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

TEST REPORT

For

Computer

Model: TREK-520, TREK-520XXXXXXXXXXXXXXXXX, TREK520XXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character, "-", "_" or blank)

Trade Name: ADVANTECH

Issued to

Advantech Co. Ltd.
No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
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Issued Date: March 16, 2014

Testing Laboratory
1309

Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		March 16, 2014		Initial Issue	ALL	Angel Cheng

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APPENDIX 1 - PHOTOGRAPHS OF EUT

1. TEST RESULT CERTIFICATION

Applicant:	Advantech Co. Ltd. No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.
Equipment Under Test:	Computer
Trade Name:	ADVANTECH
Model Number:	TREK-520, TREK-520XXXXXXXXXXXXXXXXX, TREK520XXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character, "-", "_" or blank)
Date of Test:	November 6 ~ 22, 2014

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 22 Subpart H & Part 24 Subpart E	No non-compliance noted

We hereby certify that:

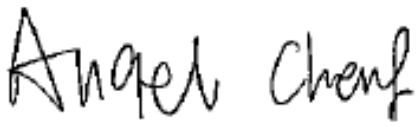
The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C: 2004 and the energy emitted by the sample EUT tested as described 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:



Angel Cheng
Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	Computer
Trade Name	ADVANTECH
Model Number	TREK-520, TREK-520XXXXXXXXXXXXXXXX, TREK520XXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character, "-", "_" or blank)
Model Discrepancy	All the above models are identical except for the designation of model numbers. The suffix of (X= "-", "_" or blank) on model number is just for marketing purpose only.
Received Date	August 22, 2013
Power Supply	Powered by DC 12-32V
Frequency Range	GSM / GPRS / EDGE: 850: 824.2 ~ 848.8 MHz GSM / GPRS / EDGE: 1900: 1850.2 ~ 1909.8 MHz WCDMA / HSDPA / HSUPA Band II: 1852.4 ~ 1907.6 MHz WCDMA / HSDPA / HSUPA Band V: 826.4 ~ 846.6MHz
Transmit Power (ERP & EIRP Power)	GSM 850: 26.99dBm GSM 1900: 21.77 dBm GPRS 850: 25.82 dBm GPRS 1900: 19.84 dBm EDGE 850: 23.67 dBm EDGE 1900: 18.41 dBm WCDMA Band II: 15.07 dBm HSDPA Band II: 13.39 dBm HSUPA Band II: 12.98 dBm WCDMA Band V: 15.54 dBm HSDPA Band V: 14.62 dBm HSUPA Band V: 13.82 dBm
Cellular Phone Protocol	GSM: GMSK GPRS: GMSK EDGE: 8PSK WCDMA: Quadrature Phase Shift Keying (QPSK) with Root-raised cosine pulse shaping filters (roll off = 0.22)
Type of Emission	GSM 850: 243KGXW--- GSM 1900: 245KGXW--- GPRS 850: 242KGXW--- GPRS 1900: 245KGXW--- EDGE 850: 243KG7W--- EDGE 1900: 246KG7W--- WCDMA Band II: 4M08F9W--- WCDMA Band V: 4M06F9W--- WCDMA HSDPA Band II: 4M08F9W--- WCDMA HSDPA Band V: 4M07F9W--- WCDMA HSUPA Band II: 4M08F9W--- WCDMA HSUPA Band V: 4M06F9W---

Antenna Gain	GSM / GPRS / EDGE 850: 1 dBi GSM / GPRS / EDGE 1900: 2.5 dBi WCDMA band II: 2.5 dBi WCDMA band V: 1 dBi
Antenna Type	PCB Antenna

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:* ***M82-TREK520*** *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: 2009, TIA/EIA-603-C: 2004 and FCC CFR 47, Part 2, PART 22 SUBPART H AND PART 24 SUBPART E

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: 2009.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: 2009.

3.4DESCRIPTION OF TEST MODES

The EUT (model: TREK-520) had been tested under operating condition and GPRS support multi slot mode (Class 33).

EUT staying in continuous transmitting mode was programmed.

GSM / GPRS / EDGE 850:
Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing.

GSM / GPRS / EDGE 1900:
Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing.

WCDMA Band II:
Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.

WCDMA Band V:
Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

WCDMA / HSDPA Band II:
Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.
WCDMA / HSDPA Band V:
Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

WCDMA / HSUPA Band II:
Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.

WCDMA / HSDPA Band V:
Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

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.

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.

4.2MEASUREMENT 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	03/20/2014
Power Meter	Anritsu	ML2495A	1012009	06/04/2014
Power Sensor	Anritsu	MA2411A	0917072	06/04/2014

Wugu 966 Chamber A				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510268	11/05/2014
EMI Test Receiver	R&S	ESCI	100064	02/16/2015
Pre-Amplifier	Mini-Circults	ZFL-1000LN	SF350700823	01/11/2015
Bilog Antenna	Sunol Sciences	JB3	A030105	02/16/2015
Bilog Antenna	Sunol Sciences	JB3	A030205	10/01/2014
Horn Antenna	EMCO	3117	00055165	02/16/2015
Horn Antenna	EMCO	3117	00055167	01/27/2015
Horn Antenna	EMCO	3116	26370	01/06/2015
Loop Antenna	EMCO	6502	8905/2356	06/11/2015
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	12/21/2014
Test S/W	EZ-EMC (CCS-3A1RE)			

4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
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

5.1FACILITIES

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

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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.

5.2EQUIPMENT

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

6.1SETUP CONFIGURATION OF EUT

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

6.2SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	FCC ID	Series No.	Data Cable	Power Cord
	N/A						

Remark:

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

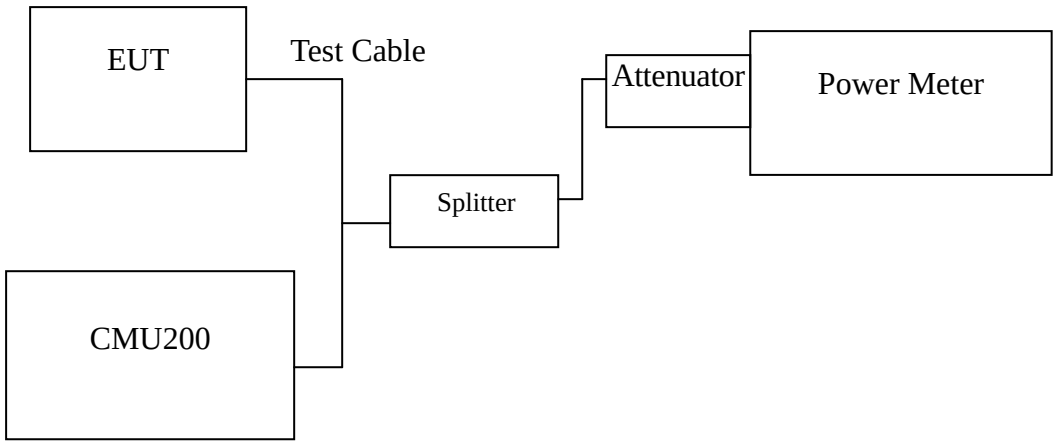
7. FCC PART 22 & 24 REQUIREMENTS

7.1PEAK POWER

LIMIT

According to FCC §2.1046.
FCC 22.913
(a) Effective radiated power limits.
The effective radiated power (ERP) of mobile transmitters must not exceed 7 Watts.
FCC 24.232 (b)(c) Power limits.
(b) Mobile/portable stations are limited to 2 Watts effective isotropic radiated power (EIRP).
(c) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement over the full bandwidth of the channel.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
GSM 850	128	824.20	32.80	1.90546
	190	836.60	32.80	1.90546
	251	848.80	32.80	1.90546
GPRS 850	128	824.20	30.50	1.12202
	190	836.60	30.60	1.14815
	251	848.80	30.60	1.14815
EDGE 850	128	824.20	26.90	0.48978
	190	836.60	26.90	0.48978
	251	848.80	27.00	0.50119

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
GSM 1900	512	1850.20	29.20	0.83176
	661	1880.00	29.00	0.79433
	810	1909.80	29.10	0.81283
GPRS 1900	512	1850.20	27.20	0.52481
	661	1880.00	27.10	0.51286
	810	1909.80	27.30	0.53703
EDGE 1900	512	1850.20	25.70	0.37154
	661	1880.00	25.70	0.37154
	810	1909.80	25.80	0.38019

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

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA (BAND II)	9262	1852.40	24.04	0.25351
	9400	1880.00	24.21	0.26363
	9538	1907.60	23.87	0.24378
WCDMA (BAND V)	4132	826.40	25.55	0.35892
	4182	836.40	25.55	0.35892
	4233	846.60	25.23	0.33343

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA / HSDPA (BAND II)	9262	1852.40	23.91	0.24604
	9400	1880.00	23.95	0.24831
	9538	1907.60	23.88	0.24434
WCDMA / HSDPA (BAND V)	4132	826.40	25.50	0.35481
	4182	836.40	25.36	0.34356
	4233	846.60	25.19	0.33037

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA / HSUPA (BAND II)	9262	1852.40	23.83	0.24155
	9400	1880.00	23.94	0.24774
	9538	1907.60	23.83	0.24155
WCDMA / HSUPA (BAND V)	4132	826.40	25.23	0.33343
	4182	836.40	25.30	0.33884
	4233	846.60	25.05	0.31989

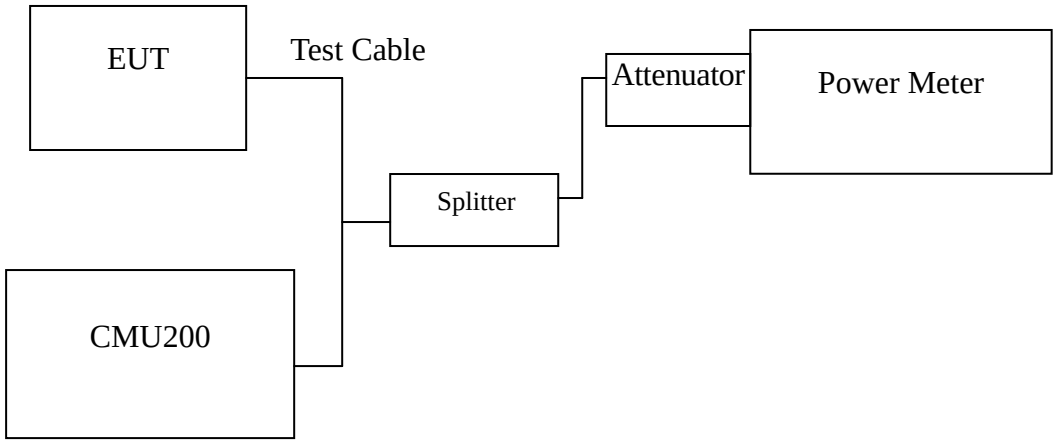
Remark: *The value of factor includes both the loss of cable and external attenuator*

7.2AVERAGE POWER

LIMIT

For reporting purposes only.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)	Output Power W
GSM 850	128	824.20	32.50	1.77828
	190	836.60	32.50	1.77828
	251	848.80	32.40	1.73780
GPRS 850	128	824.20	30.30	1.07152
	190	836.60	30.40	1.09648
	251	848.80	30.40	1.09648
EDGE 850	128	824.20	26.80	0.47863
	190	836.60	26.80	0.47863
	251	848.80	26.90	0.48978

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)	Output Power W
GSM 1900	512	1850.20	29.10	0.81283
	661	1880.00	29.10	0.81283
	810	1909.80	29.30	0.85114
GPRS 1900	512	1850.20	27.10	0.51286
	661	1880.00	27.00	0.50119
	810	1909.80	27.20	0.52481
EDGE 1900	512	1850.20	25.60	0.36308
	661	1880.00	25.50	0.35481
	810	1909.80	25.70	0.37154

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

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)	Output Power W
WCDMA (BAND II)	9262	1852.40	21.81	0.15171
	9400	1880.00	21.73	0.14894
	9538	1907.60	21.74	0.14928
WCDMA (BAND V)	4132	826.40	22.72	0.18707
	4182	836.40	22.70	0.18621
	4233	846.60	22.48	0.17701

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)	Output Power W
WCDMA / HSDPA (BAND II)	9262	1852.40	20.60	0.11482
	9400	1880.00	20.56	0.11376
	9538	1907.60	20.57	0.11402
WCDMA / HSDPA (BAND V)	4132	826.40	21.54	0.14256
	4182	836.40	21.51	0.14158
	4233	846.60	21.31	0.13521

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA / HSUPA (BAND II)	9262	1852.40	20.57	0.11402
	9400	1880.00	20.53	0.11298
	9538	1907.60	20.55	0.11350
WCDMA / HSUPA (BAND V)	4132	826.40	21.52	0.14191
	4182	836.40	21.49	0.14093
	4233	846.60	21.27	0.13397

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

7.3ERP & EIRP MEASUREMENT

LIMIT

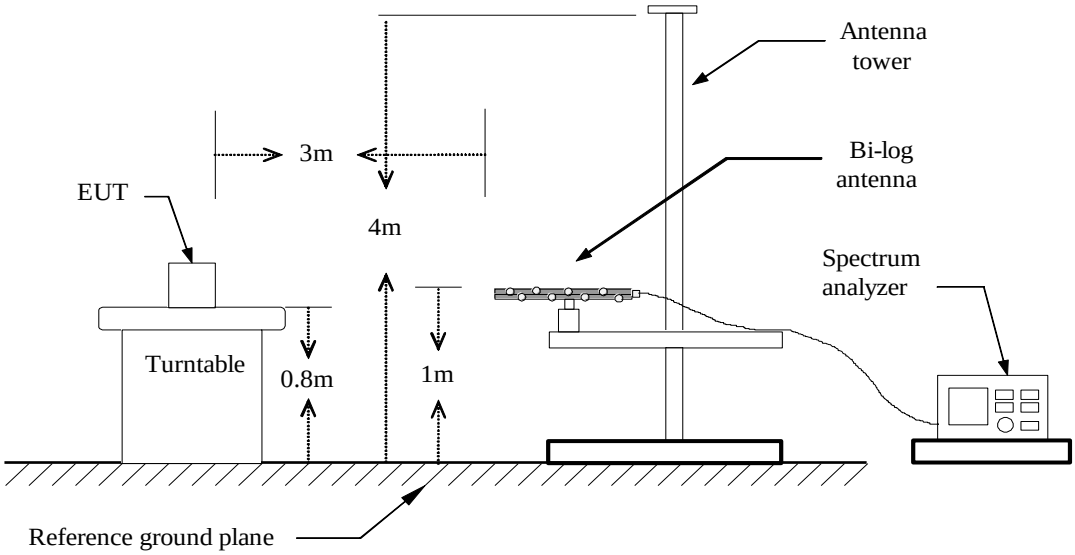
According to FCC §2.1046

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

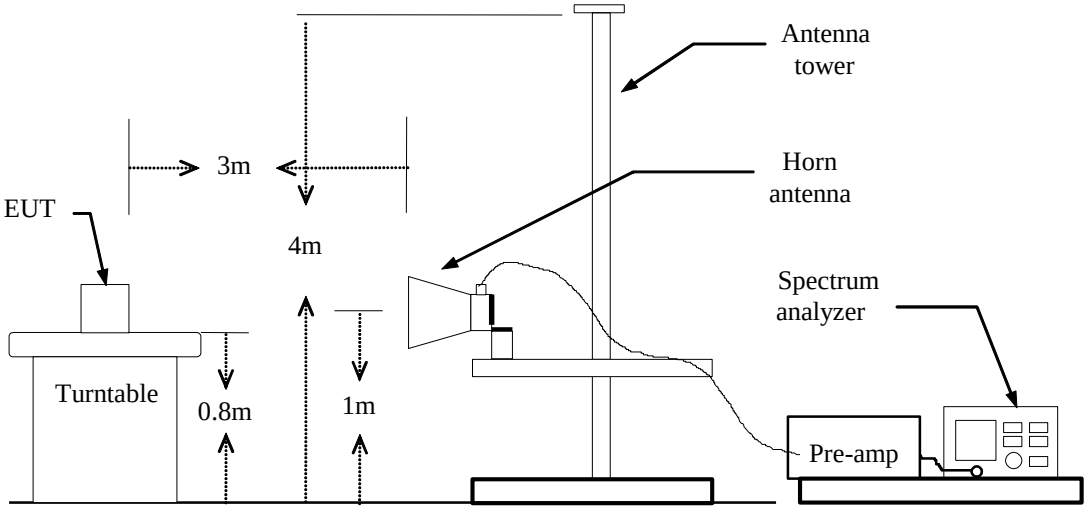
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

Test Configuration

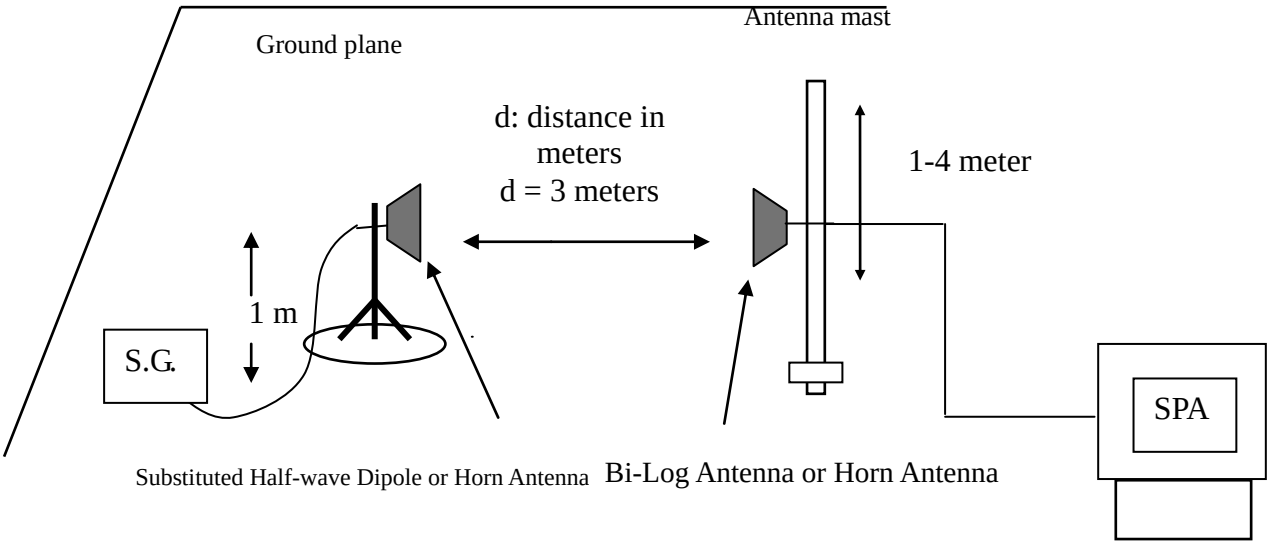
Below 1 GHz



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 5MHz and the average bandwidth was set to 50MHz. 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.

GSM 850 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.20	V	7.64	3.39	6.24	10.49	38.45	-27.96
	824.20	H	24.14	3.39	6.24	***26.99**	38.45	-11.46
190	836.60	V	23.55	3.4	6.37	26.52	38.45	-11.93
	836.60	H	8.48	3.4	6.36	11.44	38.45	-27.01
251	848.80	V	11.85	3.4	6.4	14.85	38.45	-23.60
	848.80	H	22.27	3.4	6.4	25.27	38.45	-13.18

GPRS 850 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.20	V	5.24	3.39	6.24	8.09	38.45	-30.36
	824.20	H	22.97	3.39	6.24	***25.82**	38.45	-12.63
190	836.60	V	7.65	3.4	6.37	10.62	38.45	-27.83
	836.60	H	21.61	3.4	6.36	24.57	38.45	-13.88
251	848.80	V	10.86	3.4	6.4	13.86	38.45	-24.59
	848.80	H	20.55	3.4	6.4	23.55	38.45	-14.90

GSM 1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	19.93	5.37	5.67	20.23	33.00	-12.77
	1850.20	H	20.08	5.37	5.67	20.38	33.00	-12.62
661	1880.00	V	21.57	5.42	5.62	***21.77**	33.00	-11.23
	1880.00	H	19.63	5.42	5.62	19.83	33.00	-13.17
810	1909.80	V	19.68	5.48	5.56	19.76	33.00	-13.24
	1909.80	H	19.68	5.48	5.56	19.76	33.00	-13.24

GPRS 1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	19.54	5.37	5.67	***19.84**	33.00	-13.16
	1850.20	H	19.26	5.37	5.67	19.56	33.00	-13.44
661	1880.00	V	19.32	5.42	5.62	19.52	33.00	-13.48
	1880.00	H	18.44	5.42	5.62	18.64	33.00	-14.36
810	1909.80	V	17.91	5.48	5.56	17.99	33.00	-15.01
	1909.80	H	18.13	5.48	5.56	18.21	33.00	-14.79

EDGE 850 Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.20	V	3.66	3.39	6.24	6.51	38.45	3.66
	824.20	H	20.82	3.39	6.24	***23.67**	38.45	20.82
190	836.60	V	5.28	3.4	6.36	8.24	38.45	5.28
	836.60	H	19.72	3.4	6.37	22.69	38.45	19.72
251	848.80	V	8.67	3.4	6.4	11.67	38.45	8.67
	848.80	H	18.84	3.4	6.4	21.84	38.45	18.84

EDGE 1900 Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	17.58	5.37	5.67	17.88	33.00	-15.12
	1850.20	H	17.36	5.37	5.67	17.66	33.00	-15.34
661	1880.00	V	18.21	5.42	5.62	***18.41**	33.00	-14.59
	1880.00	H	16.46	5.42	5.62	16.66	33.00	-16.34
810	1909.80	V	17.83	5.48	5.56	17.91	33.00	-15.09
	1909.80	H	16.35	5.48	5.56	16.43	33.00	-16.57

WCDMA Test Data (BAND II)

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	13.48	5.38	5.66	13.76	33.00	-19.24
	1852.40	H	12.91	5.38	5.66	13.19	33.00	-19.81
9400	1880.00	V	13.91	5.42	5.61	14.10	33.00	-18.90
	1880.00	H	14.88	5.42	5.61	***15.07**	33.00	-17.93
9538	1907.60	V	13.4	5.47	5.57	13.50	33.00	-19.50
	1907.60	H	14.04	5.47	5.57	14.14	33.00	-18.86

WCDMA Test Data (BAND V)

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.40	V	3.83	3.39	6.27	6.71	38.45	-31.74
	826.40	H	12.66	3.39	6.27	***15.54**	38.45	-22.91
4182	836.40	V	4.51	3.41	6.38	7.48	38.45	-30.97
	836.40	H	12.18	3.4	6.35	15.13	38.45	-23.32
4233	846.60	V	4.16	3.4	6.4	7.16	38.45	-31.29
	846.60	H	12	3.4	6.4	15.00	38.45	-23.45

WCDMA / HSDPA BAND II Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	11.72	5.38	5.66	12.00	33.00	-21.00
	1852.40	H	13.05	5.38	5.66	13.33	33.00	-19.67
9400	1880.00	V	12.01	5.42	5.61	12.20	33.00	-20.80
	1880.00	H	13.2	5.42	5.61	***13.39**	33.00	-19.61
9538	1907.60	V	11.9	5.47	5.57	12.00	33.00	-21.00
	1907.60	H	12.2	5.47	5.57	12.30	33.00	-20.70

WCDMA / HSDPA BAND V Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.40	V	2.45	3.39	6.27	5.33	38.45	-33.12
	826.40	H	11.74	3.39	6.27	***14.62**	38.45	-23.83
4182	836.40	V	3.53	3.4	6.35	6.48	38.45	-31.97
	836.40	H	11.24	3.4	6.35	14.19	38.45	-24.26
4233	846.60	V	3.18	3.4	6.4	6.18	38.45	-32.27
	846.60	H	11.05	3.4	6.4	14.05	38.45	-24.40

WCDMA / HSUPA BAND II Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	11.35	5.38	5.66	11.63	33.00	-21.37
	1852.40	H	12.24	5.38	5.66	12.52	33.00	-20.48
9400	1880.00	V	11.37	5.42	5.61	11.56	33.00	-21.44
	1880.00	H	12.79	5.42	5.61	***12.98**	33.00	-20.02
9538	1907.60	V	11.5	5.47	5.57	11.60	33.00	-21.40
	1907.60	H	11.84	5.47	5.57	11.94	33.00	-21.06

WCDMA / HSUPA BAND V Test Data

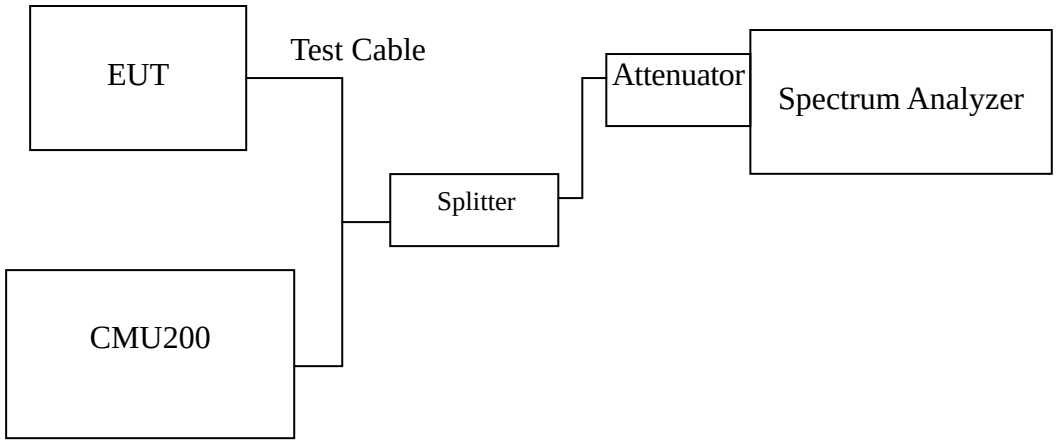
Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.40	V	1.84	3.39	6.27	4.72	38.45	-33.73
	826.40	H	11.15	3.39	6.25	14.01	38.45	-24.44
4182	836.40	V	3.24	3.4	6.36	6.20	38.45	-32.25
	836.40	H	10.87	3.4	6.35	***13.82**	38.45	-24.63
4233	846.60	V	2.85	3.4	6.4	5.85	38.45	-32.60
	846.60	H	10.6	3.4	6.4	13.60	38.45	-24.85

7.4 OCCUPIED BANDWIDTH MEASUREMENT

LIMIT

According to §FCC 2.1049.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW is set to 3 times the RBW, -26dBc display line was placed on the screen (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

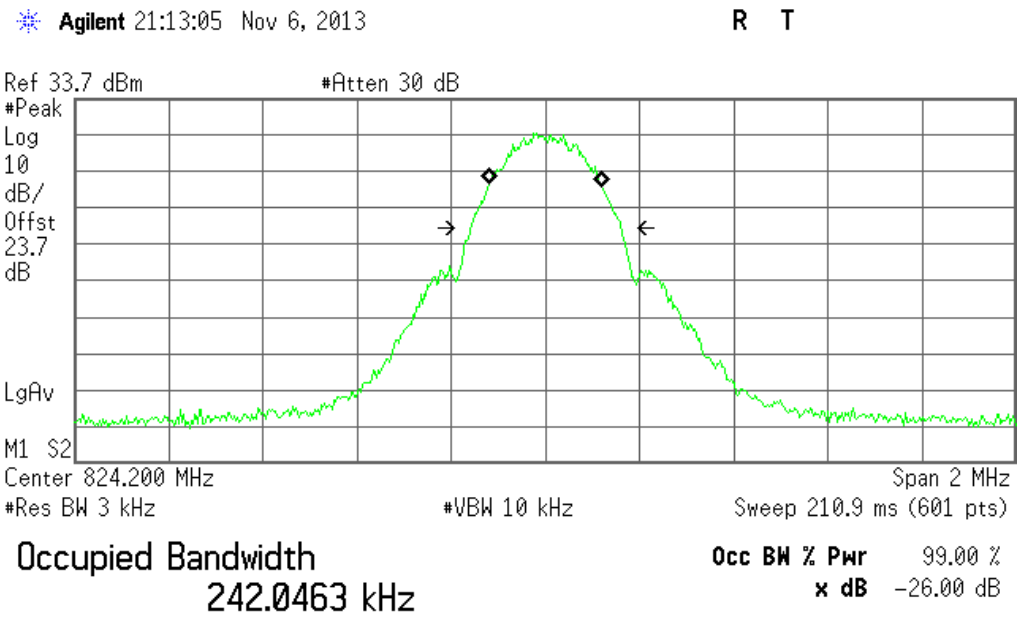
Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)	26dB Bandwidth (kHz)
GSM 850	128	824.20	242.0463	321.242
	190	836.60	243.7066	314.694
	251	848.80	243.3196	306.602
GPRS 850	128	824.20	241.8072	321.242
	190	836.60	240.9767	313.740
	251	848.80	242.9431	306.602
EDGE 850	128	824.20	241.4170	321.242
	190	836.60	243.8195	318.328
	251	848.80	243.0558	311.192

Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)	26dB Bandwidth (kHz)
GSM 1900	512	1850.20	245.8000	313.510
	661	1880.00	244.2901	317.110
	810	1909.80	244.0708	314.369
GPRS 1900	512	1850.20	241.9881	313.212
	661	1880.00	245.2654	318.981
	810	1909.80	240.5677	318.096
EDGE 1900	512	1850.20	243.8995	315.951
	661	1880.00	246.7986	318.355
	810	1909.80	240.9503	318.106

Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.0843	4.699
	9400	1880.00	4.0495	4.613
	9538	1907.60	4.0576	4.634
WCDMA (Band V)	4132	826.40	4.0629	4.647
	4182	836.40	4.0672	4.667
	4233	846.60	4.0607	4.640
WCDMA / HSDPA (BAND II)	9262	1852.40	4.0844	4.706
	9400	1880.00	4.0631	4.615
	9538	1907.60	4.0661	4.615
WCDMA / HSDPA (BAND V)	4132	826.40	4.0747	4.640
	4182	836.40	4.0652	4.635
	4233	846.60	4.0620	4.654
WCDMA / HSUPA (BAND II)	9262	1852.40	4.0869	4.699
	9400	1880.00	4.0537	4.620
	9538	1907.60	4.0611	4.634
WCDMA / HSUPA (BAND V)	4132	826.40	4.0688	4.647
	4182	836.40	4.0601	4.661
	4233	846.60	4.0653	4.655

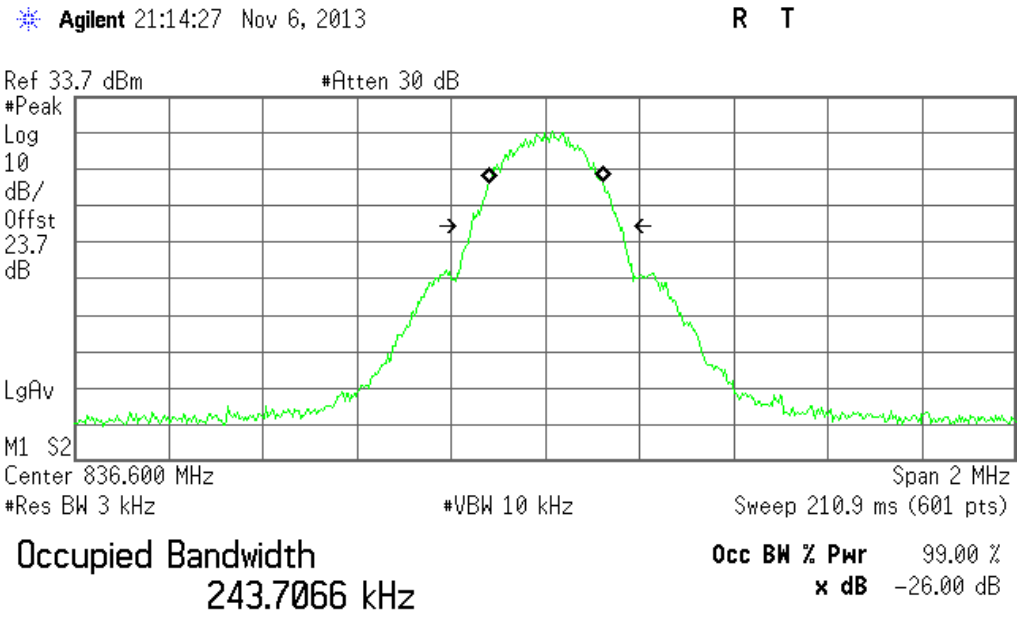
Test Plot

GSM 850 (CH Low)



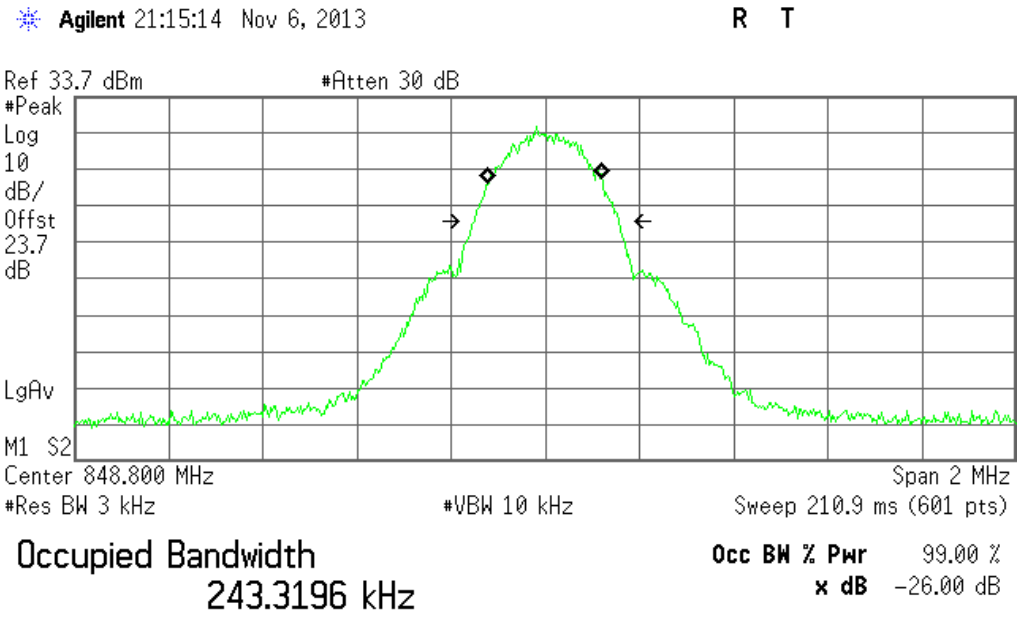
Transmit Freq Error	258.643 Hz
x dB Bandwidth	321.242 kHz

GSM 850 (CH Mid)



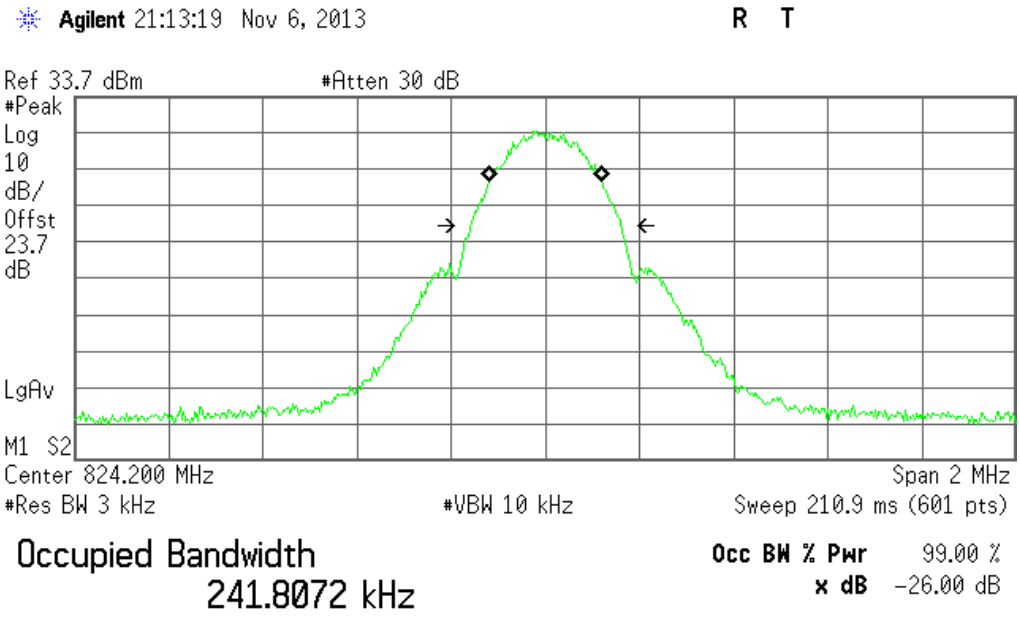
Transmit Freq Error	2.073 kHz
x dB Bandwidth	314.694 kHz

GSM 850 (CH High)



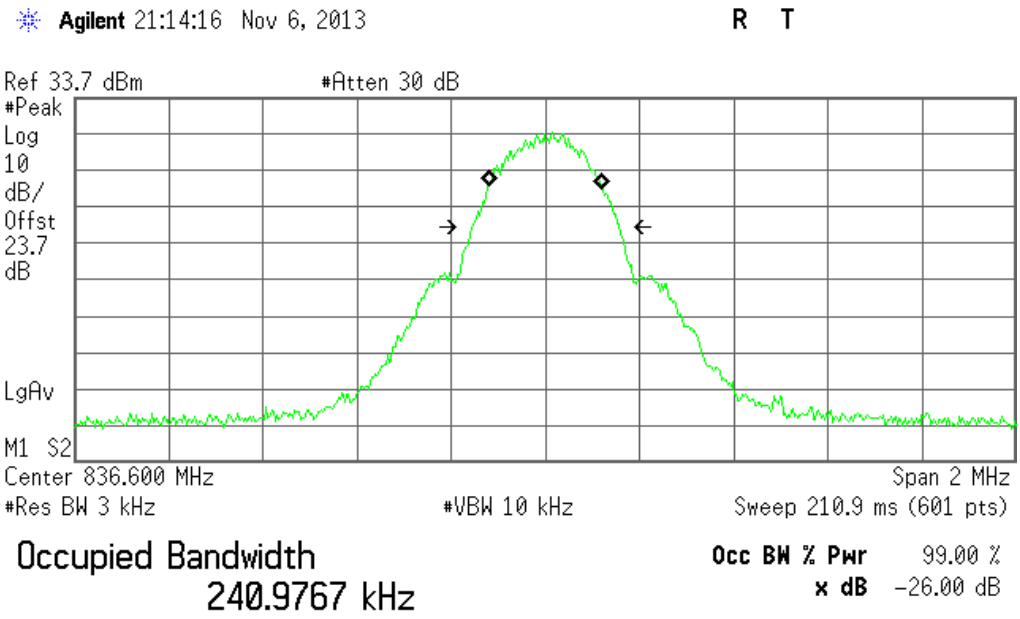
Transmit Freq Error	-321.224 Hz
x dB Bandwidth	306.602 kHz

GPRS 850 (CH Low)



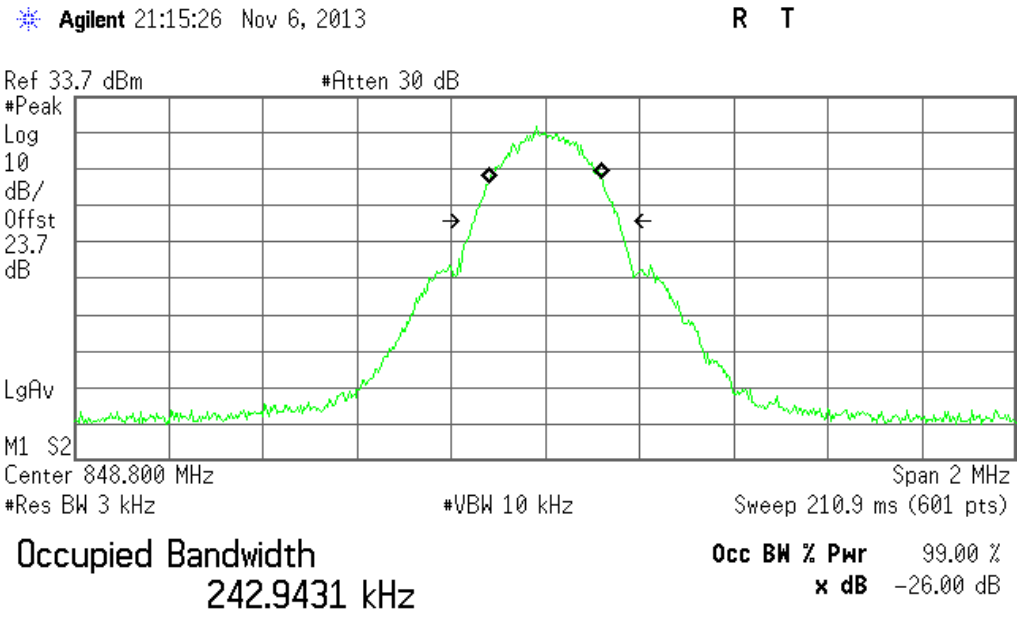
Transmit Freq Error	449.667 Hz
x dB Bandwidth	321.242 kHz

GPRS 850 (CH Mid)



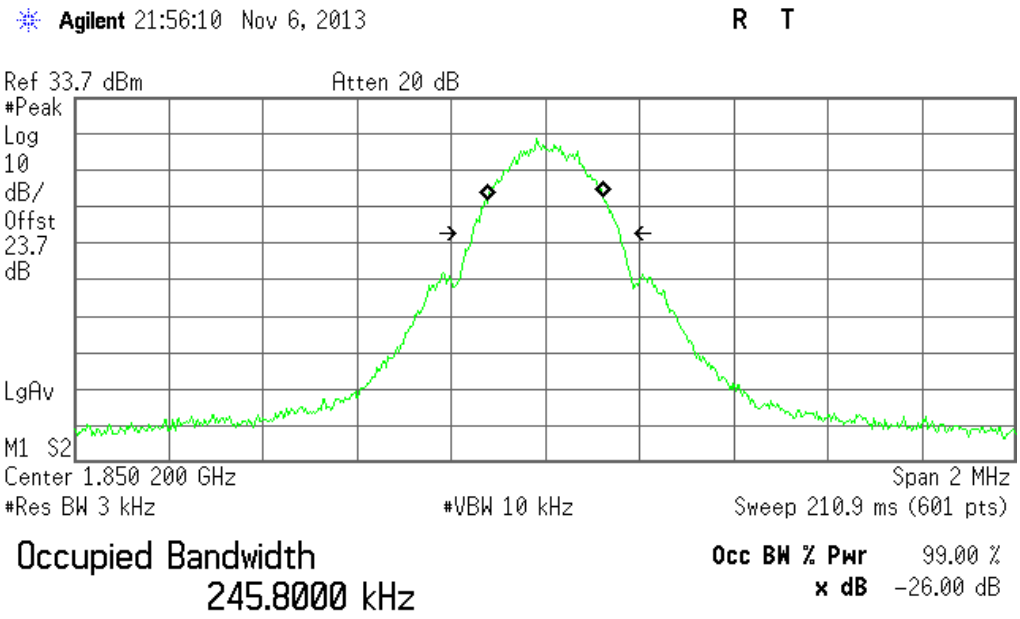
Transmit Freq Error	1.101 kHz
x dB Bandwidth	313.740 kHz

