ComReg Consultation on:-
Release of Spectrum in the 2300 – 2400 MHz band
Document No: 09/49

Response by the UK Microwave Group
July 2009

About Us

The UK Microwave Group (UKuG, www.microwavers.org) was founded as a representative body for UK amateur radio enthusiasts who operate on the microwave bands. It is affiliated to the Radio Society of Great Britain (RSGB, www.rsgb.org) and the RSGB Spectrum Forum and collaborates closely with Amsat-UK and the British Amateur Television Club and fellow international groups who also have significant interests in amateur band operations at microwave frequencies.

Since its foundation ten years ago UKuG membership has expanded rapidly to several hundred active members and well beyond the UK. Membership includes operators in Ireland (EIs and GI&MIs), mainland Europe, Scandinavia, USA, Australia and New Zealand.

The 2.3GHz band supports the widest variety of operating modes and also sees Amateurs travelling/reciprocally operating, as well as direct long distance international operations (inc terrestrial, moonbounce and satellites). Consequently, the proposals for the 2.3GHz band in Ireland are of significant concern for our members and fellow amateurs.

We would highlight that our response to this consultation is intended to complement that of IRTS, which we fully endorse.

Permission is granted to place this response in the public domain.

General Points in regard of the Consultation

The 2.3GHz band as ComReg admits repeatedly in its own document is not harmonised in Europe for the applications foreseen (nor is it likely to be), nor in particular with usage just across the border/sea with its use in the UK.

It is deeply disappointing that current users are expected to suffer significant loss of spectrum due to a unilateral change of use, for what again would be an Irish-specific solution.

UKuG follows the international scene closely and realises there are number of important commercial developments in the wings such as 3G LTE and Femtocells (more likely in Europe than Wimax). Amateurs like any other citizen consumers are likely to utilise and benefit from these. Thus we strongly believe that the focus for facilitating new commercial systems should be on harmonising 2.5-2.69 and 3.41-3.5GHz in Ireland. These bands are fully harmonised in the rest of Europe (including the UK), and would maximise cross-border roaming, investment certainty, economic benefits, common consumer equipment and would importantly also see all existing users (such as Amateurs, SAB et al) far better protected.

As the more detailed IRTS input indicates there are a wide variety of amateur uses:-

- Long range narrowband operating in the UK, inc Ireland is clustered around 2320 MHz (inc operators, beacons and a fair proportion of EME) – in line with the IARU bandplan. UK Amateurs are currently expanding the 2320 MHz propagation beacon network and the ComReg proposal threatens reception of their weak signals and associated pioneering research which includes new and innovative JT4g modulation developments.

- Due to the nature of international allocations there are also some EME operations in the 2304 and 2396-2400 ranges.

- Due to excessive and growing interference from WiFi, 2400-2450 is barely used and would not be suitable substitute spectrum. Amateur Satellite downlinks are forced to operate at the very bottom of their 2400-2450 ITU allocation to mitigate WiFi interference. In conjunction with adjacent EME use we would therefore be concerned regarding change of use and high omnidirectional ERPs in the 2390-2400 area.

- The 2.3GHz band is the first to have sufficient room (and be free of radars etc) for modern data links, Amateur TV experimentation etc – all capable of showing the Amateurs Services in a highly innovative light to the wider community.

In the event that ComReg does proceed to release the band we fully support the IRTS position that excluding the bottom end to create a national reserve of 2300-2330 would protect the vast majority of Amateur/SAB use and do so in a harmonised manner

In addition the block edge mask (or some form of guardband) is needed so that high powers and spurii do not hit either the 2300-2320 area or the 2395-2400 subband – In that respect we do not agree that the default 2.5-2.69 mask suggested is adequate when a mix of different services are present.

In addition to the above we make the following comments on certain questions:-

Q. 1. ComReg proposes to release spectrum for licensing additional services in the 2.3 GHz band. Do you support ComReg's proposal to release spectrum in the band? Are there other issues, besides those identified above, which ComReg needs to take into account in releasing spectrum in the band? .

Releasing this band should be a last resort not a first one. Priority should be given to releasing the 2.5-2.69 and 3.41-3.6GHz bands first in line with the UK and Europe

Account must certainly be taken of existing users and how those that might be displaced are fully protected or compensated

Q. 7. In order to protect current users of the 2.3 GHz band, ComReg proposes that any potential licences offered in the range 2300 – 2330 MHz would be released on the basis of local area or closed user group licences only.

The range 2300-2330 should be retained for existing users and no new commercial services released in that segment. In addition we seek an adequate guardband or mask mod at the top of the band to protect 2395-2400. Failing this, ComReg should consider complying with the EU Allocation tables and offer Experimenters access to 3400-3410MHz in line with ECA Table allocation footnote EU17 which is increasingly widely allocated to amateurs around Europe and beyond for weak signal operations (inc very successful EME)

Q. 10. Do you agree with ComReg's proposal to make licence duration of spectrum in the 2.3 GHz band between 10 - 15 years long?

This could result in long term disadvantage for harmonisation given that the UK and Europe will be releasing other bands for commercial services quite soon as noted in our earlier responses

Q. 13. In your view what would be the most appropriate channel spacing for the 2.3 GHz band?

Channel spacing should account for the probable need for guardbands or mask mods to protect existing services in adjacent blocks
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Q. 15. Do you agree with ComReg's proposal to adapt the Block Edge Mask that applies to the 2500 – 2690 MHz band to the 2.3 GHz band, once a channel bandwidth has been agreed?

We advocate that a specific BEM or guardband is incorporated into the bandplan so that existing adjacent users do not suffer harmful interference or high spurii levels. The current proposal is unsuited when differing services are adjacent to each other