FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E
&
INDUSTRY CANADA RSS-132 & RSS-133

TEST REPORT

For

LE920-NAG

Trade Name: LE920

Model: LE920-NAG

Issued to

Telit Communications S.P.A.
Via Stazione di Prosecco 5/B
34010 Sgonico, Trieste - Italy

Issued by

Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
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Issued Date: July 24, 2013

Testing Laboratory
1309

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Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		July 24, 2013		Initial Issue	ALL	Kelly Cheng

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1. TEST RESULT CERTIFICATION

Applicant:	Telit Communications S.P.A. Via Stazione di Prosecco 5/B 34010 Sgonico, Trieste - Italy
Manufacturer:	Telit Communications S.P.A. Via Stazione di Prosecco 5/B 34010 Sgonico, Trieste - Italy
Equipment Under Test:	LE920-NAG
Trade Name:	LE920
Model Number:	LE920-NAG
Date of Test:	July 9, 2008 ~ July 25, 2013

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E & IC RSS-132 Issue 2: September 2005 and IC RSS-133 Issue 5: February 2009	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 and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rule FCC PART 22 Subpart H, PART 24 Subpart E, IC RSS-132 Issue 2 and IC RSS-133 Issue 4.

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	LE920-NAG
Trade Name	LE920
Model Number	LE920-NAG
Model Discrepancy	N/A
Received Date	July 08, 2013
Power Supply	DC 3.8V powered from Host device.
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
Modulation Technique	GMSK
Multislot class	GSM / GPRS / EDGE: Class 12
Antenna Gain	GSM / GPRS / EDGE 850MHz: 0.5dBi GSM / GPRS / EDGE: 1900MHz: 2.2dBi WCDMA Band II: 2.2dBi WCDMA Band V: 0.5dBi
Antenna Type	Dipole Antenna

Remark: *The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*

Mode	ERP Power (dBm)	Type of Emission
GSM 850MHz	32.54	247KGXW
GPRS 850MHz	28.41	246GXW
EDGE 850MHz	27.22	246G7W
WCDMA Band V	27.00	4M17F9W
WCDMA HSDPA Band V	25.49	4M18F9W
WCDMA HSUPA Band V	23.70	4M19F9W

Mode	ERP Power (dBm)	Type of Emission
GSM 1900MHz	32.87	244KGXW
GPRS 1900MHz	26.92	243KGXW
EDGE 1900MHz	25.54	243KG7W
WCDMA Band II	29.31	4M31F9W
WCDMA HSDPA Band II	27.06	4M31F9W
WCDMA HSUPA Band II	25.09	4M31F9W

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 and Part 22 Subpart H & Part 24 Subpart E.

The tests documented in this report were performed in accordance with IC RSS-132, SPSR503, RSS-133, SPSR510 and ANSI C63.4 and TIA/EIA-603-C.

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: LE920-NAG) had been tested under operating condition.

EUT staying in continuous transmitting mode was programmed.

After verification, all tests carried out are with the worst-case test modes as shown below except radiated spurious emission below 1GHz which worst case was in normal link mode.

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

GSM / GPRS / EDGE 1900MHz:
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.

Based on the above results from the different modulations, GSM850 / GSM1900 / GPRS 850 / GPRS1900 / EDGE 850 / EDGE 1900 / WCDMA Band II / WCDMA Band V / HSDPA Band II / HSDPA Band V were determined to be the worst-case scenario for all tests.

4. INSTRUMENT CALIBRATION

4.1MEASURING INSTRUMENT CALIBRATION

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

4.2MEASUREMENT 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

3M Semi Anechoic Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510268	11/06/2013
EMI Test Receiver	R&S	ESCI	100064	02/17/2014
Pre-Amplifier	Mini-Circults	ZFL-1000LN	SF350700823	01/12/2014
Bilog Antenna	Sunol Sciences	JB3	A030105	02/17/2014
Bilog Antenna	Sunol Sciences	JB3	A030205	10/02/2013
Horn Antenna	EMCO	3117	00055165	02/17/2014
Horn Antenna	EMCO	3117	00055167	01/28/2014
Horn Antenna	EMCO	3116	26370	01/07/2014
Loop Antenna	EMCO	6502	8905/2356	06/12/2014
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	12/22/2013
Test S/W	EZ-EMC (CCS-3A1RE)			

4.3MEASUREMENT 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

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

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN, R.O.C.
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4: 2009 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.”

5.3LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.

5.4TABLE 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 II for the actual connections between EUT and support equipment.

6.2SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	101245	N/A	N/A	Unshielded, 1.8m

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.*

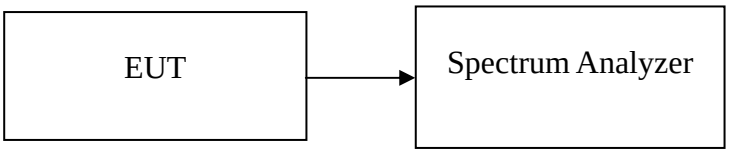
7. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133

7.199% BANDWIDTH

LIMIT

None; for reporting purposes only.

Test Configuration



TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled.

TEST RESULTS

No non-compliance noted.

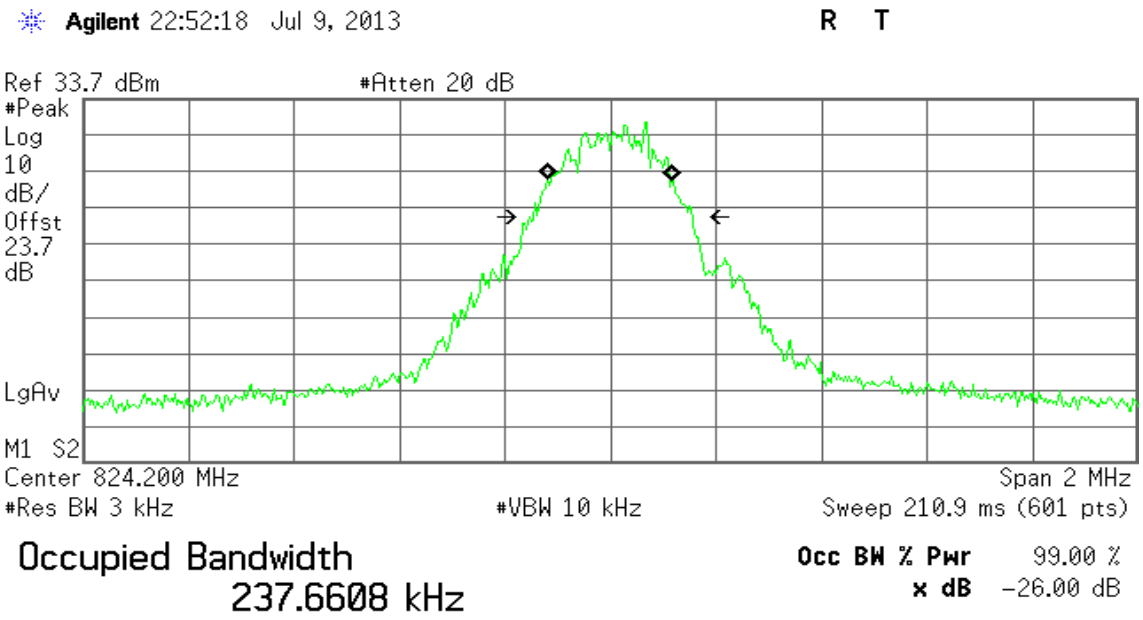
Test Data

Test Mode	CH	Frequency (MHz)	Occupied Bandwidth (kHz)
GSM 850	128	824.200	301.866
	190	836.400	299.350
	251	848.800	303.586
GPRS 850 (Class 12)	128	824.200	301.695
	190	836.400	299.255
	251	848.800	303.586
EDGE 850 (Class 12)	128	824.200	301.695
	190	836.570	295.682
	251	848.800	303.642
GSM 1900	512	1850.210	317.559
	661	1880.000	316.828
	810	1909.823	315.783
GPRS 1900 (Class 12)	512	1850.210	318.892
	661	1880.000	316.828
	810	1909.823	315.783
EDGE 1900 (Class 12)	512	1850.173	317.558
	661	1880.000	316.828
	810	1909.800	314.675

Test Mode	CH	Frequency (MHz)	Occupied Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	8.120
	9400	1880.00	4.906
	9538	1907.60	4.678
WCDMA (Band V)	4132	826.40	4.750
	4182	836.40	4.628
	4233	846.60	4.697
WCDMA / HSDPA (BAND II)	9262	1852.40	8.235
	9400	1880.00	4.840
	9538	1907.60	4.682
WCDMA / HSDPA (BAND V)	4132	826.40	4.711
	4182	836.40	4.639
	4233	846.60	4.669
WCDMA / HSUPA (BAND II)	9262	1852.40	8.235
	9400	1880.00	4.832
	9538	1907.60	4.680
WCDMA / HSUPA (BAND V)	4132	826.40	4.754
	4182	836.40	4.629
	4233	846.60	4.690

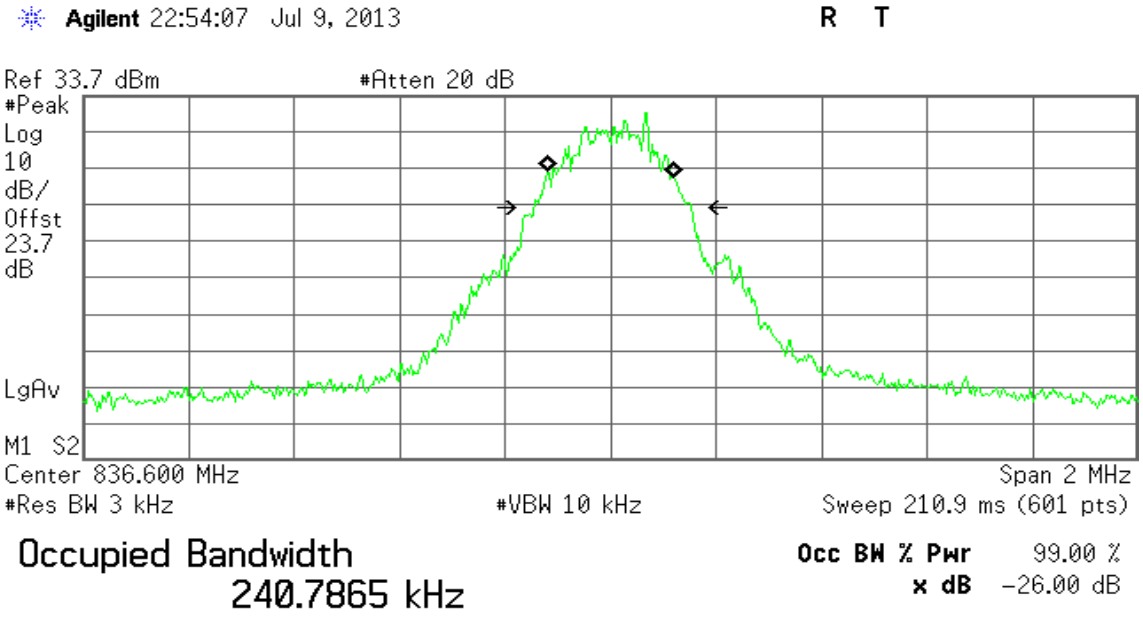
Test Plot

GSM 850 (CH Low)



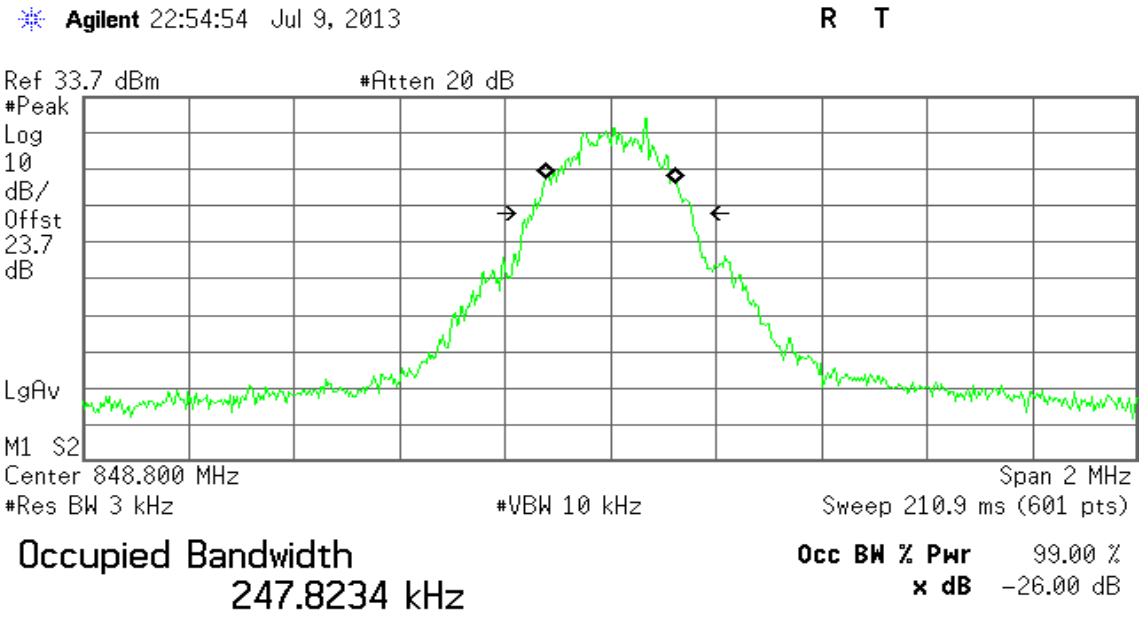
Transmit Freq Error -612.881 Hz
x dB Bandwidth 301.866 kHz

GSM 850 (CH Mid)



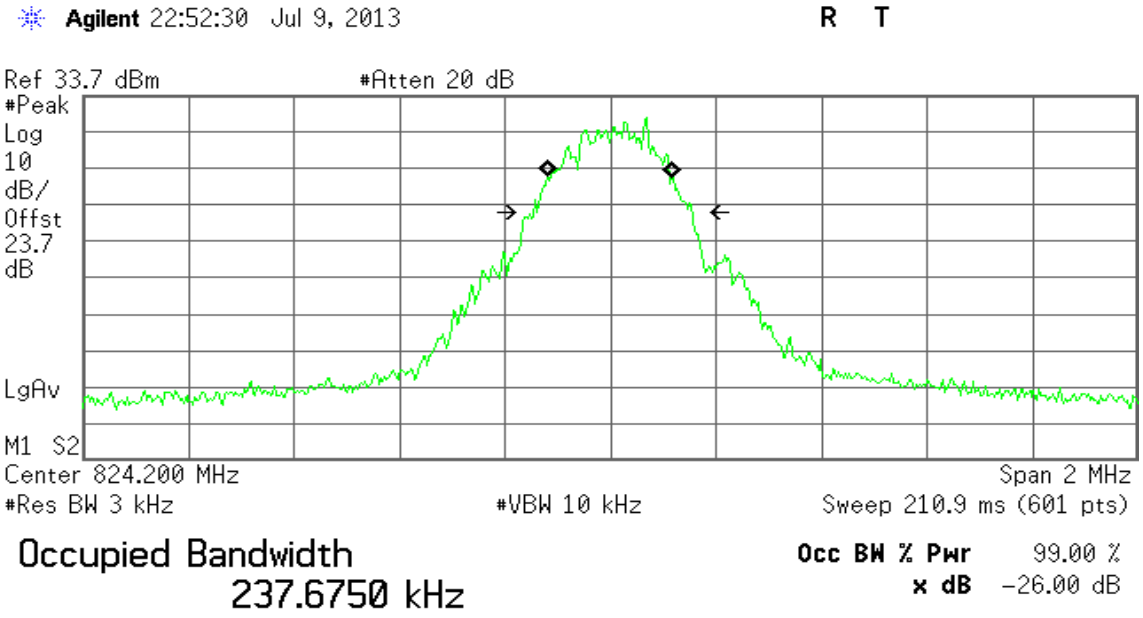
Transmit Freq Error -22.213 Hz
x dB Bandwidth 299.350 kHz

GSM 850 (CH High)



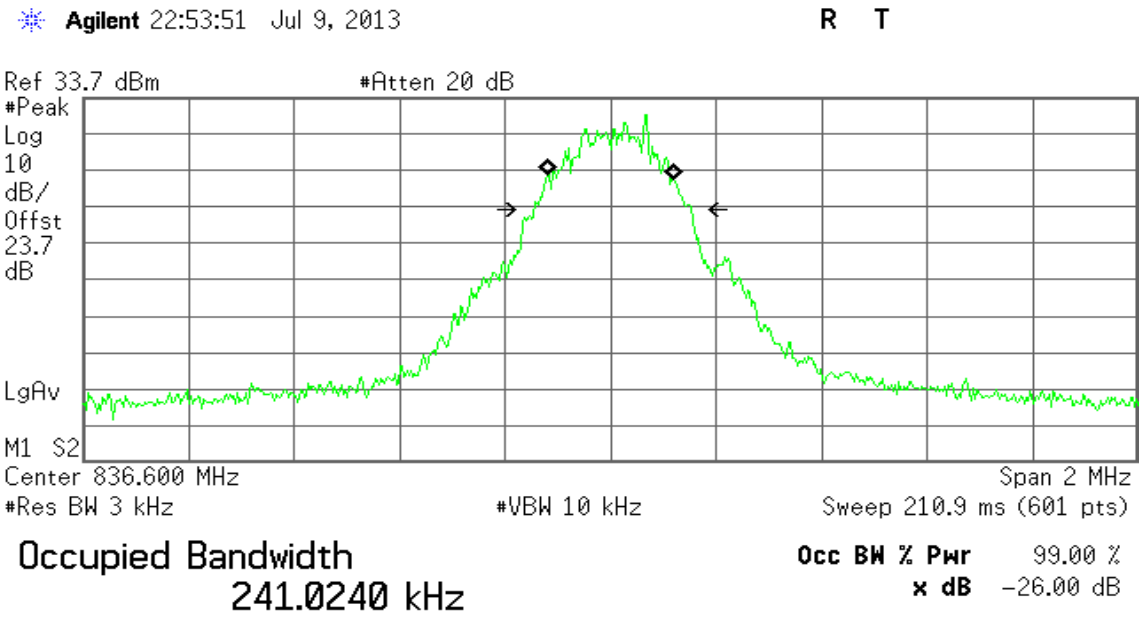
Transmit Freq Error	558.260 Hz
x dB Bandwidth	303.586 kHz

GPRS 850 (CH Low)



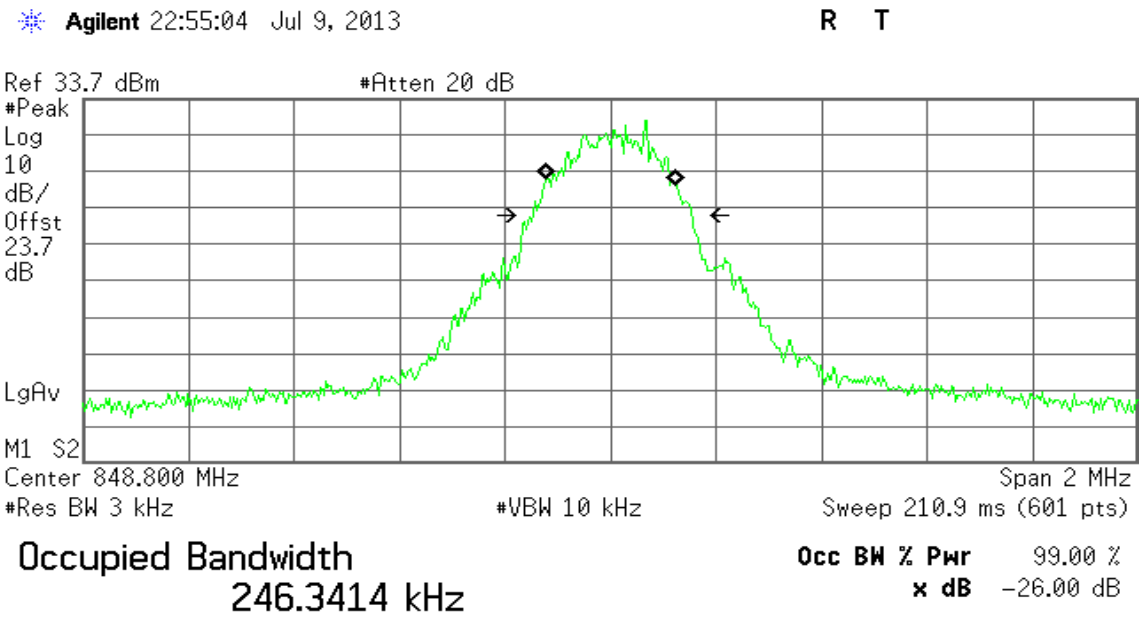
Transmit Freq Error	-651.047 Hz
x dB Bandwidth	301.695 kHz

GPRS 850 (CH Mid)



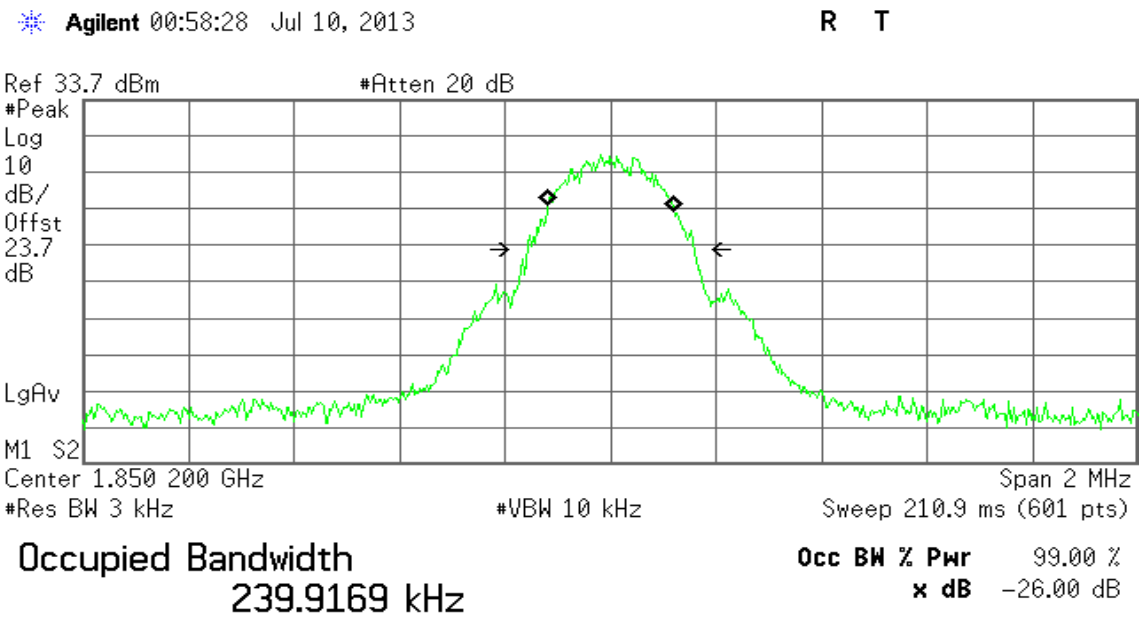
Transmit Freq Error 5.366 Hz
x dB Bandwidth 299.255 kHz

GPRS 850(CH High)



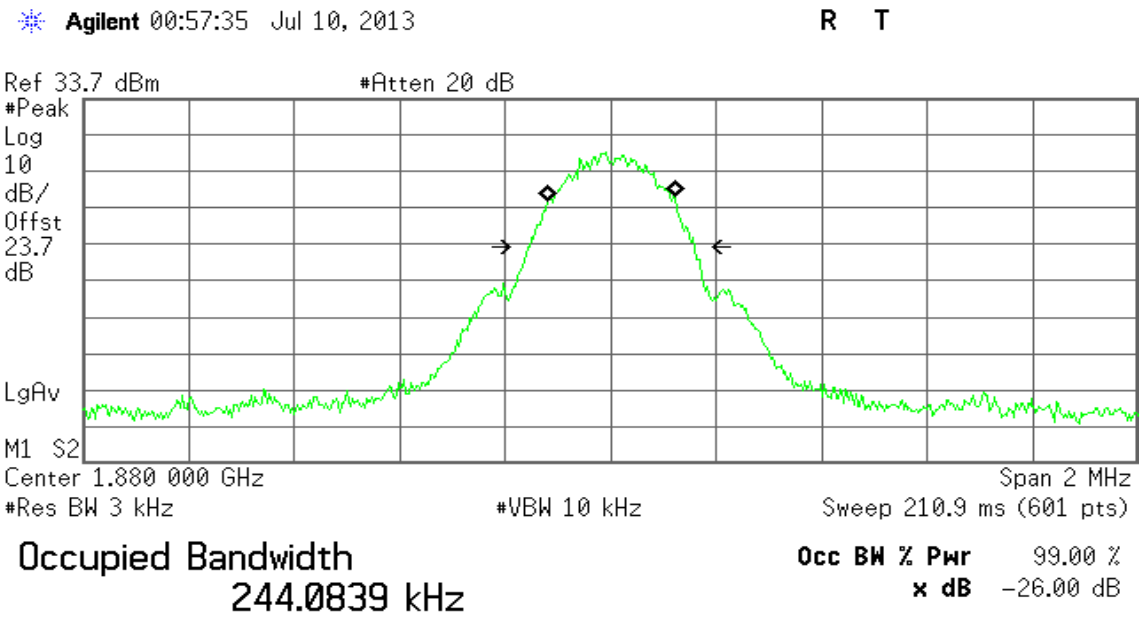
Transmit Freq Error 404.295 Hz
x dB Bandwidth 303.586 kHz

GSM 1900 (CH Low)



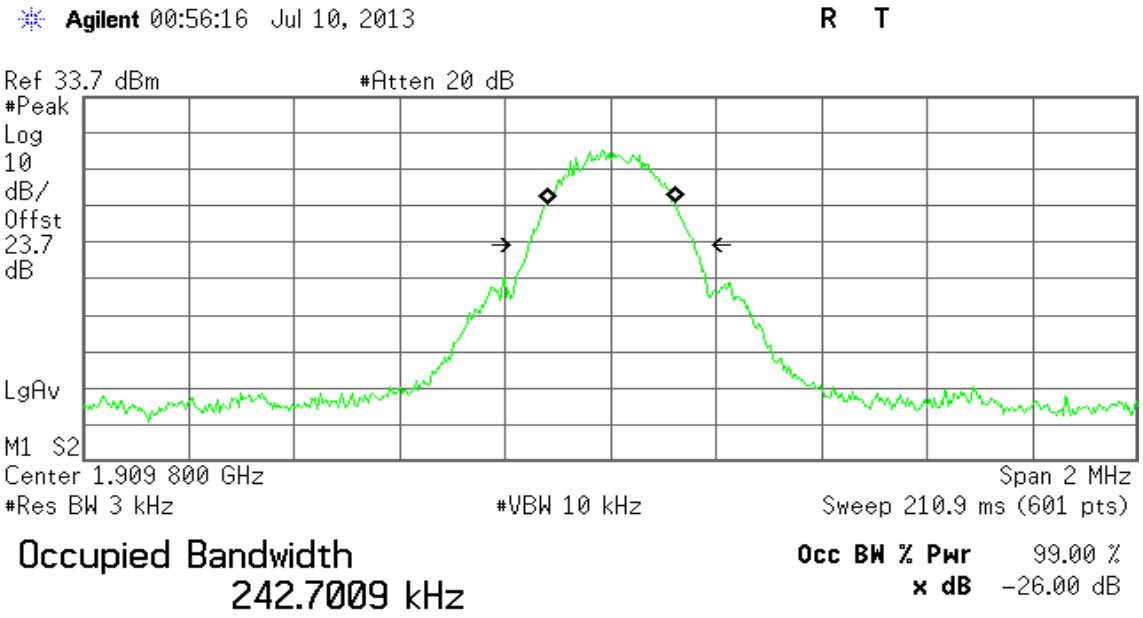
Transmit Freq Error 1.364 kHz
x dB Bandwidth 317.559 kHz

GSM 1900 (CH Mid)



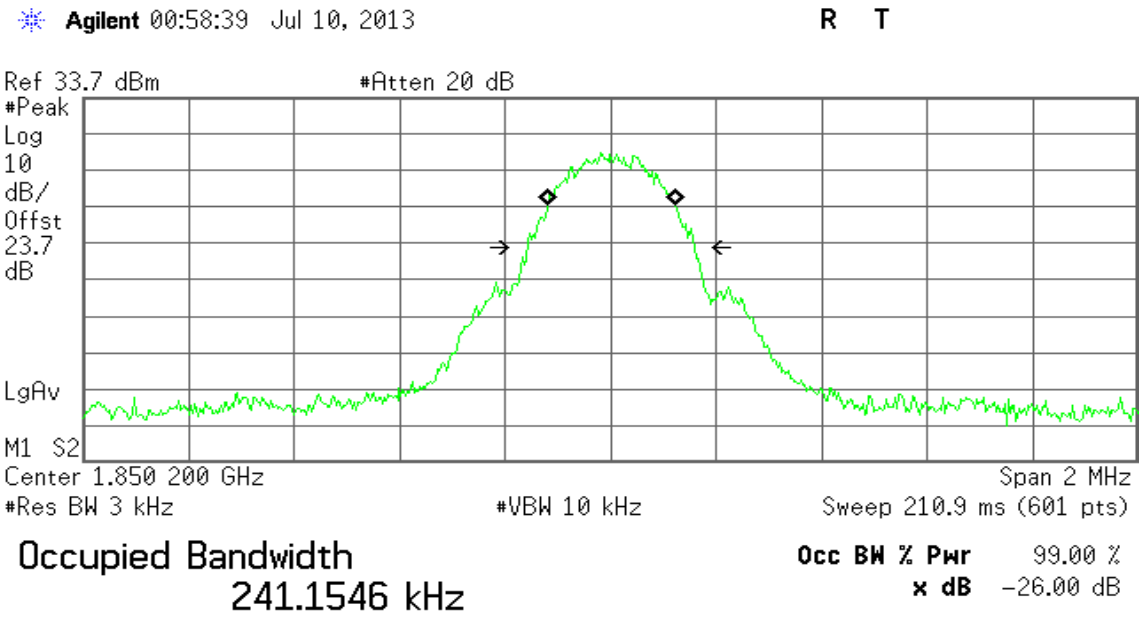
Transmit Freq Error 1.298 kHz
x dB Bandwidth 316.828 kHz

GSM 1900 (CH High)



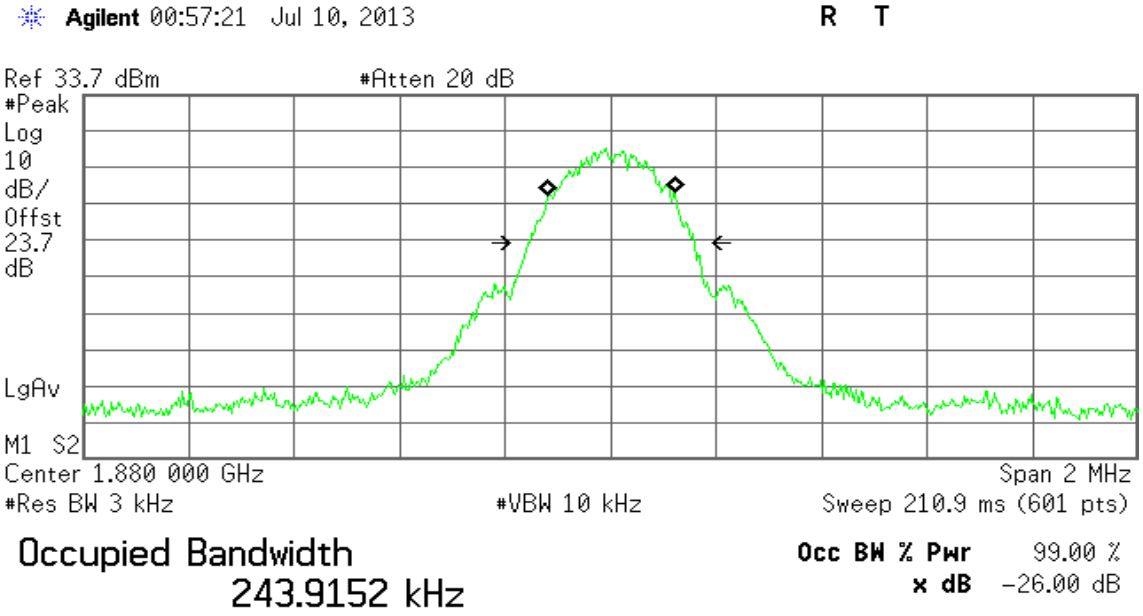
Transmit Freq Error	426.994 Hz
x dB Bandwidth	315.783 kHz

GPRS 1900 (CH Low)



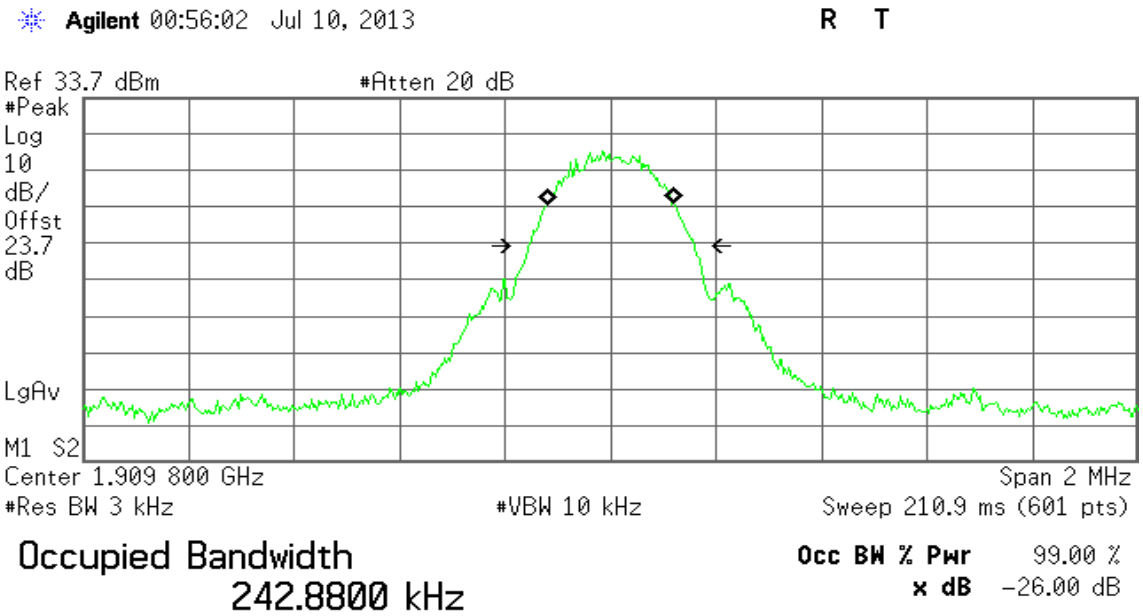
Transmit Freq Error	1.576 kHz
x dB Bandwidth	318.892 kHz

GPRS 1900 (CH Mid)



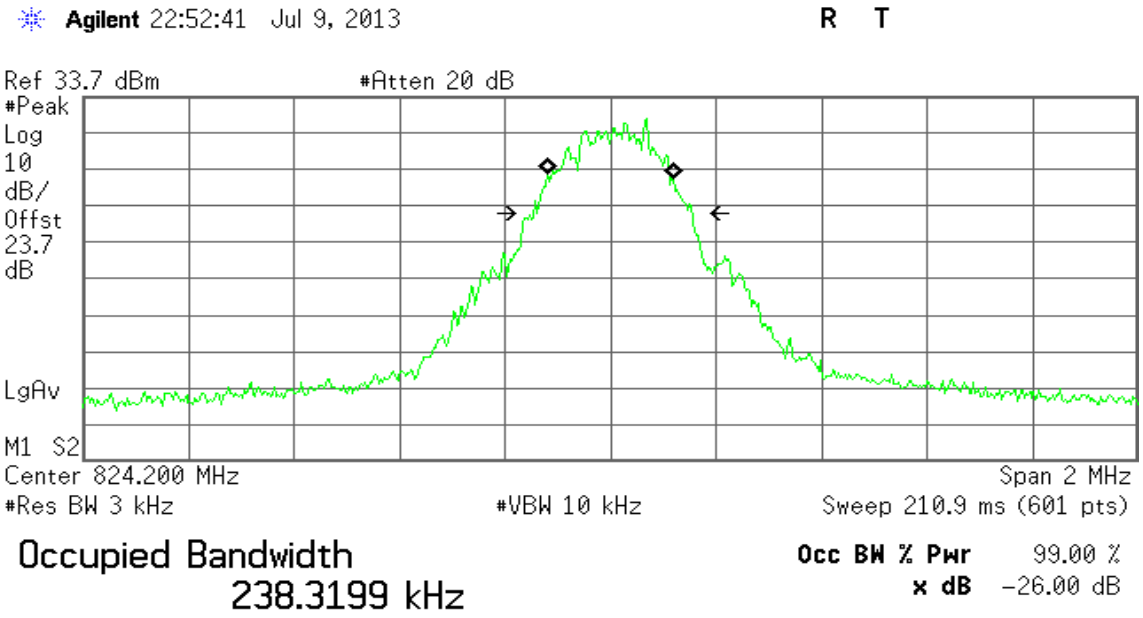
Transmit Freq Error	1.519 kHz
x dB Bandwidth	316.828 kHz

GPRS 1900 (CH High)



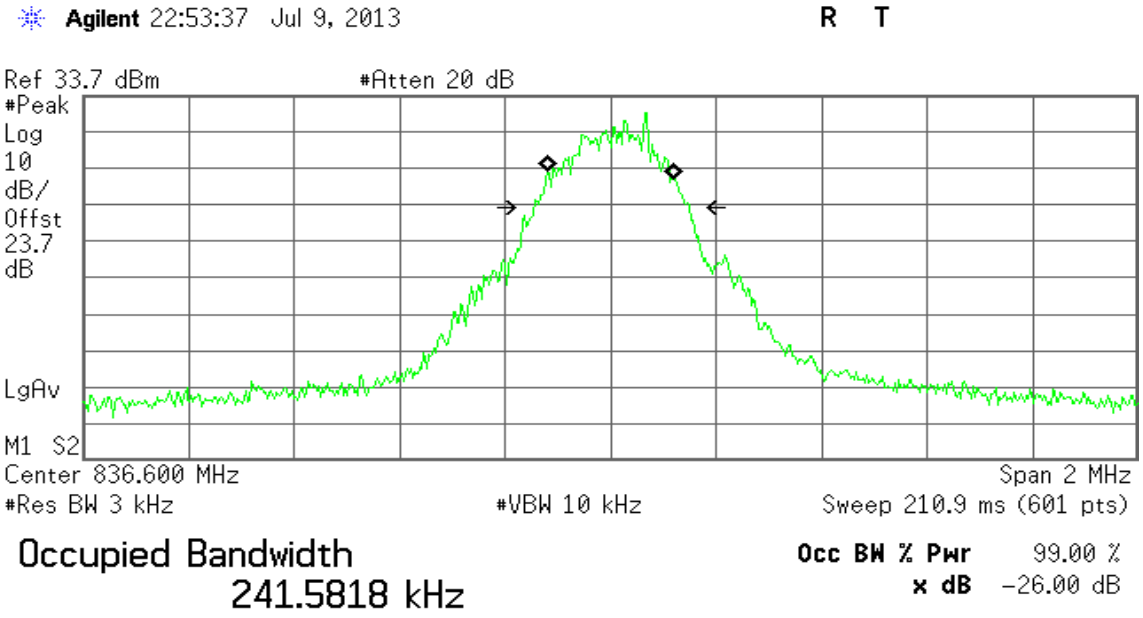
Transmit Freq Error	164.106 Hz
x dB Bandwidth	315.783 kHz

EDGE 850 (CH Low)



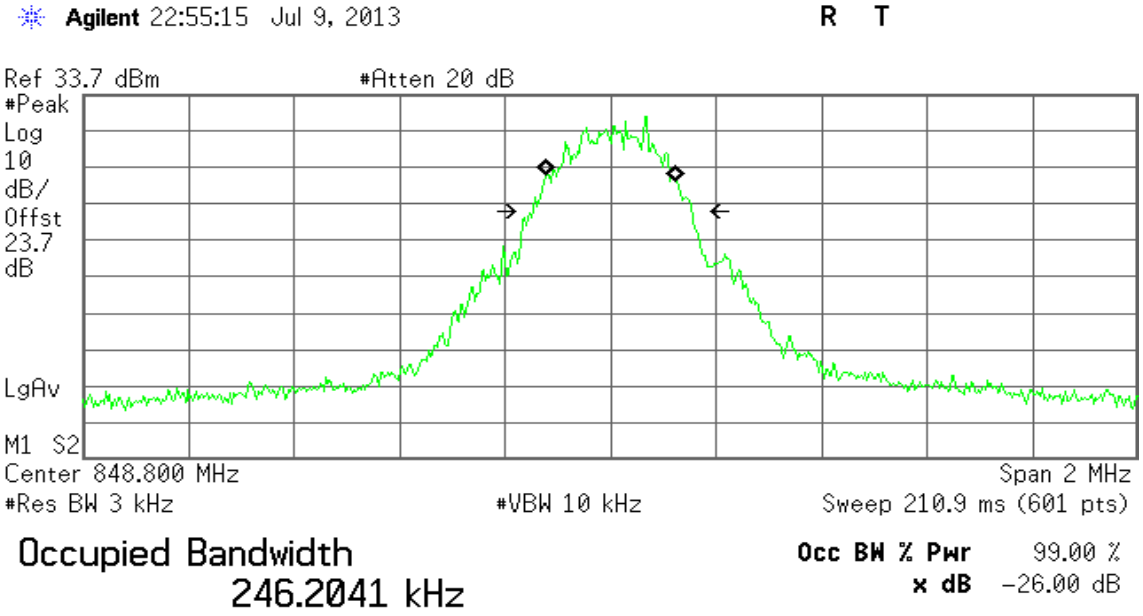
Transmit Freq Error	-603.003 Hz
x dB Bandwidth	301.695 kHz

EDGE 850 (CH Mid)



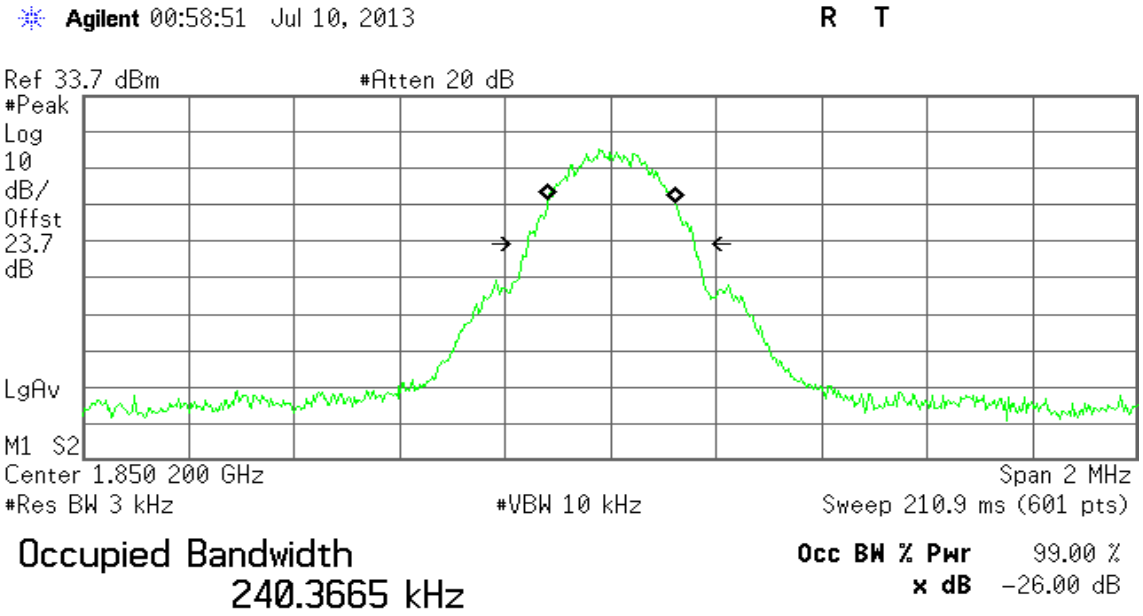
Transmit Freq Error	463.630 Hz
x dB Bandwidth	295.682 kHz

