(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.

Transmitter peak output power shall not be greater than necessary, and in any event, shall not exceed the power listed in the table below:

Frequency band (MHz)	Maximum allowable transmitter power		Maximum allowable EIRP	
	Fixed (W)	Mobil (W)	Fixed (dBW)	Mobil (dBW)
1,990 to 2,110	20.0	12.0	.....	.....
2,450 to 2,500	20.0	12.0	.....	.....
6,425 to 6,525	.....	12.0	.....	+35
6,875 to 7,125	20.0	12.0	+55	+35
12,700 to 13,250	5.0	1.5	+55	+45
17,700 to 18,600	10.0.	.....	+55	.....
18,600 to 18,800	[1] 10.0	.....	+35	.....
18,800 to 19,700	10.0	.....	+55	.....
31,000 to 31,300	0.05	0.05	.....	.....
38,600 to 40,000	.....	1.5	.....	.....

[1] The power delivered to the antenna is limited to -3 dBW.

[45 FR 78692, Nov. 26, 1980, as amended at 52 FR 7142, Mar. 9, 1987]

§ 74.637 Emissions and emission limitations.

(a) For frequency modulation, the mean power of emissions shall be attenuated below the mean transmitter power (P) in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50% and up to 100% of the authorized bandwidth: at least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100% and up to 150% of the authorized bandwidth: at least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 150% of the authorized bandwidth: at least 43+10 Log(P) dB.

(b) For all emissions except frequency modulation, the peak power of emissions shall be attenuated below the peak envelope transmitter power (P) 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:

$$\text{Attenuation} = 29\ \text{Log}\left(\frac{25}{11}\left(D + 2.5 - \frac{W}{2}\right)^2\right)\ \text{dB}$$

or 50 dB whichever is the lesser attenuation. Where: D is the displacement frequency (kHz) from the center of the authorized bandwidth; and W is the channel bandwidth (kHz).

(2) On any frequency removed from the channel edge by more than 2500 Hz: At least 43+10 Log (P) dB.

(c) For operation in the bands 6425–6525 MHz, 17,700–19,700 MHz, and 31,000–

31,300 MHz: TV broadcast STL, relay and booster stations may be authorized to employ analog or digital modulation in this band. The mean power of any emission shall be attenuated below the mean output power of the transmitter 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;

(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;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least 43+10 log 10 (mean output power in watts) dB, or 80 dB, whichever is the lesser attenuation.

(2) When using digital modulation:

(i) In any 1 NHz band, the center frequency of which is removed from the assigned frequency by more than 50% up to and including 250% of the authorized bandwidth: As specified by the following equation but in no event less than 11 dB.

$$A=11+0.4\ (P-50)+10\ \log_{10} B$$

where:

A=Attenuation (in dB) below the mean output power level
P=Percent removed from the carrier frequency
B=Authorized bandwidth in MHz

[Attenuation greater than 56 decibels is not required.]

(ii) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250% of the authorized bandwidth: At least $43=10\ \log_{10}$ (mean output power in watts) dB, or 80 dB, 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.

(d) In the event that interference to other stations is caused by emissions outside the authorized channel, the FCC may require greater attenuation than that specified in paragraph (b) of this section.

(e) The following limitations also apply to the operation of TV microwave booster stations:

(1) The booster station must receive and amplify the signals of the originating station and retransmit them on the same frequency without significantly altering them in any way. The characteristics of the booster transmitter output signal shall meet the requirements applicable to the signal of the originating station.

(2) The licensee is responsible for correcting any condition of interference that results from the radiation of radio frequency energy outside the assigned channel. Upon notice by the FCC to the station licensee that interference is being caused, operation of the apparatus must be immediately suspended and may not be resumed until the interference has been eliminated or it can be demonstrated that the interference is not due to spurious emissions. However, short term test transmissions may be made during the period of suspended operation to determine the efficacy of remedial measures.

