

Federal Communications Commission

§ 24.134

Antenna HAAT in meters (feet) (see §24.53 for HAAT HAAT calculation method)	Effective radiated power (e.r.p.) (watts)
183 (600) and below .....	3500
183 (600) to 208 (682) .....	3500 to 2584
208 (682) to 236 (775) .....	2584 to 1883
236 (775) to 268 (880) .....	1883 to 1372
268 (880) to 305 (1000) .....	1372 to 1000
305 (1000) to 346 (1137) .....	1000 to 729
346 (1137) to 394 (1292) .....	729 to 531
394 (1292) to 447 (1468) .....	531 to 387
447 (1468) to 508 (1668) .....	387 to 282
508 (1668) to 578 (1895) .....	282 to 206
578 (1895) to 656 (2154) .....	206 to 150
656 (2154) to 746 (2447) .....	150 to 109
746 (2447) to 848 (2781) .....	109 to 80
848 (2781) to 963 (3160) .....	80 to 58
963 (3160) to 1094 (3590) .....	58 to 42
1094 (3590) to 1244 (4080) .....	42 to 31
1244 (4080) to 1413 (4636) .....	31 to 22
Above 1413 (4636) .....	16

(2) For heights between the values listed in the table, linear interpolation shall be used to determine maximum e.r.p.

(e) MTA and regional base stations located less than 80 kilometers (50 miles) from the licensed service area border must limit their effective radiated power in accordance with the following formula:

$$PW = 0.0175 \times dkm^* * 6.6666 \times x hm^* * - 3.1997$$

PW is effective radiated power in watts  
 dkm is distance in kilometers  
 hm is antenna HAAT in meters; see §24.53 for HAAT calculation method

(f) All power levels specified in this section are expressed in terms of the maximum power, averaged over a 100 millisecond interval, when measured with instrumentation calibrated in terms of an rms-equivalent voltage with a resolution bandwidth equal to or greater than the authorized bandwidth.

(g) Additionally, PCS stations will be subject to any power limits imposed by international agreements.

[58 FR 59183, Nov. 8, 1993; 59 FR 15269, Mar. 31, 1994, as amended at 62 FR 27511, May 20, 1997; 65 FR 35853, June 6, 2000]

**§ 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  $116 \text{ Log}_{10} ((f_d+10)/6.1)$  decibels or 50 plus  $10 \text{ Log}_{10} (P)$  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  $43+10 \text{ Log}_{10} (P)$  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  $116 \times \text{Log}_{10} ((f_d+5)/3.05)$  decibels or  $50+10 \times \text{Log}_{10} (P)$  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  $43+10 \text{ Log}_{10} (P)$  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 paragraphs (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