§ 74.861 Technical requirements.

(a) Transmitter power is the power at the transmitter output terminals and delivered to the antenna, antenna transmission line, or any other impedance-matched, radio frequency load. For the purpose of this subpart, the transmitter power is the carrier power.

(b) Each authorization for a new low power auxiliary station shall require the use of certificated equipment. Such equipment shall be operated in accordance with the emission specifications included in the certification grant and as prescribed in paragraphs (c) through (e) of this section.

(c) Low power auxiliary transmitters not required to operate on specific carrier frequencies shall operate sufficiently within the authorized frequency band edges to insure the emission bandwidth falls entirely within the authorized band.

(d) For low power auxiliary stations operating in the bands other than those allocated for TV broadcasting, the following technical requirements are imposed:

1. The maximum transmitter power which will be authorized is 1 watt. Licensees may accept the manufacturer’s power rating; however, it is the licensee’s responsibility to observe specified power limits.

2. If a low power auxiliary station employs amplitude modulation, modulation shall not exceed 100 percent on positive or negative peaks.

3. The occupied bandwidth shall not be greater than that necessary for satisfactory transmission and, in any event, an emission appearing on any discrete frequency outside the authorized band shall be attenuated, at least, \[43 + 10 \log_{10} (\text{mean output power, in watts}) \] dB below the mean output power of the transmitting unit.

(e) For low power auxiliary stations operating in the bands allocated for TV broadcasting, the following technical requirements apply:

1. The power of the measured unmodulated carrier power at the output of the transmitter power amplifier (antenna input power) may not exceed the following:
   \[(i) 54–72, 76–88, \text{and } 174–216 \text{ MHz bands—} 50 \text{ mW} \]
   \[(ii) 470–608 \text{ and } 614–698 \text{ MHz bands—} 250 \text{ mW} \]

2. Transmitters may be either crystal controlled or frequency synthesized.

3. Any form of modulation may be used. A maximum deviation of \(\pm 75 \text{ kHz}\) is permitted when frequency modulation is employed.

4. The frequency tolerance of the transmitter shall be 0.005 percent.

5. The operating bandwidth shall not exceed 200 kHz.

6. The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule: