



FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E

TEST REPORT

For

Smart Phone

Trade Name: N/A

Model: LIBR100

Issued to

High Tech Computer Corp.
1F, No. 6-3, Baoqiang Rd., Xindian City,
Taipei County 231, Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc.
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TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION.....	3
2. EUT DESCRIPTION	4
3. TEST METHODOLOGY	5
3.1 EUT CONFIGURATION	5
3.2 EUT EXERCISE	5
3.3 GENERAL TEST PROCEDURES	5
3.4 DESCRIPTION OF TEST MODES	6
4. INSTRUMENT CALIBRATION.....	7
4.1 MEASURING INSTRUMENT CALIBRATION	7
4.2 MEASUREMENT EQUIPMENT USED	7
5. FACILITIES AND ACCREDITATIONS	8
5.1 FACILITIES	8
5.2 EQUIPMENT	8
5.3 TABLE OF ACCREDITATIONS AND LISTINGS	9
6. SETUP OF EQUIPMENT UNDER TEST	10
6.1 SETUP CONFIGURATION OF EUT	10
6.2 SUPPORT EQUIPMENT	10
7. FCC PART 22 & 24 REQUIREMENTS	11
7.1 AVERAGE POWER	11
7.2 ERP & EIRP MEASUREMENT	12
7.3 OCCUPIED BANDWIDTH MEASUREMENT	22
7.4 OUT OF BAND EMISSION AT ANTENNA TERMINALS	29
7.5 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	41
7.6 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT	67
7.7 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT	69
7.8 POWERLINE CONDUCTED EMISSIONS	71
APPENDIX 1 PHOTOGRAPHS OF TEST SETUP	74



1. TEST RESULT CERTIFICATION

Applicant: High Tech Computer Corp.
1F, No. 6-3, Baoqiang Rd., Xindian City,
Taipei County 231, Taiwan, R.O.C.

Equipment Under Test: Smart Phone

Trade Name: N/A

Model: LIBR100

Date of Test: July 11 ~ September 6, 2006

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E	No non-compliance noted

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI/TIA/EIA-603-A-2001 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 Subpart H and PART 24 Subpart E.

The test results of this report relate only to the tested sample identified in this report.

Approved by:

Reviewed by:

Johnny Liu
Section Manager
Compliance Certification Services Inc.

Amanda Wu
Section Manager
Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	Smart Phone
Trade Name	N/A
Model Number	LIBR100
Model Discrepancy	N/A
Power Supply	<p>Power Adapter:</p> <ol style="list-style-type: none"> DELTA Model: ADP-5FH B I/P: AC 100-240V, 0.2A, 50-60Hz O/P: 5V, 1A, LPS PHIHONG Model: PSAA05A-05A I/P: AC 100-240V, 50-60Hz, 0.2A O/P: DC 5V, 1A, LPS TAMURA Model: JHA050100UU05 I/P: 100-240V, 300mA, 50-60Hz O/P: 5V, 1A, LPS <p>Battery:</p> <ol style="list-style-type: none"> Rechargeable Li-ion Polymer Battery Model: LIBR160 Rating: 3.7VDC, 1050mAh SANYO Li-ion Polymer Battery Model: 1UPF473850 Rating: 1050mAh
Accessories	<ul style="list-style-type: none"> ● Splitter: Acon, P/N: CBAUB-617-X ● Holster with belt clip (Pouch) 1- New Tech, P/N: HTC-326 (belt clip) ● Holster with belt clip (Pouch) 2- New Tech, P/N: HTC-333 ● Headset : Merry, P/N: EMC220-008 ● Mini USB Cable: MEC, P/N: 60-4251-100 ● Splitter Cable: MEC, P/N: 60-4269-300
Frequency Range	<p>TX: 824.7 ~ 848.31 MHz / 1851.25 ~ 1908.75 MHz</p> <p>RX: 869.7 ~ 893.31 MHz / 1931.25 ~ 1988.75 MHz</p>
Transmit Power (ERP & EIRP Power)	<p>CDMA2000 1xRTT</p> <p>850 MHz: Slide Mode: 25.27 dBm</p> <p>1900 MHz: Slide Mode: 24.34 dBm</p> <p>CDMA2000 1xEDVO</p> <p>850 MHz: Slide Mode: 26.16 dBm</p> <p>1900 MHz: Close Mode: 25.34 dBm</p>
Cellular Phone Protocol	<p>CDMA2000 1xRTT</p> <p>CDMA2000 1xEVDO</p>
Type of Emission	1M45GXW---
Antenna Gain	<p>850 MHz: -2 dBi</p> <p>1900 MHz: -1 dBi</p>
Antenna Type	Monopole Antenna

Remark:

1. The sample selected for test was production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for FCC ID: **NM8LIBR100** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.



3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4 and FCC CFR 47, 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4.



3.4 DESCRIPTION OF TEST MODES

The EUT (model: LIBR100) comes with three power adaptors, two batteries, one headset and one splitter for sale. After the preliminary test, the EUT with power adapter (Model: ADP-5FH B) and battery (D00035178) was found to emit the worst emissions and therefore had been tested under operating condition.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

EUT staying in continuous transmitting mode was programmed.

Pre-scan was performed on RF conducted port to determine the worst-case scenario:

	Cellular Band	PCS Band
1xRTT RC3,SO2	23.92	24.90
1xRTT RC3,SO3	23.94	24.88
1xRTT RC3,SO55	24.03	24.82
1xRTT RC3,SO32(+F-SCH)	24.34	25.08
1xRTT RC3,SO32(+SCH)	24.13	24.98
1xEVDO	24.50	25.01

Based on the above results from the different modulations, CDMA2000 1xRTT RC3, SO32 (+F-SCH) and 1xEVDO were determined to be the worst-case scenario for all tests.

The worst emission was found:

in lie-down (X axis) for CDMA 2000 1xRTT cellular slide mode,

in lie-down (Y axis) for CDMA 2000 1xRTT PCS closed mode,

and in stand-up (Z axis) for CDMA 2000 1xEVDO cellular slide mode and PCS closed mode.



4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: Each piece of equipment is scheduled for calibration once a year.

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360131	01/17/2008
Spectrum Analyzer	R&S	FSEK30	10026	03/22/2007

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	08/02/2007
Test Receiver	Rohde&Schwarz	ESCI	100064	11/13/2007
Switch Controller	TRC	Switch Controller	SC94050010	05/05/2007
4 Port Switch	TRC	4 Port Switch	SC94050020	05/05/2007
Reject Filter	Micro-Tronics	HPM13194	007	N.C.R.
Reject Filter	Micro-Tronics	HPM13193	007	N.C.R.
Horn-Antenna	TRC	HA-0502	06	06/06/2007
Horn-Antenna	TRC	HA-0801	04	05/05/2007
Horn-Antenna	TRC	HA-1201A	01	07/10/2007
Horn-Antenna	TRC	HA-1301A	01	07/18/2007
Bilog- Antenna	Sunol Sciences	JB3	A030205	03/09/2007
Turn Table	Max-Full	MFT-120S	T120S940302	N.C.R.
Antenna Tower	Max-Full	MFA-430	A440940302	N.C.R.
Controller	Max-Full	MF-CM886	CC-C-1F-13	N.C.R.
Site NSA	CCS	N/A	FCC: 965860 IC: IC 6106	09/25/2008
SERIES SWEPT SIGNAL GENERATOR	Agilent	83630B	3844A01022	01/22/2008
Substituted Dipole	SCHWAZBECK	VHAP/UHAP	998 +999/ 981+982	06/11/2007
DC POWER SUPPLY	ABM	8301HD	D011531	07/12/2007
Substituted Horn	EMCO	3115	00022257	12/17/2007
Temp. / Humidity Chamber	TERCHY	MHG-150LF	930619	08/08/2007
Test S/W	LABVIEW (V 6.1)			

Remark: The measurement uncertainty is less than +/- 2.16dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

Powerline Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI TEST RECEIVER 9kHz-30MHz	ROHDE & SCHWARZ	ESHS30	828144/003	10/31/2007
TWO-LINE V-NETWORK 9kHz-30MHz	SCHAFFNER	NNB41	03/10013	06/14/2007
LISN 10kHz-100MHz	EMCO	3825/2	9106-1809	03/08/2008

Remark: The measurement uncertainty is less than +/- 2.81dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan

Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan

Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT








Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	EN 55011, EN 55014-1/2, CISPR 11, CISPR 14-1/2, EN 55022, EN 55015, CISPR 22, CISPR 15, AS/NZS 3548, VCCI V3 (2001), CFR 47, FCC Part 15/18, CNS 13783-1, CNS 13439, CNS 13438, CNS 13803, CNS 14115, EN 55024, IEC 801-2, IEC 801-3, IEC 801-4, IEC/EN 61000-3-2, EIC/EN 61000-3-3, IEC/EN 61000-4-2/3/4/5/6/8/11, EN 50081-1/ EN 61000-6-3, EN 50081-2/EN 61000-6-4, EN 50081-2/EN 61000-6-1: 2001	 ACCREDITED 0824-01
USA	FCC	3/10 meter Open Area Test Sites (93105, 90471) / 3M Semi Anechoic Chamber (965860) to perform FCC Part 15/18 measurements	 93105, 90471 965860
Japan	VCCI	3/10 meter Open Area Test Sites to perform conducted/radiated measurements	 R-393/1066/725/879 C-402/747/912
Norway	NEMKO	EN 50081-1/2, EN 50082-1/2, IEC 61000-6-1/2, EN 50091-2, EN 50130-4, EN 55011, EN 55013, EN 55014-1/2, EN 55015, EN 55022, EN 55024, EN 61000-3-2/3, EN 61326-1, IEC 61000-4-2/3/4/5/6/8/11, EN 60601-1-2, EN 300 328, EN 300 422-2, EN 301 419-1, EN 301 489-01/03/07/08/09/17, EN 301 419-2/3, EN 300 454-2, EN 301 357-2	 ELA 124a ELA 124b ELA 124c
Taiwan	TAF	EN 300 328, EN 300 220-1, EN 300 220-2, EN 300 220-3, 47 CFR FCC Part 15 Subpart C, EN 61000-3-2, EN 61000-3-3, CNS 13439, CNS 13783-1, CNS 14115, CNS 13438, AS/NZS CISPR 22, CNS 13022-1, IEC 61000-4-2/3/4/5/6/8/11, CNS 13022-2/3	 Testing Laboratory 0363
Taiwan	BSMI	CNS 13438, CNS 13783-1, CNS 13439, CNS 14115	 SL2-IS-E-0014 SL2-IN-E-0014 SL2-A1-E-0014 SL2-R1-E-0014 SL2-R2-E-0014 SL2-L1-E-0014
Canada	Industry Canada	3/10 meter Open Area Test Sites (IC 2324C-3, IC 2324C-5) / 3M Semi Anechoic Chamber (IC 6106) to perform RSS 212 Issue 1	 IC 2324C-3 IC 2324C-5 IC 6106

* No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.



6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1	Bluetooth Headset (Remote)	COREGA	CG-BTHS01-10	10T90020500124	COREGA	N/A	N/A
2	Wireless Communication Test Set (Remote)	Agilent	E5515C	GB44051665	FCC DOC	N/A	N/A

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



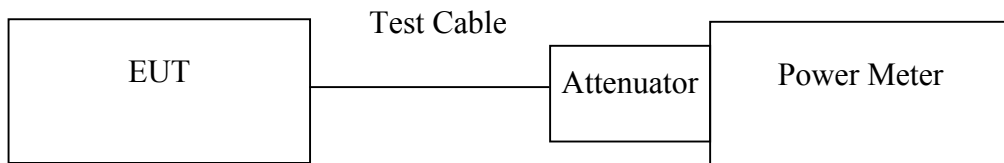
7. FCC PART 22 & 24 REQUIREMENTS

7.1 AVERAGE POWER

LIMIT

According to FCC §2.1046.

Test Configuration



Remark: Measurement setup for testing on Antenna connector

TEST PROCEDURE

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
CDMA2000 1xRTT Cellular	1013	824.70	-0.18	24.00	23.82
	384	836.52	-1.24		23.76
	777	848.31	-1.36		23.64
CDMA2000 1xEVDO Cellular	1013	824.70	-0.40	24.00	23.60
	384	836.52	-0.47		23.53
	777	848.31	-0.48		23.52

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
CDMA2000 1xRTT PCS	25	1851.25	0.05	24.00	24.05
	600	1880.00	-0.27		23.73
	1175	1908.75	-0.08		23.92
CDMA2000 1xEVDO PCS	25	1851.25	0.10	24.00	24.10
	600	1880.00	-0.26		23.74
	1175	1908.75	-0.28		23.72

Remark: The value of factor includes both the loss of cable and external attenuator

7.2 ERP & EIRP MEASUREMENT

LIMIT

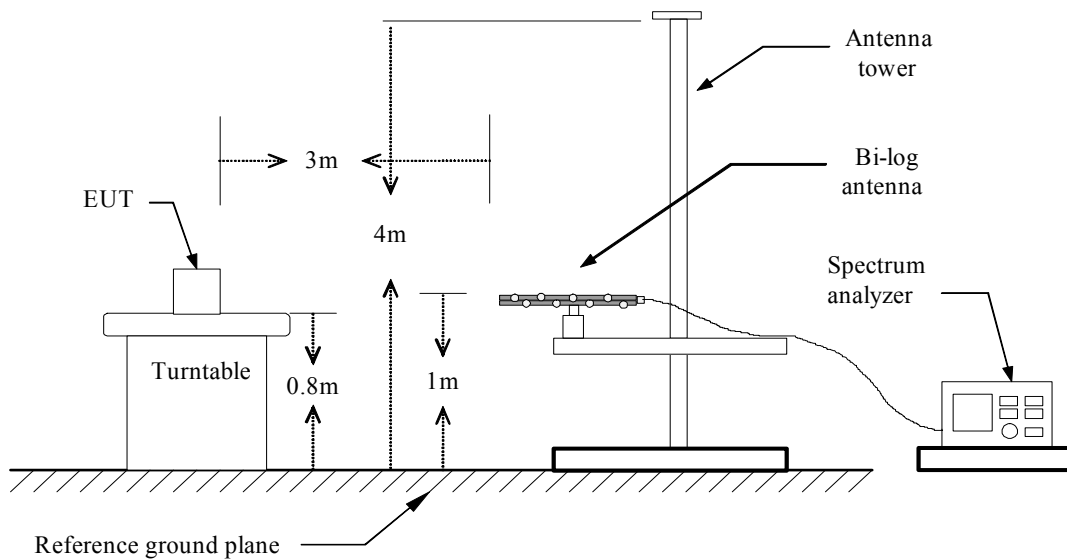
According to FCC §2.1046

FCC 22.913(b): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts.

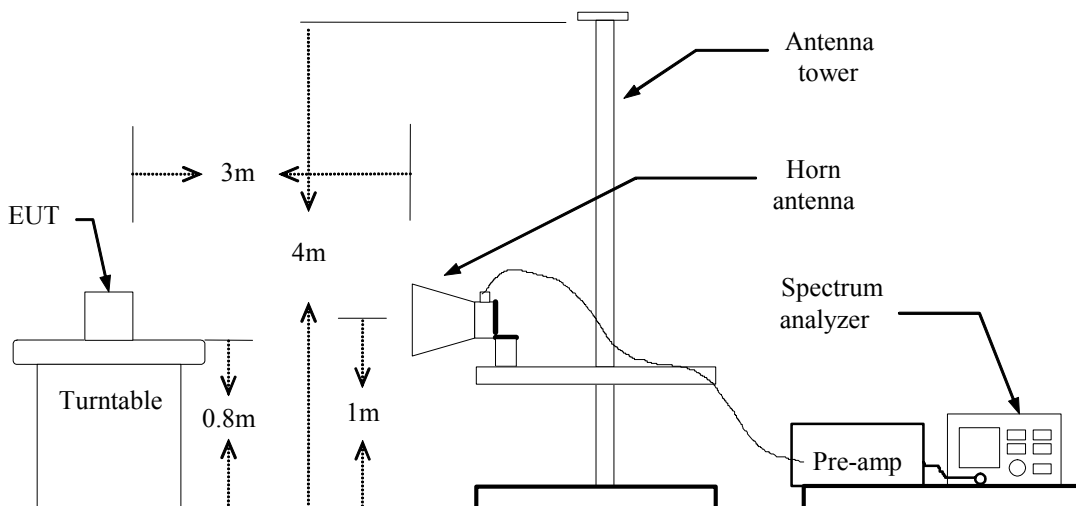
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

TEST CONFIGURATION

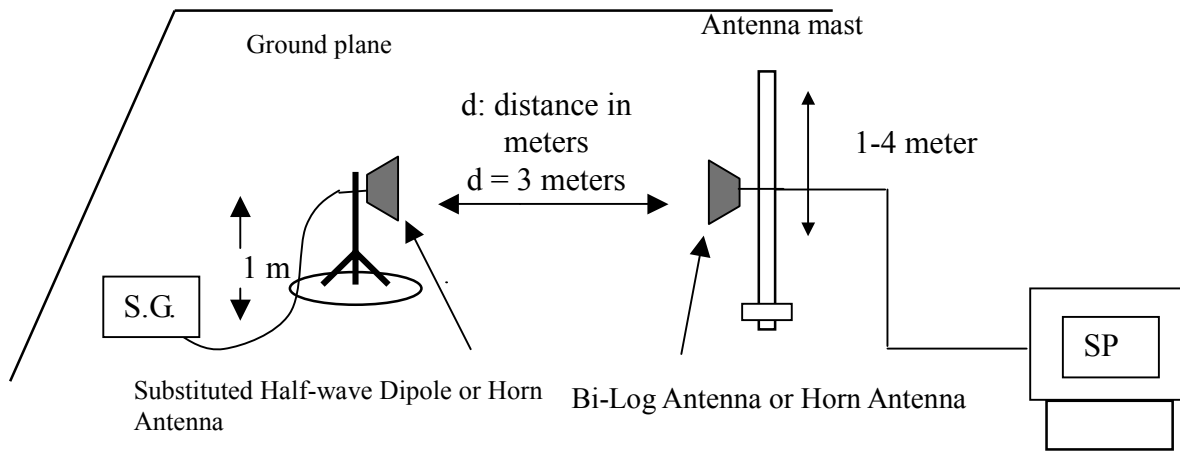
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

The EUT was placed on a non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

During the measurement of the EUT, the resolution bandwidth was set to 3MHz and the average bandwidth was set to 3MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824-849MHz, and EIRP in frequency band 1851.25 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1851.25-1910MHz) connected to a signal generator. The spectrum analyzer reading was recorded and ERP/EIRP was calculated as follows:

$$ERP = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable (dB)}$$

$$EIRP = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)}$$



TEST RESULTS

No non-compliance noted.

CDMA2000 1xRTT Cellular Test Data - Close Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	1013	824.80	-19.95	V	44.83	24.89	38.45	-13.56
		824.80	-34.26	H	44.97	10.71	38.45	-27.74
	384	836.50	-35.29	V	44.71	9.43	38.45	-29.02
		836.50	-20.11	H	44.75	24.63	38.45	-13.82
	777	848.40	-36.56	V	44.21	7.66	38.45	-30.79
		848.30	-22.67	H	44.23	21.57	38.45	-16.88
Y	1013	824.70	-30.95	V	44.97	14.02	38.45	-24.43
		824.70	-20.89	H	44.83	23.95	38.45	-14.50
	384	836.60	-29.93	V	44.71	14.78	38.45	-23.67
		836.30	-20.12	H	44.75	24.63	38.45	-13.82
	777	848.30	-33.02	V	44.22	11.20	38.45	-27.25
		848.30	-22.39	H	44.23	21.84	38.45	-16.61
Z	1013	824.70	-21.14	V	44.97	23.84	38.45	-14.61
		824.70	-34.60	H	44.83	10.23	38.45	-28.22
	384	836.40	-33.41	V	44.75	11.33	38.45	-27.12
		836.40	-33.47	H	44.75	11.28	38.45	-27.17
	777	848.10	-22.56	V	44.23	21.67	38.45	-16.78
		848.10	-35.52	H	44.25	8.73	38.45	-29.72



CDMA2000 1xRTT Cellular Test Data – Slide Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	1013	824.80	-34.10	V	44.97	10.87	38.45	-27.58
		824.80	-19.57	H	44.83	*25.27	38.45	-13.18
	384	836.50	-35.38	V	44.71	9.33	38.45	-29.12
		836.50	-20.00	H	44.75	24.75	38.45	-13.70
	777	848.30	-35.79	V	44.22	8.43	38.45	-30.02
		848.30	-22.01	H	44.23	22.22	38.45	-16.23
Y	1013	824.70	-31.61	V	44.97	13.36	38.45	-25.09
		824.70	-19.88	H	44.83	24.95	38.45	-13.50
	384	836.60	-31.66	V	44.71	13.05	38.45	-25.40
		836.60	-19.63	H	44.75	25.12	38.45	-13.33
	777	848.30	-31.16	V	44.22	13.05	38.45	-25.40
		848.30	-21.59	H	44.23	22.65	38.45	-15.80
Z	1013	824.70	-19.88	V	44.97	25.09	38.45	-13.36
		824.70	-37.61	H	44.83	7.23	38.45	-31.22
	384	836.50	-19.83	V	44.71	24.88	38.45	-13.57
		836.50	-36.62	H	44.75	8.13	38.45	-30.32
	777	848.10	-21.51	V	44.23	22.72	38.45	-15.73
		848.10	-36.50	H	44.25	7.75	38.45	-30.70



CDMA2000 1xEVDO Cellular Test Data – Close Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	1013	848.10	-35.86	V	44.23	8.37	38.45	-30.08
		848.10	-22.14	H	44.25	22.11	38.45	-16.34
	384	836.40	-34.03	V	44.71	10.68	38.45	-27.77
		836.40	-19.74	H	44.75	25.01	38.45	-13.44
	777	848.20	-38.04	V	44.22	6.19	38.45	-32.26
		848.20	-22.74	H	44.24	21.50	38.45	-16.95
Y	1013	824.60	-30.34	V	44.97	14.63	38.45	-23.82
		824.60	-20.57	H	44.83	24.26	38.45	-14.19
	384	836.50	-30.37	V	44.71	14.34	38.45	-24.11
		836.50	-20.20	H	44.75	24.55	38.45	-13.90
	777	848.20	-33.49	V	44.22	10.73	38.45	-27.72
		848.20	-22.56	H	44.24	21.68	38.45	-16.77
Z	1013	824.60	-31.41	V	44.83	13.42	38.45	-25.03
		824.60	-20.44	H	44.97	24.54	38.45	-13.91
	384	836.40	-31.76	V	44.75	12.99	38.45	-25.46
		836.40	-20.05	H	44.71	24.67	38.45	-13.78
	777	848.10	-22.33	V	44.23	21.90	38.45	-16.56
		848.10	-33.92	H	44.25	10.33	38.45	-28.12



CDMA2000 1xEVDO Cellular Test Data – Slide Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	1013	848.10	-36.72	V	44.23	7.51	38.45	-30.95
		848.10	-21.90	H	44.25	22.35	38.45	-16.10
	384	836.20	-35.46	V	44.72	9.26	38.45	-29.19
		836.20	-19.72	H	44.75	25.03	38.45	-13.42
	777	848.30	-36.71	V	44.22	7.51	38.45	-30.94
		848.30	-21.80	H	44.23	22.43	38.45	-16.02
Y	1013	824.70	-30.82	V	44.97	14.16	38.45	-24.29
		824.70	-18.67	H	44.83	*26.16	38.45	-12.29
	384	836.40	-31.29	V	44.71	13.42	38.45	-25.03
		836.40	-19.21	H	44.75	25.54	38.45	-12.91
	777	848.10	-30.81	V	44.23	13.42	38.45	-25.03
		848.10	-21.42	H	44.25	22.82	38.45	-15.63
Z	1013	824.70	-19.61	V	44.97	25.36	38.45	-13.09
		824.70	-31.78	H	44.83	13.06	38.45	-25.39
	384	836.50	-19.57	V	44.71	25.14	38.45	-13.31
		836.50	-32.37	H	44.75	12.38	38.45	-26.07
	777	848.10	-21.38	V	44.23	22.85	38.45	-15.60
		848.10	-33.27	H	44.25	10.97	38.45	-27.48



CDMA2000 1xRTT PCS Test Data – Close Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	25	1851.15	-33.67	V	45.27	11.60	33.00	-21.40
		1851.15	-22.99	H	46.72	23.74	33.00	-9.26
	600	1879.95	-33.19	V	45.44	12.25	33.00	-20.75
		1879.95	-22.69	H	47.00	24.31	33.00	-8.69
	1175	1908.90	-33.81	V	45.62	11.80	33.00	-21.20
		1908.90	-24.12	H	47.29	23.17	33.00	-9.83
Y	25	1851.00	-23.20	V	45.27	22.06	33.00	-10.94
		1851.00	-26.41	H	46.72	20.31	33.00	-12.69
	600	1879.95	-23.21	V	45.44	22.23	33.00	-10.77
		1879.95	-29.02	H	47.00	17.99	33.00	-15.01
	1175	1908.90	-24.41	V	45.62	21.21	33.00	-11.79
		1908.90	-31.23	H	47.29	16.06	33.00	-16.94
Z	25	1851.30	-23.03	V	45.27	22.24	33.00	-10.76
		1851.30	-23.83	H	46.72	22.90	33.00	-10.10
	600	1879.80	-23.44	V	45.44	22.00	33.00	-11.00
		1879.80	-23.23	H	47.00	23.77	33.00	-9.23
	1175	1908.60	-24.45	V	45.62	21.16	33.00	-11.84
		1908.60	-24.83	H	47.28	22.45	33.00	-10.55



CDMA2000 1xRTT PCS Test Data – Slide Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	25	1851.30	-31.61	V	45.27	13.65	33.00	-19.35
		1851.30	-23.17	H	46.72	23.55	33.00	-9.45
	600	1880.10	-32.29	V	45.44	13.16	33.00	-19.84
		1880.10	-22.68	H	47.00	24.33	33.00	-8.67
	1175	1908.75	-33.00	V	45.62	12.62	33.00	-20.38
		1908.75	-22.94	H	47.29	*24.34	33.00	-8.66
Y	25	1851.15	-23.58	V	45.27	21.69	33.00	-11.31
		1851.15	-26.28	H	46.72	20.44	33.00	-12.56
	600	1880.10	-23.75	V	45.44	21.69	33.00	-11.31
		1880.10	-27.31	H	47.00	19.69	33.00	-13.31
	1175	1908.75	-23.70	V	45.62	21.92	33.00	-11.08
		1908.75	-27.49	H	47.29	19.80	33.00	-13.20
Z	25	1851.15	-25.38	V	45.27	19.89	33.00	-13.11
		1851.15	-23.86	H	46.72	22.86	33.00	-10.14
	600	1879.95	-25.78	V	45.44	19.66	33.00	-13.34
		1879.95	-23.68	H	47.00	23.32	33.00	-9.68
	1175	1908.60	-25.50	V	45.62	20.12	33.00	-12.88
		1908.60	-23.71	H	47.28	23.58	33.00	-9.42



CDMA2000 1xEVDO PCS Test Data – Close Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	25	1851.30	-32.70	V	45.27	12.57	33.00	-20.43
		1851.30	-21.39	H	46.72	*25.34	33.00	-7.66
	600	1880.10	-32.46	V	45.44	12.98	33.00	-20.02
		1880.10	-22.68	H	47.00	24.32	33.00	-8.68
	1175	1908.60	-32.72	V	45.62	12.89	33.00	-20.11
		1908.60	-23.86	H	47.28	23.42	33.00	-9.58
Y	25	1851.15	-22.94	V	45.27	22.33	33.00	-10.67
		1851.15	-25.89	H	46.72	20.83	33.00	-12.17
	600	1879.95	-22.88	V	45.44	22.56	33.00	-10.44
		1879.95	-28.19	H	47.00	18.82	33.00	-14.18
	1175	1908.60	-23.52	V	45.62	22.10	33.00	-10.90
		1908.60	-30.95	H	47.28	16.33	33.00	-16.67
Z	25	1851.15	-22.50	V	45.27	22.77	33.00	-10.23
		1851.15	-23.07	H	46.72	23.65	33.00	-9.35
	600	1879.95	-23.05	V	45.44	22.39	33.00	-10.61
		1879.95	-23.20	H	47.00	23.81	33.00	-9.19
	1175	1908.45	-24.05	V	45.62	21.57	33.00	-11.43
		1908.45	-24.27	H	47.28	23.01	33.00	-9.99



CDMA2000 1xEVDO PCS Test Data – Slide Mode

EUT Pol.	Channel	Frequency (MHz)	Reading level (dBuV)	Antenna Pol.	Correction Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
X	25	1851.15	-22.52	V	46.72	24.20	33.00	-8.80
		1851.15	-30.74	H	45.27	14.52	33.00	-18.48
	600	1880.10	-30.10	V	45.44	15.34	33.00	-17.66
		1880.10	-22.53	H	47.00	24.47	33.00	-8.53
	1175	1908.75	-30.83	V	45.62	14.79	33.00	-18.21
		1908.75	-22.73	H	47.29	24.55	33.00	-8.45
Y	25	1851.30	-23.03	V	45.27	22.24	33.00	-10.76
		1851.30	-26.14	H	46.72	20.58	33.00	-12.42
	600	1879.95	-22.66	V	45.44	22.79	33.00	-10.21
		1879.95	-26.43	H	47.00	20.57	33.00	-12.43
	1175	1908.75	-22.86	V	45.62	22.76	33.00	-10.24
		1908.75	-27.07	H	47.29	20.22	33.00	-12.78
Z	25	1851.30	-24.44	V	45.27	20.83	33.00	-12.17
		1851.30	-23.28	H	46.72	23.44	33.00	-9.56
	600	1880.10	-25.18	V	45.44	20.26	33.00	-12.74
		1880.10	-23.01	H	47.00	24.00	33.00	-9.00
	1175	1908.45	-25.65	V	45.62	19.97	33.00	-13.03
		1908.45	-23.21	H	47.28	24.07	33.00	-8.93

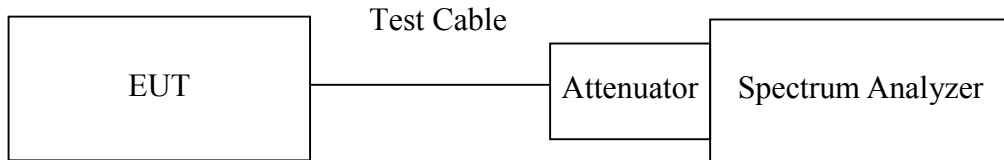


7.3 OCCUPIED BANDWIDTH MEASUREMENT

LIMIT

According to §FCC 2.1049.

Test Configuration



Remark: Measurement setup for testing on Antenna connector

TEST PROCEDURE

The EUT’s output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW is set to 3 times the RBW, -26dBc display line was placed on the screen, the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

TEST RESULTS

No non-compliance noted

Test Data

Test Mode	CH	Frequency (MHz)	Bandwidth (kHz)
CDMA2000 1xRTT Cellular	1013	824.70	1451
	384	836.52	1425
	777	848.31	1423
CDMA2000 1xEVDO Cellular	1013	824.70	1421
	384	836.52	1426
	777	848.31	1425

Test Mode	CH	Frequency (MHz)	Bandwidth (kHz)
CDMA2000 1xRTT PCS	25	1851.25	1425
	600	1880.00	1433
	1175	1908.75	1427
CDMA2000 1xEDVO PCS	25	1851.25	1399
	600	1880.00	1420
	1175	1908.75	1426

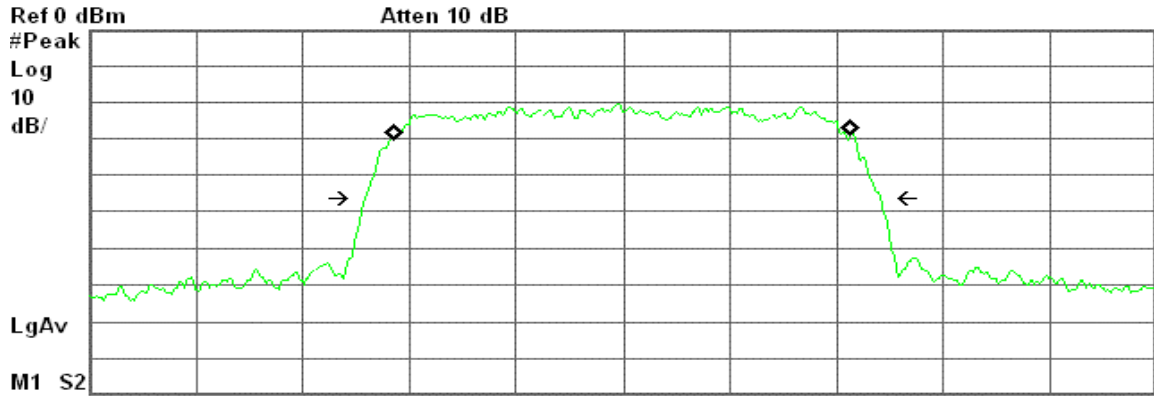


Test Plot

CDMA2000 1xRTT Cellular / CH Low

Agilent 07:27:26 Jul 12, 2006

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Occupied Bandwidth
1.2868 MHz

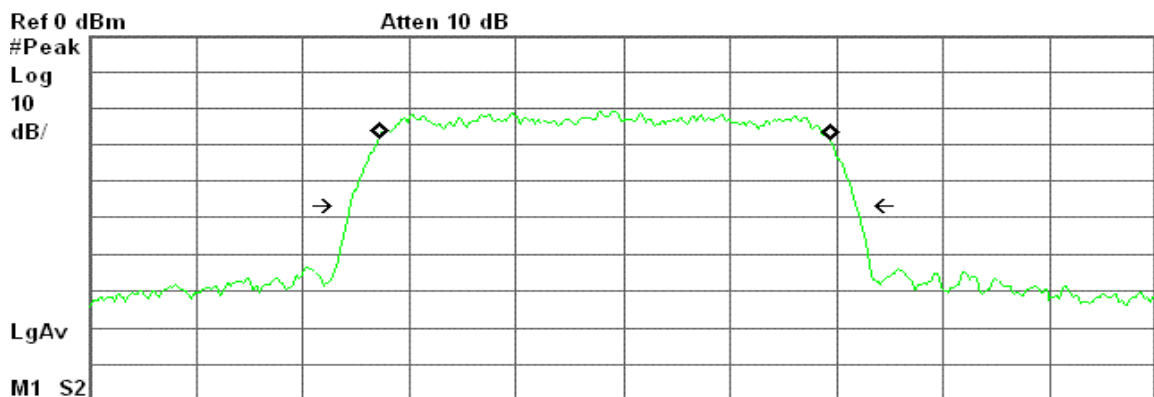
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.963 kHz
x dB Bandwidth 1.451 MHz