EDGE 850 (CH High)



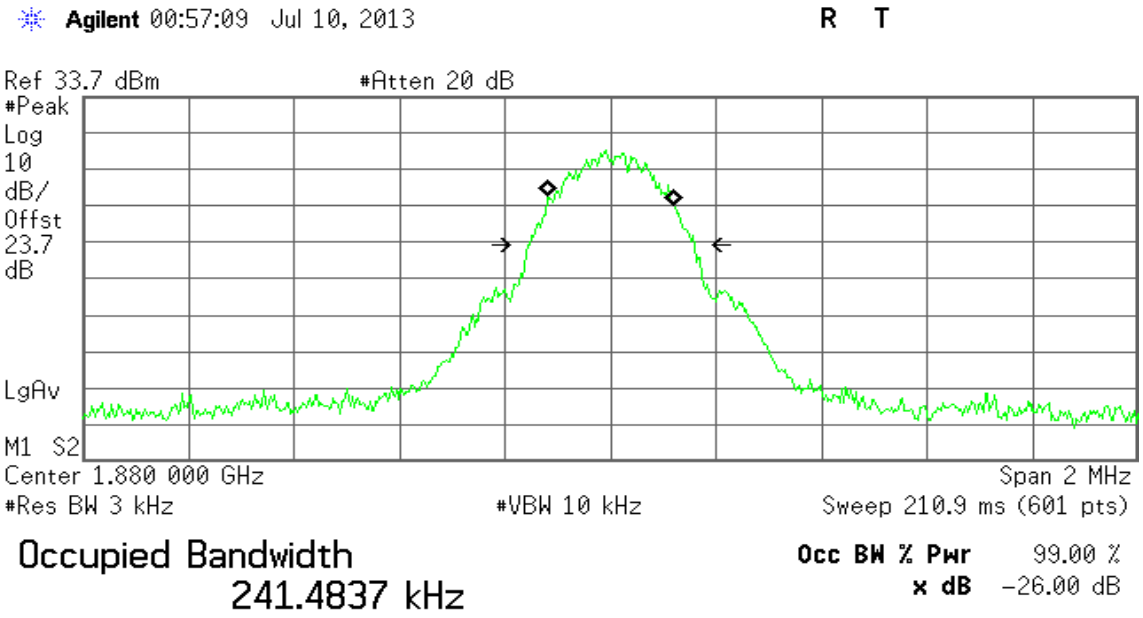
Transmit Freq Error	499.787 Hz
x dB Bandwidth	303.642 kHz

EDGE 1900 (CH Low)



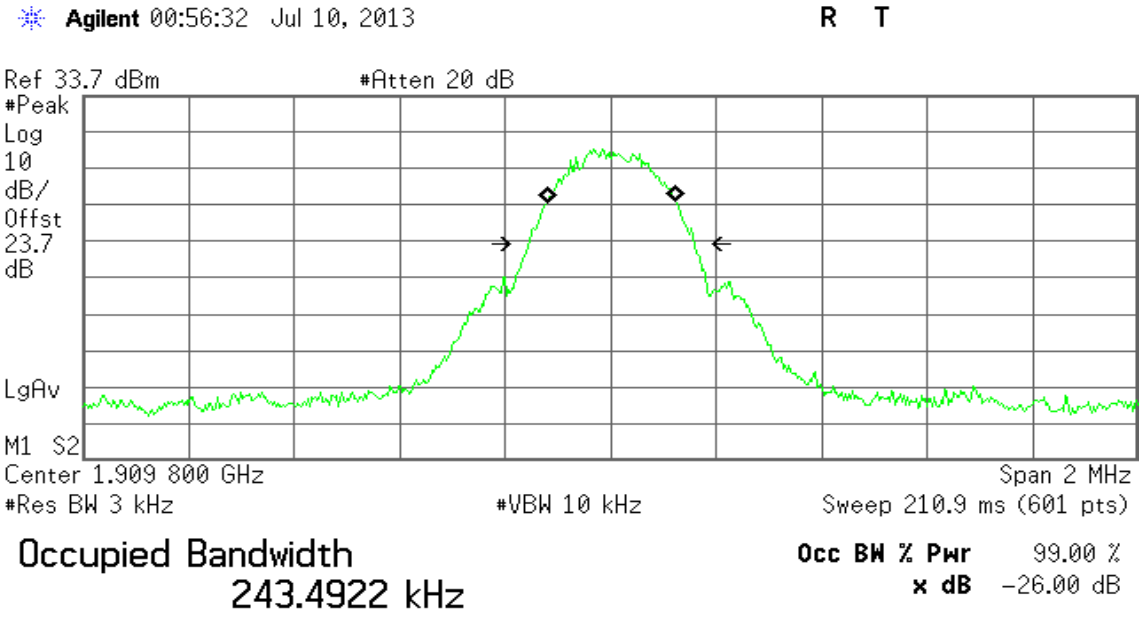
Transmit Freq Error	1.729 kHz
x dB Bandwidth	317.558 kHz

EDGE 1900 (CH Mid)



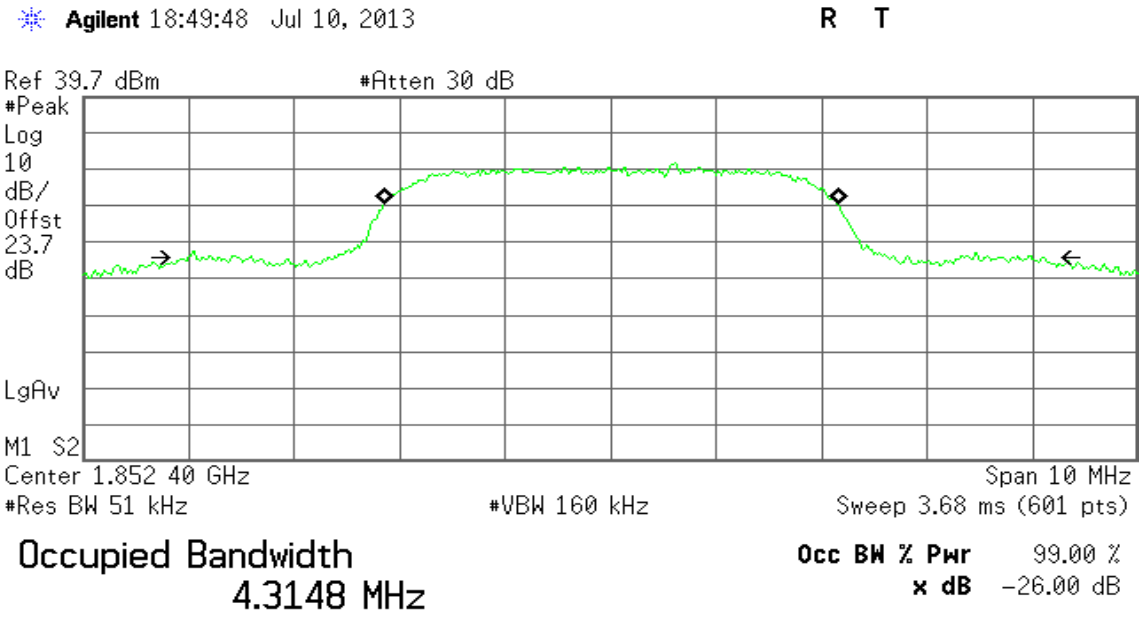
Transmit Freq Error	596.060 Hz
x dB Bandwidth	316.828 kHz

EDGE 1900 (CH High)



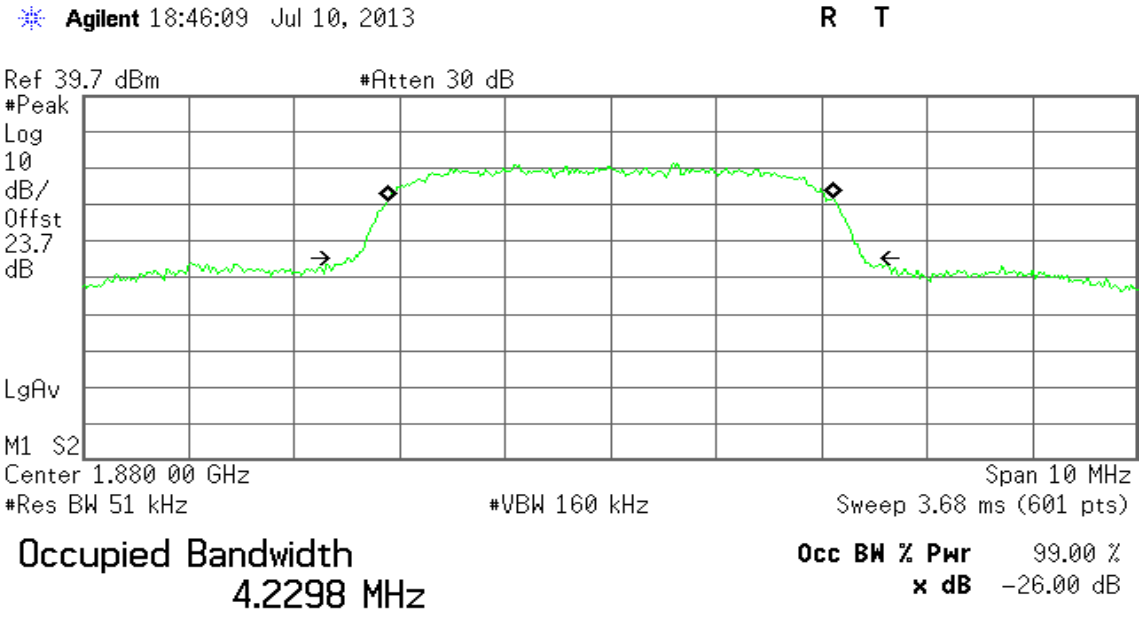
Transmit Freq Error	1.130 kHz
x dB Bandwidth	314.675 kHz

WCDMA Band II (CH Low)



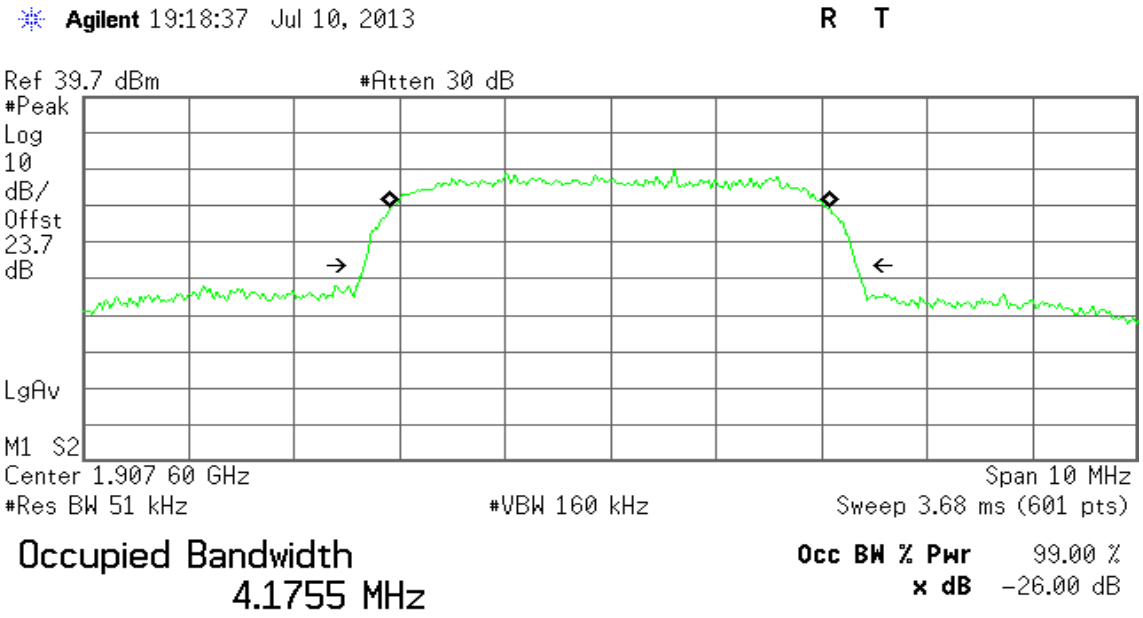
Transmit Freq Error 2.077 kHz
x dB Bandwidth 8.120 MHz

WCDMA Band II (CH Mid)



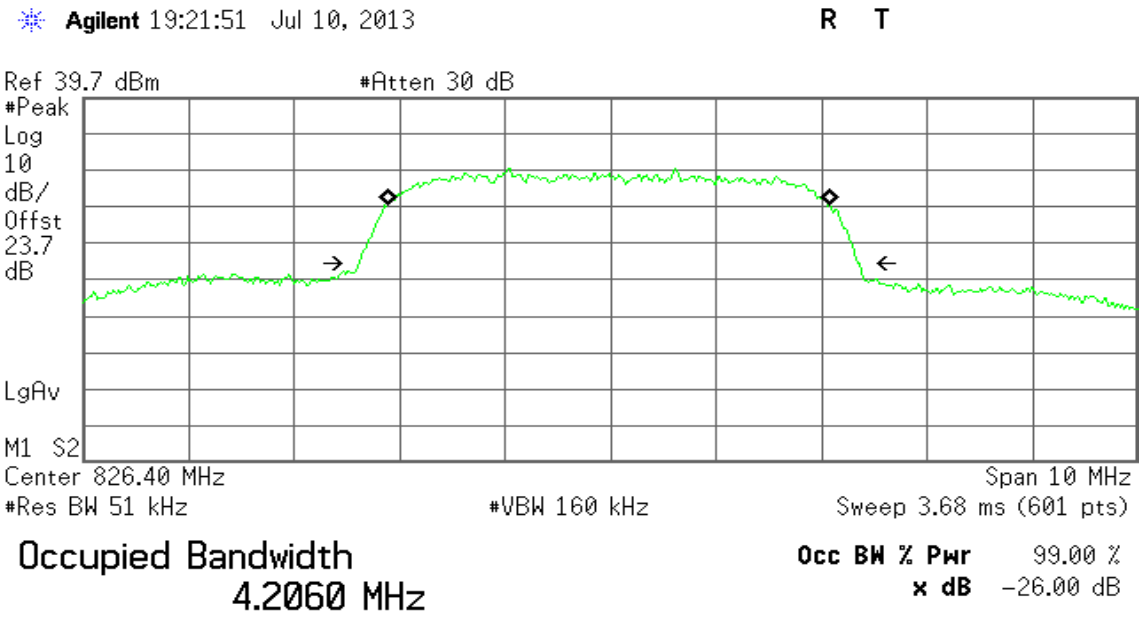
Transmit Freq Error -3.553 kHz
x dB Bandwidth 4.906 MHz

WCDMA Band II (CH High)



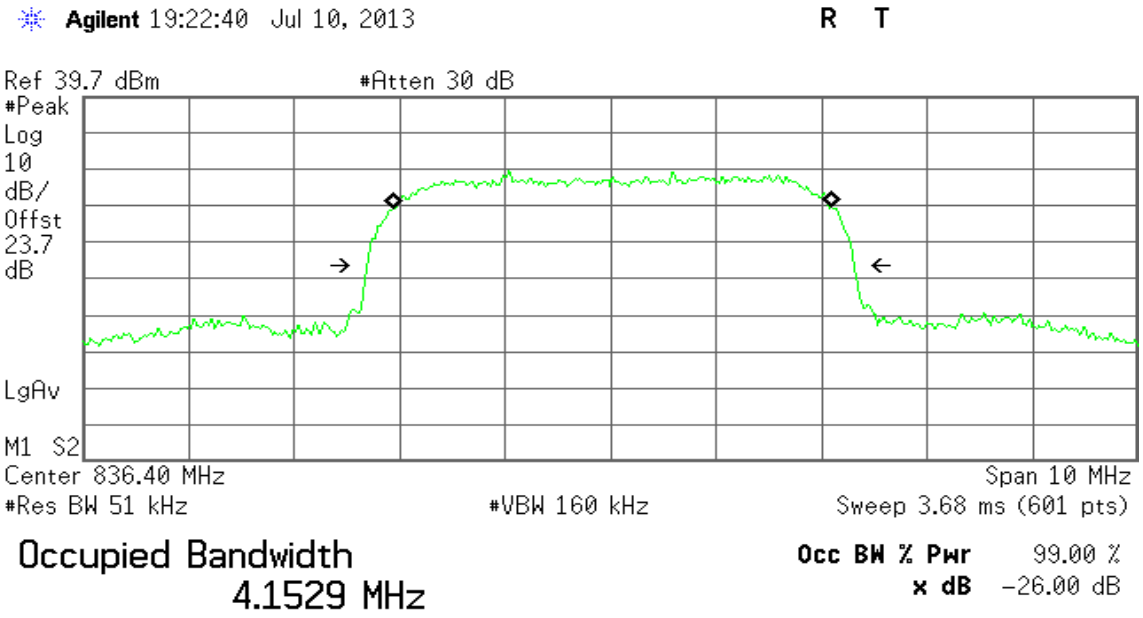
Transmit Freq Error -6.503 kHz
x dB Bandwidth 4.678 MHz

WCDMA Band V (CH Low)



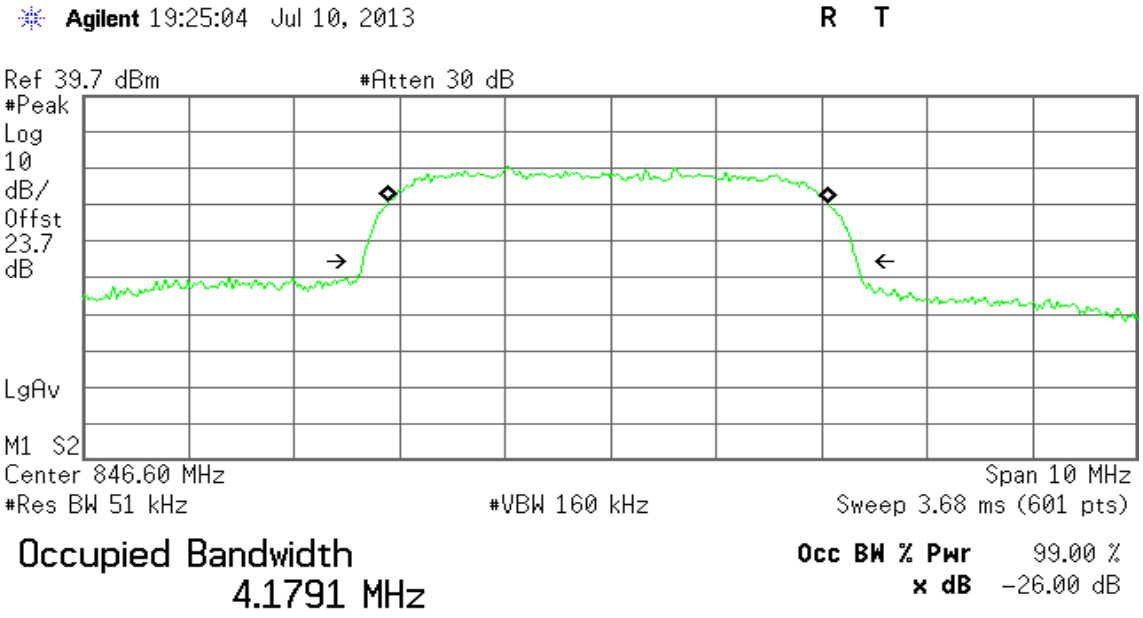
Transmit Freq Error -20.496 kHz
x dB Bandwidth 4.750 MHz

WCDMA Band V (CH Mid)



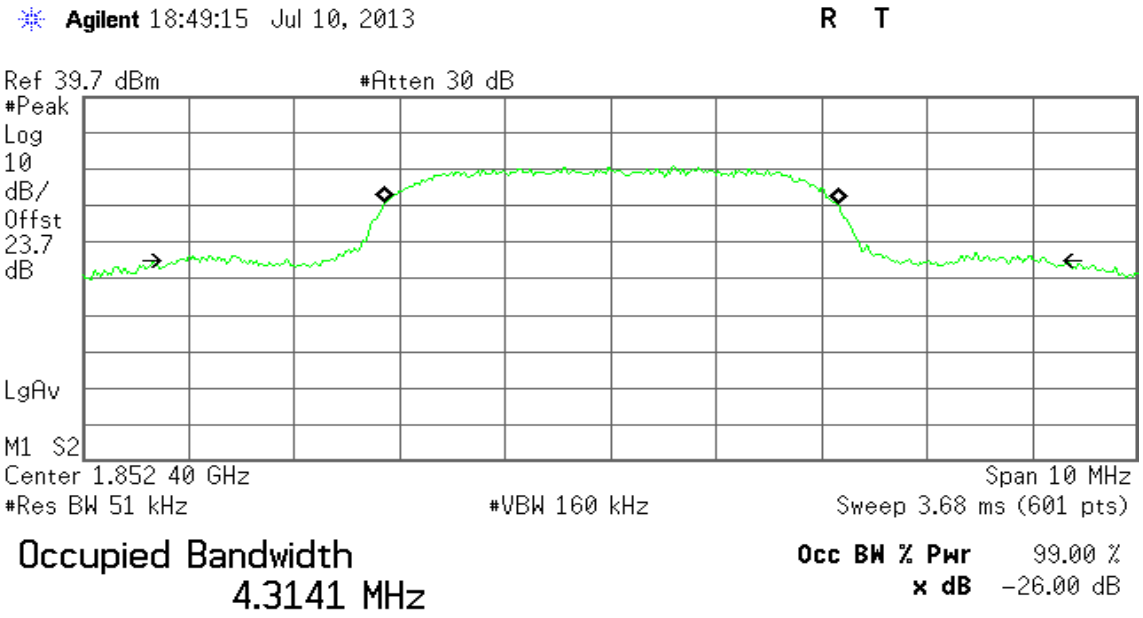
Transmit Freq Error 15.490 kHz
x dB Bandwidth 4.628 MHz

WCDMA Band V (CH High)



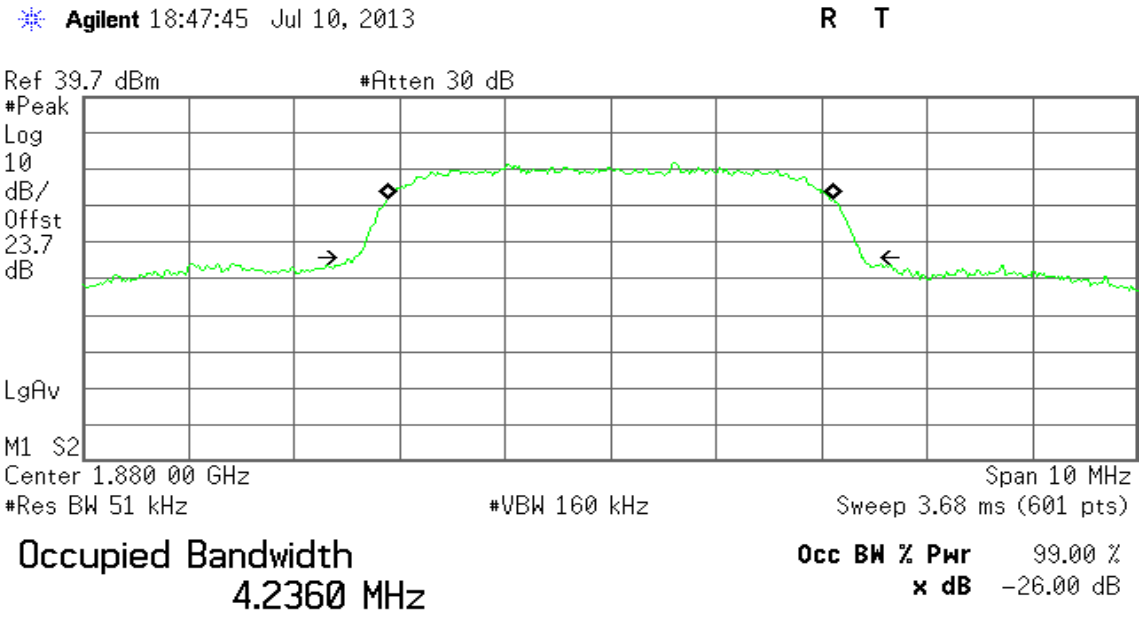
Transmit Freq Error -24.087 kHz
x dB Bandwidth 4.697 MHz

WCDMA / HSDPA Band II (CH Low)



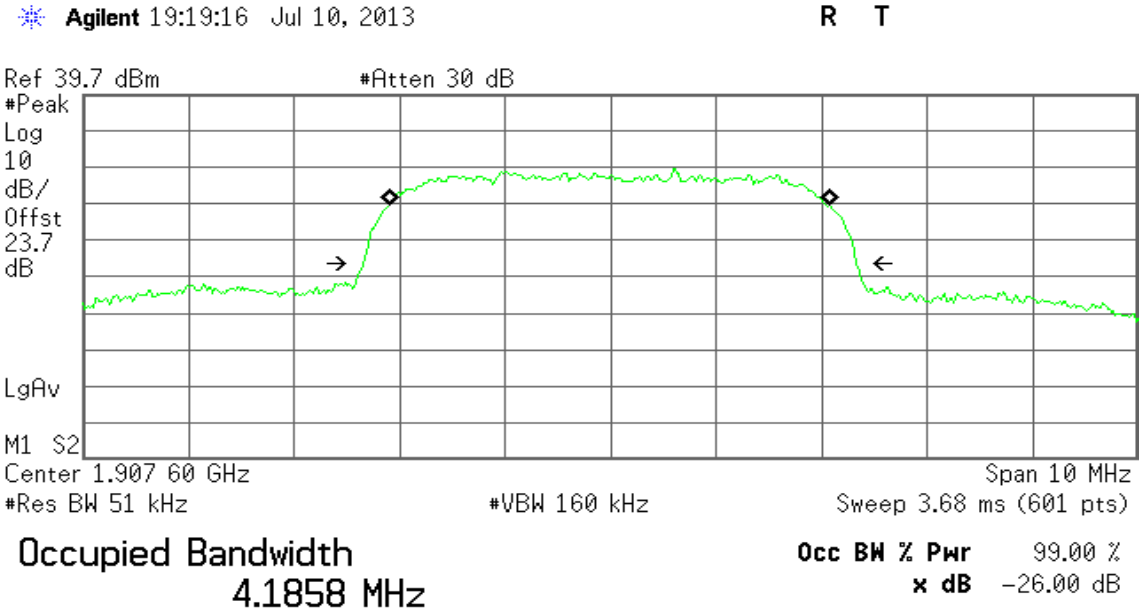
Transmit Freq Error 3.005 kHz
x dB Bandwidth 8.235 MHz

WCDMA / HSDPA Band II (CH Mid)



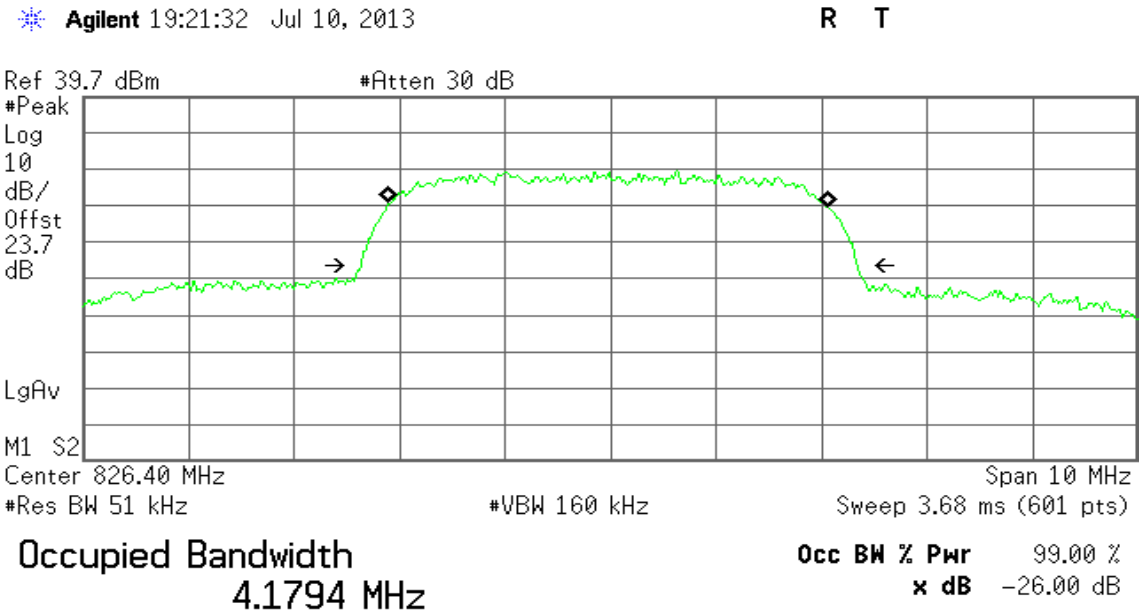
Transmit Freq Error -3.450 kHz
x dB Bandwidth 4.840 MHz

WCDMA / HSDPA Band II (CH High)



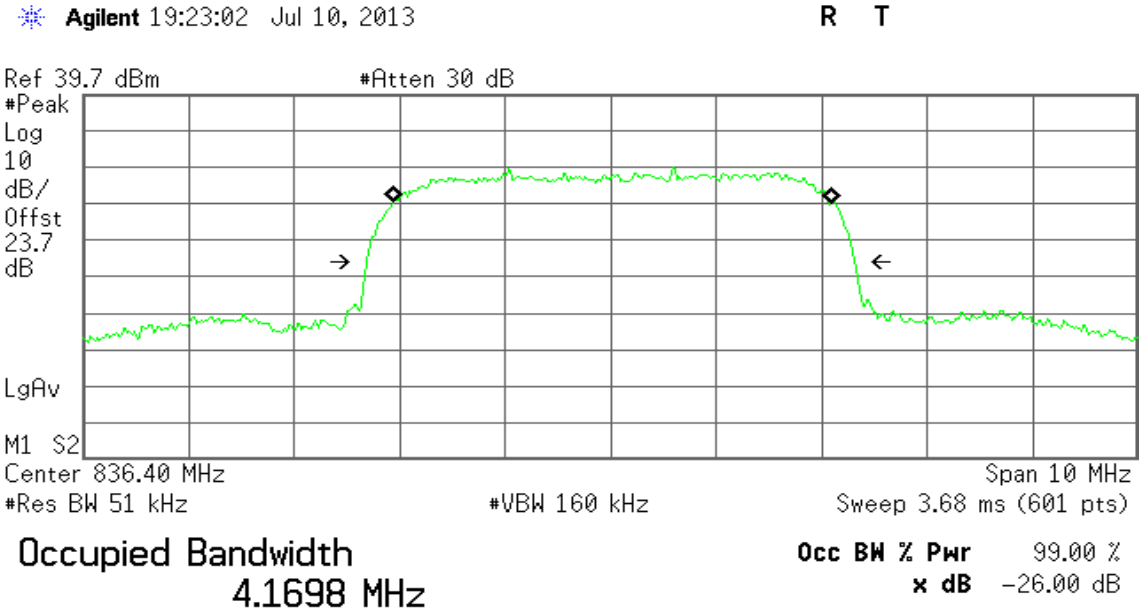
Transmit Freq Error	-12.620 kHz
x dB Bandwidth	4.682 MHz

WCDMA / HSDPA Band V (CH Low)



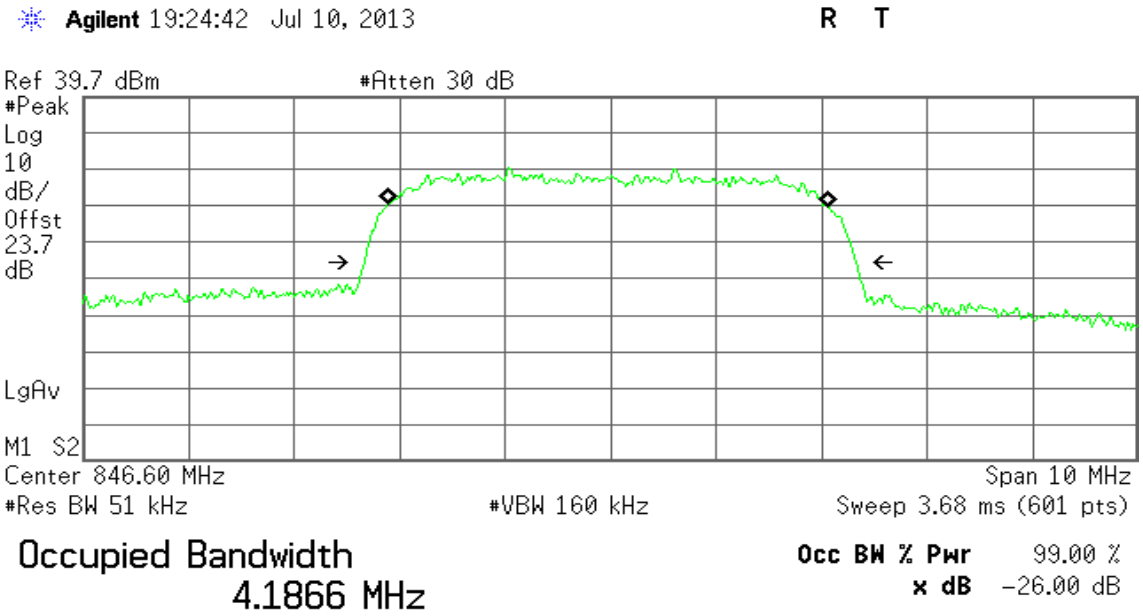
Transmit Freq Error	-21.909 kHz
x dB Bandwidth	4.711 MHz

WCDMA / HSDPA Band V (CH Mid)



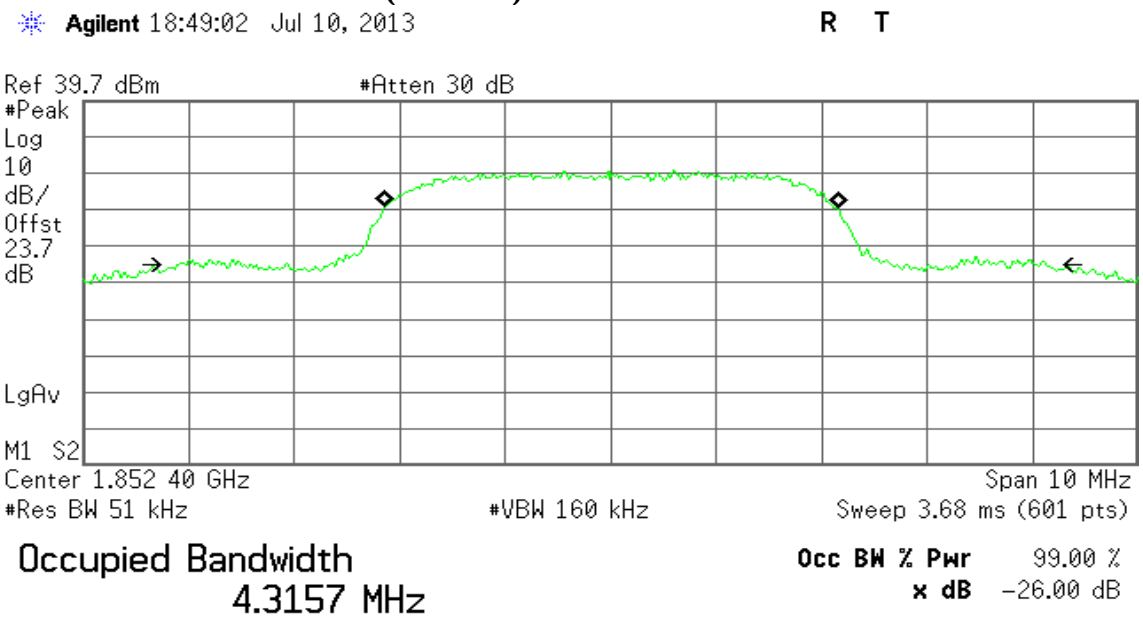
Transmit Freq Error	20.258 kHz
x dB Bandwidth	4.639 MHz

WCDMA / HSDPA Band V (CH High)



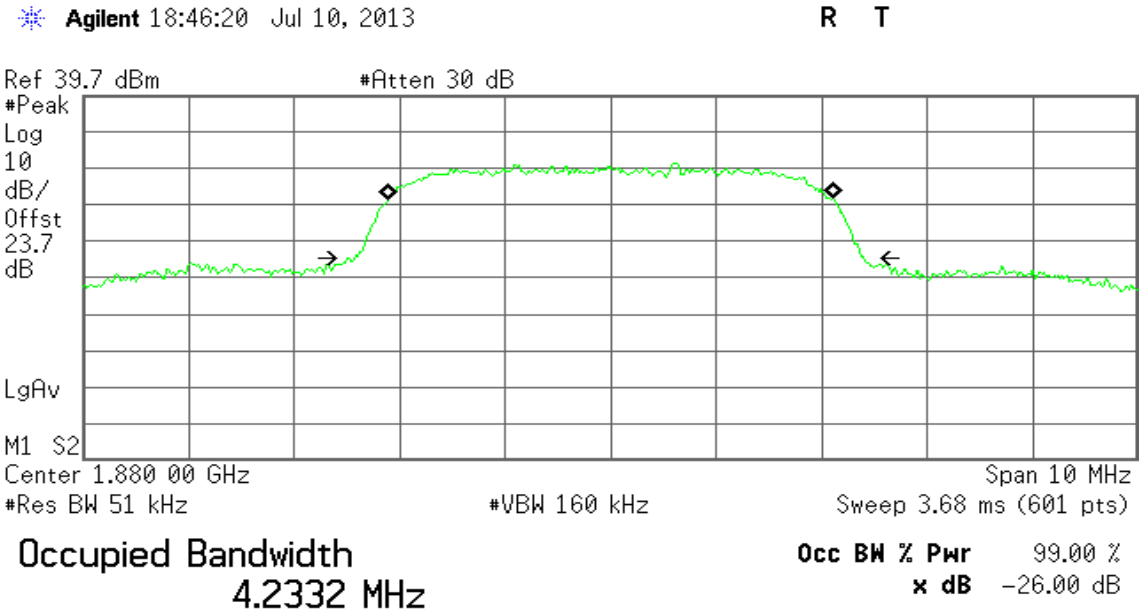
Transmit Freq Error	-23.920 kHz
x dB Bandwidth	4.669 MHz

WCDMA / HSUPA Band II (CH Low)



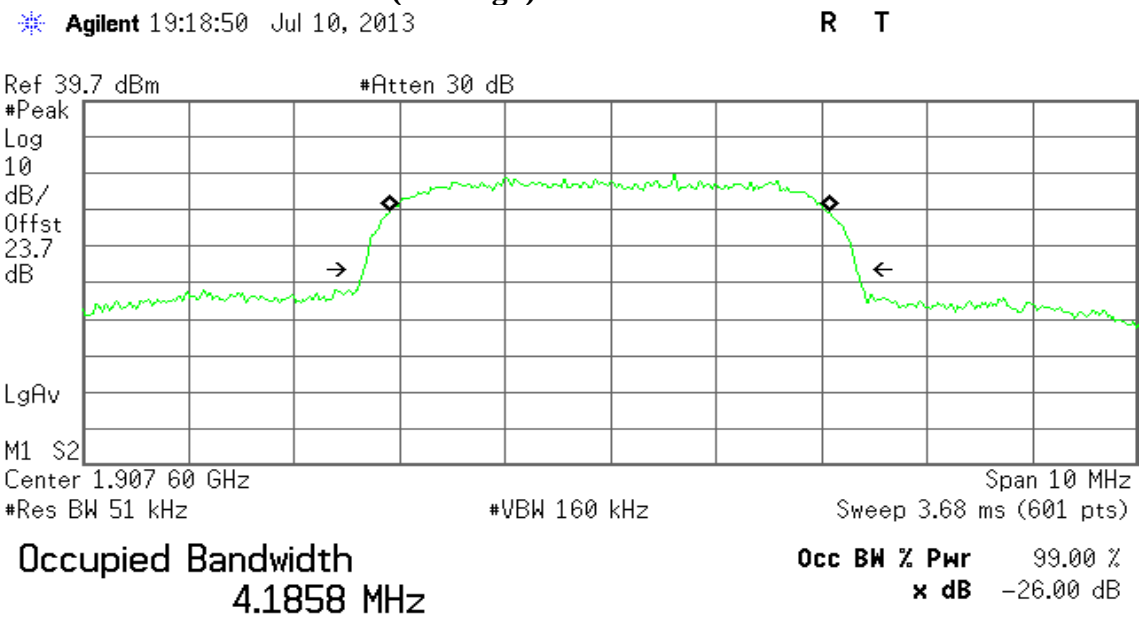
Transmit Freq Error	3.804 kHz
x dB Bandwidth	8.235 MHz

WCDMA / HSUPA Band II (CH Mid)



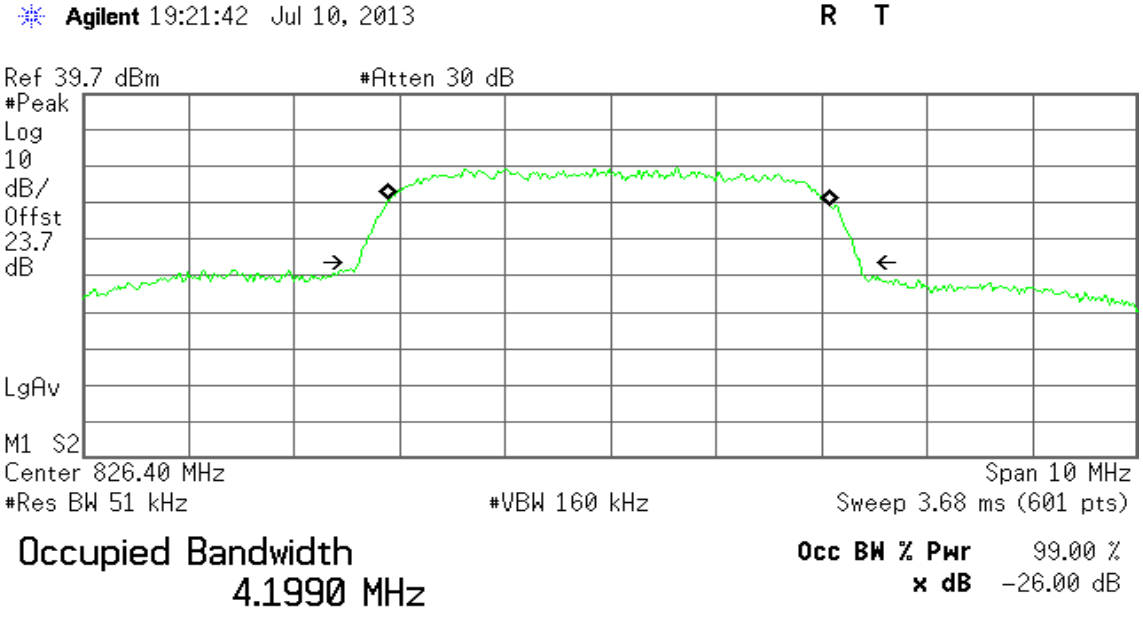
Transmit Freq Error	-5.290 kHz
x dB Bandwidth	4.832 MHz

