FCC TEST REPORT (PART 22)

REPORT NO.: RF120306E02-1

MODEL NO.: FD-400GT-CDMA

FCC ID: MQT-FD400GTCDMA

RECEIVED: Mar. 06, 2012

TESTED: Mar. 30 to Apr. 05, 2012

ISSUED: Apr. 13, 2012

PREPARED BY: 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, R.O.C.

TEST LOCATION (1): No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

TEST LOCATION (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120306E02-1	Original release	Apr. 13, 2012

1 CERTIFICATION

PRODUCT :	Portable Terminal
BRAND NAME :	First Data
MODEL NO.:	FD-400GT-CDMA
TEST SAMPLE :	R&D SAMPLE
PREPARED BY :	XAC AUTOMATION CORP.
TESTED :	Mar. 30 to Apr. 05, 2012
STANDARDS :	**FCC Part 22, Subpart H**

The above equipment (Model: FD-400GT-CDMA) 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:** *Apr. 13, 2012*
(Claire Kuan, Specialist)

APPROVED BY : _____ , **DATE:** *Apr. 13, 2012*
(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 Output Power Limit: max. 7 watts e.r.p power	PASS	Meet the requirement of limit.
2.1055	Frequency Stability AFC Freq. Error vs. Voltage AFC Freq. Error vs. Temperature Limit: max. ±2.5ppm	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. Minimum passing margin is -26.9dB at 1696.62MHz.

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)	3.81 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.56 dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Portable Terminal
MODEL NO.	FD-400GT-CDMA
POWER SUPPLY	DC 12V from adapter or DC7.4V from battery
MODULATION TYPE	EVDO, CDMA2000 (for CDMA)
OPERATING FREQUENCY	824.7MHz ~ 848.31MHz
NUMBER OF CHANNEL	788
MAX. ERP POWER	EVDO Mode: 22.9dBm (194.536mW) CDMA2000 Mode: 23.2dBm (208.449mW)
ANTENNA TYPE	Please see note
MAX. ANTENNA GAIN	Please see note
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter x 1

NOTE:

1. There are RFID, EVDO and CDMA2000 technology used for the EUT. and the functions of EUT listed as below table:

Function	Report No.
RFID	RF120306E02
3G (Part 22)	RF120306E02-1
3G (Part 24)	RF120306E02-2

2. 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, 0.95m DC O/P: 12V, 3A DC output cable: Unshielded, 1.8m with one core

3. 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

EVDO / CDMA2000 Antenna Spec.			
Antenna Type	Antenna Connector	Gain(dBi)	Frequency range (MHz to MHz)
PCB	NA	2.7dBi (Main) ; -7.1dBi(div) 2.1dBi (Main) ; -1.7dBi(div)	824~894 1850~1990

4. 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 B**. Therefore only the test data of the modes were recorded in this report.

5. The emission of the simultaneous operation (RFID, EVDO and CDMA2000) has been evaluated and no non-compliance found.

6. The communicated functions of EUT listed as below:

		CDMA (850&1900MHz)
3G	**CDMA**	√
	1*EVDO	√

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 CDMA:

788 channels are provided to this EUT in the CDMA850 band. Therefore, the low, middle and high channels are chosen for testing.

	CHANNEL	FREQUENCY	TX MODE
LOW	1013	824.70 MHz	1x EV-DO, CDMA2000(SO2)
MIDDLE	384	836.52 MHz	1x EV-DO, CDMA2000(SO2)
HIGH	777	848.31 MHz	1x EV-DO, CDMA2000(SO2)

NOTE:

1. Below 1 GHz, the channel 1013, 384 and 777 were pre-tested in chamber. The channel 777 was the worst case and chosen for final test.
2. Above 1 GHz, the channel 1013, 384 and 777 were tested individually.
3. The channel space is 0.03MHz.
4. The EUT has 1x EV-DO, CDMA2000(SO32), CDMA2000(SO2), CDMA2000(SO33) & CDMA2000(SO55) functions. After pre-testing, CDMA2000(SO2) function is the worst case for all the emission tests.

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR CDMA:

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 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
1013 to 777	1013, 384, 777	1x EV-DO, CDMA

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
1013 to 777	384	CDMA

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
1013 to 777	1013, 384, 777	1x EV-DO , CDMA

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
1013 to 777	1013, 777	1x EV-DO , CDMA

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
1013 to 777	1013, 384, 777	CDMA

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
1013 to 777	1013, 384, 777	CDMA

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
1013 to 777	1013, 384, 777	CDMA

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
OP	25deg. C, 63%RH	120Vac, 60Hz from adapter	Wen Yu
FS	25deg. C, 63%RH	7.4Vdc from battery	Wen Yu
OB	25deg. C, 63%RH	120Vac, 60Hz from adapter	Wen Yu
EM	25deg. C, 63%RH	120Vac, 60Hz from adapter	Wen Yu
BE	25deg. C, 63%RH	120Vac, 60Hz from adapter	Wen Yu
CE	25deg. C, 63%RH	120Vac, 60Hz from adapter	Wen Yu
RE < 1G	23deg. C, 65%RH	120Vac, 60Hz from adapter	Robert Cheng
RE ³ 1G	20deg. C, 65%RH	120Vac, 60Hz from adapter	Kent Liu

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/TIA/EIA-603-C 2004

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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.

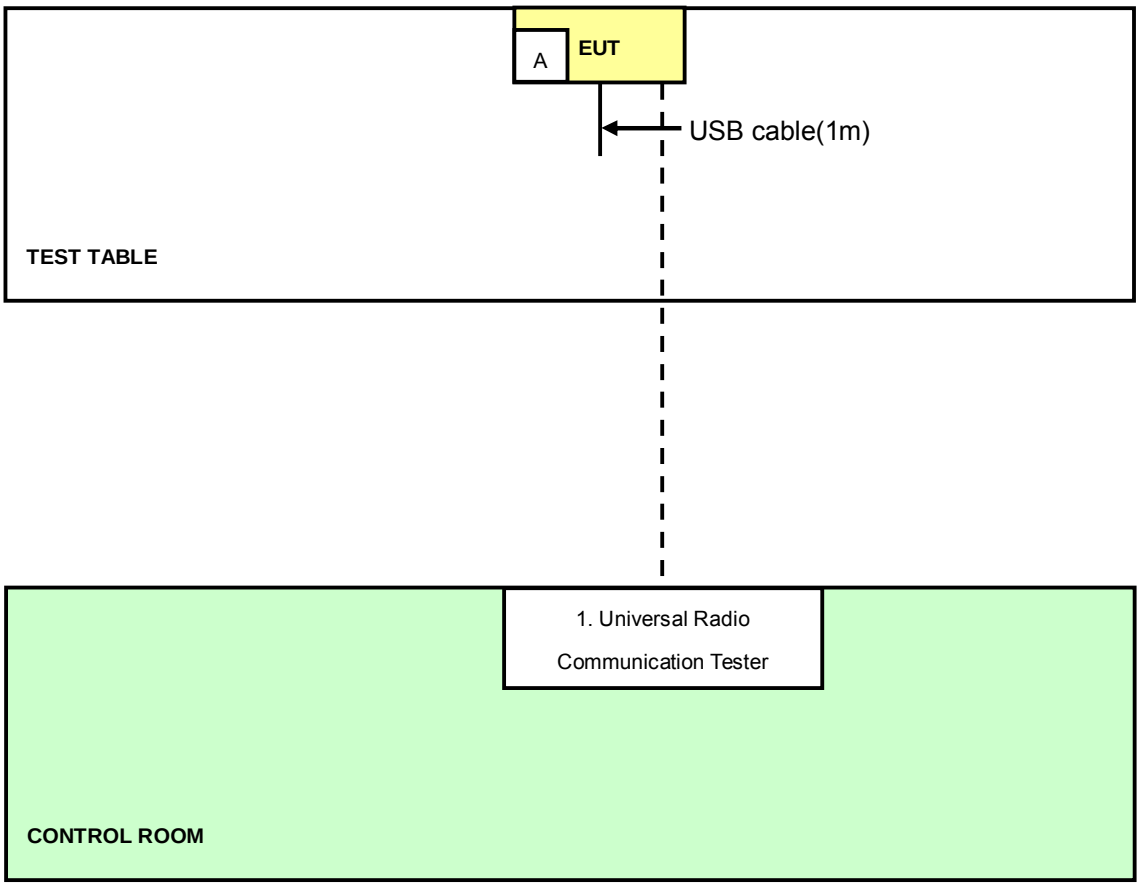
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Universal Radio Communication Tester	R&S	CMU200	121040	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