CDMA2000 1xRTT Cellular / CH Mid

Agilent 07:26:54 Jul 12, 2006

T



Occupied Bandwidth
1.2651 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

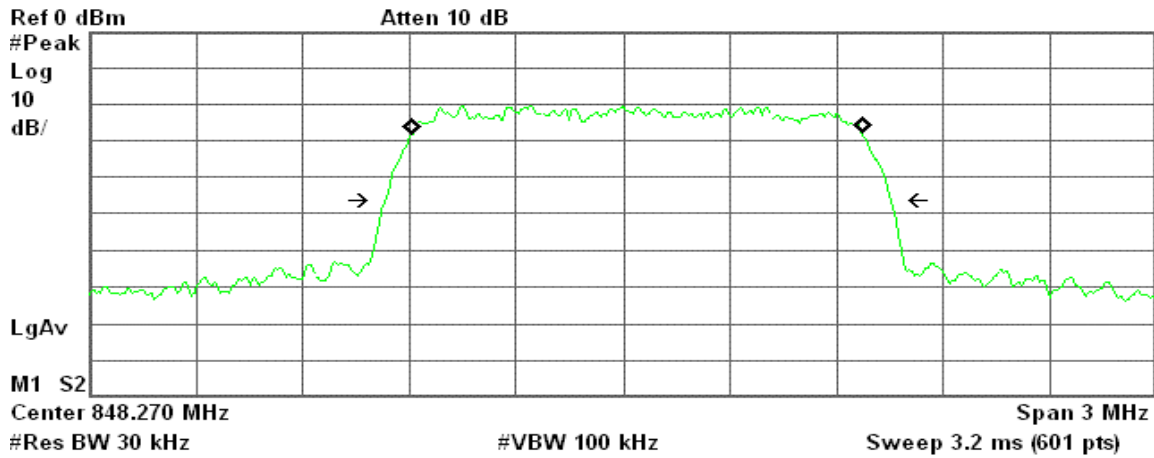
Transmit Freq Error -53.155 kHz
x dB Bandwidth 1.425 MHz



CDMA2000 1xRTT Cellular / CH High

Agilent 07:26:22 Jul 12, 2006

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Occupied Bandwidth
1.2637 MHz

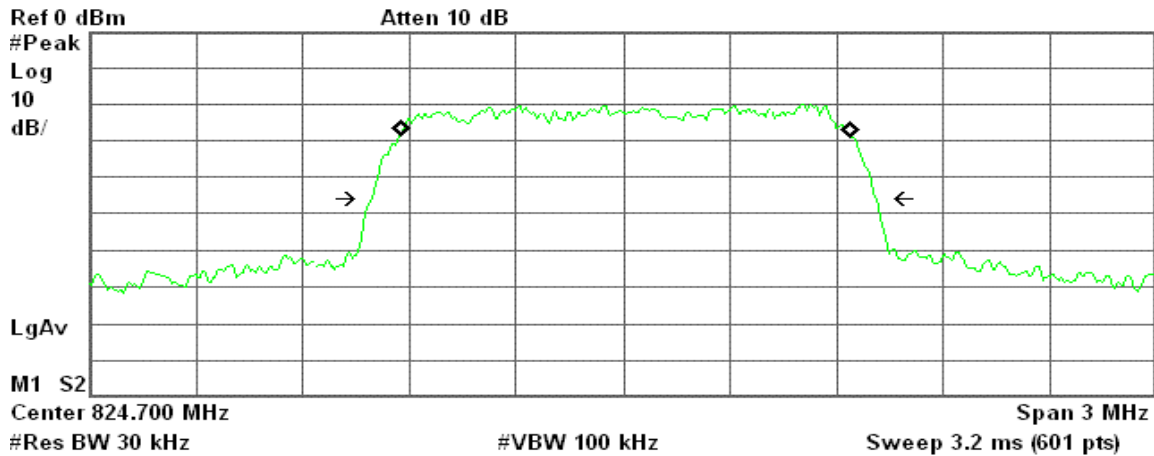
Occ BW % Pwr	99.00 %
x dB	-26.00 dB

Transmit Freq Error	42.403 kHz
x dB Bandwidth	1.423 MHz

CDMA2000 1xEVDO Cellular / CH Low

Agilent 07:19:13 Jul 12, 2006

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Occupied Bandwidth
1.2660 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

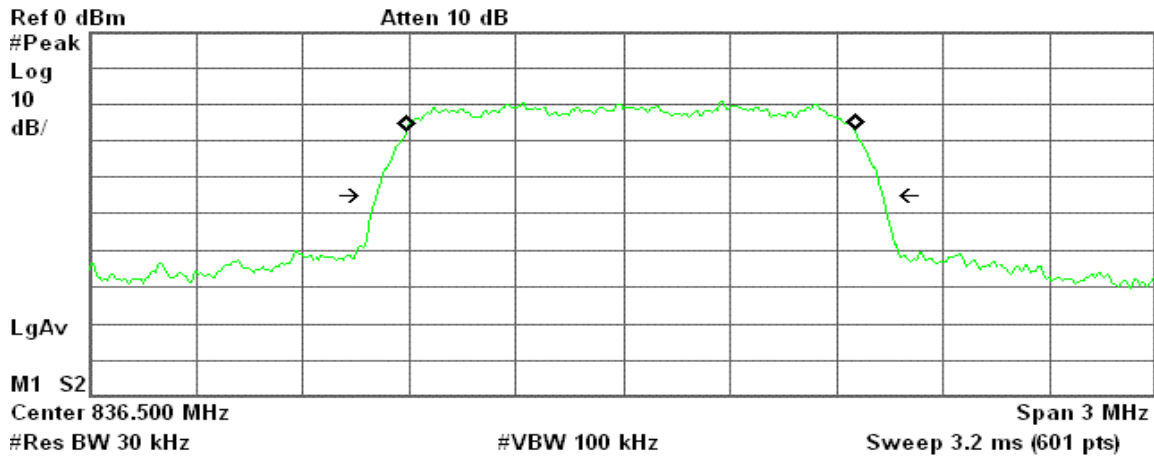
Transmit Freq Error	5.830 kHz
x dB Bandwidth	1.421 MHz



CDMA2000 1xEVDO Cellular / CH Mid

Agilent 07:19:56 Jul 12, 2006

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Occupied Bandwidth
1.2614 MHz

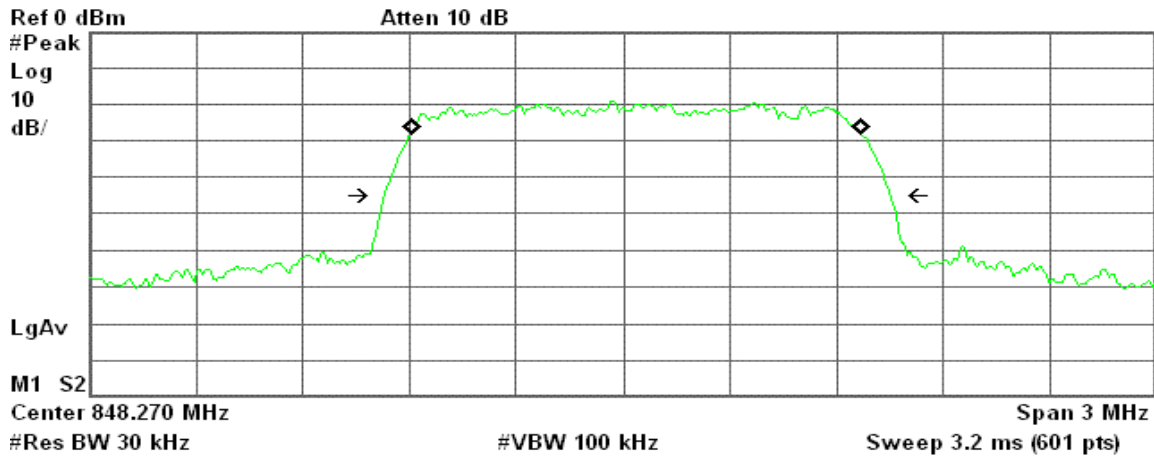
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 21.919 kHz
x dB Bandwidth 1.426 MHz

CDMA2000 1xEVDO Cellular / CH High

Agilent 07:20:38 Jul 12, 2006

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Occupied Bandwidth
1.2612 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

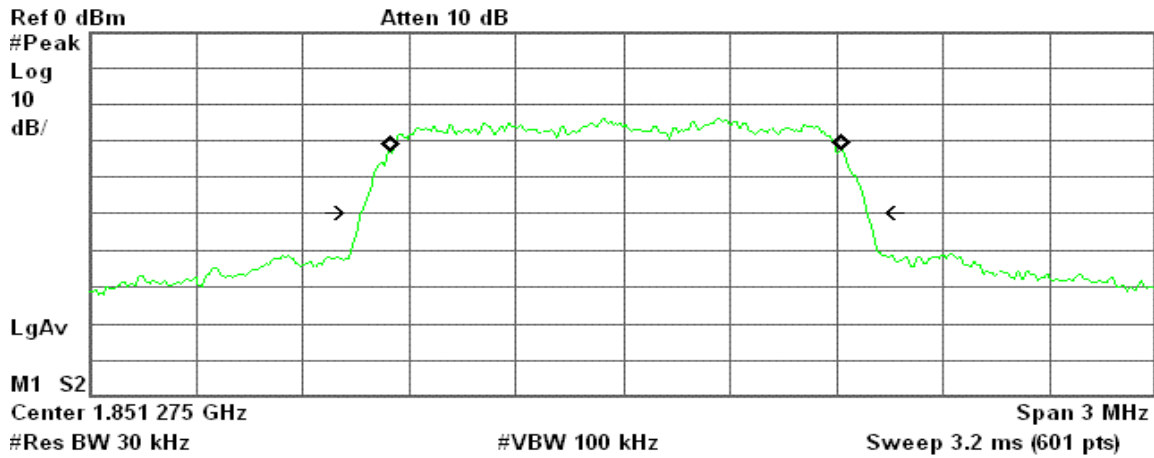
Transmit Freq Error 40.526 kHz
x dB Bandwidth 1.425 MHz



CDMA2000 1xRTT PCS / CH Low

Agilent 07:30:27 Jul 12, 2006

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Occupied Bandwidth
1.2678 MHz

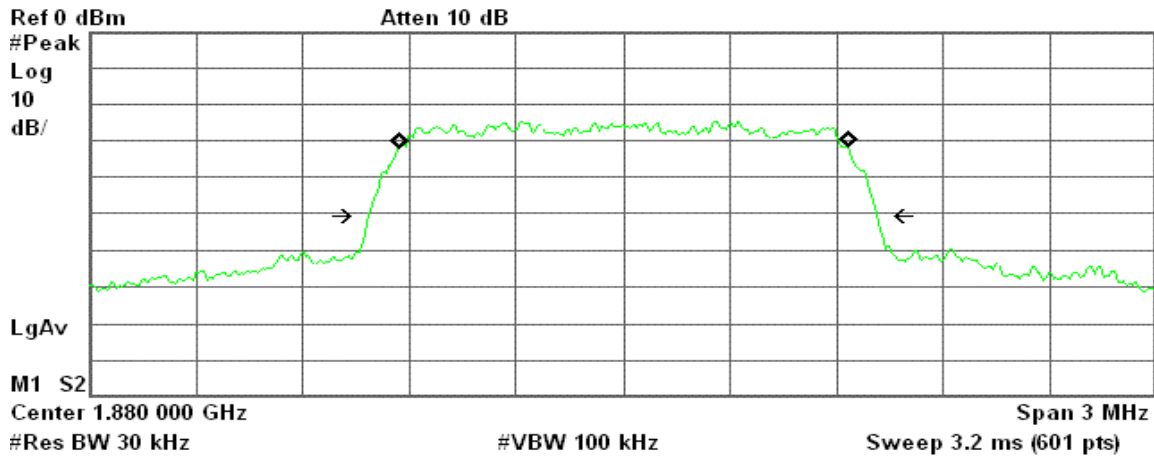
Occ BW % Pwr	99.00 %
x dB	-26.00 dB

Transmit Freq Error	-20.161 kHz
x dB Bandwidth	1.425 MHz

CDMA2000 1xRTT PCS / CH Mid

Agilent 07:29:55 Jul 12, 2006

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Occupied Bandwidth
1.2685 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

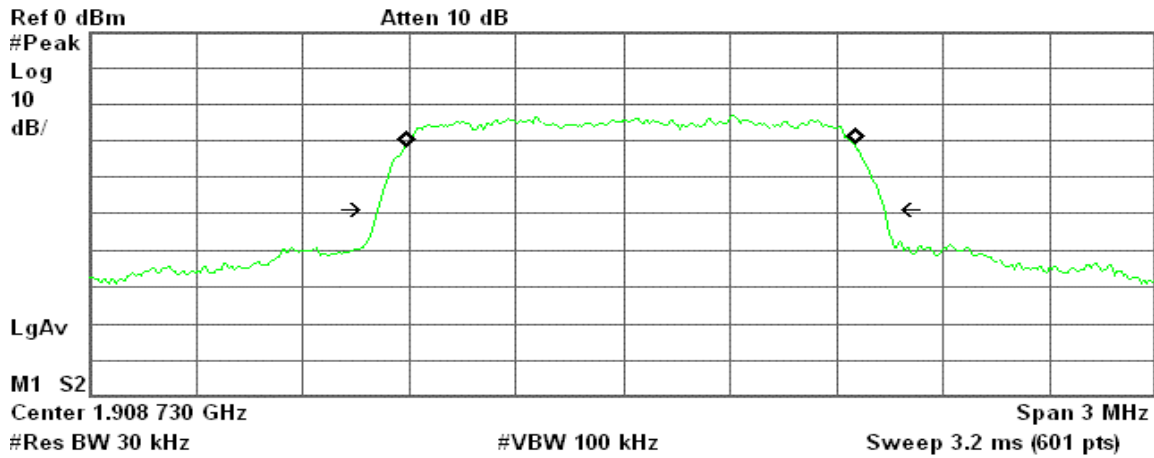
Transmit Freq Error	1.941 kHz
x dB Bandwidth	1.433 MHz



CDMA2000 1xRTT PCS / CH High

Agilent 07:29:38 Jul 12, 2006

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Occupied Bandwidth
1.2645 MHz

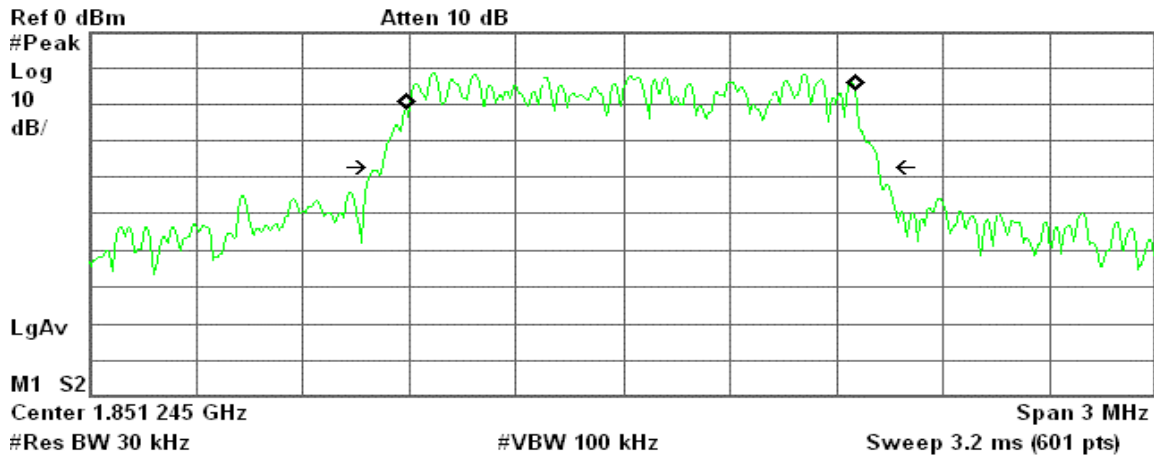
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 20.701 kHz
x dB Bandwidth 1.427 MHz

CDMA2000 1xEVDO PCS / CH Low

Agilent 07:17:18 Jul 12, 2006

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Occupied Bandwidth
1.2642 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

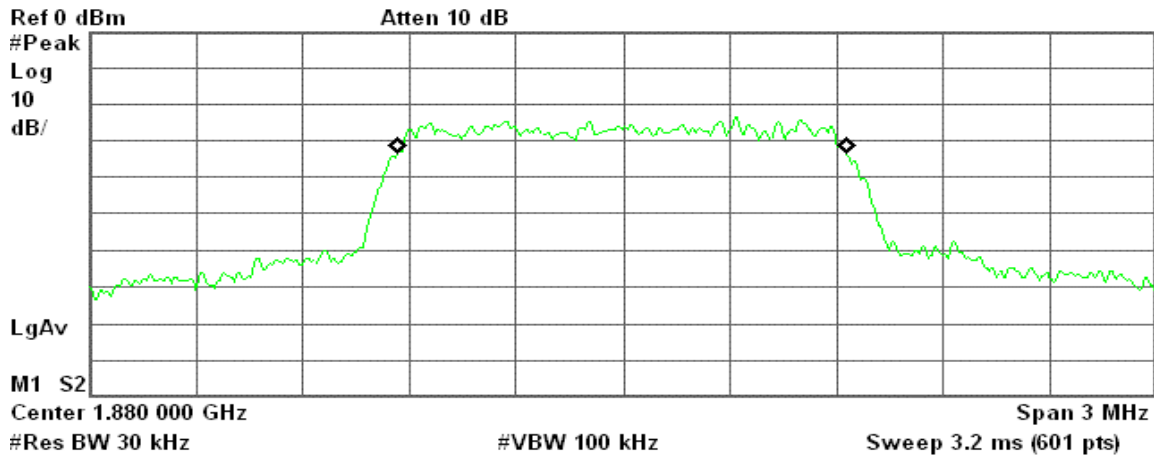
Transmit Freq Error 22.613 kHz
x dB Bandwidth 1.399 MHz



CDMA2000 1xEVDO PCS / CH Mid

Agilent 07:16:36 Jul 12, 2006

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Occupied Bandwidth
1.2636 MHz

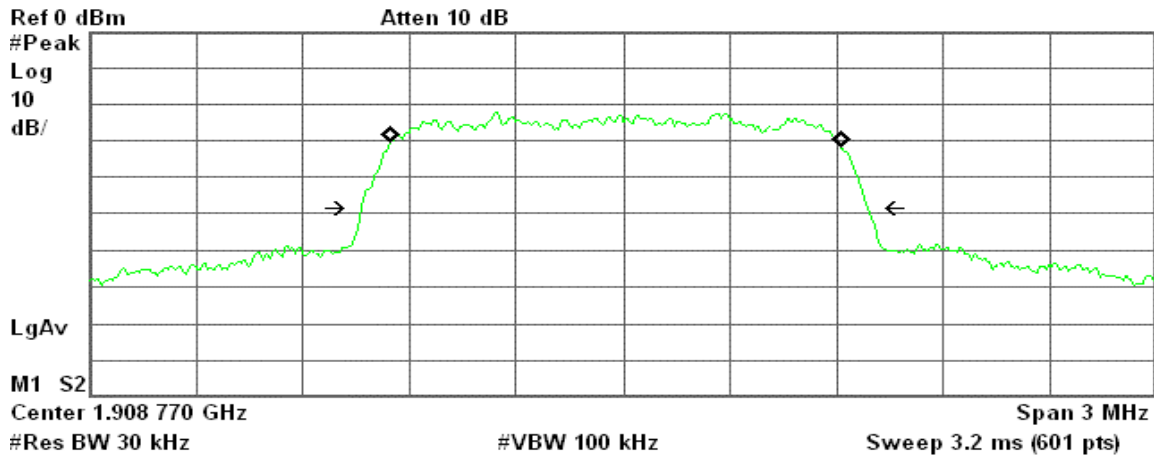
Occ BW % Pwr	99.00 %
x dB	-26.00 dB

Transmit Freq Error	-1.619 kHz
x dB Bandwidth	1.420 MHz

CDMA2000 1xEVDO PCS / CH High

Agilent 07:18:10 Jul 12, 2006

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Occupied Bandwidth
1.2655 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

Transmit Freq Error	-20.015 kHz
x dB Bandwidth	1.426 MHz



7.4 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

According to FCC §2.1051, FCC §22.917, FCC §24.238(a).

