Mike Kuo

From: Ying Wang [ywang@SierraWireless.com]
Sent: Friday, July 28, 2006 8:41 PM
To: Mike Kuo; Claire Hoque; Thu Chan
Cc: Christine Vu
Subject: RE: Sierra Wireless Inc., FCC ID: N7NAC875, Assessment NO.: AN06T6016, Notice#1

Importance: High

Hi! Mike,

Our answers are presented below, embedded in the questions.

Thanks,
Ying

-----Original Message-----
From: Claire Hoque [mailto:claire.hoque@ccsemc.com]
Sent: July 28, 2006 5:15 PM
To: Thu Chan; Ying Wang
Cc: Christine Vu
Subject: RE: Sierra Wireless Inc., FCC ID: N7NAC875, Assessment NO.:
AN06T6016, Notice#1

Hi All,

Pls kindly provide you answer ASAP in order for Mike Kuo to issue grant today.
Thanks,

Claire

-----Original Message-----
From: Claire Hoque
Sent: Friday, July 28, 2006 3:00 PM
To: Thu Chan; 'Ying Wang'
Cc: Christine Vu
Subject: RE: Sierra Wireless Inc., FCC ID: N7NAC875, Assessment NO.:
AN06T6016, Notice#1

Hi ALL,

Thu, pls address Q7 to Q10.
Ying, pls address all the other questions.

Thanks,

Claire
-----Original Message-----
From: Mike Kuo
Sent: Friday, July 28, 2006 2:55 PM
To: Mike Kuo
Subject: Sierra Wireless Inc., FCC ID: N7NAC875, Assessment NO.:
AN06T6016, Notice#1

Based upon Radio System Description, this device has the following radio
capabilities:
GSM/GPRS/EDGE/UMTS/HSDPA operate in 850 /1900 MHz band.
Support WCDMA (UMTS) Release 99
HSDPA up to 3.6 Mbps
GSM Release 4
GPRS/EDGE Multislot Class 12. Release 4

Part 22/24 RF conducted test report portion :

Question #1: Please provide output power verification on low, middle and high channel in accordance to the general description in section 5.2 of 2GPP TS 34.121, using the appropriate RMC (Reference measurement channel) or AMR with TPC (transmit power control) set to all "1's" .
Results for all applicable physical channel configuration (DPCCH, DPDCH and spreading codes) should be tabulated in the test report. If there is any configurations that this device does not support or cannot be measured due to technical or equipment limitations should be clearly identified.

SIERRA: The report does show a table on pg. 6, under section "4.4 Test Results UMTS". Results for low, mid and high channel are tabulated for both bands, UMTS1900B and UMTS800. The only piece of information missing on the setup description, is related to settings on the CMU200. Here they are (based on default, as I think Philip did it):

Node B Settings

Primary Scrambling Code = 9
Output Channel Power = -51.7 dBm
OCNS = Off
Total Output Power (Ior+Ioc) = -51.7 dBm

RMC Settings

Reference Channel Type: 12.2 kbps Downlink/Uplink DL DTCH Transport Format: 12.2 kbps DL Resources in Use: 100 % UL CRC (Sym. Loop Mode 2): Off Test Mode: Loop Mode 2 Channel Data Source DTCH: PRBS9

Voice Settings

Voice Source: Echo
Loopback Type: Off

Adaptive Multirate Settings

Active Code Set: Selection A
Codec Mode: 12.2 kbps

Signaling RAB Settings

SRB Cell DCH: 3.4 kbps

BS Down Link Physical Channels Settings

Ior = -51.7 dBm
P-CPICH = -3.3 dB
P-SCH = -8.3 dB
S-SCH = -8.3 dB
P-CCPCH = -5.3 dB
S-CCPCH = -5.3 dB
S-CCPCH Channel Code = 2
PICH = -8.3 dB
PICH Channel Code = 3
AICH = -8.3 dB
AICH Channel Code = 6
DPDCH = -10.3 dB
DPDCH Channel Code = 96
Power Offset (DPCCH/DPDCH) = 0.0 dB
DL DPCH Timing Offset = 0
Secondary Scrambling Code = 0
Secondary Scrambling Code (HSDPA) = 0
HSDPA Channels = Off

TPC Settings

Algorithm = 2
TPC Step Size = 1dB
TPC Pattern Setup = Set 1 (All 1, after linked to get maximum power)

Question #2 : Please clearly identify the CMU 200 setting that were used during the final compliance measurement. CMU 200 setting information can be presented in text description or screen shots from CMU 200. If screen shots are provided, please make sure to include multiple screen settings if applicable.

SIERRA: This is actually answered by the list above, on answer #1.

Question #3: In the test report, the 3G portion of measurement is identified as UMTS. Please clearly documented in the test report on the mode of operation for UMTS operation.

SIERRA: UMTS presents the highest TX power, however HSDPA may back off the power for different gain factors. In terms of in band and out of band HSDPA is "quieter" so it makes sense for us to only preset the normal UMTS.

Question #4: Please provide strong justification or test data for not providing measurement on HSDPA modulation.

SIERRA: This is also answered in Question #3.

Question #5: GSM/EDGE measurement: GSM and GPRS are 2 G and EDGE is 2.5G. Which modulation was actually tested ? What is multislot Class used ? The output power measurement for GSM, GPRS, and EDGE are required.

SIERRA: Both GMSK and 8PSK were tested and reported in the document. The device is multislot class-12. The highest GMSK GSM/GPRS power is for one timeslot, increasing the number of timeslots the TX power is reduced accordingly. The output power for EDGE is the same for one to four timeslots. The relevant power levels were given in our test document.

Question #6: As indicated in this test report, not all operational modes are tested. Please provide strong justification or explain the procedures were used during preliminary tests to identify the worse case. Please provide the description of tests been made during the preliminary tests to address band edge and occupied bandwidth.

SIERRA: UMTS presents the highest TX power, however HSDPA may back off the power for different gain factors. In terms of in band and out of band HSDPA is "quieter" so it makes sense for us to only preset the normal UMTS. In terms of occupied bandwidth, they are the same.

Part 22/24 Radiated ERP/EIRP and spurious emission test report:

Question #7 : Please provide base station simulator setting used during radiated measurement for GSM, EDGE and WCDMA.

Question #8 : Section 5.4 of test report, the worse case determination were made based upon the output power listed in the separation report.
However, there are no sufficient information in the RF conducted test report to justify the mode of operation for radiated emission measurement. Please explain your worse case determination basis.

Question #9 : Please describe how the preliminary tests were performed to determine the worse case for radiated band edge and out of band spurious emission.

Question #10 : Please provide justification why HSDPA mode was not tested.

Administrative :

Question #11:User Manual does not contain RF exposure warning statement . Please provide revised user manual.

Best Regards

Mike Kuo

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.