



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

TEST REPORT

For

Pocket PC Phone

Trade Name: HTC

Model: PB74120

Issued to

HTC Corporation
No. 23, Xinghua Rd., Taoyuan City,
Taiwan County, 330 R.O.C.

Issued by

Compliance Certification Services Inc.
No. 11, Wu-Gong 6th Rd., Wugu Industrial Park,
Taipei Hsien 248, Taiwan (R.O.C.)
<http://www.ccsemc.com.tw>
service@ccsrf.com



***Note:** This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document.*



TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION.....	3
2. EUT DESCRIPTION	4
3. TEST METHODOLOGY	6
3.1 EUT CONFIGURATION	6
3.2 EUT EXERCISE	6
3.3 GENERAL TEST PROCEDURES	6
3.4 DESCRIPTION OF TEST MODES	7
4. INSTRUMENT CALIBRATION.....	8
4.1 MEASURING INSTRUMENT CALIBRATION	8
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 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	14
7.1 PEAK POWER.....	14
7.2 AVERAGE POWER.....	17
7.3 ERP & EIRP MEASUREMENT	20
7.4 OCCUPIED BANDWIDTH MEASUREMENT	27
7.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS	45
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	74
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT	136
7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT	142
7.9 POWERLINE CONDUCTED EMISSIONS	146
APPENDIX I PHOTOGRAPHS OF TEST SETUP.....	149



1. TEST RESULT CERTIFICATION

Applicant: HTC Corporation
 No. 23, Xinghua Rd., Taoyuan City,
 Taiwan County, 330 R.O.C.

Equipment Under Test: Pocket PC Phone

Trade Name: HTC

Model Number: PB74120

Date of Test: July 1 ~ 5, 2009

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

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in **TIA/EIA-603-C: 2004** and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 Subpart H and PART 24 Subpart E.

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

Approved by:

Reviewed by:

Rex Lai
 Section Manager
 Compliance Certification Services Inc.

Gina Lo
 Section Manager
 Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	Pocket PC Phone		
Trade Name	HTC		
Model Number	PB74120		
Model Discrepancy	N/A		
Power Supply	1. VDC from Power Adapter 2. Battery: 3.7V, 1100mAh 3. Powered from Host device via USB cable		
Power Adapter Manufacturer	PHIHONG	Model	PSAI05R-050Q
Power Adapter Power Rating	For PSAI05R-050Q I/P: 100-240VAC, 50-60Hz, 0.3A O/P: 5V, 1.0A		
AC Power Cord Type	Unshielded, 1.0m (Detachable) to Power Adapter		
LCD Panel Manufacturer	SAMSUNG	Model	60H00238-00P
	Wintek	Model	60H00274-00M
Camera Manufacturer	Liteon	Model	54H00305-00M
	Foxconn	Model	54H00306-00M
Accessories	1. USB Cable: <ul style="list-style-type: none"> ◆ Acon (Model: DC U200 / 1m) ◆ MEC (Model: DC U200 / 1m) ◆ Foxlink (Model: DC U200 / 1m) 2. Battery: <ul style="list-style-type: none"> ◆ TWS (model name: TOPA160 (3.7V, 1100mAh)) ◆ HT energy (model name: TOPA160 (3.7V, 1100mAh)) 3. Earphone: <ul style="list-style-type: none"> ◆ KINGSTATE (model name: HS G235) 		
Frequency Range	GSM / GPRS / EDGE: 850: 824 ~ 849 MHz GSM / GPRS / EDGE: 1900: 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 850 MHz: -2.5dBi GSM / GPRS / EDGE 1900 MHz: 2 dBi WCDMA band II: 2 dBi WCDMA band V: -2.5 dBi		
Antenna Type	PIFA Antenna		

Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for FCC ID: **NM8PB74120** filing to comply with Part 22 and Part 24 of the FCC 47 CFR Rules.



Mode	ERP Power (dBm)	Type of Emission
GSM 850MHz	23.96 dBm	246KGXW
GPRS 850MHz	22.55 dBm	243KGXW
EDGE 850MHz	19.12 dBm	244KG7W
WCDMA Band V	18.55 dBm	4M17F9W
WCDMA HSDPA Band V	19.88 dBm	4M18F9W

Mode	EIRP Power (dBm)	Type of Emission
GSM 1900MHz	31.97 dBm	247KGXW
GPRS 1900MHz	30.69 dBm	246KGXW
EDGE 1900MHz	28.90 dBm	246KG7W
WCDMA Band II	27.00 dBm	4M18F9W
WCDMA HSDPA Band II	26.67 dBm	4M18F9W



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 and FCC CFR 47, Part 2, PART 22 SUBPART H AND PART 24 SUBPART E

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: PB74120) had been tested under operating and standby condition.

EUT staying in continuous transmitting mode was programmed.

The following test modes were scanned during the preliminary test:

Pre-Test Mode
Mode 1: LCD Panel (SAMSUNG) + Camera (Liteon) + USB cable (Acon)+ Power Adapter + Battery (TWS) + Headset
Mode 2: LCD Panel (SAMSUNG) + Camera (Liteon) + USB cable (MEC)+ Power Adapter + Battery (TWS) + Headset
Mode 3: LCD Panel (SAMSUNG) + Camera (Liteon) + USB cable (Flxlink)+ Power Adapter + Battery (TWS) + Headset
Mode 4: LCD Panel (SAMSUNG) + Camera (Liteon) + USB cable (Acon)+ Power Adapter + Battery (HT energy) + Headset
Mode 5: LCD Panel (SAMSUNG) + Camera (Liteon) + USB cable (MEC)+ Power Adapter + Battery (HT energy) + Headset
Mode 6: LCD Panel (SAMSUNG) + Camera (Liteon) + USB cable (Flxlink)+ Power Adapter + Battery (HT energy) + Headset
Mode 7: LCD Panel (Wintek) + Camera (Foxconn) + USB cable (Acon)+ Power Adapter + Battery (TWS) + Headset
Mode 8: LCD Panel (Wintek) + Camera (Foxconn) + USB cable (MEC)+ Power Adapter + Battery (TWS) + Headset
Mode 9: LCD Panel (Wintek) + Camera (Foxconn) + USB cable (Flxlink)+ Power Adapter + Battery (TWS) + Headset
Mode 10: LCD Panel (Wintek) + Camera (Foxconn) + USB cable (Acon)+ Power Adapter + Battery (HT energy) + Headset
Mode 11: LCD Panel (Wintek) + Camera (Foxconn) + USB cable (MEC)+ Power Adapter + Battery (HT energy) + Headset
Mode 12: LCD Panel (Wintek) + Camera (Foxconn) + USB cable (Flxlink)+ Power Adapter + Battery (HT energy) + Headset

After the preliminary scan, the following test mode was found to produce the highest emission level.

Final Test Mode: Mode 7

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

GSM / GPRS / EDGE 850:

Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing.

GSM / GPRS / EDGE 1900:

Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing.

WCDMA Band II:

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

WCDMA Band V:

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

WCDMA / HSDPA Band II:

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

WCDMA / HSDPA Band V:

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

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 lie-down position (X axis) for power line conducted emission testing and the worst case was recorded.

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

The worst emission was found:

in lie-down (X axis) for GSM1900 / HSPDA Band II

and

in lie-down (Y axis) for GPRS1900 / EDGE1900 / WCDMA Band II

and

in stand-up position (Z axis) for GSM850 / GPRS850 / EDGE850 / WCDMA Band V / HSDPA Band V



4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

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



4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

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

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360131	02/23/2010
Power Meter	Agilent	E4416A	GB41291611	04/05/2010
Power Sensor	Agilent	E9327A	US40441097	06/18/2010
Temp. / Humidity Chamber	Terchy	MHG-150LF	930619	08/06/2009
DC Power Source	Agilent	E3640A	MY40001774	01/09/2010

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	09/10/2009
Test Receiver	Rohde & Schwarz	ESCI	100064	11/30/2009
Switch Controller	TRC	Switch Controller	SC94050010	05/02/2010
4 Port Switch	TRC	4 Port Switch	SC94050020	05/02/2010
Horn-Antenna	TRC	HA-0502	06	06/03/2010
Horn-Antenna	TRC	HA-0801	04	06/18/2010
Bilog- Antenna	Sunol Sciences	JB3	A030205	03/27/2010
Loop Antenna	EMCO	6502	8905/2356	05/28/2010
Turn Table	Max-Full	MFT-120S	T120S940302	N.C.R.
Antenna Tower	Max-Full	MFA-430	A440940302	N.C.R.
Controller	Max-Full	MF-CM886	CC-C-1F-13	N.C.R.
Site NSA	CCS	N/A	FCC MRA: TW1039 IC: IC 2324G-1/-2	10/17/2010 11/04/2010
Reject Filter	Micro-Tronics	HPM13194	003	04/23/2010
S.G.	HP	83630B	3844A01022	04/16/2010
Substituted Dipole	Schwazbeck	VHAP/UHAP	998 +999/ 981+982	06/08/2010
Substituted Horn	EMCO	3115	00022257	12/16/2009
Test S/W	LABVIEW (V 6.1)			

Powerline Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver 9kHz-30MHz	Rohde & Schwarz	ESHS30	828144/003	11/18/2009
Two-Line V-Network 9kHz-30MHz	Schaffner	NNB41	03/10013	06/10/2010
LISN 10kHz-100MHz	EMCO	3825/2	9106-1809	04/08/2010
Test S/W	LABVIEW (V 6.1)			



4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 2.81
3M Semi Anechoic Chamber / 30MHz ~ 1GHz	+/-3.7046
3M Semi Anechoic Chamber / Above 1GHz	+/-3.0958

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, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan

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

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

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

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4: 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 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	 Testing Laboratory 1309
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 I for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	Notebook PC	DELL	PP10L	50XP51J	FCC DoC	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2.	LCD Monitor	Samsung	173P	DI17H4JXB04968Y	FCC DoC	Shielded, 1.8m with 2 cores	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
3.	USB 2.0 External HDD	TeraSyS	F12-U	A0100214-2Bq0039	FCC DoC	Shielded, 1.8m	N/A
4.	USB Mouse	HP	MO19UCA	20440964	FCC DoC	Shielded, 1.8m	N/A
5.	Universal Radio Communication Tester (Remote)	R&S	CMU200	1100.000.8.02	N/A	N/A	Unshielded, 1.8m
6.	Super a/g 108Mbps Wireless Lan Router (Remote)	PLANEX	BLW-04SAG	40DDA0421	SJ9-BLW54SAG	N/A	Unshielded, 1.8m
7.	Notebook PC (Remote)	DELL	PP05L	7T390 A03	E2K5HCKT	N/A	N/A

Remark:

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



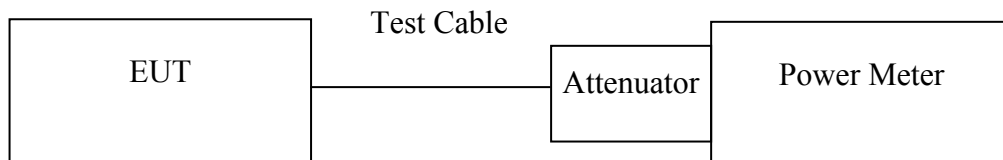
7. FCC PART 22 & 24 REQUIREMENTS

7.1 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)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
GSM 850 (Class B)	128	824.20	33.00	0.0	33.00
	190	836.60	32.60		32.60
	251	848.80	32.60		32.60
GPRS 850 (Class 10)	128	824.20	33.00	0.0	33.00
	190	836.60	32.70		32.70
	251	848.80	32.60		32.60
EDGE 850 (Class 10)	128	824.20	26.70	1.24	27.94
	190	836.60	26.30		27.54
	251	848.80	26.20		27.44

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
GSM 1900 (Class B)	512	1850.20	30.50	0.0	30.50
	661	1880.00	30.70		30.70
	810	1909.80	30.90		30.90
GPRS 1900 (Class 10)	512	1850.20	29.00	0.0	29.00
	661	1880.00	29.30		29.30
	810	1909.80	29.30		29.30
EDGE 1900 (Class 10)	512	1850.20	26.10	0.0	26.10
	661	1880.00	26.40		26.40
	810	1909.80	26.50		26.50

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



Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA (BAND II)	9262	1852.40	25.11	1.20	26.31
	9400	1880.00	24.98		26.18
	9538	1907.60	24.57		25.77
WCDMA (BAND V)	4132	826.40	26.37	0.0	26.37
	4183	836.60	25.61		25.61
	4233	846.60	25.84		25.84

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA / HSDPA (BAND II)	9262	1852.40	24.21	0.0	24.21
	9400	1880.00	24.91		24.91
	9538	1907.60	24.84		24.84
WCDMA / HSDPA (BAND V)	4132	826.40	24.62	0.0	24.62
	4183	836.60	24.43		24.43
	4233	846.60	24.50		24.50

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

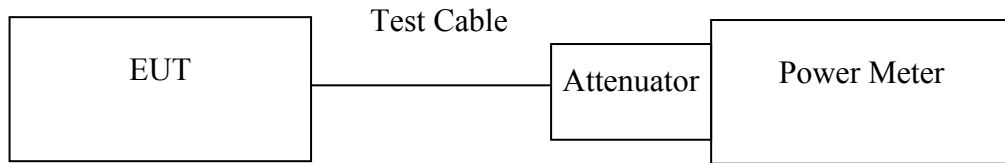


7.2 AVERAGE POWER

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)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
GSM 850 (Class B)	128	824.20	32.80	0.0	32.80
	190	836.60	32.50		32.50
	251	848.80	32.40		32.40
GPRS 850 (Class 10)	128	824.20	32.90	0.0	32.90
	190	836.60	32.60		32.60
	251	848.80	32.50		32.50
EDGE 850 (Class 10)	128	824.20	26.50	1.24	27.74
	190	836.60	26.20		27.44
	251	848.80	26.10		27.34

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
GSM 1900 (Class B)	512	1850.20	30.40	0.0	30.40
	661	1880.00	30.60		30.60
	810	1909.80	30.70		30.70
GPRS 1900 (Class 10)	512	1850.20	28.80	0.0	28.80
	661	1880.00	29.10		29.10
	810	1909.80	29.20		29.20
EDGE 1900 (Class 10)	512	1850.20	26.00	0.0	26.00
	661	1880.00	26.30		26.30
	810	1909.80	26.40		26.40

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



Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
WCDMA (BAND II)	9262	1852.40	22.72	1.2	23.92
	9400	1880.00	22.75		23.95
	9538	1907.60	22.95		24.15
WCDMA (BAND V)	4132	826.40	24.51	0.0	24.51
	4183	836.60	23.56		23.56
	4233	846.60	23.94		23.94

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
WCDMA / HSDPA (BAND II)	9262	1852.40	22.02	0.0	22.02
	9400	1880.00	22.08		22.08
	9538	1907.60	22.28		22.28
WCDMA / HSDPA (BAND V)	4132	826.40	22.47	0.0	22.47
	4183	836.60	22.46		22.46
	4233	846.60	22.42		22.42

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

7.3 ERP & EIRP MEASUREMENT

LIMIT

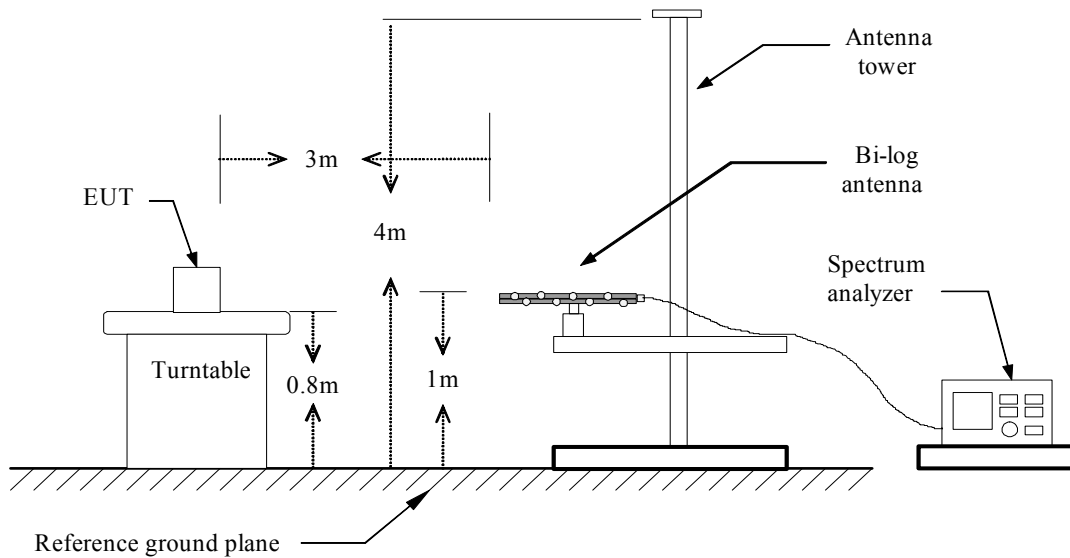
According to FCC §2.1046

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

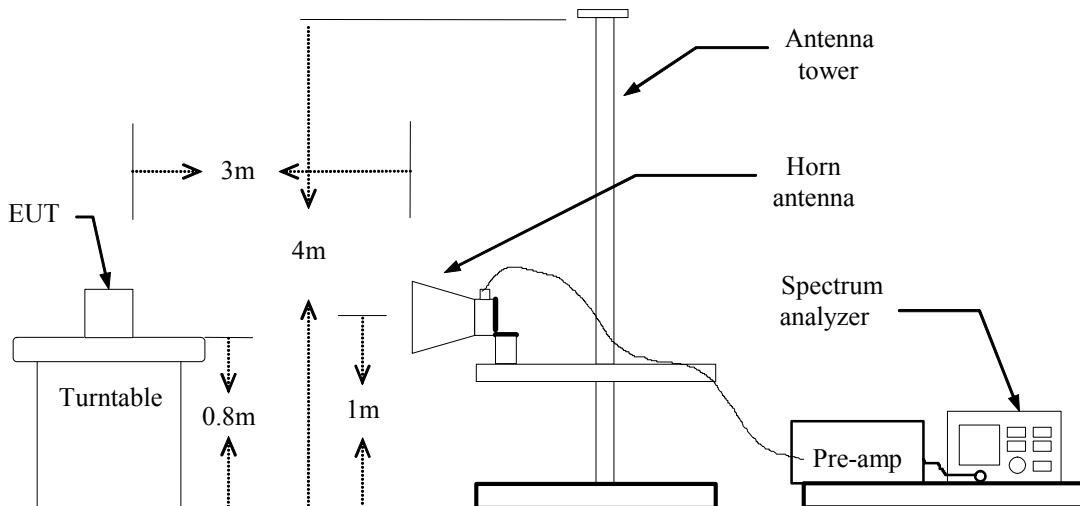
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

Test Configuration

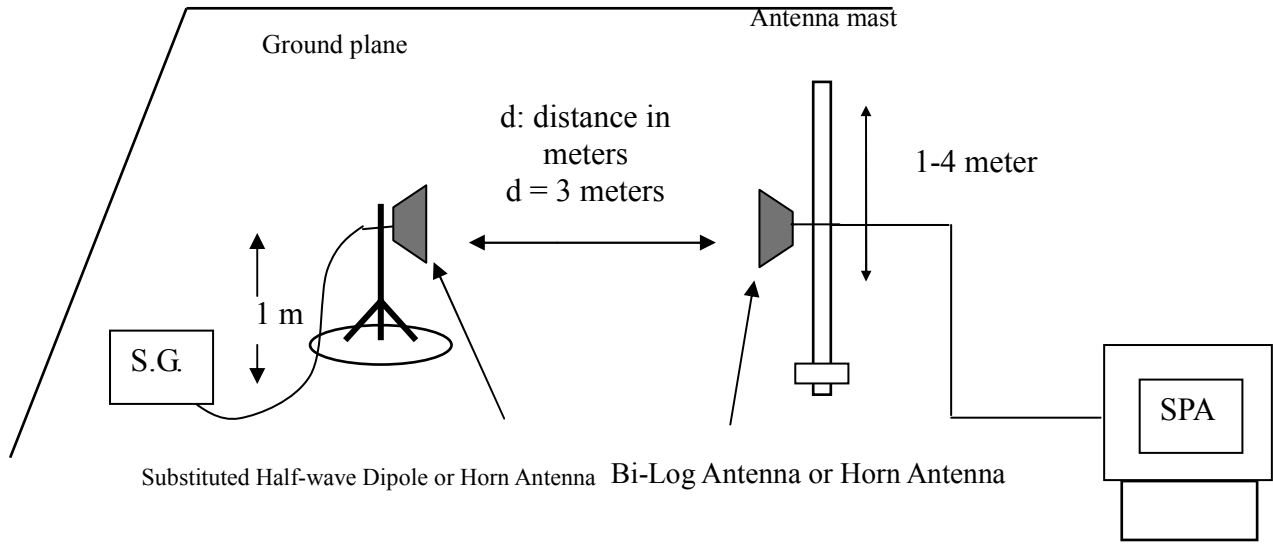
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

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

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

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

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

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

TEST RESULTS

No non-compliance noted.

**GSM 850 Test Data**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.20	V	-17.76	35.66	17.90	38.50	-20.60
		824.20	H	-12.40	35.10	22.70	38.50	-15.80
	190	836.60	V	-16.72	35.38	18.67	38.50	-19.83
		836.60	H	-12.83	35.07	22.24	38.50	-16.26
	251	848.80	V	-17.10	35.24	18.14	38.50	-20.36
		848.80	H	-12.51	35.20	22.69	38.50	-15.81
Y	128	824.20	V	-18.40	35.66	17.26	38.50	-21.24
		824.20	H	-12.06	35.10	23.03	38.50	-15.47
	190	836.60	V	-17.65	35.38	17.73	38.50	-20.77
		836.60	H	-11.66	35.07	23.42	38.50	-15.08
	251	848.80	V	-17.69	35.24	17.55	38.50	-20.95
		848.80	H	-11.47	35.20	23.73	38.50	-14.77
Z	128	824.20	V	-11.70	35.66	*23.96	38.50	-14.54
		824.20	H	-18.38	35.10	16.72	38.50	-21.78
	190	836.60	V	-11.69	35.39	23.69	38.50	-14.81
		836.60	H	-19.06	35.07	16.01	38.50	-22.49
	251	848.80	V	-12.04	35.24	23.20	38.50	-15.30
		848.80	H	-19.32	35.20	15.88	38.50	-22.62

GPRS 850 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.20	V	-20.41	35.66	15.25	38.50	-23.25
		824.20	H	-14.31	35.10	20.79	38.50	-17.71
	190	836.60	V	-19.93	35.38	15.45	38.50	-23.05
		836.60	H	-13.66	35.07	21.41	38.50	-17.09
	251	848.80	V	-19.55	35.24	15.69	38.50	-22.81
		848.80	H	-14.26	35.20	20.94	38.50	-17.56
Y	128	824.20	V	-19.05	35.66	16.60	38.50	-21.90
		824.20	H	-13.56	35.10	21.54	38.50	-16.96
	190	836.60	V	-18.48	35.38	16.91	38.50	-21.59
		836.60	H	-12.52	35.07	*22.55	38.50	-15.95
	251	848.80	V	-18.15	35.24	17.10	38.50	-21.40
		848.80	H	-12.78	35.20	22.42	38.50	-16.08
Z	128	824.20	V	-13.22	35.66	22.43	38.50	-16.07
		824.20	H	-20.05	35.10	15.05	38.50	-23.45
	190	836.60	V	-12.84	35.38	22.55	38.50	-15.95
		836.60	H	-20.24	35.07	14.83	38.50	-23.67
	251	848.80	V	-13.04	35.24	22.20	38.50	-16.30
		848.80	H	-20.74	35.20	14.46	38.50	-24.04

**GSM 1900 Test Data**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.20	V	-20.21	42.27	22.06	33.00	-10.94
		1850.20	H	-10.54	42.51	*31.97	33.00	-1.03
	661	1880.00	V	-19.96	42.16	22.21	33.00	-10.79
		1880.00	H	-11.12	42.46	31.34	33.00	-1.66
	810	1909.80	V	-20.90	42.03	21.13	33.00	-11.87
		1909.80	H	-12.43	42.38	29.94	33.00	-3.06
Y	512	1850.20	V	-10.59	42.27	31.69	33.00	-1.31
		1850.20	H	-14.99	42.51	27.52	33.00	-5.48
	661	1880.00	V	-10.41	42.16	31.75	33.00	-1.25
		1880.00	H	-16.34	42.46	26.12	33.00	-6.88
	810	1909.80	V	-12.18	42.03	29.85	33.00	-3.15
		1909.80	H	-17.75	42.38	24.62	33.00	-8.38
Z	512	1850.20	V	-13.28	42.27	28.99	33.00	-4.01
		1850.20	H	-13.69	42.51	28.82	33.00	-4.18
	661	1880.00	V	-13.46	42.16	28.70	33.00	-4.30
		1880.00	H	-14.02	42.46	28.44	33.00	-4.56
	810	1909.80	V	-15.37	42.03	26.66	33.00	-6.34
		1909.80	H	-14.80	42.38	27.58	33.00	-5.42

GPRS 1900 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.20	V	-18.78	42.27	23.49	33.00	-9.51
		1850.20	H	-13.05	42.51	29.46	33.00	-3.54
	661	1880.00	V	-19.08	42.16	23.08	33.00	-9.92
		1880.00	H	-12.18	42.46	30.28	33.00	-2.72
	810	1909.80	V	-19.77	42.03	22.26	33.00	-10.74
		1909.80	H	-12.93	42.38	29.44	33.00	-3.56
Y	512	1850.20	V	-11.98	42.27	30.30	33.00	-2.70
		1850.20	H	-18.01	42.51	24.50	33.00	-8.50
	661	1880.00	V	-11.47	42.16	*30.69	33.00	-2.31
		1880.00	H	-16.57	42.46	25.89	33.00	-7.11
	810	1909.80	V	-13.19	42.03	28.84	33.00	-4.16
		1909.80	H	-18.03	42.38	24.35	33.00	-8.65
Z	512	1850.20	V	-16.74	42.03	25.29	33.00	-7.71
		1850.20	H	-14.64	42.27	27.64	33.00	-5.36
	661	1880.00	V	-14.94	42.16	27.23	33.00	-5.77
		1880.00	H	-16.39	42.46	26.07	33.00	-6.93
	810	1909.80	V	-14.64	42.27	27.64	33.00	-5.36
		1909.80	H	-15.86	42.51	26.65	33.00	-6.35



EDGE 850 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.20	V	-25.04	35.65	10.61	38.50	-27.89
		824.20	H	-18.23	35.10	16.87	38.50	-21.63
	190	836.60	V	-23.95	35.38	11.44	38.50	-27.06
		836.60	H	-17.70	35.07	17.37	38.50	-21.13
	251	848.80	V	-23.89	35.24	11.36	38.50	-27.14
		848.80	H	-18.56	35.20	16.64	38.50	-21.86
Y	128	824.20	V	-22.85	35.67	12.82	38.50	-25.68
		824.20	H	-16.78	35.10	18.31	38.50	-20.19
	190	836.60	V	-21.96	35.38	13.42	38.50	-25.08
		836.60	H	-16.26	35.07	18.82	38.50	-19.68
	251	848.80	V	-22.92	35.24	12.32	38.50	-26.18
		848.80	H	-16.71	35.20	18.49	38.50	-20.01
Z	128	824.20	V	-16.67	35.66	18.99	38.50	-19.51
		824.20	H	-23.24	35.10	11.86	38.50	-26.64
	190	836.60	V	-16.27	35.38	*19.12	38.50	-19.38
		836.60	H	-23.18	35.07	11.89	38.50	-26.61
	251	848.80	V	-16.52	35.24	18.72	38.50	-19.78
		848.80	H	-22.96	35.20	12.24	38.50	-26.26

EDGE 1900 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.20	V	-21.21	42.27	21.06	33.00	-11.94
		1850.20	H	-15.41	42.51	27.10	33.00	-5.90
	661	1880.00	V	-21.33	42.16	20.83	33.00	-12.17
		1880.00	H	-14.67	42.46	27.79	33.00	-5.21
	810	1909.80	V	-21.94	42.03	20.09	33.00	-12.91
		1909.80	H	-15.02	42.38	27.36	33.00	-5.64
Y	512	1850.20	V	-13.71	42.27	28.56	33.00	-4.44
		1850.20	H	-17.38	42.51	25.13	33.00	-7.87
	661	1880.00	V	-13.27	42.16	*28.90	33.00	-4.10
		1880.00	H	-18.80	42.46	23.66	33.00	-9.34
	810	1909.80	V	-14.38	42.03	27.65	33.00	-5.35
		1909.80	H	-18.59	42.38	23.79	33.00	-9.21
Z	512	1850.20	V	-16.62	42.27	25.66	33.00	-7.34
		1850.20	H	-18.44	42.51	24.07	33.00	-8.93
	661	1880.00	V	-16.59	42.16	25.57	33.00	-7.43
		1880.00	H	-18.65	42.46	23.81	33.00	-9.19
	810	1909.80	V	-17.39	42.03	24.64	33.00	-8.36
		1909.80	H	-19.05	42.38	23.32	33.00	-9.68



WCDMA BAND II Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	9262	1852.40	V	-25.51	42.27	16.76	33.00	-16.24
		1852.40	H	-17.62	42.51	24.88	33.00	-8.12
	9400	1880.00	V	-25.12	42.16	17.04	33.00	-15.96
		1880.00	H	-17.08	42.46	25.38	33.00	-7.62
	9538	1909.80	V	-24.92	42.05	17.13	33.00	-15.87
		1909.80	H	-16.84	42.39	25.56	33.00	-7.44
Y	9262	1852.40	V	-15.65	42.27	26.62	33.00	-6.38
		1852.40	H	-19.78	42.51	22.73	33.00	-10.27
	9400	1880.00	V	-15.16	42.16	*27.00	33.00	-6.00
		1880.00	H	-20.97	42.46	21.49	33.00	-11.51
	9538	1909.80	V	-15.58	42.05	26.47	33.00	-6.53
		1909.80	H	-20.50	42.39	21.89	33.00	-11.11
Z	9262	1852.40	V	-18.51	42.27	23.76	33.00	-9.24
		1852.40	H	-20.18	42.51	22.32	33.00	-10.68
	9400	1880.00	V	-18.81	42.16	23.35	33.00	-9.65
		1880.00	H	-20.49	42.46	21.97	33.00	-11.03
	9538	1909.80	V	-18.58	42.05	23.47	33.00	-9.53
		1909.80	H	-20.05	42.39	22.35	33.00	-10.65

WCDMA BAND V Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	4132	826.40	V	-24.09	35.59	11.50	38.50	-27.00
		826.40	H	-18.85	35.09	16.24	38.50	-22.26
	4183	836.60	V	-26.24	35.37	9.13	38.50	-29.37
		836.60	H	-20.89	35.07	14.19	38.50	-24.31
	4233	846.60	V	-24.27	35.27	11.00	38.50	-27.50
		846.60	H	-18.18	35.14	16.96	38.50	-21.54
Y	4132	826.40	V	-26.15	35.58	9.43	38.50	-29.07
		826.40	H	-19.41	35.09	15.68	38.50	-22.82
	4183	836.60	V	-28.30	35.40	7.10	38.50	-31.40
		836.60	H	-21.49	35.07	13.58	38.50	-24.92
	4233	846.60	V	-23.55	35.26	11.71	38.50	-26.79
		846.60	H	-18.07	35.15	17.08	38.50	-21.42
Z	4132	826.40	V	-17.80	35.58	17.78	38.50	-20.72
		826.40	H	-25.80	35.09	9.29	38.50	-29.21
	4183	836.60	V	-20.25	35.36	15.11	38.50	-23.39
		836.60	H	-27.99	35.07	7.08	38.50	-31.42
	4233	846.60	V	-16.72	35.27	*18.55	38.50	-19.95
		846.60	H	-19.13	35.15	16.01	38.50	-22.49

**HSDPA BAND II Test Data**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	9262	1852.40	V	-26.89	42.26	15.38	33.00	-17.62
		1852.40	H	-16.78	42.51	25.72	33.00	-7.28
	9400	1880.00	V	-26.96	42.16	15.20	33.00	-17.80
		1880.00	H	-15.79	42.46	*26.67	33.00	-6.33
	9538	1907.60	V	-27.30	42.05	14.75	33.00	-18.25
		1907.60	H	-15.92	42.39	26.47	33.00	-6.53
Y	9262	1852.40	V	-18.08	42.27	24.19	33.00	-8.81
		1852.40	H	-20.44	42.50	22.07	33.00	-10.93
	9400	1880.00	V	-17.32	42.16	24.84	33.00	-8.16
		1880.00	H	-21.11	42.46	21.35	33.00	-11.65
	9538	1907.60	V	-17.48	42.05	24.56	33.00	-8.44
		1907.60	H	-20.40	42.39	21.99	33.00	-11.01
Z	9262	1852.40	V	-19.52	42.26	22.74	33.00	-10.26
		1852.40	H	-20.23	42.51	22.28	33.00	-10.72
	9400	1880.00	V	-19.70	42.17	22.47	33.00	-10.53
		1880.00	H	-20.14	42.46	22.32	33.00	-10.68
	9538	1907.60	V	-19.68	42.05	22.37	33.00	-10.63
		1907.60	H	-19.87	42.39	22.52	33.00	-10.48

HSDPA BAND V Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	4132	826.40	V	-23.23	35.58	12.35	38.50	-26.15
		826.40	H	-19.34	35.09	15.75	38.50	-22.75
	4183	836.60	V	-26.13	35.37	9.24	38.50	-29.26
		836.60	H	-22.02	35.07	13.05	38.50	-25.45
	4233	846.60	V	-22.87	35.26	12.40	38.50	-26.10
		846.60	H	-19.58	35.15	15.57	38.50	-22.93
Y	4132	826.40	V	-23.54	35.59	12.06	38.50	-26.44
		826.40	H	-18.02	35.09	17.07	38.50	-21.43
	4183	836.60	V	-28.55	35.40	6.85	38.50	-31.65
		836.60	H	-18.95	35.07	16.12	38.50	-22.38
	4233	846.60	V	-22.89	35.27	12.38	38.50	-26.12
		846.60	H	-16.35	35.15	18.80	38.50	-19.70
Z	4132	826.40	V	-17.90	35.58	17.68	38.50	-20.82
		826.40	H	-20.87	35.09	14.22	38.50	-24.28
	4183	836.60	V	-19.35	35.42	16.07	38.50	-22.43
		836.60	H	-23.22	35.07	11.86	38.50	-26.64
	4233	846.60	V	-15.38	35.27	*19.88	38.50	-18.62
		846.60	H	-19.95	35.14	15.20	38.50	-23.30

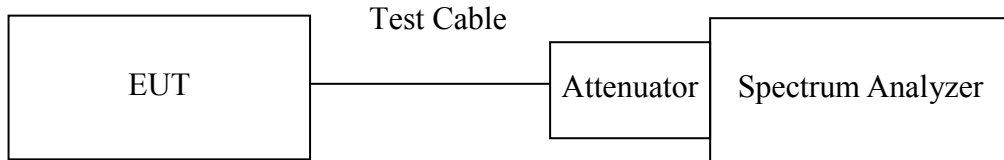


7.4 OCCUPIED BANDWIDTH MEASUREMENT

LIMIT

According to §FCC 2.1049.

Test Configuration



Remark: Measurement setup for testing on Antenna connector

TEST PROCEDURE

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW is set to 3 times the RBW, -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

TEST RESULTS

No non-compliance noted.



