



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

TEST REPORT

For

Smart phone

Trade Name: HTC

Model: CONV100

Issued to

**High Tech Computer Corp.
23 Xinghua Rd., Taoyuan, Taiwan, R.O.C.**

Issued by

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

Applicant: High Tech Computer Corp.
23 Xinghua Rd., Taoyuan, Taiwan, R.O.C.

Equipment Under Test: Smart phone

Trade Name: HTC

Model Number: CONV100

Date of Test: March 4 ~ 8, 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

Product	Smart phone
Trade Name	HTC
Model Number	CONV100
Model Discrepancy	N/A
Power Supply	<ol style="list-style-type: none">1. Power Adapter: PHIHONG / PSAA05A-050 I/P: AC 100-240V, 200mA, 50-60Hz, 13-20A O/P: DC 5V, 1A2. Rechargeable Lithium Battery: HTC / CONV160 Rating: 3.7VDC, 1100mAh3. Powered from Host device via USB cable.
Accessories	<ol style="list-style-type: none">1. Headset: COTRON (model name: CHM-311STV08002), Unshielded, 1.0 m2. USB cable: MEC (model name: 60-4251-100), Unshielded, 1.2m3. Y cable: mini USB 1-2 cable
Frequency Range	GSM / GPRS / EDGE 850: 824 ~ 849 MHz GSM / GPRS / EDGE 1900: 1850 ~ 1910 MHz
Modulation Technique	GSM: GMSK GPRS: GMSK EDGE: 8PSK



Transmit Power (ERP & EIRP Power)	GSM 850: 30.18 dBm (Slide Mode) GSM 1900: 29.95 dBm (Slide Mode) EDGE 850: 24.64 dBm (Slide Mode) EDGE 1900: 19.67 dBm (Slide Mode)
Cellular Phone Protocol	GSM: Class A GPRS / EDGE: Class 10
Type of Emission	GSM 850 MHz: 242KGXW--- GPRS 1900 MHz: 243KGXW--- EDGE 850 MHz: 241KG7W--- EDGE 1900 MHz: 243KG7W---
Antenna Gain	GSM / GPRS / EDGE 850 MHz: -0.42 dBi GSM / GPRS / EDGE 1900 MHz: 0.44 dBi
Antenna Type	PIFA Antenna

Remark:

1. *The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*
2. *This submittal(s) (test report) is intended for FCC ID: NM8CV 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: CONV100) 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.

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) for power line conducted emission testing and the worst case was recorded.

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

The worst emission was found: slide mode

in lie-down (X axis) for GPRS1900 slide mode

and in lie-down (Y axis) for GSM 1900 / EDGE 1900 slide mode

and in lie-down (Z axis) for GSM850 / GPRS 850 / EDGE 850 slide mode



4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

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

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

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

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360131	01/29/2009
Power Meter	Agilent	E4416A	GB41291611	03/19/2009
Power Sensor	Agilent	E9327A	US40441097	06/07/2008
Temp. / Humidity Chamber	Terchy	MHG-150LF	930619	08/08/2008
DC Power Source	Agilent	E3640A	MY40001774	01/10/2009

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	03/28/2009
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	04/07/2009
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	03/31/2009
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






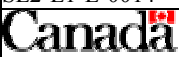
Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

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	VCCI 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	 TAF 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)	 Canada 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 I for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	Notebook PC	DELL	PP05L	7T390 A03	E2K5HCKT	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2.	GPS Simulator (remote)	HWAJEAT	GPS-101	EN001	N/A	N/A	N/A
3.	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.



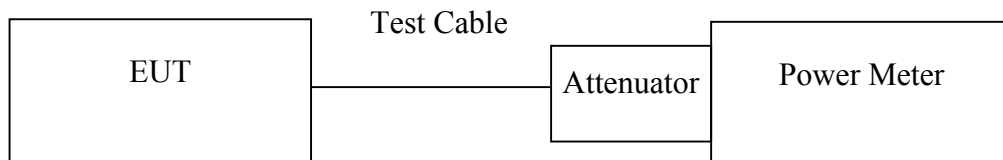
7. FCC PART 22 & 24 REQUIREMENTS

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 A)	128	824.20	12.17	20.50	32.67
	190	836.60	12.43		32.93
	251	848.80	12.46		32.96
GPRS 850 (Class 10)	128	824.20	12.15		32.65
	190	836.60	12.40		32.90
	251	848.80	12.45		32.95
EDGE 850 (Class 10)	128	824.20	6.45		26.95
	190	836.60	6.47		26.97
	251	848.80	6.48		26.98

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
GSM 1900 (Class A)	512	1850.20	7.20	20.50	27.70
	661	1880.00	7.61		28.11
	810	1910.00	8.02		28.52
GPRS 1900 (Class 10)	512	1850.20	7.26		27.76
	661	1880.00	7.65		28.15
	810	1910.00	8.05		28.55
EDGE 1900 (Class 10)	512	1850.20	3.05		23.55
	661	1880.00	3.35		23.85
	810	1910.00	3.69		24.19

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

7.2 ERP & EIRP MEASUREMENT

LIMIT

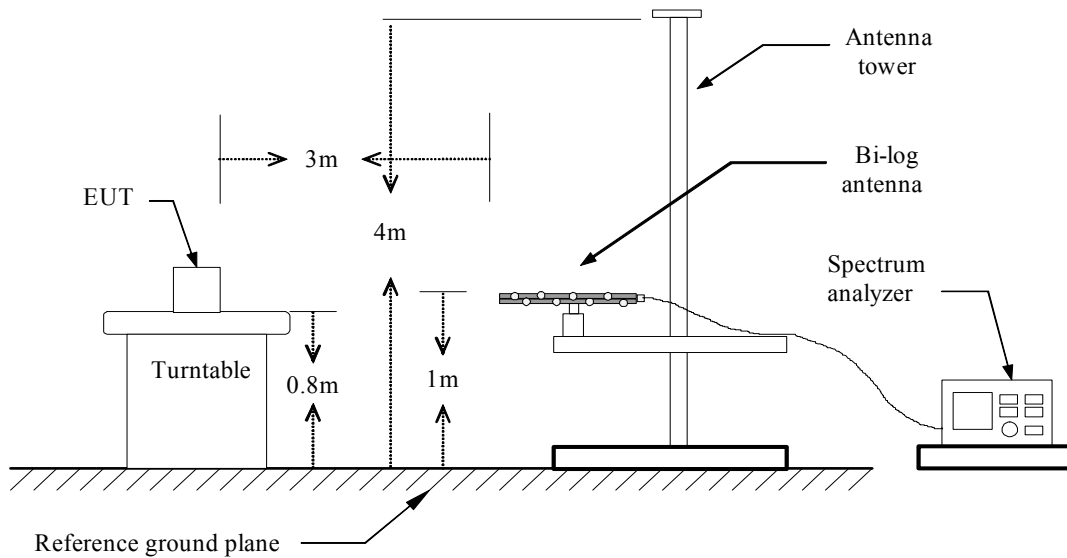
According to FCC §2.1046

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

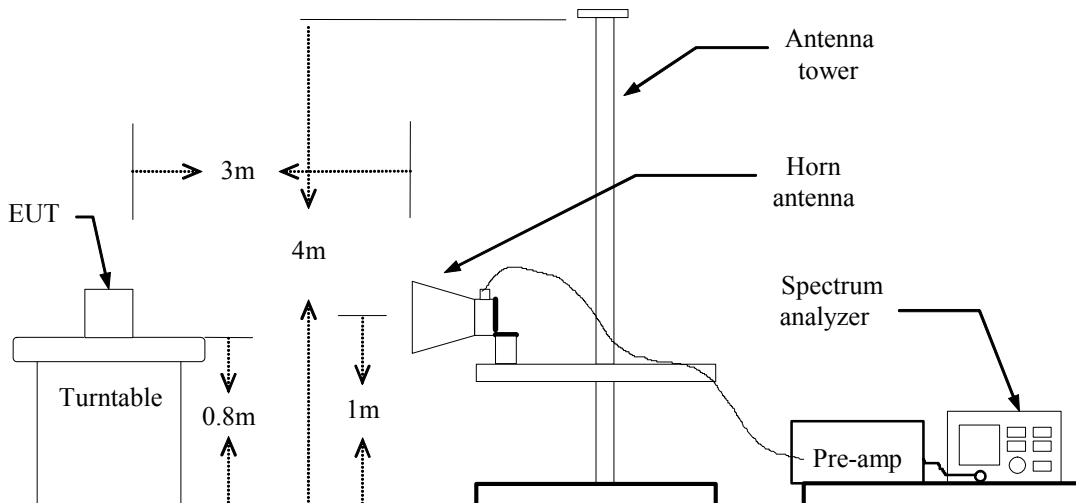
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

Test Configuration

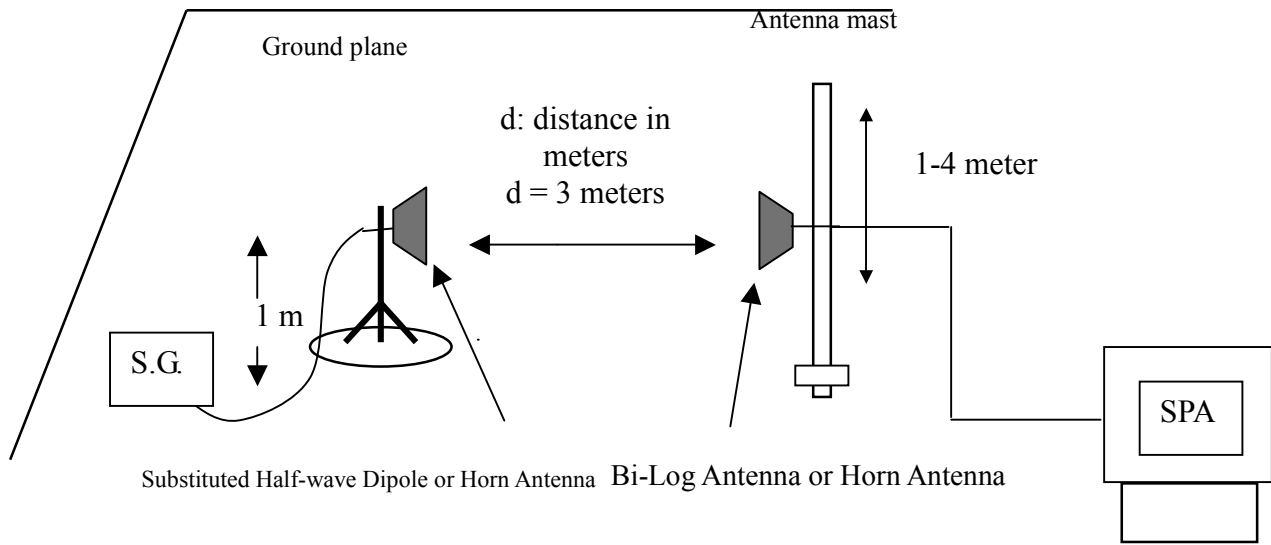
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

The EUT was placed on 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.

**Close Mode****GSM 850 Test Data (Class A)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.18	V	-15.01	36.41	21.40	38.45	-17.05
		824.06	H	-12.14	36.20	24.06	38.45	-14.39
	190	836.54	V	-14.00	36.54	22.54	38.45	-15.91
		836.54	H	-9.96	36.48	26.51	38.45	-11.94
	251	848.72	V	-14.63	36.67	22.03	38.45	-16.42
		848.72	H	-10.98	36.65	25.67	38.45	-12.78
Y	128	824.06	V	-18.87	36.41	17.53	38.45	-20.92
		824.06	H	-11.90	36.20	24.31	38.45	-14.14
	190	836.66	V	-17.70	36.54	18.84	38.45	-19.61
		836.66	H	-10.08	36.48	26.40	38.45	-12.05
	251	848.84	V	-17.47	36.67	19.20	38.45	-19.25
		848.66	H	-10.11	36.64	26.54	38.45	-11.91
Z	128	824.18	V	-9.23	36.41	27.18	38.45	-11.27
		824.18	H	-17.00	36.21	19.21	38.45	-19.24
	190	836.48	V	-8.72	36.54	27.82	38.45	-10.63
		836.48	H	-13.78	36.48	22.70	38.45	-15.75
	251	848.78	V	-8.48	36.67	28.19	38.45	-10.26
		848.78	H	-13.80	36.65	22.85	38.45	-15.60

GPRS 850 Test Data (Class 10)

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.30	V	-15.31	36.41	21.10	38.45	-17.35
		824.30	H	-12.32	36.21	23.89	38.45	-14.56
	190	836.48	V	-14.18	36.54	22.36	38.45	-16.09
		836.48	H	-10.24	36.48	26.23	38.45	-12.22
	251	848.78	V	-14.61	36.67	22.06	38.45	-16.39
		848.78	H	-10.37	36.65	26.28	38.45	-12.17
Y	128	824.06	V	-19.17	36.41	17.24	38.45	-21.21
		824.06	H	-12.05	36.20	24.16	38.45	-14.29
	190	836.54	V	-20.27	36.54	16.27	38.45	-22.18
		836.54	H	-10.40	36.48	26.08	38.45	-12.37
	251	848.78	V	-17.36	36.67	19.31	38.45	-19.14
		848.78	H	-9.83	36.65	26.82	38.45	-11.63
Z	128	824.06	V	-9.47	36.41	26.93	38.45	-11.52
		824.06	H	-16.40	36.20	19.80	38.45	-18.65
	190	836.66	V	-8.98	36.54	27.56	38.45	-10.89
		836.66	H	-13.91	36.48	22.57	38.45	-15.88
	251	848.66	V	-8.82	36.66	27.85	38.45	-10.60
		848.66	H	-14.02	36.64	22.63	38.45	-15.82

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

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	-23.57	44.22	20.65	33.00	-12.35
		1850.20	H	-20.65	42.89	22.24	33.00	-10.76
	661	1879.80	V	-23.48	44.02	20.54	33.00	-12.46
		1879.80	H	-20.72	43.01	22.29	33.00	-10.71
	810	1909.70	V	-23.58	43.88	20.30	33.00	-12.70
		1910.10	H	-22.00	43.10	21.10	33.00	-11.90
Y	512	1850.20	V	-21.54	44.22	22.68	33.00	-10.32
		1850.20	H	-22.73	42.89	20.15	33.00	-12.85
	661	1879.80	V	-20.69	44.02	23.33	33.00	-9.67
		1879.80	H	-22.95	43.01	20.05	33.00	-12.95
	810	1909.70	V	-21.84	43.88	22.04	33.00	-10.96
		1909.70	H	-23.69	43.10	19.41	33.00	-13.59
Z	512	1850.20	V	-20.76	44.22	23.45	33.00	-9.55
		1850.20	H	-24.65	42.89	18.24	33.00	-14.76
	661	1880.00	V	-20.80	44.02	23.22	33.00	-9.78
		1880.00	H	-24.55	43.01	18.46	33.00	-14.54
	810	1909.70	V	-21.77	43.88	22.11	33.00	-10.89
		1909.70	H	-23.56	43.10	19.53	33.00	-13.47

GPRS 1900 Test Data (Class 10)

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1849.80	V	-23.67	44.22	20.56	33.00	-12.44
		1850.20	H	-21.12	42.89	21.76	33.00	-11.24
	661	1879.80	V	-23.50	44.02	20.52	33.00	-12.48
		1879.80	H	-20.54	43.01	22.47	33.00	-10.53
	810	1909.70	V	-23.76	43.88	20.12	33.00	-12.88
		1909.70	H	-22.05	43.10	21.05	33.00	-11.95
Y	512	1850.20	V	-21.31	44.22	22.91	33.00	-10.09
		1850.20	H	-22.87	42.89	20.02	33.00	-12.98
	661	1880.00	V	-20.92	44.02	23.10	33.00	-9.90
		1880.00	H	-22.73	43.01	20.27	33.00	-12.73
	810	1909.70	V	-21.86	43.88	22.02	33.00	-10.98
		1909.70	H	-23.78	43.10	19.32	33.00	-13.68
Z	512	1850.20	V	-21.01	44.22	23.21	33.00	-9.79
		1849.90	H	-24.48	42.88	18.40	33.00	-14.60
	661	1879.80	V	-20.99	44.02	23.03	33.00	-9.97
		1879.80	H	-24.78	43.01	18.23	33.00	-14.77
	810	1909.60	V	-21.84	43.88	22.04	33.00	-10.96
		1909.60	H	-23.75	43.10	19.35	33.00	-13.65

**EDGE 850 Test Data (Class 10)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.30	V	-20.40	36.41	16.01	38.45	-22.44
		824.30	H	-17.34	36.21	18.87	38.45	-19.58
	190	836.48	V	-19.10	36.54	17.44	38.45	-21.01
		836.48	H	-15.45	36.48	21.02	38.45	-17.43
	251	848.66	V	-19.91	36.66	16.75	38.45	-21.70
		848.66	H	-16.30	36.64	20.35	38.45	-18.10
Y	128	824.18	V	-26.17	36.41	10.24	38.45	-28.21
		824.18	H	-16.92	36.21	19.29	38.45	-19.16
	190	836.48	V	-22.75	36.54	13.78	38.45	-24.67
		836.54	H	-15.37	36.48	21.11	38.45	-17.34
	251	848.78	V	-22.35	36.67	14.32	38.45	-24.13
		848.78	H	-15.26	36.65	21.38	38.45	-17.07
Z	128	824.18	V	-14.73	36.41	21.68	38.45	-16.77
		824.30	H	-21.31	36.21	14.90	38.45	-23.55
	190	836.66	V	-14.21	36.54	22.33	38.45	-16.12
		836.66	H	-18.74	36.48	17.74	38.45	-20.71
	251	848.78	V	-14.22	36.67	22.44	38.45	-16.01
		848.84	H	-18.88	36.65	17.77	38.45	-20.68

EDGE 1900 Test Data (Class 10)

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	-30.35	44.22	13.87	33.00	-19.13
		1850.20	H	-25.33	42.89	17.56	33.00	-15.44
	661	1879.80	V	-30.38	44.02	13.64	33.00	-19.36
		1879.80	H	-25.76	43.01	17.25	33.00	-15.75
	810	1909.60	V	-30.87	43.88	13.01	33.00	-19.99
		1909.70	H	-25.52	43.10	17.58	33.00	-15.42
Y	512	1850.20	V	-25.91	44.22	18.31	33.00	-14.69
		1850.20	H	-27.06	42.89	15.82	33.00	-17.18
	661	1880.10	V	-26.16	44.02	17.86	33.00	-15.14
		1880.00	H	-27.05	43.01	15.96	33.00	-17.04
	810	1909.70	V	-26.78	43.88	17.10	33.00	-15.90
		1909.60	H	-28.06	43.10	15.04	33.00	-17.96
Z	512	1850.20	V	-25.12	44.22	19.09	33.00	-13.91
		1850.20	H	-28.70	42.89	14.18	33.00	-18.82
	661	1879.80	V	-25.36	44.02	18.66	33.00	-14.34
		1879.80	H	-29.01	43.01	14.00	33.00	-19.00
	810	1909.70	V	-26.23	43.88	17.65	33.00	-15.35
		1909.70	H	-28.44	43.10	14.65	33.00	-18.35

**Slide Mode****GSM 850 Test Data (Class A)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.18	V	-13.45	36.41	22.96	38.45	-15.49
		824.18	H	-9.89	36.21	26.32	38.45	-12.13
	190	836.54	V	-11.29	36.54	25.24	38.45	-13.21
		836.54	H	-8.74	36.48	27.74	38.45	-10.71
	251	848.84	V	-11.74	36.67	24.93	38.45	-13.52
		848.84	H	-8.70	36.65	27.94	38.45	-10.51
Y	128	824.30	V	-15.82	36.41	20.59	38.45	-17.86
		824.30	H	-9.61	36.21	26.60	38.45	-11.85
	190	836.54	V	-13.03	36.54	23.51	38.45	-14.94
		836.54	H	-7.73	36.48	28.75	38.45	-9.70
	251	848.66	V	-12.73	36.66	23.94	38.45	-14.51
		848.66	H	-7.23	36.64	29.42	38.45	-9.03
Z	128	824.12	V	-7.59	36.41	28.82	38.45	-9.63
		824.12	H	-13.04	36.21	23.16	38.45	-15.29
	190	836.48	V	-7.02	36.54	29.52	38.45	-8.93
		836.48	H	-10.66	36.48	25.82	38.45	-12.63
	251	849.08	V	-6.49	36.67	*30.18	38.45	-8.27
		848.78	H	-10.31	36.65	26.34	38.45	-12.11

GPRS 850 Test Data (Class 10)

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.18	V	-13.82	36.41	22.59	38.45	-15.86
		824.18	H	-10.08	36.21	26.13	38.45	-12.32
	190	836.66	V	-11.83	36.54	24.71	38.45	-13.74
		836.66	H	-8.93	36.48	27.55	38.45	-10.90
	251	848.54	V	-12.08	36.66	24.58	38.45	-13.87
		848.84	H	-8.91	36.65	27.73	38.45	-10.72
Y	128	824.18	V	-16.01	36.41	20.40	38.45	-18.05
		824.18	H	-9.54	36.21	26.67	38.45	-11.78
	190	836.36	V	-13.30	36.54	23.24	38.45	-15.21
		836.66	H	-8.17	36.48	28.31	38.45	-10.14
	251	848.78	V	-12.92	36.67	23.75	38.45	-14.70
		848.78	H	-7.36	36.65	29.29	38.45	-9.16
Z	128	824.18	V	-7.86	36.41	28.55	38.45	-9.90
		824.18	H	-13.45	36.21	22.76	38.45	-15.69
	190	836.54	V	-7.24	36.54	29.30	38.45	-9.15
		836.54	H	-10.93	36.48	25.55	38.45	-12.90
	251	848.78	V	-6.71	36.67	*29.95	38.45	-8.50
		848.78	H	-10.45	36.65	26.19	38.45	-12.26

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

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.40	V	-26.08	44.22	18.13	33.00	-14.87
		1850.10	H	-18.86	42.89	24.03	33.00	-8.97
	661	1880.10	V	-24.48	44.02	19.53	33.00	-13.47
		1880.00	H	-19.11	43.01	23.90	33.00	-9.10
	810	1910.10	V	-25.83	43.88	18.05	33.00	-14.95
		1909.70	H	-19.44	43.10	23.66	33.00	-9.34
Y	512	1850.10	V	-20.32	44.22	23.90	33.00	-9.10
		1850.10	H	-22.90	42.89	19.99	33.00	-13.01
	661	1880.00	V	-19.79	44.02	*24.23	33.00	-8.77
		1879.70	H	-21.96	43.01	21.04	33.00	-11.96
	810	1909.70	V	-20.22	43.88	23.66	33.00	-9.34
		1909.70	H	-21.97	43.10	21.12	33.00	-11.88
Z	512	1850.20	V	-20.28	44.22	23.94	33.00	-9.06
		1850.20	H	-22.62	42.89	20.26	33.00	-12.74
	661	1880.00	V	-20.62	44.02	23.39	33.00	-9.61
		1880.00	H	-23.50	43.01	19.50	33.00	-13.50
	810	1909.70	V	-21.89	43.88	21.99	33.00	-11.01
		1909.70	H	-23.46	43.10	19.63	33.00	-13.37

GPRS 1900 Test Data (Class 10)

