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| **The 4th Meeting of the APT Conference Preparatory****Group for WRC-23 (APG23-4)** | **APG23-4/OUT-22** |
| 15 – 20 August 2022, Bangkok, Thailand | 20 August 2022 |

Working Party 3

**PRELIMINARY VIEWs on WRC-23 agenda item 1.13**

**Agenda Item 1.13:**

*to consider a possible upgrade of the allocation of the frequency band 14.8-15.35 GHz to*

*the space research service, in accordance with Resolution****661******(WRC‑19)****;*

**1. Background**

The frequency band 14.8-15.35 GHz is currently allocated to the SRS on a secondary basis, which is used by some administrations for data relay systems (DRS). Considering that there is an interest among space agencies and administrations to use this frequency band in scientific missions, WRC-19 adopted Resolution **661 (WRC-19)** to develop compatibility and sharing studies on this frequency band during WRC-23, with a view to ensuring protection of the primary services and the technical and regulatory conditions determined in the ITU-R according to the results of the aforementioned studies.

In accordance with the decision made by CPM23-1, as the responsible group, ITU-R Working Party 7B (WP 7B) is conducting the above studies. At its meeting held in April/May 2022, ITU-R WP 7B met in Geneva with remote participants through the Zoom platform, and made further progress on Report and CPM text. The CPM text provides summaries of all studies to date and three methods have been proposed in this draft document.

Relevant ITU-R documents:

* [Resolution **661** (WRC-19)](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0013PDFE.pdf) “Examination of a possible upgrade to primary status of the secondary allocation to the space research service in the frequency band 14.8-15.35 GHz”
* [ITU-R Rec. SA.510-3](https://www.itu.int/rec/R-REC-SA.510-3-201707-I/en) “Feasibility of frequency sharing between the space research service and other services in bands near 14 and 15 GHz - Potential interference from data relay satellite systems”
* [ITU-R Rec. SA.1414-2](https://www.itu.int/rec/R-REC-SA.1414-2-201707-I/en) “Characteristics of data relay satellite systems”
* [ITU-R Rec. SA.1626-1](https://www.itu.int/rec/R-REC-SA.1626-1-201312-I/en) “Feasibility of sharing between the space research service (space-to-Earth) and the fixed and mobile services in the band 14.8-15.35 GHz”
* [Chairman's Report 7B/198](https://www.itu.int/md/R19-WP7B-C-0198/en) “Report on the April/May 2022 meeting of Working Party 7B with a view to its next meeting (27 September - 5 October 2022)”
* [Chairman's Report 7B/198 (Annex 1)](https://www.itu.int/dms_ties/itu-r/md/19/wp7b/c/R19-WP7B-C-0198%21N01%21MSW-E.docx) “Draft CPM text framework for WRC-23 agenda item 1.13”
* [Chairman's Report 7B/198 (Annex 2)](https://www.itu.int/dms_ties/itu-r/md/19/wp7b/c/R19-WP7B-C-0198%21N02%21MSW-E.docx) “Working document towards a preliminary draft new Report ITU-R SA.[15 GHZ SRS SHARING]”
* [Chairman's Report 7B/158 (Annex 3)](https://www.itu.int/dms_ties/itu-r/md/19/wp7b/c/R19-WP7B-C-0158%21N03%21MSW-E.docx) “Proposed Working Party 7B workplan for Agenda Item 1.13”
* [ITU-R Rec. SA.2141](https://www.itu.int/rec/R-REC-SA.2141/en) “Characteristics of space research service systems in the frequency range 14.8-15.35 GHz”

(*Editorial notes: Refer to plenary if the list of relevant ITU-R Documents should be retained or removed*)