GPRS 850(CH High)



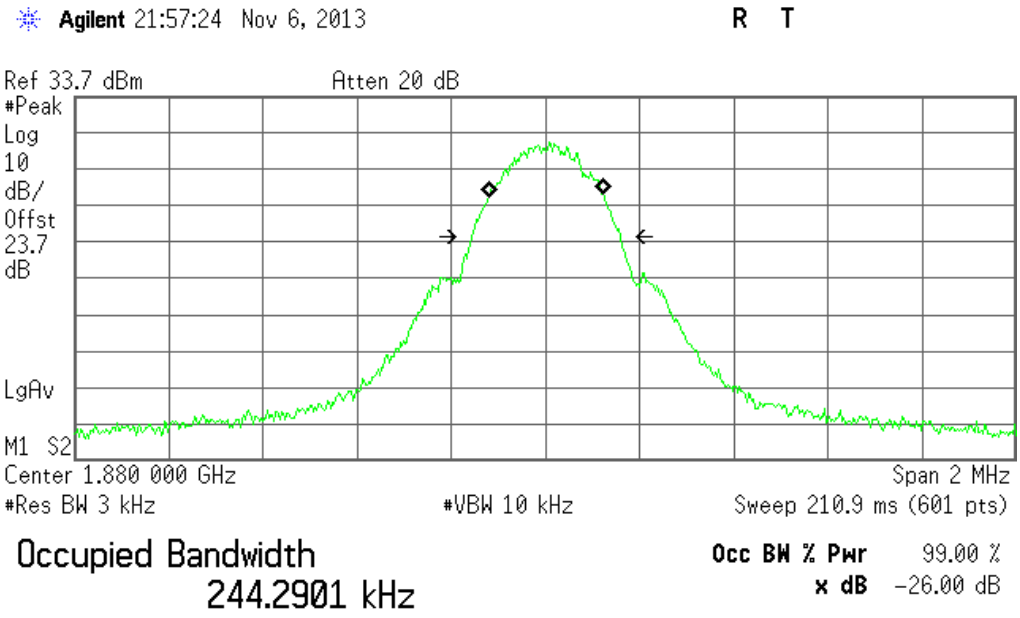
Transmit Freq Error	-83.059 Hz
x dB Bandwidth	306.602 kHz

GSM 1900 (CH Low)



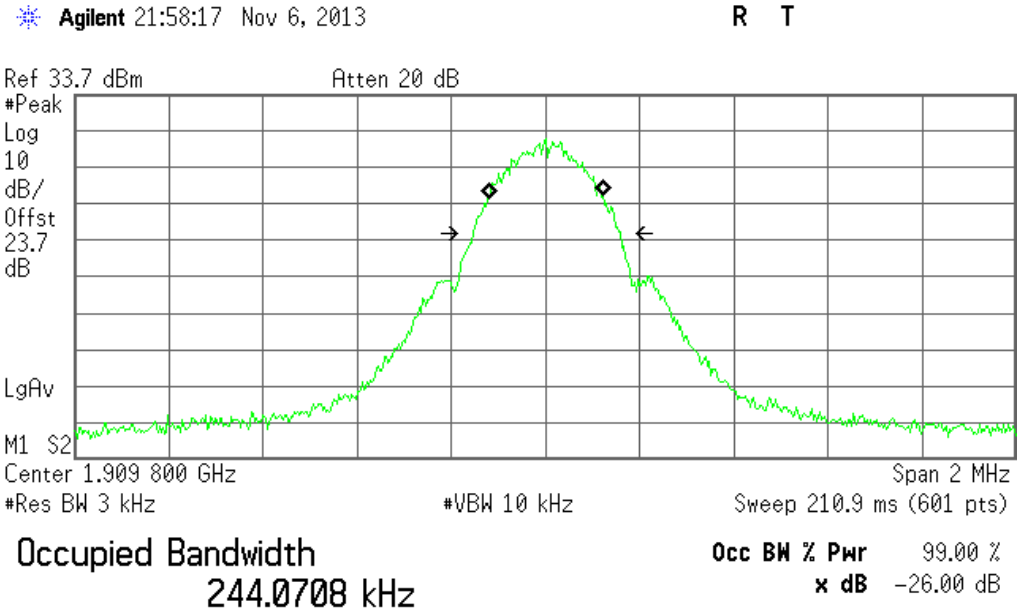
Transmit Freq Error	838.674 Hz
x dB Bandwidth	313.510 kHz

GSM 1900 (CH Mid)



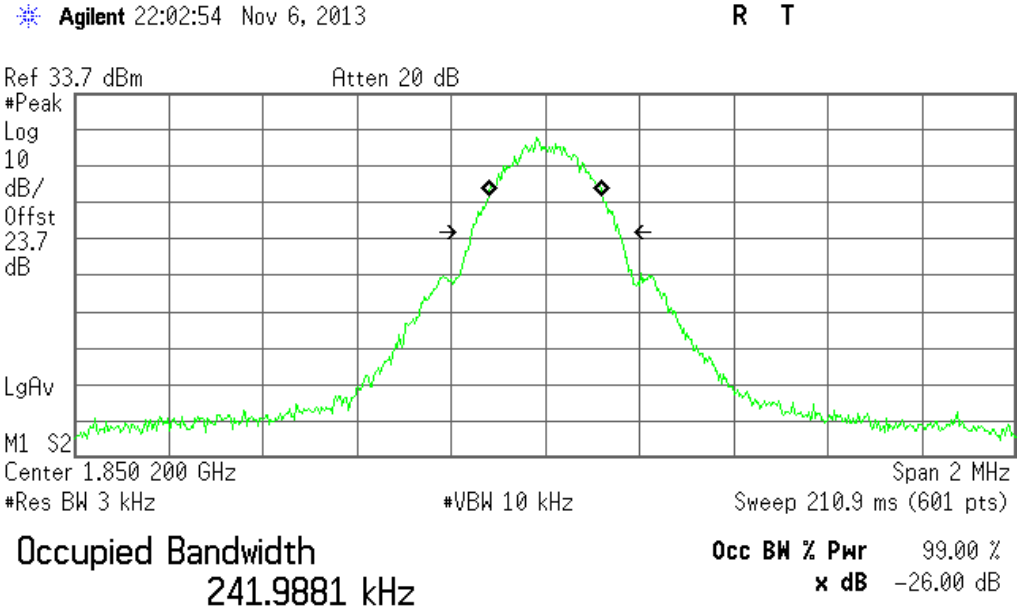
Transmit Freq Error	1.263 kHz
x dB Bandwidth	317.110 kHz

GSM 1900 (CH High)



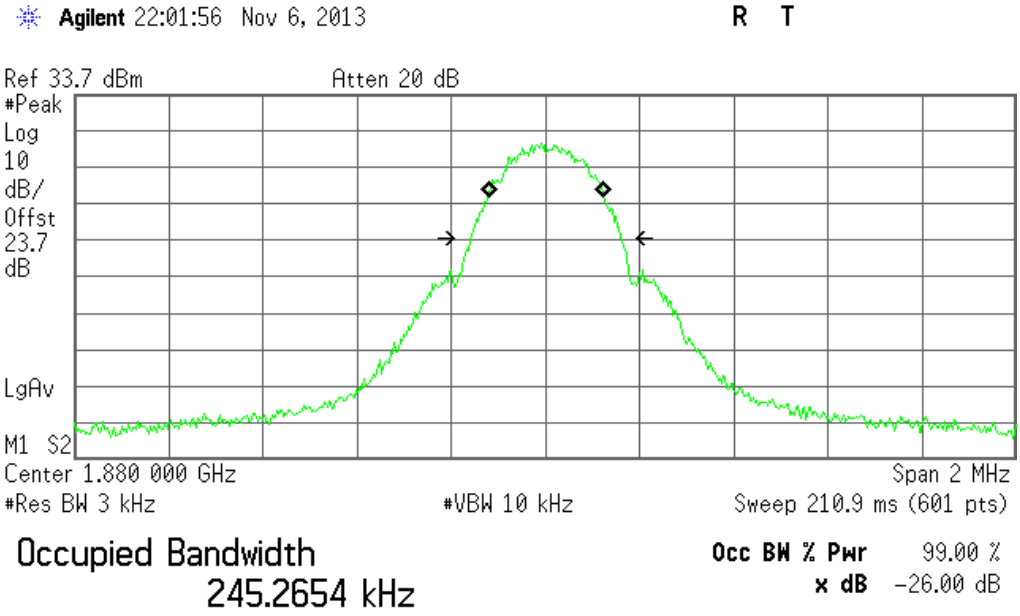
Transmit Freq Error	1.321 kHz
x dB Bandwidth	314.369 kHz

GPRS 1900 (CH Low)



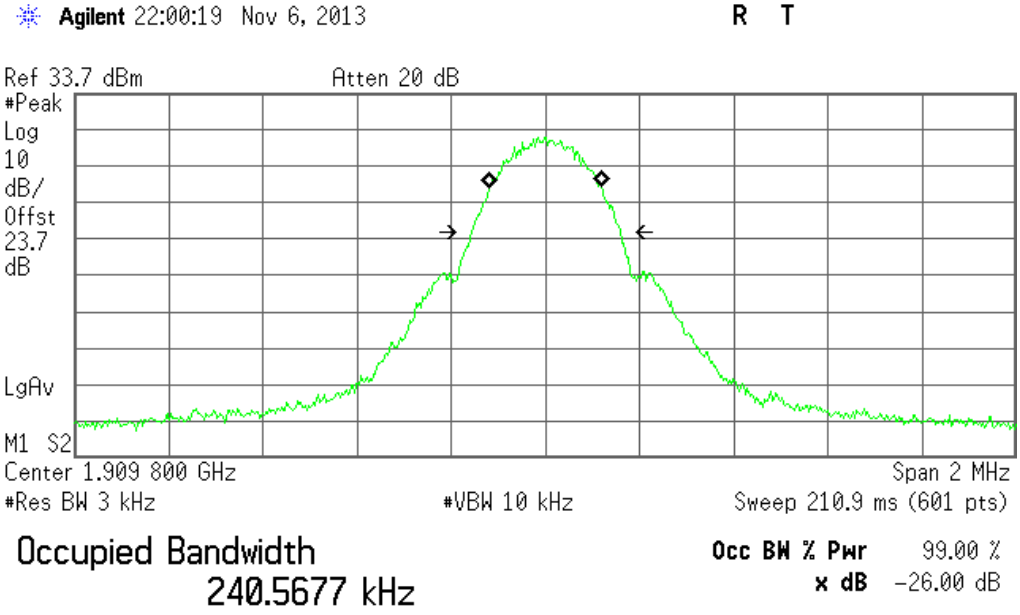
Transmit Freq Error	340.569 Hz
x dB Bandwidth	313.212 kHz

GPRS 1900 (CH Mid)



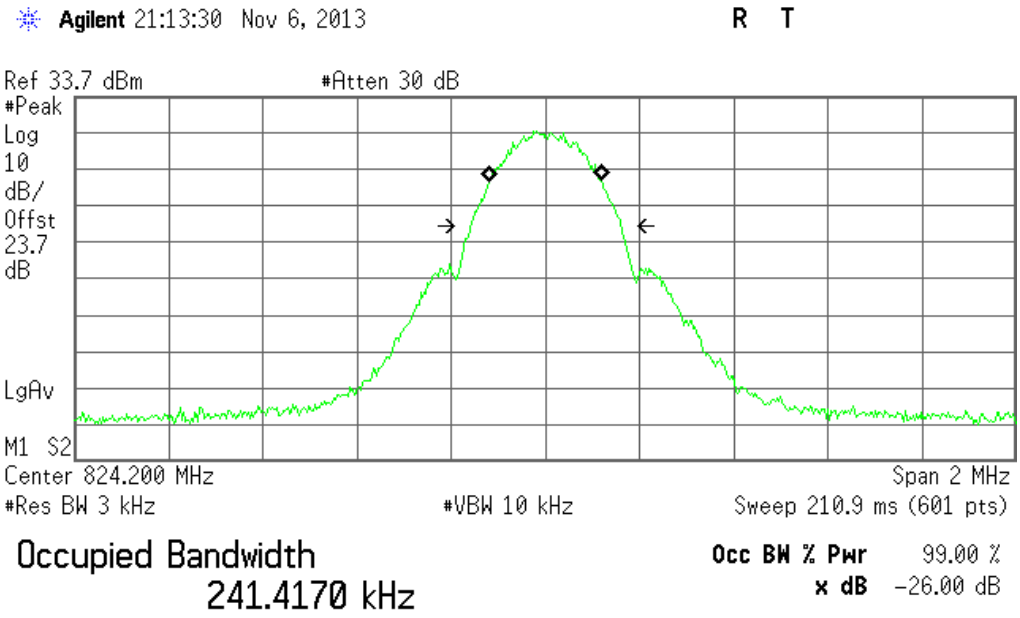
Transmit Freq Error	1.378 kHz
x dB Bandwidth	318.981 kHz

GPRS 1900 (CH High)



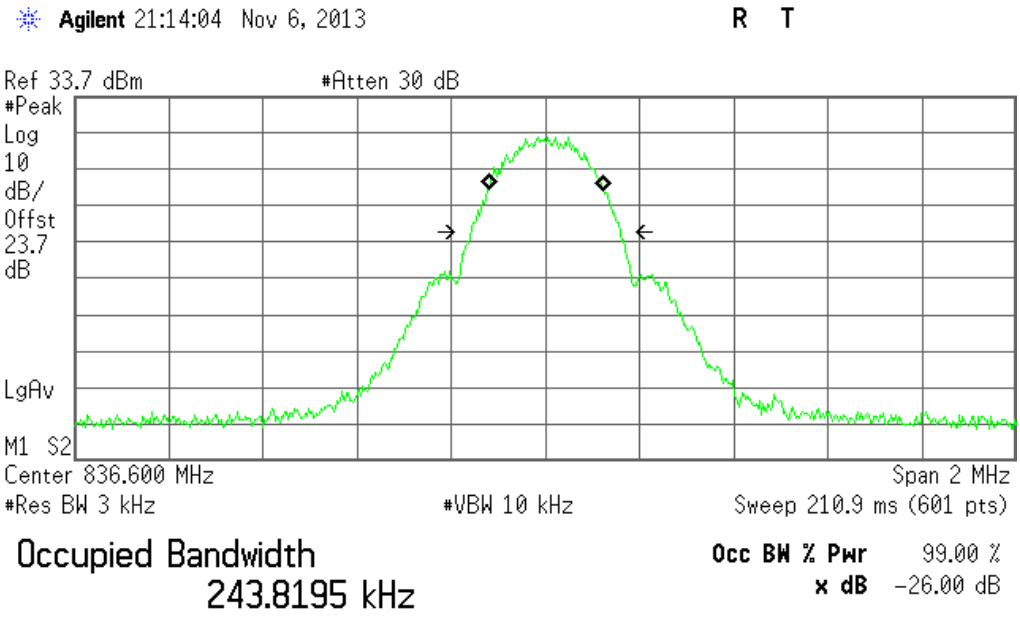
Transmit Freq Error	808.383 Hz
x dB Bandwidth	318.096 kHz

EDGE 850 (CH Low)



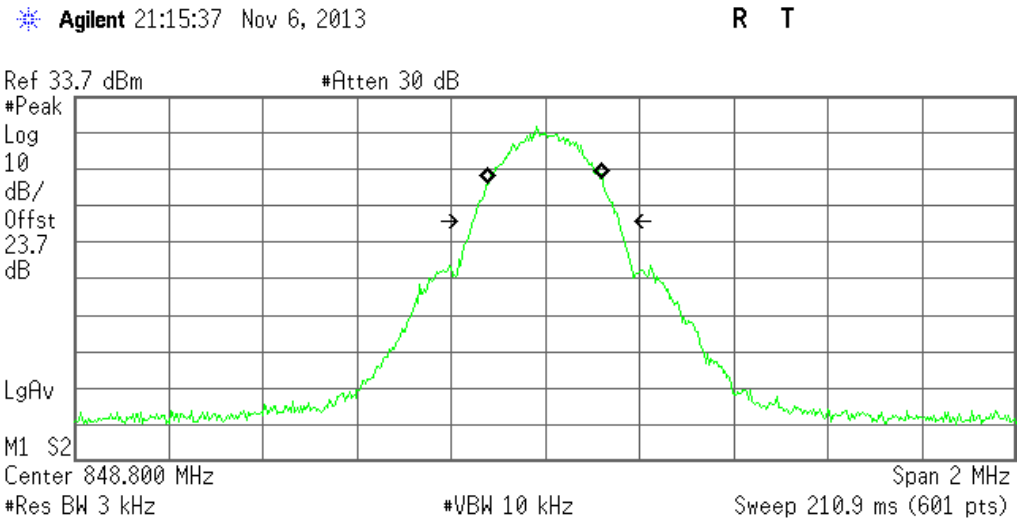
Transmit Freq Error	496.921 Hz
x dB Bandwidth	321.242 kHz

EDGE 850 (CH Mid)



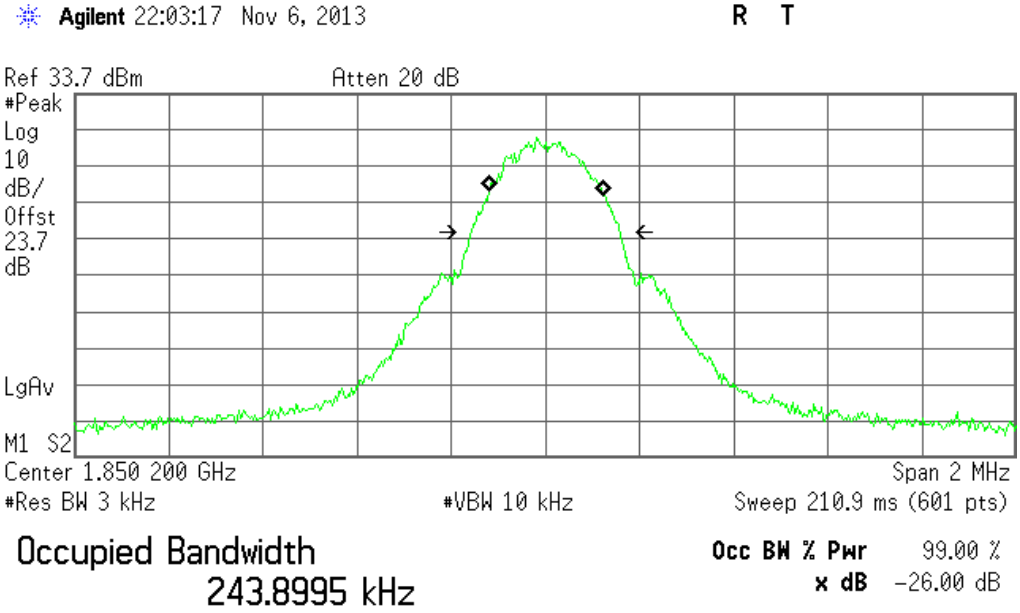
Transmit Freq Error	1.493 kHz
x dB Bandwidth	318.328 kHz

EDGE 850 (CH High)



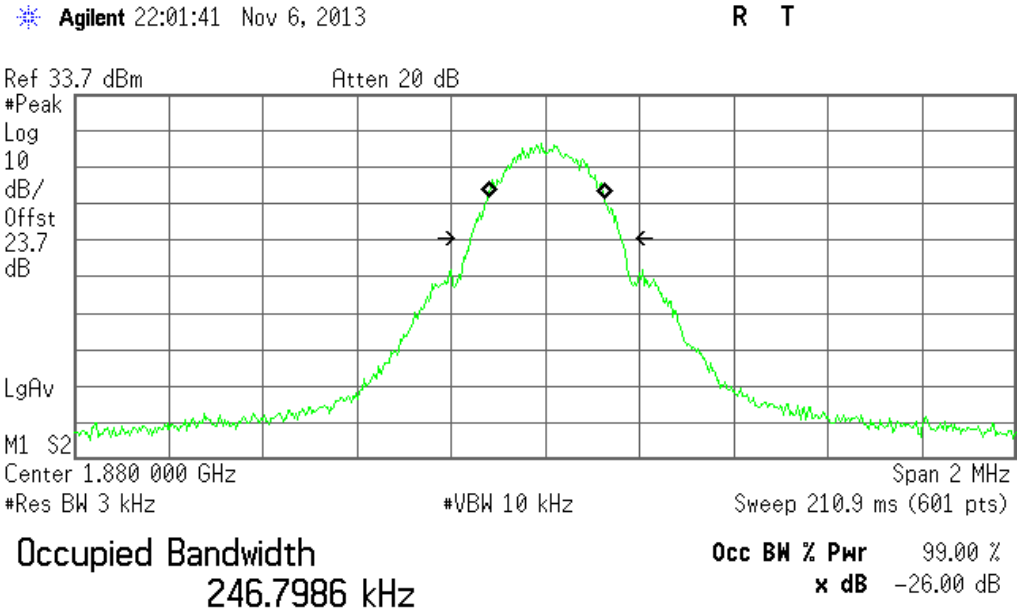
Transmit Freq Error	-154.889 Hz
x dB Bandwidth	311.192 kHz

EDGE 1900 (CH Low)



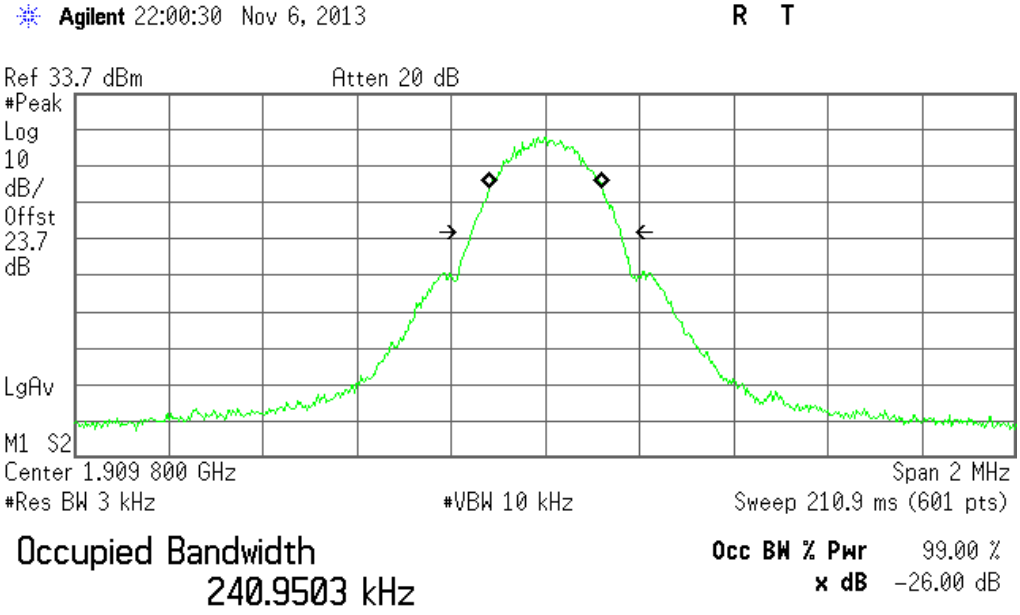
Transmit Freq Error	1.406 kHz
x dB Bandwidth	315.951 kHz

EDGE 1900 (CH Mid)



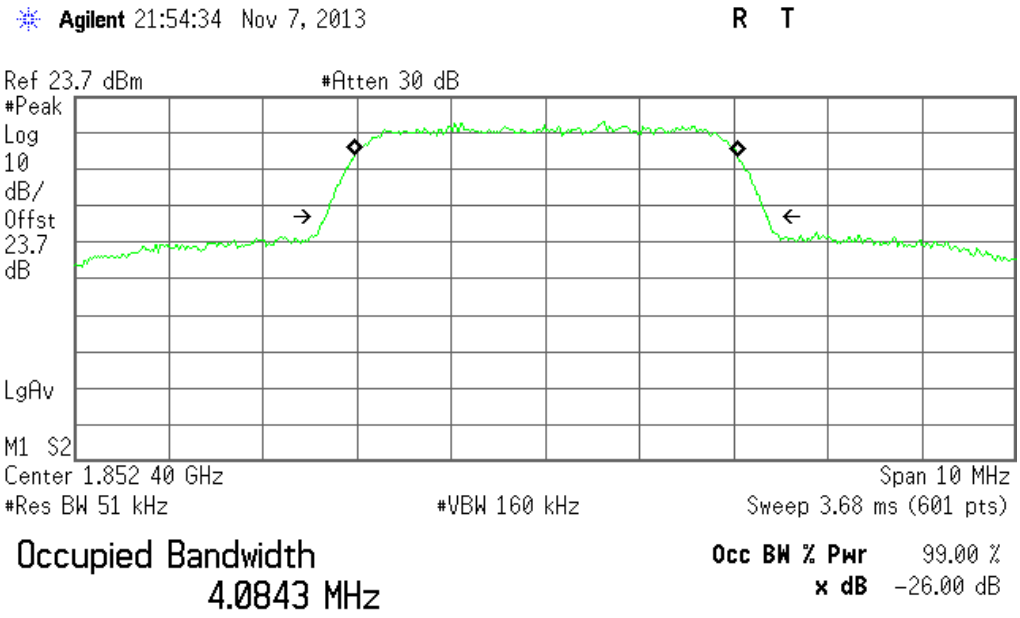
Transmit Freq Error	1.911 kHz
x dB Bandwidth	318.355 kHz

EDGE 1900 (CH High)



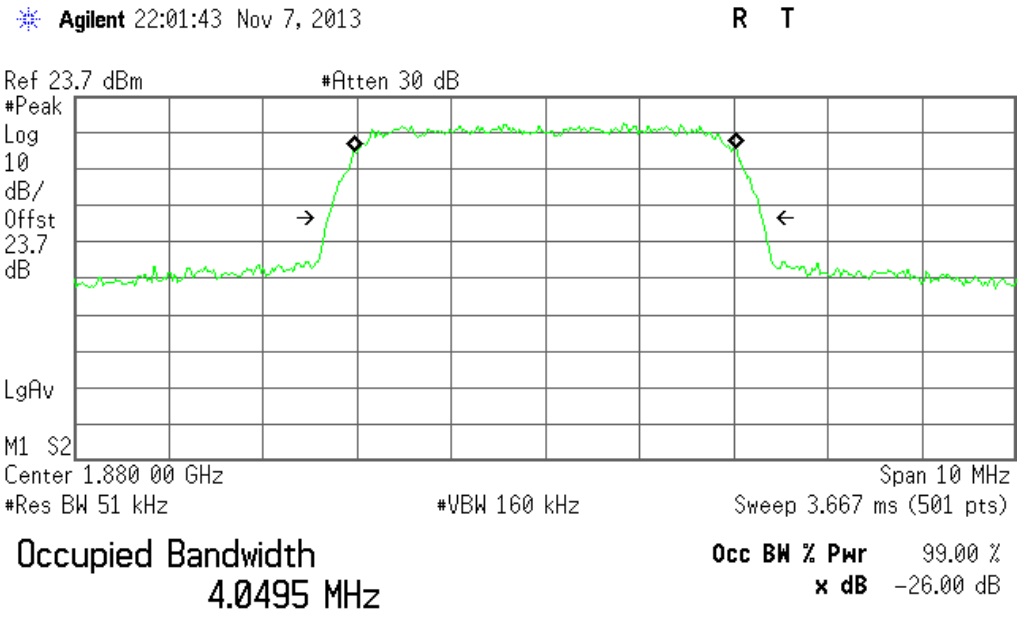
Transmit Freq Error	1.049 kHz
x dB Bandwidth	318.106 kHz

WCDMA Band II (CH Low)



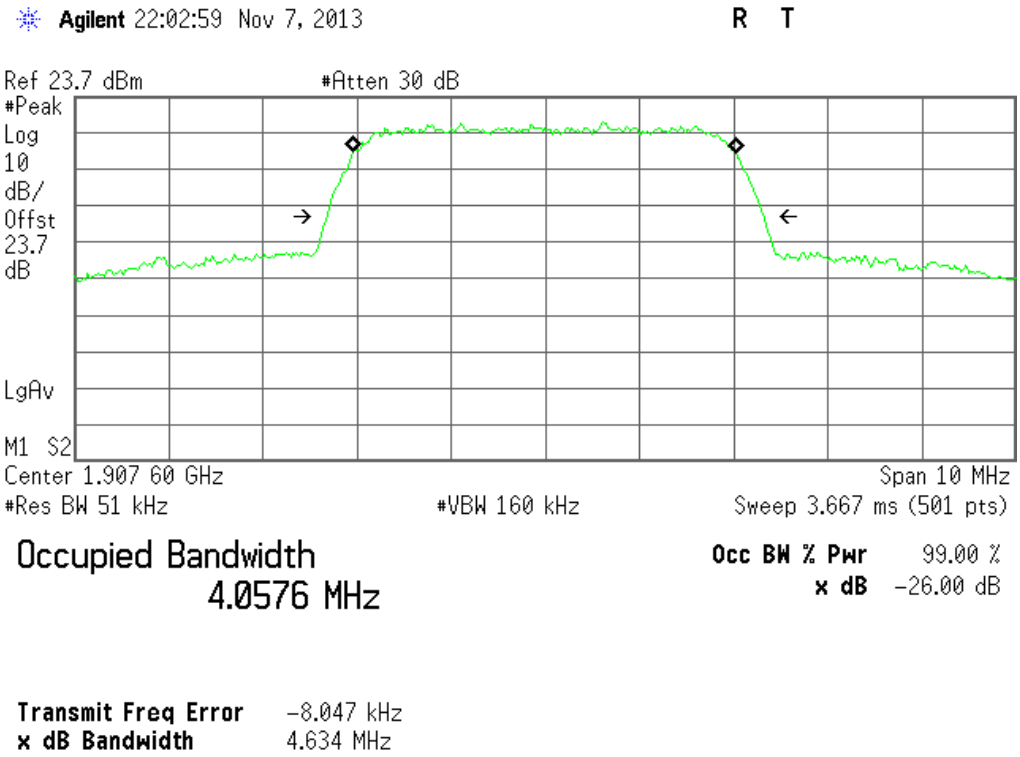
Transmit Freq Error	5.528 kHz
x dB Bandwidth	4.699 MHz

WCDMA Band II (CH Mid)

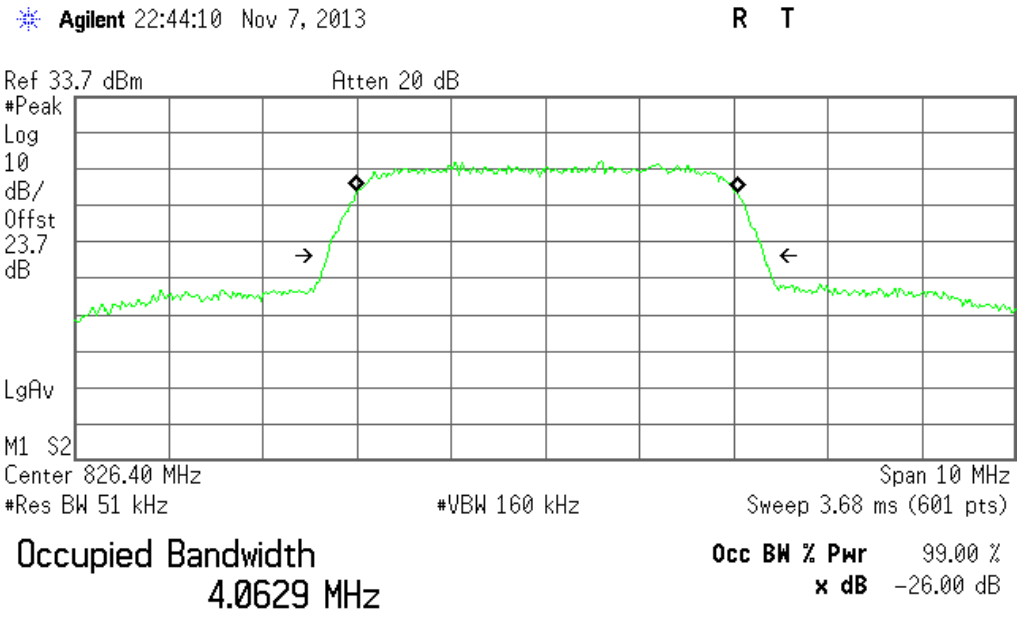


Transmit Freq Error	-537.383 Hz
x dB Bandwidth	4.613 MHz

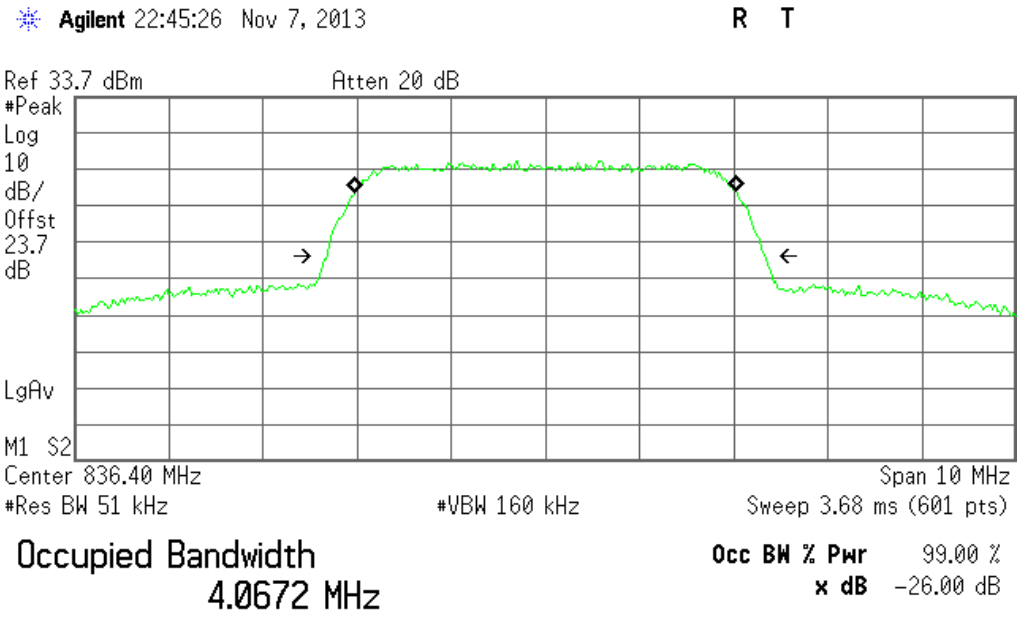
WCDMA Band II (CH High)



WCDMA Band V (CH Low)

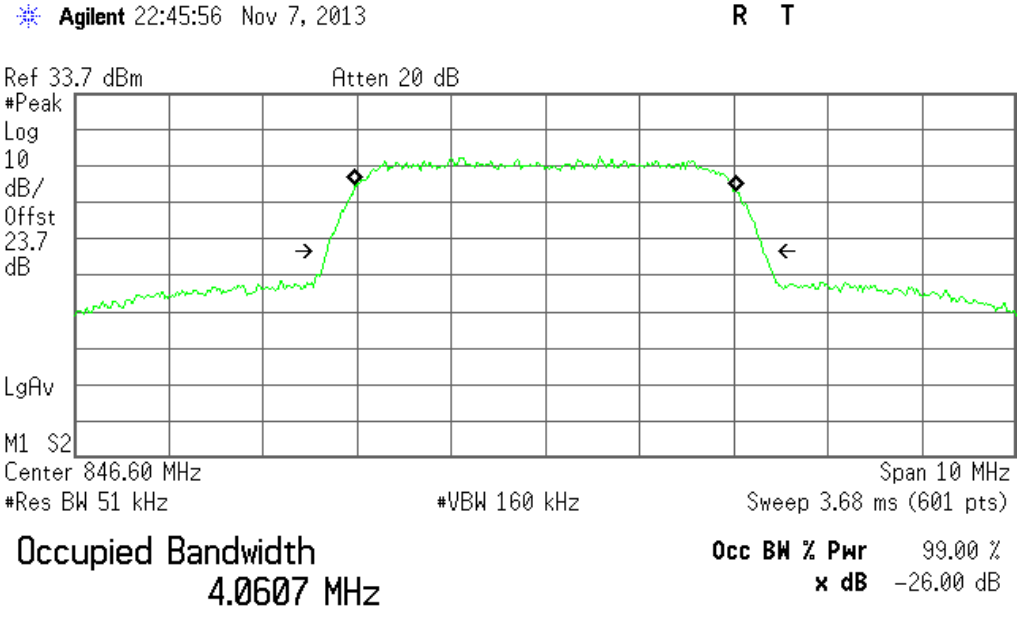


WCDMA Band V (CH Mid)



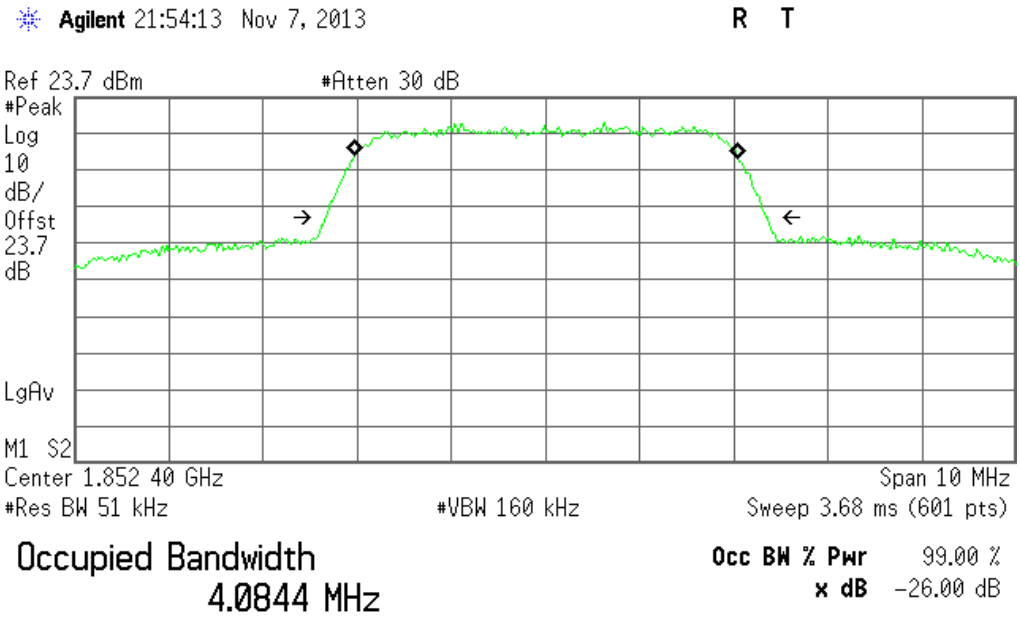
Transmit Freq Error	1.006 kHz
x dB Bandwidth	4.667 MHz

WCDMA Band V (CH High)



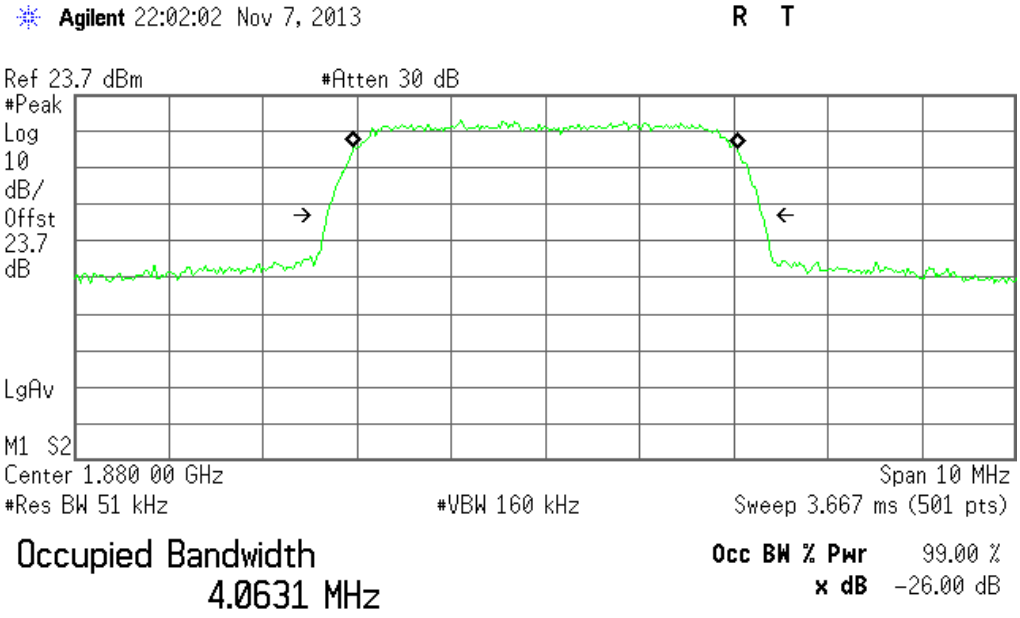
Transmit Freq Error	-175.796 Hz
x dB Bandwidth	4.640 MHz

WCDMA / HSDPA Band II (CH Low)



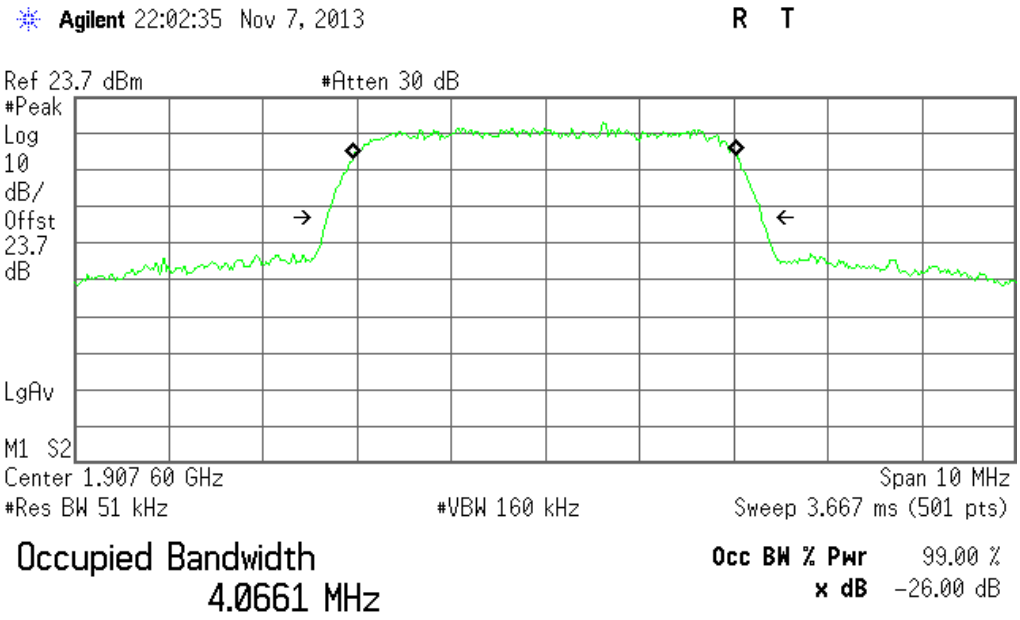
Transmit Freq Error	5.993 kHz
x dB Bandwidth	4.706 MHz

WCDMA / HSDPA Band II (CH Mid)



