

Mike Kuo

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**From:** May Chen (陳湘玫) [May@sporton.com.tw]  
**Sent:** Thursday, April 23, 2009 2:05 AM  
**To:** Mike Kuo  
**Cc:** Daniel Lee (李春和); Roy Wu (吳瑞源)  
**Subject:** RE: HTC Corporation FCC ID:NM8QUAR100, Assessment No:AN09T9061 ( Part 24/27 portion)  
**Attachments:** Peak Locations Spacing for Head.pdf; Peak Locations Spacing for Body.pdf

**Importance:** High

Dear Mike,  
Please kindly find below responses.  
The reports will send you in separate email.  
Please find attached reports for Q1 and Q2 in Part 22/24 SAR portion.

Best Regards,  
May

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**From:** Mike Kuo [mailto:mike.kuo@ccsemc.com]  
**Sent:** Wednesday, April 15, 2009 8:19 AM  
**To:** May Chen (陳湘玫); Roy Wu (吳瑞源)  
**Cc:** Daniel Lee (李春和)  
**Subject:** HTC Corporation FCC ID:NM8QUAR100, Assessment No:AN09T9061 ( Part 24/27 portion)

Part 22/24 EMC portion:

FYI: No issue.

Part 22/24 SAR portion:

Question #1: Based upon the information contains in the internal photos, the physical WWAN-Main-to-WLAN antenna separation distance is 1 cm. Section 3.5.2 of SAR test report provides the co-located body SAR assessment and indicating the SAR-to-Peak location distance is 1.83 cm. Please provide the evidence on how 1.83 cm distance is derived .

**Response:** Please find test report of "Peak Locations Spacing for Body". We retested WLAN SAR and the distance changed to 1.73cm.

Question #2: Since WLAN transmitter can be transmitting at held-to-head position, please provide SAR-to-Peak Location distance assessment for head operation(WWAN and WLAN).

**Response:** Please find test report of "Peak Locations Spacing for Head".

Question #3: Probe S/N:1788 has conversion factor calibrated at 1950 MHz which is used during head/body 1850.2 – 1909.8 MHz SAR measurement. Due to the calibrated frequency is beyond +/- 50 MHz, please address Probe calibration factor concerns as detailed in KDB 450824.

**Response:** Please find updated WWAN RF Exposure report of Appendix F.

Part 27 EMC Portion:

Question #1: Section 2.7 of test report indicates the during the EMC tests, the output power and mode of operation were controlled by the software provided by the manufacturers, please provide following information:

1. What is the name of software and version number
2. What is DL:UL ratio used for QPSK and 16QAM

**Response:** For question 1 and 2, the DUT is controlled by base emulator when testing. We revised the report on section 2.7 on page 7/ 59.

3. Please provide tune –up procedure with rated output power for the power parameter (QPSK: -1,-3,-2; 16QAM:-1.5,-3,-2). The tune up procedure submitted does not provide any power information that manufacturer is used .

**Response:** We had provided yesterday.

4. Test report also indicates WiMAX base station emulator was used during the tests, please explain how manufacturer provided software Vs WiMAX base emulator were configured during the tests.

**Response:** The DUT is controlled by base emulator when testing.

Question #2: Please provide 26dB BW measurement data per section 27.53(m)(6) requirements.

[Response: Please refer to updated report of WiMax on section 3.2.6 on page 22/59.](#)

Question #3: Section 3.4.1 of test report, the out-of-band limits for mobile device is not correct. Please make necessary correction.

[Response: Please refer to section 3.3.1 on page 27/59.](#)

Question #4: Please review the RF conducted spurious emission plots, the fundamental frequency is below -25 dBm point which does not make sense. During the RF conducted spurious emission tests, the max. power was not tuned at highest.

[Response: Please refer to section 3.3.6 on page 28/59.](#)

Question #5: Please provide EIRP power measurement.

[Response: Please refer to 3.1.6 on page 11/59.](#)

Question #6: By looking at the data format for radiated spurious emission tests, substitution method may not be used. Please explain.