Test Data

Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)
GSM 850 (Class B)	128	824.200	245.7817
	190	836.600	242.8506
	251	848.780	246.3310
GPRS 850 (Class 12)	128	824.200	243.1799
	190	836.600	242.7605
	251	848.780	241.2790
EDGE 850 (Class B)	128	824.190	244.2950
	190	836.600	244.0867
	251	848.800	243.3002
GSM 1900 (Class B)	512	1850.200	246.5706
	661	1880.000	241.7614
	810	1909.800	247.3443
GPRS 1900 (Class 12)	512	1850.200	245.1139
	661	1880.000	245.4868
	810	1909.800	246.1312
EDGE 1900 (Class 12)	512	1850.200	239.5391
	661	1879.000	246.5073
	810	1909.800	243.5568



Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.1823
	9400	1880.10	4.1578
	9538	1907.60	4.1672
WCDMA (Band V)	4132	826.40	4.1697
	4183	836.60	4.1567
	4233	846.60	4.1711
WCDMA / HSDPA (BAND II)	9262	1852.40	4.1660
	9400	1880.10	4.1656
	9538	1907.60	4.1819
WCDMA / HSDPA (BAND V)	4132	826.40	4.1654
	4183	836.60	4.1754
	4233	846.60	4.1822

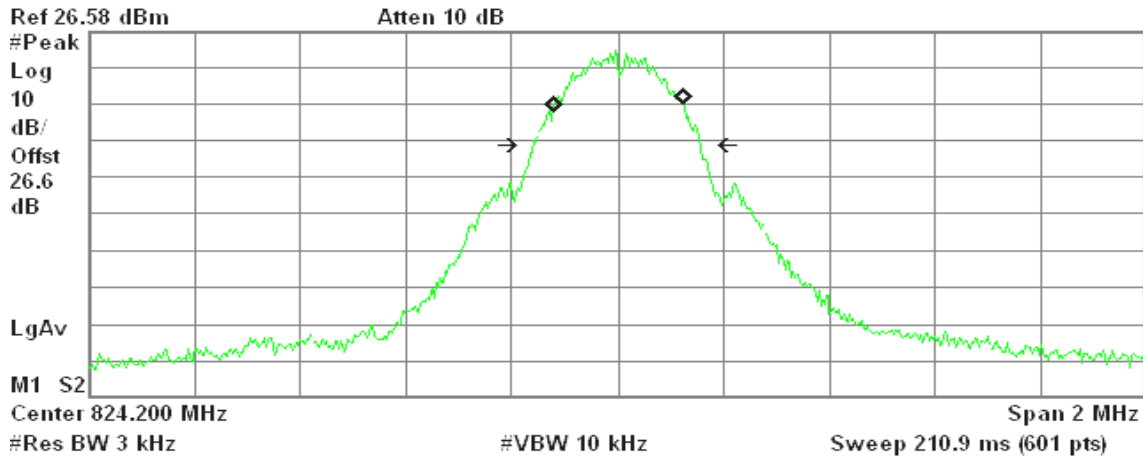


Test Plot

GSM 850 (CH Low)

Agilent 13:35:48 Jul 2, 2009

R T



Occupied Bandwidth
245.7817 kHz

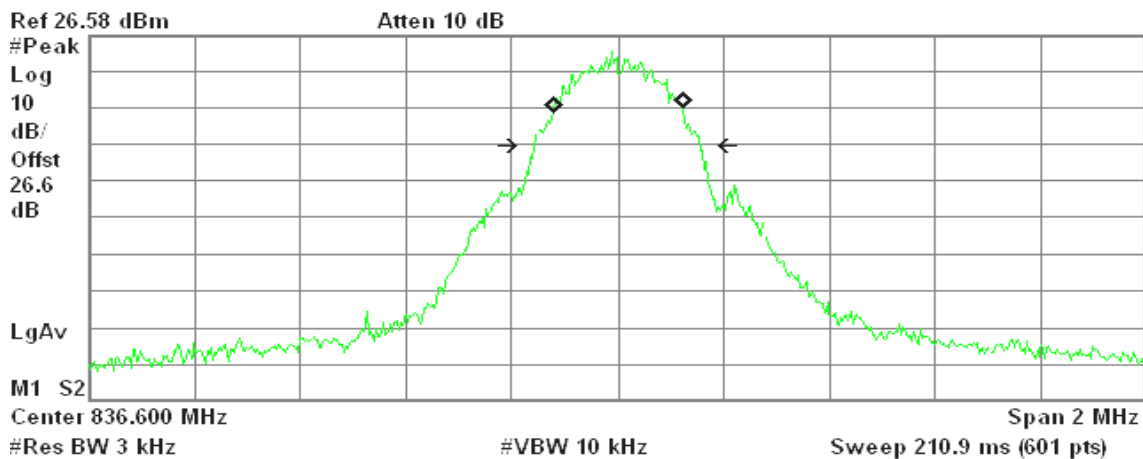
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.447 kHz
x dB Bandwidth 313.941 kHz

GSM 850 (CH Mid)

Agilent 13:39:25 Jul 2, 2009

R T



Occupied Bandwidth
242.8506 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

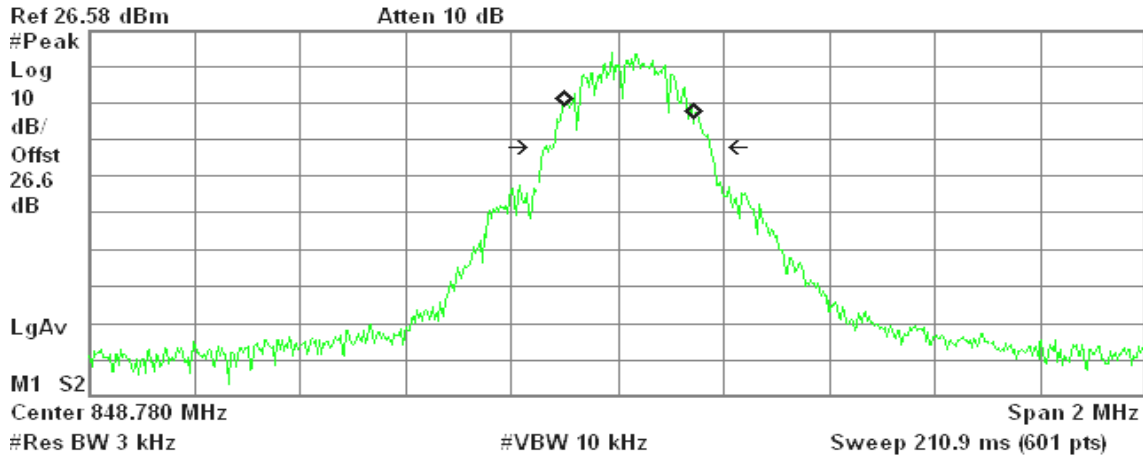
Transmit Freq Error 841.354 Hz
x dB Bandwidth 312.170 kHz



GSM 850 (CH High)

Agilent 13:39:51 Jul 2, 2009

R T



Occupied Bandwidth
246.3310 kHz

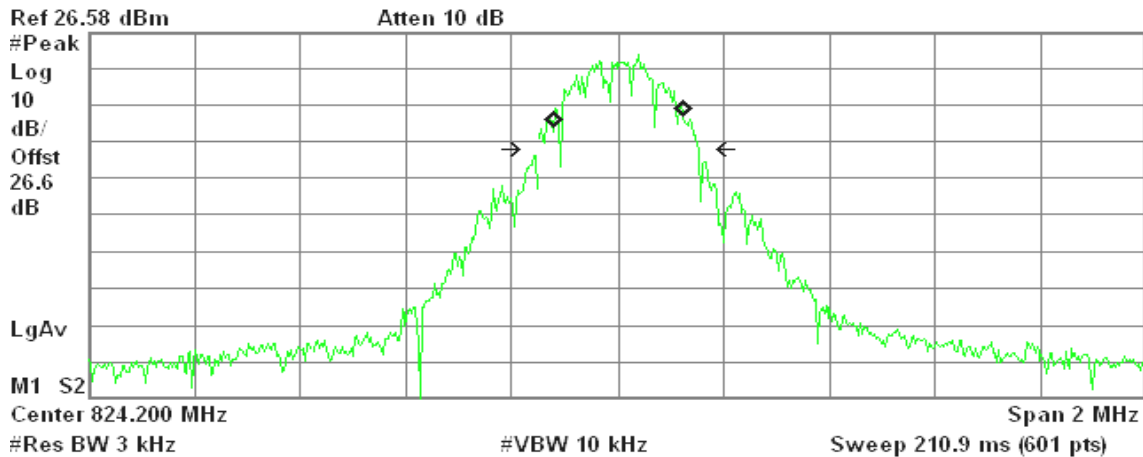
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 21.663 kHz
x dB Bandwidth 312.255 kHz

GPRS 850 (CH Low)

Agilent 13:36:03 Jul 2, 2009

R T



Occupied Bandwidth
243.1799 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

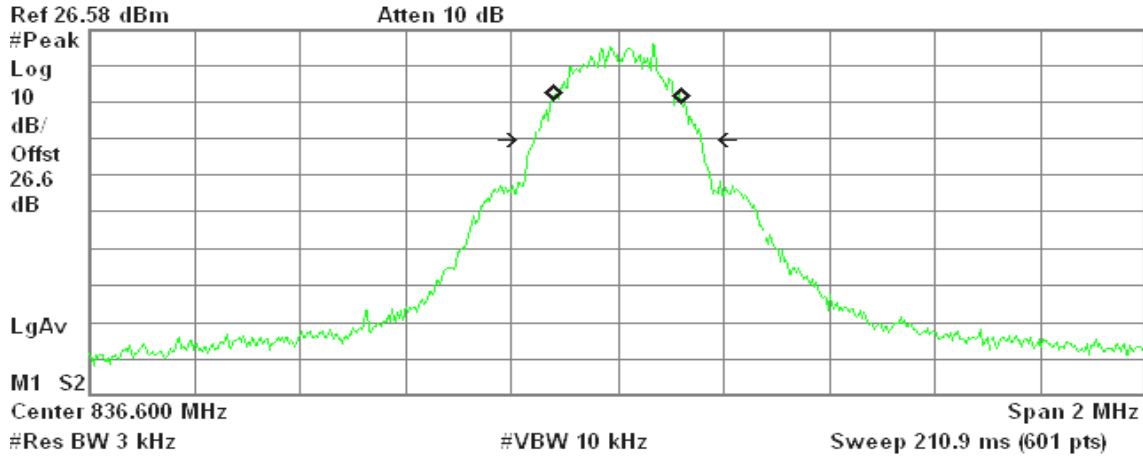
Transmit Freq Error 2.112 kHz
x dB Bandwidth 302.065 kHz



GPRS 850 (CH Mid)

Agilent 13:38:50 Jul 2, 2009

R T



Occupied Bandwidth
242.7605 kHz

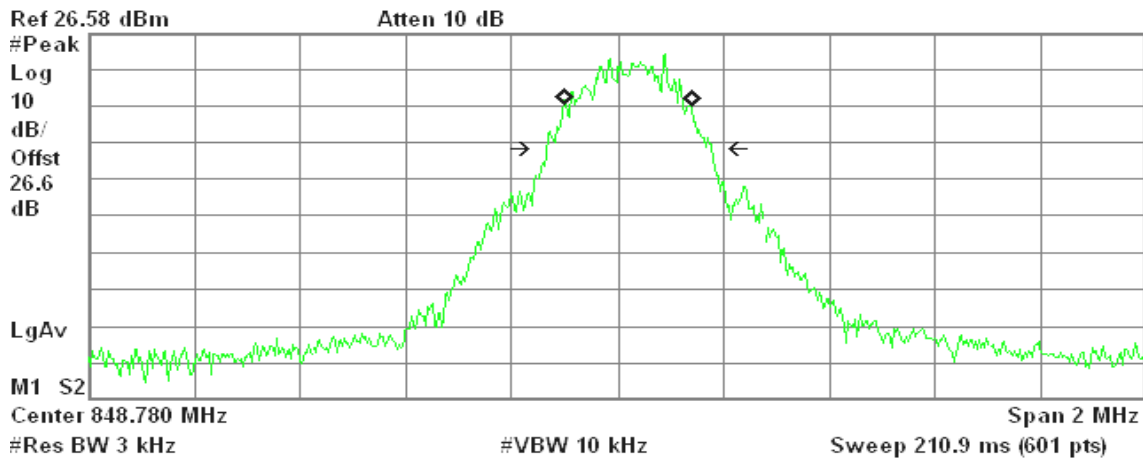
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -77.474 Hz
x dB Bandwidth 313.813 kHz

GPRS 850(CH High)

Agilent 13:40:05 Jul 2, 2009

R T



Occupied Bandwidth
241.2790 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

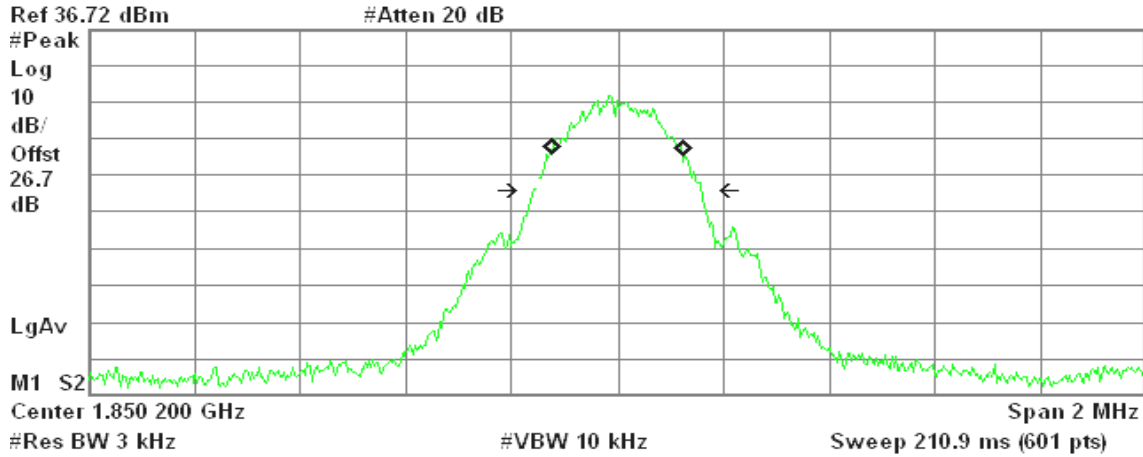
Transmit Freq Error 19.585 kHz
x dB Bandwidth 310.945 kHz



GSM 1900 (CH Low)

Agilent 14:13:28 Jul 2, 2009

R T



Occupied Bandwidth
246.5706 kHz

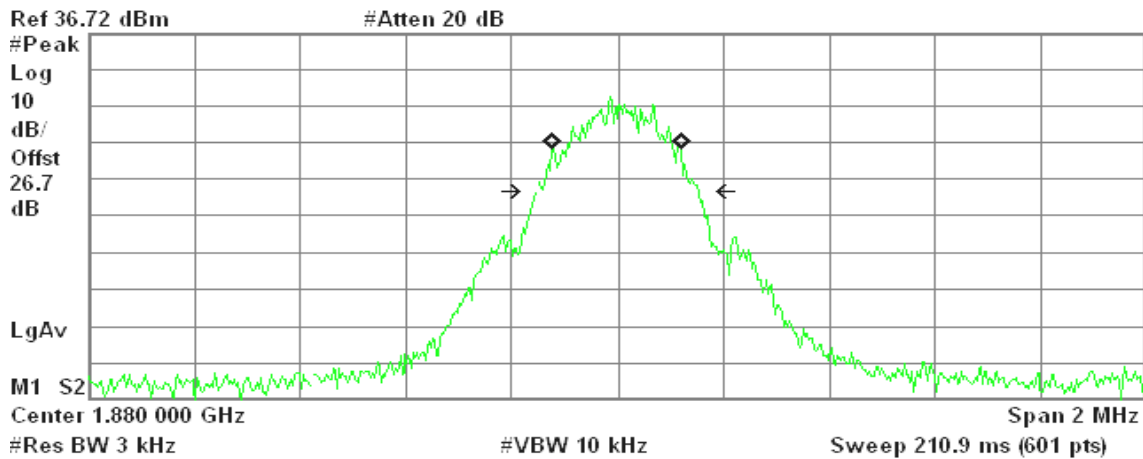
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.279 kHz
x dB Bandwidth 317.100 kHz

GSM 1900 (CH Mid)

Agilent 14:18:45 Jul 2, 2009

R T



Occupied Bandwidth
241.7614 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

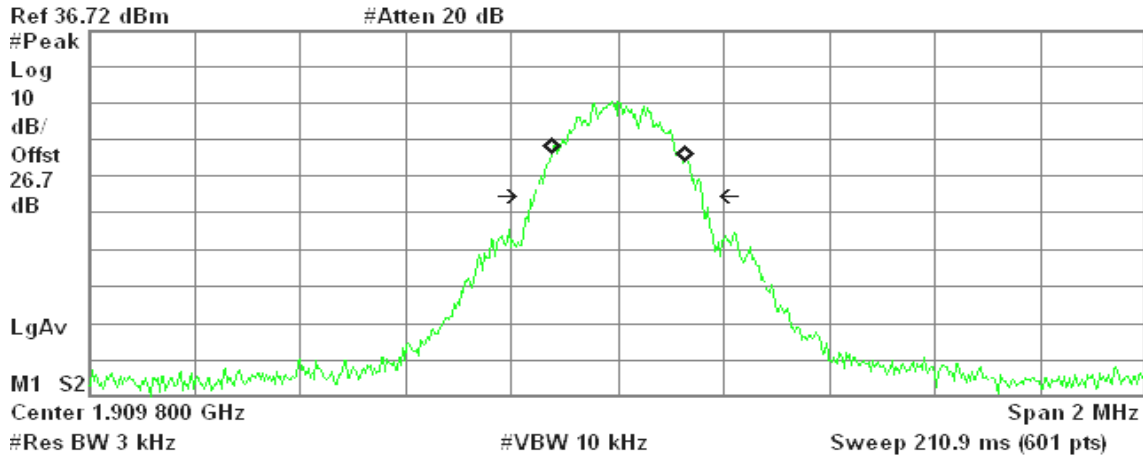
Transmit Freq Error -1.402 kHz
x dB Bandwidth 302.845 kHz



GSM 1900 (CH High)

Agilent 14:29:02 Jul 2, 2009

R T



Occupied Bandwidth
247.3443 kHz

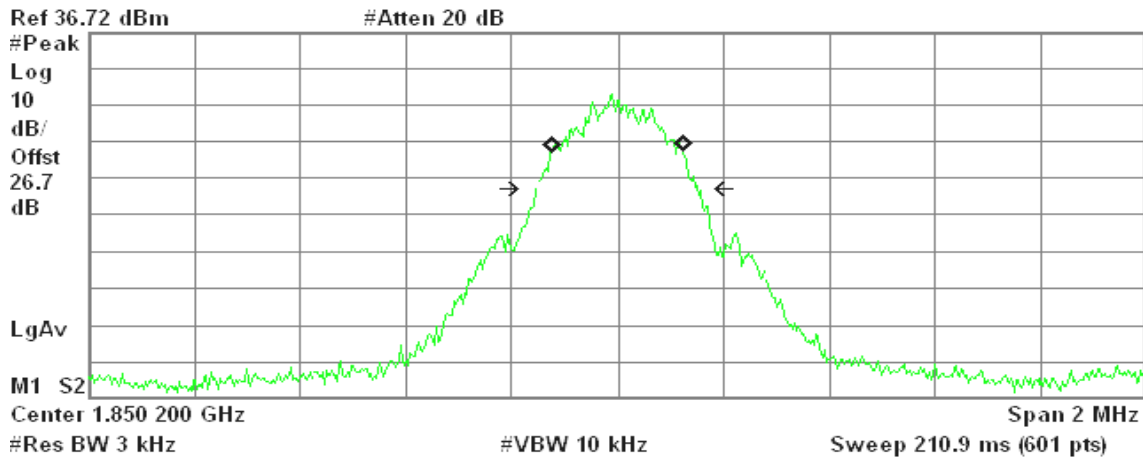
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.628 kHz
x dB Bandwidth 315.566 kHz

GPRS 1900 (CH Low)

Agilent 14:12:31 Jul 2, 2009

R T



Occupied Bandwidth
245.1139 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

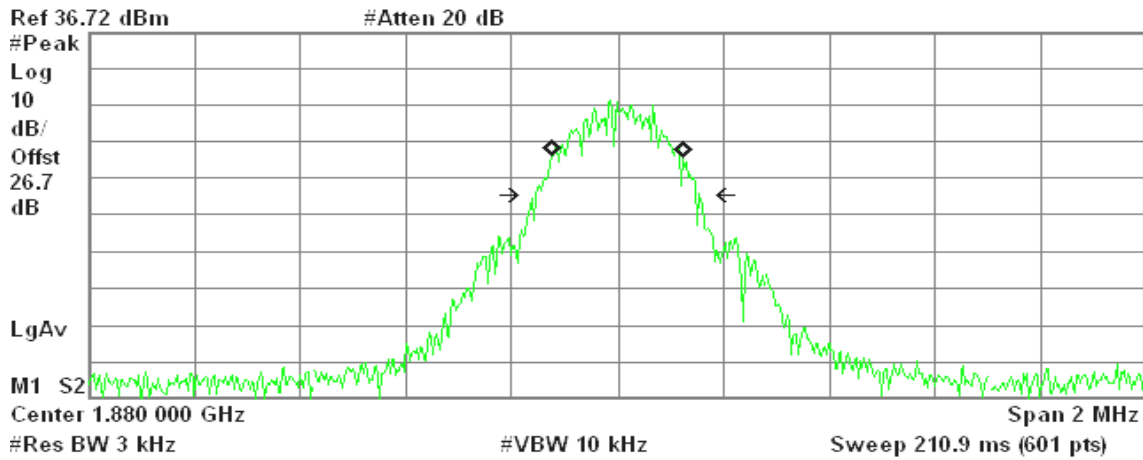
Transmit Freq Error -327.903 Hz
x dB Bandwidth 305.109 kHz



GPRS 1900 (CH Mid)

Agilent 14:19:00 Jul 2, 2009

R T



Occupied Bandwidth
245.4868 kHz

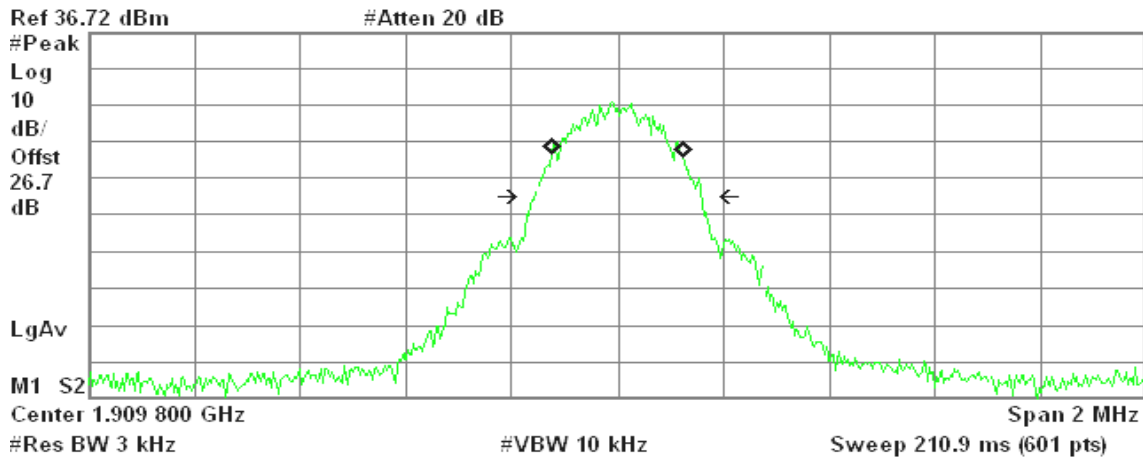
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 645.754 Hz
x dB Bandwidth 307.430 kHz

GPRS 1900 (CH High)

Agilent 14:28:43 Jul 2, 2009

R T



Occupied Bandwidth
246.1312 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

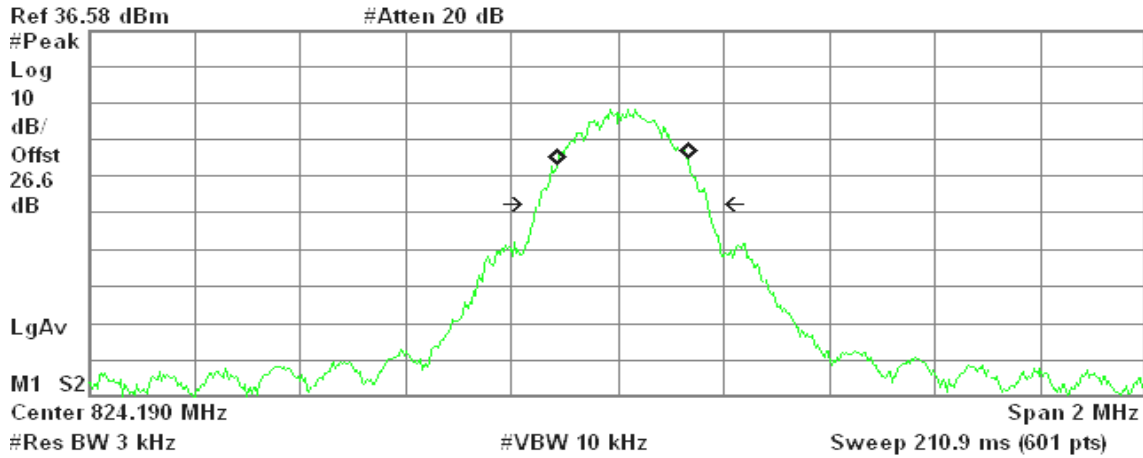
Transmit Freq Error -328.790 Hz
x dB Bandwidth 314.157 kHz



EDGE 850 (CH Low)

Agilent 14:47:36 Jul 2, 2009

R T



Occupied Bandwidth
244.2950 kHz

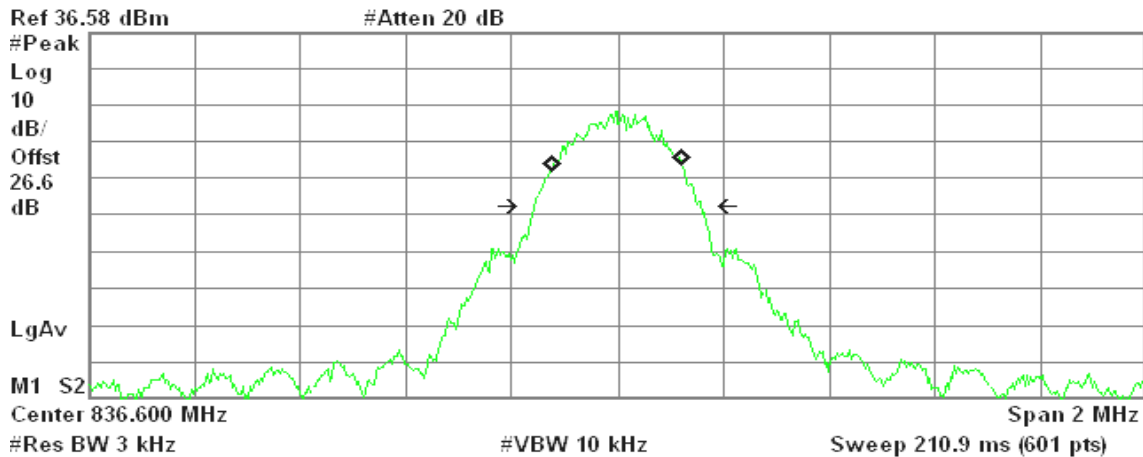
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.858 kHz
x dB Bandwidth 315.905 kHz

EDGE 850 (CH Mid)

Agilent 14:49:57 Jul 2, 2009

R T



Occupied Bandwidth
244.0867 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

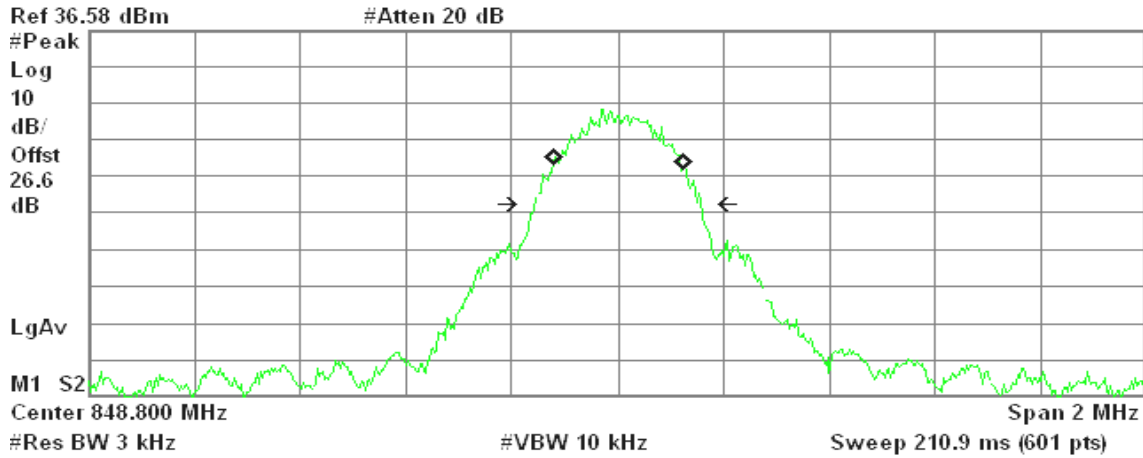
Transmit Freq Error -514.105 Hz
x dB Bandwidth 314.586 kHz



EDGE 850 (CH High)

Agilent 14:50:38 Jul 2, 2009

R T



Occupied Bandwidth
243.3002 kHz

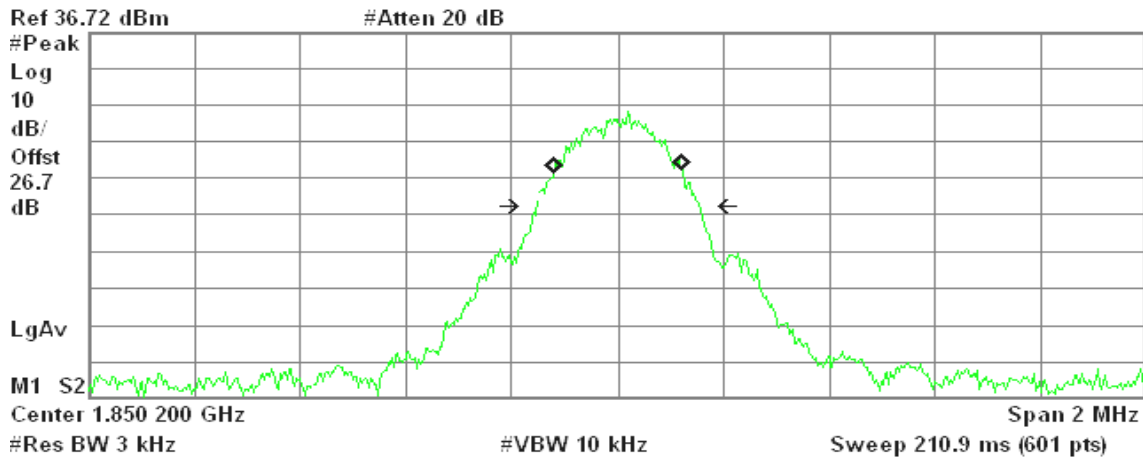
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 759.569 Hz
x dB Bandwidth 313.177 kHz

EDGE 1900 (CH Low)

Agilent 14:44:02 Jul 2, 2009

R T



Occupied Bandwidth
239.5391 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

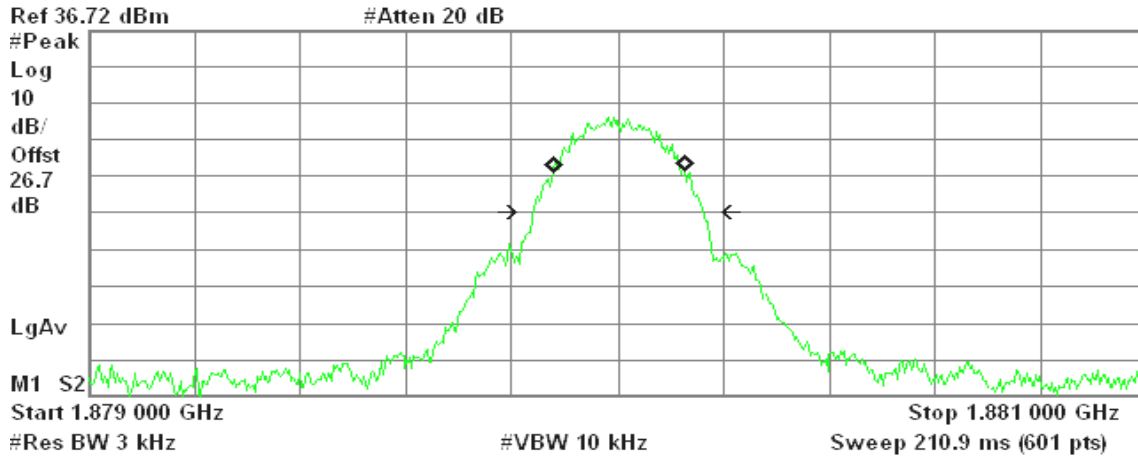
Transmit Freq Error 773.547 Hz
x dB Bandwidth 307.515 kHz



EDGE 1900 (CH Mid)

Agilent 14:44:42 Jul 2, 2009

R T



Occupied Bandwidth
246.5073 kHz

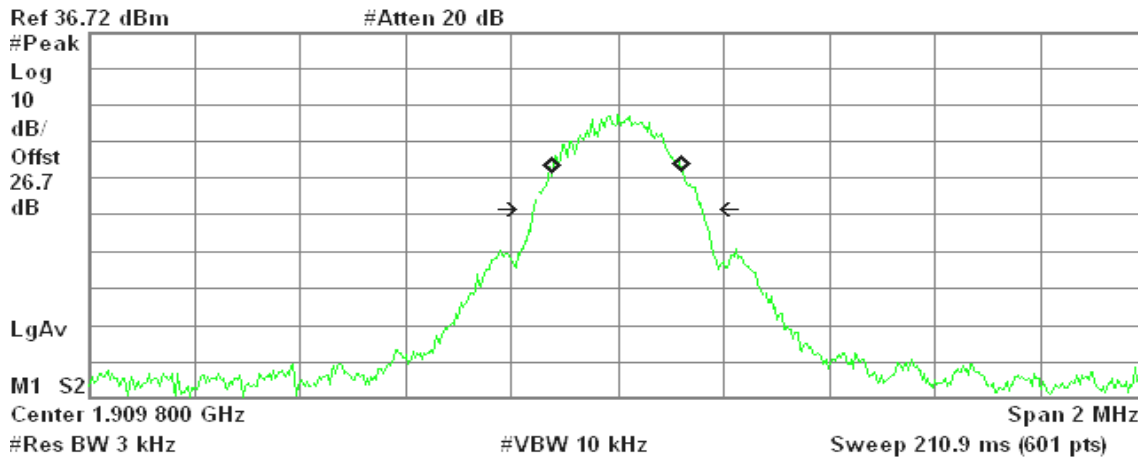
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 3.350 kHz
x dB Bandwidth 319.952 kHz

EDGE 1900 (CH High)

Agilent 14:45:51 Jul 2, 2009

R T



Occupied Bandwidth
243.5568 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

