WRC-07) to ensure the protection of existing services in the same and in adjacent frequency bands.
    - Related ITU-R studies for the operation of HIBS be finalized, including the spectrum need and protection criterion for HIBS.

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

* APG23-6 received a number of proposals which support Method X2 (A2, B2, C2 and D2) or X3 (A3, B3, C3 and D3) together with different combinations of Examples under the various conditions in the CPM Report.
* APT Members agreed to develop PACP with minor modifications to Method B3, C3 and D3 to correct inconsistencies in the provision for HIBS operations at an altitude below 20 km.
* Diverse views were raised on whether the use of HIBS in 698-790 MHz in the countries listed in RR No. **5.313A** is within the scope of this agenda or not.
* Some APT Members are considering appropriate regulatory conditions in the footnotes and WRC Resolution based on Method A3 for the use of HIBS in the frequency band 694-960 MHz including No. **5.313A** to ensure protection of existing primary services, and adjacent bands as appropriate.

**4. APT View(s)**

APG23-6 has considered agenda item 1.4 and drafted a Preliminary APT Common Proposal on the Issues B, C and D. In addition, APG23-6 has formed the following views on this agenda item.

**Issue A** **(694-960 MHz)**

* + - APT Members have not developed a PACP for this frequency band.
    - APT Members are of the view that the protection of existing services in this frequency band and the adjacent bands shall be ensured, taking into account that HIBS may be used in this frequency band in some countries in the APT and other Regions through a footnote in the Table of Frequency Allocations.

**Issues B and C** **(****1 710-1 885 MHz, 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz)**

* + - APT Members support for the use of HIBS in the frequency bands 1 710-1 885 MHz, 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz, or portions thereof, globally through Methods B3 and C3 with the modification of Resolution **221**.
    - In addition, APT Members have the following views on Examples under the respective conditions in Resolution **221 (Rev.WRC-23)** contained in the CPM Report.

|  |  |  |
| --- | --- | --- |
| **Provisions** |  | **Supported Example** |
| *resolves* 1.2 and 1.3 | Protection measures for IMT in the frequency bands 1 710-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz | Example 1 |
| *resolves* 1.5 | Protection measures for the fixed service in the adjacent frequency band 2 010-2 100 MHz | Example 1 |
| *resolves* 1.6 | Protection measures for the fixed service in the frequency bands 1 710-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz | Example 1 |
| *resolves* 1.7 and 1.8 | Protection measures for the aeronautical mobile service in the frequency band 1 780-1850 MHz | Example 3 |

**Issue D** **(2 500-2 690 MHz)**

* + - APT Members support for the use of HIBS in the frequency band 2 500-2 690 MHz, or portions thereof, globally through Method D3 with a new WRC Resolution.
    - In addition, APT Members have the following views on Examples under the respective conditions in Resolution **[B14-HIBS 2 500-2 690 MHz] (WRC‑23)** contained in the CPM Report.

|  |  |  |
| --- | --- | --- |
| **Provisions** |  | **Supported Example** |
| *resolves* 1.1 and 1.2 | Protection measures for IMT in the frequency band 2 500-2690MHz | Example 1 |
| *resolves* 1.3 | Protection measures for the fixed service in the frequency band 2 500-2690MHz | Example 1 |
| *resolves* 1.4 | Protection measures for the broadcasting satellite service in the frequency band 2 520-2630 MHz | Example 2 with some modifications |
| *resolves* 1.6 | Protection measures for the radiolocation service systems operating in accordance with No. **5.423**, in the frequency band 2 700-2 900 MHz | Example 1 |
| *resolves* 1.7 and 1.8 | Protection measures for the radio astronomy service operating in the frequency band 2 690-2 700 MHz | Example 1 |
| *resolves* 1.9 | Protection measures for the radiodetermination satellite service (s-to-E) and the mobile satellite service (s-to-E) in the adjacent frequency band 2 483.5-2 500 MHz | Example 2 |

**5. Preliminary APT Common Proposal**

PACP for Issues B, C and D.