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

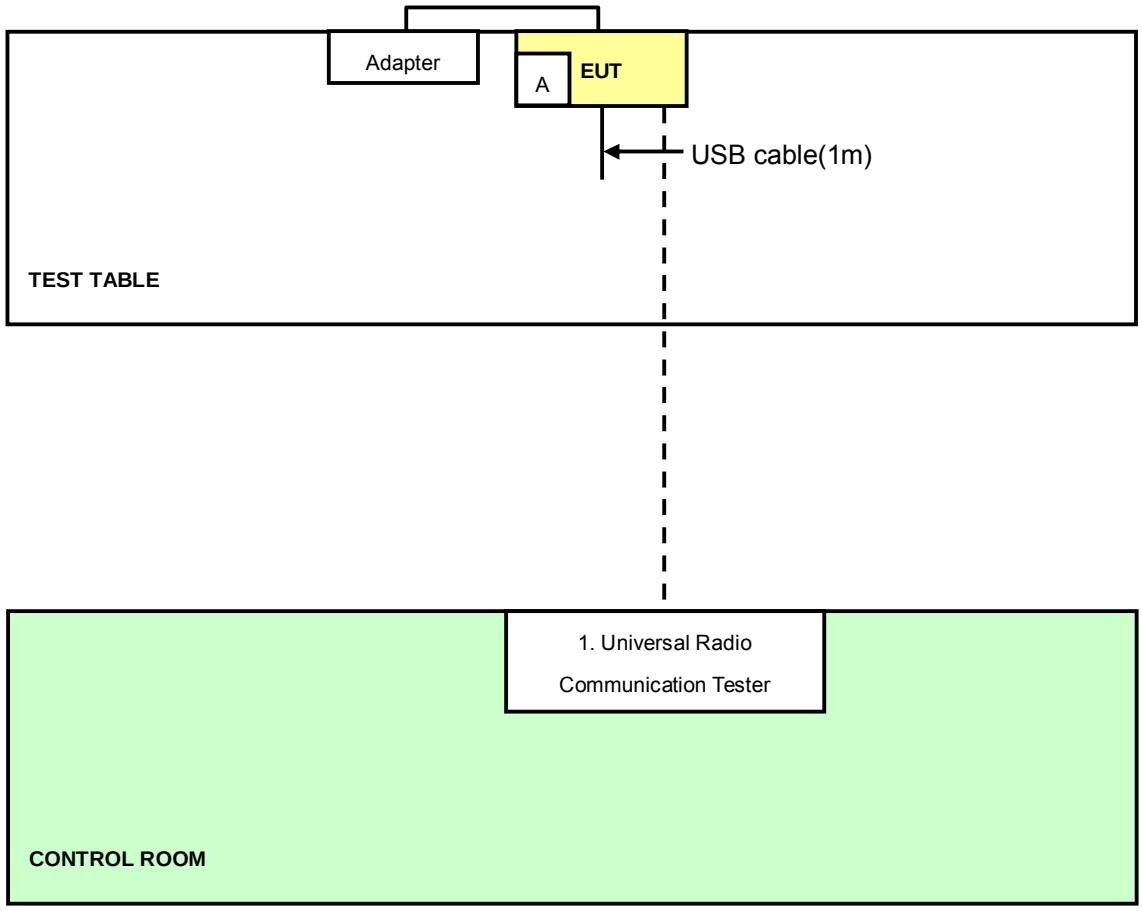
3.5 CONFIGURATION OF SYSTEM UNDER TEST

For Frequency stability test:



Note: The item A is battery.

For other test items:



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”.

4.1.2 TEST INSTRUMENTS

EIRP POWER MEASUREMENT:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012
Agilent Pre-Selector	N9039A	MY46520311	July 12, 2011	July 11, 2012
Agilent Signal Generator	N5181A	MY49060517	July 12, 2011	July 11, 2012
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 15, 2011	Nov. 14, 2012
Agilent Pre-Amplifier	8449B	3008A02578	July 04, 2011	July 03, 2012
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 14, 2011	Nov. 13, 2012
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 07, 2011	Oct. 06, 2012
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 26, 2011	Dec. 25, 2012
RF Cable	NA	CHGCAB_001	Oct. 07, 2011	Oct. 06, 2012
Software	ADT_Radiated_ V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

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) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Mar. 30, 2012

CONDUCTED POWER MEASUREMENT:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Nov. 12, 2011	Nov. 11, 2012
OVEN	MHU-225AU	911033	Dec. 12, 2011	Dec. 11, 2012
AC POWER SOURCE	6205	1140503	NA	NA

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. Test date: Mar. 30, 2012.

4.1.3 TEST PROCEDURES

a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels, 1013, 384 and 777 (CDMA) (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 3MHz (CDMA), then read peak 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 EIRP 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.

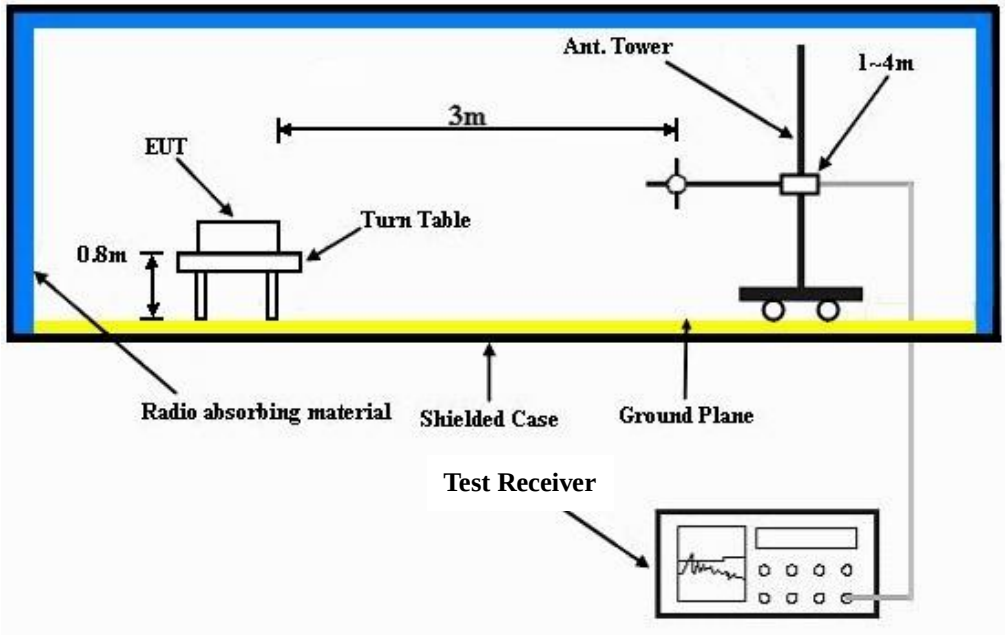
d. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable . Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step c. Record the power level of S.G

e. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

f. ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIPR power - 2.15dBi.

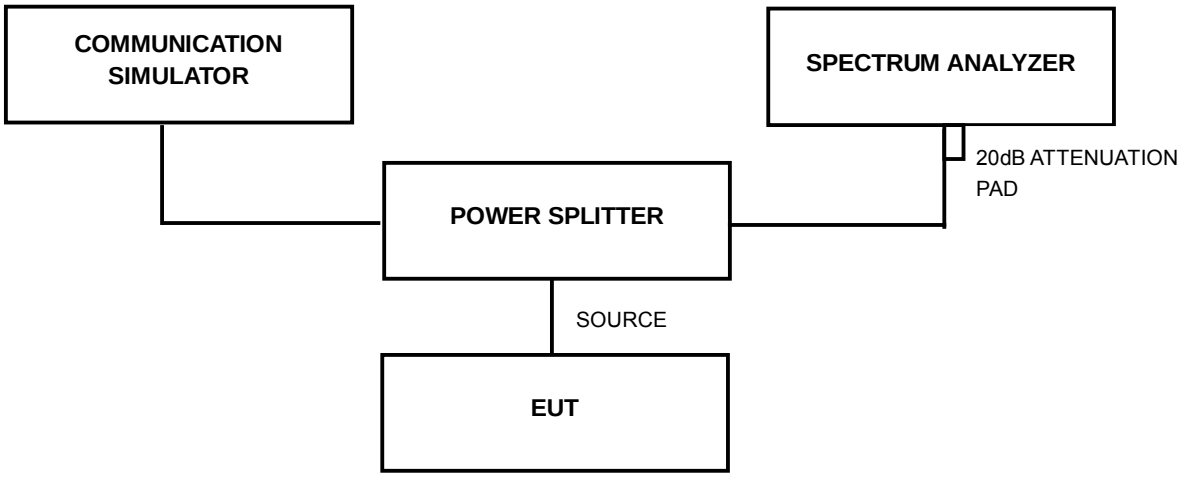
4.1.4 TEST SETUP

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.

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.

4.1.6 TEST RESULTS

FOR CDMA:

1x EV-DO MODE

WORST CASE CONDUCTED POWER								
CHANNEL	FREQ. (MHz)	Rev. A	Rev. 0	CORR. FACTOR (dB)	Rev. A		Rev. 0	
					OUTPUT POWER			
		RAW VALUE (dBm)			dBm	mW	dBm	mW
1013	824.70	22.2	22.2	2.4	24.6	288.403	24.6	288.403
384	836.52	22.7	22.6	2.4	25.1	323.594	25.0	316.228
777	848.31	22.6	22.6	2.4	25.0	316.228	25.0	316.228

CDMA 2000 MODE

CDMA 2000 CONDUCTED POWER													
CHAN.	FREQ. (MHz)	CDMA 2000	RAW VALUE (dBm)					CORR. FACTOR (dB)	OUTPUT POWER (dBm)				
		RC	SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+ SCH)	SO33		SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+ SCH)	SO33
1013	824.70	RC1	22.2	22.1	-	-	22.1	2.4	24.6	24.5	-	-	24.5
		RC3	22.1	22.0	22.0	22.0	22.0	2.4	24.5	24.4	24.4	24.4	24.4
384	836.52	RC1	22.6	22.5	-	-	22.3	2.4	25.0	24.9	-	-	24.7
		RC3	22.5	22.4	22.3	22.4	22.3	2.4	24.9	24.8	24.7	24.8	24.7
777	848.31	RC1	22.2	22.1	-	-	22.2	2.4	24.6	24.5	-	-	24.6
		RC3	22.1	22.0	22.0	22.0	22.0	2.4	24.5	24.4	24.4	24.4	24.4

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.