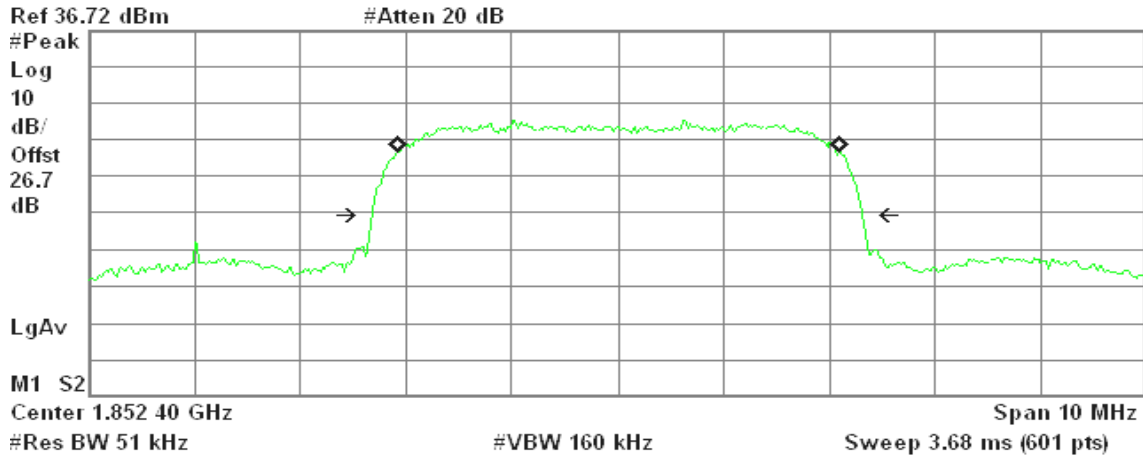
Transmit Freq Error -293.972 Hz
x dB Bandwidth 317.177 kHz



WCDMA Band II (CH Low)

Agilent 15:37:11 Jul 2, 2009

R T



Occupied Bandwidth
4.1823 MHz

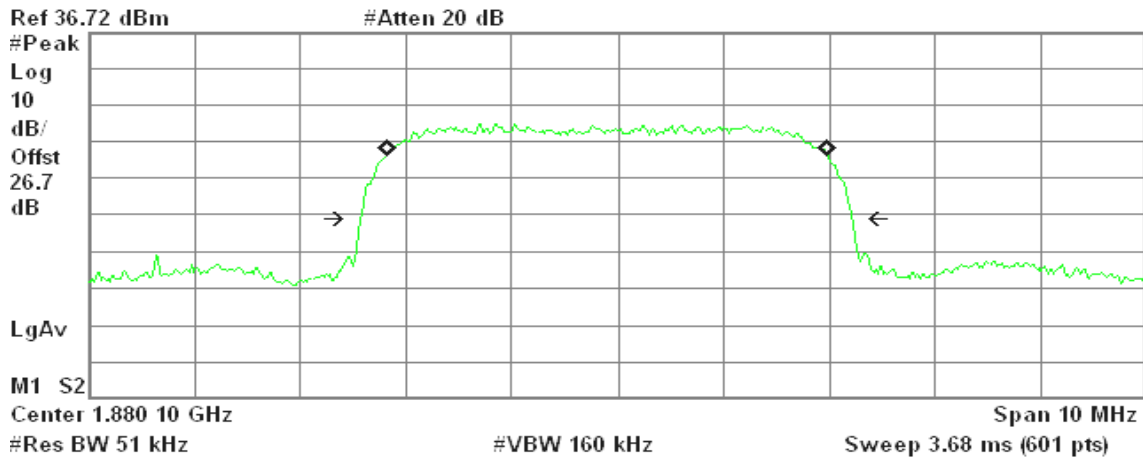
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.538 kHz
x dB Bandwidth 4.645 MHz

WCDMA Band II (CH Mid)

Agilent 15:51:36 Jul 2, 2009

R T



Occupied Bandwidth
4.1578 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

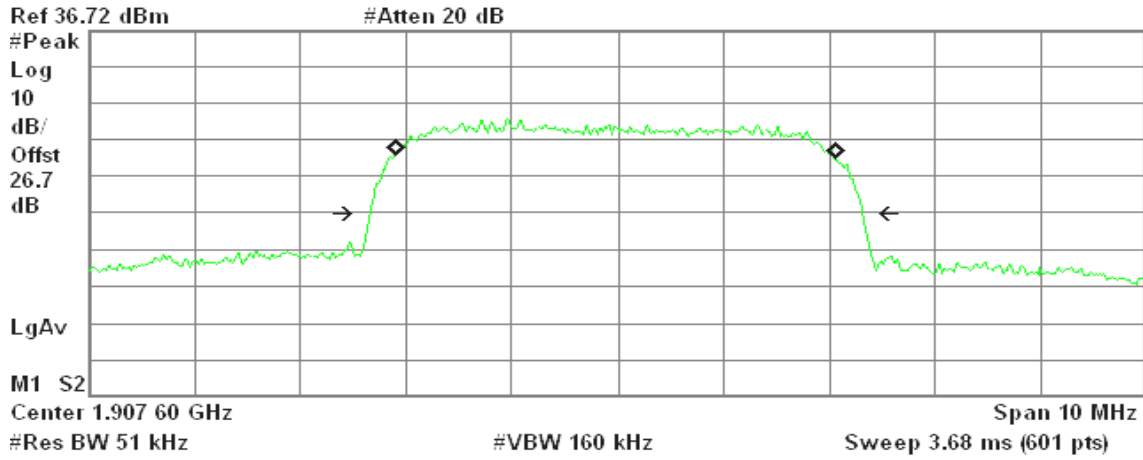
Transmit Freq Error -104.956 kHz
x dB Bandwidth 4.655 MHz



WCDMA Band II (CH High)

Agilent 15:39:36 Jul 2, 2009

R T



Occupied Bandwidth
4.1672 MHz

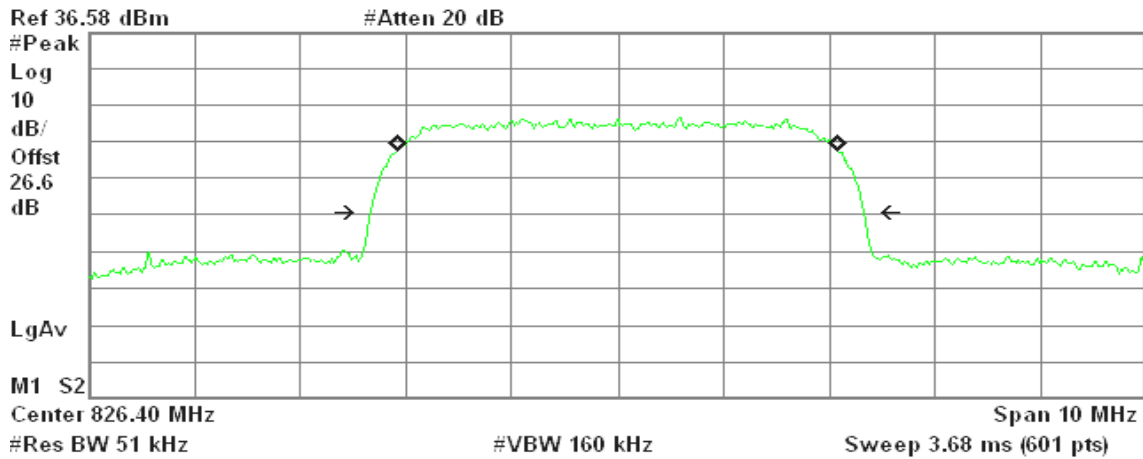
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -24.070 kHz
x dB Bandwidth 4.666 MHz

WCDMA Band V (CH Low)

Agilent 15:58:06 Jul 2, 2009

R T



Occupied Bandwidth
4.1697 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

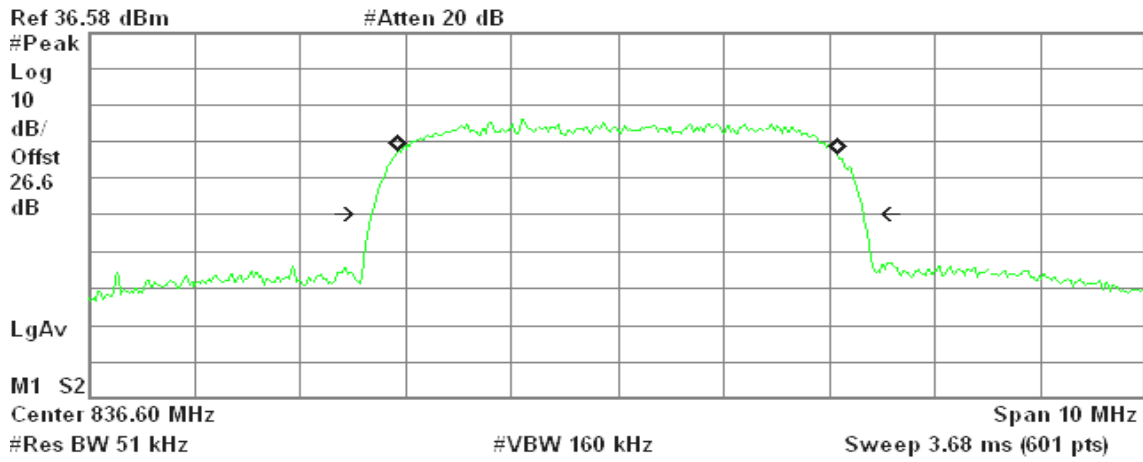
Transmit Freq Error -685.526 Hz
x dB Bandwidth 4.669 MHz



WCDMA Band V (CH Mid)

Agilent 15:59:45 Jul 2, 2009

R T



Occupied Bandwidth
4.1567 MHz

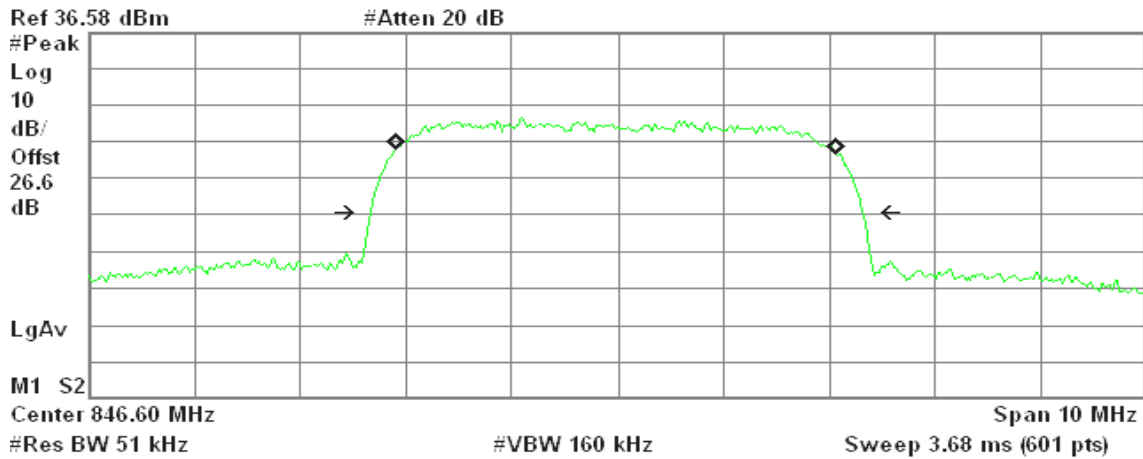
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 812.948 Hz
x dB Bandwidth 4.658 MHz

WCDMA Band V (CH High)

Agilent 16:00:23 Jul 2, 2009

R T



Occupied Bandwidth
4.1711 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

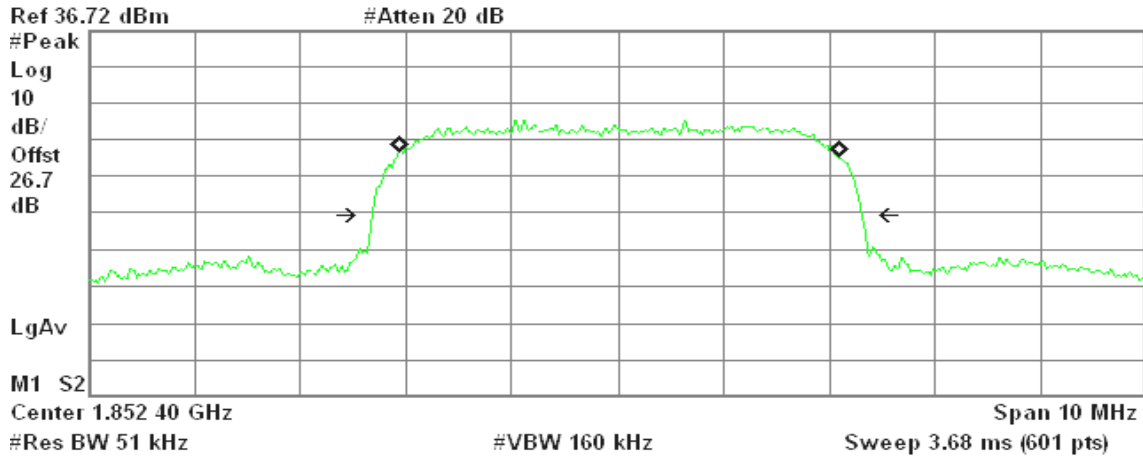
Transmit Freq Error -15.746 kHz
x dB Bandwidth 4.658 MHz



WCDMA / HSDPA Band II (CH Low)

Agilent 15:37:24 Jul 2, 2009

R T



Occupied Bandwidth
4.1660 MHz

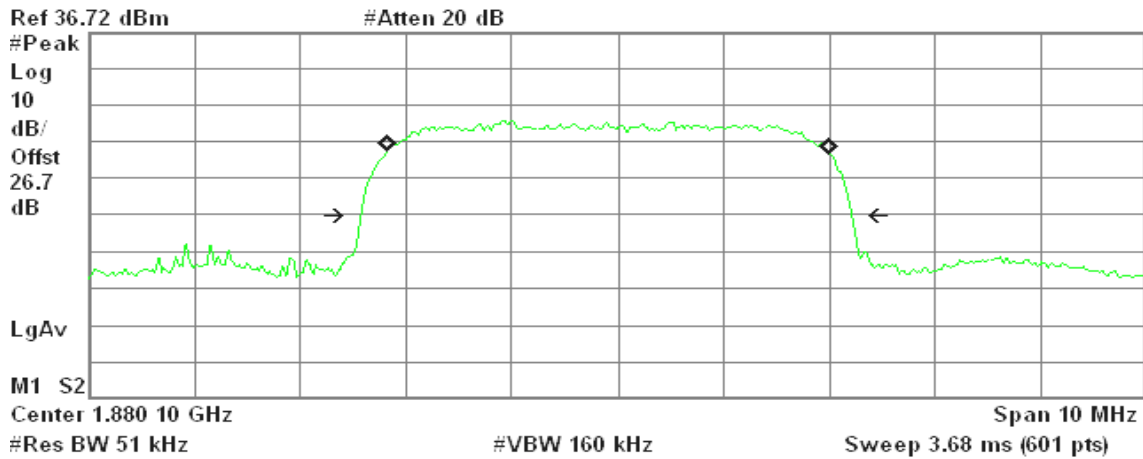
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.185 kHz
x dB Bandwidth 4.635 MHz

WCDMA / HSDPA Band II (CH Mid)

Agilent 15:50:42 Jul 2, 2009

R T



Occupied Bandwidth
4.1656 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

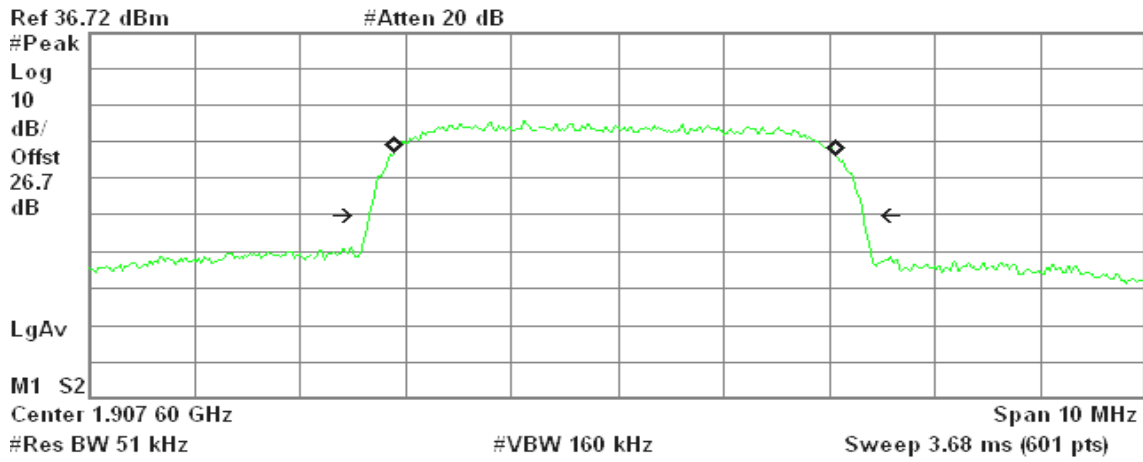
Transmit Freq Error -97.754 kHz
x dB Bandwidth 4.653 MHz



WCDMA / HSDPA Band II (CH High)

Agilent 15:40:05 Jul 2, 2009

R T



Occupied Bandwidth
4.1819 MHz

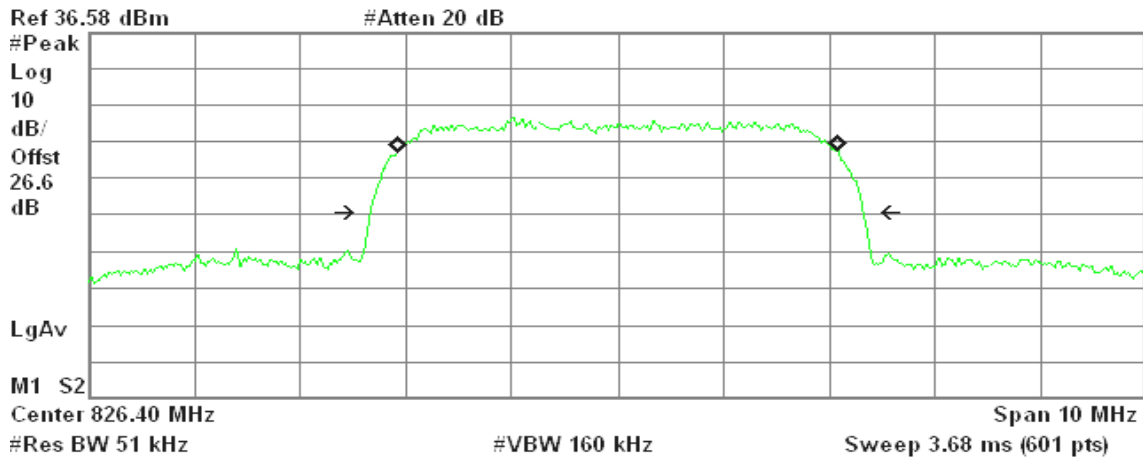
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -22.564 kHz
x dB Bandwidth 4.675 MHz

WCDMA / HSDPA Band V (CH Low)

Agilent 15:58:23 Jul 2, 2009

R T



Occupied Bandwidth
4.1654 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

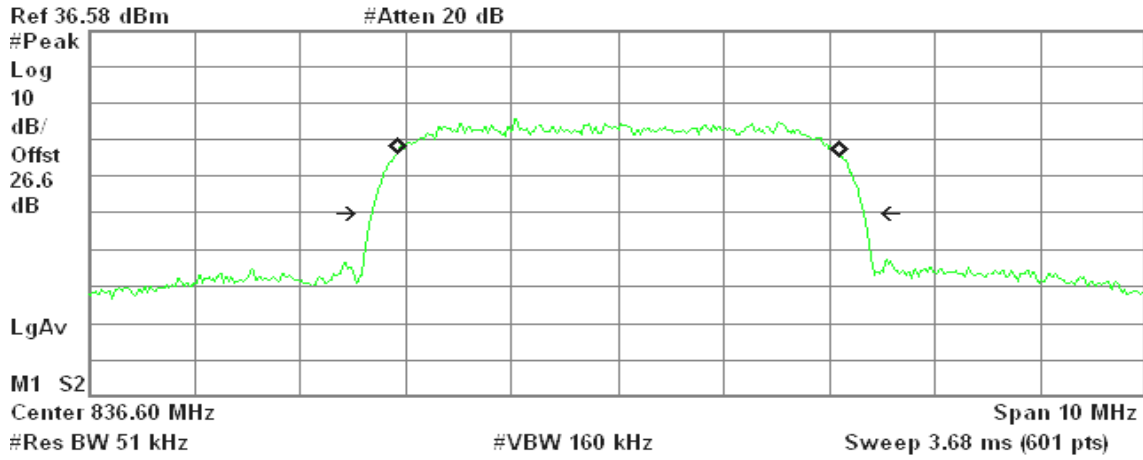
Transmit Freq Error -6.678 kHz
x dB Bandwidth 4.667 MHz



WCDMA / HSDPA Band V (CH Mid)

Agilent 15:59:31 Jul 2, 2009

R T



Occupied Bandwidth
4.1754 MHz

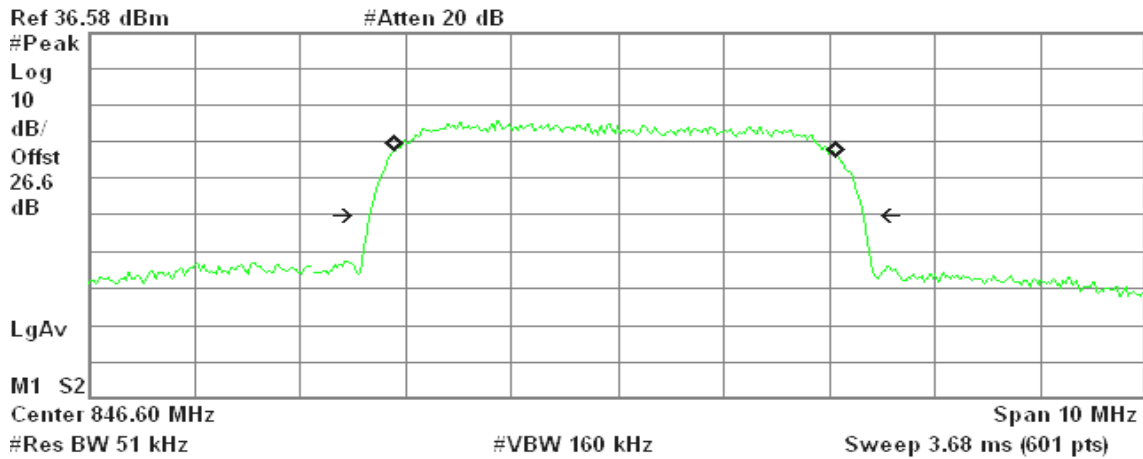
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 5.525 kHz
x dB Bandwidth 4.659 MHz

WCDMA / HSDPA Band V (CH High)

Agilent 16:00:33 Jul 2, 2009

R T



Occupied Bandwidth
4.1822 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -22.160 kHz
x dB Bandwidth 4.685 MHz



7.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

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

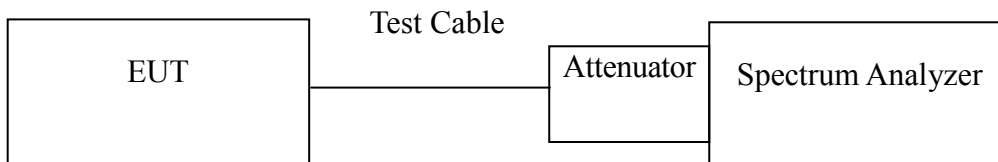
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

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

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

Test Configuration

Out of band emission at antenna terminals:



TEST PROCEDURE

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

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

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

TEST RESULTS

No non-compliance noted.



Test Data

Mode	CH	Location	Description
GSM 850 (Class B)	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 B)	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 B)	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 B)	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
	4183	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
	4183	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



Test Plot

GSM 850

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

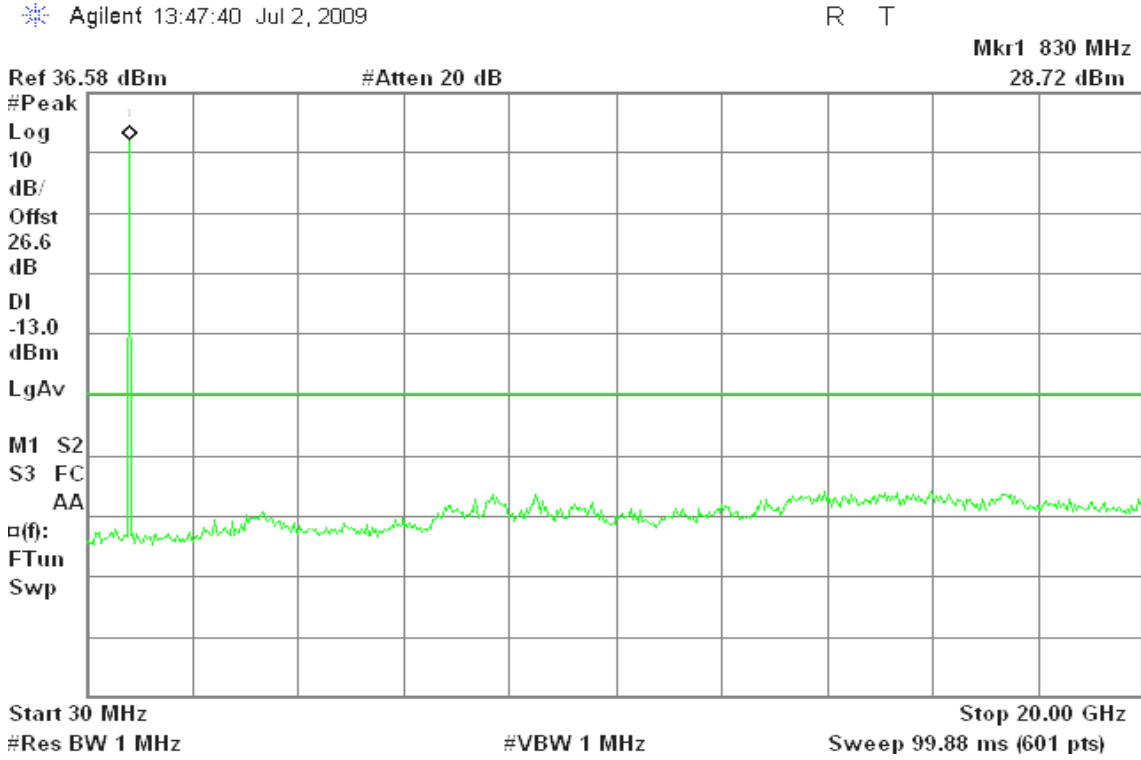


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

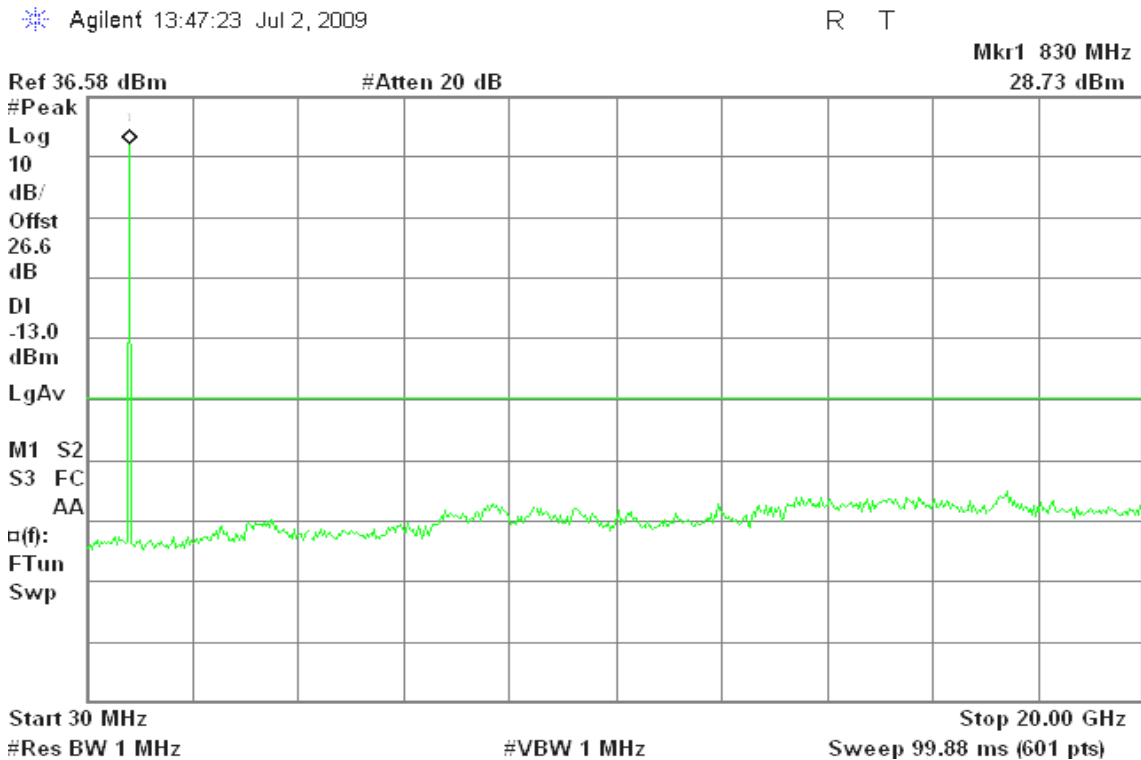
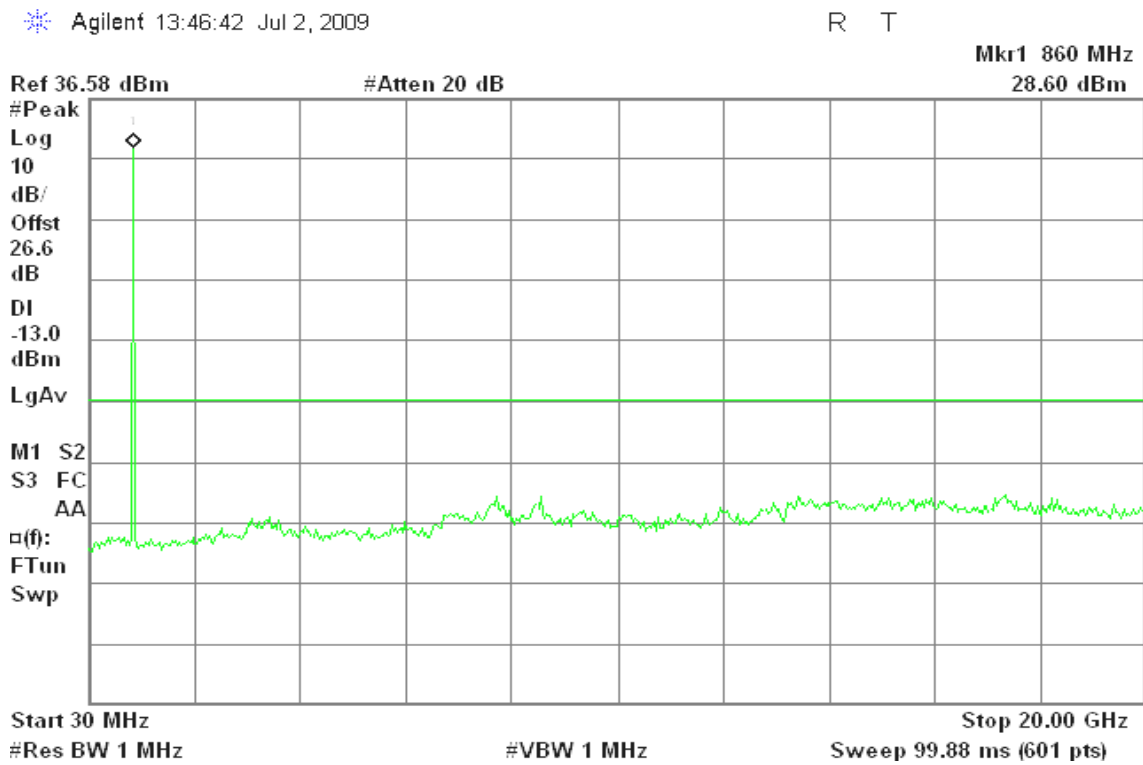




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

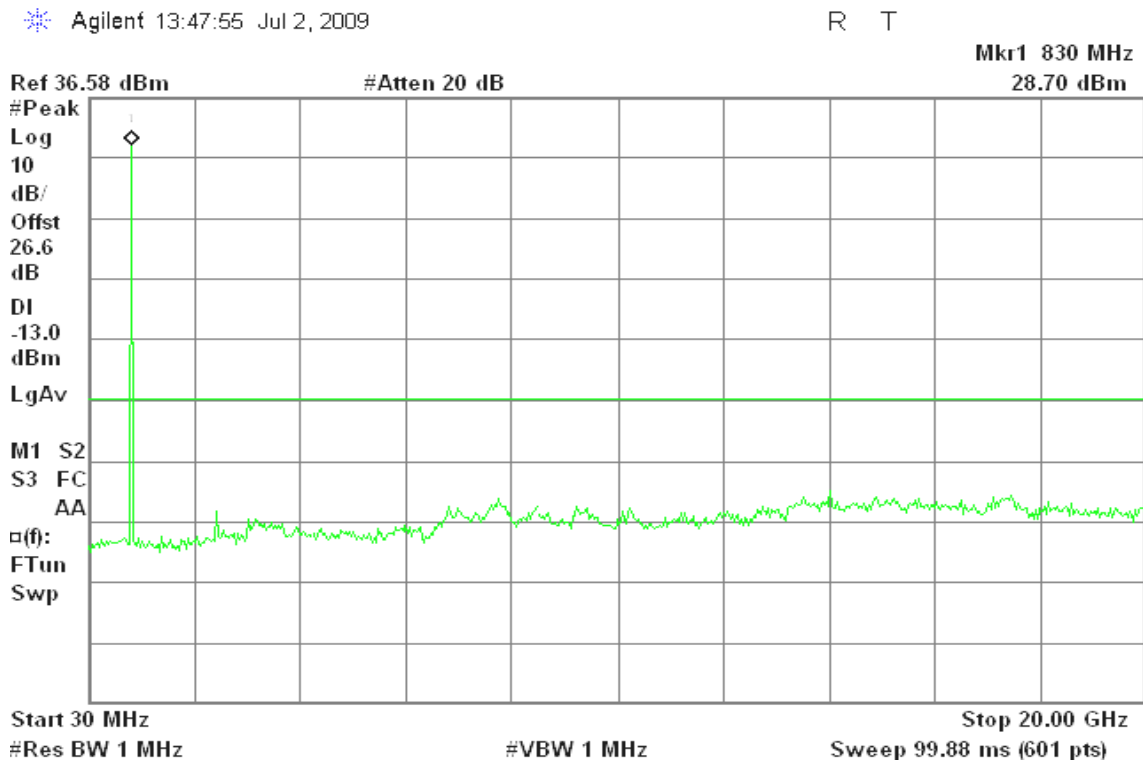




Figure 7-5: Out of Band emission at antenna terminals – GPRS CH Mid

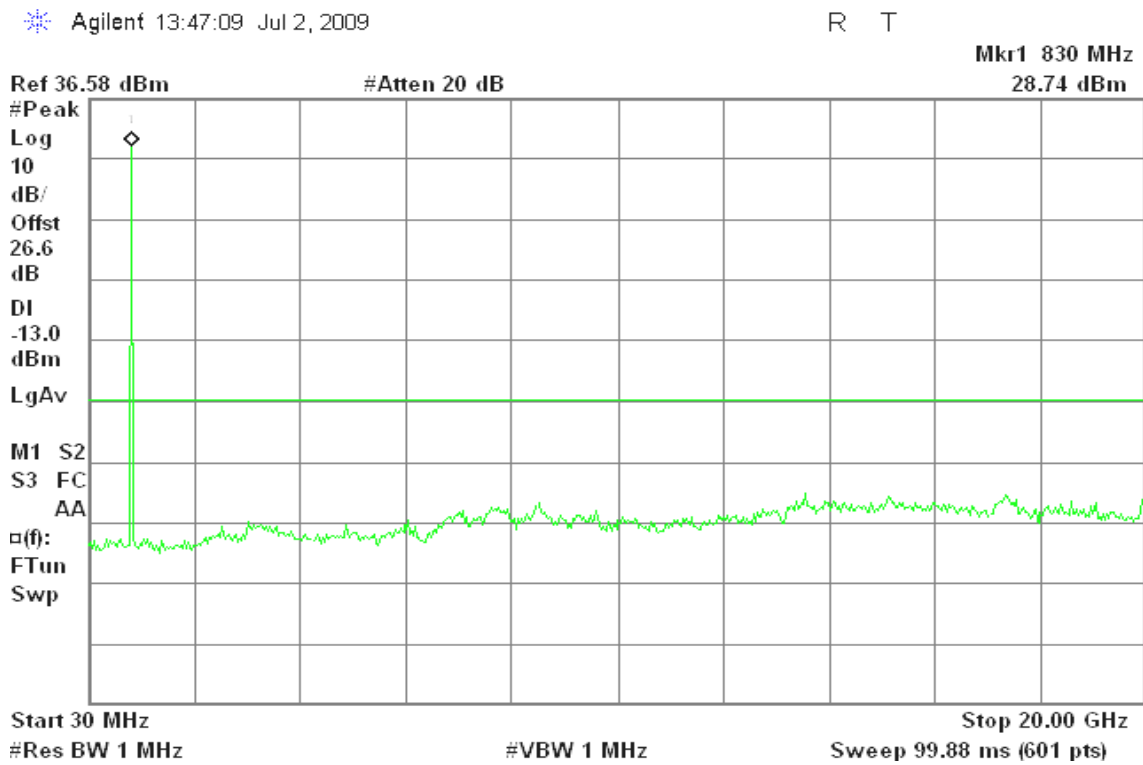
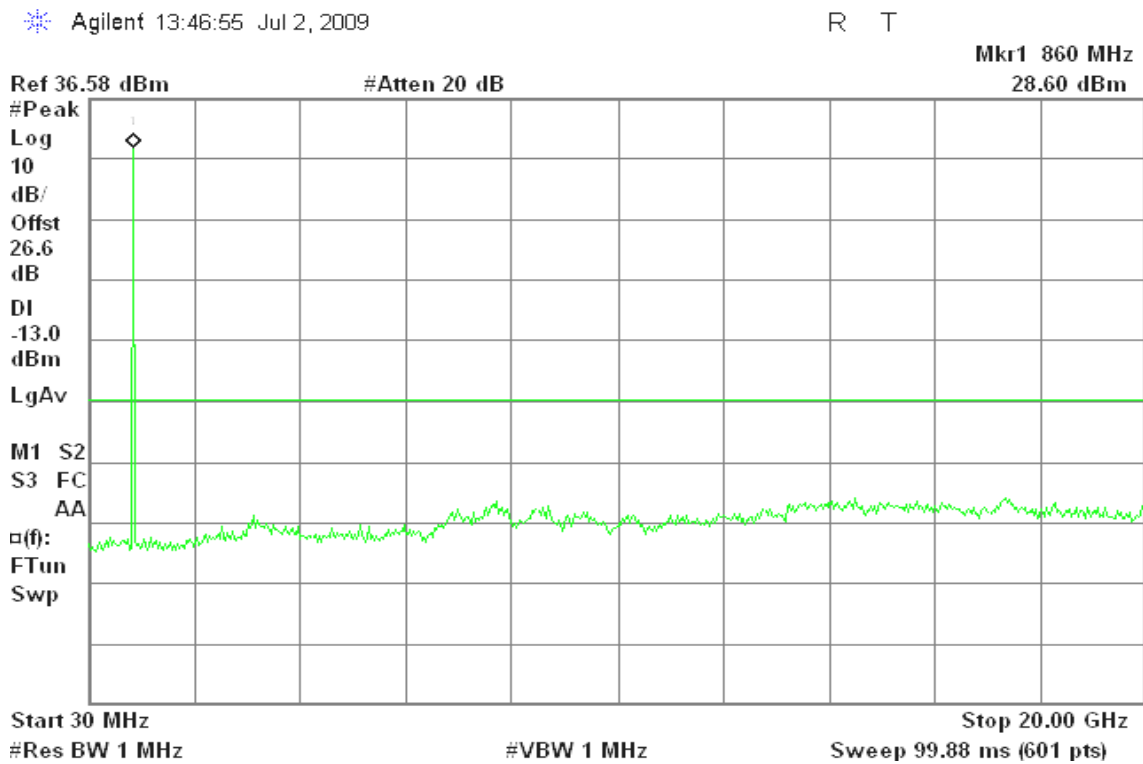


