

FCC RF Test Report

APPLICANT : ZTE Corporation
EQUIPMENT : CDMA2000 Wireless Data Terminal
BRAND NAME : ZTE
MODEL NAME : AC2787_V3
FCC ID : SRQ-AC2787V3
STANDARD : FCC 47 CFR Part 2, 22(H)
CLASSIFICATION : Licensed Non-Broadcast Station Transmitter (TNB)

The product was received on Apr. 08, 2013 and completely tested on Apr. 26, 2013. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL (SHENZHEN) INC.

No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1046	RSS-132 (5.4)	Conducted Output Power	N/A	PASS	-
3.2	§22.913(a)(2)	RSS-132(5.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
3.4	§2.1049 §22.917(a)	RSS-GEN(4.6.1)	Occupied Bandwidth	N/A	PASS	-
3.4	§2.1051 §22.917(a)	RSS-132 (5.5)	Band Edge Measurement	< 43+10log ₁₀ (P[Watts])	PASS	-
3.5	§2.1051 §22.917(a)	RSS-132 (5.5)	Conducted Spurious Emission	< 43+10log ₁₀ (P[Watts])	PASS	-
3.6	§2.1053 §22.917(a)	RSS-132 (5.5)	Field Strength of Spurious Radiation	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 33.50 dB at 2510.000 MHz
3.7	§2.1055 §22.355	RSS-132(5.3)	Frequency Stability for Temperature & Voltage	< 2.5 ppm	PASS	-

1 General Description

1.1 Applicant

ZTE Corporation

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

1.2 Manufacturer

ZTE Corporation

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	CDMA2000 Wireless Data Terminal
Brand Name	ZTE
Model Name	AC2787_V3
FCC ID	SRQ-AC2787V3
EUT supports Radios application	CDMA/EV-DO
HW Version	AC2787MB_B
SW Version	AC2787_MDM6085-1_LU8ADB63
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	824.70 MHz ~ 848.31 MHz
Rx Frequency	869.70 MHz ~ 893.31 MHz
Maximum Output Power to Antenna	21.82 dBm
Antenna Type	PCB Antenna
Type of Modulation	CDMA2000 : QPSK CDMA2000 1xEV-DO : 8PSK

1.5 Maximum ERP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	Maximum ERP (W)	Frequency Tolerance (% , Hz, ppm)	Emission Designator
Part 22	CDMA2000 BC0 1xRTT	QPSK	0.0984	0.01 ppm	1M28F9W

1.6 Testing Site

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.				
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL: +86-755- 3320-2398				
Test Site No.	Sporton Site No.		FCC/IC Registration No.		
	TH01-SZ	03CH01-SZ	831040/4086F-1		

1.7 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- FCC 47 CFR Part 2, 22(H)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission is from 30 MHz to 9000 MHz.

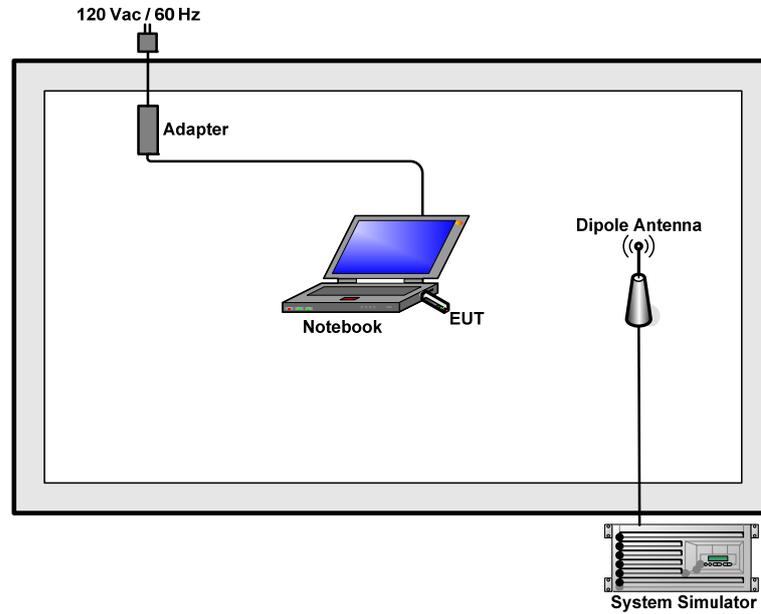
Test Modes		
Band	Radiated TCs	Conducted TCs
CDMA2000 BC0	■ 1xRTT Link Mode	■ 1xRTT Link Mode

Note: The maximum RF output power level is 1xRTT RC3+SO55 mode for CDMA2000 BC0 on QPSK Link, only this mode was used for all tests.

The conducted power table is as follows:

Conducted Power (*Unit: dBm)			
Band	CDMA2000 BC0		
Channel	1013	384	777
Frequency	824.7	836.52	848.31
1xRTT RC1 SO55	21.78	21.51	21.66
1xRTT RC3 SO55	21.82	21.58	21.72
1xRTT RC3 SO32(+ F-SCH)	21.81	21.57	21.69
1xRTT RC3 SO32(+SCH)	21.78	21.54	21.64
1xEVDO RTAP 153.6Kbps	21.80	21.56	21.71
1xEVDO RETAP 4096Bits	21.76	21.53	21.71

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Agilent	E5515C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	TOPWORD	3303DR	N/A	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	VOSTRO 1440	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m



2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 7 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 7 + 10 = 17 \text{ (dB)} \end{aligned}$$

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

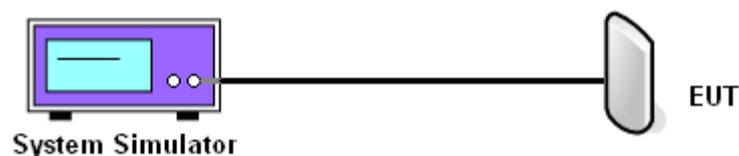
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to base station.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set EUT at maximum power through base station.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

3.1.4 Test Setup





3.1.5 Test Result of Conducted Output Power

CDMA2000 BC0			
Test Mode	CDMA 2000 1xRTT		
Test Status	RC3+SO55		
Channel	1013 (Low)	384 (Mid)	777 (High)
Frequency (MHz)	824.7	836.52	848.31
Conducted Power (dBm)	21.82	21.58	21.72
Conducted Power (Watts)	0.15	0.14	0.15

Note: maximum average power for CDMA2000.

