



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

TEST REPORT

For

Notebook PC

Model: LGX13

Trade Name: LG

Issued to

**LG Electronics USA
1000 Sylvan Avenue Englewood Cliffs
United States 07632**

Issued by



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

Applicant: LG Electronics USA
1000 Sylvan Avenue Englewood Cliffs
United States 07632

Equipment Under Test: Notebook PC

Trade Name: LG

Model Number: LGX13

Date of Test: June 8 ~ 23, 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	Notebook PC		
Trade Name	LG		
Model Number	LGX13		
Model Discrepancy	N/A		
Power Supply	1. VDC from Power Adapter 2. VDC from Battery Model: LB3211EE Rating: 11.1V, 4.4Ahr		
Power Adapter Manufacturer	Delta	Model	ADP-40PH AD
	Delta	Model	ADP-40PH BD
	Lite-On	Model	PA-1400-11LG
Power Adapter Power Rating	For ADP-40PH AD I/P: 100-240V, 1.2A, 50-60Hz O/P: 20V, 2A, 40W MAX For ADP-40PH BD I/P: 100-240V, 1.2A, 50-60Hz O/P: 20V, 2A For PA-1400-11LG I/P: 100-240VAC, 50-60Hz, 1.0A O/P: 19V, 2.1A		
Frequency Range	GSM / GPRS / EDGE: 850: 824 ~ 849 MHz GSM / GPRS / EDGE: 1900: 1850 ~ 1910 MHz WCDMA Band II: 1852.4 ~ 1907.6 MHz		
Transmit Power (ERP & EIRP Power)	GSM 850: 30.96 dBm GSM 1900: 29.47 dBm GPRS 850: 30.57 dBm GPRS 1900: 29.46 dBm EDGE 850: 26.11 dBm EDGE 1900: 27.04 dBm WCDMA Band II: 24.00 dBm HSDPA Band II: 24.86 dBm HSUPA Band II: 26.26 dBm		
Modulation Technique	GSM: GMSK GPRS: GMSK EDGE: 8PSK WCDMA: QPSK		
Type of Emission	GSM 850 MHz: 243KGXW GSM 1900 MHz: 248KGXW GPRS 850 MHz: 246KGXW GPRS 1900 MHz: 240KGXW EDGE 850 MHz: 243KG7W EDGE 1900 MHz: 242KG7W WCDMA Band II: 4M18F9W WCDMA HSDPA Band II: 4M19F9W WCDMA HSUPA Band II: 4M19F9W		
Antenna Gain	GSM / GPRS / EDGE 850 MHz: -4.0 dBi GSM / GPRS / EDGE 1900 MHz: -4.1 dBi WCDMA band II: -4.1 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: **BEJNT-LGX13A** filing to comply with Part 22 and Part 24 of the FCC 47 CFR Rules.



3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4: 2003, TIA/EIA-603-C: 2004 and FCC CFR 47, Part 2, PART 22 SUBPART H AND PART 24 SUBPART E

3.1 EUT CONFIGURATION

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

3.2 EUT EXERCISE

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

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

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

Radiated Emissions

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



3.4 DESCRIPTION OF TEST MODES

The EUT (model: LGX13) comes with one battery and three types of power adapter (ADP-40PH AD & ADP-40PH BD & PA-1400-11LG) for sale. After the preliminary test, the EUT with power adapter (Model: ADP-40PH AD) was found to emit the worst emissions and therefore had been tested under operating condition.

EUT staying in continuous transmitting mode was programmed.

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

GSM / GPRS / EDGE 850:

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

GSM / GPRS / EDGE 1900:

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

WCDMA Band II:

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

WCDMA / HSDPA Band II:

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

WCDMA / HSUPA Band II:

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



4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

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



4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

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

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

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

Powerline Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver 9kHz-30MHz	Rohde & Schwarz	ESHS30	828144/003	11/18/2009
Two-Line V-Network 9kHz-30MHz	Schaffner	NNB41	03/10013	06/11/2009
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

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan

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

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

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

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

5.2 EQUIPMENT

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

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

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

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



5.3 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	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.	LCD Monitor	DELL	2407WFPb	CN-0FC255-46633-675-22TJS	FCC DoC	Shielded, 1.8m with 2 cores	Unshielded, 1.8m
2	USB 2.0 External HDD	TeraSyS	F12-U	A0100214-2Bq0039	FCC DoC	Shielded, 1.8m	N/A
3.	USB 2.0 External HDD	TeraSyS	F12-U	A0100214-31d0014	FCC DoC	Shielded, 1.8m	N/A
4.	Multimedia Earphone	Ergotech	ET-E220	N/A	FCC DoC	Unshielded, 1.8m*2	N/A
5.	USB Mouse	DELL	M056U0A	F0R00D2V	FCC DoC	Shielded, 1.8m	N/A
6.	USB Mouse	Logitech	M-UE58	LZA10752880	FCC DoC	Shielded, 1.8m	N/A
7.	USB Mouse	DELL	M-UV69a	323617-001	FCC DoC	Shielded, 1.8m	N/A

Remark:

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



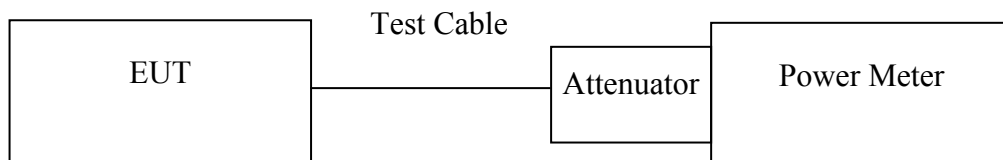
7. FCC PART 22 & 24 REQUIREMENTS

7.1 PEAK POWER

LIMIT

According to FCC §2.1046.

Test Configuration



Remark: Measurement setup for testing on Antenna connector

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

**Test Data**

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
GSM 850 (Class B)	128	824.20	32.30	0.0	32.30
	190	836.60	32.10		32.10
	251	848.80	32.40		32.40
GPRS 850 (Class 10)	128	824.20	31.10	0.0	31.10
	190	836.60	31.50		31.50
	251	848.80	31.70		31.70
EDGE 850 (Class 10)	128	824.20	26.50	0.00	26.50
	190	836.60	26.60		26.60
	251	848.80	26.70		26.70

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
GSM 1900 (Class B)	512	1850.20	29.20	0.00	29.20
	661	1880.00	29.10		29.10
	810	1910.00	29.30		29.30
GPRS 1900 (Class 10)	512	1850.20	29.10	0.00	29.10
	661	1880.00	29.20		29.20
	810	1910.00	29.10		29.10
EDGE 1900 (Class 10)	512	1850.20	26.40	0.00	26.40
	661	1880.00	26.20		26.20
	810	1910.00	26.30		26.30

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



Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA (BAND II)	9262	1852.40	26.16	0.0	26.16
	9400	1880.00	26.28		26.28
	9538	1907.60	26.13		26.13

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA / HSDPA (BAND II)	9262	1852.40	25.88	0.0	25.88
	9400	1880.00	26.07		26.07
	9538	1907.60	25.98		25.98

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA / HSUPA (BAND II)	9262	1852.40	26.05	0.0	26.05
	9400	1880.00	26.22		26.22
	9538	1907.60	26.07		26.07

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

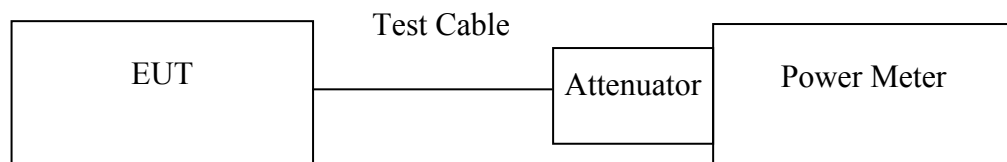


7.2 AVERAGE POWER

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 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	32.20	0.0	32.20
	190	836.60	32.00		32.00
	251	848.80	32.30		32.30
GPRS 850 (Class 10)	128	824.20	31.00	0.0	31.00
	190	836.60	31.40		31.40
	251	848.80	31.50		31.50
EDGE 850 (Class 10)	128	824.20	26.40	0.00	26.40
	190	836.60	26.50		26.50
	251	848.80	26.60		26.60

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Average Power (dBm)
GSM 1900 (Class B)	512	1850.20	29.10	0.00	29.10
	661	1880.00	29.00		29.00
	810	1910.00	29.20		29.20
GPRS 1900 (Class 10)	512	1850.20	29.00	0.00	29.00
	661	1880.00	29.10		29.10
	810	1910.00	29.00		29.00
EDGE 1900 (Class 10)	512	1850.20	26.30	0.00	26.30
	661	1880.00	26.10		26.10
	810	1910.00	26.20		26.20

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



Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA (BAND II)	9262	1852.40	23.15	0.0	23.15
	9400	1880.00	23.37		23.37
	9538	1907.60	23.31		23.31

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA / HSDPA (BAND II)	9262	1852.40	22.81	0.0	22.81
	9400	1880.00	23.09		23.09
	9538	1907.60	23.08		23.08

Test Mode	CH	Frequency (MHz)	Power Meter Reading (dBm)	Attenuator (dB)	Peak Power (dBm)
WCDMA / HSUPA (BAND II)	9262	1852.40	22.38	0.0	22.38
	9400	1880.00	22.54		22.54
	9538	1907.60	22.53		22.53

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

7.3 ERP & EIRP MEASUREMENT

LIMIT

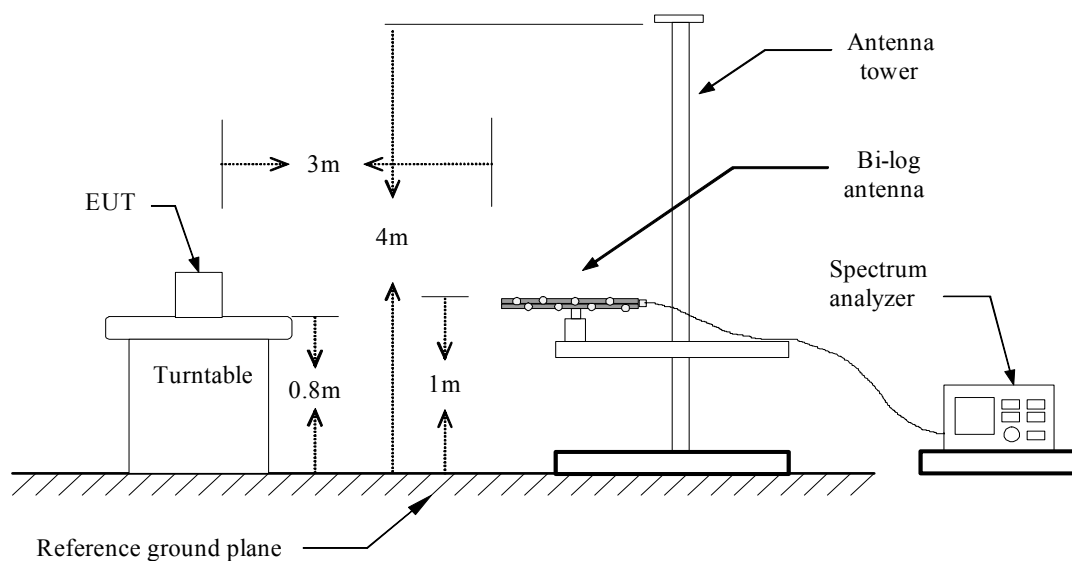
According to FCC §2.1046

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

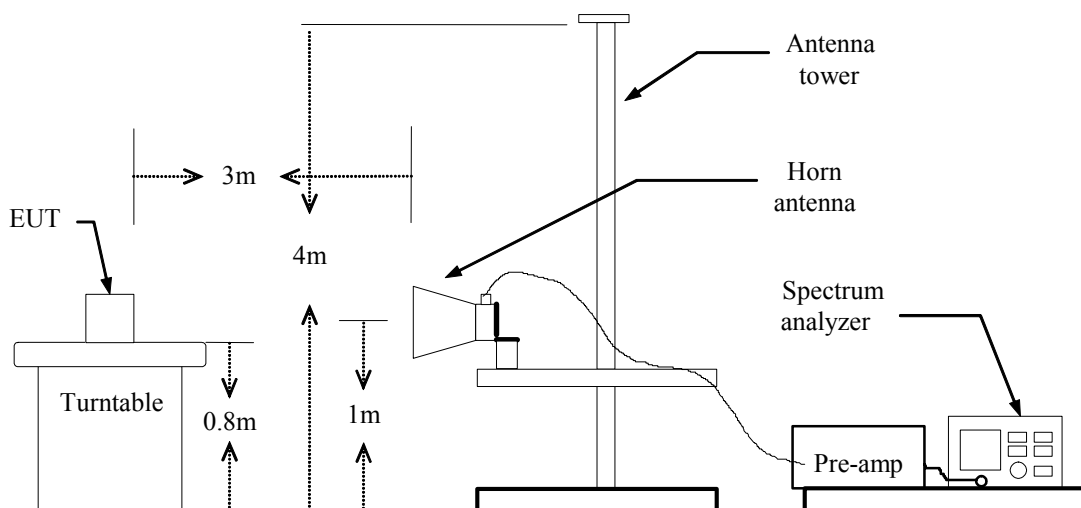
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

Test Configuration

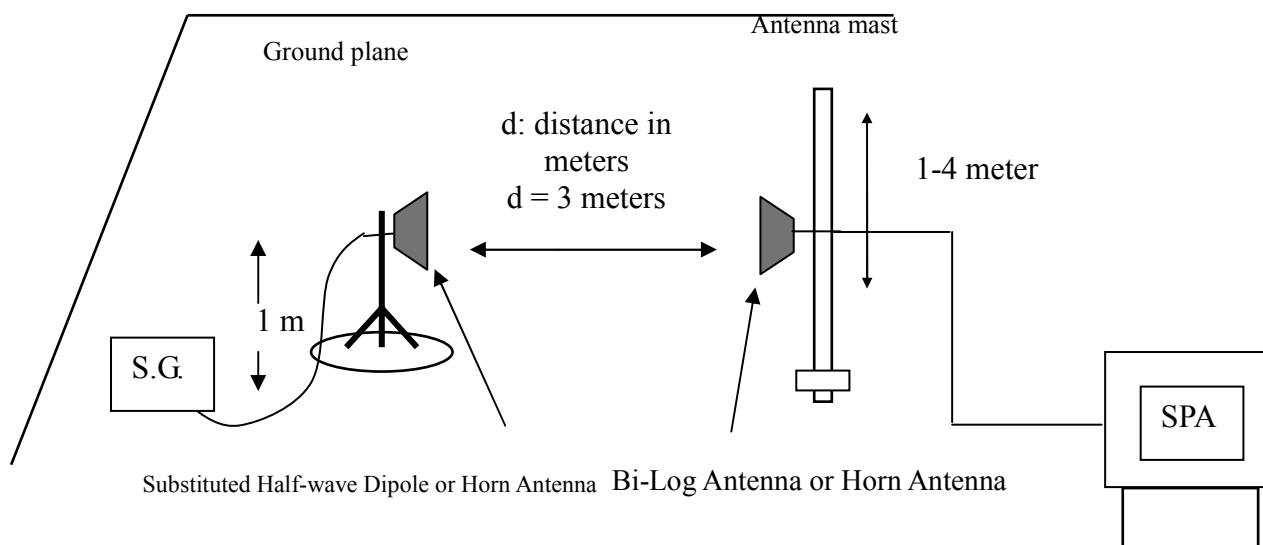
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

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

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

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

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

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

TEST RESULTS

No non-compliance noted.

**GSM 850 Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.20	V	-5.52	35.66	30.14	38.00	-8.36
	824.20	H	-7.70	35.10	27.39	38.00	-11.11
190	836.60	V	-4.41	35.38	*30.96	38.00	-7.54
	836.60	H	-7.59	35.07	27.48	38.00	-11.02
251	848.80	V	-5.41	35.24	29.83	38.00	-8.67
	848.80	H	-8.27	35.20	26.93	38.00	-11.57

GPRS 850 Test Data

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.20	V	-5.80	35.65	29.85	38.00	-8.65
	824.20	H	-7.85	35.10	27.25	38.00	-11.25
190	836.60	V	-4.81	35.38	*30.57	38.00	-7.93
	836.60	H	-8.01	35.07	27.06	38.00	-11.44
251	848.80	V	-5.84	35.24	29.40	38.00	-9.10
	848.80	H	-8.38	35.20	26.82	38.00	-11.68

GSM 1900 Test Data

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	-21.45	42.27	20.82	33.00	-12.18
	1850.20	H	-13.04	42.51	*29.47	33.00	-3.53
661	1880.00	V	-20.18	42.16	21.98	33.00	-11.02
	1880.00	H	-13.47	42.46	28.99	33.00	-4.01
810	1909.80	V	-21.47	42.03	20.56	33.00	-12.44
	1909.80	H	-14.39	42.38	27.99	33.00	-5.01

GPRS 1900 Test Data

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	-21.71	42.28	20.57	33.00	-12.43
	1850.20	H	-13.05	42.51	*29.46	33.00	-3.54
661	1880.00	V	-20.29	42.16	21.87	33.00	-11.13
	1880.00	H	-13.44	42.46	29.02	33.00	-3.98
810	1909.80	V	-21.43	42.03	20.60	33.00	-12.40
	1909.80	H	-14.49	42.38	27.89	33.00	-5.11

**EDGE 850 Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.20	V	-10.51	35.66	25.15	38.00	-13.35
	824.20	H	-12.52	35.10	22.58	38.00	-15.92
190	836.60	V	-9.27	35.38	*26.11	38.00	-12.39
	836.60	H	-12.59	35.07	22.48	38.00	-16.02
810	1909.80	V	-10.32	35.24	24.92	38.00	-13.58
	1909.80	H	-12.80	35.20	22.40	38.00	-16.10

EDGE 1900 Test Data

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	-23.96	42.27	18.32	33.00	-14.68
	1850.20	H	-15.51	42.51	27.00	33.00	-6.00
661	1880.00	V	-22.39	42.16	19.77	33.00	-13.23
	1880.00	H	-15.42	42.46	*27.04	33.00	-5.96
810	1909.80	V	-24.56	42.03	17.47	33.00	-15.53
	1909.80	H	-16.81	42.38	25.57	33.00	-7.43

WCDMA BAND II TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	-27.57	42.27	14.70	33.00	-18.30
	1852.40	H	-18.51	42.51	*24.00	33.00	-9.00
9400	1880.00	V	-27.97	42.16	14.19	33.00	-18.81
	1880.00	H	-19.72	42.46	22.74	33.00	-10.26
9538	1909.80	V	-27.60	42.04	14.44	33.00	-18.56
	1909.80	H	-20.42	42.39	21.96	33.00	-11.04

**WCDMA / HSDPA BAND II TEST DATA**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	-27.41	42.27	14.86	33.00	-18.14
	1852.40	H	-17.64	42.51	*24.86	33.00	-8.14
9400	1880.00	V	-26.84	42.16	15.32	33.00	-17.68
	1880.00	H	-18.95	42.46	23.51	33.00	-9.49
9538	1909.80	V	-26.84	42.05	15.21	33.00	-17.79
	1909.80	H	-19.63	42.39	22.76	33.00	-10.24

WCDMA / HSUPA BAND II TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	-25.28	42.27	16.99	33.00	-16.01
	1852.40	H	-16.25	42.51	*26.26	33.00	-6.74
9400	1880.00	V	-25.88	42.17	16.29	33.00	-16.71
	1880.00	H	-17.61	42.46	24.85	33.00	-8.15
9538	1909.80	V	-25.39	42.05	16.66	33.00	-16.34
	1909.80	H	-18.63	42.39	23.76	33.00	-9.24

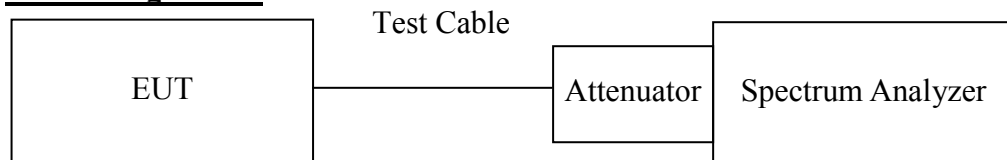


7.4 OCCUPIED BANDWIDTH MEASUREMENT

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	242.6394
	190	836.600	243.2529
	251	848.780	242.4409
GPRS 850 (Class 10)	128	824.200	245.3480
	190	836.600	246.1703
	251	848.780	242.8221
EDGE 850 (Class B)	128	824.200	240.1795
	190	836.600	243.7489
	251	848.780	243.4124

Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)
GSM 1900 (Class B)	512	1850.200	245.2164
	661	1880.000	238.5850
	810	1909.800	248.0209
GPRS 1900 (Class 10)	512	1850.200	234.4162
	661	1880.000	235.2955
	810	1909.800	240.3588
EDGE 1900 (Class 10)	512	1850.200	240.9169
	661	1880.000	239.4610
	810	1909.800	242.8788



Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.1638
	9400	1880.00	4.1893
	9538	1907.60	4.1787

Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA / HSDPA (BAND II)	9262	1852.40	4.1668
	9400	1880.00	4.1945
	9538	1907.60	4.1916

Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA / HSUPA (BAND II)	9262	1852.40	4.1696
	9400	1880.00	4.1979
	9538	1907.60	4.1761

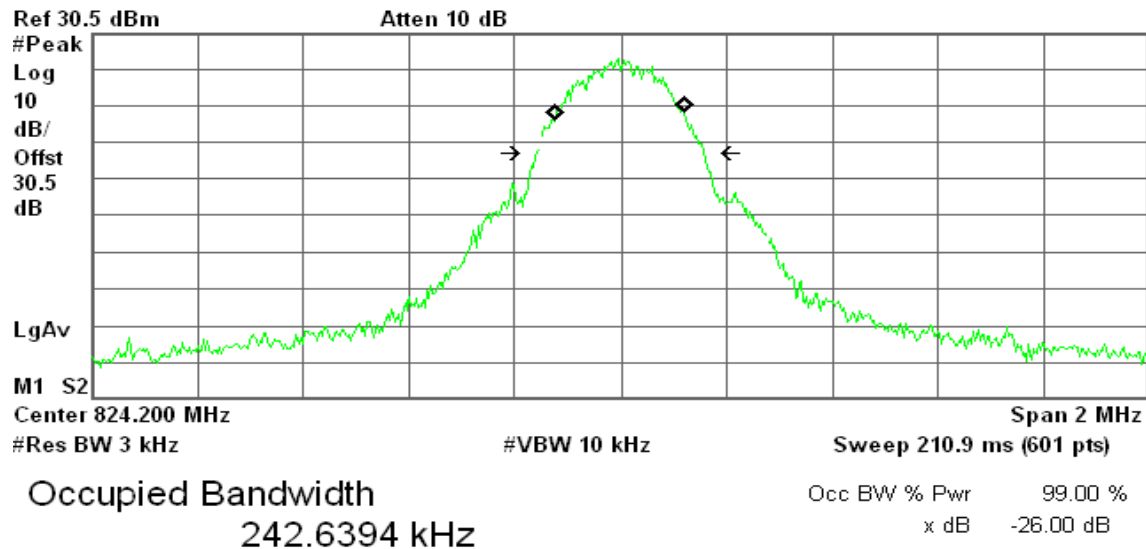


Test Plot

GSM 850 (CH Low)

Agilent 18:09:24 Jun 15, 2009

R T

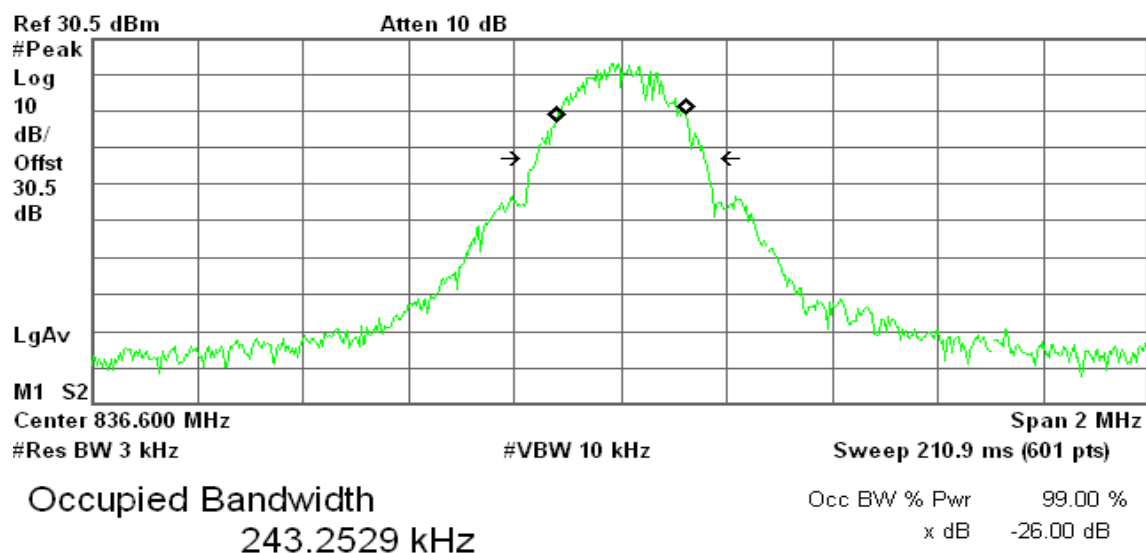


Transmit Freq Error -1.567 kHz
x dB Bandwidth 315.863 kHz

GSM 850 (CH Mid)

Agilent 18:17:29 Jun 15, 2009

R T

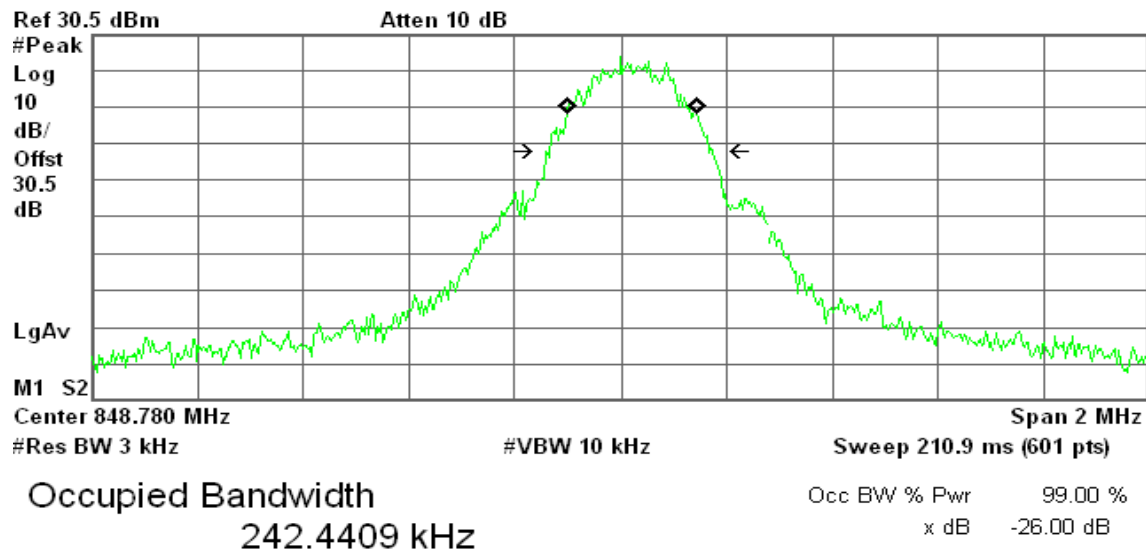


Transmit Freq Error 1.043 kHz
x dB Bandwidth 314.612 kHz

**GSM 850 (CH High)**

* Agilent 18:17:50 Jun 15, 2009

R T

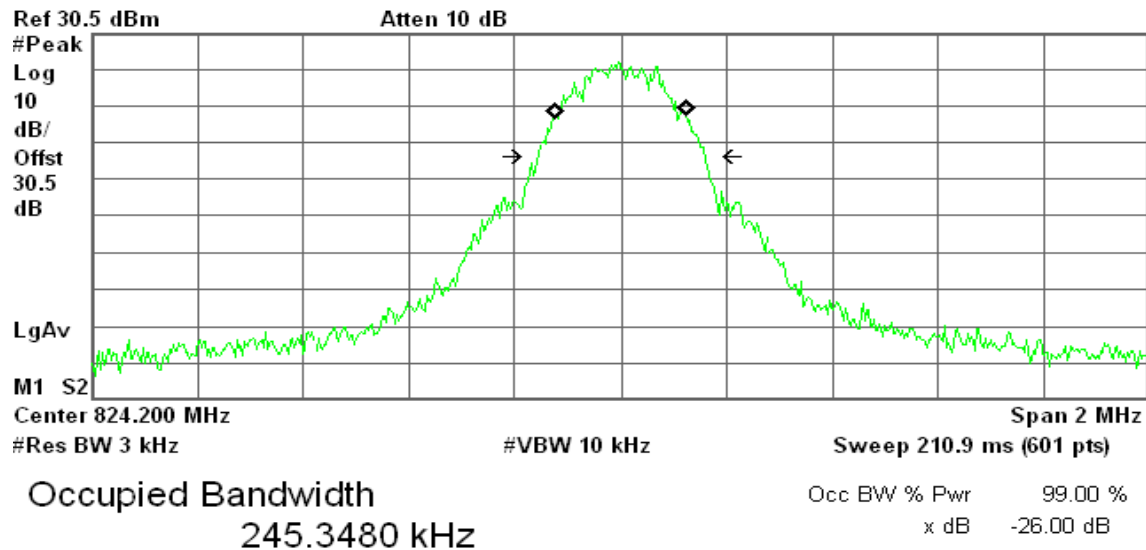


Transmit Freq Error 20.791 kHz
x dB Bandwidth 307.349 kHz

GPRS 850 (CH Low)

* Agilent 18:09:37 Jun 15, 2009

R T



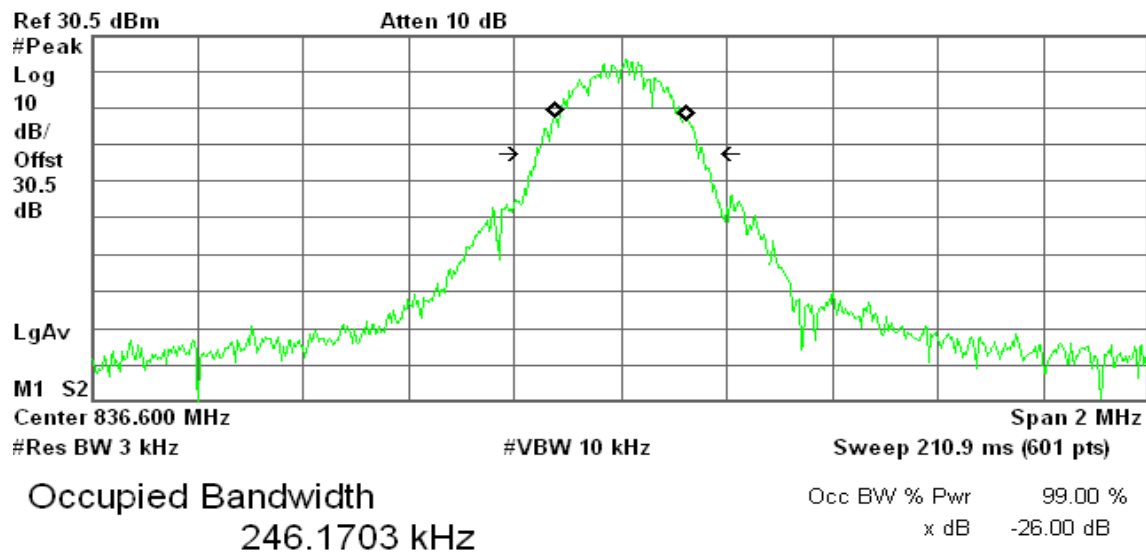
Transmit Freq Error 830.963 Hz
x dB Bandwidth 313.866 kHz