Figure 7-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 1900

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

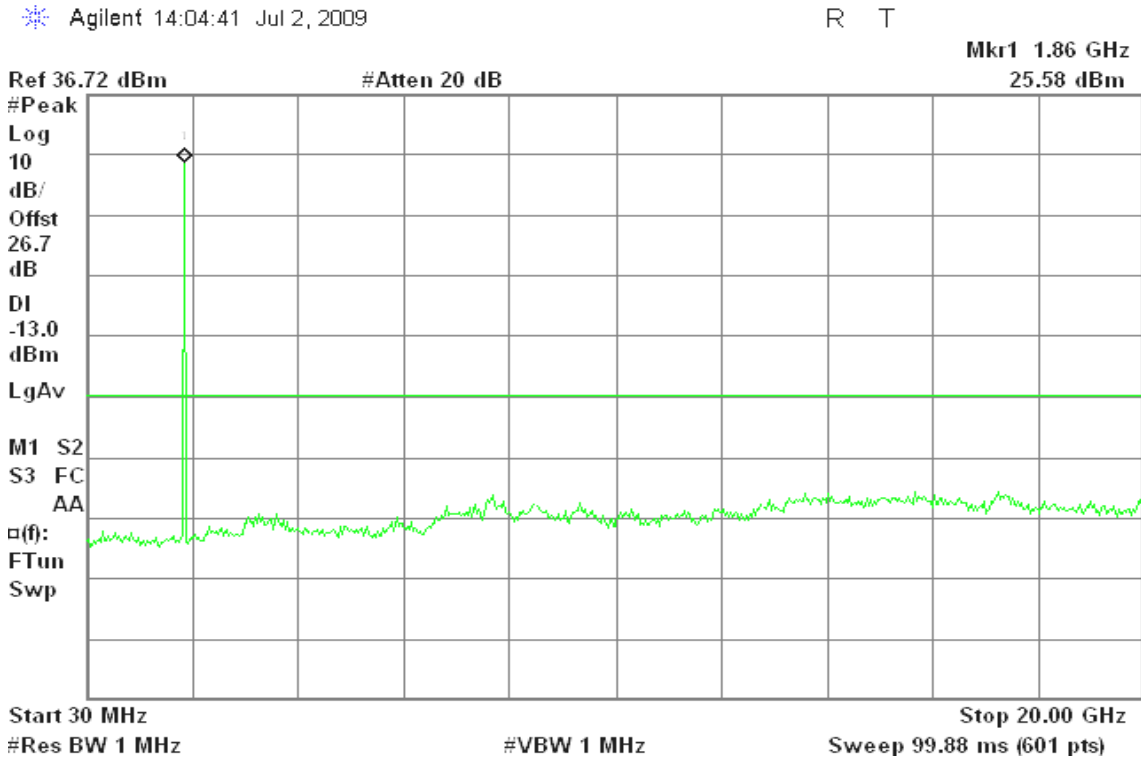


Figure 8-2: Out of Band emission at antenna terminals – GSM CH Mid

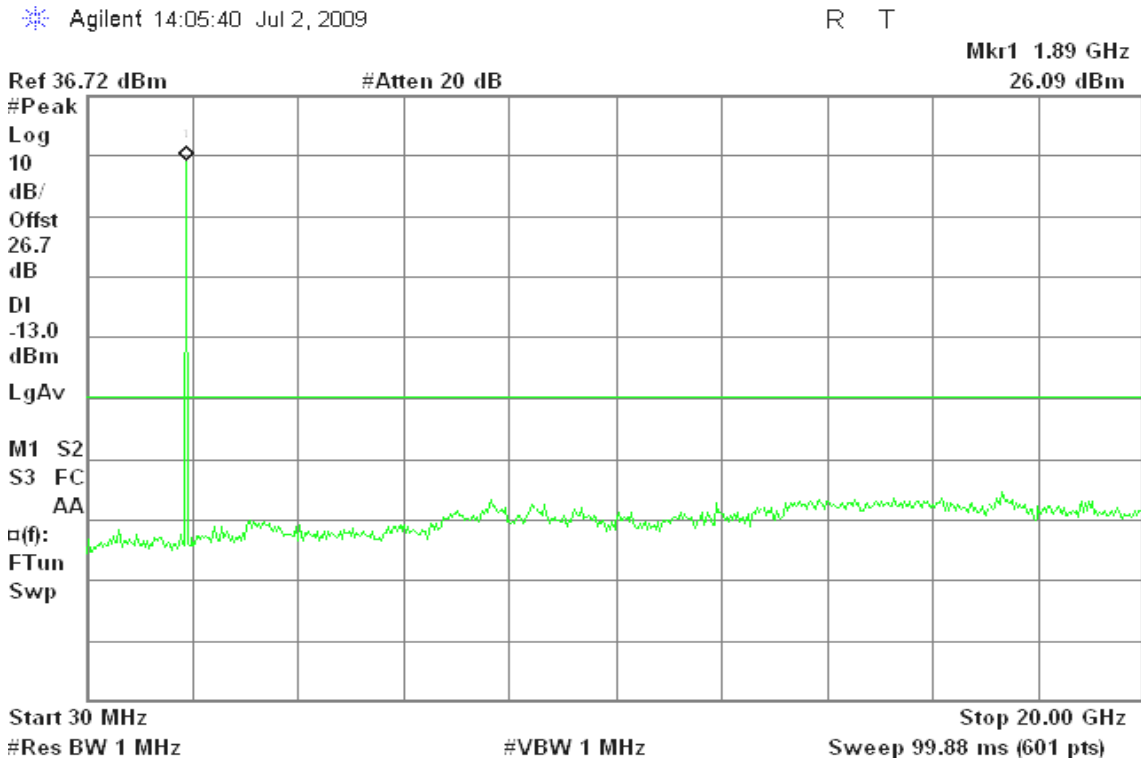
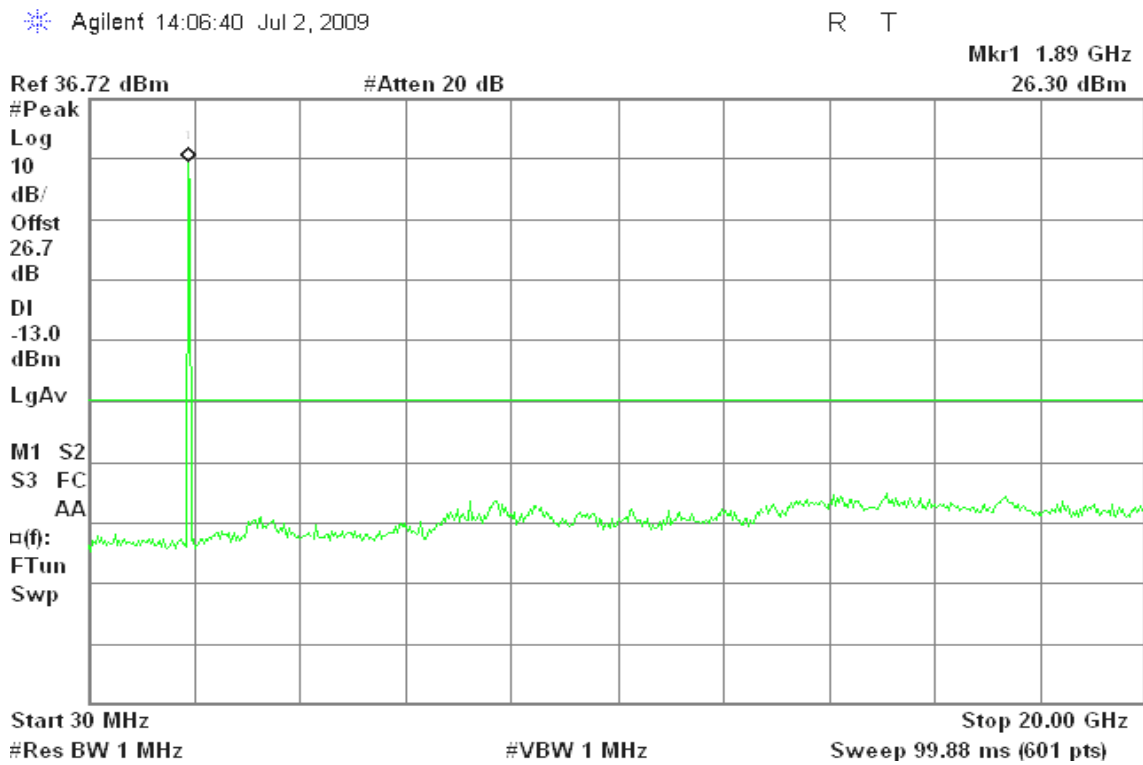




Figure 8-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

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

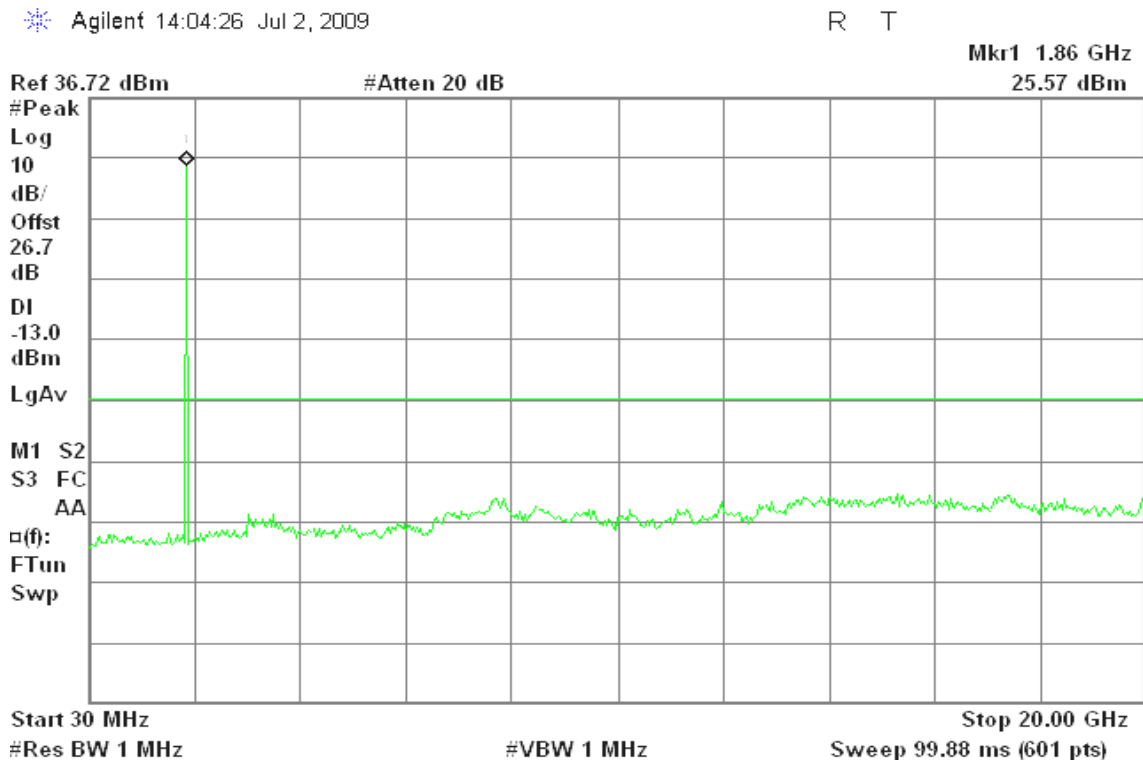




Figure 8-5: Out of Band emission at antenna terminals – GPRS CH Mid

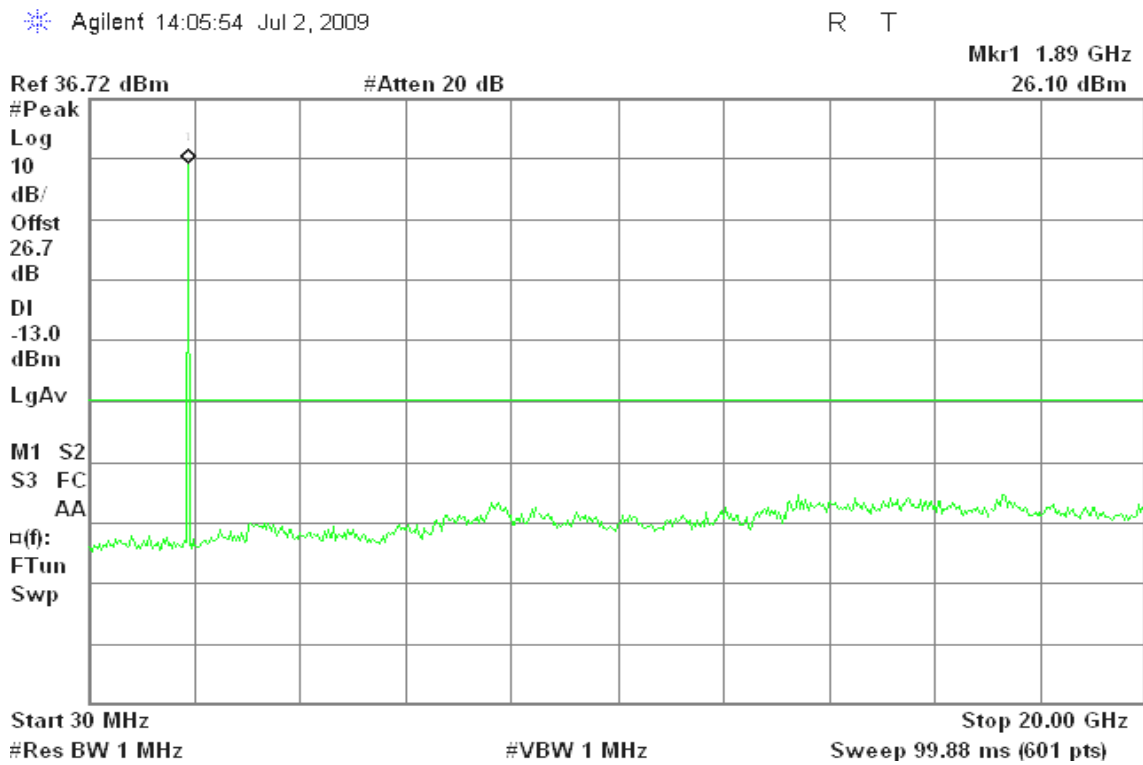
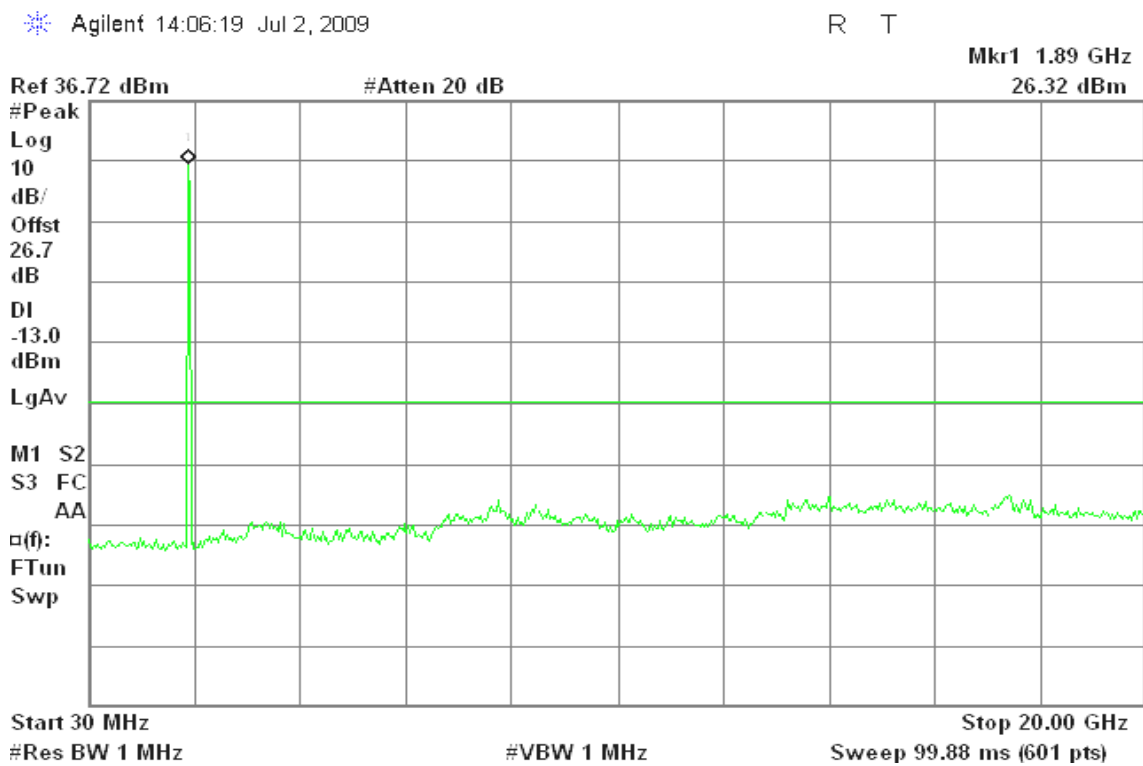


Figure 8-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 850

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

Agilent 13:43:34 Jul 2, 2009

R T

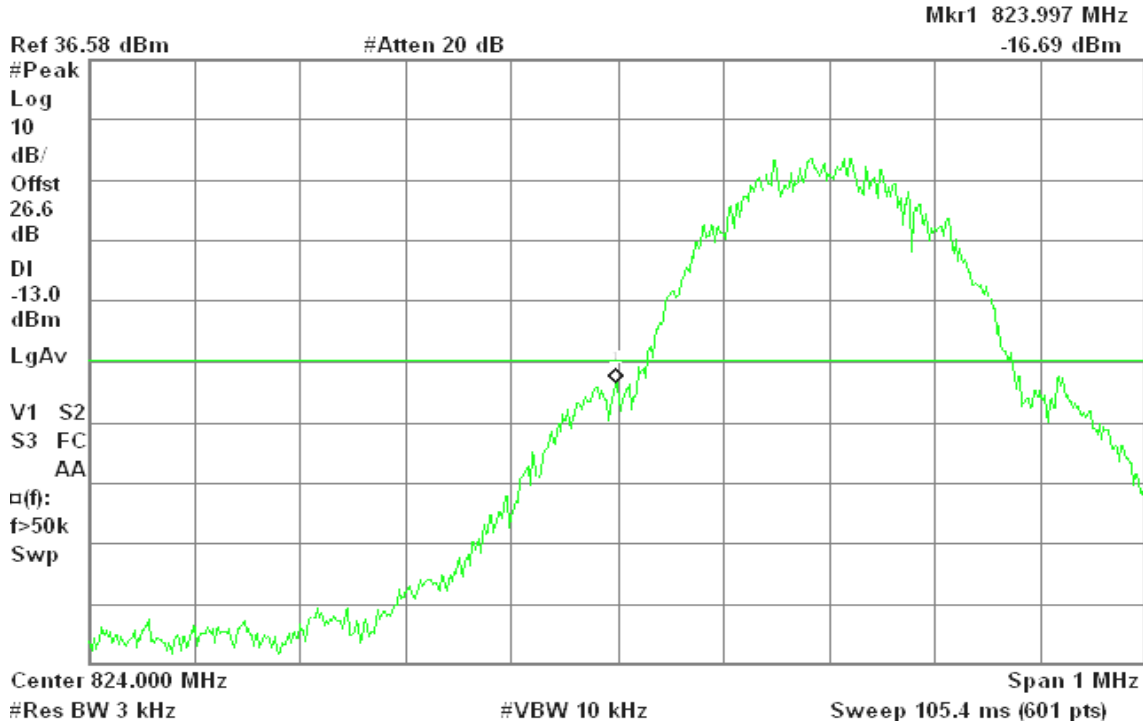
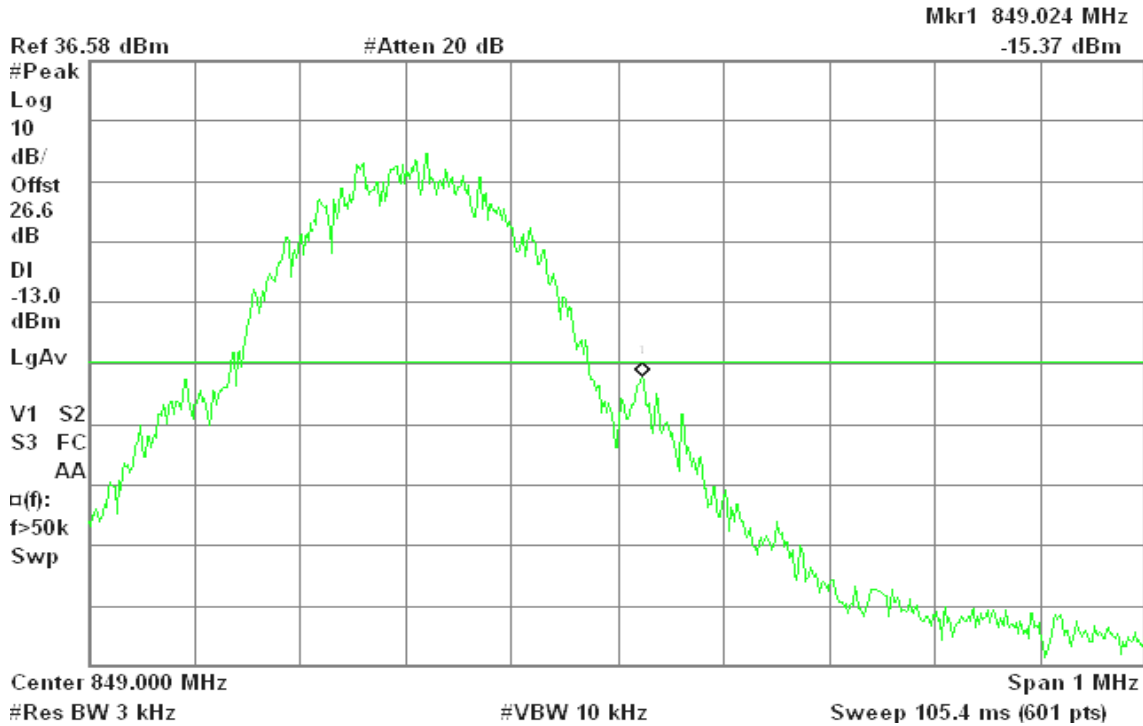


Figure 9-2: Band Edge emissions – GSM CH High

Agilent 13:45:42 Jul 2, 2009

R T





GPRS 850

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

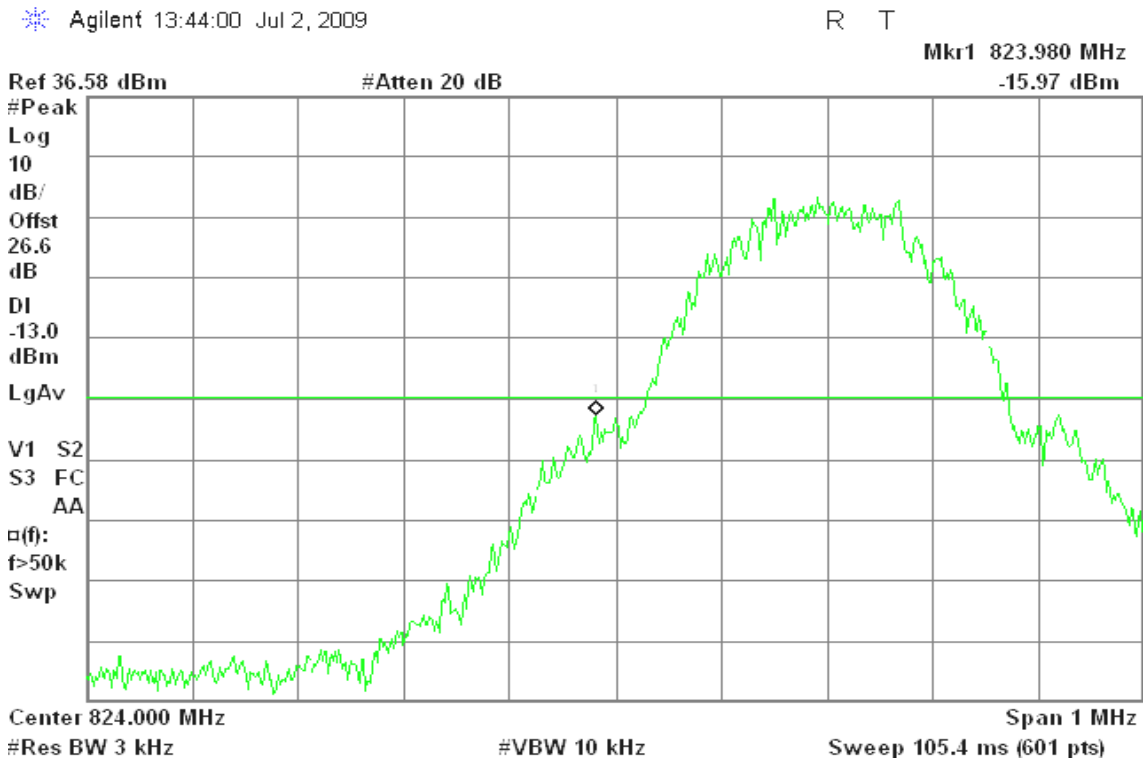
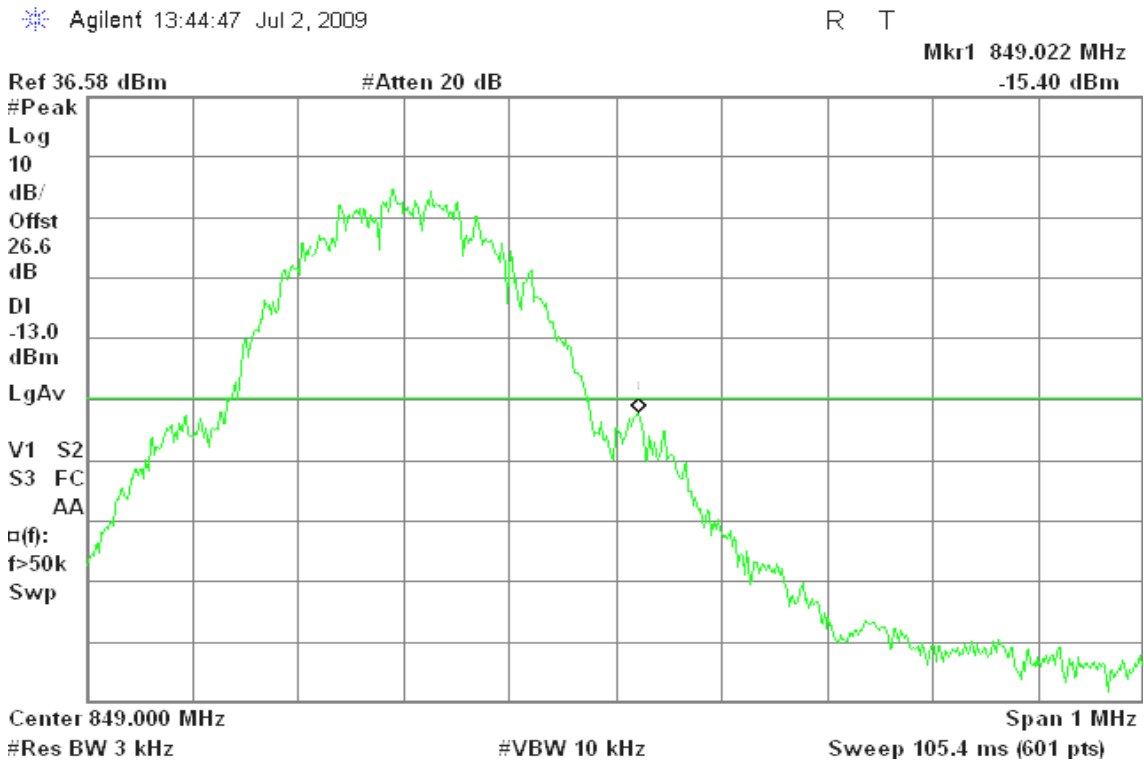


Figure 9-4: Band Edge emissions –GPRS CH High





GSM 1900

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

Agilent 14:09:06 Jul 2, 2009

R T

Mkr1 1.849 997 GHz
-18.55 dBm

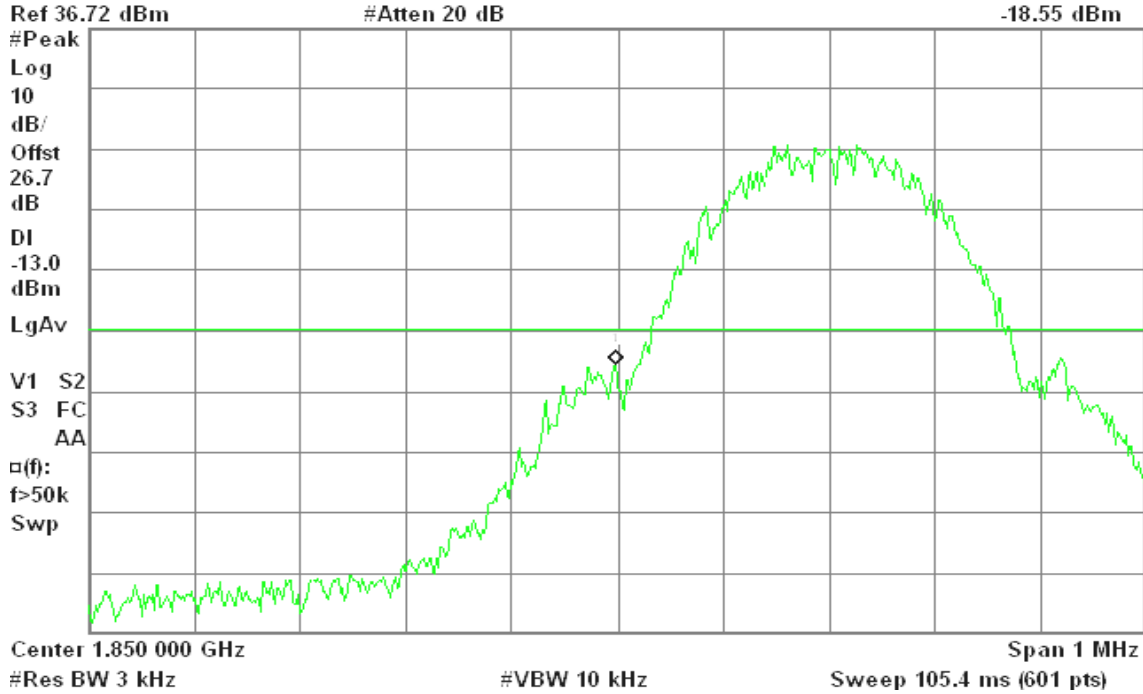
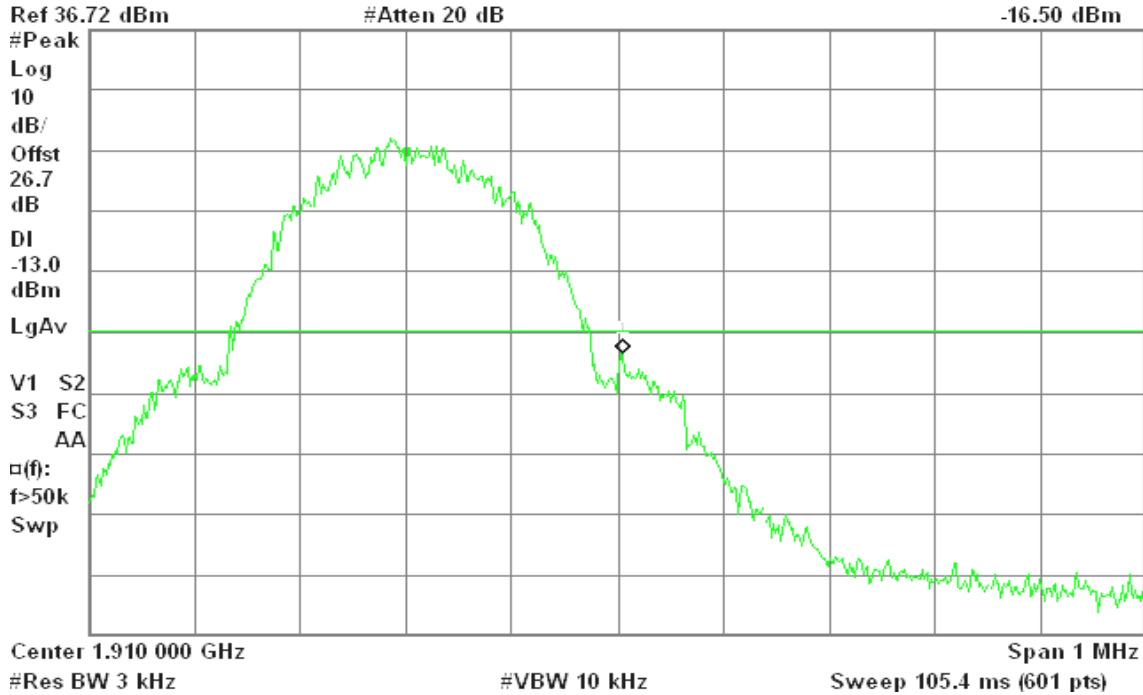