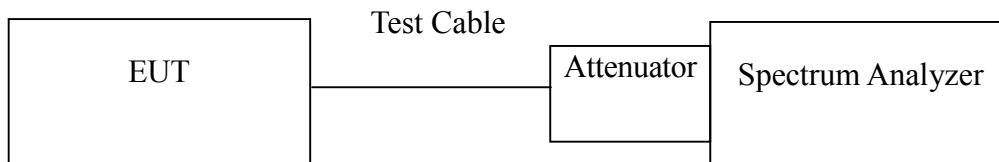
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

Mobile Emissions in Base Frequency Range: The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not exceed -80 dBm at the transmit antenna connector.

Band Edge Requirements: In the 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the Out of band Emission

TEST CONFIGURATION

Out of band emission at antenna terminals:



TEST PROCEDURE

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10 th harmonic. Limit = -13dBm

Band Edge Requirements (824 MHz and 849 MHz /1850MHz and 1910MHz): In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

**TEST RESULTS***No non-compliance noted.***Test Data**

Mode	CH	Location	Description
CDMA2000 1xRTT Cellular	1013	Figure 7-1	Conducted spurious emissions, 30MHz - 10GHz
	777	Figure 7-2	Conducted spurious emissions, 30MHz - 10GHz
	384	Figure 7-3	Conducted spurious emissions, 30MHz - 10GHz

Mode	CH	Location	Description
CDMA2000 1xEVDO Cellular	1013	Figure 8-1	Conducted spurious emissions, 30MHz - 10GHz
	777	Figure 8-2	Conducted spurious emissions, 30MHz - 10GHz
	384	Figure 8-3	Conducted spurious emissions, 30MHz - 10GHz

Mode	CH	Location	Description
CDMA2000 1xRTT PCS	25	Figure 9-1	Conducted spurious emissions, 30MHz - 20GHz
	600	Figure 9-2	Conducted spurious emissions, 30MHz - 20GHz
	1175	Figure 9-3.	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
CDMA2000 1xEVDO PCS	25	Figure 10-1	Conducted spurious emissions, 30MHz - 20GHz
	600	Figure 10-2	Conducted spurious emissions, 30MHz - 20GHz
	1175	Figure 10-3.	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
CDMA2000 1xRTT Cellular	1013	Figure 11-1	Band Edge emissions
	384	Figure11-2	Band Edge emissions

Mode	CH	Location	Description
CDMA2000 1xEVDO Cellular	1013	Figure 12-1	Band Edge emissions
	384	Figure 12-2	Band Edge emissions

Mode	CH	Location	Description
CDMA2000 1xRTT PCS	25	Figure 13-1	Band Edge emissions
	1175	Figure 13-2	Band Edge emissions

Mode	CH	Location	Description
CDMA2000 1xEVDO PCS	25	Figure 14-1	Band Edge emissions
	1175	Figure 14-2	Band Edge emissions



Test Plot

CDMA2000 1xRTT Cellular

Figure 7-1: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH Low

Agilent 09:19:13 Sep 6, 2006

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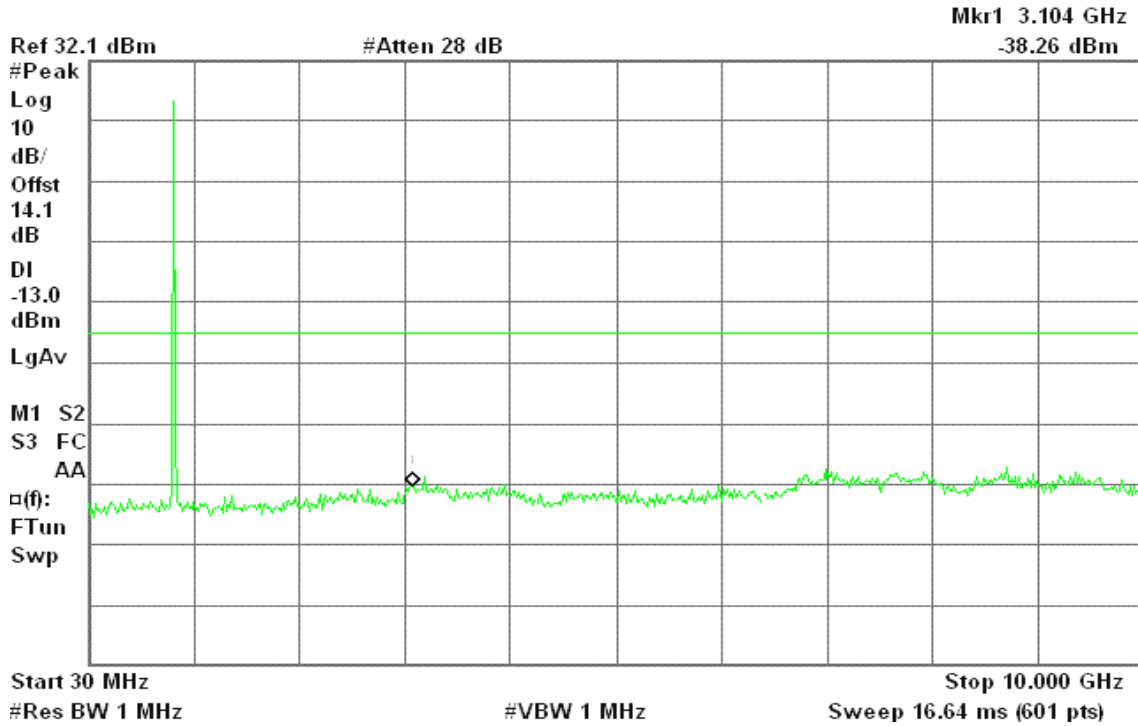


Figure 7-2: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH Mid

Agilent 09:18:39 Sep 6, 2006

T

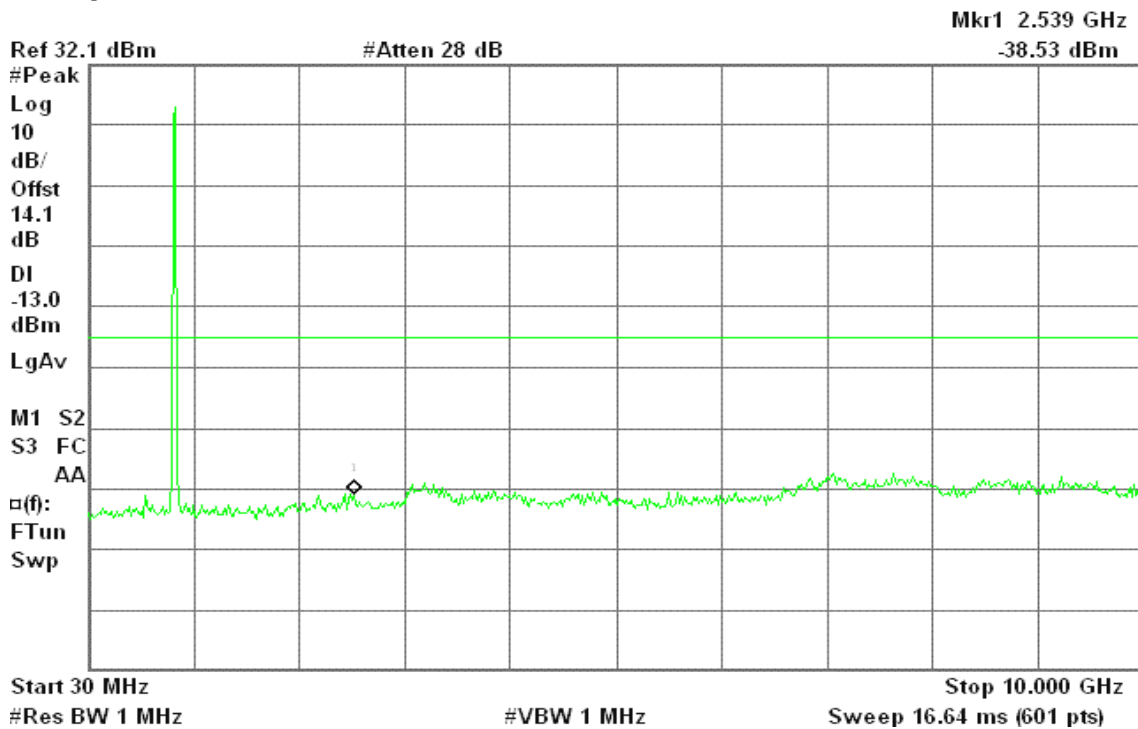
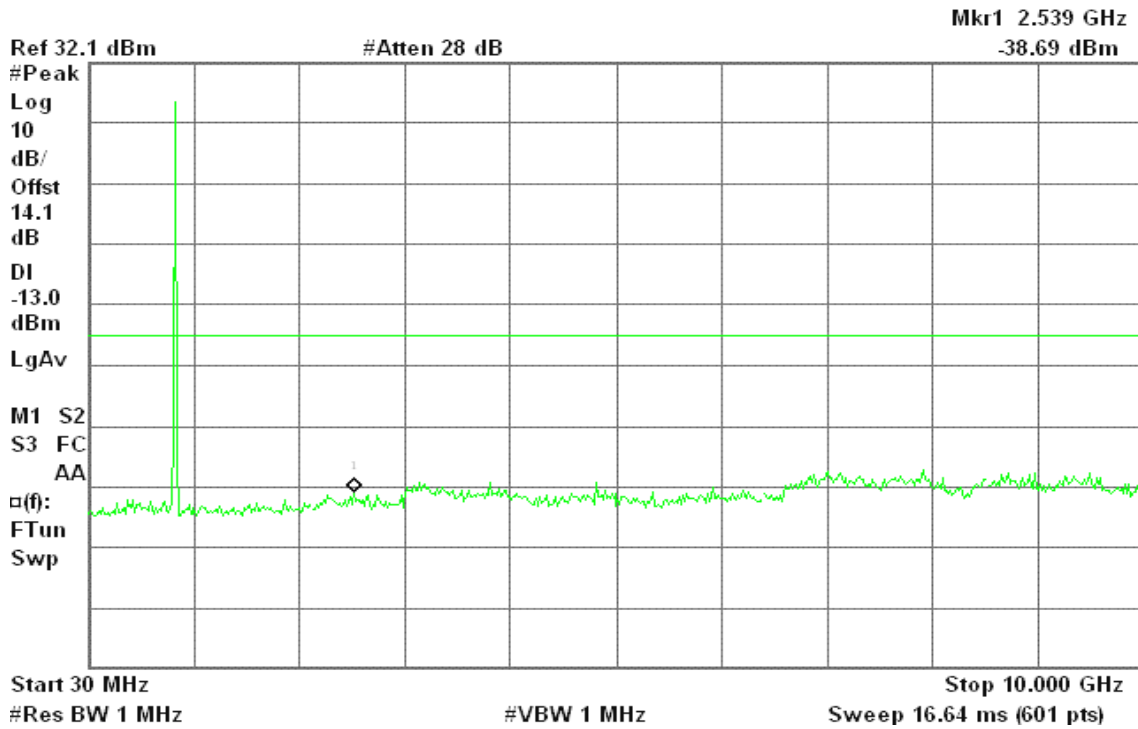




Figure 7-3: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH High

Agilent 09:18:12 Sep 6, 2006

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1XEDVO Cellular

Figure 8-1: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH Low

Agilent 09:05:22 Sep 6, 2006

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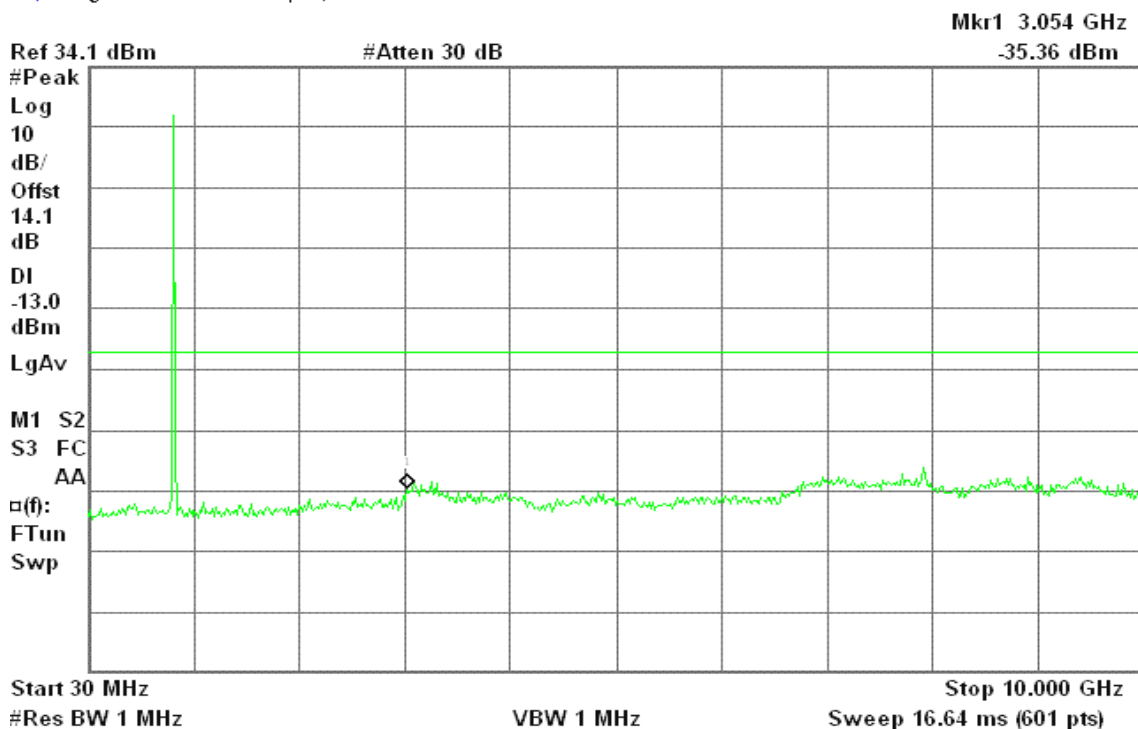




