



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

TEST REPORT

For

PDA

Trade Name: Trimble

Model: TNJ32

Issued to

For FCC

Trimble Navigation Ltd.

935 Stewart Drive, Sunnyvale, CA 94088-3642 U.S.A.

For IC

Trimble Navigation Ltd.

935 Stewart Drive,

Sunnyvale California 94085 United States

Issued by

Compliance Certification Services Inc.

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
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TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION.....	4
2. EUT DESCRIPTION	5
3. TEST METHODOLOGY	7
3.1 EUT CONFIGURATION	7
3.2 EUT EXERCISE	7
3.3 GENERAL TEST PROCEDURES	7
3.4 DESCRIPTION OF TEST MODES	8
4. INSTRUMENT CALIBRATION.....	9
4.1 MEASURING INSTRUMENT CALIBRATION	9
4.2 MEASUREMENT EQUIPMENT USED	9
4.3 MEASUREMENT UNCERTAINTY	10
5. FACILITIES AND ACCREDITATIONS	11
5.1 FACILITIES	11
5.2 EQUIPMENT	11
5.3 LABORATORY ACCREDITATIONS AND LISTING	11
5.4 TABLE OF ACCREDITATIONS AND LISTINGS	12
6. SETUP OF EQUIPMENT UNDER TEST	13
6.1 SETUP CONFIGURATION OF EUT	13
6.2 SUPPORT EQUIPMENT.....	13
7. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133 ...	14
7.1 99% BANDWIDTH	14
7.2 PEAK POWER.....	35
7.3 AVERAGE POWER.....	38
7.4 ERP & EIRP MEASUREMENT	41
7.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS	46
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	80
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT.....	154
7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT.....	161
APPENDIX I RADIO FREQUENCY EXPOSURE.....	168
APPENDIX II PHOTOGRAPHS OF TEST SETUP.....	172
APPENDIX 1 - PHOTOGRAPHS OF EUT	



1. TEST RESULT CERTIFICATION

Applicant: **For FCC**
 Trimble Navigation Ltd.
 935 Stewart Drive, Sunnyvale, CA 94088-3642 U.S.A.
For IC
 Trimble Navigation Ltd.
 935 Stewart Drive, Sunnyvale California 94085 United States

Manufacturer: GOLDTEK Technology Co., Ltd.
 6F., No. 3, Ln 768, Sec.4, Pateh Rd.,
 Taipei 115, Taiwan, R.O.C.

Equipment Under Test: PDA

Trade Name: Trimble

Model Number: TNJ32

Date of Test: December 16 ~ 20, 2011

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:

Reviewed by:

Jason Lin

Gina Lo

 Jason Lin
 Section Manager
 Compliance Certification Services Inc.

 Gina Lo
 Section Manager
 Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	PDA
Trade Name	Trimble
Model Number	TNJ32
Model Discrepancy	N/A
Received Date	December 15, 2011
Power Supply	1. Power Adapter ENG / 3A182WP05 I/P: 100-240V, 50-60Hz, 0.6A O/P: 5V, 3.0A 2. Li-ion Polymer Battery Model: 707-0008-00A Rating: DC 3.7V, 3060mAh, 11.32W/hr
Frequency Range	GSM / GPRS / EDGE 850MHz: 824 ~ 849 MHz GSM / GPRS / EDGE: 1900MHz: 1850 ~ 1910 MHz WCDMA Band II: 1852.4 ~ 1907.6 MHz WCDMA Band V: 826.4 ~ 846.6 MHz
Modulation Technique	GSM: GMSK GPRS: GMSK EDGE: 8PSK WCDMA: Quadrature Phase Shift Keying (QPSK) with Root-raised cosine pulse shaping filters (roll off = 0.22)
Antenna Gain	GSM / GPRS / EDGE 850MHz: -0.89dBi GSM / GPRS / EDGE: 1900MHz: 3.95dBi WCDMA Band II: 3.95dBi WCDMA Band V: -0.89dBi
Antenna Type	PIFA 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	29.62	248KGXW
GPRS 850MHz	29.20	251KGXW
EDGE 850MHz	22.98	247KG7W
WCDMA Band V	21.73	4M15F9W
WCDMA HSDPA Band V	21.79	4M14F9W
WCDMA HSUPA Band V	21.77	4M14F9W

Mode	ERP Power (dBm)	Type of Emission
GSM 1900MHz	26.10	249KGXW
GPRS 1900MHz	26.39	247KGXW
EDGE 1900MHz	24.18	250KG7W
WCDMA Band II	22.57	4M14F9W
WCDMA HSDPA Band II	22.53	4M15F9W
WCDMA HSUPA Band II	22.64	4M15F9W



3. TEST METHODOLOGY

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

3.1 EUT CONFIGURATION

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

3.2 EUT EXERCISE

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

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003. 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: 2003.



3.4 DESCRIPTION OF TEST MODES

The EUT (model: TNJ32) 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 and power line conducted emissions below 30MHz, which worst case was in normal link mode and receiving radiated spurious emission above 1GHz, which worst case was in CH Mid mode only.

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 / HSDPA / HSUPA Band II:

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

WCDMA / HSDPA / HSUPA Band V:

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

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis).

The worst emission was found:

in stand-up position (Z axis) for GSM 850 / GPRS 850 / GSM 1900 / GPRS 1900 / EDGE 850 / EDGE 1900 / WCDMA BAND V / HSDPA BAND V / HSUDPA BAND V Mode.

and in lie-down (Y axis) for WCDMA BAND II / HSDPA BAND II / HSUPA BAND II Mode.



4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

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

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: Each piece of equipment is scheduled for calibration once a year and Loop Antenna is scheduled for calibration once three years.

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	11/02/2012
EMI Test Receiver	R&S	ESCI	100064	02/17/2012
Pre-Amplifier	Mini-Circuits	ZFL-1000LN	SF350700823	01/13/2012
Pre-Amplifier	MITEQ	AFS44-00102650-42-10P-44	1415367	11/19/2012
Bilog Antenna	Sunol Sciences	JB3	A030105	10/03/2012
Bilog Antenna	Sunol Sciences	JB3	A030205	10/03/2012
Horn Antenna	EMCO	3117	00055165	01/12/2012
Horn Antenna	EMCO	3117	00055167	12/05/2012
Horn Antenna	EMCO	3116	00026370	10/12/2012
Loop Antenna	EMCO	6502	8905/2356	06/10/2013
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Site NSA	CCS	N/A	N/A	12/25/2012
Test S/W	EZ-EMC (CCS-3A1RE)			

Conducted Emission room # A				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESHS10	843743/015	05/01/2012
LISN	SCHWARZBECK	NSLK 8127	8127-541	12/17/2012
LISN	SCHAFFNER	NNB 41	03/10013	N.C.R.
Test S/W	CCS-3A1-CE			



4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 1.2159
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

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



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

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

- No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029
- No.11, Wu-Gong 6th Rd., Wugu Industrial Park, New Taipei City 248, Taiwan (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045
- No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN,
R.O.C.
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4: 2003 and CISPR Publication 22.

5.2 EQUIPMENT

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

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

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




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

5.3 LABORATORY 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.



5.4 TABLE 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	
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	 IC 2324G-1 IC 2324G-2

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



6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

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

6.2 SUPPORT EQUIPMENT

No	Equipment	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	Notebook PC	IBM	1951-I3V(T60)	L3B2188	FCC DoC	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2.	LCD Monitor	DELL	3008WFP	CN-0XK290-7161 8-846-169L	FCC DoC	Unshielded, 1.8m	Shielded, 1.8m
3.	GPS Antenna	N/A	N/A	N/A	N/A	N/A	Unshielded, 3m
4.	USB Mouse	DELL	M-UV69a	323617-001	FCC DoC	Shielded, 1.8m	N/A
5.	SD Card	SANDISK	N/A	N/A	N/A	N/A	N/A
6.	SIM Card	N/A	N/A	N/A	N/A	N/A	N/A
7.	Universal Radio Communication Tester (Remote)	R&S	CMU200	101245	N/A	N/A	Unshielded, 1.8m
8.	Notebook PC (Remote)	DELL	PP19L	GK102 A00	QDS-BRCM1021	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core

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.



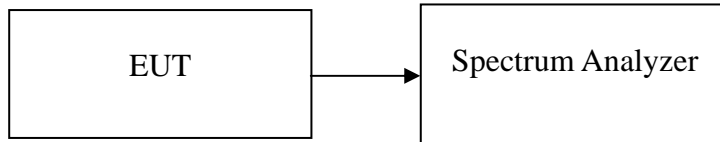
7. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133

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)	99% Bandwidth (kHz)
GSM 850 (Class 12)	128	824.200	248.4842
	190	836.600	246.5051
	251	848.800	247.9677
GPRS 850 (Class 12)	128	824.200	246.0715
	190	836.600	243.7035
	251	848.800	251.1058
EDGE 850 (Class 12)	128	824.200	245.0036
	190	836.600	244.8288
	251	848.800	247.6960
GSM 1900 (Class 12)	512	1850.200	246.6985
	661	1880.000	249.4807
	810	1909.800	243.3281
GPRS 1900 (Class 12)	512	1850.200	246.5048
	661	1880.000	244.9909
	810	1909.800	247.4079
EDGE 1900 (Class 12)	512	1850.200	244.5692
	661	1880.000	250.7065
	810	1909.800	244.8634



Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.1487
	9400	1880.00	4.1484
	9538	1907.60	4.1328
WCDMA (Band V)	4132	826.40	4.1537
	4182	836.40	4.1243
	4233	846.60	4.1336
WCDMA / HSDPA (BAND II)	9262	1852.40	4.1381
	9400	1880.00	4.1371
	9538	1907.60	4.1533
WCDMA / HSDPA (BAND V)	4132	826.40	4.1418
	4182	836.40	4.1183
	4233	846.60	4.1360
WCDMA / HSUPA (BAND II)	9262	1852.40	4.1381
	9400	1880.00	4.1371
	9538	1907.60	4.1533
WCDMA / HSUPA (BAND V)	4132	826.40	4.1418
	4182	836.40	4.1183
	4233	846.60	4.1360

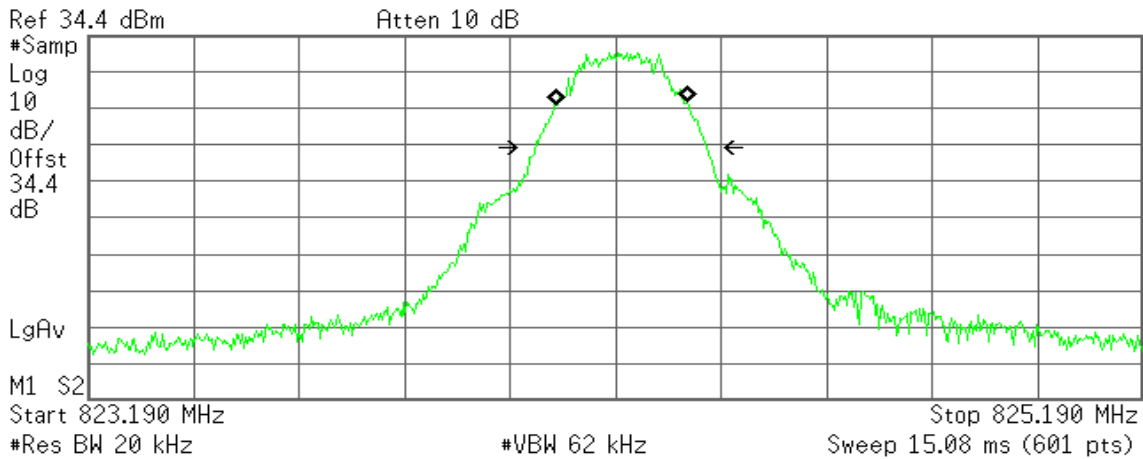


Test Plot

GSM 850 (CH Low)

Agilent 09:42:18 Dec 18, 2011

R T



Occupied Bandwidth
248.4842 kHz

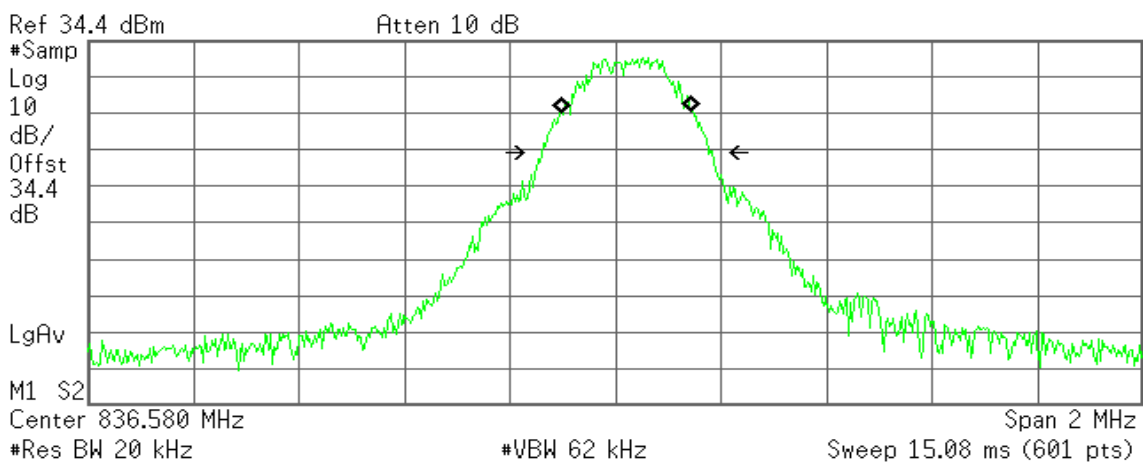
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 11.721 kHz
x dB Bandwidth 325.987 kHz*

GSM 850 (CH Mid)

Agilent 09:41:38 Dec 18, 2011

R T



Occupied Bandwidth
246.5051 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

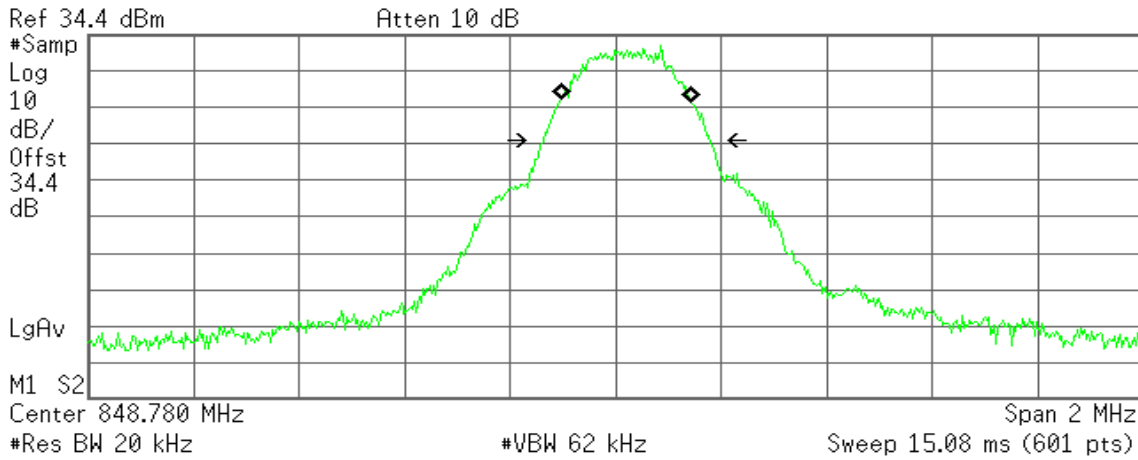
Transmit Freq Error 20.594 kHz
x dB Bandwidth 323.578 kHz*



GSM 850 (CH High)

Agilent 09:41:24 Dec 18, 2011

R T



Occupied Bandwidth
247.9677 kHz

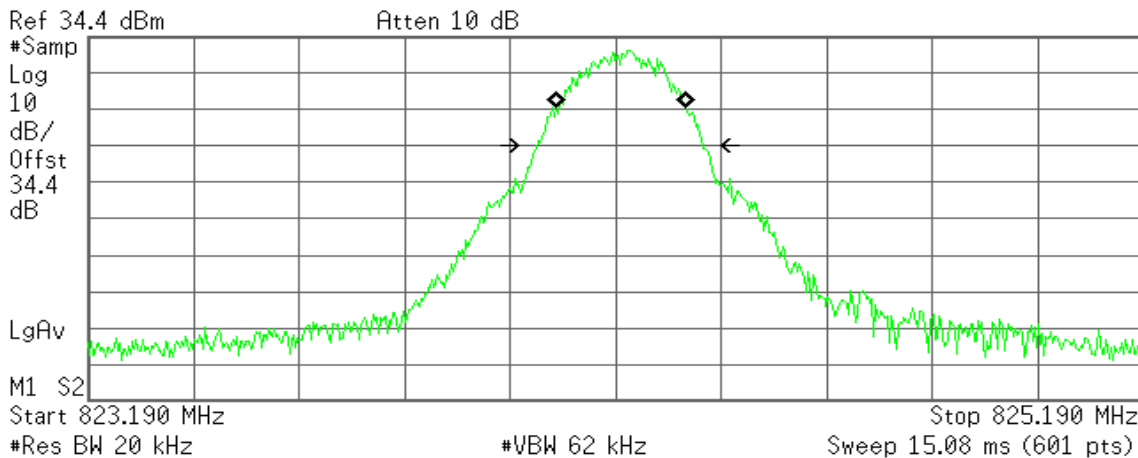
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 19.459 kHz
x dB Bandwidth 316.543 kHz*

GPRS 850 (CH Low)

Agilent 09:42:06 Dec 18, 2011

R T



Occupied Bandwidth
246.0715 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

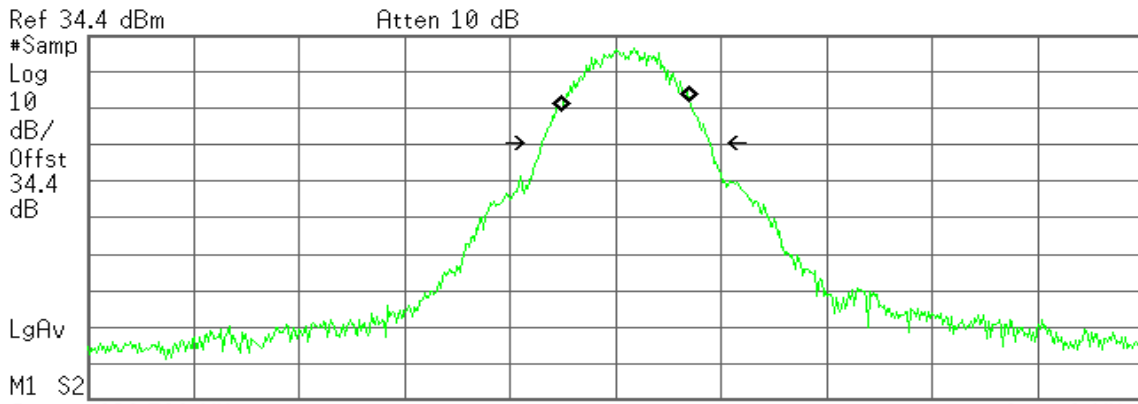
Transmit Freq Error 10.174 kHz
x dB Bandwidth 314.522 kHz*



GPRS 850 (CH Mid)

Agilent 09:41:50 Dec 18, 2011

R T



Ref 34.4 dBm Atten 10 dB
Center 836.580 MHz Span 2 MHz
#Res BW 20 kHz #VBW 62 kHz Sweep 15.08 ms (601 pts)

Occupied Bandwidth
243.7035 kHz

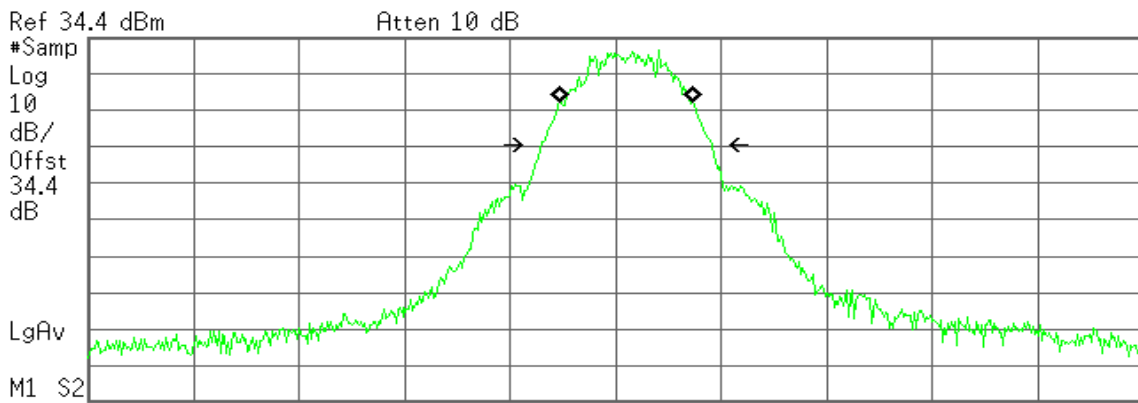
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 18.326 kHz
x dB Bandwidth 319.044 kHz*

GPRS 850(CH High)

Agilent 09:41:07 Dec 18, 2011

R T



Ref 34.4 dBm Atten 10 dB
Center 848.780 MHz Span 2 MHz
#Res BW 20 kHz #VBW 62 kHz Sweep 15.08 ms (601 pts)

Occupied Bandwidth
251.1058 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

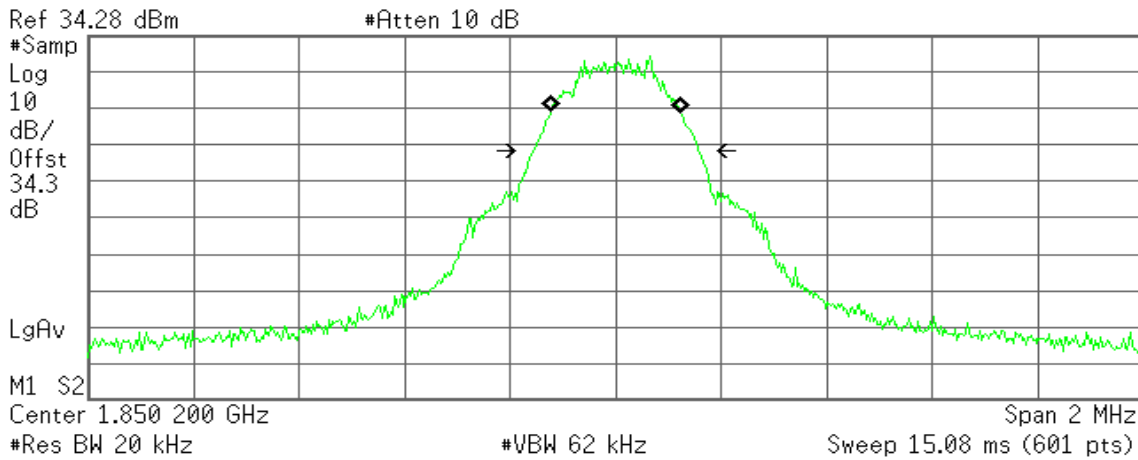
Transmit Freq Error 20.229 kHz
x dB Bandwidth 325.681 kHz*



GSM 1900 (CH Low)

Agilent 10:50:37 Dec 18, 2011

R T



Occupied Bandwidth
246.6985 kHz

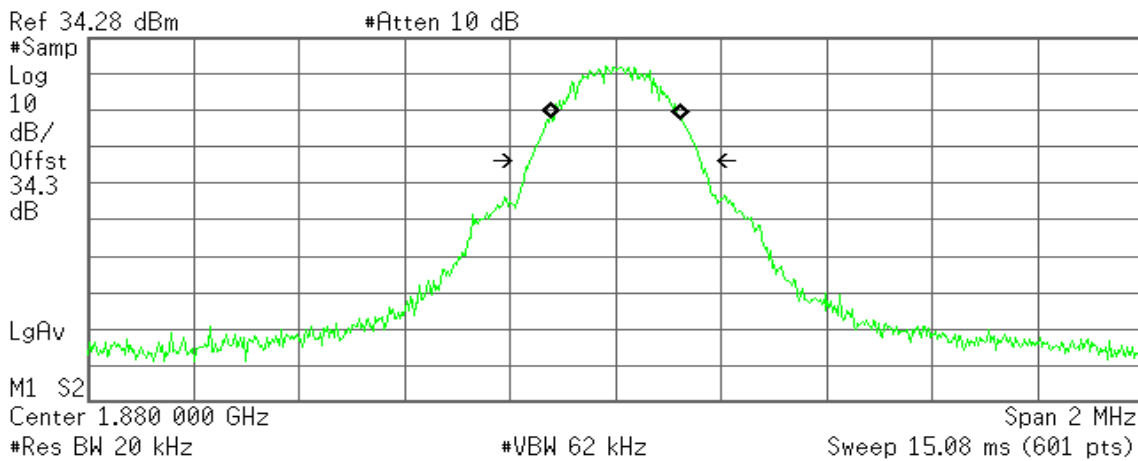
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 618.250 Hz
x dB Bandwidth 315.498 kHz*

GSM 1900 (CH Mid)

Agilent 10:52:14 Dec 18, 2011

R T



Occupied Bandwidth
249.4807 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

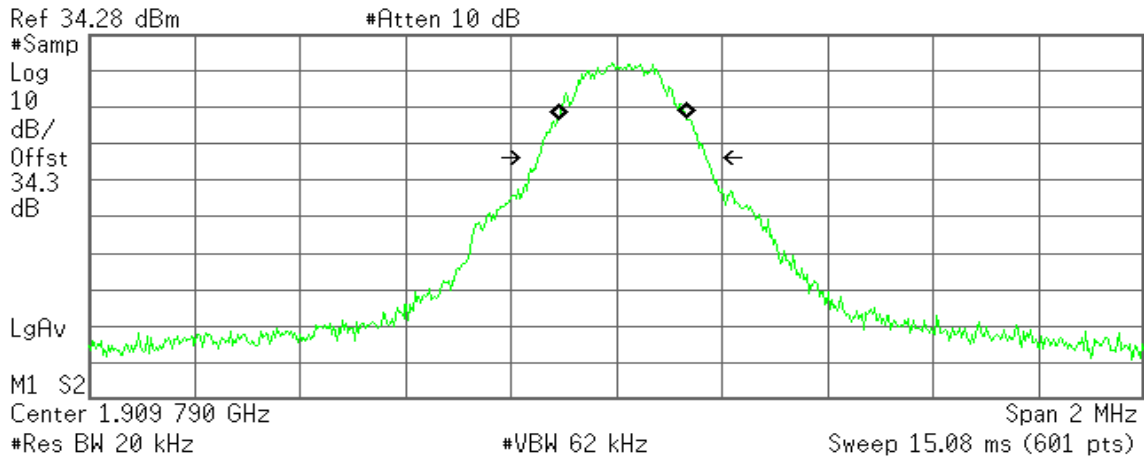
Transmit Freq Error 51.800 Hz
x dB Bandwidth 324.886 kHz*



GSM 1900 (CH High)

Agilent 10:52:40 Dec 18, 2011

R T



Occupied Bandwidth
243.3281 kHz

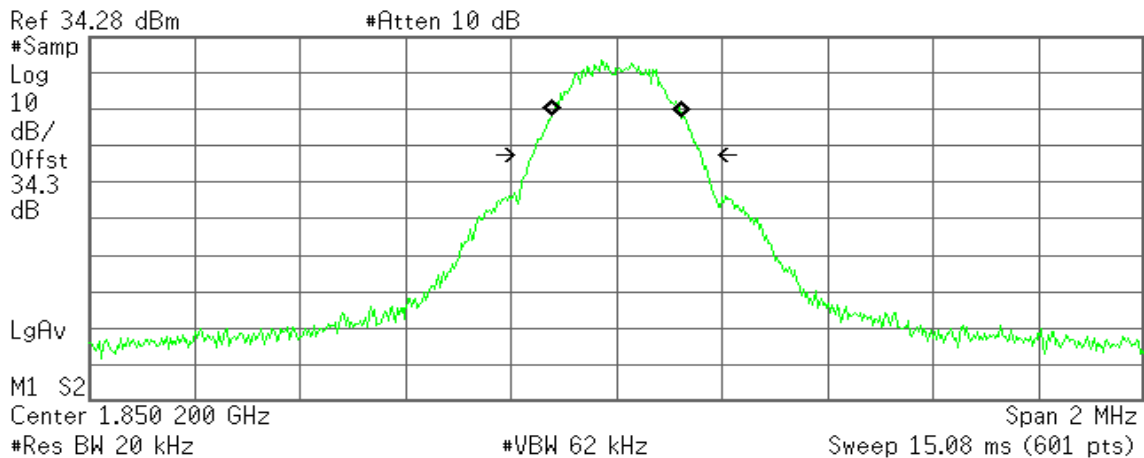
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 10.557 kHz
x dB Bandwidth 320.481 kHz*

GPRS 1900 (CH Low)

Agilent 10:50:51 Dec 18, 2011

R T



Occupied Bandwidth
246.5048 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

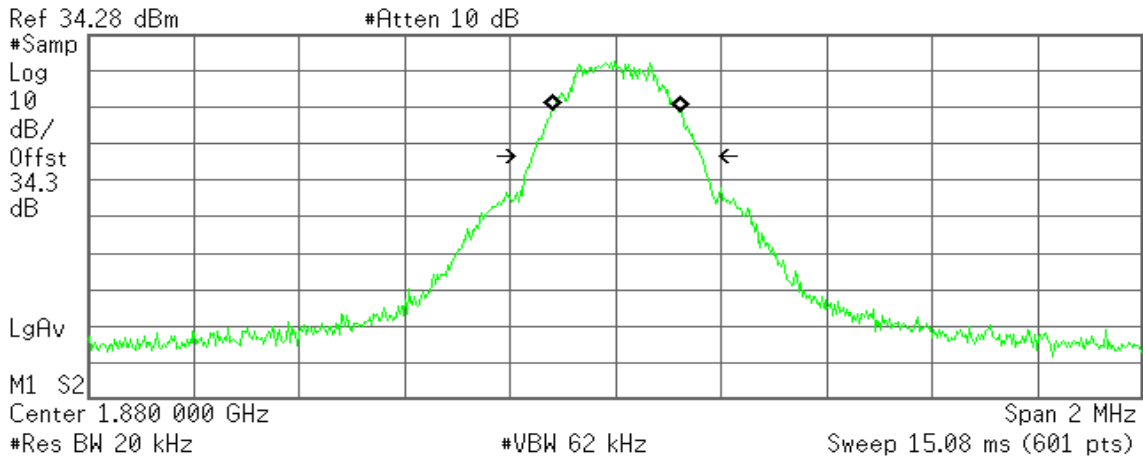
Transmit Freq Error 1.180 kHz
x dB Bandwidth 319.300 kHz*



GPRS 1900 (CH Mid)

Agilent 10:51:54 Dec 18, 2011

R T



Occupied Bandwidth
244.9909 kHz

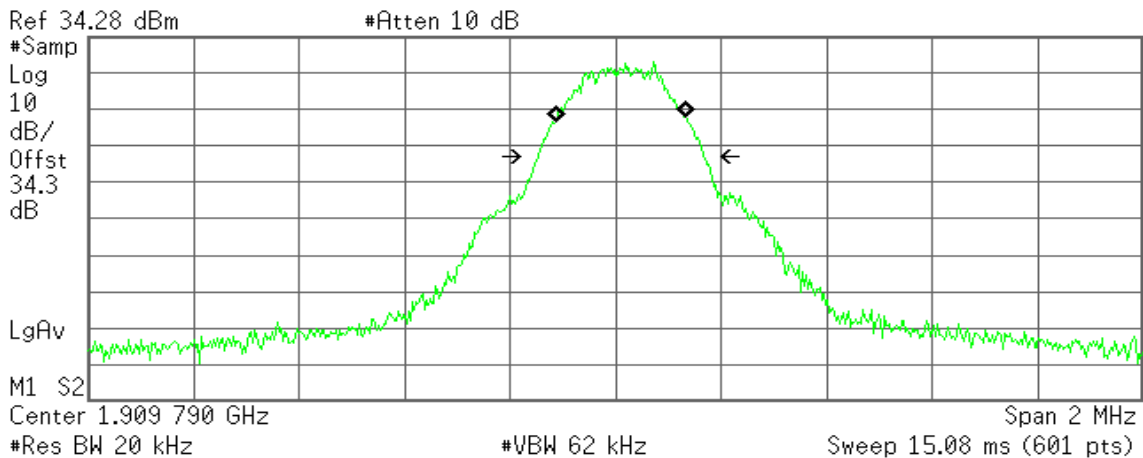
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.166 kHz
x dB Bandwidth 320.318 kHz*

GPRS 1900 (CH High)

Agilent 10:52:51 Dec 18, 2011

R T



Occupied Bandwidth
247.4079 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

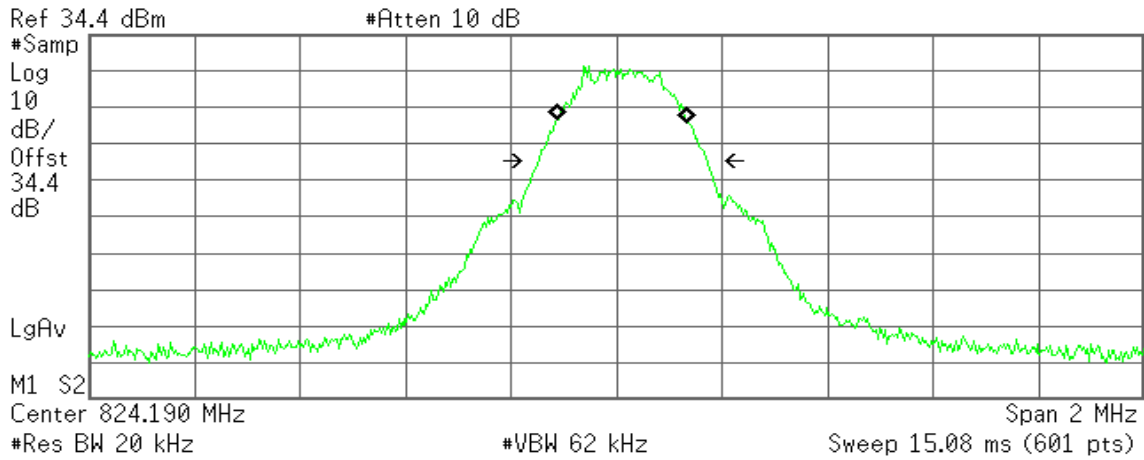
Transmit Freq Error 10.281 kHz
x dB Bandwidth 314.115 kHz*



EDGE 850 (CH Low)

Agilent 10:24:22 Dec 18, 2011

R T



Occupied Bandwidth
245.0036 kHz

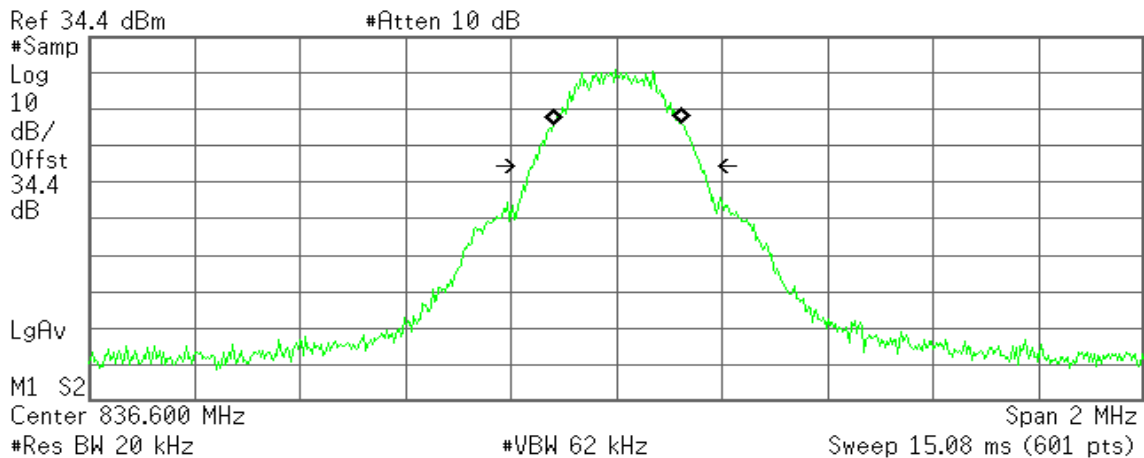
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 10.588 kHz
x dB Bandwidth 319.951 kHz*

EDGE 850 (CH Mid)

Agilent 10:23:35 Dec 18, 2011

R T



Occupied Bandwidth
244.8288 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

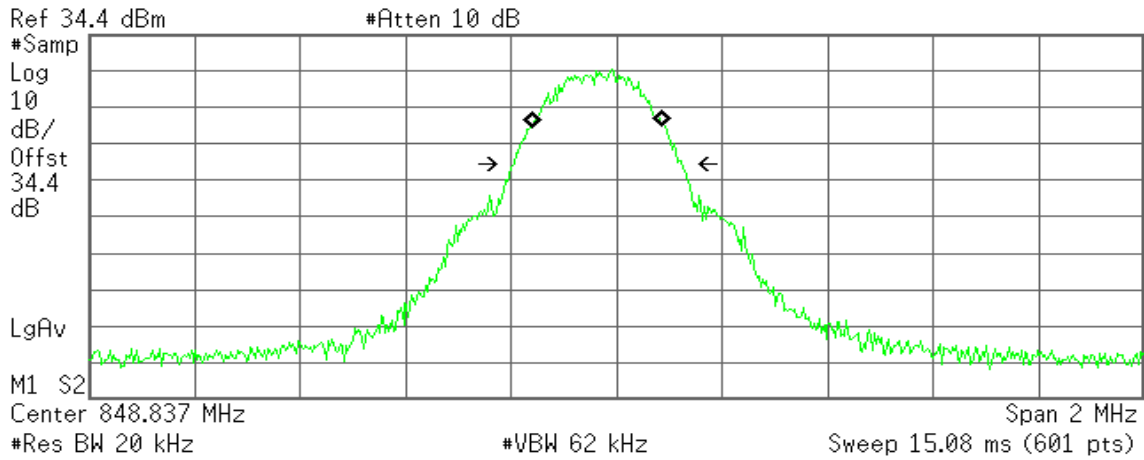
Transmit Freq Error 1.381 kHz
x dB Bandwidth 317.854 kHz*



EDGE 850 (CH High)

Agilent 10:23:09 Dec 18, 2011

R T



Occupied Bandwidth
247.6990 kHz

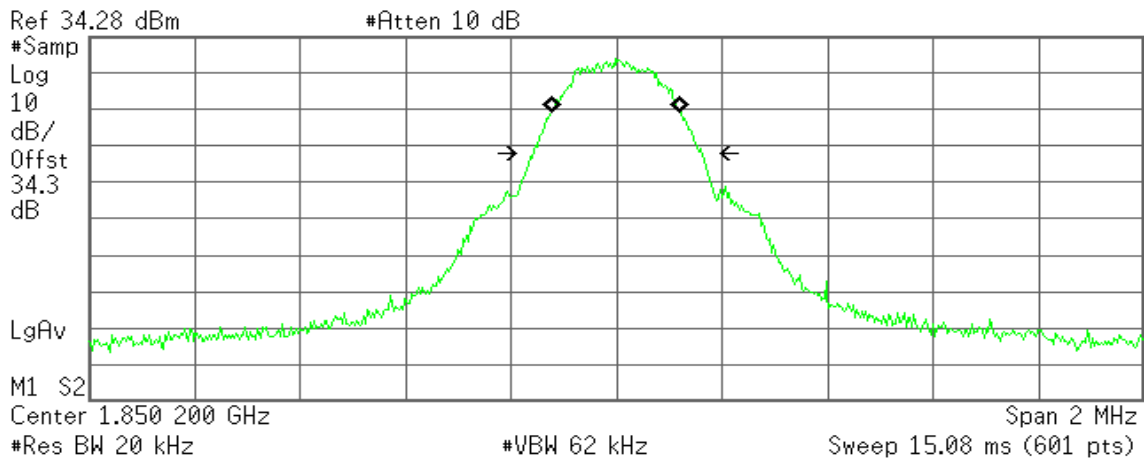
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -36.348 kHz
x dB Bandwidth 318.848 kHz*

EDGE 1900 (CH Low)

Agilent 10:51:20 Dec 18, 2011

R T



Occupied Bandwidth
244.5692 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

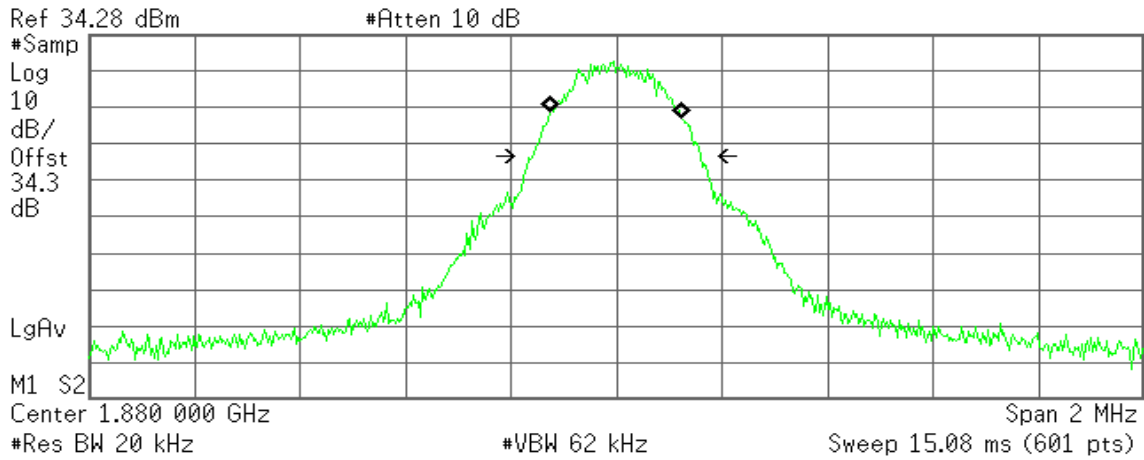
Transmit Freq Error -835.992 Hz
x dB Bandwidth 319.846 kHz*



