**Doc T-26/8**

# REPORT OF TOPIC CHAIRMAN SPECTRUM TOPIC AREA

**Chairperson:** **Dr. Li Leilei (NRTA)**
**Period of Report:** **Aug.2025 to Sept.2026**
**Date of Report:** **Sept.2026**

**Introduction about scope of the work:**

This report covers the Spectrum Topic Area, including WRC-27 agenda items related to broadcasting services and ABU spectrum matters. The following six project topics are addressed, with progress tracking of ITU-R study groups, preliminary regional views, and impact analysis on broadcasting services in the Asia-Pacific region.

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**Project Topic 1:** **To consider a possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz and a possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, and to consider equivalent power flux-density limits to be applied in Regions 1 and 3 to nongeostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz, in accordance with Resolution 726 (WRC-23); (WRC-27 AI 1.4)**
**Project Manager:** **Dr. Li Leilei**
**Co- Project Manager:**
**Time Period:** **Aug.2025 to Sept.2026**

**The following tasks were considered for this project:**
1. Follow developments of studies in WP 4A to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting service in the Asia-Pacific Area.

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This report was provided by Dr. Li Leilei

## 1 Background

Working Party 4A (WP 4A) has been designated as the responsible group for WRC-27 Agenda Item 1.4. At its 58th meeting (May 2026, Document 4A/1064). WP 4A advanced draft CPM text and sharing studies, with six proposed Methods outlined in Annex 9:

−Method A: No change (NOC).

−Method B: New primary allocations for Region 3: FSS (space-to-Earth) in 17.3−17.7 GHz and BSS (space-to-Earth) in 17.3−17.8 GHz, limited to GSO satellite networks.

−Method C: New primary FSS (space-to-Earth) allocation in 17.3−17.7 GHz for Region 3, with harmonization of Region 2 epfd limits to all three regions; BSS allocation not included.

−Method D: New FSS and BSS allocations for Region 3, extension of Region 2 epfd limits to Regions 1 and 3, additional epfd limits in Table 22-1D for non-GSO FSS/BSS coexistence, and suppression of the existing non-GSO FSS (Earth-to-space) allocation in Region 3.

−Method E: New FSS allocation for Region 3, harmonized epfd limits globally, plus BSS allocation for Region 3 with extension of footnotes 5.515A and 5.515B.

−Method F: Extension of Region 2 Appendix 30A feeder link protection provisions to all three regions, in addition to − Method C.

The meeting discussed the possibility of merging some Methods in the Draft CPM text, but this decision was deferred to allow further consideration by regional groups. Technical debates continue on coexistence between potential Region 3 BSS and non-GSO FSS, as well as protection measures for Appendix 30A BSS feeder links.

Work on updating Recommendations ITU-R BO.1443-3 and BO.1900 for Region 3 application remains at working document stage; the proposal to elevate them to preliminary draft revised Recommendations (PDRR) was deemed premature. The 59th WP 4A meeting is scheduled for 19 – 29 October 2026 in Geneva.

## 2 Preliminary views

### 2.1 APT Preliminary Views

APT Members recognize the growing demand for broadband connectivity in the Region and the importance of developing a globally harmonized regulatory framework.

APT Members support for Region 3 a possible new primary allocation to the FSS (space-to-Earth) in the frequency band 17.3-17.7 GHz to harmonise this band globally in all three ITU Regions, and a possible new primary allocation to the BSS (space-to-Earth) in the frequency band 17.3-17.8 GHz, subject to the outcome of the ongoing ITU-R studies in accordance with Resolution 726 (WRC-23).

APT Members are of the view that the necessary technical conditions and regulatory provisions, taking into account the results of sharing and compatibility studies, shall be implemented to ensure the protection of existing primary allocations and services in the same and adjacent frequency bands, including existing GSO networks and the BSS feeder links in the 17.3-17.8 GHz band in Region 3 in the Plan, in the List, and the future submissions of additional uses under Appendix 30A.

APT Members are yet to reach consensus on the allocation for non-GSO in this band. In the eventuality of such a consensus at a later stage, APT Members support the consideration of Region 2's epfd limits to Regions 1 and 3 in consideration of non-GSO systems in the FSS (space-to-Earth) in the frequency band 17.3-17.7 GHz, in accordance with Resolution 726 (WRC-23). In such consideration of a non-GSO allocation, APT Members also support the consideration of the possible extension of Resolution 76 aggregate epfd limits to the frequency band 17.3-17.7 GHz to all three Regions.

