

New Band Plans for New Spectrum

Introduction

IRTS is extremely fortunate that ComReg, the Irish Regulator, as a result of IRTS input to recent consultation processes determined that they were able to release a considerable amount of additional spectrum to the Amateur Service in Ireland.

It is now necessary to discuss with interested parties how the spectrum should be used nationally. The IRTS Committee has therefore convened a sub-committee with the task of developing initial band plans as well as developing and planning suitable beacons for propagation research. This document is intended to start and stimulate the necessary discussions within Ireland as well as with interested parties outside Ireland. The document has been provided to IARU VHF/spectrum managers in countries having frequency allocations or assignments to the Amateur Service in the range 30 - 49 MHz and 54 – 69.9 MHz, as well as to the Chairman of the IARU Region 1 VHF and Microwave Committee.

The New Spectrum available in Ireland

70 MHz

Importantly the current 4 metre 70 MHz band in Ireland has been extended. The band limits are now 69.9 MHz to 70.5 MHz, which means the current IARU Region 1 band plan can be fully implemented. This is an increase of 275 kHz over the existing band of 70.125 to 70.450 MHz and is the full band that may be allocated to the amateur service under the European Common Allocations table. Amateur licensees equipped for 4m will be able to utilise this new spectrum immediately. The FM calling channel on 70.450 MHz will be a welcome addition. An agreement in principle has been obtained from the IARU VHF beacon co-ordinator to move EI4RF on 70.130 MHz to 70.013 MHz in order to make it compliant with the IARU band plan.

Additional spectrum covering all modes including MGM has been granted on a secondary basis at 30 to 49 MHz and 54 to 69.9 MHz. These new frequency bands are listed among the bands available generally to radio amateurs in Annex 1 of a recently revised version of the Amateur Station Licence Guidelines document ComReg 09/45 R4 which is available on the ComReg website.

30 – 49 MHz (8 metre band)

Currently there is no regional or international allocation to the amateur service in this part of the radio spectrum in any of the ITU Regions. However in propagation study terms the absence of reliable continuous and identifiable signals in these frequency bands causes problems and means that the progress of a propagation event starting in the HF range and identified using beacons at 28 MHz cannot be reliably tracked as it progresses towards 50 MHz and onwards towards 70 MHz. Nor can general experimentation take place with amateurs in countries which have a national allocation.

In the 1990s a CEPT DSI consultative process raised this issue as a result of input to the consultation process. They believed that beacons could be located at appropriate geographical sites, chosen in order to minimise the possibility of interference to other radio services. The DSI report queried whether the ISM band centred on 40.68 MHz would be appropriate, the

beacons possibly using frequencies interleaved with on-site paging. It was felt that a secondary allocation to the amateur service would also seem appropriate.

IARU has encouraged national Member Societies to deploy multi-band beacon clusters covering low VHF between about 30 MHz and about 70 MHz. Beacon clusters should wherever possible provide signals at around 40 MHz and around 60 MHz to supplement those beacons already providing emissions at 30 MHz, 50 MHz and 70 MHz and amateurs are encouraged to set up and maintain automated monitoring stations in order to contribute measurement results to the scientific community. A common transmission format is proposed to aid the reception of multiple clusters.

In the last number of years Denmark, and the UK have authorised such beacons near 40 MHz e.g. on 40.021 and 40.05 MHz respectively, Slovenia has released the band 40.66-40.70 MHz to the amateur service and South Africa has released the band 40.675-40.685 MHz.

IRTS has developed a draft Band Plan for the frequency band 40 – 44 MHz, a new 8 metre band; see Annex 1 to this document. For the time being usage of 30 – 40 MHz and 44 – 49 MHz has not been planned. IRTS considers that the band most likely to be transverted to an IF of 28 – 30 MHz might be 40 – 42 MHz.

54 – 69.9 MHz (5 metre band)

In a similar manner to the direction taken at 40 MHz an allocation in the vicinity of 60 MHz is considered advantageous to facilitate scientific research. The UK already has an amateur propagation beacon on 60.050 MHz. Historically the 5 metre amateur band in 1949 was 58.5 – 60 MHz and in earlier times 56 - 60 MHz. The same band extended to 69.9 MHz would therefore seem appropriate for amateur propagation studies and experimentation on a national secondary basis. Similarly to 40 MHz the band most likely to be transverted to an IF of 28 – 30 MHz is considered to be 56 – 58 MHz.

The 5metre band will also facilitate digital television in addition to all other modes and links the 4 metre and 6 metre allocations, although we have to await the outcome of the 2019 ITU World Radiocommunication Conference to determine whether the Amateur service in Region 1 will gain general access to the 52 – 54 MHz frequency band. IRTS has developed a draft Band Plan for the frequency band 54 – 69.9 MHz, a new 8 metre band; see Annex 2 to this document.

