

FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : CDMA/LTE Tablet
BRAND NAME : ZTE
MODEL NAME : V68
FCC ID : Q78-V68
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter (PCB)
Tx/Rx FREQUENCY RANGE : CDMA2000 BC0 : 824.70 ~ 848.31 MHz /
869.70 ~ 893.31 MHz
CDMA2000 BC1 : 1851.25 ~ 1908.75 MHz /
1931.25 ~ 1988.75 MHz
MAX. ERP/EIRP POWER : CDMA2000 BC0 1xRTT : 0.12 W
CDMA2000 BC0 1xEV-DO Rev. 0 : 0.04W
CDMA2000 BC1 : 0.50 W
CDMA2000 BC1 1xEV-DO Rev. 0 : 0.08W

The product was received on Sep. 08, 2012 and completely tested on Mar. 13, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG190807	Rev. 01	Initial issue of report	Mar. 13, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	N/A	PASS	-
3.2	§22.913(a)(2)	Effective Radiated Power	< 7 Watts	PASS	-
3.2	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
3.3	§2.1049 §22.917(a) §24.238(a)	Occupied Bandwidth	N/A	PASS	-
3.4	§2.1051 §22.917(a) §24.238(a)	Band Edge Measurement	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	-
3.5	§2.1051 §22.917(a) §24.238(a)	Conducted Emission	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	-
3.6	§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	Under limit 18.57 dB at 3760 MHz
3.7	§2.1055 §22.355 §24.235	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, 518057, P.R.China

1.2 Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	CDMA/LTE Tablet
Brand Name	ZTE
Model Name	V68
FCC ID	Q78-V68
Tx Frequency	CDMA2000 BC0 : 824 MHz ~ 849 MHz CDMA2000 BC1 : 1850 MHz ~ 1910 MHz
Rx Frequency	CDMA2000 BC0 : 869 MHz ~ 894 MHz CDMA2000 BC1 : 1930 MHz ~ 1990 MHz
Maximum Output Power to Antenna	<1xRTT>: CDMA2000 BC0 : 24.35 dBm CDMA2000 BC1 : 24.52 dBm <1xEV-DO>: CDMA2000 BC0 : 24.60 dBm CDMA2000 BC1 : 24.69 dBm
Antenna Type	Fixed Internal Antenna
HW Version	V2.1
SW Version	V68_V1.12
Type of Modulation	QPSK
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 Emission Designator

FCC Rule	System	Type of Modulation	Emission Designator	Maximum ERP/EIRP
Part 22	CDMA2000 BC0 1xRTT	QPSK	1M28F9W	0.12 W
Part 22	CDMA2000 BC0 1xEV-DO Rev. 0	QPSK	1M28F9W	0.04 W
Part 24	CDMA2000 BC1 1xRTT	QPSK	1M28F9W	0.50W
Part 24	CDMA2000 BC1 1xEV-DO Rev. 0	QPSK	1M28F9W	0.08 W

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.		
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	TH01-KS	03CH01-KS	149928/4086E-1

1.6 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), 24(E)
- ♦ ANSI / TIA / EIA-603-C-2004

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.

1.7 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW	GPS-30300	N/A	N/A	Unshielded, 1.8 m

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 as follows:

1. 30 MHz to 9000 MHz for CDMA2000 BC0.
2. 30 MHz to 19000 MHz for CDMA2000 BC1.

Test Modes		
Band	Radiated TCs	Conducted TCs
CDMA2000 BC0	■ 1xRTT Link Mode ■ 1xEV-DO Rev. 0 Link Mode	■ 1xRTT Link Mode ■ 1xEV-DO Rev. 0 Link Mode
CDMA2000 BC1	■ 1xRTT Link Mode ■ 1xEV-DO Rev. 0 Link Mode	■ 1xRTT Link Mode ■ 1xEV-DO Rev. 0 Link Mode

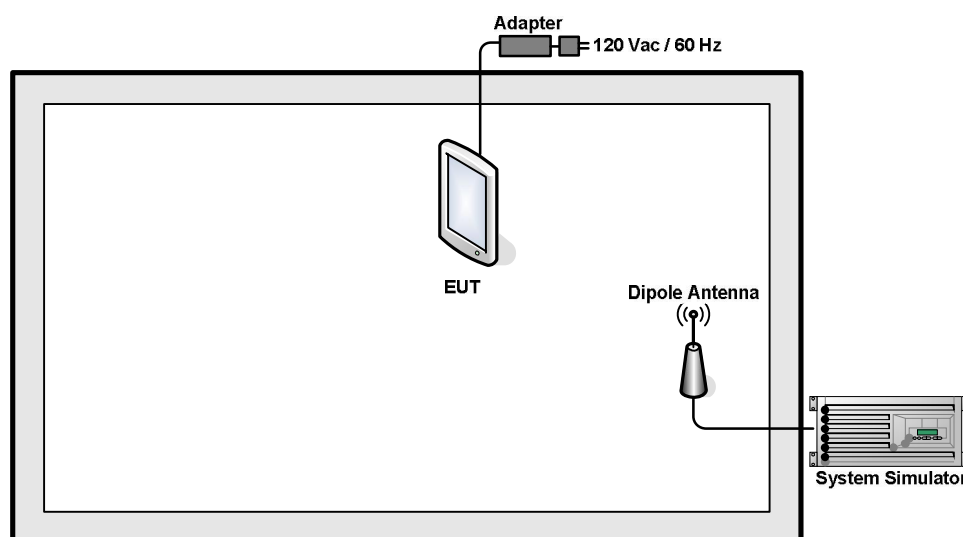
Note:

1. The maximum RF output power levels are 1xRTT RC3+SO32 (+ F-SCH) mode and 1xEVDO RTAP 153.6 mode for CDMA2000 BC0 and CDMA2000 BC1 on QPSK Link; only these modes were used for all tests.
2. Because there are individual antennas for each WWAN, WLAN, and Bluetooth, the co-location test modes are not required.

The conducted power table is as follows:

Conducted Power (*Unit: dBm)						
Band	CDMA2000 BC0			CDMA2000 BC1		
Channel	1013	384	777	25	600	1175
Frequency	824.7	836.52	848.31	1851.25	1880	1908.75
1xRTT RC1+SO55	24.33	24.15	24.13	24.45	24.46	24.51
1xRTT RC3+SO55	24.34	24.07	24.12	24.34	24.41	24.50
1xRTT RC3+SO32(+ F-SCH)	24.35	24.06	24.12	24.52	24.38	24.51
1xRTT RC3+SO32(+SCH)	24.33	24.05	24.12	24.40	24.42	24.48
1xEVDO RTAP 9.6	24.57	24.16	24.41	24.54	24.53	24.68
1xEVDO RTAP 38.4	24.53	24.22	24.40	24.67	24.52	24.67
1xEVDO RTAP 128	24.52	24.24	24.43	24.59	24.47	24.65
1xEVDO RTAP 153.6	24.60	24.23	24.38	24.69	24.55	24.65
1xEVDO RETAP 1024	24.51	24.21	24.39	24.58	24.53	24.68
1xEVDO RETAP 2048	24.51	24.31	24.38	24.63	24.58	24.62
1xEVDO RETAP 4096	24.58	24.29	24.36	24.68	24.53	24.58

2.2 Connection Diagram of Test System



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.

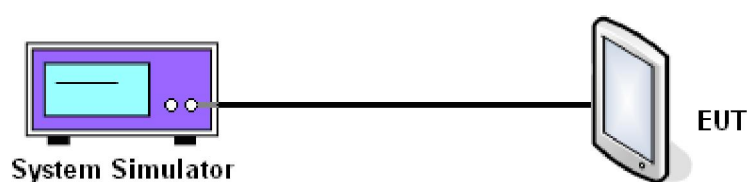
3.1.2 Measuring Instruments

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. Set EUT at maximum power through base station.
3. Select lowest, middle, and highest channels for each band and different modulation.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

CDMA2000 BC0			
Test Mode	CDMA 2000 1xRTT		
Test Status	RC3+SO32		
Channel	1013 (Low)	384 (Mid)	777 (High)
Frequency (MHz)	824.7	836.52	848.31
Conducted Power (dBm)	24.35	24.06	24.12
Conducted Power (Watts)	0.27	0.25	0.26

CDMA2000 BC0			
Test Mode	CDMA 2000 1xEV-DO Rev. 0		
Test Status	RTAP 153.6K		
Channel	1013 (Low)	384 (Mid)	777 (High)
Frequency (MHz)	824.7	836.52	848.31
Conducted Power (dBm)	24.60	24.23	24.38
Conducted Power (Watts)	0.29	0.26	0.27

CDMA2000 BC1			
Test Mode	CDMA 2000 1xRTT		
Test Status	RC3+SO32		
Channel	25 (Low)	600 (Mid)	1175 (High)
Frequency (MHz)	1851.25	1880	1908.75
Conducted Power (dBm)	24.52	24.38	24.51
Conducted Power (Watts)	0.28	0.27	0.28

CDMA2000 BC1			
Test Mode	CDMA 2000 1xEV-DO Rev. 0		
Test Status	RTAP 153.6K		
Channel	25 (Low)	600 (Mid)	1175 (High)
Frequency (MHz)	1851.25	1880	1908.75
Conducted Power (dBm)	24.69	24.55	24.65
Conducted Power (Watts)	0.29	0.29	0.29

3.2 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

3.2.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP/EIRP 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 and the EIRP of mobile transmitters are limited to 2 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 1.0 meter height in a fully anechoic chamber.
2. The EUT was set at 1.2 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/EIRP.
5. Taking the record of maximum ERP/EIRP.
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. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$

P_s (dBm) : Input power to substitution antenna.

G_s (dBi or dBd) : Substitution antenna Gain.

$E_t = R_t + AF$

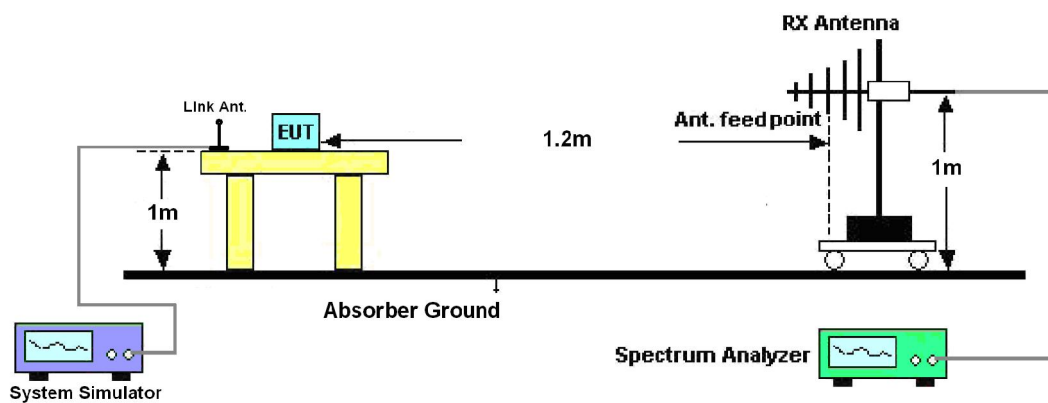
$E_s = R_s + AF$

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+SO32 Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-26.97	-48.12	0.00	-1.08	20.07	0.10
836.52	-28.95	-48.28	0.00	-0.93	18.40	0.07
848.31	-29.01	-48.35	0.00	-0.76	18.58	0.07
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-26.12	-47.97	0.00	-1.08	20.77	0.12
836.52	-27.90	-48.01	0.00	-0.93	19.18	0.08
848.31	-28.18	-48.05	0.00	-0.76	19.11	0.08

CDMA2000 BC0 1xEV-DO Rev. 0_RTAP 153.6K Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-27.83	-48.12	0.00	-1.08	19.21	0.08
836.52	-28.29	-48.28	0.00	-0.93	19.06	0.08
848.31	-28.80	-48.35	0.00	-0.76	18.79	0.08
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-30.58	-47.97	0.00	-1.08	16.31	0.04
836.52	-31.02	-48.01	0.00	-0.93	16.06	0.04
848.31	-31.52	-48.05	0.00	-0.76	15.77	0.04

3.2.6 Test Result of EIRP

CDMA2000 BC1 1xRTT_RC3+SO32 Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1851.25	-26.99	-51.88	0.00	1.96	26.85	0.48
1880.00	-28.03	-52.99	0.00	2.00	26.96	0.50
1908.75	-29.63	-54.28	0.00	1.98	26.63	0.46
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1851.25	-32.21	-52.13	0.00	1.96	21.88	0.15
1880.00	-34.00	-53.17	0.00	2.00	21.17	0.13
1908.75	-35.97	-54.13	0.00	1.98	20.14	0.10

CDMA2000 BC1 1xEV-DO Rev. 0_RTAP 153.6K Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1851.25	-32.91	-51.88	0.00	1.96	20.93	0.12
1880.00	-33.02	-52.99	0.00	2.00	21.97	0.16
1908.75	-33.44	-54.28	0.00	1.98	22.82	0.19
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1851.25	-34.59	-52.13	0.00	1.96	19.50	0.09
1880.00	-34.54	-53.17	0.00	2.00	20.63	0.12
1908.75	-34.96	-54.13	0.00	1.98	21.15	0.13

3.3 Occupied Bandwidth Measurement

3.3.1 Description of Occupied Bandwidth Measurement

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.