EDGE 1900 (CH Mid)

Agilent 10:51:40 Dec 18, 2011

R T



Occupied Bandwidth
250.7065 kHz

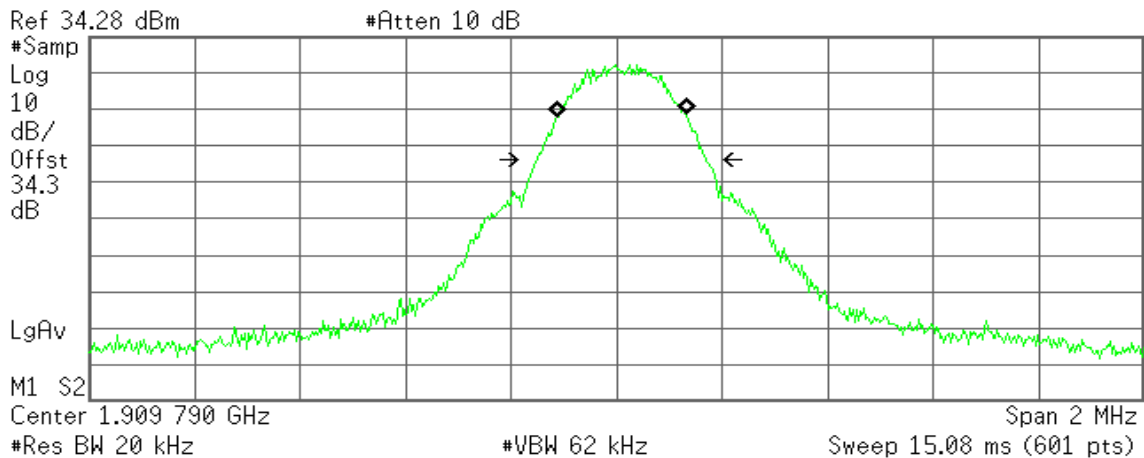
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -949.118 Hz
x dB Bandwidth 319.286 kHz*

EDGE 1900 (CH High)

Agilent 10:53:05 Dec 18, 2011

R T



Occupied Bandwidth
244.8634 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

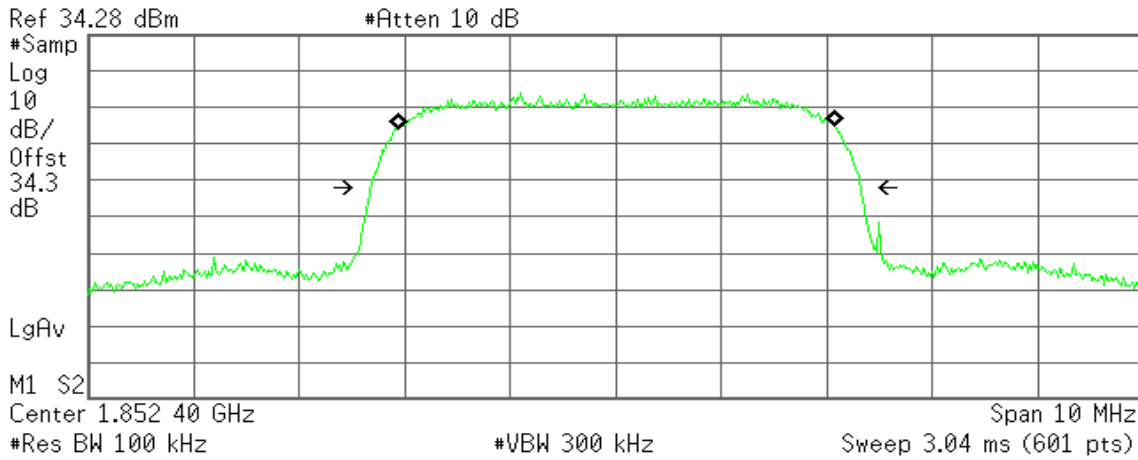
Transmit Freq Error 10.263 kHz
x dB Bandwidth 320.908 kHz*



WCDMA Band II (CH Low)

Agilent 11:43:58 Dec 18, 2011

R T



Occupied Bandwidth
4.1487 MHz

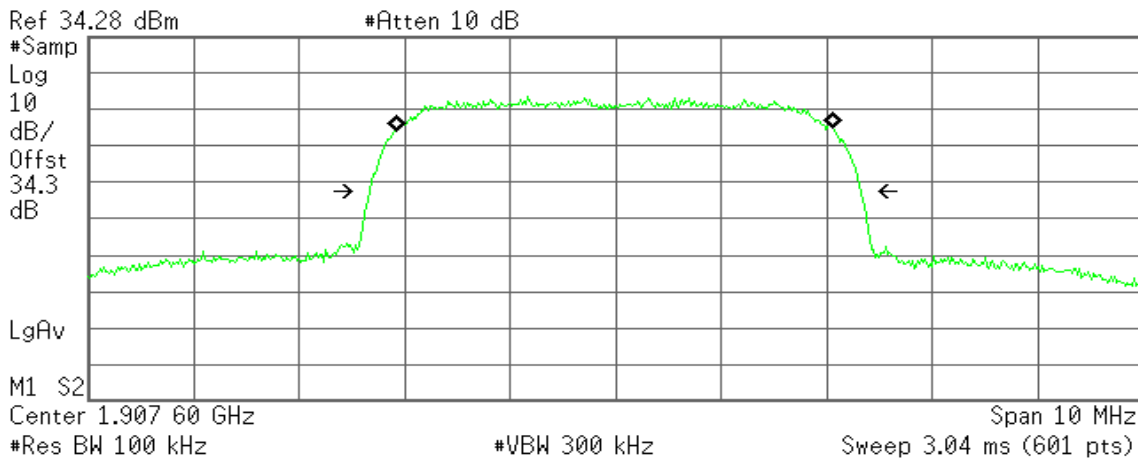
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 5.863 kHz
x dB Bandwidth 4.657 MHz*

WCDMA Band II (CH Mid)

Agilent 11:42:32 Dec 18, 2011

R T



Occupied Bandwidth
4.1484 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

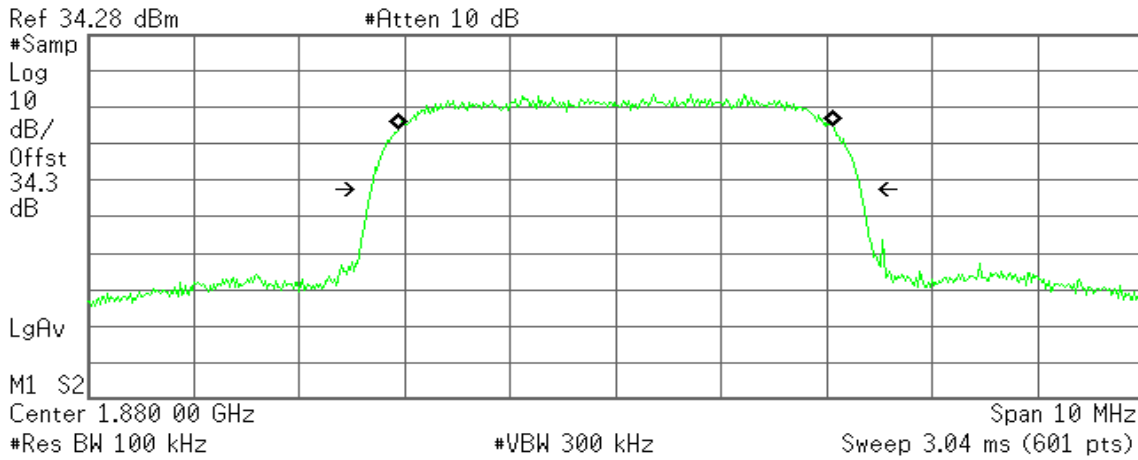
Transmit Freq Error -6.272 kHz
x dB Bandwidth 4.671 MHz*



WCDMA Band II (CH High)

Agilent 11:42:52 Dec 18, 2011

R T



Occupied Bandwidth
4.1328 MHz

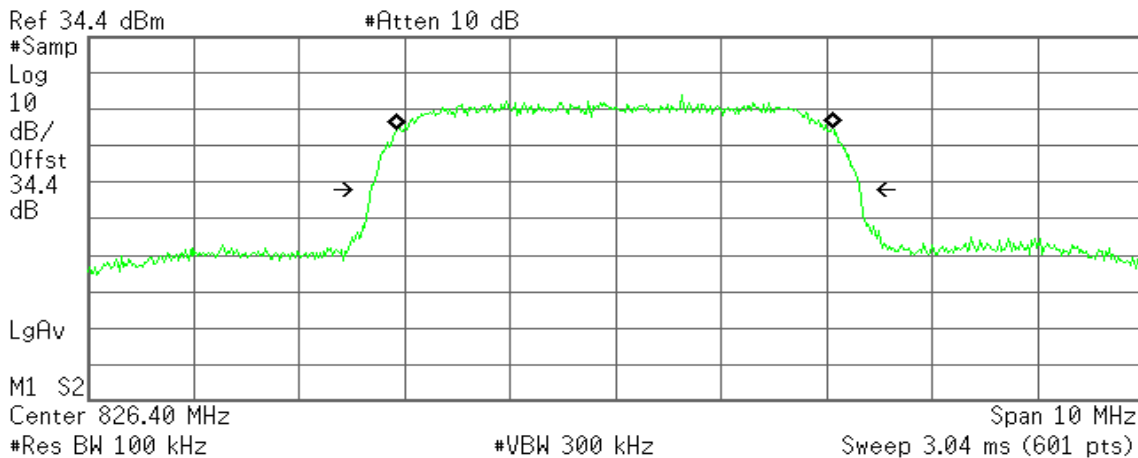
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.436 kHz
x dB Bandwidth 4.649 MHz*

WCDMA Band V (CH Low)

Agilent 11:47:27 Dec 18, 2011

R T



Occupied Bandwidth
4.1537 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

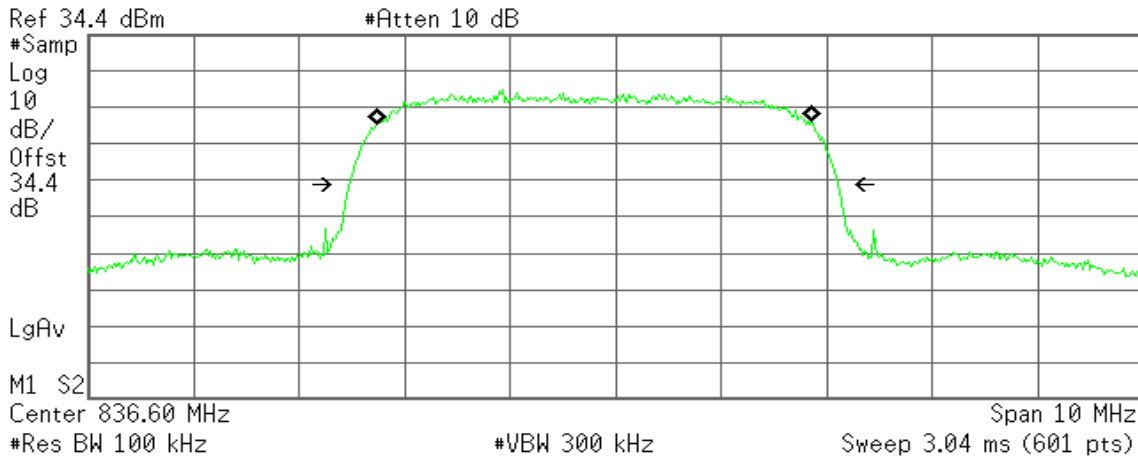
Transmit Freq Error -5.296 kHz
x dB Bandwidth 4.649 MHz*



WCDMA Band V (CH Mid)

Agilent 11:47:05 Dec 18, 2011

R T



Occupied Bandwidth
4.1243 MHz

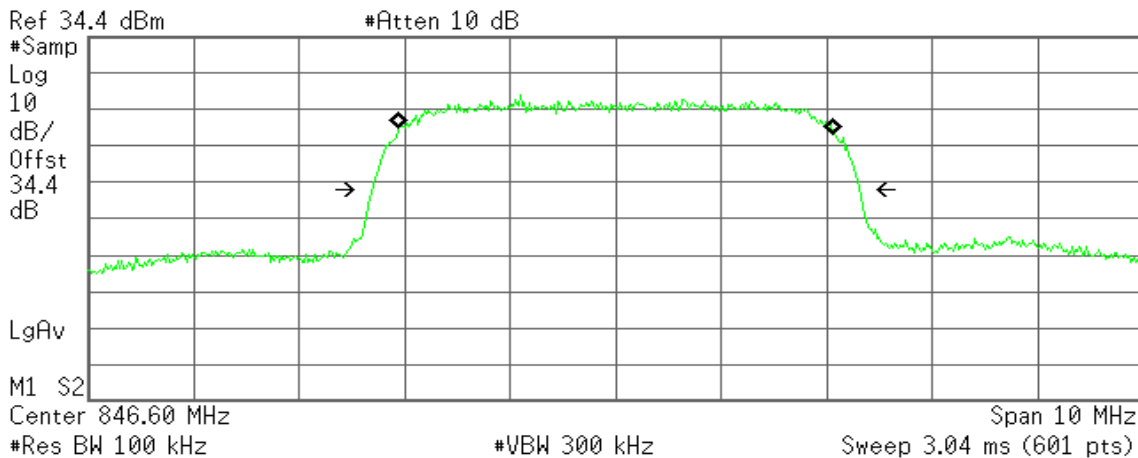
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -210.601 kHz
x dB Bandwidth 4.643 MHz*

WCDMA Band V (CH High)

Agilent 11:45:53 Dec 18, 2011

R T



Occupied Bandwidth
4.1336 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

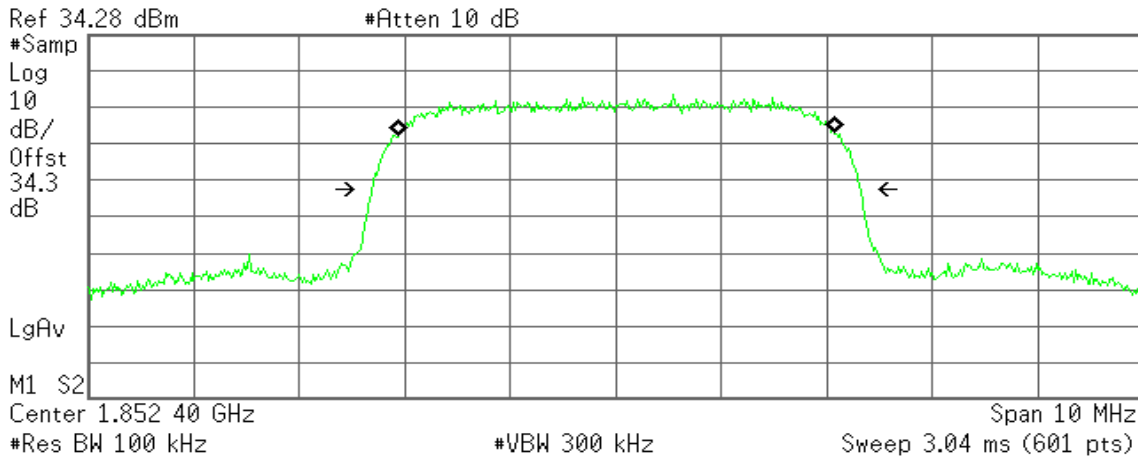
Transmit Freq Error 4.058 kHz
x dB Bandwidth 4.631 MHz*



WCDMA / HSDPA Band II (CH Low)

Agilent 11:43:40 Dec 18, 2011

R T



Occupied Bandwidth
4.1381 MHz

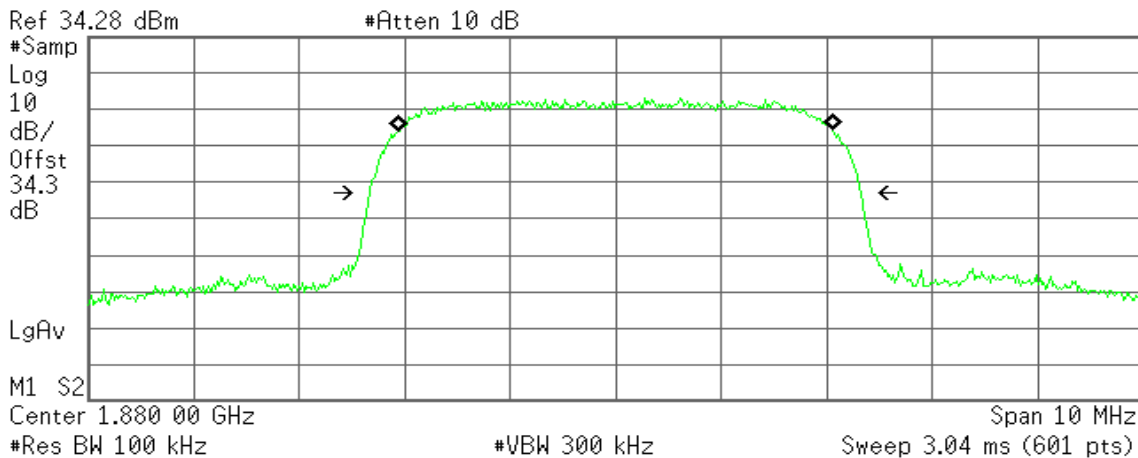
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.308 kHz
x dB Bandwidth 4.641 MHz*

WCDMA / HSDPA Band II (CH Mid)

Agilent 11:43:11 Dec 18, 2011

R T



Occupied Bandwidth
4.1371 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

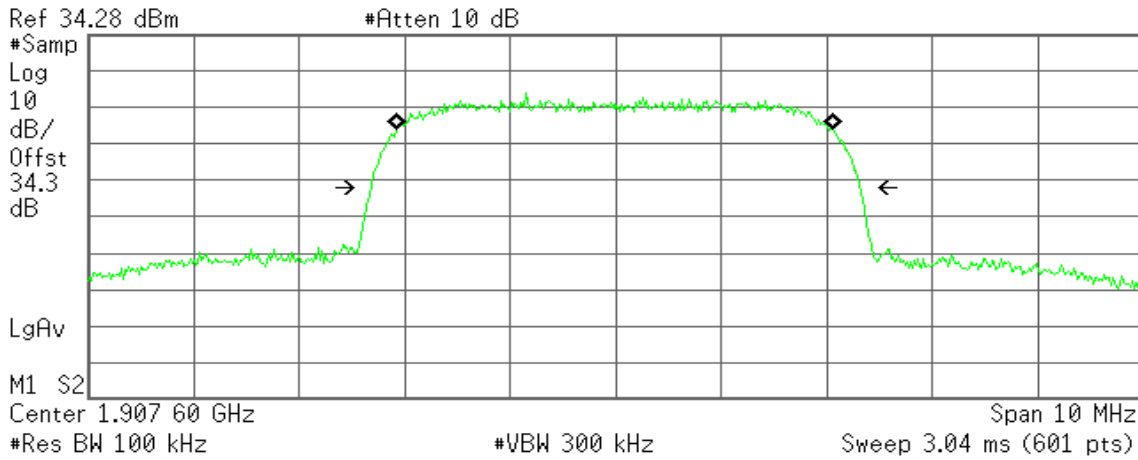
Transmit Freq Error -1.934 kHz
x dB Bandwidth 4.672 MHz*



WCDMA / HSDPA Band II (CH High)

Agilent 11:42:10 Dec 18, 2011

R T



Occupied Bandwidth
4.1533 MHz

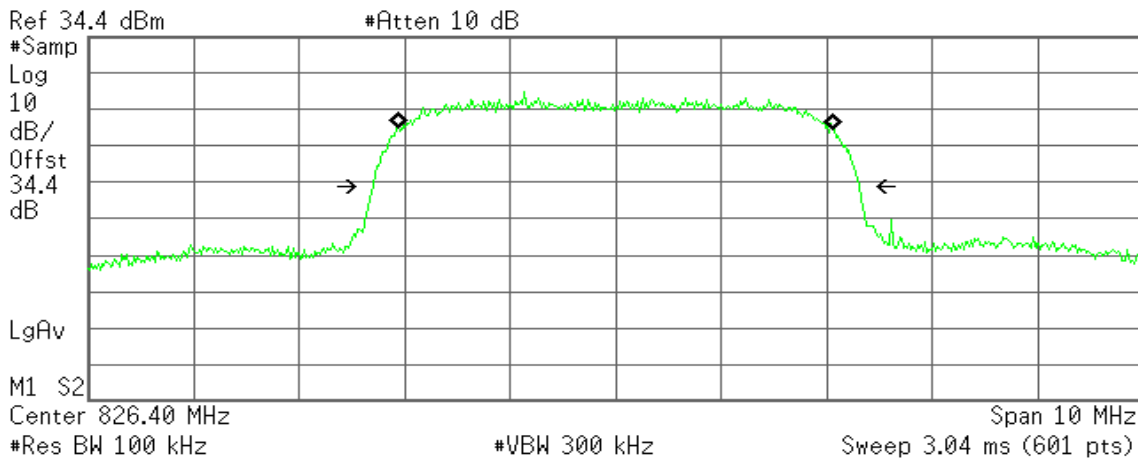
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -5.466 kHz
x dB Bandwidth 4.647 MHz*

WCDMA / HSDPA Band V (CH Low)

Agilent 11:47:37 Dec 18, 2011

R T



Occupied Bandwidth
4.1418 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

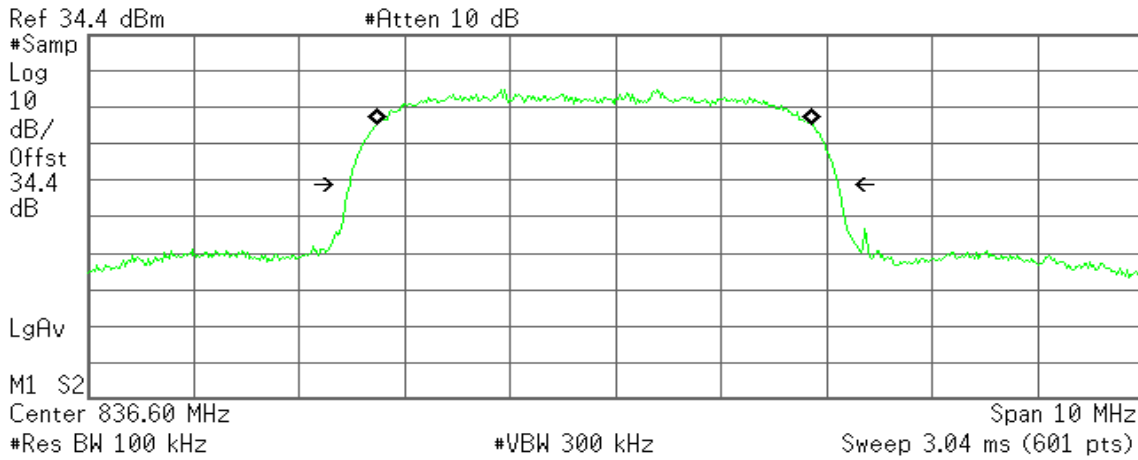
Transmit Freq Error -2.683 kHz
x dB Bandwidth 4.626 MHz*



WCDMA / HSDPA Band V (CH Mid)

Agilent 11:54:51 Dec 18, 2011

R T



Occupied Bandwidth
4.1183 MHz

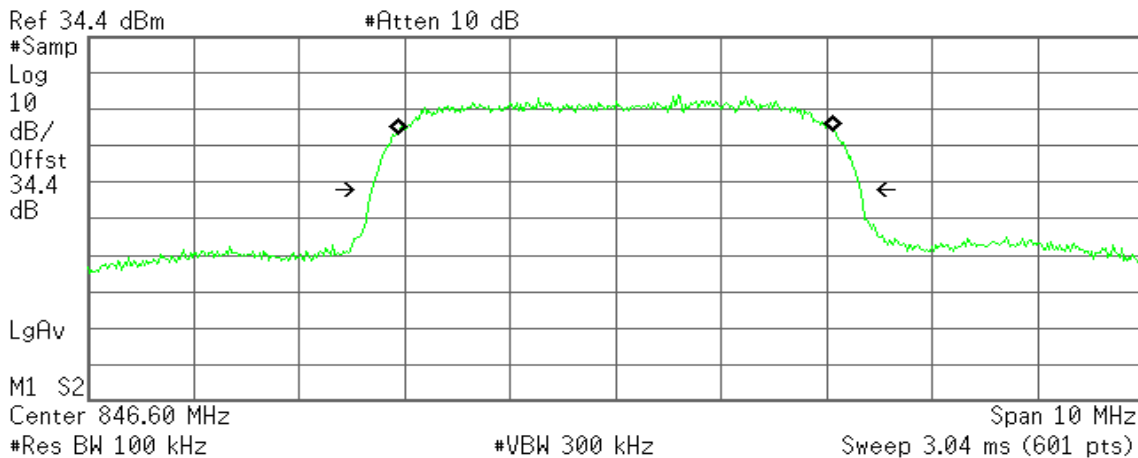
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -208.585 kHz
x dB Bandwidth 4.638 MHz*

WCDMA / HSDPA Band V (CH High)

Agilent 11:46:07 Dec 18, 2011

R T



Occupied Bandwidth
4.1360 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

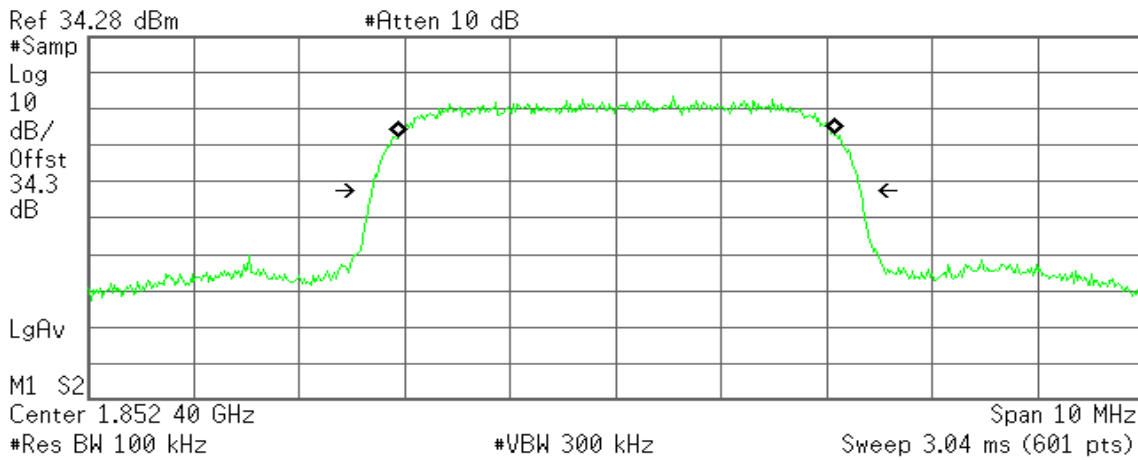
Transmit Freq Error 2.175 kHz
x dB Bandwidth 4.641 MHz*



WCDMA / HSUPA Band II (CH Low)

Agilent 11:43:40 Dec 18, 2011

R T



Occupied Bandwidth
4.1381 MHz

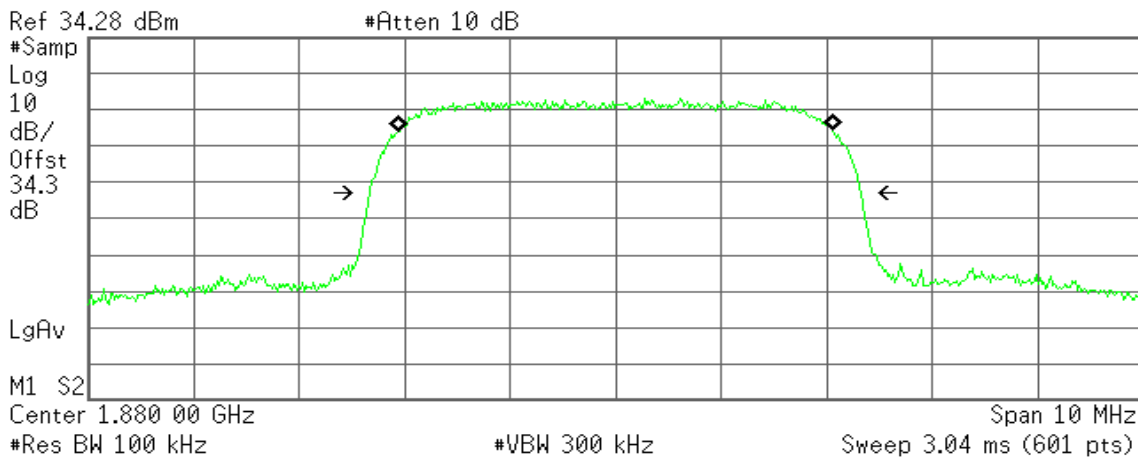
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.308 kHz
x dB Bandwidth 4.641 MHz*

WCDMA / HSUPA Band II (CH Mid)

Agilent 11:43:11 Dec 18, 2011

R T



Occupied Bandwidth
4.1371 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

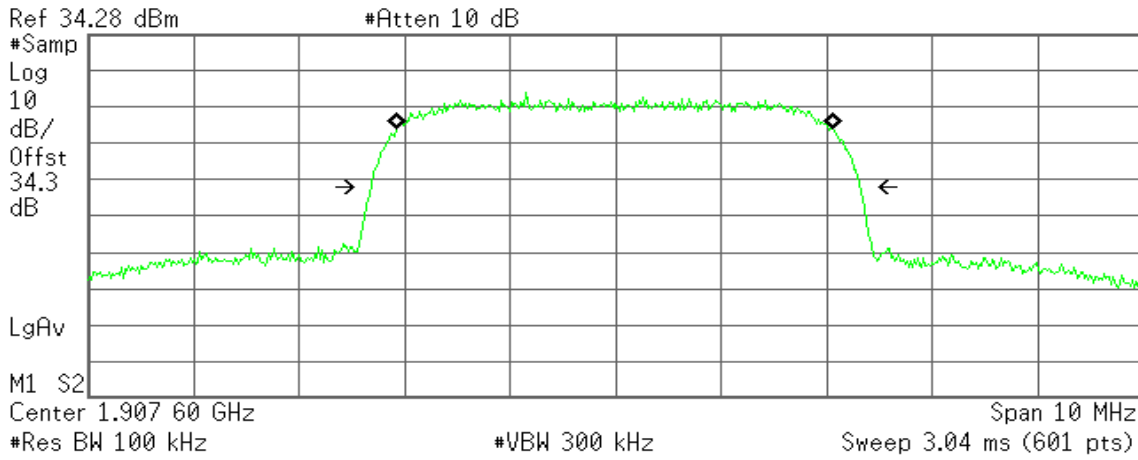
Transmit Freq Error -1.934 kHz
x dB Bandwidth 4.672 MHz*



WCDMA / HSUPA Band II (CH High)

Agilent 11:42:10 Dec 18, 2011

R T



Occupied Bandwidth
4.1533 MHz

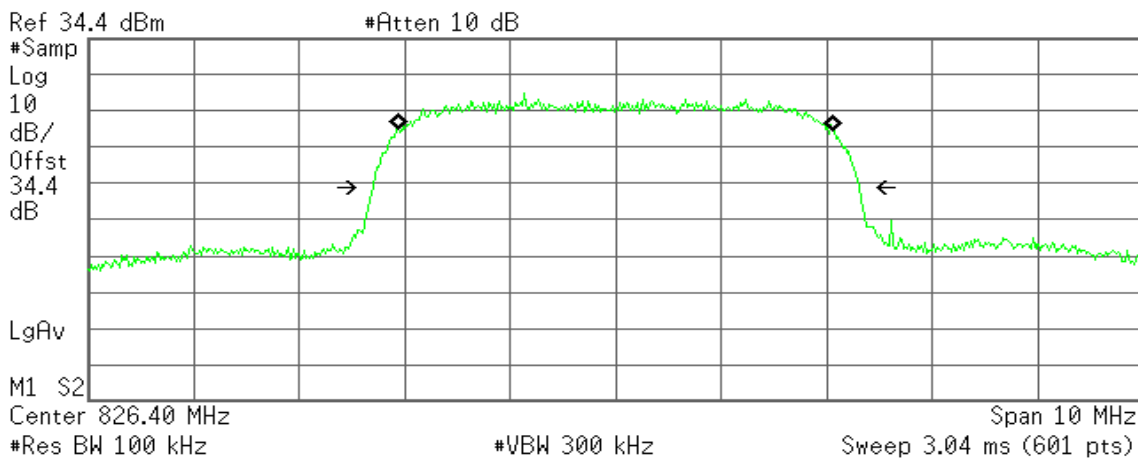
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -5.466 kHz
x dB Bandwidth 4.647 MHz*

WCDMA / HSUPA Band V (CH Low)

Agilent 11:47:37 Dec 18, 2011

R T



Occupied Bandwidth
4.1418 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

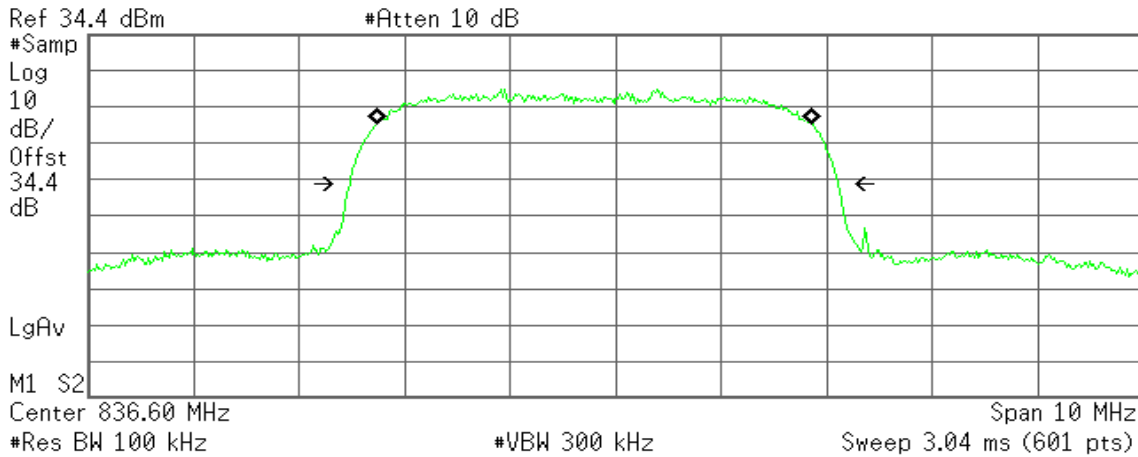
Transmit Freq Error -2.683 kHz
x dB Bandwidth 4.626 MHz*



WCDMA / HSUPA Band V (CH Mid)

Agilent 11:54:51 Dec 18, 2011

R T



Occupied Bandwidth
4.1183 MHz

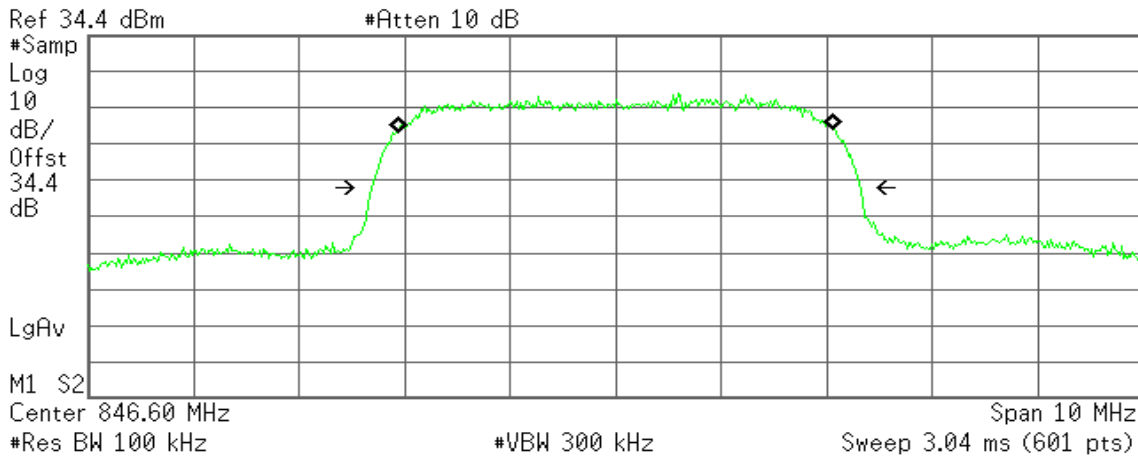
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -208.585 kHz
x dB Bandwidth 4.638 MHz*

WCDMA / HSUPA Band V (CH High)

Agilent 11:46:07 Dec 18, 2011

R T



Occupied Bandwidth
4.1360 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 2.175 kHz
x dB Bandwidth 4.641 MHz*

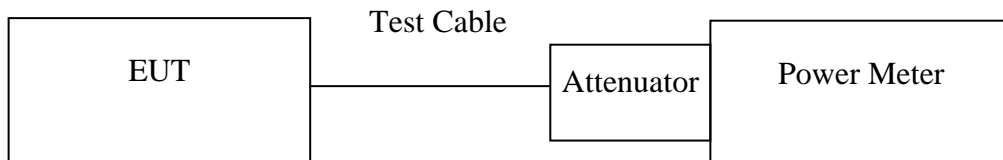


7.2 PEAK POWER

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)
GSM 850 (Class B)	128	824.20	33.50
	190	836.60	33.50
	251	848.80	33.40
GPRS 850 (Class 12)	128	824.20	29.90
	190	836.60	30.10
	251	848.80	30.00
EDGE 850 (Class 12)	128	824.20	26.90
	190	836.60	26.80
	251	848.80	26.60

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
GSM 1900 (Class B)	512	1850.20	29.00
	661	1880.00	28.60
	810	1909.80	28.60
GPRS 1900 (Class 12)	512	1850.20	26.10
	661	1880.00	25.60
	810	1909.80	25.60
EDGE 1900 (Class 12)	512	1850.20	24.80
	661	1880.00	24.70
	810	1909.80	24.40

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



Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
WCDMA (BAND II)	9262	1852.40	26.54
	9400	1880.00	26.41
	9538	1907.60	26.37
WCDMA (BAND V)	4132	826.40	27.17
	4182	836.40	27.24
	4233	846.60	27.05

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
WCDMA / HSDPA (BAND II)	9262	1852.40	27.14
	9400	1880.00	27.16
	9538	1907.60	26.70
WCDMA / HSDPA (BAND V)	4132	826.40	27.18
	4182	836.40	27.15
	4233	846.60	27.05

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
WCDMA / HSUPA (BAND II)	9262	1852.40	26.72
	9400	1880.00	26.49
	9538	1907.60	26.49
WCDMA / HSUPA (BAND V)	4132	826.40	27.13
	4182	836.40	27.28
	4233	846.60	27.25

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

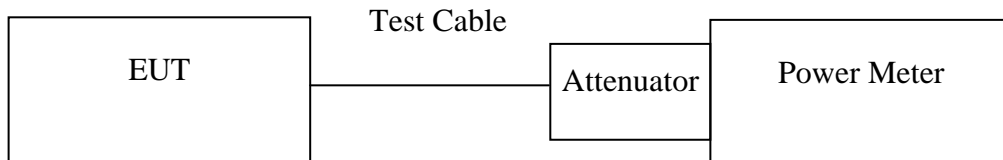


7.3 AVERAGE POWER

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)
GSM 850 (Class 12)	128	824.20	32.70
	190	836.60	32.80
	251	848.80	32.70
GPRS 850 (Class 12)	128	824.20	23.88
	190	836.60	24.08
	251	848.80	23.98
EDGE 850 (Class 12)	128	824.20	20.88
	190	836.60	20.78
	251	848.80	20.58

Test Mode	CH	Frequency (MHz)	Average Power (dBm)
GSM 1900 (Class 12)	512	1850.20	28.80
	661	1880.00	28.40
	810	1909.80	28.40
GPRS 1900 (Class 12)	512	1850.20	20.08
	661	1880.00	19.58
	810	1909.80	19.58
EDGE 1900 (Class 12)	512	1850.20	18.78
	661	1880.00	18.68
	810	1909.80	18.38

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



Test Mode	CH	Frequency (MHz)	Average Power (dBm)
WCDMA (BAND II)	9262	1852.40	23.33
	9400	1880.00	23.18
	9538	1907.60	23.63
WCDMA (BAND V)	4132	826.40	23.71
	4182	836.40	23.66
	4233	846.60	23.50

Test Mode	CH	Frequency (MHz)	Average Power (dBm)
WCDMA / HSDPA (BAND II)	9262	1852.40	23.46
	9400	1880.00	23.48
	9538	1907.60	23.56
WCDMA / HSDPA (BAND V)	4132	826.40	23.24
	4182	836.40	23.26
	4233	846.60	23.32

Test Mode	CH	Frequency (MHz)	Average Power (dBm)
WCDMA / HSUPA (BAND II)	9262	1852.40	23.14
	9400	1880.00	22.84
	9538	1907.60	23.03
WCDMA / HSUPA (BAND V)	4132	826.40	23.15
	4182	836.40	23.33
	4233	846.60	23.40

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



7.4 ERP & EIRP MEASUREMENT

LIMIT

According to FCC §2.1046

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

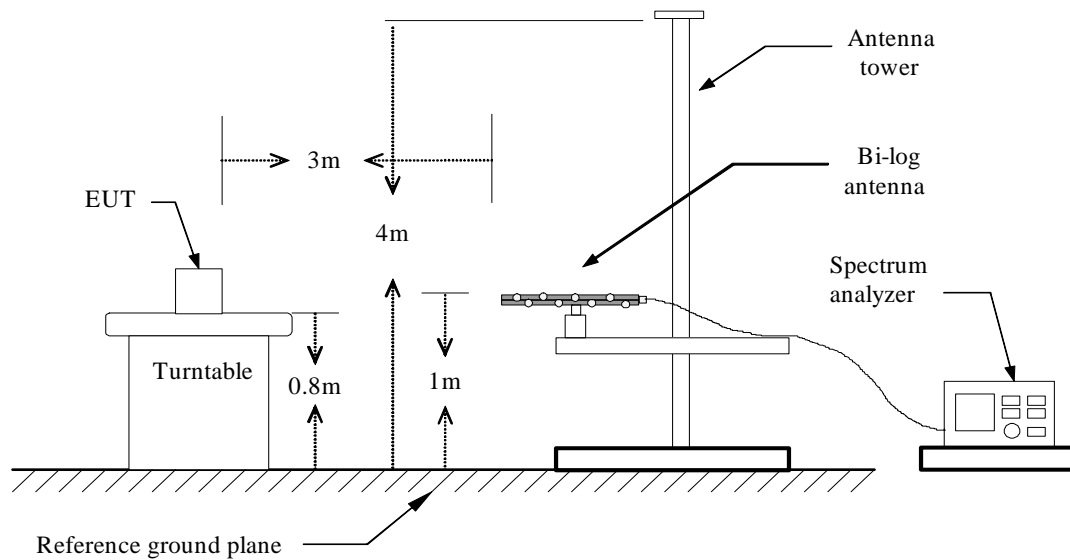
RSS-132 § 4.4 The maximum (ERP) shall be 6.3 Watts for mobile stations.