3.2 Effective Radiated Power Measurement

3.2.1 Description of the ERP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v01. The ERP of mobile transmitters must not exceed 7 Watts.

3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiated power.
4. The height of the receiving antenna is adjusted to look for the maximum ERP.
5. Taking the record of maximum ERP.
6. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
7. The conducted power at the terminal of the dipole antenna is measured.
8. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
9. $ERP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$

P_s (dBm) : Input power to substitution antenna.

G_s (dBi or dBd) : Substitution antenna Gain.

$E_t = R_t + AF$

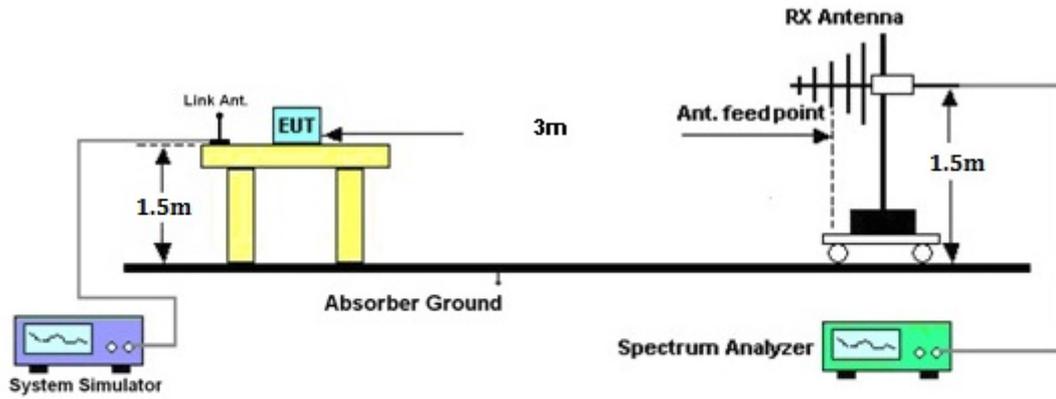
$E_s = R_s + AF$

AF (dB/m) : Receive antenna factor

R_t : The highest received signal in spectrum analyzer for EUT.

R_s : The highest received signal in spectrum analyzer for substitution antenna.

3.2.4 Test Setup





3.2.5 Test Result of ERP

CDMA2000 BC0 1xRTT_RC3+SO55 Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-28.54	-48.12	0.00	-1.08	18.50	0.0708
836.52	-29.43	-48.28	0.00	-0.93	17.92	0.0619
848.31	-29.46	-48.35	0.00	-0.76	18.13	0.0650
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-26.96	-47.97	0.00	-1.08	19.93	0.0984
836.52	-28.48	-48.01	0.00	-0.93	18.60	0.0724
848.31	-29.30	-48.05	0.00	-0.76	17.99	0.0630

3.3 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.3.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The 99% occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

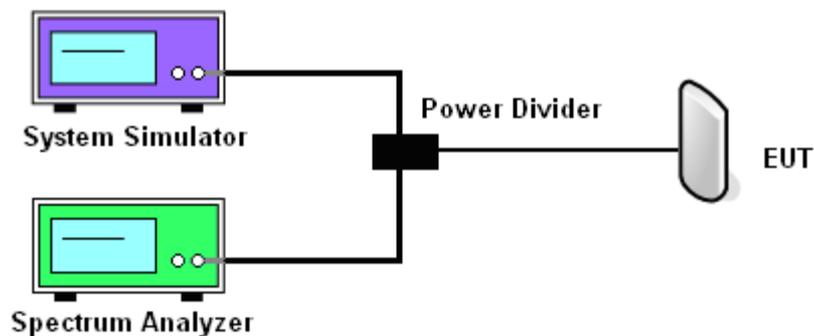
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The 99% occupied bandwidth and 26 dB bandwidth of the middle channel for the highest RF powers were measured.

3.3.4 Test Setup



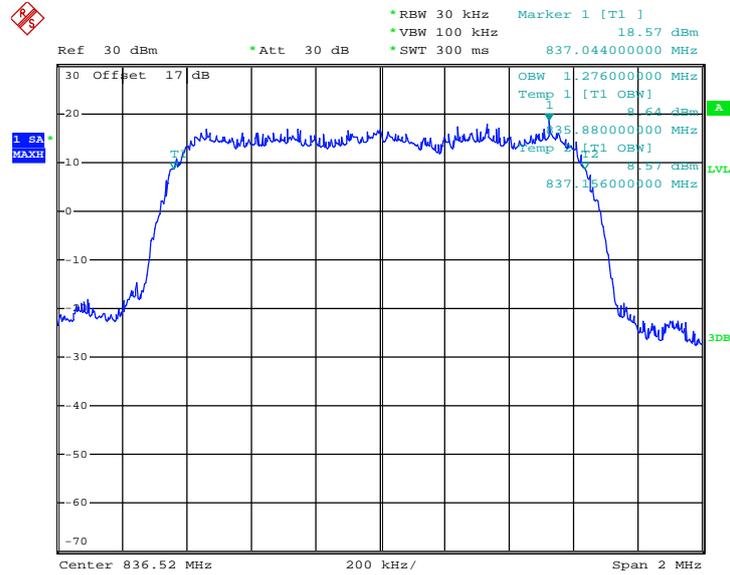


3.3.5 Test Result of 99% Occupied Bandwidth and 26dB Bandwidth

CDMA2000 BC0			
Test Mode	CDMA 2000 1xRTT		
Test Status	RC3+SO55		
Channel	1013 (Low)	384 (Mid)	777 (High)
Frequency (MHz)	824.70	836.52	848.31
99% OBW (MHz)	1.276	1.276	1.276
26dB BW (MHz)	1.428	1.428	1.428