1x EV-DO MODE

ERP POWER								
CHANNEL	FREQ. (MHz)	S.G. VALUE (dBm)		CORR. FACTOR (dB)	OUTPUT POWER			
					Rev. A		Rev. 0	
		Rev. A	Rev. 0		dBm	mW	dBm	mW
1013	824.70	20.8	20.6	1.3	22.1	160.325	21.9	153.109
384	836.52	21.7	21.5	1.2	22.9	193.197	22.7	184.502
777	848.31	21.8	21.6	1.1	22.9	194.536	22.7	185.780

CDMA 2000 MODE

ERP POWER (SO2)					
CHANNEL NO.	FREQUENCY (MHz)	S.G. VALUE (dBm)	CORRECTION FACTOR (dB)	OUTPUT POWER	
				dBm	mW
1013	824.70	21.0	1.3	22.3	167.880
384	836.52	21.9	1.2	23.1	202.302
777	848.31	22.1	1.1	23.2	208.449

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 STABILIITY 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℃~50℃.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Nov. 12, 2011	Nov. 11, 2012
OVEN	MHU-225AU	911033	Dec. 12, 2011	Dec. 11, 2012
AC POWER SOURCE	6205	1140503	NA	NA

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. Test date: Mar. 30, 2012.

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 CDMA link mode. This is accomplished with the use of the R&S CMU200 / JRC NJZ-2000 simulator station. The oven room could control the temperatures and humidity. The CDMA link channel is the 384.

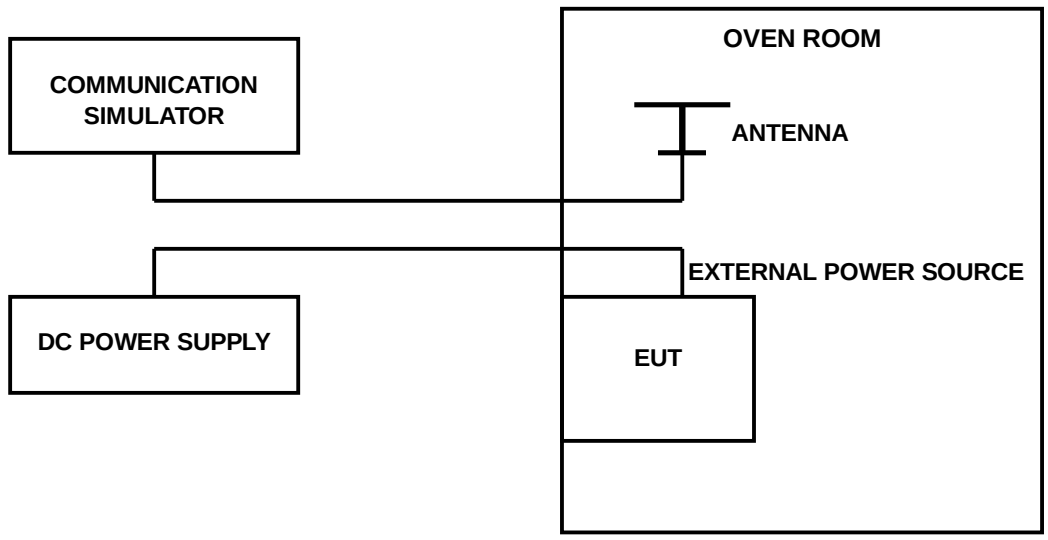
b. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.

c. EUT is connected the external power supply to control the DC output power. The various Volts from the minimum 6.29 Volts to 8.51 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 ±0.5℃ 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



4.2.5 TEST RESULTS

FOR CDMA:

AFC FREQUENCY ERROR vs. VOLTAGE			
VOLTAGE (Volts)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
6.29	-22	-0.026	2.5
8.51	-19	-0.023	2.5

AFC FREQUENCY ERROR vs. TEMP.			
TEMP. (℃)	**FREQUENCY ERROR (Hz)**	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
50	-25	-0.030	2.5
40	-23	-0.027	2.5
30	-20	-0.024	2.5
20	-17	-0.020	2.5
10	-18	-0.022	2.5
0	-20	-0.024	2.5
-10	-22	-0.026	2.5
-20	-23	-0.027	2.5
-30	-26	-0.031	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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Nov. 12, 2011	Nov. 11, 2012
OVEN	MHU-225AU	911033	Dec. 12, 2011	Dec. 11, 2012
AC POWER SOURCE	6205	1140503	NA	NA

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. Test date: Mar. 30, 2012.

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, 1013, 384 and 777 (1x EV-DO & CDMA) (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

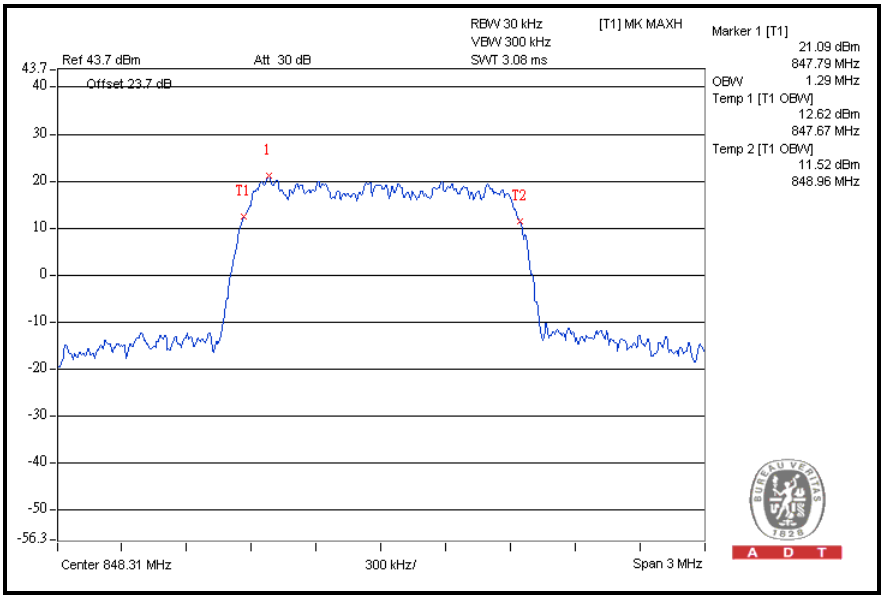
4.3.6 TEST RESULTS

FOR CDMA

CDMA 2000:

CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
1013	824.70	1.28
384	836.52	1.28
777	848.31	1.29

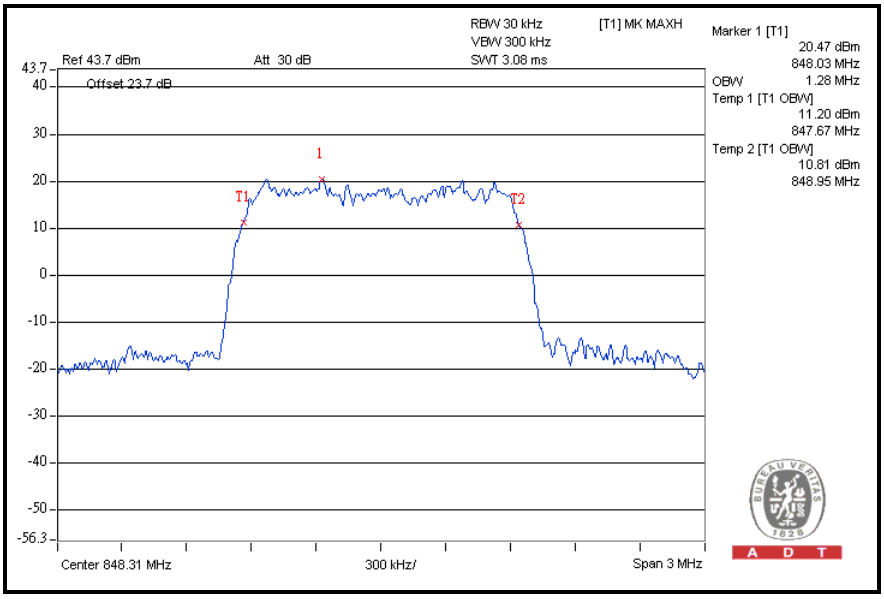
CH 777



1x EV-DO Rev. A:

CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
1013	824.70	1.27
384	836.52	1.27
777	848.31	1.28

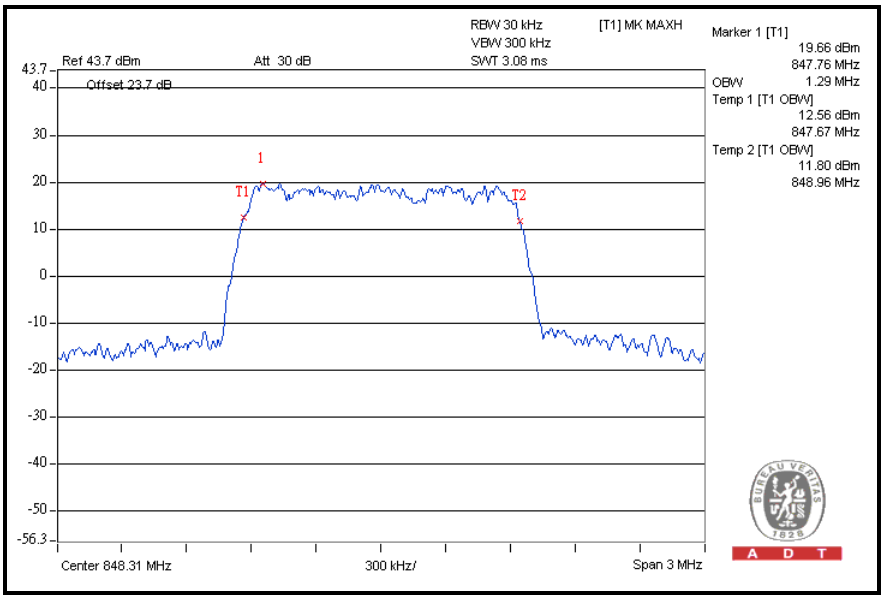
CH 777



1x EV-DO Rev. 0

CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
1013	824.70	1.29
384	836.52	1.27
777	848.31	1.29

CH 777



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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Nov. 12, 2011	Nov. 11, 2012
OVEN	MHU-225AU	911033	Dec. 12, 2011	Dec. 11, 2012
AC POWER SOURCE	6205	1140503	NA	NA

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. Test date: Mar. 30, 2012.

