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FCC TEST REPORT (PART 22)

REPORT NO.: RF110726E01A-1

MODEL NO.: FD-400TiC

FCC ID: MQT-FD400TIC

RECEIVED: July 26, 2011

TESTED: Aug. 23 to 29, 2011

ISSUED: Oct. 19, 2011

APPLICANT: XAC AUTOMATION CORP.

ADDRESS: 4F, No. 30, INDUSTRY E. RD. IX, SCIENCE-BASED INDUSTRIAL PARK,HSINCHU,TAIWAN

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory

LAB ADDRESS : No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|----------------|-------------------|---------------|
| RF110726E01A-1 | Original release | Oct. 19, 2011 |



1 CERTIFICATION

PRODUCT : Portable Terminal
BRAND NAME : First Data
MODEL NO.: FD-400TiC
TEST SAMPLE : R&D SAMPLE
APPLICANT : XAC AUTOMATION CORP.
TESTED : Aug. 23 to 29, 2011
STANDARDS : **FCC Part 22, Subpart H**
ANSI C63.4-2003

The above equipment (model: FD-400TiC) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY :  , **DATE:** Oct. 19, 2011
(Claire Kuan, Specialist)

APPROVED BY :  , **DATE:** Oct. 19, 2011
(May Chen, Deputy Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 22 & Part 2 | | | |
|--|--|--------|--------------------------------|
| STANDARD SECTION | TEST TYPE AND LIMIT | RESULT | REMARK |
| 2.1046 22.913 (a) | Maximum Peak Output Power Limit: max. 7 watts e.r.p peak power | PASS | Meet the requirement of limit. |
| 2.1055 | Frequency Stability AFC Freq. Error vs. Voltage AFC Freq. Error vs. Temperature Limit: max. ± 2.5 ppm | PASS | Meet the requirement of limit. |
| 2.1049 (h) | Occupied Bandwidth | PASS | Meet the requirement of limit. |
| 22.917 | Band Edge Measurements | PASS | Meet the requirement of limit. |
| 2.1051 22.917 | Conducted Spurious Emissions | PASS | Meet the requirement of limit. |
| 2.1053 22.917 | Radiated Spurious Emissions | PASS | Meet the requirement of limit. |

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

| Measurement | Value |
|-----------------------------------|---------|
| Radiated emissions (30MHz-1GHz) | 4 dB |
| Radiated emissions (1GHz -18GHz) | 2.49 dB |
| Radiated emissions (18GHz -40GHz) | 2.70 dB |



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3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

| | |
|----------------------------|---|
| PRODUCT | Portable Terminal |
| MODEL NO. | FD-400TiC |
| FCC ID | MQT-FD400TIC |
| POWER SUPPLY | DC 12V from adapter or DC7.4V from battery |
| MODULATION TYPE | GMSK, 8PSK (for GPRS / E-GPRS) BPSK (for WCDMA) |
| OPERATING FREQUENCY | 824.2MHz ~ 848.8MHz (for GPRS / E-GPRS) 826.4MHz ~ 846.6MHz (for WCDMA) |
| NUMBER OF CHANNEL | 124 (for GPRS / E-GPRS) 102 (for WCDMA) |
| MAX. ERP POWER | GPRS Mode: 31.0dBm (1.2589Watts) E-GPRS Mode: 30.9dBm (1.2303Watts) WCDMA Mode: 21.1dBm (0.1288Watts) |
| ANTENNA TYPE | Please see note |
| MAX. ANTENNA GAIN | Please see note |
| DATA CABLE | NA |
| I/O PORTS | USB port x 1 |
| ACCESSORY DEVICES | Adapter x 1 |

NOTE:

1. There are RFID, GPRS, WCDMA(UMTS), HSDPA and E-GPRS technology used for the EUT. and the functions of EUT listed as below table:

| Function | Report No. |
|-------------------|----------------|
| RFID | RF110726E01A |
| 2G & 3G (Part 22) | RF110726E01A-1 |
| 2G & 3G (Part 24) | RF110726E01A-2 |

2. The emission of the simultaneous operation (RFID & GPRS, WCDMA(UMTS), HSDPA and E-GPRS) has been evaluated and no non-compliance found.



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3. The EUT could be supplied with 7.4V battery or power adapter as the following table:

| Item | Brand | Model No. | Spec. |
|---------|--|------------|--|
| Battery | CHENG UEI PRECISION INDUSTRY CO.,LTD | FD400 | DC7.4V, 2300mAh(17.02Wh) |
| Adapter | DELTA | ADP-36JH B | AC I/P: 100-240V, 50/60Hz, 1.0A AC input cable: Unshielded, 1.85m DC O/P: 12V, 3A DC output cable: Unshielded, 1.8m with one core |

4. There are two antennas provided to this EUT, please refer to the following table:

| RFID Antenna Spec. | | | | | |
|---|--|-------------------|-------------------|-----------|------------------------------|
| Brand | Model No. | Antenna Type | Antenna Connector | Gain(dBi) | Frequency range (MHz) |
| XAC | PCB OSP ANTENNA BOARD FD400 (ROHS) | PCB (2 Layers) | NA | 13 | 13.56 |
| GPRS / WCDMA(UMTS) / HSDPA / E-GPRS Antenna Spec. | | | | | |
| Brand | Model No. | Antenna Type | Antenna Connector | Gain(dBi) | Frequency range (MHz to MHz) |
| Ethertronics Inc. | T-000084-01 | FPCB | NA | 1.65 | 824~894 1850~1990 |

5. The EUT was pre-tested in chamber under the following modes

| Pre-test Mode | Description |
|---------------|---------------------|
| Mode A | Battery mode |
| Mode B | Adapter mode |

From the above modes, the worst case was found in **Mode A**. Therefore only the test data of the modes were recorded in this report.

6. The communicated functions of EUT listed as below:

| | | GPRS/EDGE (850&1900MHz) | WCDMA (850&1900MHz) |
|----|--------------------|----------------------------|------------------------|
| 2G | GPRS | √ | |
| | EDGE | √ | |
| 3G | WCDMA | | √ |
| | Release 5 HSDPA | | √ |

7. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

FOR GPRS & E-GPRS:

124 channels are provided to this EUT. Therefore, the low, middle and high channels are chosen for testing.

| | CHANNEL | FREQUENCY | TX MODE |
|--------|---------|-----------|--------------|
| LOW | 128 | 824.2 MHz | GPRS, E-GPRS |
| MIDDLE | 190 | 836.6 MHz | GPRS, E-GPRS |
| HIGH | 251 | 848.8 MHz | GPRS, E-GPRS |

NOTE:

1. Below 1 GHz, the channel 128, 190, and 251 were pre-tested in chamber. The channel 190 was chosen for final test.
2. Above 1 GHz, the channel 128, 190, and 251 were tested individually.
3. The worst case for final test is chosen when the power control level set 3.
4. The channel space is 0.2MHz.
5. The EUT is a GPRS, E-GPRS class 12 device, which provide 4 up-link. After pre-tested both functions, found up-link with 1 time slot is worse, therefore, test results of output power, frequency stability, occupied bandwidth and band edge tests came out from this.
6. The EUT has GPRS, E-GPRS functions. After pre-testing, GPRS function is the worst case for all the emission tests.



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FOR WCDMA:

102 channels are provided to this EUT. Therefore, the low, middle and high channels are chosen for testing.

| | CHANNEL | FREQUENCY | TX MODE |
|--------|---------|-----------|--------------|
| LOW | 4132 | 826.4 MHz | WCDMA, HSDPA |
| MIDDLE | 4182 | 836.4 MHz | WCDMA, HSDPA |
| HIGH | 4233 | 846.6 MHz | WCDMA, HSDPA |

NOTE:

1. Below 1 GHz, the channel 4132, 4182 and 4233 were pre-tested in chamber. The channel 4182 was chosen for final test.
2. Above 1 GHz, the channel 4132, 4182 and 4233 were tested individually.
3. The channel space is 0.2MHz.
4. The EUT has WCDMA-RMC & HSDPA functions. After pre-testing, WCDMA-RMC function is the worst case for all the emission tests.

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR GPRS, E-GPRS:

| EUT CONFIGURE MODE | APPLICABLE TO | | | | | | | DESCRIPTION |
|--------------------|---------------|----|----|----|----|-------|-----------------------|-------------|
| | OP | FS | OB | BE | CE | RE<1G | RE ^{>} 1G | |
| - | √ | √ | √ | √ | √ | √ | √ | - |

Where

| | |
|--|---|
| OP: Output power | FS: Frequency stability |
| OB: Occupied bandwidth | BE: Band edge |
| CE: Conducted spurious emissions | RE<1G: Radiated emission below 1GHz |
| RE^{>}1G: Radiated emission above 1GHz | |

OUTPUT POWER MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 128 to 251 | 128, 190, 251 | GPRS, E-GPRS |

FREQUENCY STABILITY MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 128 to 251 | 190 | GPRS |

OCCUPIED BANDWIDTH MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 128 to 251 | 128, 190, 251 | GPRS, E-GPRS |

BAND EDGE MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 128 to 251 | 128, 251 | GPRS, E-GPRS |

CONDUCTED SPURIOUS EMISSIONS MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 128 to 251 | 128, 190, 251 | GPRS |

RADIATED EMISSION MEASUREMENT (BELOW 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 128 to 251 | 190 | GPRS |

RADIATED EMISSION MEASUREMENT (ABOVE 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 128 to 251 | 128, 190, 251 | GPRS |

TEST CONDITION:

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|--------------------|--------------------------|---------------------|------------|
| OP | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| FS | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| OB | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| EM | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| BE | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| CE | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| RE < 1G | 25deg. C, 63%RH | 7.4Vdc from battery | Evan Huang |
| RE ³ 1G | 25deg. C, 63%RH | 7.4Vdc from battery | Evan Huang |



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FOR WCDMA:

| EUT CONFIGURE MODE | APPLICABLE TO | | | | | | | DESCRIPTION |
|--------------------|---------------|----|----|----|----|-------|-------|-------------|
| | OP | FS | OB | BE | CE | RE<1G | RE>1G | |
| - | √ | √ | √ | √ | √ | √ | √ | - |

Where **OP**: Output power **FS**: Frequency stability
OB: Occupied bandwidth **BE**: Band edge
CE: Conducted spurious emissions **RE<1G**: Radiated emission below 1GHz
RE>1G: Radiated emission above 1GHz

NOTE: Speed mode worst enable during the test

OUTPUT POWER MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|------------------|-----------------------|
| 4132 to 4233 | 4132, 4182, 4233 | WCDMA, HSDPA |

FREQUENCY STABILITY MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 4132 to 4233 | 4182 | WCDMA |

OCCUPIED BANDWIDTH MEASUREMENT:

- This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|------------------|-----------------------|
| 4132 to 4233 | 4132, 4182, 4233 | WCDMA, HSDPA |



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BAND EDGE MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 4132 to 4233 | 4132, 4233 | WCDMA, HSDPA |

CONDUCTED SPURIOUS EMISSIONS MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|------------------|-----------------------|
| 4132 to 4233 | 4132, 4182, 4233 | WCDMA |

RADIATED EMISSION MEASUREMENT (BELOW 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|----------------|-----------------------|
| 4132 to 4233 | 4182 | WCDMA |

RADIATED EMISSION MEASUREMENT (ABOVE 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY |
|-------------------|------------------|-----------------------|
| 4132 to 4233 | 4132, 4182, 4233 | WCDMA |



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TEST CONDITION:

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|--------------------|--------------------------|---------------------|------------|
| OP | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| FS | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| OB | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| EM | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| BE | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| CE | 25deg. C, 63%RH | 7.4Vdc from battery | Wen Yu |
| RE < 1G | 25deg. C, 63%RH | 7.4Vdc from battery | Evan Huang |
| RE ³ 1G | 25deg. C, 63%RH | 7.4Vdc from battery | Evan Huang |

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 22

ANSI C63.4-2003

ANSI/TIA/EIA-603-C 2004

NOTE: All test items have been performed and recorded as per the above standards.

3.4 DESCRIPTION OF SUPPORT UNITS

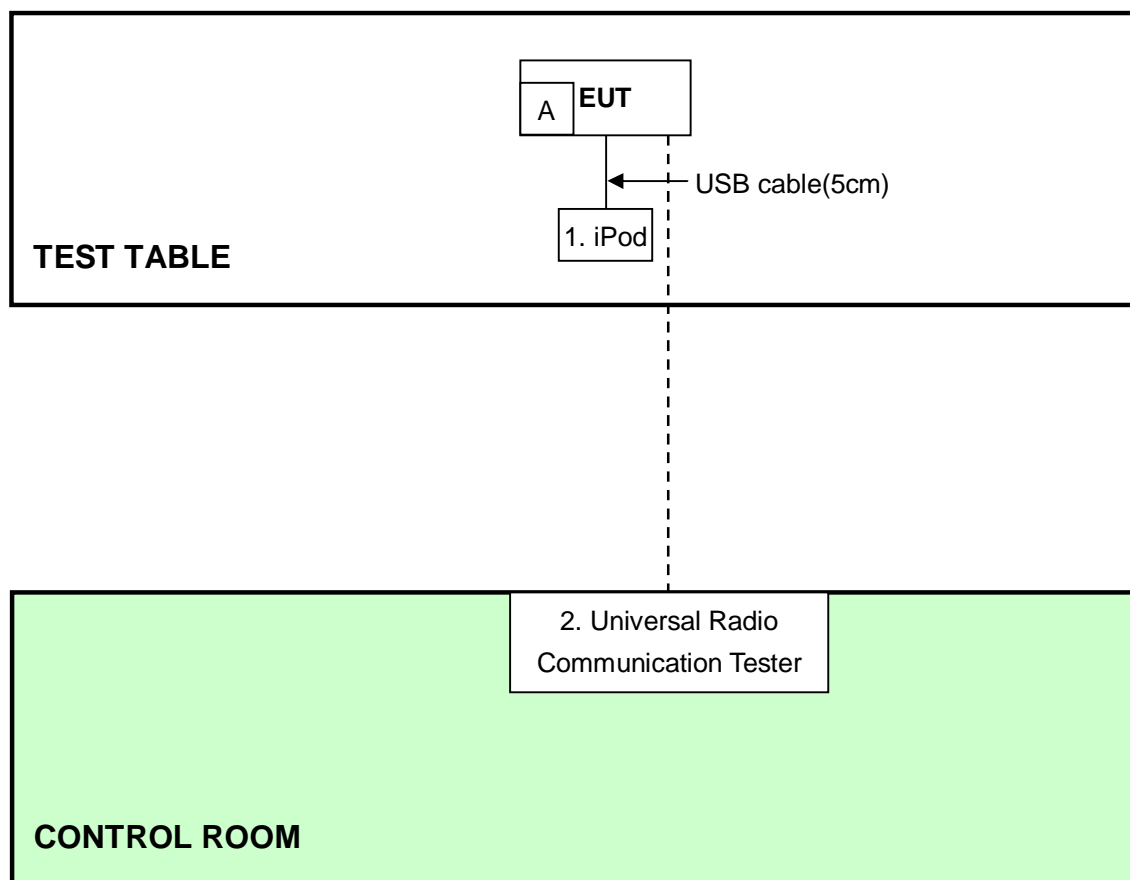
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| NO. | PRODUCT | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|-----|--------------------------------------|-------|-----------|--------------|---------|
| 1 | iPod | Apple | MC749TA/A | CC4DMFJUDFDM | FCC DoC |
| 2 | Universal Radio Communication Tester | R&S | CMU200 | 1100.0008.02 | NA |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1 | 5cm, USB Cable. |
| 2 | NA |

NOTE: All power cords of the above support units are non shielded (1.8m).