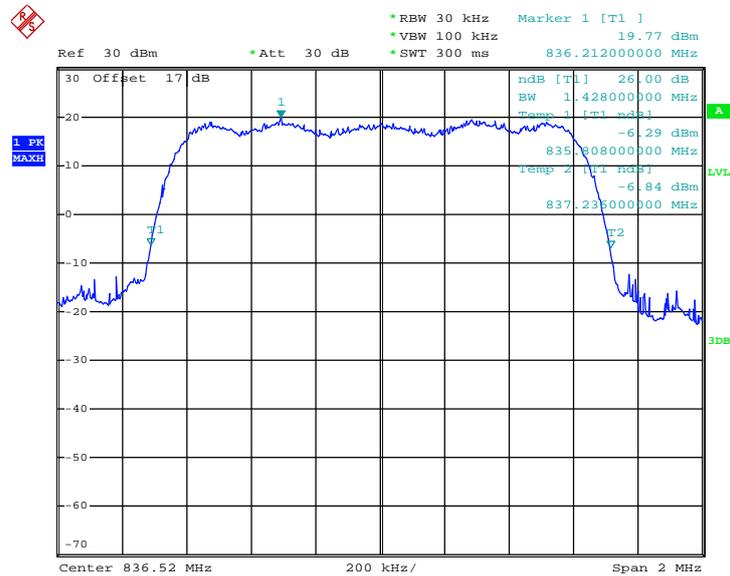


99% Occupied Bandwidth Plot on Channel 384 (836.52 MHz)



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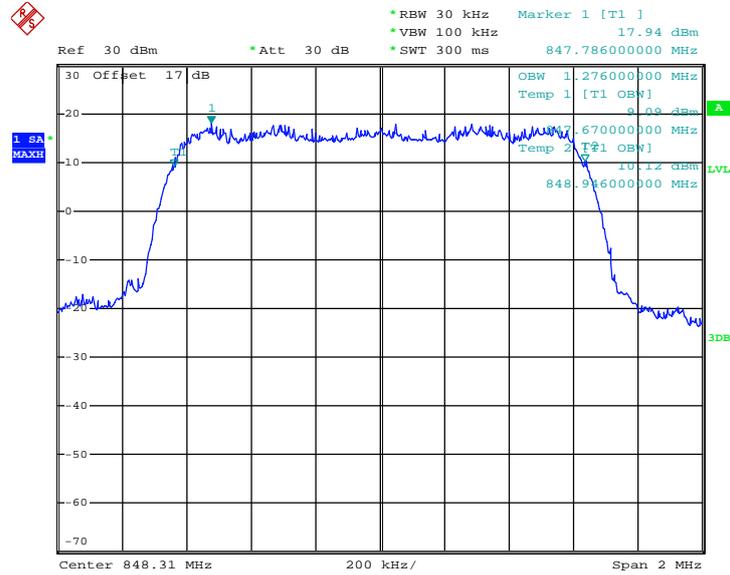
26dB Bandwidth Plot on Channel 384 (836.52 MHz)



Date : 17.APR.2013 01:02:16

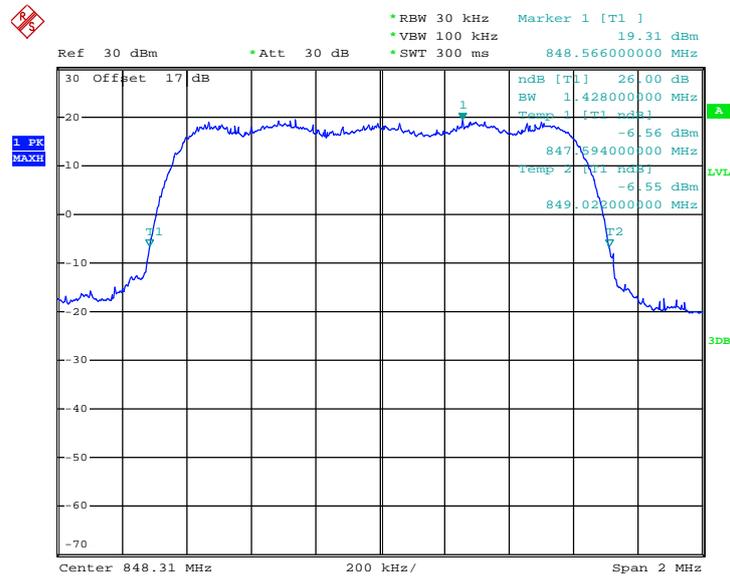


99% Occupied Bandwidth Plot on Channel 777 (848.31 MHz)



Date: 17.APR.2013 01:22:16

26dB Bandwidth Plot on Channel 777 (848.31 MHz)