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

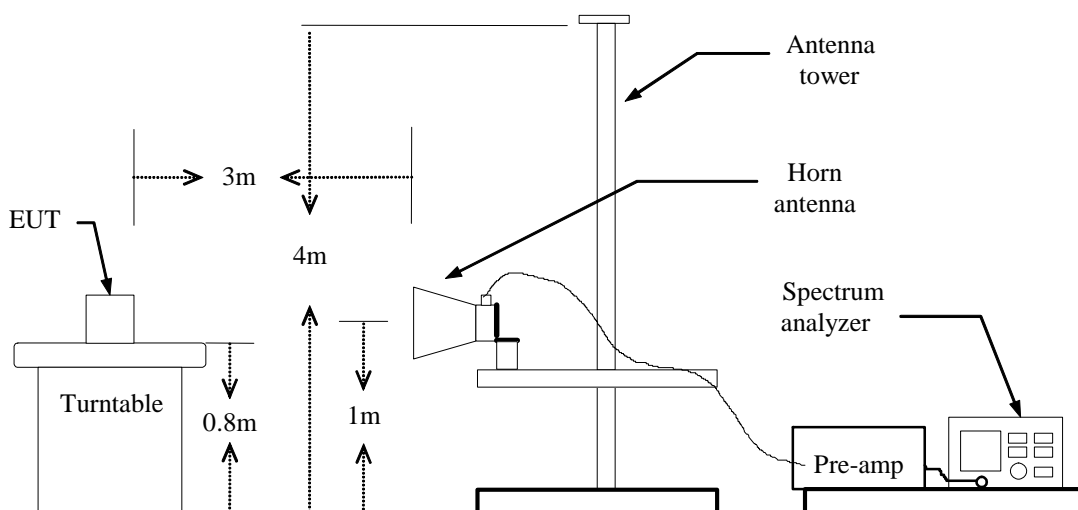
RSS133 § 6.4: Mobile stations and hand-held portables are limited to 2 watts maximum (EIRP).

Test Configuration

Below 1 GHz

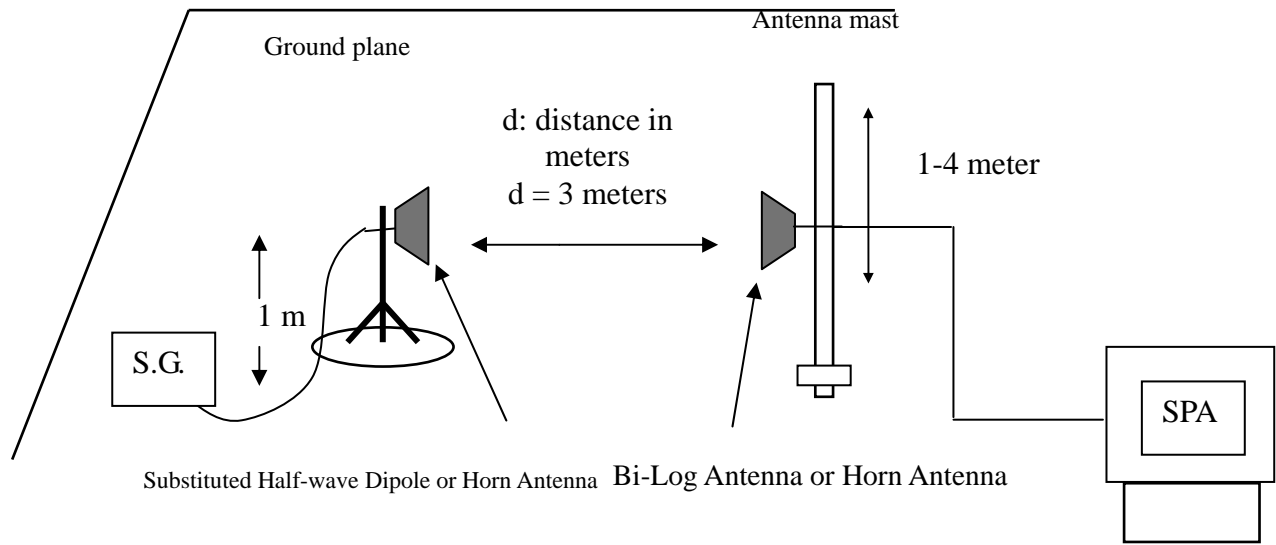


Above 1 GHz





For Substituted Method Test Set-UP



TEST PROCEDURE

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

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

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

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

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

TEST RESULTS

No non-compliance noted.

**GSM 850 Test Data**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	128	824.20	V	25.8	3.39	6.24	28.65	38.45	-9.80
		824.20	H	20.82	3.39	6.24	23.67	38.45	-14.78
	190	836.60	V	25.75	3.4	6.37	28.72	38.45	-9.73
		836.60	H	20.68	3.4	6.36	23.64	38.45	-14.81
	251	848.80	V	26.62	3.4	6.4	*29.62	38.45	-8.83
		848.80	H	21.12	3.4	6.4	24.12	38.45	-14.33

GPRS 850 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	128	824.20	V	25.79	3.39	6.24	28.64	38.45	-9.81
		824.20	H	21.33	3.39	6.24	24.18	38.45	-14.27
	190	836.60	V	25.42	3.4	6.37	28.39	38.45	-10.06
		836.60	H	20.23	3.4	6.37	23.20	38.45	-15.25
	251	848.80	V	26.2	3.4	6.4	*29.20	38.45	-9.25
		848.80	H	20.61	3.4	6.4	23.61	38.45	-14.84

GSM 1900 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	512	1850.20	V	22.13	5.37	5.67	22.43	33.00	-10.57
		1850.20	H	25.8	5.37	5.67	*26.10	33.00	-6.90
	661	1880.00	V	21.03	5.42	5.62	21.23	33.00	-11.77
		1880.00	H	25.19	5.42	5.62	25.39	33.00	-7.61
	810	1909.80	V	22.27	5.48	5.56	22.35	33.00	-10.65
		1909.80	H	25.93	5.48	5.56	26.01	33.00	-6.99

GPRS 1900 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	512	1850.20	V	22.42	5.37	5.67	22.72	33.00	-10.28
		1850.20	H	26.07	5.37	5.67	26.37	33.00	-6.63
	661	1880.00	V	21.61	5.42	5.62	21.81	33.00	-11.19
		1880.00	H	25.55	5.42	5.62	25.75	33.00	-7.25
	810	1909.80	V	22.53	5.48	5.56	22.61	33.00	-10.39
		1909.80	H	26.31	5.48	5.56	*26.39	33.00	-6.61

**EDGE 850 Test Data**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	128	824.20	V	18.83	3.39	6.24	21.68	38.45	-16.77
		824.20	H	13.88	3.39	6.24	16.73	38.45	-21.72
	190	836.60	V	19.13	3.4	6.36	22.09	38.45	-16.36
		836.60	H	13.53	3.4	6.37	16.50	38.45	-21.95
	251	848.80	V	19.98	3.4	6.4	*22.98	38.45	-15.47
		848.80	H	13.99	3.4	6.4	16.99	38.45	-21.46

EDGE 1900 TEST DATA

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	512	1850.20	V	18.45	5.37	5.67	18.75	33.00	-14.25
		1850.20	H	23.88	5.37	5.67	*24.18	33.00	-8.82
	661	1880.00	V	17.52	5.42	5.62	17.72	33.00	-15.28
		1880.00	H	21.37	5.42	5.62	21.57	33.00	-11.43
	810	1909.80	V	18.11	5.48	5.56	18.19	33.00	-14.81
		1909.80	H	21.52	5.48	5.56	21.60	33.00	-11.40

WCDMA BAND II Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Y	9262	1852.40	V	22.29	5.38	5.66	*22.57	33.00	-10.43
		1852.40	H	16.9	5.37	5.66	17.19	33.00	-15.81
	9400	1880.00	V	20.91	5.42	5.61	21.10	33.00	-11.90
		1880.00	H	14.82	5.42	5.61	15.01	33.00	-17.99
	9538	1907.60	V	20.87	5.47	5.57	20.97	33.00	-12.03
		1907.60	H	15.91	5.47	5.57	16.01	33.00	-16.99

WCDMA BAND V Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	4132	826.40	V	17.92	3.39	6.27	20.80	38.45	-17.65
		826.40	H	12.75	3.39	6.27	15.63	38.45	-22.82
	4182	836.40	V	17.67	3.4	6.36	20.63	38.45	-17.82
		836.40	H	12.17	3.4	6.36	15.13	38.45	-23.32
	4233	846.60	V	18.73	3.4	6.4	*21.73	38.45	-16.72
		846.60	H	12.83	3.4	6.4	15.83	38.45	-22.62

**HSDPA BAND II Test Data**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Y	9262	1852.40	V	22.25	5.38	5.66	*22.53	33.00	-10.47
		1852.40	H	16.94	5.37	5.66	17.23	33.00	-15.77
	9400	1880.00	V	20.94	5.42	5.61	21.13	33.00	-11.87
		1880.00	H	14.85	5.42	5.61	15.04	33.00	-17.96
	9538	1907.60	V	21	5.47	5.57	21.10	33.00	-11.90
		1907.60	H	16.1	5.47	5.57	16.20	33.00	-16.80

HSDPA BAND V Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	4132	826.40	V	17.93	3.39	6.27	20.81	38.45	-17.64
		826.40	H	12.66	3.39	6.26	15.53	38.45	-22.92
	4182	836.40	V	18.03	3.4	6.36	20.99	38.45	-17.46
		836.40	H	12.27	3.4	6.36	15.23	38.45	-23.22
	4233	846.60	V	18.79	3.4	6.4	*21.79	38.45	-16.66
		846.60	H	12.89	3.4	6.4	15.89	38.45	-22.56

HSUPA BAND II Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Y	9262	1852.40	V	22.36	5.38	5.66	*22.64	33.00	-10.36
		1852.40	H	16.88	5.37	5.66	17.17	33.00	-15.83
	9400	1880.00	V	21.02	5.42	5.61	21.21	33.00	-11.79
		1880.00	H	14.93	5.42	5.61	15.12	33.00	-17.88
	9538	1907.60	V	20.93	5.47	5.57	21.03	33.00	-11.97
		1907.60	H	15.79	5.47	5.57	15.89	33.00	-17.11

HSUDPA BAND V Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
Z	4132	826.40	V	17.88	3.39	6.26	20.75	38.45	-17.70
		826.40	H	12.62	3.39	6.27	15.50	38.45	-22.95
	4182	836.40	V	17.9	3.4	6.36	20.86	38.45	-17.59
		836.40	H	12.31	3.4	6.36	15.27	38.45	-23.18
	4233	846.60	V	18.77	3.4	6.4	*21.77	38.45	-16.68
		846.60	H	12.9	3.4	6.4	15.90	38.45	-22.55



7.5 OUT 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).

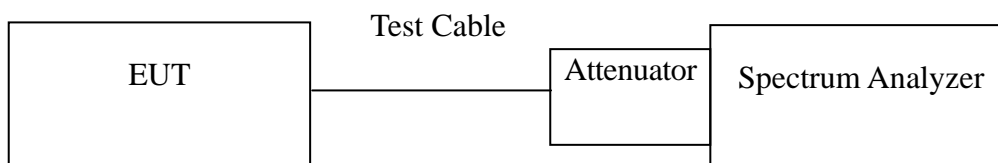
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

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

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

Test Configuration

Out of band emission at antenna terminals:



TEST PROCEDURE

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

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

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

TEST RESULTS

No non-compliance noted.



Test Data

Mode	CH	Location	Description
GSM 850 (Class 12)	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 (Class 12)	128	Figure 7-4	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 7-5	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 7-6	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
GSM 1900 (Class 12)	512	Figure 8-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 8-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 8-3	Conducted spurious emissions, 30MHz - 20GHz
GPRS 1900 (Class 12)	512	Figure 8-4	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 8-5	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 8-6	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
GSM 850 (Class 12)	128	Figure 9-1	Band Edge emissions
	251	Figure 9-2	Band Edge emissions
GPRS 850 (Class 12)	128	Figure 9-3	Band Edge emissions
	251	Figure 9-4	Band Edge emissions

Mode	CH	Location	Description
GSM 1900 (Class 12)	512	Figure 10-1	Band Edge emissions
	810	Figure 10-2	Band Edge emissions
GPRS 1900 (Class 12)	512	Figure 10-3	Band Edge emissions
	810	Figure 10-4	Band Edge emissions



Mode	CH	Location	Description
EDGE 850 (Class 12)	128	Figure 11-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 11-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 11-3	Conducted spurious emissions, 30MHz - 20GHz
EDGE 1900 (Class 12)	512	Figure 11-4	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 11-5	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 11-6	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
EDGE 850 (Class 12)	128	Figure 12-1	Band Edge emissions
	251	Figure 12-2	Band Edge emissions
EDGE 1900 (Class 12)	512	Figure 12-3	Band Edge emissions
	810	Figure 12-4	Band Edge emissions

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 13-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 13-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 13-3	Conducted spurious emissions, 30MHz - 20GHz
WCDMA (Band V)	4132	Figure 13-4	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 13-5	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 13-6	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 14-1	Band Edge emissions
	9538	Figure 14-2	Band Edge emissions
WCDMA (Band V)	4132	Figure 14-3	Band Edge emissions
	4233	Figure 14-4	Band Edge emissions



Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 15-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 15-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 15-3	Conducted spurious emissions, 30MHz - 20GHz
HSDPA WCDMA (Band V)	4132	Figure 15-4	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 15-5	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 15-6	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 16-1	Band Edge emissions
	9538	Figure 16-2	Band Edge emissions
HSDPA WCDMA (Band V)	4132	Figure 16-3	Band Edge emissions
	4233	Figure 16-4	Band Edge emissions

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 17-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 17-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 17-3	Conducted spurious emissions, 30MHz - 20GHz
HSUPA WCDMA (Band V)	4132	Figure 17-4	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 17-5	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 17-6	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 18-1	Band Edge emissions
	9538	Figure 18-2	Band Edge emissions
HSUPA WCDMA (Band V)	4132	Figure 18-3	Band Edge emissions
	4233	Figure 18-4	Band Edge emissions



Test Plot

GSM 850

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

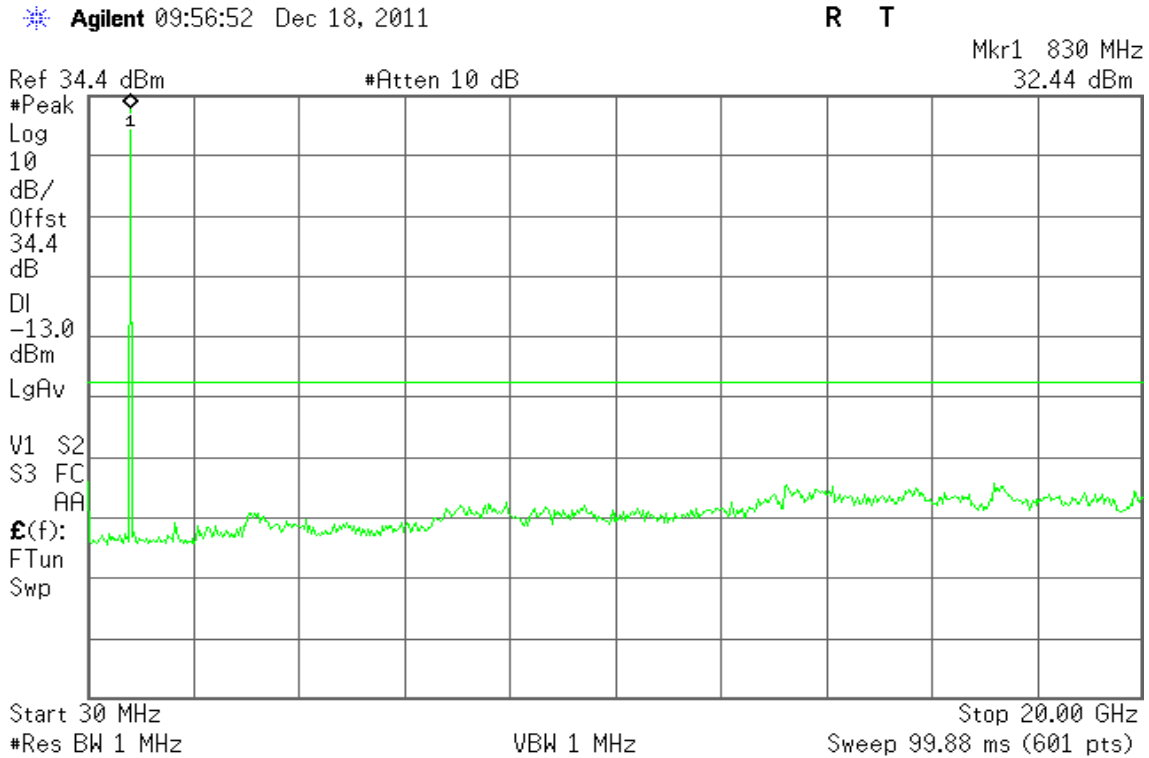


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

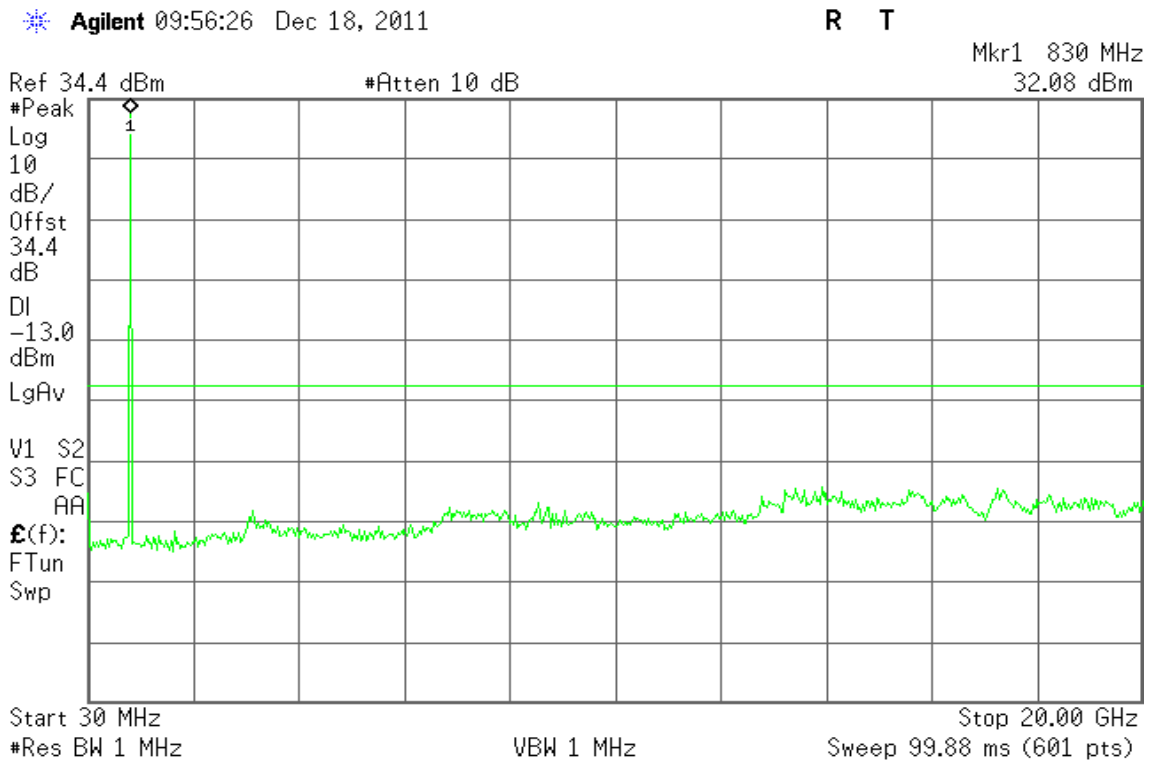
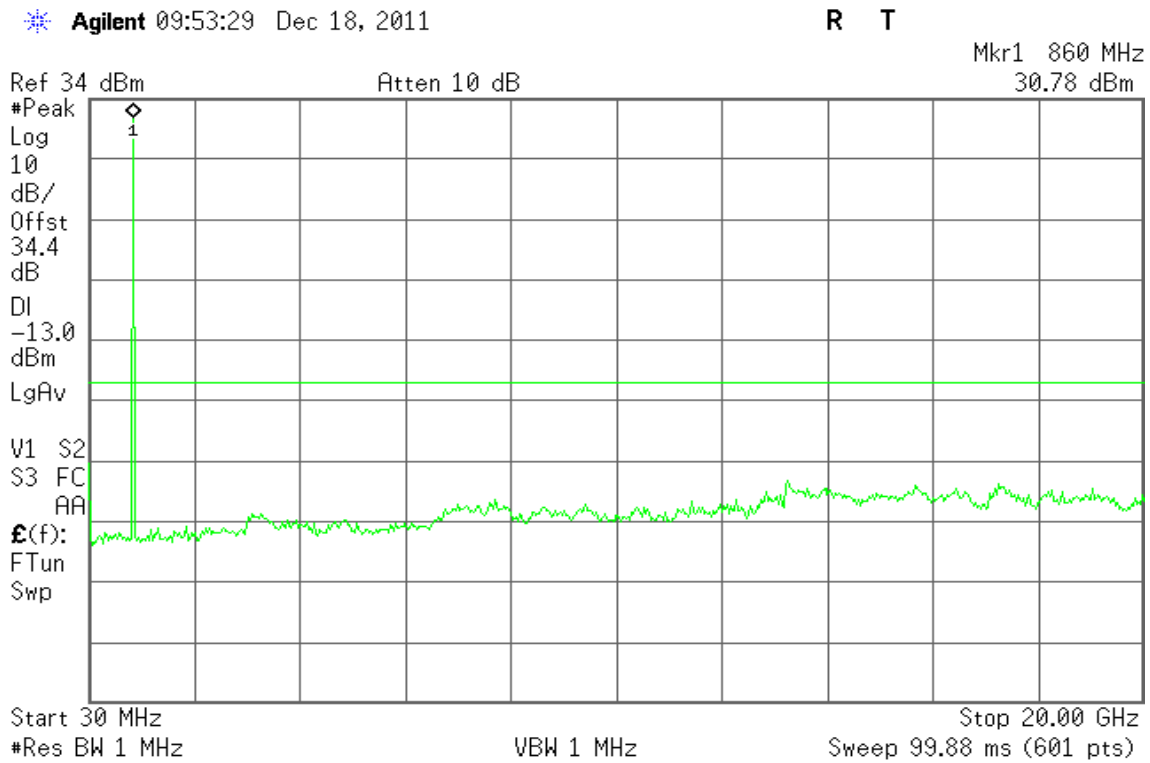




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

Figure 7-4: Out of Band emission at antenna terminals – GPRS CH Low

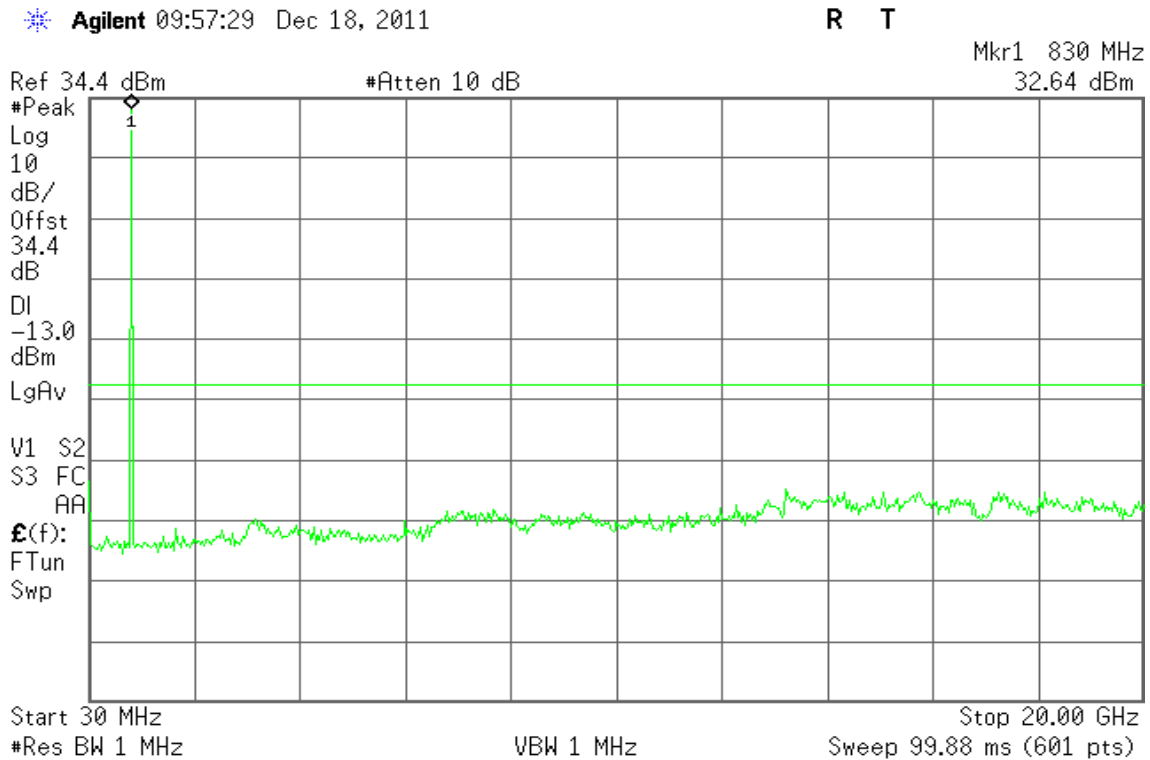




Figure 7-5: Out of Band emission at antenna terminals – GPRS CH Mid

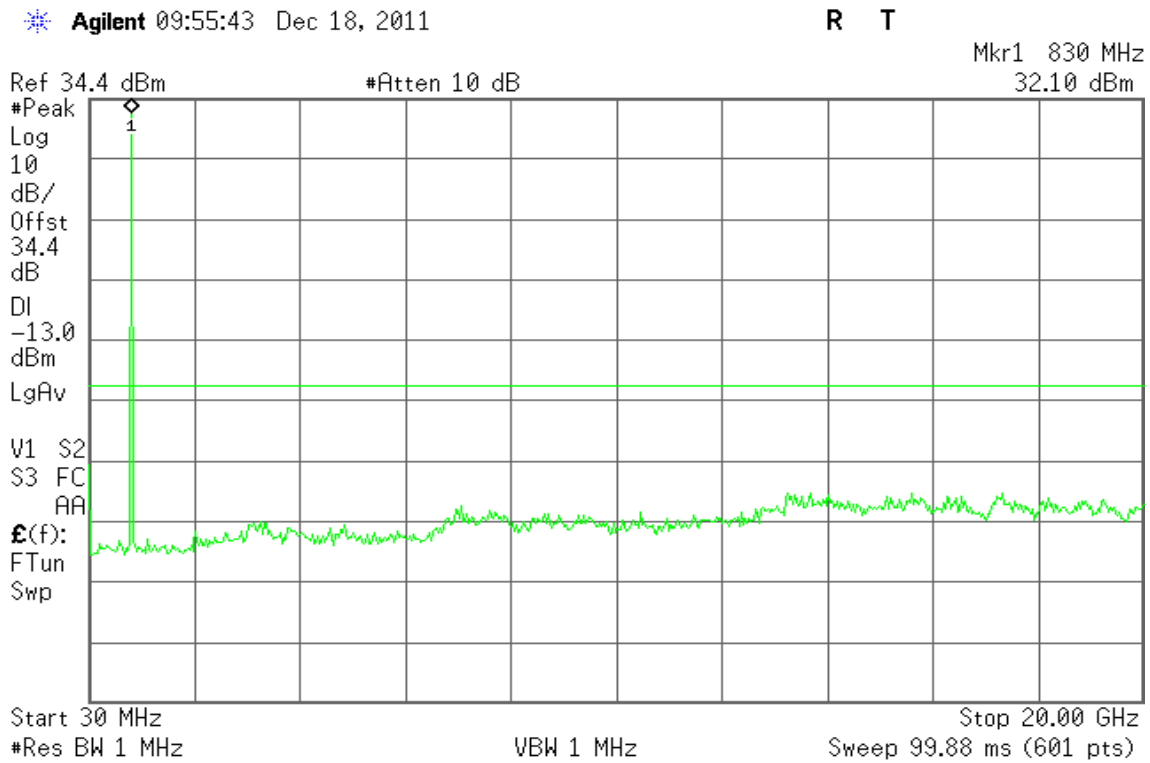
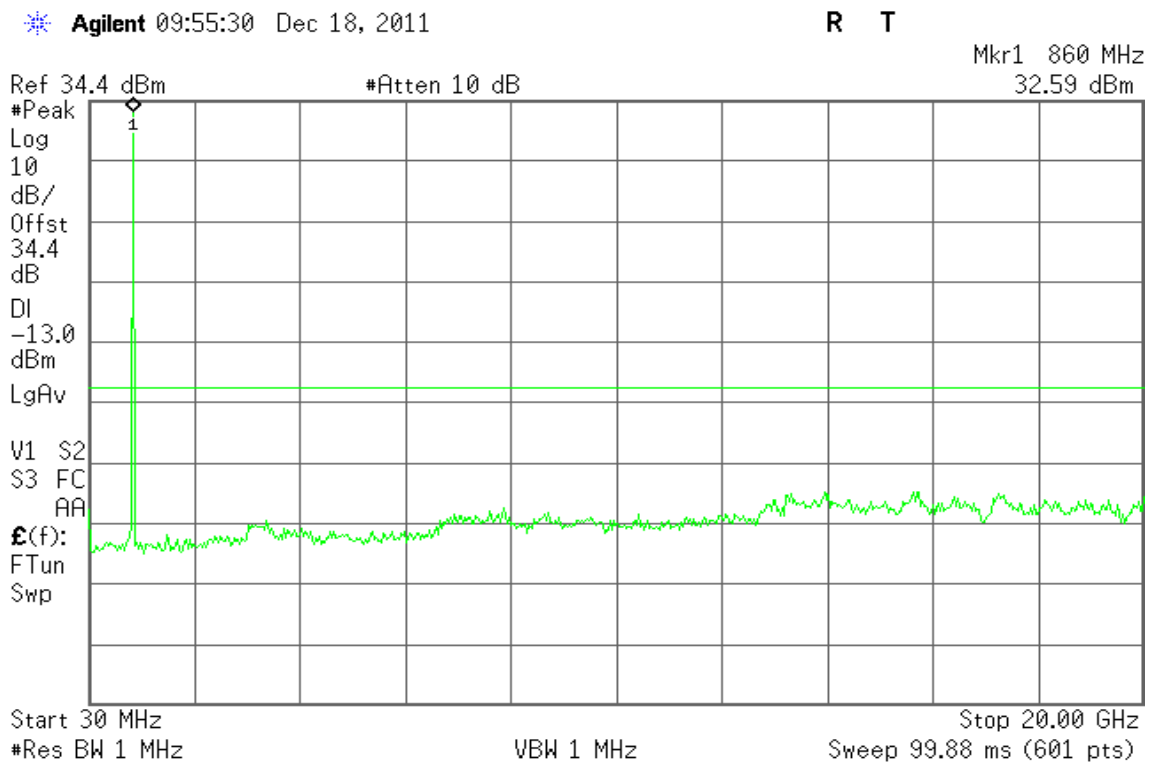


Figure 7-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 1900

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

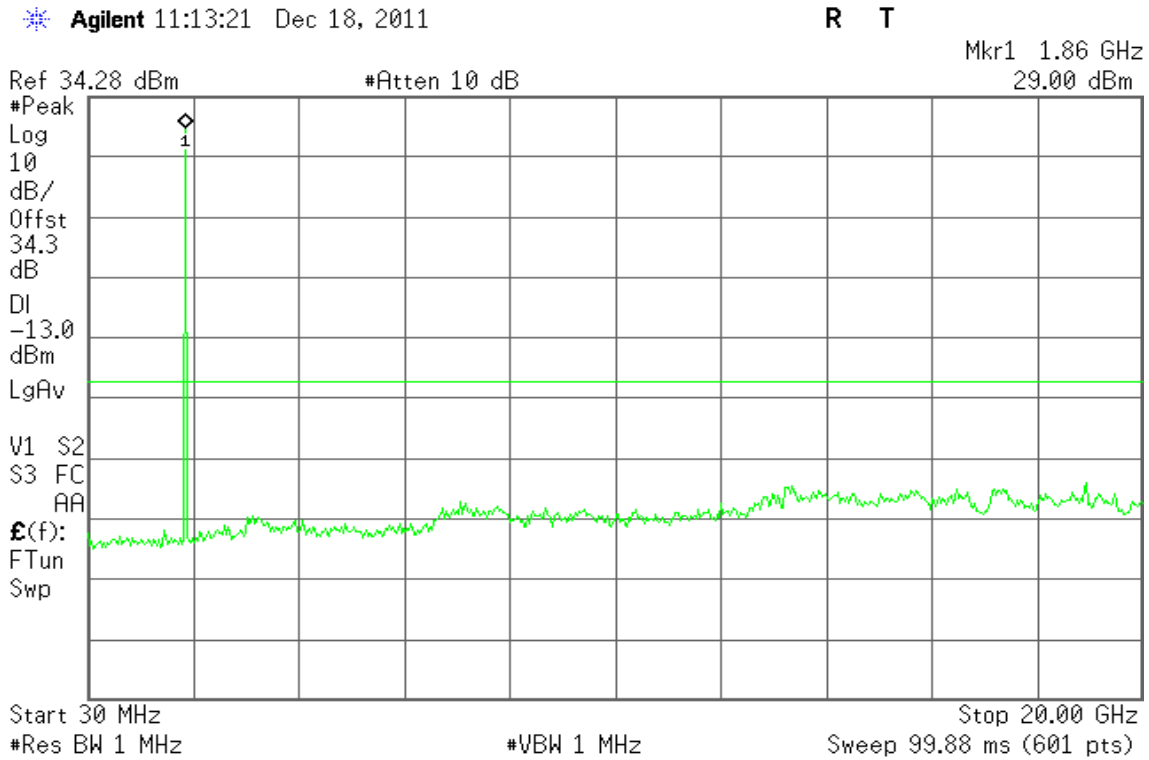


Figure 8-2: Out of Band emission at antenna terminals – GSM CH Mid

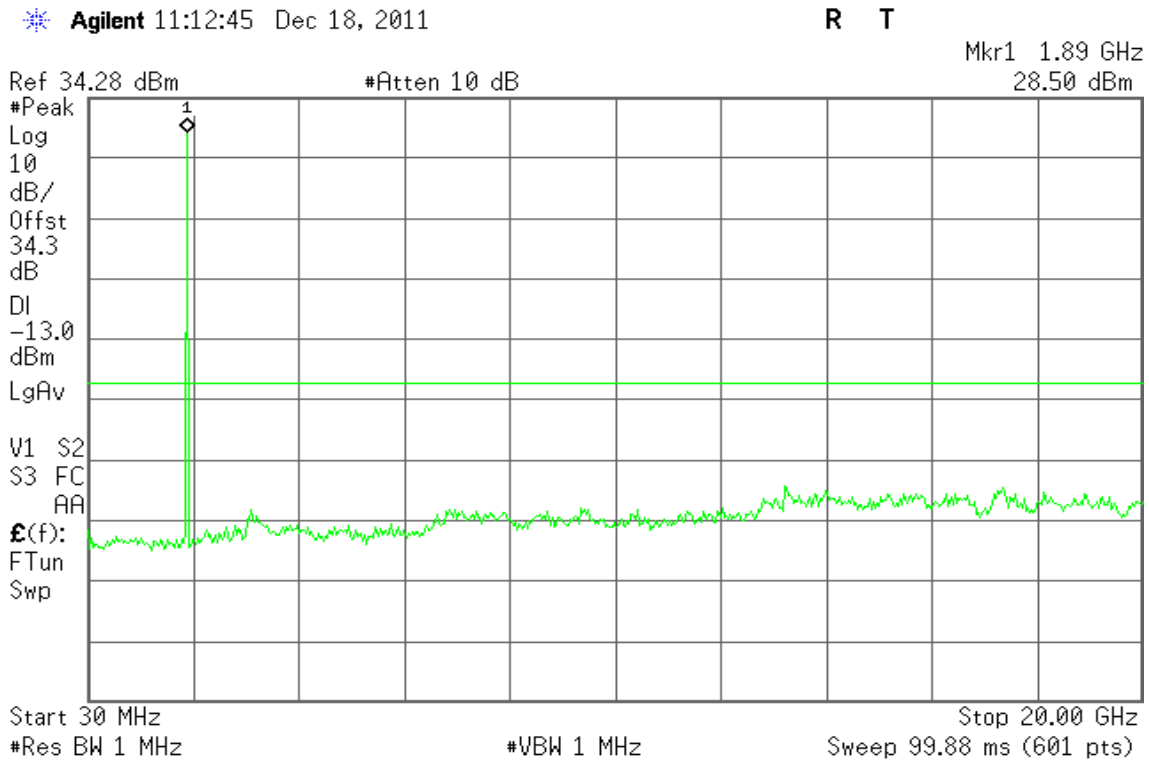
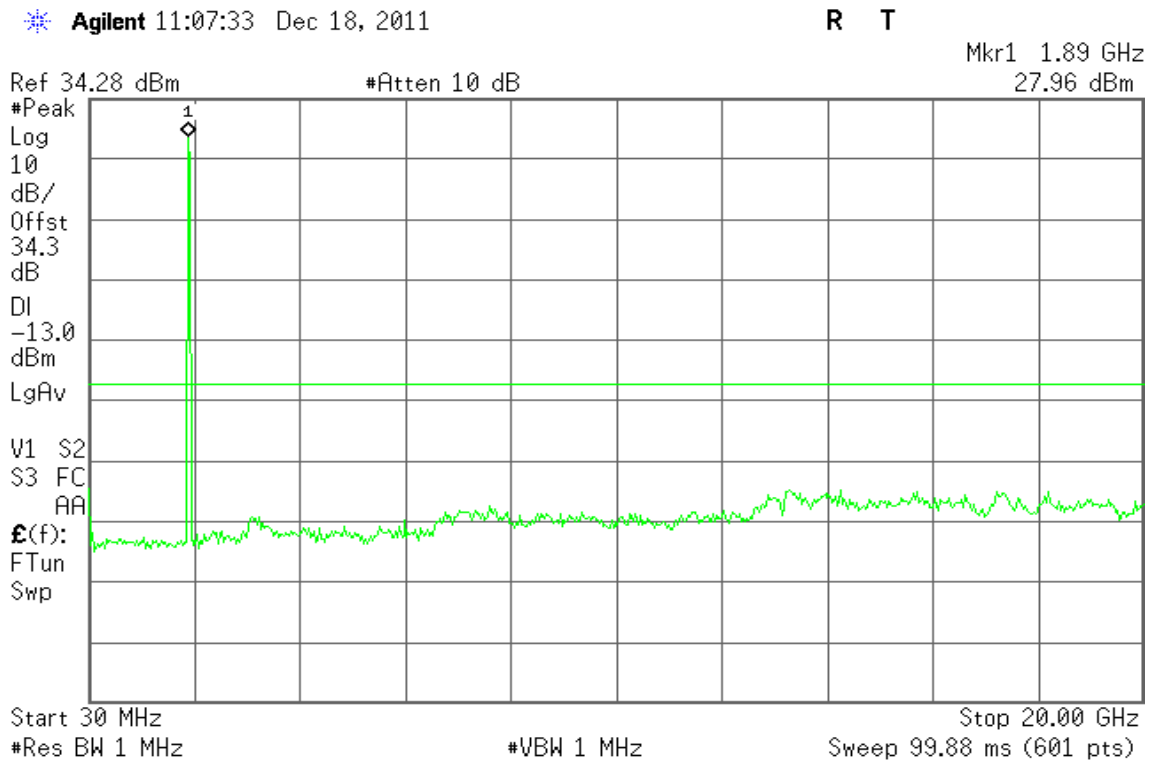