APT Members support further discussion based on technical study to determine whether the current existing provisions for the protection of the BSS and Appendix 30A feeder links in Region 2 are sufficient to ensure the full protection of a new BSS allocation and Appendix 30A feeder links in Region 3, or whether additional measures are required. APT Members support further study to reach a widely accepted solution.

### 2.2 Other Views from APT Members

Regarding protection of Appendix 30A GSO networks:

–Some members support protection criteria derived from full ITU database parameters, covering all assignments under the Plan, the List, ongoing Article 4 procedures and future submissions.

–Some members consider future development of incumbent BSS services critical for developing countries, and hold that the new allocation must not impose restrictions on future filings through appropriate mechanisms.

–Some members support a PFD hard limit for the new GSO FSS allocation, consistent with Methods B to F, while noting the WRC-23 limit was based on compromise and requires further technical validation.

–Other members consider the combined framework of coordination procedures and hard limits inconsistent, and call for further study before introducing PFD masks for Appendix 30A protection.

Regarding non-GSO allocations:

–Some members oppose new non-GSO FSS (space-to-Earth) allocation in 17.3–17.7 GHz and support suppression of the existing 17.7–17.8 GHz non-GSO FSS allocation, unless equivalent epfd limits for 60 cm and 45 cm BSS receive antennas are added to Table 22-1D and the non-GSO FSS Earth-to-space allocation in 17.3–17.8 GHz is suppressed.

–Other members prioritize FSS allocation over BSS allocation if BSS would reduce global harmonization or impose excessive constraints on FSS, and oppose suppression of existing non-GSO allocations as outside the agenda item scope.

–Some members consider the existing Region 2 BSS protection framework technically sufficient for Region 3, and do not support additional Table 22-1D limits lacking validated ITU-R methodology under Recommendation ITU-R S.1323.

### 2.3 Views from Other Organisations

CEPT: Supports new FSS (space-to-Earth) allocation in Region 3 and global harmonization of epfd limits in 17.3−17.7 GHz; takes no position on BSS allocation as it is a Region 3 matter with no identified impact on Region 1.

CITEL: Two administrations support studies for new FSS and BSS allocations in Region 3; one administration advocates extending Region 2 epfd limits globally without re-opening last cycle's studies. A Draft Inter-American Proposal (DIAP) has been submitted aligned with Method E.

RCC: New allocations shall not change existing service conditions; supports protection of incumbent services and GSO FSS networks; proposes grandfathering of non-GSO systems notified before the end of WRC-27.

WMO: Not opposed to new FSS and BSS allocations, provided EESS (active) in the adjacent 17.2−17.3 GHz band is protected.

**2.4 Current Trends and Expected Outcome**

There is no major dispute over the introduction of a new GSO FSS (space-to-Earth) allocation in the 17.3−17.7 GHz band for Region 3. The core point of contention is whether the new FSS allocation may be used by non-geostationary orbit (NGSO) systems, and how epfd limits should be configured to protect existing services.

To fully protect the potential new BSS allocation, some members of Region 3 have proposed adding NGSO FSS epfd limits calculated for 45 cm and 60 cm BSS Protection antennas in Table 22-1D, which constitutes the core purpose of Method B and Method D. In counteraction, some members have voiced opposition to the new BSS allocation.

The overall trend, however, favours the introduction of both the new FSS (including NGSO) and BSS allocations. Most countries reject the stringent GSO FSS power flux density limits put forward by some members.

The most likely outcome at WRC-27 is approval of new FSS (including NGSO) and BSS allocations for Region 3, paired with the existing BSS protection framework currently applied in Region 2.

**2.5 Preliminary Impact Analysis on Asia-Pacific Broadcasting Services**

A new BSS (space-to-Earth) primary allocation in 17.3−17.8 GHz would expand Ku-band satellite broadcasting spectrum resources in Region 3, creating additional capacity for high-definition and ultra-high-definition broadcast services and supporting flexible transponder planning for future DBS systems.

Appendix 30A BSS feeder links in the band must be fully protected; stringent epfd and PFD limits for non-GSO FSS are required to avoid degradation of existing and planned broadcasting feeder link operations across the Asia-Pacific.

If non-GSO FSS allocation proceeds without adequate protection criteria, small-aperture BSS receiving terminals in the region may face interference risks, particularly for low-cost direct-to-home services in developing economies.

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| **Project Topic 2:** | **to consider technical and regulatory measures for fixed-satellite service satellite networks/systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 42.5-43.5 GHz (Earth-to-space), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) for equitable access to these frequency bands, in accordance with Resolution 131 (WRC-23) (WRC-27 AI 1.6)** |
| **Project Manager:** | **Dr. Li Leilei** |
| **Co- Project Manager:** | |
| **Time Period:** | **Aug.2025 to Sept.2026** |

**The following tasks were considered for this project:**
1. Follow developments of studies in WP 4A to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting service in the Asia-Pacific Area.

