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| A picture containing text, clipart  Description automatically generated | ASIA-PACIFIC TELECOMMUNITY | **Document No:** |
| **The 4th Meeting of the APT Conference Preparatory**  **Group for WRC-23 (APG23-4)** | **APG23-4/OUT-39** |
| 15 – 20 August 2022, Bangkok, Thailand | 20 August 2022 |

Working Party 5

**PRELIMINARY VIEWs on WRC-23 agenda item 10**

**Agenda Item 10:**

*to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution* ***804 (Rev.WRC-19)***

**1. Background**

Agenda item 10 requests WRC-23 to recommend to the Council items for inclusion in the agenda for WRC-27, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention and Resolution **804 (Rev.WRC-19)**.

WRC-19 has established the preliminary agenda for WRC-27 which includes 13 preliminary agenda items (see Resolution **812 (WRC-19)**).

Further agenda items for WRC-27 will be considered based on inputs from the APT Members.

The principles for development of agendas of WRCs are included in Annex 1 of Resolution 804 (Rev. WRC-19) that encourage regional and interregional coordination on the subjects to be considered in the preparatory process for the WRC, in accordance with Resolution 72 (Rev.WRC-19) and Resolution 80 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, with a view to addressing potentially difficult issues well before a WRC.

The principles also encourage to include, to the extent possible, agenda items that are prepared within regional groups, taking into account the equal right of individual administrations to submit proposals for agenda items.

**2. Documents**

Following documents are received to this APG23-4 for WRC-23 agenda item 10:

* Input Documents APG23-4/INP-[11](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-11_J-5_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_9.1.B_and_10.docx) (J), [18](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-18_AUS_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_2_4_8_9.1Topic_b_and_10.docx) (AUS), [32](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-32_IRN_WP5_Preliminary_Views_on_WRC-23_Agenda_Item_10_Input_Parameters.docx) (IRN), [33](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-33_IRN_WP5_Preliminary_Views_on_WRC-23_Agenda_Item_10_Res.804.docx) (IRN), [38](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-38_KOR_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_9.1Topic_b_and_10.docx) (KOR), [44](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-44_China_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_2_4_9.1Topic_b_and_10.docx) (CHN), [79](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-79_VTN_WP5_Preliminary_View_on_WRC-23_Agenda_Item_10.docx) (VTN)
* Information Documents APG23-4/INF-[03](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-03_WMO_Positions.docx) (WMO), [06](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-06_Brief_on_AI10.docx) (DG Co-Chairs), [21](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-21_ASMG_Preparation_for_WRC-23.pdf) (ASMG), [31](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-31_Asiasat_Additional_information_regarding_the_proposal_from_China_on_WRC-23_Agenda_Item_10.docx) (Asia Satellite Telecommunications), [32](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-32_The_development_of_IMT_towards_2030_and_beyond_0.docx) (Ericsson et al), [35](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-35Rev.1_ITU-BR_Updates_on_ITU_preparations_for_CPM23-2_RA-23_and_WRC-23.pdf)(Rev.1) (ITU-BR)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Japan** - **Document APG23-4/INP-**[**11**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-11_J-5_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_9.1.B_and_10.docx)

Japan proposes the following draft agenda item for WRC-27 to consider new spectrum allocations to mobile, fixed, radio astronomy services and Earth exploration satellite services (passive) on a primary basis in the frequency range 275-300 GHz, to establish the Table of Frequency Allocations in the frequency range 275-300 GHz with the review of RR Nos. **5.564A** and **5.565**, and the details are described in the Annex to Document APG23-4/INP-11.

Japan also proposes, as a candidate for APT Preliminary Views, the following new Draft Agenda Item for WRC-27:

A new Draft Agenda Item to modify the RR in order to establish a status of Wireless Power Transmission (WPT) in the RR. The candidates for such modifications of the RR might include:

* to designate, in the Table of Frequency Allocation, frequency ranges for WPT,
* to add a definition of WPT,
* to define a new radio service for WPT, if necessary,
* to modify the definition of ISM application to clarify the relationship between WPT and ISM application,
* to modify Nos. 15.12 and 15.13 as appropriate

Additional information is included in Attachment to Document APG23-4/INP-11.

**3.1.2 Australia - Document APG23-4/INP-**[**18**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-18_AUS_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_2_4_8_9.1Topic_b_and_10.docx)

Australia supports an agenda for WRC-27 that is consistent with Australia’s long-term objectives for spectrum management, and which will allow for the rational and efficient use of Australia’s sovereign assets in the radiofrequency spectrum. Australia supports the consideration of items that are of international and regional importance, which can only be effectively addressed through a WRC, and which are likely to be resolved within the available time and resources.

**3.1.3 Iran (Islamic Republic of) - Document APG23-4/INP-**[**32**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-32_IRN_WP5_Preliminary_Views_on_WRC-23_Agenda_Item_10_Input_Parameters.docx)

It is absolutely necessary to agree on sharing and compatibility criteria, assumption, simulation process and mitigation technique at the early stage of studies before interested membership begins with those studies;

This principle is essential in order not to repeat the studies afterward due to the fact that certain membership are / could be reluctant to repeat certain studies which in their views could be waste of time and resources.

