

Federal Communications Commission

§ 78.104

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 MHz 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 Commission may require greater attenuation than that specified in paragraph (b) of this section.

(e) The maximum bandwidth that will be authorized per frequency assignment is set out in the table that 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 a bandwidth less than the maximum would be sufficient to support an applicant's intended communications.

Frequency band (MHz)	Maximum authorized band-width (MHz)
1,990 to 2,110	17 or 18. ¹
6,425 to 6,525	8 or 25.
6,875 to 7,125	25.
12,700 to 13,250	25.
17,700 to 19,700	80.

¹ After a licensee has been relocated in accordance with § 78.40, the maximum authorized bandwidth in the frequency band 2,025 to 2,110 MHz will be 12.1/12.4 MHz.

[37 FR 3292, Feb. 12, 1972, as amended at 37 FR 15927, Aug. 8, 1972; 38 FR 16648, June 25, 1973; 39 FR 26025, July 16, 1974; 48 FR 50736, Nov. 3, 1983; 49 FR 37779, Sept. 26, 1984; 52 FR 7145, Mar. 9, 1987; 65 FR 48182, Aug. 7, 2000; 68 FR 12776, Mar. 17, 2003]

§ 78.104 Authorized bandwidth and emission designator.

(a) The authorized bandwidth permitted to be used by a CARS station and specified in the station license shall be the occupied or necessary bandwidth, whichever is greater, except when otherwise authorized by the Commission in accordance with paragraph (b) of this section.

(b) As an exception to the provision of paragraph (a) of this section, the Commission may approve requests to base the authorized bandwidth for the station on the lesser of the occupied or necessary bandwidth where a persuasive showing is made that:

- (1) The frequency stability of the transmitting equipment to be used will permit compliance with § 78.103(b)(1) and, additionally, will permit 99 percent of the total radiated power to be kept within the frequency limits of the assigned channel.

(c) The emission designator shall be specified in terms of the necessary bandwidth. (See § 2.201(a) of this chapter.)

[39 FR 26025, July 16, 1974, as amended at 45 FR 78694, Nov. 26, 1980]