[Response: Please refer to section 3.4 on page 46/59 which we re-tested this section.](#)

Question #7: Please provide emission designator and necessary bandwidth for QPSK and 16QAM.

[Response: Please refer to section 2.1 on page 6/59.](#)

Part 27 SAR Portion:

Question #1: Please do not include 802.11 b/g SAR test result in Part 27 test report. Please create a separate SAR test report for 802.11 b/g data only.

[Response: Please find test reports which divided into separate reports.](#)

Question #2: Please explain how the duty cycle of 31.7% is determined. Please note: WiMAX system can transmit up to 48 OFDMA symbols in each 5 ms frame, including 1.6 symbols for TTG and RTG. With a maximum of 18 uplink symbols transmitting at maximum power, the duty factor is estimated to be 18/48 or 37.5%. However, if the first three control symbol were not used during SAR measurement, then you should use 15 uplink symbols to calculate the duty factor. Crest Factor for periodic pulse will be  $1/(\text{duty factor})$ .

[Response: Please refer to RF Exposure report for WiMAX on page 6/78.](#)

Question #3: Please have the applicant to issue a statement to indicate that the max. DL:UL ratio for this device is 29:18 based upon the agreement with WiMAX operators.

[Response: This document had provided.](#)

Question #4: Channel 6 was selected for 802.11 b/g portion of SAR evaluation. However, the channel 6 is not the highest average output power. Based upon KDB 248227 SAR measurement procedure for 802.11 device, by default, the SAR shall be tested at the middle channel. However, if the middle channel does not have highest average power, the default channel shall be tested at the highest average power channel. Please redo 802.11b @ channel 1 at the head / body of position with the highest SAR values measured at channel 6.

[Response: Please refer to updated RF Exposure for WLAN.](#)

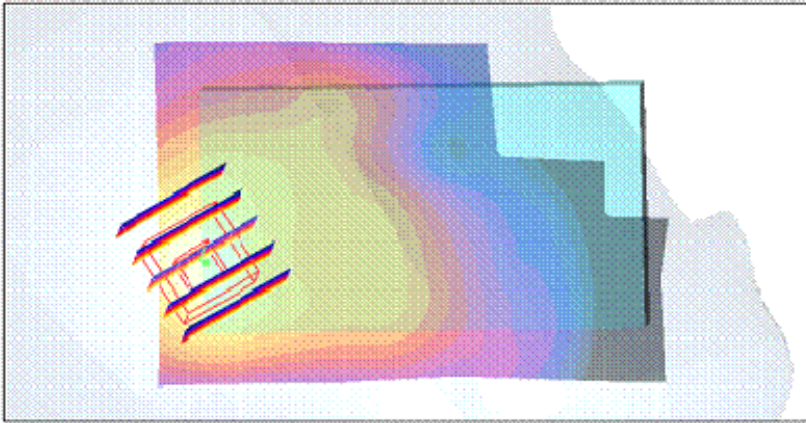
Question #5: Please provide peak to average power ratio and documented in the test report.

[Response: Please refer to section 11.1 on page 28/78.](#)

Question #6: The recommended SAR test configuration is to have both the control and traffic symbols configured at their corresponding maximum power levels at the maximum DL:UL symbol ratio. However, when the recommended test configurations are not supported by the test software, signal generator, communication test set or due to other setup constraints, the highest duty factor achievable, with respect to applicable DL:UL symbol ratios and control symbols, must be considered. All measured SAR must be scaled with respect to the maximum device and system operating conditions to demonstrate compliance. Please show the power scale up factor to be used and indicating the corrected SAR values.

[Response: Please refer to RF Exposure report for WiMAX on page 6/78.](#)

Question #7: For Part 27 SAR measurement, all SAR scan regions are not completed and they are not acceptable as indicated below. Please review the device configuration and position holder to provide SAR measurement .



Response: The WiMAX antenna is located in the left top. Therefore, hot spot is positioned in upper area scan and the vacancy of has no SAR spread, Also, it would not affect SAR evaluation.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. 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 e-mail address listed below the name of the sender.

Best Regards

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