



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

TEST REPORT

For

Personal computer

**Model:
PCG-51311L, PCG-5411L**

Trade Name: SONY

Issued to

**Sony Corporation
1-7-1 Konan Minato-ku Tokyo 108-0075 Japan**

Issued by



**Compliance Certification Services Inc.
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TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION.....	3
2. EUT DESCRIPTION	4
3. TEST METHODOLOGY	7
3.1 EUT CONFIGURATION	7
3.2 EUT EXERCISE	7
3.3 GENERAL TEST PROCEDURES	7
3.4 DESCRIPTION OF TEST MODES	8
4. INSTRUMENT CALIBRATION.....	9
4.1 MEASURING INSTRUMENT CALIBRATION	9
4.2 MEASUREMENT EQUIPMENT USED	10
4.3 MEASUREMENT UNCERTAINTY	11
5. FACILITIES AND ACCREDITATIONS	12
5.1 FACILITIES	12
5.2 EQUIPMENT	12
5.3 TABLE OF ACCREDITATIONS AND LISTINGS	13
6. SETUP OF EQUIPMENT UNDER TEST	14
6.1 SETUP CONFIGURATION OF EUT	14
6.2 SUPPORT EQUIPMENT.....	14
7. FCC PART 22 & 24 REQUIREMENTS	15
7.1 PEAK POWER.....	15
7.2 AVERAGE POWER.....	18
7.1 ERP & EIRP MEASUREMENT	21
7.2 OCCUPIED BANDWIDTH MEASUREMENT	26
7.3 OUT OF BAND EMISSION AT ANTENNA TERMINALS	44
7.4 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	76
7.5 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT	138
7.6 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT	144
7.7 POWERLINE CONDUCTED EMISSIONS	150
APPENDIX I RADIO FREQUENCY EXPOSURE.....	153
APPENDIX II PHOTOGRAPHS OF TEST SETUP	157



1. TEST RESULT CERTIFICATION

Applicant: Sony Corporation
1-7-1 Konan Minato-ku Tokyo 108-0075 Japan

Equipment Under Test: Personal computer

Trade Name: SONY

Model Number: PCG-51311L, PCG-51411L

Date of Test: March 20 ~ April 3, 2010

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

We hereby certify that:

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

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

Approved by:

Reviewed by:

Rex Lai
Section Manager
Compliance Certification Services Inc.

Gina Lo
Section Manager
Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	Personal computer
Trade Name	SONY
Model Number	PCG-51311L, PCG-51411L
Model Discrepancy	All the specification and layout are identical except they come with different model numbers for marketing purposes.
Power Adapter	<ol style="list-style-type: none"> 1. Power Adapter <ol style="list-style-type: none"> a) Brand Name/ Description: SONY / VGP-AC19V43 I/P: 100-240V, 1.6A, 50-60Hz O/P: 19.5V, 3.3A b) Brand Name / Description: SONY / VGP-AC19V39 I/P: 100-240V, 1A, 50-60Hz O/P: 19.5V, 2A c) Brand Name / Description: SONY / VGP-AC19V44 I/P: 100-240V, 1.6A, 50-60Hz O/P: 19.5V, 3.3A d) Brand Name / Description: SONY / VGP-AC19V48 I/P: 100-240V, 1.5A, 50-60Hz O/P: 19.5V, 3.3A e) Brand Name / Description: SONY / VGP-AC19V49 I/P: 100-240V, 1.5A, 50-60Hz O/P: 19.5V, 3.3A f) Brand Name / Description: SONY / VGP-AC19V40 I/P: 100-240V, 1A, 50-60Hz O/P: 19.5V, 2A g) Brand Name / Description: SONY / VGP-AC19V47 I/P: 100-240V, 0.75A, 50-60Hz O/P: 19.5V, 2A 2. Li-ion Battery: <ol style="list-style-type: none"> a) Trade Name / Description SONY / VGP-BPL21 Rating: 10.8V, 7500mAh, 81Wh b) Trade Name / Description SONY / VGP-BPS21A Rating: 10.8V, 5000mAh, 54Wh



Frequency Range	GPRS / EGPRS 850MHz: 824.2 ~ 848.8 MHz GPRS / EGPRS: 1900MHz: 1850.2 ~ 1909.8 MHz WCDMA / HSDPA / HSUPA Band II: 1852.4 ~ 1907.6 MHz WCDMA / HSDPA / HSUPA Band V: 826.4 ~ 846.6 MHz
Modulation Technique	GPRS: GMSK EGPRS: 8PSK WCDMA / HSDPA / HSUPA: Quadrature Phase Shift Keying (QPSK) with Root-raised cosine pulse shaping filters (roll off = 0.22)
Antenna Specification	Main: Brand / Part Number: Foxlink / 25.91006.001 850MHz: PIFA Antenna / Gain: -1.23 dBi 1900MHz: PIFA Antenna / Gain: 2.37 dBi Aux: Brand / Part Number: Foxlink / 25.91006.011 850MHz: PIFA Antenna / Gain: -4.47dBi 1900MHz: PIFA Antenna / Gain: -0.12 dBi

Mode	ERP Power (dBm)	Type of Emission
GPRS 850MHz	28.71	248KGXW
EGPRS 850MHz	27.02	247KG7W
WCDMA Band V	23.15	4M18F9W
WCDMA / HSDPA Band V	23.86	4M19F9W
WCDMA / HSUPA Band V	23.82	4M18F9W

Mode	ERP Power (dBm)	Type of Emission
GPRS 1900MHz	31.21	250KGXW
EGPRS 1900MHz	29.34	251KG7W
WCDMA Band II	28.41	4M17F9W
WCDMA / HSDPA Band II	27.71	4M18F9W
WCDMA / HSUPA Band II	27.51	4M18F9W



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: **AK8PCG51311L** 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: PCG-51311L) comes with seven power adaptors, two batteries for sale. After the preliminary test, the EUT with power adapter (Model: VGP-AC19V39) and battery (VGP-BPS21A) was found to emit the worst emissions and therefore had been tested under operating condition.

EUT staying in continuous transmitting mode was programmed.

GPRS / EGPRS 850:

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

GPRS / EGPRS 1900:

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

WCDMA Band II:

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

WCDMA Band V:

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

WCDMA / HSDPA Band II:

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

WCDMA / HSDPA Band V:

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

WCDMA / HSUPA Band II:

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

WCDMA / HSDPA Band V:

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

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.



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	03/04/2011
Power Meter	Agilent	E4416A	GB41291611	06/28/2010
Power Sensor	Agilent	E9327A	US40441097	06/28/2010
Temp. / Humidity Chamber	Terchy	MHG-150LF	930619	09/15/2010
DC Power Source	Agilent	E3640A	MY40001774	01/08/2011

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	10/25/2010
Test Receiver	Rohde & Schwarz	ESCI	100064	11/29/2010
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	10/19/2010
Bilog- Antenna	Sunol Sciences	JB3	A030205	09/11/2010
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	04/22/2011
S.G.	HP	83630B	3844A01022	07/08/2010
Substituted Dipole	Schwazbeck	VHAP/UHAP	998 +999/ 981+982	06/08/2010
Substituted Horn	EMCO	3115	00022257	12/15/2010
Test S/W	LABVIEW (V 6.1)			

Powerline Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESHS30	828144/003	12/06/2010
LISN	EMCO	3825/2	9106-1809	05/03/2010
LISN	SCHAFFNER	NNB 41	03/10013	12/03/2010
Test S/W	LABVIEW (V 6.1)			



4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/-1.1559
3M Semi Anechoic Chamber / 30M~200M	+/-3.9944
3M Semi Anechoic Chamber / 200M~1000M	+/-3.9285
3M Semi Anechoic Chamber / 1G~8G	+/-2.4734
3M Semi Anechoic Chamber / 8G~18G	+/-2.4878
3M Semi Anechoic Chamber / 18G~26G	+/-2.6215
3M Semi Anechoic Chamber / 26G~40G	+/-2.8603

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	
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	2408WFPb	CN-OG293H-74261-95M-1KGS	FCC DoC	Shielded, 1.8m with 2 cores	Unshielded, 1.8m
2.	USB Mouse	HP	M-UAL-96	570580-001	FCC DoC	Shielded, 1.8m	N/A
3.	Multimedia Headset	Labtec	Axis-301	N/A	FCC DoC	Unshielded, 1.8m x 2	N/A
4.	320GB 2.5" HDD	Seagate	9ZA2MG-500	2GE2NB00	FCC DoC	Shielded, 1.8m	N/A
5.	320GB 2.5" HDD	Seagate	9ZA2MG-500	2GE3NHGE	FCC DoC	Shielded, 1.8m	N/A
6.	USB 2.0 External HDD	TeraSyS	F12-UF(COMBO)	A0100215-420014	FCC DoC	Shielded, 1.8m	N/A
7.	8960 Series 10 Wireless Communication test set (Remote)	Agilent	E5515C	GB44051665	N/A	N/A	Unshielded, 1.8m

Remark:

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



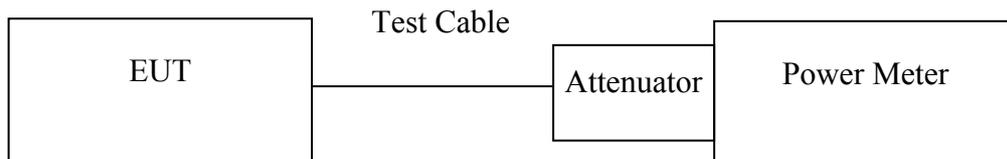
7. FCC PART 22 & 24 REQUIREMENTS

7.1 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)	Peak Power (dBm)	Output Power W
GPRS 850 (Class 10)	128	824.20	*32.00	1.58489
	190	836.40	31.90	1.54882
	251	848.80	31.80	1.51356
EGPRS 850 (Class 10)	128	824.20	*27.50	0.56234
	190	836.40	27.50	0.56234
	251	848.80	27.30	0.53703

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
GPRS 1900 (Class 10)	512	1850.20	*29.30	0.85114
	661	1880.00	29.10	0.81283
	810	1909.80	28.80	0.75858
EGPRS 1900 (Class 10)	512	1850.20	*25.70	0.37154
	661	1880.00	25.60	0.36308
	810	1909.80	25.30	0.33884

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



Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA (BAND II)	9262	1852.40	*27.55	0.56885
	9400	1880.00	27.40	0.54954
	9538	1907.60	27.06	0.50816
WCDMA (BAND V)	4132	826.40	28.05	0.63826
	4182	836.40	*28.06	0.63973
	4233	846.60	28.05	0.63826

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA / HSDPA (BAND II)	9262	1852.40	*27.70	0.58884
	9400	1880.00	27.70	0.58884
	9538	1907.60	27.50	0.56234
WCDMA / HSDPA (BAND V)	4132	826.40	*28.30	0.67608
	4182	836.40	28.10	0.64565
	4233	846.60	28.20	0.66069

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA / HSUPA (BAND II)	9262	1852.40	*27.80	0.60256
	9400	1880.00	27.70	0.58884
	9538	1907.60	27.60	0.57544
WCDMA / HSUPA (BAND V)	4132	826.40	*28.30	0.67608
	4182	836.40	28.30	0.67608
	4233	846.60	28.30	0.67608

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

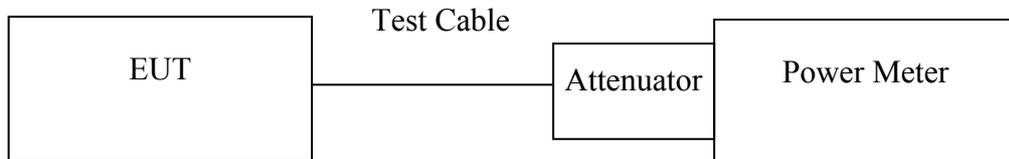


7.2 AVERAGE POWER

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)	AVG Power (dBm)	Output Power W
GPRS 850 (Class 10)	128	824.20	25.98	0.39622
	190	836.40	25.88	0.38720
	251	848.80	25.78	0.37839
EGPRS 850 (Class 10)	128	824.20	21.48	0.14059
	190	836.40	21.48	0.14059
	251	848.80	21.28	0.13426

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)	Output Power W
GPRS 1900 (Class 10)	512	1850.20	23.28	0.21278
	661	1880.00	23.08	0.20321
	810	1909.80	22.78	0.18964
EGPRS 1900 (Class 10)	512	1850.20	19.68	0.09288
	661	1880.00	19.58	0.09077
	810	1909.80	19.28	0.08471

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



Test Mode	CH	Frequency (MHz)	AVG Power (dBm)	Output Power W
WCDMA (BAND II)	9262	1852.40	24.51	0.28249
	9400	1880.00	24.38	0.27416
	9538	1907.60	24.09	0.25645
WCDMA (BAND V)	4132	826.40	25.20	0.33113
	4182	836.40	25.23	0.33343
	4233	846.60	25.04	0.31915

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)	Output Power W
WCDMA / HSDPA (BAND II)	9262	1852.40	24.10	0.25704
	9400	1880.00	24.10	0.25704
	9538	1907.60	24.20	0.26303
WCDMA / HSDPA (BAND V)	4132	826.40	24.80	0.30200
	4182	836.40	24.70	0.29512
	4233	846.60	24.70	0.29512

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power W
WCDMA / HSUPA (BAND II)	9262	1852.40	24.20	0.26303
	9400	1880.00	24.10	0.25704
	9538	1907.60	24.20	0.26303
WCDMA / HSUPA (BAND V)	4132	826.40	24.80	0.30200
	4182	836.40	24.90	0.30903
	4233	846.60	24.70	0.29512

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

7.3 ERP & EIRP MEASUREMENT

LIMIT

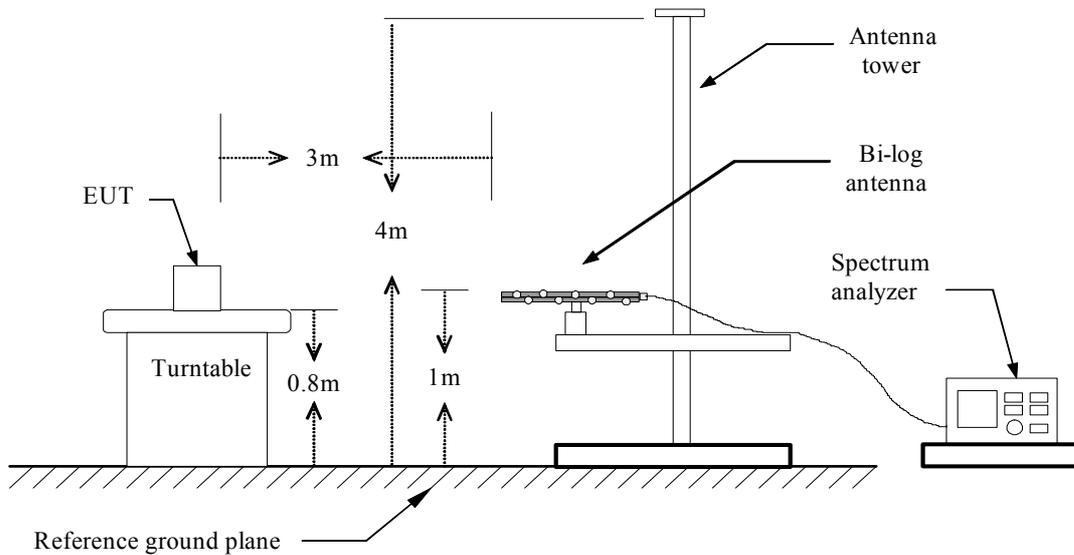
According to FCC §2.1046

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

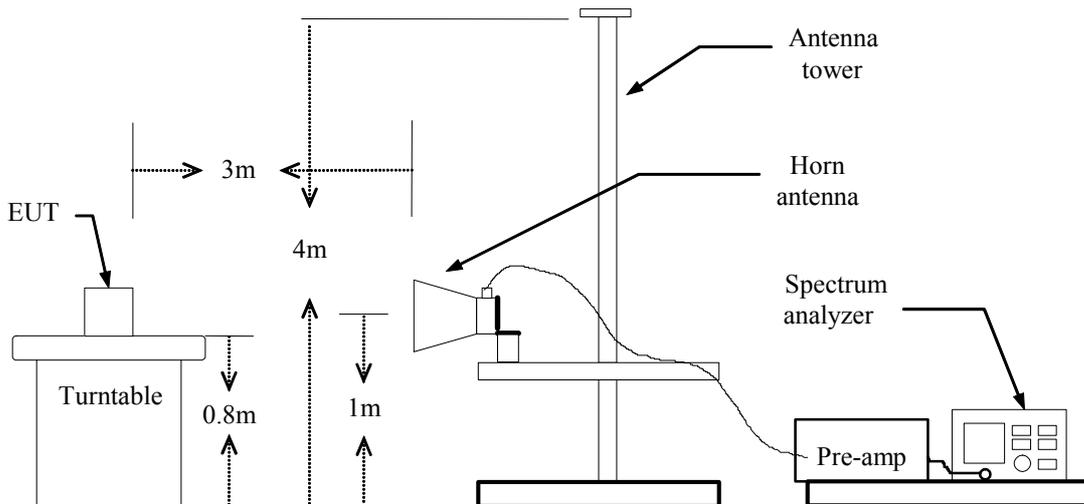
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

Test Configuration

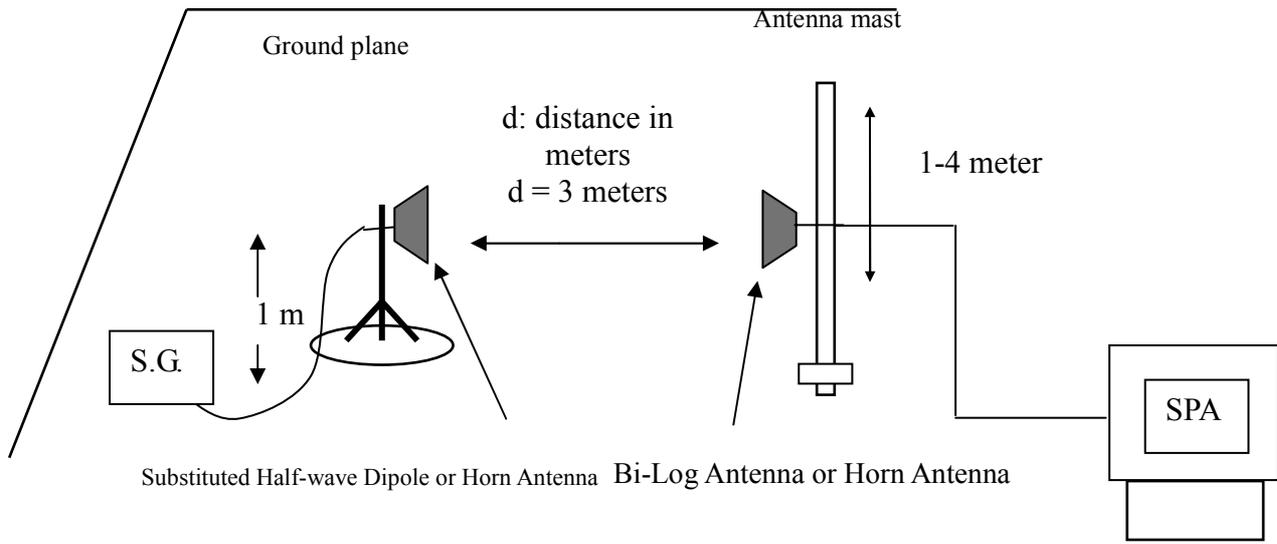
Below 1 GHz



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:

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

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

TEST RESULTS

No non-compliance noted.

**GPRS 850 Test Data (CLASS 10)**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.18	V	-7.08	34.62	27.54	38.50	-10.96
	824.18	H	-6.36	34.65	28.28	38.50	-10.22
190	836.66	V	-6.56	34.53	27.97	38.50	-10.53
	836.66	H	-5.92	34.63	28.71	38.50	-9.79
251	848.78	V	-7.23	34.64	27.40	38.50	-11.10
	848.78	H	-6.97	34.75	27.77	38.50	-10.73

GPRS 1900 Test Data (CLASS 10)

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	-12.13	41.17	29.04	33.00	-3.96
	1850.20	H	-10.02	40.79	30.77	33.00	-2.23
661	1880.00	V	-11.95	41.23	29.28	33.00	-3.72
	1880.00	H	-9.93	41.14	31.21	33.00	-1.79
810	1909.80	V	-12.15	41.30	29.15	33.00	-3.85
	1909.80	H	-10.49	41.38	30.88	33.00	-2.12

EGPRS 850 Test Data (Class 10)

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.36	V	-8.34	34.62	26.28	38.50	-12.22
	824.36	H	-7.63	34.65	27.02	38.50	-11.48
190	836.48	V	-7.92	34.53	26.61	38.50	-11.89
	836.48	H	-7.64	34.63	27.00	38.50	-11.50
251	848.66	V	-8.41	34.63	26.23	38.50	-12.27
	848.66	H	-8.30	34.75	26.45	38.50	-12.05

EGPRS 1900 Test Data (Class 10)

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.60	V	-14.16	41.17	27.01	33.00	-5.99
	1850.00	H	-12.36	40.79	28.44	33.00	-4.56
661	1880.30	V	-14.54	41.23	26.69	33.00	-6.31
	1880.10	H	-11.81	41.15	29.34	33.00	-3.66
810	1909.80	V	-14.28	41.30	27.02	33.00	-5.98
	1909.90	H	-12.36	41.38	29.02	33.00	-3.98

**WCDMA Test Data (BAND II)**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1851.50	V	-16.07	41.17	25.10	33.00	-7.90
	1851.50	H	-13.43	40.81	27.38	33.00	-5.62
9400	1881.60	V	-15.68	41.23	25.55	33.00	-7.45
	1879.40	H	-13.04	41.14	28.09	33.00	-4.91
9538	1906.50	V	-14.84	41.29	26.46	33.00	-6.54
	1906.50	H	-12.97	41.38	28.41	33.00	-4.59

WCDMA Test Data (BAND V)

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	827.78	V	-11.63	34.59	22.96	38.50	-15.54
	827.78	H	-11.67	34.64	22.97	38.50	-15.53
4182	835.58	V	-11.75	34.53	22.79	38.50	-15.71
	835.58	H	-11.70	34.63	22.93	38.50	-15.57
4233	845.24	V	-11.43	34.58	23.15	38.50	-15.35
	844.94	H	-11.65	34.70	23.05	38.50	-15.45

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	-15.96	41.17	25.21	33.00	-7.79
	1853.20	H	-14.40	40.83	26.43	33.00	-6.57
9400	1881.20	V	-14.85	41.23	26.39	33.00	-6.61
	1880.90	H	-14.02	41.15	27.13	33.00	-5.87
9538	1906.20	V	-15.67	41.29	25.62	33.00	-7.38
	1906.30	H	-13.67	41.38	27.71	33.00	-5.29

WCDMA / HSDPA BAND V Test Data

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	827.23	V	-12.28	34.60	22.32	38.50	-16.18
	827.65	H	-11.08	34.64	23.57	38.50	-14.93
4182	836.68	V	-12.54	34.52	21.98	38.50	-16.52
	835.56	H	-11.13	34.63	23.50	38.50	-15.00
4233	845.36	V	-12.90	34.58	21.68	38.50	-16.82
	845.64	H	-10.85	34.71	23.86	38.50	-14.64



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	1853.00	V	-15.83	41.18	25.34	33.00	-7.66
	1853.20	H	-14.05	40.83	26.78	33.00	-6.22
9400	1878.60	V	-15.68	41.23	25.55	33.00	-7.45
	1879.00	H	-14.08	41.13	27.05	33.00	-5.95
9538	1906.60	V	-15.53	41.29	25.76	33.00	-7.24
	1906.60	H	-13.86	41.38	27.51	33.00	-5.49

WCDMA / HSUPA BAND V Test Data

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	827.37	V	-12.91	34.59	21.68	38.50	-16.82
	827.65	H	-11.89	34.64	22.75	38.50	-15.75
4182	835.91	V	-12.40	34.53	22.13	38.50	-16.37
	836.75	H	-11.29	34.63	23.34	38.50	-15.16
4233	845.57	V	-12.96	34.59	21.62	38.50	-16.88
	845.50	H	-10.89	34.70	23.82	38.50	-14.68

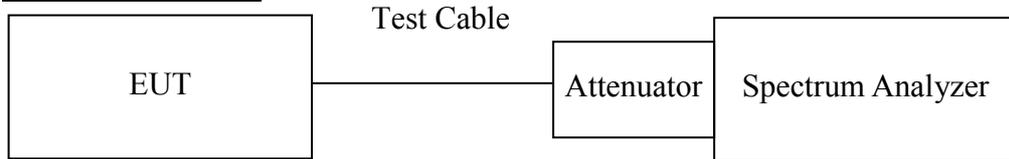


7.4 OCCUPIED BANDWIDTH MEASUREMENT

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)
GPRS 850 (Class 10)	128	824.190	246.0406
	190	836.580	246.6696
	251	848.780	248.5958
EGPRS 850 (Class 10)	128	824.190	247.5495
	190	836.600	239.5399
	251	848.800	240.0831

Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)
GPRS 1900 (Class 10)	512	1850.200	250.6339
	661	1880.000	245.1510
	810	1909.797	243.4635
EGPRS 1900 (Class 10)	512	1850.200	238.5713
	661	1880.000	243.1924
	810	1909.797	251.1714



Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.1794
	9400	1880.00	4.1681
	9538	1907.60	4.1593
WCDMA (Band V)	4132	826.40	4.1828
	4182	836.60	4.1670
	4233	846.60	4.1753
WCDMA / HSDPA (BAND II)	9262	1852.40	4.1660
	9400	1880.00	4.1859
	9538	1907.60	4.1754
WCDMA / HSDPA (BAND V)	4132	826.40	4.1953
	4182	836.60	4.1865
	4233	846.60	4.1653
WCDMA / HSUPA (BAND II)	9262	1852.40	4.1808
	9400	1880.00	4.1755
	9538	1907.60	4.1724
WCDMA / HSUPA (BAND V)	4132	826.40	4.1815
	4182	836.40	4.1745
	4233	846.60	4.1783

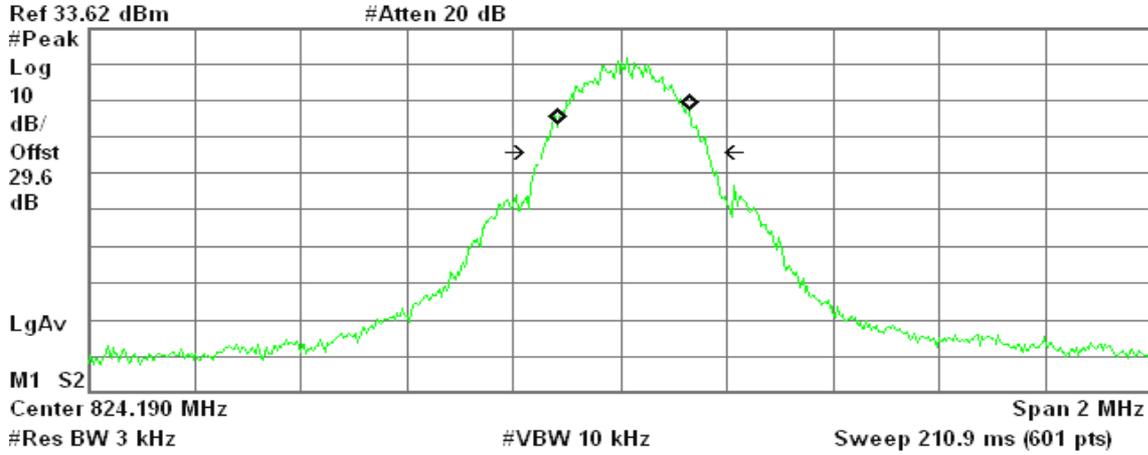


Test Plot

GPRS 850 (CH Low)

Agilent 16:06:59 Mar 26, 2010

R T



Occupied Bandwidth
246.0406 kHz

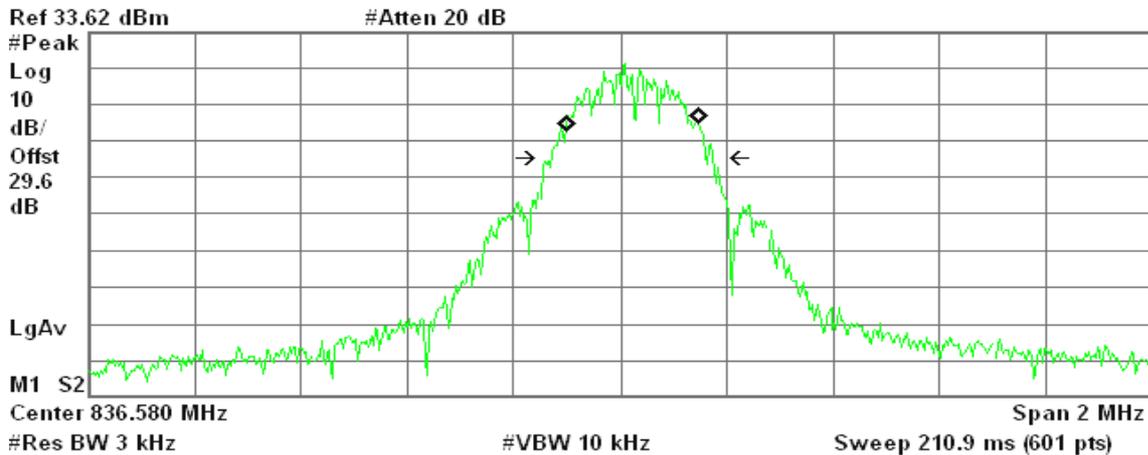
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 7.511 kHz
x dB Bandwidth 309.291 kHz

GPRS 850 (CH Mid)

Agilent 16:09:27 Mar 26, 2010

R T



Occupied Bandwidth
246.6696 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