GPRS 850 (CH Mid)

Agilent 18:17:15 Jun 15, 2009

R T

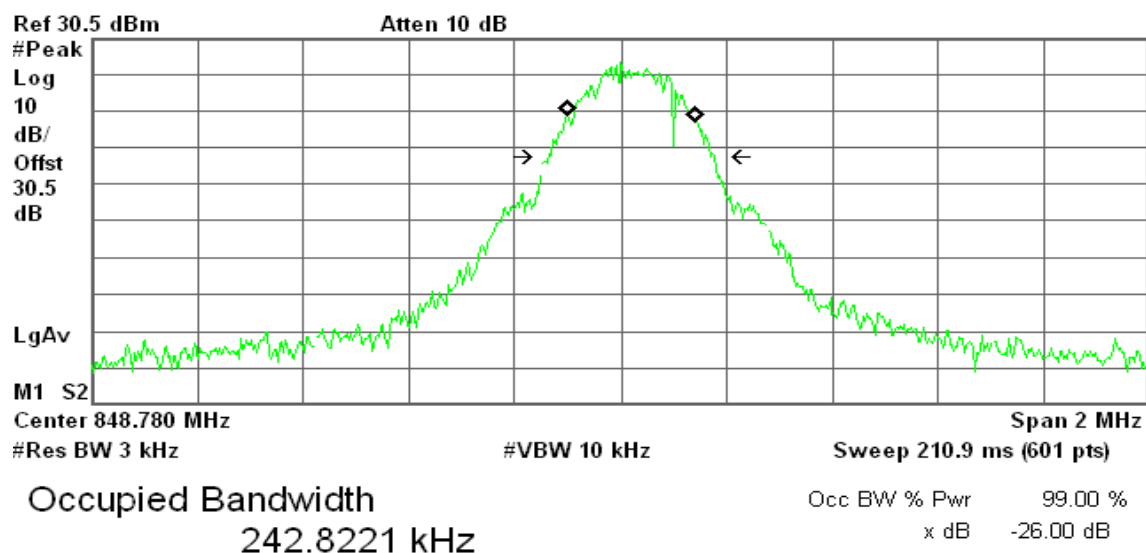


Transmit Freq Error -145.137 Hz
x dB Bandwidth 314.265 kHz

GPRS 850(CH High)

Agilent 18:18:02 Jun 15, 2009

R T



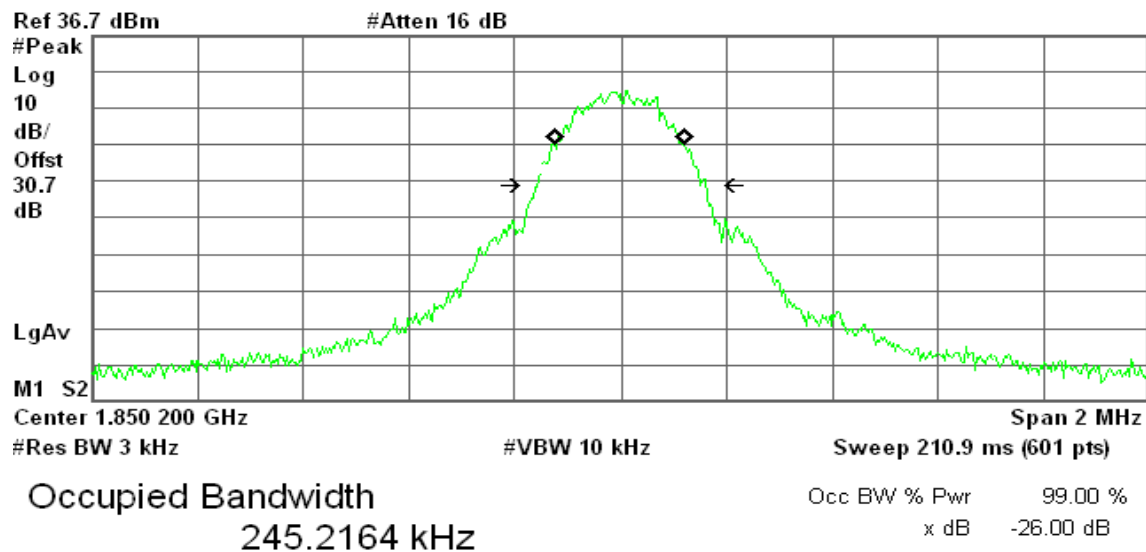
Transmit Freq Error 19.892 kHz
x dB Bandwidth 311.879 kHz



GSM 1900 (CH Low)

Agilent 18:54:51 Jun 15, 2009

R T

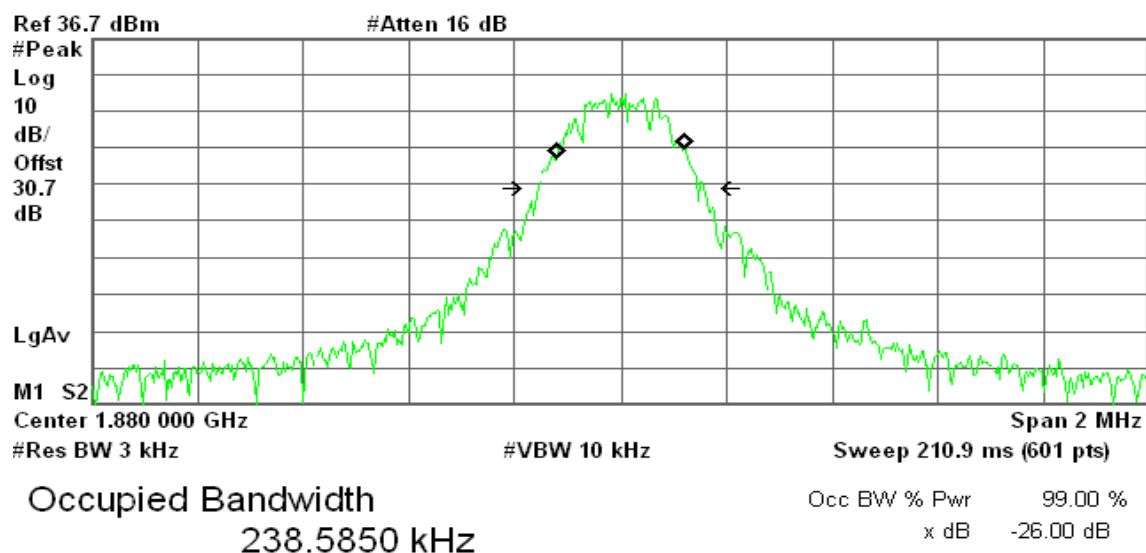


Transmit Freq Error -1.454 kHz
x dB Bandwidth 318.386 kHz

GSM 1900 (CH Mid)

Agilent 19:01:30 Jun 15, 2009

R T



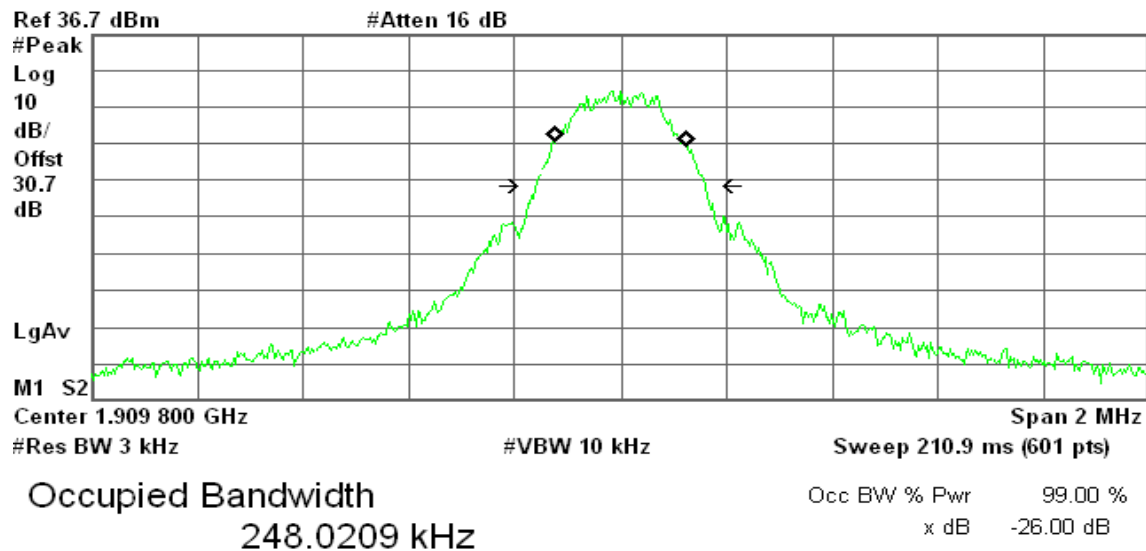
Transmit Freq Error 420.521 Hz
x dB Bandwidth 311.323 kHz



GSM 1900 (CH High)

Agilent 18:58:28 Jun 15, 2009

R T

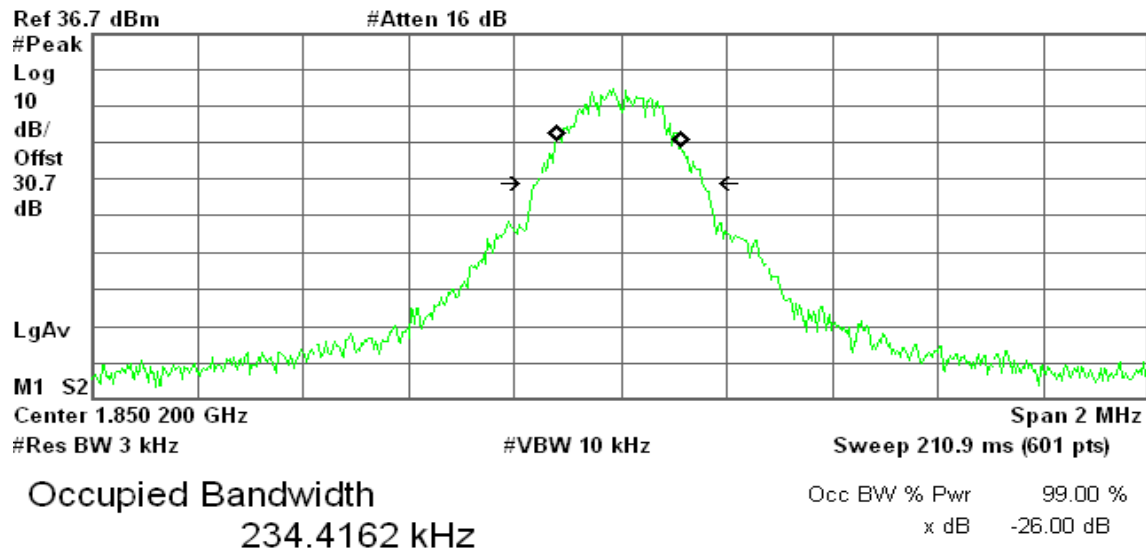


Transmit Freq Error -640.290 Hz
x dB Bandwidth 319.454 kHz

GPRS 1900 (CH Low)

Agilent 18:55:04 Jun 15, 2009

R T



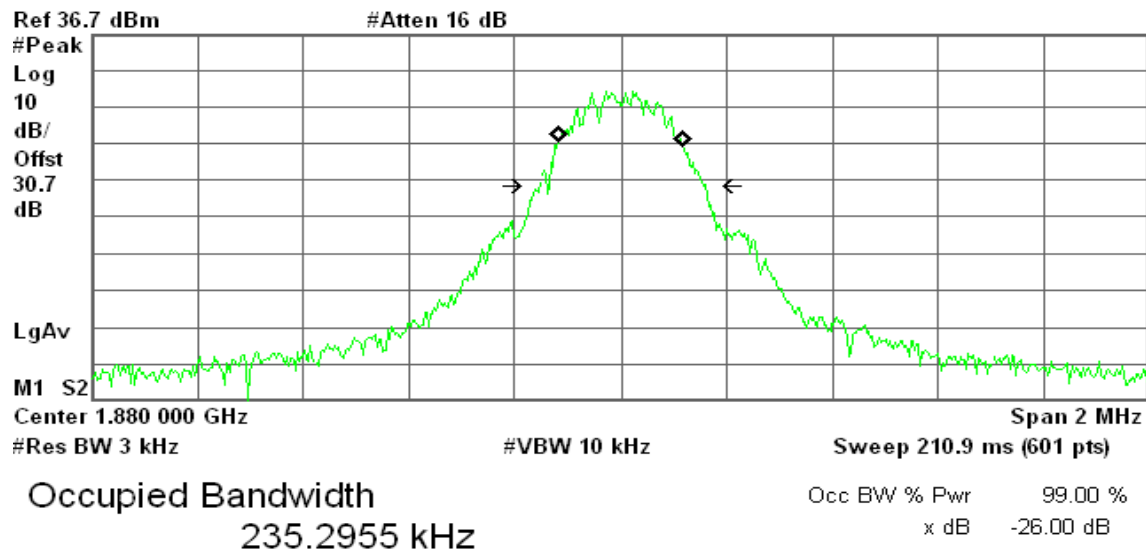
Transmit Freq Error -3.652 kHz
x dB Bandwidth 310.259 kHz



GPRS 1900 (CH Mid)

Agilent 19:01:13 Jun 15, 2009

R T

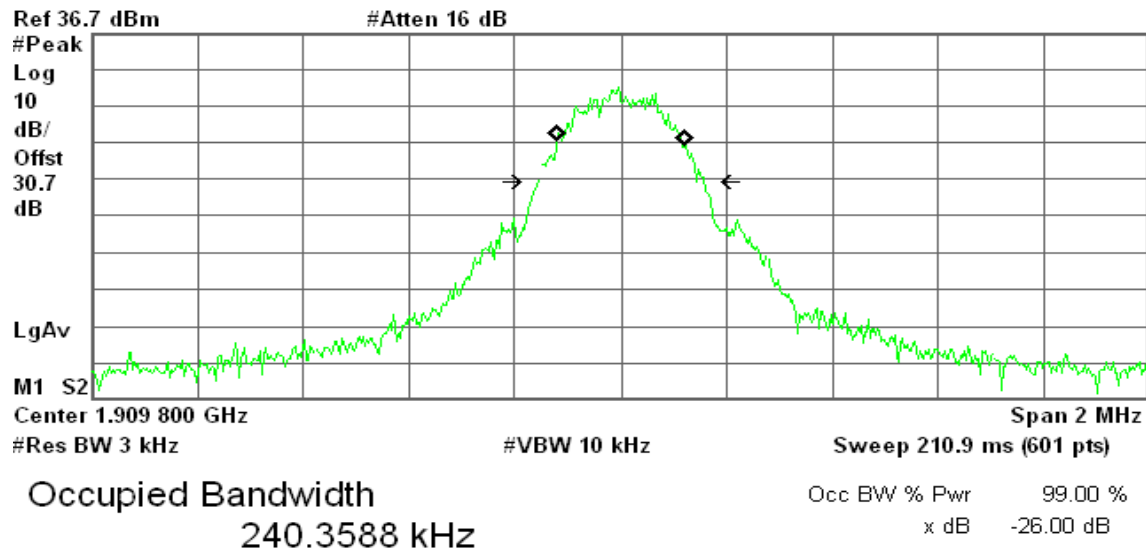


Transmit Freq Error 436.137 Hz
x dB Bandwidth 312.364 kHz

GPRS 1900 (CH High)

Agilent 18:58:46 Jun 15, 2009

R T



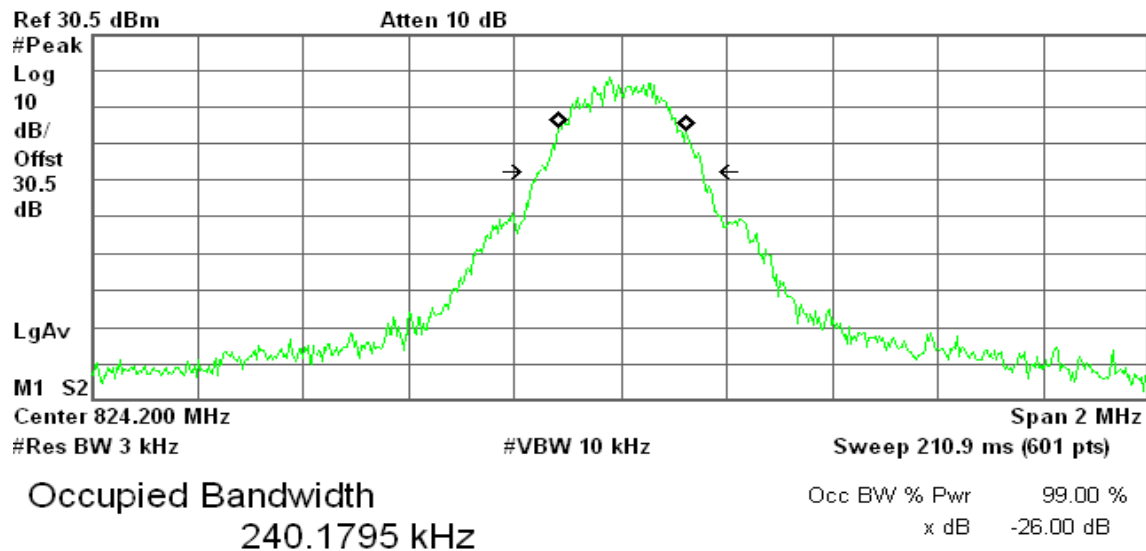
Transmit Freq Error 1.284 kHz
x dB Bandwidth 312.084 kHz



EDGE 850 (CH Low)

Agilent 18:21:37 Jun 15, 2009

R T

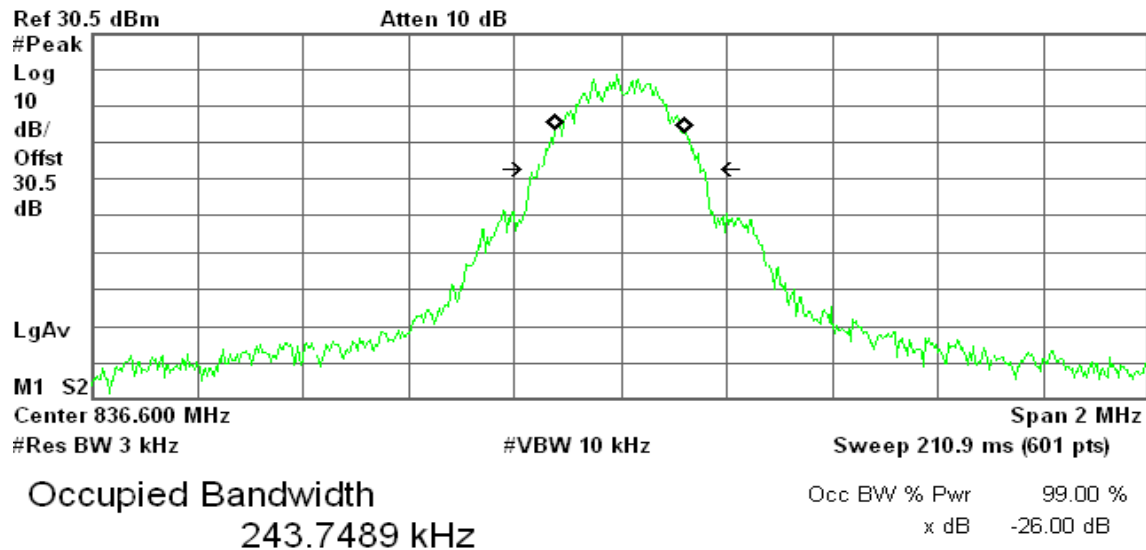


Transmit Freq Error 3.804 kHz
x dB Bandwidth 306.977 kHz

EDGE 850 (CH Mid)

Agilent 18:21:16 Jun 15, 2009

R T



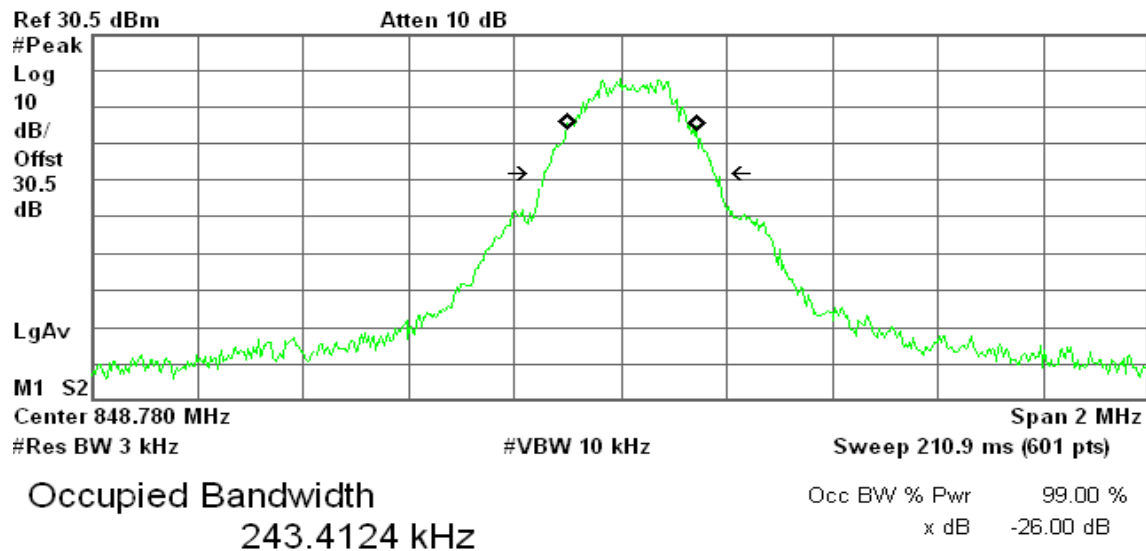
Transmit Freq Error -305.887 Hz
x dB Bandwidth 311.843 kHz



EDGE 850 (CH High)

Agilent 18:20:04 Jun 15, 2009

R T

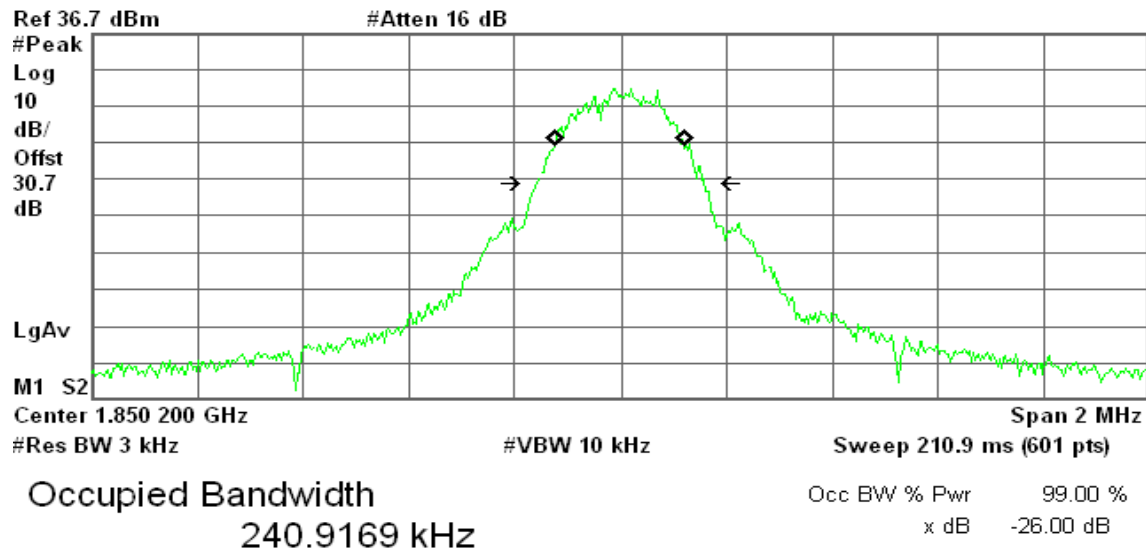


Transmit Freq Error 20.055 kHz
x dB Bandwidth 321.812 kHz

EDGE 1900 (CH Low)

Agilent 19:04:00 Jun 15, 2009

R T

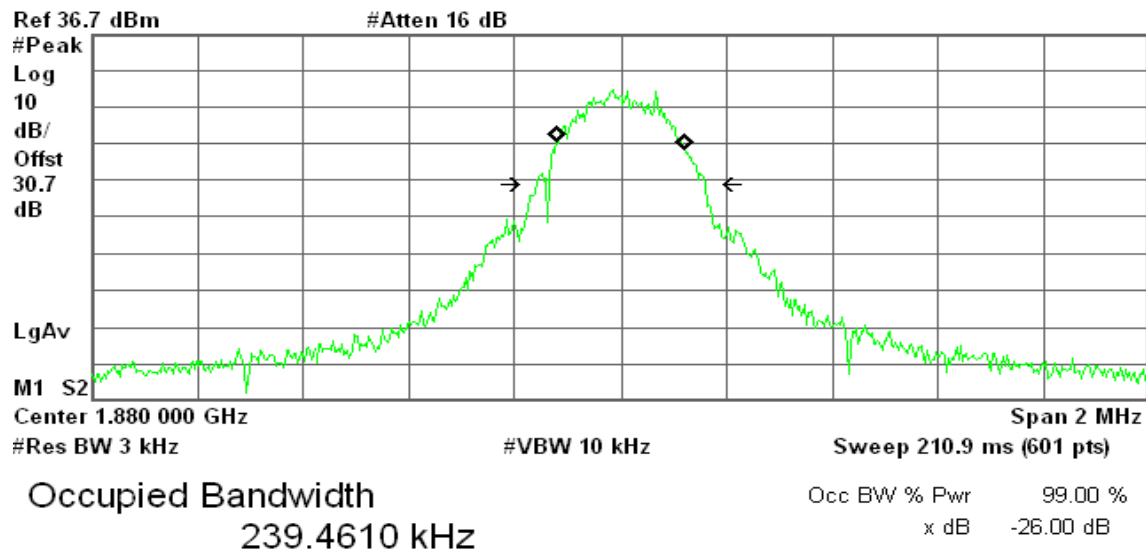


Transmit Freq Error -1.433 kHz
x dB Bandwidth 315.818 kHz

**EDGE 1900 (CH Mid)**

* Agilent 19:02:45 Jun 15, 2009

R T

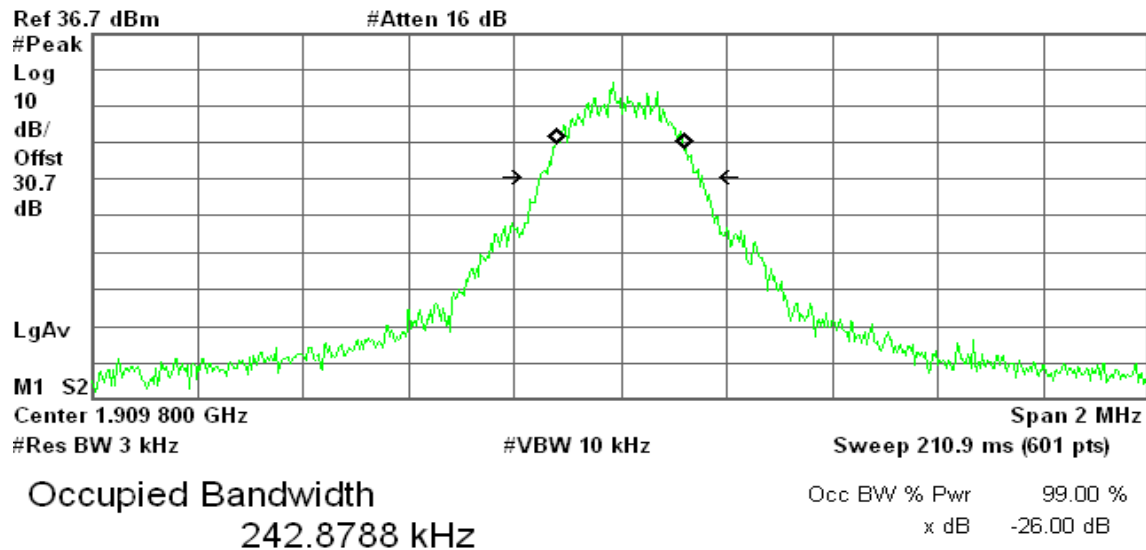


Transmit Freq Error 988.341 Hz
x dB Bandwidth 318.705 kHz

EDGE 1900 (CH High)

* Agilent 19:04:27 Jun 15, 2009

R T



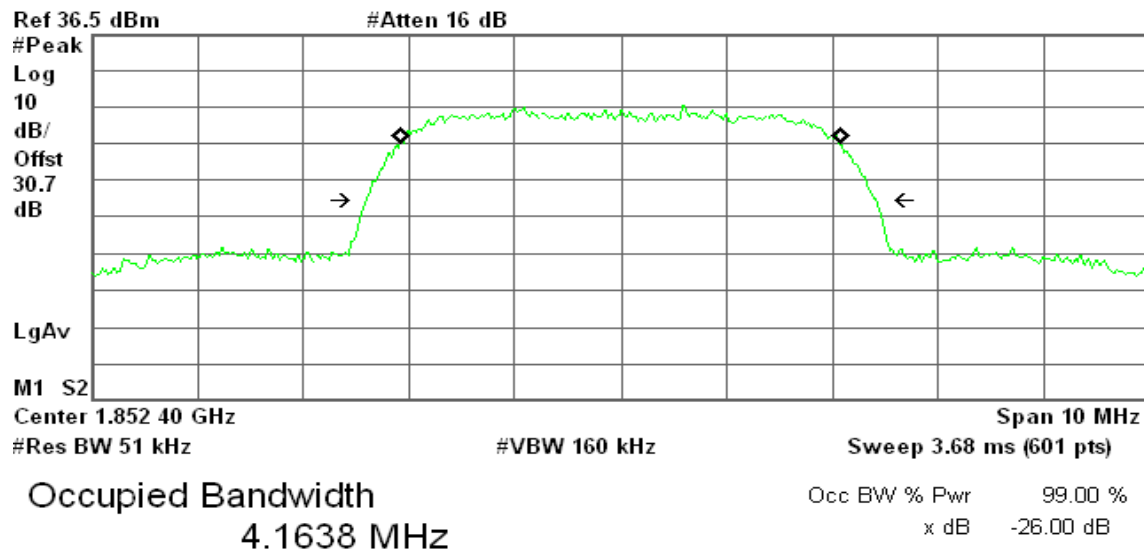
Transmit Freq Error 6.334 Hz
x dB Bandwidth 305.763 kHz



WCDMA Band II (CH Low)