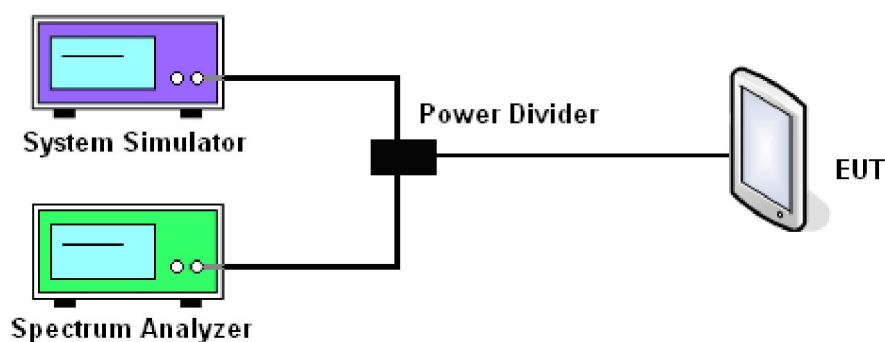
3.3.2 Measuring Instruments

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 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers were measured.

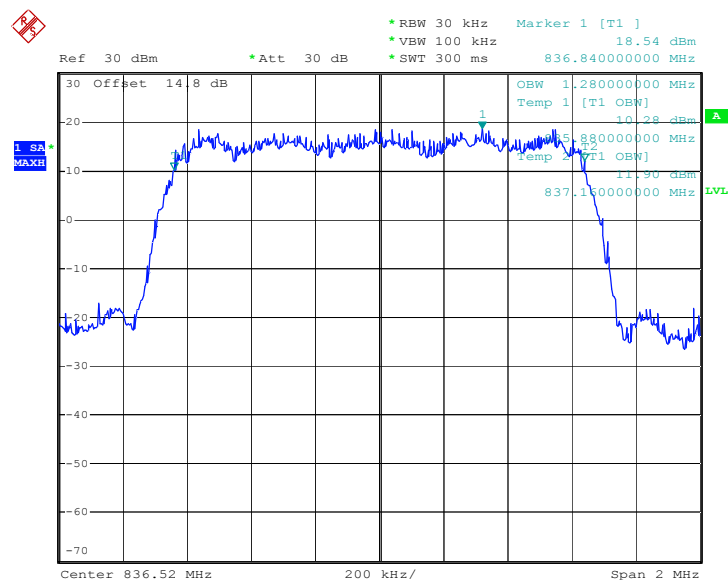
3.3.4 Test Setup



3.3.5 Test Result (Plots) of Occupied Bandwidth

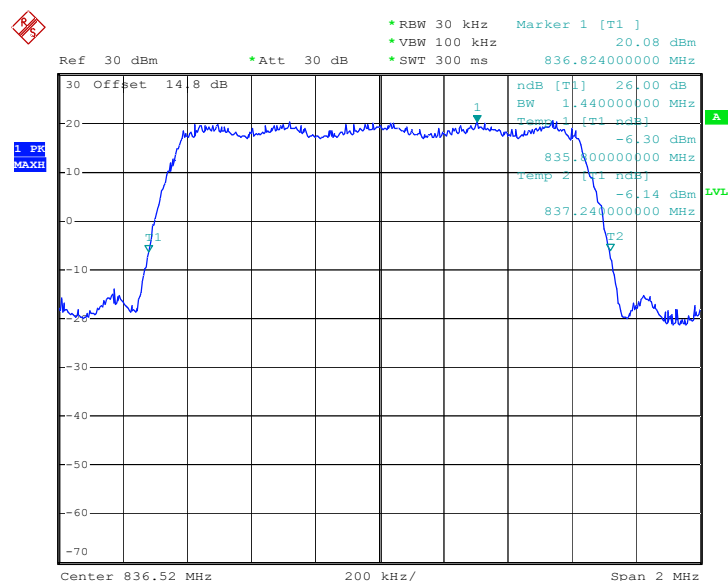
Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32		

99% Occupied Bandwidth Plot on Channel 384



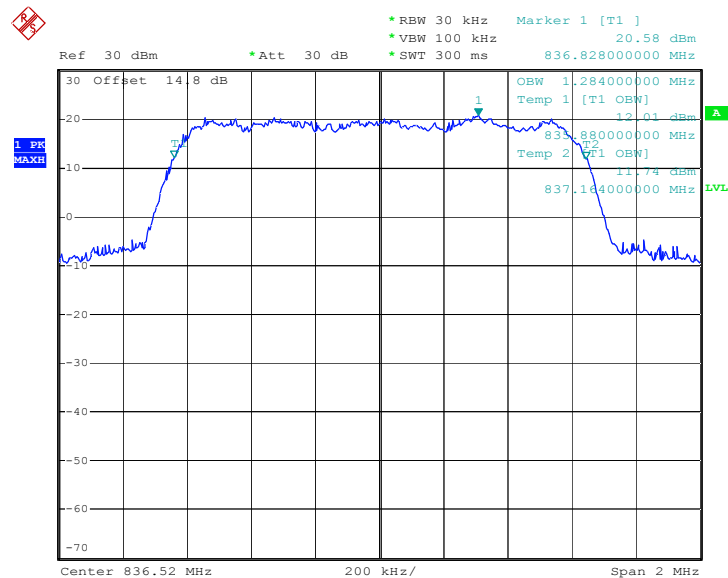
Date: 8.FEB.2012 21:18:47

26dB Bandwidth Plot on Channel 384

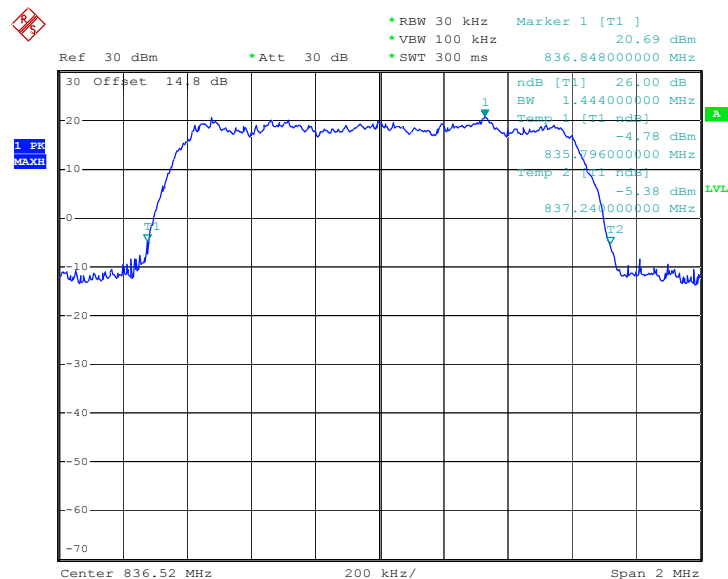


Date: 8.FEB.2012 21:16:30

Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K		

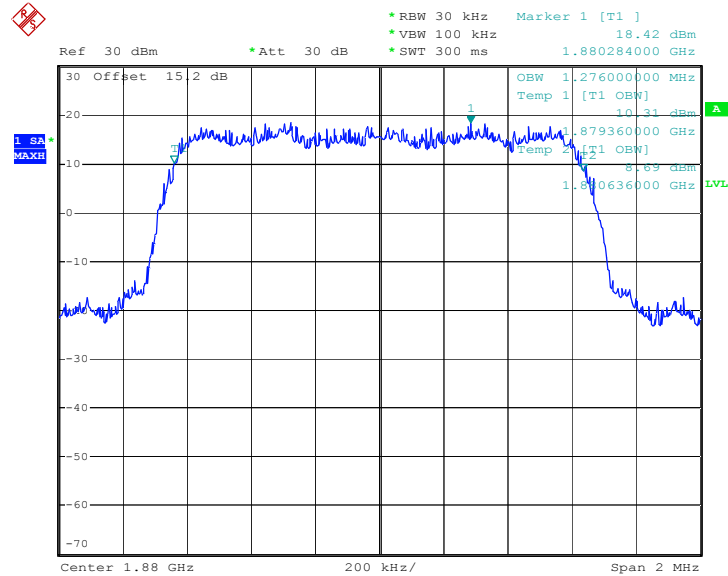
99% Occupied Bandwidth Plot on Channel 384