Date: 17.APR.2013 01:13:33

3.4 Band Edge Measurement

3.4.1 Description of Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

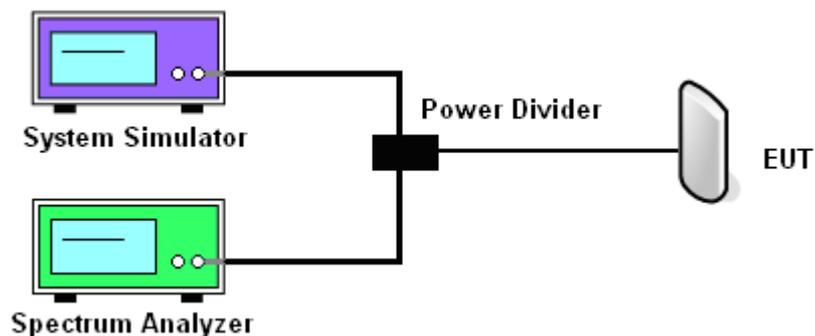
1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The band edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly $BW/100$.
4. The RBW was replaced by 10 kHz, slightly smaller than the value in (3), due to the spectrum analyzer limitation to set the exact value. A worst case correction factor of $10 \cdot \log (1\% \text{ emission-BW/measurement RBW})$ was compensated.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13\text{dBm}.$$

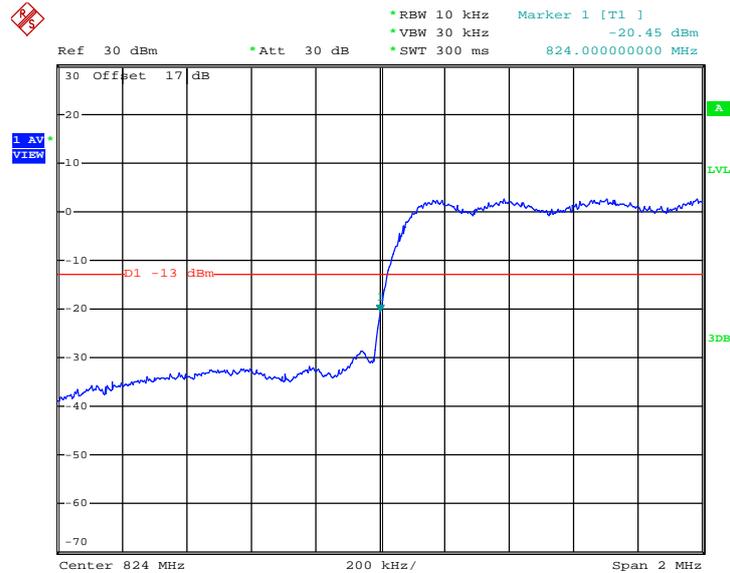
3.4.4 Test Setup



3.4.5 Test Result (Plots) of Conducted Band Edge

Band :	CDMA2000 BC0	Test Mode :	1xRTT_RC3+SO55
Correction Factor :	1.55dB	Maximum 26dB Bandwidth :	1.428MHz
Band Edge :	-18.90dBm	Measurement Value :	-20.45dBm

Lower Band Edge Plot on Channel 1013 (824.7 MHz)



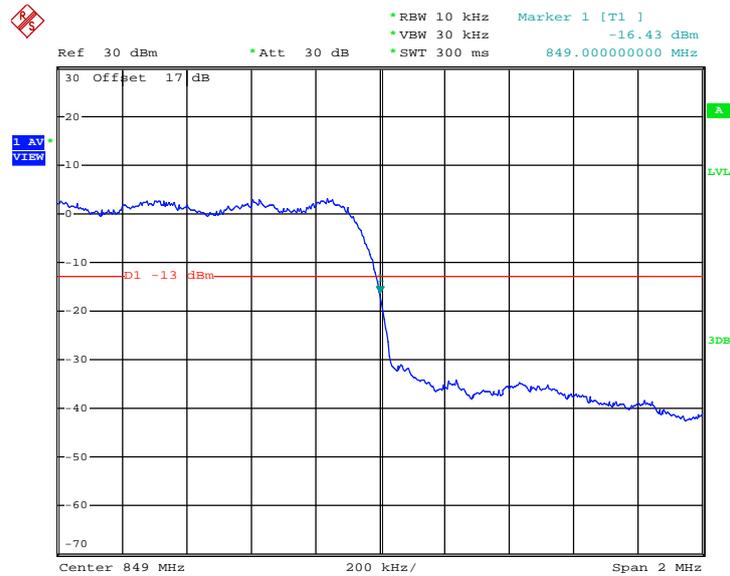
Date: 17.APR.2013 02:25:51

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)



Band :	CDMA2000 BC0	Test Mode :	1xRTT_RC3+SO55
Correction Factor :	1.55dB	Maximum 26dB Bandwidth :	1.428MHz
Band Edge :	-14.88dBm	Measurement Value :	-16.43dBm

Higher Band Edge Plot on Channel 777 (848.31 MHz)



Date: 17.APR.2013 02:29:33

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)

3.5 Conducted Spurious Emission Measurement

3.5.1 Description of Conducted Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

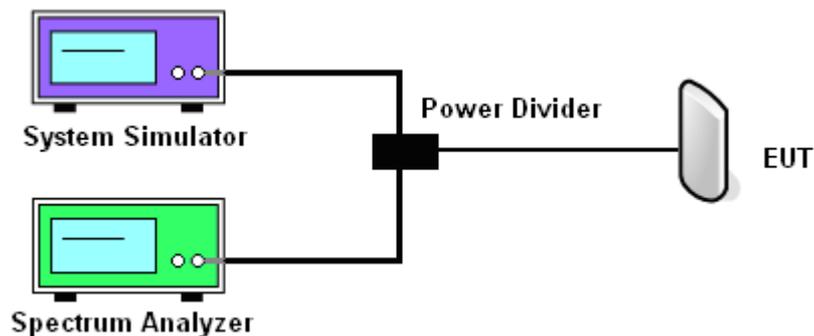
1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13\text{dBm}.$$