Any approach different than a coordinated and harmonized approach would may result-in different conclusions reached by each study and thus makes it very difficult, if not impossible, to draw an overall conclusion which is an essential element to conclude on the results of sharing and compatibility studies. This problem was faced during the studies which were carried out during the previous study cycles;

It is also necessary to use, to the extent practicable and available any sharing and compatibilities studies so far carried out in previous cycles. This principle is necessary to avoid repeating studies previously performed. However, in the light of progress made, those studies may need to be looked at to identify if the materials contained there need revision or to be further amended.

It is essential to investigate the extent to which in band sharing and compatibility studies to be carried out namely whether they should be limited to the services having primary status or also include other services having secondary status. This is also an important element to be looked at in line with the language used in the Resolution supporting the agenda items, namely whether or not the Resolution in its resolve part referred to “protection of the services to which the band is allocated “or whether it referred only to protect services to which the band is allocated having primary status or the resolve is silent.

It is also essential to investigate the extent to which adjacent band sharing and compatibility studies to be carried out namely whether they should be limited to some sensitive services having primary status or also include other services irrespective of their sensitivities. This principle is also important due to the fact that a) the language used in the resolve part of the supporting resolution might have clearly mentioned the protection of adjacent band or whether that resolve is silent on the matter.

**3.1.4 Iran (Islamic Republic of) - Document APG23-4/INP-**[**33**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-33_IRN_WP5_Preliminary_Views_on_WRC-23_Agenda_Item_10_Res.804.docx)

APG23-3 agreed on the following Preliminary Views.

In developing new WRC agenda items, APT Members support the ‘Principles for establishing agendas for WRCs’ as detailed in Annex 1 to Resolution **804 (Rev.WRC-19)** and encourages the use of the Template for the submission of proposals for agenda items (Annex 2 of the Resolution).

APT Members are of the view that

* the volume of the agenda of a WRC and the workload of the preparatory work needed to be kept at a manageable level. Therefore, number of agenda item shall be absolutely minimum and manageable, taking into account that there are 13 preliminary agenda items for WRC -27 plus 10 standing agenda items including agenda item 7 which could be much more than one item.
* issues that can be resolved under the standing agenda items of WRCs or through the regular activities of ITU-R should not be converted into separate agenda item of WRCs.
* topic/subject under agenda item 9.1 should, as much as possible, be avoided since some of them are more complex than standard agenda items (these are also considered as hidden agenda items).
* consistency between the title of agenda item and title of the supporting resolutions as well as operative parts of the resolutions are absolutely necessary and needs to be fully respected. In additions every effort to be made in selecting Terms, Language and wording of the resolutions, in particular resolve parts to be non-ambiguous, meaningful and clear. Once the text of the resolutions in the initial language is agreed its full consistencies in other official languages of the Union needs to be ensured.
* the preamble of any/all resolutions should be reduced to the absolute minimum necessary which are needed to justify the operative parts. In particular, recognizing parts of the resolution should only be factual statements already agreed by ITU-R and ITU. Reference to the protection of other services (in band) and (adjacent band if necessary) should be clearly specified in the resolution.
* mandates and scope of ITU-R should not be mixed up with mandates and scope of works of other international organizations such as IMO, ICAO and the like.
* during the Conference, estimation of workload of ITU-R Study Groups need to be indicated by the BR in consultation with current Study Groups/Working Parties Chairmen/Vice chairmen. This estimation could be facilitated by providing the relevant information in the proposals to the WRC, in accordance with Resolution 804. Inclusion of identical agenda item in two WRCs shall be strictly avoided.
* during the Conference, RRB Members and Head of BR Departments attending the WRC-23 are also invited to examine the operative parts of the proposed resolutions in order to declare their conformity with the RR and Rules of Procedure (RoP) and practices of the BR.

Based on the above Preliminary Views agreed by APG23-3, it is proposed to modify Resolution **804 (Rev.WRC-19)** to improve the management of the work under WRCs standing agenda item 10.

It is also proposed that the preliminary Agenda for WRC-27 contained in Resolution **812 (WRC-19)** and the proposals for new agenda items from other regional organizations be assessed and possible support, revision, or opposition of these items and corresponding resolutions be considered.

**3.1.5 Korea (Republic of) - Document APG23-4/INP-**[**38**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-38_KOR_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_9.1Topic_b_and_10.docx)

The Republic of Korea has a view that ITU needs to continue to study possible spectrum for IMT, in particular frequency bands which have not been studied in ITU (See also document APG23-4/INF-32 (Ericson et al).

The Republic of Korea would like to discuss more detailed and specific frequency bands at the APG23-5.

