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

TEST REPORT

For

LTE Module

Trade Name: Getac

Model: LTE7750

Issued to

Getac Technology Corp.
4F, No.1, R&D 2nd Road, Hsin-Chu Science-Based Industrial Park,
Hsin-Chu Hsien, Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc.
No.11, Wu-Gong 6th Rd., Wugu Industrial Park,
New Taipei City 248, Taiwan (R.O.C.)
http://www.ccsrf.com
service@ccsrf.com
Issued Date: October 15, 2012

Testing Laboratory
1309

Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		October 15, 2012		Initial Issue	ALL	Angel Cheng

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION

Applicant:	Getac Technology Corp. 4F, No.1, R&D 2nd Road, Hsin-Chu Science-Based Industrial Park, Hsin-Chu Hsien, Taiwan, R.O.C.
Equipment Under Test:	LTE Module
Trade Name:	Getac
Model:	LTE7750
Date of Test:	August 20 ~ October 4, 2012

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 22 Subpart H & 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 TIA/EIA-603-C: 2004 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:

Miller Lee
Section Manager
Compliance Certification Services Inc.

Reviewed by:

Gina Lo
Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	LTE Module
Trade Name	Getac
Model Number	LTE7750
Model Discrepancy	N/A
Received Date	October 8, 2012
Power Supply	Powered by host device.
Frequency Range	TX: 824.7 ~ 848.31 MHz / 1851.25 ~ 1908.75 MHz RX: 869.7 ~ 893.31 MHz / 1931.25 ~ 1988.75 MHz
Transmit Power (ERP & EIRP Power)	CDMA2000 1xRTT 850 MHz: 9.32 dBm 1900 MHz: 10.48 dBm CDMA2000 1xEVDO 850 MHz: 16.35 dBm 1900 MHz: 9.93 dBm
Cellular Phone Protocol	CDMA2000 1xRTT CDMA2000 1xEVDO
Type of Emission	CDMA2000 1xRTT: 824.7 ~ 848.31 MHz: 1M27F9W--- 1851.25 ~ 1908.75 MHz: 1M28F9W--- CDMA2000 1xEVDO 824.7 ~ 848.31 MHz: 1M27F9W--- 1851.25 ~ 1908.75 MHz: 1M28F9W---
Antenna Gain	**Part No.: IA-100107:** 850 MHz: 0.52566dBi 1900 MHz: 2.06062Bi **Part No.: IA-100108:** 850 MHz: -1.88072 dBi 1900 MHz: 2.08052 Bi
Antenna Type	PIFA Antenna
Note	Product name: Notebook Computer / Brand name: Getac Model: V100, V200

Remark:

1. *The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*
2. *This submittal(s) (test report) is intended for FCC ID: **MAU050** filing to comply with Part 22 and Part 24 of the FCC 47 CFR Rules.*

3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4: 2003, TIA/EIA-603-C: 2004 and FCC CFR 47, 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

3.1EUT 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.

3.2EUT EXERCISE

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

3.3GENERAL 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.

3.4DESCRIPTION OF TEST MODES

The EUT (model: V1) 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:

RC/TAP (REV)	SO/TAP (REV)	CDMA 850 / Cellular band			CDMA 1900 / PCS band		
		1013	384	777	25	600	1175
RC1	SO2	24.33	24.39	24.25	24.36	24.38	24.32
RC1	SO55	24.35	24.25	24.22	24.26	24.30	24.28
RC2	SO9	24.34	24.21	24.21	24.40	24.38	24.32
RC2	SO55	24.41	24.43	24.20	24.34	24.28	24.31
RC3	SO55	23.52	23.82	23.45	23.37	23.69	23.78
RC3	SO32	24.33	24.35	24.38	24.36	24.38	24.35
1xEvDO Rev.0	(FTAP) (dBm)	23.35	23.27	23.15	23.24	23.15	23.18

Based on the above results from the different modulations, CDMA2000 1xRTT RC3, SO32 (+F-SCH) and 1Xevdo, FTAP370 were determined to be the worst-case scenario for all tests.

4. INSTRUMENT CALIBRATION

4.1MEASURING 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 and Loop Antenna is scheduled for calibration once three years.*

Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY43360131	03/21/2013
Power Meter	Anritsu	ML2495A	1012009	06/05/2013
Power Sensor	Anritsu	MA2411A	0917072	06/05/2013
Temp. / Humidity Chamber	Terchy	MHG-150LF	930619	10/19/2012

Wugu 966 Chamber A				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510268	11/15/2012
EMI Test Receiver	R&S	ESCI	100064	03/01/2013
Pre-Amplifier	Mini-Circults	ZFL-1000LN	SF350700823	01/13/2013
Pre-Amplifier	MITEQ	AFS44-00102650-42-10P-44	1415367	11/20/2012
Bilog Antenna	Sunol Sciences	JB3	A030105	10/03/2012
Bilog Antenna	Sunol Sciences	JB3	A030205	10/03/2012
Horn Antenna	EMCO	3117	00055165	02/14/2013
Horn Antenna	EMCO	3117	00055167	01/29/2013
Horn Antenna	EMCO	3116	00026370	10/12/2012
Loop Antenna	EMCO	6502	8905/2356	06/10/2013
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Site NSA	CCS	N/A	N/A	12/23/2012
Test S/W	EZ-EMC (CCS-3A1RE)			

Conducted Emission room				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
L.I.S.N	SCHWARZBECK	NSLK 8127	8127-465	08/07/2013
L.I.S.N	SCHWARZBECK	NSLK 8127	8127-473	03/12/2013
EMI Receiver	ROHDE & SCHWARZ	ESCS 30	835418/008	10/20/2012
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	100117	07/03/2013

4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 2.48
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

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

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, Wu-Gong 6th Rd., Wugu Industrial Park, New Taipei City 248, Taiwan (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN, R.O.C.
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.”

5.3TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12,2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method –47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	TAF Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	Canada IC 2324G-1 IC 2324G-2

** 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 I for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Product	Manufacturer	Model No.	Serial No.	FCC ID
1	Notebook PC	HP	ProBook 4421s	CNF03242PJ	DoC
2	LCD Monitor	ViewSonic	VA1918wm	R18082200388	DoC
3	Micro SD	SanDisk	SDSDM-1024	BB07251CTE	---
4	External hard drive	TeraSys	F12-U	4912A002	---
5	Modem	ZyXEL	Omni 56K	S1Z4107727	1880MNI56K
6	USB 3.0	ADATA	C103/16GB	---	---
7	CF Adaptor	iEI	1211004-0040	00082900065	---
8	USB 2.0	---	---	---	---

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.*

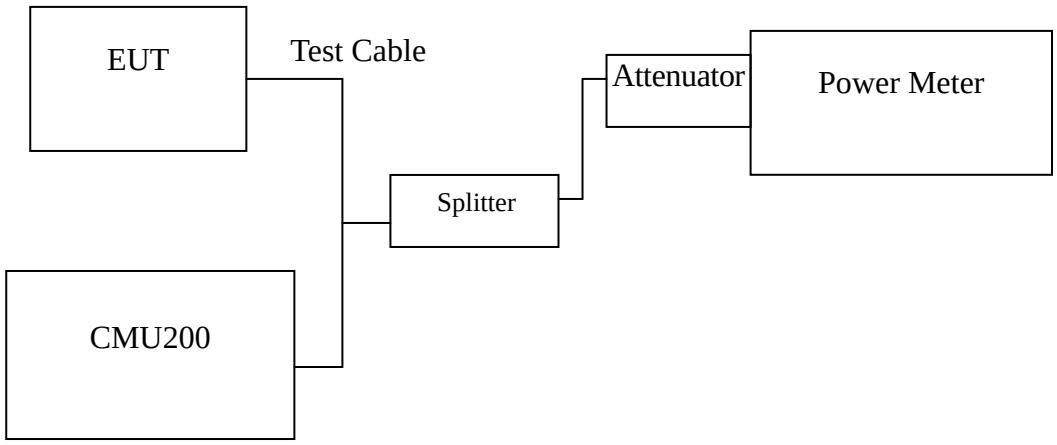
7. FCC PART 22 & 24 REQUIREMENTS

7.1 TRANSMIT 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

Average Power

Test Mode	CH	Frequency (MHz)	Average Power (dBm)
CDMA2000 1xRTT Cellular	1013	824.70	23.52
	384	836.52	23.82
	777	848.31	23.45
CDMA2000 1xEVDO Cellular	1013	824.70	23.35
	384	836.52	23.27
	777	848.31	23.15

Test Mode	CH	Frequency (MHz)	Average Power (dBm)
CDMA2000 1xRTT PCS	25	1851.25	23.37
	600	1880.00	23.69
	1175	1908.75	23.78
CDMA2000 1xEVDO PCS	25	1851.25	23.24
	600	1880.00	23.15
	1175	1908.75	23.18

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

Peak Power

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
CDMA2000 1xRTT Cellular	1013	824.70	24.24
	384	836.52	24.46
	777	848.31	24.15
CDMA2000 1xEVDO Cellular	1013	824.70	24.20
	384	836.52	24.16
	777	848.31	24.12

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
CDMA2000 1xRTT PCS	25	1851.25	24.62
	600	1880.00	24.69
	1175	1908.75	24.81
CDMA2000 1xEVDO PCS	25	1851.25	24.28
	600	1880.00	24.19
	1175	1908.75	24.12

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

7.2 ERP & EIRP MEASUREMENT

LIMIT

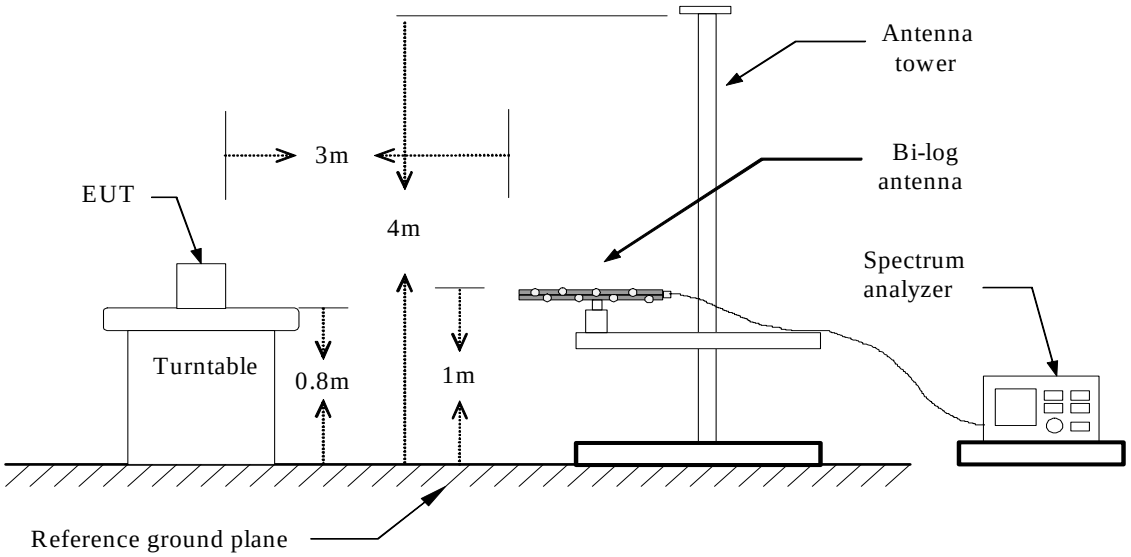
According to FCC §2.1046

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

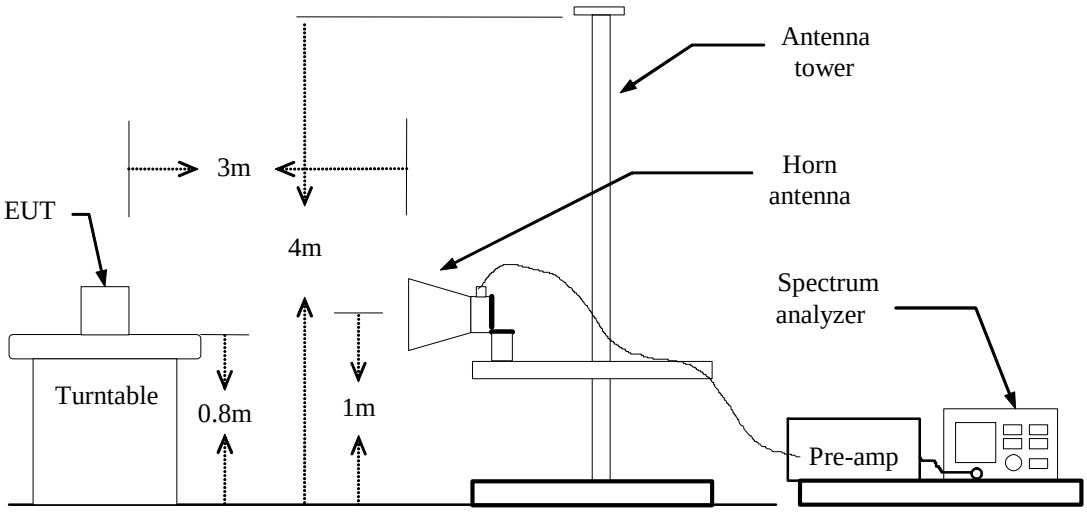
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

TEST CONFIGURATION

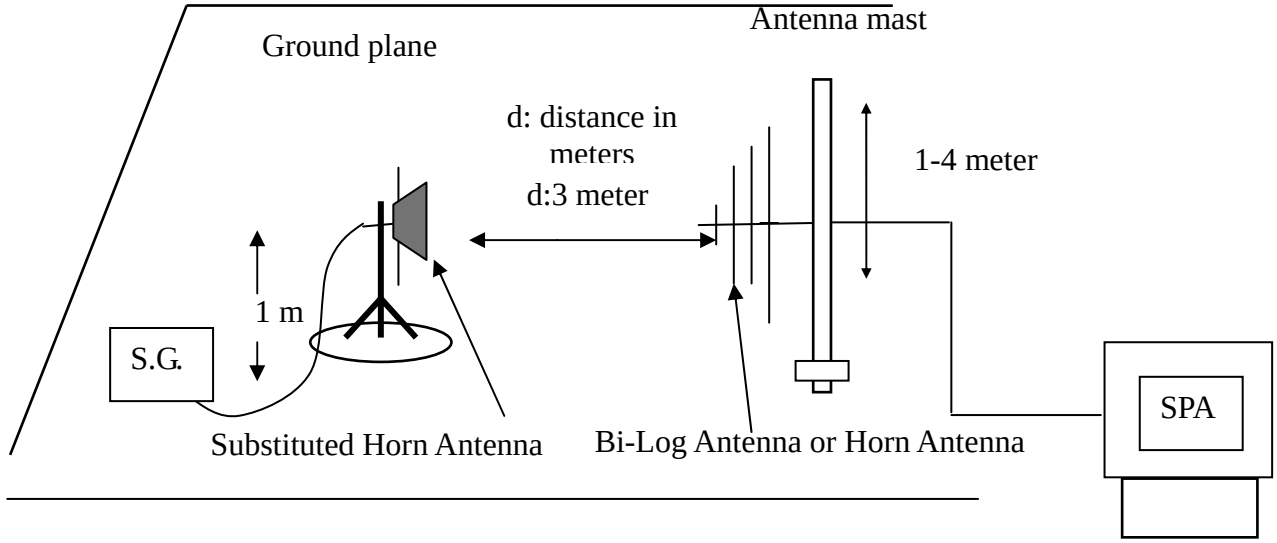
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

The EUT was placed on an 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 = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)-2.15
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

No non-compliance noted.

CDMA2000 1xRTT Cellular Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1013	824.70	V	6.47	3.39	6.24	***9.32**	38.45	-29.13
	824.70	H	2.83	3.39	6.25	5.69	38.45	-32.76
384	836.52	V	6.2	3.4	6.36	9.16	38.45	-29.29
	836.52	H	2.02	3.4	6.37	4.99	38.45	-33.46
777	848.31	V	5.96	3.4	6.4	8.96	38.45	-29.49
	848.31	H	1.85	3.4	6.4	4.85	38.45	-33.60

CDMA2000 1xEVDO Cellular Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1013	824.70	V	13.5	3.39	6.24	***16.35**	38.45	-22.10
	824.70	H	10.26	3.39	6.24	13.11	38.45	-25.34
384	836.52	V	-2.24	3.4	6.36	0.72	38.45	-37.73
	836.52	H	-5.87	3.4	6.37	-2.90	38.45	-41.35
777	848.31	V	-2.19	3.4	6.4	0.81	38.45	-37.64
	848.31	H	-6.13	3.4	6.4	-3.13	38.45	-41.58

CDMA2000 1xRTT PCS Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
25	1851.25	V	3.41	5.37	5.67	3.71	33.00	-29.29
	1851.25	H	2.7	5.37	5.67	3.00	33.00	-30.00
600	1880.00	V	7.85	5.42	5.62	8.05	33.00	-24.95
	1880.00	H	2.51	5.42	5.62	2.71	33.00	-30.29
1175	1908.75	V	10.39	5.47	5.56	***10.48**	33.00	-22.52
	1908.75	H	5.68	5.47	5.56	5.77	33.00	-27.23

CDMA2000 1xEVDO PCS Test Data

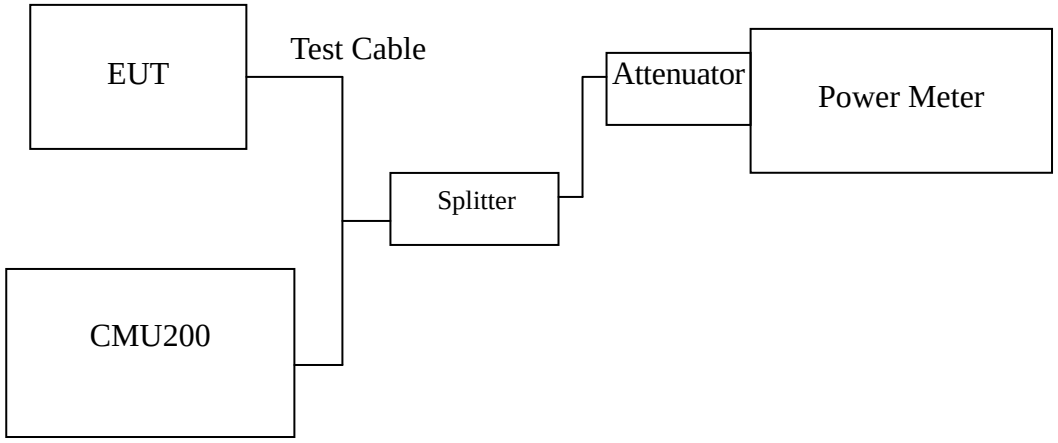
Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
25	1851.25	V	3.89	5.37	5.67	4.19	33.00	-28.81
	1851.25	H	2.14	5.37	5.67	2.44	33.00	-30.56
600	1880.00	V	6.83	5.42	5.62	7.03	33.00	-25.97
	1880.00	H	3.97	5.42	5.62	4.17	33.00	-28.83
1175	1908.75	V	9.84	5.47	5.56	***9.93**	33.00	-23.07
	1908.75	H	6.18	5.47	5.56	6.27	33.00	-26.73

7.3OCCUPIED 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 (or 99% bandwidth), 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.