Figure 8-2: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH Mid

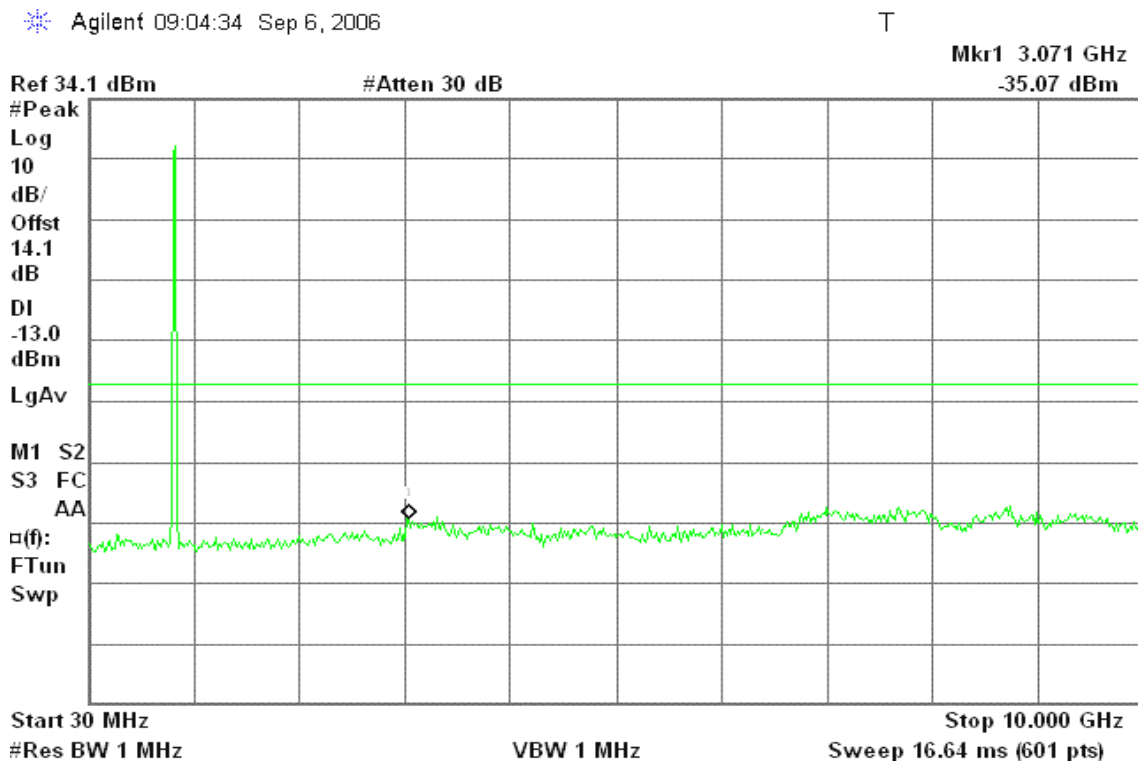
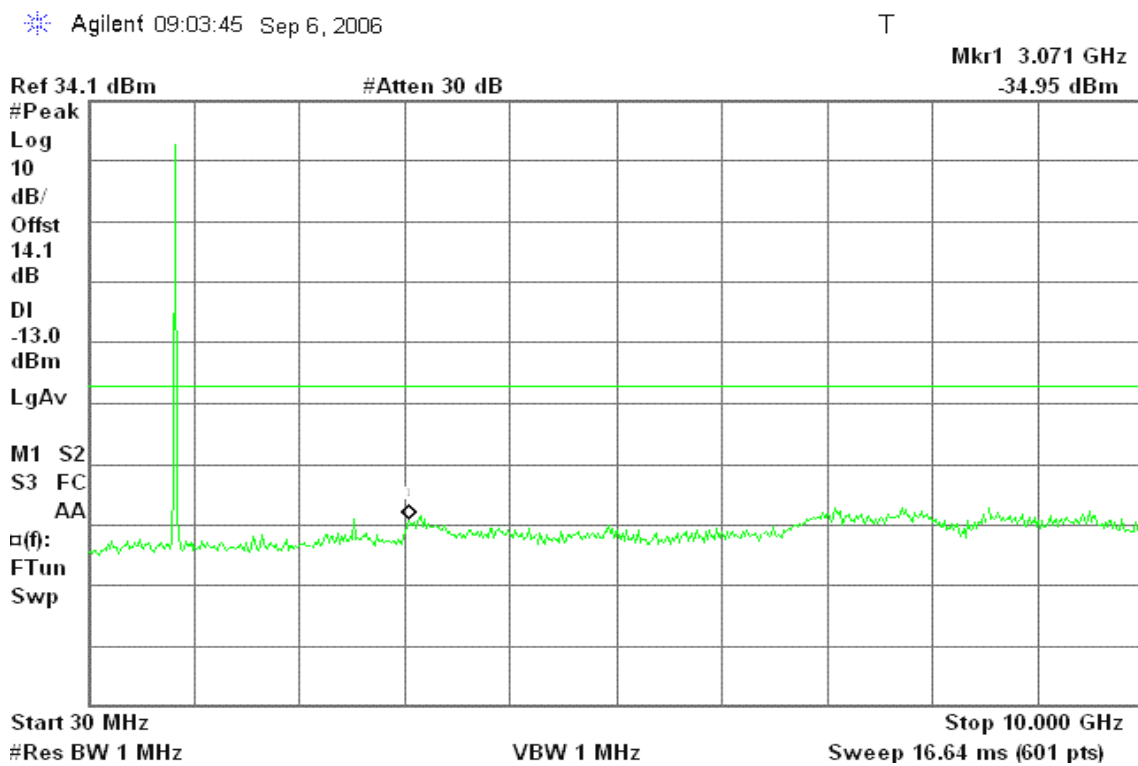


Figure 8-3: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH High





CDMA2000 1xRTT PCS

Figure 9-1: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH Low

Agilent 09:17:37 Sep 6, 2006

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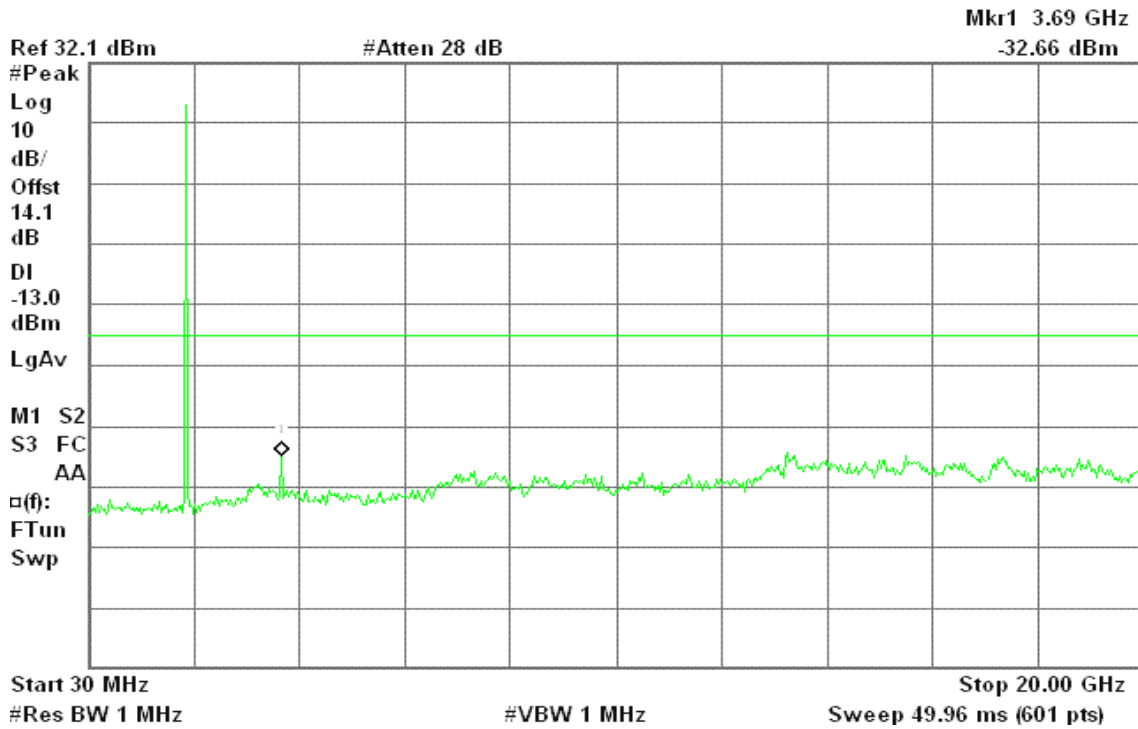


Figure 9-2: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH Mid

Agilent 09:17:05 Sep 6, 2006

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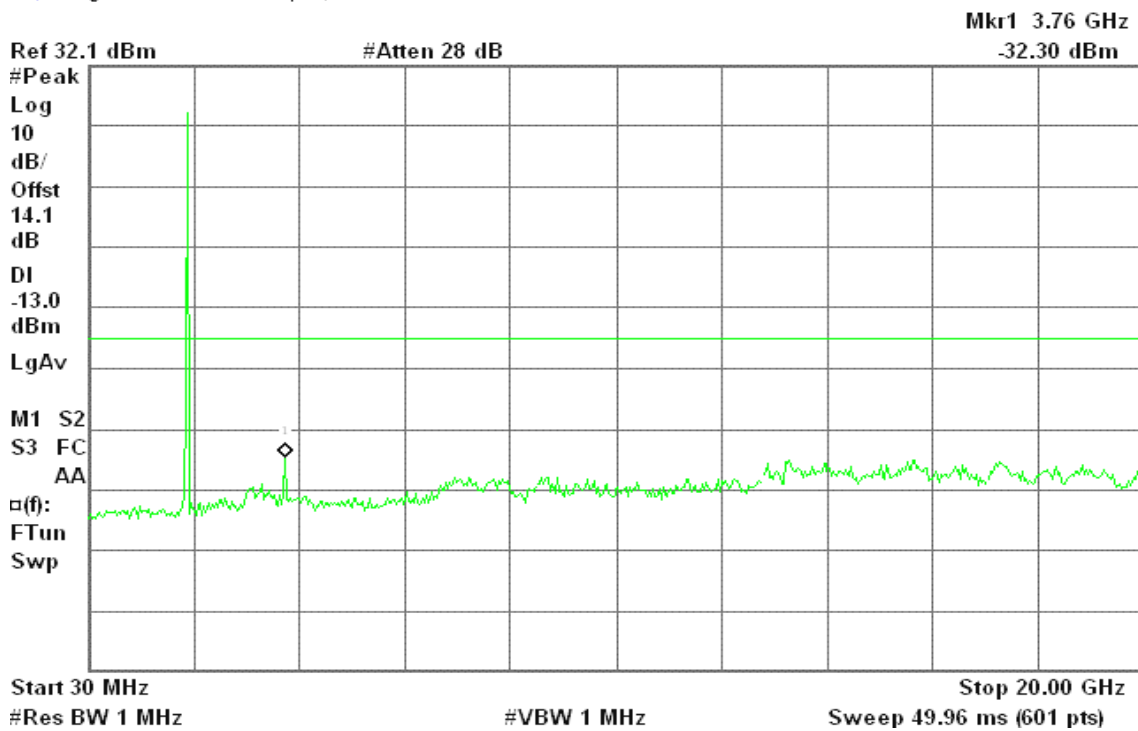
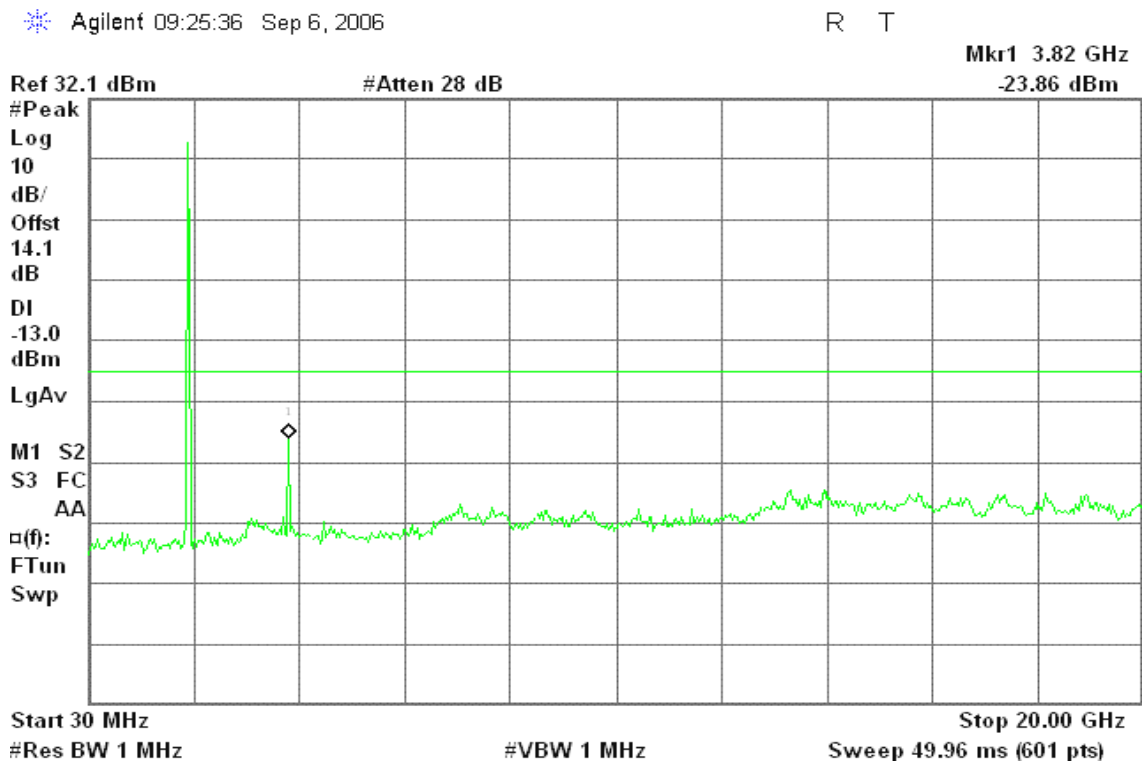




Figure 9-3: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH High



CDMA2000 1xEVDO PCS

Figure 10-1: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH Low

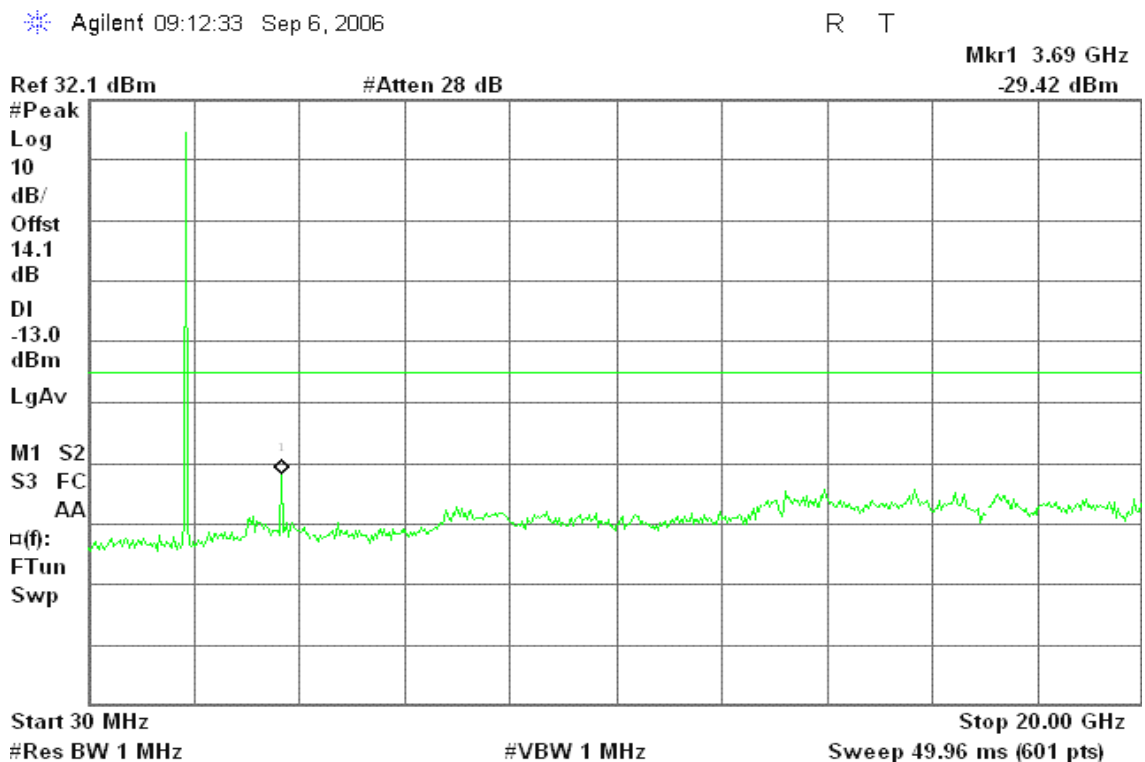




Figure 10-2: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH Mid

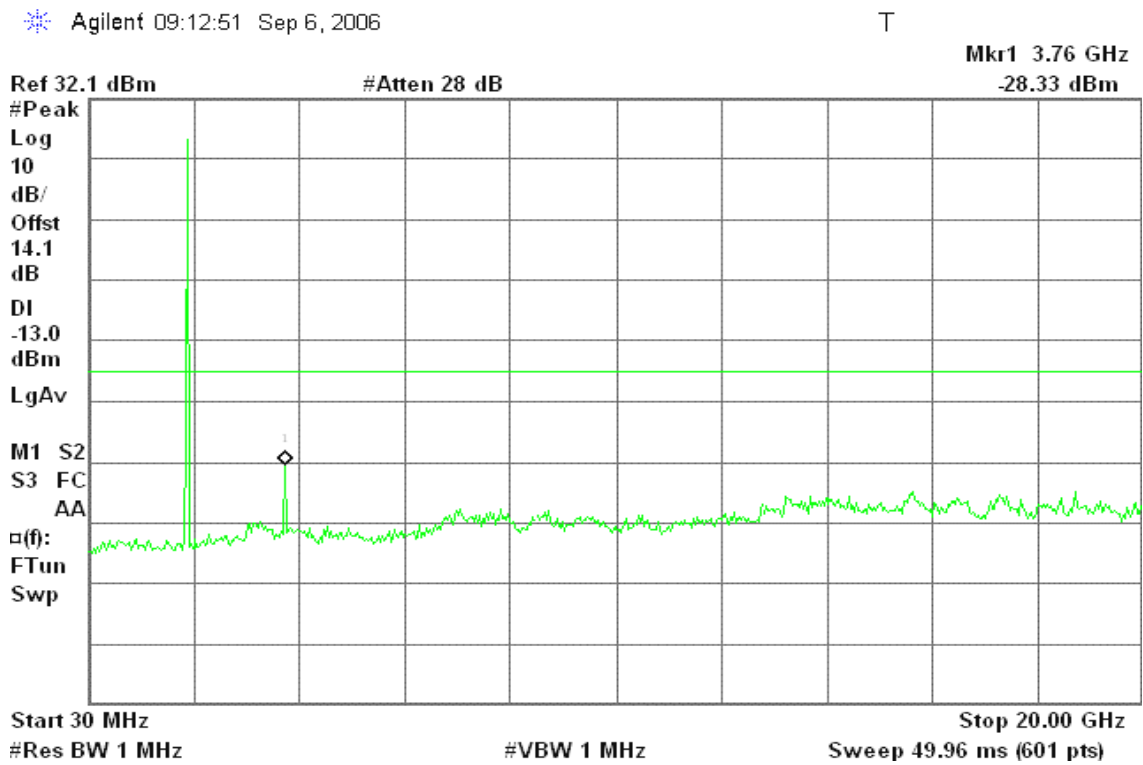
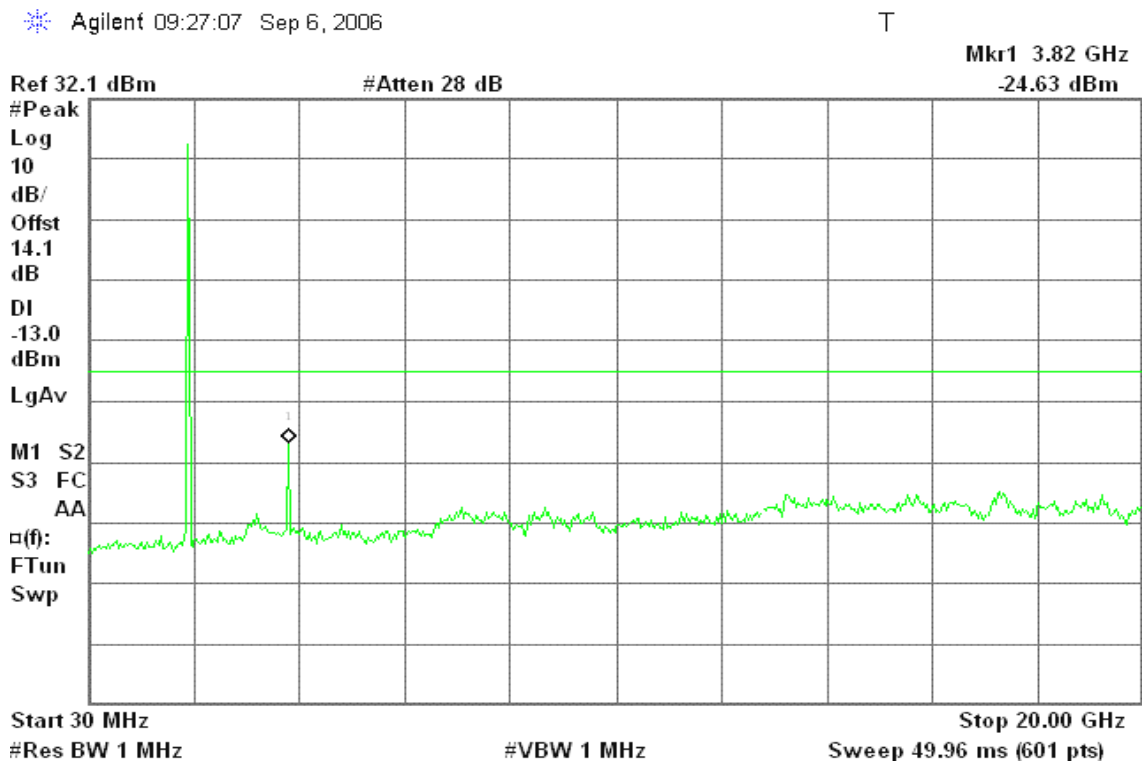


