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

TEST REPORT

For

Pocket PC Phone

Trade Name: HTC

Model: PB74100

Issued to

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

Issued by

Compliance Certification Services Inc.
No. 11, Wu-Gong 6th Rd., Wugu Industrial Park,
Taipei Hsien 248, Taiwan (R.O.C.)
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Testing Laboratory
1309

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1. TEST RESULT CERTIFICATION

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

Equipment Under Test: Pocket PC Phone

Trade Name: HTC

Model Number: PB74100

Date of Test: July 30 ~ August 5, 2009

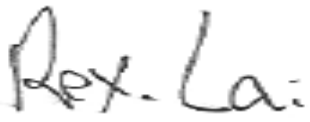
APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 22 Subpart H & Part 24 Subpart E	No non-compliance noted

We hereby certify that:

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

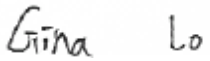
The test results of this report relate only to the tested sample identified in this report.

Approved by:



Rex Lai
Section Manager
Compliance Certification Services Inc.

Reviewed by:



Gina Lo
Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	Pocket PC Phone		
Trade Name	HTC		
Model Number	PB74100		
Model Discrepancy	N/A		
Power Supply	1. VDC from Power Adapter 2. Battery: 3.7V, 1100mAh 3. Powered from Host device via USB cable		
Power Adapter Manufacturer	PHIHONG	**Model**	PSAI05R-050Q
Power Adapter Power Rating	**For PSAI05R-050Q** I/P: 100-240V, 50-60Hz, 0.3A O/P: 5VDC, 1.0A		
LCD Panel Manufacturer	Samsung	**Model**	60H00238-00P
	Wintek	Model	60H00274-00M
Camera Manufacturer	Liteon	**Model**	54H00305-00M
	Foxconn	Model	54H00306-00M
Accessories	1. USB Cable: ◆ ACON (Model: DC U200 / 1m) ◆ MEC (Model: DC U200 / 1m) ◆ Foxlink (Model: DC U200 / 1m) 2. Earphone ◆ KINGSTATE (Model: HS G235) 3. Battery: ◆ TWS (model name: TOPA160 (3.7VDV, 1100mAh)) ◆ HT energy (model name: TOPA160 (3.7VDV, 1100mAh))		
Frequency Range	GSM / GPRS / EDGE: 850: 824 ~ 849 MHz GSM / GPRS / EDGE: 1900: 1850 ~ 1910 MHz		
Modulation Technique	GSM: GMSK GPRS: GMSK EDGE: 8PSK		
Antenna Gain	GSM / GPRS / EDGE 850 MHz: -6 dBi GSM / GPRS / EDGE 1900 MHz: 1 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: NM8PB74100** filing to comply with Part 22 and Part 24 of the FCC 47 CFR Rules.*

Mode	ERP Power (dBm)	Type of Emission
GSM 850MHz	27.06	244KGXW
GPRS 850MHz	25.10	247KGXW
EDGE 850MHz	21.76	246KG7W

Mode	EIRP Power (dBm)	Type of Emission
GSM 1900MHz	32.16	247KGXW
GPRS 1900MHz	30.72	246KGXW
EDGE 1900MHz	28.24	249KG7W

3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4: 2003, TIA/EIA-603-C and FCC CFR 47, Part 2, PART 22 SUBPART H AND PART 24 SUBPART E

3.1EUT CONFIGURATION

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

3.2EUT EXERCISE

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

3.3GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003.

3.4DESCRIPTION OF TEST MODES

The EUT (model: PB74100) had been tested under operating and standby condition.
EUT staying in continuous transmitting mode was programmed.
The following test modes were scanned during the preliminary test:

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

After the preliminary scan, the following test mode was found to produce the highest emission level.
Final Test Mode: Mode 7

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

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

GSM / GPRS / EDGE 1900:
Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing.

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:

in stand-up (Z axis) for GSM850 / GPRS 850 / EDGE 850 .
and
in lie-down (X axis) for GSM1900 / GPRS 1900 / EDGE 1900.

4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

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

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

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

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

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

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

4.3 MEASUREMENT UNCERTAINTY

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

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

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

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

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

☒ No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

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

5.2 EQUIPMENT

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

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

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

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

5.3TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12,2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method –47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	IC 2324G-1 IC 2324G-2

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

6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

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

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	Notebook PC	DELL	PP05L	7T390 A03	E2K5HCKT	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2.	LCD Monitor	Samsung	173P	DI17H4JXB04968Y	FCC DoC	Shielded, 1.8m with 2 cores	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
3.	USB Mouse	HP	MO19UCA	20440964	FCC DoC	Shielded, 1.8m	N/A
4.	USB 2.0 External HDD	TeraSyS	F12-UF (COMBO)	A0100215 -42O014	FCC DoC	Shielded, 1.8m	N/A
5.	Notebook PC (Remote)	IBM	2656	AK-VF0HT	FCC DoC	LAN Cable: Unshielded, 10m Line Cable: Unshielded, 10m	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
6.	Universal Radio Communication Tester (Remote)	R&S	CMU200	1100.000.8.02	N/A	N/A	Unshielded, 1.8m
7.	Super a/g 108Mbps Wireless Lan Router (Remote)	PLANEX	BLW-04SAG	40DDA0421	SJ9-BLW54SAG	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.*

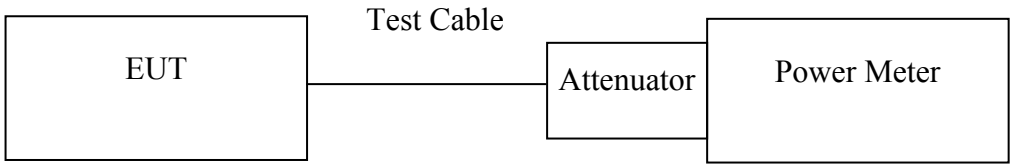
7. FCC PART 22 & 24 REQUIREMENTS

7.1 PEAK POWER

LIMIT

According to FCC §2.1046.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
GSM 850 (Class B)	128	824.20	32.90	0.0	32.90
	190	836.60	32.80		32.80
	251	848.80	32.60		32.60
GPRS 850 (Class 10)	128	824.20	32.90	0.0	32.90
	190	836.60	32.80		32.80
	251	848.80	32.70		32.70
EDGE 850 (Class 10)	128	824.20	26.60	0.0	26.60
	190	836.60	26.40		26.40
	251	848.80	26.20		26.20

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
GSM 1900 (Class B)	512	1850.20	29.10	0.0	29.10
	661	1880.00	29.50		29.50
	810	1909.80	29.20		29.20
GPRS 1900 (Class 10)	512	1850.20	29.10	0.0	29.10
	661	1880.00	29.60		29.60
	810	1909.80	29.30		29.30
EDGE 1900 (Class 10)	512	1850.20	25.20	0.0	25.20
	661	1880.00	25.60		25.60
	810	1909.80	25.50		25.50

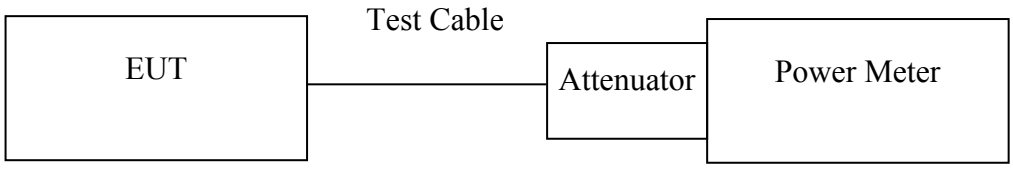
Remark: *The value of factor includes both the loss of cable and external attenuator*

7.2 AVERAGE POWER

LIMIT

For reporting purposes only.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
GSM 850 (Class B)	128	824.20	32.80	0.0	32.80
	190	836.60	32.70		32.70
	251	848.80	32.50		32.50
GPRS 850 (Class 10)	128	824.20	32.80	0.0	32.80
	190	836.60	32.70		32.70
	251	848.80	32.60		32.60
EDGE 850 (Class 10)	128	824.20	26.50	0.0	26.50
	190	836.60	26.30		26.30
	251	848.80	26.10		26.10

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
GSM 1900 (Class B)	512	1850.20	29.00	0.0	29.00
	661	1880.00	29.40		29.40
	810	1909.80	29.10		29.10
GPRS 1900 (Class 10)	512	1850.20	29.00	0.0	29.00
	661	1880.00	29.50		29.50
	810	1909.80	29.20		29.20
EDGE 1900 (Class 10)	512	1850.20	25.10	0.0	25.10
	661	1880.00	25.50		25.50
	810	1909.80	25.40		25.40

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

7.3 ERP & EIRP MEASUREMENT

LIMIT

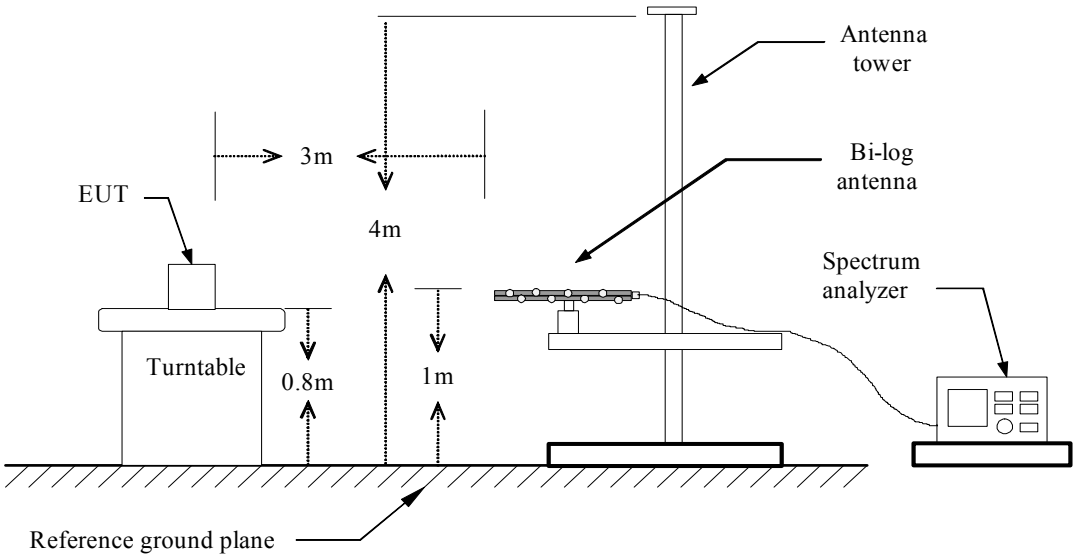
According to FCC §2.1046

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

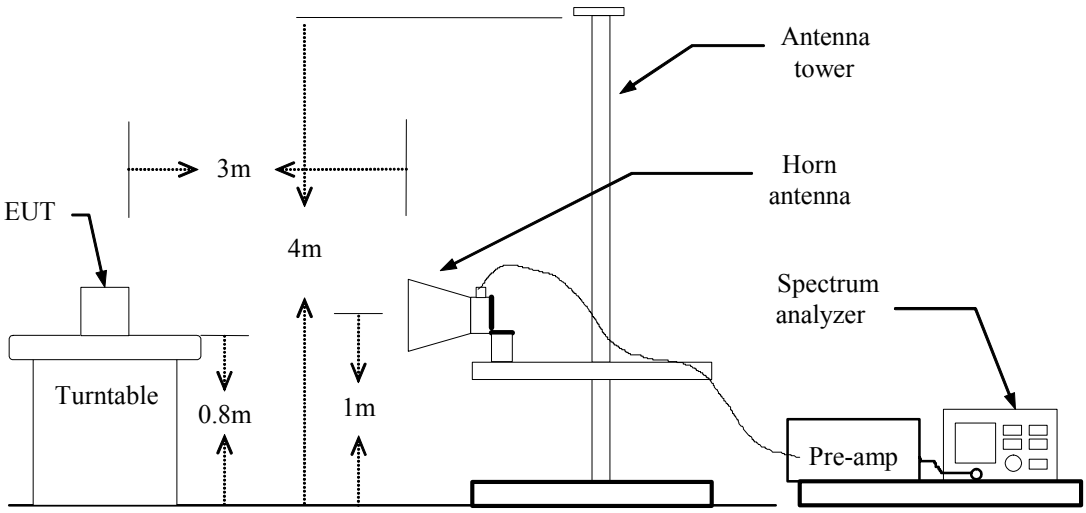
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

Test Configuration

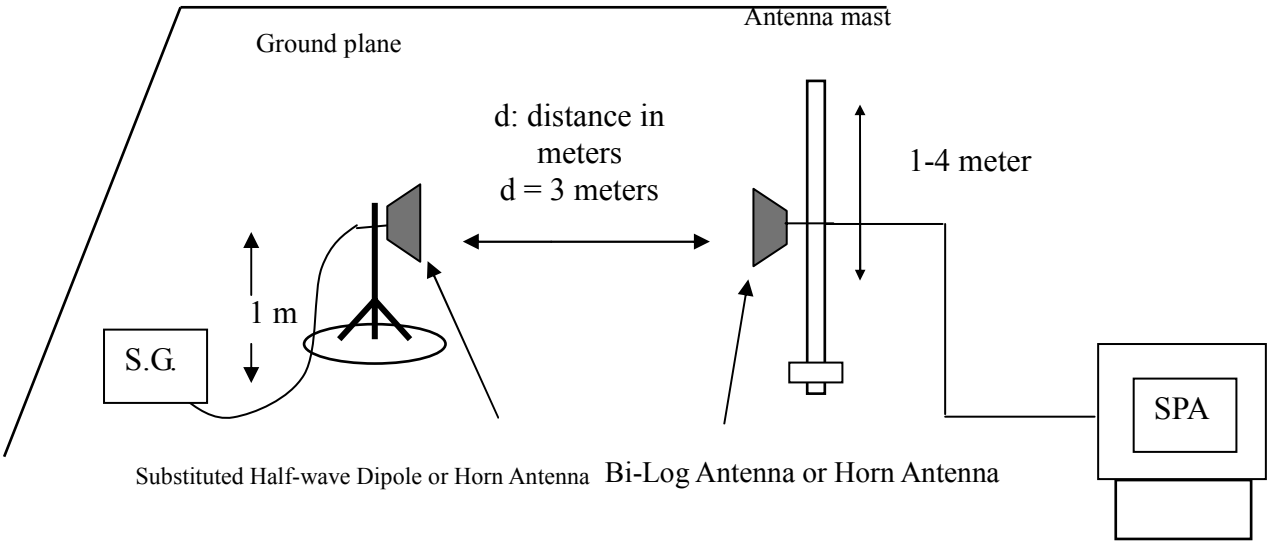
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

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

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

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

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

TEST RESULTS

No non-compliance noted.

GSM 850 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.06	V	-16.10	35.66	19.56	38.50	-18.94
		824.30	H	-12.41	35.10	22.69	38.50	-15.81
	190	836.48	V	-16.38	35.39	19.01	38.50	-19.49
		836.66	H	-12.81	35.07	22.27	38.50	-16.23
	251	848.96	V	-17.07	35.24	18.17	38.50	-20.33
		848.84	H	-12.76	35.20	22.44	38.50	-16.06
Y	128	824.00	V	-19.70	35.66	15.96	38.50	-22.54
		824.18	H	-12.09	35.10	23.00	38.50	-15.50
	190	836.66	V	-18.39	35.39	17.00	38.50	-21.50
		836.78	H	-11.78	35.07	23.30	38.50	-15.20
	251	848.78	V	-18.26	35.24	16.98	38.50	-21.52
		848.66	H	-11.94	35.20	23.26	38.50	-15.24
Z	128	824.12	V	-8.60	35.66	***27.06**	38.50	-11.44
		824.30	H	-12.57	35.10	22.53	38.50	-15.97
	190	836.66	V	-8.80	35.38	26.58	38.50	-11.92
		836.48	H	-13.23	35.07	21.84	38.50	-16.66
	251	848.66	V	-8.57	35.24	26.67	38.50	-11.83
		848.78	H	-13.79	35.20	21.41	38.50	-17.09

GPRS 850 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.18	V	-21.43	35.66	14.23	38.50	-24.27
		824.18	H	-14.64	35.10	20.46	38.50	-18.04
	190	836.54	V	-21.15	35.38	14.23	38.50	-24.27
		836.66	H	-14.36	35.07	20.71	38.50	-17.79
	251	848.84	V	-20.66	35.24	14.59	38.50	-23.91
		848.84	H	-14.69	35.20	20.51	38.50	-17.99
Y	128	824.36	V	-21.45	35.66	14.21	38.50	-24.29
		824.54	H	-14.11	35.10	20.98	38.50	-17.52
	190	836.54	V	-21.12	35.38	14.26	38.50	-24.24
		836.66	H	-13.71	35.07	21.36	38.50	-17.14
	251	849.08	V	-20.75	35.24	14.49	38.50	-24.01
		848.66	H	-13.78	35.20	21.42	38.50	-17.08
Z	128	824.06	V	-10.56	35.66	***25.10**	38.50	-13.40
		824.18	H	-14.93	35.10	20.17	38.50	-18.33
	190	836.60	V	-10.70	35.38	24.68	38.50	-13.82
		836.60	H	-15.78	35.07	19.30	38.50	-19.20
	251	848.84	V	-10.70	35.24	24.54	38.50	-13.96
		848.84	H	-16.44	35.20	18.76	38.50	-19.74

GSM 1900 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.30	V	-21.73	42.27	20.54	33.00	-12.46
		1850.00	H	-10.35	42.51	***32.16**	33.00	-0.84
	661	1879.80	V	-20.52	42.16	21.64	33.00	-11.36
		1879.80	H	-10.75	42.46	31.71	33.00	-1.29
	810	1909.70	V	-21.68	42.03	20.35	33.00	-12.65
		1909.70	H	-12.19	42.38	30.19	33.00	-2.81
Y	512	1850.20	V	-11.00	42.28	31.28	33.00	-1.72
		1849.90	H	-14.66	42.51	27.85	33.00	-5.15
	661	1879.80	V	-10.81	42.16	31.35	33.00	-1.65
		1879.80	H	-14.77	42.46	27.69	33.00	-5.31
	810	1909.70	V	-12.31	42.03	29.72	33.00	-3.28
		1909.70	H	-15.88	42.38	26.50	33.00	-6.50
Z	512	1850.10	V	-12.21	42.27	30.06	33.00	-2.94
		1850.20	H	-12.73	42.51	29.78	33.00	-3.22
	661	1880.10	V	-13.50	42.16	28.67	33.00	-4.33
		1880.00	H	-12.85	42.46	29.61	33.00	-3.39
	810	1909.90	V	-13.90	42.03	28.13	33.00	-4.87
		1909.70	H	-13.39	42.38	28.98	33.00	-4.02

GPRS 1900 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.10	V	-23.37	42.27	18.91	33.00	-14.09
		1850.10	H	-11.79	42.51	***30.72**	33.00	-2.28
	661	1880.10	V	-22.79	42.16	19.37	33.00	-13.63
		1880.10	H	-12.22	42.46	30.24	33.00	-2.76
	810	1909.60	V	-23.87	42.03	18.16	33.00	-14.84
		1909.70	H	-13.71	42.38	28.67	33.00	-4.33
Y	512	1849.70	V	-12.37	42.28	29.90	33.00	-3.10
		1850.10	H	-15.92	42.51	26.59	33.00	-6.41
	661	1880.00	V	-12.62	42.16	29.54	33.00	-3.46
		1880.10	H	-16.12	42.46	26.34	33.00	-6.66
	810	1909.70	V	-14.10	42.03	27.93	33.00	-5.07
		1909.90	H	-17.27	42.38	25.11	33.00	-7.89
Z	512	1850.10	V	-13.71	42.27	28.56	33.00	-4.44
		1850.30	H	-14.21	42.51	28.30	33.00	-4.70
	661	1880.00	V	-14.28	42.16	27.88	33.00	-5.12
		1880.00	H	-14.15	42.46	28.31	33.00	-4.69
	810	1909.90	V	-15.42	42.03	26.61	33.00	-6.39
		1909.90	H	-14.82	42.38	27.56	33.00	-5.44

EDGE 850 Test Data

EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	128	824.00	V	-25.09	35.66	10.57	38.50	-27.93
		824.18	H	-18.46	35.10	16.64	38.50	-21.86
	190	836.66	V	-25.09	35.38	10.29	38.50	-28.21
		836.78	H	-18.36	35.07	16.71	38.50	-21.79
	251	848.84	V	-24.73	35.24	10.51	38.50	-27.99
		848.84	H	-18.82	35.20	16.38	38.50	-22.12
Y	128	824.30	V	-27.26	35.66	8.40	38.50	-30.10
		824.06	H	-17.77	35.10	17.33	38.50	-21.17
	190	836.36	V	-25.48	35.38	9.90	38.50	-28.60
		836.66	H	-17.52	35.07	17.55	38.50	-20.95
	251	848.96	V	-25.36	35.24	9.88	38.50	-28.62
		848.78	H	-17.85	35.20	17.35	38.50	-21.15
Z	128	824.18	V	-13.90	35.66	***21.76**	38.50	-16.74
		824.06	H	-18.69	35.10	16.41	38.50	-22.09
	190	836.48	V	-14.18	35.38	21.20	38.50	-17.30
		836.60	H	-19.66	35.07	15.41	38.50	-23.09
	251	848.84	V	-14.56	35.24	20.68	38.50	-17.82
		848.78	H	-20.58	35.20	14.62	38.50	-23.88

EDGE 1900 Test Data

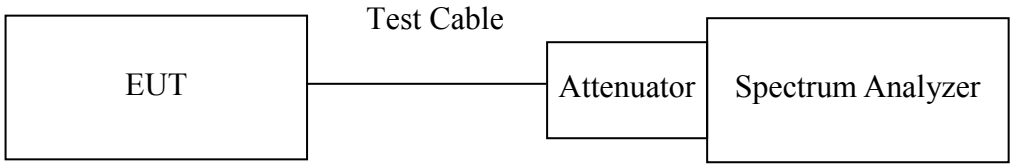
EUT Pol.	Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
X	512	1850.10	V	-25.80	42.27	16.48	33.00	-16.52
		1850.20	H	-14.27	42.51	***28.24**	33.00	-4.76
	661	1880.00	V	-25.17	42.16	16.99	33.00	-16.01
		1880.00	H	-14.52	42.46	27.94	33.00	-5.06
	810	1909.60	V	-25.85	42.03	16.18	33.00	-16.82
		1909.60	H	-15.81	42.38	26.56	33.00	-6.44
Y	512	1849.90	V	-14.50	42.28	27.77	33.00	-5.23
		1850.20	H	-18.34	42.51	24.17	33.00	-8.83
	661	1879.80	V	-14.67	42.16	27.49	33.00	-5.51
		1880.00	H	-18.18	42.46	24.28	33.00	-8.72
	810	1909.60	V	-15.95	42.03	26.08	33.00	-6.92
		1909.70	H	-19.23	42.38	23.14	33.00	-9.86
Z	512	1850.20	V	-16.59	42.27	25.68	33.00	-7.32
		1850.10	H	-16.89	42.51	25.61	33.00	-7.39
	661	1880.00	V	-16.98	42.16	25.19	33.00	-7.81
		1880.10	H	-17.17	42.46	25.29	33.00	-7.71
	810	1909.60	V	-17.58	42.03	24.45	33.00	-8.55
		1910.10	H	-17.74	42.38	24.63	33.00	-8.37