3.5.4 Test Setup

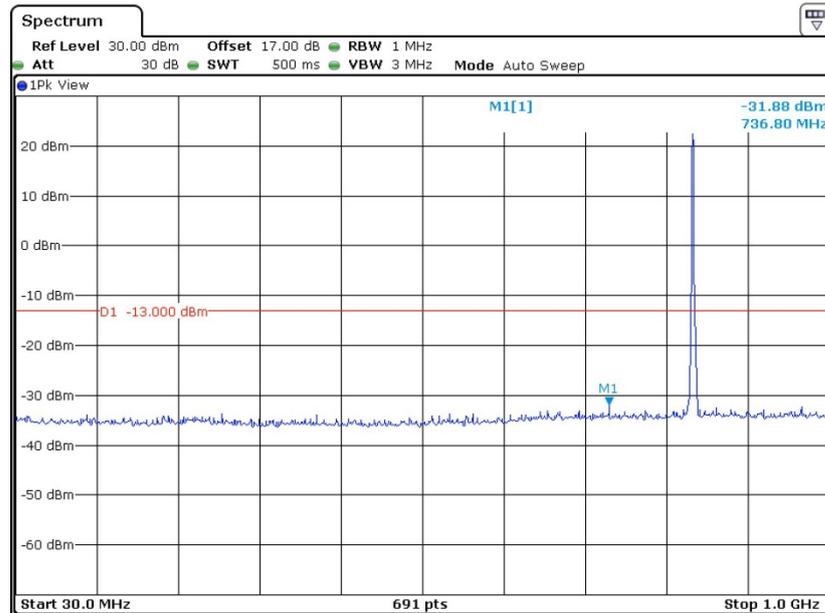




3.5.5 Test Result (Plots) of Conducted Spurious Emission

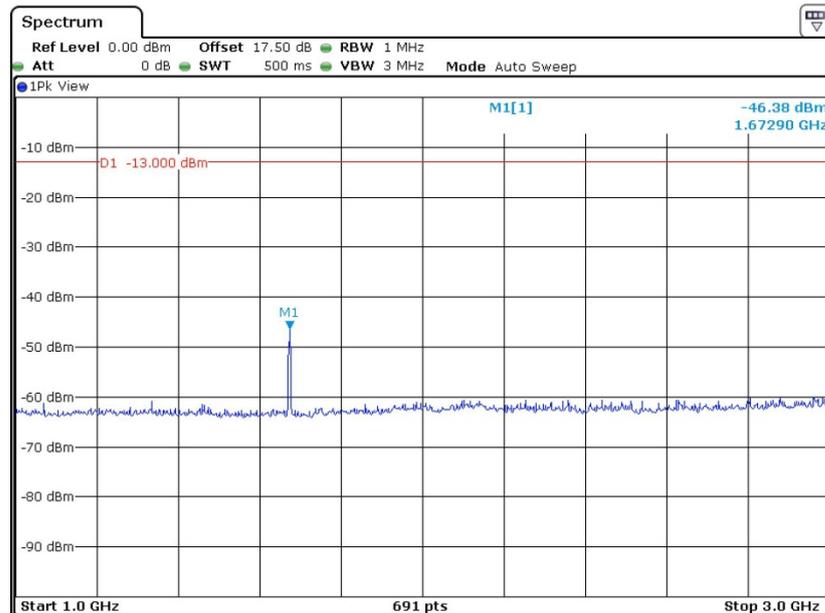
Band :	CDMA2000 BC0	Channel	384
Test Mode :	1xRTT_RC3+SO55	Frequency :	836.52 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



Date: 26.APR.2013 05:12:44

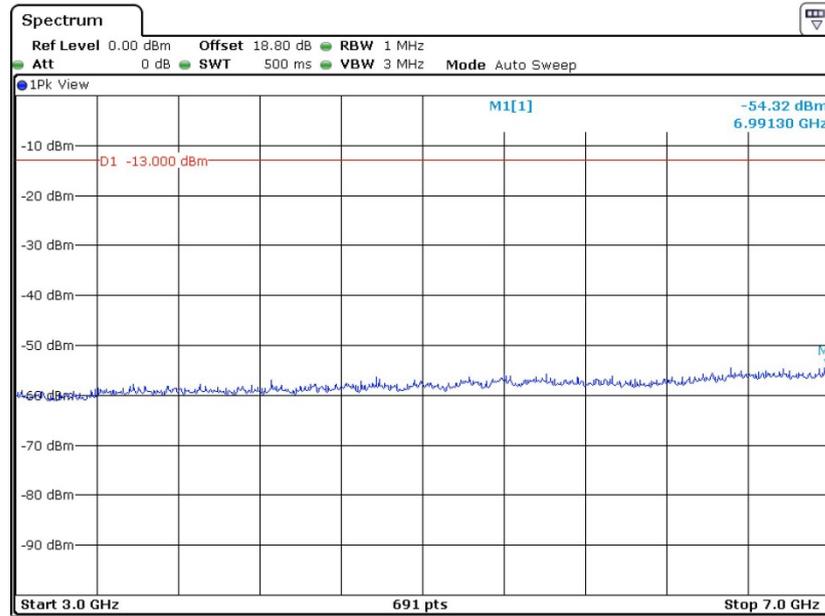
Conducted Spurious Emission Plot between 1GHz ~ 3GHz