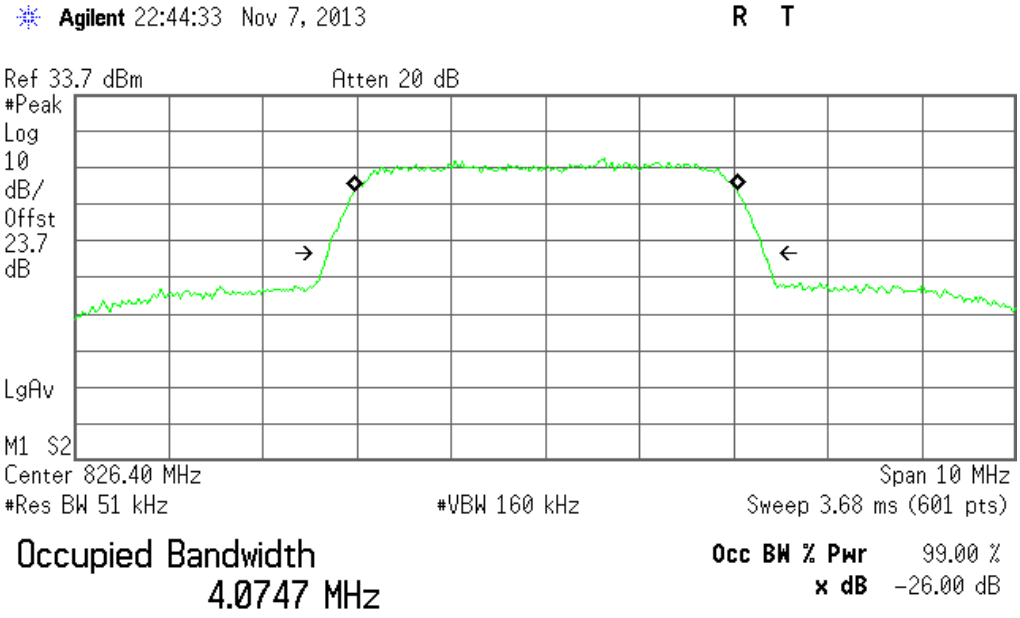
Transmit Freq Error	670.324 Hz
x dB Bandwidth	4.615 MHz

WCDMA / HSDPA Band II (CH High)



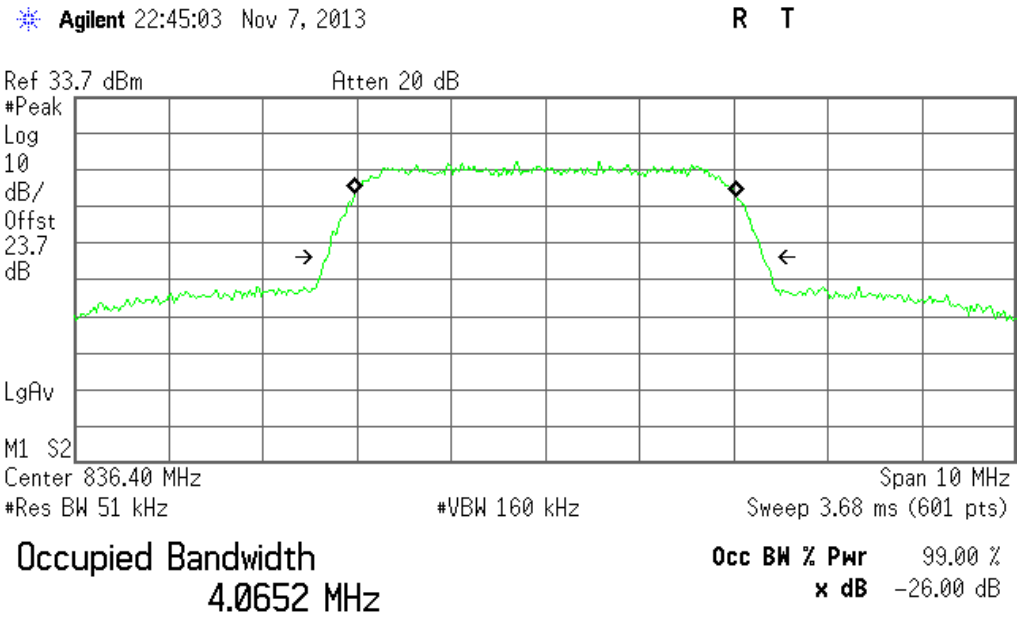
Transmit Freq Error -6.187 kHz
x dB Bandwidth 4.615 MHz

WCDMA / HSDPA Band V (CH Low)



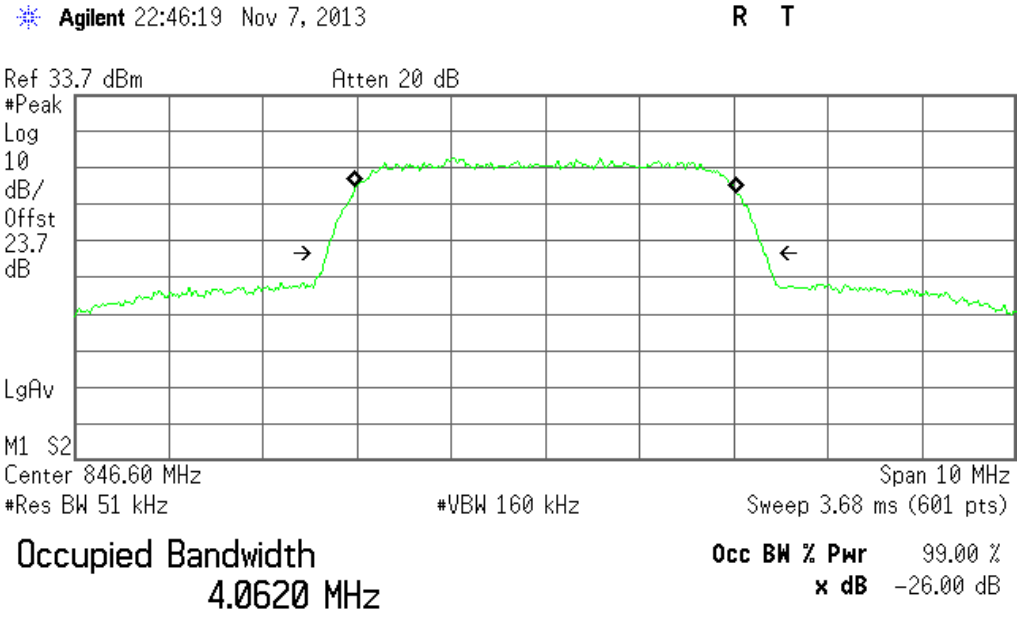
Transmit Freq Error 5.134 kHz
x dB Bandwidth 4.640 MHz

WCDMA / HSDPA Band V (CH Mid)



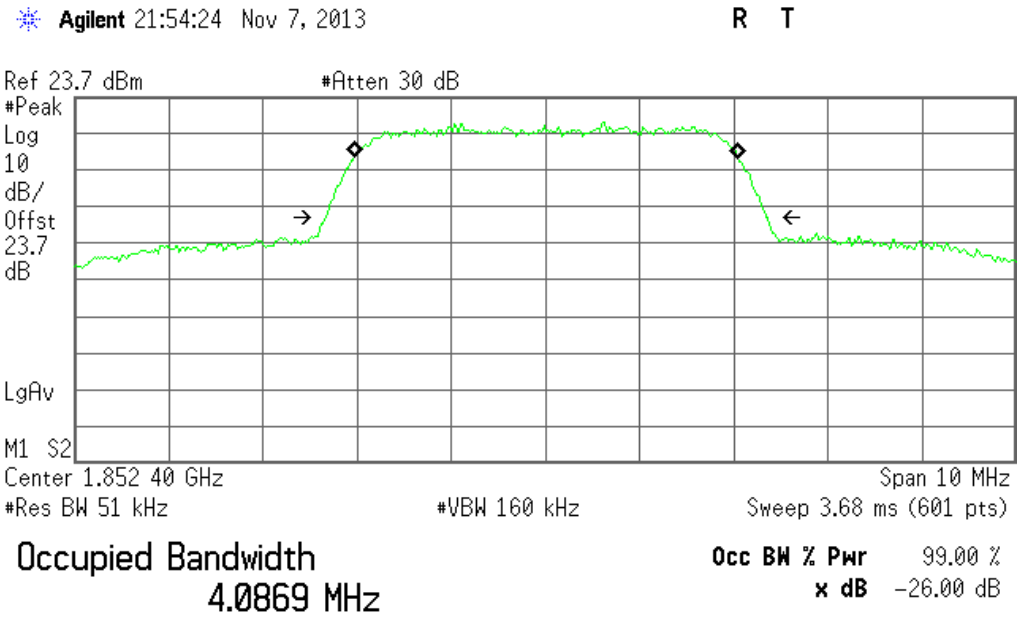
Transmit Freq Error	3.217 kHz
x dB Bandwidth	4.635 MHz

WCDMA / HSDPA Band V (CH High)



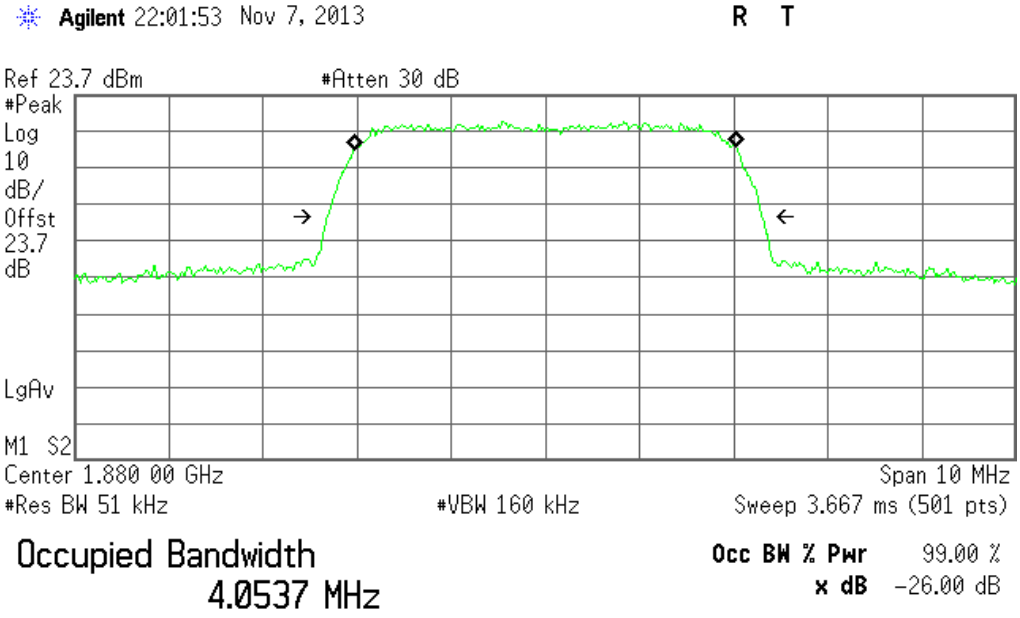
Transmit Freq Error	1.986 kHz
x dB Bandwidth	4.654 MHz

WCDMA / HSUPA Band II (CH Low)



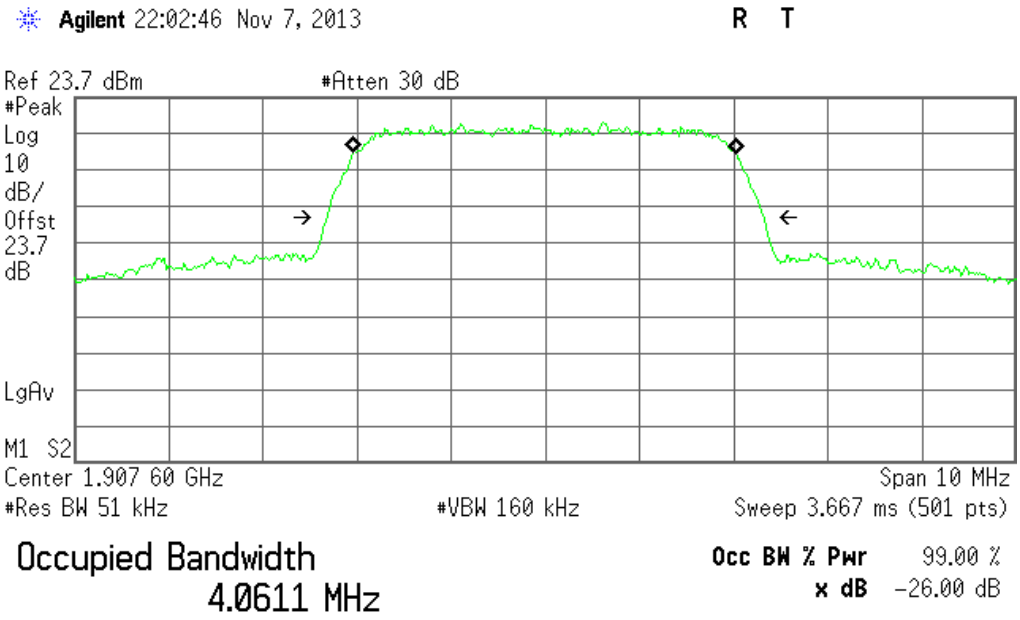
Transmit Freq Error	5.303 kHz
x dB Bandwidth	4.699 MHz

WCDMA / HSUPA Band II (CH Mid)

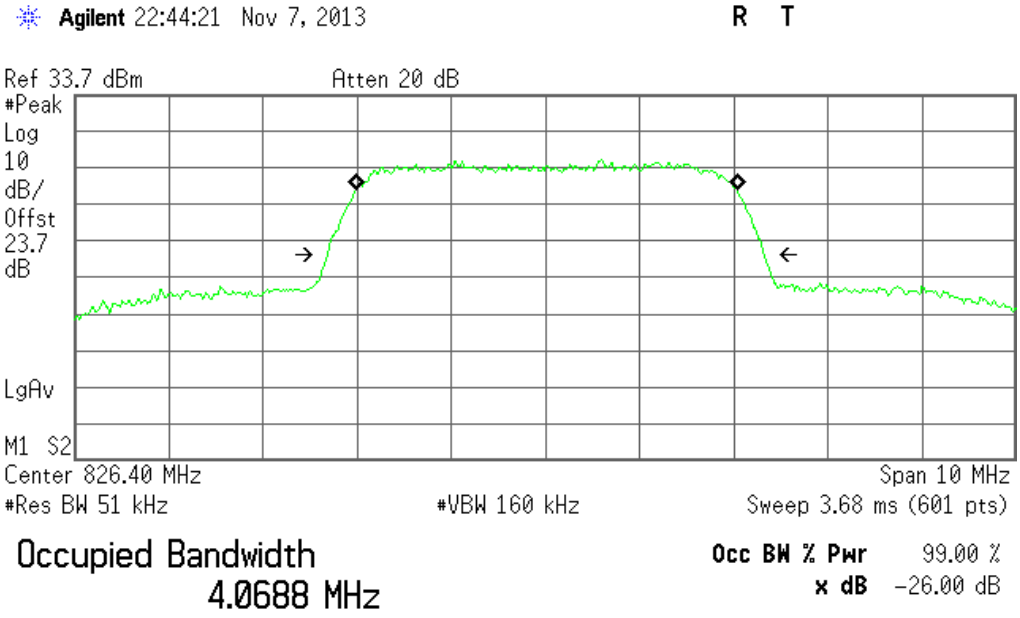


Transmit Freq Error	-1.852 kHz
x dB Bandwidth	4.620 MHz

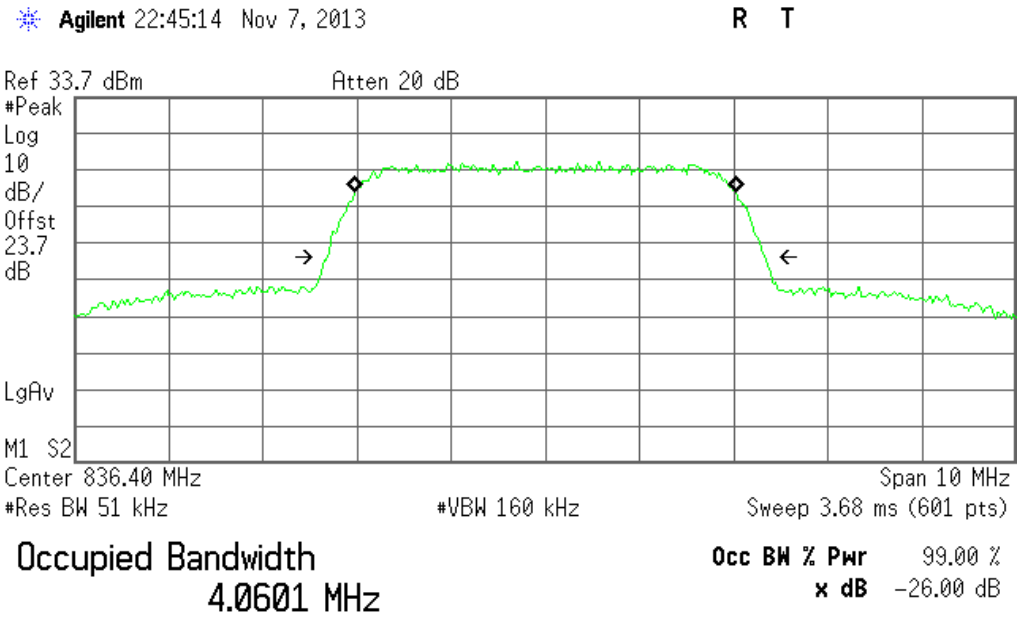
WCDMA / HSUPA Band II (CH High)



WCDMA / HSUPA Band V (CH Low).

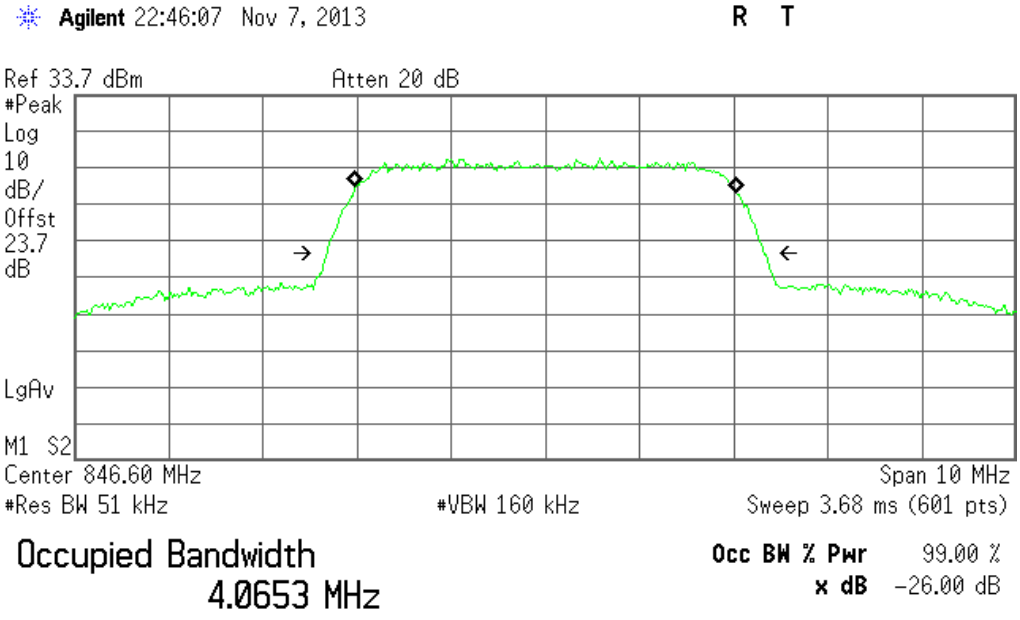


WCDMA / HSUPA Band V (CH Mid)



Transmit Freq Error	3.687 kHz
x dB Bandwidth	4.661 MHz

WCDMA / HSUPA Band V (CH High)



Transmit Freq Error	2.120 kHz
x dB Bandwidth	4.655 MHz

7.5OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

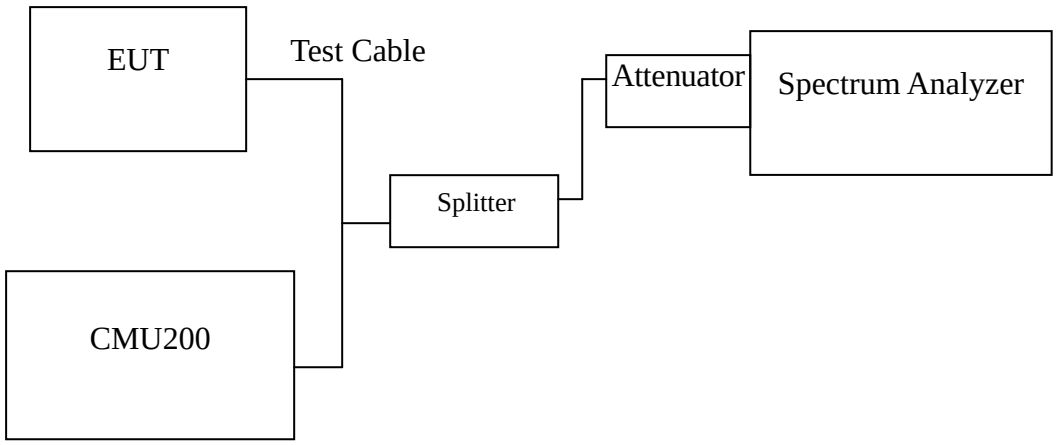
According to FCC §2.1051, FCC §22.917, FCC §24.238(a).

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
GSM 850	128	Figure 7-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 7-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 7-3	Conducted spurious emissions, 30MHz - 20GHz
GPRS 850	128	Figure 8-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 8-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 8-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
GSM 1900	512	Figure 9-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 9-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 9-3	Conducted spurious emissions, 30MHz - 20GHz
GPRS 1900	512	Figure 10-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 10-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 10-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
GSM 850	128	Figure 11-1	Band Edge emissions
	251	Figure 11-2	Band Edge emissions
GPRS 850	128	Figure 12-1	Band Edge emissions
	251	Figure 12-2	Band Edge emissions

Mode	CH	Location	Description
GSM 1900	512	Figure 13-1	Band Edge emissions
	810	Figure 13-2	Band Edge emissions
GPRS 1900	512	Figure 14-1	Band Edge emissions
	810	Figure 14-2	Band Edge emissions

Mode	CH	Location	Description
EDGE 850	128	Figure 15-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 15-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 15-3	Conducted spurious emissions, 30MHz - 20GHz
EDGE 1900	512	Figure 16-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 16-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 16-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
EDGE 850	128	Figure 17-1	Band Edge emissions
	251	Figure 17-2	Band Edge emissions
EDGE 1900	512	Figure 18-1	Band Edge emissions
	810	Figure 18-2	Band Edge emissions

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 19-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 19-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 19-3	Conducted spurious emissions, 30MHz - 20GHz
WCDMA (Band V)	4132	Figure 20-1	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 20-2	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 20-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 21-1	Band Edge emissions
	9538	Figure 21-2	Band Edge emissions
WCDMA (Band V)	4132	Figure 22-1	Band Edge emissions
	4233	Figure 22-2	Band Edge emissions

Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 23-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 23-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 23-3	Conducted spurious emissions, 30MHz - 20GHz
HSDPA WCDMA (Band V)	4132	Figure 24-1	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 24-2	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 24-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 25-1	Band Edge emissions
	9538	Figure 25-2	Band Edge emissions
HSDPA WCDMA (Band V)	4132	Figure 26-1	Band Edge emissions
	4233	Figure 26-2	Band Edge emissions

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 27-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 27-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 27-3	Conducted spurious emissions, 30MHz - 20GHz
HSUPA WCDMA (Band V)	4132	Figure 28-1	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 28-2	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 28-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 29-1	Band Edge emissions
	9538	Figure 29-2	Band Edge emissions
HSUPA WCDMA (Band V)	4132	Figure 30-1	Band Edge emissions
	4233	Figure 30-2	Band Edge emissions

Test Plot

GSM 850

Figure 7-1: Out of Band emission at antenna terminals – GSM CH Low

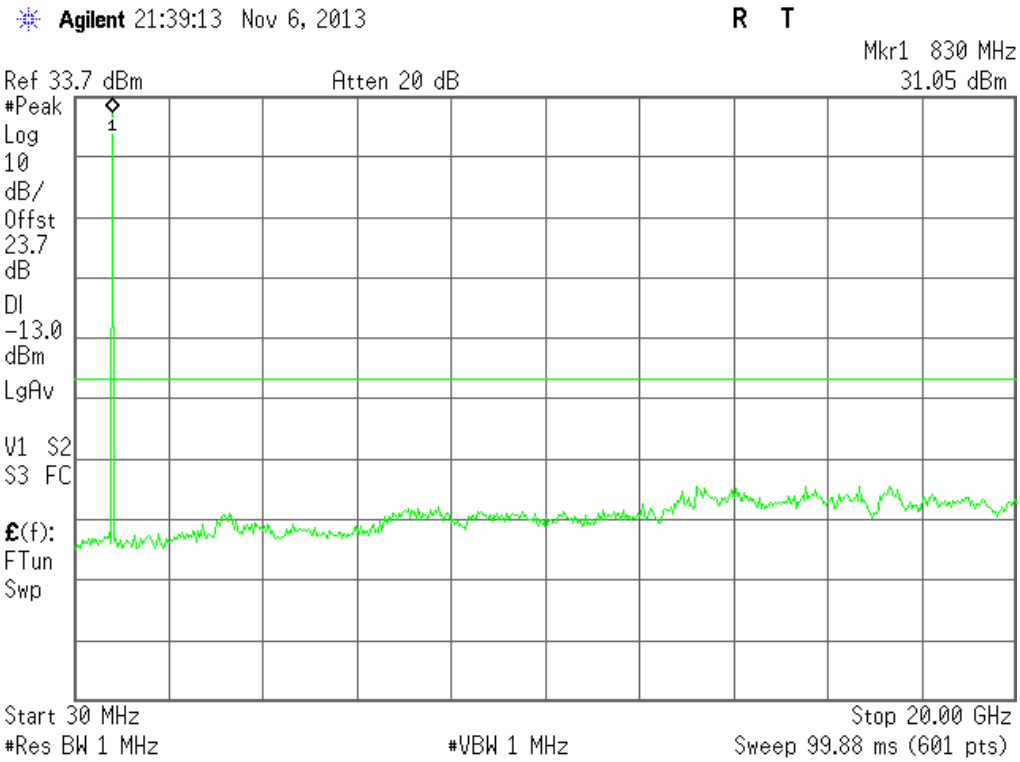


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

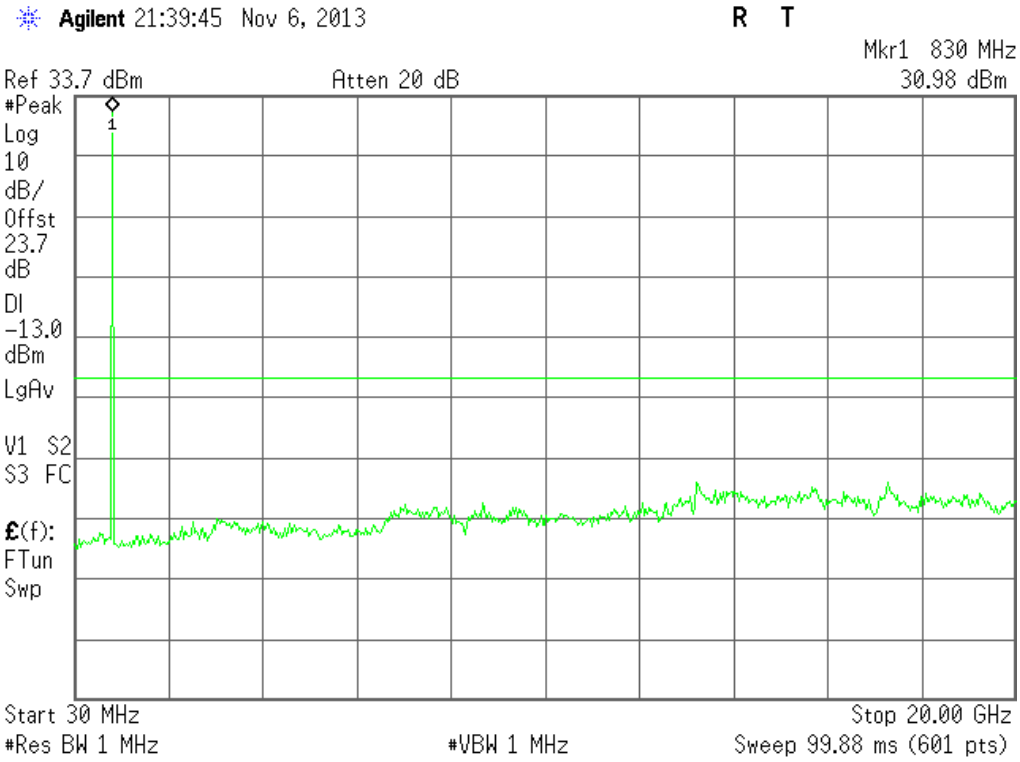
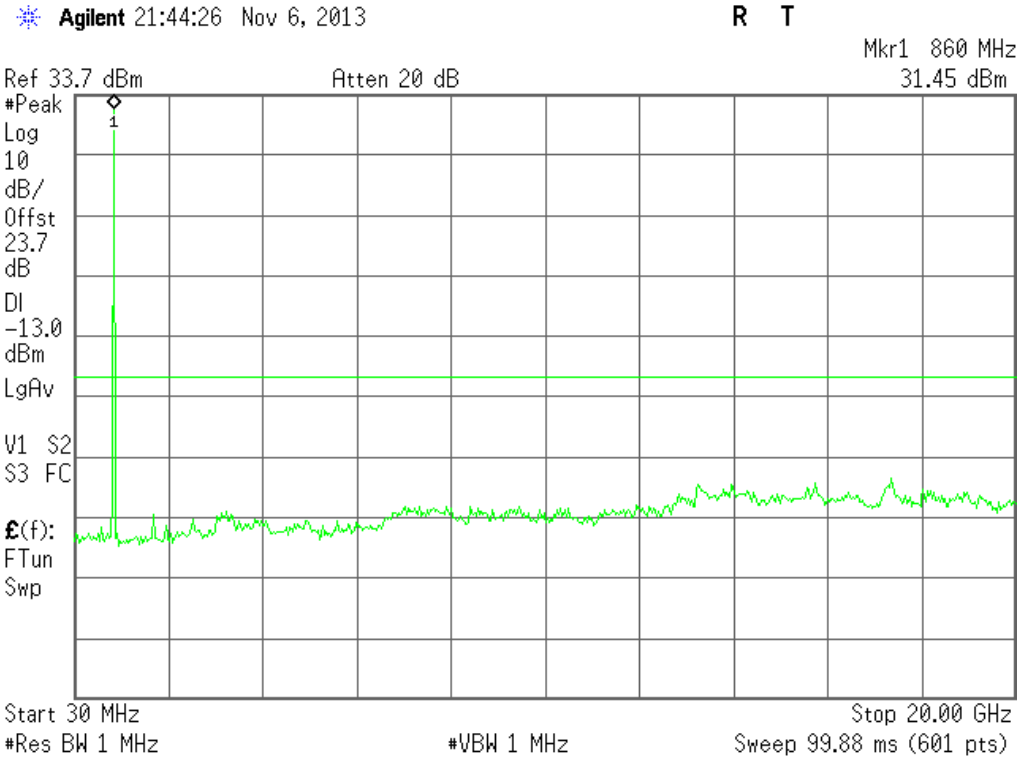


Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

Figure 8-1: Out of Band emission at antenna terminals – GPRS CH Low

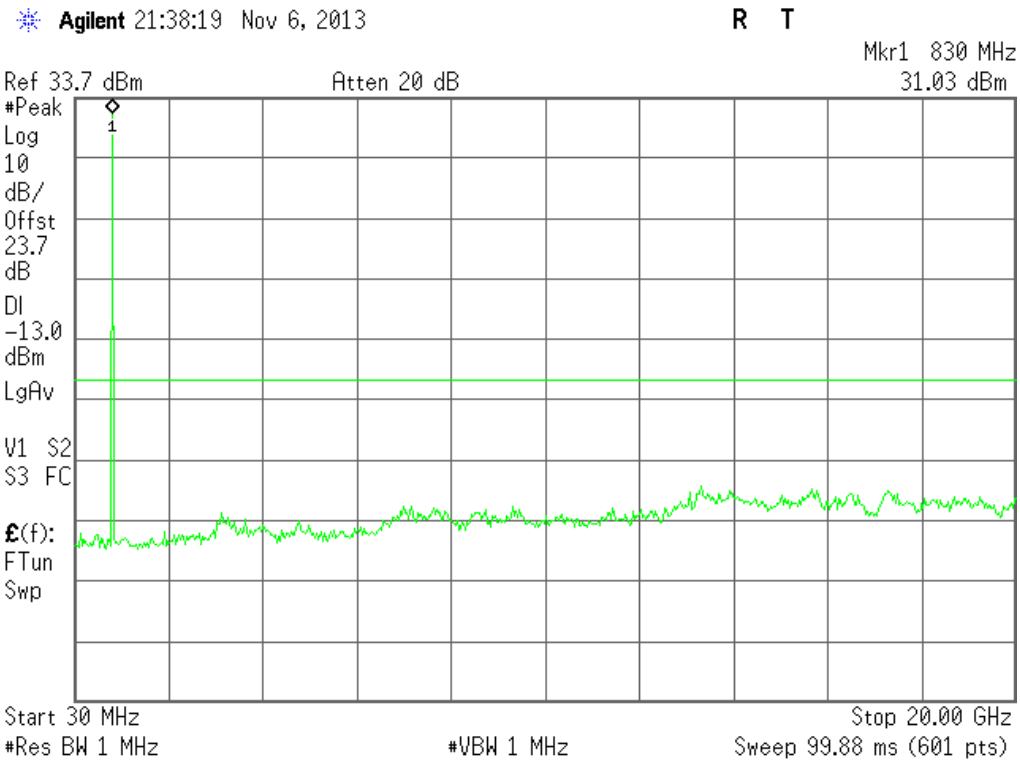


Figure 8-2: Out of Band emission at antenna terminals – GPRS CH Mid

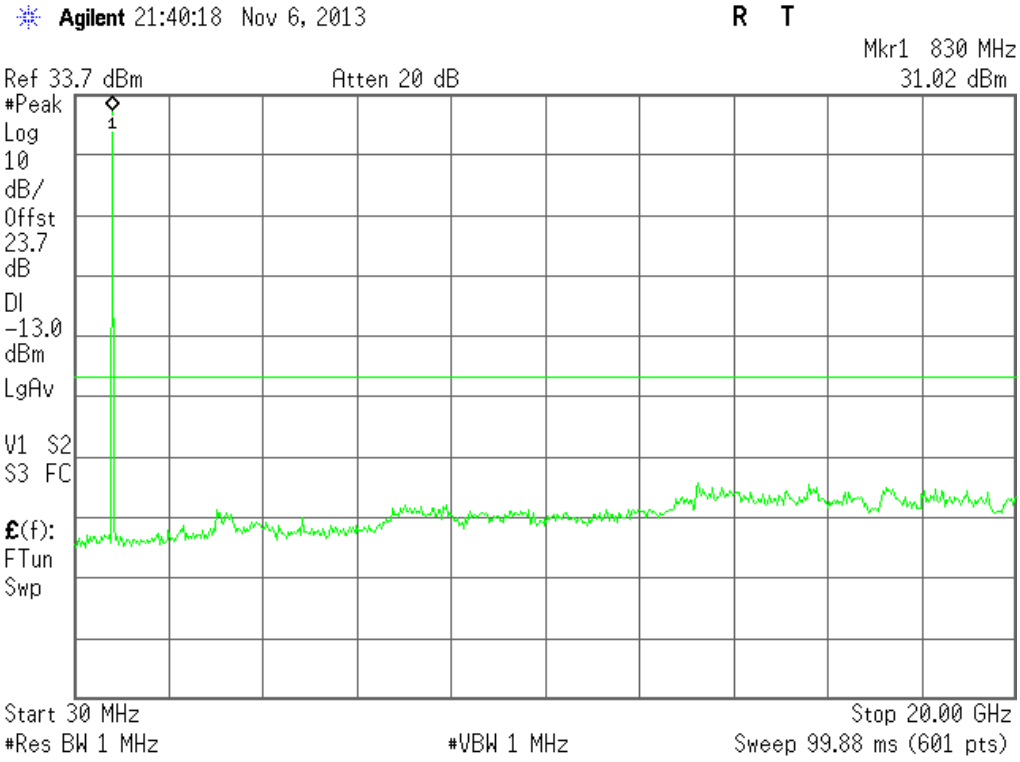
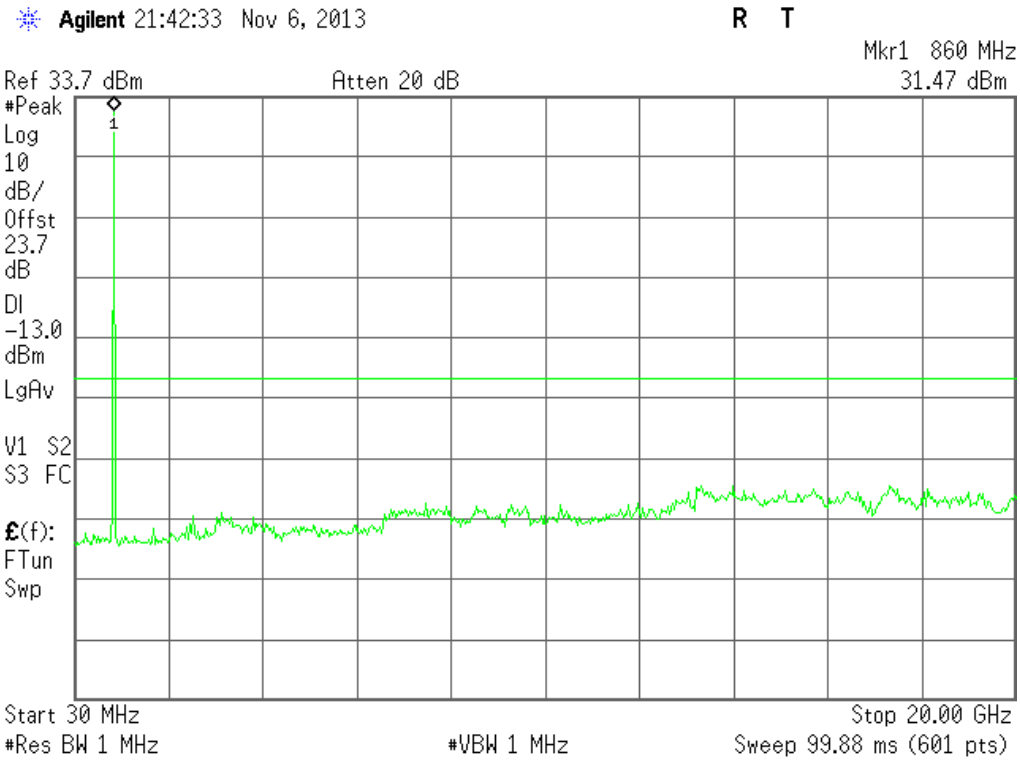


Figure 8-3: Out of Band emission at antenna terminals – GPRS CH High



GSM 1900

Figure 9-1: Out of Band emission at antenna terminals – GSM CH Low

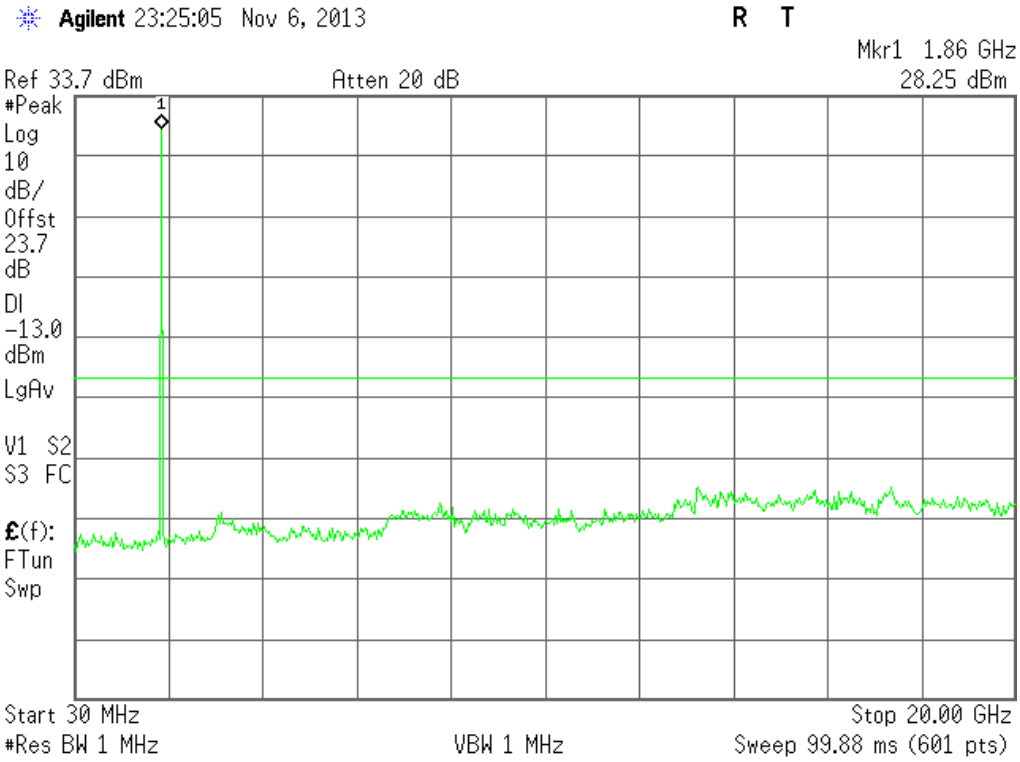


Figure 9-2: Out of Band emission at antenna terminals – GSM CH Mid

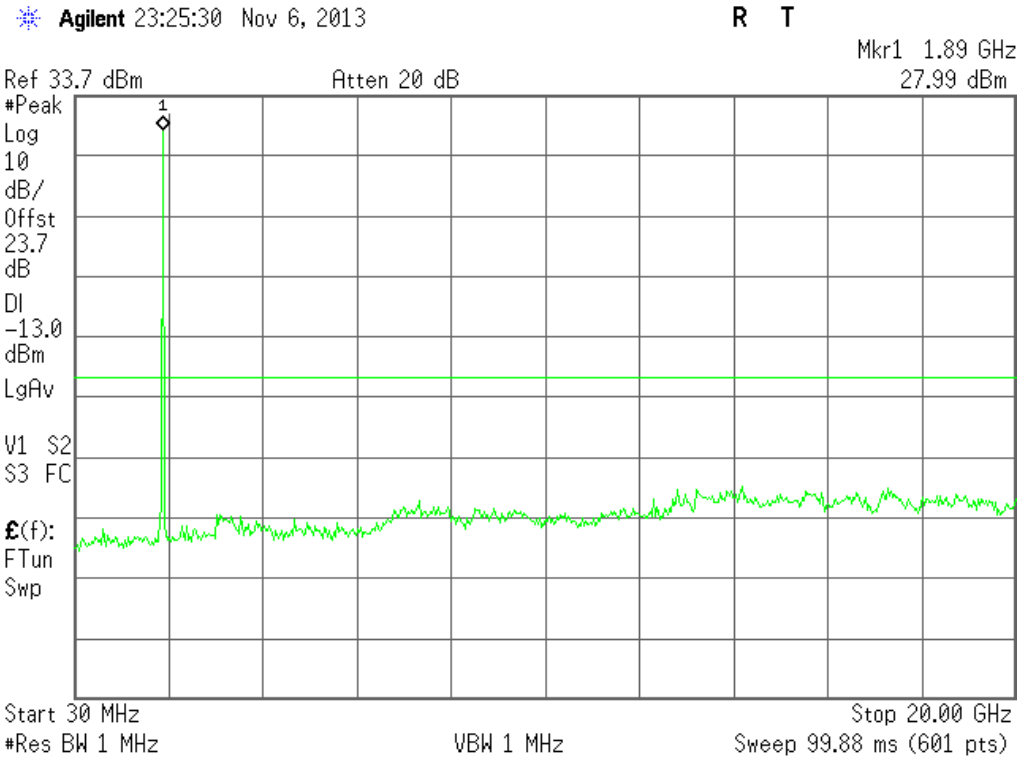
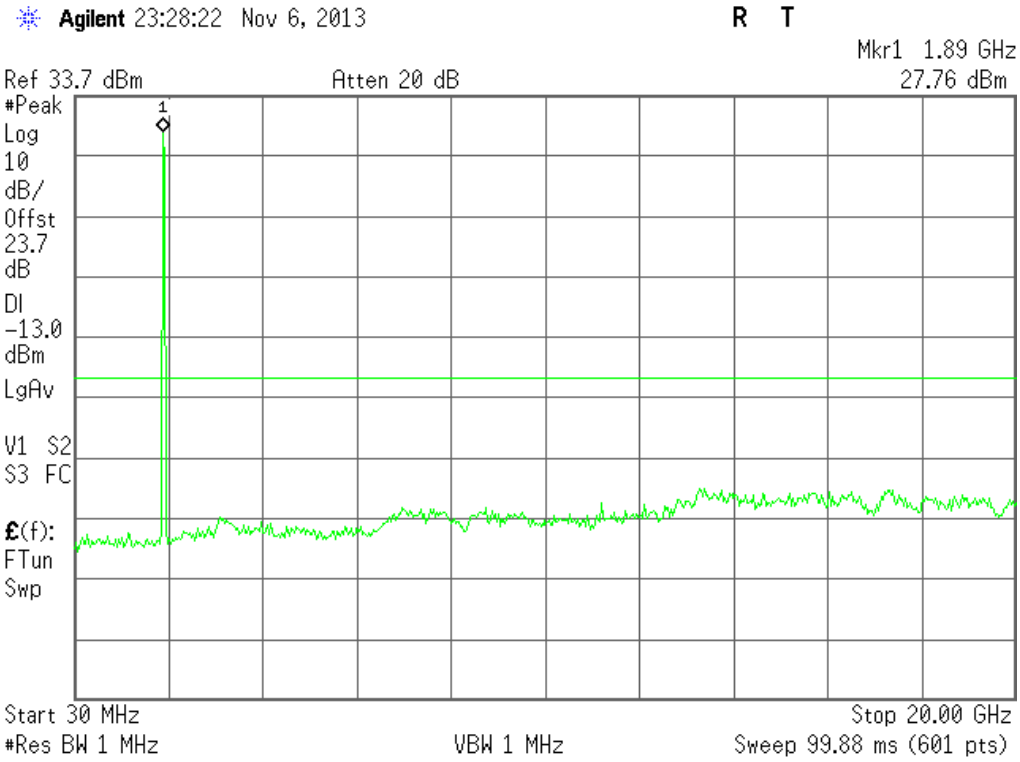