Figure 10-2: Band Edge emissions – GSM CH High

Agilent 14:10:03 Jul 2, 2009

R T

Mkr1 1.910 005 GHz
-16.50 dBm





GPRS 1900

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

Agilent 14:08:23 Jul 2, 2009

R T

Mkr1 1.849 997 GHz
-18.59 dBm

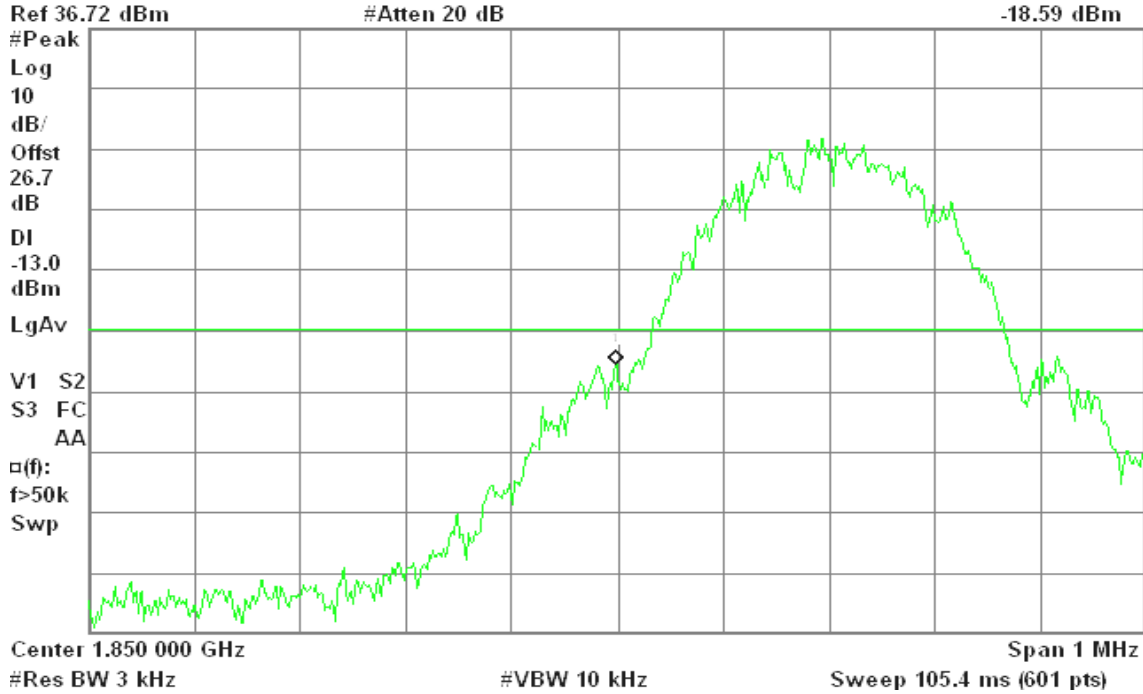
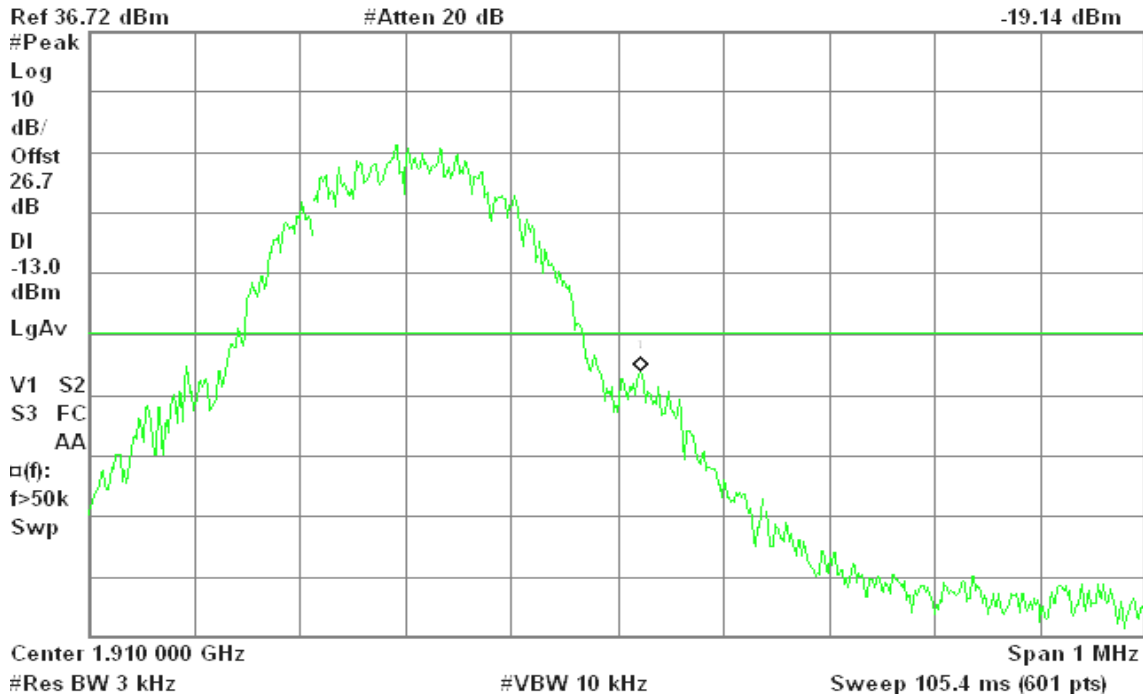


Figure 10-4: Band Edge emissions – GPRS CH High

Agilent 14:10:31 Jul 2, 2009

R T

Mkr1 1.910 022 GHz
-19.14 dBm





EDGE 850

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

Agilent 15:00:45 Jul 2, 2009

R T

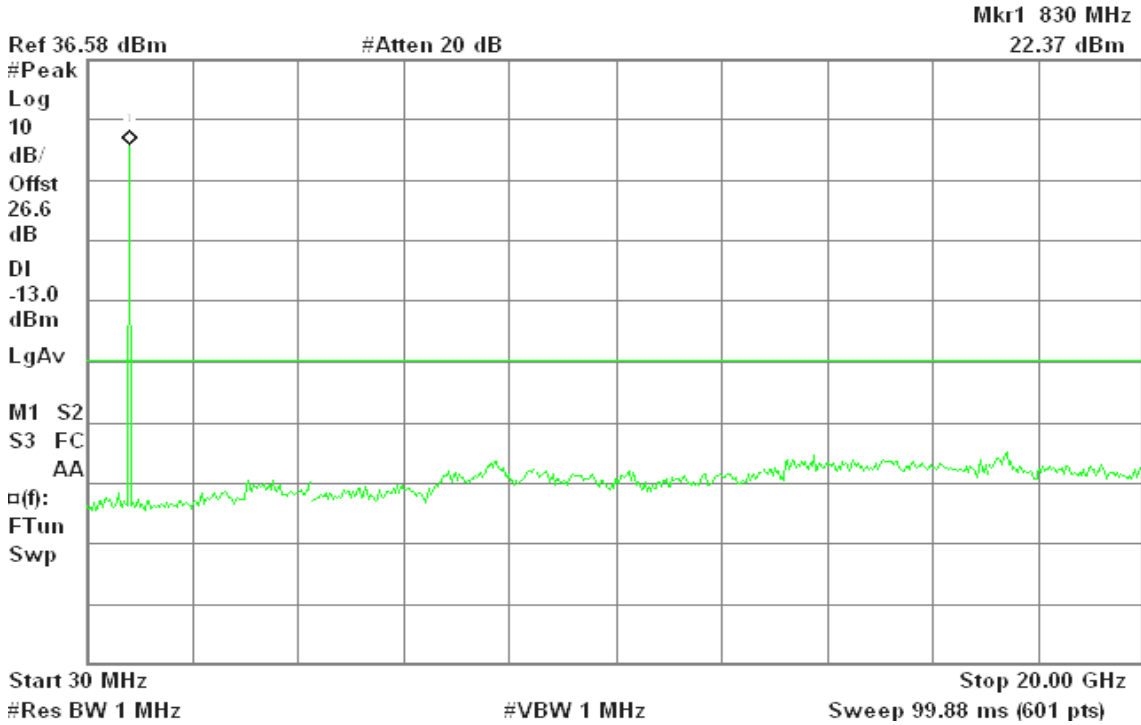


Figure 11-2: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 15:00:58 Jul 2, 2009

R T

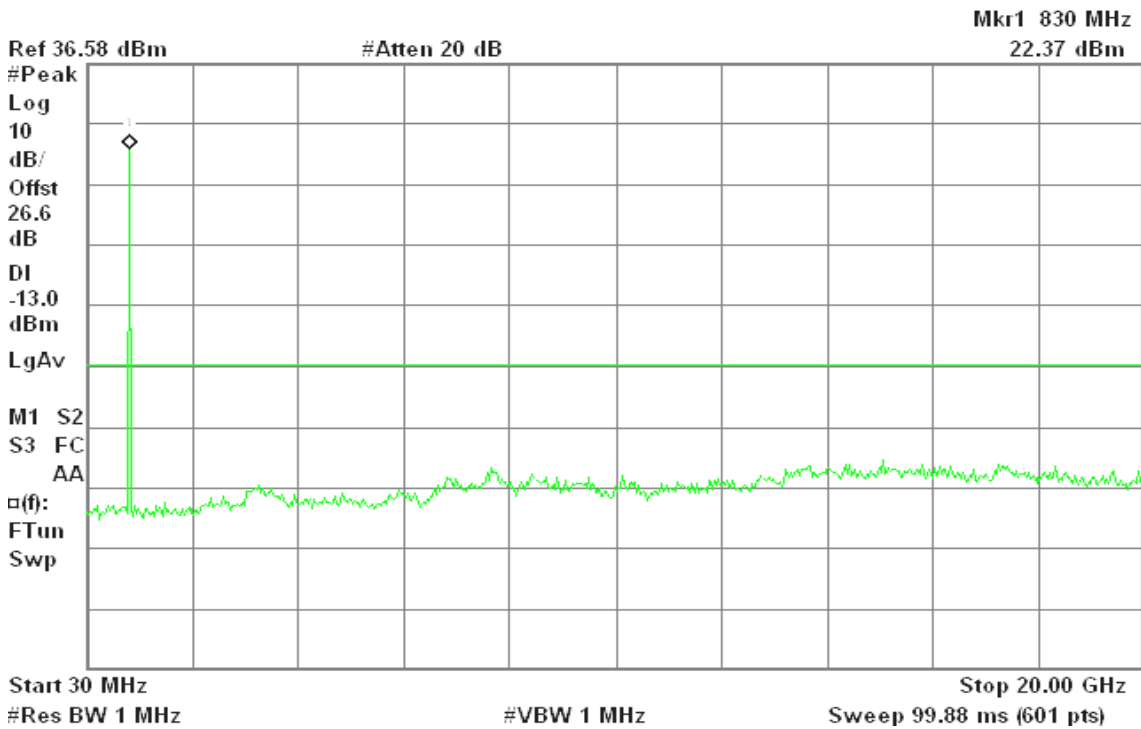
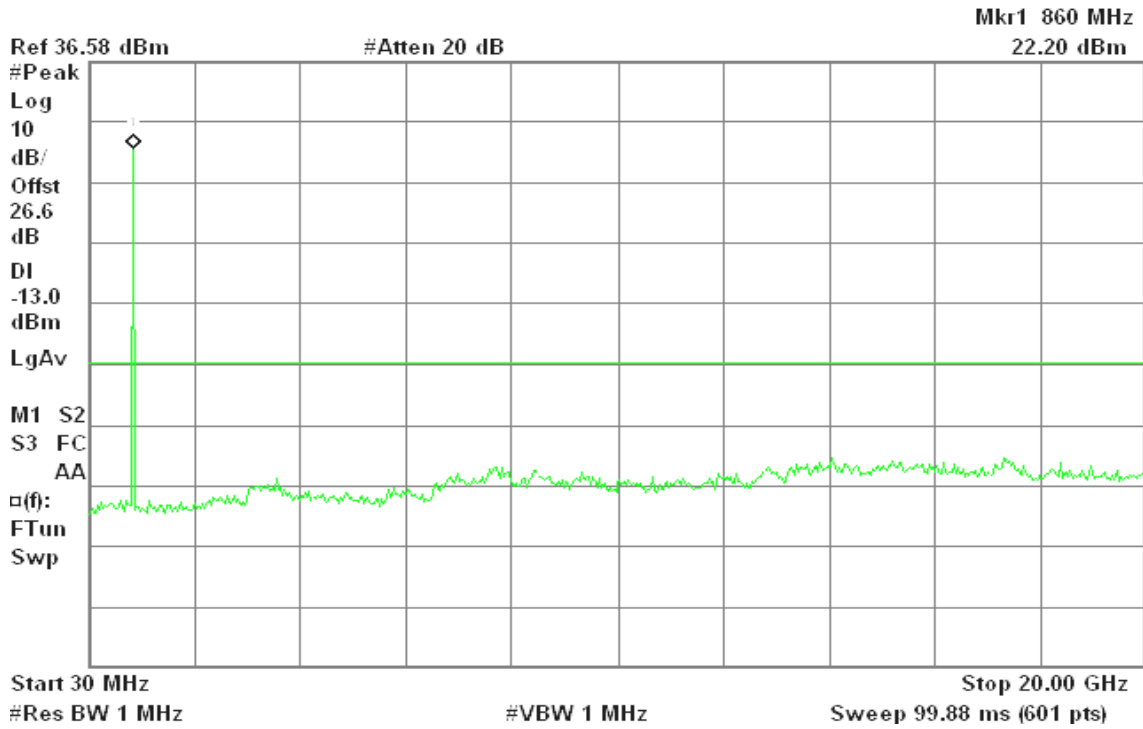




Figure 11-3: Out of Band emission at antenna terminals –EDGE CH High

Agilent 15:01:20 Jul 2, 2009

R T



EDGE 1900

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

Agilent 14:57:27 Jul 2, 2009

R T

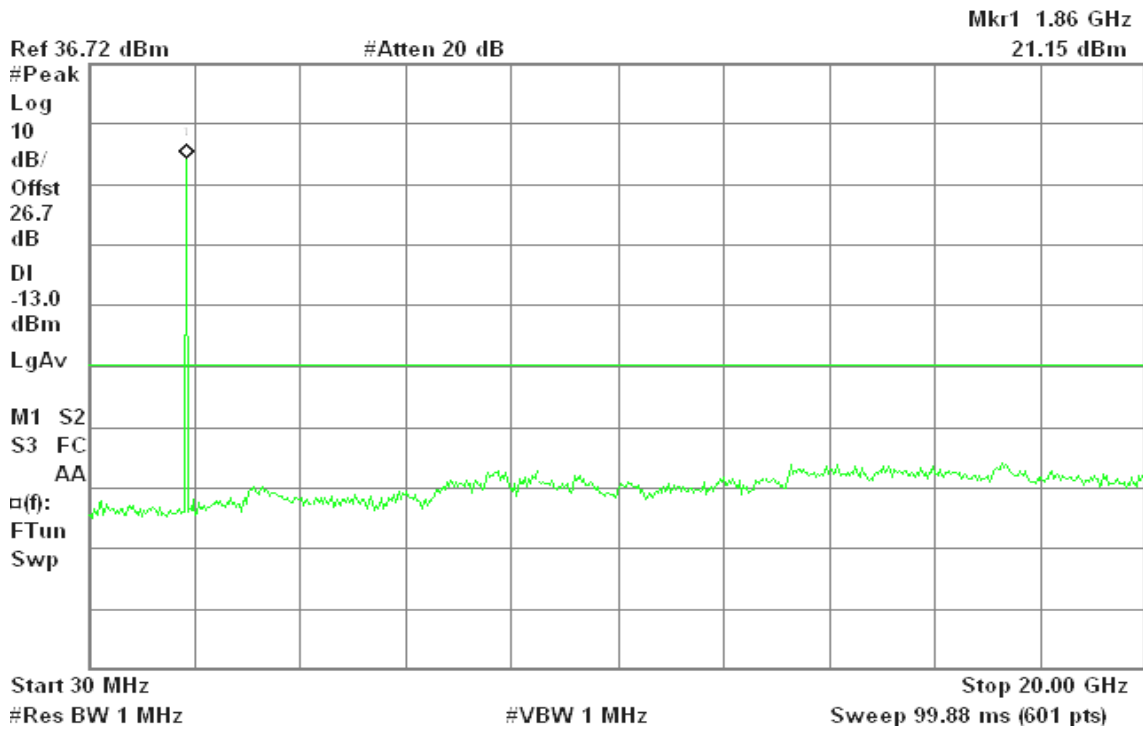




Figure 11-5: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 14:57:15 Jul 2, 2009

R T

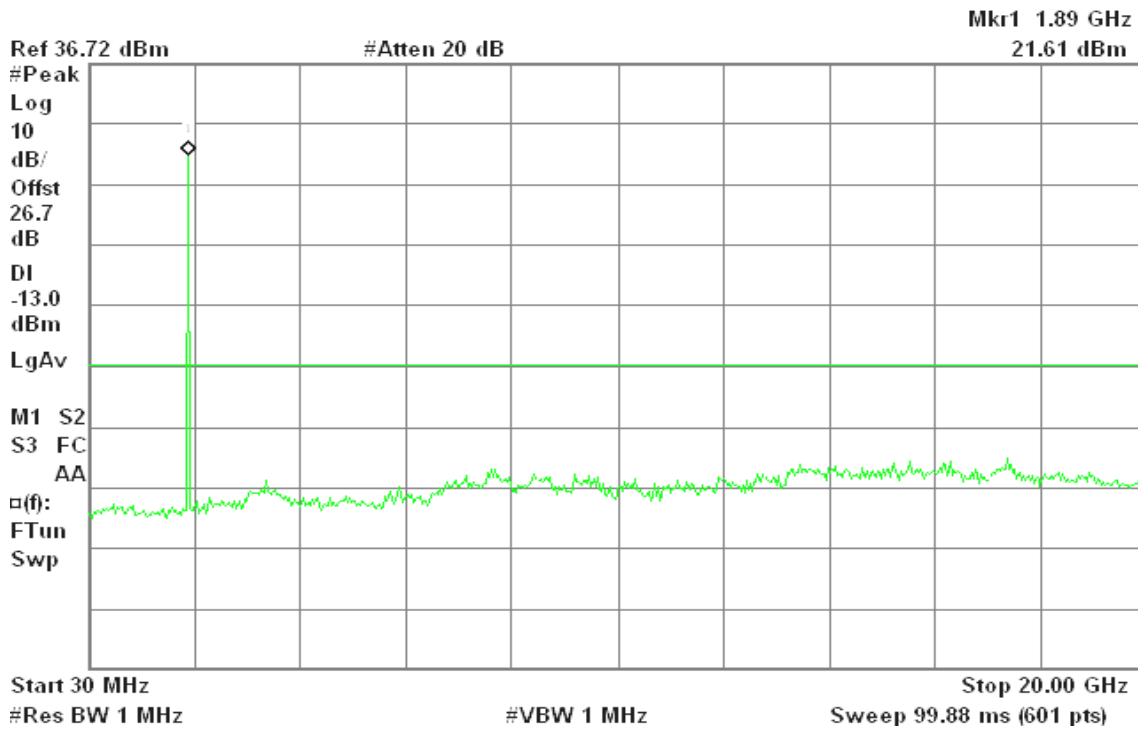
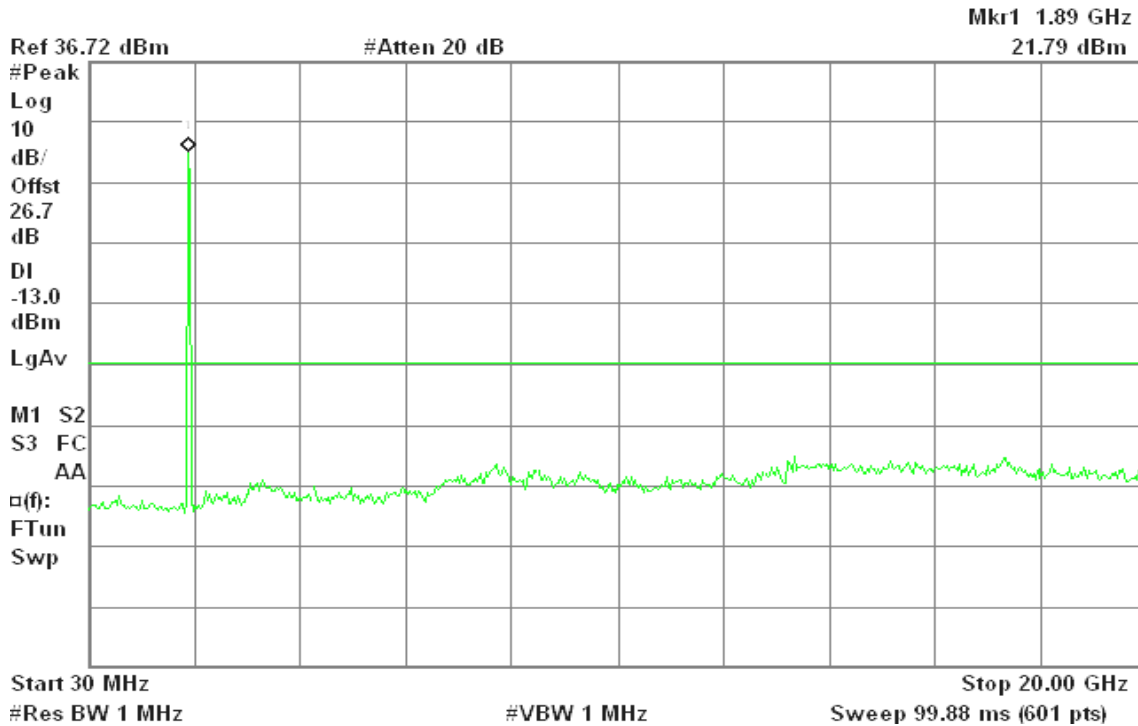


Figure 11-6: Out of Band emission at antenna terminals –EDGE CH High

Agilent 14:57:03 Jul 2, 2009

R T





EDGE 850

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

Agilent 14:52:46 Jul 2, 2009

R T

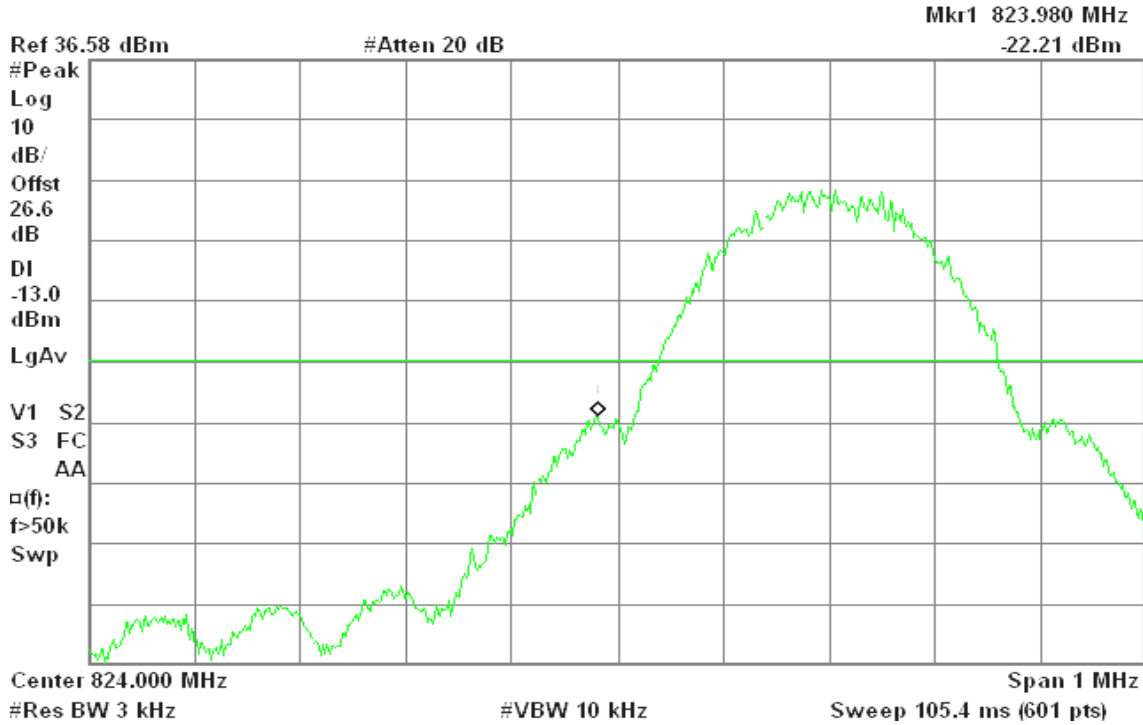
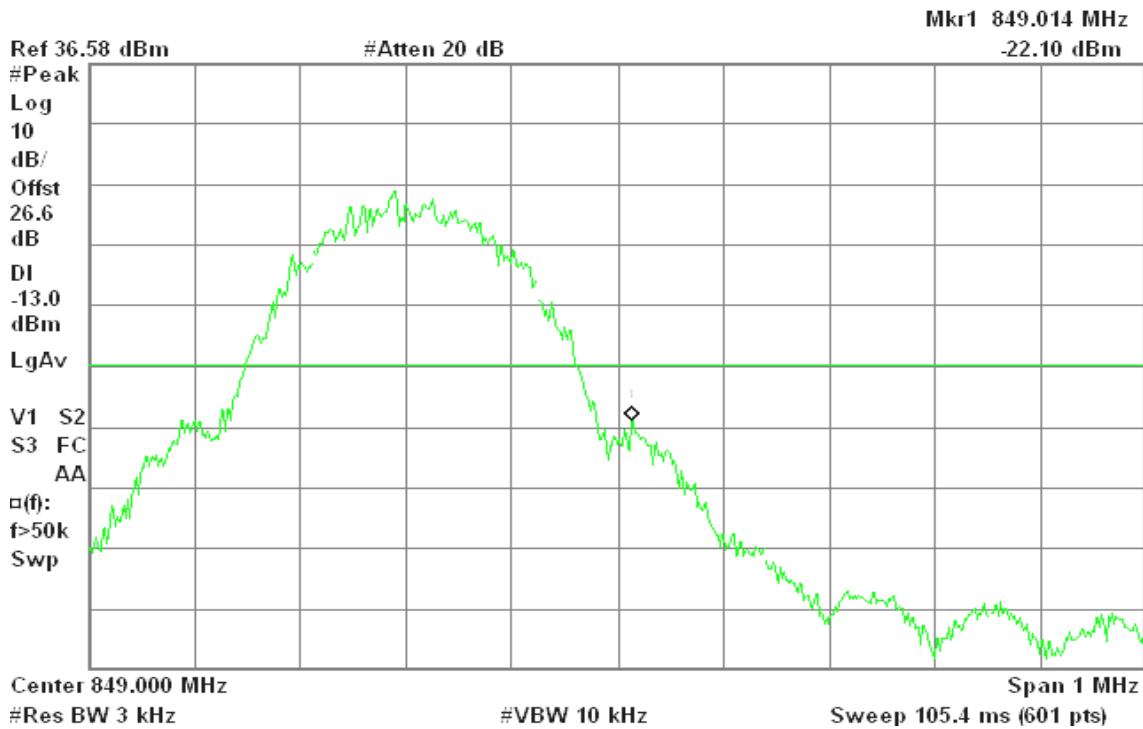


Figure 12-2: Band Edge emissions – EDGE CH High

Agilent 14:53:12 Jul 2, 2009

R T





EDGE 1900

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

Agilent 14:59:11 Jul 2, 2009

R T

Mkr1 1.849 997 GHz
-23.11 dBm

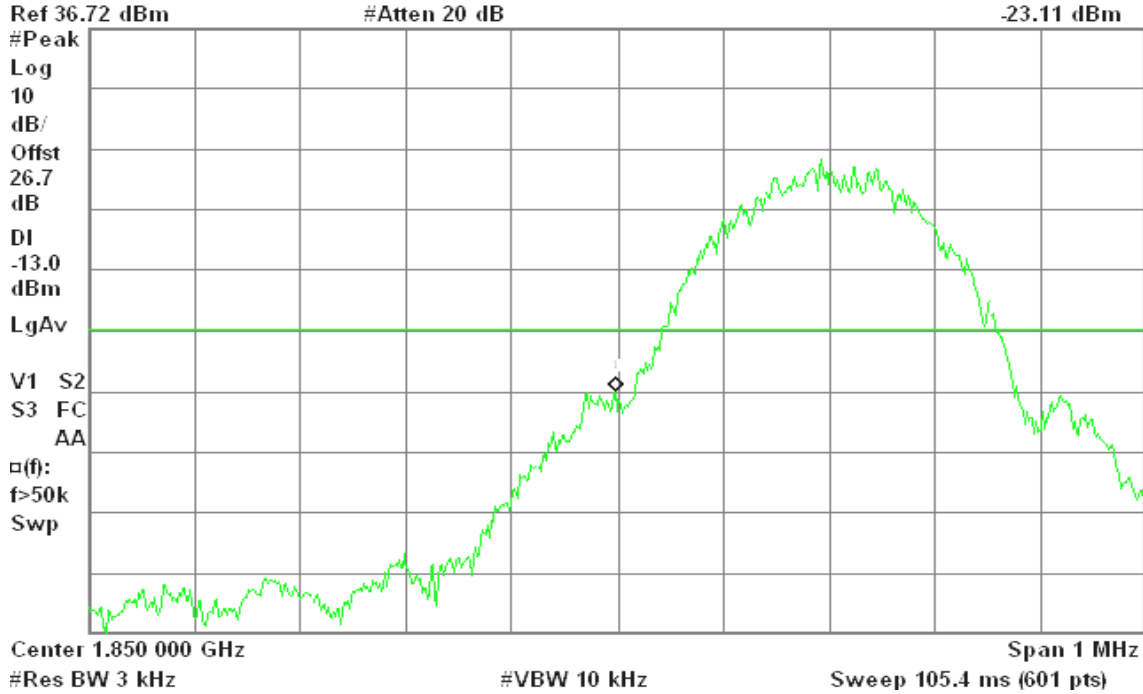
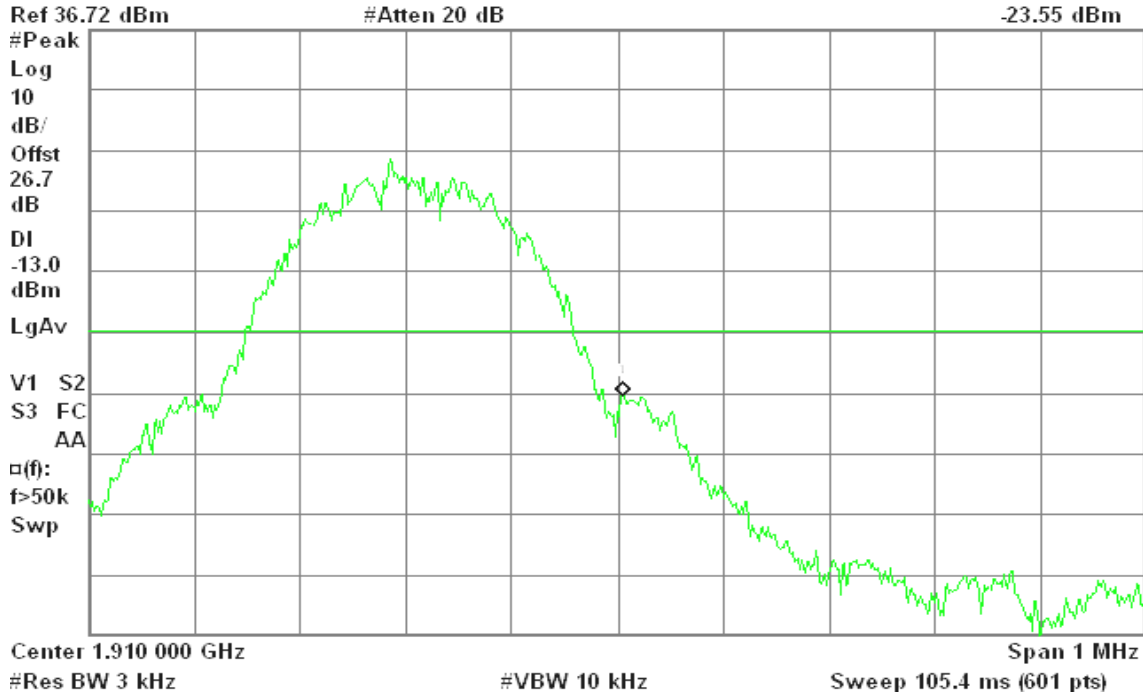