Figure 8-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

Figure 8-4: Out of Band emission at antenna terminals – GPRS CH Low

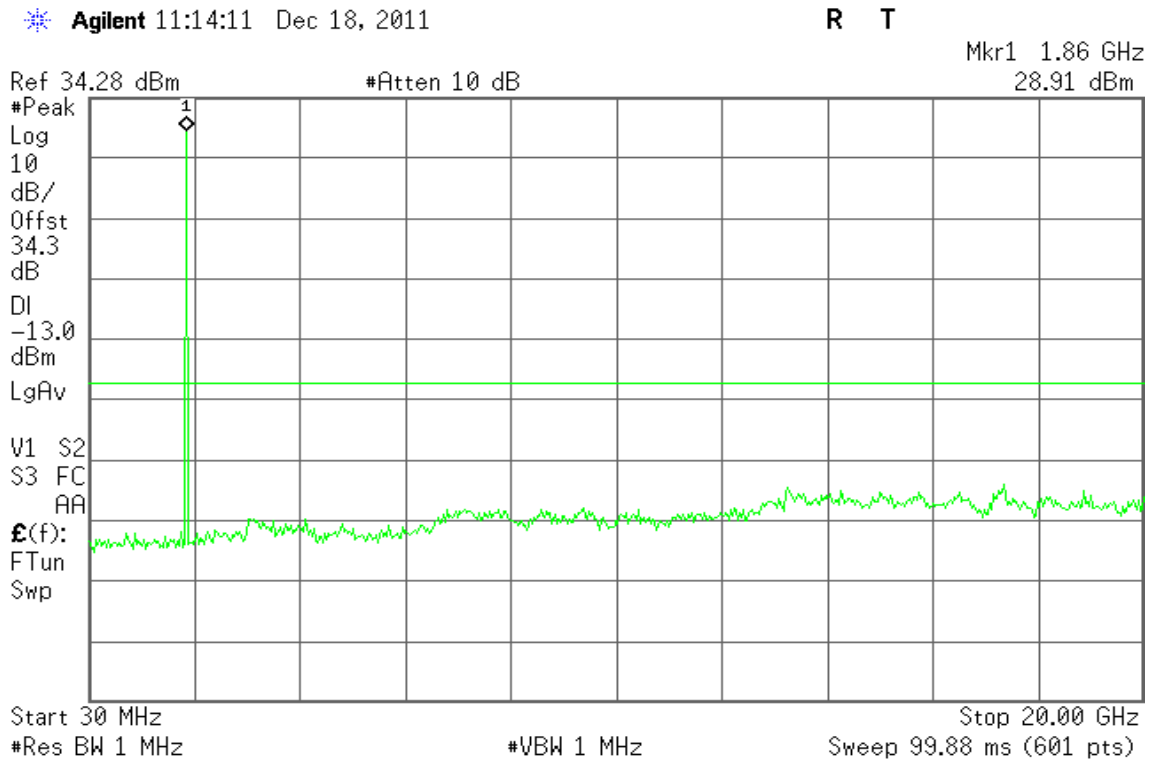




Figure 8-5: Out of Band emission at antenna terminals – GPRS CH Mid

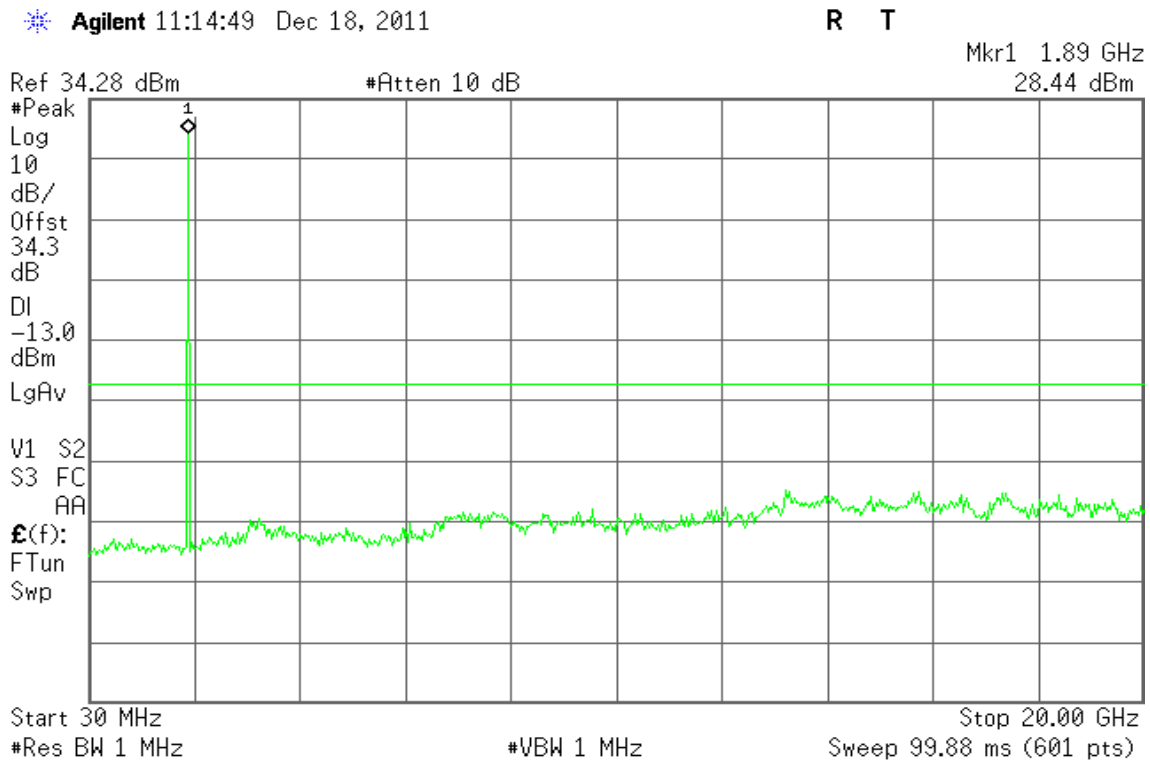
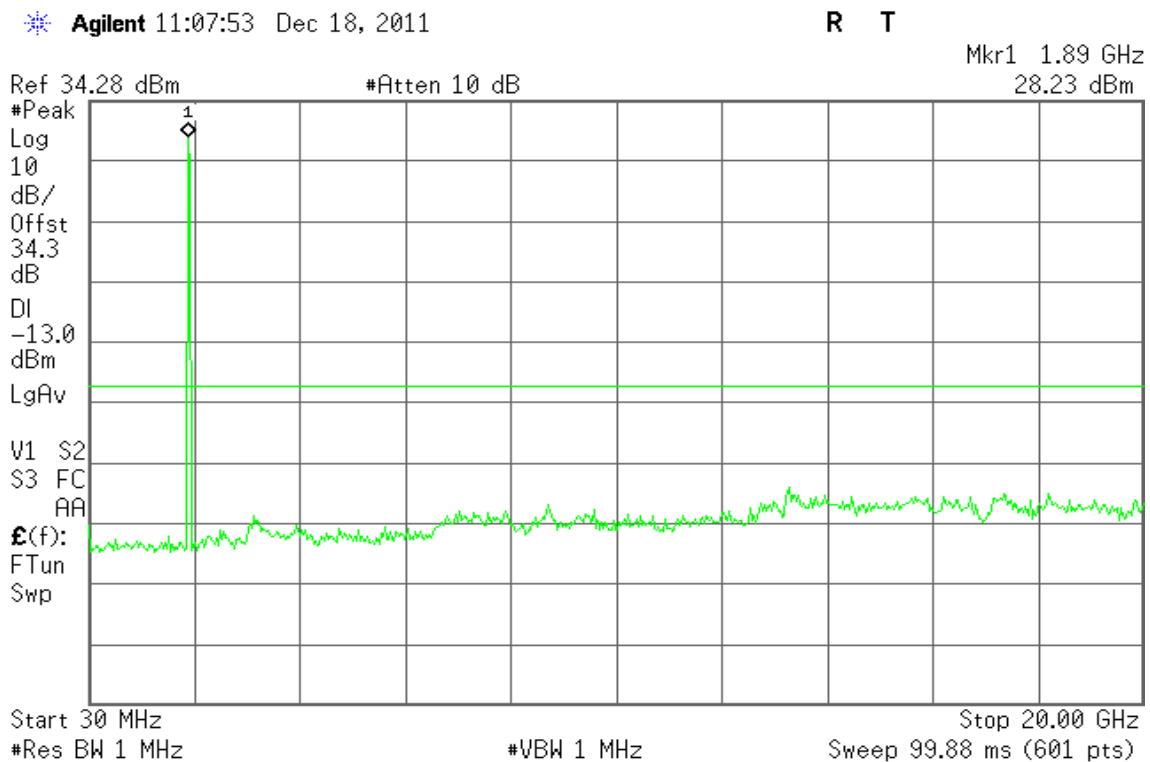


Figure 8-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 850

Figure 9-1: Band Edge emissions – GSM CH Low

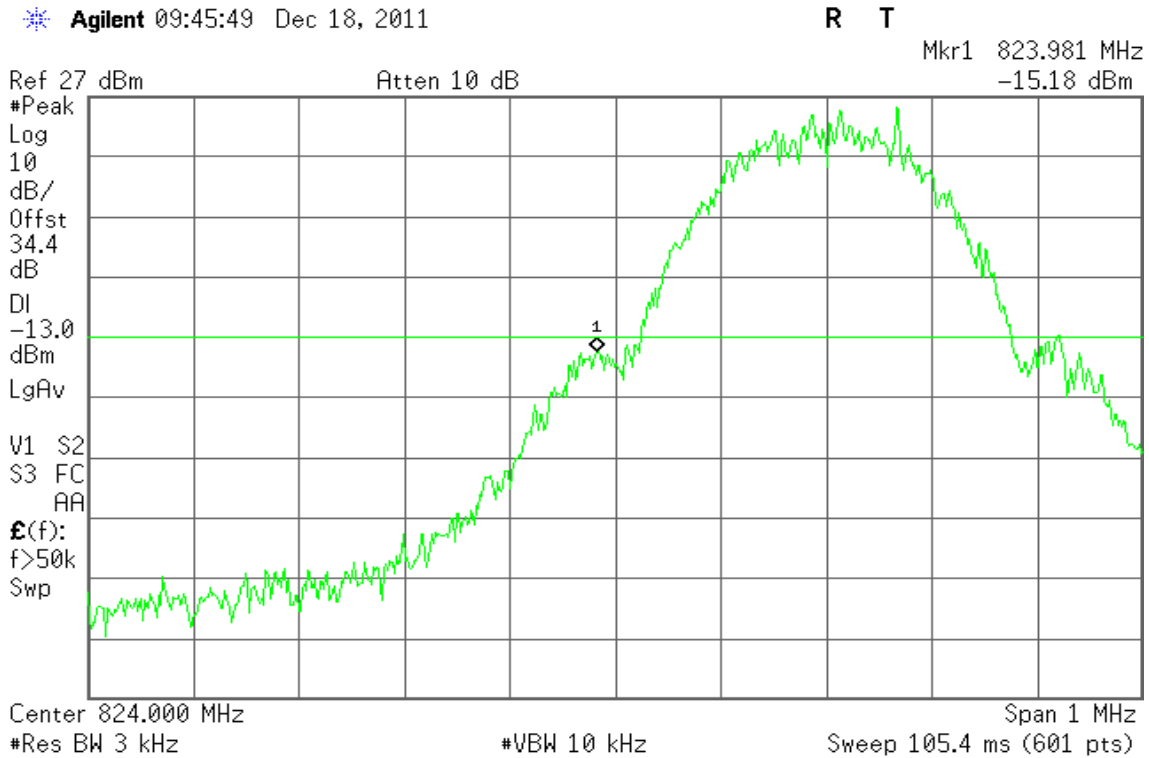
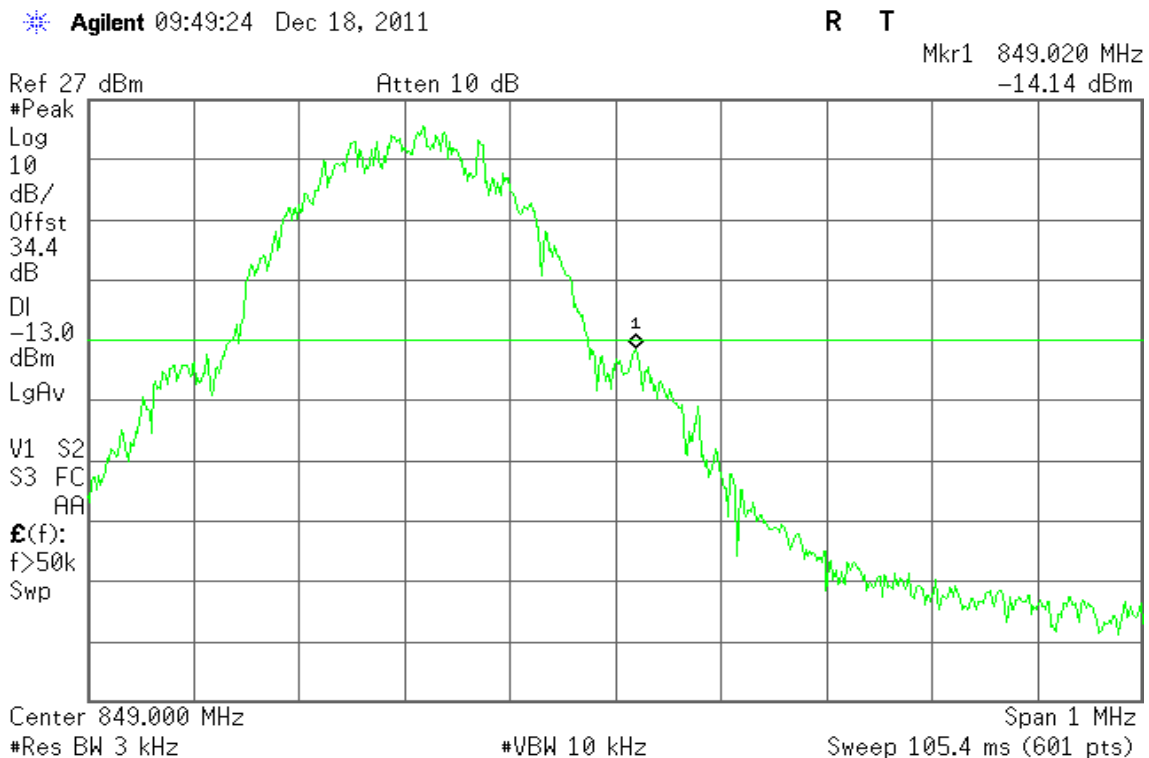


Figure 9-2: Band Edge emissions – GSM CH High





GPRS 850

Figure 9-3: Band Edge emissions – GPRS CH Low

Agilent 09:46:36 Dec 18, 2011

R T

Mkr1 823.975 MHz
-13.76 dBm

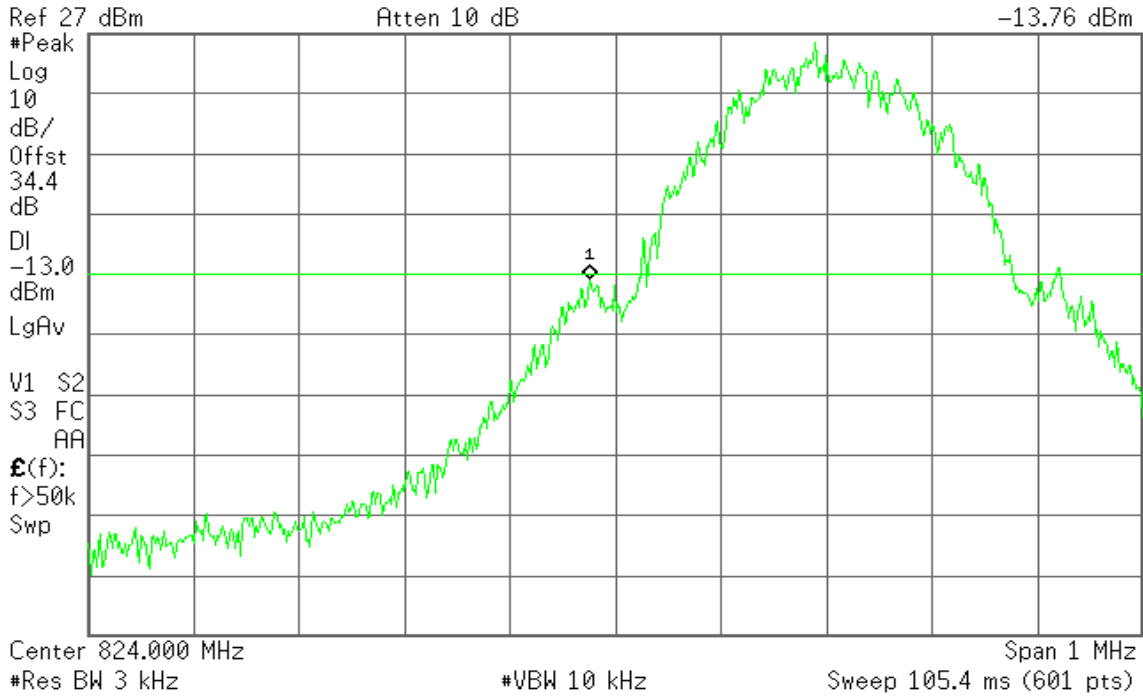
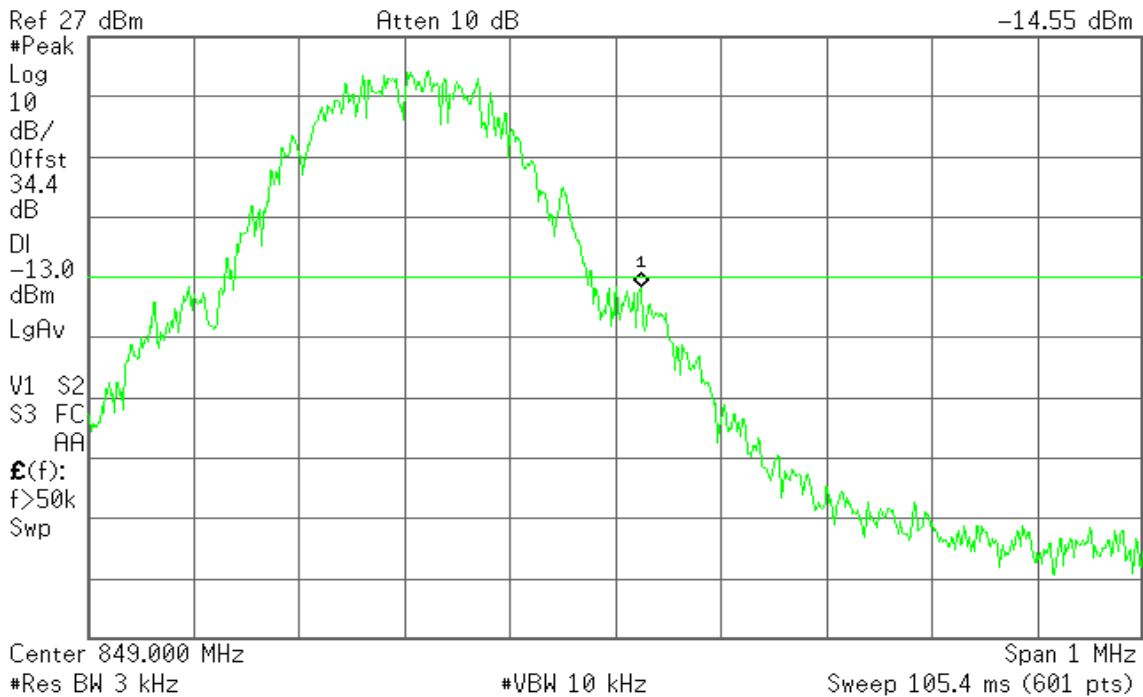


Figure 9-4: Band Edge emissions –GPRS CH High

Agilent 09:48:54 Dec 18, 2011

R T

Mkr1 849.025 MHz
-14.55 dBm





GSM 1900

Figure 10-1: Band Edge emissions – GSM CH Low

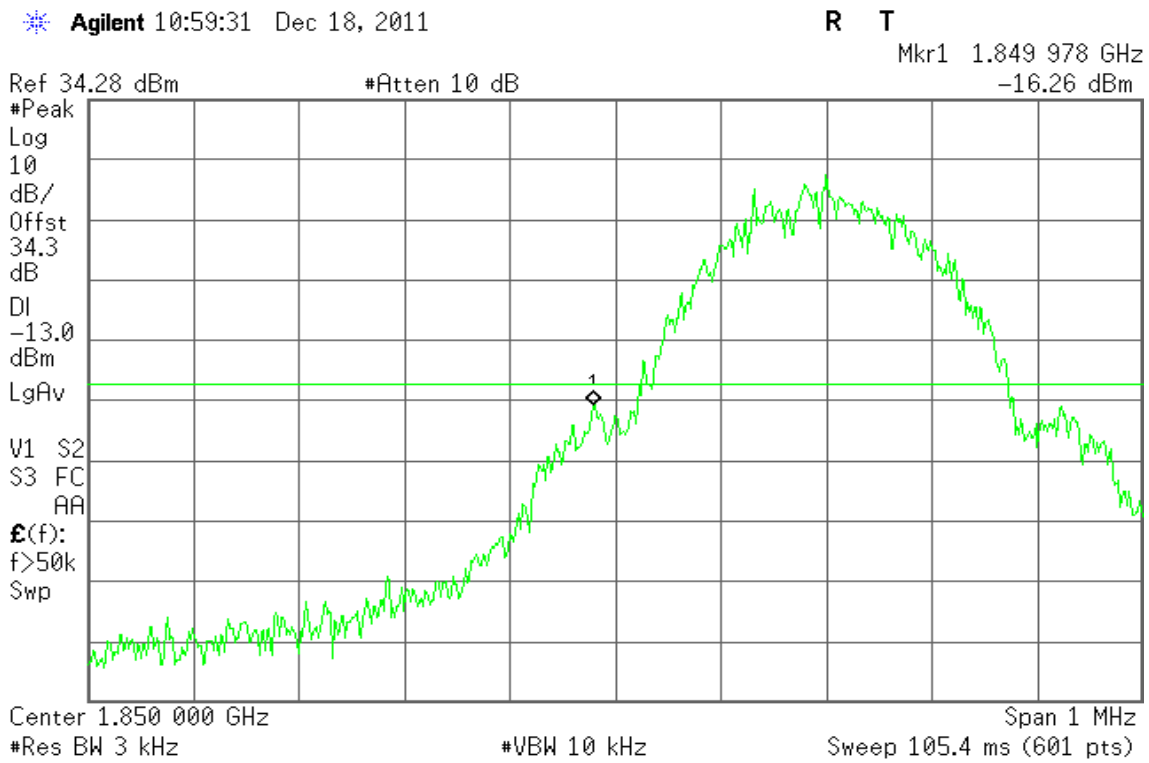
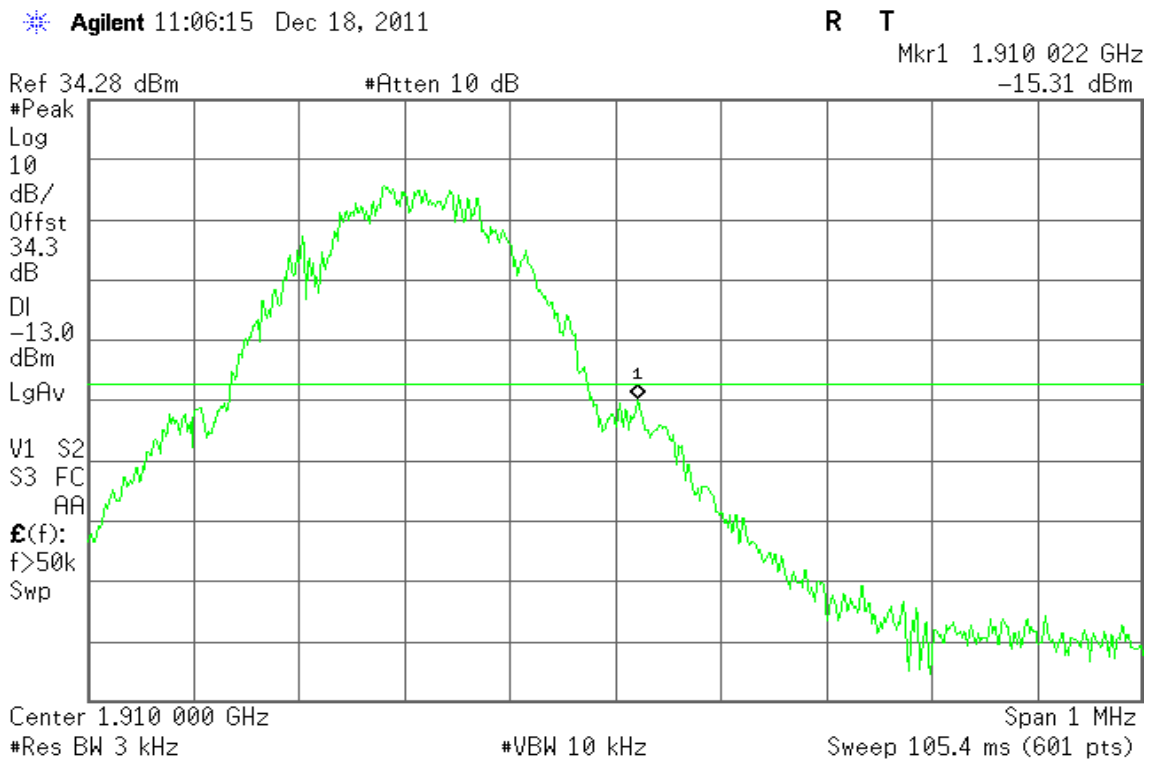


Figure 10-2: Band Edge emissions – GSM CH High





GPRS 1900

Figure 10-3: Band Edge emissions – GPRS CH Low

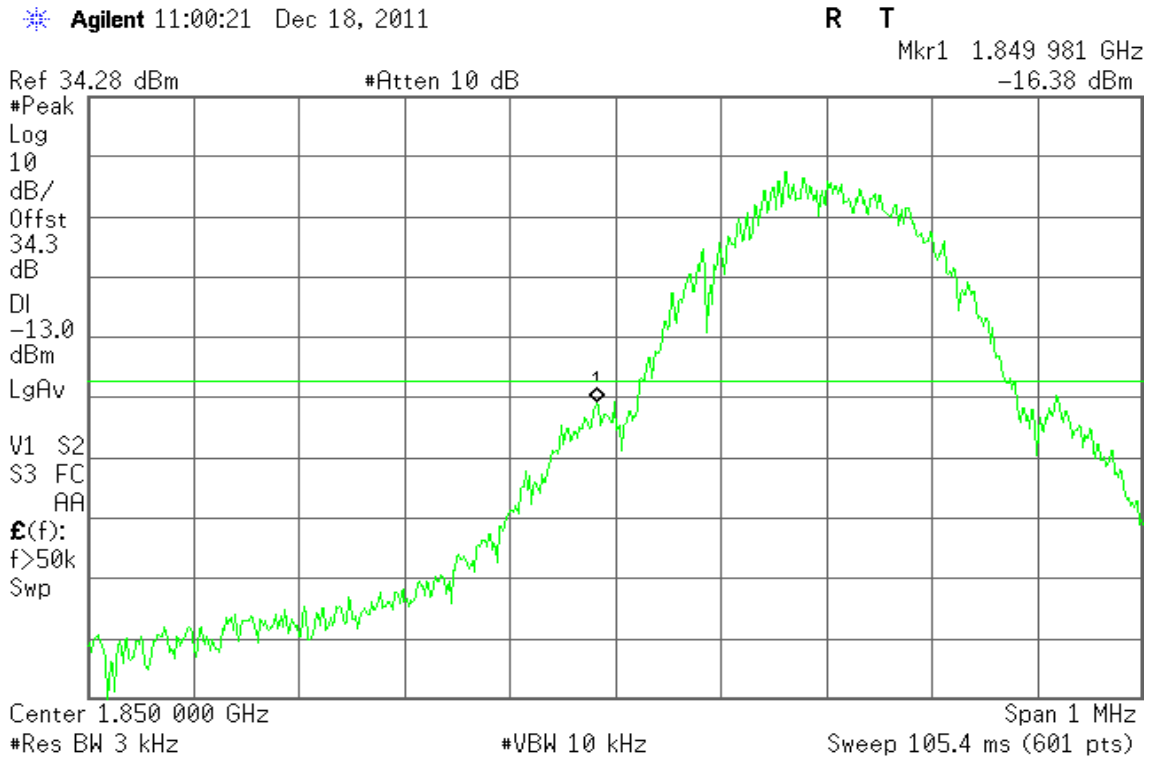
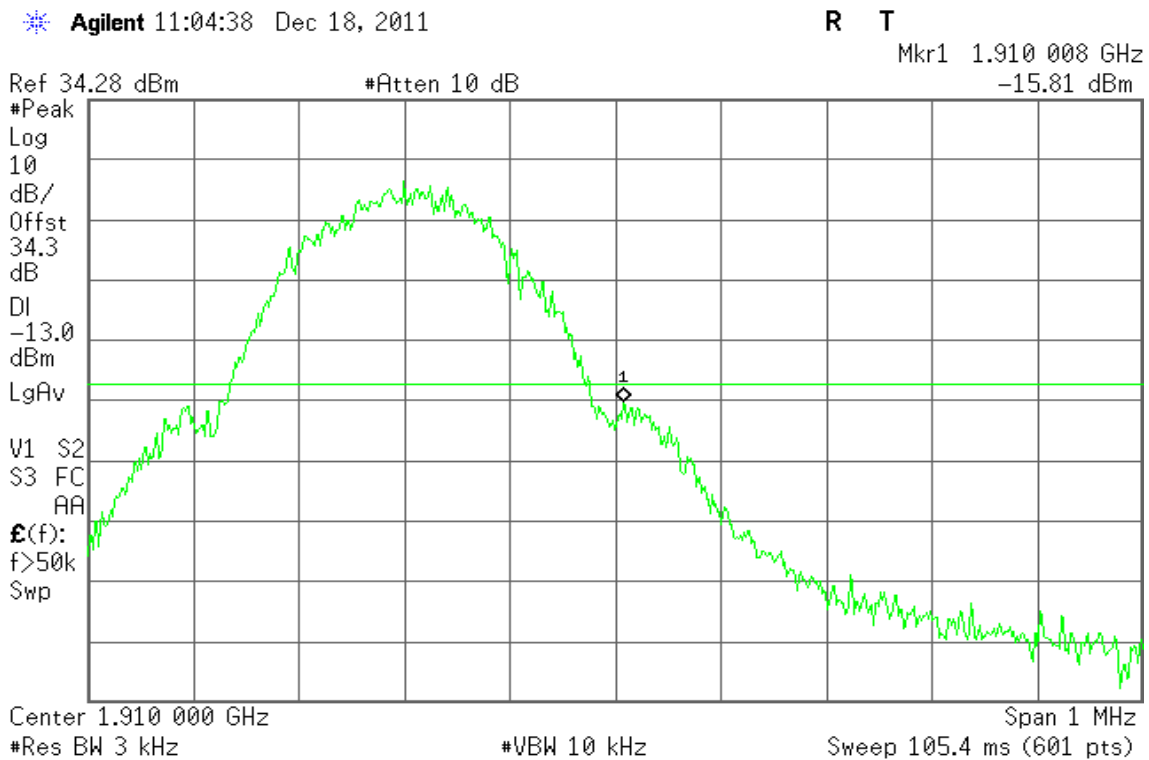


Figure 10-4: Band Edge emissions – GPRS CH High





EDGE 850

Figure 11-1: Out of Band emission at antenna terminals –EDGE CH Low

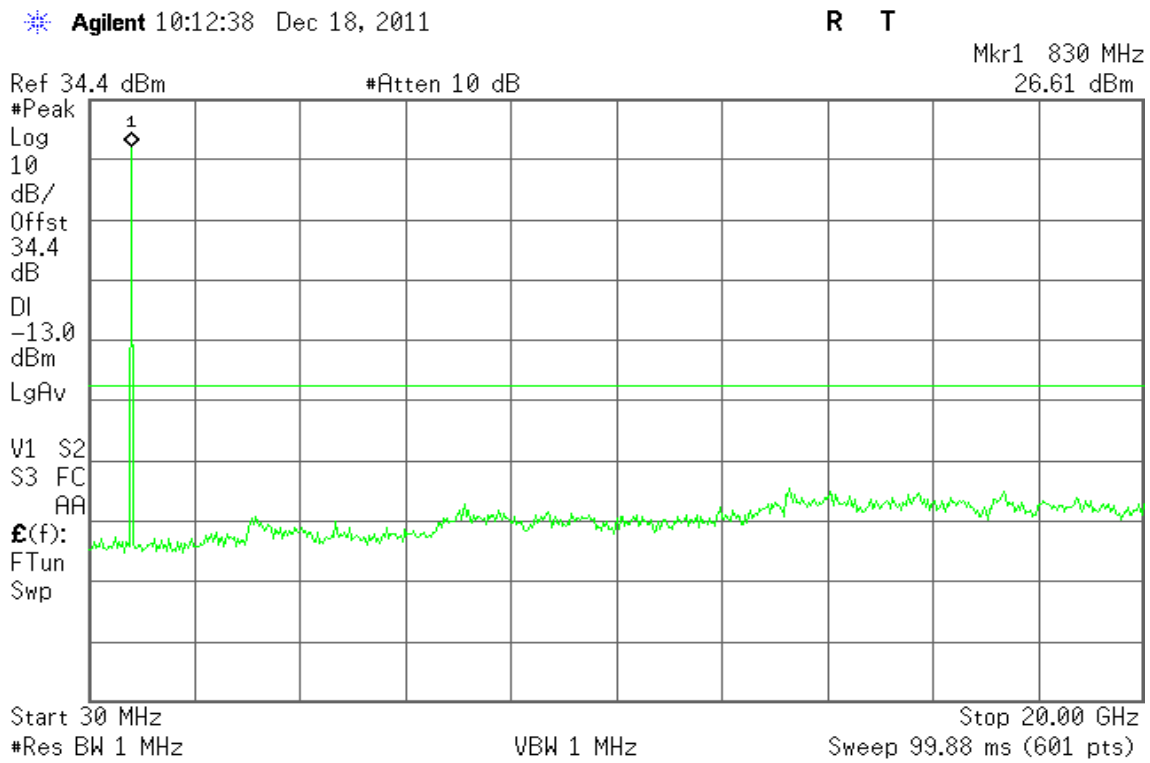


Figure 11-2: Out of Band emission at antenna terminals –EDGE CH Mid

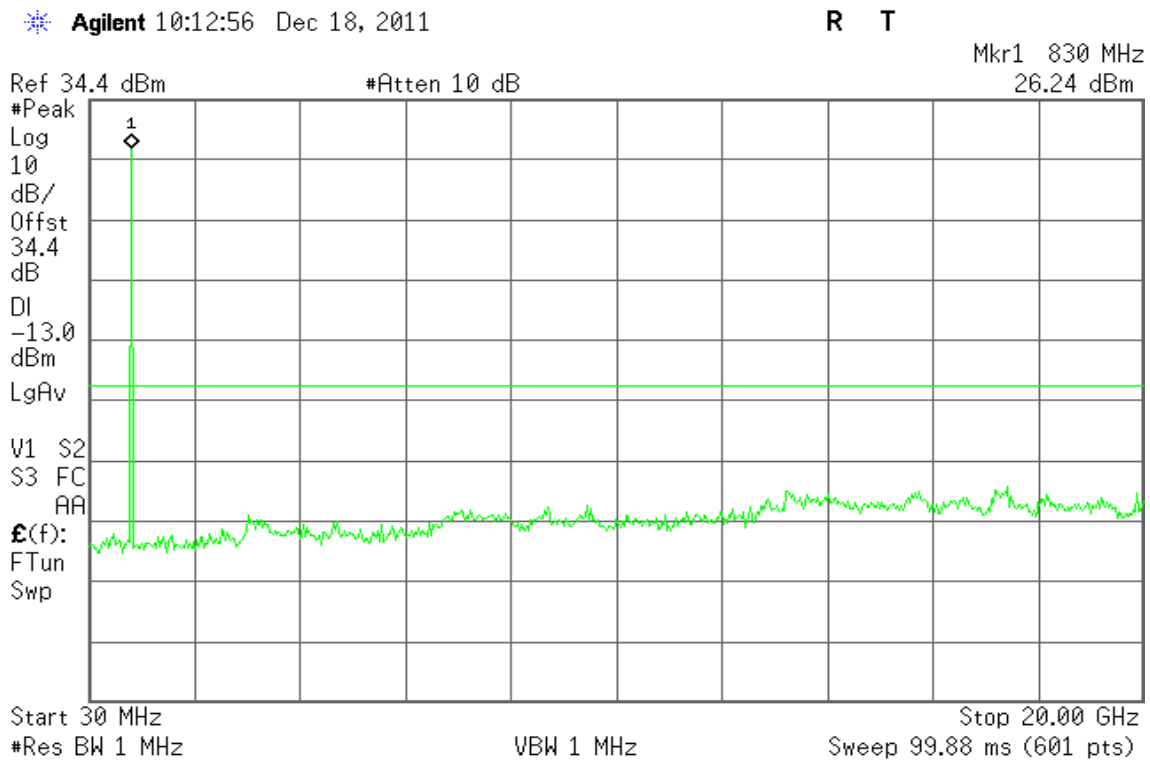


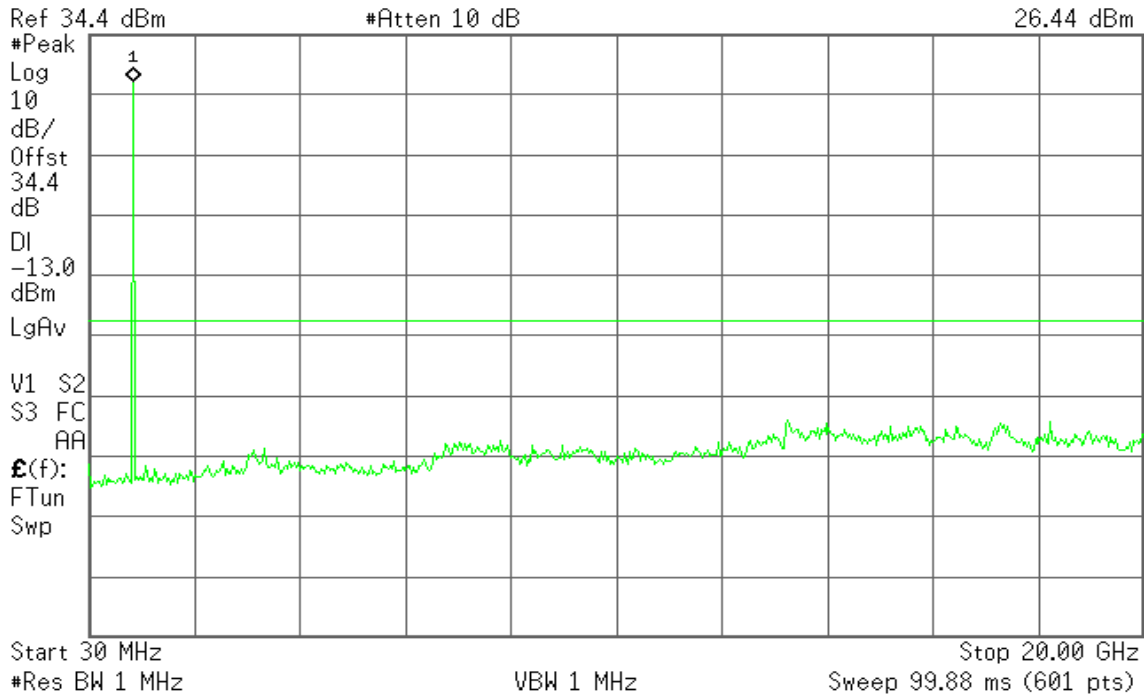


Figure 11-3: Out of Band emission at antenna terminals –EDGE CH High

Agilent 10:13:14 Dec 18, 2011

R T

Mkr1 860 MHz
26.44 dBm



EDGE 1900

Figure 11-4: Out of Band emission at antenna terminals –EDGE CH Low

Agilent 11:11:29 Dec 18, 2011

R T

Mkr1 1.86 GHz
25.13 dBm

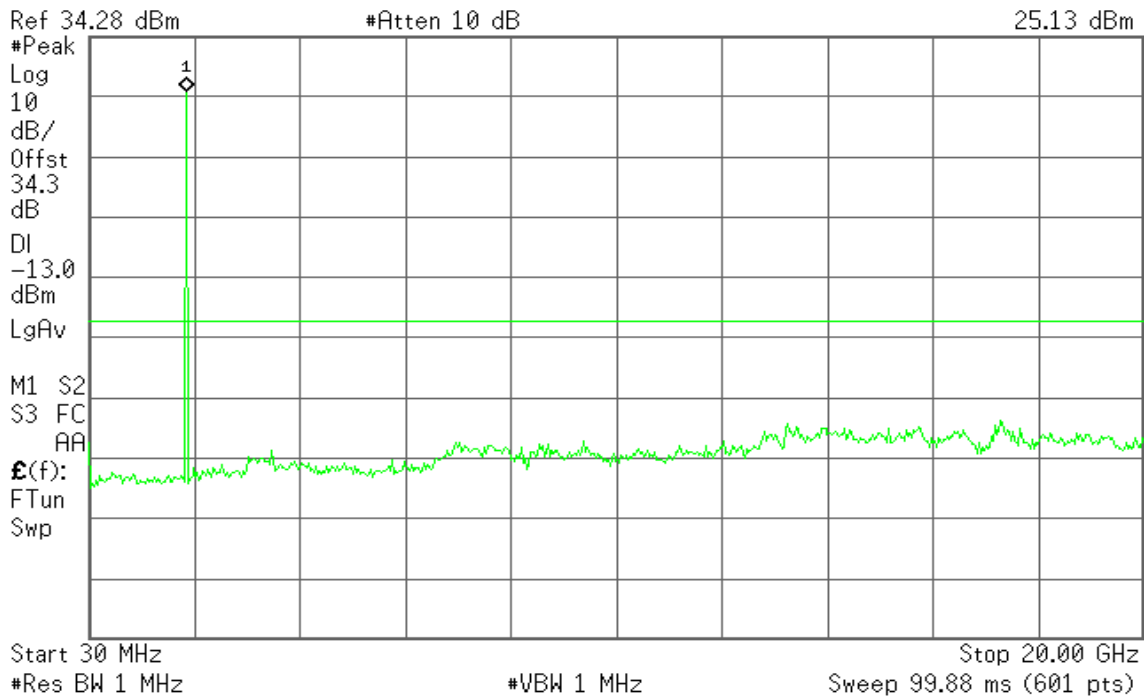




Figure 11-5: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 11:11:09 Dec 18, 2011