**6. Issues for Consideration at APG Coordination Meeting at WRC-23 (if any)**

Some APT Members are of the view that a provision that “No. **5.43A** does not apply” may be included in the footnotes in conjunction with *“HIBS shall not claim protection from existing primary services.”*

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

APG23-6)

**7.1 Regional Groups**

**7.1.1 ASMG** - **Document** [**WRC-23-IRW-22/5**](https://www.itu.int/md/R19-2WSHWRC23-C-0002/en)

* Follow-up studies of the possibility of using high-altitude platforms as base stations for International Mobile Telecommunications (HIBS) in the frequency bands referred to in Resolution **247 (WRC-19)** with follow-up studies of sharing and compatibility in order to ensure the protection of existing services to which the frequency band is allocated on a primary basis and services operating in adjacent bands as appropriate, in addition to the measures required for coordination with neighboring countries regarding exceeded coverage.
* Protection of existing systems and the future development of services to which bands are distributed on a primary basis and services operating in neighboring bands as necessary.
* To continue to study the spectrum needs of high-altitude platform stations as base stations for International Mobile Communications (HIBS), taking into account that no additional regulatory or technical restrictions are imposed on IMT terrestrial systems and determining the position on the possibility of using these applications in the bands mentioned in Resolution **247 (WRC-19)** or not in the upcoming Arab meetings.
  + 1. **ATU** - **Document** [**WRC-23-IRW-22/2**](https://www.itu.int/md/R19-2WSHWRC23-C-0002/en)
* Support studies to enable the use of HIBS in bands below 2700 MHz, already identified for IMT;
* Support the ITU-R sharing and compatibility studies for HIBS usage and protection of existing co-primary and primary services in adjacent bands without adversely affecting these services;
* Support, based on the result of studies, the global/regional harmonization on the use of the frequency bands for HIBS, which may include addition of African countries names in the existing footnotes in the RR.
* Support the identification of the candidate bands for the use of high altitude platform stations as base stations for International Mobile Communications (HIBS), taking into account that no additional regulatory or technical restrictions should be imposed on the existing IMT terrestrial systems and applications operating in the same bands or in adjacent bands and also to identify the necessary measures required for coordination with neighbouring countries regarding exceeded coverage.
  + 1. **CEPT** - **Document APG23-6/INF-**[**INF-46**](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-46_Status_of_CEPT_preparation_for_WRC-23_and_RA-23.pdf)
* CEPT supports regulatory provisions applying to HIBS in order to enable their use of the frequency bands 694-960 MHz, 1710-1885 MHz and 2500-2690 MHz while protecting other services and applications in these frequency bands as well as in the adjacent bands. . Under the same line, the conditions pertaining to the IMT applications using high altitude platform stations (HAPS) as base stations as currently defined through RR N° **5.388A** and Resolution **221 (Rev. WRC-07)** are also proposed to be revised.
* The regulatory provisions proposed by CEPT to ensure protection of other services are of three different nature applying as appropriate, specific geographical coordination, in-band or adjacent band pfd masks and limitation of the HIBS emissions to a specific direction.
* CEPT is of the view that the use by HIBS of these frequency bands should be on a non-protection basis, since studies have not addressed the risk that HIBS may require more protection than conventional IMT base stations.
* CEPT is of the view that the use of HIBS should be enabled at an altitude lower than 20 km, down to a minimum of 18 km, since ITU-R studies have confirmed that there is a negligible difference in terms of impact to other services.
* CEPT is of the view that there needs to be a pfd limit for the protection of broadcasting and not a coordination trigger since that would allow an alternative coordination procedure for the band 694 – 960 MHz.

**7.1.4 CITEL** - **Document APG23-6/**[**INF-52**](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-52_CITEL_preparation_for_WRC-23.pdf)

**Inter-American Proposals:** (CITEL/GT/CMR-23/doc. 106/23)

* Administrations propose identification for HIBS in accordance with CPM text methods A2, B2, C2, and D2, including:
  + - **MOD article 5 - 460-890 MHz / MOD article 5 - 890-1 300 MHz**
    - **ADD 5.A14 ADD 5.B14**
    - **ADD RESOLUTION [A14-HIBS 698-960 MHZ] (WRC-23)** *Use of high-altitude platform stations as International Mobile Telecommunications base stations (HIBS) in the frequency band 694-960 MHz, or portions thereof*
    - **MOD article 5 - 1 710-2 170 MHz**
    - MOD 5.388A
    - **MOD RESOLUTION 221 (REV.WRC 07)** *Use of high altitude platform stations providing IMT in the bands 1 885 1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz in Regions 1 and 3 and 1 885-1 980 MHz and 2 110-2 160 MHz in Region 2*
    - **MOD article 5 - 2 170-2 520 MHz / MOD article 5 - 2 520-2 700 MHz**
    - **ADD 5.L14**
    - **ADD RESOLUTION [B14-HIBS 2 500-2 690 MHZ] (WRC-23)** *Use of high-altitude platform stations as International Mobile Telecommunications base stations (HIBS) in the frequency band 2 500-2 690 MHz, or portions thereof.*
    - **MOD 11.26A**
    - **SUP RESOLUTION 247 (WRC-19)** *Facilitating mobile connectivity in certain frequency bands below 2.7 GHz using high-altitude platform stations as International Mobile Telecommunications base stations.*