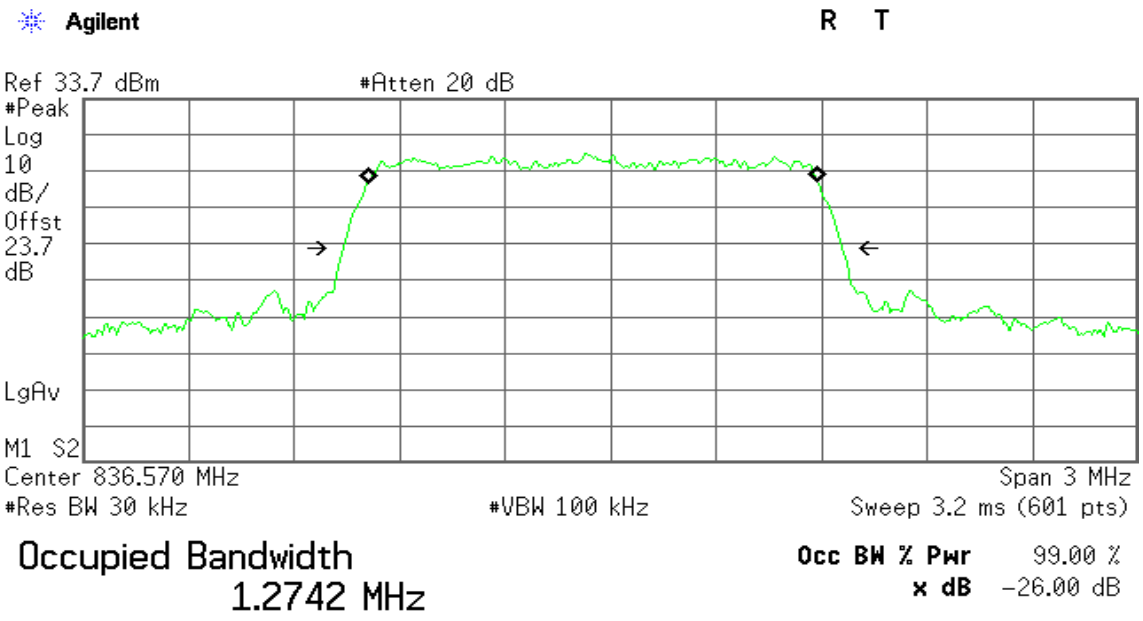
Test Data

Test Mode	CH	Frequency (MHz)	Bandwidth (MHz)
CDMA2000 1xRTT Cellular	1013	824.70	1.2742
	384	836.52	1.2726
	777	848.31	1.2762
CDMA2000 1xEVDO Cellular	1013	824.70	1.2767
	384	836.52	1.2714
	777	848.31	1.2773

Test Mode	CH	Frequency (MHz)	Bandwidth (MHz)
CDMA2000 1xRTT PCS	25	1851.25	1.2805
	600	1880.00	1.2879
	1175	1908.75	1.2755
CDMA2000 1xEVDO PCS	25	1851.25	1.2743
	600	1880.00	1.2819
	1175	1908.75	1.2783

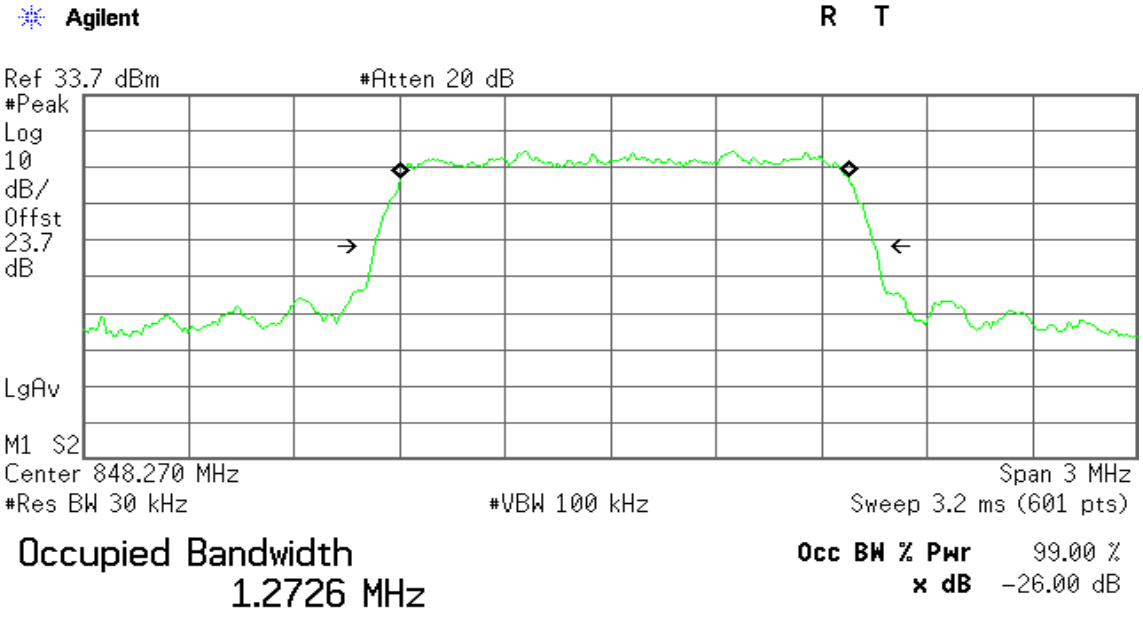
Test Plot

CDMA2000 1xRTT Cellular / CH Low



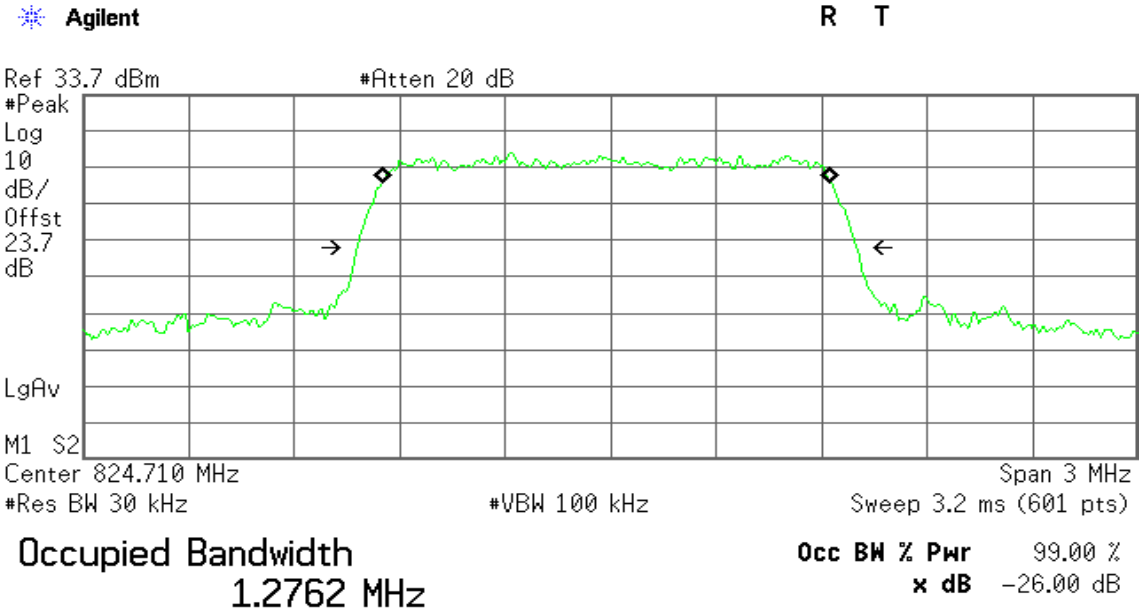
Transmit Freq Error -51.045 kHz
x dB Bandwidth 1.422 MHz

CDMA2000 1xRTT Cellular / CH Mid



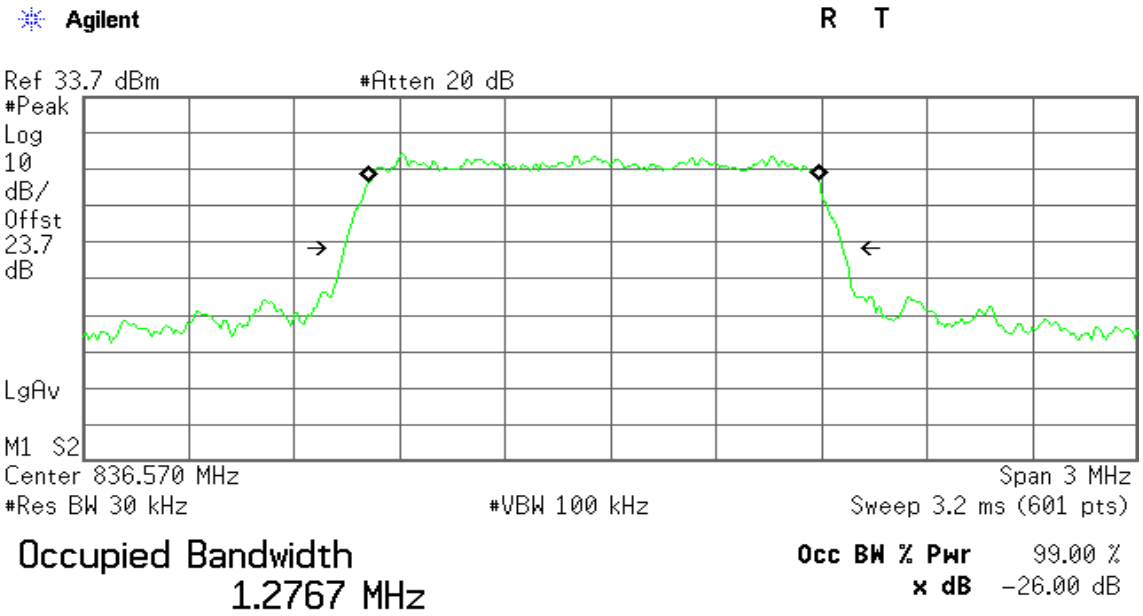
Transmit Freq Error 41.574 kHz
x dB Bandwidth 1.425 MHz

CDMA2000 1xRTT Cellular / CH High



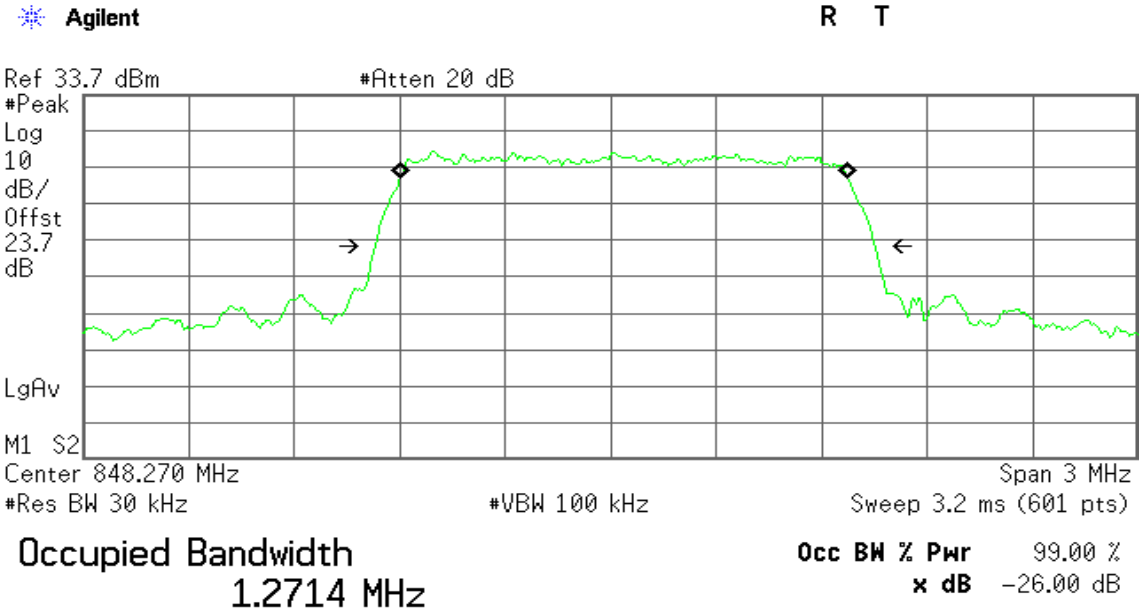
Transmit Freq Error -11.954 kHz
x dB Bandwidth 1.424 MHz

CDMA2000 1xEVDO Cellular / CH Low



Transmit Freq Error -49.874 kHz
x dB Bandwidth 1.422 MHz

CDMA2000 1xEVDO Cellular / CH Mid

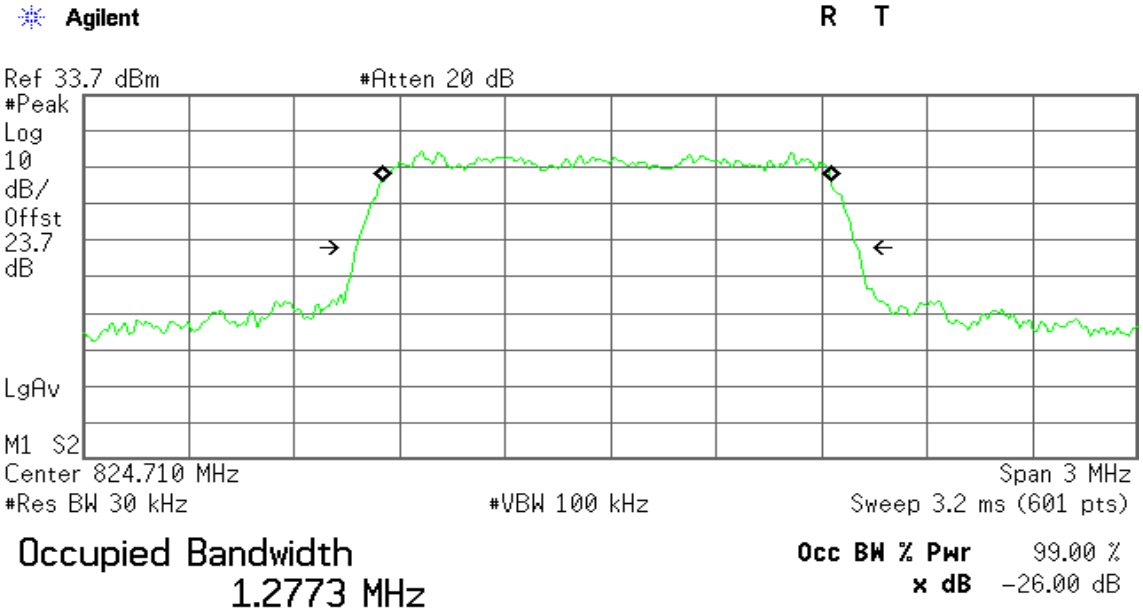


Occupied Bandwidth
1.2714 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 39.366 kHz
x dB Bandwidth 1.424 MHz

CDMA2000 1xEVDO Cellular / CH High

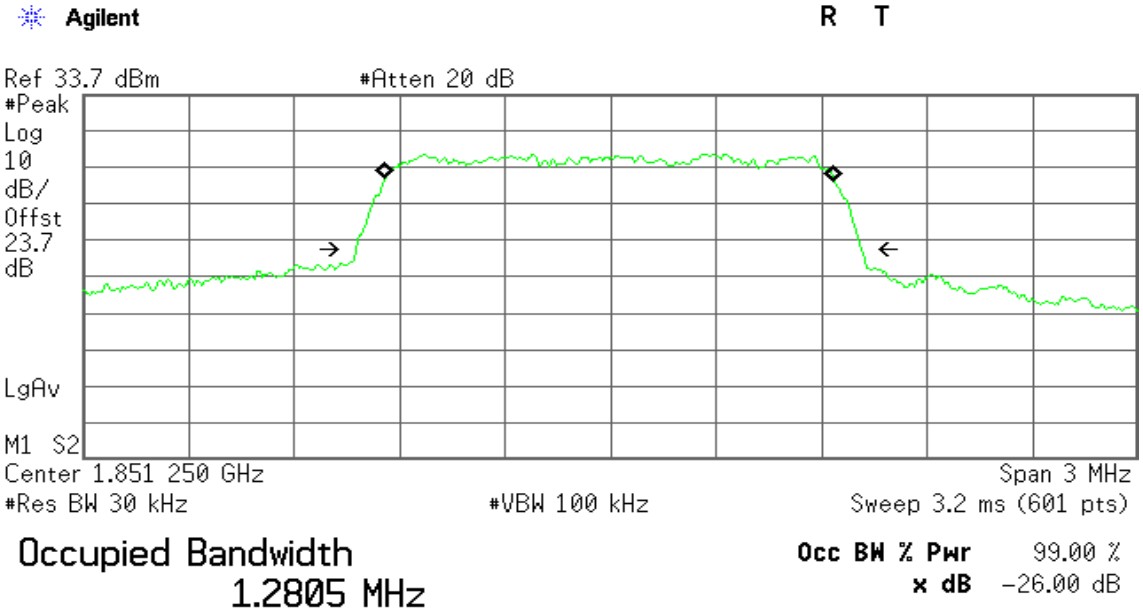


Occupied Bandwidth
1.2773 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

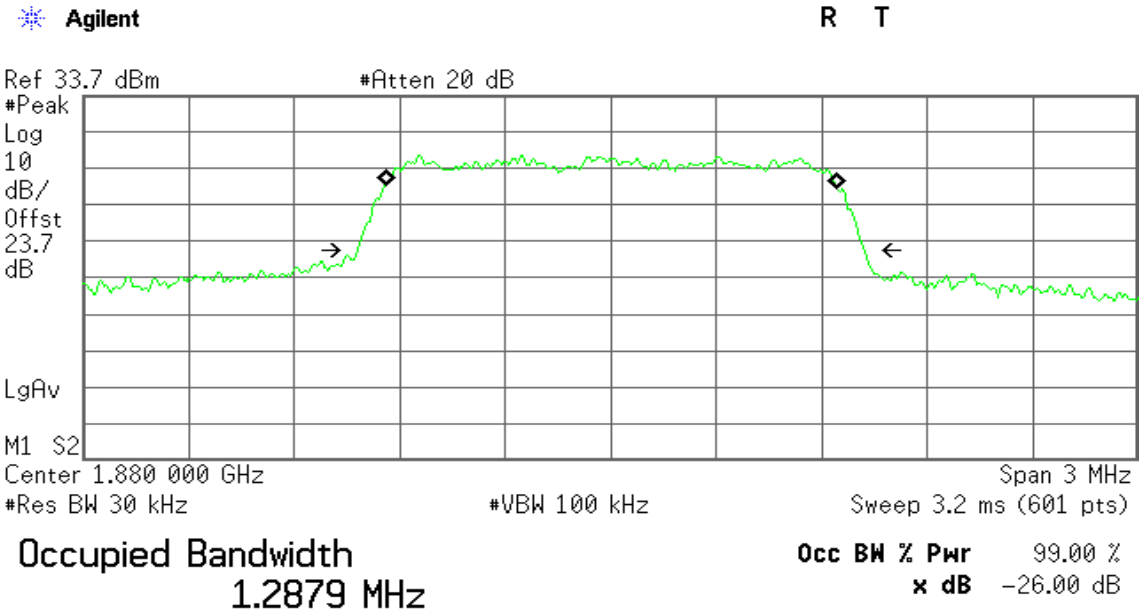
Transmit Freq Error -10.997 kHz
x dB Bandwidth 1.427 MHz

CDMA2000 1xRTT PCS / CH Low



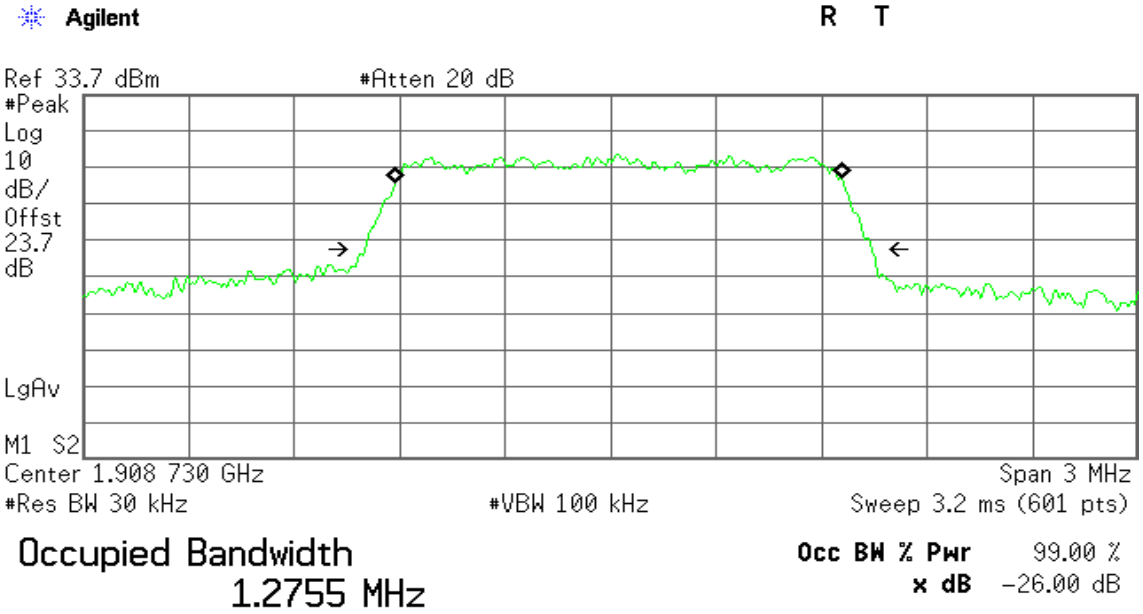
Transmit Freq Error	-3.043 kHz
x dB Bandwidth	1.438 MHz

CDMA2000 1xRTT PCS / CH Mid



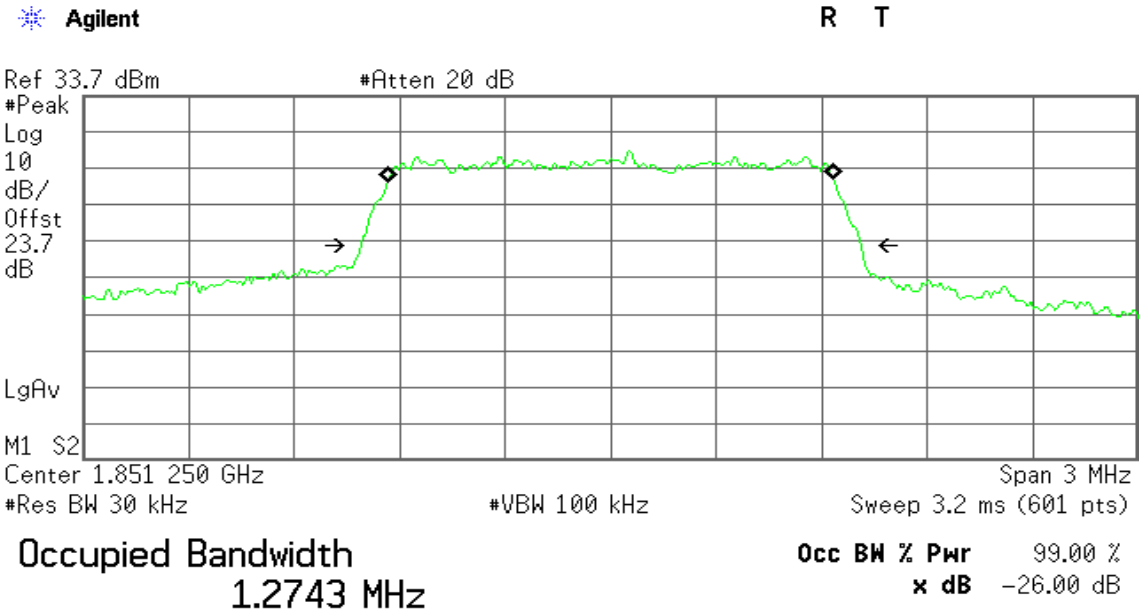
Transmit Freq Error	2.361 kHz
x dB Bandwidth	1.444 MHz

CDMA2000 1xRTT PCS / CH High



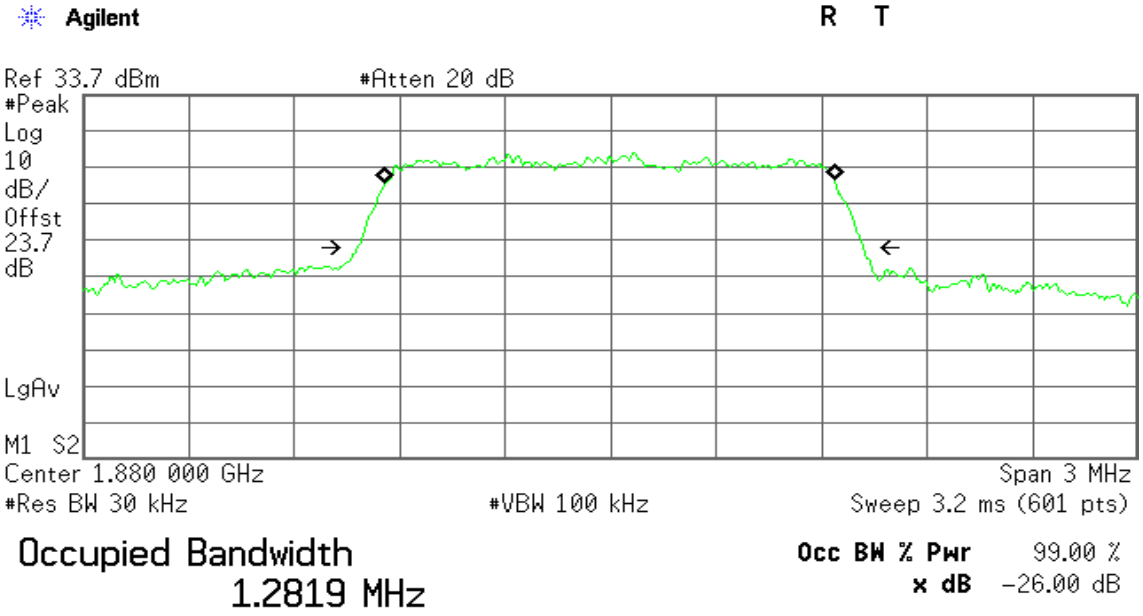
Transmit Freq Error	22.244 kHz
x dB Bandwidth	1.444 MHz

CDMA2000 1xEVDO PCS / CH Low



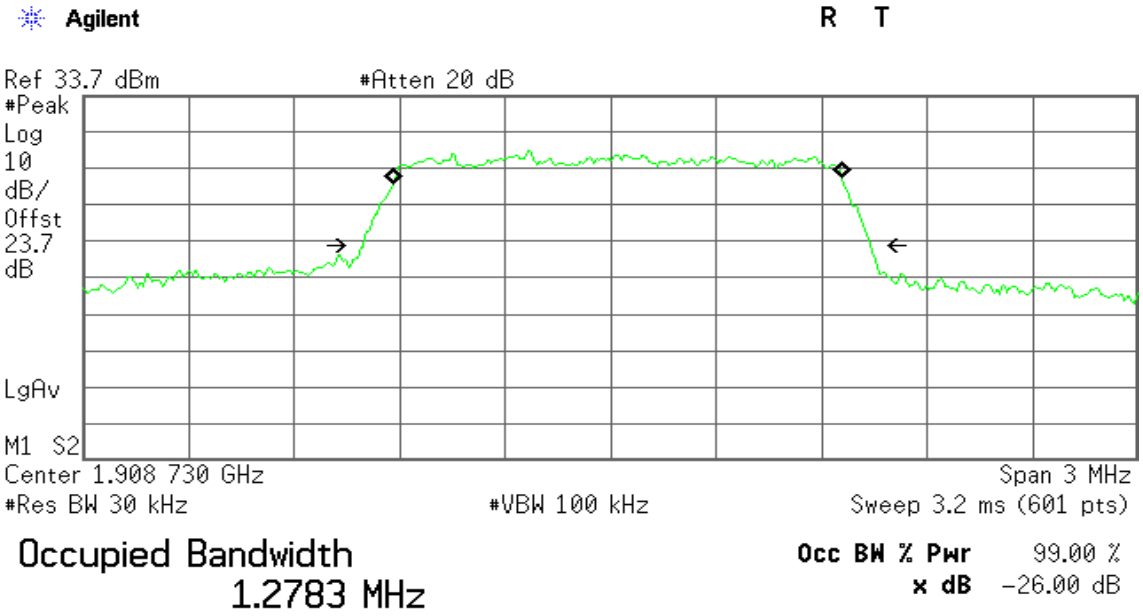
Transmit Freq Error	160.778 Hz
x dB Bandwidth	1.426 MHz

CDMA2000 1xEVDO PCS / CH Mid



Transmit Freq Error	-1.820 kHz
x dB Bandwidth	1.443 MHz

CDMA2000 1xEVDO PCS / CH High



Transmit Freq Error	19.905 kHz
x dB Bandwidth	1.445 MHz

7.4OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

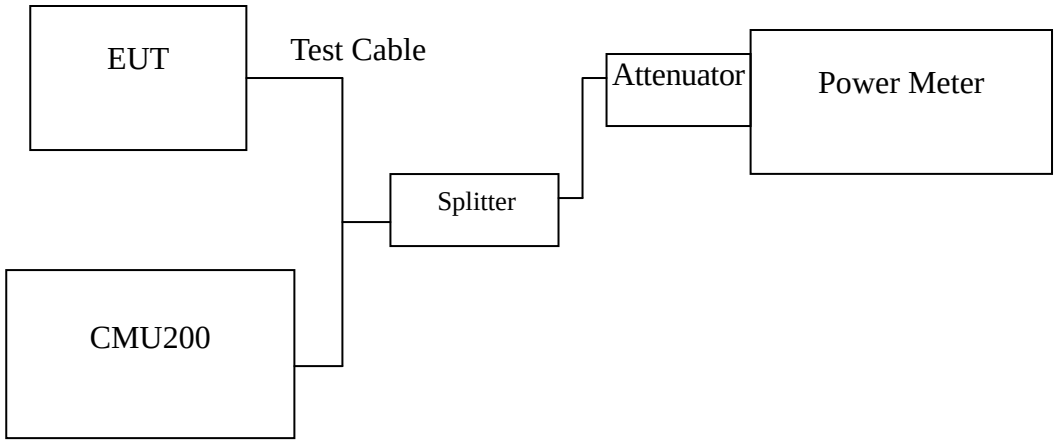
According to FCC §2.1051, FCC §22.917, FCC §24.238(a).

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 lease 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 lease 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 - 20GHz
	384	Figure 7-2	Conducted spurious emissions, 30MHz - 20GHz
	777	Figure 7-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
CDMA2000 1xEVDO Cellular	1013	Figure 8-1	Conducted spurious emissions, 30MHz - 20GHz
	384	Figure 8-2	Conducted spurious emissions, 30MHz - 20GHz
	777	Figure 8-3	Conducted spurious emissions, 30MHz - 20GHz

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

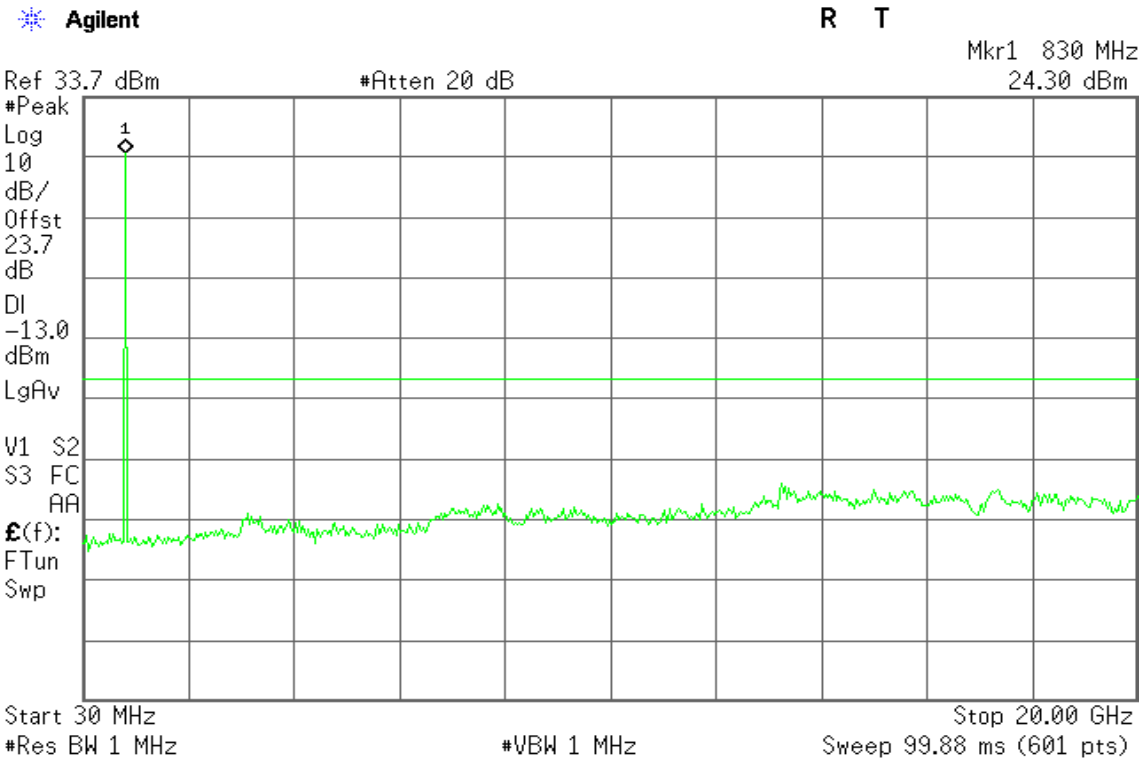


Figure 7-2: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH Mid

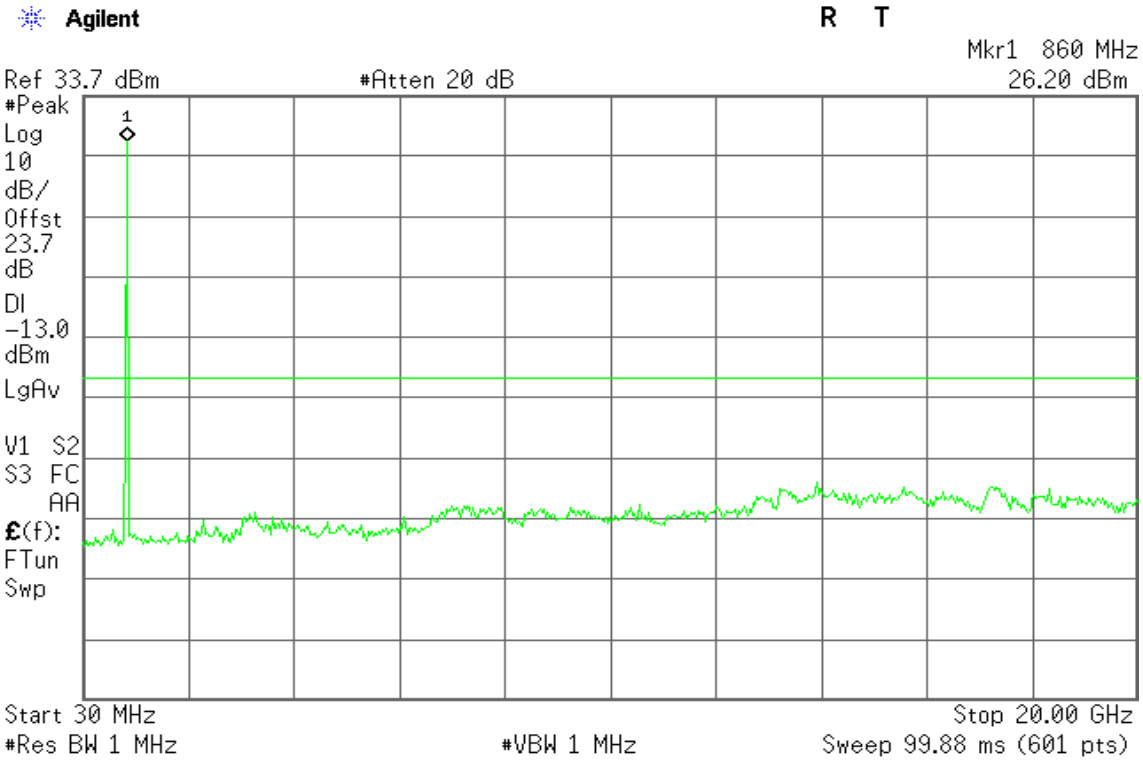
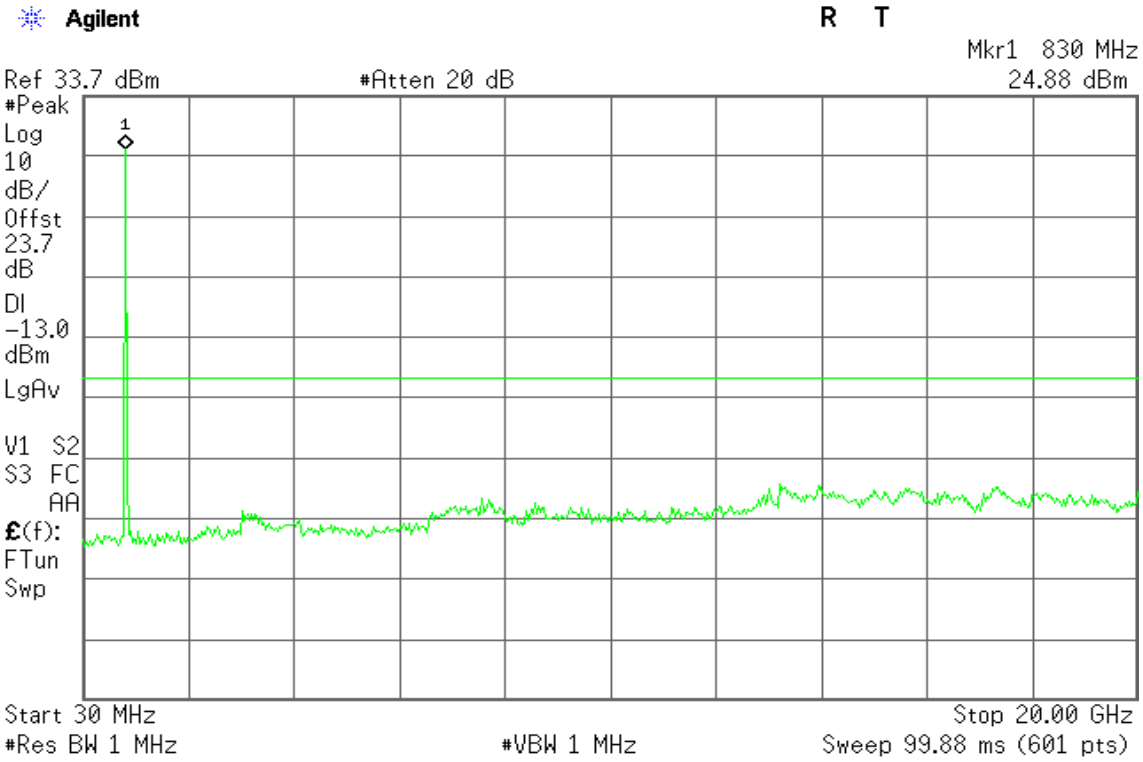


Figure 7-3: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH High



1XEVDO Cellular

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

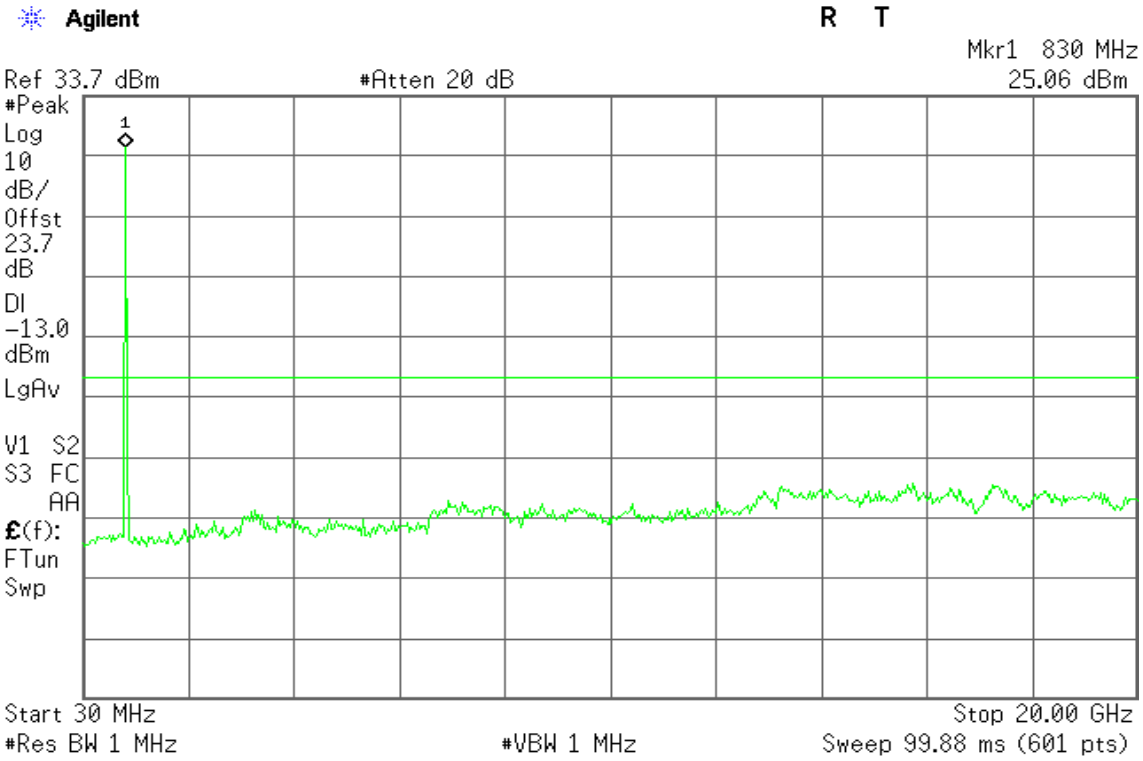


Figure 8-2: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH Mid

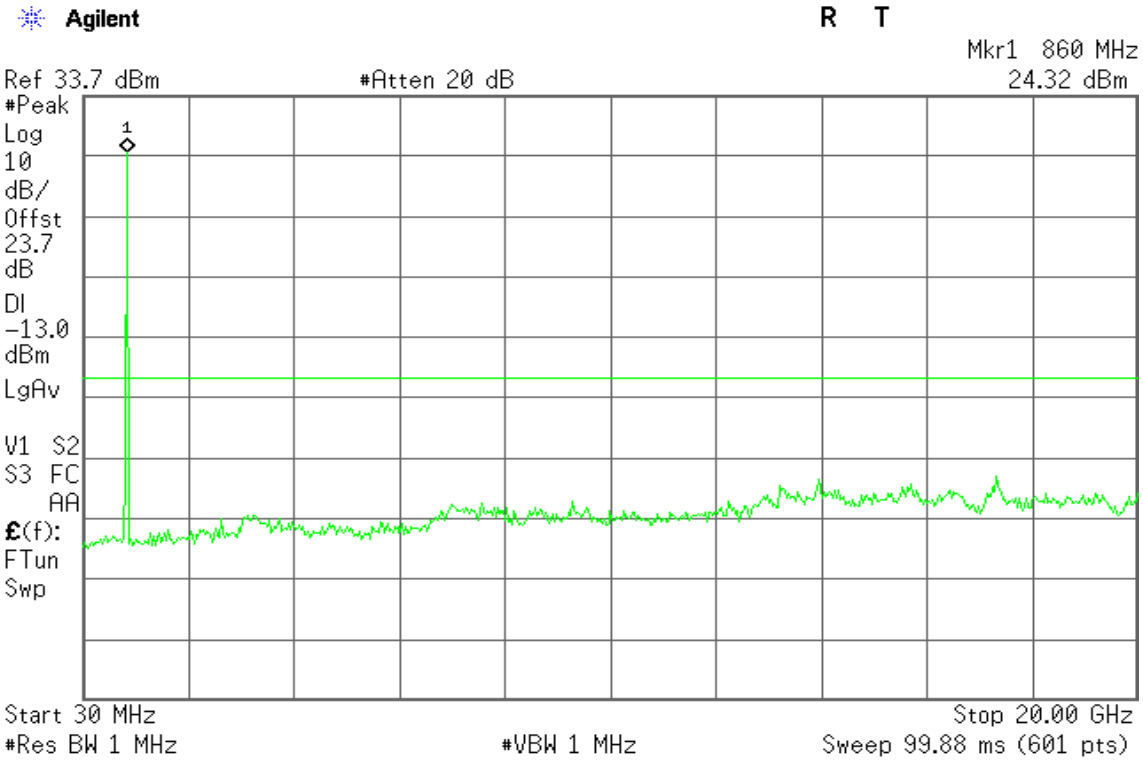
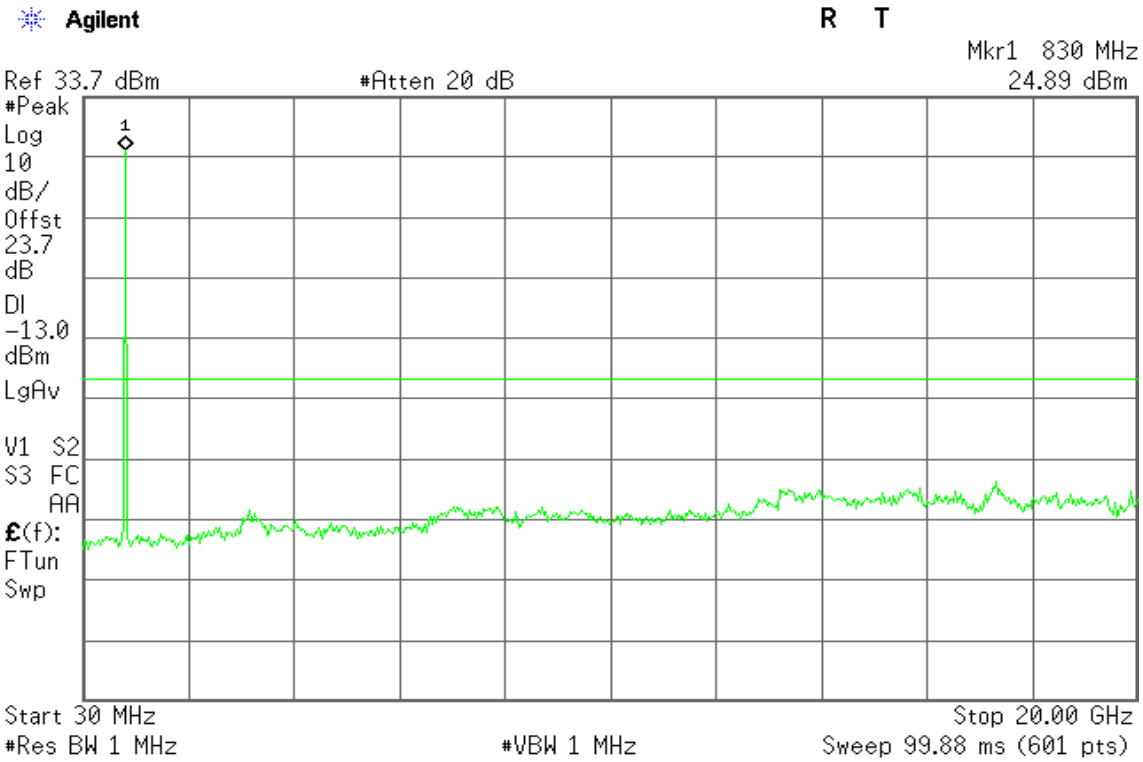


Figure 8-3: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH High



CDMA2000 1xRTT PCS

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

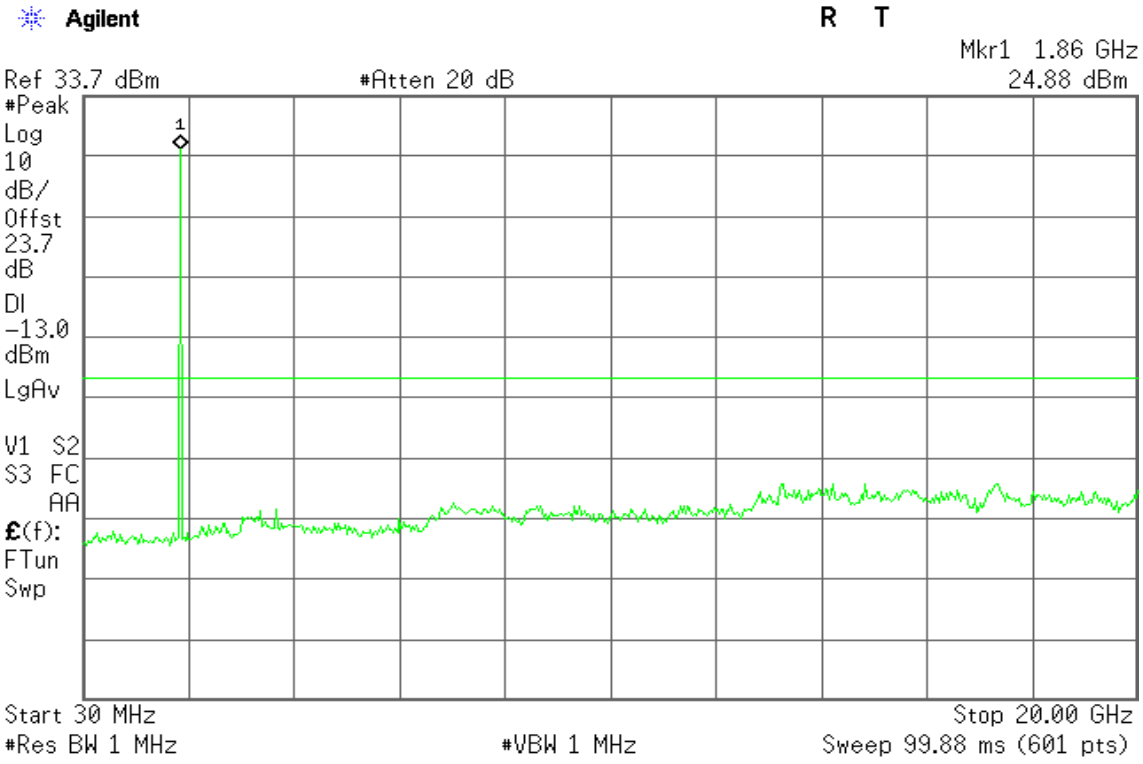


Figure 9-2: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH Mid

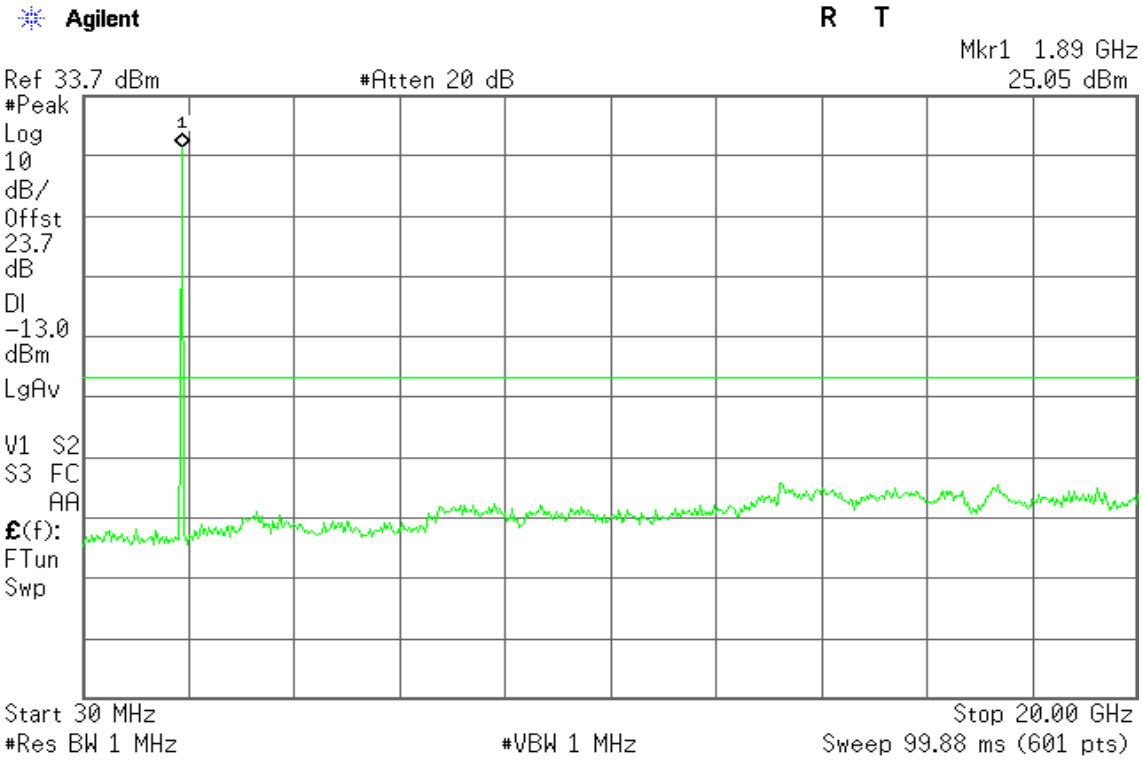
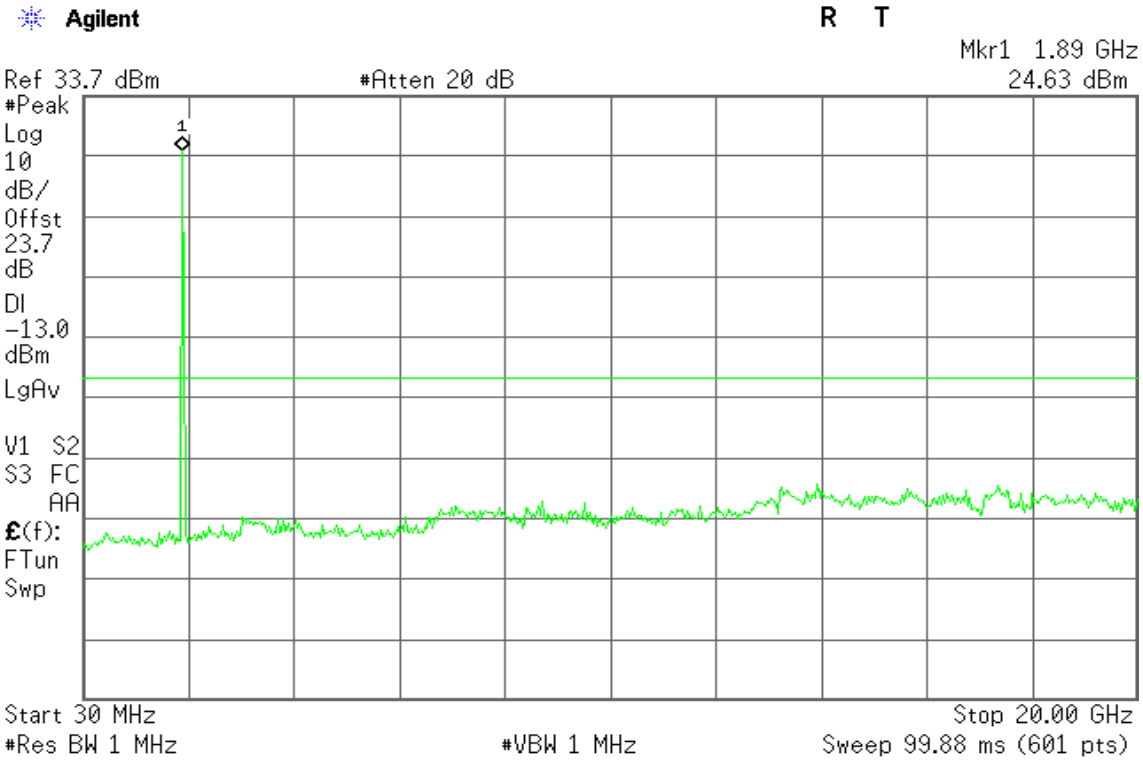


Figure 9-3: Out of Band emission at antenna terminals – CDMA2000 1xRTT / CH High



CDMA2000 1xEVDO PCS

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

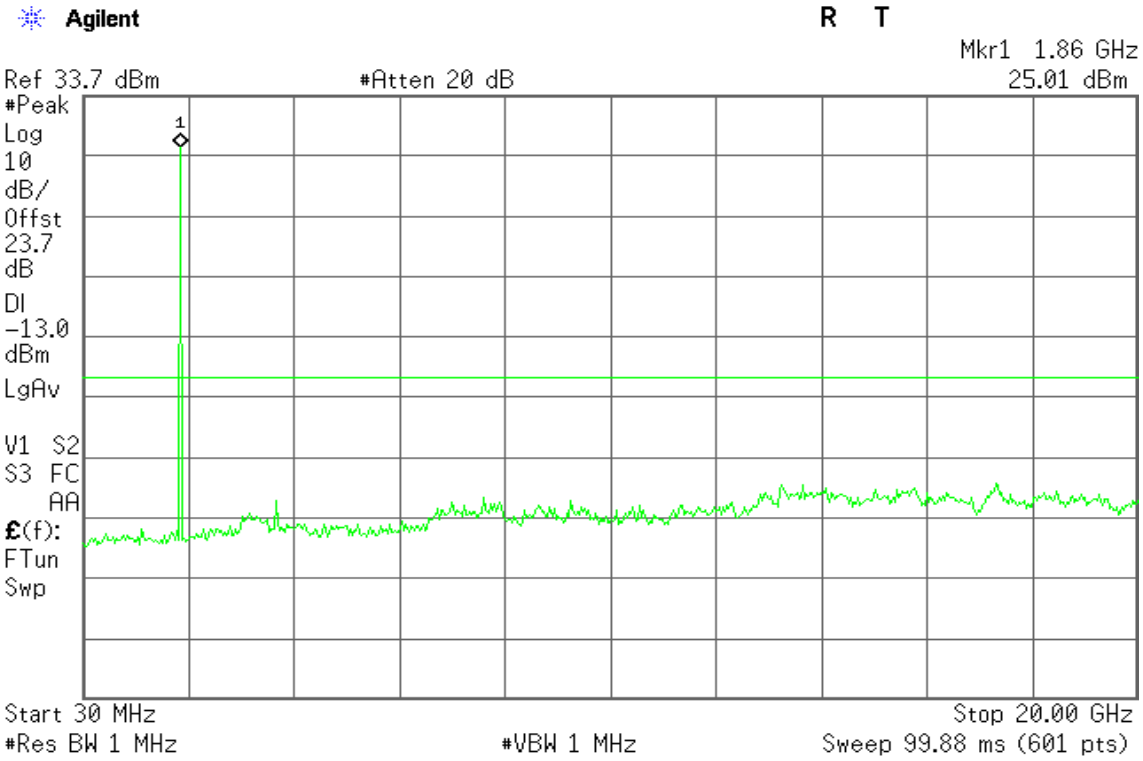


Figure 10-2: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH Mid

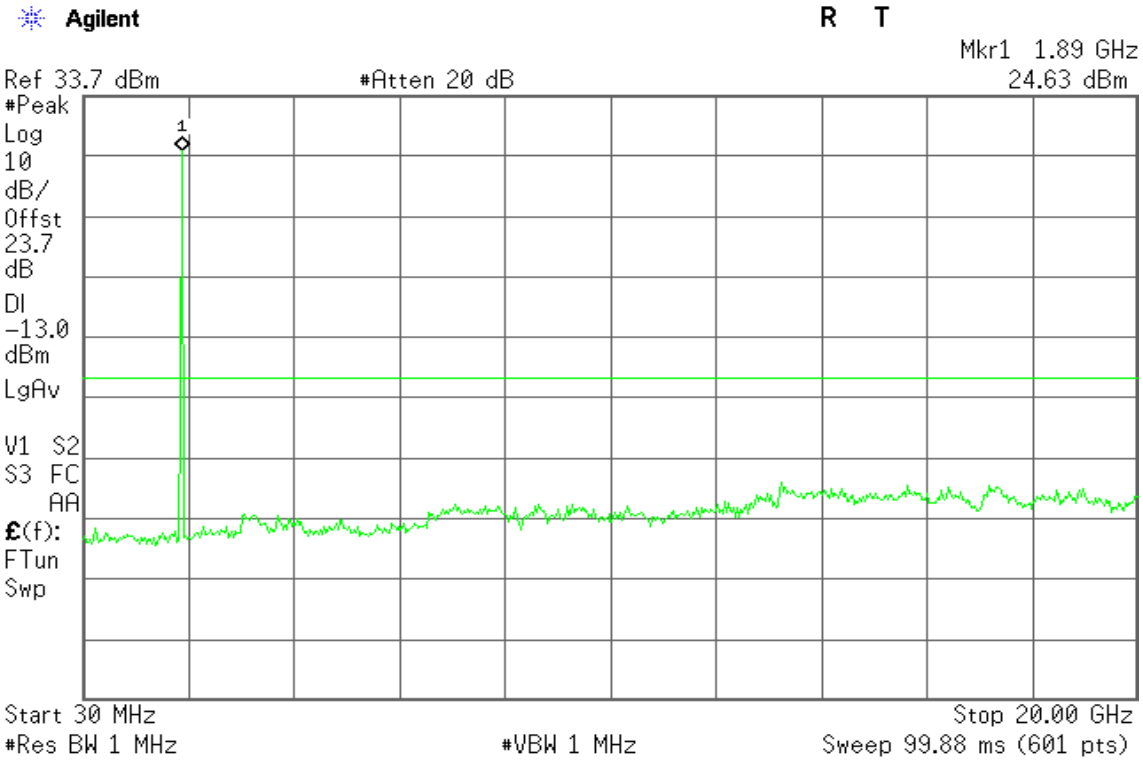
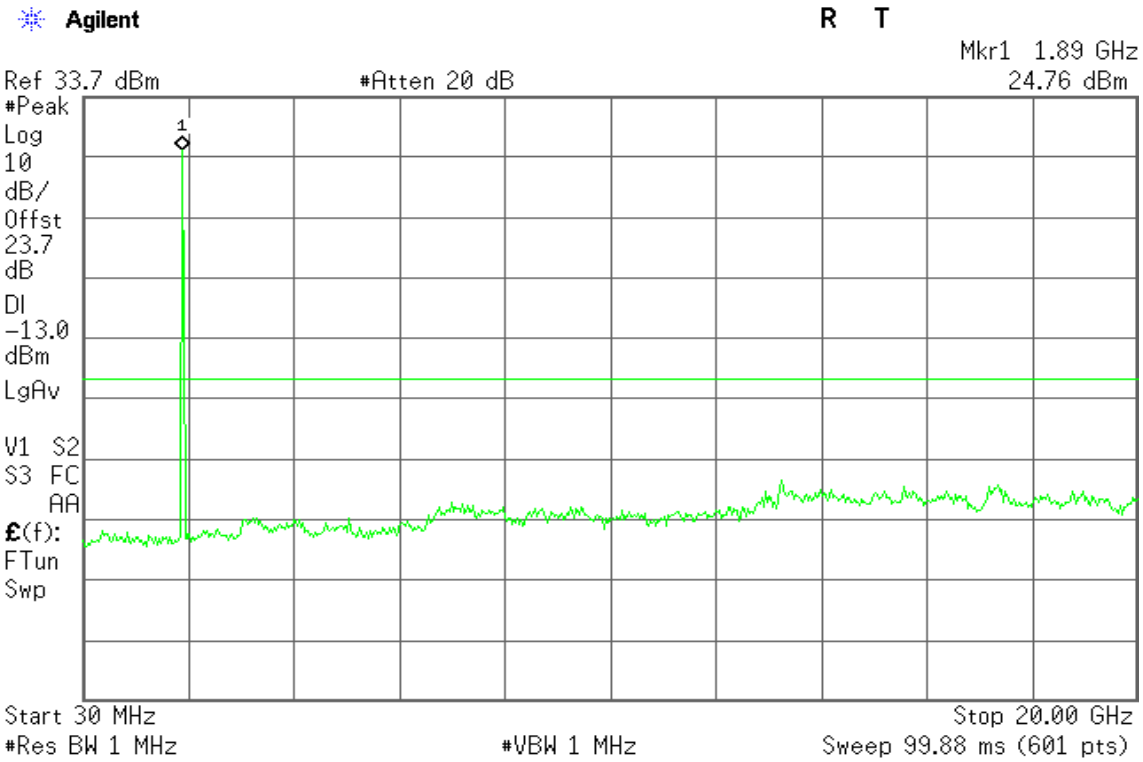


Figure 10-3: Out of Band emission at antenna terminals – CDMA2000 1xEVDO / CH High



CDMA2000 1xRTT Cellular

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

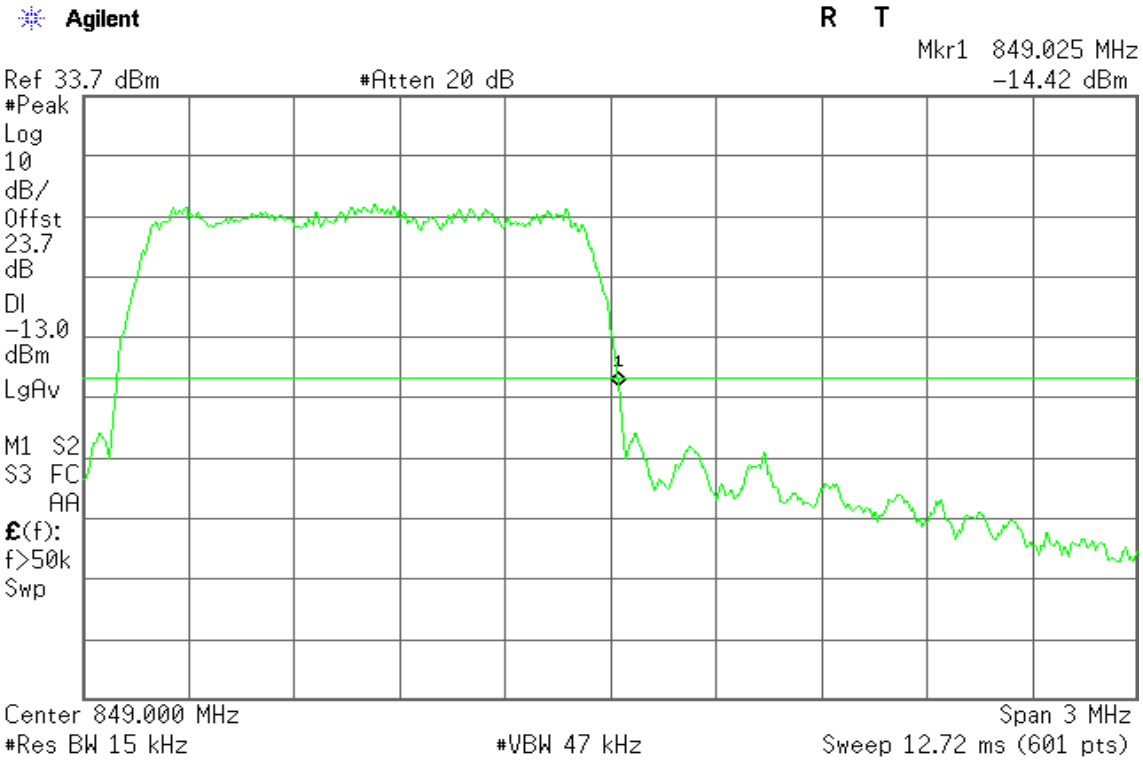
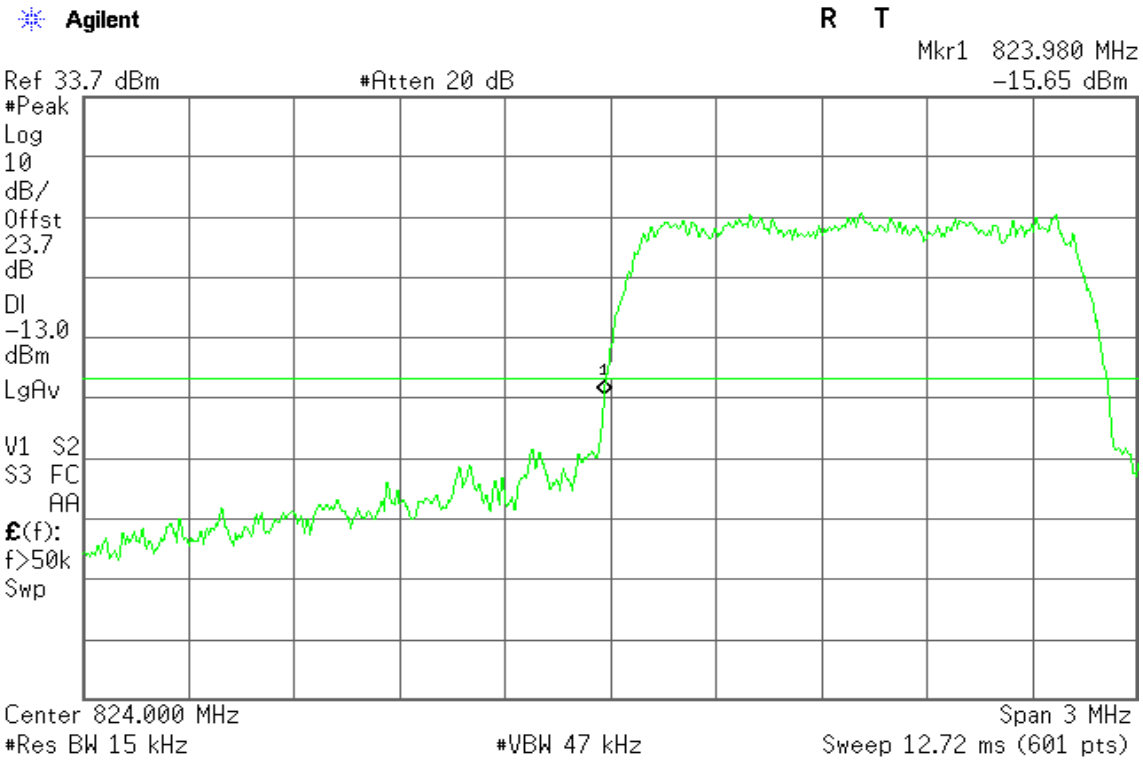


Figure 11-2: Band Edge emissions – CDMA2000 1xRTT / CH High



CDMA2000 1xEVDO Cellular

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

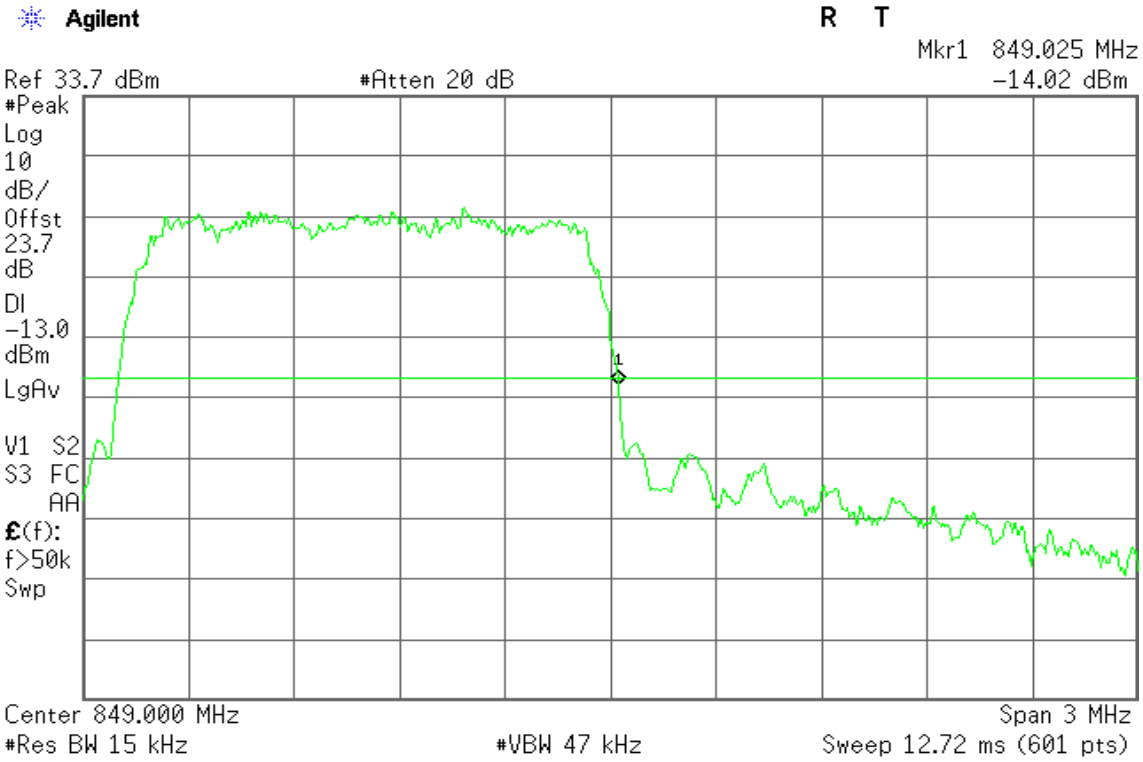
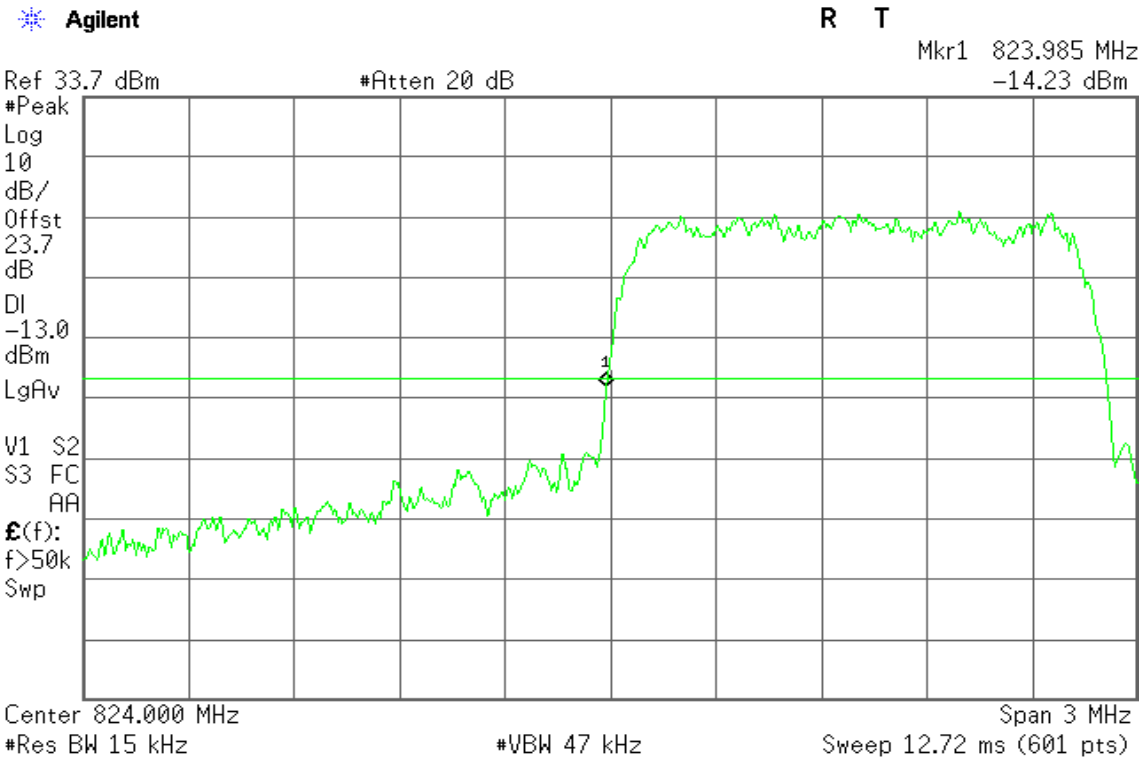


Figure 12-2: Band Edge emissions – CDMA2000 1xEVDO / CH High



CDMA2000 1xRTT PCS

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

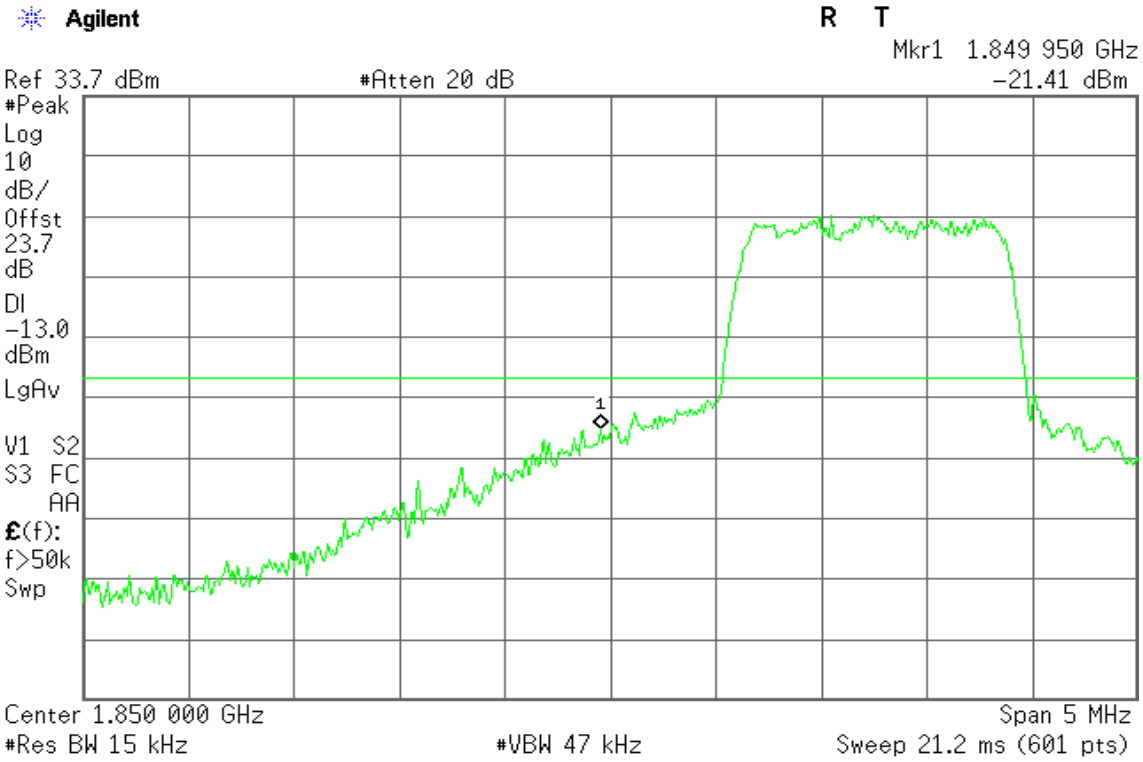
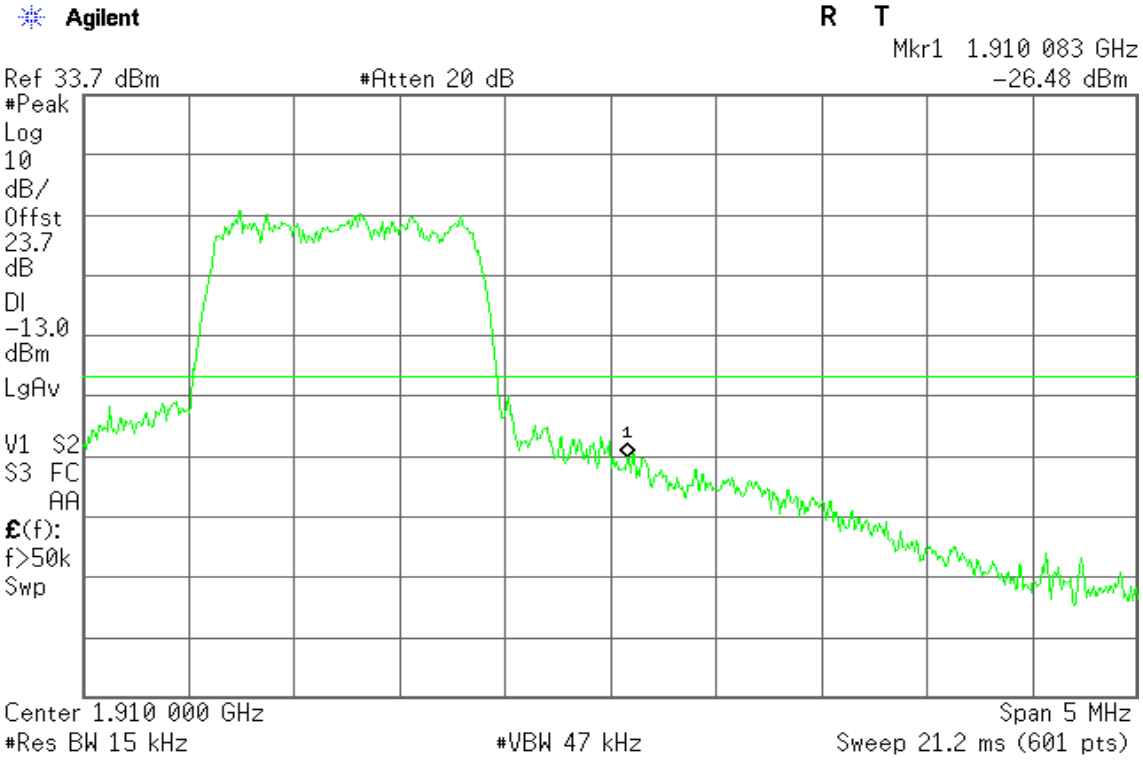


Figure 13-2: Band Edge emissions – CDMA2000 1xRTT / CH High



CDMA2000 1xEVDO PCS

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

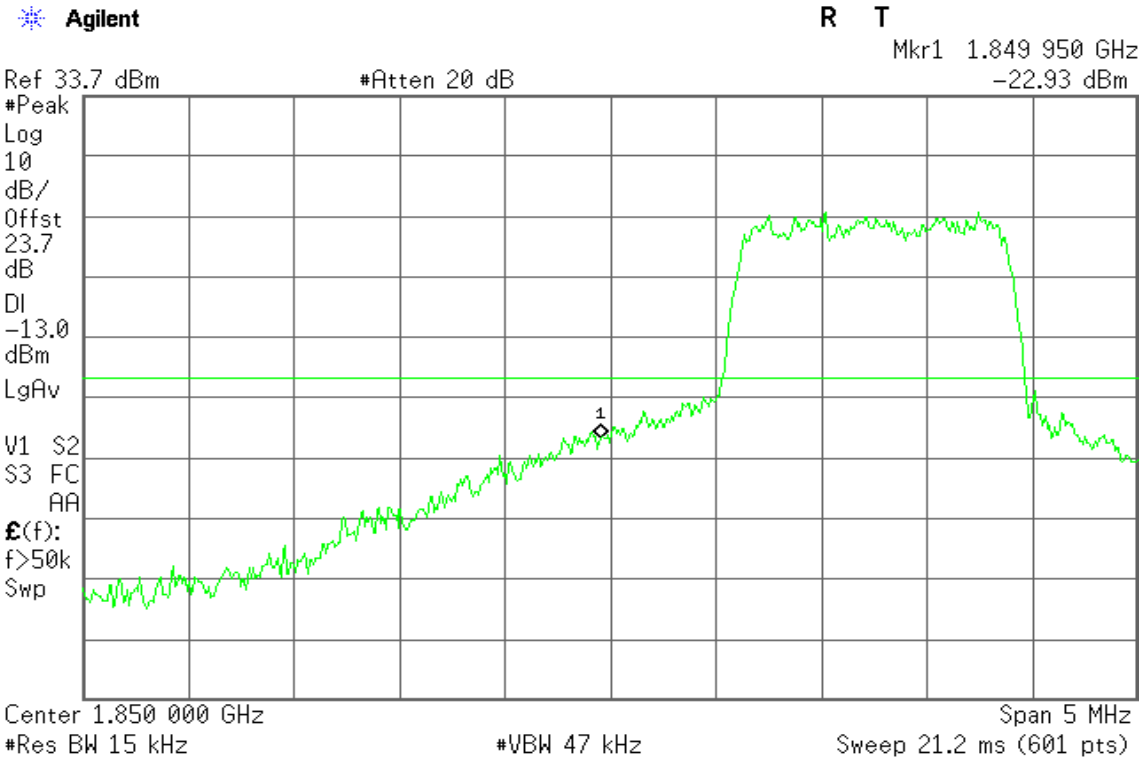
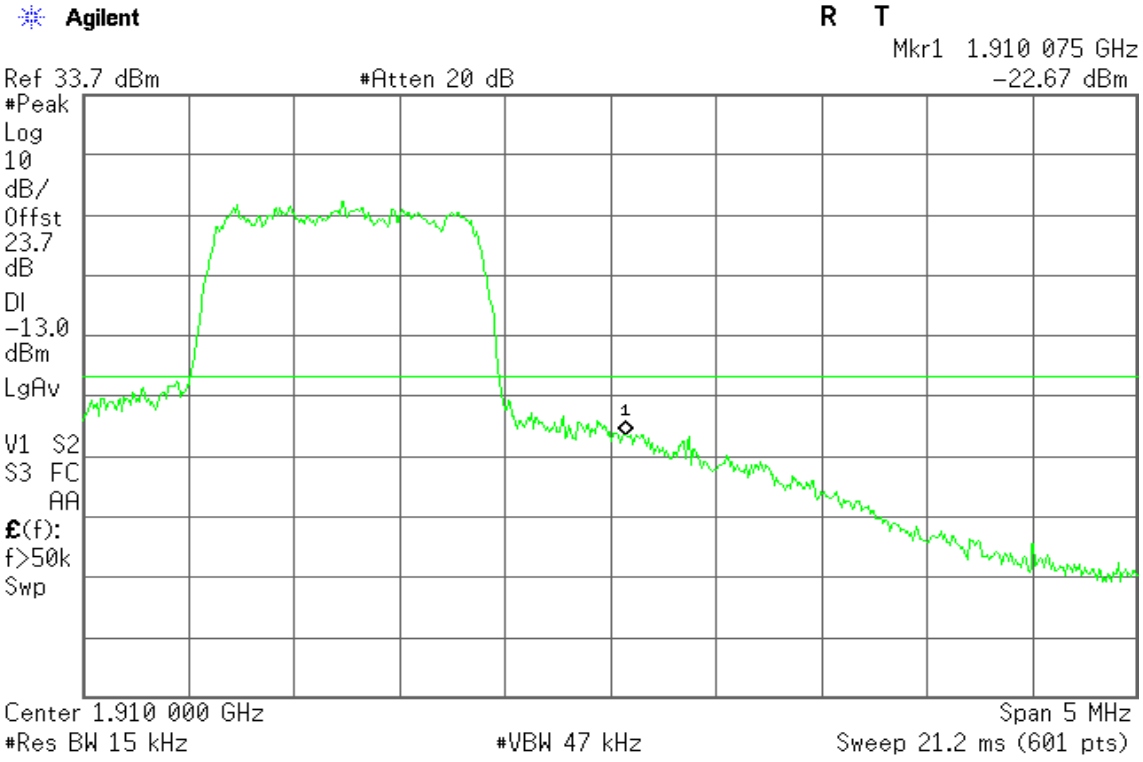


Figure 14-2: Band Edge emissions – CDMA2000 1xEVDO / CH High



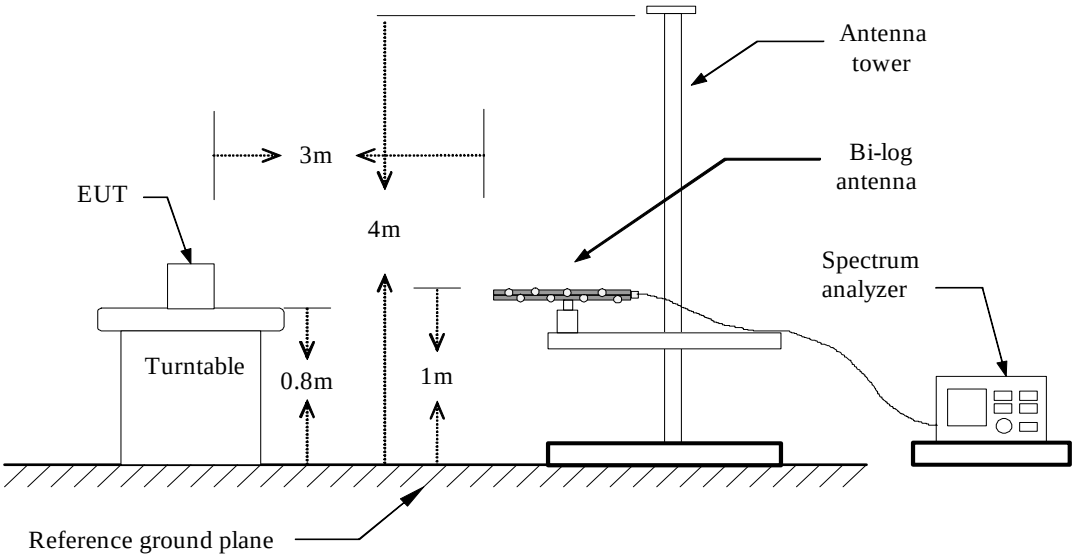
7.5FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

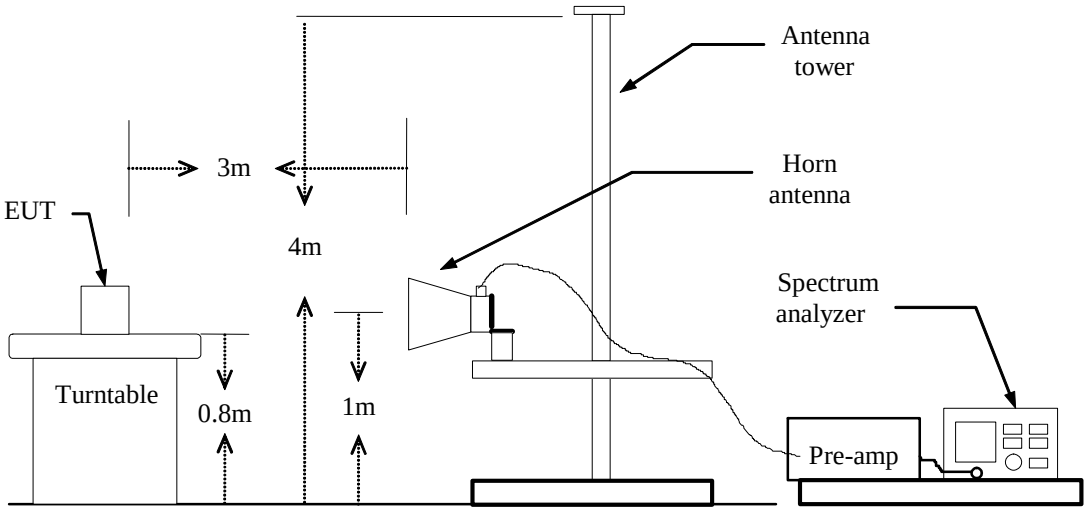
According to FCC §2.1053

Test Configuration

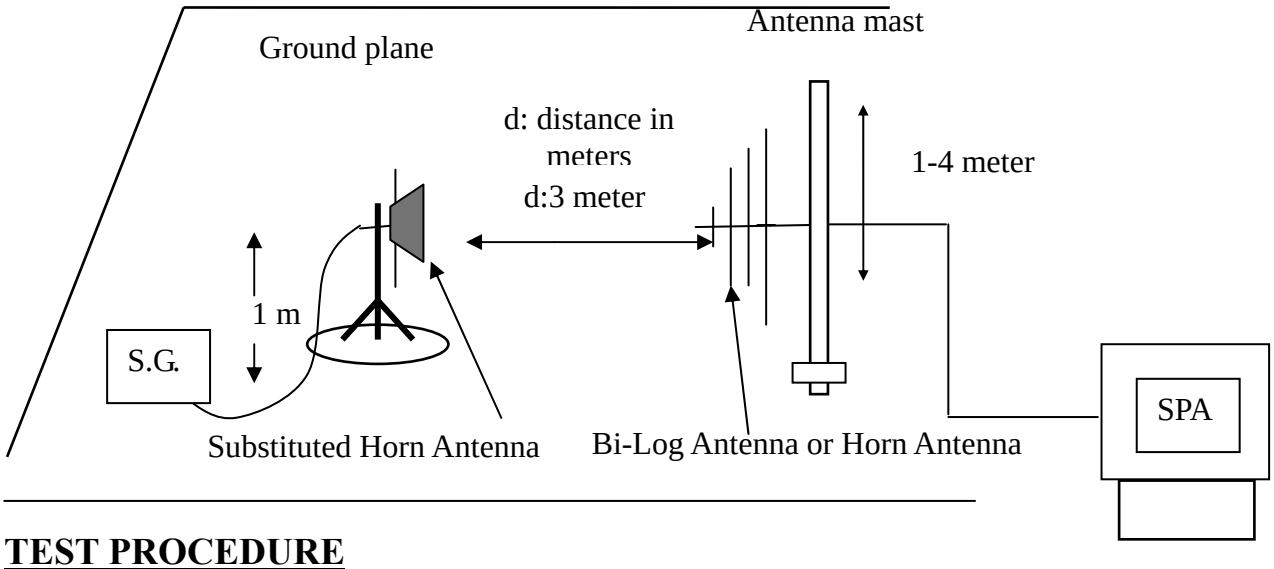
Below 1 GHz



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.

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

Refer to the attached tabular data sheets.

Radiated Spurious Emission Measurement Result

Below 1GHz

For V100

Operation Mode: CDMA2000 / 850 / TX / CH 384 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
148.8250	-71.5	1.42	0.58	-72.34	-13.00	-59.34	V
233.7000	-67.7	1.8	5.39	-64.11	-13.00	-51.11	V
325.8500	-71.54	2.17	5.71	-68.00	-13.00	-55.00	V
388.9000	-69.33	2.32	6	-65.65	-13.00	-52.65	V
519.8500	-73.94	2.7	6.1	-70.54	-13.00	-57.54	V
585.3250	-72.1	2.89	6.11	-68.88	-13.00	-55.88	V
131.8500	-71.37	1.35	-1.18	-73.90	-13.00	-60.90	H
240.9750	-67.84	1.81	5.34	-64.31	-13.00	-51.31	H
391.3250	-68.65	2.32	6	-64.97	-13.00	-51.97	H
519.8500	-69.28	2.7	6.1	-65.88	-13.00	-52.88	H
585.3250	-73	2.89	6.11	-69.78	-13.00	-56.78	H
650.8000	-74.99	3.03	6.3	-71.72	-13.00	-58.72	H

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 / 850 / TX / CH 777 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
240.9750	-69.89	1.81	5.34	-66.36	-13.00	-53.36	V
325.8500	-74.24	2.17	5.71	-70.70	-13.00	-57.70	V
388.9000	-72.26	2.32	6	-68.58	-13.00	-55.58	V
519.8500	-75.57	2.7	6.1	-72.17	-13.00	-59.17	V
585.3250	-74.57	2.89	6.11	-71.35	-13.00	-58.35	V
650.8000	-77.36	3.03	6.3	-74.09	-13.00	-61.09	V
192.4750	-76	1.62	3.74	-73.88	-13.00	-60.88	H
240.9750	-67.87	1.81	5.34	-64.34	-13.00	-51.34	H
391.3250	-67.74	2.32	6	-64.06	-13.00	-51.06	H
456.8000	-73.04	2.6	5.84	-69.80	-13.00	-56.80	H
519.8500	-72.39	2.7	6.1	-68.99	-13.00	-55.99	H
585.3250	-74.72	2.89	6.11	-71.50	-13.00	-58.50	H

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 / 850 / TX / CH 1013 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
240.9750	-70.07	1.81	5.34	-66.54	-13.00	-53.54	V
325.8500	-74.7	2.17	5.71	-71.16	-13.00	-58.16	V
388.9000	-72.94	2.32	6	-69.26	-13.00	-56.26	V
519.8500	-74.44	2.7	6.1	-71.04	-13.00	-58.04	V
585.3250	-76.22	2.89	6.11	-73.00	-13.00	-60.00	V
650.8000	-78.6	3.03	6.3	-75.33	-13.00	-62.33	V
194.9000	-77.45	1.63	3.47	-75.61	-13.00	-62.61	H
240.9750	-70.71	1.81	5.34	-67.18	-13.00	-54.18	H
391.3250	-69.2	2.32	6	-65.52	-13.00	-52.52	H
456.8000	-75.07	2.6	5.84	-71.83	-13.00	-58.83	H
519.8500	-71.13	2.7	6.1	-67.73	-13.00	-54.73	H
585.3250	-73.62	2.89	6.11	-70.40	-13.00	-57.40	H

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 / 1900 / TX / CH 25 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
233.7000	-73.48	1.8	5.39	-69.89	-13.00	-56.89	V
388.9000	-74.53	2.32	6	-70.85	-13.00	-57.85	V
519.8500	-73.68	2.7	6.1	-70.28	-13.00	-57.28	V
650.8000	-73.02	3.03	6.3	-69.75	-13.00	-56.75	V
759.9250	-71.68	3.22	6.3	-68.60	-13.00	-55.60	V
956.3500	-69.12	3.65	6.38	-66.39	-13.00	-53.39	V
88.2000	-66.09	1.09	0.84	-66.34	-13.00	-53.34	H
202.1750	-67.97	1.64	3.57	-66.04	-13.00	-53.04	H
391.3250	-66.52	2.32	6	-62.84	-13.00	-49.84	H
519.8500	-73.55	2.7	6.1	-70.15	-13.00	-57.15	H
585.3250	-73.79	2.89	6.11	-70.57	-13.00	-57.57	H
650.8000	-72.62	3.03	6.3	-69.35	-13.00	-56.35	H

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 / 1900 / TX / CH 600 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
233.7000	-73.45	1.8	5.39	-69.86	-13.00	-56.86	V
325.8500	-75.38	2.17	5.71	-71.84	-13.00	-58.84	V
388.9000	-74.49	2.32	6	-70.81	-13.00	-57.81	V
519.8500	-74.36	2.7	6.1	-70.96	-13.00	-57.96	V
650.8000	-72.37	3.03	6.3	-69.10	-13.00	-56.10	V
791.4500	-73	3.33	6.27	-70.06	-13.00	-57.06	V
90.6250	-65.93	1.11	1.13	-65.91	-13.00	-52.91	H
391.3250	-68.01	2.32	6	-64.33	-13.00	-51.33	H
519.8500	-73.93	2.7	6.1	-70.53	-13.00	-57.53	H
650.8000	-69.93	3.03	6.3	-66.66	-13.00	-53.66	H
757.5000	-73.83	3.22	6.25	-70.80	-13.00	-57.80	H
915.1250	-72.3	3.58	6.6	-69.28	-13.00	-56.28	H

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 / 1900 / TX / CH 1175 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
233.7000	-73.57	1.8	5.39	-69.98	-13.00	-56.98	V
325.8500	-75.44	2.17	5.71	-71.90	-13.00	-58.90	V
388.9000	-74.68	2.32	6	-71.00	-13.00	-58.00	V
519.8500	-75.08	2.7	6.1	-71.68	-13.00	-58.68	V
650.8000	-71.18	3.03	6.3	-67.91	-13.00	-54.91	V
793.8750	-72.11	3.33	6.34	-69.10	-13.00	-56.10	V
90.6250	-66.63	1.11	1.13	-66.61	-13.00	-53.61	H
207.0250	-71.1	1.67	4.82	-67.95	-13.00	-54.95	H
325.8500	-72.85	2.17	5.71	-69.31	-13.00	-56.31	H
391.3250	-68.31	2.32	6	-64.63	-13.00	-51.63	H
519.8500	-72.74	2.7	6.1	-69.34	-13.00	-56.34	H
650.8000	-69.99	3.03	6.3	-66.72	-13.00	-53.72	H

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: EVDO / 850 / TX / CH 384 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
240.9750	-71.95	1.81	5.34	-68.42	-13.00	-55.42	V
325.8500	-75.3	2.17	5.71	-71.76	-13.00	-58.76	V
388.9000	-73.31	2.32	6	-69.63	-13.00	-56.63	V
519.8500	-75.62	2.7	6.1	-72.22	-13.00	-59.22	V
585.3250	-77.62	2.89	6.11	-74.40	-13.00	-61.40	V
650.8000	-79.85	3.03	6.3	-76.58	-13.00	-63.58	V
131.8500	-73.71	1.35	-1.18	-76.24	-13.00	-63.24	H
240.9750	-72.97	1.81	5.34	-69.44	-13.00	-56.44	H
391.3250	-72.03	2.32	6	-68.35	-13.00	-55.35	H
456.8000	-74.66	2.6	5.84	-71.42	-13.00	-58.42	H
519.8500	-73.48	2.7	6.1	-70.08	-13.00	-57.08	H
585.3250	-75.29	2.89	6.11	-72.07	-13.00	-59.07	H

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: EVDO / 850 / TX / CH 777 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
151.2500	-75.5	1.43	0.8	-76.13	-13.00	-63.13	V
240.9750	-70.93	1.81	5.34	-67.40	-13.00	-54.40	V
388.9000	-73.39	2.32	6	-69.71	-13.00	-56.71	V
519.8500	-76.3	2.7	6.1	-72.90	-13.00	-59.90	V
585.3250	-76.43	2.89	6.11	-73.21	-13.00	-60.21	V
650.8000	-78.69	3.03	6.3	-75.42	-13.00	-62.42	V
240.9750	-72.36	1.81	5.34	-68.83	-13.00	-55.83	H
323.4250	-76.11	2.18	5.7	-72.59	-13.00	-59.59	H
391.3250	-69.3	2.32	6	-65.62	-13.00	-52.62	H
456.8000	-76.36	2.6	5.84	-73.12	-13.00	-60.12	H
519.8500	-73.64	2.7	6.1	-70.24	-13.00	-57.24	H
585.3250	-75.99	2.89	6.11	-72.77	-13.00	-59.77	H

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: EVDO / 850 / TX / CH 1013 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
168.2250	-75.65	1.55	2.32	-74.88	-13.00	-61.88	V
233.7000	-72.18	1.8	5.39	-68.59	-13.00	-55.59	V
325.8500	-76.23	2.17	5.71	-72.69	-13.00	-59.69	V
388.9000	-73.43	2.32	6	-69.75	-13.00	-56.75	V
519.8500	-76.47	2.7	6.1	-73.07	-13.00	-60.07	V
585.3250	-78.56	2.89	6.11	-75.34	-13.00	-62.34	V
131.8500	-73.18	1.35	-1.18	-75.71	-13.00	-62.71	H
240.9750	-71.29	1.81	5.34	-67.76	-13.00	-54.76	H
325.8500	-75.94	2.17	5.71	-72.40	-13.00	-59.40	H
391.3250	-69.19	2.32	6	-65.51	-13.00	-52.51	H
519.8500	-71.03	2.7	6.1	-67.63	-13.00	-54.63	H
585.3250	-75.47	2.89	6.11	-72.25	-13.00	-59.25	H

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: EVDO / 1900 / TX / CH 25 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.3000	-58.93	1.26	-1.99	-62.18	-13.00	-49.18	V
240.9750	-74.27	1.81	5.34	-70.74	-13.00	-57.74	V
415.5750	-73.61	2.45	5.85	-70.21	-13.00	-57.21	V
519.8500	-73.49	2.7	6.1	-70.09	-13.00	-57.09	V
650.8000	-71.57	3.03	6.3	-68.30	-13.00	-55.30	V
796.3000	-70.58	3.33	6.41	-67.50	-13.00	-54.50	V
90.6250	-66.02	1.11	1.13	-66.00	-13.00	-53.00	H
226.4250	-74.15	1.78	5.37	-70.56	-13.00	-57.56	H
391.3250	-67.18	2.32	6	-63.50	-13.00	-50.50	H
519.8500	-71.78	2.7	6.1	-68.38	-13.00	-55.38	H
585.3250	-71.71	2.89	6.11	-68.49	-13.00	-55.49	H
650.8000	-70.74	3.03	6.3	-67.47	-13.00	-54.47	H

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: EVDO / 1900 / TX / CH 600 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
185.2000	-66.49	1.61	3.81	-64.29	-13.00	-51.29	V
418.0000	-76.09	2.46	5.83	-72.72	-13.00	-59.72	V
519.8500	-73.14	2.7	6.1	-69.74	-13.00	-56.74	V
650.8000	-72.25	3.03	6.3	-68.98	-13.00	-55.98	V
769.6250	-71.9	3.27	6.39	-68.78	-13.00	-55.78	V
869.0500	-72.3	3.44	6.5	-69.24	-13.00	-56.24	V
90.6250	-65.97	1.11	1.13	-65.95	-13.00	-52.95	H
199.7500	-61.14	1.63	2.94	-59.83	-13.00	-46.83	H
391.3250	-70.11	2.32	6	-66.43	-13.00	-53.43	H
519.8500	-72.51	2.7	6.1	-69.11	-13.00	-56.11	H
585.3250	-72.99	2.89	6.11	-69.77	-13.00	-56.77	H
650.8000	-70.37	3.03	6.3	-67.10	-13.00	-54.10	H

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: EVDO / 1900 / TX / CH 1175 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
233.7000	-74.3	1.8	5.39	-70.71	-13.00	-57.71	V
388.9000	-74.64	2.32	6	-70.96	-13.00	-57.96	V
519.8500	-74	2.7	6.1	-70.60	-13.00	-57.60	V
650.8000	-72.33	3.03	6.3	-69.06	-13.00	-56.06	V
786.6000	-69.99	3.32	6.18	-67.13	-13.00	-54.13	V
873.9000	-73.59	3.45	6.58	-70.46	-13.00	-57.46	V
90.6250	-65.83	1.11	1.13	-65.81	-13.00	-52.81	H
294.3250	-68.72	2.05	5.49	-65.28	-13.00	-52.28	H
391.3250	-69.66	2.32	6	-65.98	-13.00	-52.98	H
519.8500	-72.9	2.7	6.1	-69.50	-13.00	-56.50	H
650.8000	-68.39	3.03	6.3	-65.12	-13.00	-52.12	H
910.2750	-74.71	3.57	6.6	-71.68	-13.00	-58.68	H

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.*

For V200

Operation Mode: CDMA2000 / 850 / TX / CH 384 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.3000	-61.23	1.26	-1.99	-64.48	-13.00	-51.48	V
199.7500	-65.69	1.63	2.94	-64.38	-13.00	-51.38	V
236.1250	-59.35	1.81	5.37	-55.79	-13.00	-42.79	V
388.9000	-74.03	2.32	6	-70.35	-13.00	-57.35	V
519.8500	-75.56	2.7	6.1	-72.16	-13.00	-59.16	V
585.3250	-76.04	2.89	6.11	-72.82	-13.00	-59.82	V
117.3000	-61.7	1.26	-1.99	-64.95	-13.00	-51.95	H
233.7000	-58.4	1.8	5.39	-54.81	-13.00	-41.81	H
391.3250	-71.48	2.32	6	-67.80	-13.00	-54.80	H
519.8500	-72.31	2.7	6.1	-68.91	-13.00	-55.91	H
585.3250	-74.58	2.89	6.11	-71.36	-13.00	-58.36	H
650.8000	-76.71	3.03	6.3	-73.44	-13.00	-60.44	H

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 / 850 / TX / CH 777 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.3000	-61.35	1.26	-1.99	-64.60	-13.00	-51.60	V
236.1250	-59.52	1.81	5.37	-55.96	-13.00	-42.96	V
388.9000	-73.11	2.32	6	-69.43	-13.00	-56.43	V
456.8000	-78.7	2.6	5.84	-75.46	-13.00	-62.46	V
519.8500	-76.37	2.7	6.1	-72.97	-13.00	-59.97	V
585.3250	-78.15	2.89	6.11	-74.93	-13.00	-61.93	V
49.4000	-58.08	0.8	-5.08	-63.96	-13.00	-50.96	H
100.3250	-63.4	1.15	-0.45	-65.00	-13.00	-52.00	H
236.1250	-58.99	1.81	5.37	-55.43	-13.00	-42.43	H
391.3250	-70.69	2.32	6	-67.01	-13.00	-54.01	H
519.8500	-71.29	2.7	6.1	-67.89	-13.00	-54.89	H
585.3250	-74.41	2.89	6.11	-71.19	-13.00	-58.19	H

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 / 850 / TX / CH 1013 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
102.7500	-63.16	1.16	-0.76	-65.08	-13.00	-52.08	V
236.1250	-61.23	1.81	5.37	-57.67	-13.00	-44.67	V
388.9000	-74.85	2.32	6	-71.17	-13.00	-58.17	V
456.8000	-79.02	2.6	5.84	-75.78	-13.00	-62.78	V
519.8500	-76.53	2.7	6.1	-73.13	-13.00	-60.13	V
650.8000	-78.71	3.03	6.3	-75.44	-13.00	-62.44	V
105.1750	-60.52	1.18	-1.07	-62.77	-13.00	-49.77	H
236.1250	-60.71	1.81	5.37	-57.15	-13.00	-44.15	H
388.9000	-72.12	2.32	6	-68.44	-13.00	-55.44	H
456.8000	-76.52	2.6	5.84	-73.28	-13.00	-60.28	H
519.8500	-72.58	2.7	6.1	-69.18	-13.00	-56.18	H
585.3250	-75.6	2.89	6.11	-72.38	-13.00	-59.38	H

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 / 1900 / TX / CH 25 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.3000	-62.19	1.26	-1.99	-65.44	-13.00	-52.44	V
236.1250	-59.57	1.81	5.37	-56.01	-13.00	-43.01	V
388.9000	-74.02	2.32	6	-70.34	-13.00	-57.34	V
519.8500	-75.42	2.7	6.1	-72.02	-13.00	-59.02	V
650.8000	-71.08	3.03	6.3	-67.81	-13.00	-54.81	V
832.6750	-71.13	3.4	6.32	-68.21	-13.00	-55.21	V
51.8250	-58.1	0.82	-4.37	-63.29	-13.00	-50.29	H
233.7000	-57.92	1.8	5.39	-54.33	-13.00	-41.33	H
391.3250	-68.19	2.32	6	-64.51	-13.00	-51.51	H
519.8500	-72.4	2.7	6.1	-69.00	-13.00	-56.00	H
650.8000	-69.9	3.03	6.3	-66.63	-13.00	-53.63	H
791.4500	-72.23	3.33	6.27	-69.29	-13.00	-56.29	H

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 / 1900 / TX / CH 600 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
122.1500	-57.7	1.29	-1.93	-60.92	-13.00	-47.92	V
233.7000	-58.99	1.8	5.39	-55.40	-13.00	-42.40	V
388.9000	-74.56	2.32	6	-70.88	-13.00	-57.88	V
519.8500	-75.61	2.7	6.1	-72.21	-13.00	-59.21	V
650.8000	-72.61	3.03	6.3	-69.34	-13.00	-56.34	V
786.6000	-71.87	3.32	6.18	-69.01	-13.00	-56.01	V
49.4000	-57.3	0.8	-5.08	-63.18	-13.00	-50.18	H
233.7000	-57.83	1.8	5.39	-54.24	-13.00	-41.24	H
391.3250	-71.14	2.32	6	-67.46	-13.00	-54.46	H
519.8500	-71.5	2.7	6.1	-68.10	-13.00	-55.10	H
650.8000	-70.8	3.03	6.3	-67.53	-13.00	-54.53	H
796.3000	-71.93	3.33	6.41	-68.85	-13.00	-55.85	H

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 / 1900 / TX / CH 1175 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
112.4500	-62.11	1.22	-1.8	-65.13	-13.00	-52.13	V
233.7000	-58.23	1.8	5.39	-54.64	-13.00	-41.64	V
388.9000	-74.19	2.32	6	-70.51	-13.00	-57.51	V
706.5750	-72.36	3.13	6.32	-69.17	-13.00	-56.17	V
796.3000	-69.81	3.33	6.41	-66.73	-13.00	-53.73	V
869.0500	-71.71	3.44	6.5	-68.65	-13.00	-55.65	V
110.0250	-61.17	1.21	-1.7	-64.08	-13.00	-51.08	H
233.7000	-55.81	1.8	5.39	-52.22	-13.00	-39.22	H
391.3250	-68.09	2.32	6	-64.41	-13.00	-51.41	H
519.8500	-70.17	2.7	6.1	-66.77	-13.00	-53.77	H
650.8000	-69.81	3.03	6.3	-66.54	-13.00	-53.54	H
796.3000	-70.45	3.33	6.41	-67.37	-13.00	-54.37	H

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: EVDO / 850 / TX / CH 384 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.3000	-61.36	1.26	-1.99	-64.61	-13.00	-51.61	V
236.1250	-59.45	1.81	5.37	-55.89	-13.00	-42.89	V
388.9000	-74.24	2.32	6	-70.56	-13.00	-57.56	V
519.8500	-75.61	2.7	6.1	-72.21	-13.00	-59.21	V
585.3250	-78.58	2.89	6.11	-75.36	-13.00	-62.36	V
650.8000	-78.15	3.03	6.3	-74.88	-13.00	-61.88	V
46.9750	-55.68	0.78	-6.96	-63.42	-13.00	-50.42	H
102.7500	-63.01	1.16	-0.76	-64.93	-13.00	-51.93	H
233.7000	-58.51	1.8	5.39	-54.92	-13.00	-41.92	H
391.3250	-69.81	2.32	6	-66.13	-13.00	-53.13	H
519.8500	-71.89	2.7	6.1	-68.49	-13.00	-55.49	H
585.3250	-75.78	2.89	6.11	-72.56	-13.00	-59.56	H

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: EVDO / 850 / TX / CH 777 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
44.5500	-60.53	0.76	-8.84	-70.13	-13.00	-57.13	V
114.8750	-61.59	1.24	-1.9	-64.73	-13.00	-51.73	V
233.7000	-59.53	1.8	5.39	-55.94	-13.00	-42.94	V
388.9000	-74.92	2.32	6	-71.24	-13.00	-58.24	V
519.8500	-75.71	2.7	6.1	-72.31	-13.00	-59.31	V
650.8000	-77.57	3.03	6.3	-74.30	-13.00	-61.30	V
102.7500	-62.34	1.16	-0.76	-64.26	-13.00	-51.26	H
236.1250	-58.63	1.81	5.37	-55.07	-13.00	-42.07	H
391.3250	-70.36	2.32	6	-66.68	-13.00	-53.68	H
519.8500	-73.03	2.7	6.1	-69.63	-13.00	-56.63	H
585.3250	-76.22	2.89	6.11	-73.00	-13.00	-60.00	H
650.8000	-74.93	3.03	6.3	-71.66	-13.00	-58.66	H

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: EVDO / 850 / TX / CH 1013 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.3000	-61.37	1.26	-1.99	-64.62	-13.00	-51.62	V
238.5500	-61.05	1.81	5.35	-57.51	-13.00	-44.51	V
388.9000	-74.32	2.32	6	-70.64	-13.00	-57.64	V
519.8500	-74.75	2.7	6.1	-71.35	-13.00	-58.35	V
585.3250	-76.6	2.89	6.11	-73.38	-13.00	-60.38	V
650.8000	-79.37	3.03	6.3	-76.10	-13.00	-63.10	V
49.4000	-57.92	0.8	-5.08	-63.80	-13.00	-50.80	H
105.1750	-60.71	1.18	-1.07	-62.96	-13.00	-49.96	H
233.7000	-60.43	1.8	5.39	-56.84	-13.00	-43.84	H
391.3250	-70.22	2.32	6	-66.54	-13.00	-53.54	H
456.8000	-76.24	2.6	5.84	-73.00	-13.00	-60.00	H
519.8500	-72.79	2.7	6.1	-69.39	-13.00	-56.39	H

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: EVDO / 1900 / TX / CH 25 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
236.1250	-59.22	1.81	5.37	-55.66	-13.00	-42.66	V
388.9000	-74.5	2.32	6	-70.82	-13.00	-57.82	V
519.8500	-75.82	2.7	6.1	-72.42	-13.00	-59.42	V
667.7750	-70.67	3.07	6.3	-67.44	-13.00	-54.44	V
784.1750	-71.1	3.31	6.15	-68.26	-13.00	-55.26	V
830.2500	-71.82	3.39	6.3	-68.91	-13.00	-55.91	V
49.4000	-57.56	0.8	-5.08	-63.44	-13.00	-50.44	H
233.7000	-58.07	1.8	5.39	-54.48	-13.00	-41.48	H
391.3250	-68.9	2.32	6	-65.22	-13.00	-52.22	H
519.8500	-71.17	2.7	6.1	-67.77	-13.00	-54.77	H
650.8000	-71.02	3.03	6.3	-67.75	-13.00	-54.75	H
798.7250	-73.22	3.33	6.48	-70.07	-13.00	-57.07	H

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: EVDO / 1900 / TX / CH 600 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
233.7000	-59.1	1.8	5.39	-55.51	-13.00	-42.51	V
388.9000	-74.22	2.32	6	-70.54	-13.00	-57.54	V
519.8500	-75.35	2.7	6.1	-71.95	-13.00	-58.95	V
667.7750	-73.15	3.07	6.3	-69.92	-13.00	-56.92	V
716.2750	-72.65	3.16	6.42	-69.39	-13.00	-56.39	V
798.7250	-72.96	3.33	6.48	-69.81	-13.00	-56.81	V
49.4000	-56.27	0.8	-5.08	-62.15	-13.00	-49.15	H
233.7000	-57.54	1.8	5.39	-53.95	-13.00	-40.95	H
391.3250	-70.07	2.32	6	-66.39	-13.00	-53.39	H
519.8500	-72.12	2.7	6.1	-68.72	-13.00	-55.72	H
650.8000	-72.35	3.03	6.3	-69.08	-13.00	-56.08	H
784.1750	-72.5	3.31	6.15	-69.66	-13.00	-56.66	H

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: EVDO / 1900 / TX / CH 1175 **Test Date:** October 4, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
233.7000	-58.83	1.8	5.39	-55.24	-13.00	-42.24	V
388.9000	-74.38	2.32	6	-70.70	-13.00	-57.70	V
519.8500	-74.17	2.7	6.1	-70.77	-13.00	-57.77	V
665.3500	-73.04	3.06	6.3	-69.80	-13.00	-56.80	V
784.1750	-70.63	3.31	6.15	-67.79	-13.00	-54.79	V
827.8250	-70.33	3.39	6.28	-67.44	-13.00	-54.44	V
49.4000	-55.85	0.8	-5.08	-61.73	-13.00	-48.73	H
233.7000	-56.44	1.8	5.39	-52.85	-13.00	-39.85	H
391.3250	-67.51	2.32	6	-63.83	-13.00	-50.83	H
519.8500	-69.62	2.7	6.1	-66.22	-13.00	-53.22	H
650.8000	-70.1	3.03	6.3	-66.83	-13.00	-53.83	H
798.7250	-72.06	3.33	6.48	-68.91	-13.00	-55.91	H

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.*

Above 1GHz

For V100

Operation Mode: CDMA2000 / 850 / TX / CH 384 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-49.49	4.56	5.09	-48.96	-13.00	-35.96	V
2662.500	-52.39	6.64	6.52	-52.51	-13.00	-39.51	V
N/A							
1332.500	-50.8	4.56	5.09	-50.27	-13.00	-37.27	H
3817.500	-53.82	8.28	9.22	-52.88	-13.00	-39.88	H
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 / 850 / TX / CH 777 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-47.81	4.56	5.09	-47.28	-13.00	-34.28	V
2680.000	-52.76	6.68	6.57	-52.87	-13.00	-39.87	V
N/A							
1332.500	-48.57	4.56	5.09	-48.04	-13.00	-35.04	H
2977.500	-55.75	7.04	7.34	-55.45	-13.00	-42.45	H
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 / 850 / TX / CH 1013 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-48.45	4.56	5.09	-47.92	-13.00	-34.92	V
2662.500	-54.06	6.64	6.52	-54.18	-13.00	-41.18	V
N/A							
1332.500	-50.37	4.56	5.09	-49.84	-13.00	-36.84	H
1805.000	-56.3	5.3	5.75	-55.85	-13.00	-42.85	H
3572.500	-54.75	8.04	8.97	-53.82	-13.00	-40.82	H
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 / 1900 / TX / CH 25 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-43.32	4.56	5.09	-42.79	-13.00	-29.79	V
1857.500	-49.57	5.38	5.66	-49.29	-13.00	-36.29	V
2662.500	-48.31	6.64	6.52	-48.43	-13.00	-35.43	V
N/A							
1332.500	-41.83	4.56	5.09	-41.30	-13.00	-28.30	H
1857.500	-49.05	5.38	5.66	-48.77	-13.00	-35.77	H
4062.500	-51.82	8.42	9.45	-50.79	-13.00	-37.79	H
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 / 1900 / TX / CH 600 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-43.96	4.56	5.09	-43.43	-13.00	-30.43	V
1892.500	-51.34	5.44	5.59	-51.19	-13.00	-38.19	V
2662.500	-50.32	6.64	6.52	-50.44	-13.00	-37.44	V
N/A							
1332.500	-45.44	4.56	5.09	-44.91	-13.00	-31.91	H
1892.500	-53.88	5.44	5.59	-53.73	-13.00	-40.73	H
5935.000	-50.64	10.55	10.89	-50.30	-13.00	-37.30	H
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 / 1900 / TX / CH 1175 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-43.6	4.56	5.09	-43.07	-13.00	-30.07	V
1910.000	-53.67	5.48	5.56	-53.59	-13.00	-40.59	V
2662.500	-50.58	6.64	6.52	-50.70	-13.00	-37.70	V
N/A							
1332.500	-46.58	4.56	5.09	-46.05	-13.00	-33.05	H
3590.000	-54.55	8.09	8.99	-53.65	-13.00	-40.65	H
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: EVDO / 850 / TX / CH 384 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-48.46	4.56	5.09	-47.93	-13.00	-34.93	V
2662.500	-50.46	6.64	6.52	-50.58	-13.00	-37.58	V
N/A							
1332.500	-48.83	4.56	5.09	-48.30	-13.00	-35.30	H
3887.500	-52.67	8.37	9.29	-51.75	-13.00	-38.75	H
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: EVDO / 850 / TX / CH 777 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-50.15	4.56	5.09	-49.62	-13.00	-36.62	V
2662.500	-52.76	6.64	6.52	-52.88	-13.00	-39.88	V
N/A							
1332.500	-49.87	4.56	5.09	-49.34	-13.00	-36.34	H
3747.500	-54.74	8.23	9.15	-53.82	-13.00	-40.82	H
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: EVDO / 850 / TX / CH 1013 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-49.67	4.56	5.09	-49.14	-13.00	-36.14	V
2662.500	-51.32	6.64	6.52	-51.44	-13.00	-38.44	V
N/A							
1332.500	-49.32	4.56	5.09	-48.79	-13.00	-35.79	H
3887.500	-54.15	8.37	9.29	-53.23	-13.00	-40.23	H
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: EVDO / 1900 / TX / CH 25 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-44.35	4.56	5.09	-43.82	-13.00	-30.82	V
2662.500	-52.5	6.64	6.52	-52.62	-13.00	-39.62	V
N/A							
1332.500	-49	4.56	5.09	-48.47	-13.00	-35.47	H
3117.500	-54.87	7.19	7.75	-54.31	-13.00	-41.31	H
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: EVDO / 1900 / TX / CH 600 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-44.08	4.56	5.09	-43.55	-13.00	-30.55	V
2662.500	-52.29	6.64	6.52	-52.41	-13.00	-39.41	V
N/A							
1332.500	-47.05	4.56	5.09	-46.52	-13.00	-33.52	H
4325.000	-52.63	8.61	9.66	-51.58	-13.00	-38.58	H
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: EVDO / 1900 / TX / CH 1175 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-45.39	4.56	5.09	-44.86	-13.00	-31.86	V
1910.000	-53.11	5.48	5.56	-53.03	-13.00	-40.03	V
2662.500	-51.33	6.64	6.52	-51.45	-13.00	-38.45	V
N/A							
1332.500	-45.12	4.56	5.09	-44.59	-13.00	-31.59	H
3555.000	-54.85	8	8.96	-53.89	-13.00	-40.89	H
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.*

