

§ 90.531

their population or territory by June 13, 2019, i.e., within ten years of the date that incumbent broadcasters are required to relocate to other portions of the spectrum.

(2) providing or prepared to provide “substantial service” to two-thirds of their population or territory by January 1, 2017, i.e., within ten years of the date that incumbent broadcasters are required to relocate to other portions of the spectrum.

(c) The Commission will deem a state “prepared to provide substantial service” if the licensee certifies that a radio system has been approved and funded for implementation by the deadline date. “Substantial service” refers to the construction and operation of 700 MHz facilities by public safety entities providing service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal.

(d) If a state licensee fails to meet any condition of the grant the state license is modified automatically to the frequencies and geographic areas where the state certifies that it is providing substantial service.

(e) Any recovered state license spectrum will revert to General Use. However, spectrum licensed to a state under a state license remains unavailable for reassignment to other applicants until the Commission’s database reflects the parameters of the modified state license.

[65 FR 66654, Nov. 7, 2000, as amended at 79 FR 20106, Apr. 11, 2014]

§ 90.531 Band plan.

This section sets forth the band plan for the 758–775 MHz and 788–805 MHz public safety bands.

(a) *Base and mobile use.* The 763–775 MHz band may be used for base, mobile or fixed (repeater) transmissions. The 793–805 MHz band may be used only for mobile or fixed (control) transmissions.

(b) *Narrowband segments.* There are two band segments that are designated for use with narrowband emissions. Each of these narrowband segments is divided into 960 channels having a channel size of 6.25 kHz as follows:

Frequency range	Channel Nos.
769–775 MHz	1–960

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Frequency range	Channel Nos.
799–805 MHz	961–1920

(1) *Narrowband interoperability channels.* The following narrowband channels are designated for nationwide interoperability licensing and use: 23, 24, 39, 40, 63, 64, 79, 80, 103, 104, 119, 120, 143, 144, 159, 160, 183, 184, 199, 200, 223, 224, 239, 240, 263, 264, 279, 280, 303, 304, 319, 320, 641, 642, 657, 658, 681, 682, 697, 698, 721, 722, 737, 738, 761, 762, 777, 778, 801, 802, 817, 818, 841, 842, 857, 858, 881, 882, 897, 898, 921, 922, 937, 938, 983, 984, 999, 1000, 1023, 1024, 1039, 1040, 1063, 1064, 1079, 1080, 1103, 1104, 1119, 1120, 1143, 1144, 1159, 1160, 1183, 1184, 1199, 1200, 1223, 1224, 1239, 1240, 1263, 1264, 1279, 1280, 1601, 1602, 1617, 1618, 1641, 1642, 1657, 1658, 1681, 1682, 1697, 1698, 1721, 1722, 1737, 1738, 1761, 1762, 1777, 1778, 1801, 1802, 1817, 1818, 1841, 1842, 1857, 1858, 1881, 1882, 1897, 1898.

(i) *Narrowband data Interoperability channels.* The following channel pairs are reserved nationwide for the express purpose of data transmission only: 279/1239, 280/1240, 921/1881, and 922/1882.

(ii) *Narrowband calling Interoperability channels.* The following channel pairs are dedicated nationwide for the express purpose of *Interoperability* calling only: 39/999, 40/1000, 681/1641, and 682/1642. They may not be used primarily for routine, day-to-day communications. Encryption is prohibited on the designated calling channels.

(iii) *Narrowband trunking Interoperability channels.* The following Interoperability channel pairs may be combined with the appropriate adjacent secondary trunking channel pairs and used in trunked mode on a secondary basis to conventional Interoperability operations: 23/983, 24/984, 103/1063, 104/1064, 183/1143, 184/1144, 263/1223, 264/1224, 657/1617, 658/1618, 737/1697, 738/1698, 817/1777, 818/1778, 897/1857, 898/1858. For every ten general use channels trunked at a station, entities may obtain a license to operate in the trunked mode on two of the above contiguous Interoperability channel pairs. The maximum number of Interoperability channel pairs that can be trunked at any one location is eight.