**Preliminary Proposal:** (CITEL/GT/CMR-23/doc. 023/23 rev4)

* An Administration proposes **NOC** to the frequency band 1 710-1 885 MHz.

**7.1.5 RCC** - **Document APG23-6/**[**INF-45**](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-45_Status_of_RCC_preparation_to_WRC-23.pdf)

* RCC views/positions based on direct extract from the relevant information document.
* Technical and regulatory conditions for the use of HIBS in the bands mentioned in Res. **247 (WRC-19)** shall be based on the results of relevant ITU-R compatibility studies and should take into account the requirements for the protection of services with the primary allocation in these and adjacent frequency bands, including other uses of IMT systems and should not cause interference and impose additional restrictions on the use:
  + - of the 645-862 MHz and 960-1164 MHz bands by ARNS stations
    - of the band 1675-1710 MHz by Meteorological Satellite Service
    - of the band 2025-2110 MHz by SOS, SRS, EESS
    - of the bands 1980-2010 MHz, 2170-2200 MHz by MSS
* RCC views/positions based on direct extract from the relevant information document.
  + - Method [А1 or A3] - Question А: HIBS in the frequency band 694 – 960 MHz
    - Method B3 - Question В: HIBS in the frequency band 1 710-1 885 MHz
    - Method C3 - Question С: HIBS in the frequency band 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz
    - Method D3 - Question D: HIBS in the frequency band 2 500-2 690 MHz

**7.2 International Organisations**

**7.2.1 ICAO** - **Document APG23-6/**[**INF-25**](https://www.apt.int/sites/default/files/2023/07/APG23-6-INF-25_ICAO-Position_for_ITU-WRC23.docx)

* To ensure that any identification of frequency bands for high-altitude platform stations as IMT base stations (HIBs) should include provisions for the protection of aeronautical systems operating in the frequency bands 960-1 164 MHz and 2 700 2 900 MHz.
* To oppose the use of HIBS within the frequency band 2 500 2 690 MHz or parts thereof if agreed studies have not demonstrated the protection of aeronautical systems.

**7.2.2 WMO** - **Document APG23-6/**[**INF-02**](https://www.apt.int/sites/default/files/2023/06/APG23-6-INF-02_WMO_Position_on_WRC-23_Agenda.docx)

* WMO is not opposed to a HIBS identification if the following provisions are implemented in the Radio Regulations:
  + - In order not to change the interference environment for the MetSat systems in the 1 675-1 710 MHz band, HIBS operations in the 1 710-1 785 MHz band would have to be limited to the uplink direction (HIBS receiving from IMT UE). This necessary limitation is expressed in Methods B2, B3 and B4 of the CPM Report,
    - In order not to change the interference environment for EESS and SOS in the 2 025- 2 110 MHz band, HIBS operations in the 2 110-2 170 MHz band would have to be limited to the downlink direction (HIBS transmitting to ground-based UE). This necessary limitation is expressed in Methods C2 and C3 of the CPM Report,
    - Application of appropriate regulatory provisions for HIBS operations in the 2 500-2 690 MHz band, with necessary limits in the 2 700-2 900 MHz band, to ensure protection of meteorological radar measurements. The development of these limits would have to take into account the spatial nature of meteorological radar measurements and their sensitive Minimum Detectable Signal (MDS) requiring that every scan direction (elevation and azimuth) be adequately protected. Such protection can be achieved by implementing the power flux-density (pfd) mask included in Methods D2, D3 and D4 of the CPM Report.

\_\_\_\_\_\_\_\_\_\_\_\_

1. Please note that the term ‘Issues/issues’ should not be confused with Issues in WRC-23 Agenda Items 7 and 9. [↑](#footnote-ref-1)