Date: 13.MAR.2012 16:03:10

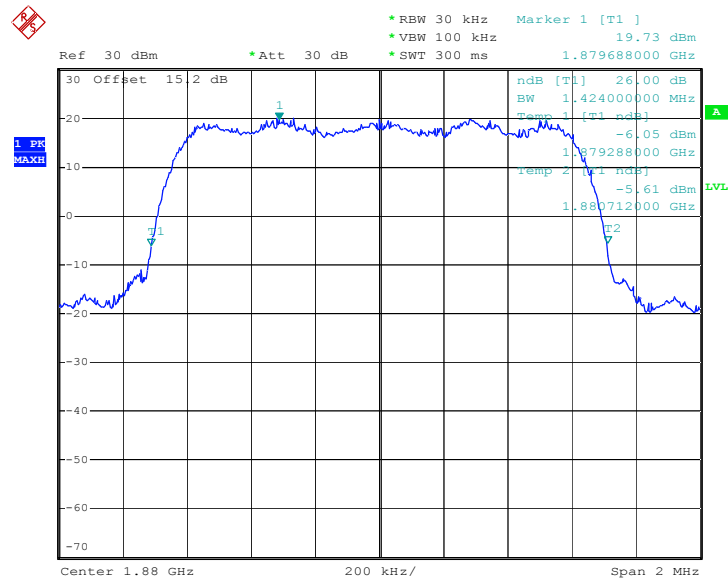
26dB Bandwidth Plot on Channel 384


Date: 13.MAR.2012 14:20:06

Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32		

99% Occupied Bandwidth Plot on Channel 600


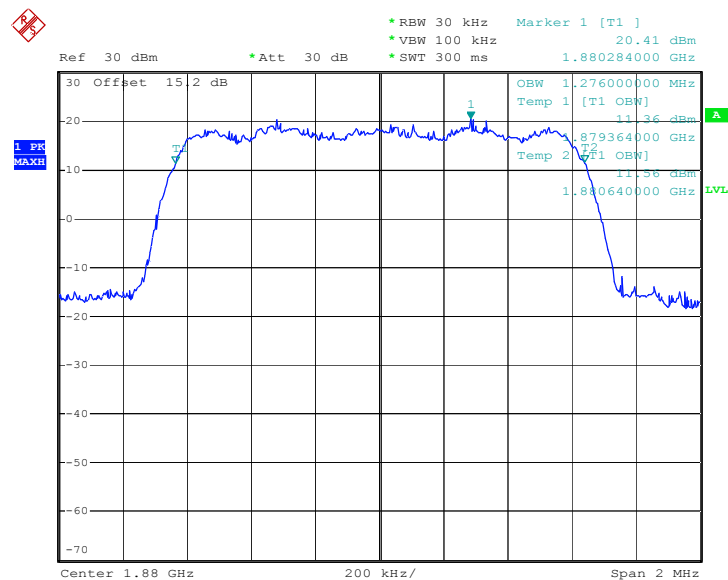
Date: 8.FEB.2012 22:00:37

26dB Bandwidth Plot on Channel 600


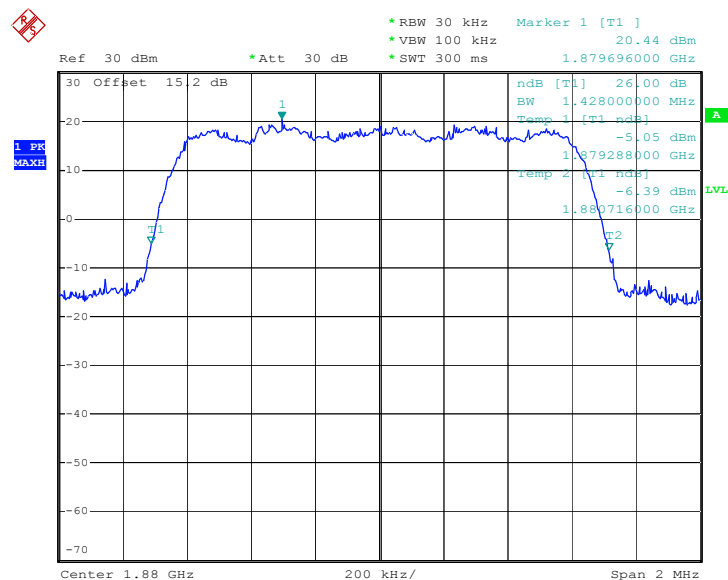
Date: 8.FEB.2012 22:01:33



Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K		

99% Occupied Bandwidth Plot on Channel 600

Date: 13.MAR.2012 17:12:23

26dB Bandwidth Plot on Channel 600

Date: 13.MAR.2012 17:08:47

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

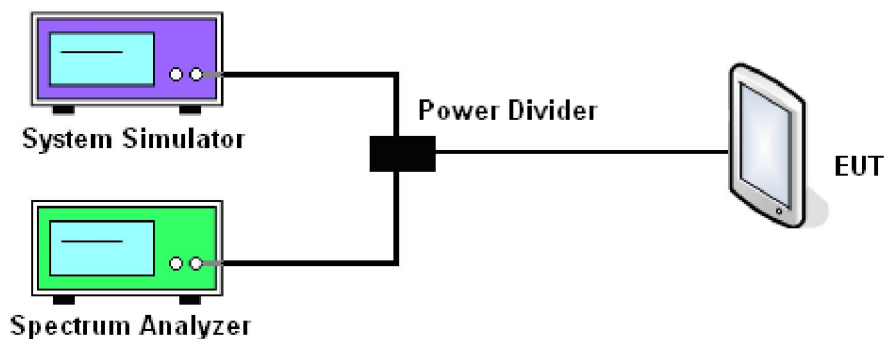
See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly $BW/100$.
3. The RBW was replaced by 10 kHz, slightly smaller than the value in (2), 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.

3.4.4 Test Setup

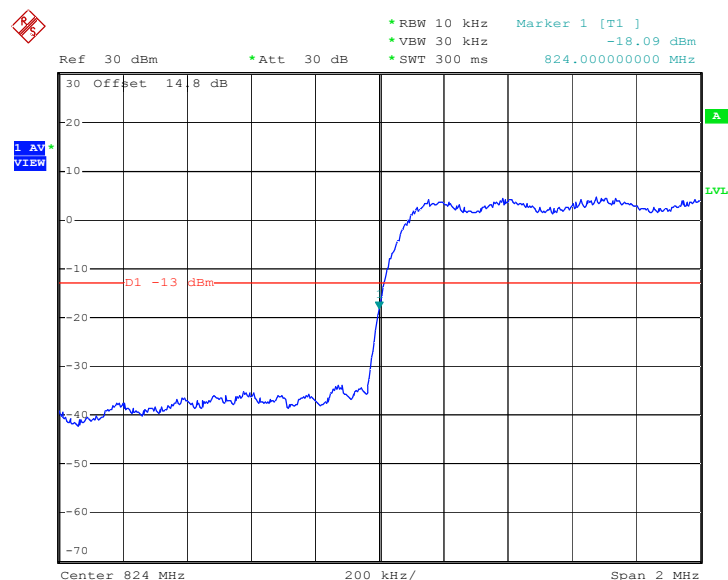
<Conducted Band Edge >



3.4.5 Test Result (Plots) of Conducted Band Edge

Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32	26dB Bandwidth:	1.428MHz
Correction Factor:	1.58dB	Measurement Value:	-18.09dBm
Band Edge:	-16.11dBm		

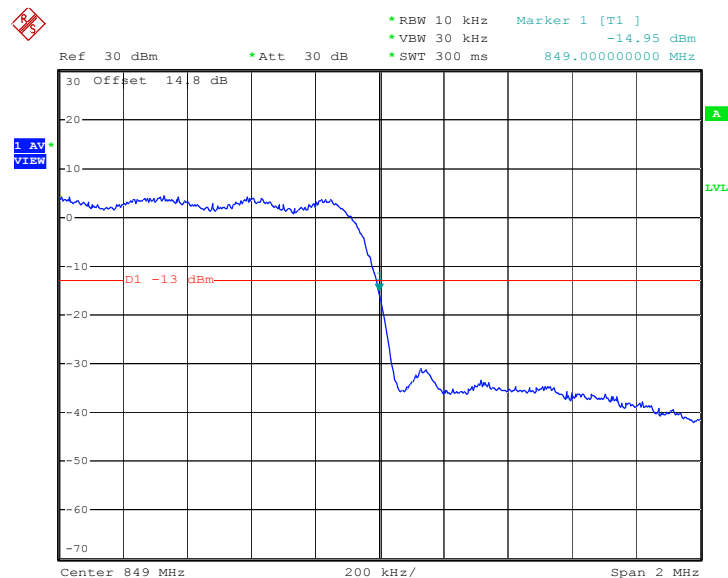
Lower Band Edge Plot on Channel 1013



Date: 8.FEB.2012 21:10:59

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

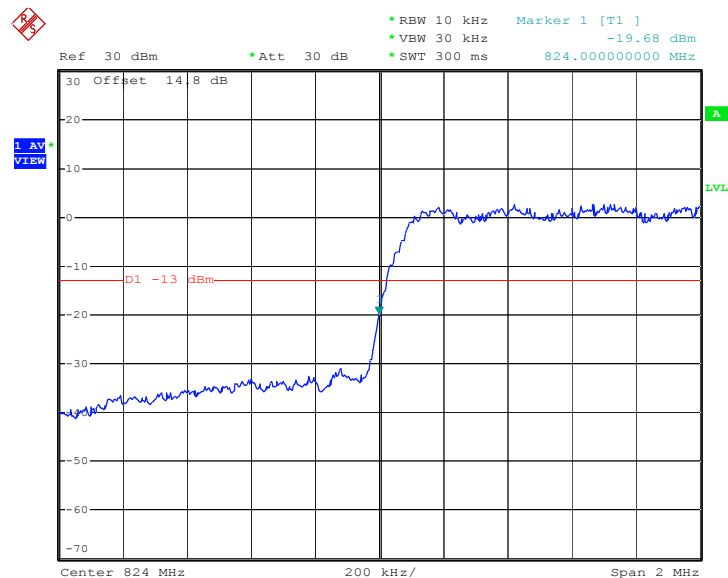
Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32	26dB Bandwidth:	1.428MHz
Correction Factor:	1.58dB	Measurement Value:	-14.95dBm
Band Edge:	-13.37dBm		

Higher Band Edge Plot on Channel 777


Date: 8.FEB.2012 20:59:52

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

Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	26dB Bandwidth:	1.440MHz
Correction Factor:	1.60dB	Measurement Value:	-19.68dBm
Band Edge:	-18.12dBm		

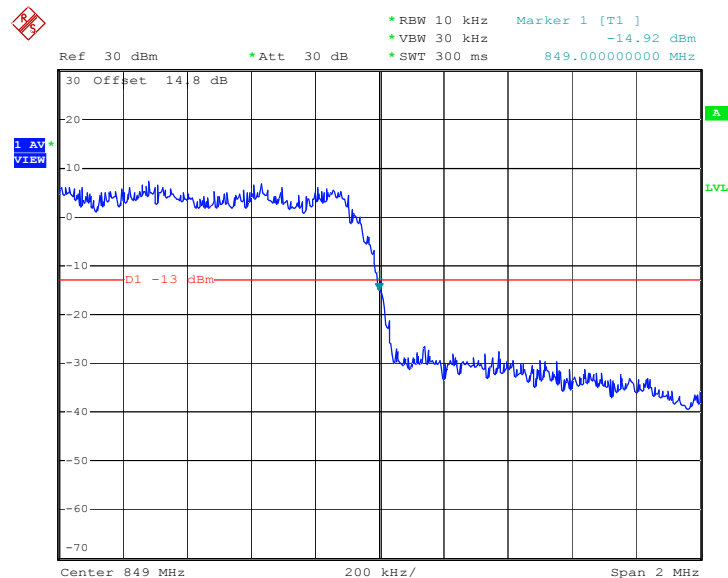
Lower Band Edge Plot on Channel 1013


Date: 13.MAR.2012 14:04:18

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

Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	26dB Bandwidth:	1.440MHz
Correction Factor:	1.60dB	Measurement Value:	-14.92dBm
Band Edge:	-13.02dBm		

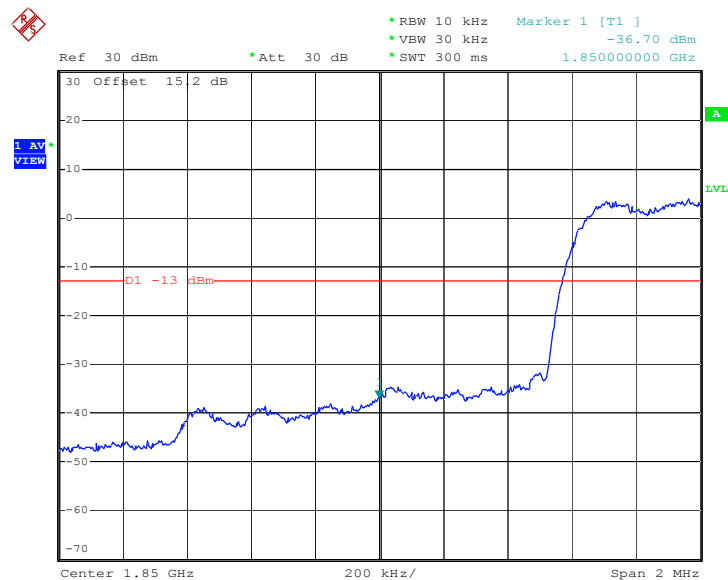
Higher Band Edge Plot on Channel 777



Date: 13.MAR.2012 14:09:07

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

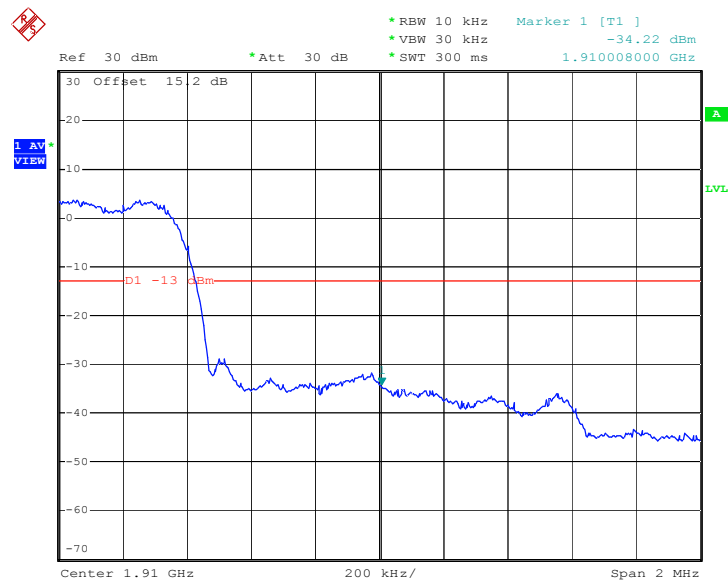
Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32	26dB Bandwidth:	1.420MHz
Correction Factor:	1.54dB	Measurement Value:	-36.70dBm
Band Edge:	-35.13dBm		

Lower Band Edge Plot on Channel 25


Date: 8.FEB.2012 22:08:34

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

Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32	26dB Bandwidth:	1.420MHz
Correction Factor:	1.54dB	Measurement Value:	-34.22dBm
Band Edge:	-33.29dBm		

