



RSGB Microwave Manager's Spectrum Forum Report

October 2016

The Microwave Manager is responsible for amateur bands at 23cm and above and also acts as the liaison with Ofcom on beacon applications. Current duties also include some IARU/international matters.

Highlights:

- a) Microwave Manager volunteer vacancy filled.
- b) Some long delayed Beacon applications unblocked and now appearing on air.
- c) NoV draft approved by Ofcom for >275 GHz innovation bands.

Lowlights:

- a) UK considering early action to release more 5GHz spectrum for WiFi.
- b) Attention on the potential for commercial release of the remaining part of the 13cm band will continue.

Actions Arising: (From the 2015 Spectrum Forum Minutes) - None

General Activity:

- Handover from the acting Microwave Manager to the new post holder is underway.
- Contact established with Hans Blondeel Timmerman PB2T representing IARU Region 1.
- First Microwave Manager "public outing" at the Crawley Microwave round table (Sept 2016) with an introductory presentation.
- Assisted with the development of information material and consultation responses to Ofcom on the 5GHz RLAN extension proposal and the information gathering on the 47GHz band for development of the UK view on this band in the WRC-19 AI 1.13 preparation.
- Monitoring the international spectrum management negotiations relating to WRC-19.
- 5GHz responses to Ofcom available here:
<https://www.ofcom.org.uk/consultations-and-statements/category-1/5-GHz-Wi-Fi>

General Comments:

WRC-15 Outcomes

Pressures and threats continue to impinge on the amateur radio spectrum allocations as a result of commercial developments and national and regional policy initiatives. Just after the 2015 Spectrum Forum meeting, WRC-15 concluded and has set the scene for ongoing studies and negotiations relating to new spectrum usage identifications to be finalised at the WRC-19. In particular (relating to bands above 1 GHz):



WRC-19 Agenda Item 1.16 – addressing regulatory actions and new spectrum allocations to enable Wireless LAN (Wi-Fi) systems in the frequency bands between 5150 and 5925 MHz. The whole UK **6cm band** is within this range, but has a secondary status in the Radio Regulations.

WRC-19 Agenda Item 1.13 – to identify new higher frequency bands for next generation mobile (5G) in the range 24.25-86GHz. One range specifically identified for study covers 45.5-50.2 GHz including the primary amateur band **47-47.2 GHz**. It is noted that this range will also require a Mobile Service allocation in the Radio Regulations. Resolution 238 from WRC-15 refers.

The framework for preparing both the UK line and the CEPT European line on these WRC agenda items is established through the Project Teams of the Conference Preparatory Group for CEPT. The IARU is formally represented in these activities and informally RSGB members continue to monitor developments whilst participating in other delegations.

At the time of reporting no substantive discussion relating to the AI 1.13 47-47.2 GHz band has taken place and initial indications suggest this band is not a high priority for neither proponents of next generation mobile nor the involved policy makers. The Society has though submitted a 47GHz briefing paper at Ofcom's request. Additionally the amateur service use of the 5GHz band has not yet featured in the AI 1.16 discussion due to the secondary status (and may not).

IARU Regional Conference Preparation

A consultation is open on inputs for the September 2017 IARU-R1 General Conference. See www.rsgb.org/iaru-2017-consult

Overall the process to develop submissions covers three stages:-

- Stage-1: Call for Inputs (Sep-Dec 2016)
- Stage-2: Discussion of UK Draft Papers prior to submission (Jan-Apr 2017)
- Stage-3: Discussion of All Submissions, including from other countries (Summer 2017)

No microwave proposals were on the RSGB Consultation Forum at the time of writing.

Microwave Bands Review

1.3 GHz:

Some beacon applications were unblocked but others remain.

2.3 GHz:

The revised UK amateur allocation is in force as part of the Public Sector Spectrum Release (PSSR) in the range 2350-2390 MHz. Some 247 NoV's have been issued for use of the 2300-2302MHz part of the band. The PSSR auction continues to be delayed following UK cellular operator merger discussions. No new timetable yet. European harmonisation measures for mobile cellular communications in this band also continue to be delayed.



UK Government Investments (UKGI) is evaluating new targets for the release of public sector spectrum below 10 GHz by 2022 with some earlier around 2020. The **2300-2350 MHz** band is within the scope.

Note: See the comments in the AMSAT-UK report regarding difficulties experienced in the **2400-2450 MHz** range.

3.4 GHz:

The spectrum immediately adjacent above 3410 MHz is the subject of the same delayed Public Sector Spectrum Release programme applicable to the 2.3 GHz band. A new timetable is pending. In the meantime the intensity of discussion around the likely use of this band above 3410 MHz for next generation mobile networks (5G) is resulting in its identification as a European 5G “pioneer band”. New systems are likely to be wider bandwidth than current technologies (creating a concern regarding out of band emissions).

5.7 GHz:

See the WRC-15 outcomes above. This amateur allocation is secondary and therefore may not be recognised for detailed study in the WRC preparatory work. However Ofcom has been sounding out support for an early proposal to extend the Wi-Fi allocation across the region that includes the amateur and amateur satellite activity in the UK. This resulted in RSGB and other responses

5725-5925 MHz also within the scope of the UKGI activity reported above under the 2.3GHz band.

10 GHz:

This band was dropped from the proposals for next generation mobile networks (5G) consideration at the WRC-15.

24 GHz:

WRC-19 preparatory studies will consider the suitability of the immediately adjacent frequencies from 24.25GHz and upwards for next generation mobile networks (5G).

47 GHz:

See the WRC-19 Agenda Item 1.13 comments above.

77 GHz:

WRC-15 upgraded the radiolocation service in **77.5 – 78 GHz** to become co-primary with one of the segments for the Amateur and Amateur Satellite services. Automotive short range radar applications are foreseen in this range, migrating from 24GHz.

122 GHz:

New activity in the band noted.

134 GHz and above:

No issues to report.



>275 GHz:

After a two year process, the RSGB received the final Ofcom NoV draft for >275 GHz access on the 9th October.

Although it has some restricted bands and zones around astronomy sites, it will otherwise permit access from a home address and any predefined location (similar to the 2300-2302 NoV). Applicants will be able to get their NoV from the RSGB website and be allowed to have 100mW transmit power.

The RSGB will be publicising the new opportunity and the specific details very soon.

Any innovation in the use of these bands should be publicised heavily.

Beacons /NoV's

Not yet up to speed with this topic.

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