WCDMA / HSUPA Band II (CH High)



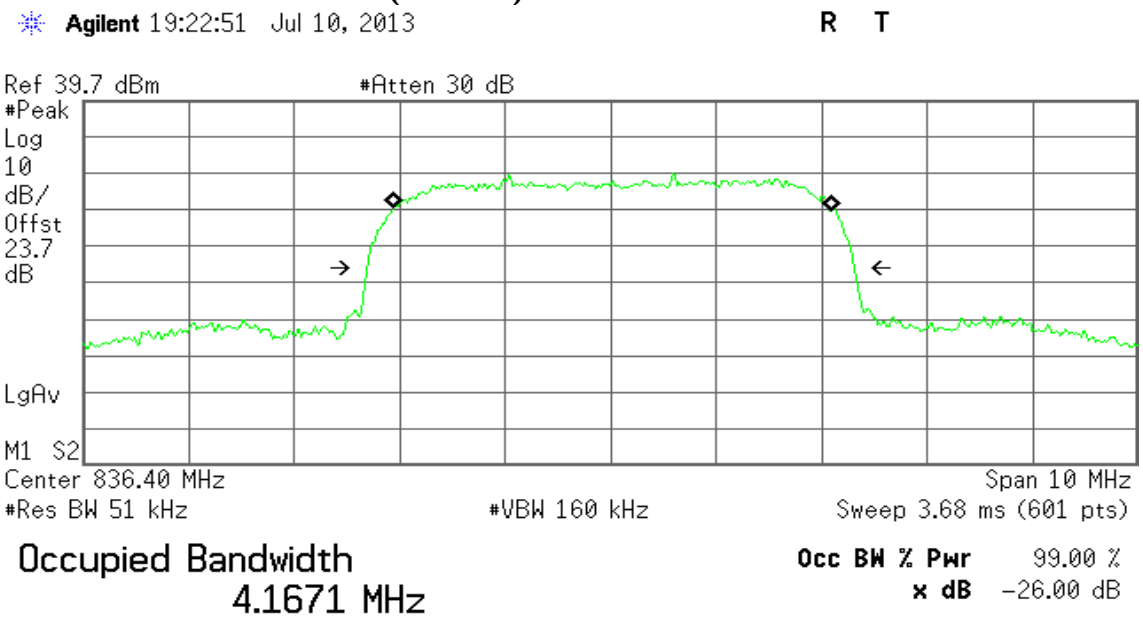
Transmit Freq Error -12.332 kHz
x dB Bandwidth 4.680 MHz

WCDMA / HSUPA Band V (CH Low)



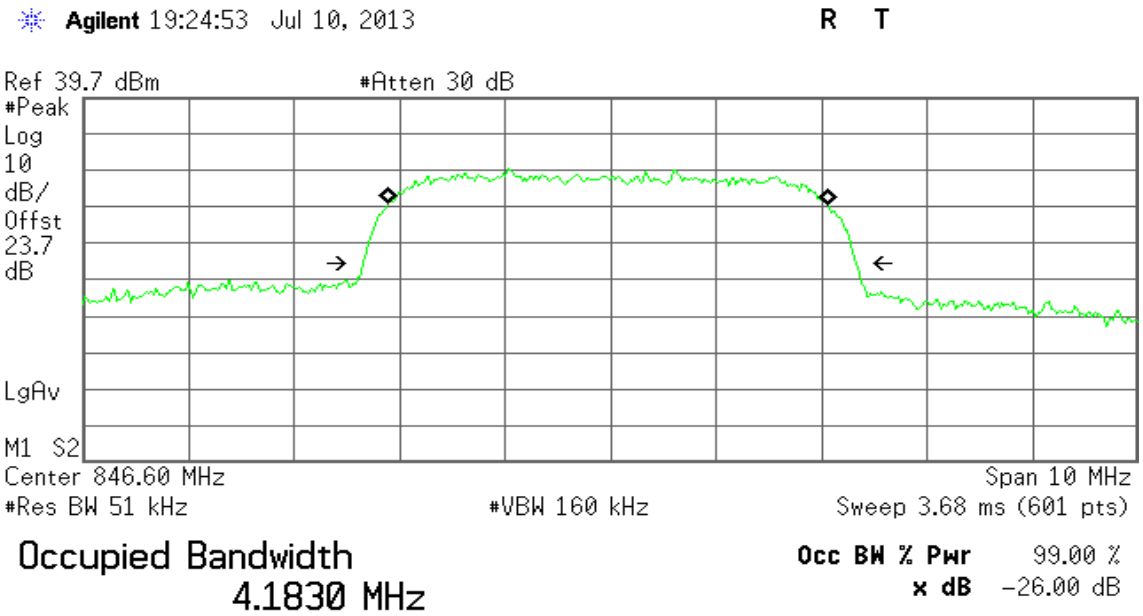
Transmit Freq Error -17.730 kHz
x dB Bandwidth 4.754 MHz

WCDMA / HSUPA Band V (CH Mid)



Transmit Freq Error	19.643 kHz
x dB Bandwidth	4.629 MHz

WCDMA / HSUPA Band V (CH High)



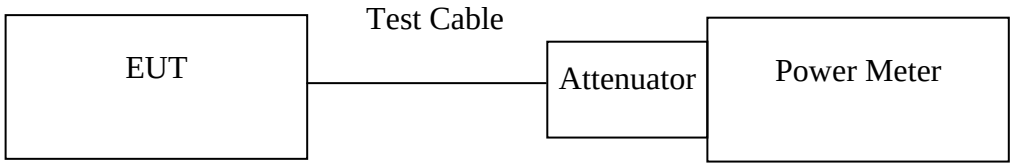
Transmit Freq Error	-24.088 kHz
x dB Bandwidth	4.690 MHz

7.2PEAK POWER

LIMIT

According to FCC §2.1046.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
GSM 850	128	824.20	32.80	1.90546
	190	836.40	32.60	1.81970
	251	848.80	32.70	1.86209
GPRS 850 (Class 12)	128	824.20	31.40	1.3804
	190	836.40	31.50	1.4125
	251	848.80	31.50	1.4125
EDGE 850 (Class 12)	128	824.20	26.70	0.4677
	190	836.40	26.90	0.4898
	251	848.80	26.70	0.4677

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
GSM 1900	512	1850.20	28.20	0.66069
	661	1880.00	29.30	0.85114
	810	1910.00	29.60	0.91201
GPRS 1900 (Class 12)	512	1850.20	28.30	0.6761
	661	1880.00	28.00	0.63096
	810	1910.00	28.40	0.69183
EDGE 1900 (Class 12)	512	1850.20	25.60	0.3631
	661	1880.00	25.80	0.3802
	810	1910.00	26.10	0.4074

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	24.98	0.31477
	9400	1880.00	24.98	0.31477
	9538	1907.60	24.60	0.28840
WCDMA (BAND V)	4132	826.40	24.95	0.31261
	4182	836.40	24.91	0.30974
	4233	846.60	24.98	0.31477

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSDPA (BAND II)	9262	1852.40	24.96	0.31333
	9400	1880.00	24.95	0.31261
	9538	1907.60	24.50	0.28184
WCDMA / HSDPA (BAND V)	4132	826.40	24.93	0.31117
	4182	836.40	24.84	0.30479
	4233	846.60	24.95	0.31261

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSUPA (BAND II)	9262	1852.40	24.95	0.31261
	9400	1880.00	24.90	0.30903
	9538	1907.60	24.28	0.26792
WCDMA / HSUPA (BAND V)	4132	826.40	24.90	0.30903
	4182	836.40	24.83	0.30409
	4233	846.60	24.90	0.30903

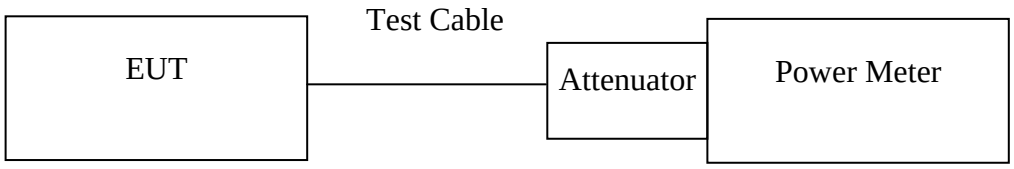
Remark: *The value of factor includes both the loss of cable and external attenuator*

7.3AVERAGE 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)	Average Power (dBm)	Output Power (W)
GSM 850	128	824.20	32.20	1.65959
	190	836.40	32.10	1.62181
	251	848.80	32.10	1.62181
GPRS 850 (Class 12)	128	824.20	28.39	0.6902
	190	836.40	28.49	0.7063
	251	848.80	28.49	0.7063
EDGE 850 (Class 12)	128	824.20	23.69	0.2339
	190	836.40	23.89	0.2449
	251	848.80	23.69	0.2339

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
GSM 1900	512	1850.20	27.70	0.58884
	661	1880.00	28.80	0.75858
	810	1909.80	29.30	0.85114
GPRS 1900 (Class 12)	512	1850.20	25.29	0.3381
	661	1880.00	24.99	0.3155
	810	1909.80	25.39	0.3459
EDGE 1900 (Class 12)	512	1850.20	22.59	0.1816
	661	1880.00	22.79	0.1901
	810	1909.80	23.09	0.2037

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

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
WCDMA (BAND II)	9262	1852.40	24.96	0.31333
	9400	1880.00	24.91	0.30974
	9538	1907.60	24.49	0.28119
WCDMA (BAND V)	4132	826.40	24.93	0.31117
	4182	836.40	24.88	0.30761
	4233	846.60	24.93	0.31117

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
WCDMA / HSDPA (BAND II)	9262	1852.40	24.91	0.30974
	9400	1880.00	24.93	0.31117
	9538	1907.60	24.45	0.27861
WCDMA / HSDPA (BAND V)	4132	826.40	24.86	0.30620
	4182	836.40	24.82	0.30339
	4233	846.60	24.91	0.30974

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSUPA (BAND II)	9262	1852.40	24.92	0.31046
	9400	1880.00	24.89	0.30832
	9538	1907.60	24.20	0.26303
WCDMA / HSUPA (BAND V)	4132	826.40	24.83	0.30409
	4182	836.40	24.79	0.30130
	4233	846.60	24.86	0.30620

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

7.4ERP & EIRP MEASUREMENT

LIMIT

According to FCC §2.1046

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

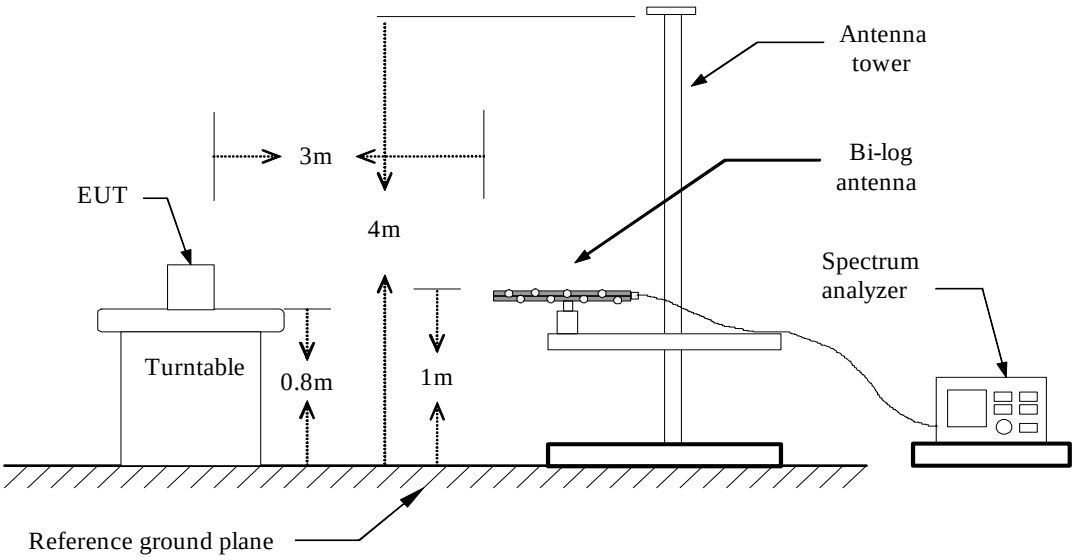
RSS-132 § 4.4 The maximum (ERP) shall be 6.3 Watts for mobile stations.

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

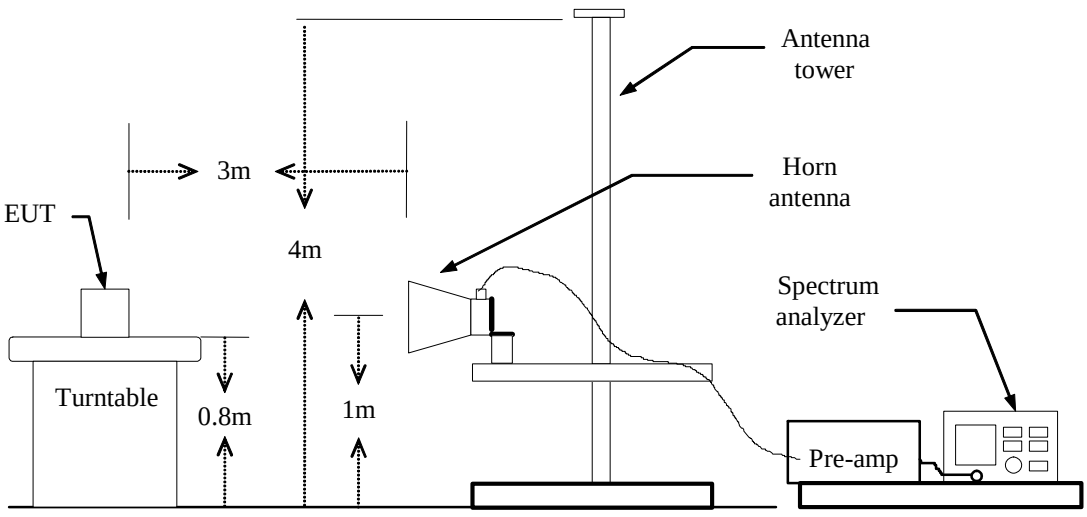
RSS133 § 6.4: Mobile stations and hand-held portables are limited to 2 watts maximum (EIRP).

Test Configuration

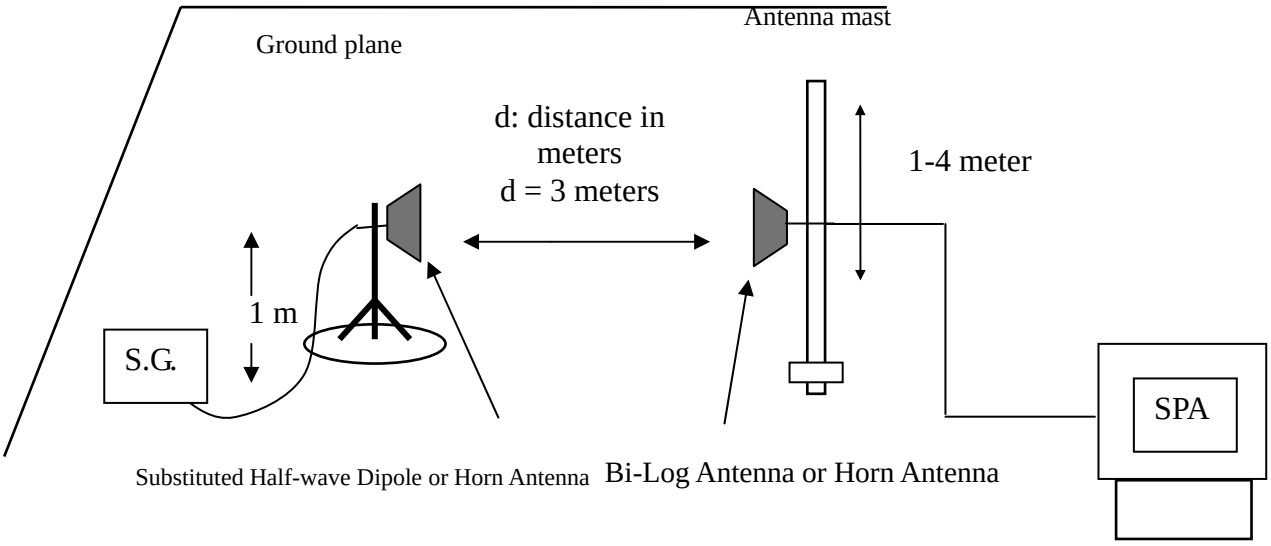
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

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

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

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

ERP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)-2.15
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

No non-compliance noted.

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	12.8	3.39	6.24	15.65	38.45	-22.80
	824.20	H	29.69	3.39	6.24	***32.54**	38.45	-5.91
190	836.60	V	11.19	3.4	6.36	14.15	38.45	-24.30
	836.60	H	28.67	3.4	6.37	31.64	38.45	-6.81
251	848.80	V	9.76	3.4	6.4	12.76	38.45	-25.69
	848.80	H	28.75	3.4	6.4	31.75	38.45	-6.70

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	7.59	3.39	6.24	10.44	38.45	-28.01
	824.20	H	25.56	3.39	6.24	***28.41**	38.45	-10.04
190	836.60	V	7.04	3.4	6.36	10.00	38.45	-28.45
	836.60	H	24.34	3.4	6.37	27.31	38.45	-11.14
251	848.80	V	4.99	3.4	6.4	7.99	38.45	-30.46
	848.80	H	24.38	3.4	6.4	27.38	38.45	-11.07

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	21.59	5.37	5.67	21.89	33.00	-11.11
	1850.20	H	32.57	5.37	5.67	***32.87**	33.00	-0.13
661	1880.00	V	13.61	5.42	5.62	13.81	33.00	-19.19
	1880.00	H	28.26	5.42	5.62	28.46	33.00	-4.54
810	1909.80	V	13.6	5.48	5.56	13.68	33.00	-19.32
	1909.80	H	30	5.48	5.56	30.08	33.00	-2.92

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	14.85	5.37	5.67	15.15	33.00	-17.85
	1850.20	H	26.62	5.37	5.67	***26.92**	33.00	-6.08
661	1880.00	V	11.51	5.42	5.62	11.71	33.00	-21.29
	1880.00	H	26.24	5.42	5.62	26.44	33.00	-6.56
810	1909.80	V	11.3	5.48	5.56	11.38	33.00	-21.62
	1909.80	H	27.81	5.48	5.56	27.89	33.00	-5.11

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	4.69	3.4	6.37	7.66	38.45	-30.79
	824.20	H	22.28	3.4	6.36	25.24	38.45	-13.21
190	836.60	V	5.54	3.39	6.24	8.39	38.45	-30.06
	836.60	H	23.5	3.39	6.24	26.35	38.45	-12.10
251	848.80	V	5.34	3.4	6.4	8.34	38.45	-30.11
	848.80	H	24.22	3.4	6.4	***27.22**	38.45	-11.23

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	13.03	5.37	5.67	13.33	33.00	-19.67
	1850.20	H	24.34	5.37	5.67	24.64	33.00	-8.36
661	1880.00	V	9.63	5.42	5.62	9.83	33.00	-23.17
	1880.00	H	23.91	5.42	5.62	24.11	33.00	-8.89
810	1909.80	V	9.02	5.48	5.56	9.10	33.00	-23.90
	1909.80	H	25.46	5.48	5.56	***25.54**	33.00	-7.46

WCDMA 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	18.08	5.37	5.67	18.38	33.00	-14.62
	1852.40	H	27.95	5.37	5.66	28.24	33.00	-4.76
9400	1880.00	V	14.77	5.42	5.62	14.97	33.00	-18.03
	1880.00	H	28.65	5.42	5.62	28.85	33.00	-4.15
9538	1907.60	V	11.97	5.47	5.56	12.06	33.00	-20.94
	1907.60	H	29.21	5.47	5.57	***29.31**	33.00	-3.69

WCDMA 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	9.81	3.39	6.25	12.67	38.45	-25.78
	826.40	H	24.14	3.39	6.25	***27.00**	38.45	-11.45
4182	836.40	V	6.77	3.4	6.36	9.73	38.45	-28.72
	836.40	H	23.26	3.41	6.38	26.23	38.45	-12.22
4233	846.60	V	6.45	3.4	6.4	9.45	38.45	-29.00
	846.60	H	23.42	3.4	6.4	26.42	38.45	-12.03

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	16.21	5.37	5.67	16.51	33.00	-16.49
	1852.40	H	26.48	5.38	5.66	26.76	33.00	-6.24
9400	1880.00	V	12.88	5.42	5.62	13.08	33.00	-19.92
	1880.00	H	26.86	5.42	5.62	***27.06**	33.00	-5.94
9538	1907.60	V	9.13	5.47	5.57	9.23	33.00	-23.77
	1907.60	H	26.7	5.47	5.57	26.80	33.00	-6.20

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	8.36	3.39	6.25	11.22	38.45	-27.23
	826.40	H	22.63	3.39	6.25	***25.49**	38.45	-12.96
4182	836.40	V	4.79	3.4	6.37	7.76	38.45	-30.69
	836.40	H	21.39	3.4	6.37	24.36	38.45	-14.09
4233	846.60	V	4.09	3.4	6.4	7.09	38.45	-31.36
	846.60	H	20.91	3.4	6.4	23.91	38.45	-14.54

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	14.32	5.37	5.67	14.62	33.00	-18.38
	1852.40	H	24.51	5.38	5.66	24.79	33.00	-8.21
9400	1880.00	V	11.1	5.42	5.62	11.30	33.00	-21.70
	1880.00	H	24.89	5.42	5.62	***25.09**	33.00	-7.91
9538	1907.60	V	7.45	5.47	5.57	7.55	33.00	-25.45
	1907.60	H	24.95	5.47	5.57	25.05	33.00	-7.95

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	6.49	3.39	6.25	9.35	38.45	-29.10
	826.40	H	20.84	3.39	6.25	***23.70**	38.45	-14.75
4182	836.40	V	2.91	3.4	6.37	5.88	38.45	-32.57
	836.40	H	19.58	3.4	6.37	22.55	38.45	-15.90
4233	846.60	V	2.24	3.4	6.4	5.24	38.45	-33.21
	846.60	H	19.12	3.4	6.4	22.12	38.45	-16.33

7.5OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

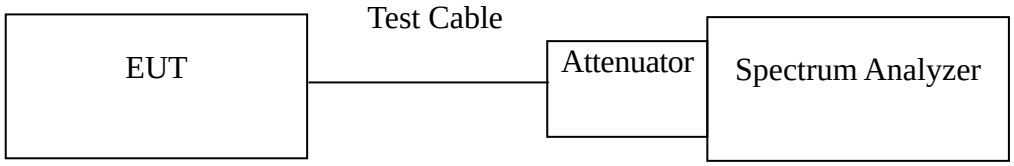
According to FCC §2.1051, FCC §22.917, FCC §24.238(a). RSS-132 (4.5.2), RSS-133 (6.6).

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

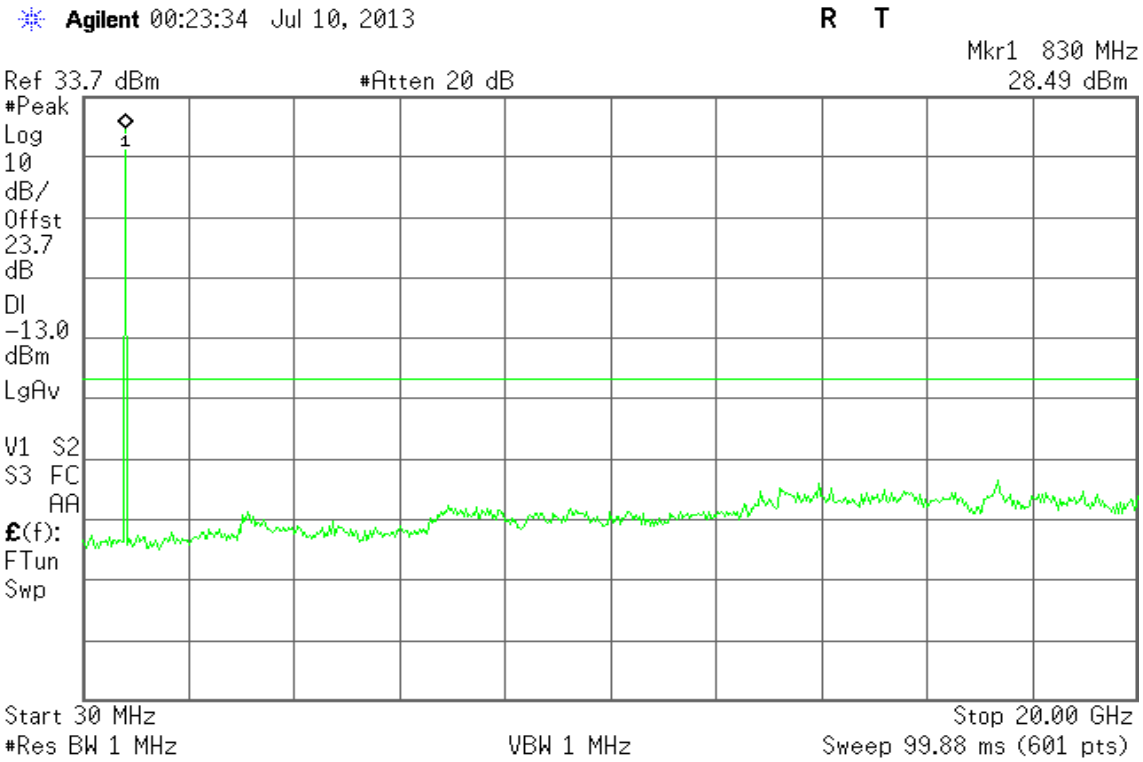


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

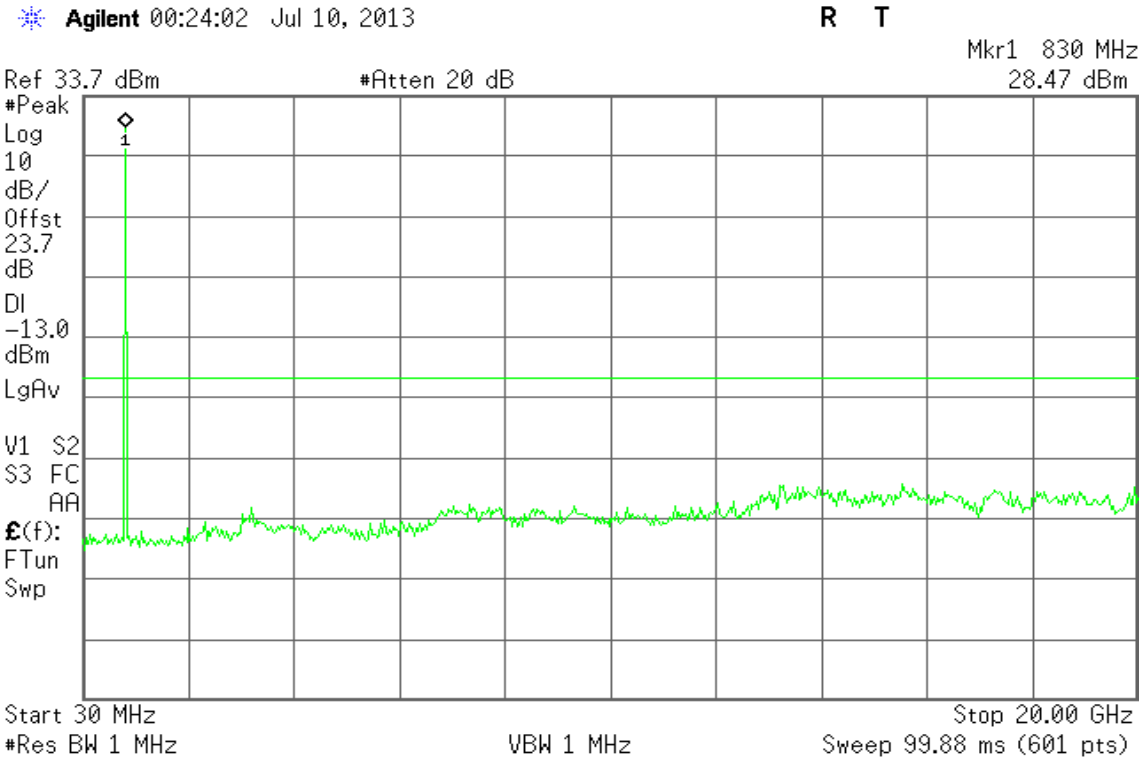
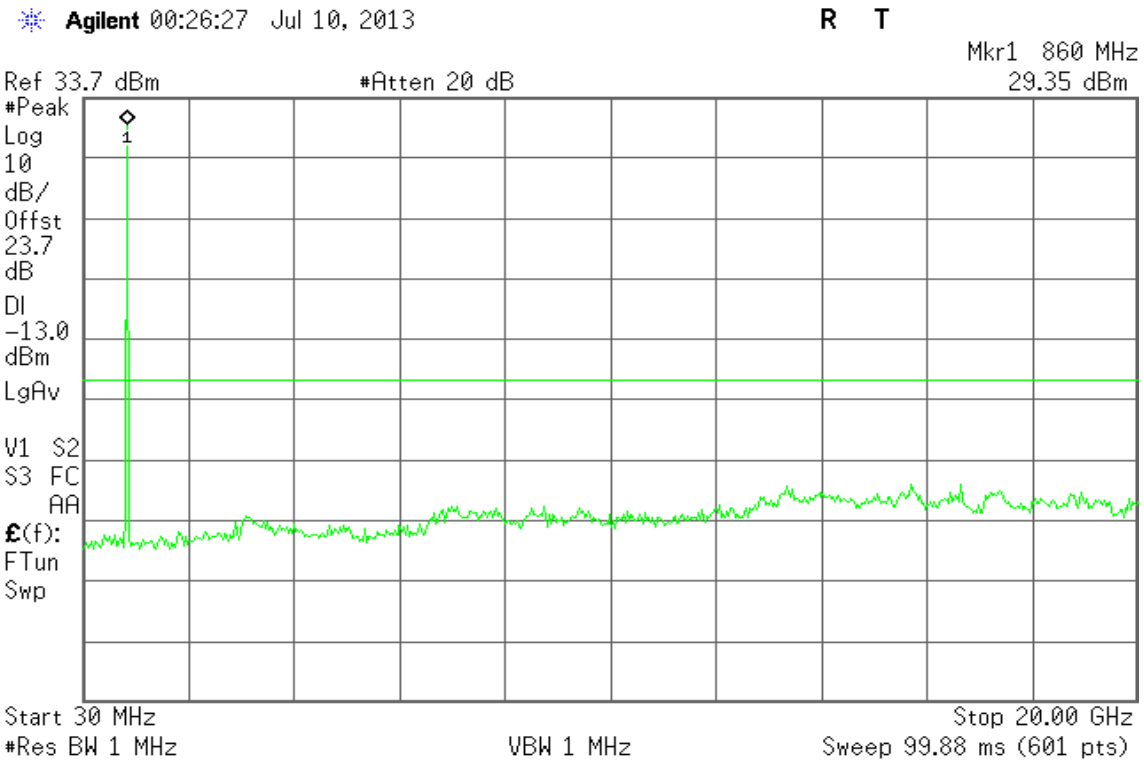


Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

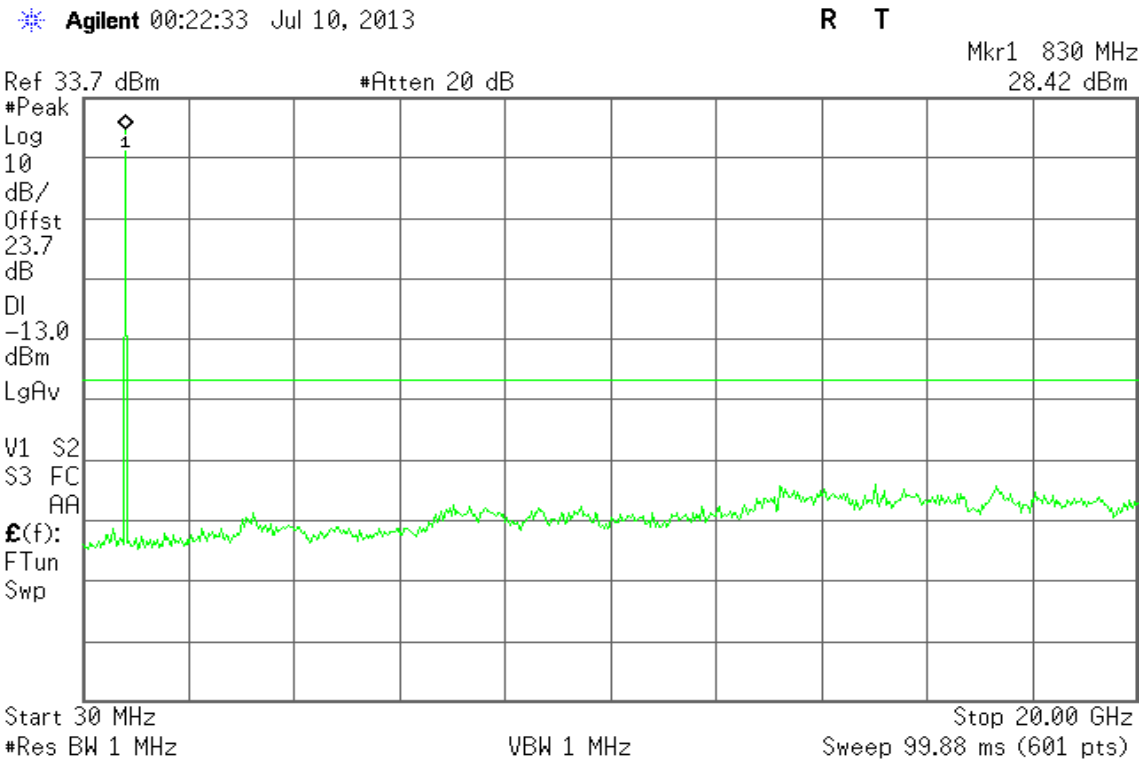


Figure 8-2: Out of Band emission at antenna terminals – GPRS CH Mid

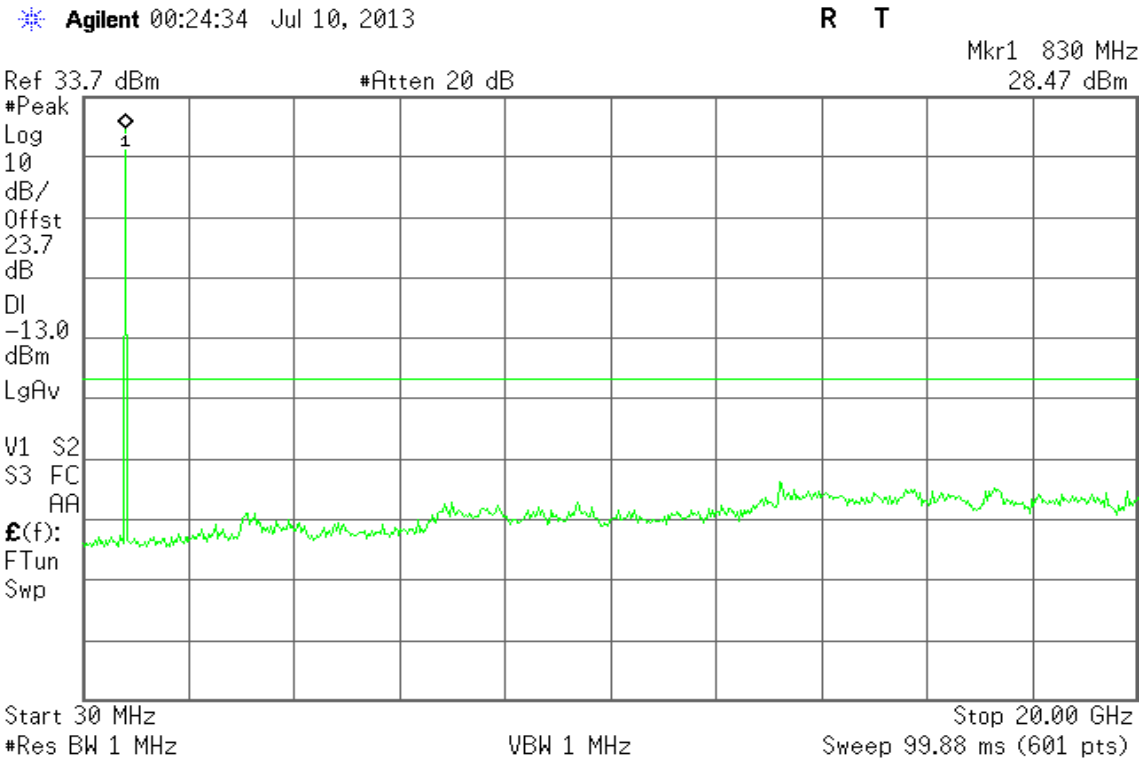
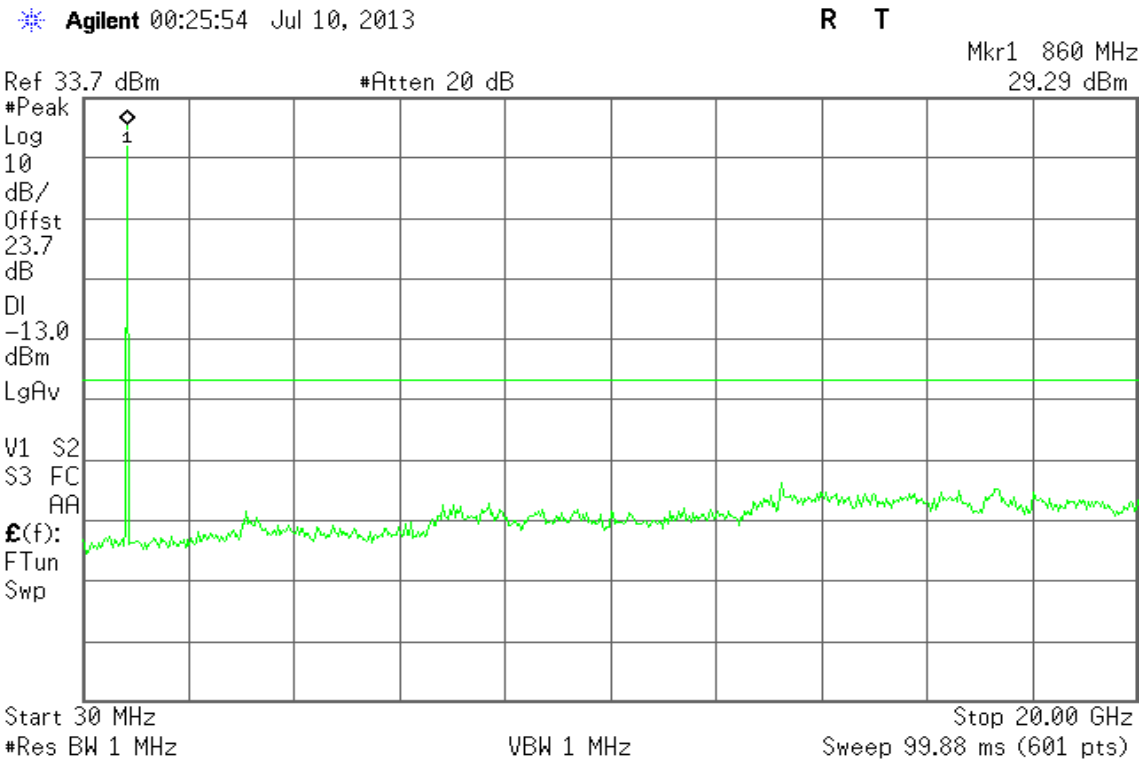


