

§ 95.643

25 microwatts in the 150 kHz bandwidth. See §§ 95.633(e).

(2) For transmitters operating in 413–419 MHz, 426–432 MHz, 438–444 MHz, or 451–457 MHz bands, the peak EIRP over the frequency bands of operation shall not exceed the lesser of 1 mW or $10 \log B - 7.782$ dBm, where B is the 20 dB emission bandwidth in MHz; and the peak power spectral density shall not exceed 800 microwatts per megahertz in any 1 megahertz band.

(3) For transmitters operating in the 2360–2390 MHz band, the maximum EIRP over the frequency bands of operation shall not exceed the lesser of 1 mW or $10 \log (B)$ dBm, where B is the 20 dB emission bandwidth in MHz.

(4) For transmitters operating in the 2390–2400 MHz band, the maximum EIRP over the frequency bands of operation shall not exceed the lesser of 20 mW or $16 + 10 \log (B)$ dBm, where B is the 20 dB emission bandwidth in MHz.

(5) The antenna associated with any MedRadio transmitter must be supplied with the transmitter and shall be considered part of the transmitter subject to equipment authorization. Compliance with these EIRP limits may be determined as set forth in § 95.627(g) or § 95.628(h), as applicable.

(g) The maximum field strength authorized for WMTS stations in the 608–614 MHz band is 200 mV/m, measured at 3 meters. For stations in the 1395–1400 MHz and 1427–1429.5 MHz bands, the maximum field strength is 740 mV/m, measured at 3 meters.

(h) No MURS unit, under any condition of modulation, shall exceed 2 Watts transmitter power output.

(i) DSRCS-OBUs are governed under subpart L of this part, except the maximum output power for portable DSRCS-OBUs is 1.0 mW. For purposes of this paragraph, a portable is a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

[53 FR 36789, Sept. 22, 1988; 53 FR 44144, Nov. 1, 1988. Redesignated at 61 FR 28769, 28770, June 6, 1996, and further redesignated at 61 FR 46567, 46569, Sept. 4, 1996]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 95.639, see the List of CFR Sections Affected, which appears in the

47 CFR Ch. I (10–1–16 Edition)

Finding Aids section of the printed volume and at www.fdsys.gov.

CERTIFICATION REQUIREMENTS

§ 95.643 DSRCS-OBU certification.

Sections 95.645 through 95.655 do not apply to certification of DSRCS-OBUs. DSRCS-OBUs must be certified in accordance with subpart L of this part and subpart J of part 2 of this chapter.

[69 FR 46446, Aug. 3, 2004]

§ 95.645 Control accessibility.

(a) No control, switch or other type of adjustment which, when manipulated, can result in a violation of the rules shall be accessible from the transmitter operating panel or from exterior of the transmitter enclosure.

(b) An R/C transmitter which incorporates plug-in frequency determining modules which are changed by the user must be certificated with the modules. Each module must contain all of the frequency determining circuitry including the oscillator. Plug-in crystals are not considered modules and must not be accessible to the user.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996; 63 FR 36610, July 7, 1998]

§ 95.647 FRS unit and R/C transmitter antennas.

The antenna of each FRS unit, and the antenna of each R/C station transmitting in the 72–76 MHz band, must be an integral part of the transmitter. The antenna must have no gain (as compared to a half-wave dipole) and must be vertically polarized.

[61 FR 28770, June 6, 1996. Redesignated at 61 FR 46567, Sept. 4, 1996]

§ 95.649 Power capability.

No CB, R/C, LPRS, FRS, MedRadio, MURS, or WMTS unit shall incorporate provisions for increasing its transmitter power to any level in excess of the limits specified in § 95.639.

[74 FR 22708, May 14, 2009]

§ 95.651 Crystal control required.

All transmitters used in the Personal Radio Services must be crystal controlled, except an R/C station that

transmits in the 26–27 MHz frequency band, a FRS unit, a LPRS unit, a MURS unit, a MedRadio transmitter, or a WMTS unit.

[74 FR 22708, May 14, 2009]

§ 95.653 Instructions and warnings.

(a) A user's instruction manual must be supplied with each transmitter marketed, and one copy (a draft or preliminary copy is acceptable provided a final copy is provided when completed) must be forwarded to the FCC with each request for certification.

(b) The instruction manual must contain all information necessary for the proper installation and operation of the transmitter including:

(1) Instructions concerning all controls, adjustments and switches that may be operated or adjusted without resulting in a violation of the rules.

(2) Warnings concerning any adjustment that could result in a violation of the rules or that is recommended to be performed by or under the immediate supervision and responsibility of a person certified as technically qualified to perform transmitter maintenance and repair duties in the private land mobile services and fixed services by an organization or committee representative of users of those services.

(3) Warnings concerning the replacement of any transmitter component (crystal, semiconductor, etc.) that could result in a violation of the rules.

(4) For a CMRS transmitter, warnings concerning licensing requirements and information concerning license application procedures.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996; 63 FR 36610, July 7, 1998]

§ 95.655 Frequency capability.

(a) No transmitter will be certificated for use in the CB service if it is equipped with a frequency capability not listed in § 95.625, and no transmitter will be certificated for use in the GMRS if it is equipped with a frequency capability not listed in § 95.621, unless such transmitter is also certificated for use in another radio service for which the frequency is authorized and for which certification is also re-

quired. (Transmitters with frequency capability for the Amateur Radio Services and Military Affiliate Radio System will not be certificated.)

(b) All frequency determining circuitry (including crystals) and programming controls in each CB transmitter and in each GMRS transmitter must be internal to the transmitter and must not be accessible from the exterior of the transmitter operating panel or from the exterior of the transmitter enclosure.

(c) No add-on device, whether internal or external, the function of which is to extend the transmitting frequency capability of a CB transmitter beyond its original capability, shall be manufactured, sold or attached to any CB station transmitter.

(d) No transmitter will be certificated for use in MURS if it is equipped with a frequency capability not listed in § 95.632.

[53 FR 47718, Nov. 25, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996 and amended at 63 FR 36611, July 7, 1998; 67 FR 63290, Oct. 11, 2002; 69 FR 32886, June 14, 2004]

ADDITIONAL CERTIFICATION
REQUIREMENTS FOR CB TRANSMITTERS

§ 95.665 [Reserved]

§ 95.667 CB transmitter power.

The dissipation rating of all the semiconductors or electron tubes which supply RF power to the antenna terminals of each CB transmitter must not exceed 10 W. For semiconductors, the dissipation rating is the greater of the collector or device dissipation value established by the manufacturer of the semiconductor. These values may be temperature de-rated by no more than 50 °C. For an electron tube, the dissipation rating is the Intermittent Commercial and Amateur Service plate dissipation value established by the manufacturer of the electron tube.

[53 FR 36789, Sept. 22, 1988. Redesignated at 61 FR 28769, June 6, 1996, and further redesignated at 61 FR 46567, Sept. 4, 1996]

§ 95.669 External controls.

(a) Only the following external transmitter controls, connections or devices