R T

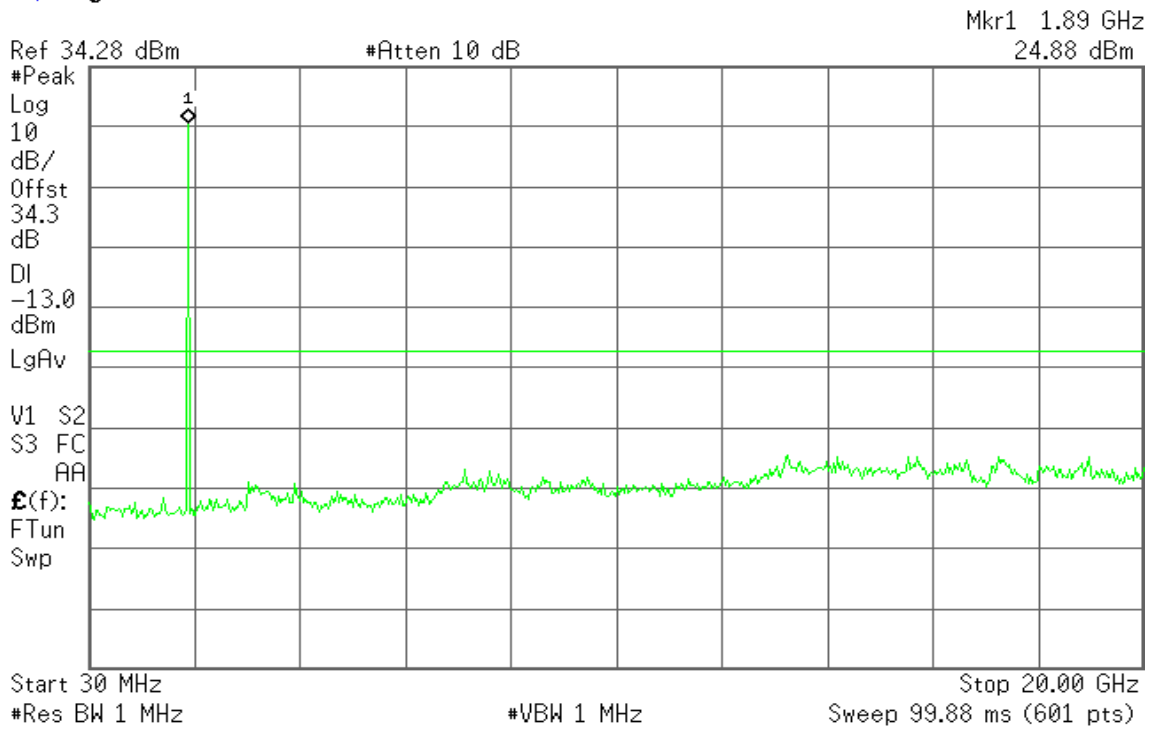
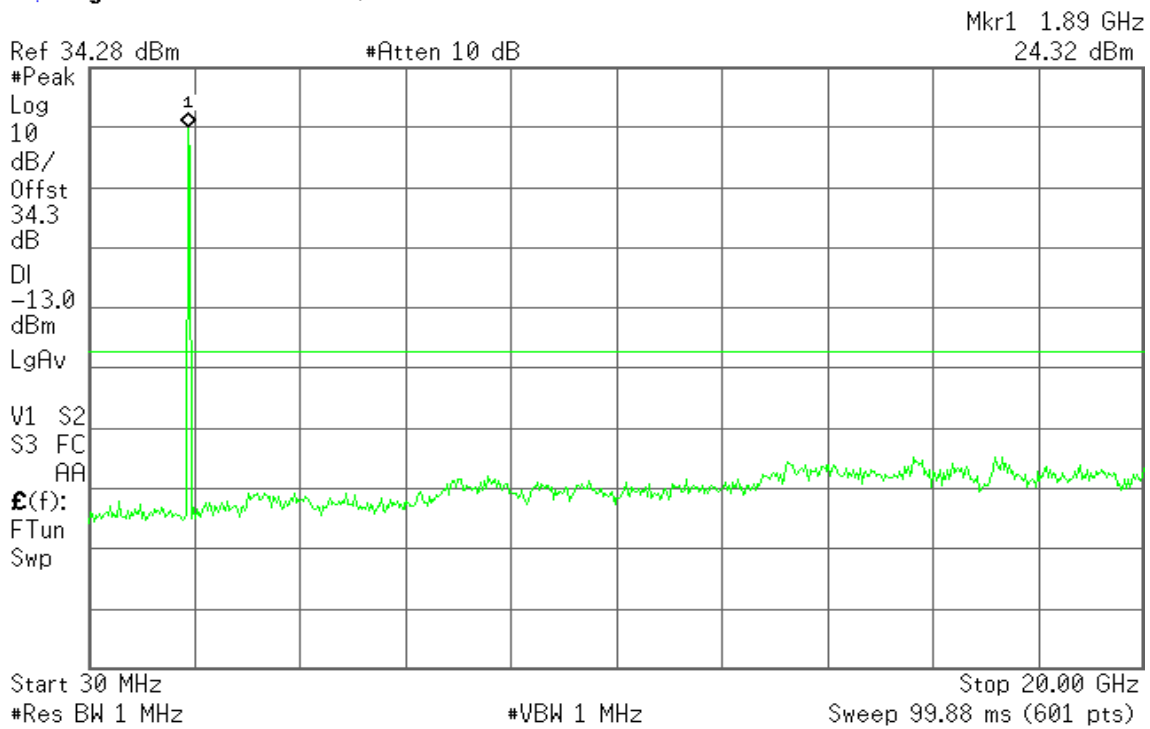


Figure 11-6: Out of Band emission at antenna terminals –EDGE CH High

Agilent 11:10:53 Dec 18, 2011

R T





EDGE 850

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

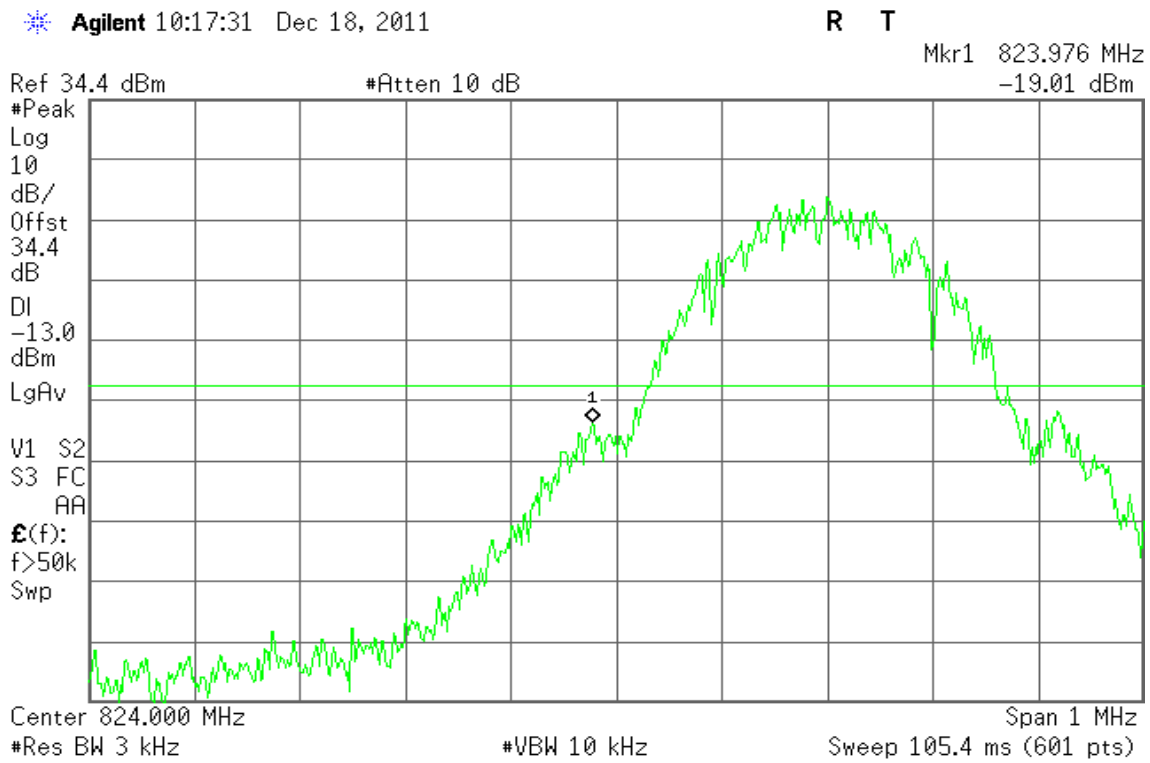
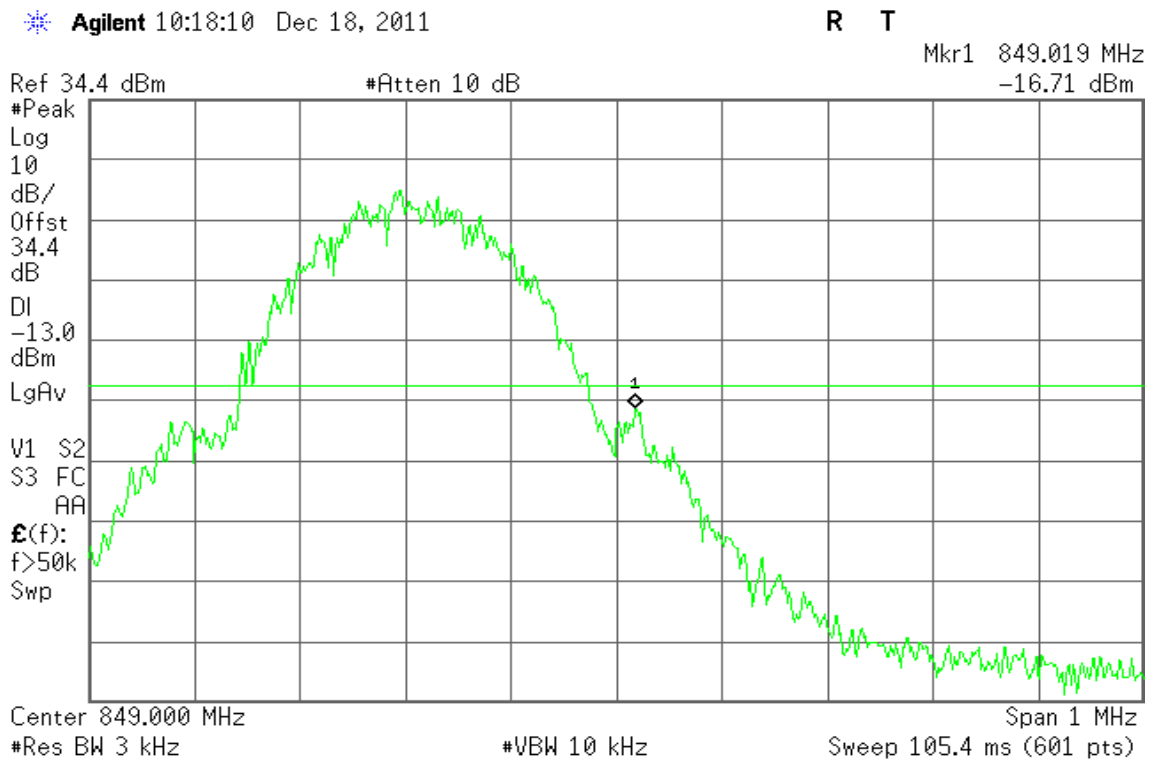


Figure 12-2: Band Edge emissions – EDGE CH High





EDGE 1900

Figure 12-3: Band Edge emissions – EDGE CH Low

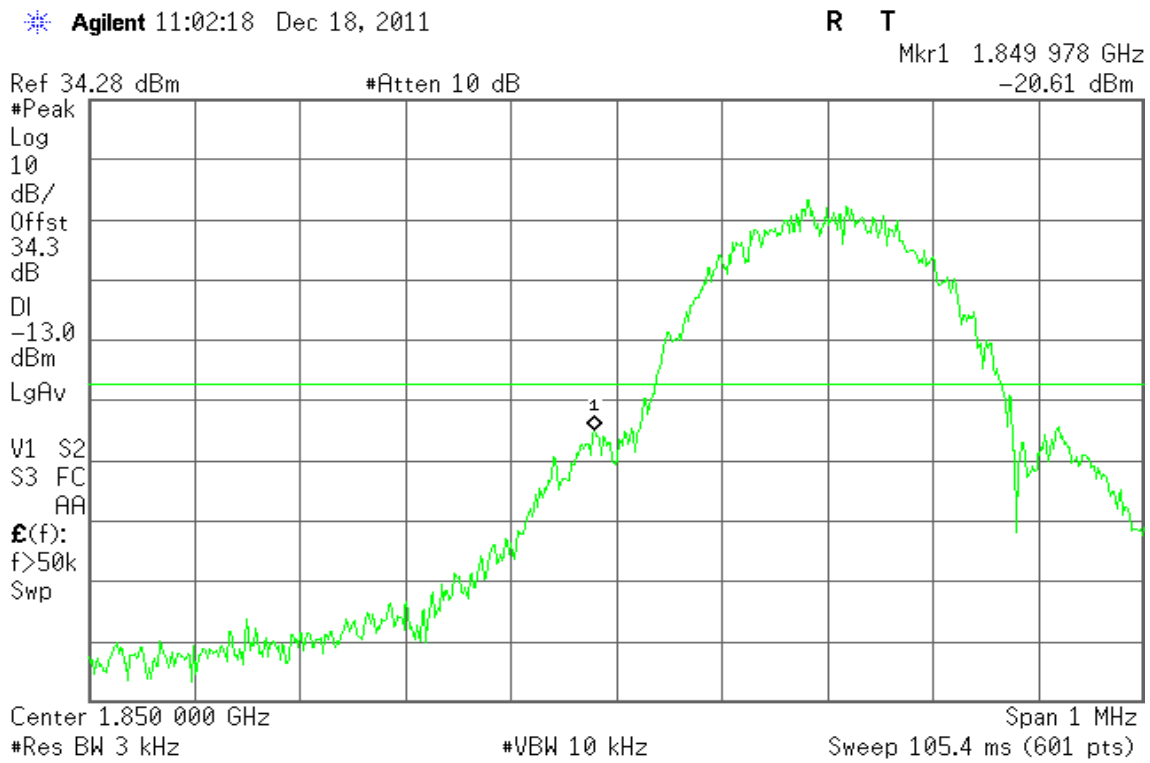
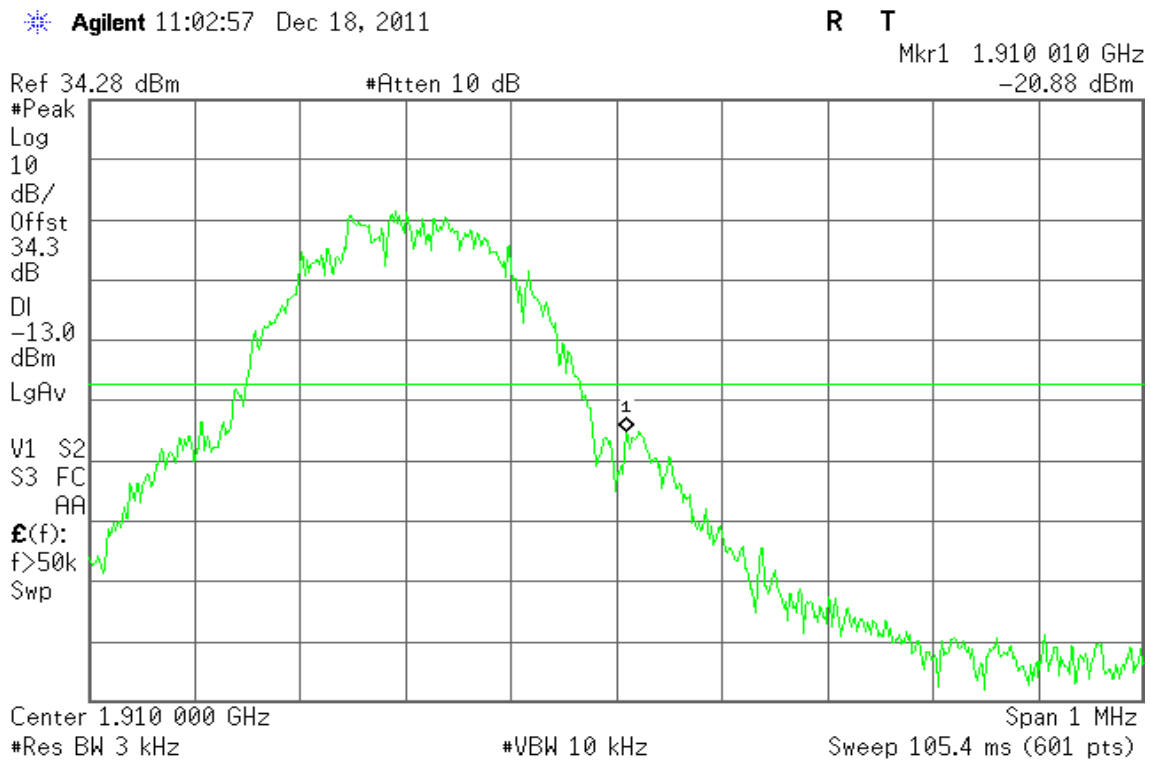


Figure 12-4: Band Edge emissions – EDGE CH High





WCDMA Band II

Figure 13-1: Out of Band emission at antenna terminals – WCDMA CH Low

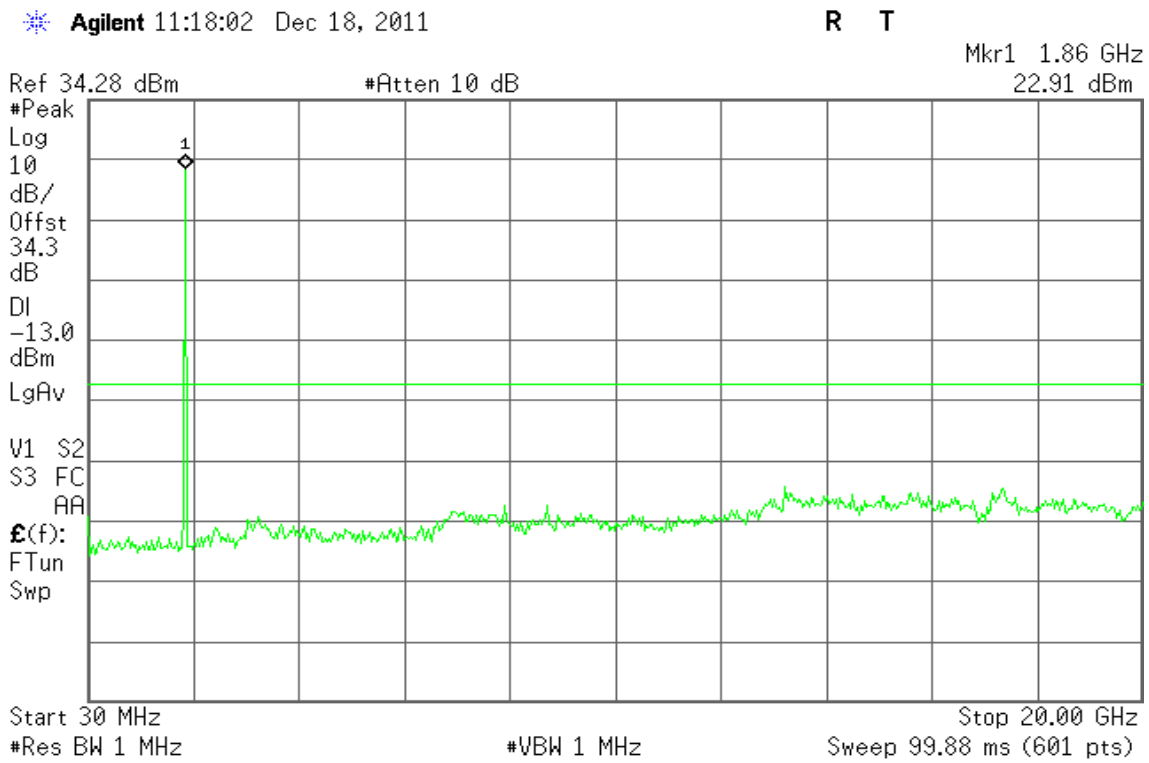


Figure 13-2: Out of Band emission at antenna terminals – WCDMA CH Mid

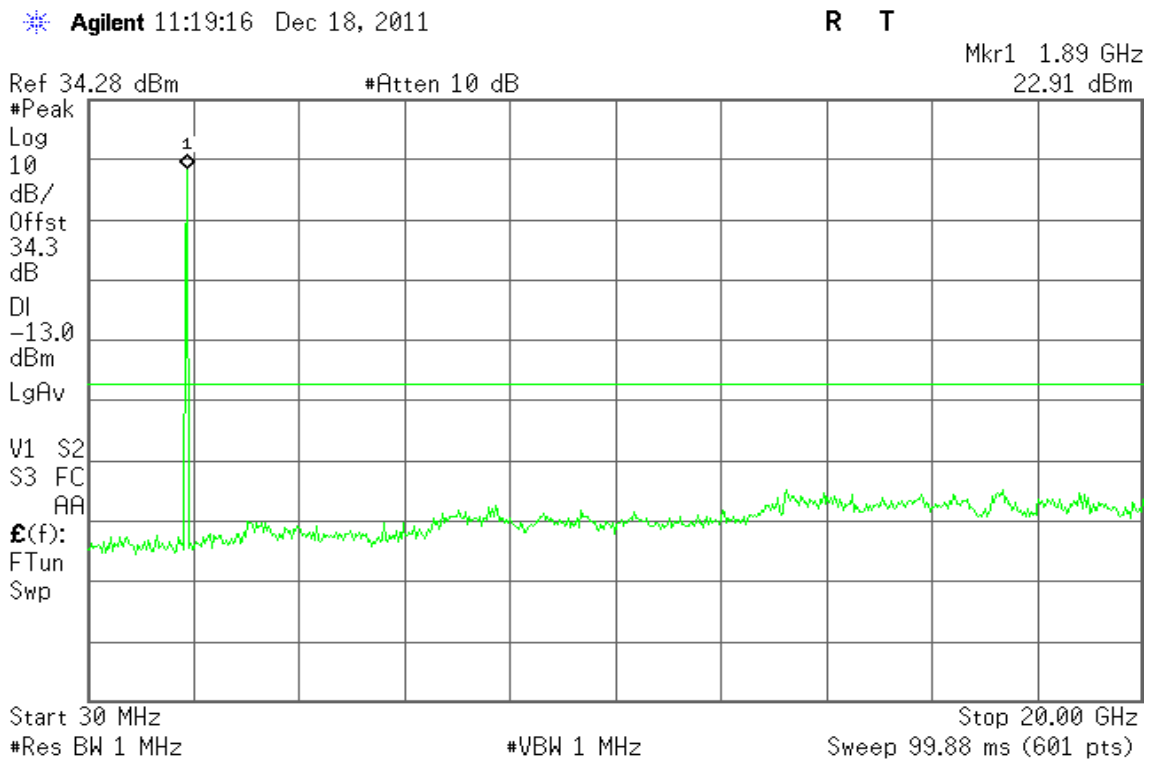
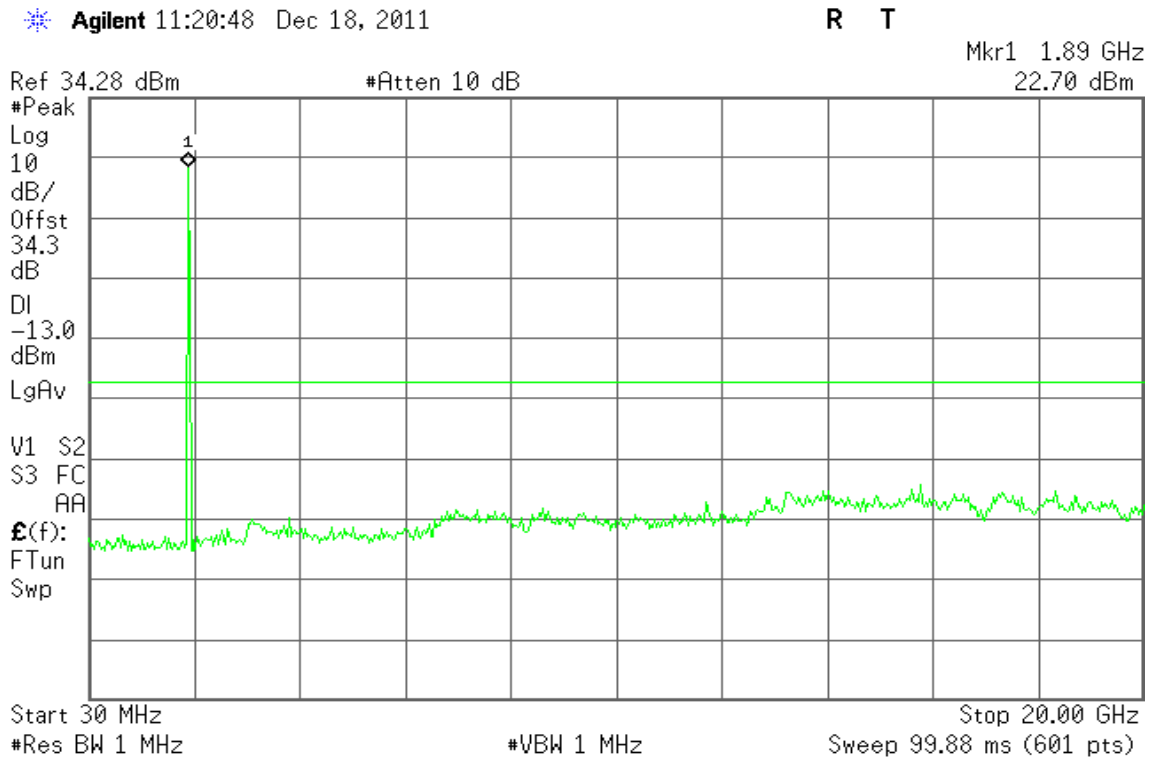




Figure 13-3: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA Band V

Figure 13-4: Out of Band emission at antenna terminals – WCDMA CH Low

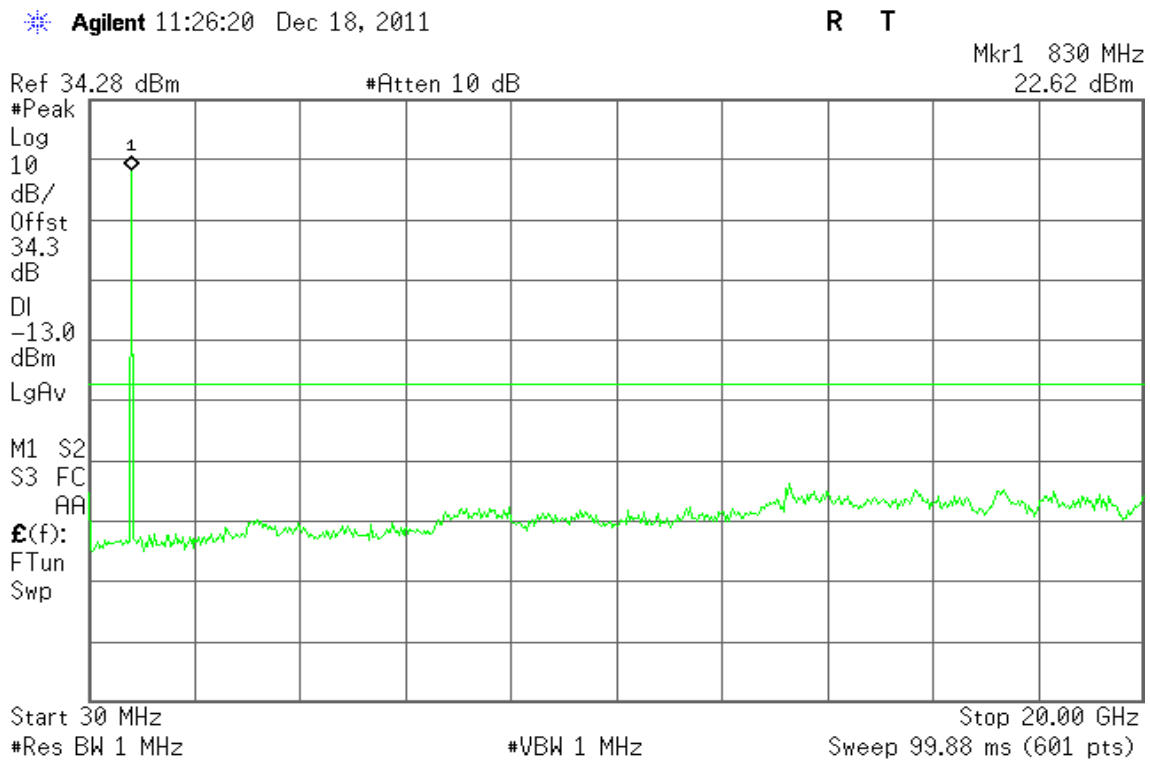




Figure 13-5: Out of Band emission at antenna terminals – WCDMA CH Mid

Agilent 11:26:31 Dec 18, 2011

R T

Mkr1 830 MHz
22.66 dBm

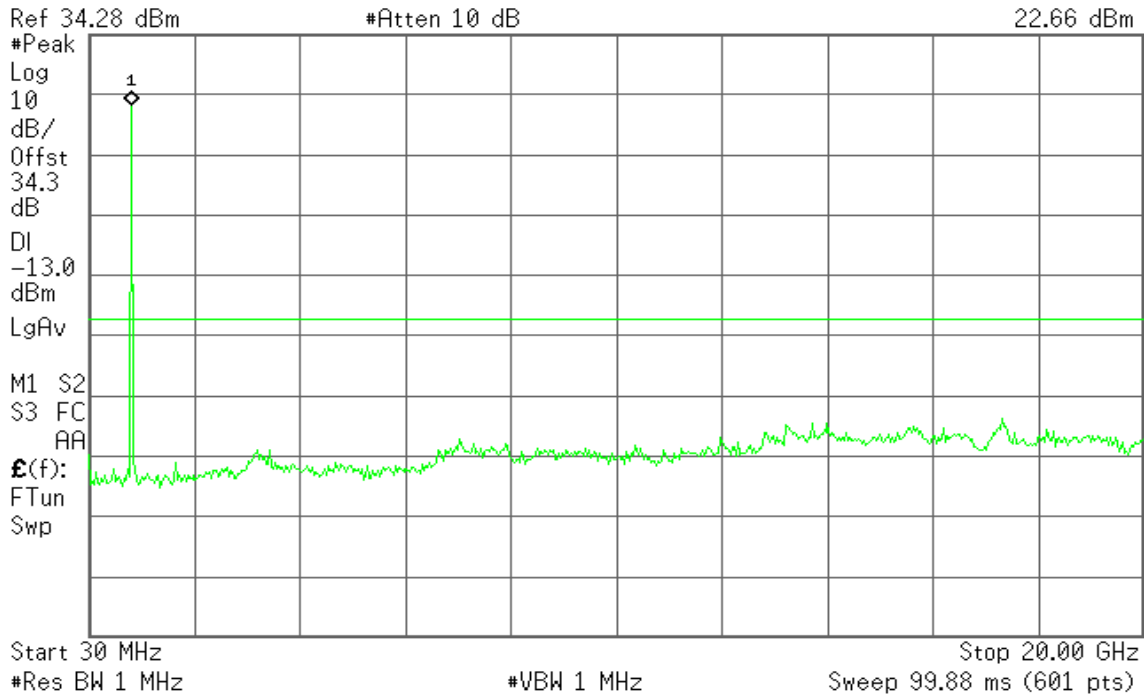
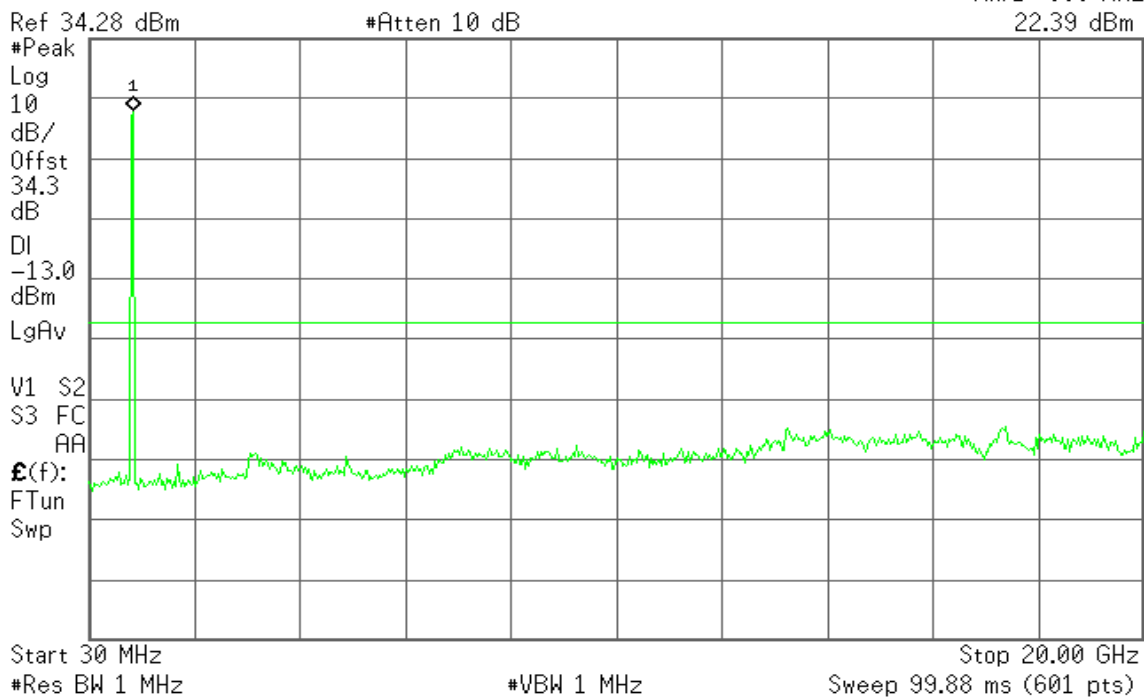


Figure 13-6: Out of Band emission at antenna terminals – WCDMA CH High

Agilent 11:26:46 Dec 18, 2011

R T

Mkr1 860 MHz
22.39 dBm





WCDMA Band II

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

Agilent 11:35:40 Dec 18, 2011

R T

Mkr1 1.849 942 GHz
-27.69 dBm

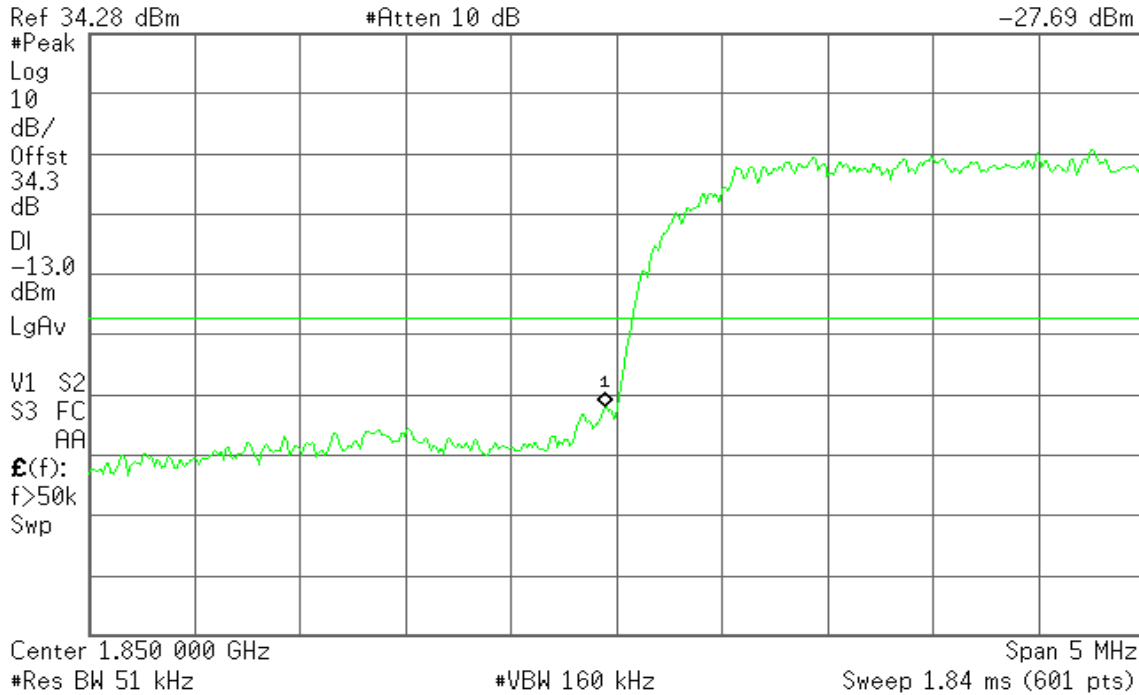
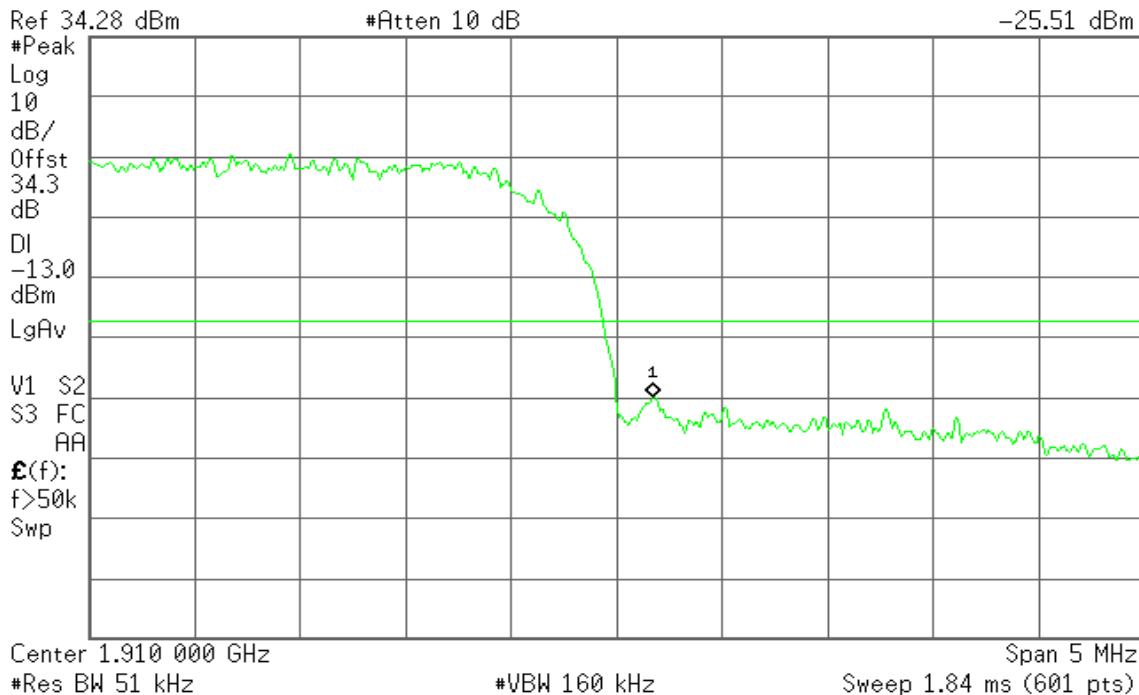