* Agilent 19:38:43 Jun 15, 2009

R T

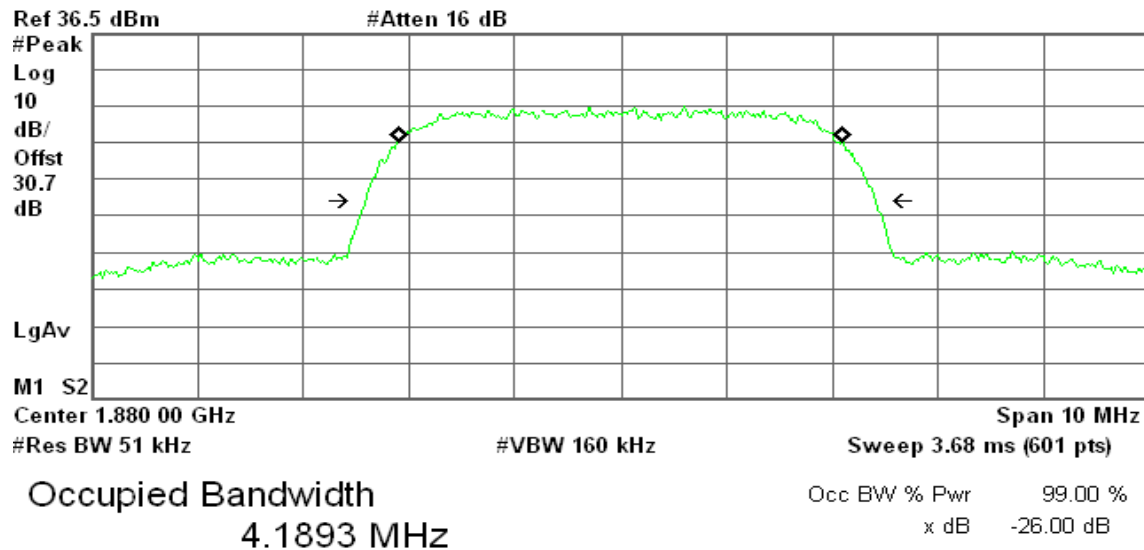


Transmit Freq Error -5.656 kHz
x dB Bandwidth 4.832 MHz

WCDMA Band II (CH Mid)

* Agilent 19:40:19 Jun 15, 2009

R T



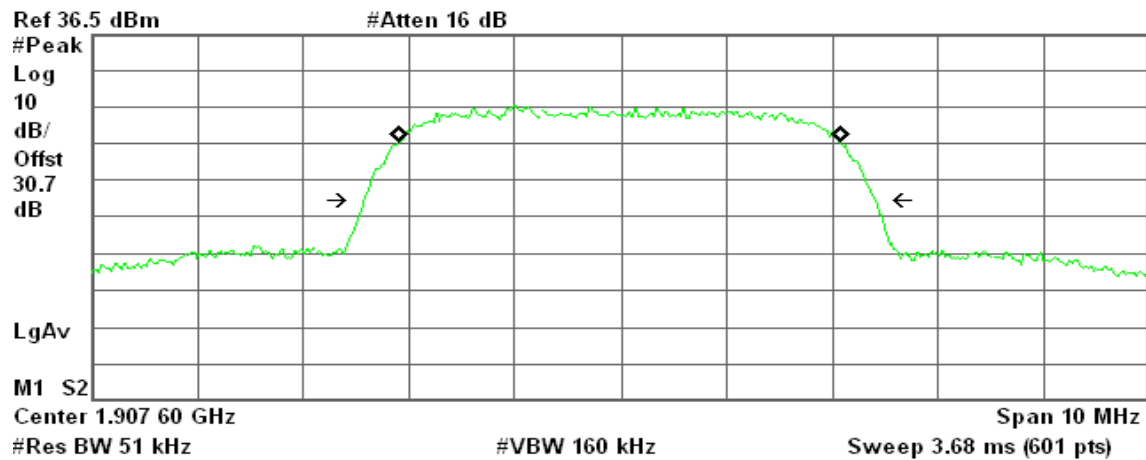
Transmit Freq Error -2.695 kHz
x dB Bandwidth 4.826 MHz



WCDMA Band II (CH High)

Agilent 19:41:03 Jun 15, 2009

R T



Occupied Bandwidth
4.1787 MHz

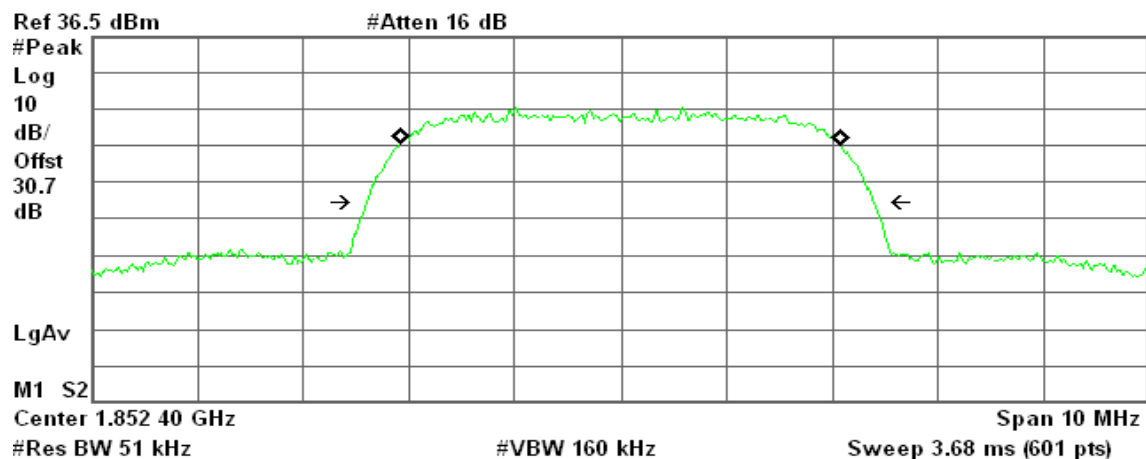
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -11.237 kHz
x dB Bandwidth 4.846 MHz

WCDMA / HSDPA Band II (CH Low)

Agilent 19:37:34 Jun 15, 2009

R T



Occupied Bandwidth
4.1668 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

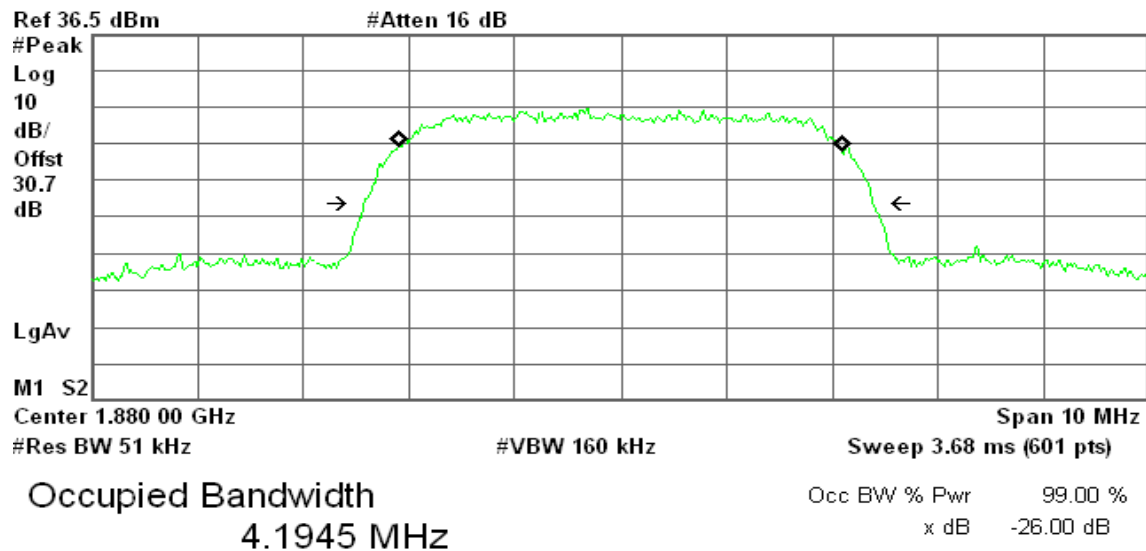
Transmit Freq Error -3.151 kHz
x dB Bandwidth 4.801 MHz



WCDMA / HSDPA Band II (CH Mid)

Agilent 19:39:54 Jun 15, 2009

R T

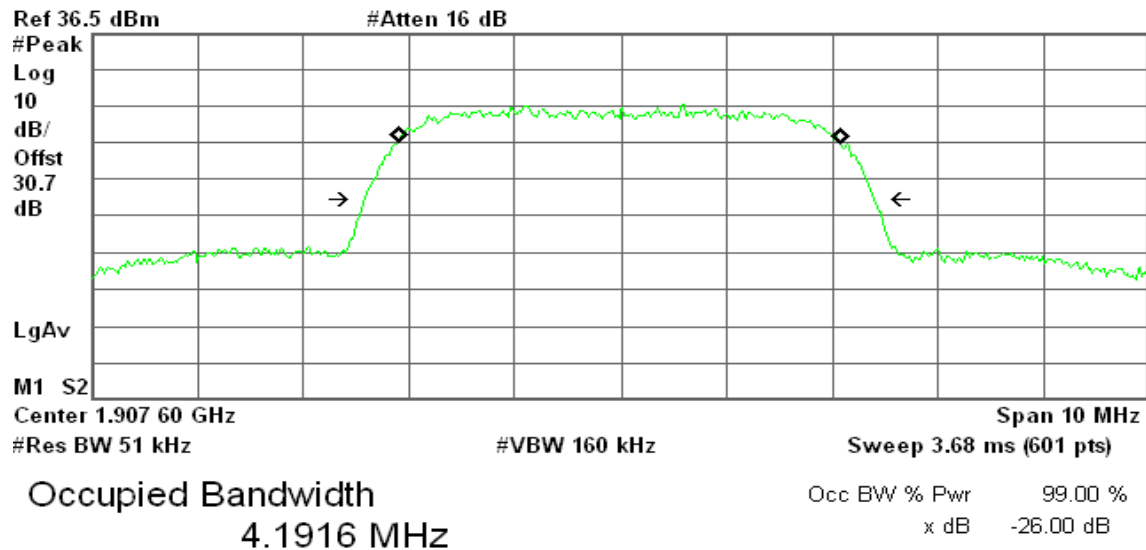


Transmit Freq Error 692.906 Hz
x dB Bandwidth 4.822 MHz

WCDMA / HSDPA Band II (CH High)

Agilent 19:41:32 Jun 15, 2009

R T



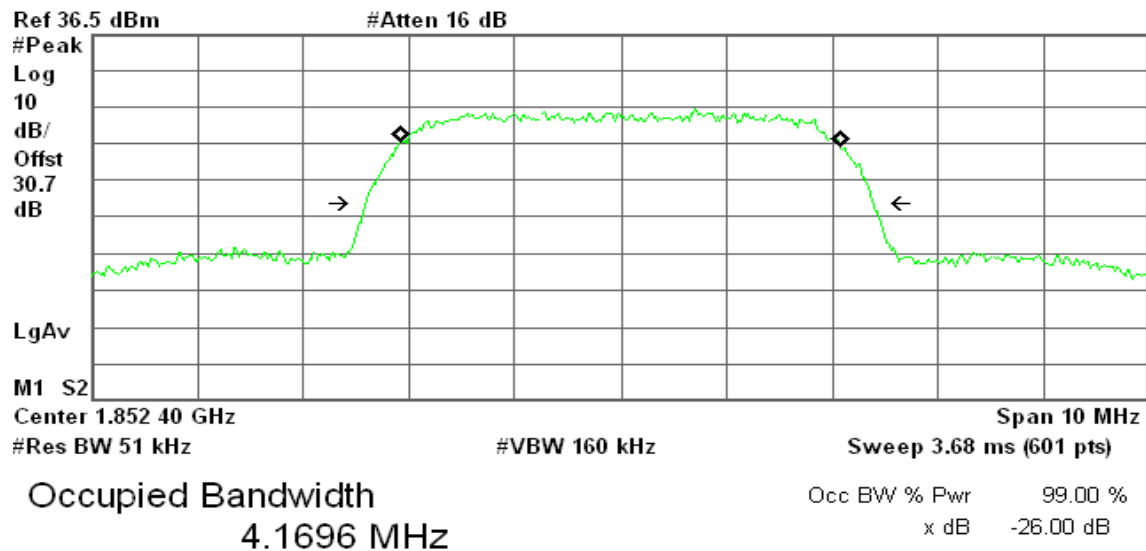
Transmit Freq Error -4.768 kHz
x dB Bandwidth 4.822 MHz



WCDMA / HSUPA Band II (CH Low)

* Agilent 19:38:30 Jun 15, 2009

R T

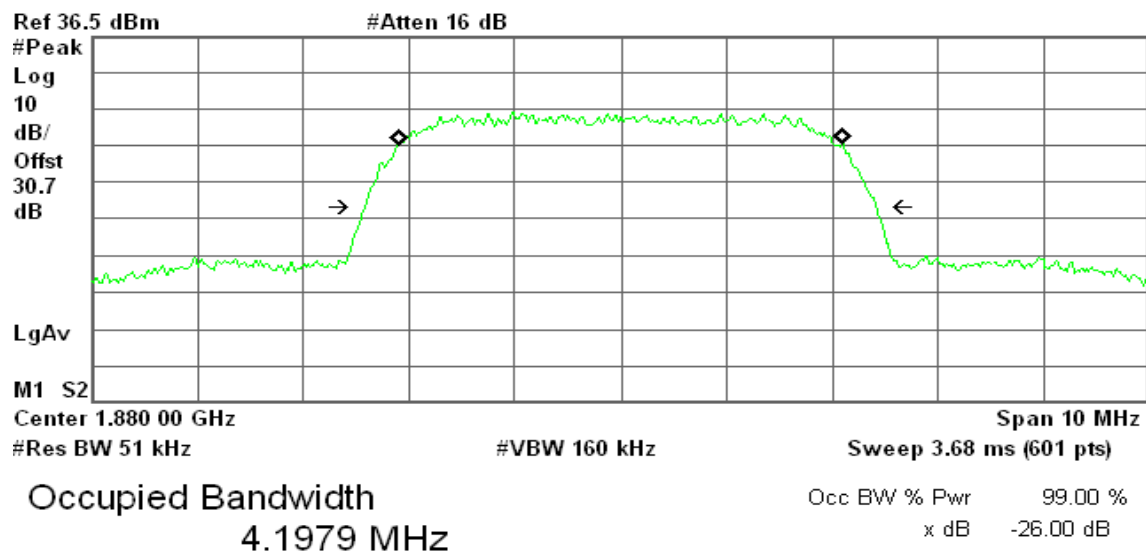


Transmit Freq Error -577.096 Hz
x dB Bandwidth 4.811 MHz

WCDMA / HSUPA Band II (CH Mid)

* Agilent 19:40:07 Jun 15, 2009

R T

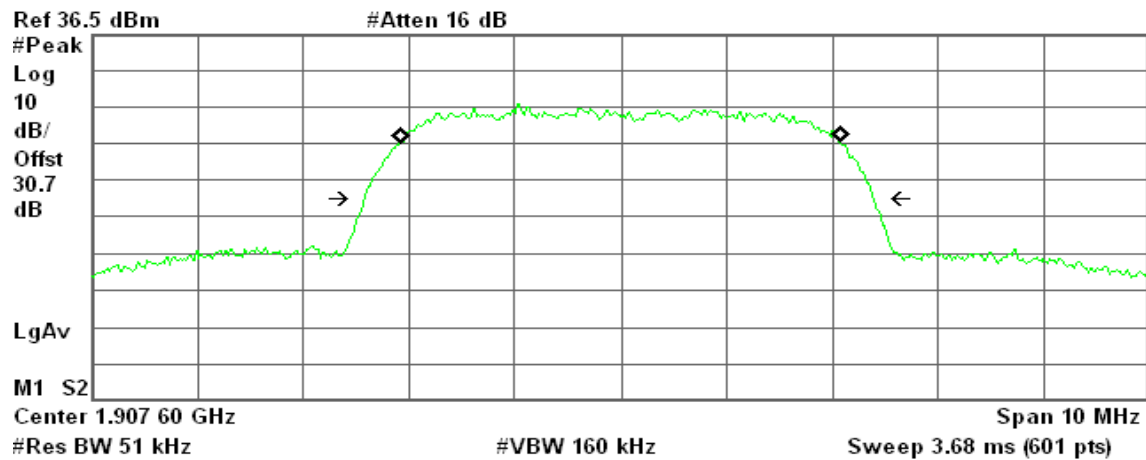


Transmit Freq Error -1.424 kHz
x dB Bandwidth 4.835 MHz

WCDMA / HSUPA Band II (CH High)

Agilent 19:41:19 Jun 15, 2009

R T



Occupied Bandwidth
4.1761 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

Transmit Freq Error	-2.833 kHz
x dB Bandwidth	4.822 MHz



7.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

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

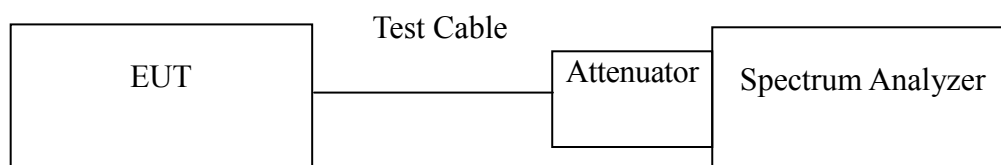
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

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

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

Test Configuration

Out of band emission at antenna terminals:



TEST PROCEDURE

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

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

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

TEST RESULTS

No non-compliance noted.

**Test Data**

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



Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 13-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 13-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 13-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 14-1	Band Edge emissions
	9538	Figure 14-2	Band Edge emissions

Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 15-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 15-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 15-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 16-1	Band Edge emissions
	9538	Figure 16-2	Band Edge emissions

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 17-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 17-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 17-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 18-1	Band Edge emissions
	9538	Figure 18-2	Band Edge emissions



Test Plot

GSM 850

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

Agilent 18:29:21 Jun 15, 2009

R T

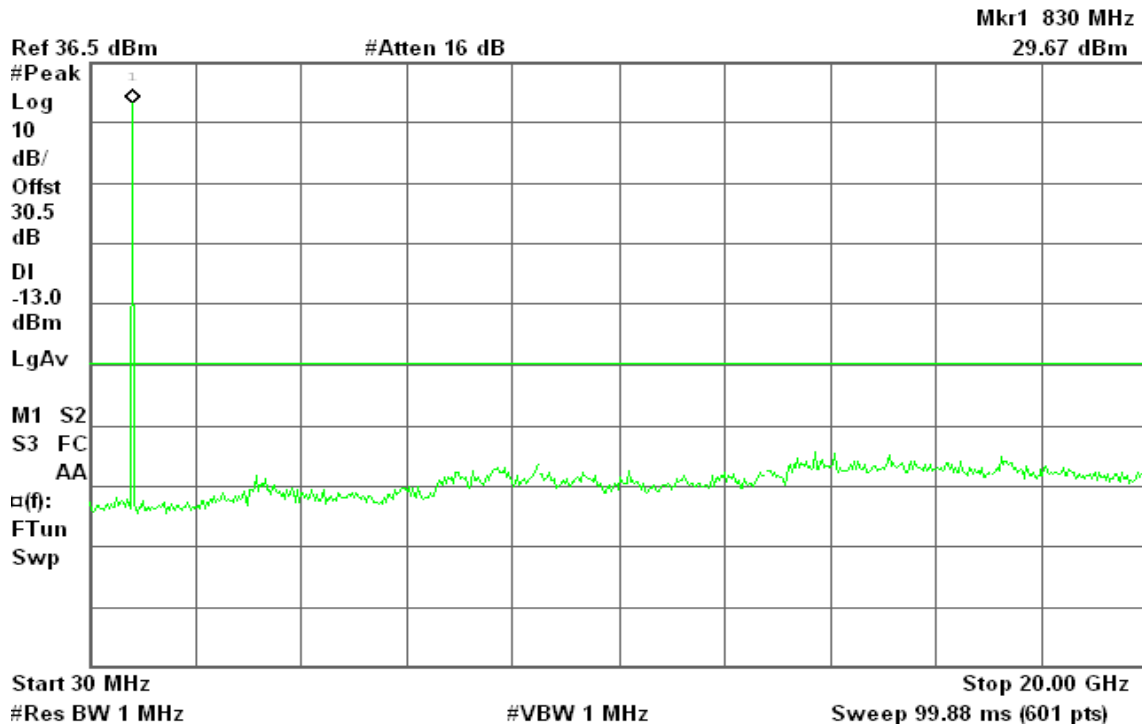


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

Agilent 18:30:00 Jun 15, 2009

R T

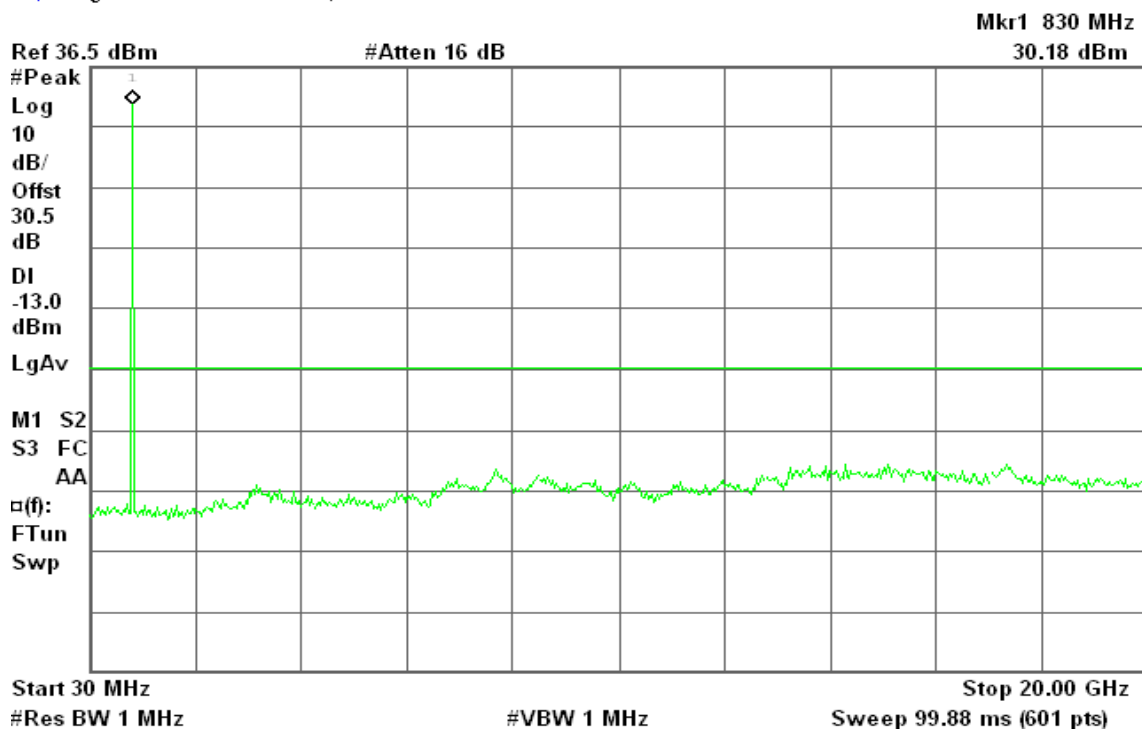
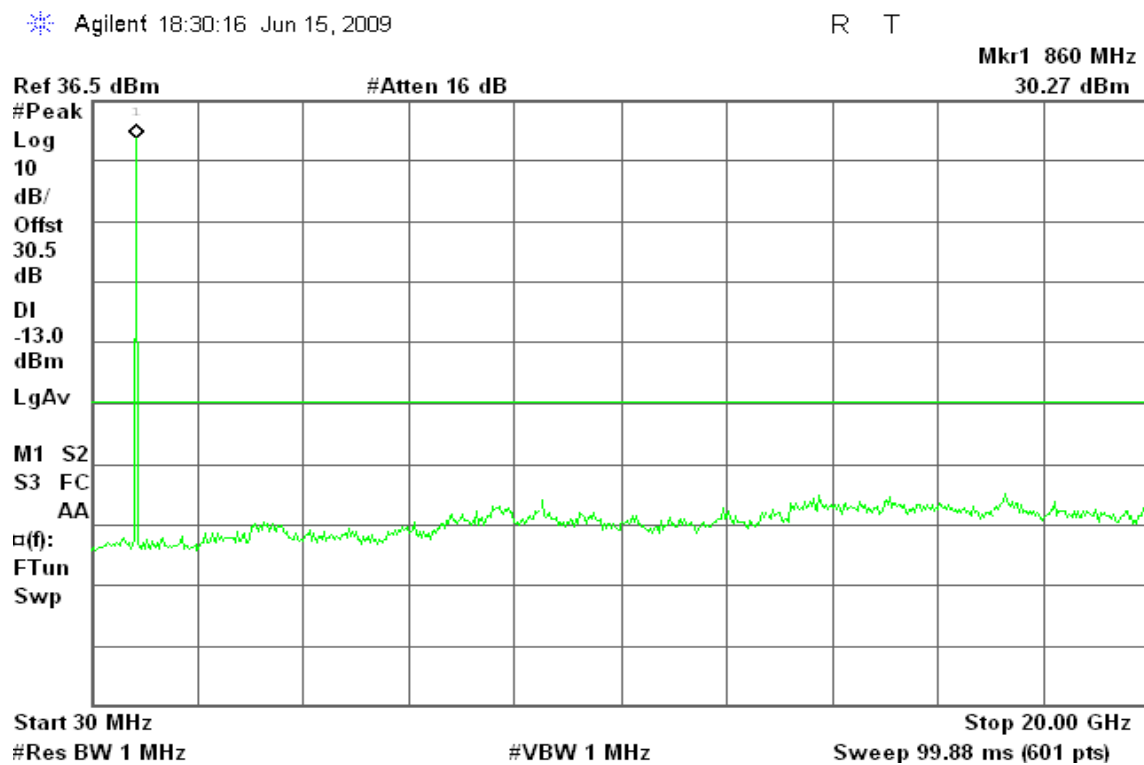




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

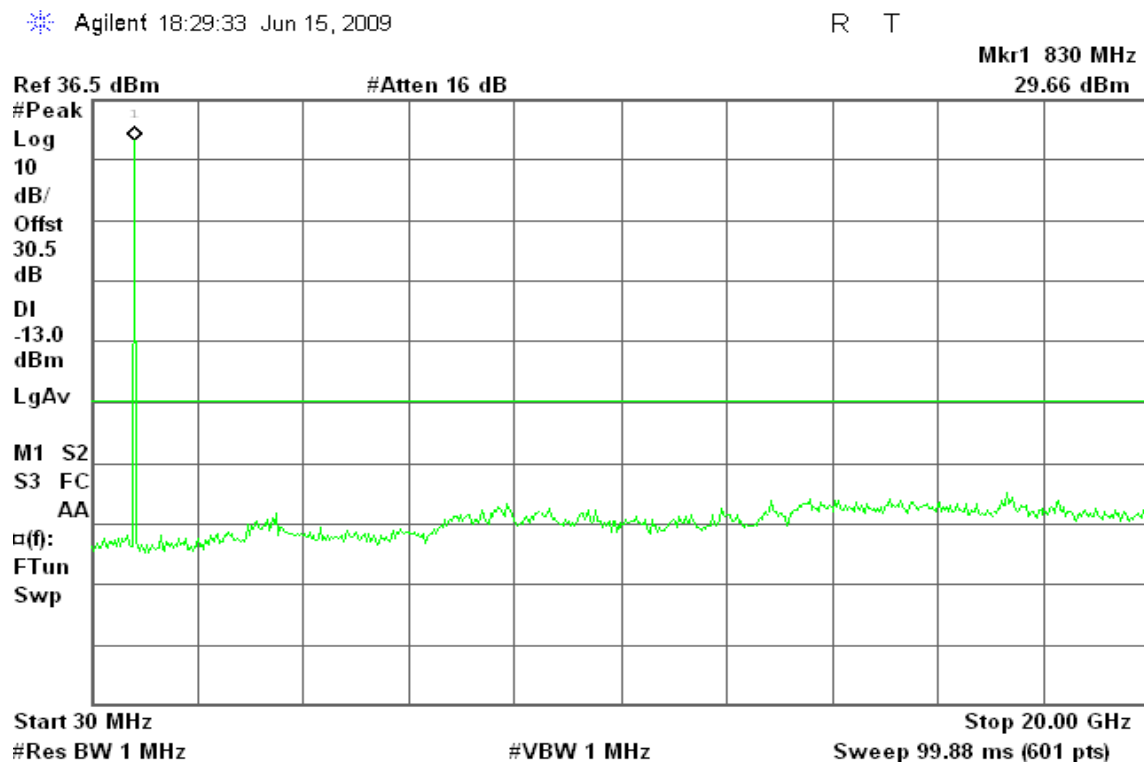




Figure 7-5: Out of Band emission at antenna terminals – GPRS CH Mid

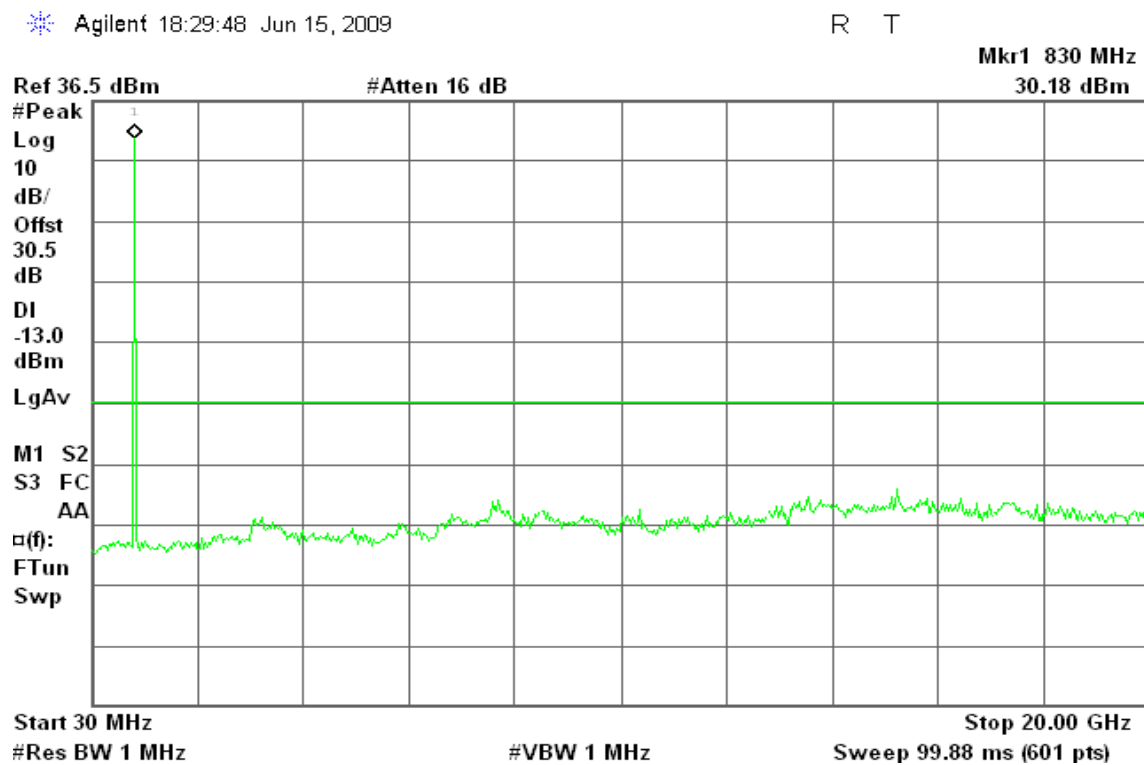
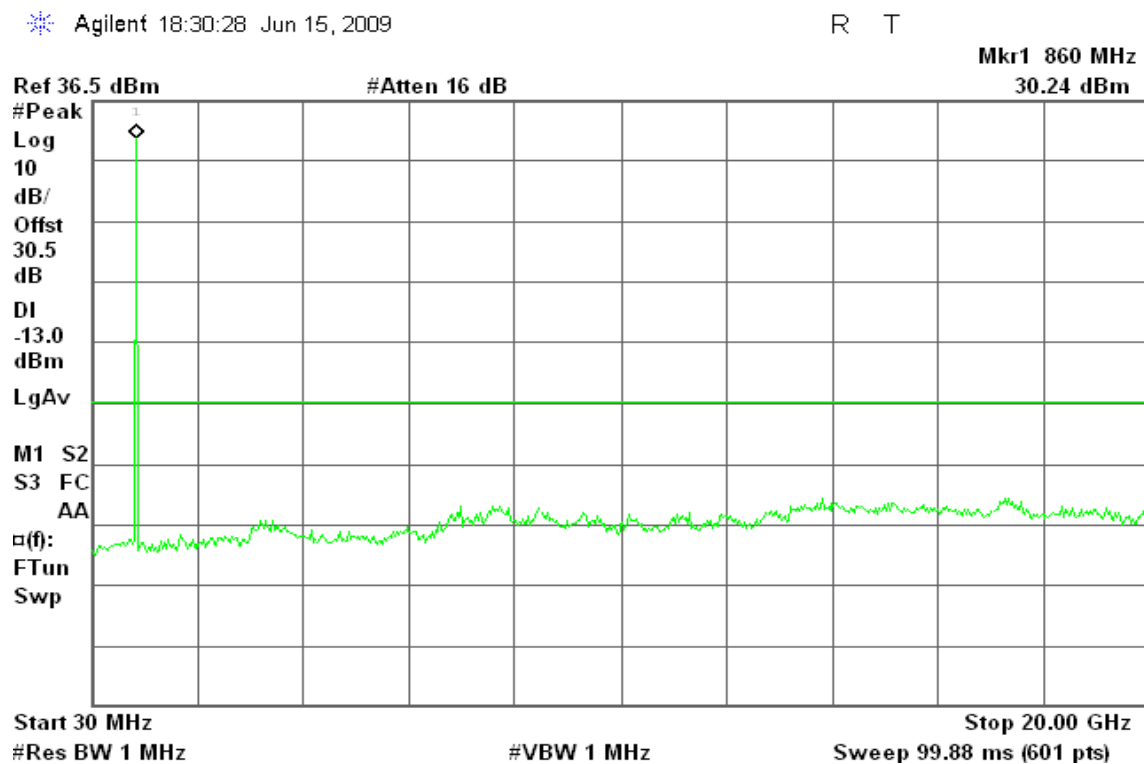