**3.1.6 China (People's Republic of) - Document APG23-4/INP-**[**44**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-44_China_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_2_4_9.1Topic_b_and_10.docx)

**On the preliminary agenda items for WRC-27 as contained in Resolution 812 (WRC-19)**

This Administration reviewed the ITU-R ongoing studies related to possible new agenda items identified in Resolution **812 (WRC-19)** and would like to bring forward the preliminary views on those items (See Attachment 1). APG23-4 is invited to take into account these considerations and views during the development of APT preliminary views.

**New preliminary agenda item for WRC-27**

China proposes a new preliminary agenda item to be included in the agenda for WRC-27: Review the usage and sharing conditions of the band 13.75-14 GHz to enable efficient use of the band by uplink geostationary FSS earth stations, including FSS earth stations using smaller antenna sizes. The detailed consideration and proposal for this new agenda item is included in the Attachment 2-1,APG23-4/INP-[44](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-44_China_WP5_Preliminary_Views_on_WRC-23_Agenda_Items_2_4_9.1Topic_b_and_10.docx), including document APG23-4/INF-31 (AsiaSat). The draft new Resolution is contained in the Attachment 2-2. The template for submission of proposals for agenda items based on Annex 2 to Resolution **804** (**Rev.WRC-19**) is included in the Attachment 2-3.

APG23-4 is invited to include this new preliminary agenda for WRC-27 in APT preliminary views.

**3.1.7 Viet Nam (Socialist Republic of)** - **Document APG23-4/INP-**[**79**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-79_VTN_WP5_Preliminary_View_on_WRC-23_Agenda_Item_10.docx)

Viet Nam proposes APG23-4 to send a liaison statement to AWG asking to provide its study progress of the AWG’s work item on “Current status and future plan of usage in the frequency ranges of 7.125-24 GHz and 92-300 GHz in Asia Pacific countries” and give support to APG23-5 on potential study to identify additional spectrum for IMT.

Viet Nam supports to include an agenda item for WRC-27 to consider the possibility of additional allocation to mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT), to facilitate the future development of IMT towards 2030 and beyond, taking into account all the needs of APT countries to bridge the digital divide and facilitate the digital transformation.

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

None

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

**4.1 General issues**

**4.1.1** **Modification to Resolution 804 (Rev.WRC-19)**

In developing new WRC agenda items, APT Members support the ‘Principles for establishing agendas for WRCs’ as detailed in Annex 1 to Resolution **804 (Rev.WRC-19)** and encourages the use of the *Template for the submission of proposals for agenda items* (Annex 2 of the Resolution).

APT Members are of the view that:

* the volume of the agenda of a WRC and the workload of the preparatory work needed to be kept at a manageable level. Therefore, number of agenda item shall be absolutely minimum and manageable, taking into account that there are 13 preliminary agenda items for WRC -27 plus 10 standing agenda items including agenda item 7 which could be much more than one item.
* issues that can be resolved under the standing agenda items of WRCs or through the regular activities of ITU-R should not be converted into separate agenda item of WRCs.
* topic/subject under agenda item 9.1 should, as much as possible, be avoided since some of them are more complex than standard agenda items (these are also considered as hidden agenda items).
* consistency between the title of agenda item and title of the supporting resolutions as well as operative parts of the resolutions are absolutely necessary and needs to be fully respected. In additions every effort to be made in selecting Terms, Language and wording of the resolutions, in particular resolve parts to be non-ambiguous, meaningful and clear. Once the text of the resolutions in the initial language is agreed its full consistencies in other official languages of the Union needs to be ensured.
* the preamble of any/all resolutions should be reduced to the absolute minimum necessary which are needed to justify the operative parts. In particular, recognizing parts of the resolution should only be factual statements already agreed by ITU-R and ITU. Reference to the protection of other services (in band) and (adjacent band if necessary) should be clearly specified in the resolution.
* mandates and scope of ITU-R should not be mixed up with mandates and scope of works of other international organizations such as IMO, ICAO and the like.
* during the Conference, estimation of workload of ITU-R Study Groups need to be indicated by the BR in consultation with current Study Groups/Working Parties Chairmen/Vice chairmen. This estimation could be facilitated by providing the relevant information in the proposals to the WRC, in accordance with Resolution **804** **(Rev.WRC-19)**. Inclusion of identical agenda item in two WRCs shall be strictly avoided.
* during the Conference, RRB Members and Head of BR Departments attending the WRC-23 are also invited to examine the operative parts of the proposed resolutions in order to declare their conformity with the RR and Rules of Procedure (RoP) and practices of the BR.

APT Members agreed to forward the proposed modifications to Resolution **804 (Rev.WRC-19)** (See Attachment 1 to this Document) to the next APG meeting as a working document for further consideration.

**4.1.2.** **Input parameters for ITU-R studies to be carried out by various ITU-R study groups/working parties for relevant WRCs agenda items**

APT Members recognized that previous experiences show that during such ITU-R studies relevant to some WRC agenda items, different studies have been received that used different assumptions, even for the main parameters, for sharing and compatibility studies which leads to extremely different results. Therefore, it would be difficult or impractical for relevant ITU-R study group/working party to properly reflect such results in the section "Methods to satisfy the agenda item".

