



RSGB Microwave Manager Report Oct 2018

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.

Actions Arising: (From the 2017 Spectrum Forum Minutes) - None

Summary:

- WRC-19 preparatory activity has increased in intensity during 2018 with attention focussed on AI1.15 (THz bands), 1.16 (5GHz) and 10 (New Agenda Items).
- Early 5G initiatives in the UK and Europe could bring both threats and opportunities for the amateur service (in particular relating to the 3.5 GHz and 24 GHz bands).
- Input to the RSGB response to the Ofcom WRC-19 consultation. The final RSGB response can be found at: (https://rsgb.org/main/files/2018/06/180912_WRC-19_RSGB-Response.pdf).
- Three UK microwave round table events attended during 2018.
- IARU support provided with the delivery of CEPT public consultation comments opposing the revisions to the European Common Allocation table in the range 3 400 -3 600 MHz.
- Parts of the 2.3 GHz and 3.4 GHz bands were auctioned for commercial mobile broadband during 2018.
- Some progress on microwave beacon application approvals.

General Comments:

1) Commercial use awards in the 2.3 GHz and 3.4 GHz bands

In April 2018 Ofcom concluded the auction process and awarded the licences for broadband wireless applications in the 2.3 GHz and 3.4 GHz bands adjacent to the UK amateur allocations:

Winning bidders to whom licence granted	Frequencies	Total base price ¹	Additional prices ²	Licence fees paid ³
EE Limited	3540 – 3580 MHz	£302,592,000	£1,002,000	£303,594,000
Hutchison 3G UK Limited	3460 – 3480 MHz	£151,296,000	£13,133,000	£164,429,000
Telefónica UK Limited	2350 – 2390 MHz	£205,896,000	N/A	£205,896,000
	3500 – 3540 MHz	£317,720,000	0	£317,720,000
Vodafone Limited	3410 – 3460 MHz	£378,240,000	0	£378,240,000

Discussions within the UK government and associated bodies continue to consider public service spectrum in the 13cms band below 2350 MHz which remains in the spotlight for a possible future release strategy (not necessarily for MNO use).

NoV's can still be requested for the continued use of the 2300-2302 MHz segment in the UK including some crown dependencies.

2) WRC-19 Preparation

The Microwave Manager supported the IARU WRC-19 preparatory process for WRC agenda items 1.15 and 10 mainly.

An IARU contribution on AI1.15 was developed and delivered to the CEPT WRC preparatory project team PTA. This successfully ensured that amateur service will continue to gain access to the bands above 275 GHz without any new restrictions if new bands are identified for land mobile and fixed service use between 275 and 450GHz at WRC-19. The draft CEPT Brief and ECP (European Common Position) both reflect this outcome.

The amateur and amateur satellite service use of the 5 GHz band does not feature in the European AI 1.16 discussion due to its secondary status. Developments during 2018 suggest that for most of the 5GHz sub-bands under consideration no revision of the radio regulations will be supported. For the range 5 725 – 5 850 MHz some countries (including the UK) are proposing a footnote to add the mobile service on a primary basis in some countries in Europe.

Initial comments were provided to a proposal for the agenda of WRC-23 from the European Commission on the band 1260-1300 MHz. Further discussion will take place in 2019.

In the preparatory work on AI 1.13 the discussion and interest in the frequency ranges that encompass the amateur 47-47.2 GHz band continue to suggest it is not a high priority for either the proponents of next generation mobile or the involved policy makers.

The process for preparing the CEPT European line on WRC agenda items is established through the Project Teams of the Conference Preparatory Group for CEPT. The IARU positions are



formally documented in these activities and RSGB volunteers continue to assist the IARU to monitor developments and provide their expertise when needed.

Microwave Bands Round-up

1.3 GHz:

Discussions in Europe have opened regarding spectrum sharing between the amateur service and GNSS services in the range 1 260 – 1 300 MHz.

2.3 GHz:

The revised UK amateur allocation continues in force following the Public Sector Spectrum Release (PSSR) in the range 2 350-2 390 MHz. NoV's are in force for use of the 2300-2302 MHz part of the band and these can still be renewed for a further three years.

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 2 300-2 350 MHz band is within the scope with some strong interest in developing 2 345 – 2 350 MHz for emergency service applications in the UK. In addition the range 2 290 – 2 400 MHz is under investigation as a tuning range in CEPT for future railway communications.

Some IARU member societies are proposing identification of a new/alternative narrow band centre of activity above 2 400 MHz.

3.4 GHz:

Even though the range 3 400 - 3 410 MHz was not included in the recent UK 3.4 GHz award, the band 3 400- 3 600 MHz has been identified as a priority 5G pioneer band. The IARU successfully argued to retain the amateur service in the European Common Allocation (ECA) table however the band has been removed from the footnote ECA 17 that requests administrations to be mindful of low level amateur signals in certain bands. The footnote now covers only 5.6 GHz and 10 GHz.

5.7 GHz:

No new developments beyond the WRC-19 preparatory considerations (AI 1.16).

10 GHz:

No new developments.

24 GHz:

The band immediately above at 24.25 – 27.5 GHz has also been identified as a pioneer band for 5G in Europe. To this end ECC Decision (18)06 has been published. This includes 5G band plans and emission limits to protect services in adjacent bands. Although the amateur service is not specifically included the earth exploration passive sensor band interests below 24 GHz have driven stringent unwanted emission limits in the band 23.6-24 GHz that are helpful to the amateur service.

47 GHz:

Remains within the scope of the WRC-19 Agenda Item 1.13 discussions. See the comments above.



77 GHz:

No new regulatory developments.

122 GHz:

No new regulatory developments.

134 GHz and above:

No new regulatory developments. However new operating records are being set in these bands.

>275 GHz:

The NoV process is open for >275 GHz access. Experimentation in the 288 GHz band has been publicised.

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October 2018