



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

**TEST REPORT**

**For**

**PDA Phone**

**Trade Name / Model:  
i-mate / ULTIMATE 8502,  
Mobinnova / PP5401**

*Issued to*

**Mobinnova Corp.  
11F, No.845, Jhongshan Rd., Tayouan City,  
Taoyuan County 330, Taiwan (R.O.C.)**

*Issued by*

**Compliance Certification Services Inc.  
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# 1. TEST RESULT CERTIFICATION

**Applicant:** Mobinnova Corp.  
11F, No.845, Jhongshan Rd., Tayouan City,  
Taoyuan County 330, Taiwan (R.O.C.)

**Equipment Under Test:** PDA Phone

**Trade Name / Model Number:** i-mate / ULTIMATE 8502,  
Mobinnova / PP5401

**Date of Test:** November 8 ~ January 12, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR PART 22 SUBPART H AND 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 ANSI/TIA/EIA-603-A-2001 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:*

\_\_\_\_\_  
Rex Lai  
Section Manager  
Compliance Certification Services Inc.

*Reviewed by:*

\_\_\_\_\_  
Amanda Wu  
Section Manager  
Compliance Certification Services Inc.



## 2. EUT DESCRIPTION

<b>Product</b>	PDA Phone
<b>Trade Name / Model Number</b>	i-mate / ULTIMATE 8502, Mobinnova / PP5401
<b>Model Discrepancy</b>	All the above models are identical except for the designation of model numbers.
<b>Power Supply</b>	<ol style="list-style-type: none"><li><b>Power Adapter:</b> PHIHONG / PSAA05R-050 I/P: AC 100-240V, 50-60Hz, 0.3A O/P: DC 5V, 1A MAX</li><li><b>Rechargeable Lithium Battery:</b> Model: ULTIMATE 8502 Rating: 3.7VDC, 1530mAh</li><li><b>Powered from PC via USB cable.</b></li></ol>
<b>Accessories</b>	<ol style="list-style-type: none"><li><b>Headset:</b> MERRY (model name: EMC147-022-01), Unshielded, 2.5 m</li><li><b>USB cable:</b> MEC IMEX (model name: 60-4346-100), Unshielded, 1.2m</li><li><b>TV Out cable:</b> MEC IMEX (model name: 60-4346-400D), Unshielded, 1.5m</li></ol>
<b>Frequency Range</b>	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
<b>Modulation Technique</b>	GSM: GMSK GPRS: GMSK EDGE: 8PSK WCDMA: Quadrature Phase Shift Keying (QPSK) with Root-raised cosine pulse shaping filters (roll off = 0.22)



<b>Transmit Power (ERP &amp; EIRP Power)</b>	GSM 850: 25.41dBm GSM 1900: 22.93 dBm GPRS 850: 29.28 dBm GPRS 1900: 25.29 dBm EDGE 850: 25.78 dBm EDGE 1900: 24.31 dBm WCDMA Band II: 20.28 dBm HSDPA Band II: 21.18 dBm HSUPA Band II: 22.04 dBm WCDMA Band V: 26.26 dBm HSDPA Band V: 25.00 dBm HSUPA Band V: 24.98 dBm
<b>Cellular Phone Protocol</b>	GSM: Class B GPRS: Class 12 EDGE: Class 12
<b>Type of Emission</b>	GSM 850 MHz: 254KGXW--- GSM 1900 MHz: 255KGXW--- GPRS 850 MHz: 251KGXW--- GPRS 1900 MHz: 250KGXW--- EDGE 850 MHz: 246KG7W--- EDGE 1900 MHz: 247KG7W--- WCDMA Band II: 4M18F9W--- WCDMA Band V: 4M16F9W--- WCDMA HSDPA Band II: 4M18F9W--- WCDMA HSDPA Band V: 4M17F9W--- WCDMA HSUPA Band II: 4M17F9W--- WCDMA HSUPA Band V: 4M16F9W---
<b>Antenna Gain</b>	GSM / GPRS / EDGE 850 MHz: -1.13 dBi GSM / GPRS / EDGE 1900 MHz: 1.92 dBi WCDMA band II: 1.68 dBi WCDMA band V: -0.01 dBi
<b>Antenna Type</b>	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: UK9POL9D filing to comply with Part 22 and Part 24 of the FCC 47 CFR Rules.



### **3. TEST METHODOLOGY**

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4 and FCC CFR 47, 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

#### **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. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

##### **Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4.



### 3.4 DESCRIPTION OF TEST MODES

The EUT (model: ULTIMATE 8502) had been tested under operating condition.

EUT staying in continuous transmitting mode was programmed.

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 (CH4183) 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 (CH4183) and Channel High (CH4233) were chosen for full testing.

WCDMA / HSUPA Band II:

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

WCDMA / HSDPA Band V:

Channel Low (CH4132), Channel Mid (CH4183) 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, GSM 850 / GSM 1900 / GPRS 850 / GPRS1900 / EDGE 850 / EDGE 1900 / WCDMA Band II / WCDMA Band V / HSDPA Band II / HSDPA Band V / HSUPA 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 EDGE 850 / HSDPA Band II,

and in lie-down (Y axis) for GSM 850 / GSM 1900 / GPRS 850 / GPRS1900 / EDGE 1900 / WCDMA Band II / WCDMA Band V / HSDPA Band V / HSUPA Band II / 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	01/30/2008
Power Meter	Agilent	E4416A	GB41291611	03/20/2008
Power Sensor	Agilent	E9327A	US40441097	05/23/2008
Temp. / Humidity Chamber	Terchy	MHG-150LF	930619	08/08/2008
DC Power Source	Agilent	E3640A	MY40001774	01/11/2008

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	08/01/2008
Test Receiver	Rohde & Schwarz	ESCI	100064	11/12/2008
Switch Controller	TRC	Switch Controller	SC94050010	05/03/2008
4 Port Switch	TRC	4 Port Switch	SC94050020	05/03/2008
Horn-Antenna	TRC	HA-0502	06	05/31/2008
Horn-Antenna	TRC	HA-0801	04	05/03/2008
Bilog- Antenna	Sunol Sciences	JB3	A030205	03/29/2008
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	N/A	FCC: 965860 IC: IC 6106	09/25/2008	09/25/2008
Reject Filter	Micro-Tronics	HPM13194	003	04/25/2008
S.G.	HP	83630B	3844A01022	04/08/2008
Substituted Dipole	Schwazbeck	VHAP/UHAP	998 +999/ 981+982	06/10/2008
Substituted Horn	EMCO	3115	00022257	12/17/2008
Test S/W	LABVIEW (V 6.1)			

*Remark: The measurement uncertainty is less than +/-2.0065dB (30MHz ~ 1GHz), +/-3.0958dB (Above 1GHz) which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.*





Powerline Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver 9kHz-30MHz	Rohde & Schwarz	ESHS30	828144/003	10/30/2008
Two-Line V-Network 9kHz-30MHz	Schaffner	NNB41	03/10013	06/12/2008
LISN 10kHz-100MHz	EMCO	3825/2	9106-1809	04/01/2008
Test S/W	LABVIEW (V 6.1)			

**Remark:** The measurement uncertainty is less than +/- 2.81dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.



## **5. FACILITIES AND ACCREDITATIONS**

### **5.1 FACILITIES**

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 and CISPR Publication 22.

### **5.2 EQUIPMENT**







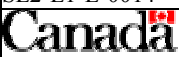
Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

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	A2LA	EN 55011, EN 55014-1/2, CISPR 11, CISPR 14-1/2, EN 55022, EN 55015, CISPR 22, CISPR 15, AS/NZS 3548, VCCI V3 (2001), CFR 47, FCC Part 15/18, CNS 13783-1, CNS 13439, CNS 13438, CNS 13803, CNS 14115, EN 55024, IEC 801-2, IEC 801-3, IEC 801-4, IEC/EN 61000-3-2, IEC/EN 61000-3-3, IEC/EN 61000-4-2/3/4/5/6/8/11, EN 50081-1/ EN 61000-6-3, EN 50081-2/EN 61000-6-4, EN 50081-2/EN 61000-6-1: 2001	 ACCREDITED TESTING CERT #0824.01
USA	FCC	3/10 meter Open Area Test Sites (93105, 90471) / 3M Semi Anechoic Chamber (965860) to perform FCC Part 15/18 measurements	 93105, 90471 965860
Japan	VCCI	3/10 meter Open Area Test Sites to perform conducted/radiated measurements	 R-393/1066/725/879 C-402/747/912
Norway	NEMKO	EN 50081-1/2, EN 50082-1/2, IEC 61000-6-1/2, EN 50091-2, EN 50130-4, EN 55011, EN 55013, EN 55014-1/2, EN 55015, EN 55022, EN 55024, EN 61000-3-2/3, EN 61326-1, IEC 61000-4-2/3/4/5/6/8/11, EN 60601-1-2, EN 300 328, EN 300 422-2, EN 301 419-1, EN 301 489-01/03/07/08/09/17, EN 301 419-2/3, EN 300 454-2, EN 301 357-2	 ELA 124a ELA 124b ELA 124c
Taiwan	TAF	EN 300 328, EN 300 220-1, EN 300 220-2, EN 300 220-3, 47 CFR FCC Part 15 Subpart C, EN 61000-3-2, EN 61000-3-3, CNS 13439, CNS 13783-1, CNS 14115, CNS 13438, AS/NZS CISPR 22, CNS 13022-1, IEC 61000-4-2/3/4/5/6/8/11, CNS 13022-2/3	 Testing Laboratory 0363
Taiwan	BSMI	CNS 13438, CNS 13783-1, CNS 13439, CNS 14115	 SL2-IS-E-0014 SL2-IN-E-0014 SL2-A1-E-0014 SL2-R1-E-0014 SL2-R2-E-0014 SL2-L1-E-0014
Canada	Industry Canada	3/10 meter Open Area Test Sites (IC 2324C-3, IC 2324C-5) / 3M Semi Anechoic Chamber (IC 6106)	 IC 2324C-3 IC 2324C-5 IC 6106

\* 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 1 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.	LCD Monitor	DELL	2407WFPb	CN-0FC255-46633-675-22TJS	FCC DoC	Shielded, 1.8m with 2 cores	Unshielded, 1.8m
2.	Universal Radio Communication tester	R&S	CMU 200	1100.000.8.02	N/A	N/A	Unshielded, 1.8m

**Remark:**

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



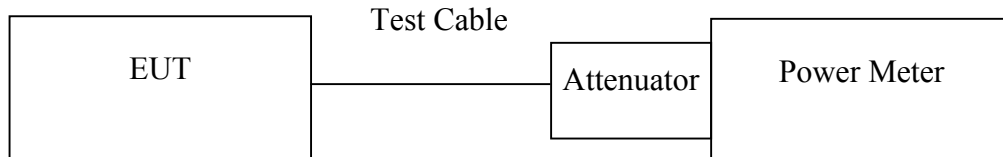
## 7. FCC PART 22 & 24 REQUIREMENTS

### 7.1 AVERAGE 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)	Average Power (dBm)
GSM 850 (Class B)	128	824.20	-1.87	33.8	31.93
	190	836.60	-1.51		32.29
	251	848.80	-1.08		32.72
GPRS 850 (Class 12)	128	824.20	-2.03		31.77
	190	836.60	-1.30		32.50
	251	848.80	-1.04		32.76
EDGE 850 (Class 12)	128	824.20	-0.14	24.40	24.26
	190	836.60	0.43		24.83
	251	848.80	0.59		24.99

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
GSM 1900 (Class B)	512	1850.20	-4.21	33.8	29.59
	661	1880.00	-4.43		29.37
	810	1910.00	-4.17		29.63
GPRS 1900 (Class 12)	512	1850.20	-4.68		29.12
	661	1880.00	-4.53		29.27
	810	1910.00	-4.27		29.53
EDGE 1900 (Class 12)	512	1850.20	-0.35	24.40	24.05
	661	1880.00	-0.10		24.30
	810	1910.00	0.09		24.49

**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	0.07	24.40	24.47
	9400	1880.00	-0.21		24.19
	9538	1907.60	0.05		24.45
WCDMA (BAND V)	4132	826.40	0.93		25.33
	4183	836.60	-0.20		24.20
	4233	846.60	1.20		25.60
Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
WCDMA / HSDPA (BAND II)	9262	1852.40	2.83	24.40	27.23
	9400	1880.00	2.67		27.07
	9538	1907.60	2.76		27.16
WCDMA / HSDPA (BAND V)	4132	826.40	3.03		27.43
	4183	836.60	2.09		26.49
	4233	846.60	3.16		27.56
Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
WCDMA / HSUPA (BAND II)	9262	1852.40	8.37	20.40	28.77
	9400	1880.00	8.07		28.47
	9538	1907.60	7.25		27.65
WCDMA / HSUPA (BAND V)	4132	826.40	7.12		27.52
	4183	836.60	7.85		28.25
	4233	846.60	7.62		28.02

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

## 7.2 ERP & EIRP MEASUREMENT

### LIMIT

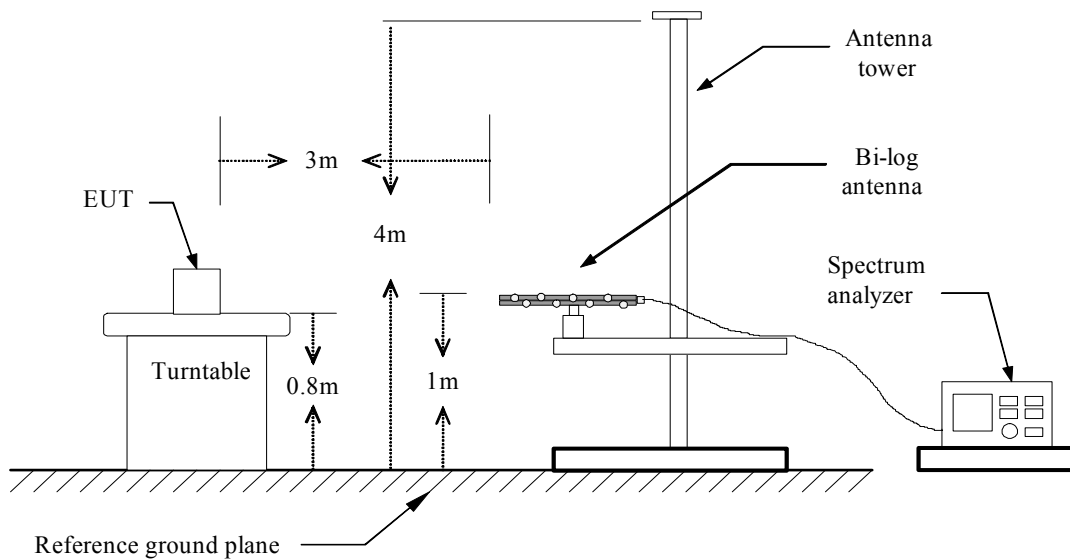
According to FCC §2.1046

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

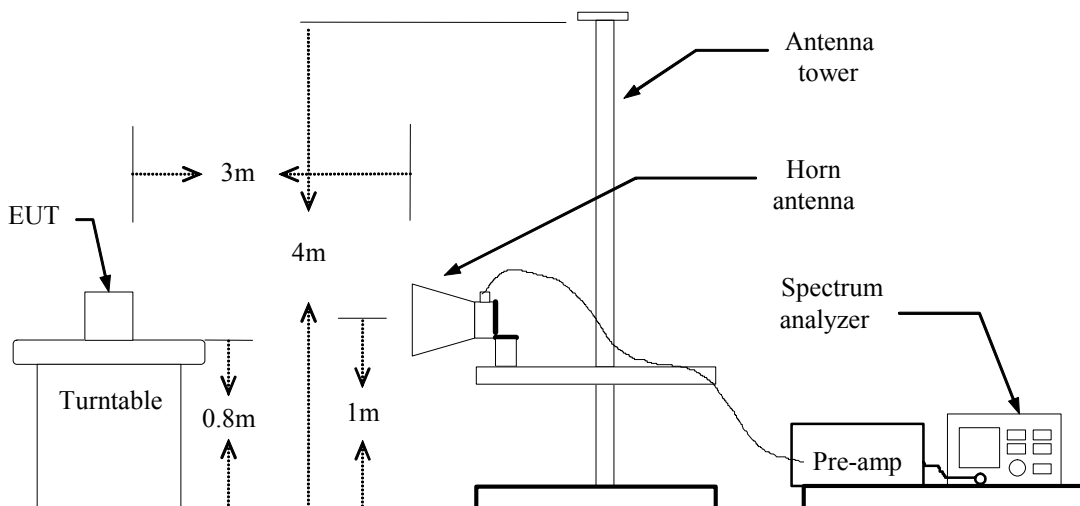
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

### TEST CONFIGURATION

#### Below 1 GHz

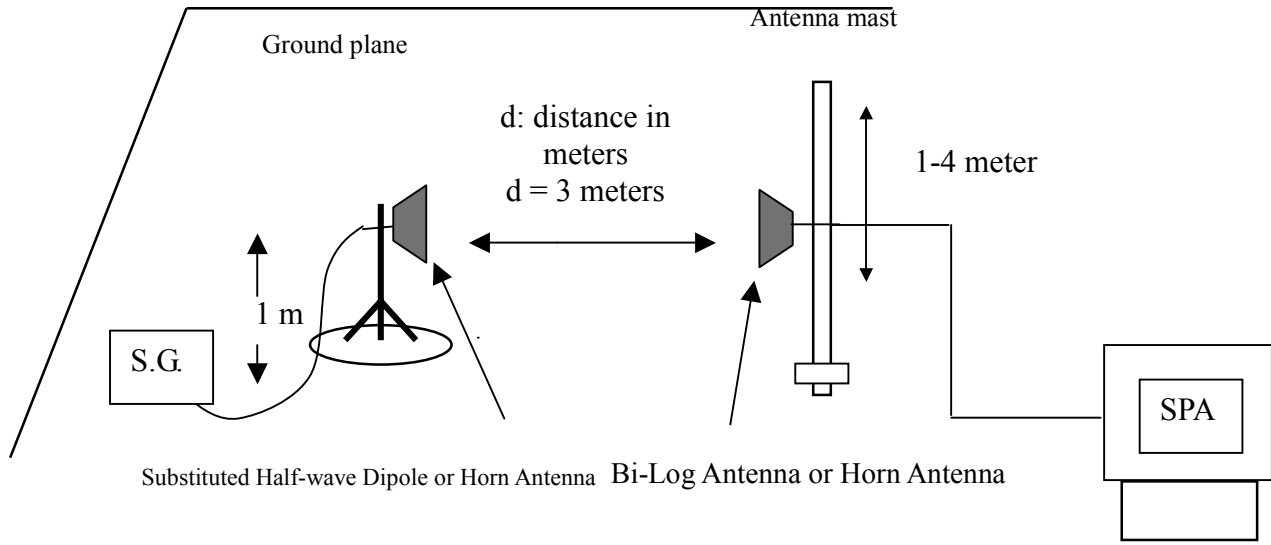


#### Above 1 GHz





**For Substituted Method Test Set-UP**



**TEST PROCEDURE**

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

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

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

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

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

**TEST RESULTS**

No non-compliance noted.

**GSM 850 Test Data (Class B)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.12	V	-17.96	36.41	18.45	38.45	-20.00
		824.20	H	-12.37	36.21	23.84	38.45	-14.61
	190	837.28	V	-18.83	36.55	17.71	38.45	-20.74
		837.08	H	-12.43	36.49	24.06	38.45	-14.39
	251	848.72	V	-18.60	36.67	18.06	38.45	-20.39
		848.76	H	-11.73	36.65	24.92	38.45	-13.53
Y	128	824.12	V	-19.64	36.41	16.77	38.45	-21.68
		824.32	H	-11.60	36.21	24.61	38.45	-13.84
	190	836.64	V	-20.39	36.54	16.15	38.45	-22.30
		836.48	H	-11.67	36.48	24.81	38.45	-13.64
	251	848.84	V	-19.86	36.67	16.81	38.45	-21.64
		848.88	H	-11.24	36.65	<b>*25.41</b>	38.45	-13.04
Z	128	824.12	V	-12.87	36.41	23.54	38.45	-14.91
		824.12	H	-15.45	36.21	20.76	38.45	-17.69
	190	836.56	V	-13.16	36.54	23.38	38.45	-15.07
		836.60	H	-15.53	36.48	20.95	38.45	-17.50
	251	848.80	V	-12.24	36.67	24.43	38.45	-14.02
		848.68	H	-14.14	36.65	22.51	38.45	-15.94

**GPRS 850 Test Data (Class 12)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.07	V	-12.36	36.41	24.05	38.45	-14.40
		824.25	H	-9.70	36.21	26.51	38.45	-11.94
	190	836.47	V	-12.52	36.54	24.02	38.45	-14.43
		836.56	H	-9.20	36.48	27.28	38.45	-11.17
	251	848.78	V	-13.15	36.67	23.52	38.45	-14.93
		848.78	H	-8.73	36.65	27.92	38.45	-10.53
Y	128	824.04	V	-13.65	36.41	22.76	38.45	-15.69
		824.13	H	-8.14	36.41	28.27	38.45	-10.18
	190	836.56	V	-13.23	36.54	23.31	38.45	-15.14
		836.68	H	-7.20	36.48	<b>*29.28</b>	38.45	-9.17
	251	848.78	V	-13.31	36.67	23.35	38.45	-15.10
		848.75	H	-7.37	36.65	29.28	38.45	-9.17
Z	128	824.13	V	-8.60	36.21	27.61	38.45	-10.84
		823.98	H	-9.93	36.20	26.28	38.45	-12.17
	190	836.56	V	-7.96	36.54	28.58	38.45	-9.87
		836.56	H	-9.61	36.48	26.87	38.45	-11.58
	251	848.93	V	-8.96	36.67	27.71	38.45	-10.74
		848.81	H	-10.10	36.65	26.55	38.45	-11.90

**GSM 1900 Test Data (Class B)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.08	V	-24.81	44.22	19.41	33.00	-13.59
		1850.29	H	-20.69	42.89	22.20	33.00	-10.80
	661	1879.93	V	-25.85	44.02	18.17	33.00	-14.83
		1880.02	H	-20.65	43.01	22.36	33.00	-10.64
	810	1909.99	V	-26.57	43.88	17.32	33.00	-15.68
		1909.87	H	-20.29	43.10	22.81	33.00	-10.19
Y	512	1850.11	V	-22.07	44.22	22.15	33.00	-10.85
		1850.14	H	-20.71	42.89	22.18	33.00	-10.82
	661	1880.02	V	-21.79	44.02	22.23	33.00	-10.77
		1879.87	H	-20.75	43.01	22.26	33.00	-10.74
	810	1909.81	V	-20.95	43.88	<b>*22.93</b>	33.00	-10.07
		1909.78	H	-20.43	43.10	22.67	33.00	-10.33
Z	512	1849.99	V	-22.23	44.22	22.00	33.00	-11.00
		1850.14	H	-24.86	42.89	18.03	33.00	-14.97
	661	1879.93	V	-21.60	44.02	22.42	33.00	-10.58
		1880.02	H	-24.05	43.01	18.96	33.00	-14.04
	810	1909.99	V	-22.33	43.88	21.56	33.00	-11.44
		1909.75	H	-23.63	43.10	19.47	33.00	-13.53

**GPRS 1900 Test Data (Class 12)**

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	-24.91	44.22	19.31	33.00	-13.69
		1850.08	H	-21.48	42.89	21.41	33.00	-11.59
	661	1879.99	V	-24.03	44.02	19.99	33.00	-13.01
		1879.90	H	-20.44	43.01	22.57	33.00	-10.43
	810	1909.69	V	-22.60	43.88	21.28	33.00	-11.72
		1909.69	H	-19.25	43.10	23.84	33.00	-9.16
Y	512	1850.17	V	-21.18	44.22	23.04	33.00	-9.96
		1850.11	H	-19.87	42.89	23.02	33.00	-9.98
	661	1879.93	V	-20.49	44.02	23.53	33.00	-9.47
		1879.87	H	-19.07	43.01	23.94	33.00	-9.06
	810	1909.84	V	-19.74	43.88	24.14	33.00	-8.86
		1909.81	H	-17.81	43.10	<b>*25.29</b>	33.00	-7.71
Z	512	1849.99	V	-21.79	44.22	22.43	33.00	-10.57
		1850.23	H	-24.14	42.89	18.75	33.00	-14.25
	661	1879.93	V	-21.25	44.02	22.77	33.00	-10.23
		1879.99	H	-23.29	43.01	19.72	33.00	-13.28
	810	1909.90	V	-21.11	43.88	22.77	33.00	-10.23
		1909.69	H	-21.62	43.10	21.47	33.00	-11.53

**EDGE 850 Test Data (Class 12)**

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	-15.27	35.68	20.41	38.45	-18.04
		824.30	H	-9.70	35.48	<b>*25.78</b>	38.45	-12.67
	190	836.75	V	-14.57	35.73	21.16	38.45	-17.29
		836.75	H	-10.20	35.79	25.59	38.45	-12.86
	251	848.85	V	-18.49	35.88	17.38	38.45	-21.07
		848.85	H	-12.96	36.06	23.10	38.45	-15.35
Y	128	824.30	V	-15.85	35.68	19.83	38.45	-18.62
		824.30	H	-11.52	35.48	23.96	38.45	-14.49
	190	836.65	V	-15.84	35.73	19.89	38.45	-18.56
		836.65	H	-10.98	35.79	24.80	38.45	-13.65
	251	848.85	V	-18.04	35.88	17.84	38.45	-20.61
		848.85	H	-11.76	36.06	24.30	38.45	-14.15
Z	128	824.30	V	-13.55	35.68	22.13	38.45	-16.32
		824.30	H	-17.83	35.48	17.65	38.45	-20.80
	190	836.65	V	-14.26	35.73	21.47	38.45	-16.98
		836.65	H	-18.27	35.79	17.52	38.45	-20.93
	251	848.95	V	-15.79	35.88	20.09	38.45	-18.36
		848.72	H	-28.14	46.02	17.88	38.45	-20.57

**EDGE 1900 Test Data (Class 12)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.43	V	-19.44	36.54	17.11	33.00	-15.89
		1850.16	H	-14.96	36.64	21.69	33.00	-11.31
	661	1880.31	V	-19.27	36.50	17.24	33.00	-15.76
		1880.31	H	-13.89	36.92	23.03	33.00	-9.97
	810	1910.19	V	-17.04	36.54	19.50	33.00	-13.50
		1910.19	H	-16.08	37.11	21.02	33.00	-11.98
Y	512	1849.98	V	-14.63	36.54	21.92	33.00	-11.08
		1850.61	H	-15.92	36.65	20.73	33.00	-12.27
	661	1880.31	V	-14.25	36.50	22.26	33.00	-10.74
		1880.31	H	-14.32	36.92	22.60	33.00	-10.40
	810	1910.19	V	-13.19	36.54	23.35	33.00	-9.65
		1910.19	H	-12.80	37.11	<b>*24.31</b>	33.00	-8.69
Z	512	1849.98	V	-15.80	36.54	20.75	33.00	-12.25
		1850.16	H	-19.11	36.64	17.54	33.00	-15.46
	661	1880.13	V	-15.46	36.50	21.04	33.00	-11.96
		1880.49	H	-18.19	36.92	18.73	33.00	-14.27
	810	1910.19	V	-14.56	36.54	21.97	33.00	-11.03
		1910.19	H	-17.26	37.11	19.85	33.00	-13.15

**WCDMA Test Data (BAND II)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	9262	1853.49	V	-27.86	44.20	16.34	33.00	-16.66
		1853.22	H	-24.14	42.90	18.76	33.00	-14.24
	9400	1879.41	V	-27.74	44.02	16.28	33.00	-16.72
		1880.94	H	-23.77	43.01	19.25	33.00	-13.75
	9538	1906.68	V	-28.20	43.88	15.68	33.00	-17.32
		1906.86	H	-24.65	43.09	18.45	33.00	-14.55
Y	9262	1853.40	V	-24.87	44.20	19.32	33.00	-13.68
		1853.76	H	-23.75	42.90	19.15	33.00	-13.85
	9400	1881.03	V	-24.37	44.01	19.64	33.00	-13.36
		1880.76	H	-22.82	43.01	20.19	33.00	-12.81
	9538	1906.68	V	-24.93	43.88	18.95	33.00	-14.05
		1906.68	H	-22.82	43.09	<b>*20.28</b>	33.00	-12.72
Z	9262	1852.32	V	-25.35	44.20	18.85	33.00	-14.15
		1853.58	H	-26.95	42.90	15.95	33.00	-17.05
	9400	1880.76	V	-25.17	44.01	18.84	33.00	-14.16
		1880.49	H	-27.08	43.01	15.93	33.00	-17.07
	9538	1906.68	V	-25.17	43.88	18.71	33.00	-14.29
		1907.04	H	-27.49	43.09	15.61	33.00	-17.39

**WCDMA Test Data (BAND V)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	4132	827.15	V	-17.94	36.44	18.50	38.45	-19.95
		827.15	H	-14.20	36.27	22.07	38.45	-16.38
	4183	836.51	V	-15.71	36.54	20.82	38.45	-17.63
		836.51	H	-12.14	36.48	24.34	38.45	-14.11
	4233	846.90	V	-16.43	36.65	20.22	38.45	-18.23
		846.90	H	-13.53	36.63	23.10	38.45	-15.35
Y	4132	827.24	V	-15.80	36.44	20.65	38.45	-17.80
		826.70	H	-11.68	36.26	24.58	38.45	-13.87
	4183	836.69	V	-14.55	36.54	21.99	38.45	-16.46
		836.69	H	-10.22	36.48	<b>*26.26</b>	38.45	-12.19
	4233	846.72	V	-15.73	36.64	20.92	38.45	-17.53
		846.72	H	-11.93	36.62	24.70	38.45	-13.75
Z	4132	826.65	V	-16.49	36.44	19.95	38.45	-18.50
		826.65	H	-20.71	36.26	15.55	38.45	-22.90
	4183	836.51	V	-14.59	36.54	21.95	38.45	-16.50
		836.51	H	-19.64	36.48	16.84	38.45	-21.61
	4233	847.26	V	-15.75	36.65	20.90	38.45	-17.55
		846.59	H	-21.67	36.62	14.96	38.45	-23.49



**WCDMA / 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	1853.76	V	-22.20	36.54	14.34	33.00	-18.66
		1853.76	H	-17.05	36.68	19.62	33.00	-13.38
	9400	1881.12	V	-21.56	36.50	14.94	33.00	-18.06
		1881.39	H	-16.38	36.93	20.55	33.00	-12.45
	9538	1906.59	V	-20.73	36.52	15.79	33.00	-17.21
		1906.95	H	-15.92	37.10	<b>*21.18</b>	33.00	-11.82
Y	9262	1853.76	V	-17.71	36.54	18.83	33.00	-14.17
		1853.76	H	-17.66	36.68	19.01	33.00	-13.99
	9400	1881.03	V	-17.44	36.50	19.07	33.00	-13.93
		1881.12	H	-16.24	36.93	20.69	33.00	-12.31
	9538	1906.41	V	-17.80	36.52	18.72	33.00	-14.28
		1906.41	H	-16.09	37.10	21.01	33.00	-11.99
Z	9262	1851.69	V	-17.89	36.54	18.65	33.00	-14.35
		1853.67	H	-20.81	36.68	15.87	33.00	-17.13
	9400	1881.30	V	-17.43	36.50	19.07	33.00	-13.93
		1881.66	H	-20.73	36.93	16.20	33.00	-16.80
	9538	1906.68	V	-18.02	36.52	18.49	33.00	-14.51
		1906.77	H	-21.70	37.10	15.40	33.00	-17.60

**WCDMA / 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	827.60	V	-16.63	35.69	19.07	38.45	-19.38
		827.60	H	-12.80	35.56	22.76	38.45	-15.69
	4183	837.72	V	-15.49	35.73	20.25	38.45	-18.20
		837.72	H	-11.43	35.82	24.39	38.45	-14.06
	4233	845.60	V	-17.88	35.83	17.95	38.45	-20.50
		845.73	H	-12.59	35.99	23.41	38.45	-15.04
Y	4132	827.42	V	-17.84	35.69	17.85	38.45	-20.60
		827.69	H	-12.88	35.56	22.68	38.45	-15.77
	4183	837.90	V	-16.38	35.73	19.36	38.45	-19.09
		837.63	H	-10.81	35.81	<b>*25.00</b>	38.45	-13.45
	4233	845.64	V	-18.82	35.83	17.01	38.45	-21.44
		847.62	H	-12.54	36.03	23.49	38.45	-14.96
Z	4132	827.42	V	-15.47	35.69	20.22	38.45	-18.23
		827.64	H	-18.61	35.56	16.95	38.45	-21.50
	4183	837.77	V	-14.74	35.73	20.99	38.45	-17.46
		837.90	H	-18.32	35.82	17.50	38.45	-20.95
	4233	845.46	V	-16.81	35.83	19.02	38.45	-19.43
		845.64	H	-20.63	35.99	15.36	38.45	-23.09



**WCDMA / HSUPA 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	1853.67	V	-18.81	36.54	17.73	33.00	-15.27
		1853.22	H	-16.63	36.67	20.04	33.00	-12.96
	9400	1880.13	V	-18.22	36.50	18.29	33.00	-14.71
		1879.95	H	-17.05	36.92	19.87	33.00	-13.13
	9538	1906.41	V	-19.07	36.52	17.44	33.00	-15.56
		1906.41	H	-16.93	37.10	20.18	33.00	-12.82
Y	9262	1851.15	V	-16.90	36.54	19.64	33.00	-13.36
		1852.14	H	-16.42	36.66	20.24	33.00	-12.76
	9400	1880.67	V	-16.28	36.50	20.23	33.00	-12.77
		1880.85	H	-14.88	36.92	<b>*22.04</b>	33.00	-10.96
	9538	1906.32	V	-16.47	36.52	20.05	33.00	-12.95
		1906.32	H	-15.65	37.10	21.46	33.00	-11.54
Z	9262	1851.33	V	-16.55	36.54	19.99	33.00	-13.01
		1851.60	H	-19.81	36.66	16.85	33.00	-16.15
	9400	1881.39	V	-15.89	36.50	20.61	33.00	-12.39
		1879.86	H	-20.50	36.92	16.42	33.00	-16.58
	9538	1906.50	V	-17.45	36.52	19.07	33.00	-13.93
		1906.32	H	-18.59	37.10	18.52	33.00	-14.48

**WCDMA / HSUPA BAND V Test Data**

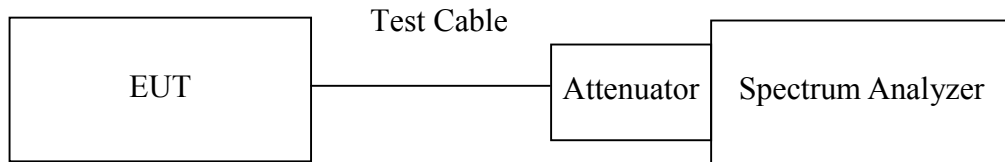
EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	4132	827.33	V	-18.95	35.69	16.75	38.45	-21.70
		827.60	H	-14.07	35.56	21.49	38.45	-16.96
	4183	837.77	V	-17.59	35.73	18.14	38.45	-20.31
		838.13	H	-12.90	35.83	22.92	38.45	-15.53
	4233	845.69	V	-17.50	35.83	18.33	38.45	-20.12
		847.49	H	-14.18	36.03	21.86	38.45	-16.59
Y	4132	825.21	V	-19.86	35.68	15.82	38.45	-22.63
		826.74	H	-12.20	35.54	23.34	38.45	-15.11
	4183	837.72	V	-18.86	35.73	16.87	38.45	-21.58
		837.72	H	-10.83	35.82	<b>*24.98</b>	38.45	-13.47
	4233	845.78	V	-20.96	35.83	14.87	38.45	-23.58
		846.59	H	-13.24	36.01	22.78	38.45	-15.67
Z	4132	826.74	V	-14.49	35.69	21.20	38.45	-17.25
		826.97	H	-21.22	35.55	14.32	38.45	-24.13
	4183	837.54	V	-12.14	35.73	23.59	38.45	-14.86
		837.54	H	-18.29	35.81	17.52	38.45	-20.93
	4233	847.04	V	-13.92	35.85	21.93	38.45	-16.52
		846.59	H	-20.09	36.01	15.92	38.45	-22.53

## 7.3 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	824.23	245.0194
	190	836.59	243.9676
	251	848.78	253.6670
GPRS 850 (Class 12)	128	824.18	250.9213
	190	836.58	242.2772
	251	848.78	247.2380
EDGE 850 (Class B)	128	824.22	243.3848
	190	836.56	246.3420
	251	848.80	244.4314
GSM 1900 (Class B)	512	1850.20	246.8752
	661	1879.98	254.6592
	810	1909.78	247.0473
GPRS 1900 (Class 12)	512	1850.19	250.0313
	661	1879.97	242.4078
	810	1909.82	247.8284
EDGE 1900 (Class 12)	512	1850.22	245.3982
	661	1879.98	242.9245
	810	1909.81	247.0829



Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.1790
	9400	1880.00	4.1635
	9538	1907.60	4.1660
WCDMA (Band V)	4132	826.40	4.1512
	4183	836.60	4.1438
	4233	846.60	4.1601
WCDMA / HSDPA (BAND II)	9262	1852.40	4.1714
	9400	1880.00	4.1807
	9538	1907.60	4.1588
WCDMA / HSDPA (BAND V)	4132	826.40	4.1619
	4183	836.60	4.1509
	4233	846.60	4.1701
WCDMA / HSUPA (BAND II)	9262	1852.40	4.1644
	9400	1880.00	4.1705
	9538	1907.60	4.1411
WCDMA / HSUPA (BAND V)	4132	826.40	4.1692
	4183	836.60	4.1465
	4233	846.60	4.1535



**Test Plot**

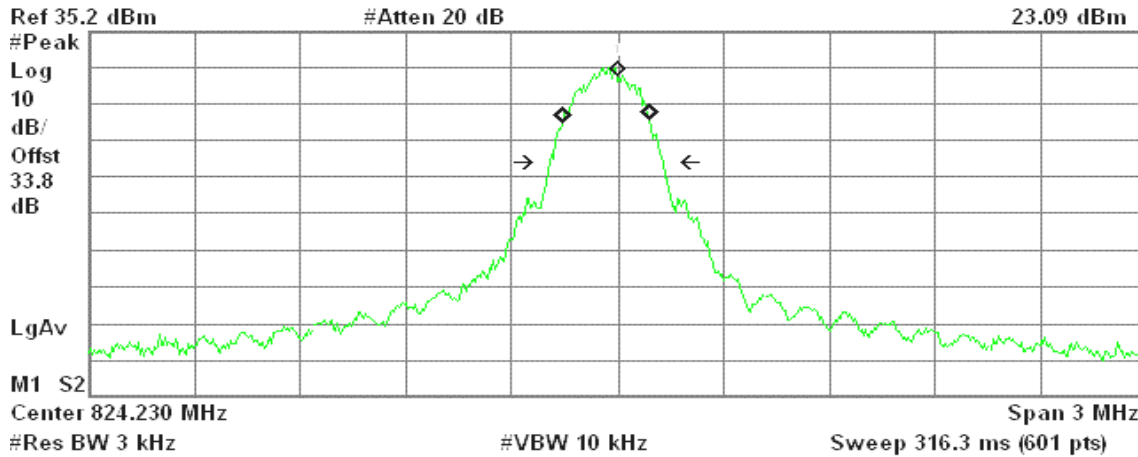
**GSM / GPRS**

**GSM 850 (CH Low)**

Agilent 14:03:28 Nov 9, 2007

R T

Mkr1 824.230 MHz  
23.09 dBm



Occupied Bandwidth  
245.0194 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

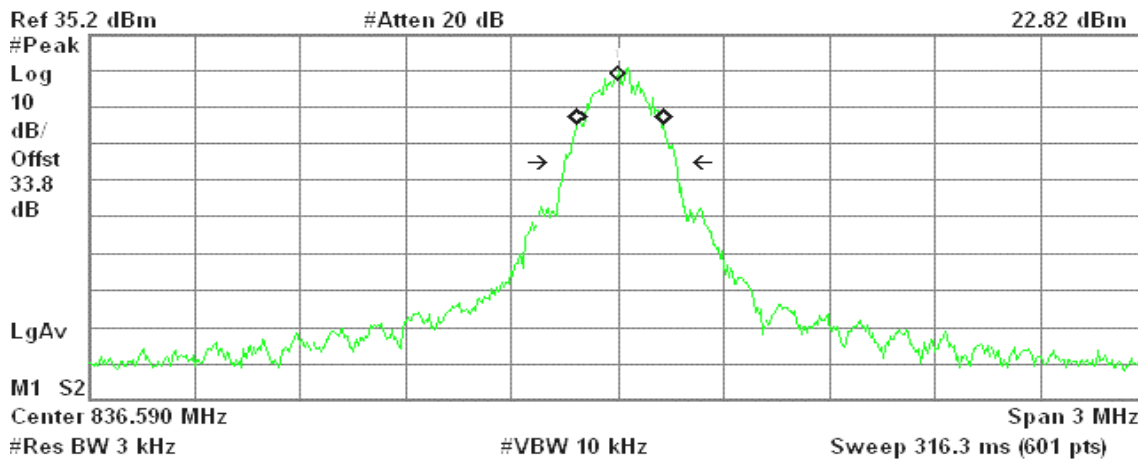
Transmit Freq Error -31.542 kHz  
x dB Bandwidth 320.585 kHz

**GSM 850 (CH Mid)**

Agilent 14:03:53 Nov 9, 2007

R T

Mkr1 836.590 MHz  
22.82 dBm



Occupied Bandwidth  
243.9676 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 8.493 kHz  
x dB Bandwidth 314.330 kHz