Figure 9-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

Figure 10-1: Out of Band emission at antenna terminals – GSM CH Low

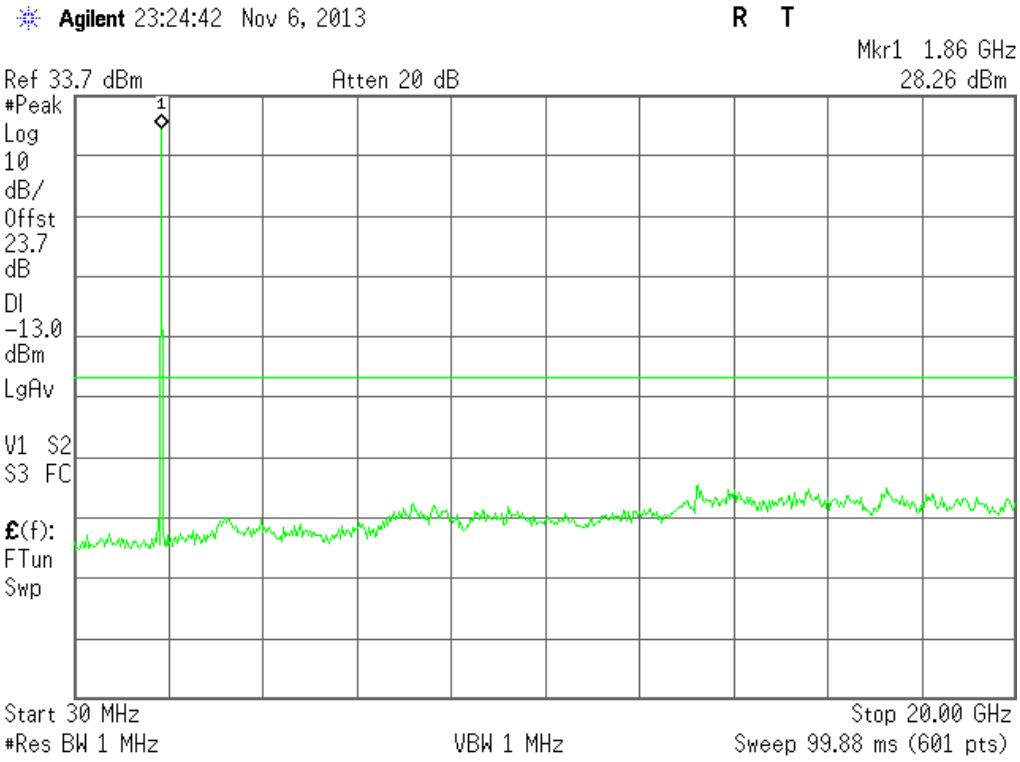


Figure 10-2: Out of Band emission at antenna terminals – GSM CH Mid

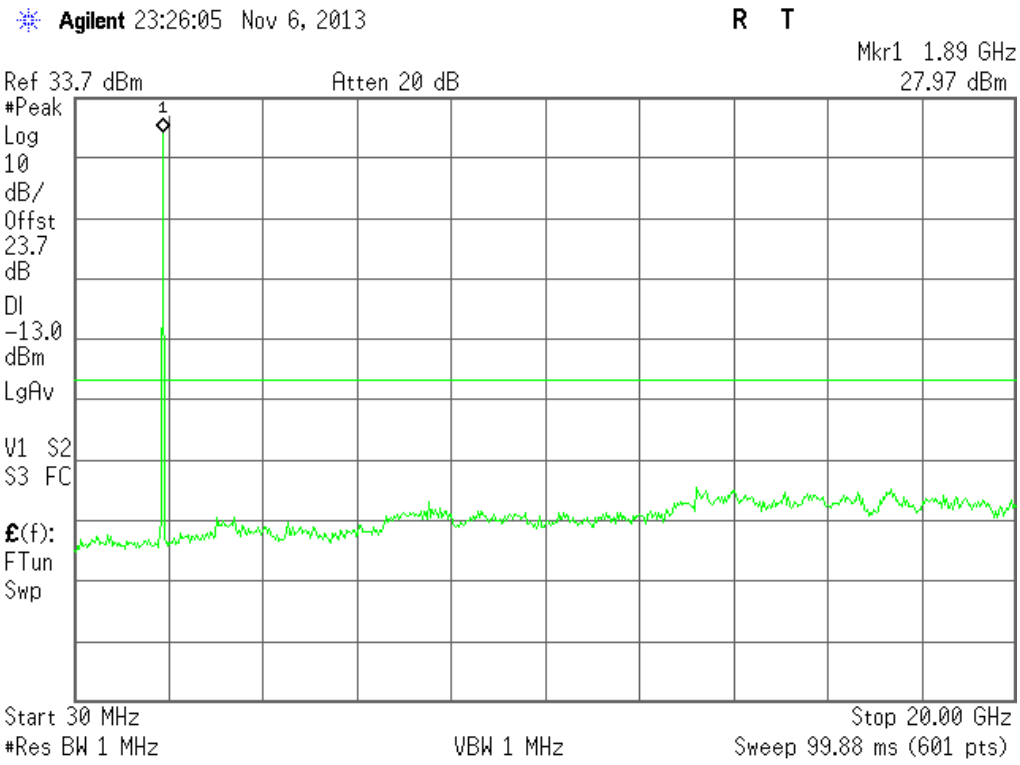
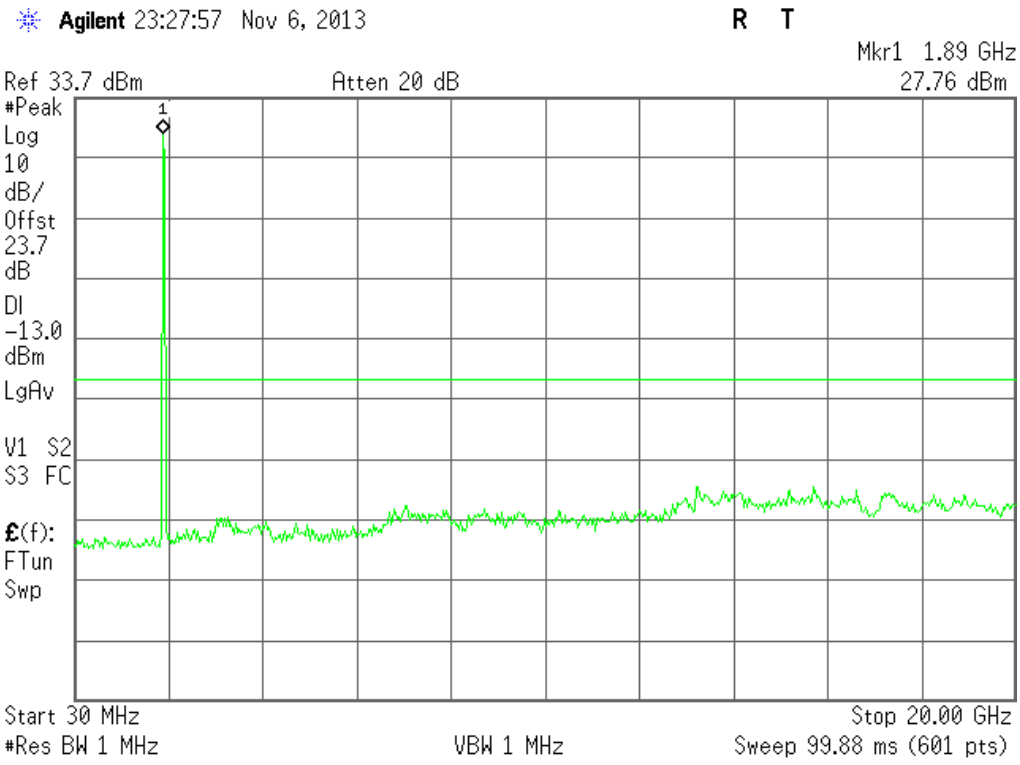


Figure 10-3: Out of Band emission at antenna terminals – GSM CH High



GSM 850

Figure 11-1: Band Edge emissions – GSM CH Low

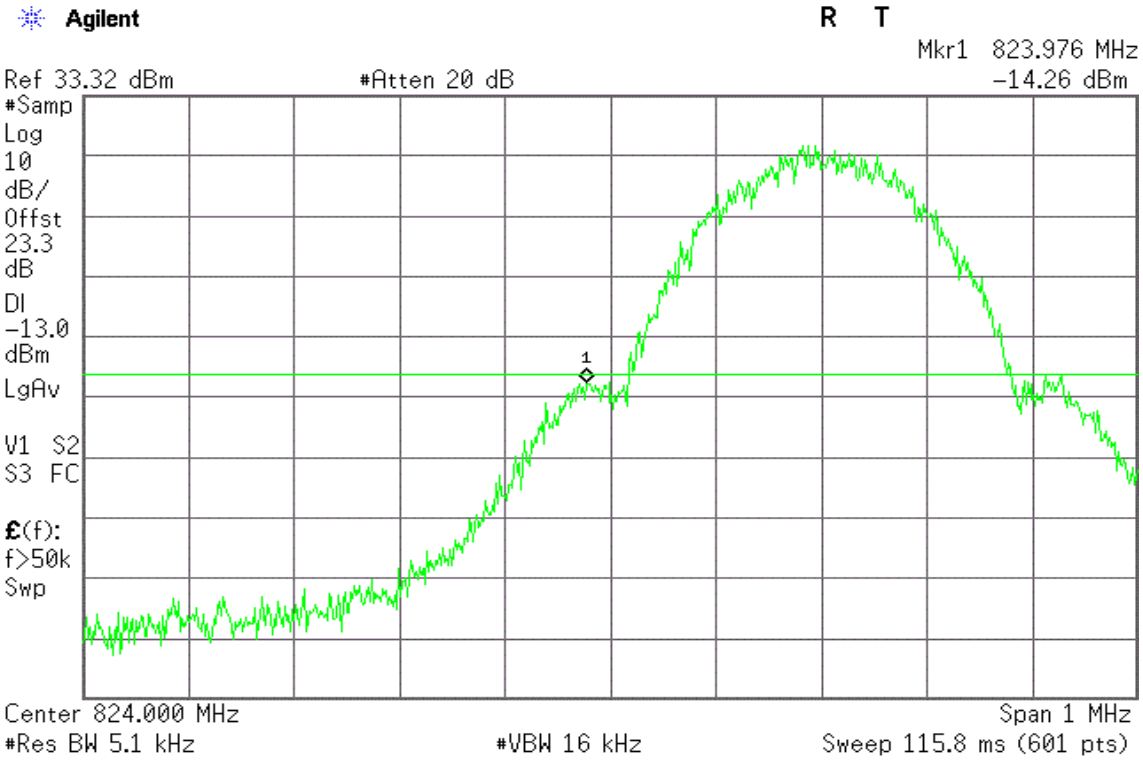
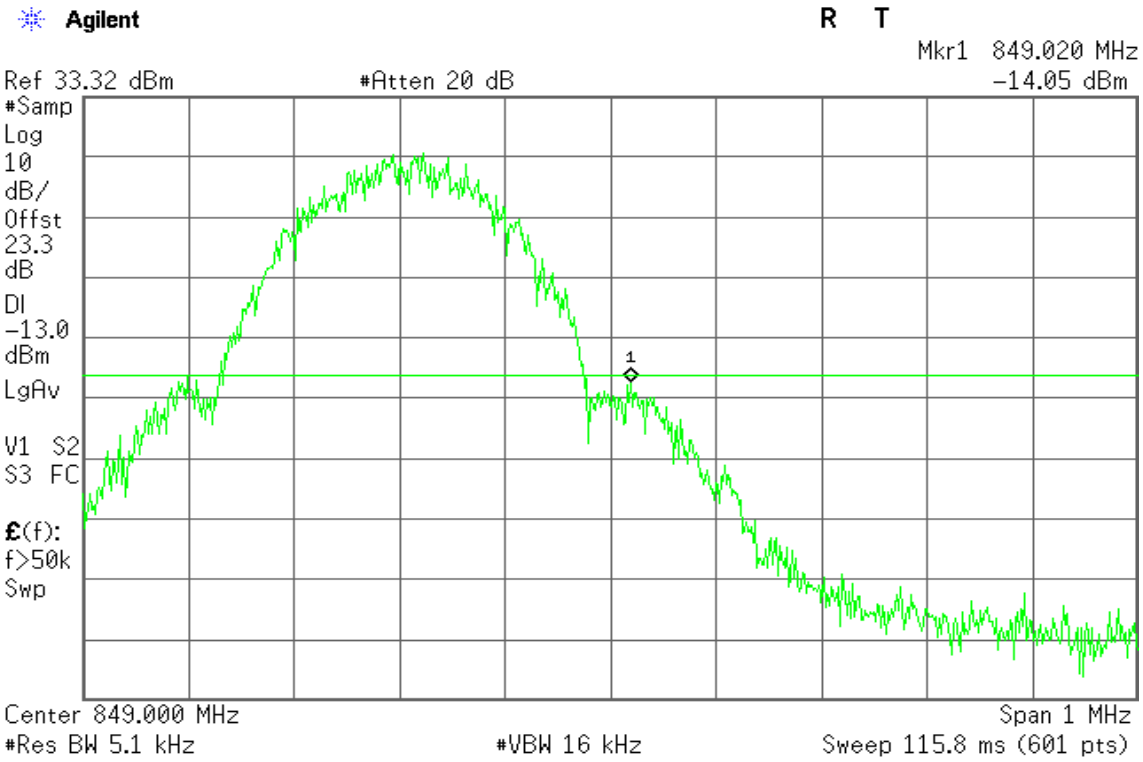


Figure 11-2: Band Edge emissions – GSM CH High



GPRS 850

Figure 12-1: Band Edge emissions – GPRS CH Low

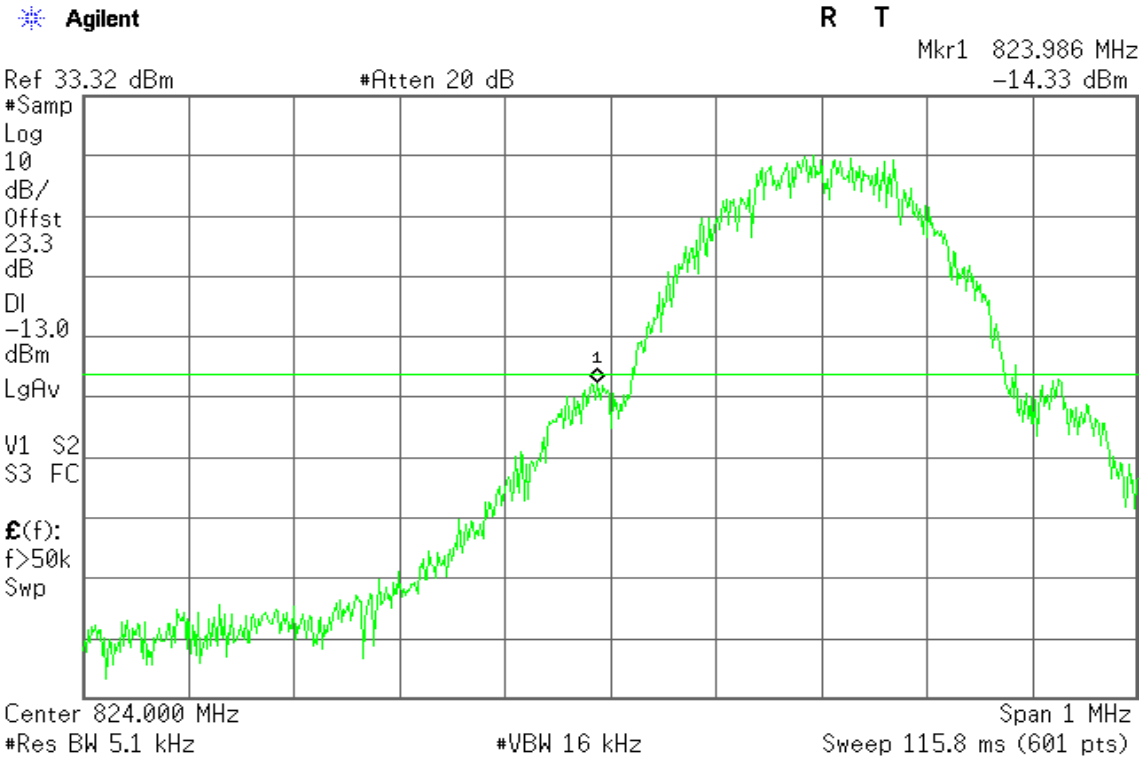
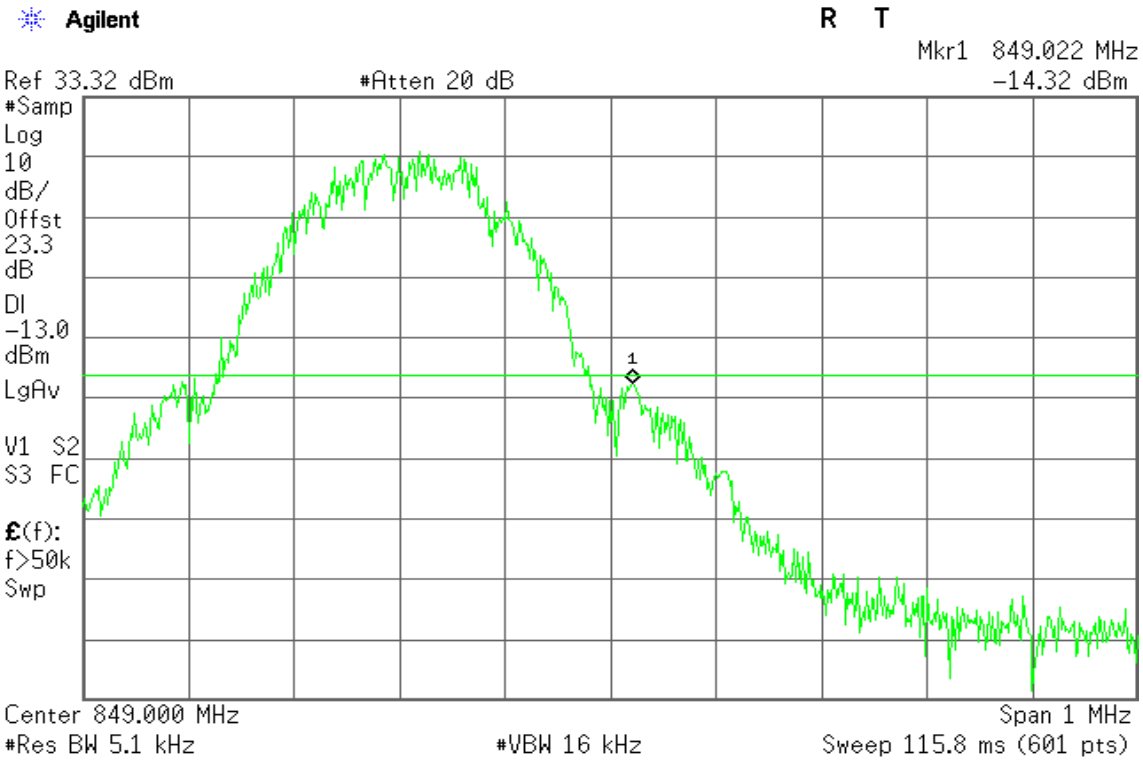


Figure 12-2: Band Edge emissions –GPRS CH High



GSM 1900

Figure 13-1: Band Edge emissions – GSM CH Low

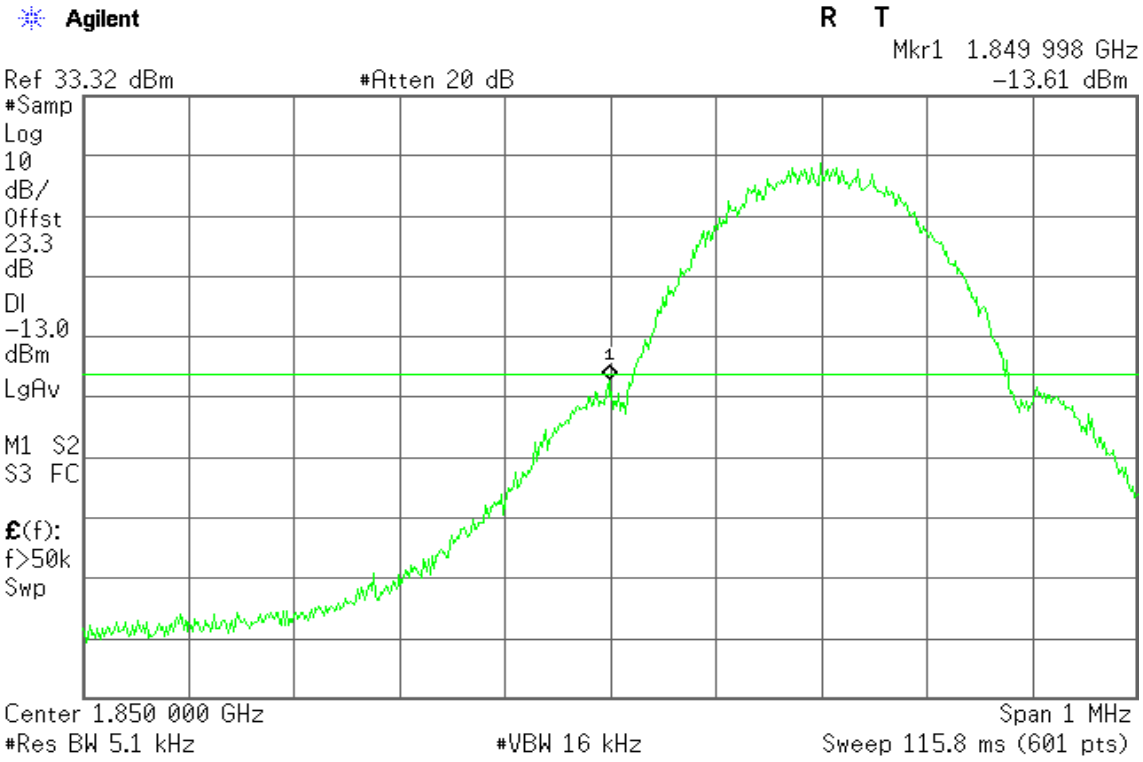
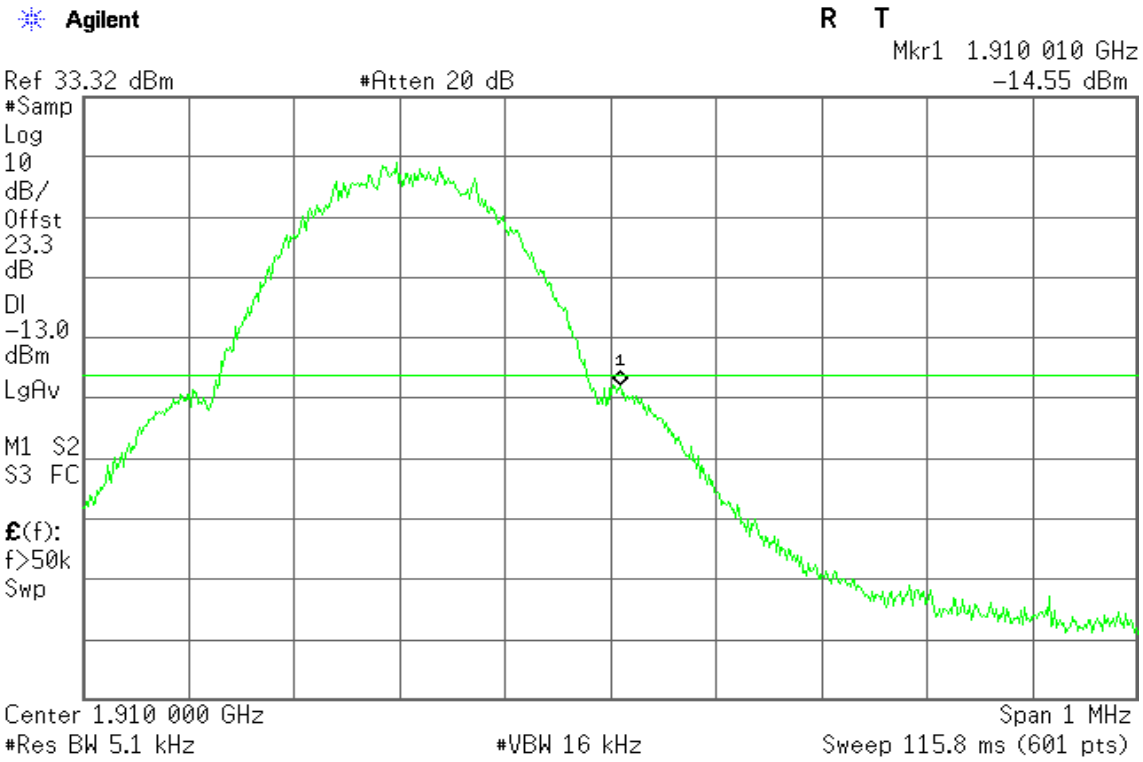


Figure 13-2: Band Edge emissions – GSM CH High



GPRS 1900

Figure 14-1: Band Edge emissions – GPRS CH Low

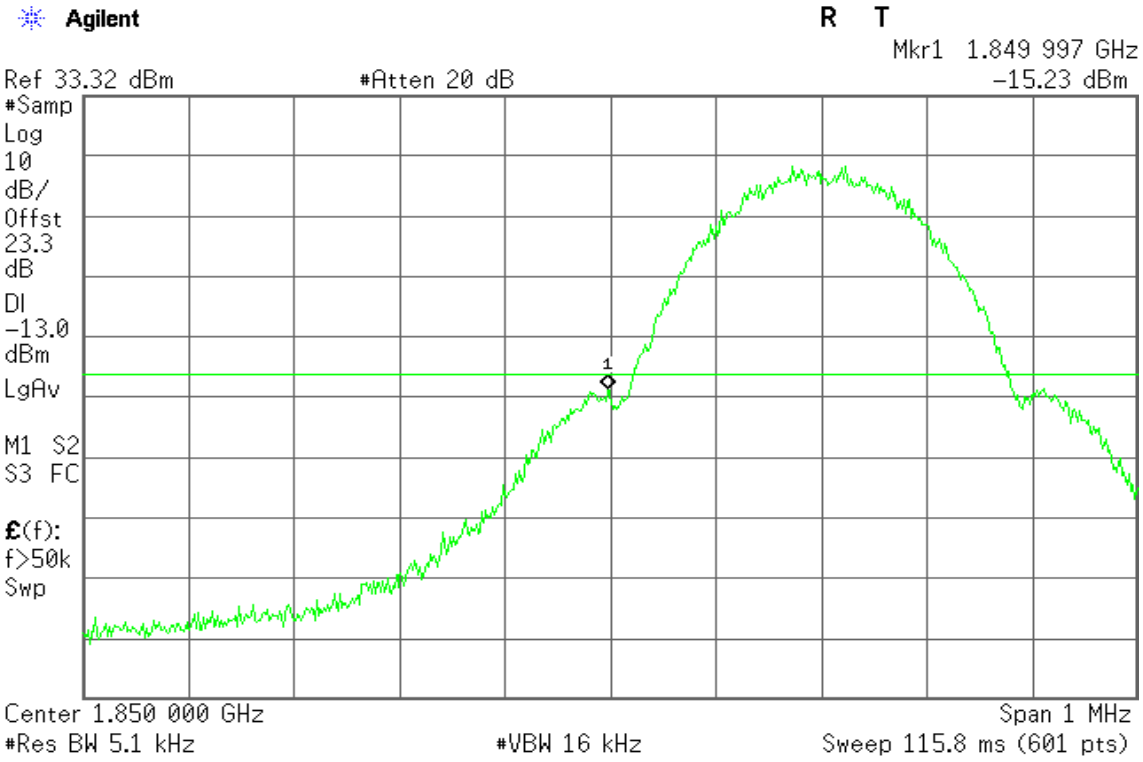
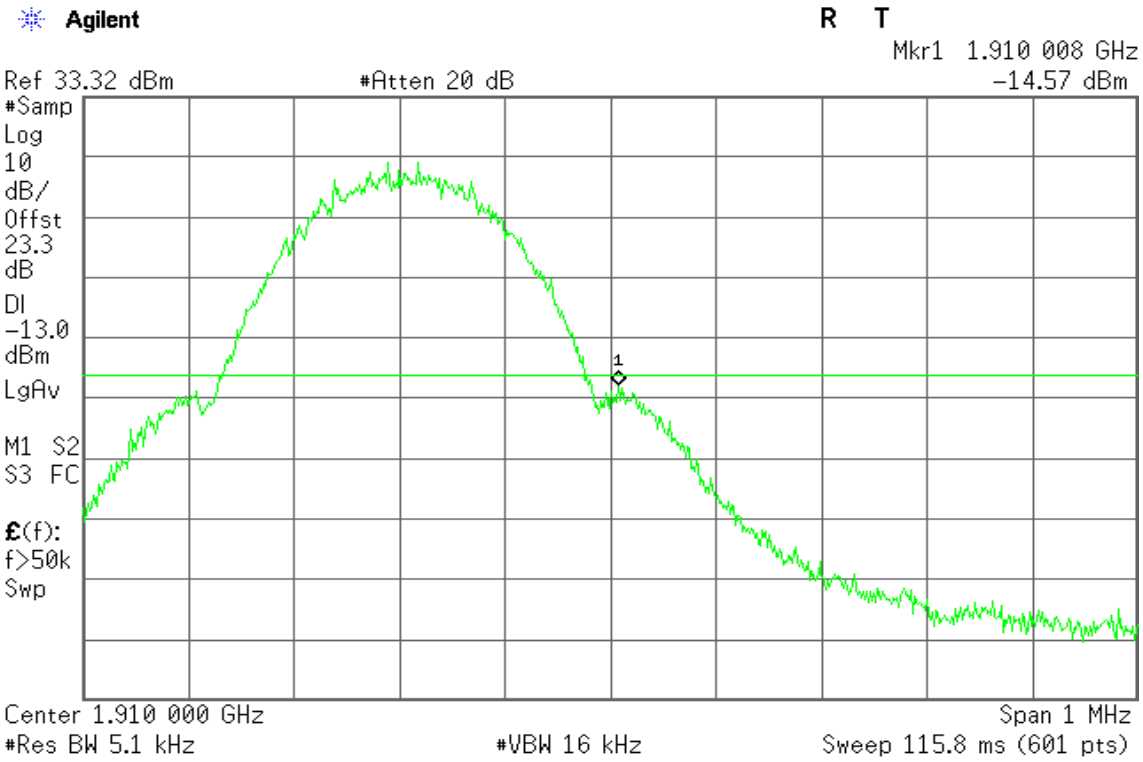


Figure 14-2: Band Edge emissions – GPRS CH High



EDGE 850

Figure 15-1: Out of Band emission at antenna terminals –EDGE CH Low

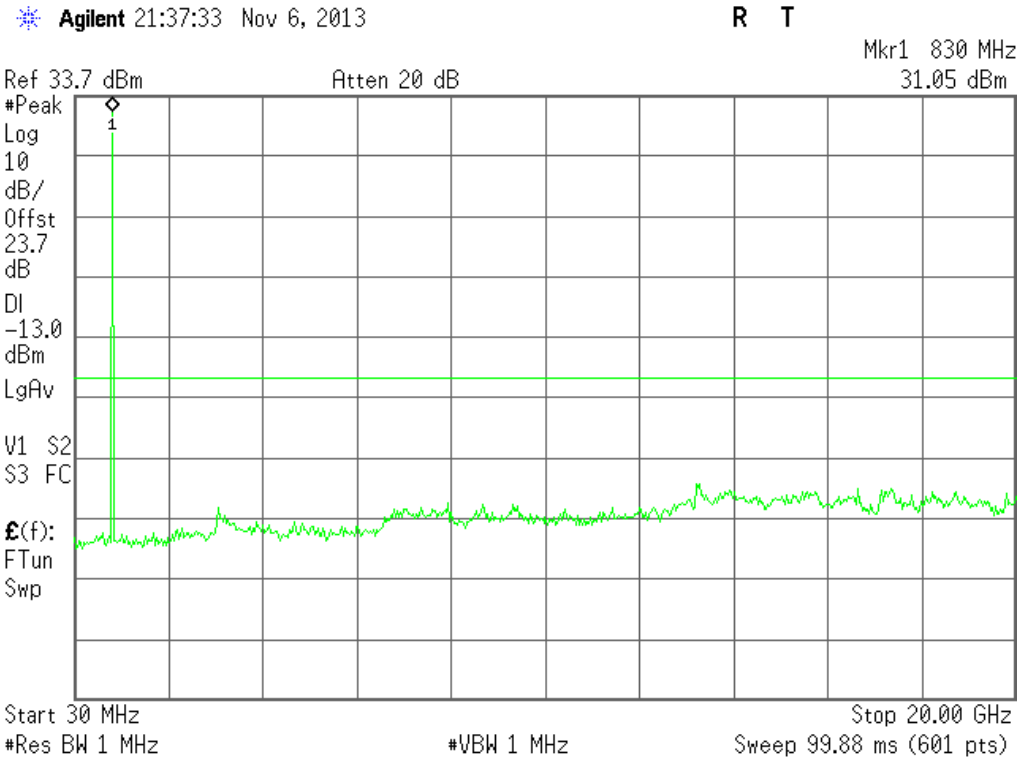


Figure 15-2: Out of Band emission at antenna terminals –EDGE CH Mid

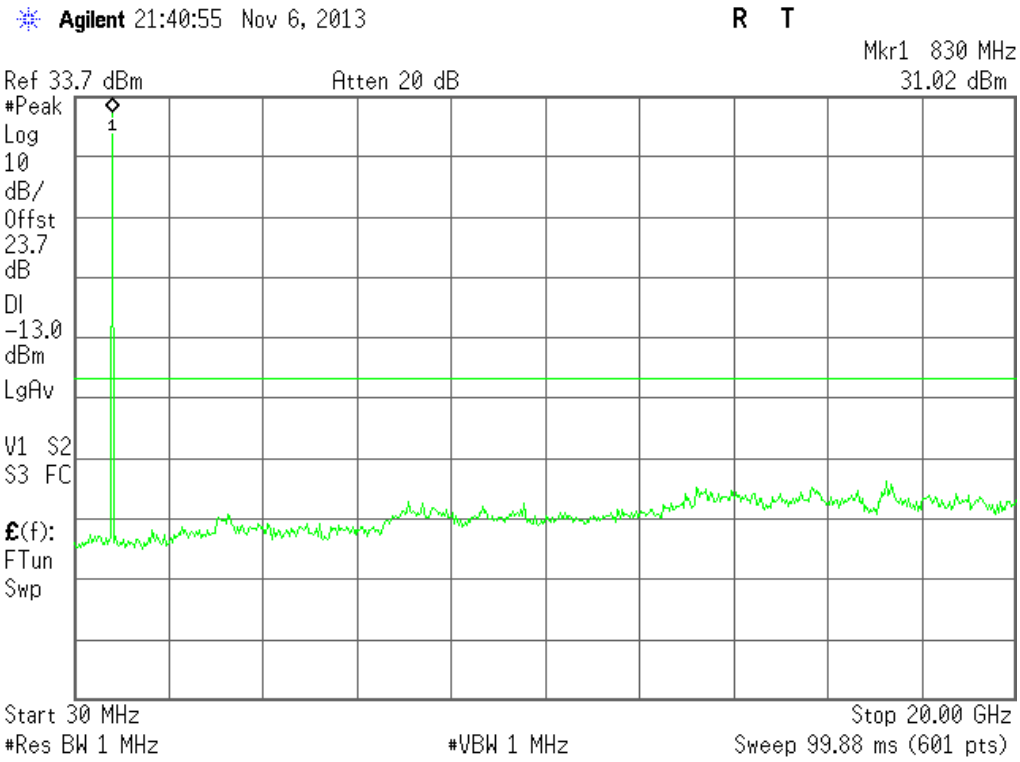
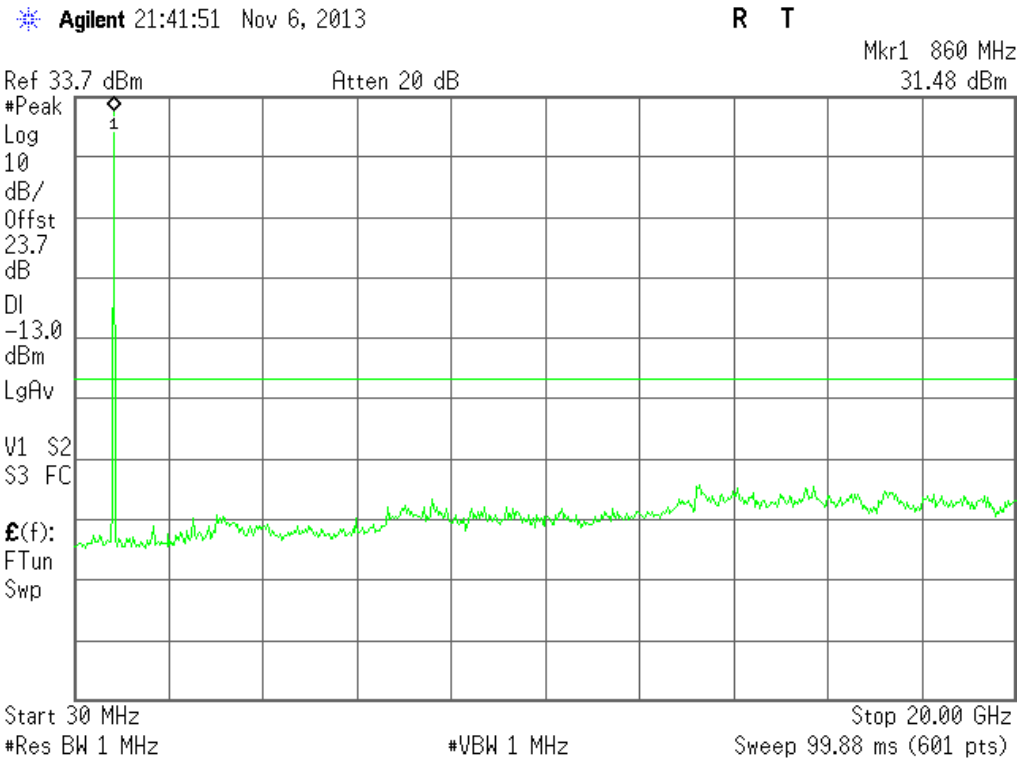