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.10	V	-26.99	44.22	17.23	33.00	-15.77
		1850.20	H	-18.64	42.89	*24.25	33.00	-8.75
	661	1880.10	V	-24.86	44.02	19.15	33.00	-13.85
		1880.10	H	-19.24	43.01	23.77	33.00	-9.23
	810	1909.60	V	-26.00	43.88	17.88	33.00	-15.12
		1909.90	H	-19.43	43.10	23.66	33.00	-9.34
Y	512	1849.90	V	-20.22	44.22	24.00	33.00	-9.00
		1849.90	H	-20.93	42.88	21.95	33.00	-11.05
	661	1879.80	V	-19.90	44.02	24.11	33.00	-8.89
		1879.80	H	-22.10	43.01	20.91	33.00	-12.09
	810	1909.70	V	-20.35	43.88	23.53	33.00	-9.47
		1909.90	H	-22.27	43.10	20.83	33.00	-12.17
Z	512	1850.20	V	-20.83	44.22	23.39	33.00	-9.61
		1850.20	H	-22.83	42.89	20.05	33.00	-12.95
	661	1879.90	V	-20.66	44.02	23.35	33.00	-9.65
		1879.90	H	-23.71	43.01	19.29	33.00	-13.71
	810	1909.70	V	-22.10	43.88	21.78	33.00	-11.22
		1909.90	H	-23.38	43.10	19.71	33.00	-13.29

**EDGE 850 Test Data (Class 10)**

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.06	V	-21.32	36.41	15.09	38.45	-23.36
		824.06	H	-14.42	36.20	21.79	38.45	-16.66
	190	836.72	V	-19.48	36.54	17.06	38.45	-21.39
		836.72	H	-14.44	36.48	22.04	38.45	-16.41
	251	848.78	V	-19.04	36.67	17.62	38.45	-20.83
		848.78	H	-15.15	36.65	21.50	38.45	-16.95
Y	128	824.18	V	-21.39	36.41	15.02	38.45	-23.43
		824.18	H	-14.84	36.21	21.37	38.45	-17.08
	190	836.48	V	-18.31	36.54	18.23	38.45	-20.22
		836.48	H	-14.77	36.48	21.71	38.45	-16.74
	251	848.78	V	-18.16	36.67	18.51	38.45	-19.94
		848.78	H	-12.65	36.65	24.00	38.45	-14.45
Z	128	824.18	V	-12.72	36.41	23.69	38.45	-14.76
		824.18	H	-18.99	36.21	17.22	38.45	-21.23
	190	836.54	V	-12.26	36.54	24.28	38.45	-14.17
		836.66	H	-16.09	36.48	20.39	38.45	-18.06
	251	848.66	V	-12.02	36.66	*24.64	38.45	-13.81
		848.66	H	-16.36	36.64	20.28	38.45	-18.17

EDGE 1900 Test Data (Class 10)

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.40	V	-30.66	44.22	13.56	33.00	-19.44
		1850.40	H	-23.37	42.89	19.52	33.00	-13.48
	661	1880.10	V	-29.31	44.02	14.70	33.00	-18.30
		1880.10	H	-23.74	43.01	19.27	33.00	-13.73
	810	1909.90	V	-30.32	43.88	13.56	33.00	-19.44
		1909.70	H	-23.95	43.10	19.15	33.00	-13.85
Y	512	1850.10	V	-24.55	44.22	*19.67	33.00	-13.33
		1850.10	H	-25.59	42.89	17.30	33.00	-15.70
	661	1880.10	V	-24.46	44.02	19.55	33.00	-13.45
		1880.10	H	-26.66	43.01	16.35	33.00	-16.65
	810	1909.90	V	-24.45	43.88	19.43	33.00	-13.57
		1909.90	H	-26.91	43.10	16.18	33.00	-16.82
Z	512	1849.90	V	-25.50	44.22	18.72	33.00	-14.28
		1849.90	H	-27.31	42.88	15.57	33.00	-17.43
	661	1879.90	V	-25.23	44.02	18.78	33.00	-14.22
		1879.90	H	-28.23	43.01	14.78	33.00	-18.22
	810	1909.70	V	-26.44	43.88	17.44	33.00	-15.56
		1909.70	H	-27.98	43.10	15.11	33.00	-17.89

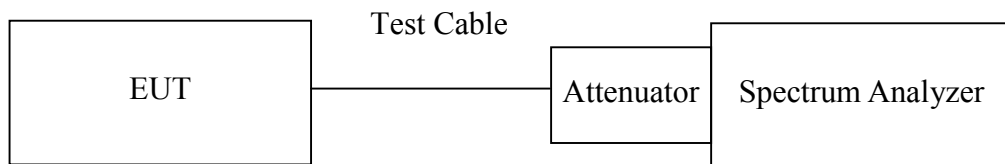


7.3 OCCUPIED BANDWIDTH MEASUREMENT

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 A)	128	824.193	242.0971
	190	836.623	241.8420
	251	848.780	241.1375
GPRS 850 (Class 10)	128	824.213	238.2969
	190	836.630	238.4731
	251	848.797	238.2295
EDGE 850 (Class A)	128	824.197	241.2380
	190	836.600	239.8788
	251	848.793	240.0750
GSM 1900 (Class A)	512	1850.203	242.9809
	661	1880.000	238.1145
	810	1909.823	239.4877
GPRS 1900 (Class 10)	512	1850.203	240.5967
	661	1880.000	238.8236
	810	1909.823	240.0938
EDGE 1900 (Class 10)	512	1850.217	242.0259
	661	1880.000	239.0175
	810	1909.793	242.5398



Test Plot

GSM 850 (CH Low)

Agilent 14:52:41 Mar 4, 2008

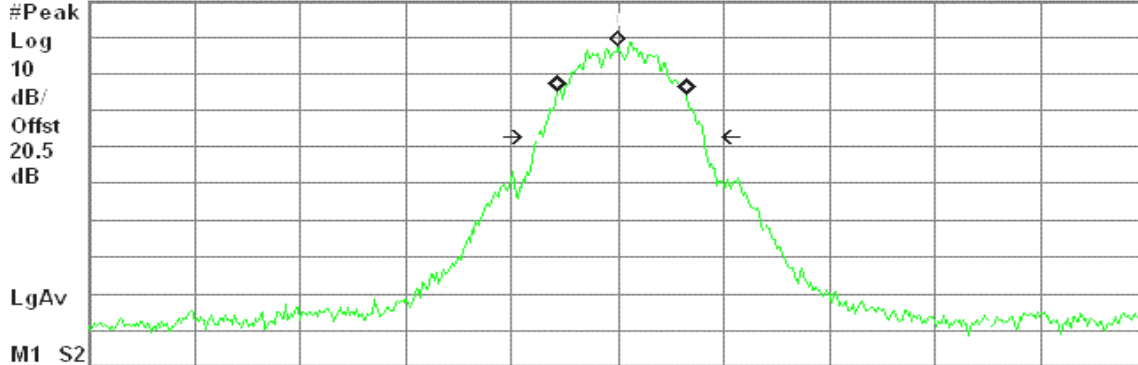
R T

Mkr1 824.193 MHz

24.42 dBm

Ref 36.5 dBm

#Atten 26 dB



Center 824.193 MHz

Span 2 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 210.9 ms (601 pts)

Occupied Bandwidth
242.0971 kHz

Occ BW % Pwr 99.00 %

x dB -26.00 dB

Transmit Freq Error 7.866 kHz

x dB Bandwidth 310.512 kHz

GSM 850 (CH Mid)

Agilent 14:54:00 Mar 4, 2008

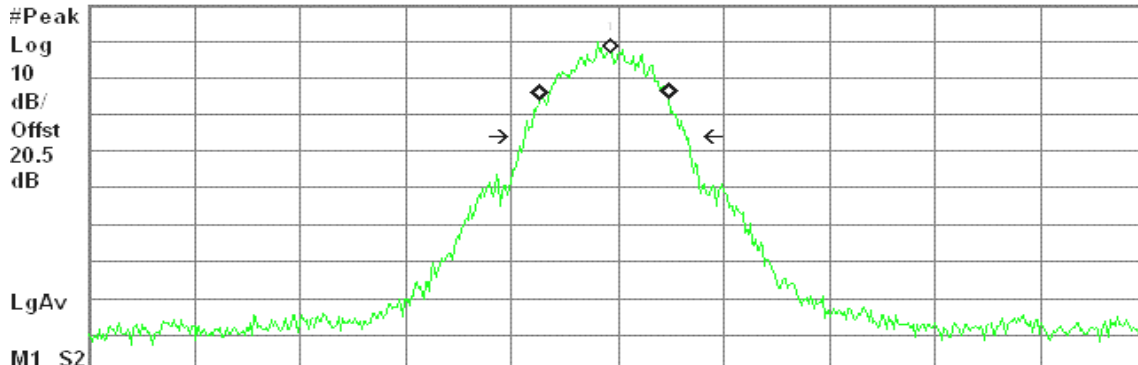
R T

Mkr1 836.607 MHz

23.61 dBm

Ref 36.5 dBm

#Atten 26 dB



Center 836.623 MHz

Span 2 MHz

#Res BW 3 kHz

#VBW 10 kHz

Sweep 210.9 ms (601 pts)

Occupied Bandwidth
241.8420 kHz

Occ BW % Pwr 99.00 %

x dB -26.00 dB

Transmit Freq Error -24.387 kHz

x dB Bandwidth 303.073 kHz

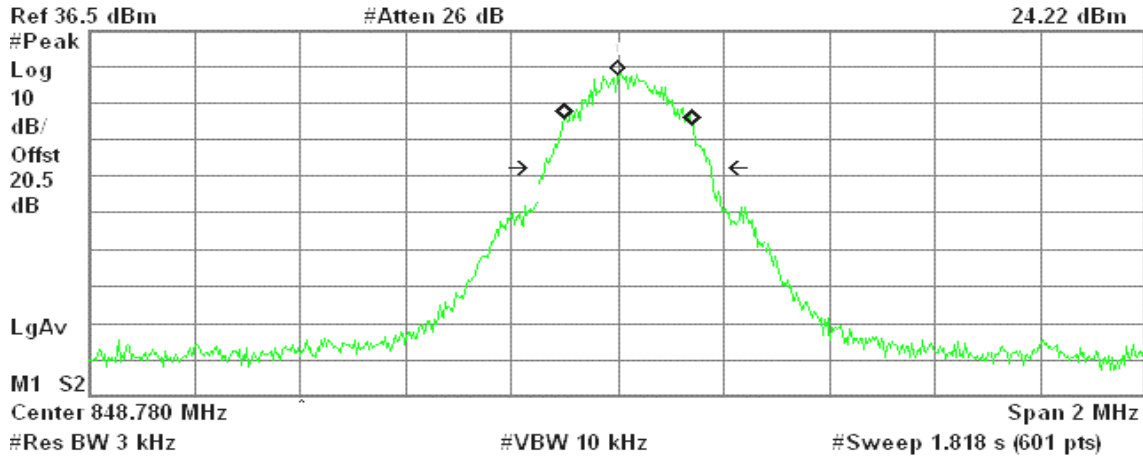


GSM 850 (CH High)

Agilent 14:56:02 Mar 4, 2008

R T

Mkr1 848.780 MHz
24.22 dBm



Occupied Bandwidth
241.1375 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

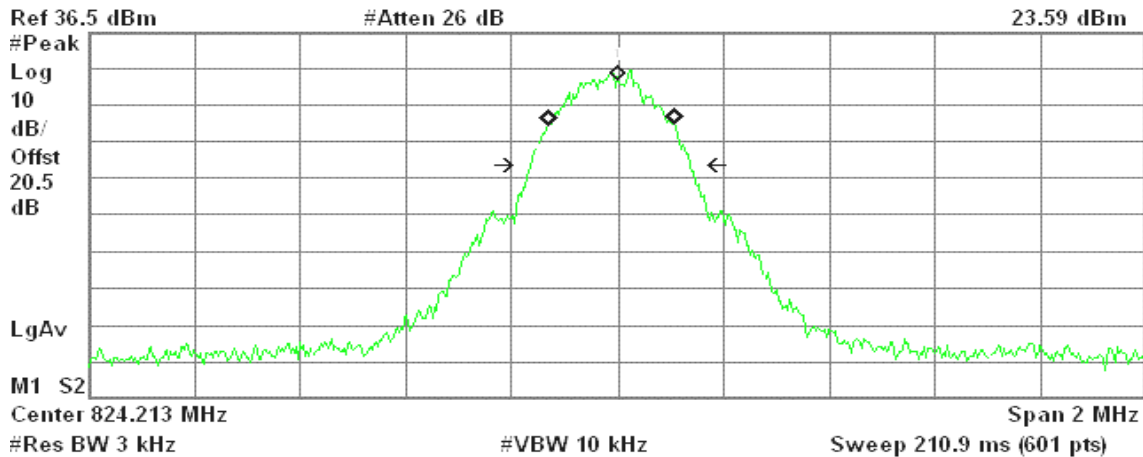
Transmit Freq Error 19.671 kHz
x dB Bandwidth 313.467 kHz

GPRS 850 (CH Low)

Agilent 15:53:23 Mar 4, 2008

R T

Mkr1 824.213 MHz
23.59 dBm



Occupied Bandwidth
238.2969 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -12.225 kHz
x dB Bandwidth 299.669 kHz

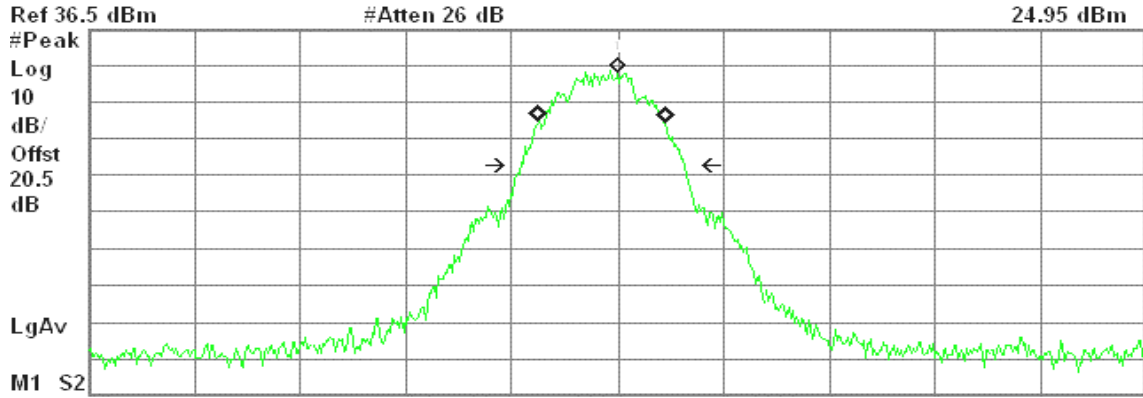


GPRS 850 (CH Mid)

Agilent 15:53:51 Mar 4, 2008

R T

Mkr1 836.630 MHz
24.95 dBm



Ref 36.5 dBm #Atten 26 dB
Center 836.630 MHz Span 2 MHz
#Res BW 3 kHz #VBW 10 kHz Sweep 210.9 ms (601 pts)

Occupied Bandwidth
238.4731 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

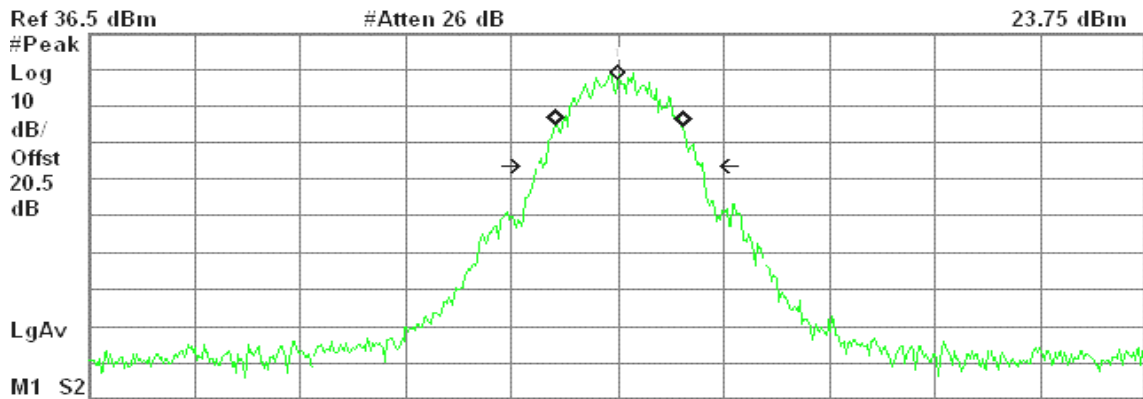
Transmit Freq Error -29.584 kHz
x dB Bandwidth 307.190 kHz

GPRS 850(CH High)

Agilent 15:54:17 Mar 4, 2008

R T

Mkr1 848.797 MHz
23.75 dBm



Ref 36.5 dBm #Atten 26 dB
Center 848.797 MHz Span 2 MHz
#Res BW 3 kHz #VBW 10 kHz Sweep 210.9 ms (601 pts)

Occupied Bandwidth
238.2295 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 2.874 kHz
x dB Bandwidth 309.490 kHz

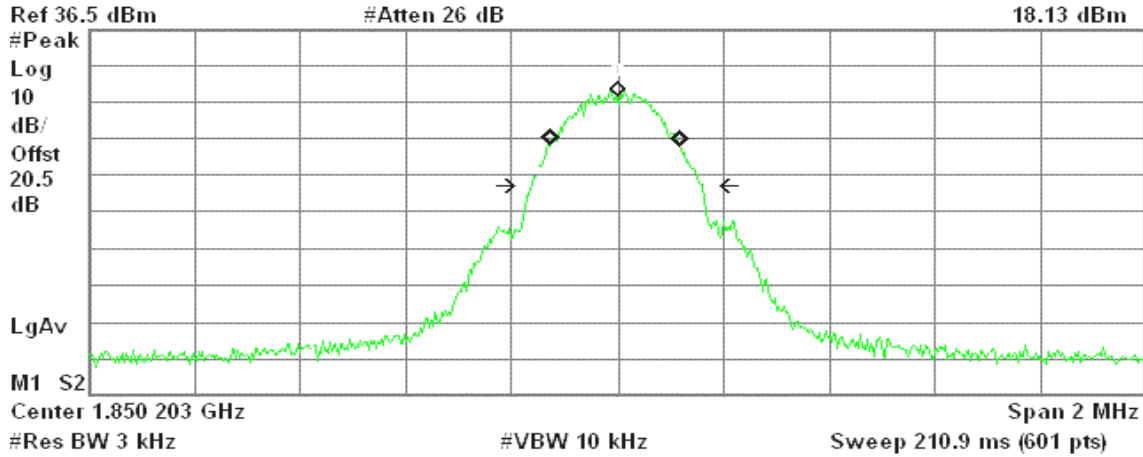


GSM 1900 (CH Low)

Agilent 16:05:53 Mar 4, 2008

R T

Mkr1 1.850 203 GHz
18.13 dBm



Occupied Bandwidth
242.9809 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

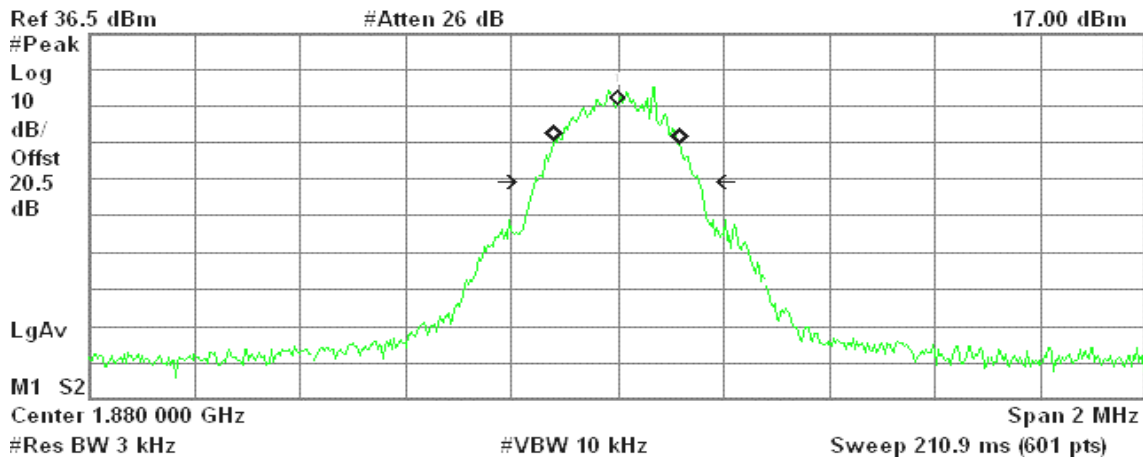
Transmit Freq Error -4.349 kHz
x dB Bandwidth 320.089 kHz

GSM 1900 (CH Mid)

Agilent 16:19:27 Mar 4, 2008

R T

Mkr1 1.880 000 GHz
17.00 dBm



Occupied Bandwidth
238.1145 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.158 kHz
x dB Bandwidth 309.391 kHz

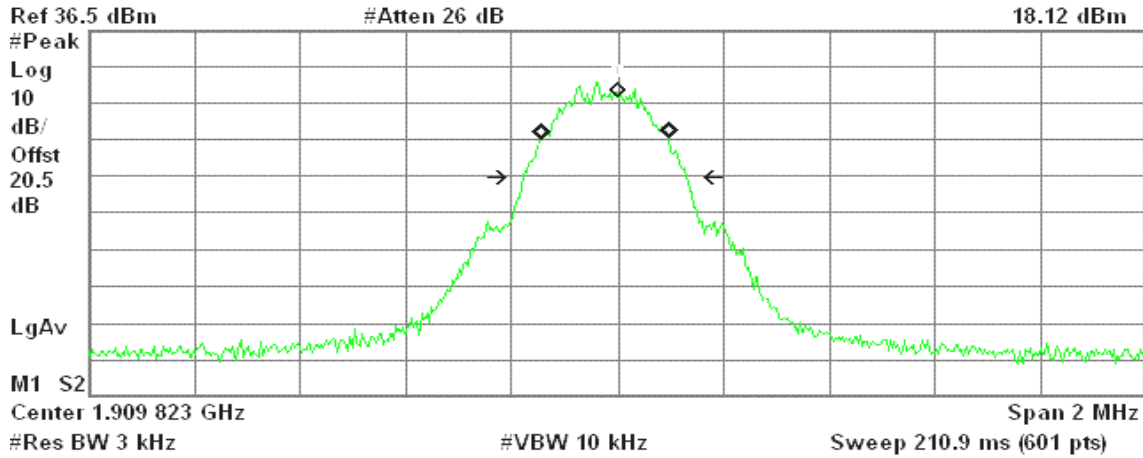


GSM 1900 (CH High)

Agilent 16:20:55 Mar 4, 2008

R T

Mkr1 1.909 823 GHz
18.12 dBm



Occupied Bandwidth
239.4877 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