In order to resolve such problem, the following principles need to be taken into account:

* to agree on sharing and compatibility criteria, assumptions, simulation process and mitigation technique at the early stage of ITU-R studies relevant to WRC agenda items before interested membership begins with those studies;
* to use, to the extent practicable and available any sharing and compatibilities studies so far carried out in previous cycles, to avoid repeating studies previously performed;
* to investigate the extent to which in band sharing and compatibility studies to be carried out namely whether they should be limited to the services having primary status or also include other services having secondary status;
* to investigate the extent to which adjacent band sharing and compatibility studies to be carried out namely whether they should be limited to some sensitive services having primary status or also include other services irrespective of their sensitivities.

APT Members agreed to forward this matter to the next APG meeting for further consideration.

**4.2 Preliminary agenda items contained in Resolution 812 (WRC-19)**

APT Members are of the view that further discussion is needed at the next APG meeting to develop APT views on preliminary agenda items contained in Resolution **812 (WRC-19)**, by using Attachment 2 to this Document.

**4.3 New proposal for WRC-27 agenda item**

APG23-4 received and discussed new proposals for consideration as agenda items for WRC-27, and they will be further discussed at the next APG meeting.

**4.3.1 WPT**

A proposal was received to modify the RR in order to establish a status of Wireless Power Transmission (WPT) in the RR. The candidates for such modifications of the RR might include:

- to designate, in the Table of Frequency Allocation, frequency ranges for WPT,

- to add a definition of WPT,

- to define a new radio service for WPT, if necessary,

- to modify the definition of ISM application to clarify the relationship between WPT and ISM application,

- to modify Nos. 15.12 and 15.13 as appropriate.

APT Members agreed to further consider this proposal (See Attachment 3 to this Document) at the next APG meeting.

**4.3.2 Allocation of 275-300 GHz to MS, FS, RAS and EESS (passive) on a primary basis**

A proposal was received to extend frequency ranges in the Table of Frequency Allocations according to technology developments and allocations in the frequency range 275-300 GHz for radiocommunication services to accommodate the current and future requirements for radiocommunication services.

APT Members agreed to further consider this proposal (See Attachment 4 to this Document) at the next APG meeting.

**4.3.3 IMT for 2030 and beyond**

Proposals were received to consider the possibility of the identification of additional frequency bands for International Mobile Telecommunications (IMT) including additional allocation to mobile service on a primary basis, in particular frequency bands which have not been studied for IMT at the previous WRCs, taking into account the evolution of IMT technology and the expanding role of IMT such as to bridge the digital divide and to facilitate the digital transformation.

APT Members agreed to further consider this proposal at the next APG meeting.

**4.3.4 GSO FSS in the 13.75-14 GHz**

A proposal was received which noted that the increasing need for the use of smaller GSO FSS antennas and the system characteristics change over the past 20 years have formed a notable trend towards the use of smaller user terminals. This growing demand has placed tremendous strain on the available spectrum for satellite services utilizing the 14-14.5 GHz band. Other services sharing the band, their applications and co-existence conditions might have also changed over these decades. Therefore, this proposal is for consideration to review the usage and sharing conditions of the band 13.75-14 GHz to enable efficient use of the band by uplink GSO FSS earth stations, including FSS earth stations using smaller antenna sizes.

APT Members agreed to further consider this proposal (See Attachment 5 to this Document) at the next APG meeting.

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

None

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

APT Members are invited to submit input contributions on this agenda item to the next APG meetings.

**6.1** With respect to §4.1.1 above (Modification to Resolution **804 (Rev.WRC-19)**), APT Members are invited to consider working document given in Attachment 1 to this document and contribute on this matter to the next APG meeting in order to improve the management of the work under WRC standing agenda item 10.

**6.2** With respect to Section 4.1.2 (Input parameters for ITU-R Studies), APT Members are invited to consider the necessity of having agreement on input parameters before starting ITU-R studies for relevant WRC agenda items and contribute on this issue to the next APG meeting in order to propose required solutions to fix the identified problem.

**6.3** With respect to §4.2 above (Resolution **812 (WRC-19)**), APT Members are invited to submit input contributions on preliminary agendas for WRC-27 contained in Resolution **812 (WRC-19)** addressed in §4.2 above, by using Attachment 2 to this document.

**6.4** With respect to §4.3 above (proposed new items), APT Members are invited to carefully examine the proposed new items in §4.3 for consideration as the agenda items for WRC-27 and also propose new items and to prepare APT preliminary views and proposals on WRC-23 Agenda item 10.

**6.5** See also meeting Report of DG Co-Chairs (Section 4.5 of Document APG23-4/OUT-34).

**7. Views from Other Organisations**

**7.1 Regional Groups**

**7.1.1 ASMG** - **Document APG23-4/INF-21**

ASMG administrations support the principle of Resolution 812, which aims to set the agenda items for the upcoming radiocommunication conference, to provide administrations with sufficient time for to examine the topics that intended to be included in the work of the next conferences.

