

Federal Communications Commission

§ 74.636

(3) The remote control system must be designed to prevent inadvertent transmitter operation caused by malfunctions in the circuits between the control point and transmitter.

(b) The FCC may notify the licensee to cease or modify operation in the case of frequency usage disputes, interference or similar situations where such action appears to be in the public interest, convenience and necessity.

[28 FR 13718, Dec. 14, 1963, as amended at, 47 FR 55937, Dec. 14, 1982; 50 FR 48600, Nov. 26, 1985; 60 FR 55483, Nov. 1, 1995]

§ 74.635 Unattended operation.

(a) TV relay stations, TV translator relay stations, TV STL stations, and TV microwave booster stations may be operated unattended under the following conditions:

(1) The transmitter must be provided with adequate safeguards to prevent improper operation.

(2) The transmitter shall be so installed and protected that it is not accessible to other than duly authorized persons;

(3) TV relay stations, TV STL stations, TV translator relay stations, and TV microwave booster stations used with these stations, shall be observed at the receiving end of the microwave circuit as often as necessary to ensure proper station operation by a person designated by the licensee, who must institute measures sufficient to ensure prompt correction of any condition of improper operation. However, an STL station (and any TV microwave booster station) associated with a TV broadcast station operated by remote control may be observed by monitoring the TV station's transmitted signal at the remote control point. Additionally, a TV translator relay station (and any associated TV microwave booster station) may be observed by monitoring the associated TV translator station's transmitted signal.

(b) The FCC may notify the licensee to cease or modify operation in the case of frequency usage disputes, interference or similar situations where

such action appears to be in the public interest, convenience and necessity.

[28 FR 13718, Dec. 14, 1963, as amended at 31 FR 15314, Dec. 7, 1966; 43 FR 1950, Jan. 13, 1978; 47 FR 55937, Dec. 14, 1982; 49 FR 7131, Feb. 27, 1984; 50 FR 32417, Aug. 12, 1985]

§ 74.636 Power limitations.

(a) On any authorized frequency, transmitter peak output power and the average power delivered to an antenna in this service must be the minimum amount of power necessary to carry out the communications desired and shall not exceed the values listed in the following table. Application of this principle includes, but is not to be limited to, requiring a licensee who replaces one or more of its antennas with larger antennas to reduce its antenna input power by an amount appropriate to compensate for the increased primary lobe gain of the replacement antenna(s). In no event shall the average equivalent isotropically radiated power (EIRP), as referenced to an isotropic radiator, exceed the values specified in the following table. In cases of harmful interference, the Commission may, after notice and opportunity for hearing, order a change in the effective radiated power of this station. The table follows:

Frequency band (MHz)	Maximum allowable transmitter power	Maximum allowable EIRP ²	
		Fixed (dBW)	Mobile (dBW)
2,025 to 2,110	12.0	+45	+35
2,450 to 2,483.5	12.0	+45	+35
6,425 to 6,525	12.0	.....	+35
6,875 to 7,125	12.0	+55	+35
12,700 to 13,250	1.5	+55	+45
17,700 to 18,600 .....	.....	+55	.....
18,600 to 18,800 ¹ .....	.....	+35	.....
18,800 to 19,700 .....	.....	+55	.....

¹ The power delivered to the antenna is limited to -3 dBW.
² Stations licensed based on an application filed before April 16, 2003, for EIRP values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal.

(b) The EIRP of transmitters that use Automatic Transmitter Power Control (ATPC) shall not exceed the EIRP specified on the station authorization. The EIRP of non-ATPC transmitters

§ 74.637

47 CFR Ch. I (10–1–05 Edition)

shall be maintained as near as practicable to the EIRP specified on the station authorization.

[68 FR 12769, Mar. 17, 2003]

§ 74.637 Emissions and emission limitations.

(a) The mean power of emissions shall be attenuated below the mean transmitter power (P_{MEAN}) in accordance with the following schedule:

(1) When using frequency modulation:

(i) On any frequency removed from the assigned (center) frequency by more than 50% up to and including 100% of the authorized bandwidth: At least 25 dB in any 100 kHz reference bandwidth (B_{REF});

(ii) On any frequency removed from the assigned (center) frequency by more than 100% up to and including 250% of the authorized bandwidth: At least 35 dB in any 100 kHz reference bandwidth;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least $43 + 10 \log_{10} (P_{MEAN}$ in watts) dB, or 80 dB, whichever is the lesser attenuation, in any 100 kHz reference bandwidth.

(2) When using transmissions employing digital modulation techniques:

(i) For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:

$$A = 35 + 0.8 (G - 50) + 10 \text{ Log}_{10} B.$$

(Attenuation greater than 80 decibels is not required.)

Where:

A = Attenuation (in decibels) below the mean output power level.

G = Percent removed from the carrier frequency.

B = Authorized bandwidth in megahertz.

(ii) For operating frequencies above 15 GHz, in any 1 MHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the au-

thorized bandwidth: As specified by the following equation but in no event less than 11 decibels:

$$A = 11 + 0.4 (G - 50) + 10 \text{ Log}_{10} B.$$

(Attenuation greater than 56 decibels is not required.)

(iii) In any 4 kHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \text{ Log}_{10} (P_{MEAN}$ in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(3) Amplitude Modulation. For vestigial sideband AM video: On any frequency removed from the center frequency of the authorized band by more than 50%: at least 50 dB below peak power of the emission.

(b) For all emissions not covered in paragraph (a) of this section, the peak power of emissions shall be attenuated below the peak envelope transmitter power (P_{PEAK}) in accordance with the following schedule:

(1) On any frequency 500 Hz inside the channel edge up to and including 2500 Hz outside the same edge, the following formula will apply:

$$A = 29 \text{ Log}_{10} [(25/11)[(D + 2.5 - (W/2))^2] \text{ dB}$$

(Attenuation greater than 50 decibels is not required.)

Where:

A = Attenuation (in dB) below the peak envelope transmitter power.

D = The displacement frequency (kHz) from the center of the authorized bandwidth.

W = the channel bandwidth (kHz).

(2) On any frequency removed from the channel edge by more than 2500 Hz: At least $43 + 10 \text{ Log}_{10} (P_{PEAK}$ in watts) dB.

(c) For purposes of compliance with the emission limitation requirements of this section:

(1) If the transmitter modulates a single carrier, digital modulation techniques are considered as being employed when digital modulation occupies 50 percent or more of the total peak frequency deviation of a transmitted radio frequency carrier. The total peak frequency deviation will be determined by adding the deviation