Figure 15-3: Out of Band emission at antenna terminals –EDGE CH High



EDGE 1900

Figure 16-1: Out of Band emission at antenna terminals –EDGE CH Low

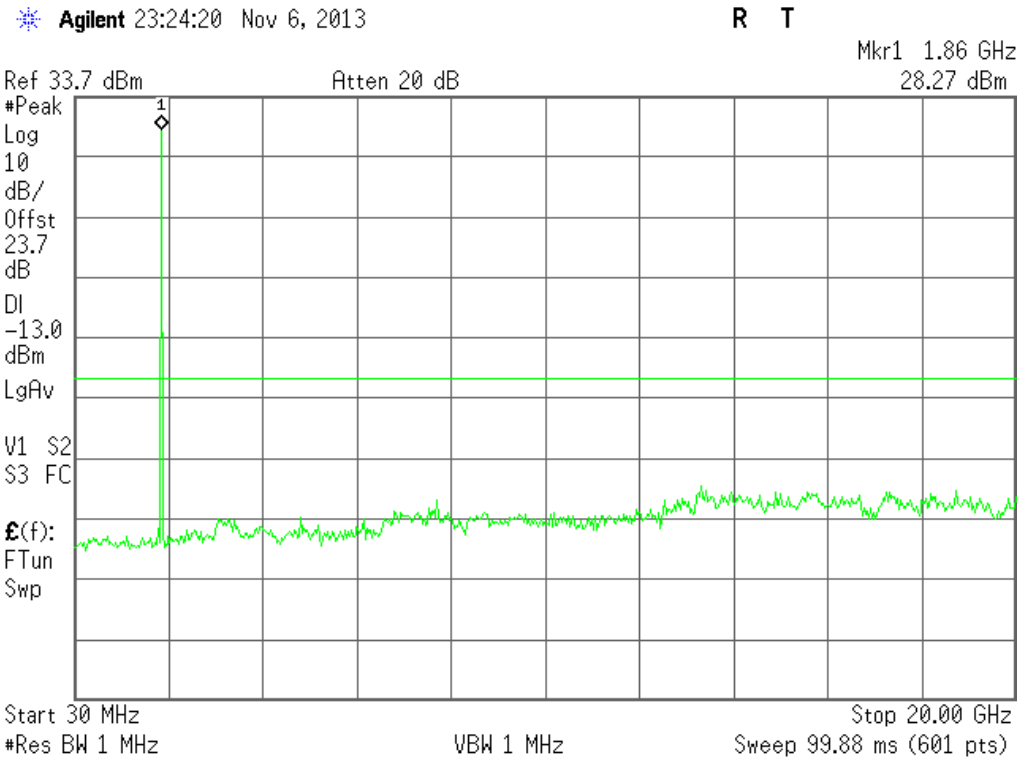


Figure 16-2: Out of Band emission at antenna terminals –EDGE CH Mid

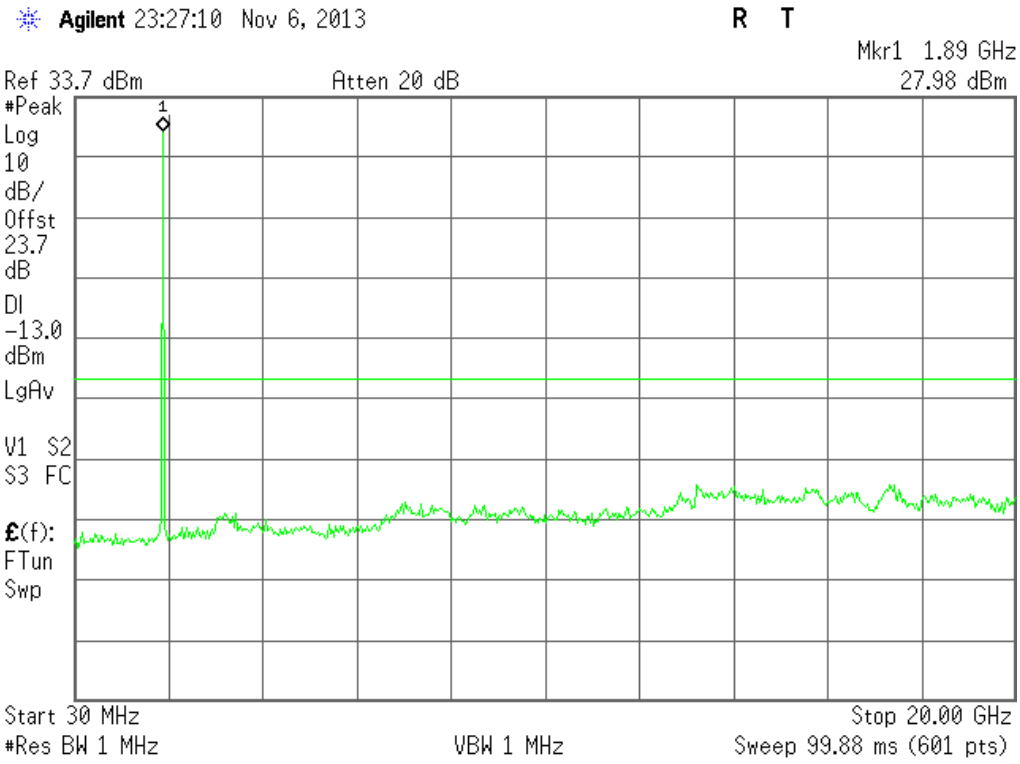
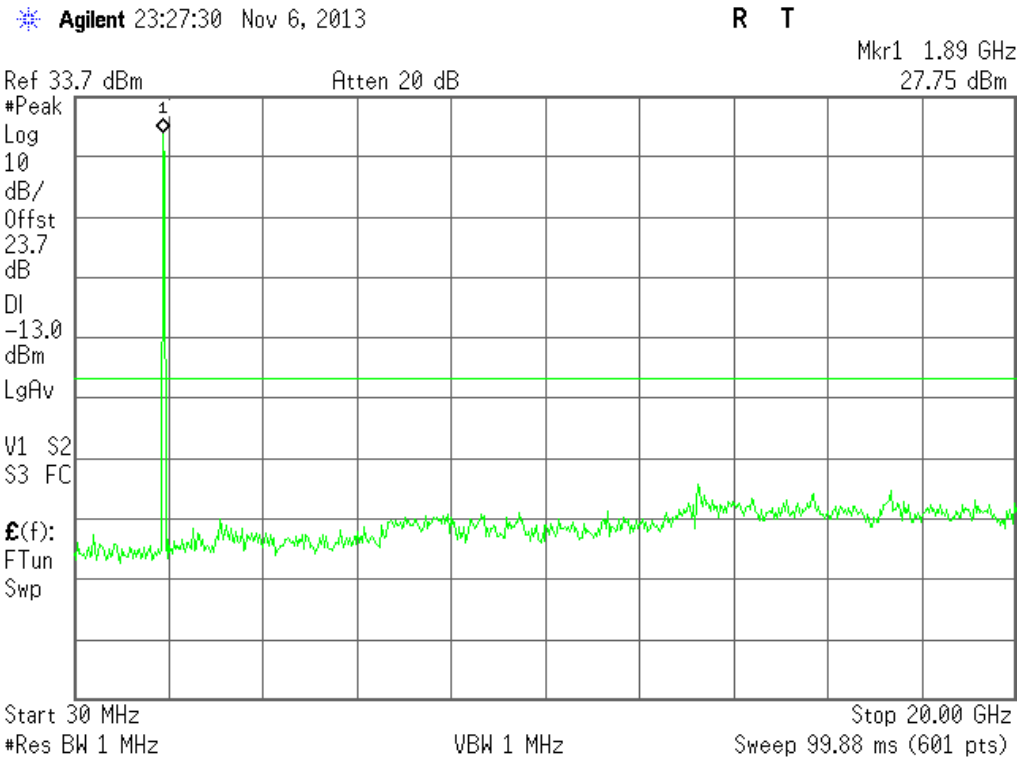


Figure 16-3: Out of Band emission at antenna terminals –EDGE CH High



EDGE 850

Figure 17-1: Band Edge emissions – EDGE CH Low

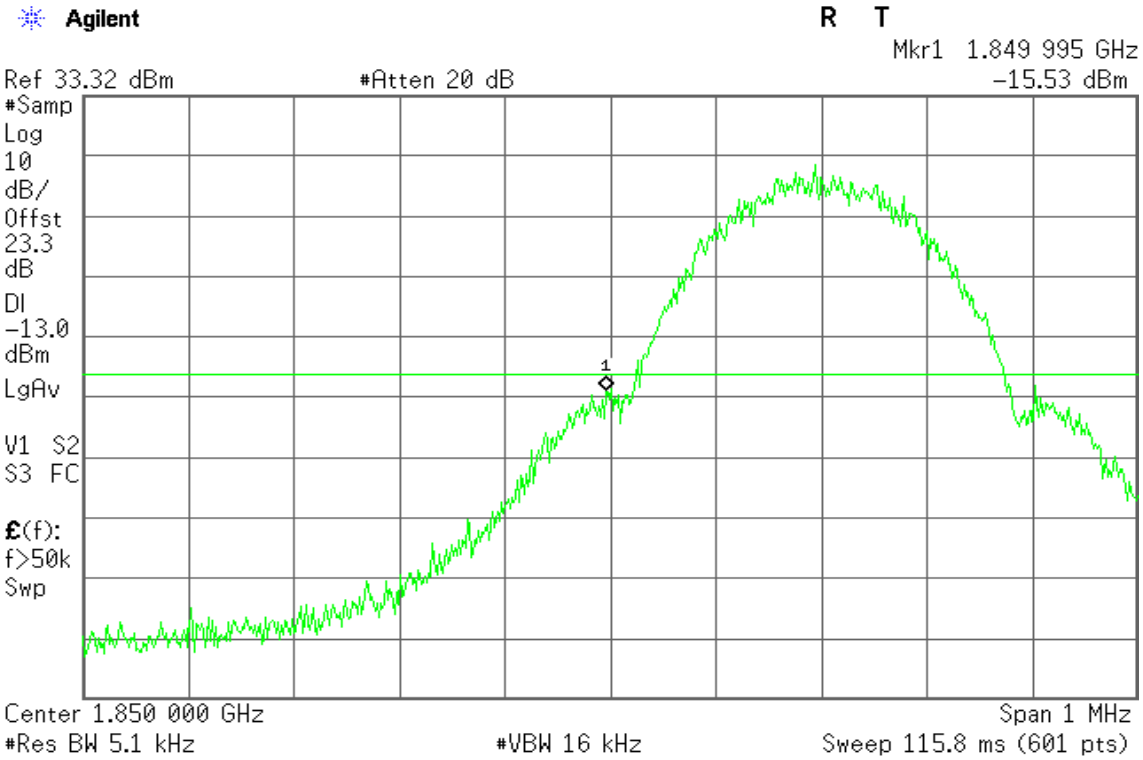
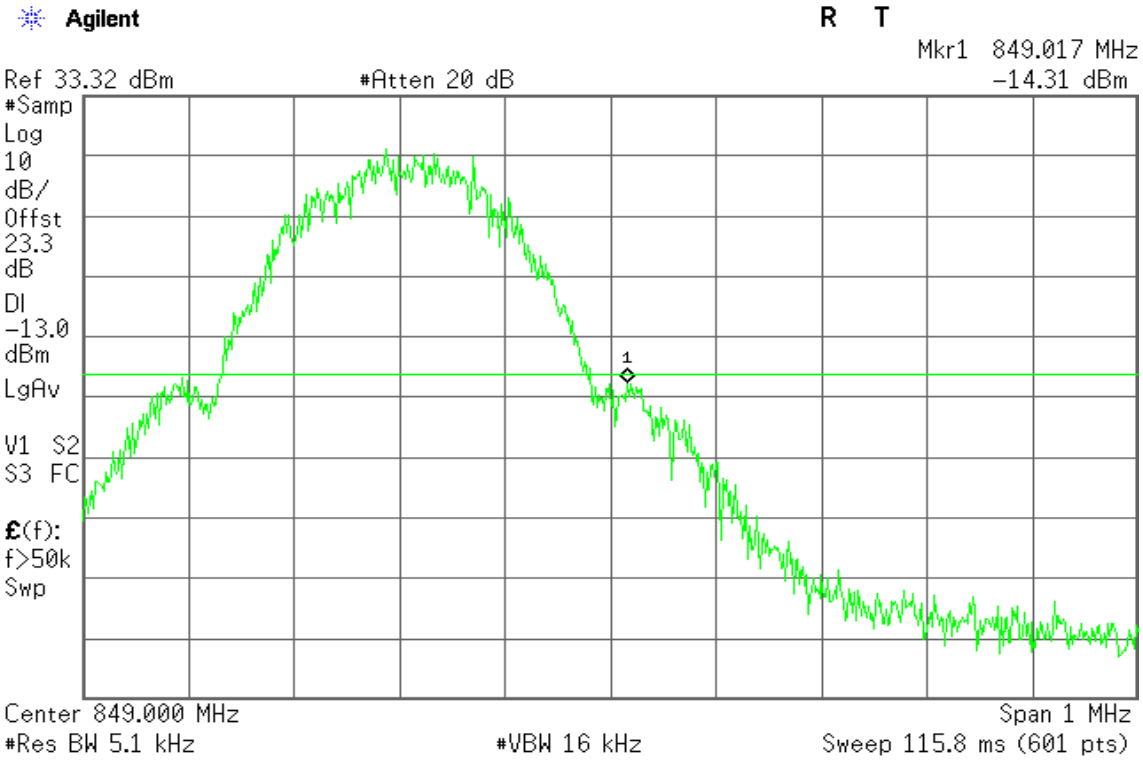


Figure 17-2: Band Edge emissions – EDGE CH High



EDGE 1900

Figure 18-1: Band Edge emissions – EDGE CH Low

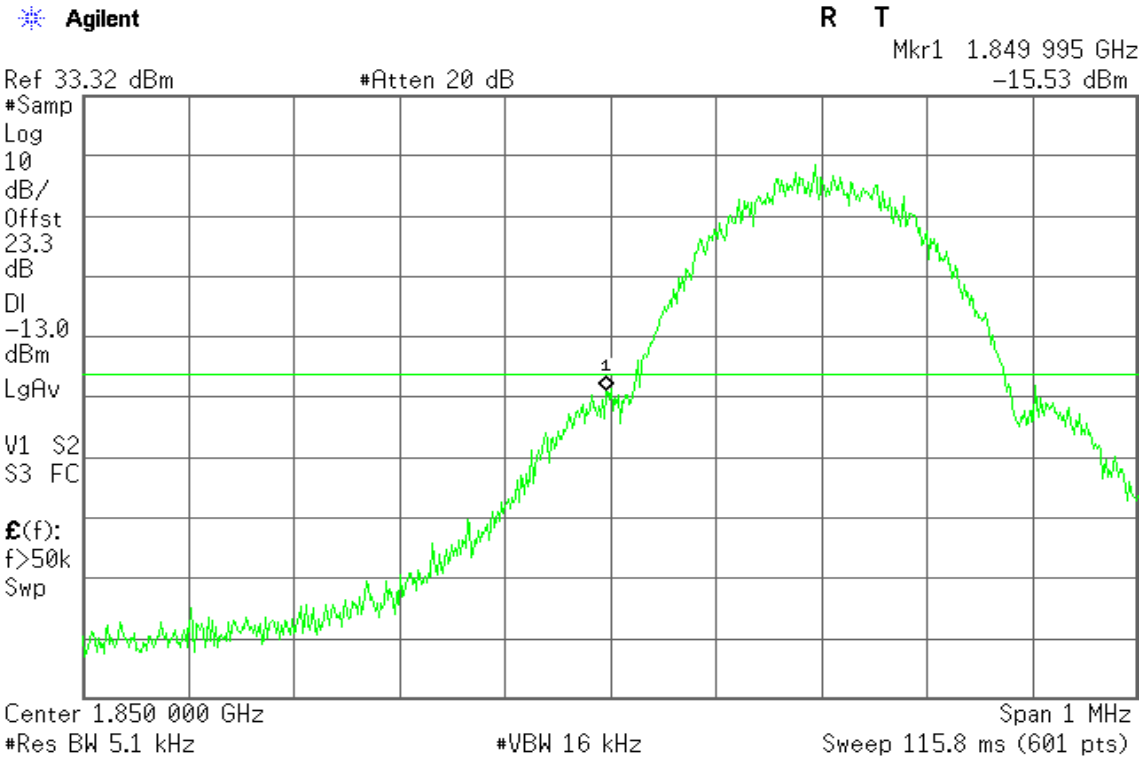
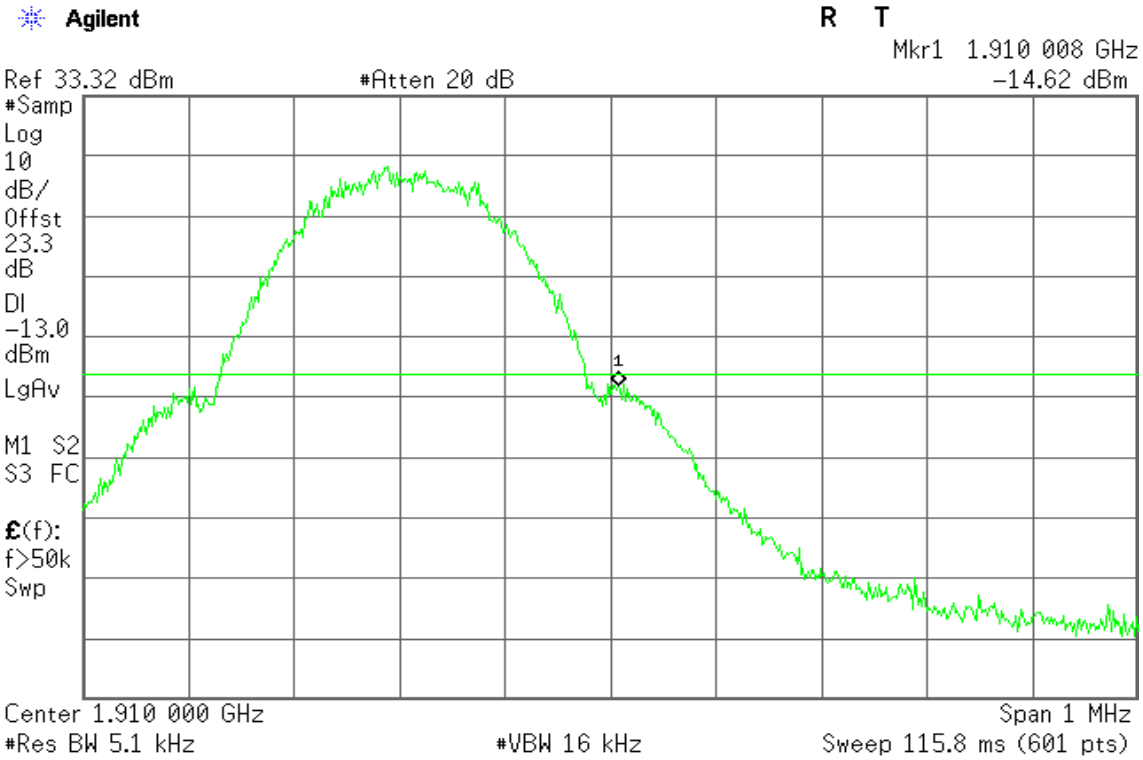


Figure 18-2: Band Edge emissions – EDGE CH High



WCDMA Band II

Figure 19-1: Out of Band emission at antenna terminals – WCDMA CH Low

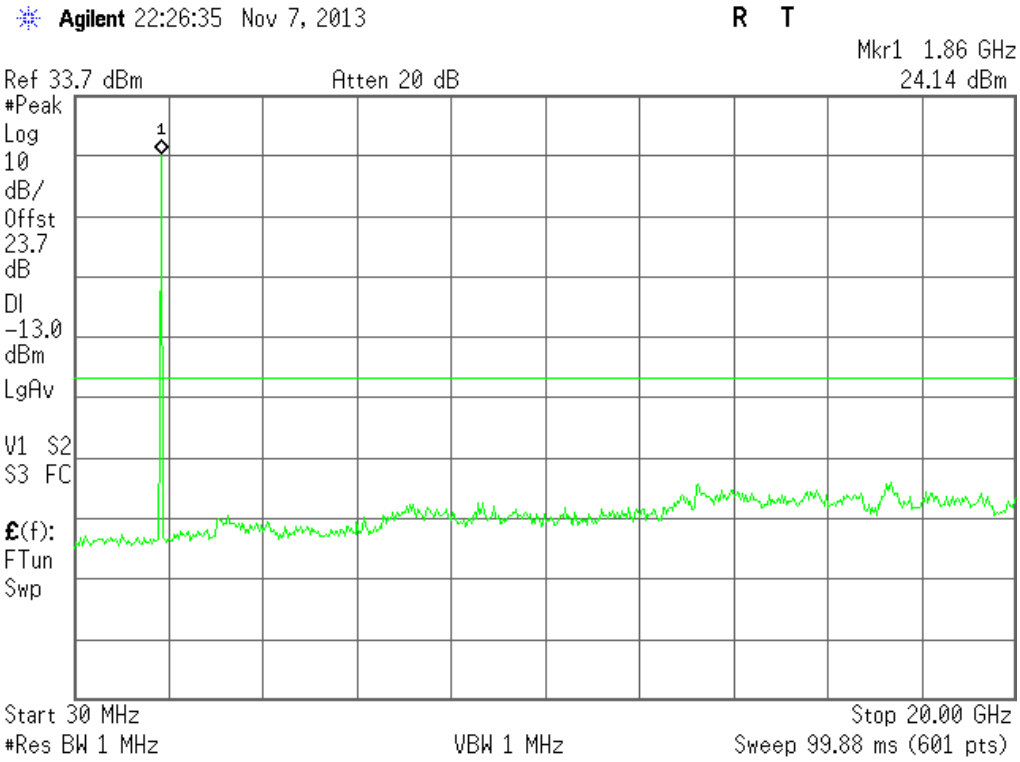


Figure 19-2: Out of Band emission at antenna terminals – WCDMA CH Mid

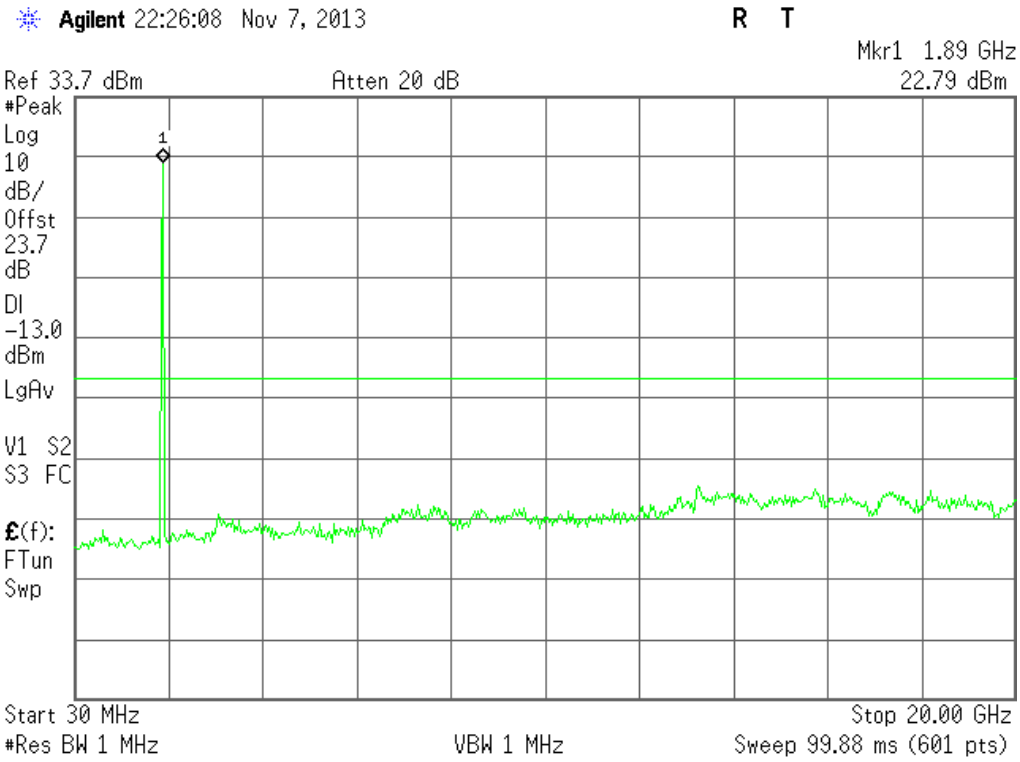
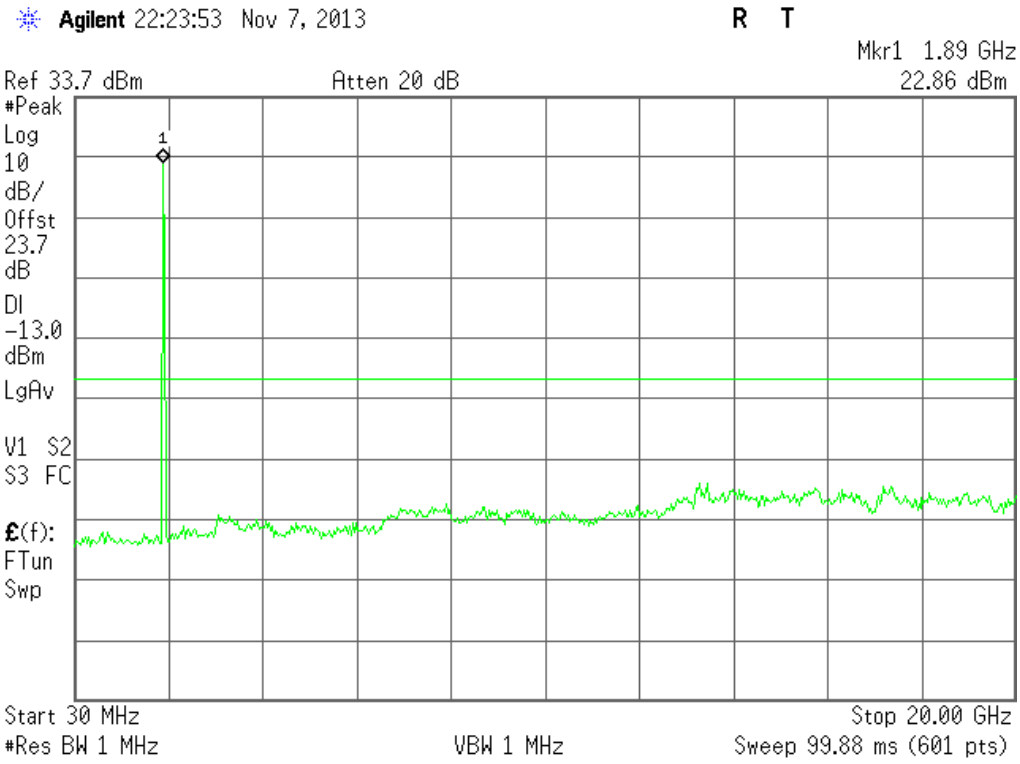


Figure 19-3: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA Band V

Figure 20-1: Out of Band emission at antenna terminals – WCDMA CH Low

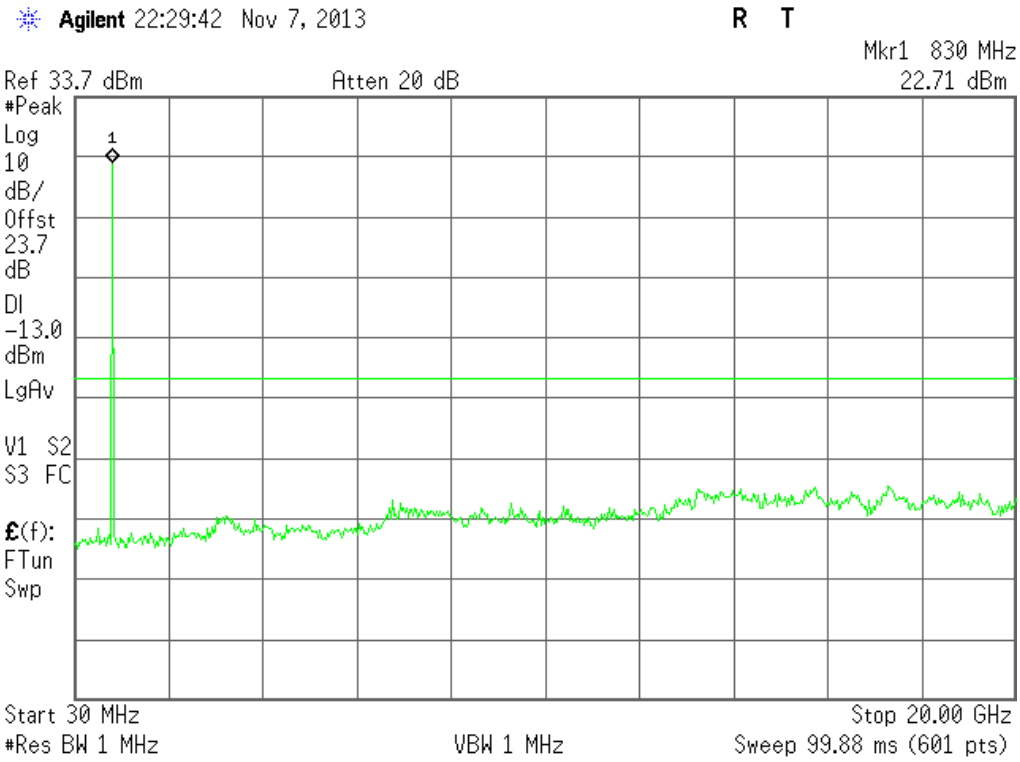


Figure 20-2: Out of Band emission at antenna terminals – WCDMA CH Mid

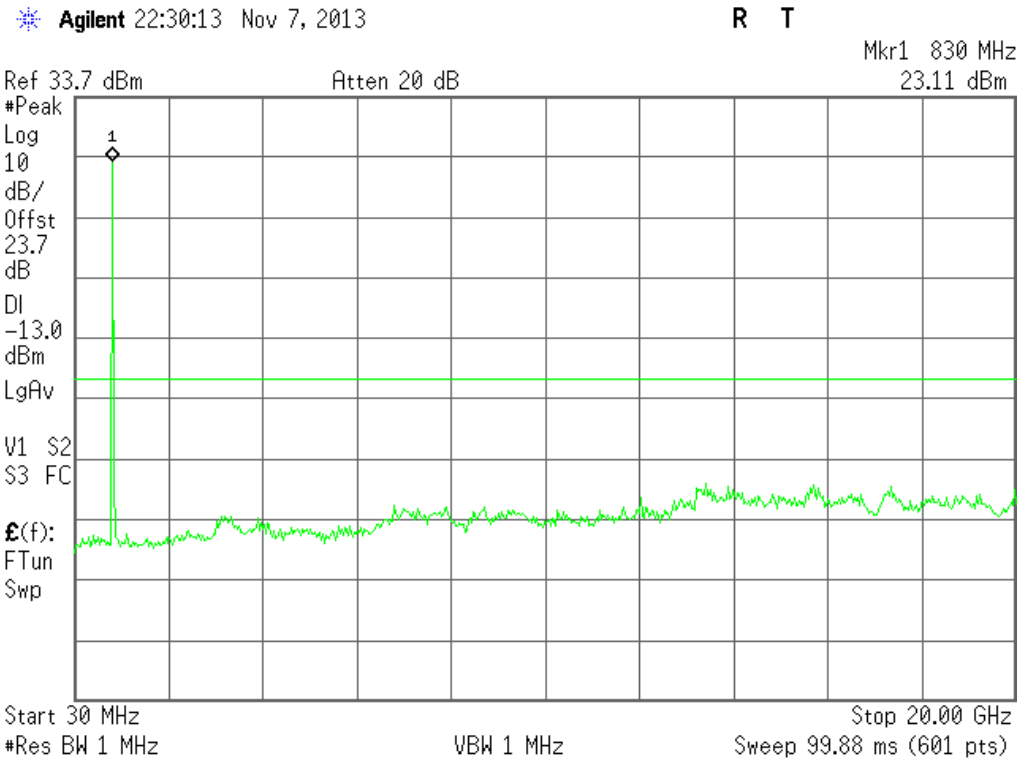
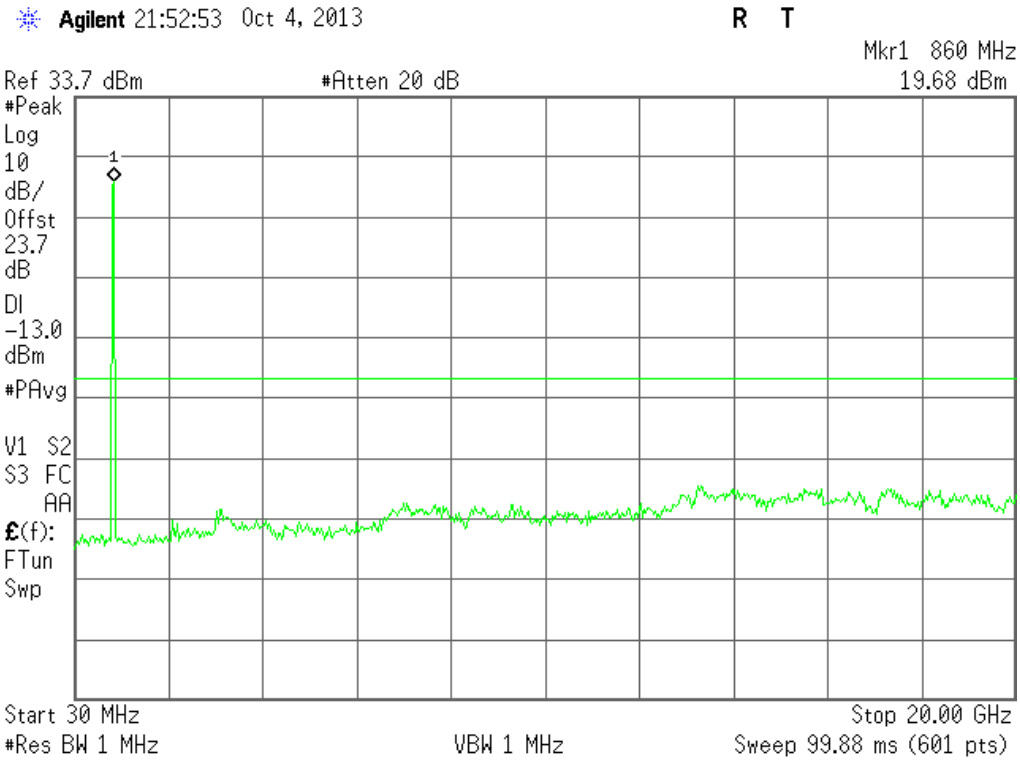


Figure 20-3: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA Band II

Figure 21-1: Band Edge emissions – WCDMA CH Low

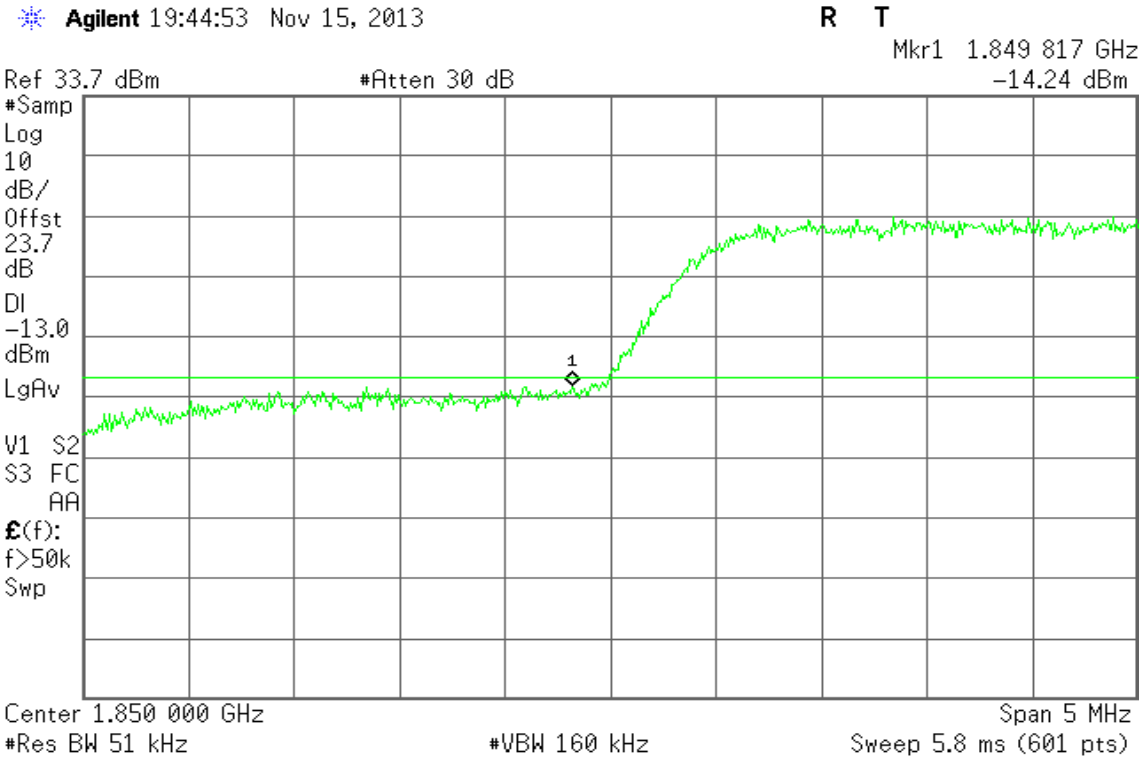
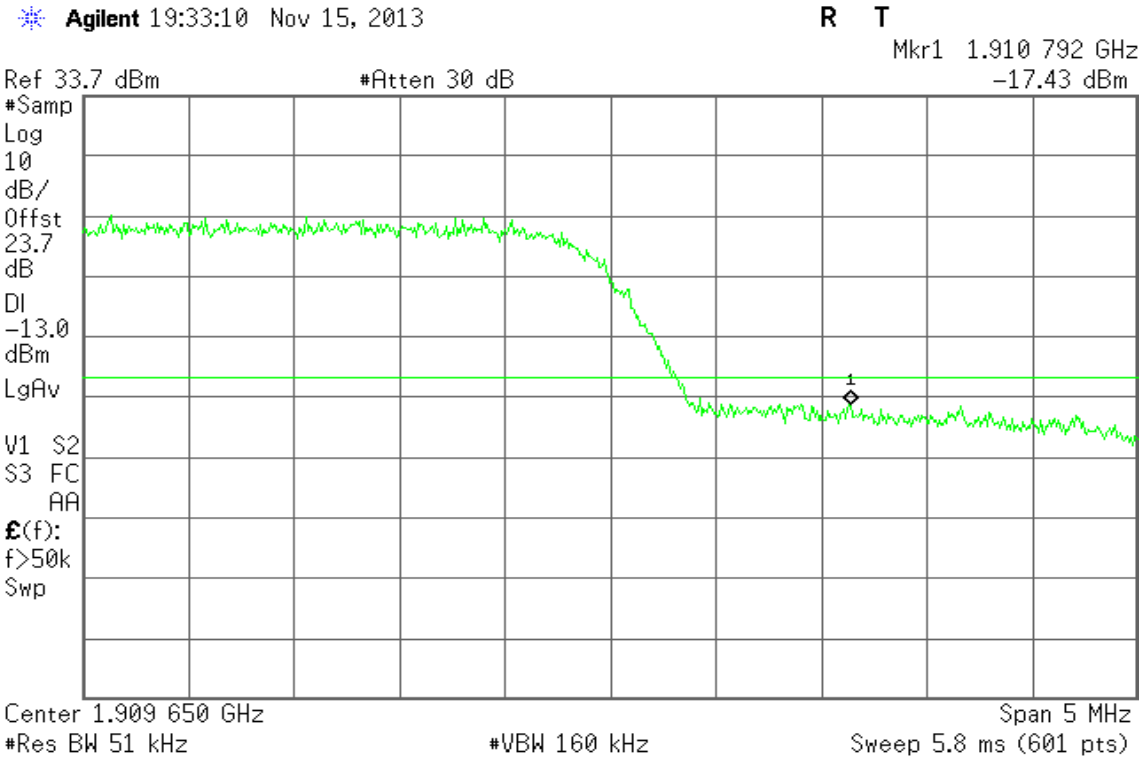


Figure 21-2: Band Edge emissions –WCDMA CH High



WCDMA Band V

Figure 22-1: Band Edge emissions –WCDMA CH Low

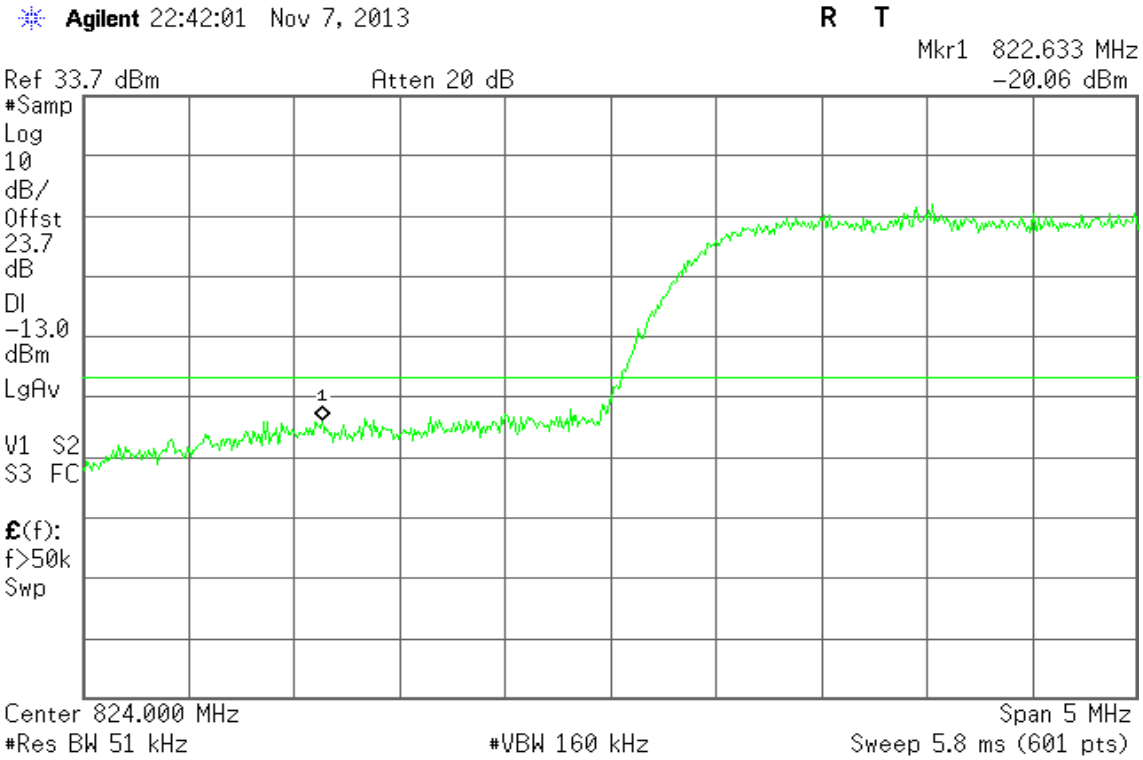
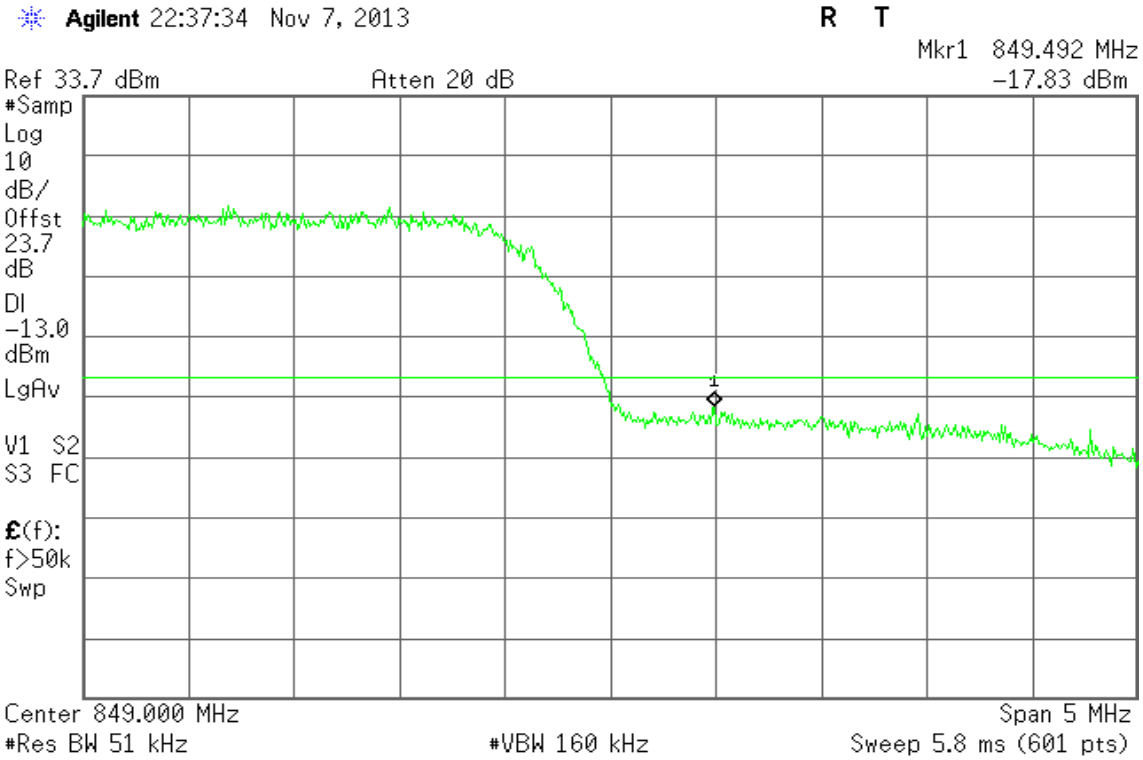