Figure 8-3: Out of Band emission at antenna terminals – GPRS CH High



GSM 1900

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

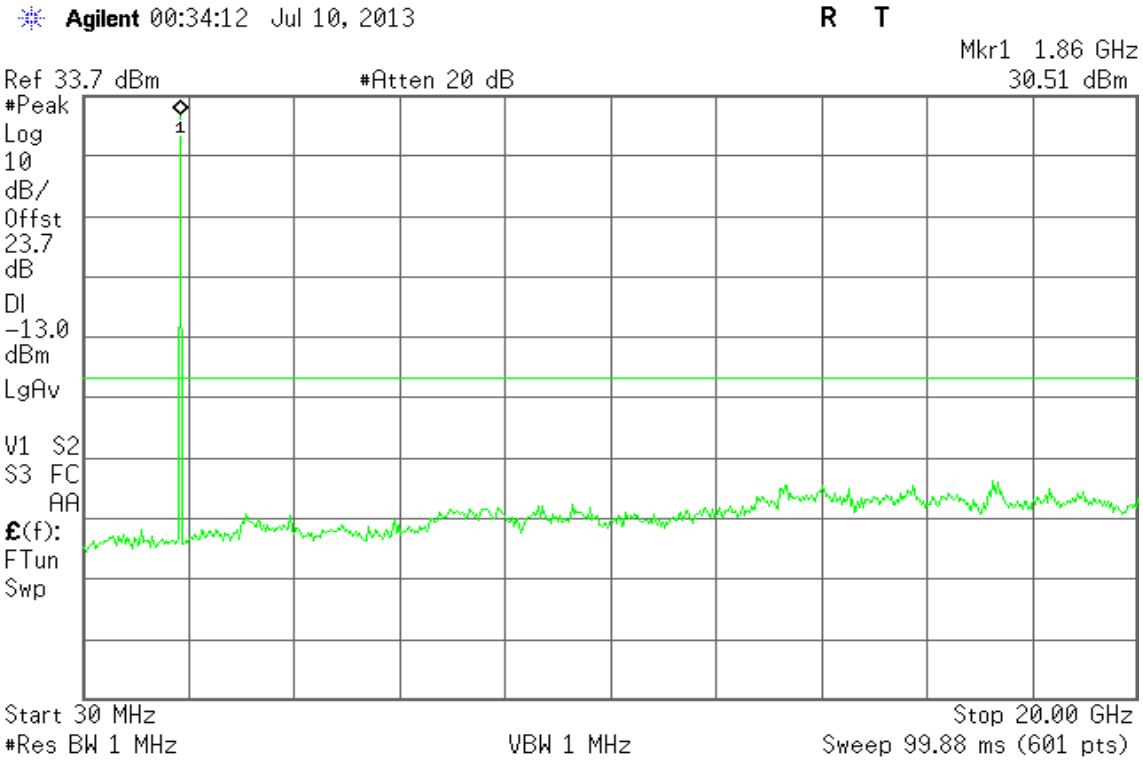


Figure 9-2: Out of Band emission at antenna terminals – GSM CH Mid

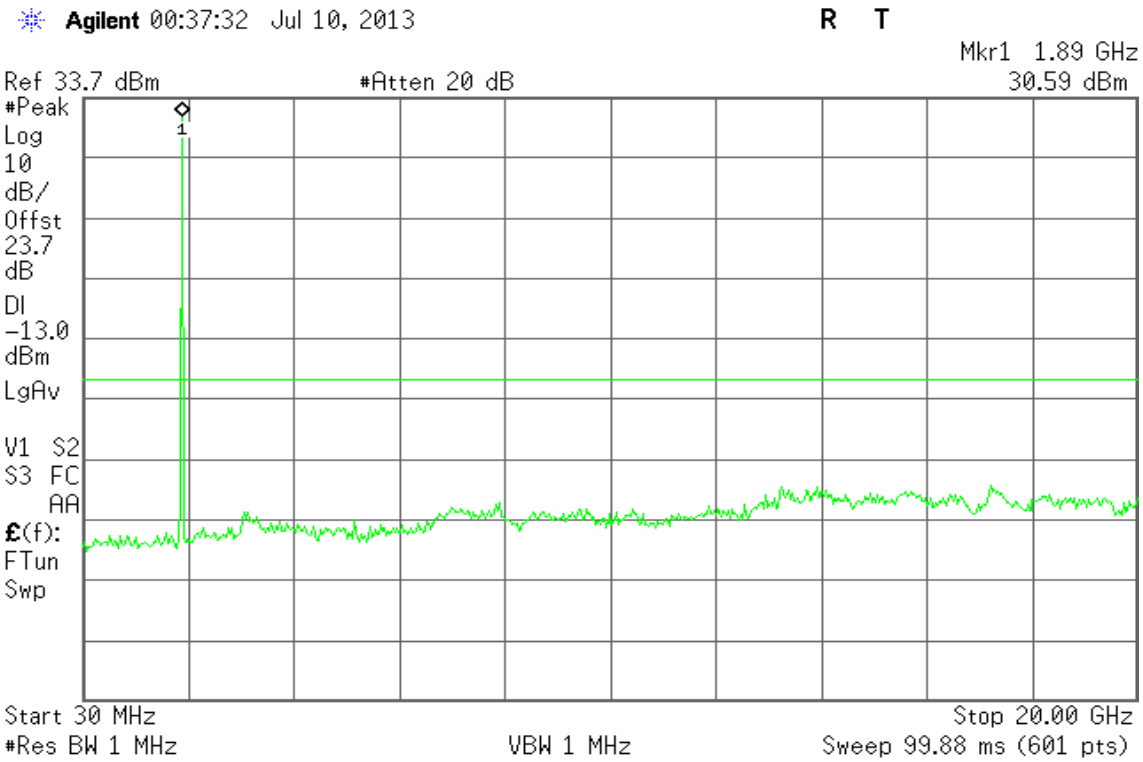
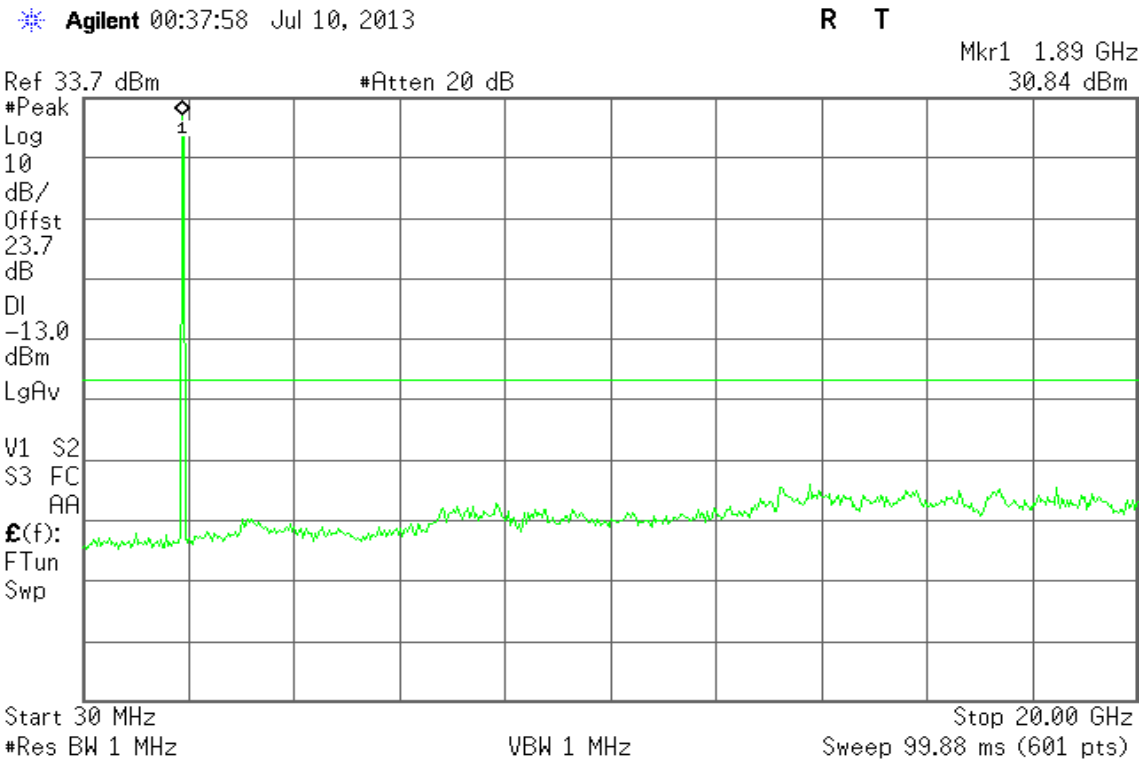


Figure 9-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

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

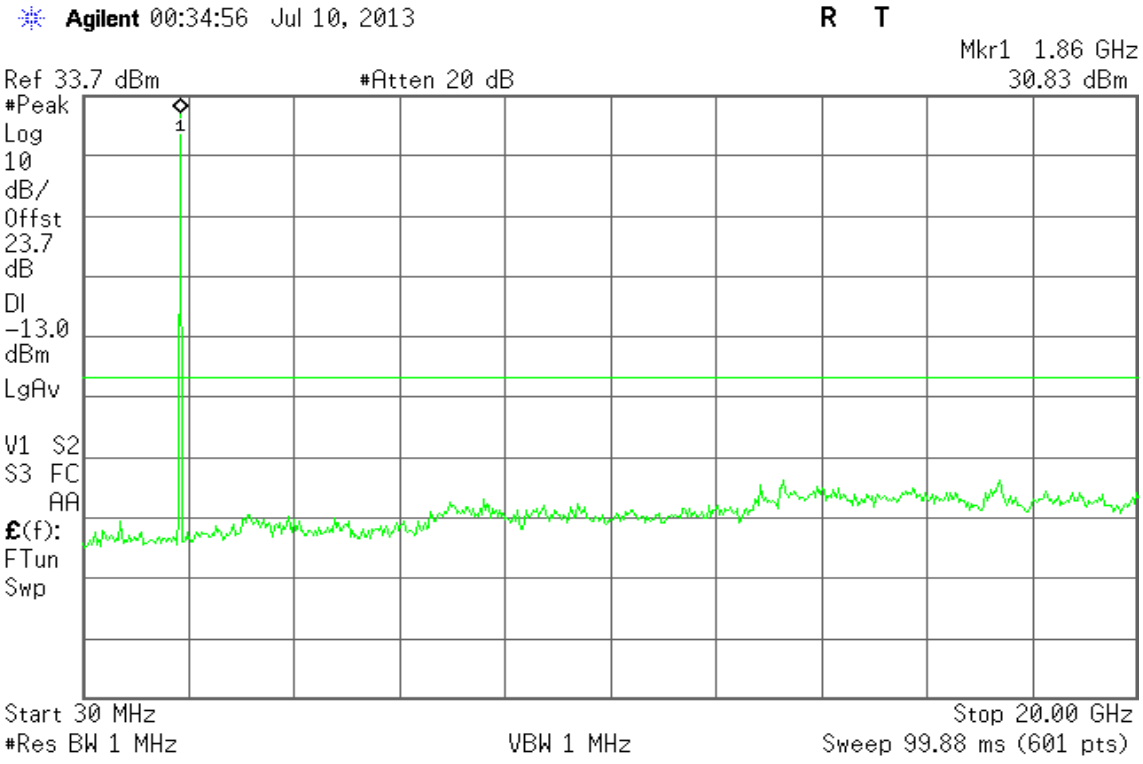


Figure 10-2: Out of Band emission at antenna terminals – GSM CH Mid

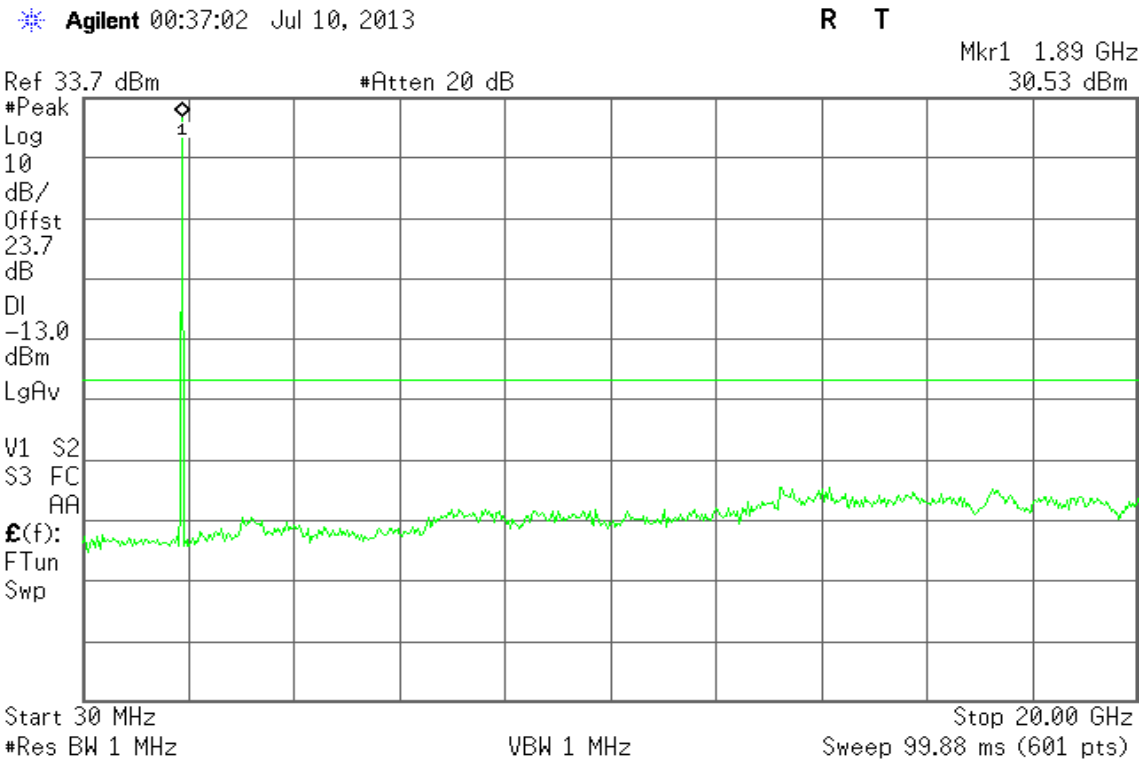
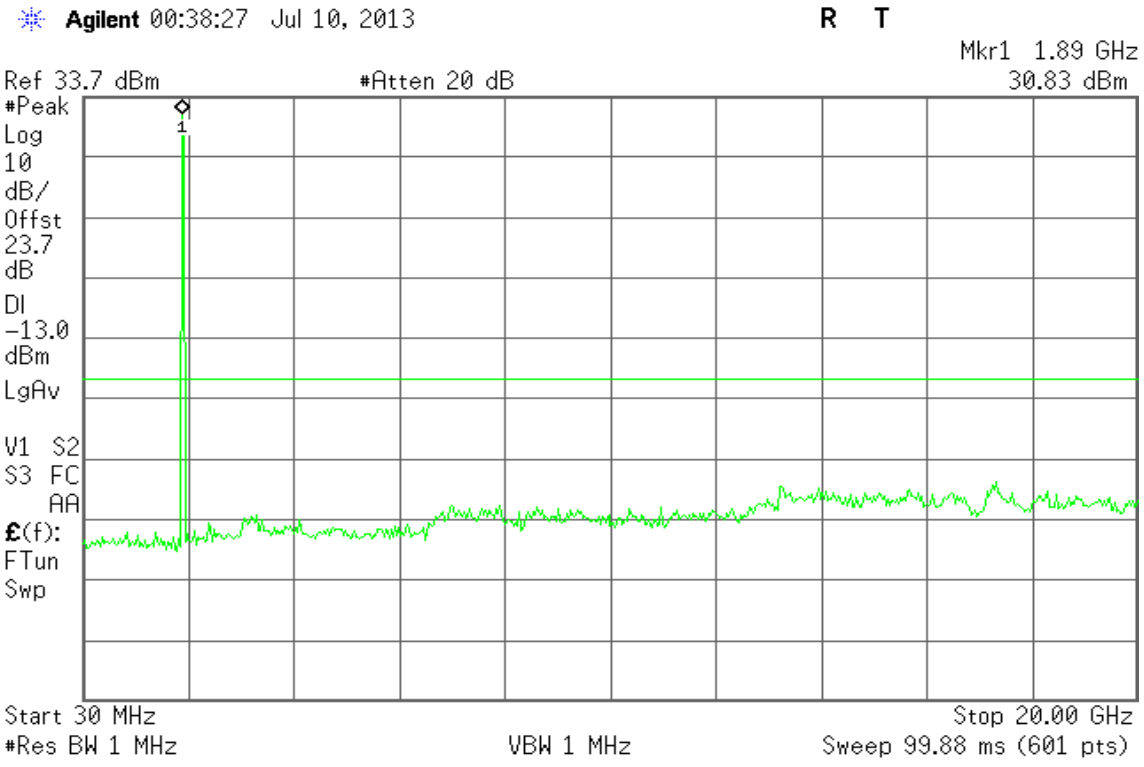


Figure 10-3: Out of Band emission at antenna terminals – GSM CH High



GSM 850

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

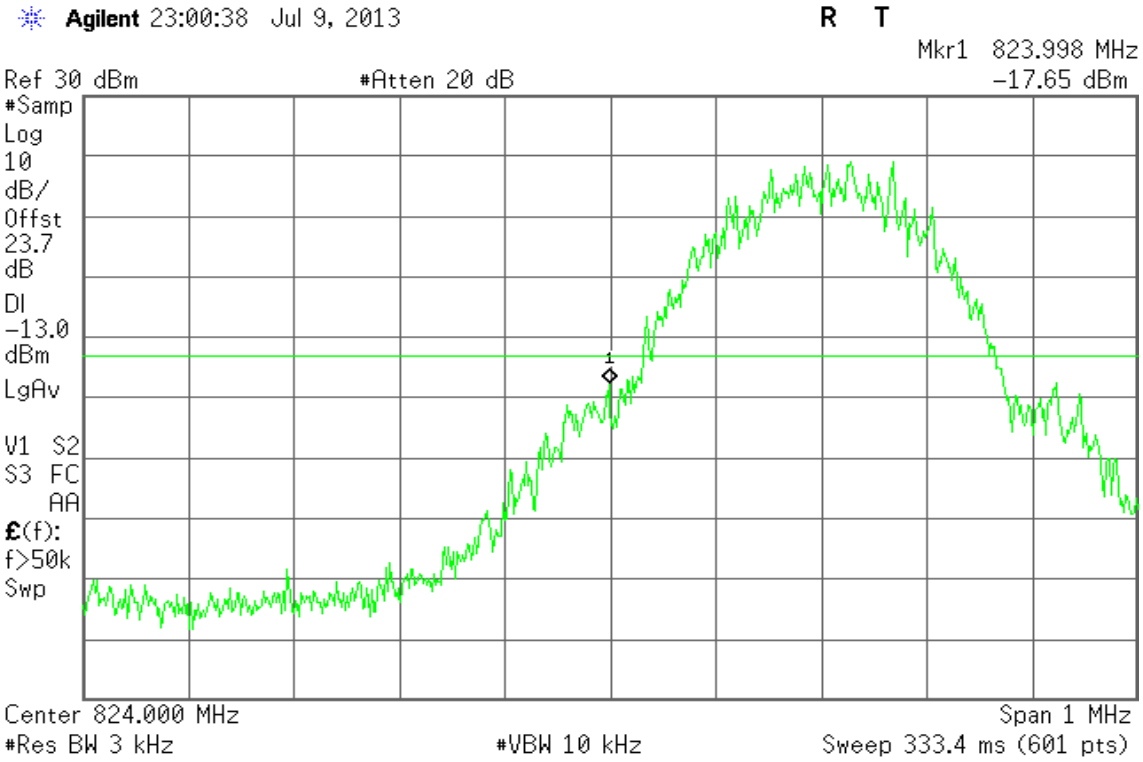
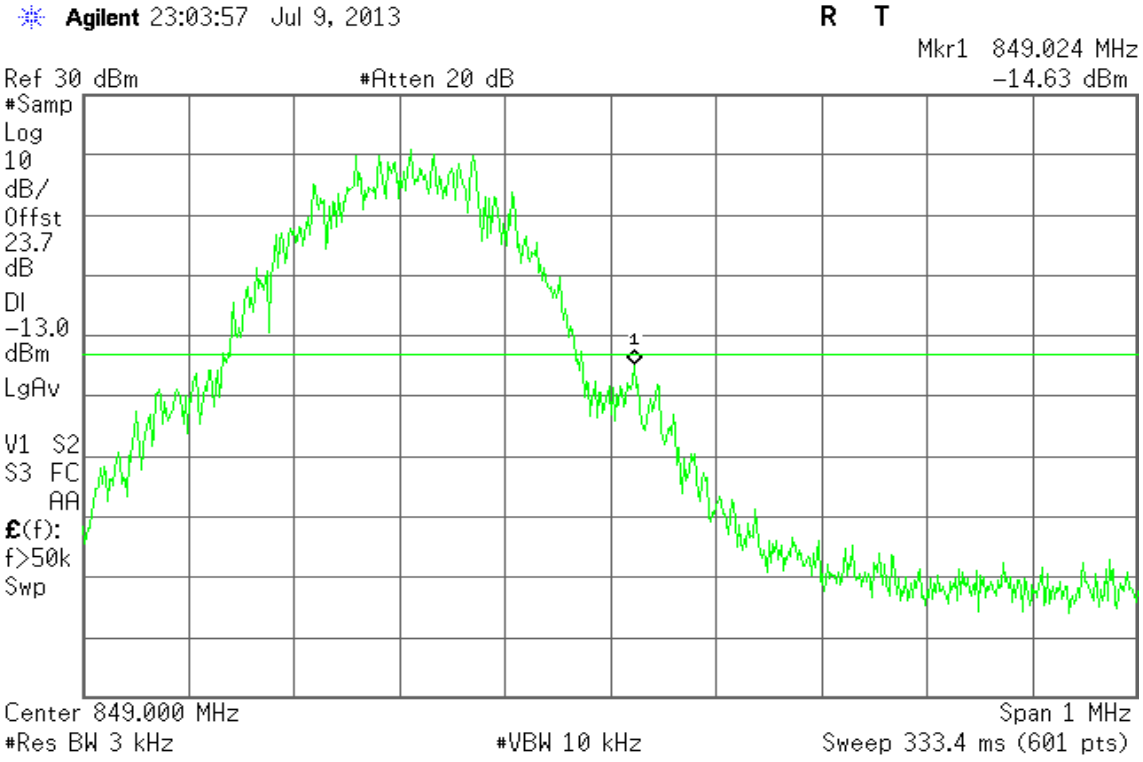


Figure 11-2: Band Edge emissions – GSM CH High



GPRS 850

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

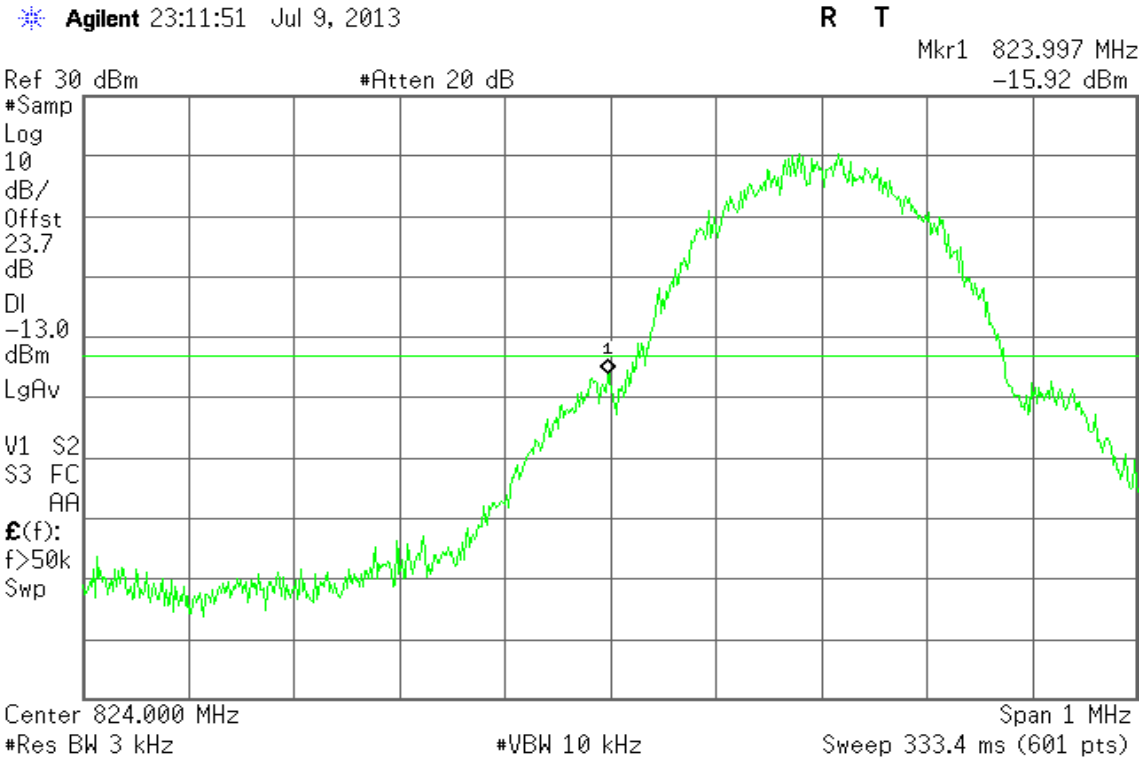
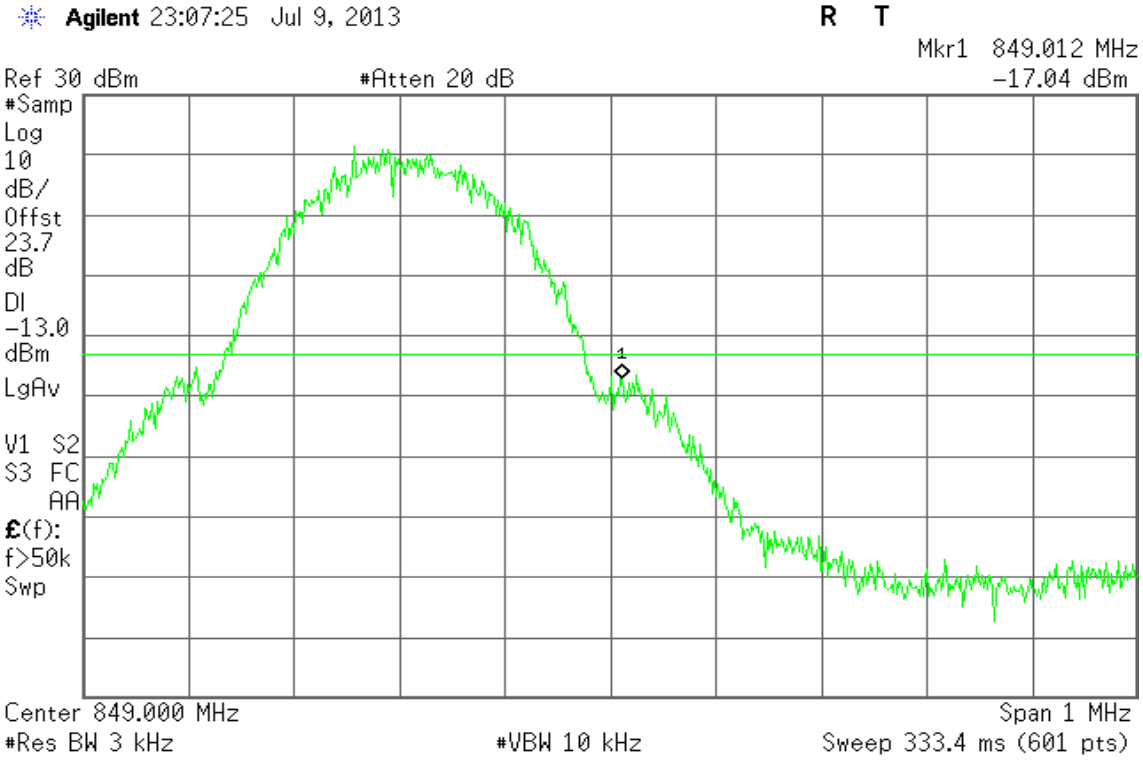


Figure 12-2: Band Edge emissions –GPRS CH High



GSM 1900

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

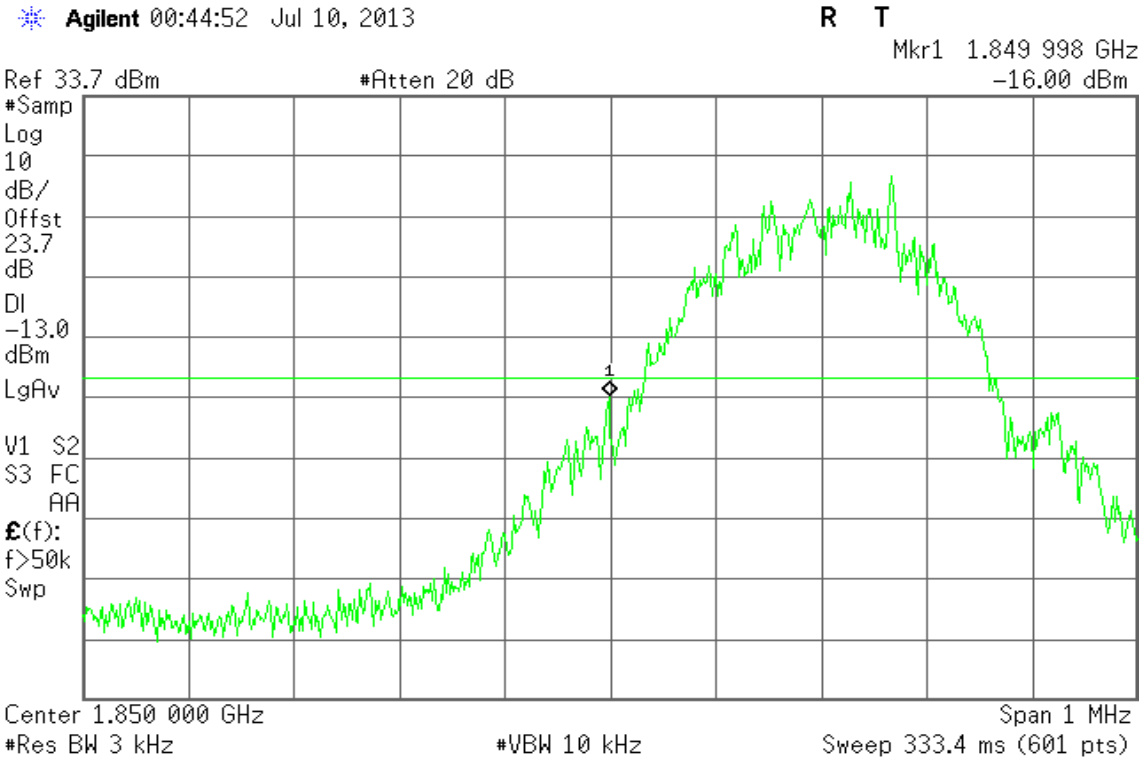
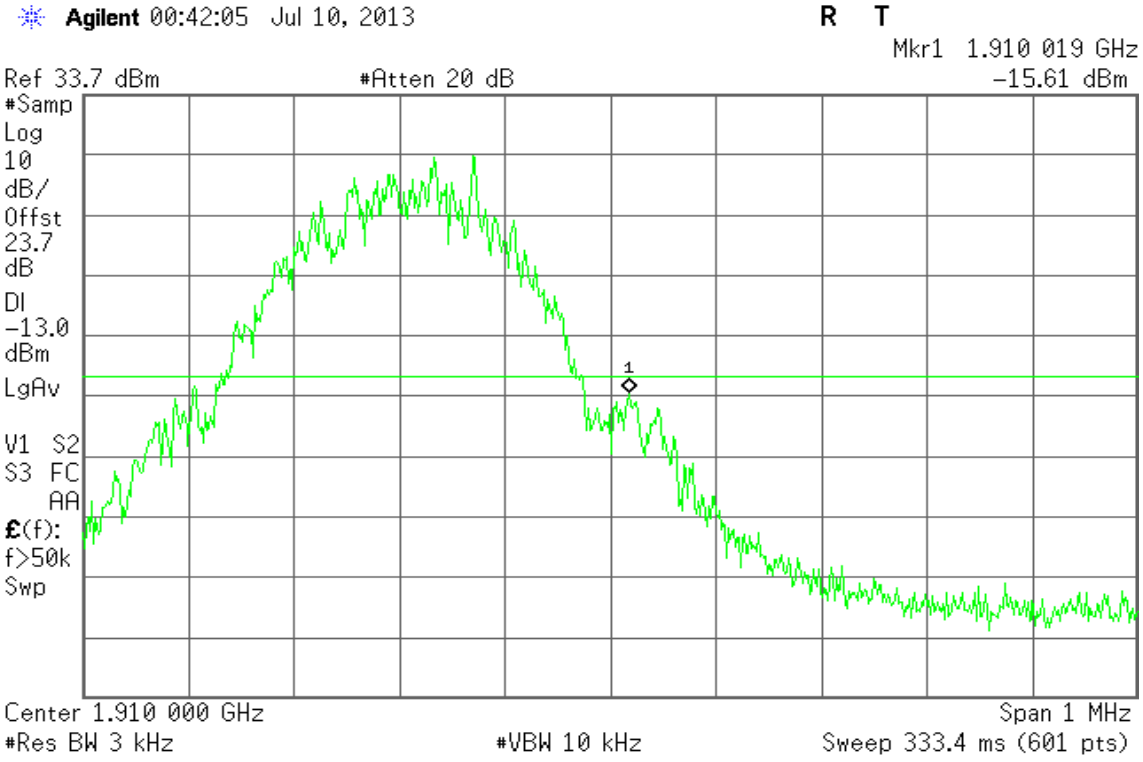


Figure 13-2: Band Edge emissions – GSM CH High



GPRS 1900

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

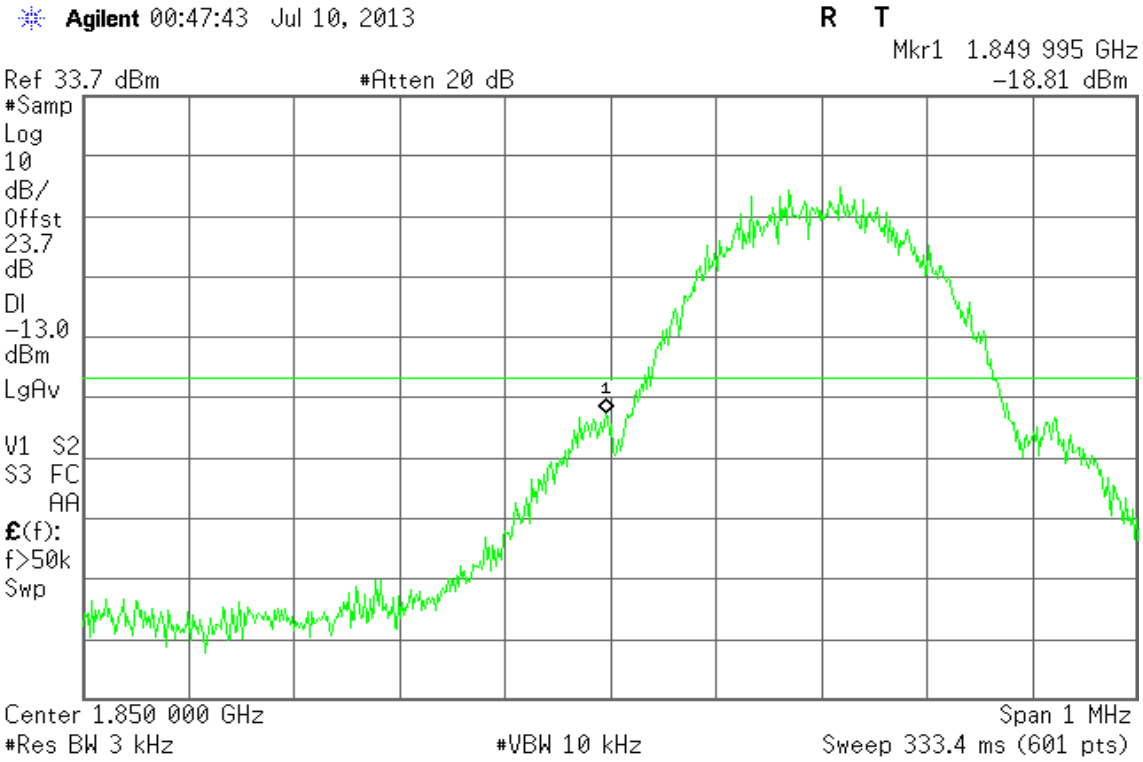
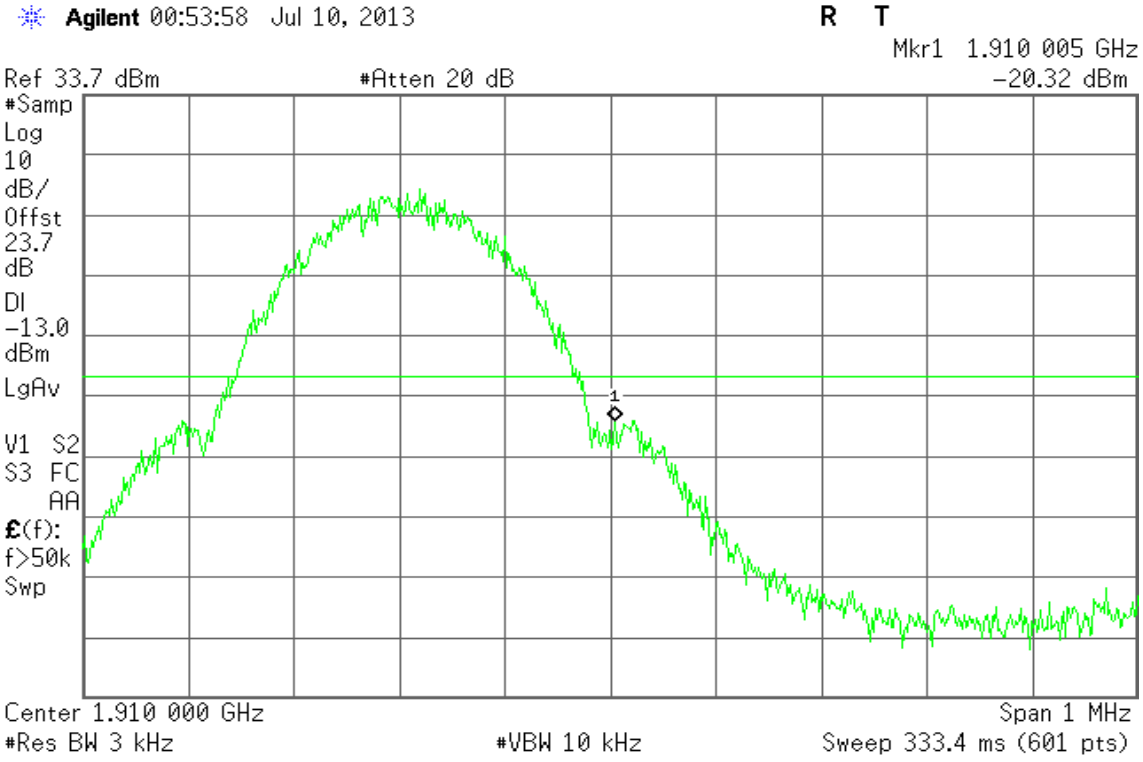


Figure 14-2: Band Edge emissions – GPRS CH High



EDGE 850

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

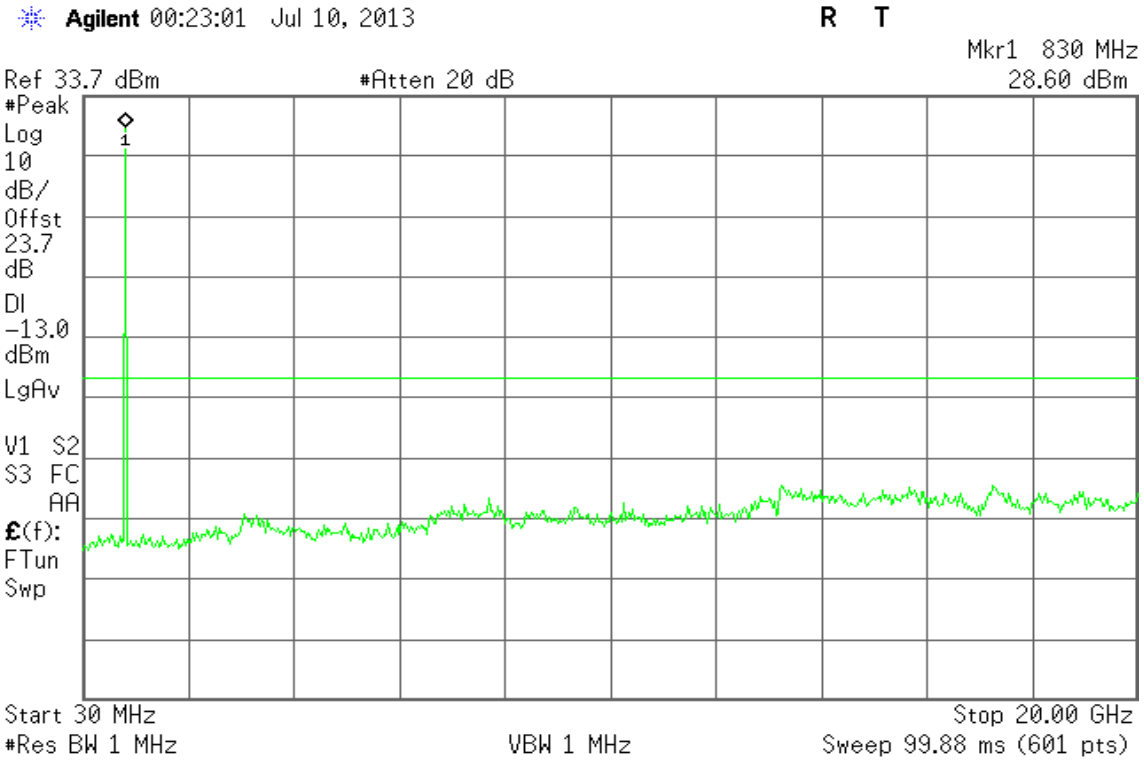


Figure 15-2: Out of Band emission at antenna terminals –EDGE CH Mid

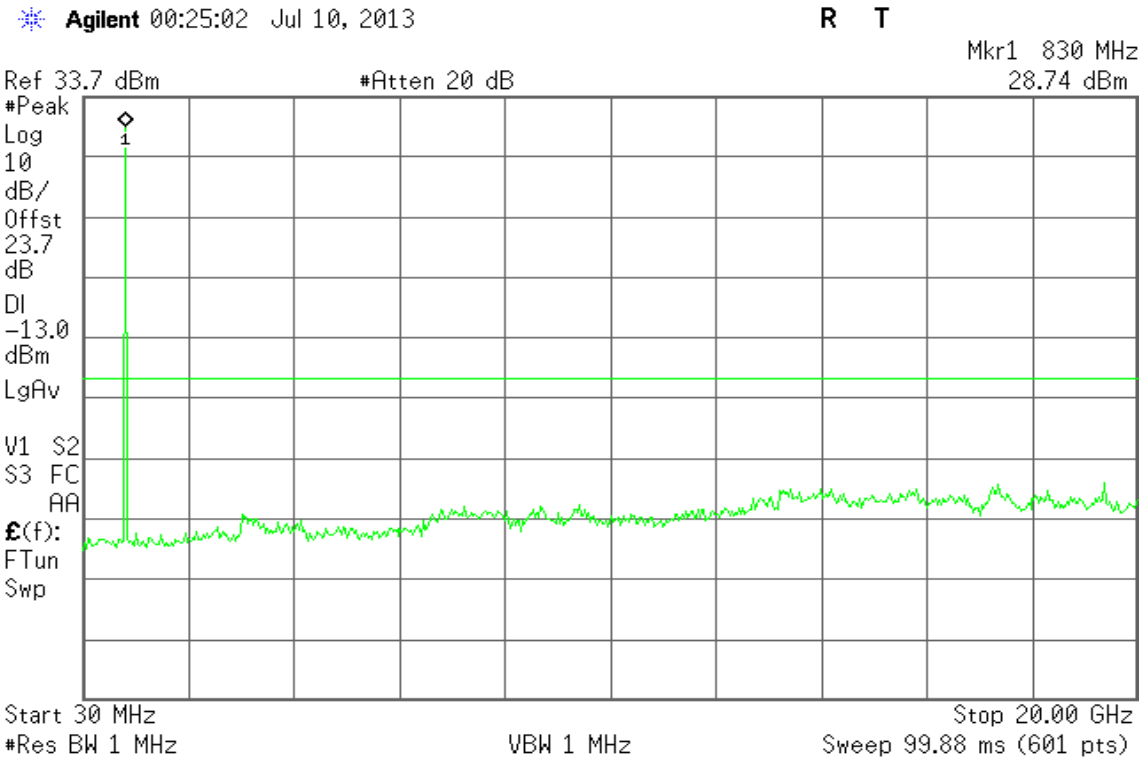
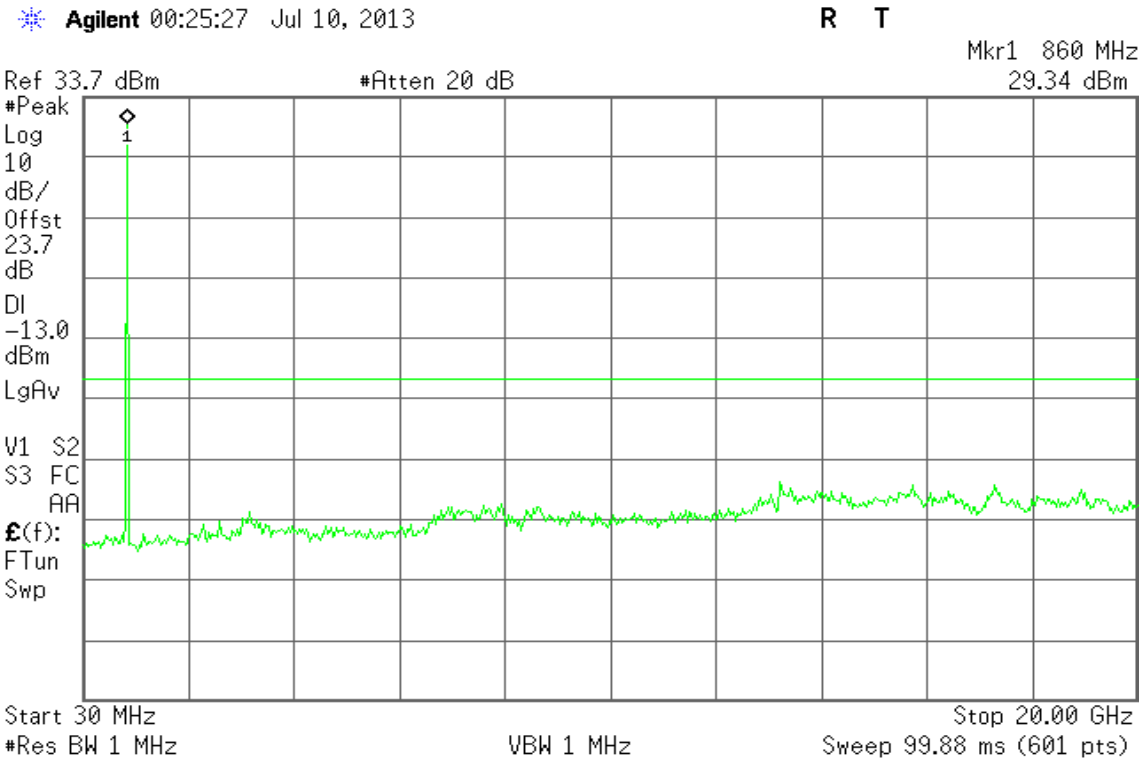


