

**Ofcom consultation on the UK preparations for the
World Radiocommunication Conference 2015 (WRC-15)**

**Joint response from the Radio Society of Great Britain,
UK Microwave Group, Amsat-UK and BATC.**

September 2014



Introduction

This response is a joint one to the above Ofcom consultation document from the Radio Society of Great Britain (RSGB, www.rsgb.org.uk) and its national affiliates who have microwave spectrum interests - Amsat-UK (www.uk.amsat.org), UK Microwave Group (UKuG, www.microwavers.org), and the British Amateur Television Club (BATC, www.batc.org.uk).

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.

We have limited our response to largely those questions that have amateur allocations

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RSGB, Amsat-UK, UKuG & BATC, September 2014

Questions and Answers

Q1: Do you have any comments on the mechanism for UK preparation for WRC-15 and the role of Ofcom in this process?

We have been pleased with our opportunity to participate in both IFPG and the Ofcom delegation for PT-C and ITU-R Working Party 5.

Q2: Do you agree with the prioritisation of the agenda items, as shown in Annex 6, and if not why?

AI 1.4 should preferably be medium rather than low. At international level, the ITU-R resolution and propagation at this frequency specifically recognise its value for emergency communications, whilst even its UK usage uniquely endorses communications with cadets etc as part of training/resilience.

Q3: Do you agree with Ofcom's general approach on WRC-15 agenda item 1.1?

We have been disappointed that rose-tinted forecasting for IMT traffic demands has been allowed to drive the item, when the reality is that existing bands/designations are far from fully utilised.

Q6: For the band 1452 – 1492 MHz, which is already subject to a harmonisation measure within CEPT, do you agree that this band be supported for an IMT identification at WRC-15?

Yes - Since its auction in 2008 the band has lain idle ever since. The 2GHz unpaired IMT bands have also never been used. Therefore we suggest these should in fact be used first for IMT before any other band is designated for similar purposes.

Q7: Recognising the UK plans to release spectrum in the 3400 – 3600 MHz band, coupled with the binding European Commission Decision (for electronic communications services) in the bands 3400 – 3600 MHz and 3600 – 3800 MHz, do you agree that these bands should be supported for both a co-primary mobile allocation and IMT identification?

Not in the 3400-3410MHz range.

Q10: Do you agree that the 5350 – 5470 MHz and 5725 – 5925 MHz bands could provide important additional capacity for Wi-Fi and similar systems? If so, and noting the need to protect both earth observation satellites and radar systems, do you agree that sharing solutions should be considered at WRC-15?

The upper band includes both amateur and amateur satellite service allocations and in particular our most sensitive narrowband weak signal frequencies at 5760 and 5840 MHz for terrestrial and satellite use respectively. Adding either of the two bands will provide negligible consumer benefits given that 5GHz Wi-Fi coverage and building penetration are very poor, whilst raising noise levels to other services to deleterious levels. In the upper band we would advocate not only full mitigation measures such as DFS and TPC, but also a ban on fixed outdoor access points as well.

Q14: Do you have any comments on the potential use by the amateur service in the 5250 to 5450 kHz band?

We are of course strongly in favour of this agenda item. Amateurs in the UK¹ and an increasing number of other countries have had some form of access to the 5MHz band for a considerable time under ITU-R RR4.4 with few if any reports of problems. Our long running 5MHz beacon chain has also provided valuable data on the unique propagation characteristics of the band, which plugs a key gap between our 3.5 and 7MHz allocations.

RSGB is grateful for the cooperation and access to 5MHz that Ofcom and MoD have been able to grant. We are also highly cognisant of ongoing studies in CEPT and are willing to engage further.

Q15: Do you agree that if any allocations to the fixed satellite service in the 10-17 GHz range impose undue constraints on existing services then further studies on the demand and justification for use of the spectrum would need to be carried out?

This item overlaps the popular amateur 10GHz band as well as the EEES proposal (on Q27). We do not support any FSS allocation in the 10-10.5GHz range and furthermore note that the studies to date have failed to account for amateur usage. Should FSS require additional capacity, it should justify and seek it closer to its existing allocations further up the frequency range.

Q18: Do you agree that the UK should not support new allocations for the mobile satellite service in 22-26 GHz as they are not justified and that the focus should instead be upon the continued protection of the incumbent services?

Yes, we agree that with Ofcom (and many others) that incumbent services (include the Primary amateur and amateur satellite allocation at 24-24.05 GHz) should have priority and that an additional MSS allocation is not justified in this range.

