VHF managers open meeting

Agenda

- Questions
- Other issues… your input
- WRC-19 – overview IARU initiatives

Compilation of Questions SM & OZ

- Reporting in NAC with FT8 to be clarified
  - Currently it is not possible to send the complete locator, ex. JO45VW, but only JO45.
  - Only for 50MHz, IARU have decided to accept 4 sign locators (e.g. JO45) from outside of Europé. Calculation will then be made from ”MM” (e.g. JO45MM)

- What defines a QSO?
  - With the advance of FT8 and auxiliary programs it is now possible to make machine generated QSOs. Where is the border between machines talking to each other and radio amateurs making a contact?

Questions SM & OZ

- NAC and MGM?
  - In OZ MGM is now allowed in NAC.
  - Does the rules to be changed?
  - Is there a need for coordination among the Nordic countries?
- Status on 13cm (all)?
- The new Region 1 VUSHF contest working group.
  - General info about is work and discussion if specific input form the Nordic countries is needed.

Questions SM & OZ

- Unofficial callsigns in VHF (and up) contests.
  - D1DX (Donetsk) have participated in 50MHz contests.
  - Coordination with IARU R1 Contest WG: OK as long as DXCC is not used for points.

- Reverse beacons on VUSHF.
  - Based on the experience from HF, should we start looking at reverse beacons on VUSHF. Is this at all compatible with current band plans?

Questions LA - Challenges on 2m & 70cm

- Common Nordic definition of a Hotspot (DV)
  - Criteria for establishing a Hotspot
  - Power and coverage (antenna)
- Common Nordic definition of a Repeater (FM/DV)
  - Criteria for establishing a Repeater
  - Special license / Callsign, or not
- Common configuration of APRS (Digipeater and IGate)
  - Reference «New n-N Paradigm» by Bob Bruninga / WB4APR
  - Common understanding of capabilities and use
  - Ensure no-one establishes a «Receive-only» IGate

Questions Others?

- Xxxxx

WRC-19 – overview IARU initiatives

- Extension of 50MHz amateur radio band
  - 50 - 54 MHz (Secondary)
- Future IMT
  - 24,0 – 24,52 GHz (24,0 – 24,05 GHz primary, 24,05 – 24,52 GHz secondary)
  - 47,0 – 47,2 GHz (Primary)
- Mobile services, wireless access systems (WAS), local area networks, ISM (industrial scientific and medical)
  - 5,65 – 5,85 GHz (Secondary)
- Wireless Power Transfer – WPT (low band HF)

WRC-19 - Agenda Item 1.1

- ***to consider an allocation of the frequency band 50-54 MHz to the amateur service in Region 1, in accordance with Resolution 658***

The resolution identifies the following tasks:

- to study spectrum needs in Region 1 for the amateur service in the frequency band 50-54 MHz;
- taking into account the results of the above studies, to study sharing between the amateur service and the mobile, fixed, radiolocation and broadcasting services, in order to ensure protection of these services.

IARU Position on AI 1.1

The IARU supports modification of the Table of Frequency Allocations to allocate the band 50-54 MHz to the Amateur Service on a primary basis in Region 1.

WRC-19 Agenda Item 1.13

- ***to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 238***

The part of the resolution that is of concern to the IARU reads:

- to conduct and complete in time for WRC-19 the appropriate sharing and compatibility studies, taking into account the protection of services to which the band is allocated on a primary basis, for the frequency bands: 24.25-27.5 GHz, 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz, which have allocations to the mobile service on a primary basis; and
- 31.8-33.4 GHz, 40.5-42.5 GHz and 47-47.2 GHz, which may require additional allocations to the mobile service on a primary basis

Amateur allocations:

24,0 – 24,05 GHz pri, 24,05 – 24,25 GHz sec;
47 – 47,2 GHz pri, 77,5 – 78 GHz pri, 76 - 77,5 and 78 – 81 sec.

IARU Position on AI 1.13

- The IARU is of the view that the spectrum requirements identified for IMT in the frequency range between 24.25 GHz and 86 GHz can be fully met in the frequency bands that are already allocated to the mobile service on a primary basis, and do not justify the allocation of 47.0-47.2 GHz to the mobile service.

- This narrow primary allocation is the only spectrum in which amateur experimentation with millimeter wavelengths can be conducted without practical constraints imposed by sharing with other services.

- Therefore, the IARU opposes additional allocations in this band to other services, including the mobile service. If either or both of the bands that are adjacent to 47.0-47.2 GHz are identified for the terrestrial component of IMT, suitable emission limits must be included in order to ensure the protection of existing and future amateur and amateur-satellite stations in the 47.0-47.2 GHz band. IARU is further of the view that any allocation to IMT in the frequency range 24.25-27.5 GHz shall include full consideration and protection for the amateur and amateur-satellite service's primary allocation at 24-24.05 GHz.