Figure 22-2: Band Edge emissions –WCDMA CH High



WCDMA / HSDPA Band II

Figure 23-1: Out of Band emission at antenna terminals – HSDPA CH Low

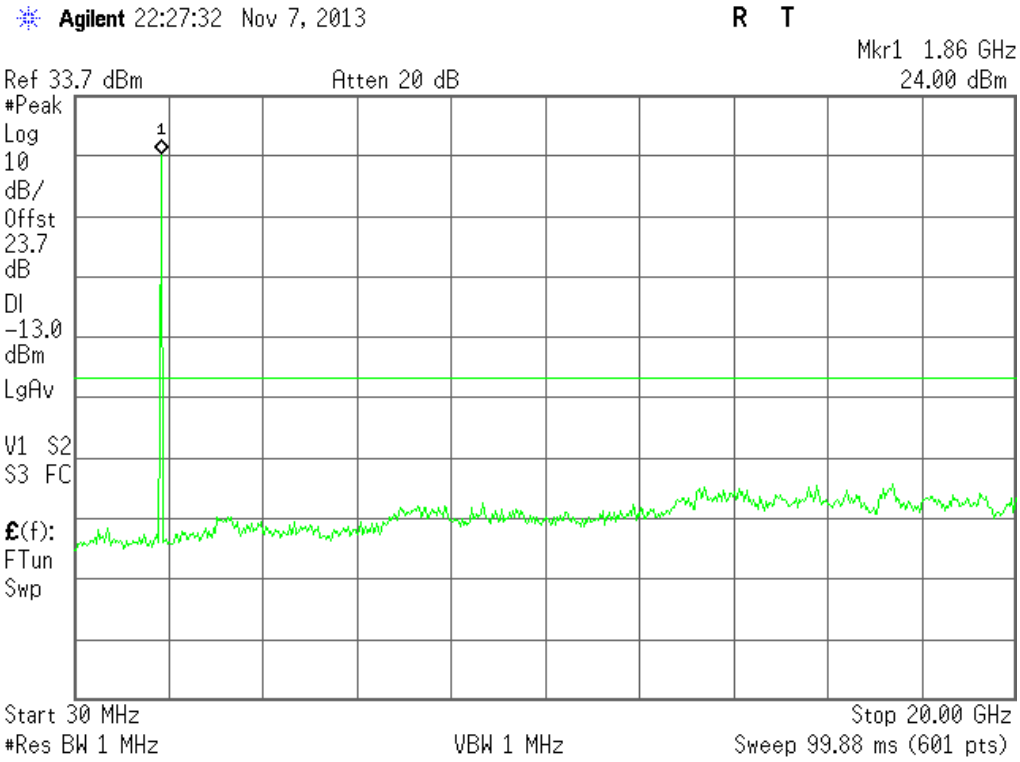


Figure 23-2: Out of Band emission at antenna terminals – HSDPA CH Mid

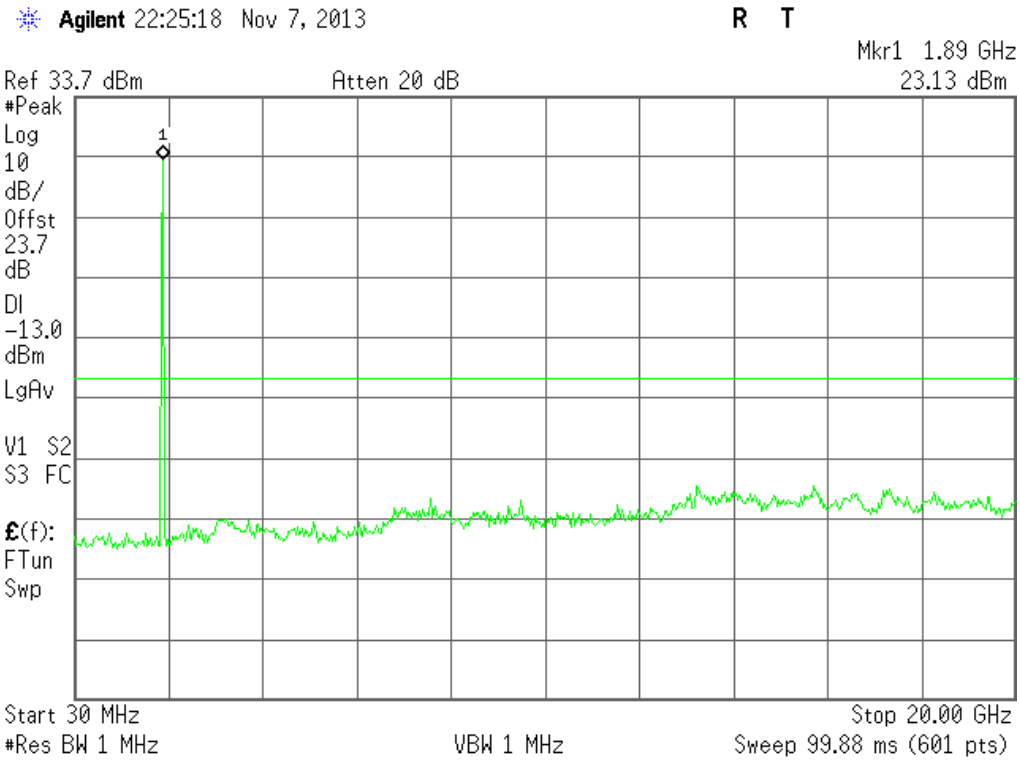
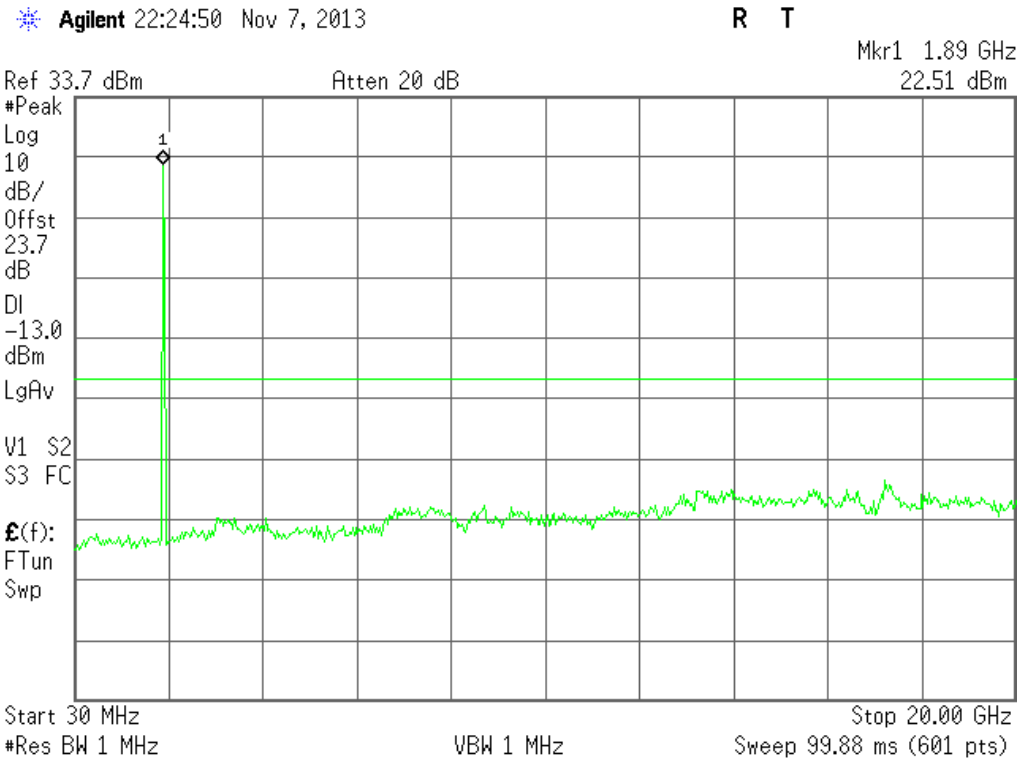


Figure 23-3: Out of Band emission at antenna terminals – HSDPA CH High



WCDMA / HSDPA Band V

Figure 21-1: Out of Band emission at antenna terminals – HSDPA CH Low

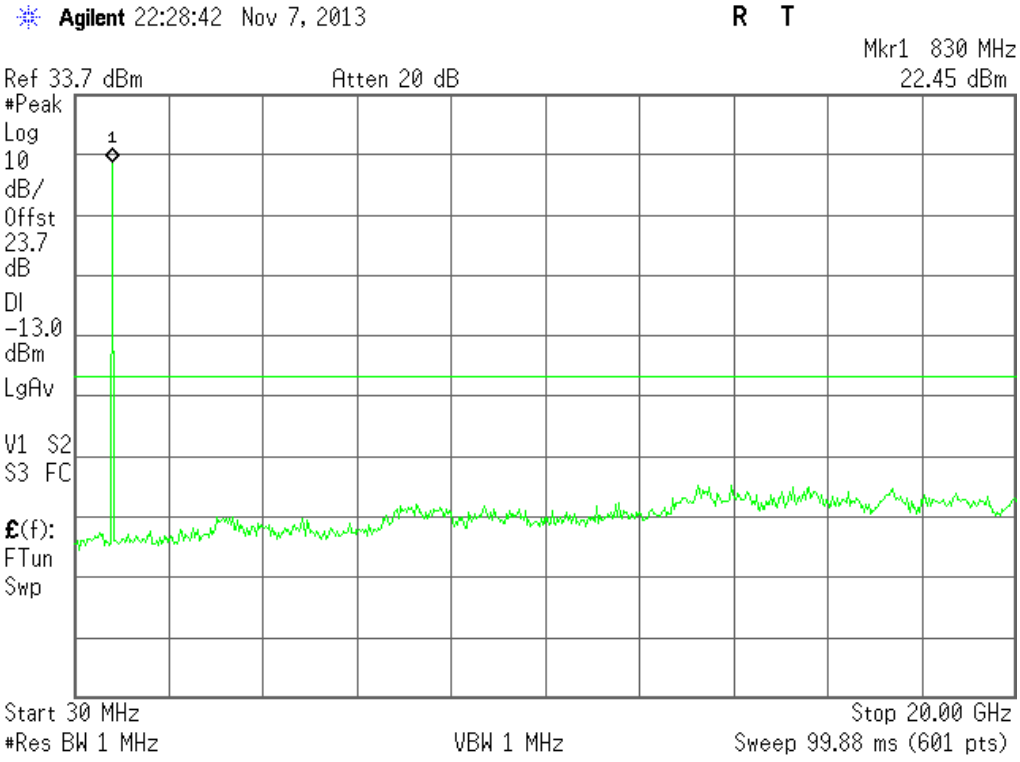


Figure 24-2: Out of Band emission at antenna terminals – HSDPA CH Mid

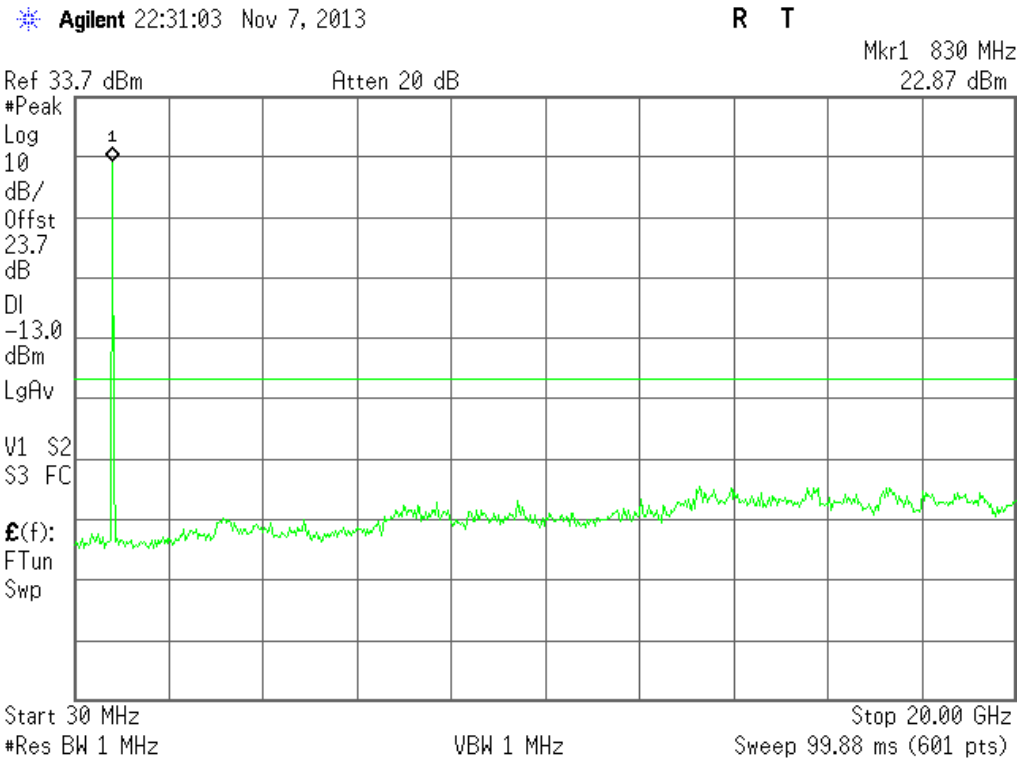
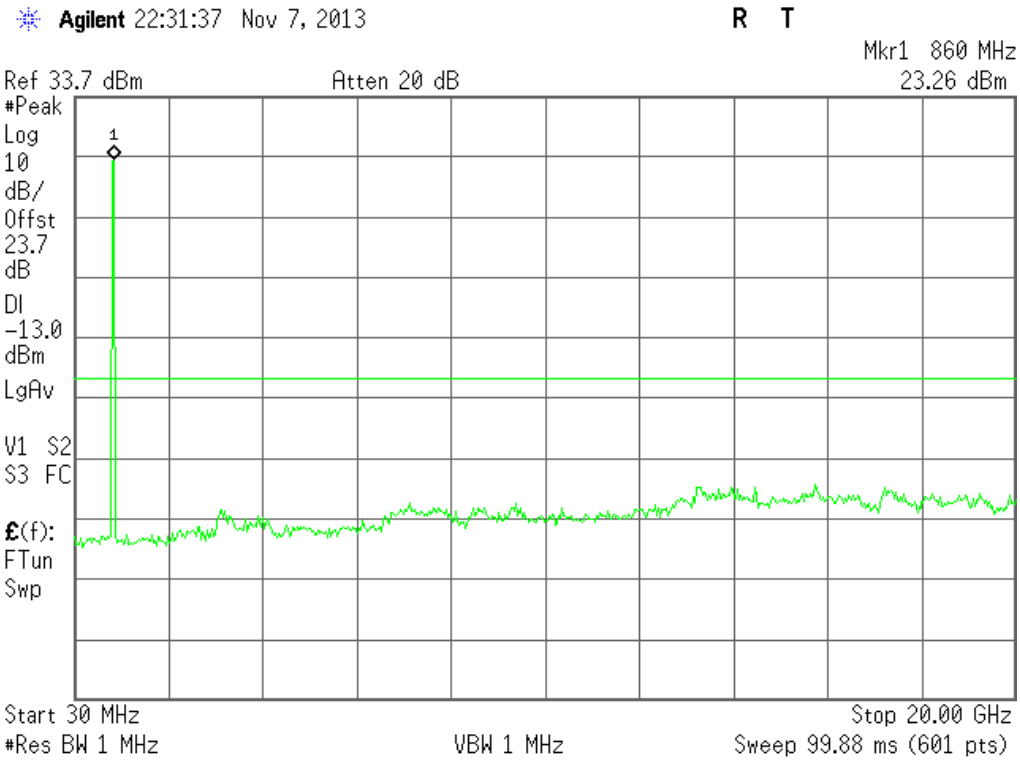


Figure 24-3: Out of Band emission at antenna terminals – HSDPA CH High



WCDMA / HSDPA Band II

Figure 25-1: Band Edge emissions – HSDPA CH Low

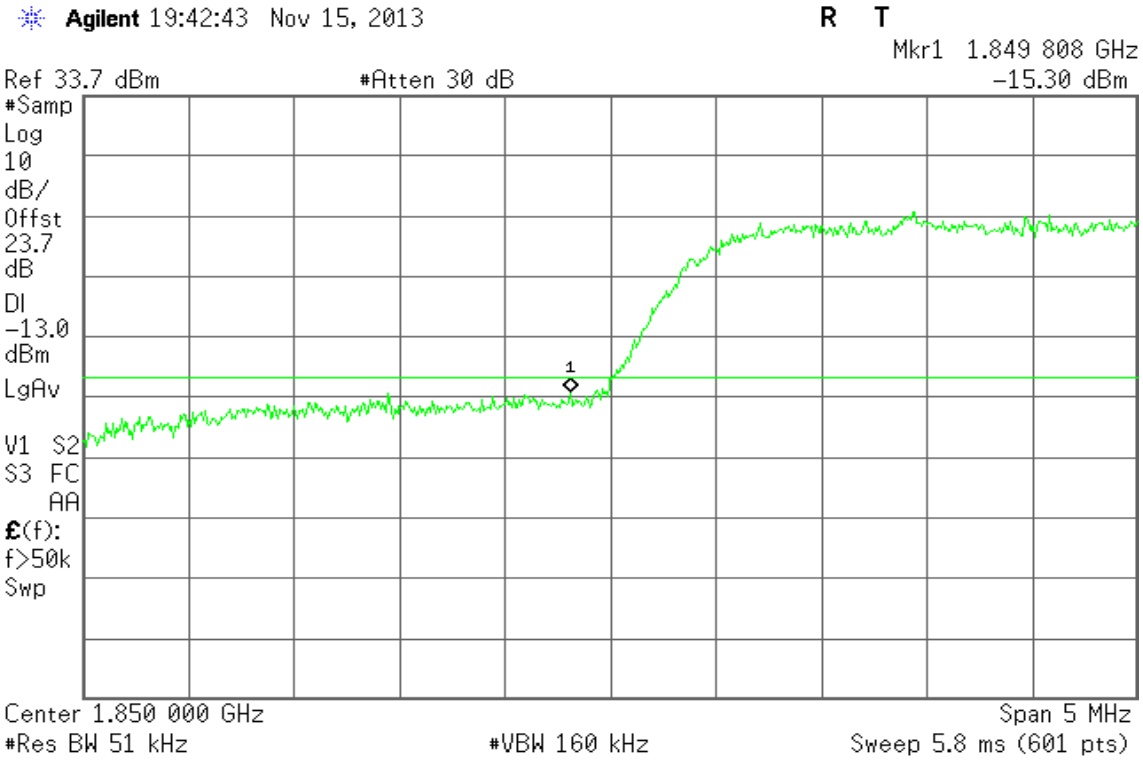
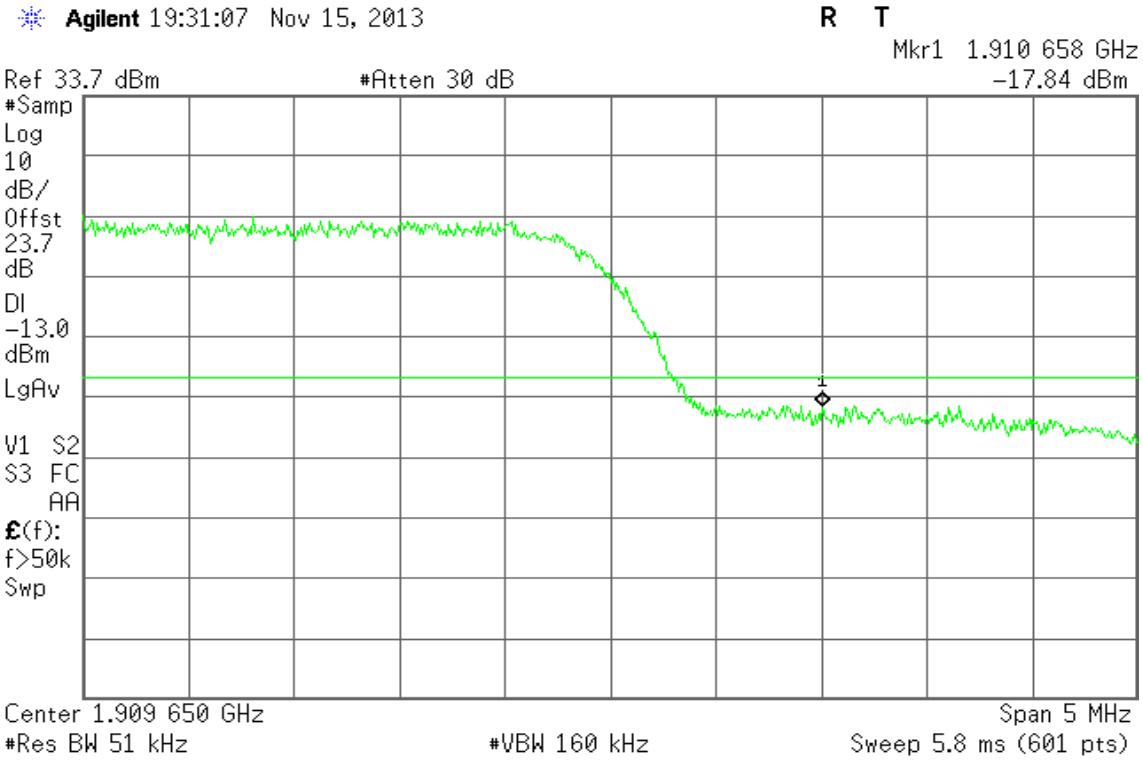


Figure 25-2: Band Edge emissions – HSDPA CH High



WCDMA / HSDPA Band V

Figure 26-1: Band Edge emissions – HSDPA CH Low

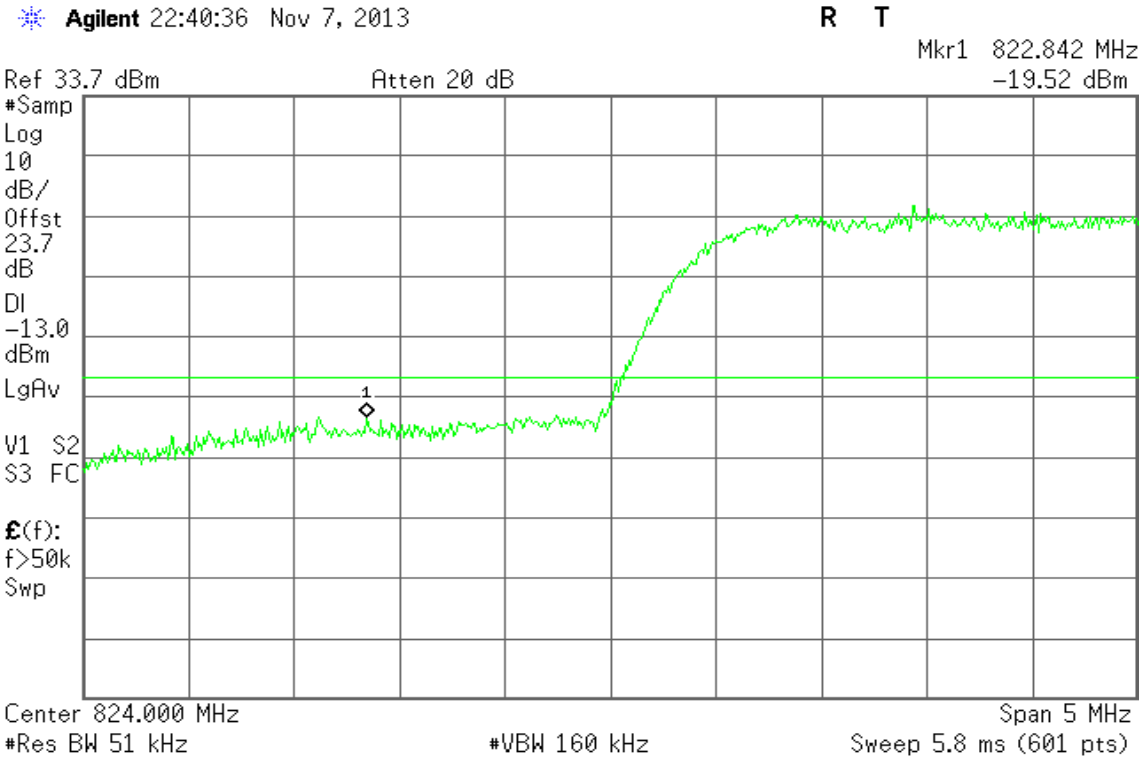
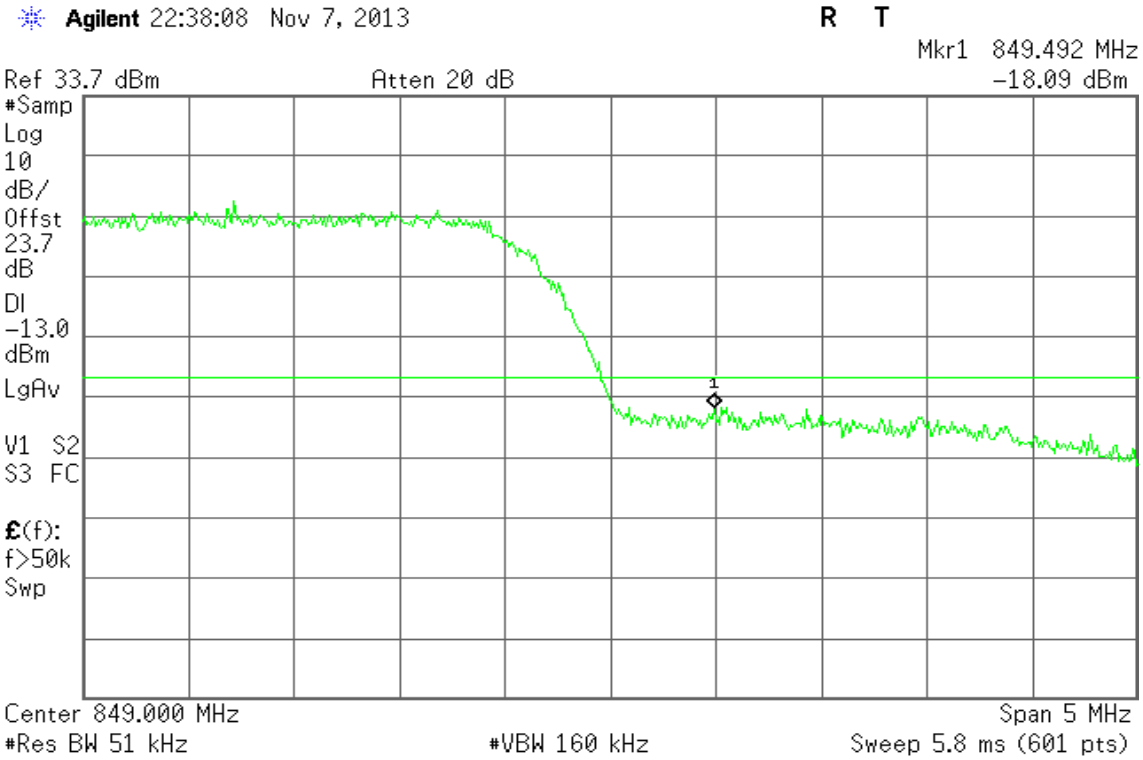


Figure 26-2: Band Edge emissions – HSDPA CH High



WCDMA / HSUPA Band II

Figure 27-1: Out of Band emission at antenna terminals – HSUPA CH Low

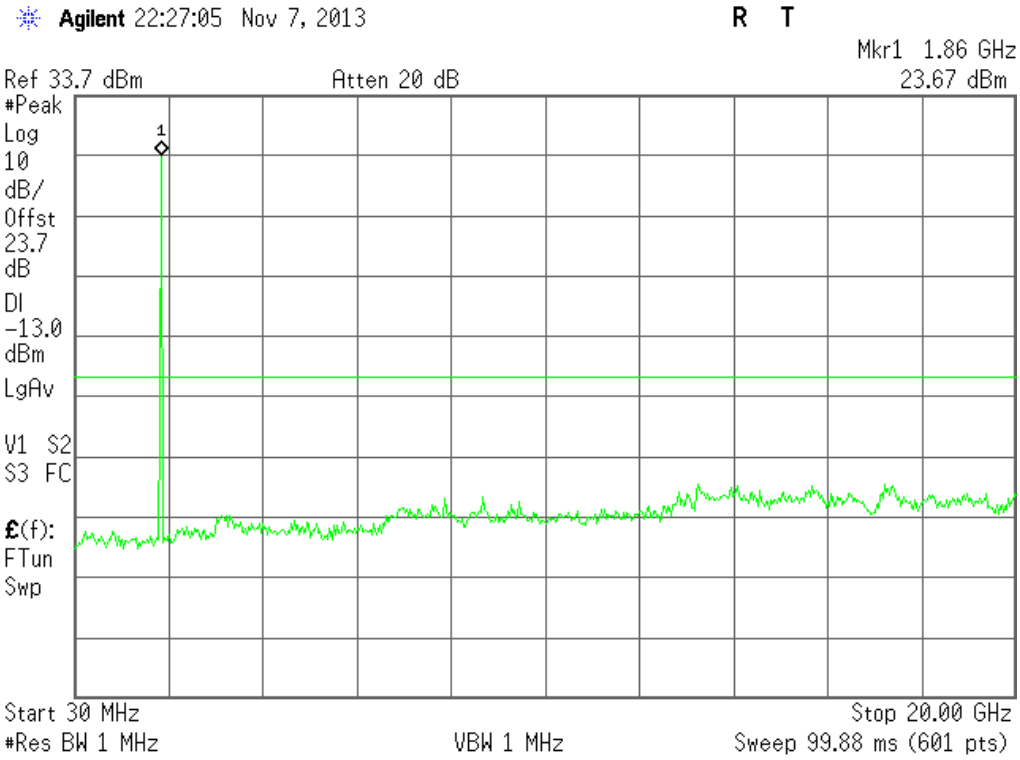


Figure 27-2: Out of Band emission at antenna terminals – HSUPA CH Mid

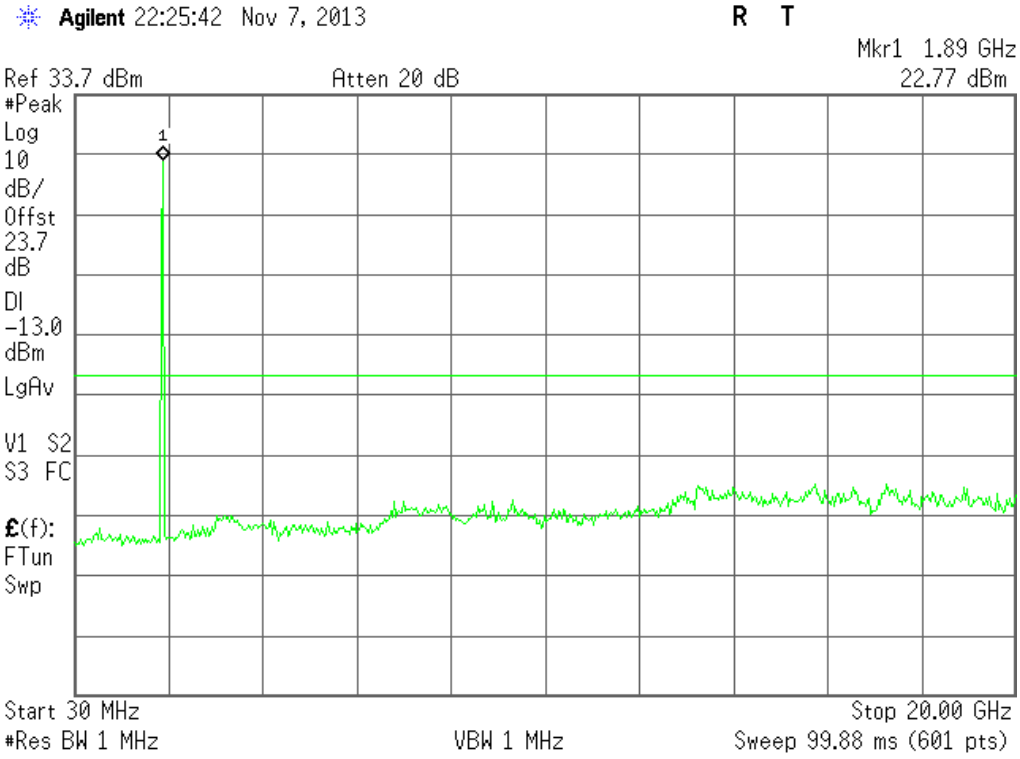
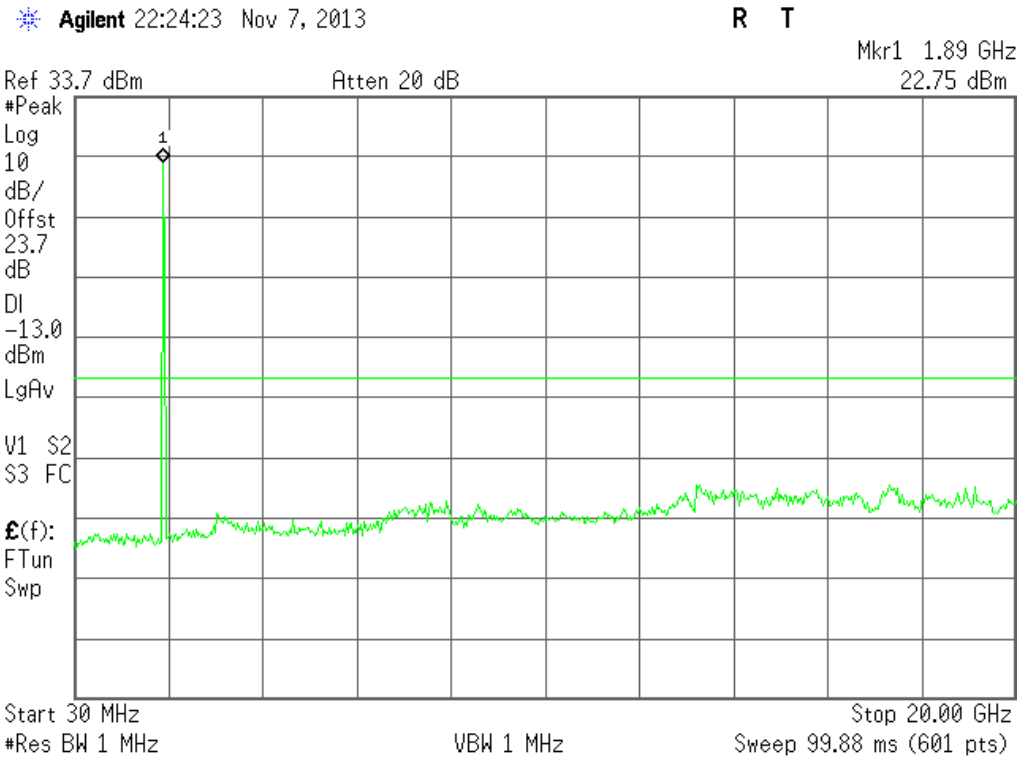


Figure 27-3: Out of Band emission at antenna terminals – HSUPA CH High



HSUPA / WCDMA Band V

Figure 28-1: Out of Band emission at antenna terminals – HSUPA CH Low

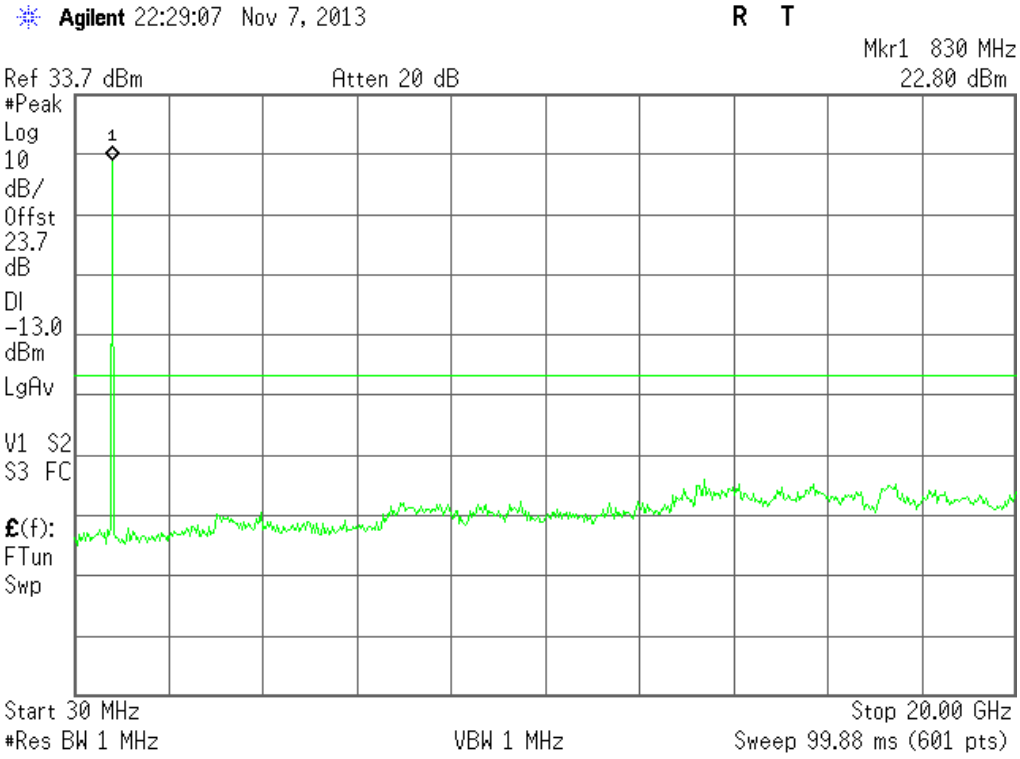


Figure 28-2: Out of Band emission at antenna terminals – HSUPA CH Mid

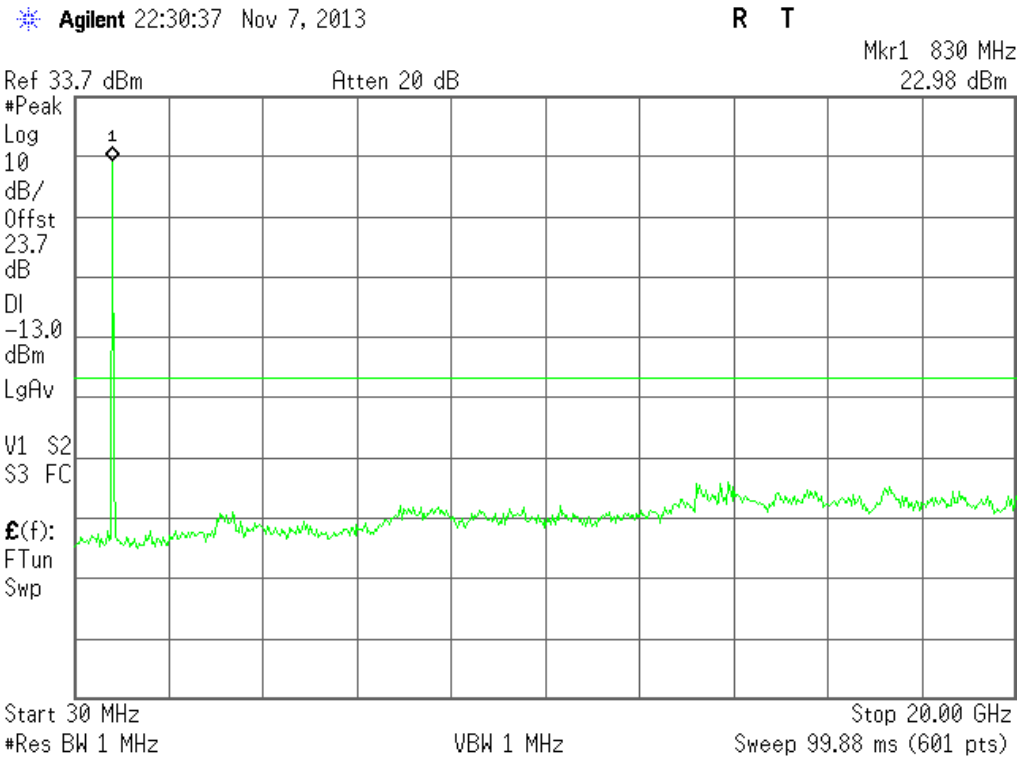
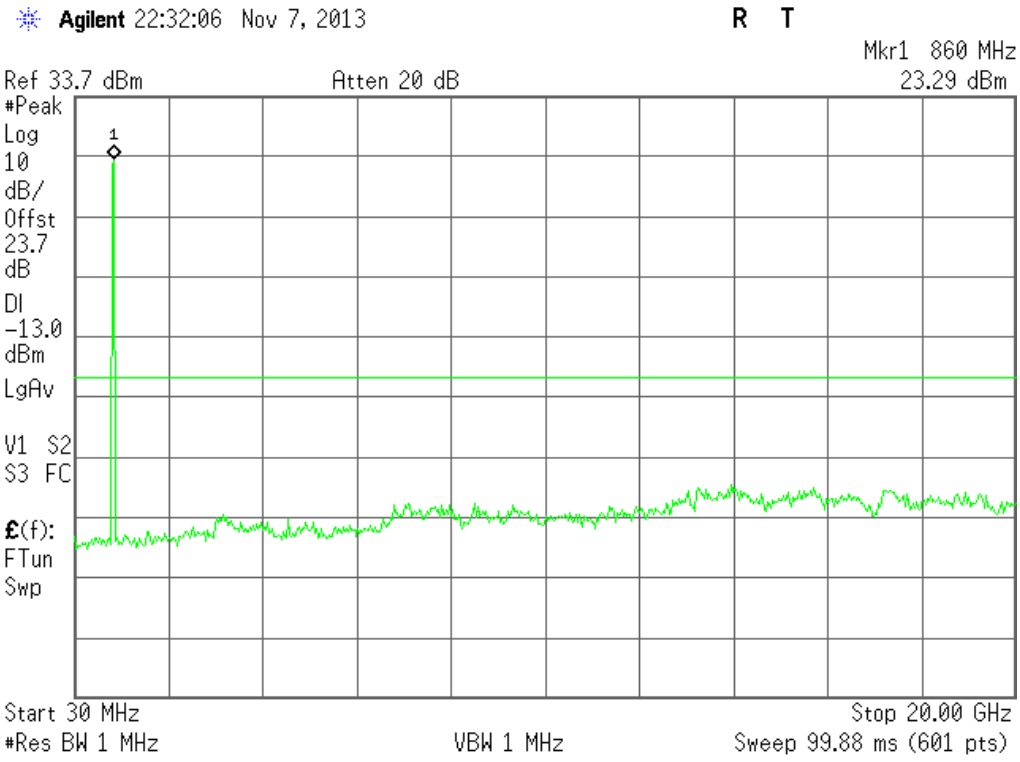


