



## **International Amateur Radio Union (IARU)**

### **IARU POSITIONS ON WRC-19 AGENDA ITEMS OF PARTICULAR INTEREST TO THE AMATEUR AND AMATEUR-SATELLITE SERVICES**

The International Amateur Radio Union has participated in ITU conferences since 1927 and has been a sector member of ITU since 1932, playing an active role in the work of the Radiocommunication and Development Sectors on behalf of more than three million licensees in the amateur and amateur-satellite services. Overall IARU objectives for WRC-19 are:

- Global harmonization of the amateur 50-54 MHz allocation
- Maintenance of existing spectrum access for amateurs
- Strengthening protections for radiocommunication services against interference from other generators of RF energy

The following agenda items are of particular interest.

#### *Agenda Item 1.1, 50-54 MHz*

The only WRC-19 agenda item on which the IARU seeks an improvement in an allocation to the amateur service is AI 1.1, regarding the frequency band 50-54 MHz in Region 1. The band is now allocated on a primary basis to the amateur service in Regions 2 and 3 and to some countries in Africa by country footnote. The IARU supports modification of the Table of Frequency Allocations to allocate the band to the amateur service on a primary basis in Region 1 to provide a harmonized allocation across all three Regions.

#### *Agenda Item 1.7, spectrum for non-GSO satellites*

The IARU supports satisfying the spectrum requirements for non-GSO satellites with short duration missions within the existing allocations for the space operation service or the frequency ranges identified in *invites ITU-R 3* of Resolution 659 (WRC-15), unless the satellites are amateur satellites as defined in RR Nos. 1.56 and 1.57. The band 144-146 MHz is especially important to amateurs as it currently is the only worldwide primary amateur and amateur-satellite allocation between 29.7 MHz and 24 GHz. It is heavily used in all three Regions for all forms of amateur communications including disaster response.

*Agenda Items 1.12, intelligent transport systems (ITS) and 1.16, wireless access systems*

The frequency band 5 650 to 5 850 MHz (5 650 to 5 925 MHz in Region 2) is allocated to the amateur service on a secondary basis. The frequency band 5 830 to 5 850 MHz is allocated to the amateur satellite service (space-to-Earth) on a secondary basis, and in the frequency band 5 650 to 5 670 MHz, the amateur-satellite service (Earth-to-space) may operate subject to not causing harmful interference to other services operating in accordance with the Table.

The frequency band 5 760 to 5 765 MHz is used for amateur weak-signal communication activity including terrestrial and Earth-Moon-Earth communications and propagation beacons.

There is growing interest among radio amateurs in experimentation, investigation of propagation phenomena, point-to-point communication and space communication in this band.

IARU requests that existing and future amateur use in this band be protected with special attention to the bands 5 760 to 5 765 MHz and 5 830 to 5 850 MHz.

*Agenda Item 1.13, IMT*

IARU supports no change (NOC) at 47-47.2 GHz. This narrow primary allocation to the amateur and amateur-satellite services, made at WARC-79 when the first terrestrial allocations above 40 GHz were agreed, is the only spectrum in which amateur experimentation with millimeter wavelengths can be conducted without practical constraints imposed by sharing with other services. Any identification for IMT in the frequency range 24.25-27.5 GHz should be accompanied by protection for the primary amateur and amateur-satellite allocation at 24-24.05 GHz, similar to what must be provided for the passive services below 24 GHz.

*Agenda Item 1.15, 275-450 GHz*

Resolution 767 (WRC-15) recognizes that the amateur service is developing and demonstrating applications above 275 GHz. As studies proceed to identify candidate frequency bands for other services in the frequency range 275-450 GHz the IARU supports maintaining access for non-commercial experimentation by stations in the amateur service to as much of the frequency range as possible, consistent with the protection of the passive and other active services.

*Agenda Item 4, review of resolutions and recommendations of previous conferences*

IARU supports the revision of Resolution 641 (REV.HFBC-87) proposed by the High Frequency Co-ordination Conference in ITU-R Study Group 6. Resolution 641 prohibits the broadcasting service from operating in the band 7 000 to 7 100 kHz. WRC-03 reallocated 7 100 to 7 200 kHz from the broadcasting service to the amateur service as part of a realignment of allocations between 7 100 kHz and 7 450 kHz. The conditions that led to the adoption of Resolution 641 still exist and now apply to the 7 000 to 7 200 kHz band.

*Agenda Item 9, issue 9.1.6, wireless power transmission for electric vehicles (WPT-EV)*

When new technology is developed that generates RF energy it is essential that adequate protection of radiocommunication services be included in the system design. WPT-EV involves very large amounts of RF power and involves components connected in a system with associated power supplies and control equipment. The spurious emissions from all these system parts must be carefully controlled to avoid degrading the radio spectrum and causing interference to radiocommunication services in accordance with RR 15.12 and RR 15.13.

Sources of emissions on frequencies other than the fundamental frequency of WPT-EV could include:

- High order harmonics of the fundamental WPT frequency
- Phase noise from the frequency control circuits (“jitter”) causing wideband noise
- Spurious signals from the switch-mode power supply on all control and power ports – conducted and common mode
- Common mode signals on control cables and power lines from data communication networks associated with the control of the unit

To ensure adequate protection to authorised radio services, proper compatibility studies must be conducted. IARU regards cooperation between ITU and standards organizations to be essential in the evolution of standards and frequencies for WPT-EV operation.

*Agenda Item 10, items for inclusion in future WRC agendas*

No future agenda items for new or harmonized spectrum allocations for the amateur services are being sought at WRC-19. This position does not preclude seeking specific allocations in the unallocated spectrum above 275 GHz if allocations to other services are considered.

IARU is carefully monitoring proposals for future agenda items that may impact existing amateur and amateur-satellite allocations.

---