Date: 26.APR.2013 05:15:23

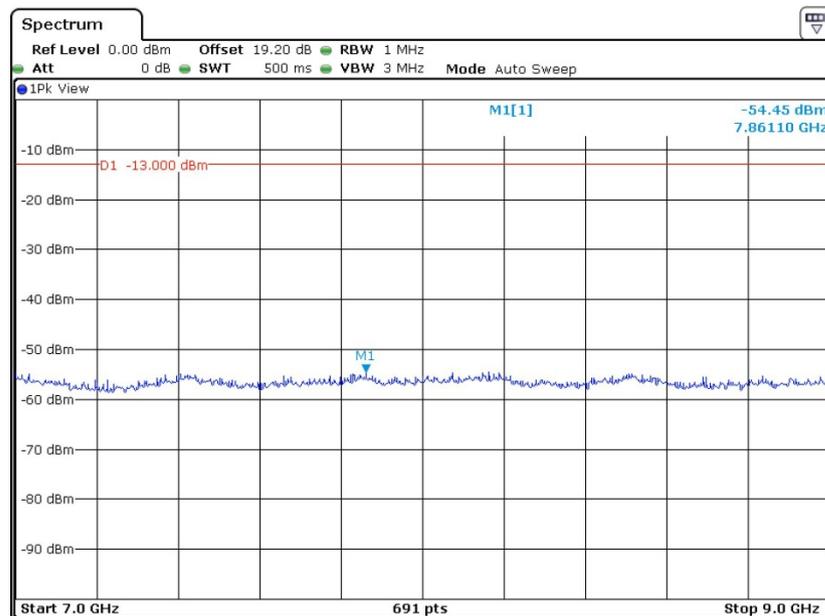


Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 26.APR.2013 05:17:45

Conducted Spurious Emission Plot between 7GHz ~ 9GHz



Date: 26.APR.2013 05:18:46

3.6 Field Strength of Spurious Radiation Measurement

3.6.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43+10\log_{10}(P[\text{Watts}])$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.6.2 Measuring Instruments

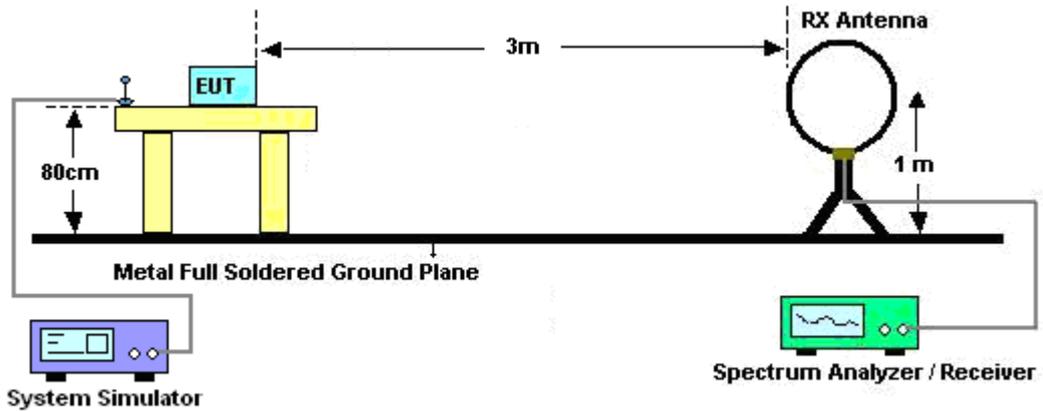
See list of measuring instruments of this test report.

3.6.3 Test Procedures

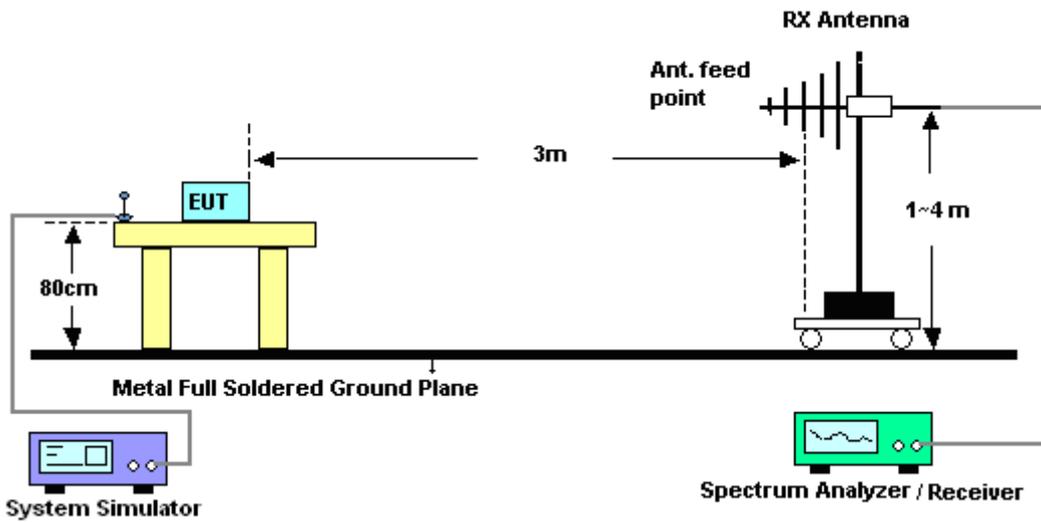
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
11. $\text{ERP (dBm)} = \text{EIRP} - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(\text{W}) - [43 + 10\log(P)] (\text{dB})$
 $= [30 + 10\log(P)] (\text{dBm}) - [43 + 10\log(P)] (\text{dB})$
 $= -13\text{dBm}.$