Figure 28-3: Out of Band emission at antenna terminals – HSUPA CH High



WCDMA / HSUPA Band II

Figure 29-1: Band Edge emissions – HSUPA CH Low

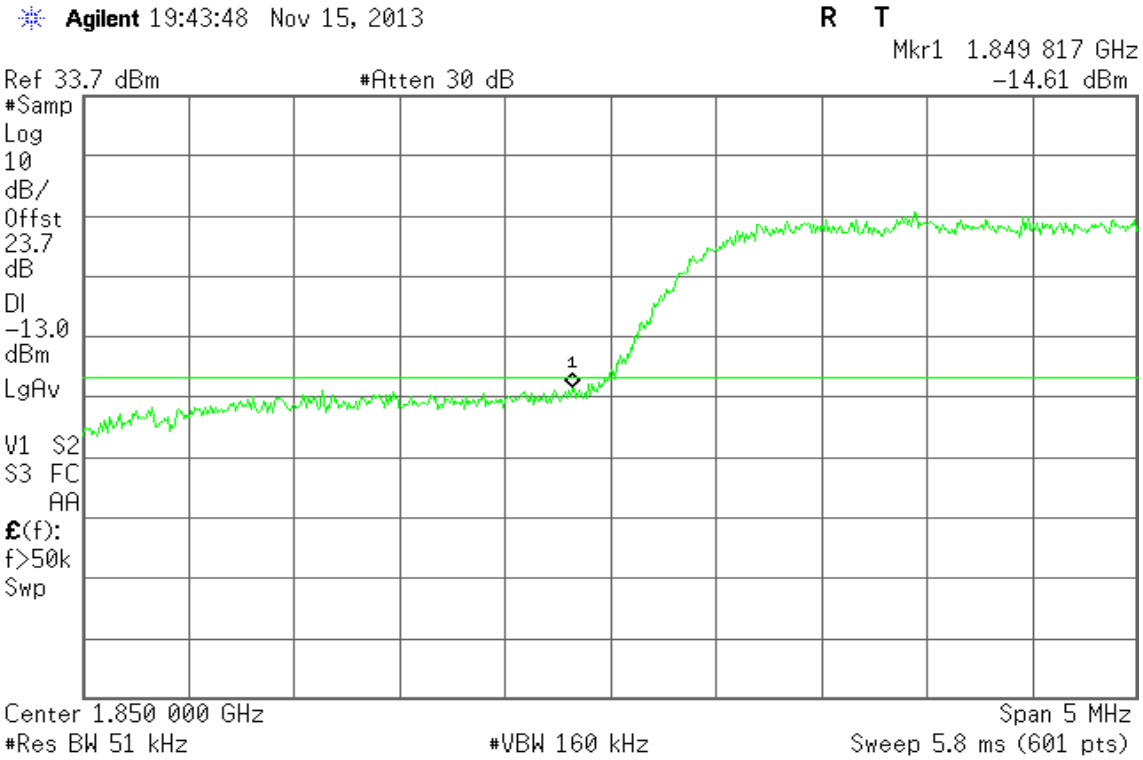
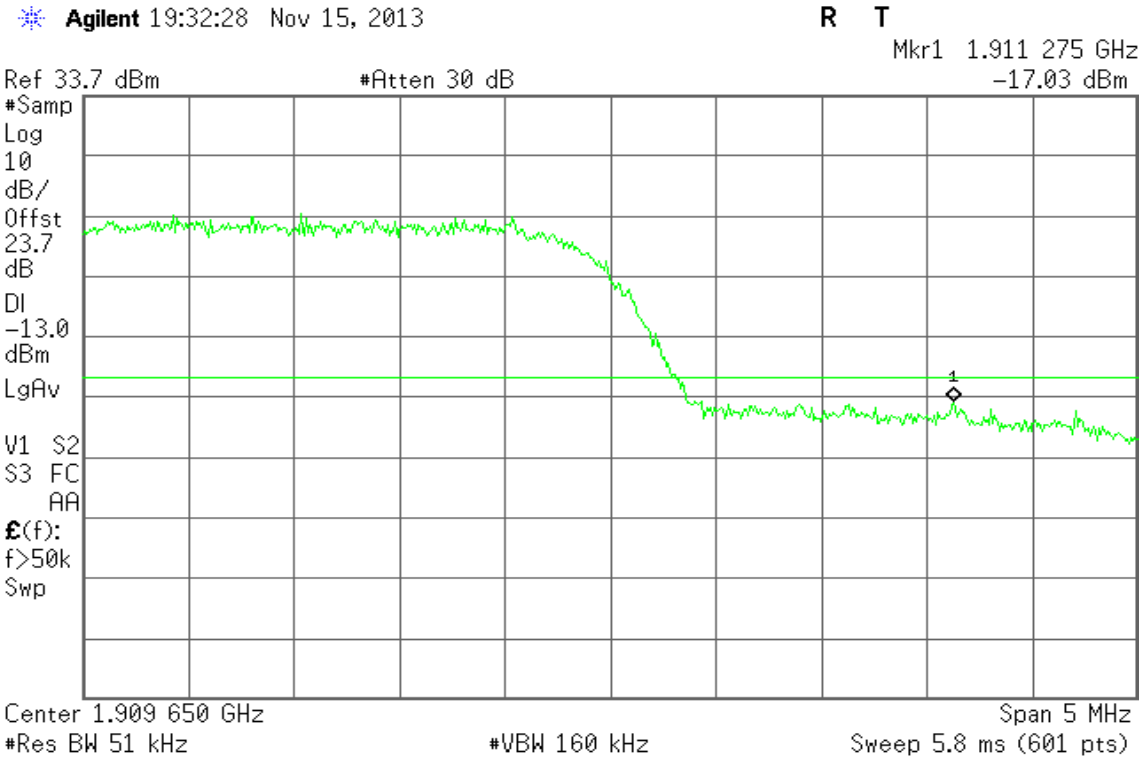


Figure 29-2: Band Edge emissions – HSUPA CH High



WCDMA / HSUPA Band V

Figure 30-1: Band Edge emissions – HSUPA CH Low

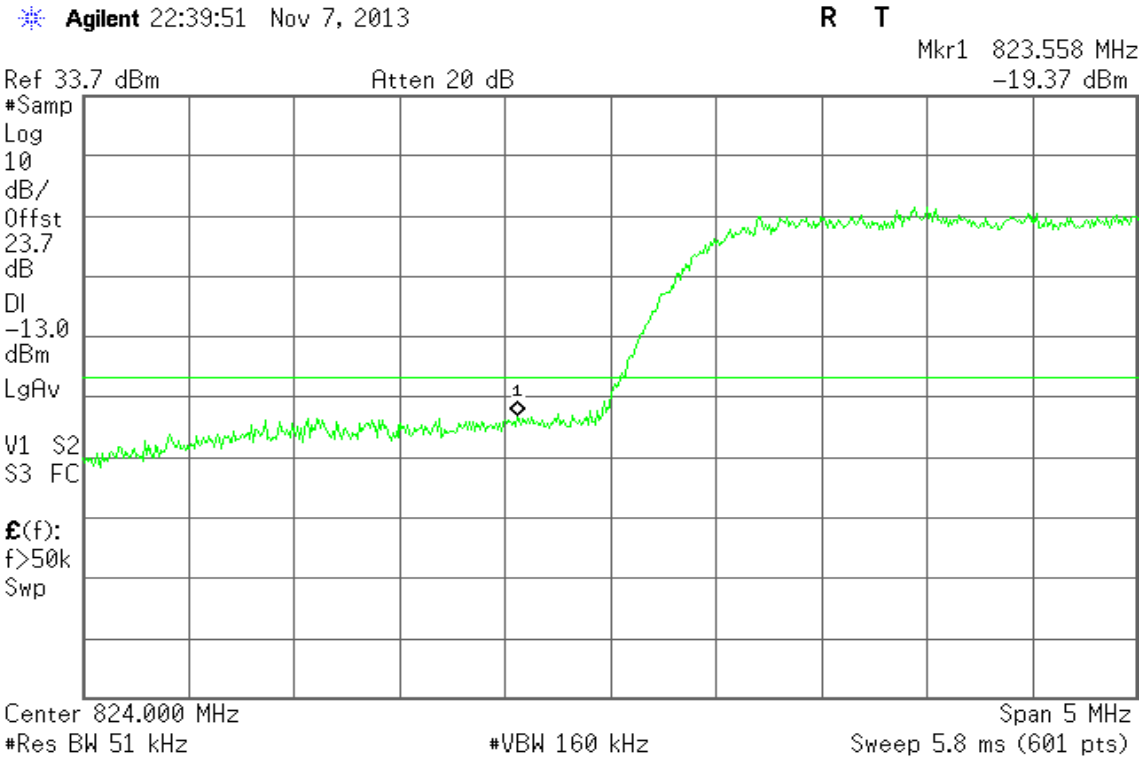
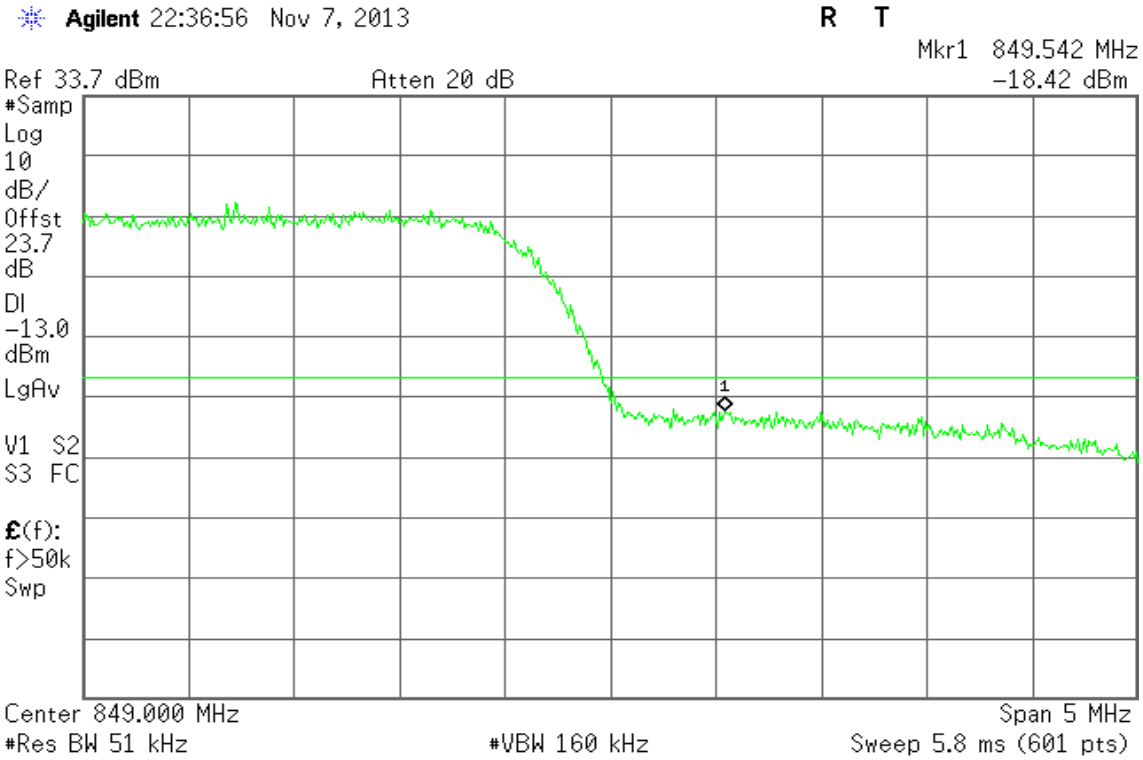


Figure 30-2: Band Edge emissions – HSUPA CH High



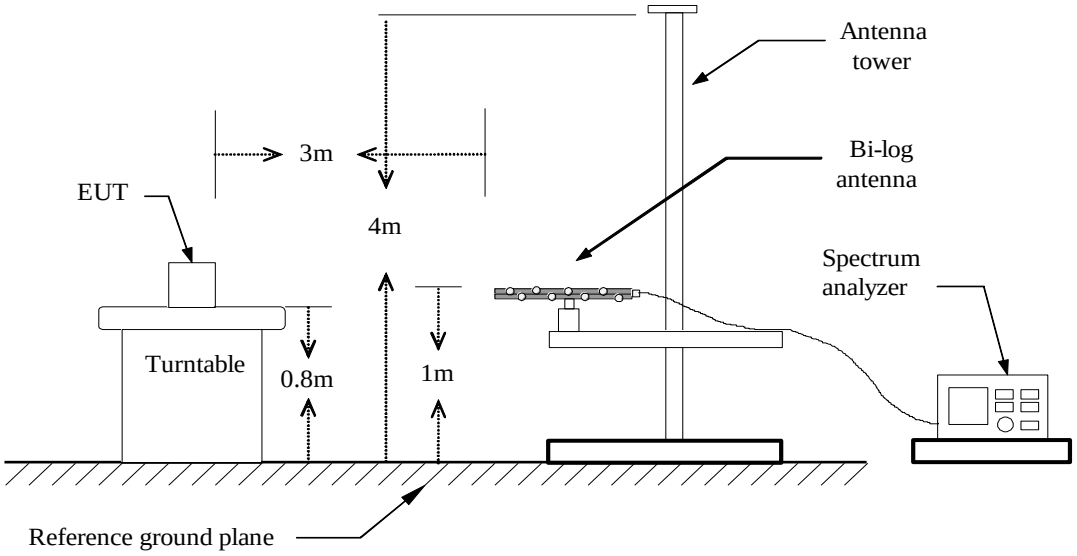
7.6FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

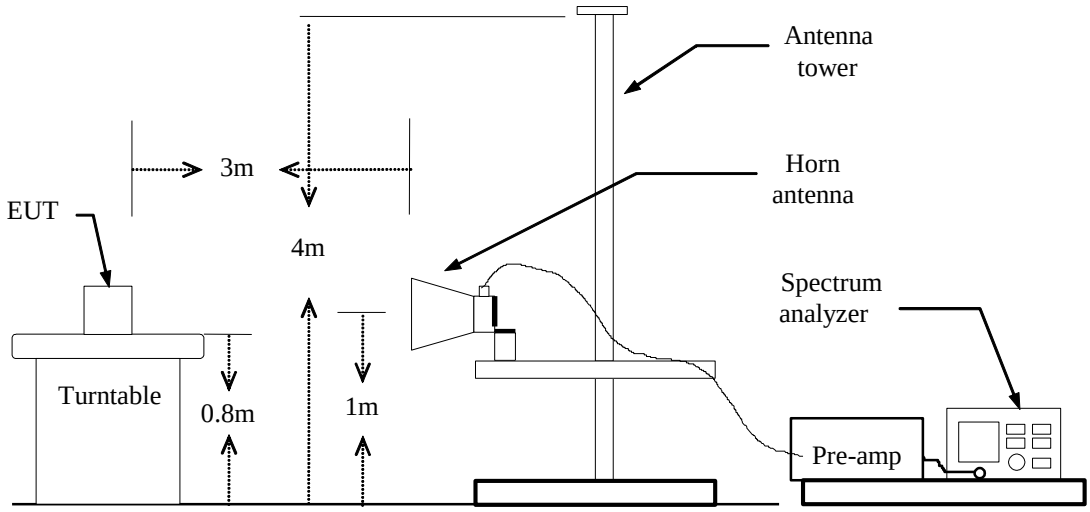
According to FCC §2.1053

Test Configuration

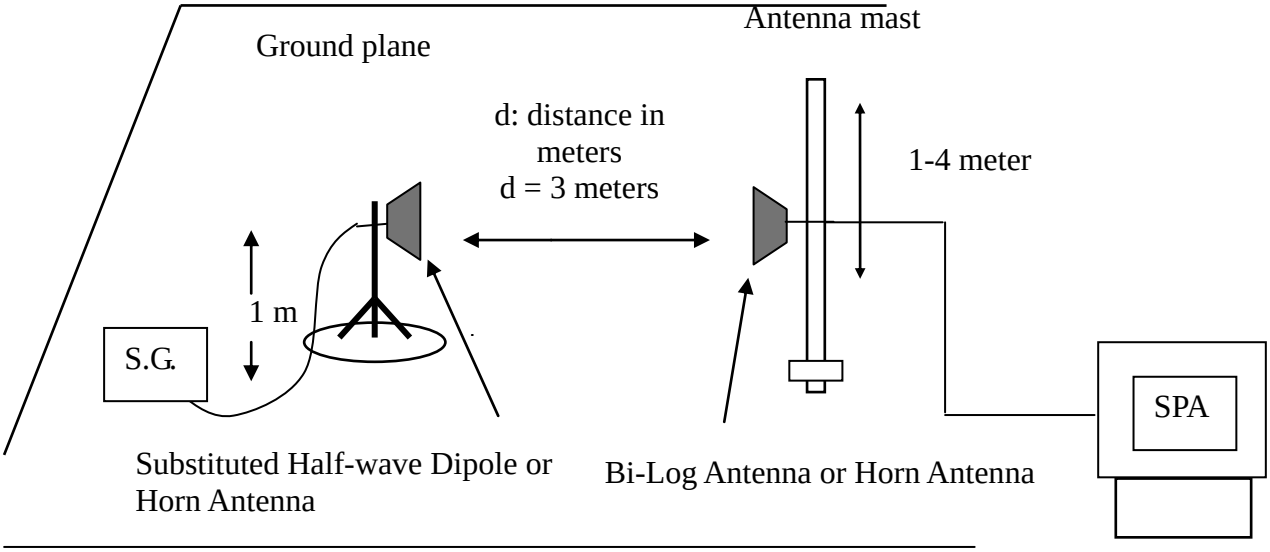
Below 1 GHz



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

Operation Mode: GSM 850 / TX / CH 128 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
93.0500	-57.48	1.12	0.74	-57.86	-13.00	-44.86	V
167.7400	-62.99	1.55	2.26	-62.28	-13.00	-49.28	V
216.2400	-71.08	1.74	5.36	-67.46	-13.00	-54.46	V
359.8000	-72.68	2.27	5.7	-69.25	-13.00	-56.25	V
524.7000	-62.31	2.73	6.05	-58.99	-13.00	-45.99	V
647.8900	-62.14	3.02	6.25	-58.91	-13.00	-45.91	V
93.0500	-52.66	1.12	0.74	-53.04	-13.00	-40.04	H
359.8000	-58.56	2.27	5.7	-55.13	-13.00	-42.13	H
431.5800	-67.01	2.5	5.81	-63.70	-13.00	-50.70	H
524.7000	-58.22	2.73	6.05	-54.90	-13.00	-41.90	H
600.3600	-65.48	2.9	6.4	-61.98	-13.00	-48.98	H
647.8900	-60.67	3.02	6.25	-57.44	-13.00	-44.44	H

Remark:

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

Operation Mode: GSM 850 / TX / CH 190 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
48.4300	-46.11	0.79	-5.83	-52.73	-13.00	-39.73	V
93.0500	-57.01	1.12	0.74	-57.39	-13.00	-44.39	V
167.7400	-62.5	1.55	2.26	-61.79	-13.00	-48.79	V
359.8000	-72.5	2.27	5.7	-69.07	-13.00	-56.07	V
524.7000	-62.6	2.73	6.05	-59.28	-13.00	-46.28	V
647.8900	-62.38	3.02	6.25	-59.15	-13.00	-46.15	V
93.0500	-53.07	1.12	0.74	-53.45	-13.00	-40.45	H
359.8000	-58.45	2.27	5.7	-55.02	-13.00	-42.02	H
493.6600	-63.12	2.68	5.83	-59.97	-13.00	-46.97	H
524.7000	-59.02	2.73	6.05	-55.70	-13.00	-42.70	H
599.3900	-64.6	2.9	6.39	-61.11	-13.00	-48.11	H
647.8900	-60.46	3.02	6.25	-57.23	-13.00	-44.23	H

Remark:

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

Operation Mode: GSM 850 / TX / CH 251 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
48.4300	-45.86	0.79	-5.83	-52.48	-13.00	-39.48	V
167.7400	-62.33	1.55	2.26	-61.62	-13.00	-48.62	V
216.2400	-71.03	1.74	5.36	-67.41	-13.00	-54.41	V
524.7000	-62.43	2.73	6.05	-59.11	-13.00	-46.11	V
600.3600	-70.45	2.9	6.4	-66.95	-13.00	-53.95	V
647.8900	-61.42	3.02	6.25	-58.19	-13.00	-45.19	V
93.0500	-52.69	1.12	0.74	-53.07	-13.00	-40.07	H
167.7400	-63.01	1.55	2.26	-62.30	-13.00	-49.30	H
359.8000	-58.32	2.27	5.7	-54.89	-13.00	-41.89	H
524.7000	-58.13	2.73	6.05	-54.81	-13.00	-41.81	H
600.3600	-62.48	2.9	6.4	-58.98	-13.00	-45.98	H
647.8900	-59.96	3.02	6.25	-56.73	-13.00	-43.73	H

Remark:

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

Operation Mode: GPRS 850 / TX / CH 128 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
48.4300	-46.39	0.79	-5.83	-53.01	-13.00	-40.01	V
93.0500	-57.23	1.12	0.74	-57.61	-13.00	-44.61	V
167.7400	-62.1	1.55	2.26	-61.39	-13.00	-48.39	V
524.7000	-62.4	2.73	6.05	-59.08	-13.00	-46.08	V
599.3900	-68.49	2.9	6.39	-65.00	-13.00	-52.00	V
647.8900	-61.92	3.02	6.25	-58.69	-13.00	-45.69	V
93.0500	-52.55	1.12	0.74	-52.93	-13.00	-39.93	H
359.8000	-58.05	2.27	5.7	-54.62	-13.00	-41.62	H
431.5800	-66.47	2.5	5.81	-63.16	-13.00	-50.16	H
524.7000	-58.74	2.73	6.05	-55.42	-13.00	-42.42	H
599.3900	-64.48	2.9	6.39	-60.99	-13.00	-47.99	H
647.8900	-60.17	3.02	6.25	-56.94	-13.00	-43.94	H

Remark:

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

Operation Mode: GPRS 850 / TX / CH 190 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
93.0500	-57.07	1.12	0.74	-57.45	-13.00	-44.45	V
167.7400	-62.62	1.55	2.26	-61.91	-13.00	-48.91	V
277.3500	-69.86	2	5.25	-66.61	-13.00	-53.61	V
493.6600	-67.49	2.68	5.83	-64.34	-13.00	-51.34	V
524.7000	-62.42	2.73	6.05	-59.10	-13.00	-46.10	V
600.3600	-68.97	2.9	6.4	-65.47	-13.00	-52.47	V
93.0500	-52.93	1.12	0.74	-53.31	-13.00	-40.31	H
359.8000	-58.29	2.27	5.7	-54.86	-13.00	-41.86	H
493.6600	-62.7	2.68	5.83	-59.55	-13.00	-46.55	H
524.7000	-58.98	2.73	6.05	-55.66	-13.00	-42.66	H
600.3600	-63.88	2.9	6.4	-60.38	-13.00	-47.38	H
647.8900	-60.66	3.02	6.25	-57.43	-13.00	-44.43	H

Remark:

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

Operation Mode: GPRS 850 / TX / CH 251 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
48.4300	-45.85	0.79	-5.83	-52.47	-13.00	-39.47	V
93.0500	-57.59	1.12	0.74	-57.97	-13.00	-44.97	V
167.7400	-62.51	1.55	2.26	-61.80	-13.00	-48.80	V
524.7000	-62.4	2.73	6.05	-59.08	-13.00	-46.08	V
600.3600	-70.16	2.9	6.4	-66.66	-13.00	-53.66	V
647.8900	-62.55	3.02	6.25	-59.32	-13.00	-46.32	V
93.0500	-51.94	1.12	0.74	-52.32	-13.00	-39.32	H
120.2100	-58.02	1.27	-2.06	-61.35	-13.00	-48.35	H
359.8000	-58.1	2.27	5.7	-54.67	-13.00	-41.67	H
431.5800	-66.95	2.5	5.81	-63.64	-13.00	-50.64	H
524.7000	-58.46	2.73	6.05	-55.14	-13.00	-42.14	H
647.8900	-59.85	3.02	6.25	-56.62	-13.00	-43.62	H

Remark:

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

Operation Mode: GSM 1900 / TX / CH 512 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
101.7800	-63.63	1.16	-0.64	-65.43	-13.00	-52.43	V
150.2800	-66.34	1.43	0.71	-67.06	-13.00	-54.06	V
357.8600	-78.08	2.26	5.72	-74.62	-13.00	-61.62	V
480.0800	-74.03	2.64	5.54	-71.13	-13.00	-58.13	V
678.9300	-78.39	3.09	6.48	-75.00	-13.00	-62.00	V
771.0800	-71.67	3.27	6.35	-68.59	-13.00	-55.59	V
84.3200	-61.38	1.07	0.39	-62.06	-13.00	-49.06	H
120.2100	-61.09	1.27	-2.06	-64.42	-13.00	-51.42	H
357.8600	-73.07	2.26	5.72	-69.61	-13.00	-56.61	H
524.7000	-68.84	2.73	6.05	-65.52	-13.00	-52.52	H
740.0400	-72.11	3.21	6.11	-69.21	-13.00	-56.21	H
802.1200	-69.29	3.33	6.51	-66.11	-13.00	-53.11	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: GSM 1900 / TX / CH 661 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
95.9600	-64.13	1.13	0.26	-65.00	-13.00	-52.00	V
330.7000	-81.17	2.16	5.71	-77.62	-13.00	-64.62	V
345.2500	-76.58	2.2	5.8	-72.98	-13.00	-59.98	V
524.7000	-73.51	2.73	6.05	-70.19	-13.00	-57.19	V
678.9300	-78.27	3.09	6.48	-74.88	-13.00	-61.88	V
771.0800	-71.58	3.27	6.35	-68.50	-13.00	-55.50	V
84.3200	-62.52	1.07	0.39	-63.20	-13.00	-50.20	H
345.2500	-72.64	2.2	5.8	-69.04	-13.00	-56.04	H
524.7000	-65.86	2.73	6.05	-62.54	-13.00	-49.54	H
555.7400	-75.91	2.83	6.09	-72.65	-13.00	-59.65	H
771.0800	-70.16	3.27	6.35	-67.08	-13.00	-54.08	H
802.1200	-68.54	3.33	6.51	-65.36	-13.00	-52.36	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: GSM 1900 / TX / CH 810 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
95.9600	-65.18	1.13	0.26	-66.05	-13.00	-53.05	V
150.2800	-66.38	1.43	0.71	-67.10	-13.00	-54.10	V
342.3400	-77.82	2.18	5.8	-74.20	-13.00	-61.20	V
493.6600	-74.59	2.68	5.83	-71.44	-13.00	-58.44	V
709.9700	-76.81	3.14	6.32	-73.63	-13.00	-60.63	V
771.0800	-72.54	3.27	6.35	-69.46	-13.00	-56.46	V
84.3200	-61.44	1.07	0.39	-62.12	-13.00	-49.12	H
120.2100	-61.82	1.27	-2.06	-65.15	-13.00	-52.15	H
345.2500	-71.53	2.2	5.8	-67.93	-13.00	-54.93	H
468.4400	-74.07	2.62	5.8	-70.89	-13.00	-57.89	H
524.7000	-70.66	2.73	6.05	-67.34	-13.00	-54.34	H
802.1200	-67.9	3.33	6.51	-64.72	-13.00	-51.72	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: GPRS 1900 / TX / CH 512 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
95.9600	-64.33	1.13	0.26	-65.20	-13.00	-52.20	V
150.2800	-65.71	1.43	0.71	-66.43	-13.00	-53.43	V
352.0400	-77.26	2.24	5.78	-73.72	-13.00	-60.72	V
462.6200	-78.19	2.61	5.85	-74.95	-13.00	-61.95	V
524.7000	-74.47	2.73	6.05	-71.15	-13.00	-58.15	V
802.1200	-70.69	3.33	6.51	-67.51	-13.00	-54.51	V
84.3200	-61.35	1.07	0.39	-62.03	-13.00	-49.03	H
345.2500	-71.25	2.2	5.8	-67.65	-13.00	-54.65	H
480.0800	-69.8	2.64	5.54	-66.90	-13.00	-53.90	H
524.7000	-69.57	2.73	6.05	-66.25	-13.00	-53.25	H
802.1200	-68.65	3.33	6.51	-65.47	-13.00	-52.47	H
833.1600	-72.18	3.4	6.33	-69.25	-13.00	-56.25	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: GPRS 1900 / TX / CH 661 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
95.9600	-64.98	1.13	0.26	-65.85	-13.00	-52.85	V
150.2800	-66.39	1.43	0.71	-67.11	-13.00	-54.11	V
345.2500	-76.76	2.2	5.8	-73.16	-13.00	-60.16	V
480.0800	-75.85	2.64	5.54	-72.95	-13.00	-59.95	V
524.7000	-74.04	2.73	6.05	-70.72	-13.00	-57.72	V
771.0800	-70.8	3.27	6.35	-67.72	-13.00	-54.72	V
95.9600	-63.44	1.13	0.26	-64.31	-13.00	-51.31	H
240.4900	-75.62	1.81	5.34	-72.09	-13.00	-59.09	H
345.2500	-72.15	2.2	5.8	-68.55	-13.00	-55.55	H
480.0800	-68.73	2.64	5.54	-65.83	-13.00	-52.83	H
524.7000	-68.7	2.73	6.05	-65.38	-13.00	-52.38	H
802.1200	-68.67	3.33	6.51	-65.49	-13.00	-52.49	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: GPRS 1900 / TX / CH 810 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
95.9600	-64.65	1.13	0.26	-65.52	-13.00	-52.52	V
138.6400	-63.77	1.39	-0.38	-65.54	-13.00	-52.54	V
480.0800	-74.04	2.64	5.54	-71.14	-13.00	-58.14	V
524.7000	-74.71	2.73	6.05	-71.39	-13.00	-58.39	V
771.0800	-71.81	3.27	6.35	-68.73	-13.00	-55.73	V
802.1200	-71.99	3.33	6.51	-68.81	-13.00	-55.81	V
35.8200	-41.34	0.69	-16.52	-58.55	-13.00	-45.55	H
84.3200	-62.03	1.07	0.39	-62.71	-13.00	-49.71	H
346.2200	-73.51	2.21	5.8	-69.92	-13.00	-56.92	H
493.6600	-71.06	2.68	5.83	-67.91	-13.00	-54.91	H
524.7000	-68.79	2.73	6.05	-65.47	-13.00	-52.47	H
802.1200	-70.4	3.33	6.51	-67.22	-13.00	-54.22	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: EDGE 850 / TX / CH 128 **Test Date:** November 13, 2013

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

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)
48.4300	-46.19	0.79	-5.83	-52.81	-13.00	-39.81	V
93.0500	-57.22	1.12	0.74	-57.60	-13.00	-44.60	V
167.7400	-62.48	1.55	2.26	-61.77	-13.00	-48.77	V
277.3500	-69.72	2	5.25	-66.47	-13.00	-53.47	V
524.7000	-62.4	2.73	6.05	-59.08	-13.00	-46.08	V
647.8900	-62.25	3.02	6.25	-59.02	-13.00	-46.02	V
48.4300	-48.06	0.79	-5.83	-54.68	-13.00	-41.68	H
93.0500	-53.08	1.12	0.74	-53.46	-13.00	-40.46	H
359.8000	-58.36	2.27	5.7	-54.93	-13.00	-41.93	H
493.6600	-62.68	2.68	5.83	-59.53	-13.00	-46.53	H
524.7000	-58.98	2.73	6.05	-55.66	-13.00	-42.66	H
647.8900	-60.64	3.02	6.25	-57.41	-13.00	-44.41	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: EDGE 850 / TX / CH 190 **Test Date:** November 13, 2013

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

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)
48.4300	-46.06	0.79	-5.83	-52.68	-13.00	-39.68	V
93.0500	-57.03	1.12	0.74	-57.41	-13.00	-44.41	V
167.7400	-62.73	1.55	2.26	-62.02	-13.00	-49.02	V
277.3500	-69.09	2	5.25	-65.84	-13.00	-52.84	V
524.7000	-62.75	2.73	6.05	-59.43	-13.00	-46.43	V
647.8900	-62.52	3.02	6.25	-59.29	-13.00	-46.29	V
93.0500	-52.88	1.12	0.74	-53.26	-13.00	-40.26	H
185.2000	-65.57	1.61	3.81	-63.37	-13.00	-50.37	H
359.8000	-58.84	2.27	5.7	-55.41	-13.00	-42.41	H
493.6600	-62.45	2.68	5.83	-59.30	-13.00	-46.30	H
524.7000	-59.17	2.73	6.05	-55.85	-13.00	-42.85	H
647.8900	-60.55	3.02	6.25	-57.32	-13.00	-44.32	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: EDGE 850 / TX / CH 251 **Test Date:** November 13, 2013

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

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)
93.0500	-57.17	1.12	0.74	-57.55	-13.00	-44.55	V
167.7400	-63.25	1.55	2.26	-62.54	-13.00	-49.54	V
277.3500	-69.52	2	5.25	-66.27	-13.00	-53.27	V
524.7000	-61.85	2.73	6.05	-58.53	-13.00	-45.53	V
600.3600	-69.15	2.9	6.4	-65.65	-13.00	-52.65	V
647.8900	-61.94	3.02	6.25	-58.71	-13.00	-45.71	V
93.0500	-52.3	1.12	0.74	-52.68	-13.00	-39.68	H
216.2400	-68.64	1.74	5.36	-65.02	-13.00	-52.02	H
359.8000	-58.38	2.27	5.7	-54.95	-13.00	-41.95	H
524.7000	-58.74	2.73	6.05	-55.42	-13.00	-42.42	H
600.3600	-61.02	2.9	6.4	-57.52	-13.00	-44.52	H
647.8900	-59.92	3.02	6.25	-56.69	-13.00	-43.69	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: EDGE 1900 / TX / CH 512 **Test Date:** November 13, 2013

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

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)
95.9600	-64.83	1.13	0.26	-65.70	-13.00	-52.70	V
138.6400	-63.65	1.39	-0.38	-65.42	-13.00	-52.42	V
345.2500	-77.92	2.2	5.8	-74.32	-13.00	-61.32	V
493.6600	-75.28	2.68	5.83	-72.13	-13.00	-59.13	V
599.3900	-75.6	2.9	6.39	-72.11	-13.00	-59.11	V
771.0800	-71.83	3.27	6.35	-68.75	-13.00	-55.75	V
84.3200	-61.84	1.07	0.39	-62.52	-13.00	-49.52	H
345.2500	-70.78	2.2	5.8	-67.18	-13.00	-54.18	H
524.7000	-69.16	2.73	6.05	-65.84	-13.00	-52.84	H
678.9300	-74.62	3.09	6.48	-71.23	-13.00	-58.23	H
771.0800	-70.56	3.27	6.35	-67.48	-13.00	-54.48	H
802.1200	-68.6	3.33	6.51	-65.42	-13.00	-52.42	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: EDGE 1900 / TX / CH 661 **Test Date:** November 13, 2013

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

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)
84.3200	-65.25	1.07	0.39	-65.93	-13.00	-52.93	V
150.2800	-66.48	1.43	0.71	-67.20	-13.00	-54.20	V
524.7000	-72.23	2.73	6.05	-68.91	-13.00	-55.91	V
678.9300	-77.4	3.09	6.48	-74.01	-13.00	-61.01	V
771.0800	-72.02	3.27	6.35	-68.94	-13.00	-55.94	V
802.1200	-72.09	3.33	6.51	-68.91	-13.00	-55.91	V
84.3200	-62.09	1.07	0.39	-62.77	-13.00	-49.77	H
217.2100	-75.65	1.74	5.35	-72.04	-13.00	-59.04	H
345.2500	-73.1	2.2	5.8	-69.50	-13.00	-56.50	H
480.0800	-70.68	2.64	5.54	-67.78	-13.00	-54.78	H
524.7000	-71.22	2.73	6.05	-67.90	-13.00	-54.90	H
802.1200	-69.78	3.33	6.51	-66.60	-13.00	-53.60	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: EDGE 1900 / TX / CH 810 **Test Date:** November 13, 2013

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

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)
95.9600	-64.37	1.13	0.26	-65.24	-13.00	-52.24	V
138.6400	-64.98	1.39	-0.38	-66.75	-13.00	-53.75	V
345.2500	-76.96	2.2	5.8	-73.36	-13.00	-60.36	V
480.0800	-75.18	2.64	5.54	-72.28	-13.00	-59.28	V
524.7000	-74.09	2.73	6.05	-70.77	-13.00	-57.77	V
771.0800	-71.19	3.27	6.35	-68.11	-13.00	-55.11	V
84.3200	-61.51	1.07	0.39	-62.19	-13.00	-49.19	H
345.2500	-73.14	2.2	5.8	-69.54	-13.00	-56.54	H
480.0800	-70.91	2.64	5.54	-68.01	-13.00	-55.01	H
524.7000	-70.1	2.73	6.05	-66.78	-13.00	-53.78	H
741.0100	-70.83	3.21	6.1	-67.94	-13.00	-54.94	H
802.1200	-69.72	3.33	6.51	-66.54	-13.00	-53.54	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: WCDMA Band II / TX / CH 9262 **Test Date:** November 18, 2013

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

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)
60.0700	-62.42	0.88	-2.19	-65.49	-13.00	-52.49	V
150.2800	-61.67	1.43	0.71	-62.39	-13.00	-49.39	V
171.6200	-70.82	1.57	2.69	-69.70	-13.00	-56.70	V
448.0700	-74.63	2.58	5.74	-71.47	-13.00	-58.47	V
600.3600	-71.99	2.9	6.4	-68.49	-13.00	-55.49	V
771.0800	-71.28	3.27	6.35	-68.20	-13.00	-55.20	V
62.0100	-58	0.89	-2.1	-60.99	-13.00	-47.99	H
150.2800	-56.99	1.43	0.71	-57.71	-13.00	-44.71	H
216.2400	-65.17	1.74	5.36	-61.55	-13.00	-48.55	H
399.5700	-64.76	2.39	5.98	-61.17	-13.00	-48.17	H
599.3900	-66.92	2.9	6.39	-63.43	-13.00	-50.43	H
771.0800	-68.72	3.27	6.35	-65.64	-13.00	-52.64	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: WCDMA Band II / TX / CH 9400 **Test Date:** November 18, 2013

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

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)
62.0100	-64.49	0.89	-2.1	-67.48	-13.00	-54.48	V
150.2800	-63.03	1.43	0.71	-63.75	-13.00	-50.75	V
342.3400	-76.89	2.18	5.8	-73.27	-13.00	-60.27	V
448.0700	-77.87	2.58	5.74	-74.71	-13.00	-61.71	V
600.3600	-74.02	2.9	6.4	-70.52	-13.00	-57.52	V
771.0800	-72.17	3.27	6.35	-69.09	-13.00	-56.09	V
150.2800	-59.04	1.43	0.71	-59.76	-13.00	-46.76	H
216.2400	-67.46	1.74	5.36	-63.84	-13.00	-50.84	H
399.5700	-68.5	2.39	5.98	-64.91	-13.00	-51.91	H
599.3900	-63.52	2.9	6.39	-60.03	-13.00	-47.03	H
741.0100	-73.46	3.21	6.1	-70.57	-13.00	-57.57	H
771.0800	-71.44	3.27	6.35	-68.36	-13.00	-55.36	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: WCDMA Band II / TX / CH 9538 **Test Date:** November 18, 2013

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

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)
65.8900	-64.87	0.93	-1.93	-67.73	-13.00	-54.73	V
150.2800	-62.7	1.43	0.71	-63.42	-13.00	-50.42	V
354.9500	-78.74	2.25	5.75	-75.24	-13.00	-62.24	V
524.7000	-77.02	2.73	6.05	-73.70	-13.00	-60.70	V
599.3900	-78.18	2.9	6.39	-74.69	-13.00	-61.69	V
771.0800	-73.26	3.27	6.35	-70.18	-13.00	-57.18	V
71.7100	-59.94	0.97	-1.61	-62.52	-13.00	-49.52	H
150.2800	-59.35	1.43	0.71	-60.07	-13.00	-47.07	H
216.2400	-67.28	1.74	5.36	-63.66	-13.00	-50.66	H
399.5700	-68.25	2.39	5.98	-64.66	-13.00	-51.66	H
599.3900	-66.68	2.9	6.39	-63.19	-13.00	-50.19	H
771.0800	-70.44	3.27	6.35	-67.36	-13.00	-54.36	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: WCDMA Band V / TX / CH 4132 **Test Date:** November 18, 2013

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

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)
95.9600	-59.94	1.13	0.26	-60.81	-13.00	-47.81	V
150.2800	-68.39	1.43	0.71	-69.11	-13.00	-56.11	V
185.2000	-71.85	1.61	3.81	-69.65	-13.00	-56.65	V
345.2500	-80.56	2.2	5.8	-76.96	-13.00	-63.96	V
493.6600	-73	2.68	5.83	-69.85	-13.00	-56.85	V
599.3900	-69.27	2.9	6.39	-65.78	-13.00	-52.78	V
90.1400	-56.73	1.11	1.07	-56.77	-13.00	-43.77	H
185.2000	-64.77	1.61	3.81	-62.57	-13.00	-49.57	H
345.2500	-70.95	2.2	5.8	-67.35	-13.00	-54.35	H
399.5700	-73.4	2.39	5.98	-69.81	-13.00	-56.81	H
493.6600	-63.83	2.68	5.83	-60.68	-13.00	-47.68	H
600.3600	-64.56	2.9	6.4	-61.06	-13.00	-48.06	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: WCDMA Band V / TX / CH 4182 **Test Date:** November 18, 2013

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

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)
95.9600	-60.24	1.13	0.26	-61.11	-13.00	-48.11	V
150.2800	-68.34	1.43	0.71	-69.06	-13.00	-56.06	V
189.0800	-79.74	1.62	3.96	-77.40	-13.00	-64.40	V
342.3400	-80.85	2.18	5.8	-77.23	-13.00	-64.23	V
493.6600	-74.02	2.68	5.83	-70.87	-13.00	-57.87	V
599.3900	-73.14	2.9	6.39	-69.65	-13.00	-56.65	V
90.1400	-60.59	1.11	1.07	-60.63	-13.00	-47.63	H
185.2000	-68.31	1.61	3.81	-66.11	-13.00	-53.11	H
345.2500	-74.53	2.2	5.8	-70.93	-13.00	-57.93	H
399.5700	-75.21	2.39	5.98	-71.62	-13.00	-58.62	H
493.6600	-68.46	2.68	5.83	-65.31	-13.00	-52.31	H
600.3600	-62.36	2.9	6.4	-58.86	-13.00	-45.86	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: WCDMA Band V / TX / CH 4233 **Test Date:** November 18, 2013

