

April 9, 2003

RE: Fidelity Comtech, Inc.
FCC ID: Q2A-FCI2400

[Response to comments on the above referenced Application.](#)

1) Please confirm that this device will only be sold only as a complete system as shown within this application (DC Injector + PCMCIA Card + Amplifier). Note that amplifiers may only be approved as part of a system under Part 15.

[The devices used in this filing will only be sold as a complete system.](#)

2) The sample label shows the label placed on the amplifier and/or antenna. According to FCC rules, the labeling shall be placed on the "main control unit" as specified by 15.19(a)(4), which in most cases is the TX portion of the device. Due to the nature of this being a system we do recommend placing the label on the amplifier portion of the system as well, but it also should be placed on the main control unit (TX). Please provide additional information showing labeling for the TX. Please note that the original FCC ID of the PCMCIA card is no longer considered valid once the amplifier has been added to the system.

[An updated ID Label & Location exhibit has been uploaded.](#)

3) Please provide a cover letter addressing the justification for professional installation. The letter should cover the following 3 items:

a) Marketing

The device cannot be sold retail, to the general public or by mail order. It must be sold to dealers.

b) Requires professional installation;

- installation must be controlled.

- installed by licensed professionals (EUT sold to dealer who hire installers)

- installation requires special training (special programming, access to keypad, field strength measurements made, etc.). What is unique, sophisticated, complex, or specialized about your equipment which REQUIRES it to be installed by a professional installer?

c) Application

- The intended use is generally not for the general public. It is generally for industry/commercial use.

[A letter of intent has been uploaded.](#)

4) A test configuration photograph should normally be supplied for each type of antenna tested. Please provide if these are available for each antenna tested for radiated emissions.

[Additional Photographs will be uploaded in the next 1-2 days.](#)

5) The power spectral density test must be performed by zooming in on the highest peak and then using the following settings: RBW = 3 kHz, VBW > RBW, Sweep = span / 3 kHz. It appears that you sweep time used was 100 msec which is not correct. Give a span of 300 kHz, this should have been 100 sec.

[New data has been compiled for this test, and is included in the updated test report.](#)

6) It appears that a preamp was used during the measurements of the bandedge. Additionally, the radiated bandedge measurements are extremely close to the limits. Due to the power of the fundamental there is concern that the preamp was in compression or distortion during the measurements. Please explain how the test setup was evaluated to ensure that these conditions did not occur during the measurements.

For band edge emissions around the fundamental, no amplifier was used. At higher harmonics the fundamental emission is well below the cutoff of the horn antenna, and compression or saturation is not a concern for the preamplifiers used therein. Prior to testing we verified that the Spectrum Analyzer input was not saturating at the maximum fundamental power level with a maximum gain antenna in the system. Comparisons were made between tests using a notch filter and using a direct connection to the Spectrum Analyzer. Measured emissions were identical.

7) The RF exposure exhibit must clarify that this device is considered as a fixed device for RF exposure conditions (which is given in the manual). Additionally, calculations are required for the worse case RF exposure configurations for each "type" of antenna (panel, monopole, witch's hat). Since not all power levels are allowed for each antenna, it would be best to include either the configuration summary or a copy of appendix B with the RF exposure information as well.

[A revised RF Exposure exhibit has been uploaded.](#)

8) It appears that all antennas are being listed as fixed. Please comment on if the witch's hat or monopole are considered Mobile antennas. Since these appear to meet the mobile 20 cm requirement, it may be better to consider these as a mobile antenna, especially if there may be any future additions of antennas that would be considered mobile. Please call to discuss.

[A revised RF Exposure exhibit has been uploaded. Please consider the monopole and witch's hat antennas as Mobile antennas](#)

9) Please explain if the 13 & 19 dBi gain antennas are intended for point to point or point to multipoint applications. Note that +36 dBi may only be exceeded for point to point applications as give in 15.247(b). Additionally, the manual should clearly note the point to point applications only if this is the case (see #10).

[See updated User's Manual Pages](#)

10) If the 13 and 19 dBi gain antennas are for point to point, information must be added to the manual which states "It is the installers responsibility that when using the 13 or 19 dBi gain antennas to ensure that the system is used exclusively for point to point operations, and that the antenna may not be co-located with other intentional radiators transmitting the same information". Reference 15.247(b)(3). It would be suggested to add this to Appendix B, since this discussed various approved configurations.

[See updated User's Manual Pages](#)

11) The manual is missing statements regarding prohibition against general co-location ("This device and its antenna and must not be co-located or operating in conjunction with any other antenna or transmitter") and the statements required by 15.21/15.105.

[See updated User's Manual with Cover Letter.](#)

12) The users manual explains how the USER may adjust the output power of the amplifiers and or channel selection. Please note that this is not allowed since power output levels and channel selection will affect compliance of the unit with the FCC's rules (reference 15.15(b)), these factors (amplifier gain/channel selections) may only be adjusted by the professional installer and not the end user. Please explain what precautions are built into the system to keep the end user from adjusting the power output levels. For example, adjustment of these features is only allowed by special passwords used by the installers, special tools or hardware, etc. Programming information such as the amplifier gain should not be provided to the user, but only to the installers or service

manuals (i.e. information regarding opening the device to program the power as shown in the current manuals).

[See updated User's Manual with Cover Letter.](#)

13) Tables 11C, D, & E of the test report appear to show conflicting information regarding the antenna tested (see top/bottom of pages). Please correct.

[These Pages have been corrected. See updated Test Report Exhibit.](#)

14) The conducted emissions provided do not show any reading from 150 kHz to 450 kHz. This also is the case regarding the original conducted emission for the PCMCIA Card. Due to the data given in the tables and the test method specified the test report, it appears that the device was only tested from 450 kHz - 30 MHz to the older FCC limits. Please confirm if additional test data will be provided to show compliance with the new limits (0.150 - 0.450 MHz was not previously tested), or if we should proceed using the current data. This is because the grant will be issued with one of the following grant notes depending on which set of limits it is shown to have met:

Current Limits

NOTE: The manufacture and importation of this device must cease on July 10, 2005 pursuant to 15.37(j) or 18.123 transition provisions adopted under FCC 02-157 (ET Docket 98-80).

Future Limits

(CISPR)

NOTE: This device has shown compliance with the conducted emissions limits in 15.107, 15.207, or 18.307 adopted under FCC 02-157 (ET Docket 98-80) and may be marketed after July 11, 2005 and is not affected by the 15.37(j) or 18.123 transition provisions.

[We have uploaded an updated AC Power Line Conducted Emissions table which complies with the Future Limits. See updated Test Report Exhibit.](#)