

Title:

Mr

Forename:

David

Surname:

Ackrill

Representing:

Self

Organisation (if applicable):

What additional details do you want to keep confidential?:

No

If you want part of your response kept confidential, which parts?:

Ofcom may publish a response summary:

Yes

I confirm that I have read the declaration:

Yes

Additional comments:

I currently have equipment for the 2.3GHz Amateur band and would like, eventually, to use 3.4GHz. I have also used Amateur TV on the 1.3GHz and 2.3GHz bands.

I am a member of the UK Microwave Group

Typical use is narrow band modes such as CW and data modes such as WSJT.

Question 1: Do you agree that it is likely that the benefits to UK consumers and citizens will be greater from the MoD's release of spectrum in the 2.3 GHz and 3.4 GHz release bands than from retaining the current amateur use?:

The amateur and amateur satellites services are non-commercial, it is therefore difficult to compete on the same terms as an ITU designation comparison to commercial Mobile services. So the question is, in my opinion, unfair.

Whilst it is recognised that the UK benefits significantly from modern rf/microwave

(wireless) technologies – it is not necessarily the case that releases in these particular bands will have significant consumer benefits:-

a) The release of the 2.3/3.4 bands will not make any significant contribution to consumer/citizen priorities which focus on reliable connectivity, hot-spots, rural coverage etc., which is probably better suited to lower frequency bands in the 700 to 900MHz range that have far better reach and building penetration, nor will they have much impact on tablet use etc which is predominantly Wi-Fi based in 2.4GHz and 5GHz. The 2.3 and 3.4 bands will also not be as uniformly harmonised across Europe as other bands reducing the potential benefit to consumers.

b) Spectrum releases require careful technical planning to ensure that there is an overall net benefit, for example those identified by both amateur and commercial responses to the recent separate consultation on LTE vs 2.4GHz exempt use. That quite clearly showed that there is genuine concern regarding damage to valuable consumer use of 2.4GHz Wi-Fi and other exempt devices, from the adjacent 2.3GHz release. It is also disappointing to note that there is no consensus on a single standard for the 3.4GHz band, which would be essential for a successful market in terminals and free roaming for citizens across Europe. Personally, I would prefer the FDD option as that fully respects incumbent government and amateur use of 3.40-3.41 GHz.

c) Apart from exempt Wi-Fi, to date no Time-Duplexed (TDD) wireless broadband spectrum/technologies have succeeded in the market. GSM(2G), UMTS(3G) and LTE(4G) are predominately or exclusively Frequency Duplexed (FDD). No FDD option exists for the 2.3GHz band. Previous examples of TDD have been the ‘unpaired 2GHz’ bands for 3G. These had no interest and have lain idle for many years (as has the 1.4GHz band). Thus it can be argued that such past TDD examples proved detrimental to their original users who were cleared, with no benefit whatsoever to any UK/European citizen. In addition, given the recent auction of the 4G bands (800MHz and 2.6GHz), it can be argued that the industry already has far more spectrum than it can effectively use - or can design into a multi-band handset for consumers. Thus we would argue that more suitable spectrum (which is more harmonised than 2.3/3.4) is already available. It should also be of considerable concern that the number of experienced senior rf engineers in the UK is rapidly declining (and many are licensed amateurs). At these frequencies the self-training aspect of amateur radio is considerable as there is little off-the-shelf equipment. Amateur Radio plays a key development, educational and practical training role at these frequencies that other institutions struggle to. In the past, amateurs have given considerable service to the nation, inspired leading companies such as SSTL etc, underpinned the work force of a raft of UK rf companies and volunteered for the 2012 Olympics. UK Government strategy now has a renewed emphasis re-balancing the economy and engineering skills etc. These bands require a particular mix of design skills and technologies, which are quite different to other frequencies. It is important that a key resource for inspiring and training the next generation of rf/wireless engineers is not extinguished and thus inadvertently undermines the UK’s ability to develop, maintain and exploit wireless technologies for its citizens.

Question 2: Are there current uses in the release bands other than those detailed in RSGB’s band plan and discussed in Section 3 of this consultation?:

In general the Ofcom document (the summary in Section-3 and additional data in Annex-6) appear to have covered existing use quite well. I would like to thank Ofcom for their engagement prior to this consultation in assessing a wide variety of amateur radio material, and undertaking ATV equipment/repeater tests.