WRC-19 Agenda Item 1.16

to consider issues related to wireless access systems, including radio local area networks (WAS/RLAN), in the frequency bands between 5 150 MHz and 5 925 MHz, and take the appropriate regulatory actions, including additional spectrum allocations to the mobile service, in accordance with Resolution 239

Relevant parts of Resolution 239 says:

invites ITU-R

b) to conduct studies with a view to identify potential WAS/RLAN mitigation techniques to facilitate sharing with incumbent systems in the frequency bands 5 150-5 350 MHz, 5 350-5 470 MHz, 5 725-5 850 MHz and 5 850-5 925 MHz, while ensuring the protection of incumbent services including their current and planned use;

e) to also conduct detailed sharing and compatibility studies, including mitigation techniques, between WAS/RLAN and incumbent services in the frequency band 5 725- 5 850 MHz with a view to enabling a mobile service allocation to accommodate WAS/RLAN use;

f) to also conduct detailed sharing and compatibility studies, including mitigation techniques, between WAS/RLAN and incumbent services in the frequency band 5 850-5 925 MHz with a view to accommodating WAS/RLAN use under the existing primary mobile service allocation while not imposing any additional constraints on the existing services,

5 GHz Amateur Allocations

5 560	**- 5 830 MHz**	**Amateur service, secondary**
5 830	**- 5 850 MHz**	**Amateur service, Amateur-satellite service (space-to-Earth), secondary**
5 850	**- 5 925 MHz**	**Amateur service, secondary**

Footnotes

Part of 5.282

In the 5 650-5 670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. **5.43**). Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. **25.11**. The use of the band 5 650 - 5 670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.

Part of 5.150

The band: 5 725-5 875 MHz (centre frequency 5 800 MHz) is are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. **15.13**.

IARU Position on AI 1.16

Expansion of WAN/RLAN activities below 5 650 MHz would not be expected to impact radio amateur activities either terrestrially or via amateur satellites. However, expanded RLAN activities in the frequency range of the amateur secondary allocation, 5 650 to 5 850 MHz, would be expected to raise the noise floor particularly if higher powers, outdoor operation or different protocols were used.

We are therefor giving priority to protect the following segments/activities:

- 5 650 to 5 670 MHz as used for earth-to-space satellite uplinks.
- 5760 to 5 765 MHz as used for weak-signal communication activity including terrestrial and Earth-Moon-Earth communications and propagation beacons. Expansion of RLAN usage, were it to result in raising the noise floor, will be detrimental to these activities.
- 5 830 to 5 850 MHz as used for space-to-earth downlinks from amateur satellites.
- Generally, the Amateur radio Service (ARS) is concerned that expansion of RLAN operations in 5 650 to 5 850 MHz might have negative consequences to several important ARS activities including public protection and disaster-relief.

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

Current status on AI 1.16

- We are first of all seeking to protect to the extent possible our activities in our secondary allocations from 5 650 to 5 850 MHz in all three Regions and to 5 925 MHz in Region 2. In these ranges we are engaged in weak-signal work including EME activities, in broadband mesh networks - often using re-purposed RLAN equipment - and in satellite links including planned amateur geostationary satellites.

- In addition to describing where our main activities are in the 5 GHz band, we have managed to get the technical characteristics of the amateur radio and amateur satellite service in to the "Working Document Toward a Preliminary Draft New Report on RLAN Sharing in 5 GHz". This document will, when complete, be the basis for sharing between services, but unfortunately it seems like only sharing with primary services will be studied in detail.

WRC-19 Agenda Item 9 issue 9.1.6

Wireless Power Transmission (WPT)

Studies concerning Wireless Power Transmission (WPT) for electric vehicles according to Issue 1) in the Annex to Resolution 958

IARU fears «radio noise» from such WPT-installations since they eventually will become common in almost every house.

We do not fear so much the proposed primary frequency (suggested near 90 kHz) but mainly the spurious and harmonic emission/noise from the WPT-signal as well as from the WPT-installation with its control cables and switch mode power supplies (switching more than 100 A).

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What is WPT(EV)?

WPT(EV) in the home environment

- Charges the car through induction via a pad under the vehicle, rather than “plug-in”
- Power levels from 3.3 to 22 kW
- Likely to operate around 85 kHz. The harmonics could cause severe interference to local radio reception – both amateur and broadcast.
- Charge times of 3-12 hours
- 5 installations per hectare (=never more than 20m from one)
- Frequency stability and phase noise uncertain
- CEPT intends to classify as a “Short Range Device” (SRD)
- SRDs are not permitted to cause interference to radio services

Thank you