(3) In each instance where suspension of operation is required, the licensee must submit a full report to the FCC after operation is resumed. The report must contain details of the nature of the interference, the source of interfering signals, and the remedial steps taken to eliminate the interference.

(f) In the event a station's emissions outside its authorized channel cause harmful interference, the Commission may require the licensee to take such further steps as may be necessary to eliminate the interference.

(g) The maximum bandwidth which will be authorized per frequency assignment is set out in the table which follows. Regardless of the maximum authorized bandwidth specified for each frequency band, the Commission reserves the right to issue a license for less than the maximum bandwidth if it appears that less bandwidth would be sufficient to support an applicant's intended communications.

Frequency Band (MHz)	Maximum authorized bandwidth (MHz)
1,990 to 2,110	18
6,425 to 6,525	25
6,875 to 7,125	25
12,700 to 13,250	25
17,700 to 19,700	80
31,000 to 31,300	25 or 50
38,600 to 40,000	

[45 FR 78692, Nov. 26, 1980, as amended at 48 FR 50734, Nov. 3, 1983; 49 FR 7131, Feb. 27, 1984; 49 FR 37778, Sept. 26, 1984; 50 FR 7342, Feb. 22, 1985; 50 FR 34150, Aug. 23, 1985; 50 FR 48600, Nov. 26, 1985; 52 FR 7142, Mar. 9, 1987; 58 FR 51251, Oct. 1, 1993]

§ 74.638 Frequency coordination.

(a) Channels in Band D are shared with certain Private Operational Fixed Stations authorized under part 101, § 101.147(p), after September 9, 1983. After this date all Broadcast Auxiliary use of these bands is subject to coordination using the following procedure:

(1) Before filing an application for new or modified facilities under this part the applicant must perform a frequency engineering analysis to ensure that the proposed facilities will not cause interference to existing or previously applied for stations in this band of a magnitude greater than that specified below.

(2) The general criteria for determining allowable adjacent or co-channel interference protection to be afforded, regardless of system length or type of modulation, multiplexing or frequency band, shall be such that the interfering signal shall not produce more than 1.0 dB degradation of the practical threshold of the protected receiver. Degradation is determined by calculating the ratio in dB between the desired carrier signal and undesired interfering signal (C/I ratio) appearing at the input to the receiver under investigation (the victim receiver). The development of the C/I ratios from the criteria for maximum allowable interference level per exposure and the methods used to perform path calculations shall follow generally acceptable good engineering practices. Procedures as may be developed by the Electronics Industries Association (EIA), the Institute of Electrical and Electronics Engineers, Inc. (IEEE), the American National Standards Institute (ANSI) or any other recognized authority will be acceptable to the FCC.

(3) Where the development of the carrier to interference ratio (C/I) is not covered by generally acceptable procedures or where the applicant does not wish to develop the carrier to interference ratio, the applicant shall employ the following C/I protection ratios.

(i) Co-channel interference: For both sideband and carrier-beat, (applicable to all bands), the previously authorized system shall be afforded a carrier to interfering signal protection ratio of at least 90 dB.

(ii) Adjacent channel interference: The existing or previously authorized system shall be afforded a carrier to interfering signal protection ratio of at least 56 dB.

(b) Coordination of assignments in the 6425–6525 MHz and 17.7–19.7 GHz bands will be in accordance with the procedure established in § 101.103(d) of this chapter except that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.

[49 FR 50734, Nov. 3, 1983, as amended at 52 FR 7142, Mar. 9, 1987; 65 FR 38326, June 20, 2000; 65 FR 54172, Sept. 7, 2000]

EFFECTIVE DATE NOTE: At 65 FR 54172, Sept. 7, 2000, § 74.638 was amended by revising (b), effective Oct. 10, 2000. For the convenience of the user, the superseded text is set forth as follows:

§ 74.638 Frequency coordination.

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(b) Coordination of assignments in the 6425–6525 MHz and 17.7–19.7 GHz bands will be in accordance with the procedure established in § 101.103(d), *except* that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.