This report was provided by Dr. Li Leilei

**1 Background**

Working Party 4A (WP 4A) is the responsible study body for WRC-27 Agenda Item 1.6. At its 58th meeting (May 2026), WP 4A produced a working document towards draft CPM text (Annex 14 to 4A/1064), which has not been fully reviewed. Further work is required to balance spectrum efficiency and equitable access.

Key elements under discussion include:

–Application of concepts similar to RR Nos. 21.17 and 22.5CA to enhance coordination flexibility.

–Potential uplink and downlink measurement campaigns to reflect actual operational parameters of satellite networks.

–Four candidate Methods to address the agenda item, which have not yet been reviewed in detail; disagreement persists on RR No. 11.44B/capability-based procedures under Method D.

WP 6A has confirmed via liaison statement that no terrestrial broadcasting entries exist in the MIFR between 40.5 GHz and 42.5 GHz, and no broadcasting service protection criteria have been identified for these bands to date.

**2 Preliminary views**

**2.1 APT Preliminary Views**

APT Members support conducting studies on technical and regulatory measures in the frequency bands 37.5–42.5 GHz (space-to-Earth), 42.5–43.5 GHz, 47.2–50.2 GHz and 50.4–51.4 GHz (Earth-to-space) for equitable access to these frequency bands, in accordance with Resolution 131 (WRC-23), while ensuring that existing primary services and operation of satellite networks/systems in these frequency bands are not adversely affected.

APT Members are of the view that the development of an a priori plan is not a solution.

APT Members are of the view that any potential regulatory measures shall respect the integrity of already processed satellite networks, and no retroactive application of the proposed measures will be taken.

APT Members are of the view that the regulatory period for bringing into use (BIU) may need to be further considered.

Further study is needed on whether any special procedure shall apply exclusively to GSO FSS networks, or incorporate differentiated provisions for GSO and non-GSO systems.

**2.2 Other Views from APT Members**

Some APT Members support introducing an eligibility method more closely aligned with equitable access objectives, under which administrations participating in subregional networks would also be eligible for a national network, and vice versa for any new proposed framework.

**2.3 Views from Other Organisations**

CEPT: Rejects a priori planning as inflexible and wasteful based on C/Ku-band experience; supports frameworks that protect incumbent systems, minimize BR administrative burden, and apply no retroactivity.

CITEL: One administration considers existing RR Articles 9 and 11 sufficient for equitable access and opposes additional coordination burdens; another supports balanced studies addressing developing-country access needs while preserving regulatory stability.

RCC: Considers a priori planning impractical before WRC-27 due to lack of agreed frameworks and large numbers of operational FSS networks; suggests special procedures for the 21.4–22 GHz band as an alternative pathway for equitable access.

**2.4 Current Trends and Expected Outcome**

The dominant trend across regional groups is rejection of a priori planning mechanisms, in favour of targeted procedural improvements and special procedures within the existing Articles 9 and 11 framework. The most likely outcome at WRC-27 will be a set of facilitative measures—including BIU flexibility and streamlined special procedures — rather than a full frequency/orbit plan. Final scope will depend on WP 4A consolidation of the four Methods.

**2.5 Preliminary Impact Analysis on Asia-Pacific Broadcasting Services**

The 37.5−42.5 GHz and 40.5−42.5 GHz bands currently have no notified terrestrial broadcasting services in the region, and no active BSS deployments at these frequencies; direct near-term impact on existing broadcasting operations is limited.

Should future millimetre-wave broadcasting or BSS feeder link deployments emerge in these bands, equitable access mechanisms would affect spectrum availability and coordination procedures for broadcast satellite networks.

Developing economies in the Asia-Pacific may benefit from improved access procedures for future high-throughput satellite systems carrying broadcast content distribution services.

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| **Project Topic 3:** | **to consider appropriate regulatory actions to update Appendix 26 to the Radio Regulations in support of aeronautical mobile (OR) high frequency modernization, in accordance with Resolution 411 (WRC-23)(WRC-27 AI 1.9)** |
| **Project Manager:** | **Dr. Li Leilei** |
| **Co- Project Manager:** | |
| **Time Period:** | **Aug.2025 to Sept.2026** |

**The following tasks were considered for this project:**

1. Follow developments of studies in WP 5B to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting service in the Asia-Pacific Area.

