§ 74.1250 Transmitters and associated equipment.

(a) FM translator and booster transmitting apparatus, and exciters employed to provide a locally generated and modulated input signal to translator and booster equipment, used by stations authorized under the provisions of this subpart must be certified upon the request of any manufacturer of transmitters in accordance with this section and subpart J of part 2 of this chapter. In addition, FM translator and booster stations may use FM broadcast transmitting apparatus verified or approved under the provisions of part 73 of this chapter.

(b) Transmitting antennas, antennas used to receive signals to be rebroadcast, and transmission lines are not subject to the requirement for certification.

§ 74.1236 Emission and bandwidth.

(a) The license of a station authorized under this subpart allows the transmission of either F3 or other types of frequency modulation (see § 2.201 of this chapter) upon a showing of need, as long as the emission complies with the following:

(1) For transmitter output powers no greater than 10 watts, paragraphs (b), (c), and (d) of this section apply.

(2) For transmitter output powers greater than 10 watts, § 73.317 (a), (b), (c), and (d) apply.

(b) Standard width FM channels will be assigned and the transmitting apparatus shall be operated so as to limit spurious emissions to the lowest practicable value. Any emissions including intermodulation products and radiofrequency harmonics which are not essential for the transmission of the desired aural information shall be considered to be spurious emissions.

(c) The power of emissions appearing outside the assigned channel shall be attenuated below the total power of the emission as follows:

<table>
<thead>
<tr>
<th>Distance of emission from center frequency</th>
<th>Minimum attenuation below unmodulated carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 to 240 kHz</td>
<td>25 dB</td>
</tr>
<tr>
<td>Over 240 and up to 600 kHz</td>
<td>35 dB</td>
</tr>
<tr>
<td>Over 600 kHz</td>
<td>60 dB</td>
</tr>
</tbody>
</table>

(d) Greater attenuation than that specified in paragraph (c) of this section may be required if interference results outside the assigned channel.

(c) The following requirements must be met before translator, booster or exciter equipment will be certificated in accordance with this section:

1. Radio frequency harmonics and spurious emissions must conform with the specifications of § 74.1236 of this part.

2. The local oscillator or oscillators, including those in an exciter employed to provide a locally generated and modulated input signal to a translator or booster, when subjected to variations in ambient temperature between minus 30 degrees and plus 50 degrees centigrade, and in primary supply voltage between 85 percent and 115 percent of the rated value, shall be sufficiently stable to maintain the output center frequency within plus or minus 0.005 percent of the operating frequency and to enable conformance with the specifications of § 74.1261 of this part.

3. The apparatus shall contain automatic circuits to maintain the power output in conformance with § 74.1235(e) of this part. If provision is included for adjusting the power output, then the normal operating constants shall be specified for operation at both the rated power output and the minimum power output at which the apparatus is designed to operate. The apparatus shall be equipped with suitable meters or meter jacks so that the operating constants can be measured while the apparatus is in operation.

4. Apparatus rated for transmitter power output of more than 1 watt shall be equipped with automatic circuits to place it in a nonradiating condition when no input signal is being received. In conformance with § 74.1263(b) of this part and to transmit the call sign in conformance with § 74.1263(c)(2) of this part.

5. For exciters, automatic means shall be provided for limiting the level of the audio frequency voltage applied to the modulator to ensure that a frequency swing in excess of 75 kHz will not occur under any condition of the modulation.