(2) *Narrowband reserve channels.* The following narrowband channels are undesignated and reserved: 37, 38, 61, 62, 77, 78, 117, 118, 141, 142, 157, 158, 197, 198,

221, 222, 237, 238, 277, 278, 301, 302, 317, 318, 643, 644, 683, 684, 699, 700, 723, 724, 763, 764, 779, 780, 803, 804, 843, 844, 859, 860, 883, 884, 923, 924, 939, 940, 997, 998, 1021, 1022, 1037, 1038, 1077, 1078, 1101, 1102, 1117, 1118, 1157, 1158, 1181, 1182, 1197, 1198, 1237, 1238, 1261, 1262, 1277, 1278, 1603, 1604, 1643, 1644, 1659, 1660, 1683, 1684, 1723, 1724, 1739, 1740, 1763, 1764, 1803, 1804, 1819, 1820, 1843, 1844, 1883, 1884, 1899, 1900.

(3) *Narrowband low power channels subject to regional planning.* The following narrowband channels are designated for low power use for on-scene incident response purposes using mobiles and portables subject to Commission-approved regional planning committee regional plans. Transmitter power must not exceed 2 watts (ERP): Channels 1–8 paired with Channels 961–968, and Channels 949–958 paired with Channels 1909–1918.

(4) *Narrowband low power itinerant channels.* The following narrowband channels are designated for low power use for on-scene incident response purposes using mobiles and portables. These channels are licensed nationwide for itinerant operation. Transmitter power must not exceed 2 watts (ERP): Channels 9–12 paired with Channels 969–972 and Channels 959–960 paired with Channels 1919–1920.

(5) *Narrowband state channels.* The following narrowband channels are designated for direct licensing to each state (including U.S. territories, districts, and possessions): 25–36, 65–76, 105–116, 145–156, 185–196, 225–236, 265–276, 305–316, 645–656, 685–696, 725–736, 765–776, 805–816, 845–856, 885–896, 925–936, 985–996, 1025–1036, 1065–1076, 1105–1116, 1145–1156, 1185–1196, 1225–1236, 1265–1276, 1605–1616, 1645–1656, 1685–1696, 1725–1736, 1765–1776, 1805–1816, 1845–1856, 1885–1896. Voice operations on these channels are subject to compliance with the spectrum usage efficiency requirements set forth in § 90.535(d).

(6) *Narrowband general use channels.* All narrowband channels established in paragraph (b) of this section, other than those listed in paragraphs (b)(1), (b)(2), (b)(4) and (b)(5) of this section are designated to public safety eligibles subject to Commission approved regional planning committee regional plans. Voice operations on these channels are subject to compliance with the

spectrum usage efficiency requirements set forth in § 90.535(d).

(7) *Secondary trunking channels.* The following channel pairs are reserved for secondary trunking operations: 21/981, 22/982, 101/1061, 102/1062, 181/1141, 182/1142, 261/1221, 262/1222, 659/1619, 660/1620, 739/1699, 740/1700, 819/1779, 820/1780, 899/1859, and 900/1860. They may be used only in combination with the appropriate adjacent Interoperability channel pairs specified in paragraph (b)(1)(iii) of this section in trunked systems.

(c) [Reserved]

(d) *Combining channels.* Except as noted in this section, at the discretion of the appropriate regional planning committee, contiguous channels may be used in combination in order to accommodate requirements for larger bandwidth emissions, in accordance with this paragraph. Interoperability channels may not be combined with channels in another group except for channels for secondary trunking channels.

(1) *Narrowband.* Subject to compliance with the spectrum usage efficiency requirements set forth in § 90.535, two or four contiguous narrowband (6.25 kHz) channels may be used in combination as 12.5 kHz or 25 kHz channels, respectively. The lower (in frequency) channel for two channel combinations must be an odd (*i.e.*, 1, 3, 5 * * *) numbered channel. The lowest (in frequency) channel for four channel combinations must be a channel whose number is equal to $1+(4xn)$, where n = any integer between 0 and 479, inclusive (*e.g.*, channel number 1, 5, * * * 1917). Channel combinations are designated by the lowest and highest channel numbers separated by a hyphen, *e.g.*, “1–2” for a two channel combination and “1–4” for a four channel combination.