7.4 OCCUPIED BANDWIDTH MEASUREMENT

LIMIT

According to §FCC 2.1049.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

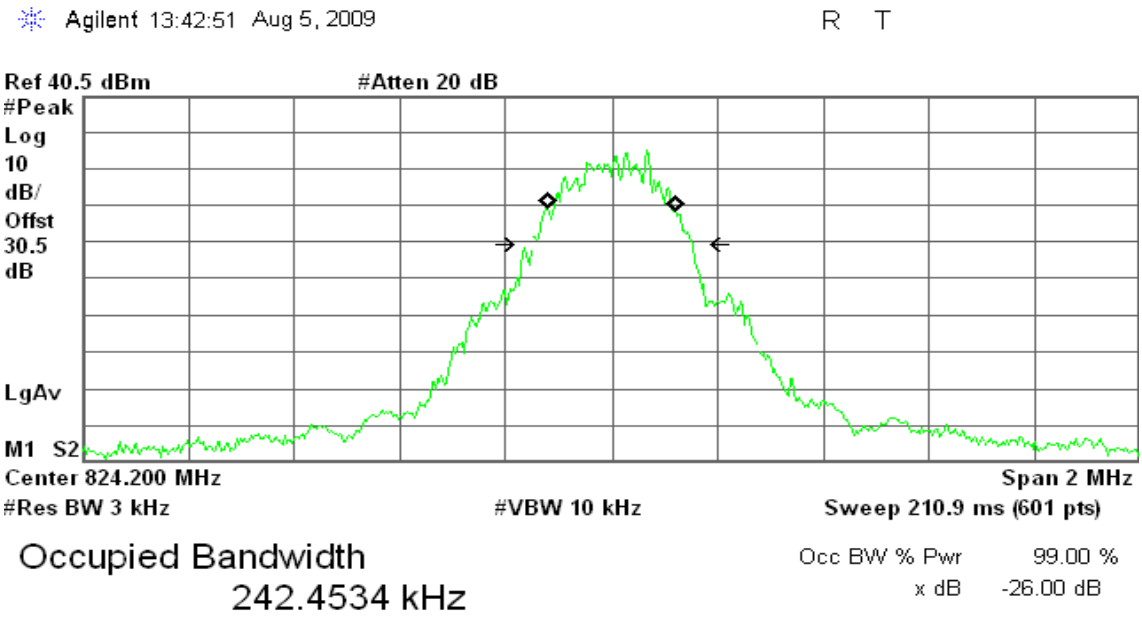
No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)
GSM 850 (Class B)	128	824.200	242.4534
	190	836.600	244.1940
	251	848.800	244.1886
GPRS 850 (Class 10)	128	824.200	247.7232
	190	836.600	247.3323
	251	848.800	241.7749
EDGE 850 (Class 10)	128	824.200	246.4293
	190	836.570	246.6582
	251	848.800	245.5318
GSM 1900 (Class B)	512	1850.210	241.1005
	661	1880.000	247.2098
	810	1909.823	247.6362
GPRS 1900 (Class 10)	512	1850.210	246.3127
	661	1880.000	246.4064
	810	1909.823	246.1057
EDGE 1900 (Class 10)	512	1850.173	247.7269
	661	1880.000	249.6156
	810	1909.800	248.2300

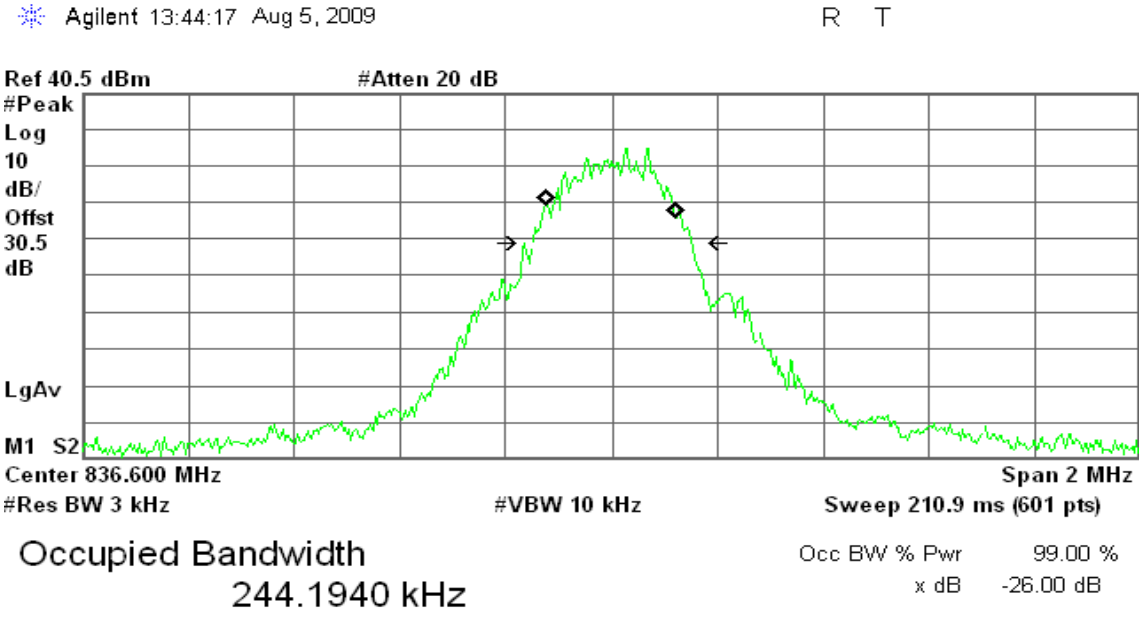
Test Plot

GSM 850 (CH Low)



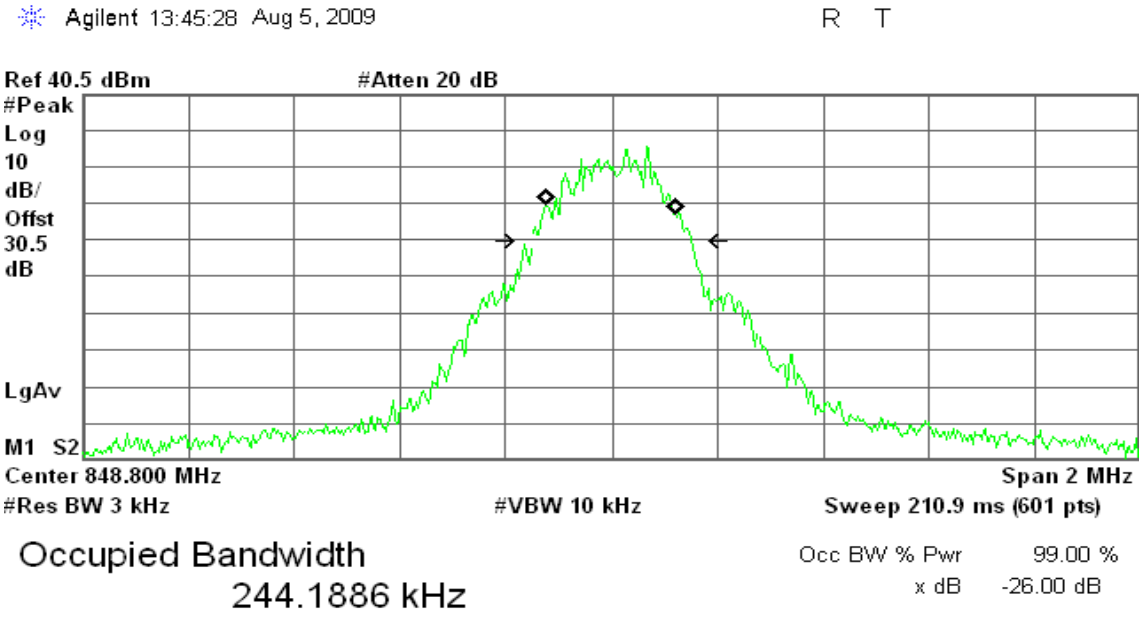
Transmit Freq Error	-106.061 Hz
x dB Bandwidth	303.195 kHz

GSM 850 (CH Mid)



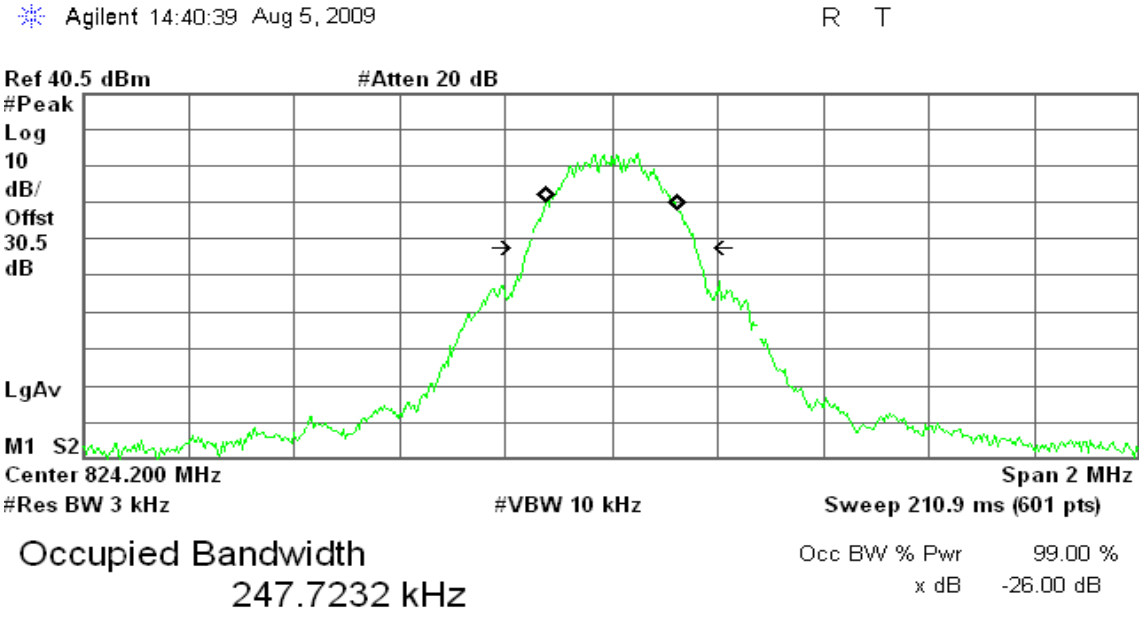
Transmit Freq Error	-483.547 Hz
x dB Bandwidth	298.702 kHz

GSM 850 (CH High)



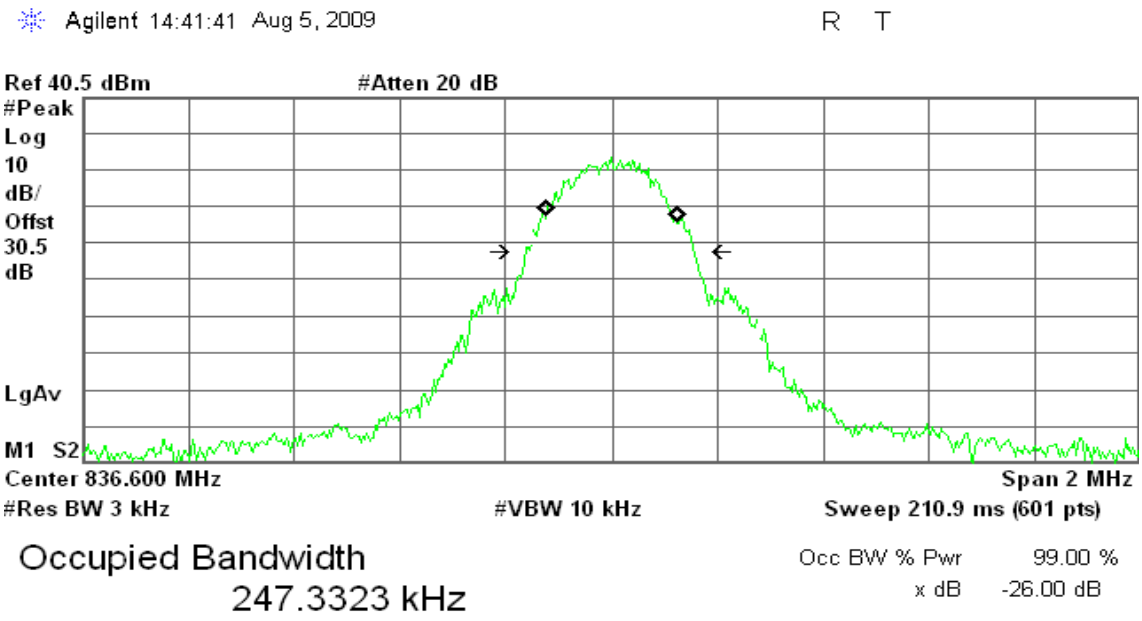
Transmit Freq Error	-875.092 Hz
x dB Bandwidth	300.211 kHz

GPRS 850 (CH Low)



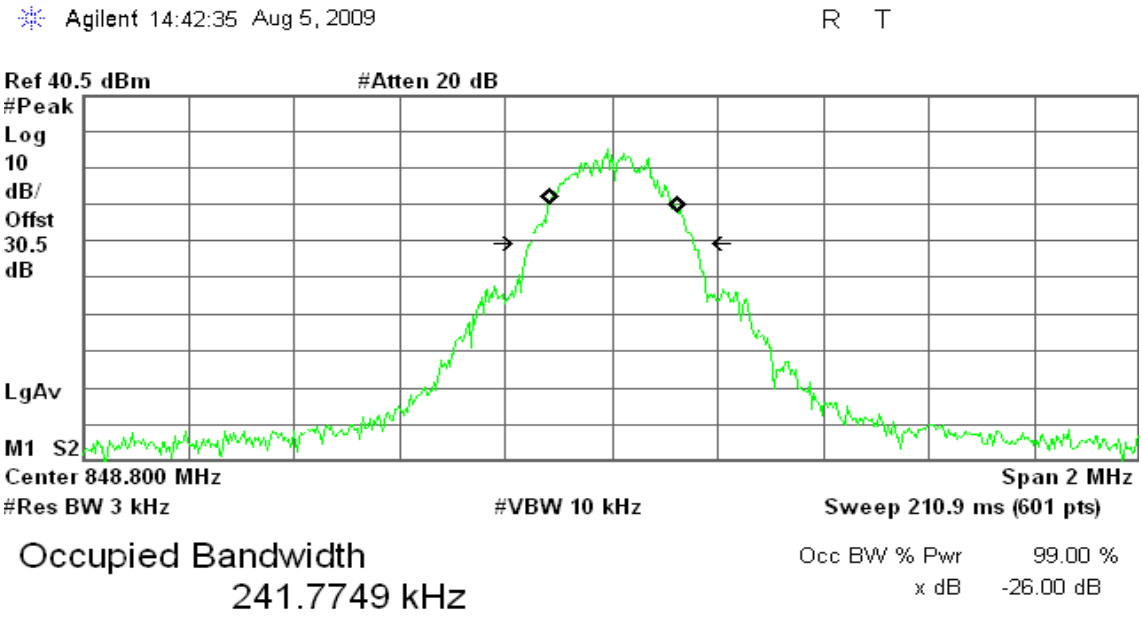
Transmit Freq Error	416.464 Hz
x dB Bandwidth	313.851 kHz

GPRS 850 (CH Mid)



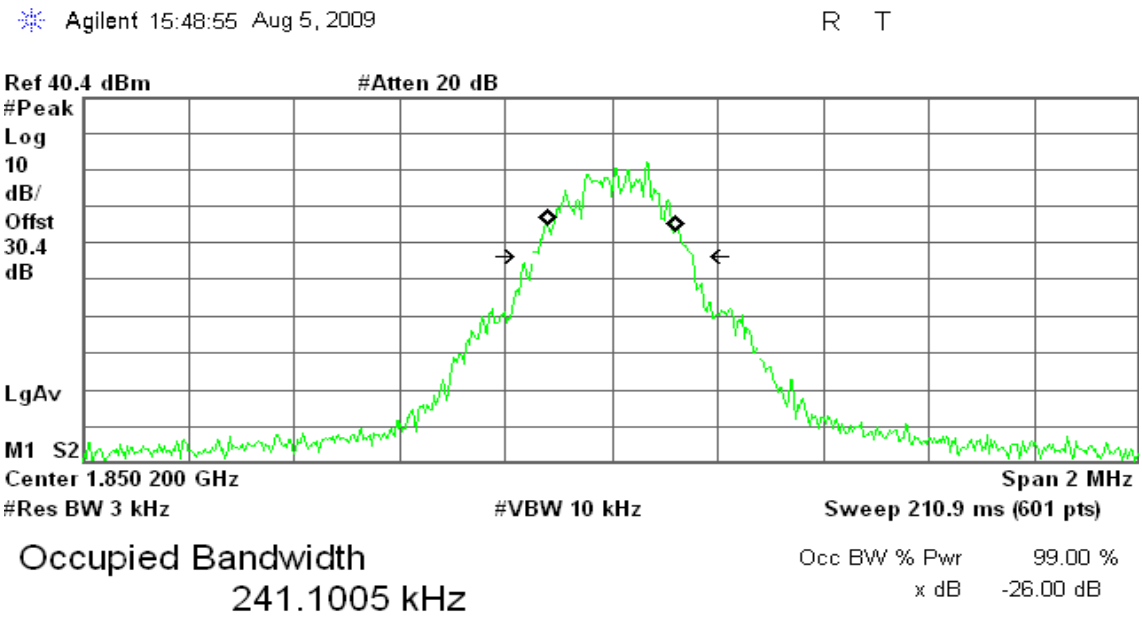
Transmit Freq Error	-1.133 kHz
x dB Bandwidth	317.216 kHz

GPRS 850(CH High)



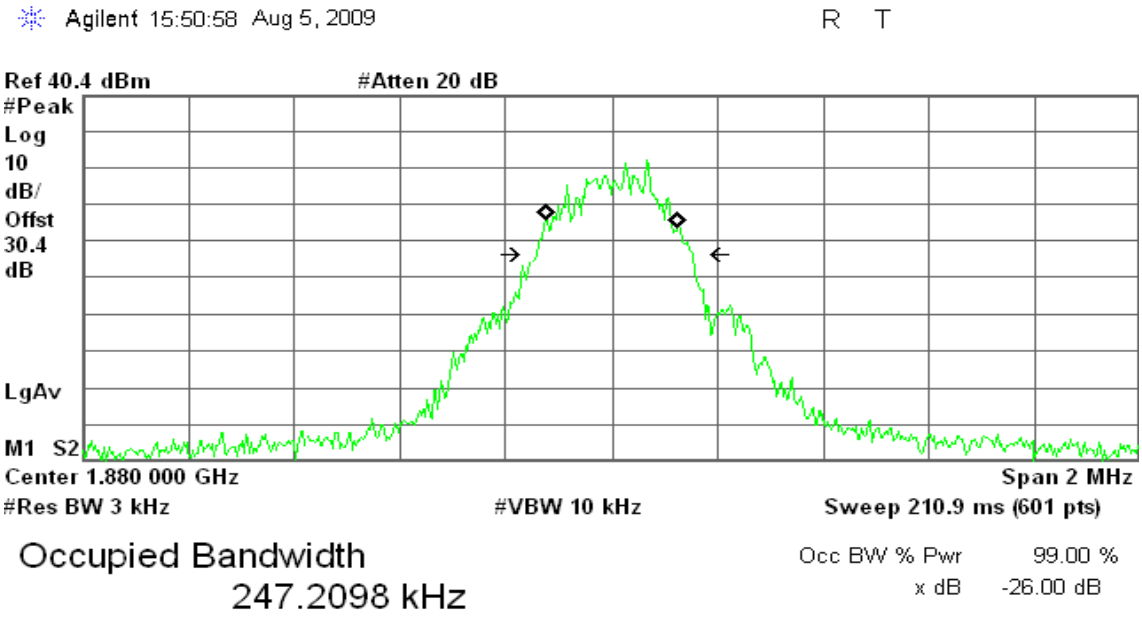
Transmit Freq Error	2.705 kHz
x dB Bandwidth	308.435 kHz

GSM 1900 (CH Low)



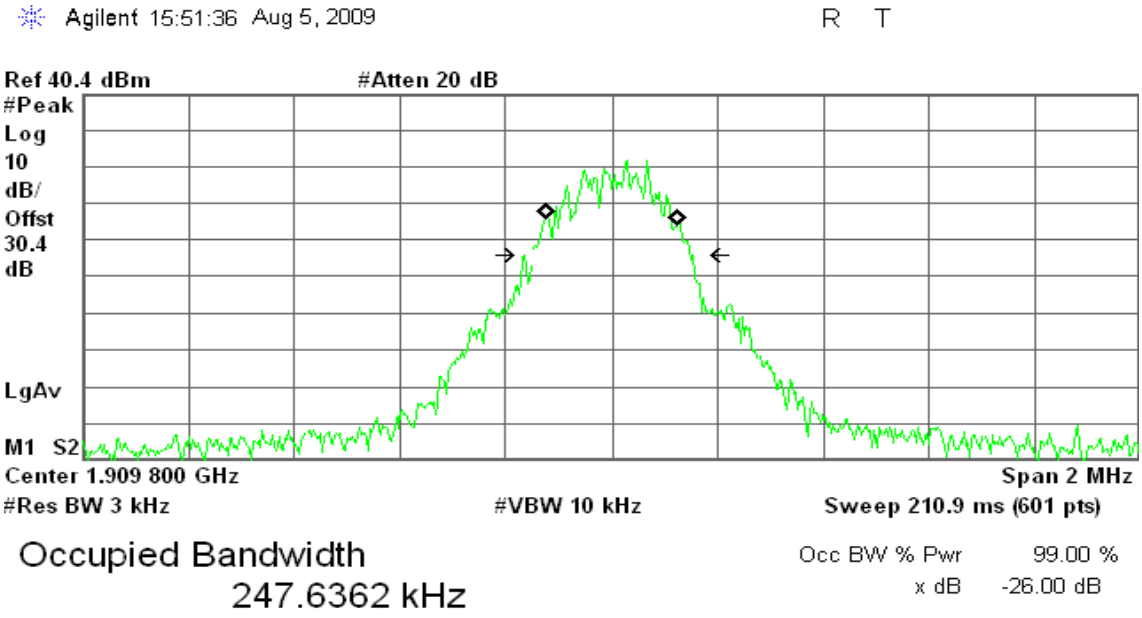
Transmit Freq Error	-331.940 Hz
x dB Bandwidth	302.493 kHz

GSM 1900 (CH Mid)



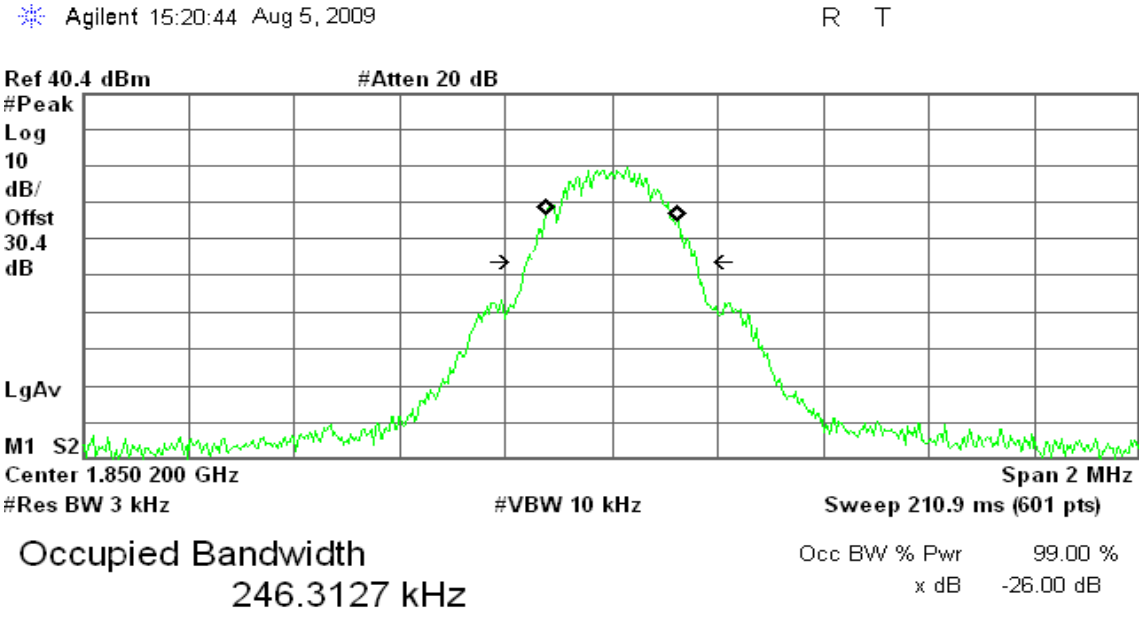
Transmit Freq Error	1.204 kHz
x dB Bandwidth	293.517 kHz

GSM 1900 (CH High)