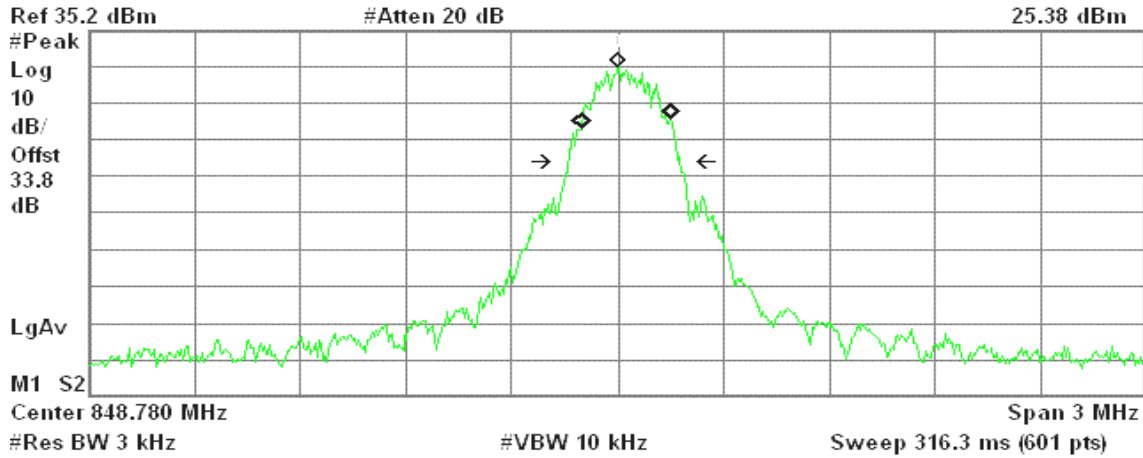


### GSM 850 (CH High)

Agilent 14:04:44 Nov 9, 2007

R T

Mkr1 848.780 MHz  
25.38 dBm



Occupied Bandwidth  
253.6670 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

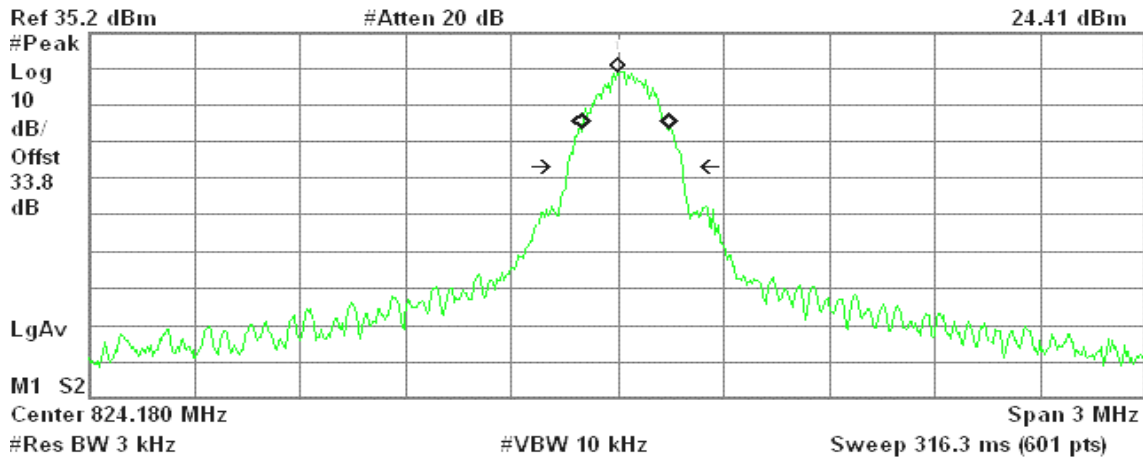
Transmit Freq Error 22.311 kHz  
x dB Bandwidth 315.271 kHz

### GPRS 850 (CH Low)

Agilent 14:07:55 Nov 9, 2007

R T

Mkr1 824.180 MHz  
24.41 dBm



Occupied Bandwidth  
250.9213 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 21.325 kHz  
x dB Bandwidth 324.359 kHz

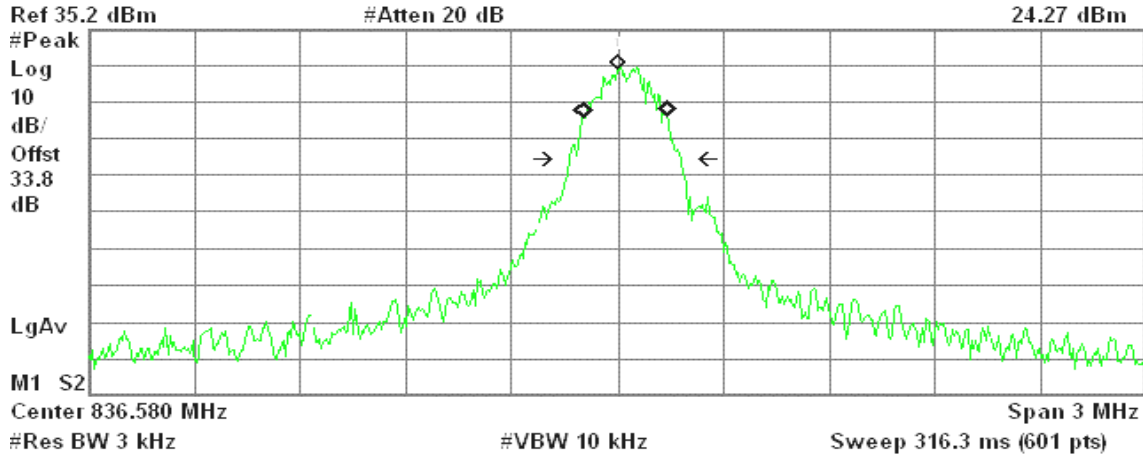


### GPRS 850 (CH Mid)

Agilent 14:07:29 Nov 9, 2007

R T

Mkr1 836.580 MHz  
24.27 dBm



Occupied Bandwidth  
242.2772 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

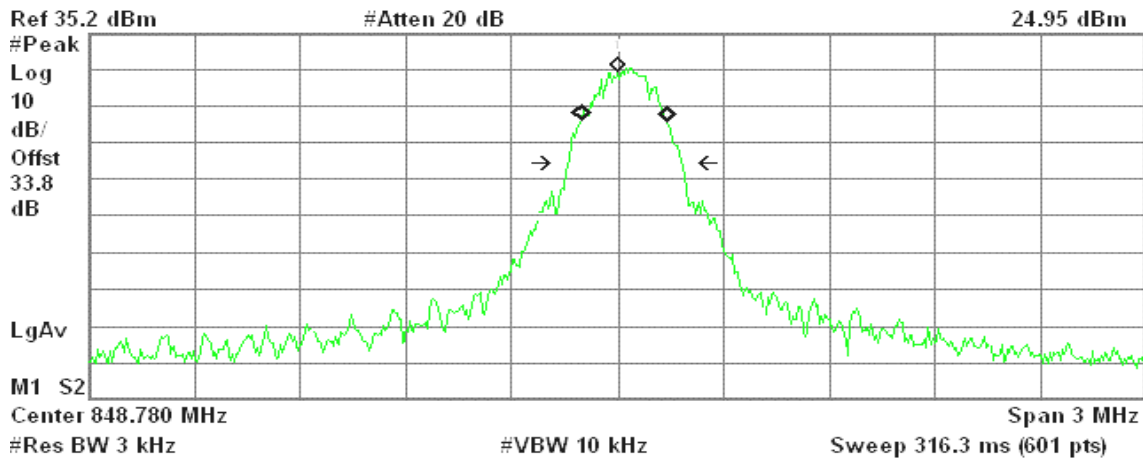
Transmit Freq Error 19.692 kHz  
x dB Bandwidth 315.216 kHz

### GPRS 850(CH High)

Agilent 14:07:04 Nov 9, 2007

R T

Mkr1 848.780 MHz  
24.95 dBm



Occupied Bandwidth  
247.2380 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 17.030 kHz  
x dB Bandwidth 318.240 kHz

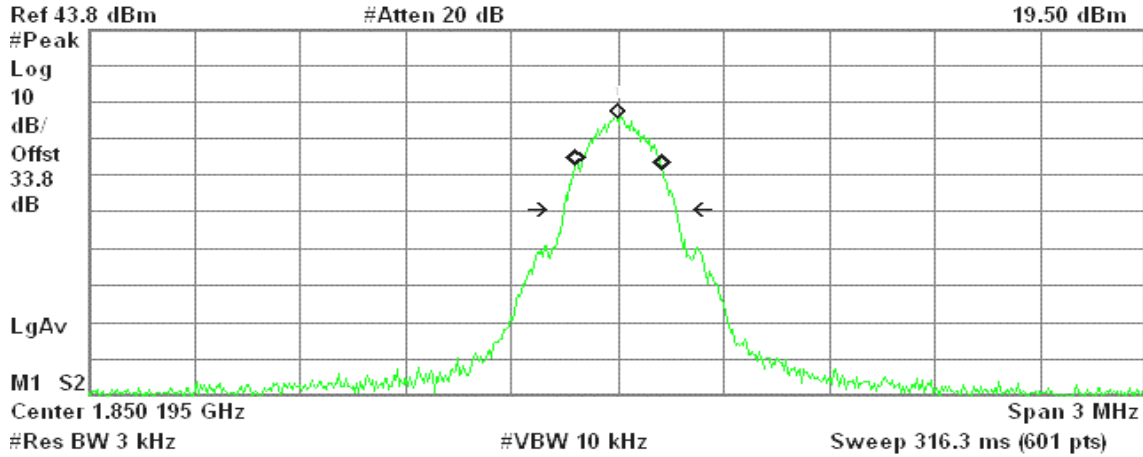


### GSM 1900 (CH Low)

Agilent 15:09:22 Nov 9, 2007

R T

Mkr1 1.850 195 GHz  
19.50 dBm



Occupied Bandwidth  
246.8752 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

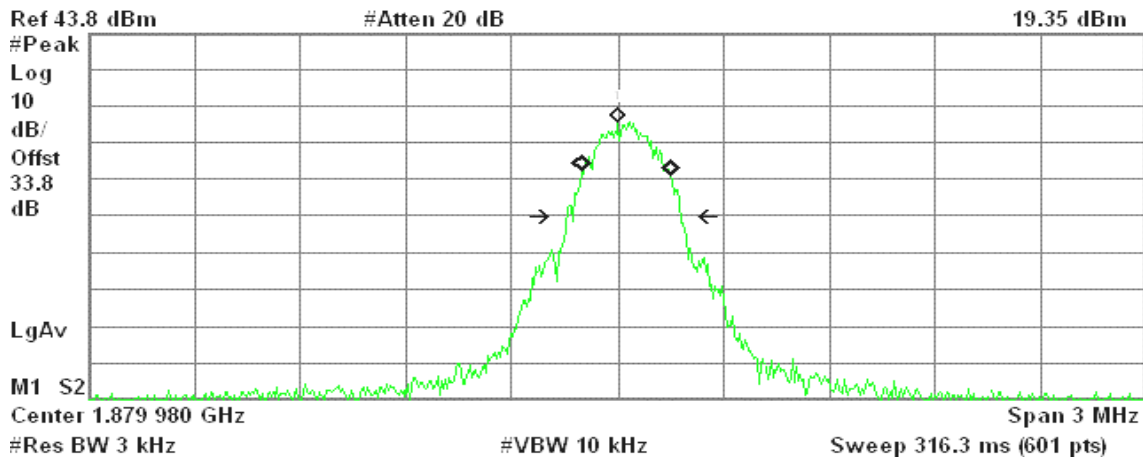
Transmit Freq Error 3.704 kHz  
x dB Bandwidth 315.608 kHz

### GSM 1900 (CH Mid)

Agilent 15:10:23 Nov 9, 2007

R T

Mkr1 1.879 980 GHz  
19.35 dBm



Occupied Bandwidth  
254.6592 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 23.263 kHz  
x dB Bandwidth 322.326 kHz

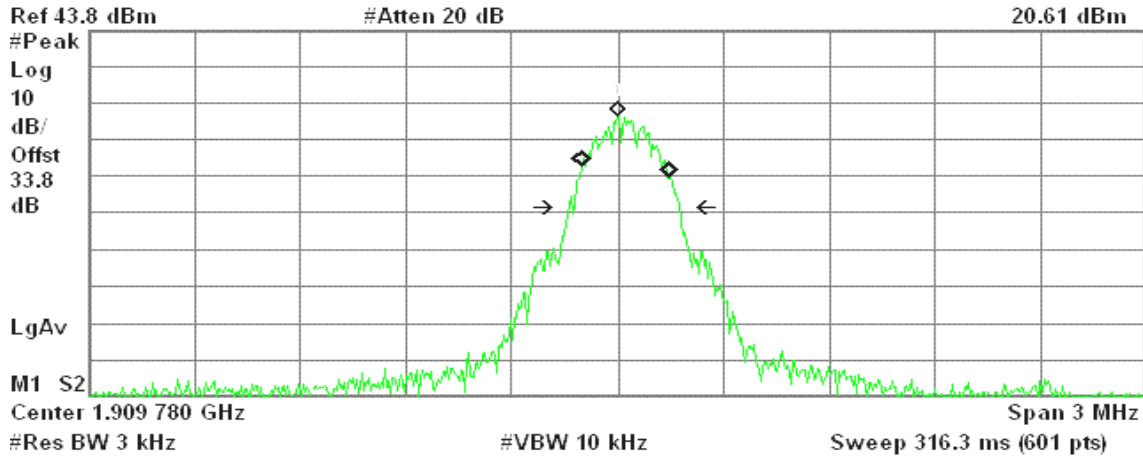


### GSM 1900 (CH High)

Agilent 15:10:45 Nov 9, 2007

R T

Mkr1 1.909 780 GHz  
20.61 dBm



Occupied Bandwidth  
247.0473 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

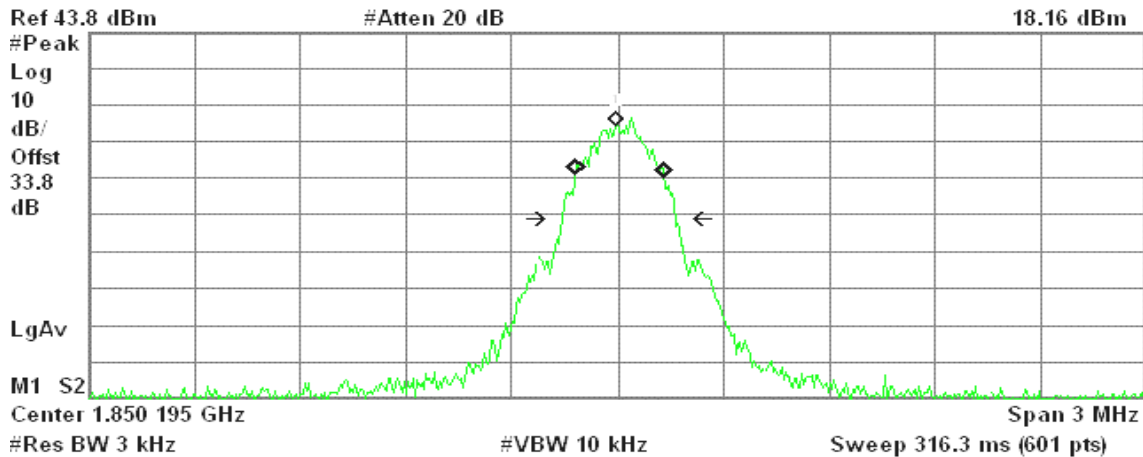
Transmit Freq Error 19.377 kHz  
x dB Bandwidth 313.079 kHz

### GPRS 1900 (CH Low)

Agilent 15:09:49 Nov 9, 2007

R T

Mkr1 1.850 185 GHz  
18.16 dBm



Occupied Bandwidth  
250.0313 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 7.027 kHz  
x dB Bandwidth 318.874 kHz

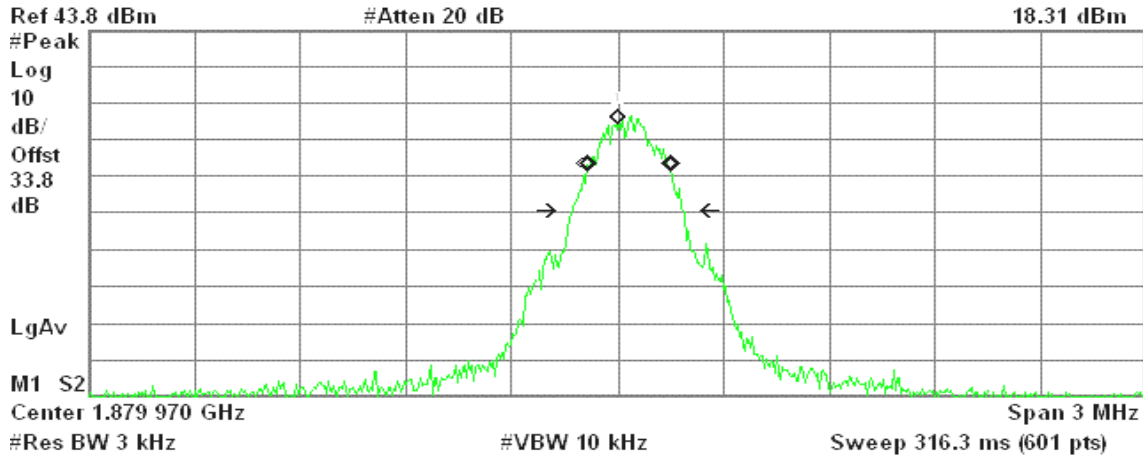


### GPRS 1900 (CH Mid)

Agilent 15:10:08 Nov 9, 2007

R T

Mkr1 1.879 970 GHz  
18.31 dBm



Occupied Bandwidth  
242.4078 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

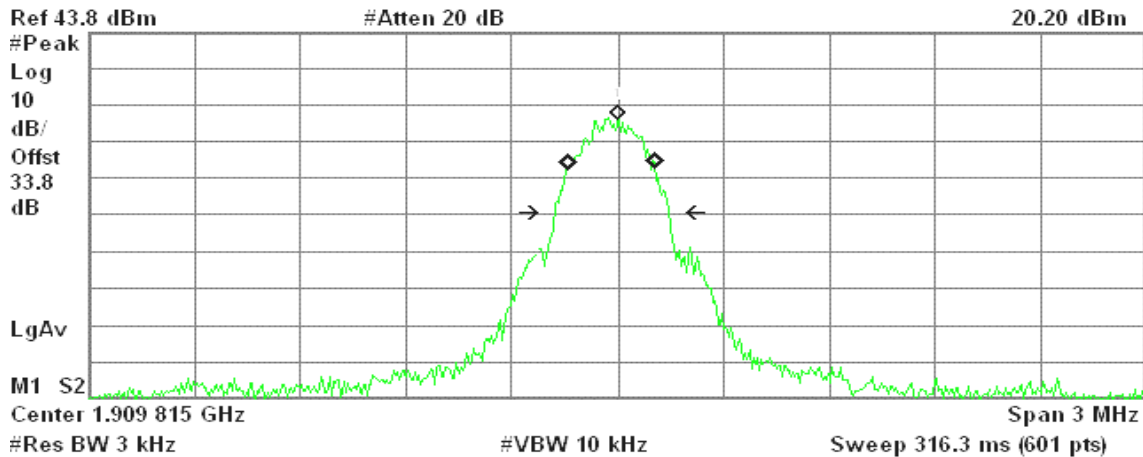
Transmit Freq Error 29.391 kHz  
x dB Bandwidth 312.157 kHz

### GPRS 1900 (CH High)

Agilent 15:11:07 Nov 9, 2007

R T

Mkr1 1.909 815 GHz  
20.20 dBm



Occupied Bandwidth  
247.8284 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -17.363 kHz  
x dB Bandwidth 323.327 kHz



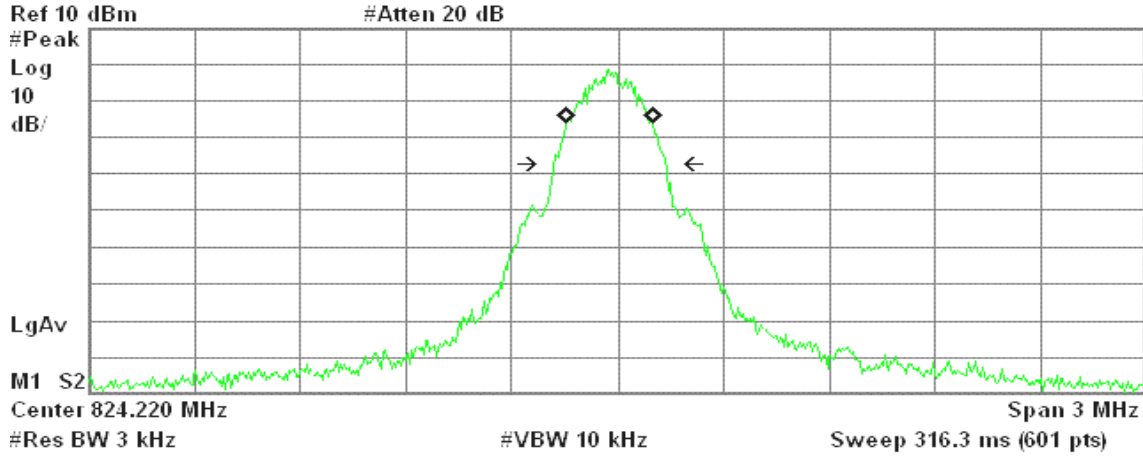


**EDGE**

**EDGE 850 (CH Low)**

Agilent 16:51:35 Dec 27, 2007

R T



Occupied Bandwidth  
243.3848 kHz

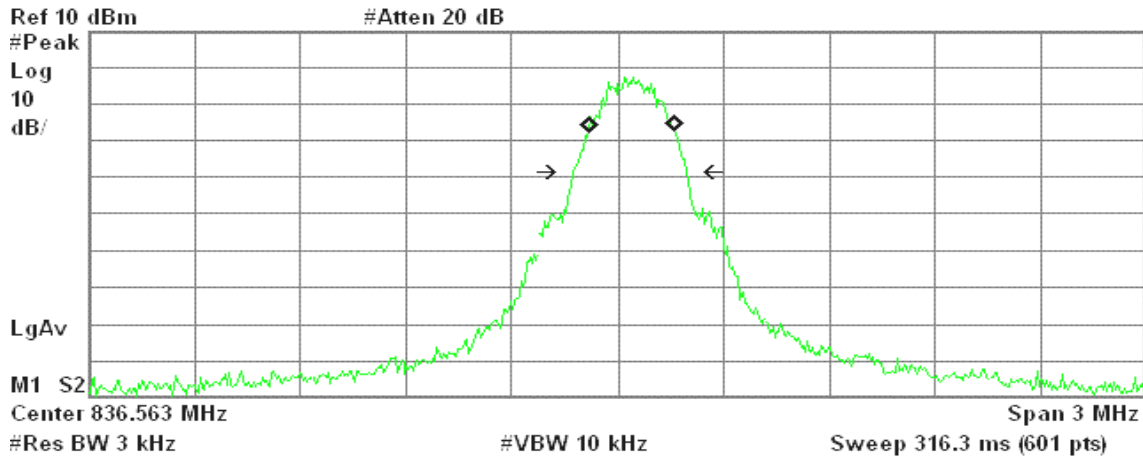
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -20.853 kHz  
x dB Bandwidth 316.825 kHz

**EDGE 850 (CH Mid)**

Agilent 16:48:58 Dec 27, 2007

R T



Occupied Bandwidth  
246.3420 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

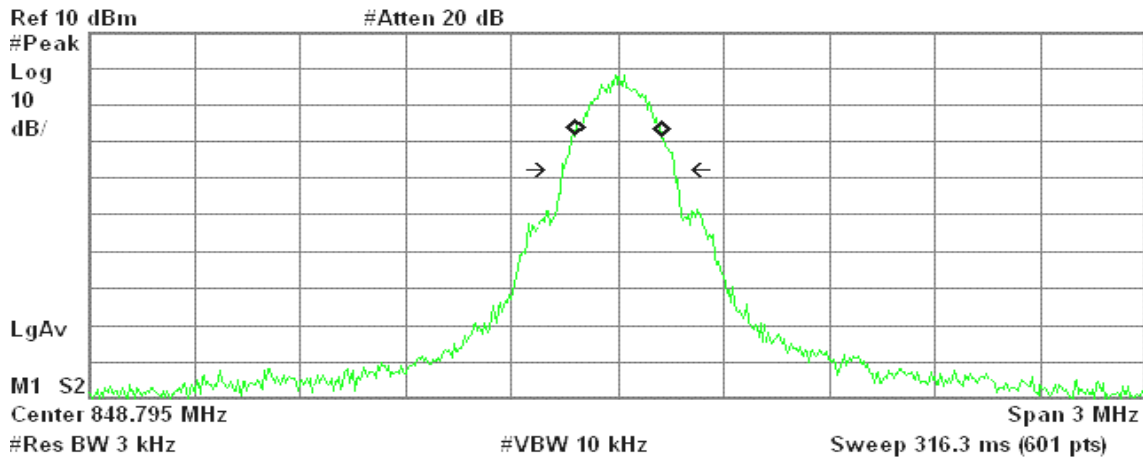
Transmit Freq Error 37.531 kHz  
x dB Bandwidth 319.393 kHz



### EDGE 850 (CH High)

Agilent 16:52:12 Dec 27, 2007

R T



Occupied Bandwidth  
244.4314 kHz

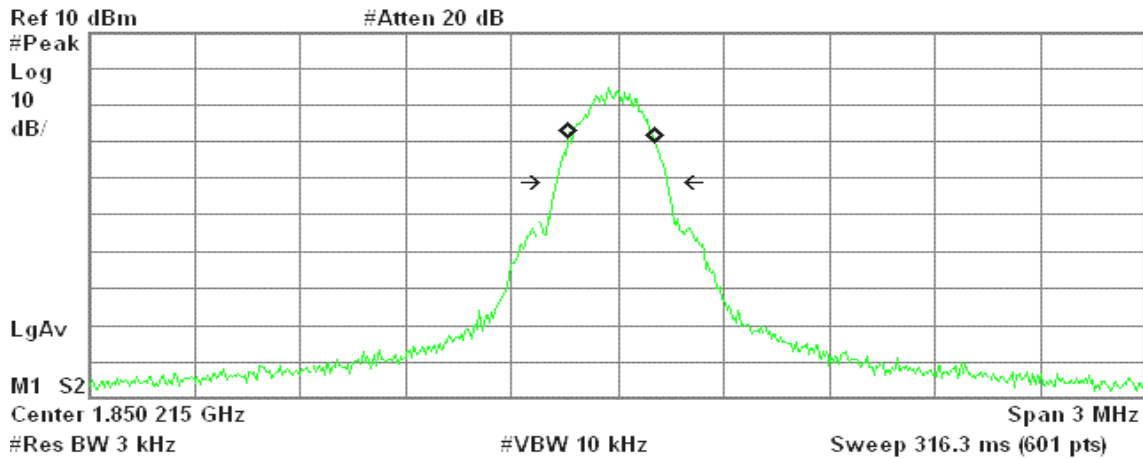
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 2.703 kHz  
x dB Bandwidth 318.335 kHz

### EDGE 1900 (CH Low)

Agilent 19:08:08 Dec 27, 2007

R T



Occupied Bandwidth  
245.3982 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

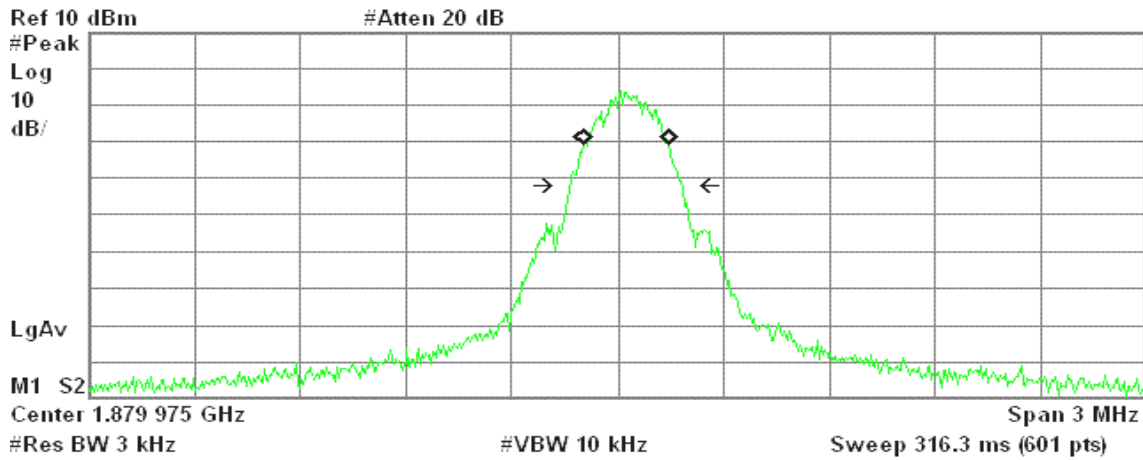
Transmit Freq Error -15.271 kHz  
x dB Bandwidth 313.158 kHz



### EDGE 1900 (CH Mid)

Agilent 19:09:16 Dec 27, 2007

R T



Occupied Bandwidth  
242.9245 kHz

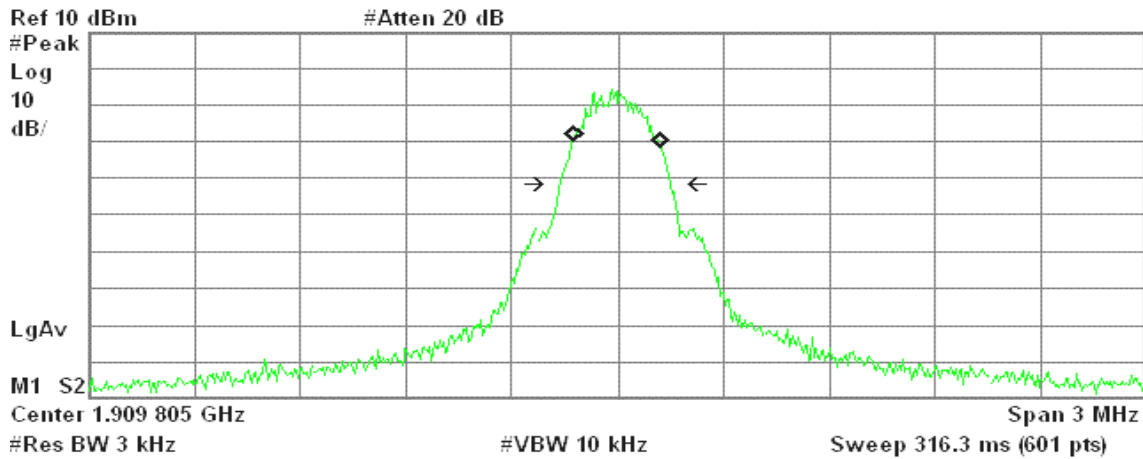
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 22.651 kHz  
x dB Bandwidth 317.482 kHz

### EDGE 1900 (CH High)

Agilent 19:06:00 Dec 27, 2007

R T



Occupied Bandwidth  
247.0829 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

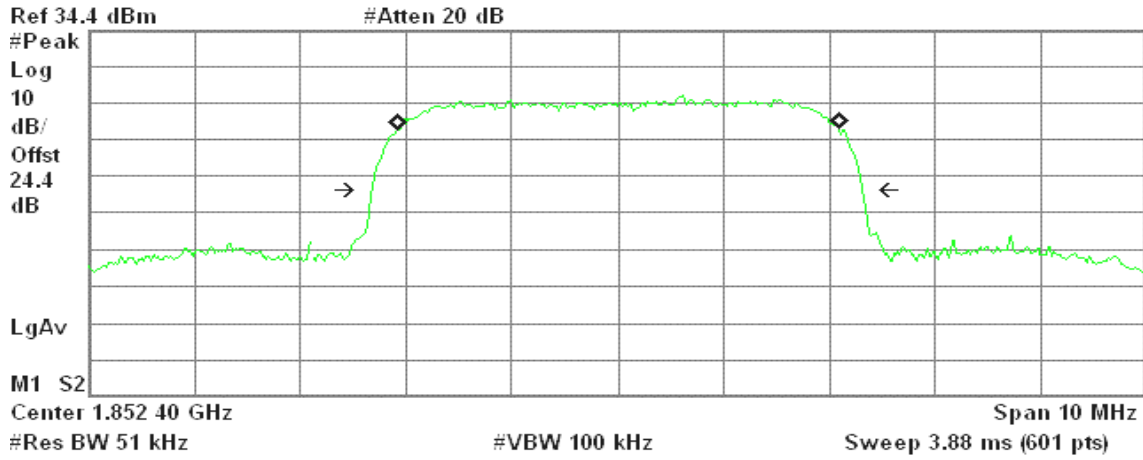
Transmit Freq Error -3.530 kHz  
x dB Bandwidth 312.719 kHz



### WCDMA Band II (CH Low)

Agilent 12:48:52 Dec 19, 2007

R T



Occupied Bandwidth  
4.1790 MHz

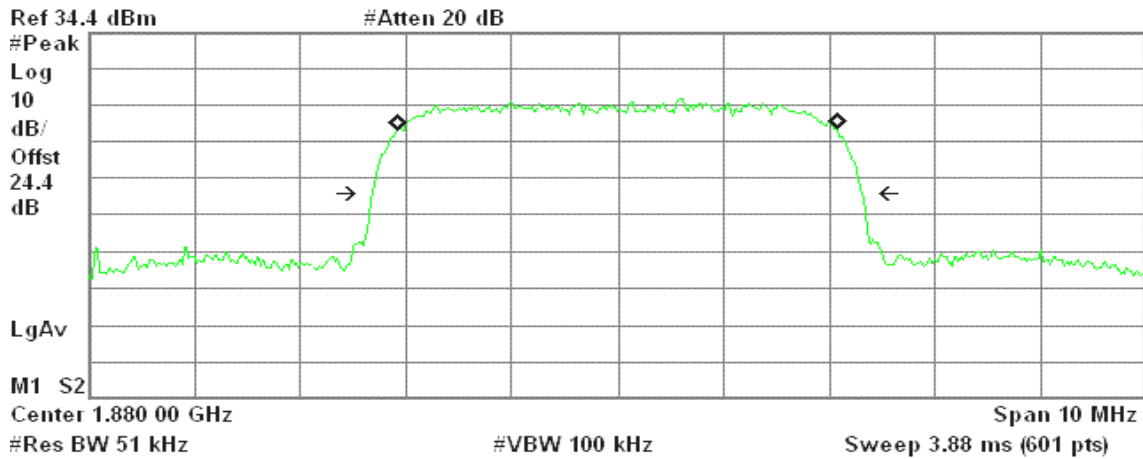
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 11.877 kHz  
x dB Bandwidth 4.648 MHz

### WCDMA Band II (CH Mid)

Agilent 12:49:19 Dec 19, 2007

R T



Occupied Bandwidth  
4.1635 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

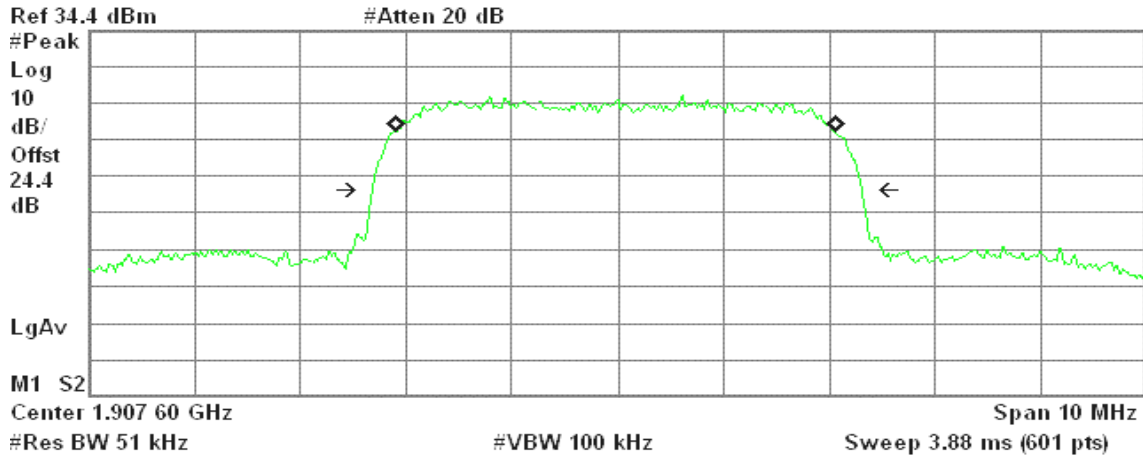
Transmit Freq Error -2.699 kHz  
x dB Bandwidth 4.636 MHz



### WCDMA Band II (CH High)

Agilent 12:49:39 Dec 19, 2007

R T



Occupied Bandwidth  
4.1660 MHz

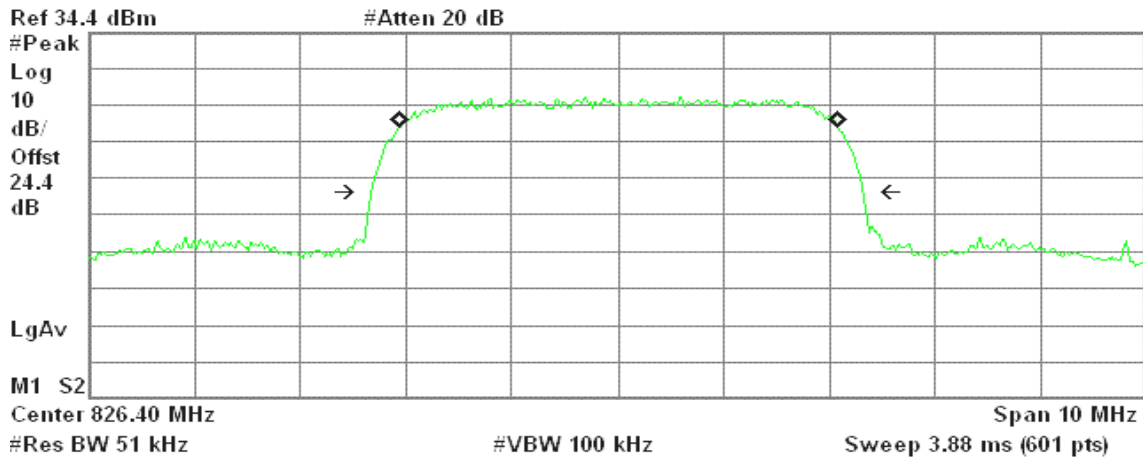
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -14.334 kHz  
x dB Bandwidth 4.636 MHz

### WCDMA Band V (CH Low)

Agilent 12:50:33 Dec 19, 2007

R T



Occupied Bandwidth  
4.1512 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

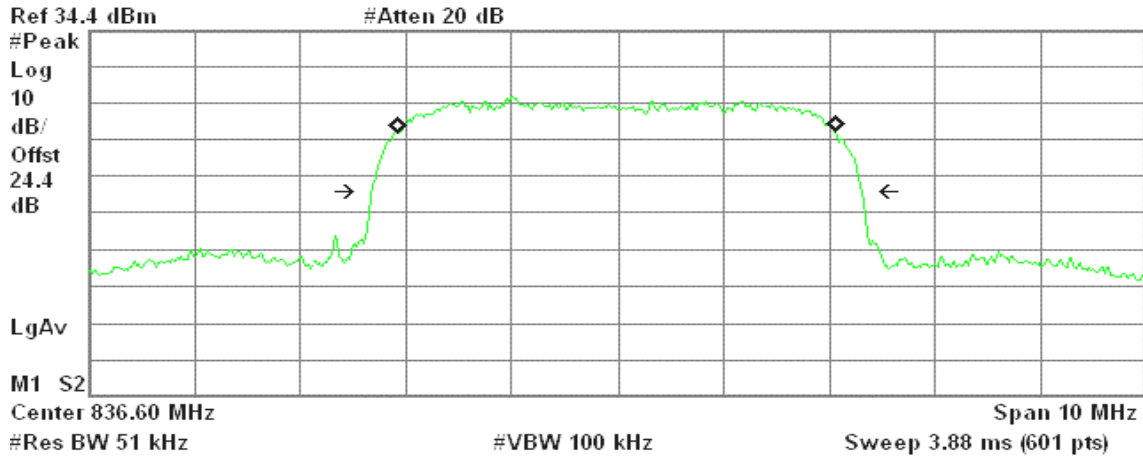
Transmit Freq Error 9.640 kHz  
x dB Bandwidth 4.653 MHz



### WCDMA Band V (CH Mid)

Agilent 12:50:57 Dec 19, 2007

R T



Occupied Bandwidth  
4.1438 MHz

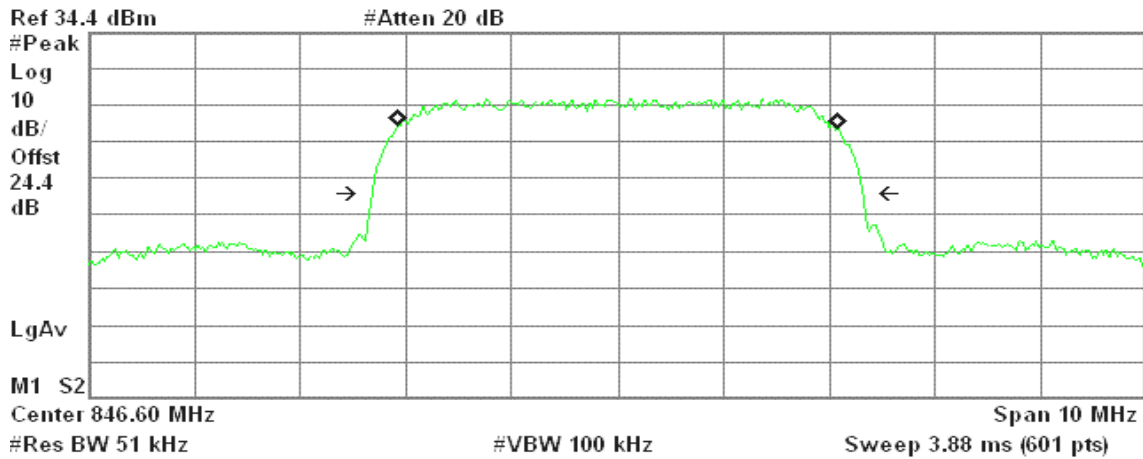
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -12.512 kHz  
x dB Bandwidth 4.643 MHz

