Subject:	**UK Operation at 5 MHz**		
Society:	**RSGB**	Country:	**United Kingdom**
Committee:	**C4**	Paper number:	**LA17_C4_11**
Author:	**Ian Greenshields, G4FSU**		

Information Paper

1. Introduction

The current 5 MHz allocation in the UK is 71,5 kHz in total, but split across several narrow segments which only partly overlap the WRC-15 segment from 5 351.5 – 5 366.5 kHz. The purpose of this information paper is to show the UK allocation and how it fits in with the WRC-15 band and to explain the guidance given to UK operators to ensure good operating on the band.

2. Background

Radio amateurs in the UK have had access under ITU article 4.4 to frequencies at 5 MHz since 2002. This was initially 5 spot frequencies, later increased to 7, followed by an allocation totalling 71,5 kHz of spectrum in 11 segments of various bandwidths. The maximum power initially of 200 W from the transmitter was later reduced to 100 W from the transmitter and 200 W eirp.

Although the amateur service achieved a global 5 MHz allocation at the WRC-15 conference, this has not yet been implemented in the UK. The RSGB continues to work with Ofcom, the UK regulator, to gain access to the full band. At the moment, UK amateurs only have access to parts of the WRC-15 band, and this is likely to remain the case for the foreseeable future.

3. Current Status

UK operation largely follows the conventions shown below, but exceptions are very common and QSOs on popular frequencies may be found using any mode. Emphasis is made not to transmit outside the UK segments even if amateur signals can be heard as they may be coming from other countries with different allocations. Recommended USB frequencies help ensure compliance with the allocation and attempt to also be compatible with allocations in other countries.

Lower limit kHz	Upper limit kHz	Guidelines on current usage and USB frequencies
5 258.5	5 264.0	CW, 5 262 kHz QRP
5 276.0	5 284.0	USB 5 278.5 kHz EMCOMM CoA
5 288.5	5 292.0	Beacons 5 290 kHz WSPR, moving to 5 366 kHz
5 298.0	5 307.0	All modes. USB 5 298.5 kHz, 5 301 kHz, 5 304 kHz

Lower limit kHz	Upper limit kHz	Guidelines on current usage and USB frequencies
5 313.0	5 323.0	All modes. AM 5 317 kHz. USB 5 320 kHz
5 333.0	5 338.0	USB 5 335 kHz
5 354.0	5 358.0	All modes. USB 5 354 kHz. In WRC-15 band
5 362.0	5 374.5	All modes. USB 5 363 kHz, 5 371.5 kHz. WRC-15 band to 5 366.5 kHz. Weak signal 5 366.0 – 5 366.5 kHz
5 378.0	5 382.0	USB 5 379 kHz
5 395.0	5 401.5	USB 5 395 kHz, 5 398.5 kHz
5 403.5	5 406.5	USB 5 403.5 kHz

Please do not transmit USB on 5 330.5 kHz, **5 357 kHz**, or **5 360 kHz**. Also, **do not transmit CW between 5 351.5 – 5 354 kHz**. These frequencies are commonly used in other countries but are outside the UK allocation.

Notes on the frequency table:

