

## Transmitting Without a License

Most unlicensed services require the use of Type Accepted Radios in which paperwork has been submitted to the FCC and approved for use. CB and FRS radios are the most common examples.

Part 15 covers unlicensed devices. These are the most useful frequencies for transmitting without a license.

160 - 190 kHz	Hobbyist
510 - 1705 kHz	Hobbyist
88.0 - 108.0 MHz	Hobbyist, miscellaneous

### **§ 15.217 Operation in the band 160-190 kHz.**

- (a) The total input power to the final radio frequency stage (exclusive of filament or heater power) shall not exceed one watt.
- (b) The total length of the transmission line, antenna, and ground lead (if used) shall not exceed 15 meters.
- (c) All emissions below 160 kHz or above 190 kHz shall be attenuated at least 20 dB below the level of the unmodulated carrier. Determination of compliance with the 20 dB attenuation specification may be based on measurements at the intentional radiator's antenna output terminal unless the intentional radiator uses a permanently attached antenna, in which case compliance shall be demonstrated by measuring the radiated emissions.

### **§ 15.219 Operation in the band 510-1705 kHz.**

- (a) The total input power to the final radio frequency stage (exclusive of filament or heater power) shall not exceed 100 milliwatts.
- (b) The total length of the transmission line, antenna and ground lead (if used) shall not exceed 3 meters.
- (c) All emissions below 510 kHz or above 1705 kHz shall be attenuated at least 20 dB below the level of the unmodulated carrier. Determination of compliance with the 20 dB attenuation specification may be based on measurements at the intentional radiator's antenna output terminal unless the intentional radiator uses a permanently attached antenna, in which case compliance shall be demonstrated by measuring the radiated emissions.

## **§ 15.239 Operation in the band 88-108 MHz.**

(a) Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range of 88-108 MHz.

(b) The field strength of any emissions within the permitted 200 kHz band shall not exceed 250 microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in [§ 15.35](#) for limiting peak emissions apply.

(c) The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed the general radiated emission limits in [§ 15.209](#).

(d) A custom built telemetry intentional radiator operating in the frequency band 88-108 MHz and used for experimentation by an educational institute need not be certified provided the device complies with the standards in this part and the educational institution notifies the Office of Engineering and Technology, in writing, in advance of operation, providing the following information:

- (1) The dates and places where the device will be operated;
- (2) The purpose for which the device will be used;
- (3) A description of the device, including the operating frequency, RF power output, and antenna; and,
- (4) A statement that the device complies with the technical provisions of this part.

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