Figure 7-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 1900

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

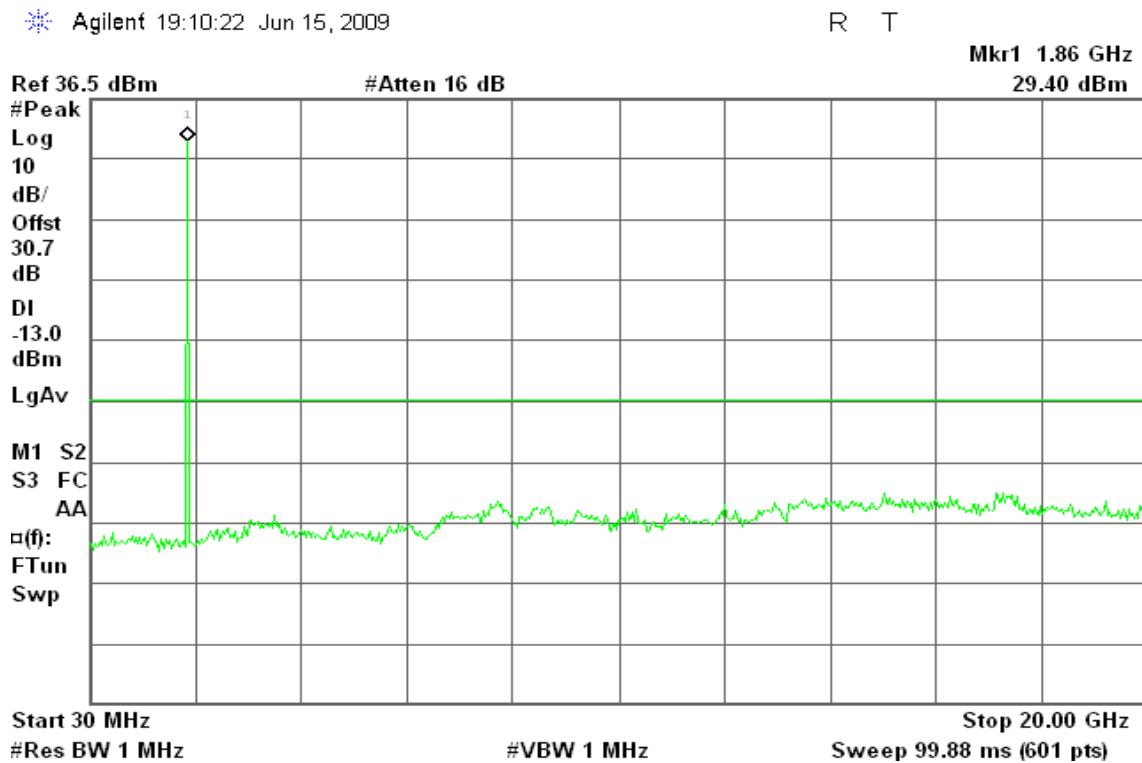


Figure 8-2: Out of Band emission at antenna terminals – GSM CH Mid

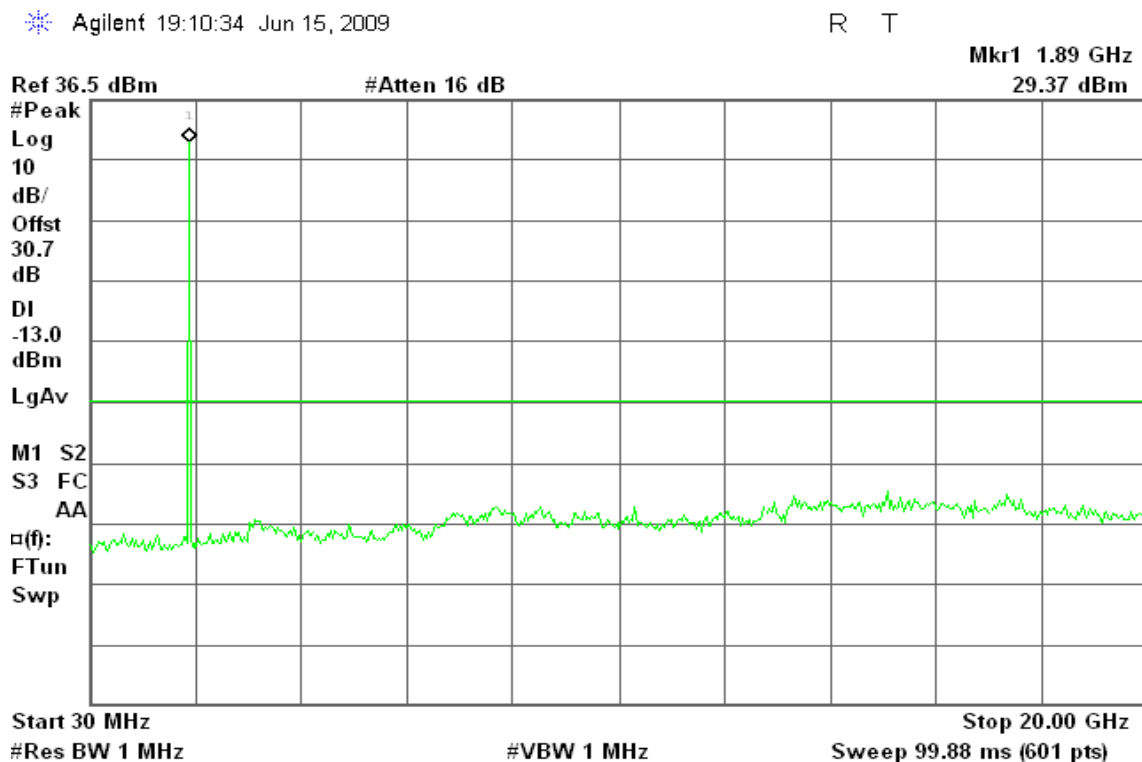
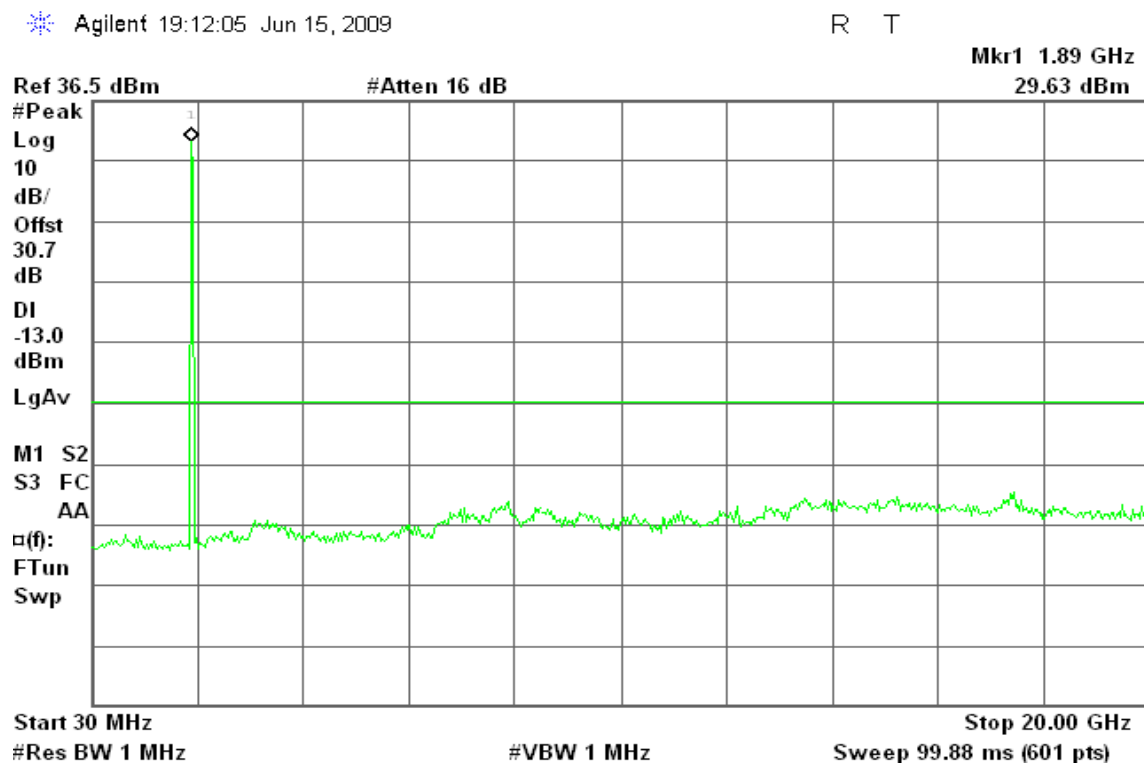




Figure 8-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

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

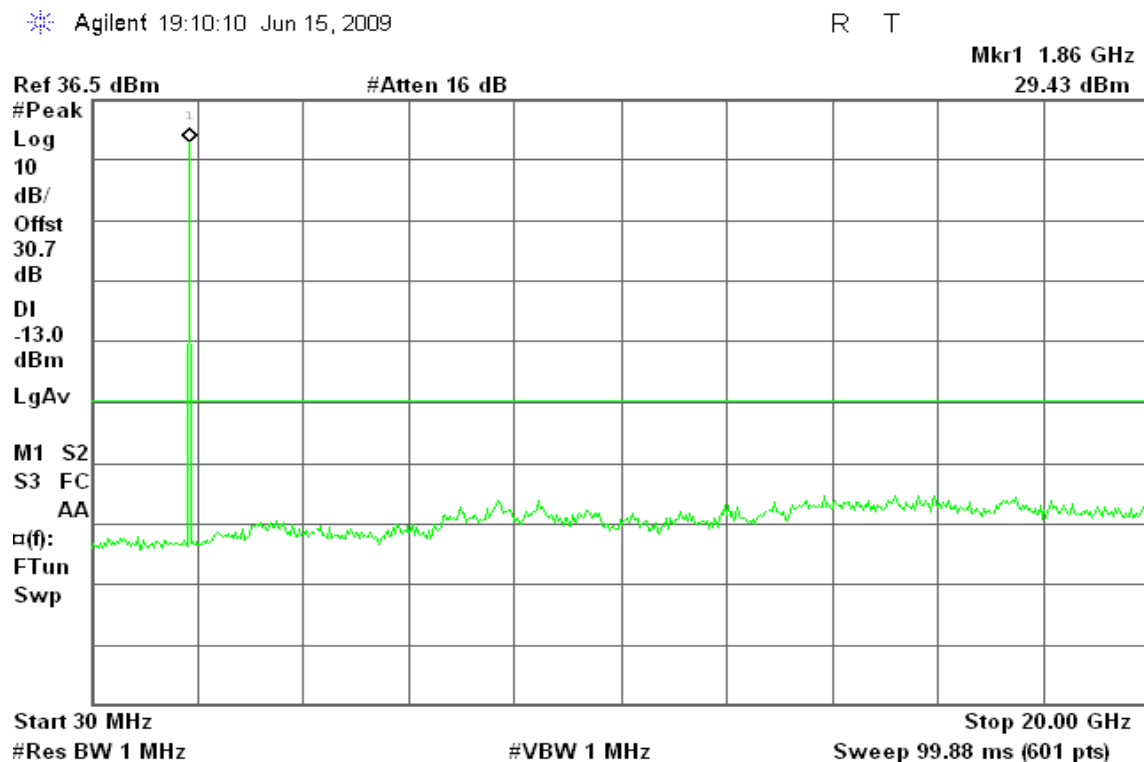




Figure 8-5: Out of Band emission at antenna terminals – GPRS CH Mid

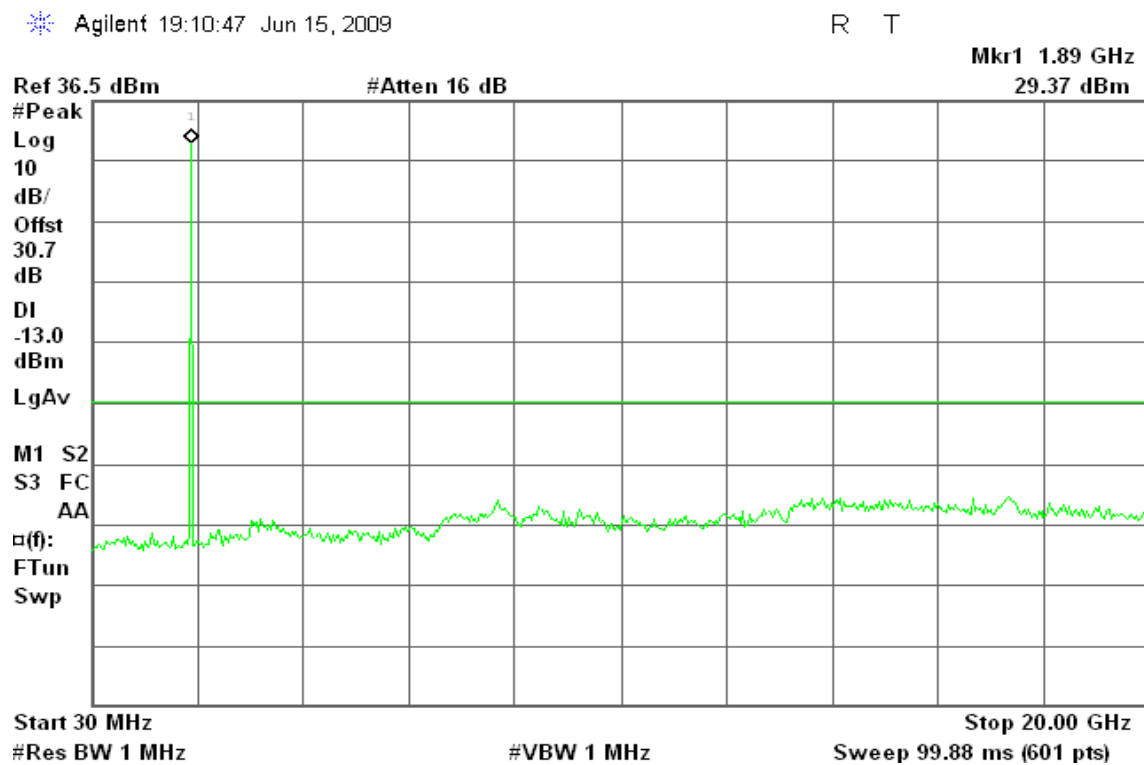
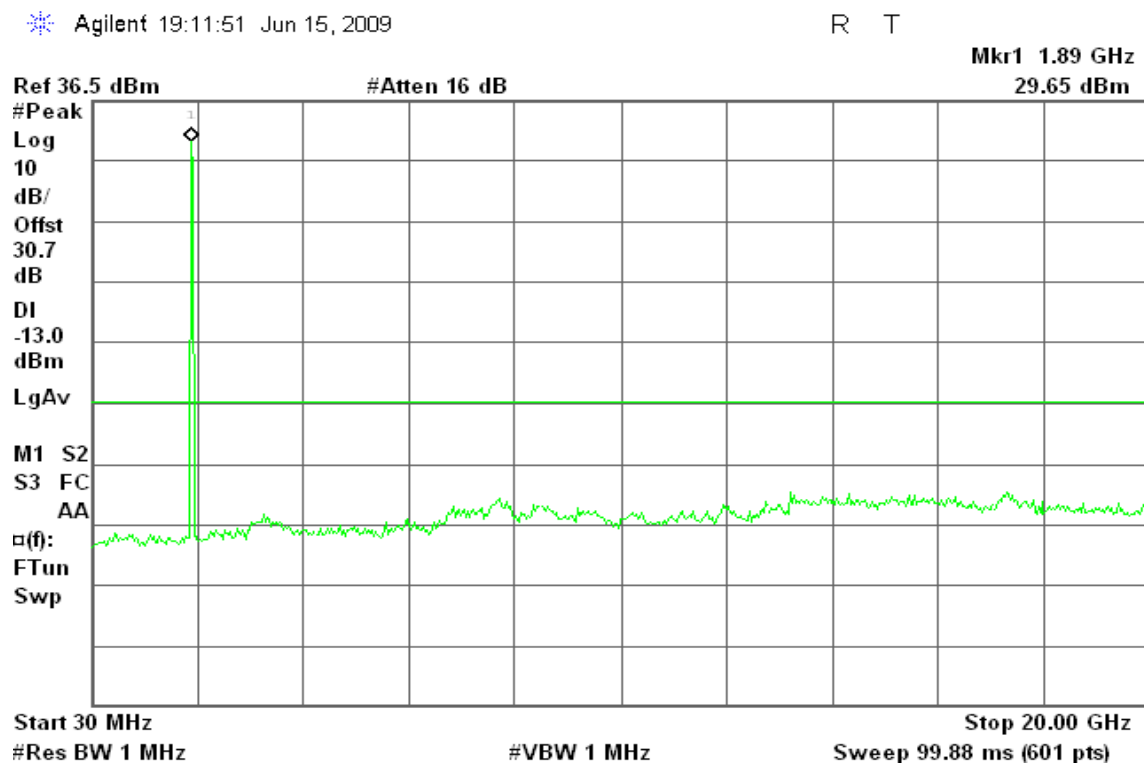


Figure 8-6: Out of Band emission at antenna terminals – GPRS CH High





GSM 850

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

Agilent 18:27:57 Jun 15, 2009

R T

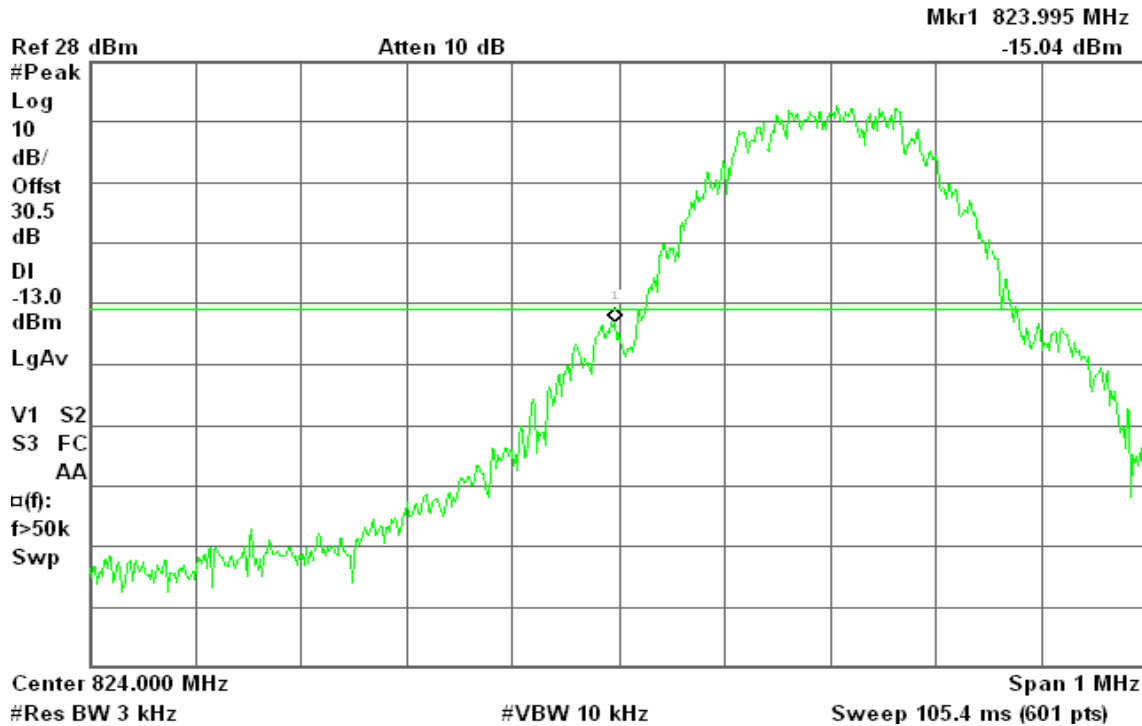
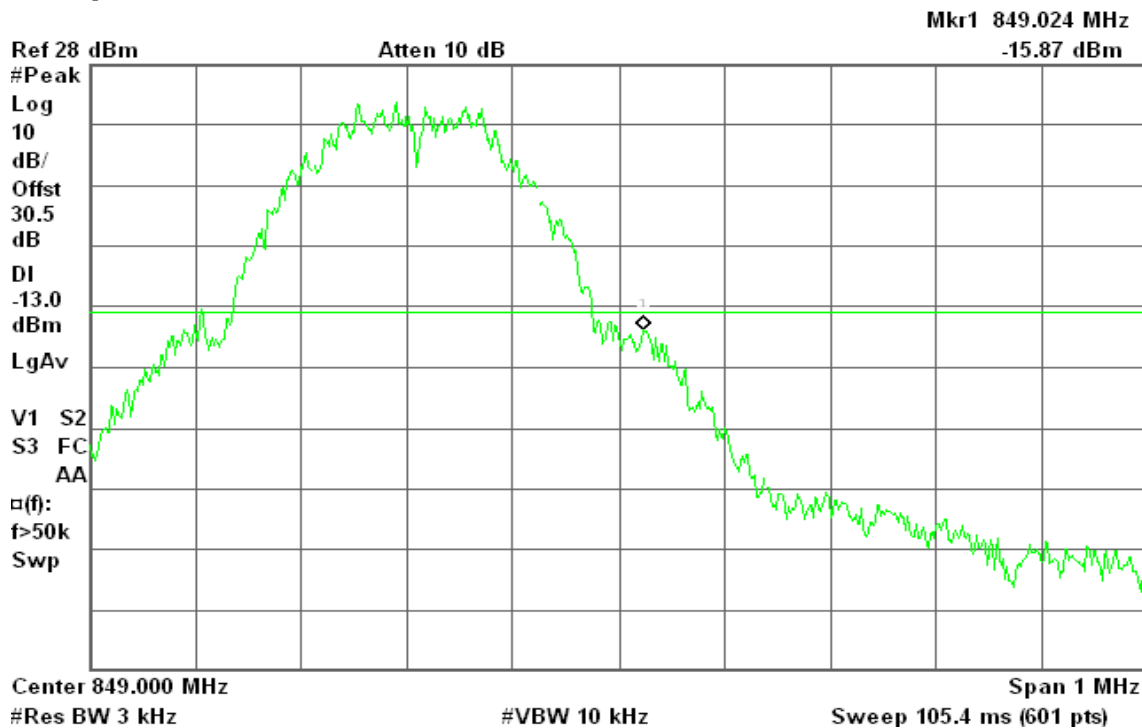


Figure 9-2: Band Edge emissions – GSM CH High

Agilent 18:26:29 Jun 15, 2009

R T





GPRS 850

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

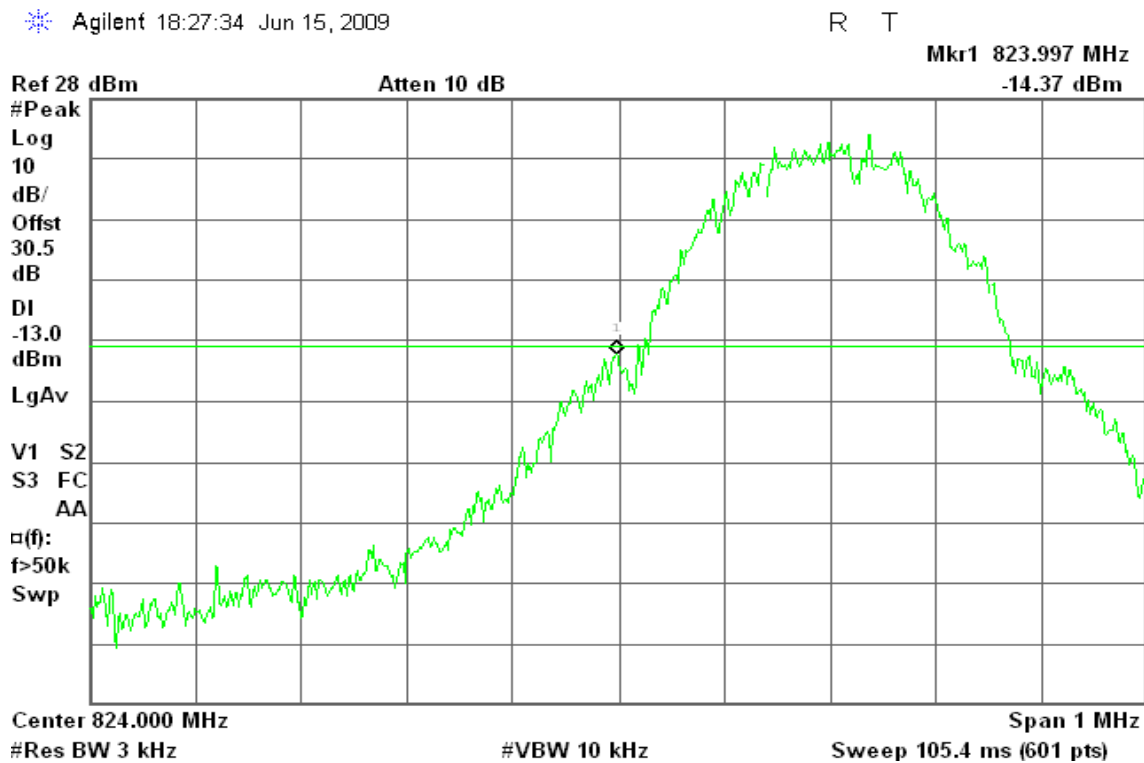
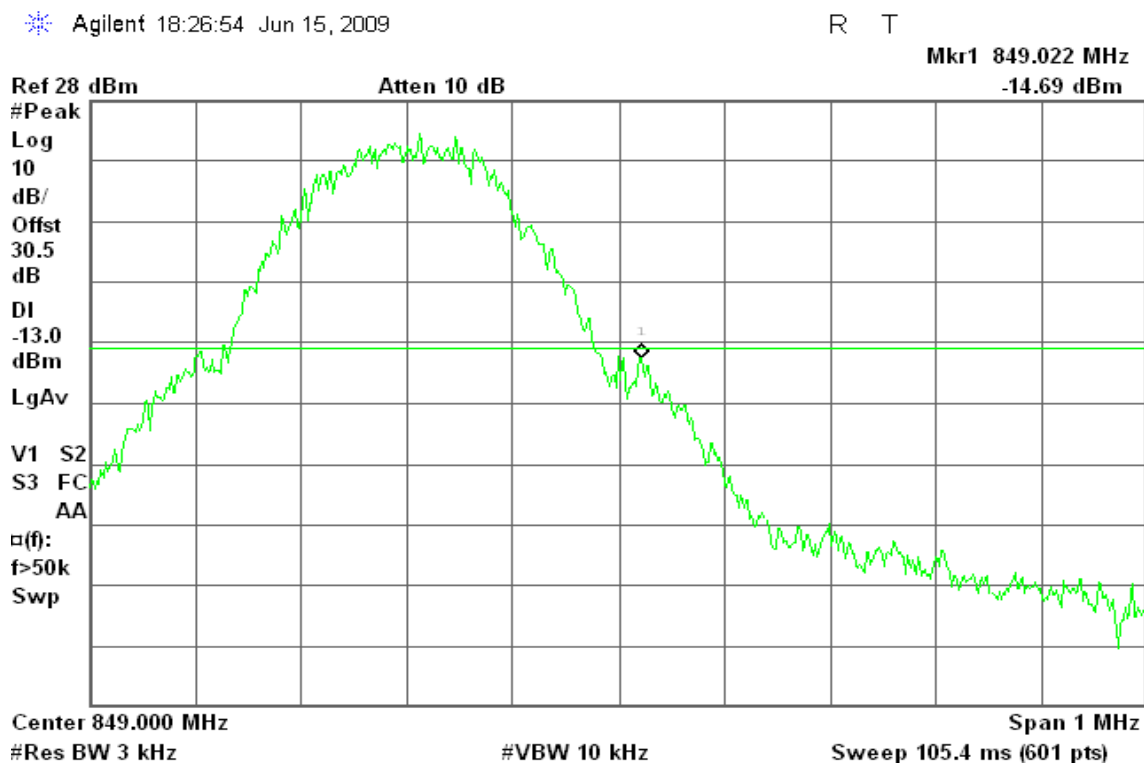