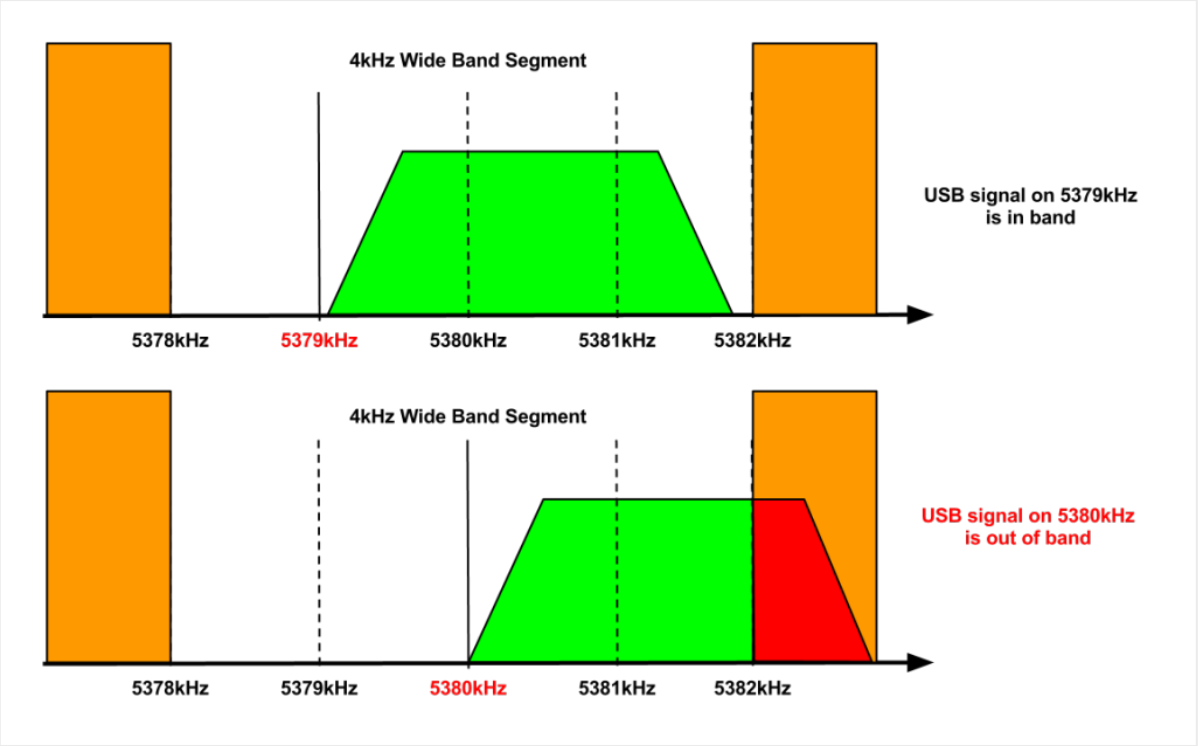
1. The current UK allocation only covers parts of the 5 351.5 – 5 366.5 kHz band. For UK QSOs, try to avoid the busy WRC-15 segment, shown in green above, and leave it available for international contacts or stations with no other option. Common USB frequencies are indicated in the table so either use these frequencies or keep at least 3 kHz away to avoid interference to spot allocations. For example, use 5335 kHz and 5354 kHz so as not to interfere with 5330.5 kHz and 5357 kHz, which are common to many countries but cannot be used in the UK.

2. A band plan for the new 5 351.5 – 5 366.5 WRC-15 band was agreed at the IARU Region 1 Interim Meeting in April 2016 http://www.iaru-r1.org/index.php/spectrum-and-band-plans/hf. The USB frequencies 5 354 kHz and 5 363 kHz shown in the table above are within the all modes segment of the WRC-15 band. The proposed weak signal segment for <20 Hz narrow band modes from 5 366.0 – 5 366.5 kHz also falls within the UK 5 MHz frequency schedule. The segments of the IARU band plan in red below cannot be used in the UK.

