

(ii) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: at least 35 dB.

(iii) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: at least $43 + 10 \log(P)$ dB.

(3) *Emission Mask 3*—For transmitters designed to operate with a 25 kHz channel bandwidth that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier output power (P) as follows:

(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, but not more than 10 kHz: at least $83 \log(f_d/5)$ dB.

(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, but not more than 250 percent of the authorized bandwidth: at least $29 \log(f_d^2/11)$ dB or 50 dB, 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 $43 + 10 \log(P)$ dB.

(f) DSRCS-OBUs are governed under subpart L of this part.

[53 FR 36789, Sept. 22, 1988, as amended at 56 FR 15837, Apr. 18, 1991. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996; 63 FR 36610, July 7, 1998; 64 FR 69931, Dec. 15, 1999; 65 FR 60878, Oct. 13, 2000; 67 FR 63289, Oct. 11, 2002; 69 FR 46446, Aug. 3, 2004]

§ 95.637 Modulation standards.

(a) A GMRS transmitter that transmits emission types F1D, G1D, or G3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A GMRS transmitter that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 5 kHz. A FRS unit that transmits emission type F3E must not exceed a peak frequency deviation of plus or minus 2.5 kHz, and the audio frequency response must not exceed 3.125 kHz.

(b) Each GMRS transmitter, except a mobile station transmitter with a power output of 2.5 W or less, must automatically prevent a greater than normal audio level from causing over-modulation. The transmitter also must include audio frequency low pass filtering, unless it complies with the applicable paragraphs of § 95.631 (without filtering.) The filter must be between the modulation limiter and the modulated stage of the transmitter. At any frequency (f in kHz) between 3 and 20 kHz, the filter must have an attenuation of at least $60 \log_{10}(f/3)$ dB greater than the attenuation at 1 kHz. Above 20 kHz, it must have an attenuation of at least 50 dB greater than the attenuation at 1 kHz.

(c) When emission type A3E is transmitted, the modulation must be greater than 85% but must not exceed 100%. Simultaneous amplitude modulation and frequency or phase modulation of a transmitter are not permitted.

(d) When emission type A3E is transmitted by a CB transmitter having a TP of greater than 2.5 W, the CB transmitter must automatically prevent the modulation from exceeding 100%.

(e) Each CB transmitter that transmits emission type H3E, J3E or R3E must be capable of transmitting the upper sideband. The capability of also transmitting the lower sideband is permitted.

(f) DSRCS-OBUs are governed under subpart L of this part.

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, 28770, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996; 69 FR 46446, Aug. 3, 2004]

§ 95.639 Maximum transmitter power.

(a) No GMRS transmitter, under any condition of modulation, shall exceed:

(1) 50 W *Carrier power* (average TP during one unmodulated RF cycle) when transmitting emission type A1D, F1D, G1D, A3E, F3E or G3E.

(2) 50 W peak envelope TP when transmitting emission type H1D, J1D, R1D, H3E, J3E or R3E.

(b) No R/C transmitter, under any condition of modulation, shall exceed a carrier power or peak envelope TP (single-sideband only) of: