

(e) In order to accommodate the situations described in paragraphs (c) and (d) of this section, the equipment shall be capable of transmitting and receiving on any frequency within the bands between 2 and 25 MHz and capable of immediate change among the frequencies, provided, however, that this requirement does not apply to equipment manufactured prior to August 15, 1983.

(f) Only 2K80J3E, 100HA1A, 100HA1B and those emission types listed in § 90.237(g) are permitted.

(g) Applicants must fulfill eligibility requirements set out in § 90.35(c)(1) and submit communications plans pursuant to § 90.129(o).

(h) Exercises or circuits tests which require use of these frequencies for more than seven hours per week cumulative are prohibited unless prior written approval is obtained from the Commission.

[48 FR 32996, July 20, 1983, as amended at 49 FR 48712, Dec. 14, 1984; 52 FR 29856, Aug. 12, 1987; 62 FR 18929, Apr. 17, 1997]

§ 90.267 Assignment and use of frequencies in the 450–470 MHz band for low power use.

(a) The following frequencies between 450–470 MHz are designated for low-power use subject to the provisions of this section. For purposes of this section these frequencies are referred to as “low power frequencies.” Pairs are shown but single frequencies are available for simplex operations.

(b) *Group A1 Frequencies.* The Industrial/Business Pool frequencies in Group A1 are available on a coordinated basis, pursuant to §§ 90.35(b)(2) and 90.175(b), as follows:

(1) Group A1 frequencies are available for voice and non-voice operations on a co-primary basis. Base, mobile and operational fixed stations will be au-

thorized on Group A1 frequencies. Fixed stations may be licensed as mobile.

(2) Within 80 kilometers (50 miles) of the specified coordinates of the top 100 urban areas listed in § 90.741 of this chapter (“80 km circles”) only low power operation will be authorized. The coordinates of an operational fixed or base station and the geographic center (latitude and longitude) of a mobile area of operation determine whether a station is within an “80 km circle.”

(i) The maximum ERP for low power operation on Group A1 frequencies is as follows:

| Operation | Low side of frequency pair (watts) | High side of frequency pair (watts) |
|---------------------------------|------------------------------------|-------------------------------------|
| Operational Fixed or Base | 20 | 6 |
| Mobile | 6 | 6 |
| Portable | 2 | 2 |

(ii) The maximum antenna height for low power fixed stations on Group A1 frequencies will be 23 meters (75 feet) above ground.

(3) Outside the “80 km circles” defined in paragraph (b)(2), full-power operational fixed, base, or mobile stations will be authorized as follows:

(i) Power and antenna height limits are governed by § 90.205 of this chapter;

(ii) For any operational fixed, base or mobile station exceeding the low power or antenna height limits listed in paragraph (b)(2), the 21 dBu F(50,10) contour may not overlap any portion of an “80 km circle;” and,

(iii) Wide area operations will not be permitted. The area of normal day-to-day operations will be described in the application in terms of maximum distance from a geographic center (latitude and longitude).

(4) The Industrial/Business Pool Group A1 Low Power Frequencies are as follows:

| | | | |
|---------------|---------------|---------------|---------------|
| 451/456.18125 | 451/456.58125 | 452/457.10625 | 452/457.70625 |
| 451/456.1875 | 451/456.5875 | 452/457.1125 | 452/457.7125 |
| 451/456.19375 | 451/456.59375 | 452/457.11875 | 452/457.71875 |
| 451/456.28125 | 451/456.60625 | 452/457.13125 | 452/457.78125 |
| 451/456.2875 | 451/456.6125 | 452/457.1375 | 452/457.7875 |
| 451/456.29375 | 451/456.61875 | 452/457.14375 | 452/457.79375 |
| 451/456.30625 | 451/456.65625 | 452/457.15625 | 452/457.80625 |
| 451/456.3125 | 451/456.6625 | 452/457.1625 | 452/457.8125 |
| 451/456.31875 | 451/456.66875 | 452/457.16875 | 452/457.81875 |
| 451/456.35625 | 451/456.68125 | 452/457.18125 | 452/457.83125 |

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| | | | |
|---------------|---------------|----------------------|---------------|
| 451/456.3625 | 451/456.6875 | 452/457.1875 | 452/457.8375 |
| 451/456.36875 | 451/456.69375 | 452/457.19375 | 452/457.84375 |
| 451/456.38125 | 451/456.70625 | 452/457.28125 | 452/457.88125 |
| 451/456.3875 | 451/456.7125 | 452/457.2875 | 452/457.8875 |
| 451/456.39375 | 451/456.71875 | 452/457.29375 | 452/457.89375 |
| 451/456.40625 | 451/456.73125 | 452/457.48125 | 452/457.98125 |
| 451/456.4125 | 451/456.7375 | 452/457.4875 | 452/457.9875 |
| 451/456.41875 | 451/456.74375 | 452/457.49375 | 452/457.99375 |
| 451/456.45625 | 451/456.75625 | 452.53125 (unpaired) | 462/467.18125 |
| 451/456.4625 | 451/456.7625 | 452.5375 (unpaired) | 462/467.1875 |
| 451/456.46875 | 451/456.76875 | 452.54375 (unpaired) | 462/467.19375 |
| 451/456.48125 | 452/457.03125 | 452/457.63125 | 462/467.45625 |
| 451/456.4875 | 452/457.0375 | 452/457.6375 | 462/467.4625 |
| 451/456.49375 | 452/457.04375 | 452/457.64375 | 462/467.46875 |
| 451/456.50625 | 452/457.05625 | 452/457.65625 | 462/467.48125 |
| 451/456.5125 | 452/457.0625 | 452/457.6625 | 462/467.4875 |
| 451/456.51875 | 452/457.06875 | 452/457.66875 | 462/467.49375 |
| 451/456.55625 | 452/457.08125 | 452/457.68125 | 462/467.50625 |
| 451/456.5625 | 452/457.0875 | 452/457.6875 | 462/467.5125 |
| 451/456.56875 | 452/457.09375 | 452/457.69375 | 462/467.51875 |

(c) *Group A2 Frequencies.* The Industrial/Business Pool frequencies in Group A2 are available nationwide on a coordinated basis, pursuant §§ 90.35(b)(2) and 90.175(b) as follows:

(1) Group A2 frequencies are available for voice and non-voice operations on a co-primary basis. Base, mobile or operational fixed stations will be authorized on Group A2 frequencies. Fixed stations may be licensed as mobile.

(2) Low power operation will be authorized nationwide on Group A2 frequencies.

(i) The maximum ERP for low power operation on these frequencies is as follows:

| Operation | Low side of frequency pair | High side of frequency pair (watts) |
|---------------------------------|----------------------------|-------------------------------------|
| Operational Fixed or Base | 20 | 6 |
| Mobile | 6 | 6 |
| Portable | 2 | 2 |

(ii) The maximum antenna height for low power fixed stations will be 23 meters (75 feet) above ground.

(3) The Industrial/Business Pool Group A2 Low Power Frequencies are as follows:

| | | | |
|---------------|---------------|---------------|---------------|
| 451/456.23125 | 451/456.53125 | 452/457.40625 | 452/457.85625 |
| 451/456.2375 | 451/456.5375 | 452/457.4125 | 452/457.8625 |
| 451/456.24375 | 451/456.54375 | 452/457.41875 | 452/457.86875 |
| 451/456.33125 | 451/456.63125 | 452/457.50625 | |
| 451/456.3375 | 451/456.6375 | 452/457.5125 | |
| 451/456.34375 | 451/456.64375 | 452/457.51875 | |
| 451/456.43125 | 452/457.30625 | 452/457.75625 | |
| 451/456.4375 | 452/457.3125 | 452/457.7625 | |
| 451/456.44375 | 452/457.31875 | 452/457.76875 | |

(d) *Group B Frequencies.* The Industrial/Business Pool frequencies in Group B are available nationwide on a coordinated basis, pursuant to §§ 90.35(b)(2) and 90.175(b) as follows:

(1) Group B frequencies are available for non-voice operations on a primary basis. Voice operations will be permitted on a secondary basis. Base, mo-

bile or operational fixed stations will be authorized on Group B frequencies. Fixed stations may be licensed as mobile.

(2) Operation on these frequencies is limited to 6 watts ERP for base, mobile or operational fixed stations and 2 watts ERP for portable units. A maximum antenna height of 7 meters (20 ft)

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above ground is authorized for fixed stations.

(3) The Industrial/Business Pool Group B Frequencies are as follows:

| | | | |
|---------------|---------------|---------------|---------------|
| 462/467.20625 | 462/467.28125 | 462/467.35625 | 462/467.43125 |
| 462/467.2125 | 462/467.2875 | 462/467.3625 | 462/467.4375 |
| 462/467.21875 | 462/467.29375 | 462/467.36875 | 462/467.44375 |
| 462/467.23125 | 462/467.30625 | 462/467.38125 | |
| 462/467.2375 | 462/467.3125 | 462/467.3875 | |
| 462/467.24375 | 462/467.31875 | 462/467.39375 | |
| 462/467.25625 | 462/467.33125 | 462/467.40625 | |
| 462/467.2625 | 462/467.3375 | 462/467.4125 | |
| 462/467.26875 | 462/467.34375 | 462/467.41875 | |

(e) *Group C Frequencies.* The Industrial/Business Pool frequencies in Group C are available nationwide for non-coordinated itinerant use as follows.

(1) Group C frequencies are available for voice and non-voice operations on a co-primary basis. Only mobile operations will be authorized on Group C frequencies. Stations may operate at fixed locations for a temporary period of time. No stations operating at a per-

manent fixed location will be authorized on Group C frequencies.

(2) Operation on these frequencies is limited to 6 watts effective radiated power for fixed or mobile units and 2 watts ERP for portable units. Stations operating at fixed locations for a temporary period of time will be limited to an antenna height of 7 meters (20 feet) above ground.

(3) The Industrial/Business Pool Group C Low Power Frequencies are as follows:

| | | | |
|---------------|---------------|---------------------|---------------------|
| 461/466.03125 | 461/466.15625 | 461/466.28125 | 462.8125 |
| 461/466.0375 | 461/466.1625 | 461/466.2875 | 462.8375 (unpaired) |
| 461/466.04375 | 461/466.16875 | 461/466.29375 | 462/467.8625 |
| 461/466.05625 | 461/466.18125 | 461/466.30625 | 462/467.8875 |
| 461/466.0625 | 461/466.1875 | 461/466.3125 | 462/467.9125 |
| 461/466.06875 | 461/466.19375 | 461/466.31875 | 464/469.48125 |
| 461/466.08125 | 461/466.20625 | 461/466.33125 | 464/469.4875 |
| 461/466.0875 | 461/466.2125 | 461/466.3375 | 464/469.5125 |
| 461/466.09375 | 461/466.21875 | 461/466.34375 | 464/469.51875 |
| 461/466.10625 | 461/466.23125 | 461/466.35625 | 464/469.53125 |
| 461/466.1125 | 461/466.2375 | 461/466.3625 | 464/469.5375 |
| 461/466.11875 | 461/466.24375 | 461/466.36875 | 464/469.5625 |
| 461/466.13125 | 461/466.25625 | 462.7625 (unpaired) | 464/469.56875 |
| 461/466.1375 | 461/466.2625 | 462.7875 (unpaired) | |
| 461/466.14375 | 461/466.26875 | 462.8125 (unpaired) | |

(f) *Group D Frequencies.* The Industrial/Business Pool frequencies in Group D are available for central station alarm operations on a coordinated basis, pursuant to §§ 90.35(b)(2) and 90.175(b).

(1) Base, mobile or operational fixed stations will be authorized on Group D frequencies. Fixed stations may be licensed as mobile.

(2) Group D frequencies subject to § 90.35(c)(63) are limited to central station alarm use within the urban areas described in § 90.35(c)(63). Outside the

urban areas described in § 90.35(c)(63), Group D frequencies subject to § 90.35(c)(63) are available for general Industrial/Business use on a coordinated basis, pursuant to §§ 90.35(b)(2) and 90.175(b).

(3) Group D frequencies subject to § 90.35(c)(66) are limited to central station alarm use nationwide.

(4) Operation on Group D frequencies is limited to 2 watts output power for mobile, base or operational fixed stations. Fixed stations used for central station alarm operations may utilize

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antennas mounted not more than 7 meters (20 feet) above a man-made supporting structure, including antenna structure.

(5) The Industrial/Business Pool Group D Low Power Frequencies are as follows:

| | | |
|---------------|---------------|---------------|
| 460/465.90625 | 460/465.95625 | 461/466.00625 |
| 460/465.9125 | 460/465.9625 | 461/466.0125 |
| 460/466.91875 | 460/465.96875 | 461/466.01875 |
| 460/465.93125 | 460/465.98125 | |
| 460/465.9375 | 460/465.9875 | |
| 460/465.94375 | 460/465.99375 | |

(g) *Low Power Public Safety Frequencies.* The frequencies in the Public Safety Pool Low Power Group are available nationwide on a coordinated basis, pursuant to §§90.20(c)(2) and 90.175(b).

(1) Base, mobile or operational fixed stations will be authorized on Public Safety Low Power frequencies. Fixed stations may be licensed as mobile.

(2) Operation on these frequencies is limited to 6 watts effective radiated power for base, mobile or operational fixed stations and 2 watts ERP for portable units. A maximum antenna height of 7 meters (20 feet) above ground is authorized for fixed stations.

(3) The Public Safety Pool Low Power Frequencies are as follows:

| | | | |
|---------------|---------------|---------------|---------------|
| 453/458.03125 | 453/458.13125 | 453/458.95625 | 460/465.53125 |
| 453/458.0375 | 453/458.1375 | 453/458.9625 | 460/465.5375 |
| 453/458.04375 | 453/458.14375 | 453/458.96875 | 460/465.54375 |
| 453/458.05625 | 453/458.88125 | 453/458.98125 | 460/465.55625 |
| 453/458.0625 | 453/458.8875 | 453/458.9875 | 460/465.5625 |
| 453/458.06875 | 453/458.89375 | 453/458.99375 | 460/465.56875 |
| 453/458.08125 | 453/458.90625 | 460/465.48125 | |
| 453/458.0875 | 453/458.9125 | 460/465.4875 | |
| 453/458.09375 | 453/458.91875 | 460/465.49375 | |
| 453/458.10625 | 453/458.93125 | 460/465.50625 | |
| 453/458.1125 | 453/458.9375 | 460/465.5125 | |
| 453/458.11875 | 453/458.94375 | 460/465.51875 | |

(h) Unless otherwise noted, the following conditions apply to all low power frequencies:

(1) Except for itinerant operations on Group C, wide area operations will not be authorized. The area of normal day-to-day operations will be described in the application in terms of maximum distance from a geographic center (latitude and longitude).

(2) A hospital or health care institution holding a license to operate a radio station under this part may operate a medical radio telemetry device with an output power not to exceed 20 milliwatts without specific authorization from the Commission. All licensees operating under this authority must comply with the requirements and limitations set forth in this section.

(3) No limit shall be placed on the length or height above ground level of any commercially manufactured radiating transmission line when the transmission line is terminated in a non-radiating load and is routed at least 7 meters (20 feet) interior to the edge of any structure or is routed below ground level.

(4) Sea-based stations may utilize antennas mounted not more than 7 meters (20 feet) above a man-made supporting structure, including antenna structures.

(5) Continuous carrier operations are prohibited on these frequencies.

(6) Unless specified elsewhere in this part, licensees as of August 5, 1999, licensed for operations with an emission designator wider than 11.25 kHz on low power frequencies that are subject to

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an authorized bandwidth of 11.25 kHz, may obtain primary status with respect to co-channel licensees by supplying their coordinates to the Commission. These licensees will continue to operate on a secondary basis with respect to adjacent channel licensees. Additionally, these licensees may continue to operate with an authorized bandwidth wider than 11.25 kHz on such low power frequencies, subject to the provisions of § 90.209(b) of this chapter.

(7) Unless specified elsewhere in this part, licensees as of August 5, 1999, licensed for operations with an emission designator wider than 11.25 kHz on frequencies that are subject to an authorized bandwidth of 11.25 kHz, which are not low power frequencies, may obtain primary status with respect to co-channel licensees by modifying their license to low power frequencies, supplying their coordinates to the Commission, and otherwise complying with the conditions of paragraphs (b) through (g) of this section. These licensees will continue to operate on a secondary basis with respect to adjacent channel licensees. Additionally, these licensees may continue to operate with an authorized bandwidth wider than 11.25 kHz on such low power frequencies, subject to the provisions of § 90.209(b) of this chapter.

(8) Applicants proposing to operate with an authorized bandwidth wider than 11.25 kHz, on low power frequencies that are subject to an authorized bandwidth of 11.25 kHz, may be licensed on a secondary, non-interference basis. Such applicants are subject to the conditions of paragraphs (b) through (g) of this section and the provisions of § 90.209(b) of this chapter.

[68 FR 19461, Apr. 21, 2003; 68 FR 55319, Sept. 25, 2003, as amended at 69 FR 4254, Jan. 29, 2004; 75 FR 19284, Apr. 14, 2010]

§ 90.269 Use of frequencies for self-powered vehicle detectors.

(a) Frequencies subject to § 90.20(d)(22) may be used for the operation of self-powered vehicle detectors by licensees of base/mobile stations in the Public Safety Pool in accordance with the following conditions:

(1) All stations are limited to 100 milliwatts carrier power and 20K00F7W, 20K00F7X, 20K00F8W, 20K00F8X,

20K00F9W or 20K00F9X emissions. The frequency deviation shall not exceed 5 kHz. No more than two 30 ms. pulses may be emitted for each vehicle sensed.

(2) The transmitters must be crystal controlled with a frequency tolerance of plus or minus .005% from -20° to plus 50°C . They must be certificated.

(3) The total length of the transmission line plus antenna may not exceed one-half wavelength and must be integral with the unit.

(4) All operation shall be on a secondary, non-interference basis.

(b) [Reserved]

[48 FR 54982, Dec. 8, 1983, as amended at 54 FR 38681, Sept. 20, 1989; 62 FR 18929, Apr. 17, 1997; 63 FR 36610, July 7, 1998]

§ 90.273 Availability and use of frequencies in the 421–430 MHz band.

The frequency bands 422.1875–425.4875 MHz and 427.1875–429.9875 MHz are available for use in the Detroit, Michigan and Cleveland, Ohio areas. The bands 423.8125–425.4875 MHz and 428.8125–429.9875 MHz are available for use in the Buffalo, New York area. Sections 90.273 through 90.281 address the specific rules applicable to these bands. Use of these bands is also subject to the general technical standards and application procedures contained in other subparts of part 90. The technical standards applicable in this band are the same as those contained in subpart I of part 90 for the 450–470 MHz band. Private land mobile use of these frequencies is subject to accepting any interference from Federal Government radiolocation operations.

(a) The following tables list frequencies available for assignment in the Public Safety and Industrial/Business Pools as indicated. In the tables, the Public Safety Pool frequencies are denoted as “PS” and the Industrial/Business Pool frequencies are denoted as “IB.” The frequencies 422.19375 MHz through 424.99375 MHz are paired with frequencies 427.19375 MHz through 429.99375 MHz, respectively. Only the lower half of each frequency pair, available for base station operation, is listed in the tables. Corresponding mobile and control station frequencies are 5 MHz higher than the base station frequency. The frequencies 425.000 through