This report was provided by Dr. Li Leilei

## 1 Background

Working Party 5B (WP 5B) is the responsible group for WRC-27 Agenda Item 1.9. The agenda item examines updates to Appendix 26 to enable Wideband HF (WBHF) technologies for aeronautical mobile (OR) service, covering four technology scenarios: legacy 3 kHz narrowband, non-contiguous multi-carrier, contiguous multi-carrier, and contiguous single-carrier wideband systems.

At its most recent meeting, WP 5B finalized two Methods in the draft CPM text:

–Method A: No change (NOC).

–Method B: Update Appendix 26 to enable wideband HF systems. While the core text is relatively mature, several sub-options remain unresolved.

Noting the next WP 5B meeting is scheduled after the cutoff date for draft CPM text to be sent to the CPM Chapter rapporteurs, WP 5B is unlikely to continue work on the CPM text. Any further revisions will need to be submitted directly to the CPM or WRC by administrations or regional groups.

WP 5B also continues work on new Recommendation ITU-R M.[AMRS_VDL] and new Recommendation/Report ITU-R M.[Modernization of HF AM(OR)S]. No sharing and compatibility studies with broadcasting services have been initiated by WP 5B to date.

## 2 Preliminary views

### 2.1 APT Preliminary Views

APT Members support ITU-R sharing and compatibility studies in accordance with Resolution 411 (WRC-23) with a view to update Appendix 26 of the RR to enable the use of modernised Wideband High Frequency (WBHF) technologies without modifying the existing area allotments.

APT Members are of the view that any modifications to Appendix 26 of the RR should be on the basis that the sharing studies show no reduction in protection criteria of existing applications within the Aeronautical Mobile (OR) Service, as well as Primary services in the same and adjacent bands, in particular the AM(R)S as detailed in Appendix 27.

APT Members support the principles of CPM Method B as it aligns with proposed changes to Appendix 26. While acknowledging that some sub-parts of Method B are still incomplete, members agree to review these outstanding details at a later APG meeting.

### 2.2 Views from Other Organisations

CEPT: Supports explicit recognition of wideband AM(OR)S with non-contiguous carrier aggregation via Appendix 26 amendment, while preserving current narrowband uses and coexistence with other services.

CITEL: Three administrations support WBHF studies conditional on demonstrated compatibility with incumbent AM(OR)S and adjacent primary services.

RCC: Does not object to Appendix 26 amendments provided that wideband signal power limits and out-of-band emission levels do not exceed those for narrowband systems, and incumbent services are fully protected.

ICAO: Requires that any outcome not reduce protection of internationally recognized aeronautical HF safety communications under Appendix 27.

### 2.3 Current Trends and Expected Outcome

Global consensus favours Method B (update of Appendix 26) as the baseline, with broad support for wideband HF modernization. Final resolution of sub-options (contiguous vs. non-contiguous aggregation, power limits) will likely continue into the late CPM phase. WRC-27 is expected to adopt an updated Appendix 26 that preserves existing allotments and adds wideband regulatory provisions.

### 2.4 Preliminary Impact Analysis on Asia-Pacific Broadcasting Services

Agenda Item 1.9 operates exclusively within the HF aeronautical mobile (OR) bands (3−18 MHz) defined by Appendix 26, which fall within the shortwave spectrum. Under the framework of the Radio Regulations, these bands are also allocated to the shortwave sound broadcasting service. Broadband HF aeronautical systems and shortwave broadcasting may coexist in the same or adjacent frequency bands, thus theoretically posing potential interference risks.

Traditional narrowband aeronautical HF systems have coexisted with shortwave broadcasting for decades, with well-established frequency planning and coordination mechanisms, and actual operational interference has generally been kept under control. With the introduction of broadband HF technology, the expanded signal bandwidth results in a corresponding increase in the impact scope of in-band emissions and adjacent-channel leakage. Therefore, dedicated coexistence and compatibility studies are required to verify the level of protection for broadcasting services. At present,

there is a consensus among all parties that modifications to Appendix 26 shall not lower the existing protection standards for services, and that broadband systems will not be deployed without constraints.

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| **Project Topic 4:** | **to consider developing power flux-density and equivalent isotropically radiated power limits for inclusion in Article 21 of the Radio Regulations for the fixed-satellite, mobile-satellite and broadcasting-satellite services to protect the fixed and mobile services in the frequency bands 71-76 GHz and 81-86 GHz, in accordance with Resolution 775 (Rev.WRC-23)(WRC-27 AI 1.10).** |
| **Project Manager:** | **Dr. Li Leilei** |
| **Co- Project Manager:** | |
| **Time Period:** | **Aug.2025 to Sept.2026** |

**The following tasks were considered for this project:**

1. Follow developments of studies in WP 5C to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting services.

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This report was provided by Dr. Li Leilei

**1 Background**

Working Party 5C (WP 5C) is the responsible group for WRC-27 Agenda Item 1.10. The agenda item develops pfd and e.i.r.p. limits for FSS, MSS and BSS space stations and earth stations, to be incorporated into RR Article 21, for protection of fixed and mobile services in 71−76 GHz and 81−86 GHz.