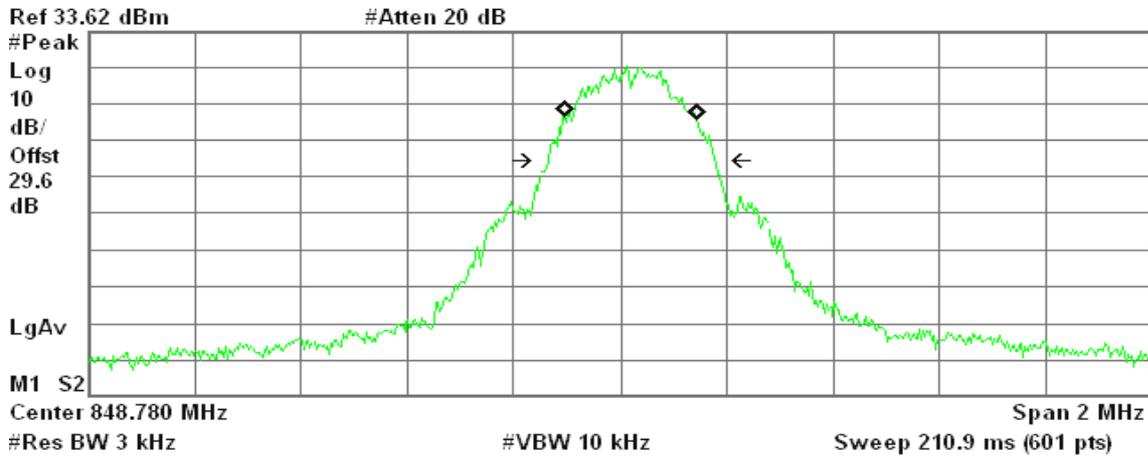
Transmit Freq Error 22.415 kHz
x dB Bandwidth 302.486 kHz



GPRS 850(CH High)

Agilent 16:10:11 Mar 26, 2010

R T



Occupied Bandwidth
248.5958 kHz

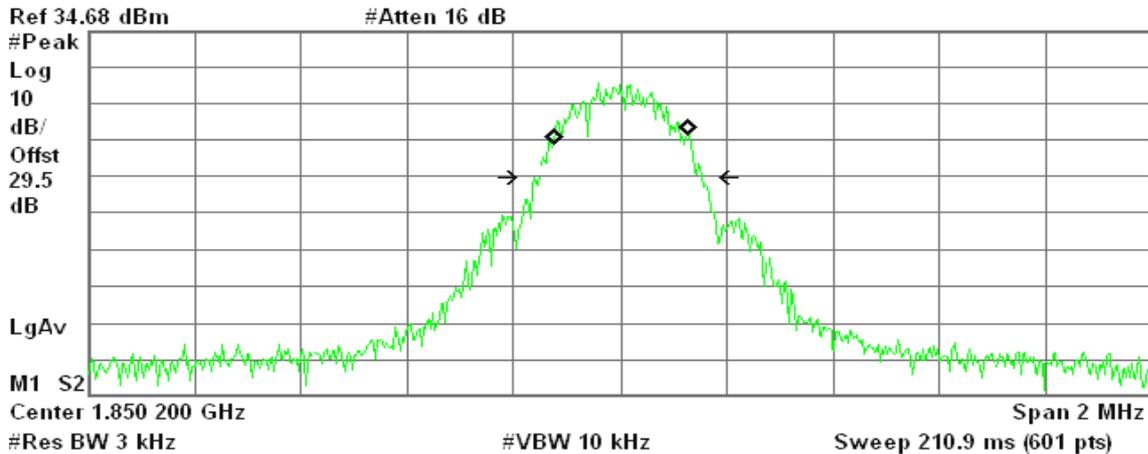
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 19.706 kHz
x dB Bandwidth 311.303 kHz

GPRS 1900 (CH Low)

Agilent 16:10:51 Mar 26, 2010

R T



Occupied Bandwidth
250.6339 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

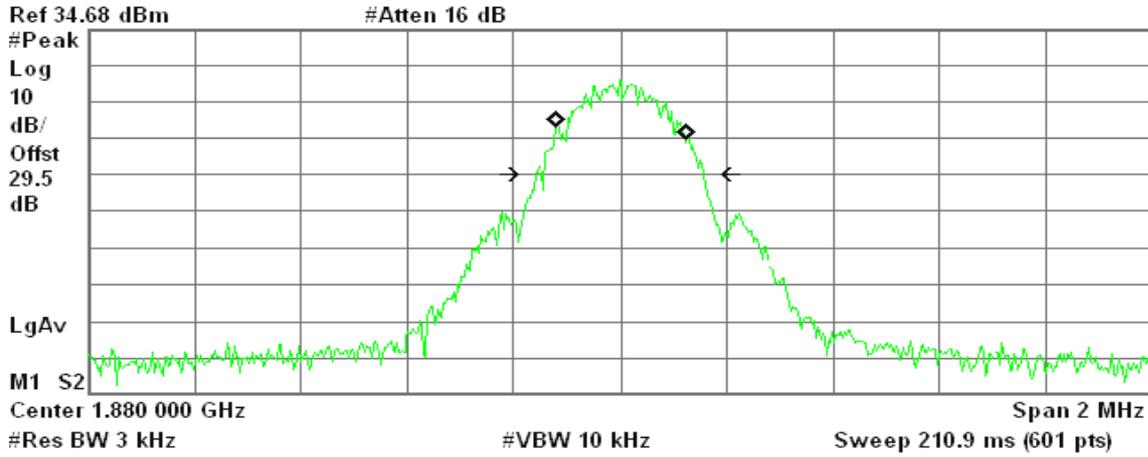
Transmit Freq Error 1.428 kHz
x dB Bandwidth 314.927 kHz



GPRS 1900 (CH Mid)

Agilent 16:11:19 Mar 26, 2010

R T



Occupied Bandwidth
245.1510 kHz

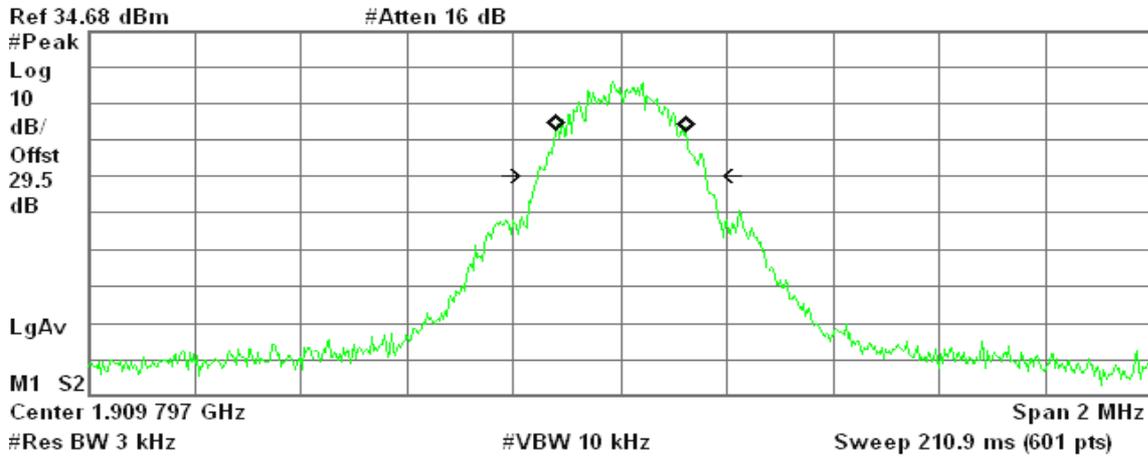
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 2.311 kHz
x dB Bandwidth 314.366 kHz

GPRS 1900 (CH High)

Agilent 16:15:20 Mar 26, 2010

R T



Occupied Bandwidth
243.4635 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

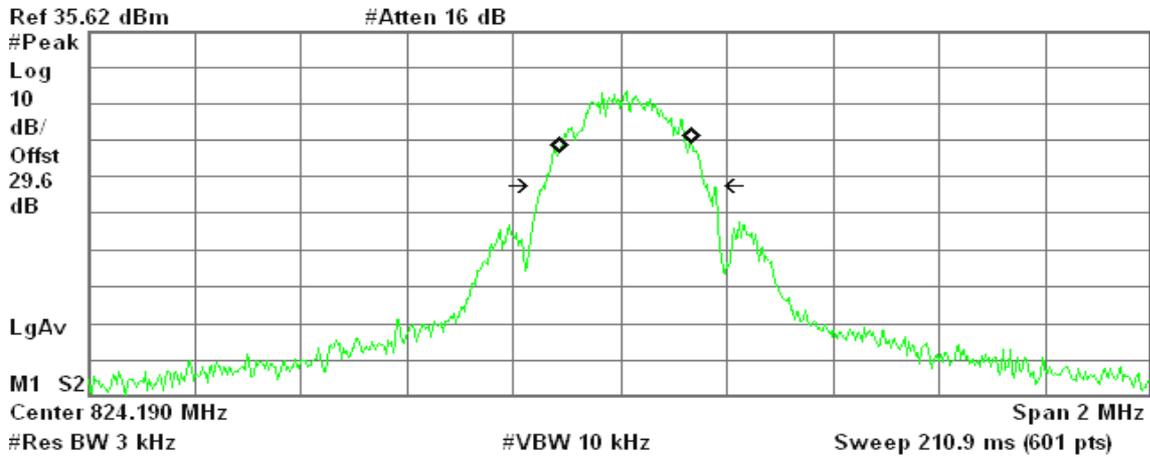
Transmit Freq Error 2.483 kHz
x dB Bandwidth 313.550 kHz



EGPRS 850 (CH Low)

Agilent 16:35:28 Mar 26, 2010

R T



Occupied Bandwidth
247.5495 kHz

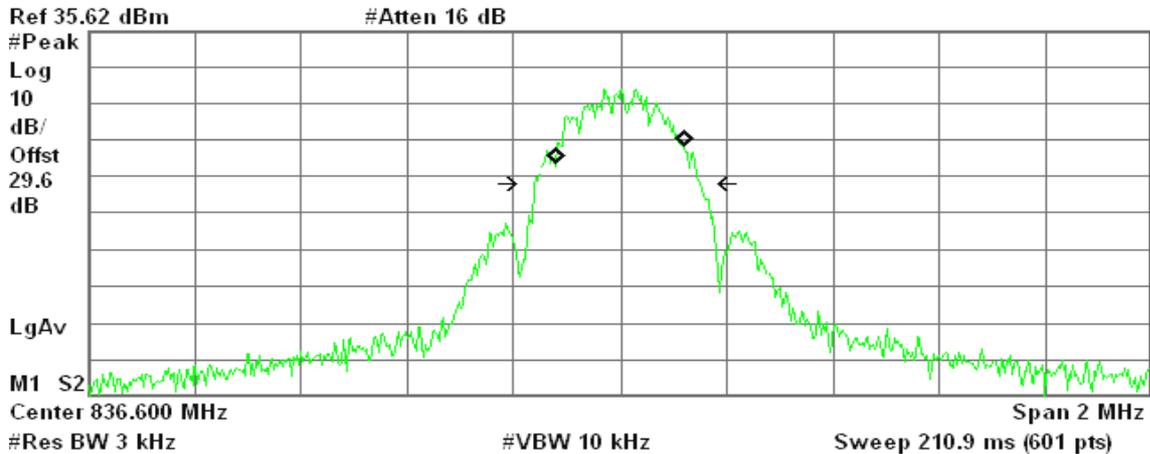
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 10.666 kHz
x dB Bandwidth 302.943 kHz

EGPRS 850 (CH Mid)

Agilent 16:36:24 Mar 26, 2010

R T



Occupied Bandwidth
239.5399 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

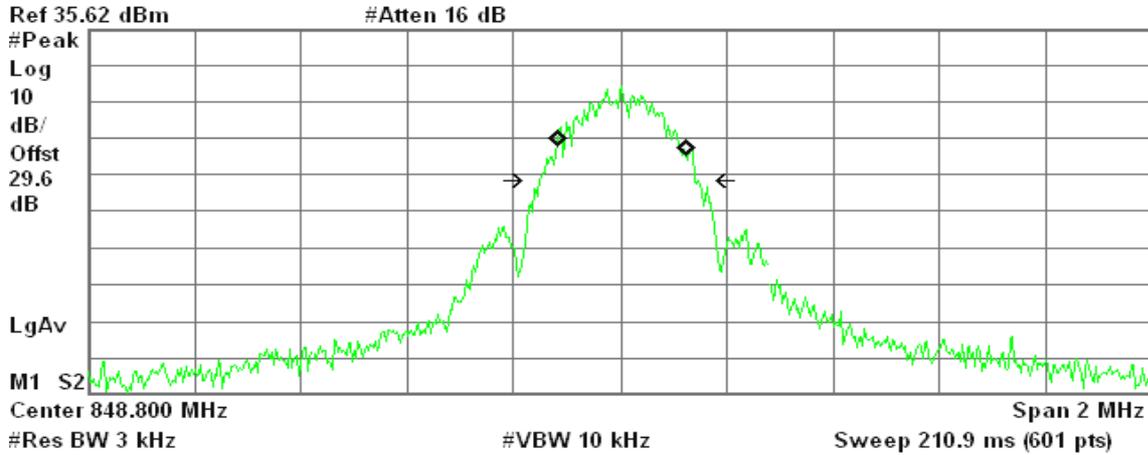
Transmit Freq Error 222.597 Hz
x dB Bandwidth 310.178 kHz



EGPRS 850 (CH High)

Agilent 16:37:35 Mar 26, 2010

R T



Occupied Bandwidth
240.0831 kHz

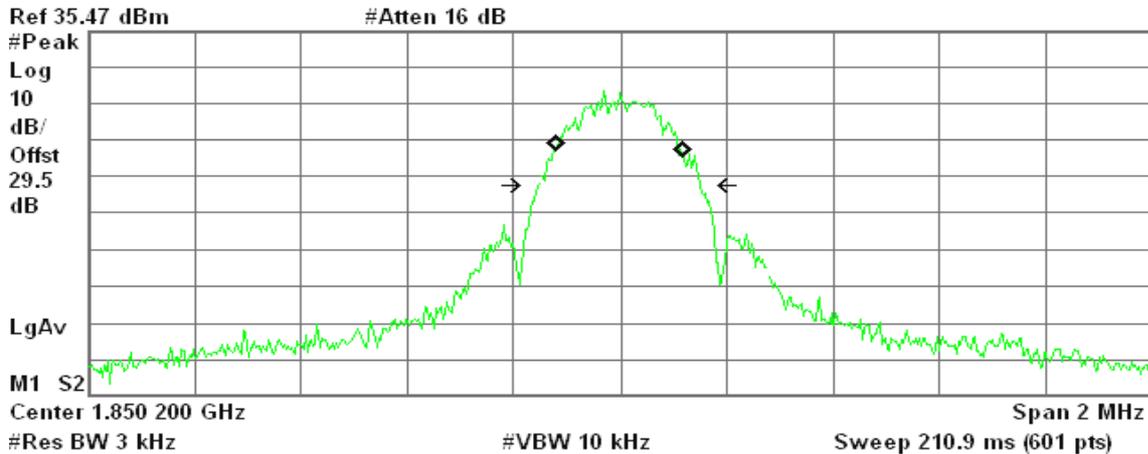
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 2.831 kHz
x dB Bandwidth 298.979 kHz

EGPRS 1900 (CH Low)

Agilent 16:42:33 Mar 26, 2010

R T



Occupied Bandwidth
238.5713 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

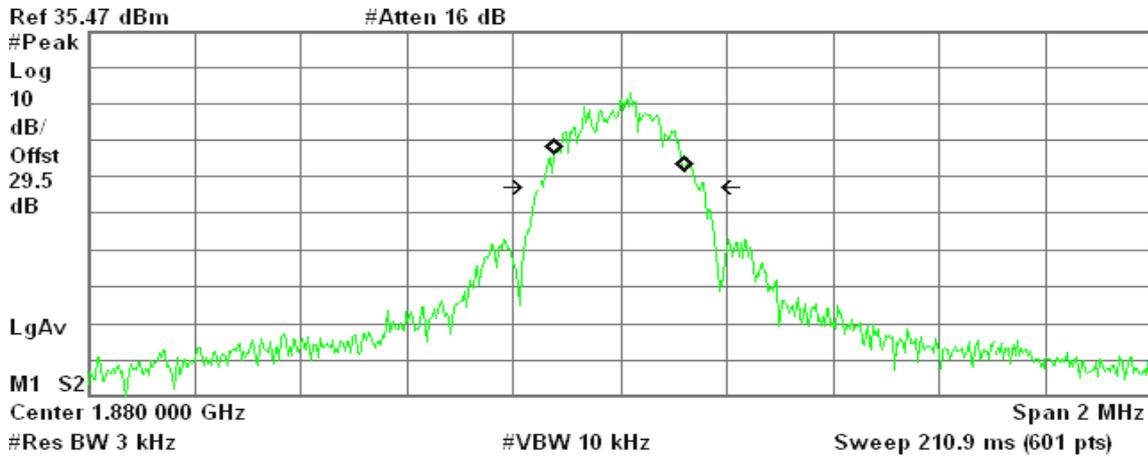
Transmit Freq Error -1.172 kHz
x dB Bandwidth 301.856 kHz



EGPRS 1900 (CH Mid)

Agilent 16:42:00 Mar 26, 2010

R T



Occupied Bandwidth
243.1924 kHz

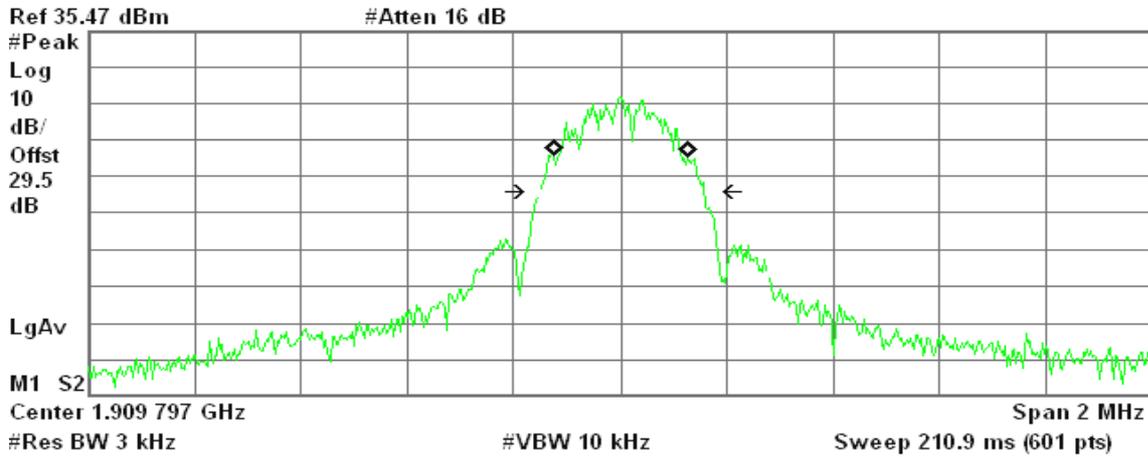
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.465 kHz
x dB Bandwidth 306.588 kHz

EGPRS 1900 (CH High)

Agilent 16:41:37 Mar 26, 2010

R T



Occupied Bandwidth
251.1714 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.543 kHz
x dB Bandwidth 306.279 kHz



WCDMA Band II (CH Low)

Agilent 17:22:24 Mar 26, 2010

R T



Center 1.852 40 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
 4.1794 MHz

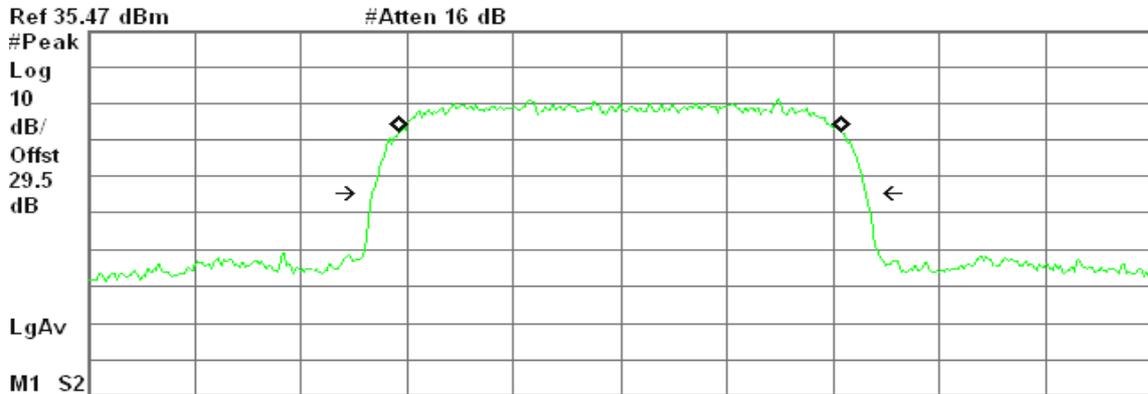
Occ BW % Pwr 99.00 %
 x dB -26.00 dB

Transmit Freq Error 1.556 kHz
 x dB Bandwidth 4.665 MHz

WCDMA Band II (CH Mid)

Agilent 17:22:57 Mar 26, 2010

R T



Center 1.880 00 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
 4.1681 MHz

Occ BW % Pwr 99.00 %
 x dB -26.00 dB

Transmit Freq Error 543.138 Hz
 x dB Bandwidth 4.650 MHz



WCDMA Band II (CH High)

Agilent 17:24:05 Mar 26, 2010

R T



Occupied Bandwidth
4.1593 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -7.753 kHz
x dB Bandwidth 4.664 MHz

WCDMA Band V (CH Low)

Agilent 17:40:15 Mar 26, 2010

R T



Occupied Bandwidth
4.1828 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 16.333 kHz
x dB Bandwidth 4.646 MHz



WCDMA Band V (CH Mid)

Agilent 17:38:30 Mar 26, 2010

R T



Center 836.60 MHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
4.1670 MHz

Occ BW % Pwr 99.00 %
 x dB -26.00 dB

Transmit Freq Error -203.908 kHz
 x dB Bandwidth 4.677 MHz

WCDMA Band V (CH High)

Agilent 17:37:15 Mar 26, 2010

R T



Center 846.60 MHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
4.1753 MHz

Occ BW % Pwr 99.00 %
 x dB -26.00 dB

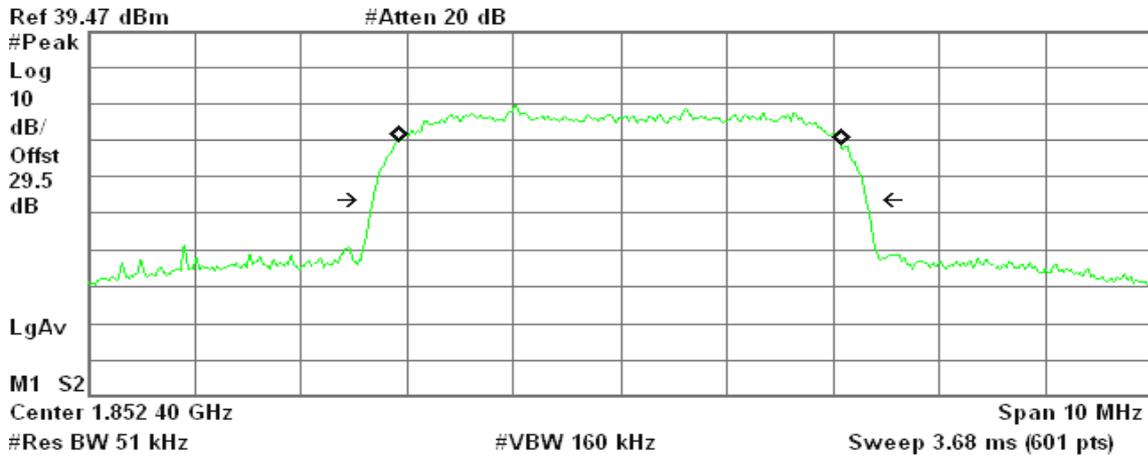
Transmit Freq Error -11.167 kHz
 x dB Bandwidth 4.670 MHz



WCDMA / HSDPA Band II (CH Low)

Agilent 13:03:34 Mar 27, 2010

R T



Occupied Bandwidth
4.1660 MHz

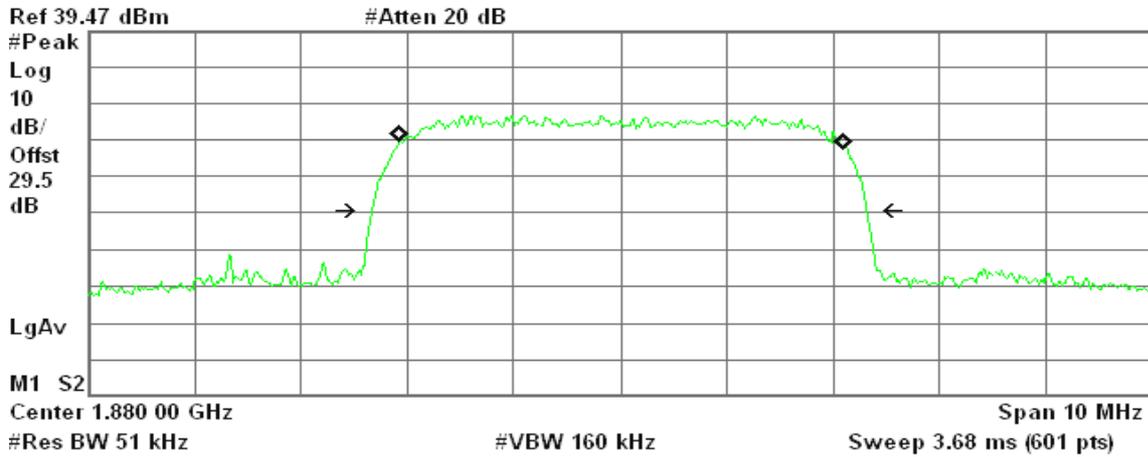
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -4.853 kHz
x dB Bandwidth 4.638 MHz

WCDMA / HSDPA Band II (CH Mid)

Agilent 13:03:55 Mar 27, 2010

R T



Occupied Bandwidth
4.1859 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

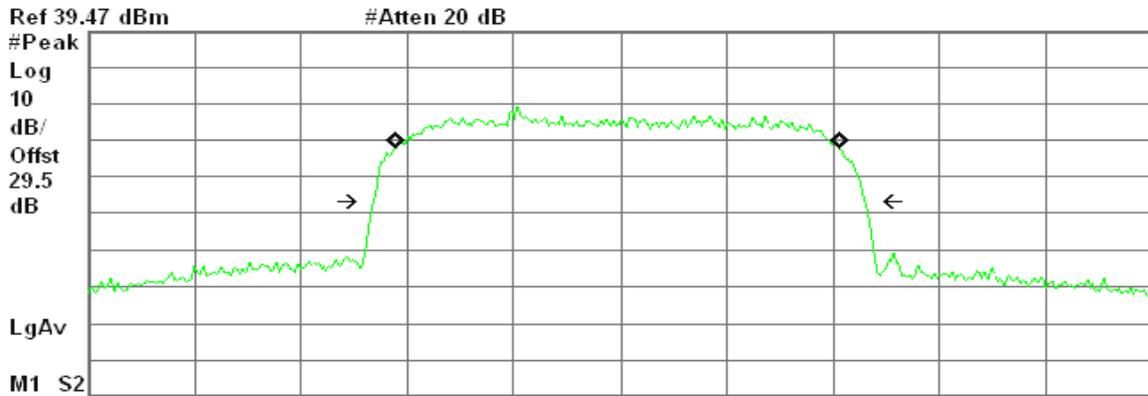
Transmit Freq Error 10.601 kHz
x dB Bandwidth 4.653 MHz



WCDMA / HSDPA Band II (CH High)

Agilent 13:04:24 Mar 27, 2010

R T



Center 1.907 60 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
 4.1754 MHz

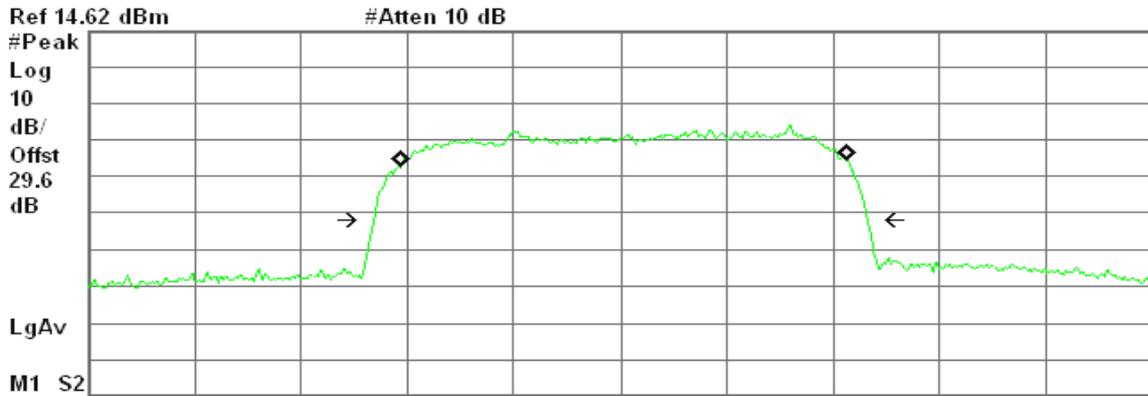
Occ BW % Pwr 99.00 %
 x dB -26.00 dB

Transmit Freq Error -24.091 kHz
 x dB Bandwidth 4.631 MHz

WCDMA / HSDPA Band V (CH Low)

Agilent 12:31:32 Mar 27, 2010

R T



Center 826.40 MHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
 4.1953 MHz

Occ BW % Pwr 99.00 %
 x dB -26.00 dB

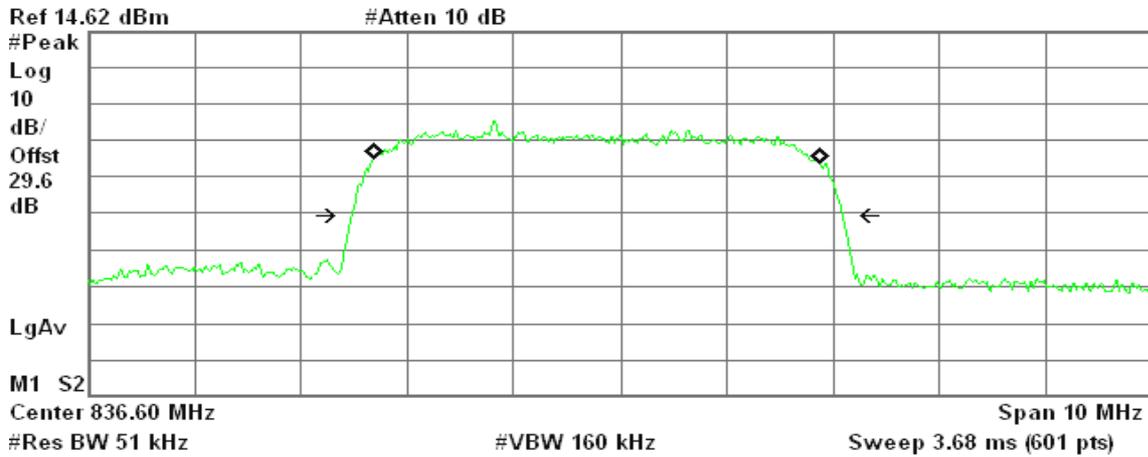
Transmit Freq Error 28.640 kHz
 x dB Bandwidth 4.646 MHz