Figure 12-4: Band Edge emissions – EDGE CH High

Agilent 14:59:36 Jul 2, 2009

R T

Mkr1 1.910 005 GHz
-23.55 dBm





WCDMA Band II

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

Agilent 15:14:35 Jul 2, 2009

R T

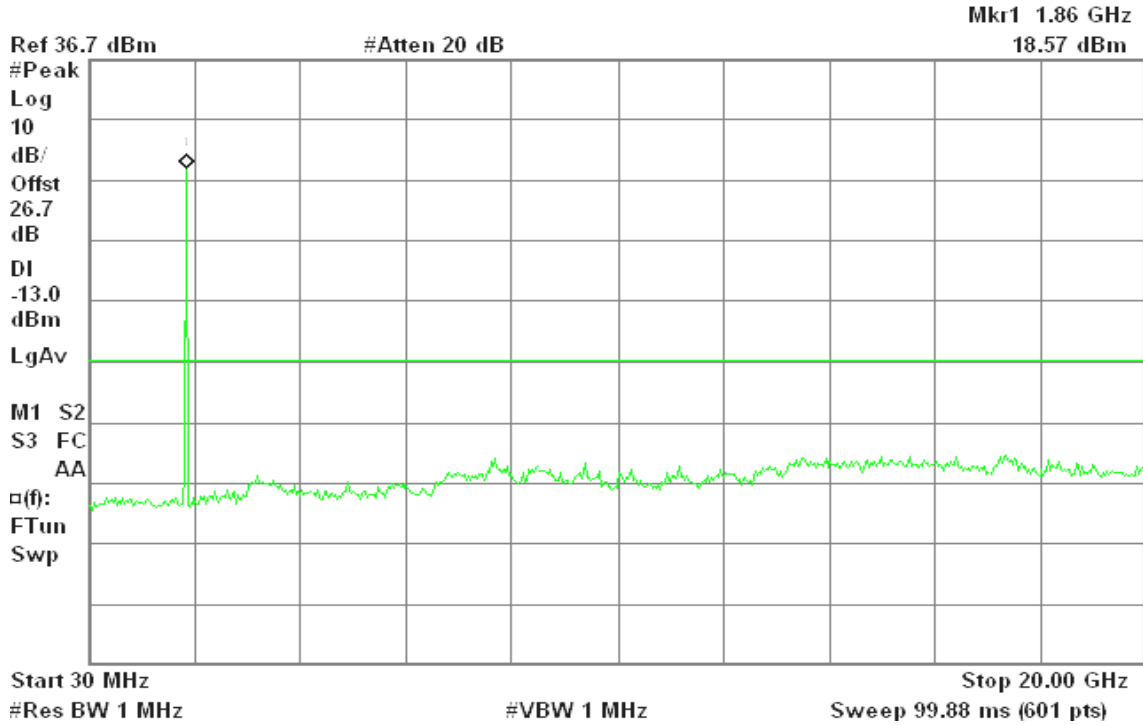


Figure 13-2: Out of Band emission at antenna terminals – WCDMA CH Mid

Agilent 15:15:47 Jul 2, 2009

R T

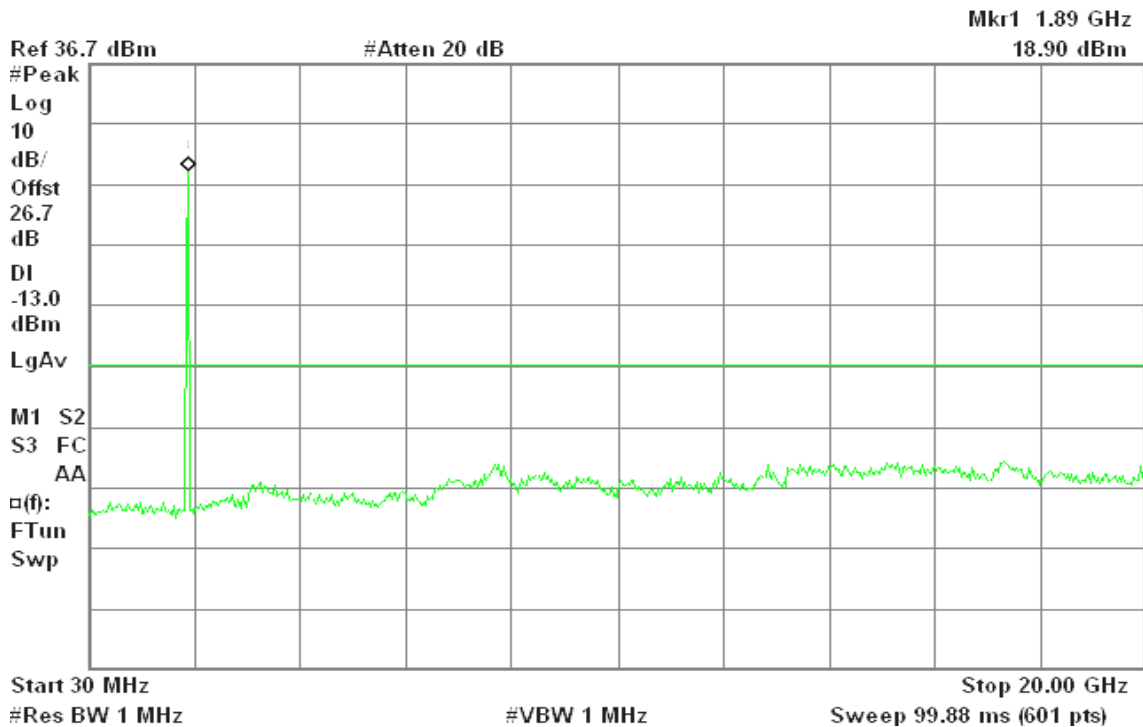
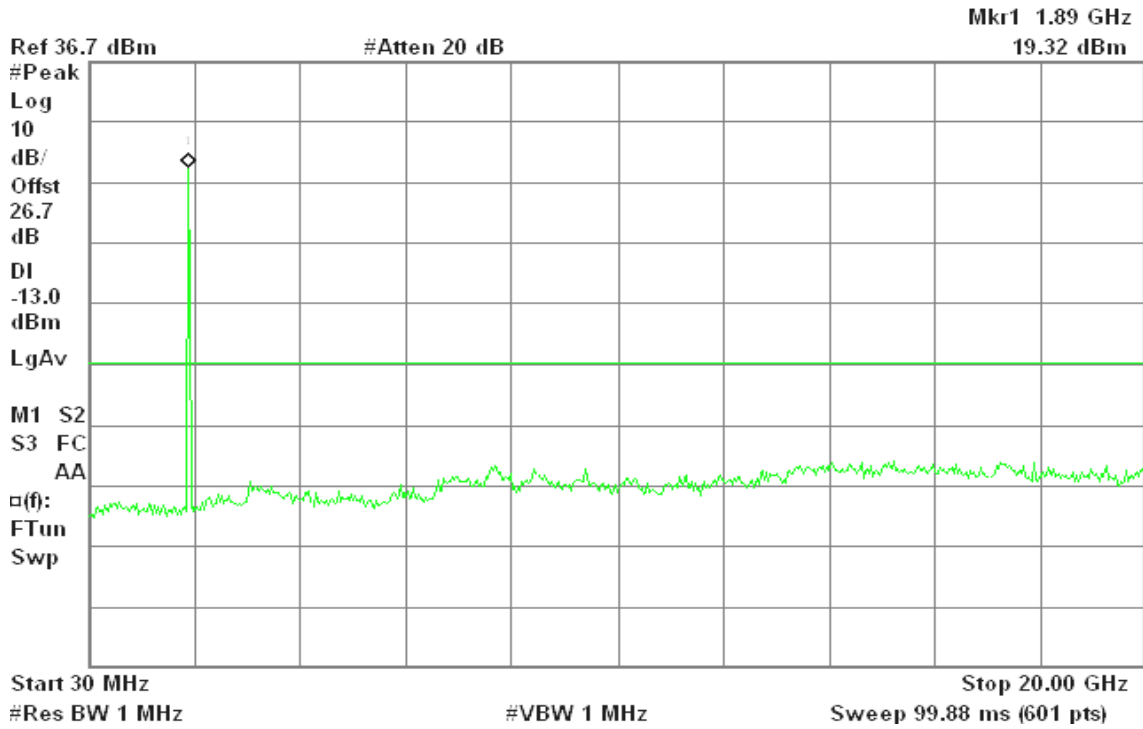




Figure 13-3: Out of Band emission at antenna terminals – WCDMA CH High

Agilent 15:17:59 Jul 2, 2009

R T



WCDMA Band V

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

Agilent 15:19:18 Jul 2, 2009

R T

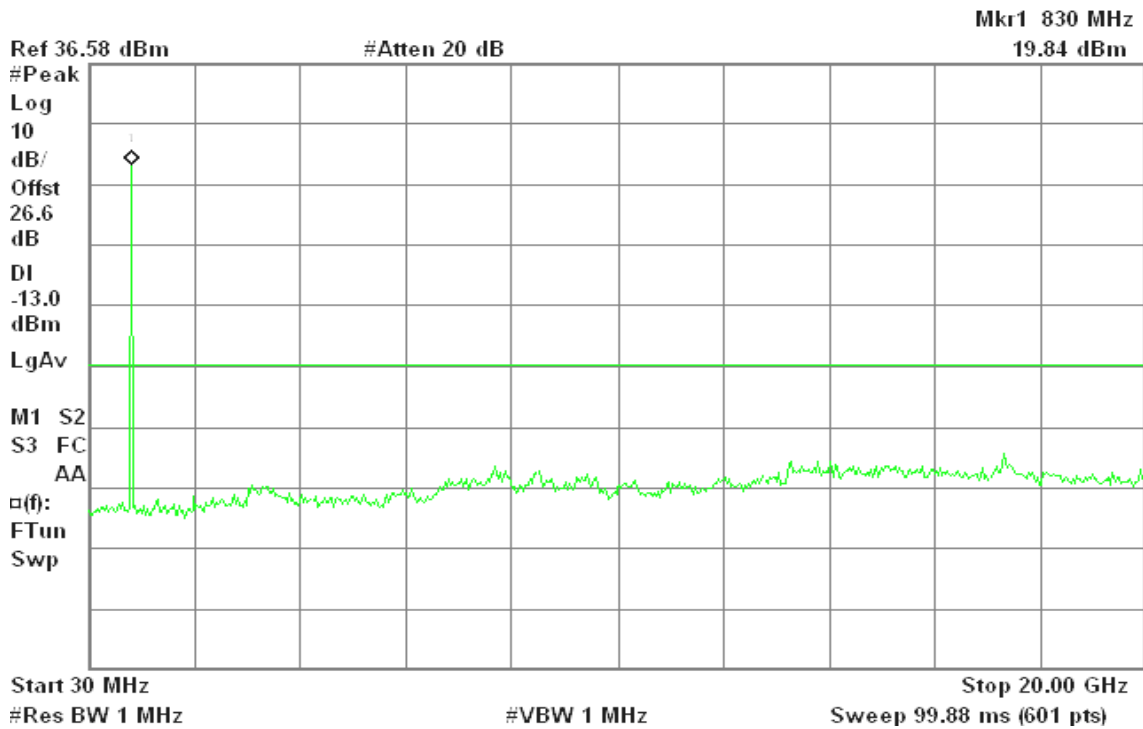




Figure 13-5: Out of Band emission at antenna terminals – WCDMA CH Mid

Agilent 15:19:50 Jul 2, 2009

R T

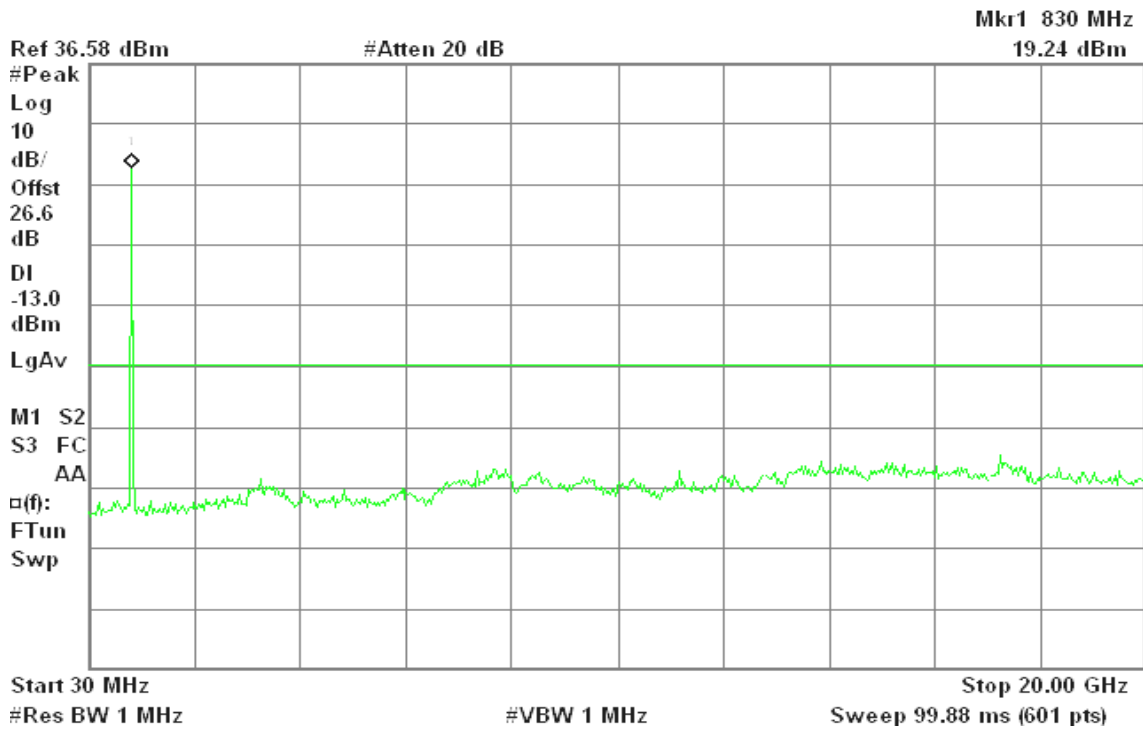
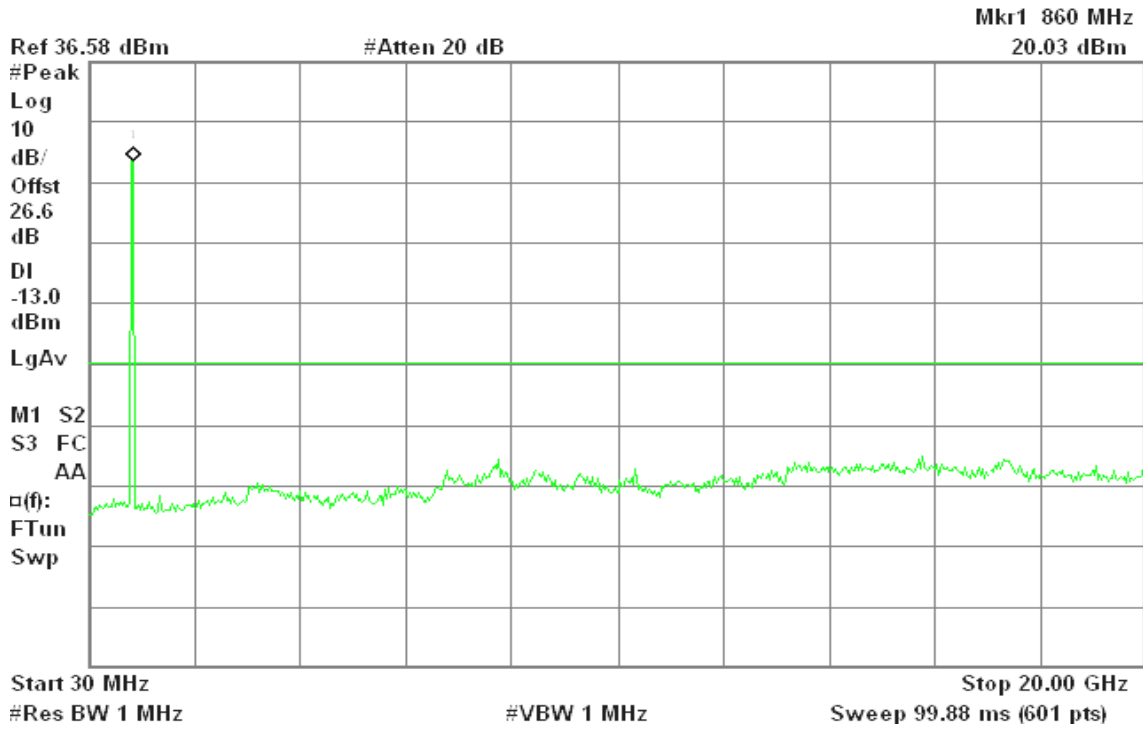


Figure 13-6: Out of Band emission at antenna terminals – WCDMA CH High

Agilent 15:20:44 Jul 2, 2009

R T





WCDMA Band II

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

Agilent 15:28:39 Jul 2, 2009

R T

Mkr1 1.849 925 GHz
-23.43 dBm

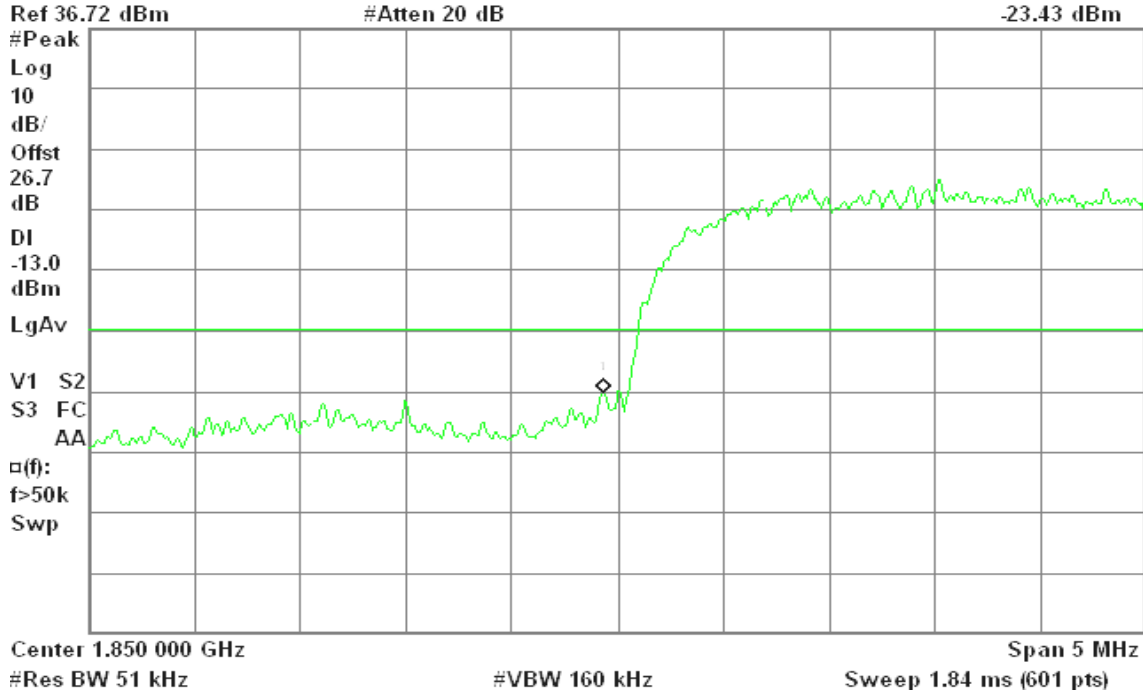
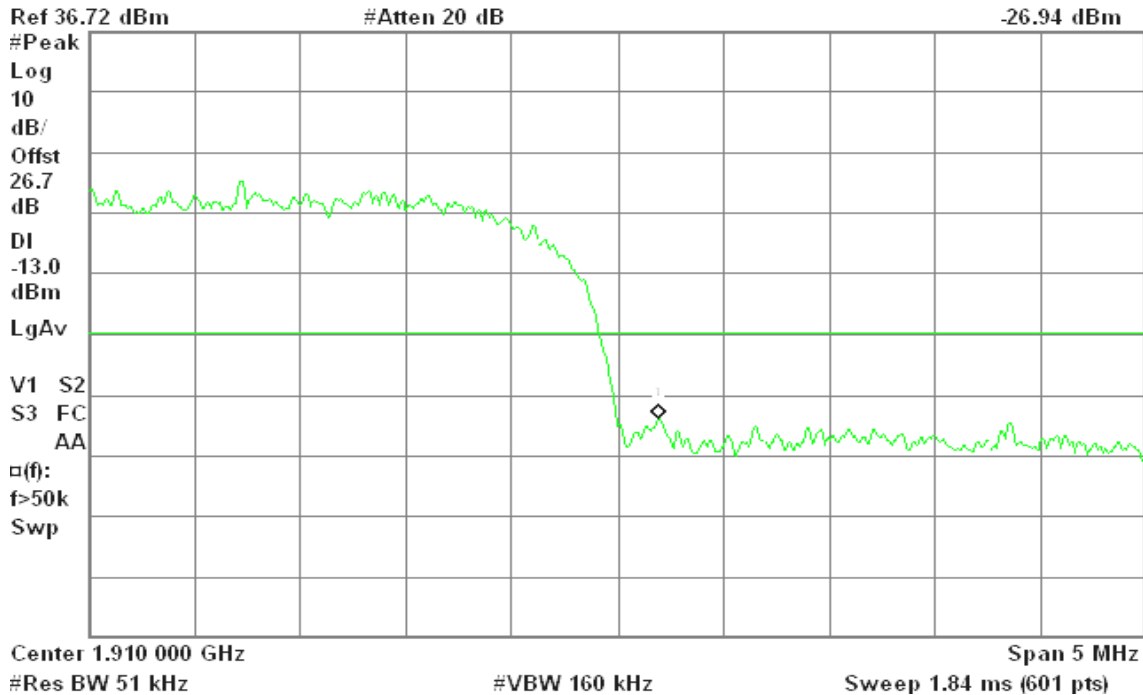


Figure 14-2: Band Edge emissions –WCDMA CH High

Agilent 15:29:03 Jul 2, 2009

R T

Mkr1 1.910 192 GHz
-26.94 dBm





WCDMA Band V

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

Agilent 15:23:45 Jul 2, 2009

R T

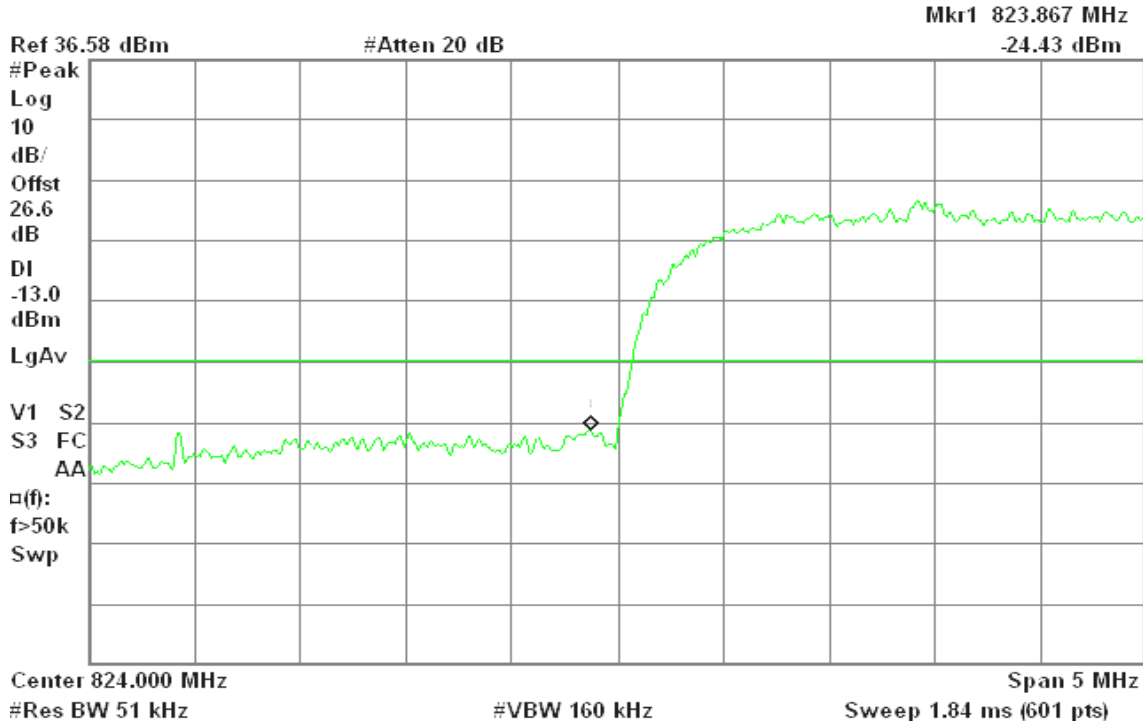
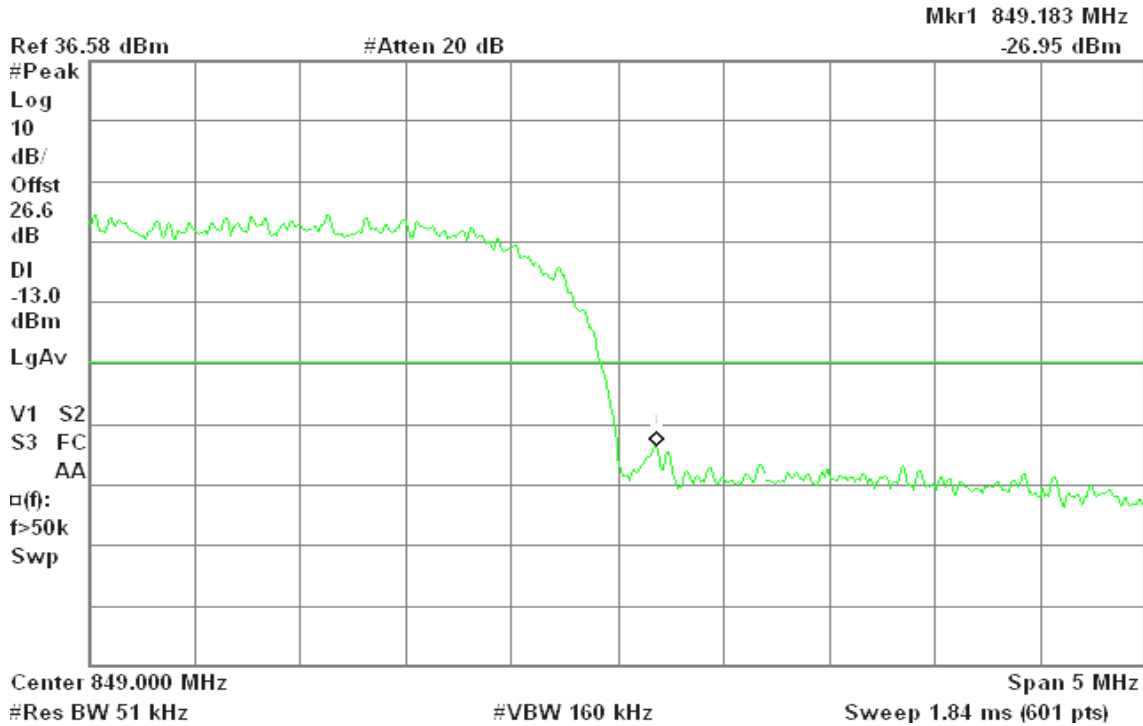


Figure 14-4: Band Edge emissions –WCDMA CH High

Agilent 15:24:09 Jul 2, 2009

R T





WCDMA / HSDPA Band II

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

Agilent 15:15:09 Jul 2, 2009

R T

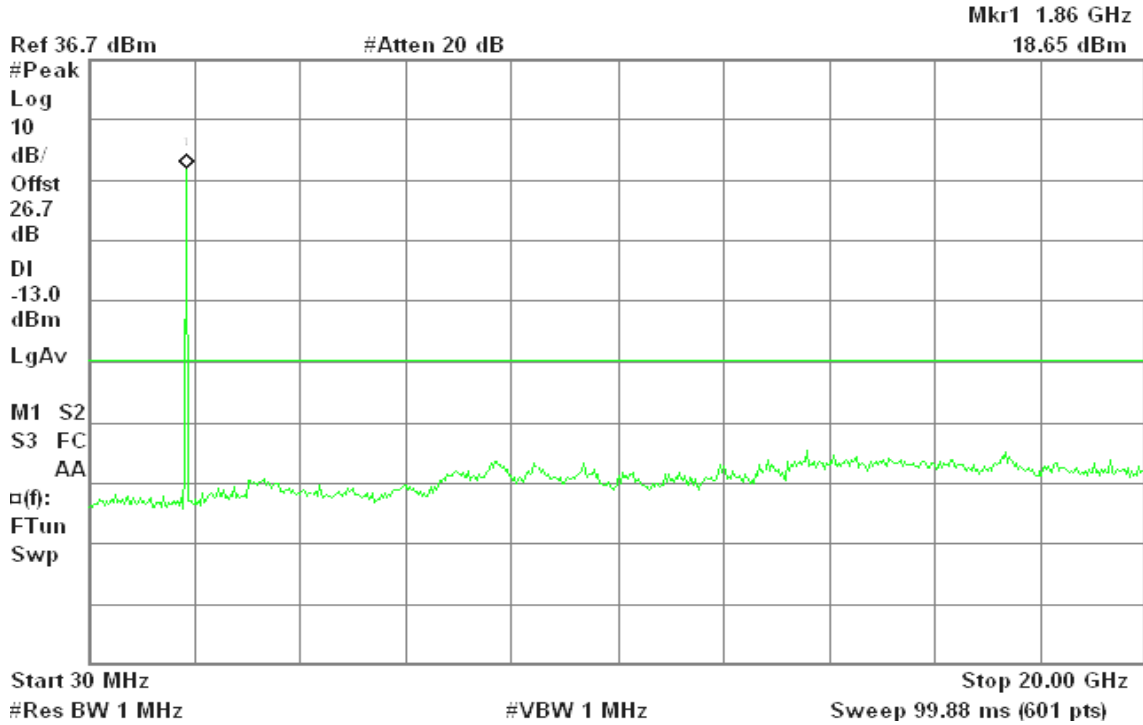


Figure 15-2: Out of Band emission at antenna terminals –HSDPA CH Mid

Agilent 15:15:30 Jul 2, 2009

R T

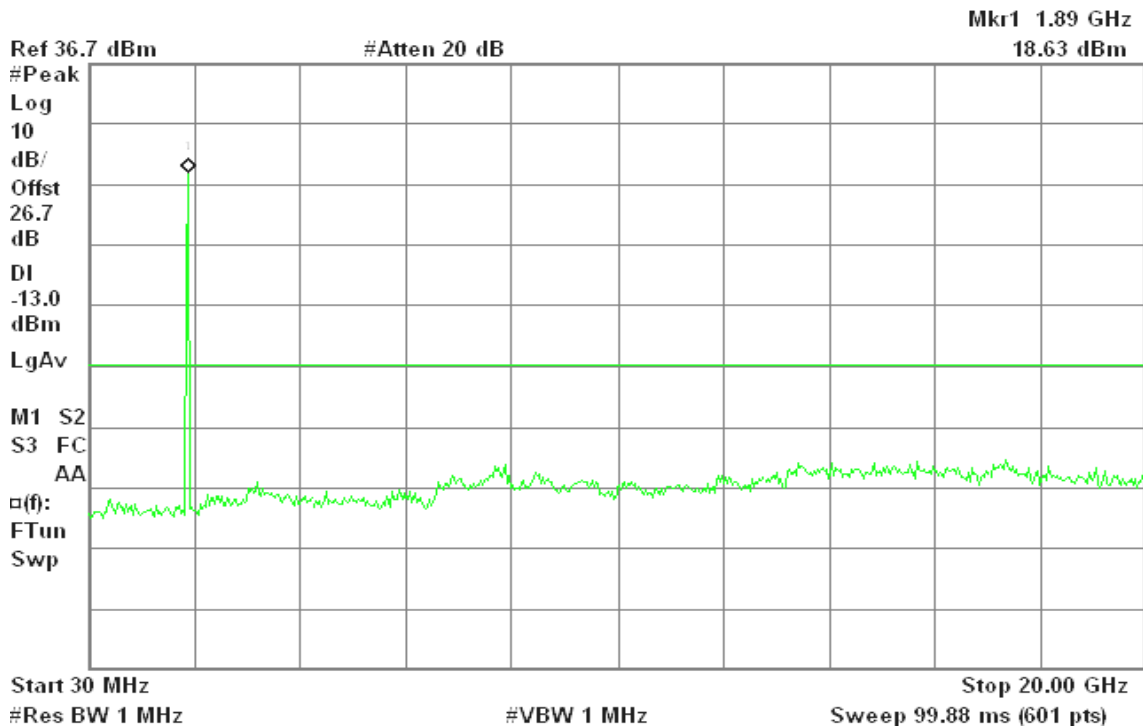
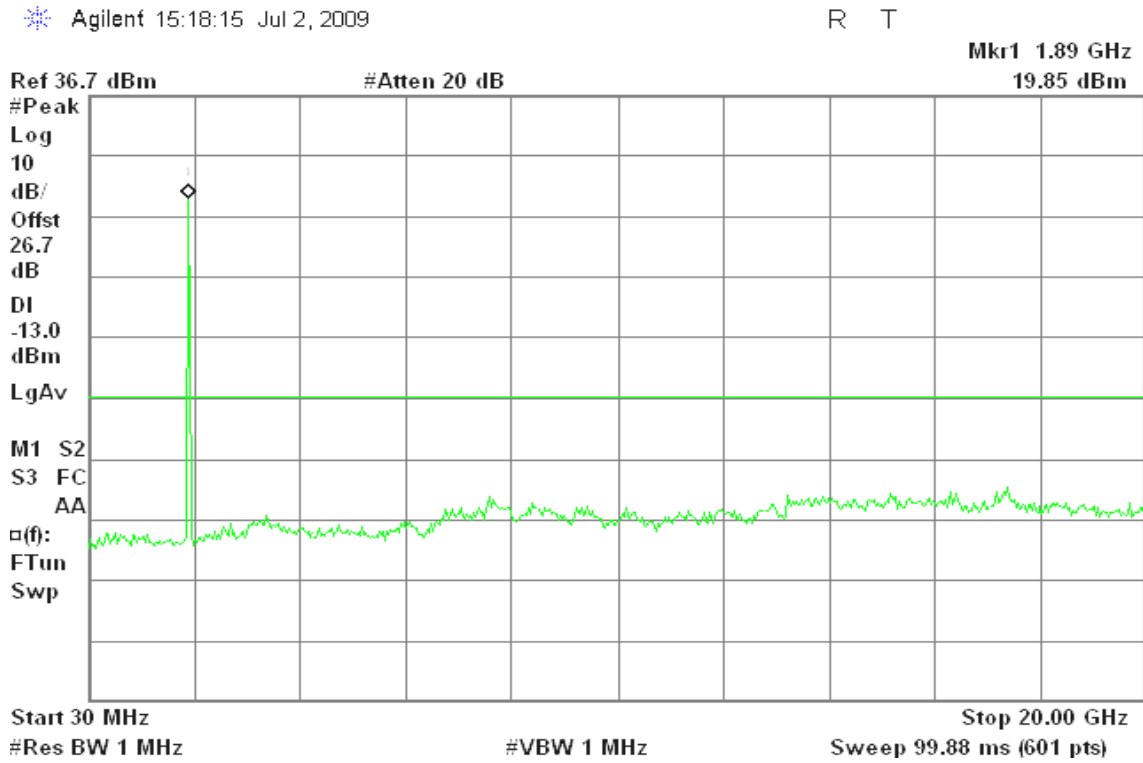