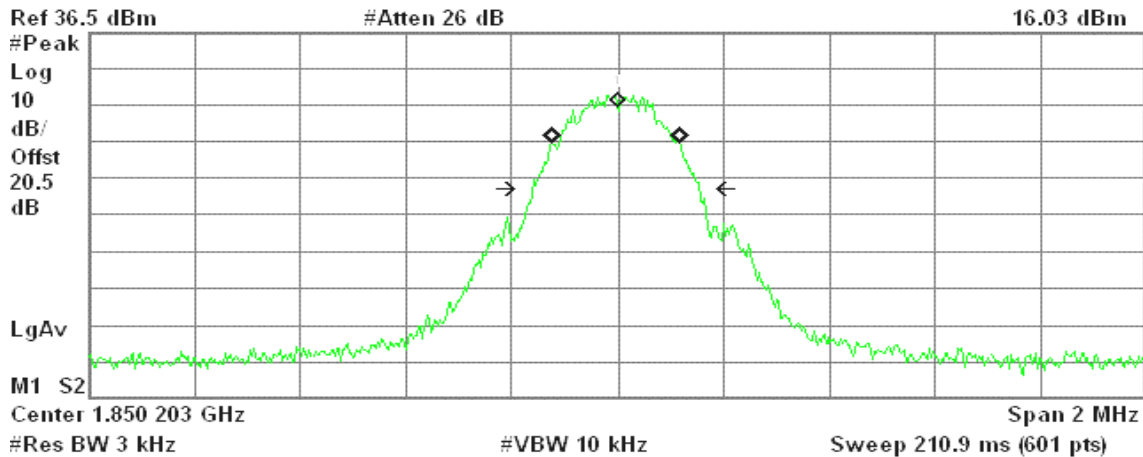
Transmit Freq Error -23.599 kHz
x dB Bandwidth 306.137 kHz

GPRS 1900 (CH Low)

Agilent 16:06:53 Mar 4, 2008

R T

Mkr1 1.850 203 GHz
16.03 dBm



Occupied Bandwidth
240.5967 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -2.715 kHz
x dB Bandwidth 313.892 kHz

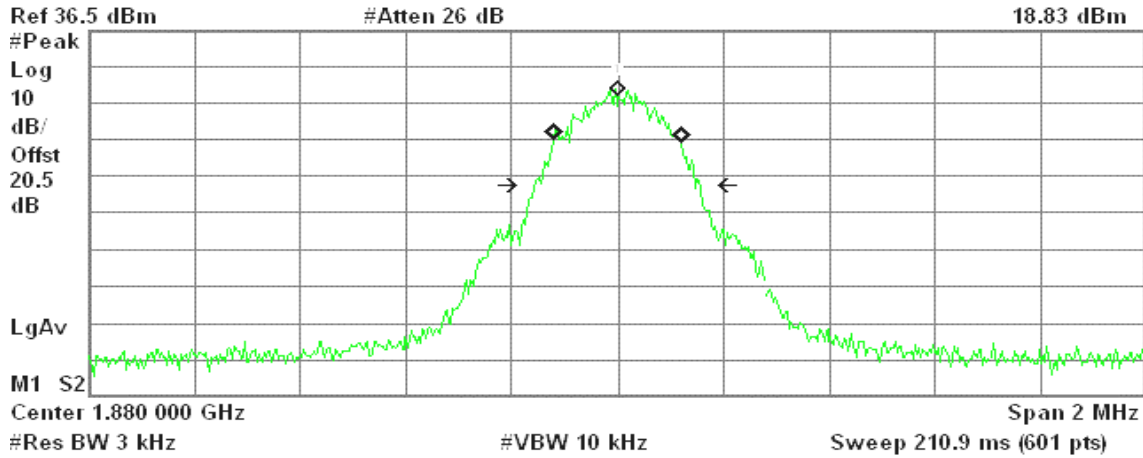


GPRS 1900 (CH Mid)

Agilent 16:23:01 Mar 4, 2008

R T

Mkr1 1.880 000 GHz
18.83 dBm



Occupied Bandwidth
238.8236 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

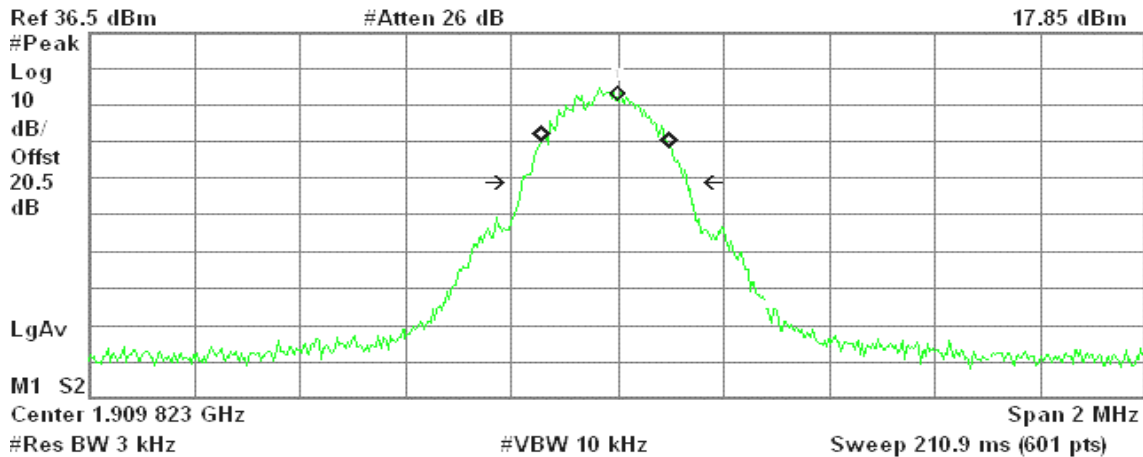
Transmit Freq Error 5.316 Hz
x dB Bandwidth 310.652 kHz

GPRS 1900 (CH High)

Agilent 16:21:49 Mar 4, 2008

R T

Mkr1 1.909 823 GHz
17.85 dBm



Occupied Bandwidth
240.0938 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -23.653 kHz
x dB Bandwidth 310.555 kHz

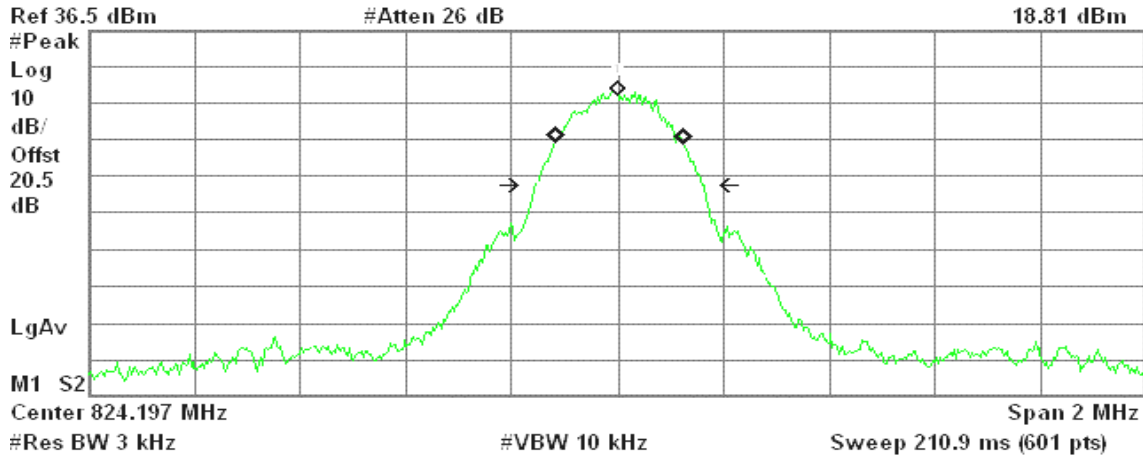


EDGE 850 (CH Low)

Agilent 18:15:30 Mar 4, 2008

R L

Mkr1 824.197 MHz
18.81 dBm



Occupied Bandwidth
241.2380 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

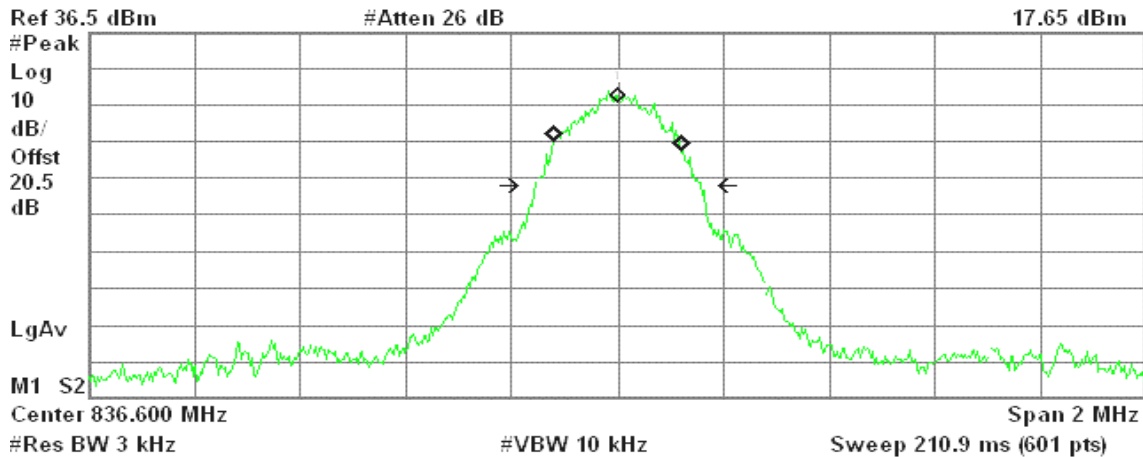
Transmit Freq Error 3.653 kHz
x dB Bandwidth 316.130 kHz

EDGE 850 (CH Mid)

Agilent 18:17:01 Mar 4, 2008

R T

Mkr1 836.600 MHz
17.65 dBm



Occupied Bandwidth
239.8788 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -84.234 Hz
x dB Bandwidth 312.700 kHz

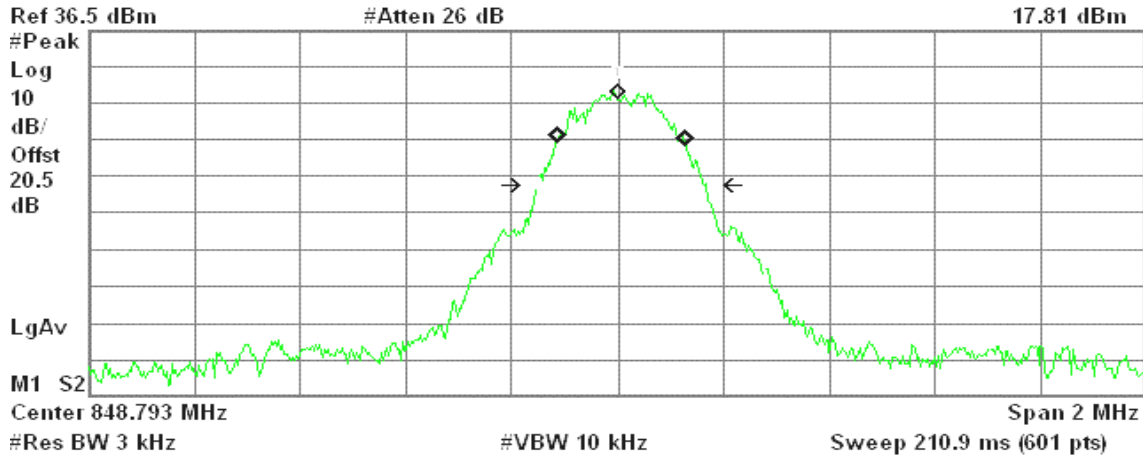


EDGE 850 (CH High)

Agilent 18:18:10 Mar 4, 2008

R T

Mkr1 848.793 MHz
17.81 dBm



Occupied Bandwidth
240.0750 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

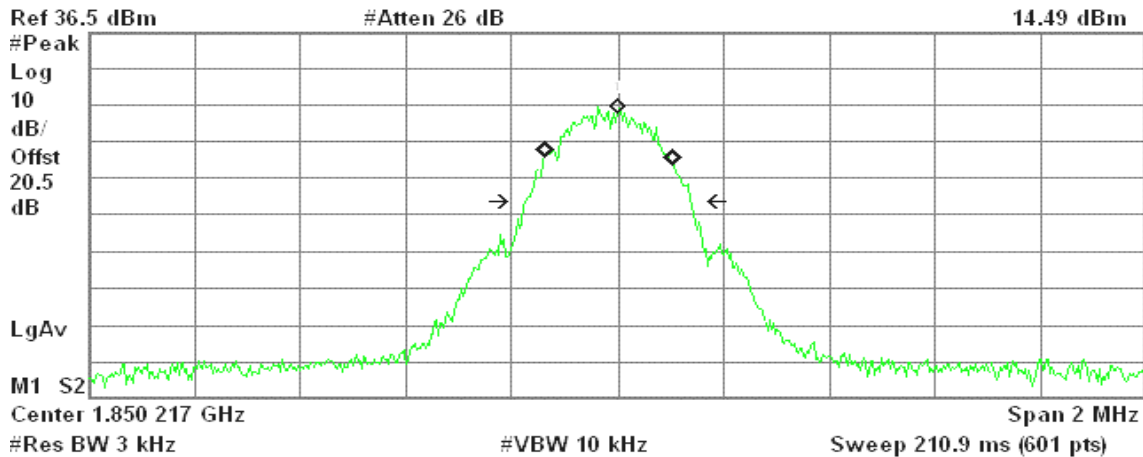
Transmit Freq Error 6.782 kHz
x dB Bandwidth 316.252 kHz

EDGE 1900 (CH Low)

Agilent 18:45:49 Mar 4, 2008

R T

Mkr1 1.850 217 GHz
14.49 dBm



Occupied Bandwidth
242.0259 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -16.802 kHz
x dB Bandwidth 309.567 kHz

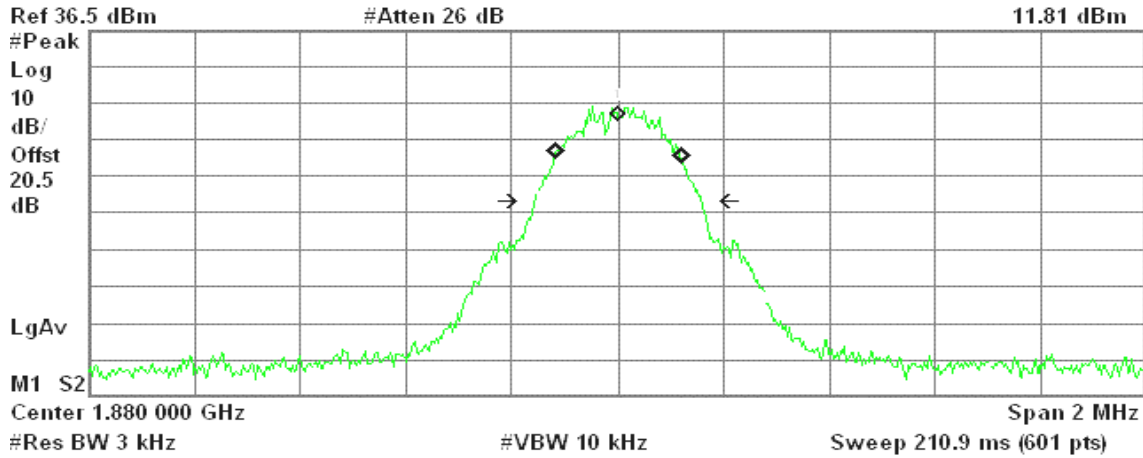


EDGE 1900 (CH Mid)

Agilent 18:44:58 Mar 4, 2008

R T

Mkr1 1.880 000 GHz
11.81 dBm



Occupied Bandwidth
239.0175 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

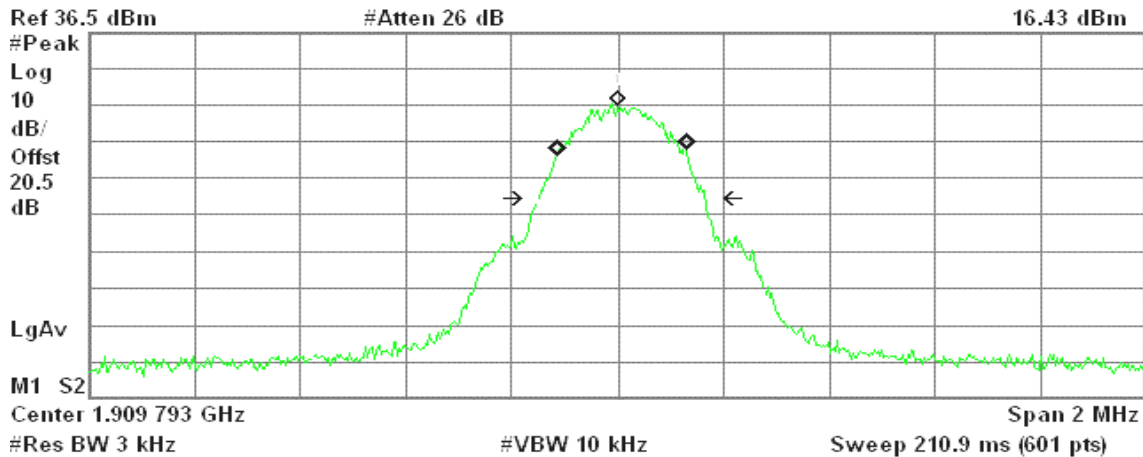
Transmit Freq Error 1.284 kHz
x dB Bandwidth 314.120 kHz

EDGE 1900 (CH High)

Agilent 18:44:20 Mar 4, 2008

R T

Mkr1 1.909 793 GHz
16.43 dBm



Occupied Bandwidth
242.5398 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 7.951 kHz
x dB Bandwidth 312.668 kHz



7.4 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

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

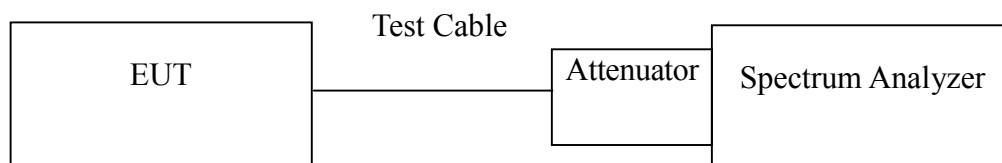
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

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 A)	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 10)	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 A)	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 10)	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 A)	128	Figure 9-1	Band Edge emissions
	251	Figure 9-2	Band Edge emissions
GPRS 850 (Class 10)	128	Figure 9-3	Band Edge emissions
	251	Figure 9-4	Band Edge emissions

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



Mode	CH	Location	Description
EDGE 850 (Class 10)	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 10)	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 10)	128	Figure 12-1	Band Edge emissions
	251	Figure 12-2	Band Edge emissions
EDGE 1900 (Class 10)	512	Figure 12-3	Band Edge emissions
	810	Figure 12-4	Band Edge emissions