### WCDMA Band V (CH High)

Agilent 12:51:15 Dec 19, 2007

R T



Occupied Bandwidth  
4.1601 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

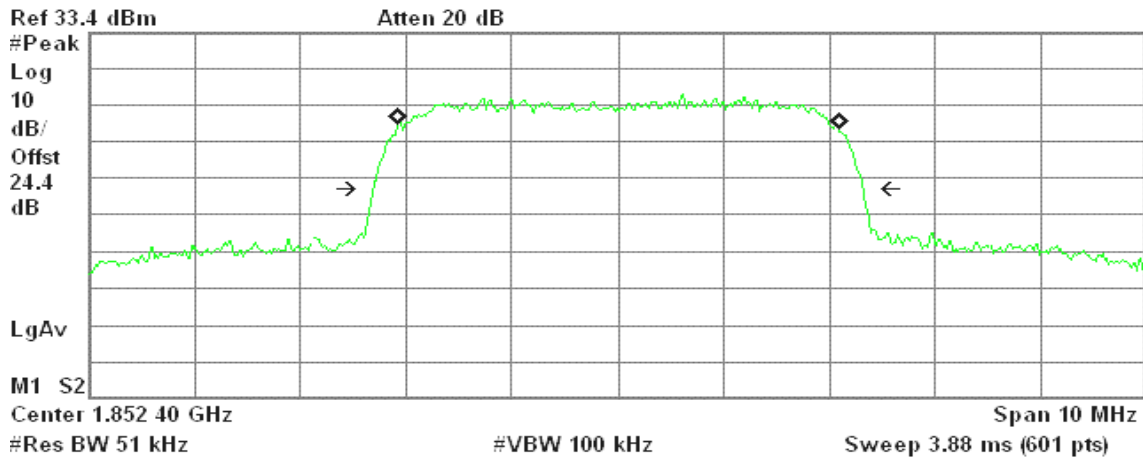
Transmit Freq Error -1.810 kHz  
x dB Bandwidth 4.646 MHz



### WCDMA / HSDPA Band II (CH Low)

Agilent 13:53:09 Dec 27, 2007

R T



Occupied Bandwidth  
4.1714 MHz

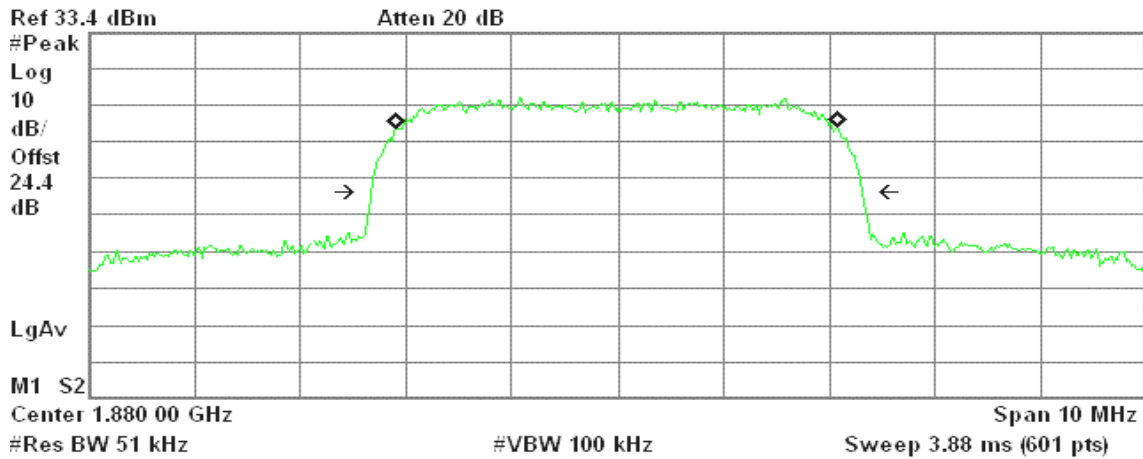
Occ BW % Pwr      99.00 %  
x dB      -26.00 dB

Transmit Freq Error      8.755 kHz  
x dB Bandwidth      4.638 MHz

### WCDMA / HSDPA Band II (CH Mid)

Agilent 13:52:50 Dec 27, 2007

R T



Occupied Bandwidth  
4.1807 MHz

Occ BW % Pwr      99.00 %  
x dB      -26.00 dB

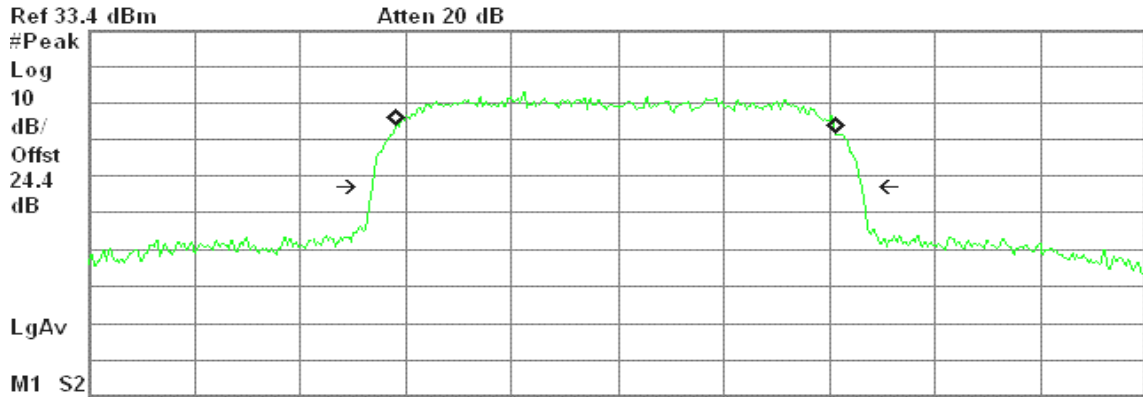
Transmit Freq Error      -2.706 kHz  
x dB Bandwidth      4.647 MHz



### WCDMA / HSDPA Band II (CH High)

Agilent 13:52:34 Dec 27, 2007

R T



Occupied Bandwidth  
4.1588 MHz

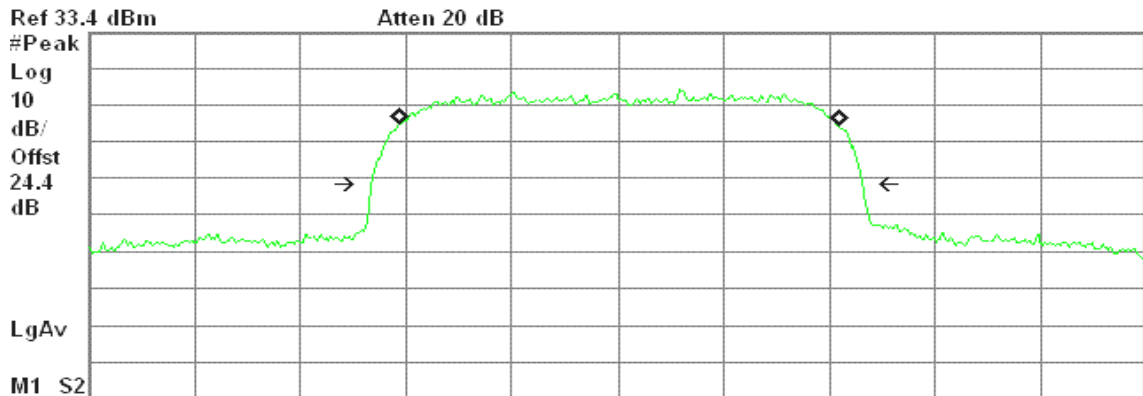
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -15.125 kHz  
x dB Bandwidth 4.633 MHz

### WCDMA / HSDPA Band V (CH Low)

Agilent 13:51:16 Dec 27, 2007

R T



Occupied Bandwidth  
4.1619 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 11.584 kHz  
x dB Bandwidth 4.653 MHz

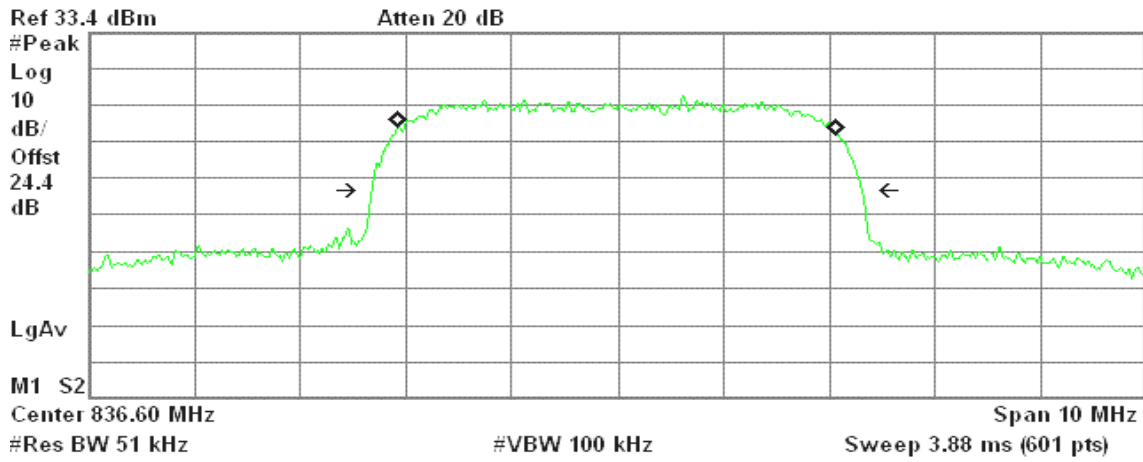




### WCDMA / HSDPA Band V (CH Mid)

Agilent 13:51:43 Dec 27, 2007

R T



Occupied Bandwidth  
4.1509 MHz

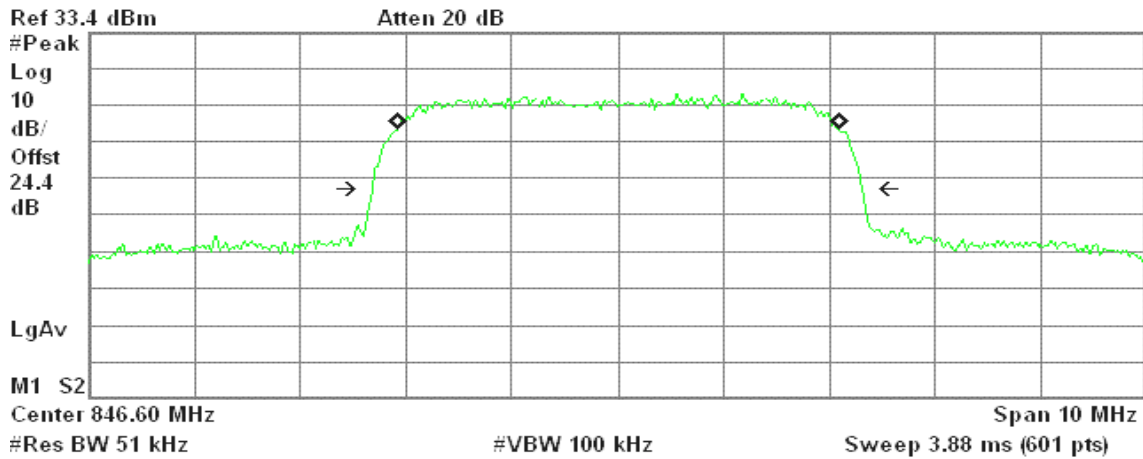
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -11.078 kHz  
x dB Bandwidth 4.639 MHz

### WCDMA / HSDPA Band V (CH High)

Agilent 13:52:01 Dec 27, 2007

R T



Occupied Bandwidth  
4.1701 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

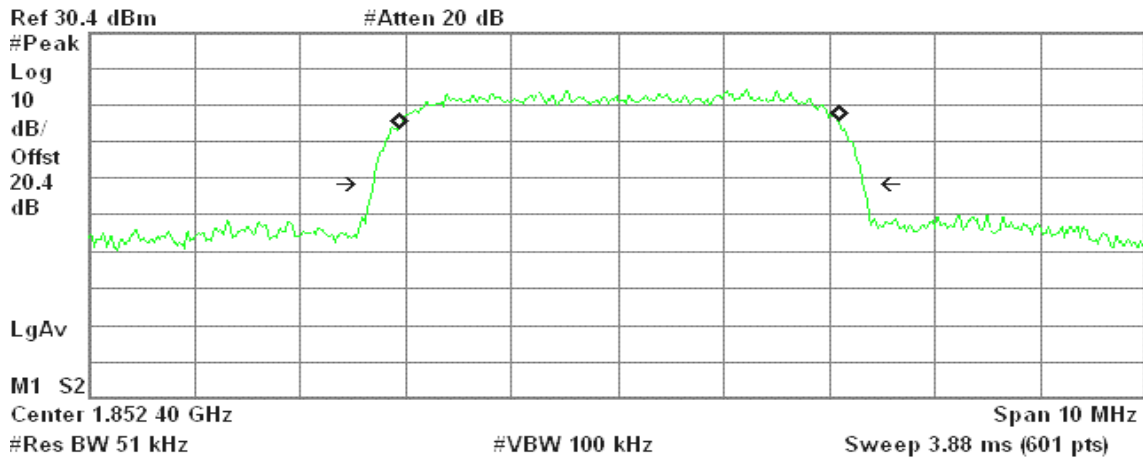
Transmit Freq Error 7.488 kHz  
x dB Bandwidth 4.634 MHz



### WCDMA / HSUPA Band II (CH Low)

Agilent 06:48:00 Jan 12, 2008

R T



Occupied Bandwidth  
4.1644 MHz

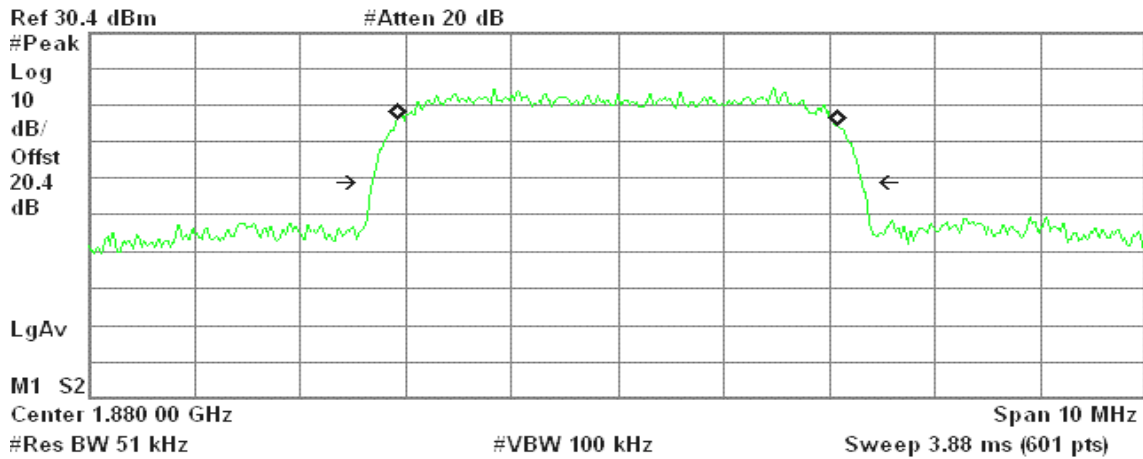
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 10.143 kHz  
x dB Bandwidth 4.638 MHz

### WCDMA / HSUPA Band II (CH Mid)

Agilent 07:04:28 Jan 12, 2008

R T



Occupied Bandwidth  
4.1705 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

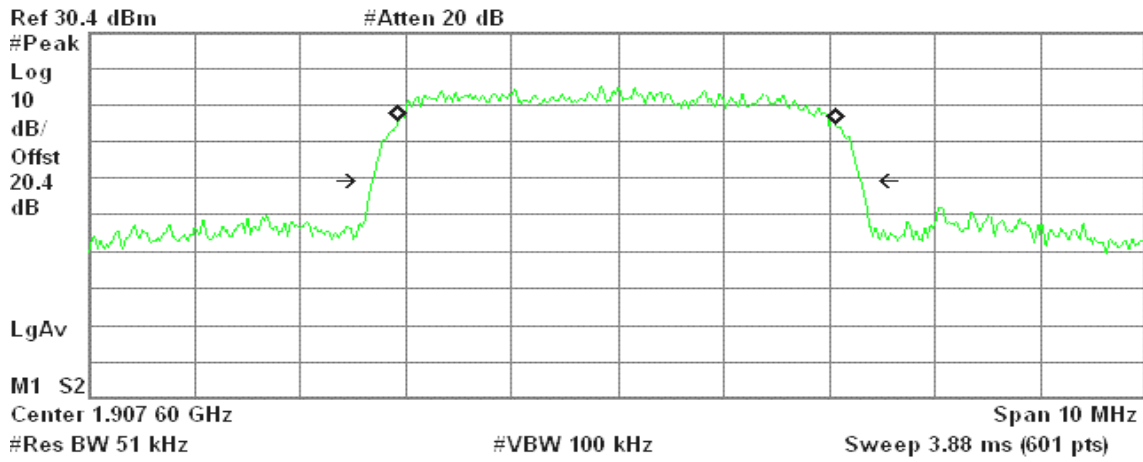
Transmit Freq Error -2.094 kHz  
x dB Bandwidth 4.635 MHz



### WCDMA / HSUPA Band II (CH High)

Agilent 07:05:27 Jan 12, 2008

R T



Occupied Bandwidth  
4.1411 MHz

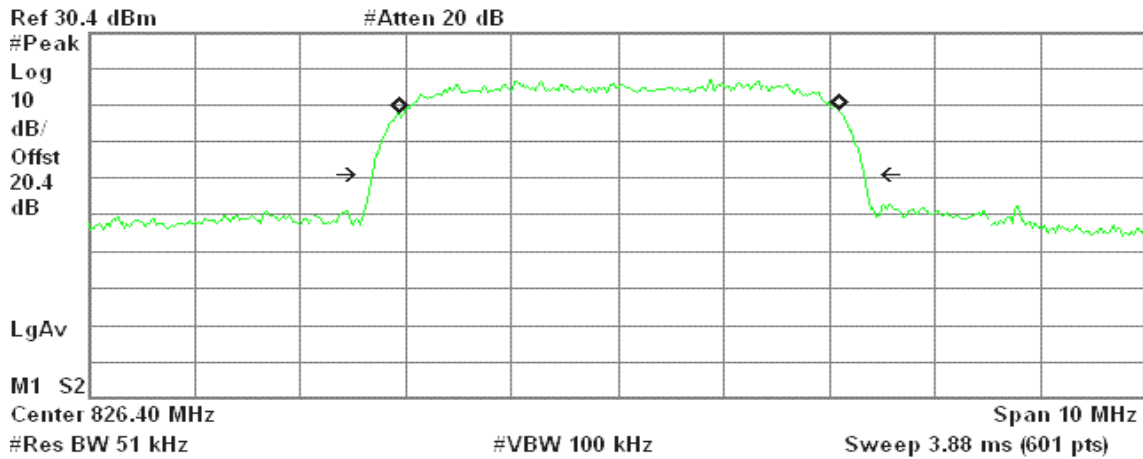
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -4.876 kHz  
x dB Bandwidth 4.631 MHz

### WCDMA / HSUPA Band V (CH Low).

Agilent 06:30:05 Jan 12, 2008

R T



Occupied Bandwidth  
4.1692 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

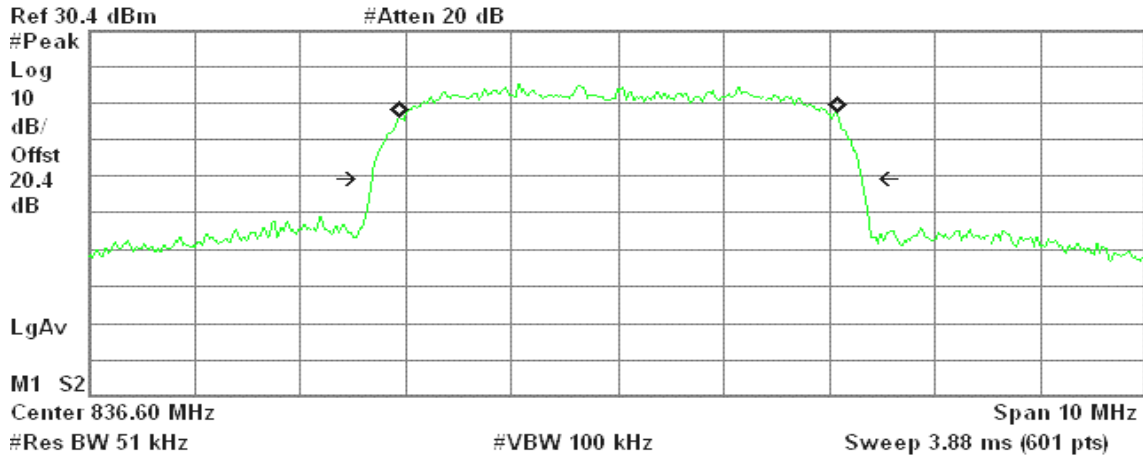
Transmit Freq Error 17.026 kHz  
x dB Bandwidth 4.656 MHz



### WCDMA / HSUPA Band V (CH Mid)

Agilent 06:34:05 Jan 12, 2008

R T



Occupied Bandwidth  
4.1465 MHz

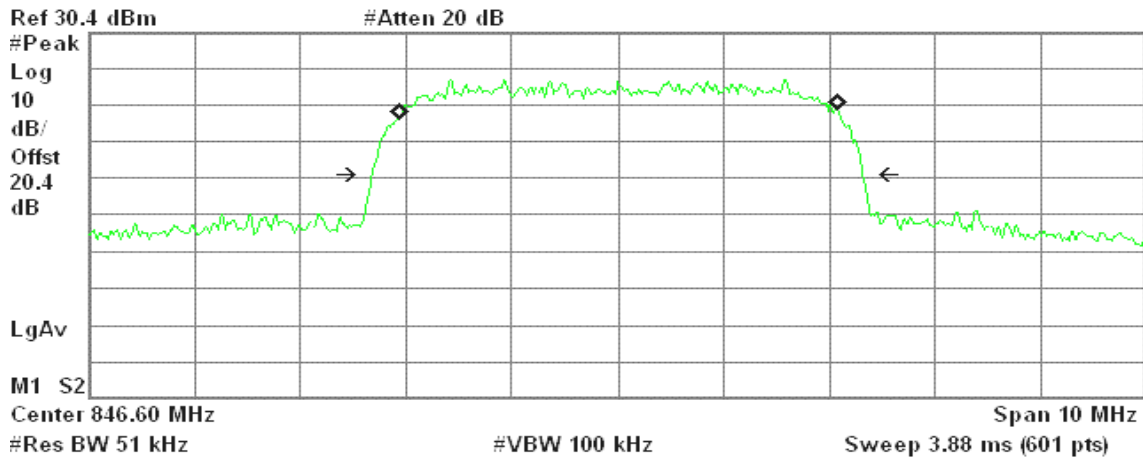
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 7.100 kHz  
x dB Bandwidth 4.637 MHz

### WCDMA / HSUPA Band V (CH Mid)

Agilent 06:43:33 Jan 12, 2008

R T



Occupied Bandwidth  
4.1535 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 14.201 kHz  
x dB Bandwidth 4.642 MHz

## 7.4 OUT OF BAND EMISSION AT ANTENNA TERMINALS

### LIMIT

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

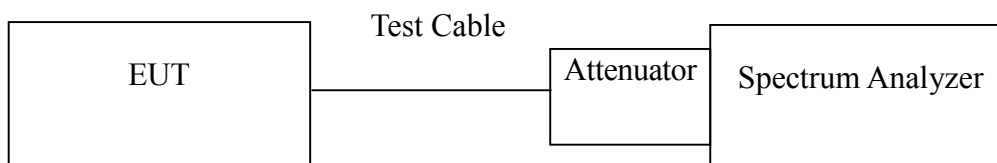
**Out of Band Emissions:** The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least  $43 + 10 \log P$  dB.

**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





Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 17-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 17-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 17-3	Conducted spurious emissions, 30MHz - 20GHz
HSUPA WCDMA (Band V)	4132	Figure 17-4	Conducted spurious emissions, 30MHz - 20GHz
	4183	Figure 17-5	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 17-6	Conducted spurious emissions, 30MHz - 20GHz

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



Test Plot

GSM 850

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

Agilent 14:27:03 Nov 9, 2007

R T

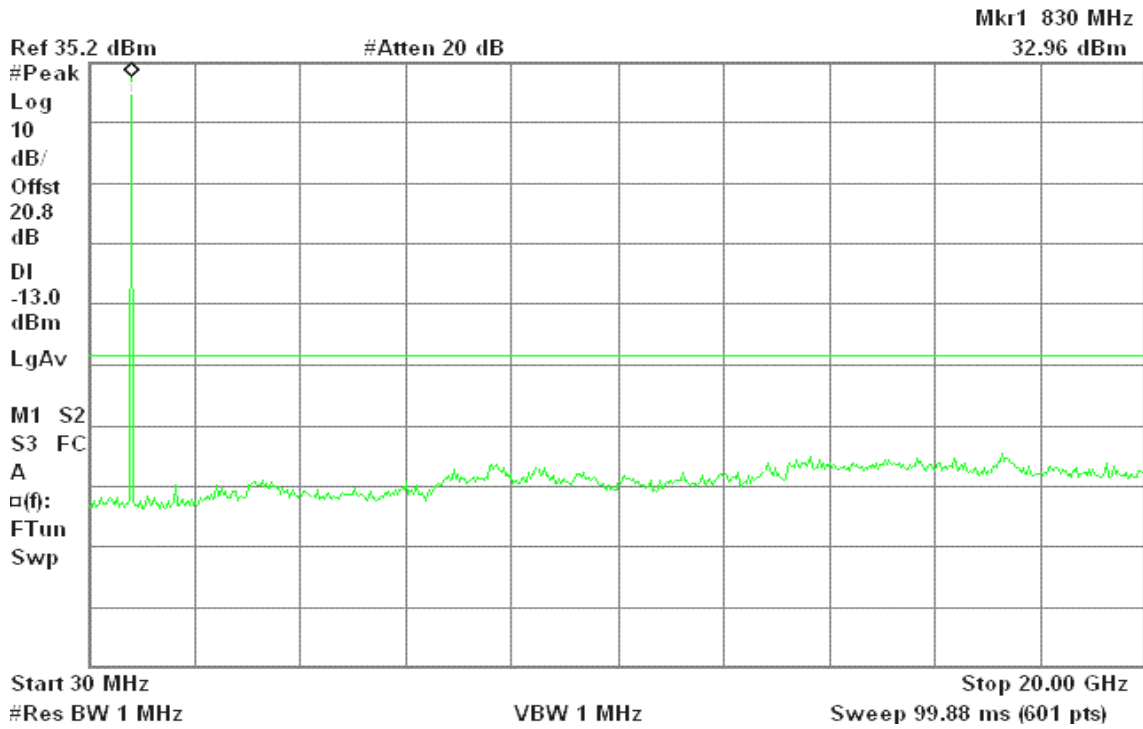


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

Agilent 14:27:30 Nov 9, 2007

R T

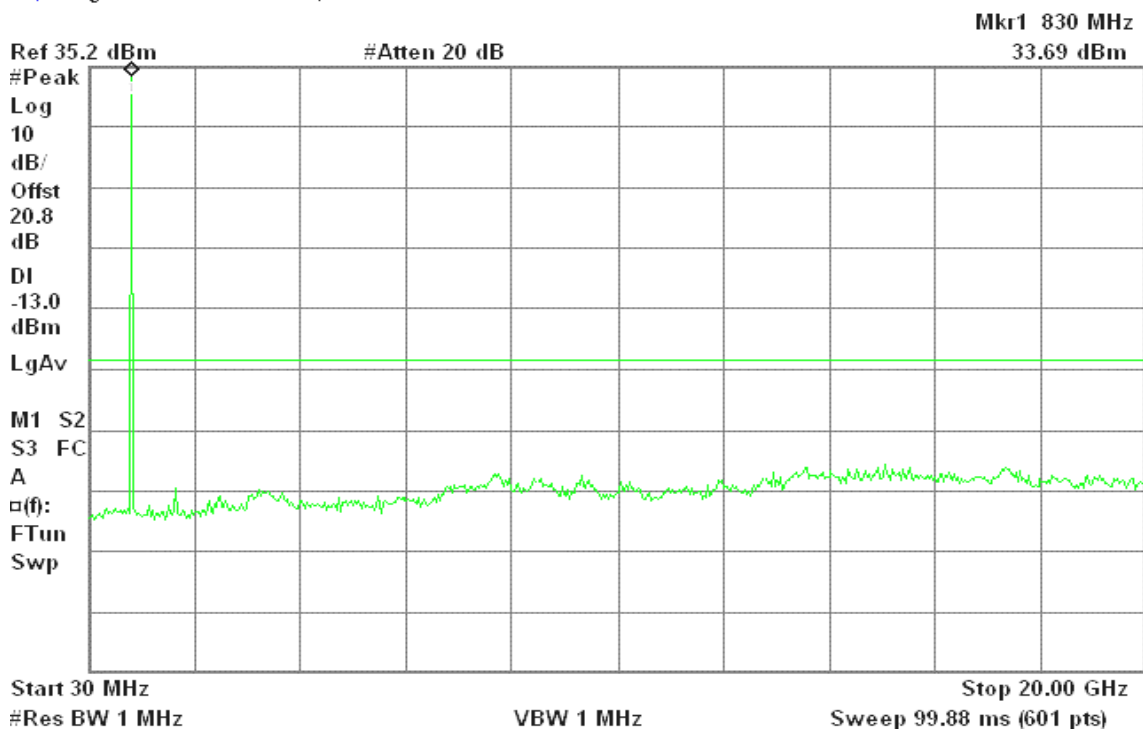
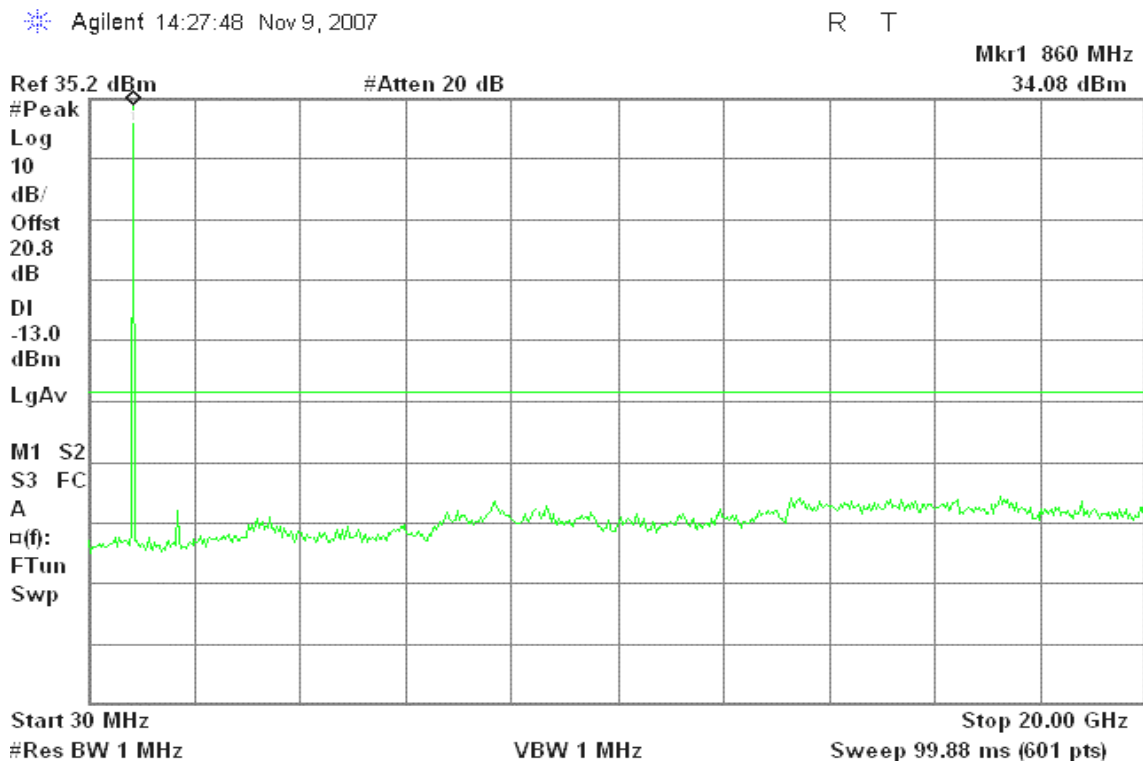




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



### GPRS 850

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

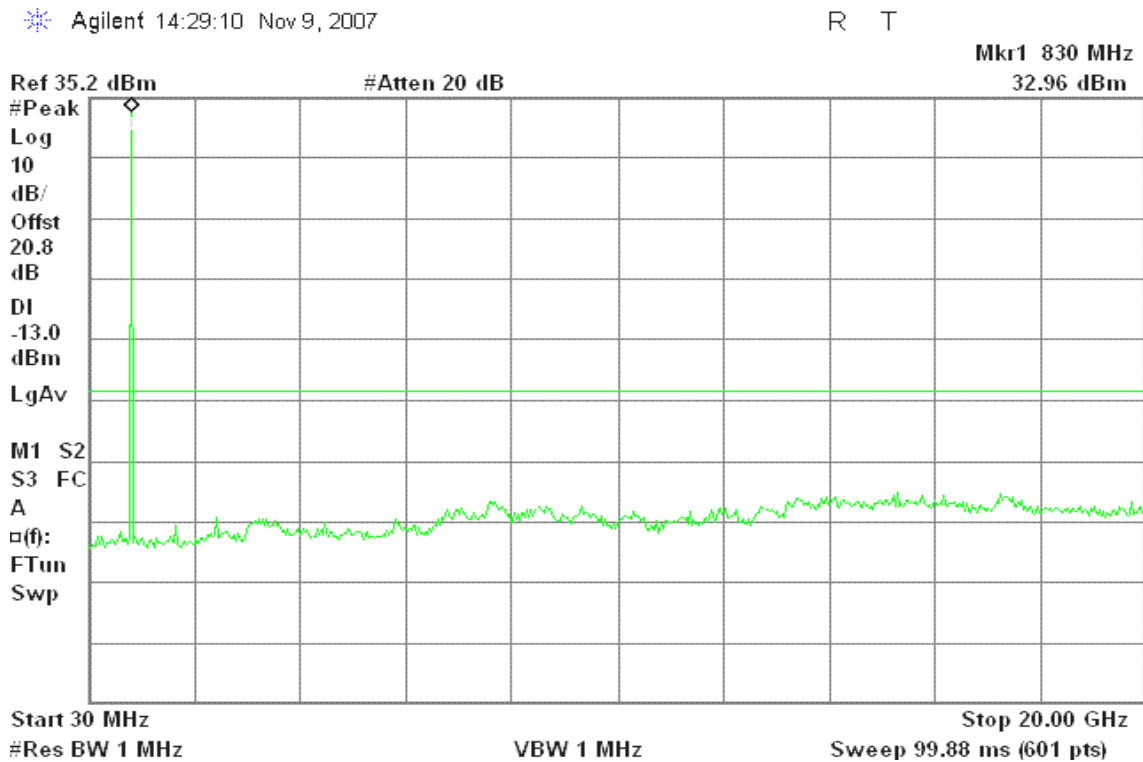




Figure 7-5: Out of Band emission at antenna terminals – GPRS CH Mid

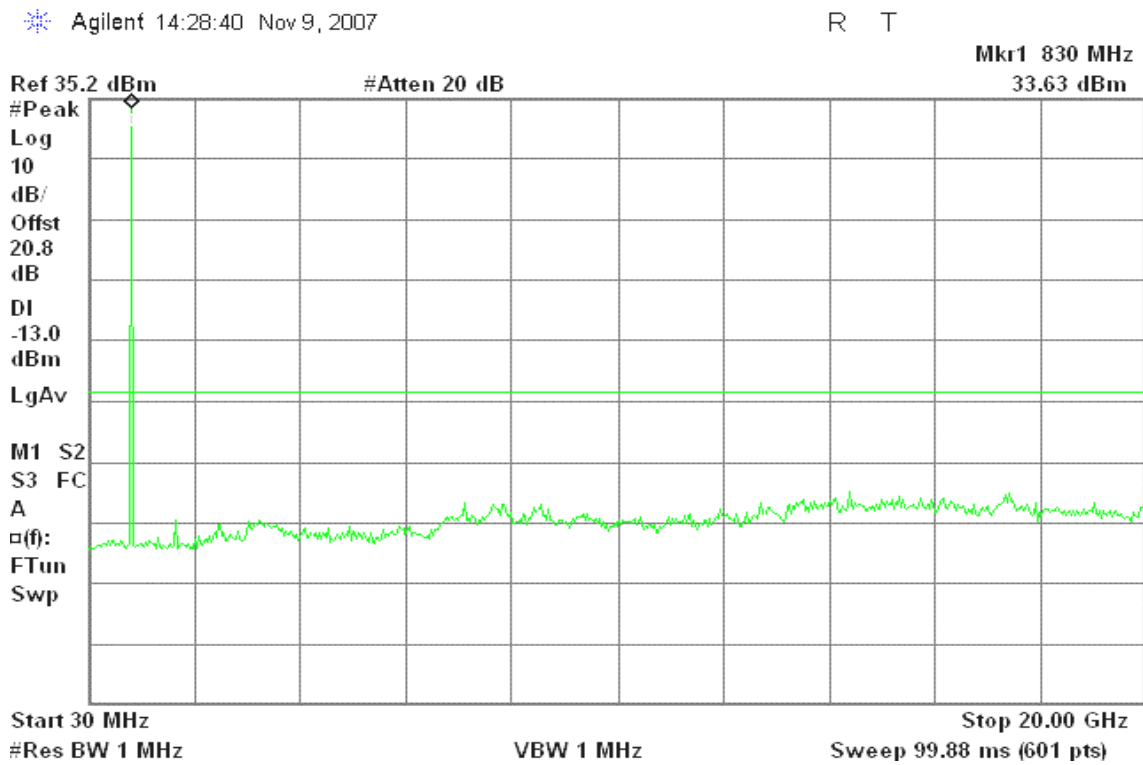
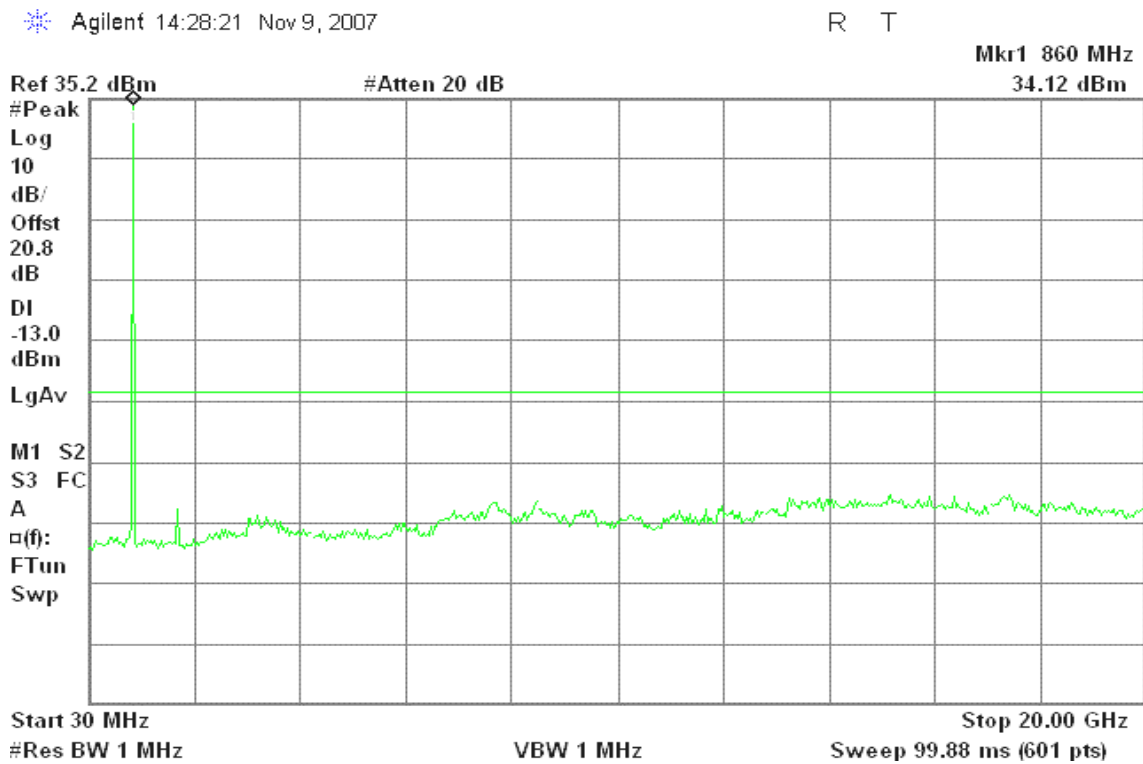