Figure 15-3: Out of Band emission at antenna terminals –HSDPA CH High



WCDMA / HSDPA Band V

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

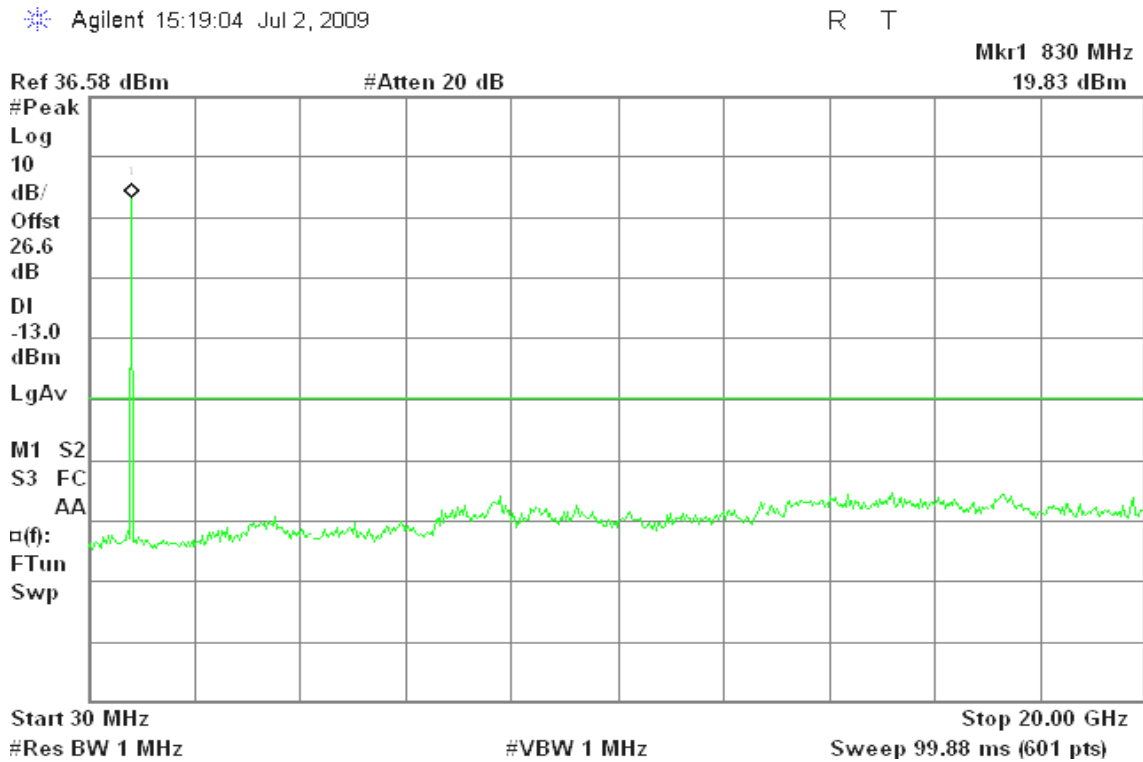




Figure 15-5: Out of Band emission at antenna terminals –HSDPA CH Mid

Agilent 15:20:09 Jul 2, 2009

R T

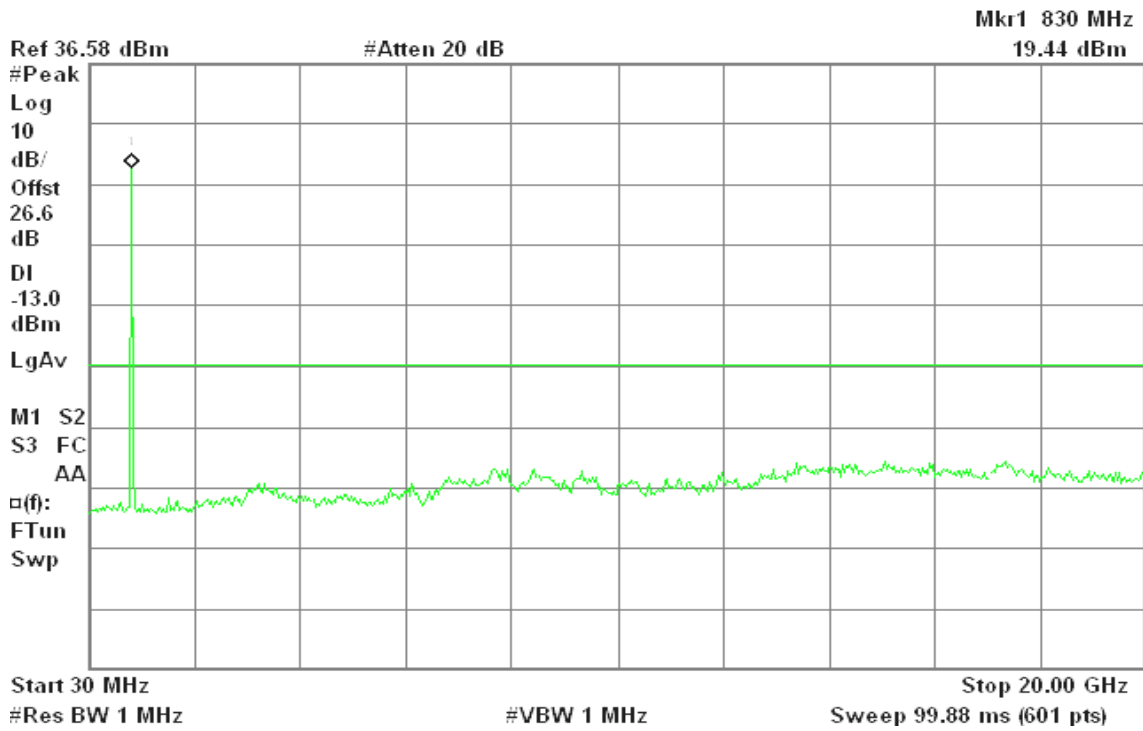
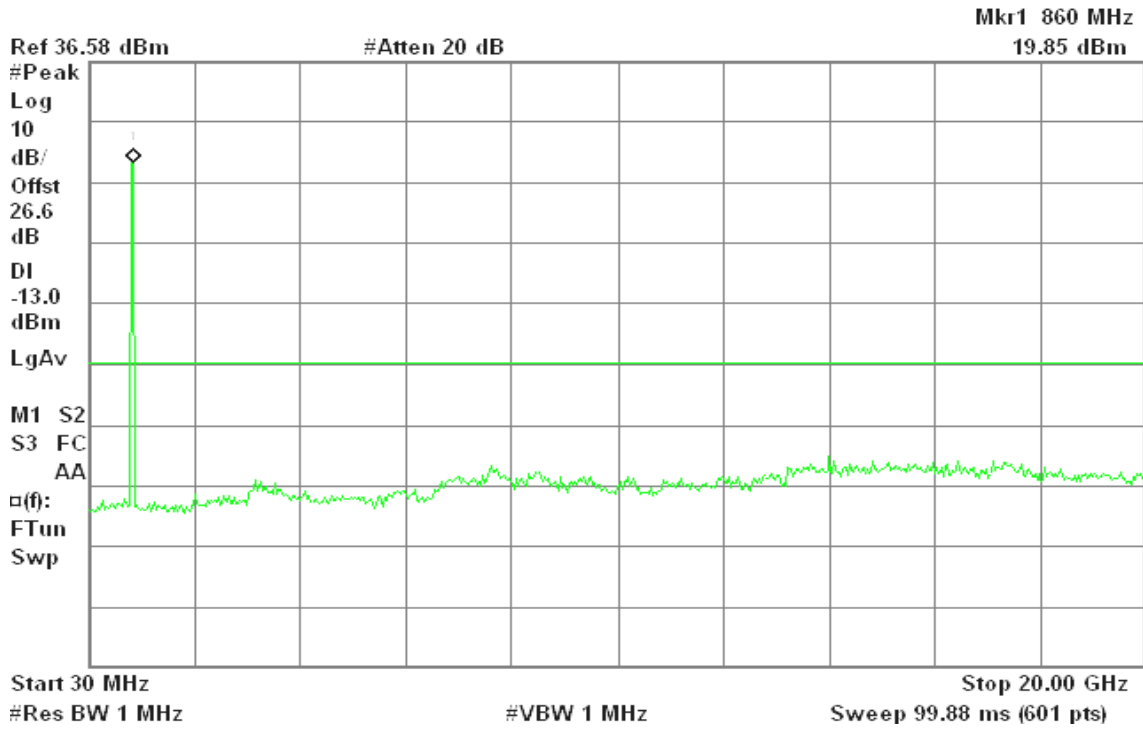


Figure 15-6: Out of Band emission at antenna terminals –HSDPA CH High

Agilent 15:20:29 Jul 2, 2009

R T





WCDMA / HSDPA Band II

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

Agilent 15:26:58 Jul 2, 2009

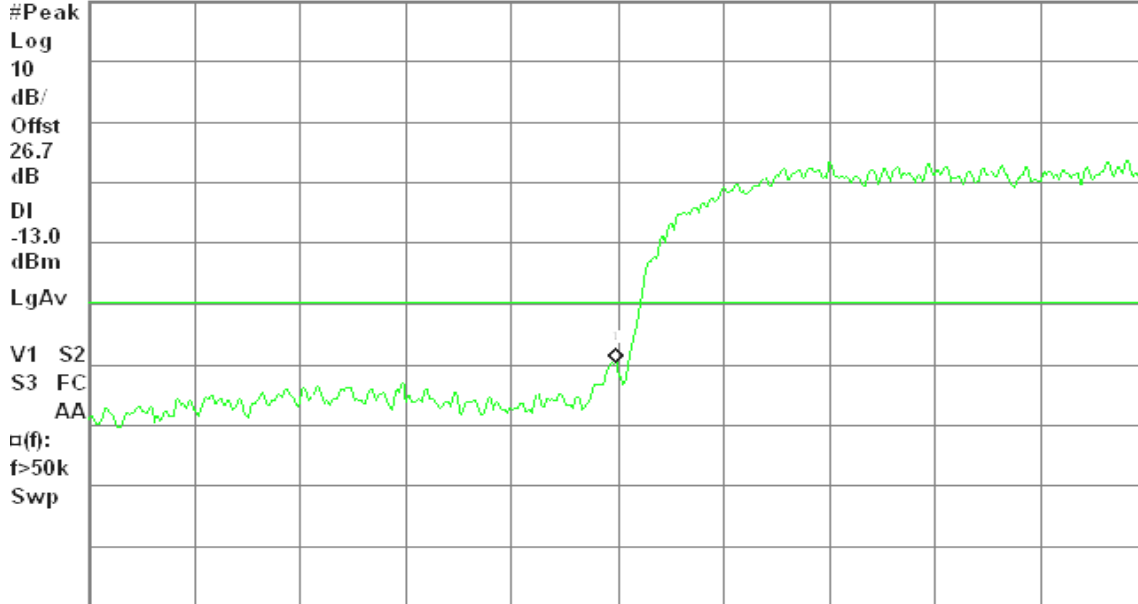
R T

Mkr1 1.849 983 GHz

-22.83 dBm

Ref 36.72 dBm

#Atten 20 dB



Center 1.850 000 GHz

#Res BW 51 kHz

#VBW 160 kHz

Span 5 MHz

Sweep 1.84 ms (601 pts)

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

Agilent 15:29:27 Jul 2, 2009

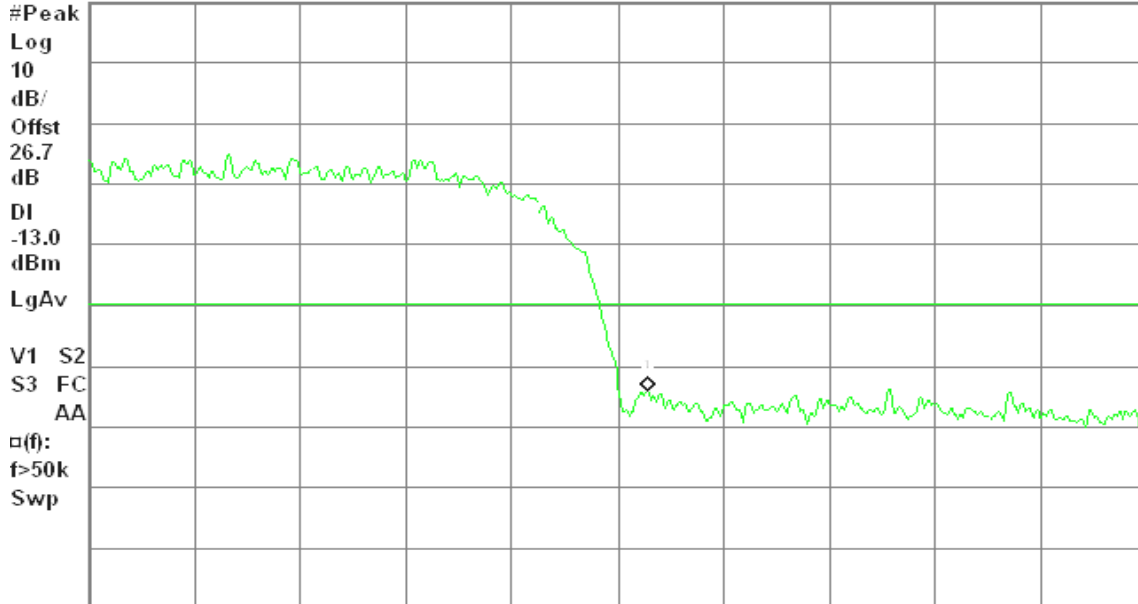
R T

Mkr1 1.910 142 GHz

-27.32 dBm

Ref 36.72 dBm

#Atten 20 dB



Center 1.910 000 GHz

#Res BW 51 kHz

#VBW 160 kHz

Span 5 MHz

Sweep 1.84 ms (601 pts)



WCDMA / HSDPA Band V

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

Agilent 15:25:30 Jul 2, 2009

R T

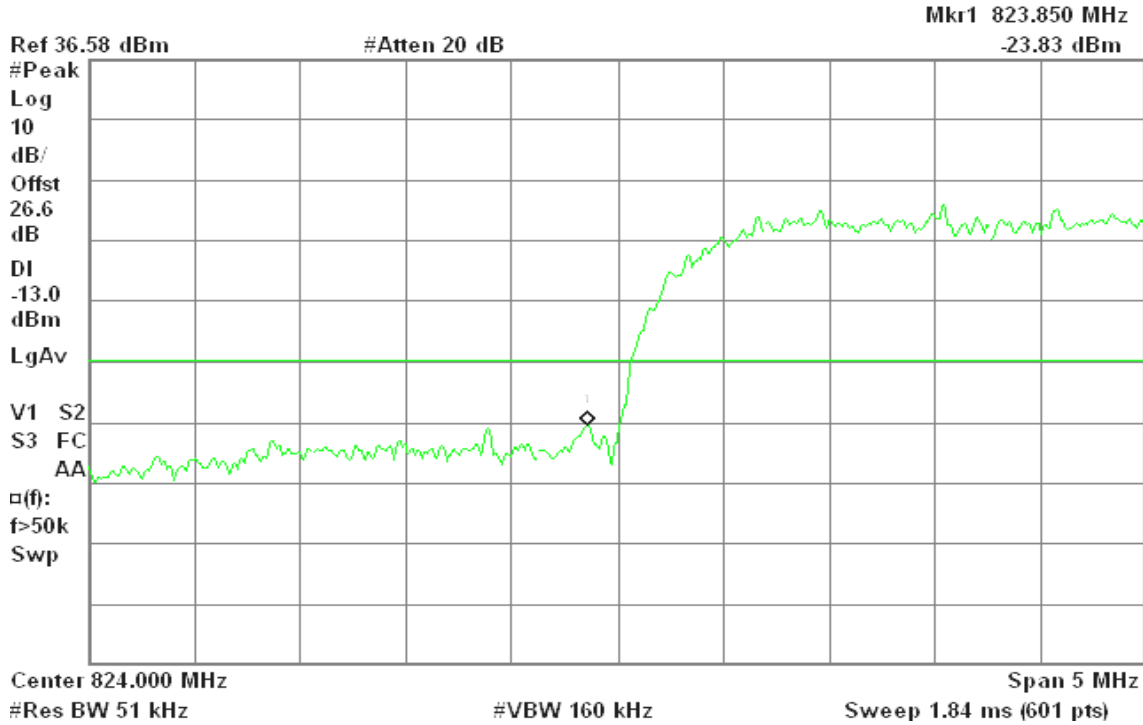
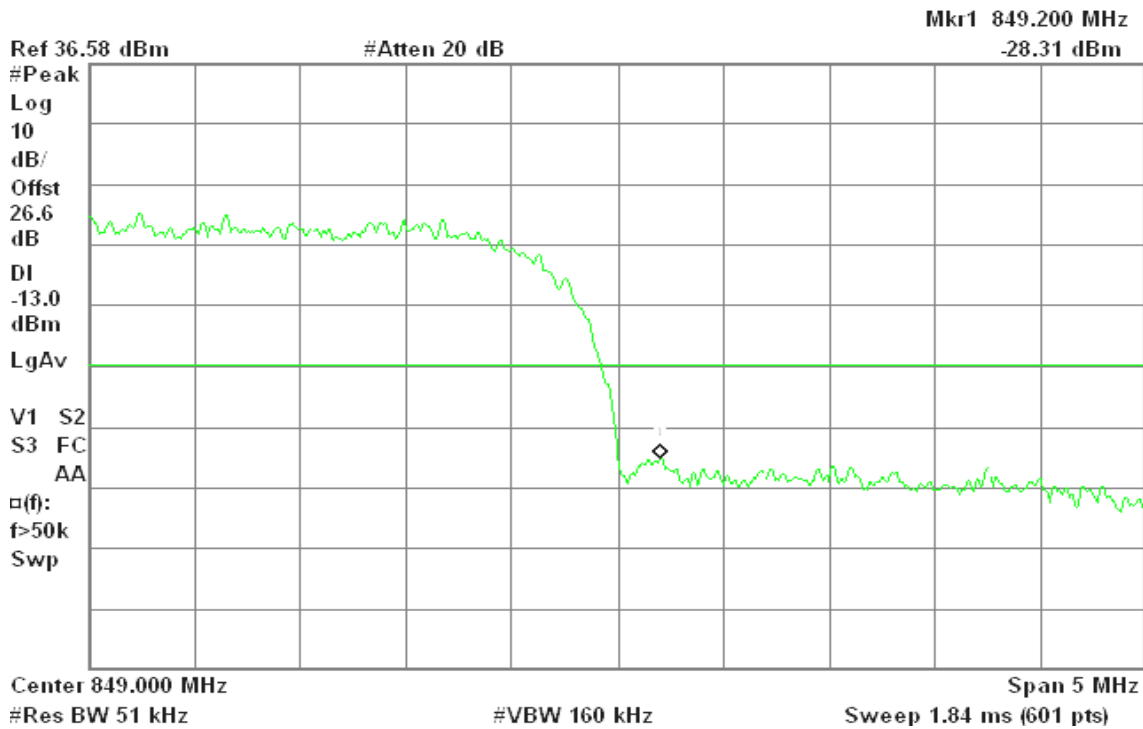


Figure 16-4: Band Edge emissions –HSDPA CH High

Agilent 15:24:33 Jul 2, 2009

R T



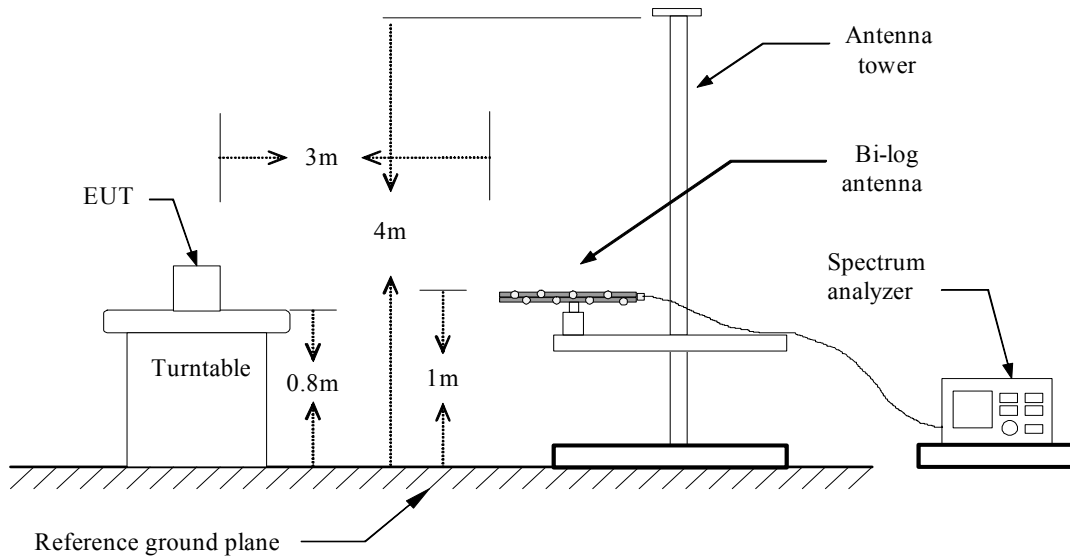
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

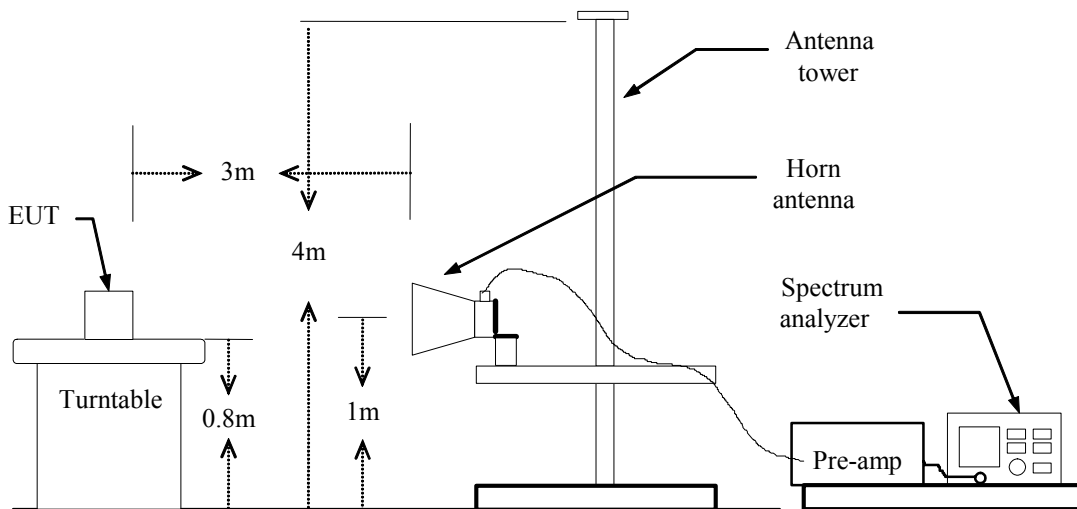
According to FCC §2.1053

Test Configuration

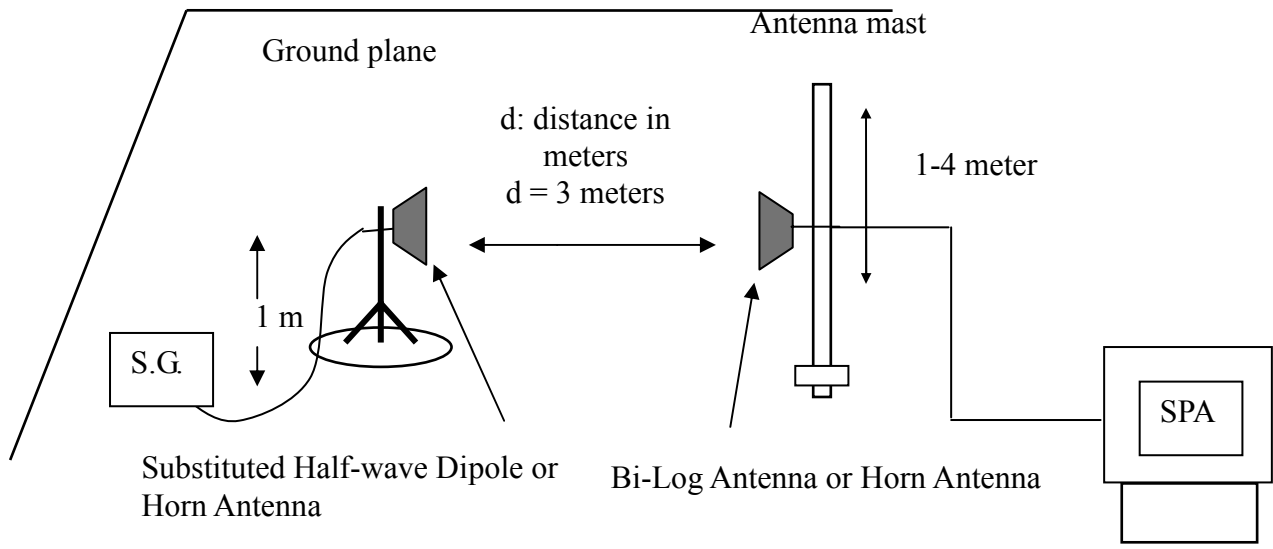
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

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

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

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

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

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

TEST RESULTS

Refer to the attached tabular data sheets.



Radiated Spurious Emission Measurement Result / Below 1GHz

Operation Mode: GSM 850 / TX / CH 128

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
99.84	V	-45.87	-18.42	-64.29	-13.00	-51.29
132.82	V	-58.47	-12.65	-71.12	-13.00	-58.12
398.60	V	-54.34	-10.68	-65.02	-13.00	-52.02
408.30	V	-53.58	-10.19	-63.77	-13.00	-50.77
512.09	V	-59.80	-7.71	-67.51	-13.00	-54.51
681.84	V	-60.11	-5.88	-65.99	-13.00	-52.99
99.84	H	-48.74	-18.73	-67.47	-13.00	-54.47
179.38	H	-60.16	-12.63	-72.79	-13.00	-59.79
398.60	H	-58.25	-10.51	-68.76	-13.00	-55.76
407.33	H	-58.93	-10.19	-69.12	-13.00	-56.12
512.09	H	-59.43	-7.78	-67.21	-13.00	-54.21
682.81	H	-63.24	-6.01	-69.25	-13.00	-56.25

Remark:

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



Operation Mode: GSM 850 / TX / CH 190

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
86.26	V	-49.09	-20.28	-69.37	-13.00	-56.37
130.88	V	-48.01	-12.84	-60.85	-13.00	-47.85
452.92	V	-58.83	-9.04	-67.87	-13.00	-54.87
523.73	V	-65.18	-7.65	-72.83	-13.00	-59.83
548.95	V	-63.93	-7.36	-71.29	-13.00	-58.29
967.99	V	-59.49	-2.47	-61.96	-13.00	-48.96
45.52	H	-63.81	-11.85	-75.66	-13.00	-62.66
86.26	H	-53.08	-21.33	-74.40	-13.00	-61.40
164.83	H	-60.65	-13.02	-73.67	-13.00	-60.67
179.38	H	-60.53	-12.63	-73.16	-13.00	-60.16
258.92	H	-61.27	-14.10	-75.37	-13.00	-62.37
638.19	H	-69.02	-5.91	-74.92	-13.00	-61.92

Remark:

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



Operation Mode: GSM 850 / TX / CH 251

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
86.26	V	-49.20	-20.28	-69.48	-13.00	-56.48
128.94	V	-63.51	-13.04	-76.55	-13.00	-63.55
179.38	V	-59.63	-14.01	-73.64	-13.00	-60.64
219.15	V	-63.05	-14.82	-77.87	-13.00	-64.87
258.92	V	-62.47	-13.82	-76.29	-13.00	-63.29
279.29	V	-62.98	-12.44	-75.43	-13.00	-62.43
42.61	H	-64.49	-11.53	-76.03	-13.00	-63.03
86.26	H	-54.69	-21.33	-76.01	-13.00	-63.01
149.31	H	-61.88	-13.01	-74.88	-13.00	-61.88
179.38	H	-60.67	-12.63	-73.30	-13.00	-60.30
219.15	H	-62.63	-14.27	-76.91	-13.00	-63.91
279.29	H	-64.04	-12.92	-76.97	-13.00	-63.97

Remark:

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



Operation Mode: GPRS 850 / TX / CH 128

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
99.84	V	-46.07	-18.42	-64.49	-13.00	-51.49
179.38	V	-53.71	-14.01	-67.72	-13.00	-54.72
398.60	V	-54.32	-10.68	-64.99	-13.00	-51.99
408.30	V	-54.14	-10.19	-64.34	-13.00	-51.34
512.09	V	-60.90	-7.71	-68.62	-13.00	-55.62
681.84	V	-59.19	-5.88	-65.07	-13.00	-52.07
73.65	H	-48.11	-18.80	-66.91	-13.00	-53.91
99.84	H	-48.14	-18.73	-66.87	-13.00	-53.87
163.86	H	-54.39	-13.10	-67.49	-13.00	-54.49
184.23	H	-53.41	-13.04	-66.44	-13.00	-53.44
399.57	H	-56.79	-10.46	-67.25	-13.00	-54.25
512.09	H	-59.51	-7.78	-67.28	-13.00	-54.28

Remark:

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



Operation Mode: GPRS 850 / TX / CH 190

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
86.26	V	-49.27	-20.28	-69.55	-13.00	-56.55
130.88	V	-48.36	-12.84	-61.21	-13.00	-48.21
453.89	V	-57.86	-9.02	-66.88	-13.00	-53.88
523.73	V	-60.95	-7.65	-68.59	-13.00	-55.59
548.95	V	-63.73	-7.36	-71.09	-13.00	-58.09
967.99	V	-59.70	-2.47	-62.17	-13.00	-49.17
40.67	H	-63.73	-11.54	-75.26	-13.00	-62.26
147.37	H	-62.07	-13.25	-75.32	-13.00	-62.32
179.38	H	-60.21	-12.63	-72.83	-13.00	-59.83
219.15	H	-62.55	-14.27	-76.82	-13.00	-63.82
239.52	H	-61.97	-14.04	-76.01	-13.00	-63.01
259.89	H	-60.97	-14.06	-75.03	-13.00	-62.03

Remark:

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



Operation Mode: GPRS 850 / TX / CH 251

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-62.05	-12.78	-74.84	-13.00	-61.84
86.26	V	-49.68	-20.28	-69.96	-13.00	-56.96
128.94	V	-62.38	-13.04	-75.42	-13.00	-62.42
179.38	V	-58.97	-14.01	-72.98	-13.00	-59.98
239.52	V	-62.42	-13.38	-75.81	-13.00	-62.81
279.29	V	-62.59	-12.44	-75.03	-13.00	-62.03
40.67	H	-64.11	-11.54	-75.65	-13.00	-62.65
86.26	H	-55.65	-21.33	-76.98	-13.00	-63.98
162.89	H	-60.66	-13.18	-73.85	-13.00	-60.85
179.38	H	-59.51	-12.63	-72.14	-13.00	-59.14
239.52	H	-62.36	-14.04	-76.40	-13.00	-63.40
259.89	H	-61.56	-14.06	-75.63	-13.00	-62.63

Remark:

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



Operation Mode: GSM 1900 / TX / CH 512

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
37.76	V	-53.12	-14.45	-67.57	-13.00	-54.57
73.65	V	-50.88	-16.51	-67.39	-13.00	-54.39
86.26	V	-46.67	-20.28	-66.95	-13.00	-53.95
178.41	V	-55.09	-13.97	-69.06	-13.00	-56.06
272.50	V	-59.28	-12.37	-71.65	-13.00	-58.65
336.52	V	-61.71	-12.72	-74.43	-13.00	-61.43
41.64	H	-63.71	-11.54	-75.24	-13.00	-62.24
73.65	H	-50.45	-18.80	-69.26	-13.00	-56.26
88.20	H	-51.74	-21.50	-73.25	-13.00	-60.25
164.83	H	-54.15	-13.02	-67.17	-13.00	-54.17
181.32	H	-54.85	-12.76	-67.61	-13.00	-54.61
259.89	H	-56.42	-14.06	-70.48	-13.00	-57.48

Remark:

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



Operation Mode: GSM 1900 / TX / CH 661

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-54.03	-13.97	-68.01	-13.00	-55.01
73.65	V	-51.19	-16.51	-67.70	-13.00	-54.70
86.26	V	-48.39	-20.28	-68.68	-13.00	-55.68
164.83	V	-56.93	-13.43	-70.36	-13.00	-57.36
177.44	V	-55.36	-13.92	-69.28	-13.00	-56.28
273.47	V	-59.55	-12.38	-71.94	-13.00	-58.94
40.67	H	-63.72	-11.54	-75.26	-13.00	-62.26
73.65	H	-50.82	-18.80	-69.62	-13.00	-56.62
89.17	H	-52.46	-21.59	-74.05	-13.00	-61.05
164.83	H	-54.23	-13.02	-67.25	-13.00	-54.25
180.35	H	-54.80	-12.66	-67.47	-13.00	-54.47
259.89	H	-57.17	-14.06	-71.23	-13.00	-58.23

Remark:

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



Operation Mode: GSM 1900 / TX / CH 810

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
37.76	V	-53.28	-14.45	-67.73	-13.00	-54.73
73.65	V	-50.41	-16.51	-66.92	-13.00	-53.92
86.26	V	-48.11	-20.28	-68.39	-13.00	-55.39
177.44	V	-55.38	-13.92	-69.30	-13.00	-56.30
219.15	V	-57.79	-14.82	-72.61	-13.00	-59.61
259.89	V	-57.67	-13.80	-71.47	-13.00	-58.47
73.65	H	-50.43	-18.80	-69.23	-13.00	-56.23
86.26	H	-51.30	-21.33	-72.63	-13.00	-59.63
149.31	H	-55.80	-13.01	-68.81	-13.00	-55.81
162.89	H	-54.81	-13.18	-68.00	-13.00	-55.00
180.35	H	-54.45	-12.66	-67.12	-13.00	-54.12
259.89	H	-56.81	-14.06	-70.88	-13.00	-57.88

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 512

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-53.87	-13.97	-67.85	-13.00	-54.85
73.65	V	-51.34	-16.51	-67.85	-13.00	-54.85
86.26	V	-48.67	-20.28	-68.95	-13.00	-55.95
179.38	V	-54.97	-14.01	-68.98	-13.00	-55.98
271.53	V	-59.34	-12.37	-71.71	-13.00	-58.71
335.55	V	-62.02	-12.72	-74.75	-13.00	-61.75
74.62	H	-50.11	-19.10	-69.21	-13.00	-56.21
89.17	H	-51.93	-21.59	-73.53	-13.00	-60.53
150.28	H	-56.68	-12.93	-69.61	-13.00	-56.61
163.86	H	-55.31	-13.10	-68.41	-13.00	-55.41
181.32	H	-55.04	-12.76	-67.80	-13.00	-54.80
259.89	H	-57.33	-14.06	-71.39	-13.00	-58.39

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 661

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-53.68	-13.97	-67.65	-13.00	-54.65
73.65	V	-51.18	-16.51	-67.69	-13.00	-54.69
86.26	V	-48.22	-20.28	-68.50	-13.00	-55.50
179.38	V	-55.17	-14.01	-69.19	-13.00	-56.19
270.56	V	-59.56	-12.36	-71.91	-13.00	-58.91
335.55	V	-62.10	-12.72	-74.83	-13.00	-61.83
42.61	H	-63.98	-11.53	-75.52	-13.00	-62.52
73.65	H	-50.77	-18.80	-69.57	-13.00	-56.57
89.17	H	-51.73	-21.59	-73.32	-13.00	-60.32
149.31	H	-56.03	-13.01	-69.04	-13.00	-56.04
164.83	H	-54.59	-13.02	-67.61	-13.00	-54.61
181.32	H	-54.65	-12.76	-67.41	-13.00	-54.41

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 810

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-54.50	-13.97	-68.47	-13.00	-55.47
73.65	V	-51.40	-16.51	-67.91	-13.00	-54.91
86.26	V	-48.74	-20.28	-69.02	-13.00	-56.02
178.41	V	-55.73	-13.97	-69.69	-13.00	-56.69
274.44	V	-60.06	-12.39	-72.45	-13.00	-59.45
335.55	V	-61.40	-12.72	-74.13	-13.00	-61.13
73.65	H	-49.88	-18.80	-68.68	-13.00	-55.68
87.23	H	-51.56	-21.42	-72.98	-13.00	-59.98
149.31	H	-56.11	-13.01	-69.12	-13.00	-56.12
162.89	H	-54.30	-13.18	-67.48	-13.00	-54.48
181.32	H	-54.77	-12.76	-67.53	-13.00	-54.53
259.89	H	-57.05	-14.06	-71.11	-13.00	-58.11

Remark:

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



Operation Mode: EDGE 850 / TX / CH 128

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
99.84	V	-45.84	-18.42	-64.26	-13.00	-51.26
180.35	V	-51.89	-14.06	-65.95	-13.00	-52.95
398.60	V	-53.94	-10.68	-64.62	-13.00	-51.62
512.09	V	-59.74	-7.71	-67.45	-13.00	-54.45
681.84	V	-60.19	-5.88	-66.07	-13.00	-53.07
924.34	V	-66.00	-3.12	-69.11	-13.00	-56.11
73.65	H	-48.43	-18.80	-67.23	-13.00	-54.23
86.26	H	-49.20	-21.33	-70.53	-13.00	-57.53
150.28	H	-55.66	-12.93	-68.60	-13.00	-55.60
162.89	H	-53.94	-13.18	-67.12	-13.00	-54.12
181.32	H	-54.19	-12.76	-66.94	-13.00	-53.94
512.09	H	-58.97	-7.78	-66.75	-13.00	-53.75

Remark:

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



Operation Mode: EDGE 850 / TX / CH 190

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
39.70	V	-50.37	-13.50	-63.87	-13.00	-50.87
73.65	V	-47.50	-16.51	-64.01	-13.00	-51.01
86.26	V	-45.98	-20.28	-66.26	-13.00	-53.26
130.88	V	-50.14	-12.84	-62.98	-13.00	-49.98
178.41	V	-52.78	-13.97	-66.74	-13.00	-53.74
967.02	V	-60.91	-2.50	-63.40	-13.00	-50.40
57.16	H	-54.61	-15.33	-69.94	-13.00	-56.94
73.65	H	-45.76	-18.80	-64.56	-13.00	-51.56
88.20	H	-47.87	-21.50	-69.37	-13.00	-56.37
149.31	H	-54.20	-13.01	-67.21	-13.00	-54.21
162.89	H	-52.51	-13.18	-65.70	-13.00	-52.70
179.38	H	-52.82	-12.63	-65.44	-13.00	-52.44

