

Ofcom Consultation:

Improving Spectrum Access for Wi-Fi:
Spectrum use in the 5 and 6 GHz bands

Response by the Radio Society of Great Britain

20th March 2020

This response to the above Ofcom consultation document is from the Radio Society of Great Britain (RSGB, www.rsgb.org) on behalf of its members and the wider Amateur Radio community in the UK. The latter includes both individual operators as well as a variety of special interest groups, including the UK Microwave Group (UKuG), AMSAT-UK and British Amateur Television Club (BATC) who have a particular interest in this frequency range.

The RSGB is recognised as one of the leading organisations in the world in the field of amateur radio. It collaborates with its fellow national societies via the International Amateur Radio Union (IARU) through IARU Region 1 (www.iaru-r1.org).

Amateur radio is a science-based technical hobby enjoyed by over three million people worldwide. From a statutory point of view, it is fully recognised by the International Telecommunication Union (ITU) as a Service and is listed in the ITU Radio Regulations as the Amateur Service and the Amateur Satellite Service.

Amateur radio is a hobby that promotes experimentation and innovation in radio techniques and propagation. The 5GHz band is home to a significant and growing amount of innovative amateur and amateur satellite usage. However, it is also subject to long standing UK-specific restrictions. In this regard, we are disappointed to see a lack of recognition of amateur usage as well as the restrictions on it.

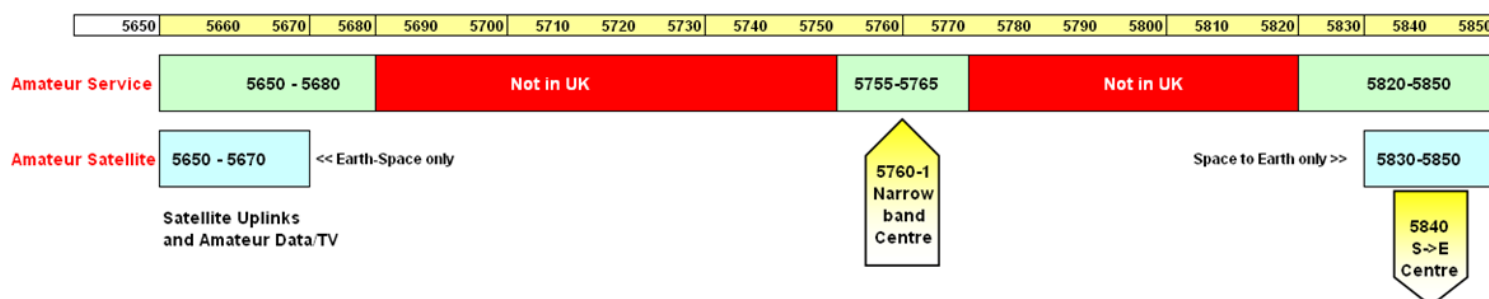
We hope that this input improves Ofcom's awareness and prompts further policy consideration regarding improving spectrum access for all stakeholders - and not just Wi-Fi.

General Comments on this Consultation

In addition to our specific answers in the next section, we take the opportunity here to provide some background and improve awareness of a key stakeholder in the 5GHz band.

We note that the amateur service and amateur satellite service have not been recognised as a user and stakeholder in this Ofcom consultation.

The 5GHz band supports a wide variety of radio amateur usage including data, video, weak-signal long distance terrestrial and spaceborne systems. The current amateur allocations are illustrated below, including the UK-specific restrictions on the amateur service compared to the ITU-R and CEPT frequency allocation tables.



UK amateur service and amateur satellite service allocations, usage summary and restrictions

In brief:-

- Our most sensitive weak-signal bands are within the 5725-5850 MHz range. Terrestrial narrowband usage and propagation research is centred around 5760MHz and satellite downlinks at 5840 MHz. These frequency centres are recognised by CEPT allocation footnotes ECA17 and ECA23. Furthermore, such applications and frequencies are globally harmonised in all ITU regions.
- In the lower 5650 MHz segment are most of our wider bandwidth data and video applications. Unfortunately, the UK-specific restrictions to the amateur service result in small discontinuous segment, which significantly impedes innovative amateur mesh, and ad-hoc networking (typically by adapting 802.11 equipment) which would be of particular value in local communities. The available allocation restricts amateur usage to just one single narrow channel (Ch-132 at 5650-5670) which given the relatively low power of adapted equipment is highly restrictive and hard to justify.

Consultation Questions & Answers

Question 1: Do you have any comments on our proposal to open access to the 5925-6425 MHz band for licence-exempt Wi-Fi use?

The RSGB takes a positive view of the objectives behind such an initiative.

Question 2: Do you have any comments on our technical analysis of coexistence in the 5925-6425 MHz band?

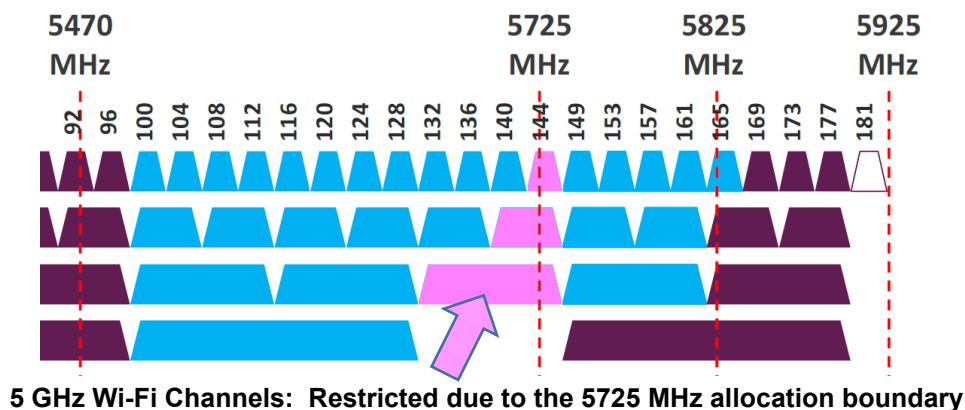
No comment

Question 3: Do you agree with our proposal to remove DFS requirements for indoor Wi-Fi up to 200mW from the 5725-5850 MHz band?

It is not clear how such exempt devices would be prevented from outdoor usage. If the latter were to occur in large numbers, this may result in significant interference to weak-signal receivers in Primary and Secondary services including the amateur and amateur satellite services.

Question 4: Do you have any comments on other options that may be available for Wi-Fi and RLANs within the 5 GHz band?

In a previous 5GHz consultation input in 2016 [1], we asked Ofcom to consider a new option around 5725-5730 MHz.



At present, some Wi-Fi channels in this range are not available as they overlap the current 5725 MHz boundary. However, a small re-alignment to 5730 MHz (which is low risk) would enhance availability of Wi-Fi channels below 5730MHz. This would have the dual benefit of improving spectrum access for Wi-Fi, as well as mitigating demand for the more sensitive applications above including amateur usage at 5760 and 5840 MHz.

Reference:

- [1] Improving spectrum access for consumers in the 5 GHz band
<https://www.ofcom.org.uk/consultations-and-statements/category-1/5-GHz-Wi-Fi>