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

October 28, 2002

RE: FCC ID: OSZ37200M-10
Attention: Derick Sariredjo / Rita Cai

I have a few comments on this Application.

1 You have provided the same document for the block diagram and the theory of operation. The request for confidentiality does not include the Block diagram. While the theory of operation is on the list to be confidential, part of the theory of operation is also includes the Block Diagram. Please revise the request for confidentiality to include all pertinent documents. This would be the schematic, the theory of operation the PCB layout/parts list. Parts list. Please also note that the PCB/parts list was not provided even though it is listed as confidential.

2 Page 6 of the report states that correction factors are automatically included in the test receiver. Please verify that all factors used to determine the compliance have been included. Please provide a sample calculation of how your test equipment includes these factors and an explanation of how you insure that all factors have been included.

Anwers

The receiver corrects the measured levels of emissions automatically with the applicable antenna factor and cable loss. These values are permanently stored into the receiver. The antenna factor and cable loss values are determined at regular calibration intervals as required by our quality system. The receiver performs the calculation as:

Input value (dBuV) + (antenna factor (dB) + cable loss (dB)) = Measurement value (dBuV/m)

The functioning of the test receiver, that is; whether all and the correct factors are being used, are checked at the start of each measurement as required by our quality system.

3 On paged 12-14 of the EMC test report, you show a number of readings that are compared to the wrong limits. Please correct the report to reflect the correct limits. (i.e. 200 MHz to 500MHz are incorrect.)

Answers

The limits on the pages 12-14 have been corrected.

4 Please note that while there may be a 'defacto' 'peak' limit for the restricted bands, the average limit must be met. You incorrectly state that the average readings are n/a. Please correct the report to show compliance with both the 'defacto peak limit' (74dB) and the average limit of 54dBuV for the restricted bands.

Answers

All measurements were performed while using a peak detector. Since all measurement values are below the "average" limits, while using the peak detector, the equipment is deemed to comply with these "average" limits.

This has been verified in those instances where the peak value was close to the "average" limit and is also reported as such (see note(s) below the various tables).

5 Please note that the requirements of 15.247(c) are a band edge requirement as well as a 15.205 restricted band limit requirement. You must show that the device meets the 20dB band edge requirement at both ends of the allowed spectrum for the device. Tables 14 and 15 are not clear on this issue. Please provide data on the band edges of the device operating at the highest frequency possible for the device as well as the lowest. Alternately, please clearly define which table is the lowest frequency possible in the device and which table is the highest frequency possible.

Answer

The results with the EUT operating on three channels may be found in section 5.3 of the test reports. The plots were made in max hold mode with the spectrum analyzer continuously sweeping. The EUT was then switched from channel 1 to channel 6 and from channel 6 to channel 11. The plots therefore do incorporate all test data required. The results in tables 14 and 15 are the only results which have to be reported and represent the worst case results with the EUT operating on either channel 1, 6 and 11 (see note below tables). The level of emissions on other frequencies than reported is more than 20 dB below the applicable limit (as stated in table 14 and 15, last row).

6 You have not stated if the maximum power measured is a conducted antenna terminal measurement or if it is power derived from radiated measurements. If the power is derived from radiated emissions measurements of the fundamental, please note that this is not simply an e field measurement, but must be calculated power. Please show that you have used the required FCC formula for radiated power measurements i.e. P=(Ed)^2 / 30G). If other methods have been used, please fully describe this method. If the table is conducted antenna terminal measurements, please so indicate.

Answer

Since conducted RF output power measurements are the ones which should be performed, and while radiated RF output power measurements are the EXCEPTION to the Rules, we did not mention the fact that the test results were obtained while performing conducted measurements. However, this has been corrected in the revised test report.

7 Please note that the 731 form states the power is 89mW, yet the measured power is only 72.4 (see page 18 of your report). Please correct the 731 to state the correct power of the device. Please note the FCC puts actual power on grants, not rated power.

Answers

Please refer to the attached corrected Form 731.

8 IEEE1528 states, "The system check must be performed using the same liquid as in the compliance test and at a chosen fixed frequency that is within ± 10% of the compliance test mid-band frequency. The system check is performed prior to compliance tests and the result must always be within ± 10% of the target value corresponding to the test frequency and the source used." The FCC requires that validation be done within 100MHz of the center frequency of the device being tested. Please provide SAR information in accordance with these requirements. (Validation done at 1800MHz, device operates at 2400Mhz). Refer to page 17 of your SAR report and the plots of SAR data.

Answer

Question 8 to 11, please refer to the attached revised SAR test report.

9 Please note that the FCC requires that the power readings between SAR and EMC testing must be within 5% of each other. They also require that where measured power is not the same between the two tests, SAR testing is to be done at the higher power. The power measured in the EMC report is 18.6dBm where power listed in the SAR report is 18dBm. While within the 5%, SAR values are not the higher values tested. Please provide data showing SAR values were taken at the higher power values.

10 Calibration data for the probes used needs to be within +/-100MHz of the center frequency of the device. Your probe calibration was performed at 1800 MHz. This is not acceptable to the FCC. Please provide a SAR report using a probe calibrated at the proper frequency.

11 Please note that items such as paper or cardboard are inappropriate for use as device holders in the 2.4GHz range. Testing needs to be done using foamed polystyrene or other low-loss dielectric material. Please provide a SAR report using appropriate device holders.

Dennis Ward
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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.

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.