Test Plot

GSM 850

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

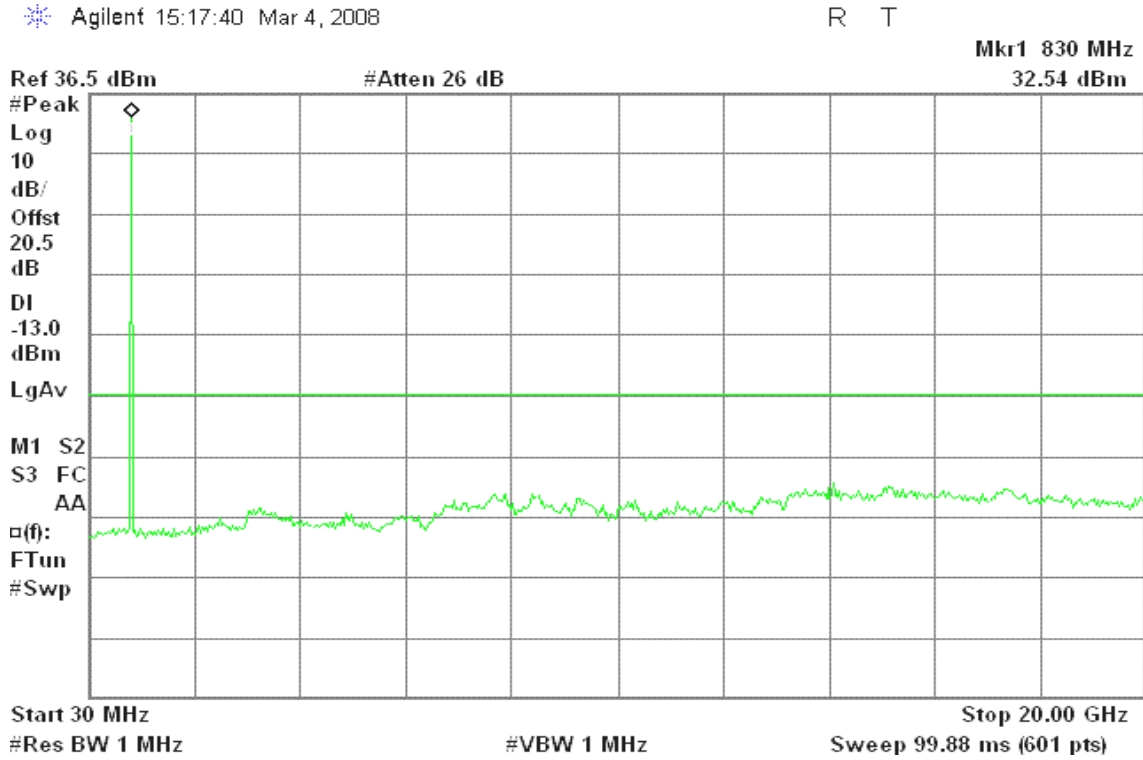


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

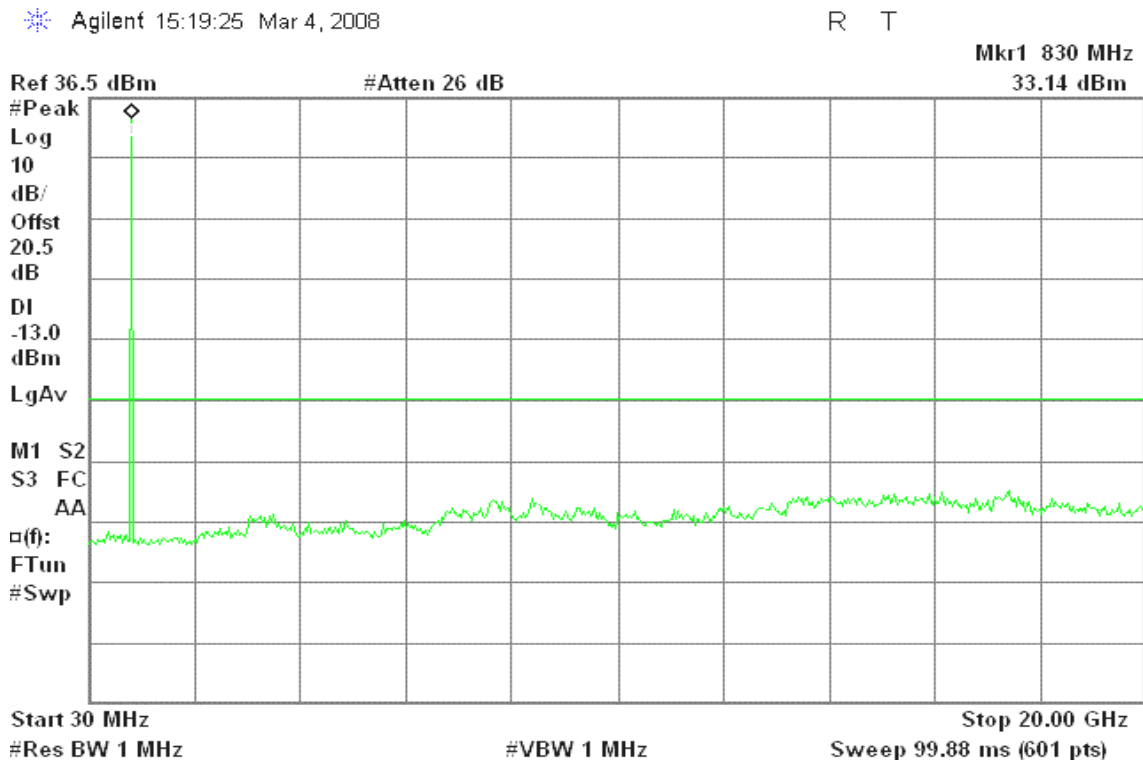
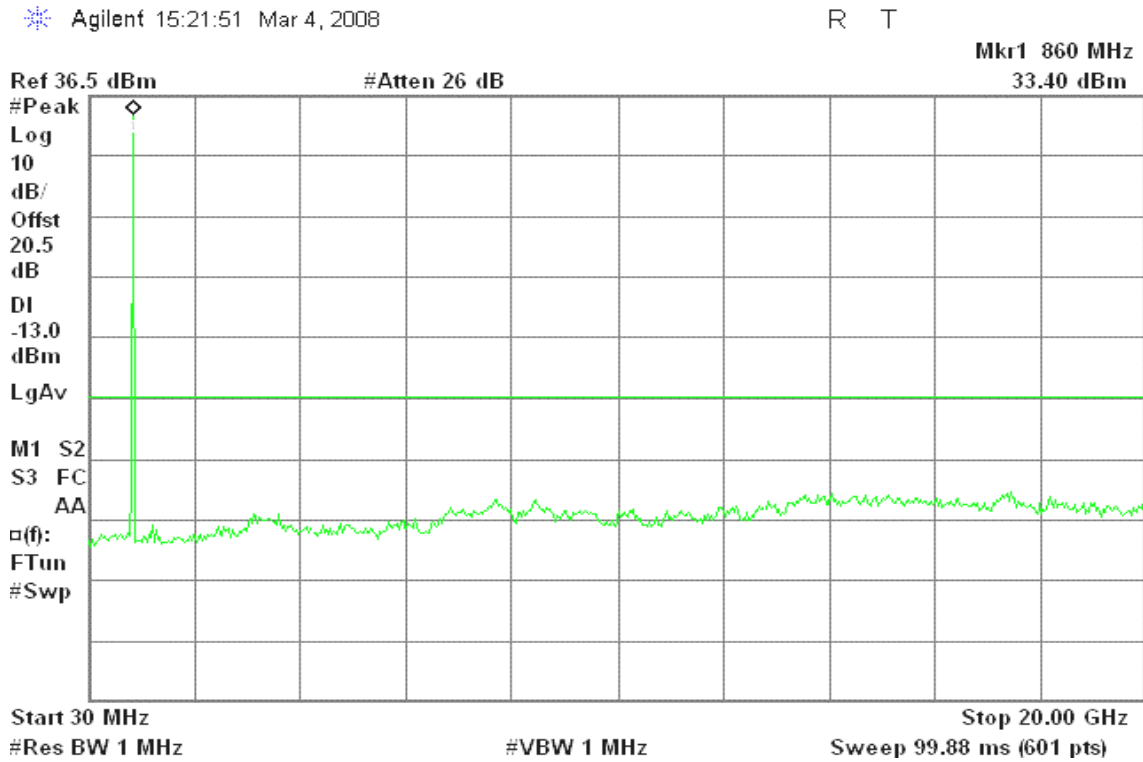




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

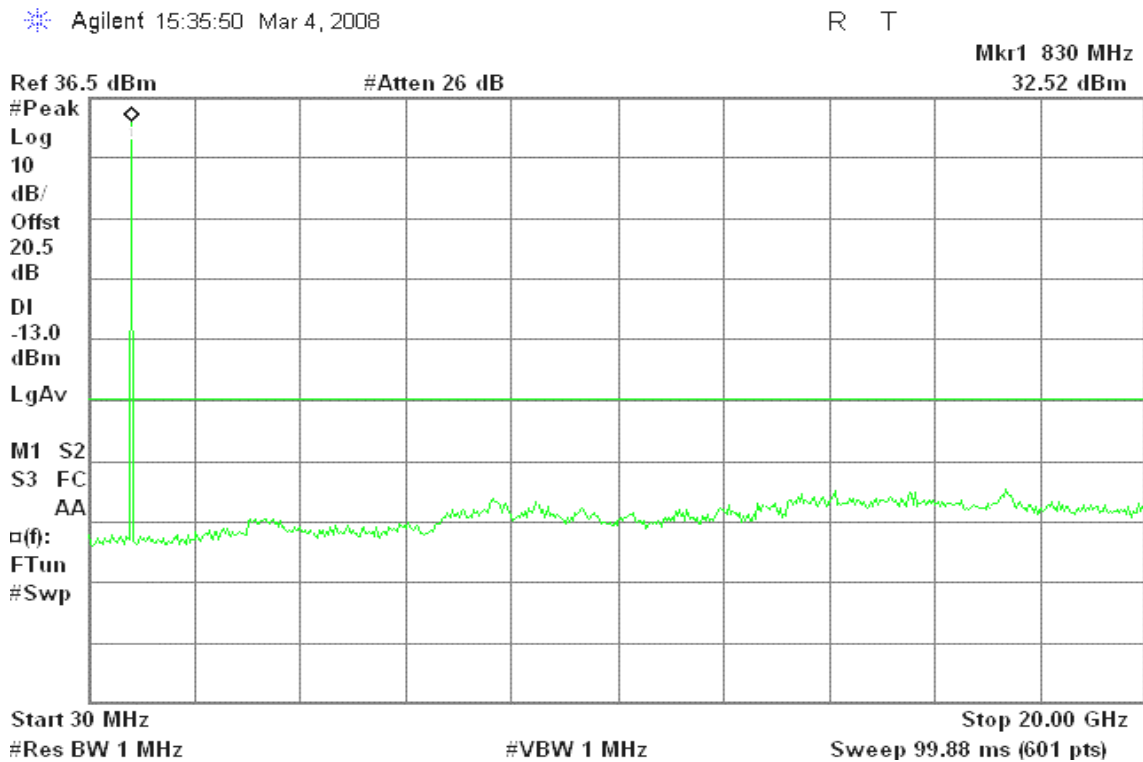




Figure 7-5: Out of Band emission at antenna terminals – GPRS CH Mid

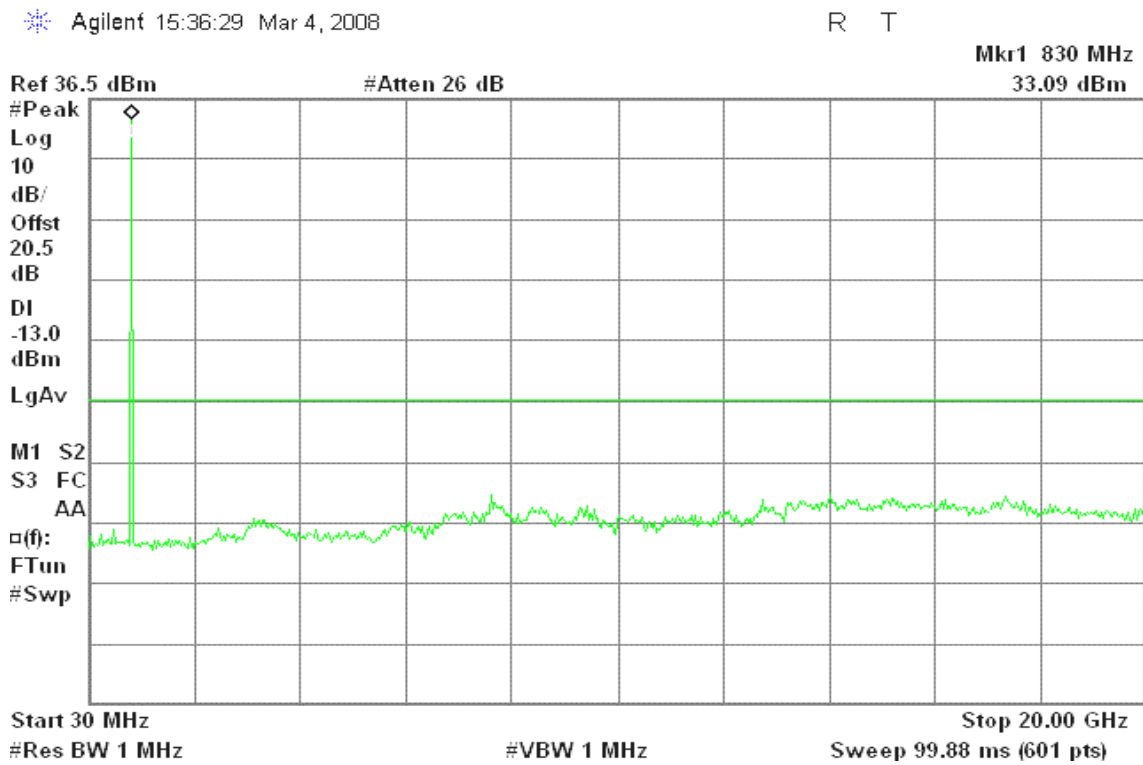
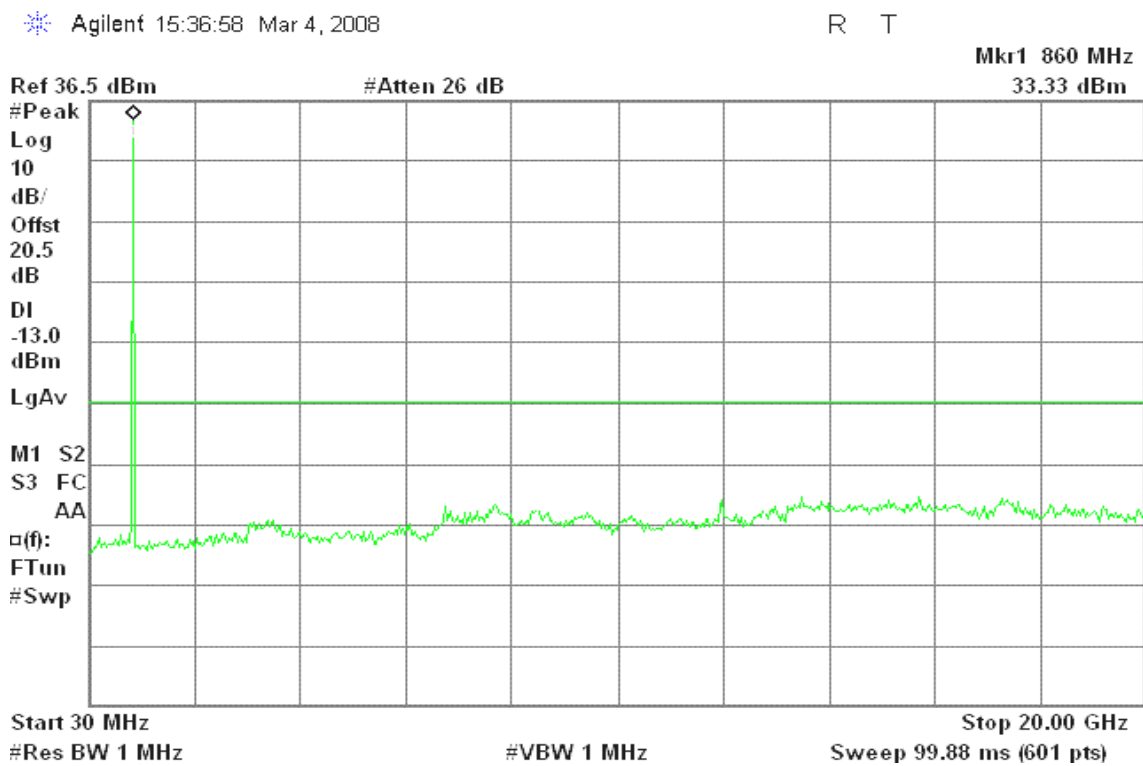


Figure 7-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 1900

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

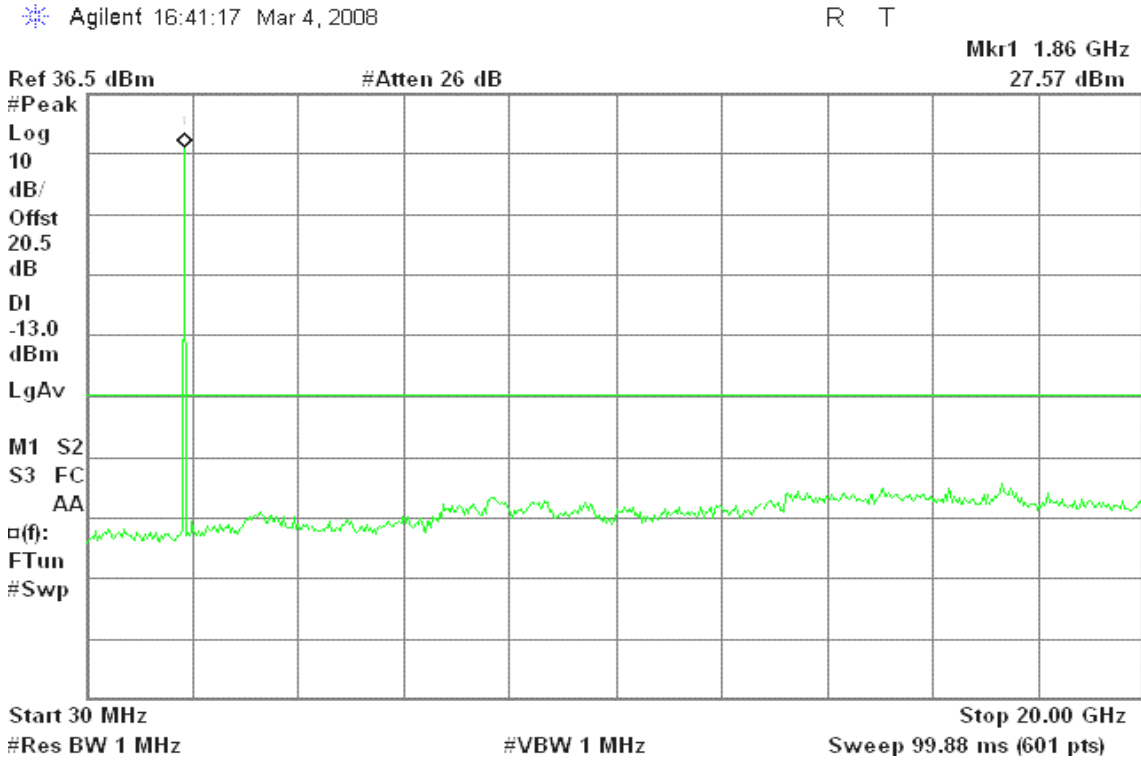


Figure 8-2: Out of Band emission at antenna terminals – GSM CH Mid

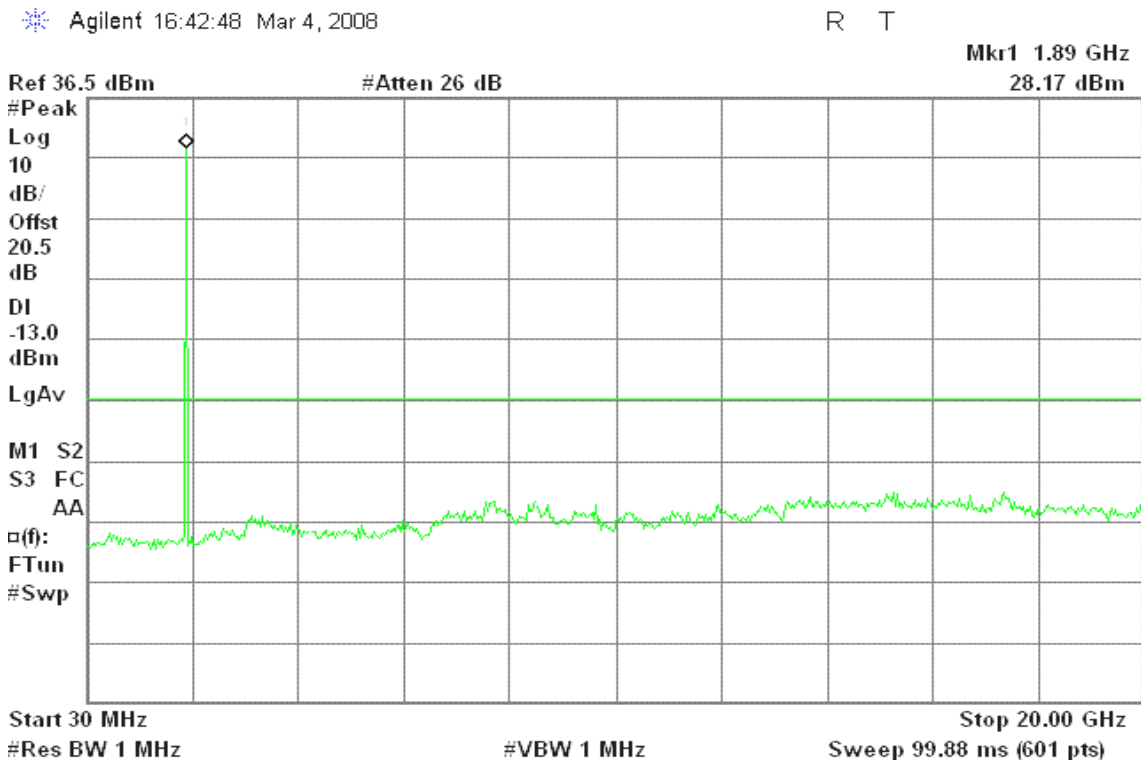
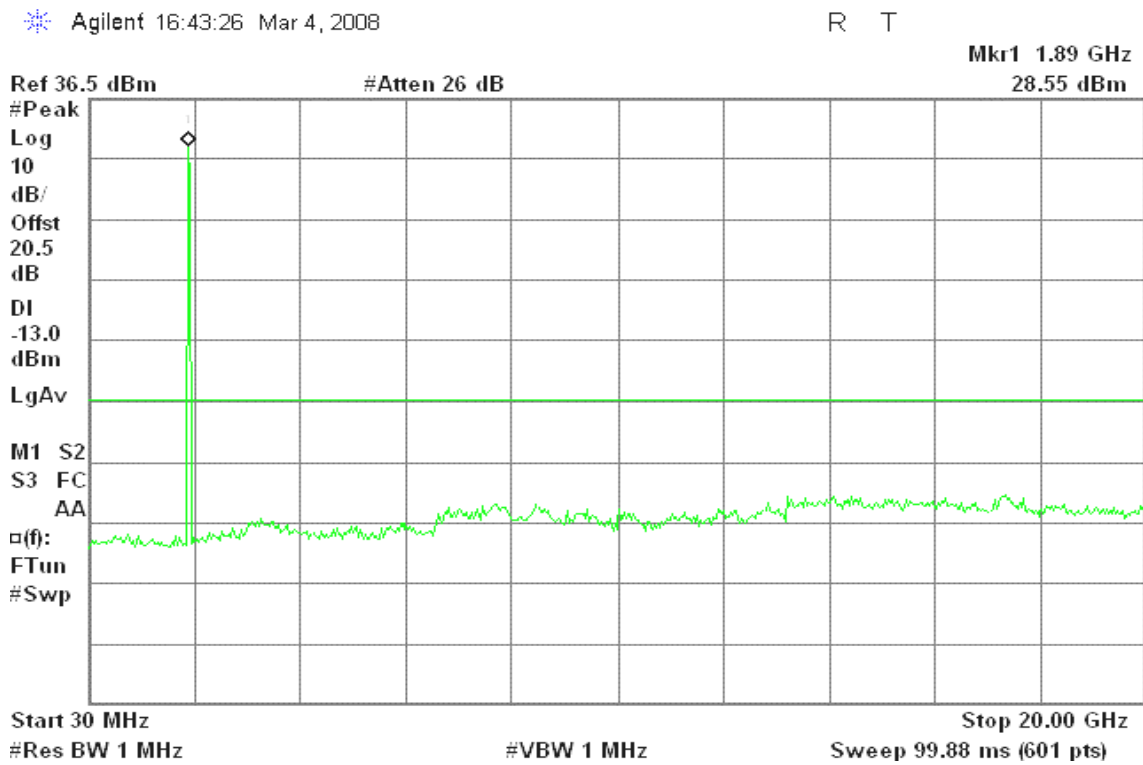




