

47 C.F.R. s 22.106
CODE OF FEDERAL REGULATIONS
TITLE 47—TELECOMMUNICATION
CHAPTER I—FEDERAL COMMUNICATIONS COMMISSION
SUBCHAPTER B—COMMON CARRIER SERVICES
PART 22—PUBLIC MOBILE SERVICE
SUBPART C—TECHNICAL STANDARDS

s 22.106 Emission limit.

(a) For transmitters other than those employing digital modulation techniques, the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 decibels;

(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 decibels;

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus 10 Log_{10} (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(b) For transmitters not equipped with an audio low pass filter required by the provisions of paragraphs (f) and (g) of s 22.508, and for those employing digital modulation techniques, the power of any emission shall be attenuated below the unmodulated carrier power (P) in accordance with the following schedule:

(1) For those transmitters that operate in the frequency bands of 35.0 to 44.0 MHz, 72.0 to 73.0 MHz, 75.4 to 76.0 MHz or 152.0 to 159.0 MHz,

(i) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5 kHz up to and including 10kHz: at least $83 \text{ Log}_{10} (f_d/5)$ decibels;

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in KHz) of more than 10 KHz up to and including 250 percent of the authorized bandwidth: At least $29 \text{ Log}_{10} f_d/11$ decibels or 50 decibels, whichever is the lesser attenuation;

(iii) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: at least 43 plus 10 Log_{10} (output power in watts) decibels or 80 decibels, whichever is the lesser attenuation.

Note: The measurements of emission power can be expressed in peak or average values provided they are expressed in the same parameters as the unmodulated transmitter carrier power.

(2) For those transmitters that operate in the frequency bands 450.0 to 512.0 MHz, or 929.0 to 932.0 MHz,

(i) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5 kHz up to and including 10 kHz: at least $83 \text{ Log}_{10} (f_d/5)$ decibels:

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 10 kHz up to and including 250 percent of the authorized bandwidth: at least $116 \text{ Log}_{10} (f_d/6.1)$ decibels or 50 plus $10 \text{ Log}_{10} (P)$ or 70 decibels, whichever is the lesser attenuation;

(iii) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: at least 43 plus 10 Log_{10} (output power in watts) decibels or 80 decibels, whichever is the lesser attentionation.

Note: The measurements of emission power can be expressed in peak or average values provided they are expressed in the same parameters as the unmodulated transmitter carrier power.

(3) For those transmitters that operate in the frequency bands 932-932.5/941-941.5 MHz with a 12.5 kHz bandwidth,

(i) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f subd in kHz) of more than 2.5 kHz up to and including 6.25 kHz: At least $53 \text{ log sub } 10 (f \text{ subd } /2.5)$ decibels;

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_{subd} in kHz) of more than 6.25 kHz up to and including 9.5 kHz: At least $103 \log_{\text{subd}} 10$ ($f_{\text{subd}}/3.9$) decibels;

(iii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_{subd} in kHz) of more than 9.5 kHz up to and including 15 kHz: At least $157 \log_{\text{subd}} 10$ ($f_{\text{subd}}/5.3$) decibels;

(iv) On any frequency removed from the center of the authorized bandwidth by a displacement frequency greater than 15 kHz: At least $50 + 10 \log_{\text{subd}} 10$ (P) or 70 decibels, whichever is the lesser attenuation.

(4) For those transmitters that operate in the frequency bands 932-932.5/941-941.5 MHz with a bandwidth greater than 12.5 kHz,

(i) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_{subd} in kHz) of more than 5 kHz up to and including 10 kHz: At least $83 \log_{\text{subd}} 10$ ($f_{\text{subd}}/5$) decibels;

(ii) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_{subd} in kHz) of more than 10 kHz up to and including 250 percent of the authorized bandwidth: At least $116 \log_{\text{subd}} 10$ ($f_{\text{subd}}/6.1$) decibels or $50 + 10 \log_{\text{subd}} 10$ (P) or 70 decibels, whichever is the lesser attenuation;

(iii) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log_{\text{subd}} 10$ (output power in watts) decibels or 80 decibels, whichever is the lesser attenuation.

(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.

[49 FR 3332, Jan. 26, 1984; 52 FR 10573, April 2, 1987; 55 FR 10463, March 21, 1990]

PART 22—PUBLIC MOBILE SERVICE

Authority: **47** U.S.C. 154, 303, unless otherwise noted.

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For nomenclature changes see 50 FR 32205, Aug. 9, 1985.

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