3.5 CONFIGURATION OF SYSTEM UNDER TEST



Note: The item A is battery.

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated output power shall be according to the specific rule Part 22.913 (a) that “Mobile / Portable station are limited to 7 watts e.r.p”.



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4.1.2 TEST INSTRUMENTS

Test date: Aug. 23, 2011

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|--------------------------------------|--------------------------|-----------------|-----------------|------------------|
| ROHDE & SCHWARZ Spectrum Analyzer | FSP40 | 100036 | Dec. 08, 2010 | Dec. 07, 2011 |
| Agilent PSA Spectrum Analyzer | E4446A | MY48250113 | Nov. 30, 2010 | Nov. 29, 2011 |
| HP Pre_Amplifier | 8449B | 300801923 | Nov. 01, 2010 | Oct. 31, 2011 |
| ROHDE & SCHWARZ Test Receiver | ESCS30 | 847124/029 | Sep. 03, 2010 | Sep. 02, 2011 |
| SCHWARZBECK TRILOG Broadband Antenna | VULB 9168 | 138 | Apr. 14, 2011 | Apr. 13, 2012 |
| Schwarzbeck Horn_Antenna | BBHA9120 | D124 | Dec. 17, 2010 | Dec. 16, 2011 |
| Schwarzbeck Horn_Antenna | BBHA 9170 | BBHA9170153 | Jan. 17, 2011 | Jan. 16, 2012 |
| RF Switches | EMH-011 | 1001 | NA | NA |
| RF CABLE (Chaintek) | Sucoflex 106 | RF106-102 | Jan. 27, 2011 | Jan. 26, 2012 |
| RF Cable | 8DFB | STCCAB-30M-1GHz | NA | NA |
| Software | ADT_Radiated_V7.6.15.9.2 | NA | NA | NA |
| CT Antenna Tower & Turn Table | NA | NA | NA | NA |
| Agilent signal generator | E8257C | MY43321031 | Aug. 23, 2011 | Aug. 22, 2012 |

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The horn antenna, preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in Open Site No. C.

4. The FCC Site Registration No. is 656396.

5. The VCCI Site Registration No. is R-1626.

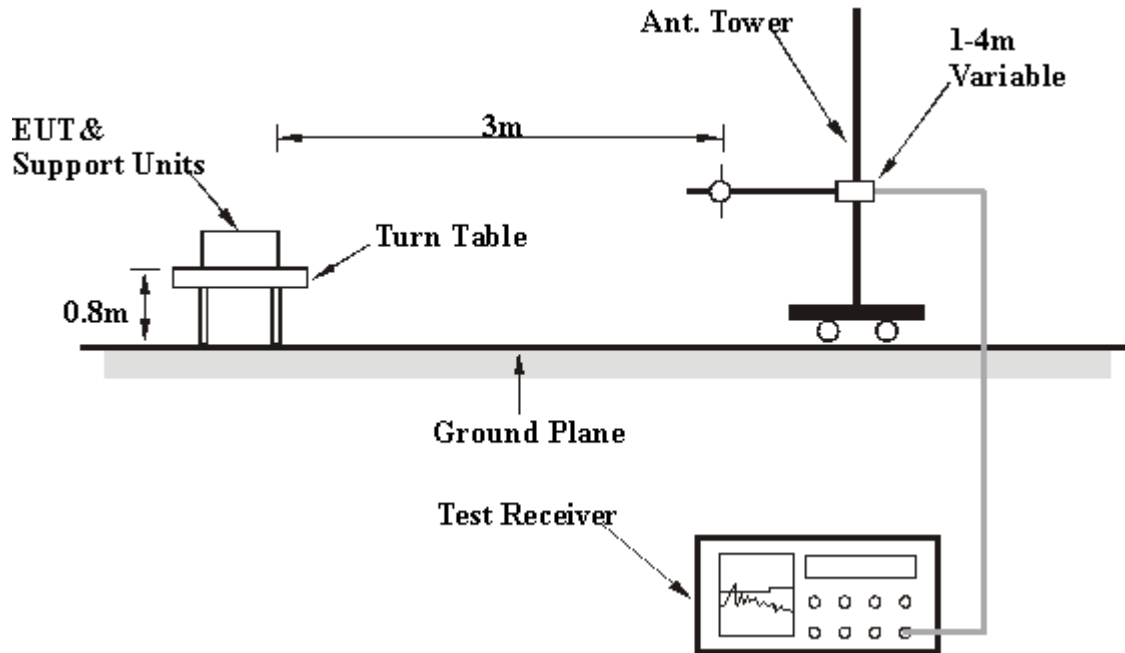
6. The CANADA Site Registration No. is IC 7450G-3.

4.1.3 TEST PROCEDURES

- a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels, 128, 190 and 251 (GPRS & E-GPRS) / 4132, 4182 and 4233 (WCDMA) (low, middle and high operational frequency range.)
- b. The conducted output power used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. The path loss included the splitter loss, cable loss and 20dB pad loss. The spectrum set RB/VB 1MHz (GPRS & E-GPRS) and 5MHz (WCDMA), then read power value and record to the test. (All transmitted path loss shall be considered in the test report data.)
- c. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- d. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable . Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step c. Record the power level of S.G
- e. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$
- f. ERP power can be calculated form EIRP power by subtracting the gain of dipole,
 $ERP \text{ power} = EIPR \text{ power} - 2.15\text{dBi.}$

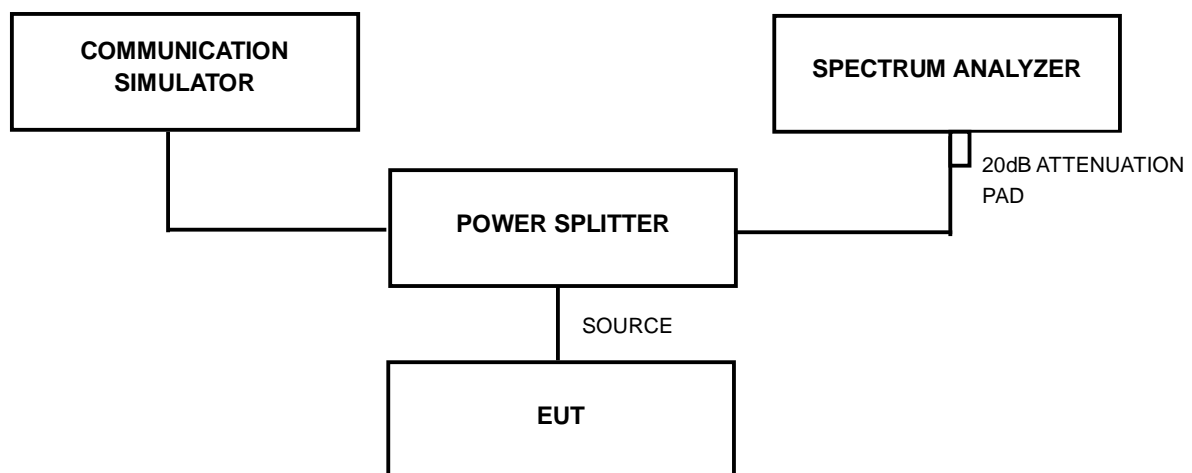
4.1.4 TEST SETUP

EIRP POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



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4.1.5 EUT OPERATING CONDITIONS

- a. The EUT makes a call to the communication simulator.
- b. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency.



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4.1.6 TEST RESULTS

FOR GPRS & E-GPRS:

GPRS MODE

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|--------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 128 | 824.2 | 29.9 | 2.40 | 32.3 | 1698.2 |
| 190 | 836.6 | 30.0 | 2.40 | 32.4 | 1737.8 |
| 251 | 848.8 | 29.7 | 2.40 | 32.1 | 1621.8 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.

E-GPRS MODE

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|--------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 128 | 824.2 | 29.9 | 2.4 | 32.3 | 1698.2 |
| 190 | 836.6 | 30.0 | 2.4 | 32.4 | 1737.8 |
| 251 | 848.8 | 29.6 | 2.4 | 32.0 | 1584.9 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.



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GPRS MODE

| ERP POWER | | | | | |
|-------------|-----------------|-----------------|------------------------|--------------|--------|
| CHANNEL NO. | FREQUENCY (MHz) | S.G VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 128 | 824.2 | 29.6 | 1.3 | 30.9 | 1230.3 |
| 190 | 836.6 | 29.8 | 1.2 | 31.0 | 1258.9 |
| 251 | 848.8 | 29.6 | 1.0 | 30.6 | 1148.2 |

REMARKS: 1. Peak Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = substitution Antenna Gain (dBi) + Cable Loss (dB) + Free Space Loss (dB).

E-GPRS MODE

| ERP POWER | | | | | |
|-------------|-----------------|-----------------|------------------------|--------------|--------|
| CHANNEL NO. | FREQUENCY (MHz) | S.G VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 128 | 824.2 | 29.5 | 1.3 | 30.8 | 1202.3 |
| 190 | 836.6 | 29.7 | 1.2 | 30.9 | 1230.3 |
| 251 | 848.8 | 29.5 | 1.0 | 30.5 | 1122.0 |

REMARKS: 1. Peak Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = substitution Antenna Gain (dBi) + Cable Loss (dB) + Free Space Loss (dB).



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FOR WCDMA:**WCDMA-RMC MODE**

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.4 | 2.4 | 21.8 | 151.4 |
| 4182 | 836.4 | 20.3 | 2.4 | 22.7 | 186.2 |
| 4233 | 846.6 | 19.6 | 2.4 | 22.0 | 158.5 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.

HSDPA-RMC

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.2 | 2.4 | 21.6 | 144.5 |
| 4182 | 836.4 | 20.1 | 2.4 | 22.5 | 177.8 |
| 4233 | 846.6 | 19.4 | 2.4 | 21.8 | 151.4 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.

HSDPA MODE- Subtest 1

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.2 | 2.4 | 21.6 | 144.5 |
| 4182 | 836.4 | 20.1 | 2.4 | 22.5 | 177.8 |
| 4233 | 846.6 | 19.3 | 2.4 | 21.7 | 147.9 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.



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HSDPA MODE- Subtest 2

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.1 | 2.4 | 21.5 | 141.3 |
| 4182 | 836.4 | 20.0 | 2.4 | 22.4 | 173.8 |
| 4233 | 846.6 | 19.3 | 2.4 | 21.7 | 147.9 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.

HSDPA MODE- Subtest 3

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.0 | 2.4 | 21.4 | 138.0 |
| 4182 | 836.4 | 20.0 | 2.4 | 22.4 | 173.8 |
| 4233 | 846.6 | 19.3 | 2.4 | 21.7 | 147.9 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.

HSDPA MODE- Subtest 4

| CONDUCTED OUTPUT POWER | | | | | |
|------------------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | RAW VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.0 | 2.4 | 21.4 | 138.0 |
| 4182 | 836.4 | 19.9 | 2.4 | 22.3 | 169.8 |
| 4233 | 846.6 | 19.2 | 2.4 | 21.6 | 144.5 |

REMARKS: 1. Peak Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Pad.



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WCDMA-RMC MODE

| ERP POWER | | | | | |
|-------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | S.G VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.2 | 1.3 | 20.5 | 112.2 |
| 4182 | 836.4 | 19.9 | 1.2 | 21.1 | 128.8 |
| 4233 | 846.6 | 19.4 | 1.1 | 20.5 | 112.2 |

REMARKS: 1. Peak Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = substitution Antenna Gain (dBi) + Cable Loss (dB) + Free Space Loss (dB).

HSDPA MODE

| ERP POWER | | | | | |
|-------------|-----------------|-----------------|------------------------|--------------|-------|
| CHANNEL NO. | FREQUENCY (MHz) | S.G VALUE (dBm) | CORRECTION FACTOR (dB) | OUTPUT POWER | |
| | | | | dBm | mW |
| 4132 | 826.4 | 19.0 | 1.3 | 20.3 | 107.2 |
| 4182 | 836.4 | 19.7 | 1.2 | 20.9 | 123.0 |
| 4233 | 846.6 | 19.3 | 1.1 | 20.4 | 109.6 |

REMARKS: 1. Peak Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = substitution Antenna Gain (dBi) + Cable Loss (dB) + Free Space Loss (dB).