For V200

Operation Mode: CDMA2000 / 850 / TX / CH 384 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-46.74	4.56	5.09	-46.21	-13.00	-33.21	V
1997.500	-52.63	5.71	5.4	-52.94	-13.00	-39.94	V
5025.000	-49.53	9.42	10.61	-48.34	-13.00	-35.34	V
N/A							
1332.500	-50.61	4.56	5.09	-50.08	-13.00	-37.08	H
1682.500	-52.56	5.09	5.97	-51.68	-13.00	-38.68	H
2522.500	-51.25	6.38	6.16	-51.47	-13.00	-38.47	H
3345.000	-51.3	7.51	8.44	-50.37	-13.00	-37.37	H
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 / 850 / TX / CH 777 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-48.62	4.56	5.09	-48.09	-13.00	-35.09	V
1700.000	-49.42	5.11	5.94	-48.59	-13.00	-35.59	V
2557.500	-47.92	6.43	6.25	-48.10	-13.00	-35.10	V
N/A							
1332.500	-46.11	4.56	5.09	-45.58	-13.00	-32.58	H
1700.000	-50.05	5.11	5.94	-49.22	-13.00	-36.22	H
2557.500	-49.02	6.43	6.25	-49.20	-13.00	-36.20	H
3397.500	-52	7.57	8.59	-50.98	-13.00	-37.98	H
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 / 850 / TX / CH 1013 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-47.81	4.56	5.09	-47.28	-13.00	-34.28	V
1647.500	-46.23	5.04	6.03	-45.24	-13.00	-32.24	V
2487.500	-44.81	6.33	6.08	-45.06	-13.00	-32.06	V
N/A							
1332.500	-47.81	4.56	5.09	-47.28	-13.00	-34.28	H
1647.500	-49.93	5.04	6.03	-48.94	-13.00	-35.94	H
2487.500	-47.17	6.33	6.08	-47.42	-13.00	-34.42	H
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 / 1900 / TX / CH 25 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-41.41	4.56	5.09	-40.88	-13.00	-27.88	V
2662.500	-45.66	6.64	6.52	-45.78	-13.00	-32.78	V
3712.500	-37.11	8.21	9.11	-36.21	-13.00	-23.21	V
5567.500	-42.53	10.11	10.81	-41.83	-13.00	-28.83	V
N/A							
1332.500	-47.42	4.56	5.09	-46.89	-13.00	-33.89	H
3712.500	-37.49	8.21	9.11	-36.59	-13.00	-23.59	H
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 / 1900 / TX / CH 600 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-44.83	4.56	5.09	-44.30	-13.00	-31.30	V
3765.000	-38.11	8.24	9.16	-37.19	-13.00	-24.19	V
N/A							
1332.500	-47.2	4.56	5.09	-46.67	-13.00	-33.67	H
3712.500	-37.6	8.21	9.11	-36.70	-13.00	-23.70	H
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 / 1900 / TX / CH 1175 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-43.59	4.56	5.09	-43.06	-13.00	-30.06	V
2662.500	-50.09	6.64	6.52	-50.21	-13.00	-37.21	V
3817.500	-49.09	8.28	9.22	-48.15	-13.00	-35.15	V
N/A							
1332.500	-50.64	4.56	5.09	-50.11	-13.00	-37.11	H
3817.500	-47.32	8.28	9.22	-46.38	-13.00	-33.38	H
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: EVDO / 850 / TX / CH 384 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-49.05	4.56	5.09	-48.52	-13.00	-35.52	V
1682.500	-50.63	5.09	5.97	-49.75	-13.00	-36.75	V
2522.500	-49.3	6.38	6.16	-49.52	-13.00	-36.52	V
5025.000	-49.35	9.42	10.61	-48.16	-13.00	-35.16	V
N/A							
1332.500	-49.49	4.56	5.09	-48.96	-13.00	-35.96	H
1682.500	-52.24	5.09	5.97	-51.36	-13.00	-38.36	H
2522.500	-51.8	6.38	6.16	-52.02	-13.00	-39.02	H
3345.000	-52.01	7.51	8.44	-51.08	-13.00	-38.08	H
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: EVDO / 850 / TX / CH 777 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-46.82	4.56	5.09	-46.29	-13.00	-33.29	V
1700.000	-49.92	5.11	5.94	-49.09	-13.00	-36.09	V
2557.500	-51.04	6.43	6.25	-51.22	-13.00	-38.22	V
N/A							
1332.500	-49.32	4.56	5.09	-48.79	-13.00	-35.79	H
1700.000	-49.96	5.11	5.94	-49.13	-13.00	-36.13	H
2557.500	-47.81	6.43	6.25	-47.99	-13.00	-34.99	H
3397.500	-51.26	7.57	8.59	-50.24	-13.00	-37.24	H
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: EVDO / 850 / TX / CH 1013 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-48.44	4.56	5.09	-47.91	-13.00	-34.91	V
1647.500	-46.06	5.04	6.03	-45.07	-13.00	-32.07	V
2487.500	-45.06	6.33	6.08	-45.31	-13.00	-32.31	V
N/A							
1332.500	-53.21	4.56	5.09	-52.68	-13.00	-39.68	H
1647.500	-50.05	5.04	6.03	-49.06	-13.00	-36.06	H
2487.500	-47	6.33	6.08	-47.25	-13.00	-34.25	H
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: EVDO / 1900 / TX / CH 25 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-44.21	4.56	5.09	-43.68	-13.00	-30.68	V
3712.500	-37.93	8.21	9.11	-37.03	-13.00	-24.03	V
5567.500	-43.2	10.11	10.81	-42.50	-13.00	-29.50	V
N/A							
1332.500	-47.2	4.56	5.09	-46.67	-13.00	-33.67	H
3712.500	-37.6	8.21	9.11	-36.70	-13.00	-23.70	H
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: EVDO / 1900 / TX / CH 600 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-46.82	4.56	5.09	-46.29	-13.00	-33.29	V
3765.000	-38.55	8.24	9.16	-37.63	-13.00	-24.63	V
N/A							
1332.500	-48.41	4.56	5.09	-47.88	-13.00	-34.88	H
3765.000	-37.98	8.24	9.16	-37.06	-13.00	-24.06	H
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: EVDO / 1900 / TX / CH 1175 **Test Date:** September 25, 2012

Temperature: 25°C **Tested by:** David Lee

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1332.500	-47.71	4.56	5.09	-47.18	-13.00	-34.18	V
3817.500	-49.54	8.28	9.22	-48.60	-13.00	-35.60	V
N/A							
1332.500	-47.17	4.56	5.09	-46.64	-13.00	-33.64	H
3817.500	-47.13	8.28	9.22	-46.19	-13.00	-33.19	H
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.*

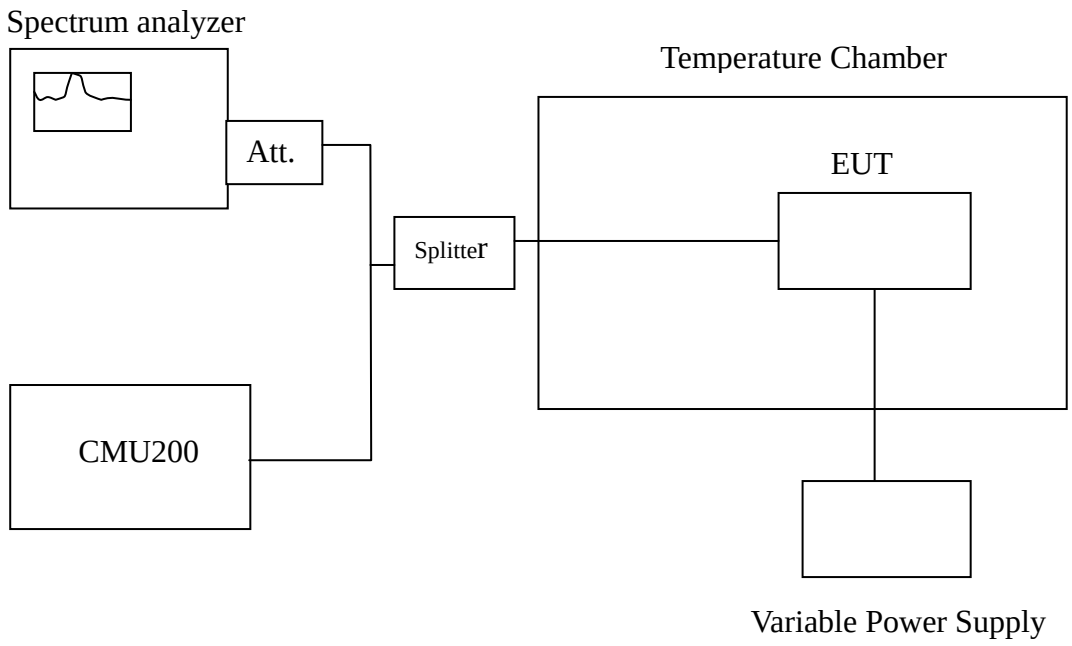
7.6FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

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℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	**Environment Temperature (℃)**	**Frequency (Hz)**	**Delta (Hz)**	**Limit (Hz)**
120	50	83651999	-3	2090
	40	83652000	-2	
	30	83652002	0	
	20	83652002	0	
	10	83651999	-3	
	0	83652004	2	
	-10	83651999	-3	
	-20	83652002	0	
	-30	83651996	-6	

Reference Frequency: CDMA2000 Mid Channel 1880MHz @ 20℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply Vdc	**Environment Temperature (°C)**	**Frequency (Hz)**	**Delta (Hz)**	**Limit (Hz)**
120	50	1879999996	-9	4700
	40	1879999998	-7	
	30	1879999997	-8	
	20	1880000005	0	
	10	1879999996	-9	
	0	1879999989	-16	
	-10	1879999997	-8	
	-20	1879999994	-11	
	50	1879999996	-9	

Reference Frequency: EVDO Mid Channel 836.52MHz @ 20℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	**Environment Temperature (℃)**	**Frequency (Hz)**	**Delta (Hz)**	**Limit (Hz)**
3.7	50	83651999	-2	2090
	40	83651998	-3	
	30	83651997	-4	
	20	83652001	0	
	10	83651996	-5	
	0	83651995	-6	
	-10	83651998	-3	
	-20	83651997	-4	
	-30	83652005	4	

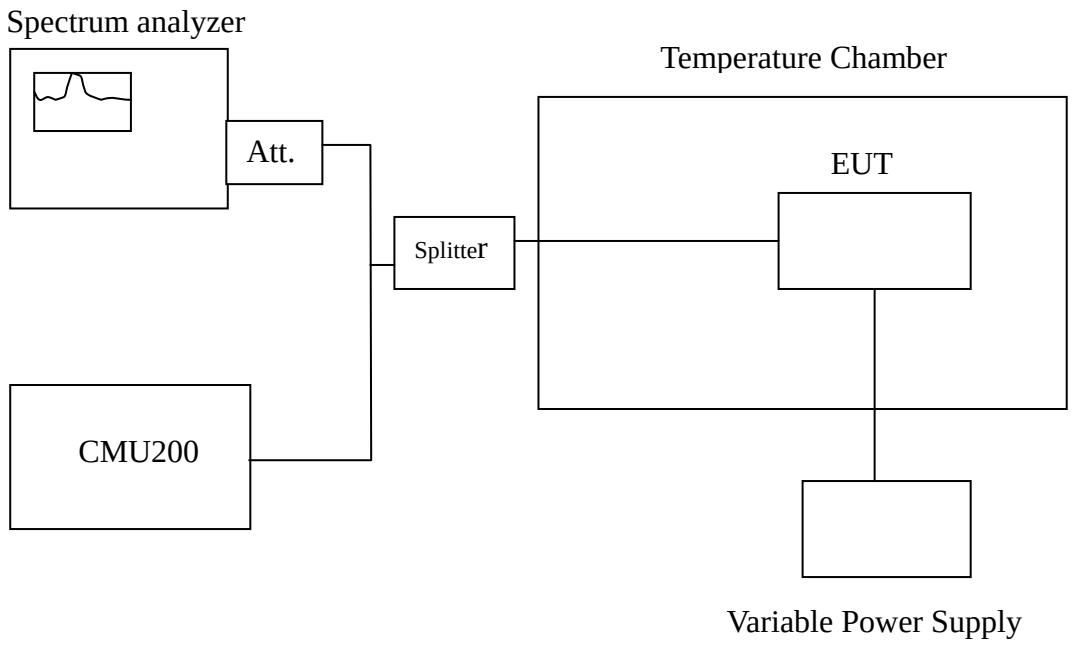
Reference Frequency: EVDO Mid Channel 1880MHz @ 20℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply Vdc	**Environment Temperature (°C)**	**Frequency (Hz)**	**Delta (Hz)**	**Limit (Hz)**
3.7	50	1879999999	-5	4700
	40	1879999996	-8	
	30	1879999995	-9	
	20	1880000004	0	
	10	1879999994	-10	
	0	1880000004	0	
	-10	1880000003	-1	
	-20	1880000002	-2	
	-30	1880000001	-3	

7.7FREQUENCY 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℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	**Environment Temperature (°C)**	**Frequency (Hz)**	**Delta (Hz)**	**Limit (Hz)**
132	20	83652003	1	2090
120		83652002	0	
108		83651995	-7	
98END		83651897	-98	

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)**
132	20	1880000001	-4	4700
120		1880000005	0	
108		1880000002	-3	
98END		1880000084	79	

Reference Frequency: EVDO Mid Channel 836.52MHz @ 20℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	**Environment Temperature (°C)**	**Frequency (Hz)**	**Delta (Hz)**	**Limit (Hz)**
4.255	20	83652002	1	2090
3.7		83652001	0	
3.145		83652015	14	
3.1END		83652098	83	

Reference Frequency: EVDO Mid Channel 1880MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	**Environment Temperature (°C)**	**Frequency (Hz)**	**Delta (Hz)**	**Limit (Hz)**
4.255	20	1879999998	-6	4700
3.7		1880000004	0	
3.145		1880000006	2	
3.1END		1880000063	59	

7.8POWERLINE 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.

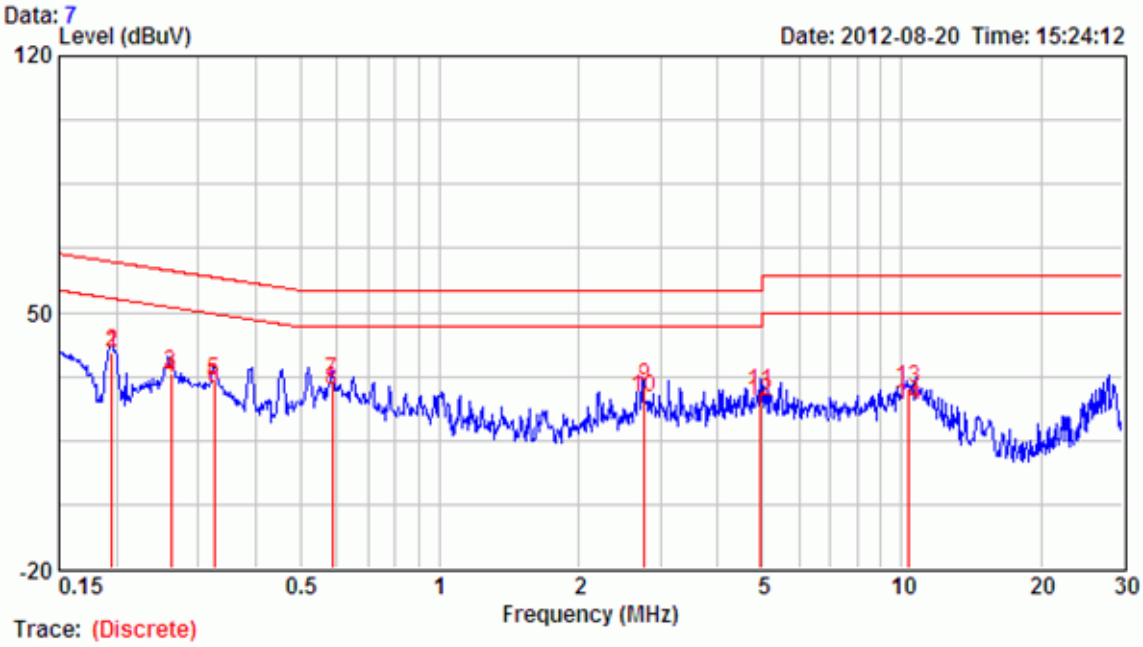
TEST RESULTS

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.

Test Data

Operation Mode:	Normal Link	**Test Date:**	August 20, 2012
Temperature:	22°C	**Tested by:**	Alan Wu
Humidity:	58% RH		

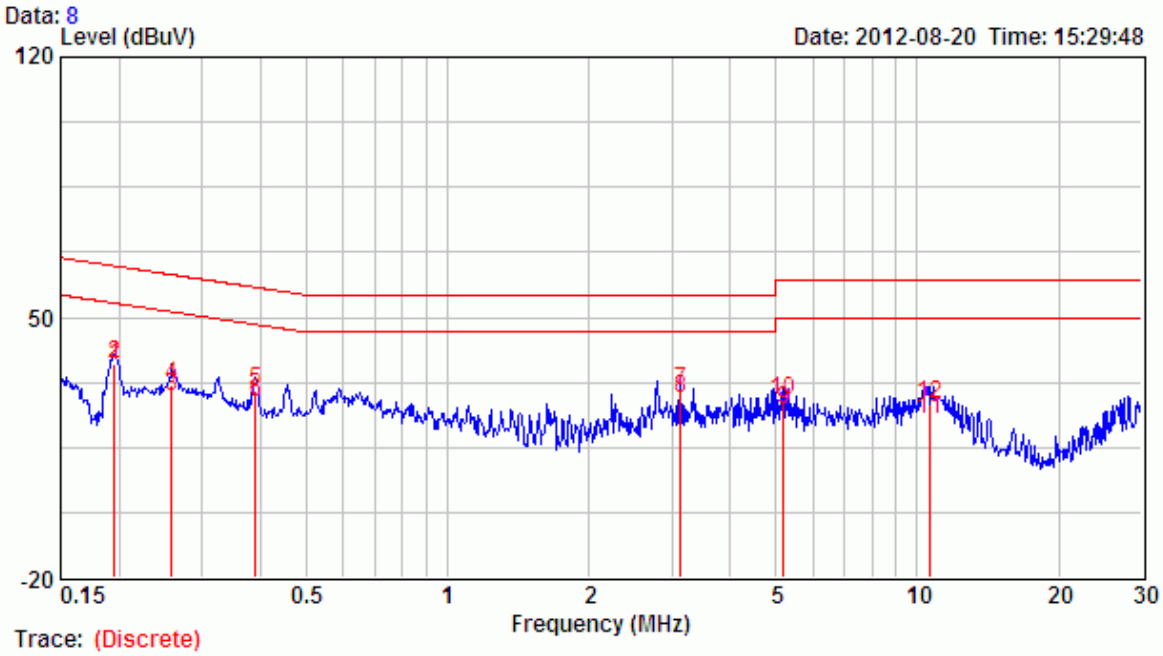
Conducted emissions (Line 1)



Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV AV.	Emission Level dBuV Q.P.	Emission Level dBuV AV.	Limit dBuV Q.P.	Limit dBuV AV.	Margin dB Q.P.	Margin dB AV.
0.195	0.14	38.99	38.88	39.13	39.02	63.82	53.82	-24.69	-14.80
0.262	0.14	33.03	31.77	33.17	31.91	61.38	51.38	-28.21	-19.47
0.325	0.15	31.27	29.21	31.42	29.36	59.57	49.57	-28.16	-20.22
0.586	0.17	30.90	28.75	31.07	28.92	56.00	46.00	-24.93	-17.08
2.781	0.23	29.73	26.64	29.96	26.87	56.00	46.00	-26.04	-19.13
4.937	0.30	27.96	25.18	28.26	25.48	56.00	46.00	-27.74	-20.52
10.292	0.43	28.59	24.09	29.02	24.52	60.00	50.00	-30.98	-25.48

Remarks: 1. The emission levels of other frequencies were very low against the limits .
2. Correction Factor = Insertion loss + Cable loss
3. Margin value = Emission level - Limit value

Conducted emissions (Line 2)



Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV AV.	Emission Level dBuV Q.P.	Emission Level dBuV AV.	Limit dBuV Q.P.	Limit dBuV AV.	Margin dB Q.P.	Margin dB AV.
0.195	0.11	37.33	36.84	37.44	36.95	63.80	53.80	-26.36	-16.85
0.259	0.12	31.81	28.75	31.93	28.87	61.47	51.47	-29.54	-22.60
0.389	0.13	30.21	27.17	30.34	27.30	58.08	48.08	-27.74	-20.78
3.130	0.22	30.13	28.04	30.35	28.26	56.00	46.00	-25.65	-17.74
5.180	0.27	27.32	25.01	27.59	25.28	60.00	50.00	-32.41	-24.72
10.602	0.38	26.26	22.12	26.64	22.50	60.00	50.00	-33.36	-27.50

Remarks: 1. The emission levels of other frequencies were very low against the limits .
2. Correction Factor = Insertion loss + Cable loss
3. Margin value = Emission level - Limit value