Figure 9-4: Band Edge emissions –GPRS CH High





GSM 1900

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

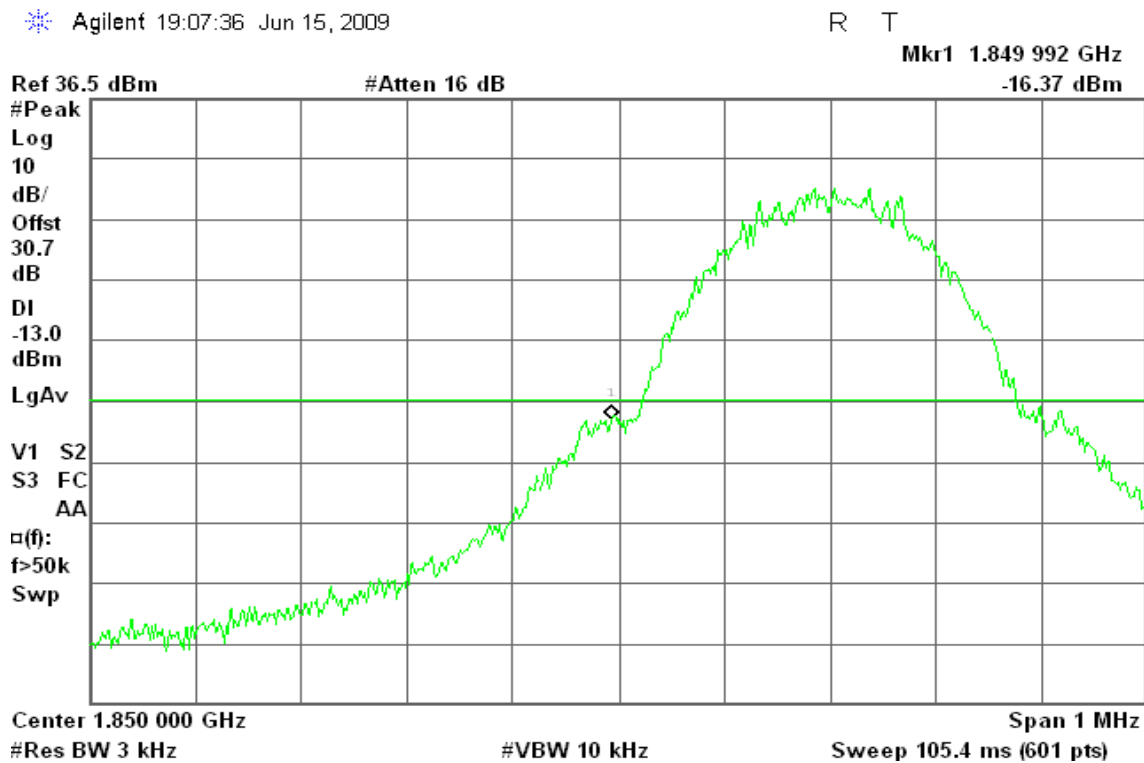
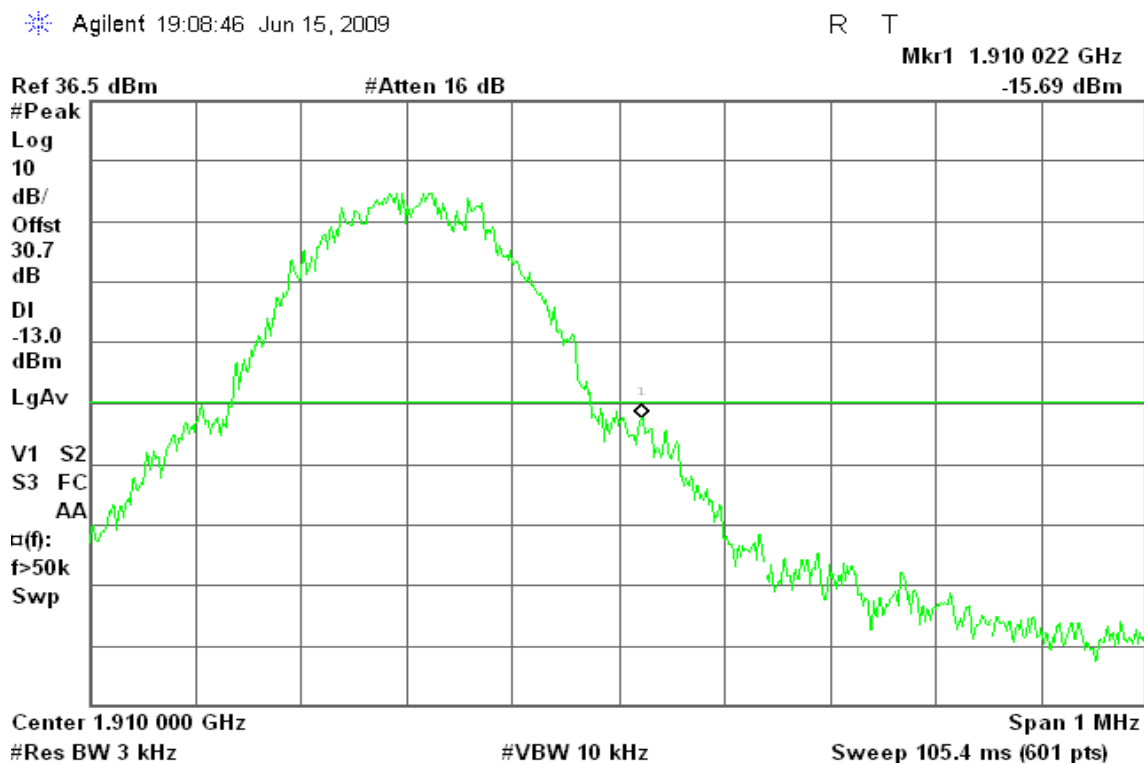


Figure 10-2: Band Edge emissions – GSM CH High





GPRS 1900

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

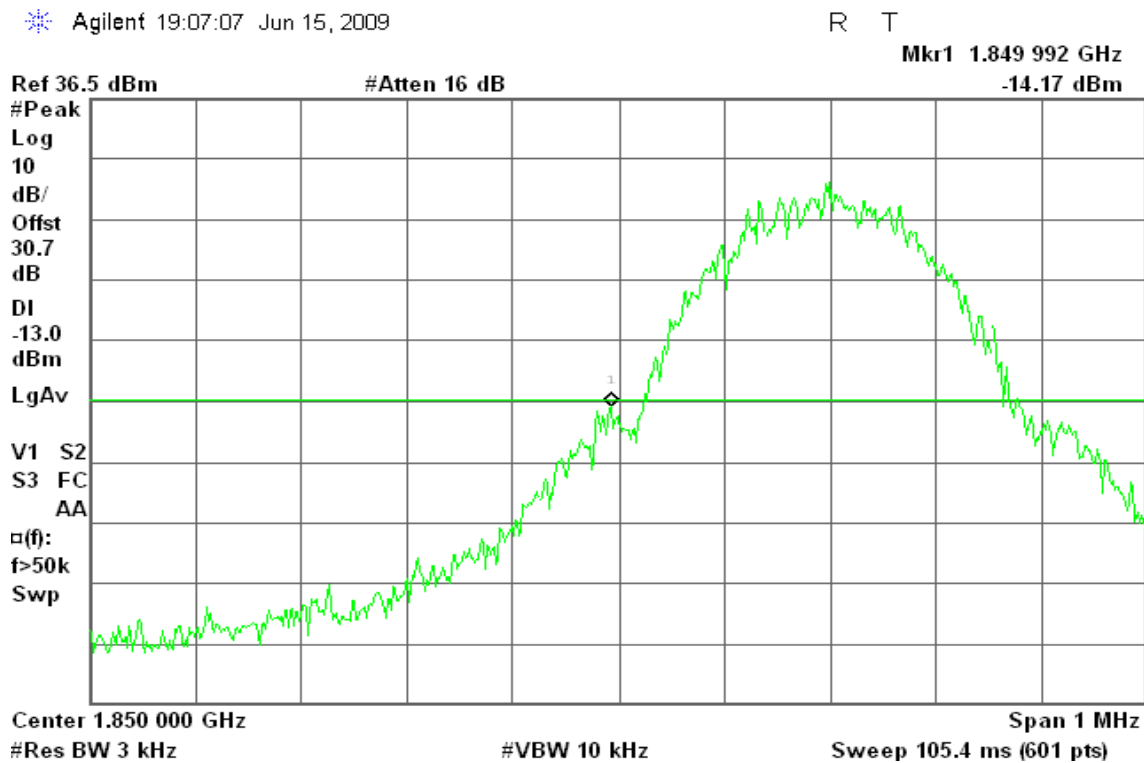
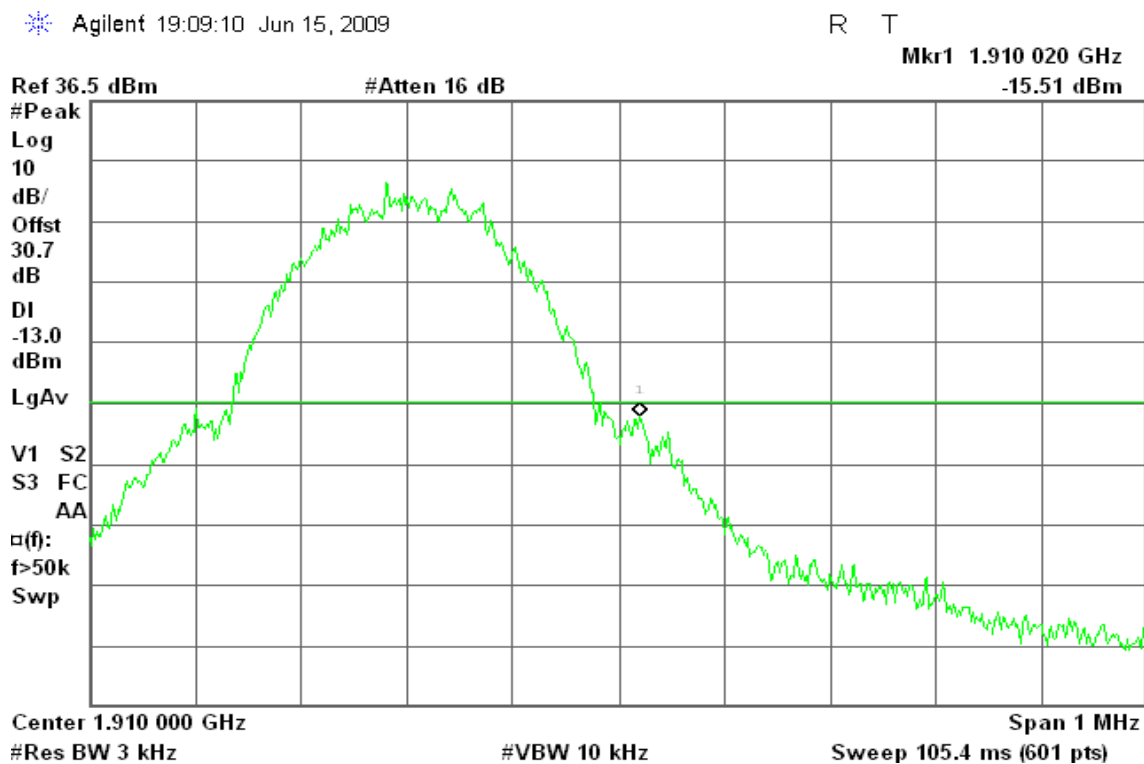


Figure 10-4: Band Edge emissions – GPRS CH High





EDGE 850

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

Agilent 18:31:54 Jun 15, 2009

R T

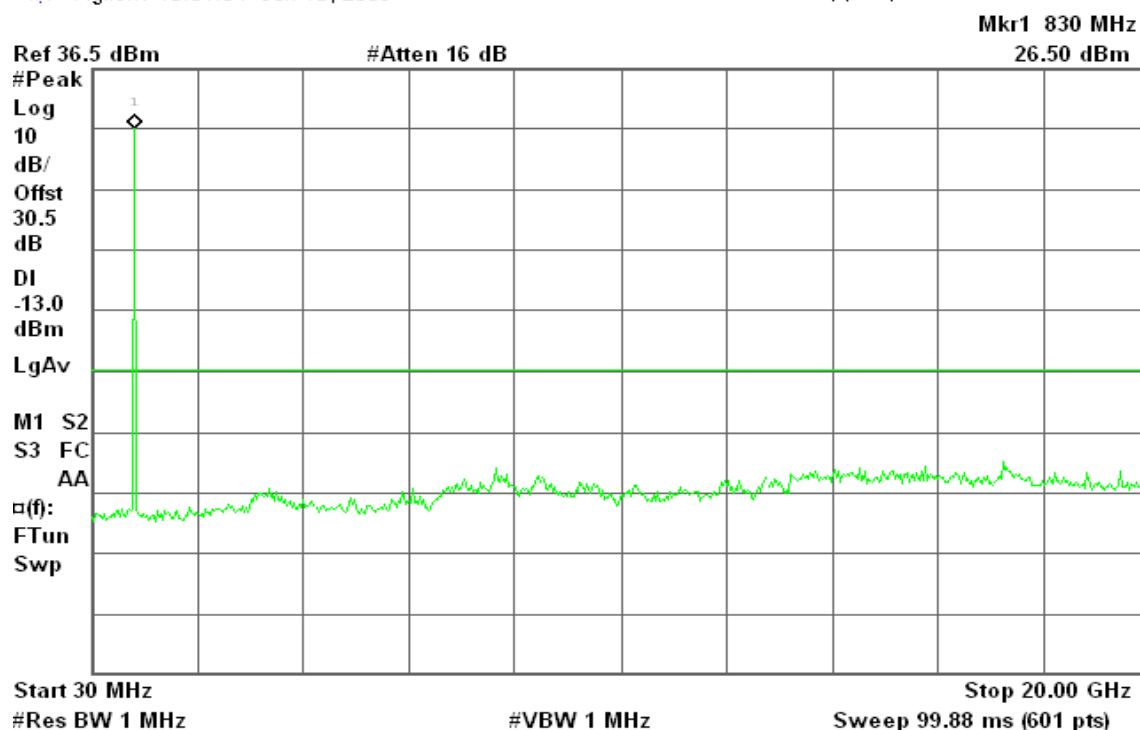


Figure 11-2: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 18:31:43 Jun 15, 2009

R T

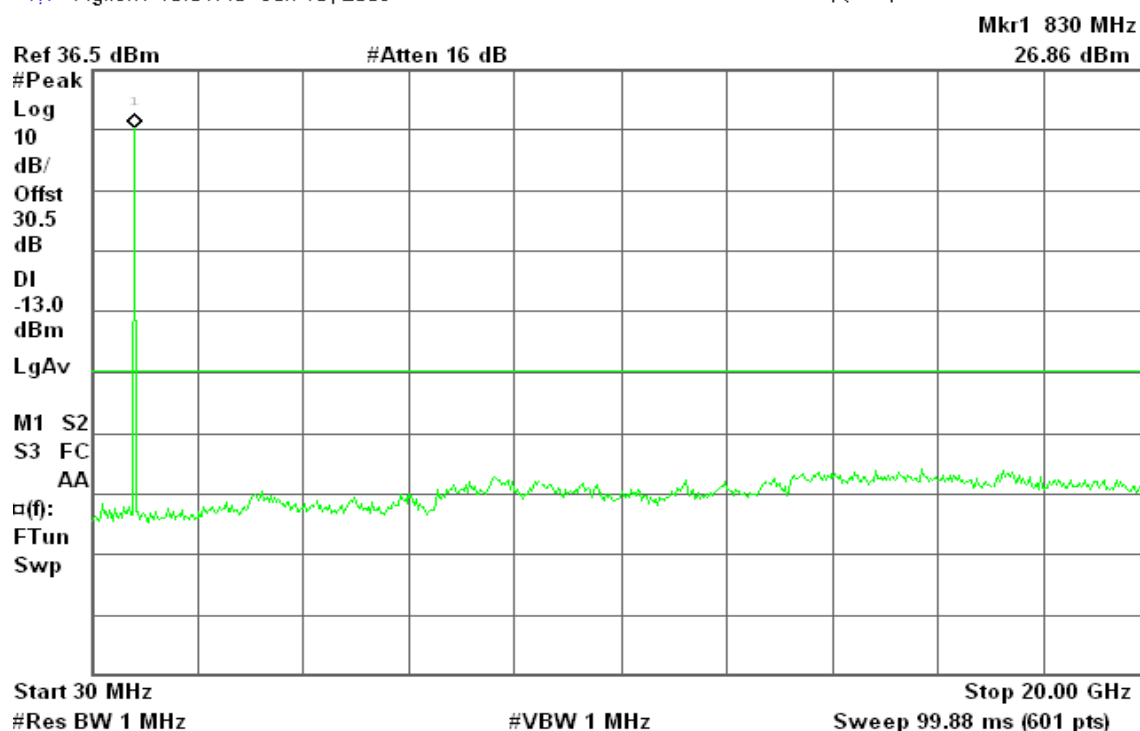
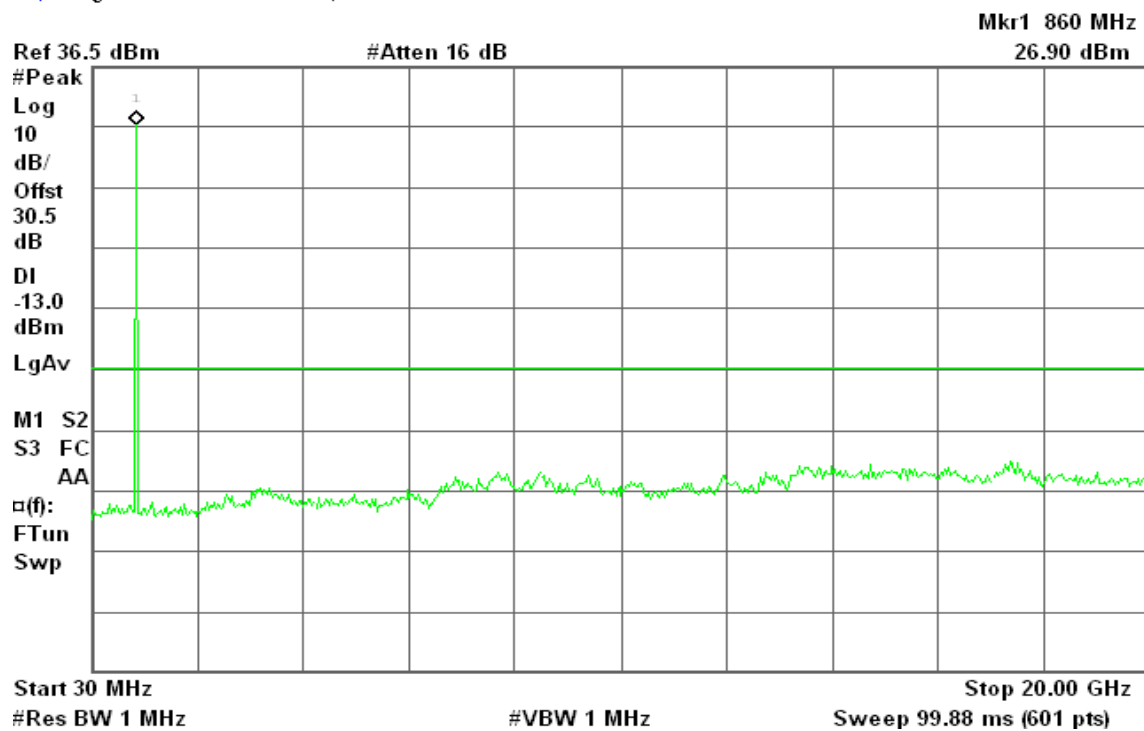




Figure 11-3: Out of Band emission at antenna terminals –EDGE CH High

Agilent 18:31:23 Jun 15, 2009

R T



EDGE 1900

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

Agilent 19:13:52 Jun 15, 2009

R T

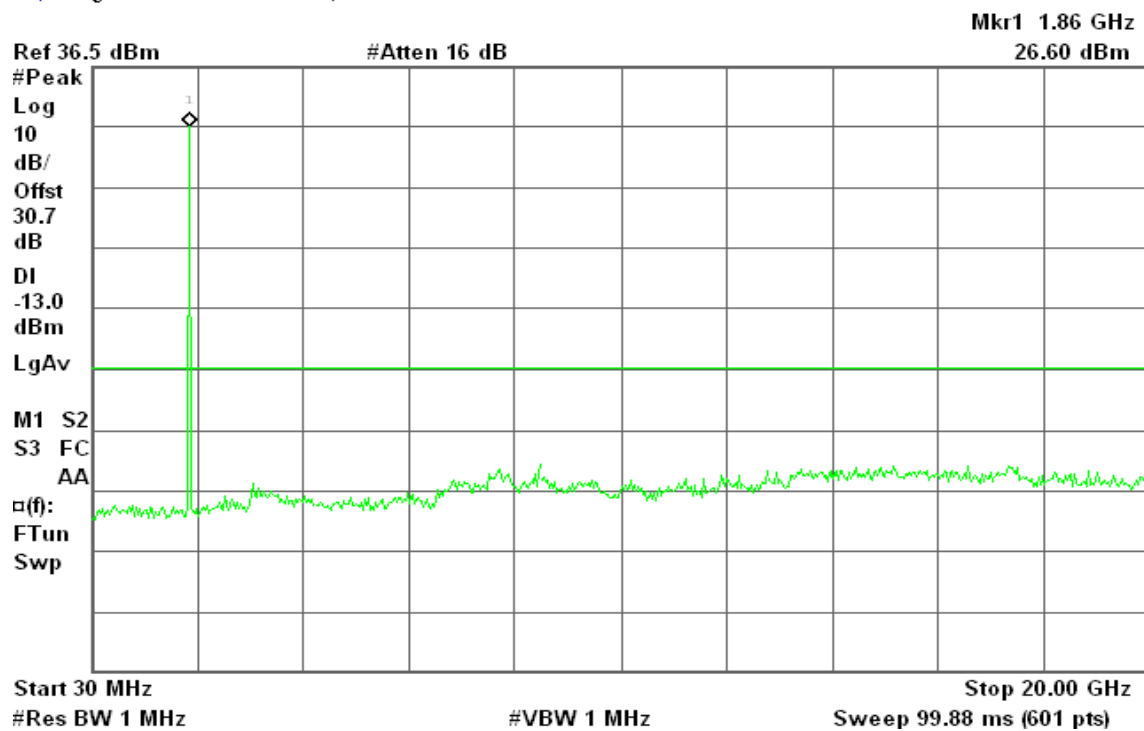




Figure 11-5: Out of Band emission at antenna terminals –EDGE CH Mid

Agilent 19:13:41 Jun 15, 2009

R T

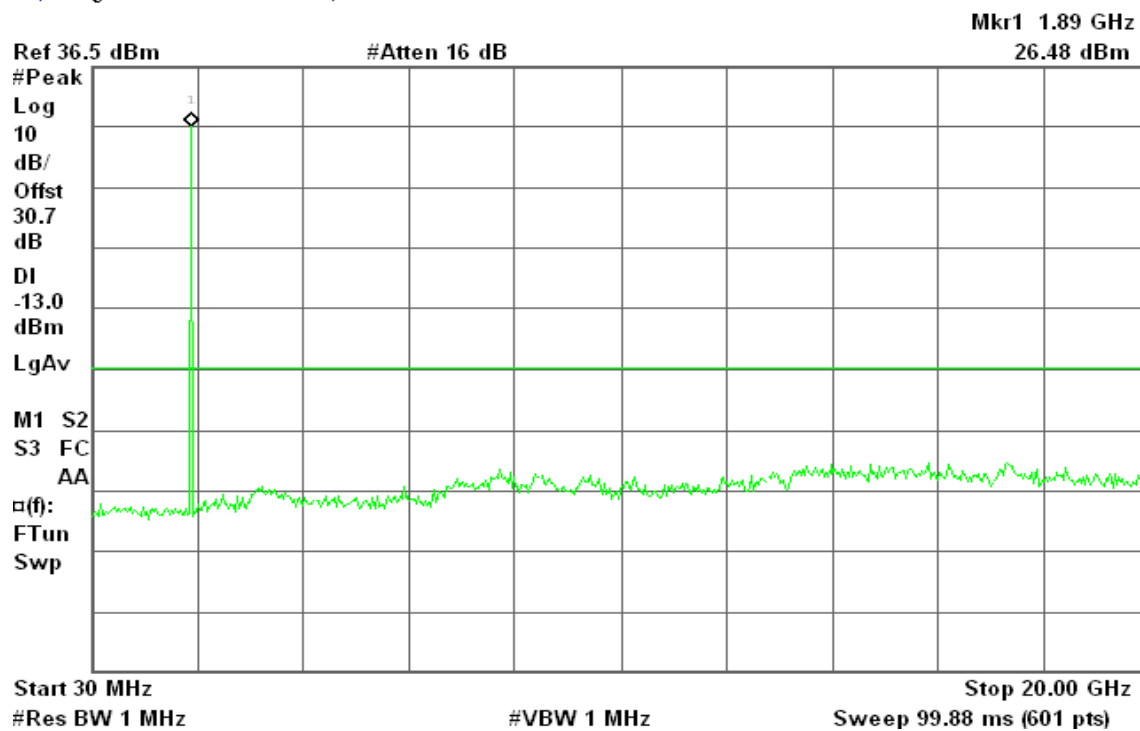
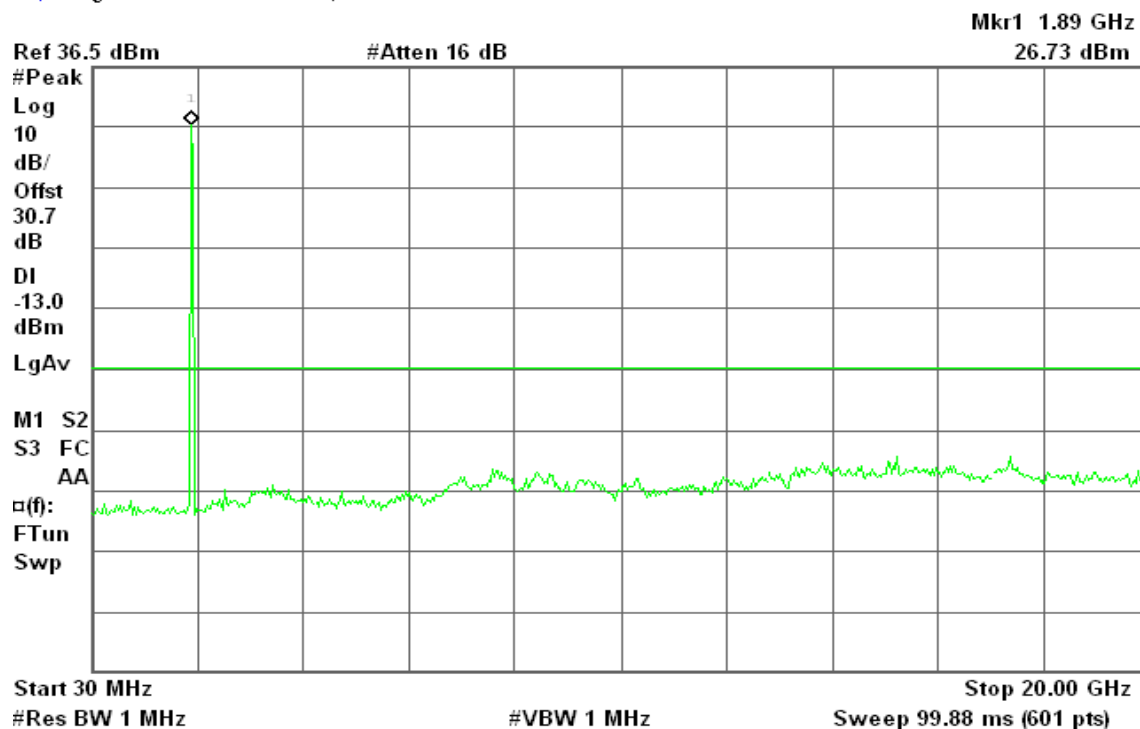


Figure 11-6: Out of Band emission at antenna terminals –EDGE CH High

Agilent 19:13:28 Jun 15, 2009

R T





EDGE 850

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

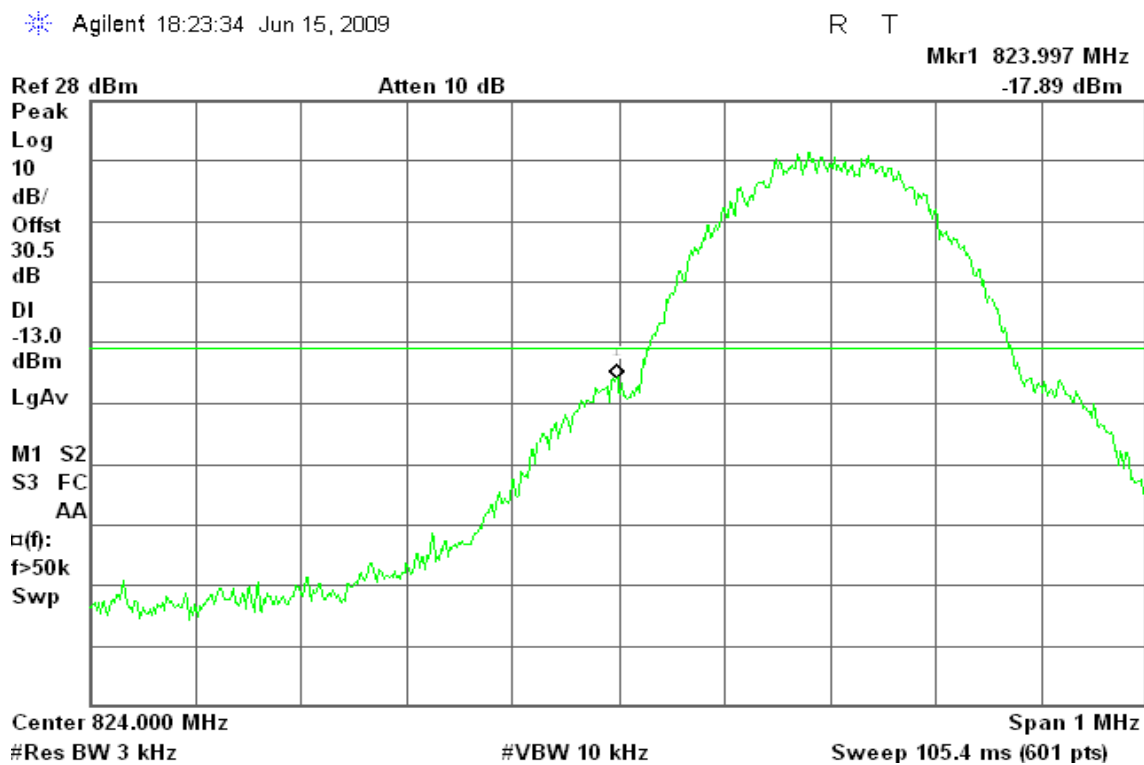
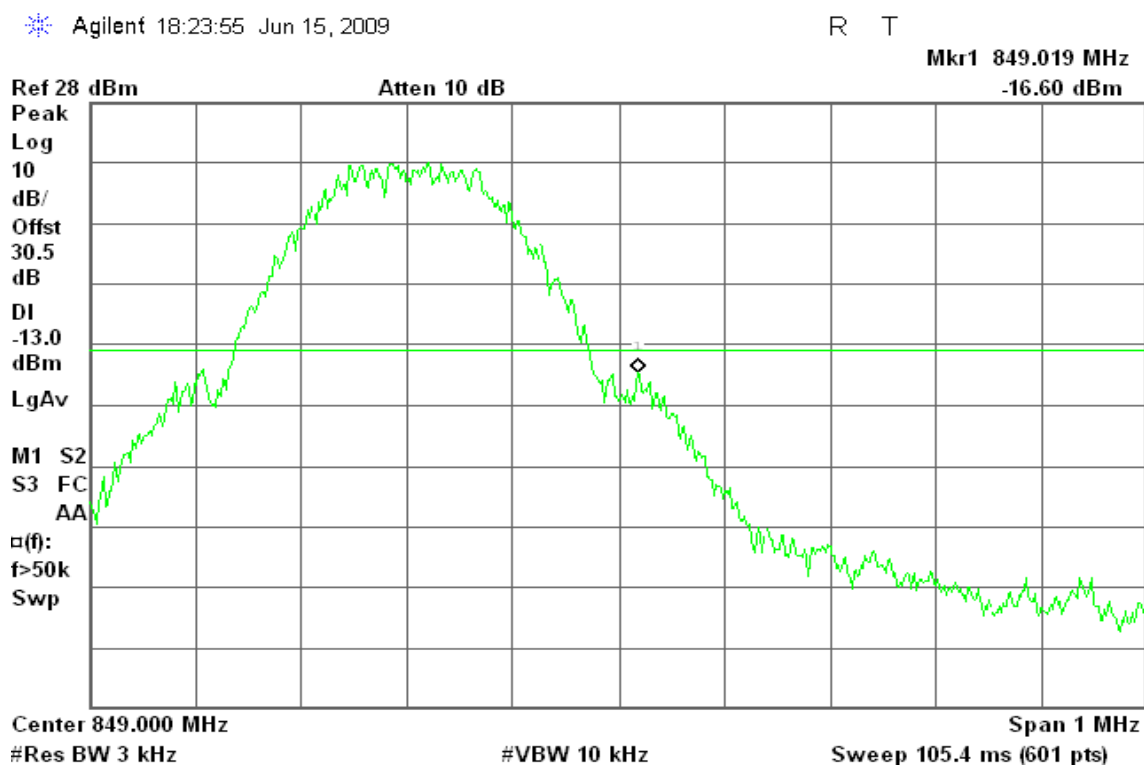