Figure 15-3: Out of Band emission at antenna terminals –EDGE CH High



EDGE 1900

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

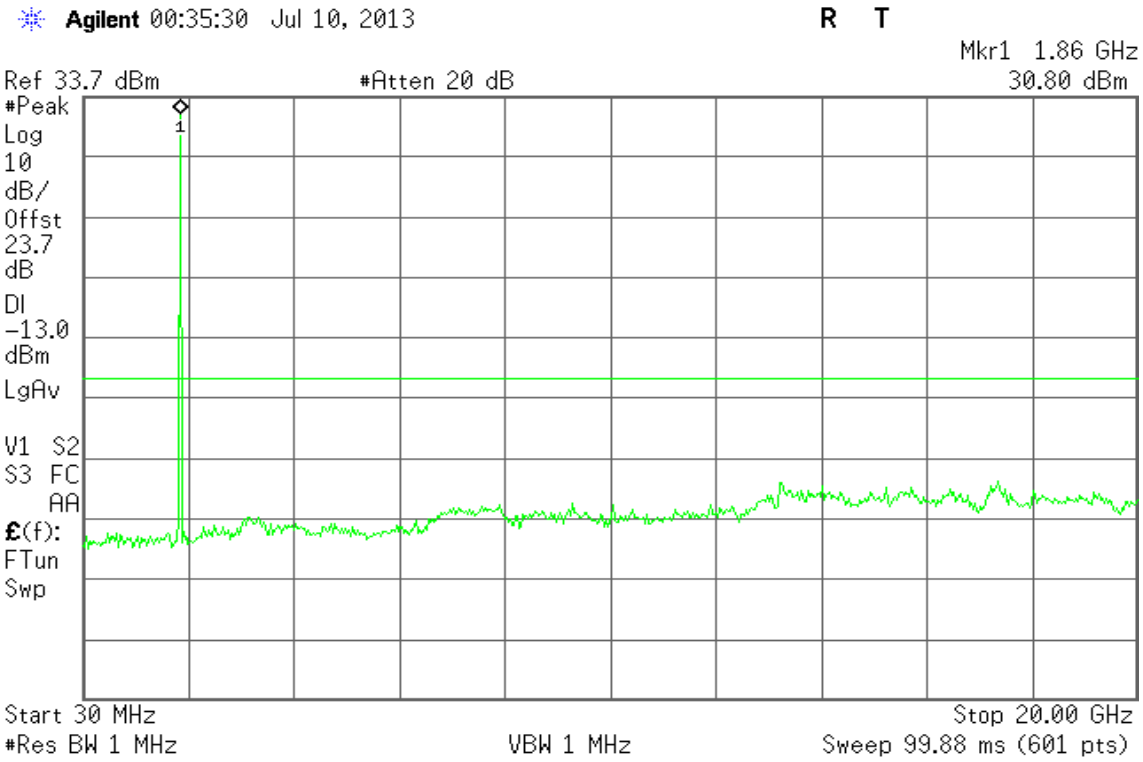


Figure 16-2: Out of Band emission at antenna terminals –EDGE CH Mid

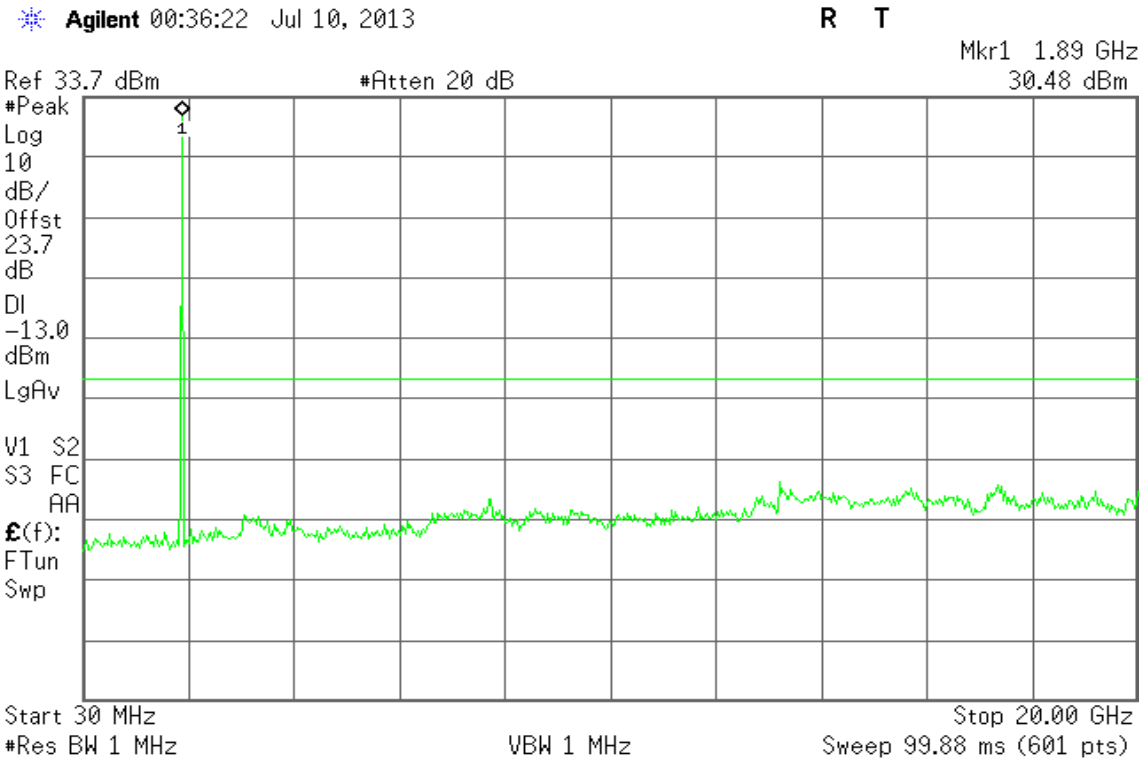
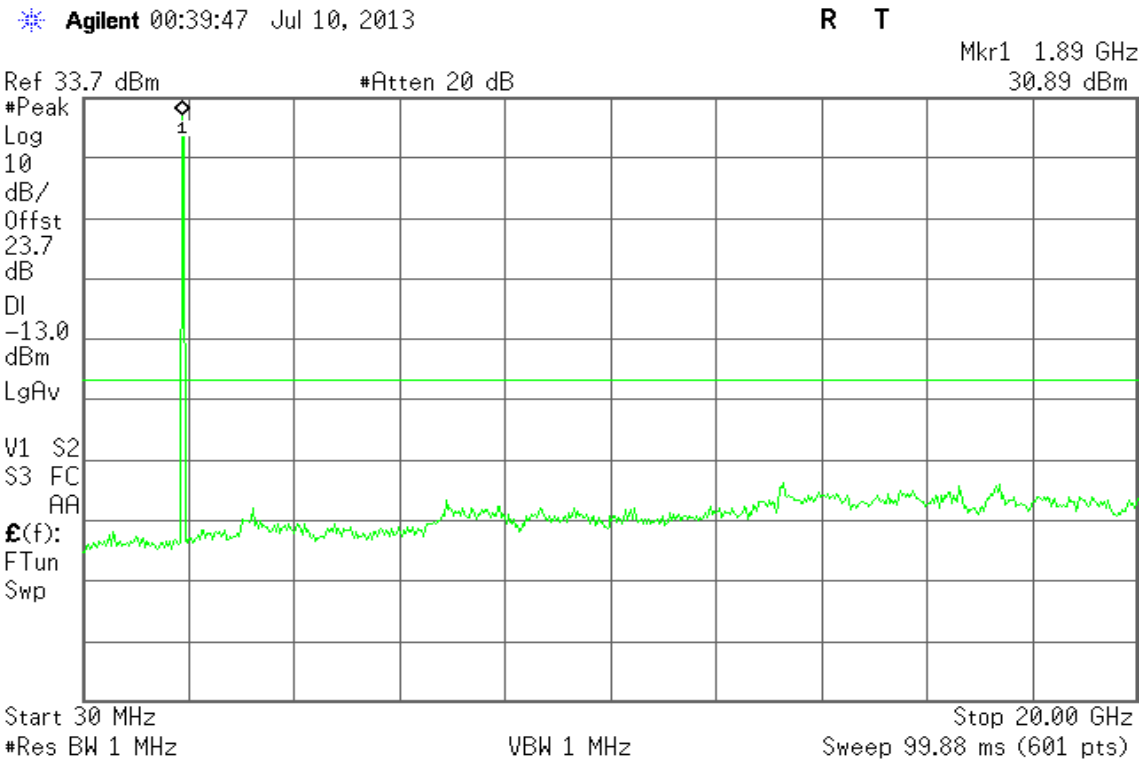


Figure 16-3: Out of Band emission at antenna terminals –EDGE CH High



EDGE 850

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

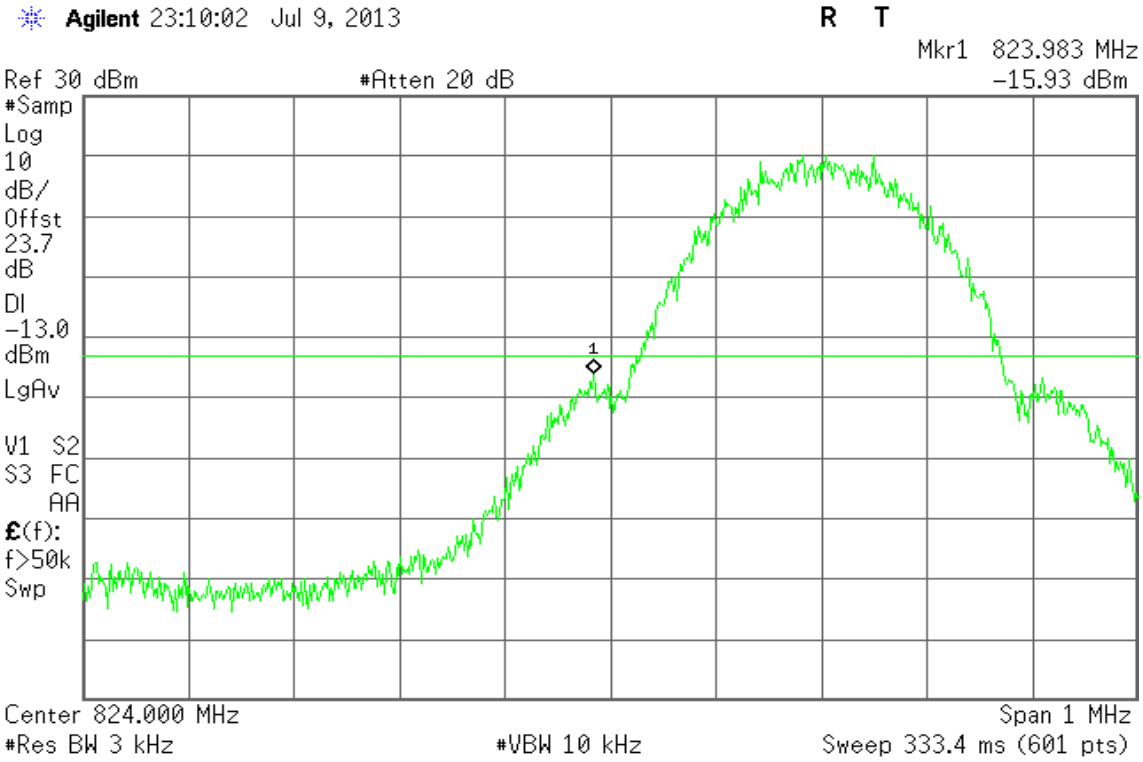
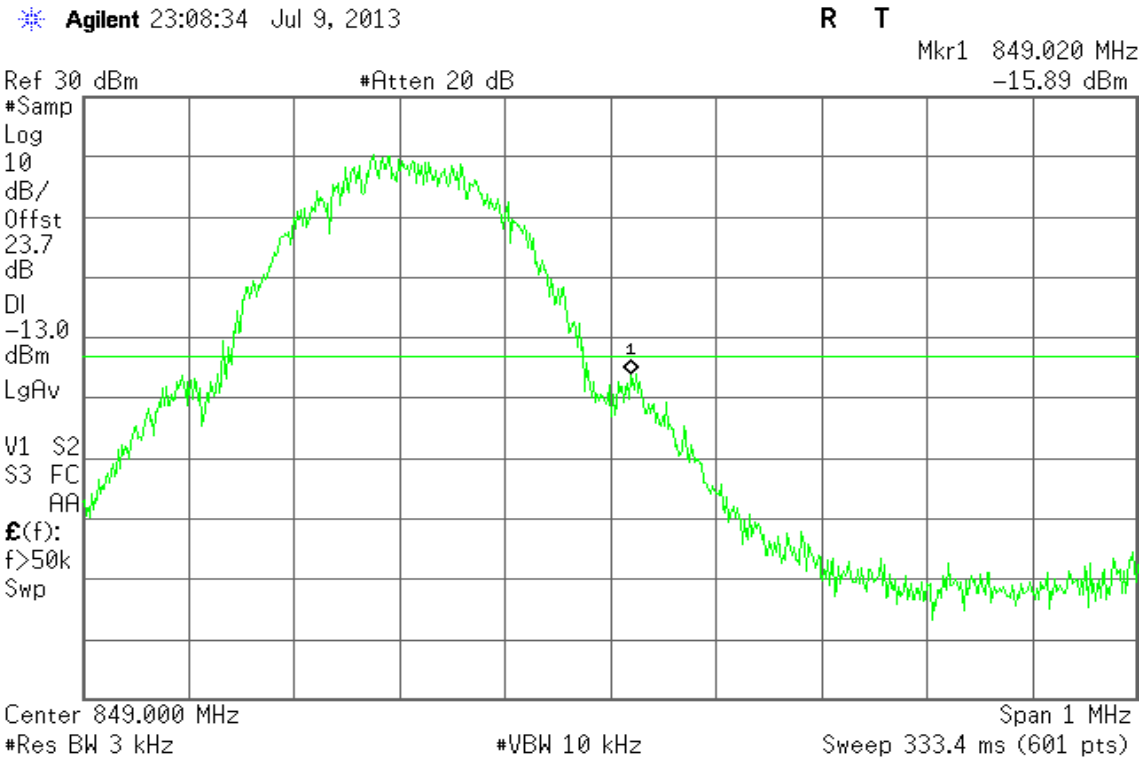


Figure 17-2: Band Edge emissions – EDGE CH High



EDGE 1900

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

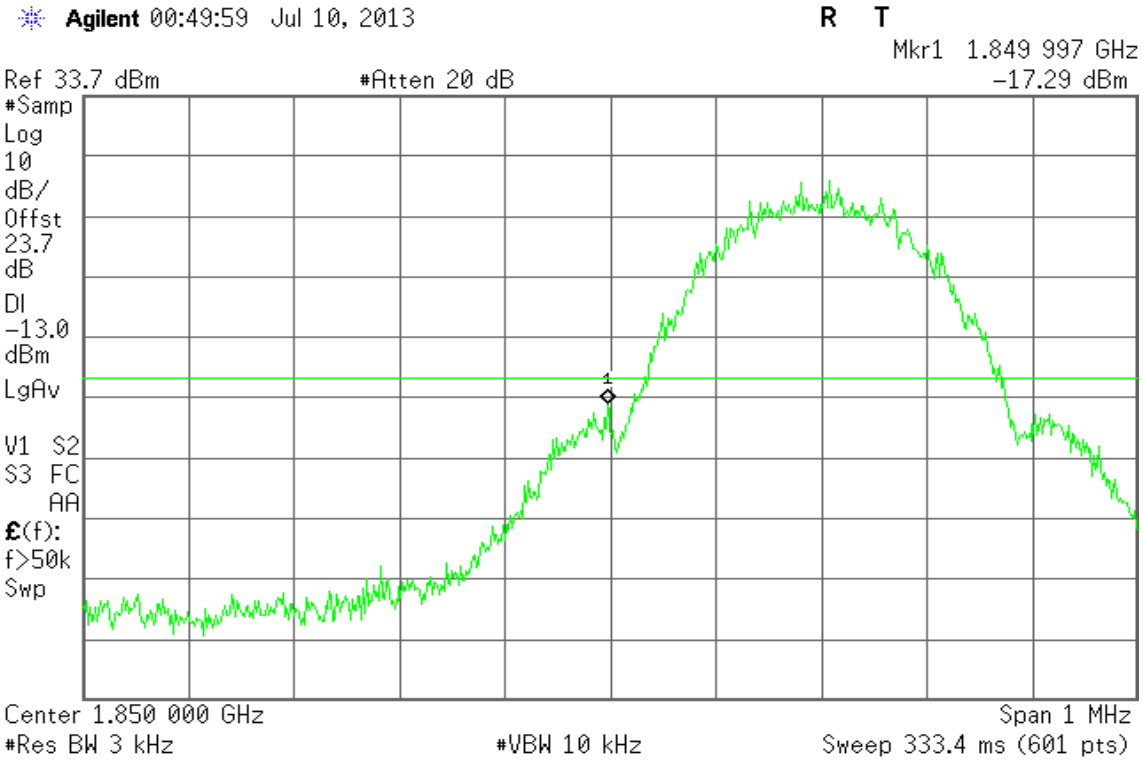
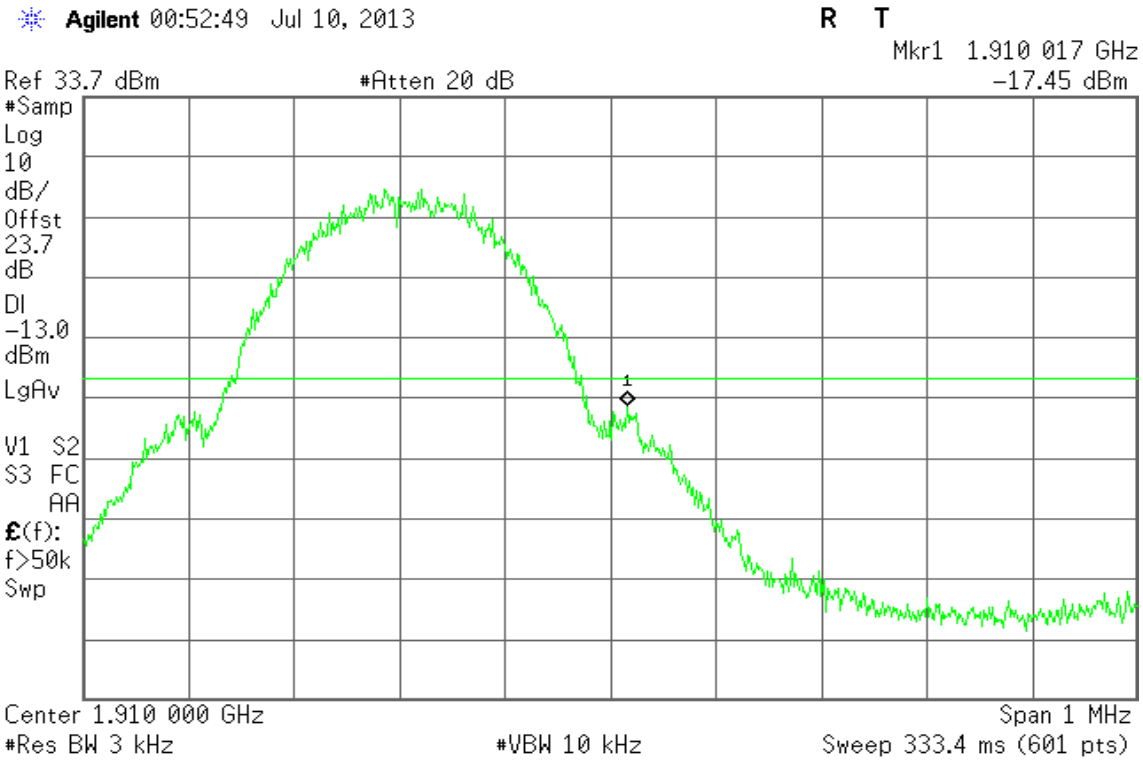


Figure 18-2: Band Edge emissions – EDGE CH High



WCDMA Band II

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

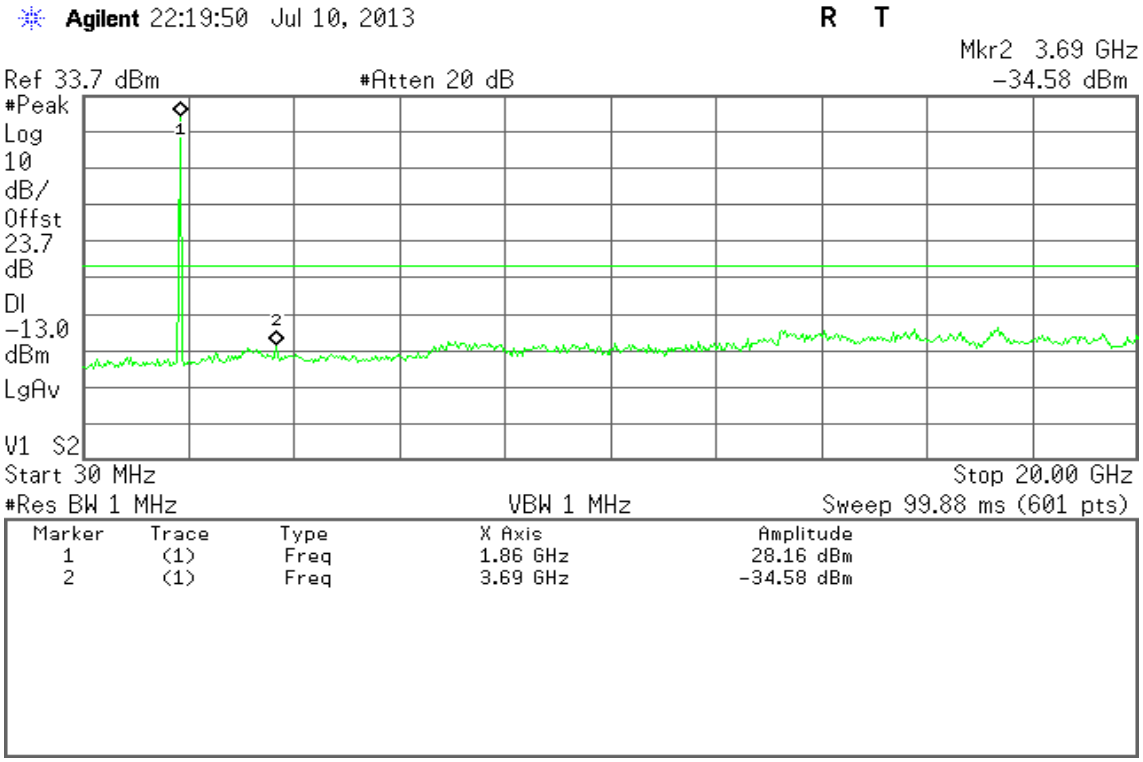


Figure 19-2: Out of Band emission at antenna terminals – WCDMA CH Mid

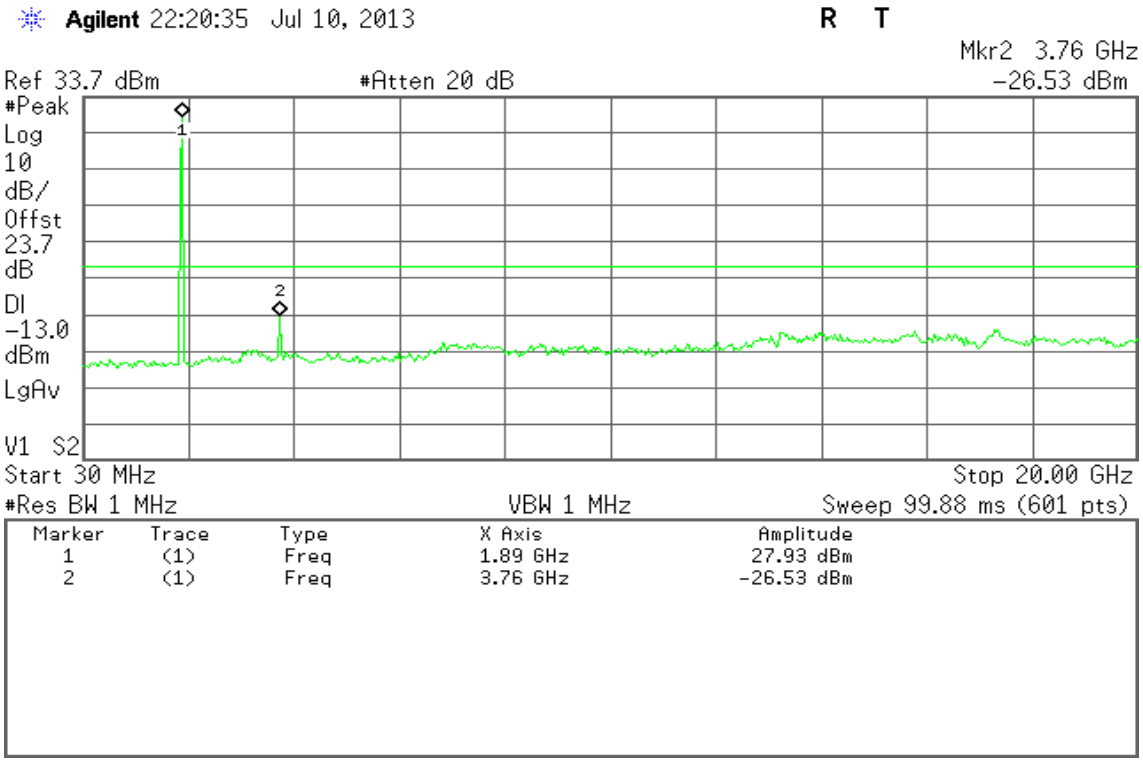
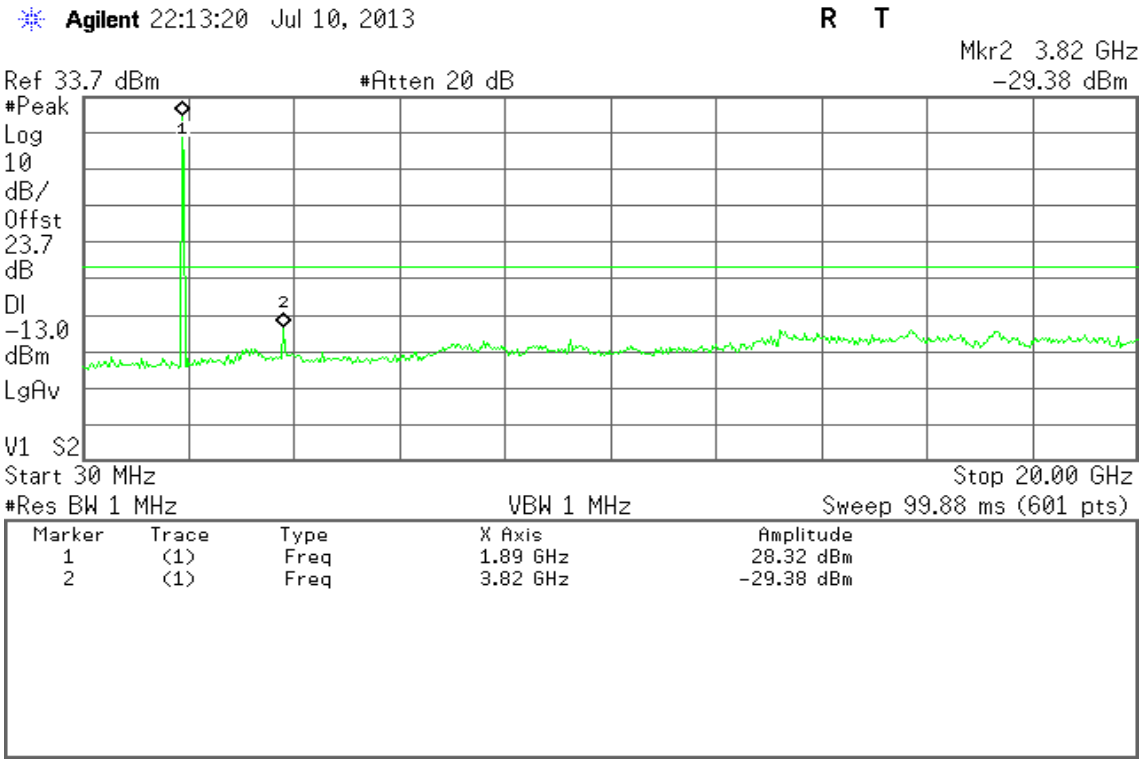


Figure 19-3: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA Band V

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

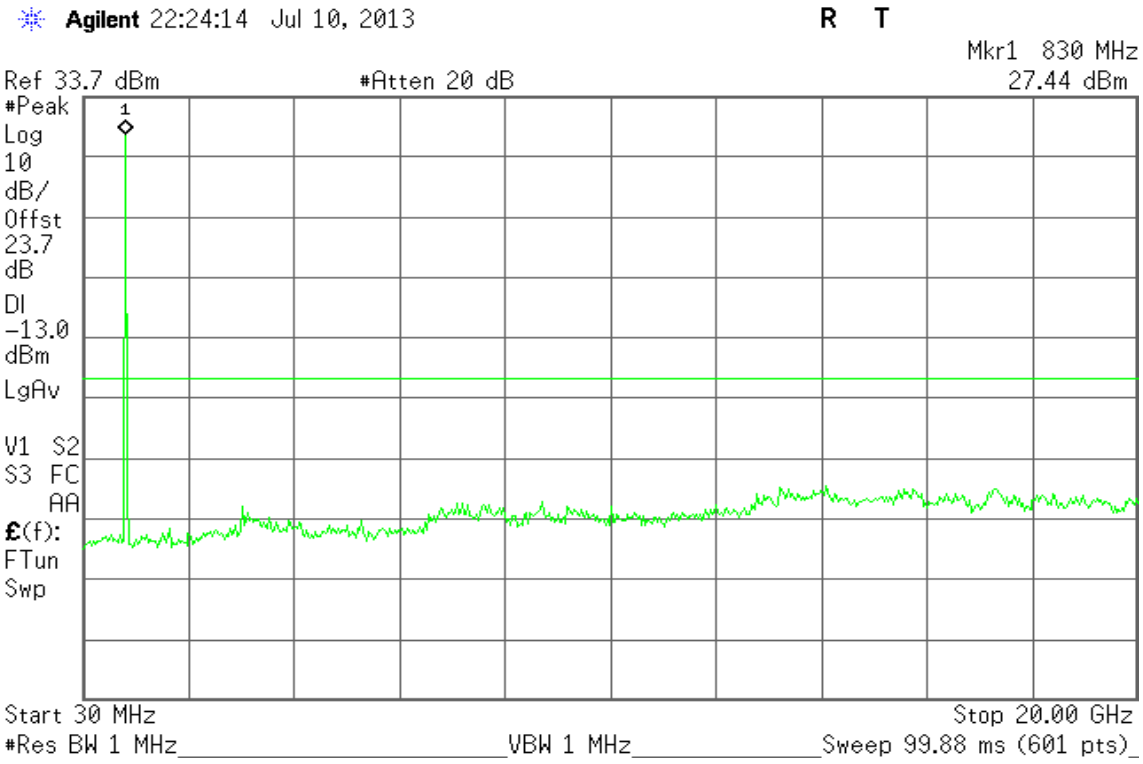


Figure 20-2: Out of Band emission at antenna terminals – WCDMA CH Mid

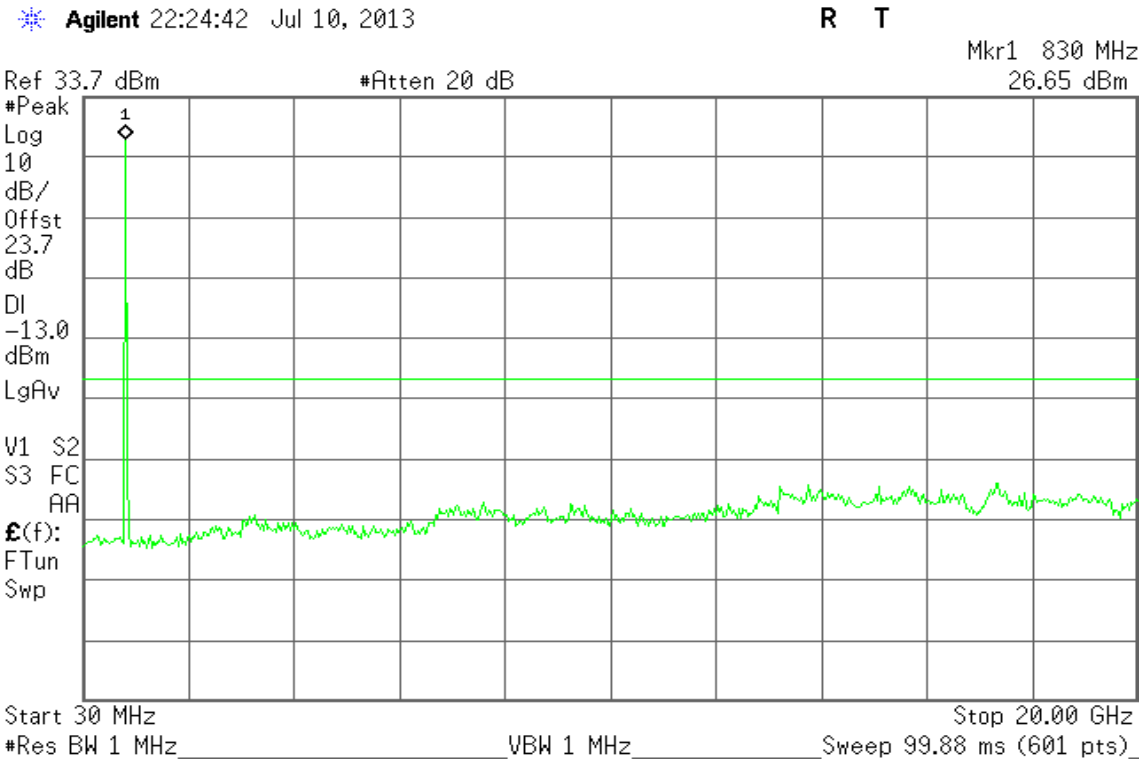
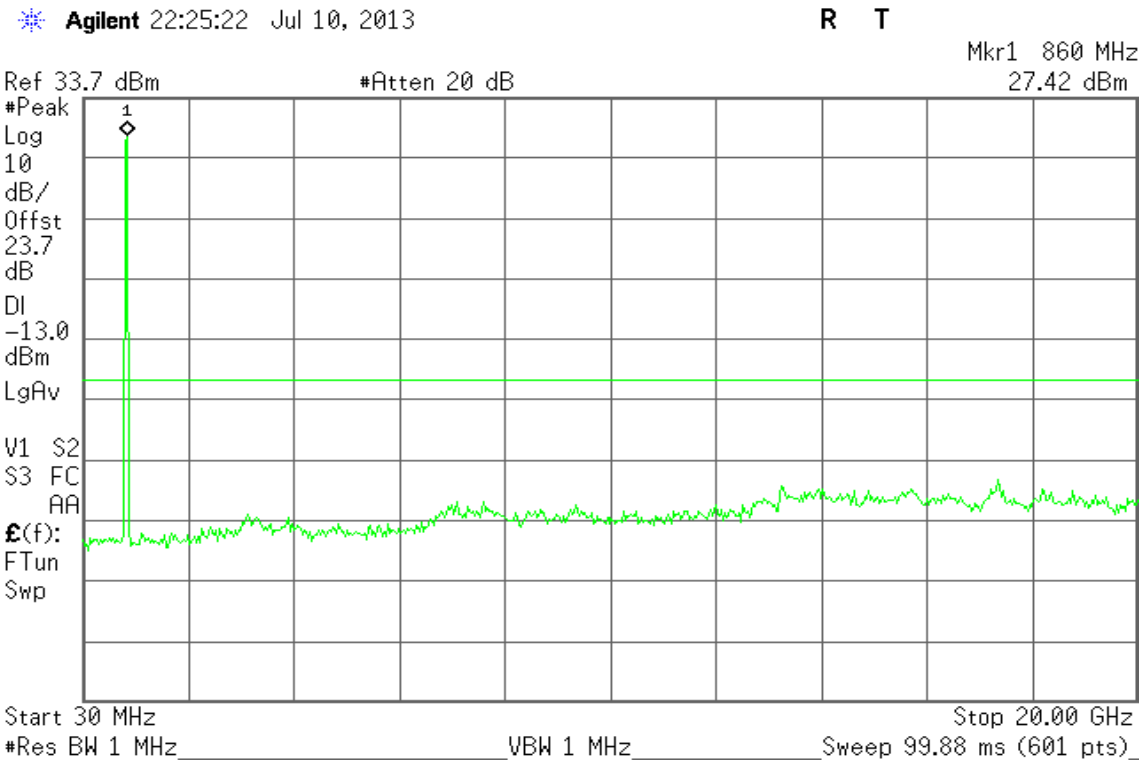


Figure 20-3: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA Band II

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

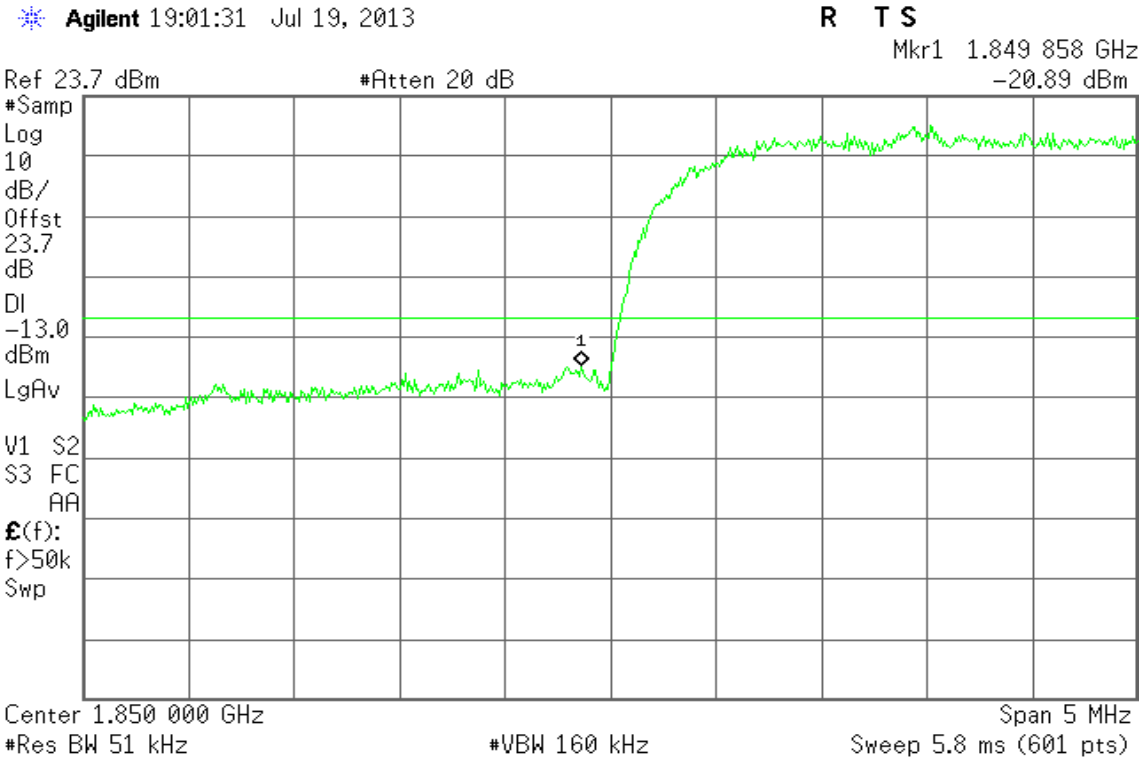
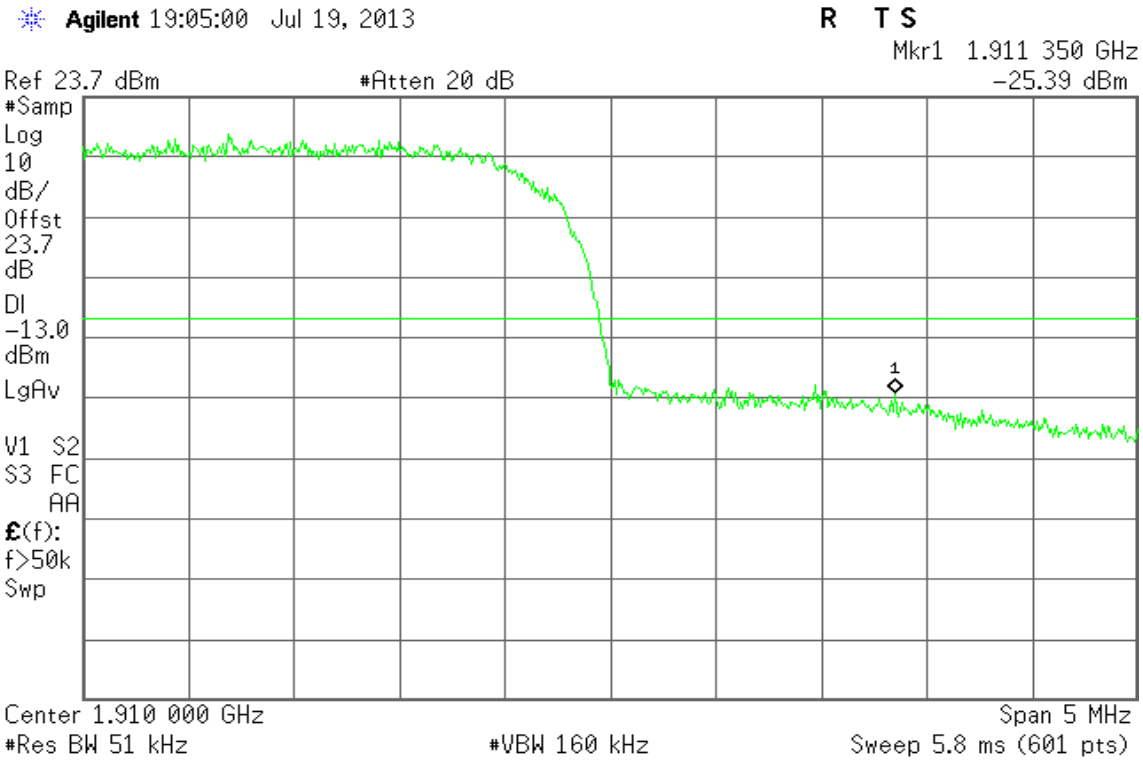


