

**Federal Communications Commission
Office of Engineering and Technology
Laboratory Division**

February 5, 2018

**GUIDANCE FOR CERTIFICATION OF
PART 95 GMRS AND FRS TRANSMITTING EQUIPMENT**

I. GENERAL

A comprehensive reorganization of and update to FCC Part 95 Personal Radio Services (PRS) rules was recently effected by the Report and Order (“R&O”) FCC 17-57.¹ The R&O reorganized the Part 95 rules into a common format—frequencies are in Section 95.xx63 of each subpart, power limits are in Section 95.xx67, etc. The updated Part 95 Subpart A (now entitled “General Rules for the Personal Radio Services”; moved and updated former “Subpart E–Technical Regulations”) has common requirements for all PRS services, while service-specific rules, including technical rules, are in the individual subparts. This document summarizes several of the main items and requirements established by the R&O related to FCC equipment authorization of GMRS and FRS transmitting equipment. For certification application preparation and TCB processing, this document shall be used in conjunction with all FCC rules and any other KDB publications applicable for a specific end product.² Section II of this document covers restrictions on GMRS-FRS combination transmitting equipment; general and specific items are summarized for FRS transmitters in Section III and for GMRS transmitters in Section IV. Section V shows general items for all Part 95 transmitters. Appendix A provides an FRS-GMRS channels band-plan graphical chart, for quick reference in confirming frequencies in equipment authorization application filings. Other requirements and guidance documents that might apply for many end products includes KDB Publication 149672 on combination (multiple rule part) transmitting equipment, KDB Publication 634817 on selection and identification of frequencies for equipment authorizations, and KDB Publication 447498 for RF exposure evaluation of portable and mobile devices.³

¹ FCC 17-57; Review of the Commission’s Part 95 Personal Radio Services Rules; docket no. 10-119; 32 FCC Rcd 4292-4405; 82 FR 41096-41144, Aug. 29, 2017.

² Section 2.1 “*End Product*. A completed electronic device that has received all requisite FCC approvals and is suitable for marketing.”

³ FCC OET Laboratory Division Knowledge Database (KDB), (www.fcc.gov/labhelp); KDB Major Guidance Publications, (<https://apps.fcc.gov/oetcf/kdb/reports/GuidedPublicationList.cfm>); Section 2.947(a)(3).

II. COMBINED GMRS-FRS TRANSMITTING EQUIPMENT

- A) New grants are not allowed for hand-held portable equipment having a combination of GMRS (95E, i.e., Subpart E of Part 95) and FRS (95B, i.e., Subpart B of Part 95) transmitters (or transmitting modes).⁴ [Section 95.1761(d)]⁵
- B) For existing GMRS-FRS combination-equipment grants:
- 1) Marketing of any GMRS-FRS combination equipment is not permitted as of Sep. 30, 2019.⁶ [Section 95.1791(a)]
 - 2) C2PC and change in ID filings under old rules are allowed until Sep 30, 2019.
 - 3) For existing GMRS-FRS (95A-95B) combination equipment intended for marketing beyond Sep. 30, 2019, and having Form-731 equipment class FRF, FRE, FRT, or FRB:
 - a) If the technical and operating parameters of a device qualify (maximum ERP of 2 W in the 462 MHz band and 0.5 W on the 467 MHz interstitial channels, emission designator maximum necessary bandwidth of 11K3, etc.), a Class II permissive change (C2pc) [Section 2.1043(b)(2)] application filing may be used to change Form-731 line-entries from 95A (GMRS former Subpart A of Part 95) to 95B (FRS Subpart B of Part 95).
 - b) C2pc filings must include full compliance descriptions and demonstrations under the new 95B rules (see III) A)) for the formerly-95A transmitting modes.
 - 4) End products with other equipment classes and rule part combinations generally need case-by-case consideration by OET Laboratory staff (via KDB inquiry) to determine whether C2pc or new FCC ID or other considerations if any would apply.

III. PART 95 SUBPART B (95B) FRS TRANSMITTING EQUIPMENT

- A) Minimum rules for test data and compliance supporting information in application filings for FRS portable devices are as follows.
- 1) Basic requirements: Sections 2.911(c), 2.1033(c)(3), 2.1033(c)(14) [2.1046 through 2.1057], 1.1307, 2.1093; 2.947(g).⁷

⁴ The former KDB Publication 172838 on combination GMRS and FRS transmitting equipment is expired and shall not be used for new certification application filings (after Dec. 27, 2017).

⁵ Effective Dec. 27, 2017.

⁶ “Marketing” means manufacture, import, sell, or offer for sale.

⁷ The new Section 2.947(g) was added at 82 FR 50828, Nov. 2, 2017; effective Nov. 2, 2017 (FCC 17-93; docket no. 15-170). For convenience, the Section 2.947(g) text is repeated here: “For each technical requirement in this chapter, the test report shall provide adequate test data to demonstrate compliance for the requirement, or in absence of test data, justification acceptable to the Commission as to why test data is not required.”