Remark:

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



Operation Mode: EDGE 850 / TX / CH 251

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
39.70	V	-48.67	-13.50	-62.17	-13.00	-49.17
73.65	V	-45.31	-16.51	-61.81	-13.00	-48.81
86.26	V	-43.47	-20.28	-63.75	-13.00	-50.75
164.83	V	-50.89	-13.43	-64.32	-13.00	-51.32
178.41	V	-49.68	-13.97	-63.65	-13.00	-50.65
269.59	V	-54.72	-12.41	-67.13	-13.00	-54.13
43.58	H	-60.05	-11.53	-71.59	-13.00	-58.59
57.16	H	-54.86	-15.33	-70.19	-13.00	-57.19
73.65	H	-44.97	-18.80	-63.77	-13.00	-50.77
88.20	H	-47.25	-21.50	-68.76	-13.00	-55.76
163.86	H	-51.59	-13.10	-64.69	-13.00	-51.69
182.29	H	-51.70	-12.85	-64.55	-13.00	-51.55

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 512

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
39.70	V	-54.45	-13.50	-67.94	-13.00	-54.94
73.65	V	-50.74	-16.51	-67.24	-13.00	-54.24
86.26	V	-48.12	-20.28	-68.40	-13.00	-55.40
179.38	V	-54.98	-14.01	-68.99	-13.00	-55.99
268.62	V	-58.97	-12.55	-71.52	-13.00	-58.52
320.03	V	-61.38	-12.80	-74.17	-13.00	-61.17
40.67	H	-63.74	-11.54	-75.28	-13.00	-62.28
73.65	H	-49.94	-18.80	-68.74	-13.00	-55.74
87.23	H	-51.80	-21.42	-73.21	-13.00	-60.21
150.28	H	-56.32	-12.93	-69.26	-13.00	-56.26
164.83	H	-54.44	-13.02	-67.46	-13.00	-54.46
179.38	H	-54.09	-12.63	-66.71	-13.00	-53.71

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 661

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-53.78	-13.97	-67.76	-13.00	-54.76
73.65	V	-51.18	-16.51	-67.69	-13.00	-54.69
86.26	V	-48.46	-20.28	-68.74	-13.00	-55.74
179.38	V	-55.48	-14.01	-69.49	-13.00	-56.49
271.53	V	-59.65	-12.37	-72.01	-13.00	-59.01
406.36	V	-57.79	-10.29	-68.07	-13.00	-55.07
73.65	H	-50.79	-18.80	-69.59	-13.00	-56.59
88.20	H	-51.60	-21.50	-73.10	-13.00	-60.10
148.34	H	-56.80	-13.13	-69.93	-13.00	-56.93
163.86	H	-54.86	-13.10	-67.96	-13.00	-54.96
181.32	H	-54.90	-12.76	-67.65	-13.00	-54.65
256.01	H	-57.05	-14.22	-71.27	-13.00	-58.27

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 810

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-54.53	-13.97	-68.50	-13.00	-55.50
74.62	V	-50.72	-16.92	-67.63	-13.00	-54.63
86.26	V	-48.20	-20.28	-68.49	-13.00	-55.49
178.41	V	-54.91	-13.97	-68.87	-13.00	-55.87
271.53	V	-58.86	-12.37	-71.23	-13.00	-58.23
337.49	V	-62.16	-12.71	-74.87	-13.00	-61.87
73.65	H	-50.68	-18.80	-69.48	-13.00	-56.48
149.31	H	-56.47	-13.01	-69.47	-13.00	-56.47
164.83	H	-54.67	-13.02	-67.69	-13.00	-54.69
182.29	H	-54.54	-12.85	-67.39	-13.00	-54.39
259.89	H	-57.14	-14.06	-71.20	-13.00	-58.20
321.97	H	-62.35	-13.17	-75.52	-13.00	-62.52

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9262

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
86.26	V	-47.64	-20.28	-67.93	-13.00	-54.93
128.94	V	-62.21	-13.04	-75.25	-13.00	-62.25
179.38	V	-58.53	-14.01	-72.54	-13.00	-59.54
219.15	V	-61.47	-14.82	-76.29	-13.00	-63.29
258.92	V	-61.42	-13.82	-75.24	-13.00	-62.24
269.59	V	-63.40	-12.41	-75.81	-13.00	-62.81
42.61	H	-63.61	-11.53	-75.14	-13.00	-62.14
75.59	H	-59.21	-19.40	-78.61	-13.00	-65.61
86.26	H	-54.77	-21.33	-76.09	-13.00	-63.09
179.38	H	-58.06	-12.63	-70.69	-13.00	-57.69
258.92	H	-61.19	-14.10	-75.30	-13.00	-62.30
269.59	H	-62.26	-12.92	-75.18	-13.00	-62.18

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9400

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
40.67	V	-62.22	-13.24	-75.46	-13.00	-62.46
86.26	V	-48.56	-20.28	-68.84	-13.00	-55.84
179.38	V	-59.40	-14.01	-73.41	-13.00	-60.41
219.15	V	-61.73	-14.82	-76.55	-13.00	-63.55
258.92	V	-61.65	-13.82	-75.47	-13.00	-62.47
279.29	V	-62.96	-12.44	-75.40	-13.00	-62.40
44.55	H	-64.47	-11.53	-76.01	-13.00	-63.01
86.26	H	-54.95	-21.33	-76.28	-13.00	-63.28
179.38	H	-59.94	-12.63	-72.56	-13.00	-59.56
219.15	H	-61.52	-14.27	-75.80	-13.00	-62.80
258.92	H	-60.56	-14.10	-74.66	-13.00	-61.66
269.59	H	-62.31	-12.92	-75.23	-13.00	-62.23

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9538

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
86.26	V	-50.62	-20.28	-70.90	-13.00	-57.90
128.94	V	-62.82	-13.04	-75.85	-13.00	-62.85
179.38	V	-58.86	-14.01	-72.87	-13.00	-59.87
219.15	V	-61.48	-14.82	-76.30	-13.00	-63.30
258.92	V	-62.05	-13.82	-75.87	-13.00	-62.87
279.29	V	-64.00	-12.44	-76.45	-13.00	-63.45
38.73	H	-62.81	-12.49	-75.30	-13.00	-62.30
86.26	H	-55.06	-21.33	-76.39	-13.00	-63.39
179.38	H	-59.88	-12.63	-72.50	-13.00	-59.50
199.75	H	-62.22	-11.92	-74.14	-13.00	-61.14
219.15	H	-62.23	-14.27	-76.51	-13.00	-63.51
258.92	H	-60.87	-14.10	-74.97	-13.00	-61.97

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4132

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-64.13	-12.94	-77.07	-13.00	-64.07
86.26	V	-53.14	-20.28	-73.42	-13.00	-60.42
107.60	V	-60.97	-16.37	-77.34	-13.00	-64.34
149.31	V	-65.80	-11.90	-77.70	-13.00	-64.70
179.38	V	-64.04	-14.01	-78.05	-13.00	-65.05
269.59	V	-63.59	-12.41	-76.00	-13.00	-63.00
71.71	H	-49.95	-18.20	-68.16	-13.00	-55.16
150.28	H	-56.74	-12.93	-69.68	-13.00	-56.68
160.95	H	-55.41	-13.35	-68.76	-13.00	-55.76
184.23	H	-53.79	-13.04	-66.82	-13.00	-53.82
239.52	H	-55.62	-14.04	-69.66	-13.00	-56.66
259.89	H	-54.80	-14.06	-68.86	-13.00	-55.86

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 4183

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-61.54	-12.94	-74.48	-13.00	-61.48
86.26	V	-48.94	-20.28	-69.22	-13.00	-56.22
179.38	V	-61.05	-14.01	-75.06	-13.00	-62.06
258.92	V	-59.23	-13.82	-73.05	-13.00	-60.05
269.59	V	-60.43	-12.41	-72.84	-13.00	-59.84
415.09	V	-64.33	-9.87	-74.20	-13.00	-61.20
41.64	H	-63.18	-11.54	-74.71	-13.00	-61.71
86.26	H	-52.21	-21.33	-73.53	-13.00	-60.53
179.38	H	-59.34	-12.63	-71.97	-13.00	-58.97
219.15	H	-59.77	-14.27	-74.04	-13.00	-61.04
239.52	H	-59.46	-14.04	-73.50	-13.00	-60.50
258.92	H	-59.63	-14.10	-73.73	-13.00	-60.73

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4233

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-60.01	-12.93	-72.94	-13.00	-59.94
86.26	V	-43.82	-20.28	-64.10	-13.00	-51.10
179.38	V	-59.01	-14.01	-73.02	-13.00	-60.02
239.52	V	-57.97	-13.38	-71.36	-13.00	-58.36
258.92	V	-57.39	-13.82	-71.21	-13.00	-58.21
279.29	V	-59.36	-12.44	-71.81	-13.00	-58.81
86.26	H	-49.40	-21.33	-70.73	-13.00	-57.73
179.38	H	-58.74	-12.63	-71.37	-13.00	-58.37
199.75	H	-60.39	-11.92	-72.32	-13.00	-59.32
239.52	H	-59.91	-14.04	-73.95	-13.00	-60.95
258.92	H	-59.50	-14.10	-73.60	-13.00	-60.60
279.29	H	-61.45	-12.92	-74.37	-13.00	-61.37

Remark:

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



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

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-62.93	-12.94	-75.86	-13.00	-62.86
86.26	V	-49.21	-20.28	-69.49	-13.00	-56.49
179.38	V	-59.45	-14.01	-73.46	-13.00	-60.46
219.15	V	-62.05	-14.82	-76.87	-13.00	-63.87
258.92	V	-62.32	-13.82	-76.14	-13.00	-63.14
279.29	V	-64.11	-12.44	-76.55	-13.00	-63.55
41.64	H	-63.98	-11.54	-75.52	-13.00	-62.52
86.26	H	-55.04	-21.33	-76.36	-13.00	-63.36
179.38	H	-59.97	-12.63	-72.60	-13.00	-59.60
199.75	H	-63.40	-11.92	-75.32	-13.00	-62.32
219.15	H	-62.10	-14.27	-76.37	-13.00	-63.37
258.92	H	-60.38	-14.10	-74.49	-13.00	-61.49

Remark:

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



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

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-60.93	-12.94	-73.87	-13.00	-60.87
86.26	V	-49.19	-20.28	-69.48	-13.00	-56.48
128.94	V	-61.95	-13.04	-74.99	-13.00	-61.99
179.38	V	-59.96	-14.01	-73.97	-13.00	-60.97
219.15	V	-61.44	-14.82	-76.26	-13.00	-63.26
269.59	V	-63.24	-12.41	-75.65	-13.00	-62.65
42.61	H	-64.11	-11.53	-75.65	-13.00	-62.65
57.16	H	-60.71	-15.33	-76.04	-13.00	-63.04
86.26	H	-54.72	-21.33	-76.05	-13.00	-63.05
164.83	H	-60.68	-13.02	-73.70	-13.00	-60.70
179.38	H	-60.02	-12.63	-72.65	-13.00	-59.65
258.92	H	-60.49	-14.10	-74.59	-13.00	-61.59

Remark:

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



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

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-62.27	-12.94	-75.21	-13.00	-62.21
86.26	V	-47.69	-20.28	-67.97	-13.00	-54.97
179.38	V	-59.10	-14.01	-73.11	-13.00	-60.11
219.15	V	-61.38	-14.82	-76.20	-13.00	-63.20
258.92	V	-61.84	-13.82	-75.66	-13.00	-62.66
278.32	V	-63.49	-12.43	-75.93	-13.00	-62.93
39.70	H	-63.77	-11.76	-75.54	-13.00	-62.54
57.16	H	-60.67	-15.33	-76.00	-13.00	-63.00
86.26	H	-56.21	-21.33	-77.53	-13.00	-64.53
167.74	H	-61.31	-12.77	-74.08	-13.00	-61.08
179.38	H	-59.58	-12.63	-72.20	-13.00	-59.20
258.92	H	-60.54	-14.10	-74.64	-13.00	-61.64

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4132

Test Date: July 5, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
46.49	V	-59.22	-13.63	-72.85	-13.00	-59.85
86.26	V	-56.24	-20.28	-76.52	-13.00	-63.52
107.60	V	-59.38	-16.37	-75.75	-13.00	-62.75
199.75	V	-61.68	-13.21	-74.88	-13.00	-61.88
239.52	V	-57.72	-13.38	-71.11	-13.00	-58.11
259.89	V	-60.29	-13.80	-74.09	-13.00	-61.09
86.26	H	-51.31	-21.33	-72.63	-13.00	-59.63
149.31	H	-60.27	-13.01	-73.27	-13.00	-60.27
179.38	H	-59.84	-12.63	-72.46	-13.00	-59.46
199.75	H	-60.04	-11.92	-71.97	-13.00	-58.97
239.52	H	-59.47	-14.04	-73.51	-13.00	-60.51
258.92	H	-57.73	-14.10	-71.84	-13.00	-58.84

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 4183

Test Date: July 5, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-63.11	-12.78	-75.90	-13.00	-62.90
86.26	V	-50.54	-20.28	-70.82	-13.00	-57.82
128.94	V	-62.65	-13.04	-75.69	-13.00	-62.69
219.15	V	-58.60	-14.82	-73.42	-13.00	-60.42
239.52	V	-57.25	-13.38	-70.64	-13.00	-57.64
258.92	V	-59.16	-13.82	-72.98	-13.00	-59.98
86.26	H	-52.79	-21.33	-74.11	-13.00	-61.11
179.38	H	-59.96	-12.63	-72.59	-13.00	-59.59
199.75	H	-60.76	-11.92	-72.68	-13.00	-59.68
219.15	H	-58.34	-14.27	-72.61	-13.00	-59.61
239.52	H	-58.62	-14.04	-72.66	-13.00	-59.66
258.92	H	-58.79	-14.10	-72.89	-13.00	-59.89

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4233

Test Date: July 5, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
86.26	V	-47.75	-20.28	-68.03	-13.00	-55.03
128.94	V	-60.15	-13.04	-73.19	-13.00	-60.19
239.52	V	-53.21	-13.38	-66.60	-13.00	-53.60
259.89	V	-56.48	-13.80	-70.28	-13.00	-57.28
279.29	V	-60.03	-12.44	-72.47	-13.00	-59.47
369.50	V	-59.33	-11.91	-71.24	-13.00	-58.24
57.16	H	-58.09	-15.33	-73.42	-13.00	-60.42
86.26	H	-50.81	-21.33	-72.14	-13.00	-59.14
199.75	H	-57.59	-11.92	-69.51	-13.00	-56.51
219.15	H	-56.08	-14.27	-70.36	-13.00	-57.36
239.52	H	-54.20	-14.04	-68.24	-13.00	-55.24
258.92	H	-55.83	-14.10	-69.93	-13.00	-56.93

Remark:

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



Above 1GHz

Operation Mode: GSM 850 / TX / CH 128

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-49.16	1.63	-47.53	-13.00	-34.53
2470.00	V	-37.66	4.75	-32.91	-13.00	-19.91
N/A						
1651.00	H	-47.06	1.63	-45.43	-13.00	-32.43
2470.00	H	-40.48	4.74	-35.74	-13.00	-22.74
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: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-52.44	1.64	-50.80	-13.00	-37.80
2512.00	V	-42.37	4.96	-37.41	-13.00	-24.41
N/A						
1672.00	H	-51.68	1.66	-50.02	-13.00	-37.02
2512.00	H	-43.95	4.94	-39.02	-13.00	-26.02
N/A						

Remark:

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



Operation Mode: GSM 850 / TX / CH 251

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-54.14	1.65	-52.49	-13.00	-39.49
2547.00	V	-47.09	5.02	-42.08	-13.00	-29.08
N/A						
1700.00	H	-54.00	1.68	-52.31	-13.00	-39.31
2547.00	H	-46.39	4.98	-41.40	-13.00	-28.40
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: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-48.60	1.63	-46.98	-13.00	-33.98
2470.00	V	-40.58	4.75	-35.83	-13.00	-22.83
N/A						
1651.00	H	-49.62	1.63	-47.98	-13.00	-34.98
2470.00	H	-41.77	4.74	-37.02	-13.00	-24.02
N/A						

Remark:

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



Operation Mode: GPRS 850 / TX / CH 190

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-52.21	1.64	-50.57	-13.00	-37.57
2512.00	V	-44.54	4.96	-39.58	-13.00	-26.58
N/A						
1672.00	H	-51.90	1.66	-50.24	-13.00	-37.24
2512.00	H	-46.84	4.94	-41.90	-13.00	-28.90
N/A						

Remark:

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



Operation Mode: GPRS 850 / TX / CH 251

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-56.81	1.65	-55.16	-13.00	-42.16
2547.00	V	-48.50	5.02	-43.48	-13.00	-30.48
N/A						
1700.00	H	-52.87	1.68	-51.19	-13.00	-38.19
2547.00	H	-50.45	4.98	-45.47	-13.00	-32.47
N/A						

Remark:

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



Operation Mode: GSM 1900 / TX / CH 512

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5550.00	V	-58.44	8.19	-50.24	-13.00	-37.24
N/A						
5550.00	H	-52.21	10.21	-42.01	-13.00	-29.01
N/A						

Remark:

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



Operation Mode: GSM 1900 / TX / CH 661

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5340.00	V	-60.74	8.38	-52.36	-13.00	-39.36
5641.00	V	-58.87	8.23	-50.64	-13.00	-37.64
N/A						
3758.00	H	-58.15	6.83	-51.32	-13.00	-38.32
5641.00	H	-53.24	9.93	-43.31	-13.00	-30.31
N/A						

Remark:

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



Operation Mode: GSM 1900 / TX / CH 810

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-57.77	8.09	-49.68	-13.00	-36.68
5732.00	V	-56.96	8.27	-48.69	-13.00	-35.69
N/A						
3821.00	H	-54.45	6.95	-47.50	-13.00	-34.50
5732.00	H	-55.44	9.65	-45.79	-13.00	-32.79
N/A						

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 512

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5550.00	V	-55.35	8.19	-47.16	-13.00	-34.16
N/A						
5550.00	H	-51.55	10.21	-41.35	-13.00	-28.35
N/A						

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 661

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-60.96	7.81	-53.15	-13.00	-40.15
5641.00	V	-58.70	8.23	-50.47	-13.00	-37.47
N/A						
3758.00	H	-59.45	6.83	-52.62	-13.00	-39.62
5641.00	H	-53.67	9.93	-43.74	-13.00	-30.74
N/A						

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 810

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-58.68	8.09	-50.59	-13.00	-37.59
5732.00	V	-58.29	8.27	-50.02	-13.00	-37.02
N/A						
3821.00	H	-55.30	6.95	-48.35	-13.00	-35.35
5732.00	H	-54.91	9.65	-45.25	-13.00	-32.25
N/A						

Remark:

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



Operation Mode: EDGE 850 / TX / CH 128

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-58.60	1.63	-56.97	-13.00	-43.97
2470.00	V	-53.74	4.75	-48.99	-13.00	-35.99
N/A						
1651.00	H	-58.17	1.63	-56.53	-13.00	-43.53
2470.00	H	-55.41	4.74	-50.66	-13.00	-37.66
N/A						

Remark:

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



Operation Mode: EDGE 850 / TX / CH 190

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-59.48	1.64	-57.85	-13.00	-44.85
2512.00	V	-56.33	4.96	-51.36	-13.00	-38.36
N/A						
1672.00	H	-60.76	1.66	-59.10	-13.00	-46.10
2512.00	H	-57.59	4.94	-52.65	-13.00	-39.65
N/A						

Remark:

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



Operation Mode: EDGE 850 / TX / CH 251

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2547.00	V	-57.87	5.02	-52.86	-13.00	-39.86
N/A						
1700.00	H	-59.72	1.68	-58.04	-13.00	-45.04
2547.00	H	-60.54	4.98	-55.56	-13.00	-42.56
N/A						

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 512

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5550.00	V	-56.58	8.19	-48.39	-13.00	-35.39
N/A						
5550.00	H	-52.29	10.21	-42.08	-13.00	-29.08
N/A						

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 661

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-59.87	7.81	-52.05	-13.00	-39.05
5641.00	V	-55.66	8.23	-47.43	-13.00	-34.43
N/A						
5641.00	H	-52.26	9.93	-42.33	-13.00	-29.33
N/A						

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 810

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-58.21	8.09	-50.12	-13.00	-37.12
5732.00	V	-54.69	8.27	-46.42	-13.00	-33.42
N/A						
3821.00	H	-55.28	6.95	-48.33	-13.00	-35.33
5732.00	H	-52.04	9.65	-42.39	-13.00	-29.39
7027.00	H	-57.85	12.65	-45.20	-13.00	-32.20
N/A						

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9262

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-61.84	7.57	-54.27	-13.00	-41.27
N/A						
3695.00	H	-60.34	6.70	-53.64	-13.00	-40.64
N/A						

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9400

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3961.00	V	-62.13	8.70	-53.43	-13.00	-40.43
N/A						
3982.00	H	-62.54	7.27	-55.26	-13.00	-42.26
N/A						

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9538

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3814.00	V	-61.07	8.06	-53.01	-13.00	-40.01
N/A						
3814.00	H	-59.42	6.94	-52.48	-13.00	-39.48
N/A						

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4132

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1658.00	V	-53.31	1.63	-51.68	-13.00	-38.68
2477.00	V	-51.22	4.79	-46.42	-13.00	-33.42
N/A						
1658.00	H	-55.78	1.64	-54.14	-13.00	-41.14
2477.00	H	-48.27	4.78	-43.48	-13.00	-30.48
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 4183

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-53.09	1.64	-51.45	-13.00	-38.45
2505.00	V	-51.65	4.95	-46.70	-13.00	-33.70
N/A						
1672.00	H	-58.96	1.66	-57.30	-13.00	-44.30
2505.00	H	-48.69	4.93	-43.76	-13.00	-30.76
N/A						

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4233

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1693.00	V	-51.94	1.64	-50.29	-13.00	-37.29
2540.00	V	-52.44	5.01	-47.43	-13.00	-34.43
N/A						
1693.00	H	-56.39	1.68	-54.72	-13.00	-41.72
2540.00	H	-51.62	4.97	-46.64	-13.00	-33.64
N/A						

Remark:

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



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

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3513.00	V	-62.37	6.75	-55.62	-13.00	-42.62
N/A						
3275.00	H	-62.39	5.99	-56.41	-13.00	-43.41
N/A						

Remark:

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



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

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3681.00	V	-61.27	7.48	-53.79	-13.00	-40.79
N/A						
3345.00	H	-60.90	6.09	-54.81	-13.00	-41.81
N/A						

Remark:

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



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

Test Date: July 4, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3814.00	V	-61.26	8.06	-53.20	-13.00	-40.20
N/A						
3814.00	H	-59.42	6.94	-52.48	-13.00	-39.48
N/A						

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4132

Test Date: July 5, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-55.90	1.63	-54.28	-13.00	-41.28
2477.00	V	-55.94	4.79	-51.14	-13.00	-38.14
N/A						
1658.00	H	-58.09	1.64	-56.45	-13.00	-43.45
2477.00	H	-48.47	4.78	-43.68	-13.00	-30.68
N/A						

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4183

Test Date: July 5, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-58.28	1.64	-56.65	-13.00	-43.65
2505.00	V	-57.69	4.95	-52.74	-13.00	-39.74
N/A						
1672.00	H	-59.97	1.66	-58.32	-13.00	-45.32
2505.00	H	-51.17	4.93	-46.25	-13.00	-33.25
N/A						

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4233

Test Date: July 5, 2009

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1693.00	V	-55.55	1.64	-53.91	-13.00	-40.91
2540.00	V	-54.30	5.01	-49.29	-13.00	-36.29
N/A						
1693.00	H	-54.98	1.68	-53.31	-13.00	-40.31
2540.00	H	-52.84	4.97	-47.86	-13.00	-34.86
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.

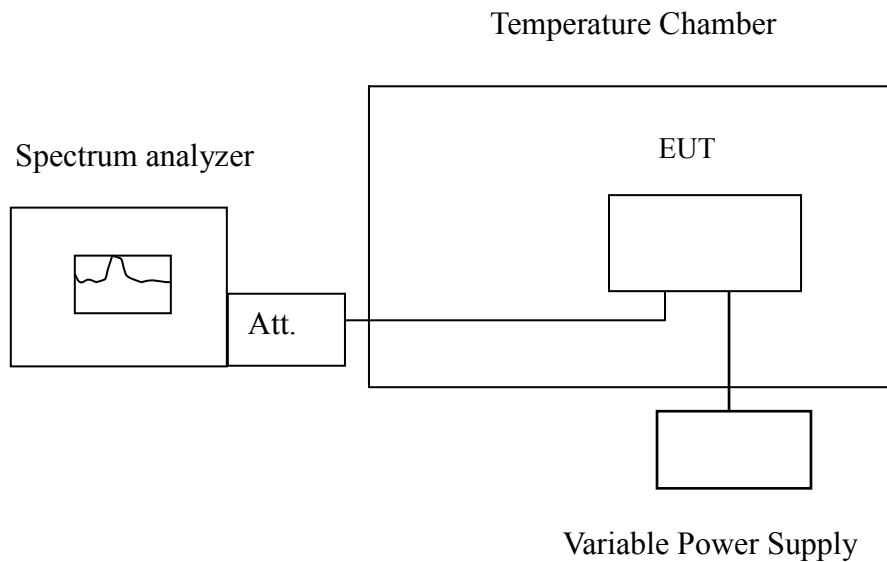
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

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

Frequency Tolerance: 2.5 ppm

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83600010	22	2090
	40	83600008	20	
	30	83600015	27	
	20	83599988	0	
	10	83600014	26	
	0	83600013	25	
	-10	83600017	29	
	-20	83600010	22	
	-30	83600018	30	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000041	83	90
	40	1879999954	-4	
	30	1880000045	87	
	20	1879999958	0	
	10	1880000039	81	
	0	1880000033	75	
	-10	1880000036	78	
	-20	1880000041	83	
	-30	1880000038	80	



Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83600013	36	2090
	40	83600017	40	
	30	83600015	38	
	20	83599977	0	
	10	83600018	41	
	0	83600019	42	
	-10	83600015	38	
	-20	83600020	43	
	-30	83600022	45	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000040	55	90
	40	1880000043	58	
	30	1880000045	60	
	20	1879999985	0	
	10	1880000036	51	
	0	1880000041	56	
	-10	1880000037	52	
	-20	1880000034	49	
	-30	1880000047	62	



Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83599999	-8	2090
	40	83599993	-14	
	30	83599995	-12	
	20	83600007	0	
	10	83599994	-13	
	0	83599992	-15	
	-10	83599995	-12	
	-20	83599999	-8	
	-30	83599994	-13	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1879999996	-9	90
	40	1879999995	-10	
	30	1879999991	-14	
	20	1880000005	0	
	10	1879999997	-8	
	0	1879999993	-12	
	-10	1879999999	-6	
	-20	1879999994	-11	
	-30	1879999995	-10	



Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83600003	-10	2090
	40	83599989	-24	
	30	83599995	-18	
	20	83600013	0	
	10	83599988	-25	
	0	83600008	-5	
	-10	83599991	-22	
	-20	83599998	-15	
	-30	83599996	-17	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000010	12	90
	40	1880000006	8	
	30	1880000000	2	
	20	1879999998	0	
	10	1880000000	2	
	0	1879999984	-14	
	-10	1879999998	0	
	-20	1879999993	-5	
	-30	1880000020	22	



Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83599995	-9	2090
	40	83599994	-10	
	30	83599993	-11	
	20	83600004	0	
	10	83599993	-11	
	0	83599992	-12	
	-10	83599994	-10	
	-20	83599993	-11	
	-30	83599995	-9	

Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000000	-7	90
	40	1879999995	-12	
	30	1879999999	-8	
	20	1880000007	0	
	10	1880000002	-5	
	0	1879999996	-11	
	-10	1879999998	-9	
	-20	1879999997	-10	
	-30	1879999991	-16	

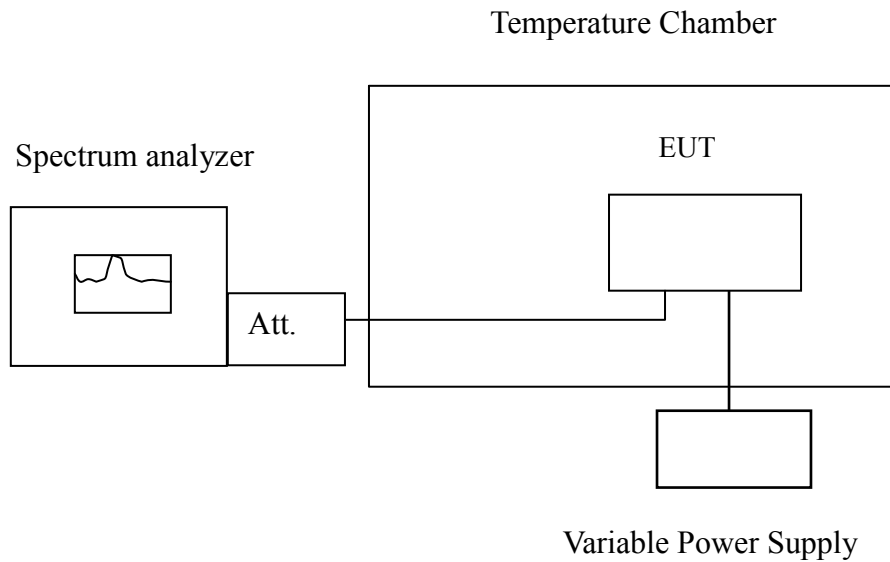
7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235,

Frequency Tolerance: 2.5 ppm.

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

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

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	83599989	1	2090
3.7		83599988	0	
3.145		83599984	-4	
2.8END		83599757	-227	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	1879999967	9	90
3.7		1879999958	0	
3.145		1879999956	-2	
2.8END		1879999616	-342	



Reference Frequency: GPRS 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	83599989	12	2090
3.7		83599977	0	
3.145		83599983	6	
2.8END		83599565	-418	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	1879999979	-6	90
3.7		1879999985	0	
3.145		1879999980	-5	
2.8END		1879999484	-501	

Reference Frequency: EDGE 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	83600001	-6	2090
3.7		83600007	0	
3.145		83600005	-2	
2.8END		83600124	119	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	1880000001	-4	90
3.7		1880000005	0	
3.145		1880000004	-1	
2.8END		1880000214	209	



Reference Frequency: WCDMA Band V 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	83599998	-15	2090
3.7		83600013	0	
3.145		83600005	-8	
2.8END		83600145	140	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	1879999989	-9	90
3.7		1879999998	0	
3.145		1879999992	-6	
2.8END		1879999846	-152	

Reference Frequency: WCDMA / HSDPA Band V 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	83600005	1	2090
3.7		83600004	0	
3.145		83600006	2	
2.8END		83600009	3	

Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: 90 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	1880000006	-1	90
3.7		1880000007	0	
3.145		1880000002	-5	
2.8END		1880000029	22	



7.9 POWERLINE CONDUCTED EMISSIONS

LIMIT

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

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

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

Test Configuration

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

TEST PROCEDURE

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



TEST RESULTS

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

Operation Mode: Normal Link

Test Date: July 1, 2009

Temperature: 22°C

Tested by: Ryan Chen

Humidity: 45% RH

Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB)	QP Result (dBuV)	AV Result (dBuV)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.3550	46.63	38.23	0.07	46.70	38.30	58.84	48.84	-12.14	-10.54	L1
0.4000	46.73	39.73	0.07	46.80	39.80	57.85	47.85	-11.05	-8.05	L1
0.6000	44.24	36.34	0.06	44.30	36.40	56.00	46.00	-11.70	-9.60	L1
1.0300	42.55	31.95	0.05	42.60	32.00	56.00	46.00	-13.40	-14.00	L1
1.5200	41.94	30.74	0.06	42.00	30.80	56.00	46.00	-14.00	-15.20	L1
7.9700	44.40	32.00	0.10	44.50	32.10	60.00	50.00	-15.50	-17.90	L1
0.3550	48.13	41.33	0.07	48.20	41.40	58.84	48.84	-10.64	-7.44	L2
0.4000	47.23	39.23	0.07	47.30	39.30	57.85	47.85	-10.55	-8.55	L2
0.5150	45.34	39.04	0.06	45.40	39.10	56.00	46.00	-10.60	-6.90	L2
1.0300	43.35	32.65	0.05	43.40	32.70	56.00	46.00	-12.60	-13.30	L2
1.6650	41.04	30.04	0.06	41.10	30.10	56.00	46.00	-14.90	-15.90	L2
8.4850	46.80	35.10	0.10	46.90	35.20	60.00	50.00	-13.10	-14.80	L2

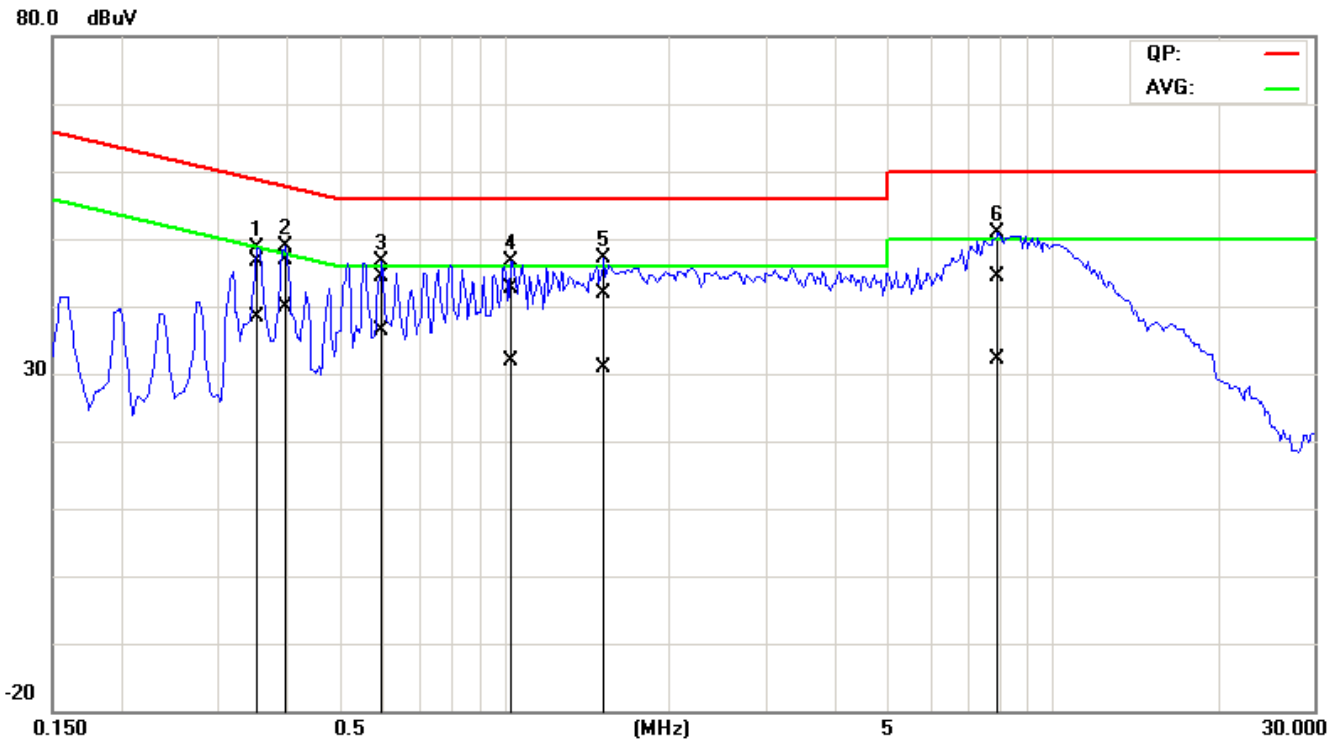
Remark:

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



Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)