**2. Documents**

* Input Documents APG23-4/[INP-09](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-09_J-3_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1.A_9.1.D_and_RES.655.docx) (J), [INP-16](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-16_AUS_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topics_a_and_d.docx) (AUS), [INP-21](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-21_BGD_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.13_and_1.14.docx) (BGD), [INP-25](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-25_IRN_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.13_and_9.1Topic_a.docx) (IRN), [INP-36](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-36_KOR_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_and_9.1Topic_a_and_d.docx) (KOR), [INP-42](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-42_China_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topic_a_and_d.docx) (CHN), [INP-47](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-47_Thailand_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.13_and_9.1Topic_a.docx) (THA), [INP-63](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-63_India_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topic_a_and_d.docx) (IND), [INP-76](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-76_VTN_WP3_Preliminary_View_on_WRC-23_Agenda_Item_1.13.docx) (VTN)
* Information Documents APG23-4/[INF-0](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-08_Brief_on_AI1.13.docx)8(DG Chair), [INF-02](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-02_ATU_preparation.docx) (ATU), [INF-03](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-03_WMO_Positions.docx) (WMO), [INF-21](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-21_ASMG_Preparation_for_WRC-23.pdf) (ASMG) , [INF-28](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-28_CITEL_Preparation_for_WRC-23.pdf) (CITEL) , [INF-44](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-44_Status_of_RCC_preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.pdf) (RCC), [INF-48](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-48_Status_of_CEPT_preparation_for_WRC-23_and_RA-23.pdf) (CEPT)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Japan** - **Document APG23-4**/[**INP-09**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-09_J-3_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1.A_9.1.D_and_RES.655.docx)

Japan supports ITU-R studies for the consideration of upgrading the SRS allocation from secondary to primary in the frequency band 14.8-15.35 GHz, while ensuring protection and not imposing constraints on incumbent services in this frequency band as well as the band 15.35-15.4 GHz.

**3.1.2 Australia** - **Document APG23-4/** [**INP-16**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-16_AUS_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topics_a_and_d.docx)

Australia supports the upgrade of the SRS allocation from secondary to primary status in the band 14.8 ‑ 15.35 GHz subject to the completion of studies in ITU-R in order to guarantee the compatibility between SRS and the mobile service and fixed service in the band 14.8 ‑ 15.35 GHz, and between SRS and the radio astronomy service in the adjacent band 15.35 ‑ 15.4 GHz.

**3.1.3 Bangladesh (People's Republic of)** - **Document APG23-4/**[**INP-21**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-21_BGD_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.13_and_1.14.docx)

In Bangladesh 14.8-15.35 GHz band is being used heavily for fixed microwave communications. Bangladesh supports ITU-R studies for the consideration of upgrading the SRS allocation from secondary to primary in the frequency band 14.8-15.35 GHz, while ensuring appropriate protection and not imposing constraints on incumbent fixed and mobile services in this frequency band 14.8-15.35 GHz and services in the adjacent band 15.35-15.4 GHz.

**3.1.4 Iran (Islamic Republic of)** - **Document APG23-4/**[**INP-25**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-25_IRN_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.13_and_9.1Topic_a.docx)

I.R. of Iran considers that the preliminary view adopted by APG23-3, is comprehensively and appropriately reflecting the views of APG administrations at this course of time

Having reviewed the draft CPM text for this agenda item, it seems premature to adopt a Method at this course of time for the following reasons:

* The studies for this agenda item is on-going within the ITU-R WP-7B and the results of sharing and compatibly studies have not yet been concluded /included in the draft CPM text.
* Although the structure of Methods has been specified, however, the contents and the details of Methods are under the discussion and consequently it is not evident that the views of APT members can be satisfied after adopting these Methods. We remind that according to preliminary APT view in APG23-3 :

“*APT Members support ITU-R sharing and compatibility studies for the consideration of upgrading the SRS allocation from secondary to primary in the frequency band 14.8-15.35 GHz, while ensuring protection and not adversely affecting incumbent services in this frequency band as well as the adjacent bands.*

*Appropriate transitional measures need to be developed to protect incumbent services that are allocated on a secondary basis in the frequency band 15.2-15.35 GHz*.”

* Regarding above, in method B as included in draft CPM text, the effect of AMS on SRS has not been taken into consideration. According to sharing studies, the AMS will not be able to protect SRS in the frequency band 14.8-15.35and therefore upgrading SRS in this frequency band adversely affecting the use of AMS.
* And, in Method C, the protection of FS and MS has not taken into consideration.
* In addition, in both Methods, the protection of RAS in adjacent band by SRS has not been taken into consideration since the ITU-R studies have not yet been completed or included in the proposed Methods.