- 2) Radio service-rule requirements: Sections 95.349, 95.361, 95.377, 95.381, 95.385, 95.391(c), 95.393, 95.519, 95.533, 95.561, 95.563, 95.565, 95.567, 95.571, 95.573, 95.575, 95.577, 95.579, 95.587.
 - 3) Form-731 equipment class FRF is used for typical FRS held-near-face push-to-talk (PTT) portable devices.
 - 4) F3E, G3E, F2D, G2D are the only allowed emission types for Form-731 emission designator listings of FRS devices. [Section 95.571]⁸
 - 5) The definition of FRS in Section 95.503 specifies that radio units must be hand-held; the definition of hand-held includes physically-small mobile station equipment that can be operated while being held in an operator's hand, or worn on a person's body (Form-731 equipment classes FRB, FRT, FRE).
- B) New grants are not allowed for hand-held portable equipment having an FRS transmitter in combination with transmitter(s) (or transmitting modes) operating under other subparts of Title 47 Chapter I (FCC). [Section 95.561(c)]⁵
- 1) Except combination with Part 15 transmitter(s) allowed.
 - 2) For example, new grants for FRS and Part 80 combination hand-held portable devices are not allowed.
- C) Marketing of FRS hand-held portable equipment also containing other licensed or licensed-by-rule transmitter(s) [other than Part 15 intentional radiator(s)] is not permitted as of Sep. 30, 2019.⁶ [Sections 95.587(e), 95.591]
- Case-by-case consideration by OET Laboratory staff (via KDB inquiry) is generally needed to determine whether some type of C2pc qualifies to allow continued marketing of existing combination products.

IV. PART 95 SUBPART E (95E) GMRS TRANSMITTING EQUIPMENT

- A) Minimum rules for test data and compliance supporting information in application filings for GMRS portable devices are as follows.
- 1) Basic requirements: Sections 2.911(c), 2.1033(c)(3), 2.1033(c)(14) [2.1046 through 2.1057], 1.1307, 2.1093; 2.947(g).⁷

⁸ Part 95 was amended in 2003 to permit the transmission of GPS location information and user-generated text messages on certain FRS channels (FCC 03-26; docket nos. 01-339, RM-10070; 18 FCC Rcd 2349, 68 FR 9900). General descriptions of emission types are provided in Part 2 Subpart C. FRS digital transmissions (data or text) typically apply emission type F2D, in which the main carrier is frequency modulated, the signal modulating the main carrier is a single channel containing quantized or digital information with the use of a modulating subcarrier, and the type of information to be transmitted is data, telemetry, or telecommand.

- 2) Radio service-rule requirements: Sections 95.349, 95.361, 95.377, 95.381, 95.385, 95.391(c), 95.393, 95.1733, 95.1749, 95.1751, 95.1761, 95.1763,⁹ 95.1765, 95.1767, 95.1771, 95.1773, 95.1775, 95.1777, 95.1779, 95.1787(a)(1)-(3), 95.1787(a)(4), 95.1787(a)(5).
 - 3) Form-731 equipment class TNF is used for typical GMRS held-near-face push-to-talk (PTT) portable devices.
- B) New grants are not allowed for equipment having a GMRS transmitter in combination with transmitter(s) (or transmitting modes) operating under a radio service or on frequencies where FCC equipment certification is not required. [Section 95.1761(c)]⁵
- 1) Combination is allowed with Part 15 transmitter(s) that also have equipment certification.
 - 2) TCBs shall confirm that application filings show no evidence of non-authorized frequencies, and also contain specific explanation of Section 95.1761(c) compliance. [Section 2.947(g)]
 - 3) For example, new grants are not allowed for GMRS (95E) equipment also transmitting on any U.S. or international amateur radio frequencies, or any non-U.S. land-mobile frequencies.
- C) New grants under GMRS Part 95 Subpart E (95E) are not allowed for hand-held portable equipment (see general definition at III) A) 4)) that is capable of complying with FRS Part 95 Subpart B (95B) rules (power, bandwidth, etc.). [Section 95.1761(e)]⁵
- D) For existing 95A GMRS grants (other than GMRS-FRS combination equipment as discussed in II):
- 1) Changing from 95A to 95E on Form-731 listing and updating application-content compliance information is generally not required (unless some technical item triggers a permissive change).
 - 2) Some multi-rule combinations or specific end products may need case-by-case consideration by OET Laboratory staff via KDB inquiry.
- E) Operating in GMRS requires equipment granted for GMRS (95E, or 95A “legacy” grant). [Sections 95.1761(a), 95.335, 95.361]