4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

According to the FCC part 22.863 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The frequency error rate is according to the JTC standard that the frequency error rate shall be accurate to within 2.5ppm of the received frequency from the base station. The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with the 2.1055(a)(1) $-30^{\circ}\text{C} \sim 50^{\circ}\text{C}$.

4.2.2 TEST INSTRUMENTS

Test date: Aug. 23, 2011

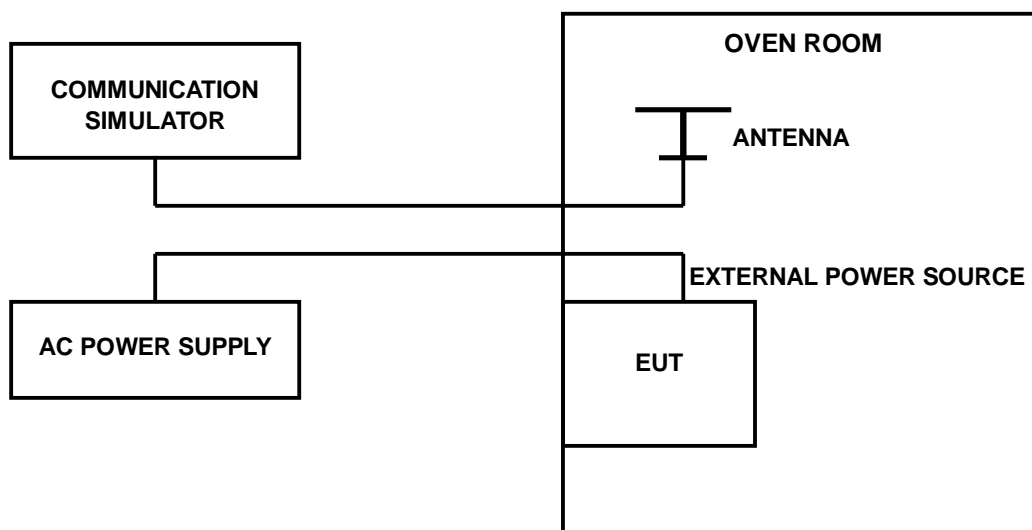
| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-------------|------------|-----------------|------------------|
| R&S SPECTRUM ANALYZER | FSP40 | 100037 | Sep. 08, 2010 | Sep. 07, 2011 |
| OVEN | MHU-225AU | 911033 | Dec. 17, 2010 | Dec. 16, 2011 |
| HUBER+SUHNER | SUCOFLEX104 | 222686/4 | Jan. 10, 2011 | Jan. 09, 2012 |
| AC POWER SOURCE | 6205 | 1140503 | NA | NA |

NOTE: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.2.3 TEST PROCEDURE

- a. Because of the measure the carrier frequency under the condition of the AFC lock, it shall be used the mobile station in the GPRS/WCDMA link mode. This is accomplished with the use of the R&S CMU200 simulator station. The oven room could control the temperatures and humidity. The GPRS link channel is the 190 and the WCDMA link channel is the 4182.
- b. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- c. EUT is connected the external power supply to control the AC input power. The various Volts from the minimum 102 Volts to 138 Volts. Each step shall be record the frequency error rate.
- d. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing.
- e. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

4.2.4 TEST SETUP





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4.2.5 TEST RESULTS

FOR GPRS:

| AFC FREQUENCY ERROR vs. VOLTAGE | | | |
|---------------------------------|----------------------|-----------------------|-------------|
| VOLTAGE (Volts) | FREQUENCY ERROR (Hz) | FREQUENCY ERROR (ppm) | LIMIT (ppm) |
| 102 | -40 | -0.048 | 2.5 |
| 138 | -44 | -0.053 | 2.5 |

| AFC FREQUENCY ERROR vs. TEMP. | | | |
|-------------------------------|----------------------|-----------------------|-------------|
| TEMP. (°C) | FREQUENCY ERROR (Hz) | FREQUENCY ERROR (ppm) | LIMIT (ppm) |
| 50 | -56 | -0.067 | 2.5 |
| 40 | -48 | -0.057 | 2.5 |
| 30 | -43 | -0.051 | 2.5 |
| 20 | -44 | -0.053 | 2.5 |
| 10 | -42 | -0.050 | 2.5 |
| 0 | -38 | -0.045 | 2.5 |
| -10 | -39 | -0.047 | 2.5 |
| -20 | -42 | -0.050 | 2.5 |
| -30 | -51 | -0.061 | 2.5 |



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FOR WCDMA:

| AFC FREQUENCY ERROR vs. VOLTAGE | | | |
|--|-----------------------------|------------------------------|--------------------|
| VOLTAGE (Volts) | FREQUENCY ERROR (Hz) | FREQUENCY ERROR (ppm) | LIMIT (ppm) |
| 102 | 22 | 0.026 | 2.5 |
| 138 | 26 | 0.031 | 2.5 |

| AFC FREQUENCY ERROR vs. TEMP. | | | |
|--------------------------------------|-----------------------------|------------------------------|--------------------|
| TEMP. (°C) | FREQUENCY ERROR (Hz) | FREQUENCY ERROR (ppm) | LIMIT (ppm) |
| 50 | 33 | 0.039 | 2.5 |
| 40 | 31 | 0.037 | 2.5 |
| 30 | 30 | 0.036 | 2.5 |
| 20 | 25 | 0.030 | 2.5 |
| 10 | 26 | 0.031 | 2.5 |
| 0 | 28 | 0.033 | 2.5 |
| -10 | 32 | 0.038 | 2.5 |
| -20 | 36 | 0.043 | 2.5 |
| -30 | 39 | 0.047 | 2.5 |



4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

According to FCC 2.1049 (h) specified that emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

4.3.2 TEST INSTRUMENTS

Test date: Aug. 23, 2011

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-------------|------------|-----------------|------------------|
| R&S SPECTRUM ANALYZER | FSP40 | 100037 | Sep. 08, 2010 | Sep. 07, 2011 |
| OVEN | MHU-225AU | 911033 | Dec. 17, 2010 | Dec. 16, 2011 |
| HUBER+SUHNER | SUCOFLEX104 | 222686/4 | Jan. 10, 2011 | Jan. 09, 2012 |
| AC POWER SOURCE | 6205 | 1140503 | NA | NA |

NOTE: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.3.3 TEST SETUP

Same as Item 4.2.4 (Conducted Power Setup)

4.3.4 TEST PROCEDURES

- a. The EUT makes a call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels, 128, 190 and 251 (GPRS & E-GPRS) / 4132, 4182 and 4233 (WCDMA & HSDPA) (low, middle and high operational frequency range.)
- b. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- c. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.5 EUT OPERATING CONDITION

Same as Item 4.1.5



A D T

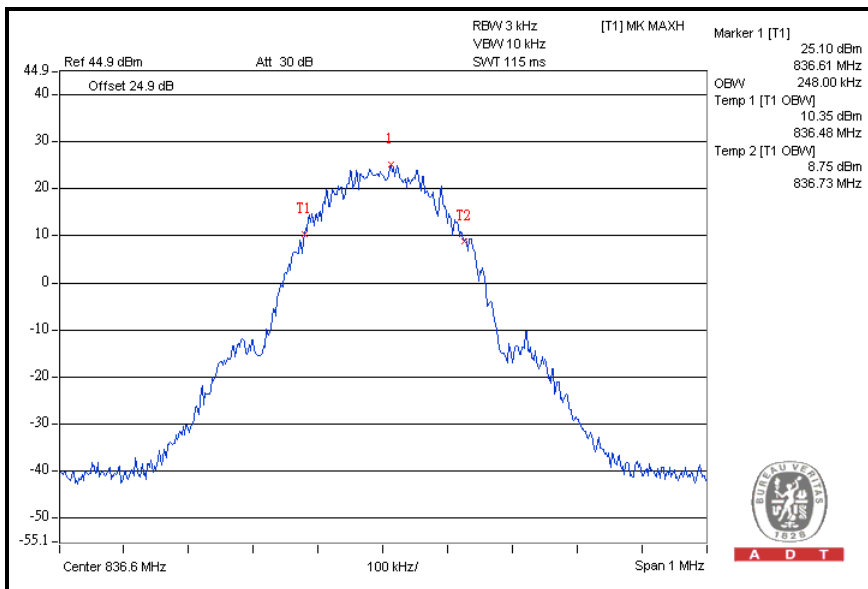
4.3.6 TEST RESULTS

FOR GPRS & E-GPRS:

GPRS MODE

| CHANNEL | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (kHz) |
|---------|-----------------|------------------------------|
| 128 | 824.2 | 244.0 |
| 190 | 836.6 | 248.0 |
| 251 | 848.8 | 246.0 |

CH 190



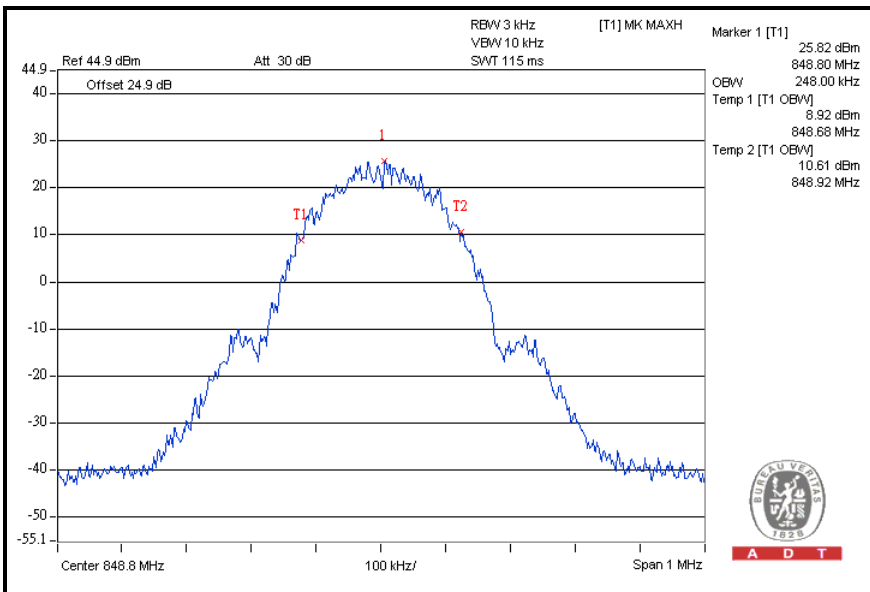


A D T

E-GPRS MODE

| CHANNEL | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (kHz) |
|---------|-----------------|------------------------------|
| 128 | 824.2 | 244.0 |
| 190 | 836.6 | 244.0 |
| 251 | 848.8 | 248.0 |

CH 251





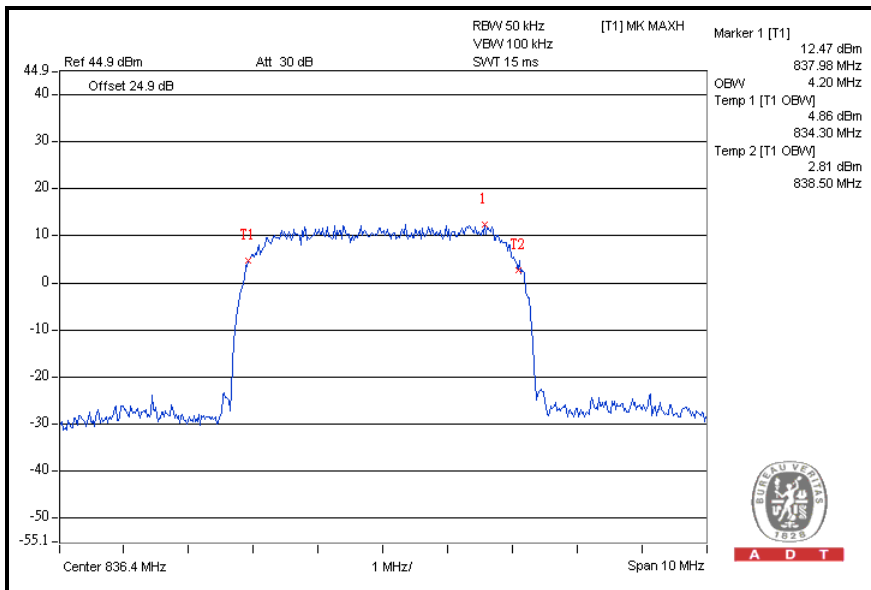
A D T

FOR WCDMA:

WCDMA:

| CHANNEL | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (MHz) |
|---------|-----------------|------------------------------|
| 4132 | 826.4 | 4.18 |
| 4182 | 836.4 | 4.20 |
| 4233 | 846.6 | 4.20 |

CH 4182



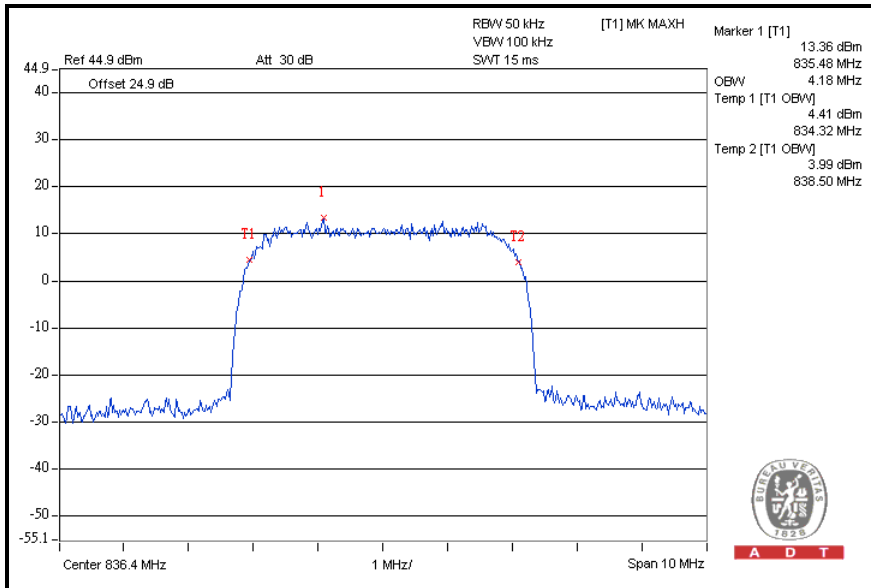


A D T

HSDPA:

| CHANNEL | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (MHz) |
|---------|-----------------|------------------------------|
| 4132 | 826.4 | 4.18 |
| 4182 | 836.4 | 4.18 |
| 4233 | 846.6 | 4.18 |

CH 4182



4.4 BAND EDGE MEASUREMENT

4.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC 22.917 specified that power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

4.4.2 TEST INSTRUMENTS

Test date: Aug. 23, 2011

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-------------|------------|-----------------|------------------|
| R&S SPECTRUM ANALYZER | FSP40 | 100037 | Sep. 08, 2010 | Sep. 07, 2011 |
| OVEN | MHU-225AU | 911033 | Dec. 17, 2010 | Dec. 16, 2011 |
| HUBER+SUHNER | SUCOFLEX104 | 222686/4 | Jan. 10, 2011 | Jan. 09, 2012 |
| AC POWER SOURCE | 6205 | 1140503 | NA | NA |

NOTE: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST SETUP

Same as Item 4.2.4 (Conducted Power Setup)

4.4.4 TEST PROCEDURES

- a. The EUT makes a call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels, 128 and 251 (GPRS & E-GPRS) /4132 and 4233 (WCDMA & HSDPA) (low and high operational frequency range.)
- b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- c. The center frequency of spectrum is the band edge frequency and span is 1.5 MHz. RB of the spectrum is 3kHz and VB of the spectrum is 10kHz (GPRS/ E-GPRS).
- d. The center frequency of spectrum is the band edge frequency and span is 10MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (WCDMA).