Urge the Arab administrations to state the topics to be included in the next conference agenda items.

**7.1.2 ATU - Document APG23-3/INF-39**

ATU supports, as a matter of principle, the topics/subjects which will allow for rational and efficient use of the radio frequency spectrum and consistent with ATU’s long-term objectives for spectrum management to be included in WRC-27 agenda. In addition, ATU supports the consideration of items that are of international and regional importance, which can be effectively addressed through the WRC-23, and which are likely to be resolved within the available time and resources.

**7.2 International Organisations**

**7.2.1 WMO** - **Document APG23-4/INF-03**

WMO supports studies on the WRC-27 preliminary agenda items to ensure meteorological interest are protected. If work in the ITU-R is conducted on any of the WRC-27 Preliminary agenda items during the preparatory period for WRC-23 WMO will contribute to ensure WMO interests are protected.

**Attachments 5**

**Attachment 1**

MOD

RESOLUTION 804 (REV.WRC‑23)

Principles for establishing agendas for world radiocommunication conferences

NOTE: Detailed proposed modifications can be found in the embedded document below. This document is forward to APG23-5 as a working document for modifications to Resolution **804 (REV.WRC-19)** for further consideration.



**Attachment 2**

**Preliminary agenda items for WRC-27 contained in Resolution 812 (WRC-19)**

NOTE: Following table is forward to APG23-5 as a working document for further consideration.

| **Preliminary agenda for WRC-27 listed in Resolution 812 (WRC-19)** | **Responsible Group in ITU-R** *(See Addendum 1 to CA/251)* | **Priority for APT and reason** | **Preliminary Views** |
| --- | --- | --- | --- |
| 2.1 to consider, in accordance with Resolution **663 (WRC‑19)**,additional spectrum allocations to the radiolocation service on a co-primary basis in the frequency band 231.5-275 GHz and an identification for radiolocation applications in frequency bands in the frequency range 275‑700 GHz for millimetre and sub-millimetre wave imaging systems; | SG 1/SG 5 |  | [Support/Objection/MOD]  CHN (APG23-4-INP/44): Support |
| 2.2 to study and develop technical, operational and regulatory measures, as appropriate, to facilitate the use of the frequency bands 37.5-39.5 GHz (space-to-Earth), 40.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) by aeronautical and maritime earth stations in motion communicating with geostationary space stations in the fixed-satellite service, in accordance with Resolution **176 (WRC‑19)**; | SG 4 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering to support |
| 2.3 to consider the allocation of all or part of the frequency band [43.5-45.5 GHz] to the fixed-satellite service, in accordance with Resolution **177 (WRC‑19)**; | SG 4 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering the view |
| 2.4 the introduction of power flux-density (pfd) and equivalent isotropically radiated power (e.i.r.p.) limits in Article **21** for the frequency bands 71-76 GHz and 81-86 GHz in accordance with Resolution **775 (WRC‑19)**; | SG 4/SG 5 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering the view |
| 2.5 the conditions for the use of the frequency bands 71-76 GHz and 81-86 GHz by stations in the satellite services to ensure compatibility with passive services in accordance with Resolution **776 (WRC‑19)**; | WP 7C |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering to support |
| 2.6 to consider regulatory provisions for appropriate recognition of space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies reported to WRC‑23 under agenda item 9.1 and its corresponding Resolution **657 (Rev.WRC‑19)**; | WP 7C |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Support |
| 2.7 to consider the development of regulatory provisions for non-geostationary fixed-satellite system feeder links in the frequency bands 71-76 GHz (space-to-Earth and proposed new Earth-to-space) and 81-86 GHz (Earth-to-space), in accordance with Resolution **178 (WRC‑19)**; | SG 4 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering the view |
| 2.8 to study the technical and operational matters, and regulatory provisions, for space-to-space links in the frequency bands [1 525-1 544 MHz], [1 545-1 559 MHz], [1 610-1 645.5 MHz], [1 646.5‑1 660.5 MHz] and [2 483.5-2 500 MHz] among non-geostationary and geostationary satellites operating in the mobile-satellite service, in accordance with Resolution **249 (WRC‑19)**; | SG 4 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering to support |
| 2.9 to consider possible additional spectrum allocations to the mobile service in the frequency band 1 300-1 350 MHz to facilitate the future development of mobile-service applications, in accordance with Resolution **250 (WRC‑19)**; | SG 5 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Objection |
| 2.10 to consider improving the utilization of the VHF maritime frequencies in Appendix **18**, in accordance with Resolution **363** **(WRC‑19)**; | SG 5 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Support |
| 2.11 to consider a new Earth exploration-satellite service (Earth-to-space) allocation in the frequency band 22.55-23.15 GHz, in accordance with Resolution **664 (WRC‑19)**; | WP 7B |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Support |
| 2.12 to consider the use of existing International Mobile Telecommunications (IMT) identifications in the frequency range 694-960 MHz, by consideration of the possible removal of the limitation regarding aeronautical mobile in IMT for the use of IMT user equipment by non-safety applications, where appropriate, in accordance with Resolution **251 (WRC-19)**; | SG 5 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering the view |
| 2.13 to consider a possible worldwide allocation to the mobile-satellite service for the future development of narrowband mobile-satellite systems in frequency bands within the frequency range [1.5-5 GHz], in accordance with Resolution **248 (WRC-19)**; | SG 4 |  | [Support/Objection/MOD]  CHN (APG23-4/INP-44): Considering the view |