Figure 7-6: Out of Band emission at antenna terminals – GPRS CH High





### GSM 1900

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

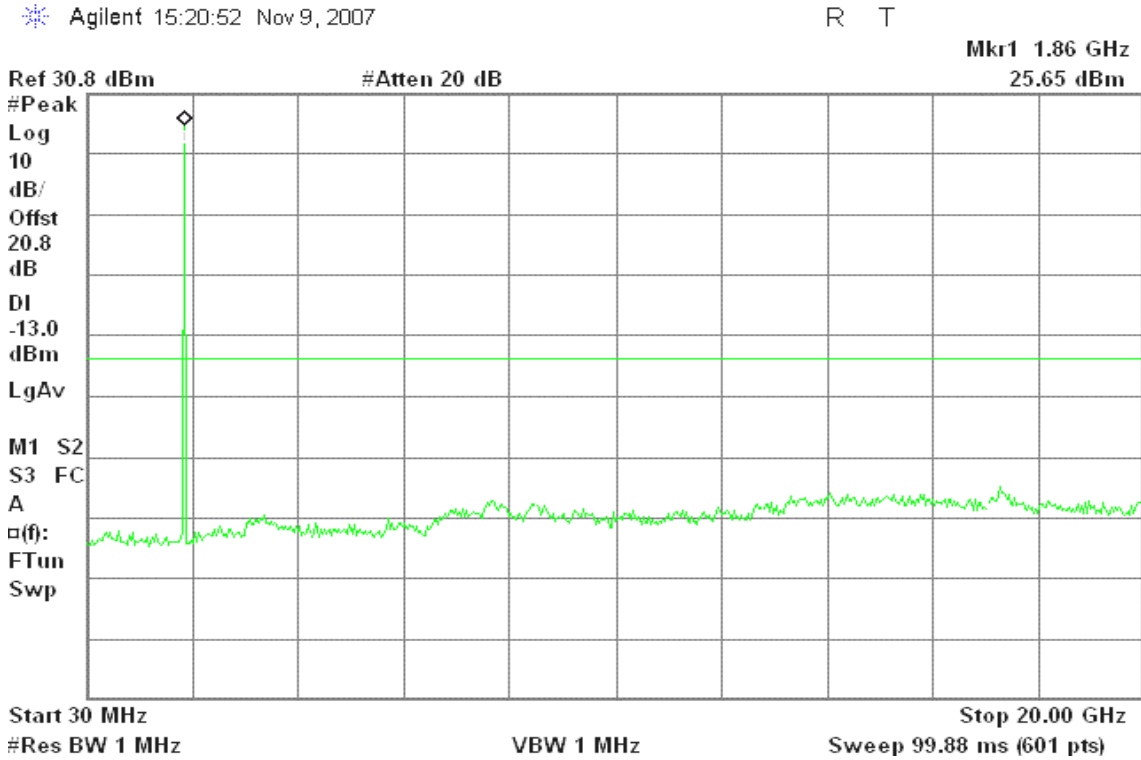


Figure 8-2: Out of Band emission at antenna terminals – GSM CH Mid

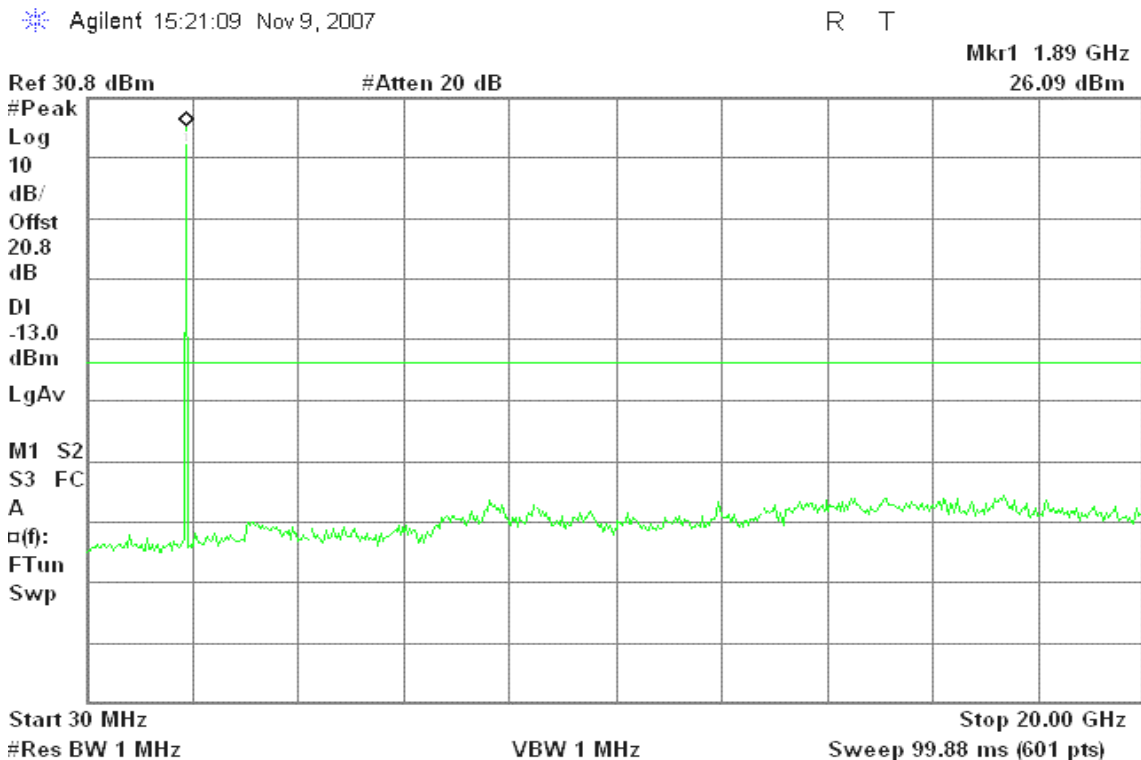
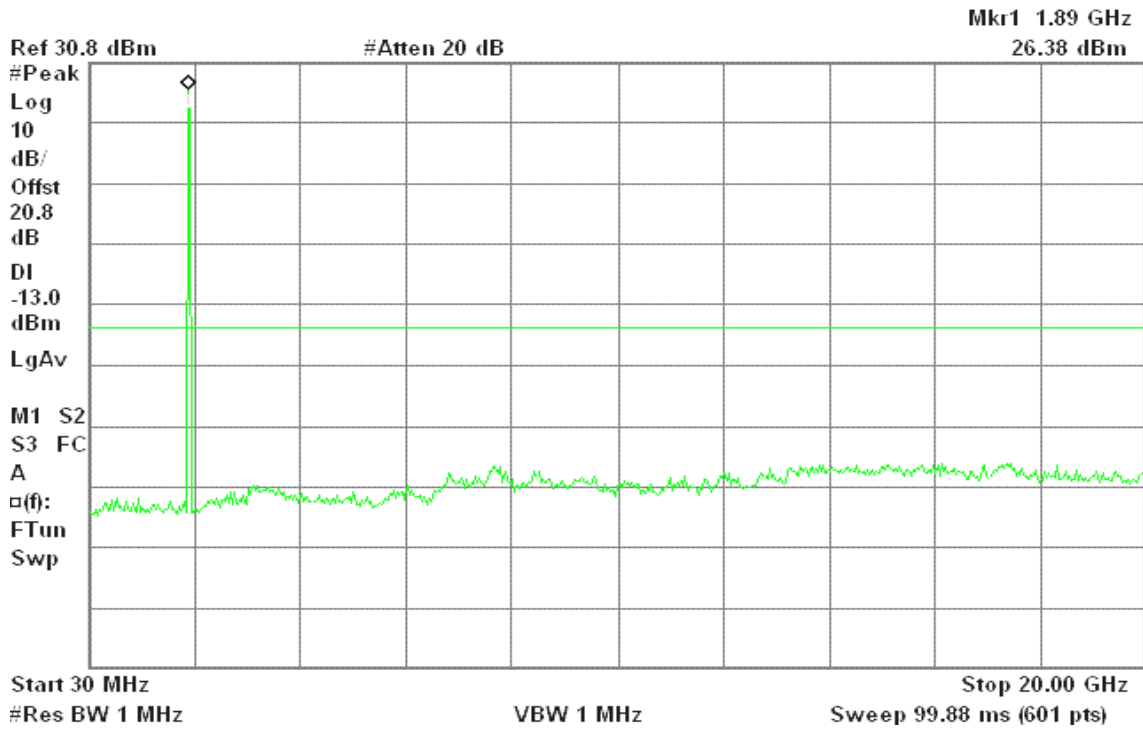




Figure 8-3: Out of Band emission at antenna terminals – GSM CH High

Agilent 15:21:58 Nov 9, 2007

R T



### GPRS 1900

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

Agilent 15:20:36 Nov 9, 2007

R T

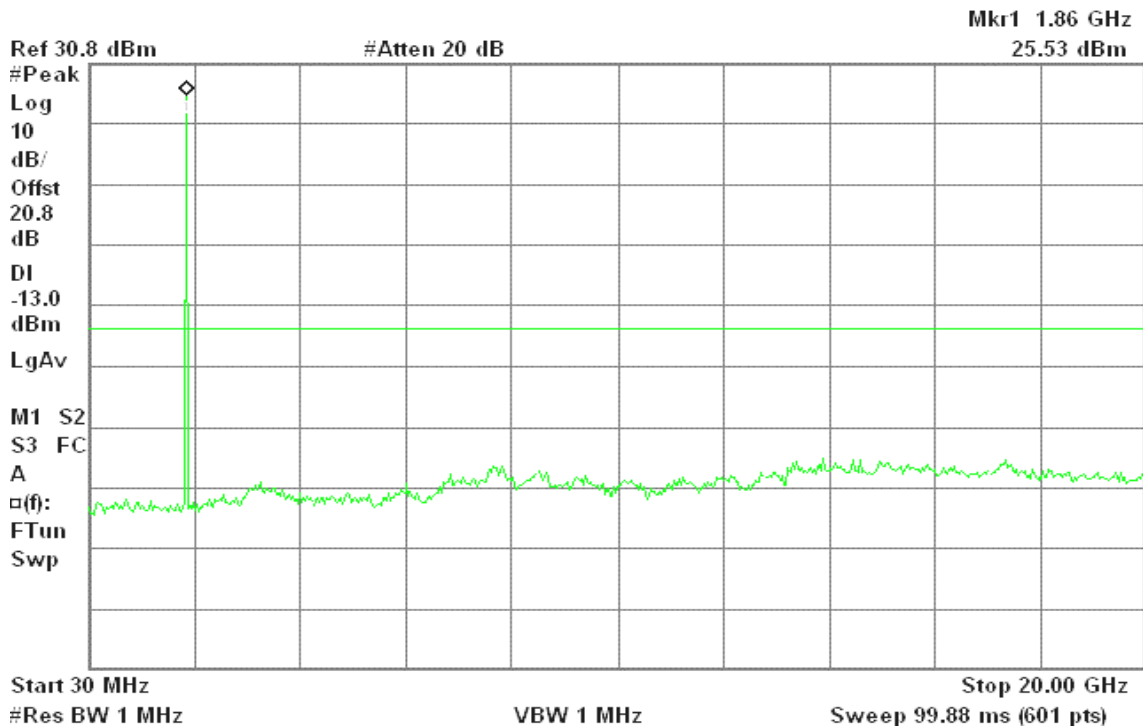




Figure 8-5: Out of Band emission at antenna terminals – GPRS CH Mid

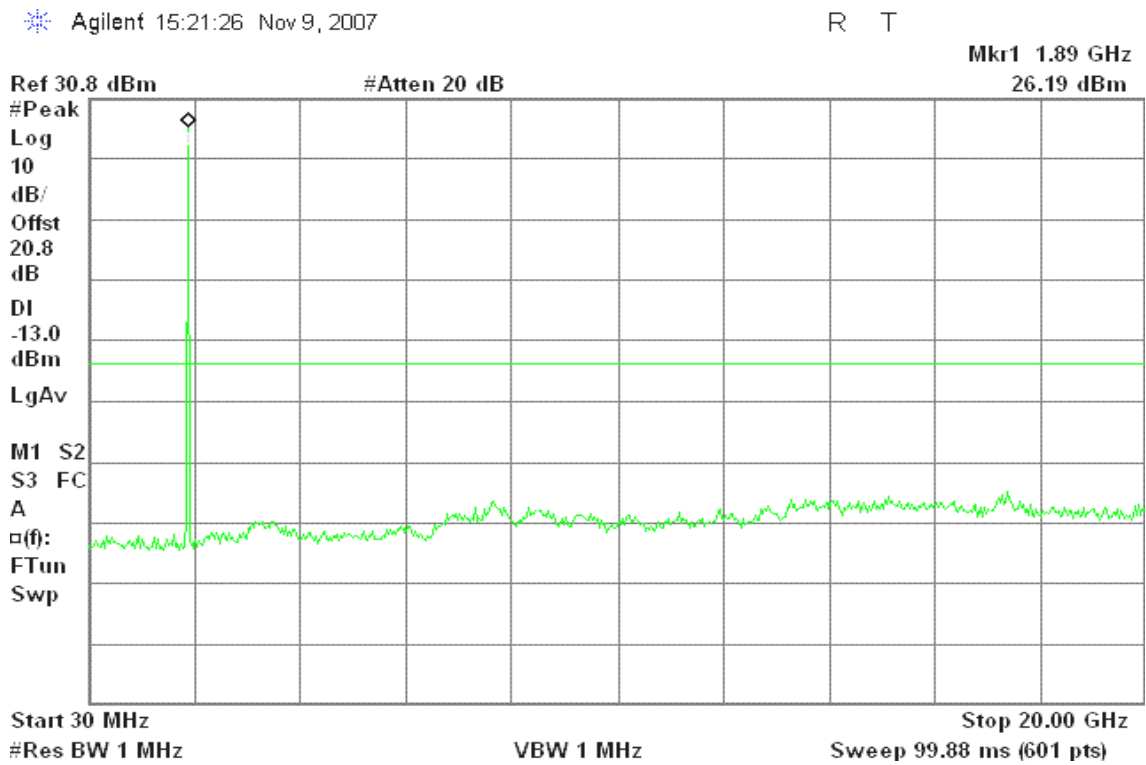
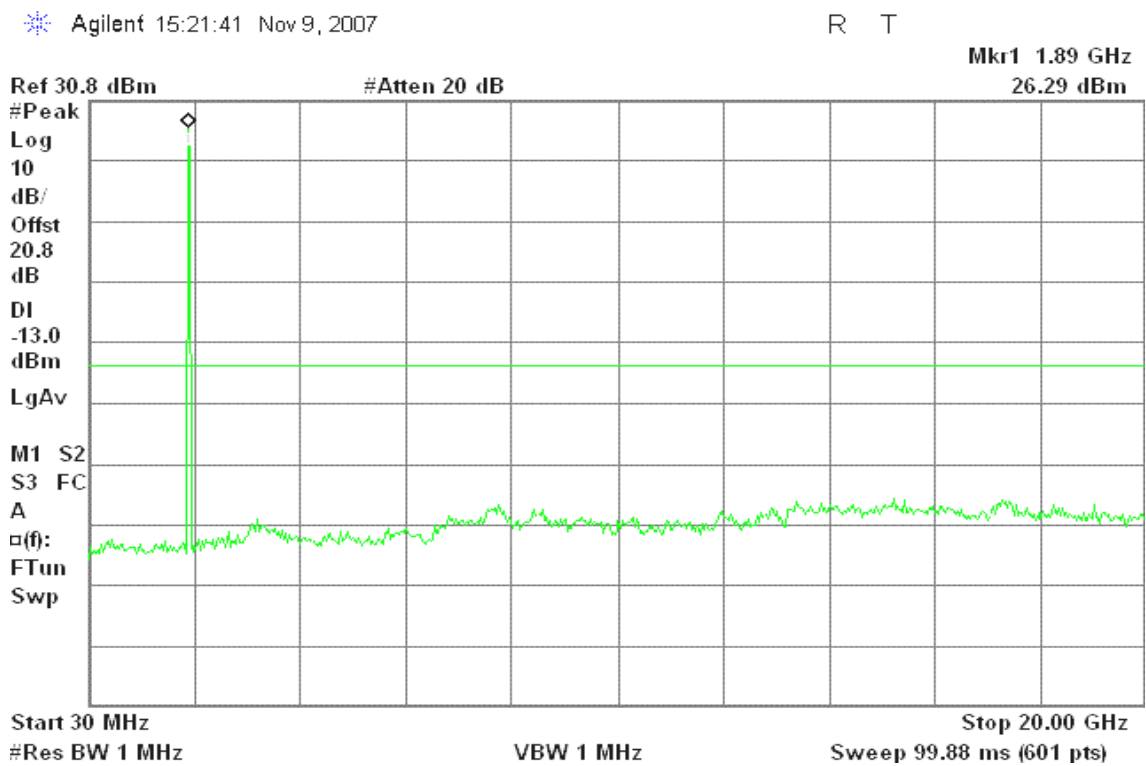


Figure 8-6: Out of Band emission at antenna terminals – GPRS CH High





### GSM 850

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

Agilent 14:22:17 Nov 9, 2007

R T

Mkr1 823.997 MHz  
-14.76 dBm

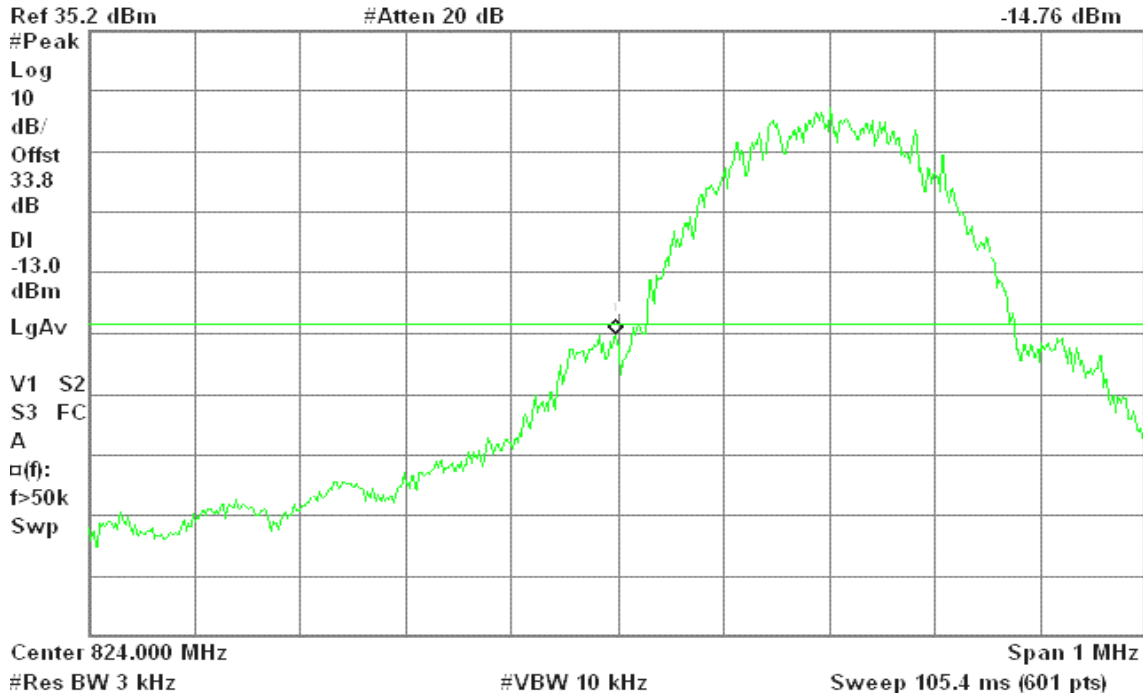
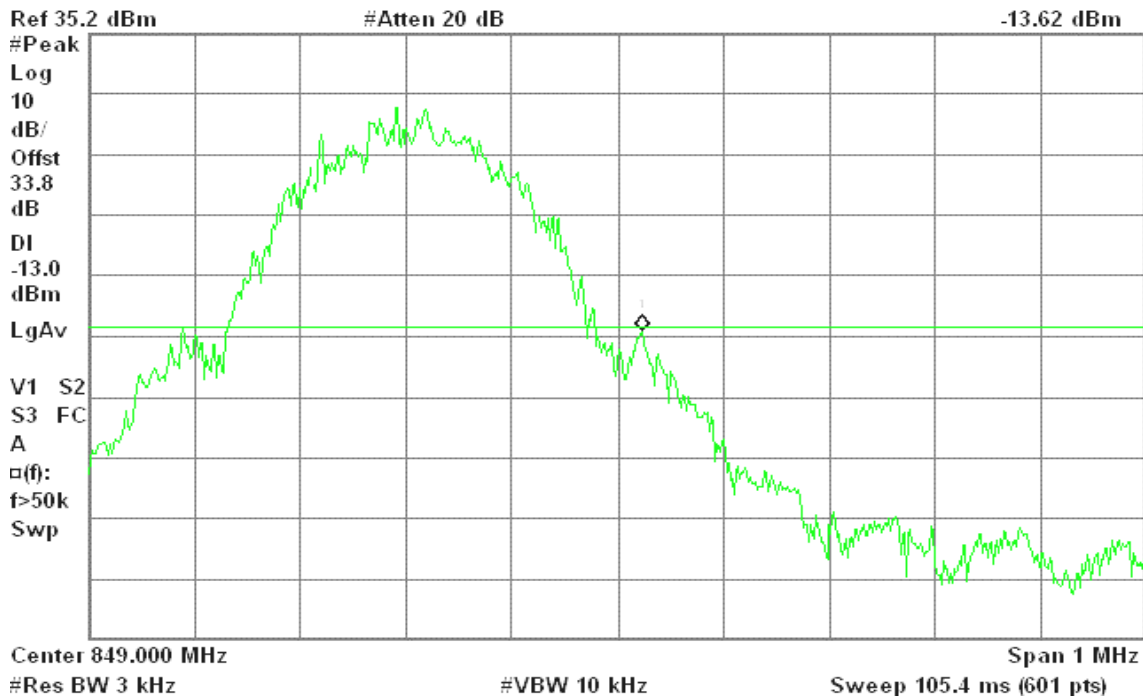


Figure 9-2: Band Edge emissions – GSM CH High

Agilent 14:21:14 Nov 9, 2007

R T

Mkr1 849.024 MHz  
-13.62 dBm







### GPRS 850

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

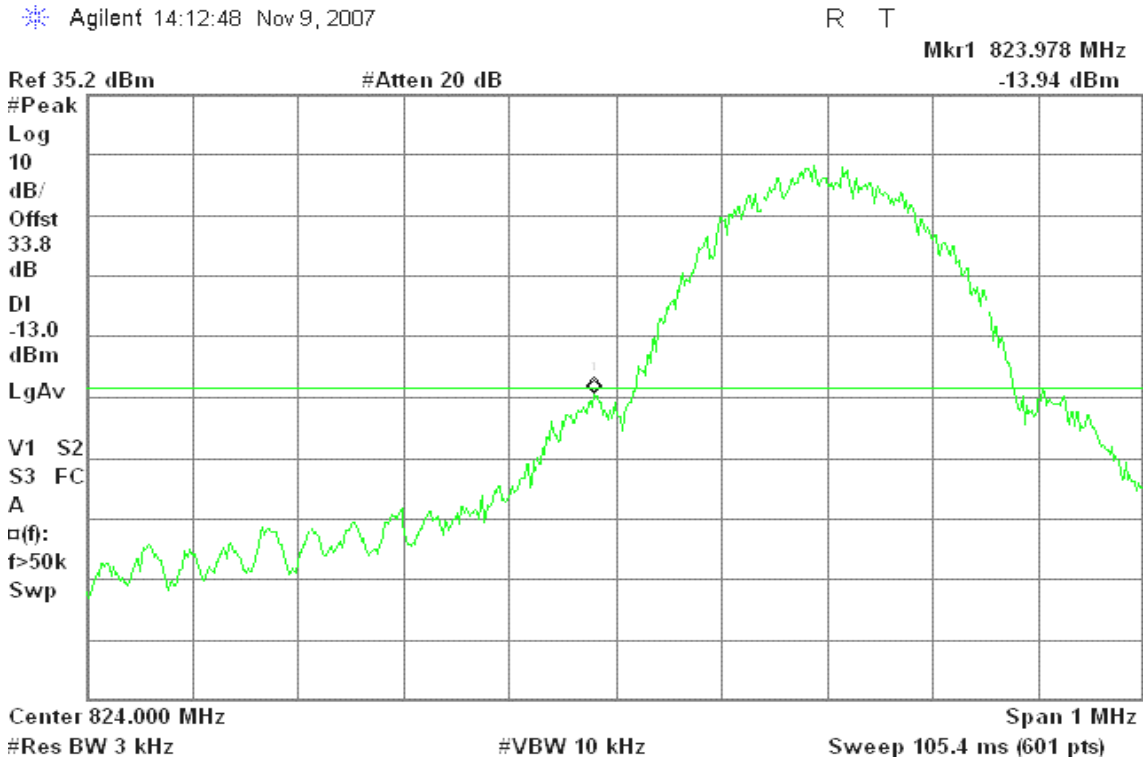
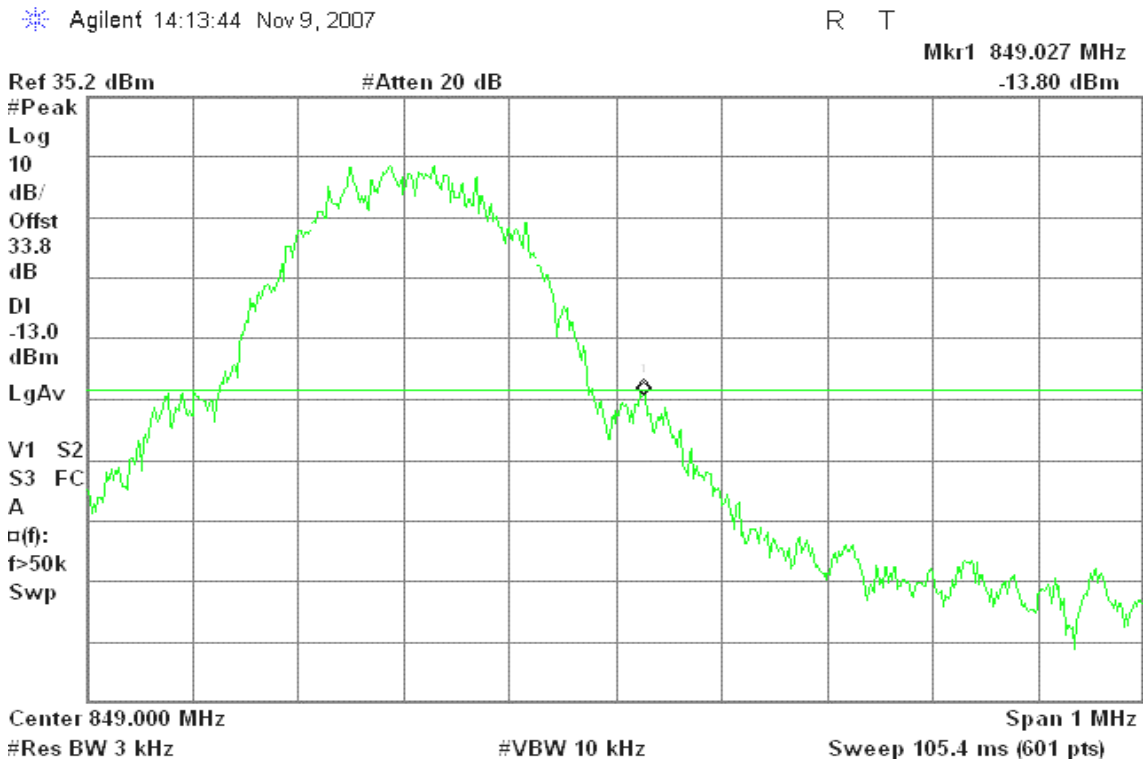


Figure 9-4: Band Edge emissions –GPRS CH High





### GSM 1900

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

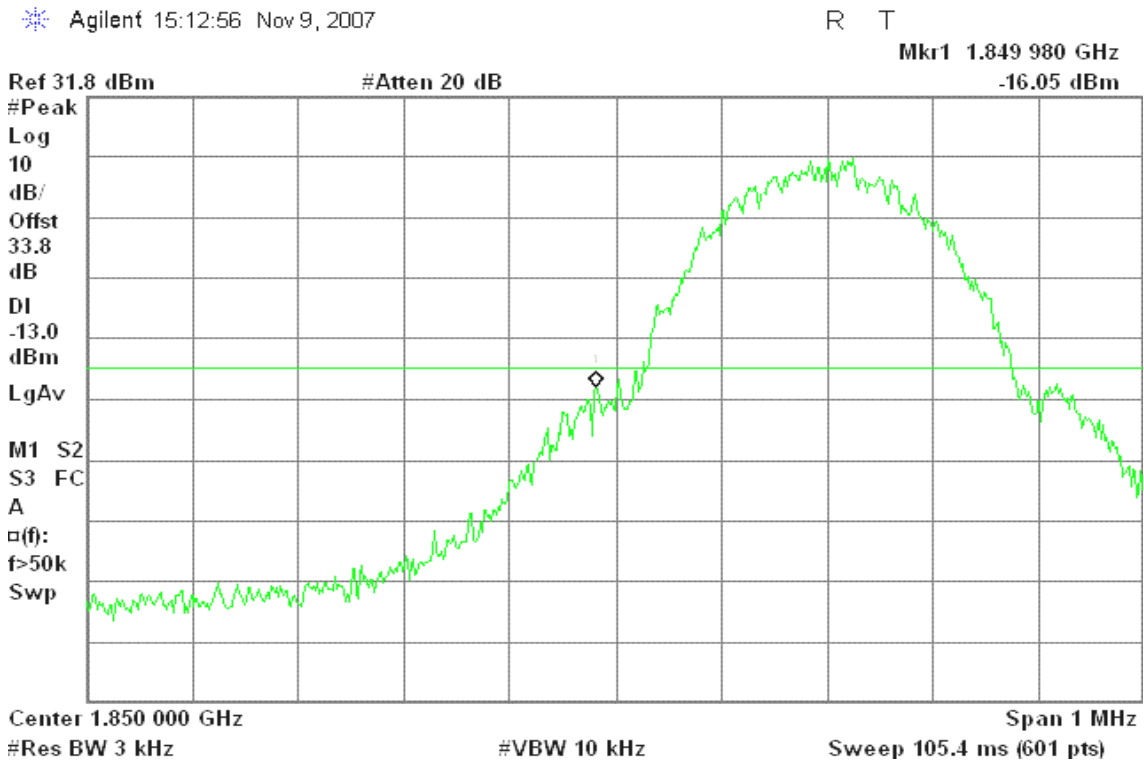
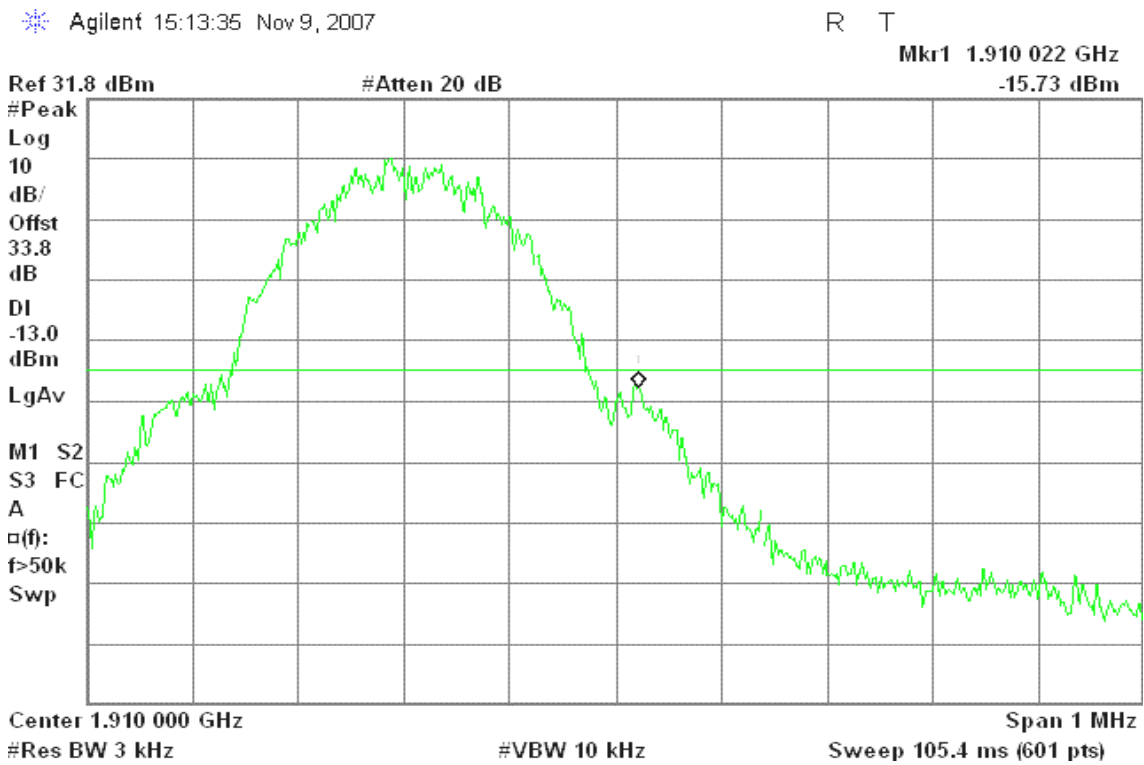


Figure 10-2: Band Edge emissions – GSM CH High





### GPRS 1900

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

Agilent 15:16:29 Nov 9, 2007

R T

Mkr1 1.849 992 GHz  
-16.42 dBm

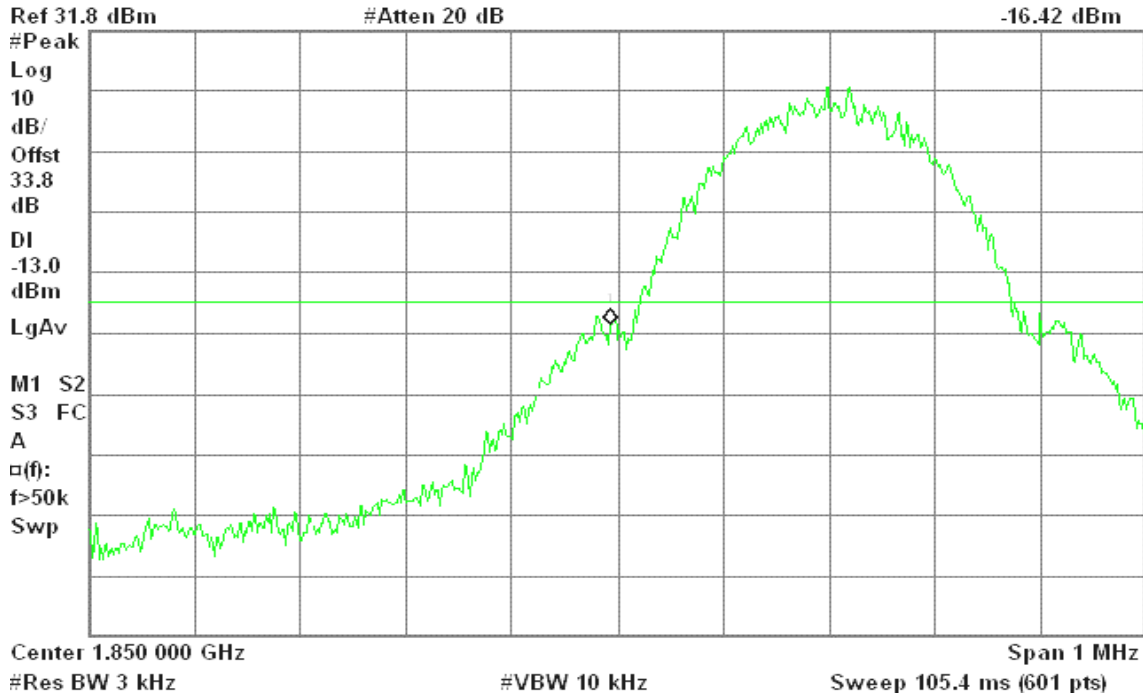
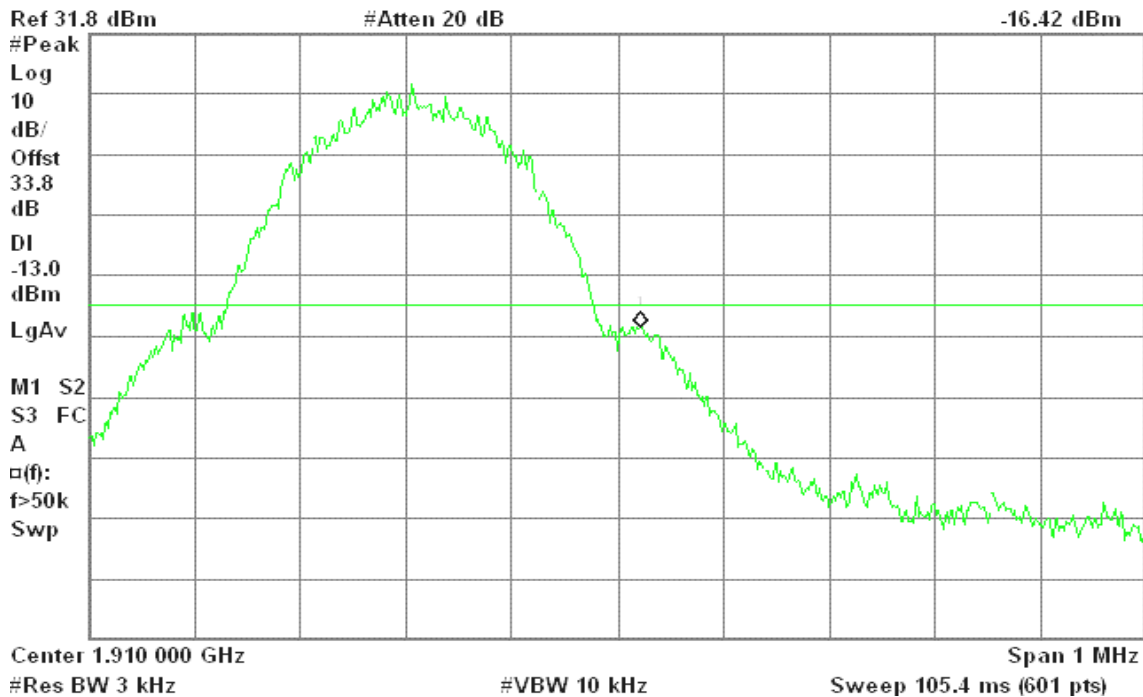


Figure 10-4: Band Edge emissions – GPRS CH High

Agilent 15:16:08 Nov 9, 2007

R T

Mkr1 1.910 022 GHz  
-16.42 dBm





### EDGE 850

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

Agilent 17:27:42 Dec 27, 2007

R T

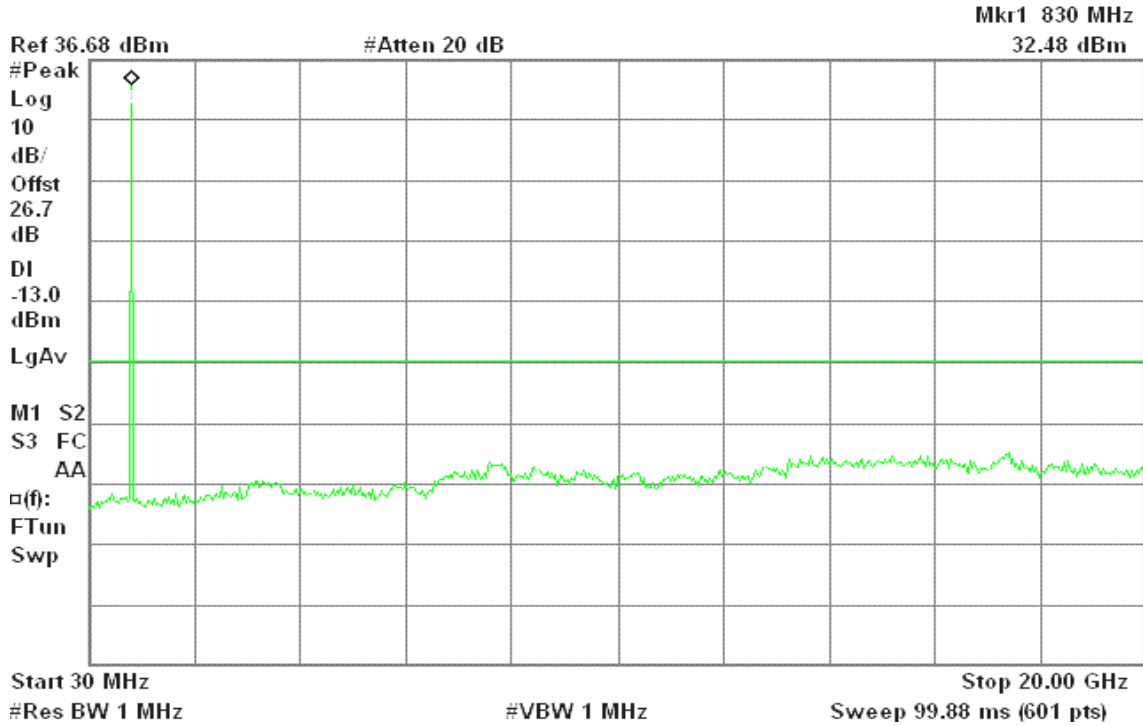


Figure 11-2: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 17:32:52 Dec 27, 2007