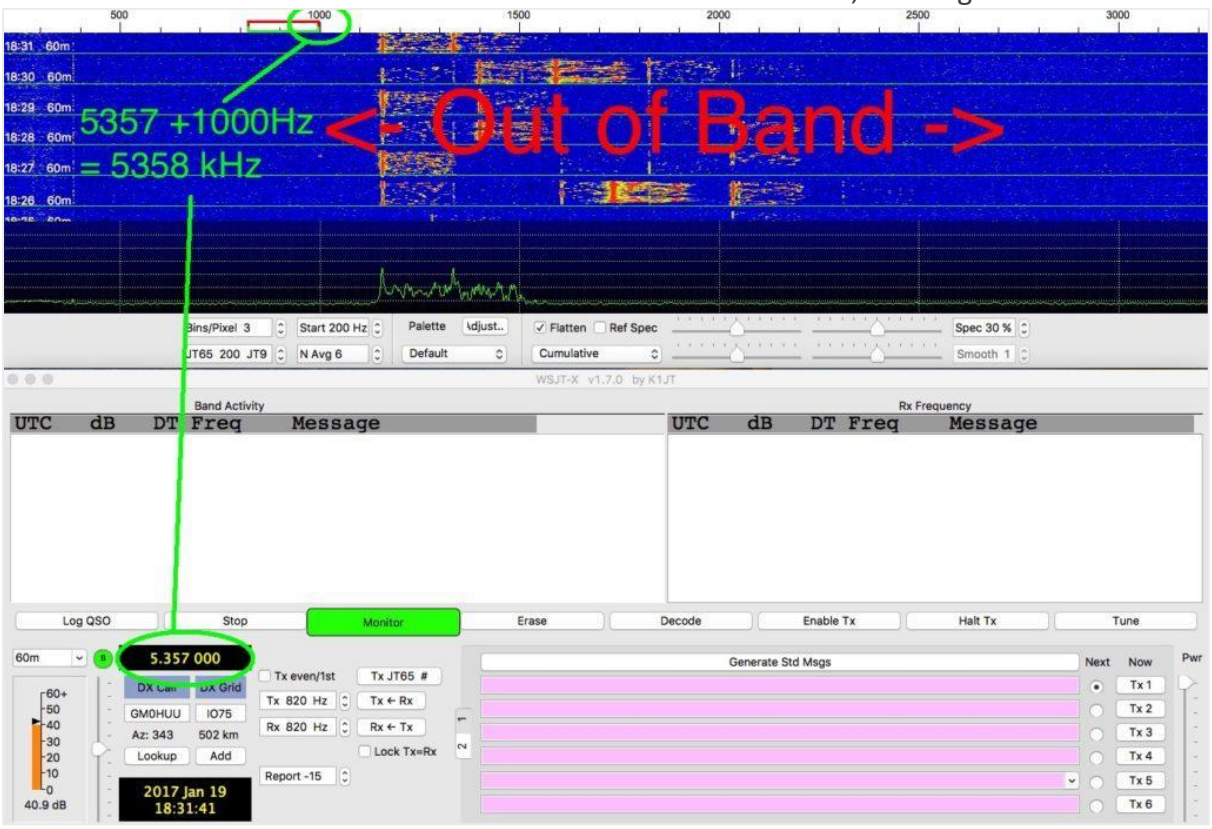
kHz	5 351.5 5 354.0	5 354.0 5 358.0	5 358.0 5 362.0	5 362.0 5 366.0	5 366.0 5 366.5
Mode	CW	All modes	All modes	All modes	Weak Signal

3. Upper sideband is recommended for SSB operation at 5 MHz to preserve compatibility with other services. USB frequencies are suppressed carrier frequency.

4. Ensure that the transmitted spectrum is *completely* within the allocated frequencies. The transmitted spectrum of an upper sideband signal extends from the suppressed carrier frequency, usually also the indicated or dial frequency, to 3 kHz *higher*, so set the frequency at least 3 kHz *below* the top of the band segment. As an example, in the diagram below, the narrow segment of 5 378 – 5 382 kHz is only wide enough for one SSB signal which should be no higher than 5 379 kHz for the signal to remain within the allocation:



Similarly, with digital modes on 5 357 kHz, any transmission greater than 1 000 Hz (1 kHz) on the waterfall will be above 5 358.0 kHz and therefore out of band, see diagram below:



5. AM operation is permitted provided the maximum bandwidth does not exceed 6 kHz. AM activity can often be found on 5 317 kHz.

6. Note that the segment from 5 403.5 – 5 406.5 kHz is only 3 kHz wide. For USB, set the radio to 5 403.5 kHz as any other frequency would result in the transmitted spectrum being out of band.

7. Beacons operate around 5 290 kHz. Except for WSPR from 5 288.5 – 5 289.0 kHz, it would be helpful if operators do not transmit in this narrow segment. Since the release of the WRC-15 band, most WSPR activity has moved to the weak signal segment between 5 366.0 – 5 366.5 kHz.

8. As with the WARC bands at 10, 18 and 24 MHz, there should be no contest activity on 5 MHz.

4. Communications with Military Cadet Stations

Communication with UK military cadet stations is permitted. These stations will identify with callsigns of a different format to amateur calls and they use a concise operating procedure. They are unlikely to give operator names or locations but will often exchange information on equipment and aerials. Whilst military stations may be heard on any frequency around 5 MHz, **amateur stations must *never* attempt to contact military stations outside the frequency allocations above**.