(2) [Reserved]

(e) *Channel pairing.* In general, channels must be planned and assigned in base/mobile pairs that are separated by 30 MHz. However, until December 31, 2006, channels other than those listed in paragraphs (b)(1) and (c)(1), may be planned and assigned in base/mobile pairs having a different separation, where necessary because 30 MHz base/

mobile pairing is precluded by the presence of one or more co-channel or adjacent channel TV/DTV broadcast stations.

(f) *Internal guard band.* The internal guard band (768–769/798–799 MHz) is reserved.

(g) *Broadband.* The 758–768 MHz and 788–798 MHz bands are allocated for broadband communications.

[63 FR 58651, Nov. 2, 1998, as amended at 65 FR 66654, Nov. 7, 2000; 66 FR 10635, 10636, Feb. 16, 2001; 67 FR 61005, Sept. 27, 2002; 67 FR 76700, Dec. 13, 2002; 72 FR 48860, Aug. 24, 2007; 77 FR 62463, Oct. 15, 2012]

§ 90.532 Licensing of the 758–769 MHz and 788–799 MHz Bands.

Pursuant to Section 6201 of the Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112–96, 126 Stat. 156 (2012), a nationwide license for use of the 758–769 MHz and 788–799 MHz bands shall be issued to the First Responder Network Authority for a initial license term of ten years from the date of the initial issuance of the license. Prior to expiration of the term of such initial license, the First Responder Network Authority shall submit to the Commission an application for the renewal of such license. Such renewal application shall demonstrate that, during the preceding license term, the First Responder Network Authority has met the duties and obligations set forth under the foregoing Act. A renewal license shall be for a term not to exceed ten years.

[77 FR 62463, Oct. 15, 2012]

§ 90.533 Transmitting sites near the U.S./Canada or U.S./Mexico border.

This section applies to each license to operate one or more public safety transmitters in the 758–775 MHz and 788–805 MHz bands, at a location or locations North of Line A (see § 90.7) or within 120 kilometers (75 miles) of the U.S.-Mexico border, until such time as agreements between the government of the United States and the government of Canada or the government of the United States and the government of Mexico, as applicable, become effective governing border area non-broadcast use of these bands. Public safety licenses are granted subject to the following conditions:

(a) Public safety transmitters operating in the 758–775 MHz and 788–805 MHz bands must conform to the limitations on interference to Canadian television stations contained in agreement(s) between the United States and Canada for use of television channels in the border area.

(b) Public safety facilities must accept any interference that may be caused by operations of UHF television broadcast transmitters in Canada and Mexico.

(c) Conditions may be added during the term of the license, if required by the terms of international agreements between the government of the United States and the government of Canada or the government of the United States and the government of Mexico, as applicable, regarding non-broadcast use of the 758–775 MHz and 788–805 MHz bands.

[43 FR 54791, Nov. 22, 1978, as amended at 67 FR 76700, Dec. 13, 2002; 72 FR 48861, Aug. 24, 2007; 79 FR 600, Jan. 6, 2014]

§ 90.535 Modulation and spectrum usage efficiency requirements.

Transmitters designed to operate in 769–775 MHz and 799–805 MHz frequency bands must meet the following modulation standards:

(a) All transmitters in the 769–775 MHz and 799–805 MHz frequency bands must use digital modulation. Mobile and portable transmitters may have analog modulation capability only as a secondary mode in addition to its primary digital mode. Mobile and portable transmitters that only operate on the low power channels designated in §§ 90.531(b)(3), 90.531(b)(4), are exempt from this digital modulation requirement.

(b) Transmitters designed to operate in the narrowband segment using digital modulation must be capable of maintaining a minimum data (non-voice) rate of 4.8 kbps per 6.25 kHz of bandwidth.

(c) Transmitters designed to operate in the wideband segment using digital modulation must be capable of maintaining a minimum data (non-voice) rate of 384 kbps per 150 kHz of bandwidth.