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, 1013 and 777 (1x EV-DO & CDMA) (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 3MHz. RB of the spectrum is 15kHz and VB of the spectrum is 15kHz (CDMA).

4.4.5 EUT OPERATING CONDITION

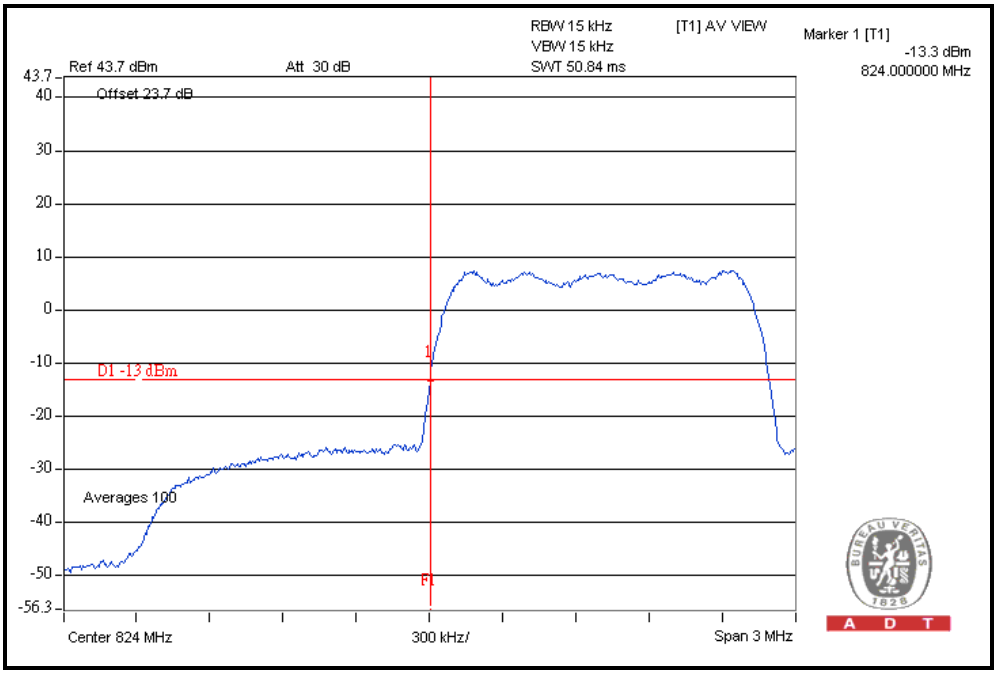
Same as Item 4.1.5

4.4.6 TEST RESULTS

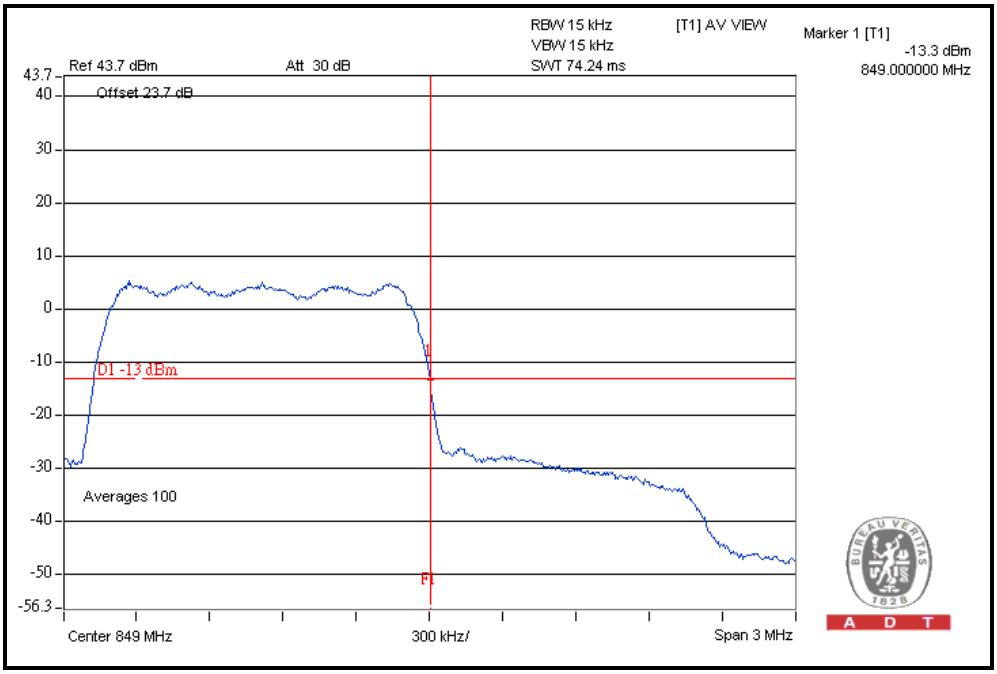
FOR CDMA:

CDMA 2000:

LOWER BAND EDGE

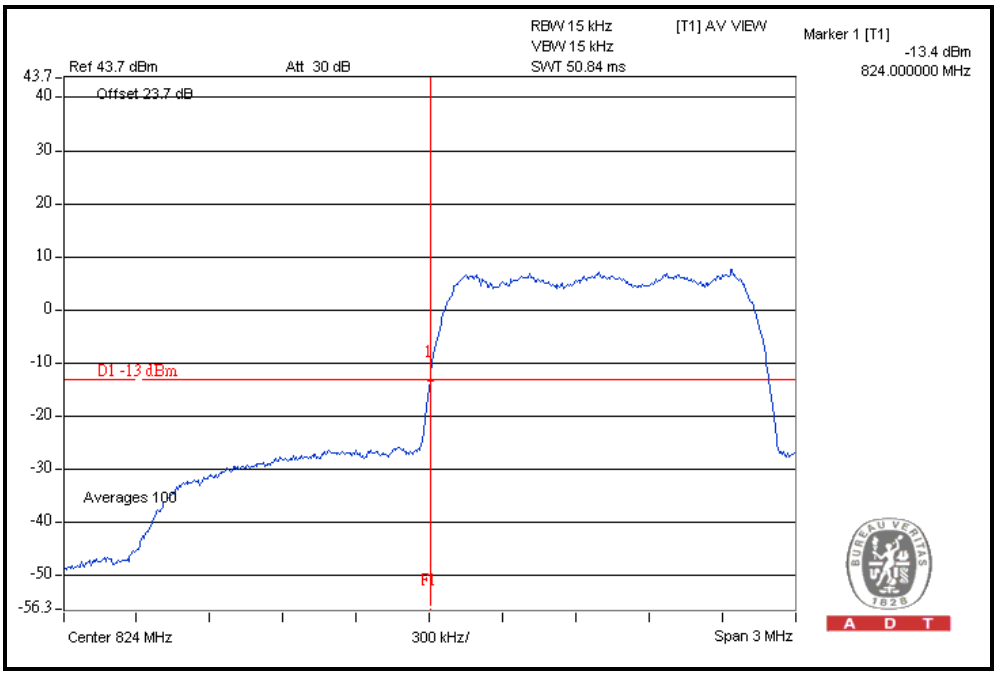


HIGHER BAND EDGE

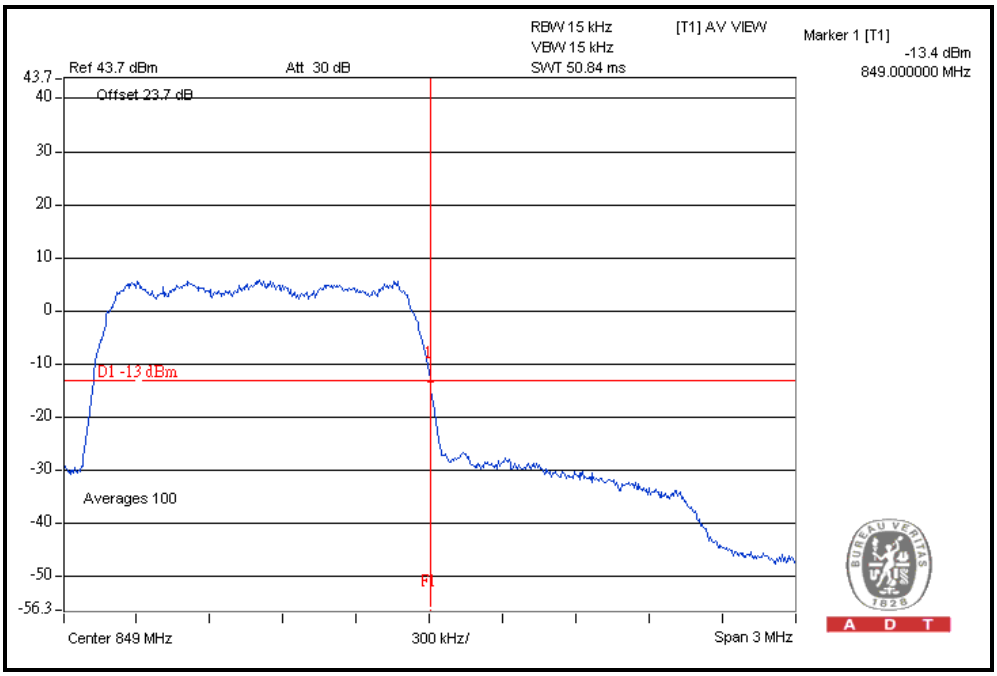


1x EV-DO Rev. A:

LOWER BAND EDGE

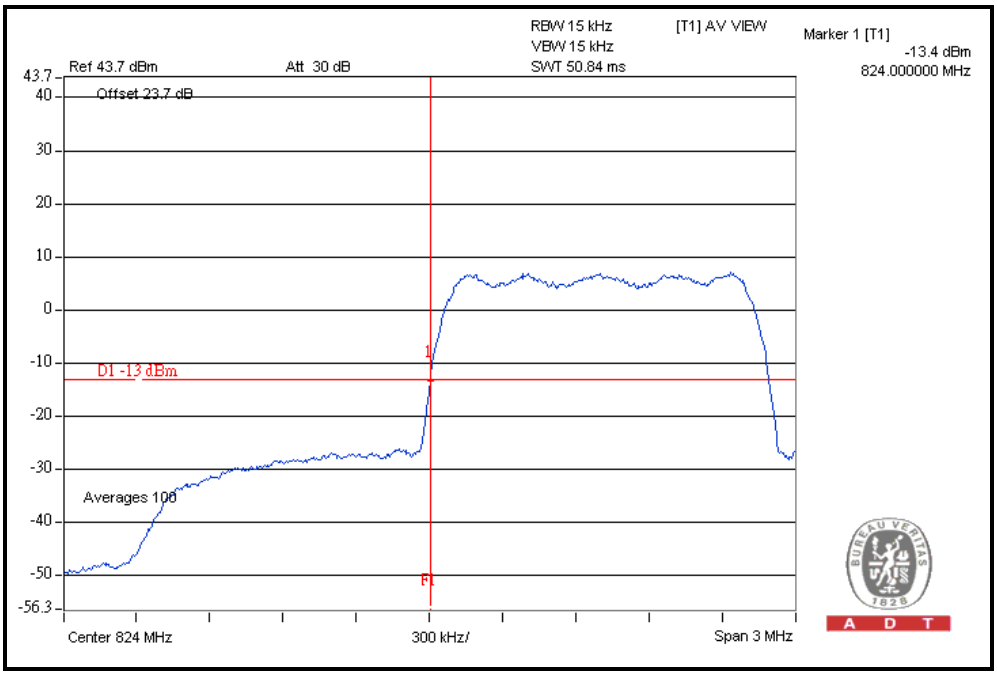


HIGHER BAND EDGE

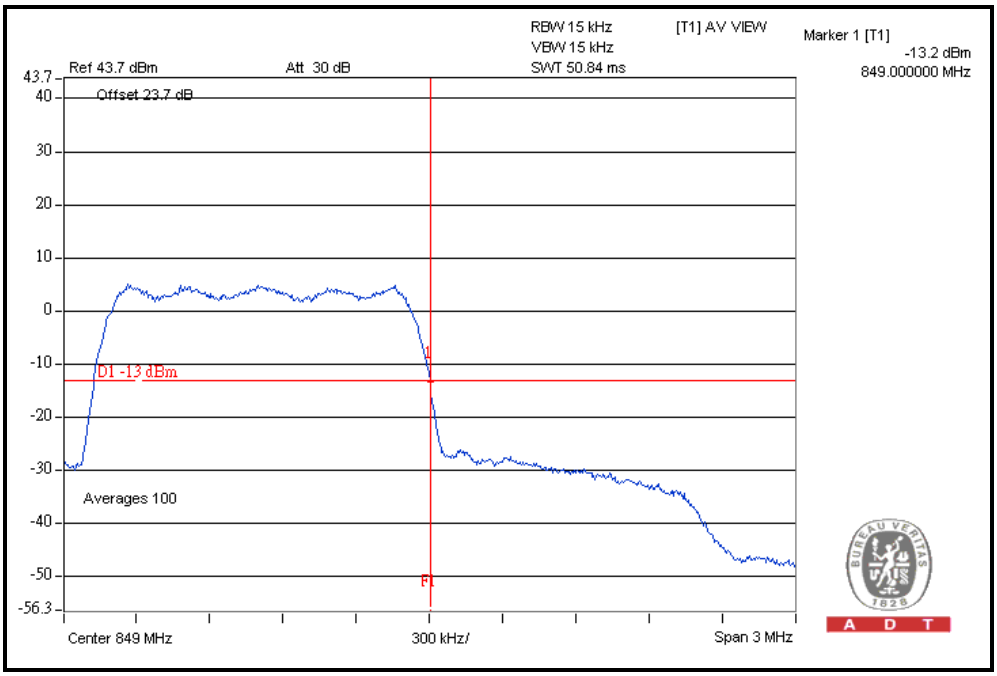


1x EV-DO Rev. 0:

LOWER BAND EDGE



HIGHER BAND EDGE



4.5 CONDUCTED SPURIOUS EMISSIONS

4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The 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. The emission limit equal to –13dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Nov. 12, 2011	Nov. 11, 2012
OVEN	MHU-225AU	911033	Dec. 12, 2011	Dec. 11, 2012
AC POWER SOURCE	6205	1140503	NA	NA
Wainwright Instruments Band Reject Filter	WRCG1850/1910-1830/1930-60/10SS	SN1	NA	NA
* Wainwright Instruments High Pass Filter	WHK3.1/18G-10SS	SN1	NA	NA

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. Test date: Mar. 30, 2012.

4.5.3 TEST PROCEDURE

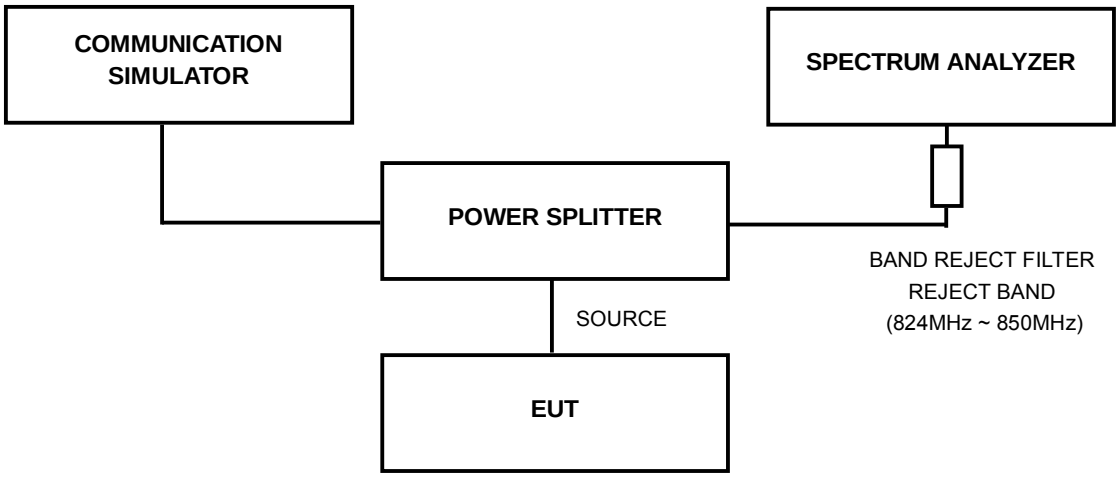
a. The EUT makes a phone call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels, 1013 and 777 (CDMA) (low, middle and high operational frequency range.)

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



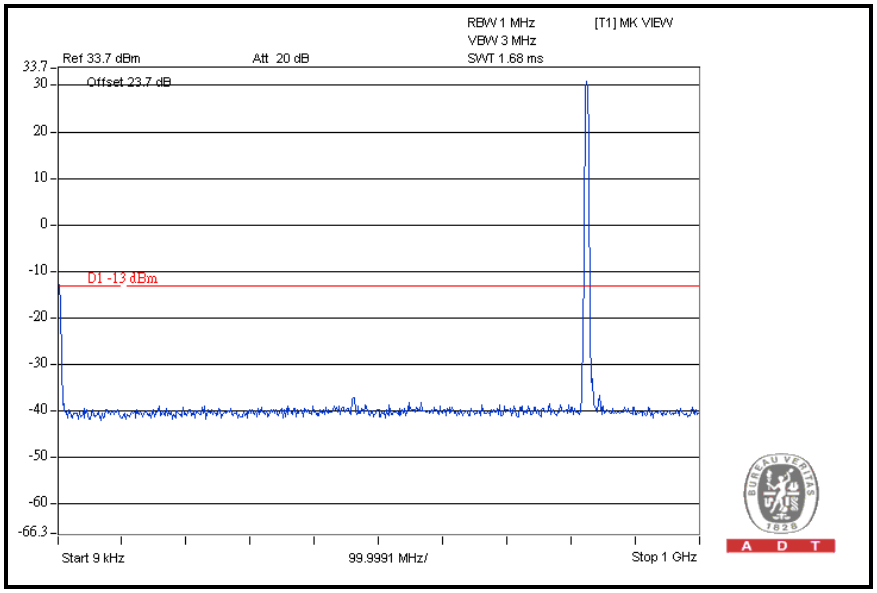
4.5.5 EUT OPERATING CONDITIONS

Same as Item 4.1.5

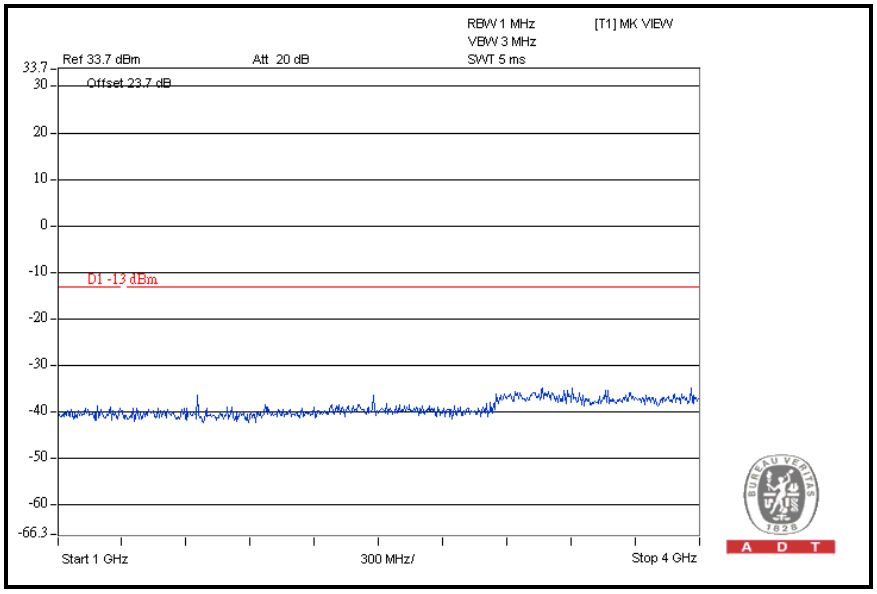
4.5.6 TEST RESULTS

FOR CDMA:

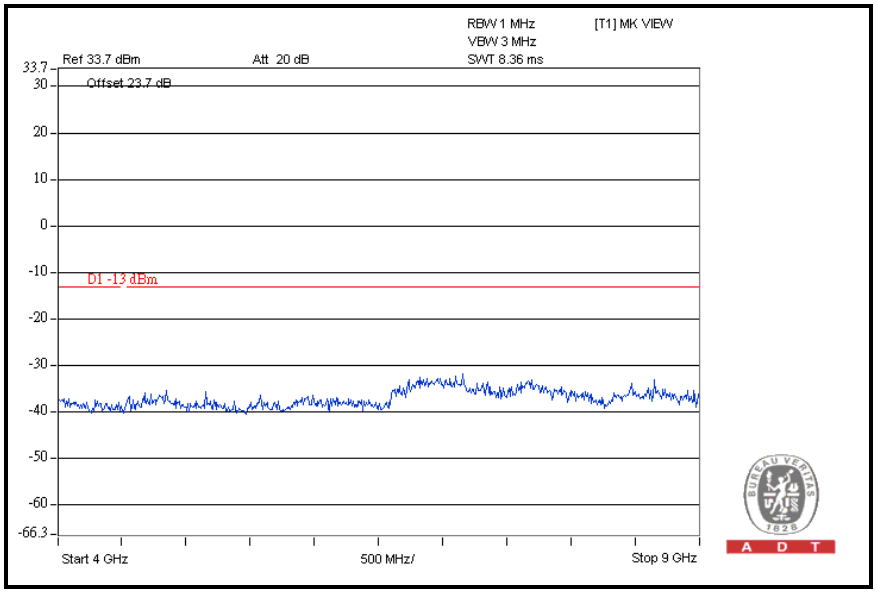
CH 1013: 9kHz ~ 1GHz



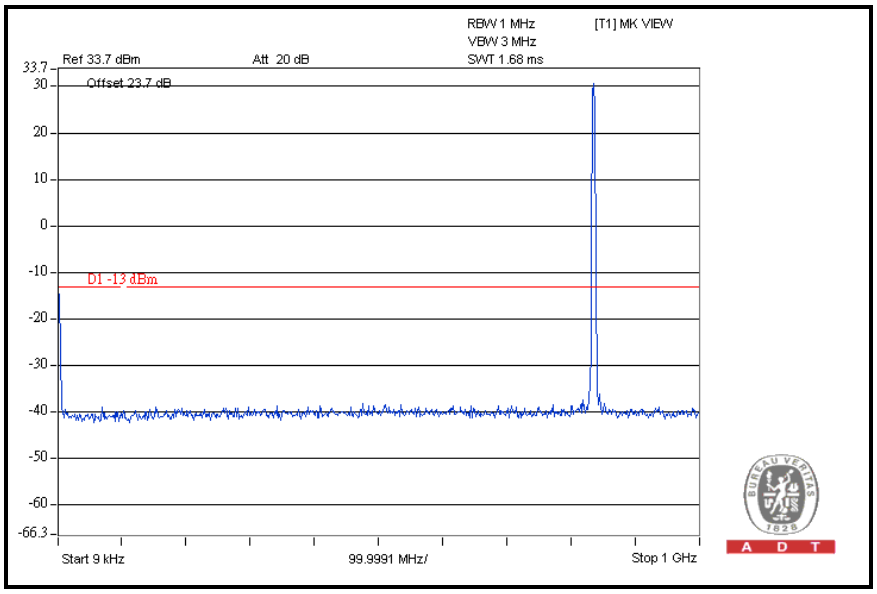
1GHz ~ 4GHz



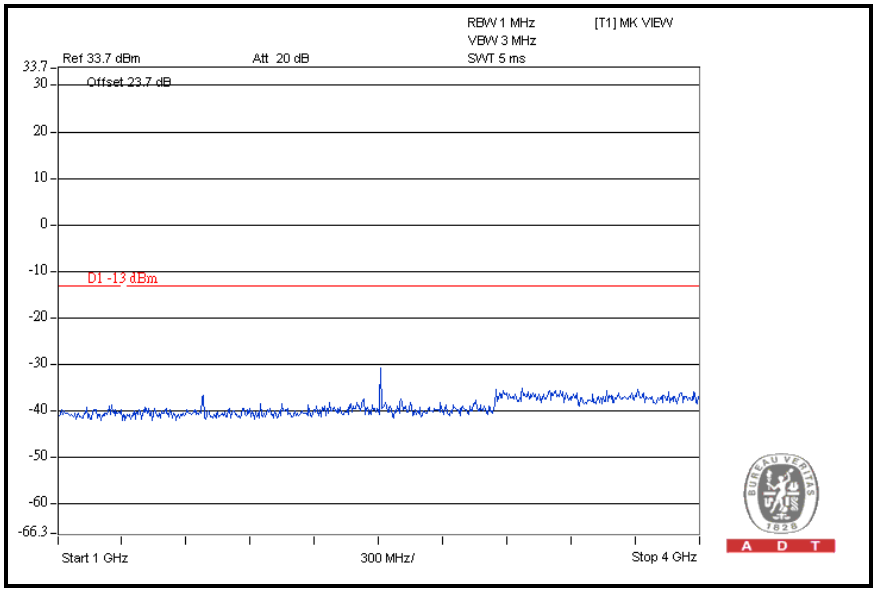
4GHz ~ 9GHz


RBW 1 MHz
VBW 3 MHz
SWT 8.36 ms
[T1] MK VIEW
Ref 33.7 dBm
Att 20 dB
Offset 23.7 dB
33.7
30
20
10
0
-10
-20
-30
-40
-50
-60
-66.3
D1 -13 dBm
Start 4 GHz
500 MHz/
Stop 9 GHz

