

(vi) The ESMU shall notify Mobile-Satellite Service space station licensees authorized to operate mobile earth terminals in the 1610.0–1626.5 MHz band of periods of radio astronomy observations. The mobile-satellite systems shall be capable of terminating operations within the frequency bands and protection zones specified in paragraphs (a)(1) (i) through (iv) of this section, as applicable, after the first position fix of the mobile earth terminal either prior to transmission or, based upon its location within the protection zone at the time of initial transmission of the mobile earth terminal. Once the mobile-satellite system determines that a mobile earth terminal is located within an RAS protection zone, the mobile-satellite system shall immediately initiate procedures to relocate the mobile earth terminal operations to a non-RAS frequency.

(vii) A beacon-actuated protection zone may be used in lieu of fixed protection zones in the 1610.6–1613.8 MHz band if a coordination agreement is reached between a mobile-satellite system licensee and the ESMU on the specifics of beacon operations.

(viii) Additional radio astronomy sites, not located within 100 miles of the 100 most populous urbanized areas as defined by the United States Census Bureau at the time, may be afforded similar protection one year after notice to the mobile-satellite system licensees by issuance of a public notice by the Commission.

(2) Mobile-Satellite Service space stations transmitting in the 1613.8–1626.5 MHz band shall take whatever steps necessary to avoid causing harmful interference to the radio astronomy facilities listed in paragraphs (a)(1)(i) and (ii) of this section during periods of observation.

(3) Mobile-Satellite Service space stations operating in the 2483.5–2500 MHz frequency band shall limit spurious emission levels in the 4990–5000 MHz band so as not to exceed -241 dB (W/m²/Hz) at the surface of the Earth.

(4) The Radioastronomy Service shall avoid scheduling radio astronomy observations during peak MSS/RDSS traffic periods to the greatest extent practicable.

(b) [Reserved]

[59 FR 53329, Oct. 21, 1994, as amended at 61 FR 9945, Mar. 12, 1996; 67 FR 61816, Oct. 2, 2002]

§ 25.214 Technical requirements for space stations in the satellite digital audio radio service.

(a) Definitions.

(1) *Allocated bandwidth.* The term “allocated bandwidth” refers to the entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space radiocommunication services under specified conditions. This term shall be applied to the 2310–2360 MHz band for satellite DARS.

(2) *Frequency Assignment.* The term “frequency assignment” refers to the authorization given by the Commission for a radio station to use a radio frequency or radio frequency channel under specified conditions. This term shall be applied to the two frequency bands (A) 2320.0–2332.5 MHz and (B) 2332.5–2340.0 MHz for satellite DARS.

(b) Each system authorized under this section will be conditioned upon construction, launch and operation milestones as outlined in § 25.144(b). The failure to meet any of the milestones contained in an authorization will result in its cancellation, unless such failure is due to circumstances beyond the licensee’s control or unless otherwise determined by the Commission upon proper showing by the licensee in any particular case.

(c) Frequency assignments will be made for each satellite DARS system as follows:

(1) Exclusive satellite DARS licenses are limited to the 2320–2345 MHz band segment of the allocated bandwidth for satellite DARS;

(2) Two, 12.5 MHz frequency assignments are available for satellite DARS: 2320.0–2332.5 MHz and 2332.5–2345.0 MHz;

(3) Satellite DARS licensees may reduce their assigned bandwidth occupancy to provide telemetry beacons in their exclusive frequency assignments;

(4) Each licensee may employ cross polarization within its exclusive frequency assignment and/or may employ cross polarized transmissions in frequency assignments of other satellite

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DARS licensees under mutual agreement with those licensees. Licensees who come to mutual agreement to use cross-polarized transmissions shall apply to the Commission for approval of the agreement before coordination is initiated with other administrations by the licensee of the exclusive frequency assignment; and

(5) Feeder uplink networks are permitted in the following Fixed-Satellite Service frequency bands: 7025–7075 MHz and 6725–7025 MHz (101° W.L. orbital location only).

[62 FR 11106, Mar. 11, 1997]

§ 25.215 Technical requirements for space stations in the Direct Broadcast Satellite Service.

In addition to § 25.148(f), space station antennas operating in the Direct Broadcast Satellite Service must be designed to provide a cross-polarization isolation such that the ratio of the on-axis co-polar gain to the cross-polar gain of the antenna in the assigned frequency band shall be at least 30 dB within its primary coverage area.

[67 FR 51114, Aug. 7, 2002]

§ 25.216 Limits on emissions from mobile earth stations for protection of aeronautical radionavigation-satellite service.

(a) The e.i.r.p. density of emissions from mobile earth stations placed in service on or before July 21, 2002 with assigned uplink frequencies between 1610 MHz and 1660.5 MHz shall not exceed –70 dBW/MHz, averaged over any 20 millisecond interval, in the band 1559–1587.42 MHz. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth generated by such stations shall not exceed –80 dBW, averaged over 20 milliseconds, in that band.

(b) The e.i.r.p. density of emissions from mobile earth stations placed in service on or before July 21, 2002 with assigned uplink frequencies between 1610 MHz and 1626.5 MHz shall not exceed –64 dBW/MHz, averaged over 20 milliseconds, in the 1587.42–1605 MHz band. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth generated by such stations shall not exceed –74 dBW, averaged over 20 milliseconds, in the 1587.42–1605 MHz band.

(c) The e.i.r.p. density of emissions from mobile earth stations placed in service after July 21, 2002 with assigned uplink frequencies between 1610 MHz and 1660.5 MHz shall not exceed –70 dBW/MHz, averaged over 20 milliseconds, in the 1559–1605 MHz band. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed –80 dBW, averaged over 20 milliseconds, in the 1559–1605 MHz band.

(d) As of January 1, 2005 and from then on, the e.i.r.p. density of emissions from mobile earth stations placed in service on or before July 21, 2002 with assigned uplink frequencies between 1610 MHz and 1660.5 MHz (except Standard A Inmarsat terminals used as Global Maritime Distress and Safety System ship earth stations) shall not exceed –70 dBW/MHz, averaged over 20 milliseconds, in the 1559–1605 MHz band or a level in the 1605–1610 MHz band determined by linear interpolation from –70 dBW/MHz at 1605 MHz to –10 dBW/MHz at 1610 MHz, and the e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed –80 dBW, averaged over 20 milliseconds, in the 1559–1605 MHz band.

(e) The e.i.r.p. density of emissions from mobile earth stations with assigned uplink frequencies between 1990 MHz and 2025 MHz shall not exceed –70 dBW/MHz, averaged over 20 milliseconds, in frequencies between 1559 MHz and 1610 MHz. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed –80 dBW, averaged over 20 milliseconds, in frequencies between 1559 MHz and 1605 MHz.

(f) Mobile earth stations placed in service after July 21, 2002 with assigned uplink frequencies in the 1610–1660.5 MHz band shall suppress the power density of emissions in the 1605–1610 MHz band to an extent determined by linear interpolation from –70 dBW/MHz at 1605 MHz to –10 dBW/MHz at 1610 MHz.

NOTE TO § 25.216: Operation of mobile earth stations is also subject to all pertinent emissions limits specified in other sections of the Commission's rules. See §§ 25.202(f) and 25.213(a)(1).

[67 FR 61816, Oct. 2, 2002]