At its May 2026 meeting, WP 5C completed draft CPM text with a single Method A, proposing:

–Modifications to RR Table 21-4 to add a 71–76 GHz pfd mask for FSS, BSS and MSS.

–Modifications to RR Table 21-3 to extend existing e.i.r.p. limits to 81–86 GHz for FSS and MSS.

–Consequential amendments to RR Appendix 7 for coordination contour parameters.

–Suppression of Resolution 775 (Rev.WRC-23).

Eight sub-options (A1 to A8) remain under discussion, reflecting divergent views on pfd mask values, atmospheric gaseous attenuation treatment, multi-satellite scaling factors, and Appendix 7 parameters. WP 6A has confirmed via liaison statement that no terrestrial broadcast entries exist in the MIFR between 74 GHz and 76 GHz, with no defined broadcasting protection criteria for these bands.

**2 Preliminary views**

**2.1 APT Preliminary Views**

APT Members support ITU-R studies and the inclusion of pfd and e.i.r.p. limits in Article 21 for FSS, MSS and BSS, to protect current and planned fixed and mobile services in 71−76 GHz (including all azimuths of FS station antennas) and 81−86 GHz, in accordance with Resolution 775 (Rev.WRC-23).

**2.2 Views from Other Organisations**

CEPT: Supports limit development; advocates standard FS antenna patterns (ITU-R F.699, F.1245) as study baselines.

CITEL: Four administrations support limit development to ensure continued operation of terrestrial services, with one calling for balanced limits that do not unduly constrain satellite deployments.

RCC: Supports pfd limits for 71−76 GHz and e.i.r.p. limits for 81−86 GHz; maintains that pfd values should be calculated under free-space propagation conditions only.

**2.3 Current Trends and Expected Outcome**

There is universal agreement on the need for Article 21 limits; the primary debate concerns the stringency of pfd masks and treatment of atmospheric/ multi-satellite factors. Final convergence on a reduced set of sub-options is expected by CPM27-2, with WRC-27 ultimately adopting a harmonized Article 21 framework and repealing Resolution 775.

**2.5 Preliminary Impact Analysis on Asia-Pacific Broadcasting Services**

The 71−76 GHz and 81−86 GHz bands currently have no operational terrestrial or satellite broadcasting deployments in the Asia-Pacific region; direct impact on existing broadcast services is negligible.

The inclusion of BSS in the pfd/e.i.r.p. limit framework establishes regulatory baseline conditions for any future millimetre-wave broadcasting-satellite deployments in these bands, constraining maximum emission levels and coordination requirements.

For future high-capacity broadcast content distribution via E-band satellite feeder links, the limits will define the operational boundaries for BSS earth stations and space stations.

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| **Project Topic 5:** | **to consider studies on possible new allocations to the mobile-satellite service for direct connectivity between space stations and International Mobile Telecommunications (IMT) user equipment to complement terrestrial IMT network coverage, in accordance with Resolution 253 (WRC-23)(WRC-27 AI 1.13).** |
| **Project Manager:** | **Dr. Li Leilei** |
| **Co- Project Manager:** | |
| **Time Period:** | **Aug.2025 to Sept.2026** |

**The following tasks were considered for this project:**

1. Follow developments of studies in WP 4C to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting services.

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This report was provided by Dr. Li Leilei

**1 Background**

Working Party 4C (WP 4C) is the responsible study group for WRC-27 Agenda Item 1.13, with contributions from a broad range of collaborating working parties including WP 3L, WP 3M, WP 4A, WP 4B, WP 5A, WP 5B, WP 5C, WP 5D, WP 6A, WP 7B, WP 7C and WP 7D. The agenda item studies possible new MSS allocations in the 694/698 MHz − 2.7 GHz range for direct connectivity between MSS space stations and IMT user equipment (DC-MSS-IMT), to complement terrestrial IMT network coverage, taking into account the IMT frequency arrangements addressed in the most recent version of Recommendation ITU-R M.1036.