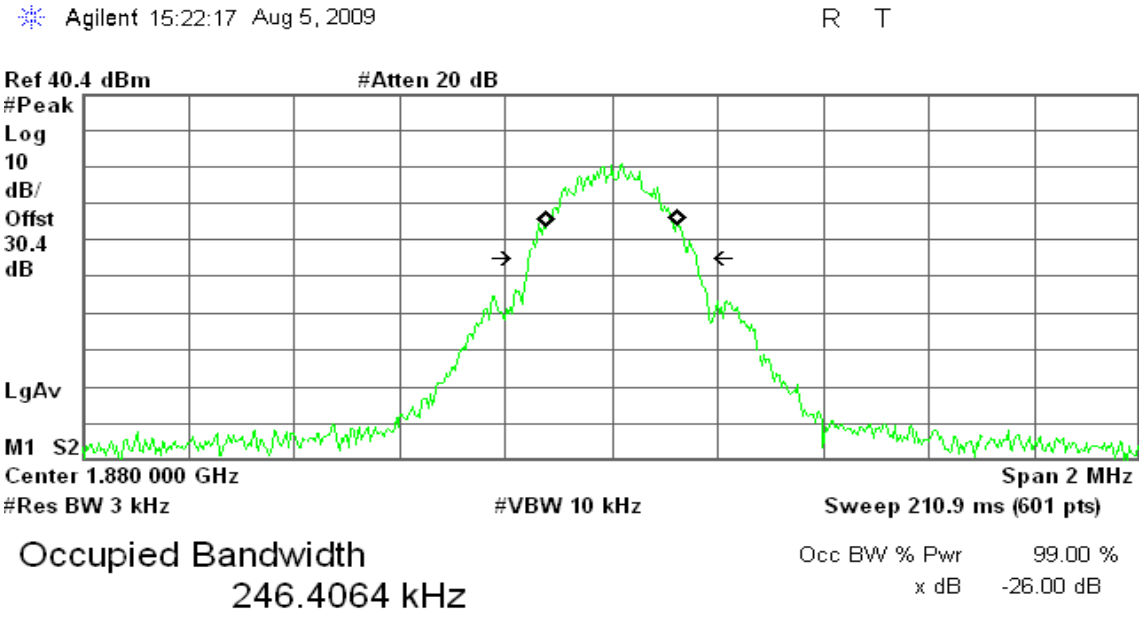
Transmit Freq Error	100.648 Hz
x dB Bandwidth	301.765 kHz

GPRS 1900 (CH Low)



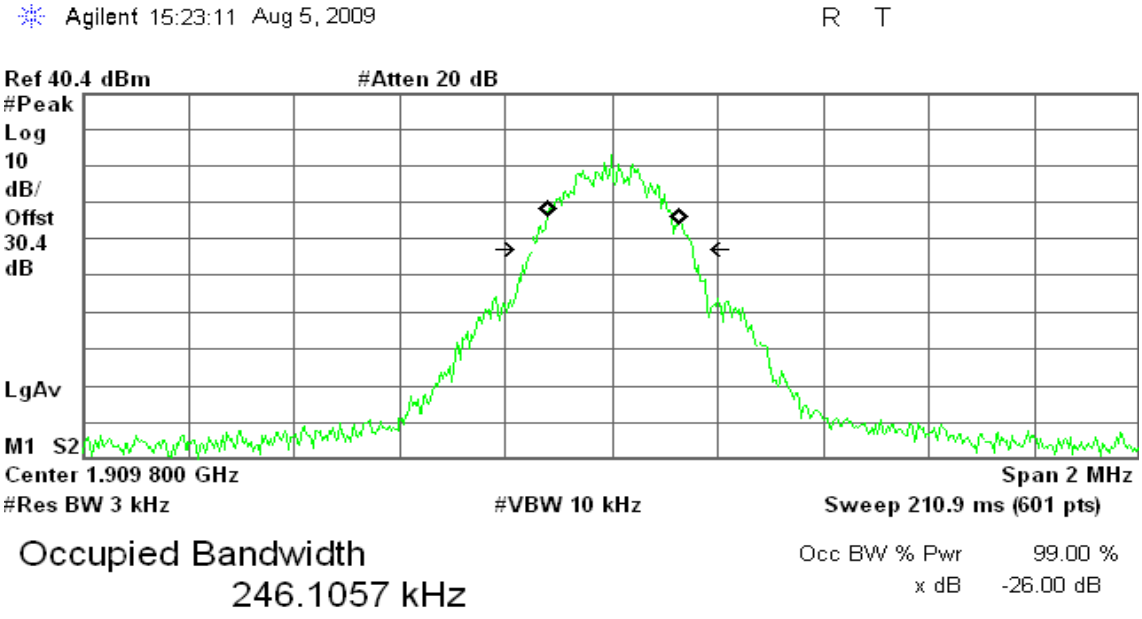
Transmit Freq Error	-103.226 Hz
x dB Bandwidth	319.693 kHz

GPRS 1900 (CH Mid)



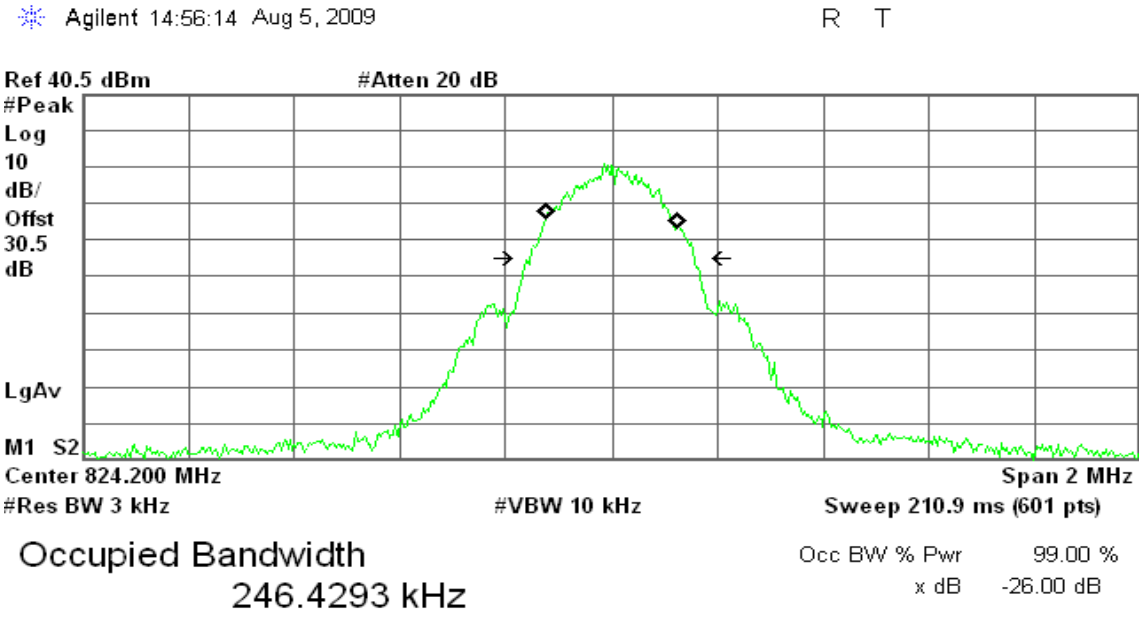
Transmit Freq Error	-660.945 Hz
x dB Bandwidth	316.322 kHz

GPRS 1900 (CH High)



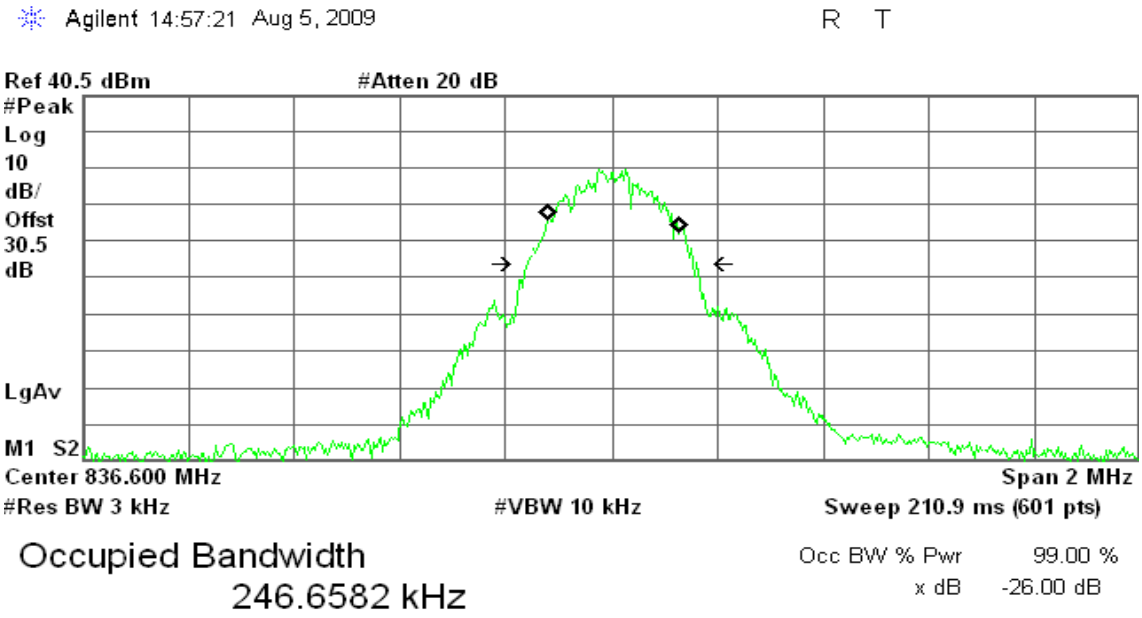
Transmit Freq Error	2.137 kHz
x dB Bandwidth	302.915 kHz

EDGE 850 (CH Low)



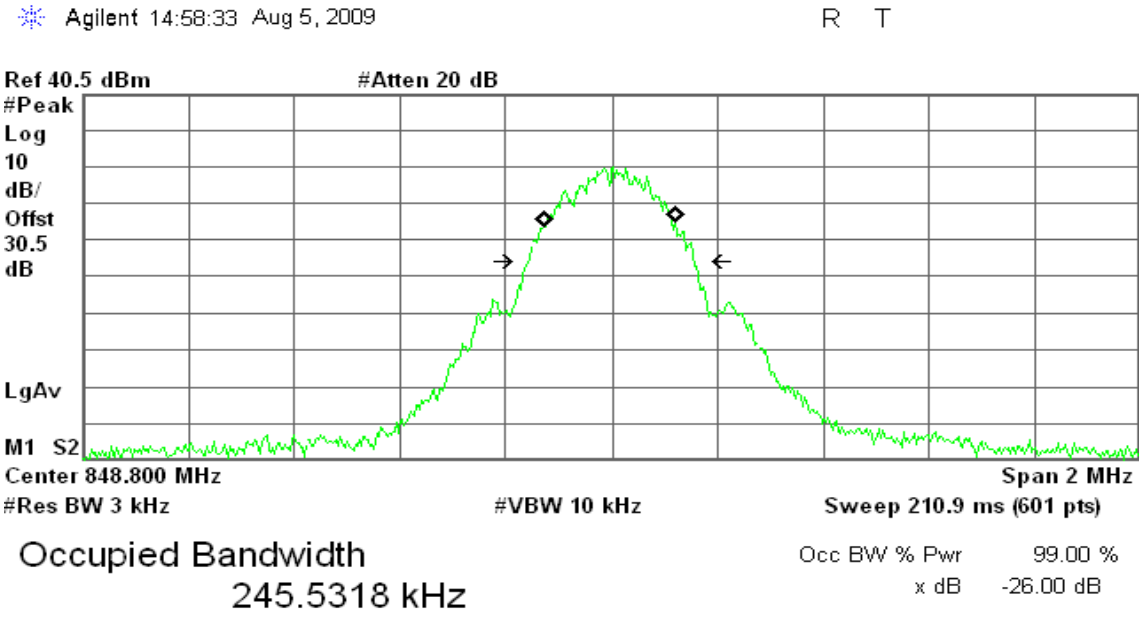
Transmit Freq Error	744.486 Hz
x dB Bandwidth	308.625 kHz

EDGE 850 (CH Mid)



Transmit Freq Error	2.892 kHz
x dB Bandwidth	318.551 kHz

EDGE 850 (CH High)

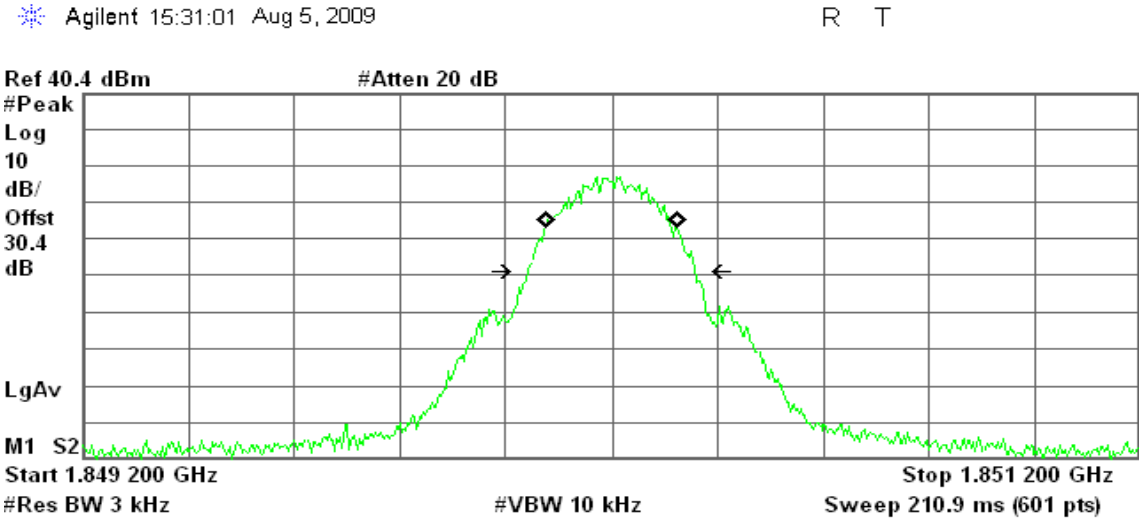


Occupied Bandwidth
245.5318 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -2.360 kHz
x dB Bandwidth 310.396 kHz

EDGE 1900 (CH Low)

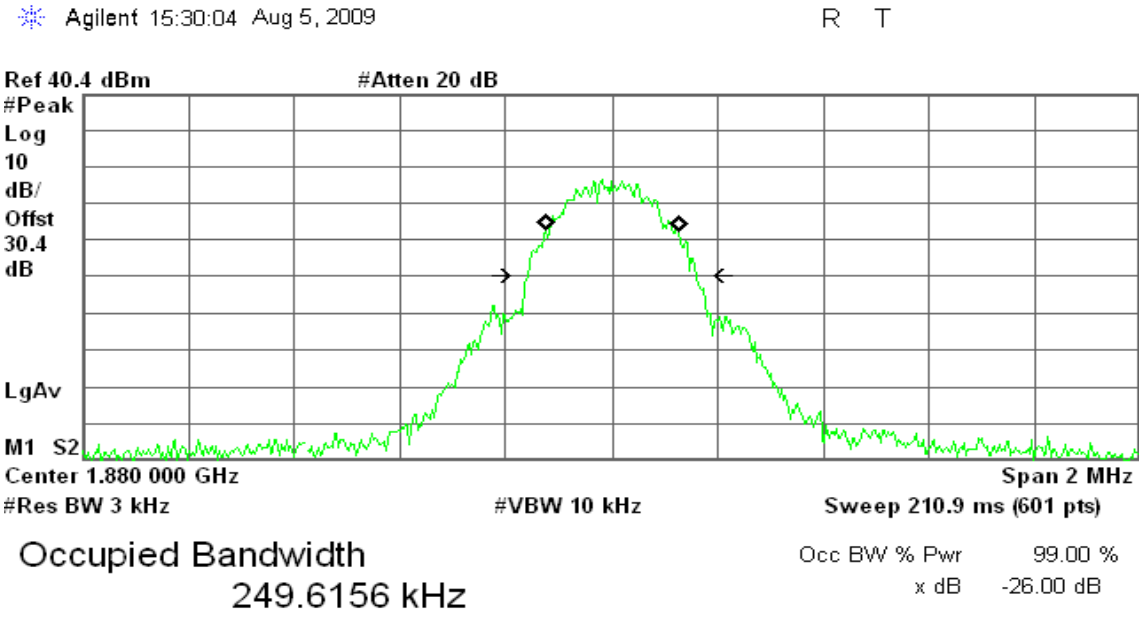


Occupied Bandwidth
247.7269 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

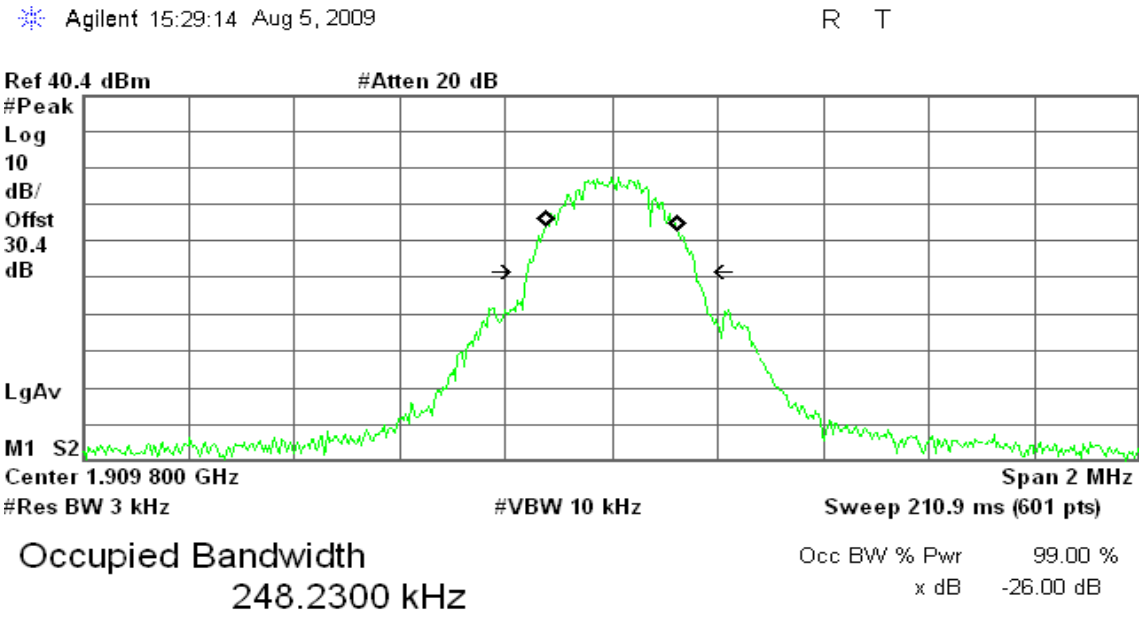
Transmit Freq Error -328.328 Hz
x dB Bandwidth 315.706 kHz

EDGE 1900 (CH Mid)



Transmit Freq Error	1.058 kHz
x dB Bandwidth	316.202 kHz

EDGE 1900 (CH High)



Transmit Freq Error	177.927 Hz
x dB Bandwidth	316.324 kHz

7.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

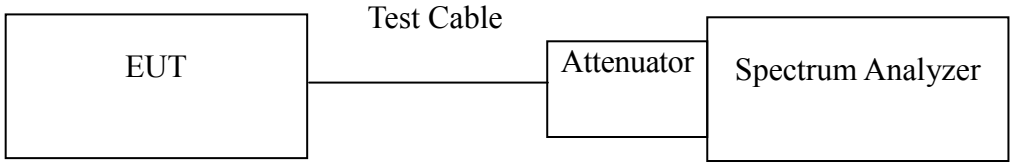
According to FCC §2.1051, FCC §22.917, FCC §24.238(a).

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

Mobile Emissions in Base Frequency Range: The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not exceed –80 dBm at the transmit antenna connector.
Band Edge Requirements: In the 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at lease 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the Out of band Emission

Test Configuration

Out of band emission at antenna terminals:



TEST PROCEDURE

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

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

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

TEST RESULTS

No non-compliance noted.

Test Data

Mode	CH	Location	Description
GSM 850 (Class B)	128	Figure 7-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 7-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 7-3	Conducted spurious emissions, 30MHz - 20GHz
GPRS 850 (Class 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 B)	512	Figure 8-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 8-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 8-3	Conducted spurious emissions, 30MHz - 20GHz
GPRS 1900 (Class 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 B)	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 B)	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