Figure 14-2: Band Edge emissions –WCDMA CH High

Agilent 11:34:13 Dec 18, 2011

R T

Mkr1 1.910 175 GHz
-25.51 dBm





WCDMA Band V

Figure 14-3: Band Edge emissions –WCDMA CH Low

Agilent 11:31:26 Dec 18, 2011

R T

Mkr1 823.975 MHz
-20.63 dBm

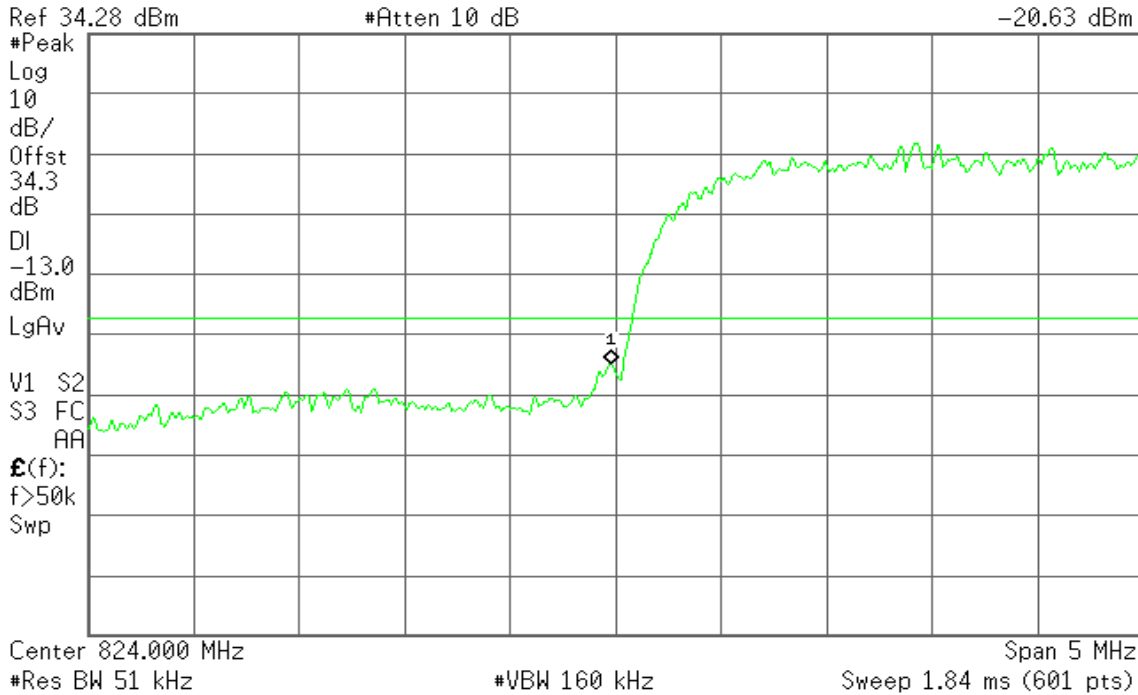
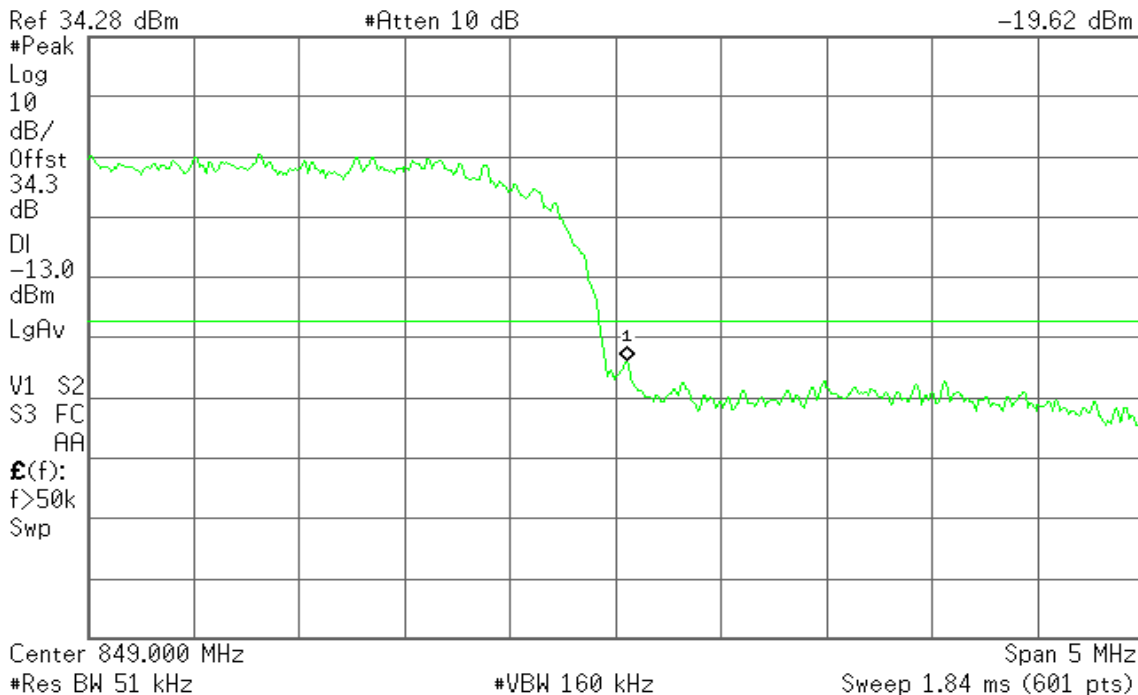


Figure 14-4: Band Edge emissions –WCDMA CH High

Agilent 11:33:26 Dec 18, 2011

R T

Mkr1 849.058 MHz
-19.62 dBm





WCDMA / HSDPA Band II

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

Agilent 11:18:16 Dec 18, 2011

R T

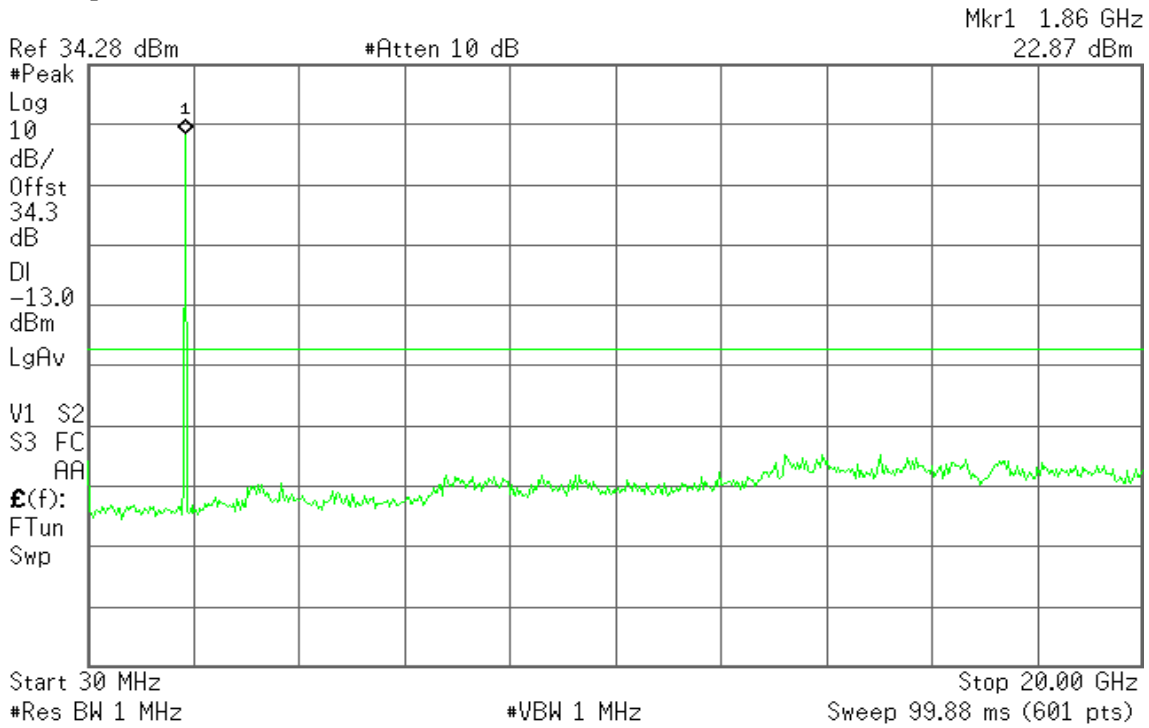


Figure 15-2: Out of Band emission at antenna terminals –HSDPA CH Mid

Agilent 11:19:00 Dec 18, 2011

R T

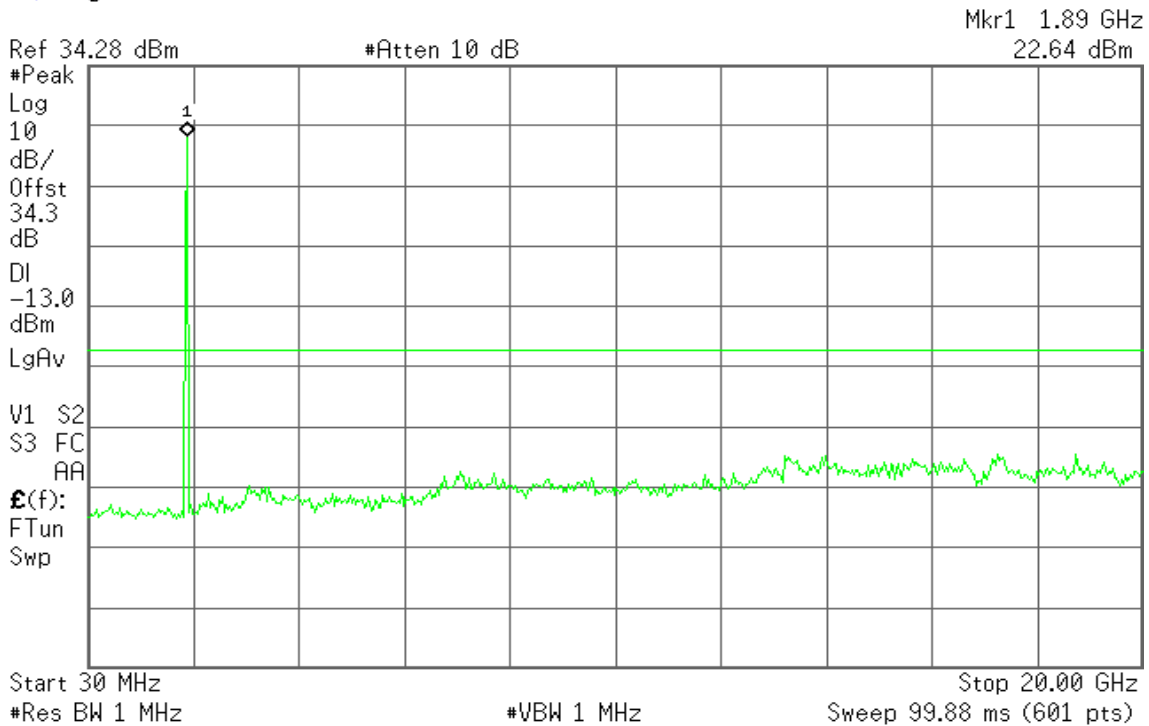
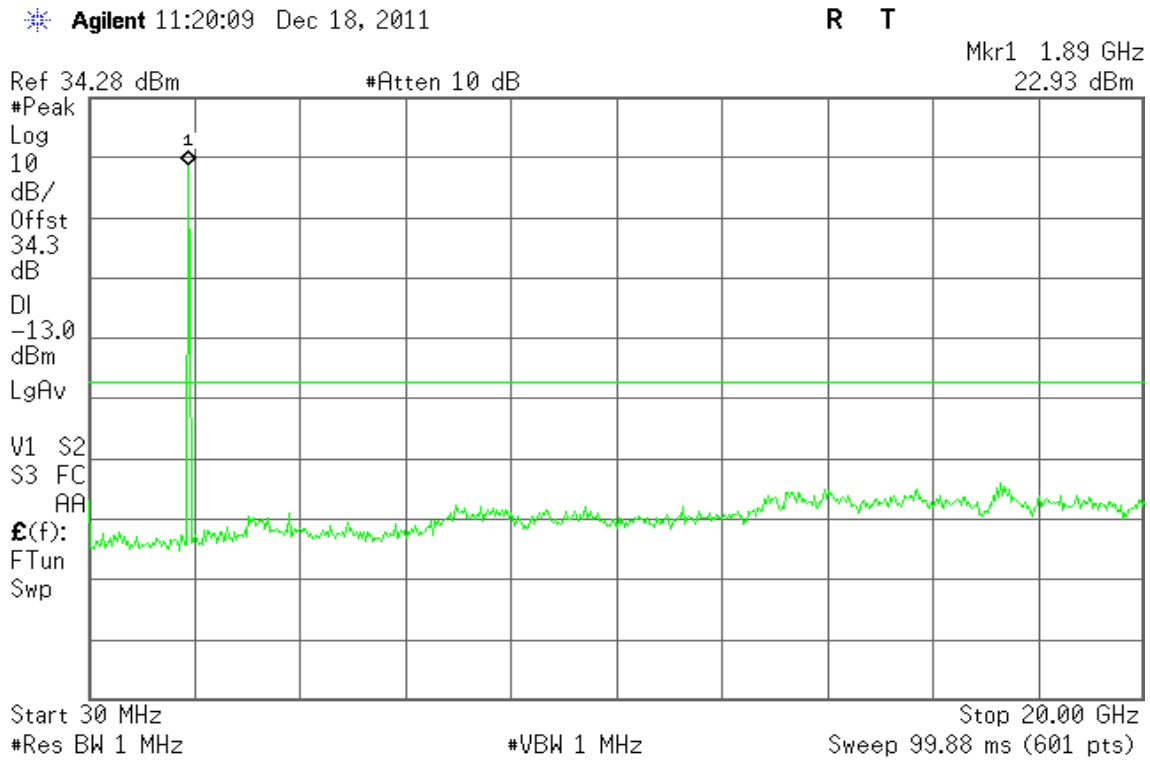




Figure 15-3: Out of Band emission at antenna terminals –HSDPA CH High



WCDMA / HSDPA Band V

Figure 15-4: Out of Band emission at antenna terminals –HSDPA CH Low

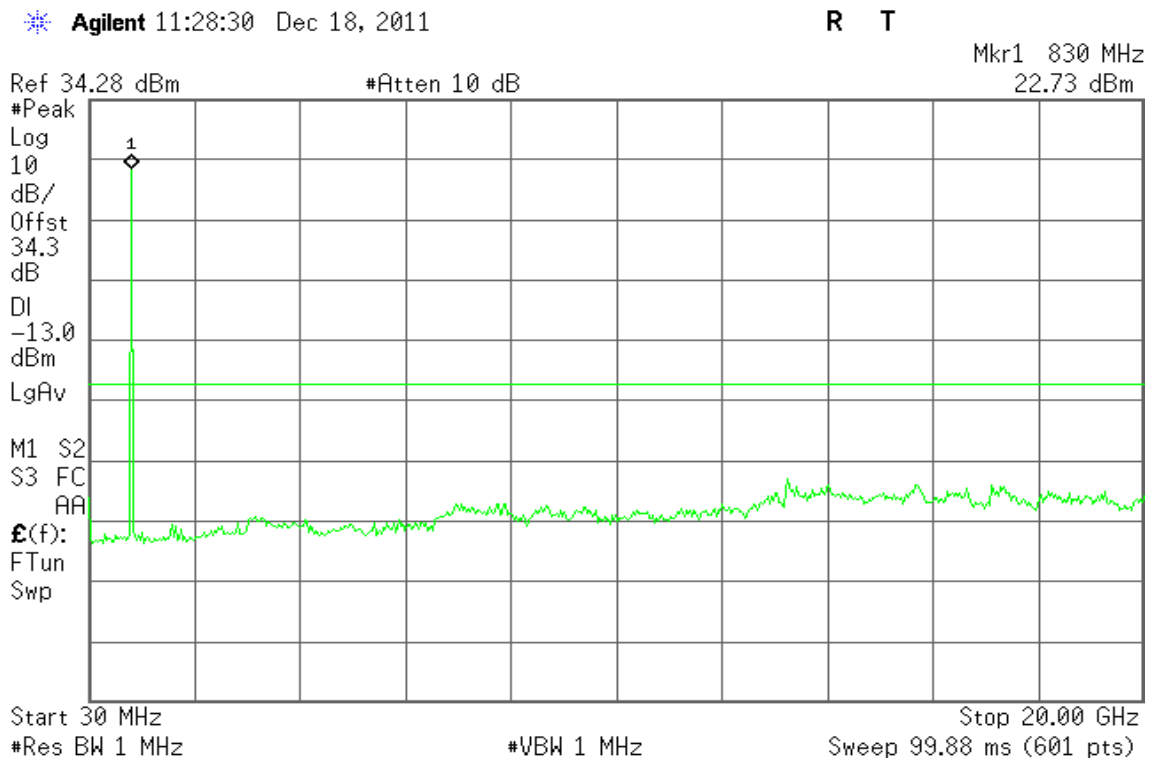




Figure 15-5: Out of Band emission at antenna terminals –HSDPA CH Mid

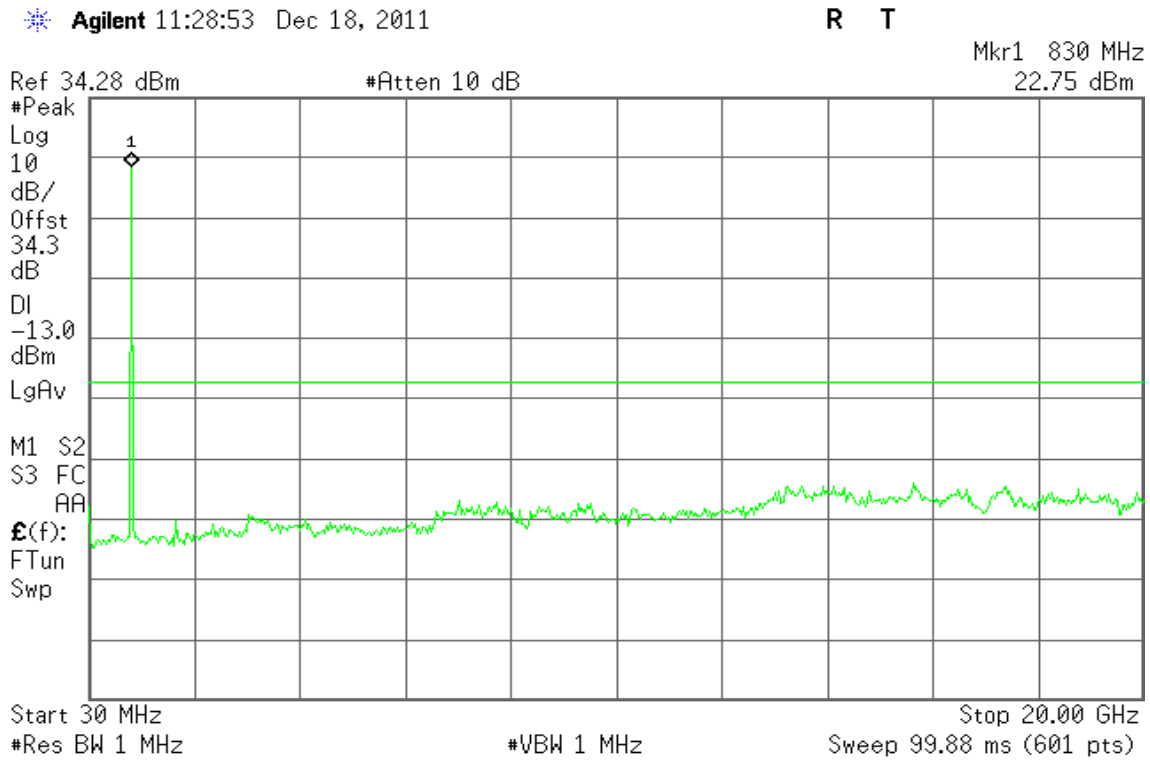
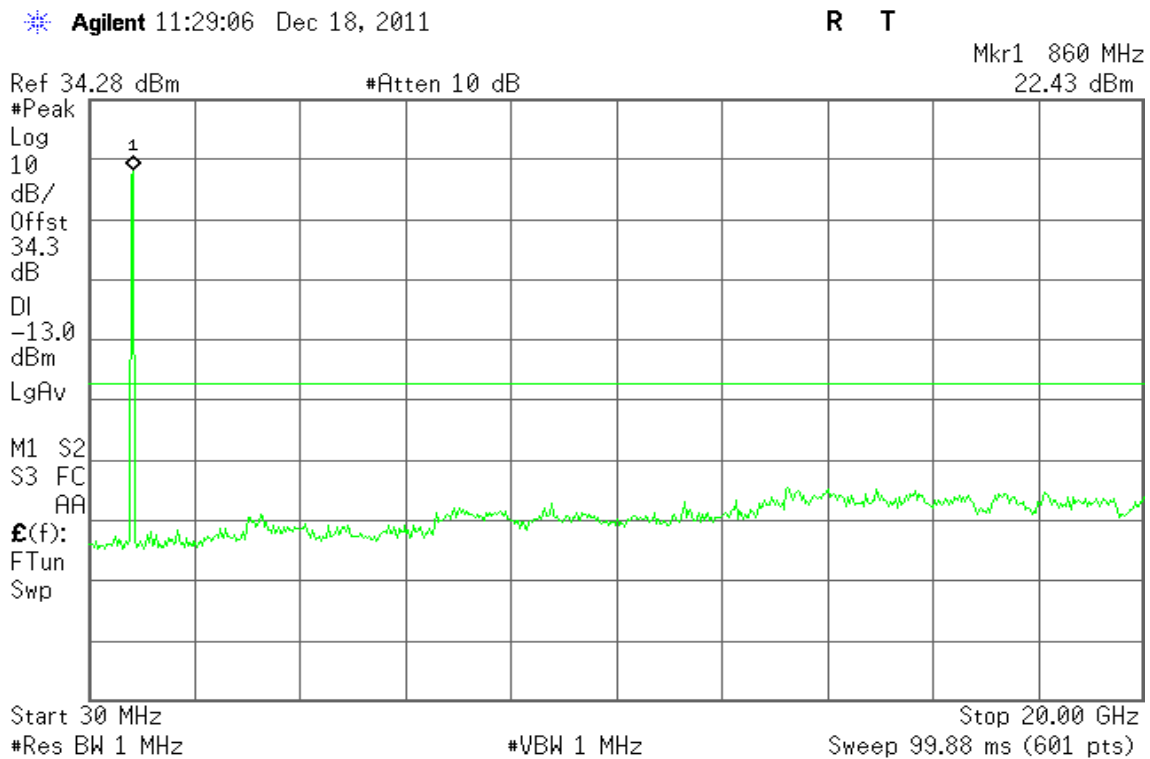


Figure 15-6: Out of Band emission at antenna terminals –HSDPA CH High





WCDMA / HSDPA Band II

Figure 16-1: Band Edge emissions –HSDPA CH Low

Agilent 11:35:14 Dec 18, 2011

R T

Mkr1 1.849 967 GHz
-28.01 dBm

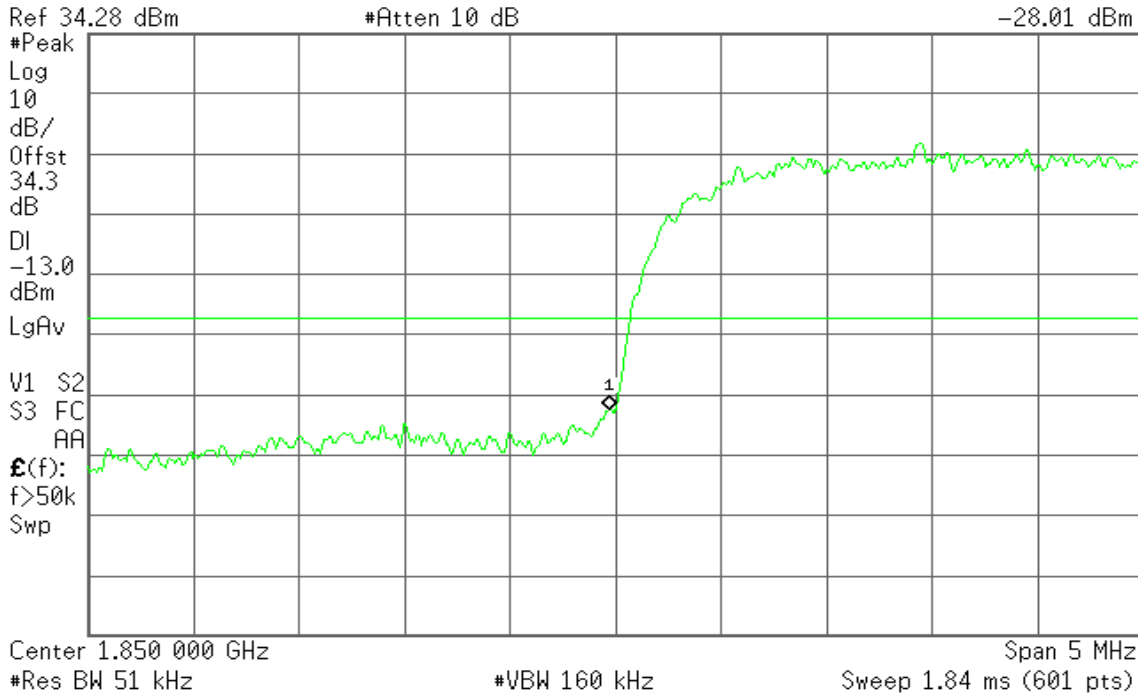
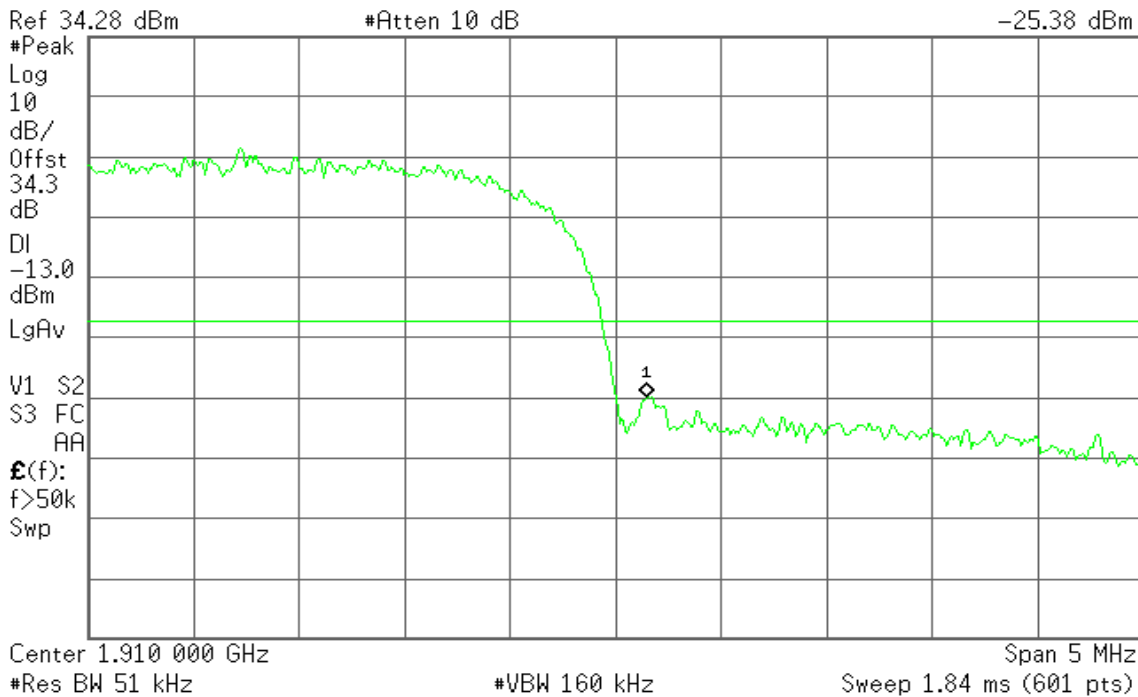


Figure 16-2: Band Edge emissions –HSDPA CH High

Agilent 11:34:32 Dec 18, 2011

R T

Mkr1 1.910 150 GHz
-25.38 dBm





WCDMA / HSDPA Band V

Figure 16-3: Band Edge emissions –HSDPA CH Low

Agilent 11:32:09 Dec 18, 2011

R T

Mkr1 823.933 MHz
-21.76 dBm

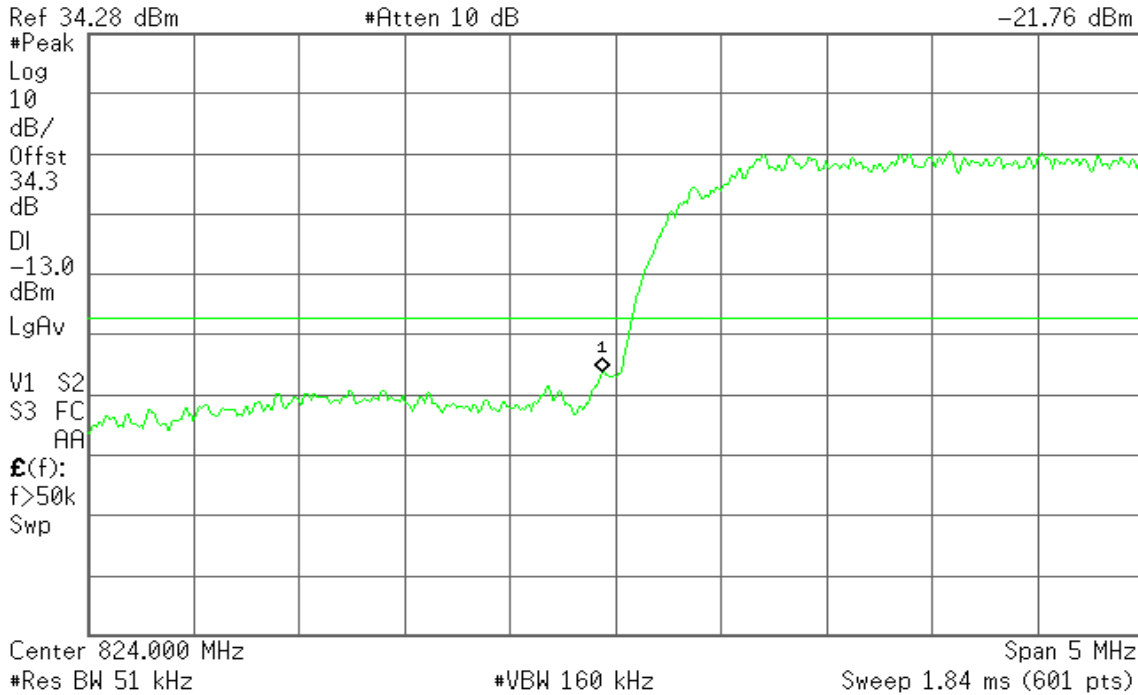
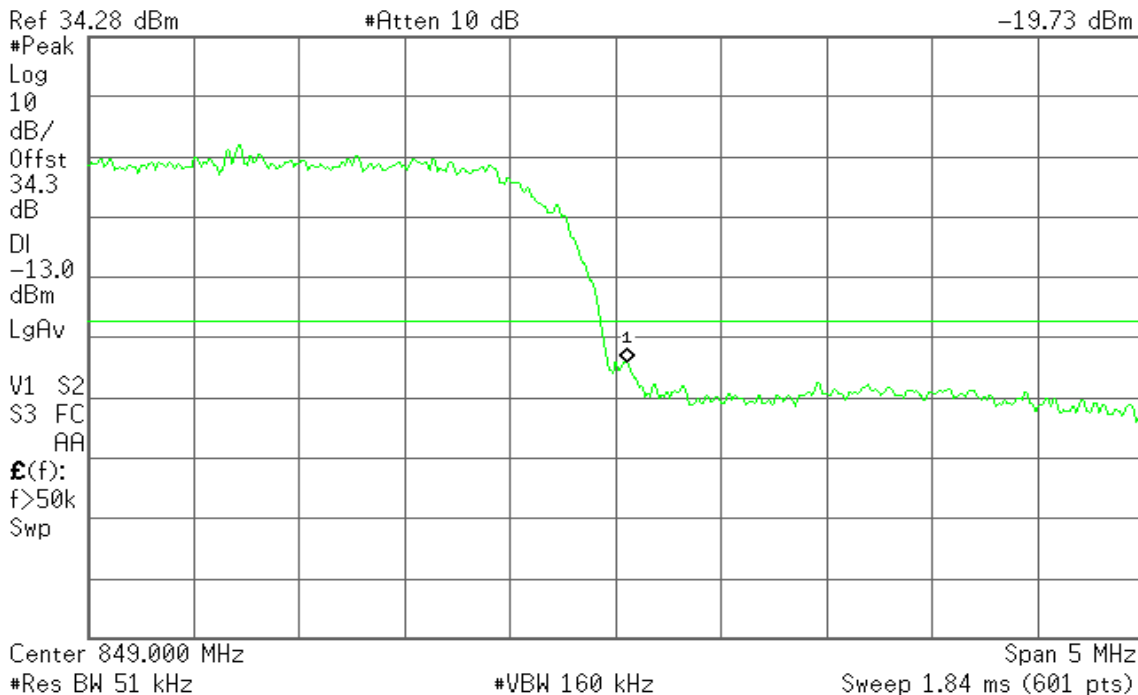


Figure 16-4: Band Edge emissions –HSDPA CH High

Agilent 11:33:03 Dec 18, 2011

R T

Mkr1 849.058 MHz
-19.73 dBm





WCDMA / HSUPA Band II

Figure 17-1: Out of Band emission at antenna terminals –HSUPA CH Low

Agilent 11:18:16 Dec 18, 2011

R T

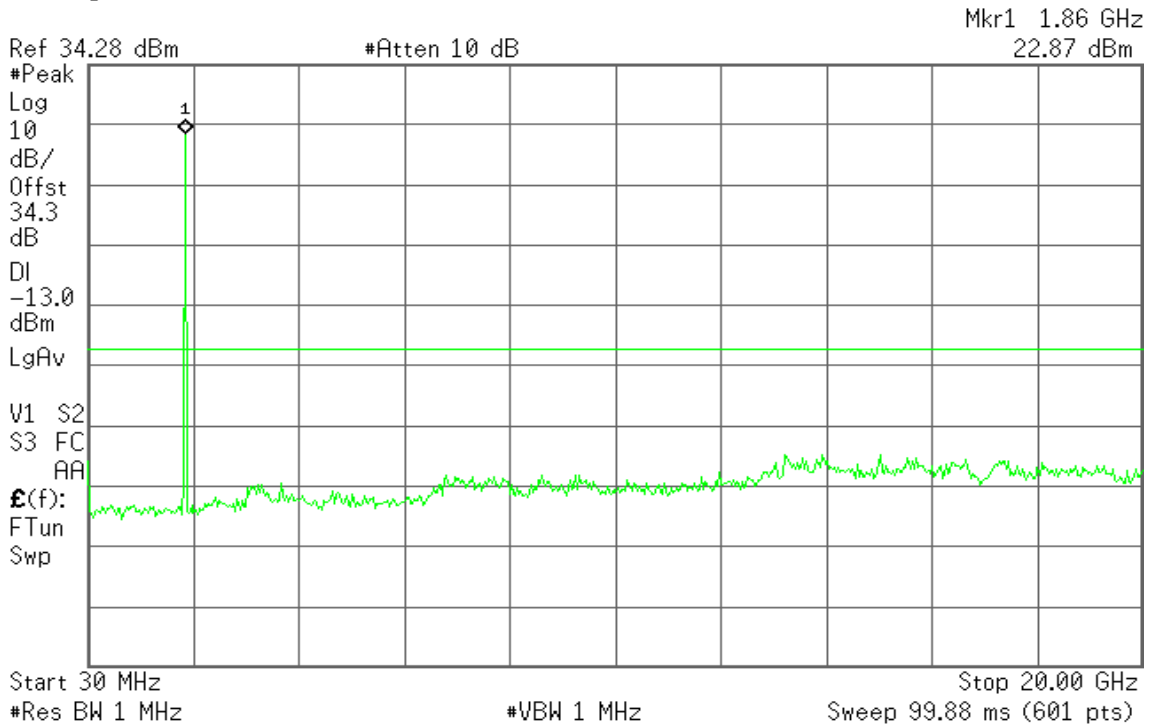


Figure 17-2: Out of Band emission at antenna terminals –HSUPA CH Mid

Agilent 13:03:28 Dec 18, 2011

R T

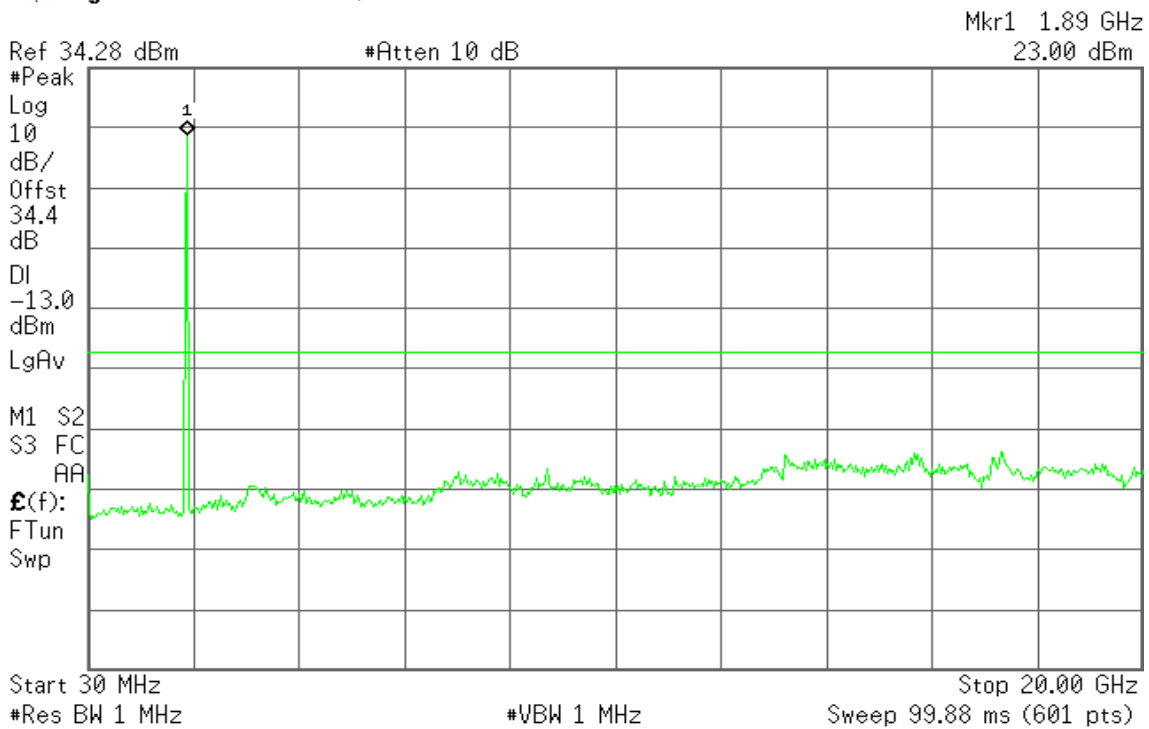
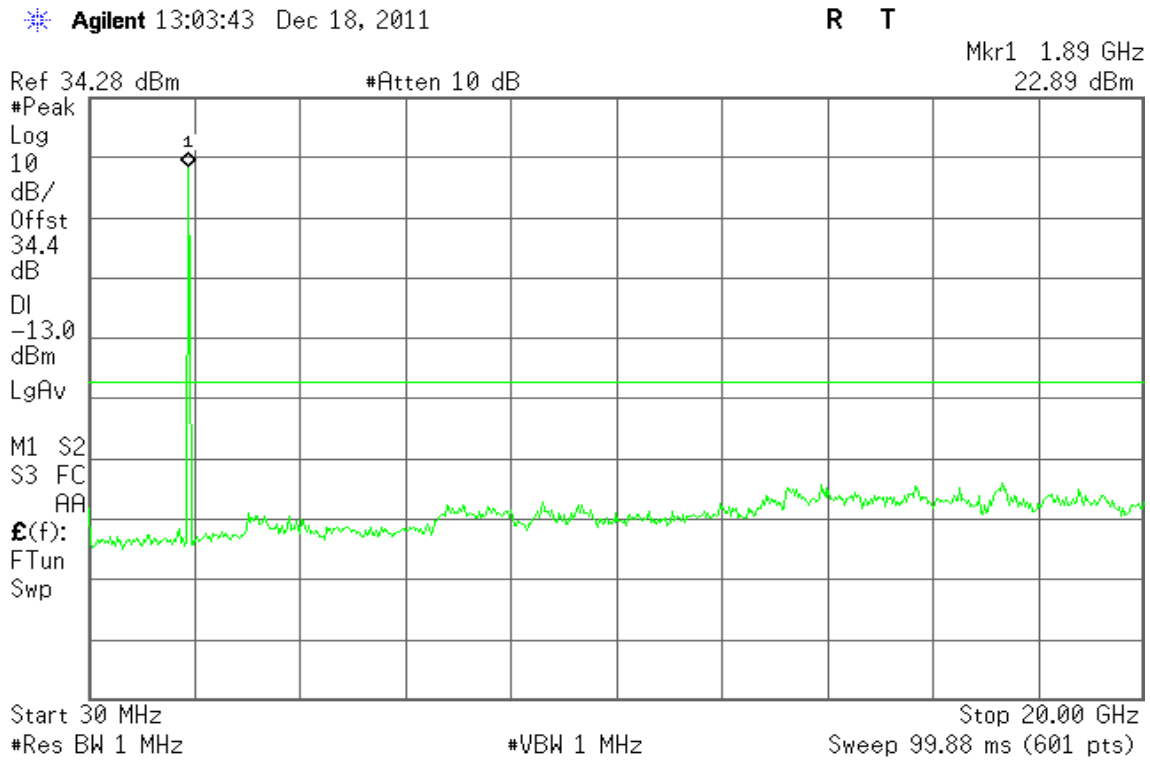