Q25: Do you agree that the UK should support a generic radiolocation allocation in the 77.5-78 GHz band, where appropriate technical conditions are established?

Absolutely NOT. The 77.5-78GHz band is an amateur and amateur satellite primary allocation. The agenda item is in itself perverse given that a Primary allocation is totally unnecessary to support an existing license-exempt low power short range device application. ITU studies are based on low power automotive devices (or equivalent transport applications), and none have been performed for more generic high power radars.

It is also unheard of for non-protected SRDs to become Primary, and Ofcom should be cognisant of the wider regulatory risk and precedent that this approach could set for other parts of the wireless spectrum.

Therefore any solution for this agenda item at the very least should stick to the scope of the resolution and not be generic. Alternative solutions such as a secondary allocation to radiolocation should also be considered, so that incumbent primary services are more clearly protected.

¹ Full Licensees with an appropriate Notice of Variation

Q27: Do you agree that it is right to wait for the relevant sharing studies to mature before coming to a final position on the potential for additional allocations to the earth exploration-satellite (active) service in the 8/9/10GHz band?

Like Q15, this overlaps with the 10GHz amateur and amateur satellite services. It is of course entirely right and proper to wait for the conclusion of the relevant studies. There is extensive amateur narrowband usage and all propagation beacons centred on 10368 MHz and we are aware and supportive of exciting new developments by Amsat Groups for new systems in the band (in the 10450-10500 range). Whilst some studies show potential compatibility, far better compatibility could be achieved if any upper EEES extension was restricted to a maximum of 10.25 GHz.

Q38: Do you agree that no specific measures need to be introduced for nano and pico-satellites and that the current approach to their regulation is sufficient?

Our colleagues in IARU and Amsat-UK have extensive interests in nano and pico satellites. We recognise that changes in filing procedures can have unforeseen consequences, but would stress that some parameters cannot be pre-determined by the developers given the nature of the launch opportunities etc and that some modest recognition of this be considered.

IARU Satellite coordinators (<http://www.iau.org/satellite.html>) now expend considerable effort as this is an undoubted innovative and growing activity and they would no doubt be pleased to engage with Ofcom as necessary.

Q42: Do you have any comments regarding UK positions for future WRC agenda items?

RSGB is strongly supportive of the IARU amateur harmonisation item relating to the 1.8, 50 and 3400MHz bands. We thus urge Ofcom to support it in principle and would be pleased to assist in developing this further.

With respect to the 50MHz proposals, the IARU item could form part of a broader update of the Region-1 allocation table, which is long overdue to be updated to reflect current practice. However we do not support the simplistic 47-68 MHz mobile proposal from Sweden, given the extensive usage of 50MHz by amateurs in the UK and worldwide, as well as the lack of any significant commercial interests in those frequencies.

An amateur satellite service at 50MHz would enable both very low Doppler communications and highly innovative propagation and ionospheric research, which could have unusually wide benefits.

At higher frequencies we are deeply disappointed and opposed to the Swedish proposal that would re-open the 1-5GHz range for yet more mobile studies. A recent EU Commission report on the spectrum inventory² explicitly states that no further spectrum is necessary in this range, particularly given that the current mobile allocations are far from being fully utilised.

Finally with regard to the proposal for spectrum for 5G at higher frequencies, it is vital that the scope of this be defined early in any ITU resolution and be confined to existing Primary Mobile allocations (ideally in the ~20-40GHz range, rather than 6GHz-to-daylight), in order to avoid a major open-ended effort like AI-1.1 and unnecessarily threaten further amateur allocations.

² <https://ec.europa.eu/digital-agenda/en/news/commission-report-radio-spectrum-inventory>

Q43: Are there any other possible agenda items you wish to see addressed by future WRCs?

Whilst subject to further development we would also be supportive of a new item for extending the 1240-1300MHz amateur allocations to 1300-1310MHz to alleviate some sharing issues with newer Primary services (such as GNSS). In the UK where 1300-1325 is already available this shows it is possible if carefully coordinated.

Q44: Are there particular frequency bands, above 6 GHz, that should be considered for technical study in relation to the potential future agenda item addressing IMT use?

This item must be a focussed one unlike AI 1.1. Priority should be on existing Mobile bands, perhaps in the 20-40GHz range, along with existing exempt frequencies such as 60GHz (for offload).