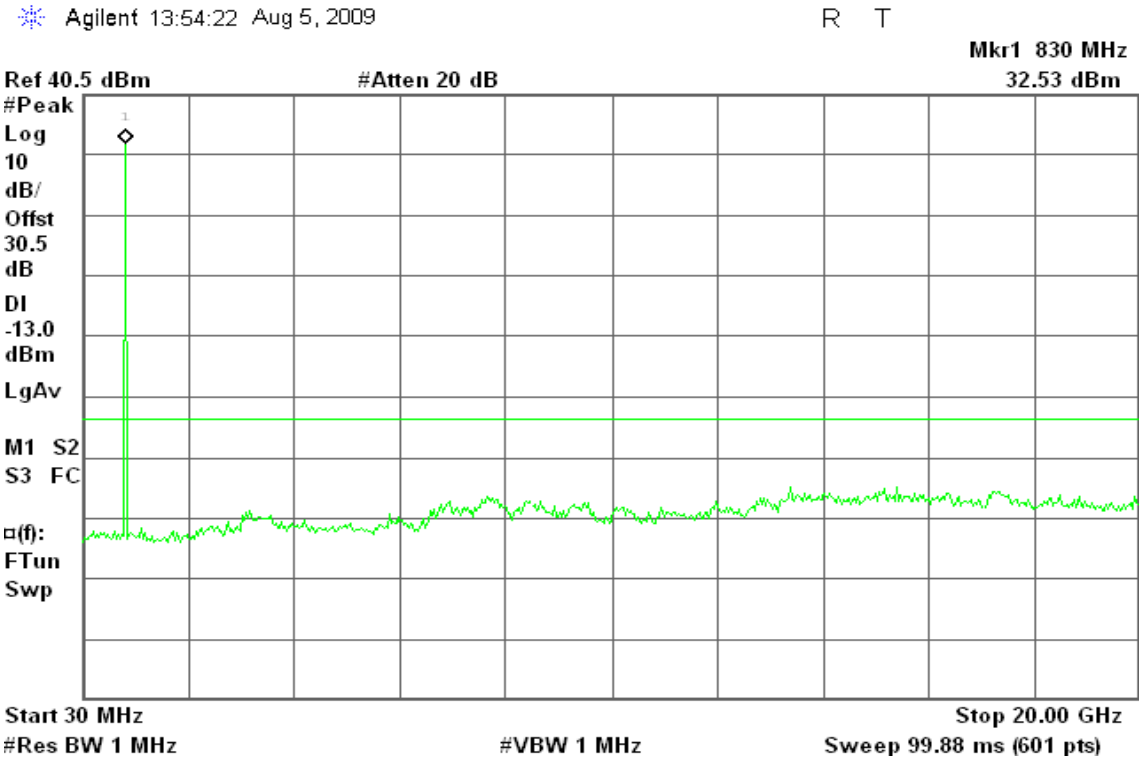


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

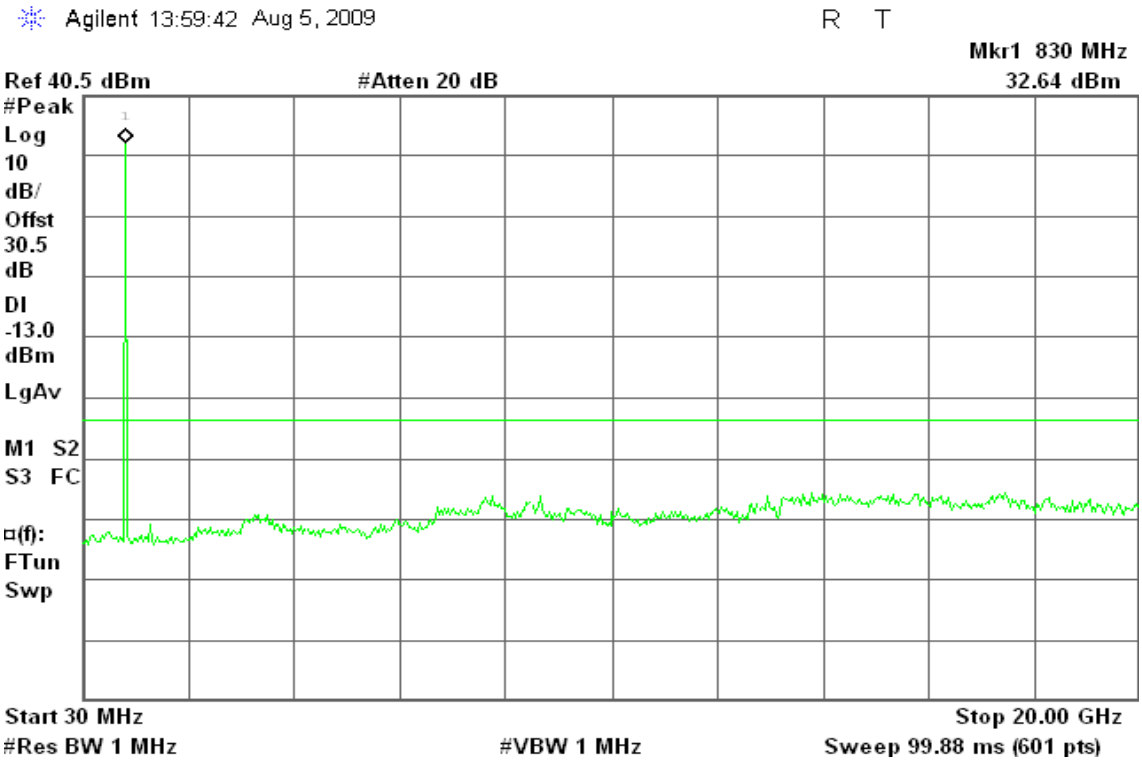
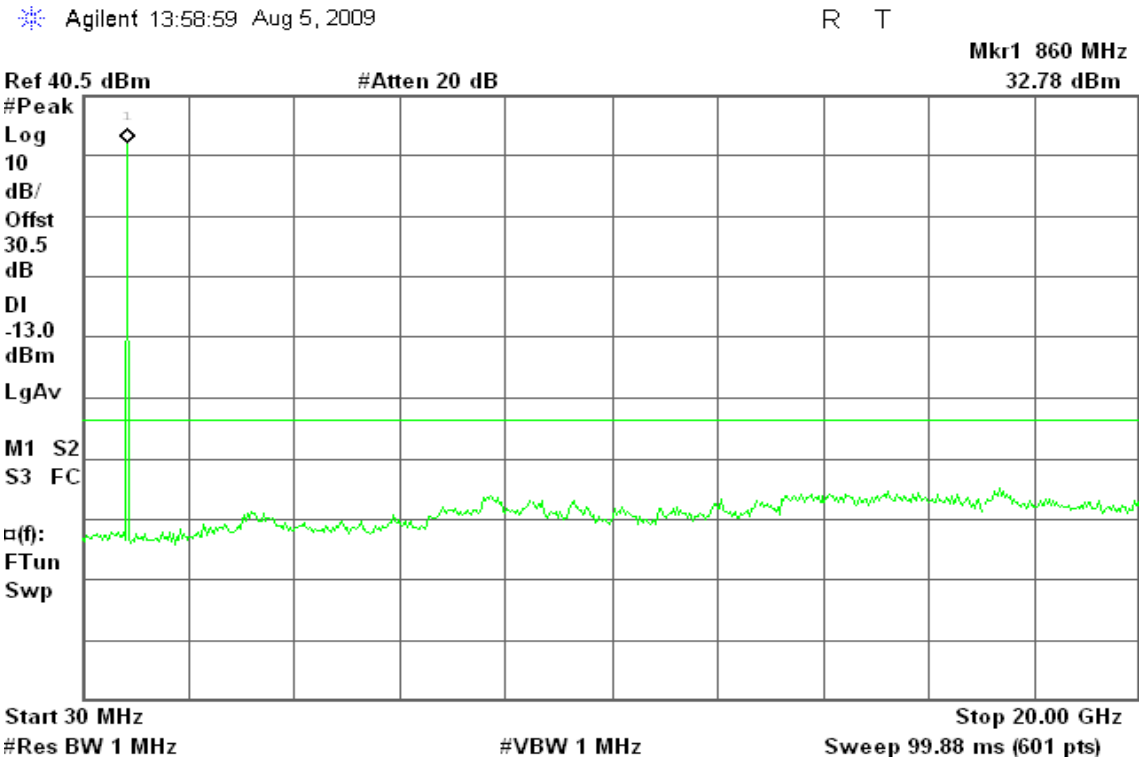


Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

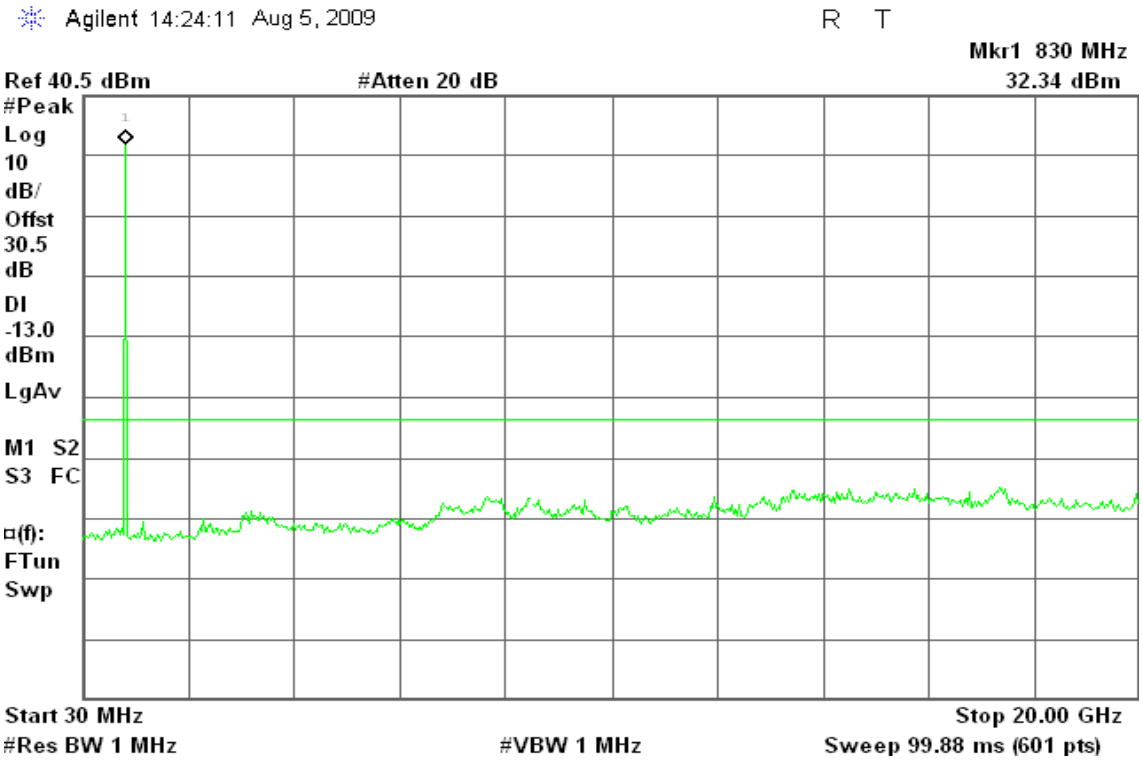


Figure 7-5: Out of Band emission at antenna terminals – GPRS CH Mid

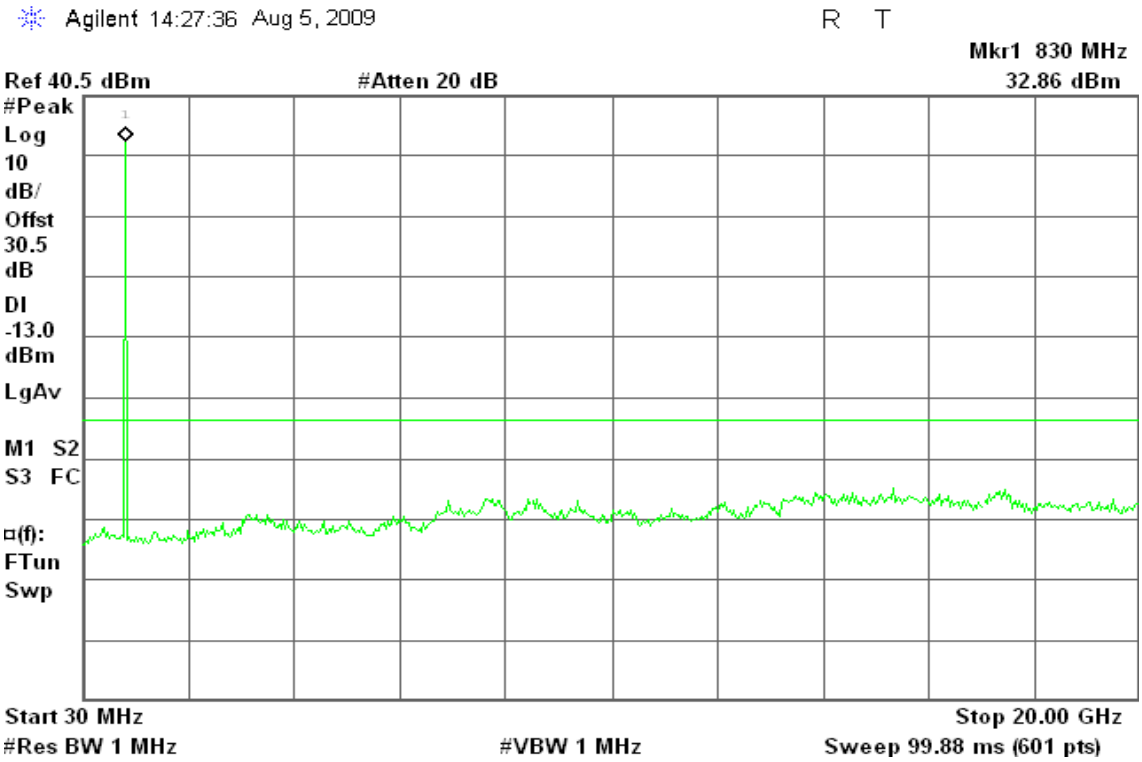
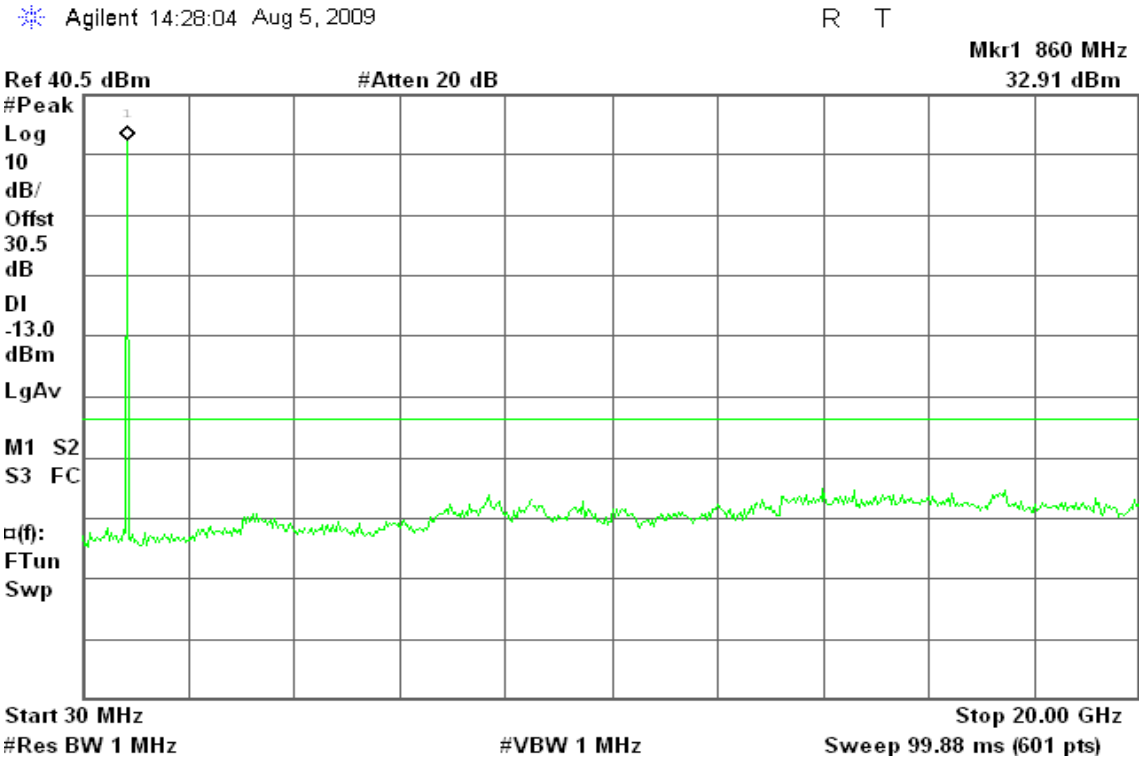


Figure 7-6: Out of Band emission at antenna terminals – GPRS CH High



GSM 1900

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

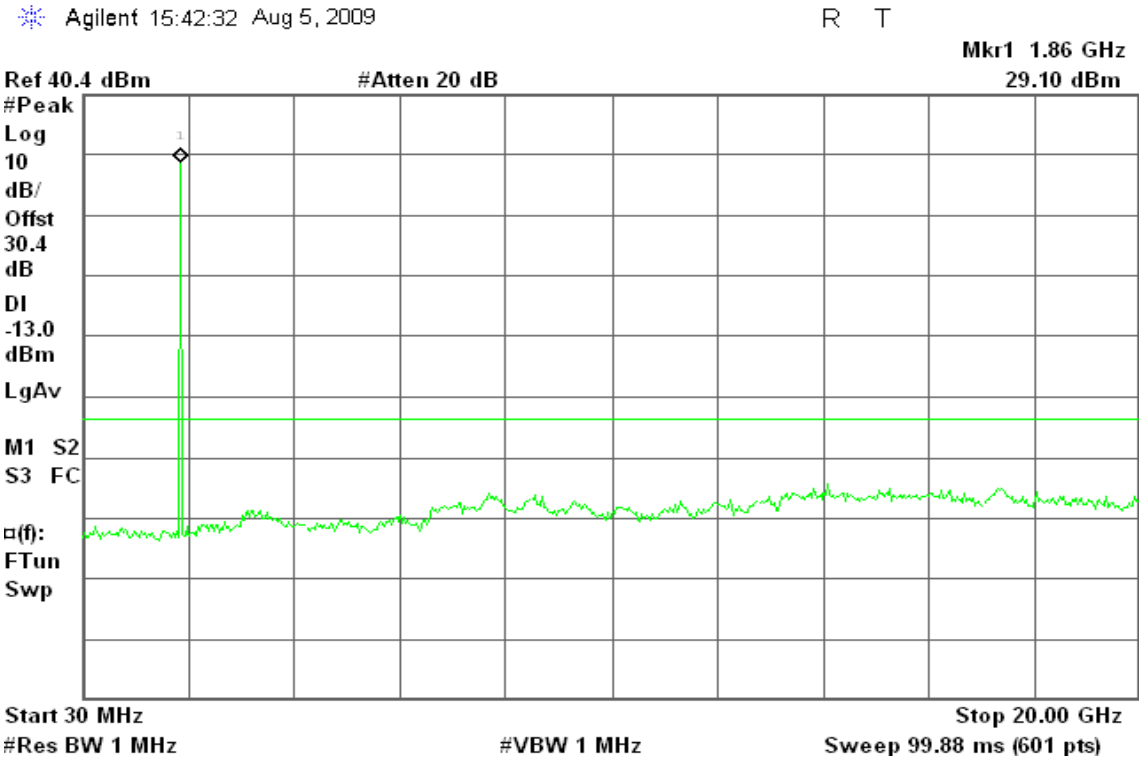


Figure 8-2: Out of Band emission at antenna terminals – GSM CH Mid

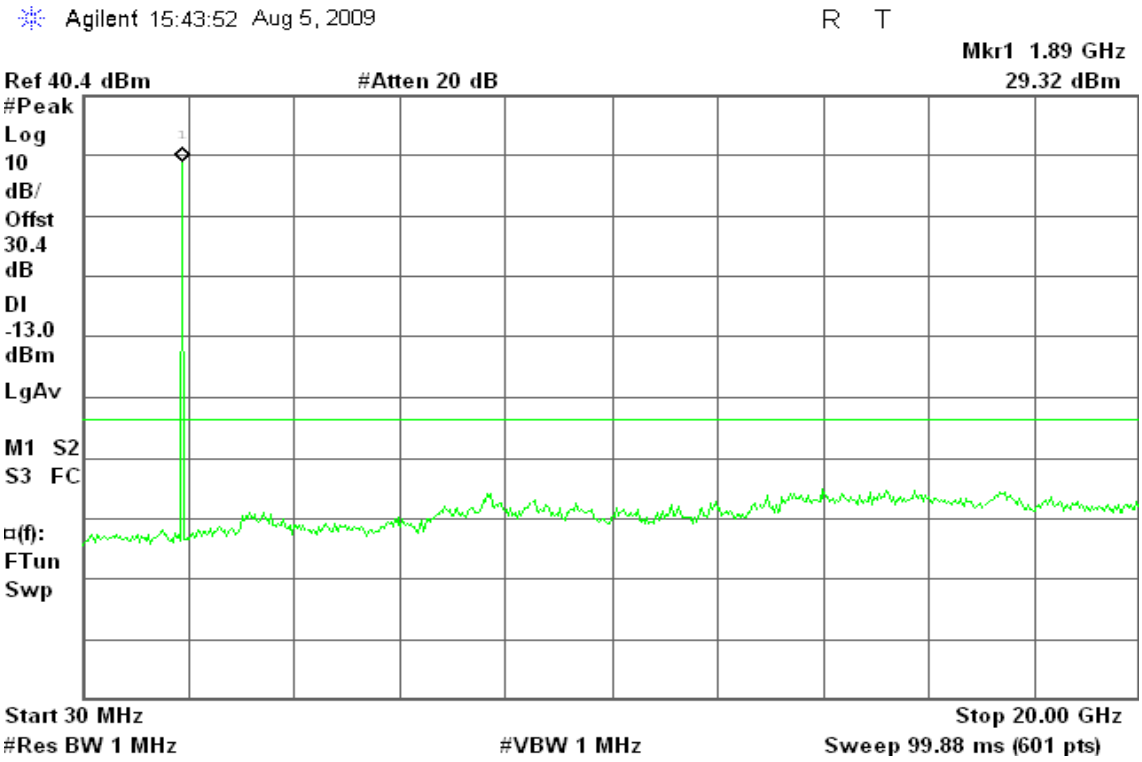
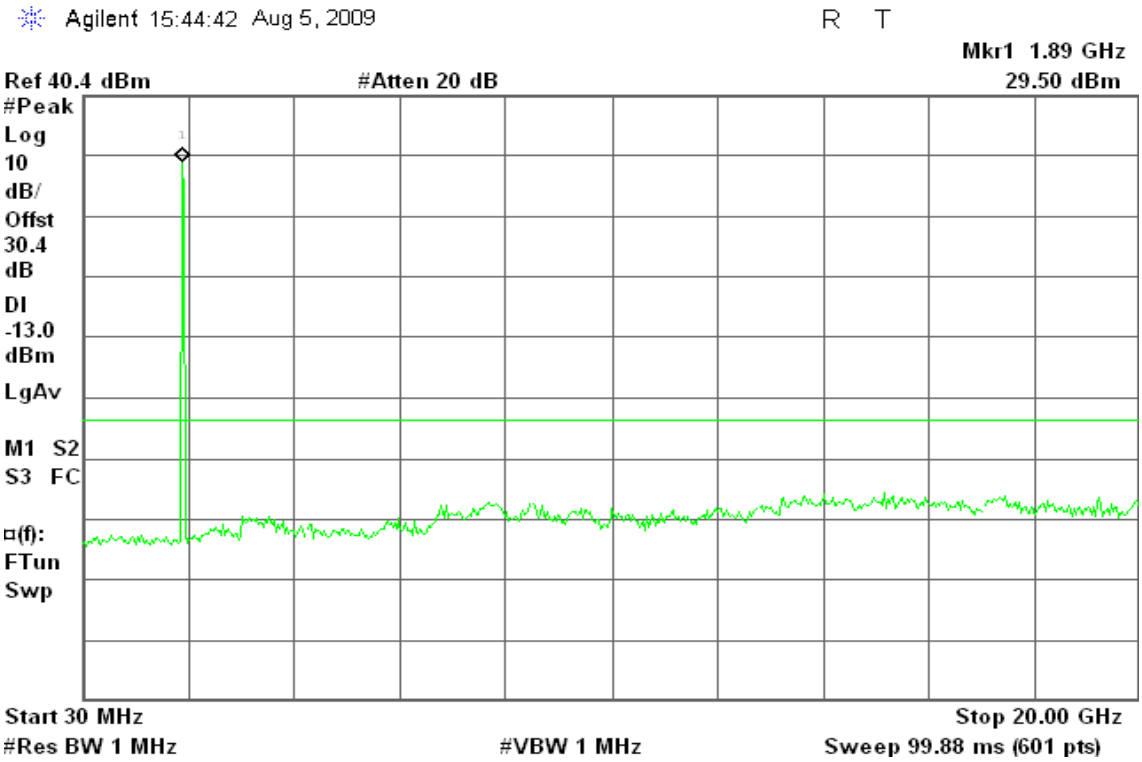


Figure 8-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

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

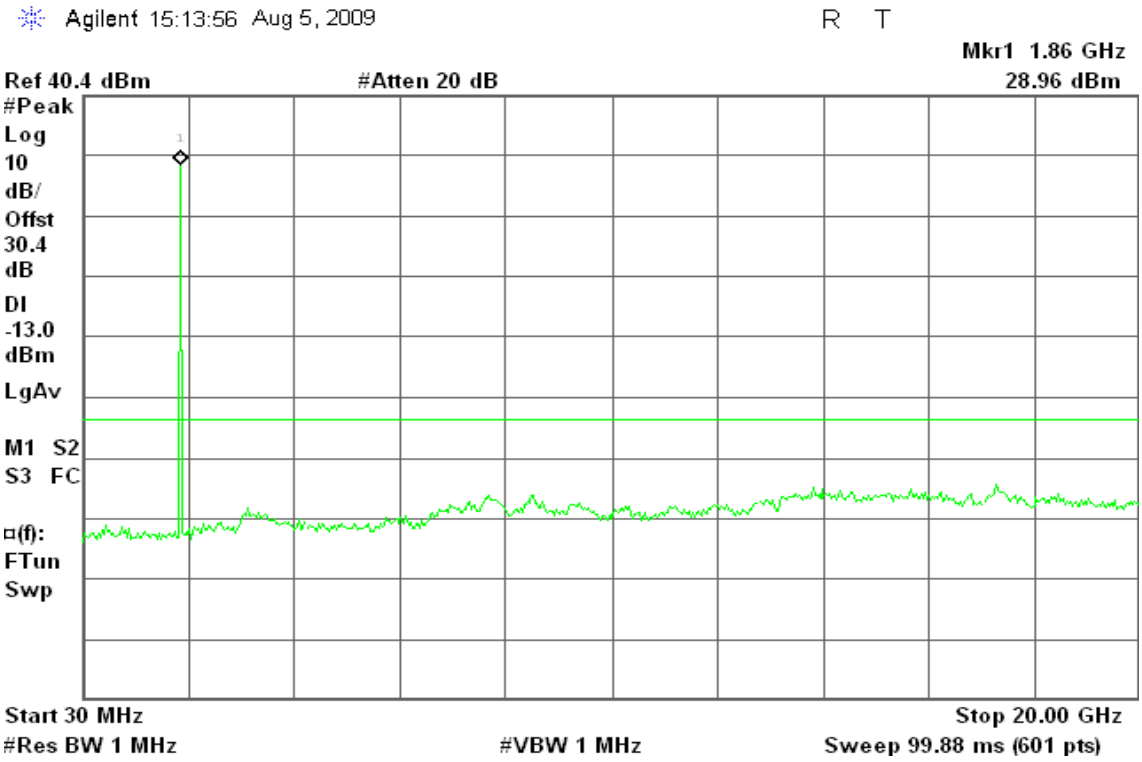


Figure 8-5: Out of Band emission at antenna terminals – GPRS CH Mid

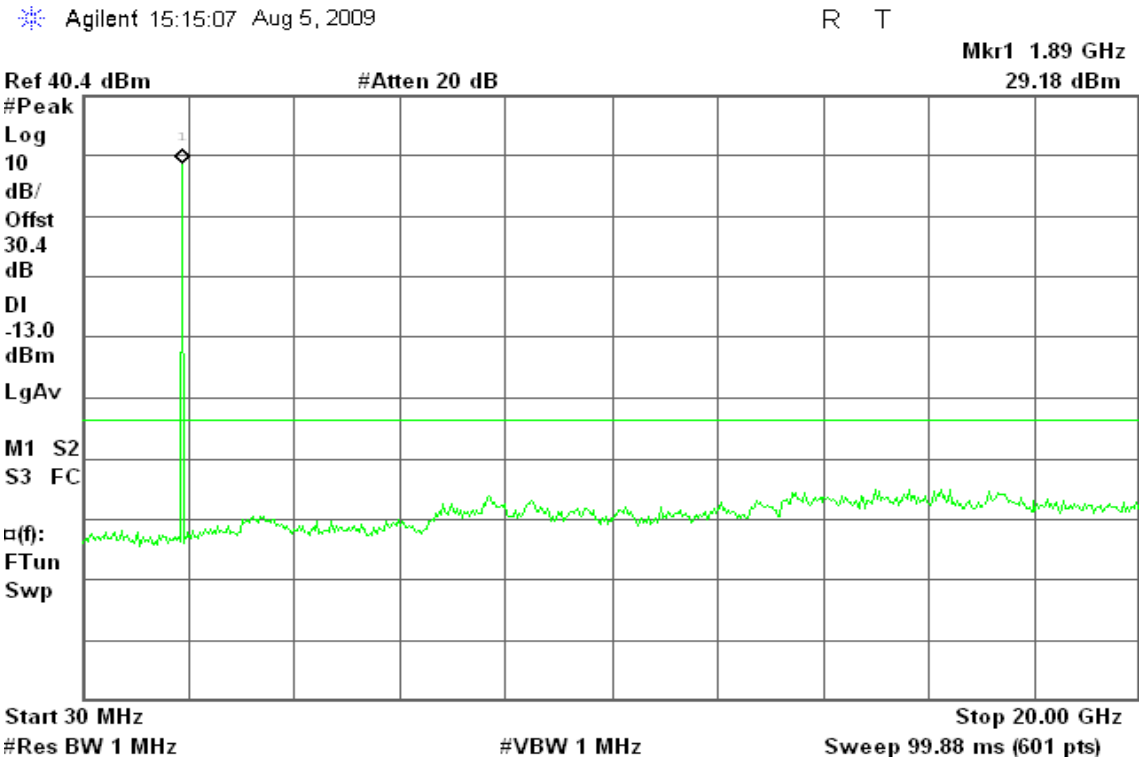
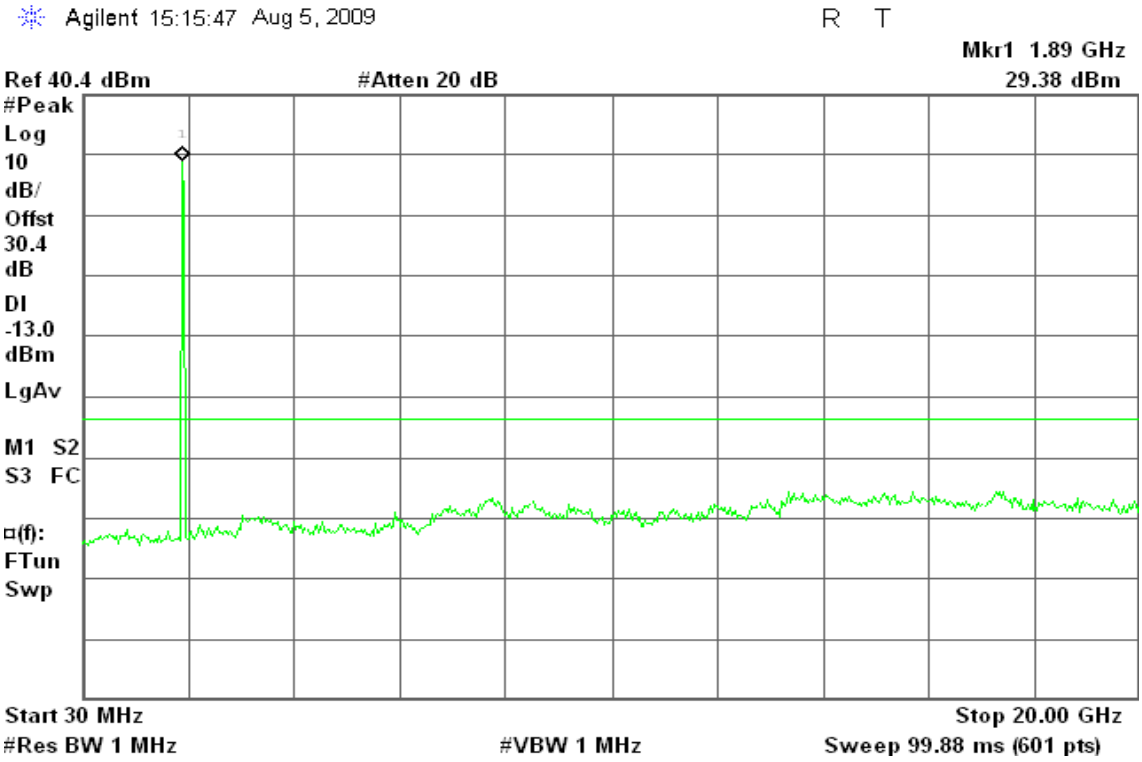


Figure 8-6: Out of Band emission at antenna terminals – GPRS CH High



GSM 850

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

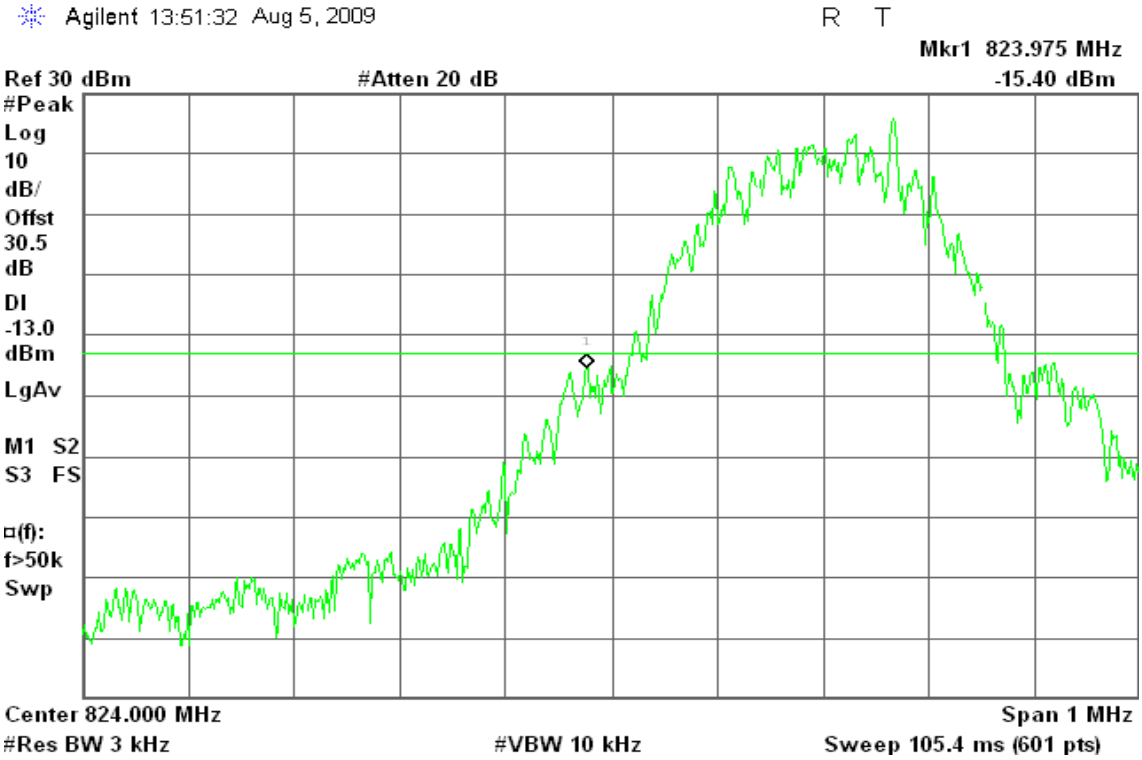
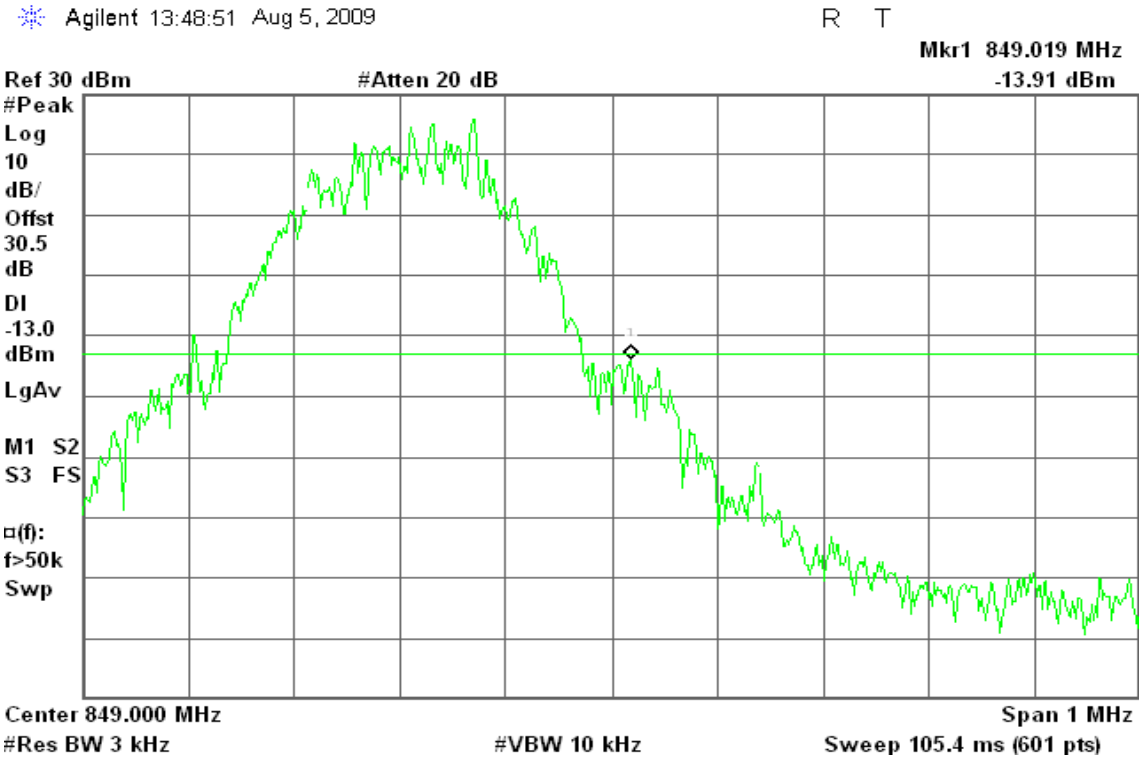


Figure 9-2: Band Edge emissions – GSM CH High



GPRS 850

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

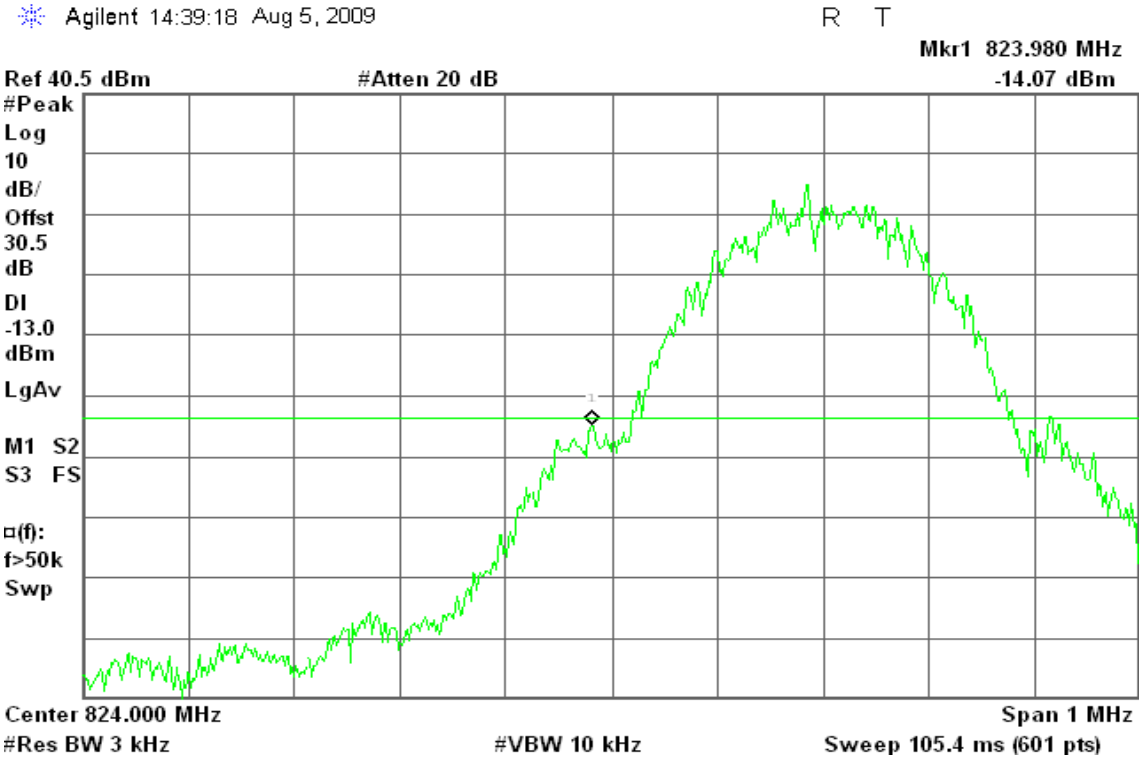
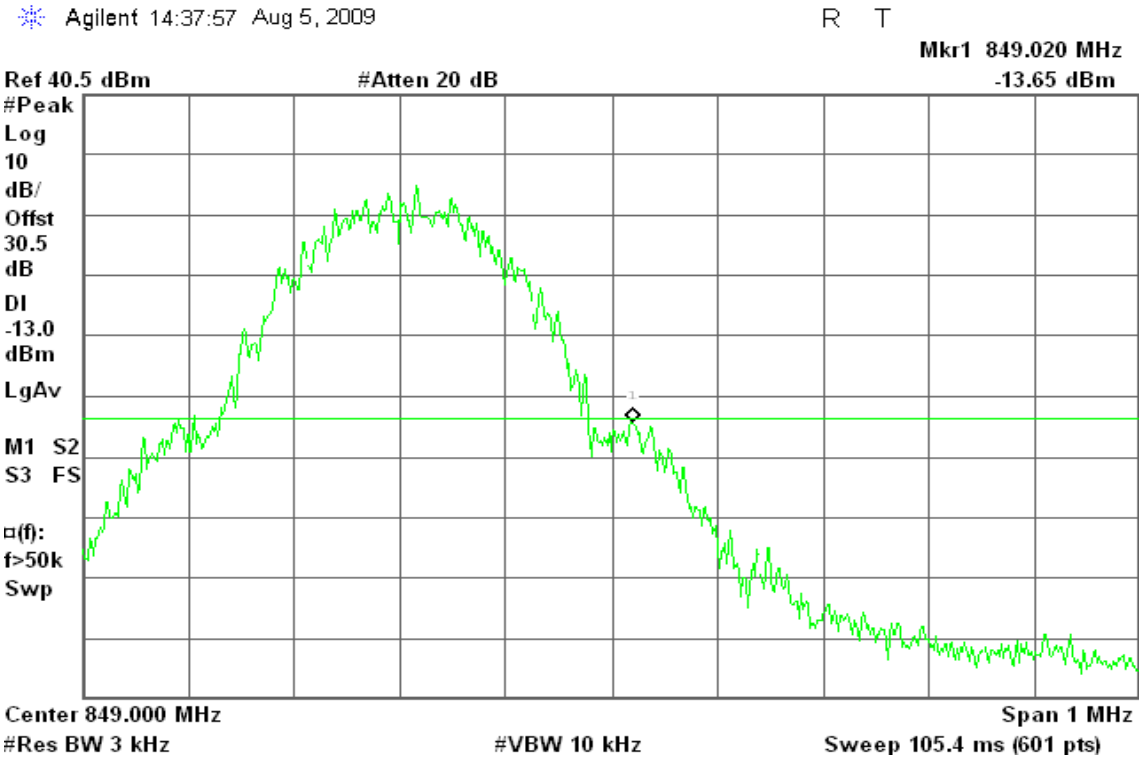


Figure 9-4: Band Edge emissions –GPRS CH High



GSM 1900

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

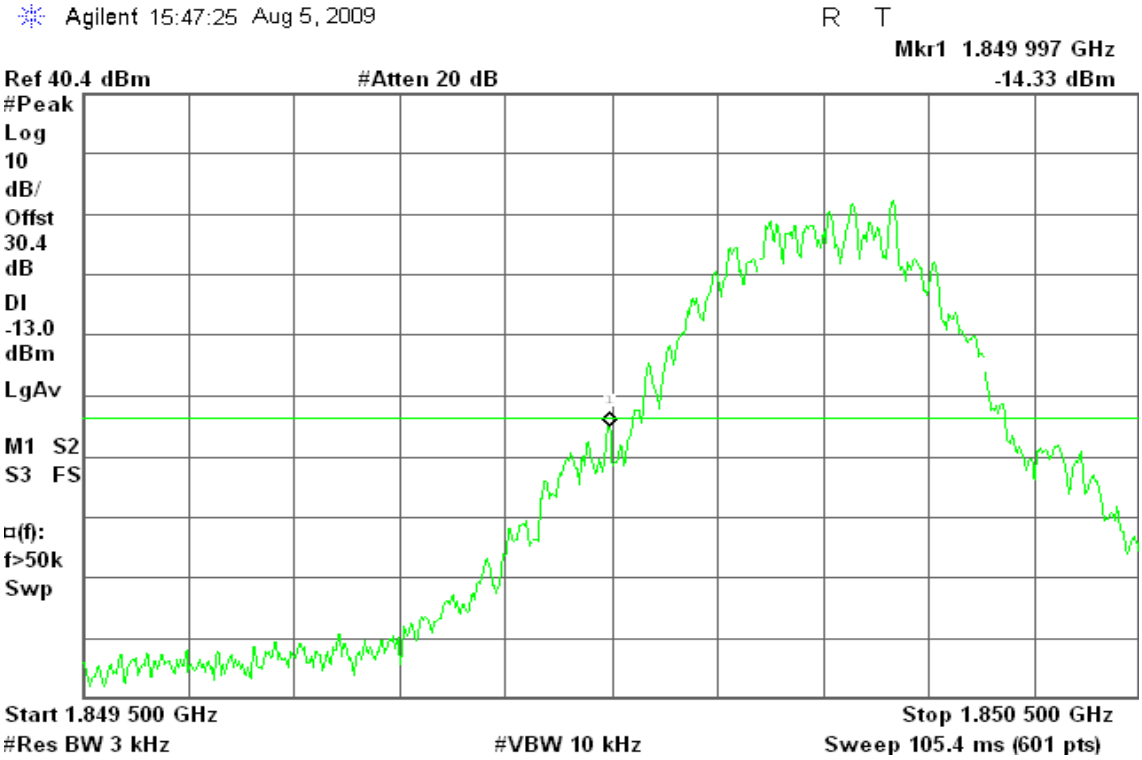
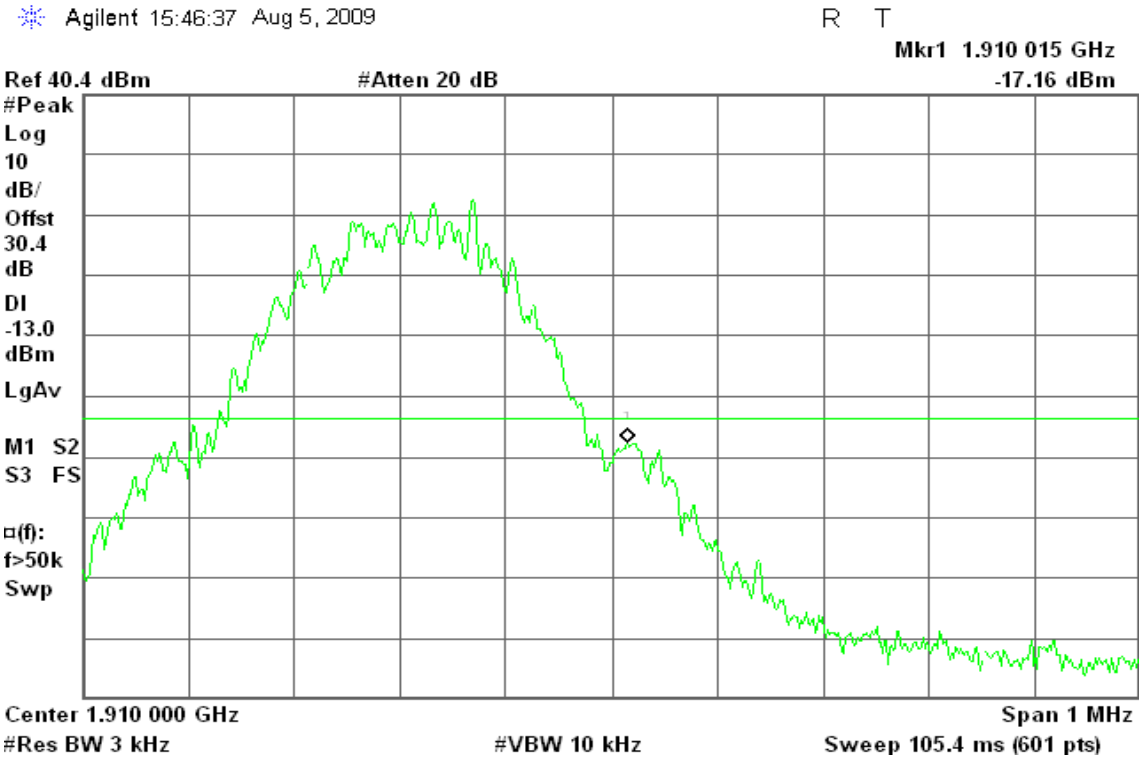


Figure 10-2: Band Edge emissions – GSM CH High



GPRS 1900

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

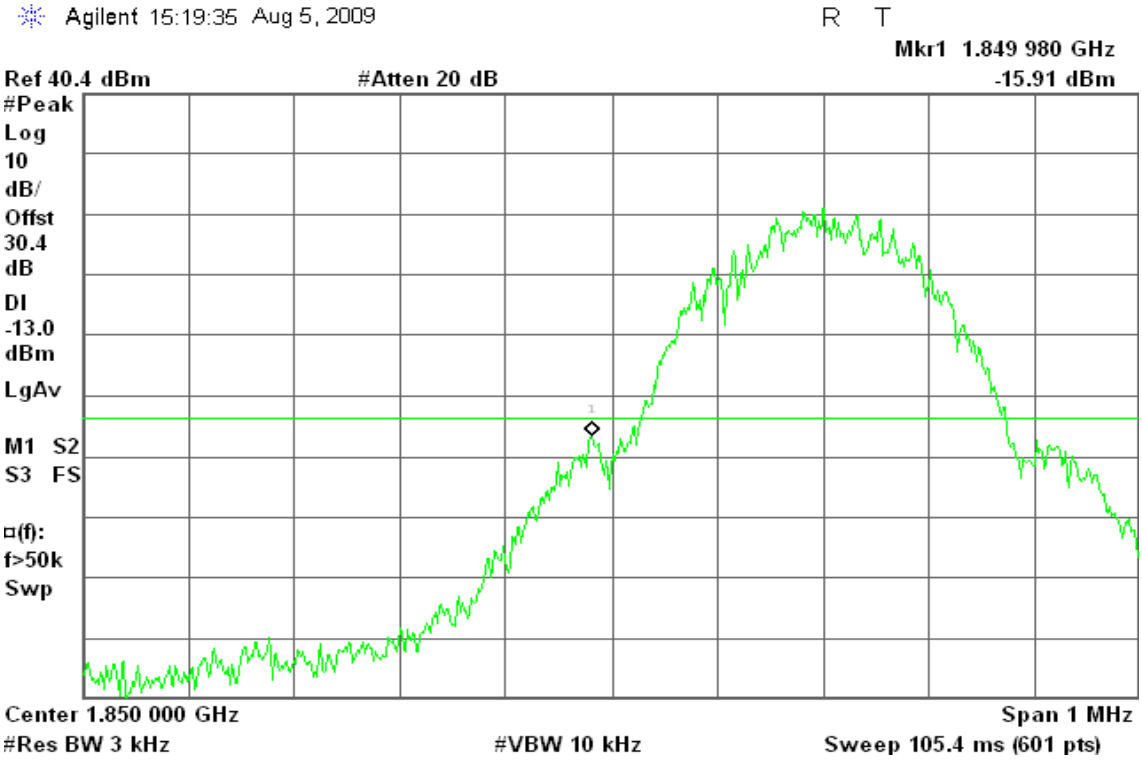
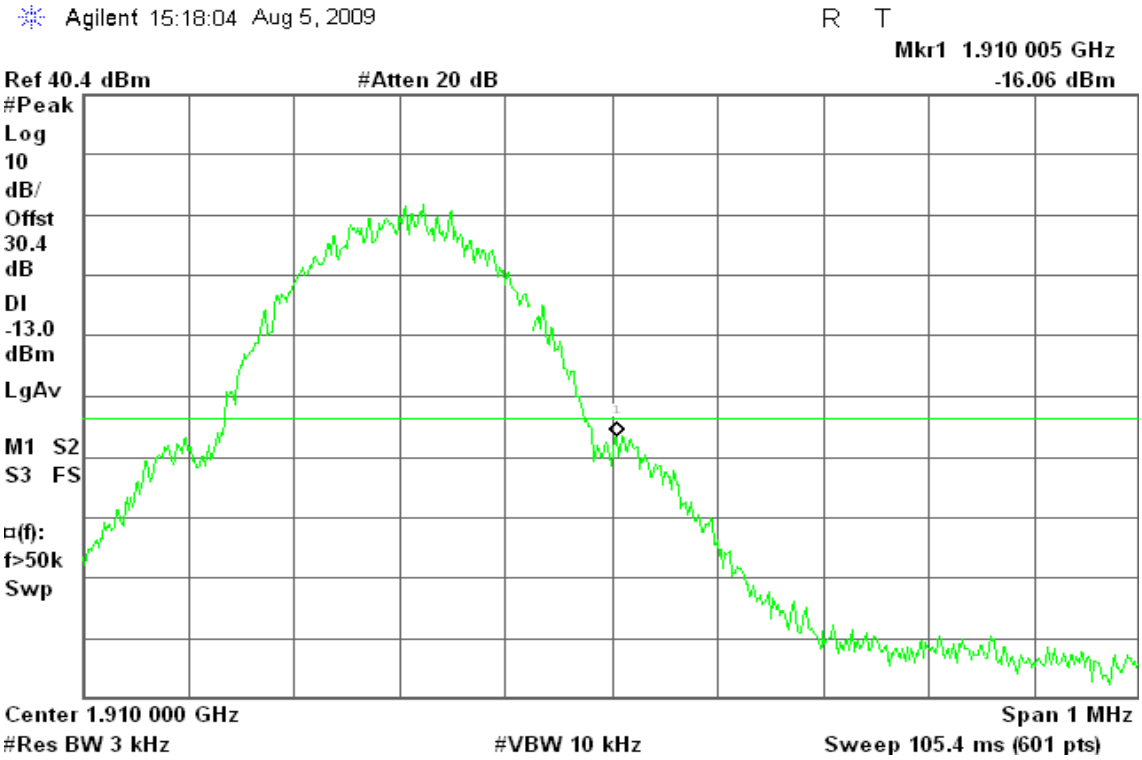


Figure 10-4: Band Edge emissions – GPRS CH High



EDGE 850

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

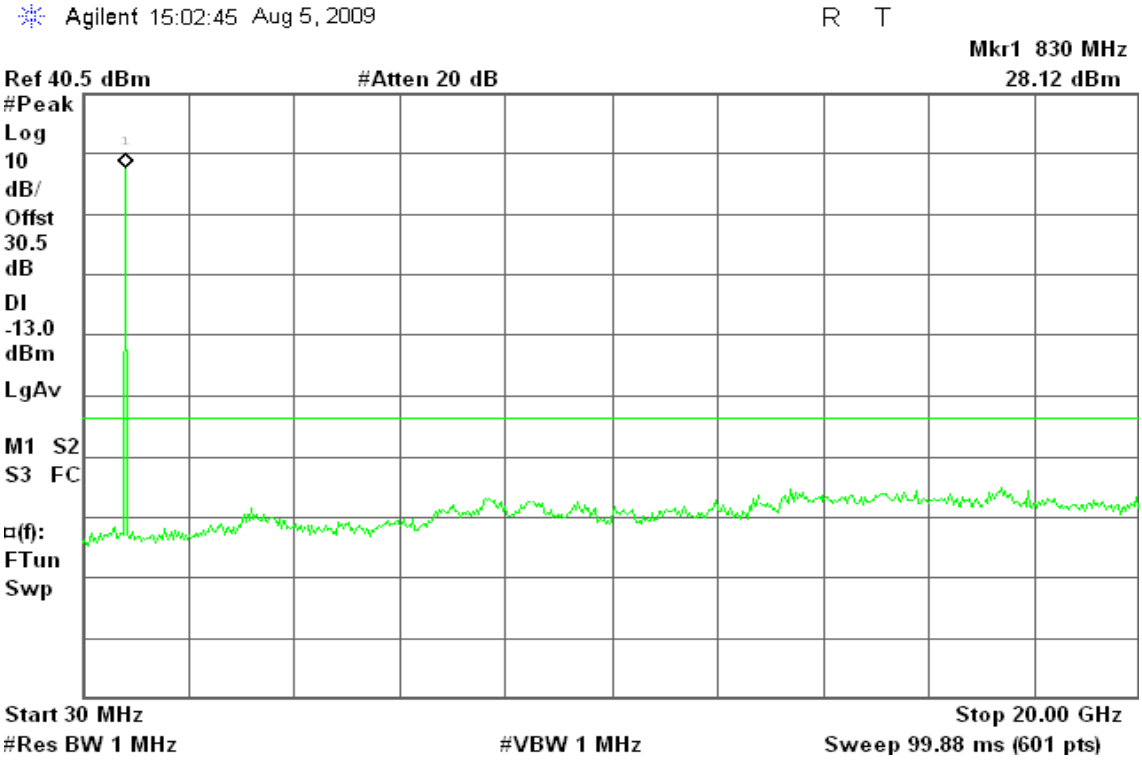


Figure 11-2: Out of Band emission at antenna terminals –EDGE CH Mid

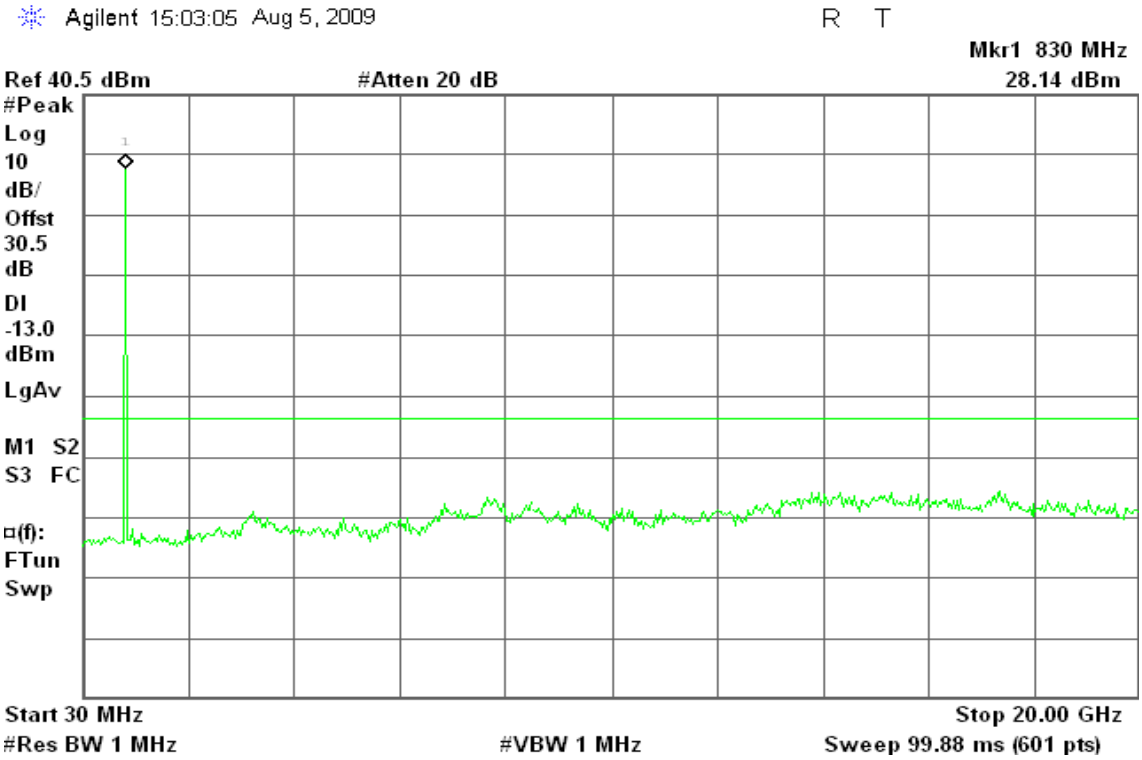
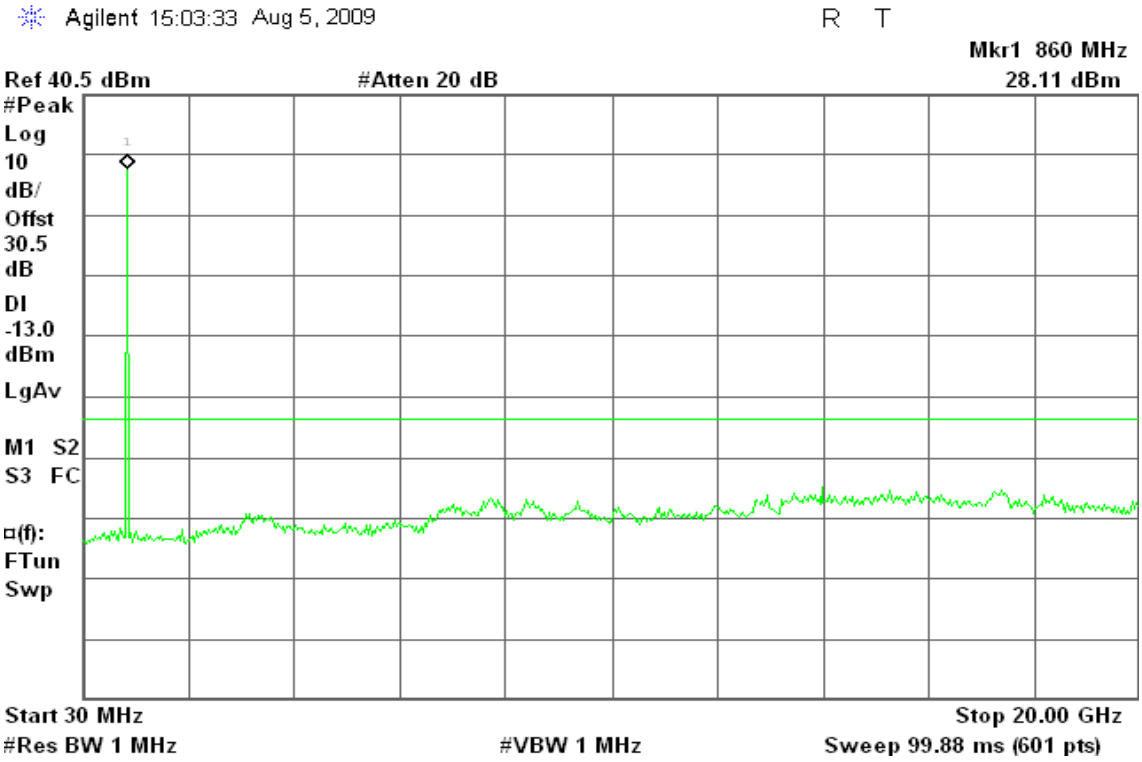


Figure 11-3: Out of Band emission at antenna terminals –EDGE CH High



EDGE 1900

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

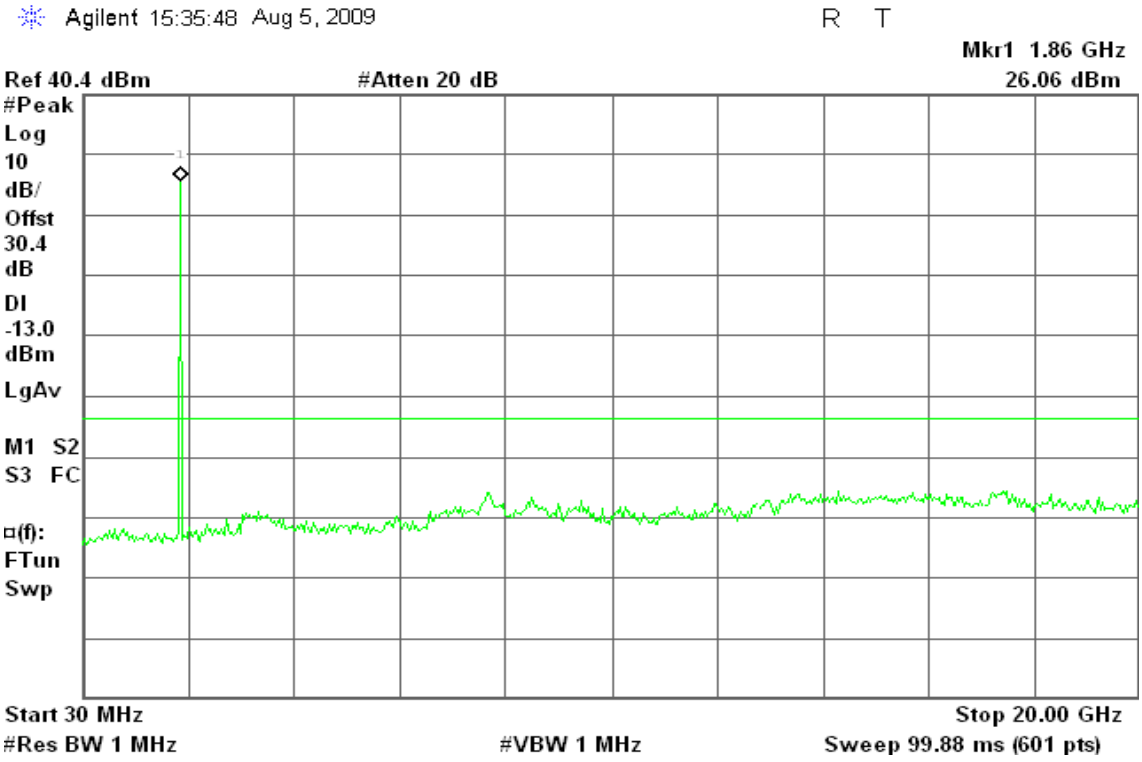


Figure 11-5: Out of Band emission at antenna terminals –EDGE CH Mid

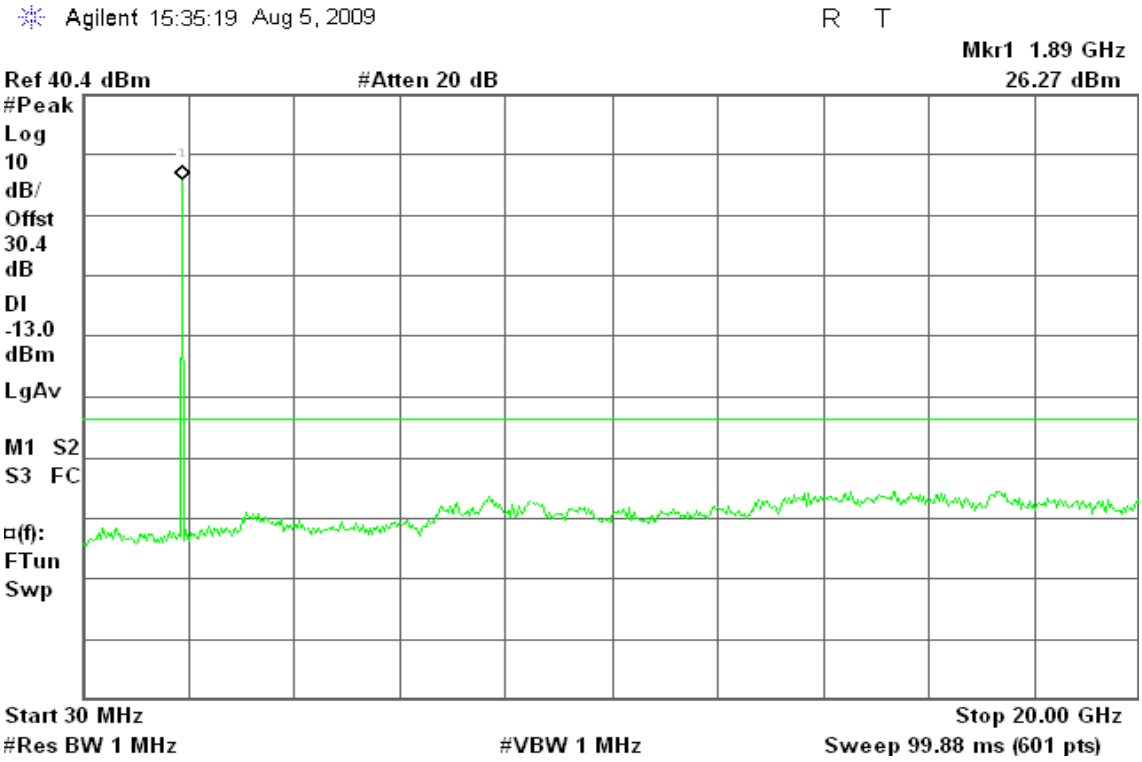
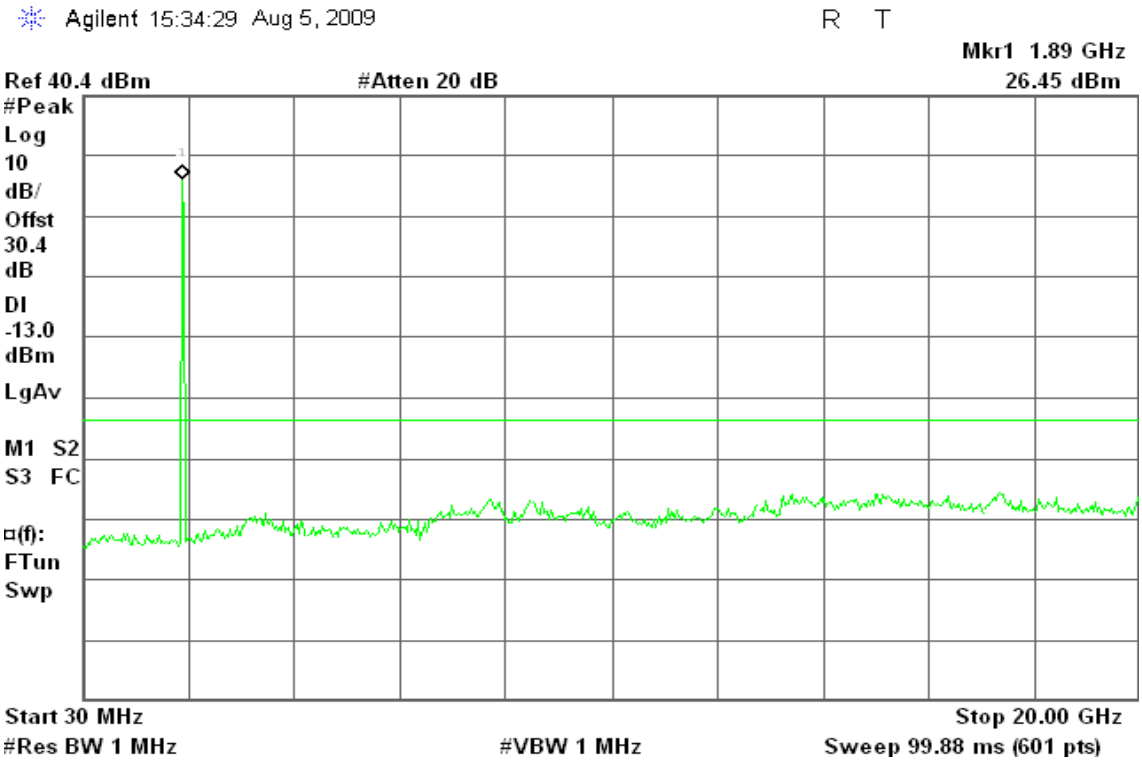


Figure 11-6: Out of Band emission at antenna terminals –EDGE CH High



EDGE 850

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

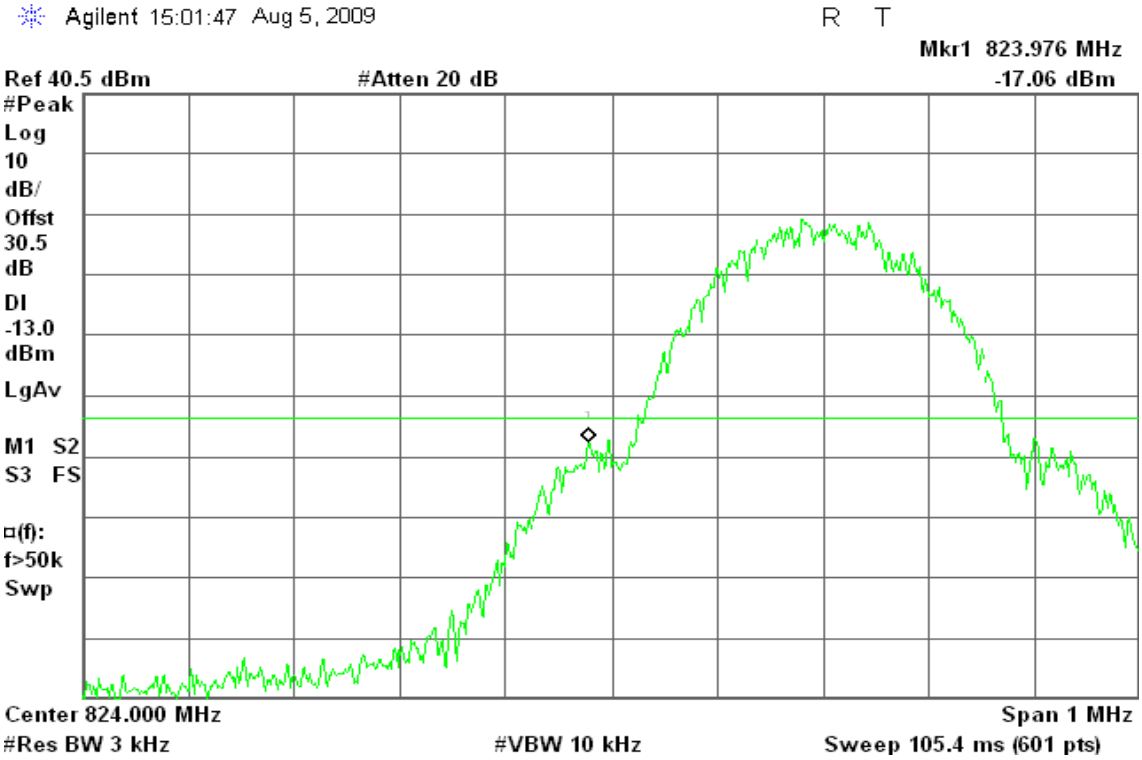
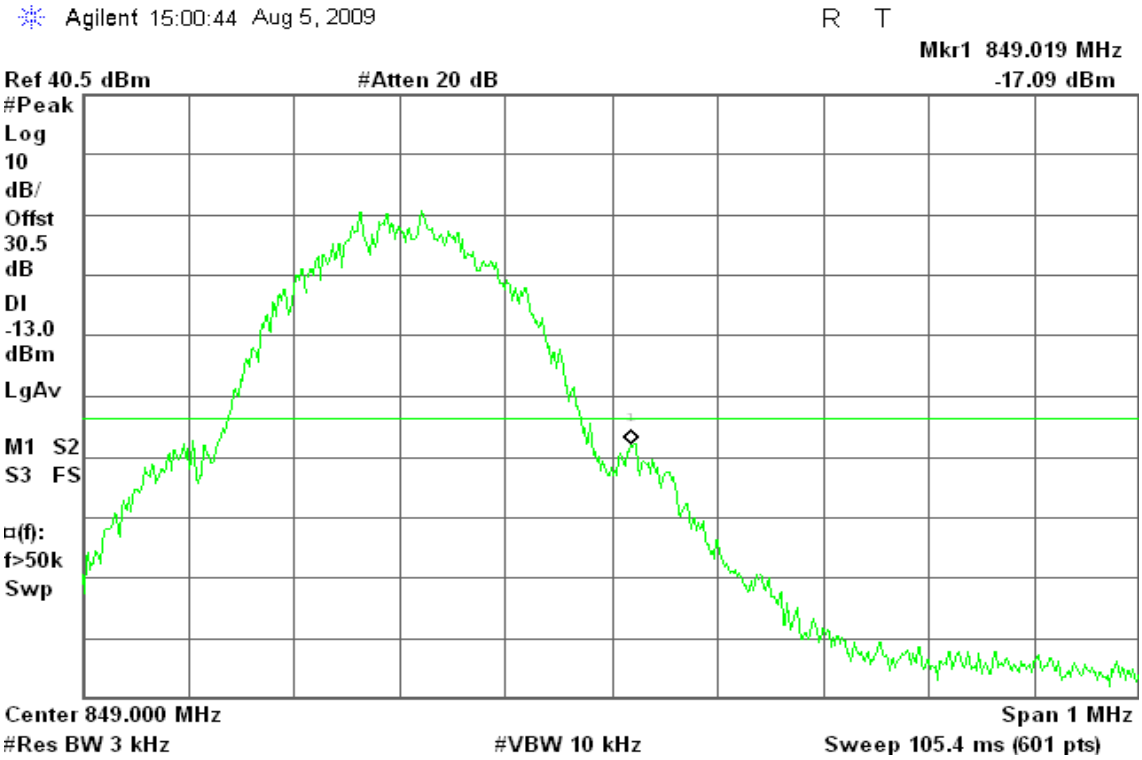