Figure 10-3: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH High





CDMA2000 1xRTT Cellular

Figure 11-1: Band Edge emissions – CDMA2000 1xRTT / CH Low

Agilent 07:36:26 Sep 6, 2006

T

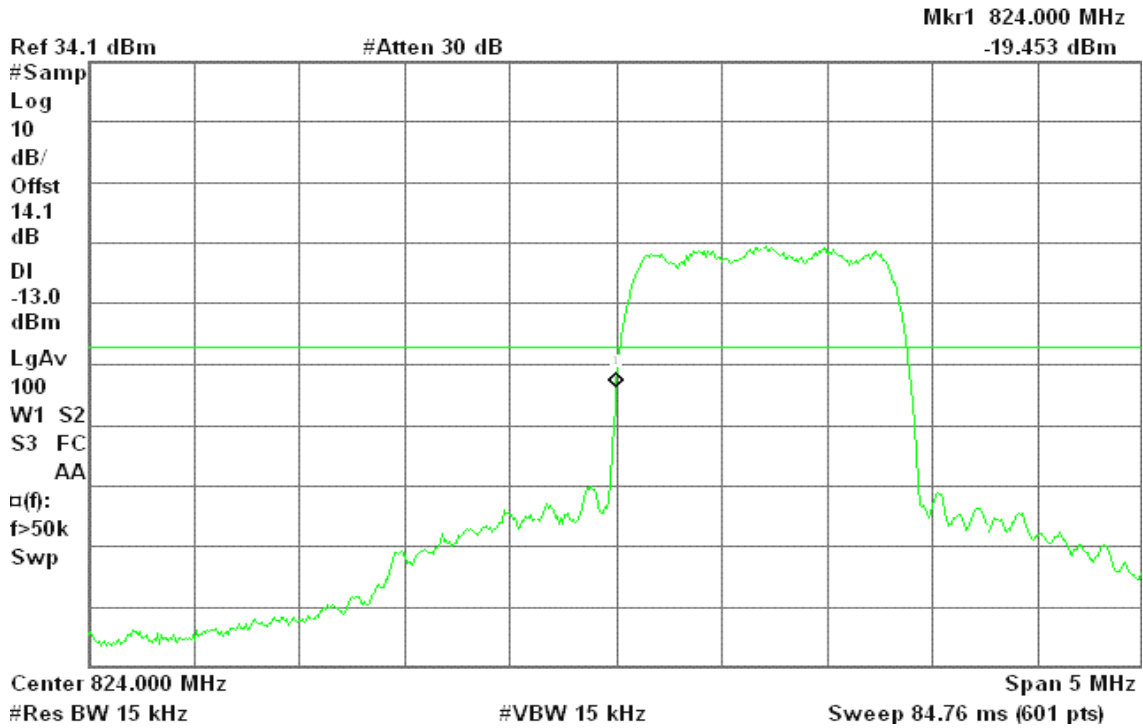
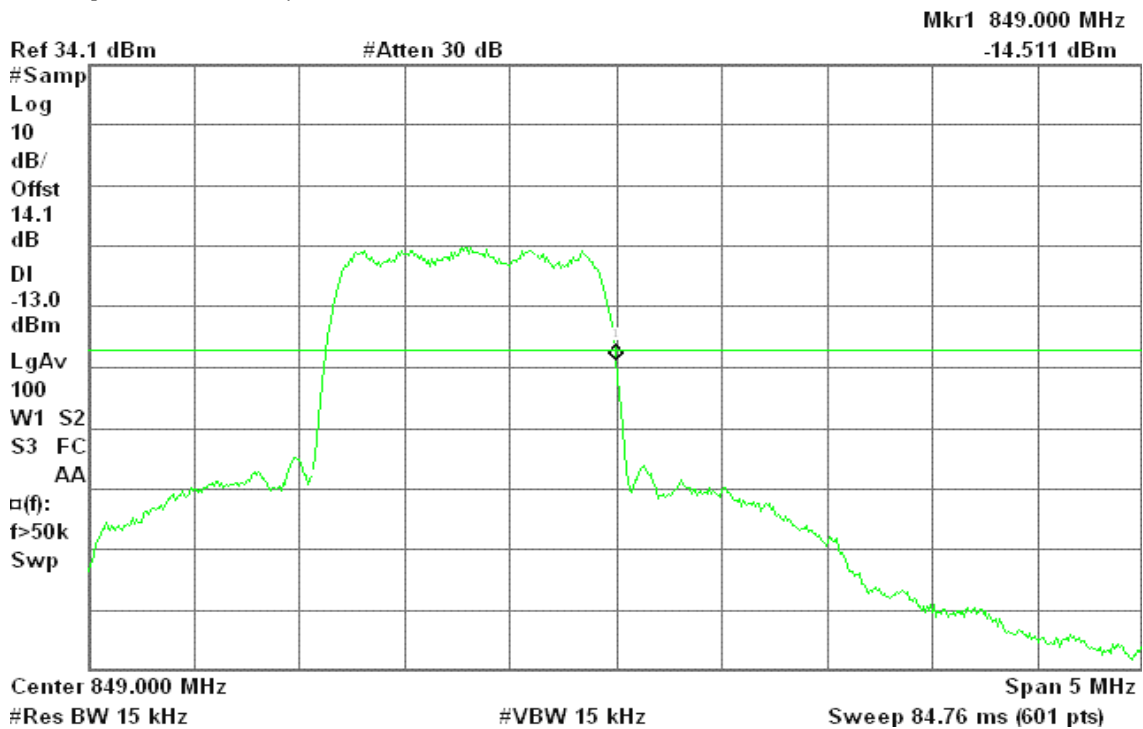


Figure 11-2: Band Edge emissions – CDMA2000 1xRTT / CH High

Agilent 07:36:57 Sep 6, 2006

T





CDMA2000 1xEDVO Cellular

Figure 12-1: Band Edge emissions – CDMA2000 1xEVDO / CH Low

Agilent 08:48:10 Sep 6, 2006

R T

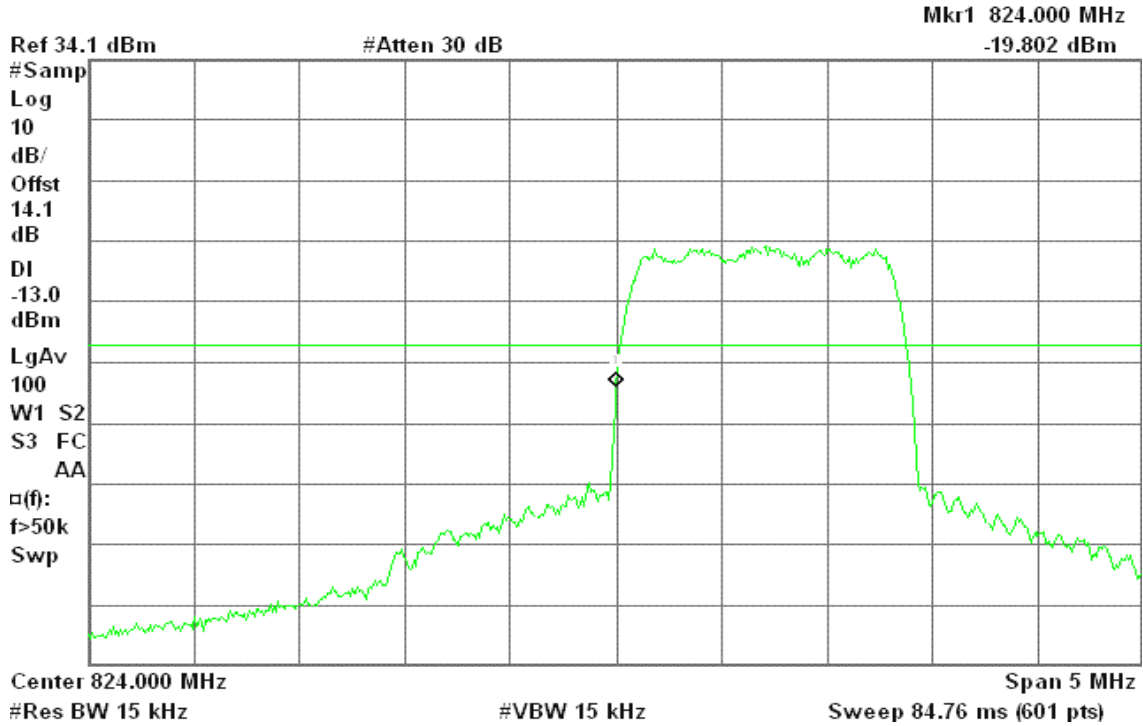
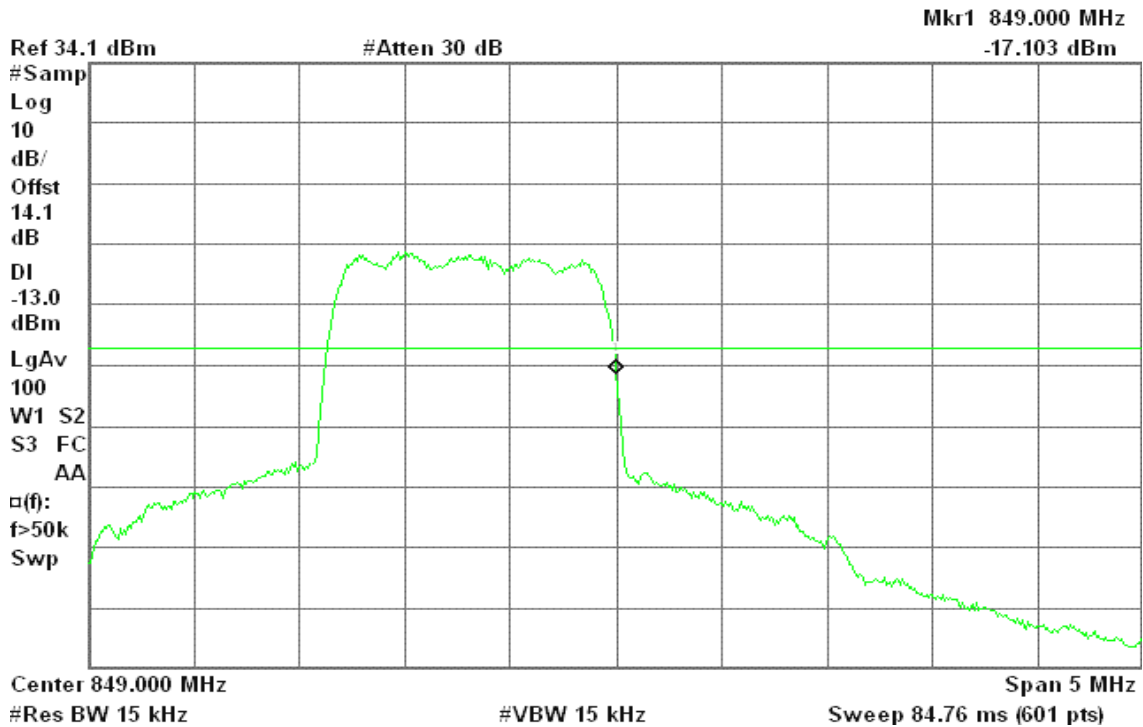


Figure 12-2: Band Edge emissions – CDMA2000 1xEVDO / CH High

Agilent 08:47:38 Sep 6, 2006

T





CDMA2000 1xRTT PCS

Figure 13-1: Band Edge emissions – CDMA2000 1xRTT / CH Low

Agilent 07:38:18 Sep 6, 2006

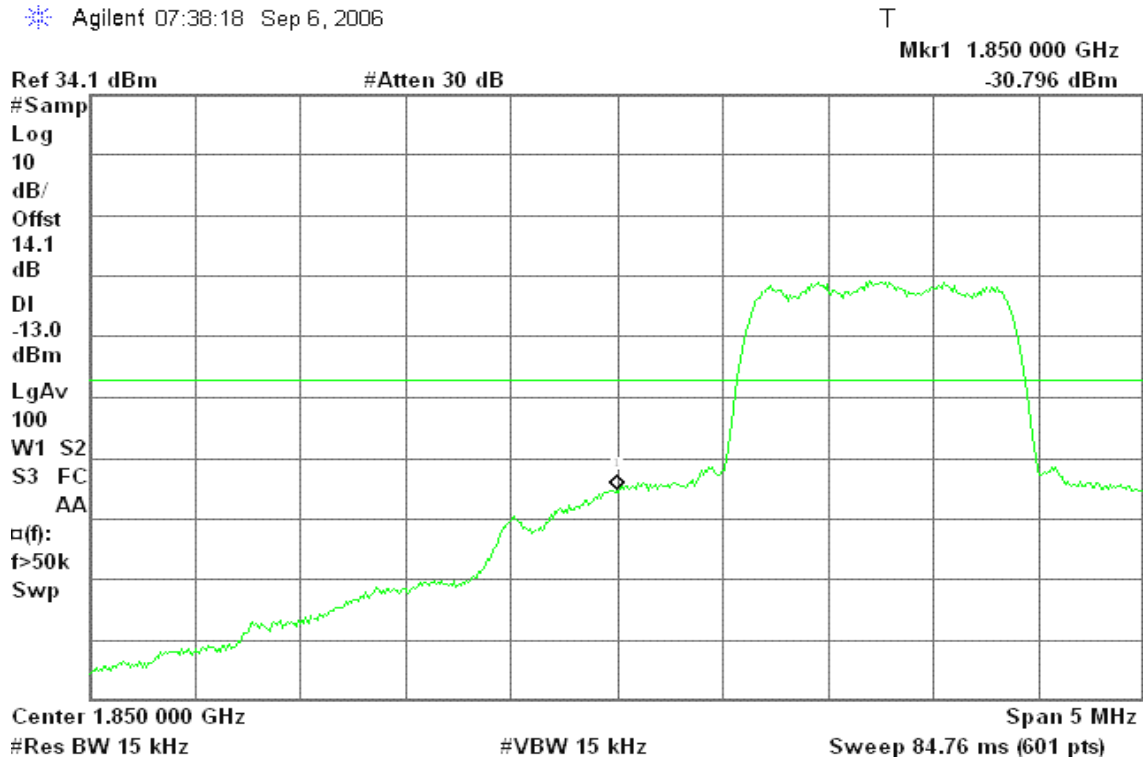
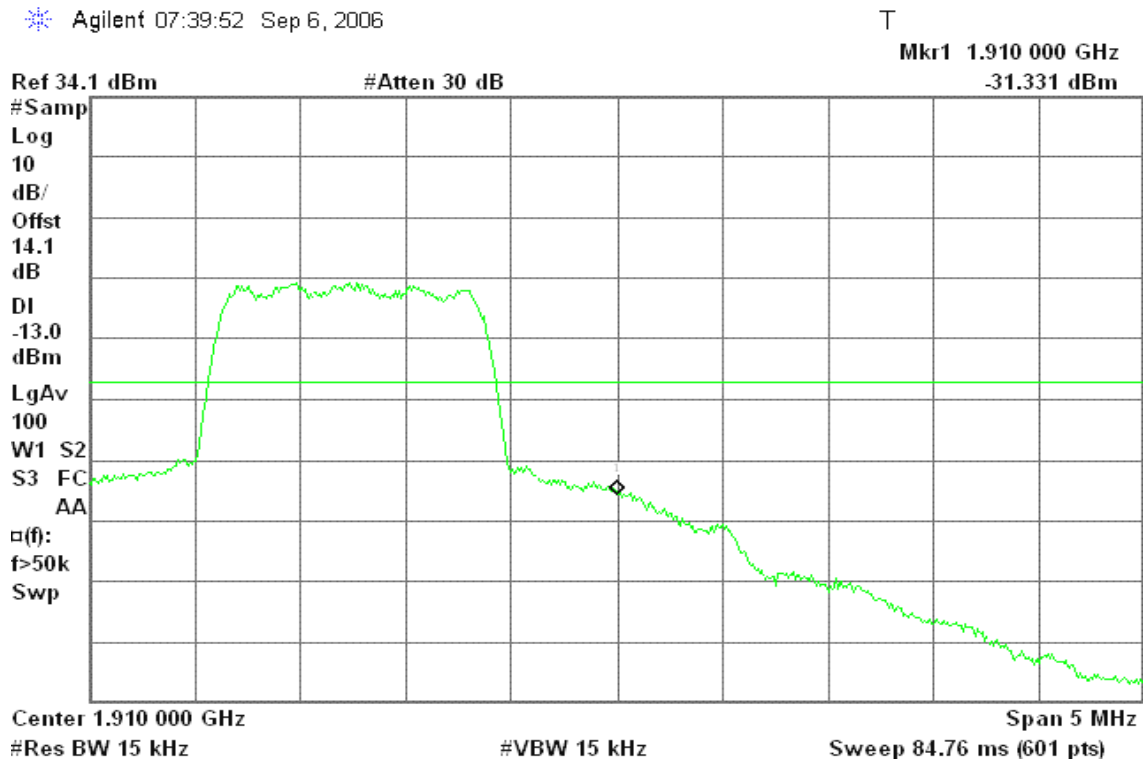