R T

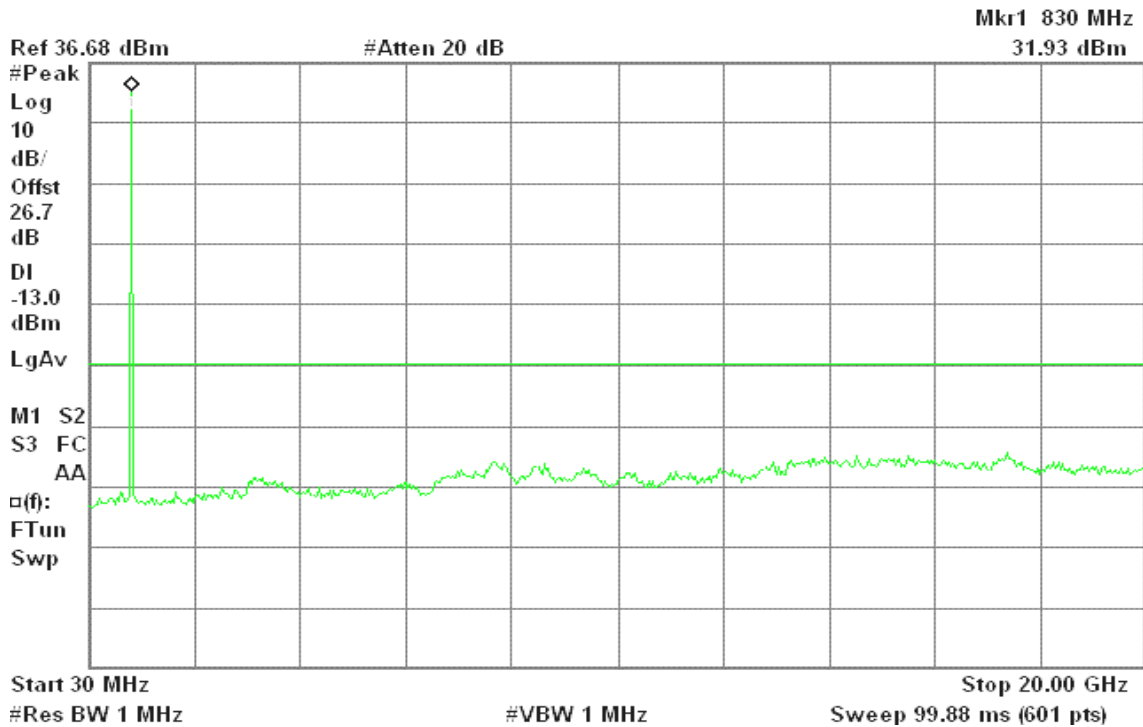
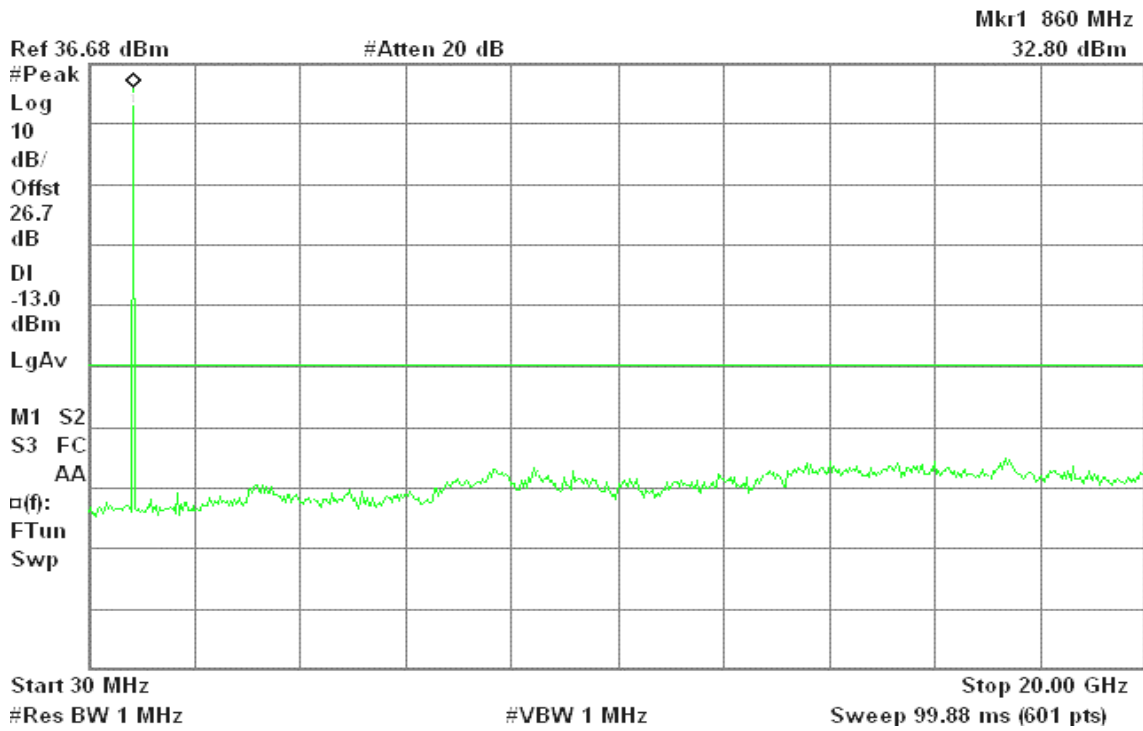




Figure 11-3: Out of Band emission at antenna terminals –EDGE CH High

Agilent 17:33:20 Dec 27, 2007

R T



### EDGE 1900

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

Agilent 19:20:24 Dec 27, 2007

R T

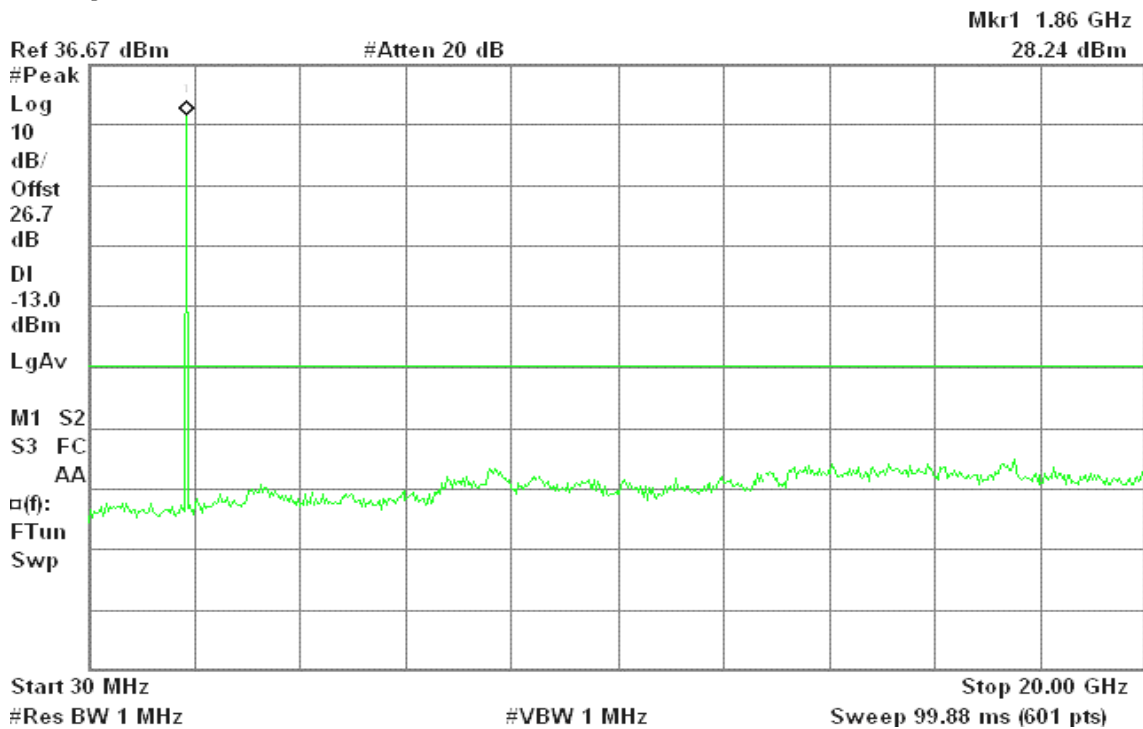




Figure 11-5: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 19:19:41 Dec 27, 2007

R T

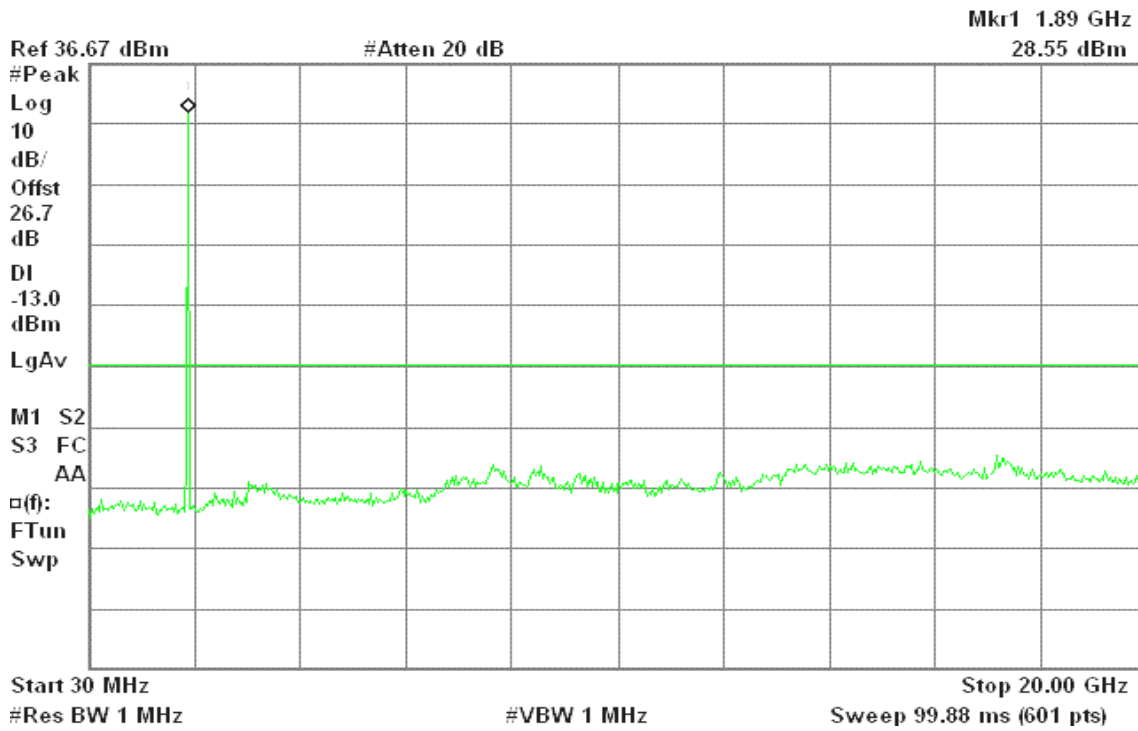
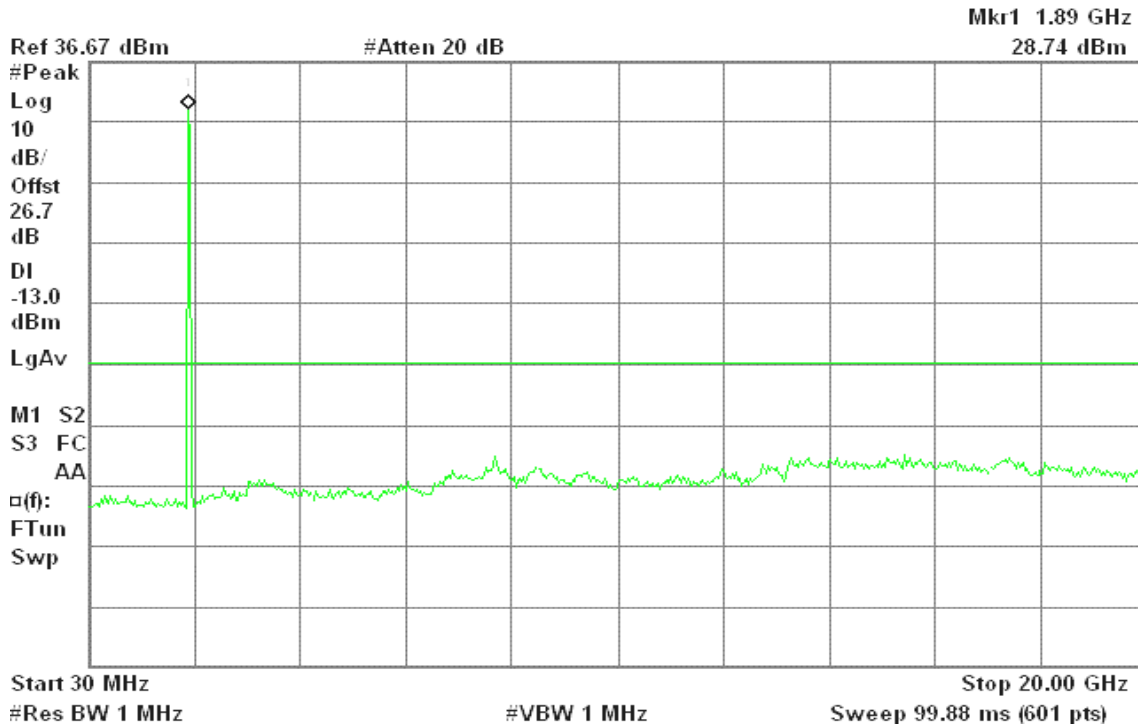


Figure 11-6: Out of Band emission at antenna terminals –EDGE CH High

Agilent 19:19:08 Dec 27, 2007

R T





### EDGE 850

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

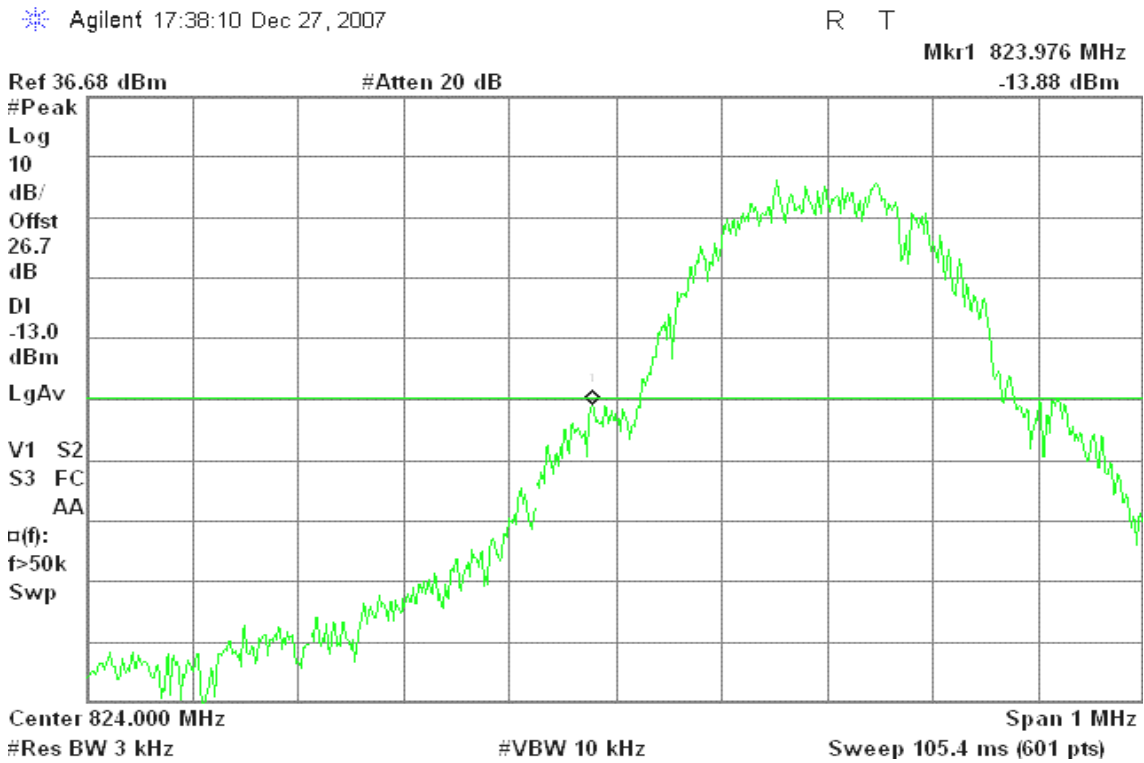
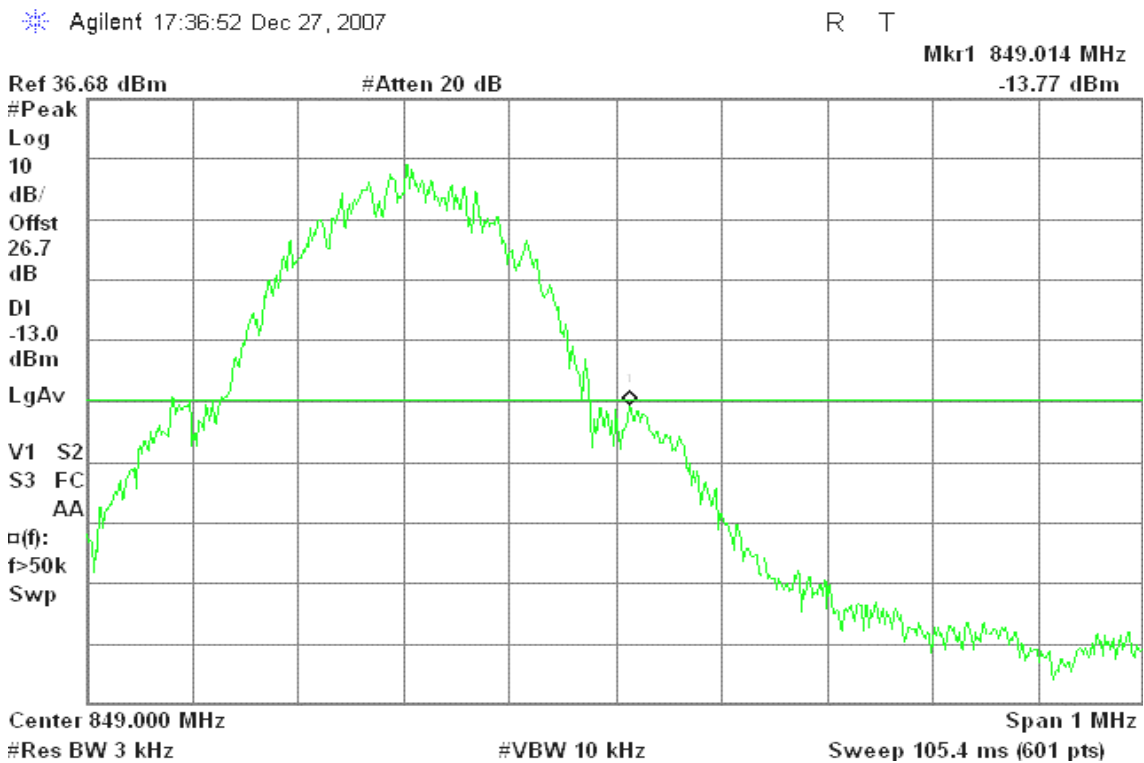


Figure 12-2: Band Edge emissions – EDGE CH High





### EDGE 1900

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

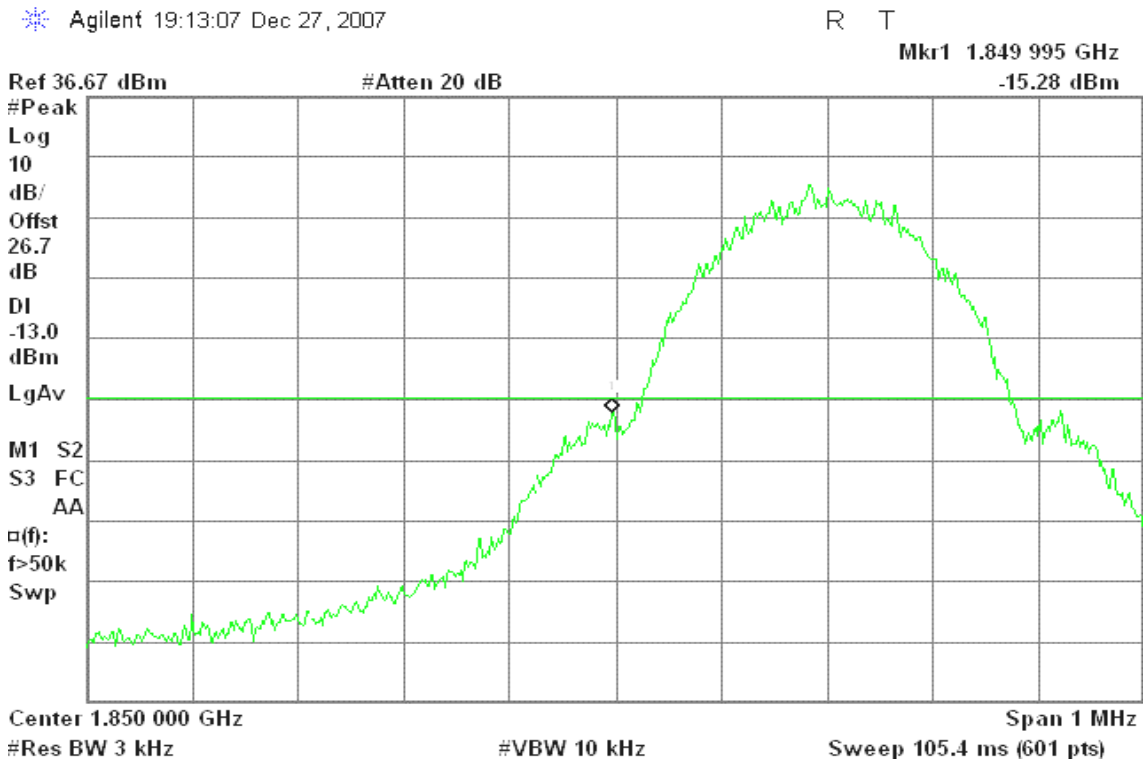
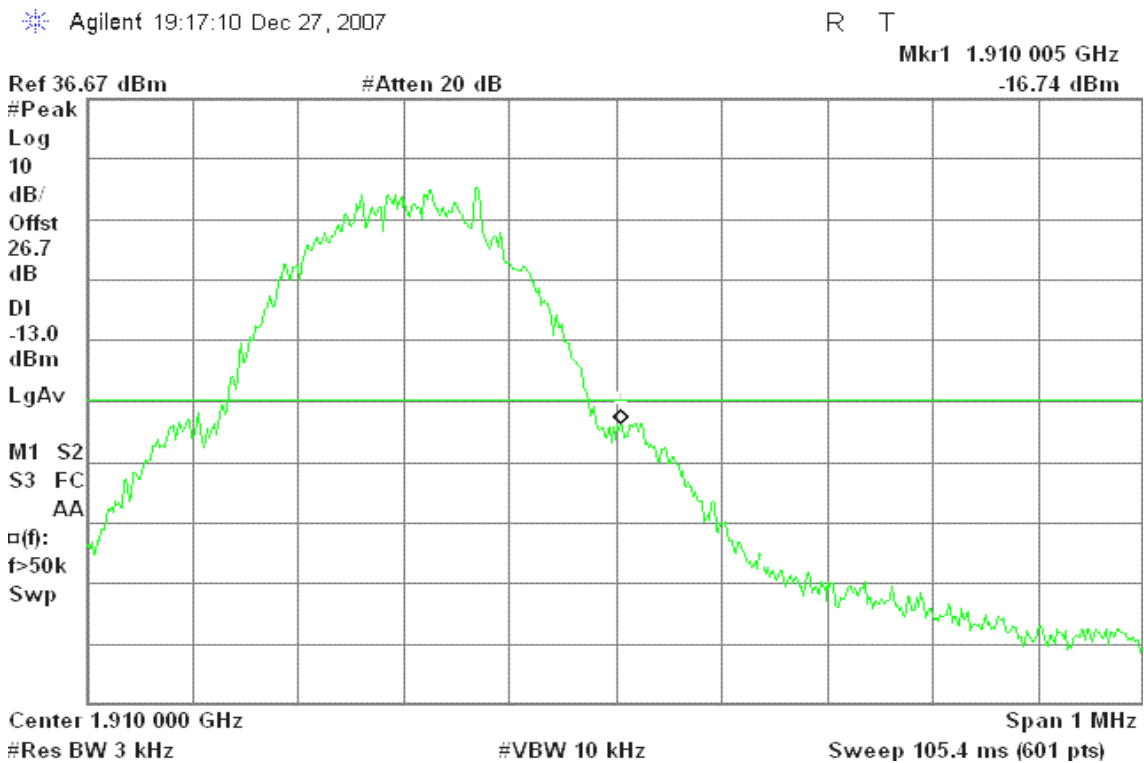


Figure 12-4: Band Edge emissions – EDGE CH High







### WCDMA Band II

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

Agilent 12:59:42 Dec 19, 2007

R T

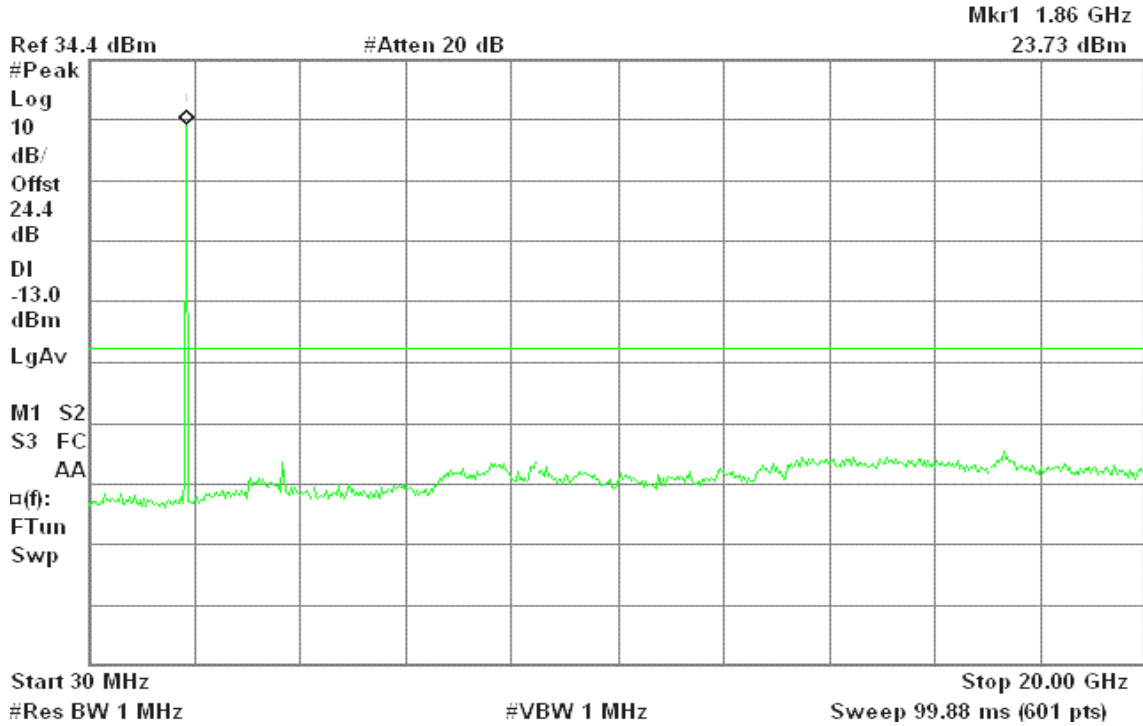


Figure 13-2: Out of Band emission at antenna terminals – WCDMA CH Mid

Agilent 12:58:50 Dec 19, 2007

R T

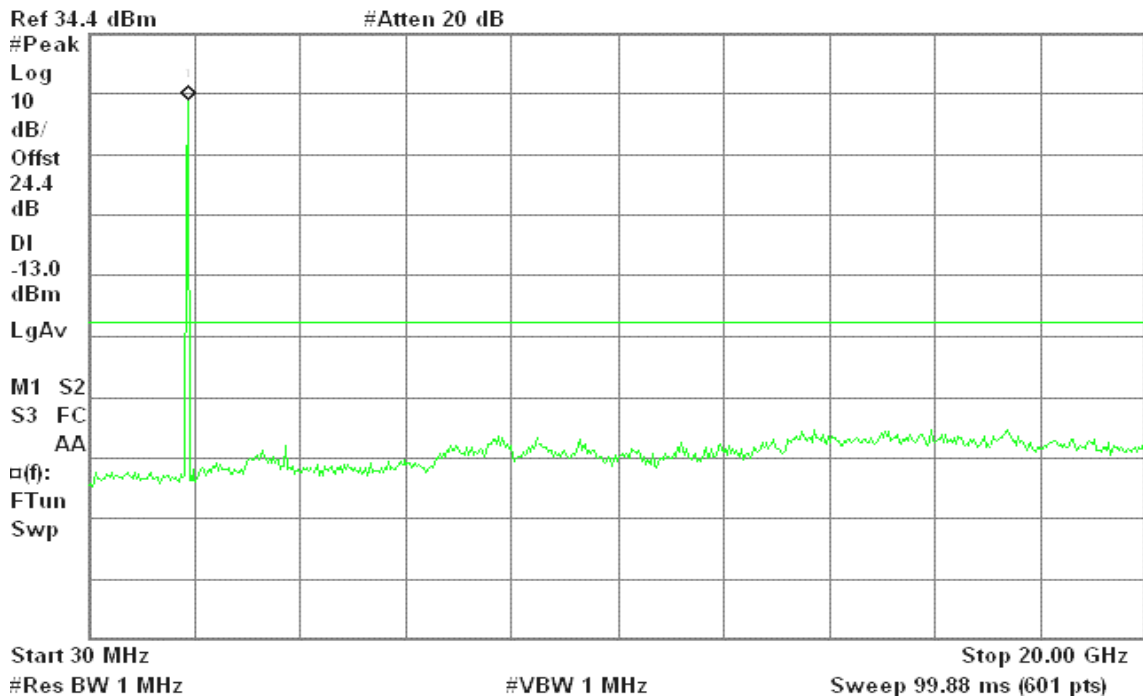
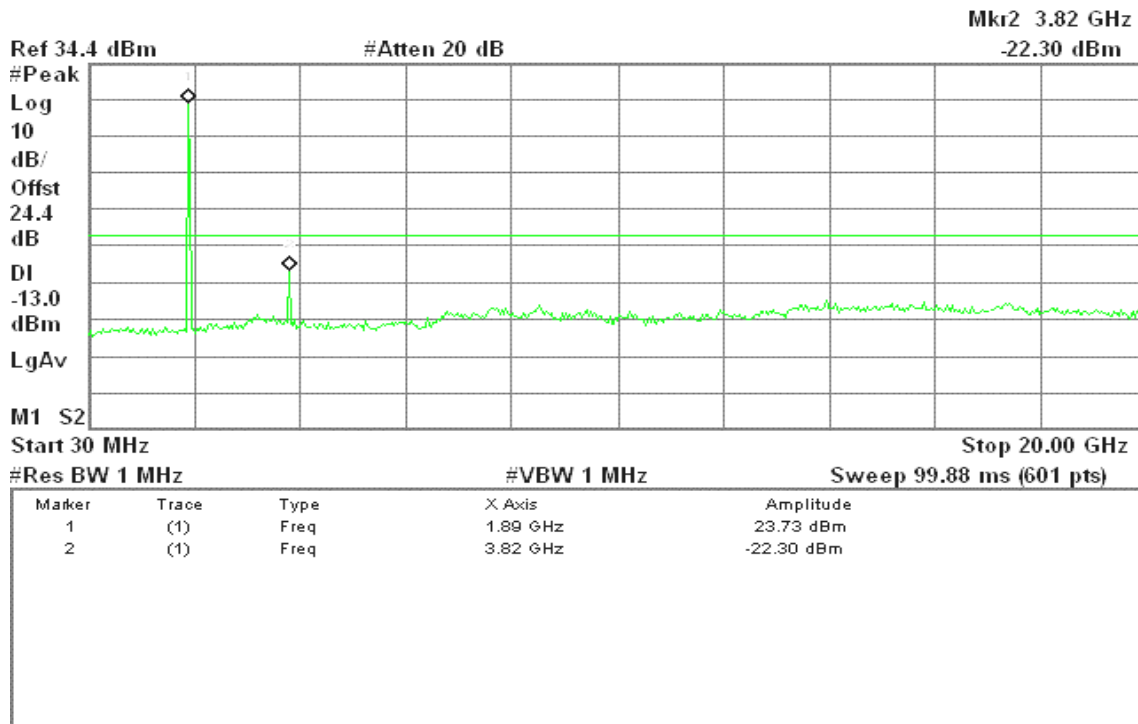




Figure 13-3: Out of Band emission at antenna terminals – WCDMA CH High

Agilent 12:58:16 Dec 19, 2007

R T



### WCDMA Band V

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

Agilent 13:00:22 Dec 19, 2007

R T

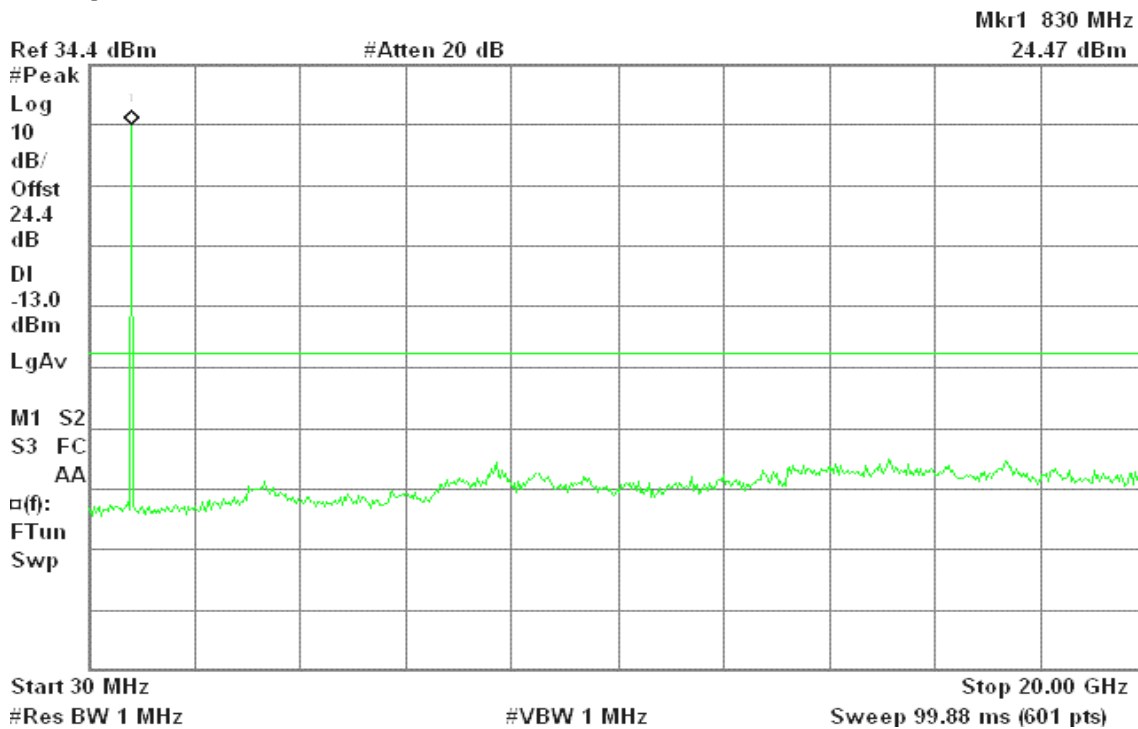




Figure 13-5: Out of Band emission at antenna terminals – WCDMA CH Mid

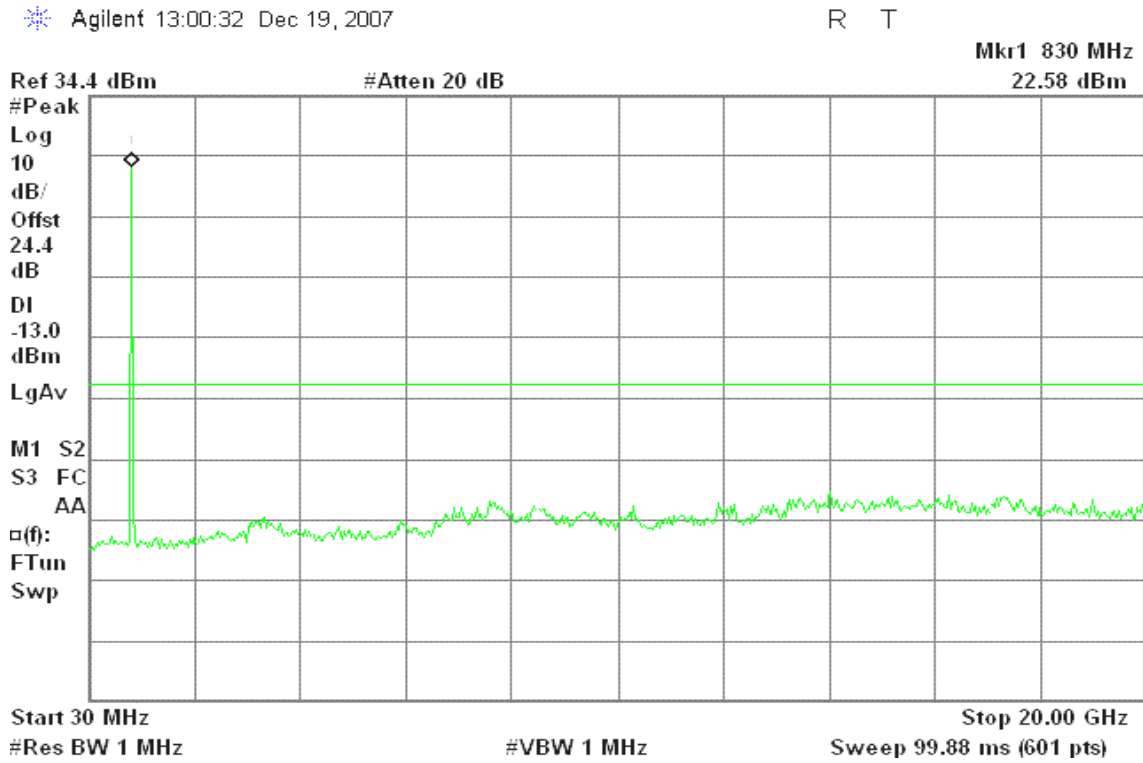
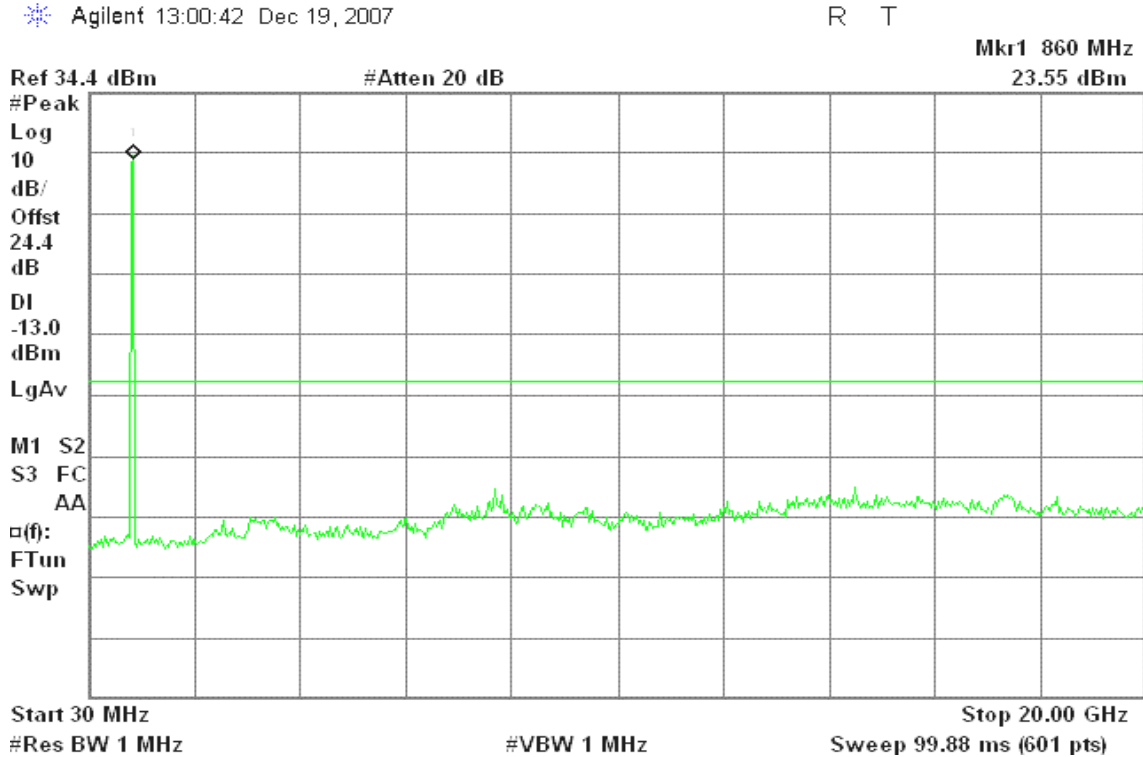