WCDMA / HSDPA Band V (CH Mid)

Agilent 12:31:55 Mar 27, 2010

R T



Occupied Bandwidth
4.1865 MHz

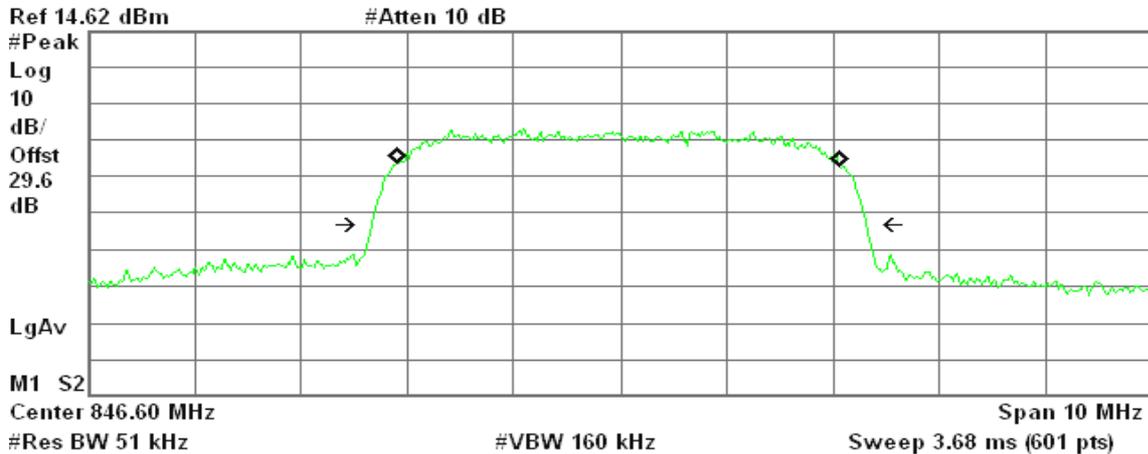
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -219.485 kHz
x dB Bandwidth 4.624 MHz

WCDMA / HSDPA Band V (CH High)

Agilent 12:32:15 Mar 27, 2010

R T



Occupied Bandwidth
4.1653 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

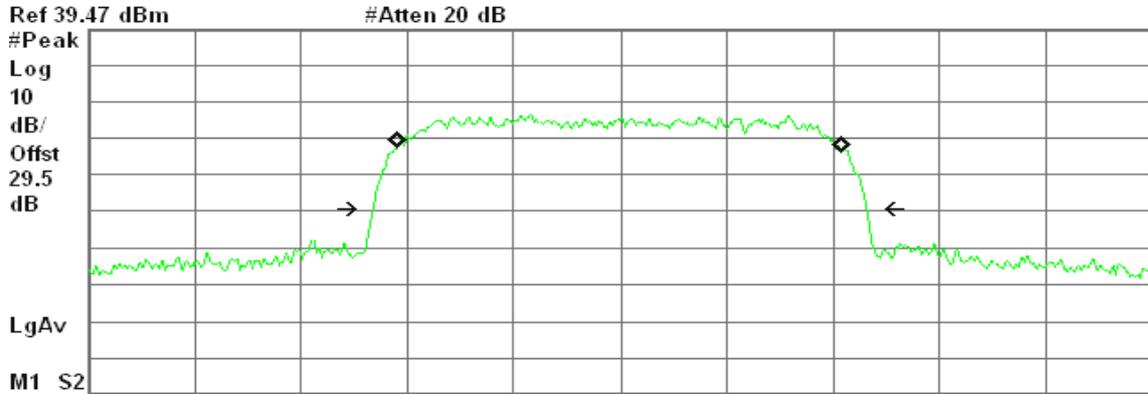
Transmit Freq Error -12.157 kHz
x dB Bandwidth 4.657 MHz



WCDMA / HSUPA Band II (CH Low)

Agilent 14:16:36 Mar 27, 2010

R T



Center 1.852 40 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
 4.1808 MHz

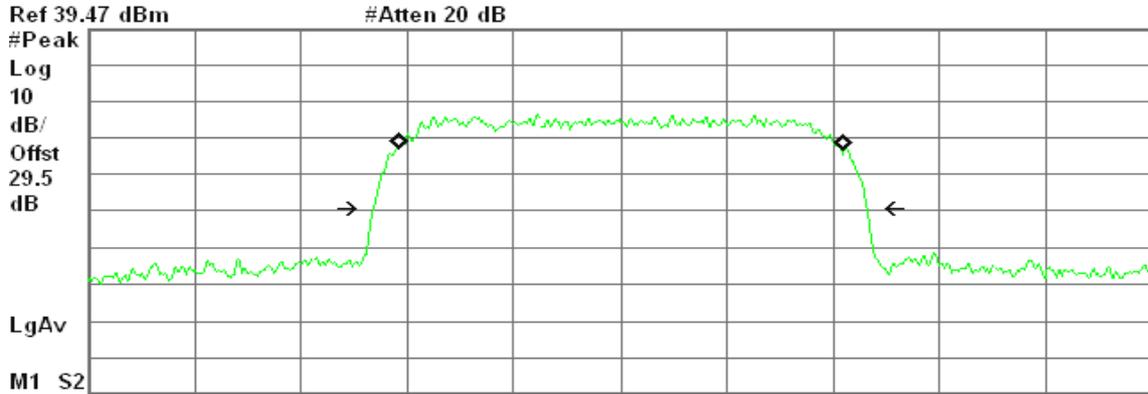
Occ BW % Pwr 99.00 %
 x dB -26.00 dB

Transmit Freq Error -4.819 kHz
 x dB Bandwidth 4.647 MHz

WCDMA / HSUPA Band II (CH Mid)

Agilent 14:16:23 Mar 27, 2010

R T



Center 1.880 00 GHz Span 10 MHz
 #Res BW 51 kHz #VBW 160 kHz Sweep 3.68 ms (601 pts)

Occupied Bandwidth
 4.1755 MHz

Occ BW % Pwr 99.00 %
 x dB -26.00 dB

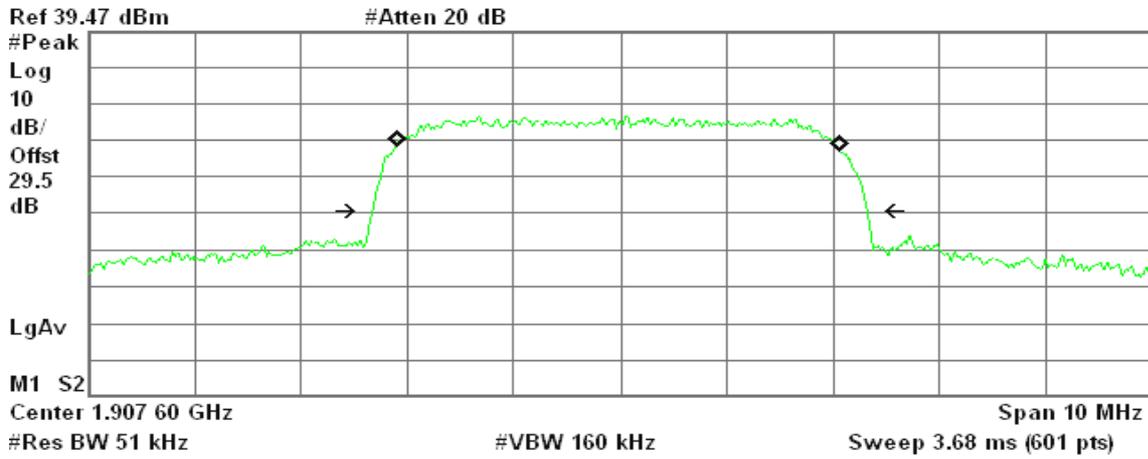
Transmit Freq Error 6.199 kHz
 x dB Bandwidth 4.644 MHz



WCDMA / HSUPA Band II (CH High)

Agilent 14:16:07 Mar 27, 2010

R T



Occupied Bandwidth
4.1724 MHz

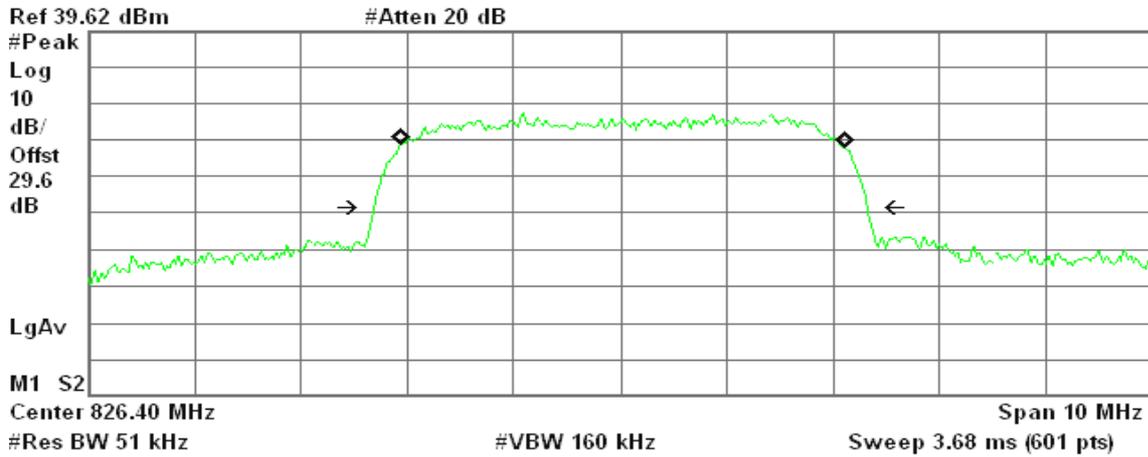
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -19.345 kHz
x dB Bandwidth 4.657 MHz

WCDMA / HSUPA Band V (CH Low)

Agilent 14:20:29 Mar 27, 2010

R T



Occupied Bandwidth
4.1815 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

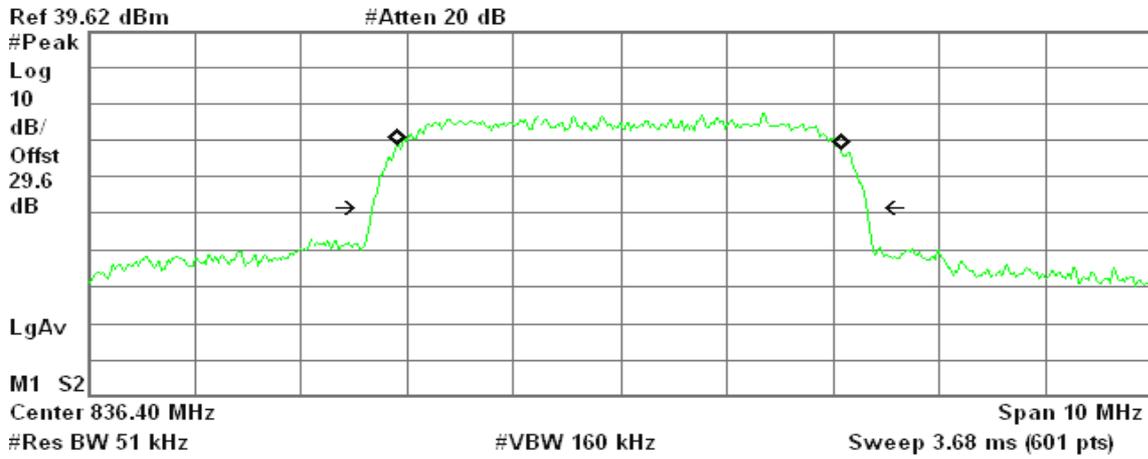
Transmit Freq Error 18.568 kHz
x dB Bandwidth 4.646 MHz



WCDMA / HSUPA Band V (CH Mid)

Agilent 14:19:55 Mar 27, 2010

R T



Occupied Bandwidth
4.1745 MHz

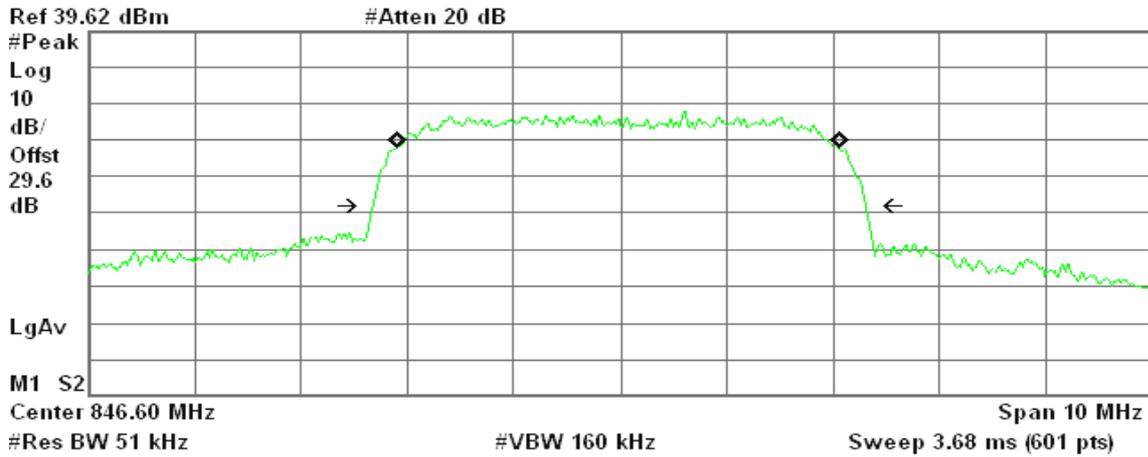
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -6.714 kHz
x dB Bandwidth 4.657 MHz

WCDMA / HSUPA Band V (CH High)

Agilent 14:19:41 Mar 27, 2010

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Occupied Bandwidth
4.1783 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -18.335 kHz
x dB Bandwidth 4.641 MHz



7.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

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

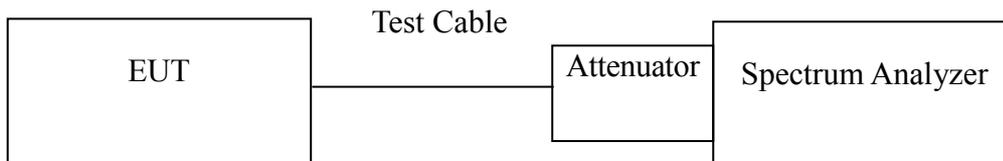
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

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
GPRS 850 (Class 10)	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

Mode	CH	Location	Description
GPRS 1900 (Class 10)	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

Mode	CH	Location	Description
GPRS 850 (Class 10)	128	Figure 9-1	Band Edge emissions
	251	Figure 9-2	Band Edge emissions

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



Mode	CH	Location	Description
EGPRS 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

Mode	CH	Location	Description
EGPRS 1900 (Class 10)	512	Figure 12-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 12-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 12-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
EGPRS 850 (Class 10)	128	Figure 13-1	Band Edge emissions
	251	Figure 13-2	Band Edge emissions

Mode	CH	Location	Description
EGPRS 1900 (Class 10)	512	Figure 14-1	Band Edge emissions
	810	Figure 14-2	Band Edge emissions



Mode	CH	Location	Description
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
WCDMA (Band V)	4132	Figure 16-1	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 16-2	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 16-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 17-1	Band Edge emissions
	9538	Figure 17-2	Band Edge emissions

Mode	CH	Location	Description
WCDMA (Band V)	4132	Figure 18-1	Band Edge emissions
	4233	Figure 18-2	Band Edge emissions



Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 19-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 19-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 19-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSDPA WCDMA (Band V)	4132	Figure 20-1	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 20-2	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 20-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSDPA WCDMA (Band II)	9262	Figure 21-1	Band Edge emissions
	9538	Figure 21-2	Band Edge emissions

Mode	CH	Location	Description
HSDPA WCDMA (Band V)	4132	Figure 22-1	Band Edge emissions
	4233	Figure 22-2	Band Edge emissions



Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 23-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 23-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 23-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSUPA WCDMA (Band V)	4132	Figure 24-1	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 24-2	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 24-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 25-1	Band Edge emissions
	9538	Figure 25-2	Band Edge emissions

Mode	CH	Location	Description
HSUPA WCDMA (Band V)	4132	Figure 26-1	Band Edge emissions
	4233	Figure 26-2	Band Edge emissions



Test Plot

GPRS 850

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

Agilent 16:22:44 Mar 26, 2010

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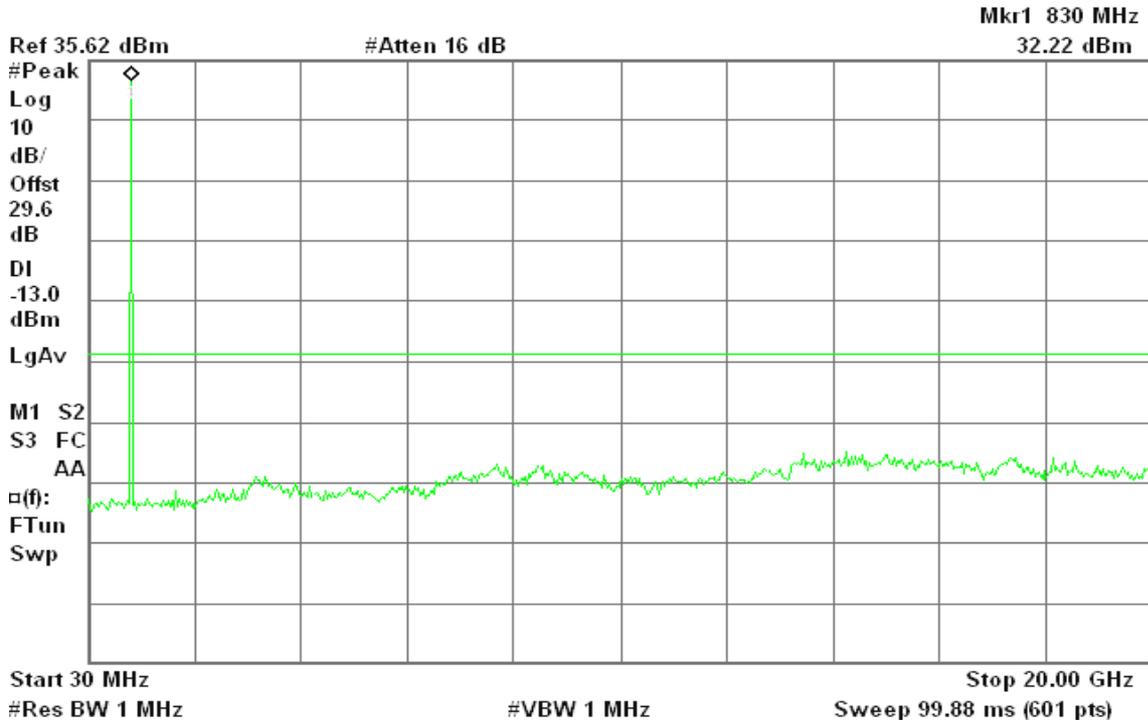


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

Agilent 16:22:22 Mar 26, 2010

R T

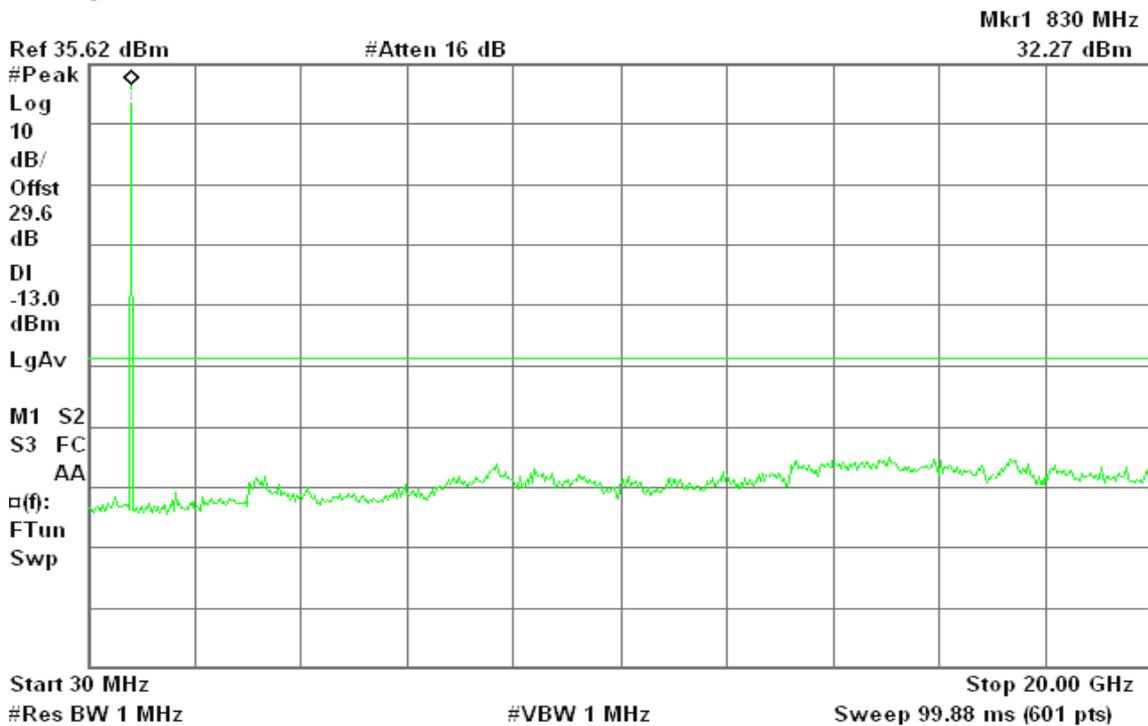
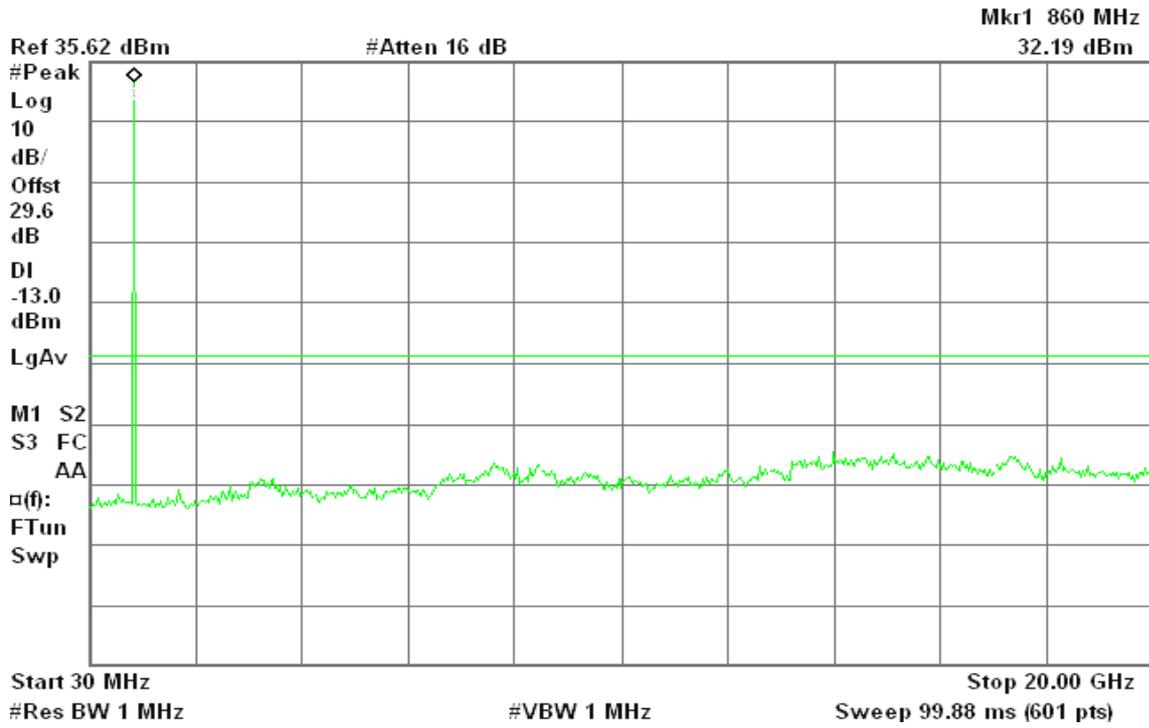




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High

Agilent 16:22:02 Mar 26, 2010

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GPRS1900

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

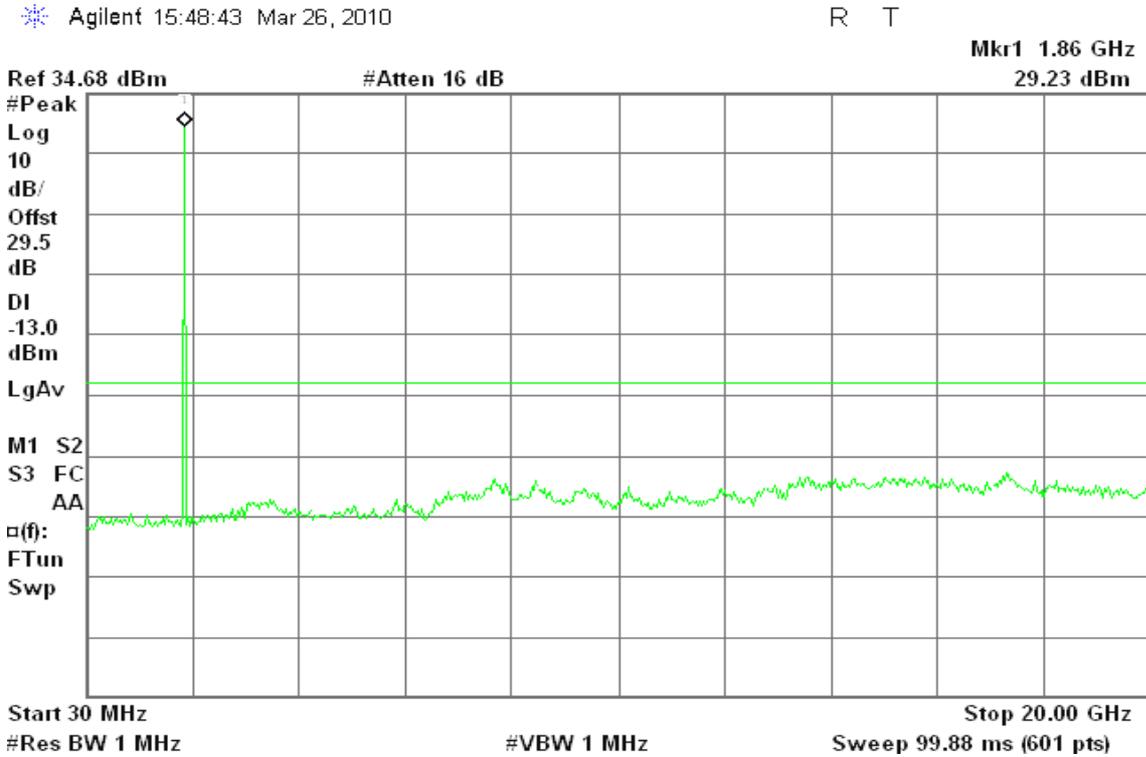


Figure 8-2: Out of Band emission at antenna terminals – GSM CH Mid

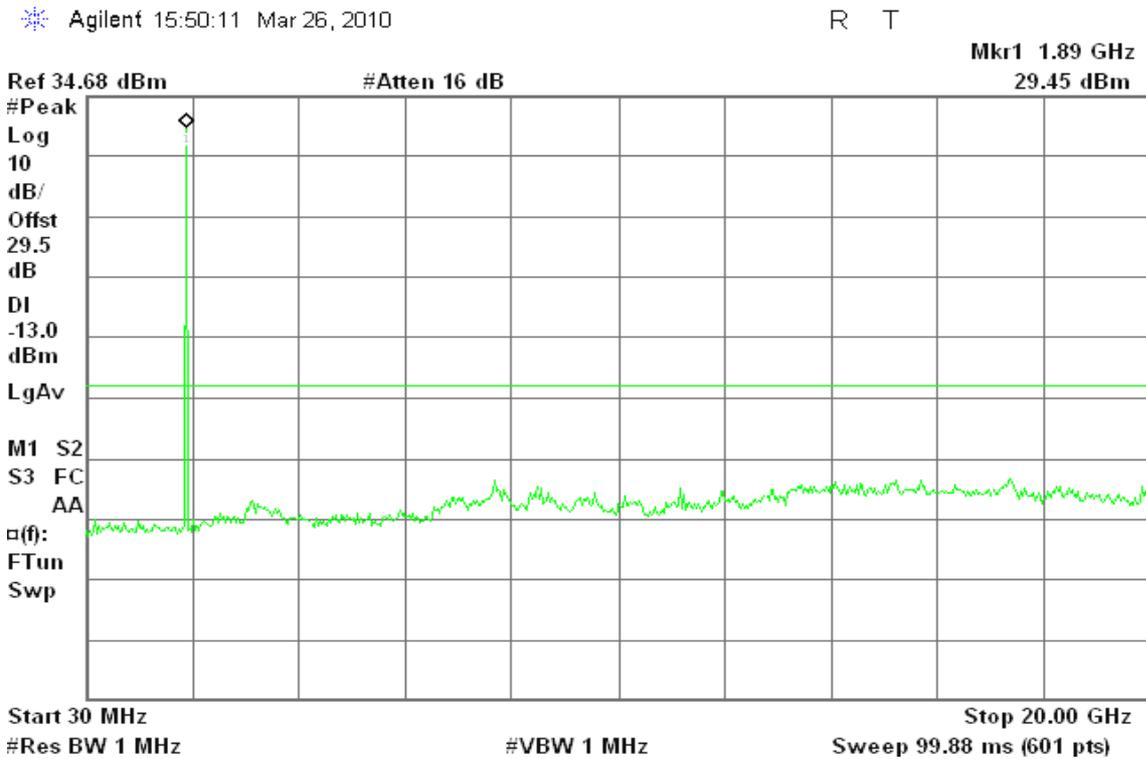
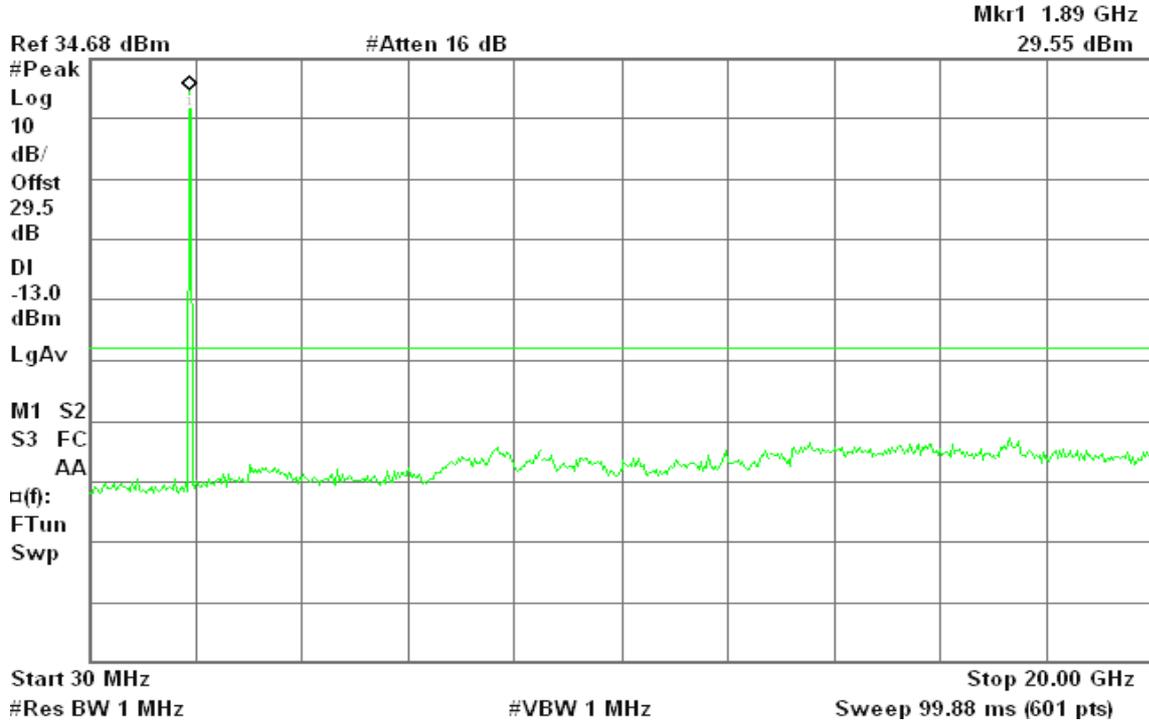




