

must be protected). Since mobiles and portables are able to move and communicate with each other, licensees or coordinators must determine the areas where the mobiles can and cannot roam in order to protect the TV/DTV stations, and advise the mobile operators of these areas and their restrictions.

(iii) In order to protect certain TV/DTV stations and to ensure protection from these stations which may have extremely large contours due to unusual height situations, an additional distance factor must be used by all public safety base, control and mobile stations. For all co-channel and adjacent channel TV/DTV stations which have an HAAT between 350 and 600 meters, public safety stations must add the following DISTANCE FACTOR to the value obtained from the referenced Tables in § 90.309 and to the distance for control and mobile stations on adjacent TV/DTV channels (96.5 km).

DISTANCE FACTOR = (TV/DTV HAAT–350) + 14 in kilometers, where HAAT is the TV or DTV station antenna height above average terrain obtained from its authorized or proposed facilities, whichever is greater.

(iv) For all co-channel and adjacent channel TV/DTV stations which have an antenna height above average terrain greater than 600 meters, public safety stations must add 18 kilometers as the DISTANCE FACTOR to the value obtained from the referenced Tables in § 90.309 and to the distance for control and mobile stations on adjacent TV/DTV channels (96.5 km).

NOTE TO § 90.545: The 88.5 km (55.0 mi) Grade B service contour (64 dBuV/m) is based on a hypothetical TV station operating at an effective radiated power of one megawatt, a transmitting antenna height above average terrain of 610 meters (2000 feet) and the Commission's R-6602 F(50,50) curves. See § 73.699 of this chapter. Maximum facilities for TV stations operating in the UHF band are 5 megawatts effective radiated power at an antenna HAAT of 610 meters (2,000 feet). See § 73.614 of this chapter. The equivalent contour for DTV stations is based on a 41 dBuV/m signal strength and the distance to the F(50,90) curve. See § 73.625 of this chapter.

[63 FR 58651, Nov. 2, 1998, as amended at 65 FR 53646, Sept. 5, 2000; 69 FR 59536, Oct. 4, 2004; 72 FR 67577, Nov. 29, 2007]

§ 90.547 Narrowband Interoperability channel capability requirement.

(a) Except as noted in this section, mobile and portable transmitters operating on narrowband channels in the 769–775 MHz and 799–805 MHz frequency bands must be capable of operating on all of the designated nationwide narrowband Interoperability channels pursuant to the standards specified in this part.

(1) Mobile and portable transmitters that are designed to operate only on the Low Power Channels specified in § 90.531 (b)(3) and (4) are exempt from this Interoperability channel requirement.

(2) Mobile and portable transmitters that are designed to operate only in the data mode must be capable of operation on the data Interoperability channels specified in § 90.531(b)(1)(i); but need not be capable of voice operation on other Interoperability channels.

(3) Mobile and portable transmitters that are designed to operate only in the voice mode do not have to operate on the data Interoperability channels specified in § 90.531(b)(1)(i).

(b) Mobile and portable transmitters designed for data are not required to be voice capable, and vice versa.

[67 FR 61005, Sept. 27, 2002, as amended at 72 FR 48863, Aug. 24, 2007]

§ 90.548 Interoperability Technical Standards.

(a) Transmitters designed after August 11, 2014 to operate on the narrowband interoperability channels in the 769–775 and 799–805 MHz band (see § 90.531) shall conform to the following technical standards (transmitters certified prior to this date are grandfathered):

(1) Transmitters designed for voice operation shall include a 12.5 kilohertz bandwidth mode of operation conforming to the following standards: ANSI/TIA-102.BAAA-A-2003 and ANSI/TIA-102.BABA-2003.

(2) Transmitters designed for data transmission shall include a 12.5 kilohertz bandwidth mode of operation conforming to the following standards: ANSI/TIA-102.BAEA-B-2012, ANSI/TIA-102.BAAA-A-2003, ANSI/TIA-102.BAEB-

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A-2005, and ANSI/TIA-102.BAEE-B-2010.

(b) The Director of the Federal Register approves these incorporations by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Material incorporated by reference may be inspected at the Federal Communications Commission, 445 12th Street SW., Washington, DC (Reference Information Center) [202-418-0270] or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(1) TIA/EIA, 2500 Wilson Boulevard, Arlington, VA 22201 703-907-7974. These standards are also available from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112; or the American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036, www.ansi.org.

(i) ANSI/TIA-102.BAAA-A-2003, Project 25 FDMA-Common Air Interface, approved September 2003.

(ii) ANSI/TIA-102.BABA-2003, Project 25 Vocoder Description, approved December 2003.

(iii) ANSI/TIA-102.BAEA-B-2012, Project 25 Data Overview—New Technology Standards Project—Digital Radio Technical Standards, approved June 2012.

(iv) ANSI/TIA-102.BAEB-A-2005, Project 25 Packet Data Specification—New Technology Standards Project—Digital Radio Technical Standards, approved March 2005.

(v) ANSI/TIA-102.BAEE-B-2010, Project 25 Radio Management Protocols—New Technology Standards Project—Digital Radio Technical Standards, approved May 2010.

(2) [Reserved]

[79 FR 39340, July 10, 2014]

§ 90.549 Transmitter certification.

Transmitters operated in the 758-775 MHz and 788-805 MHz frequency bands must be of a type that have been authorized by the Commission under its

certification procedure as required by § 90.203.

[79 FR 600, Jan. 6, 2014]

§ 90.551 Construction requirements.

Each station authorized under this subpart to operate in the 769-775 MHz and 799-805 MHz frequency bands must be constructed and placed into operation within 12 months from the date of grant of the authorization, except for State channels. However, licensees may request a longer construction period, up to but not exceeding 5 years, pursuant to § 90.155(b). State channels are subject to the build-out requirements in § 90.529.

[72 FR 48863, Aug. 24, 2007]

§ 90.553 Encryption.

(a) Encryption is permitted on all but the two nationwide Interoperability calling channels. Radios employing encryption must have a readily accessible switch or other readily accessible control that permits the radio user to disable encryption.

(b) If encryption is employed, then transmitters manufactured after August 11, 2014 must use the Advanced Encryption Standard (AES) specified in ANSI/TIA-102.AAAD-A: Project 25 Digital Land Mobile Radio-Block Encryption Protocol, approved August 20, 2009. Until 2030, manufacturers may also include the Digital Encryption Standard (DES) or Triple Data Encryption Algorithm (TDEA), in addition to but not in place of AES, for compatibility with legacy radios that lack AES capability. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The standard can also be purchased from TIA/EIA, 2500 Wilson Boulevard, Arlington, VA 22201 703-907-7974; Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112; or the American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036, www.ansi.org. Material incorporated by reference may be inspected at the Federal Communications Commission, 445 12th Street SW., Washington, DC (Reference Information Center) 202-418-0270 or at the