Figure 8-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

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

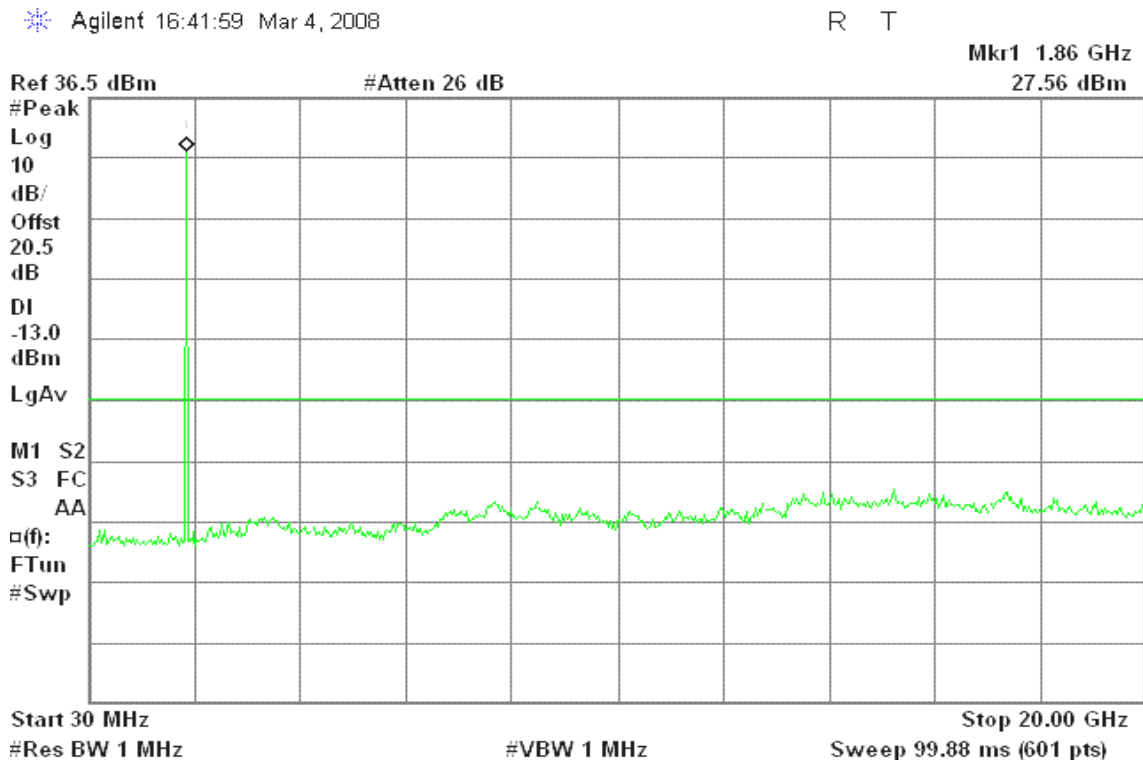




Figure 8-5: Out of Band emission at antenna terminals – GPRS CH Mid

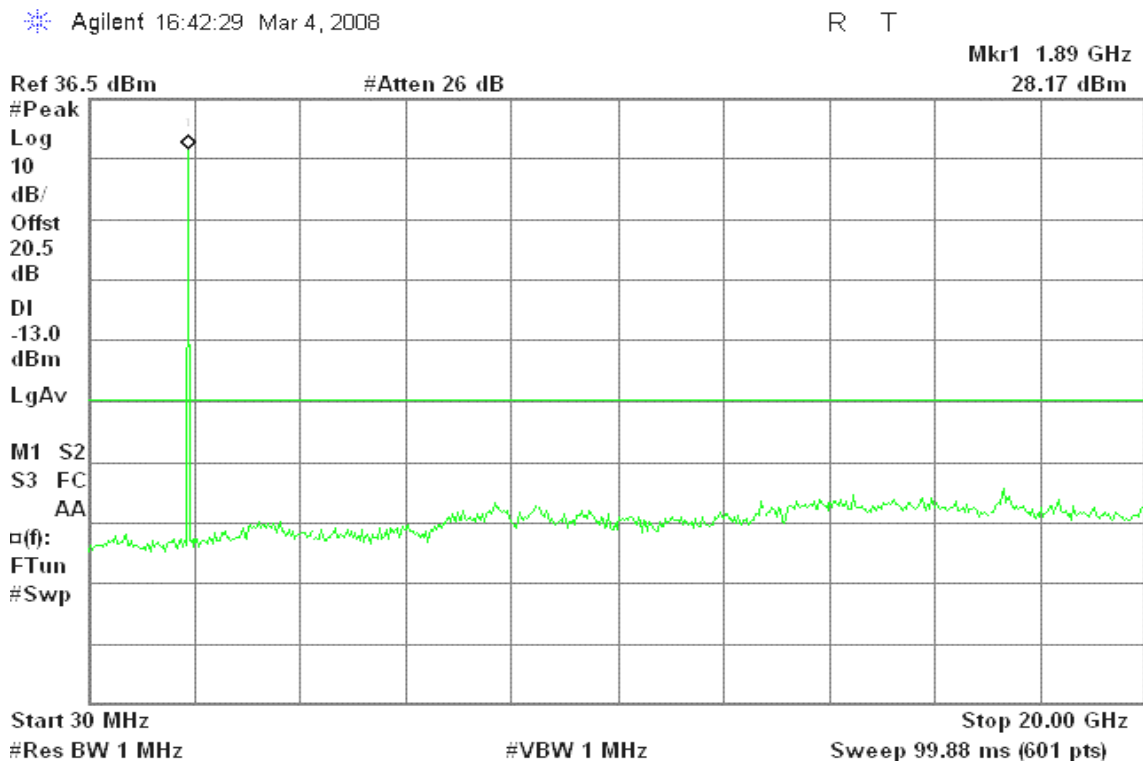
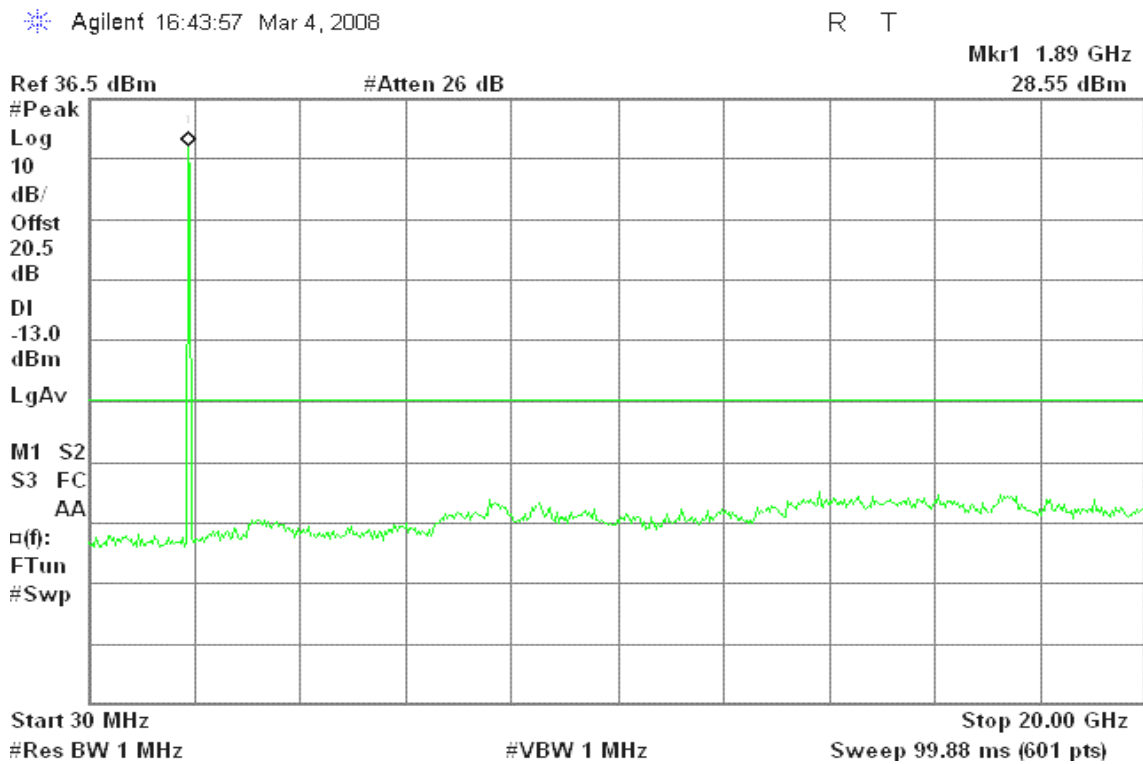


Figure 8-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 850

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

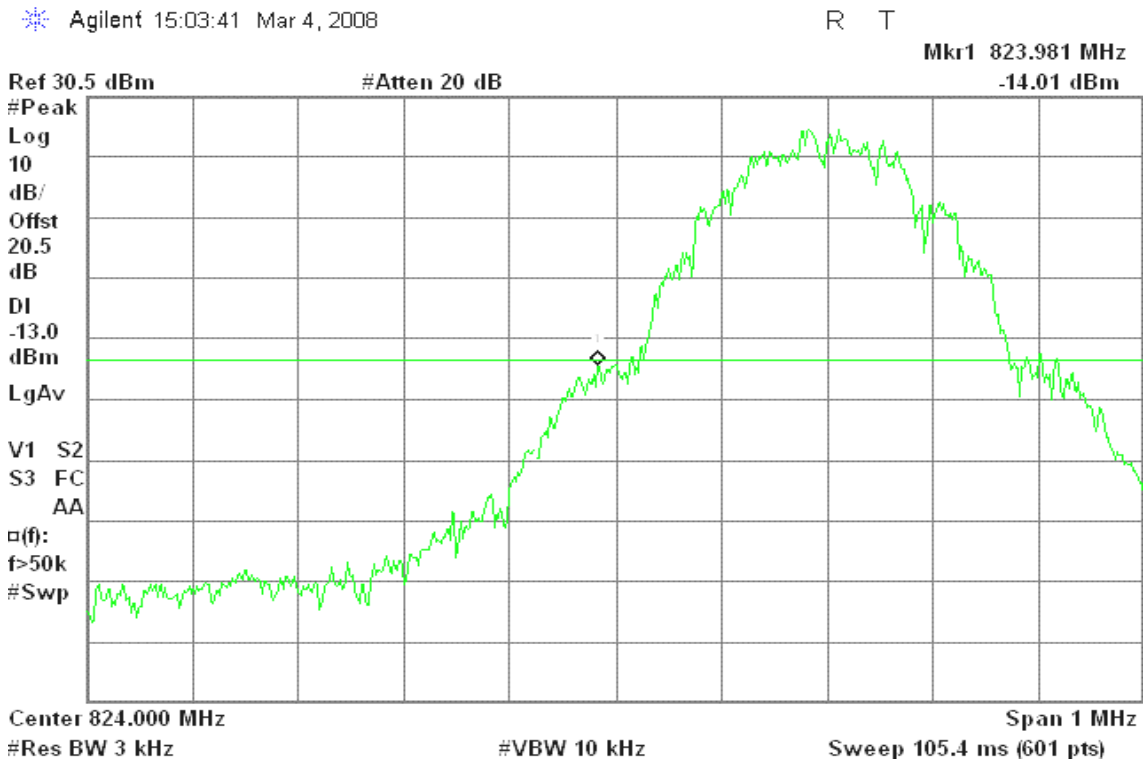
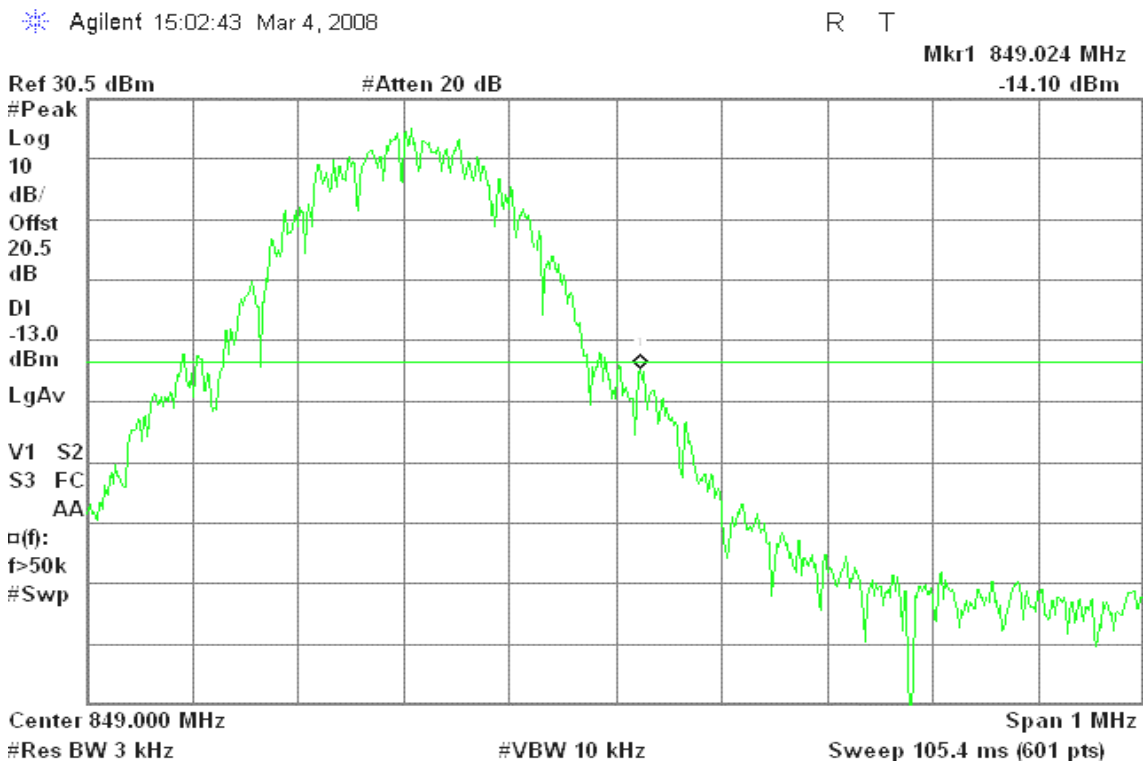


Figure 9-2: Band Edge emissions – GSM CH High





GPRS 850

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

Agilent 15:49:15 Mar 4, 2008

R T

Mkr1 823.983 MHz
-13.47 dBm

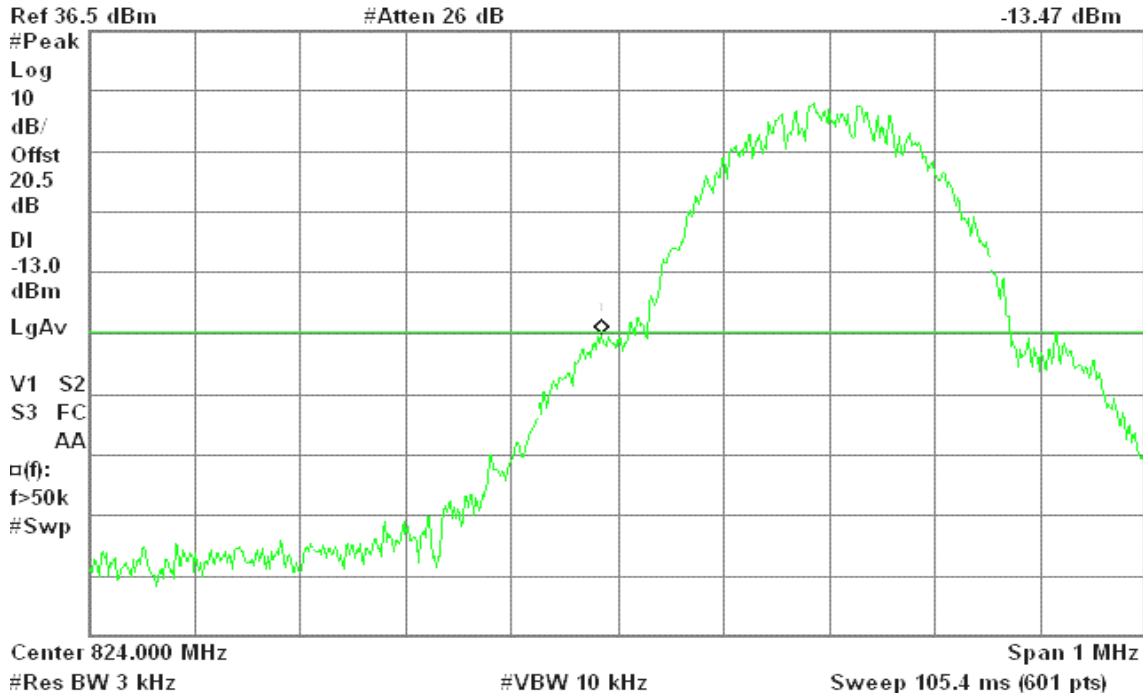
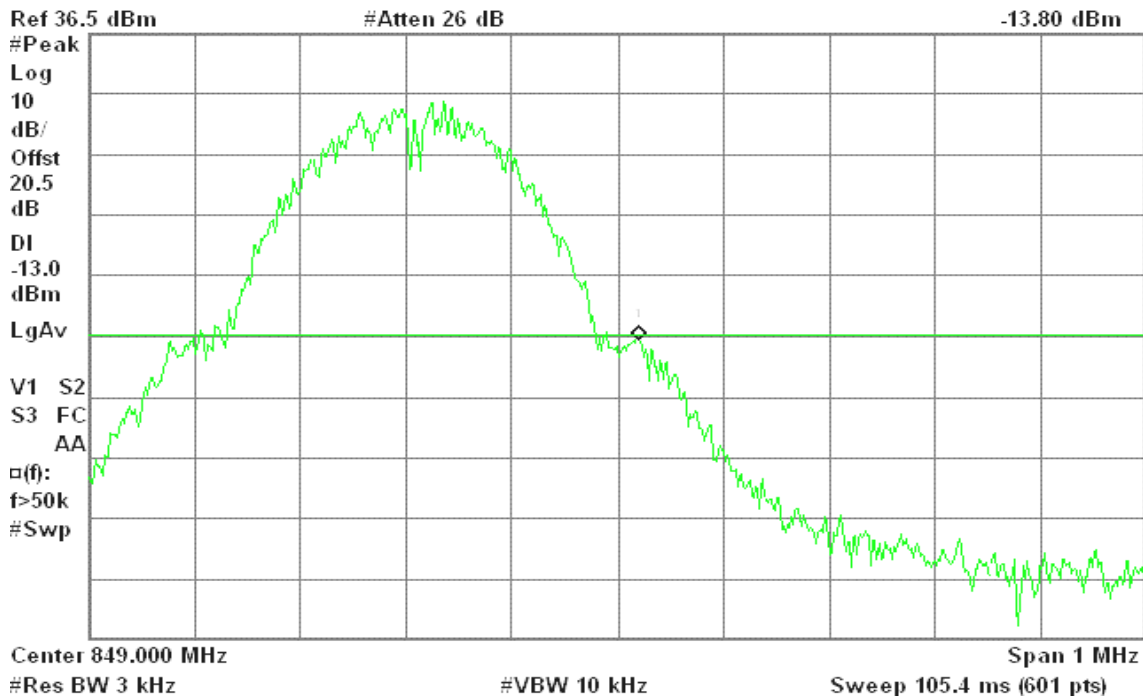


Figure 9-4: Band Edge emissions –GPRS CH High

Agilent 15:40:58 Mar 4, 2008

R T

Mkr1 849.020 MHz
-13.80 dBm





GSM 1900

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

Agilent 16:29:20 Mar 4, 2008

R T

Mkr1 1.849 980 GHz
-17.34 dBm

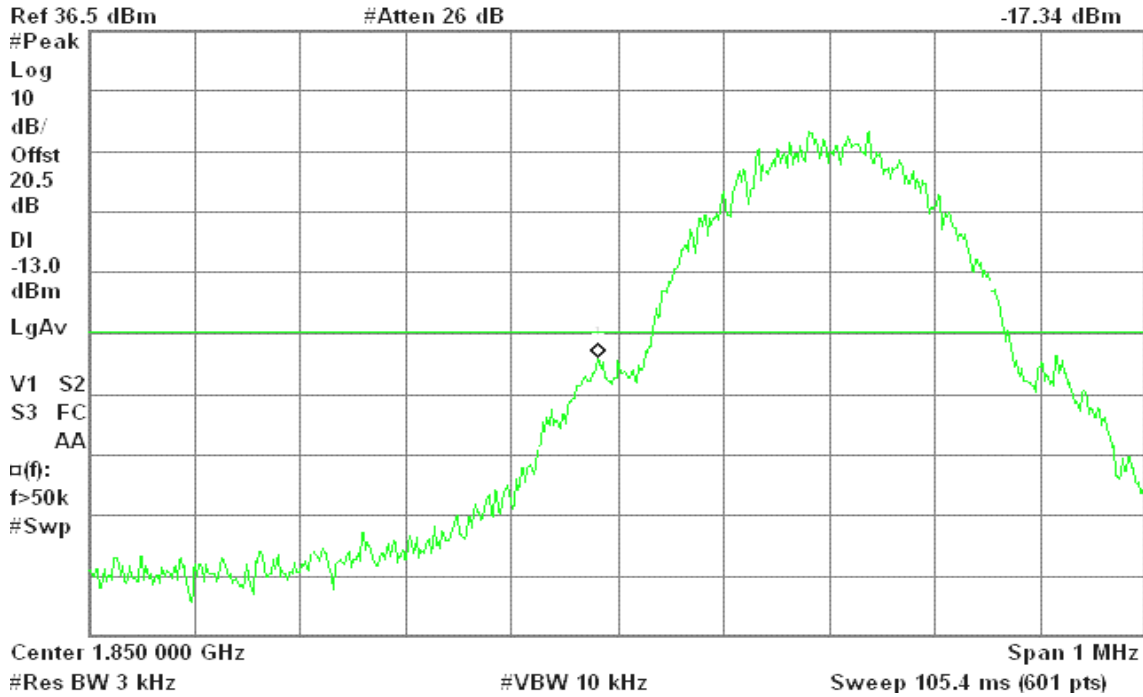
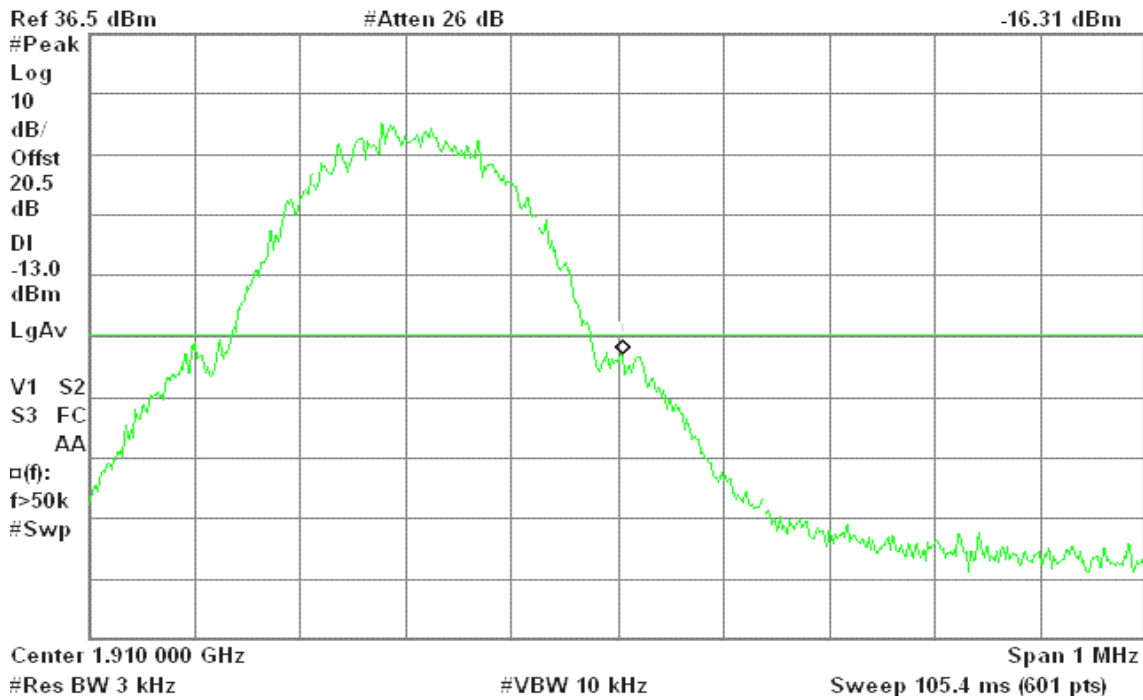