Figure 12-2: Band Edge emissions – EDGE CH High





EDGE 1900

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

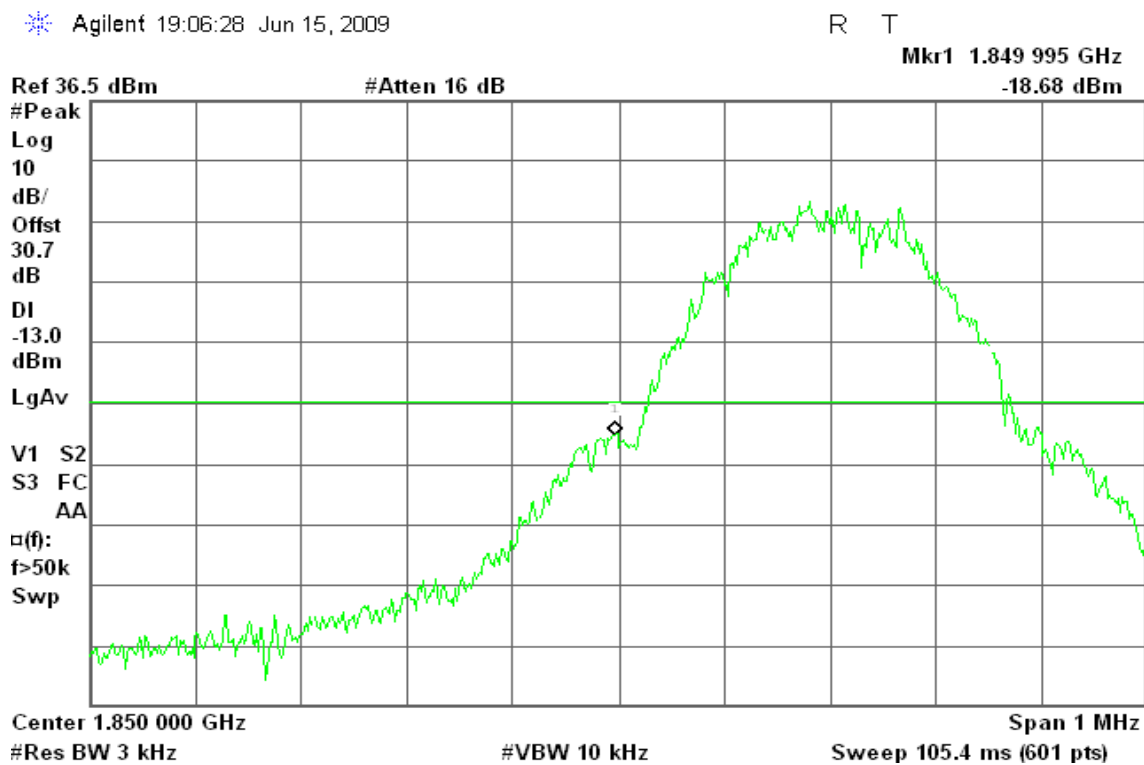
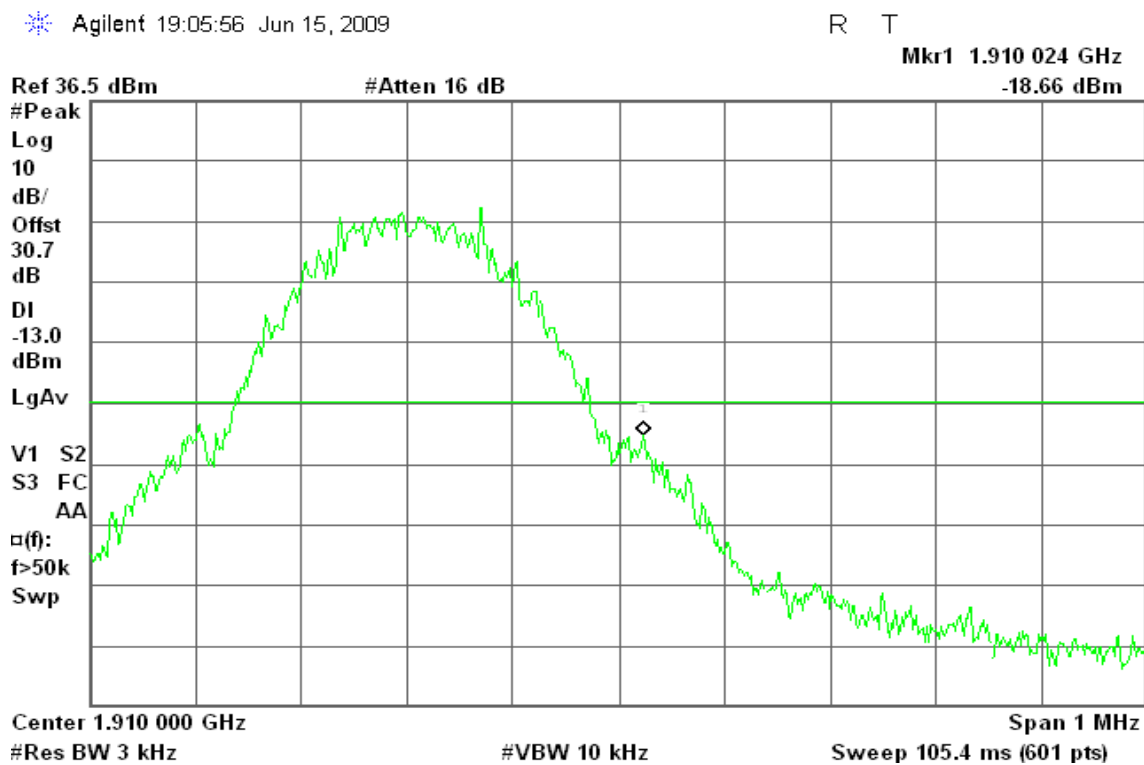


Figure 12-4: Band Edge emissions – EDGE CH High





WCDMA Band II

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

Agilent 19:31:43 Jun 15, 2009

R T

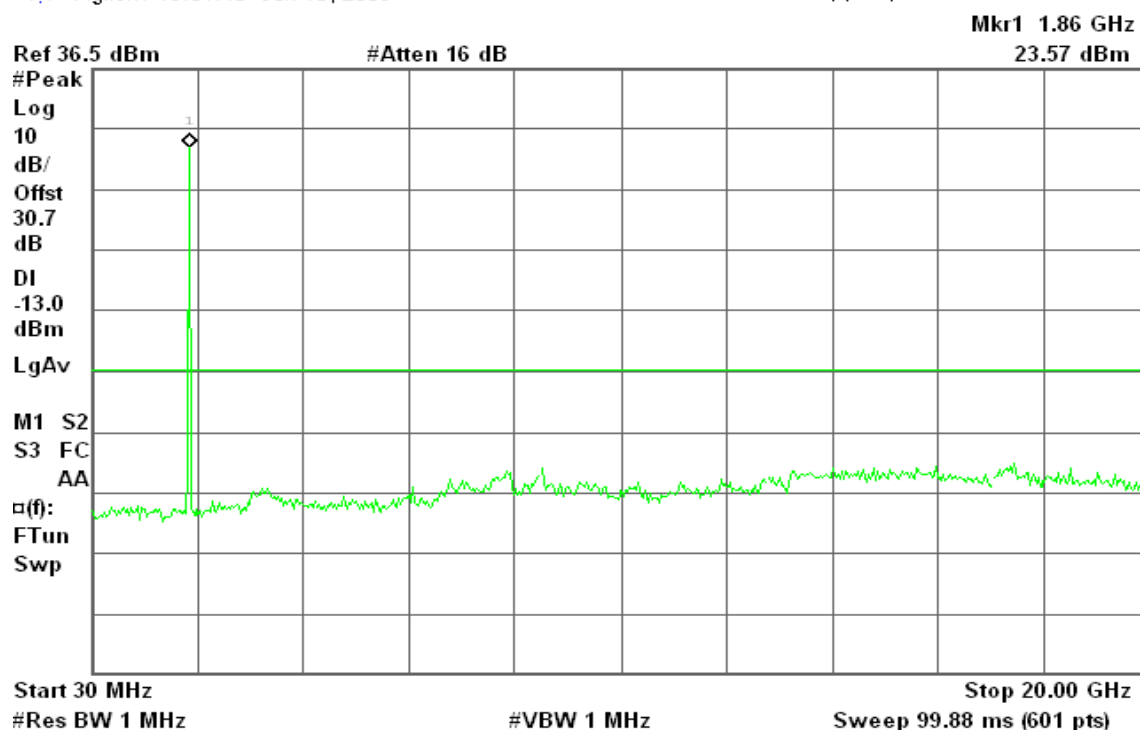


Figure 13-2: Out of Band emission at antenna terminals – WCDMA CH Mid

Agilent 19:31:28 Jun 15, 2009

R T

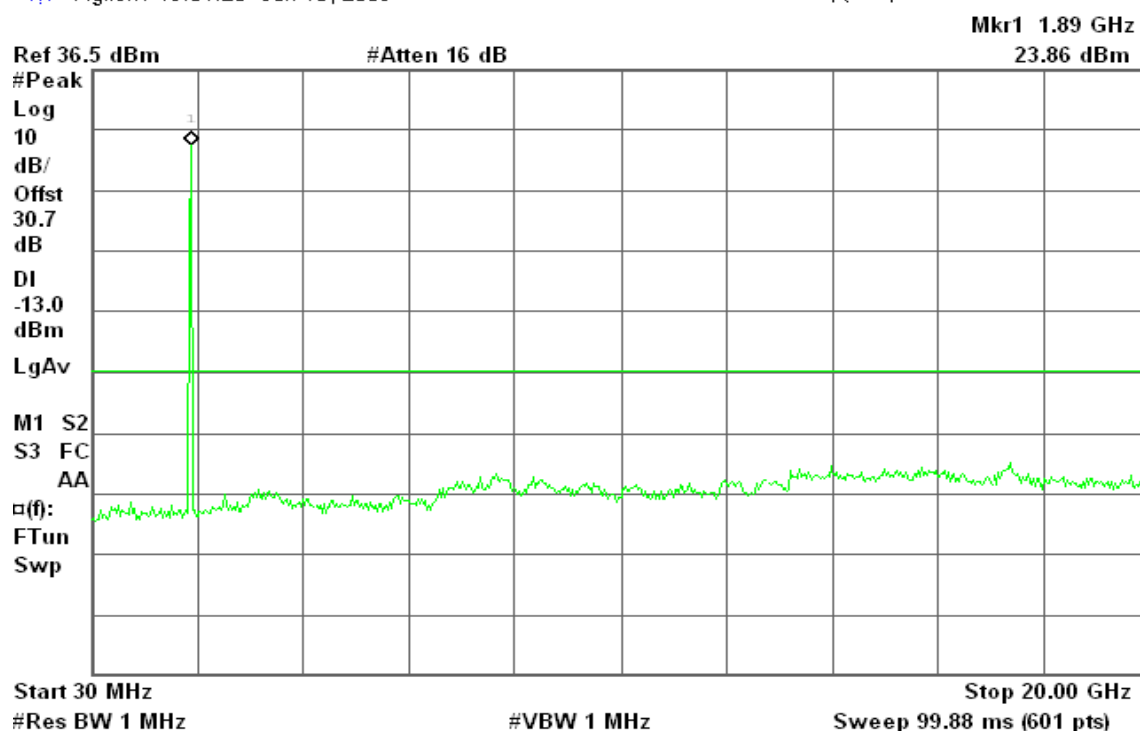
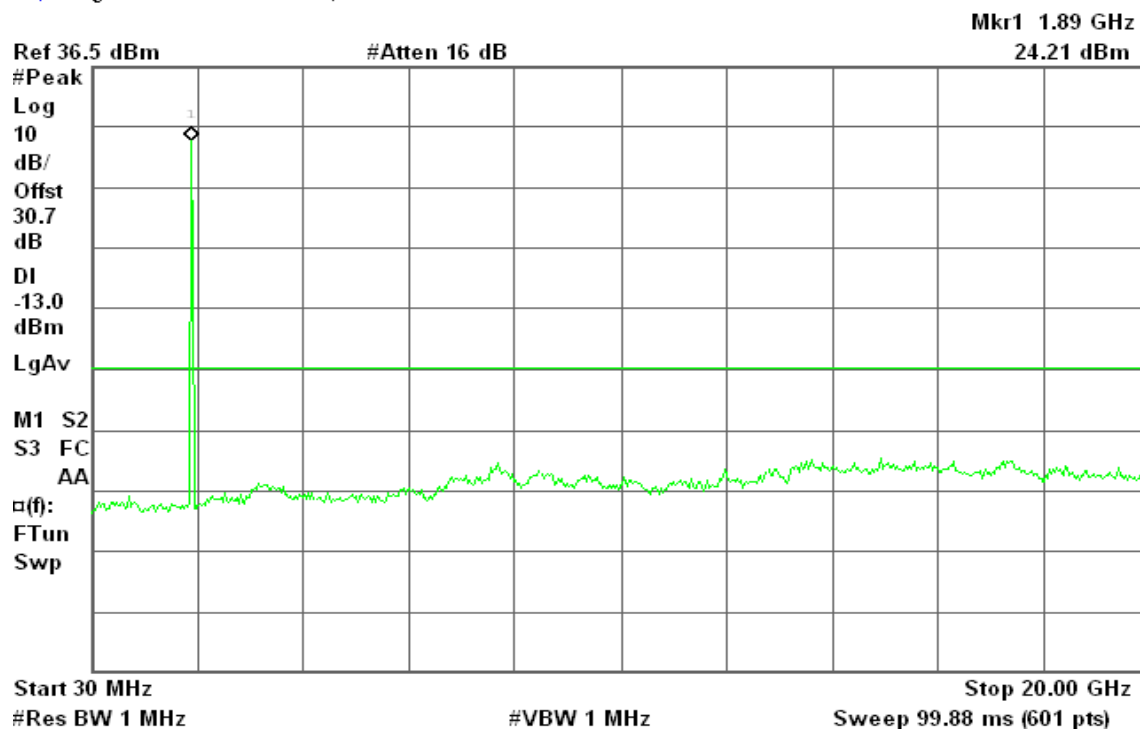




Figure 13-3: Out of Band emission at antenna terminals – WCDMA CH High

Agilent 19:30:20 Jun 15, 2009

R T



WCDMA Band II

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

Agilent 19:34:49 Jun 15, 2009

R T

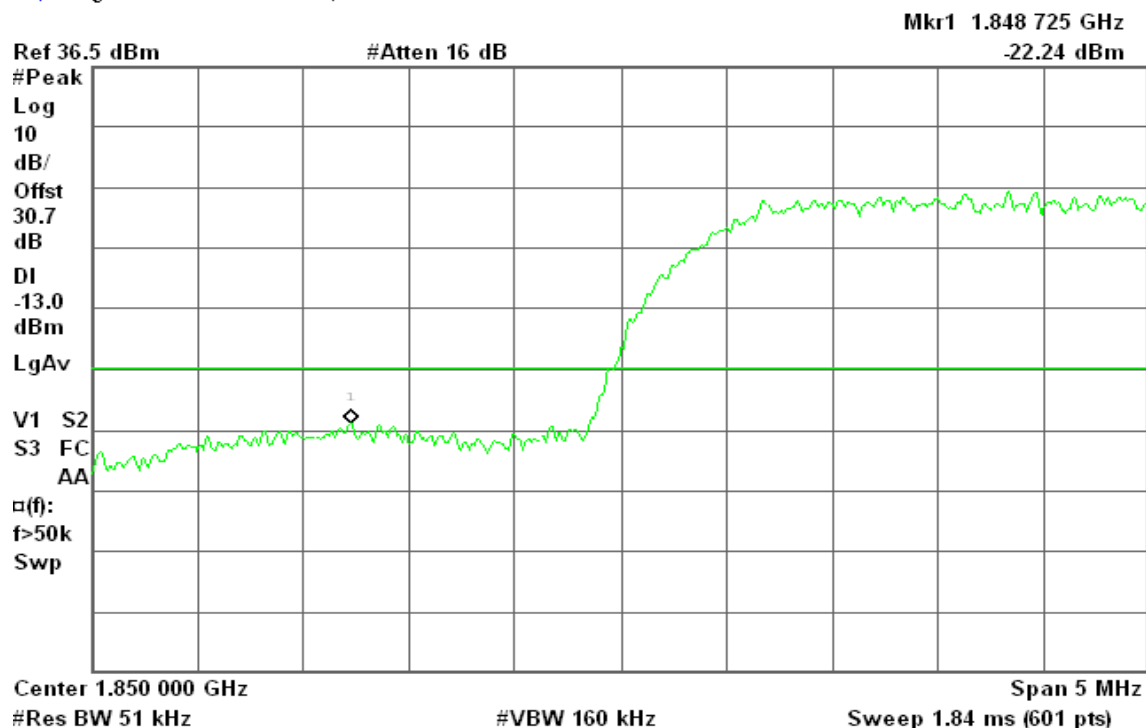
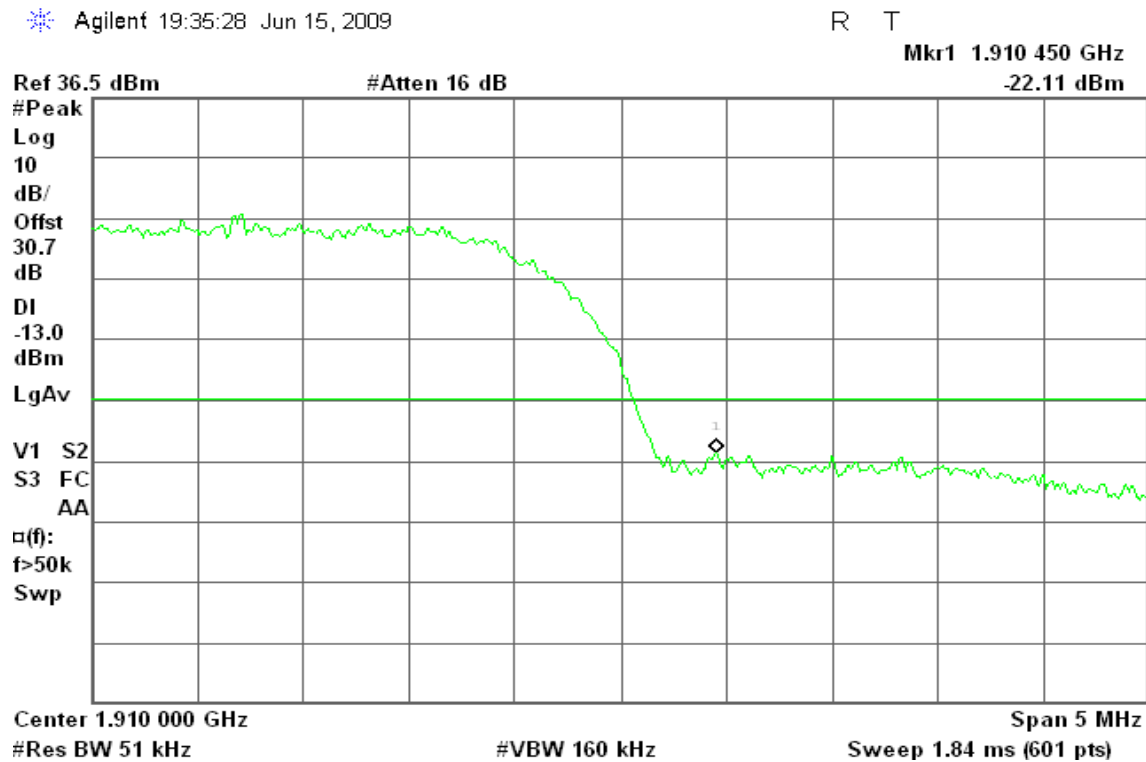




Figure 14-2: Band Edge emissions –WCDMA CH High



WCDMA / HSDPA Band II

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

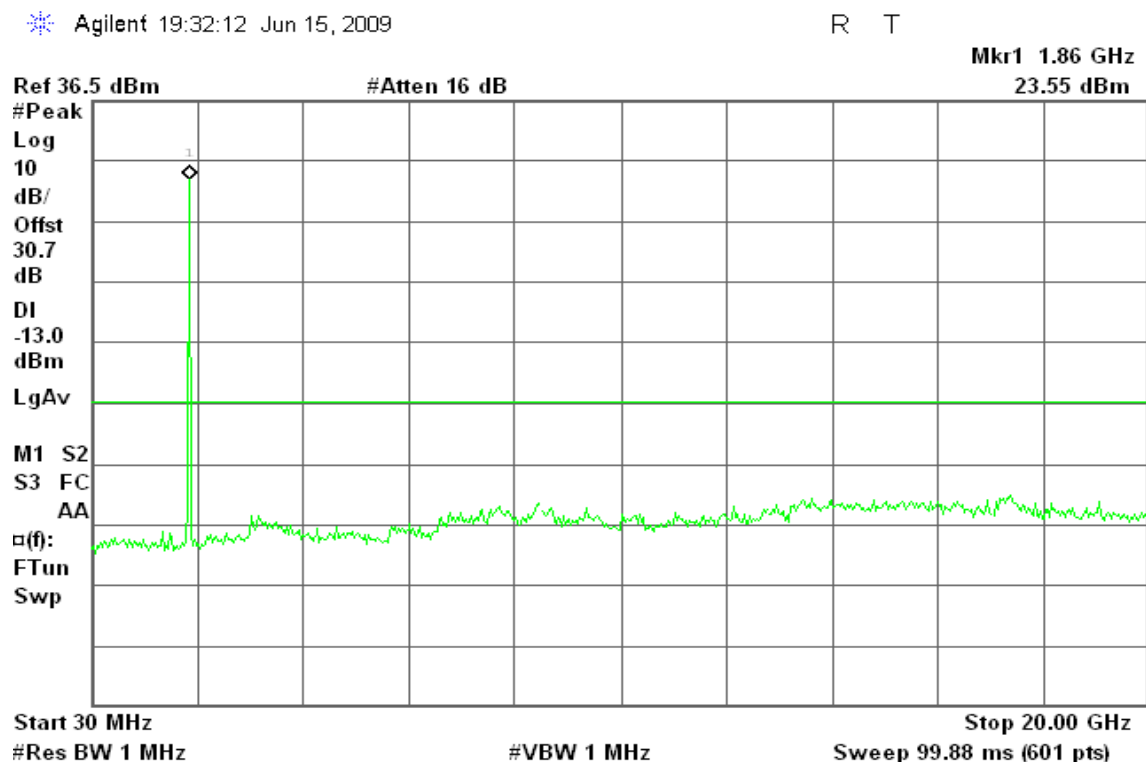




Figure 15-2: Out of Band emission at antenna terminals – HSDPA CH Mid

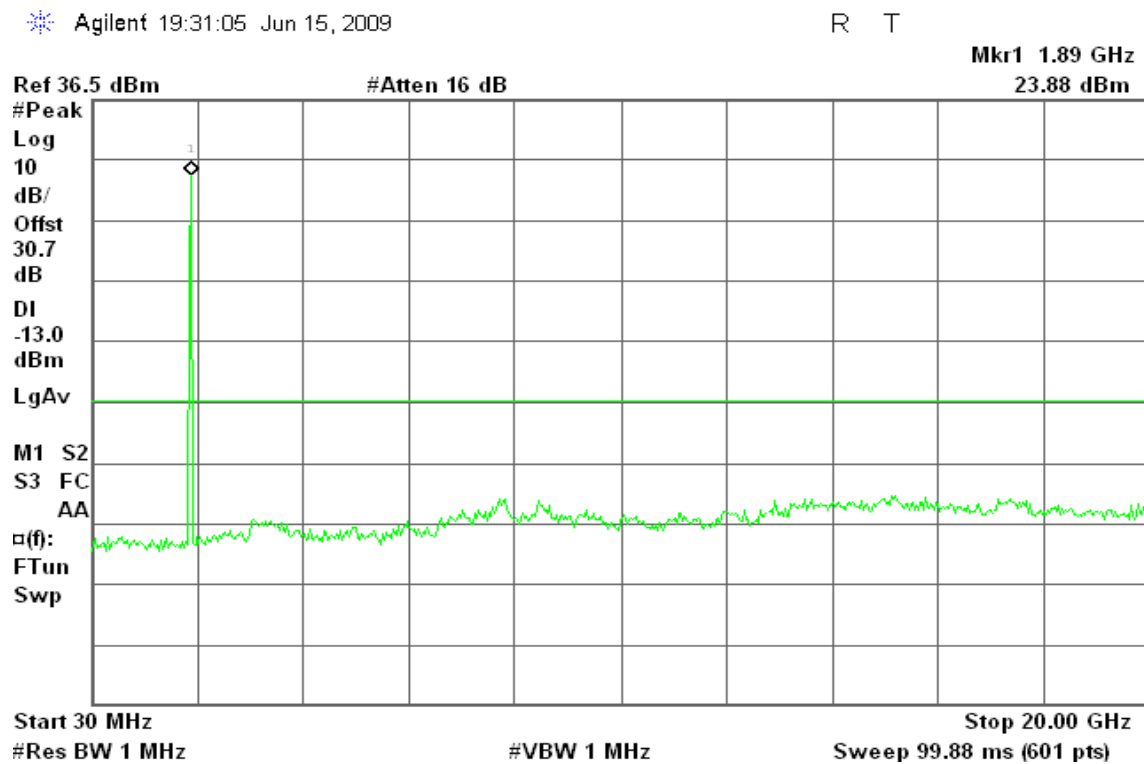
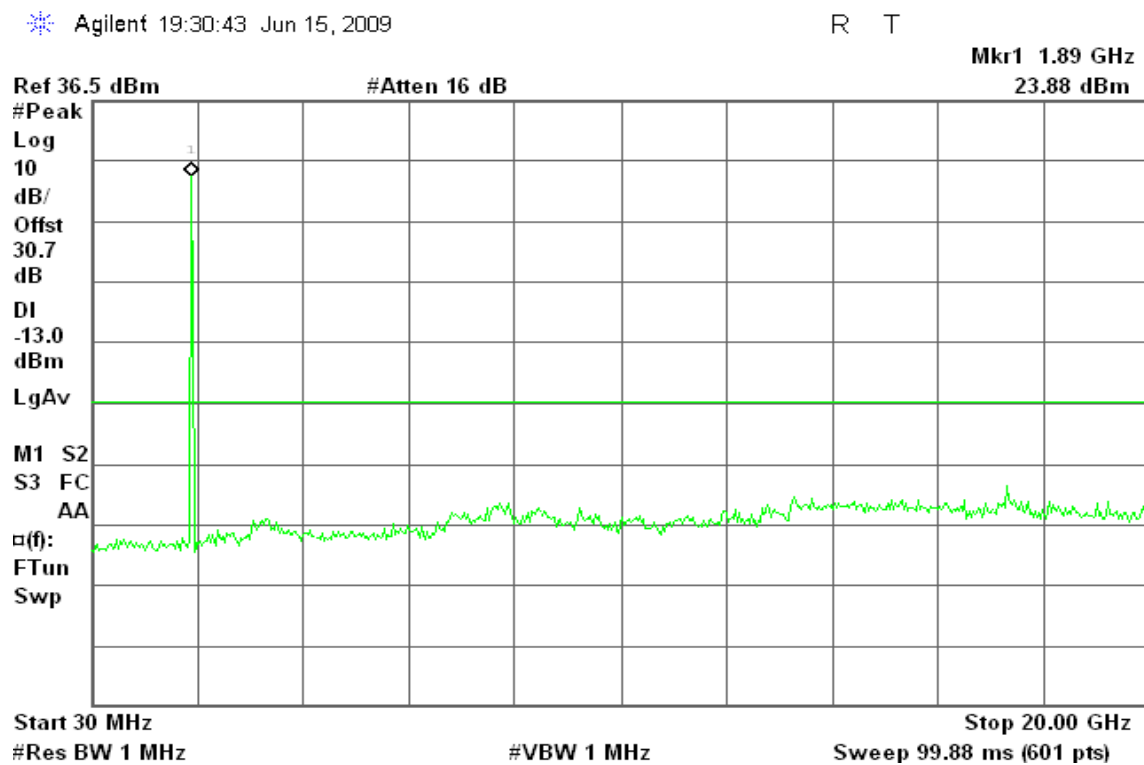


Figure 15-3: Out of Band emission at antenna terminals – HSDPA CH High





WCDMA / HSDPA Band II

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

Agilent 19:33:56 Jun 15, 2009

R T

Mkr1 1.848 942 GHz

-21.47 dBm

Ref 36.5 dBm

#Atten 16 dB

#Peak

Log

10

dB/

Offst

30.7

dB

DI

-13.0

dBm

LgAv

V1 S2

S3 FC

AA

□(f):

f>50k

Swp

Center 1.850 000 GHz

#Res BW 51 kHz

#VBW 160 kHz

Sweep 1.84 ms (601 pts)

Span 5 MHz

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

Agilent 19:36:25 Jun 15, 2009

R T

Mkr1 1.910 458 GHz

-22.17 dBm

Ref 36.5 dBm

#Atten 16 dB

#Peak

Log

10

dB/

Offst

30.7

dB

DI

-13.0

dBm

LgAv

V1 S2

S3 FC

AA

□(f):

f>50k

Swp

Center 1.910 000 GHz

#Res BW 51 kHz

#VBW 160 kHz

Sweep 1.84 ms (601 pts)