Figure 8-3: Out of Band emission at antenna terminals – GSM CH High

Agilent 16:19:30 Mar 26, 2010

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GPRS 850

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

Agilent 16:20:16 Mar 26, 2010

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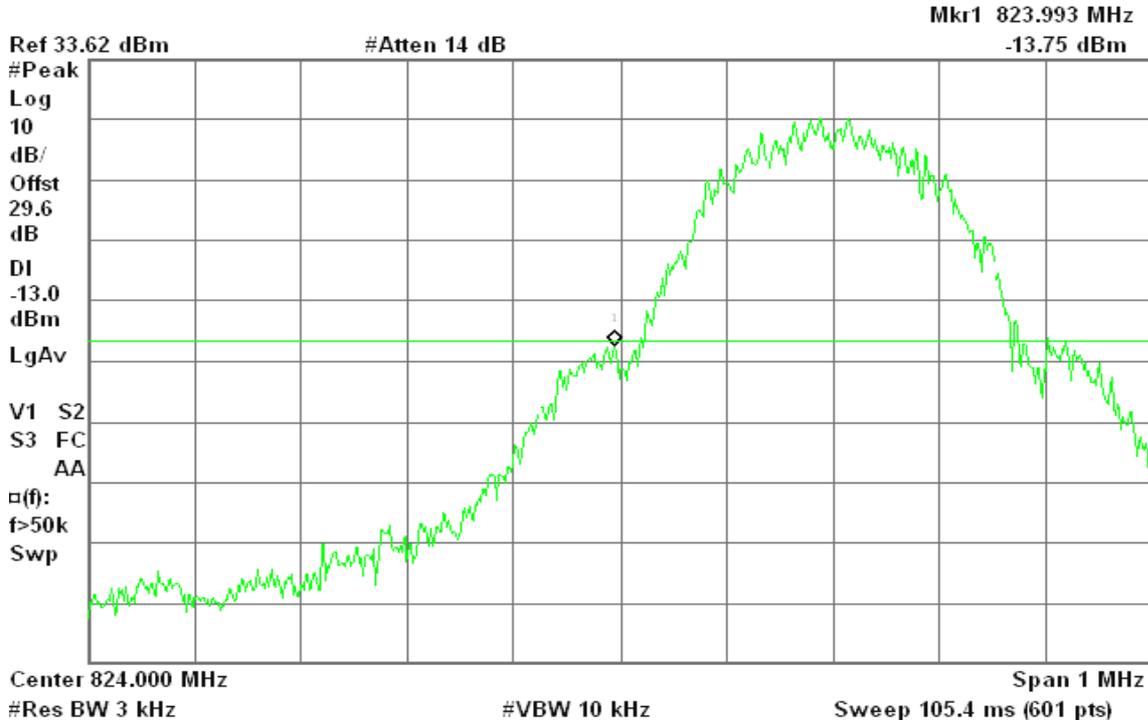
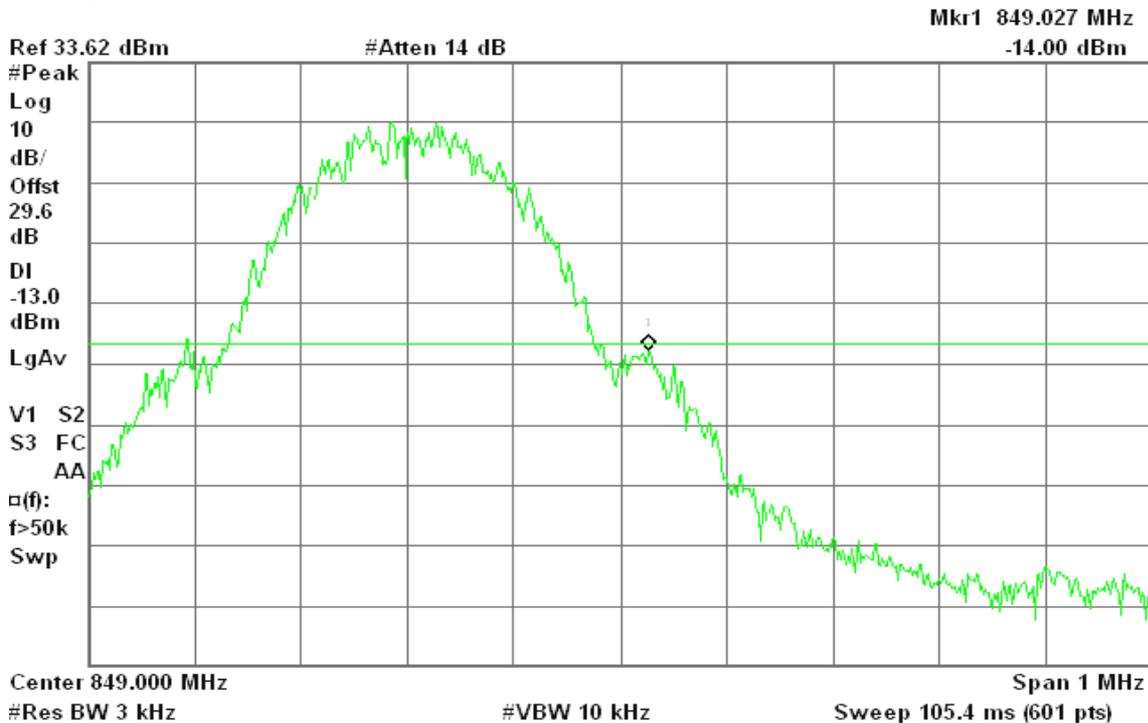


Figure 9-2: Band Edge emissions – GSM CH High

Agilent 16:20:43 Mar 26, 2010

R T





GPRS 1900

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

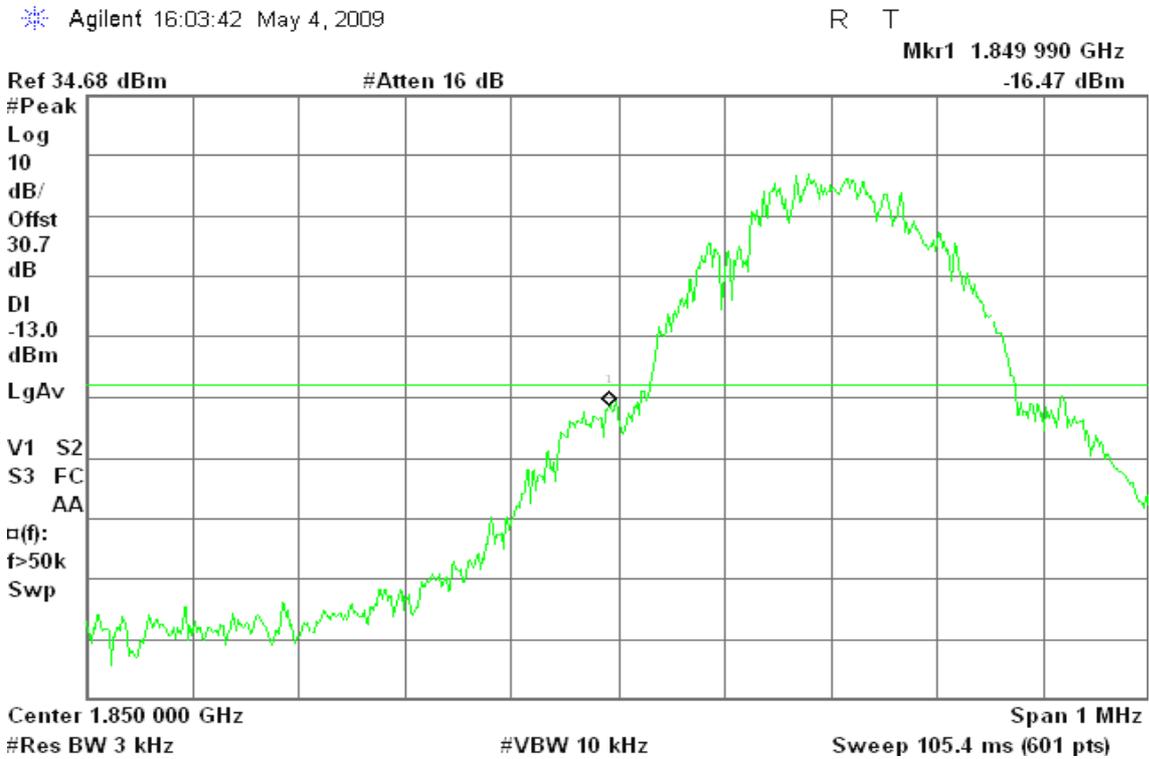
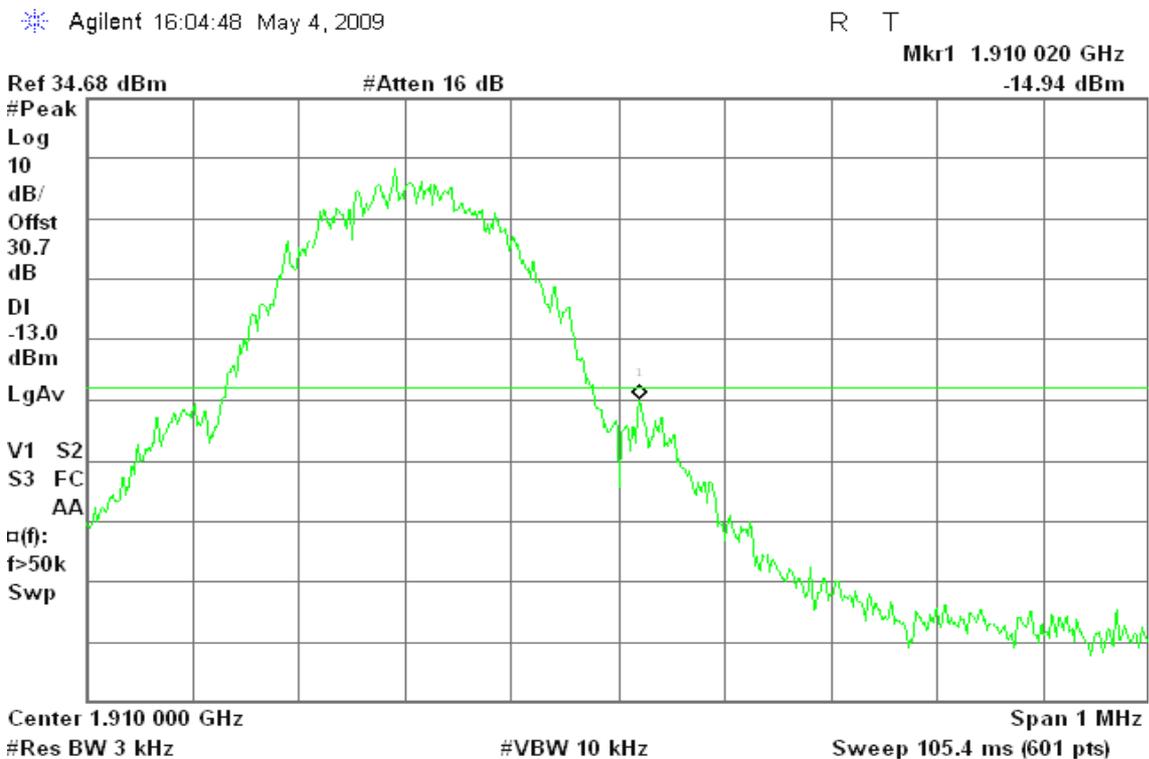


Figure 10-2: Band Edge emissions – GSM CH High





EGPRS 850

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

Agilent 16:30:09 Mar 26, 2010

R T

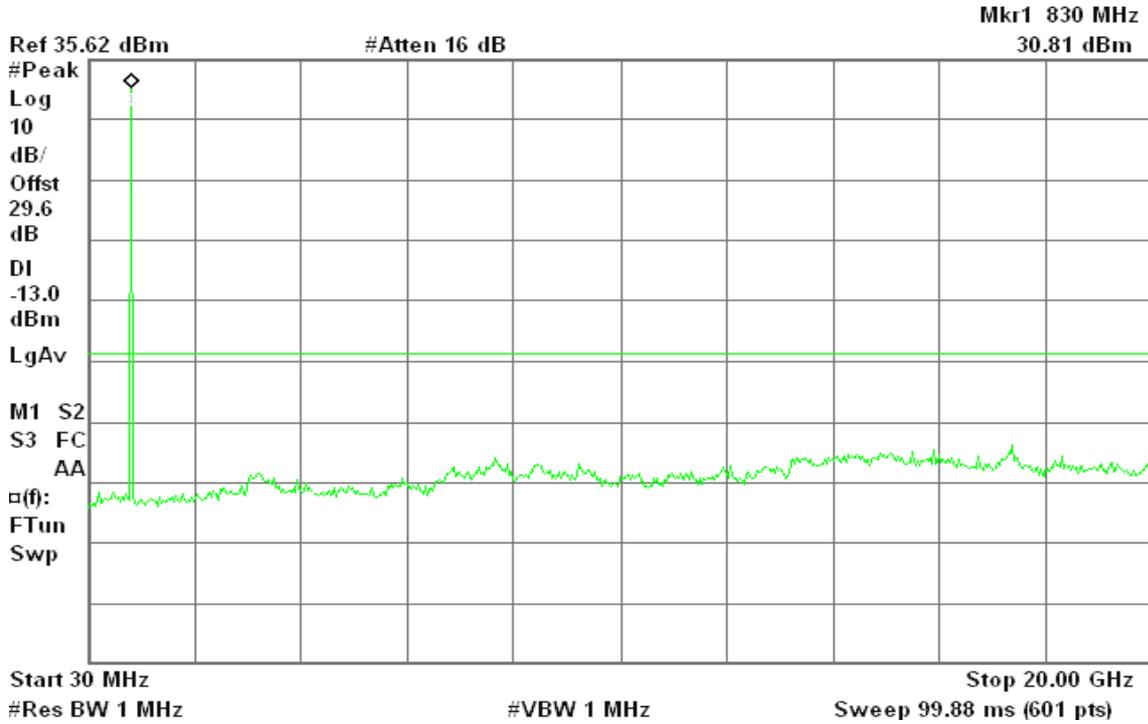


Figure 11-2: Out of Band emission at antenna terminals –EGPRS CH Mid

Agilent 16:30:24 Mar 26, 2010

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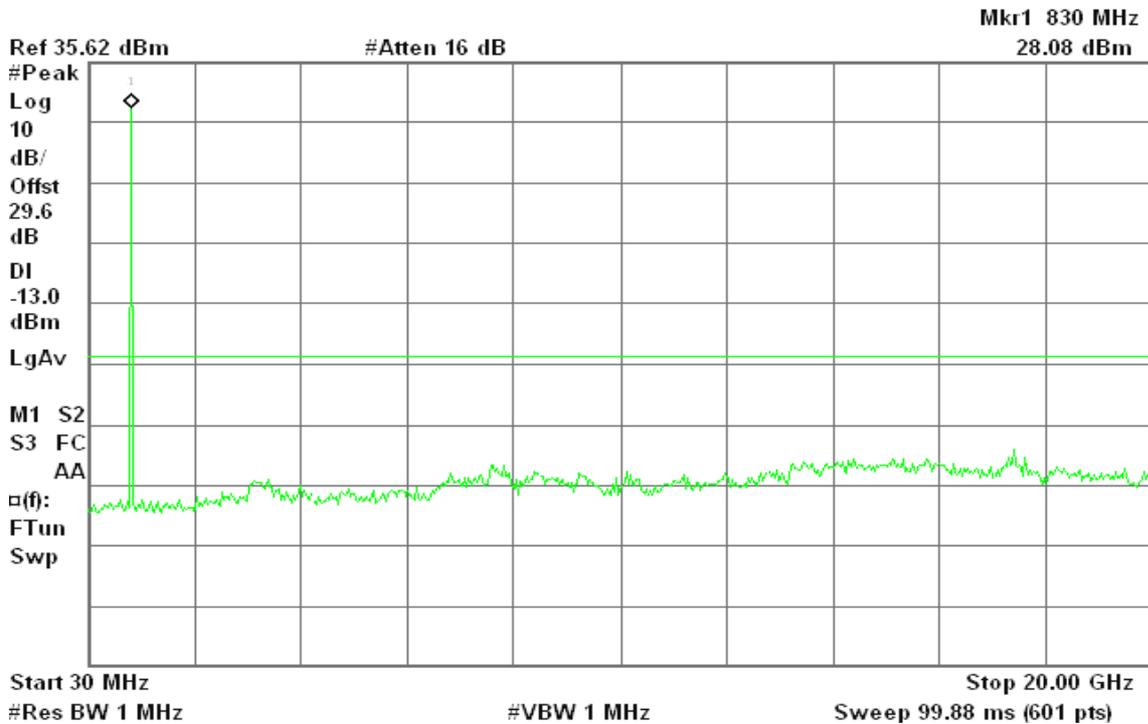
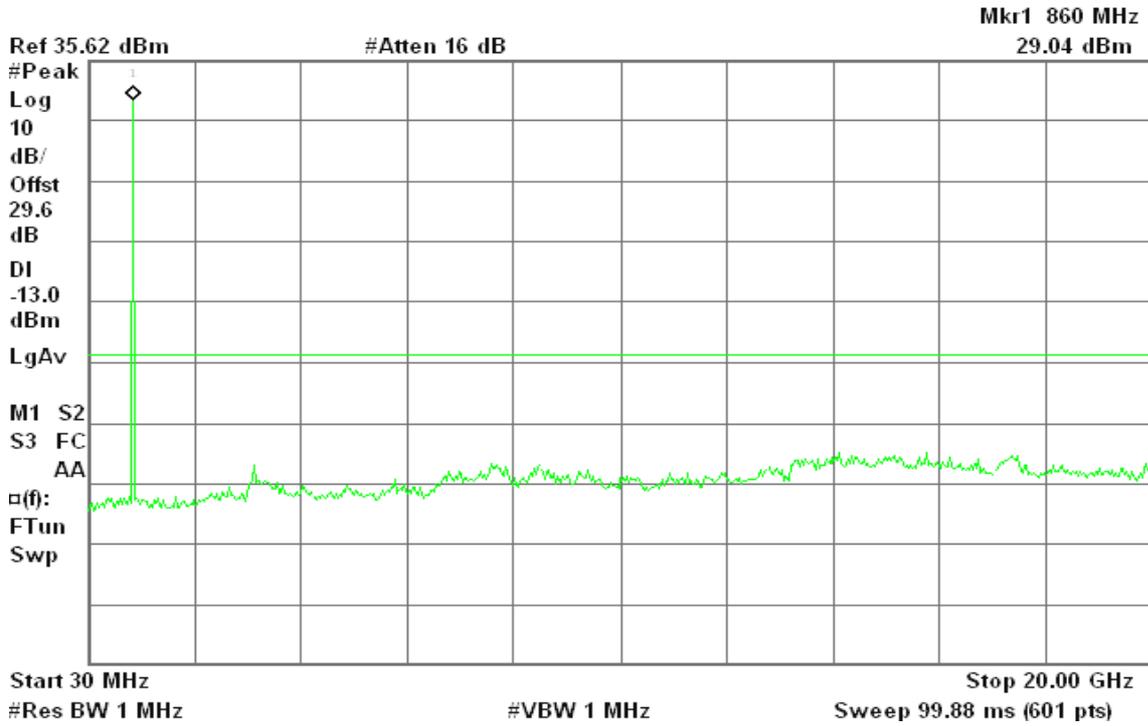




Figure 11-3: Out of Band emission at antenna terminals –EGPRS CH High

Agilent 16:30:48 Mar 26, 2010

R T



EGPRS 1900

Figure 12-1: Out of Band emission at antenna terminals –EGPRS CH Low

Agilent 16:46:41 Mar 26, 2010

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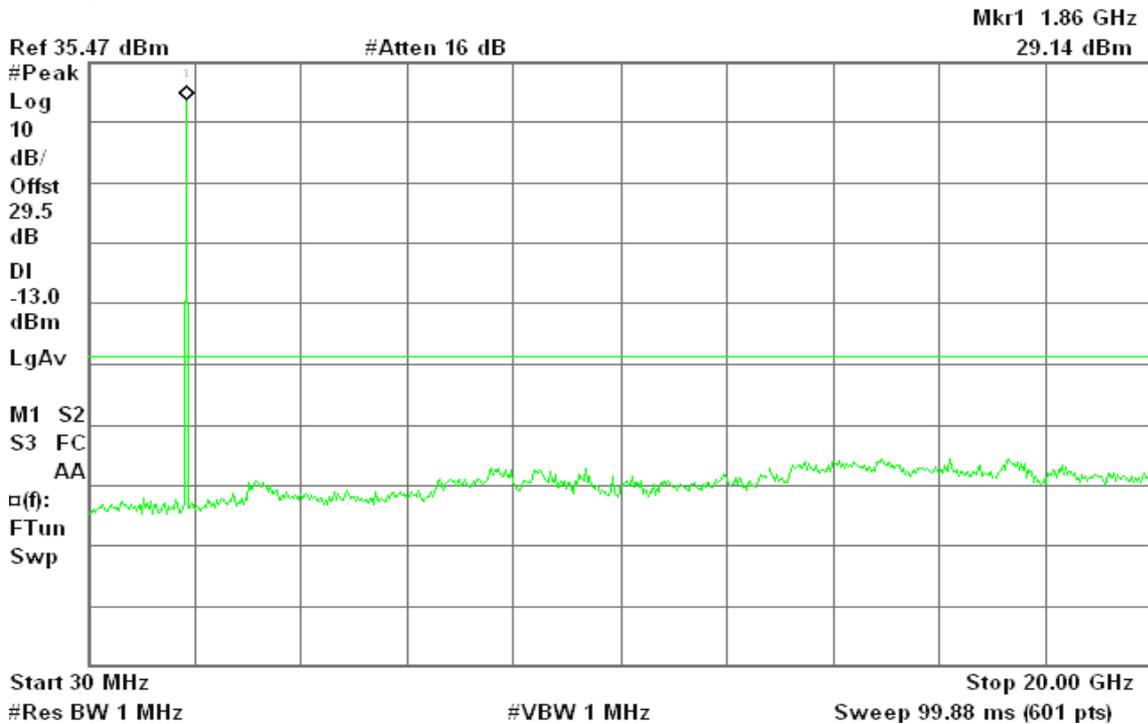




Figure 12-2: Out of Band emission at antenna terminals –EGPRS CH Mid

Agilent 16:46:29 Mar 26, 2010

R T

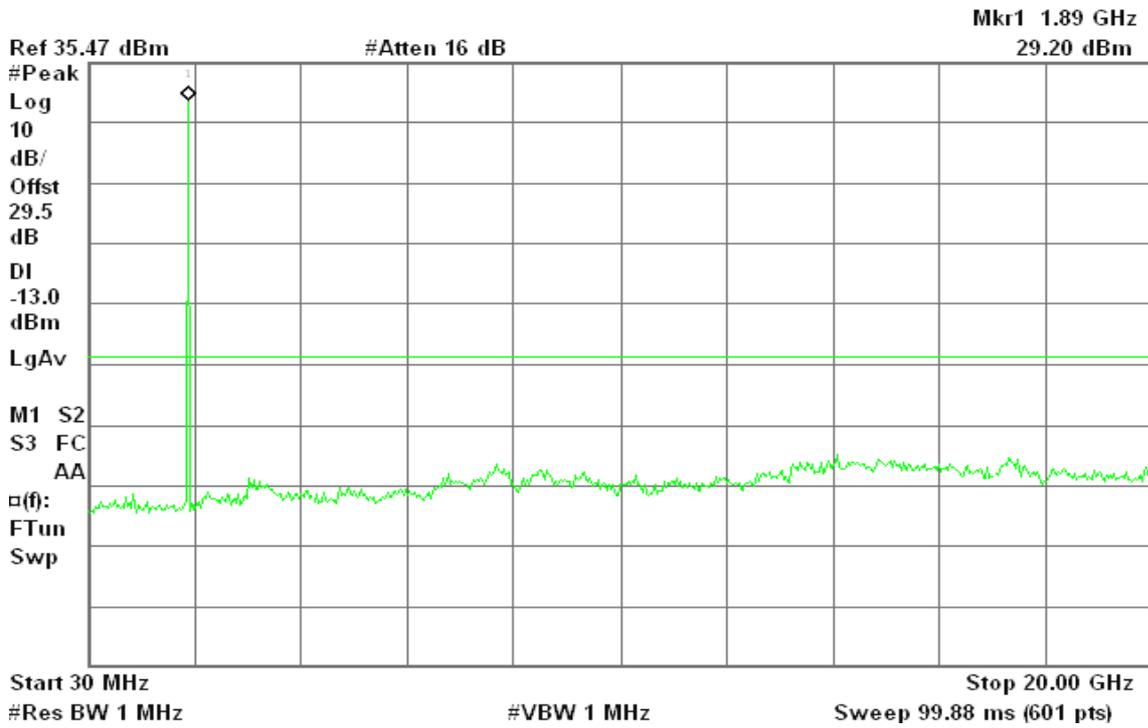
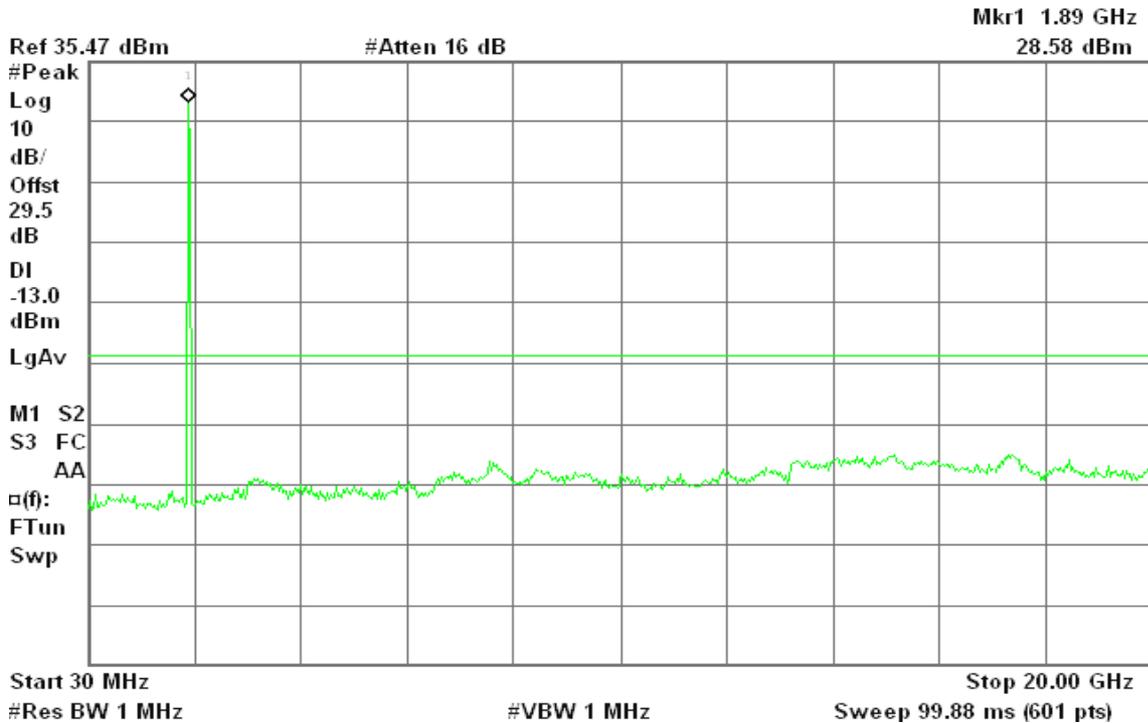