3.6.4 Test Setup

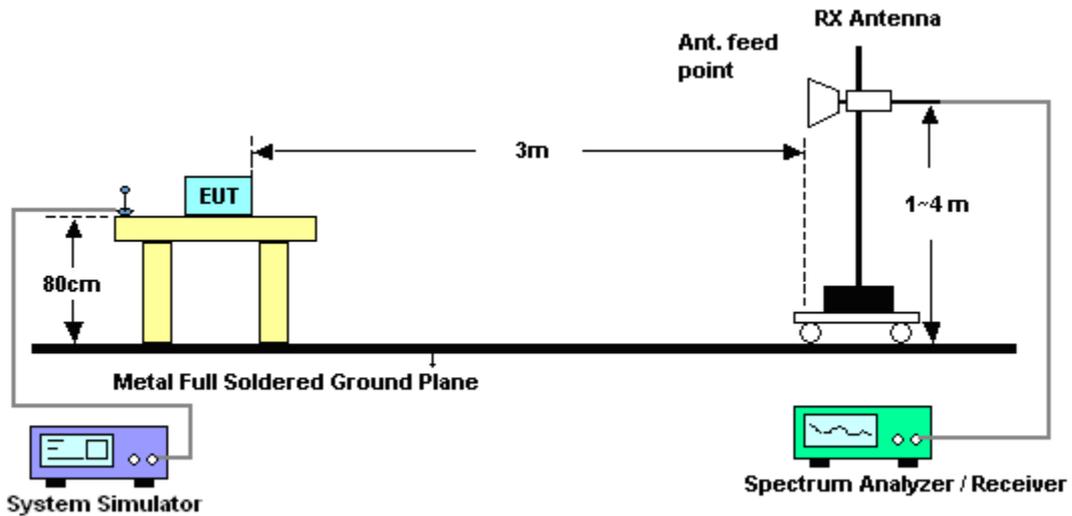
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



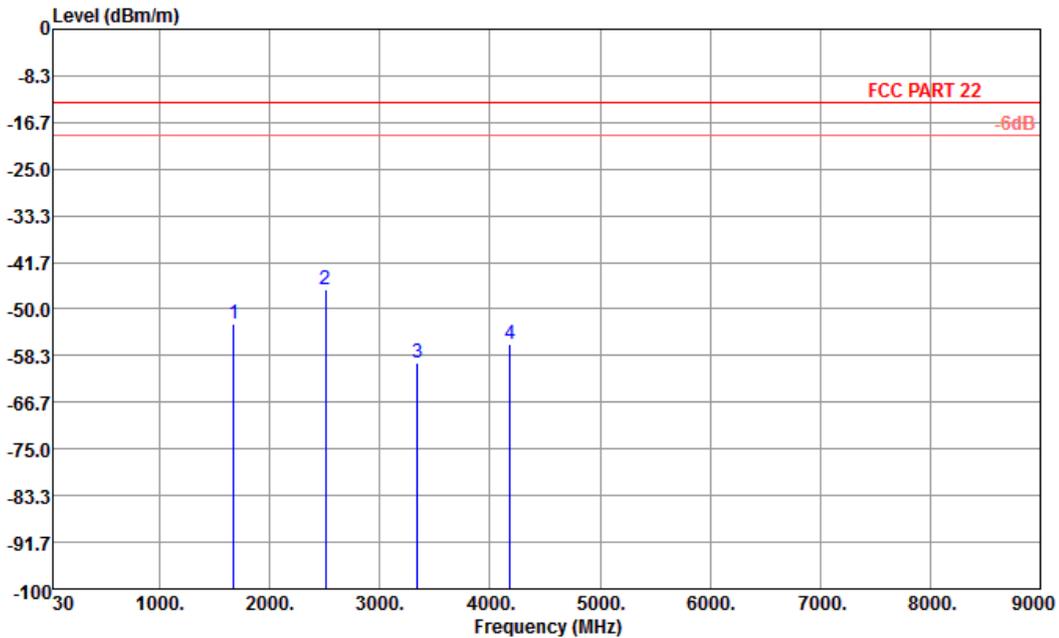
3.6.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.



3.6.6 Test Result of Field Strength of Spurious Radiated

Band :	CDMA2000 BC0	Temperature :	24~25°C
Test Mode :	1xRTT_RC3+SO55	Relative Humidity :	54~57%
Test Engineer :	John Zheng	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

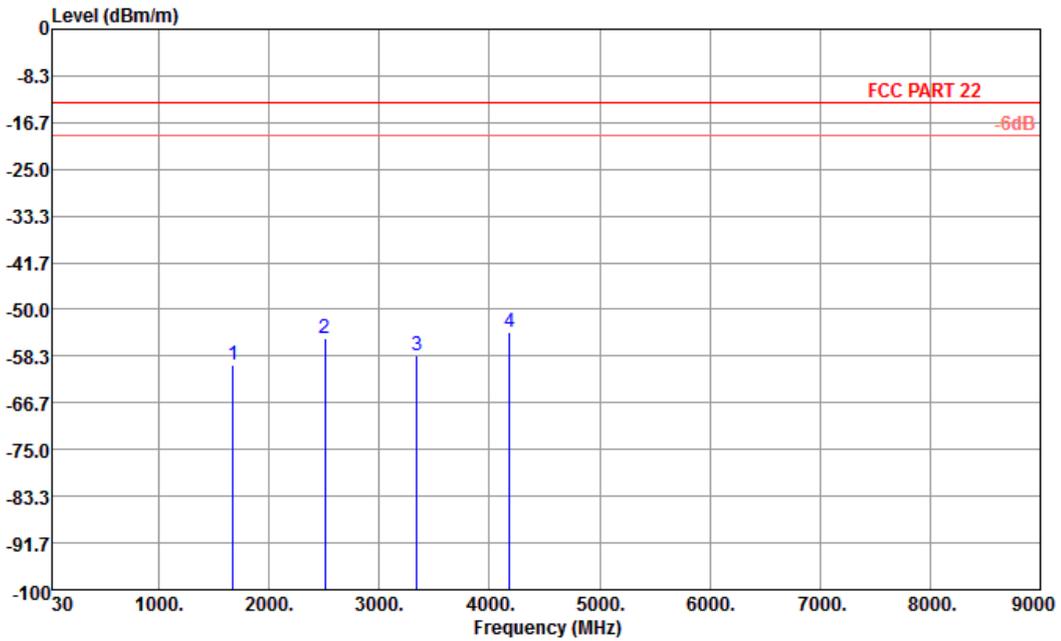


Site : 03CH01-SZ
 Condition : FCC PART 22 3m HF EIRP H-130101 HORIZONTAL
 Project : (FG)340803

