



RSGB VHF Manager's Report Nov 2019

The VHF Manager, John Regnault G4SWX is responsible for RSGB spectrum matters for the VHF and UHF amateur bands 50-432MHz.

Highlights:

- The success in securing secondary amateur access to the 50MHz band across IARU R1 at WRC-19, with a footnote for primary status in many countries, including the UK is highly significant achievement for amateur radio.
- As a result of close working with a number of key colleagues from other IARU R1 member societies a French proposal submitted to CEPT, to investigate primary status for the 144MHz band by aeronautical services, was dropped.
- After many years of stagnation in data communications this year has seen the development of 'New Packet Radio' which has the potential to realise a number of new high data rate amateur services.
- A report to Ofcom on the experimental work at 70.5MHz and 146MHz highlighted the latest developments in DATV particularly the transmission of reasonable quality images contained in less than 100kHz bandwidth.
- The temporary experimental spectrum at 70.5-71.5MHz and 146-147MHz will be renewed for another year.

Lowlights

- The general level of traditional VHF/UHF amateur voice activity continues to cause concern. This is particularly a problem with newcomers with cheap equipment who cite the lack of stations active on FM.
- Many of those using and in particular writing software generated data modes seem to have forgotten that transmitting on a frequency that is otherwise occupied (particularly on bands where amateurs only have secondary status) can be a breach of the licence conditions. This has been highlighted to the originator of New Packet Radio but others have ignored requests to build collision avoidance into data communications software!

VHF Spectrum

As a result of WRC-19 the amateur service now has a 'baseline' secondary allocation of 50-52 MHz in the main ITU allocation table for Region 1. A total of 44 named Region 1 countries will now have a primary allocation in all or part of the 50-54 MHz band, including 14 CEPT countries (including the UK), which will have a 500 kHz primary allocation in the ITU table.



This is the culmination of an immense amount of work since 2014 where RSGB volunteers have worked with others across IARU Region 1. In particular the past year has seen many weeks of work put into international VHF matters by the Spectrum Forum Chairman, the Microwave Manager and the VHF Manager.

Part of the amateur case for this formal status of the 50MHz amateur band was the requirement for VHF spectrum for innovative new services. If the case had been based solely upon traditional amateur narrowband usage it is possible that the amateur service might have ended-up with a band 200kHz or less wide. The Russian Federation opted for a 200 kHz secondary allocation covering 50.08-50.28 MHz band. It is now up to radio amateurs to start to use the 50MHz band for new and different applications (RB-DATV, fast >100Kbps data services etc.).

In early June a proposal submitted into CEPT from France for a study to consider the use of 144-146 MHz as a primary allocation to the Aeronautical Mobile service caused alarm across the amateur world. The proposal, drafted by the French defence company Thales notably lacked sound technical and spectrum management arguments. As a result of close working with a number of key colleagues from other member societies, papers outlining the huge potential for mutual interference were submitted by DARC and with RSGB assistance IARU. IARU then followed-up with a request to all member societies in CEPT countries to lobby for their radio regulators to support the amateur case. At a subsequent CEPT meeting the 144-146MHz band was not included in the proposal for ongoing work.

These two issues highlight the very significant workload of defending and developing the amateur bands at VHF/UHF. Without access to the amateur bands amateur radio would cease to exist as a distinct hobby.

The VHF Manager would again like to thank BATC and in particular Noel Matthews G8GTZ for the ongoing work in supporting the RSGB case being made to Ofcom to renew the temporary VHF spectrum allocations at 70.5MHz and 146MHz. The perceived value from such amateur experimentation should not be underestimated as it certainly played a very significant part in the renewal of access to experimental spectrum at 70.5-71.5MHz and 146-147MHz.

Outlook

IARU R1 Conference Novi-Sad 2020

The forthcoming IARU conference is being held in Novi-Sad 10-16th October 2020. The RSGB is currently considering potential changes in the VHF/UHF band-plans in line with our policy of simplification of band-plans rather than establishment of mode specific silos. In the run-up to the Novi-Sad conference the RSGB will thoroughly review and establish a RSGB position on papers submitted by other member societies.

Innovation at VHF/UHF

Yet again BATC has delivered further innovation in reduced-bandwidth DATV. In August 2019 the RSGB report to Ofcom on experimental work at 70.5MHz and 146MHz highlighted the latest developments, particularly the transmission of reasonable quality images contained in less than 100kHz bandwidth. The positive feedback from Ofcom included; *“always impressive to see what can be achieved in VHF aside from voice and 9.6 kbps data rates.”* The temporary experimental amateur spectrum at 70.5-71.5MHz and 146-147MHz will be renewed again for another year.



After many years of stagnation in data communications this year has seen the development of 'New Packet Radio' (NPR) which has the potential to realise a number of new medium data rate amateur services. The first NPR prototype modems use TDMA framing over 2GMSK or 4GMSK modulation at 432MHz and also with modification 146MHz. Significant progress has now been made towards evaluation of medium rate, 350Kbps data communications with tests over 10s of km at 146MHz and 432MHz. However, it appears that the framing developed for NPR could also be applied over other modulation schemes such as LoRa or OFDM.

Amateur radio is in a unique position in having access to spectrum which is dedicated to experimental transmission techniques, we need to make greater use of it.

John Regnault G4SWX, RSGB VHF Manager

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