**Attachment 3**

**Proposals on the preliminary agenda item - WPT**

NOTE: Following is forward to APG23-5 as a working document for further consideration.

ANNEX 2 TO RESOLUTION 804 (Rev.WRC‑19)

Template for the submission of proposals for agenda items

|  |  |
| --- | --- |
| **Subject: Proposal of WRC-27 Agenda Item on Wireless Power Transmission (WPT)** | |
| **Origin: Japan** | |
| ***Proposal:***  *To modify the RR in order to establish a status of Wireless Power Transmission (WPT) in the RR.* | |
| ***Background/reason:***  A wide variety of applications of Wireless Power Transmission (WPT), including Non-Beam WPT and Beam-WPT, are evolving, planned and already partly put into market. They are expected to bring great benefits to human society.  Under the current RR, WPT has no explicit status. Administrations are obliged to take necessary steps to ensure that WPT does not cause harmful interferences to radiocommunications services. However, very few Administrations have established their regulations on WPT. There are no regulations to avoid such harmful interferences internationally.  Currently, ITU-R SG 1 is studying necessary steps required to ensure that radiocommunication services, including the radio astronomy service, are protected from WPT operations. However, as the WPT regulations differ from country to country, the ITU-R study is often facing difficulty to establish common recognition of WPT.  Despite the difficulty, two ITU-R Recommendations on frequency rages for Non-Beam WPT, Rec. ITU-R SM.2110-1 and Rec. ITU-R SM.2129-0, have been approved. Furthermore, on July 8, 2022, ITU-R SG 1 agreed to apply PSAA procedure to the first draft Recommendation of frequency ranges for Beam WPT, Draft Rec. ITU-R SM.[WPT.BEAM.FRQ].  Nevertheless, the above-mentioned difficulty continues to exist, and it seems some basis for common recognition of WPT is still necessary in the RR. | |
| ***Radiocommunication services concerned:***  All radiocommunication services | |
| ***Indication of possible difficulties:***  WPT has no explicit status in the RR, and it is fully under the national regulation of each Administration. Therefore, it is currently difficult to establish an international common standpoint for the Administrations to take steps so that WPT does not cause harmful interferences to radiocommunication services. | |
| ***Previous/ongoing studies on the issue:***  ITU-R studies under Question ITU-R 210-3/1, which have resulted in some ITU-R Reports and Recommendations ITU-R SM. 2110-1 “Guidance on frequency ranges for operation of non-beam wireless power transmission for electric vehicles” and SM.2129-0 “Guidance on frequency ranges for operation of non-beam wireless power transmission systems for mobile and portable devices”. On July 8, 2022, ITU-R SG 1 approved a new ITU-R Report and agreed to apply a procedure for adoption and approval by correspondence to Draft Recommendation ITU-R SM.[WPT.BEAM.FRQ] “Guidance on frequency ranges for operation of wireless power transmission via radio frequency beam systems for mobile/portable devices and sensor networks”.  Studies are ongoing addressing a variety of WPT technologies and applications. | |
| ***Studies to be carried out by:***  ITU-R Study Group 1, Working Party 1A | ***with the participation of:***  Administrations, industry members, academia, etc. |
| ***ITU‑R Study Groups concerned:***  Study Groups 3, 4, 5 and 6 | |
| ***ITU resource implications, including financial implications (refer to CV126):***  This proposed agenda item will be studied within the normal ITU-R procedures and planned budget. | |
| ***Common regional proposal: Yes/No*** | ***Multicountry proposal: Yes/No***  ***Number of countries:*** |
| ***Remarks*** | |

**Attachment 4**

**Proposals on the preliminary agenda item – Allocation of 275-300GHz**

NOTE: Following is forward to APG23-5 as a working document for further consideration.