Span 5 MHz



WCDMA / HSUPA Band II

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

Agilent 19:31:57 Jun 15, 2009

R T

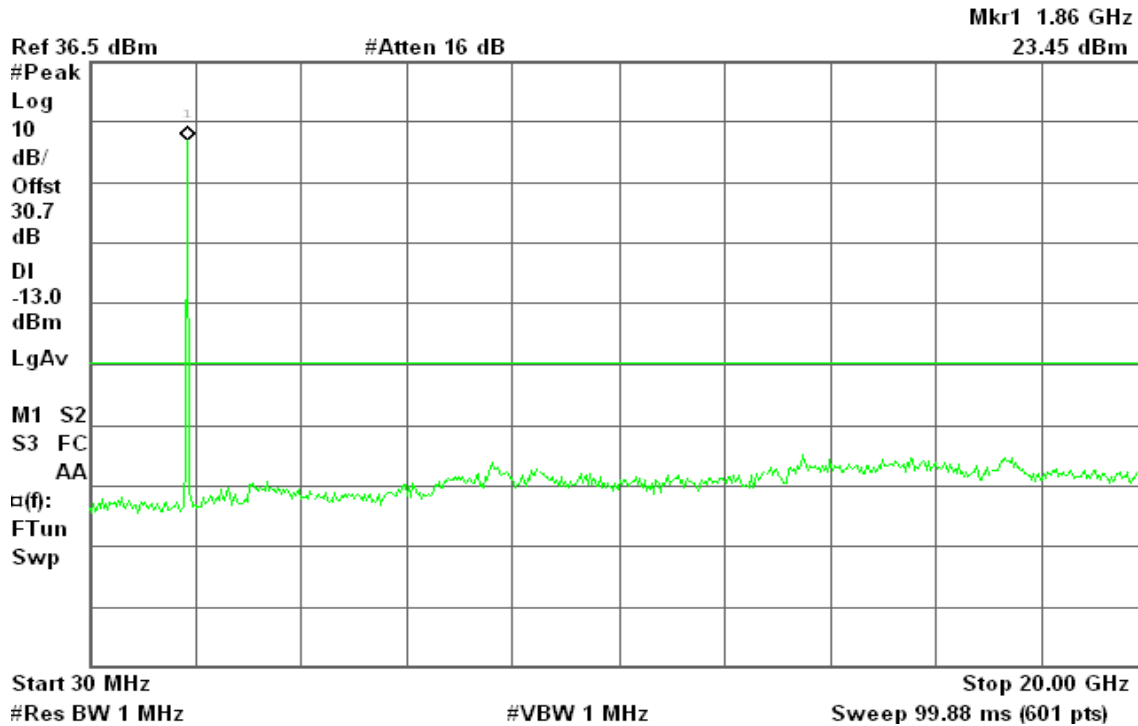


Figure 17-2: Out of Band emission at antenna terminals – HSUPA CH Mid

Agilent 19:31:17 Jun 15, 2009

R T

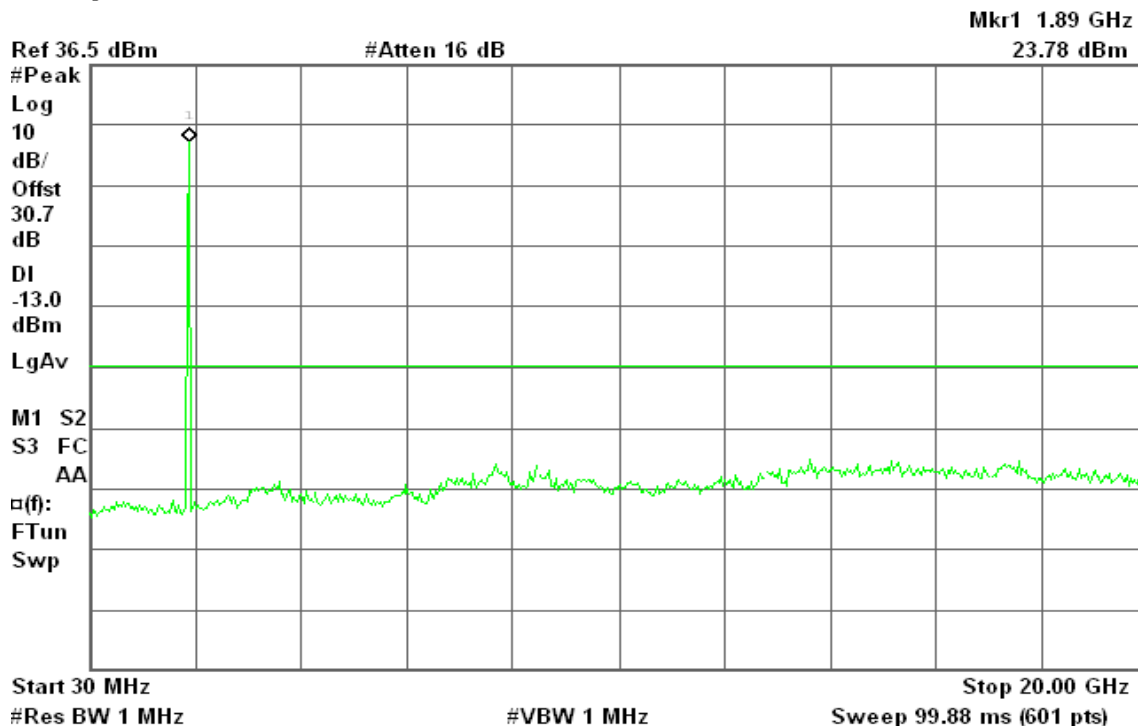
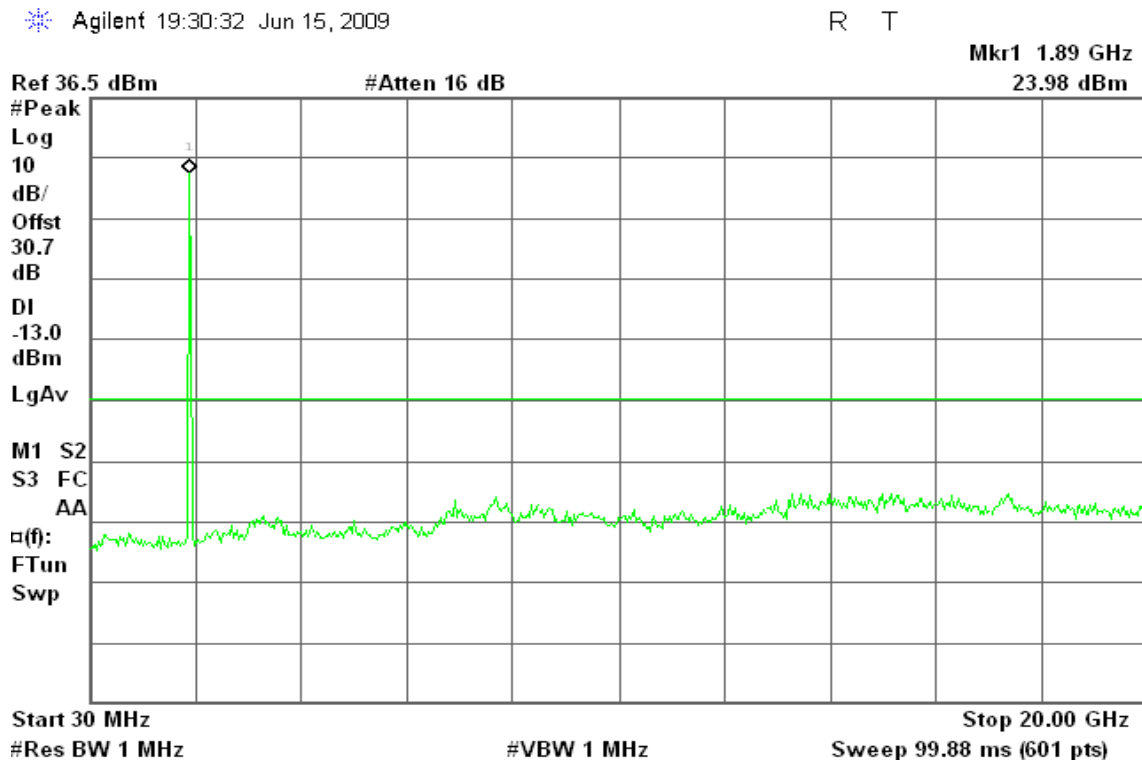




Figure 15-3: Out of Band emission at antenna terminals – HSUPA CH High



WCDMA / HSUPA Band II

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

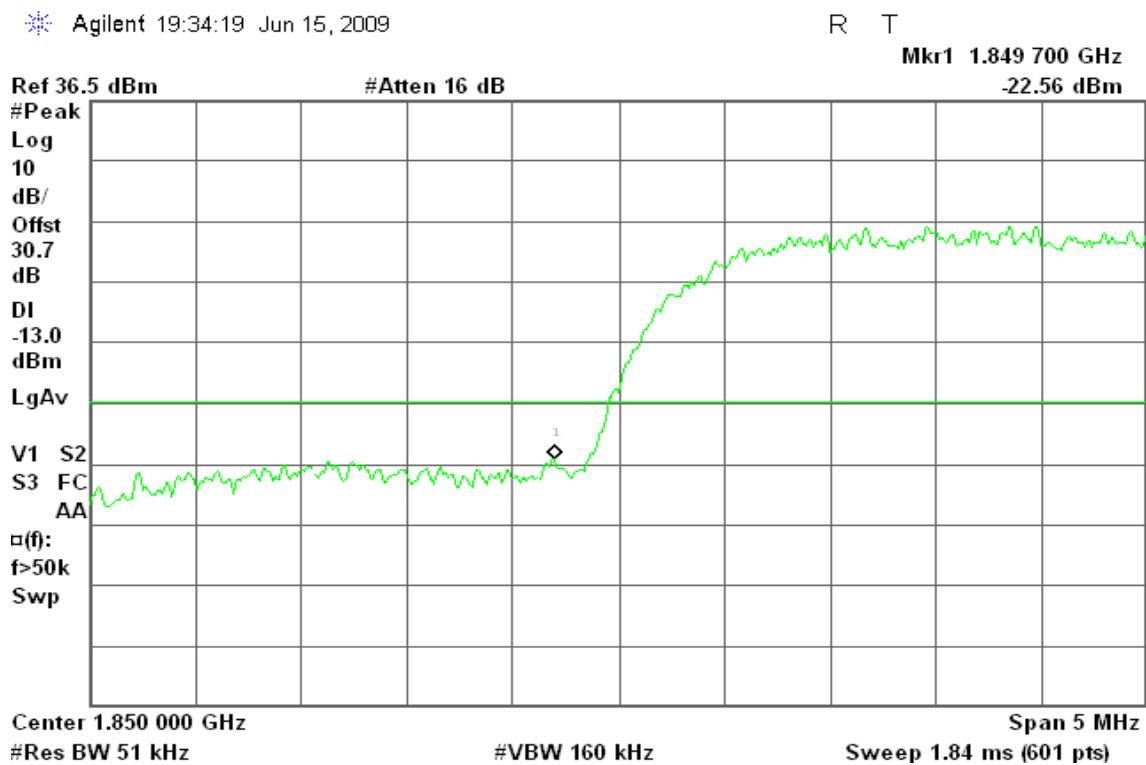
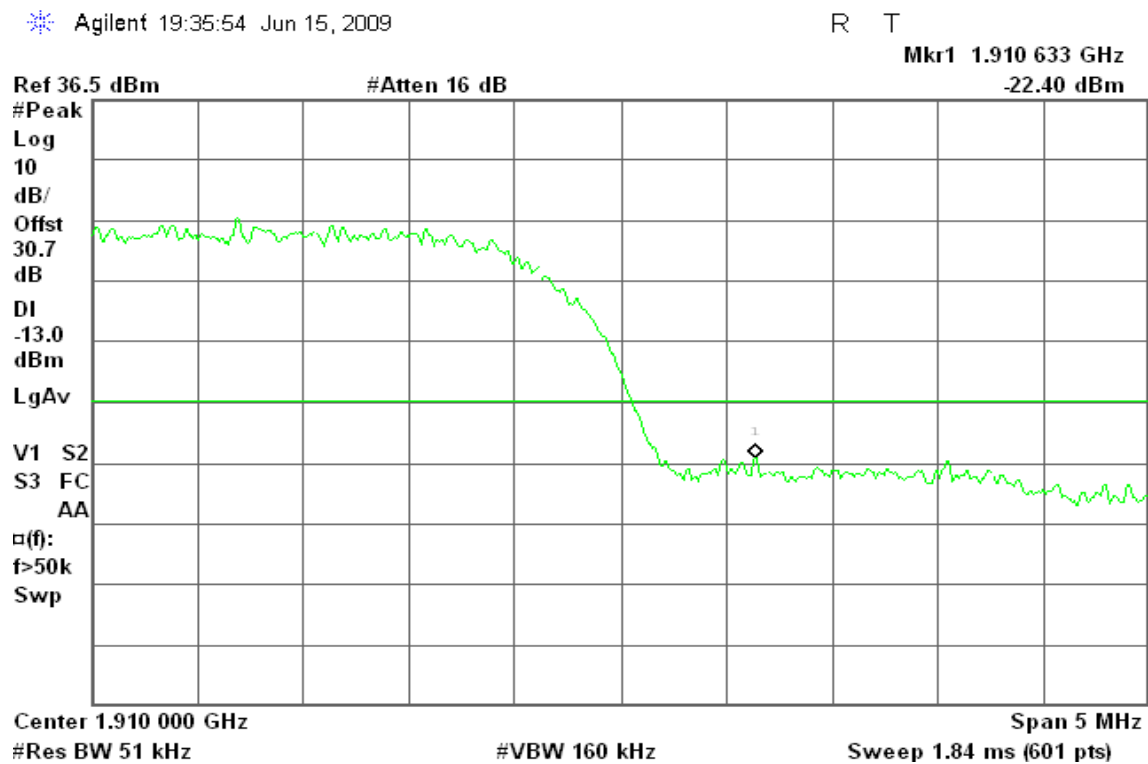




Figure 18-2: Band Edge emissions – HSUPA CH High



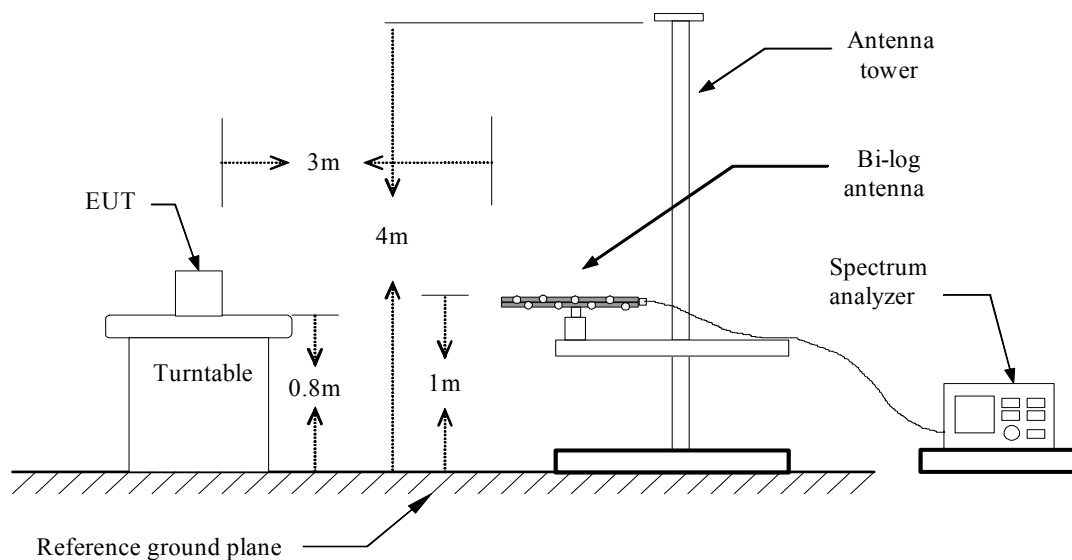
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

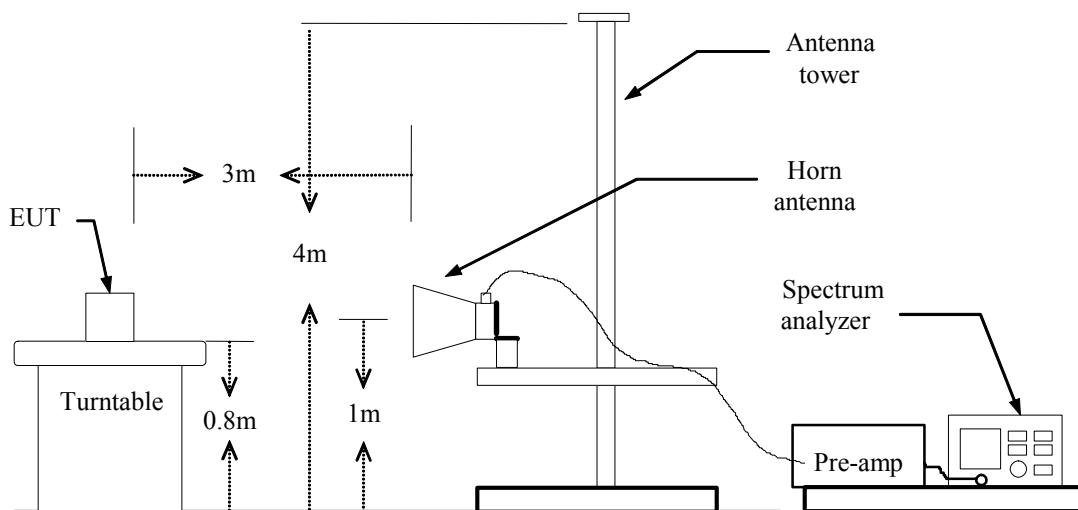
According to FCC §2.1053

Test Configuration

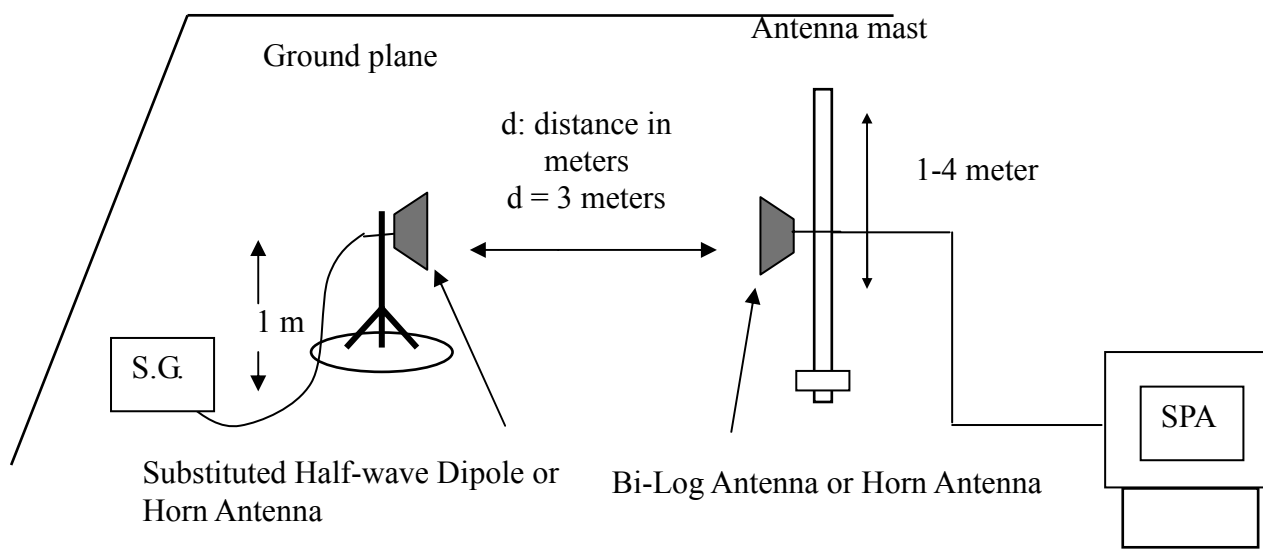
Below 1 GHz



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.

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

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

TEST RESULTS

Refer to the attached tabular data sheets.

**Radiated Spurious Emission Measurement Result****Below 1GHz****Operation Mode:** GSM 850 / TX / CH 128**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-49.58	-15.40	-64.98	-13.00	-51.98
99.84	V	-46.09	-18.42	-64.51	-13.00	-51.51
230.79	V	-53.28	-14.00	-67.28	-13.00	-54.28
407.33	V	-52.63	-10.24	-62.87	-13.00	-49.87
452.92	V	-58.97	-9.04	-68.01	-13.00	-55.01
681.84	V	-59.72	-5.88	-65.60	-13.00	-52.60
182.29	H	-51.09	-12.85	-63.94	-13.00	-50.94
230.79	H	-49.01	-15.10	-64.11	-13.00	-51.11
408.30	H	-53.45	-10.16	-63.61	-13.00	-50.61
431.58	H	-58.99	-9.44	-68.43	-13.00	-55.43
512.09	H	-60.36	-7.78	-68.13	-13.00	-55.13
681.84	H	-60.45	-6.02	-66.46	-13.00	-53.46

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
130.88	V	-46.18	-12.84	-59.03	-13.00	-46.03
230.79	V	-53.44	-14.00	-67.45	-13.00	-54.45
266.68	V	-54.62	-12.83	-67.45	-13.00	-54.45
453.89	V	-54.66	-9.02	-63.68	-13.00	-50.68
522.76	V	-59.52	-7.66	-67.18	-13.00	-54.18
967.99	V	-60.79	-2.47	-63.26	-13.00	-50.26
130.88	H	-45.86	-14.44	-60.29	-13.00	-47.29
180.35	H	-47.34	-12.66	-60.00	-13.00	-47.00
230.79	H	-48.91	-15.10	-64.01	-13.00	-51.01
453.89	H	-55.29	-8.99	-64.28	-13.00	-51.28
522.76	H	-59.96	-7.80	-67.77	-13.00	-54.77
967.99	H	-61.20	-2.68	-63.87	-13.00	-50.87

Remark:

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

**Operation Mode:** GSM 850 / TX / CH 251**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
230.79	V	-53.83	-14.00	-67.83	-13.00	-54.83
299.66	V	-56.18	-12.32	-68.51	-13.00	-55.51
431.58	V	-58.39	-9.45	-67.84	-13.00	-54.84
533.43	V	-61.91	-7.49	-69.40	-13.00	-56.40
552.83	V	-63.15	-7.35	-70.50	-13.00	-57.50
731.31	V	-63.66	-5.35	-69.02	-13.00	-56.02
120.21	H	-52.21	-14.13	-66.34	-13.00	-53.34
183.26	H	-49.82	-12.94	-62.76	-13.00	-49.76
230.79	H	-48.91	-15.10	-64.01	-13.00	-51.01
322.94	H	-55.67	-13.17	-68.84	-13.00	-55.84
431.58	H	-58.47	-9.44	-67.91	-13.00	-54.91
669.23	H	-64.92	-5.96	-70.88	-13.00	-57.88

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 128**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
99.84	V	-45.82	-18.42	-64.24	-13.00	-51.24
230.79	V	-53.16	-14.00	-67.16	-13.00	-54.16
265.71	V	-54.71	-12.97	-67.68	-13.00	-54.68
407.33	V	-52.61	-10.24	-62.85	-13.00	-49.85
681.84	V	-59.66	-5.88	-65.54	-13.00	-52.54
731.31	V	-62.32	-5.35	-67.67	-13.00	-54.67
116.33	H	-48.85	-14.80	-63.64	-13.00	-50.64
180.35	H	-49.74	-12.66	-62.40	-13.00	-49.40
230.79	H	-48.32	-15.10	-63.43	-13.00	-50.43
407.33	H	-53.30	-10.19	-63.49	-13.00	-50.49
681.84	H	-59.63	-6.02	-65.64	-13.00	-52.64
924.34	H	-66.49	-2.99	-69.48	-13.00	-56.48

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
130.88	V	-46.06	-12.84	-58.90	-13.00	-45.90
230.79	V	-53.50	-14.00	-67.51	-13.00	-54.51
452.92	V	-54.35	-9.04	-63.39	-13.00	-50.39
522.76	V	-60.01	-7.66	-67.67	-13.00	-54.67
731.31	V	-63.46	-5.35	-68.82	-13.00	-55.82
967.99	V	-60.26	-2.47	-62.74	-13.00	-49.74
130.88	H	-46.51	-14.44	-60.95	-13.00	-47.95
180.35	H	-48.76	-12.66	-61.43	-13.00	-48.43
230.79	H	-48.87	-15.10	-63.97	-13.00	-50.97
415.09	H	-58.22	-9.93	-68.15	-13.00	-55.15
453.89	H	-56.09	-8.99	-65.07	-13.00	-52.07
967.99	H	-60.92	-2.68	-63.60	-13.00	-50.60

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
120.21	V	-54.31	-13.92	-68.23	-13.00	-55.23
230.79	V	-54.68	-14.00	-68.69	-13.00	-55.69
298.69	V	-55.41	-12.22	-67.63	-13.00	-54.63
431.58	V	-58.06	-9.45	-67.51	-13.00	-54.51
452.92	V	-59.79	-9.04	-68.83	-13.00	-55.83
530.52	V	-61.86	-7.54	-69.40	-13.00	-56.40
47.46	H	-53.69	-13.03	-66.72	-13.00	-53.72
120.21	H	-51.59	-14.13	-65.72	-13.00	-52.72
182.29	H	-48.03	-12.85	-60.88	-13.00	-47.88
230.79	H	-49.16	-15.10	-64.27	-13.00	-51.27
276.38	H	-55.85	-12.91	-68.76	-13.00	-55.76
416.06	H	-58.41	-9.90	-68.31	-13.00	-55.31

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
66.86	V	-54.35	-15.18	-69.53	-13.00	-56.53
120.21	V	-55.22	-13.92	-69.14	-13.00	-56.14
152.22	V	-56.20	-12.21	-68.41	-13.00	-55.41
266.68	V	-54.37	-12.83	-67.20	-13.00	-54.20
553.80	V	-62.34	-7.35	-69.69	-13.00	-56.69
733.25	V	-61.52	-5.33	-66.85	-13.00	-53.85
120.21	H	-49.06	-14.13	-63.18	-13.00	-50.18
182.29	H	-49.17	-12.85	-62.02	-13.00	-49.02
230.79	H	-50.04	-15.10	-65.14	-13.00	-52.14
298.69	H	-56.07	-12.86	-68.93	-13.00	-55.93
368.53	H	-56.08	-11.82	-67.90	-13.00	-54.90
415.09	H	-59.20	-9.93	-69.13	-13.00	-56.13

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 661**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
265.71	V	-55.09	-12.97	-68.07	-13.00	-55.07
288.02	V	-56.44	-11.51	-67.95	-13.00	-54.95
322.94	V	-55.85	-12.78	-68.64	-13.00	-55.64
431.58	V	-58.64	-9.45	-68.09	-13.00	-55.09
530.52	V	-61.08	-7.54	-68.62	-13.00	-55.62
796.30	V	-64.55	-4.46	-69.01	-13.00	-56.01
54.25	H	-49.21	-15.02	-64.23	-13.00	-51.23
120.21	H	-49.44	-14.13	-63.56	-13.00	-50.56
179.38	H	-47.76	-12.63	-60.38	-13.00	-47.38
230.79	H	-49.90	-15.10	-65.01	-13.00	-52.01
335.55	H	-55.49	-13.16	-68.65	-13.00	-55.65
415.09	H	-58.59	-9.93	-68.52	-13.00	-55.52

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 810**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
120.21	V	-53.75	-13.92	-67.67	-13.00	-54.67
151.25	V	-56.05	-12.07	-68.12	-13.00	-55.12
288.02	V	-56.60	-11.51	-68.11	-13.00	-55.11
368.53	V	-56.79	-11.92	-68.72	-13.00	-55.72
530.52	V	-60.69	-7.54	-68.23	-13.00	-55.23
796.30	V	-64.33	-4.46	-68.79	-13.00	-55.79
120.21	H	-49.70	-14.13	-63.83	-13.00	-50.83
180.35	H	-46.29	-12.66	-58.95	-13.00	-45.95
230.79	H	-51.42	-15.10	-66.52	-13.00	-53.52
368.53	H	-56.48	-11.82	-68.30	-13.00	-55.30
711.91	H	-63.37	-5.79	-69.16	-13.00	-56.16
796.30	H	-66.00	-4.44	-70.44	-13.00	-57.44

Remark:

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

**Operation Mode:** GPRS 1900 / TX / CH 512**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
35.82	V	-48.59	-15.40	-63.99	-13.00	-50.99
152.22	V	-56.37	-12.21	-68.58	-13.00	-55.58
266.68	V	-55.06	-12.83	-67.89	-13.00	-54.89
431.58	V	-58.91	-9.45	-68.36	-13.00	-55.36
531.49	V	-61.99	-7.52	-69.51	-13.00	-56.51
796.30	V	-64.78	-4.46	-69.24	-13.00	-56.24
120.21	H	-49.59	-14.13	-63.72	-13.00	-50.72
179.38	H	-48.95	-12.63	-61.58	-13.00	-48.58
230.79	H	-50.97	-15.10	-66.07	-13.00	-53.07
368.53	H	-56.66	-11.82	-68.47	-13.00	-55.47
415.09	H	-59.28	-9.93	-69.22	-13.00	-56.22
796.30	H	-65.41	-4.44	-69.85	-13.00	-56.85

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
266.68	V	-55.19	-12.83	-68.02	-13.00	-55.02
368.53	V	-56.69	-11.92	-68.61	-13.00	-55.61
431.58	V	-59.05	-9.45	-68.50	-13.00	-55.50
553.80	V	-62.14	-7.35	-69.49	-13.00	-56.49
646.92	V	-62.37	-6.05	-68.42	-13.00	-55.42
798.24	V	-65.23	-4.45	-69.68	-13.00	-56.68
54.25	H	-51.30	-15.02	-66.32	-13.00	-53.32
120.21	H	-50.50	-14.13	-64.62	-13.00	-51.62
179.38	H	-46.22	-12.63	-58.84	-13.00	-45.84
230.79	H	-51.23	-15.10	-66.33	-13.00	-53.33
415.09	H	-58.76	-9.93	-68.69	-13.00	-55.69
790.48	H	-62.99	-4.40	-67.40	-13.00	-54.40

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
151.25	V	-56.42	-12.07	-68.50	-13.00	-55.50
266.68	V	-54.66	-12.83	-67.49	-13.00	-54.49
288.02	V	-56.55	-11.51	-68.06	-13.00	-55.06
452.92	V	-60.09	-9.04	-69.13	-13.00	-56.13
553.80	V	-63.05	-7.35	-70.40	-13.00	-57.40
734.22	V	-64.01	-5.31	-69.32	-13.00	-56.32
120.21	H	-50.68	-14.13	-64.81	-13.00	-51.81
179.38	H	-45.99	-12.63	-58.62	-13.00	-45.62
230.79	H	-50.97	-15.10	-66.07	-13.00	-53.07
369.50	H	-56.71	-11.78	-68.49	-13.00	-55.49
416.06	H	-57.56	-9.90	-67.46	-13.00	-54.46
796.30	H	-65.15	-4.44	-69.59	-13.00	-56.59

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 128**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
270.56	V	-54.66	-12.36	-67.01	-13.00	-54.01
408.30	V	-53.19	-10.19	-63.38	-13.00	-50.38
431.58	V	-57.47	-9.45	-66.91	-13.00	-53.91
533.43	V	-61.16	-7.49	-68.65	-13.00	-55.65
682.81	V	-59.92	-5.87	-65.79	-13.00	-52.79
924.34	V	-66.36	-3.12	-69.47	-13.00	-56.47
116.33	H	-48.37	-14.80	-63.17	-13.00	-50.17
184.23	H	-47.51	-13.04	-60.55	-13.00	-47.55
230.79	H	-47.34	-15.10	-62.44	-13.00	-49.44
398.60	H	-53.91	-10.51	-64.42	-13.00	-51.42
681.84	H	-59.41	-6.02	-65.42	-13.00	-52.42
924.34	H	-65.97	-2.99	-68.96	-13.00	-55.96

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
130.88	V	-45.97	-12.84	-58.81	-13.00	-45.81
230.79	V	-51.20	-14.00	-65.20	-13.00	-52.20
322.94	V	-54.07	-12.78	-66.85	-13.00	-53.85
453.89	V	-55.40	-9.02	-64.42	-13.00	-51.42
523.73	V	-58.19	-7.65	-65.83	-13.00	-52.83
967.02	V	-59.35	-2.50	-61.84	-13.00	-48.84
130.88	H	-47.04	-14.44	-61.48	-13.00	-48.48
180.35	H	-49.19	-12.66	-61.85	-13.00	-48.85
230.79	H	-47.95	-15.10	-63.06	-13.00	-50.06
368.53	H	-55.25	-11.82	-67.07	-13.00	-54.07
452.92	H	-57.21	-9.00	-66.22	-13.00	-53.22
967.02	H	-59.91	-2.69	-62.60	-13.00	-49.60

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 251**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
60.07	V	-51.18	-15.66	-66.83	-13.00	-53.83
116.33	V	-52.09	-14.60	-66.69	-13.00	-53.69
240.49	V	-52.70	-13.38	-66.08	-13.00	-53.08
266.68	V	-52.36	-12.83	-65.19	-13.00	-52.19
431.58	V	-55.56	-9.45	-65.01	-13.00	-52.01
532.46	V	-60.01	-7.51	-67.52	-13.00	-54.52
116.33	H	-46.87	-14.80	-61.66	-13.00	-48.66
177.44	H	-42.91	-12.62	-55.52	-13.00	-42.52
230.79	H	-44.14	-15.10	-59.24	-13.00	-46.24
368.53	H	-52.96	-11.82	-64.78	-13.00	-51.78
416.06	H	-54.09	-9.90	-63.99	-13.00	-50.99
712.88	H	-57.63	-5.78	-63.41	-13.00	-50.41

