

Chris Harvey

From: Claire Hoque [claire.hoque@ccsemc.com]
Sent: Tuesday, April 08, 2008 1:06 PM
To: Chris Harvey; Chris Harvey -TCB
Cc: Tina Chu; Neena Jain; Christine Vu
Subject: answer for 08U11581 TCB/IC questions: Orthogon Systems Ltd., FCC ID: QWP58500, Assessment NO.: AN08T7797, IC: 109AO-58500 AN08I2388, Notice#1
Attachments: Setup photos.pdf; FCC Label Location.doc; Internal Photos(revised).pdf; Motorola Agency Letter.pdf; Notification of Motorola Acquisition to FCC.pdf; Theory of Operation(revised).pdf

Hi Chris,

Here are the answers.
Thanks,

Claire Hoque

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For FCC application, pls address:

1. The internal photographs show 4 different positions of the same side of the main board. Please submit additional photographs of the other side of the PCB as well as the general construction and the internal antenna.

<answer> revised internal photos are attached . The antenna is a industry std model MA-WS57-30R manufactured by MARS as listed in support equipment. note - we have no internal views of this antenna.

2. The Grantee Code QPW is listed on the FCC database for Orthogon Systems, Ltd. The confidentiality, authorization and professional installation letters are all on Motorola letterhead, although the address on the letters matches the address on file for grantee code QPW. The company name in the application must match the company name in the FCC database or be supplied by an authorized agent. Please correct this discrepancy.

<answer> pls see two cover letters attached.

3. Please provide a label location exhibit.

<answer> attached.

4. The RF test report documents the combined Peak Conducted Power as 26.6dBm, however the Theory of Operation indicates that each of the 2 H & V RF ports has a maximum of 27dBm. Please correct this discrepancy.

<answer> I do not see any discrepancy. The Theory of Operation in Para 3.1.5.1 summarises that, the closed loop power control system is designed to ensure that each transmitter individually does not exceed a mean power level of 27dBm. IE max 30dBm conducted total power all ports, as permitted. The test report shows that in practise 26.6 dBm max (total both ports) was recorded. Where is your problem with this?

However I clarified the wording of this para. to read 30dBm (all ports).

5. The RF test report documents Radiated Emissions with configurations using the external 6 foot dish antenna and the MA-WS57-30R integral antennas. The Antenna Specification exhibit lists 57 different antennas from 7 different manufacturers that can be used with this device. FCC 15.204 requires that antenna types (as defined by the FCC) to be used with an intentional radiator be approved with it. FCC 15.247 requires that emissions that fall into the restricted bands of 15.205 (not specifically addressed in the report) be measured according to the radiated emissions requirements of 15.209. There seem to be several antenna types, yet only 2 antennas were used for the Radiated Emissions measurements. Please explain how this device as marketed will comply with FCC 15.203, 15.204 and 15.205.

<answer> As in previous submissions, we opted to do the testing with "worst case samples" both types of antenna - flat plate and dish. For the dish, we choose the one with the largest gain, as that will generate the highest radiated emission PSDs. Is this not a reasonable approach?

15.204 c(4) states (4) Any antenna that is of the same type and of equal or less directional gain as an antenna that is authorized with the intentional radiator may be marketed with, and used with, that intentional radiator.....ff

Spurious Emissions in restricted bands. No spurious emissions were found over the freq range covered. See pp 49 - 50 of the report RFI state - If there are no emissions listed in the report within the restricted bands, it will be because the emissions were either better than 20dB below the emissions limit or there were none to report.

6. The RF report indicates that there is a 3.3 dB correction factor used in the Peak Output Power measurements to account for attenuation, cable and Duty Cycle Correction, but the duty cycle is not defined or explained in the report. Please define and explain the Duty Cycle Correction Factor used in these measurements.

<answer> This comment in 5.8GHz radio test report RFI/RPTE3/RP49755JD06A is on page 66 Section 9.7: Peak Output Power.

The 3.3dB applies to the duty factor correction factor only, the RF attenuator and cable losses were accounted separately. The transmit TDD burst is 1.3msec and the period 2.8msec. Therefore the duty cycle correction factor applied is -3.3dB. I trust this explanation will be adequate without modifying the report?

7. Please provide the test setup photos exhibit.

<answer> attached.

For Industry Canada application, also address:

1. Please provide a corrected Appendix II test report cover sheet to include all 4 model numbers described in the application and use the 99% occupied bandwidth measurement. Also, please note that the receiver spurious emissions are measured.

<answer> We have stated already that the test house do not want to include the PTPxx300 series model numbers on their report or the cover sheets. We have asked by formal letter declaration for CCS to make this read across. We understood from previous comments that you agreed so to do.

I do not understand your comment about the 99% bandwidth measurement - please explain on the telephone. As far as I see IC RSS210 part 8.4 para 5 permits 4W EIRP or greater using directional ant. No ref to 99% BW is made here.

Receiver spurious cannot be measured as there is no discrete receive only mode. During the receive portion of the TDD cycle the transmitter circuitry is still

active. This we feel is an accepted procedure, all our previous products have been treated in the same way. see para 5.2 of report