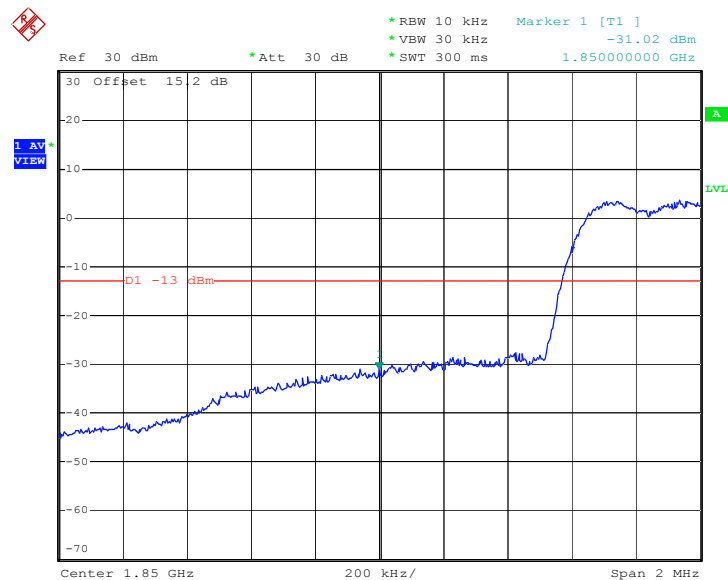
Higher Band Edge Plot on Channel 1175


Date: 8.FEB.2012 22:13:39

1. *Correction Factor(dB)= 10log(1% Emission BW/RBW)*
2. *Band Edge= Measurement Value + Correction Factor(dB)*

Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	26dB Bandwidth:	1.436MHz
Correction Factor:	1.57dB	Measurement Value:	-31.02dBm
Band Edge:	-30.25dBm		

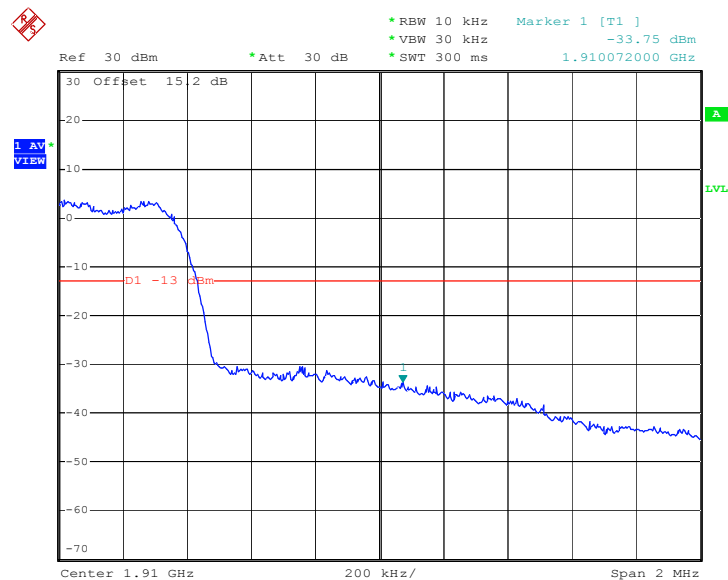
Lower Band Edge Plot on Channel 25



Date: 13.MAR.2012 17:03:45

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

Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	26dB Bandwidth:	1.428MHz
Correction Factor:	1.57dB	Measurement Value:	-33.75dBm
Band Edge:	-32.31dBm		

Higher Band Edge Plot on Channel 1175


Date: 13.MAR.2012 17:19:14

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

3.5 Conducted 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.

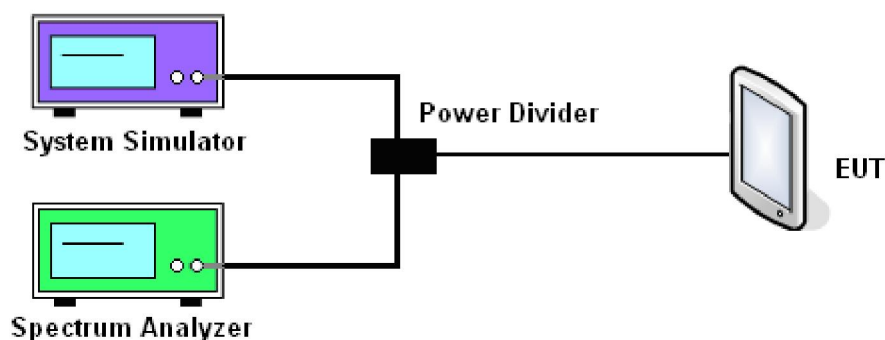
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

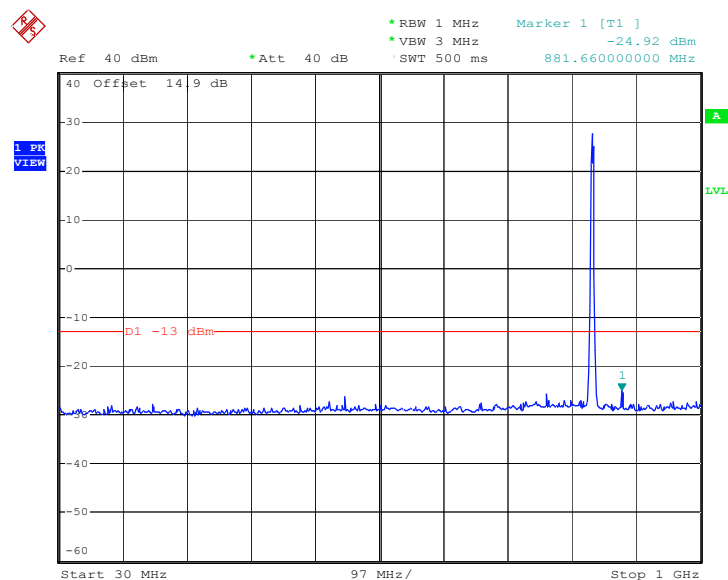
1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.

3.5.4 Test Setup

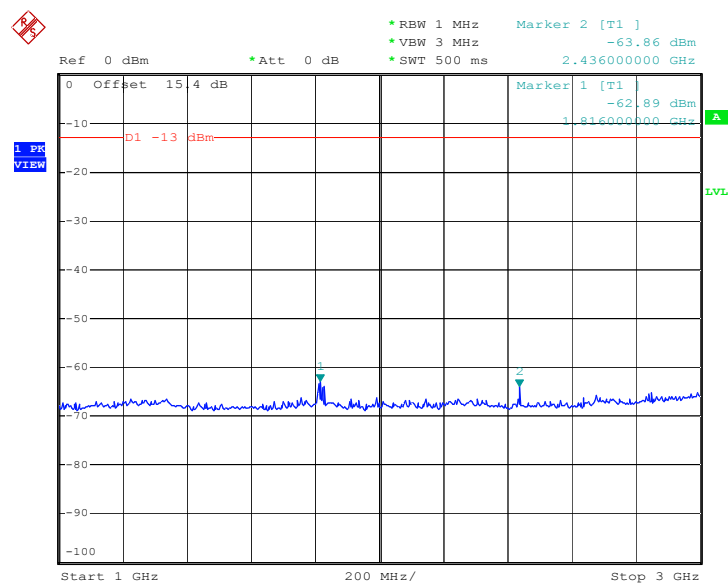


3.5.5 Test Result (Plots) of Conducted Emission

Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32		

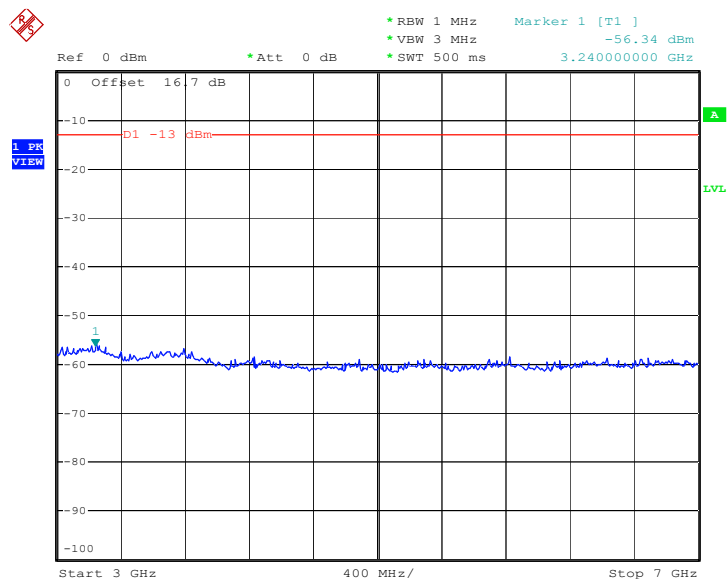
Conducted Emission Plot between 30MHz ~ 1GHz