Figure 10-2: Band Edge emissions – GSM CH High

Agilent 16:31:36 Mar 4, 2008

R T

Mkr1 1.910 005 GHz
-16.31 dBm





GPRS 1900

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

Agilent 16:34:11 Mar 4, 2008

R T

Mkr1 1.849 997 GHz
-16.18 dBm

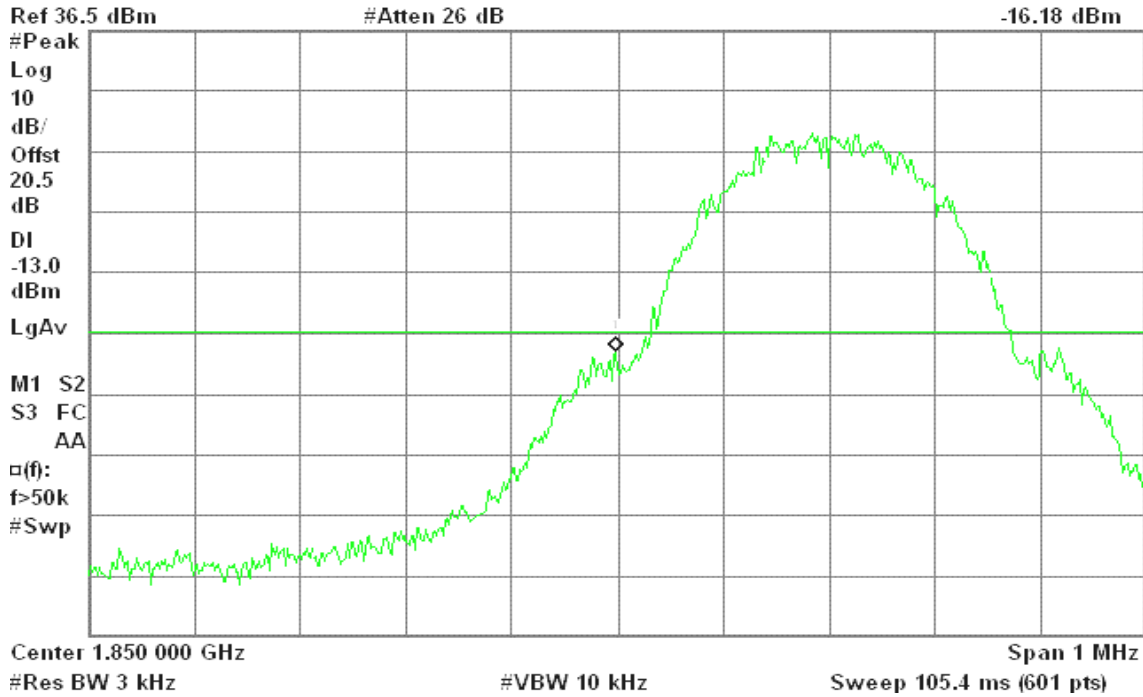
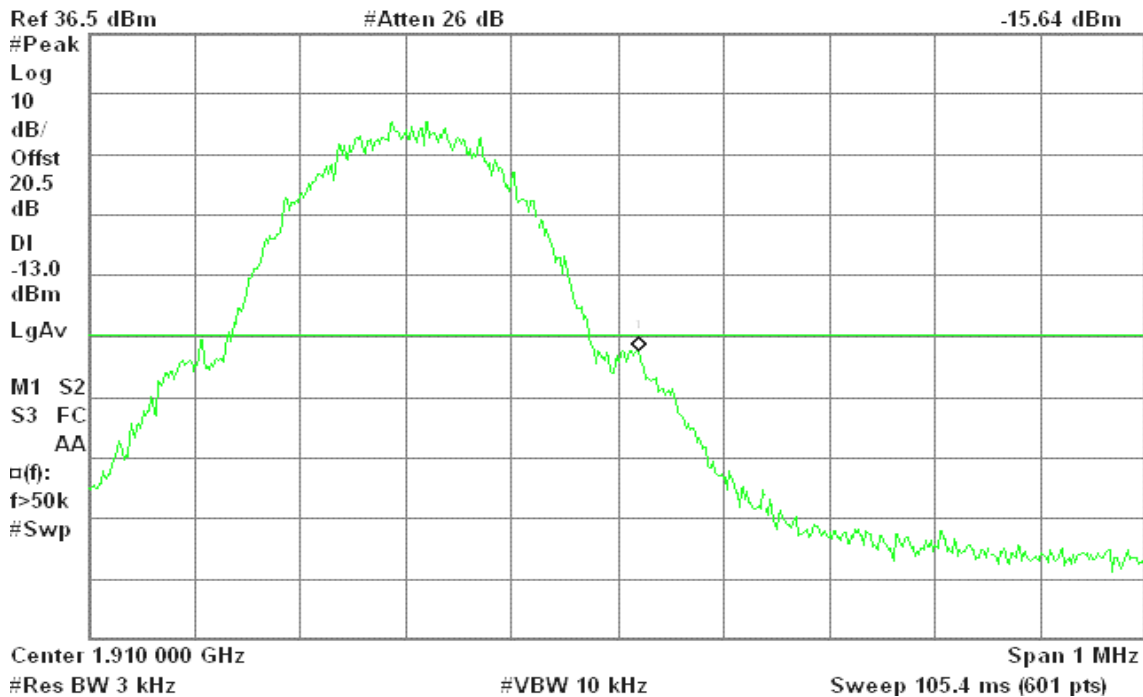


Figure 10-4: Band Edge emissions – GPRS CH High

Agilent 16:33:02 Mar 4, 2008

R L

Mkr1 1.910 020 GHz
-15.64 dBm





EDGE 850

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

Agilent 18:25:42 Mar 4, 2008

R T

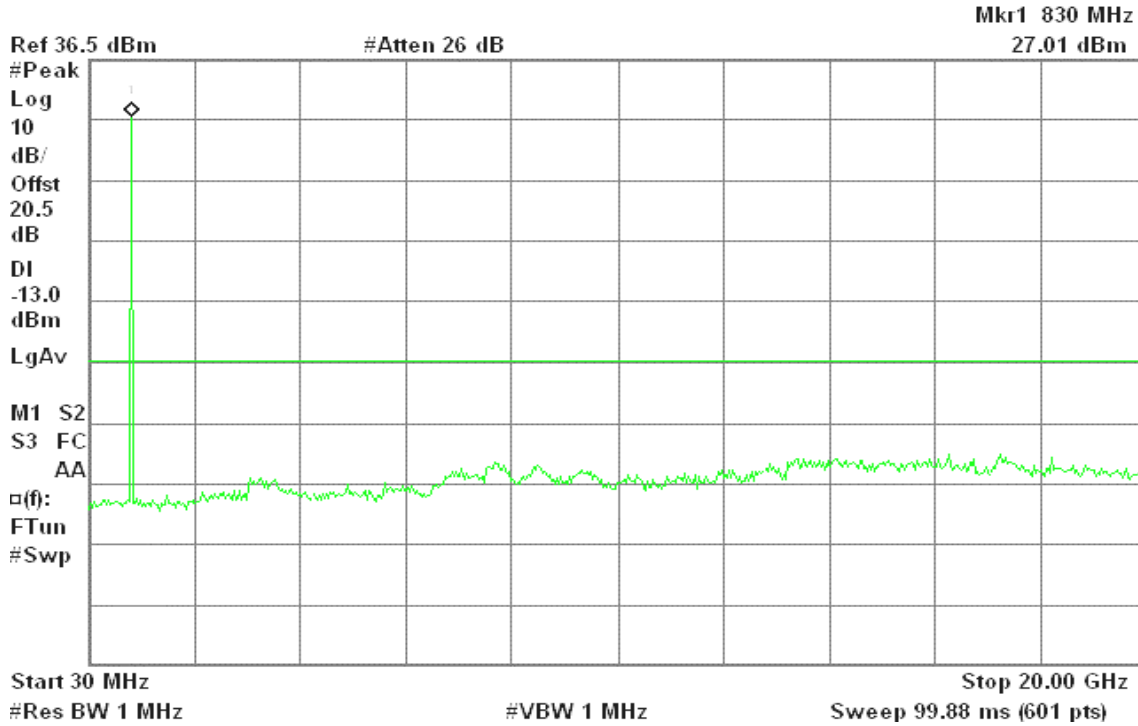


Figure 11-2: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 18:26:14 Mar 4, 2008

R T

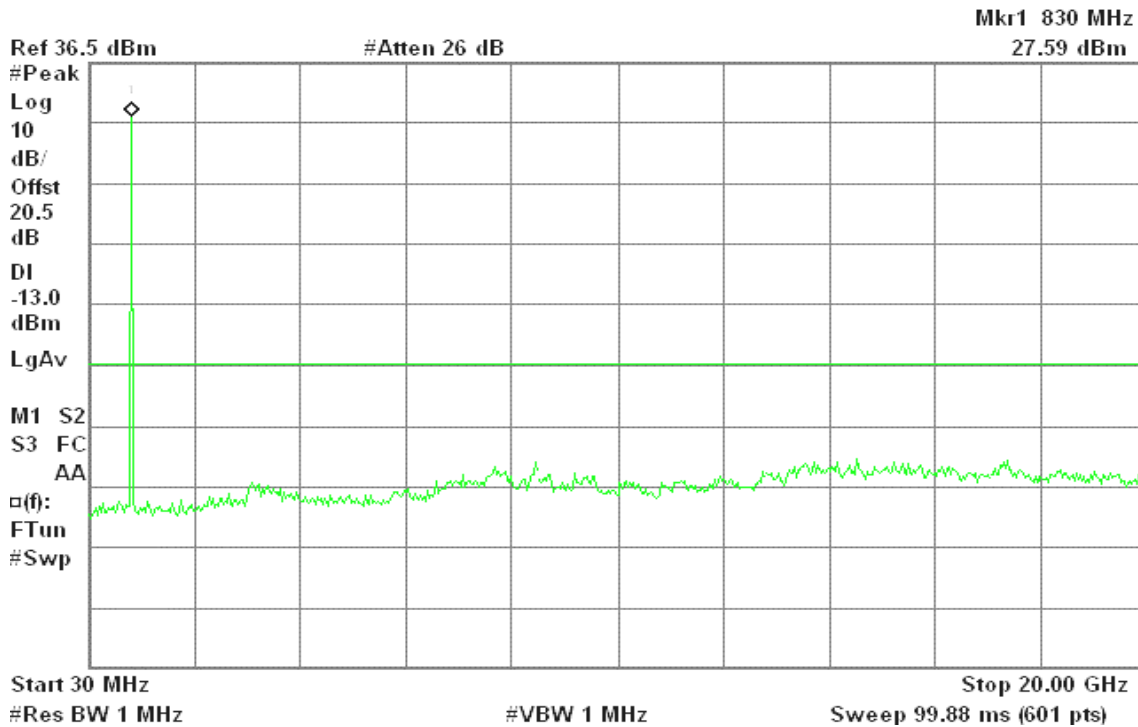
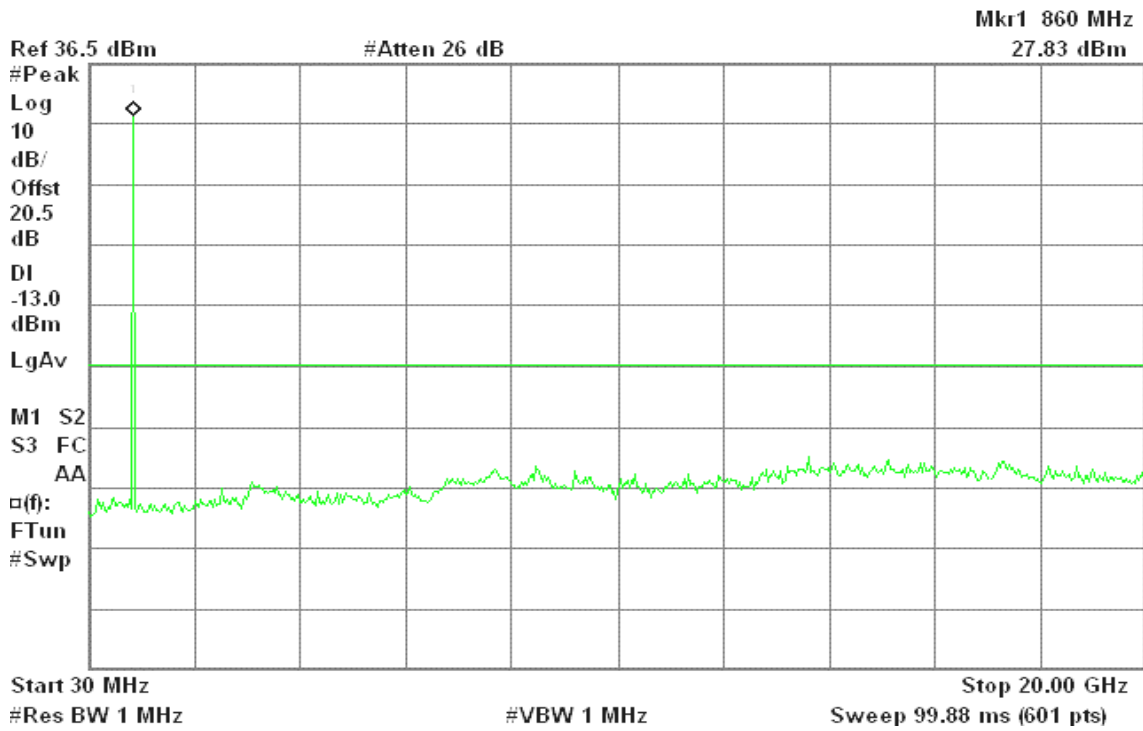




Figure 11-3: Out of Band emission at antenna terminals –EDGE CH High

Agilent 18:26:52 Mar 4, 2008

R T



EDGE 1900

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

Agilent 18:32:29 Mar 4, 2008

R T

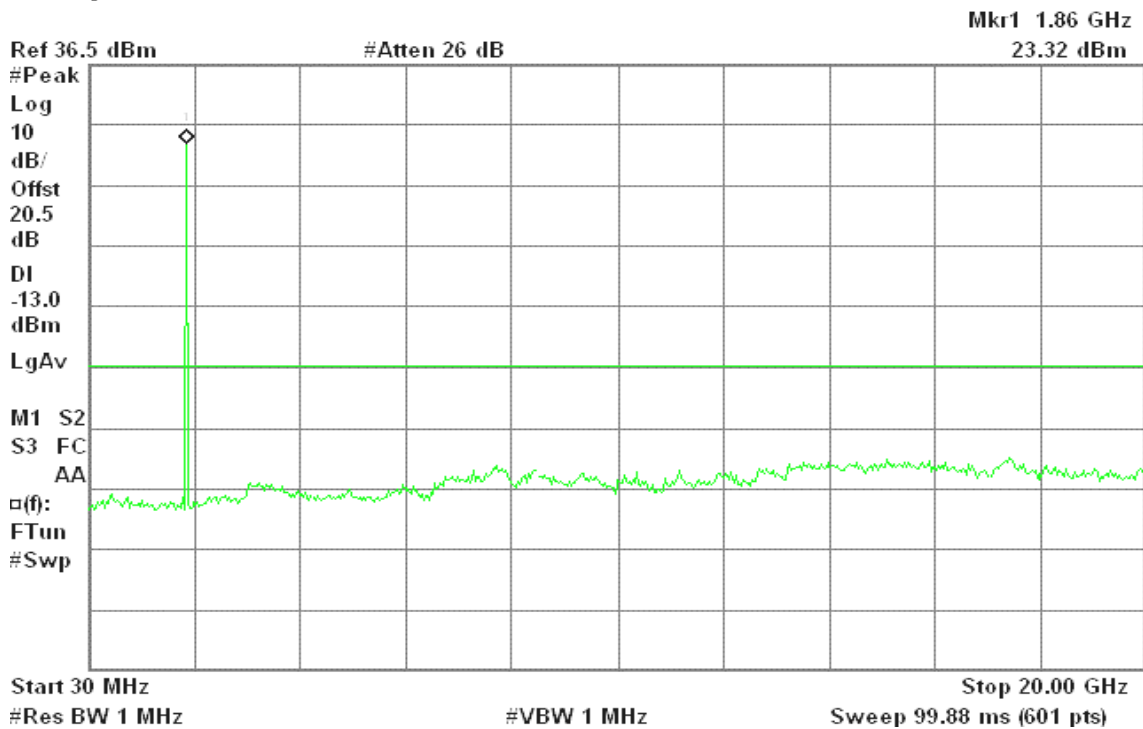




Figure 11-5: Out of Band emission at antenna terminals –EDGE CH Mid

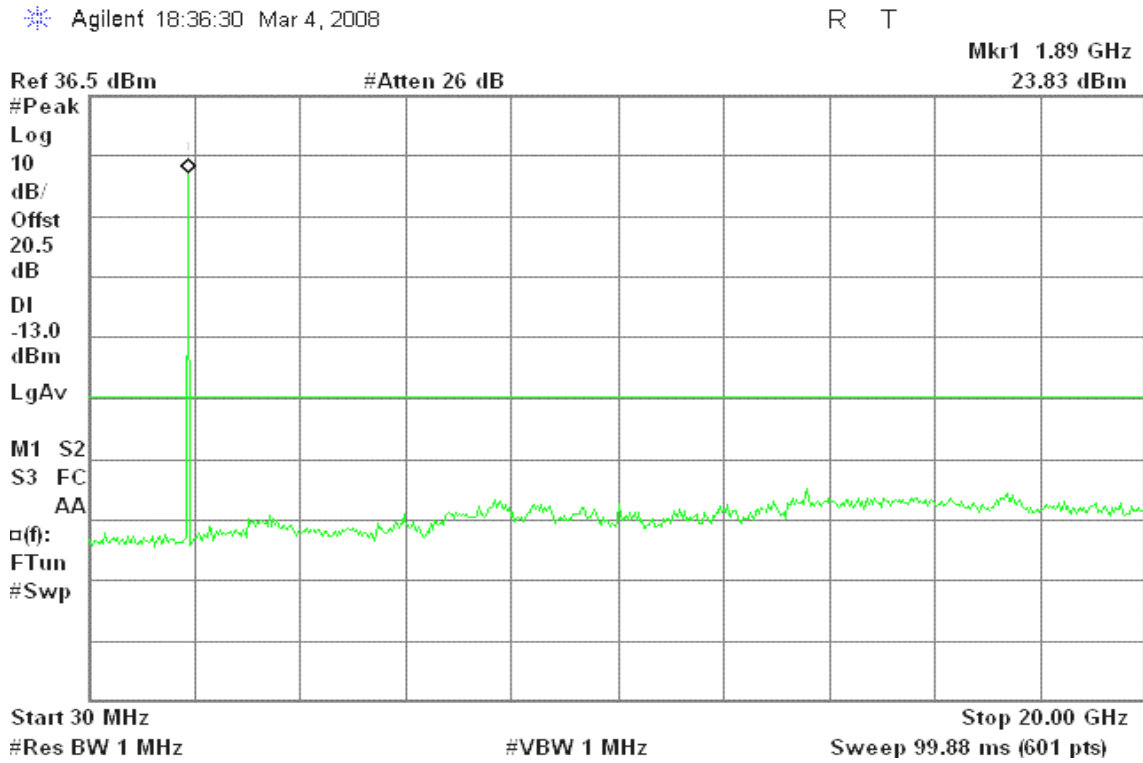
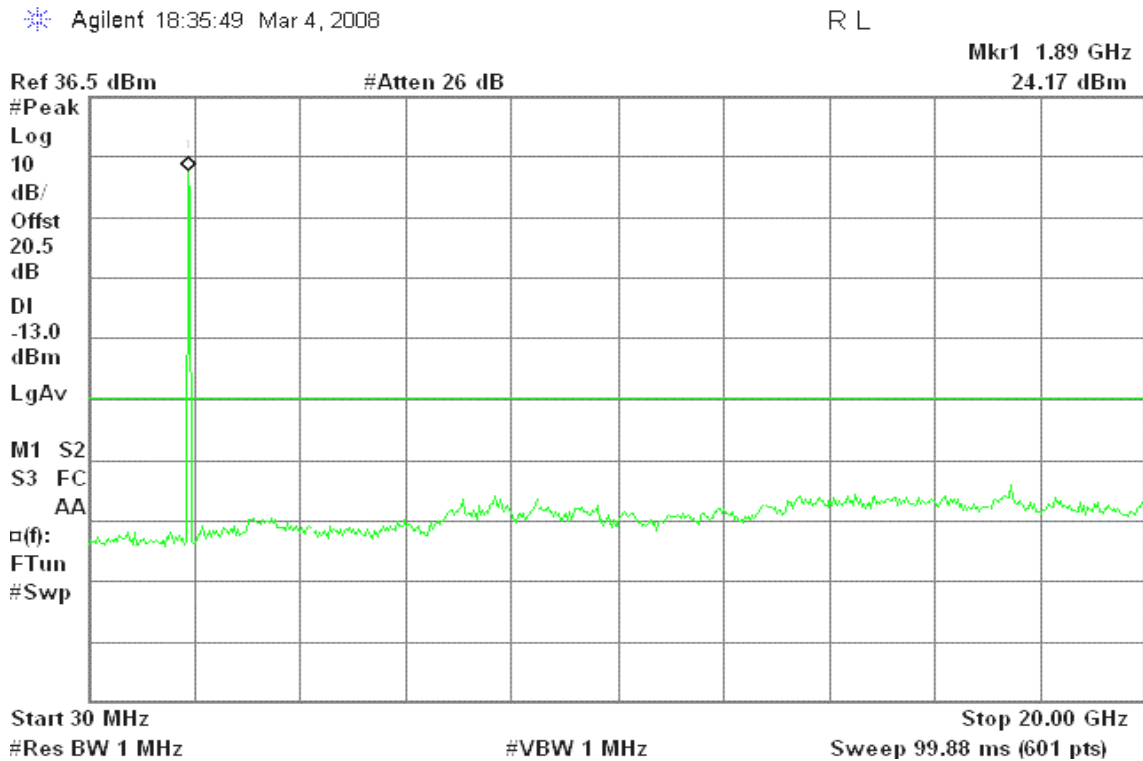


Figure 11-6: Out of Band emission at antenna terminals –EDGE CH High





EDGE 850

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

Agilent 18:24:01 Mar 4, 2008

R T

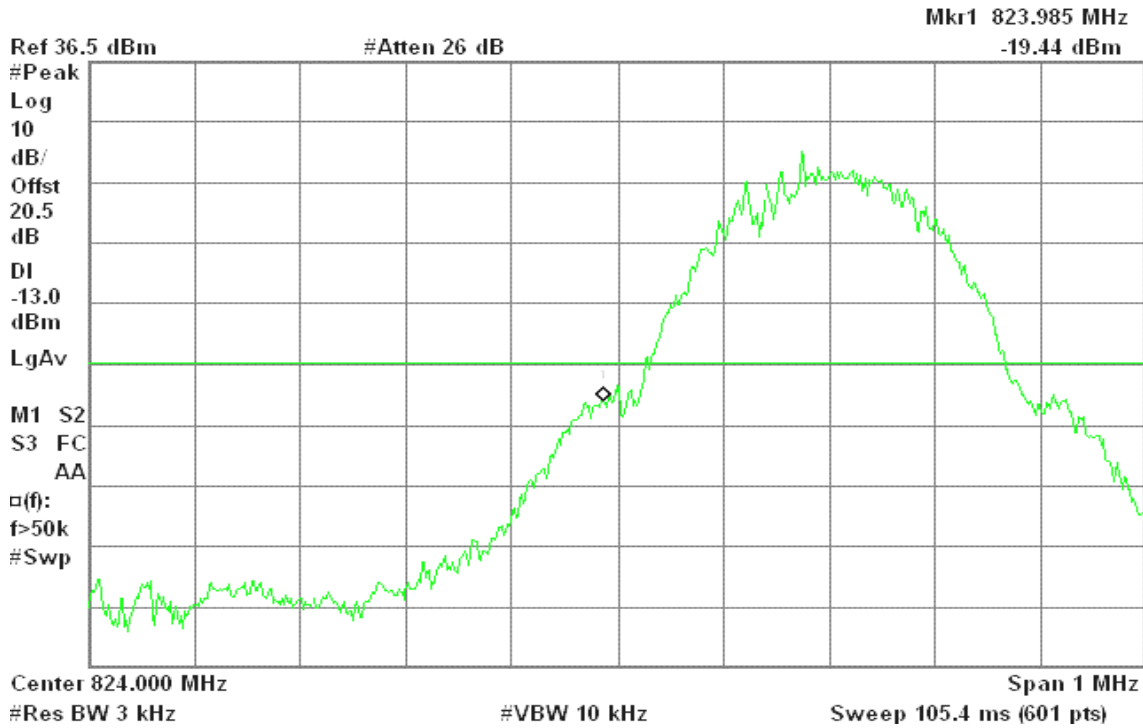
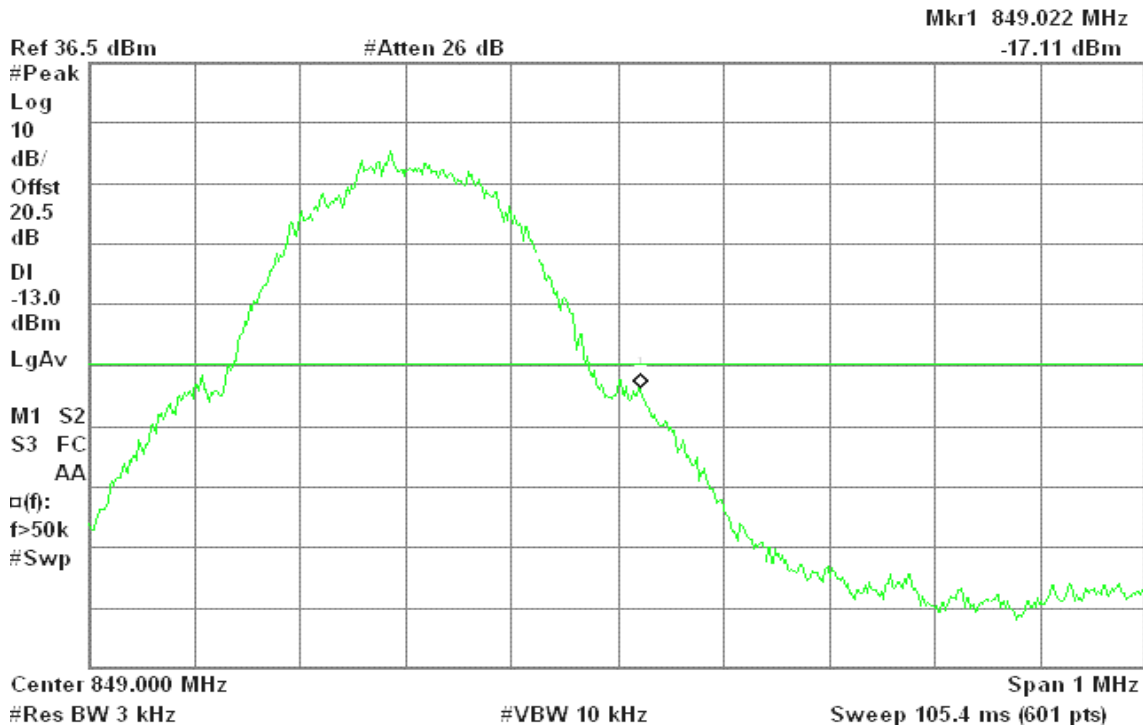