Figure 21-2: Band Edge emissions –WCDMA CH High



WCDMA Band V

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

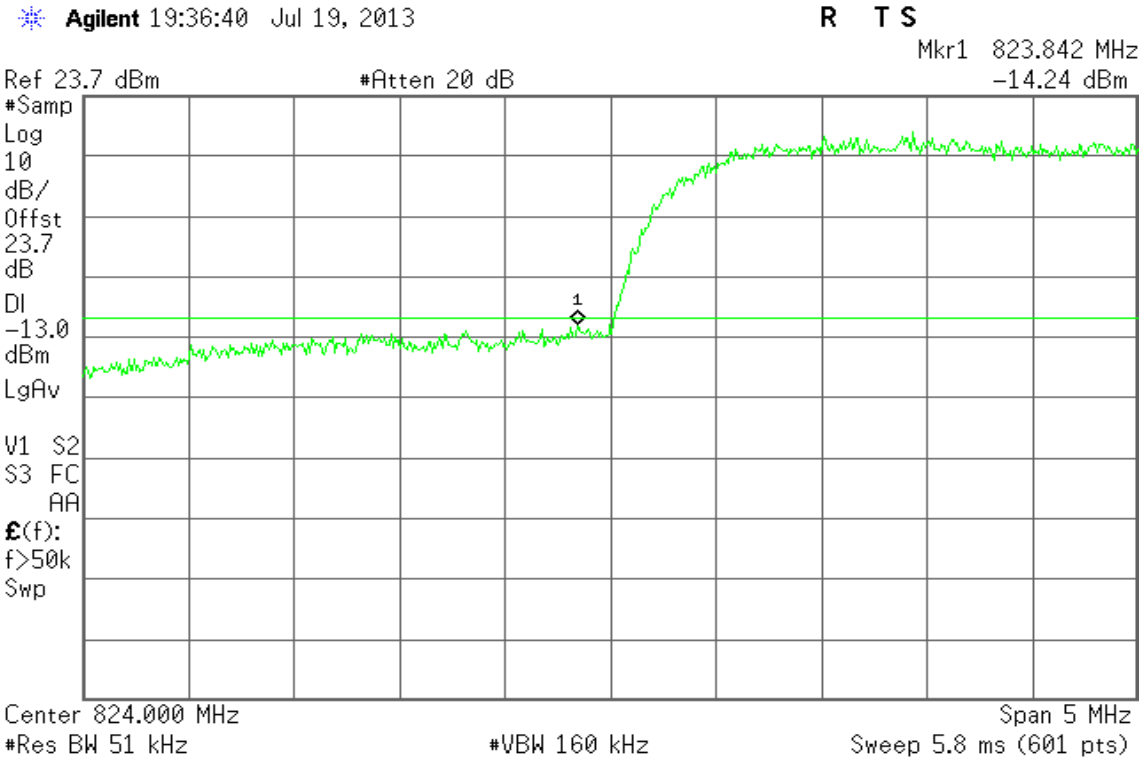
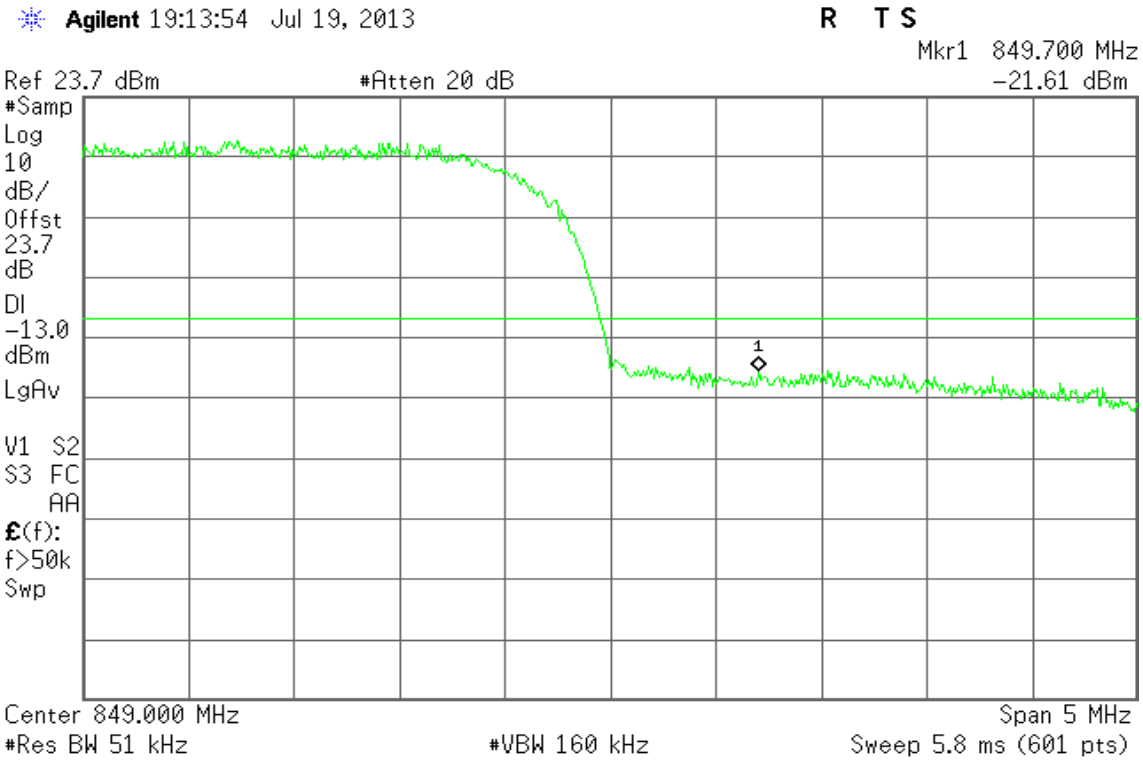


Figure 22-2: Band Edge emissions –WCDMA CH High



WCDMA / HSDPA Band II

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

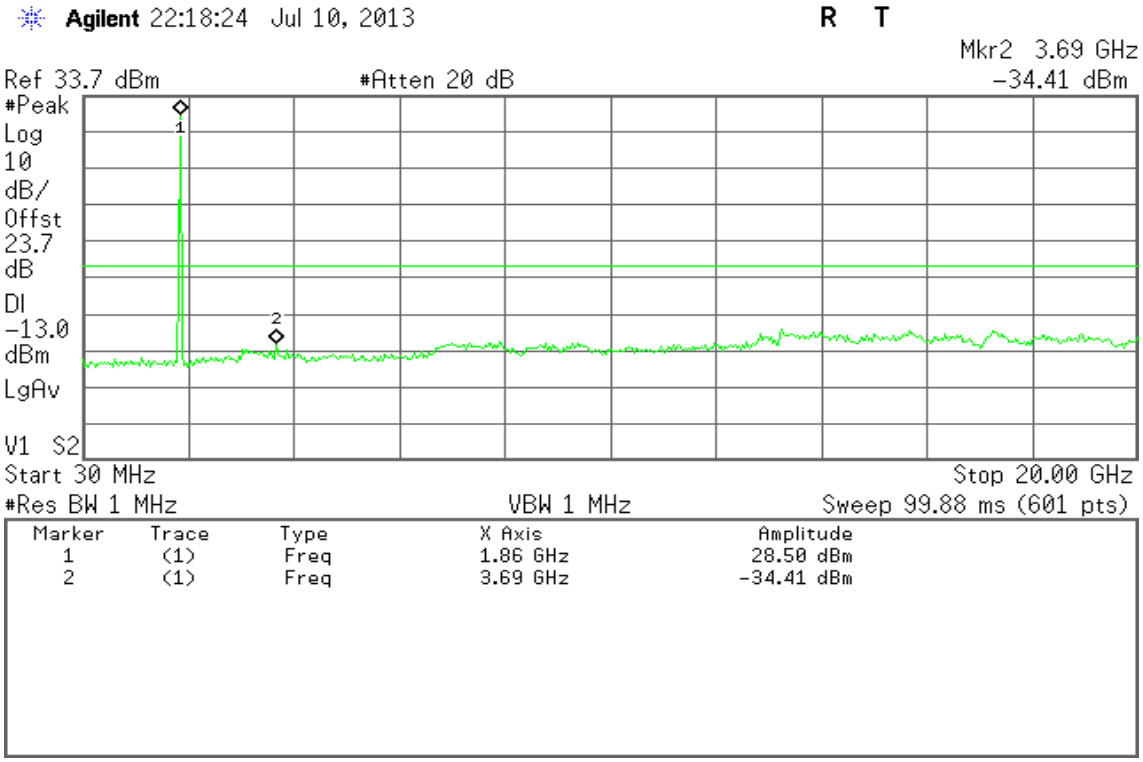


Figure 23-2: Out of Band emission at antenna terminals – HSDPA CH Mid

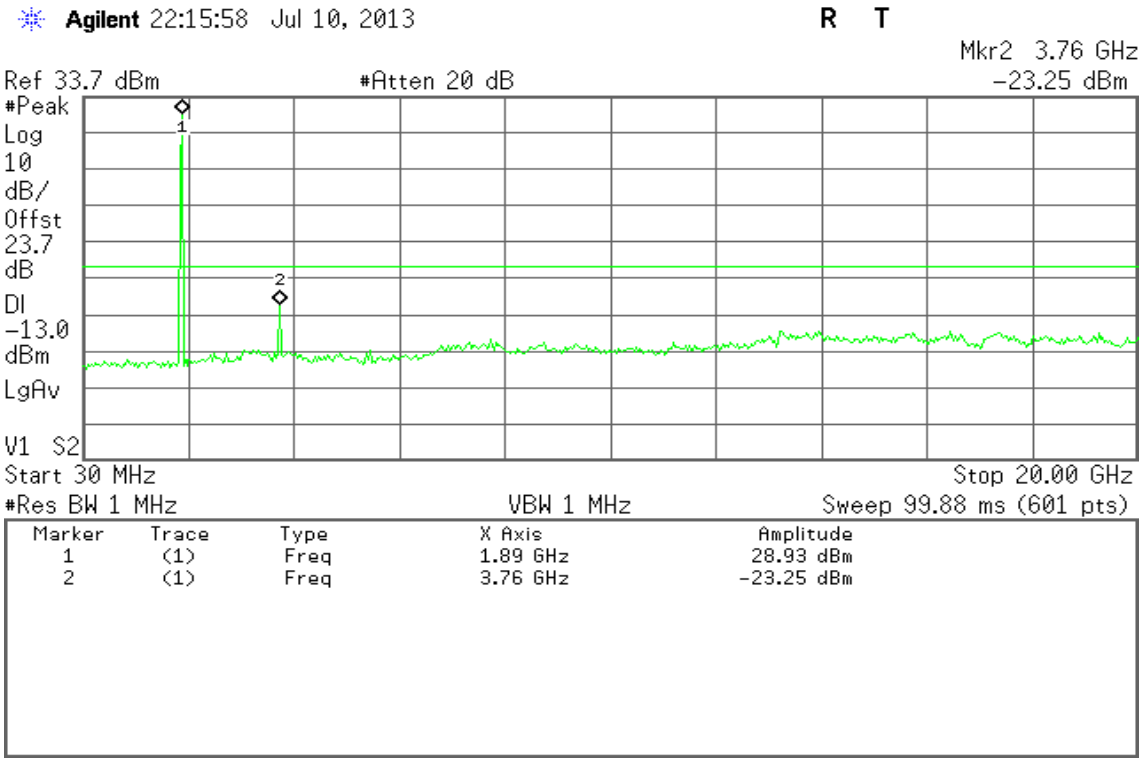
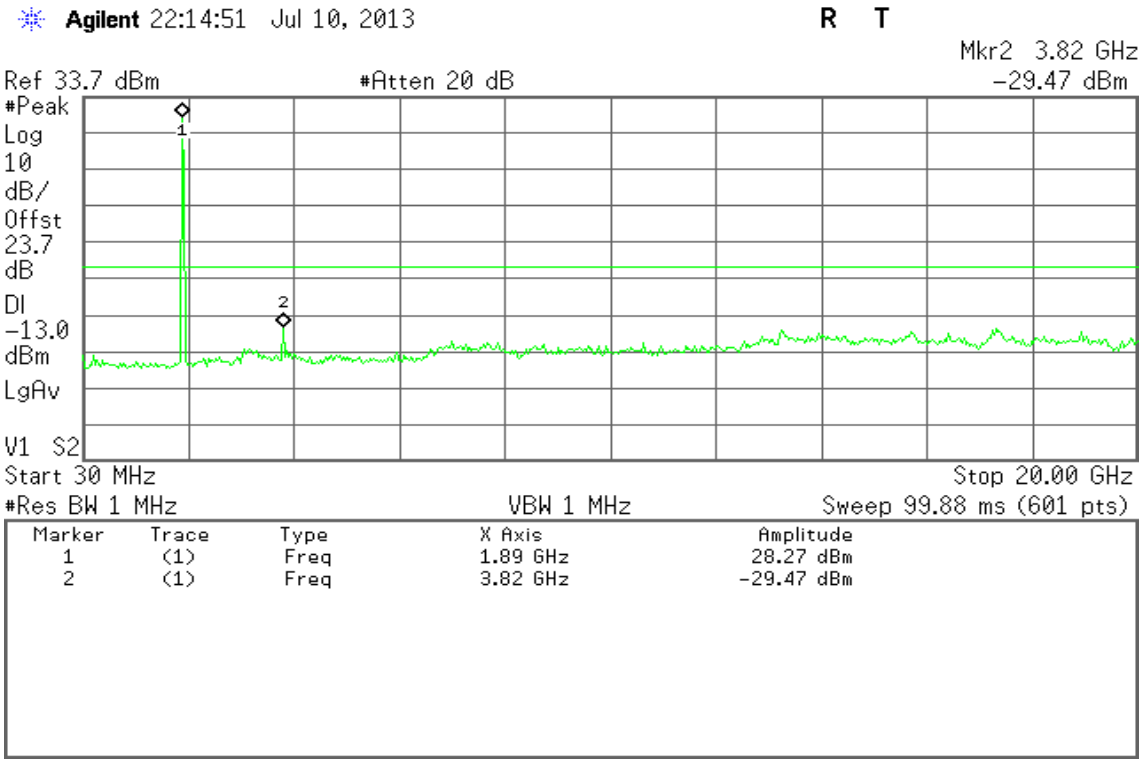


Figure 23-3: Out of Band emission at antenna terminals – HSDPA CH High



WCDMA / HSDPA Band V

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

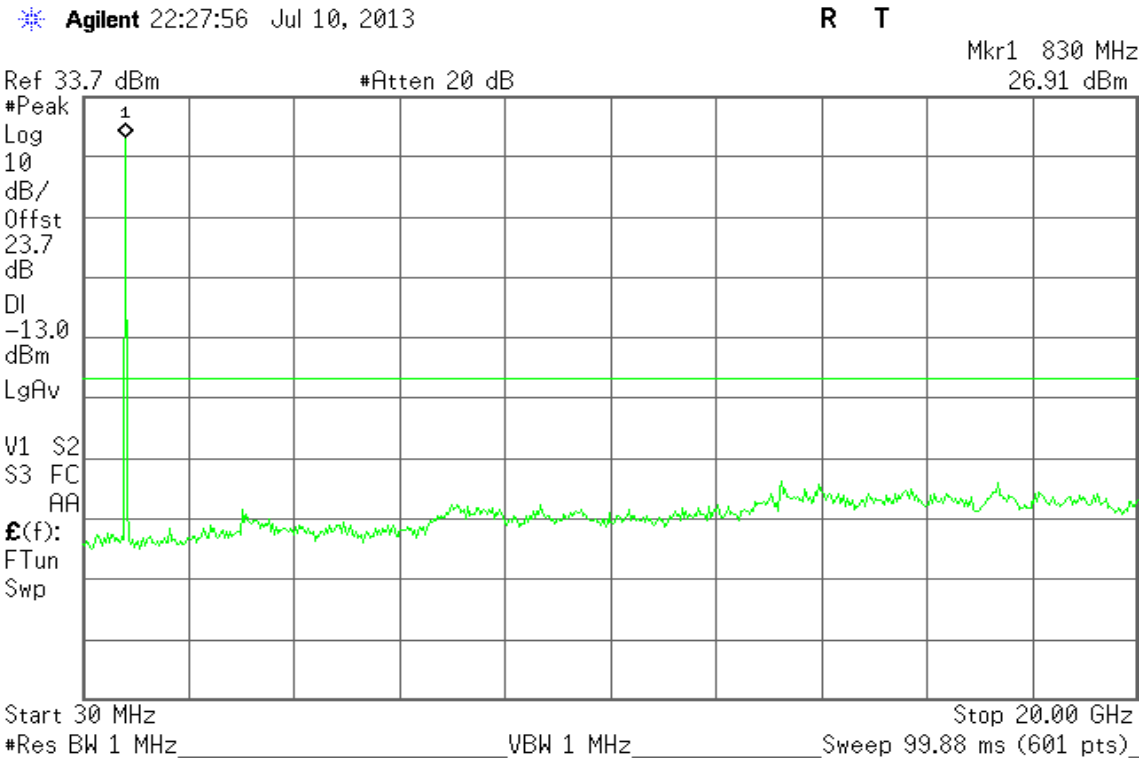


Figure 24-2: Out of Band emission at antenna terminals – HSDPA CH Mid

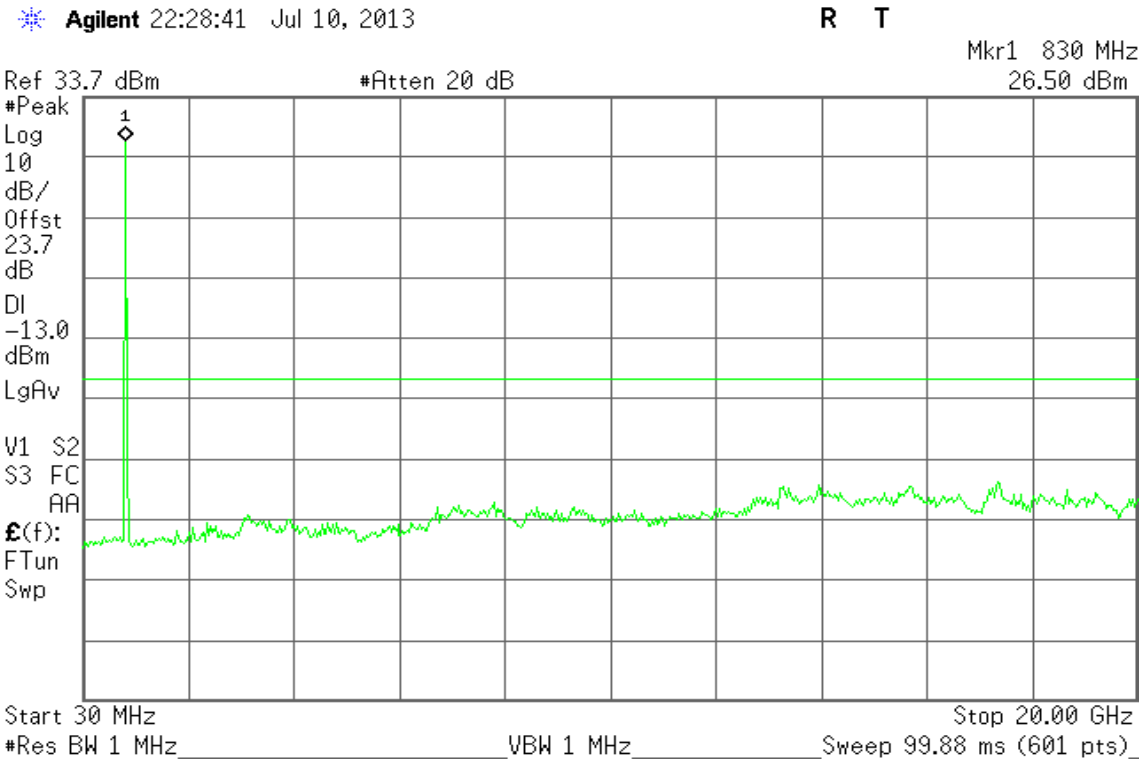
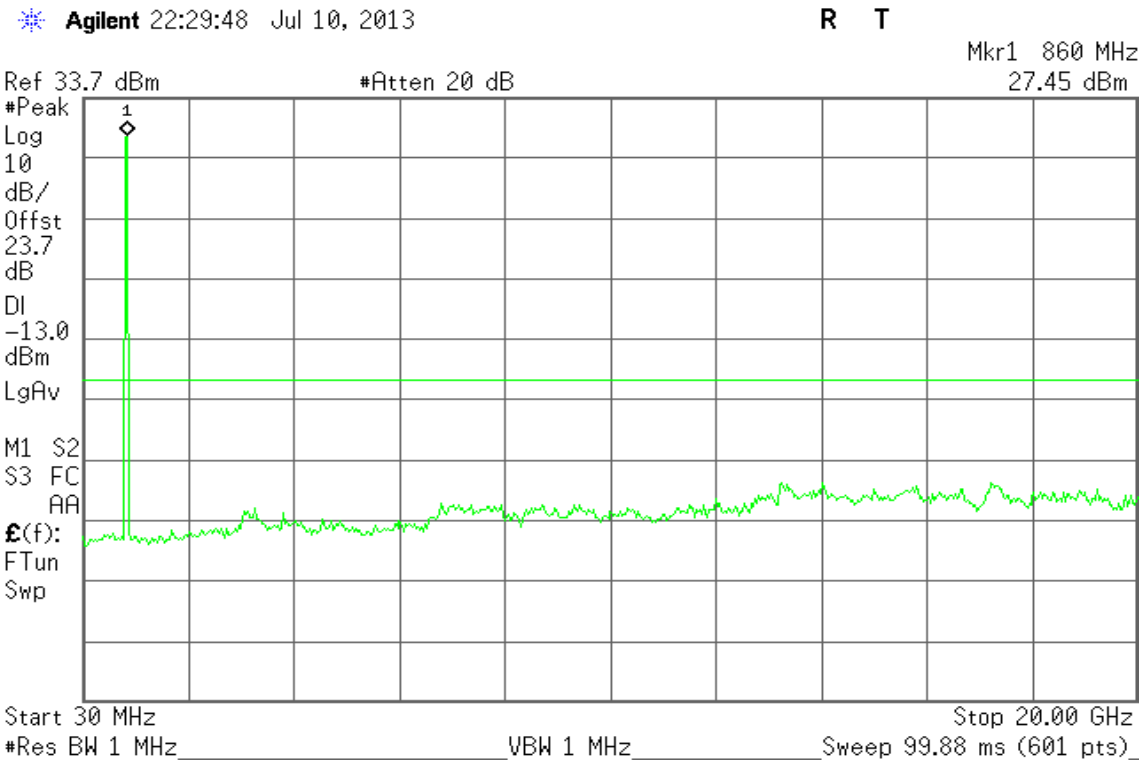


Figure 24-3: Out of Band emission at antenna terminals – HSDPA CH High



WCDMA / HSDPA Band II

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

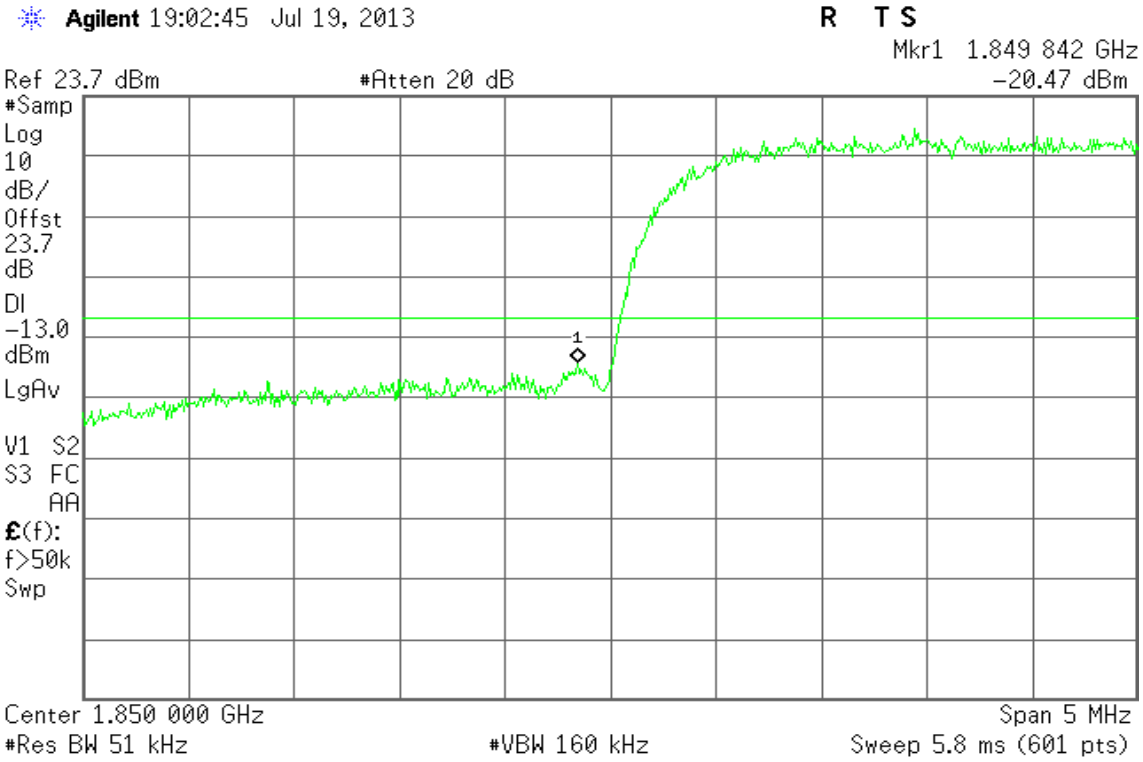
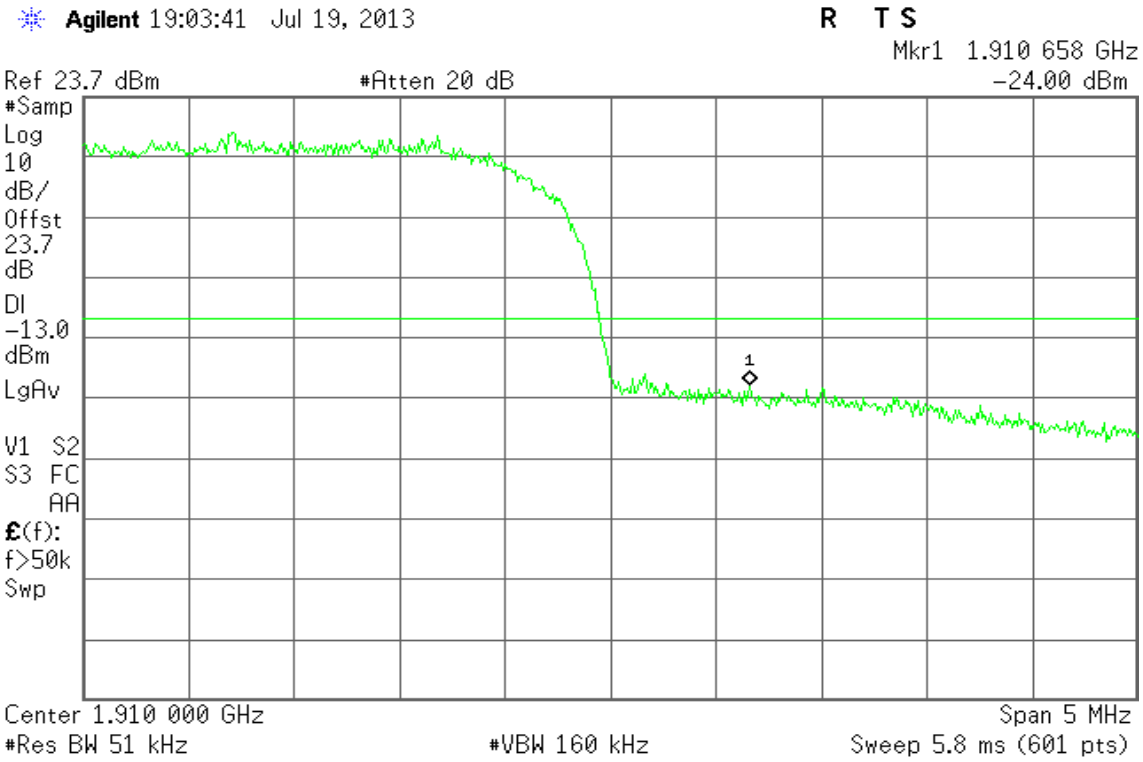


Figure 25-2: Band Edge emissions – HSDPA CH High



WCDMA / HSDPA Band V

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

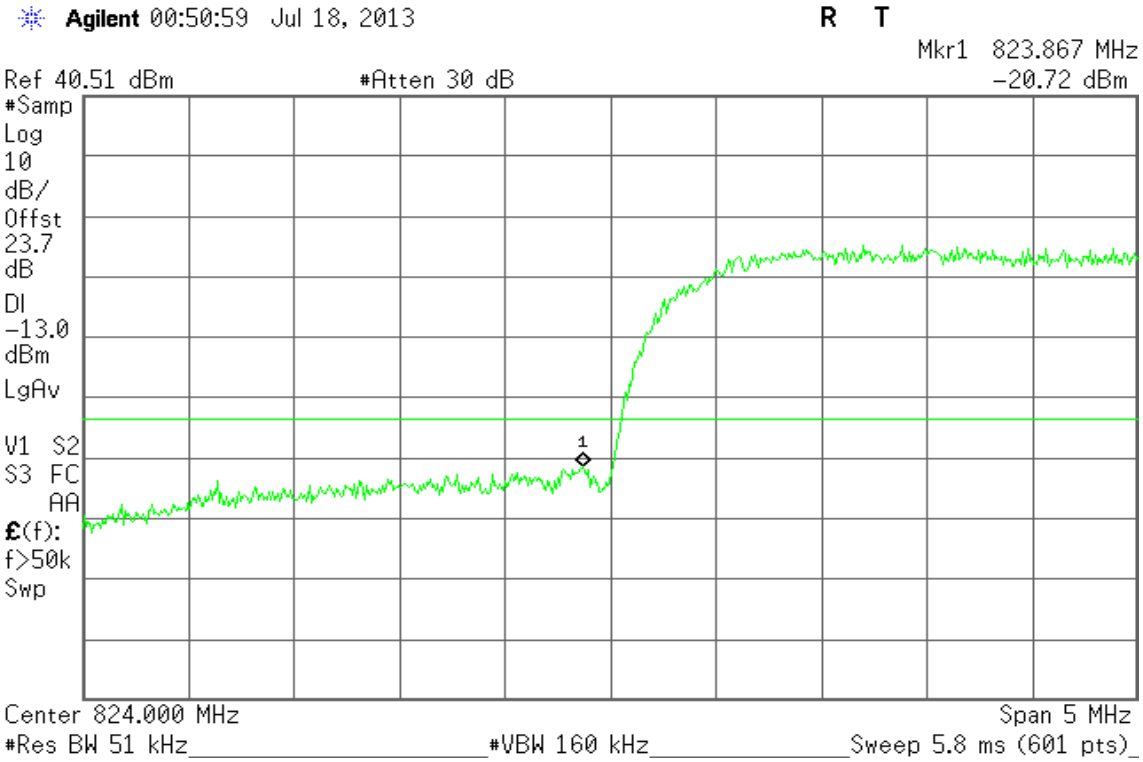
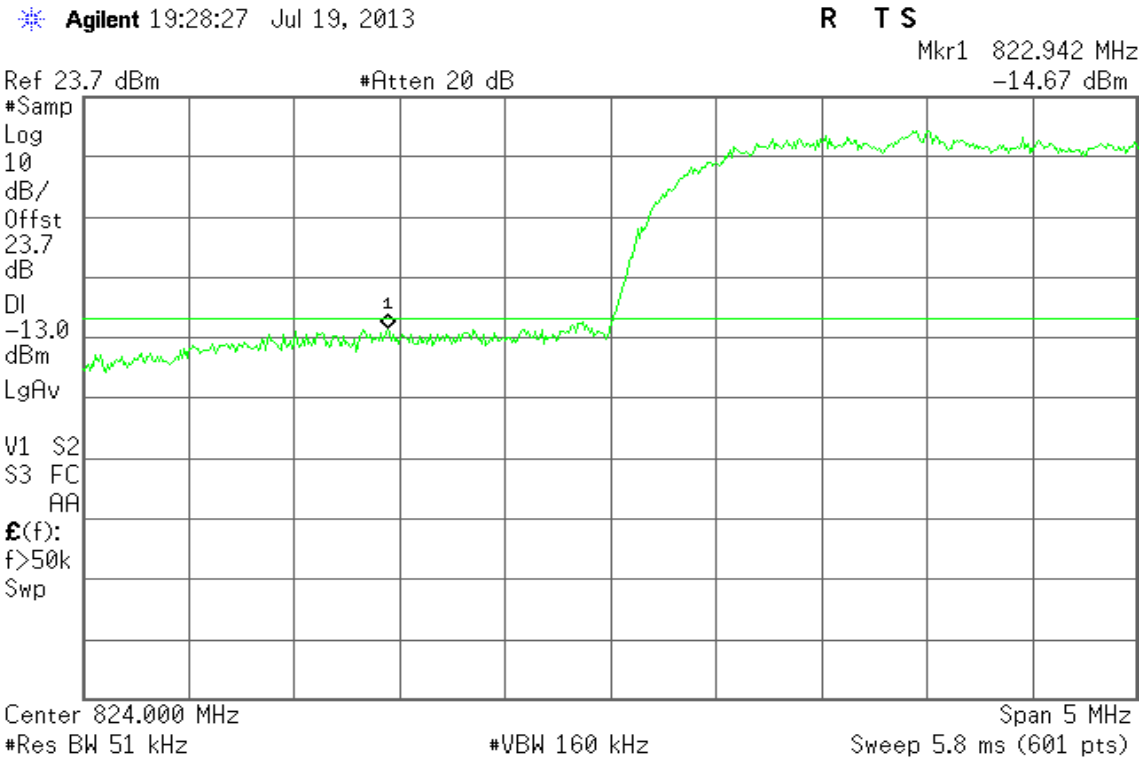


Figure 26-2: Band Edge emissions – HSDPA CH High



WCDMA / HSUPA Band II

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

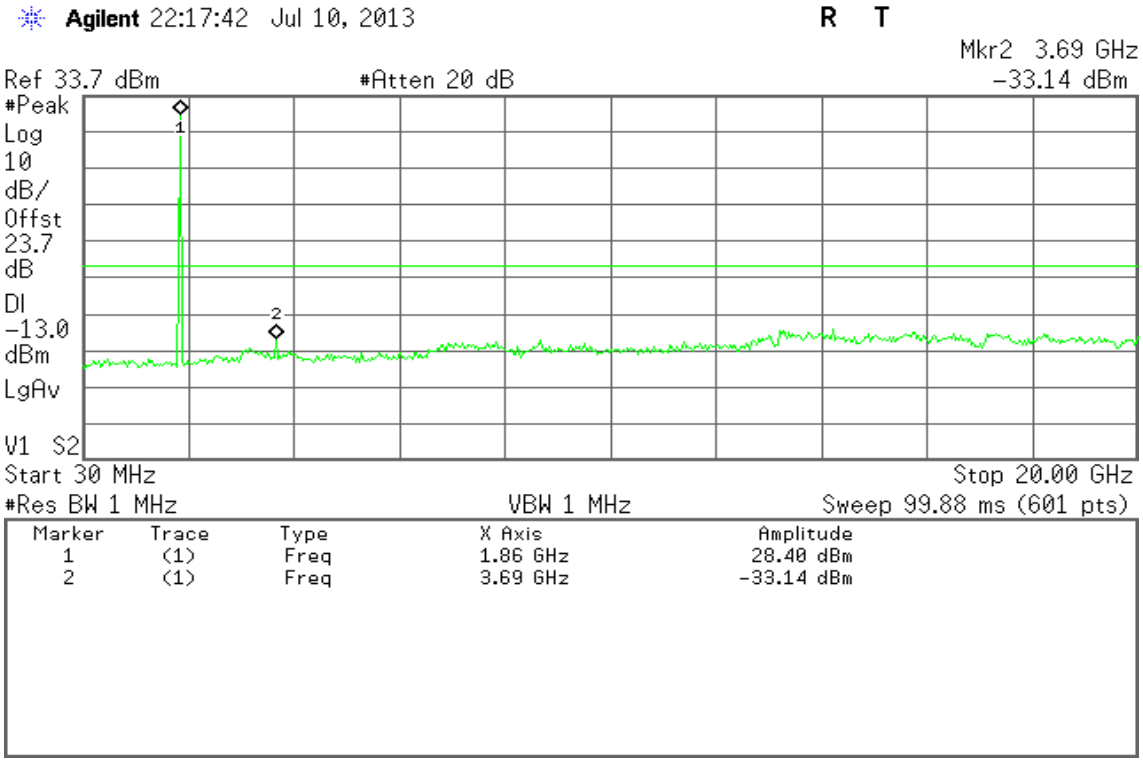


Figure 27-2: Out of Band emission at antenna terminals – HSUPA CH Mid

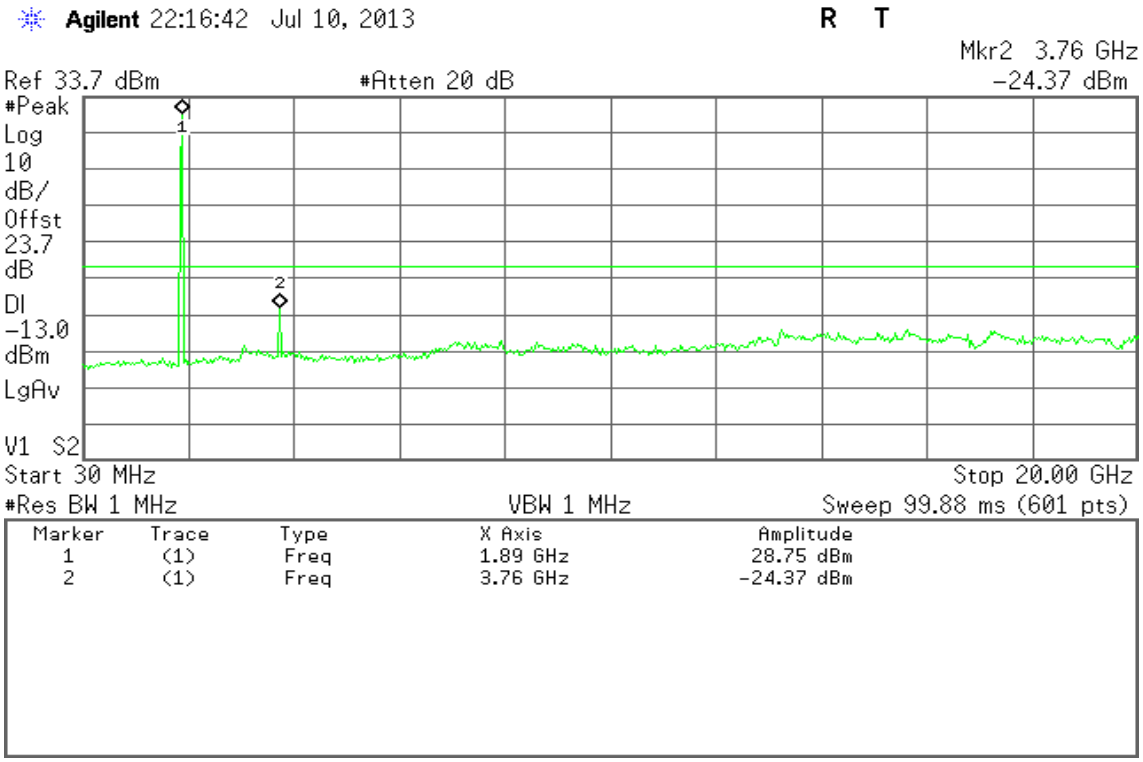
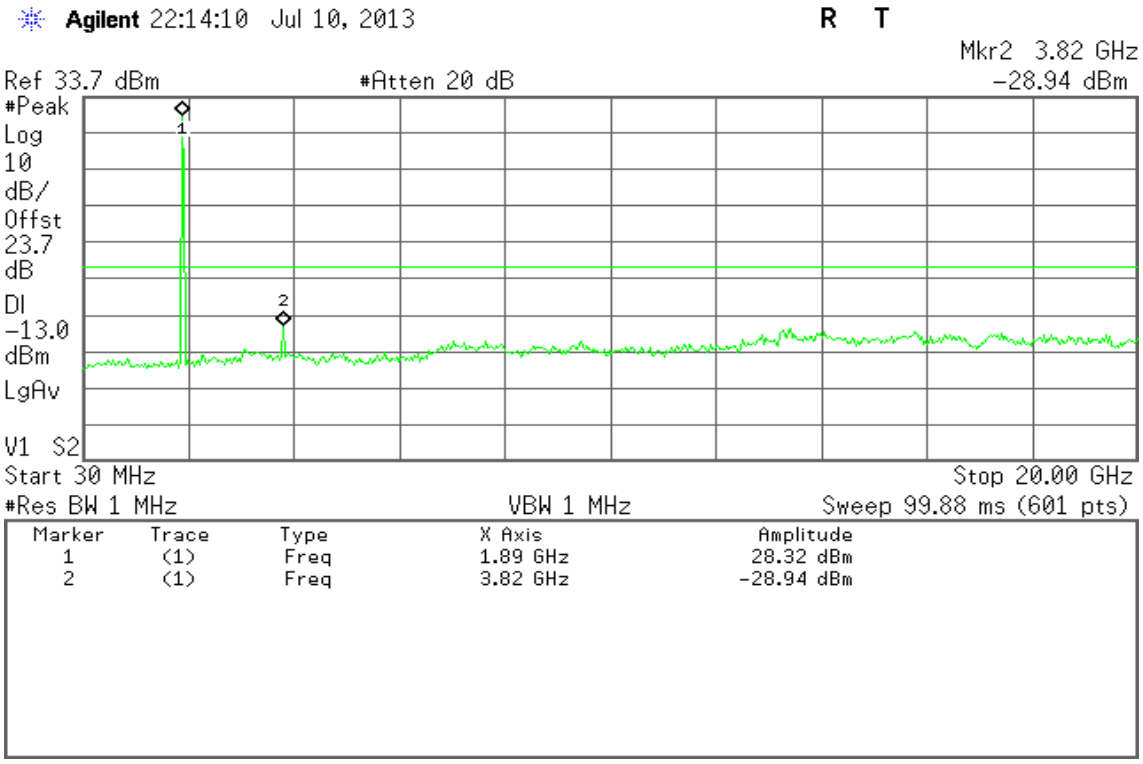


