

The following is in response to the RT issued below:

Applicant: Vyvo
Correspondence Reference Number: 28802
731 Confirmation Number: TC312296
Date of Original Email: 05/19/2006
Subject: audit

TCB to address:

1) Grant note mentions outdoor fixed-mount antennas only. EMC/test-report exhibit page 7 indicates mobile-RF-exposure condition. User manual exhibit page 9 indicates indoor antenna. Please explain these discrepancies, and/or revise filing for correct and intended RF exposure conditions accordingly.

The test report was corrected for fixed mount. Please use the file VYYRAD_FCC.16964_rev3, uploaded on June 6, 2006. The User Guide was changed for the outdoor antenna only (eliminated reference to "or indoor"). The file "User_Guide_16964_rev2" with corrected page 5 was uploaded on May 25, 2006 to ATCB.

2) Further to question 1, if not in filing already, please give more details about intended antenna types and installation and operating configurations.

As stated in the test report, in User Guide, and in section 2 of the Operational Description, only the Yagi antenna is used.

For installation instructions please refer to page 5 of the "User_Guide_16964_rev2". In addition the corrected operational description, file "Operational_description_16964_rev1" was uploaded on June 6, 2006 to ATCB.

3) Further to question 2, please explain how MPE test set-up represents end-use conditions.

The test procedure, test report section 7.2, states that the EUT was connected to the antenna with maximum directional gain. The EUT was set to transmit CW at the maximum available to the end user power settings at the mid frequency of the assigned band.

4) Please explain how MPE test considers the following issues described in OET 65:

"In many situations a relatively large sampling of data will be necessary to spatially resolve areas of field intensification that may be caused by reflection and multipath interference."

"For a truly worst-case prediction of power density at or near a surface, such as at groundlevel or on a rooftop, 100% reflection of incoming radiation can be assumed, resulting in a potential doubling of predicted field strength and a four-fold increase in (far-field equivalent) power density."

For example, how was it ensured maximum rather than null fields were measured. And/or please revise filing if appropriate.

The area about 0.5 m x 0.5 m in front of the antenna was searched for the maximum reading at each distance. The distance was changed continuously (not in steps) and any unexpected changes in the RF field were monitored. Additionally, the probability to catch nulls at all test distances is very low. Additionally, the measured test result was significantly below the limit.

5) EMC report mentions 50% duty factor - please explain how this was accounted for in MPE test. Does MPE probe respond correctly for such duty factor?

We confirm that the transmitter was set to CW transmission for MPE measurements.

6) Grant note states output power is RMS conducted - please explain how RMS conducted power fulfills peak power test requirement of 27.50(i), and/or revise filing if appropriate.

The rules cite "Peak transmit power shall be measured over any interval of continuous transmission using instrumentation calibrated in terms of rms-equivalent voltage". It was ATCB's expectation that the FCC desires the RMS value as measured during the maximum period of TX-on time.

Therefore the transmitter was set to CW transmission for power measurements (if you are familiar with this piece of equipment, it is impossible to take reading from it under 50% duty cycle).

We used thermo couple power meter to measure the true RMS value and the maximum reading was recorded. There were no limitations of the bandwidth (10 MHz-18 GHz) of the measurement equipment.

If the FCC desires peak measurements instead of RMS please have them clarify this given the phrasing given in the rules. Currently Hermon Labs have already formulated and changed their procedures based on correspondence between Michael Nikishin and ATCB and now it appears that these procedures may not be acceptable to the FCC.

7) Further to question 6, EMC report fig 7.1.1 shows spec. analyzer, but text right above it states thermocouple power meter - please explain discrepancy and/or revise.

The test report Figure 7.1.1 was corrected. File VYYRAD_FCC.16964_rev3 was uploaded on May 25, 2006 to ATCB.

Additional Uploads:
Corrected Test Report
Corrected Operational Description
Corrected Users Manual