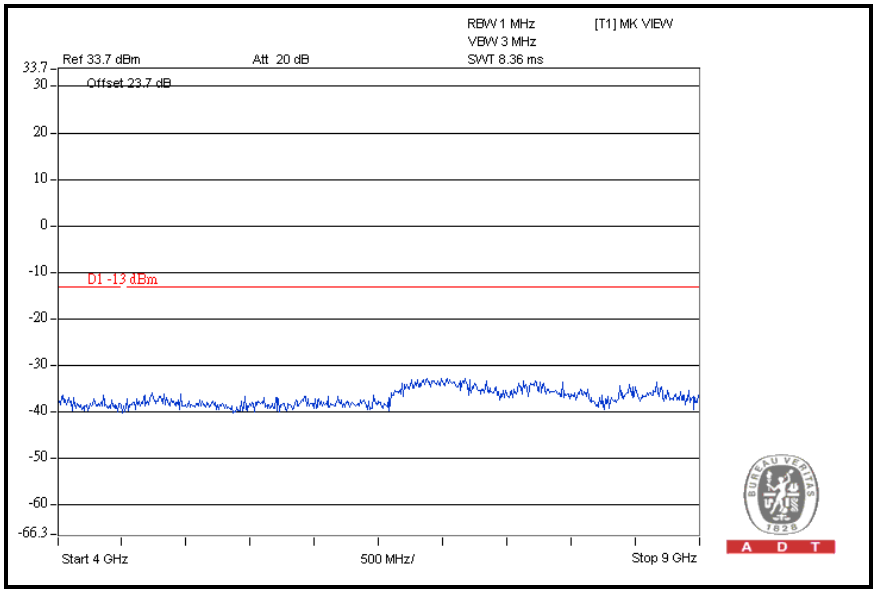
CH 384: 9kHz ~ 1GHz



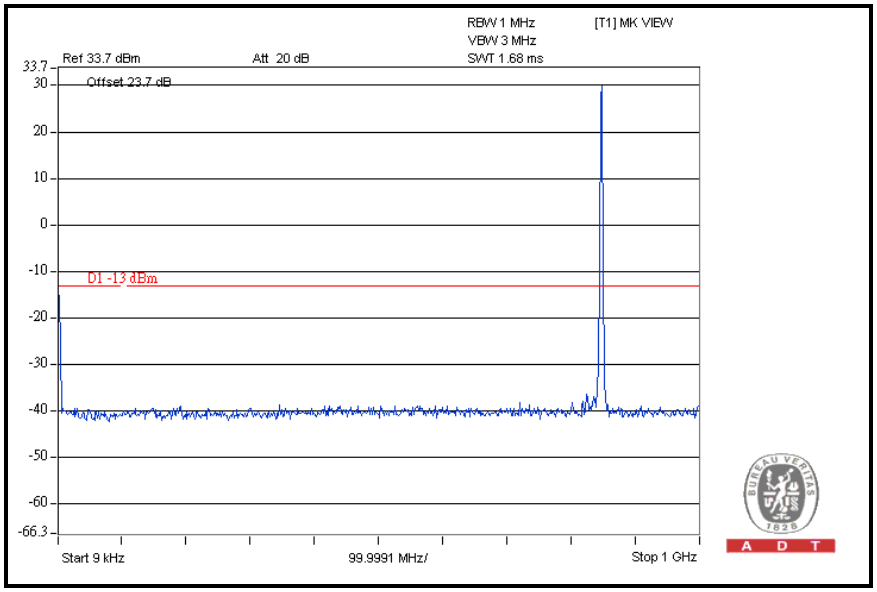
1GHz ~ 4GHz



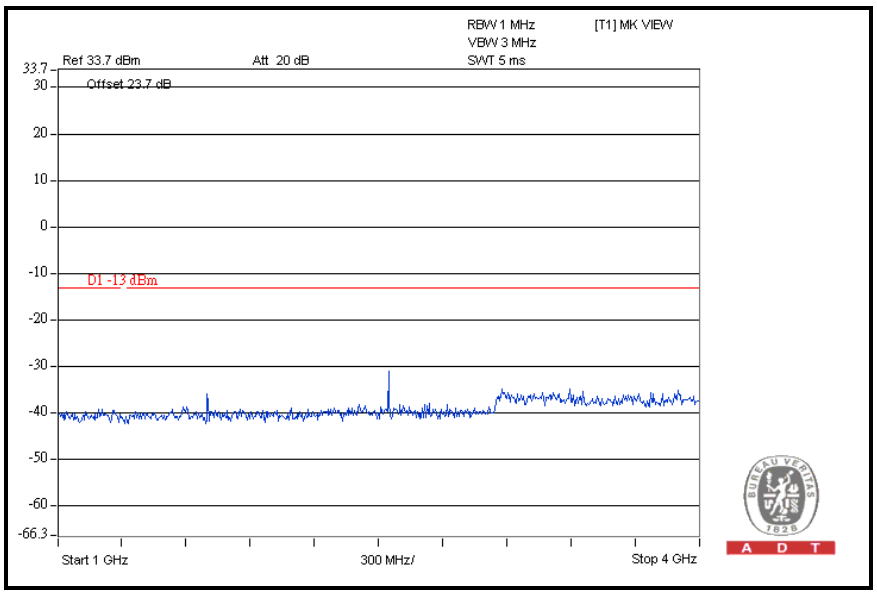
4GHz ~ 9GHz


RBW 1 MHz
VBW 3 MHz
SWT 8.36 ms
[T1] MK VIEW
Ref 33.7 dBm
Att 20 dB
Offset 23.7 dB
33.7
30
20
10
0
-10
-20
-30
-40
-50
-60
-66.3
D1 -13 dBm
Start 4 GHz
500 MHz/
Stop 9 GHz

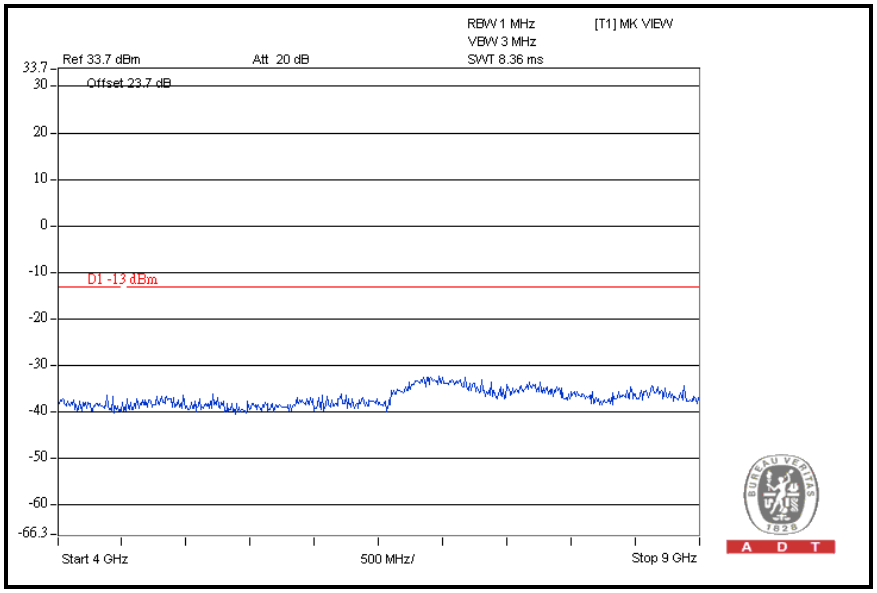
CH 777: 9kHz ~ 1GHz



1GHz ~ 4GHz



4GHz ~ 9GHz


RBW 1 MHz
VBW 3 MHz
SWT 8.36 ms
[T1] MK VIEW
Ref 33.7 dBm
Att 20 dB
Offset 23.7 dB
33.7
30
20
10
0
-10
-20
-30
-40
-50
-60
-66.3
D1 -13 dBm
Start 4 GHz
500 MHz/
Stop 9 GHz

4.6 RADIATED EMISSION MEASUREMENT (BELOW 1GHz)

4.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The 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. The emission limit equal to –13dBm.

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.

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012
Agilent Pre-Selector	N9039A	MY46520311	July 12, 2011	July 11, 2012
Agilent Signal Generator	N5181A	MY49060517	July 12, 2011	July 11, 2012
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 15, 2011	Nov. 14, 2012
Agilent Pre-Amplifier	8449B	3008A02578	July 04, 2011	July 03, 2012
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 14, 2011	Nov. 13, 2012
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 07, 2011	Oct. 06, 2012
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 26, 2011	Dec. 25, 2012
RF Cable	NA	CHGCAB_001	Oct. 07, 2011	Oct. 06, 2012
Software	ADT_Radiated_ V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

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) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Apr. 04 to 05, 2012

4.6.3 TEST PROCEDURES

a. Substitution method is used for EIRP 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.

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 = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

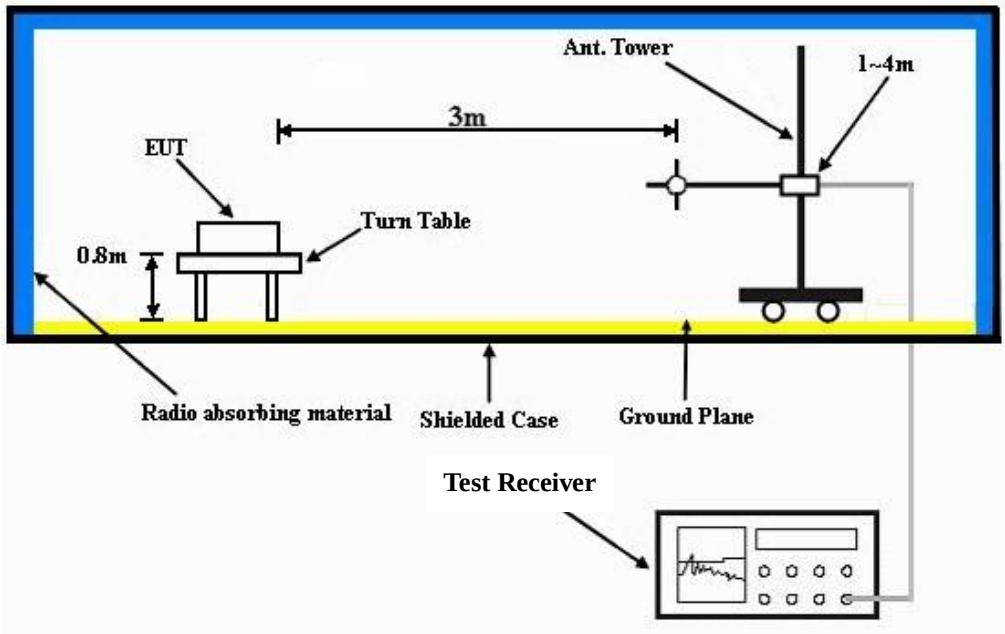
d. ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIPR power - 2.15dBi.

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

4.6.7 TEST RESULTS

FOR CDMA:

CHANNEL	TX Channel 1013	FREQUENCY RANGE	Below 1000 MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	33.57	38.1	82.3	-44.2	1.00 H	131	24.88	13.22
2	72.10	39.9	82.3	-42.5	1.00 H	329	27.88	11.97
3	111.80	45.9	82.3	-36.4	1.00 H	70	34.59	11.30
4	120.70	43.5	82.3	-38.8	1.50 H	63	30.86	12.64
5	218.70	42.8	82.3	-39.5	1.00 H	44	30.68	12.12
6	433.75	43.8	82.3	-38.5	1.50 H	360	25.06	18.74
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.07	37.5	82.3	-44.9	1.00 V	131	24.36	13.09
2	71.35	38.7	82.3	-43.6	1.00 V	329	26.53	12.17
3	110.40	44.8	82.3	-37.5	1.00 V	70	33.71	11.09
4	119.70	42.8	82.3	-39.5	1.50 V	63	30.27	12.53
5	214.21	41.8	82.3	-40.5	1.00 V	44	29.85	11.95
6	433.21	42.5	82.3	-39.8	1.50 V	360	23.77	18.73

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

CHANNEL	TX Channel 384	FREQUENCY RANGE	Below 1000 MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	33.57	38.3	82.3	-44.0	1.00 H	135	25.04	13.22
2	72.10	40.0	82.3	-42.3	1.00 H	324	28.01	11.97
3	111.80	46.0	82.3	-36.3	1.00 H	75	34.69	11.30
4	120.70	43.7	82.3	-38.6	1.50 H	62	31.03	12.64
5	218.70	42.7	82.3	-39.6	1.00 H	45	30.60	12.12
6	433.75	43.9	82.3	-38.4	1.50 H	325	25.19	18.74
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.07	37.5	82.3	-44.8	1.00 V	133	24.43	13.09
2	71.35	38.9	82.3	-43.4	1.00 V	324	26.72	12.17
3	110.40	44.7	82.3	-37.6	1.00 V	76	33.64	11.09
4	119.70	42.9	82.3	-39.4	1.50 V	67	30.38	12.53
5	214.21	41.7	82.3	-40.6	1.00 V	48	29.77	11.95
6	433.21	42.5	82.3	-39.8	1.50 V	352	23.76	18.73

