

§ 22.625 Transmitter locations.

(b) 470–512 MHz. The purpose of the rule in paragraph (b)(1) of this section is to define the areas in which the 470–512 MHz channels are allocated for public mobile use. The purpose of the rules in paragraphs (b)(2) and (b)(3) of this section is to reduce the likelihood that interference to television reception from public mobile operations on these channels will occur.

(1) Control transmitter locations. Control transmitter locations must be within 80 kilometers (50 miles) of the designated locations in this paragraph.

§ 22.623 System configuration.

This section requires a minimum configuration for point-to-multipoint systems using the channels listed in §22.621.

(a) 928–960 MHz. The channels may be assigned, individually or paired, only to fixed transmitters in a system that controls at least four public mobile base transmitters that transmit on the same channel. If a 932–933 MHz channel and a 941–942 MHz channel are assigned as a pair, the 941–942 MHz channel must be assigned only to control transmitters; the 932–933 MHz channel may be assigned to control or fixed relay transmitters.

(b) 470–512 MHz. These channels may be assigned only individually (unpaired), to control transmitters that directly control at least four public mobile base transmitters that transmit on the same channel. Fixed relay transmitters are not authorized.

(c) Selection and assignment. The FCC selects and assigns a channel when granting applications for authorization to operate a new station to transmit in the 470–512, 932–933 and 941–942 MHz frequency ranges. Applicants having a preference may request the assignment of a specific channel or channel pair, but the FCC may in some cases be unable to satisfy such requests.
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The effective radiated power (ERP) of transmitters operating on the channels listed in §22.621 must not exceed the limits in this section.

(a) Maximum ERP. The ERP must not exceed the applicable limits in this paragraph under any circumstances.

<table>
<thead>
<tr>
<th>Frequency range (MHz)</th>
<th>Maximum ERP (watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>470–512</td>
<td>1000</td>
</tr>
<tr>
<td>928–933</td>
<td>50</td>
</tr>
<tr>
<td>941–942</td>
<td>30</td>
</tr>
<tr>
<td>952–960</td>
<td>150</td>
</tr>
</tbody>
</table>

(b) 470–512 MHz limits. The purpose of the rules in paragraphs (b)(1) through (b)(3) of this section is to reduce the likelihood that interference to television reception from public mobile operations on these channels will occur. The protected TV station locations specified in this section are the locations of record as of September 1974, and these do not change even though the TV stations may have been subsequently relocated.

(1) Co-channel protection. The ERP of control transmitters must not exceed the limits in the tables in paragraphs (b)(1)(i) and (b)(1)(ii) of this section. The limits depend upon the height above average terrain of the control transmitter antenna and the distance between the control transmitter and the nearest protected TV station location in paragraph (b)(1)(i) of this section.

(i) The distance to the radio horizon is calculated using the following formula:

\[ d = \sqrt{17 \times h} \]

where

- \( d \) is the distance to the radio horizon in kilometers
- \( h \) is the height of the antenna center of radiation above ground level in meters