4.4.5 EUT OPERATING CONDITION

Same as Item 4.1.5



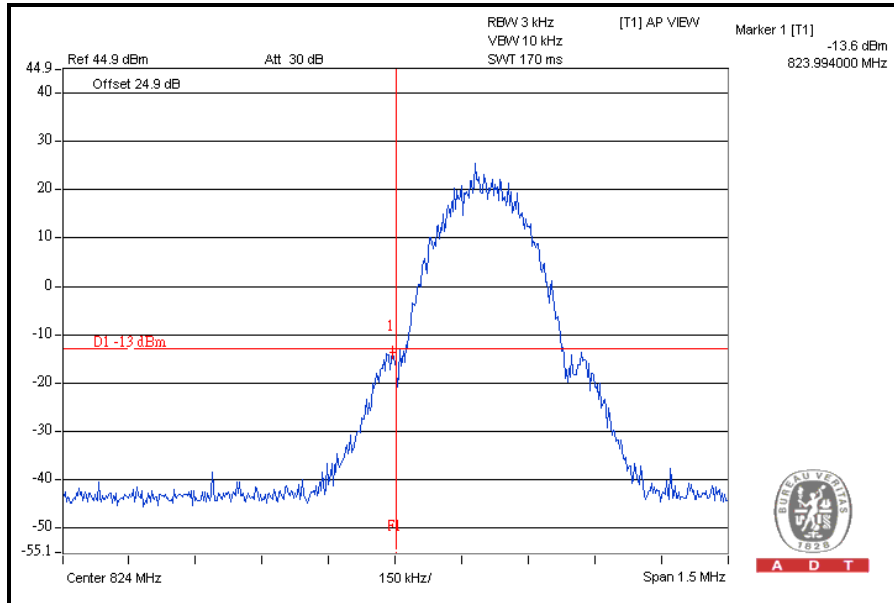
A D T

4.4.6 TEST RESULTS

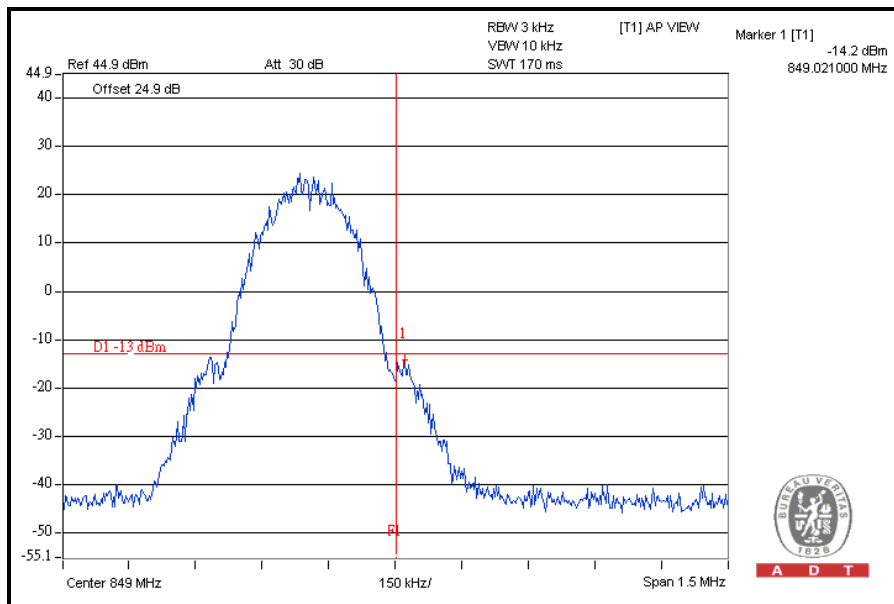
FOR GPRS / E-GPRS:

GPRS MODE

LOWER BAND EDGE



HIGHER BAND EDGE

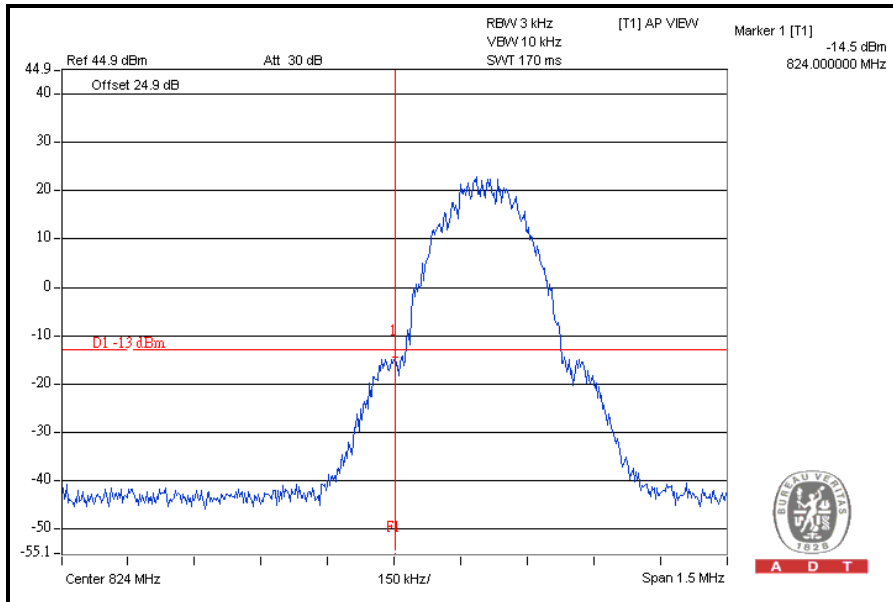




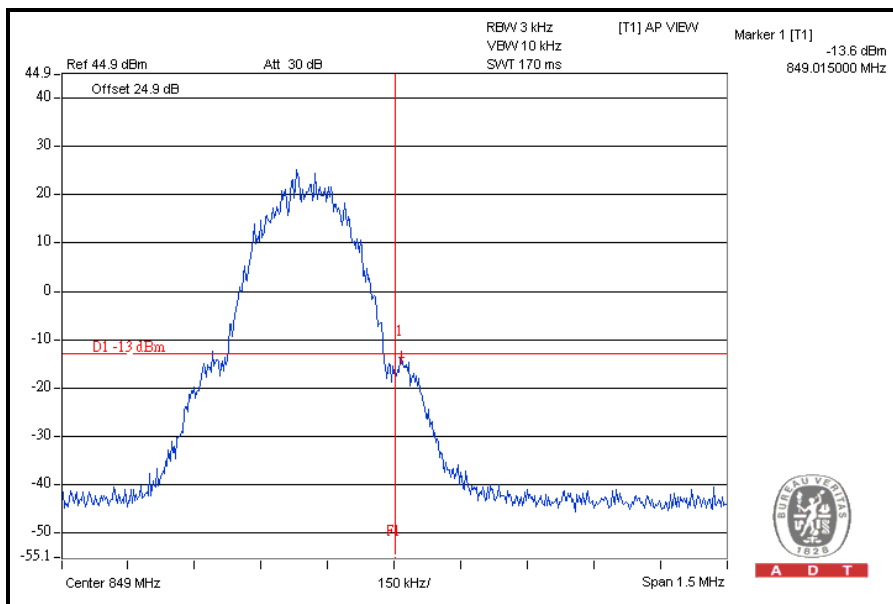
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E-GPRS MODE

LOWER BAND EDGE



HIGHER BAND EDGE



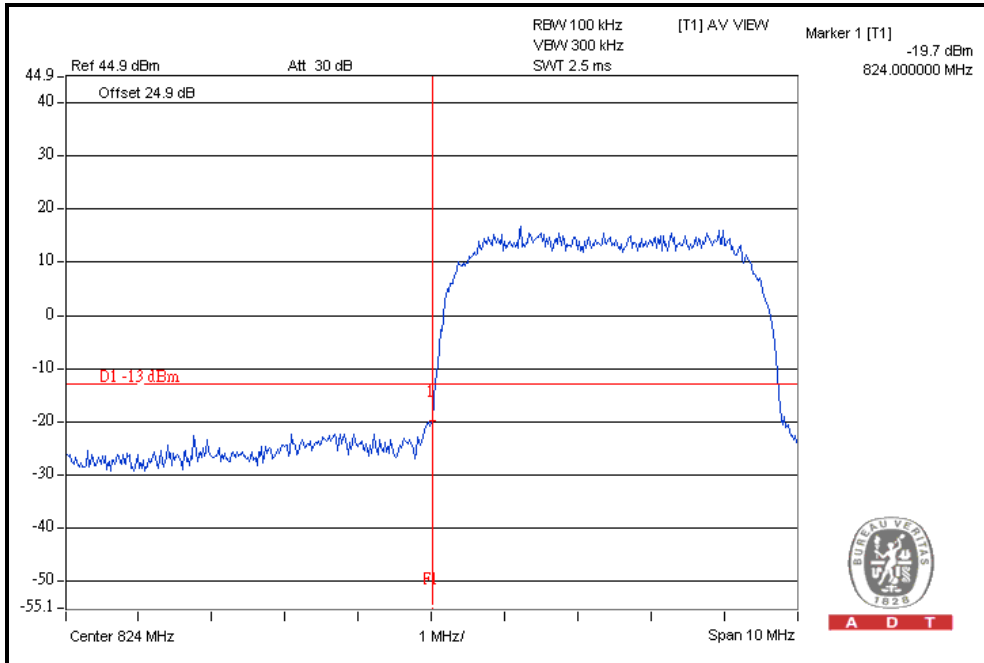


A D T

FOR WCDMA:

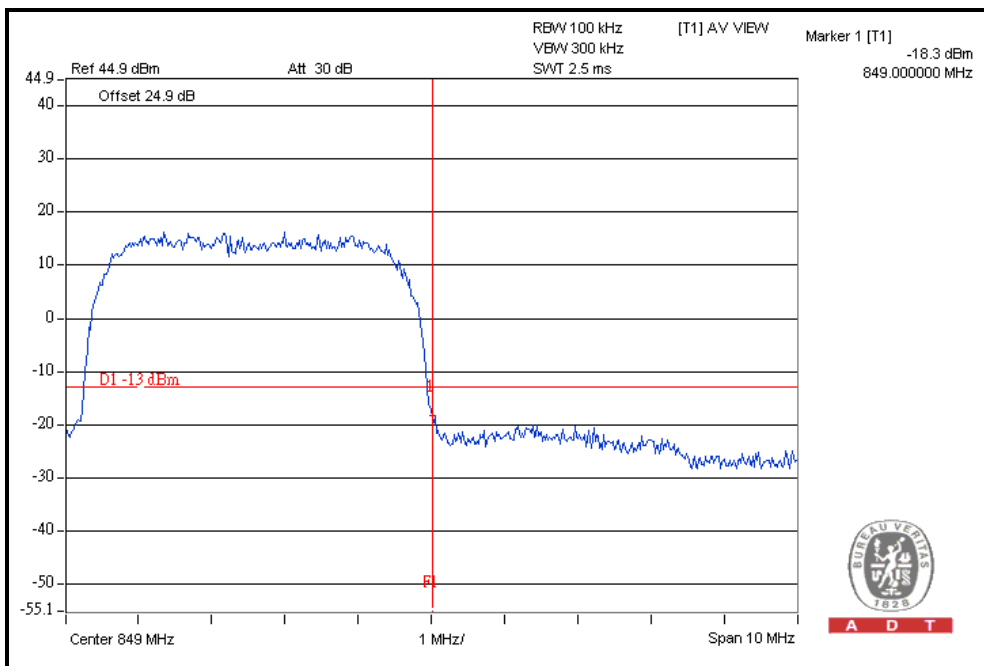
WCDMA MODE

LOWER BAND EDGE



A D T

HIGHER BAND EDGE



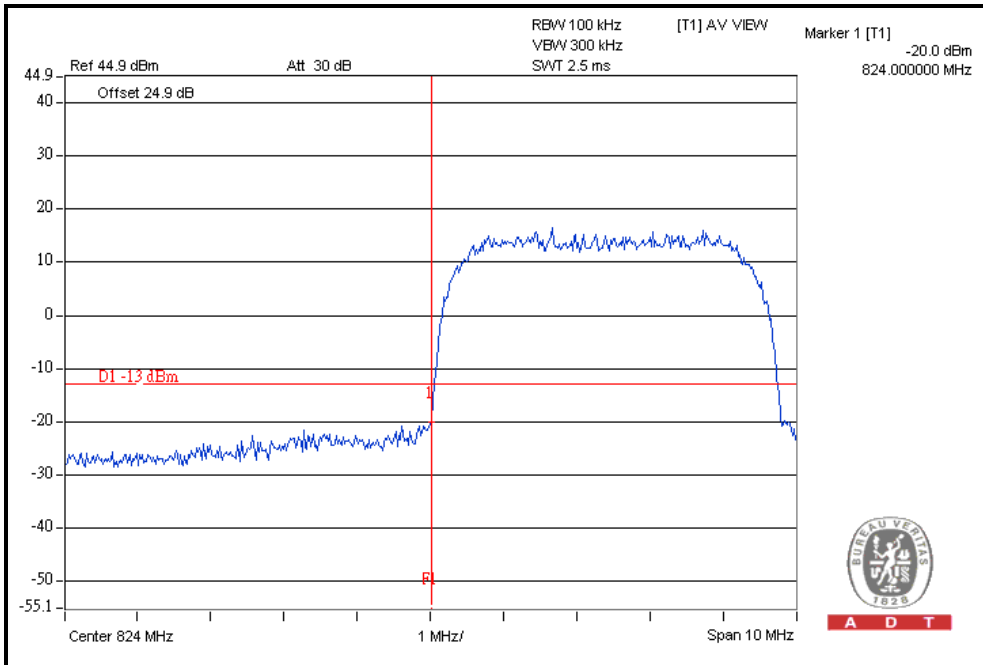
A D T



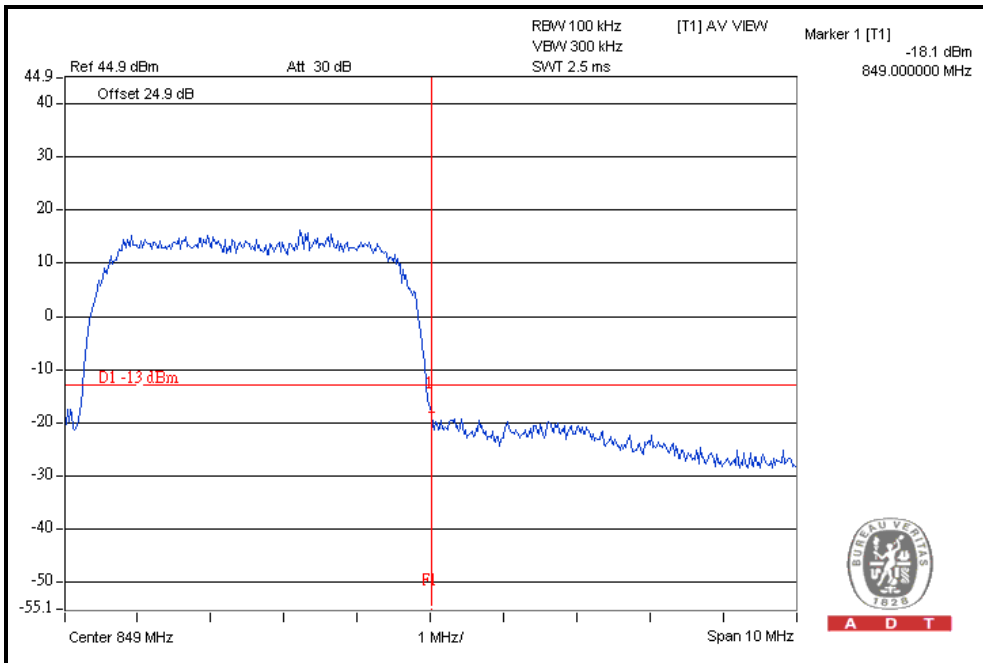
A D T

HSDPA MODE

LOWER BAND EDGE



HIGHER BAND EDGE





4.5 CONDUCTED SPURIOUS EMISSIONS

4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

In the FCC 22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by at least $43 + 10 \log (P)$ dB. The limit of emission equal to -13dBm .

4.5.2 TEST INSTRUMENTS

Test date: Aug. 23, 2011

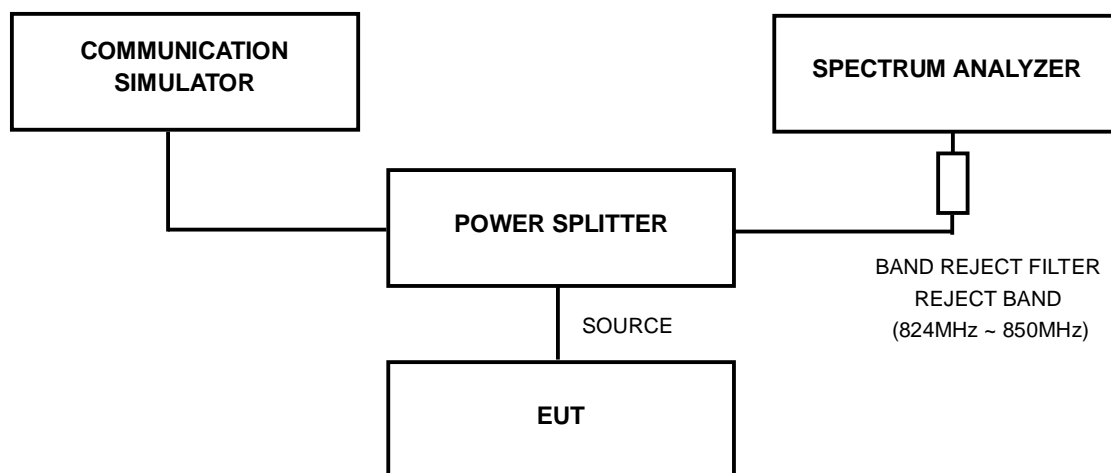
| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|--|---|------------|-----------------|------------------|
| R&S SPECTRUM ANALYZER | FSP40 | 100037 | Sep. 08, 2010 | Sep. 07, 2011 |
| OVEN | MHU-225AU | 911033 | Dec. 17, 2010 | Dec. 16, 2011 |
| HUBER+SUHNER | SUCOFLEX104 | 222686/4 | Jan. 10, 2011 | Jan. 09, 2012 |
| AC POWER SOURCE | 6205 | 1140503 | NA | NA |
| Wainwright Instruments Band Reject Filter | WRCG1850/191 0-1830/1930-60/ 10SS | SN1 | NA | NA |
| * Wainwright Instruments High Pass Filter | WHK3.1/18G-10 SS | SN1 | NA | NA |

NOTE: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels, 128, 190 and 251 (GPRS) / 4132, 4182 and 4233 (WCDMA) (low, middle and high operational frequency range.)
- b. The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. This splitter loss and cable loss are the worst loss 6dB in the transmitted path track.
- c. When the spectrum scanned from 9kHz to 1GHz, it shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.
- d. When the spectrum scanned from 1GHz to 9GHz, it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.

4.5.4 TEST SETUP



4.5.5 EUT OPERATING CONDITIONS

Same as Item 4.1.5

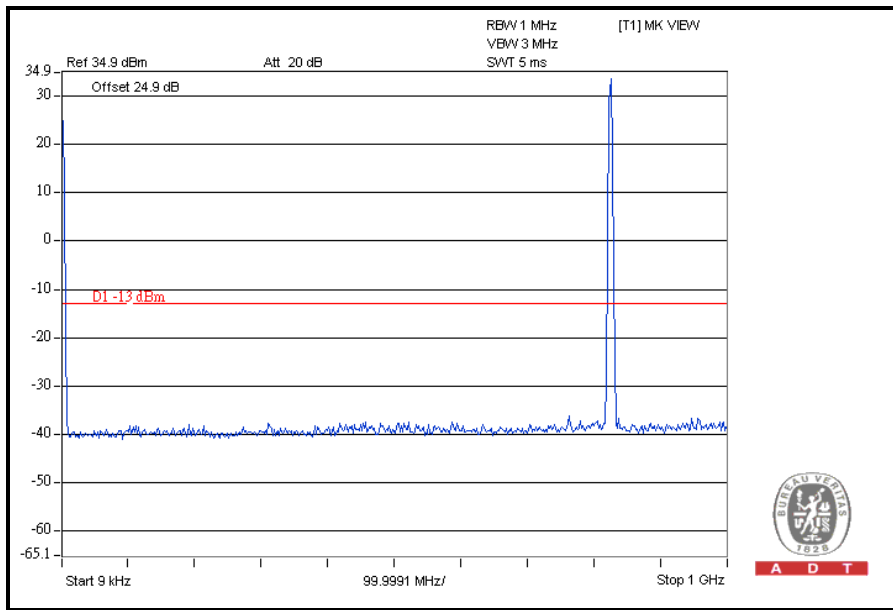


A D T

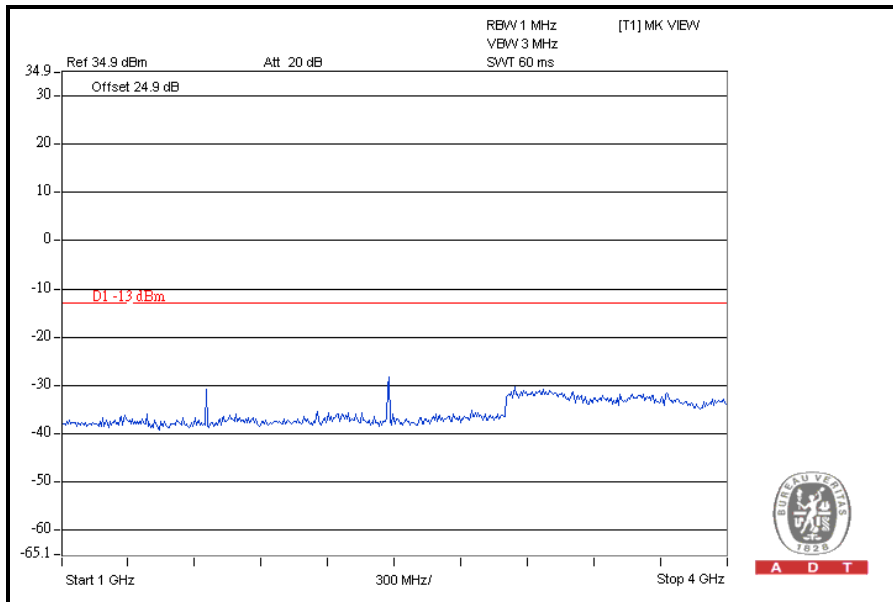
4.5.6 TEST RESULTS

FOR GPRS:

CH 128: 9kHz ~ 1GHz



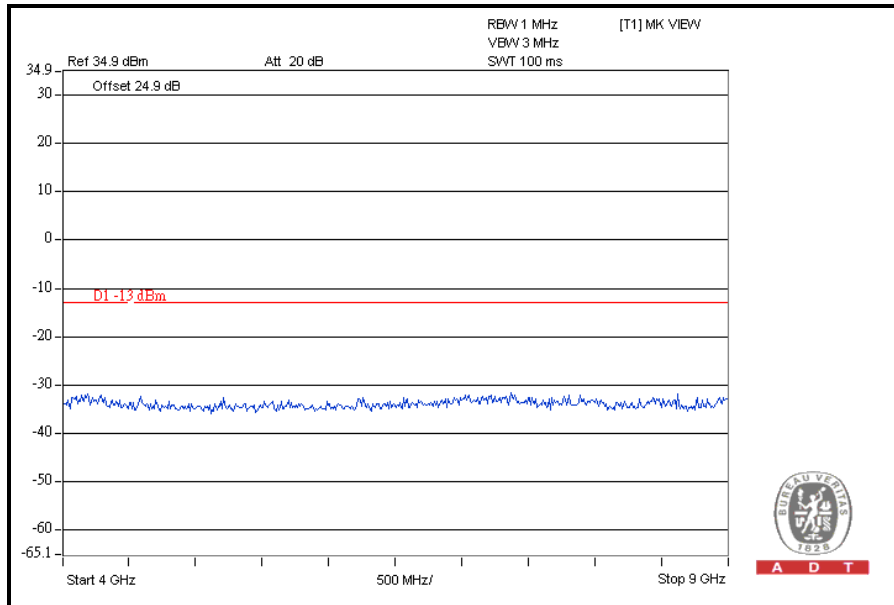
1GHz ~ 4GHz





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4GHz ~ 9GHz

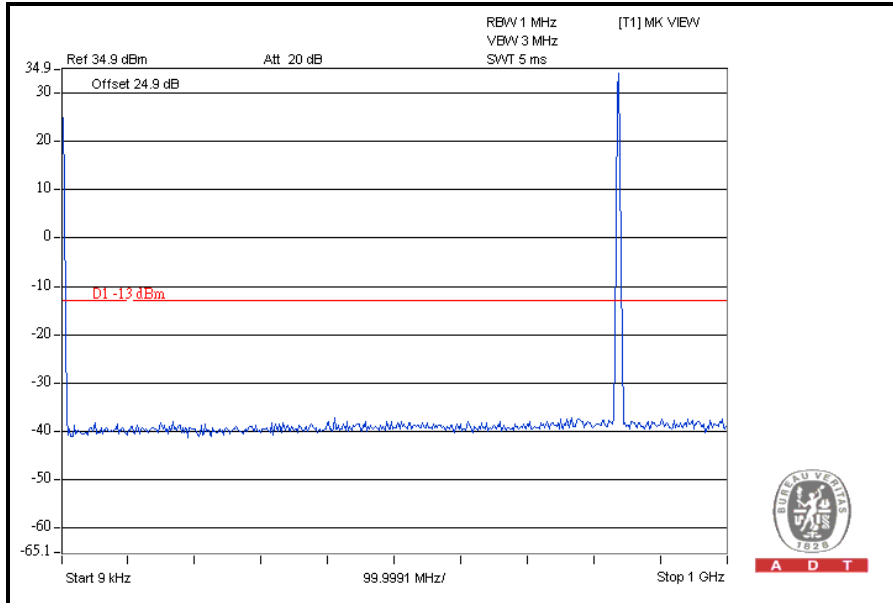


A D T

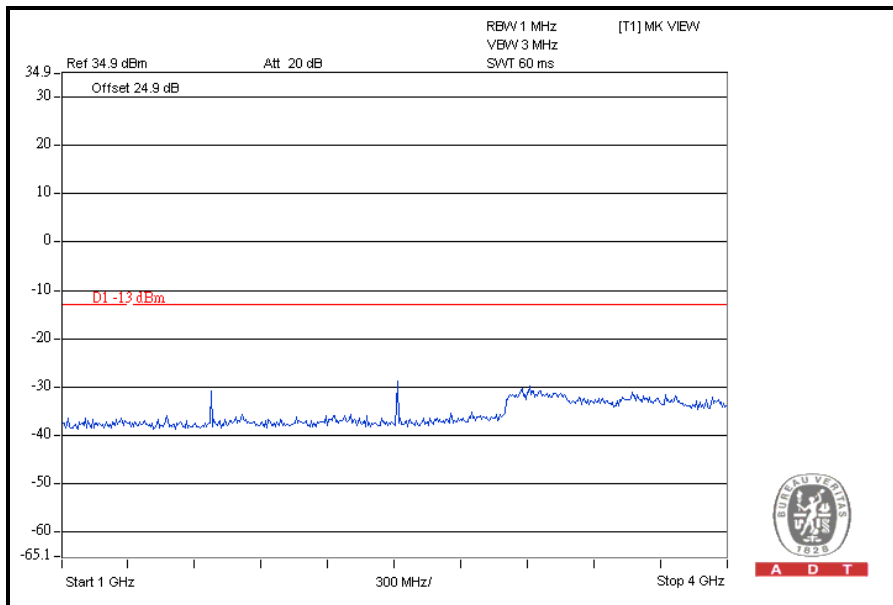


A D T

CH 190: 9kHz ~ 1GHz



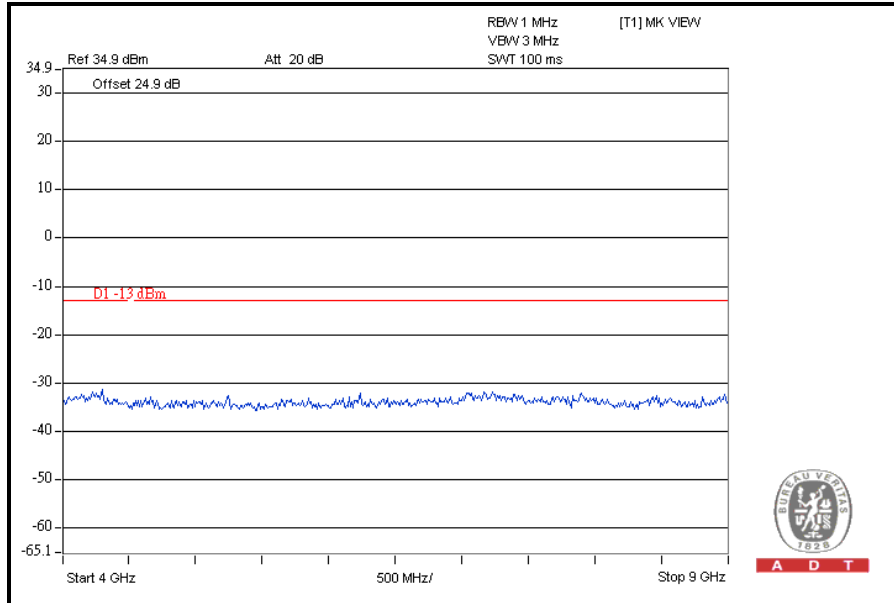
1GHz ~ 4GHz





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4GHz ~ 9GHz

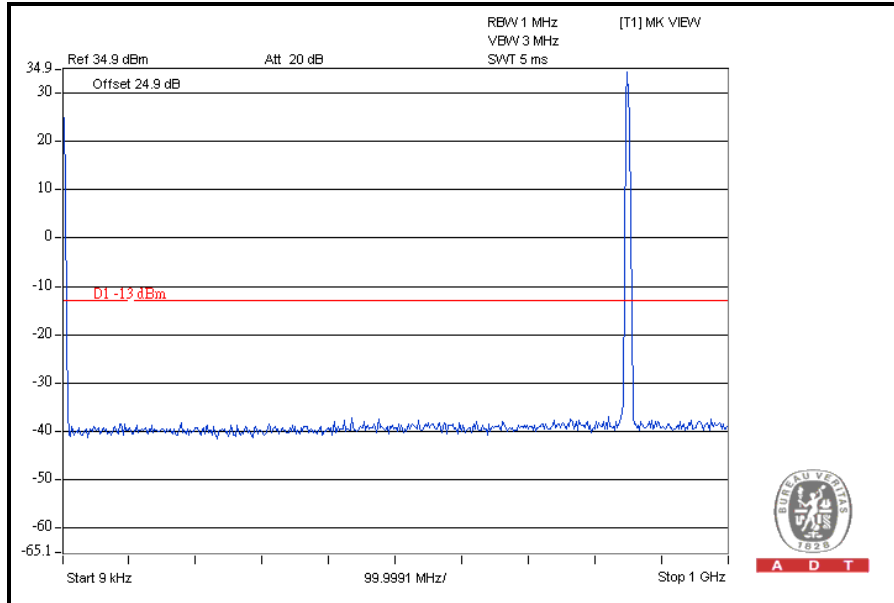


A D T

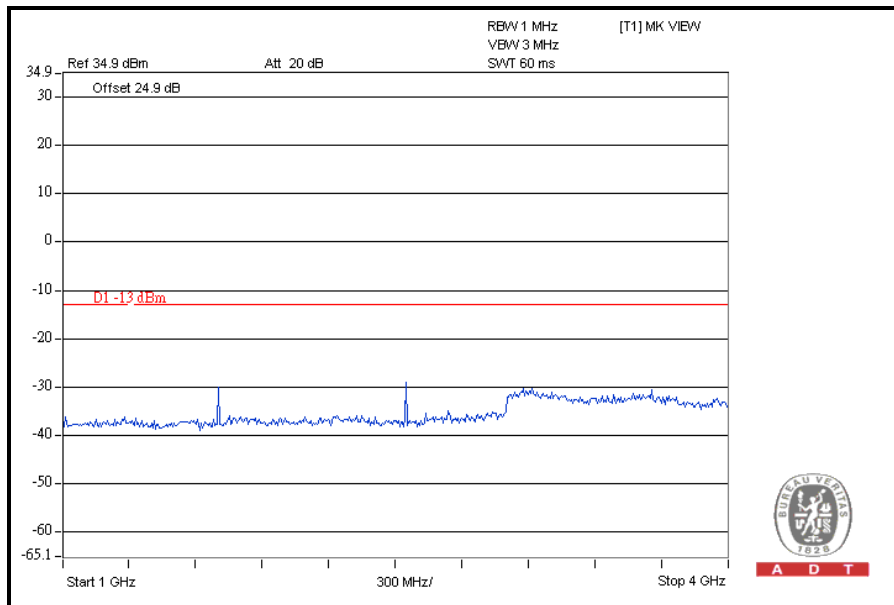


A D T

CH 251: 9kHz ~ 1GHz



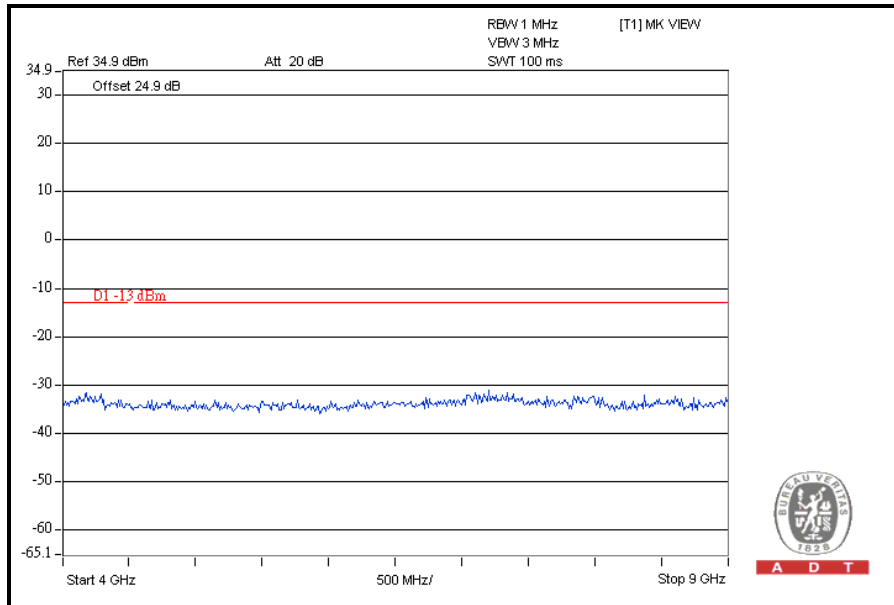
1GHz ~ 4GHz





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4GHz ~ 9GHz

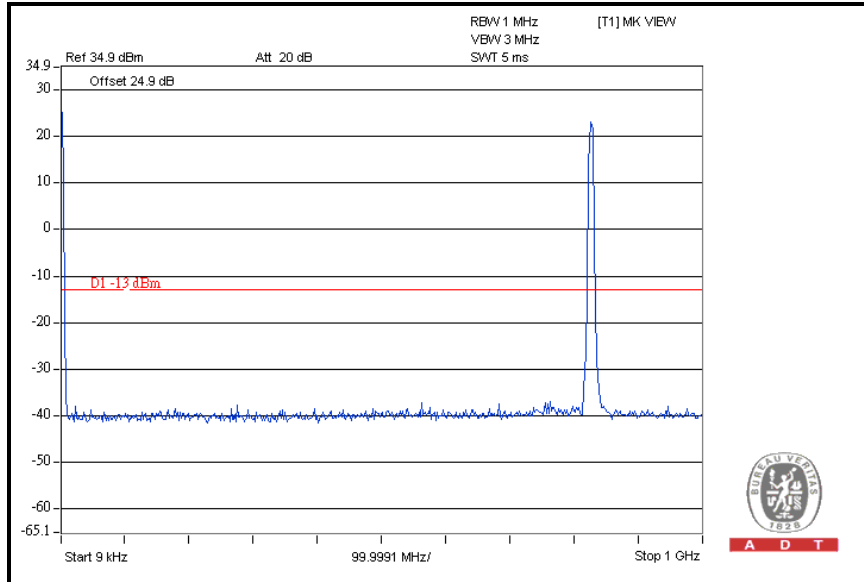




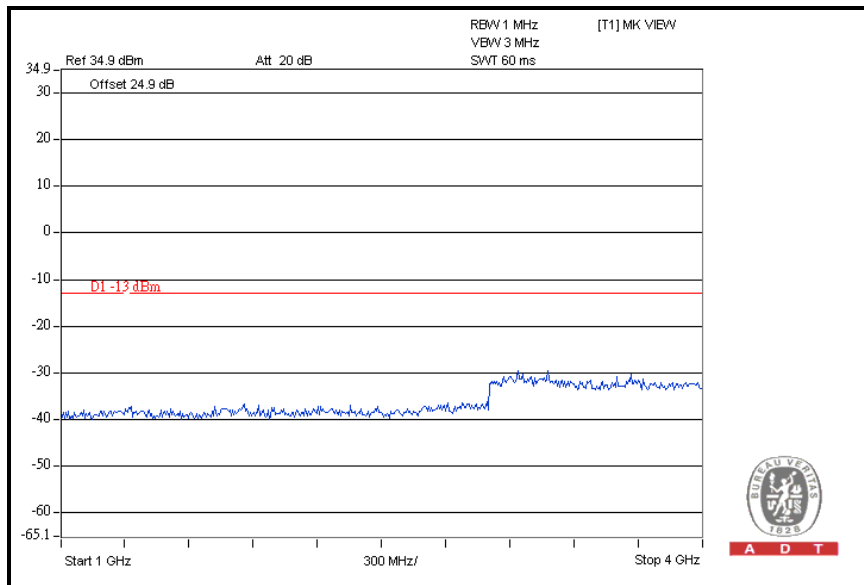
A D T

FOR WCDMA:

CH 4132: 9kHz ~ 1GHz



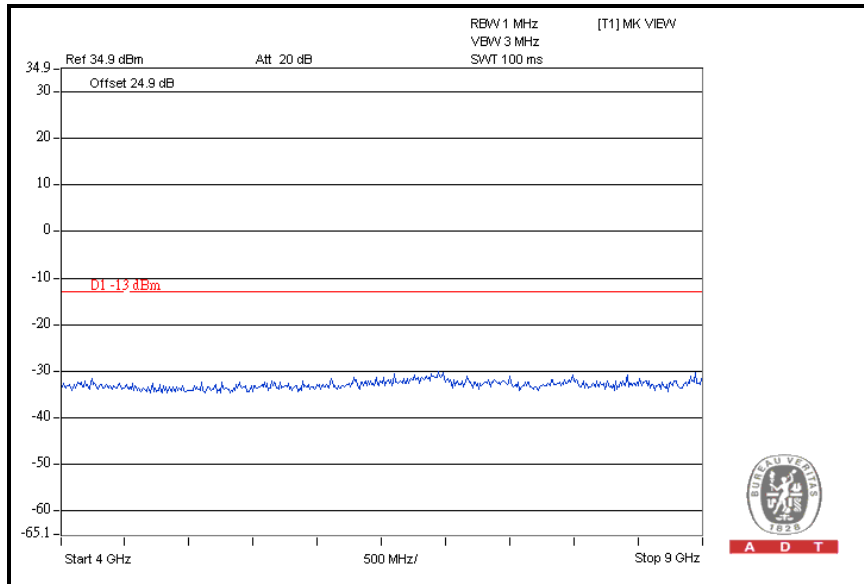
1GHz ~ 4GHz





A D T

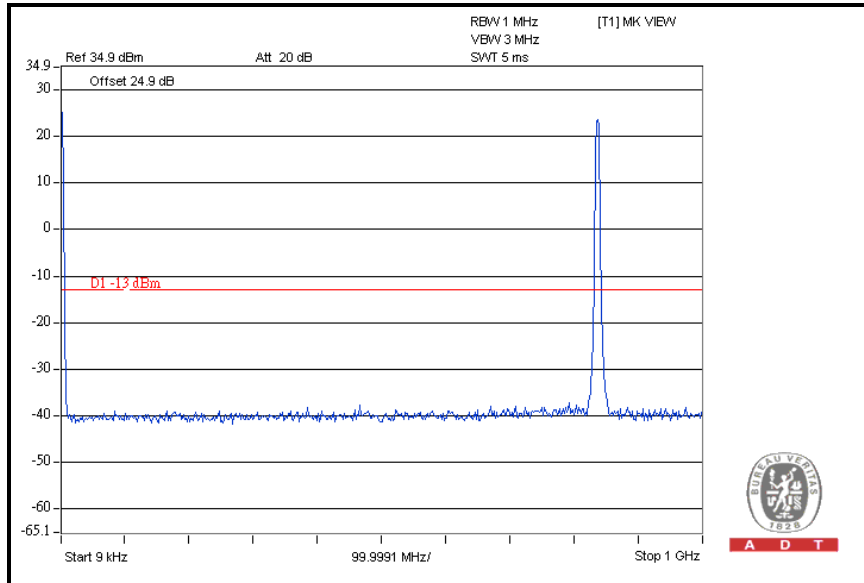
4GHz ~ 9GHz



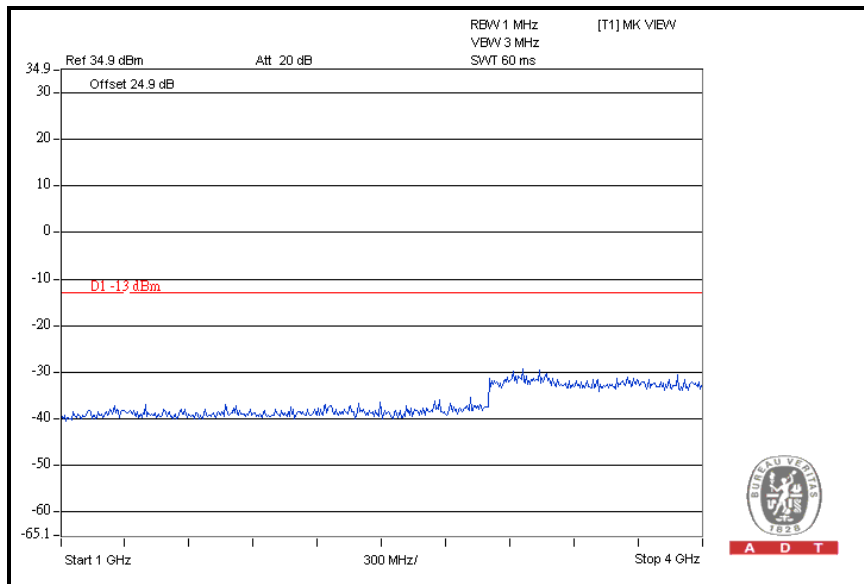


A D T

CH 4182: 9kHz ~ 1GHz



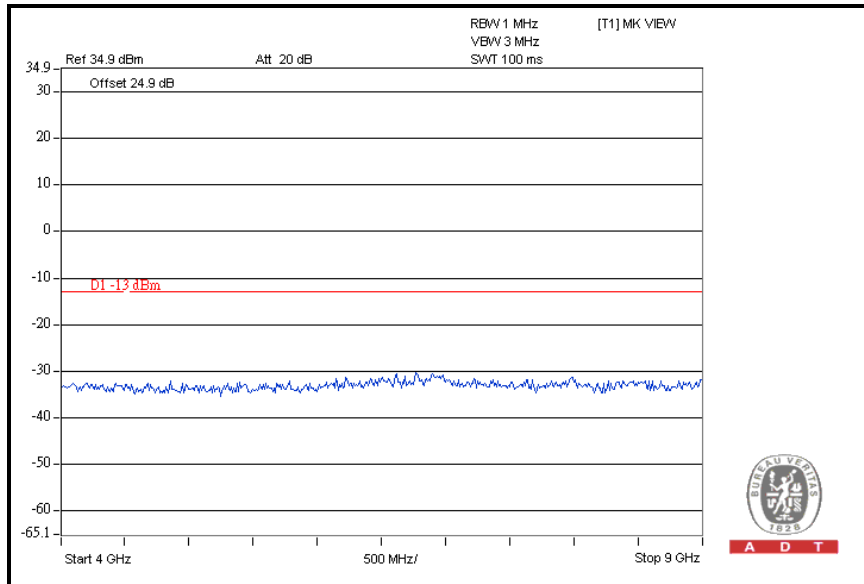
1GHz ~ 4GHz





A D T

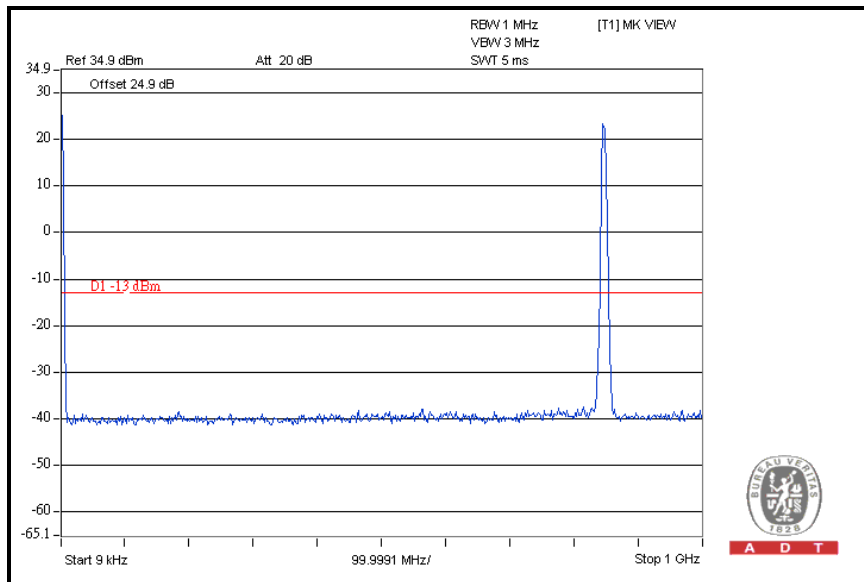
4GHz ~ 9GHz



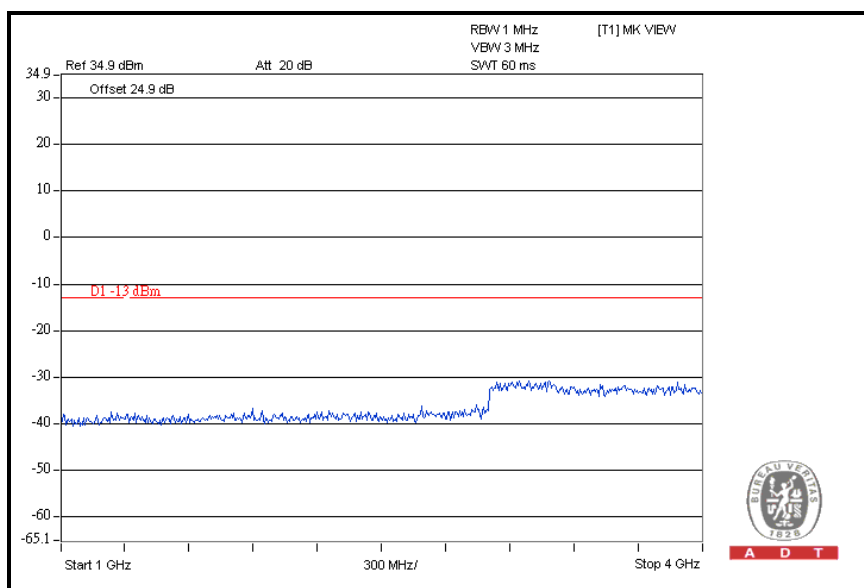


A D T

CH 4233: 9kHz ~ 1GHz



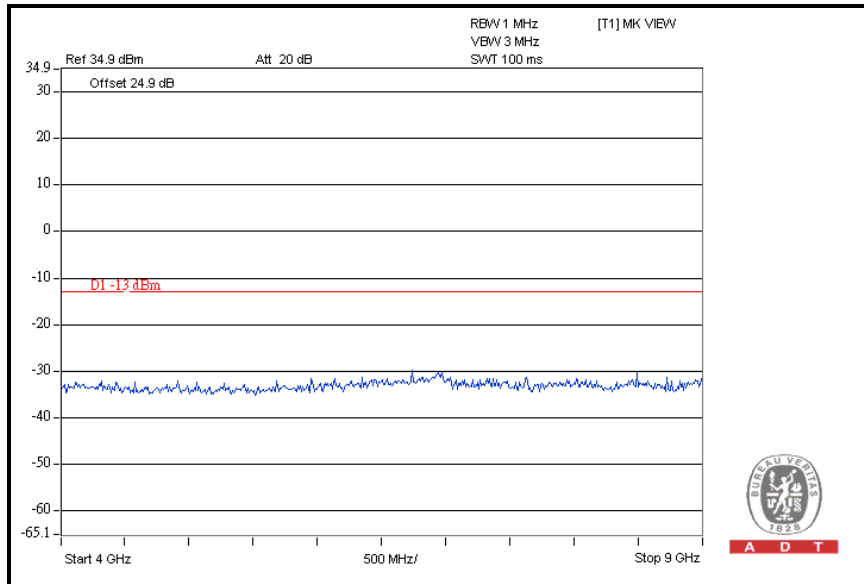
1GHz ~ 4GHz





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4GHz ~ 9GHz



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4.6 RADIATED EMISSION MEASUREMENT (BELOW 1GHz)

4.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

In the FCC 22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by at least $43 + 10 \log (P)$ dB. The limit of emission equal to -13 dBm. So the limit of emission is the same absolute specified line.

| LIMIT (dBm) | EQUIVALENT FIELD STRENGTH AT 3m (dBuV/m) (NOTE) |
|-------------|---|
| -13 | 82.22 |

NOTE: The following formula is used to convert the equipment radiated power to field strength.

$$E = [1000000\sqrt{(30P)}] / 3 \text{ uV/m, where P is Watts.}$$



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4.6.2 TEST INSTRUMENTS

Test date: Aug. 23, 2011

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|--------------------------------------|--------------------------|-----------------|-----------------|------------------|
| ROHDE & SCHWARZ Spectrum Analyzer | FSP40 | 100036 | Dec. 08, 2010 | Dec. 07, 2011 |
| Agilent PSA Spectrum Analyzer | E4446A | MY48250113 | Nov. 30 , 2010 | Nov. 29 , 2011 |
| HP Pre_Amplifier | 8449B | 300801923 | Nov. 01, 2010 | Oct. 31, 2011 |
| ROHDE & SCHWARZ Test Receiver | ESCS30 | 847124/029 | Sep. 03, 2010 | Sep. 02, 2011 |
| SCHWARZBECK TRILOG Broadband Antenna | VULB 9168 | 138 | Apr. 14, 2011 | Apr. 13, 2012 |
| Schwarzbeck Horn_Antenna | BBHA9120 | D124 | Dec. 17, 2010 | Dec. 16, 2011 |
| Schwarzbeck Horn_Antenna | BBHA 9170 | BBHA9170153 | Jan. 17, 2011 | Jan. 16, 2012 |
| RF Switches | EMH-011 | 1001 | NA | NA |
| RF CABLE (Chaintek) | Sucoflex 106 | RF106-102 | Jan. 27, 2011 | Jan. 26, 2012 |
| RF Cable | 8DFB | STCCAB-30M-1GHz | NA | NA |
| Software | ADT_Radiated_V7.6.15.9.2 | NA | NA | NA |
| CT Antenna Tower & Turn Table | NA | NA | NA | NA |
| Agilent signal generator | E8257C | MY43321031 | Aug. 23, 2011 | Aug. 22, 2012 |

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 7450G-3.