Figure 12-3: Out of Band emission at antenna terminals –EGPRS CH High

Agilent 16:46:12 Mar 26, 2010

R T





EGPRS 850

Figure 13-1: Band Edge emissions – EGPRS CH Low

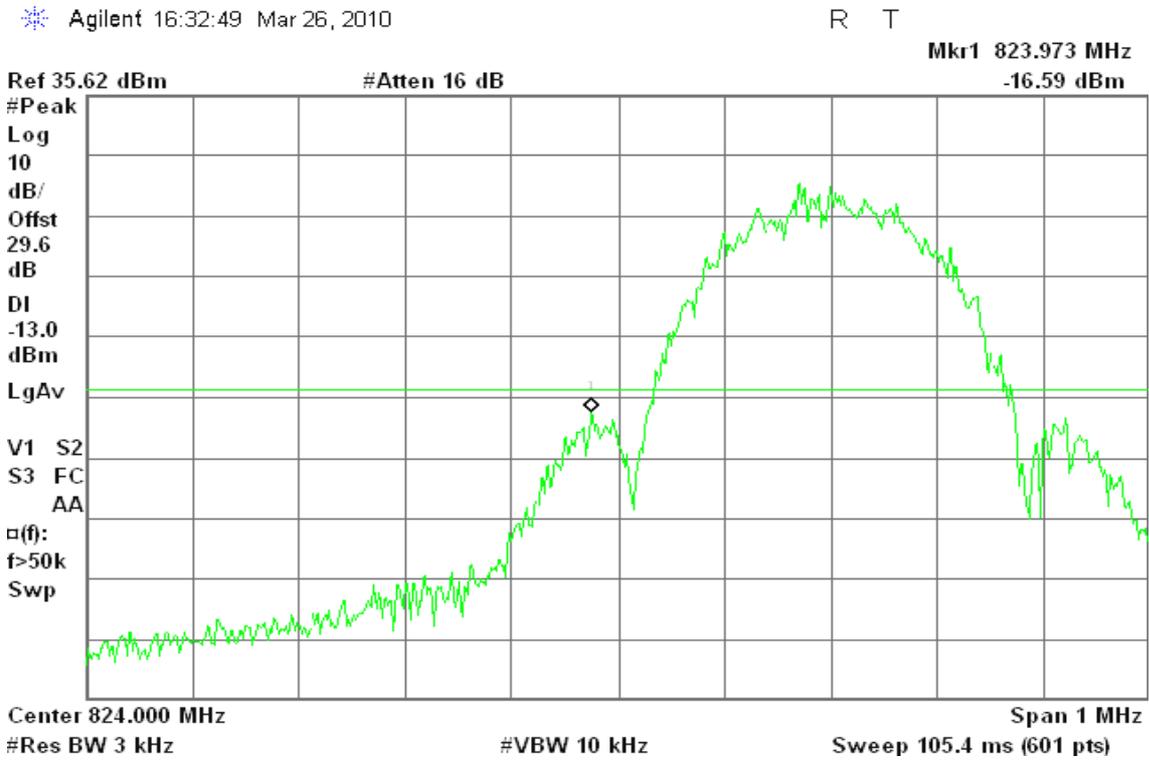
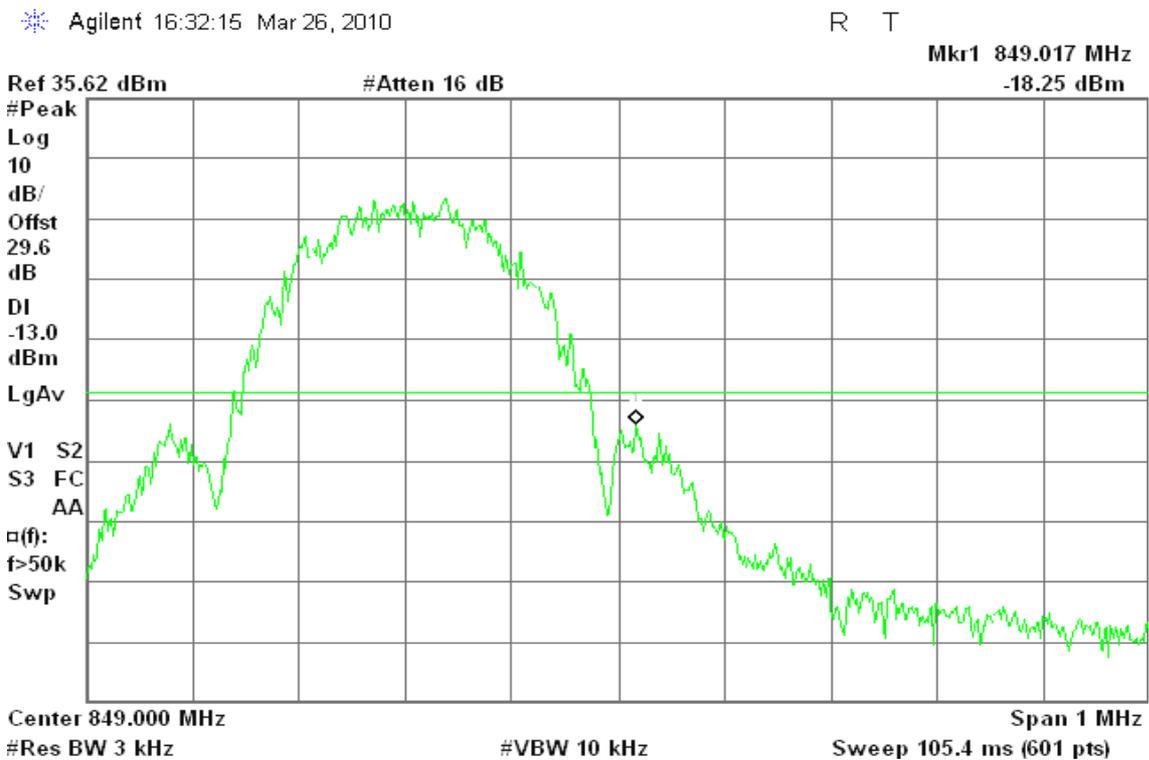


Figure 13-2: Band Edge emissions – EGPRS CH High





EGPRS 1900

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

Agilent 16:43:59 Mar 26, 2010

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Mkr1 1.849 983 GHz
-18.77 dBm

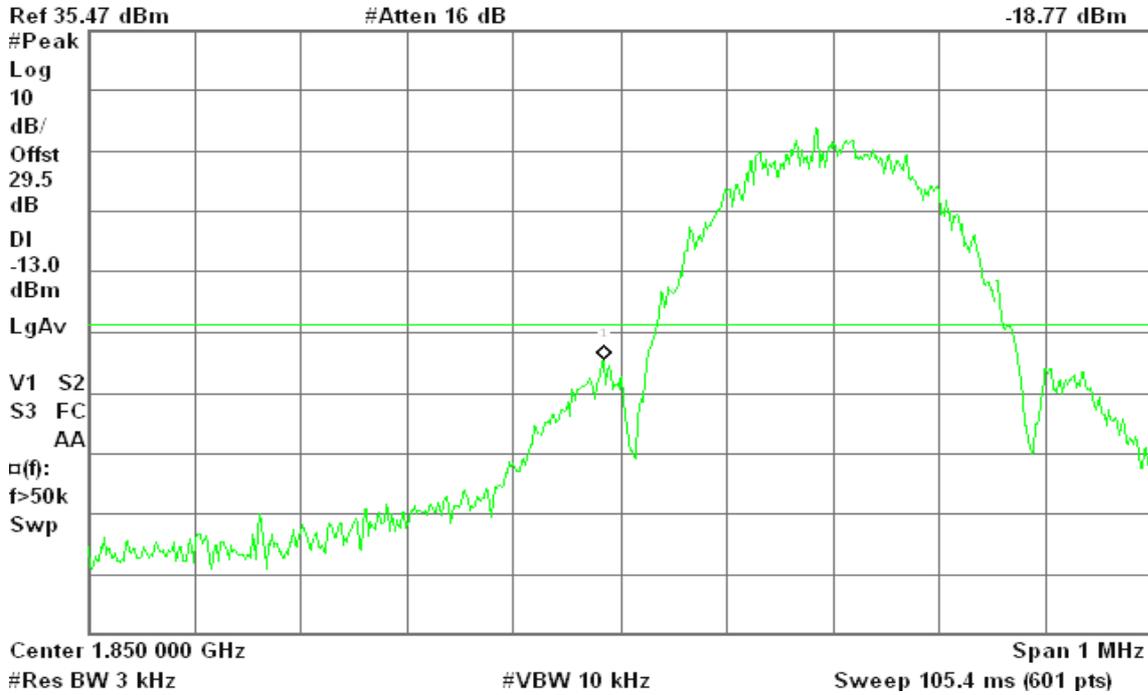
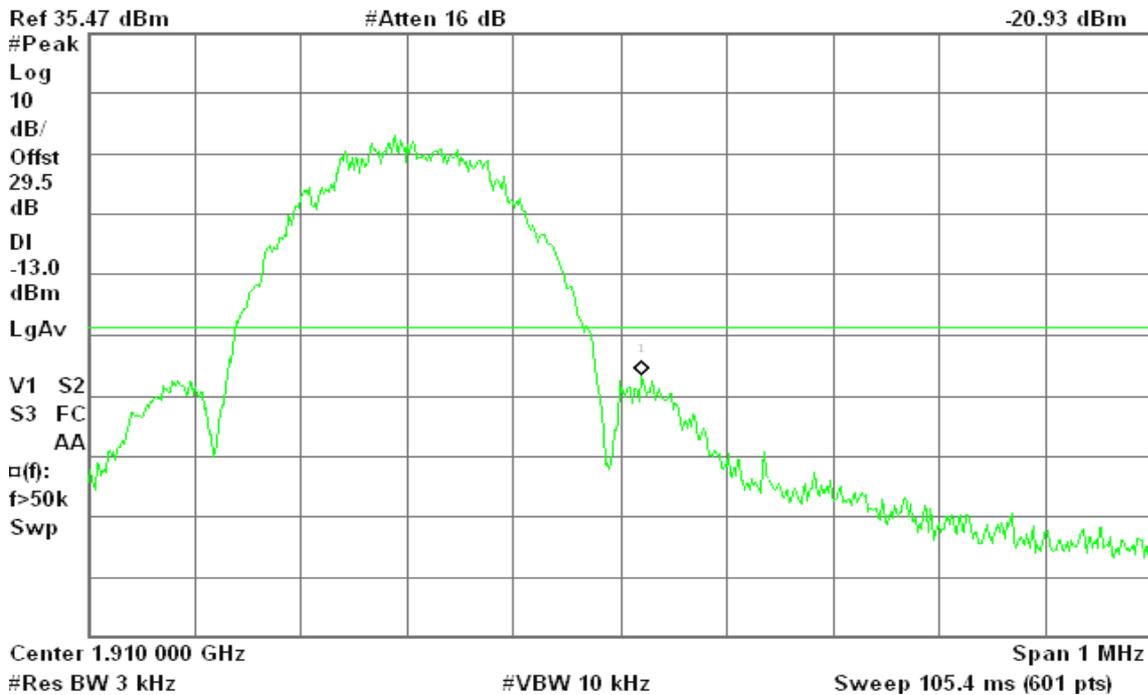


Figure 14-2: Band Edge emissions – EGPRS CH High

Agilent 16:44:58 Mar 26, 2010

R T

Mkr1 1.910 020 GHz
-20.93 dBm





WCDMA Band II

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

Agilent 17:10:34 Mar 26, 2010

R T

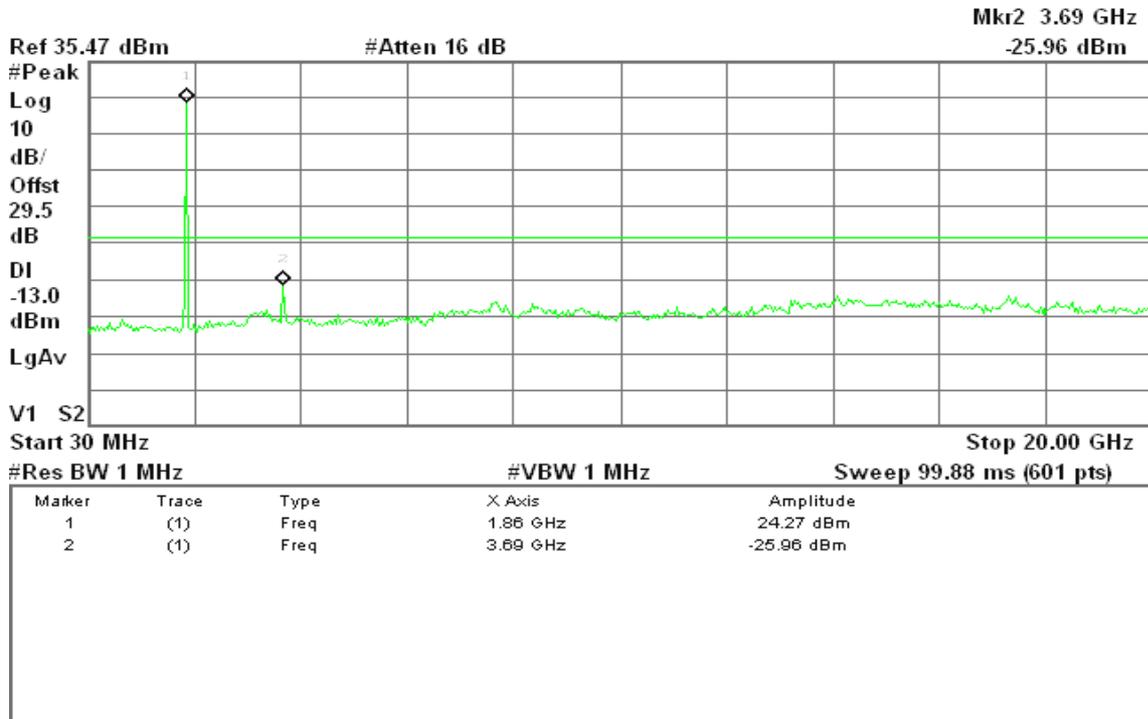


Figure 15-2: Out of Band emission at antenna terminals – WCDMA CH Mid

Agilent 17:11:17 Mar 26, 2010

R T

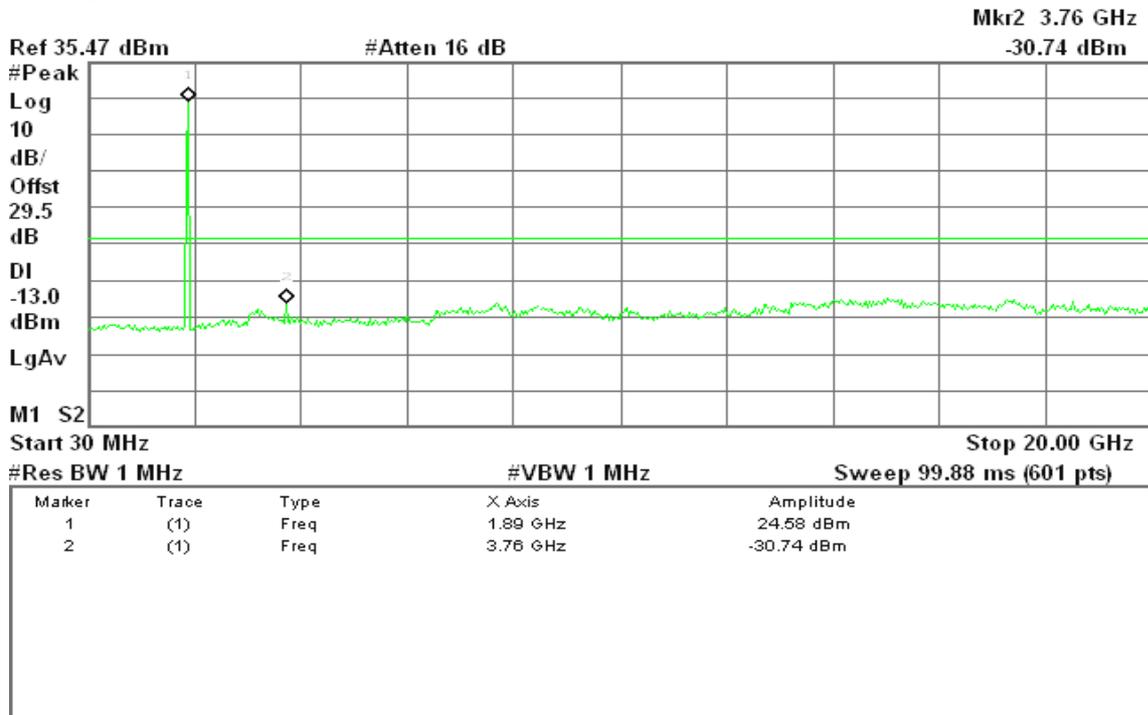
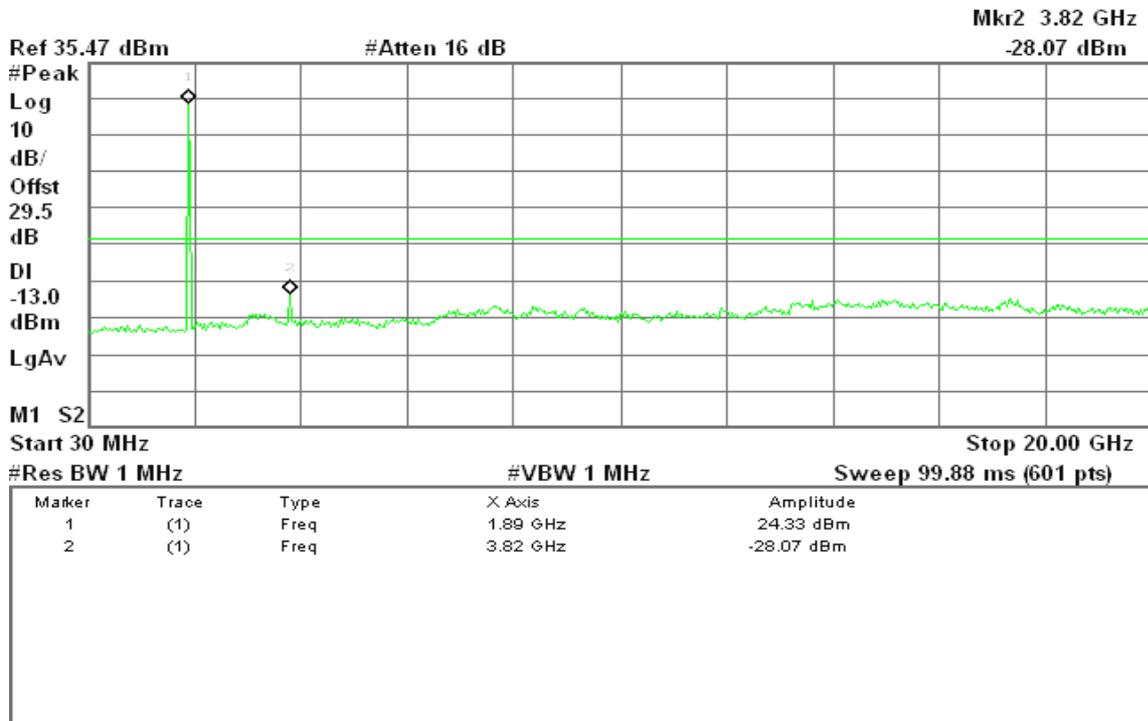




Figure 15-3: Out of Band emission at antenna terminals – WCDMA CH High

Agilent 17:11:51 Mar 26, 2010

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WCDMA Band V

Figure 16-1: Out of Band emission at antenna terminals – WCDMA CH Low

Agilent 17:45:23 Mar 26, 2010

R T

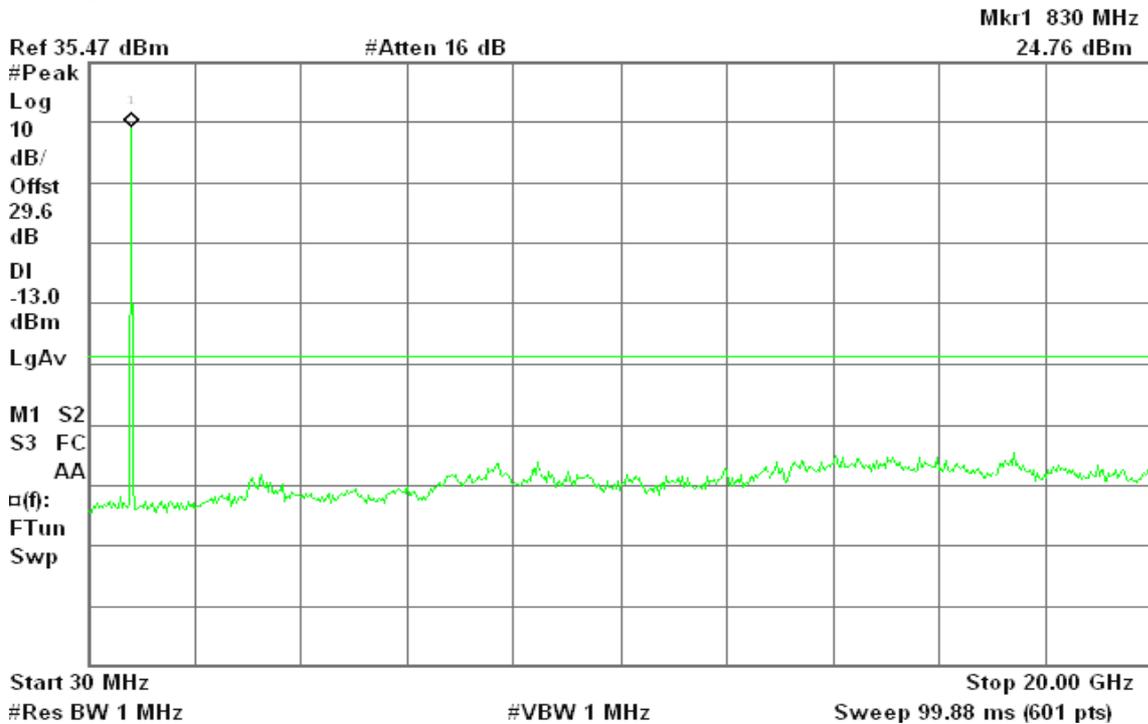




Figure 16-2: Out of Band emission at antenna terminals – WCDMA CH Mid

Agilent 17:44:52 Mar 26, 2010

R T

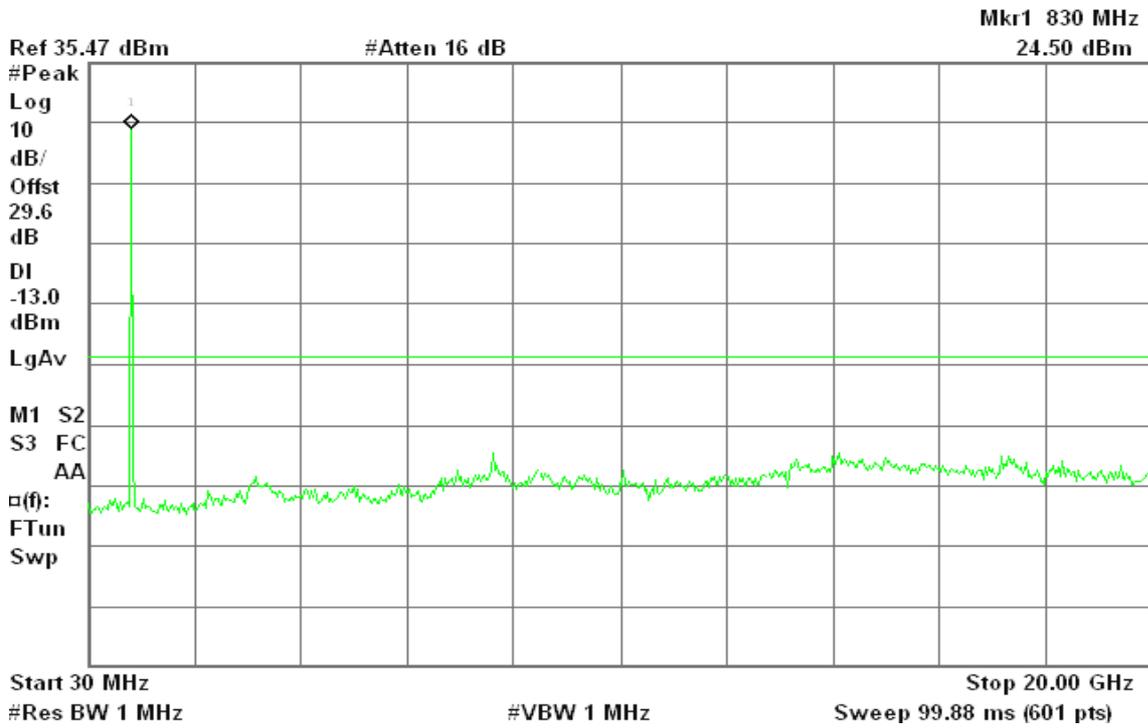
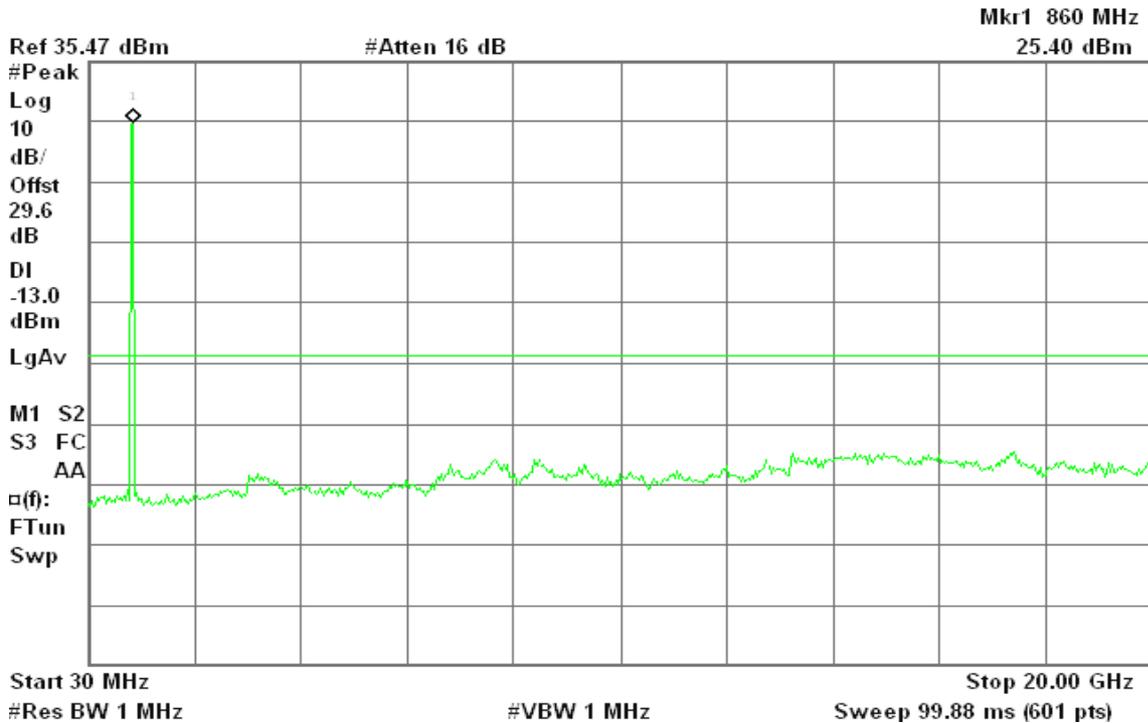


Figure 16-3: Out of Band emission at antenna terminals – WCDMA CH High

Agilent 17:44:34 Mar 26, 2010

R T





WCDMA Band II

Figure 17-1: Band Edge emissions – WCDMA CH Low

Agilent 17:20:08 Mar 26, 2010

R T

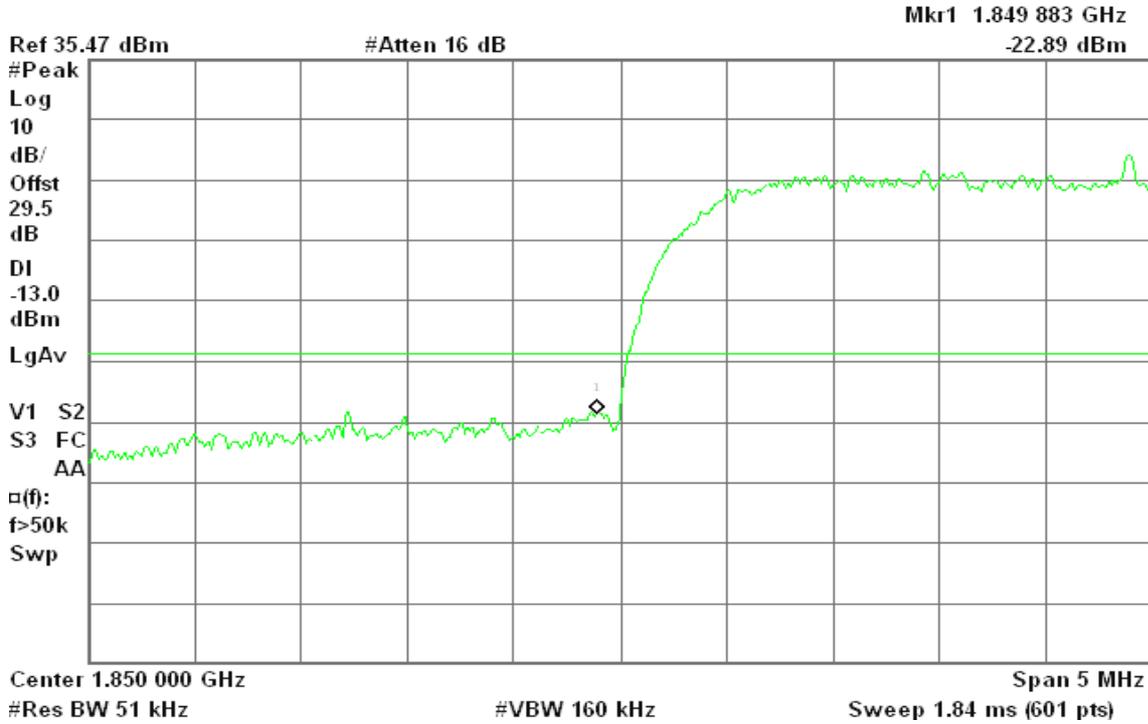
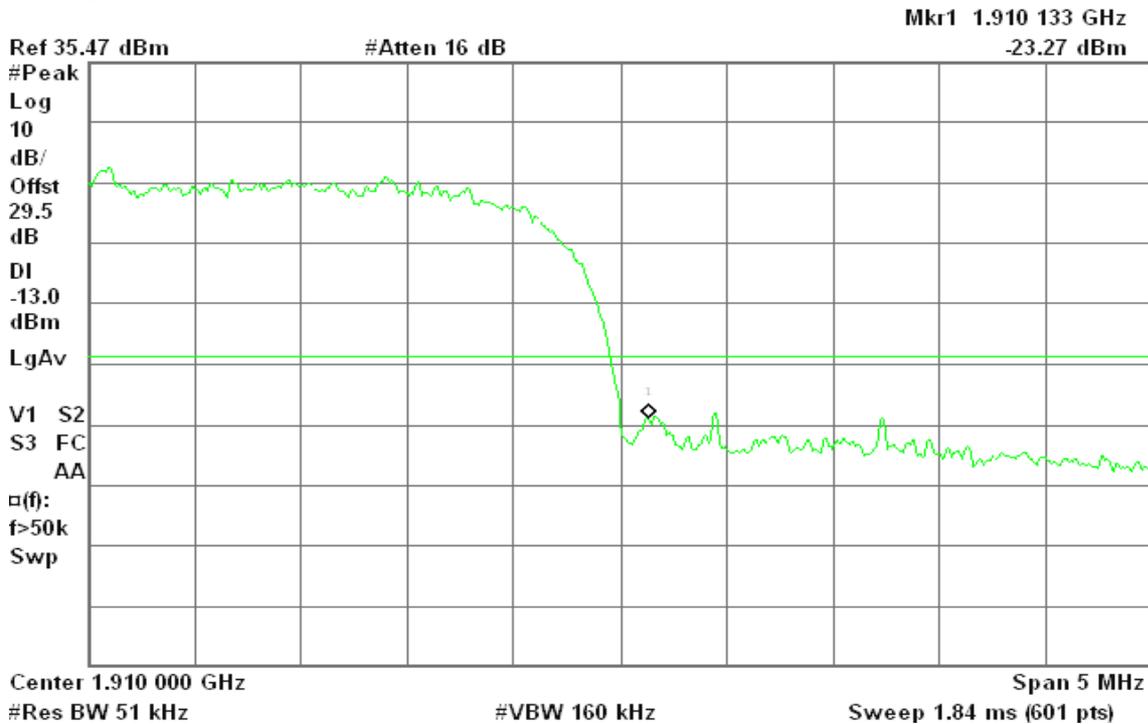


