

**§ 95.631 Emission types.**

(a) A GMRS transmitter must transmit only emission types A1D, F1D, G1D, H1D, J1D, R1D, A3E, F3E, G3E, H3E, J3E or R3E. A non-voice emission is limited to selective calling or tone-operated squelch tones to establish or continue voice communications. See § 95.181 (g) and (h).

(b) An R/C transmitter may transmit any appropriate non-voice emission which meets the emission limitations of § 95.633.

(c) A CB transmitter may transmit only emission types A1D, H1D, J1D, R1D, A3E, H3E, J3E, R3E. A non-voice emission is limited to selective calling or tone-operated squelch tones to establish or continue voice communications. See § 95.412 (b) and (c).

(d) An FRS unit may transmit only emission type F3E or F2D. A non-voice emission is limited to selective calling or tone-operated squelch tones to establish or continue voice communications, digital data transmission of location information or text messaging.

(e) No GMRS or CB transmitter shall employ a digital modulation or emission.

(f) No GMRS, CB or R/C transmitter shall transmit non-voice data.

(g) An LPRS station may transmit any emission type appropriate for communications in this service. Two-way voice communications, however, are prohibited.

(h) A MICS station may transmit any emission type appropriate for communications in this service. Voice communications, however, are prohibited.

(i) A WMTS station may transmit any emission type appropriate for communications in this service, except for video and voice. Waveforms such as electrocardiograms (ECGs) are not considered video.

(j) A MURS transmitter must transmit only emission types A1D, A2B, A2D, A3E, F2B, F1D, F2D, F3E, G3E. Emission types A3E, F3E and G3E include selective calling or tone-operated squelch tones to establish or continue voice communications. MURS trans-

mitters are prohibited from transmitting in the continuous carrier mode.

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996; 64 FR 69930, Dec. 15, 1999; 65 FR 44008, July 17, 2000; 65 FR 53190, Sept. 1, 2000; 65 FR 60877, Oct. 13, 2000; 67 FR 63289, Oct. 11, 2002; 68 FR 9901, Mar. 3, 2003]

**§ 95.632 MURS transmitter frequencies.**

(a) The MURS transmitter channel frequencies are 151.820 MHz, 151.880 MHz, 151.940 MHz, 154.570 MHz, 154.600 MHz.

(b) The authorized bandwidth is 11.25 kHz on frequencies 151.820 MHz, 151.880 MHz and 151.940 MHz. The authorized bandwidth is 20.0 kHz on frequencies 154.570 and 154.600 MHz.

(c) MURS transmitters must maintain a frequency stability of 5.0 ppm, or 2.0 ppm if designed to operate with a 6.25 kHz bandwidth.

[65 FR 60877, Oct. 13, 2000, as amended at 67 FR 63289, Oct. 11, 2002]

**§ 95.633 Emission bandwidth.**

(a) The *authorized bandwidth* (maximum permissible bandwidth of a transmission) for emission type H1D, J1D, R1D, H3E, J3E or R3E is 4 kHz. The authorized bandwidth for emission type A1D or A3E is 8 kHz. The authorized bandwidth for emission type F1D, G1D, F3E or G3E is 20 kHz.

(b) The authorized bandwidth for any emission type transmitted by an R/C transmitter is 8 kHz.

(c) The authorized bandwidth for emission type F3E or F2D transmitted by a FRS unit is 12.5 kHz.

(d) For transmitters in the LPRS:

(1) The authorized bandwidth for narrowband frequencies is 4 kHz and the channel bandwidth is 5 kHz

(2) The channel bandwidth for standard band frequencies is 25 kHz.

(3) The channel bandwidth for extra band frequencies is 50 kHz.

(4) AMTS stations may use the 216.750–217.000 MHz band as a single 250 kHz channel so long as the signal is attenuated as specified in § 95.635(c).

(e) For transmitters in the MICS:

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(1) The maximum authorized emission bandwidth is 300 kHz.