Figure 13-6: Out of Band emission at antenna terminals – WCDMA CH High





### WCDMA Band II

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

Agilent 12:56:09 Dec 19, 2007

R T

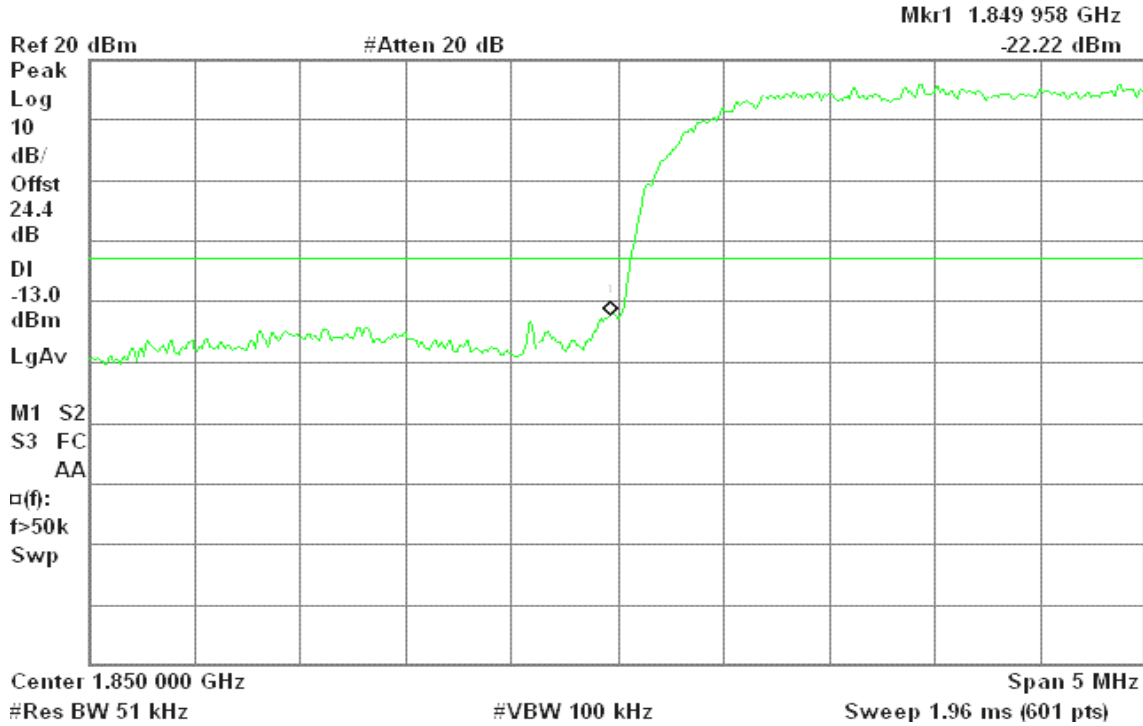
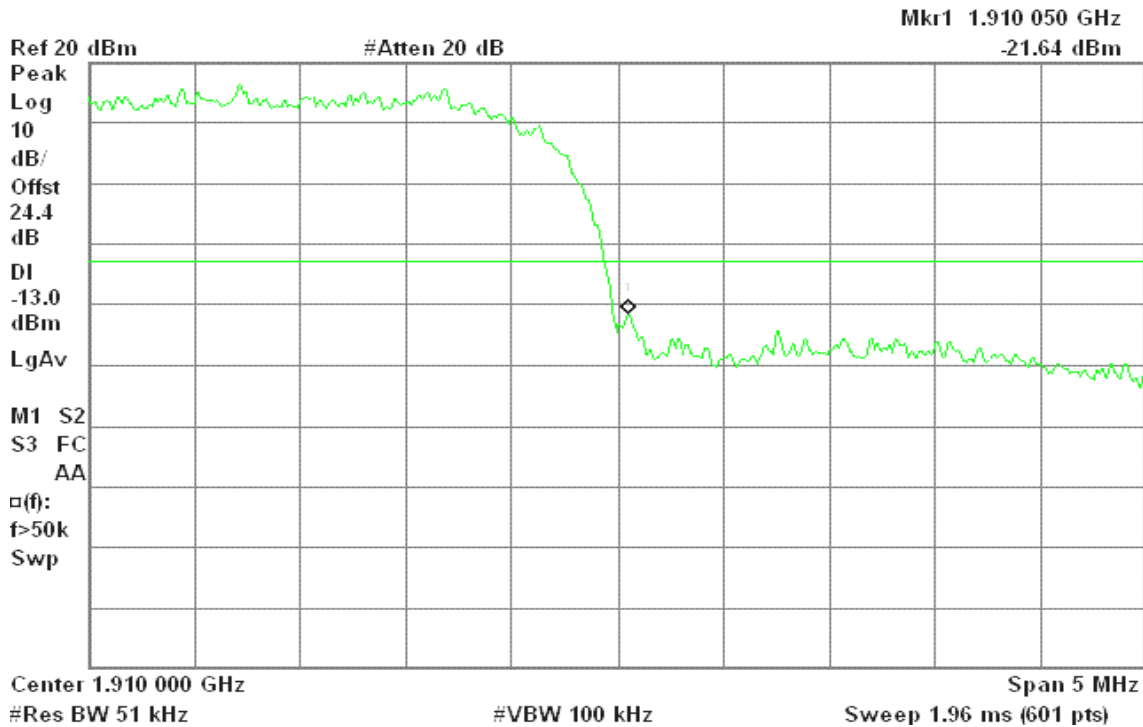


Figure 14-2: Band Edge emissions –WCDMA CH High

Agilent 12:56:32 Dec 19, 2007

R T





### WCDMA Band V

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

Agilent 12:54:31 Dec 19, 2007

R T

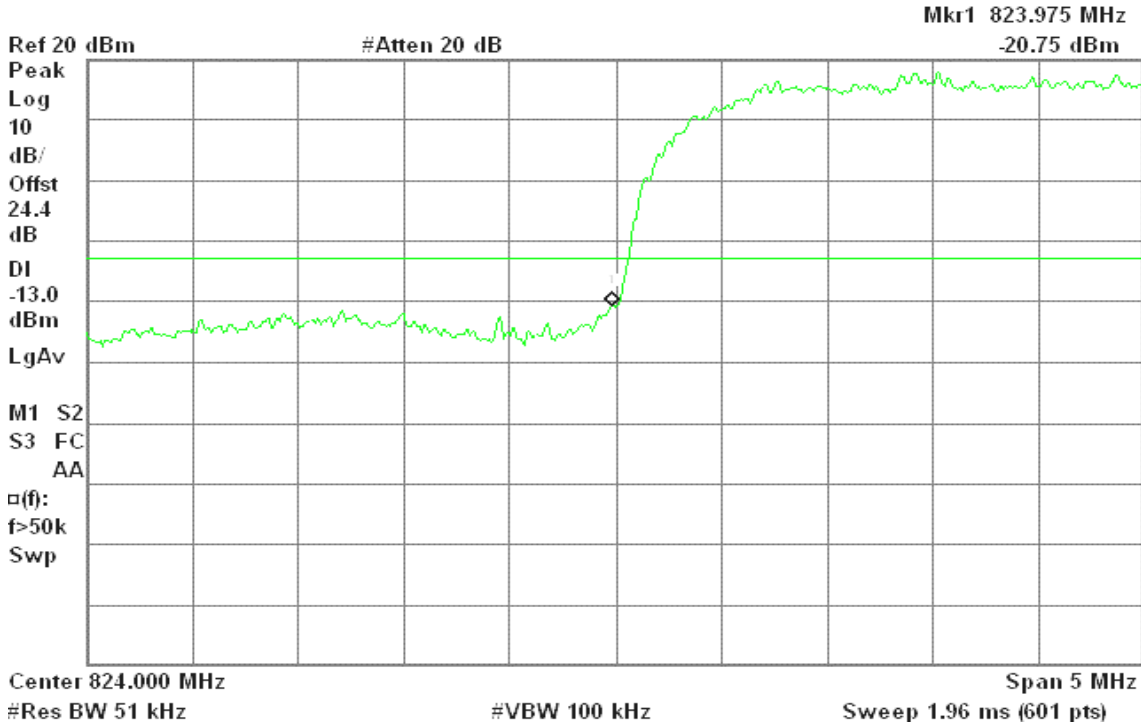
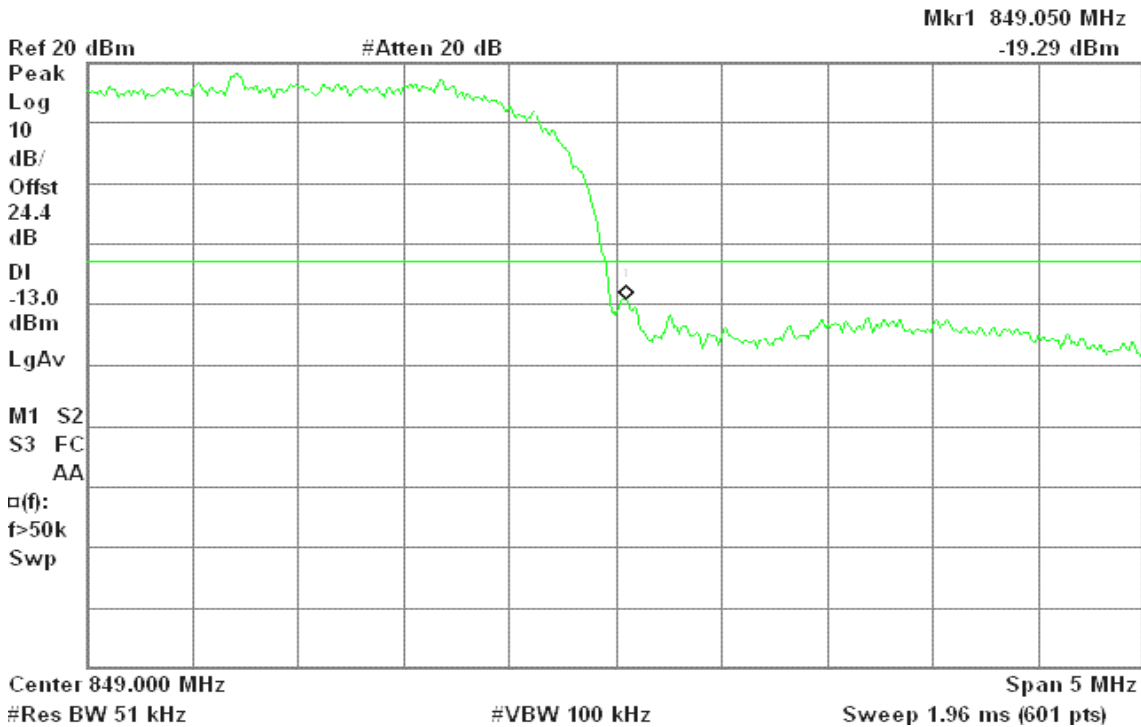


Figure 14-4: Band Edge emissions –WCDMA CH High

Agilent 12:55:03 Dec 19, 2007

R T





### WCDMA / HSDPA Band II

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

Agilent 14:00:17 Dec 27, 2007

R T

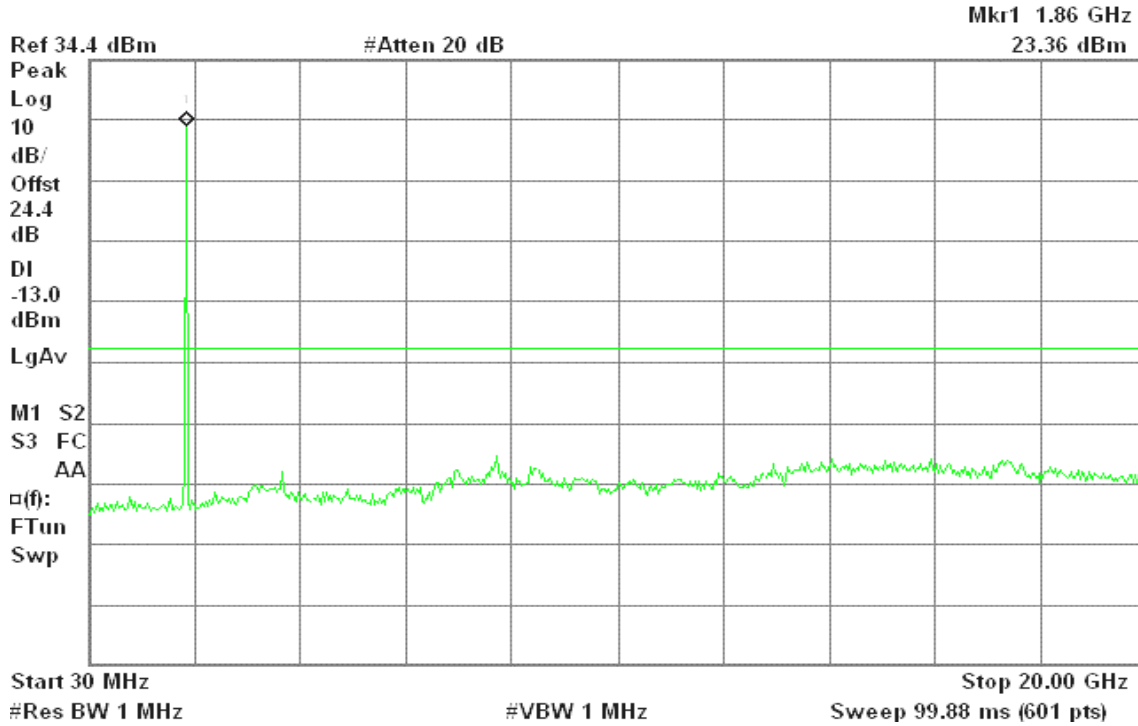


Figure 15-2: Out of Band emission at antenna terminals – HSDPA CH Mid

Agilent 14:00:03 Dec 27, 2007

R T

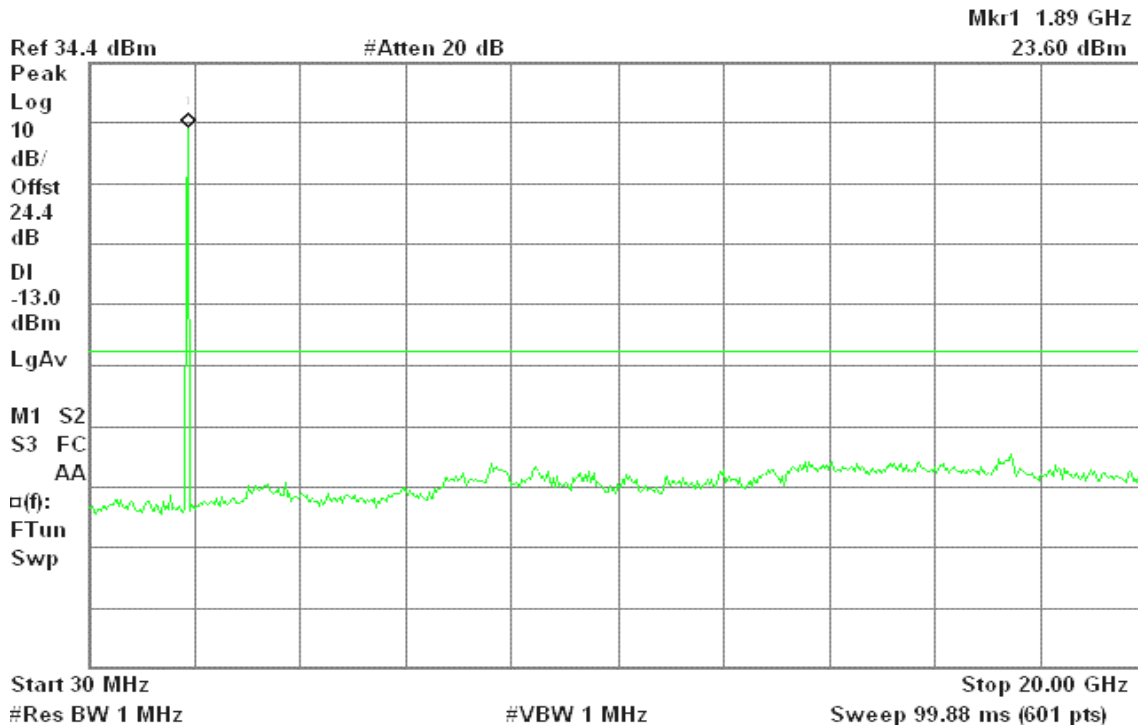
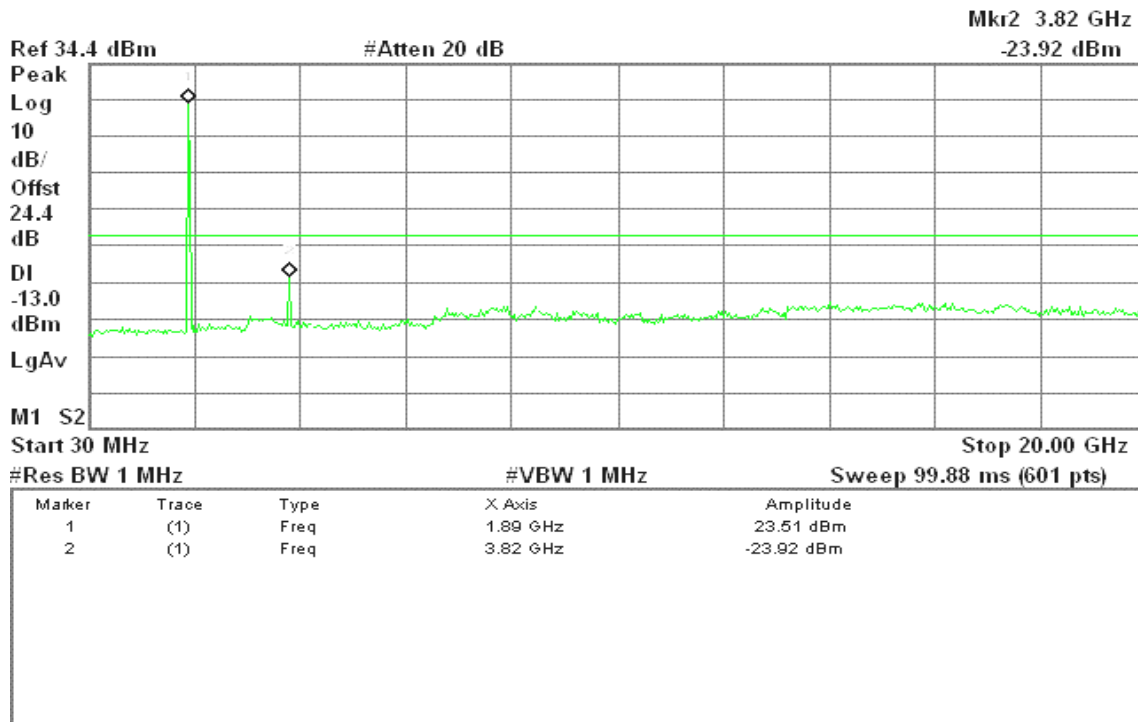




Figure 15-3: Out of Band emission at antenna terminals – HSDPA CH High

Agilent 13:59:34 Dec 27, 2007

R T



### WCDMA / HSDPA Band V

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

Agilent 13:59:01 Dec 27, 2007

R T

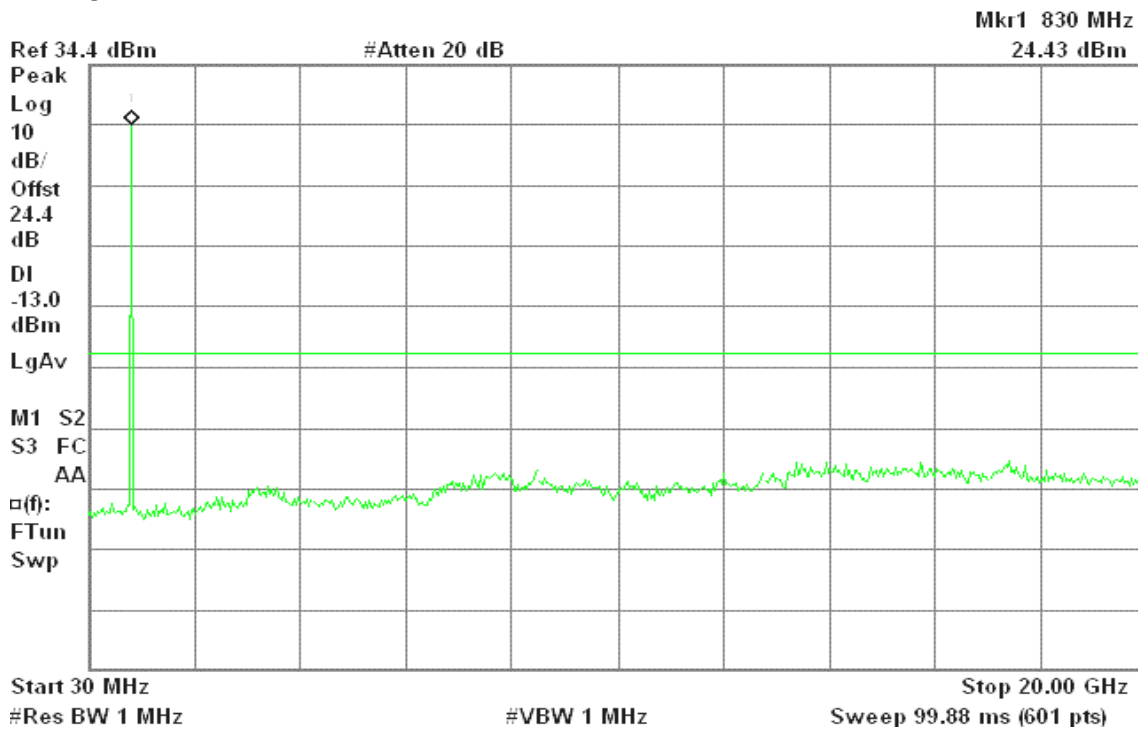




Figure 15-5: Out of Band emission at antenna terminals – HSDPA CH Mid

Agilent 13:58:46 Dec 27, 2007

R T

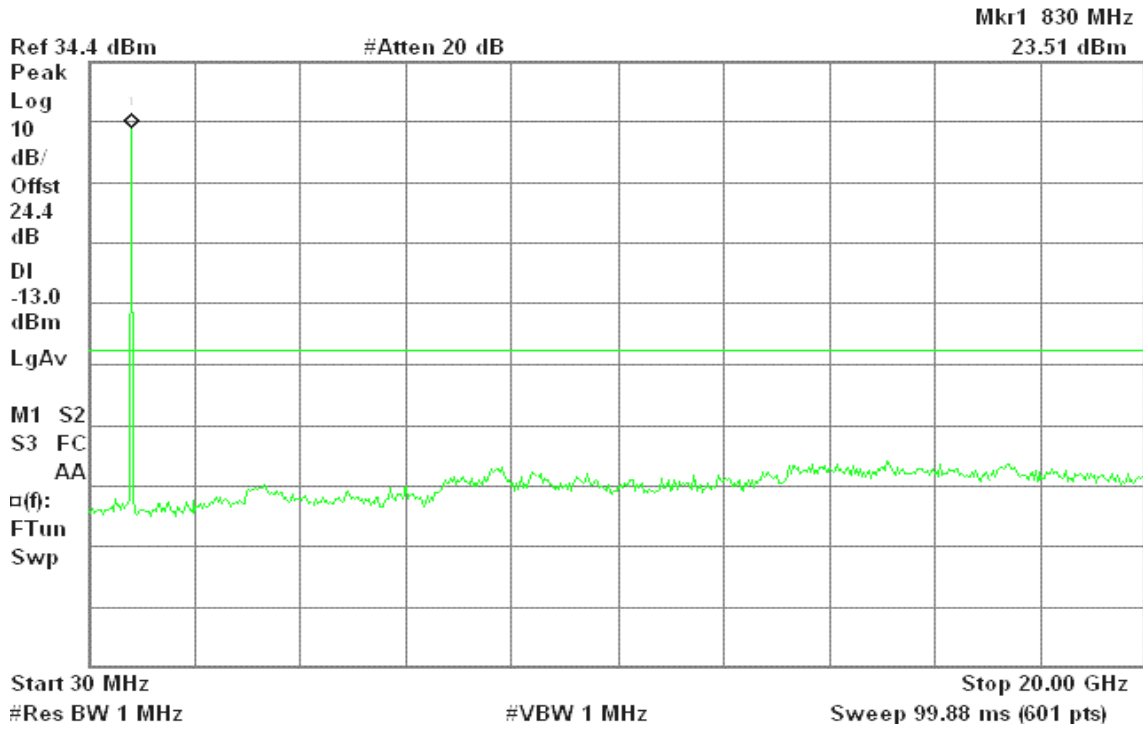
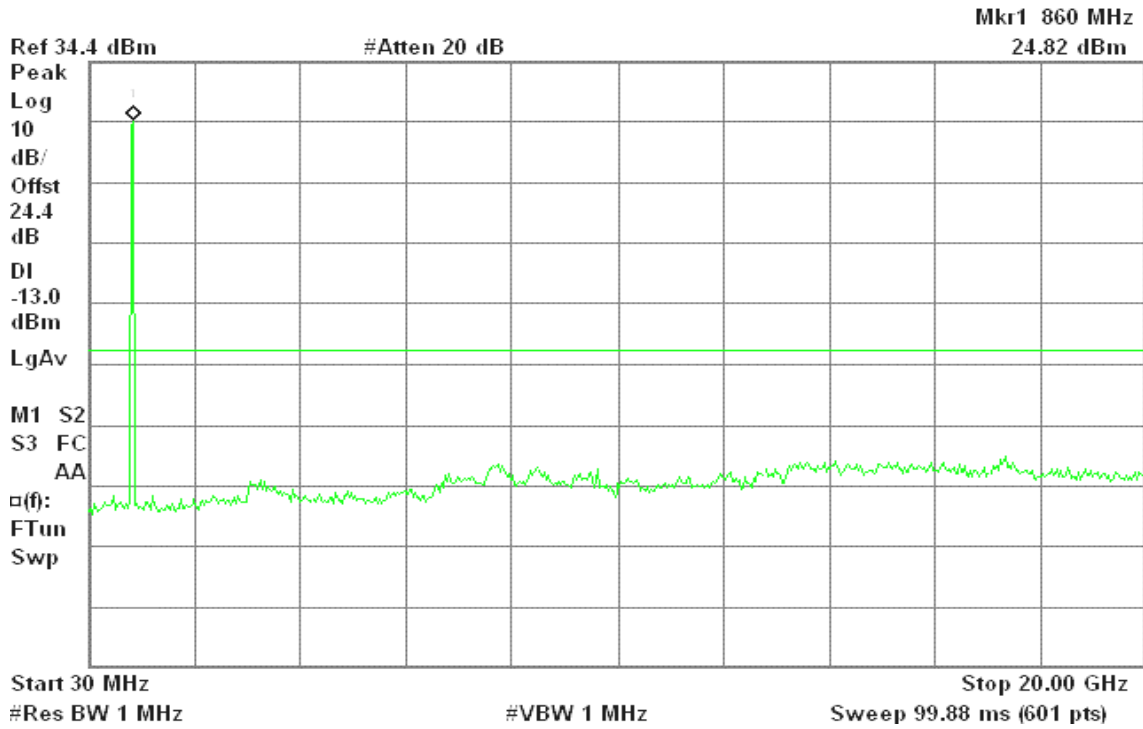


Figure 15-6: Out of Band emission at antenna terminals – HSDPA CH High

Agilent 13:58:32 Dec 27, 2007

R T







### WCDMA / HSDPA Band II

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

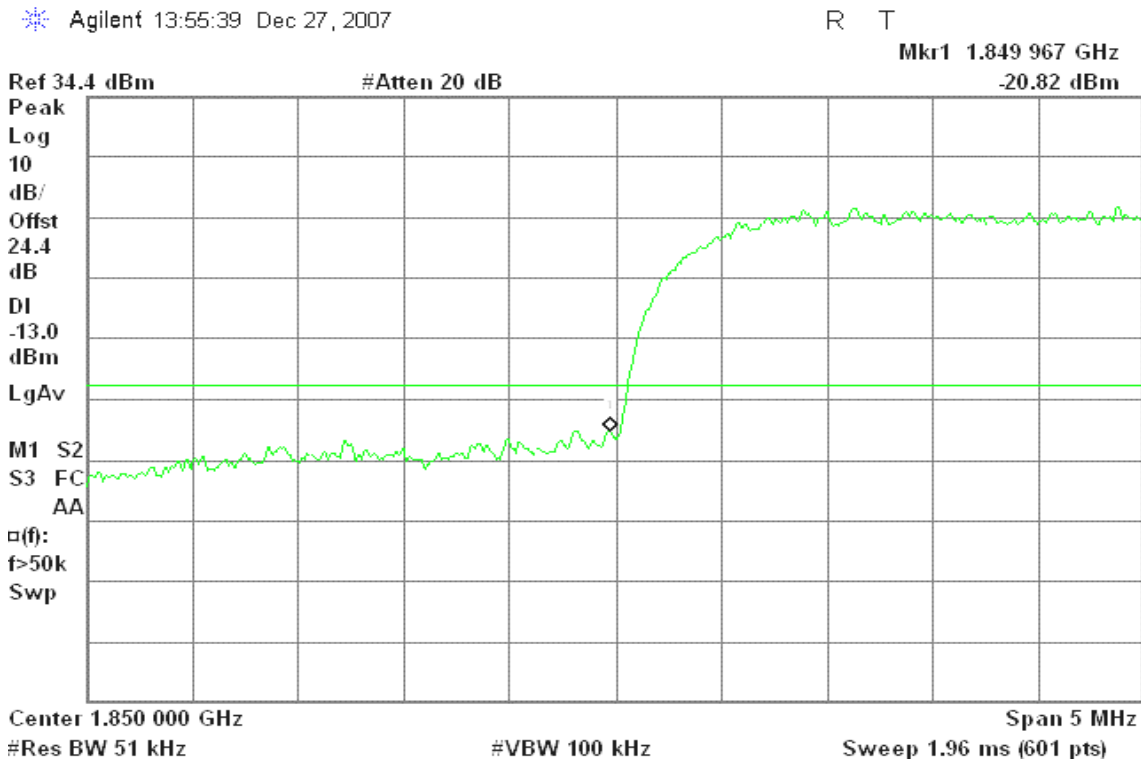
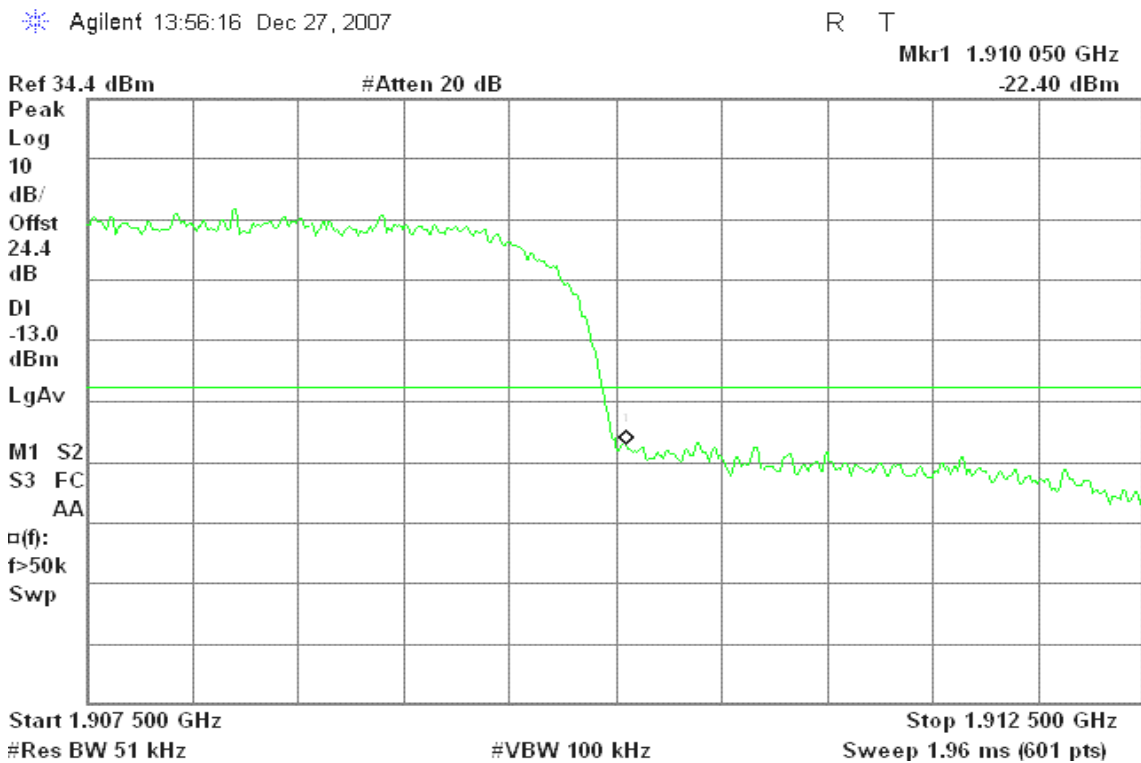


Figure 16-2: Band Edge emissions – HSDPA CH High





### WCDMA / HSDPA Band V

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

Agilent 13:57:04 Dec 27, 2007

R T

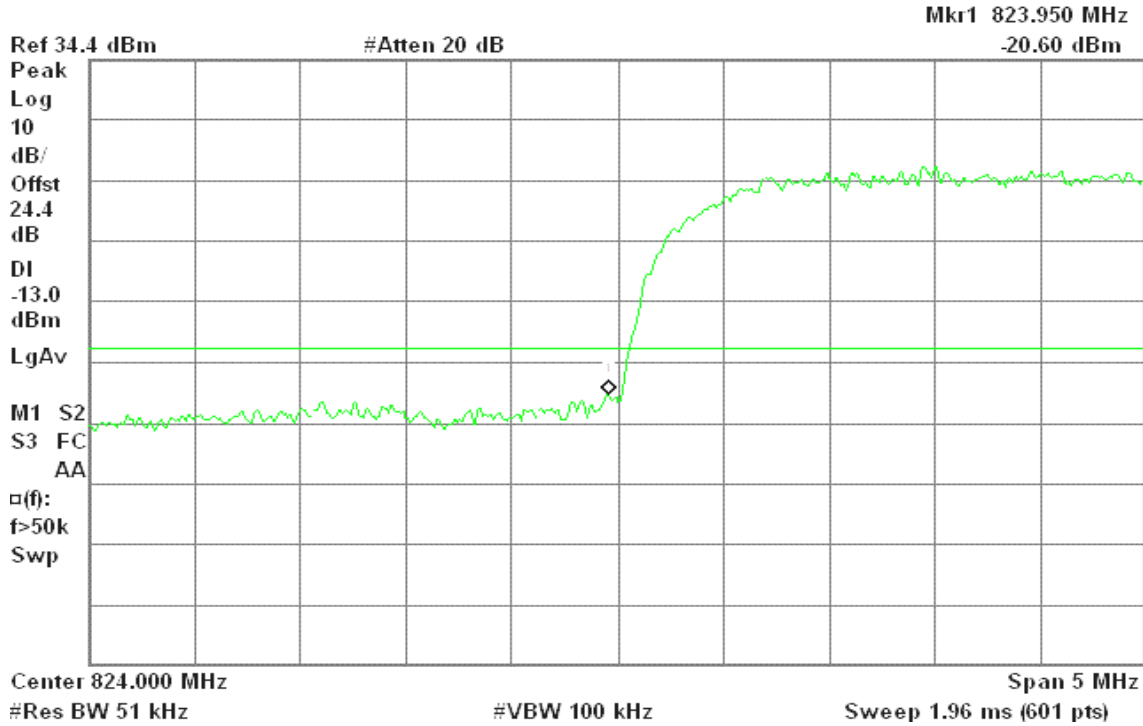
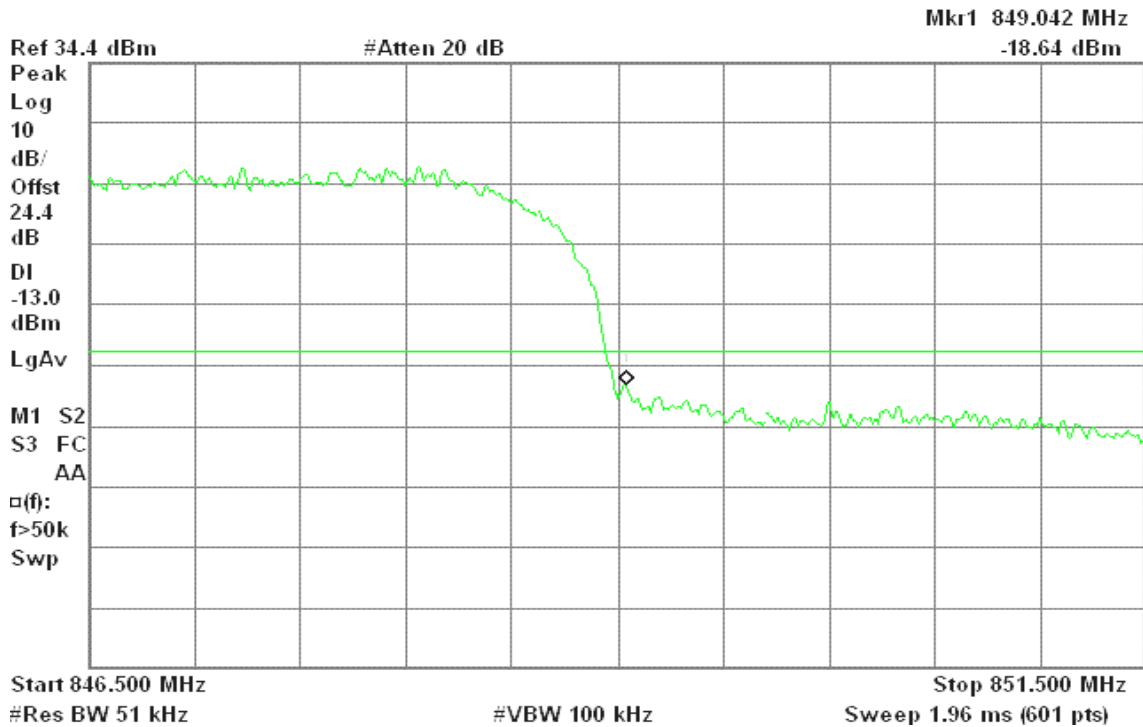


Figure 16-4: Band Edge emissions – HSDPA CH High

Agilent 13:57:34 Dec 27, 2007

R T





### WCDMA / HSUPA Band II

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

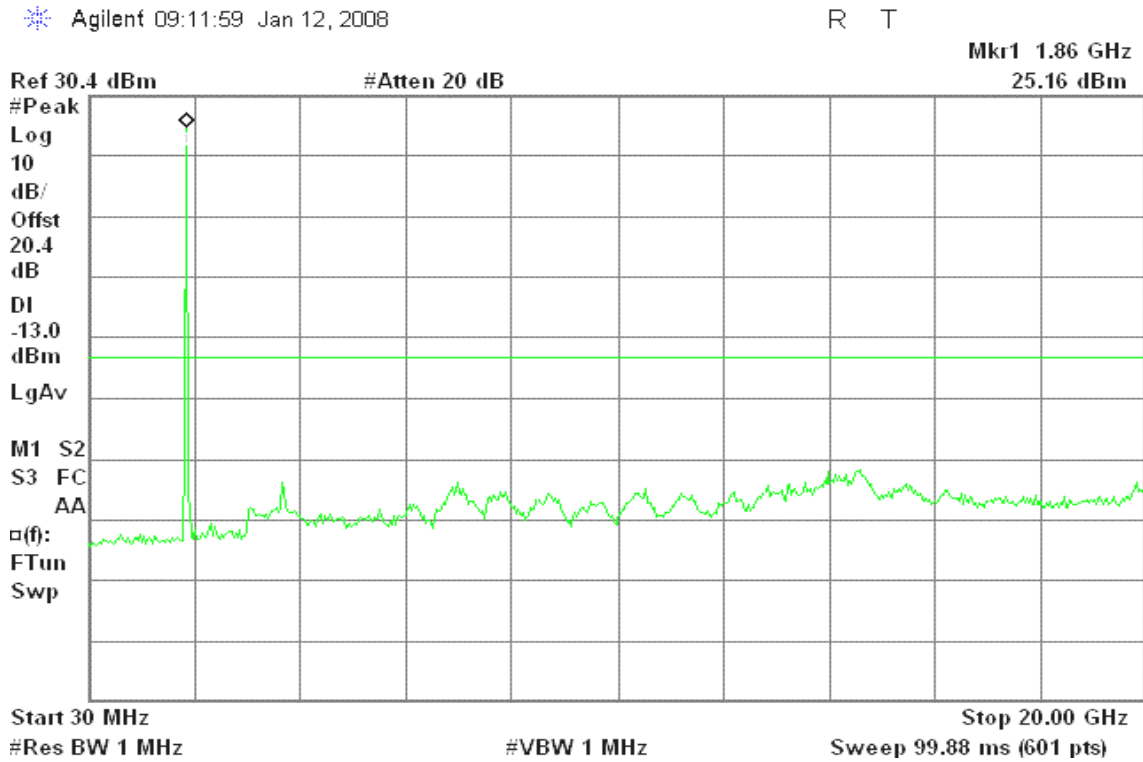


Figure 17-2: Out of Band emission at antenna terminals – HSUPA CH Mid

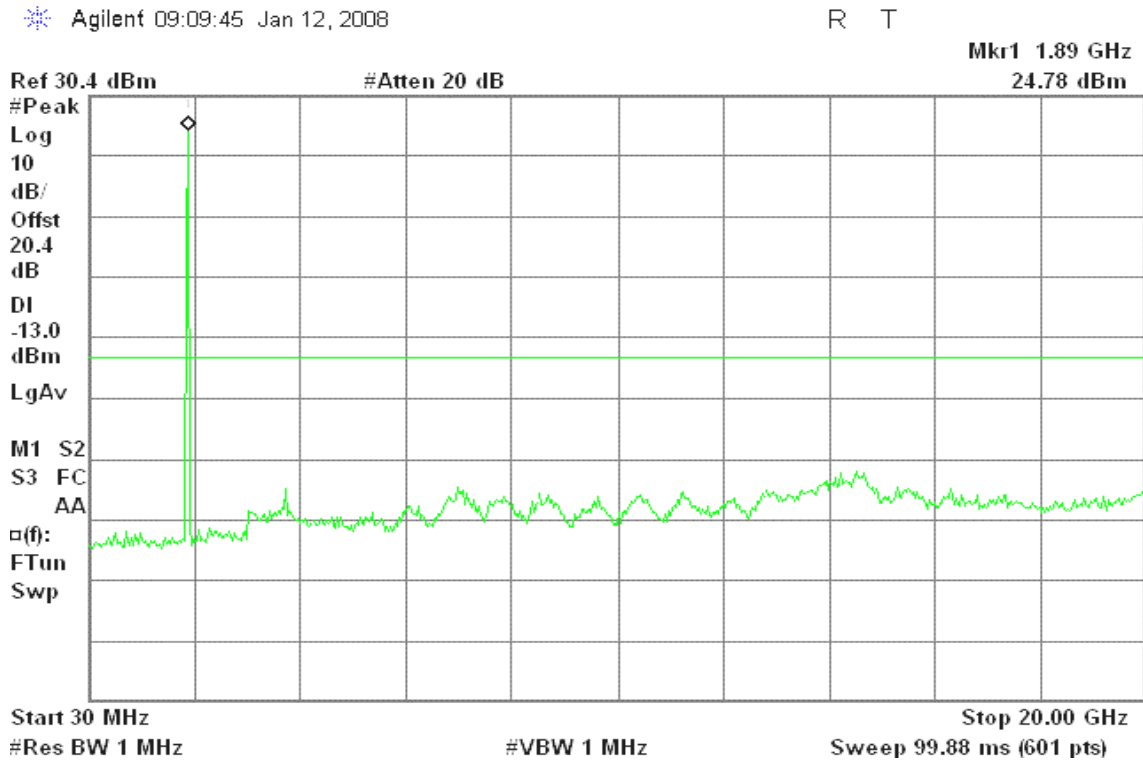
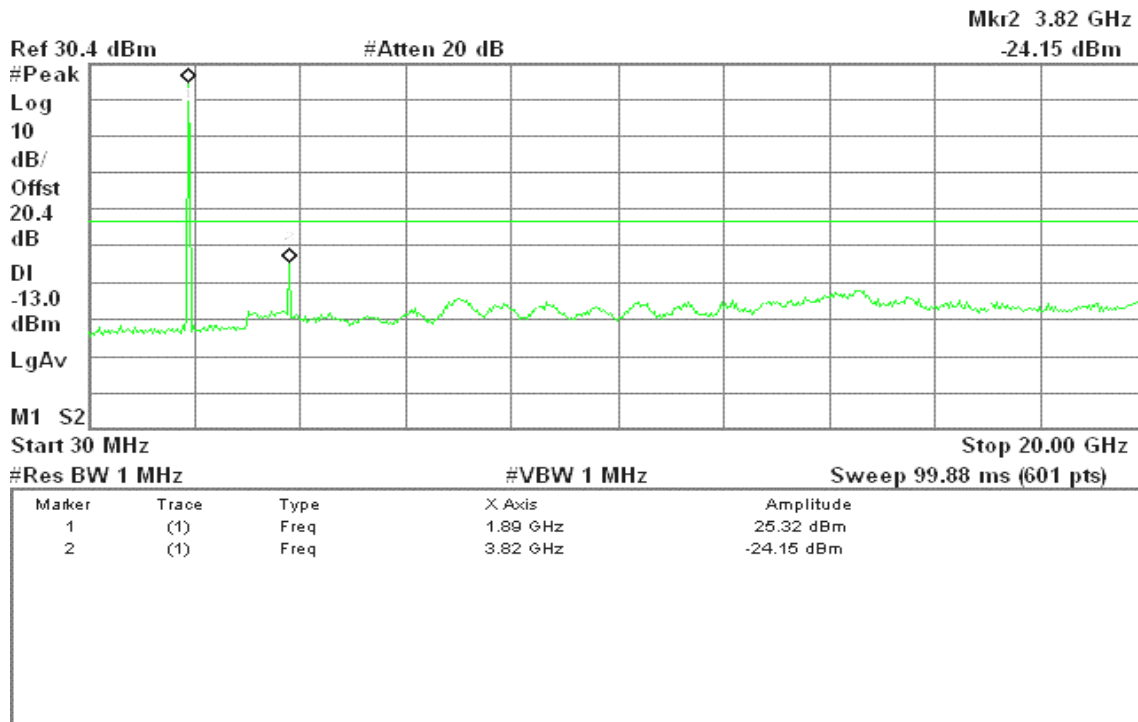




