Addendum to Spectrum Management Rules: Low power audio operating in the band 960 to 1164 MHz

As part of its Airspace Modernisation Strategy, the Civil Aviation Authority (CAA) is developing a Concept of Operations (ConOps) for the deployment of a new Electronic Conspicuity (EC) device standard. The primary candidate to meet the requirements of the new EC standard is a Universal Access Transceiver (UAT), an L-band air-to-ground communications system that operates on a wideband channel at 978 MHz.

To enable the introduction of UAT, this addendum makes changes to the spectrum management rules[1] (SMRs) for low power audio Programme Making and Special Events (PMSE) applications to share with aeronautical systems in the band 960 – 1164 MHz. We list the changes below – we show additions as underlined text, and deletions as strikethrough.

This document adds the following amendments to the SMRs:

A2.8 The following systems have been standardised for operation in the frequency band 960-1164 MHz and are considered for protection from PMSE:

- ADS-B Automatic Dependent Surveillance – Broadcast (1090 MHz)
- DME Distance Measuring Equipment (960 – 1164 MHz)
- SSR Secondary Surveillance Radar (1030 & 1090 MHz)
- TCAS Traffic alert and Collision Avoidance System (1030 & 1090 MHz)
- WAM Wide Area Multilateration (1030 & 1090 MHz)
- UAT Universal Access Transceiver (978 MHz)

SSR, TCAS, ADS-B and UAT

A2.11 To protect SSR, TCAS and ADS-B JCSys Ltd recommended a ±10 MHz guard band from 1030 MHz and 1090 MHz. It has been decided that in the absence of sufficient data points from testing a fuller set of SSR and associated systems this guard band is to be extended to ~~±15 MHz~~ ±14 MHz. In addition, to protect ground receive stations for SSR and WAM a 300 m exclusion zone will be implemented.

A2.12 ~~This guard band is subject to review pending any further testing of SSR and associated systems that operate at 1030 MHz and 1090 MHz.~~ To protect UAT from PMSE outdoor use, JCSys Ltd recommended a ±1.5 MHz guard band from 978 MHz. It has been decided that PMSE outdoor use in the band 976.5 – 979.5 MHz will not be permitted.

A2.13 PMSE indoor use will continue to be permitted in the 976.5 – 979.5 MHz band with a maximum radiated power of 50 mW, when used within a fully enclosed building (i.e. traditional theatre or recording studio) - thereby providing the necessary RF attenuation (i.e. providing at least 14 dB of Building Entry Loss) to restrict signals propagating to the outside.

[1] The Spectrum Management Rules (SMRs) are in Annex 2 of our Statement on New Spectrum for Audio PMSE. The SMRs are agreed between Ofcom and the CAA to allow low power audio PMSE applications to share with aeronautical systems in the band 960-1164 MHz. It is Ofcom's responsibility to implement the SMRs to derive spectrum availability in the band 960 – 1164 MHz for PMSE.