Figure 13-2: Band Edge emissions – CDMA2000 1xRTT / CH High

Agilent 07:39:52 Sep 6, 2006





CDMA2000 1xEVDO PCS

Figure 14-1: Band Edge emissions – CDMA2000 1xEVDO / CH Low

Agilent 08:46:29 Sep 6, 2006

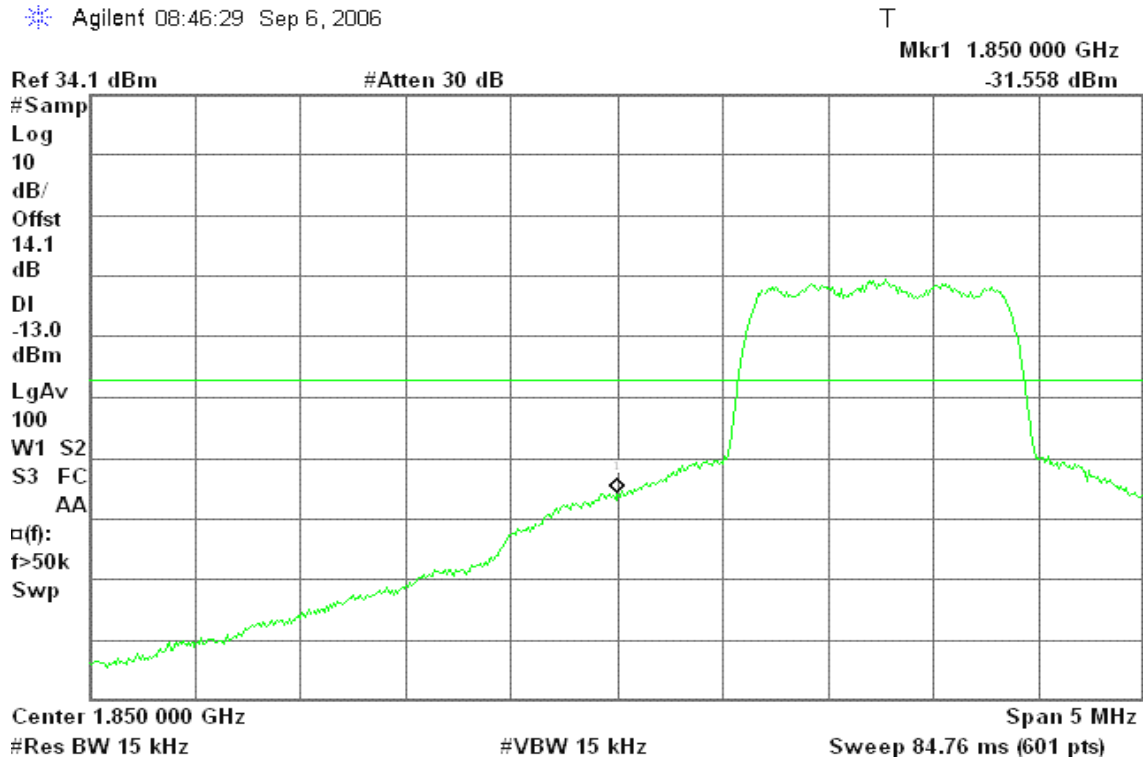
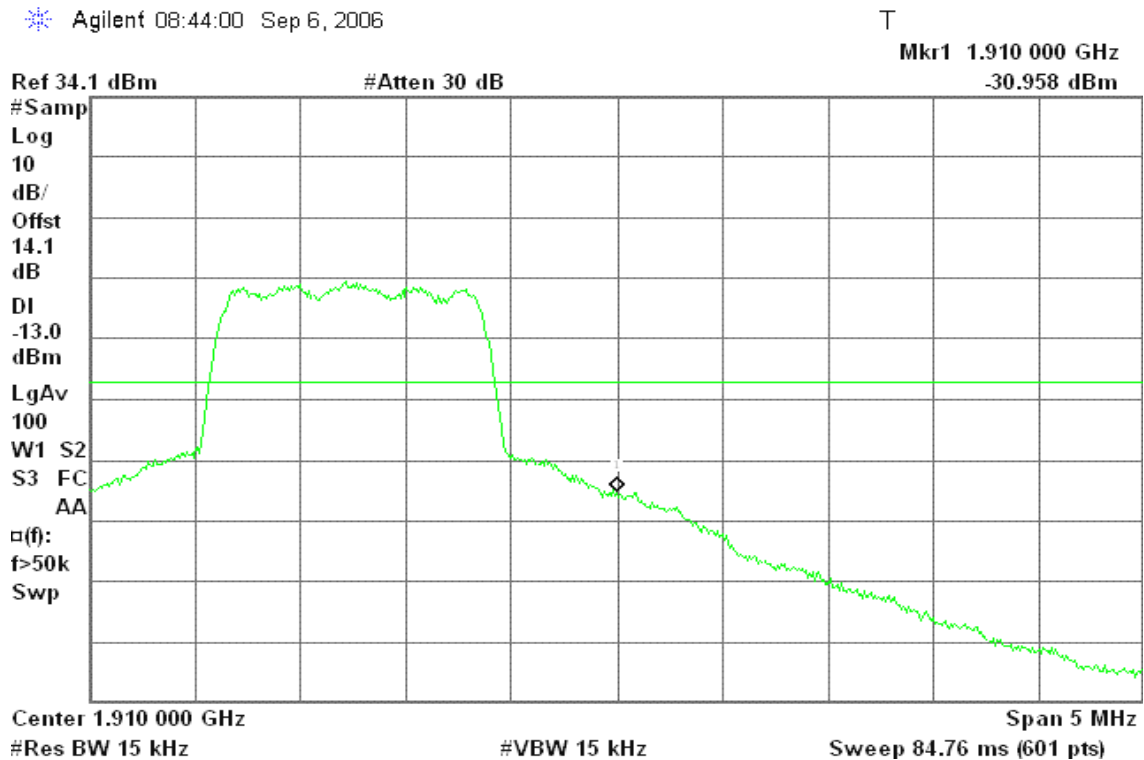


Figure 14-2: Band Edge emissions – CDMA2000 1xEVDO / CH High

Agilent 08:44:00 Sep 6, 2006



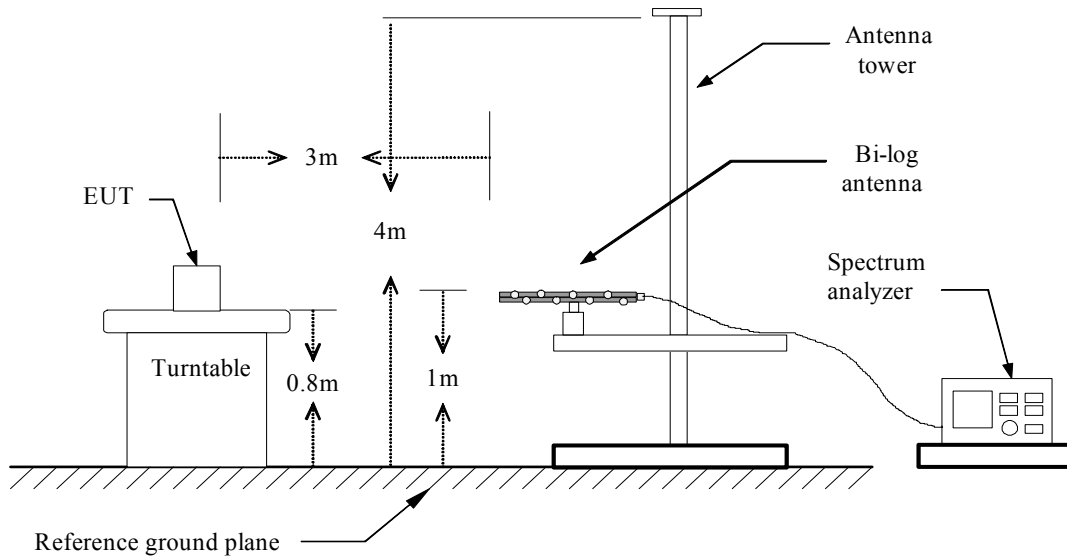
7.5 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

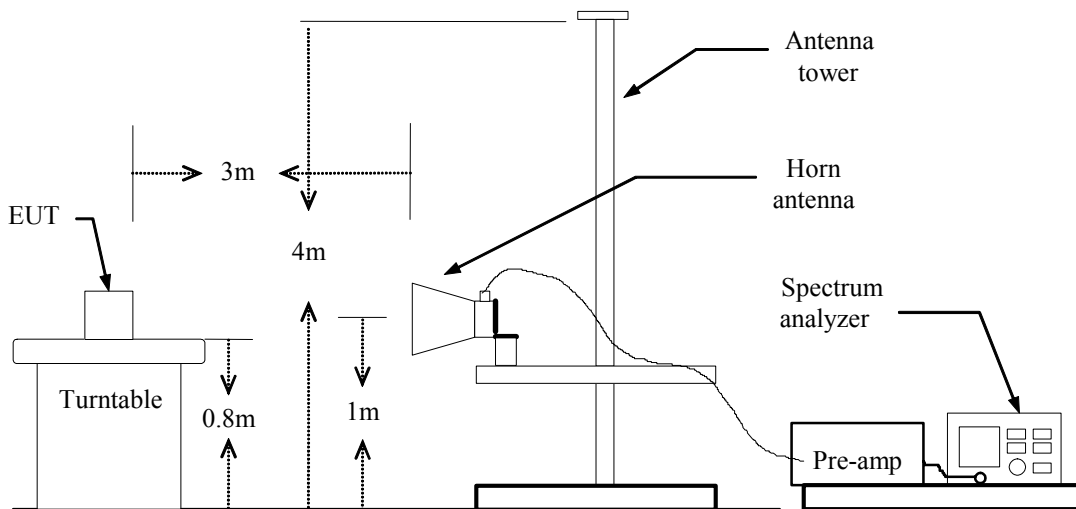
According to FCC §2.1053

Test Configuration

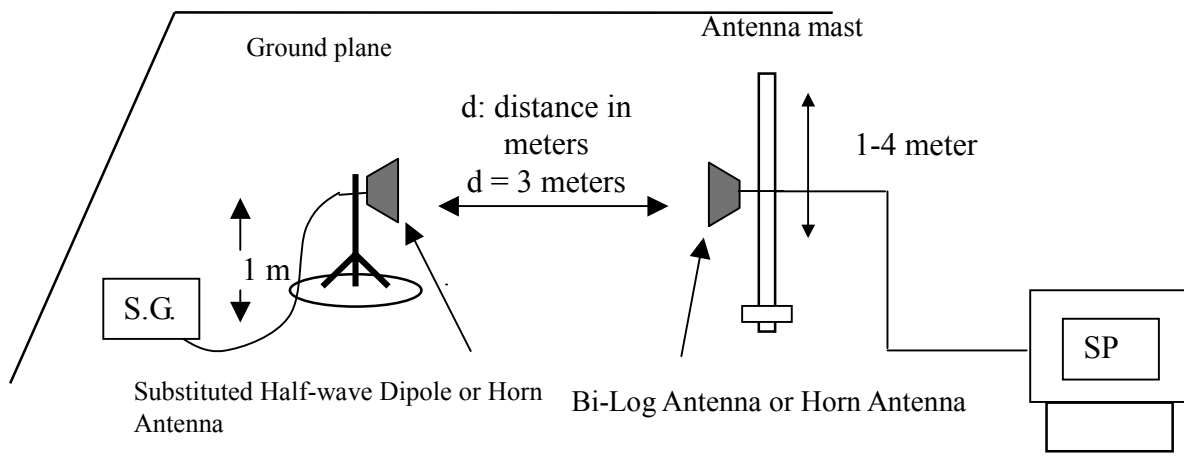
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

The EUT was placed on a non-conductive, the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable (dB)}$$

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)}$$

TEST RESULTS

Refer to the attached tabular data sheets.



Radiated Spurious Emission Measurement Result

Below 1GHz

Operation Mode: CDMA2000 1xRTT Cellular / CH Low **Test Date:** September 2, 2006

Temperature: 25°C **Tested by:** Ivan Tsai

Humidity: 55 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
57.16	V	-75.56	8.27	-67.29	-13.00	-54.29
77.53	V	-71.84	-5.09	-76.93	-13.00	-63.93
120.21	V	-67.58	-8.09	-75.67	-13.00	-62.67
157.07	V	-70.52	-5.63	-76.15	-13.00	-63.15
N/A						
77.53	H	-68.59	-5.69	-74.28	-13.00	-61.28
120.21	H	-72.91	-6.39	-79.30	-13.00	-66.30
155.13	H	-73.52	-4.36	-77.89	-13.00	-64.89
268.62	H	-73.25	-2.71	-75.96	-13.00	-62.96
N/A						

Remark:

- 1. The emission behaviour belongs to narrowband spurious emission.*
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



Operation Mode: CDMA2000 1xRTT Cellular / CH Mid

Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
65.89	V	-72.99	3.11	-69.88	-13.00	-56.88
120.21	V	-69.10	-8.09	-77.18	-13.00	-64.18
157.07	V	-70.29	-5.63	-75.92	-13.00	-62.92
N/A						
77.53	H	-69.41	-5.69	-75.10	-13.00	-62.10
120.21	H	-69.88	-6.39	-76.27	-13.00	-63.27
140.58	H	-67.83	-7.54	-75.37	-13.00	-62.37
268.62	H	-73.35	-2.71	-76.06	-13.00	-63.06
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT Cellular / CH High Test Date: September 2, 2006

Temperature: 25°C Tested by: Ivan Tsai

Humidity: 55 % RH Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
57.16	V	-76.19	8.27	-67.93	-13.00	-54.93
120.21	V	-68.11	-8.09	-76.19	-13.00	-63.19
157.07	V	-70.53	-5.63	-76.16	-13.00	-63.16
N/A						
59.10	H	-71.88	5.26	-66.63	-13.00	-53.63
77.53	H	-69.29	-5.69	-74.98	-13.00	-61.98
155.13	H	-72.85	-4.36	-77.21	-13.00	-64.21
268.62	H	-73.25	-2.71	-75.96	-13.00	-62.96
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO Cellular / CH Low Test Date: September 2, 2006

Temperature: 25°C Tested by: Ivan Tsai

Humidity: 55 % RH Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
90.14	V	-62.55	-9.54	-72.09	-13.00	-59.09
136.70	V	-65.47	-6.71	-72.17	-13.00	-59.17
150.28	V	-68.37	-2.77	-71.14	-13.00	-58.14
N/A						
90.14	H	-63.68	-9.31	-72.99	-13.00	-59.99
120.21	H	-68.25	-6.39	-74.65	-13.00	-61.65
149.31	H	-68.37	-3.36	-71.73	-13.00	-58.73
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO Cellular / CH Mid Test Date: September 2, 2006

Temperature: 25°C Tested by: Ivan Tsai

Humidity: 55 % RH Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
90.14	V	-64.24	-9.54	-73.77	-13.00	-60.77
120.21	V	-65.36	-8.09	-73.45	-13.00	-60.45
150.28	V	-68.33	-2.77	-71.10	-13.00	-58.10
N/A						
121.18	H	-68.23	-6.69	-74.92	-13.00	-61.92
150.28	H	-67.96	-3.10	-71.07	-13.00	-58.07
184.23	H	-62.28	-5.18	-67.47	-13.00	-54.47
228.85	H	-62.71	-3.18	-65.89	-13.00	-52.89
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO Cellular / CH High Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128.94	V	-64.58	-7.47	-72.05	-13.00	-59.05
150.28	V	-67.90	-2.77	-70.67	-13.00	-57.67
N/A						
90.14	H	-64.16	-9.31	-73.47	-13.00	-60.47
120.21	H	-67.06	-6.39	-73.45	-13.00	-60.45
152.22	H	-67.62	-3.61	-71.23	-13.00	-58.23
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT PCS / CH Low

Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-52.73	12.03	-40.70	-13.00	-27.70
68.80	V	-52.14	0.99	-51.14	-13.00	-38.14
132.82	V	-52.16	-7.10	-59.27	-13.00	-46.27
414.12	V	-57.63	1.50	-56.13	-13.00	-43.13
N/A						
43.58	H	-58.83	8.96	-49.87	-13.00	-36.87
68.80	H	-56.44	-0.11	-56.56	-13.00	-43.56
127.97	H	-46.73	-8.74	-55.47	-13.00	-42.47
268.62	H	-56.27	-2.71	-58.98	-13.00	-45.98
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT PCS / CH Mid

Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-53.48	12.03	-41.45	-13.00	-28.45
68.80	V	-52.33	0.99	-51.34	-13.00	-38.34
131.85	V	-52.61	-7.20	-59.81	-13.00	-46.81
191.99	V	-56.14	-5.28	-61.42	-13.00	-48.42
N/A						
40.67	H	-60.11	10.26	-49.85	-13.00	-36.85
69.77	H	-56.21	-0.68	-56.89	-13.00	-43.89
129.91	H	-45.48	-9.32	-54.80	-13.00	-41.80
268.62	H	-56.48	-2.71	-59.19	-13.00	-46.19
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT PCS / CH High

Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
41.64	V	-53.86	12.22	-41.65	-13.00	-28.65
56.19	V	-51.58	8.56	-43.01	-13.00	-30.01
68.80	V	-51.50	0.99	-50.51	-13.00	-37.51
129.91	V	-51.71	-7.40	-59.11	-13.00	-46.11
173.56	V	-56.24	-6.05	-62.29	-13.00	-49.29
519.85	V	-57.67	3.62	-54.06	-13.00	-41.06
42.61	H	-59.32	9.40	-49.92	-13.00	-36.92
67.83	H	-56.45	0.45	-56.00	-13.00	-43.00
128.94	H	-46.44	-9.03	-55.47	-13.00	-42.47
268.62	H	-56.51	-2.71	-59.22	-13.00	-46.22
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO PCS / CH Low

Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-52.08	12.03	-40.05	-13.00	-27.05
54.25	V	-51.58	9.15	-42.42	-13.00	-29.42
68.80	V	-52.88	0.99	-51.89	-13.00	-38.89
131.85	V	-52.40	-7.20	-59.60	-13.00	-46.60
268.62	V	-57.97	-2.68	-60.65	-13.00	-47.65
N/A						
53.28	H	-57.31	6.92	-50.39	-13.00	-37.39
67.83	H	-56.30	0.45	-55.85	-13.00	-42.85
127.97	H	-46.42	-8.74	-55.16	-13.00	-42.16
268.62	H	-56.29	-2.71	-59.00	-13.00	-46.00
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO PCS / CH Mid

Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-53.71	11.84	-41.88	-13.00	-28.88
55.22	V	-52.02	8.86	-43.17	-13.00	-30.17
129.91	V	-52.16	-7.40	-59.56	-13.00	-46.56
268.62	V	-57.68	-2.68	-60.36	-13.00	-47.36
N/A						
40.67	H	-58.98	10.26	-48.72	-13.00	-35.72
68.80	H	-55.91	-0.11	-56.03	-13.00	-43.03
127.97	H	-46.73	-8.74	-55.47	-13.00	-42.47
373.38	H	-57.94	1.10	-56.83	-13.00	-43.83
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO PCS / CH High

Test Date: September 2, 2006

Temperature: 25°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
41.64	V	-54.02	12.22	-41.80	-13.00	-28.80
55.22	V	-52.17	8.86	-43.31	-13.00	-30.31
131.85	V	-52.89	-7.20	-60.09	-13.00	-47.09
269.59	V	-58.04	-2.62	-60.66	-13.00	-47.66
N/A						
38.73	H	-60.57	10.23	-50.34	-13.00	-37.34
68.80	H	-54.77	-0.11	-54.88	-13.00	-41.88
128.94	H	-46.63	-9.03	-55.66	-13.00	-42.66
191.99	H	-55.71	-4.44	-60.14	-13.00	-47.14
N/A						

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Above 1GHz

Operation Mode: CDMA2000 1xRTT Cellular / CH Low **Test Date:** September 2, 2006

Temperature: 24°C **Tested by:** Ivan Tsai

Humidity: 55 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-46.27	1.07	-45.20	-13.00	-32.20
2512.00	V	-54.82	3.78	-51.04	-13.00	-38.04
3345.00	V	-51.31	6.30	-45.00	-13.00	-32.00
N/A						
1672.00	H	-50.98	1.30	-49.68	-13.00	-36.68
2512.00	H	-52.71	4.09	-48.62	-13.00	-35.62
3345.00	H	-46.27	6.57	-39.69	-13.00	-26.69
N/A						

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



Operation Mode: CDMA2000 1xRTT Cellular / CH Mid

Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-45.30	1.14	-44.16	-13.00	-31.16
2547.00	V	-47.99	3.91	-44.07	-13.00	-31.07
3394.00	V	-47.46	6.40	-41.06	-13.00	-28.06
N/A						
1700.00	H	-49.50	1.37	-48.13	-13.00	-35.13
2547.00	H	-44.54	4.21	-40.33	-13.00	-27.33
3394.00	H	-43.99	6.69	-37.30	-13.00	-24.30
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT Cellular / CH High Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-44.53	1.02	-43.51	-13.00	-30.51
3303.00	V	-52.41	6.22	-46.19	-13.00	-33.19
N/A						
1651.00	H	-50.08	1.25	-48.83	-13.00	-35.83
3296.00	H	-48.91	6.46	-42.45	-13.00	-29.45
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO Cellular / CH Low Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-46.65	1.07	-45.57	-13.00	-32.57
2512.00	V	-52.91	3.78	-49.12	-13.00	-36.12
3345.00	V	-50.83	6.30	-44.53	-13.00	-31.53
N/A						
1672.00	H	-50.80	1.30	-49.50	-13.00	-36.50
2512.00	H	-50.54	4.09	-46.45	-13.00	-33.45
3345.00	H	-46.06	6.57	-39.49	-13.00	-26.49
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO Cellular / CH Mid Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-45.10	1.14	-43.96	-13.00	-30.96
2547.00	V	-47.97	3.91	-44.05	-13.00	-31.05
3394.00	V	-46.06	6.40	-39.66	-13.00	-26.66
N/A						
1700.00	H	-50.05	1.37	-48.69	-13.00	-35.69
2547.00	H	-43.49	4.21	-39.28	-13.00	-26.28
3394.00	H	-42.83	6.69	-36.14	-13.00	-23.14
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO Cellular / CH High Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-45.42	1.02	-44.40	-13.00	-31.40
3303.00	V	-51.22	6.22	-45.00	-13.00	-32.00
N/A						
1651.00	H	-49.34	1.25	-48.09	-13.00	-35.09
3296.00	H	-48.60	6.46	-42.15	-13.00	-29.15
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT PCS / CH Low

Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-42.01	6.97	-35.04	-13.00	-22.04
5557.00	V	-45.79	10.02	-35.77	-13.00	-22.77
N/A						
3702.00	H	-43.05	7.21	-35.84	-13.00	-22.84
5557.00	H	-47.35	9.84	-37.51	-13.00	-24.51
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT PCS / CH Mid

Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-41.05	7.06	-33.99	-13.00	-20.99
5641.00	V	-44.17	10.66	-33.51	-13.00	-20.51
N/A						
3758.00	H	-45.86	7.28	-38.58	-13.00	-25.58
5641.00	H	-46.18	9.95	-36.23	-13.00	-23.23
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xRTT PCS / CH High

Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-31.75	7.17	-24.57	-13.00	-11.57
5725.00	V	-40.87	11.30	-29.57	-13.00	-16.57
7636.00	V	-56.57	17.66	-38.91	-13.00	-25.91
N/A						
3821.00	H	-36.25	7.36	-28.89	-13.00	-15.89
5725.00	H	-42.19	10.07	-32.12	-13.00	-19.12
7636.00	H	-54.56	17.88	-36.68	-13.00	-23.68
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO PCS / CH Low

Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-42.73	6.97	-35.76	-13.00	-22.76
5557.00	V	-40.75	10.02	-30.73	-13.00	-17.73
N/A						
3702.00	H	-47.54	7.21	-40.33	-13.00	-27.33
5557.00	H	-45.63	9.84	-35.79	-13.00	-22.79
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO PCS / CH Mid

Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-42.32	7.06	-35.25	-13.00	-22.25
5641.00	V	-42.65	10.66	-31.99	-13.00	-18.99
N/A						
3758.00	H	-49.02	7.28	-41.74	-13.00	-28.74
5641.00	H	-43.33	9.95	-33.38	-13.00	-20.38
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.



Operation Mode: CDMA2000 1xEVDO PCS / CH High

Test Date: September 2, 2006

Temperature: 24°C

Tested by: Ivan Tsai

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-32.76	7.17	-25.58	-13.00	-12.58
5725.00	V	-40.73	11.30	-29.43	-13.00	-16.43
7636.00	V	-57.43	17.66	-39.76	-13.00	-26.76
N/A						
3814.00	H	-37.27	7.35	-29.92	-13.00	-16.92
5725.00	H	-44.83	10.07	-34.76	-13.00	-21.76
7636.00	H	-56.90	17.88	-39.02	-13.00	-26.02
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.

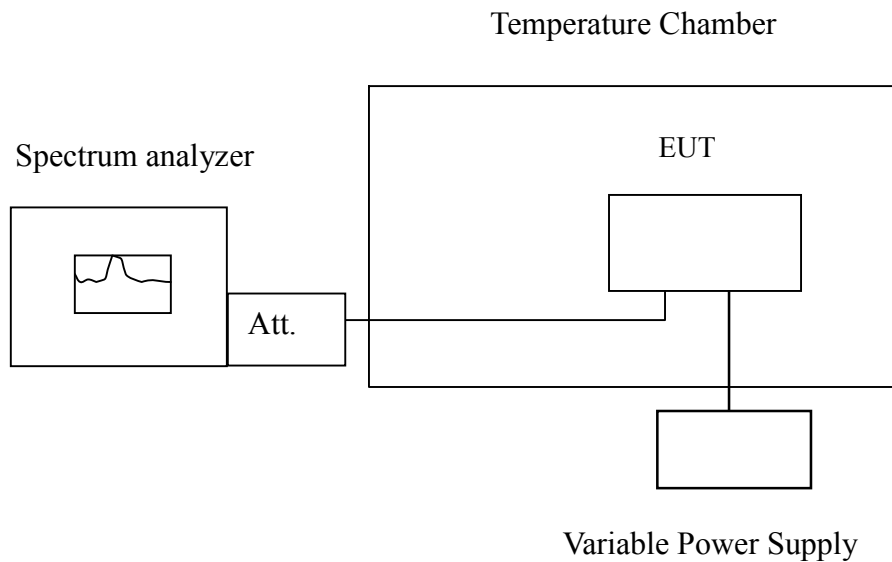
7.6 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235.

Frequency Tolerance: 2.5 ppm

Test Configuration



Remark: Measurement setup for testing on Antenna connector



TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST RESULTS

No non-compliance noted.

Reference Frequency: CDMA2000 Mid Channel 836.52MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83652010.8	13	±2091
	40	83652006.8	9	
	30	83652007.3	9	
	20	83651997.9	0	
	10	83651993	-5	
	0	83651989.6	-8	
	-10	83651984.7	-13	
	-20	83651989.9	-8	
	-30	83651984.5	-13	

Reference Frequency: CDMA2000 Mid Channel 1880MHz @ 20°C				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1879999991	-17	±4700
	40	1879999991	-17	
	30	1879999995	-13	
	20	1880000008	0	
	10	1880000009	1	
	0	1880000012	4	
	-10	1880000011	2	
	-20	1880000008	-1	
	-30	1880000010	2	

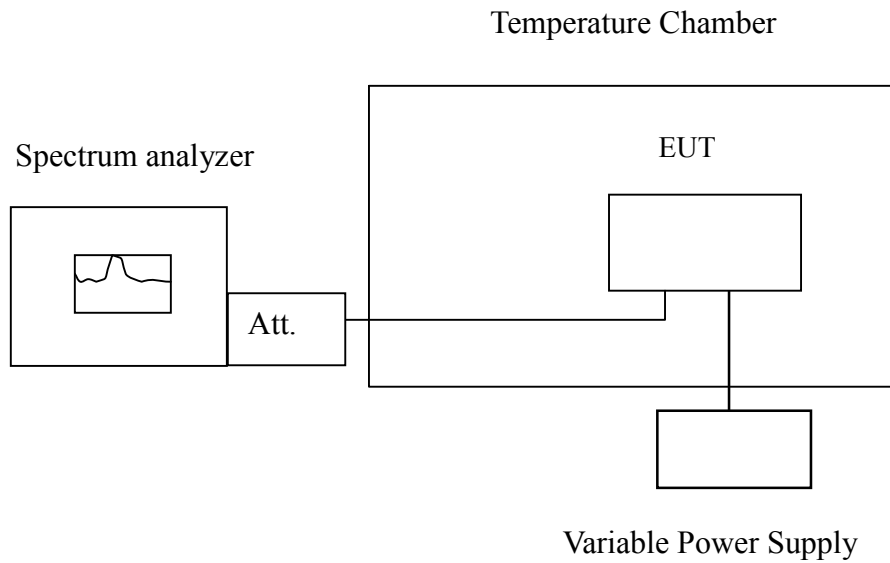
7.7 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235,

Frequency Tolerance: 2.5 ppm.

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (± 15%) and endpoint, record the maximum frequency change.

TEST RESULTS

No non-compliance noted.

Reference Frequency: CDMA2000 Mid Channel 836.52MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	83652005	7	±2091
3.7		83651998	0	
3.3(END POINT)		83652008	10	

Reference Frequency: CDMA2000 Mid Channel 1880MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	1880000007	-1	±4700
3.7		1880000008	0	
3.3(END POINT)		1879999983	-25	



7.8 POWERLINE CONDUCTED EMISSIONS

LIMIT

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete..



TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Operation Mode: Normal Link **Test Date:** July 17, 2006
Temperature: 25°C **Tested by:** Ivan Tsai
Humidity: 55% RH

Freq. (MHz)	QP Reading	AV Reading	Corr. factor	QP Result	AV Result	QP Limit	AV Limit	QP Margin	AV Margin	Note
0.179	31.620	29.820	0.142	31.762	29.962	64.532	54.532	-32.770	-24.570	L1
0.610	34.140	31.050	0.100	34.240	31.150	56.000	46.000	-21.760	-14.850	L1
1.040	33.210	29.080	0.100	33.310	29.180	56.000	46.000	-22.690	-16.820	L1
2.080	35.650	28.110	0.100	35.750	28.210	56.000	46.000	-20.250	-17.790	L1
2.199	35.990	28.710	0.100	36.090	28.810	56.000	46.000	-19.910	-17.190	L1
14.306	19.420	17.270	0.786	20.206	18.056	60.000	50.000	-39.794	-31.944	L1
0.182	36.640	30.200	0.136	36.776	30.336	64.394	54.394	-27.618	-24.058	L2
0.240	34.360	22.580	0.100	34.460	22.680	62.080	52.080	-27.620	-29.400	L2
0.305	32.950	27.950	0.100	33.050	28.050	60.110	50.110	-27.060	-22.060	L2
0.488	32.380	26.120	0.100	32.480	26.220	56.202	46.202	-23.722	-19.982	L2
0.610	30.250	24.690	0.100	30.350	24.790	56.000	46.000	-25.650	-21.210	L2
1.285	25.580	20.080	0.100	25.680	20.180	56.000	46.000	-30.320	-25.820	L2

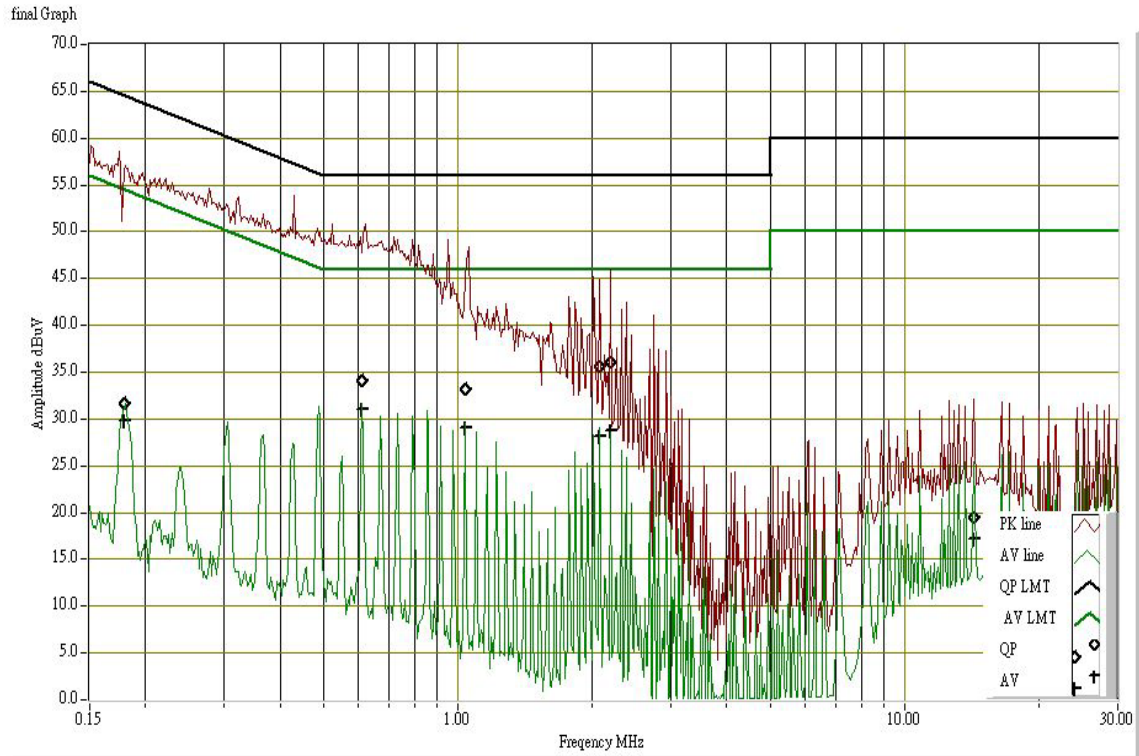
Remark:

1. Measuring frequencies from 0.15 MHz to 30MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;
4. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)



Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)