Figure 15-3: Out of Band emission at antenna terminals – HSUPA CH High

Agilent 09:16:06 Jan 12, 2008

R T



### HSUPA / WCDMA Band V

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

Agilent 09:01:41 Jan 12, 2008

R T

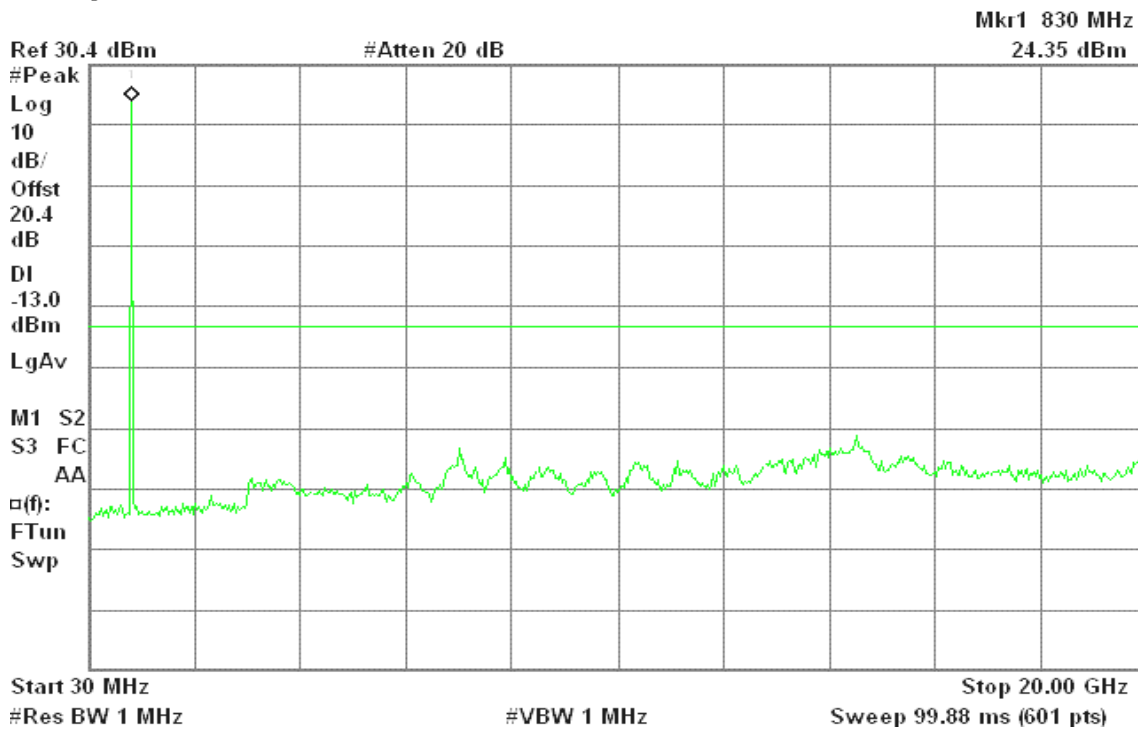




Figure 17-5: Out of Band emission at antenna terminals – HSUPA CH Mid

Agilent 09:01:20 Jan 12, 2008

R T

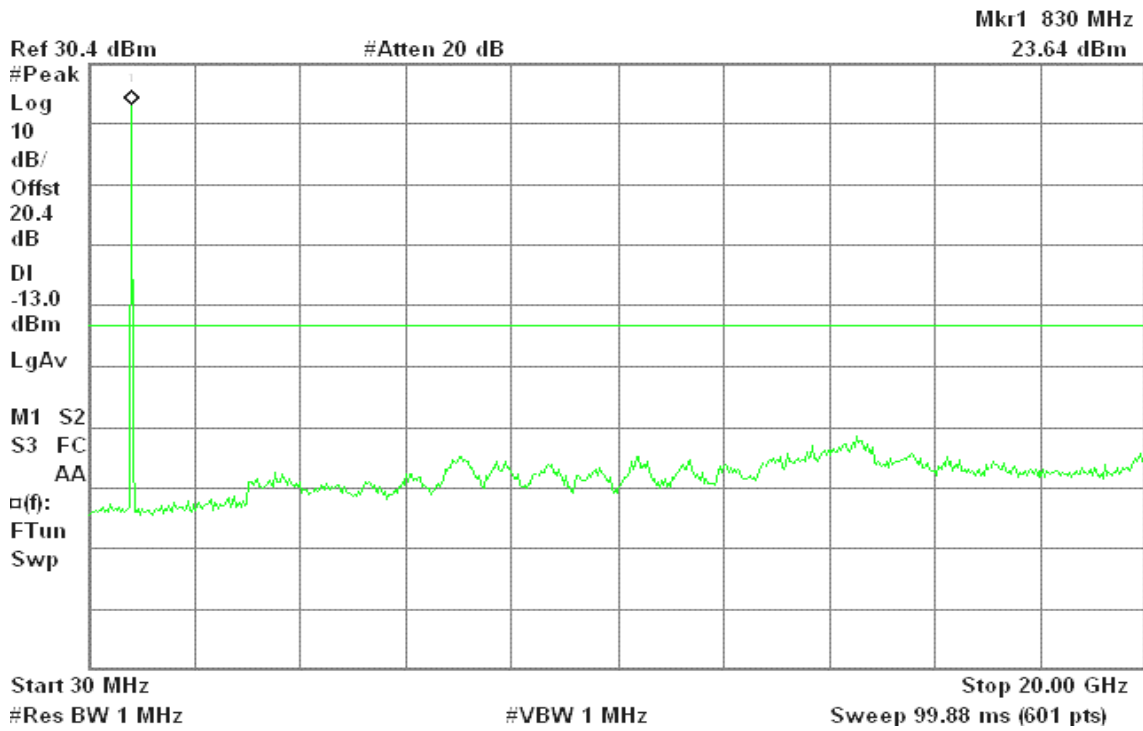
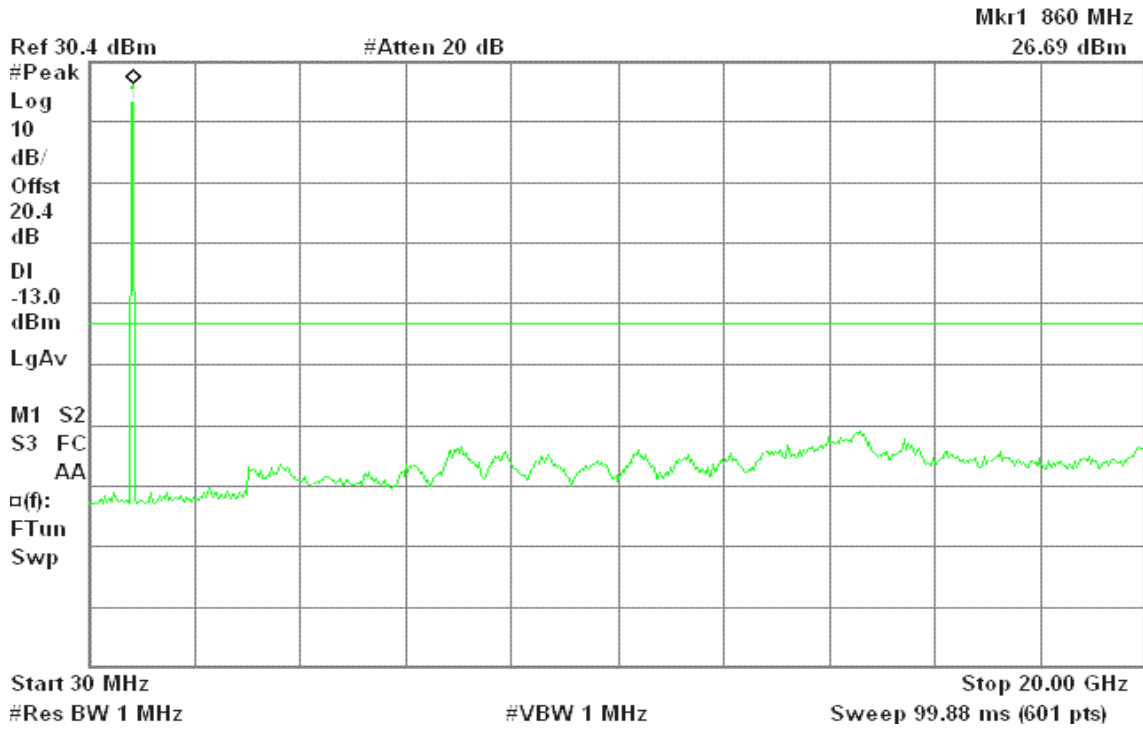


Figure 17-6: Out of Band emission at antenna terminals – HSUPA CH High

Agilent 08:53:46 Jan 12, 2008

R T





### WCDMA / HSUPA Band II

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

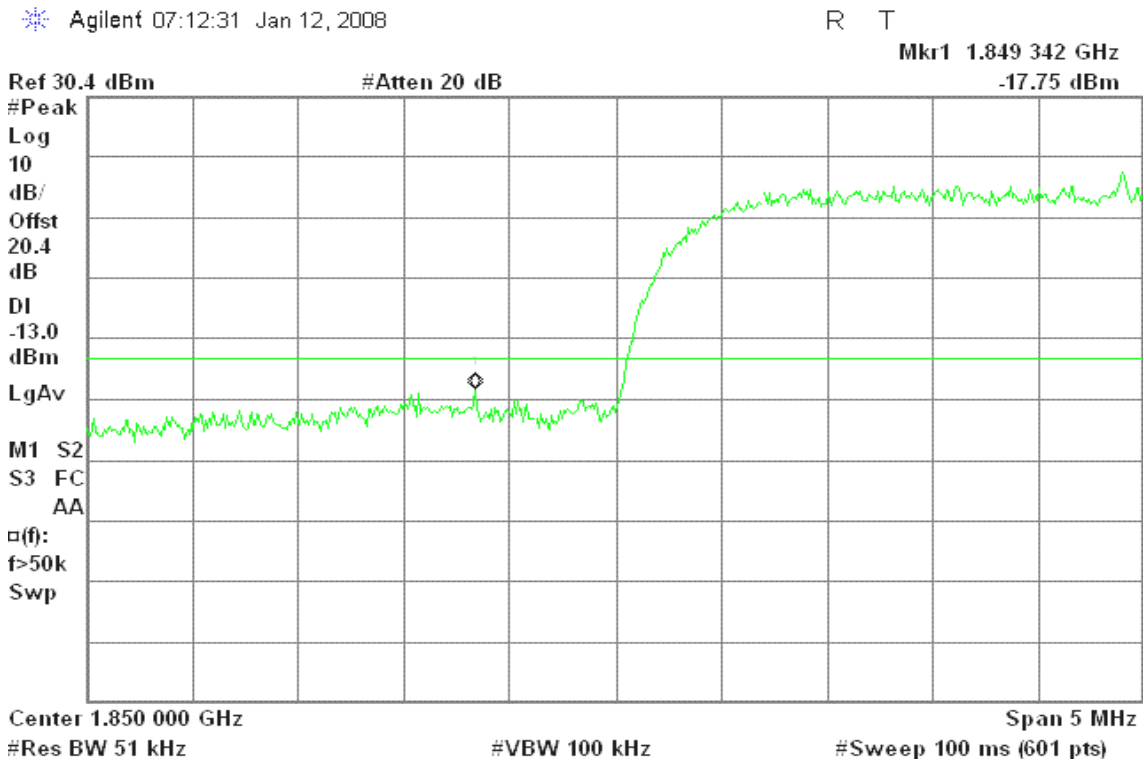
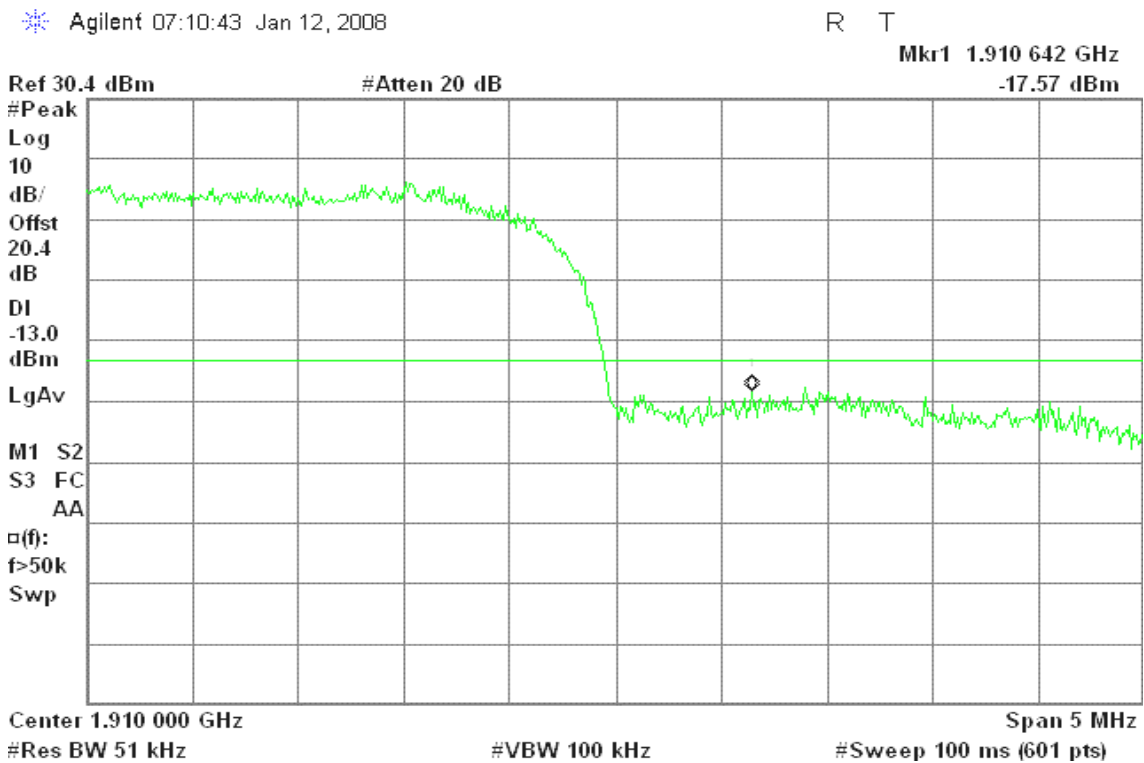


Figure 18-2: Band Edge emissions – HSUPA CH High





### WCDMA / HSUPA Band V

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

Agilent 07:16:38 Jan 12, 2008

R T

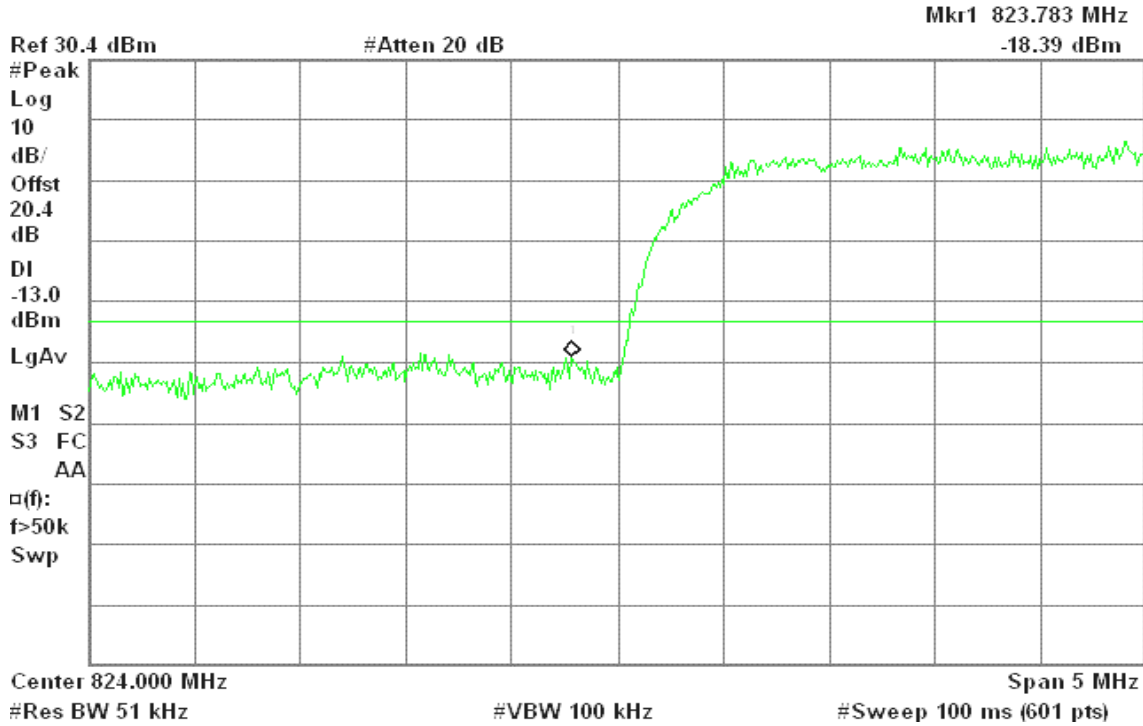
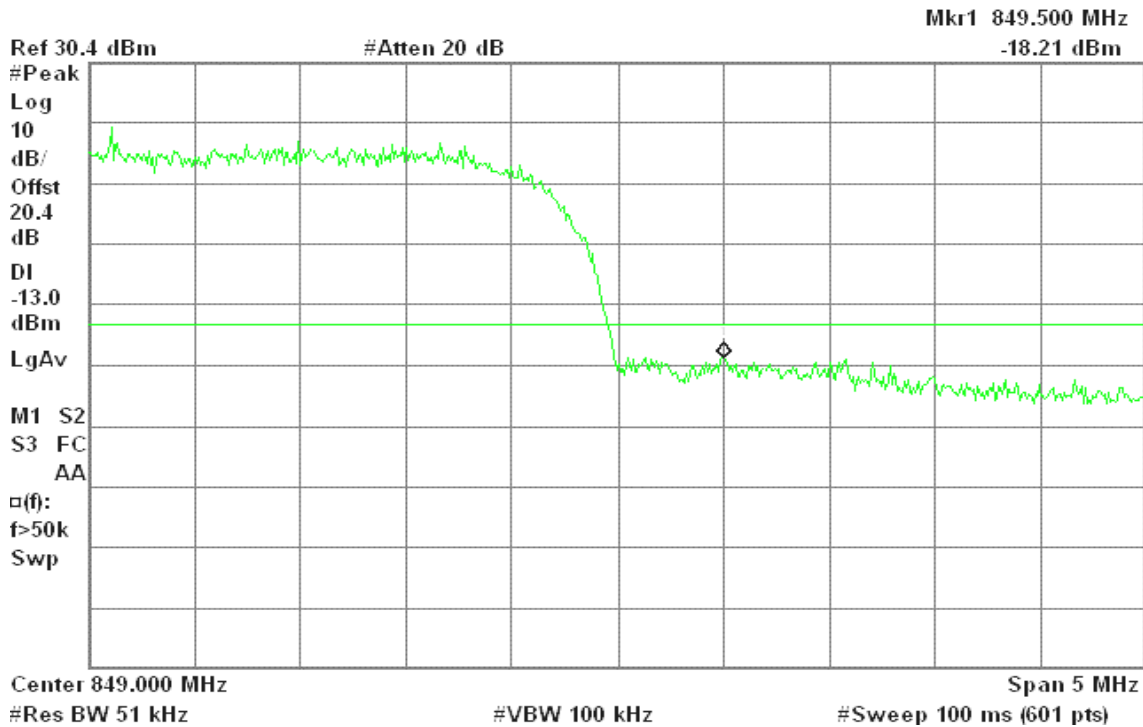


Figure 18-4: Band Edge emissions – HSUPA CH High

Agilent 08:44:22 Jan 12, 2008

R T



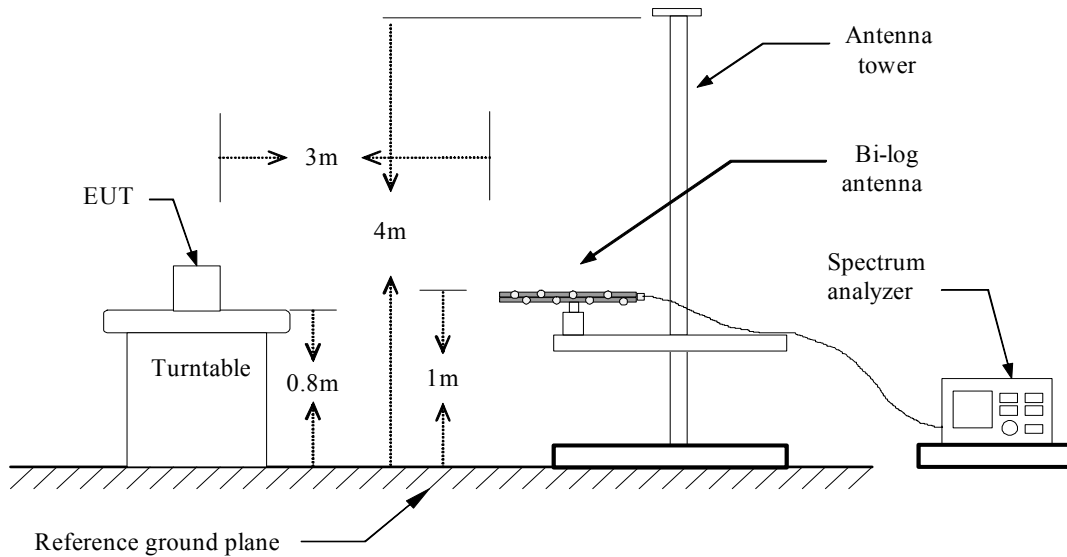
## 7.5 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

### LIMIT

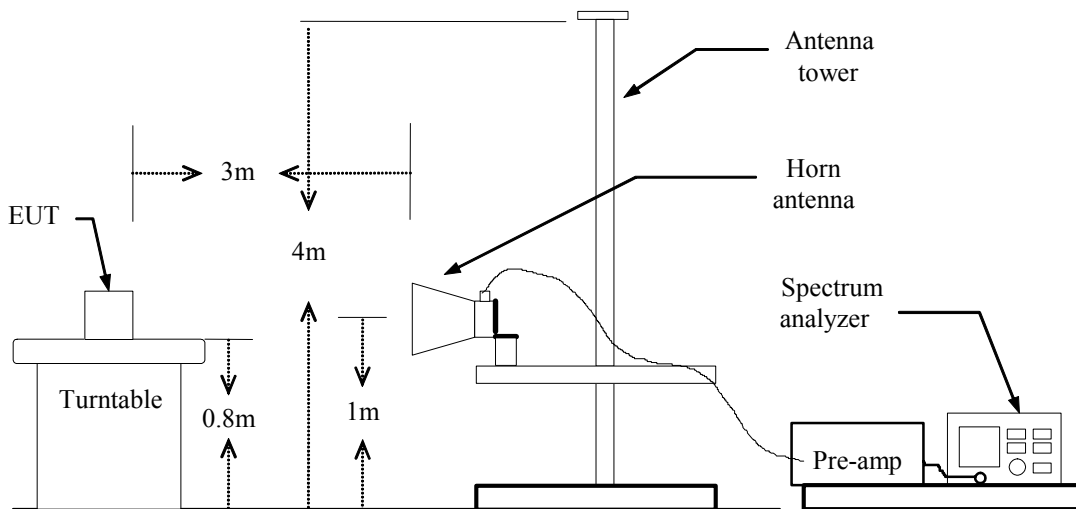
According to FCC §2.1053

### Test Configuration

#### Below 1 GHz

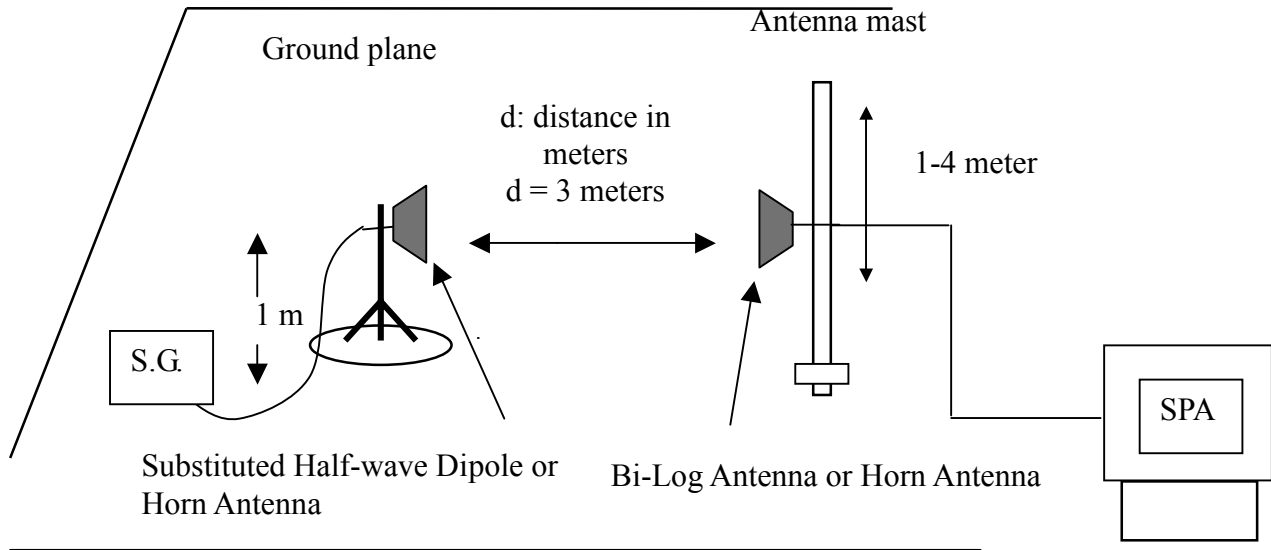


#### Above 1 GHz





**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:** November 8, 2007**Temperature:** 25°C**Tested by:** Ming Chen**Humidity:** 55 % 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	-45.55	-23.17	-68.73	-13.00	-55.73
322.94	V	-62.45	-13.98	-76.42	-13.00	-63.42
398.60	V	-59.87	-12.95	-72.82	-13.00	-59.82
408.30	V	-56.83	-12.71	-69.54	-13.00	-56.54
512.09	V	-56.94	-9.44	-66.38	-13.00	-53.38
813.76	V	-44.87	-5.16	-50.03	-13.00	-37.03
99.84	H	-42.54	-22.68	-65.22	-13.00	-52.22
155.13	H	-59.25	-19.63	-78.87	-13.00	-65.87
268.62	H	-59.57	-16.46	-76.02	-13.00	-63.02
408.30	H	-52.94	-12.83	-65.78	-13.00	-52.78
512.09	H	-55.62	-10.06	-65.68	-13.00	-52.68
813.76	H	-45.07	-5.80	-50.87	-13.00	-37.87

**Remark:**

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



Operation Mode: GSM 850 / TX / CH 190

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.79	V	-61.77	0.21	-61.56	-13.00	-48.56
130.88	V	-47.12	-21.32	-68.44	-13.00	-55.44
321.00	V	-64.22	-13.96	-78.18	-13.00	-65.18
474.26	V	-65.31	-10.49	-75.80	-13.00	-62.80
548.95	V	-63.65	-8.56	-72.21	-13.00	-59.21
825.40	V	-45.74	-5.01	-50.75	-13.00	-37.75
130.88	H	-42.68	-22.28	-64.96	-13.00	-51.96
322.94	H	-59.65	-15.19	-74.84	-13.00	-61.84
452.92	H	-60.86	-11.68	-72.53	-13.00	-59.53
548.95	H	-57.88	-8.50	-66.38	-13.00	-53.38
825.40	H	-45.34	-5.62	-50.95	-13.00	-37.95
967.99	H	-66.23	-4.09	-70.32	-13.00	-57.32

**Remark:**

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



Operation Mode: GSM 850 / TX / CH 251

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % 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	-61.79	0.28	-61.51	-13.00	-48.51
99.84	V	-57.28	-23.17	-80.45	-13.00	-67.45
136.70	V	-62.36	-20.47	-82.82	-13.00	-69.82
149.31	V	-65.49	-17.25	-82.73	-13.00	-69.73
319.06	V	-63.54	-14.03	-77.57	-13.00	-64.57
838.01	V	-56.27	-4.79	-61.06	-13.00	-48.06
39.70	H	-62.62	-2.29	-64.91	-13.00	-51.91
136.70	H	-60.76	-20.88	-81.64	-13.00	-68.64
160.95	H	-55.99	-20.51	-76.50	-13.00	-63.50
268.62	H	-58.72	-16.46	-75.17	-13.00	-62.17
319.06	H	-60.97	-15.28	-76.24	-13.00	-63.24
838.01	H	-47.70	-5.25	-52.95	-13.00	-39.95

**Remark:**

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



Operation Mode: GPRS 850 / TX / CH 128

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-62.03	0.14	-61.90	-13.00	-48.90
99.84	V	-42.91	-23.17	-66.09	-13.00	-53.09
408.30	V	-55.08	-12.71	-67.79	-13.00	-54.79
512.09	V	-56.76	-9.44	-66.20	-13.00	-53.20
813.76	V	-44.51	-5.16	-49.66	-13.00	-36.66
869.05	V	-63.28	-4.61	-67.90	-13.00	-54.90
99.84	H	-42.22	-22.68	-64.90	-13.00	-51.90
322.94	H	-59.91	-15.19	-75.10	-13.00	-62.10
407.33	H	-51.25	-12.86	-64.11	-13.00	-51.11
512.09	H	-55.98	-10.06	-66.05	-13.00	-53.05
813.76	H	-44.45	-5.80	-50.25	-13.00	-37.25
924.34	H	-65.13	-4.37	-69.50	-13.00	-56.50

**Remark:**

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



Operation Mode: GPRS 850 / TX / CH 190

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-62.09	0.14	-61.95	-13.00	-48.95
130.88	V	-53.19	-21.32	-74.51	-13.00	-61.51
151.25	V	-65.29	-17.54	-82.83	-13.00	-69.83
196.84	V	-63.56	-18.87	-82.42	-13.00	-69.42
321.00	V	-63.73	-13.96	-77.69	-13.00	-64.69
825.40	V	-47.62	-5.01	-52.63	-13.00	-39.63
130.88	H	-42.90	-22.28	-65.18	-13.00	-52.18
326.82	H	-60.56	-15.16	-75.72	-13.00	-62.72
453.89	H	-59.35	-11.67	-71.02	-13.00	-58.02
548.95	H	-57.20	-8.50	-65.70	-13.00	-52.70
825.40	H	-44.56	-5.62	-50.18	-13.00	-37.18
967.02	H	-65.28	-4.10	-69.38	-13.00	-56.38

**Remark:**

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



Operation Mode: GPRS 850 / TX / CH 251

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % 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	-62.26	0.43	-61.83	-13.00	-48.83
136.70	V	-62.30	-20.47	-82.77	-13.00	-69.77
181.32	V	-62.86	-19.75	-82.61	-13.00	-69.61
322.94	V	-61.64	-13.98	-75.61	-13.00	-62.61
838.01	V	-56.01	-4.79	-60.79	-13.00	-47.79
951.50	V	-67.72	-3.81	-71.54	-13.00	-58.54
37.76	H	-62.36	-2.86	-65.22	-13.00	-52.22
128.94	H	-58.95	-22.51	-81.47	-13.00	-68.47
155.13	H	-60.35	-19.63	-79.98	-13.00	-66.98
268.62	H	-58.98	-16.46	-75.43	-13.00	-62.43
322.94	H	-61.48	-15.19	-76.67	-13.00	-63.67
838.01	H	-48.83	-5.25	-54.08	-13.00	-41.08

**Remark:**

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



Operation Mode: GSM 1900 / TX / CH 512

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-51.64	0.14	-51.50	-13.00	-38.50
69.77	V	-52.57	-11.77	-64.34	-13.00	-51.34
141.55	V	-54.40	-19.53	-73.93	-13.00	-60.93
193.93	V	-49.34	-19.11	-68.46	-13.00	-55.46
237.58	V	-53.35	-17.00	-70.35	-13.00	-57.35
321.00	V	-54.73	-13.96	-68.68	-13.00	-55.68
39.70	H	-53.81	-2.29	-56.10	-13.00	-43.10
104.69	H	-45.92	-22.29	-68.21	-13.00	-55.21
152.22	H	-47.72	-19.03	-66.75	-13.00	-53.75
224.97	H	-48.10	-15.72	-63.82	-13.00	-50.82
270.56	H	-51.17	-16.36	-67.53	-13.00	-54.53
322.94	H	-52.88	-15.19	-68.07	-13.00	-55.07

**Remark:**

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





Operation Mode: GSM 1900 / TX / CH 661

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % 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	-52.76	0.28	-52.48	-13.00	-39.48
58.13	V	-50.51	-5.08	-55.59	-13.00	-42.59
95.96	V	-43.62	-23.37	-66.99	-13.00	-53.99
140.58	V	-52.03	-19.82	-71.85	-13.00	-58.85
185.20	V	-48.14	-19.62	-67.76	-13.00	-54.76
322.94	V	-54.85	-13.98	-68.83	-13.00	-55.83
36.79	H	-52.44	-3.14	-55.59	-13.00	-42.59
104.69	H	-46.37	-22.29	-68.66	-13.00	-55.66
136.70	H	-46.62	-20.88	-67.50	-13.00	-54.50
185.20	H	-46.55	-18.44	-64.99	-13.00	-51.99
228.85	H	-48.08	-15.92	-63.99	-13.00	-50.99
322.94	H	-53.34	-15.19	-68.53	-13.00	-55.53

**Remark:**

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



Operation Mode: GSM 1900 / TX / CH 810

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % 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	-48.32	0.43	-47.89	-13.00	-34.89
58.13	V	-50.08	-5.08	-55.16	-13.00	-42.16
96.93	V	-43.28	-23.32	-66.60	-13.00	-53.60
138.64	V	-51.79	-20.18	-71.97	-13.00	-58.97
194.90	V	-47.77	-19.03	-66.80	-13.00	-53.80
322.94	V	-53.02	-13.98	-67.00	-13.00	-54.00
39.70	H	-52.79	-2.29	-55.08	-13.00	-42.08
94.02	H	-39.07	-22.64	-61.70	-13.00	-48.70
136.70	H	-46.84	-20.88	-67.73	-13.00	-54.73
186.17	H	-45.94	-18.37	-64.32	-13.00	-51.32
270.56	H	-51.95	-16.36	-68.31	-13.00	-55.31
322.94	H	-52.56	-15.19	-67.75	-13.00	-54.75

**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: GPRS 1900 / TX / CH 512

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-52.60	0.14	-52.46	-13.00	-39.46
50.37	V	-53.71	-2.80	-56.51	-13.00	-43.51
152.22	V	-56.72	-17.93	-74.65	-13.00	-61.65
193.93	V	-48.80	-19.11	-67.92	-13.00	-54.92
266.68	V	-54.89	-16.66	-71.55	-13.00	-58.55
322.94	V	-53.26	-13.98	-67.23	-13.00	-54.23
35.82	H	-52.11	-3.43	-55.54	-13.00	-42.54
137.67	H	-54.49	-20.65	-75.14	-13.00	-62.14
194.90	H	-49.97	-17.79	-67.76	-13.00	-54.76
221.09	H	-48.15	-15.52	-63.67	-13.00	-50.67
277.35	H	-53.33	-16.61	-69.94	-13.00	-56.94
322.94	H	-52.46	-15.19	-67.65	-13.00	-54.65

**Remark:**

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



Operation Mode: GPRS 1900 / TX / CH 661

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.79	V	-51.95	0.21	-51.74	-13.00	-38.74
97.90	V	-51.99	-23.27	-75.26	-13.00	-62.26
147.37	V	-55.92	-17.82	-73.74	-13.00	-60.74
197.81	V	-49.17	-18.78	-67.96	-13.00	-54.96
290.93	V	-55.45	-15.82	-71.27	-13.00	-58.27
321.00	V	-53.78	-13.96	-67.74	-13.00	-54.74
36.79	H	-52.39	-3.14	-55.53	-13.00	-42.53
192.96	H	-47.79	-17.91	-65.71	-13.00	-52.71
225.94	H	-47.90	-15.77	-63.67	-13.00	-50.67
268.62	H	-51.60	-16.46	-68.06	-13.00	-55.06
322.94	H	-53.99	-15.19	-69.18	-13.00	-56.18
752.65	H	-57.04	-6.44	-63.48	-13.00	-50.48

**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: GPRS 1900 / TX / CH 810

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-52.43	0.14	-52.30	-13.00	-39.30
150.28	V	-57.18	-17.15	-74.33	-13.00	-61.33
194.90	V	-48.17	-19.03	-67.21	-13.00	-54.21
233.70	V	-53.12	-17.17	-70.29	-13.00	-57.29
270.56	V	-55.34	-16.47	-71.81	-13.00	-58.81
322.94	V	-53.70	-13.98	-67.67	-13.00	-54.67
39.70	H	-53.24	-2.29	-55.53	-13.00	-42.53
155.13	H	-54.32	-19.63	-73.94	-13.00	-60.94
192.96	H	-50.40	-17.91	-68.31	-13.00	-55.31
224.97	H	-47.78	-15.72	-63.50	-13.00	-50.50
268.62	H	-52.00	-16.46	-68.46	-13.00	-55.46
322.94	H	-53.36	-15.19	-68.55	-13.00	-55.55

**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 850 / TX / CH 128

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
34.85	V	-63.01	-0.96	-63.97	-13.00	-50.97
61.04	V	-55.81	-8.72	-64.53	-13.00	-51.53
99.84	V	-45.16	-21.68	-66.84	-13.00	-53.84
408.30	V	-54.17	-12.32	-66.49	-13.00	-53.49
512.09	V	-58.90	-9.20	-68.09	-13.00	-55.09
813.76	V	-46.40	-4.86	-51.26	-13.00	-38.26
37.76	H	-62.95	-3.55	-66.50	-13.00	-53.50
99.84	H	-44.73	-22.39	-67.12	-13.00	-54.12
155.13	H	-61.82	-18.14	-79.96	-13.00	-66.96
408.30	H	-55.23	-11.88	-67.12	-13.00	-54.12
512.09	H	-58.53	-9.33	-67.86	-13.00	-54.86
813.76	H	-46.51	-5.20	-51.71	-13.00	-38.71

**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 850 / TX / CH 190

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 55 % 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	-64.68	-0.68	-65.36	-13.00	-52.36
60.07	V	-57.28	-8.38	-65.66	-13.00	-52.66
130.88	V	-48.37	-20.49	-68.86	-13.00	-55.86
214.30	V	-61.83	-16.64	-78.47	-13.00	-65.47
548.95	V	-63.81	-8.21	-72.02	-13.00	-59.02
826.37	V	-47.13	-4.76	-51.89	-13.00	-38.89
36.79	H	-64.38	-3.80	-68.18	-13.00	-55.18
101.78	H	-44.42	-22.22	-66.64	-13.00	-53.64
130.88	H	-48.09	-21.60	-69.69	-13.00	-56.69
166.77	H	-47.85	-19.65	-67.50	-13.00	-54.50
548.95	H	-62.27	-7.64	-69.91	-13.00	-56.91
825.40	H	-47.27	-4.98	-52.24	-13.00	-39.24