Figure 12-2: Band Edge emissions – EDGE CH High

Agilent 18:20:40 Mar 4, 2008

R T





EDGE 1900

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

Agilent 18:41:29 Mar 4, 2008

R T

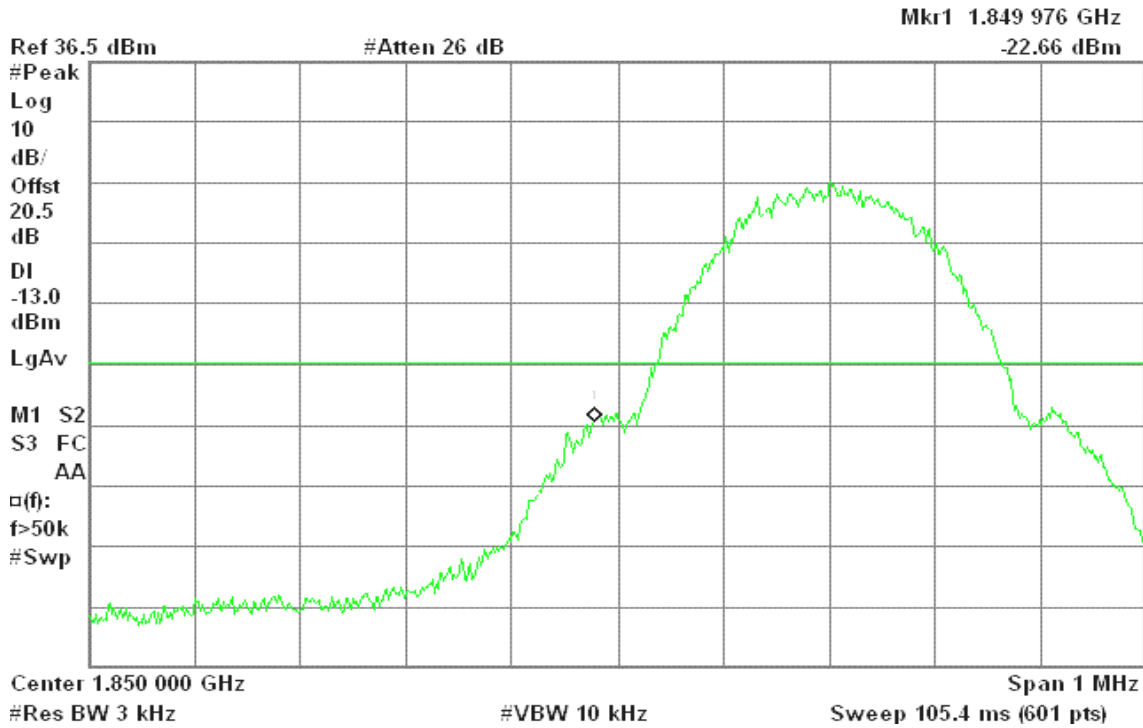
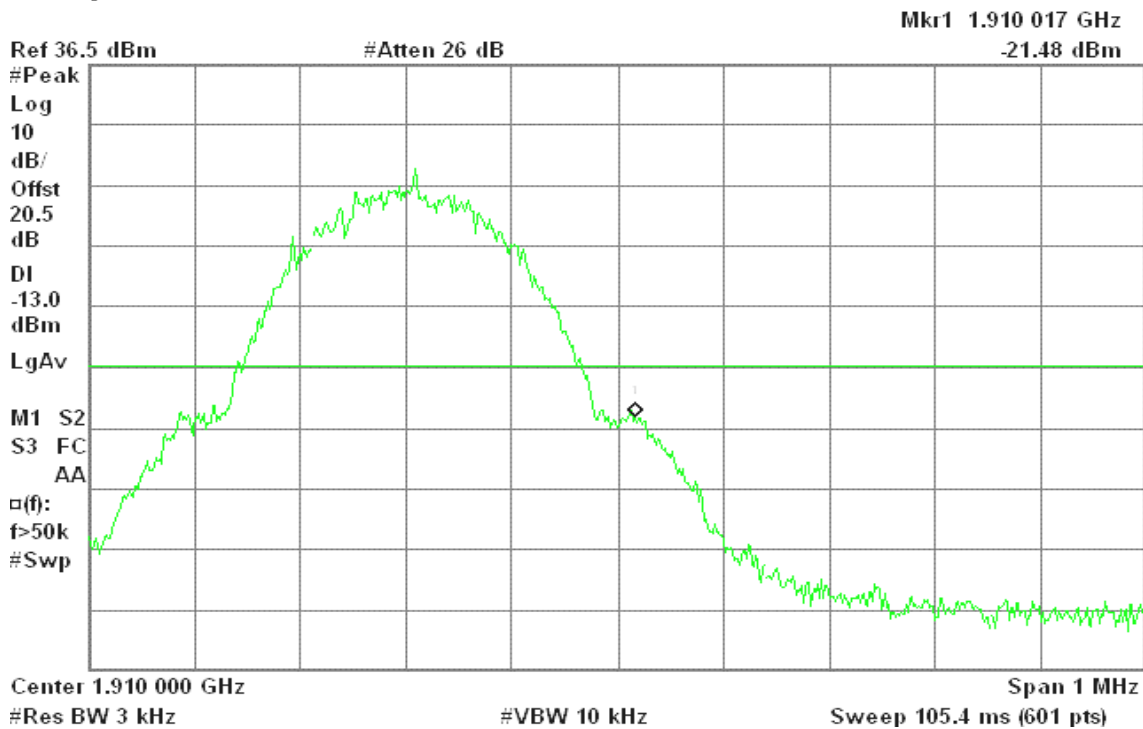


Figure 12-4: Band Edge emissions – EDGE CH High

Agilent 18:42:07 Mar 4, 2008

R T



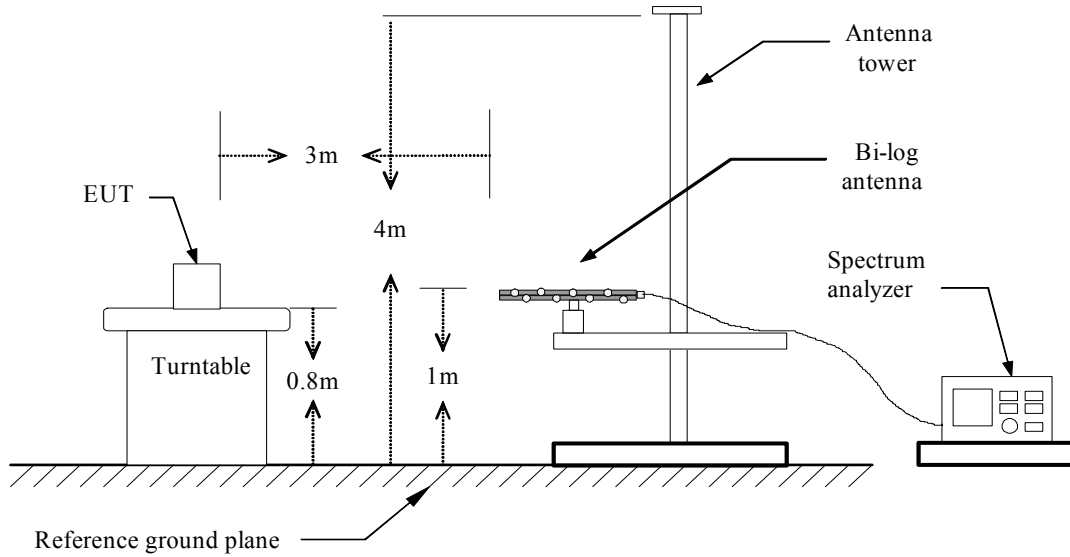
7.5 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

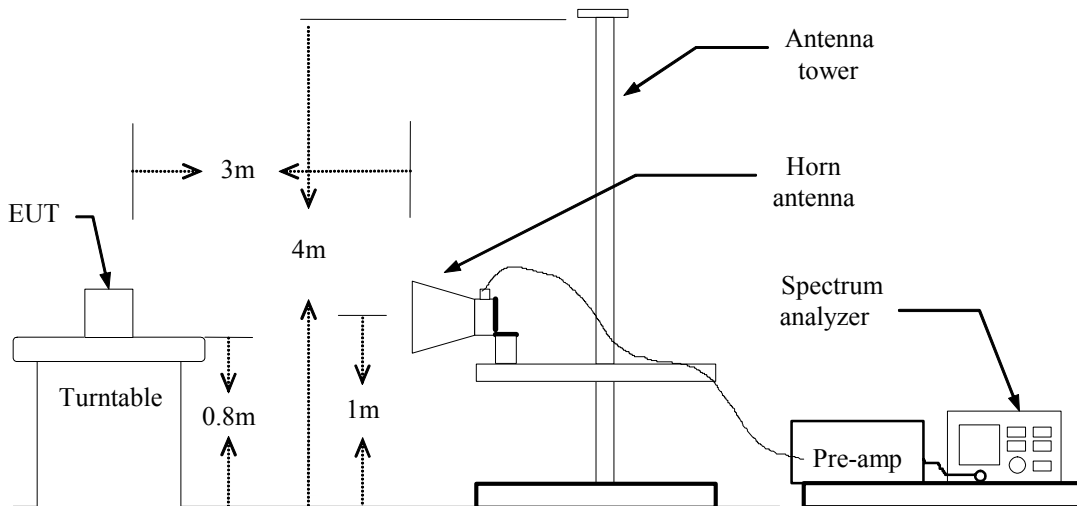
According to FCC §2.1053

Test Configuration

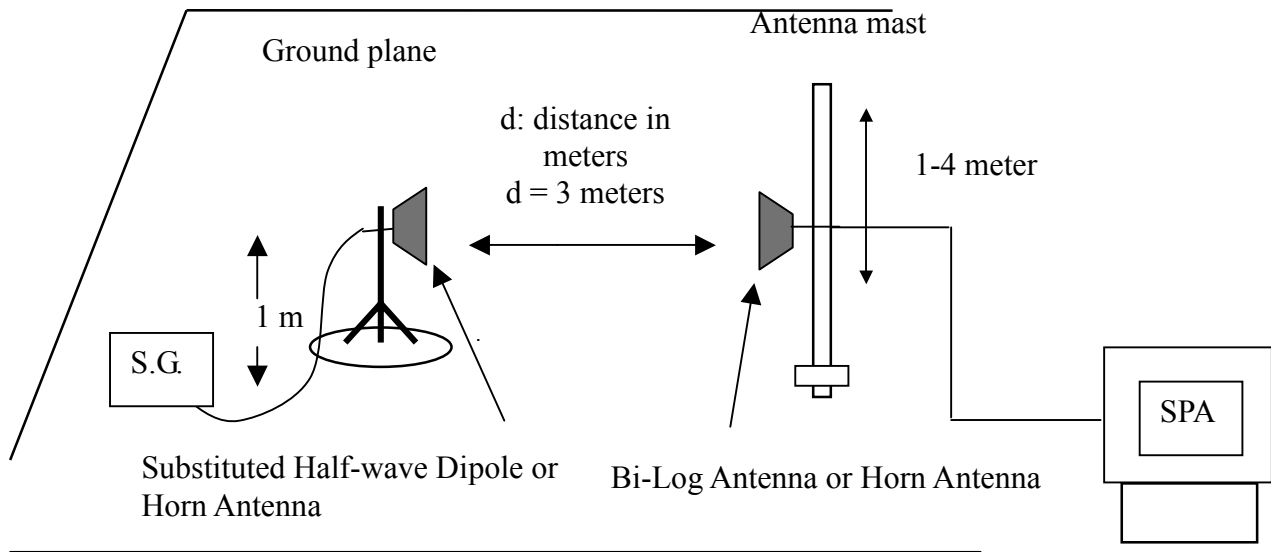
Below 1 GHz



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:** March 8, 2008**Temperature:** 20°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	-64.10	-0.96	-65.06	-13.00	-52.06
99.84	V	-46.98	-21.68	-68.66	-13.00	-55.66
408.30	V	-53.79	-12.32	-66.11	-13.00	-53.11
512.09	V	-63.42	-9.20	-72.62	-13.00	-59.62
682.81	V	-61.71	-6.60	-68.32	-13.00	-55.32
923.37	V	-66.78	-3.78	-70.56	-13.00	-57.56
39.70	H	-65.45	-3.06	-68.51	-13.00	-55.51
99.84	H	-46.74	-22.39	-69.13	-13.00	-56.13
408.30	H	-55.35	-11.88	-67.23	-13.00	-54.23
512.09	H	-62.90	-9.33	-72.23	-13.00	-59.23
682.81	H	-61.44	-6.41	-67.85	-13.00	-54.85
923.37	H	-65.69	-3.95	-69.65	-13.00	-56.65

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: March 8, 2008

Temperature: 20°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	-64.50	-0.74	-65.25	-13.00	-52.25
130.88	V	-47.12	-20.49	-67.61	-13.00	-54.61
279.29	V	-63.68	-15.60	-79.28	-13.00	-66.28
453.89	V	-56.44	-10.80	-67.24	-13.00	-54.24
523.73	V	-57.42	-8.84	-66.27	-13.00	-53.27
967.99	V	-64.20	-3.18	-67.38	-13.00	-54.38
38.73	H	-64.93	-3.30	-68.23	-13.00	-55.23
130.88	H	-49.27	-21.60	-70.87	-13.00	-57.87
150.28	H	-61.06	-16.16	-77.22	-13.00	-64.22
452.92	H	-62.28	-11.11	-73.40	-13.00	-60.40
522.76	H	-58.54	-8.82	-67.37	-13.00	-54.37
967.99	H	-62.30	-3.37	-65.67	-13.00	-52.67

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: March 8, 2008

Temperature: 20°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	-64.12	-0.68	-64.81	-13.00	-51.81
103.72	V	-58.41	-21.44	-79.85	-13.00	-66.85
161.92	V	-54.12	-19.76	-73.88	-13.00	-60.88
267.65	V	-64.31	-15.45	-79.76	-13.00	-66.76
428.67	V	-68.39	-11.73	-80.12	-13.00	-67.12
645.95	V	-66.72	-7.27	-73.99	-13.00	-60.99
36.79	H	-65.19	-3.80	-68.99	-13.00	-55.99
127.00	H	-56.86	-21.75	-78.62	-13.00	-65.62
150.28	H	-61.99	-16.16	-78.15	-13.00	-65.15
222.06	H	-65.24	-15.10	-80.34	-13.00	-67.34
262.80	H	-65.69	-15.87	-81.56	-13.00	-68.56
579.99	H	-69.22	-7.70	-76.92	-13.00	-63.92

Remark:

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



Operation Mode: GPRS 850 / TX / CH 128

Test Date: March 8, 2008

Temperature: 20°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	-64.77	-0.74	-65.51	-13.00	-52.51
99.84	V	-46.94	-21.68	-68.62	-13.00	-55.62
408.30	V	-54.39	-12.32	-66.72	-13.00	-53.72
512.09	V	-62.93	-9.20	-72.12	-13.00	-59.12
682.81	V	-62.21	-6.60	-68.81	-13.00	-55.81
923.37	V	-67.98	-3.78	-71.77	-13.00	-58.77
37.76	H	-64.71	-3.55	-68.26	-13.00	-55.26
99.84	H	-48.08	-22.39	-70.47	-13.00	-57.47
399.57	H	-53.66	-12.07	-65.73	-13.00	-52.73
512.09	H	-63.21	-9.33	-72.54	-13.00	-59.54
681.84	H	-60.68	-6.44	-67.12	-13.00	-54.12
924.34	H	-65.85	-3.99	-69.85	-13.00	-56.85

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: March 8, 2008

Temperature: 20°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	-64.52	-0.96	-65.48	-13.00	-52.48
130.88	V	-46.55	-20.49	-67.04	-13.00	-54.04
283.17	V	-63.80	-15.30	-79.10	-13.00	-66.10
453.89	V	-55.09	-10.80	-65.89	-13.00	-52.89
522.76	V	-57.36	-8.88	-66.24	-13.00	-53.24
967.02	V	-65.54	-3.20	-68.74	-13.00	-55.74
39.70	H	-65.50	-3.06	-68.56	-13.00	-55.56
130.88	H	-47.22	-21.60	-68.82	-13.00	-55.82
154.16	H	-59.31	-17.75	-77.06	-13.00	-64.06
453.89	H	-58.76	-11.11	-69.86	-13.00	-56.86
523.73	H	-57.00	-8.76	-65.76	-13.00	-52.76
967.99	H	-62.02	-3.37	-65.39	-13.00	-52.39

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: March 8, 2008

Temperature: 20°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	-64.94	-0.71	-65.65	-13.00	-52.65
105.66	V	-60.74	-21.31	-82.05	-13.00	-69.05
160.95	V	-53.52	-19.85	-73.38	-13.00	-60.38
248.25	V	-65.81	-15.59	-81.39	-13.00	-68.39
289.96	V	-65.60	-14.62	-80.22	-13.00	-67.22
645.95	V	-67.62	-7.27	-74.89	-13.00	-61.89
37.76	H	-63.80	-3.55	-67.35	-13.00	-54.35
98.87	H	-53.51	-22.38	-75.89	-13.00	-62.89
124.09	H	-55.21	-21.76	-76.97	-13.00	-63.97
154.16	H	-61.27	-17.75	-79.01	-13.00	-66.01
222.06	H	-65.88	-15.10	-80.98	-13.00	-67.98
613.94	H	-69.03	-7.58	-76.61	-13.00	-63.61

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: March 8, 2008

Temperature: 20°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)
31.94	V	-46.88	-4.82	-51.71	-13.00	-38.71
116.33	V	-47.72	-21.08	-68.80	-13.00	-55.80
149.31	V	-51.82	-16.20	-68.02	-13.00	-55.02
239.52	V	-53.09	-15.90	-68.98	-13.00	-55.98
295.78	V	-57.69	-14.51	-72.20	-13.00	-59.20
802.12	V	-60.88	-4.89	-65.77	-13.00	-52.77
36.79	H	-54.17	-3.80	-57.97	-13.00	-44.97
126.03	H	-47.08	-21.76	-68.84	-13.00	-55.84
149.31	H	-50.63	-16.33	-66.96	-13.00	-53.96
224.97	H	-52.93	-15.23	-68.16	-13.00	-55.16
312.27	H	-56.37	-14.83	-71.20	-13.00	-58.20
371.44	H	-57.87	-12.56	-70.42	-13.00	-57.42

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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	-54.06	-0.71	-54.77	-13.00	-41.77
111.48	V	-46.01	-21.04	-67.05	-13.00	-54.05
143.49	V	-49.90	-18.06	-67.96	-13.00	-54.96
238.55	V	-52.52	-15.96	-68.49	-13.00	-55.49
295.78	V	-56.52	-14.51	-71.03	-13.00	-58.03
697.36	V	-60.31	-6.21	-66.52	-13.00	-53.52
41.64	H	-54.41	-3.54	-57.94	-13.00	-44.94
123.12	H	-46.01	-21.76	-67.76	-13.00	-54.76
154.16	H	-46.62	-17.75	-64.37	-13.00	-51.37
231.76	H	-52.03	-15.44	-67.47	-13.00	-54.47
305.48	H	-55.63	-15.23	-70.86	-13.00	-57.86
869.05	H	-59.93	-3.77	-63.69	-13.00	-50.69

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: GSM 1900 / TX / CH 810

Test Date: March 8, 2008

Temperature: 20°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)
40.67	V	-51.74	-1.07	-52.81	-13.00	-39.81
111.48	V	-42.64	-21.04	-63.68	-13.00	-50.68
165.80	V	-47.77	-19.41	-67.18	-13.00	-54.18
237.58	V	-51.52	-16.02	-67.54	-13.00	-54.54
544.10	V	-59.27	-8.17	-67.44	-13.00	-54.44
825.40	V	-60.39	-4.77	-65.16	-13.00	-52.16
37.76	H	-54.48	-3.55	-58.04	-13.00	-45.04
122.15	H	-42.93	-21.76	-64.69	-13.00	-51.69
165.80	H	-48.29	-19.72	-68.01	-13.00	-55.01
219.15	H	-53.81	-15.00	-68.81	-13.00	-55.81
312.27	H	-56.74	-14.83	-71.57	-13.00	-58.57
613.94	H	-59.17	-7.58	-66.74	-13.00	-53.74

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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	-54.09	-0.68	-54.77	-13.00	-41.77
110.51	V	-48.57	-21.03	-69.60	-13.00	-56.60
149.31	V	-52.65	-16.20	-68.85	-13.00	-55.85
232.73	V	-51.97	-16.33	-68.30	-13.00	-55.30
455.83	V	-58.36	-10.72	-69.08	-13.00	-56.08
726.46	V	-59.77	-6.24	-66.00	-13.00	-53.00
34.85	H	-53.28	-4.45	-57.72	-13.00	-44.72
126.03	H	-43.74	-21.76	-65.50	-13.00	-52.50
149.31	H	-51.29	-16.33	-67.61	-13.00	-54.61
226.91	H	-53.43	-15.32	-68.75	-13.00	-55.75
300.63	H	-55.33	-15.52	-70.84	-13.00	-57.84
541.19	H	-60.02	-7.70	-67.73	-13.00	-54.73