Figure 17-2: Band Edge emissions –WCDMA CH High

Agilent 17:21:04 Mar 26, 2010

R T





WCDMA Band V

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

Agilent 17:41:44 Mar 26, 2010

R T

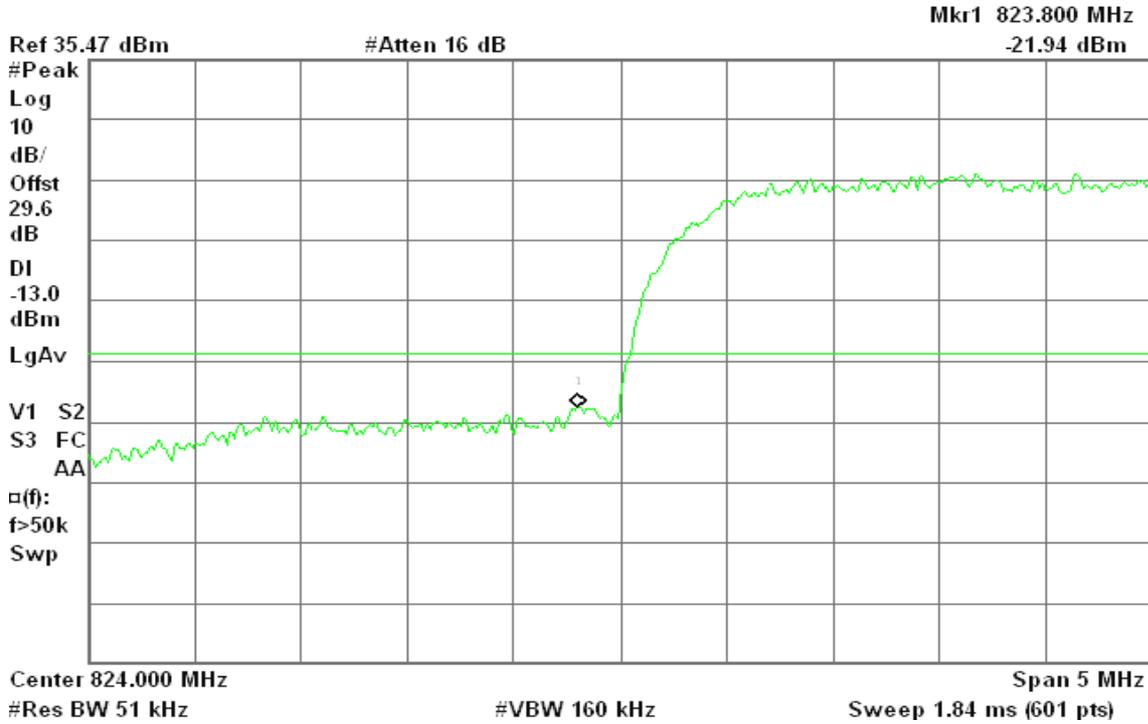
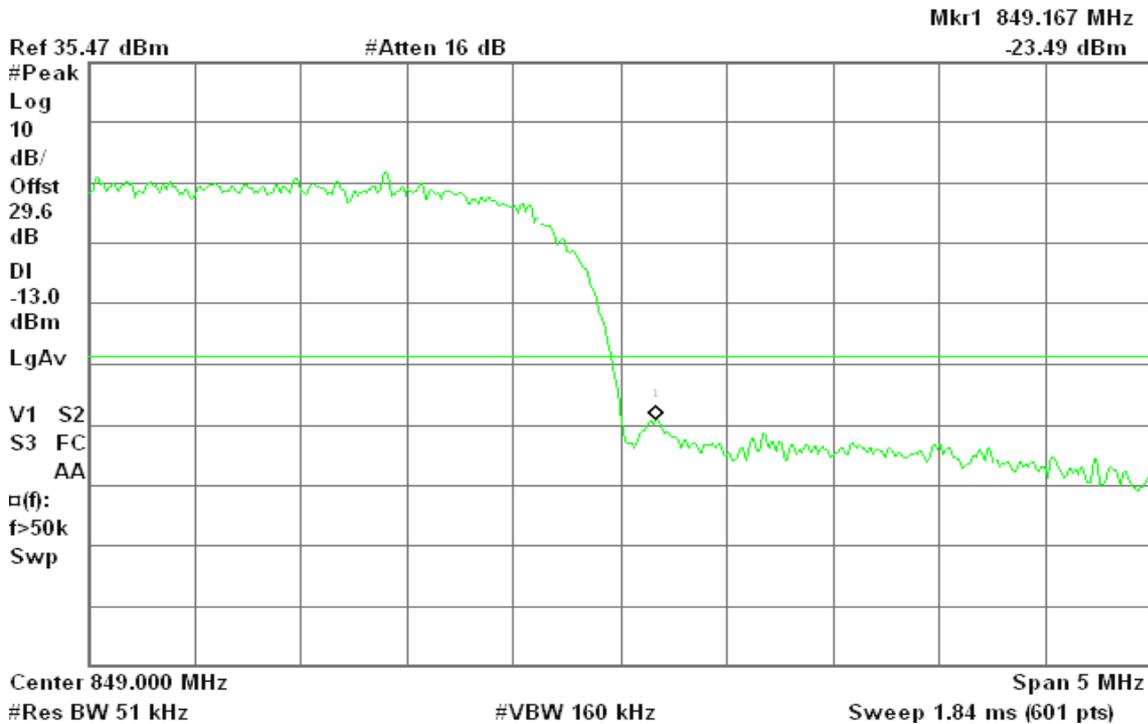


Figure 18-2: Band Edge emissions –WCDMA CH High

Agilent 17:42:32 Mar 26, 2010

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WCDMA / HSDPA Band II

Figure 19-1: Out of Band emission at antenna terminals – HSDPA CH Low

Agilent 13:10:58 Mar 27, 2010

R T

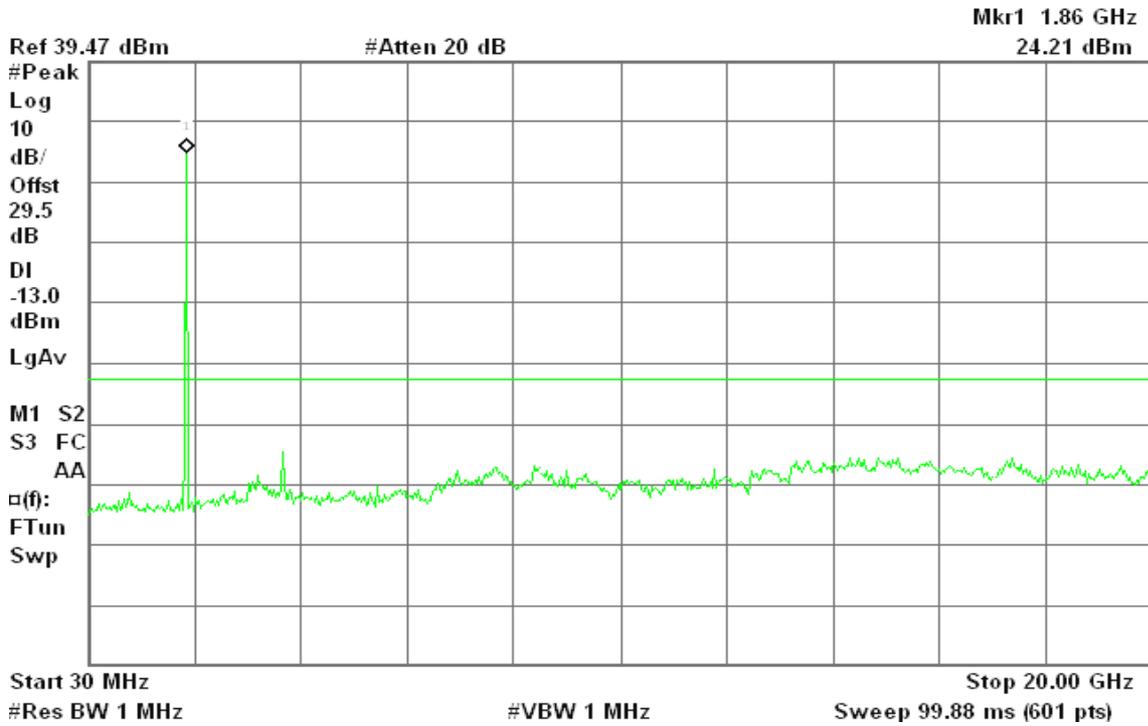


Figure 19-2: Out of Band emission at antenna terminals – HSDPA CH Mid

Agilent 13:10:43 Mar 27, 2010

R T

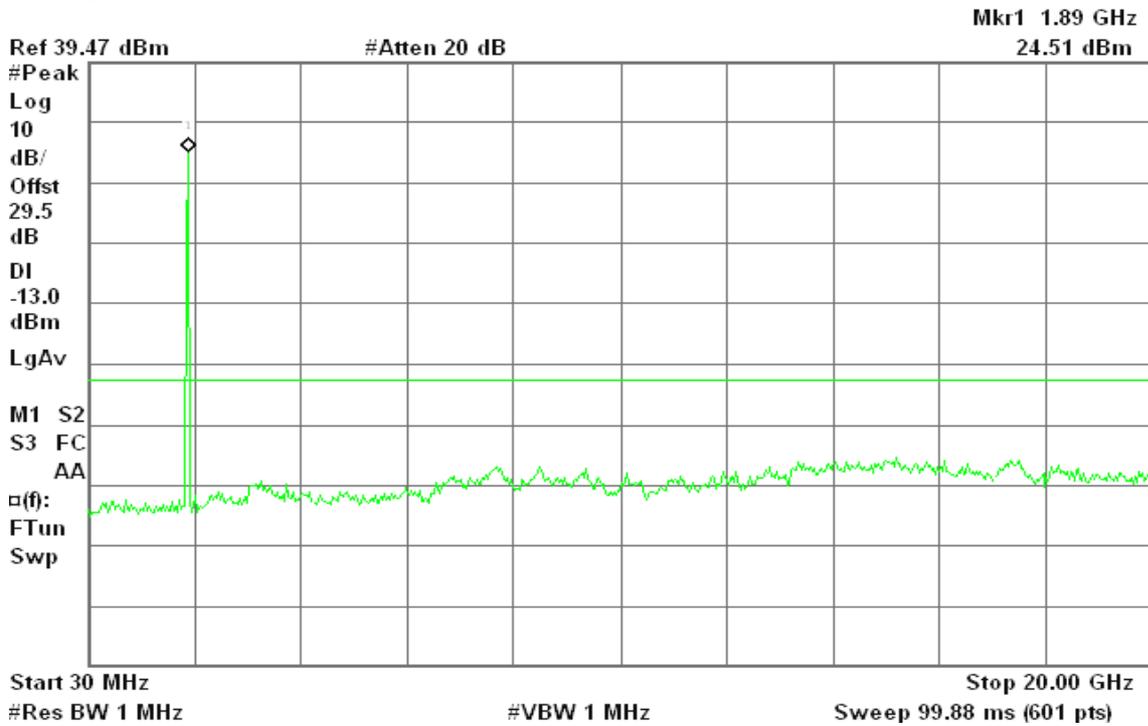
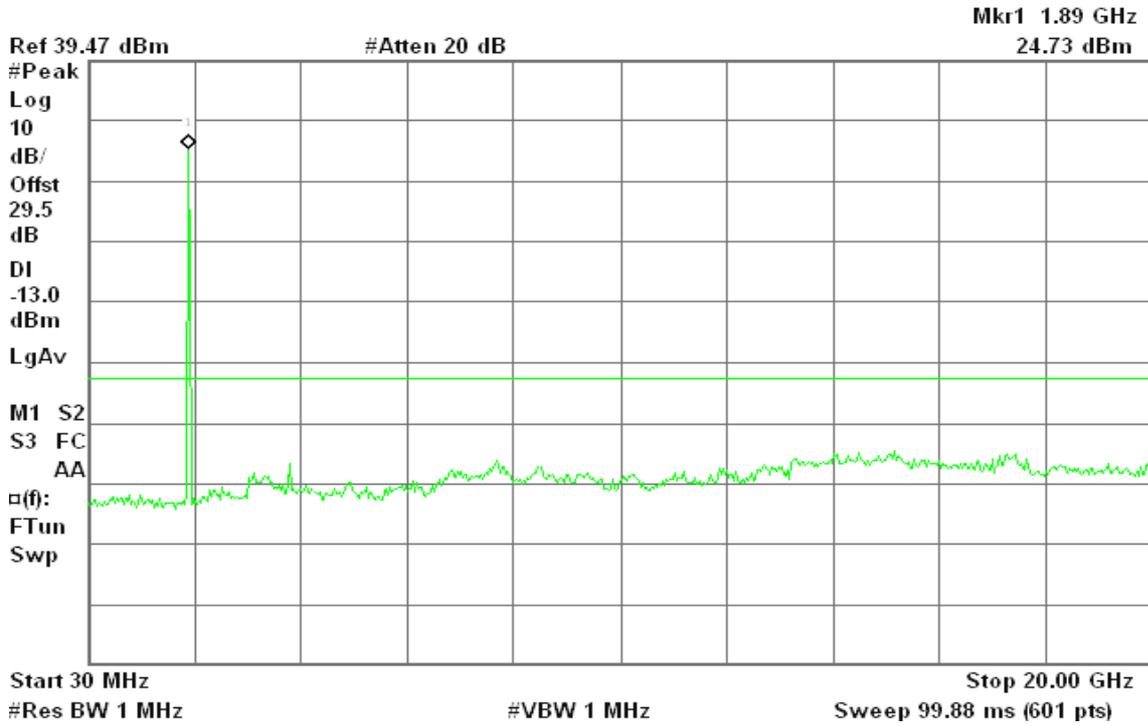




Figure 19-3: Out of Band emission at antenna terminals – HSDPA CH High

Agilent 13:10:21 Mar 27, 2010

R T



WCDMA / HSDPA Band V

Figure 20-1: Out of Band emission at antenna terminals – HSDPA CH Low

Agilent 12:45:33 Mar 27, 2010

R T

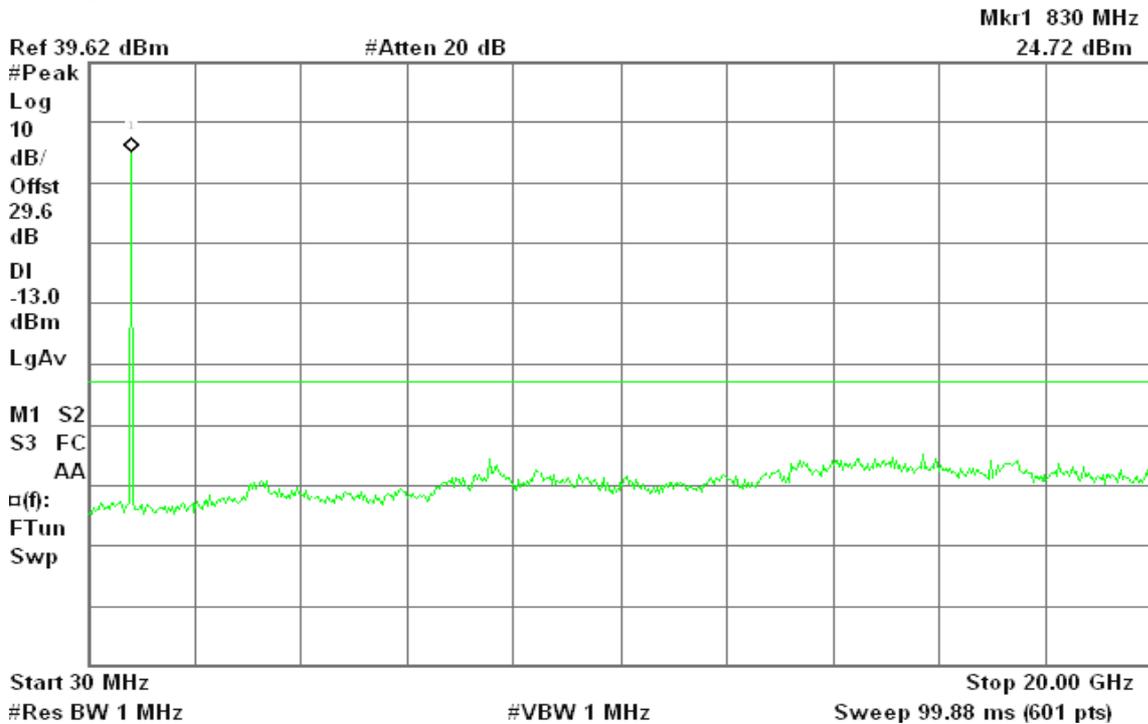




Figure 20-2: Out of Band emission at antenna terminals – HSDPA CH Mid

Agilent 12:45:16 Mar 27, 2010

R T

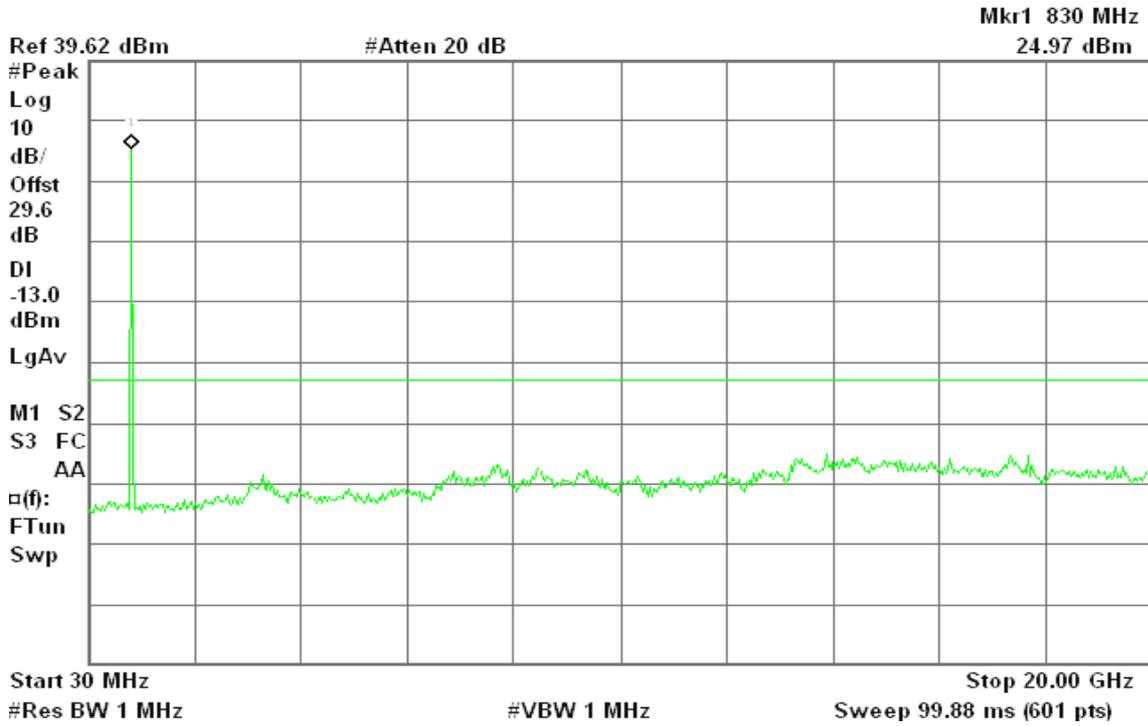
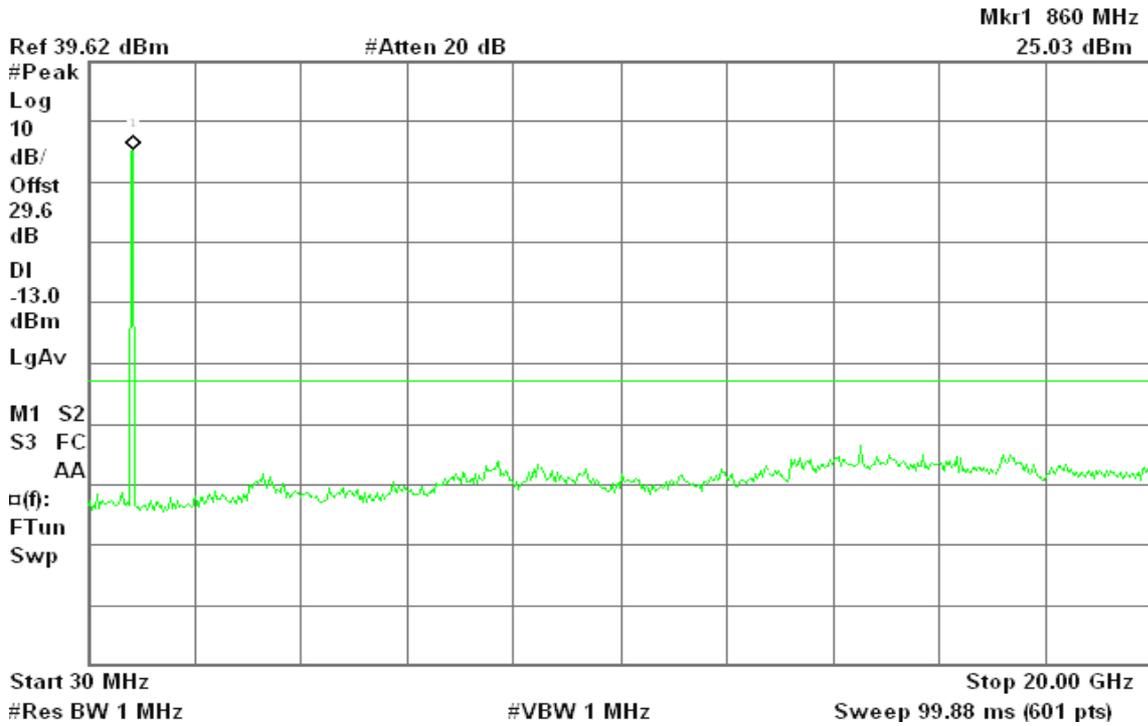


Figure 20-3: Out of Band emission at antenna terminals – HSDPA CH High

Agilent 12:44:59 Mar 27, 2010

R T





WCDMA / HSDPA Band II

Figure 21-1: Band Edge emissions – HSDPA CH Low

Agilent 13:06:31 Mar 27, 2010

R T

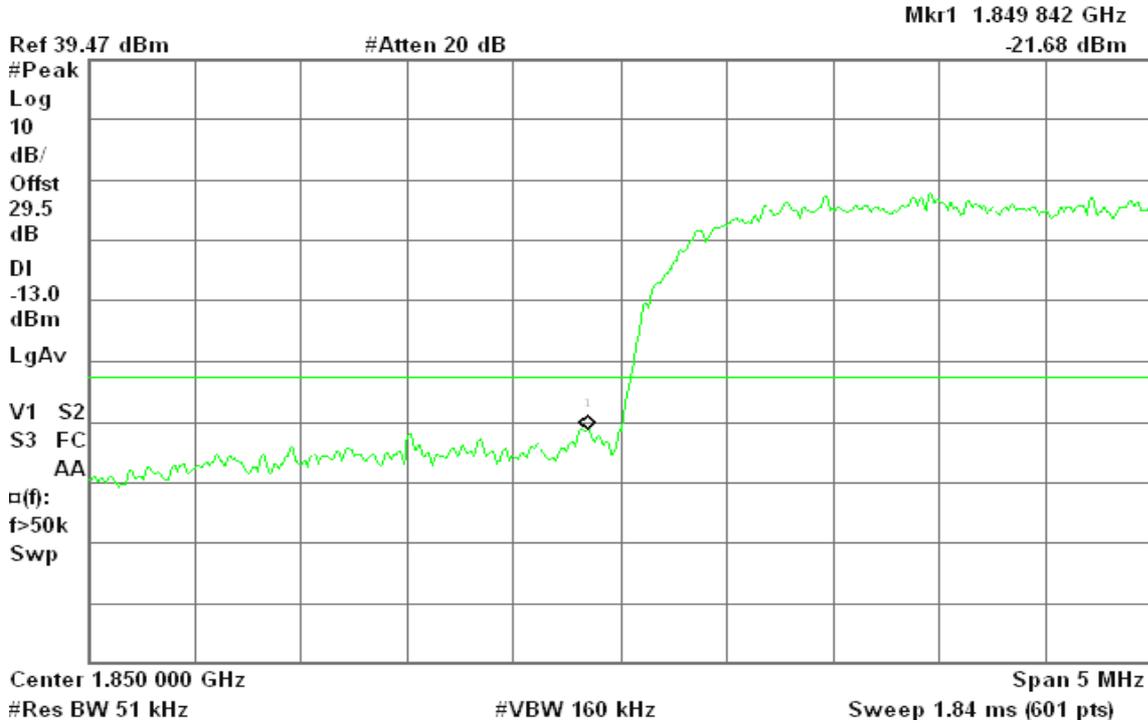
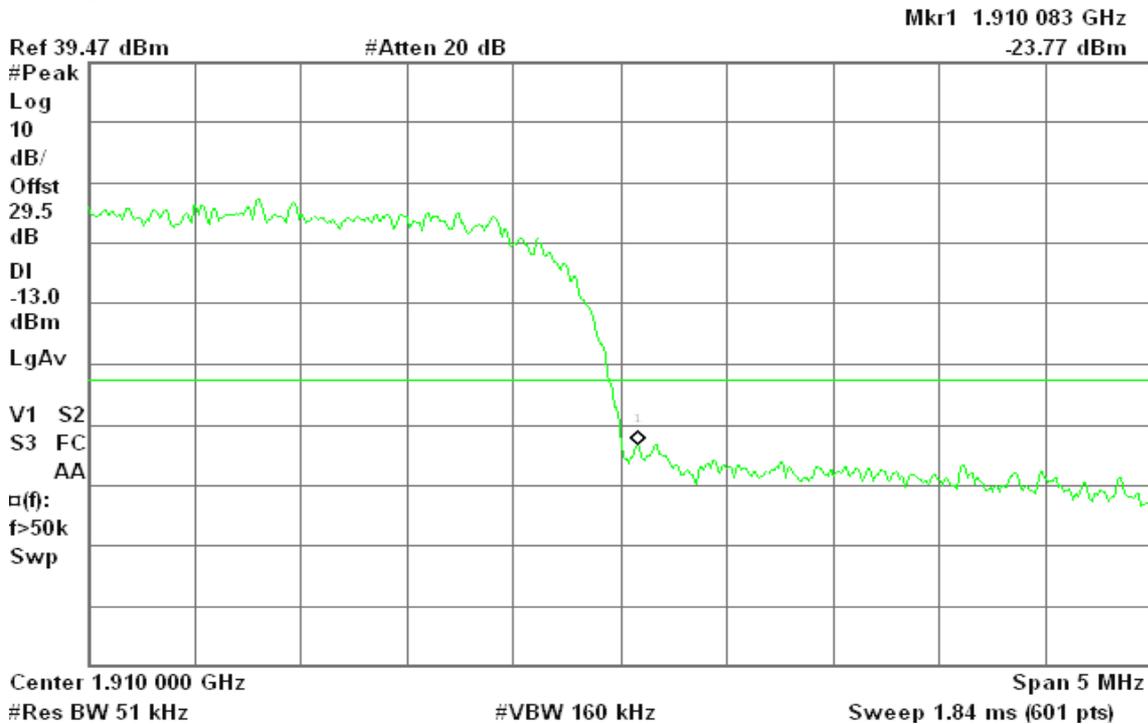