Figure 27-3: Out of Band emission at antenna terminals – HSUPA CH High



HSUPA / WCDMA Band V

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

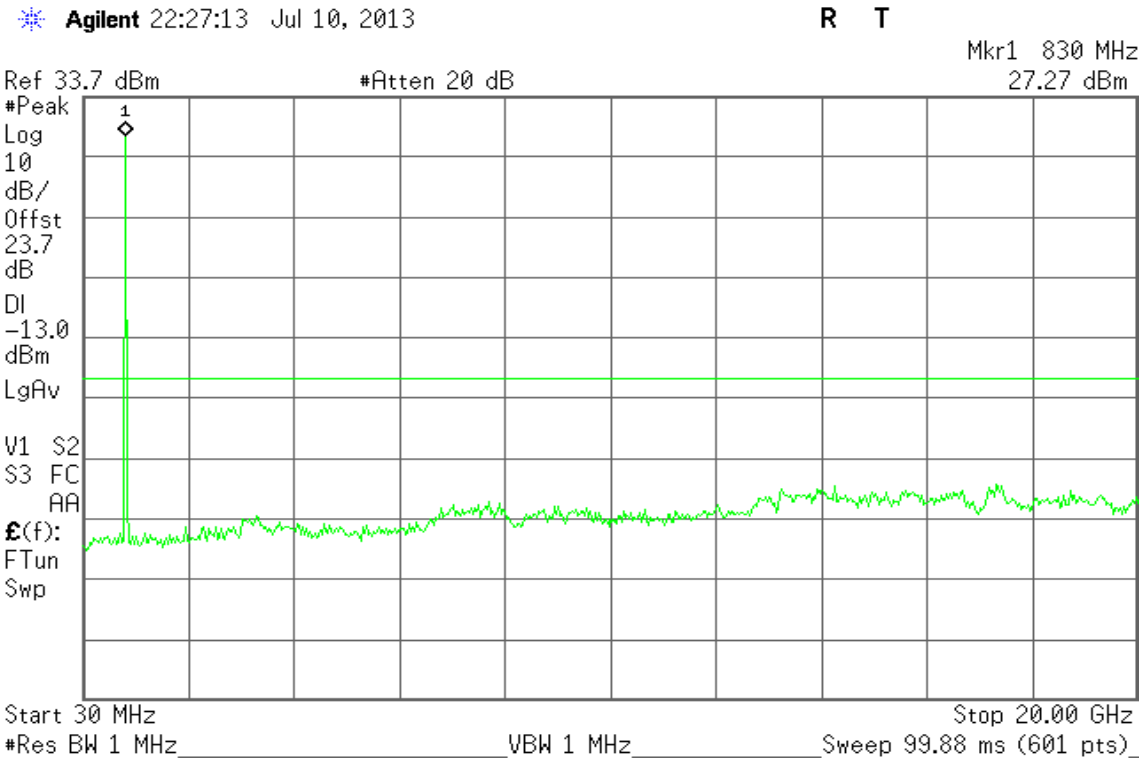


Figure 28-2: Out of Band emission at antenna terminals – HSUPA CH Mid

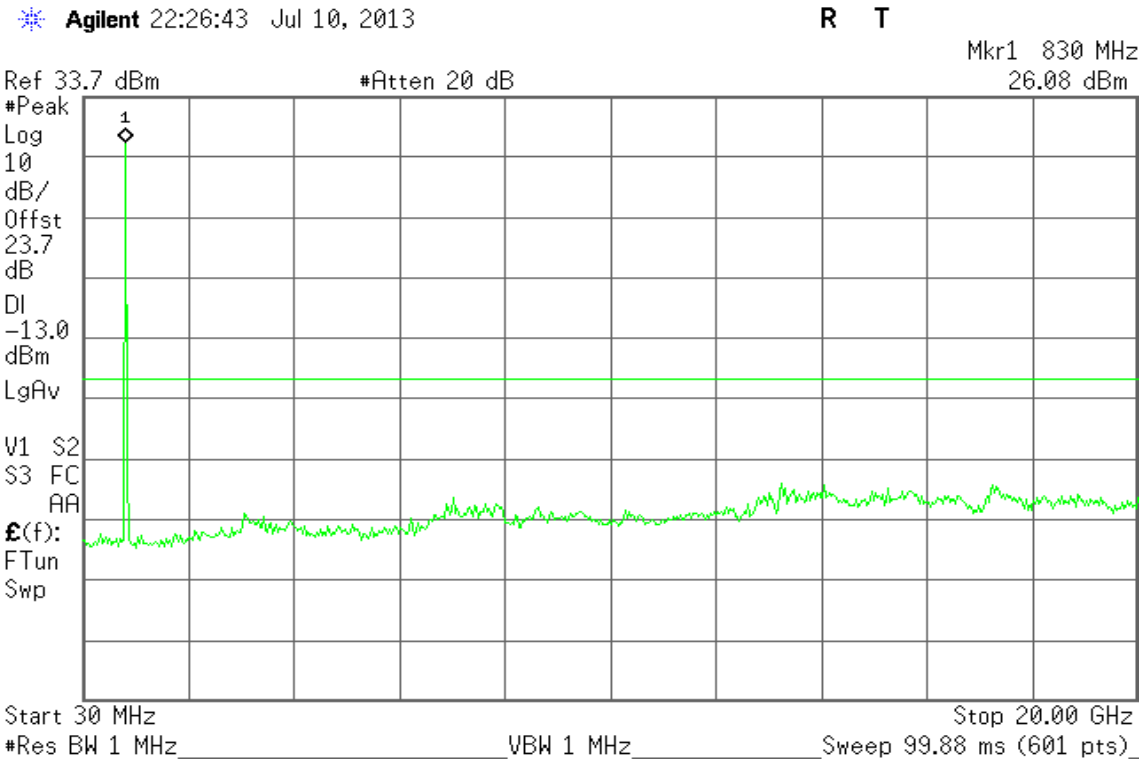
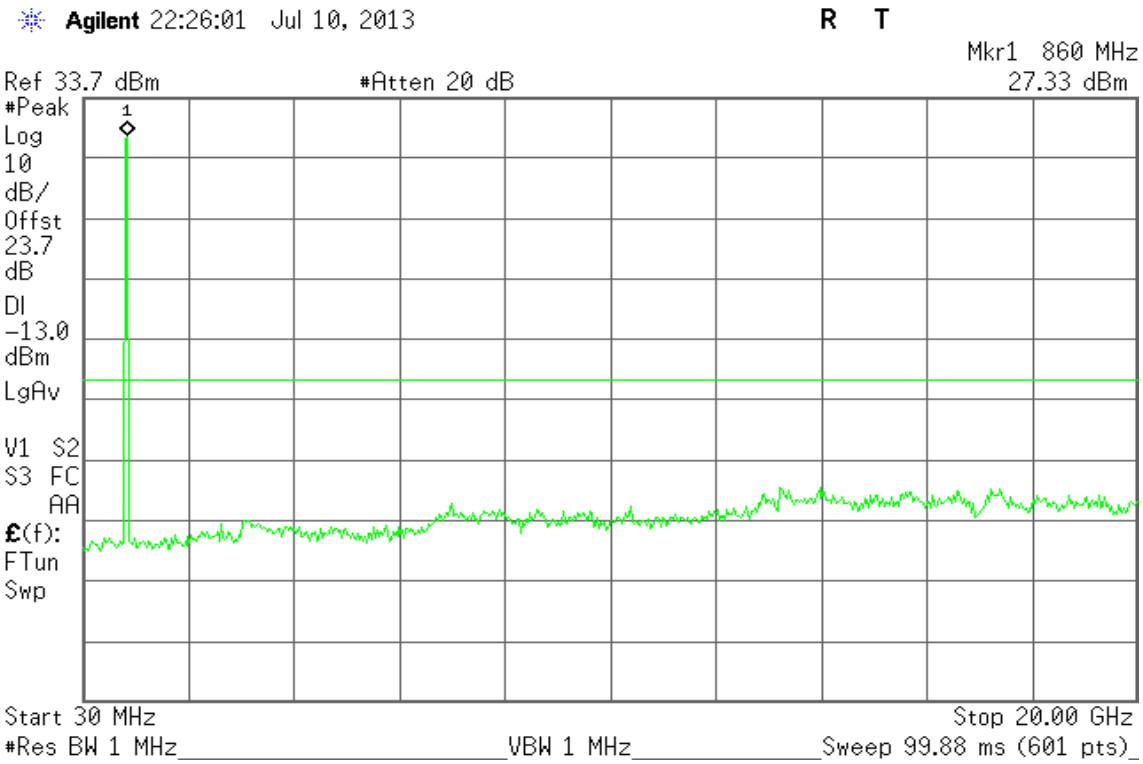


Figure 28-3: Out of Band emission at antenna terminals – HSUPA CH High



WCDMA / HSUPA Band II

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

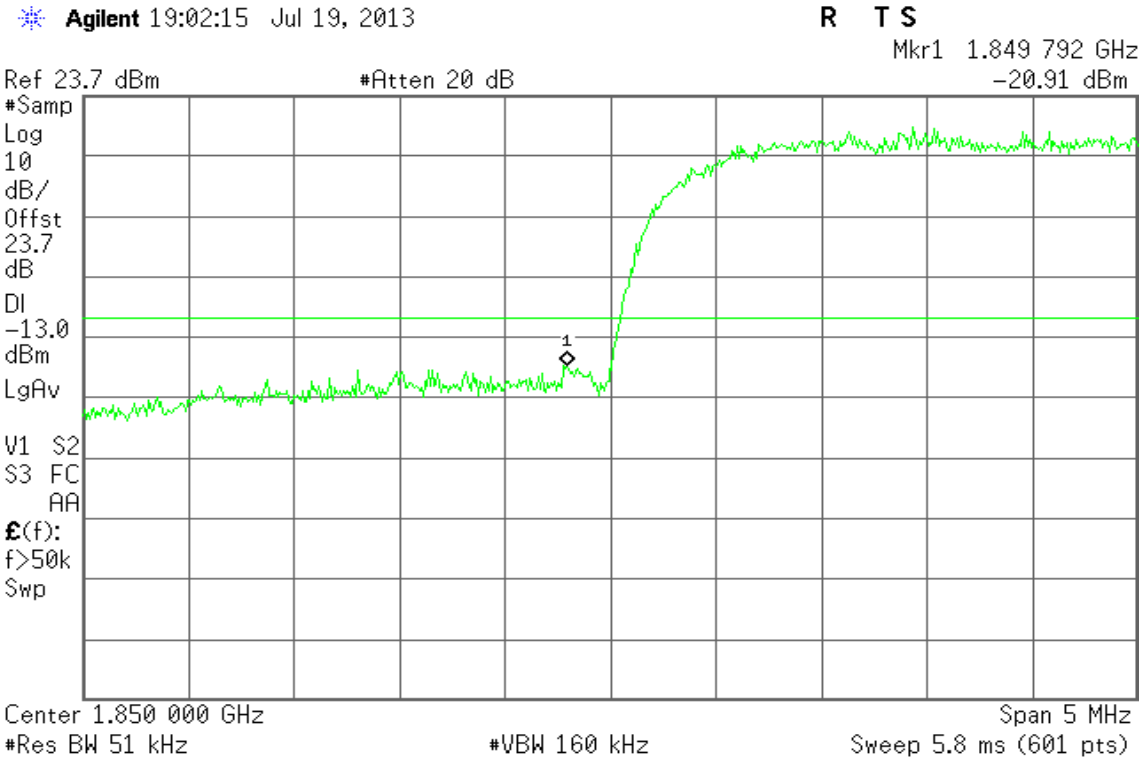
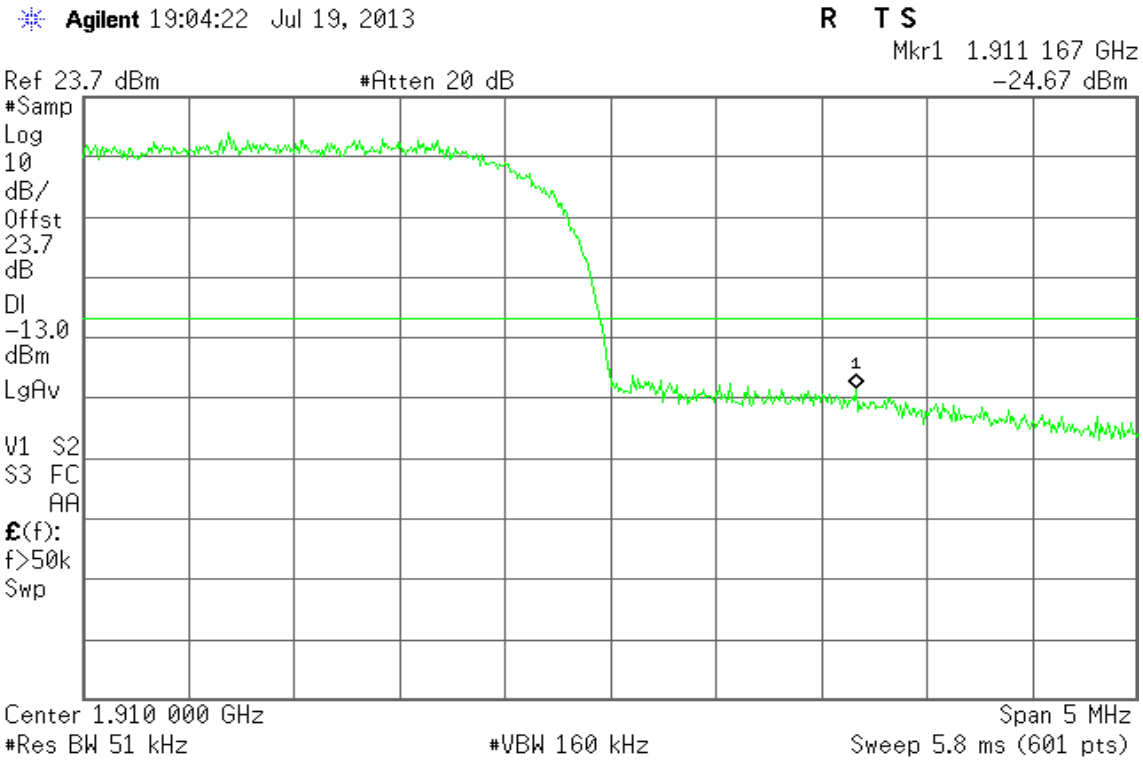


Figure 29-2: Band Edge emissions – HSUPA CH High



WCDMA / HSUPA Band V

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

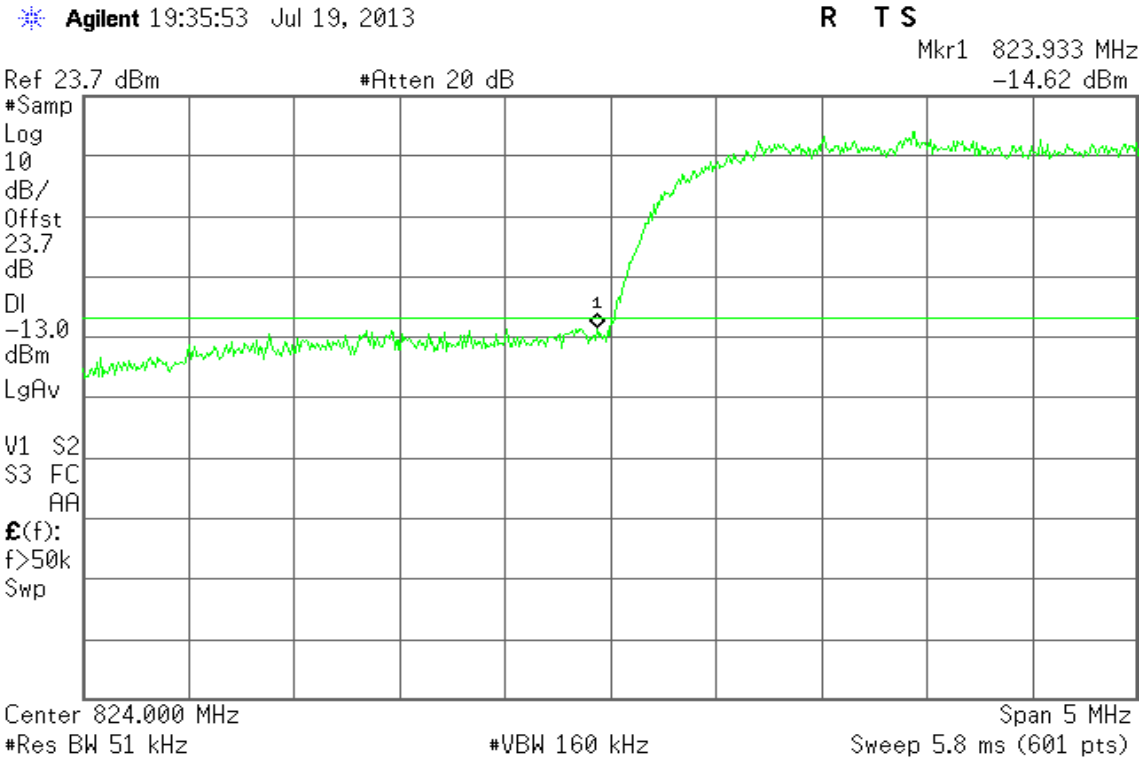
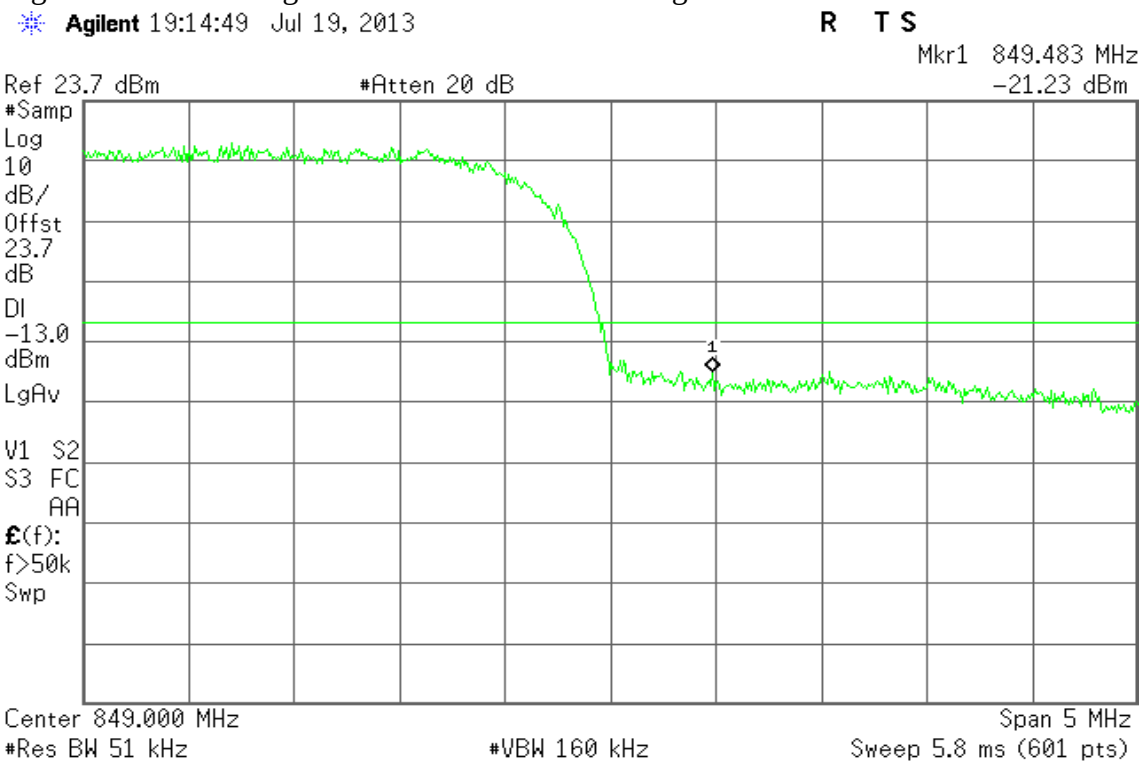


Figure 30-2: Band Edge emissions – HSUPA CH High



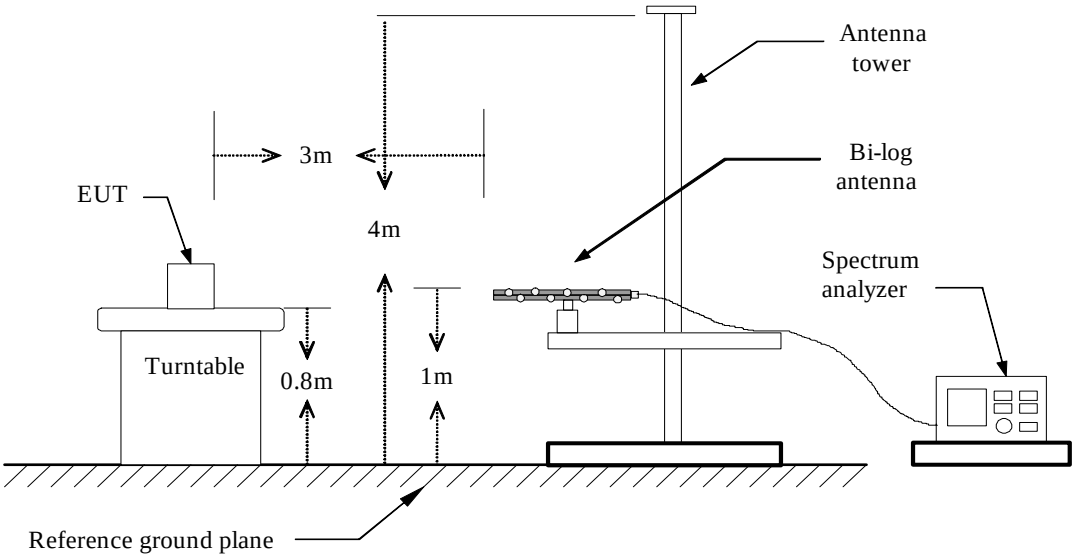
7.6FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

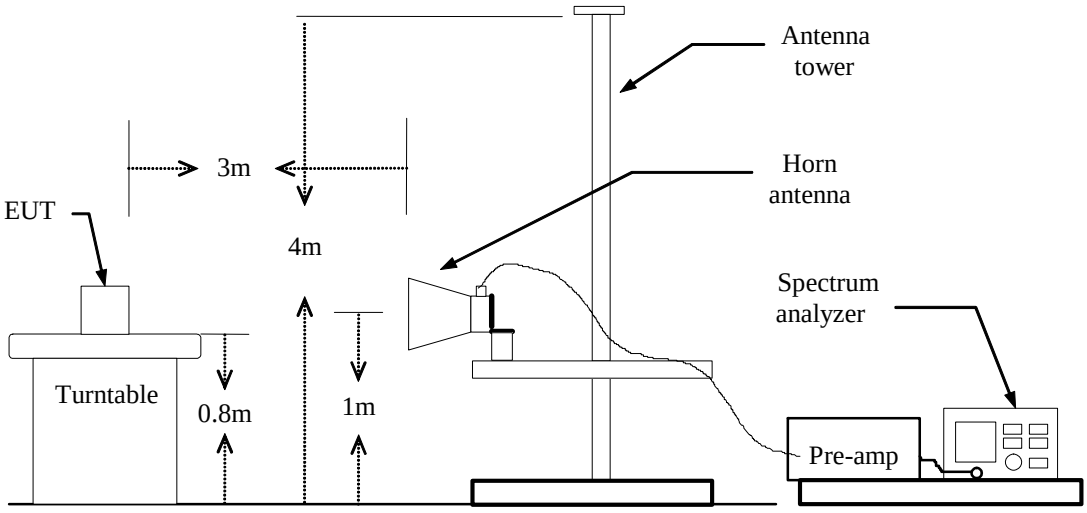
According to FCC §2.1053, RSS-132 (4.6) & RSS-133 (6.5).

Test Configuration

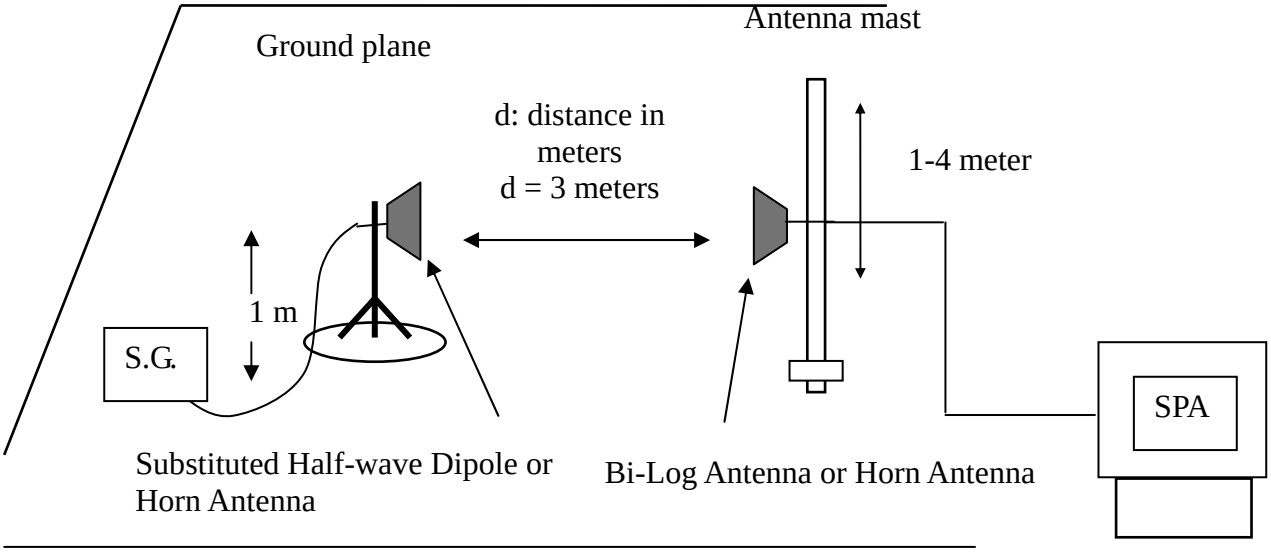
Below 1 GHz



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:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.23	1.13	0.26	-61.10	-13.00	-48.10	V
150.2800	-70.32	1.43	0.71	-71.04	-13.00	-58.04	V
309.3600	-82.44	2.13	5.78	-78.79	-13.00	-65.79	V
354.9500	-76.48	2.25	5.75	-72.98	-13.00	-59.98	V
450.9800	-79.52	2.59	5.74	-76.37	-13.00	-63.37	V
516.9400	-79.07	2.7	6.07	-75.70	-13.00	-62.70	V
71.7100	-49.68	0.97	-1.61	-52.26	-13.00	-39.26	H
150.2800	-60.39	1.43	0.71	-61.11	-13.00	-48.11	H
234.6700	-73.98	1.8	5.38	-70.40	-13.00	-57.40	H
345.2500	-73.04	2.2	5.8	-69.44	-13.00	-56.44	H
459.7100	-73.87	2.6	5.88	-70.59	-13.00	-57.59	H
516.9400	-75.15	2.7	6.07	-71.78	-13.00	-58.78	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:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.84	1.13	0.26	-61.71	-13.00	-48.71	V
150.2800	-70.11	1.43	0.71	-70.83	-13.00	-57.83	V
303.5400	-82.34	2.11	5.67	-78.78	-13.00	-65.78	V
354.9500	-76.3	2.25	5.75	-72.80	-13.00	-59.80	V
390.8400	-79.37	2.32	6	-75.69	-13.00	-62.69	V
448.0700	-79.62	2.58	5.74	-76.46	-13.00	-63.46	V
71.7100	-49	0.97	-1.61	-51.58	-13.00	-38.58	H
150.2800	-59.94	1.43	0.71	-60.66	-13.00	-47.66	H
234.6700	-71.47	1.8	5.38	-67.89	-13.00	-54.89	H
346.2200	-71.07	2.21	5.8	-67.48	-13.00	-54.48	H
402.4800	-72.59	2.41	5.97	-69.03	-13.00	-56.03	H
516.9400	-74.17	2.7	6.07	-70.80	-13.00	-57.80	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:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.29	1.13	0.26	-61.16	-13.00	-48.16	V
150.2800	-69.1	1.43	0.71	-69.82	-13.00	-56.82	V
204.6000	-78.43	1.65	4.2	-75.88	-13.00	-62.88	V
354.9500	-75.63	2.25	5.75	-72.13	-13.00	-59.13	V
450.9800	-78.68	2.59	5.74	-75.53	-13.00	-62.53	V
516.9400	-79.14	2.7	6.07	-75.77	-13.00	-62.77	V
71.7100	-49.25	0.97	-1.61	-51.83	-13.00	-38.83	H
150.2800	-59.65	1.43	0.71	-60.37	-13.00	-47.37	H
234.6700	-72.57	1.8	5.38	-68.99	-13.00	-55.99	H
346.2200	-72.59	2.21	5.8	-69.00	-13.00	-56.00	H
402.4800	-72.48	2.41	5.97	-68.92	-13.00	-55.92	H
516.9400	-74.57	2.7	6.07	-71.20	-13.00	-58.20	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:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-57.67	1.16	-0.64	-59.47	-13.00	-46.47	V
150.2800	-66.81	1.43	0.71	-67.53	-13.00	-54.53	V
189.0800	-79.78	1.62	3.96	-77.44	-13.00	-64.44	V
354.9500	-75.01	2.25	5.75	-71.51	-13.00	-58.51	V
516.9400	-79.09	2.7	6.07	-75.72	-13.00	-62.72	V
601.3300	-79.31	2.91	6.39	-75.83	-13.00	-62.83	V
71.7100	-46.37	0.97	-1.61	-48.95	-13.00	-35.95	H
150.2800	-57.88	1.43	0.71	-58.60	-13.00	-45.60	H
233.7000	-73.31	1.8	5.39	-69.72	-13.00	-56.72	H
357.8600	-68.9	2.26	5.72	-65.44	-13.00	-52.44	H
516.9400	-72.23	2.7	6.07	-68.86	-13.00	-55.86	H
612.9700	-73.68	2.94	6.23	-70.39	-13.00	-57.39	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-59.45	1.13	0.26	-60.32	-13.00	-47.32	V
150.2800	-67.2	1.43	0.71	-67.92	-13.00	-54.92	V
234.6700	-79.5	1.8	5.38	-75.92	-13.00	-62.92	V
352.0400	-77.08	2.24	5.78	-73.54	-13.00	-60.54	V
390.8400	-77.1	2.32	6	-73.42	-13.00	-60.42	V
456.8000	-78.92	2.6	5.84	-75.68	-13.00	-62.68	V
71.7100	-48.33	0.97	-1.61	-50.91	-13.00	-37.91	H
150.2800	-59.42	1.43	0.71	-60.14	-13.00	-47.14	H
234.6700	-74.41	1.8	5.38	-70.83	-13.00	-57.83	H
357.8600	-70.45	2.26	5.72	-66.99	-13.00	-53.99	H
499.4800	-72.81	2.7	5.89	-69.62	-13.00	-56.62	H
601.3300	-74.89	2.91	6.39	-71.41	-13.00	-58.41	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-59.05	1.16	-0.64	-60.85	-13.00	-47.85	V
150.2800	-68.23	1.43	0.71	-68.95	-13.00	-55.95	V
234.6700	-81.75	1.8	5.38	-78.17	-13.00	-65.17	V
354.9500	-76.56	2.25	5.75	-73.06	-13.00	-60.06	V
448.0700	-79.17	2.58	5.74	-76.01	-13.00	-63.01	V
516.9400	-78.96	2.7	6.07	-75.59	-13.00	-62.59	V
71.7100	-48.67	0.97	-1.61	-51.25	-13.00	-38.25	H
150.2800	-59.24	1.43	0.71	-59.96	-13.00	-46.96	H
234.6700	-74.22	1.8	5.38	-70.64	-13.00	-57.64	H
345.2500	-70.23	2.2	5.8	-66.63	-13.00	-53.63	H
459.7100	-74.41	2.6	5.88	-71.13	-13.00	-58.13	H
601.3300	-75.43	2.91	6.39	-71.95	-13.00	-58.95	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:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.89	1.16	-0.64	-62.69	-13.00	-49.69	V
138.6400	-69.56	1.39	-0.38	-71.33	-13.00	-58.33	V
354.9500	-76.89	2.25	5.75	-73.39	-13.00	-60.39	V
448.0700	-78.6	2.58	5.74	-75.44	-13.00	-62.44	V
516.9400	-78.81	2.7	6.07	-75.44	-13.00	-62.44	V
601.3300	-80.91	2.91	6.39	-77.43	-13.00	-64.43	V
71.7100	-49.92	0.97	-1.61	-52.50	-13.00	-39.50	H
150.2800	-60.31	1.43	0.71	-61.03	-13.00	-48.03	H
234.6700	-72.29	1.8	5.38	-68.71	-13.00	-55.71	H
345.2500	-71.59	2.2	5.8	-67.99	-13.00	-54.99	H
402.4800	-72.16	2.41	5.97	-68.60	-13.00	-55.60	H
516.9400	-74.93	2.7	6.07	-71.56	-13.00	-58.56	H

Remark:

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

Operation Mode: GSM 1900 / TX / CH 661 **Test Date:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.63	1.16	-0.64	-62.43	-13.00	-49.43	V
150.2800	-70.45	1.43	0.71	-71.17	-13.00	-58.17	V
354.9500	-76.25	2.25	5.75	-72.75	-13.00	-59.75	V
450.9800	-79.41	2.59	5.74	-76.26	-13.00	-63.26	V
516.9400	-79.74	2.7	6.07	-76.37	-13.00	-63.37	V
733.2500	-79.15	3.19	6.31	-76.03	-13.00	-63.03	V
71.7100	-49.87	0.97	-1.61	-52.45	-13.00	-39.45	H
120.2100	-56.88	1.27	-2.06	-60.21	-13.00	-47.21	H
234.6700	-74.64	1.8	5.38	-71.06	-13.00	-58.06	H
345.2500	-72.98	2.2	5.8	-69.38	-13.00	-56.38	H
459.7100	-73.54	2.6	5.88	-70.26	-13.00	-57.26	H
516.9400	-75.27	2.7	6.07	-71.90	-13.00	-58.90	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:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-61.85	1.13	0.26	-62.72	-13.00	-49.72	V
150.2800	-70.56	1.43	0.71	-71.28	-13.00	-58.28	V
352.0400	-76.8	2.24	5.78	-73.26	-13.00	-60.26	V
450.9800	-79.58	2.59	5.74	-76.43	-13.00	-63.43	V
516.9400	-79.45	2.7	6.07	-76.08	-13.00	-63.08	V
733.2500	-78.19	3.19	6.31	-75.07	-13.00	-62.07	V
71.7100	-50.34	0.97	-1.61	-52.92	-13.00	-39.92	H
153.1900	-61	1.44	0.94	-61.50	-13.00	-48.50	H
234.6700	-74	1.8	5.38	-70.42	-13.00	-57.42	H
345.2500	-72.8	2.2	5.8	-69.20	-13.00	-56.20	H
459.7100	-74.52	2.6	5.88	-71.24	-13.00	-58.24	H
505.3000	-75.35	2.69	5.95	-72.09	-13.00	-59.09	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.35	1.16	-0.64	-62.15	-13.00	-49.15	V
150.2800	-68.14	1.43	0.71	-68.86	-13.00	-55.86	V
246.3100	-81.98	1.83	5.54	-78.27	-13.00	-65.27	V
309.3600	-81	2.13	5.78	-77.35	-13.00	-64.35	V
354.9500	-77.15	2.25	5.75	-73.65	-13.00	-60.65	V
448.0700	-79.01	2.58	5.74	-75.85	-13.00	-62.85	V
71.7100	-49.6	0.97	-1.61	-52.18	-13.00	-39.18	H
150.2800	-60.75	1.43	0.71	-61.47	-13.00	-48.47	H
234.6700	-75.65	1.8	5.38	-72.07	-13.00	-59.07	H
357.8600	-71.99	2.26	5.72	-68.53	-13.00	-55.53	H
499.4800	-74.85	2.7	5.89	-71.66	-13.00	-58.66	H
601.3300	-75	2.91	6.39	-71.52	-13.00	-58.52	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-59.52	1.16	-0.64	-61.32	-13.00	-48.32	V
138.6400	-67.34	1.39	-0.38	-69.11	-13.00	-56.11	V
234.6700	-81.4	1.8	5.38	-77.82	-13.00	-64.82	V
352.0400	-76.49	2.24	5.78	-72.95	-13.00	-59.95	V
402.4800	-79.11	2.41	5.97	-75.55	-13.00	-62.55	V
456.8000	-80.06	2.6	5.84	-76.82	-13.00	-63.82	V
71.7100	-49.81	0.97	-1.61	-52.39	-13.00	-39.39	H
150.2800	-60.83	1.43	0.71	-61.55	-13.00	-48.55	H
243.4000	-75.98	1.82	5.43	-72.37	-13.00	-59.37	H
369.5000	-72.62	2.3	5.8	-69.12	-13.00	-56.12	H
516.9400	-75.1	2.7	6.07	-71.73	-13.00	-58.73	H
601.3300	-74.98	2.91	6.39	-71.50	-13.00	-58.50	H

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 810 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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
150.2800	-68.26	1.43	0.71	-68.98	-13.00	-55.98	V
246.3100	-80.87	1.83	5.54	-77.16	-13.00	-64.16	V
309.3600	-80.85	2.13	5.78	-77.20	-13.00	-64.20	V
354.9500	-77.01	2.25	5.75	-73.51	-13.00	-60.51	V
450.9800	-78.75	2.59	5.74	-75.60	-13.00	-62.60	V
71.7100	-50.09	0.97	-1.61	-52.67	-13.00	-39.67	H
150.2800	-60.82	1.43	0.71	-61.54	-13.00	-48.54	H
246.3100	-75.69	1.83	5.54	-71.98	-13.00	-58.98	H
369.5000	-72	2.3	5.8	-68.50	-13.00	-55.50	H
459.7100	-75.91	2.6	5.88	-72.63	-13.00	-59.63	H
601.3300	-75.05	2.91	6.39	-71.57	-13.00	-58.57	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.1	1.13	0.26	-60.97	-13.00	-47.97	V
150.2800	-68.44	1.43	0.71	-69.16	-13.00	-56.16	V
234.6700	-81.53	1.8	5.38	-77.95	-13.00	-64.95	V
354.9500	-76.82	2.25	5.75	-73.32	-13.00	-60.32	V
469.4100	-80.12	2.62	5.79	-76.95	-13.00	-63.95	V
529.5500	-80.82	2.75	6	-77.57	-13.00	-64.57	V
71.7100	-49.43	0.97	-1.61	-52.01	-13.00	-39.01	H
150.2800	-59.55	1.43	0.71	-60.27	-13.00	-47.27	H
200.7200	-72.91	1.63	3.19	-71.35	-13.00	-58.35	H
357.8600	-72.7	2.26	5.72	-69.24	-13.00	-56.24	H
516.9400	-75.01	2.7	6.07	-71.64	-13.00	-58.64	H
601.3300	-75.09	2.91	6.39	-71.61	-13.00	-58.61	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-59.92	1.16	-0.64	-61.72	-13.00	-48.72	V
150.2800	-68.27	1.43	0.71	-68.99	-13.00	-55.99	V
234.6700	-81.47	1.8	5.38	-77.89	-13.00	-64.89	V
354.9500	-76.7	2.25	5.75	-73.20	-13.00	-60.20	V
456.8000	-79.59	2.6	5.84	-76.35	-13.00	-63.35	V
529.5500	-80.16	2.75	6	-76.91	-13.00	-63.91	V
71.7100	-49.2	0.97	-1.61	-51.78	-13.00	-38.78	H
150.2800	-59.96	1.43	0.71	-60.68	-13.00	-47.68	H
234.6700	-75.54	1.8	5.38	-71.96	-13.00	-58.96	H
357.8600	-72.34	2.26	5.72	-68.88	-13.00	-55.88	H
516.9400	-74.63	2.7	6.07	-71.26	-13.00	-58.26	H
601.3300	-76.05	2.91	6.39	-72.57	-13.00	-59.57	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-59.64	1.16	-0.64	-61.44	-13.00	-48.44	V
150.2800	-67.78	1.43	0.71	-68.50	-13.00	-55.50	V
234.6700	-80.42	1.8	5.38	-76.84	-13.00	-63.84	V
309.3600	-80.25	2.13	5.78	-76.60	-13.00	-63.60	V
354.9500	-76.78	2.25	5.75	-73.28	-13.00	-60.28	V
450.9800	-79.4	2.59	5.74	-76.25	-13.00	-63.25	V
71.7100	-49.02	0.97	-1.61	-51.60	-13.00	-38.60	H
150.2800	-59.45	1.43	0.71	-60.17	-13.00	-47.17	H
222.0600	-76.18	1.77	5.34	-72.61	-13.00	-59.61	H
345.2500	-72.45	2.2	5.8	-68.85	-13.00	-55.85	H
516.9400	-74.32	2.7	6.07	-70.95	-13.00	-57.95	H
601.3300	-75.63	2.91	6.39	-72.15	-13.00	-59.15	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:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-60.04	1.16	-0.64	-61.84	-13.00	-48.84	V
138.6400	-64.43	1.39	-0.38	-66.20	-13.00	-53.20	V
234.6700	-80.66	1.8	5.38	-77.08	-13.00	-64.08	V
342.3400	-74.82	2.18	5.8	-71.20	-13.00	-58.20	V
450.9800	-78.52	2.59	5.74	-75.37	-13.00	-62.37	V
529.5500	-80.53	2.75	6	-77.28	-13.00	-64.28	V
71.7100	-52.79	0.97	-1.61	-55.37	-13.00	-42.37	H
138.6400	-56.5	1.39	-0.38	-58.27	-13.00	-45.27	H
234.6700	-75.56	1.8	5.38	-71.98	-13.00	-58.98	H
330.7000	-72.29	2.16	5.71	-68.74	-13.00	-55.74	H
439.3400	-73.96	2.53	5.9	-70.59	-13.00	-57.59	H
589.6900	-74.71	2.89	6.19	-71.41	-13.00	-58.41	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 1900 / TX / CH 661 **Test Date:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-59.67	1.16	-0.64	-61.47	-13.00	-48.47	V
138.6400	-63.89	1.39	-0.38	-65.66	-13.00	-52.66	V
246.3100	-80.25	1.83	5.54	-76.54	-13.00	-63.54	V
342.3400	-75.71	2.18	5.8	-72.09	-13.00	-59.09	V
448.0700	-78.2	2.58	5.74	-75.04	-13.00	-62.04	V
625.5800	-80.91	2.96	6.16	-77.71	-13.00	-64.71	V
71.7100	-52.74	0.97	-1.61	-55.32	-13.00	-42.32	H
138.6400	-56.99	1.39	-0.38	-58.76	-13.00	-45.76	H
246.3100	-75.66	1.83	5.54	-71.95	-13.00	-58.95	H
346.2200	-71.76	2.21	5.8	-68.17	-13.00	-55.17	H
439.3400	-74.46	2.53	5.9	-71.09	-13.00	-58.09	H
499.4800	-74.51	2.7	5.89	-71.32	-13.00	-58.32	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 1900 / TX / CH 810 **Test Date:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-59.58	1.16	-0.64	-61.38	-13.00	-48.38	V
138.6400	-64.43	1.39	-0.38	-66.20	-13.00	-53.20	V
246.3100	-81.09	1.83	5.54	-77.38	-13.00	-64.38	V
342.3400	-74.4	2.18	5.8	-70.78	-13.00	-57.78	V
448.0700	-76.98	2.58	5.74	-73.82	-13.00	-60.82	V
529.5500	-79.93	2.75	6	-76.68	-13.00	-63.68	V
71.7100	-52.22	0.97	-1.61	-54.80	-13.00	-41.80	H
138.6400	-56.47	1.39	-0.38	-58.24	-13.00	-45.24	H
246.3100	-75.69	1.83	5.54	-71.98	-13.00	-58.98	H
390.8400	-71.96	2.32	6	-68.28	-13.00	-55.28	H
439.3400	-74.81	2.53	5.9	-71.44	-13.00	-58.44	H
601.3300	-74.34	2.91	6.39	-70.86	-13.00	-57.86	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 II / TX / CH 9262 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
68.8000	-53.08	0.95	-1.81	-55.84	-13.00	-42.84	V
87.2300	-58.65	1.09	0.73	-59.01	-13.00	-46.01	V
223.0300	-73.32	1.77	5.35	-69.74	-13.00	-56.74	V
275.4100	-75.46	1.99	5.21	-72.24	-13.00	-59.24	V
437.4000	-75.02	2.52	5.88	-71.66	-13.00	-58.66	V
500.4500	-77.14	2.7	5.9	-73.94	-13.00	-60.94	V
64.9200	-50.69	0.92	-1.98	-53.59	-13.00	-40.59	H
195.8700	-63.85	1.63	3.36	-62.12	-13.00	-49.12	H
269.5900	-65.33	1.98	5.12	-62.19	-13.00	-49.19	H
437.4000	-70.83	2.52	5.88	-67.47	-13.00	-54.47	H
500.4500	-70.75	2.7	5.9	-67.55	-13.00	-54.55	H
700.2700	-72.39	3.11	6.39	-69.11	-13.00	-56.11	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: WCDMA Band II / TX / CH 9400 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-59.15	1.16	-0.64	-60.95	-13.00	-47.95	V
150.2800	-69.09	1.43	0.71	-69.81	-13.00	-56.81	V
246.3100	-79.96	1.83	5.54	-76.25	-13.00	-63.25	V
390.8400	-72.74	2.32	6	-69.06	-13.00	-56.06	V
516.9400	-80.71	2.7	6.07	-77.34	-13.00	-64.34	V
793.3900	-78.6	3.33	6.33	-75.60	-13.00	-62.60	V
71.7100	-50.07	0.97	-1.61	-52.65	-13.00	-39.65	H
150.2800	-60.54	1.43	0.71	-61.26	-13.00	-48.26	H
312.2700	-70.77	2.14	5.76	-67.15	-13.00	-54.15	H
401.5100	-65.54	2.4	5.98	-61.96	-13.00	-48.96	H
516.9400	-73.92	2.7	6.07	-70.55	-13.00	-57.55	H
604.2400	-75.8	2.92	6.36	-72.36	-13.00	-59.36	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-59.34	1.16	-0.64	-61.14	-13.00	-48.14	V
150.2800	-69.4	1.43	0.71	-70.12	-13.00	-57.12	V
246.3100	-78.99	1.83	5.54	-75.28	-13.00	-62.28	V
379.2000	-74.03	2.31	5.98	-70.36	-13.00	-57.36	V
529.5500	-80.71	2.75	6	-77.46	-13.00	-64.46	V
745.8600	-78.06	3.2	6.1	-75.16	-13.00	-62.16	V
71.7100	-50.22	0.97	-1.61	-52.80	-13.00	-39.80	H
102.7500	-58.05	1.16	-0.76	-59.97	-13.00	-46.97	H
150.2800	-61.15	1.43	0.71	-61.87	-13.00	-48.87	H
310.3300	-70.55	2.14	5.77	-66.92	-13.00	-53.92	H
399.5700	-64.88	2.39	5.98	-61.29	-13.00	-48.29	H
862.2600	-70.19	3.43	6.43	-67.19	-13.00	-54.19	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 Band V / TX / CH 4132 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-59.15	1.16	-0.64	-60.95	-13.00	-47.95	V
150.2800	-69.27	1.43	0.71	-69.99	-13.00	-56.99	V
309.3600	-80.19	2.13	5.78	-76.54	-13.00	-63.54	V
354.9500	-76.03	2.25	5.75	-72.53	-13.00	-59.53	V
390.8400	-74.33	2.32	6	-70.65	-13.00	-57.65	V
516.9400	-79.77	2.7	6.07	-76.40	-13.00	-63.40	V
71.7100	-50.2	0.97	-1.61	-52.78	-13.00	-39.78	H
150.2800	-61.24	1.43	0.71	-61.96	-13.00	-48.96	H
234.6700	-72.52	1.8	5.38	-68.94	-13.00	-55.94	H
304.5100	-71.97	2.11	5.69	-68.39	-13.00	-55.39	H
405.3900	-66.07	2.42	5.94	-62.55	-13.00	-49.55	H
499.4800	-74.23	2.7	5.89	-71.04	-13.00	-58.04	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-59.09	1.13	0.26	-59.96	-13.00	-46.96	V
150.2800	-68.51	1.43	0.71	-69.23	-13.00	-56.23	V
252.1300	-78.55	1.85	5.68	-74.72	-13.00	-61.72	V
354.9500	-75.32	2.25	5.75	-71.82	-13.00	-58.82	V
390.8400	-75.34	2.32	6	-71.66	-13.00	-58.66	V
516.9400	-79.39	2.7	6.07	-76.02	-13.00	-63.02	V
71.7100	-51.06	0.97	-1.61	-53.64	-13.00	-40.64	H
150.2800	-60.87	1.43	0.71	-61.59	-13.00	-48.59	H
312.2700	-73.04	2.14	5.76	-69.42	-13.00	-56.42	H
394.7200	-67.27	2.35	5.99	-63.63	-13.00	-50.63	H
516.9400	-73.86	2.7	6.07	-70.49	-13.00	-57.49	H
612.9700	-75.12	2.94	6.23	-71.83	-13.00	-58.83	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-59.72	1.13	0.26	-60.59	-13.00	-47.59	V
150.2800	-68.52	1.43	0.71	-69.24	-13.00	-56.24	V
354.9500	-74.89	2.25	5.75	-71.39	-13.00	-58.39	V
402.4800	-75.24	2.41	5.97	-71.68	-13.00	-58.68	V
452.9200	-76.51	2.59	5.77	-73.33	-13.00	-60.33	V
610.0600	-80.97	2.94	6.29	-77.62	-13.00	-64.62	V
71.7100	-51.33	0.97	-1.61	-53.91	-13.00	-40.91	H
150.2800	-59.97	1.43	0.71	-60.69	-13.00	-47.69	H
234.6700	-73.43	1.8	5.38	-69.85	-13.00	-56.85	H
390.8400	-67.19	2.32	6	-63.51	-13.00	-50.51	H
516.9400	-73.76	2.7	6.07	-70.39	-13.00	-57.39	H
540.2200	-74.81	2.78	6.26	-71.33	-13.00	-58.33	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:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-58.74	1.16	-0.64	-60.54	-13.00	-47.54	V
150.2800	-68.62	1.43	0.71	-69.34	-13.00	-56.34	V
161.9200	-73.74	1.5	1.61	-73.63	-13.00	-60.63	V
354.9500	-76.45	2.25	5.75	-72.95	-13.00	-59.95	V
448.0700	-79.24	2.58	5.74	-76.08	-13.00	-63.08	V
529.5500	-80.73	2.75	6	-77.48	-13.00	-64.48	V
71.7100	-50.17	0.97	-1.61	-52.75	-13.00	-39.75	H
102.7500	-58.64	1.16	-0.76	-60.56	-13.00	-47.56	H
150.2800	-61.05	1.43	0.71	-61.77	-13.00	-48.77	H
319.0600	-75.12	2.17	5.71	-71.58	-13.00	-58.58	H
369.5000	-72.69	2.3	5.8	-69.19	-13.00	-56.19	H
499.4800	-74.66	2.7	5.89	-71.47	-13.00	-58.47	H

