



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

July 16, 2003

RE: Mobile Communication Technologies, Inc. (MCT, Inc.)

FCC ID: OW5BST850

After a review of the submitted information, I have a few comments on the above referenced Application.

- 1) Please provide a photograph of the bottom of the board with the metal plate removed.
- 2) Please provide a manufacturer Tune Up Procedure regarding this device.
- 3) The RF exposure exhibit shows a power of 3 Watts and an antenna gain of 4.0 dBi. From first review it was not obvious that the measured EIRP was used in the calculations instead of the calculated value. Please clarify this issue in the RF exposure exhibit. Additionally, please help explain the difference between the measured EIRP (4.2 Watts/ 36.2 dBm) and expected ($3 \text{ Watts} + 4.0 \text{ dBi} = 7.5 \text{ W} / 38.7 \text{ dBm}$).
- 4) Mobile devices typically require a 20 cm spacing for RF exposure conditions. The label and users manual for this device also shows 20 cm. However, the calculations show a required distance of 24 cm. Please clarify this issue and correct any necessary exhibits as this information must be consistent throughout the application.
- 5) The users manual mentions that the device has been tested "to comply with the limits for a Class AB digital device, pursuant to Part 22 of the FCC rules". Note that Class A or B as appropriate should be listed and that the Class is exclusive to Part 15, not Part 22. Please confirm that Part was 15 tested? Note that an amplifier is considered a TX and therefore this device is an 800 MHz TX/RX subject to Part 22 for the TX and Part 15 for the RX.
- 6) From the table 5.2, it appears the gain of the amplifier is only about 5.6-5.8 dB, while the manual states +13 dB. Please explain.
- 7) The calculations in Tables 7-1 & 7-2 do not appear consistent and it appears one table may be incorrectly calculated. Please provide a sample calculation to show correct calculations and correct the tables as necessary.
- 8) Each emission tested is usually listed on the Grant of Certification. For amplifiers the FCC has typically required tests for comparison of the input and output modulated signal (bandwidth) and intermodulation tests (for units carrying more than one signal at a time). They have specified that these test should be done for each type of emission, which the FCC classifies as follows: GSM/GPRS = GXW, EDGE = G7W, TDMA = DXW. It appears that only the one set of test data has been provided which was labeled GSM/EDGE. Note that although GSM and EDGE have very similar envelopes, they do utilize different modulation schemes (8 PSK rather than MSK) and therefore are considered different emissions. Please provide additional input/output plots for the missing modulations.
- 9) Please explain the power levels utilized for Radiated Spurious emissions and bandedge tests. It is assumed that the highest power before saturation should be used for these tests. Is this correct?
- 10) Plot 11-4 appears centered on 846.6 MHz. The bandedge is actually at 846.5 MHz. From determining this point on the plot provided, it appears this plot shows non-compliance of this bandedge. Additionally, this may affect the results of Plot 11-7 as well. Please explain.

Timothy R. Johnson
Examining Engineer

[mailto: tjohnson@AmericanTCB.com](mailto:tjohnson@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.