Date: 8.FEB.2012 21:34:02

Conducted Emission Plot between 1GHz ~ 3GHz


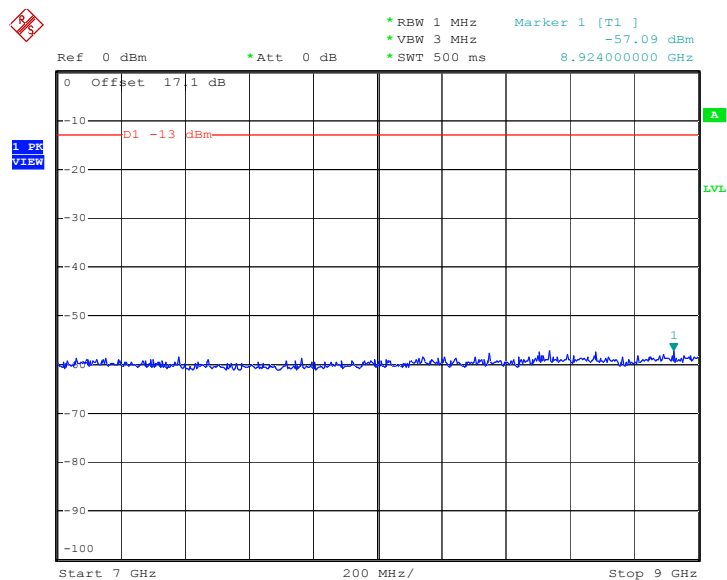
Date: 8.FEB.2012 21:40:52

Conducted Emission Plot between 3GHz ~ 7GHz



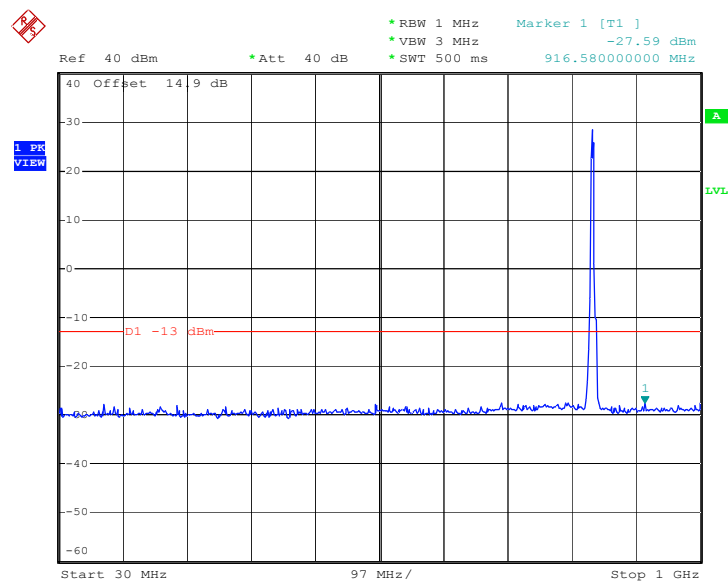
Date: 8.FEB.2012 21:40:03

Conducted Emission Plot between 7GHz ~ 9GHz

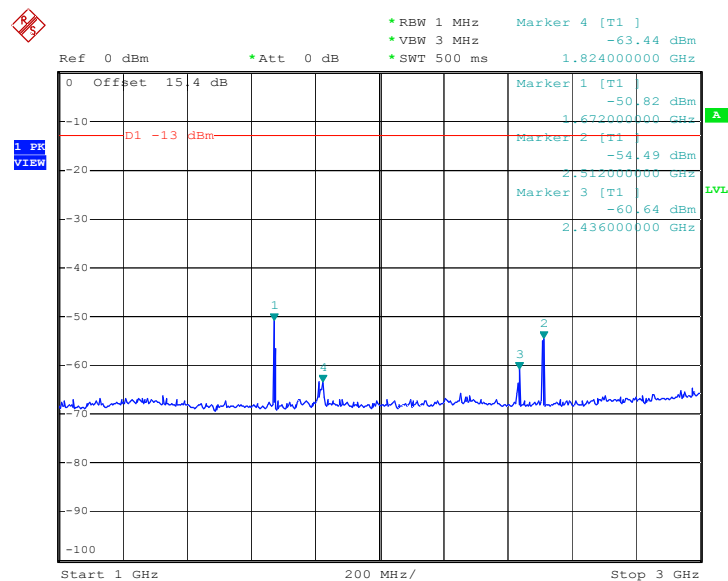


Date: 8.FEB.2012 21:37:23

Band :	CDMA2000 BC0	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K		

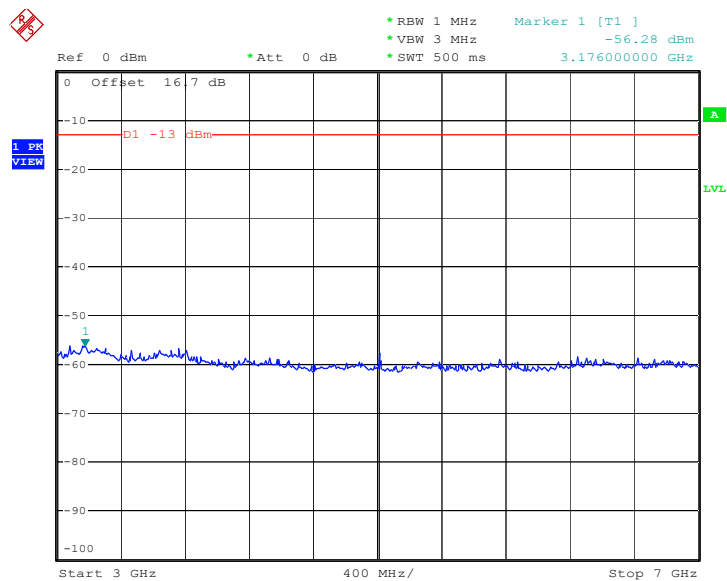
Conducted Emission Plot between 30MHz ~ 1GHz


Date: 13.MAR.2012 16:10:16

Conducted Emission Plot between 1GHz ~ 3GHz


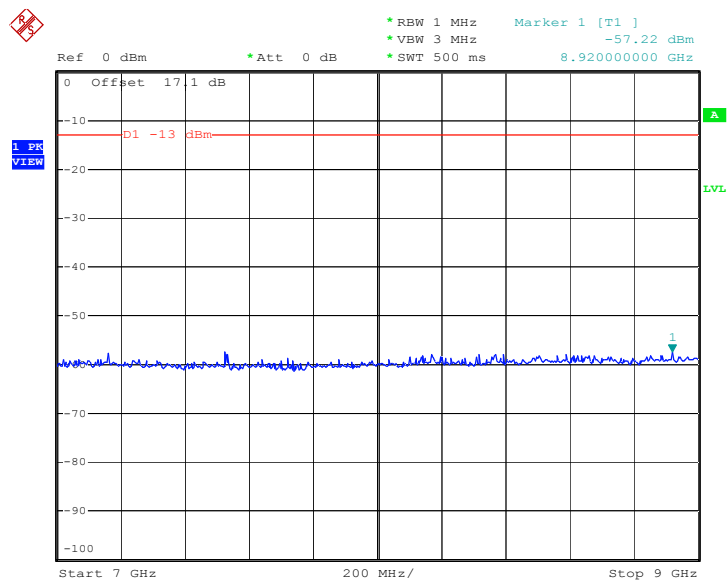
Date: 13.MAR.2012 16:12:12

Conducted Emission Plot between 3GHz ~ 7GHz



Date: 13.MAR.2012 16:13:02

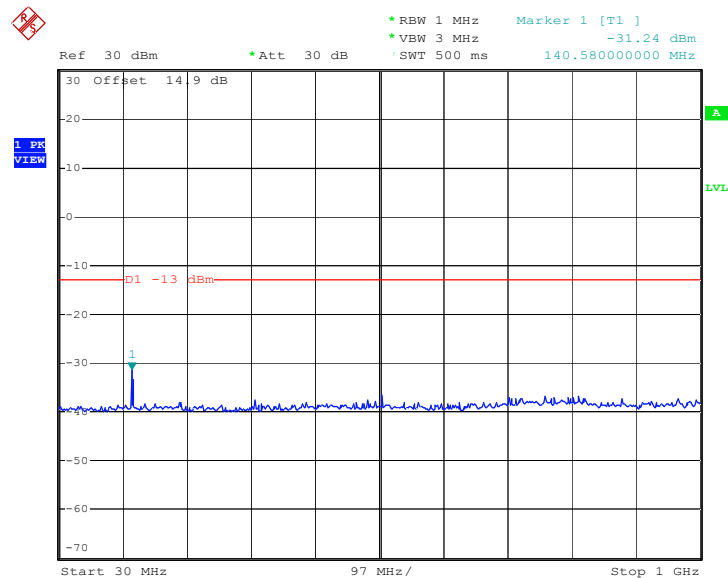
Conducted Emission Plot between 7GHz ~ 9GHz



Date: 13.MAR.2012 16:13:36

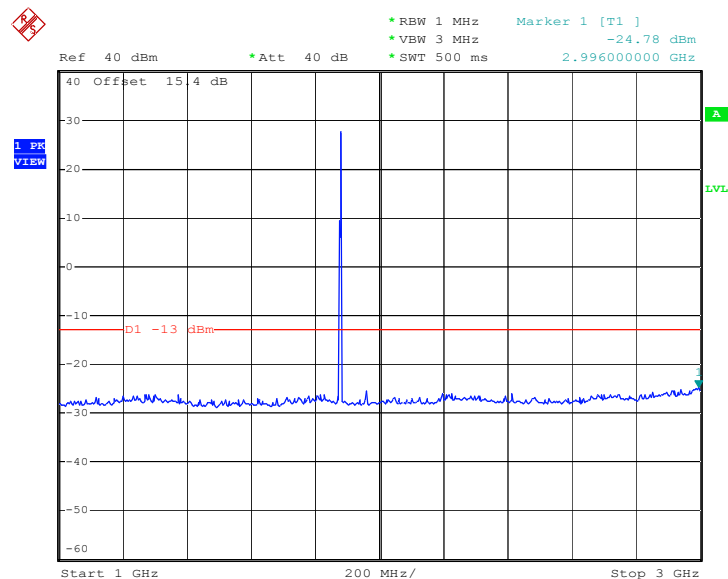
Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xRTT_RC3+SO32		

Conducted Emission Plot between 30MHz ~ 1GHz

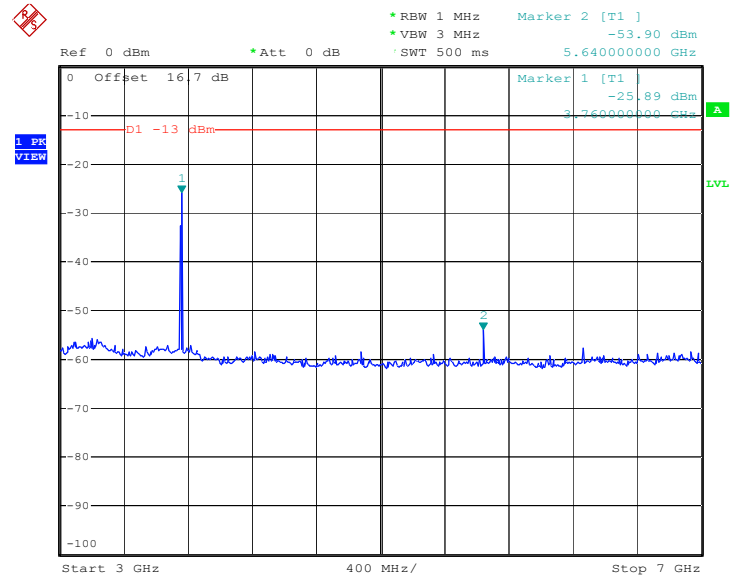


Date: 8.FEB.2012 21:48:08

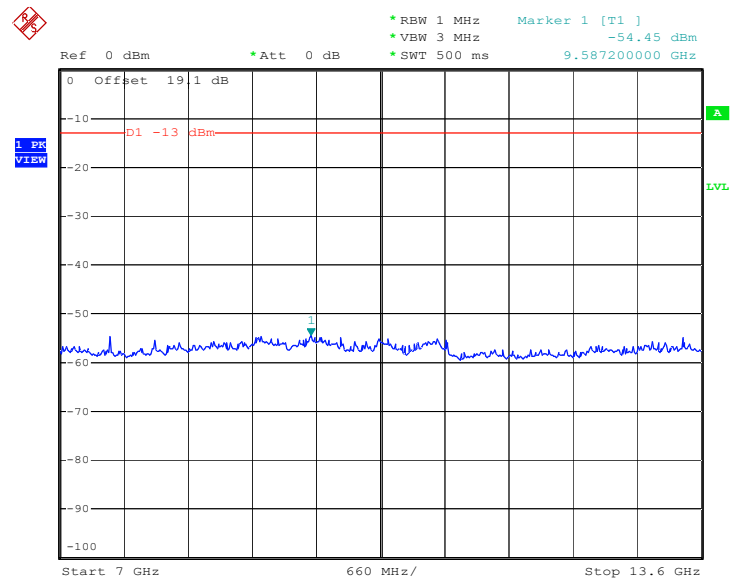
Conducted Emission Plot between 1GHz ~ 3GHz



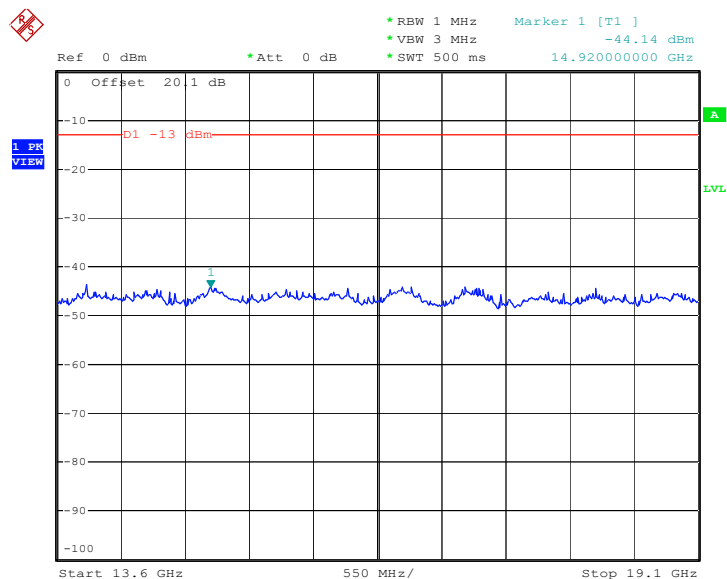
Date: 8.FEB.2012 21:49:18

Conducted Emission Plot between 3GHz ~ 7GHz


Date: 8.FEB.2012 21:50:36

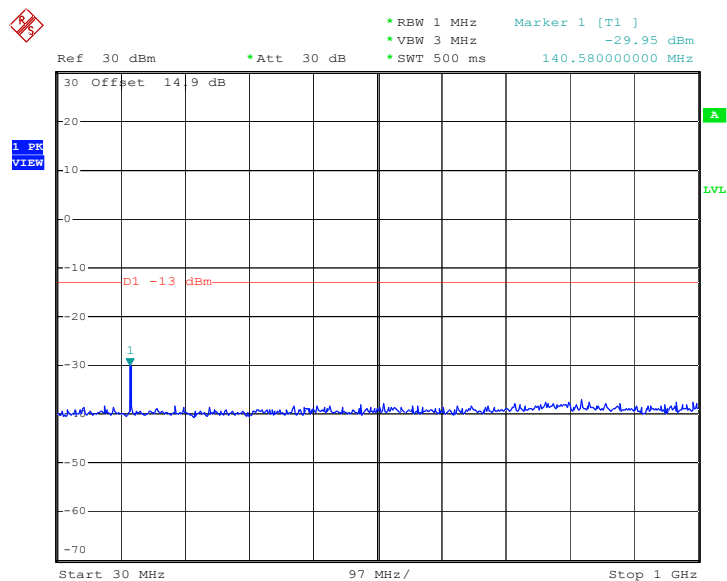
Conducted Emission Plot between 7GHz ~ 13.6GHz