IARU Band Plans

The VHF and microwave committee of IARU Region 1 prepares, revises and maintains the official IARU Region 1 band plans for the 50 MHz, 70MHz, 145 MHz, 435 MHz and the microwave bands. VHF Managers are requested to give maximum publicity to the adopted band plans. In view of the many newcomers, regular repetition of the publication of the band plans is considered advisable. Member Societies, and particularly their VHF Managers or VHF Committees are strongly tasked to promote adherence to the adopted band plans by all VHF/UHF/Microwaves amateurs in their country.

Concerning the usage column in the band plans, operators should take notice of these agreements which are made for operating convenience, but no right to reserved frequencies should be derived from a mention in the Usage column or from referenced notes. Users should be aware that these band plans are generic for all members states of IARU-R1. They can be more detailed in some Member States due to practical reasons or legislation. Therefore

IARU advises amateur licensees to study and implement their national band plans where these vary from the IARU plans.

Next Steps

IRTS would be grateful to receive any views you may have concerning the draft band plans for the new spectrum available in Ireland. This document provides the background to the award of additional radio spectrum to the Amateur Service in Ireland on a national and secondary basis. The draft band plans at Annex 1 and Annex 2 (loosely based on the current 50 – 54 MHz IARU band plan) are proposed as a starting point for discussions. An early response would be appreciated.

Responses please to newspectrum@irts.ie



Irish Radio Transmitters Society
www.irts.ie
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Draft Band Plans for Consultation

Annex 1

40 – 44 MHz (8 metre) Band plan

Frequency	Maximum Bandwidth	Mode (a)	Usage
40.000 40.100	1000 Hz	Telegraphy MGM	<u>Lower Beacon Band</u> 40.021 (Denmark) and 40.05 (UK) operational
40.100 40.200	500 Hz	Telegraphy	40.150 CW centre of activity and CW calling frequency. 40.190 – 40.200 future intercontinental CW DX sub-band
40.200 40.300	2700 Hz	Telegraphy SSB	40.200 future CW and SSB intercontinental DX calling frequency 40.200 – 40.230 future intercontinental SSB DX sub-band 40.250 SSB centre of activity and SSB calling frequency. 40.285 SSB cross-band centre of activity
40.300 40.660	2700 Hz	Telegraphy MGM	40.305 PSK Centre of activity 40.310 -40.320 future EME centre of activity 40.320 -40.380 MS centre of activity 40.400-40.450 FT8 centre of activity 40.510 SSTV 40.540 -40.580 Simplex FM Internet Voice Gateways 40.620 -40.750 Digital communications 40.630 DV calling
40.660 40.680	1000 Hz	Telegraphy MGM	<u>Upper Beacon Band (Subject to change)</u> 40.661 – 40.674 Slovenia 40.675 – 40.679 South Africa Applicable for countries where Amateur Service is allocated in all or part of the ISM band 40.66 – 40.70 MHz
40.680 40.700	2700 Hz	Telegraphy MGM SSB	SSB frequencies 40.681, 40.684, 40.687, 40.690, 40.693, 40.696 SSB calling frequency 40.681 MHz (Subject to change) Applicable for countries where Amateur Service is allocated in all or parts of the ISM band 40.66 – 40.70 MHz
40.700 42.000	12 kHz	All Modes	41.210 -41.390 FM/DV Repeater Inputs, 20 kHz spacing 41.410 -41.590 FM/DV Simplex 41.510 FM calling frequency 41.810 – 41.990 FM repeaters output channels, 20 kHz spacing
42.000 44.000	500 KHz	All modes	Could be paired with 52 – 54 MHz (subject to the outcome of WRC-19 and/or the CEPT ECA

Draft Band Plans for Consultation

Annex 2

54 – 69.9 MHz (5 metre) Band plan

Frequency	Maximum Bandwidth	Mode (a)	Usage
54.000 56.000	500 kHz	All modes	Could be paired with 42-44 MHz
56.000 56.200	500 Hz	Telegraphy	56.150 CW centre of activity and CW calling frequency.
56.200 56.200	2700 Hz	Telegraphy SSB	56.285 SSB cross-band centre of activity 56.300 SSB centre of activity and SSB calling frequency.
56.400 56.400	2700 Hz	Telegraphy MGM	56.405 PSK Centre of activity 56.410 -56.420 future EME centre of activity 56.420 -56.480 MS centre of activity 56.500-56.550 FT8 centre of activity 56.610 SSTV 56.640 -56.680 Simplex FM Internet Voice Gateways 56.720 -56.750 Digital communications 56.730 DV calling
57.000 57.000	12 kHz	All Modes	57.210 -57.390 FM/DV Repeater Inputs, 20 kHz spacing 57.410 -57.590 FM/DV Simplex 57.510 FM calling frequency 57.810 – 57.990 FM repeaters output channels, 20 kHz spacing
59.900 60.100	1000 Hz	Telegraphy MGM	<u>Beacon Band</u> 60.05 (UK) operational
60.100 69.900	8 MHz	Experimental Broadband and wideband video	65.00 centre frequency