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 512**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
152.22	V	-55.76	-12.21	-67.97	-13.00	-54.97
266.68	V	-55.01	-12.83	-67.84	-13.00	-54.84
431.58	V	-58.98	-9.45	-68.43	-13.00	-55.43
530.52	V	-60.53	-7.54	-68.07	-13.00	-55.07
553.80	V	-61.78	-7.35	-69.13	-13.00	-56.13
800.18	V	-65.21	-4.44	-69.65	-13.00	-56.65
120.21	H	-49.89	-14.13	-64.02	-13.00	-51.02
180.35	H	-47.59	-12.66	-60.26	-13.00	-47.26
230.79	H	-50.46	-15.10	-65.57	-13.00	-52.57
368.53	H	-55.97	-11.82	-67.78	-13.00	-54.78
415.09	H	-56.91	-9.93	-66.84	-13.00	-53.84
800.18	H	-64.24	-4.46	-68.70	-13.00	-55.70

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 661**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
151.25	V	-56.80	-12.07	-68.88	-13.00	-55.88
230.79	V	-54.84	-14.00	-68.84	-13.00	-55.84
298.69	V	-54.87	-12.22	-67.09	-13.00	-54.09
431.58	V	-58.35	-9.45	-67.80	-13.00	-54.80
533.43	V	-60.69	-7.49	-68.18	-13.00	-55.18
800.18	V	-64.75	-4.44	-69.19	-13.00	-56.19
120.21	H	-49.49	-14.13	-63.61	-13.00	-50.61
182.29	H	-49.13	-12.85	-61.98	-13.00	-48.98
229.82	H	-50.55	-15.18	-65.73	-13.00	-52.73
368.53	H	-56.04	-11.82	-67.86	-13.00	-54.86
416.06	H	-58.82	-9.90	-68.72	-13.00	-55.72
800.18	H	-64.59	-4.46	-69.05	-13.00	-56.05

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
152.22	V	-54.31	-12.21	-66.52	-13.00	-53.52
230.79	V	-54.84	-14.00	-68.84	-13.00	-55.84
265.71	V	-55.32	-12.97	-68.29	-13.00	-55.29
298.69	V	-55.19	-12.22	-67.41	-13.00	-54.41
431.58	V	-58.23	-9.45	-67.68	-13.00	-54.68
530.52	V	-61.24	-7.54	-68.78	-13.00	-55.78
120.21	H	-49.87	-14.13	-64.00	-13.00	-51.00
180.35	H	-46.09	-12.66	-58.75	-13.00	-45.75
230.79	H	-50.38	-15.10	-65.49	-13.00	-52.49
369.50	H	-54.83	-11.78	-66.61	-13.00	-53.61
415.09	H	-58.87	-9.93	-68.80	-13.00	-55.80
797.27	H	-64.66	-4.44	-69.10	-13.00	-56.10

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9262**Test Date:** June 10, 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)
120.21	V	-54.25	-13.92	-68.17	-13.00	-55.17
335.55	V	-55.63	-12.72	-68.36	-13.00	-55.36
415.09	V	-58.06	-9.87	-67.93	-13.00	-54.93
553.80	V	-61.70	-7.35	-69.04	-13.00	-56.04
733.25	V	-60.71	-5.33	-66.04	-13.00	-53.04
796.30	V	-56.60	-4.46	-61.06	-13.00	-48.06
54.25	H	-54.80	-15.02	-69.82	-13.00	-56.82
288.02	H	-52.97	-11.93	-64.91	-13.00	-51.91
335.55	H	-56.20	-13.16	-69.36	-13.00	-56.36
369.50	H	-58.61	-11.78	-70.39	-13.00	-57.39
648.86	H	-65.96	-5.86	-71.83	-13.00	-58.83
799.21	H	-59.40	-4.46	-63.86	-13.00	-50.86

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9400**Test Date:** June 10, 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)
60.07	V	-51.32	-15.66	-66.98	-13.00	-53.98
119.24	V	-53.86	-14.08	-67.93	-13.00	-54.93
230.79	V	-53.00	-14.00	-67.00	-13.00	-54.00
288.02	V	-54.95	-11.51	-66.46	-13.00	-53.46
527.61	V	-63.15	-7.59	-70.73	-13.00	-57.73
798.24	V	-56.77	-4.45	-61.22	-13.00	-48.22
54.25	H	-48.02	-15.02	-63.04	-13.00	-50.04
239.52	H	-55.81	-14.04	-69.85	-13.00	-56.85
288.02	H	-52.49	-11.93	-64.43	-13.00	-51.43
415.09	H	-60.41	-9.93	-70.34	-13.00	-57.34
527.61	H	-64.25	-7.79	-72.03	-13.00	-59.03
798.24	H	-60.47	-4.45	-64.92	-13.00	-51.92

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9538**Test Date:** June 10, 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)
54.25	V	-47.31	-15.95	-63.26	-13.00	-50.26
230.79	V	-53.40	-14.00	-67.40	-13.00	-54.40
288.02	V	-54.97	-11.51	-66.48	-13.00	-53.48
369.50	V	-57.68	-11.91	-69.59	-13.00	-56.59
552.83	V	-61.12	-7.35	-68.47	-13.00	-55.47
798.24	V	-57.75	-4.45	-62.20	-13.00	-49.20
54.25	H	-53.62	-15.02	-68.64	-13.00	-55.64
120.21	H	-57.94	-14.13	-72.07	-13.00	-59.07
288.02	H	-52.86	-11.93	-64.80	-13.00	-51.80
369.50	H	-58.69	-11.78	-70.47	-13.00	-57.47
416.06	H	-61.28	-9.90	-71.18	-13.00	-58.18
799.21	H	-64.22	-4.46	-68.68	-13.00	-55.68

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9262**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Jerry Lin**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
61.04	V	-50.59	-15.59	-66.18	-13.00	-53.18
265.71	V	-53.18	-12.97	-66.16	-13.00	-53.16
368.53	V	-58.44	-11.92	-70.36	-13.00	-57.36
553.80	V	-62.20	-7.35	-69.55	-13.00	-56.55
731.31	V	-60.45	-5.35	-65.80	-13.00	-52.80
799.21	V	-59.35	-4.44	-63.80	-13.00	-50.80
54.25	H	-52.97	-15.02	-67.99	-13.00	-54.99
239.52	H	-55.92	-14.04	-69.96	-13.00	-56.96
288.02	HH	-52.93	-11.93	-64.86	-13.00	-51.86
335.55	H	-56.31	-13.16	-69.47	-13.00	-56.47
415.09	H	-60.22	-9.93	-70.15	-13.00	-57.15
798.24	H	-62.04	-4.45	-66.49	-13.00	-53.49

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9400**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Jerry Lin**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
61.04	V	-51.39	-15.59	-66.98	-13.00	-53.98
120.21	V	-53.84	-13.92	-67.76	-13.00	-54.76
288.02	V	-55.66	-11.51	-67.17	-13.00	-54.17
332.64	V	-55.27	-12.74	-68.01	-13.00	-55.01
415.09	V	-59.09	-9.87	-68.96	-13.00	-55.96
798.24	V	-57.54	-4.45	-61.99	-13.00	-48.99
54.25	H	-45.84	-15.02	-60.86	-13.00	-47.86
120.21	H	-57.97	-14.13	-72.10	-13.00	-59.10
288.02	H	-52.58	-11.93	-64.51	-13.00	-51.51
368.53	H	-57.82	-11.82	-69.63	-13.00	-56.63
415.09	H	-59.78	-9.93	-69.72	-13.00	-56.72
797.27	H	-62.44	-4.44	-66.88	-13.00	-53.88

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9538**Test Date:** June 10, 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)
266.68	V	-53.37	-12.83	-66.20	-13.00	-53.20
298.69	V	-53.11	-12.22	-65.33	-13.00	-52.33
332.64	V	-54.28	-12.74	-67.02	-13.00	-54.02
551.86	V	-61.10	-7.35	-68.46	-13.00	-55.46
732.28	V	-61.64	-5.34	-66.98	-13.00	-53.98
797.27	V	-58.49	-4.46	-62.95	-13.00	-49.95
239.52	H	-56.01	-14.04	-70.05	-13.00	-57.05
288.02	H	-52.70	-11.93	-64.63	-13.00	-51.63
368.53	H	-56.81	-11.82	-68.63	-13.00	-55.63
415.09	H	-60.56	-9.93	-70.50	-13.00	-57.50
527.61	H	-64.34	-7.79	-72.13	-13.00	-59.13
731.31	H	-64.76	-5.51	-70.27	-13.00	-57.27

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band II /
TX / CH 9262**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Mark Yang**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
86.26	V	-41.16	-20.28	-61.45	-13.00	-48.45
184.23	V	-47.20	-14.31	-61.51	-13.00	-48.51
391.81	V	-50.61	-11.09	-61.70	-13.00	-48.70
415.09	V	-53.36	-9.87	-63.23	-13.00	-50.23
519.85	V	-57.09	-7.70	-64.80	-13.00	-51.80
719.67	V	-61.25	-5.53	-66.78	-13.00	-53.78
47.46	H	-52.43	-13.03	-65.45	-13.00	-52.45
120.21	H	-49.76	-14.13	-63.89	-13.00	-50.89
147.37	H	-51.57	-13.25	-64.82	-13.00	-51.82
184.23	H	-50.03	-13.04	-63.06	-13.00	-50.06
276.38	H	-51.98	-12.91	-64.89	-13.00	-51.89
391.81	H	-52.93	-10.84	-63.77	-13.00	-50.77

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band II /
TX / CH 9400**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Mark Yang**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.79	V	-47.15	-14.92	-62.08	-13.00	-49.08
47.46	V	-48.76	-14.33	-63.09	-13.00	-50.09
147.37	V	-51.62	-11.91	-63.53	-13.00	-50.53
391.81	V	-50.23	-11.09	-61.32	-13.00	-48.32
519.85	V	-57.02	-7.70	-64.73	-13.00	-51.73
649.83	V	-58.62	-6.08	-64.70	-13.00	-51.70
47.46	H	-51.31	-13.03	-64.34	-13.00	-51.34
147.37	H	-49.79	-13.25	-63.04	-13.00	-50.04
184.23	H	-47.41	-13.04	-60.45	-13.00	-47.45
277.35	H	-52.33	-12.91	-65.24	-13.00	-52.24
326.82	H	-52.89	-13.16	-66.05	-13.00	-53.05
391.81	H	-52.99	-10.84	-63.82	-13.00	-50.82

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band II /
TX / CH 9538**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Mark Yang**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.79	V	-48.53	-14.92	-63.45	-13.00	-50.45
86.26	V	-42.29	-20.28	-62.57	-13.00	-49.57
147.37	V	-52.02	-11.91	-63.93	-13.00	-50.93
389.87	V	-50.88	-11.21	-62.10	-13.00	-49.10
519.85	V	-56.37	-7.70	-64.08	-13.00	-51.08
652.74	V	-59.41	-6.11	-65.51	-13.00	-52.51
184.23	H	-49.10	-13.04	-62.14	-13.00	-49.14
230.79	H	-50.72	-15.10	-65.82	-13.00	-52.82
326.82	H	-52.21	-13.16	-65.37	-13.00	-52.37
391.81	H	-53.58	-10.84	-64.42	-13.00	-51.42
415.09	H	-55.67	-9.93	-65.60	-13.00	-52.60
519.85	H	-58.25	-7.81	-66.06	-13.00	-53.06

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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-45.16	1.63	-43.53	-13.00	-30.53
2127.00	V	-53.91	2.58	-51.33	-13.00	-38.33
2470.00	V	-42.02	4.75	-37.27	-13.00	-24.27
7356.00	V	-48.94	13.33	-35.61	-13.00	-22.61
N/A						
1651.00	H	-47.75	1.63	-46.11	-13.00	-33.11
2470.00	H	-46.31	4.74	-41.57	-13.00	-28.57
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:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-47.82	1.64	-46.19	-13.00	-33.19
2127.00	V	-54.08	2.58	-51.50	-13.00	-38.50
2512.00	V	-46.67	4.96	-41.71	-13.00	-28.71
3345.00	V	-59.67	6.41	-53.26	-13.00	-40.26
N/A						
1672.00	H	-48.55	1.66	-46.89	-13.00	-33.89
2512.00	H	-47.01	4.94	-42.08	-13.00	-29.08
4885.00	H	-46.02	9.48	-36.54	-13.00	-23.54
N/A						

Remark:

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

**Operation Mode:** GSM 850 / TX / CH 251**Test Date:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-46.78	1.65	-45.14	-13.00	-32.14
2127.00	V	-53.79	2.58	-51.21	-13.00	-38.21
2547.00	V	-49.94	5.02	-44.92	-13.00	-31.92
N/A						
1700.00	H	-50.52	1.68	-48.84	-13.00	-35.84
2547.00	H	-49.36	4.98	-44.37	-13.00	-31.37
N/A						

Remark:

3. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
4. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-48.15	1.63	-46.53	-13.00	-33.53
2134.00	V	-53.91	2.63	-51.29	-13.00	-38.29
2470.00	V	-47.76	4.75	-43.00	-13.00	-30.00
N/A						
1651.00	H	-50.95	1.63	-49.31	-13.00	-36.31
2470.00	H	-47.10	4.74	-42.36	-13.00	-29.36
N/A						

Remark:

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

**Operation Mode:** GPRS 850 / TX / CH 190**Test Date:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-47.33	1.64	-45.70	-13.00	-32.70
2127.00	V	-53.95	2.58	-51.36	-13.00	-38.36
2512.00	V	-46.03	4.96	-41.07	-13.00	-28.07
4185.00	V	-61.62	8.77	-52.85	-13.00	-39.85
N/A						
1672.00	H	-48.37	1.66	-46.72	-13.00	-33.72
2512.00	H	-46.76	4.94	-41.83	-13.00	-28.83
N/A						

Remark:

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

**Operation Mode:** GPRS 850 / TX / CH 251**Test Date:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 55 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-46.32	1.65	-44.67	-13.00	-31.67
2127.00	V	-54.19	2.58	-51.61	-13.00	-38.61
2547.00	V	-48.06	5.02	-43.05	-13.00	-30.05
N/A						
1700.00	H	-50.43	1.68	-48.75	-13.00	-35.75
2547.00	H	-49.25	4.98	-44.27	-13.00	-31.27
N/A						

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 512**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-54.15	7.57	-46.58	-13.00	-33.58
5550.00	V	-59.59	8.19	-51.39	-13.00	-38.39
N/A						
3702.00	H	-61.54	6.71	-54.82	-13.00	-41.82
N/A						

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 661**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 55 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-54.10	7.81	-46.29	-13.00	-33.29
5641.00	V	-59.46	8.23	-51.23	-13.00	-38.23
N/A						
3758.00	H	-59.29	6.83	-52.47	-13.00	-39.47
N/A						

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 810**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-46.85	8.09	-38.76	-13.00	-25.76
5732.00	V	-50.63	8.27	-42.36	-13.00	-29.36
N/A						
3821.00	H	-51.78	6.95	-44.83	-13.00	-31.83
N/A						

Remark:

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

**Operation Mode:** GPRS 1900 / TX / CH 512**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-51.26	7.57	-43.69	-13.00	-30.69
5550.00	V	-56.88	8.19	-48.68	-13.00	-35.68
N/A						
3702.00	H	-58.50	6.71	-51.79	-13.00	-38.79
N/A						

Remark:

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

**Operation Mode:** GPRS 1900 / TX / CH 661**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-51.72	7.81	-43.90	-13.00	-30.90
N/A						
3758.00	H	-57.98	6.83	-51.15	-13.00	-38.15
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:** GPRS 1900 / TX / CH 810**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-46.32	8.09	-38.23	-13.00	-25.23
5732.00	V	-58.34	8.27	-50.07	-13.00	-37.07
N/A						
3821.00	H	-52.28	6.95	-45.33	-13.00	-32.33
N/A						

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 128**Test Date:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-55.10	1.63	-53.47	-13.00	-40.47
2134.00	V	-54.57	2.63	-51.95	-13.00	-38.95
2470.00	V	-48.54	4.75	-43.79	-13.00	-30.79
N/A						
2470.00	H	-24.01	4.74	-19.26	-13.00	-6.26
4122.00	H	-42.96	7.47	-35.49	-13.00	-22.49
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:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-54.48	1.64	-52.84	-13.00	-39.84
2134.00	V	-55.22	2.63	-52.59	-13.00	-39.59
2512.00	V	-54.70	4.96	-49.74	-13.00	-36.74
N/A						
1672.00	H	-56.53	1.66	-54.87	-13.00	-41.87
2134.00	H	-60.35	2.76	-57.59	-13.00	-44.59
2512.00	H	-55.24	4.94	-50.31	-13.00	-37.31
N/A						

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 251**Test Date:** June 9, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-52.72	1.65	-51.07	-13.00	-38.07
2134.00	V	-53.79	2.63	-51.17	-13.00	-38.17
2547.00	V	-57.64	5.02	-52.62	-13.00	-39.62
N/A						
1595.00	H	-58.84	1.58	-57.26	-13.00	-44.26
1700.00	H	-56.97	1.68	-55.28	-13.00	-42.28
2127.00	H	-58.97	2.72	-56.25	-13.00	-43.25
2547.00	H	-57.70	4.98	-52.72	-13.00	-39.72
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:** EDGE 1900 / TX / CH 512**Test Date:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-55.96	7.57	-48.39	-13.00	-35.39
N/A						
3702.00	H	-63.09	6.71	-56.37	-13.00	-43.37
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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-57.62	7.81	-49.81	-13.00	-36.81
6684.00	V	-60.78	11.58	-49.20	-13.00	-36.20
N/A						
3758.00	H	-62.86	6.83	-56.03	-13.00	-43.03
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:** June 8, 2009**Temperature:** 25°C**Tested by:** Mark Yang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-48.77	8.09	-40.68	-13.00	-27.68
N/A						
3821.00	H	-55.09	6.95	-48.14	-13.00	-35.14
N/A						

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9262**Test Date:** June 10, 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)
3709.00	V	-60.81	7.60	-53.21	-13.00	-40.21
N/A						
3709.00	H	-62.17	6.73	-55.45	-13.00	-42.45
N/A						

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9400**Test Date:** June 10, 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	-59.31	7.81	-51.50	-13.00	-38.50
N/A						
3758.00	H	-61.18	6.83	-54.35	-13.00	-41.35
N/A						

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9538**Test Date:** June 10, 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)
3618.00	V	-58.94	7.20	-51.74	-13.00	-38.74
3814.00	V	-54.51	8.06	-46.45	-13.00	-33.45
N/A						
3814.00	H	-52.72	6.94	-45.79	-13.00	-32.79
5193.00	H	-61.04	10.10	-50.94	-13.00	-37.94
N/A						

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9262**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Jerry Lin**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-61.96	7.57	-54.39	-13.00	-41.39
N/A						
3604.00	H	-63.39	6.52	-56.87	-13.00	-43.87
N/A						

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9400**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Jerry Lin**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3765.00	V	-60.78	7.85	-52.93	-13.00	-39.93
N/A						
3765.00	H	-60.33	6.84	-53.49	-13.00	-40.49
N/A						

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9538**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Jerry Lin**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3814.00	V	-58.02	8.06	-49.96	-13.00	-36.96
N/A						
3814.00	H	-55.02	6.94	-48.08	-13.00	-35.08
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:** WCDMA / HSUPA Band II /
TX / CH 9262**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Mark Yang**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3709.00	V	-58.91	7.60	-51.31	-13.00	-38.31
N/A						
2519.00	H	-60.55	4.95	-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:** WCDMA / HSUPA Band II /
TX / CH 9400**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Mark Yang**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-58.88	7.81	-51.07	-13.00	-38.07
N/A						
3758.00	H	-61.76	6.83	-54.94	-13.00	-41.94
N/A						

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band II /
TX / CH 9538**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** June 10, 2009**Tested by:** Mark Yang**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3814.00	V	-58.52	8.06	-50.46	-13.00	-37.46
N/A						
3821.00	H	-58.57	6.95	-51.62	-13.00	-38.62
N/A						

Remark:

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

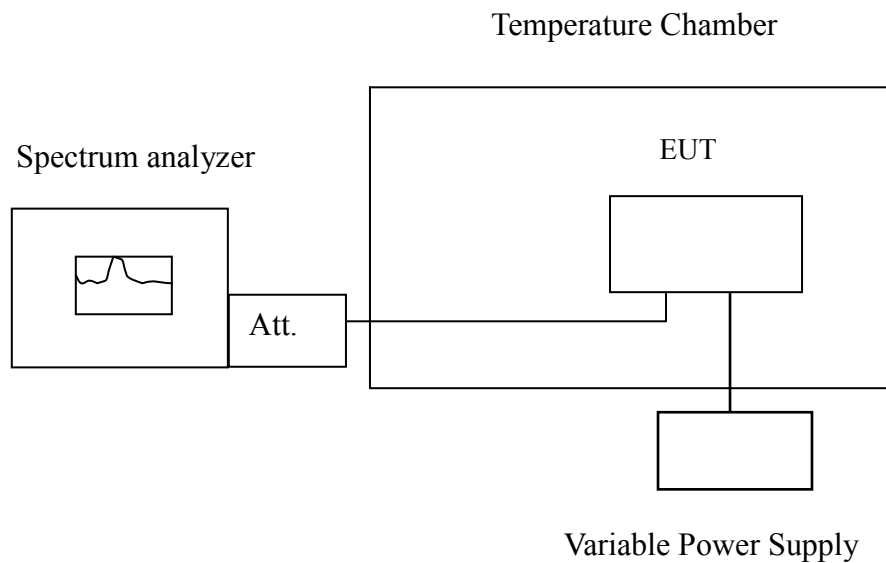
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

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

Frequency Tolerance: 2.5 ppm

Test Configuration



Remark: Measurement setup for testing on Antenna connector



TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	83600021	42	2090
	40	83600018	39	
	30	83600020	41	
	20	83599979	0	
	10	83600011	32	
	0	83600015	36	
	-10	83600018	39	
	-20	83600016	37	
	-30	83600010	31	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000030	54	4700
	40	1880000026	50	
	30	1880000025	49	
	20	1879999976	0	
	10	1880000024	48	
	0	1880000029	53	
	-10	1880000031	55	
	-20	1880000037	61	
	-30	1880000036	60	



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)
120	50	83600010	18	2090
	40	83600011	19	
	30	83600005	13	
	20	83599992	0	
	10	83600013	21	
	0	83600005	13	
	-10	83600006	14	
	-20	83600007	15	
	-30	83600004	12	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000017	32	4700
	40	1880000016	31	
	30	1880000011	26	
	20	1879999985	0	
	10	1880000020	35	
	0	1880000019	34	
	-10	1880000014	29	
	-20	1880000021	36	
	-30	1880000016	31	



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)
120	50	83600004	8	2090
	40	83600005	9	
	30	83600003	7	
	20	83599996	0	
	10	83600002	6	
	0	83600001	5	
	-10	83600000	4	
	-20	83599999	3	
	-30	83600001	5	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000018	17	4700
	40	1880000022	21	
	30	1880000001	0	
	20	1880000001	0	
	10	1880000033	32	
	0	1880000031	30	
	-10	1880000034	33	
	-20	1880000034	33	
	-30	1880000031	30	



Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1879999978	-58	4700
	40	1879999977	-59	
	30	1879999974	-62	
	20	1880000036	0	
	10	1879999975	-61	
	0	1879999976	-60	
	-10	1879999977	-59	
	-20	1879999978	-58	
	-30	1879999979	-57	

Reference Frequency: WCDMA HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000024	41	4700
	40	1880000023	40	
	30	1880000021	38	
	20	1879999983	0	
	10	1880000022	39	
	0	1880000024	41	
	-10	1880000021	38	
	-20	1880000019	36	
	-30	1880000018	35	



Reference Frequency: WCDMA HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000010	67	4700
	40	1880000013	70	
	30	1880000014	71	
	20	1879999943	0	
	10	1880000020	77	
	0	1880000021	78	
	-10	1880000023	80	
	-20	1880000032	89	
	-30	1880000026	83	

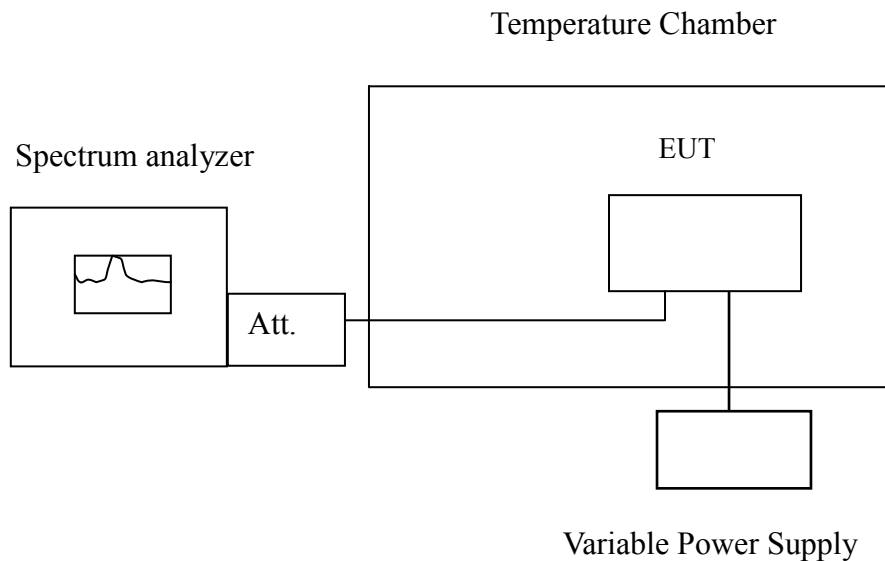
7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

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

Frequency Tolerance: 2.5 ppm.

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

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

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

**TEST RESULTS***No non-compliance noted.*

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
138	20	83599990	11	2090
120		83599979	0	
102		83599985	6	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
138	20	1879999967	-9	4700
120		1879999976	0	
102		1879999974	-2	

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)
138	20	83599989	-3	2090
120		83599992	0	
102		83599984	-8	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
138	20	1879999989	4	4700
120		1879999985	0	
102		1879999983	-2	



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)
138	20	83599999	3	2090
120		83599996	0	
102		83599997	1	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
138	20	1879999999	-2	4700
120		1880000001	0	
102		1880000002	1	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
138	20	1880000035	-1	4700
120		1880000036	0	
102		1880000040	4	



Reference Frequency: WCDMA HSDPAB and II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
138	20	1879999987	4	4700
120		1879999983	0	
102		1879999986	3	

Reference Frequency: WCDMA HSUPAB and II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
138	20	1879999938	-5	4700
120		1879999943	0	
102		1879999937	-6	



7.9 POWERLINE CONDUCTED EMISSIONS

LIMIT

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

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

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

Test Configuration

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

TEST PROCEDURE

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

**TEST RESULTS**

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

Operation Mode: Normal Link **Test Date:** June 23, 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
0.1500	52.37	26.77	0.13	52.50	26.90	66.00	56.00	-13.50	-29.10	L1
0.4150	32.13	28.03	0.07	32.20	28.10	57.55	47.55	-25.35	-19.45	L1
1.2600	23.55	14.25	0.05	23.60	14.30	56.00	46.00	-32.40	-31.70	L1
2.8500	19.94	11.94	0.06	20.00	12.00	56.00	46.00	-36.00	-34.00	L1
12.0100	24.00	18.00	0.20	24.20	18.20	60.00	50.00	-35.80	-31.80	L1
29.2350	25.52	21.62	0.58	26.10	22.20	60.00	50.00	-33.90	-27.80	L1
0.1550	53.88	34.68	0.12	54.00	34.80	65.73	55.73	-11.73	-20.93	L2
0.3950	36.03	24.83	0.07	36.10	24.90	57.96	47.96	-21.86	-23.06	L2
0.5050	28.94	15.84	0.06	29.00	15.90	56.00	46.00	-27.00	-30.10	L2
1.3900	22.95	14.75	0.05	23.00	14.80	56.00	46.00	-33.00	-31.20	L2
2.9100	20.24	11.74	0.06	20.30	11.80	56.00	46.00	-35.70	-34.20	L2
12.4100	25.58	19.98	0.22	25.80	20.20	60.00	50.00	-34.20	-29.80	L2

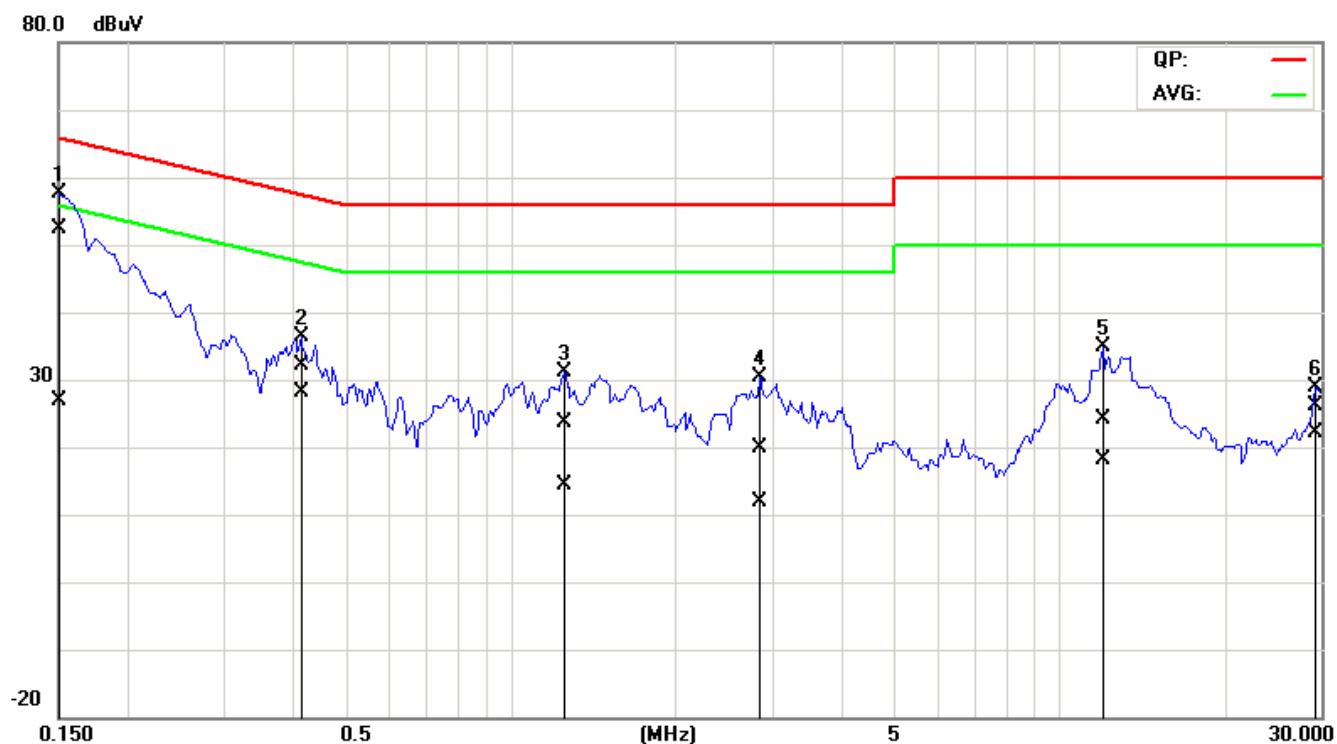
Remark:

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



Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)