Date: 8.FEB.2012 21:51:24

Conducted Emission Plot between 13.6GHz ~ 19.1GHz


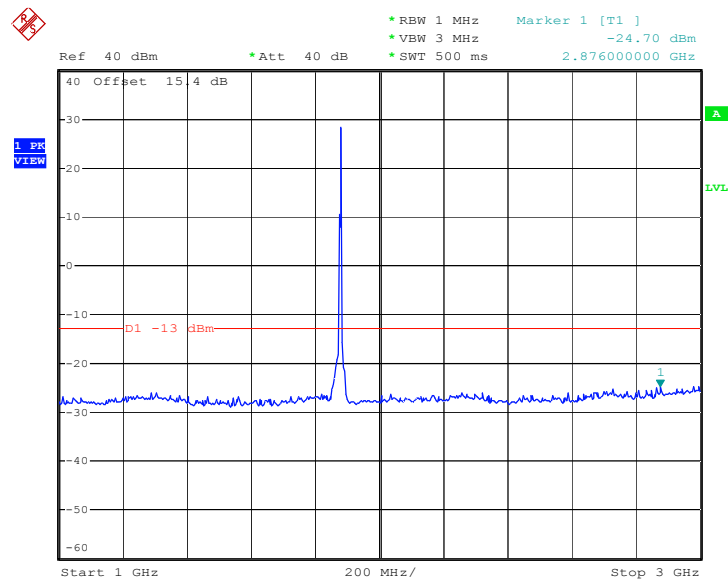
Date: 8.FEB.2012 21:52:07

Band :	CDMA2000 BC1	Power Stage :	High
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K		

Conducted Emission Plot between 30MHz ~ 1GHz


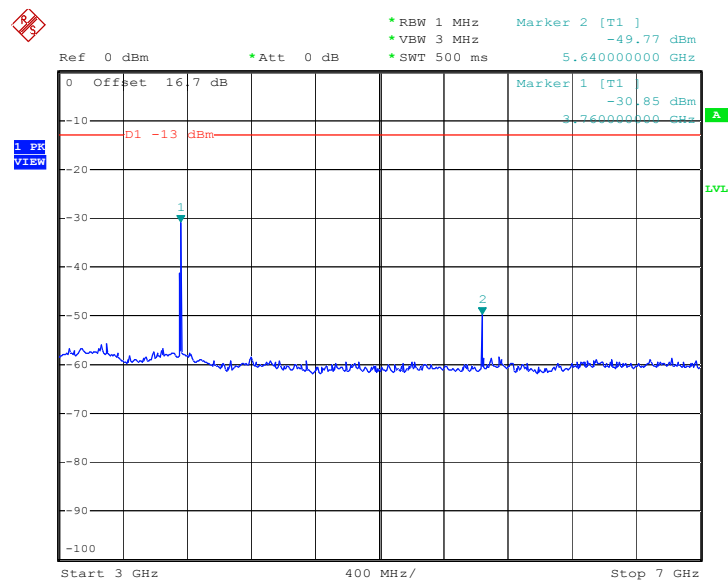
Date: 13.MAR.2012 17:20:40

Conducted Emission Plot between 1GHz ~ 3GHz

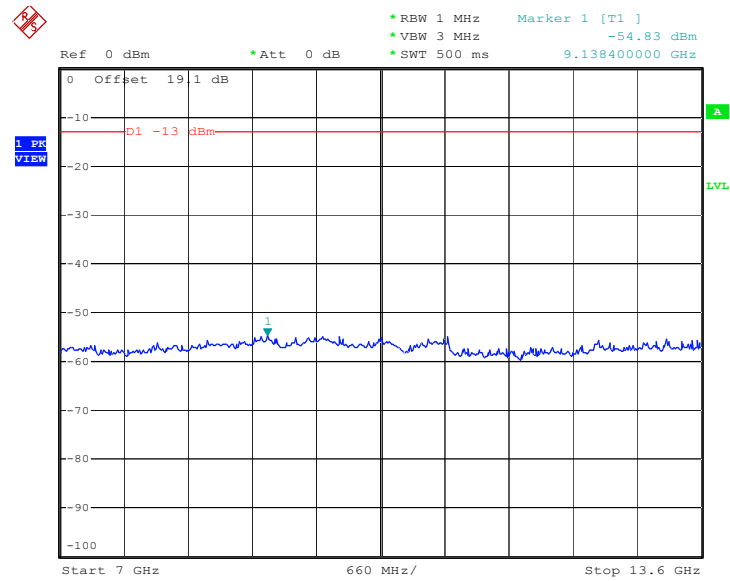


Date: 13.MAR.2012 17:21:45

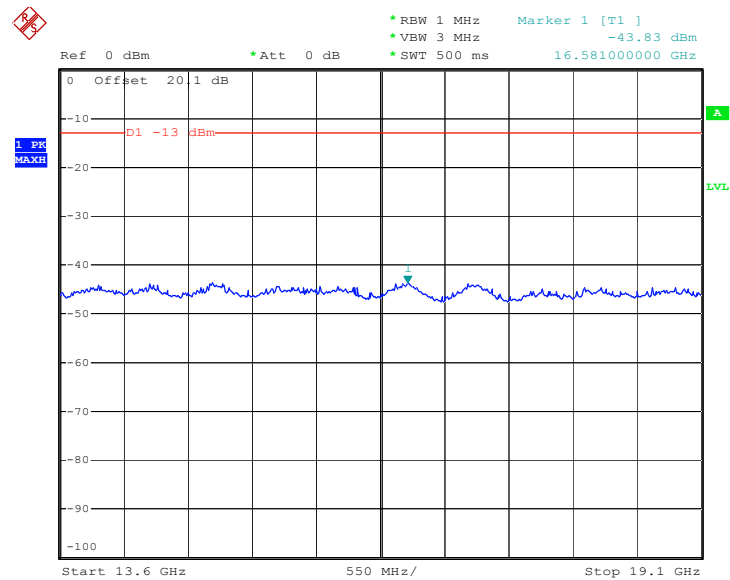
Conducted Emission Plot between 3GHz ~ 7GHz



Date: 13.MAR.2012 17:22:40

Conducted Emission Plot between 7GHz ~ 13.6GHz


Date: 13.MAR.2012 17:23:32

Conducted Emission Plot between 13.6GHz ~ 19.1GHz


Date: 13.MAR.2012 17:25:49

3.6 Field Strength of Spurious Radiation Measurement

3.6.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. 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.

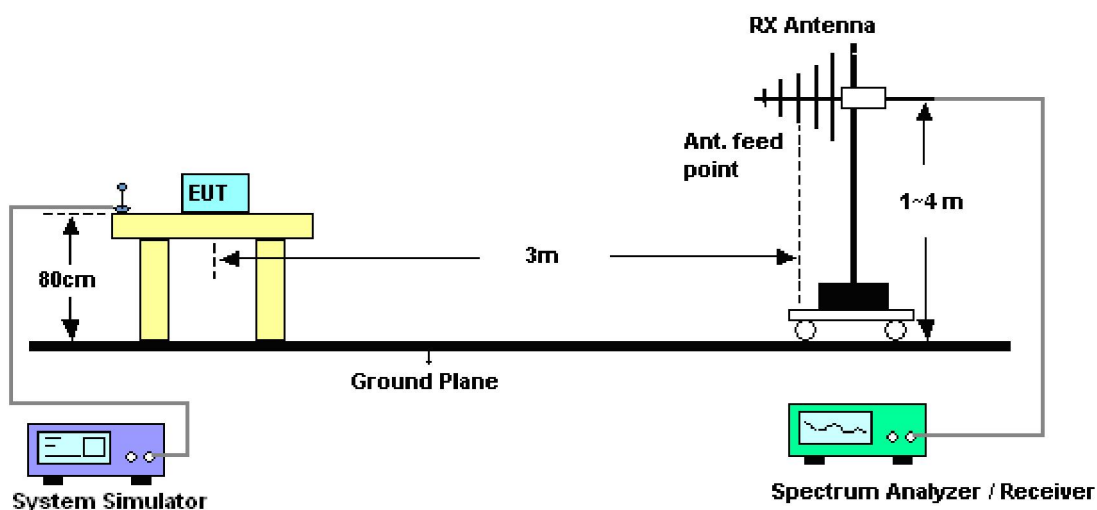
3.6.2 Measuring Instruments

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 about 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, Sweep = 500ms, 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. $\text{ERP (dBm)} = \text{EIRP} - 2.15$

3.6.4 Test Setup

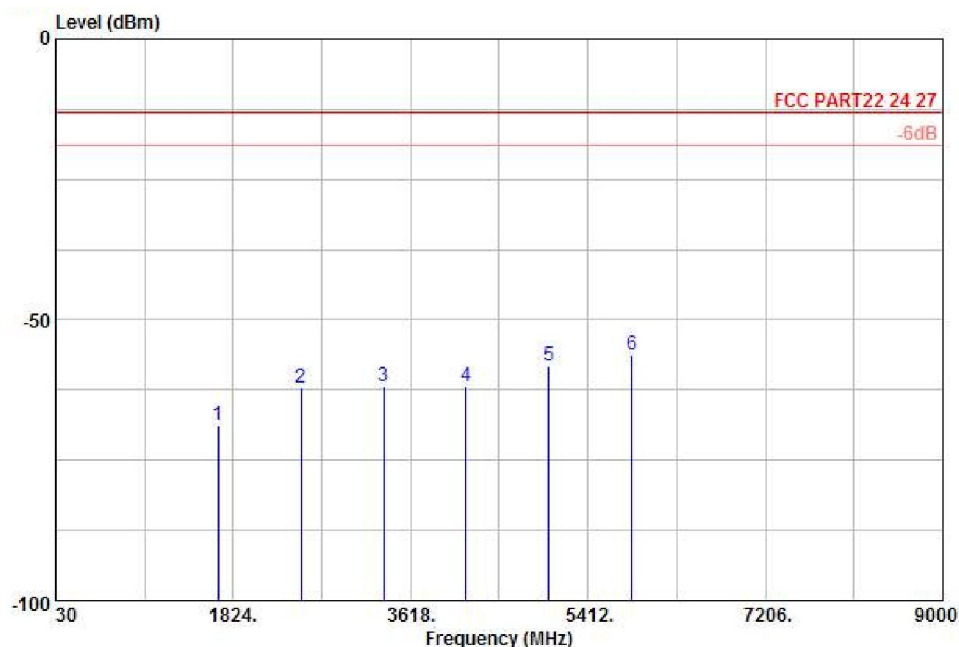


3.6.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

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

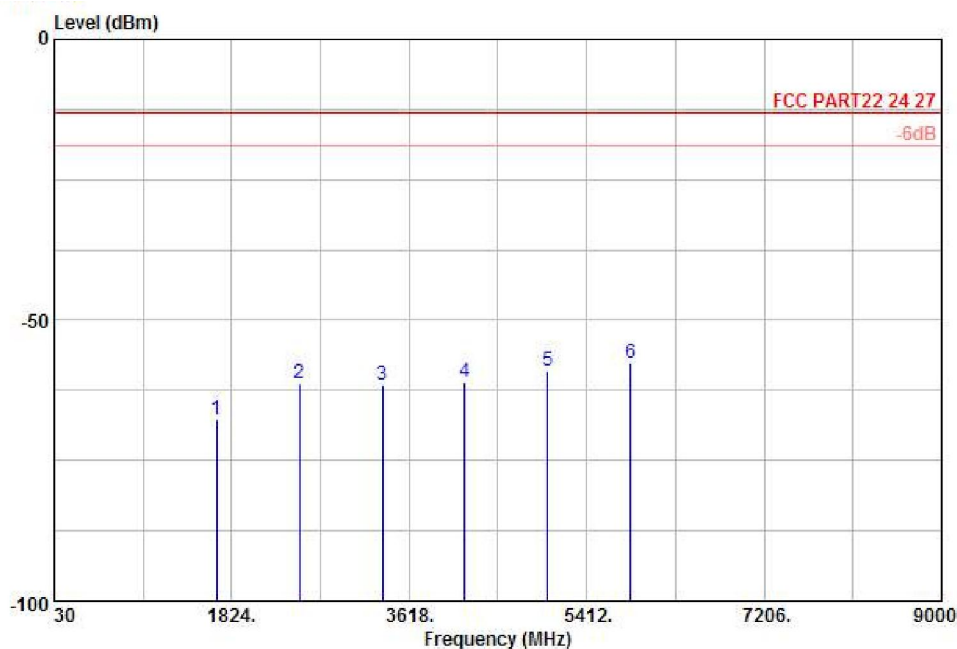
Band :	CDMA2000 BC0	Temperature :	20~21°C
Test Mode :	1xRTT_RC3+SO32	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
 Condition: FCC PART22 24 27 HF EIRP FACTOR-09020 HORIZONTAL
 Project : (FG) 190807