4.6.3 TEST PROCEDURES

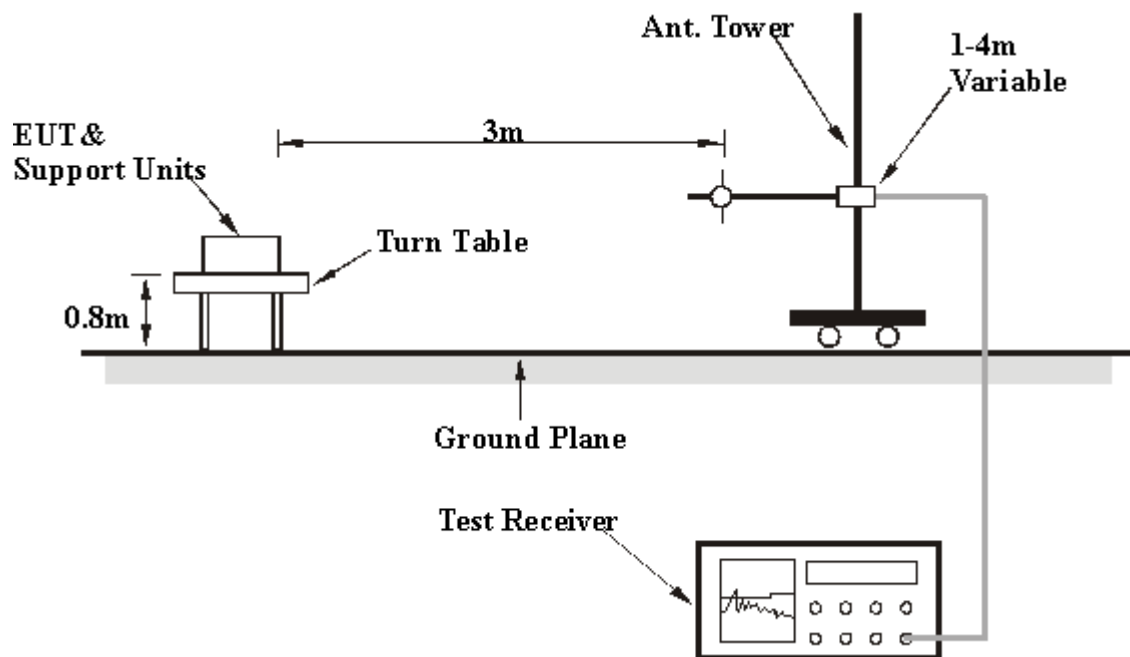
- a. Substitution method is used for EIRP measurement. In the open site, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G
- c. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$
- d. ERP power can be calculated form EIRP power by subtracting the gain of dipole,
 $ERP \text{ power} = EIPR \text{ power} - 2.15\text{dBi.}$

NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.6.6 EUT OPERATING CONDITIONS

Same as Item 4.1.5



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4.6.7 TEST RESULTS

FOR GPRS:

| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 190 | FREQUENCY RANGE | Below 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | |
|---|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 109.92 | 37.40 | -13 | -52.74 | -0.90 | -53.64 |
| 2 | 116.94 | 40.94 | -13 | -48.82 | -1.10 | -49.92 |
| 3 | 123.42 | 38.96 | -13 | -51.38 | -1.20 | -52.58 |
| 4 | 132.06 | 44.31 | -13 | -47.91 | -1.26 | -49.17 |
| 5 | 176.88 | 38.91 | -13 | -54.02 | 1.74 | -52.28 |
| 6 | 196.86 | 37.71 | -13 | -57.51 | 4.00 | -53.51 |
| 7 | 209.82 | 38.42 | -13 | -57.04 | 4.21 | -52.83 |
| 8 | 948.2 | 37.30 | -13 | -60.89 | 0.35 | -60.54 |
| 9 | 956.6 | 36.98 | -13 | -60.96 | 0.37 | -60.59 |
| 10 | 993 | 35.52 | -13 | -61.19 | 0.56 | -60.63 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | |
|---|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 130.44 | 38.12 | -13 | -53.74 | -1.25 | -54.99 |
| 2 | 132.06 | 58.30 | -13 | -33.92 | -1.26 | -35.18 |
| 3 | 175.8 | 41.99 | -13 | -50.63 | 1.58 | -49.05 |
| 4 | 209.82 | 35.68 | -13 | -59.78 | 4.21 | -55.57 |
| 5 | 216.84 | 37.38 | -13 | -58.05 | 4.12 | -53.93 |
| 6 | 305.6 | 44.76 | -13 | -51.26 | 3.70 | -47.56 |
| 7 | 336.4 | 38.72 | -13 | -58.58 | 3.63 | -54.95 |
| 8 | 363.4 | 43.52 | -13 | -54.33 | 3.52 | -50.81 |
| 9 | 526.8 | 37.21 | -13 | -57.99 | 2.69 | -55.30 |
| 10 | 799.8 | 41.91 | -13 | -56.80 | 1.55 | -55.25 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



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FOR WCDMA:

| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 4182 | FREQUENCY RANGE | Below 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 109.92 | 37.56 | -13 | -52.58 | -0.90 | -53.48 |
| 2 | 116.94 | 40.78 | -13 | -48.98 | -1.10 | -50.08 |
| 3 | 123.42 | 38.59 | -13 | -51.75 | -1.20 | -52.95 |
| 4 | 132.06 | 44.52 | -13 | -47.70 | -1.26 | -48.96 |
| 5 | 176.88 | 38.75 | -13 | -54.17 | 1.74 | -52.44 |
| 6 | 196.86 | 37.48 | -13 | -57.75 | 4.00 | -53.74 |
| 7 | 209.82 | 38.69 | -13 | -56.77 | 4.21 | -52.56 |
| 8 | 948.2 | 37.55 | -13 | -60.64 | 0.35 | -60.29 |
| 9 | 956.6 | 36.86 | -13 | -61.09 | 0.37 | -60.71 |
| 10 | 993 | 35.87 | -13 | -60.84 | 0.56 | -60.28 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 130.44 | 38.52 | -13 | -53.34 | -1.25 | -54.59 |
| 2 | 132.06 | 58.45 | -13 | -33.77 | -1.26 | -35.03 |
| 3 | 175.8 | 41.85 | -13 | -50.77 | 1.58 | -49.19 |
| 4 | 209.82 | 35.64 | -13 | -59.82 | 4.21 | -55.61 |
| 5 | 216.84 | 37.48 | -13 | -57.95 | 4.12 | -53.83 |
| 6 | 305.6 | 44.69 | -13 | -51.33 | 3.70 | -47.63 |
| 7 | 336.4 | 38.65 | -13 | -58.65 | 3.63 | -55.02 |
| 8 | 363.4 | 43.58 | -13 | -54.28 | 3.52 | -50.75 |
| 9 | 526.8 | 37.48 | -13 | -57.72 | 2.69 | -55.03 |
| 10 | 799.8 | 41.58 | -13 | -57.13 | 1.55 | -55.58 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).

4.7 RADIATED EMISSION MEASUREMENT (ABOVE 1GHz)

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

In the FCC 22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by at least $43 + 10 \log (P)$ dB. The limit of emission equal to -13dBm .



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4.7.2 TEST INSTRUMENTS

Test date: Aug. 23, 2011

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|--------------------------------------|--------------------------|-----------------|-----------------|------------------|
| ROHDE & SCHWARZ Spectrum Analyzer | FSP40 | 100036 | Dec. 08, 2010 | Dec. 07, 2011 |
| Agilent PSA Spectrum Analyzer | E4446A | MY48250113 | Nov. 30 , 2010 | Nov. 29 , 2011 |
| HP Pre_Amplifier | 8449B | 300801923 | Nov. 01, 2010 | Oct. 31, 2011 |
| ROHDE & SCHWARZ Test Receiver | ESCS30 | 847124/029 | Sep. 03, 2010 | Sep. 02, 2011 |
| SCHWARZBECK TRILOG Broadband Antenna | VULB 9168 | 138 | Apr. 14, 2011 | Apr. 13, 2012 |
| Schwarzbeck Horn_Antenna | BBHA9120 | D124 | Dec. 17, 2010 | Dec. 16, 2011 |
| Schwarzbeck Horn_Antenna | BBHA 9170 | BBHA9170153 | Jan. 17, 2011 | Jan. 16, 2012 |
| RF Switches | EMH-011 | 1001 | NA | NA |
| RF CABLE (Chaintek) | Sucoflex 106 | RF106-102 | Jan. 27, 2011 | Jan. 26, 2012 |
| RF Cable | 8DFB | STCCAB-30M-1GHz | NA | NA |
| Software | ADT_Radiated_V7.6.15.9.2 | NA | NA | NA |
| CT Antenna Tower & Turn Table | NA | NA | NA | NA |
| Agilent signal generator | E8257C | MY43321031 | Aug. 23, 2011 | Aug. 22, 2012 |

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 7450G-3.

4.7.3 TEST PROCEDURES

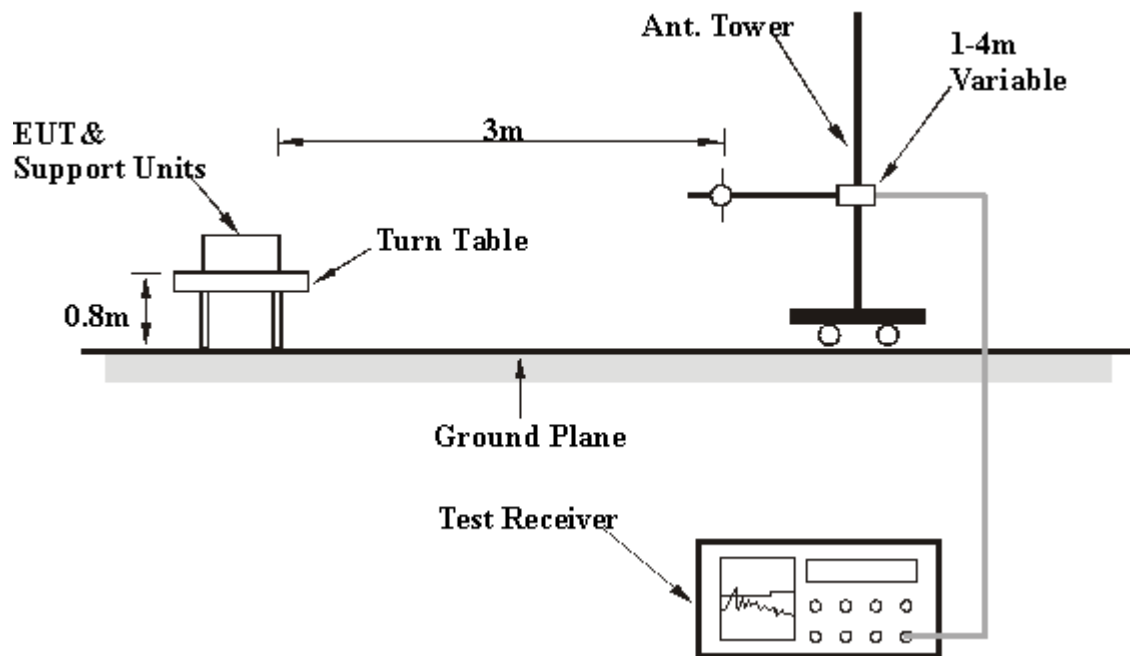
- a. Substitution method is used for EIRP measurement. In the open site, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G
- c. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$
- d. ERP power can be calculated form EIRP power by subtracting the gain of dipole,
 $ERP \text{ power} = EIPR \text{ power} - 2.15\text{dBi.}$

NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.7.6 EUT OPERATING CONDITIONS

Same as Item 4.1.5



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4.7.7 TEST RESULTS

FOR GPRS BAND:

| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 128 | FREQUENCY RANGE | Above 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | |
|---|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1648.4 | 80.93 | -13 | -21.82 | 6.26 | -15.56 |
| 2 | 2472.6 | 65.77 | -13 | -32.81 | 6.66 | -26.15 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | |
|---|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1648.4 | 67.95 | -13 | -34.80 | 6.26 | -28.54 |
| 2 | 2472.6 | 63.86 | -13 | -34.72 | 6.66 | -28.06 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



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| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 190 | FREQUENCY RANGE | Above 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1673.2 | 79.48 | -13 | -23.15 | 6.31 | -16.84 |
| 2 | 2509.8 | 65.44 | -13 | -33.08 | 6.66 | -26.42 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1673.2 | 67.64 | -13 | -34.99 | 6.31 | -28.68 |
| 2 | 2509.8 | 65.25 | -13 | -33.27 | 6.66 | -26.61 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



A D T

| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 251 | FREQUENCY RANGE | Above 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1697.6 | 75.90 | -13 | -26.60 | 6.35 | -20.25 |
| 2 | 2546.4 | 64.72 | -13 | -34.10 | 6.69 | -27.41 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1697.6 | 65.57 | -13 | -36.93 | 6.35 | -30.58 |
| 2 | 2546.4 | 65.67 | -13 | -33.15 | 6.69 | -26.46 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



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FOR WCDMA BAND:

| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 4132 | FREQUENCY RANGE | Above 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
|-----|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| 1 | 1652.8 | 45.25 | -13 | -57.48 | 6.27 | -51.21 |
| 2 | 2479.2 | 44.92 | -13 | -53.63 | 6.66 | -46.97 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
|-----|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| 1 | 1652.8 | 47.34 | -13 | -55.39 | 6.27 | -49.12 |
| 2 | 2479.2 | 45.84 | -13 | -52.71 | 6.66 | -46.05 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



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| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 4182 | FREQUENCY RANGE | Above 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1672.8 | 44.67 | -13 | -57.96 | 6.31 | -51.65 |
| 2 | 2509.2 | 44.06 | -13 | -54.46 | 6.66 | -47.80 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1672.8 | 43.45 | -13 | -59.18 | 6.31 | -52.87 |
| 2 | 2509.2 | 42.15 | -13 | -56.37 | 6.66 | -49.71 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



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| | | | |
|---------------------------------|-----------------|------------------------|----------------|
| MODE | TX channel 4233 | FREQUENCY RANGE | Above 1000 MHz |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 63%RH | INPUT POWER | 120Vac, 60 Hz |
| TESTED BY | Evan Huang | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1693.2 | 46.19 | -13 | -56.33 | 6.34 | -49.99 |
| 2 | 2539.8 | 44.86 | -13 | -53.91 | 6.69 | -47.22 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | |
|--|-------------|-----------------------|-------------|-----------------------|------------------------|-------------------|
| No. | Freq. (MHz) | Emission Level (dBuV) | Limit (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Power Value (dBm) |
| 1 | 1693.2 | 47.02 | -13 | -55.50 | 6.34 | -49.16 |
| 2 | 2539.8 | 45.62 | -13 | -53.15 | 6.69 | -46.46 |

NOTE: Power Value (dBum) = S.G Power Value (dBm) + Correction Factor (dB).



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5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



6 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5.phtml.
If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

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Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---