**ANNEX 2 TO RESOLUTION 804 (WRC-19)**

|  |  |
| --- | --- |
| **Subject: Proposal for WRC-27 agenda item** | |
| **Origin: Japan** | |
| ***Proposal*:**  *To consider new allocations to mobile, fixed, radio astronomy services and Erath extrapolation satellite services (passive) on a primary basis in the frequency range 275-300 GHz, and establishes the Table of Frequency Allocations in the frequency range 275-300 GHz with the review of RR Nos.* ***5.564A*** *and* ***5.565****, in accordance with Resolution XXX (WRC-23).* | |
| ***Background/reason*:**  ITU-R WP 5A is conducting the study on coexistence between LMS and FS applications in the frequency range 252-296 GHz and developed the technical and operational characteristics of LMS applications in the frequency range 275-450 GHz. WP 5C also developed the technical and operational characteristics of FS applications in the frequency range 275-450 GHz and provides measured radiation patterns of THz antenna operating in the frequency 220-450 GHz. WP 5D completed the work on a new ITU-R Report of “Future technology trend of terrestrial IMT systems towards 2030 and beyond” in which THz communications are considered as one of technologies to enhance the radio interface of future IMT systems. WP 1A developed technology trends of active service applications in the frequency range 275-3 000 GHz and conducted the sharing and compatibility studies between LMS/FS and passive service applications in the frequency range 275-450 GHz. WP 7C developed Recommendation ITU-R RS.2017-0 for the performance and interference criteria for satellite passive remote sensing of the Earth and its atmosphere for microwave passive sensors up to 1 000 GHz. WP 7D developed Recommendation ITU-R RA.769-2 on protection criteria used for radio astronomical measurements up to 275 GHz, and those parameters in the frequency range 275-3 000 GHz is presented in Report ITU-R RA.2189-1. Thus, ITU-R Working Parties have been studied a number of THz spectrum issues with respect to active and passive services and published many ITU-R Reports to provide THz spectrum information to the future competent WRC agenda item for THz spectrum.  In the specific frequency range 275-300 GHz, the frequency bands 275-286 GHz and 296-306 GHz are identified for use by administrations for EESS (passive) and SRS (passive) applications and the frequency band 275-323 GHz is identified for RAS applications, in accordance with RR No. **5.565**. The frequency bands 275-296 GHz and 306-313 GHz are identified for LMS and FS applications in accordance with RR No. **5.546A.** There may be possibility to be added identified frequency bands for RLS applications in the specific frequency range, if the WRC-27 preliminary agenda item 2.1 would be approved by WRC-23. The use in footnote of expression “identified” only expresses the interest of some administrations on the future use of those bands for the specific applications. In order to protect passive services from harmful interference caused by active services and achieve coexistence among active services, the Table of Frequency Allocations should be established, and new frequency bands should be allocated for mobile, fixed, radio astronomy service and EESS (passive) in the frequency range 275-300 GHz.  Considering the above background, it is therefore proposed to consider new allocations to mobile, fixed, radio astronomy services and EESS (passive) on a primary basis in the frequency range 275-300 GHz, and establish the Table of Frequency Allocations in the frequency range 275-300 GHz with the review of RR Nos. 5.564A and 5.565. | |
| ***Radiocommunication services concerned*:**  Some frequency bands for use by administrations for LMS, FS, RAS and EESS (passive) applications are identified in the frequency range 275-300 GHz. | |
| ***Indication of possible difficulties*:**  Sharing and compatibility studies between active and passive services and coexistence studies among active services. | |
| ***Previous/ongoing studies on the issue*:**  Reports ITU-R F.2416, M.2417, RA.2189, RS.2194, RS.2431, SM.2352 and SM.2450  Recommendations ITU-R F.699, RA.314, RA.769 and RS.2017  Reports ITU-R M.[IMT.FUTURE TECHNOLOGY TRENDS OF TERRESTRIAL IMT SYSTEMS TOWARDS 2030 AND BEYOND] and M.[IMT.ABOVE 100 GHz] | |
| ***Studies to be carried out by*:**  ITU-R WP 1A | ***with the participation of*:**  Administrations and Sector members of the ITU-R |
| ***ITU‑R study groups concerned*:**  SG3, SG5 and SG7. | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  This agenda item will be studied within the normal ITU-R procedures and planned budget. No extra cost is foreseen. | |
| ***Common regional proposal*:** Yes/No | ***Multicountry proposal*:** Yes/No  ***Number of countries*:** |
| ***Remarks*** | |

**Attachment 5**

**Proposals on the preliminary agenda item – GSO FSS in 13.75-14GHz**

NOTE: Followings are to forward to APG23-5 as a working document for further consideration.