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	-68.69	-13	-55.69	-64.47	-69.34	0.57	3.37	H	Pass
2509	-62.22	-13	-49.22	-64.47	-64.45	0.78	5.16	H	Pass
3345	-61.75	-13	-48.75	-63.69	-65.39	0.87	6.66	H	Pass
4182	-61.87	-13	-48.87	-64.61	-66.46	0.97	7.71	H	Pass
5018	-58.33	-13	-45.33	-64.53	-64.00	1.09	8.91	H	Pass
5854	-56.36	-13	-43.36	-65.07	-62.80	1.22	9.81	H	Pass

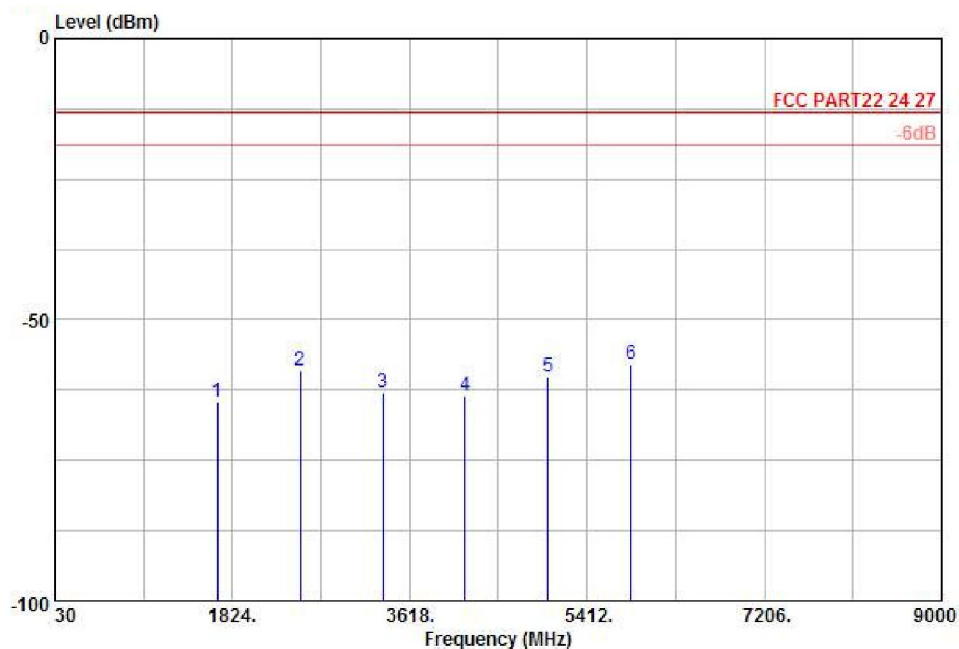
Band :	CDMA2000 BC0	Temperature :	20~21°C
Test Mode :	1xRTT_RC3+SO32	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 24 27 HF EIRP FACTOR-09020 VERTICAL
Project : (FG) 190807

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	-67.61	-13	-54.61	-63.26	-68.26	0.57	3.37	V	Pass
2509	-61.39	-13	-48.39	-64.50	-63.62	0.78	5.16	V	Pass
3345	-61.49	-13	-48.49	-63.47	-65.13	0.87	6.66	V	Pass
4182	-60.91	-13	-47.91	-64.75	-65.50	0.97	7.71	V	Pass
5018	-59.18	-13	-46.18	-64.12	-64.85	1.09	8.91	V	Pass
5854	-57.78	-13	-44.78	-65.77	-64.22	1.22	9.81	V	Pass

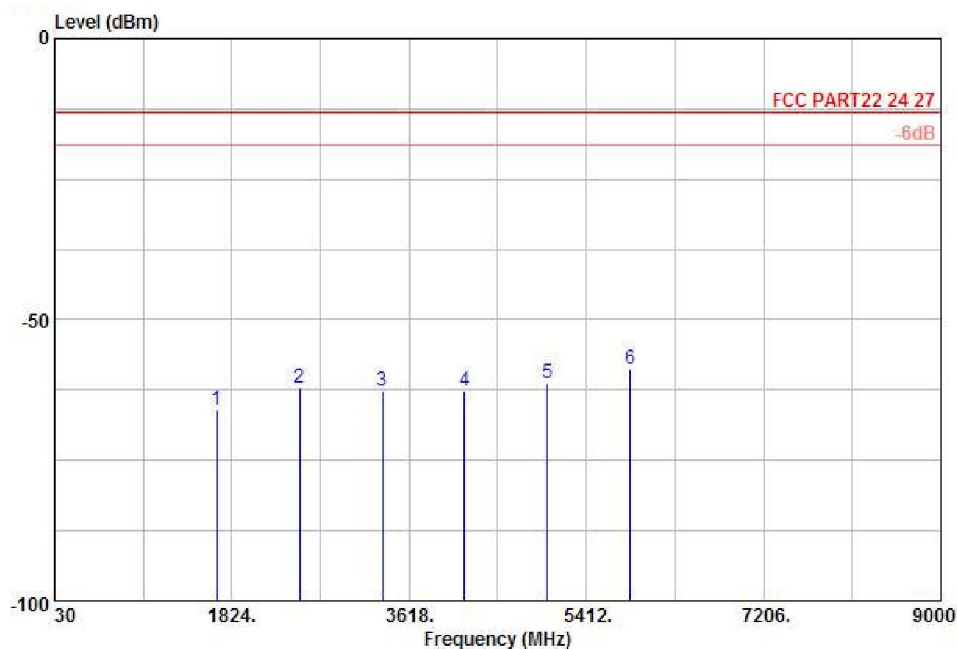
Band :	CDMA2000 BC0	Temperature :	20~21°C
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 24 27 HF EIRP FACTOR-09020 HORIZONTAL
Project : (FG) 190807

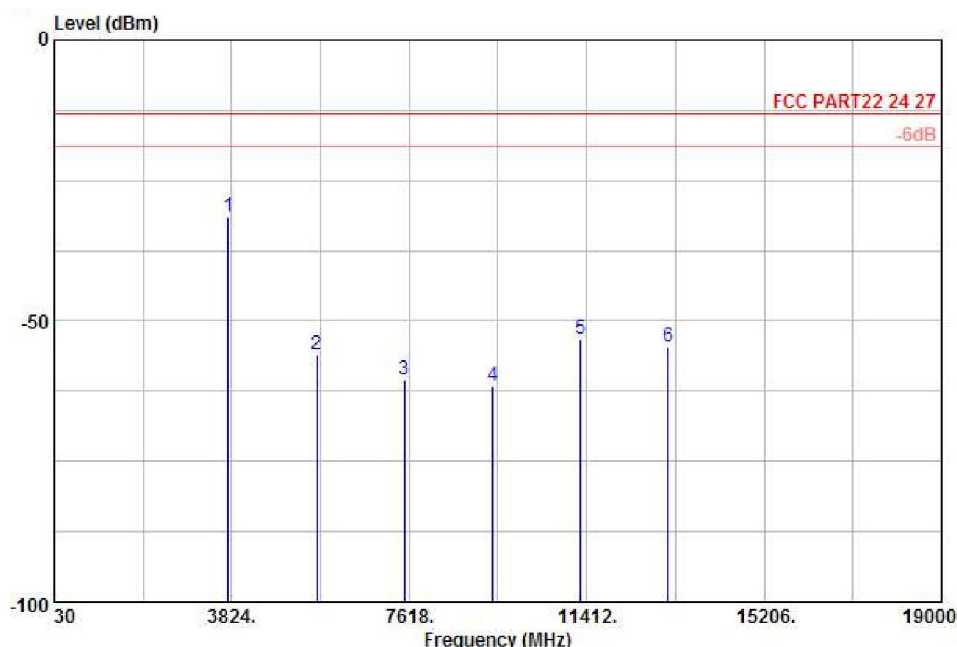
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-64.49	-13	-51.49	-60.27	-65.14	0.57	3.37	H	Pass
2510	-59.18	-13	-46.18	-61.43	-61.41	0.78	5.16	H	Pass
3345	-62.86	-13	-49.86	-64.80	-66.50	0.87	6.66	H	Pass
4182	-63.48	-13	-50.48	-66.22	-68.07	0.97	7.71	H	Pass
5018	-60.03	-13	-47.03	-66.23	-65.70	1.09	8.91	H	Pass
5854	-57.88	-13	-44.88	-66.59	-64.32	1.22	9.81	H	Pass

Band :	CDMA2000 BC0	Temperature :	20~21°C
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-66.09	-13	-53.09	-61.74	-66.74	0.57	3.37	V	Pass
2510	-62.09	-13	-49.09	-65.20	-64.32	0.78	5.16	V	Pass
3345	-62.69	-13	-49.69	-64.67	-66.33	0.87	6.66	V	Pass
4182	-62.71	-13	-49.71	-66.55	-67.30	0.97	7.71	V	Pass
5018	-61.33	-13	-48.33	-66.27	-67.00	1.09	8.91	V	Pass
5854	-58.80	-13	-45.80	-66.79	-65.24	1.22	9.81	V	Pass

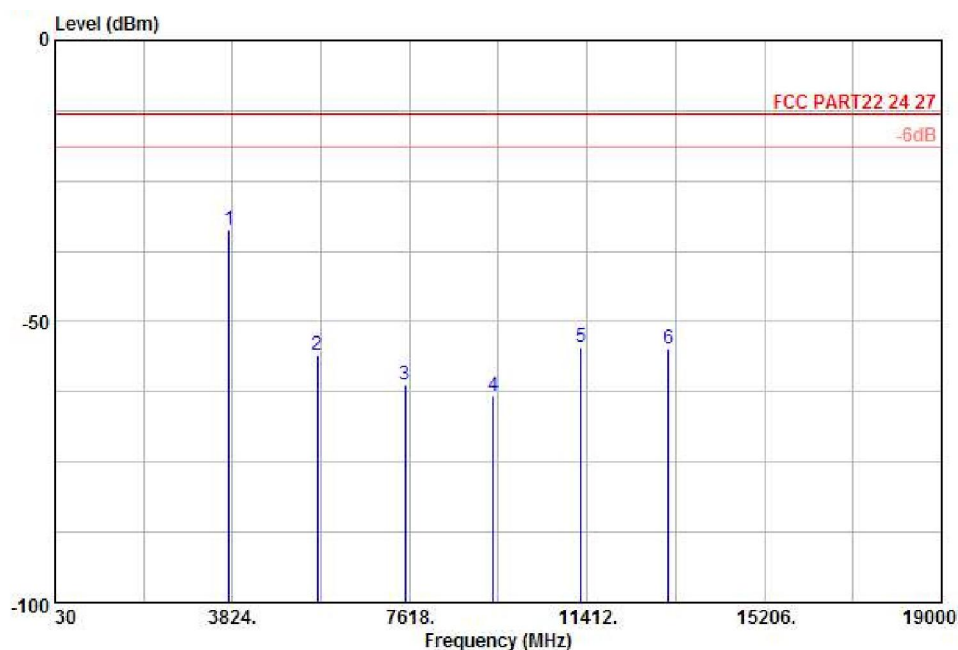
Band :	CDMA2000 BC1	Temperature :	20~21°C
Test Mode :	1xRTT_RC3+SO32	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 24 27 HF EIRP FACTOR-09020 HORIZONTAL
Project : (FG) 190807

Frequency (MHz)	EIRP (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
3760	-31.57	-13	-18.57	-39.17	-37.95	0.78	7.16	H	Pass
5640	-55.92	-13	-42.92	-60.10	-64.46	1.04	9.58	H	Pass
7520	-60.55	-13	-47.55	-65.68	-70.66	1.35	11.46	H	Pass
9400	-61.56	-13	-48.56	-64.82	-72.62	1.75	12.81	H	Pass
11280	-53.31	-13	-40.31	-64.80	-64.40	2	13.09	H	Pass
13160	-54.62	-13	-41.62	-65.92	-66.33	2.04	13.75	H	Pass