**Remark:**

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



Operation Mode: EDGE 850 / TX / CH 251

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-63.77	-0.68	-64.45	-13.00	-51.45
61.04	V	-57.15	-8.72	-65.87	-13.00	-52.87
90.14	V	-53.66	-21.73	-75.38	-13.00	-62.38
113.42	V	-59.13	-21.05	-80.18	-13.00	-67.18
207.51	V	-61.48	-16.96	-78.44	-13.00	-65.44
838.01	V	-56.17	-4.59	-60.76	-13.00	-47.76
37.76	H	-64.30	-3.55	-67.85	-13.00	-54.85
90.14	H	-55.65	-22.27	-77.92	-13.00	-64.92
163.86	H	-51.79	-19.86	-71.65	-13.00	-58.65
249.22	H	-62.62	-15.19	-77.81	-13.00	-64.81
626.55	H	-66.18	-7.56	-73.75	-13.00	-60.75
838.01	H	-56.72	-4.53	-61.25	-13.00	-48.25

**Remark:**

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





Operation Mode: EDGE 1900 / TX / CH 512

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-63.52	-0.68	-64.21	-13.00	-51.21
59.10	V	-58.44	-8.07	-66.50	-13.00	-53.50
90.14	V	-54.91	-21.73	-76.64	-13.00	-63.64
147.37	V	-66.33	-16.82	-83.15	-13.00	-70.15
221.09	V	-61.52	-16.55	-78.07	-13.00	-65.07
353.01	V	-67.84	-13.18	-81.02	-13.00	-68.02
39.70	H	-64.39	-3.06	-67.44	-13.00	-54.44
90.14	H	-57.47	-22.27	-79.74	-13.00	-66.74
121.18	H	-39.91	-21.76	-61.67	-13.00	-48.67
136.70	H	-62.39	-20.62	-83.01	-13.00	-70.01
155.13	H	-62.74	-18.14	-80.89	-13.00	-67.89
229.82	H	-64.24	-15.45	-79.69	-13.00	-66.69

**Remark:**

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



Operation Mode: EDGE 1900 / TX / CH 661

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-64.46	-0.63	-65.09	-13.00	-52.09
62.01	V	-58.65	-9.05	-67.70	-13.00	-54.70
89.17	V	-55.66	-21.44	-77.10	-13.00	-64.10
120.21	V	-58.02	-21.09	-79.11	-13.00	-66.11
168.71	V	-55.40	-19.15	-74.54	-13.00	-61.54
232.73	V	-62.58	-16.33	-78.91	-13.00	-65.91
39.70	H	-65.10	-3.06	-68.16	-13.00	-55.16
90.14	H	-57.37	-22.27	-79.63	-13.00	-66.63
113.42	H	-61.39	-21.53	-82.93	-13.00	-69.93
136.70	H	-61.31	-20.62	-81.93	-13.00	-68.93
155.13	H	-62.20	-18.14	-80.34	-13.00	-67.34
230.79	H	-63.83	-15.45	-79.28	-13.00	-66.28

**Remark:**

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



Operation Mode: EDGE 1900 / TX / CH 810

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-64.79	-0.66	-65.45	-13.00	-52.45
62.01	V	-58.37	-9.05	-67.42	-13.00	-54.42
89.17	V	-55.63	-21.44	-77.07	-13.00	-64.07
136.70	V	-62.88	-19.65	-82.53	-13.00	-69.53
221.09	V	-61.59	-16.55	-78.14	-13.00	-65.14
578.05	V	-67.91	-7.87	-75.78	-13.00	-62.78
38.73	H	-64.73	-3.30	-68.04	-13.00	-55.04
89.17	H	-56.52	-22.11	-78.63	-13.00	-65.63
136.70	H	-60.18	-20.62	-80.80	-13.00	-67.80
216.24	H	-63.95	-14.98	-78.93	-13.00	-65.93
334.58	H	-65.99	-14.18	-80.17	-13.00	-67.17
383.08	H	-54.81	-12.01	-66.83	-13.00	-53.83

**Remark:**

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



Operation Mode: WCDMA Band II / TX / CH 9262

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
34.85	V	-62.72	-0.96	-63.68	-13.00	-50.68
55.22	V	-57.78	-6.83	-64.61	-13.00	-51.61
157.07	V	-54.14	-18.78	-72.92	-13.00	-59.92
277.35	V	-61.30	-15.55	-76.85	-13.00	-63.85
326.82	V	-62.10	-13.33	-75.43	-13.00	-62.43
452.92	V	-60.83	-10.84	-71.67	-13.00	-58.67
40.67	H	-63.70	-3.21	-66.91	-13.00	-53.91
90.14	H	-54.94	-22.27	-77.21	-13.00	-64.21
166.77	H	-58.11	-19.65	-77.76	-13.00	-64.76
282.20	H	-61.87	-15.79	-77.66	-13.00	-64.66
326.82	H	-64.10	-14.28	-78.38	-13.00	-65.38
371.44	H	-65.88	-12.56	-78.44	-13.00	-65.44

**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: WCDMA Band II / TX / CH 9400

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.79	V	-63.62	-0.71	-64.33	-13.00	-51.33
61.04	V	-59.23	-8.72	-67.95	-13.00	-54.95
157.07	V	-53.66	-18.78	-72.43	-13.00	-59.43
277.35	V	-62.60	-15.55	-78.15	-13.00	-65.15
326.82	V	-61.54	-13.33	-74.86	-13.00	-61.86
452.92	V	-60.47	-10.84	-71.31	-13.00	-58.31
41.64	H	-63.59	-3.54	-67.13	-13.00	-54.13
89.17	H	-55.64	-22.11	-77.75	-13.00	-64.75
166.77	H	-58.72	-19.65	-78.37	-13.00	-65.37
226.91	H	-63.30	-15.32	-78.61	-13.00	-65.61
276.38	H	-63.63	-15.71	-79.34	-13.00	-66.34
512.09	H	-66.56	-9.33	-75.89	-13.00	-62.89

**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 Band II / TX / CH 9538

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-64.41	-0.66	-65.06	-13.00	-52.06
116.33	V	-57.30	-21.08	-78.37	-13.00	-65.37
157.07	V	-54.85	-18.78	-73.63	-13.00	-60.63
277.35	V	-62.50	-15.55	-78.05	-13.00	-65.05
326.82	V	-61.51	-13.33	-74.83	-13.00	-61.83
452.92	V	-59.97	-10.84	-70.81	-13.00	-57.81
57.16	H	-60.34	-7.10	-67.44	-13.00	-54.44
90.14	H	-54.93	-22.27	-77.20	-13.00	-64.20
155.13	H	-60.97	-18.14	-79.11	-13.00	-66.11
182.29	H	-61.48	-18.02	-79.50	-13.00	-66.50
268.62	H	-60.95	-15.54	-76.49	-13.00	-63.49
544.10	H	-67.00	-7.68	-74.68	-13.00	-61.68

**Remark:**

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



Operation Mode: WCDMA Band V / TX / CH 4132

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-64.03	-0.66	-64.69	-13.00	-51.69
57.16	V	-60.89	-7.45	-68.34	-13.00	-55.34
90.14	V	-54.48	-21.73	-76.21	-13.00	-63.21
157.07	V	-58.95	-18.78	-77.72	-13.00	-64.72
326.82	V	-65.45	-13.33	-78.77	-13.00	-65.77
452.92	V	-62.68	-10.84	-73.52	-13.00	-60.52
41.64	H	-65.27	-3.54	-68.81	-13.00	-55.81
90.14	H	-49.22	-22.27	-71.49	-13.00	-58.49
107.60	H	-56.81	-21.65	-78.46	-13.00	-65.46
136.70	H	-59.02	-20.62	-79.63	-13.00	-66.63
186.17	H	-61.10	-17.66	-78.76	-13.00	-65.76
271.53	H	-63.84	-15.53	-79.36	-13.00	-66.36

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions 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: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
34.85	V	-63.34	-0.96	-64.30	-13.00	-51.30
57.16	V	-59.73	-7.45	-67.18	-13.00	-54.18
116.33	V	-58.42	-21.08	-79.50	-13.00	-66.50
157.07	V	-57.85	-18.78	-76.63	-13.00	-63.63
326.82	V	-62.64	-13.33	-75.97	-13.00	-62.97
452.92	V	-63.16	-10.84	-74.00	-13.00	-61.00
57.16	H	-60.73	-7.10	-67.82	-13.00	-54.82
90.14	H	-54.39	-22.27	-76.66	-13.00	-63.66
128.94	H	-57.06	-21.75	-78.81	-13.00	-65.81
186.17	H	-62.77	-17.66	-80.43	-13.00	-67.43
282.20	H	-64.67	-15.79	-80.46	-13.00	-67.46
372.41	H	-66.51	-12.49	-79.01	-13.00	-66.01

**Remark:**

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





Operation Mode: WCDMA Band V / TX / CH 4233

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-62.99	-0.74	-63.73	-13.00	-50.73
57.16	V	-60.57	-7.45	-68.02	-13.00	-55.02
116.33	V	-57.68	-21.08	-78.75	-13.00	-65.75
157.07	V	-58.68	-18.78	-77.46	-13.00	-64.46
229.82	V	-63.86	-16.50	-80.36	-13.00	-67.36
452.92	V	-63.09	-10.84	-73.93	-13.00	-60.93
57.16	H	-59.92	-7.10	-67.02	-13.00	-54.02
90.14	H	-54.05	-22.27	-76.31	-13.00	-63.31
155.13	H	-60.97	-18.14	-79.11	-13.00	-66.11
186.17	H	-59.72	-17.66	-77.38	-13.00	-64.38
276.38	H	-64.28	-15.71	-80.00	-13.00	-67.00
315.18	H	-65.11	-14.66	-79.77	-13.00	-66.77

**Remark:**

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



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

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-55.98	-14.25	-70.23	-13.00	-57.23
65.89	V	-56.63	-16.28	-72.91	-13.00	-59.91
199.75	V	-64.58	-13.67	-78.24	-13.00	-65.24
N/A						
43.58	H	-63.55	-12.69	-76.24	-13.00	-63.24
90.14	H	-59.90	-22.16	-82.06	-13.00	-69.06
103.72	H	-60.90	-18.30	-79.20	-13.00	-66.20
155.13	H	-64.00	-13.80	-77.79	-13.00	-64.79
326.82	H	-64.49	-13.05	-77.54	-13.00	-64.54
385.99	H	-65.42	-10.81	-76.23	-13.00	-63.23

**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 / HSDPA Band II / TX / CH 9400

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-57.97	-14.83	-72.80	-13.00	-59.80
62.01	V	-53.67	-16.03	-69.69	-13.00	-56.69
N/A						
40.67	H	-62.57	-12.71	-75.28	-13.00	-62.28
63.95	H	-61.11	-17.52	-78.62	-13.00	-65.62
90.14	H	-59.29	-22.16	-81.46	-13.00	-68.46
101.78	H	-60.83	-18.71	-79.54	-13.00	-66.54
148.34	H	-65.32	-13.95	-79.27	-13.00	-66.27
282.20	H	-62.93	-14.20	-77.13	-13.00	-64.13

**Remark:**

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



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

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-57.78	-14.25	-72.03	-13.00	-59.03
63.95	V	-53.21	-16.15	-69.36	-13.00	-56.36
198.78	V	-65.98	-13.83	-79.81	-13.00	-66.81
271.53	V	-66.14	-12.32	-78.46	-13.00	-65.46
N/A						
40.67	H	-63.36	-12.71	-76.07	-13.00	-63.07
63.95	H	-62.00	-17.52	-79.52	-13.00	-66.52
101.78	H	-60.06	-18.71	-78.77	-13.00	-65.77
199.75	H	-65.50	-12.73	-78.22	-13.00	-65.22
321.00	H	-64.19	-13.01	-77.20	-13.00	-64.20
437.40	H	-65.08	-9.53	-74.62	-13.00	-61.62

**Remark:**

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



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

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-54.80	-14.83	-69.64	-13.00	-56.64
61.04	V	-53.55	-15.96	-69.51	-13.00	-56.51
202.66	V	-64.58	-14.20	-78.78	-13.00	-65.78
N/A						
40.67	H	-64.11	-12.71	-76.82	-13.00	-63.82
62.98	H	-61.04	-17.31	-78.35	-13.00	-65.35
103.72	H	-59.49	-18.30	-77.79	-13.00	-64.79
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: WCDMA / HSDPA Band V / TX / CH 4183

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
48.43	V	-53.27	-16.00	-69.27	-13.00	-56.27
62.98	V	-52.73	-16.09	-68.81	-13.00	-55.81
202.66	V	-64.78	-14.20	-78.98	-13.00	-65.98
N/A						
44.55	H	-63.61	-12.68	-76.29	-13.00	-63.29
61.04	H	-61.14	-16.89	-78.03	-13.00	-65.03
103.72	H	-59.52	-18.30	-77.82	-13.00	-64.82
N/A						

**Remark:**

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



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

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
47.46	V	-53.30	-15.42	-68.71	-13.00	-55.71
62.01	V	-52.05	-16.03	-68.07	-13.00	-55.07
827.34	V	-56.59	-4.22	-60.82	-13.00	-47.82
N/A						
40.67	H	-63.55	-12.71	-76.26	-13.00	-63.26
61.04	H	-60.48	-16.89	-77.37	-13.00	-64.37
103.72	H	-59.08	-18.30	-77.38	-13.00	-64.38
N/A						

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

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	-38.85	-14.83	-53.69	-13.00	-40.69
61.04	V	-41.15	-15.96	-57.11	-13.00	-44.11
75.59	V	-46.64	-18.41	-65.05	-13.00	-52.05
110.51	V	-46.37	-16.60	-62.96	-13.00	-49.96
197.81	V	-52.99	-14.00	-66.99	-13.00	-53.99
277.35	V	-57.00	-12.34	-69.34	-13.00	-56.34
33.88	H	-44.69	-17.00	-61.70	-13.00	-48.70
45.52	H	-49.23	-12.97	-62.20	-13.00	-49.20
62.01	H	-47.45	-17.10	-64.55	-13.00	-51.55
121.18	H	-51.75	-14.91	-66.66	-13.00	-53.66
200.72	H	-50.65	-12.83	-63.48	-13.00	-50.48
245.34	H	-49.97	-13.95	-63.92	-13.00	-50.92

**Remark:**

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





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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
47.46	V	-38.12	-15.42	-53.54	-13.00	-40.54
61.04	V	-41.27	-15.96	-57.23	-13.00	-44.23
116.33	V	-46.75	-15.32	-62.06	-13.00	-49.06
197.81	V	-54.08	-14.00	-68.08	-13.00	-55.08
222.06	V	-52.84	-15.20	-68.04	-13.00	-55.04
237.58	V	-53.92	-14.29	-68.20	-13.00	-55.20
38.73	H	-47.35	-13.51	-60.86	-13.00	-47.86
62.01	H	-47.74	-17.10	-64.84	-13.00	-51.84
86.26	H	-44.12	-21.95	-66.07	-13.00	-53.07
120.21	H	-52.29	-14.87	-67.16	-13.00	-54.16
193.93	H	-49.30	-13.89	-63.18	-13.00	-50.18
239.52	H	-50.99	-13.55	-64.54	-13.00	-51.54

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
47.46	V	-38.61	-15.42	-54.02	-13.00	-41.02
61.04	V	-41.48	-15.96	-57.44	-13.00	-44.44
118.27	V	-47.84	-14.89	-62.73	-13.00	-49.73
215.27	V	-50.75	-15.56	-66.31	-13.00	-53.31
274.44	V	-56.37	-12.33	-68.71	-13.00	-55.71
359.80	V	-55.94	-11.82	-67.76	-13.00	-54.76
32.91	H	-43.51	-17.99	-61.50	-13.00	-48.50
63.95	H	-48.01	-17.52	-65.53	-13.00	-52.53
86.26	H	-44.55	-21.95	-66.50	-13.00	-53.50
99.84	H	-48.43	-19.13	-67.56	-13.00	-54.56
120.21	H	-51.64	-14.87	-66.51	-13.00	-53.51
193.93	H	-51.43	-13.89	-65.31	-13.00	-52.31

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
47.46	V	-38.22	-15.42	-53.64	-13.00	-40.64
62.01	V	-40.44	-16.03	-56.46	-13.00	-43.46
120.21	V	-47.77	-14.49	-62.26	-13.00	-49.26
208.48	V	-48.89	-15.45	-64.34	-13.00	-51.34
217.21	V	-49.64	-15.48	-65.12	-13.00	-52.12
285.11	V	-56.85	-12.39	-69.25	-13.00	-56.25
35.82	H	-48.85	-15.35	-64.20	-13.00	-51.20
61.04	H	-47.43	-16.89	-64.32	-13.00	-51.32
102.75	H	-45.62	-18.51	-64.13	-13.00	-51.13
192.96	H	-53.08	-14.08	-67.16	-13.00	-54.16
238.55	H	-51.98	-13.60	-65.58	-13.00	-52.58
419.94	H	-54.84	-9.68	-64.52	-13.00	-51.52

**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 / HSUPA Band V / TX / CH 4183

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
48.43	V	-37.25	-16.00	-53.24	-13.00	-40.24
61.04	V	-38.71	-15.96	-54.67	-13.00	-41.67
110.51	V	-45.55	-16.60	-62.15	-13.00	-49.15
194.90	V	-51.01	-14.51	-65.52	-13.00	-52.52
232.73	V	-52.55	-14.46	-67.02	-13.00	-54.02
277.35	V	-55.83	-12.34	-68.17	-13.00	-55.17
34.85	H	-47.91	-16.02	-63.93	-13.00	-50.93
50.37	H	-49.03	-15.50	-64.53	-13.00	-51.53
127.97	H	-48.94	-15.17	-64.10	-13.00	-51.10
195.87	H	-49.51	-13.50	-63.01	-13.00	-50.01
234.67	H	-50.37	-13.79	-64.17	-13.00	-51.17
319.06	H	-54.70	-13.06	-67.76	-13.00	-54.76

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
47.46	V	-36.55	-15.42	-51.96	-13.00	-38.96
62.98	V	-38.79	-16.09	-54.88	-13.00	-41.88
75.59	V	-44.28	-18.41	-62.68	-13.00	-49.68
117.30	V	-44.70	-15.10	-59.80	-13.00	-46.80
205.57	V	-48.34	-14.82	-63.16	-13.00	-50.16
234.67	V	-50.14	-14.39	-64.53	-13.00	-51.53
38.73	H	-44.27	-13.51	-57.78	-13.00	-44.78
62.98	H	-44.51	-17.31	-61.82	-13.00	-48.82
86.26	H	-41.87	-21.95	-63.82	-13.00	-50.82
120.21	H	-47.72	-14.87	-62.59	-13.00	-49.59
199.75	H	-49.97	-12.73	-62.69	-13.00	-49.69
244.37	H	-48.35	-13.87	-62.22	-13.00	-49.22

**Remark:**

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



**Above 1GHz**

**Operation Mode:** GSM 850 / TX / CH 128

**Test Date:** November 8, 2007

**Temperature:** 25°C

**Tested by:** Ming Chen

**Humidity:** 55 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-50.97	2.65	-48.32	-13.00	-35.32
2470.00	V	-47.28	7.38	-39.89	-13.00	-26.89
N/A						
1651.00	H	-50.13	3.37	-46.76	-13.00	-33.76
2470.00	H	-50.06	7.77	-42.29	-13.00	-29.29
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: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-50.39	2.82	-47.56	-13.00	-34.56
2512.00	V	-47.52	7.53	-40.00	-13.00	-27.00
N/A						
1672.00	H	-48.64	3.53	-45.11	-13.00	-32.11
2512.00	H	-45.45	7.91	-37.54	-13.00	-24.54
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: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-47.59	3.06	-44.53	-13.00	-31.53
2547.00	V	-45.81	7.61	-38.21	-13.00	-25.21
N/A						
1700.00	H	-47.90	3.75	-44.16	-13.00	-31.16
2547.00	H	-47.09	8.00	-39.08	-13.00	-26.08
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: GPRS 850 / TX / CH 128

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-51.49	2.65	-48.84	-13.00	-35.84
2470.00	V	-50.52	7.38	-43.13	-13.00	-30.13
N/A						
1651.00	H	-53.06	3.37	-49.69	-13.00	-36.69
2470.00	H	-48.11	7.77	-40.34	-13.00	-27.34
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: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-49.92	2.82	-47.10	-13.00	-34.10
2512.00	V	-47.31	7.53	-39.78	-13.00	-26.78
N/A						
1672.00	H	-48.10	3.53	-44.57	-13.00	-31.57
2512.00	H	-46.18	7.91	-38.27	-13.00	-25.27
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: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-48.52	3.06	-45.46	-13.00	-32.46
2547.00	V	-46.35	7.61	-38.75	-13.00	-25.75
N/A						
1700.00	H	-47.45	3.75	-43.70	-13.00	-30.70
2547.00	H	-45.41	8.00	-37.41	-13.00	-24.41
4269.00	H	-59.27	9.68	-49.59	-13.00	-36.59
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: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
7181.00	V	-59.17	12.06	-47.11	-13.00	-34.11
N/A						
7202.00	H	-59.91	12.29	-47.62	-13.00	-34.62
N/A						

**Remark:**

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



Operation Mode: GSM 1900 / TX / CH 661

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-57.35	8.77	-48.58	-13.00	-35.58
N/A						
N/A						

**Remark:**

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



Operation Mode: GSM 1900 / TX / CH 810

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-55.91	8.87	-47.04	-13.00	-34.04
N/A						
N/A						

**Remark:**

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



Operation Mode: GPRS 1900 / TX / CH 512

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-58.34	8.69	-49.65	-13.00	-36.65
N/A						
3702.00	H	-59.97	9.18	-50.79	-13.00	-37.79
7895.00	H	-61.25	13.42	-47.83	-13.00	-34.83
N/A						

**Remark:**

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



Operation Mode: GPRS 1900 / TX / CH 661

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-57.47	8.77	-48.69	-13.00	-35.69
5641.00	V	-59.35	9.42	-49.93	-13.00	-36.93
N/A						
N/A						

**Remark:**

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





Operation Mode: GPRS 1900 / TX / CH 810

Test Date: November 8, 2007

Temperature: 25°C

Tested by: Ming Chen

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-55.03	8.87	-46.16	-13.00	-33.16
N/A						
N/A						

**Remark:**

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



Operation Mode: EDGE 850 / TX / CH 128

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
6600.00	V	-61.29	11.40	-49.89	-13.00	-36.89
N/A						
2470.00	H	-59.69	8.63	-51.06	-13.00	-38.06
N/A						

**Remark:**

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



Operation Mode: EDGE 850 / TX / CH 190

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-56.89	4.35	-52.54	-13.00	-39.54
N/A						
1672.00	H	-58.44	4.33	-54.10	-13.00	-41.10
2512.00	H	-56.13	8.78	-47.35	-13.00	-34.35
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: EDGE 850 / TX / CH 251

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-55.35	4.51	-50.84	-13.00	-37.84
2512.00	V	-60.36	9.06	-51.30	-13.00	-38.30
N/A						
1700.00	H	-55.09	4.52	-50.57	-13.00	-37.57
2547.00	H	-57.43	8.84	-48.59	-13.00	-35.59
N/A						

**Remark:**

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



Operation Mode: EDGE 1900 / TX / CH 512

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1854.00	V	-53.29	5.38	-47.91	-13.00	-34.91
N/A						
1854.00	H	-51.13	5.57	-45.56	-13.00	-32.56
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 661

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1882.00	V	-52.91	5.54	-47.37	-13.00	-34.37
N/A						
1882.00	H	-54.92	5.75	-49.17	-13.00	-36.17
N/A						

**Remark:**

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



Operation Mode: EDGE 1900 / TX / CH 810

Test Date: December 25, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1910.00	V	-50.60	5.70	-44.90	-13.00	-31.90
N/A						
1910.00	H	-49.65	5.94	-43.71	-13.00	-30.71
N/A						

**Remark:**

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



Operation Mode: WCDMA Band II / TX / CH 9262

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
	V					
	V					
	V					
	V					
	V					
	V					
	V					
	H					
	H					
	H					
	H					
	H					
	H					

**Remark:**

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





Operation Mode: WCDMA Band II / TX / CH 9400

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-42.41	9.46	-32.96	-13.00	-19.96
5641.00	V	-60.07	10.14	-49.93	-13.00	-36.93
N/A						
3758.00	H	-51.34	9.35	-41.99	-13.00	-28.99
5641.00	H	-60.43	9.92	-50.51	-13.00	-37.51
7524.00	H	-58.19	12.61	-45.58	-13.00	-32.58
N/A						

**Remark:**

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



Operation Mode: WCDMA Band II / TX / CH 9538

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-29.71	9.48	-20.23	-13.00	-7.23
5725.00	V	-60.19	10.22	-49.97	-13.00	-36.97
7636.00	V	-58.87	12.94	-45.92	-13.00	-32.92
N/A						
3814.00	H	-31.81	9.41	-22.40	-13.00	-9.40
5725.00	H	-56.97	10.02	-46.95	-13.00	-33.95
7629.00	H	-55.94	12.76	-43.18	-13.00	-30.18
N/A						

**Remark:**

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



Operation Mode: WCDMA Band V / TX / CH 4132

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1889.00	V	-61.27	5.58	-55.69	-13.00	-42.69
N/A						
1441.00	H	-60.63	2.92	-57.72	-13.00	-44.72
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: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2631.00	V	-60.67	9.20	-51.47	-13.00	-38.47
N/A						
2015.00	H	-61.31	6.62	-54.69	-13.00	-41.69
N/A						

**Remark:**

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



Operation Mode: WCDMA Band V / TX / CH 4233

Test Date: December 19, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5298.00	V	-62.17	9.96	-52.21	-13.00	-39.21
N/A						
1700.00	H	-59.92	4.52	-55.40	-13.00	-42.40
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: WCDMA / HSDPA Band II / TX / CH 9262

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3709.00	V	-44.69	6.12	-38.57	-13.00	-25.57
5564.00	V	-57.17	7.30	-49.87	-13.00	-36.87
N/A						
3709.00	H	-48.94	6.13	-42.82	-13.00	-29.82
5564.00	H	-56.46	7.45	-49.01	-13.00	-36.01
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: WCDMA / HSDPA Band II / TX / CH 9400

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-45.40	6.20	-39.20	-13.00	-26.20
5641.00	V	-56.98	7.48	-49.50	-13.00	-36.50
N/A						
3765.00	H	-51.79	6.22	-45.57	-13.00	-32.57
5641.00	H	-57.32	7.60	-49.72	-13.00	-36.72
N/A						

**Remark:**

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



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

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

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	-25.18	6.29	-18.89	-13.00	-5.89
5718.00	V	-56.49	7.66	-48.83	-13.00	-35.83
N/A						
3814.00	H	-35.35	6.30	-29.05	-13.00	-16.05
5718.00	H	-55.04	7.76	-47.28	-13.00	-34.28
7636.00	H	-55.26	14.10	-41.15	-13.00	-28.15
N/A						

**Remark:**

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





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

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2988.00	V	-55.72	5.78	-49.94	-13.00	-36.94
N/A						
2092.00	H	-57.82	2.39	-55.43	-13.00	-42.43
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: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1602.00	V	-58.28	1.82	-56.46	-13.00	-43.46
N/A						
2995.00	H	-56.80	5.83	-50.97	-13.00	-37.97
N/A						

**Remark:**

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



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

Test Date: December 24, 2007

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1448.00	V	-57.55	1.59	-55.96	-13.00	-42.96
N/A						
1973.00	H	-57.70	1.86	-55.84	-13.00	-42.84
N/A						

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1854.00	V	-36.30	1.78	-34.52	-13.00	-21.52
3709.00	V	-46.18	6.12	-40.06	-13.00	-27.06
5557.00	V	-52.60	7.28	-45.31	-13.00	-32.31
N/A						
1854.00	H	-41.05	1.83	-39.22	-13.00	-26.22
3709.00	H	-47.28	6.13	-41.16	-13.00	-28.16
5557.00	H	-55.59	7.43	-48.16	-13.00	-35.16
N/A						

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1882.00	V	-34.69	1.77	-32.92	-13.00	-19.92
3765.00	V	-38.08	6.21	-31.87	-13.00	-18.87
5641.00	V	-57.89	7.48	-50.41	-13.00	-37.41
N/A						
1882.00	H	-38.37	1.84	-36.54	-13.00	-23.54
3765.00	H	-44.34	6.22	-38.12	-13.00	-25.12
N/A						

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1910.00	V	-35.11	1.77	-33.35	-13.00	-20.35
3814.00	V	-22.23	6.29	-15.94	-13.00	-2.94
5718.00	V	-56.75	7.66	-49.09	-13.00	-36.09
N/A						
1910.00	H	-37.69	1.84	-35.84	-13.00	-22.84
3821.00	H	-28.52	6.32	-22.21	-13.00	-9.21
5725.00	H	-56.16	7.77	-48.39	-13.00	-35.39
7629.00	H	-53.30	14.09	-39.21	-13.00	-26.21
N/A						

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2512.00	V	-59.08	4.44	-54.63	-13.00	-41.63
N/A						
2477.00	H	-57.74	4.57	-53.18	-13.00	-40.18
N/A						

**Remark:**

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



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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2729.00	V	-59.15	5.05	-54.09	-13.00	-41.09
N/A						
1959.00	H	-59.45	1.86	-57.59	-13.00	-44.59
N/A						

**Remark:**

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





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

Test Date: January 14, 2008

Temperature: 25°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1511.00	V	-59.03	1.84	-57.19	-13.00	-44.19
N/A						
1497.00	H	-58.60	1.72	-56.88	-13.00	-43.88
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.

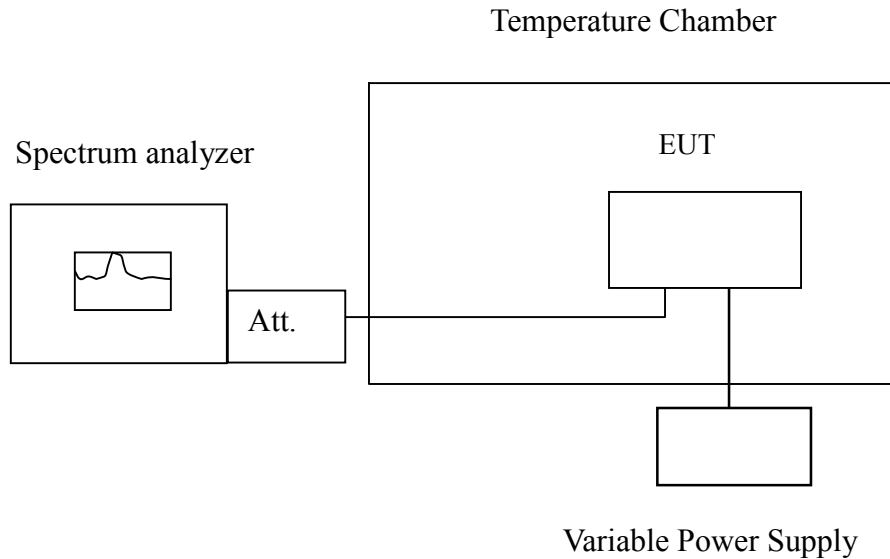
## 7.6 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

### LIMIT

According to FCC §2.1055, FCC §24.235.

Frequency Tolerance: 2.5 ppm

### Test Configuration



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



**TEST PROCEDURE**

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

**TEST RESULTS**

No non-compliance noted.

Reference Frequency: 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	10	2090
	40	83600007	7	
	30	83600006	6	
	20	83600000	0	
	10	83600008	8	
	0	83600011	11	
	-10	83600005	5	
	-20	83600006	6	
	-30	83600001	1	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1879999952	-95	4700
	40	1879999961	-86	
	30	1879999957	-90	
	20	1880000047	0	
	10	1879999967	-80	
	0	1879999959	-88	
	-10	1879999962	-85	
	-20	1879999949	-98	
	-30	1879999963	-84	



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	83600026	28	2090
	40	83600021	23	
	30	83600018	20	
	20	83599998	0	
	10	83600016	18	
	0	83600013	15	
	-10	83600008	10	
	-20	83600021	23	
	-30	83600024	26	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1879999976	-36	4700
	40	1879999977	-35	
	30	1879999984	-28	
	20	1880000012	0	
	10	1879999994	-18	
	0	1879999984	-28	
	-10	1879999979	-33	
	-20	1879999984	-28	
	-30	1879999995	-17	



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	83600001	4	2090
	40	83600001	4	
	30	83599999	2	
	20	83599997	0	
	10	83599998	1	
	0	83599996	-1	
	-10	83600004	7	
	-20	83600003	6	
	-30	83599998	1	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1880000011	25	4700
	40	1880000015	29	
	30	1880000014	28	
	20	1879999986	0	
	10	1880000009	23	
	0	1880000011	25	
	-10	1880000011	25	
	-20	1880000008	22	
	-30	1880000013	27	



Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1879999990	-4	4700
	40	1879999995	1	
	30	1879999978	-16	
	20	1879999994	0	
	10	1880000006	12	
	0	1879999997	3	
	-10	1880000002	8	
	-20	1880000000	6	
	-30	1880000004	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	83600006	2	2090
	40	83600008	4	
	30	83600004	0	
	20	83600004	0	
	10	83599996	-8	
	0	83600003	-1	
	-10	83600005	1	
	-20	83600006	2	
	-30	83600002	-2	



<b>Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	188000009	6	4700
	40	188000003	0	
	30	187999999	-4	
	20	188000003	0	
	10	188000003	0	
	0	188000007	4	
	-10	188000005	2	
	-20	188000002	-1	
	-30	188000007	4	

<b>Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83600003	6	2090
	40	83599989	-8	
	30	83599995	-2	
	20	83599997	0	
	10	83600011	14	
	0	83600019	22	
	-10	83600018	21	
	-20	83600016	19	
	-30	83600008	11	



<b>Reference Frequency: WCDMA / HSUPA Band II Mid Channel 1880 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	1879999988	-25	4700
	40	1879999974	-39	
	30	1879999997	-16	
	20	1880000013	0	
	10	1879999989	-24	
	0	1879999991	-22	
	-10	1879999990	-23	
	-20	1879999988	-25	
	-30	1879999986	-27	

<b>Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.6 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	50	83599988	-38	2090
	40	83599974	-52	
	30	83599989	-37	
	20	83600026	0	
	10	83599999	-27	
	0	83599992	-34	
	-10	83599991	-35	
	-20	83599994	-32	
	-30	83599998	-28	



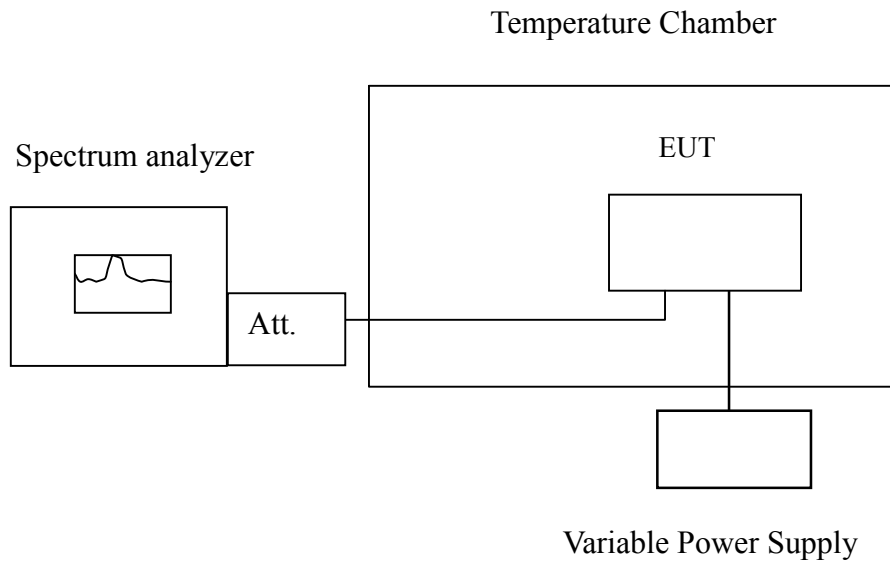
## 7.7 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

### 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 = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	83599998	-2	2090
3.7		83600000	0	
3.3		83599997	-3	
3.0 END		83599855	-142	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	1880000036	-11	4700
3.7		1880000047	0	
3.3		1880000044	-3	
3.2 END		1880000163	116	



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	20	83599994	-4	2090
3.7		83599998	0	
3.3		83599992	-6	
3.0 END		83599864	-128	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	1880000016	4	4700
3.7		1880000012	0	
3.3		1880000010	-2	
3.2 END		1880000183	171	



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	20	83599999	2	2090
3.7		83599997	0	
3.3		83600001	4	
3.0 END		83599872	-129	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	1879999987	1	4700
3.7		1879999986	0	
3.3		1879999991	5	
3.2 END		1879999907	-79	



Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	1880000014	20	4700
3.7		1879999994	0	
3.3		1880000008	14	
3.2 END		1880000125	131	

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	20	83600001	-3	2090
3.7		83600004	0	
3.3		83600002	-2	
3.0 END		83600095	93	



<b>Reference Frequency: WCDMA HSDPA Band II Mid Channel 1880 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	1879999996	-7	4700
3.7		1880000003	0	
3.3		1879999993	-10	
3.2 END		1880000073	70	

<b>Reference Frequency: WCDMA HSDPA Band V Mid Channel 836.6 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	83599993	-4	2090
3.7		83599997	0	
3.3		83599999	2	
3.0 END		83599911	-88	



<b>Reference Frequency: WCDMA HSUPA Band II Mid Channel 1880 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	1880000011	-2	4700
3.7		1880000013	0	
3.3		1880000018	5	
3.1 END		1880000253	240	

<b>Reference Frequency: WCDMA HSUPA Band V Mid Channel 836.6 MHz @ 20°C</b>				
Limit: $\pm 2.5$ ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4	20	83600021	-5	2090
3.7		83600026	0	
3.3		83600033	7	
3.1 END		83600128	95	



## 7.8 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 $\mu$ 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 mode      **Test Date:** November 8, 2007  
**Temperature:** 25°C      **Tested by:** Ryan Chen  
**Humidity:** 55% 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
0.172	35.640	28.430	0.156	35.796	28.586	64.863	54.863	-29.067	-26.277	L1
0.307	46.740	40.370	0.100	46.840	40.470	60.051	50.051	-13.211	-9.581	L1
0.433	48.150	40.280	0.100	48.250	40.380	57.195	47.195	-8.945	-6.815	L1
0.524	47.170	40.520	0.100	47.270	40.620	56.000	46.000	-8.730	-5.380	L1
0.787	43.980	36.300	0.100	44.080	36.400	56.000	46.000	-11.920	-9.600	L1
3.781	42.790	37.600	0.100	42.890	37.700	56.000	46.000	-13.110	-8.300	L1
0.173	43.910	36.570	0.154	44.064	36.724	64.815	54.815	-20.751	-18.091	L2
0.305	43.450	36.140	0.100	43.550	36.240	60.106	50.106	-16.556	-13.866	L2
0.436	49.320	41.480	0.100	49.420	41.580	57.138	47.138	-7.718	-5.558	L2
0.528	43.760	34.570	0.100	43.860	34.670	56.000	46.000	-12.140	-11.330	L2
0.774	44.820	35.050	0.100	44.920	35.150	56.000	46.000	-11.080	-10.850	L2
4.295	47.080	38.450	0.130	47.210	38.580	56.000	46.000	-8.790	-7.420	L2

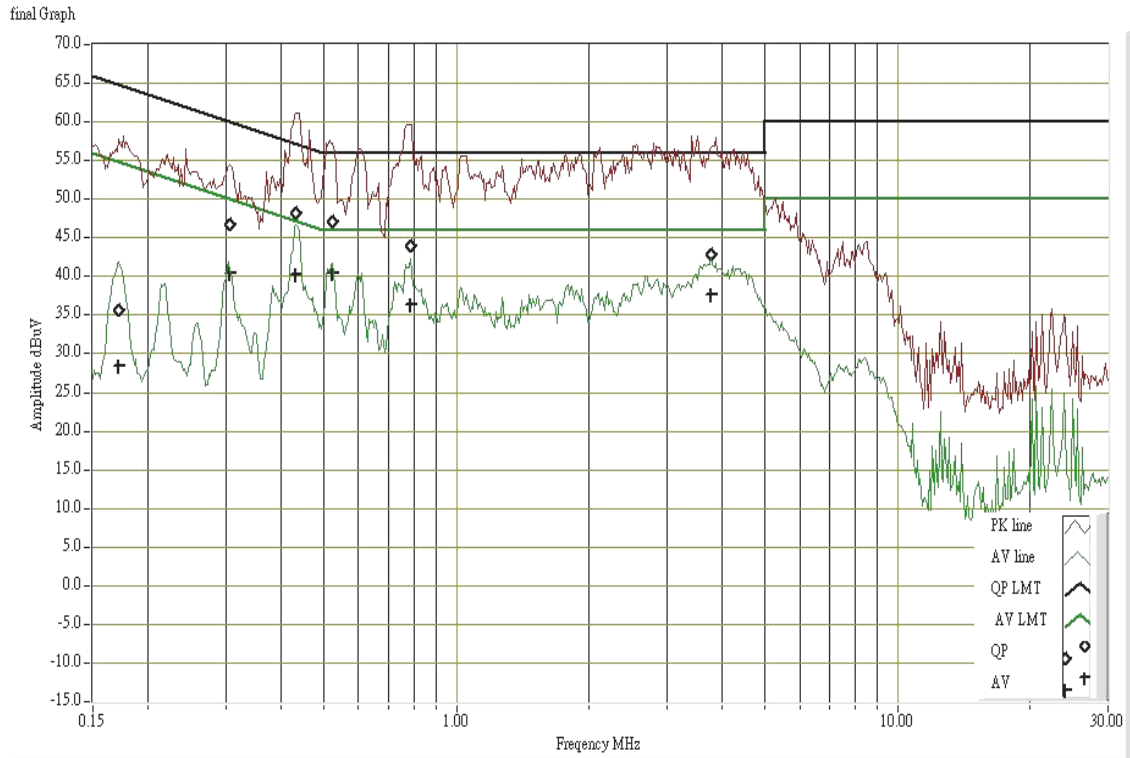
**Remark:**

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)