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-52.51	-13	-39.51	-66.07	-55.48	0.88	6.00	H	Pass
2510	-46.50	-13	-33.50	-69.20	-49.11	1.08	5.84	H	Pass
3345	-59.56	-13	-46.56	-70.16	-63.93	1.14	7.66	H	Pass
4182	-56.15	-13	-43.15	-70.91	-61.42	1.37	8.79	H	Pass



Band :	CDMA2000 BC0	Temperature :	24~25°C
Test Mode :	1xRTT_RC3+SO55	Relative Humidity :	54~57%
Test Engineer :	John Zheng	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : FCC PART 22 3m HF EIRP V-130101 VERTICAL
 Project : (FG)340803

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-59.84	-13	-46.84	-70.47	-62.81	0.88	6.00	V	Pass
2510	-55.07	-13	-42.07	-73.92	-57.68	1.08	5.84	V	Pass
3345	-58.30	-13	-45.30	-70.13	-62.67	1.14	7.66	V	Pass
4182	-54.02	-13	-41.02	-69.24	-59.29	1.37	8.79	V	Pass

3.7 Frequency Stability Measurement

3.7.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

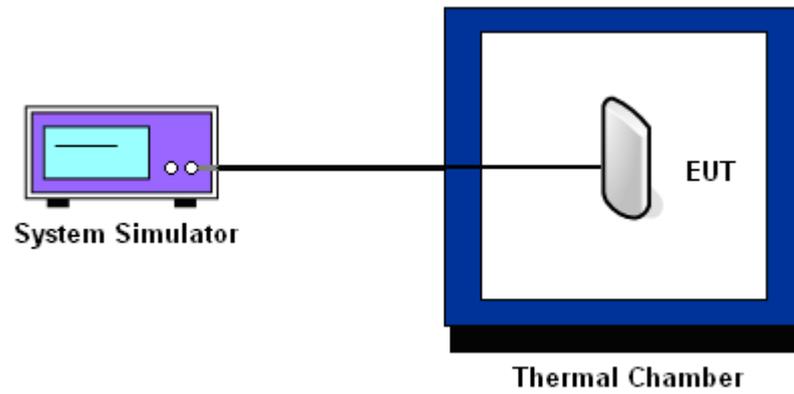
3.7.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. If the EUT cannot be turned on at -30°C , the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

3.7.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected with the base station.
2. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.7.5 Test Setup





3.7.6 Test Result of Temperature Variation

Band :	CDMA2000 BC0 1xRTT_RC3+SO55	Channel :	384
Limit (ppm) :	2.5	Frequency :	836.52 MHz

Temperature (°C)	Freq. Dev. (Hz)	Deviation (ppm)	Result
-30	-7	-0.01	PASS
-20	-7	-0.01	
-10	-6	-0.01	
0	6	0.01	
10	-7	-0.01	
20	8	0.01	
30	-8	-0.01	
40	-7	-0.01	
50	-9	-0.01	
60	-9	-0.01	

Note: The manufacturer declared that the EUT could work properly at temperature 60°C.



3.7.7 Test Result of Voltage Variation

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
CDMA2000 BC0 CH384	1xRTT RC3+SO55	5	-6	-0.01	2.5	PASS
		4.5	-7	-0.01		
		5.5	-6	-0.01		

Note: Normal Voltage = 5V.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9kHz~30GHz	Mar. 28, 2013	Apr. 17, 2013~ Apr. 26, 2013	Mar. 27, 2014	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	N/A	Mar. 28, 2013	Apr. 17, 2013~ Apr. 26, 2013	Mar. 27, 2014	Conducted (TH01-SZ)
Power Sensor	Anritsu	MA2411B	1207253	N/A	Mar. 28, 2013	Apr. 17, 2013~ Apr. 26, 2013	Mar. 27, 2014	Conducted (TH01-SZ)
DC Power Supply	TOPWORD	3303DR	N/A714621	N/A	Mar. 28, 2013	Apr. 17, 2013~ Apr. 26, 2013	Mar. 27, 2014	Conducted (TH01-SZ)
Thermal Chamber	Hongzhan	LP-150U	HD20120425	N/A	Mar. 28, 2013	Apr. 17, 2013~ Apr. 26, 2013	Mar. 27, 2014	Conducted (TH01-SZ)
ESCI TEST Receiver	R&S	ESCI	100724	9K-3GHz	Mar. 28, 2013	Apr. 20, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSP30	101362	9kHz~30GHz	Oct. 11, 2012	Apr. 20, 2013	Oct. 10, 2013	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 12, 2012	Apr. 20, 2013	Oct. 11, 2013	Radiation (03CH01-SZ)
Bilog Antenna	SCHAFFNER	CBL6112B	2614	30Mhz~2Ghz	Nov. 03, 2012	Apr. 20, 2013	Nov. 02, 2013	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9K-3000MHz GAIN 30db	Mar. 28, 2013	Apr. 20, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	Mar. 28, 2013	Apr. 20, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
SHF-EHF-Horn	Schwarzbeck	BBHA9170	BBHA917024 9	14Ghz~40Ghz	Nov. 23, 2012	Apr. 20, 2013	Nov. 22, 2013	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100321	9KHZ-30MHZ	Oct. 22, 2012	Apr. 20, 2013	Oct. 21, 2013	Radiation (03CH01-SZ)
System Simulator	R&S	CMU200	100954	GSM	Jun. 14, 2012	Apr. 17, 2013~ Apr. 26, 2013	Jun. 13, 2013	-

5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP340803 as below.