At its April 2026 meeting, WP 4C advanced a working document towards draft CPM text (Annex 9 to Document 4C/744-E). The draft CPM text remains under development, with multiple regulatory options being explored. The proposed methods are structured across five frequency band issues, each comprising a No Change (NOC) method and an allocation-based method with variant sub-options:

–Issue A: 694/698−960 MHz

–Issue B: 1 427−1 518 MHz

–Issue C: 1 710−2 025 MHz and 2 110−2 200 MHz

–Issue D: 2 300−2 400 MHz

–Issue E: 2 500−2 690 MHz

Across all issues, proposed allocation methods cover secondary allocation, primary allocation and footnote-based operational frameworks, all founded on the core principle that DC-MSS-IMT systems shall not cause harmful interference to, nor claim protection from, stations operating in the mobile service. Key outstanding points still under discussion include allocation status (primary vs. secondary), inclusion of TDD bands, treatment of existing primary MSS allocations, SNO-MNO partnership requirements, cross-border interference mitigation mechanisms, and compliance verification methodologies.

Various questions and clarifications were raised during the April 2026 discussion, requiring further careful consideration. In particular, further discussion is needed on whether the agenda item will be addressed through a single WRC resolution or multiple resolutions, taking into account past practices of the ITU-R working parties. Work on system functionality descriptions, sharing and compatibility studies, and regulatory considerations for the protection of terrestrial IMT systems continues, with WP 5D providing input on protection criteria and pfd limit calculation methodologies. The summary of sharing and compatibility studies in the draft CPM text is scheduled to be finalized at the WP 4C meeting in October 2026.

**2 Preliminary views**

**2.1 APT Preliminary Views**

APT Members support necessary and appropriate studies to meet the objectives of Resolution 253 (WRC-23).

Use of the studied frequency bands for DC-MSS-IMT, together with associated conditions, shall be reflected in footnotes referenced to new WRC Resolution(s).

Operation of DC-MSS-IMT, including SNO/MNO roles and responsibilities, and other technical and regulatory issues, shall be clearly addressed and agreed by consensus.

Compatibility study results must ensure continued protection of incumbent services in-band and in adjacent bands.

**2.2 Other Views from APT Members**

Some APT Members are of the view that the potential operation of DC-MSS-IMT in the Earth-to-space direction in 1 980-2 010 MHz and in the space-to-Earth direction in 2 170-2 200 MHz would be covered by the current primary MSS allocation. For this case, no changes would be required to the RR.

Some APT Members are of the view that the potential operation of DC-MSS-IMT in the space-to-Earth direction in 1 980-2010 MHz and in the Earth-to-space direction in 2 170-2 200 MHz would require additional MSS allocation limited to DC-MSS-IMT.

Some APT Members do not support operations of new DC-MSS-IMT systems in the frequency band 2 500-2 690 MHz.

Some other APT Members support potential DC-MSS-IMT in the frequency range between 694/698 MHz and 2 700 MHz, including the 2 500-2 690 MHz frequency band.

Some APT Members are of the view that the results of ITU-R sharing and compatibility studies for the bands 1 475-1 518 MHz, 1 930-2 000 MHz, and 1 980-2 010 MHz indicate that DC-MSS-IMT systems may cause significant out-of-band interference into adjacent and overlapping bands, exceeding the applicable protection criteria in the latest version of Recommendation ITU-R M.1183 (and other related ITU-R Recommendations). Operations in these bands are not compatible when used simultaneously without appropriate technical and regulatory measures to ensure the protection of the incumbent services including MSS. These considerations should be reflected in Resolution(s) [A113] (WRC-27) (see Annex 1 of 4C/760) yet to be reviewed, discussed, and agreed upon.

**2.3 Views from Other Organisations**

CEPT: Supports the development of an international regulatory framework for DC-MSS-IMT in agreed IMT-identified bands within 694-2 700 MHz, in line with ITU-R M.1036, while ensuring protection of existing in-band and adjacent-band services, including cross-border and EEZ scenarios. Considers the 2 300-2 400 MHz band unsuitable for DC-MSS-IMT due to TDD usage and sensitivity of aeronautical telemetry systems to satellite interference.

CITEL: Six administrations support studies on possible new MSS allocations for DC-MSS-IMT, ensuring protection of incumbent services and alignment with ITU-R M.1036 frequency arrangements. Two preliminary proposals have been submitted, one based on secondary allocation and one covering both primary and secondary options. Emphasizes consistency across overlapping agenda items 1.12, 1.13 and 1.14.

RCC: Supports studies on potential new MSS allocations aligned with ITU-R M.1036; identifies 1 710-1 785 / 1 805-1 880 MHz and other bands as priority bands; objects to use of 1 427-1 518 MHz, 2 110-2 200 MHz and other heavily utilized bands. Supports pfd limits for terrestrial IMT protection, and maintains that MSS allocations shall have secondary status relative to terrestrial IMT. Requires agreements between satellite operators and terrestrial mobile operators.

