

§ 25.214

§ 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 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

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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 2 millisecond active transmission 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 any 2 millisecond active transmission interval, 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 any 2 millisecond active transmission interval, in the band 1587.42–1605 MHz. 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 any 2 millisecond active transmission interval, 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 any 2 millisecond active transmission interval, in the band 1559–1605 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 any 2 millisecond active transmission interval, in the 1559–1605 MHz band.

(d) As of January 1, 2005, 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 and B Inmarsat terminals used as Global Maritime Distress and Safety System ship earth stations) shall not exceed -70 dBW/MHz, averaged over any 2 millisecond active transmission interval, 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 any 2 millisecond active transmission interval, in the 1559–1605 MHz band. Standard A Inmarsat terminals used as Global Maritime Distress and Safety System ship earth stations that do not meet the e.i.r.p. density limits specified in this paragraph may continue operation until December 31, 2007. Inmarsat-B terminals manufactured more than six months after FEDERAL REGISTER publication of the rule changes adopted in FCC 03–283 must meet these limits. Inmarsat B terminals manufactured before then are temporarily grandfathered under the condition that no interference is caused by these terminals to aeronautical satellite radio-navigation systems. The full-compliance deadline for grandfathered Inmarsat-B terminals is December 31, 2012.

(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 any 2 millisecond active transmission interval, 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 between 1559 MHz and 1605 MHz shall not exceed -80 dBW, averaged over any 2 millisecond active

transmission interval. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations between 1605 MHz and 1610 MHz manufactured more than six months after FEDERAL REGISTER publication of the rule changes adopted in FCC 03–283 shall not exceed -80 dBW, averaged over any 2 millisecond active transmission interval.

(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.

(g) Mobile earth stations manufactured more than six months after FEDERAL REGISTER publication of the rule changes adopted in FCC 03–283 with assigned uplink frequencies in the 1610–1626.5 MHz band shall suppress the power density of emissions in the 1605–1610 MHz band-segment to an extent determined by linear interpolation from -70 dBW/MHz at 1605 MHz to -10 dBW/MHz at 1610 MHz averaged over any 2 millisecond active transmission interval. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed a level determined by linear interpolation from -80 dBW at 1605 MHz to -20 dBW at 1610 MHz, averaged over any 2 millisecond active transmission interval.

(h) Mobile earth stations manufactured more than six months after FEDERAL REGISTER publication of the rule changes adopted in FCC 03–283 with assigned uplink frequencies in the 1626.5–1660.5 MHz band shall suppress the power density of emissions in the 1605–1610 MHz band-segment to an extent determined by linear interpolation from -70 dBW/MHz at 1605 MHz to -46 dBW/MHz at 1610 MHz, averaged over any 2 millisecond active transmission interval. The e.i.r.p. of discrete emissions of less than 700 Hz bandwidth from such stations shall not exceed a level determined by linear interpolation from -80 dBW at 1605 MHz to -56 dBW at 1610 MHz, averaged over any 2 millisecond active transmission interval.

(i) The e.i.r.p density of carrier-off state emissions from mobile earth stations manufactured more than six months after FEDERAL REGISTER publication of the rule changes adopted in FCC 03–283 with assigned uplink frequencies between 1 and 3 GHz shall not exceed -80 dBW/MHz in the 1559–1610 MHz band averaged over any two millisecond interval.

(j) A Root-Mean-Square detector shall be used for all power density measurements.

[69 FR 5710, Feb. 6, 2004, as amended at 70 FR 19318, Apr. 13, 2005]

§ 25.217 Default service rules.

(a) The technical rules in this section apply only to licenses to operate a satellite system in a frequency band granted after a domestic frequency allocation has been adopted for that frequency band, but before any frequency-band-specific service rules have been adopted for that frequency band.

(b)(1) For all NGSO-like satellite licenses for which the application was filed pursuant to the procedures set forth in § 25.157 after August 27, 2003, authorizing operations in a frequency band for which the Commission has not adopted frequency band-specific service rules at the time the license is granted, the licensee will be required to comply with the following technical requirements, notwithstanding the frequency bands specified in these rule provisions: §§ 25.142(d), 25.143(b)(2)(ii), 25.143(b)(2)(iii), 25.204(g), 25.210(c), 25.210(d), 25.210(f), 25.210(i), 25.210(k), and 25.210(l).

(2) In addition to the requirements set forth in paragraph (b)(1) of this section, the Commission will coordinate with the National Telecommunications and Information Administration (NTIA) regarding the operations of any licensees authorized to operate in a shared government/non-government frequency band, pursuant to the procedure set forth in § 25.142(b)(2)(ii).

(3) Earth station licensees authorized to operate with one or more space stations described in paragraph (b)(1) of this section shall comply with the requirements in § 25.136. In addition, earth station licensees authorized to operate with one or more space stations described in paragraph (b)(1) of

this section in frequency bands shared with terrestrial wireless services shall comply with the requirements in § 25.203(c).

(c)(1) For all GSO-like satellite licenses for which the application was filed pursuant to the procedures set forth in § 25.158 after August 27, 2003, authorizing operations in a frequency band for which the Commission has not adopted frequency band-specific service rules at the time the license is granted, the licensee will be required to comply with the following technical requirements, notwithstanding the frequency bands specified in these rule provisions: §§ 25.142(d), 25.143(b)(2)(iv), 25.204(g), 25.210(c), 25.210(d), 25.210(f), 25.210(i), 25.210(j), 25.210(k), and 25.210(l).

(2) In addition to the requirements set forth in paragraph (c)(1) of this section, the Commission will coordinate with the National Telecommunications and Information Administration (NTIA) regarding the operations of any licensees authorized to operate in a shared government/non-government frequency band, pursuant to the procedure set forth in § 25.142(b)(2)(ii).

(3) Earth station licensees authorized to operate with one or more space stations described in paragraph (c)(1) of this section shall comply with the earth station antenna performance verification requirements in § 25.132, and the antenna gain pattern requirements in §§ 25.209(a) and (b). In addition, earth station licensees authorized to operate with one or more space stations described in paragraph (c)(1) of this paragraph in frequency bands shared with terrestrial wireless services shall comply with the requirements in § 25.203(c).

(4) In addition to the requirements set forth in paragraph (c)(3) of this section, earth station licensees with a gain equivalent or higher than the gain of a 1.2 meter antenna operating in the 14.0–14.5 GHz band, authorized to operate with one or more space stations described in paragraph (c)(1) of this paragraph in frequency bands greater than 14.5 GHz shall be required to comply with the antenna input power density requirements set forth in § 25.212(c).

(d) [Reserved]

(e) In the event that the Commission adopts frequency band-specific service