

§ 73.813 Determination of antenna height above average terrain (HAAT).

HAAT determinations for LPFM stations will be made in accordance with the procedure detailed in § 73.313(d) of this part.

§ 73.816 Antennas.

(a) Permittees and licensees may employ nondirectional antennas with horizontal only polarization, vertical only polarization, circular polarization or elliptical polarization.

(b) Directional antennas generally will not be authorized and may not be utilized in the LPFM service, except as provided in paragraph (c) of this section.

(c)(1) Public safety and transportation permittees and licensees, eligible pursuant to § 73.853(a)(2), may utilize directional antennas in connection with the operation of a Travelers' Information Service (TIS) provided each LPFM TIS station utilizes only a single antenna with standard pattern characteristics that are predetermined by the manufacturer. Public safety and transportation permittees and licensees may not use composite antennas (*i.e.*, antennas that consist of multiple stacked and/or phased discrete transmitting antennas).

(2) LPFM permittees and licensees proposing a waiver of the second-adjacent channel spacing requirements of § 73.807 may utilize directional antennas for the sole purpose of justifying such a waiver.

(d) LPFM TIS stations will be authorized as nondirectional stations. The use of a directional antenna as provided for in paragraph (c) of this section will not be considered in the determination of compliance with any requirements of this part.

[65 FR 67303, Nov. 9, 2000, as amended at 78 FR 2106, Jan. 9, 2013]

§ 73.825 Protection to reception of TV channel 6.

(a) LPFM stations will be authorized on Channels 201 through 220 only if the pertinent minimum separation distances in the following table are met with respect to all full power TV Channel 6 stations.

FM channel number	LPFM to TV channel 6 (km)
201	140
202	138
203	137
204	136
205	135
206	133
207	133
208	133
209	133
210	133
211	133
212	132
213	132
214	132
215	131
216	131
217	131
218	131
219	130
220	130

(b) LPFM stations will be authorized on Channels 201 through 220 only if the pertinent minimum separation distances in the following table are met with respect to all low power TV, TV translator, and Class A TV stations authorized on TV Channel 6.

FM channel number	LPFM to TV channel 6 (km)
201	98
202	97
203	95
204	94
205	93
206	91
207	91
208	91
209	91
210	91
211	91
212	90
213	90
214	90
215	90
216	89
217	89
218	89
219	89
220	89

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§ 73.827 Interference to the input signals of FM translator or FM booster stations.

(a) *Interference to the direct reception of the input signal of an FM translator station.* This subsection applies when an LPFM application proposes to operate near an FM translator station, the FM translator station is receiving its input signal off-air (either directly from the primary station or from a

translator station) and the LPFM application proposes to operate on a third-adjacent channel to the station delivering an input signal to the translator station. In these circumstances, the LPFM station will not be authorized unless it is located at least 2 km from the FM translator station. In addition, in cases where an LPFM station is located within ± 30 degrees of the azimuth between the FM translator station and its input signal, the LPFM station will not be authorized unless it is located at least 10 kilometers from the FM translator station. The provisions of this subsection will not apply if the LPFM applicant:

(1) Demonstrates that no actual interference will occur due to an undesired (LPFM) to desired (station delivering signal to translator station) ratio below 34 dB at such translator station's receive antenna.

(2) Complies with the minimum LPFM/FM translator distance separation calculated in accordance with the following formula: $d_u = 133.5 \text{ antilog} [(P_{eu} + G_{ru} - G_{rd} - E_d)/20]$, where d_u = the minimum allowed separation in km, P_{eu} = LPFM ERP in dBW, G_{ru} = gain (dBd) of the FM translator receive antenna in the direction of the LPFM site, G_{rd} = gain (dBd) of the FM translator receive antenna in the direction of the primary station site, E_d = predicted field strength (dBu) of the primary station at the translator site, or

(3) Reaches an agreement with the licensee of the FM translator regarding an alternative technical solution.

NOTE TO PARAGRAPH (a): LPFM applicants may assume that an FM translator station's receive and transmit antennas are collocated.

(b) An authorized LPFM station will not be permitted to continue to operate if an FM translator or FM booster station demonstrates that the LPFM station is causing actual interference to the FM translator or FM booster station's input signal, provided that the same input signal was in use or proposed in an application filed with the Commission prior to the release of the public notice announcing the dates for an LPFM application filing window and has been continuously in use or proposed since that time.

(c) Complaints of actual interference by an LPFM station subject to paragraph (b) of this section must be served on the LPFM licensee and the Federal Communications Commission, Attention: Audio Division, Media Bureau. The LPFM station must suspend operations upon the receipt of such complaint unless the interference has been resolved to the satisfaction of the complainant on the basis of suitable techniques. Short test transmissions may be made during the period of suspended operations to check the efficacy of remedial measures. An LPFM station may only resume full operation at the direction of the Federal Communications Commission. If the Commission determines that the complainant has refused to permit the LPFM station to apply remedial techniques that demonstrably will eliminate the interference without impairment of the original reception, the licensee of the LPFM station is absolved of further responsibility for the complaint.

[78 FR 2106, Jan. 9, 2013, as amended at 78 FR 67317, Nov. 12, 2013]

§ 73.840 Operating power and mode tolerances.

The transmitter power output (TPO) of an LPFM station must be determined by the procedures set forth in § 73.267 of this part. The operating TPO of an LPFM station with an authorized TPO of more than ten watts must be maintained as near as practicable to its authorized TPO and may not be less than 90% of the minimum TPO nor greater than 105% of the maximum authorized TPO. An LPFM station with an authorized TPO of ten watts or less may operate with less than the authorized power, but not more than 105% of the authorized power.

§ 73.845 Transmission system operation.

Each LPFM licensee is responsible for maintaining and operating its broadcast station in a manner that complies with the technical rules set forth elsewhere in this part and in accordance with the terms of the station authorization. In the event that an LPFM station is operating in a manner that is not in compliance with the technical rules set forth elsewhere in