



International Amateur Radio Union (IARU)

**IARU VIEWS ON WRC-23 AGENDA ITEMS 1.2, 1.12, 1.14, 1.18 AND
9.1 (TOPIC A AND TOPIC B)**

1. About the IARU

The International Amateur Radio Union (IARU) was founded in 1925 and is the peak body that represents the interests of the amateur and amateur-satellite services at the ITU Radiocommunications sector (ITU-R), the ITU Development Sector (ITU-D) and Regional Telecommunication Organizations. Through these various organizations the IARU takes part in discussions on issues that may affect the amateur and amateur-satellite services. The IARU especially focuses on ITU World Radiocommunication Conference (WRC) agenda items where spectrum allocations are made. Global in scope, the IARU represents more than 160 national amateur radio societies worldwide.

The IARU is headed by an International Secretariat which supports the activities of three regional groups that deal with issues for each of the three ITU-R radio regions. IARU-Region 3 covers the Asia-Pacific region and it interacts with the [Asia-Pacific Telecommunity](#) (APT) through a Memorandum of Understanding.

IARU-Region 3 is pleased to take part in the [APT Conference Preparatory Group for WRC](#) (APG) meetings and present the views of the amateur and amateur-satellite services for consideration at this fifth meeting of the APG ([APG23-5](#)). The preliminary IARU views on WRC-23 agenda items that are relevant to the amateur and amateur-satellite services are presented below.

2. Agenda Item 1.2:

to consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 245 (WRC-19)

Frequency bands to be studied with applicable ITU-R Regions:

- 3 300-3 400 MHz (Region 1 and Region 2)
- 3 600-3 800 MHz (Region 2)
- 6 425-7 025 MHz (Region 1)
- 7 025-7 125 MHz (Global)
- 10.0-10.5 GHz (Region 2)

2.1 Background

The amateur service has a secondary allocation in 3 300-3 400 MHz in Region 2 and 3. The amateur service has a secondary worldwide allocation in 10.0-10.5 GHz with the frequency band 10.45-10.5 GHz also allocated to the amateur- satellite service on a secondary basis.

Amateur activity in the 3 300-3 400 MHz band in Regions 2 and 3 is mainly low-power, point-to-point, broadband digital links.

The worldwide secondary 10.0-10.5 GHz allocation is the most heavily used amateur microwave allocation with the largest investment in equipment and antennas. The band supports terrestrial broadband digital fixed links, beacons used for propagation research, and two-way communication using a variety of propagation modes including tropospheric scatter, rain scatter, and Earth-Moon-Earth (“moon-bounce”).

The geostationary QO-100 satellite downlink is in the 10.45-10.5 GHz band. The satellite is positioned at 25.8 degrees East and covers the eastern portion of Region 2 along with most of Region 1 and much of Region 3. It is in constant heavy use for both narrow band voice and data communications as well as wide band Digital TV applications. Amateur operations in the 10.0-10.5 GHz band are compatible with the other services to which the band is currently allocated. The identification of the band for IMT in Region 2 would seriously impair the utility of the band for existing and anticipated future amateur applications.

2.2 IARU view on agenda item 1.2

The IARU opposes the identification of the band 10.0-10.5 GHz for IMT in Region 2 as well as the introduction of a mobile service allocation in the region, which would be a necessary precursor to its identification for IMT. Spectrum sharing with a mass market deployment of mobile systems can be challenging and experiences have shown that the legal implications of national IMT licensing processes and service provider requirements tend to result in removal of national amateur service assignments which can severely affect the development of amateur radio.

Considering j) of Resolution 245 (WRC-19) notes that harmonized worldwide arrangements for IMT are “highly desirable;” it logically follows that an undesirable regional identification for IMT must be weighed against the continuing requirements of incumbent services. While studies are only invited with regard to the protection of primary services, *considering k) and l)* and *recognizing c)* of the resolution make no distinction between primary and secondary allocations with regard to the need to protect existing services.

The use and evolving needs of the amateur and amateur-satellite services must not be overlooked as an undesirable regional arrangement for IMT is being considered. The IARU requests that the special status of 10.45-10.5 GHz as a worldwide amateur-satellite allocation with no mobile allocation be respected.

According to above view, IARU supports Method 6A (No change) for the band 10.0-10.5 GHz in a draft CPM Report.

3. Agenda Item 1.12:

to conduct, and complete in time for WRC-23, studies for a possible new secondary allocation to the Earth exploration-satellite (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, including in adjacent bands, in accordance with Resolution 656 (Rev.WRC-19)

3.1 Background

In Regions 2 and 3 a primary allocation to the amateur service of 50-54 MHz has existed for decades. WRC-19 adopted a secondary allocation in Region 1 of 50-52 MHz. Country footnotes provide primary status in numerous countries with a lower frequency limit of 50 MHz and upper frequency limits ranging from 50.5 to 54 MHz.

The 50 MHz frequency band is one of the most popular amateur bands in VHF range and a variety of usage includes relatively short-distance voice communications for beginners, intercontinental long-distance communications by eager specialists and even Earth-Moon-Earth communication by enthusiasts.

3.2 IARU view on agenda item 1.12

The IARU acknowledges that the studies for a possible new secondary allocation to the Earth exploration-satellite (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz include the need to protect the incumbent amateur service in the adjacent 50-54 MHz band. The IARU will contribute to the studies to ensure adequate protection of the sensitive receivers used by stations in the amateur service in the 50-54 MHz band, especially the frequencies 50-50.5 MHz where the majority of amateur communications via the ionosphere is conducted, often with very low signal levels.