Regarding above, at this course of time, we have **the same view as the previous APG meeting,** which is comprehensively reflecting the view and concerns of APT members than the proposed methods in draft CPM text which are imperfect and not take into account the whole aspects of Resolution **661 (WRC-19).**

**3.1.5 Korea (Republic of)** - **Document APG23-4/**[**INP-36**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-36_KOR_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_and_9.1Topic_a_and_d.docx)

* The possible upgrade of the allocation status of the frequency band 14.8-15.35 GHz to the space research service (SRS) from secondary to primary basis could be considered only if ITU-R studies show that protection of incumbent services in this frequency band and the adjacent bands, including the band 15.35-15.4 GHz to which the radio astronomy service (RAS) is allocated, is ensured and these incumbent services are not adversely affected;
* Appropriate transitional measures need to be developed to protect incumbent services that are allocated on a secondary basis in the frequency band 15.2-15.35 GHz in accordance with No. **5.339** of the Radio Regulations, if upgrade of the allocation of the frequency band 14.8-15.35 GHz to the SRS is feasible based on the ITU-R studies.

**3.1.6 China (People's Republic of) -** **Document APG23-4/**[**INP-42**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-42_China_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topic_a_and_d.docx)

China supports the ITU-R studies in accordance with Resolution **661 (WRC-19)** to conduct and complete, in time for WRC-23, and supports the possible upgrading of the SRS allocation if associated technical and regulatory studies could ensure the protection of the existing co-frequencies and adjacent-frequencies primary and secondary services.

**3.1.7 Thailand (Kingdom of)** - **Document APG23-4/**[**INP-47**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-47_Thailand_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.13_and_9.1Topic_a.docx)

Thailand is of the view that the upgrade of the SRS allocation from secondary to primary in the frequency band 14.8-15.35 GHz shall provide protection and not adversely affect existing services in the frequency band 14.8-15.35 GHz and adjacent bands.

**3.1.8 India (Republic of)** - **Document APG23-4/**[**INP-63**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-63_India_WP3_Preliminary_Views_on_WRC-23_Agenda_Items_1.12_1.13_1.14_9.1Topic_a_and_d.docx)

India supports upgrading the SRS allocation to primary status in the frequency band 14.8-15.35 GHz, while ensuring protection to incumbent services and its/their planned usages without imposing constraints; in this frequency band as well as in the adjacent bands 14.44 – 14.50 GHz and 15.35 - 15.4 GHz based on the result of the ITU-R studies.

**3.1.9 Viet Nam (Socialist Republic of)** - **Document APG23-4/**[**INP-76**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INP-76_VTN_WP3_Preliminary_View_on_WRC-23_Agenda_Item_1.13.docx)

Viet Nam supports ITU-R studies on sharing and compatibility in accordance with Resolution **661 (WRC-19)** to consider a possible upgrade of the allocation of the frequency band 14.8-15.35 GHz to the space research service, while ensuring protection and not adversely affecting incumbent services in this frequency band as well as the adjacent bands, taking into account the extensively use of fixed service in the frequency band 14.5-15.35 GHz to support the development of telecommunication infrastructure in many countries and crucial in developing countries.

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

Some APT Members propose the following text be included as a part of the APT preliminary view:

“The SRS shall not claim protection from stations in the fixed and mobile services. No. **5.43A** does not apply.”

Some other APT Members are not in the positions during the APG23-4 to accept the above sentence as the APT preliminary view.

Considering the progress of WP 7B the transitional measures need to be proposed to the WP 7B.

**4. APT Preliminary View**

APT Members support ITU-R studies for the consideration of upgrading the SRS allocation from secondary to primary in the frequency band 14.8-15.35 GHz. Any possible upgrade of the SRS to primary service shall protect and not adversely affect the incumbent services in this frequency band as well as the adjacent bands, including the band 15.35-15.4 GHz to which the RAS is allocated.

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

Some APT Members are of the view that appropriate transitional measures need to be developed to protect incumbent services that are allocated on a secondary basis in the frequency band 15.2-15.35 GHz.