**ANNEX 2 TO RESOLUTION 804 (WRC-19)**

Submission of proposals for agenda items

|  |  |
| --- | --- |
| **Subject:** Review the usage and sharing conditions of the band 13.75-14 GHz to enable efficient use of the band by uplink geostationary FSS earth stations, including FSS earth stations using smaller antenna sizes | |
| **Origin:** China | |
| ***Proposal*:**  *To review the usage of the band 13.75-14 GHz and study for possible revisions to the constraints in RR Nos.* ***5.502*** *and* ***5.503****, in accordance with Resolution [13.75-14 GHz] (WRC-23), to enable efficient use of the band by uplink geostationary FSS earth stations, including FSS earth stations using smaller antenna sizes.* | |
| ***Background/reason*:**  *The fixed-satellite service (FSS) has seen a big increase in the number of operational satellite networks and use of orbit and spectrum resources over the last decades. Moreover, the use of smaller FSS earth stations at frequencies around 10-15 GHz has also been witnessed an ascending trend with the deployment of satellites providing large throughput and broadband connections. For all three ITU-R Regions, there is a significant mismatch between the uplink and downlink bandwidth in the 10-15 GHz range, not subject to RR Appendices* ***30****,* ***30A*** *or* ***30B****, that can efficiently be used to provide services by smaller geostationary FSS earth station antennas, e.g. HTS or broadband user terminals and news gathering etc. The 13.75-14 GHz band was allocated globally by WARC-92 for FSS, but with limitations introduced in RR Nos.* ***5.502*** *and* ***5.503*** *to enhance compatibilities with other services. WRC-03 modified these footnotes 20 years ago, but still such that efficient use of smaller geostationary FSS uplink earth station antennas in this frequency band is not allowed. The system characteristics and their associated usage and application requirements in this frequency band might have changed over the last decades. Therefore, based on the evolving needs for the efficient use of 13.75-14 GHz band for smaller uplink geostationary FSS earth station antennas, identification of possible alternative sharing conditions for this band is required to meet the emerging demands for satellite applications in the FSS.* | |
| ***Radiocommunication services concerned*:**  *The concerned radiocommunication services in the 13.75-14 GHz band.* | |
| ***Indication of possible difficulties*:**  *TBD*. | |
| ***Previous/ongoing studies on the issue*:**  *Studies during WRC-03 study period.* | |
| ***Studies to be carried out by*:**  *ITU-R WP 4A as responsible group* | ***with the participation of*:**  *Other relevant WPs, Administrations, Sector Members* |
| ***ITU‑R study groups concerned*:**  *SG 4, SG 5, SG 7* | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  *No direct financial implications have been identified to date.* | |
| ***Common regional proposal*:** TBD | ***Multicountry proposal*:** TBD  ***Number of countries*:** TBD |
| ***Remarks*** | |

Draft New Resolution

Review the usage and sharing conditions of the band 13.75-14 GHz to enable efficient use of the band by uplink geostationary FSS earth stations,

including FSS earth stations using smaller antenna sizes

The World Radiocommunication Conference ([UAE], 2023),

considering

1. that WARC-92 added an allocation to the fixed-satellite service (FSS) (Earth-to-space) in the band 13.75-14 GHz;
2. that WRC-03 made changes to Nos. **5.502** and **5.503** which enabled the use of earth station antennas in the range 1.2m to 4.5m for geostationary fixed-satellite service networks under power flux-density and e.i.r.p. density limits;
3. that there is a great congestion in the geostationary arc and there is a need to ensure that orbit and spectrum resources are used efficiently and rationally to facilitate introduction of new satellite networks, in particular those of new satellite operators;
4. that there is a lack of uplink bandwidth in the 13-15 GHz range that can be used efficiently, including by smaller earth station antennas, globally to feed the downlink capacity in the 10-13 GHz range;
5. that this band is shared with the radiolocation service under the conditions set out in No. 5.502;
6. that the space research service has a secondary allocation in this band;
7. that for geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis;
8. that until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band, the band 13.77-13.778 GHz is shared with the space research service under the conditions set out in No. 5.503;
9. that the use of the services sharing this band with the fixed-satellite service and the associated required co-existence conditions may have changed;
10. that, in some countries, the band is also allocated to the fixed service and the mobile service (Nos. 5.499 and 5.500) and to the radionavigation service (No. 5.501);
11. that improving operating conditions for earth stations in the 13.75-14 GHz band will help meet the evolving needs for satellite applications and enable efficient and rational use of the Earth-to-space and the corresponding space-to-Earth frequency bands in the 13-15 and 10-13 GHz ranges,

recognizing

1. that studies are required to develop regulatory changes to meet the growing requirements for spectrum that can be used efficiently by geostationary FSS uplink earth stations, including by smaller earth station antennas in the 13-15 GHz range;
2. that in consideration of the 13.75-14 GHz band, there is a need to determine the co-existence conditions between the services sharing this band and the appropriate balance between them,

resolves to invite ITU-R

1. to conduct studies, in time for consideration by WRC-27, on the sharing conditions for uplink earth stations in the fixed-satellite service as outlined in Nos. 5.502 and 5.503, with a view to reviewing the constraints of earth stations to enable efficient use of the band by uplink geostationary FSS earth stations, including geostationary FSS earth stations using smaller antenna sizes to facilitate rational use of the Earth-to-space and space-to-Earth fixed-satellite service orbit and spectrum resources in the 13-15 and 10-13 GHz ranges and meet the evolving needs of satellite networks;
2. to identify, in time for consideration by WRC‑27, possible alternative sharing conditions to those indicated in Nos. 5.502and 5.503;
3. to identify, in time for consideration by WRC-27, possible changes to Nos. **5.502**, **5.503** and/or other relevant regulatory changes to the Radio Regulations.

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