



American Telecommunications Certification Body Inc.  
6731 Whittier Ave, McLean, VA 22101

September 13, 2005

RE: FCC ID: BV8P7200\_ATCB002766

Attention: Kathy Grzovic / Rick McMurray

I have a few comments on this Application. Please note that further comments may arise in response to answers provided to the questions below.

1. Please try to consolidate the emissions designators. For example you have a number of frequencies listed at 3.24 W and a number of frequencies listed at 3.16 W that have the same designator and operate between 806 and 824MHz. If the power is rounded off to 3.2W a number of these can be combined under one frequency range and designator. 3.24 and 3.16W are within 0.3dB of each other. Otherwise the grant will become several pages long and yet will be no more significant. Please consider this option.
2. The 731 has several frequency tolerances listed in ppb. Please explain what ppb is and how this applies.
3. Please note that the manual (page 12) states this is a software defined radio. Does the software used in this radio control the power levels or does it just control the mode and frequency within the part 90 rule part? Please note that if this is truly a software defined radio, it must be sent to the FCC for certification. Please clearly explain the use of the term software defined radio in this application. Please note that upon closer examination of the evidence provided, this device may have to be sent to the FCC.
4. Please list the maximum SAR value for body worn configuration in the manual. This is typically desired by the FCC.
5. Please note that as the SAR for body worn configuration was tested with an accessory containing metal, this is the only accessory that will be approved for use. Also, this accessory must be clearly identified in the manual (i.e. see item 4 for max body SAR levels etc).
6. Please note that the new 700MHz band under part 90 requires that a number of attestations and confirmations be provided with each application. Please see the following pages of these comments pasted from the FCC document and answer all of the questions as applicable.
7. Please note that depending on the response to items 3 and 6, further evaluation may need to be done.



Dennis Ward

<mailto:dward@AmericanTCB.com>

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information may result in application termination. Correspondence should be considered part of the permanent submission and may be viewed from the Internet after a Grant of Equipment Authorization is issued.

Please do not respond to this correspondence using the email reply button. In order for your response to be processed expeditiously, you must submit your documents through the AmericanTCB.com website. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the sender.

## 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)?

#### **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)]?

#### **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).

#### **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).

#### **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).

**- 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).

**- 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).

**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.
- f) Transmitting power compliance for all band plans - 90.541.

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

**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)