Remark:

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

Operation Mode:	WCDMA / HSDPA Band II / TX / CH 9400	**Test Date:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-59.19	1.13	0.26	-60.06	-13.00	-47.06	V
111.4800	-64.67	1.22	-1.76	-67.65	-13.00	-54.65	V
150.2800	-68.86	1.43	0.71	-69.58	-13.00	-56.58	V
196.8400	-78.6	1.63	3.26	-76.97	-13.00	-63.97	V
354.9500	-75.93	2.25	5.75	-72.43	-13.00	-59.43	V
450.9800	-79.31	2.59	5.74	-76.16	-13.00	-63.16	V
71.7100	-49.92	0.97	-1.61	-52.50	-13.00	-39.50	H
150.2800	-60.29	1.43	0.71	-61.01	-13.00	-48.01	H
222.0600	-75.29	1.77	5.34	-71.72	-13.00	-58.72	H
357.8600	-72.73	2.26	5.72	-69.27	-13.00	-56.27	H
499.4800	-73.87	2.7	5.89	-70.68	-13.00	-57.68	H
604.2400	-76.38	2.92	6.36	-72.94	-13.00	-59.94	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:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-59.17	1.13	0.26	-60.04	-13.00	-47.04	V
150.2800	-69.09	1.43	0.71	-69.81	-13.00	-56.81	V
165.8000	-78.44	1.53	2.05	-77.92	-13.00	-64.92	V
354.9500	-74.95	2.25	5.75	-71.45	-13.00	-58.45	V
448.0700	-79.41	2.58	5.74	-76.25	-13.00	-63.25	V
511.1200	-81.26	2.69	6.01	-77.94	-13.00	-64.94	V
71.7100	-49.77	0.97	-1.61	-52.35	-13.00	-39.35	H
150.2800	-60.69	1.43	0.71	-61.41	-13.00	-48.41	H
161.9200	-66.33	1.5	1.61	-66.22	-13.00	-53.22	H
234.6700	-75.49	1.8	5.38	-71.91	-13.00	-58.91	H
369.5000	-72.89	2.3	5.8	-69.39	-13.00	-56.39	H
612.9700	-74.93	2.94	6.23	-71.64	-13.00	-58.64	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 / HSDPA Band V / TX / CH 4132 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-60.2	1.13	0.26	-61.07	-13.00	-48.07	V
112.4500	-66.8	1.22	-1.8	-69.82	-13.00	-56.82	V
161.9200	-73.85	1.5	1.61	-73.74	-13.00	-60.74	V
354.9500	-75.68	2.25	5.75	-72.18	-13.00	-59.18	V
382.1100	-74.7	2.31	5.99	-71.02	-13.00	-58.02	V
516.9400	-80.36	2.7	6.07	-76.99	-13.00	-63.99	V
71.7100	-49.68	0.97	-1.61	-52.26	-13.00	-39.26	H
150.2800	-60.41	1.43	0.71	-61.13	-13.00	-48.13	H
234.6700	-71.83	1.8	5.38	-68.25	-13.00	-55.25	H
301.6000	-70.56	2.1	5.63	-67.03	-13.00	-54.03	H
394.7200	-65.59	2.35	5.99	-61.95	-13.00	-48.95	H
516.9400	-74.23	2.7	6.07	-70.86	-13.00	-57.86	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 / HSDPA Band V / TX / CH 4182 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-58.68	1.13	0.26	-59.55	-13.00	-46.55	V
150.2800	-68.05	1.43	0.71	-68.77	-13.00	-55.77	V
252.1300	-78.73	1.85	5.68	-74.90	-13.00	-61.90	V
354.9500	-75.42	2.25	5.75	-71.92	-13.00	-58.92	V
415.0900	-76.91	2.45	5.86	-73.50	-13.00	-60.50	V
540.2200	-78.78	2.78	6.26	-75.30	-13.00	-62.30	V
71.7100	-51.72	0.97	-1.61	-54.30	-13.00	-41.30	H
150.2800	-60.67	1.43	0.71	-61.39	-13.00	-48.39	H
234.6700	-73.79	1.8	5.38	-70.21	-13.00	-57.21	H
319.0600	-72.26	2.17	5.71	-68.72	-13.00	-55.72	H
390.8400	-69.69	2.32	6	-66.01	-13.00	-53.01	H
516.9400	-73.88	2.7	6.07	-70.51	-13.00	-57.51	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-59.48	1.13	0.26	-60.35	-13.00	-47.35	V
150.2800	-68.16	1.43	0.71	-68.88	-13.00	-55.88	V
252.1300	-76.8	1.85	5.68	-72.97	-13.00	-59.97	V
402.4800	-75.69	2.41	5.97	-72.13	-13.00	-59.13	V
452.9200	-77.37	2.59	5.77	-74.19	-13.00	-61.19	V
540.2200	-77.81	2.78	6.26	-74.33	-13.00	-61.33	V
84.3200	-53.88	1.07	0.39	-54.56	-13.00	-41.56	H
150.2800	-60.13	1.43	0.71	-60.85	-13.00	-47.85	H
333.6100	-73.06	2.16	5.74	-69.48	-13.00	-56.48	H
407.3300	-67.96	2.43	5.93	-64.46	-13.00	-51.46	H
516.9400	-73.87	2.7	6.07	-70.50	-13.00	-57.50	H
612.9700	-75.18	2.94	6.23	-71.89	-13.00	-58.89	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 / HSUPA Band II / TX / CH 9262	**Test Date:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-58.84	1.16	-0.64	-60.64	-13.00	-47.64	V
150.2800	-68.56	1.43	0.71	-69.28	-13.00	-56.28	V
234.6700	-82.78	1.8	5.38	-79.20	-13.00	-66.20	V
354.9500	-75.21	2.25	5.75	-71.71	-13.00	-58.71	V
448.0700	-78.52	2.58	5.74	-75.36	-13.00	-62.36	V
516.9400	-80.45	2.7	6.07	-77.08	-13.00	-64.08	V
71.7100	-49.9	0.97	-1.61	-52.48	-13.00	-39.48	H
95.9600	-54	1.13	0.26	-54.87	-13.00	-41.87	H
150.2800	-60.93	1.43	0.71	-61.65	-13.00	-48.65	H
234.6700	-74.14	1.8	5.38	-70.56	-13.00	-57.56	H
369.5000	-72.25	2.3	5.8	-68.75	-13.00	-55.75	H
516.9400	-75.29	2.7	6.07	-71.92	-13.00	-58.92	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:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-59.03	1.13	0.26	-59.90	-13.00	-46.90	V
150.2800	-68.93	1.43	0.71	-69.65	-13.00	-56.65	V
234.6700	-82.27	1.8	5.38	-78.69	-13.00	-65.69	V
354.9500	-75.97	2.25	5.75	-72.47	-13.00	-59.47	V
448.0700	-78.92	2.58	5.74	-75.76	-13.00	-62.76	V
516.9400	-79.79	2.7	6.07	-76.42	-13.00	-63.42	V
71.7100	-50.2	0.97	-1.61	-52.78	-13.00	-39.78	H
95.9600	-53.04	1.13	0.26	-53.91	-13.00	-40.91	H
150.2800	-60.59	1.43	0.71	-61.31	-13.00	-48.31	H
234.6700	-75.74	1.8	5.38	-72.16	-13.00	-59.16	H
372.4100	-73.32	2.3	5.85	-69.77	-13.00	-56.77	H
511.1200	-74.58	2.69	6.01	-71.26	-13.00	-58.26	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:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-59.57	1.13	0.26	-60.44	-13.00	-47.44	V
150.2800	-68.93	1.43	0.71	-69.65	-13.00	-56.65	V
306.4500	-81.55	2.12	5.73	-77.94	-13.00	-64.94	V
354.9500	-77.18	2.25	5.75	-73.68	-13.00	-60.68	V
390.8400	-76.7	2.32	6	-73.02	-13.00	-60.02	V
448.0700	-78.94	2.58	5.74	-75.78	-13.00	-62.78	V
71.7100	-49.78	0.97	-1.61	-52.36	-13.00	-39.36	H
150.2800	-60.8	1.43	0.71	-61.52	-13.00	-48.52	H
234.6700	-75.83	1.8	5.38	-72.25	-13.00	-59.25	H
357.8600	-71.73	2.26	5.72	-68.27	-13.00	-55.27	H
439.3400	-74.14	2.53	5.9	-70.77	-13.00	-57.77	H
516.9400	-74.97	2.7	6.07	-71.60	-13.00	-58.60	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:	WCDMA / HSUPA Band V / TX / CH 4132	**Test Date:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-59.59	1.13	0.26	-60.46	-13.00	-47.46	V
150.2800	-67.48	1.43	0.71	-68.20	-13.00	-55.20	V
246.3100	-80.74	1.83	5.54	-77.03	-13.00	-64.03	V
354.9500	-75.64	2.25	5.75	-72.14	-13.00	-59.14	V
402.4800	-74.68	2.41	5.97	-71.12	-13.00	-58.12	V
516.9400	-77.99	2.7	6.07	-74.62	-13.00	-61.62	V
71.7100	-49.43	0.97	-1.61	-52.01	-13.00	-39.01	H
150.2800	-60.74	1.43	0.71	-61.46	-13.00	-48.46	H
234.6700	-72.51	1.8	5.38	-68.93	-13.00	-55.93	H
305.4800	-71.45	2.12	5.71	-67.86	-13.00	-54.86	H
401.5100	-64.41	2.4	5.98	-60.83	-13.00	-47.83	H
499.4800	-74.79	2.7	5.89	-71.60	-13.00	-58.60	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:	WCDMA / HSUPA Band V / TX / CH 4182	**Test Date:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-58.88	1.16	-0.64	-60.68	-13.00	-47.68	V
150.2800	-68.3	1.43	0.71	-69.02	-13.00	-56.02	V
252.1300	-78.1	1.85	5.68	-74.27	-13.00	-61.27	V
354.9500	-75.98	2.25	5.75	-72.48	-13.00	-59.48	V
390.8400	-76.46	2.32	6	-72.78	-13.00	-59.78	V
415.0900	-76.97	2.45	5.86	-73.56	-13.00	-60.56	V
71.7100	-51.74	0.97	-1.61	-54.32	-13.00	-41.32	H
150.2800	-60.88	1.43	0.71	-61.60	-13.00	-48.60	H
161.9200	-65.37	1.5	1.61	-65.26	-13.00	-52.26	H
234.6700	-74.03	1.8	5.38	-70.45	-13.00	-57.45	H
330.7000	-73.94	2.16	5.71	-70.39	-13.00	-57.39	H
392.7800	-68.91	2.33	5.99	-65.25	-13.00	-52.25	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:	WCDMA / HSUPA Band V / TX / CH 4233	**Test Date:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-60.12	1.13	0.26	-60.99	-13.00	-47.99	V
150.2800	-68.24	1.43	0.71	-68.96	-13.00	-55.96	V
252.1300	-77.89	1.85	5.68	-74.06	-13.00	-61.06	V
390.8400	-75.22	2.32	6	-71.54	-13.00	-58.54	V
452.9200	-77.87	2.59	5.77	-74.69	-13.00	-61.69	V
516.9400	-80.45	2.7	6.07	-77.08	-13.00	-64.08	V
71.7100	-51.33	0.97	-1.61	-53.91	-13.00	-40.91	H
150.2800	-60.38	1.43	0.71	-61.10	-13.00	-48.10	H
240.4900	-74.66	1.81	5.34	-71.13	-13.00	-58.13	H
401.5100	-68.66	2.4	5.98	-65.08	-13.00	-52.08	H
516.9400	-74.55	2.7	6.07	-71.18	-13.00	-58.18	H
612.9700	-74.48	2.94	6.23	-71.19	-13.00	-58.19	H

Remark:

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

Above 1GHz

Operation Mode: GSM 850 / TX / CH 128 **Test Date:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
1385.000	-61.02	4.62	5.47	-60.17	-13.00	-47.17	V
4367.000	-54.09	8.63	9.69	-53.03	-13.00	-40.03	V
					-13.00		V
					-13.00		V
					-13.00		V
					-13.00		V
1651.000	-55.23	5.05	6.03	-54.25	-13.00	-41.25	H
2463.000	-54.77	6.29	6.05	-55.01	-13.00	-42.01	H
					-13.00		H
					-13.00		H
					-13.00		H
					-13.00		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 850 / TX / CH 190 **Test Date:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
3506.000	-54.33	7.88	8.91	-53.30	-13.00	-40.30	V
5039.000	-54.28	9.43	10.62	-53.09	-13.00	-40.09	V
					-13.00		V
					-13.00		V
					-13.00		V
					-13.00		V
1672.000	-56.42	5.07	5.99	-55.50	-13.00	-42.50	H
1952.000	-52.33	5.59	5.49	-52.43	-13.00	-39.43	H
					-13.00		H
					-13.00		H
					-13.00		H
					-13.00		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 850 / TX / CH 251 **Test Date:** July 25, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
2463.000	-56.48	6.29	6.05	-56.72	-13.00	-43.72	V
3828.000	-55.32	8.3	9.23	-54.39	-13.00	-41.39	V
					-13.00		V
					-13.00		V
					-13.00		V
					-13.00		V
1700.000	-58.13	5.11	5.94	-57.30	-13.00	-44.30	H
2995.000	-56.13	7.02	7.39	-55.76	-13.00	-42.76	H
					-13.00		H
					-13.00		H
					-13.00		H
					-13.00		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 850 / TX / CH 128 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-55.21	5.05	6.03	-54.23	-13.00	-41.23	V
2470.000	-52.25	6.3	6.06	-52.49	-13.00	-39.49	V
N/A							
1651.000	-49.39	5.05	6.03	-48.41	-13.00	-35.41	H
2470.000	-48.41	6.3	6.06	-48.65	-13.00	-35.65	H
3296.000	-53.39	7.45	8.29	-52.55	-13.00	-39.55	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: GPRS 850 / TX / CH 190 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
1749.000	-48.14	5.2	5.85	-47.49	-13.00	-34.49	V
2512.000	-52.8	6.37	6.13	-53.04	-13.00	-40.04	V
N/A							
1672.000	-46.83	5.07	5.99	-45.91	-13.00	-32.91	H
2512.000	-45.29	6.37	6.13	-45.53	-13.00	-32.53	H
3345.000	-54.85	7.51	8.44	-53.92	-13.00	-40.92	H
4185.000	-52.83	8.49	9.55	-51.77	-13.00	-38.77	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 850 / TX / CH 251 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-56.94	5.11	5.94	-56.11	-13.00	-43.11	V
2547.000	-53.46	6.42	6.22	-53.66	-13.00	-40.66	V
N/A							
1700.000	-46.63	5.11	5.94	-45.80	-13.00	-32.80	H
2547.000	-46.17	6.42	6.22	-46.37	-13.00	-33.37	H
4241.000	-51.45	8.54	9.59	-50.40	-13.00	-37.40	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 512 **Test Date:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-50.1	8.2	9.1	-49.20	-13.00	-36.20	V
5550.000	-47.06	10.06	10.81	-46.31	-13.00	-33.31	V
N/A							
3702.000	-44.8	8.2	9.1	-43.90	-13.00	-30.90	H
5550.000	-37.61	10.06	10.81	-36.86	-13.00	-23.86	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: GSM 1900 / TX / CH 661 **Test Date:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
3583.000	-53.67	8.07	8.98	-52.76	-13.00	-39.76	V
4892.000	-53.64	9.26	10.43	-52.47	-13.00	-39.47	V
N/A							
2687.000	-16.99	6.7	6.59	-17.10	-13.00	-4.10	H
3583.000	-44.22	8.07	8.98	-43.31	-13.00	-30.31	H
4479.000	-46.75	8.85	9.78	-45.82	-13.00	-32.82	H
N/A							

Remark:

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

Operation Mode: GSM 1900 / TX / CH 810 **Test Date:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
3198.000	-57.13	7.26	7.99	-56.40	-13.00	-43.40	V
6201.000	-51.35	11.22	11.06	-51.51	-13.00	-38.51	V
N/A							
2687.000	-22.56	6.7	6.59	-22.67	-13.00	-9.67	H
3583.000	-43.07	8.07	8.98	-42.16	-13.00	-29.16	H
4479.000	-49.06	8.85	9.78	-48.13	-13.00	-35.13	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
3583.000	-55.58	8.07	8.98	-54.67	-13.00	-41.67	V
4731.000	-55.24	9.19	10.17	-54.26	-13.00	-41.26	V
N/A							
2687.000	-24.21	6.7	6.59	-24.32	-13.00	-11.32	H
3583.000	-49.03	8.07	8.98	-48.12	-13.00	-35.12	H
4479.000	-43.07	8.85	9.78	-42.14	-13.00	-29.14	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
3583.000	-56.11	8.07	8.98	-55.20	-13.00	-42.20	V
5067.000	-54.96	9.44	10.63	-53.77	-13.00	-40.77	V
N/A							
2687.000	-17.96	6.7	6.59	-18.07	-13.00	-5.07	H
3583.000	-48.21	8.07	8.98	-47.30	-13.00	-34.30	H
4479.000	-40.72	8.85	9.78	-39.79	-13.00	-26.79	H
N/A							

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 810 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
2890.000	-57.23	7.12	7.11	-57.24	-13.00	-44.24	V
3933.000	-55.67	8.38	9.33	-54.72	-13.00	-41.72	V
N/A							
2687.000	-18.76	6.7	6.59	-18.87	-13.00	-5.87	H
3583.000	-45.82	8.07	8.98	-44.91	-13.00	-31.91	H
4479.000	-41.94	8.85	9.78	-41.01	-13.00	-28.01	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-50.77	5.63	5.46	-50.94	-13.00	-37.94	V
3583.000	-55.28	8.07	8.98	-54.37	-13.00	-41.37	V
N/A							
1791.000	-59.04	5.27	5.78	-58.53	-13.00	-45.53	H
3989.000	-55.36	8.35	9.39	-54.32	-13.00	-41.32	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
2176.000	-58.34	5.91	5.65	-58.60	-13.00	-45.60	V
3583.000	-55.44	8.07	8.98	-54.53	-13.00	-41.53	V
N/A							
1791.000	-59.64	5.27	5.78	-59.13	-13.00	-46.13	H
4052.000	-55.17	8.41	9.44	-54.14	-13.00	-41.14	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:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
1749.000	-49.29	5.2	5.85	-48.64	-13.00	-35.64	V
3583.000	-54.79	8.07	8.98	-53.88	-13.00	-40.88	V
N/A							
1952.000	-56.05	5.59	5.49	-56.15	-13.00	-43.15	H
3142.000	-55.64	7.21	7.83	-55.02	-13.00	-42.02	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: EDGE 1900 / TX / CH 512 **Test Date:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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	-50.1	8.2	9.1	-49.20	-13.00	-36.20	V
5550.000	-47.06	10.06	10.81	-46.31	-13.00	-33.31	V
N/A							
3702.000	-44.8	8.2	9.1	-43.90	-13.00	-30.90	H
5550.000	-37.61	10.06	10.81	-36.86	-13.00	-23.86	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: EDGE 1900 / TX / CH 661 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
3583.000	-53.67	8.07	8.98	-52.76	-13.00	-39.76	V
4892.000	-53.64	9.26	10.43	-52.47	-13.00	-39.47	V
N/A							
2687.000	-16.99	6.7	6.59	-17.10	-13.00	-4.10	H
3583.000	-44.22	8.07	8.98	-43.31	-13.00	-30.31	H
4479.000	-46.75	8.85	9.78	-45.82	-13.00	-32.82	H
N/A							

Remark:

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

Operation Mode: EDGE 1900 / TX / CH 810 **Test Date:** July 19, 2013

Temperature: 26°C **Tested by:** Wayne Tasi

Humidity: 60 % 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)
3198.000	-57.13	7.26	7.99	-56.40	-13.00	-43.40	V
6201.000	-51.35	11.22	11.06	-51.51	-13.00	-38.51	V
N/A							
2687.000	-22.56	6.7	6.59	-22.67	-13.00	-9.67	H
3583.000	-43.07	8.07	8.98	-42.16	-13.00	-29.16	H
4479.000	-49.06	8.85	9.78	-48.13	-13.00	-35.13	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
3156.000	-56.5	7.22	7.87	-55.85	-13.00	-42.85	V
5564.000	-52.25	10.1	10.81	-51.54	-13.00	-38.54	V
N/A							
3709.000	-40.06	8.21	9.11	-39.16	-13.00	-26.16	H
5557.000	-45.9	10.08	10.81	-45.17	-13.00	-32.17	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
3758.000	-50.92	8.23	9.16	-49.99	-13.00	-36.99	V
5641.000	-52.25	10.18	10.83	-51.60	-13.00	-38.60	V
N/A							
3758.000	-37.26	8.23	9.16	-36.33	-13.00	-23.33	H
5634.000	-46.94	10.18	10.83	-46.29	-13.00	-33.29	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
3821.000	-44.67	8.29	9.22	-43.74	-13.00	-30.74	V
5725.000	-51.05	10.22	10.84	-50.43	-13.00	-37.43	V
N/A							
3821.000	-30.03	8.29	9.22	-29.10	-13.00	-16.10	H
5718.000	-44.7	10.21	10.84	-44.07	-13.00	-31.07	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
5109.000	-54.3	9.46	10.64	-53.12	-13.00	-40.12	V
6831.000	-48.62	11.37	11.7	-48.29	-13.00	-35.29	V
N/A							
1651.000	-46.28	5.05	6.03	-45.30	-13.00	-32.30	H
2477.000	-54.07	6.31	6.07	-54.31	-13.00	-41.31	H
N/A							

Remark:

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

Operation Mode: WCDMA Band V / TX / CH 4182 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-55.87	8.31	9.24	-54.94	-13.00	-41.94	V
4808.000	-54.94	9.32	10.29	-53.97	-13.00	-40.97	V
N/A							
1672.000	-47.46	5.07	5.99	-46.54	-13.00	-33.54	H
4297.000	-54.45	8.6	9.64	-53.41	-13.00	-40.41	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
4759.000	-54.7	9.24	10.21	-53.73	-13.00	-40.73	V
5893.000	-53.64	10.4	10.88	-53.16	-13.00	-40.16	V
N/A							
1693.000	-45.79	5.1	5.95	-44.94	-13.00	-31.94	H
4941.000	-53.77	9.32	10.51	-52.58	-13.00	-39.58	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 / HSDPA Band II / TX / CH 9262 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
3709.000	-55.47	8.21	9.11	-54.57	-13.00	-41.57	V
5557.000	-52.04	10.08	10.81	-51.31	-13.00	-38.31	V
N/A							
3709.000	-41.55	8.21	9.11	-40.65	-13.00	-27.65	H
5557.000	-46.37	10.08	10.81	-45.64	-13.00	-32.64	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
3758.000	-53.09	8.23	9.16	-52.16	-13.00	-39.16	V
5641.000	-53.35	10.18	10.83	-52.70	-13.00	-39.70	V
N/A							
3758.000	-39.86	8.23	9.16	-38.93	-13.00	-25.93	H
5641.000	-48.4	10.18	10.83	-47.75	-13.00	-34.75	H
N/A							

Remark:

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

Operation Mode: WCDMA / HSDPA Band II / TX / CH 9538 **Test Date:** July 18, 2013
Temperature: 26°C **Tested by:** David Shu
Humidity: 60 % 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	-46.76	8.28	9.21	-45.83	-13.00	-32.83	V
5718.000	-52.85	10.21	10.84	-52.22	-13.00	-39.22	V
N/A							
3821.000	-28.6	8.29	9.22	-27.67	-13.00	-14.67	H
5718.000	-45.43	10.21	10.84	-44.80	-13.00	-31.80	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: WCDMA / HSDPA Band V / TX / CH 4132 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
4073.000	-55.37	8.43	9.46	-54.34	-13.00	-41.34	V
5361.000	-55.64	9.75	10.74	-54.65	-13.00	-41.65	V
N/A							
1651.000	-48.95	5.05	6.03	-47.97	-13.00	-34.97	H
1966.000	-50.72	5.63	5.46	-50.89	-13.00	-37.89	H
N/A							

Remark:

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

Operation Mode: WCDMA / HSDPA Band V / TX / CH 4182 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-55.61	8.61	9.67	-54.55	-13.00	-41.55	V
6334.000	-51.65	10.91	11.17	-51.39	-13.00	-38.39	V
N/A							
1672.000	-49.65	5.07	5.99	-48.73	-13.00	-35.73	H
3905.000	-55.81	8.39	9.31	-54.89	-13.00	-41.89	H
N/A							

Remark:

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

Operation Mode: WCDMA / HSDPA Band V / TX / CH 4233 **Test Date:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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)
4283.000	-54.92	8.58	9.63	-53.87	-13.00	-40.87	V
5242.000	-55.64	9.6	10.7	-54.54	-13.00	-41.54	V
N/A							
1693.000	-47.99	5.1	5.95	-47.14	-13.00	-34.14	H
2995.000	-55.74	7.02	7.39	-55.37	-13.00	-42.37	H
N/A							

Remark:

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

Operation Mode:	WCDMA / HSUPA Band II / TX / CH 9262	**Test Date:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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)
4535.000	-54.8	8.99	9.86	-53.93	-13.00	-40.93	V
6796.000	-49.84	11.3	11.66	-49.48	-13.00	-36.48	V
N/A							
3709.000	-42.45	8.21	9.11	-41.55	-13.00	-28.55	H
5564.000	-49.16	10.1	10.81	-48.45	-13.00	-35.45	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:	WCDMA / HSUPA Band II / TX / CH 9400	**Test Date:**	July 18, 2013
Temperature:	25°C	**Tested by:**	David Shu
Humidity:	60 % 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)
3758.000	-53.52	8.23	9.16	-52.59	-13.00	-39.59	V
5641.000	-52.16	10.18	10.83	-51.51	-13.00	-38.51	V
N/A							
3765.000	-36.67	8.24	9.16	-35.75	-13.00	-22.75	H
5641.000	-47.33	10.18	10.83	-46.68	-13.00	-33.68	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:	WCDMA / HSUPA Band II / TX / CH 9538	**Test Date:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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	-45.3	8.28	9.21	-44.37	-13.00	-31.37	V
5718.000	-50.9	10.21	10.84	-50.27	-13.00	-37.27	V
N/A							
3814.000	-30.7	8.28	9.21	-29.77	-13.00	-16.77	H
5718.000	-45.67	10.21	10.84	-45.04	-13.00	-32.04	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:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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)
4311.000	-55.44	8.6	9.65	-54.39	-13.00	-41.39	V
6005.000	-54.09	10.82	10.9	-54.01	-13.00	-41.01	V
N/A							
1658.000	-49.24	5.06	6.02	-48.28	-13.00	-35.28	H
4787.000	-53.52	9.3	10.26	-52.56	-13.00	-39.56	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:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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)
4080.000	-56.04	8.44	9.46	-55.02	-13.00	-42.02	V
5466.000	-55.14	9.9	10.79	-54.25	-13.00	-41.25	V
N/A							
1672.000	-50.06	5.07	5.99	-49.14	-13.00	-36.14	H
5382.000	-53.63	9.79	10.75	-52.67	-13.00	-39.67	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:**	July 18, 2013
Temperature:	26°C	**Tested by:**	David Shu
Humidity:	60 % 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)
3254.000	-57.24	7.37	8.16	-56.45	-13.00	-43.45	V
5109.000	-54.51	9.46	10.64	-53.33	-13.00	-40.33	V
N/A							
1693.000	-47.51	5.1	5.95	-46.66	-13.00	-33.66	H
4829.000	-53.81	9.3	10.33	-52.78	-13.00	-39.78	H
N/A							

Remark:

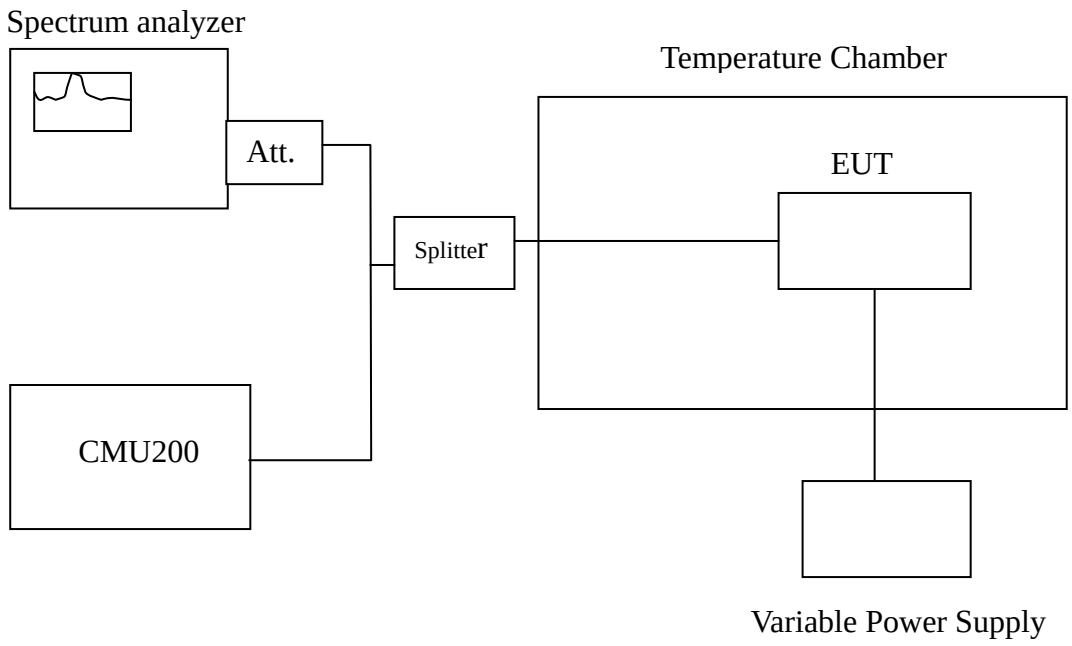
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered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

7.7FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235, RSS-132 (4.3) & RSS-133 (6.3).
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 = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836599979	-35	2091
	40	836599976	-38	
	30	836599973	-41	
	20	836600014	0	
	10	836599990	-24	
	0	836599989	-25	
	-10	836599986	-28	
	-20	836599986	-28	
	-30	836599983	-31	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999980	-20	4700
	40	1879999975	-25	
	30	1879999976	-24	
	20	1880000000	0	
	10	1879999970	-30	
	0	1879999983	-17	
	-10	1879999948	-52	
	-20	1879999986	-14	
	-30	1879999952	-48	

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	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: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999986	-14	4700
	40	1879999985	-15	
	30	1879999956	-44	
	20	1880000000	0	
	10	1879999953	-47	
	0	1879999975	-25	
	-10	1879999974	-26	
	-20	1879999967	-33	
	-30	1879999968	-32	

Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836599997	-28	2091
	40	836599982	-43	
	30	836599993	-32	
	20	836600025	0	
	10	836599990	-35	
	0	836599986	-39	
	-10	836599985	-40	
	-20	836599982	-43	
	-30	836599981	-44	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999996	-4	4700
	40	1879999982	-18	
	30	1879999975	-25	
	20	1880000000	0	
	10	1879999998	-2	
	0	1879999997	-3	
	-10	1879999992	-8	
	-20	1879999991	-9	
	-30	1879999978	-22	

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836400000	-2	2091
	40	836399996	-6	
	30	836399999	-3	
	20	836400002	0	
	10	836399995	-7	
	0	836399996	-6	
	-10	836400000	-2	
	-20	836399998	-4	
	-30	836399999	-3	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1880000001	-9	4700
	40	1880000003	-7	
	30	1879999999	-11	
	20	1880000010	0	
	10	1879999994	-16	
	0	1880000007	-3	
	-10	1879999995	-15	
	-20	1880000001	-9	
	-30	1879999998	-12	

Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836399999	-6	2091
	40	836399995	-10	
	30	836399992	-13	
	20	836400005	0	
	10	836399989	-16	
	0	836399983	-22	
	-10	836399981	-24	
	-20	836399975	-30	
	-30	836399974	-31	

Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999997	-3	4700
	40	1879999992	-8	
	30	1879999967	-33	
	20	1880000000	0	
	10	1879999977	-23	
	0	1879999975	-25	
	-10	1879999972	-28	
	-20	1879999970	-30	
	-30	1879999966	-34	

Reference Frequency: WCDMA / HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999994	-8	4700
	40	1879999973	-29	
	30	1879999971	-31	
	20	1880000002	0	
	10	1879999983	-19	
	0	1879999981	-21	
	-10	1879999988	-14	
	-20	1879999986	-16	
	-30	1879999984	-18	

Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836399993	-8	2091
	40	836399991	-10	
	30	836399986	-15	
	20	836400001	0	
	10	836399980	-21	
	0	836399972	-29	
	-10	836399967	-34	
	-20	836399983	-18	
	-30	836399972	-29	

7.8FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

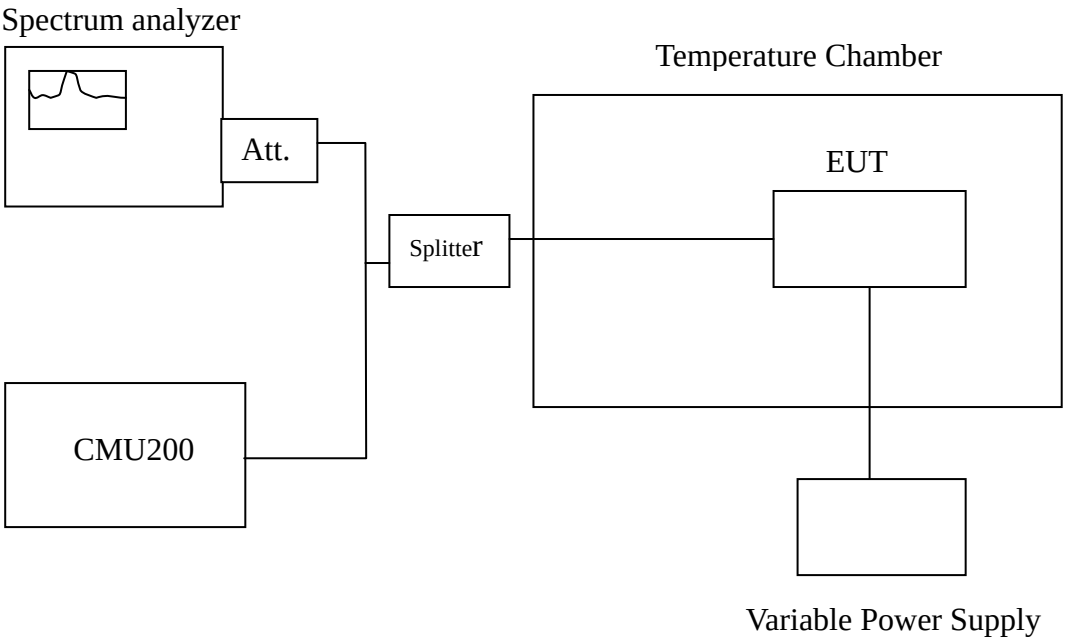
According to FCC §2.1055, FCC §24.235,

Frequency Tolerance: 2.5 ppm.

According to RSS-132 (4.3) & RSS-133 (6.3).

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations and ±1.0 ppm for base stations.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector.*

TEST PROCEDURE

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.
Reduce the input voltage to specify extreme voltage variation (± 15%) and endpoint, record the maximum frequency change.

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836600017	3	2091
3.8		836600014	0	
3.23		836600015	1	
2.7END		836600016	2	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1880000011	11	4700
3.8		1880000000	0	
3.23		1880000025	25	
2.7END		1880000012	12	

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836599980	-11	2091
3.8		836599991	0	
3.23		836599977	-14	
2.7END		836599562	-429	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1880000011	11	4700
3.8		1880000000	0	
3.23		1880000034	34	
2.7END		1880000025	25	

Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836600021	-4	2091
3.8		836600025	0	
3.23		836600027	2	
2.7END		836600029	4	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1879999980	-20	4700
3.8		1880000000	0	
3.23		1879999977	-23	
2.7END		1880000002	2	

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400001	-1	2091
3.8		836400002	0	
3.23		836400003	1	
2.7END		836400073	71	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1880000005	-5	4700
3.8		1880000010	0	
3.23		1880000009	-1	
2.7END		1879999943	-67	

Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400011	6	2091
3.8		836400005	0	
3.23		836400018	13	
2.7END		836400019	14	

Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1880000009	9	4700
3.8		1880000000	0	
3.23		1880000004	4	
2.7END		1880000034	34	

Reference Frequency: WCDMA HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1880000001	-1	4700
3.8		1880000002	0	
3.23		1880000003	1	
2.7END		1880000008	6	

Reference Frequency: WCDMA HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400002	1	2091
3.8		836400001	0	
3.23		836400004	3	
2.7END		836400029	28	