

Based upon our review of this application we have the following questions:

1. Part 2.1033(c): It could not be found all the info required under this section for transmitters 2, 3, 4, and 5: schematics, tune-up procedures, part lists, circuit description. A new application for Certification must be approved on its own merit. Please provide the necessary info for these transmitters or point out location on filing.

Please find documents attached.

2. Band 764-776 and 794-806MHz: In 2005, the FCC has required that new filing address the new requirement of 90R. Please see attached document. Where applicable, please explain/justify compliance with the specific requirements of subpart R. Particularly, please describe compliance with item 8. Encryption according to part 90.553 (a) and (b).

Answers Below

3. The band 156-158MHz for part 80 was not requested for this filing. Although part 80 is listed on 731 form. Please explain/or revise intent for part 80 filing.

Please add line to Grant showing 156-158MHz at 1W as Parts 80.379 and 87.87(l)

4. The band 824-851 is not allowed for part 90 – Part 22 only. 901-902 is not allowed under part 90 – part 24 only. 930-935 is not allowed under part 90 – only 22, 24, and 101. These bands should be removed from form 731. This FCC is enforcing this policy. Please revise accordingly.

Please revise to remove 824-851MHz, 901-902MHz and 930-935MHz from the Grant

Part 90R Application Review Guide

Public Safety Bands: 764-776 MHz and 794-806 MHz

1. Explanation of which Narrowband or Wideband channel segments the device is capable of supporting from those listed in 90.531(b), and 90.531(c).

- For Narrowband segments:

- a) Is the device capable of operating on "General Use" channels listed in 90.531(b)(5) or "State" channels listed in 90.531(b)(6)?
- b) Is the device ONLY capable of operating on Low Power "Regional" channels listed in 90.531(b)(3) or Low Power "Itinerant" channels listed in 90.531(b)(4)?
- c) Is the device capable of operating on "Nationwide" Interoperability channels listed in 90.531(b)(1)?

- For Wideband segments:

- d) Is the device capable of operating on Interoperability channels listed in 90.531(c)(1)?

The device is capable of operating on General, State and Nationwide Interoperability channels as defined in 90.531(b). The unit also operates on the Wideband interoperability channels as defined in 90.531(c)

2. Statement regarding the modulation capabilities of the device:

- Does the device support digital Voice only, Data only, or both [see 90.547]?
- Does the device support analog voice operation [see 90.535(a)]?

The device supports digital and analog voice

3. Verify the following Interoperability Channel Operation requirements listed in 90.531 and 90.547 for Narrowband mobile, portable, or control devices only, given the information from #1. and #2. above:

- a) Designed for Data ONLY Operation on Nationwide, General Use or State channels - Must be capable of operating on the data interoperability channels listed in 90.531(b)(1)(i).
- b) Designed for Voice ONLY Operation on Nationwide, General Use or State channels - Must be capable of operating on the nationwide and calling only interoperability channels listed in 90.531(b)(1) and (b)(1)(ii), but do not have to operate on data only channels listed in 90.531(b)(1)(i).
- c) Designed for BOTH Voice and Data Operation on Nationwide, General Use or State channels - Must be capable of operating on all nationwide interoperability channels including data only and calling only channels listed in 90.531(b)(1), (b)(1)(i), and (b)(1)(ii).
- d) Designed for Low Power ONLY Operation on Regional/Itinerant channels – Must operate ONLY on the data/voice channels listed in 90.531(b)(3) or (b)(4).

Complies with requirements for digital and analog voice high power narrowband operations

4. Verify the following capability requirements for all Wideband devices only, given the information from #1. and #2. above:

- a) Designed for Data ONLY Operation on Nationwide Interoperability channels – Must operate on the wideband data interoperability channels listed in 90.531(c)(1).