Question 3: Are there further consequences of removing the release bands from amateur licences that have not been considered in our analysis?:

If not carefully co-ordinated, a combination of the size and nature of the release bands (particularly in 2.3GHz) and the consequential changes in the adjacent bands, will make obsolete significant sections of analogue ATV frequencies. An initial preference would be to discuss the options for a retune of the analogue repeater inputs as this could be quickly implemented. Moving to more spectrally efficient/filtered digital systems is possible, but that has a high cost and time factor, particularly for the individual Amateur operator.

Question 4: There is an option (although not preferred) to remove access to the adjacent bands, as well as to the release bands. What are the consequences of removing access to the adjacent bands from amateur licences?:

Such action by Ofcom would be serious and, in my opinion, a disproportionate step with a far wider impact than the release bands. ITU and CEPT decisions fully accept on-going use by existing services specifically including the amateur service. In 2.3 GHz the CEPT -FM52 process formally recognises amateurs as a valid incumbent although on a secondary user basis.

Such a decision would more than double the impact on UK users and would also have an impact upon Amateurs in other European countries who use narrowband and ATV modes to make contact with UK Amateurs and rely on reception reports of the UK propagation beacons to indicate improved radio propagation.

It would also cause a considerable write-off of valuable equipment for which there ought to be some potential compensation, as most of the equipment could not be reused, or retuned to other bands.

Question 5: Are there current uses in the adjacent bands other than those detailed in the RSGB's band plan and discussed in Section 3?:

Not that I am aware of.

Question 6: Are there additional mitigation measures which would provide demonstrable proof that amateurs would not cause interference into LTE in the release bands following the release?:

Many, if not all, Amateurs operating on the higher UHF and SHF bands are experienced operators, may be professionally qualified and work in the areas of RF design or implementation of professionally produced equipment and are aware that it is not only desirable to produce clean signals but that this also means that their transmissions are efficient and easier to receive without causing problems to other users of the band, both the Primary users and the Secondary Amateur Radio users.

UKuG, BATC are prepared to extend their existing network of technical support to support Amateurs regarding best practice, filtering, test facilities etc. This would complement existing services such as the RSGB EMC service. Many microwave events (often called roundtables) already feature sophisticated test equipment facilities, so the community is not adverse to self-help to achieve high technical standards.

Enhancing this 'support network' would supplement the inherent nature of amateur activity at these frequencies which sees considerable attention paid to

construction, optimisation, frequency stability, testing etc and eth inherent listen-before-transmit nature of most amateur contacts. Newer repeaters or beacons usually have remote control facilities and some have automated monitoring - again that could be extended for early detection/mitigation of any faults.

Question 7: Do you agree with the proposed process for varying licences following cases of reported interference and our proposal to vary licences should dealing with the number of reported cases become too onerous?:

Ofcom notes that there are very few cases of interference that have been reported. Indeed at times it can be the relatively larger number of amateurs who monitor the bands and alert current Primary Users to unusual operation or fault conditions from professional services. To my knowledge so far there have been no ‘onerous’ cases involving Amateurs on these frequencies.

I also believe that Ofcom already has considerable existing powers to close down or modify the licence of any particular Amateur who causes problems on any Amateur.

Whilst the proposed modification to the main frequency schedule follows established practice, my concern is the additional closedown clause. In my opinion, it creates far more uncertainty than necessary. I also have concerns that it may be open to manipulation, where Amateurs might be unfairly blamed by other organisations or other individuals with a vested interest in order to obtain a band clearance policy.

Question 8: Do you agree with our preferred option?:

I would prefer the option to retain as much spectrum as possible for Radio Amateur use to facilitate flexibility and future innovation and, therefore, agree with Ofcom’s preferred option.

However there is one more option, should spectrum in 2300-2310 (which is allocated by the ITU and CEPT to the amateur service) become available in the UK, I would hope that there would be an opportunity to discuss re-planning the allocations so that there might be benefits both amateur and Primary Users in the long term.

Question 9: Are there additional changes to the Amateur Radio Licence which would assist amateur in lowering the risk of causing harmful interference to new uses?:

I do not think that changing the Amateur licence conditions would lower the risk of causing harmful interference. In fact, it is my opinion that it is likely that the new LTE equipment will produce more interference unless properly specified and the manufacturing processes properly monitored for compliance with regulations.