Figure 17-3: Out of Band emission at antenna terminals –HSUPA CH High



WCDMA / HSUPA Band V

Figure 17-4: Out of Band emission at antenna terminals –HSUPA CH Low

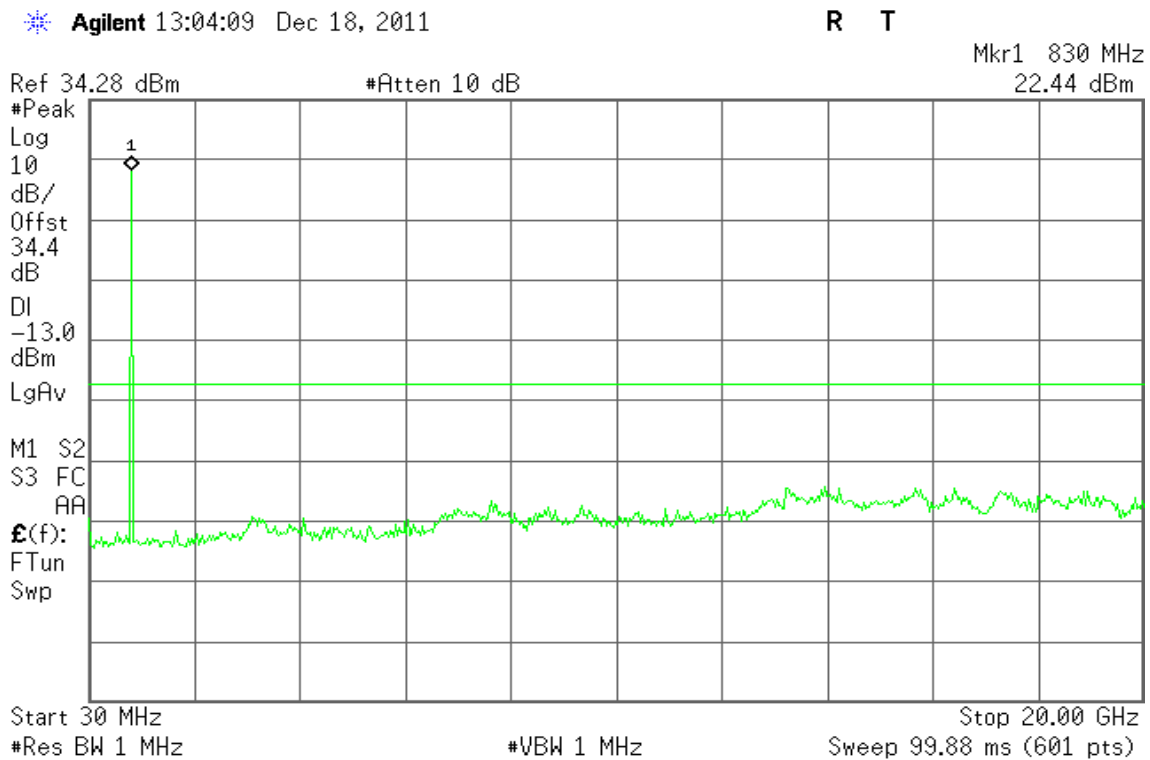




Figure 17-5: Out of Band emission at antenna terminals –HSUPA CH Mid

Agilent 13:04:20 Dec 18, 2011

R T

Mkr1 830 MHz
22.47 dBm

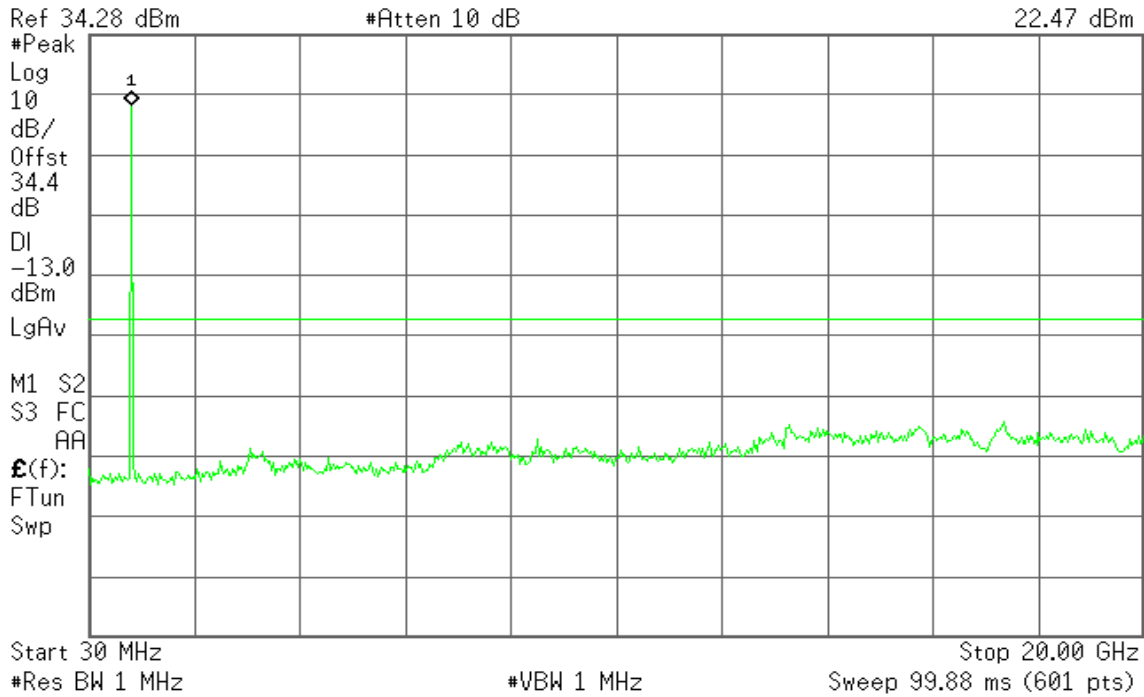
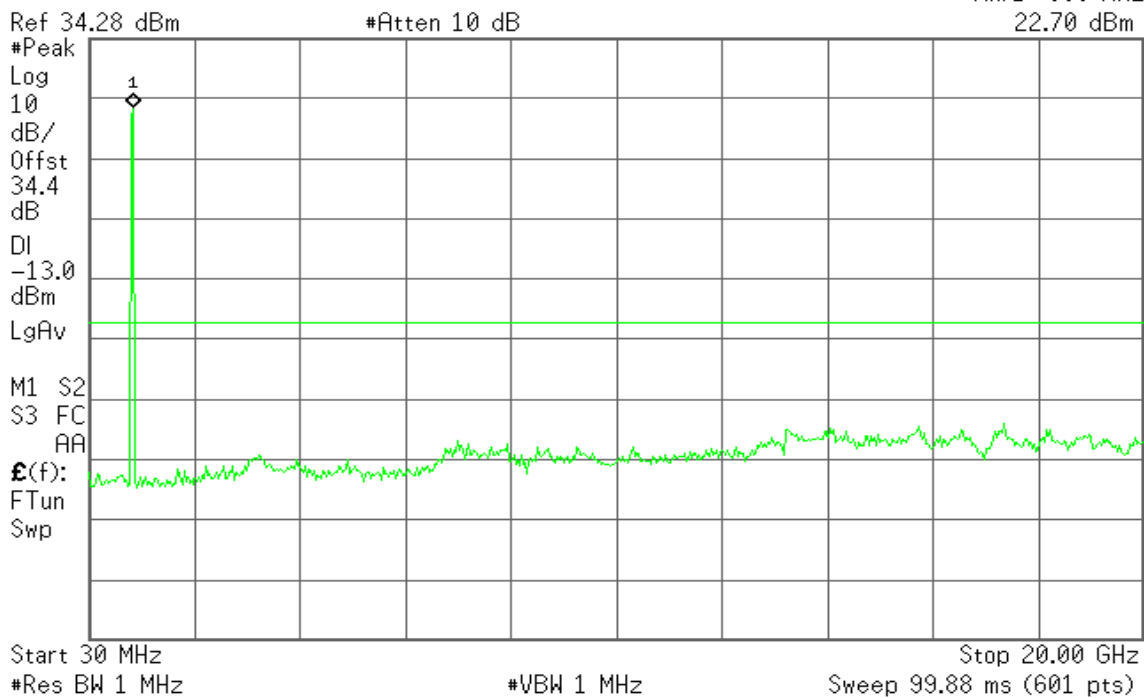


Figure 17-6: Out of Band emission at antenna terminals –HSUPA CH High

Agilent 13:04:32 Dec 18, 2011

R T

Mkr1 860 MHz
22.70 dBm





WCDMA / HSUPA Band II

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

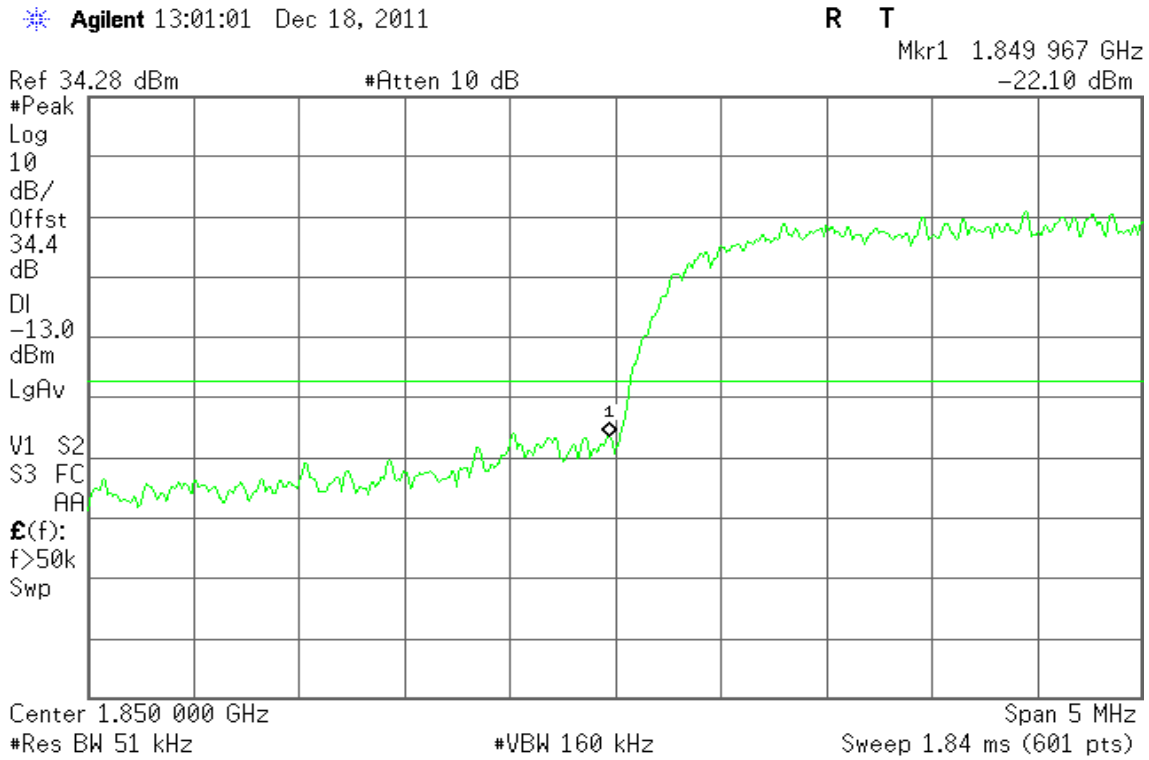
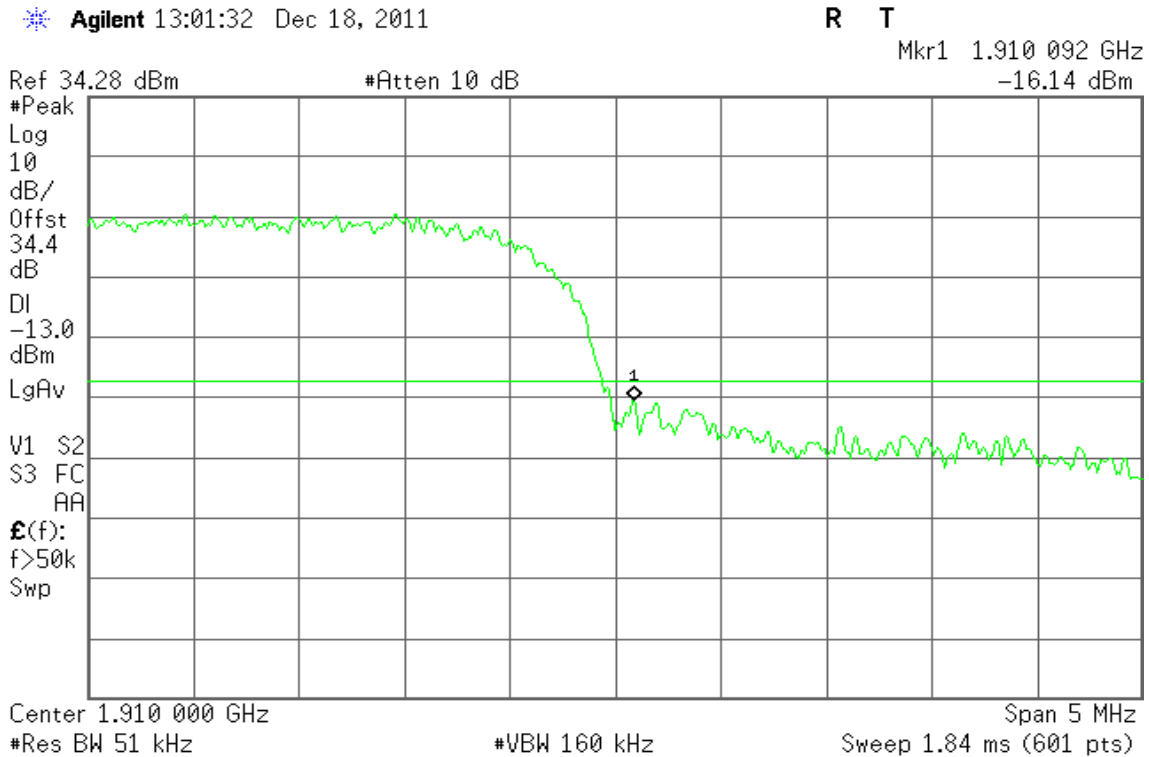


Figure 18-2: Band Edge emissions –HSUPA CH High





WCDMA / HSUPA Band V

Figure 18-3: Band Edge emissions –HSUPA CH Low

Agilent 12:59:05 Dec 18, 2011

R T

Mkr1 823.975 MHz
-20.95 dBm

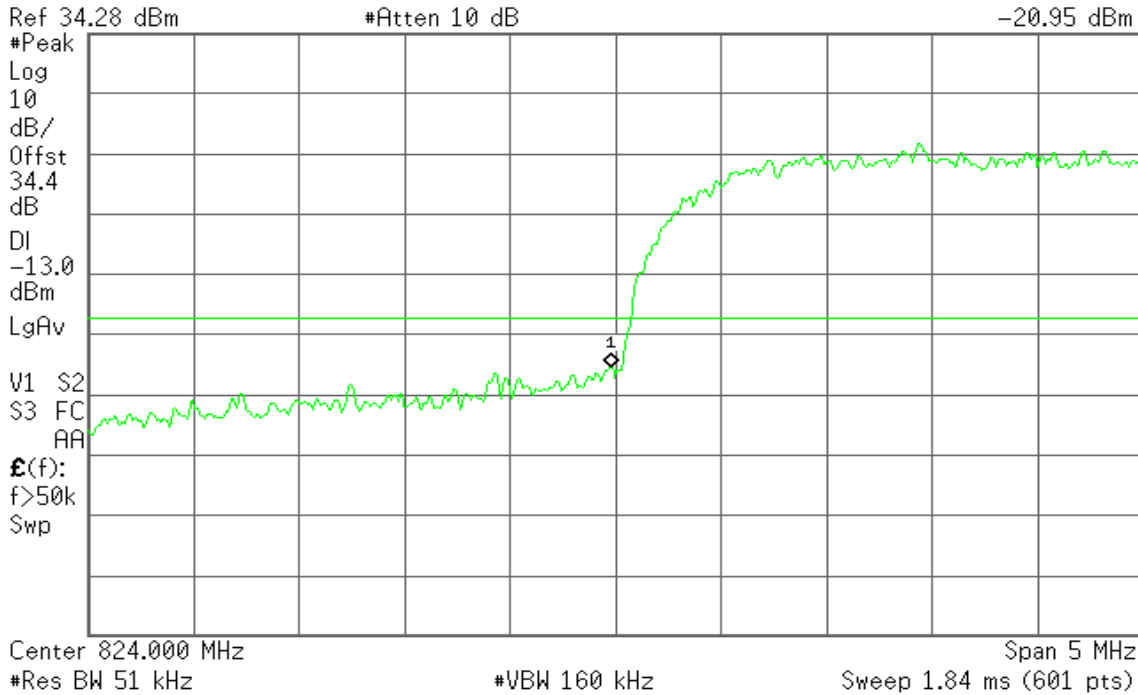
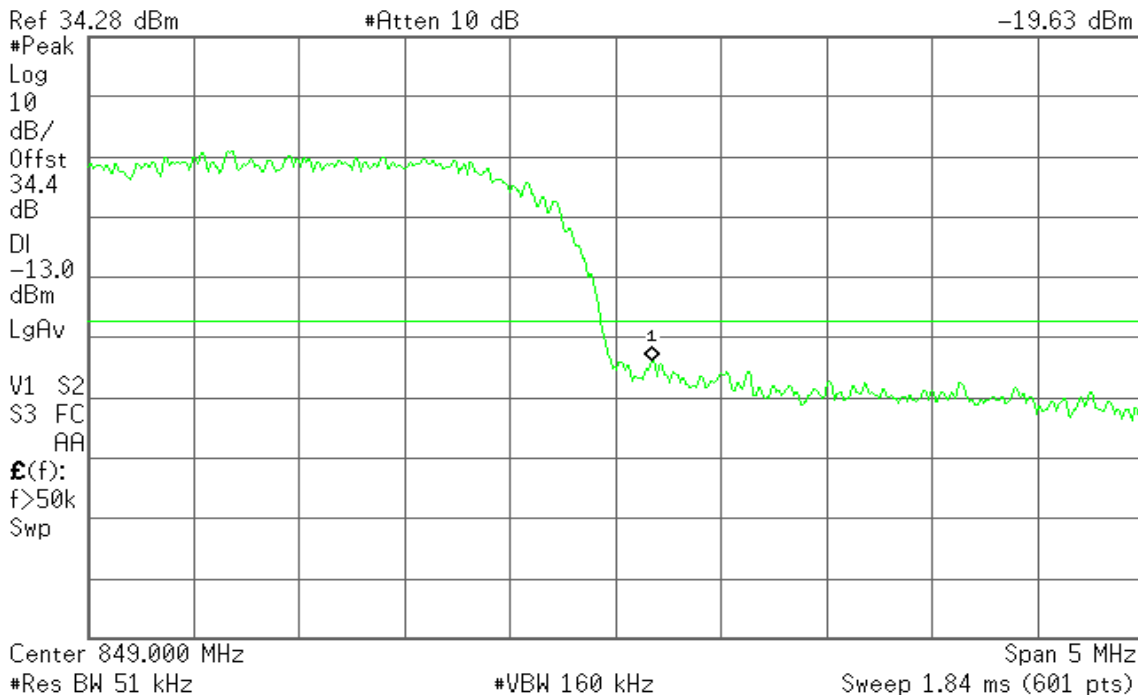


Figure 18-4: Band Edge emissions –HSUPA CH High

Agilent 12:59:36 Dec 18, 2011

R T

Mkr1 849.175 MHz
-19.63 dBm





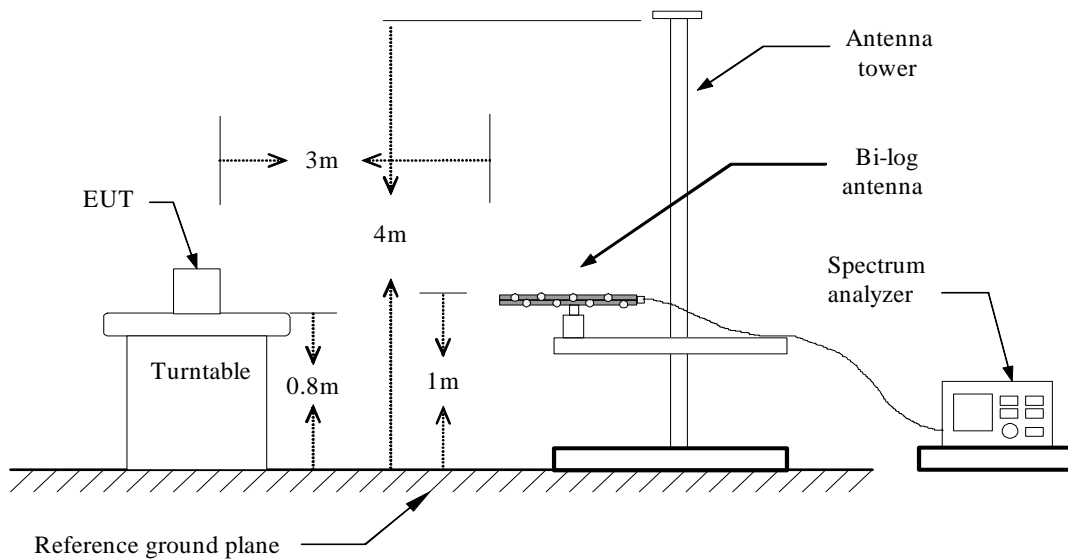
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

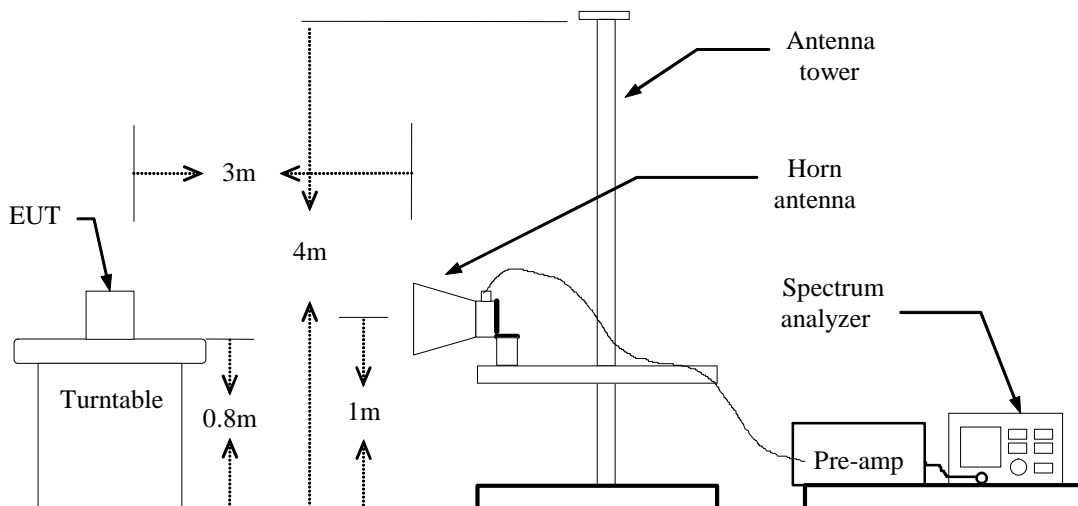
According to FCC §2.1053, RSS-132 (4.6) & RSS-133 (6.5).

Test Configuration

Below 1 GHz

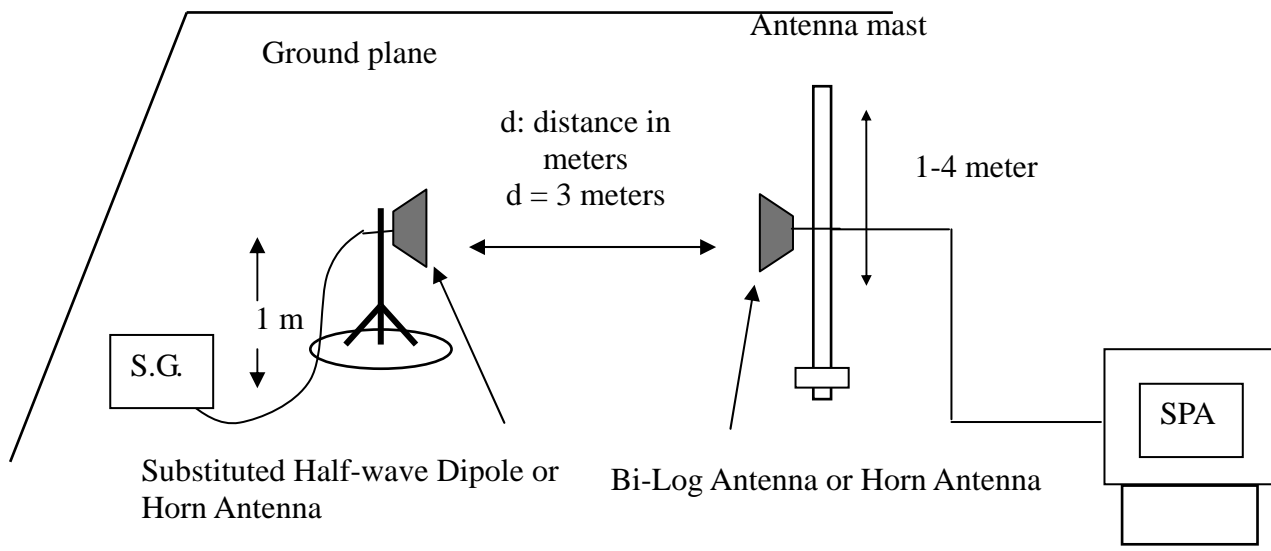


Above 1 GHz





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.

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

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

TEST RESULTS

Refer to the attached tabular data sheets.



Radiated Spurious Emission Measurement Result / Below 1GHz

Operation Mode: GSM 850 / TX / CH 128

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
51.8250	-68.26	0.82	-4.37	-73.45	-13.00	-60.45	V
134.2750	-65.08	1.36	-0.9	-67.34	-13.00	-54.34	V
240.9750	-76.22	1.81	5.34	-72.69	-13.00	-59.69	V
330.7000	-77.33	2.16	5.71	-73.78	-13.00	-60.78	V
454.3750	-79.75	2.59	5.79	-76.55	-13.00	-63.55	V
626.5500	-78.92	2.96	6.16	-75.72	-13.00	-62.72	V
39.7000	-67.14	0.72	-12.6	-80.46	-13.00	-67.46	H
151.2500	-82.34	1.43	0.8	-82.97	-13.00	-69.97	H
187.6250	-76.72	1.62	3.9	-74.44	-13.00	-61.44	H
287.0500	-84.11	2.01	5.37	-80.75	-13.00	-67.75	H
454.3750	-85.37	2.59	5.79	-82.17	-13.00	-69.17	H
658.0750	-83.55	3.05	6.3	-80.30	-13.00	-67.30	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
61.5250	-73.26	0.89	-2.12	-76.27	-13.00	-63.27	V
134.2750	-77.73	1.36	-0.9	-79.99	-13.00	-66.99	V
197.3250	-78.77	1.63	3.21	-77.19	-13.00	-64.19	V
328.2750	-87.6	2.17	5.71	-84.06	-13.00	-71.06	V
451.9500	-84.68	2.59	5.75	-81.52	-13.00	-68.52	V
578.0500	-83.37	2.88	6.03	-80.22	-13.00	-67.22	V
51.8250	-69.09	0.82	-4.37	-74.28	-13.00	-61.28	H
127.0000	-66.47	1.32	-1.63	-69.42	-13.00	-56.42	H
151.2500	-73.03	1.43	0.8	-73.66	-13.00	-60.66	H
255.5250	-73.82	1.87	5.64	-70.05	-13.00	-57.05	H
454.3750	-78.4	2.59	5.79	-75.20	-13.00	-62.20	H
704.1500	-79.05	3.13	6.35	-75.83	-13.00	-62.83	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
100.3250	-75.13	1.15	-0.45	-76.73	-13.00	-63.73	V
199.7500	-79.56	1.63	2.94	-78.25	-13.00	-65.25	V
255.5250	-84.27	1.87	5.64	-80.50	-13.00	-67.50	V
371.9250	-82.29	2.3	5.85	-78.74	-13.00	-65.74	V
551.3750	-83.75	2.81	6.17	-80.39	-13.00	-67.39	V
692.0250	-82.41	3.13	6.48	-79.06	-13.00	-66.06	V
51.8250	-66.26	0.82	-4.37	-71.45	-13.00	-58.45	H
127.0000	-62.32	1.32	-1.63	-65.27	-13.00	-52.27	H
199.7500	-69.17	1.63	2.94	-67.86	-13.00	-54.86	H
335.5500	-79.63	2.17	5.75	-76.05	-13.00	-63.05	H
427.7000	-77.74	2.48	5.8	-74.42	-13.00	-61.42	H
454.3750	-76.42	2.59	5.79	-73.22	-13.00	-60.22	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-66.45	0.74	-10.72	-77.91	-13.00	-64.91	V
114.8750	-71.23	1.24	-1.9	-74.37	-13.00	-61.37	V
173.0750	-76.73	1.58	2.85	-75.46	-13.00	-62.46	V
267.6500	-81.85	1.96	5.22	-78.59	-13.00	-65.59	V
495.6000	-82.46	2.69	5.85	-79.30	-13.00	-66.30	V
621.7000	-80.99	2.95	6.13	-77.81	-13.00	-64.81	V
42.1250	-64	0.74	-10.72	-75.46	-13.00	-62.46	H
127.0000	-70.46	1.32	-1.63	-73.41	-13.00	-60.41	H
187.6250	-74.79	1.62	3.9	-72.51	-13.00	-59.51	H
301.6000	-80.98	2.1	5.63	-77.45	-13.00	-64.45	H
427.7000	-80.51	2.48	5.8	-77.19	-13.00	-64.19	H
636.2500	-78.12	3	6.16	-74.96	-13.00	-61.96	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-68.05	0.74	-10.72	-79.51	-13.00	-66.51	V
163.3750	-73.03	1.51	1.77	-72.77	-13.00	-59.77	V
274.9250	-85.2	1.99	5.2	-81.99	-13.00	-68.99	V
308.8750	-80.73	2.13	5.78	-77.08	-13.00	-64.08	V
330.7000	-79.08	2.16	5.71	-75.53	-13.00	-62.53	V
551.3750	-83.44	2.81	6.17	-80.08	-13.00	-67.08	V
46.9750	-67.66	0.78	-6.96	-75.40	-13.00	-62.40	H
127.0000	-70.65	1.32	-1.63	-73.60	-13.00	-60.60	H
190.0500	-74.18	1.62	4	-71.80	-13.00	-58.80	H
255.5250	-77.76	1.87	5.64	-73.99	-13.00	-60.99	H
427.7000	-79.64	2.48	5.8	-76.32	-13.00	-63.32	H
575.6250	-78.92	2.88	6.05	-75.75	-13.00	-62.75	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-69.07	0.74	-10.72	-80.53	-13.00	-67.53	V
127.0000	-74.56	1.32	-1.63	-77.51	-13.00	-64.51	V
199.7500	-77.87	1.63	2.94	-76.56	-13.00	-63.56	V
274.9250	-84.7	1.99	5.2	-81.49	-13.00	-68.49	V
434.9750	-84.83	2.51	5.85	-81.49	-13.00	-68.49	V
660.5000	-82.36	3.06	6.3	-79.12	-13.00	-66.12	V
44.5500	-64.46	0.76	-8.84	-74.06	-13.00	-61.06	H
143.9750	-65.81	1.41	0.13	-67.09	-13.00	-54.09	H
192.4750	-80.07	1.62	3.74	-77.95	-13.00	-64.95	H
330.7000	-79.67	2.16	5.71	-76.12	-13.00	-63.12	H
553.8000	-79.28	2.82	6.13	-75.97	-13.00	-62.97	H
755.0750	-77.32	3.21	6.2	-74.33	-13.00	-61.33	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
63.9500	-74.36	0.91	-2.02	-77.29	-13.00	-64.29	V
127.0000	-77.86	1.32	-1.63	-80.81	-13.00	-67.81	V
173.0750	-82.17	1.58	2.85	-80.90	-13.00	-67.90	V
274.9250	-84.95	1.99	5.2	-81.74	-13.00	-68.74	V
483.4750	-85.67	2.65	5.59	-82.73	-13.00	-69.73	V
687.1750	-83.44	3.12	6.5	-80.06	-13.00	-67.06	V
51.8250	-67.31	0.82	-4.37	-72.50	-13.00	-59.50	H
127.0000	-66.79	1.32	-1.63	-69.74	-13.00	-56.74	H
301.6000	-79.33	2.1	5.63	-75.80	-13.00	-62.80	H
427.7000	-79.91	2.48	5.8	-76.59	-13.00	-63.59	H
454.3750	-79.16	2.59	5.79	-75.96	-13.00	-62.96	H
718.7000	-78.6	3.16	6.46	-75.30	-13.00	-62.30	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
54.2500	-72.76	0.83	-3.66	-77.25	-13.00	-64.25	V
117.3000	-72.09	1.26	-1.99	-75.34	-13.00	-62.34	V
187.6250	-80.74	1.62	3.9	-78.46	-13.00	-65.46	V
308.8750	-88.7	2.13	5.78	-85.05	-13.00	-72.05	V
730.8250	-82.32	3.18	6.38	-79.12	-13.00	-66.12	V
898.1500	-80.92	3.51	6.63	-77.80	-13.00	-64.80	V
51.8250	-68.33	0.82	-4.37	-73.52	-13.00	-60.52	H
127.0000	-65.45	1.32	-1.63	-68.40	-13.00	-55.40	H
291.9000	-76.35	2.04	5.44	-72.95	-13.00	-59.95	H
427.7000	-79.99	2.48	5.8	-76.67	-13.00	-63.67	H
454.3750	-79.65	2.59	5.79	-76.45	-13.00	-63.45	H
820.5500	-77.47	3.39	6.2	-74.66	-13.00	-61.66	H

Remark:

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



Operation Mode: GSM 1900 / TX / CH 810

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
122.1500	-68.38	1.29	-1.93	-71.60	-13.00	-58.60	V
170.6500	-81.11	1.57	2.59	-80.09	-13.00	-67.09	V
226.4250	-87.03	1.78	5.37	-83.44	-13.00	-70.44	V
342.8250	-83.88	2.19	5.8	-80.27	-13.00	-67.27	V
476.2000	-85.09	2.63	5.63	-82.09	-13.00	-69.09	V
769.6250	-81.59	3.27	6.39	-78.47	-13.00	-65.47	V
51.8250	-67.26	0.82	-4.37	-72.45	-13.00	-59.45	H
139.1250	-69.26	1.39	-0.32	-70.97	-13.00	-57.97	H
209.4500	-73.05	1.68	5.45	-69.28	-13.00	-56.28	H
296.7500	-79.79	2.07	5.53	-76.33	-13.00	-63.33	H
427.7000	-80.98	2.48	5.8	-77.66	-13.00	-64.66	H
730.8250	-78.17	3.18	6.38	-74.97	-13.00	-61.97	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
136.7000	-75.67	1.38	-0.61	-77.66	-13.00	-64.66	V
194.9000	-79.83	1.63	3.47	-77.99	-13.00	-64.99	V
233.7000	-78.36	1.8	5.39	-74.77	-13.00	-61.77	V
321.0000	-86.1	2.18	5.7	-82.58	-13.00	-69.58	V
451.9500	-84.63	2.59	5.75	-81.47	-13.00	-68.47	V
772.0500	-80.89	3.28	6.32	-77.85	-13.00	-64.85	V
51.8250	-68.25	0.82	-4.37	-73.44	-13.00	-60.44	H
127.0000	-67.89	1.32	-1.63	-70.84	-13.00	-57.84	H
233.7000	-77.21	1.8	5.39	-73.62	-13.00	-60.62	H
291.9000	-82.9	2.04	5.44	-79.50	-13.00	-66.50	H
427.7000	-80.94	2.48	5.8	-77.62	-13.00	-64.62	H
733.2500	-78.24	3.19	6.31	-75.12	-13.00	-62.12	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
39.7000	-67.84	0.72	-12.6	-81.16	-13.00	-68.16	V
151.2500	-79.51	1.43	0.8	-80.14	-13.00	-67.14	V
240.9750	-84.31	1.81	5.34	-80.78	-13.00	-67.78	V
447.1000	-84.82	2.58	5.76	-81.64	-13.00	-68.64	V
633.8250	-82.83	2.99	6.18	-79.64	-13.00	-66.64	V
796.3000	-81.09	3.33	6.41	-78.01	-13.00	-65.01	V
51.8250	-68.14	0.82	-4.37	-73.33	-13.00	-60.33	H
127.0000	-66.85	1.32	-1.63	-69.80	-13.00	-56.80	H
177.9250	-78.6	1.6	3.36	-76.84	-13.00	-63.84	H
267.6500	-82.88	1.96	5.22	-79.62	-13.00	-66.62	H
427.7000	-80.87	2.48	5.8	-77.55	-13.00	-64.55	H
927.2500	-75.96	3.6	6.46	-73.10	-13.00	-60.10	H

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 810

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
136.7000	-71.08	1.38	-0.61	-73.07	-13.00	-60.07	V
199.7500	-81.69	1.63	2.94	-80.38	-13.00	-67.38	V
279.7750	-86.32	2	5.3	-83.02	-13.00	-70.02	V
488.3250	-84.13	2.66	5.73	-81.06	-13.00	-68.06	V
607.1500	-83.35	2.93	6.33	-79.95	-13.00	-66.95	V
888.4500	-80.29	3.49	6.7	-77.08	-13.00	-64.08	V
51.8250	-69	0.82	-4.37	-74.19	-13.00	-61.19	H
127.0000	-68.8	1.32	-1.63	-71.75	-13.00	-58.75	H
151.2500	-76.31	1.43	0.8	-76.94	-13.00	-63.94	H
401.0250	-82.43	2.4	5.98	-78.85	-13.00	-65.85	H
565.9250	-79.8	2.86	6.05	-76.61	-13.00	-63.61	H
694.4500	-79.19	3.12	6.45	-75.86	-13.00	-62.86	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: EDGE 850 / TX / CH 128

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
56.6750	-76.26	0.85	-2.94	-80.05	-13.00	-67.05	V
124.5750	-75.07	1.31	-1.78	-78.16	-13.00	-65.16	V
219.1500	-85.67	1.76	5.32	-82.11	-13.00	-69.11	V
270.0750	-82.93	1.98	5.1	-79.81	-13.00	-66.81	V
318.5750	-85.46	2.17	5.72	-81.91	-13.00	-68.91	V
539.2500	-84.71	2.78	6.27	-81.22	-13.00	-68.22	V
44.5500	-66.53	0.76	-8.84	-76.13	-13.00	-63.13	H
127.0000	-69.36	1.32	-1.63	-72.31	-13.00	-59.31	H
267.6500	-83.19	1.96	5.22	-79.93	-13.00	-66.93	H
454.3750	-79.84	2.59	5.79	-76.64	-13.00	-63.64	H
551.3750	-80.1	2.81	6.17	-76.74	-13.00	-63.74	H
636.2500	-79.02	3	6.16	-75.86	-13.00	-62.86	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: EDGE 850 / TX / CH 190

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-69.4	0.74	-10.72	-80.86	-13.00	-67.86	V
148.8250	-82.26	1.42	0.58	-83.10	-13.00	-70.10	V
192.4750	-78.58	1.62	3.74	-76.46	-13.00	-63.46	V
262.8000	-85.59	1.93	5.46	-82.06	-13.00	-69.06	V
573.2000	-83.57	2.88	6.08	-80.37	-13.00	-67.37	V
769.6250	-81.82	3.27	6.39	-78.70	-13.00	-65.70	V
44.5500	-66.79	0.76	-8.84	-76.39	-13.00	-63.39	H
136.7000	-66.92	1.38	-0.61	-68.91	-13.00	-55.91	H
267.6500	-82.84	1.96	5.22	-79.58	-13.00	-66.58	H
345.2500	-78.63	2.2	5.8	-75.03	-13.00	-62.03	H
551.3750	-80.1	2.81	6.17	-76.74	-13.00	-63.74	H
728.4000	-78.14	3.18	6.41	-74.91	-13.00	-61.91	H

Remark:

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



Operation Mode: EDGE 850 / TX / CH 251

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
66.3750	-77.17	0.93	-1.91	-80.01	-13.00	-67.01	V
163.3750	-83.38	1.51	1.77	-83.12	-13.00	-70.12	V
323.4250	-86.58	2.18	5.7	-83.06	-13.00	-70.06	V
464.0750	-85.4	2.61	5.84	-82.17	-13.00	-69.17	V
621.7000	-83.23	2.95	6.13	-80.05	-13.00	-67.05	V
706.5750	-82.78	3.13	6.32	-79.59	-13.00	-66.59	V
44.5500	-66.23	0.76	-8.84	-75.83	-13.00	-62.83	H
134.2750	-60.96	1.36	-0.9	-63.22	-13.00	-50.22	H
187.6250	-80.1	1.62	3.9	-77.82	-13.00	-64.82	H
379.2000	-82.61	2.31	5.98	-78.94	-13.00	-65.94	H
454.3750	-80.08	2.59	5.79	-76.88	-13.00	-63.88	H
624.1250	-79.23	2.96	6.15	-76.04	-13.00	-63.04	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: EDGE 1900 / TX / CH 512

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Jerry Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
93.0500	-79.69	1.12	0.74	-80.07	-13.00	-67.07	V
175.5000	-76.68	1.59	3.1	-75.17	-13.00	-62.17	V
306.4500	-87.93	2.12	5.73	-84.32	-13.00	-71.32	V
403.4500	-86.6	2.41	5.96	-83.05	-13.00	-70.05	V
624.1250	-82.98	2.96	6.15	-79.79	-13.00	-66.79	V
718.7000	-82.4	3.16	6.46	-79.10	-13.00	-66.10	V
129.4250	-60.76	1.34	-1.47	-63.57	-13.00	-50.57	H
211.8750	-72.29	1.7	5.42	-68.57	-13.00	-55.57	H
335.5500	-80.18	2.17	5.75	-76.60	-13.00	-63.60	H
384.0500	-81.68	2.31	5.99	-78.00	-13.00	-65.00	H
551.3750	-80.4	2.81	6.17	-77.04	-13.00	-64.04	H
784.1750	-77.74	3.31	6.15	-74.90	-13.00	-61.90	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: EDGE 1900 / TX / CH 661

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
78.5000	-79.1	1.03	-0.43	-80.56	-13.00	-67.56	V
136.7000	-75.82	1.38	-0.61	-77.81	-13.00	-64.81	V
175.5000	-81.56	1.59	3.1	-80.05	-13.00	-67.05	V
318.5750	-80.61	2.17	5.72	-77.06	-13.00	-64.06	V
483.4750	-84.44	2.65	5.59	-81.50	-13.00	-68.50	V
888.4500	-80.22	3.49	6.7	-77.01	-13.00	-64.01	V
51.8250	-68.24	0.82	-4.37	-73.43	-13.00	-60.43	H
127.0000	-68.74	1.32	-1.63	-71.69	-13.00	-58.69	H
192.4750	-80.03	1.62	3.74	-77.91	-13.00	-64.91	H
345.2500	-78.03	2.2	5.8	-74.43	-13.00	-61.43	H
427.7000	-80.29	2.48	5.8	-76.97	-13.00	-63.97	H
818.1250	-77.34	3.38	6.2	-74.52	-13.00	-61.52	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: EDGE 1900 / TX / CH 810