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 661

Test Date: March 8, 2008

Temperature: 20°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	-53.48	-0.63	-54.10	-13.00	-41.10
111.48	V	-47.29	-21.04	-68.33	-13.00	-55.33
150.28	V	-54.04	-16.09	-70.13	-13.00	-57.13
236.61	V	-51.80	-16.08	-67.88	-13.00	-54.88
288.99	V	-55.98	-14.72	-70.70	-13.00	-57.70
742.95	V	-59.96	-6.24	-66.20	-13.00	-53.20
37.76	H	-55.14	-3.55	-58.69	-13.00	-45.69
122.15	H	-47.96	-21.76	-69.72	-13.00	-56.72
149.31	H	-50.74	-16.33	-67.06	-13.00	-54.06
235.64	H	-52.76	-15.38	-68.13	-13.00	-55.13
464.56	H	-58.40	-11.02	-69.41	-13.00	-56.41
848.68	H	-61.05	-4.12	-65.17	-13.00	-52.17

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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	-55.02	-0.74	-55.76	-13.00	-42.76
109.54	V	-46.09	-21.06	-67.15	-13.00	-54.15
174.53	V	-45.91	-18.94	-64.85	-13.00	-51.85
236.61	V	-50.88	-16.08	-66.96	-13.00	-53.96
267.65	V	-55.05	-15.45	-70.50	-13.00	-57.50
775.93	V	-59.85	-5.28	-65.12	-13.00	-52.12
36.79	H	-54.89	-3.80	-58.69	-13.00	-45.69
123.12	H	-48.01	-21.76	-69.77	-13.00	-56.77
150.28	H	-50.59	-16.16	-66.76	-13.00	-53.76
229.82	H	-53.85	-15.45	-69.30	-13.00	-56.30
545.07	H	-59.69	-7.67	-67.36	-13.00	-54.36
861.29	H	-60.58	-3.69	-64.26	-13.00	-51.26

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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	-61.01	-0.63	-61.63	-13.00	-48.63
99.84	V	-47.28	-21.68	-68.96	-13.00	-55.96
398.60	V	-53.63	-12.57	-66.20	-13.00	-53.20
408.30	V	-55.19	-12.32	-67.52	-13.00	-54.52
682.81	V	-60.40	-6.60	-67.01	-13.00	-54.01
924.34	V	-65.29	-3.82	-69.11	-13.00	-56.11
36.79	H	-64.00	-3.80	-67.80	-13.00	-54.80
99.84	H	-48.22	-22.39	-70.61	-13.00	-57.61
398.60	H	-53.36	-12.07	-65.43	-13.00	-52.43
512.09	H	-62.45	-9.33	-71.78	-13.00	-58.78
682.81	H	-61.93	-6.41	-68.34	-13.00	-55.34
923.37	H	-65.25	-3.95	-69.20	-13.00	-56.20

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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	-61.74	-0.63	-62.37	-13.00	-49.37
100.81	V	-49.18	-21.63	-70.81	-13.00	-57.81
130.88	V	-48.57	-20.49	-69.07	-13.00	-56.07
452.92	V	-60.15	-10.84	-70.99	-13.00	-57.99
523.73	V	-58.66	-8.84	-67.50	-13.00	-54.50
967.02	V	-63.09	-3.20	-66.29	-13.00	-53.29
35.82	H	-64.59	-4.05	-68.63	-13.00	-55.63
130.88	H	-51.16	-21.60	-72.77	-13.00	-59.77
154.16	H	-57.00	-17.75	-74.75	-13.00	-61.75
452.92	H	-65.63	-11.11	-76.74	-13.00	-63.74
548.95	H	-66.76	-7.64	-74.40	-13.00	-61.40
967.02	H	-63.34	-3.39	-66.73	-13.00	-53.73

Remark:

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



Operation Mode: EDGE 850 / TX / CH 251

Test Date: March 8, 2008

Temperature: 20°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	-60.77	-0.66	-61.43	-13.00	-48.43
98.87	V	-49.94	-21.68	-71.63	-13.00	-58.63
174.53	V	-57.90	-18.94	-76.84	-13.00	-63.84
294.81	V	-62.34	-14.53	-76.87	-13.00	-63.87
379.20	V	-66.45	-12.87	-79.33	-13.00	-66.33
684.75	V	-70.04	-6.55	-76.59	-13.00	-63.59
35.82	H	-63.54	-4.05	-67.58	-13.00	-54.58
101.78	H	-52.93	-22.22	-75.15	-13.00	-62.15
150.28	H	-60.92	-16.16	-77.08	-13.00	-64.08
229.82	H	-62.41	-15.45	-77.86	-13.00	-64.86
289.96	H	-65.18	-15.56	-80.73	-13.00	-67.73
555.74	H	-70.08	-7.58	-77.66	-13.00	-64.66

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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)
30.97	V	-47.17	-6.11	-53.28	-13.00	-40.28
99.84	V	-34.55	-21.68	-56.23	-13.00	-43.23
166.77	V	-43.86	-19.32	-63.18	-13.00	-50.18
236.61	V	-51.39	-16.08	-67.47	-13.00	-54.47
307.42	V	-57.58	-14.04	-71.62	-13.00	-58.62
542.16	V	-60.21	-8.16	-68.37	-13.00	-55.37
41.64	H	-53.85	-3.54	-57.38	-13.00	-44.38
122.15	H	-38.56	-21.76	-60.32	-13.00	-47.32
157.07	H	-46.18	-18.93	-65.11	-13.00	-52.11
219.15	H	-54.08	-15.00	-69.08	-13.00	-56.08
556.71	H	-59.95	-7.57	-67.53	-13.00	-54.53
848.68	H	-60.59	-4.12	-64.70	-13.00	-51.70

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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)
30.97	V	-47.79	-6.11	-53.90	-13.00	-40.90
99.84	V	-35.26	-21.68	-56.94	-13.00	-43.94
164.83	V	-44.17	-19.50	-63.67	-13.00	-50.67
237.58	V	-50.26	-16.02	-66.28	-13.00	-53.28
289.96	V	-55.87	-14.62	-70.49	-13.00	-57.49
790.48	V	-60.04	-5.02	-65.07	-13.00	-52.07
39.70	H	-55.00	-3.06	-58.05	-13.00	-45.05
97.90	H	-40.27	-22.37	-62.63	-13.00	-49.63
122.15	H	-37.92	-21.76	-59.68	-13.00	-46.68
172.59	H	-45.54	-19.12	-64.66	-13.00	-51.66
234.67	H	-54.05	-15.39	-69.44	-13.00	-56.44
384.05	H	-57.29	-12.02	-69.30	-13.00	-56.30

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions 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: March 8, 2008

Temperature: 20°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	-53.31	-0.74	-54.05	-13.00	-41.05
111.48	V	-47.70	-21.04	-68.74	-13.00	-55.74
155.13	V	-50.76	-18.01	-68.77	-13.00	-55.77
229.82	V	-52.08	-16.50	-68.59	-13.00	-55.59
300.63	V	-56.75	-14.40	-71.15	-13.00	-58.15
579.02	V	-59.72	-7.85	-67.57	-13.00	-54.57
38.73	H	-54.46	-3.30	-57.76	-13.00	-44.76
126.03	H	-46.82	-21.76	-68.57	-13.00	-55.57
151.25	H	-51.76	-16.56	-68.32	-13.00	-55.32
170.65	H	-48.51	-19.35	-67.86	-13.00	-54.86
229.82	H	-51.82	-15.45	-67.27	-13.00	-54.27
857.41	H	-59.96	-3.77	-63.73	-13.00	-50.73

Remark:

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



Above 1GHz

Operation Mode: GSM 850 / TX / CH 128

Test Date: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2470.00	V	-57.58	8.88	-48.70	-13.00	-35.70
3296.00	V	-57.59	9.46	-48.12	-13.00	-35.12
N/A						
1651.00	H	-59.31	4.19	-55.12	-13.00	-42.12
2470.00	H	-57.29	8.63	-48.66	-13.00	-35.66
3296.00	H	-58.64	9.28	-49.36	-13.00	-36.36
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-53.61	4.35	-49.26	-13.00	-36.26
2512.00	V	-56.47	9.06	-47.40	-13.00	-34.40
3345.00	V	-60.05	9.44	-50.61	-13.00	-37.61
N/A						
1672.00	H	-55.46	4.33	-51.13	-13.00	-38.13
2512.00	H	-55.70	8.78	-46.92	-13.00	-33.92
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-55.28	4.51	-50.77	-13.00	-37.77
2547.00	V	-55.92	9.10	-46.82	-13.00	-33.82
N/A						
1700.00	H	-52.86	4.52	-48.34	-13.00	-35.34
2547.00	H	-51.82	8.84	-42.98	-13.00	-29.98
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2470.00	V	-57.50	8.88	-48.62	-13.00	-35.62
3296.00	V	-58.79	9.46	-49.32	-13.00	-36.32
N/A						
1651.00	H	-58.61	4.19	-54.42	-13.00	-41.42
2470.00	H	-56.98	8.63	-48.36	-13.00	-35.36
3296.00	H	-58.95	9.28	-49.68	-13.00	-36.68
N/A						

Remark:

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



Operation Mode: GPRS 850 / TX / CH 190

Test Date: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-54.24	4.35	-49.89	-13.00	-36.89
2512.00	V	-55.56	9.06	-46.50	-13.00	-33.50
3345.00	V	-59.75	9.44	-50.31	-13.00	-37.31
N/A						
1672.00	H	-55.93	4.33	-51.59	-13.00	-38.59
2512.00	H	-55.88	8.78	-47.10	-13.00	-34.10
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-55.02	4.51	-50.51	-13.00	-37.51
2547.00	V	-57.40	9.10	-48.30	-13.00	-35.30
N/A						
1700.00	H	-52.92	4.52	-48.40	-13.00	-35.40
2547.00	H	-58.27	8.84	-49.44	-13.00	-36.44
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-60.77	9.44	-51.34	-13.00	-38.34
N/A						
3702.00	H	-60.78	9.29	-51.48	-13.00	-38.48
5550.00	H	-59.86	9.81	-50.05	-13.00	-37.05
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2876.00	V	-61.06	9.47	-51.59	-13.00	-38.59
3758.00	V	-61.58	9.46	-52.12	-13.00	-39.12
N/A						
3758.00	H	-60.42	9.35	-51.07	-13.00	-38.07
5641.00	H	-58.98	9.92	-49.07	-13.00	-36.07
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2561.00	V	-60.87	9.12	-51.76	-13.00	-38.76
N/A						
3821.00	H	-61.64	9.42	-52.22	-13.00	-39.22
7643.00	H	-57.83	12.78	-45.05	-13.00	-32.05
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5760.00	V	-62.47	10.25	-52.22	-13.00	-39.22
N/A						
3702.00	H	-60.89	9.29	-51.60	-13.00	-38.60
5550.00	H	-61.08	9.81	-51.27	-13.00	-38.27
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 1900 / TX / CH 661

Test Date: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
N/A						
3758.00	H	-61.80	9.35	-52.44	-13.00	-39.44
5641.00	H	-61.43	9.92	-51.52	-13.00	-38.52
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: March 7, 2008

Temperature: 20°C

Tested by: Ryan Chen

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
7643.00	V	-61.97	12.95	-49.02	-13.00	-36.02
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: March 7, 2008

Temperature: 20°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)
1651.00	V	-59.02	4.23	-54.80	-13.00	-41.80
3296.00	V	-59.53	9.46	-50.06	-13.00	-37.06
N/A						
2470.00	H	-60.17	8.63	-51.54	-13.00	-38.54
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: EDGE 850 / TX / CH 190

Test Date: March 7, 2008

Temperature: 20°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	-56.66	4.35	-52.32	-13.00	-39.32
7384.00	V	-62.27	12.66	-49.61	-13.00	-36.61
N/A						
2512.00	H	-54.62	8.78	-45.84	-13.00	-32.84
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: EDGE 850 / TX / CH 251

Test Date: March 7, 2008

Temperature: 20°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	-54.95	4.51	-50.45	-13.00	-37.45
2547.00	V	-58.76	9.10	-49.66	-13.00	-36.66
N/A						
1700.00	H	-56.19	4.52	-51.67	-13.00	-38.67
2547.00	H	-52.52	8.84	-43.68	-13.00	-30.68
N/A						

Remark:

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



Operation Mode: EDGE 1900 / TX / CH 512

Test Date: March 7, 2008

Temperature: 20°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)
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 1900 / TX / CH 661

Test Date: March 7, 2008

Temperature: 20°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)
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 1900 / TX / CH 810

Test Date: March 7, 2008

Temperature: 20°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)
2799.00	V	-61.68	9.38	-52.29	-13.00	-39.29
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.

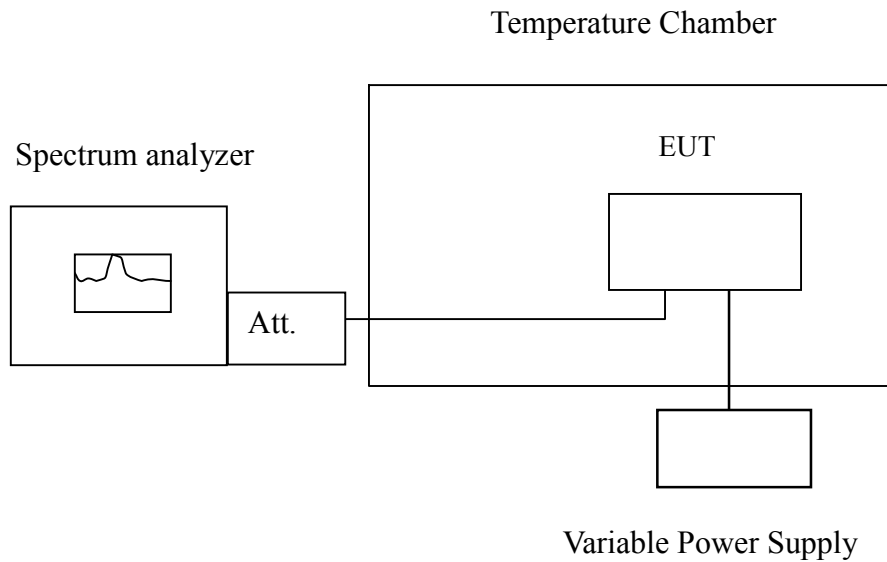
7.6 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

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	83599997	12	2090
	40	83599998	13	
	30	83599997	12	
	20	83599985	0	
	10	83600008	23	
	0	83600005	20	
	-10	83599999	14	
	-20	83599997	12	
	-30	83599998	13	

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	1879999992	6	4700
	40	1879999979	-7	
	30	1880000007	21	
	20	1879999986	0	
	10	1880000011	25	
	0	1880000025	39	
	-10	1879999995	9	
	-20	1879999999	13	
	-30	1879999997	11	



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	83599998	8	2090
	40	83600004	14	
	30	83599997	7	
	20	83599990	0	
	10	83599997	7	
	0	83600020	30	
	-10	83600005	15	
	-20	83600003	13	
	-30	83599997	7	

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	1879999991	4	4700
	40	1880000014	27	
	30	1880000010	23	
	20	1879999987	0	
	10	1879999959	-28	
	0	1880000020	33	
	-10	1879999987	0	
	-20	1879999990	3	
	-30	1879999993	6	



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	83599997	4	2090
	40	83600006	13	
	30	83599998	5	
	20	83599993	0	
	10	83599998	5	
	0	83600018	25	
	-10	83600006	13	
	-20	83600004	11	
	-30	83599997	4	

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	1879999990	2	4700
	40	1880000013	25	
	30	1880000011	23	
	20	1879999988	0	
	10	1879999965	-23	
	0	1880000019	31	
	-10	1879999985	-3	
	-20	1879999988	0	
	-30	1879999994	6	

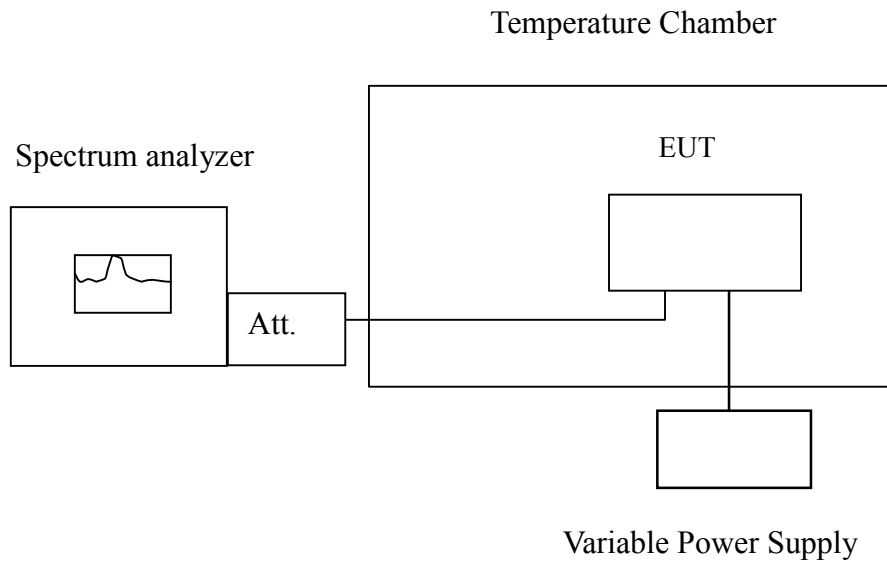
7.7 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

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 ($\pm 15\%$) 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)
4.07	20	83599987	2	2090
3.7		83599985	0	
3.33		83599994	9	
3END		83600001	7	

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)
4.07	20	1879999987	1	4700
3.7		1879999986	0	
3.33		1879999983	-3	
3.3		1879999999	13	



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)
4.07	20	83599991	1	2090
3.7		83599990	0	
3.33		83600006	16	
3.1END		83599998	-8	

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)
4.07	20	1879999992	5	4700
3.7		1879999987	0	
3.33		1880000015	28	
3.0END		1880000006	19	



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)
4.07	20	83599995	2	2090
3.7		83599993	0	
3.33		83599998	5	
3.0END		83600004	6	

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)
4.07	20	1879999990	2	4700
3.7		1879999988	0	
3.33		1880000010	22	
3.1END		1880000008	20	



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 (dBµV)	
	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:** March 10, 2008
Temperature: 22°C **Tested by:** Ryan Chen
Humidity: 45% RH

Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB)	QP Result (dBuV)	AV Result (dBuV)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.1800	50.77	41.67	0.13	50.90	41.80	64.49	54.49	-13.59	-12.69	L1
0.2300	43.60	36.30	0.10	43.70	36.40	62.45	52.45	-18.75	-16.05	L1
0.2900	41.02	35.42	0.08	41.10	35.50	60.52	50.52	-19.42	-15.02	L1
0.7100	30.80	28.20	0.00	30.80	28.20	56.00	46.00	-25.20	-17.80	L1
1.6550	28.39	20.69	0.01	28.40	20.70	56.00	46.00	-27.60	-25.30	L1
3.8950	35.23	24.03	0.07	35.30	24.10	56.00	46.00	-20.70	-21.90	L1
0.1800	53.77	45.27	0.13	53.90	45.40	64.48	54.49	-10.58	-9.09	L2
0.2400	43.40	36.00	0.10	43.50	36.10	62.09	52.10	-18.59	-16.00	L2
0.2950	41.92	36.82	0.08	42.00	36.90	60.38	50.38	-18.38	-13.48	L2
0.3600	27.75	21.35	0.05	27.80	21.40	58.73	48.73	-30.93	-27.33	L2
2.0850	26.89	21.49	0.01	26.90	21.50	56.00	46.00	-29.10	-24.50	L2
4.4100	20.62	11.62	0.08	20.70	11.70	56.00	46.00	-35.30	-34.30	L2

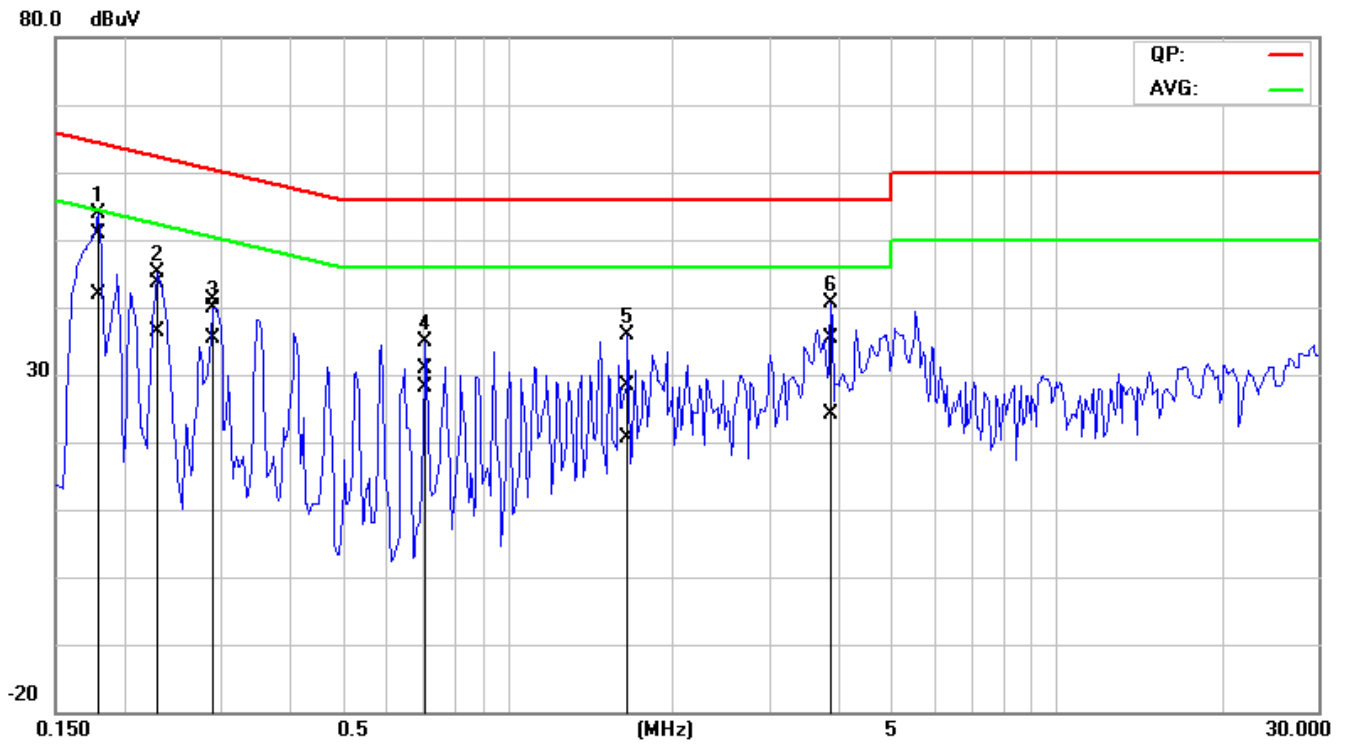
Remark:

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)