IARU: The 2 300-2 400 MHz band is allocated to the amateur service on a secondary basis. Opposes use of a space component for direct-to-IMT connectivity that would further constrain amateur service operation and development in this band.

ICAO: Opposes any new allocations or regulatory actions under Resolution 253 (WRC-23) that overlap with frequencies used by civil aviation systems in the 694-2 700 MHz range; ensures no reduction of protection or additional constraints on civil aviation systems and adjacent primary surveillance/weather radars.

WMO: Not opposed to possible new MSS allocations for DC-MSS-IMT, provided there is no negative impact on adjacent bands: EESS (passive) in 1 400−1 427 MHz, MetSat systems in 1 675−1 710 MHz, EESS and SOS systems in 2 025−2 110 MHz, and meteorological radar systems in 2 700−2 900 MHz.

**2.4 Current Trends and Expected Outcome**

There is broad consensus on the overall direction of DC-MSS-IMT development and the non-interference, non-protection (NINP) principle relative to terrestrial mobile services. However, core divergences remain on allocation status (primary vs. secondary), applicable frequency band scope, treatment of TDD bands, and interference limit methodologies. Most APT members lean towards a secondary allocation framework, with a minority supporting primary allocation.

The most likely outcome at WRC-27 is a secondary allocation framework for DC-MSS-IMT in selected FDD bands, paired with clear technical conditions, responsibility allocation and cross-border interference management mechanisms. Controversial bands such as 2 500-2 690 MHz and TDD bands will continue to be negotiated into the late CPM phase.

**2.5 Preliminary Impact Analysis on Asia-Pacific Broadcasting Services**

700 MHz UHF broadcasting band (694−862 MHz): This range covers terrestrial digital television bands across the Asia-Pacific. DC-MSS-IMT operations in adjacent and overlapping bands may pose potential interference risks to terrestrial DTT services, especially in developing countries with extensive 700 MHz TV deployments. The GE06 Agreement's aggregate PFD limit of -135.8 dB(W/(m$^2$·MHz)) for MSS networks can serve as a reference benchmark for relevant interference protection studies in the Asia-Pacific region, while specific protection requirements shall be determined in light of the actual deployment of broadcasting services in the region.

L-band BSS and feeder links (1 452−1 492 MHz, 1 930−2 010 MHz): The 1 452-1 492 MHz band hosts BSS receiving systems, and the 1 930-2 010 MHz band is adjacent to MSS feeder link spectra. ITU-R studies have shown that DC-MSS-IMT out-of-band emissions may exceed protection criteria in Recommendation ITU-R M.1183, potentially impacting satellite broadcast reception and content distribution feeder links in the region. Targeted mitigation measures are required to protect BSS operations.

2.5/2.6 GHz broadcasting-satellite services: The 2 500-2 690 MHz band supports existing broadcasting-satellite and related terrestrial systems. Several APT members oppose DC-MSS-IMT operation in this band to safeguard the stability of operational broadcast satellite services.

Overall assessment: With the prevailing NINP principle and secondary allocation approach, the overall impact on existing Asia-Pacific broadcasting services is expected to be controllable. However, continuous attention is required on adjacent-band protection and out-of-band emission limits to ensure that broadcasting service protection criteria are not degraded.

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**Project Topic 6:** **to consider regulatory provisions for receive-only space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies, in accordance with Resolution 682 (WRC-23)(WRC-27 AI 1.17).**
**Project Manager:** **Dr. Li Leilei**
**Co- Project Manager:**
**Time Period:** **Aug.2025 to Sept.2026**

**The following tasks were considered for this project:**
1. Follow developments of studies in WP 7C to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting services.

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This report was provided by Dr. Li Leilei

**1 Background**

Space weather observations are critical for detecting and forecasting solar activity events that impact services vital to the economy, safety and security of administrations and populations. WRC-23 designated space weather observations to the MetAids service, operating under the subset MetAids (space weather), per RR Article 29B, and adopted Resolution 675 (WRC-23) defining space weather and active/receive-only sensor categories.

Working Party 7C (WP 7C) is the responsible group within ITU-R. Key progress to date includes:

–A new draft Recommendation ITU-R RS.[RXSW_PROTECT_CRITERIA] on protection criteria for receive-only space weather sensors (riometers, solar flux monitors, solar spectrometers, IPS monitors, etc.). Differing views emerged at the March 2026 meeting on scope and treatment of the 608-614 MHz band, with an Editor's note added for further discussion.