V. GENERAL REQUIREMENTS (95A) APPLICABLE FOR GMRS (95E), FRS (95B), AND ALL PART 95 TRANSMITTING EQUIPMENT

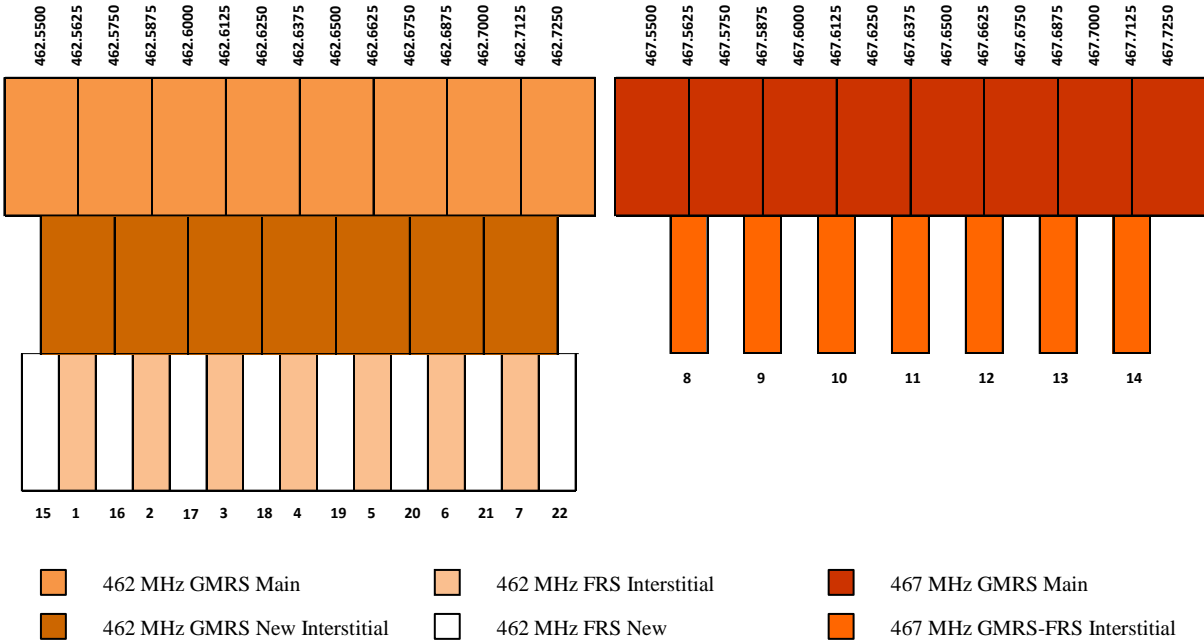
- A) For any transmitting equipment that incorporates one or more voice scrambling or other voice-obscuring features for any Personal Radio Services that permit voice (telephony) communications on shared channels (Section 95.539 Sharing of channels):¹⁰
- 1) TCBs shall not issue grants of equipment certification. [Section 95.381]⁵
 - 2) Marketing is not permitted as of Sep. 30, 2019.⁶ [Section 95.391(c)]

⁹ Section 95.1763(d) has a misprint: “467.5675” should read “467.5625.”

¹⁰ The previous KDB Publication 711889 on voice scrambling for GMRS equipment is expired and replaced by this requirement.

APPENDIX A

CHANNEL ALLOTMENT FOR GMRS AND FRS



| | designation | channel BW | power | GMRS station types |
|---|---|---------------------------------|--|--|
| | 462 MHz GMRS Main | 25 kHz [95.1773(a)] | 50 W (mobile, repeater, base) [95.1767(a)(1)]; 15 W (fixed) [95.1767(a)(2)] | mobile, hand-held portable, repeater, base, fixed [95.1763(a)] |
| | 462 MHz GMRS Interstitial | 25 kHz [95.1773(b)] | 5 W ERP (mobile, hand-held portable, base) [95.1767(b)] | mobile, hand-held portable, base [95.1763(b)] |
| | 462 MHz FRS Interstitial | 12.5 kHz (95.573) | 2 W ERP (95.567) | |
| | 462 MHz FRS New | 12.5 kHz (95.573) | 2 W ERP (95.567) | |
| | 467 MHz GMRS Main | 25 kHz [95.1773(a)] | 50 W (mobile, repeater, base) [95.1767(a)(1)]; 15 W (fixed) [95.1767(a)(2)] | mobile, hand-held portable, control, fixed [95.1763(c)] |
| | 467 MHz GMRS-FRS Interstitial (new in GMRS) | 12.5 kHz [(95.573), 95.1773(b)] | 0.5 W ERP [95.567, 95.1767(c)] | hand-held portable [95.1763(d)] |

A basic table (graph) illustrating the new channel allotment for GMRS and FRS is provided in FCC 17-57 (para. 52, 32 FCC Rcd 4313).¹¹ This appendix shows an enhanced version of that FCC 17-57 channel-plan graph, along with an expanded tabular graph legend. The graph in FCC 17-57 shows the 462 MHz GMRS New Interstitial Channels with 12.5 kHz relative bandwidth; those are shown with 25 kHz bandwidth using a separate "row" at left in the figure above. In addition, the modified version above uses more colors, to also account for that power and bandwidth differs among GMRS channels.

Along with the FCC rules, the channel-plan information in this appendix should be used by applicants, test labs, and TCBs to ensure proper test and operating channel selections and identifications in certification application filings.

¹¹ FCC Electronic Document Management System (EDOCS), (https://apps.fcc.gov/edocs_public/edocsLink.do?mode=basic&type=n).