



Intruder Watch Coordinator's Spectrum Forum Report

Summary

This report relates to the 12 months from 1st October 2020 to 30th September 2021.

33 reports of intruders were sent to Ofcom during this period, compared to 45 in the previous 12 months. The table below shows the number of reports in each quarter showing the bands mostly affected and the types of intruder encountered.

Quarter	Total reports to Ofcom	Band			Type of intruding signal						
		7 MHz	14 MHz	Other	A3E AM BC	F1B FSK	J7D CIS-12	B7D/J7D Link 11	N0N Plain carrier	G1D Stanag 4285	Other/ unknown
2019 Q4	15	13	1	1		9	2	3			1
2020 Q1	13	12	1			12	1				
2020 Q2	8	6	2				2	4			2
2020 Q3	9	6	3			2	3	1	3		
2020 Q4	10	10			5	4			1		
2021 Q1	4	4						1			3
2021 Q2	3	3				2			1		
2021 Q3	16	10	5	1	2	2	1	1	5	3	2

Most of the reports related to the 7 MHz band. However with increasing sunspot activity more intruders are now being seen on 14 MHz and above.

Over-the-horizon radar

Over-the-horizon radars (OTHRs) continue to be a persistent problem. As well as the Russian 'Container' pulse radar, a number of FMCW radars have been seen. (An FMCW radar typically looks like an FM transmitter modulated by a low-frequency sawtooth waveform.) A Chinese system (nicknamed 'Foghorn' by IARU R1 MS) has been seen on many occasions on several bands, occupying 10 kHz of bandwidth for (typically) bursts of a few seconds every minute or so. Another Chinese FMCW system sweeps across 160 kHz of bandwidth, on one occasion covering the whole of our 18 MHz allocation.

None of these OTHR hangs around on a frequency long enough for Ofcom to invoke the process in the ITU Radio Regulations (Appendix 10) to make a report to another

administration about interference. This ITU process is appropriate for intruders which stay on one frequency day after day but is useless for frequency-agile intruders such as OTHRs. This is why no formal reports about OTHRs have been made to Ofcom in the table above. Informally, they are well aware of our concern. It affects other services too, not just amateurs, including civil aeronautical mobile communications.

The United Kingdom government is itself not blameless when it comes to OTH radar. The RAF operates its own OTHR at one of the UK's Sovereign Base Areas on Cyprus. This FMCW radar can be seen occupying 20 kHz of bandwidth on the Primary amateur bands causing strong interference over the whole of Europe and beyond.

Given that many countries operate OTHRs, that they show no signs of going away, that there are few HF allocations to the Radiolocation Service and that the process for fixing interference issues is weak and often ineffective, there is little prospect of a quick solution.

The only satisfactory way to resolve it would be for regulators to re-allocate some Fixed Service spectrum, which is greatly under-used, to the Radiolocation Service. This would require a proposal at WRC-23 for an agenda item at WRC-27. Thus it would probably take until at least 2029 before the amended allocations took effect.

IARU Region 1 Monitoring System

The new IARU R1 MS database hosted by the Spanish national society, Unión de Radioaficionados Españoles (URE), came into operation during the previous period. It has been operating successfully throughout the 12 months under review and at the time of writing has 10,680 log entries including 1,768 from Intruder Watch.

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