IARU prefers Method D (No change), but can support Method A2 in a draft CPM Report.

4. Agenda Item 1.14:

to review and consider possible adjustments of the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz, to ensure alignment with more up-to-date remote-sensing observation requirements, in accordance with Resolution 662 (WRC-19)

4.1 Background

Both the amateur and the amateur-satellite services have a secondary allocation from 241 GHz to 248 GHz and a primary allocation from 248 GHz to 250 GHz.

The allocations have been used by amateurs for terrestrial propagation experiments; communication over paths as long as 114 km has been achieved. No amateur satellites have utilized the allocation yet.

4.2 IARU view on agenda item 1.14

The IARU supports retention of the 248-250 GHz primary allocations and the 241 – 248 GHz secondary allocations to the amateur and amateur-satellite services.

Within this frequency range there is ongoing experimentation by amateur service stations, which is expected to grow as technology and equipment availability improves. Any introduction of EESS into the 241-250 GHz frequency range should not unduly constrain the ongoing experimental use by the amateur and amateur satellite services in their secondary and primary allocations or their future development.

IARU prefers Method C (No change) in a draft CPM Report, but may support Method B as long as neither the secondary amateur allocation 241 – 248 GHz nor our primary allocation 248 – 250 Hz are adversely affected.

5. Agenda Item 1.18:

to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service for future development of narrowband mobile-satellite systems, in accordance with Resolution 248 (WRC-19)

Frequency bands to be studied in this agenda item:

- 1 695-1 710 MHz (Region 2)
- 2 010-2 025 MHz (Region 1)
- 3 300-3 315 MHz and 3 385-3 400 MHz (Region 2)

5.1 Background

The amateur service has a secondary allocation in 3 300-3 400 MHz in Region 2 and 3.

Amateur activity in the 3 300-3 400 MHz segment is conducted mainly in low-power, point-to-point, broadband digital links.

5.2 IARU view on agenda item 1.18

The IARU supports retention of the amateur secondary allocation of 3 300-3 400 MHz in Regions 2 and 3.

IARU prefers Method A (No change) in a draft CPM Report.

6. Agenda Item 9.1 Topic A:

9 *to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention;*

9.1 *on the activities of the Radiocommunication Sector since WRC-19:*

– In accordance with Resolution 657 (Rev.WRC-19), review the results of studies relating to the technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weather sensors with a view to describing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services

6.1 IARU view on agenda item 9.1 Topic A

The IARU notes that the scope of Resolution 657 is very broad. The systems described in Report ITU-R RS.2456-0 utilize radio frequencies from 13 kHz up to at least 15 GHz.

A significant proportion of amateur activity is directly affected by daily and longer-term variations in space weather. Consequently, amateurs have a significant interest in space weather and its impact on the ionosphere and radio wave propagation. At the same time, the amateur and amateur-satellite services are incumbent services with allocations in frequency bands ranging from 135.7 kHz to 250 GHz.

In considering potential new regulatory provisions for the recognition of space weather systems, additional constraints on incumbent services including the amateur and amateur satellite services must be avoided.

7. Agenda Item 9.1 Topic B:

9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention;

9.1 on the activities of the Radiocommunication Sector since WRC-19:

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– Review of the amateur service and the amateur-satellite service allocations in the frequency band 1 240-1 300 MHz to determine if additional measures are required to ensure protection of the radionavigation-satellite (space-to-Earth) service operating in the same band in accordance with Resolution 774 (WRC-19)

7.1 Background

The amateur service has a secondary allocation in the 1 240-1 300 MHz frequency band. The amateur-satellite service has a secondary allocation in 1 260-1 270 MHz (Earth-to-space).

The May 2022 meeting of ITU-R WP5A produced the draft CPM text that now goes to the CPM Committee for final preparation. The draft CPM text refers two preliminary draft new reports and one preliminary draft new recommendation being developed at ITU-R.

A preliminary draft new Report ITU-R M. [AMATEUR.CHARACTERISTICS] and working document towards a preliminary draft new recommendation ITU-R M. [AS GUIDANCE] are being developed in ITU-R Working Party 5A. The current version of the documents are Annex 10 and 11 to Document [5A/597-E](#) (Chairman's Report) dated 21 June 2022. The documents provide a comprehensive illustration of how the band is used by amateurs and a guidance on technical and operational measures for the use of the frequency band 1 240-1 300 MHz by the Amateur and Amateur-satellite service in order to protect the RNSS (space-to Earth).

Another preliminary draft new Report ITU-R M. [AMATEUR_RNSS] is being developed in ITU-R WP4C.

7.2 IARU view on agenda item 9.1 Topic B

During many years of operational experience, the secondary amateur and amateur satellite services have successfully co-existed with all the primary services in the range 1 240-1 300 MHz with very few issues. In cases where certain applications (in particular, wide bandwidth, high duty cycle applications) could increase the potential for interference, careful spectrum management and national licensing conditions have minimised any risk. Radio amateurs have

successfully co-existed and innovated in this frequency range for many years and IARU believes that the regulatory status of the amateur and amateur satellite services in this range is already clear. Therefore, any additional regulatory, operational, or technical measures incorporated into the Radio Regulations are unnecessary. Any recommendations resulting from studies under Resolution 774 can be applied on a national basis and should be based on realistic assumptions, proportionate in scope, and carefully justified so as not to unnecessarily inhibit development of the amateur services.

IARU supports the draft CPM text developed by WP5A and will actively take part in the continuing work with the preliminary draft new recommendation ITU-R M. [AS GUIDANCE].
