Title:

Mr

Forename:

Barry

Surname:

Lewis

Representing:

Organisation

Organisation (if applicable):

See additional comments

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:

This response reflects the combined views of amateur licence holders G1EHF, G3TCT,G3TCU,G4SJH and M0RJA.

We welcome this engagement with the amateur stakeholder community by Ofcom, on this important spectrum management discussion. We applaud the effort taken to understand and analyse the amateur community activities in these frequency bands.

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?:

Undoubtedly there would be a general consumer benefit in the release of this spectrum but we must remain mindful of the need to preserve adequate spectrum for the technical developments in amateur radio to continue. Self-training and technical skills are at the core of the radio amateur activities especially when considering use of the frequency bands above 1GHz. Access to these frequency bands provides an unparalleled opportunity for informal investigation that can span disciplines from intricate metal working through to the physics of low noise amplifier devices. Radio amateurs carry out these activities with a minimum of high-tech equipment whilst achieving incredible results under challenging conditions. Therefore it must be possible that there is also an economic benefit to be gained for the UK consumer and citizen arising from the self training and engineering interest that amateur radio can foster often leading to a career in the UK's high-tech industries. Care should be taken not to close this opportunity.
Additionally, it may be prudent to be sure of the LTE community demand for these bands and the ability to really bring the expected benefits to consumers before committing too soon to changes in the radio amateur licence.
Consumer and citizen benefit can only be realized from new uses of the release bands if the market and eco-system are ready to support new uses. Noting for example, that the 2.3GHz band release frequencies are being planned by the CEPT for use in an unpaired frequency band arrangement, it is observed that unpaired frequency band use has not been favoured amongst the mobile broadband community. No other frequency band licensed to mobile operators has been successfully deployed in a mass market deployment based on TDD technology. Examples include:
a) The failure of TDD WiMAX technology to attain mass market take up in the 3.5GHz band across Europe.
b) The lack of any deployment or device eco-system for use of the 2GHz unpaired bands 1900-1920 MHz and 2010-2025 MHz bands, available to mobile operators anywhere in Europe as a part of the original 3Gaward in the 1990's.
Additionally the consumer and citizen benefit can only be realized if the network operators (assuming they will be the beneficiaries of the new frequencies) come forward and are willing to pay for new spectrum resources which will no doubt be awarded through an auction process. For the 2300MHz band, given the uncertainty around the availability and successful deployment of TDD systems it might be by no means certain they will attract new licence holders that can bring the benefits to consumers in a timely fashion. There is uncertainty also around the harmonisation of the band 3400-3600MHz for mobile broadband as the band arrangements have not yet been finalized. This will hamper the development of mass market technology for this band and the ability for service providers to find a vibrant device eco-system to bring the expected benefits to consumers.
Finally these bands will be offered at a time when other better supported resources for mobile networks may be on the near horizon such as the 700MHz band or the 1.4GHz band for Supplemental Downlink.

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?:

We are not aware of any but the radio amateur licence encompasses a wide range of interests.

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

It is expected that the impact will be felt most by those whose interests lie in use of wider bandwidth modes such as TV operation or wide band data links.

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?:

Removal of access to the adjacent bands could have a detrimental and discouraging effect on the key element of the radio amateur principle of technical and propagation experimentation. Access to these frequencies is a key driver for enthusiasts to develop advanced communication techniques and investigate propagation. If removed then access only to the 1.3GHz band would remain between 450MHz and 5GHz. Even though various frequency bands up to 250GHz are available to radio amateurs, none are available on a primary basis between the VHF 144MHz band and the 24 GHz band. As the frequency of operation increases so the challenge to develop high performance and affordable equipment and systems (on an amateur budget) increases dramatically. Along with this the technical difficulty to develop and adapt equipment also increases. Such a large break between the available frequency bands and the step change in perceived difficulty for the development of equipment, may become a disincentive for enthusiastic experimentation. Assured access to an adequate amount of spectrum is essential if the valuable opportunity for radio amateurs is to continue.

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?:

No. Additionally it is agreed that the radio amateur pattern of use for narrow band operations is based on a very short duty cycle using simplex techniques through very narrow beam width antennas. Most operation tends to be away from heavily populated areas often in remote locations on a temporary basis during non-working hours. Therefore it is agreed that the likelihood of interference to both adjacent band users and in- band users is expected to be very low.

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?:

It is likely that the extremely sensitive radio amateur station receiver will be able to detect the undesirable presence of both out of band emissions and receiver blocking effects from the LTE base station operating in the adjacent release bands resulting in an elevated amateur receiver noise floor and receiver desensitisation. Even a few dB's increase in the noise floor is undesirable for amateur operation and the radio amateur will be driven to take measures like additional filters to decrease unwanted receiver effects or re-pointing antennas to reduce the noise floor in the amateur receiver and restore weak signal detection as the primary goal. Both these measures will reduce the probability of interference towards the LTE service from the amateur transmitted signals too.
A radio amateur has no need to start transmitting before receiving.

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?:

Yes so long as the nature of the operation that caused the interference is properly investigated, given that sources of interference other than amateur radio exist in the adjacent bands. If interference is reported then characteristics like the duty cycle and type of the amateur operation should be taken into account. It may be constructive to engage the amateur community to help resolve interference issues. Care should be taken to avoid a blanket closing of the band for radio amateur operations which may be a disproportionate response and could penalize narrow band amateur radio operations that have a very low likelihood of causing interference.

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

Yes, but we prefer not to see this as a UK only solution. Long distance operation is possible using anomalous propagation modes and advanced technical solutions that make communication possible with neighbor European countries. Awards for long distance radio contacts are a key incentive encouraging further experimentation and development.

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?:

We believe the risk of interference from narrow band radio amateur operations is already kept low by the nature and profile of the radio amateur activity in these frequency bands.