Figure 12-2: Band Edge emissions – EDGE CH High



EDGE 1900

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

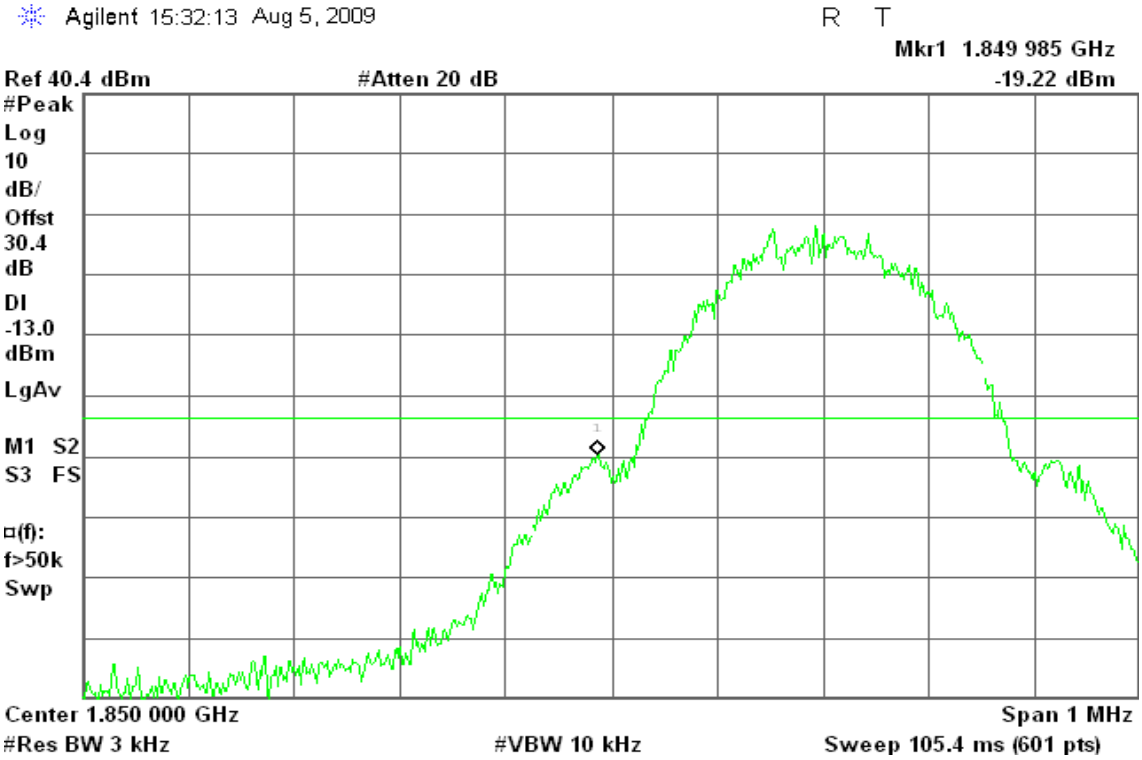
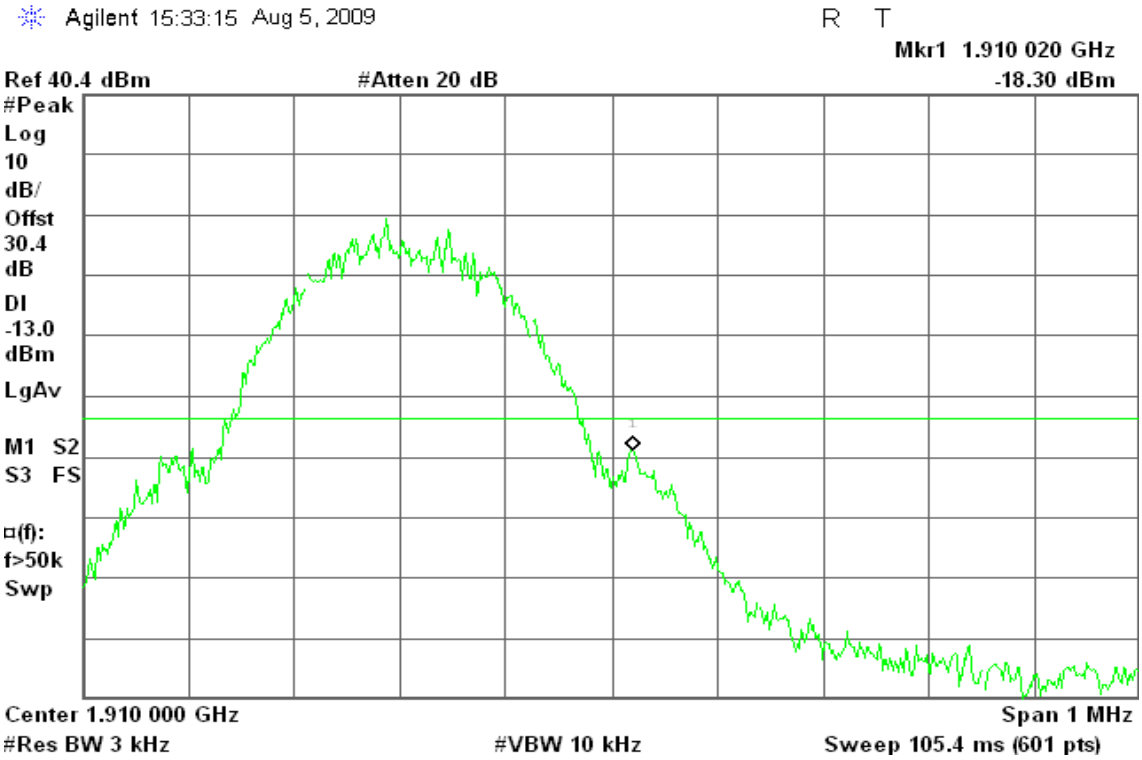


Figure 12-4: Band Edge emissions – EDGE CH High



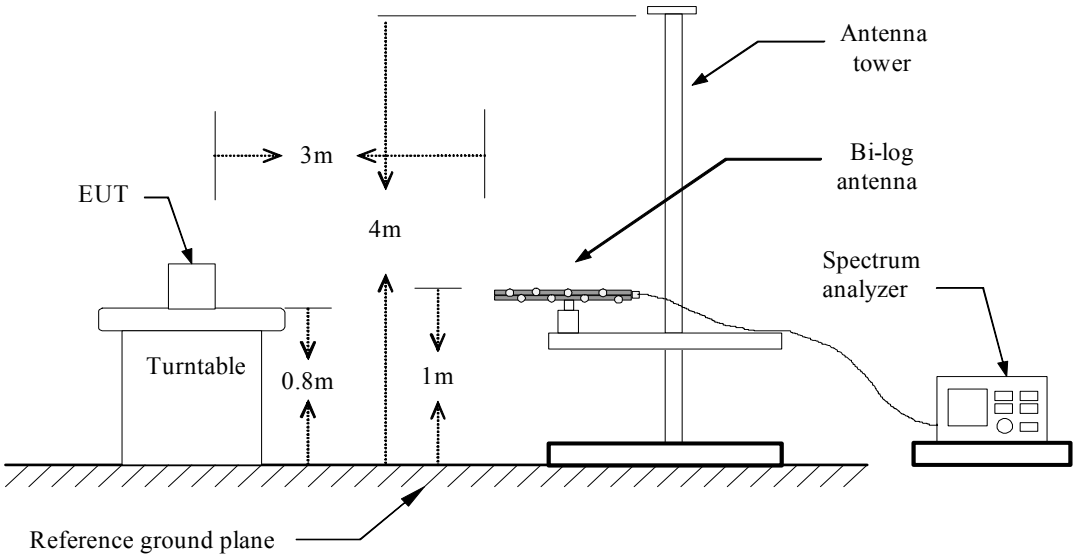
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

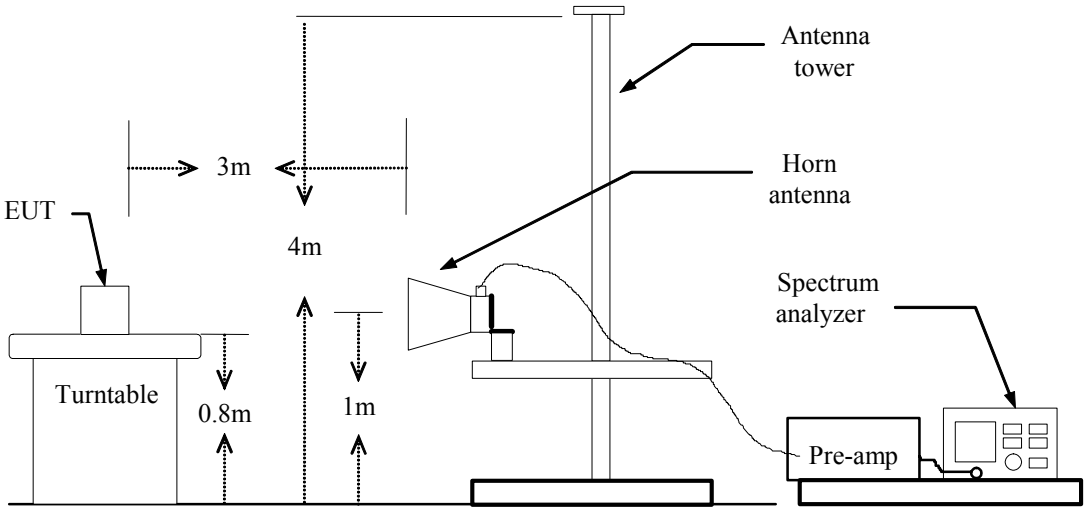
According to FCC §2.1053

Test Configuration

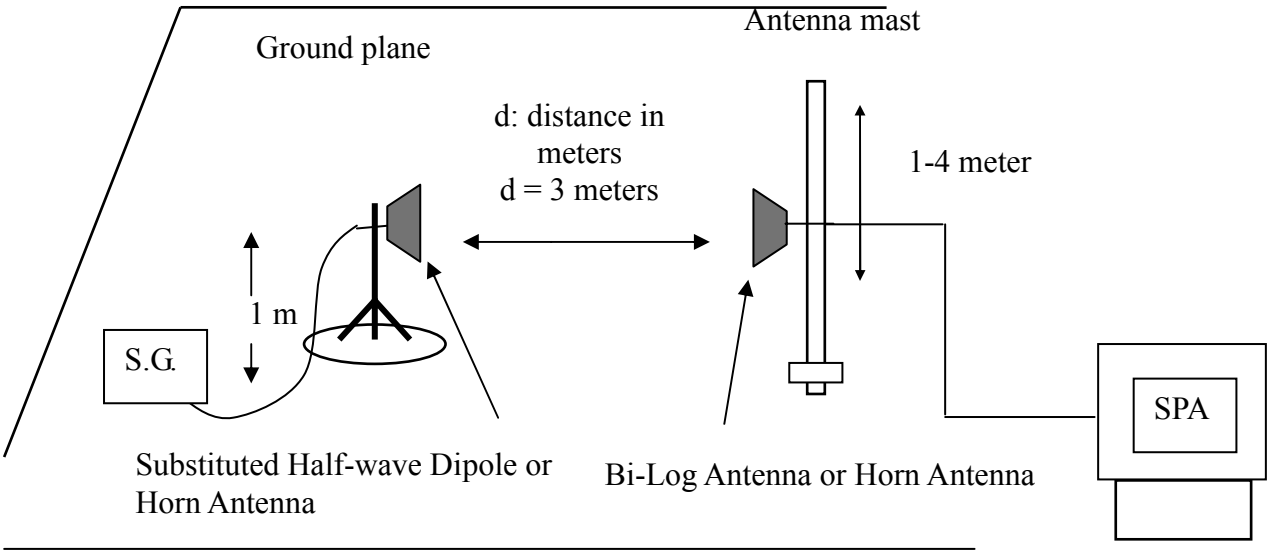
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

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

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

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

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

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

TEST RESULTS

Refer to the attached tabular data sheets.

Radiated Spurious Emission Measurement Result / Below 1GHz

Operation Mode: GSM 850 / TX / CH 128 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-60.99	-12.93	-73.92	-13.00	-60.92
99.84	V	-47.70	-18.42	-66.12	-13.00	-53.12
198.78	V	-63.34	-13.35	-76.69	-13.00	-63.69
407.33	V	-57.02	-10.24	-67.26	-13.00	-54.26
512.09	V	-62.88	-7.71	-70.59	-13.00	-57.59
681.84	V	-65.89	-5.88	-71.77	-13.00	-58.77
44.55	H	-64.55	-11.53	-76.08	-13.00	-63.08
99.84	H	-46.69	-18.73	-65.42	-13.00	-52.42
132.82	H	-58.69	-14.38	-73.07	-13.00	-60.07
256.01	H	-59.26	-14.22	-73.47	-13.00	-60.47
407.33	H	-55.49	-10.19	-65.69	-13.00	-52.69
512.09	H	-60.80	-7.78	-68.57	-13.00	-55.57

Remark:

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

Operation Mode: GSM 850 / TX / CH 190 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
94.02	V	-55.67	-19.90	-75.57	-13.00	-62.57
119.24	V	-58.82	-14.08	-72.89	-13.00	-59.89
198.78	V	-66.80	-13.35	-80.16	-13.00	-67.16
290.93	V	-67.95	-11.38	-79.34	-13.00	-66.34
369.50	V	-67.21	-11.91	-79.12	-13.00	-66.12
523.73	V	-68.88	-7.65	-76.53	-13.00	-63.53
44.55	H	-64.49	-11.53	-76.02	-13.00	-63.02
130.88	H	-50.37	-14.44	-64.80	-13.00	-51.80
200.72	H	-66.38	-12.05	-78.43	-13.00	-65.43
319.06	H	-66.33	-13.16	-79.50	-13.00	-66.50
453.89	H	-63.62	-8.99	-72.61	-13.00	-59.61
523.73	H	-67.56	-7.80	-75.36	-13.00	-62.36

Remark:

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

Operation Mode: GSM 850 / TX / CH 251 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-63.42	-12.78	-76.21	-13.00	-63.21
100.81	V	-56.12	-18.17	-74.28	-13.00	-61.28
119.24	V	-60.24	-14.08	-74.31	-13.00	-61.31
401.51	V	-59.20	-10.52	-69.72	-13.00	-56.72
496.57	V	-69.25	-7.82	-77.07	-13.00	-64.07
586.78	V	-68.11	-7.10	-75.22	-13.00	-62.22
42.61	H	-64.36	-11.53	-75.89	-13.00	-62.89
100.81	H	-58.36	-18.46	-76.82	-13.00	-63.82
195.87	H	-57.74	-12.59	-70.33	-13.00	-57.33
293.84	H	-59.44	-12.21	-71.65	-13.00	-58.65
499.48	H	-69.51	-7.74	-77.25	-13.00	-64.25
625.58	H	-68.45	-6.40	-74.85	-13.00	-61.85

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 128 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
99.84	V	-48.55	-18.42	-66.97	-13.00	-53.97
201.69	V	-62.11	-13.52	-75.63	-13.00	-62.63
294.81	V	-57.91	-11.80	-69.71	-13.00	-56.71
399.57	V	-58.59	-10.62	-69.20	-13.00	-56.20
512.09	V	-59.99	-7.71	-67.71	-13.00	-54.71
629.46	V	-68.91	-6.14	-75.05	-13.00	-62.05
99.84	H	-46.51	-18.73	-65.24	-13.00	-52.24
192.96	H	-53.44	-13.08	-66.52	-13.00	-53.52
274.44	H	-60.19	-12.89	-73.08	-13.00	-60.08
407.33	H	-54.80	-10.19	-64.99	-13.00	-51.99
512.09	H	-60.34	-7.78	-68.12	-13.00	-55.12
682.81	H	-60.87	-6.01	-66.88	-13.00	-53.88

Remark:

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

Operation Mode: GPRS 850 / TX / CH 190 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
100.81	V	-54.12	-18.17	-72.29	-13.00	-59.29
119.24	V	-57.16	-14.08	-71.24	-13.00	-58.24
328.76	V	-63.08	-12.76	-75.83	-13.00	-62.83
391.81	V	-67.31	-11.09	-78.40	-13.00	-65.40
492.69	V	-68.63	-7.92	-76.55	-13.00	-63.55
602.30	V	-69.17	-6.92	-76.09	-13.00	-63.09
39.70	H	-63.92	-11.76	-75.69	-13.00	-62.69
130.88	H	-51.38	-14.44	-65.82	-13.00	-52.82
195.87	H	-64.91	-12.59	-77.49	-13.00	-64.49
264.74	H	-60.74	-13.50	-74.23	-13.00	-61.23
453.89	H	-63.58	-8.99	-72.57	-13.00	-59.57
548.95	H	-65.38	-7.55	-72.93	-13.00	-59.93

Remark:

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

Operation Mode: GPRS 850 / TX / CH 251 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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	-64.24	-13.24	-77.48	-13.00	-64.48
100.81	V	-56.05	-18.17	-74.22	-13.00	-61.22
119.24	V	-59.53	-14.08	-73.60	-13.00	-60.60
202.66	V	-58.24	-13.72	-71.96	-13.00	-58.96
262.80	V	-62.60	-13.39	-76.00	-13.00	-63.00
419.94	V	-64.64	-9.64	-74.27	-13.00	-61.27
42.61	H	-64.04	-11.53	-75.58	-13.00	-62.58
100.81	H	-58.50	-18.46	-76.96	-13.00	-63.96
136.70	H	-63.53	-14.28	-77.81	-13.00	-64.81
188.11	H	-65.04	-13.41	-78.45	-13.00	-65.45
273.47	H	-67.49	-12.89	-80.38	-13.00	-67.38
417.03	H	-68.03	-9.87	-77.89	-13.00	-64.89

Remark:

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

Operation Mode: GSM 1900 / TX / CH 512 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-51.45	-12.93	-64.39	-13.00	-51.39
72.68	V	-56.61	-16.10	-72.71	-13.00	-59.71
100.81	V	-54.05	-18.17	-72.21	-13.00	-59.21
147.37	V	-64.19	-11.91	-76.10	-13.00	-63.10
395.69	V	-65.44	-10.86	-76.30	-13.00	-63.30
449.04	V	-67.95	-9.12	-77.07	-13.00	-64.07
45.52	H	-59.69	-11.85	-71.53	-13.00	-58.53
72.68	H	-59.19	-18.50	-77.69	-13.00	-64.69
154.16	H	-60.59	-13.13	-73.72	-13.00	-60.72
293.84	H	-65.90	-12.21	-78.11	-13.00	-65.11
453.89	H	-67.85	-8.99	-76.84	-13.00	-63.84
639.16	H	-69.76	-5.87	-75.63	-13.00	-62.63

Remark:

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

Operation Mode: GSM 1900 / TX / CH 661 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
42.61	V	-57.48	-12.94	-70.41	-13.00	-57.41
100.81	V	-55.15	-18.17	-73.32	-13.00	-60.32
119.24	V	-60.71	-14.08	-74.79	-13.00	-61.79
226.91	V	-57.18	-14.28	-71.46	-13.00	-58.46
289.96	V	-61.32	-11.28	-72.60	-13.00	-59.60
419.94	V	-64.30	-9.64	-73.94	-13.00	-60.94
43.58	H	-63.72	-11.53	-75.25	-13.00	-62.25
149.31	H	-64.55	-13.01	-77.56	-13.00	-64.56
245.34	H	-59.62	-14.23	-73.85	-13.00	-60.85
427.70	H	-67.25	-9.55	-76.80	-13.00	-63.80
536.34	H	-68.99	-7.76	-76.74	-13.00	-63.74
696.39	H	-68.43	-5.91	-74.34	-13.00	-61.34

Remark:

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

Operation Mode: GSM 1900 / TX / CH 810 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-51.82	-12.93	-64.75	-13.00	-51.75
73.65	V	-56.01	-16.51	-72.51	-13.00	-59.51
100.81	V	-54.68	-18.17	-72.85	-13.00	-59.85
119.24	V	-59.72	-14.08	-73.80	-13.00	-60.80
230.79	V	-54.64	-14.00	-68.65	-13.00	-55.65
417.03	V	-67.71	-9.78	-77.49	-13.00	-64.49
45.52	H	-59.52	-11.85	-71.36	-13.00	-58.36
72.68	H	-58.81	-18.50	-77.31	-13.00	-64.31
147.37	H	-60.40	-13.25	-73.65	-13.00	-60.65
275.41	H	-65.53	-12.90	-78.43	-13.00	-65.43
452.92	H	-68.56	-9.00	-77.56	-13.00	-64.56
580.96	H	-68.86	-6.87	-75.72	-13.00	-62.72

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 512 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
44.55	V	-51.83	-12.63	-64.46	-13.00	-51.46
73.65	V	-56.47	-16.51	-72.98	-13.00	-59.98
100.81	V	-53.69	-18.17	-71.85	-13.00	-58.85
147.37	V	-64.43	-11.91	-76.34	-13.00	-63.34
276.38	V	-57.91	-12.41	-70.33	-13.00	-57.33
543.13	V	-69.48	-7.38	-76.86	-13.00	-63.86
47.46	H	-59.07	-13.03	-72.09	-13.00	-59.09
149.31	H	-60.27	-13.01	-73.27	-13.00	-60.27
185.20	H	-53.23	-13.13	-66.36	-13.00	-53.36
248.25	H	-60.81	-14.37	-75.18	-13.00	-62.18
274.44	H	-62.23	-12.89	-75.12	-13.00	-62.12
482.99	H	-68.96	-8.25	-77.21	-13.00	-64.21

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 661 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-51.72	-12.78	-64.51	-13.00	-51.51
100.81	V	-52.41	-18.17	-70.58	-13.00	-57.58
119.24	V	-58.97	-14.08	-73.05	-13.00	-60.05
177.44	V	-62.37	-13.92	-76.28	-13.00	-63.28
243.40	V	-66.51	-13.57	-80.07	-13.00	-67.07
455.83	V	-66.59	-8.98	-75.57	-13.00	-62.57
45.52	H	-59.86	-11.85	-71.70	-13.00	-58.70
100.81	H	-58.49	-18.46	-76.95	-13.00	-63.95
151.25	H	-58.19	-12.98	-71.17	-13.00	-58.17
276.38	H	-65.18	-12.91	-78.09	-13.00	-65.09
329.73	H	-65.43	-13.16	-78.59	-13.00	-65.59
580.96	H	-68.15	-6.87	-75.02	-13.00	-62.02

