



Engineering and Testing for EMC and Safety Compliance

September 11, 2003

RE: Mobile Communication Technologies, Inc. (MCT, Inc.) FCC ID: OW5BST850
ATCB Correspondence Dated July 16, 2003

Tim:

Please see our responses to your comments below. If there are any questions, please advise and we will address immediately. Thank you.

Kathy Grzovic
Rhein Tech Labs

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.

Response: Please refer to the revised Internal Photograph exhibit uploaded with this response.

2) Please provide a manufacturer Tune Up Procedure regarding this device.

Response: Please refer to the revised Operational Description uploaded with this response.

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 Watts + 4.0 dBi = 7.5 W / 38.7 dBm).

Response: The 4.2 Watt EIRP listed is the ERP measured level. The EIRP for MPE should be 3 Watts + 4 dBi -4.6 dB cable/antenna base loss= 2.6 W or 34.2 dBm for a total separation distance of 19.0 cm, which should be adequate for the 20 cm separation listed in the revised RF exposure exhibit uploaded with this response, as well as the users manual, and the label provided with the original application.

4) Mobile devices typically require a 20 cm spacing for RF exposure conditions. The label and users manual or 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.

Response: The separation distance should be 20 cm, as calculated in the revised RF exposure exhibit uploaded with this response.

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.

Response: This was a typographical error; the manual has been changed to reflect Class B. Furthermore, the device was tested to Part 15 Class B limits as a receiver and Part 22 as a transmitter.

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.

Response: Please refer to the revised manual uploaded with this response.

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.

Response: Please refer to the revised test report uploaded with this response, with Tables 7-1 and 7.2 reflecting the proper values and correct significant digit values respectively.

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.

Response: Input/output plots are provided in the revised test report, uploaded with this response.

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?

Response: This is correct, the highest power before saturation is used.

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.

Response: The FCC has clarified this issue, from block edge requirement to band edge requirement, so only the band edge plots are provided in the test report.

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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.