Figure 21-2: Band Edge emissions – HSDPA CH High

Agilent 13:07:15 Mar 27, 2010

R T





WCDMA / HSDPA Band V

Figure 22-1: Band Edge emissions – HSDPA CH Low

Agilent 12:43:50 Mar 27, 2010

R T

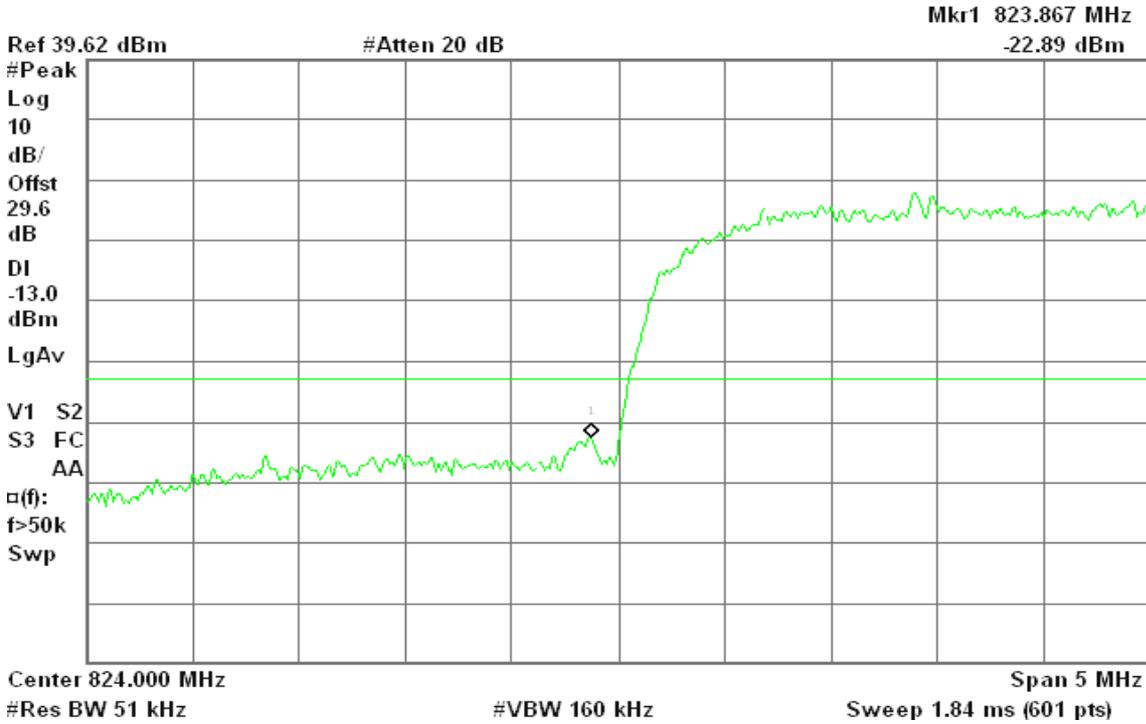
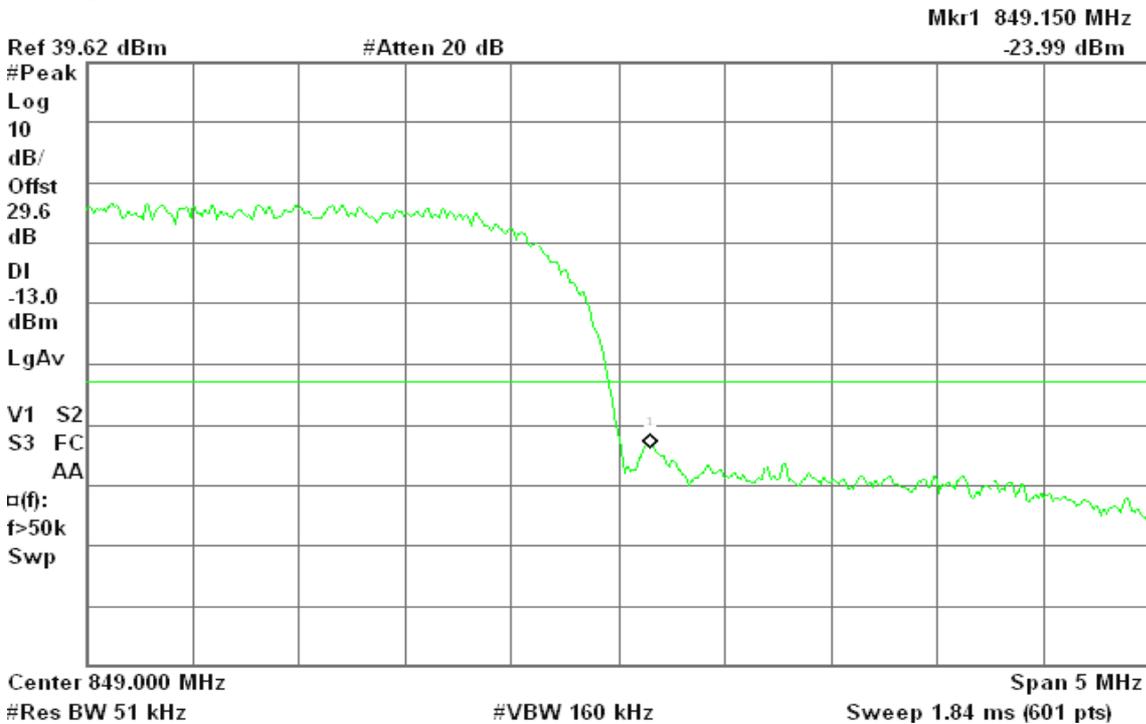


Figure 22-2: Band Edge emissions – HSDPA CH High

Agilent 12:44:24 Mar 27, 2010

R T





WCDMA / HSUPA Band II

Figure 23-1: Out of Band emission at antenna terminals – HSUPA CH Low

Agilent 14:13:40 Mar 27, 2010

R T

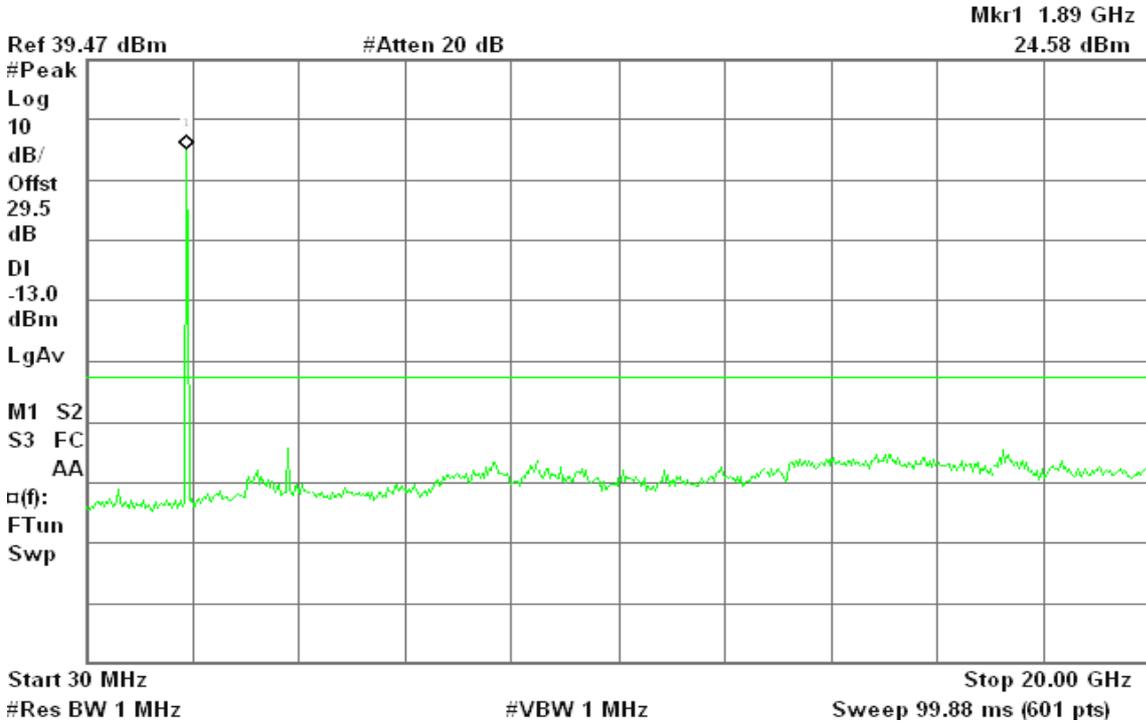


Figure 23-2: Out of Band emission at antenna terminals – HSUPA CH Mid

Agilent 14:13:13 Mar 27, 2010

R T

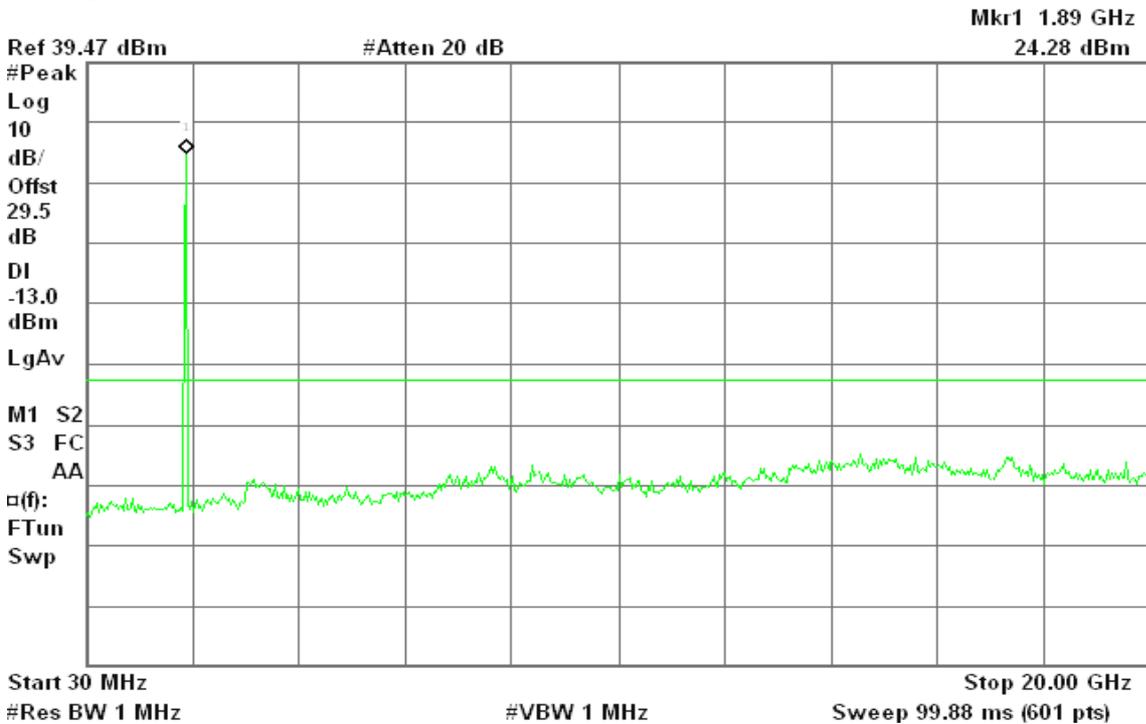
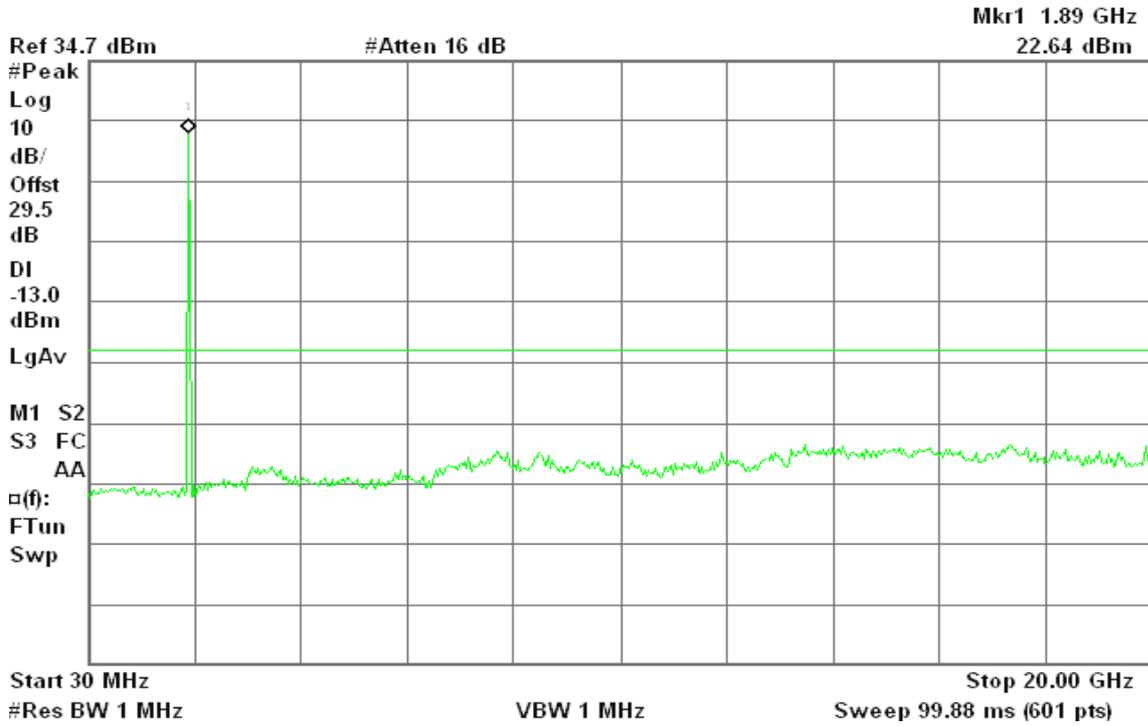




Figure 23-3: Out of Band emission at antenna terminals – HSUPA CH High

Agilent 18:44:42 Mar 27, 2010

R T



HSUPA / WCDMA Band V

Figure 24-1: Out of Band emission at antenna terminals – HSUPA CH Low

Agilent 14:22:59 Mar 27, 2010

R T

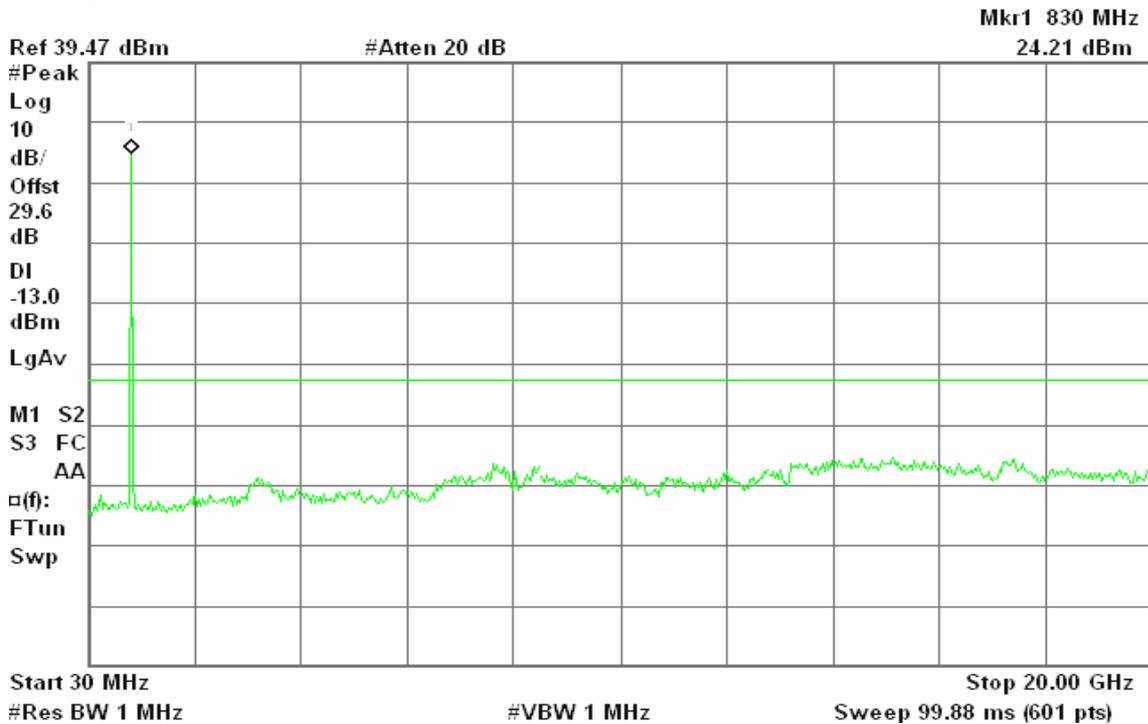




Figure 24-2: Out of Band emission at antenna terminals – HSUPA CH Mid

Agilent 14:22:38 Mar 27, 2010

R T

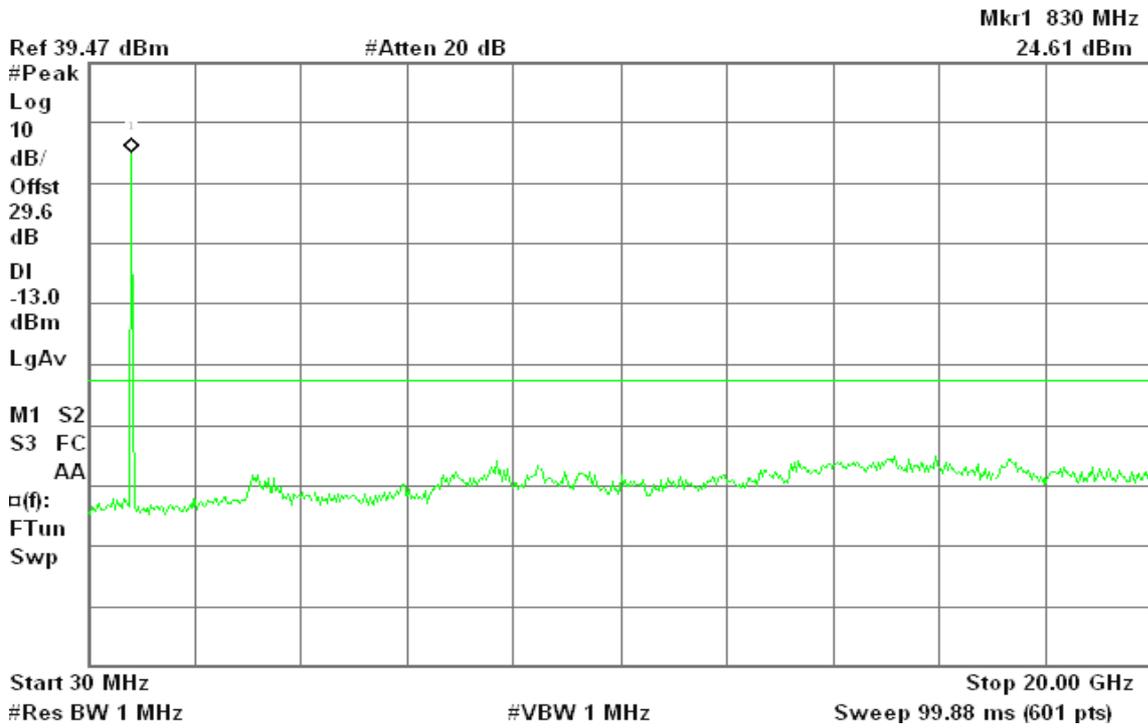
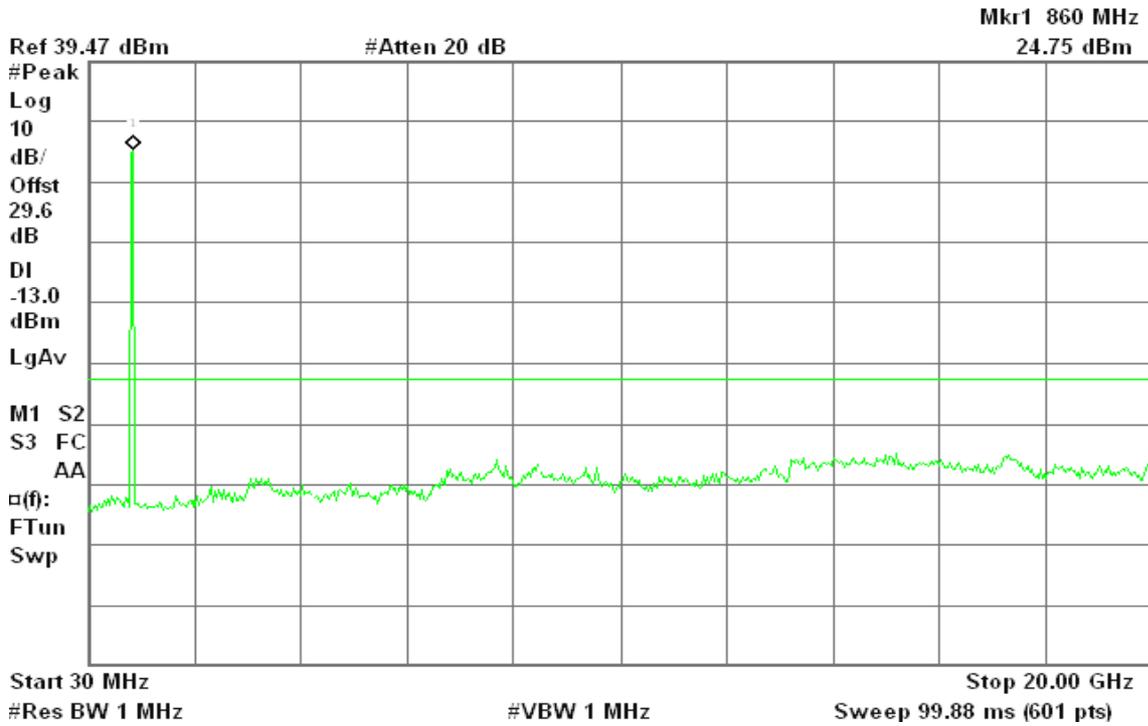


Figure 24-3: Out of Band emission at antenna terminals – HSUPA CH High

Agilent 14:22:23 Mar 27, 2010

R T





WCDMA / HSUPA Band II

Figure 25-1: Band Edge emissions – HSUPA CH Low

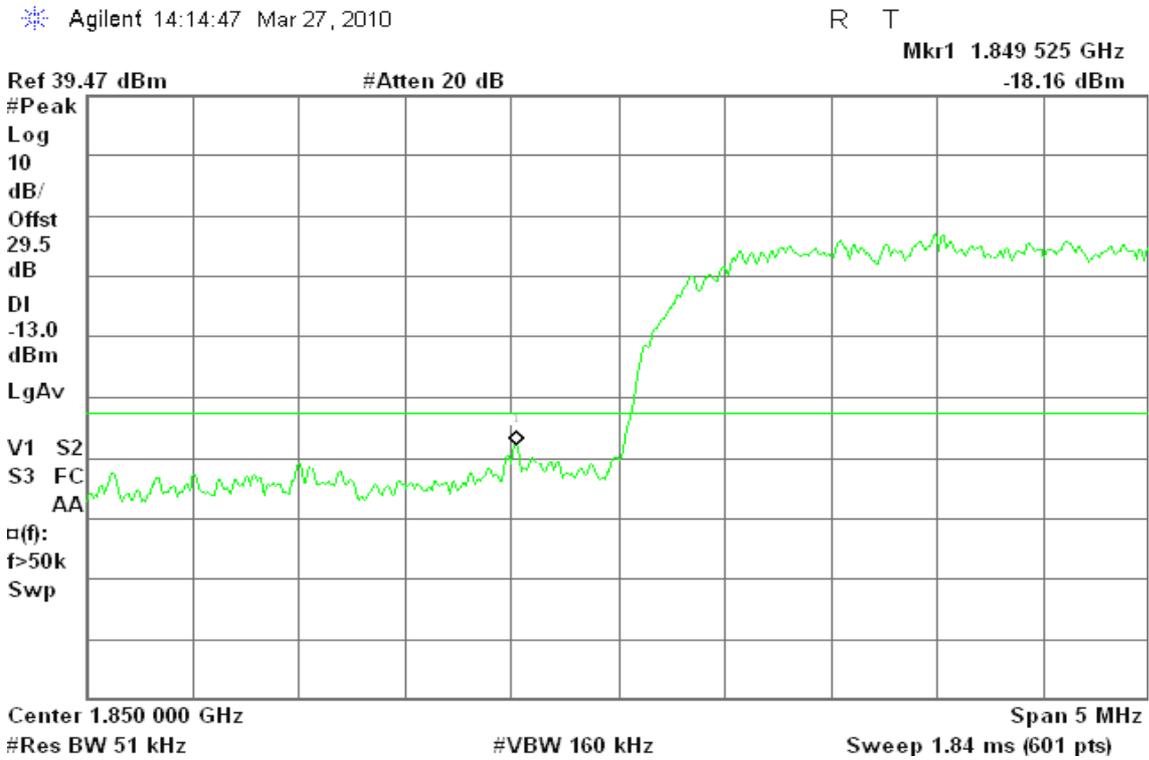
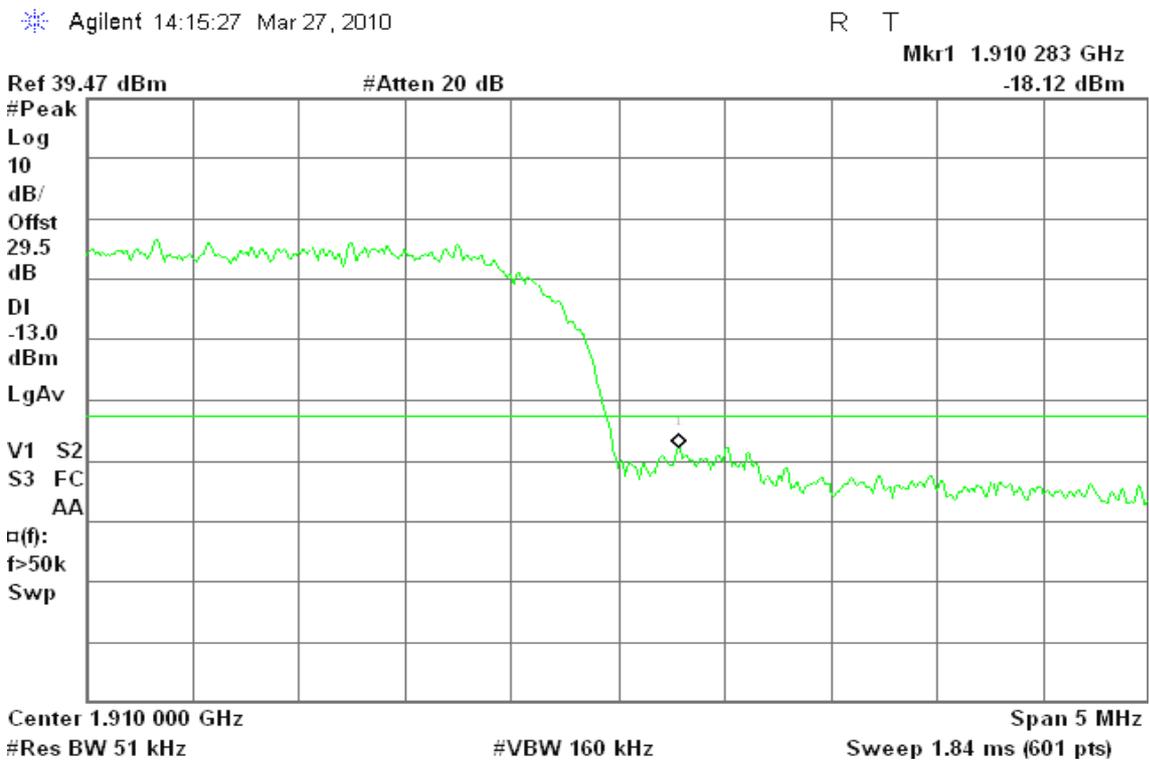


Figure 25-2: Band Edge emissions – HSUPA CH High





WCDMA / HSUPA Band V

Figure 26-1: Band Edge emissions – HSUPA CH Low

Agilent 14:21:10 Mar 27, 2010

R T

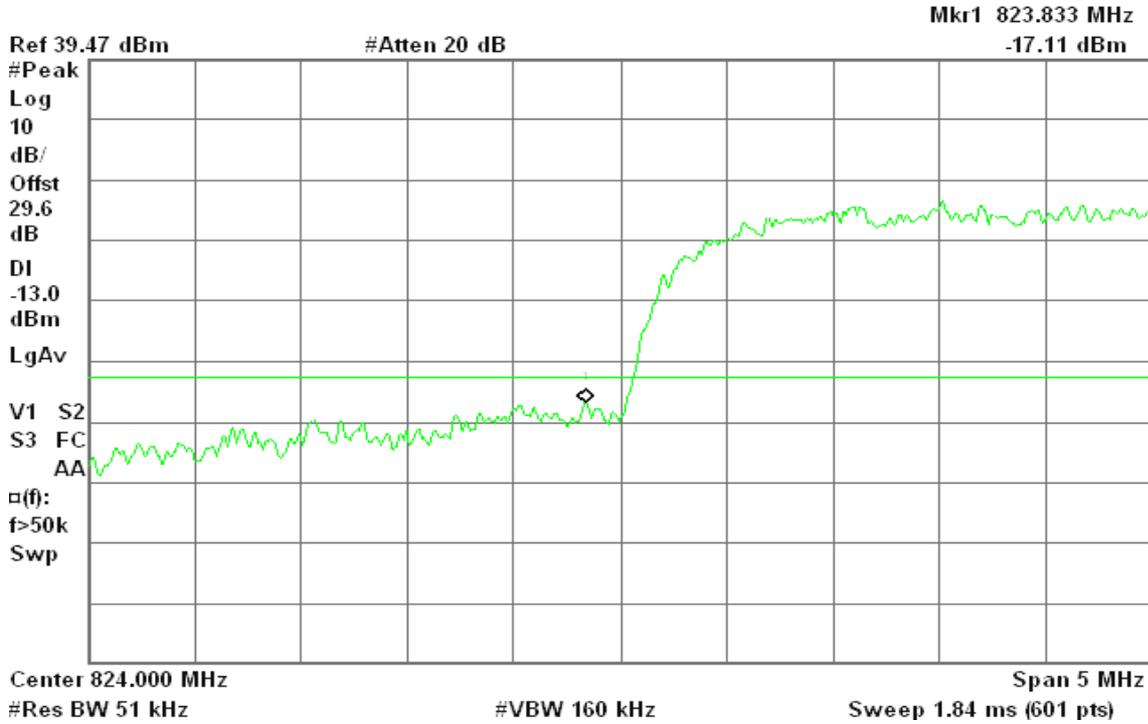
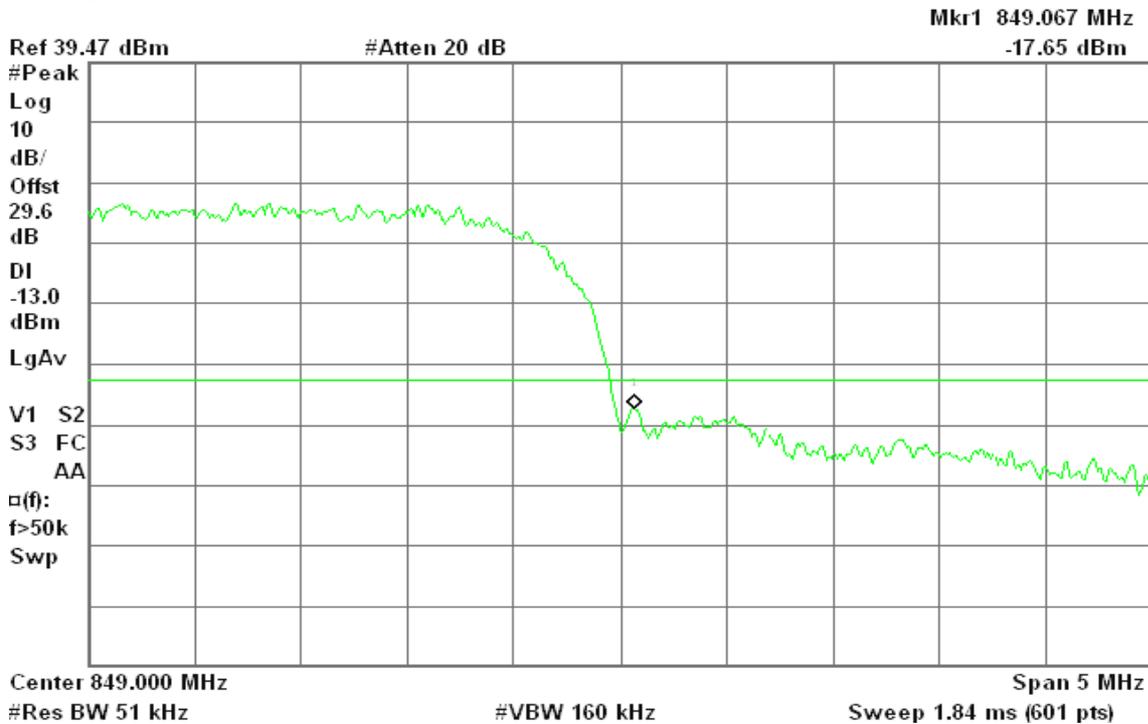