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

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)
95.9600	-61.07	1.13	0.26	-61.94	-13.00	-48.94	V
150.2800	-67.74	1.43	0.71	-68.46	-13.00	-55.46	V
185.2000	-71.67	1.61	3.81	-69.47	-13.00	-56.47	V
345.2500	-81.93	2.2	5.8	-78.33	-13.00	-65.33	V
493.6600	-73.54	2.68	5.83	-70.39	-13.00	-57.39	V
600.3600	-68.1	2.9	6.4	-64.60	-13.00	-51.60	V
90.1400	-60.15	1.11	1.07	-60.19	-13.00	-47.19	H
199.7500	-64.59	1.63	2.94	-63.28	-13.00	-50.28	H
346.2200	-73.18	2.21	5.8	-69.59	-13.00	-56.59	H
399.5700	-74.03	2.39	5.98	-70.44	-13.00	-57.44	H
493.6600	-67.66	2.68	5.83	-64.51	-13.00	-51.51	H
600.3600	-67.92	2.9	6.4	-64.42	-13.00	-51.42	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:	WCDMA / HSDPA Band II / TX / CH 9262	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
62.0100	-62.76	0.89	-2.1	-65.75	-13.00	-52.75	V
150.2800	-62.36	1.43	0.71	-63.08	-13.00	-50.08	V
342.3400	-75.75	2.18	5.8	-72.13	-13.00	-59.13	V
448.0700	-76.89	2.58	5.74	-73.73	-13.00	-60.73	V
599.3900	-75.49	2.9	6.39	-72.00	-13.00	-59.00	V
771.0800	-72.6	3.27	6.35	-69.52	-13.00	-56.52	V
150.2800	-58.55	1.43	0.71	-59.27	-13.00	-46.27	H
216.2400	-67.67	1.74	5.36	-64.05	-13.00	-51.05	H
330.7000	-75.74	2.16	5.71	-72.19	-13.00	-59.19	H
442.2500	-69.28	2.55	5.85	-65.98	-13.00	-52.98	H
600.3600	-70.24	2.9	6.4	-66.74	-13.00	-53.74	H
771.0800	-69.93	3.27	6.35	-66.85	-13.00	-53.85	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:	WCDMA / HSDPA Band II / TX / CH 9400	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
60.0700	-63.69	0.88	-2.19	-66.76	-13.00	-53.76	V
150.2800	-62.79	1.43	0.71	-63.51	-13.00	-50.51	V
342.3400	-76.17	2.18	5.8	-72.55	-13.00	-59.55	V
448.0700	-77.87	2.58	5.74	-74.71	-13.00	-61.71	V
599.3900	-73.46	2.9	6.39	-69.97	-13.00	-56.97	V
771.0800	-73.52	3.27	6.35	-70.44	-13.00	-57.44	V
150.2800	-59.27	1.43	0.71	-59.99	-13.00	-46.99	H
216.2400	-68	1.74	5.36	-64.38	-13.00	-51.38	H
442.2500	-68.83	2.55	5.85	-65.53	-13.00	-52.53	H
599.3900	-70.89	2.9	6.39	-67.40	-13.00	-54.40	H
771.0800	-70.03	3.27	6.35	-66.95	-13.00	-53.95	H
802.1200	-71.84	3.33	6.51	-68.66	-13.00	-55.66	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:	WCDMA / HSDPA Band II / TX / CH 9538	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
62.0100	-65.12	0.89	-2.1	-68.11	-13.00	-55.11	V
150.2800	-63.17	1.43	0.71	-63.89	-13.00	-50.89	V
342.3400	-77.18	2.18	5.8	-73.56	-13.00	-60.56	V
600.3600	-75.08	2.9	6.4	-71.58	-13.00	-58.58	V
741.0100	-76.38	3.21	6.1	-73.49	-13.00	-60.49	V
771.0800	-73.05	3.27	6.35	-69.97	-13.00	-56.97	V
65.8900	-59.76	0.93	-1.93	-62.62	-13.00	-49.62	H
150.2800	-59.29	1.43	0.71	-60.01	-13.00	-47.01	H
216.2400	-67.71	1.74	5.36	-64.09	-13.00	-51.09	H
399.5700	-64.3	2.39	5.98	-60.71	-13.00	-47.71	H
599.3900	-69.08	2.9	6.39	-65.59	-13.00	-52.59	H
771.0800	-69.66	3.27	6.35	-66.58	-13.00	-53.58	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:	WCDMA / HSDPA Band V / TX / CH 4132	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
95.9600	-59.93	1.13	0.26	-60.80	-13.00	-47.80	V
150.2800	-68.34	1.43	0.71	-69.06	-13.00	-56.06	V
185.2000	-73.25	1.61	3.81	-71.05	-13.00	-58.05	V
342.3400	-81.05	2.18	5.8	-77.43	-13.00	-64.43	V
493.6600	-73.31	2.68	5.83	-70.16	-13.00	-57.16	V
600.3600	-71.14	2.9	6.4	-67.64	-13.00	-54.64	V
120.2100	-58.76	1.27	-2.06	-62.09	-13.00	-49.09	H
185.2000	-68.96	1.61	3.81	-66.76	-13.00	-53.76	H
216.2400	-75.17	1.74	5.36	-71.55	-13.00	-58.55	H
352.0400	-73.78	2.24	5.78	-70.24	-13.00	-57.24	H
493.6600	-68.6	2.68	5.83	-65.45	-13.00	-52.45	H
600.3600	-68.17	2.9	6.4	-64.67	-13.00	-51.67	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:	WCDMA / HSDPA Band V / TX / CH 4182	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
95.9600	-60.15	1.13	0.26	-61.02	-13.00	-48.02	V
150.2800	-67.81	1.43	0.71	-68.53	-13.00	-55.53	V
346.2200	-79.83	2.21	5.8	-76.24	-13.00	-63.24	V
399.5700	-79.63	2.39	5.98	-76.04	-13.00	-63.04	V
493.6600	-72.54	2.68	5.83	-69.39	-13.00	-56.39	V
600.3600	-70.61	2.9	6.4	-67.11	-13.00	-54.11	V
90.1400	-60.33	1.11	1.07	-60.37	-13.00	-47.37	H
185.2000	-66.79	1.61	3.81	-64.59	-13.00	-51.59	H
216.2400	-76.52	1.74	5.36	-72.90	-13.00	-59.90	H
352.0400	-73.99	2.24	5.78	-70.45	-13.00	-57.45	H
493.6600	-69.26	2.68	5.83	-66.11	-13.00	-53.11	H
599.3900	-65.38	2.9	6.39	-61.89	-13.00	-48.89	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:	WCDMA / HSDPA Band V / TX / CH 4233	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
95.9600	-60.27	1.13	0.26	-61.14	-13.00	-48.14	V
185.2000	-70.92	1.61	3.81	-68.72	-13.00	-55.72	V
345.2500	-81.72	2.2	5.8	-78.12	-13.00	-65.12	V
448.0700	-80.32	2.58	5.74	-77.16	-13.00	-64.16	V
493.6600	-74.88	2.68	5.83	-71.73	-13.00	-58.73	V
599.3900	-70.85	2.9	6.39	-67.36	-13.00	-54.36	V
90.1400	-60.21	1.11	1.07	-60.25	-13.00	-47.25	H
185.2000	-67.12	1.61	3.81	-64.92	-13.00	-51.92	H
345.2500	-74.34	2.2	5.8	-70.74	-13.00	-57.74	H
399.5700	-74.48	2.39	5.98	-70.89	-13.00	-57.89	H
493.6600	-70.21	2.68	5.83	-67.06	-13.00	-54.06	H
600.3600	-65.55	2.9	6.4	-62.05	-13.00	-49.05	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:	WCDMA / HSUPA Band II / TX / CH 9262	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
60.0700	-63.8	0.88	-2.19	-66.87	-13.00	-53.87	V
150.2800	-63.22	1.43	0.71	-63.94	-13.00	-50.94	V
342.3400	-76.84	2.18	5.8	-73.22	-13.00	-60.22	V
448.0700	-78.12	2.58	5.74	-74.96	-13.00	-61.96	V
599.3900	-74.54	2.9	6.39	-71.05	-13.00	-58.05	V
771.0800	-72.84	3.27	6.35	-69.76	-13.00	-56.76	V
150.2800	-59.2	1.43	0.71	-59.92	-13.00	-46.92	H
216.2400	-67.06	1.74	5.36	-63.44	-13.00	-50.44	H
399.5700	-68.02	2.39	5.98	-64.43	-13.00	-51.43	H
599.3900	-70.52	2.9	6.39	-67.03	-13.00	-54.03	H
741.0100	-72.53	3.21	6.1	-69.64	-13.00	-56.64	H
771.0800	-69.84	3.27	6.35	-66.76	-13.00	-53.76	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:	WCDMA / HSUPA Band II / TX / CH 9400	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
60.0700	-63.9	0.88	-2.19	-66.97	-13.00	-53.97	V
150.2800	-63.47	1.43	0.71	-64.19	-13.00	-51.19	V
161.9200	-68.51	1.5	1.61	-68.40	-13.00	-55.40	V
342.3400	-76.26	2.18	5.8	-72.64	-13.00	-59.64	V
493.6600	-77.12	2.68	5.83	-73.97	-13.00	-60.97	V
771.0800	-72.46	3.27	6.35	-69.38	-13.00	-56.38	V
71.7100	-60.49	0.97	-1.61	-63.07	-13.00	-50.07	H
150.2800	-59.39	1.43	0.71	-60.11	-13.00	-47.11	H
216.2400	-68.01	1.74	5.36	-64.39	-13.00	-51.39	H
399.5700	-68.26	2.39	5.98	-64.67	-13.00	-51.67	H
599.3900	-69.64	2.9	6.39	-66.15	-13.00	-53.15	H
771.0800	-69.58	3.27	6.35	-66.50	-13.00	-53.50	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:	WCDMA / HSUPA Band II / TX / CH 9538	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
60.0700	-63.73	0.88	-2.19	-66.80	-13.00	-53.80	V
150.2800	-63.54	1.43	0.71	-64.26	-13.00	-51.26	V
342.3400	-77.46	2.18	5.8	-73.84	-13.00	-60.84	V
493.6600	-77.12	2.68	5.83	-73.97	-13.00	-60.97	V
599.3900	-77.46	2.9	6.39	-73.97	-13.00	-60.97	V
771.0800	-73.37	3.27	6.35	-70.29	-13.00	-57.29	V
150.2800	-59.09	1.43	0.71	-59.81	-13.00	-46.81	H
216.2400	-67.72	1.74	5.36	-64.10	-13.00	-51.10	H
400.5400	-66.6	2.4	5.98	-63.02	-13.00	-50.02	H
493.6600	-71.38	2.68	5.83	-68.23	-13.00	-55.23	H
600.3600	-66.33	2.9	6.4	-62.83	-13.00	-49.83	H
771.0800	-70.51	3.27	6.35	-67.43	-13.00	-54.43	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:	WCDMA / HSUPA Band V / TX / CH 4132	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
95.9600	-60.54	1.13	0.26	-61.41	-13.00	-48.41	V
185.2000	-71.95	1.61	3.81	-69.75	-13.00	-56.75	V
216.2400	-80.67	1.74	5.36	-77.05	-13.00	-64.05	V
345.2500	-80.32	2.2	5.8	-76.72	-13.00	-63.72	V
493.6600	-74.46	2.68	5.83	-71.31	-13.00	-58.31	V
599.3900	-69.96	2.9	6.39	-66.47	-13.00	-53.47	V
90.1400	-59.91	1.11	1.07	-59.95	-13.00	-46.95	H
185.2000	-66.53	1.61	3.81	-64.33	-13.00	-51.33	H
352.0400	-74.07	2.24	5.78	-70.53	-13.00	-57.53	H
399.5700	-76.53	2.39	5.98	-72.94	-13.00	-59.94	H
493.6600	-68.28	2.68	5.83	-65.13	-13.00	-52.13	H
623.6400	-66.97	2.95	6.14	-63.78	-13.00	-50.78	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:	WCDMA / HSUPA Band V / TX / CH 4182	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
95.9600	-60.78	1.13	0.26	-61.65	-13.00	-48.65	V
150.2800	-67.66	1.43	0.71	-68.38	-13.00	-55.38	V
185.2000	-71.49	1.61	3.81	-69.29	-13.00	-56.29	V
399.5700	-81.62	2.39	5.98	-78.03	-13.00	-65.03	V
493.6600	-74.05	2.68	5.83	-70.90	-13.00	-57.90	V
599.3900	-70.75	2.9	6.39	-67.26	-13.00	-54.26	V
90.1400	-59.44	1.11	1.07	-59.48	-13.00	-46.48	H
120.2100	-59.51	1.27	-2.06	-62.84	-13.00	-49.84	H
185.2000	-67.18	1.61	3.81	-64.98	-13.00	-51.98	H
345.2500	-74.16	2.2	5.8	-70.56	-13.00	-57.56	H
493.6600	-68.89	2.68	5.83	-65.74	-13.00	-52.74	H
599.3900	-66.68	2.9	6.39	-63.19	-13.00	-50.19	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:	WCDMA / HSUPA Band V / TX / CH 4233	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
95.9600	-60.43	1.13	0.26	-61.30	-13.00	-48.30	V
185.2000	-72.01	1.61	3.81	-69.81	-13.00	-56.81	V
345.2500	-81.52	2.2	5.8	-77.92	-13.00	-64.92	V
399.5700	-80.95	2.39	5.98	-77.36	-13.00	-64.36	V
480.0800	-78.22	2.64	5.54	-75.32	-13.00	-62.32	V
493.6600	-74.57	2.68	5.83	-71.42	-13.00	-58.42	V
90.1400	-60.37	1.11	1.07	-60.41	-13.00	-47.41	H
185.2000	-66.74	1.61	3.81	-64.54	-13.00	-51.54	H
352.0400	-74.56	2.24	5.78	-71.02	-13.00	-58.02	H
480.0800	-74.63	2.64	5.54	-71.73	-13.00	-58.73	H
493.6600	-68.59	2.68	5.83	-65.44	-13.00	-52.44	H
599.3900	-59.17	2.9	6.39	-55.68	-13.00	-42.68	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.*

Above 1GHz

Operation Mode: GSM 850 / TX / CH 128 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
1651.000	-54.87	5.05	6.03	-53.89	-13.00	-40.89	V
1966.000	-46.5	5.63	5.46	-46.67	-13.00	-33.67	V
2470.000	-52.71	6.3	6.06	-52.95	-13.00	-39.95	V
N/A							
1651.000	-49.07	5.05	6.03	-48.09	-13.00	-35.09	H
1966.000	-49.21	5.63	5.46	-49.38	-13.00	-36.38	H
2435.000	-40.27	6.24	6.01	-40.50	-13.00	-27.50	H
N/A							

Remark:

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

Operation Mode: GSM 850 / TX / CH 190 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
1959.000	-46.17	5.61	5.47	-46.31	-13.00	-33.31	V
2512.000	-53.2	6.37	6.13	-53.44	-13.00	-40.44	V
N/A							
1672.000	-52.44	5.07	5.99	-51.52	-13.00	-38.52	H
2512.000	-50.03	6.37	6.13	-50.27	-13.00	-37.27	H
N/A							

Remark:

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

Operation Mode: GSM 850 / TX / CH 251 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
1700.000	-56.27	5.11	5.94	-55.44	-13.00	-42.44	V
2547.000	-47.32	6.42	6.22	-47.52	-13.00	-34.52	V
N/A							
1966.000	-47.37	5.63	5.46	-47.54	-13.00	-34.54	H
2547.000	-43.63	6.42	6.22	-43.83	-13.00	-30.83	H
6152.000	-50.27	10.93	11.02	-50.18	-13.00	-37.18	H
N/A							

Remark:

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

Operation Mode: GPRS 850 / TX / CH 128 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
1651.000	-54.33	5.05	6.03	-53.35	-13.00	-40.35	V
1966.000	-47.23	5.63	5.46	-47.40	-13.00	-34.40	V
2470.000	-52.24	6.3	6.06	-52.48	-13.00	-39.48	V
N/A							
1651.000	-48.24	5.05	6.03	-47.26	-13.00	-34.26	H
1966.000	-45.76	5.63	5.46	-45.93	-13.00	-32.93	H
2470.000	-49.19	6.3	6.06	-49.43	-13.00	-36.43	H
N/A							

Remark:

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

Operation Mode: GPRS 850 / TX / CH 190 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
1966.000	-47.26	5.63	5.46	-47.43	-13.00	-34.43	V
2512.000	-54.32	6.37	6.13	-54.56	-13.00	-41.56	V
N/A							
2512.000	-49.77	6.37	6.13	-50.01	-13.00	-37.01	H
3933.000	-53.32	8.38	9.33	-52.37	-13.00	-39.37	H
N/A							

Remark:

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

Operation Mode: GPRS 850 / TX / CH 251 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
2547.000	-49.29	6.42	6.22	-49.49	-13.00	-36.49	V
6138.000	-51.5	10.85	11.01	-51.34	-13.00	-38.34	V
N/A							
1966.000	-51.19	5.63	5.46	-51.36	-13.00	-38.36	H
2547.000	-43.45	6.42	6.22	-43.65	-13.00	-30.65	H
N/A							

Remark:

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

Operation Mode: GSM 1900 / TX / CH 512 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
4745.000	-52.41	9.22	10.19	-51.44	-13.00	-38.44	V
7342.000	-46.2	12.06	12.45	-45.81	-13.00	-32.81	V
N/A							
4381.000	-52.75	8.63	9.7	-51.68	-13.00	-38.68	H
6271.000	-50.68	10.89	11.12	-50.45	-13.00	-37.45	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: GSM 1900 / TX / CH 661 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
4290.000	-53.81	8.59	9.63	-52.77	-13.00	-39.77	V
6187.000	-51.43	11.14	11.05	-51.52	-13.00	-38.52	V
N/A							
4276.000	-52.7	8.57	9.62	-51.65	-13.00	-38.65	H
6257.000	-50.7	10.95	11.11	-50.54	-13.00	-37.54	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: GSM 1900 / TX / CH 810 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
3856.000	-54.43	8.33	9.26	-53.50	-13.00	-40.50	V
5102.000	-53.91	9.45	10.64	-52.72	-13.00	-39.72	V
N/A							
4255.000	-53.41	8.55	9.6	-52.36	-13.00	-39.36	H
5928.000	-51.6	10.52	10.89	-51.23	-13.00	-38.23	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: GPRS 1900 / TX / CH 512 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
3842.000	-53.48	8.31	9.24	-52.55	-13.00	-39.55	V
6250.000	-51.03	10.98	11.1	-50.91	-13.00	-37.91	V
N/A							
4353.000	-53.02	8.62	9.68	-51.96	-13.00	-38.96	H
6593.000	-48.24	11.22	11.41	-48.05	-13.00	-35.05	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: GPRS 1900 / TX / CH 661 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
4304.000	-53.66	8.6	9.64	-52.62	-13.00	-39.62	V
6502.000	-50.31	11.04	11.3	-50.05	-13.00	-37.05	V
N/A							
3898.000	-52.95	8.39	9.3	-52.04	-13.00	-39.04	H
6145.000	-50.99	10.89	11.02	-50.86	-13.00	-37.86	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: GPRS 1900 / TX / CH 810 **Test Date:** November 13, 2013

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

Humidity: 55 % 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)
4549.000	-53.82	9.02	9.88	-52.96	-13.00	-39.96	V
5004.000	-53.97	9.41	10.6	-52.78	-13.00	-39.78	V
N/A							
2463.000	-53.34	6.29	6.05	-53.58	-13.00	-40.58	H
4458.000	-52.52	8.8	9.77	-51.55	-13.00	-38.55	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: EDGE 850 / TX / CH 128 **Test Date:** November 13, 2013

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

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)
1966.000	-49.19	5.63	5.46	-49.36	-13.00	-36.36	V
2435.000	-38.36	6.24	6.01	-38.59	-13.00	-25.59	V
N/A							
1651.000	-50.18	5.05	6.03	-49.20	-13.00	-36.20	H
1966.000	-50.11	5.63	5.46	-50.28	-13.00	-37.28	H
2470.000	-49.6	6.3	6.06	-49.84	-13.00	-36.84	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: EDGE 850 / TX / CH 190 **Test Date:** November 13, 2013

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

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)
1966.000	-45.76	5.63	5.46	-45.93	-13.00	-32.93	V
2512.000	-54.63	6.37	6.13	-54.87	-13.00	-41.87	V
N/A							
1672.000	-51.56	5.07	5.99	-50.64	-13.00	-37.64	H
1966.000	-51.7	5.63	5.46	-51.87	-13.00	-38.87	H
2512.000	-49.44	6.37	6.13	-49.68	-13.00	-36.68	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: EDGE 850 / TX / CH 251 **Test Date:** November 13, 2013

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

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)
1966.000	-47.93	5.63	5.46	-48.10	-13.00	-35.10	V
2547.000	-48.73	6.42	6.22	-48.93	-13.00	-35.93	V
N/A							
1700.000	-49.77	5.11	5.94	-48.94	-13.00	-35.94	H
2547.000	-43.96	6.42	6.22	-44.16	-13.00	-31.16	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: EDGE 1900 / TX / CH 512 **Test Date:** November 13, 2013

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

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)
2456.000	-48.5	6.28	6.04	-48.74	-13.00	-35.74	V
4472.000	-53.31	8.83	9.78	-52.36	-13.00	-39.36	V
N/A							
4717.000	-52.29	9.16	10.15	-51.30	-13.00	-38.30	H
6383.000	-49.87	11.14	11.21	-49.80	-13.00	-36.80	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: EDGE 1900 / TX / CH 661 **Test Date:** November 13, 2013

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

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)
4493.000	-53.61	8.89	9.79	-52.71	-13.00	-39.71	V
6124.000	-51.89	10.76	11	-51.65	-13.00	-38.65	V
N/A							
4745.000	-52.14	9.22	10.19	-51.17	-13.00	-38.17	H
6502.000	-49.94	11.04	11.3	-49.68	-13.00	-36.68	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: EDGE 1900 / TX / CH 810 **Test Date:** November 13, 2013

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

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)
4332.000	-53.43	8.61	9.67	-52.37	-13.00	-39.37	V
6705.000	-50.29	11.3	11.55	-50.04	-13.00	-37.04	V
N/A							
2428.000	-53.26	6.23	6	-53.49	-13.00	-40.49	H
5732.000	-51.79	10.24	10.85	-51.18	-13.00	-38.18	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: WCDMA Band II / TX / CH 9262 **Test Date:** November 18, 2013

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

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)
2421.000	-50.59	6.22	5.99	-50.82	-13.00	-37.82	V
2974.000	-54.35	7.05	7.33	-54.07	-13.00	-41.07	V
N/A							
2421.000	-49.84	6.22	5.99	-50.07	-13.00	-37.07	H
5536.000	-49.8	10.03	10.81	-49.02	-13.00	-36.02	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: WCDMA Band II / TX / CH 9400 **Test Date:** November 18, 2013

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

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)
3961.000	-53.12	8.37	9.36	-52.13	-13.00	-39.13	V
5620.000	-52.38	10.18	10.82	-51.74	-13.00	-38.74	V
N/A							
2456.000	-50.53	6.28	6.04	-50.77	-13.00	-37.77	H
6040.000	-50.56	10.75	10.93	-50.38	-13.00	-37.38	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: WCDMA Band II / TX / CH 9538 **Test Date:** November 18, 2013

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

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)
3814.000	-51.92	8.28	9.21	-50.99	-13.00	-37.99	V
4976.000	-54.32	9.37	10.56	-53.13	-13.00	-40.13	V
N/A							
3968.000	-53.41	8.36	9.37	-52.40	-13.00	-39.40	H
6838.000	-48.58	11.39	11.71	-48.26	-13.00	-35.26	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: WCDMA Band V / TX / CH 4132 **Test Date:** November 18, 2013

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

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)
1966.000	-55.91	5.63	5.46	-56.08	-13.00	-43.08	V
4248.000	-55.52	8.54	9.6	-54.46	-13.00	-41.46	V
N/A							
2995.000	-57.63	7.02	7.39	-57.26	-13.00	-44.26	H
3884.000	-55.94	8.37	9.28	-55.03	-13.00	-42.03	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: WCDMA Band V / TX / CH 4182 **Test Date:** November 18, 2013

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

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)
3891.000	-55.6	8.38	9.29	-54.69	-13.00	-41.69	V
5522.000	-55.63	9.99	10.8	-54.82	-13.00	-41.82	V
N/A							
4115.000	-54.36	8.46	9.49	-53.33	-13.00	-40.33	H
5592.000	-54.04	10.17	10.82	-53.39	-13.00	-40.39	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: WCDMA Band V / TX / CH 4233 **Test Date:** November 18, 2013

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

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)
4248.000	-55.54	8.54	9.6	-54.48	-13.00	-41.48	V
6299.000	-52.82	10.75	11.14	-52.43	-13.00	-39.43	V
N/A							
2442.000	-45.38	6.25	6.02	-45.61	-13.00	-32.61	H
4164.000	-54.86	8.48	9.53	-53.81	-13.00	-40.81	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:	WCDMA / HSDPA Band II / TX / CH 9262	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
3555.000	-54.37	8	8.96	-53.41	-13.00	-40.41	V
4304.000	-52.34	8.6	9.64	-51.30	-13.00	-38.30	V
N/A							
5879.000	-49.44	10.4	10.88	-48.96	-13.00	-35.96	H
7363.000	-44.14	12.07	12.48	-43.73	-13.00	-30.73	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:	WCDMA / HSDPA Band II / TX / CH 9400	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
3786.000	-53.57	8.25	9.19	-52.63	-13.00	-39.63	V
4647.000	-53.19	9.13	10.04	-52.28	-13.00	-39.28	V
N/A							
3884.000	-53.74	8.37	9.28	-52.83	-13.00	-39.83	H
5074.000	-52.88	9.44	10.63	-51.69	-13.00	-38.69	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:	WCDMA / HSDPA Band II / TX / CH 9538	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
2470.000	-47.24	6.3	6.06	-47.48	-13.00	-34.48	V
3814.000	-53.35	8.28	9.21	-52.42	-13.00	-39.42	V
N/A							
2435.000	-51.04	6.24	6.01	-51.27	-13.00	-38.27	H
2617.000	-56.67	6.53	6.4	-56.80	-13.00	-43.80	H
7202.000	-46.56	11.85	12.22	-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.*

Operation Mode:	WCDMA / HSDPA Band V / TX / CH 4132	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
4241.000	-55.74	8.54	9.59	-54.69	-13.00	-41.69	V
5613.000	-55.3	10.19	10.82	-54.67	-13.00	-41.67	V
N/A							
2456.000	-44.09	6.28	6.04	-44.33	-13.00	-31.33	H
4402.000	-54.97	8.65	9.72	-53.90	-13.00	-40.90	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:	WCDMA / HSDPA Band V / TX / CH 4182	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
3870.000	-54.9	8.35	9.27	-53.98	-13.00	-40.98	V
4374.000	-53.96	8.63	9.7	-52.89	-13.00	-39.89	V
N/A							
2421.000	-48.33	6.22	5.99	-48.56	-13.00	-35.56	H
6642.000	-51.63	11.26	11.47	-51.42	-13.00	-38.42	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:	WCDMA / HSDPA Band V / TX / CH 4233	**Test Date:**	November 13, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
2414.000	-52.46	6.2	5.98	-52.68	-13.00	-39.68	V
4703.000	-55.47	9.14	10.12	-54.49	-13.00	-41.49	V
N/A							
2428.000	-48.79	6.23	6	-49.02	-13.00	-36.02	H
4003.000	-55.63	8.35	9.4	-54.58	-13.00	-41.58	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:	WCDMA / HSUPA Band II / TX / CH 9262	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
3912.000	-52.81	8.39	9.31	-51.89	-13.00	-38.89	V
4661.000	-52.75	9.13	10.06	-51.82	-13.00	-38.82	V
N/A							
4332.000	-51.96	8.61	9.67	-50.90	-13.00	-37.90	H
6019.000	-50.16	10.79	10.92	-50.03	-13.00	-37.03	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:	WCDMA / HSUPA Band II / TX / CH 9400	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
4332.000	-52.53	8.61	9.67	-51.47	-13.00	-38.47	V
5816.000	-51.56	10.42	10.86	-51.12	-13.00	-38.12	V
N/A							
2981.000	-55.16	7.04	7.35	-54.85	-13.00	-41.85	H
5802.000	-50.53	10.42	10.86	-50.09	-13.00	-37.09	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:	WCDMA / HSUPA Band II / TX / CH 9538	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
3898.000	-53.85	8.39	9.3	-52.94	-13.00	-39.94	V
5781.000	-52.51	10.37	10.86	-52.02	-13.00	-39.02	V
N/A							
4780.000	-52.46	9.28	10.25	-51.49	-13.00	-38.49	H
6138.000	-50.28	10.85	11.01	-50.12	-13.00	-37.12	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:	WCDMA / HSUPA Band V / TX / CH 4132	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
2456.000	-49.52	6.28	6.04	-49.76	-13.00	-36.76	V
5081.000	-55.95	9.44	10.63	-54.76	-13.00	-41.76	V
N/A							
2470.000	-47.43	6.3	6.06	-47.67	-13.00	-34.67	H
4836.000	-53.98	9.3	10.34	-52.94	-13.00	-39.94	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:	WCDMA / HSUPA Band V / TX / CH 4182	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
3702.000	-55.97	8.2	9.1	-55.07	-13.00	-42.07	V
4738.000	-55.44	9.2	10.18	-54.46	-13.00	-41.46	V
N/A							
2239.000	-58.22	6	5.73	-58.49	-13.00	-45.49	H
2428.000	-49.15	6.23	6	-49.38	-13.00	-36.38	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:	WCDMA / HSUPA Band V / TX / CH 4233	**Test Date:**	November 22, 2013
Temperature:	25°C	**Tested by:**	David Shu
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)
2470.000	-42.85	6.3	6.06	-43.09	-13.00	-30.09	V
4773.000	-55.89	9.27	10.24	-54.92	-13.00	-41.92	V
N/A							
2442.000	-44.5	6.25	6.02	-44.73	-13.00	-31.73	H
4724.000	-54.95	9.18	10.16	-53.97	-13.00	-40.97	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.*

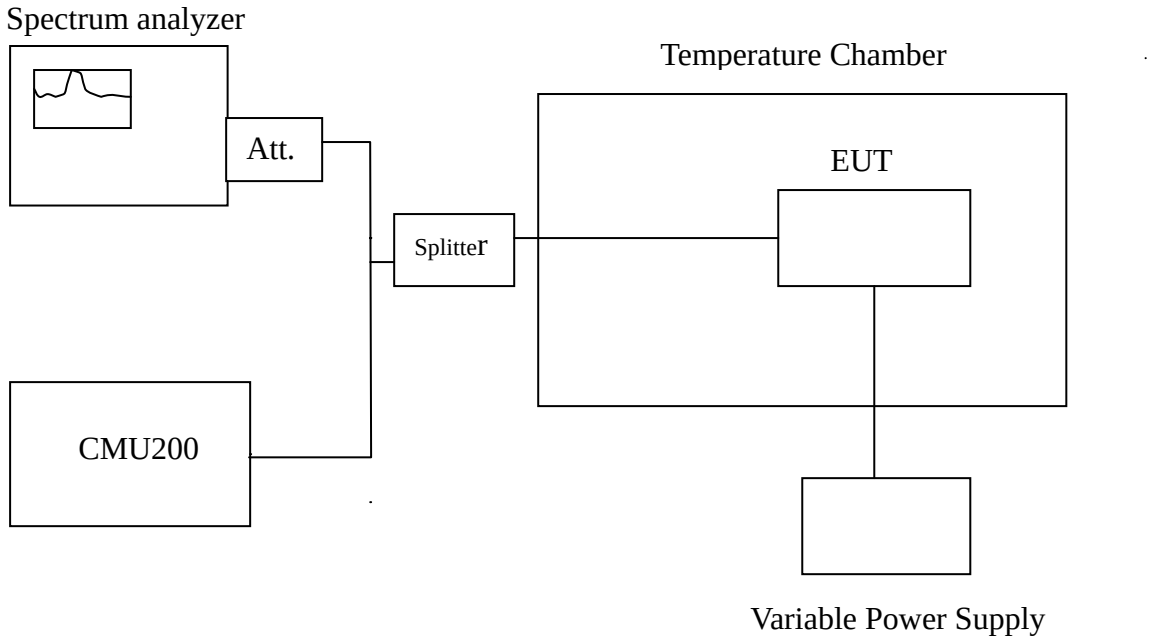
7.7FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §22.355, .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: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	836600001	10	2091
	40	836600016	25	
	30	836600013	22	
	20	836599991	0	
	10	836600018	27	
	0	836600019	28	
	-10	836600011	20	
	-20	836600024	33	
	-30	836600007	16	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	1880000001	1	4700
	40	1880000016	16	
	30	1880000013	13	
	20	1880000000	0	
	10	1880000018	18	
	0	1880000019	19	
	-10	1880000011	11	
	-20	1880000024	24	
	-30	1880000007	7	

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	836599997	-8	2091
	40	836599996	-9	
	30	836599992	-13	
	20	836600005	0	
	10	836599985	-20	
	0	836599984	-21	
	-10	836599981	-24	
	-20	836599980	-25	
	-30	836599989	-16	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	1879999992	-28	4700
	40	1879999990	-30	
	30	1879999991	-29	
	20	1880000020	0	
	10	1879999997	-23	
	0	1879999998	-22	
	-10	1879999996	-24	
	-20	1879999995	-25	
	-30	1880000007	-13	

Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	836599980	-11	2091
	40	836599978	-13	
	30	836599975	-16	
	20	836599991	0	
	10	836599981	-10	
	0	836599989	-2	
	-10	836599998	7	
	-20	836599997	6	
	-30	836599992	1	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	1879999980	-20	4700
	40	1879999978	-22	
	30	1879999997	-3	
	20	1880000000	0	
	10	1879999993	-7	
	0	1879999991	-9	
	-10	1879999975	-25	
	-20	1879999964	-36	
	-30	1879999975	-25	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	1879999952	-84	4700
	40	1880000028	-8	
	30	1880000040	4	
	20	1880000036	0	
	10	1880000032	-4	
	0	1880000023	-13	
	-10	1879999961	-75	
	-20	1880000001	-35	
	-30	1880000009	-27	

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	836400036	62	2091
	40	836400039	65	
	30	836399991	17	
	20	836399974	0	
	10	836400039	65	
	0	836400025	51	
	-10	836399972	-2	
	-20	836399965	-9	
	-30	836399958	-16	

Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	1879999955	-58	4700
	40	1880000009	-4	
	30	1879999990	-23	
	20	1880000013	0	
	10	1879999995	-18	
	0	1879999992	-21	
	-10	1880000013	0	
	-20	1879999993	-20	
	-30	1879999980	-33	

Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	836399985	-12	2091
	40	836399990	-7	
	30	836400003	6	
	20	836399997	0	
	10	836399960	-37	
	0	836399971	-26	
	-10	836399970	-27	
	-20	836399990	-7	
	-30	836399952	-45	

Reference Frequency: WCDMA / HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	1879999979	5	4700
	40	1880000014	40	
	30	1879999951	-23	
	20	1879999974	0	
	10	1879999984	10	
	0	1879999963	-11	
	-10	1879999994	20	
	-20	1880000002	28	
	-30	1879999994	20	

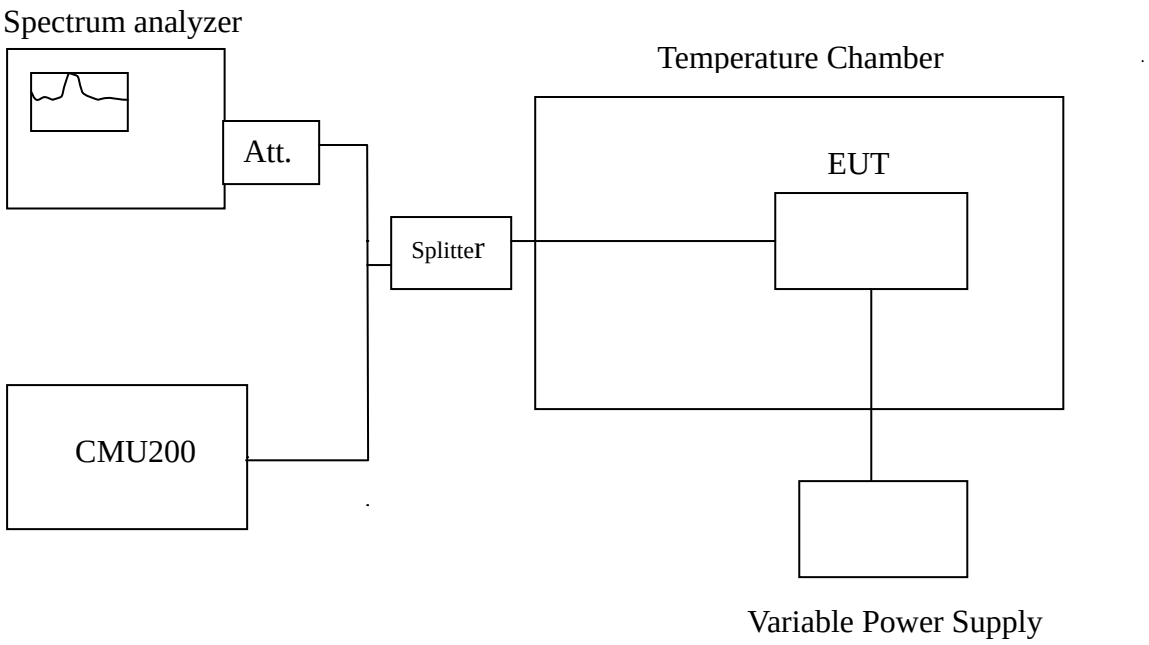
Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
24	50	836399997	-18	2091
	40	836399995	-20	
	30	836399992	-23	
	20	836400015	0	
	10	836399968	-47	
	0	836399980	-35	
	-10	836399978	-37	
	-20	836399965	-50	
	-30	836399993	-22	

7.8FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §22.355, .FCC §24.235,

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 20oC operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30oC. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10oC increased per stage until the highest temperature of +50oC reached.

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	836599980	-11	2091
24		836599991	0	
20.4		836599977	-14	
12 (End Point)		836599562	-429	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	1879999980	-20	4700
24		1880000000	0	
20.4		1879999977	-23	
12 (End Point)		1880000003	3	

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	836600009	4	2091
24		836600005	0	
20.4		836600003	-2	
12 (End Point)		836600002	-3	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	1880000010	-10	4700
24		1880000020	0	
20.4		1880000021	1	
12 (End Point)		1880000003	-17	

Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	836599980	-11	2091
24		836599991	0	
20.4		836599977	-14	
12 (End Point)		836600002	11	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	1879999980	-20	4700
24		1880000000	0	
20.4		1879999977	-23	
12 (End Point)		1880000007	7	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	1880000031	-5	4700
24		1880000036	0	
20.4		1880000029	-7	
12 (End Point)		1880000021	-15	

Reference Frequency: WCDMA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	836399998	24	2091
24		836399974	0	
20.4		836399990	16	
12 (End Point)		836400008	34	

Reference Frequency: WCDMA HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	1879999995	-18	4700
24		1880000013	0	
20.4		1879999971	-42	
12 (End Point)		1880000019	6	

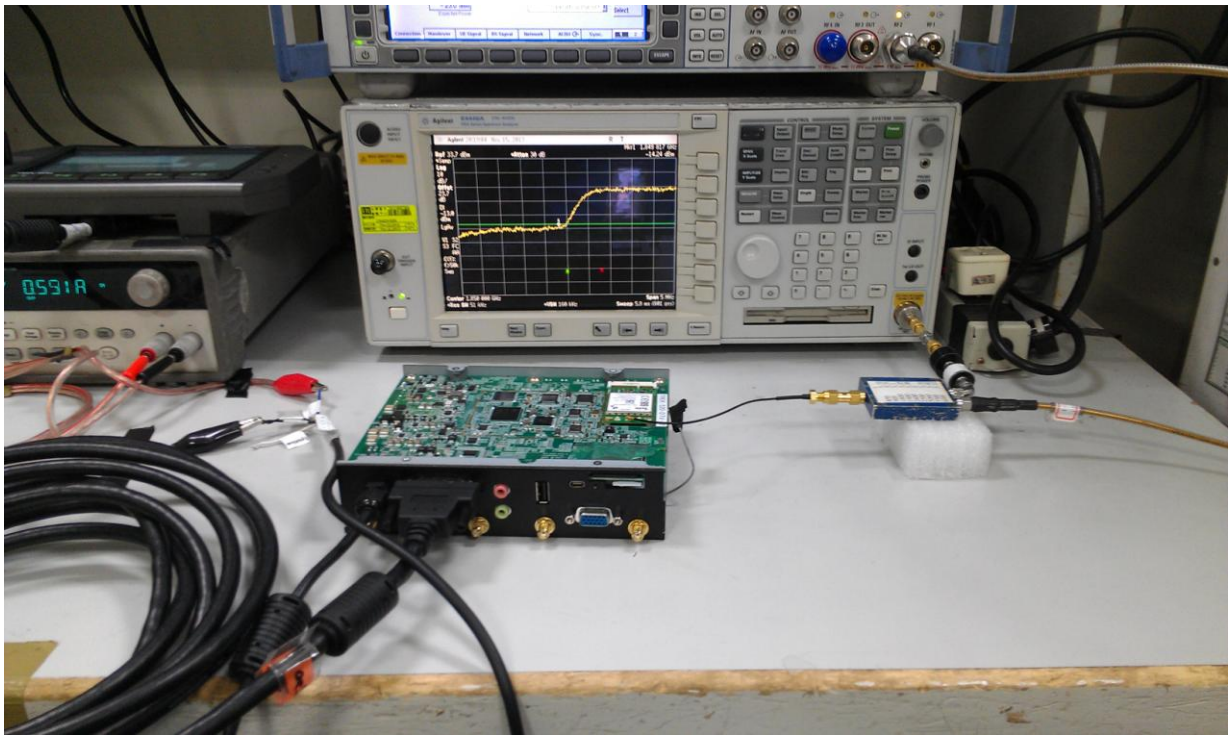
Reference Frequency: WCDMA HSDPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	836399992	-5	2091
24		836399997	0	
20.4		836400038	41	
12 (End Point)		836400051	54	

Reference Frequency: WCDMA HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	1879999972	-2	4700
24		1879999974	0	
20.4		1880000033	59	
12 (End Point)		1880000028	54	

Reference Frequency: WCDMA HSUPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (℃)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
27.6	20	836400011	-4	2091
24		836400015	0	
20.4		836400004	-11	
12 (End Point)		836400008	-7	

APPENDIX I
PHOTOGRAPHS OF TEST SETUP

Conducted Emission Set Up Photo



Radiated Emission Set up Photos