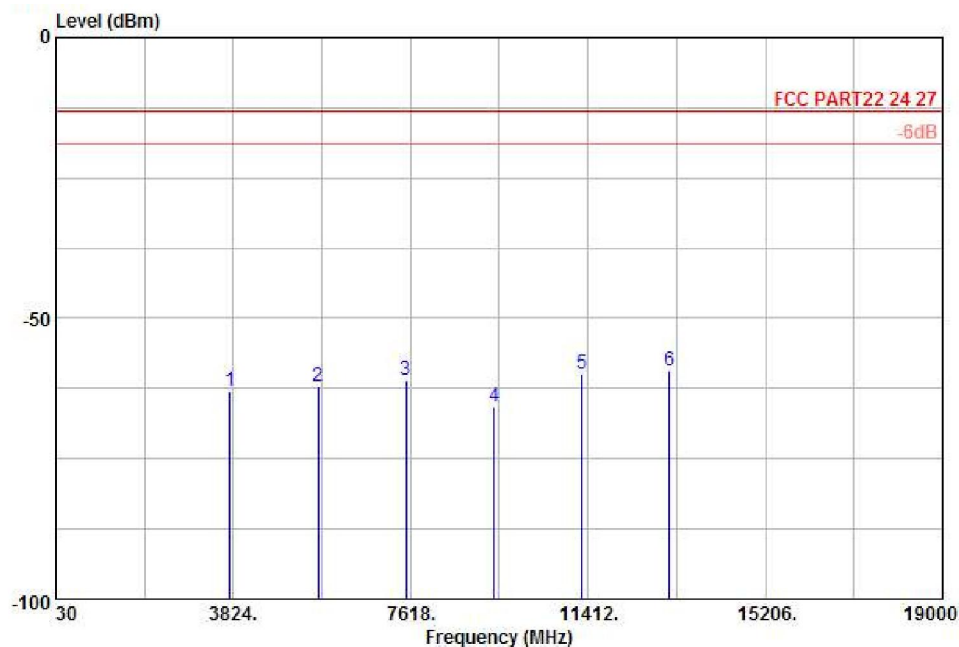
Band :	CDMA2000 BC1	Temperature :	20~21°C
Test Mode :	1xRTT_RC3+SO32	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 24 27 HF EIRP FACTOR-09020 VERTICAL
Project : (FG) 190807

Frequency (MHz)	EIRP (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
3760	-33.69	-13	-20.69	-44.38	-40.07	0.78	7.16	V	Pass
5640	-55.98	-13	-42.98	-59.2	-64.52	1.04	9.58	V	Pass
7520	-61.17	-13	-48.17	-65.66	-71.28	1.35	11.46	V	Pass
9400	-63.22	-13	-50.22	-64.44	-74.28	1.75	12.81	V	Pass
11280	-54.59	-13	-41.59	-65.83	-65.68	2	13.09	V	Pass
13160	-54.79	-13	-41.79	-65.98	-66.50	2.04	13.75	V	Pass

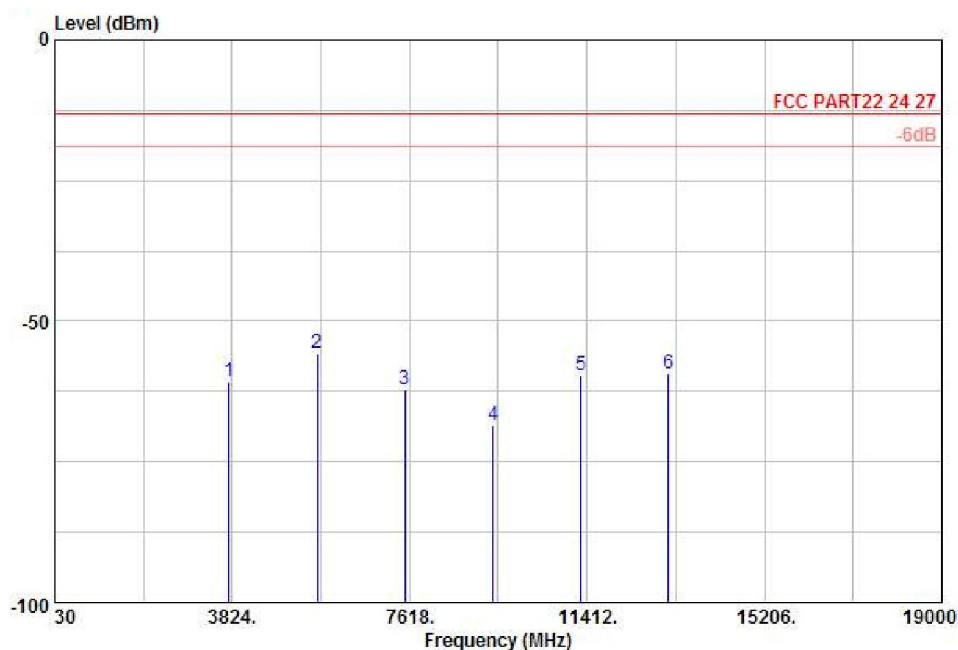
Band :	CDMA2000 BC1	Temperature :	20~21°C
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 24 27 HF EIRP FACTOR-09020 HORIZONTAL
Project : (FG) 190807

Frequency (MHz)	EIRP (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
3760	-62.95	-13	-49.95	-63.92	-69.33	0.78	7.16	H	Pass
5640	-62.13	-13	-49.13	-66.31	-70.67	1.04	9.58	H	Pass
7520	-61.14	-13	-48.14	-66.27	-71.25	1.35	11.46	H	Pass
9400	-65.82	-13	-52.82	-69.08	-76.88	1.75	12.81	H	Pass
11280	-60.01	-13	-47.01	-71.50	-71.10	2	13.09	H	Pass
13160	-59.23	-13	-46.23	-70.53	-70.94	2.04	13.75	H	Pass

Band :	CDMA2000 BC1	Temperature :	20~21°C
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	Relative Humidity :	41~42%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition: FCC PART22 24 27 HF EIRP FACTOR-09020 VERTICAL
Project : (FG) 190807

Frequency (MHz)	EIRP (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
3760	-60.70	-13	-47.70	-62.07	-67.08	0.78	7.16	V	Pass
5640	-55.64	-13	-42.64	-58.86	-64.18	1.04	9.58	V	Pass
7520	-62.21	-13	-49.21	-66.7	-72.32	1.35	11.46	V	Pass
9400	-68.44	-13	-55.44	-69.66	-79.50	1.75	12.81	V	Pass
11280	-59.51	-13	-46.51	-70.75	-70.60	2	13.09	V	Pass
13160	-59.30	-13	-46.30	-70.49	-71.01	2.04	13.75	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.

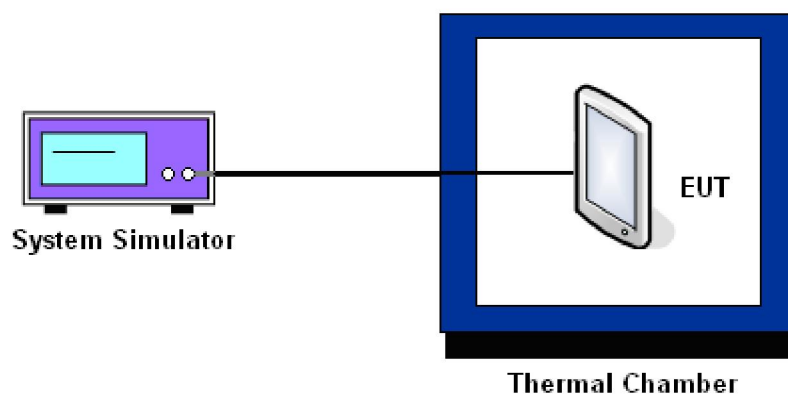
3.7.3 Test Procedures for Temperature Variation

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 for three hours. 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	Channel :	384
Test Mode :	1xRTT_RC3+SO32	Limit (ppm) :	2.5

Temperature (°C)	Freq. Dev. (Hz)	Deviation (ppm)	Result
-30	N/A	N/A	PASS
-20	N/A	N/A	
-10	6	0.01	
0	7	0.01	
10	-8	-0.01	
20	-6	-0.01	
30	-5	-0.01	
40	-7	-0.01	
50	8	0.01	
55	6	0.01	

Note: The manufacturer declared that the EUT could work properly between temperatures -10°C~55°C.

Band :	CDMA2000 BC0	Channel :	384
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	Limit (ppm) :	2.5

Temperature (°C)	Freq. Dev. (Hz)	Deviation (ppm)	Result
-30	N/A	N/A	PASS
-20	N/A	N/A	
-10	-9	-0.01	
0	-11	-0.01	
10	-8	-0.01	
20	-5	-0.01	
30	-7	-0.01	
40	-12	-0.01	
50	-15	-0.02	
55	-18	-0.02	

Note: The manufacturer declared that the EUT could work properly between temperatures -10°C~55°C.

Band :	CDMA2000 BC1	Channel :	600
Test Mode :	1xRTT_RC3+SO32	Limit (ppm) :	2.5

Temperature (°C)	Freq. Dev. (Hz)	Deviation (ppm)	Result
-30	N/A	N/A	PASS
-20	N/A	N/A	
-10	-12	-0.01	
0	-13	-0.01	
10	-11	-0.01	
20	-12	-0.01	
30	-15	-0.01	
40	13	0.01	
50	14	0.01	
55	12	0.01	

Note: The manufacturer declared that the EUT could work properly between temperatures -10°C~55°C.

Band :	CDMA2000 BC1	Channel :	600
Test Mode :	1xEV-DO Rev. 0_RTAP 153.6K	Limit (ppm) :	2.5

Temperature (°C)	Freq. Dev. (Hz)	Deviation (ppm)	Result
-30	N/A	N/A	PASS
-20	N/A	N/A	
-10	-15	-0.01	
0	-17	-0.01	
10	-13	-0.01	
20	-9	0.00	
30	-11	-0.01	
40	-13	-0.01	
50	-16	-0.01	
55	-19	-0.01	

Note: The manufacturer declared that the EUT could work properly between temperatures -10°C~55°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+SO32	3.7	-5	-0.01	2.5	PASS
		BEP	-8	-0.01		
		4.2	-7	-0.01		
	1xEV-DO Rev. 0_ RTAP 153.6K	3.7	5	0.01		
		BEP	-13	-0.02		
		4.2	-6	-0.01		
CDMA2000 BC1 CH600	1xRTT RC3+SO32	3.7	-10	-0.01	2.5	PASS
		BEP	-13	-0.01		
		4.2	-11	-0.01		
	1xEV-DO Rev. 0_ RTAP 153.6K	3.7	-6	0.00		
		BEP	-9	0.00		
		4.2	-12	-0.01		

Note :

1. Normal Voltage = 3.7V.
2. Battery End Point (BEP) = 3.5 V.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Mar. 13, 2012	Dec. 29, 2012	Conducted (TH01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 30, 2011	Mar. 13, 2012	Dec. 29, 2012	Conducted (TH01-KS)
DC Power Supply	TOPWARD	GPS-3030D	E1884515	N/A	Aug. 23, 2011	Mar. 13, 2012	Aug. 22, 2012	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	N/A	Dec. 30, 2011	Mar. 13, 2012	Dec. 29, 2012	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 09, 2011	Mar. 13, 2012	Nov. 08, 2012	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Mar. 13, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 08, 2011	Mar. 13, 2012	Dec. 07, 2012	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2012	Mar. 13, 2012	Jan. 05, 2013	Radiation (03CH01-KS)
Amplifier	Wireless	FPA-6592G	060007	30MHz~2GHz	Dec. 30, 2011	Mar. 13, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 30, 2011	Mar. 13, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701023	1GHz-18GHz	Nov. 07, 2011	Mar. 13, 2012	Nov. 06, 2012	Radiation (03CH01-KS)
SHE-EHF Horn	Schwarzbeck	BBHA9170	BBHA170249	15GHz-40GHz	Oct. 11, 2011	Mar. 13, 2012	Oct. 10, 2012	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/00	9GHz-30GHz	Jul. 28, 2011	Mar. 13, 2012	Jul. 27, 2012	Radiation (03CH01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 30, 2011	Mar. 13, 2012	Dec. 29, 2012	Radiation (03CH01-KS)

5 Uncertainty of Evaluation

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54		

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	± 0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	± 1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	± 0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	± 2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	± 1.50	Rectangular	0.87	1	0.87
Site Imperfection	± 2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\log(1-\Gamma_1\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				



Appendix A. Photographs of EUT

Please refer to Sporton report number EP190807 as below.