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

APT Members are encouraged to participate in and contribute to the work of WP 7B at its next meeting in September 2022 and as well as to future APG23 meetings (see section 3.2)

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

APG23-4)

**7.1 Regional Groups**

**7.1.1 ASMG** - **Document APG23-4/****[INF-21](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-21_ASMG_Preparation_for_WRC-23.pdf)**

Follow-up studies under this agenda item, focusing on protecting existing services in the band 14.8-15.35 GHz and radio services in adjacent bands.

**7.1.2 ATU** - **Document APG23-4/****[INF-02](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-02_ATU_preparation.docx)**

Support the studies under this Agenda Item to upgrade the use of SRS in the band 14.8 – 15.35 GHz without imposing constraints on existing systems of primary allocation in-band and adjacent bands. Specifically ensuring the protection of Radio Astronomy, Earth Exploration and SRS passive in the band 15.35 – 15.4 GHz.

**7.1.3 CEPT** - **Document APG23-4/**[**INF-48**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-48_Status_of_CEPT_preparation_for_WRC-23_and_RA-23.pdf)

CEPT is supporting upgrade of space research service (SRS) allocation from secondary to primary while ensuring protection for in-band FS/MS and for radioastronomy service in the adjacent band 15.35-15.4 GHz . Upgrading of the allocation of the frequency band 14.8-15.35 GHz to the SRS should not impose constraints on existing systems of FS and MS in the frequency band 14.8-15.35 GHz.

**7.1.4 CITEL** - **Document APG23-4/**[**INF-28**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-28_CITEL_Preparation_for_WRC-23.pdf)

Some administrations support studies in accordance with Resolution 661 (Rev. WRC-19) to consider a possible upgrade to the existing global allocation to the SRS in the frequency range 14.8-15.35 GHz, taking into account the need to provide protection to and to not impose constraints on incumbent services in this frequency band and adjacent frequency bands.

**7.1.5 RCC** - **Document APG23-4/**[**INF-44**](https://www.apt.int/sites/default/files/2022/08/APG23-4-INF-44_Status_of_RCC_preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.pdf)

(Note: the view below was updated by RCC during 15 Aug WP3 meeting.)

The RCC Telecommunication Administrations are in favour of upgrading the allocation of the frequency band 14.8-15.35 GHz to the space research service (SRS), while ensuring protection of FS and MS from interference in considered frequency band and radioastronomy service in the frequency band 15.35‐15.4 GHz, taking into account the results of sharing and compatibly studies. Upgrade of the SRS allocation shall not impose restrictions on existing systems of FS and MS in the frequency band 14.8-15.35 GHz, which are eligible for international recognition in accordance with Article 8 RR.

**7.2 International Organizations**

**7.2.1 WMO** - **Document APG23-4/**[**INF-03**](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-03_WMO_Positions.docx)

WMO is not opposed to the upgrading the existing space research service (SRS) secondary allocation in 14.8-15.35 GHz to primary status.

**7.2.2 ICAO** - **Document APG23-4/**[**INF-08**](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-08_Brief_on_AI1.13.docx)

To support studies called for by Resolution **661** (WRC 19) ensuring that they take account of systems operating in the aeronautical mobile service.

To ensure that any radio regulatory action taken as a result of agreed studies does not adversely affect the provision of aeronautical services.

**7.2.3 SFCG** - **Document APG23-4/**[**INF-08**](https://www.apt.int/sites/default/files/2022/07/APG23-4-INF-08_Brief_on_AI1.13.docx)

SFCG supports the upgrade of the SRS allocation from secondary to primary status in the band 14.8-15.35 GHz subject to the completion of studies in ITU-R in order to guarantee the compatibility between SRS and MS and FS in the band 14.8-15.35 GHz, and between SRS and RAS in the adjacent band 15.35-15.4 GHz.

SFCG believes that the band 15.35-15.4 GHz should remain a viable option for future passive sensing missions as this band is covered by FN 5.340. However, addressing the protection of EESS (passive) and SRS (passive) in this band from out of band emissions of SRS operated in the 14.8-15.35 GHz band may be problematic due to the lack of operational characteristics for EESS (passive) and SRS (passive) in the concerned band.

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