Not Applicable

**5. Application filing requirements for Narrowband mobile, portable or control devices only:
- Voice Operation on General Use, State, or Nationwide Voice Interoperability channels:**

- a) Emission limitation (ACP) compliance for each combination of channel bandwidth and modulation for all band plans - 90.543.
- b) Attestation of voice path efficiency compliance for operation on General Use and State channels only – 90.203(m) & 90.535(d).
- c) Attestation of operation on Nationwide Voice Interoperability and Calling Only channels – 90.547. - For Voice Only devices, attestation to 90.547(a)(3).
- d) Attestation of compliance to Project 25 FDMA Common Air Interface (ANSI 102) standards for operation on Nationwide Voice Interoperability and Calling Only channels only - 90.548(a)(1).
- e) Frequency stability compliance for all band plans - 90.539(a) & (c).
- f) Transmitting power compliance for all band plans - 90.541(b) & (c).

The device complies with frequency stability, power, voice-path efficiency requirements. In the 8K10F1E/F1D modes complies with the Project 25 Common Air Interface and Interoperability requirements. Complies with ACP requirements (example shown in Test Report)

- Data Operation on General Use, State, or Nationwide Data Interoperability channels:

- g) Emission limitation (ACP) compliance for each combination of channel bandwidth and modulation for all band plans - 90.543.
- h) Attestation of data rate efficiency compliance for General Use and State channels only - 90.535(b).
- i) Attestation of operation on Nationwide Data Interoperability channels listed in 90.531(b)(1)(i) only – 90.547.
- For Data Only devices, attestation to 90.547(a)(2).
- j) Attestation of compliance to Project 25 Data Overview (ANSI 102) standards for operation on data interoperability channels listed in 90.531(b)(1)(i) only 90.548(a)(2).
- k) Frequency stability compliance for all band plans - 90.539(a) & (c).
- l) Transmitting power compliance for all band plans - 90.541(b) & (c).

Not Applicable

- **Low Power Operation (mobiles and portables only) on Regional/Itinerant channels:**
 - m) Emission limitation (ACP) compliance for each combination of channel bandwidth and modulation for all Low Power channel band plans - 90.543.
 - n) Attestation of low power ONLY operation on Low Power Regional/Itinerant channels listed in 90.531(b)(3)&(b)(4) – 90.541(b)&(c).
 - For Low Power Only devices, attestation to 90.547(a)(1).
 - o) Attestation of data rate efficiency compliance for (non-voice) data capable devices operating on Low Power Regional/Itinerant channels only - 90.535(b).
[data efficiency applies to all (non-voice) narrowband channels]
 - p) Frequency stability compliance for all band plans - 90.539(c).
 - q) Transmitting power compliance for all band plans - 90.541(d).

Not Applicable

6. Application filing requirements for Wideband mobile, portable, or control devices only:

- Data Operation:

- a) Emission limitation (ACP) compliance for each combination of channel bandwidth and modulation for all band plans - 90.543.
- b) Attestation of data rate efficiency compliance for wideband data channels listed in 90.531(c) - 90.535(c).
[data efficiency applies to all (non-voice) wideband channels]
- c) Attestation of Data Interoperability Channel operation for wideband data interoperability channels listed in 90.531(c)(1) only.
- d) (future) Attestation of compliance to Wideband Data (ANSI 902) standards - for data interoperability channels listed in 90.531(c)(1) only - 90.548(?).
- e) Frequency stability compliance for all band plans - 90.539.
- e) Transmitting power compliance for all band plans - 90.541.

Not Applicable

7. All devices – other applicable sections of Part 90, Sub-Part I – Technical Requirements (90.201 – 90.219)

As per Test Report

8. Encryption – optional, but must conform to standard if included:

- a) attestation of compliance with 90.553(a) & (b) if encryption is included
 - allowed on all channels except nationwide calling only interoperability channels
 - user must be able to disable encryption
 - includes Project 25 encryption protocol listed in 90.553(b)

Activated in channel programming. The operator has the option to disable encryption on any channel where encryption has been programmed. The encryption includes the P25 algorithm.