

## § 24.133

### § 24.133 Emission limits.

(a) The power of any emission shall be attenuated below the transmitter power (P), as measured in accordance with § 24.132(f), in accordance with the following schedule:

(1) For transmitters authorized a bandwidth greater than 10 kHz:

(i) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of up to and including 40 kHz: at least  $116 \log_{10} ((f_d + 10)/6.1)$  decibels or 50 plus  $10 \log_{10} (P)$  decibels or 70 decibels, whichever is the lesser attenuation;

(ii) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 40 kHz: at least  $43 + 10 \log_{10} (P)$  decibels or 80 decibels, whichever is the lesser attenuation.

(2) For transmitters authorized a bandwidth of 10 kHz:

(i) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of up to and including 20 kHz: at least  $116 \times \log_{10} ((f_d + 5)/3.05)$  decibels or  $50 + 10 \times \log_{10} (P)$  decibels or 70 decibels, whichever is the lesser attenuation;

(ii) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 20 kHz: at least  $43 + 10 \log_{10} (P)$  decibels or 80 decibels, whichever is the lesser attenuation.

(b) The measurements of emission power can be expressed in peak or average values provided they are expressed in the same parameters as the transmitter power.

(c) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

(d) The following minimum spectrum analyzer resolution bandwidth settings will be used: 300 Hz when showing compliance with paragraphs (a)(1)(i) and (a)(2)(i) of this section; and 30 kHz when showing compliance with para-

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graphs (a)(1)(ii) and (a)(2)(ii) of this section.

[58 FR 59183, Nov. 8, 1993. Redesignated at 59 FR 18499, Apr. 19, 1994, as amended at 59 FR 14119, Mar. 25, 1994; 66 FR 10968, Feb. 21, 2001]

### § 24.134 Co-channel separation criteria.

The minimum co-channel separation distance between base stations in different service areas is 113 kilometers (70 miles). A co-channel separation distance is not required for the base stations of the same licensee or when the affected parties have agreed to other co-channel separation distances.

### § 24.135 Frequency stability.

(a) The frequency stability of the transmitter shall be maintained within  $\pm 0.0001$  percent ( $\pm 1$  ppm) of the center frequency over a temperature variation of  $-30^\circ\text{C}$  to  $+50^\circ\text{C}$  at normal supply voltage, and over a variation in the primary supply voltage of 85 percent to 115 percent of the rated supply voltage at a temperature of  $20^\circ\text{C}$ .

(b) For battery operated equipment, the equipment tests shall be performed using a new battery without any further requirement to vary supply voltage.

(c) It is acceptable for a transmitter to meet this frequency stability requirement over a narrower temperature range provided the transmitter ceases to function before it exceeds these frequency stability limits.

## Subpart E—Broadband PCS

SOURCE: 59 FR 32854, June 24, 1994, unless otherwise noted.

### § 24.200 Scope.

This subpart sets out the regulations governing the licensing and operations of personal communications services authorized in the 1850–1910 and 1930–1990 MHz bands.

### § 24.202 Service areas.

Broadband PCS service areas are Major Trading Areas (MTAs) and Basic Trading Areas (BTAs) as defined in this section. MTAs and BTAs are based on the Rand McNally 1992 Commercial