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-70.22	0.74	-10.72	-81.68	-13.00	-68.68	V
170.6500	-78.18	1.57	2.59	-77.16	-13.00	-64.16	V
253.1000	-80.66	1.86	5.67	-76.85	-13.00	-63.85	V
367.0750	-81.99	2.29	5.77	-78.51	-13.00	-65.51	V
473.7750	-85.48	2.63	5.69	-82.42	-13.00	-69.42	V
725.9750	-82.41	3.17	6.44	-79.14	-13.00	-66.14	V
51.8250	-66.76	0.82	-4.37	-71.95	-13.00	-58.95	H
127.0000	-69.36	1.32	-1.63	-72.31	-13.00	-59.31	H
151.2500	-74.88	1.43	0.8	-75.51	-13.00	-62.51	H
250.6750	-80.04	1.84	5.7	-76.18	-13.00	-63.18	H
427.7000	-78.6	2.48	5.8	-75.28	-13.00	-62.28	H
660.5000	-79.21	3.06	6.3	-75.97	-13.00	-62.97	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
54.2500	-75.26	0.83	-3.66	-79.75	-13.00	-66.75	V
127.0000	-75.94	1.32	-1.63	-78.89	-13.00	-65.89	V
197.3250	-80.51	1.63	3.21	-78.93	-13.00	-65.93	V
323.4250	-86.56	2.18	5.7	-83.04	-13.00	-70.04	V
359.8000	-85.05	2.27	5.7	-81.62	-13.00	-68.62	V
733.2500	-81.87	3.19	6.31	-78.75	-13.00	-65.75	V
51.8250	-69.12	0.82	-4.37	-74.31	-13.00	-61.31	H
134.2750	-64.44	1.36	-0.9	-66.70	-13.00	-53.70	H
177.9250	-79.2	1.6	3.36	-77.44	-13.00	-64.44	H
454.3750	-79.95	2.59	5.79	-76.75	-13.00	-63.75	H
522.2750	-80.29	2.71	6.08	-76.92	-13.00	-63.92	H
781.7500	-77.61	3.31	6.13	-74.79	-13.00	-61.79	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
54.2500	-74.03	0.83	-3.66	-78.52	-13.00	-65.52	V
175.5000	-82.47	1.59	3.1	-80.96	-13.00	-67.96	V
233.7000	-86.16	1.8	5.39	-82.57	-13.00	-69.57	V
321.0000	-83.72	2.18	5.7	-80.20	-13.00	-67.20	V
478.6250	-84.4	2.64	5.58	-81.46	-13.00	-68.46	V
769.6250	-82.06	3.27	6.39	-78.94	-13.00	-65.94	V
51.8250	-68.1	0.82	-4.37	-73.29	-13.00	-60.29	H
127.0000	-68.31	1.32	-1.63	-71.26	-13.00	-58.26	H
209.4500	-72.5	1.68	5.45	-68.73	-13.00	-55.73	H
250.6750	-82.27	1.84	5.7	-78.41	-13.00	-65.41	H
427.7000	-80.55	2.48	5.8	-77.23	-13.00	-64.23	H
738.1000	-78.4	3.2	6.17	-75.43	-13.00	-62.43	H

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9538

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
51.8250	-74.12	0.82	-4.37	-79.31	-13.00	-66.31	V
190.0500	-76.21	1.62	4	-73.83	-13.00	-60.83	V
301.6000	-82.76	2.1	5.63	-79.23	-13.00	-66.23	V
352.5250	-84.81	2.24	5.78	-81.27	-13.00	-68.27	V
546.5250	-84.73	2.8	6.21	-81.32	-13.00	-68.32	V
747.8000	-82.51	3.2	6.1	-79.61	-13.00	-66.61	V
51.8250	-68.7	0.82	-4.37	-73.89	-13.00	-60.89	H
127.0000	-68.44	1.32	-1.63	-71.39	-13.00	-58.39	H
243.4000	-77.03	1.82	5.43	-73.42	-13.00	-60.42	H
289.4750	-80.86	2.02	5.4	-77.48	-13.00	-64.48	H
388.9000	-79.42	2.32	6	-75.74	-13.00	-62.74	H
682.3250	-79.11	3.1	6.5	-75.71	-13.00	-62.71	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
105.1750	-72.21	1.18	-1.07	-74.46	-13.00	-61.46	V
165.8000	-73.51	1.53	2.05	-72.99	-13.00	-59.99	V
216.7250	-77.67	1.74	5.35	-74.06	-13.00	-61.06	V
299.1750	-78.92	2.09	5.58	-75.43	-13.00	-62.43	V
388.9000	-82.98	2.32	6	-79.30	-13.00	-66.30	V
626.5500	-81.09	2.96	6.16	-77.89	-13.00	-64.89	V
44.5500	-64.7	0.76	-8.84	-74.30	-13.00	-61.30	H
148.8250	-69.28	1.42	0.58	-70.12	-13.00	-57.12	H
204.6000	-73	1.65	4.2	-70.45	-13.00	-57.45	H
325.8500	-80.64	2.17	5.71	-77.10	-13.00	-64.10	H
454.3750	-78.19	2.59	5.79	-74.99	-13.00	-61.99	H
633.8250	-78.13	2.99	6.18	-74.94	-13.00	-61.94	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 Band V / TX / CH 4182

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
39.7000	-64.48	0.72	-12.6	-77.80	-13.00	-64.80	V
151.2500	-78.82	1.43	0.8	-79.45	-13.00	-66.45	V
260.3750	-78.03	1.91	5.58	-74.36	-13.00	-61.36	V
507.7250	-82.59	2.69	5.98	-79.30	-13.00	-66.30	V
624.1250	-81.72	2.96	6.15	-78.53	-13.00	-65.53	V
735.6750	-81.03	3.19	6.24	-77.98	-13.00	-64.98	V
46.9750	-66.68	0.78	-6.96	-74.42	-13.00	-61.42	H
139.1250	-67.01	1.39	-0.32	-68.72	-13.00	-55.72	H
197.3250	-72.58	1.63	3.21	-71.00	-13.00	-58.00	H
330.7000	-79.98	2.16	5.71	-76.43	-13.00	-63.43	H
454.3750	-79.33	2.59	5.79	-76.13	-13.00	-63.13	H
612.0000	-77.97	2.94	6.25	-74.66	-13.00	-61.66	H

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4233

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
39.7000	-63.9	0.72	-12.6	-77.22	-13.00	-64.22	V
117.3000	-73.88	1.26	-1.99	-77.13	-13.00	-64.13	V
151.2500	-76.73	1.43	0.8	-77.36	-13.00	-64.36	V
199.7500	-76.61	1.63	2.94	-75.30	-13.00	-62.30	V
427.7000	-82.09	2.48	5.8	-78.77	-13.00	-65.77	V
718.7000	-80	3.16	6.46	-76.70	-13.00	-63.70	V
51.8250	-69.18	0.82	-4.37	-74.37	-13.00	-61.37	H
127.0000	-67.55	1.32	-1.63	-70.50	-13.00	-57.50	H
197.3250	-75.69	1.63	3.21	-74.11	-13.00	-61.11	H
279.7750	-79.41	2	5.3	-76.11	-13.00	-63.11	H
454.3750	-79.17	2.59	5.79	-75.97	-13.00	-62.97	H
553.8000	-79.78	2.82	6.13	-76.47	-13.00	-63.47	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 9262

Test Date: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-70.45	0.74	-10.72	-81.91	-13.00	-68.91	V
117.3000	-75.84	1.26	-1.99	-79.09	-13.00	-66.09	V
192.4750	-75.26	1.62	3.74	-73.14	-13.00	-60.14	V
304.0250	-81.88	2.11	5.68	-78.31	-13.00	-65.31	V
418.0000	-86.5	2.46	5.83	-83.13	-13.00	-70.13	V
750.2250	-82.66	3.2	6.1	-79.76	-13.00	-66.76	V
51.8250	-69.55	0.82	-4.37	-74.74	-13.00	-61.74	H
127.0000	-70.75	1.32	-1.63	-73.70	-13.00	-60.70	H
170.6500	-78.17	1.57	2.59	-77.15	-13.00	-64.15	H
371.9250	-80.82	2.3	5.85	-77.27	-13.00	-64.27	H
454.3750	-81.48	2.59	5.79	-78.28	-13.00	-65.28	H
694.4500	-79.4	3.12	6.45	-76.07	-13.00	-63.07	H

Remark:

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



Operation Mode: WCDMA / HSDPA Band II /
TX / CH 9400

Test Date: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.3000	-74.69	1.26	-1.99	-77.94	-13.00	-64.94	V
173.0750	-75.22	1.58	2.85	-73.95	-13.00	-60.95	V
209.4500	-83.01	1.68	5.45	-79.24	-13.00	-66.24	V
279.7750	-81.81	2	5.3	-78.51	-13.00	-65.51	V
563.5000	-84.13	2.85	6.02	-80.96	-13.00	-67.96	V
810.8500	-81.83	3.34	6.2	-78.97	-13.00	-65.97	V
51.8250	-67.78	0.82	-4.37	-72.97	-13.00	-59.97	H
127.0000	-69.2	1.32	-1.63	-72.15	-13.00	-59.15	H
199.7500	-77.79	1.63	2.94	-76.48	-13.00	-63.48	H
257.9500	-81.16	1.89	5.61	-77.44	-13.00	-64.44	H
454.3750	-80.59	2.59	5.79	-77.39	-13.00	-64.39	H
638.6750	-79.42	3	6.14	-76.28	-13.00	-63.28	H

Remark:

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



Operation Mode: WCDMA / HSDPA Band II /
TX / CH 9538

Test Date: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
51.8250	-64.69	0.82	-4.37	-69.88	-13.00	-56.88	V
122.1500	-77.13	1.29	-1.93	-80.35	-13.00	-67.35	V
177.9250	-75.3	1.6	3.36	-73.54	-13.00	-60.54	V
299.1750	-82.9	2.09	5.58	-79.41	-13.00	-66.41	V
575.6250	-84.09	2.88	6.05	-80.92	-13.00	-67.92	V
873.9000	-81.01	3.45	6.58	-77.88	-13.00	-64.88	V
51.8250	-69.2	0.82	-4.37	-74.39	-13.00	-61.39	H
127.0000	-70.22	1.32	-1.63	-73.17	-13.00	-60.17	H
190.0500	-80.58	1.62	4	-78.20	-13.00	-65.20	H
282.2000	-83.52	2.01	5.33	-80.20	-13.00	-67.20	H
454.3750	-80.8	2.59	5.79	-77.60	-13.00	-64.60	H
806.0000	-77.91	3.33	6.38	-74.86	-13.00	-61.86	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 4132

Test Date: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-67.65	0.74	-10.72	-79.11	-13.00	-66.11	V
119.7250	-77.41	1.27	-2.09	-80.77	-13.00	-67.77	V
226.4250	-87.59	1.78	5.37	-84.00	-13.00	-71.00	V
371.9250	-86.53	2.3	5.85	-82.98	-13.00	-69.98	V
456.8000	-84.91	2.6	5.84	-81.67	-13.00	-68.67	V
655.6500	-83	3.04	6.3	-79.74	-13.00	-66.74	V
42.1250	-63.68	0.74	-10.72	-75.14	-13.00	-62.14	H
127.0000	-66.53	1.32	-1.63	-69.48	-13.00	-56.48	H
216.7250	-72.18	1.74	5.35	-68.57	-13.00	-55.57	H
427.7000	-80.95	2.48	5.8	-77.63	-13.00	-64.63	H
483.4750	-80.54	2.65	5.59	-77.60	-13.00	-64.60	H
570.7750	-79.39	2.87	6.1	-76.16	-13.00	-63.16	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: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
39.7000	-67.36	0.72	-12.6	-80.68	-13.00	-67.68	V
160.9500	-77.62	1.49	1.5	-77.61	-13.00	-64.61	V
204.6000	-84.09	1.65	4.2	-81.54	-13.00	-68.54	V
427.7000	-84.7	2.48	5.8	-81.38	-13.00	-68.38	V
551.3750	-82.54	2.81	6.17	-79.18	-13.00	-66.18	V
658.0750	-82.31	3.05	6.3	-79.06	-13.00	-66.06	V
51.8250	-69.49	0.82	-4.37	-74.68	-13.00	-61.68	H
127.0000	-70.46	1.32	-1.63	-73.41	-13.00	-60.41	H
214.3000	-76.98	1.72	5.38	-73.32	-13.00	-60.32	H
454.3750	-79.73	2.59	5.79	-76.53	-13.00	-63.53	H
587.7500	-80.25	2.89	6.15	-76.99	-13.00	-63.99	H
670.2000	-78.72	3.07	6.3	-75.49	-13.00	-62.49	H

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4233 **Test Date:** December 20, 2011
Temperature: 24°C **Tested by:** Edward Lin
Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
51.8250	-74.49	0.82	-4.37	-79.68	-13.00	-66.68	V
107.6000	-75.95	1.19	-1.39	-78.53	-13.00	-65.53	V
180.3500	-78.08	1.61	3.62	-76.07	-13.00	-63.07	V
204.6000	-81.21	1.65	4.2	-78.66	-13.00	-65.66	V
439.8250	-84.06	2.53	5.9	-80.69	-13.00	-67.69	V
551.3750	-83.77	2.81	6.17	-80.41	-13.00	-67.41	V
51.8250	-69.23	0.82	-4.37	-74.42	-13.00	-61.42	H
127.0000	-68.75	1.32	-1.63	-71.70	-13.00	-58.70	H
151.2500	-75.49	1.43	0.8	-76.12	-13.00	-63.12	H
245.8250	-79.21	1.82	5.52	-75.51	-13.00	-62.51	H
454.3750	-79.95	2.59	5.79	-76.75	-13.00	-63.75	H
636.2500	-78.54	3	6.16	-75.38	-13.00	-62.38	H

Remark:

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



Operation Mode: WCDMA / HSUPA Band II /
TX / CH 9262

Test Date: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
112.4500	-74.57	1.22	-1.8	-77.59	-13.00	-64.59	V
226.4250	-88.51	1.78	5.37	-84.92	-13.00	-71.92	V
296.7500	-87.95	2.07	5.53	-84.49	-13.00	-71.49	V
427.7000	-86.34	2.48	5.8	-83.02	-13.00	-70.02	V
575.6250	-84.95	2.88	6.05	-81.78	-13.00	-68.78	V
694.4500	-83.75	3.12	6.45	-80.42	-13.00	-67.42	V
51.8250	-69.78	0.82	-4.37	-74.97	-13.00	-61.97	H
136.7000	-66.61	1.38	-0.61	-68.60	-13.00	-55.60	H
199.7500	-75.4	1.63	2.94	-74.09	-13.00	-61.09	H
260.3750	-78.18	1.91	5.58	-74.51	-13.00	-61.51	H
381.6250	-83.51	2.31	5.99	-79.83	-13.00	-66.83	H
454.3750	-81.67	2.59	5.79	-78.47	-13.00	-65.47	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 / HSUPA Band II /
TX / CH 9400

Test Date: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
51.8250	-67.79	0.82	-4.37	-72.98	-13.00	-59.98	V
136.7000	-73.74	1.38	-0.61	-75.73	-13.00	-62.73	V
207.0250	-79.13	1.67	4.82	-75.98	-13.00	-62.98	V
434.9750	-86.04	2.51	5.85	-82.70	-13.00	-69.70	V
645.9500	-83.15	3.02	6.21	-79.96	-13.00	-66.96	V
806.0000	-82.1	3.33	6.38	-79.05	-13.00	-66.05	V
51.8250	-69.79	0.82	-4.37	-74.98	-13.00	-61.98	H
119.7250	-70.3	1.27	-2.09	-73.66	-13.00	-60.66	H
146.4000	-74.44	1.41	0.35	-75.50	-13.00	-62.50	H
245.8250	-79.88	1.82	5.52	-76.18	-13.00	-63.18	H
454.3750	-80.84	2.59	5.79	-77.64	-13.00	-64.64	H
621.7000	-80.08	2.95	6.13	-76.90	-13.00	-63.90	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: WCDMA / HSUPA Band II /
TX / CH 9538

Test Date: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
44.5500	-72.37	0.76	-8.84	-81.97	-13.00	-68.97	V
214.3000	-82.91	1.72	5.38	-79.25	-13.00	-66.25	V
321.0000	-86.24	2.18	5.7	-82.72	-13.00	-69.72	V
427.7000	-86.48	2.48	5.8	-83.16	-13.00	-70.16	V
510.1500	-86.01	2.69	6	-82.70	-13.00	-69.70	V
796.3000	-82.43	3.33	6.41	-79.35	-13.00	-66.35	V
51.8250	-69.51	0.82	-4.37	-74.70	-13.00	-61.70	H
127.0000	-71.09	1.32	-1.63	-74.04	-13.00	-61.04	H
194.9000	-76.54	1.63	3.47	-74.70	-13.00	-61.70	H
301.6000	-83.19	2.1	5.63	-79.66	-13.00	-66.66	H
371.9250	-82.24	2.3	5.85	-78.69	-13.00	-65.69	H
645.9500	-79.81	3.02	6.21	-76.62	-13.00	-63.62	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:** December 20, 2011
Temperature: 24°C **Tested by:** Edward Lin
Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
129.4250	-71.75	1.34	-1.47	-74.56	-13.00	-61.56	V
202.1750	-83.17	1.64	3.57	-81.24	-13.00	-68.24	V
294.3250	-86.13	2.05	5.49	-82.69	-13.00	-69.69	V
359.8000	-83.27	2.27	5.7	-79.84	-13.00	-66.84	V
539.2500	-84.81	2.78	6.27	-81.32	-13.00	-68.32	V
658.0750	-83.13	3.05	6.3	-79.88	-13.00	-66.88	V
44.5500	-65.48	0.76	-8.84	-75.08	-13.00	-62.08	H
127.0000	-70.99	1.32	-1.63	-73.94	-13.00	-60.94	H
202.1750	-80.17	1.64	3.57	-78.24	-13.00	-65.24	H
272.5000	-80.22	1.99	5.15	-77.06	-13.00	-64.06	H
427.7000	-80.7	2.48	5.8	-77.38	-13.00	-64.38	H
621.7000	-79.14	2.95	6.13	-75.96	-13.00	-62.96	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:** December 20, 2011

Temperature: 24°C **Tested by:** Edward Lin

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

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
119.7250	-70.14	1.27	-2.09	-73.50	-13.00	-60.50	V
185.2000	-75.02	1.61	3.81	-72.82	-13.00	-59.82	V
328.2750	-86.26	2.17	5.71	-82.72	-13.00	-69.72	V
405.8750	-83.8	2.42	5.94	-80.28	-13.00	-67.28	V
636.2500	-82.65	3	6.16	-79.49	-13.00	-66.49	V
725.9750	-81.66	3.17	6.44	-78.39	-13.00	-65.39	V
127.0000	-69.02	1.32	-1.63	-71.97	-13.00	-58.97	H
182.7750	-73.27	1.61	3.72	-71.16	-13.00	-58.16	H
214.3000	-78.08	1.72	5.38	-74.42	-13.00	-61.42	H
325.8500	-80.42	2.17	5.71	-76.88	-13.00	-63.88	H
454.3750	-79.64	2.59	5.79	-76.44	-13.00	-63.44	H
728.4000	-78.86	3.18	6.41	-75.63	-13.00	-62.63	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: December 20, 2011

Temperature: 24°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.1250	-68.24	0.74	-10.72	-79.70	-13.00	-66.70	V
168.2250	-75.66	1.55	2.32	-74.89	-13.00	-61.89	V
284.6250	-86.6	2.01	5.35	-83.26	-13.00	-70.26	V
403.4500	-85.49	2.41	5.96	-81.94	-13.00	-68.94	V
575.6250	-83.12	2.88	6.05	-79.95	-13.00	-66.95	V
696.8750	-82.06	3.11	6.42	-78.75	-13.00	-65.75	V
51.8250	-69.04	0.82	-4.37	-74.23	-13.00	-61.23	H
127.0000	-70.53	1.32	-1.63	-73.48	-13.00	-60.48	H
202.1750	-70.46	1.64	3.57	-68.53	-13.00	-55.53	H
240.9750	-78.62	1.81	5.34	-75.09	-13.00	-62.09	H
325.8500	-78.96	2.17	5.71	-75.42	-13.00	-62.42	H
454.3750	-79.33	2.59	5.79	-76.13	-13.00	-63.13	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1647.500	-52.8	5.04	6.03	-51.81	-13.00	-38.81	V
2470.000	-47.14	6.3	6.06	-47.38	-13.00	-34.38	V
N/A							
1647.500	-57.17	5.04	6.03	-56.18	-13.00	-43.18	H
2470.000	-36.55	6.3	6.06	-36.79	-13.00	-23.79	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: GSM 850 / TX / CH 190

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-52.48	5.09	5.97	-51.60	-13.00	-38.60	V
2522.500	-46.64	6.38	6.16	-46.86	-13.00	-33.86	V
N/A							
1682.500	-55	5.09	5.97	-54.12	-13.00	-41.12	H
2522.500	-35.52	6.38	6.16	-35.74	-13.00	-22.74	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 850 / TX / CH 251

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-51.06	5.11	5.94	-50.23	-13.00	-37.23	V
2557.500	-46.93	6.43	6.25	-47.11	-13.00	-34.11	V
N/A							
1700.000	-54.4	5.11	5.94	-53.57	-13.00	-40.57	H
2557.500	-36.6	6.43	6.25	-36.78	-13.00	-23.78	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.*



Operation Mode: GPRS 850 / TX / CH 128

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1647.500	-49.98	5.04	6.03	-48.99	-13.00	-35.99	V
2470.000	-49.29	6.3	6.06	-49.53	-13.00	-36.53	V
N/A							
1647.500	-54.99	5.04	6.03	-54.00	-13.00	-41.00	H
2470.000	-40.46	6.3	6.06	-40.70	-13.00	-27.70	H
5077.500	-54.12	9.44	10.63	-52.93	-13.00	-39.93	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-49.7	5.09	5.97	-48.82	-13.00	-35.82	V
2522.500	-49.02	6.38	6.16	-49.24	-13.00	-36.24	V
3975.000	-56.29	8.36	9.38	-55.27	-13.00	-42.27	V
N/A							
1682.500	-54.93	5.09	5.97	-54.05	-13.00	-41.05	H
2522.500	-39.94	6.38	6.16	-40.16	-13.00	-27.16	H
6687.500	-49.73	11.29	11.52	-49.50	-13.00	-36.50	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-47.42	5.11	5.94	-46.59	-13.00	-33.59	V
2557.500	-49.81	6.43	6.25	-49.99	-13.00	-36.99	V
5077.500	-55.02	9.44	10.63	-53.83	-13.00	-40.83	V
N/A							
1700.000	-53.01	5.11	5.94	-52.18	-13.00	-39.18	H
2557.500	-39.14	6.43	6.25	-39.32	-13.00	-26.32	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: GSM 1900 / TX / CH 512

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3712.500	-54.9	8.21	9.11	-54.00	-13.00	-41.00	V
5550.000	-35.25	10.06	10.81	-34.50	-13.00	-21.50	V
N/A							
3712.500	-46.28	8.21	9.11	-45.38	-13.00	-32.38	H
5550.000	-30.11	10.06	10.81	-29.36	-13.00	-16.36	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-55.67	8.24	9.16	-54.75	-13.00	-41.75	V
5637.500	-35.88	10.18	10.83	-35.23	-13.00	-22.23	V
N/A							
3765.000	-51.09	8.24	9.16	-50.17	-13.00	-37.17	H
5637.500	-34.96	10.18	10.83	-34.31	-13.00	-21.31	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: GSM 1900 / TX / CH 810

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3817.500	-54.78	8.28	9.22	-53.84	-13.00	-40.84	V
5742.500	-36.16	10.27	10.85	-35.58	-13.00	-22.58	V
N/A							
3817.500	-50.74	8.28	9.22	-49.80	-13.00	-36.80	H
5742.500	-34.31	10.27	10.85	-33.73	-13.00	-20.73	H
N/A							

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 512

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3712.500	-54.9	8.21	9.11	-54.00	-13.00	-41.00	V
5550.000	-35.25	10.06	10.81	-34.50	-13.00	-21.50	V
N/A							
3712.500	-46.28	8.21	9.11	-45.38	-13.00	-32.38	H
5550.000	-30.11	10.06	10.81	-29.36	-13.00	-16.36	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-55.67	8.24	9.16	-54.75	-13.00	-41.75	V
5637.500	-35.88	10.18	10.83	-35.23	-13.00	-22.23	V
N/A							
3765.000	-51.09	8.24	9.16	-50.17	-13.00	-37.17	H
5637.500	-34.96	10.18	10.83	-34.31	-13.00	-21.31	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: GPRS 1900 / TX / CH 810

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3817.500	-54.78	8.28	9.22	-53.84	-13.00	-40.84	V
5742.500	-36.16	10.27	10.85	-35.58	-13.00	-22.58	V
N/A							
3817.500	-50.74	8.28	9.22	-49.80	-13.00	-36.80	H
5742.500	-34.31	10.27	10.85	-33.73	-13.00	-20.73	H
N/A							

Remark:

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



Operation Mode: EDGE 850 / TX / CH 128

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1647.500	-59.91	5.04	6.03	-58.92	-13.00	-45.92	V
2977.500	-57.71	7.04	7.34	-57.41	-13.00	-44.41	V
3572.500	-57.34	8.04	8.97	-56.41	-13.00	-43.41	V
N/A							
2190.000	-57.88	5.93	5.67	-58.14	-13.00	-45.14	H
2977.500	-57.4	7.04	7.34	-57.10	-13.00	-44.10	H
5112.500	-54.89	9.46	10.64	-53.71	-13.00	-40.71	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-59.76	5.09	5.97	-58.88	-13.00	-45.88	V
2522.500	-57.18	6.38	6.16	-57.40	-13.00	-44.40	V
4342.500	-55.65	8.62	9.67	-54.60	-13.00	-41.60	V
N/A							
2522.500	-56.23	6.38	6.16	-56.45	-13.00	-43.45	H
4797.500	-54.29	9.32	10.28	-53.33	-13.00	-40.33	H
7387.500	-45.4	12.08	12.52	-44.96	-13.00	-31.96	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-59.02	5.11	5.94	-58.19	-13.00	-45.19	V
2557.500	-55.26	6.43	6.25	-55.44	-13.00	-42.44	V
3765.000	-56.54	8.24	9.16	-55.62	-13.00	-42.62	V
N/A							
1700.000	-59.71	5.11	5.94	-58.88	-13.00	-45.88	H
2557.500	-52.54	6.43	6.25	-52.72	-13.00	-39.72	H
5497.500	-53.83	9.94	10.8	-52.97	-13.00	-39.97	H
7195.000	-46.85	11.85	12.21	-46.49	-13.00	-33.49	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3712.500	-52.8	8.21	9.11	-51.90	-13.00	-38.90	V
5550.000	-32.12	10.06	10.81	-31.37	-13.00	-18.37	V
N/A							
3712.500	-53.64	8.21	9.11	-52.74	-13.00	-39.74	H
5550.000	-34.2	10.06	10.81	-33.45	-13.00	-20.45	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: EDGE 1900 / TX / CH 661

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-56.91	8.24	9.16	-55.99	-13.00	-42.99	V
5637.500	-36.41	10.18	10.83	-35.76	-13.00	-22.76	V
N/A							
3765.000	-52.58	8.24	9.16	-51.66	-13.00	-38.66	H
5637.500	-36.46	10.18	10.83	-35.81	-13.00	-22.81	H
N/A							

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 810

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3817.500	-54.86	8.28	9.22	-53.92	-13.00	-40.92	V
5742.500	-37.33	10.27	10.85	-36.75	-13.00	-23.75	V
N/A							
3817.500	-53.31	8.28	9.22	-52.37	-13.00	-39.37	H
5742.500	-37.18	10.27	10.85	-36.60	-13.00	-23.60	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3712.500	-45.39	8.21	9.11	-44.49	-13.00	-31.49	V
5567.500	-40.68	10.11	10.81	-39.98	-13.00	-26.98	V
N/A							
3712.500	-48.11	8.21	9.11	-47.21	-13.00	-34.21	H
5567.500	-45.57	10.11	10.81	-44.87	-13.00	-31.87	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-50.93	8.24	9.16	-50.01	-13.00	-37.01	V
5655.000	-50.54	10.17	10.83	-49.88	-13.00	-36.88	V
N/A							
3765.000	-51.52	8.24	9.16	-50.60	-13.00	-37.60	H
5637.500	-47.39	10.18	10.83	-46.74	-13.00	-33.74	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3817.500	-47	8.28	9.22	-46.06	-13.00	-33.06	V
5725.000	-48.43	10.22	10.84	-47.81	-13.00	-34.81	V
N/A							
3817.500	-50.6	8.28	9.22	-49.66	-13.00	-36.66	H
5725.000	-47.96	10.22	10.84	-47.34	-13.00	-34.34	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1665.000	-43.49	5.06	6	-42.55	-13.00	-29.55	V
2487.500	-49.2	6.33	6.08	-49.45	-13.00	-36.45	V
4377.500	-53.11	8.63	9.7	-52.04	-13.00	-39.04	V
N/A							
1665.000	-41.1	5.06	6	-40.16	-13.00	-27.16	H
2487.500	-50.61	6.33	6.08	-50.86	-13.00	-37.86	H
N/A							

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4182

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-45.83	5.09	5.97	-44.95	-13.00	-31.95	V
2505.000	-50.91	6.36	6.11	-51.16	-13.00	-38.16	V
N/A							
1682.500	-42.02	5.09	5.97	-41.14	-13.00	-28.14	H
2505.000	-50.9	6.36	6.11	-51.15	-13.00	-38.15	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-48.51	5.11	5.94	-47.68	-13.00	-34.68	V
2540.000	-49.3	6.41	6.2	-49.51	-13.00	-36.51	V
4710.000	-53.68	9.15	10.14	-52.69	-13.00	-39.69	V
N/A							
1700.000	-44.51	5.11	5.94	-43.68	-13.00	-30.68	H
2540.000	-50.1	6.41	6.2	-50.31	-13.00	-37.31	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 / HSDPA Band II / TX / CH 9262

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3712.500	-47.8	8.21	9.11	-46.90	-13.00	-33.90	V
5567.500	-51.81	10.11	10.81	-51.11	-13.00	-38.11	V
N/A							
3712.500	-51.18	8.21	9.11	-50.28	-13.00	-37.28	H
5567.500	-48.34	10.11	10.81	-47.64	-13.00	-34.64	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-50.55	8.24	9.16	-49.63	-13.00	-36.63	V
5655.000	-50.35	10.17	10.83	-49.69	-13.00	-36.69	V
N/A							
3765.000	-52.43	8.24	9.16	-51.51	-13.00	-38.51	H
5655.000	-47.7	10.17	10.83	-47.04	-13.00	-34.04	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 / HSDPA Band II / TX / CH 9538

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3817.500	-47.75	8.28	9.22	-46.81	-13.00	-33.81	V
5725.000	-49.49	10.22	10.84	-48.87	-13.00	-35.87	V
N/A							
3817.500	-51.18	8.28	9.22	-50.24	-13.00	-37.24	H
5725.000	-47.08	10.22	10.84	-46.46	-13.00	-33.46	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1665.000	-46.74	5.06	6	-45.80	-13.00	-32.80	V
2487.500	-53.01	6.33	6.08	-53.26	-13.00	-40.26	V
6967.500	-47.8	11.54	11.86	-47.48	-13.00	-34.48	V
N/A							
1665.000	-43.26	5.06	6	-42.32	-13.00	-29.32	H
2487.500	-53.45	6.33	6.08	-53.70	-13.00	-40.70	H
4290.000	-54.41	8.59	9.63	-53.37	-13.00	-40.37	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 / HSDPA Band V / TX / CH 4182

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-46.95	5.09	5.97	-46.07	-13.00	-33.07	V
2505.000	-52.39	6.36	6.11	-52.64	-13.00	-39.64	V
N/A							
1682.500	-43.35	5.09	5.97	-42.47	-13.00	-29.47	H
2505.000	-52.98	6.36	6.11	-53.23	-13.00	-40.23	H
6040.000	-51.28	10.75	10.93	-51.10	-13.00	-38.10	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-48.79	5.11	5.94	-47.96	-13.00	-34.96	V
2540.000	-49.79	6.41	6.2	-50.00	-13.00	-37.00	V
N/A							
1700.000	-44.22	5.11	5.94	-43.39	-13.00	-30.39	H
2540.000	-50.41	6.41	6.2	-50.62	-13.00	-37.62	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3712.500	-48.02	8.21	9.11	-47.12	-13.00	-34.12	V
5567.500	-51.61	10.11	10.81	-50.91	-13.00	-37.91	V
N/A							
3712.500	-51.26	8.21	9.11	-50.36	-13.00	-37.36	H
5567.500	-50.08	10.11	10.81	-49.38	-13.00	-36.38	H
N/A							

Remark:

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



Operation Mode: WCDMA / HSUPA Band II / TX / CH 9400

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-50.34	8.24	9.16	-49.42	-13.00	-36.42	V
5655.000	-51.94	10.17	10.83	-51.28	-13.00	-38.28	V
N/A							
3765.000	-53.12	8.24	9.16	-52.20	-13.00	-39.20	H
5655.000	-48.69	10.17	10.83	-48.03	-13.00	-35.03	H
N/A							

Remark:

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



Operation Mode: WCDMA / HSUPA Band II / TX / CH 9538

Test Date: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3817.500	-47.36	8.28	9.22	-46.42	-13.00	-33.42	V
5725.000	-48.32	10.22	10.84	-47.70	-13.00	-34.70	V
N/A							
3817.500	-51.76	8.28	9.22	-50.82	-13.00	-37.82	H
5725.000	-50.13	10.22	10.84	-49.51	-13.00	-36.51	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1665.000	-47.17	5.06	6	-46.23	-13.00	-33.23	V
2487.500	-52.27	6.33	6.08	-52.52	-13.00	-39.52	V
N/A							
1665.000	-43.33	5.06	6	-42.39	-13.00	-29.39	H
2487.500	-52.66	6.33	6.08	-52.91	-13.00	-39.91	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1682.500	-47.36	5.09	5.97	-46.48	-13.00	-33.48	V
1962.500	-53.28	5.62	5.47	-53.43	-13.00	-40.43	V
2522.500	-51.97	6.38	6.16	-52.19	-13.00	-39.19	V
N/A							
1682.500	-43.29	5.09	5.97	-42.41	-13.00	-29.41	H
2505.000	-53.24	6.36	6.11	-53.49	-13.00	-40.49	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: December 20, 2011

Temperature: 25°C

Tested by: Edward Lin

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.000	-48.7	5.11	5.94	-47.87	-13.00	-34.87	V
2540.000	-48.92	6.41	6.2	-49.13	-13.00	-36.13	V
N/A							
1700.000	-44.95	5.11	5.94	-44.12	-13.00	-31.12	H
2540.000	-50.27	6.41	6.2	-50.48	-13.00	-37.48	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.



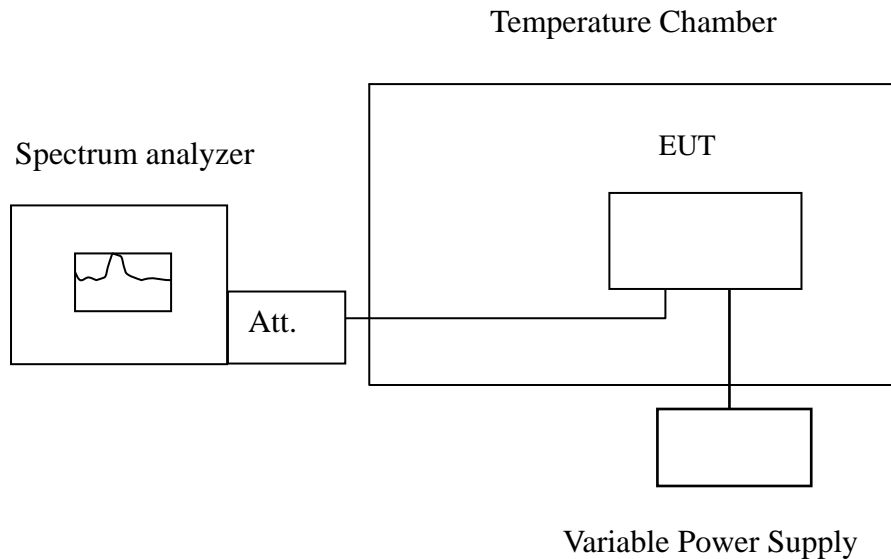
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

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)
3.7	50	836600001	9	2091
	40	836600003	11	
	30	836600004	12	
	20	836599992	0	
	10	836599990	-2	
	0	836600000	8	
	-10	836599987	-5	
	-20	836600005	13	
	-30	836600008	16	

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)
3.7	50	1880000004	8	4700
	40	1879999999	3	
	30	1880000000	4	
	20	1879999996	0	
	10	1880000005	9	
	0	1880000004	8	
	-10	1880000012	16	
	-20	1880000016	20	
	-30	1880000007	11	



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)
3.7	50	836599997	-5	2091
	40	836599999	-3	
	30	836600000	-2	
	20	836600002	0	
	10	836600004	2	
	0	836599999	-3	
	-10	836600005	3	
	-20	836600006	4	
	-30	836600007	5	

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)
3.7	50	1879999997	-46	4700
	40	1879999999	-44	
	30	1879999996	-47	
	20	1880000043	0	
	10	1879999990	-53	
	0	1879999988	-55	
	-10	1879999989	-54	
	-20	1880000005	-38	
	-30	1880000008	-35	



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)
3.7	50	836599997	-7	2091
	40	836599996	-8	
	30	836599999	-5	
	20	836600004	0	
	10	836600008	4	
	0	836600002	-2	
	-10	836599987	-17	
	-20	836600006	2	
	-30	836600001	-3	

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)
3.7	50	1879999997	-7	4700
	40	1879999996	-8	
	30	1880000005	1	
	20	1880000004	0	
	10	1880000006	2	
	0	1880000008	4	
	-10	1880000007	3	
	-20	1880000001	-3	
	-30	1880000002	-2	



Reference Frequency: WCDMA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	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)
3.7	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 836.4 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	836399986	-19	2091
	40	836399989	-16	
	30	836399988	-17	
	20	836400005	0	
	10	836400004	-1	
	0	836399985	-20	
	-10	836399994	-11	
	-20	836399988	-17	
	-30	836400000	-5	

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)
3.7	50	1879999999	-1	4700
	40	1879999989	-11	
	30	1879999984	-16	
	20	1880000000	0	
	10	1879999992	-8	
	0	1880000004	4	
	-10	1879999997	-3	
	-20	1879999995	-5	
	-30	1879999992	-8	



Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	836400004	3	2091
	40	836400005	4	
	30	836399997	-4	
	20	836400001	0	
	10	836399998	-3	
	0	836399994	-7	
	-10	836400008	7	
	-20	836400009	8	
	-30	836399989	-12	

Reference Frequency: WCDMA / HSUPA 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)
3.7	50	1879999999	-3	4700
	40	1879999996	-6	
	30	1879999995	-7	
	20	1880000002	0	
	10	1879999999	-3	
	0	1879999995	-7	
	-10	1879999994	-8	
	-20	1879999992	-10	
	-30	1879999999	-3	



7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

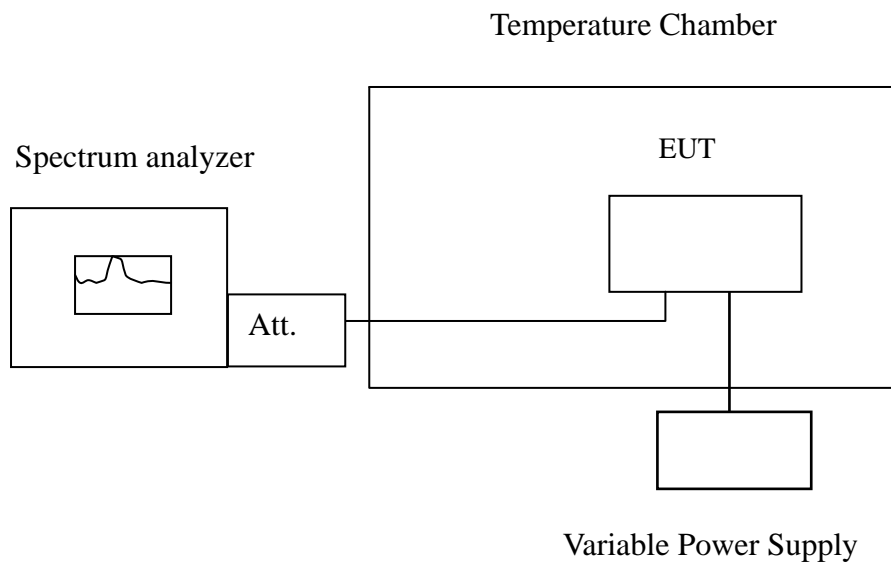
According to FCC §2.1055, FCC §24.235,

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 = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	836599995	3	2091
3.7		836599992	0	
3.145		836599993	1	
3END		836599876	-116	

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)
4.255	20	1880000003	7	4700
3.7		1879999996	0	
3.145		1879999995	-1	
3END		1879999916	-80	



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)
4.255	20	836600001	-1	2091
3.7		836600002	0	
3.145		836599992	-10	
3END		836599927	-75	

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)
4.255	20	1880000003	-40	4700
3.7		1880000043	0	
3.145		1879999996	-47	
3END		1880000079	36	



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)
4.255	20	836600001	-3	2091
3.7		836600004	0	
3.145		836600005	1	
3END		836599959	-45	

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)
4.255	20	1880000001	-3	4700
3.7		1880000004	0	
3.145		1880000003	-1	
3END		1879999952	-52	



Reference Frequency: WCDMA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	836400001	-1	2091
3.7		836400002	0	
3.145		836400003	1	
3END		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)
4.255	20	1880000016	6	4700
3.7		1880000010	0	
3.145		1880000009	-1	
3END		1879999943	-67	



Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	836400004	-1	2091
3.7		836400005	0	
3.145		836400000	-5	
3END		836400083	78	

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)
4.255	20	1879999996	-4	4700
3.7		1880000000	0	
3.145		1880000003	3	
3END		1880000061	61	



Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	836400002	1	2091
3.7		836400001	0	
3.145		836400004	3	
3END		836400083	82	

Reference Frequency: WCDMA / HSUPA 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)
4.255	20	1880000010	8	4700
3.7		1880000002	0	
3.145		1880000003	1	
3END		1879999916	-86	