

60 M BAND EMISSION REQUIREMENTS—Continued

Emission type	Emission designator	Restricted to:
RTTY .....	60H0J2B .....	USB (for example, PSK31).
CW .....	150HA1A .....	Morse telegraphy by means of on-off keying.

(ii) The following requirements also apply:

(A) When transmitting the phone, RTTY, and data emissions, the suppressed carrier frequency may be set as specified in § 97.303(h).

(B) The control operator of a station transmitting data or RTTY emissions must exercise care to limit the length of transmission so as to avoid causing harmful interference to United States Government stations.

[54 FR 25857, June 20, 1989; 54 FR 30823, July 24, 1989, as amended at 54 FR 39537, Sept. 27, 1989; 60 FR 15688, Mar. 27, 1995; 65 FR 6550, Feb. 10, 2000; 69 FR 24997, May 5, 2004; 77 FR 5412, Feb. 3, 2012; 79 FR 35291, June 20, 2014]

**§ 97.309 RTTY and data emission codes.**

(a) Where authorized by §§ 97.305(c) and 97.307(f) of the part, an amateur station may transmit a RTTY or data emission using the following specified digital codes:

(1) The 5-unit, start-stop, International Telegraph Alphabet No. 2, code defined in ITU-T Recommendation F.1, Division C (commonly known as “Baudot”).

(2) The 7-unit code specified in ITU-R Recommendations M.476-5 and M.625-3 (commonly known as “AMTOR”).

(3) The 7-unit, International Alphabet No. 5, code defined in IT-T Recommendation T.50 (commonly known as “ASCII”).

(4) An amateur station transmitting a RTTY or data emission using a digital code specified in this paragraph may use any technique whose technical characteristics have been documented publicly, such as CLOVER, G-TOR, or PacTOR, for the purpose of facilitating communications.

(b) Where authorized by §§ 97.305(c) and 97.307(f), a station may transmit a RTTY or data emission using an unspecified digital code, except to a station in a country with which the United States does not have an agreement permitting the code to be used.

RTTY and data emissions using unspecified digital codes must not be transmitted for the purpose of obscuring the meaning of any communication. When deemed necessary by a Regional Director to assure compliance with the FCC Rules, a station must:

(1) Cease the transmission using the unspecified digital code;

(2) Restrict transmissions of any digital code to the extent instructed;

(3) Maintain a record, convertible to the original information, of all digital communications transmitted.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39537, Sept. 27, 1989; 56 FR 56172, Nov. 1, 1991; 60 FR 55486, Nov. 1, 1995; 71 FR 25982, May 3, 2006; 71 FR 66465, Nov. 15, 2006; 80 FR 53753, Sept. 8, 2015]

**§ 97.311 SS emission types.**

(a) SS emission transmissions by an amateur station are authorized only for communications between points within areas where the amateur service is regulated by the FCC and between an area where the amateur service is regulated by the FCC and an amateur station in another country that permits such communications. SS emission transmissions must not be used for the purpose of obscuring the meaning of any communication.

(b) A station transmitting SS emissions must not cause harmful interference to stations employing other authorized emissions, and must accept all interference caused by stations employing other authorized emissions.

(c) When deemed necessary by a Regional Director to assure compliance with this part, a station licensee must:

(1) Cease SS emission transmissions;

(2) Restrict SS emission transmissions to the extent instructed; and

(3) Maintain a record, convertible to the original information (voice, text, image, etc.) of all spread spectrum communications transmitted.

[64 FR 51471, Sept. 23, 1999, as amended at 76 FR 17569, Mar. 30, 2011; 80 FR 53753, Sept. 8, 2015]

## §97.313

## 47 CFR Ch. I (10–1–20 Edition)

### §97.313 Transmitter power standards.

(a) An amateur station must use the minimum transmitter power necessary to carry out the desired communications.

(b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

(c) No station may transmit with a transmitter power output exceeding 200 W PEP:

(1) On the 10.10–10.15 MHz segment;

(2) On the 3.525–3.60 MHz, 7.025–7.125 MHz, 21.025–21.20 MHz, and 28.0–28.5 MHz segment when the control operator is a Novice Class operator or a Technician Class operator; or

(3) The 7.050–7.075 MHz segment when the station is within ITU Regions 1 or 3.

(d) No station may transmit with a transmitter power exceeding 25 W PEP on the VHF 1.25 m band when the control operator is a Novice operator.

(e) No station may transmit with a transmitter power exceeding 5 W PEP on the UHF 23 cm band when the control operator is a Novice operator.

(f) No station may transmit with a transmitter power exceeding 50 W PEP on the UHF 70 cm band from an area specified in paragraph (a) of footnote US270 in §2.106, unless expressly authorized by the FCC after mutual agreement, on a case-by-case basis, between the Regional Director of the applicable field facility and the military area frequency coordinator at the applicable military base. An Earth station or telecommand station, however, may transmit on the 435–438 MHz segment with a maximum of 611 W effective radiated power (1 kW equivalent isotropically radiated power) without the authorization otherwise required. The transmitting antenna elevation angle between the lower half-power (–3 dB relative to the peak or antenna bore sight) point and the horizon must always be greater than 10°.

(g) No station may transmit with a transmitter power exceeding 50 W PEP on the 33 cm band from within 241 km of the boundaries of the White Sands Missile Range. Its boundaries are those portions of Texas and New Mexico bounded on the south by latitude 31°41' North, on the east by longitude 104°11' West, on the north by latitude 34°30'

North, and on the west by longitude 107°30' West.

(h) No station may transmit with a transmitter power exceeding 50 W PEP on the 219–220 MHz segment of the 1.25 m band.

(i) No station may transmit with an effective radiated power (ERP) exceeding 100 W PEP on the 60 m band. For the purpose of computing ERP, the transmitter PEP will be multiplied by the antenna gain relative to a half-wave dipole antenna. A half-wave dipole antenna will be presumed to have a gain of 1 (0 dBd). Licensees using other antennas must maintain in their station records either the antenna manufacturer's data on the antenna gain or calculations of the antenna gain.

(j) No station may transmit with a transmitter output exceeding 10 W PEP when the station is transmitting a SS emission type.

(k) No station may transmit in the 135.7–137.8 kHz (2200 m) band with a transmitter power exceeding 1.5 kW PEP or a radiated power exceeding 1 W EIRP.

(l) No station may transmit in the 472–479 kHz (630 m) band with a transmitter power exceeding 500 W PEP or a radiated power exceeding 5 W EIRP, except that in Alaska, stations located within 800 kilometers of the Russian Federation may not transmit with a radiated power exceeding 1 W EIRP.

(m) No station may transmit with a peak equivalent isotropically radiated power (EIRP) exceeding 316 W in the 76–81 GHz (4 mm) band.

[54 FR 25857, June 20, 1989, as amended at 56 FR 37161, Aug. 5, 1991; 56 FR 3043, Jan. 28, 1991; 60 FR 15688, Mar. 27, 1995; 65 FR 6550, Feb. 10, 2000; 71 FR 66465, Nov. 15, 2006; 75 FR 27204, May 14, 2010; 75 FR 78171, Dec. 15, 2010; 76 FR 17569, Mar. 30, 2011; 77 FR 5413, Feb. 3, 2012; 80 FR 53753, Sept. 8, 2015; 82 FR 27216, June 14, 2017; 82 FR 43872, Sept. 20, 2017]

### §97.315 Certification of external RF power amplifiers.

(a) Any external RF power amplifier (see §2.815 of the FCC Rules) manufactured or imported for use at an amateur radio station must be certificated for use in the amateur service in accordance with subpart J of part 2 of the