(2) Lesser authorized emission bandwidths may be employed, provided that the unwanted emissions are attenuated as provided in § 95.635 and that the power radiated in any 300 kHz bandwidth does not exceed 25 microwatts EIRP. See §§ 95.605 and 95.639(g) regarding power measurement procedures.

(3) Emission bandwidth will be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 20 dB down relative to the maximum level of the modulated carrier. Compliance with the emission bandwidth limit is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

(f) The authorized bandwidth for any emission type transmitted by a MURS transmitter is specified as follows:

(1) Emissions on frequencies 151.820 MHz, 151.880 MHz, and 151.940 MHz are limited to 11.25 kHz.

(2) Emissions on frequencies 154.570 and 154.600 MHz are limited to 20.0 kHz.

(3) Provided, however, that all A3E emissions are limited to 8 kHz.

[53 FR 36789, Sept. 22, 1988. Redesignated and amended at 61 FR 28769, June 6, 1996, and further redesignated and amended at 61 FR 46567, 46568, Sept. 4, 1996; 64 FR 69930, Dec. 15, 1999; 65 FR 60878, Oct. 13, 2000; 67 FR 63289, Oct. 11, 2002; 68 FR 9902, Mar. 3, 2003]

**§ 95.635 Unwanted radiation.**

(a) In addition to the procedures in part 2, the following requirements apply to each transmitter both with and without the connection of all attachments acceptable for use with the transmitter, such as an external speaker, microphone, power cord, antenna, etc.

(b) The power of each unwanted emission shall be less than TP as specified in the applicable paragraphs listed in the following table:

Transmitter	Emission type	Applicable paragraphs (b)
GMRS .....	A1D, A3E, F1D, G1D, F3E, G3E with filtering .....	(1), (3), (7).
	A1D, A3E, F1D, G1D, F3E, G3E without filtering .....	(5), (6), (7).
	H1D, J1D, R1D, H3E, J3E, R3E .....	(2), (4), (7).
FRS .....	F3E with filtering .....	(1), (3), (7).
R/C:		
27 MHz .....	As specified in § 95.631(b) .....	(1), (3), (7).
72–76 MHz .....	As specified in § 95.631(b) .....	(1), (3), (7), (10), (11), (12).
CB .....	A1D, A3E .....	(1), (3), (8), (9).
	H1D, J1D, R1D, H3E, J3E, R3E .....	(2), (4), (8), (9).
	A1D, A3E type accepted before September 10, 1976 .....	(1), (3), (7).
	H1D, J1D, R1D, H3E, J3E, R3E type accepted before September 10, 1986 .....	(2), (4), (7).
LPRS .....	As specified in paragraph (c) .....	
MICS .....	As specified in paragraph (d) .....	

**Note 1**—Filtering noted for GMRS and FRS transmitters refers to the requirement in § 95.637(b).

**Note 2**—Unwanted R radiation may be stated in mean power or in peak envelope power, provided it is stated in the same parameter as T.

**Note 3**—Paragraphs (b)(1), (b)(10), (b)(11), and (b)(12) of this section apply to transmitters operating in the 72–76 MHz band that are manufactured or imported into the United States on or after March 1, 1992, or marketed or sold on or after March 1, 1993. Paragraphs (b)(1), (b)(3), and (b)(7) of this section apply to transmitters operating in the 72–76 MHz band manufactured or imported into the United States before March 1, 1992, or marketed before March 1, 1993.

**Note 4**—If spurious or harmonic emissions result in harmful interference (any transmission, radiation or induction that endangers the functioning of a radionavigation or other safety service or seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with applicable laws, treaties and regulations), the FCC may, at its discretion, require appropriate technical changes in the station equipment to alleviate the interference, including the use of a low pass filter between the transmitter antenna terminals and the antenna feed line.

(1) At least 25 dB (decibels) on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 100% of the authorized bandwidth.

(2) At least 25 dB on any frequency removed from the center of the authorized bandwidth by more than 50% up to and including 150% of the authorized bandwidth.