(ix)(A) For a station authorized pursuant to §73.215 or Sec. §73.509, a showing that the root mean square (RMS) of the measured composite antenna pattern (encompassing both the horizontally and vertically polarized radiation components (in relative field)) is at least 85 percent of the RMS of the authorized composite directional antenna pattern (in relative field). The RMS value, for a composite antenna pattern specified in relative field values, may be determined from the following formula:

RMS=the square root of:

[(relative field value 1)^2 + (relative field value 2)^2 +....+ (last relative field value)^2]

total number of relative field values

(B) where the relative field values are taken from at least 36 evenly spaced radials for the entire 360 degrees of azimuth. The application for license must also demonstrate that coverage of the community of license by the 70 dBu contour is maintained for stations authorized pursuant to §73.215 on Channels 221 through 300, as required by §73.315(a), while noncommercial educational stations operating on Channels 201 through 220 must show that the 60 dBu contour covers at least a portion of the community of license.

(d) Applications proposing the use of FM transmitting antennas in the immediate vicinity (*i.e.* 60 meters or less) of other FM or TV broadcast antennas must include a showing as to the expected effect, if any, of such approximate operation.

(e) Where an FM licensee or permittee proposes to mount its antenna on an AM antenna tower, or locate within 3.2 km of an AM antenna tower, the FM licensee or permittee must comply with §73.1692.

[28 FR 13623, Dec. 14, 1963, as amended at 34 FR 14222, Sept. 10, 1969; 37 FR 25841, Dec. 5, 1972; 43 FR 53738, Nov. 17, 1978; 48 FR 29508, June 27, 1983; 51 FR 17028, May 8, 1986; 54 FR 9804, Mar. 8, 1989; 56 FR 57294, Nov. 8, 1991; 62 FR 51058, Sept. 30, 1997; 63 FR 70047, Dec. 18, 1998]

§ 73.317 FM transmission system requirements.

(a) FM broadcast stations employing transmitters authorized after January 1, 1960, must maintain the bandwidth occupied by their emissions in accordance with the specification detailed below. FM broadcast stations employing transmitters installed or type accepted before January 1, 1960, must achieve the highest degree of compliance with these specifications practicable with their existing equipment. In either case, should harmful interference to other authorized stations occur, the licensee shall correct the problem promptly or cease operation.

(b) Any emission appearing on a frequency removed from the carrier by between 120 kHz and 240 kHz inclusive must be attenuated at least 25 dB below the level of the unmodulated carrier. Compliance with this requirement will be deemed to show the occupied bandwidth to be 240 kHz or less.

(c) Any emission appearing on a frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz must be attenuated at least 35 dB below the level of the unmodulated carrier.

(d) Any emission appearing on a frequency removed from the carrier by more than 600 kHz must be attenuated at least 43 + 10 Log$_{10}$ (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.

(e) Preemphasis shall not be greater than the impedance-frequency characteristics of a series inductance resistance network having a time constant of 75 microseconds. (See upper curve of Figure 2 of §73.333.)

[51 FR 17028, May 8, 1986]

§ 73.318 FM blanketing interference.

Areas adjacent to the transmitting antenna that receive a signal with a strength of 115 dBu (562 mV/m) or greater will be assumed to be blanketed. In determining the blanketed area, the 115 dBu contour is determined by calculating the inverse distance field using the effective radiated power of the maximum radiated lobe of the antenna without considering its vertical radiation pattern or height. For directional antennas, the effective radiated power in the pertinent bearing shall be used.

(a) The distance to the 115 dBu contour is determined using the following equation: