

COMMENTS RE:

Notice No. SMBR-002-98: DTV (Digital Television) Transition Allotment Plan

Recent RTCA and ICAO studies have expressed concern that the introduction of DTV will, unless explicit preventative steps are taken, result in interference from DTV harmonics to GPS and GLONASS. [1,2] These are elements of the Global Navigation Satellite System (GNSS) used by the aeronautical community for safety-of-life applications, such as aircraft radionavigation.

We would like to point out that Recommendation ITU-R M.1343, "Essential Technical Requirements of Mobile Earth Stations for Global Non-Geostationary Mobile Satellite Service Systems in the Bands 1-3 GHz", December, 1997, places out-of-band emission limits on mobile earth stations. In the GPS and GLONASS bands, these limits are -70 dBW/MHz for wideband emissions and -80 dBW for narrowband emissions for a separation distance of 100 feet between aircraft and transmitter.

We feel that the above limits, as modified for an appropriate separation distance between aircraft and DTV antennas, are also applicable to DTV transmitting facilities in order to prevent interference to GPS and GLONASS receivers used in aircraft. These limits should therefore be taken into consideration as planning parameters for DTV.

Eric Augstman  
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[1] RTCA DO-235, "Assessment of Radio Frequency Interference Relevant to the GNSS", January, 1997.

[2] ICAO GNSS Panel (GNSSP) Working Group B Meeting, September/October, 1997.