–A draft Report ITU-R RS.[SW_STUDIES] covering spectrum needs, protection criteria, propagation models, system characteristics, MIFR notification, and sharing and compatibility studies.

Updated draft CPM text proposing two Methods:

–Method A: New primary allocations to MetAids (space weather) in six frequency bands, with associated RR Article 5 footnotes ensuring allocations neither claim protection from nor constrain future development of incumbent services; plus amendments to RR Article 11 and Appendix 4 Annex 1 to enable notification of receive-only sensors in the MIFR.

–Method B: New primary allocations limited to five frequency bands, excluding the 608−614 MHz band, with the same regulatory mechanism for notification and protection principles.

During the March 2026 meeting, WP 7C explored reducing footnotes within the proposed methods but reached no immediate solution. The next WP 7C meeting in September 2026 will be the last opportunity to refine CPM text before the final draft deadline.

WP 6A has provided liaison information on broadcasting services in relevant bands: the 608-614 MHz band is widely deployed for terrestrial television broadcasting under the GE06 Plan in many countries, and the 73.0-74.6 MHz band has 206 notified terrestrial FM sound broadcasting entries in Region 1 according to MIFR records.

## 2 Preliminary views

### 2.1 APT Preliminary Views

APT Members support studies on regulatory provisions for receive-only space weather sensors and their protection in the Radio Regulations (RR), including potential primary allocations to MetAids (space weather) for receive-only space weather sensors in the frequency bands identified in Resolution 682 (WRC-23). APT Members are of the view that these allocations shall not claim protection from, or constrain the future development of, incumbent services, in accordance with RR (Edition 2024), in these frequency bands or in adjacent bands, including services in accordance with GE06 Plan.

APT Members also support studies on possible regulatory provisions of RR to accommodate the possibility to notify a receive-only space weather sensor station for recording in the Master International Frequency Register (MIFR).

### 2.2 Views from Other Organisations

CEPT: Supports primary allocations to MetAids (space weather) for receive-only sensors in all six frequency bands without imposing constraints on incumbent services up to WRC-23. Supports development of the MIFR notification mechanism with potential changes to RR Article 1 and Appendix 4.

CITEL: Several administrations support considering regulatory provisions for receive-only space weather sensors, including possible new primary MetAids allocations, broadly agreeing that allocations shall not claim protection from or constrain future development of incumbent services. Emphasizes balancing scientific and operational priorities without undue constraints on existing services.

RCC: Supports new primary MetAids (space weather) allocations for receive-only sensors in all six frequency bands specified in Resolution 682 (WRC-23), with footnotes stipulating no protection claim and no constraint on incumbent service development. Supports amendments to RR Article 11 and Appendix 4 to enable MIFR notification of receive-only stations.

IARU: Fully supports protection of incumbent amateur and amateur-satellite services in the adjacent 28.0-29.7 MHz band. Supports development of protection criteria for receive-only space weather sensors that do not impose additional technical or operational constraints on amateur stations.

ICAO: Supports appropriate regulatory changes for receive-only space weather sensors, ensuring no technical or regulatory constraints on aviation safety systems.

WMO: Supports new primary allocations to MetAids (space weather) for receive-only sensors in all listed frequency bands, following the principle of no protection claim and no constraint on existing primary services. Supports introduction of MIFR notification provisions via amendments to RR Article 1, Article 11 and Appendix 4.

### 2.3 Current Trends and Expected Outcome

There is widespread consensus on establishing a dedicated regulatory framework for receive-only space weather sensors and enabling their notification in the MIFR. The main point of divergence remains the inclusion of the 608−614 MHz band, which is heavily used for terrestrial television broadcasting in many regions.

The most likely outcome at WRC-27 is adoption of a regulatory package including the MIFR notification mechanism and new primary MetAids allocations with NINP-style conditions. The final choice between Method A (6 bands) and Method B (5 bands) will depend on further technical studies and regional coordination, with the protection of incumbent broadcasting services being a key consideration.

### 2.4 Preliminary Impact Analysis on Asia-Pacific Broadcasting Services

608−614 MHz terrestrial television band: This band is widely deployed for digital terrestrial television across the Asia-Pacific, representing a core broadcasting spectrum resource. Since space weather sensors under this agenda item are receive-only and do not radiate, they pose no direct emission interference risk to terrestrial television services. The "no claim of protection" principle embedded in the proposed methods also ensures that existing and future development of terrestrial broadcasting services will not be constrained by the new allocation.

Overall assessment: The receive-only nature of the sensors under study means there is essentially no direct interference risk to Asia-Pacific broadcasting services. The proposed allocation principles fully preserve the operational and development rights of existing broadcasting services.