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 810 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-58.31	-12.93	-71.24	-13.00	-58.24
100.81	V	-54.04	-18.17	-72.21	-13.00	-59.21
119.24	V	-60.02	-14.08	-74.09	-13.00	-61.09
223.03	V	-65.51	-14.56	-80.07	-13.00	-67.07
416.06	V	-67.50	-9.82	-77.32	-13.00	-64.32
613.94	V	-69.59	-6.51	-76.10	-13.00	-63.10
44.55	H	-59.83	-11.53	-71.36	-13.00	-58.36
73.65	H	-58.60	-18.80	-77.40	-13.00	-64.40
150.28	H	-59.16	-12.93	-72.09	-13.00	-59.09
255.04	H	-64.39	-14.25	-78.64	-13.00	-65.64
306.45	H	-64.53	-13.08	-77.61	-13.00	-64.61
517.91	H	-68.70	-7.80	-76.51	-13.00	-63.51

Remark:

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

Operation Mode: EDGE 850 / TX / CH 128 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
99.84	V	-54.53	-18.42	-72.96	-13.00	-59.96
146.40	V	-60.65	-11.91	-72.56	-13.00	-59.56
164.83	V	-62.52	-13.43	-75.95	-13.00	-62.95
269.59	V	-65.50	-12.41	-77.91	-13.00	-64.91
407.33	V	-65.79	-10.24	-76.03	-13.00	-63.03
512.09	V	-62.74	-7.71	-70.46	-13.00	-57.46
44.55	H	-64.22	-11.53	-75.75	-13.00	-62.75
99.84	H	-49.81	-18.73	-68.54	-13.00	-55.54
132.82	H	-63.31	-14.38	-77.69	-13.00	-64.69
407.33	H	-58.42	-10.19	-68.62	-13.00	-55.62
512.09	H	-59.44	-7.78	-67.21	-13.00	-54.21
681.84	H	-66.58	-6.02	-72.60	-13.00	-59.60

Remark:

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

Operation Mode: EDGE 850 / TX / CH 190 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-64.31	-12.93	-77.24	-13.00	-64.24
100.81	V	-56.43	-18.17	-74.60	-13.00	-61.60
119.24	V	-60.31	-14.08	-74.38	-13.00	-61.38
194.90	V	-65.72	-13.94	-79.65	-13.00	-66.65
288.02	V	-68.59	-11.51	-80.10	-13.00	-67.10
417.03	V	-68.18	-9.78	-77.95	-13.00	-64.95
41.64	H	-63.54	-11.54	-75.08	-13.00	-62.08
100.81	H	-59.01	-18.46	-77.47	-13.00	-64.47
159.98	H	-54.26	-13.43	-67.69	-13.00	-54.69
263.77	H	-61.23	-13.61	-74.84	-13.00	-61.84
326.82	H	-61.76	-13.16	-74.92	-13.00	-61.92
406.36	H	-67.40	-10.23	-77.62	-13.00	-64.62

Remark:

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

Operation Mode: EDGE 850 / TX / CH 251 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
100.81	V	-56.43	-18.17	-74.59	-13.00	-61.59
119.24	V	-60.74	-14.08	-74.82	-13.00	-61.82
197.81	V	-66.11	-13.50	-79.61	-13.00	-66.61
335.55	V	-66.60	-12.72	-79.32	-13.00	-66.32
540.22	V	-68.76	-7.39	-76.16	-13.00	-63.16
738.10	V	-69.26	-5.25	-74.51	-13.00	-61.51
43.58	H	-64.16	-11.53	-75.69	-13.00	-62.69
100.81	H	-59.56	-18.46	-78.02	-13.00	-65.02
188.11	H	-65.32	-13.41	-78.73	-13.00	-65.73
393.75	H	-64.08	-10.74	-74.82	-13.00	-61.82
636.25	H	-68.38	-5.98	-74.36	-13.00	-61.36
774.96	H	-69.82	-4.48	-74.30	-13.00	-61.30

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 512 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-51.62	-12.93	-64.55	-13.00	-51.55
73.65	V	-57.20	-16.51	-73.71	-13.00	-60.71
100.81	V	-54.83	-18.17	-73.00	-13.00	-60.00
119.24	V	-58.21	-14.08	-72.28	-13.00	-59.28
139.61	V	-63.43	-11.97	-75.40	-13.00	-62.40
369.50	V	-65.36	-11.91	-77.27	-13.00	-64.27
45.52	H	-58.66	-11.85	-70.51	-13.00	-57.51
73.65	H	-58.75	-18.80	-77.55	-13.00	-64.55
149.31	H	-60.68	-13.01	-73.69	-13.00	-60.69
275.41	H	-65.02	-12.90	-77.92	-13.00	-64.92
452.92	H	-67.66	-9.00	-76.67	-13.00	-63.67
697.36	H	-68.94	-5.90	-74.84	-13.00	-61.84

Remark:

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

Operation Mode: EDGE 1900 / TX / CH 661 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-51.62	-12.93	-64.56	-13.00	-51.56
67.83	V	-57.05	-15.11	-72.17	-13.00	-59.17
100.81	V	-53.70	-18.17	-71.87	-13.00	-58.87
119.24	V	-60.17	-14.08	-74.25	-13.00	-61.25
180.35	V	-61.56	-14.06	-75.63	-13.00	-62.63
293.84	V	-67.19	-11.69	-78.89	-13.00	-65.89
43.58	H	-59.76	-11.53	-71.30	-13.00	-58.30
73.65	H	-58.35	-18.80	-77.15	-13.00	-64.15
151.25	H	-59.38	-12.98	-72.36	-13.00	-59.36
256.98	H	-61.46	-14.18	-75.64	-13.00	-62.64
275.41	H	-61.89	-12.90	-74.79	-13.00	-61.79
523.73	H	-67.46	-7.80	-75.26	-13.00	-62.26

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 1900 / TX / CH 810 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
45.52	V	-51.73	-12.93	-64.67	-13.00	-51.67
72.68	V	-56.74	-16.10	-72.84	-13.00	-59.84
100.81	V	-53.59	-18.17	-71.75	-13.00	-58.75
153.19	V	-64.11	-12.35	-76.45	-13.00	-63.45
180.35	V	-61.89	-14.06	-75.95	-13.00	-62.95
526.64	V	-69.91	-7.60	-77.51	-13.00	-64.51
625.58	V	-68.92	-6.20	-75.13	-13.00	-62.13
45.52	H	-58.09	-11.85	-69.94	-13.00	-56.94
152.22	H	-58.62	-13.03	-71.66	-13.00	-58.66
183.26	H	-63.99	-12.94	-76.93	-13.00	-63.93
262.80	H	-64.88	-13.73	-78.60	-13.00	-65.60
390.84	H	-67.97	-10.88	-78.85	-13.00	-65.85
539.25	H	-69.54	-7.74	-77.29	-13.00	-64.29

Remark:

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

Above 1GHz

Operation Mode: GSM 850 / TX / CH 128 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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	-50.30	1.63	-48.68	-13.00	-35.68
2470.00	V	-43.91	4.75	-39.16	-13.00	-26.16
N/A						
1651.00	H	-51.77	1.63	-50.14	-13.00	-37.14
2470.00	H	-41.90	4.74	-37.15	-13.00	-24.15
N/A						

Remark:

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

Operation Mode: GSM 850 / TX / CH 190 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-52.55	1.64	-50.92	-13.00	-37.92
2512.00	V	-46.80	4.96	-41.83	-13.00	-28.83
N/A						
1672.00	H	-53.19	1.66	-51.54	-13.00	-38.54
2512.00	H	-45.65	4.94	-40.71	-13.00	-27.71
N/A						

Remark:

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

Operation Mode: GSM 850 / TX / CH 251 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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	-54.48	1.65	-52.83	-13.00	-39.83
2547.00	V	-49.97	5.02	-44.95	-13.00	-31.95
N/A						
1700.00	H	-49.91	1.68	-48.23	-13.00	-35.23
2547.00	H	-50.97	4.98	-45.98	-13.00	-32.98
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:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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	-51.72	1.63	-50.09	-13.00	-37.09
2470.00	V	-46.67	4.75	-41.92	-13.00	-28.92
N/A						
1651.00	H	-52.19	1.63	-50.55	-13.00	-37.55
2470.00	H	-45.24	4.74	-40.50	-13.00	-27.50
N/A						

Remark:

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

Operation Mode: GPRS 850 / TX / CH 190 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-53.94	1.64	-52.30	-13.00	-39.30
2512.00	V	-50.52	4.96	-45.56	-13.00	-32.56
N/A						
1672.00	H	-54.63	1.66	-52.98	-13.00	-39.98
2512.00	H	-49.03	4.94	-44.09	-13.00	-31.09
N/A						

Remark:

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

Operation Mode: GPRS 850 / TX / CH 251 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 55 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-55.74	1.65	-54.09	-13.00	-41.09
2547.00	V	-52.95	5.02	-47.94	-13.00	-34.94
N/A						
1700.00	H	-55.60	1.68	-53.92	-13.00	-40.92
2547.00	H	-51.07	4.98	-46.08	-13.00	-33.08
N/A						

Remark:

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

Operation Mode: GSM 1900 / TX / CH 512 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3653.00	V	-62.19	7.36	-54.83	-13.00	-41.83
5550.00	V	-55.84	8.19	-47.64	-13.00	-34.64
N/A						
3457.00	H	-61.59	6.25	-55.34	-13.00	-42.34
5550.00	H	-58.73	10.21	-48.52	-13.00	-35.52
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: GSM 1900 / TX / CH 661 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 55 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3982.00	V	-62.71	8.79	-53.92	-13.00	-40.92
5641.00	V	-57.34	8.23	-49.11	-13.00	-36.11
N/A						
3758.00	H	-58.14	6.83	-51.31	-13.00	-38.31
5641.00	H	-60.93	9.93	-51.01	-13.00	-38.01
N/A						

Remark:

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

Operation Mode: GSM 1900 / TX / CH 810 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-57.03	8.09	-48.95	-13.00	-35.95
5732.00	V	-57.25	8.27	-48.98	-13.00	-35.98
N/A						
3821.00	H	-57.84	6.95	-50.89	-13.00	-37.89
5732.00	H	-60.05	9.65	-50.40	-13.00	-37.40
N/A						

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 512 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3590.00	V	-62.46	7.08	-55.38	-13.00	-42.38
5550.00	V	-56.48	8.19	-48.29	-13.00	-35.29
N/A						
3471.00	H	-62.89	6.27	-56.62	-13.00	-43.62
5550.00	H	-59.10	10.21	-48.90	-13.00	-35.90
N/A						

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 661 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-62.34	7.81	-54.53	-13.00	-41.53
5641.00	V	-57.31	8.23	-49.08	-13.00	-36.08
N/A						
3758.00	H	-60.04	6.83	-53.21	-13.00	-40.21
5641.00	H	-60.65	9.93	-50.72	-13.00	-37.72
N/A						

Remark:

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

Operation Mode: GPRS 1900 / TX / CH 810 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-57.51	8.09	-49.42	-13.00	-36.42
5732.00	V	-56.63	8.27	-48.36	-13.00	-35.36
N/A						
3821.00	H	-56.49	6.95	-49.54	-13.00	-36.54
5732.00	H	-60.83	9.65	-51.18	-13.00	-38.18
N/A						

Remark:

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

Operation Mode: EDGE 850 / TX / CH 128 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-58.29	1.63	-56.66	-13.00	-43.66
2470.00	V	-57.42	4.75	-52.67	-13.00	-39.67
N/A						
1651.00	H	-58.92	1.63	-57.29	-13.00	-44.29
2470.00	H	-56.98	4.74	-52.24	-13.00	-39.24
N/A						

Remark:

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

Operation Mode: EDGE 850 / TX / CH 190 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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	-60.34	1.64	-58.71	-13.00	-45.71
N/A						
1672.00	H	-60.44	1.66	-58.79	-13.00	-45.79
2512.00	H	-60.78	4.94	-55.85	-13.00	-42.85
N/A						

Remark:

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

Operation Mode: EDGE 850 / TX / CH 251 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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	-60.16	1.65	-58.51	-13.00	-45.51
2547.00	V	-61.54	5.02	-56.52	-13.00	-43.52
N/A						
1700.00	H	-59.03	1.68	-57.35	-13.00	-44.35
2547.00	H	-60.59	4.98	-55.61	-13.00	-42.61
N/A						

Remark:

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

Operation Mode: EDGE 1900 / TX / CH 512 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3723.00	V	-63.37	7.66	-55.70	-13.00	-42.70
5550.00	V	-58.31	8.19	-50.12	-13.00	-37.12
N/A						
3688.00	H	-62.72	6.69	-56.03	-13.00	-43.03
5550.00	H	-61.17	10.21	-50.97	-13.00	-37.97
N/A						

Remark:

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

Operation Mode: EDGE 1900 / TX / CH 661 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-62.93	7.81	-55.11	-13.00	-42.11
5641.00	V	-58.33	8.23	-50.10	-13.00	-37.10
N/A						
3758.00	H	-60.85	6.83	-54.03	-13.00	-41.03
5641.00	H	-59.91	9.93	-49.98	-13.00	-36.98
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: EDGE 1900 / TX / CH 810 **Test Date:** July 30, 2009

Temperature: 25°C **Tested by:** Jerry Lin

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

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-59.80	8.09	-51.72	-13.00	-38.72
5732.00	V	-56.22	8.27	-47.95	-13.00	-34.95
N/A						
3821.00	H	-57.81	6.95	-50.86	-13.00	-37.86
5732.00	H	-61.67	9.65	-52.02	-13.00	-39.02
N/A						

Remark:

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

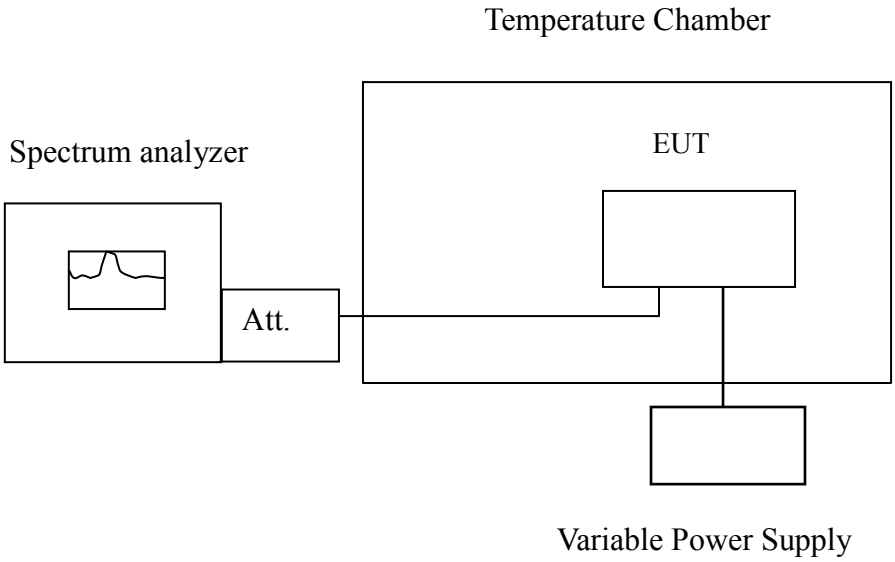
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

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	83599979	2	2090
	40	83600022	45	
	30	83600018	41	
	20	83599977	0	
	10	83600011	34	
	0	83600020	43	
	-10	83600018	41	
	-20	83600011	34	
	-30	83600015	38	

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	1880000034	59	4700
	40	1880000033	58	
	30	1880000031	56	
	20	1879999975	0	
	10	1880000038	63	
	0	1880000029	54	
	-10	1880000035	60	
	-20	1880000039	64	
	-30	1880000028	53	

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	83600034	58	2090
	40	83600035	59	
	30	83600031	55	
	20	83599976	0	
	10	83600030	54	
	0	83600033	57	
	-10	83600038	62	
	-20	83600028	52	
	-30	83600029	53	

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	1880000033	51	4700
	40	1880000029	47	
	30	1880000031	49	
	20	1879999982	0	
	10	1880000026	44	
	0	1880000024	42	
	-10	1880000021	39	
	-20	1880000037	55	
	-30	1880000030	48	

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	83599994	-11	2090
	40	83599989	-16	
	30	83599998	-7	
	20	83600005	0	
	10	83599991	-14	
	0	83599990	-15	
	-10	83599991	-14	
	-20	83599992	-13	
	-30	83599995	-10	

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	1879999992	-16	4700
	40	1879999990	-18	
	30	1879999994	-14	
	20	1880000008	0	
	10	1879999991	-17	
	0	1879999996	-12	
	-10	1879999998	-10	
	-20	1879999995	-13	
	-30	1879999993	-15	

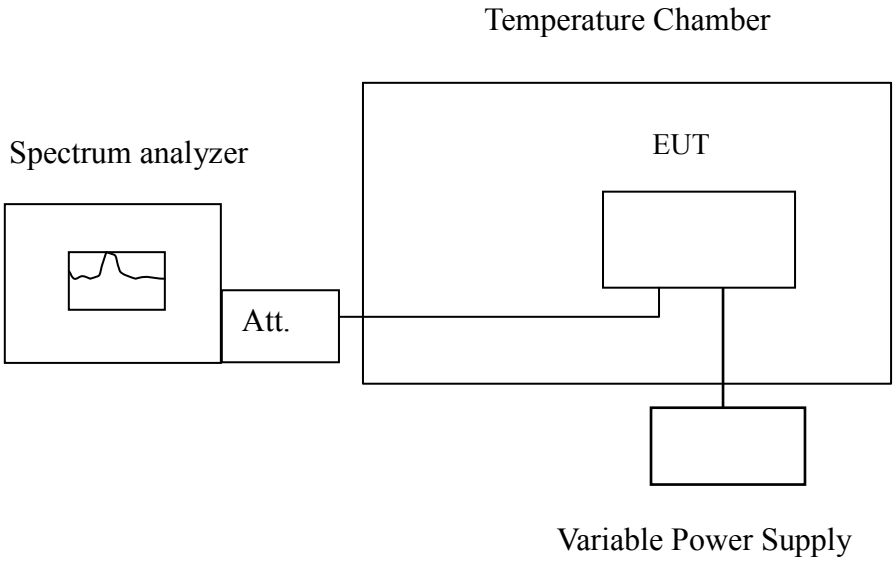
7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235,

Frequency Tolerance: 2.5 ppm.

Test Configuration



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

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	83599979	2	2090
3.7		83599977	0	
3.145		83599975	-2	
2.8END		83599813	-162	

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)
4.255	20	1879999972	-3	4700
3.7		1879999975	0	
3.145		1879999969	-6	
2.8		1879999755	-220	

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	83599975	-1	2090
3.7		83599976	0	
3.145		83599982	6	
2.8END		83599643	-339	

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)
4.255	20	1879999981	-1	4700
3.7		1879999982	0	
3.145		1879999984	2	
2.8END		1879999513	-469	

Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.255	20	83600004	-1	2090
3.7		83600005	0	
3.145		83600008	3	
2.8END		83600215	207	

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)
4.255	20	1880000005	-3	4700
3.7		1880000008	0	
3.145		1880000002	-6	
2.8END		1880000158	150	

7.9 POWERLINE CONDUCTED EMISSIONS

LIMIT

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

Frequency Range (MHz)	Limits (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	**Test Date:**	August 5, 2009
Temperature:	22°C	**Tested by:**	Ryan Chen
Humidity:	45% RH		

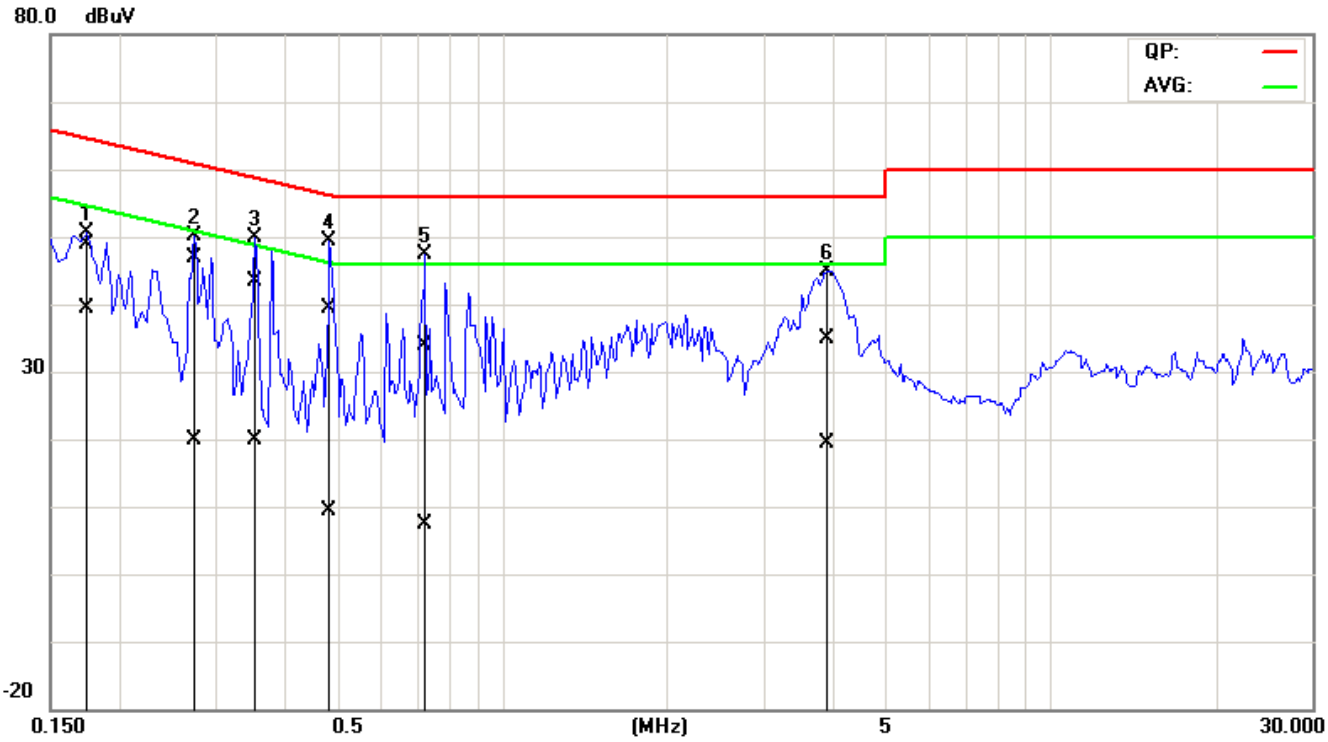
Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB)	QP Result (dBuV)	AV Result (dBuV)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.1750	48.79	39.39	0.11	48.90	39.50	64.72	54.72	-15.82	-15.22	L1
0.2750	46.72	19.92	0.08	46.80	20.00	60.97	50.97	-14.17	-30.97	L1
0.3550	43.43	19.93	0.07	43.50	20.00	58.84	48.84	-15.34	-28.84	L1
0.4850	39.24	9.44	0.06	39.30	9.50	56.25	46.25	-16.95	-36.75	L1
0.7250	33.94	7.24	0.06	34.00	7.30	56.00	46.00	-22.00	-38.70	L1
3.9200	34.74	19.34	0.06	34.80	19.40	56.00	46.00	-21.20	-26.60	L1
0.1650	46.59	26.19	0.11	46.70	26.30	65.21	55.21	-18.51	-28.91	L2
0.1850	37.10	13.00	0.10	37.20	13.10	64.26	54.26	-27.06	-41.16	L2
0.2400	35.21	15.11	0.09	35.30	15.20	62.10	52.10	-26.80	-36.90	L2
0.5450	26.94	4.44	0.06	27.00	4.50	56.00	46.00	-29.00	-41.50	L2
0.7200	23.24	5.04	0.06	23.30	5.10	56.00	46.00	-32.70	-40.90	L2
3.9050	36.84	21.74	0.06	36.90	21.80	56.00	46.00	-19.10	-24.20	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)