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

CHANNEL	TX Channel 777	FREQUENCY RANGE	Below 1000 MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	33.57	38.3	82.3	-44.0	1.00 H	134	25.12	13.22
2	72.10	39.9	82.3	-42.4	1.00 H	325	27.90	11.97
3	111.80	45.8	82.3	-36.5	1.00 H	76	34.52	11.30
4	120.70	43.6	82.3	-38.7	1.50 H	61	30.93	12.64
5	218.70	42.7	82.3	-39.6	1.00 H	48	30.56	12.12
6	433.75	43.9	82.3	-38.4	1.50 H	327	25.12	18.74
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.07	37.4	82.3	-44.9	1.00 V	132	24.32	13.09
2	71.35	38.8	82.3	-43.5	1.00 V	325	26.59	12.17
3	110.40	44.8	82.3	-37.5	1.00 V	72	33.69	11.09
4	119.70	42.8	82.3	-39.5	1.50 V	64	30.30	12.53
5	214.21	41.7	82.3	-40.6	1.00 V	48	29.78	11.95
6	433.21	42.7	82.3	-39.6	1.50 V	353	23.93	18.73

4.7 RADIATED EMISSION MEASUREMENT (ABOVE 1GHz)

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The 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. The emission limit equal to –13dBm.

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012
Agilent Pre-Selector	N9039A	MY46520311	July 12, 2011	July 11, 2012
Agilent Signal Generator	N5181A	MY49060517	July 12, 2011	July 11, 2012
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 15, 2011	Nov. 14, 2012
Agilent Pre-Amplifier	8449B	3008A02578	July 04, 2011	July 03, 2012
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 14, 2011	Nov. 13, 2012
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 07, 2011	Oct. 06, 2012
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 26, 2011	Dec. 25, 2012
RF Cable	NA	CHGCAB_001	Oct. 07, 2011	Oct. 06, 2012
Software	ADT_Radiated_ V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

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) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Apr. 04 to 05, 2012

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 = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

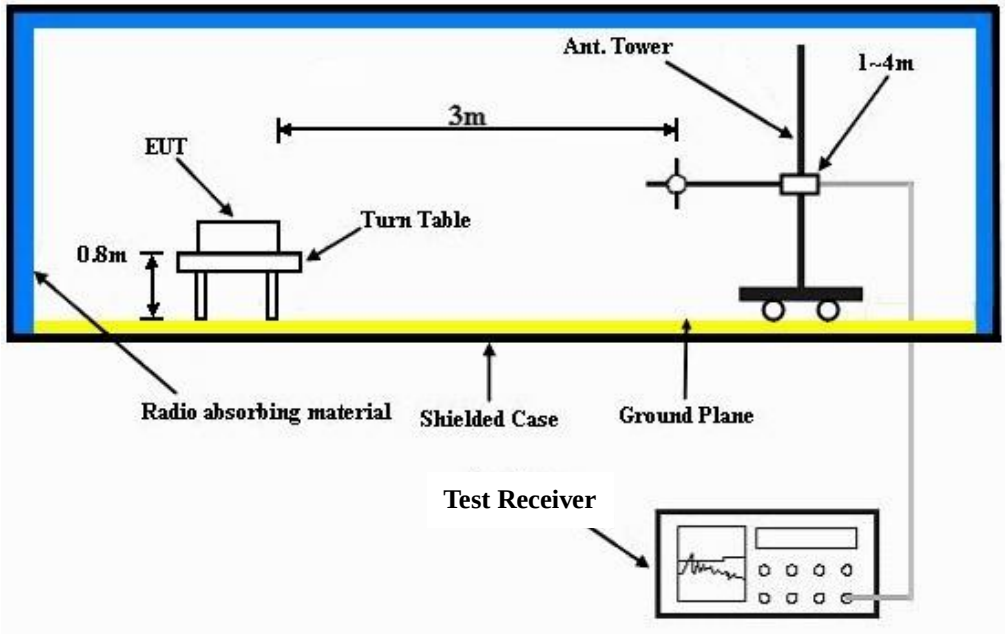
d. ERP power can be calculated form E.I.R.P power by subtracting the gain of dipole, ERP power = EIPR power - 2.15dBi.

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

4.7.7 TEST RESULTS

FOR CDMA BAND:

CHANNEL	TX Channel 1013	FREQUENCY RANGE	Above 1000 MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	1649.40	51.4	82.3	-30.9	1.00 H	355	22.45	28.95
2	2474.10	53.7	82.3	-28.6	1.00 H	351	21.49	32.21
3	3298.80	40.1	82.3	-42.2	1.00 H	312	5.90	34.20
4	4123.50	51.5	82.3	-30.8	1.00 H	348	14.52	36.98
5	4948.20	46.0	82.3	-36.3	1.00 H	343	6.09	39.91
6	5772.90	48.2	82.3	-34.1	1.00 H	333	5.78	42.42
7	6597.60	51.6	82.3	-30.7	1.00 H	352	5.90	45.70
8	7422.30	53.0	82.3	-29.3	1.00 H	343	5.55	47.45
9	8247.00	52.5	82.3	-29.8	1.00 H	360	5.56	46.94
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	1649.40	53.2	82.3	-29.1	1.00 V	45	24.25	28.95
2	2474.10	53.9	82.3	-28.4	1.00 V	47	21.69	32.21
3	3298.80	42.9	82.3	-39.4	1.00 V	41	8.70	34.20
4	4123.50	49.7	82.3	-32.6	1.00 V	45	12.72	36.98
5	4948.20	46.6	82.3	-35.7	1.00 V	39	6.69	39.91
6	5772.90	48.0	82.3	-34.3	1.00 V	34	5.58	42.42
7	6597.60	52.0	82.3	-30.3	1.00 V	38	6.30	45.70
8	7422.30	54.3	82.3	-28.0	1.00 V	48	6.85	47.45
9	8247.00	51.7	82.3	-30.6	1.00 V	48	4.76	46.94

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

MODE	TX channel 384	FREQUENCY RANGE	Above 1000 MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	1673.04	55.1	82.3	-27.2	1.00 H	290	26.04	29.06
2	2509.56	54.3	82.3	-28.0	1.00 H	289	21.99	32.31
3	3346.08	45.8	82.3	-36.5	1.00 H	299	11.54	34.26
4	4182.60	51.2	82.3	-31.1	1.00 H	292	14.02	37.18
5	5019.12	45.9	82.3	-36.4	1.00 H	285	5.77	40.13
6	5855.64	48.3	82.3	-34.0	1.00 H	287	5.61	42.69
7	6692.16	51.4	82.3	-30.9	1.00 H	281	5.21	46.19
8	7528.68	52.5	82.3	-29.8	1.00 H	278	5.26	47.24
9	8365.20	53.3	82.3	-29.0	1.00 H	288	6.27	47.03
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	1673.04	52.6	82.3	-29.7	1.00 V	320	23.54	29.06
2	2509.56	53.8	82.3	-28.5	1.23 V	323	21.49	32.31
3	3346.08	43.3	82.3	-39.0	1.00 V	168	9.05	34.26
4	4182.60	50.1	82.3	-32.2	1.00 V	163	12.92	37.18
5	5019.12	46.2	82.3	-36.1	1.00 V	172	6.07	40.13
6	5855.64	46.2	82.3	-36.1	1.00 V	180	3.51	42.69
7	6692.16	51.9	82.3	-30.4	1.00 V	183	5.71	46.19
8	7528.68	53.9	82.3	-28.4	1.00 V	175	6.66	47.24
9	8365.20	51.7	82.3	-30.6	1.00 V	180	4.67	47.03

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

MODE	TX channel 777	FREQUENCY RANGE	Above 1000 MHz

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	**1696.62**	**55.4**	**82.3**	**-26.9**	**1.00 H**	**292**	**26.24**	**29.16**
2	2544.93	54.7	82.3	-27.6	1.00 H	290	22.29	32.41
3	3393.24	45.6	82.3	-36.7	1.00 H	289	11.29	34.31
4	4241.55	51.4	82.3	-30.9	1.00 H	307	13.95	37.45
5	5089.86	45.9	82.3	-36.4	1.00 H	280	5.60	40.30
6	5938.17	48.7	82.3	-33.6	1.00 H	286	5.69	43.01
7	6786.48	51.6	82.3	-30.7	1.00 H	268	5.03	46.57
8	7634.79	52.0	82.3	-30.3	1.00 H	267	4.75	47.25
9	8483.10	53.2	82.3	-29.1	1.00 H	290	6.54	46.66
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	1696.62	53.5	82.3	-28.8	1.00 V	301	24.34	29.16
2	2544.93	53.5	82.3	-28.8	1.00 V	324	21.09	32.41
3	3393.24	43.6	82.3	-38.7	1.00 V	159	9.29	34.31
4	4241.55	50.0	82.3	-32.3	1.00 V	158	12.55	37.45
5	5089.86	46.1	82.3	-36.2	1.00 V	157	5.80	40.30
6	5938.17	48.3	82.3	-34.0	1.00 V	188	5.29	43.01
7	6786.48	51.3	82.3	-31.0	1.00 V	178	4.73	46.57
8	7634.79	54.2	82.3	-28.1	1.00 V	186	6.95	47.25
9	8483.10	52.1	82.3	-30.2	1.00 V	188	5.44	46.66

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

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 and authorization 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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Email: service.adt@tw.bureauveritas.com
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 modifications were made to the EUT by the lab during the test.

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