Figure 26-2: Band Edge emissions – HSUPA CH High

Agilent 14:21:47 Mar 27, 2010

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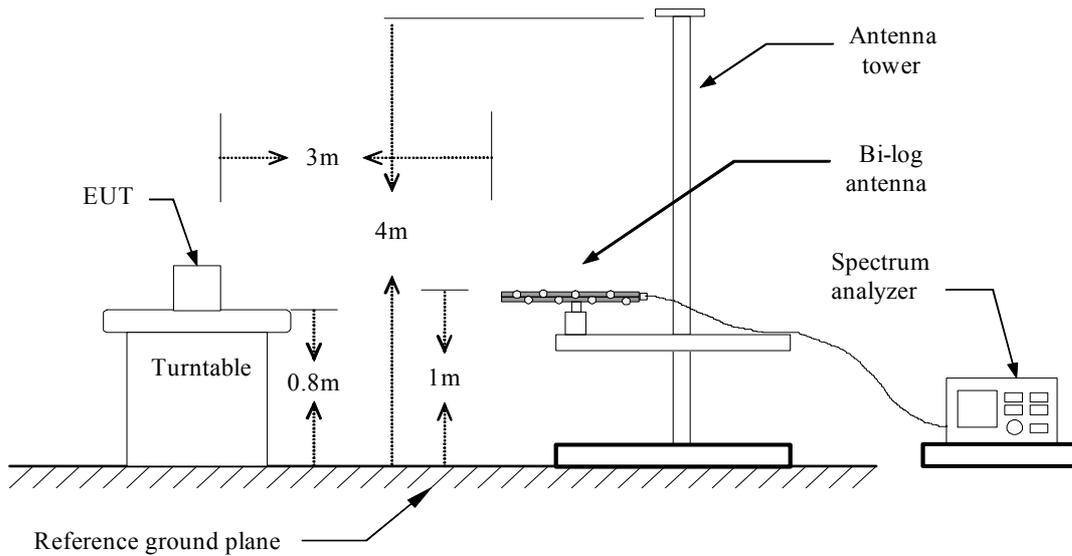
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

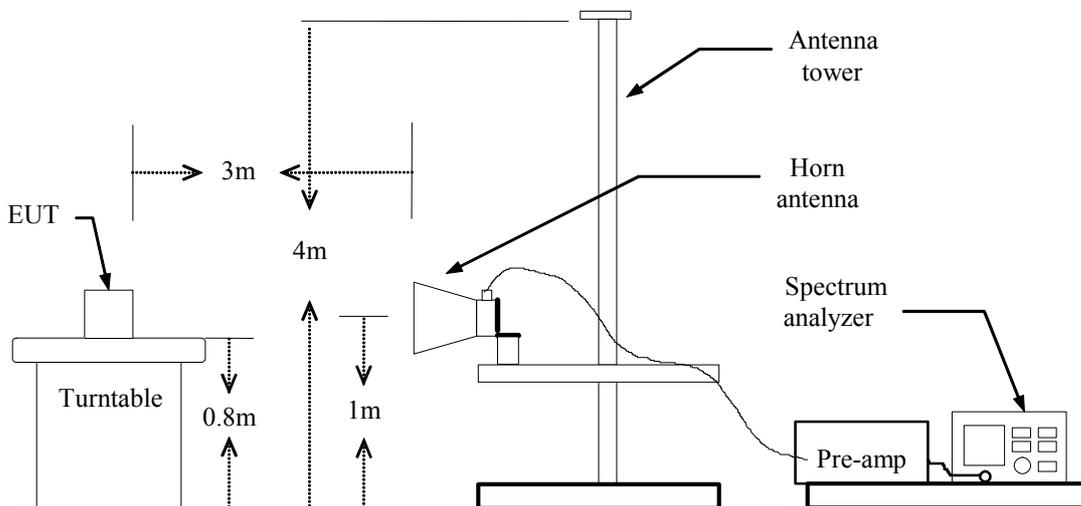
According to FCC §2.1053

Test Configuration

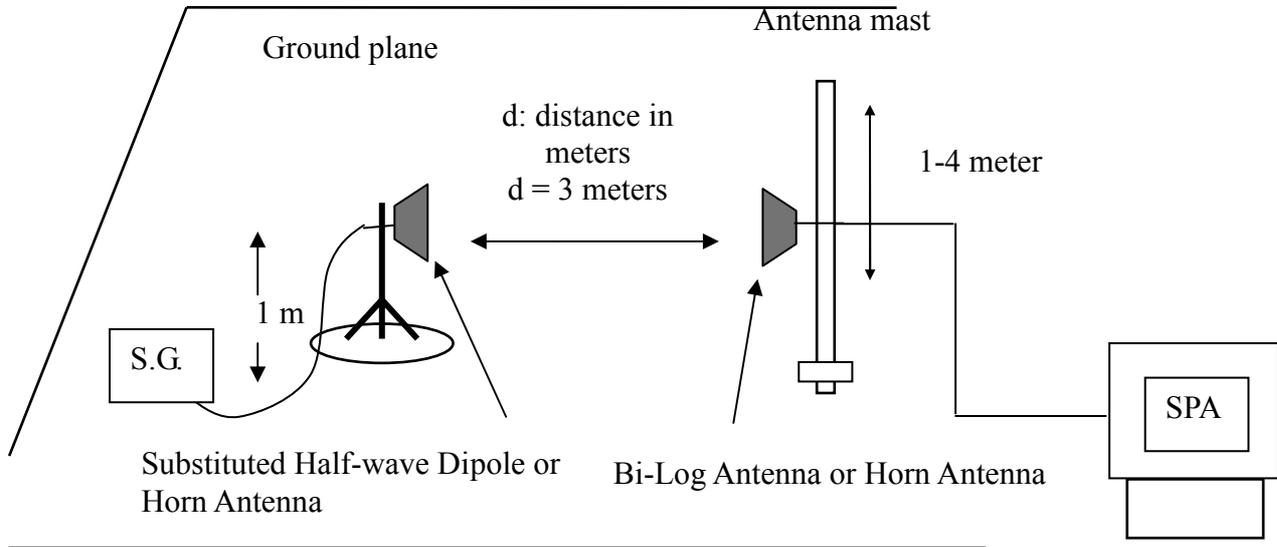
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

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

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

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

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

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

TEST RESULTS

Refer to the attached tabular data sheets.

**Radiated Spurious Emission Measurement Result / Below 1GHz****Operation Mode:** GPRS 850 / TX / CH 128**Test Date:** March 20, 2010**Temperature:** 23°C**Tested by:** Wolf Huang**Humidity:** 47 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
32.91	V	-49.84	-16.62	-66.46	-13.00	-53.46
99.84	V	-46.53	-18.10	-64.62	-13.00	-51.62
398.60	V	-54.69	-12.15	-66.84	-13.00	-53.84
408.30	V	-53.03	-11.56	-64.58	-13.00	-51.58
512.09	V	-62.35	-8.54	-70.88	-13.00	-57.88
682.81	V	-59.59	-6.57	-66.17	-13.00	-53.17
43.58	H	-58.57	-11.71	-70.28	-13.00	-57.28
99.84	H	-46.20	-18.04	-64.25	-13.00	-51.25
398.60	H	-55.17	-11.73	-66.90	-13.00	-53.90
407.33	H	-52.86	-11.28	-64.14	-13.00	-51.14
512.09	H	-61.09	-8.65	-69.74	-13.00	-56.74
682.81	H	-59.55	-6.57	-66.12	-13.00	-53.12

Remark:

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



Operation Mode: GPRS 850 / TX / CH 190

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
30.00	V	-42.85	-18.30	-61.15	-13.00	-48.15
130.88	V	-46.72	-12.79	-59.51	-13.00	-46.51
222.06	V	-57.14	-15.85	-72.99	-13.00	-59.99
452.92	V	-56.20	-9.95	-66.15	-13.00	-53.15
523.73	V	-59.27	-8.40	-67.67	-13.00	-54.67
967.99	V	-60.75	-3.14	-63.89	-13.00	-50.89
43.58	H	-59.11	-11.71	-70.82	-13.00	-57.82
130.88	H	-46.89	-14.14	-61.04	-13.00	-48.04
299.66	H	-58.62	-14.22	-72.85	-13.00	-59.85
453.89	H	-56.49	-9.83	-66.32	-13.00	-53.32
523.73	H	-60.17	-8.50	-68.68	-13.00	-55.68
967.02	H	-59.65	-3.33	-62.98	-13.00	-49.98

Remark:

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



Operation Mode: GPRS 850 / TX / CH 251

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-58.01	-11.71	-69.72	-13.00	-56.72
116.33	V	-63.05	-14.83	-77.88	-13.00	-64.88
219.15	V	-60.66	-15.34	-76.00	-13.00	-63.00
299.66	V	-60.34	-14.22	-74.56	-13.00	-61.56
566.41	V	-66.42	-7.81	-74.23	-13.00	-61.23
766.23	V	-66.11	-5.53	-71.64	-13.00	-58.64
43.58	H	-57.99	-12.85	-70.84	-13.00	-57.84
112.45	H	-59.33	-15.45	-74.78	-13.00	-61.78
221.09	H	-56.07	-15.97	-72.04	-13.00	-59.04
345.25	H	-59.41	-13.46	-72.87	-13.00	-59.87
633.34	H	-66.75	-6.72	-73.47	-13.00	-60.47
766.23	H	-67.01	-5.57	-72.58	-13.00	-59.58

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 1900 / TX / CH 512

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
30.97	V	-48.50	-17.74	-66.24	-13.00	-53.24
111.48	V	-60.56	-15.67	-76.23	-13.00	-63.23
197.81	V	-58.69	-14.44	-73.13	-13.00	-60.13
217.21	V	-56.67	-16.22	-72.89	-13.00	-59.89
633.34	V	-67.36	-6.72	-74.08	-13.00	-61.08
766.23	V	-67.41	-5.57	-72.98	-13.00	-59.98
44.55	H	-58.79	-11.72	-70.52	-13.00	-57.52
178.41	H	-63.02	-14.18	-77.20	-13.00	-64.20
223.03	H	-60.95	-15.10	-76.04	-13.00	-63.04
299.66	H	-60.69	-14.22	-74.91	-13.00	-61.91
633.34	H	-66.86	-6.70	-73.56	-13.00	-60.56
766.23	H	-68.45	-5.53	-73.97	-13.00	-60.97

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 661

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
30.97	V	-47.10	-17.74	-64.84	-13.00	-51.84
220.12	V	-56.55	-16.09	-72.64	-13.00	-59.64
299.66	V	-59.60	-13.59	-73.19	-13.00	-60.19
433.52	V	-66.03	-10.45	-76.48	-13.00	-63.48
633.34	V	-67.32	-6.72	-74.04	-13.00	-61.04
971.87	V	-69.35	-3.05	-72.41	-13.00	-59.41
43.58	H	-58.79	-11.71	-70.50	-13.00	-57.50
220.12	H	-58.83	-15.34	-74.17	-13.00	-61.17
299.66	H	-60.26	-14.22	-74.48	-13.00	-61.48
566.41	H	-66.91	-7.81	-74.72	-13.00	-61.72
600.36	H	-66.25	-7.72	-73.98	-13.00	-60.98
858.38	H	-69.26	-4.44	-73.70	-13.00	-60.70

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: GPRS 1900 / TX / CH 810

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
30.97	V	-47.52	-17.74	-65.25	-13.00	-52.25
219.15	V	-55.87	-16.14	-72.01	-13.00	-59.01
433.52	V	-66.41	-10.45	-76.86	-13.00	-63.86
633.34	V	-68.11	-6.72	-74.83	-13.00	-61.83
733.25	V	-67.17	-5.98	-73.16	-13.00	-60.16
875.84	V	-69.53	-4.04	-73.57	-13.00	-60.57
43.58	H	-58.70	-11.71	-70.41	-13.00	-57.41
107.60	H	-60.44	-16.65	-77.09	-13.00	-64.09
223.03	H	-60.12	-15.10	-75.21	-13.00	-62.21
299.66	H	-60.42	-14.22	-74.64	-13.00	-61.64
662.44	H	-67.40	-6.66	-74.05	-13.00	-61.05
766.23	H	-68.48	-5.53	-74.01	-13.00	-61.01

Remark:

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



Operation Mode: EGPRS 850 / TX / CH 128

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
32.91	V	-38.11	-16.62	-54.72	-13.00	-41.72
99.84	V	-46.26	-18.10	-64.36	-13.00	-51.36
219.15	V	-53.53	-16.14	-69.67	-13.00	-56.67
399.57	V	-55.06	-12.10	-67.16	-13.00	-54.16
407.33	V	-52.70	-11.62	-64.31	-13.00	-51.31
682.81	V	-59.73	-6.57	-66.31	-13.00	-53.31
45.52	H	-55.02	-12.08	-67.10	-13.00	-54.10
99.84	H	-46.18	-18.04	-64.22	-13.00	-51.22
398.60	H	-54.70	-11.73	-66.44	-13.00	-53.44
408.30	H	-53.98	-11.22	-65.21	-13.00	-52.21
512.09	H	-60.36	-8.65	-69.01	-13.00	-56.01
682.81	H	-60.37	-6.57	-66.94	-13.00	-53.94

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: EGPRS 850 / TX / CH 190

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
40.67	V	-56.57	-12.66	-69.22	-13.00	-56.22
130.88	V	-46.32	-12.79	-59.11	-13.00	-46.11
220.12	V	-55.08	-16.09	-71.16	-13.00	-58.16
453.89	V	-57.48	-9.93	-67.41	-13.00	-54.41
522.76	V	-60.15	-8.41	-68.56	-13.00	-55.56
967.02	V	-60.95	-3.16	-64.11	-13.00	-51.11
44.55	H	-56.79	-11.72	-68.51	-13.00	-55.51
130.88	H	-47.25	-14.14	-61.40	-13.00	-48.40
221.09	H	-58.89	-15.26	-74.15	-13.00	-61.15
452.92	H	-58.29	-9.87	-68.16	-13.00	-55.16
523.73	H	-58.97	-8.50	-67.47	-13.00	-54.47
967.02	H	-61.34	-3.33	-64.67	-13.00	-51.67

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: EGPRS 850 / TX / CH 251

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
30.97	V	-45.14	-17.74	-62.88	-13.00	-49.88
110.51	V	-59.59	-15.89	-75.48	-13.00	-62.48
221.09	V	-55.85	-15.97	-71.82	-13.00	-58.82
345.25	V	-58.76	-13.46	-72.22	-13.00	-59.22
566.41	V	-66.50	-7.94	-74.44	-13.00	-61.44
895.24	V	-57.57	-3.88	-61.45	-13.00	-48.45
45.52	H	-57.54	-12.08	-69.62	-13.00	-56.62
116.33	H	-61.13	-14.83	-75.96	-13.00	-62.96
224.00	H	-60.27	-15.01	-75.28	-13.00	-62.28
299.66	H	-58.06	-14.22	-72.28	-13.00	-59.28
566.41	H	-66.75	-7.81	-74.56	-13.00	-61.56
766.23	H	-66.97	-5.53	-72.50	-13.00	-59.50

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: EGPRS 1900 / TX / CH 512

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
30.97	V	-50.16	-17.74	-67.90	-13.00	-54.90
116.33	V	-57.52	-14.58	-72.09	-13.00	-59.09
219.15	V	-56.02	-16.14	-72.16	-13.00	-59.16
345.25	V	-59.69	-13.46	-73.15	-13.00	-60.15
633.34	V	-67.01	-6.72	-73.74	-13.00	-60.74
766.23	V	-67.65	-5.57	-73.22	-13.00	-60.22
43.58	H	-57.97	-11.71	-69.68	-13.00	-56.68
186.17	H	-63.64	-14.31	-77.95	-13.00	-64.95
222.06	H	-60.14	-15.18	-75.32	-13.00	-62.32
566.41	H	-66.96	-7.81	-74.77	-13.00	-61.77
825.40	H	-68.57	-4.80	-73.37	-13.00	-60.37
970.90	H	-69.46	-3.25	-72.70	-13.00	-59.70

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: EGPRS 1900 / TX / CH 661

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
30.97	V	-50.16	-17.74	-67.90	-13.00	-54.90
221.09	V	-56.80	-15.97	-72.77	-13.00	-59.77
299.66	V	-59.68	-13.59	-73.27	-13.00	-60.27
345.25	V	-61.50	-13.46	-74.96	-13.00	-61.96
566.41	V	-66.81	-7.94	-74.75	-13.00	-61.75
823.46	V	-68.83	-4.71	-73.54	-13.00	-60.54
44.55	H	-59.02	-11.72	-70.74	-13.00	-57.74
221.09	H	-59.77	-15.26	-75.02	-13.00	-62.02
299.66	H	-60.80	-14.22	-75.02	-13.00	-62.02
452.92	H	-66.80	-9.87	-76.67	-13.00	-63.67
566.41	H	-66.77	-7.81	-74.57	-13.00	-61.57
823.46	H	-68.34	-4.81	-73.15	-13.00	-60.15

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: EGPRS 1900 / TX / CH 810

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
31.94	V	-52.10	-17.18	-69.28	-13.00	-56.28
219.15	V	-56.01	-16.14	-72.15	-13.00	-59.15
299.66	V	-59.48	-13.59	-73.07	-13.00	-60.07
345.25	V	-60.13	-13.46	-73.59	-13.00	-60.59
633.34	V	-66.64	-6.72	-73.36	-13.00	-60.36
880.69	V	-69.74	-3.93	-73.67	-13.00	-60.67
44.55	H	-57.91	-11.72	-69.64	-13.00	-56.64
116.33	H	-62.36	-14.83	-77.20	-13.00	-64.20
178.41	H	-63.55	-14.18	-77.72	-13.00	-64.72
221.09	H	-60.76	-15.26	-76.02	-13.00	-63.02
566.41	H	-66.38	-7.81	-74.19	-13.00	-61.19
814.73	H	-68.94	-4.92	-73.86	-13.00	-60.86

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 9262

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
44.55	V	-57.29	-12.92	-70.21	-13.00	-57.21
103.72	V	-57.77	-17.29	-75.06	-13.00	-62.06
116.33	V	-59.38	-14.58	-73.95	-13.00	-60.95
194.90	V	-57.82	-14.79	-72.61	-13.00	-59.61
217.21	V	-54.99	-16.22	-71.21	-13.00	-58.21
299.66	V	-59.97	-13.59	-73.55	-13.00	-60.55
43.58	H	-57.94	-11.71	-69.65	-13.00	-56.65
99.84	H	-60.24	-18.04	-78.28	-13.00	-65.28
178.41	H	-61.70	-14.18	-75.87	-13.00	-62.87
221.09	H	-59.32	-15.26	-74.57	-13.00	-61.57
299.66	H	-60.80	-14.22	-75.02	-13.00	-62.02
399.57	H	-64.08	-11.72	-75.80	-13.00	-62.80

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: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-57.15	-12.85	-70.00	-13.00	-57.00
218.18	V	-55.49	-16.18	-71.67	-13.00	-58.67
345.25	V	-59.95	-13.46	-73.41	-13.00	-60.41
470.38	V	-67.52	-9.36	-76.88	-13.00	-63.88
566.41	V	-66.34	-7.94	-74.28	-13.00	-61.28
633.34	V	-67.07	-6.72	-73.79	-13.00	-60.79
43.58	H	-58.77	-11.71	-70.48	-13.00	-57.48
116.33	H	-62.85	-14.83	-77.69	-13.00	-64.69
186.17	H	-62.34	-14.31	-76.65	-13.00	-63.65
221.09	H	-59.51	-15.26	-74.77	-13.00	-61.77
299.66	H	-61.35	-14.22	-75.57	-13.00	-62.57
633.34	H	-67.45	-6.70	-74.15	-13.00	-61.15

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: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
44.55	V	-57.53	-12.92	-70.45	-13.00	-57.45
116.33	V	-60.64	-14.58	-75.22	-13.00	-62.22
220.12	V	-55.55	-16.09	-71.63	-13.00	-58.63
299.66	V	-59.33	-13.59	-72.91	-13.00	-59.91
345.25	V	-61.54	-13.46	-75.00	-13.00	-62.00
633.34	V	-66.31	-6.72	-73.03	-13.00	-60.03
44.55	H	-58.95	-11.72	-70.67	-13.00	-57.67
99.84	H	-59.84	-18.04	-77.88	-13.00	-64.88
191.02	H	-61.32	-14.24	-75.56	-13.00	-62.56
223.03	H	-59.31	-15.10	-74.41	-13.00	-61.41
299.66	H	-61.20	-14.22	-75.42	-13.00	-62.42
633.34	H	-67.95	-6.70	-74.65	-13.00	-61.65

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4132

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.79	V	-62.28	-14.41	-76.69	-13.00	-63.69
107.60	V	-55.89	-16.49	-72.38	-13.00	-59.38
220.12	V	-61.28	-16.09	-77.37	-13.00	-64.37
412.18	V	-64.46	-11.31	-75.77	-13.00	-62.77
521.79	V	-70.20	-8.41	-78.62	-13.00	-65.62
687.66	V	-72.07	-6.55	-78.62	-13.00	-65.62
43.58	H	-64.20	-11.71	-75.92	-13.00	-62.92
107.60	H	-56.16	-16.65	-72.82	-13.00	-59.82
184.23	H	-64.23	-14.29	-78.52	-13.00	-65.52
299.66	H	-63.81	-14.22	-78.03	-13.00	-65.03
418.97	H	-65.12	-10.60	-75.72	-13.00	-62.72
660.50	H	-69.13	-6.67	-75.79	-13.00	-62.79

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4182

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
37.76	V	-61.05	-13.86	-74.92	-13.00	-61.92
127.97	V	-54.72	-12.93	-67.65	-13.00	-54.65
219.15	V	-60.21	-16.14	-76.35	-13.00	-63.35
450.01	V	-66.28	-10.02	-76.30	-13.00	-63.30
510.15	V	-68.97	-8.56	-77.53	-13.00	-64.53
625.58	V	-72.28	-6.84	-79.12	-13.00	-66.12
43.58	H	-61.90	-11.71	-73.61	-13.00	-60.61
127.97	H	-55.84	-14.08	-69.91	-13.00	-56.91
177.44	H	-62.58	-14.12	-76.70	-13.00	-63.70
299.66	H	-62.06	-14.22	-76.28	-13.00	-63.28
449.04	H	-65.78	-10.01	-75.79	-13.00	-62.79
737.13	H	-69.09	-5.76	-74.85	-13.00	-61.85

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: WCDMA Band V / TX / CH 4233

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
41.64	V	-60.37	-12.72	-73.09	-13.00	-60.09
152.22	V	-55.33	-13.34	-68.67	-13.00	-55.67
206.54	V	-55.16	-15.71	-70.87	-13.00	-57.87
299.66	V	-62.67	-13.59	-76.25	-13.00	-63.25
612.00	V	-66.33	-7.23	-73.56	-13.00	-60.56
687.66	V	-70.53	-6.55	-77.08	-13.00	-64.08
43.58	H	-60.52	-11.71	-72.23	-13.00	-59.23
153.19	H	-56.15	-14.05	-70.19	-13.00	-57.19
178.41	H	-60.82	-14.18	-75.00	-13.00	-62.00
222.06	H	-61.57	-15.18	-76.75	-13.00	-63.75
299.66	H	-60.83	-14.22	-75.05	-13.00	-62.05
633.34	H	-65.56	-6.70	-72.26	-13.00	-59.26

Remark:

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



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

Test Date: March 21, 2010

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	-45.01	-14.95	-59.96	-13.00	-46.96
165.80	V	-63.05	-14.46	-77.51	-13.00	-64.51
191.99	V	-61.90	-15.13	-77.03	-13.00	-64.03
267.65	V	-58.96	-13.19	-72.15	-13.00	-59.15
345.25	V	-59.45	-13.46	-72.91	-13.00	-59.91
433.52	V	-62.74	-10.45	-73.19	-13.00	-60.19
48.43	H	-53.51	-14.06	-67.56	-13.00	-54.56
163.86	H	-61.60	-14.17	-75.76	-13.00	-62.76
199.75	H	-63.61	-13.37	-76.98	-13.00	-63.98
275.41	H	-63.78	-13.42	-77.20	-13.00	-64.20
299.66	H	-61.59	-14.22	-75.81	-13.00	-62.81
633.34	H	-67.39	-6.70	-74.09	-13.00	-61.09

Remark:

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



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

Test Date: March 21, 2010

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)
34.85	V	-44.39	-15.50	-59.89	-13.00	-46.89
199.75	V	-60.79	-14.21	-75.00	-13.00	-62.00
266.68	V	-58.11	-13.34	-71.45	-13.00	-58.45
433.52	V	-63.35	-10.45	-73.80	-13.00	-60.80
566.41	V	-65.11	-7.94	-73.05	-13.00	-60.05
766.23	V	-67.35	-5.57	-72.92	-13.00	-59.92
48.43	H	-53.93	-14.06	-67.99	-13.00	-54.99
158.04	H	-61.92	-14.33	-76.25	-13.00	-63.25
193.93	H	-62.03	-13.95	-75.98	-13.00	-62.98
299.66	H	-61.79	-14.22	-76.01	-13.00	-63.01
566.41	H	-66.24	-7.81	-74.05	-13.00	-61.05
633.34	H	-65.97	-6.70	-72.67	-13.00	-59.67

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: March 21, 2010

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)
47.46	V	-55.89	-13.40	-69.29	-13.00	-56.29
159.01	V	-62.76	-14.38	-77.14	-13.00	-64.14
199.75	V	-63.64	-13.37	-77.01	-13.00	-64.01
275.41	V	-63.09	-13.42	-76.51	-13.00	-63.51
566.41	V	-66.89	-7.81	-74.70	-13.00	-61.70
633.34	V	-66.66	-6.70	-73.36	-13.00	-60.36
35.82	H	-45.48	-14.95	-60.43	-13.00	-47.43
195.87	H	-62.10	-14.67	-76.77	-13.00	-63.77
265.71	H	-59.70	-13.49	-73.19	-13.00	-60.19
433.52	H	-63.84	-10.45	-74.29	-13.00	-61.29
566.41	H	-66.79	-7.94	-74.73	-13.00	-61.73
637.22	H	-68.42	-6.66	-75.08	-13.00	-62.08

Remark:

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



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

Test Date: March 22, 2010

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	-44.09	-14.95	-59.05	-13.00	-46.05
64.92	V	-58.98	-15.85	-74.83	-13.00	-61.83
116.33	V	-60.07	-14.58	-74.64	-13.00	-61.64
286.08	V	-60.91	-12.09	-73.00	-13.00	-60.00
345.25	V	-61.34	-13.46	-74.80	-13.00	-61.80
433.52	V	-64.38	-10.45	-74.83	-13.00	-61.83
41.64	H	-56.98	-11.68	-68.66	-13.00	-55.66
116.33	H	-60.99	-14.83	-75.82	-13.00	-62.82
150.28	H	-54.99	-13.88	-68.87	-13.00	-55.87
203.63	H	-61.01	-14.03	-75.03	-13.00	-62.03
299.66	H	-56.21	-14.22	-70.43	-13.00	-57.43
600.36	H	-65.09	-7.72	-72.81	-13.00	-59.81

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4182

Test Date: March 22, 2010

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	-44.81	-14.95	-59.76	-13.00	-46.76
63.95	V	-57.68	-15.89	-73.57	-13.00	-60.57
150.28	V	-62.73	-13.10	-75.83	-13.00	-62.83
299.66	V	-59.57	-13.59	-73.16	-13.00	-60.16
345.25	V	-58.99	-13.46	-72.45	-13.00	-59.45
433.52	V	-64.50	-10.45	-74.95	-13.00	-61.95
35.82	H	-56.69	-14.34	-71.02	-13.00	-58.02
116.33	H	-60.49	-14.83	-75.32	-13.00	-62.32
151.25	H	-58.50	-13.93	-72.43	-13.00	-59.43
299.66	H	-58.53	-14.22	-72.75	-13.00	-59.75
600.36	H	-66.60	-7.72	-74.32	-13.00	-61.32
633.34	H	-67.21	-6.70	-73.91	-13.00	-60.91

Remark:

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



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

Test Date: March 22, 2010

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)
34.85	V	-44.94	-15.50	-60.43	-13.00	-47.43
116.33	V	-61.28	-14.58	-75.85	-13.00	-62.85
299.66	V	-61.12	-13.59	-74.71	-13.00	-61.71
345.25	V	-62.58	-13.46	-76.04	-13.00	-63.04
433.52	V	-64.75	-10.45	-75.20	-13.00	-62.20
639.16	V	-68.79	-6.63	-75.43	-13.00	-62.43
41.64	H	-59.31	-11.68	-71.00	-13.00	-58.00
116.33	H	-60.34	-14.83	-75.18	-13.00	-62.18
149.31	H	-59.70	-13.92	-73.62	-13.00	-60.62
199.75	H	-64.95	-13.37	-78.32	-13.00	-65.32
299.66	H	-59.23	-14.22	-73.45	-13.00	-60.45
600.36	H	-67.01	-7.72	-74.73	-13.00	-61.73

Remark:

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



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

Test Date: January 15, 2008

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	-46.20	-14.95	-61.16	-13.00	-48.16
116.33	V	-62.39	-14.58	-76.97	-13.00	-63.97
265.71	V	-60.09	-13.49	-73.58	-13.00	-60.58
345.25	V	-60.73	-13.46	-74.19	-13.00	-61.19
433.52	V	-64.09	-10.45	-74.54	-13.00	-61.54
566.41	V	-66.77	-7.94	-74.71	-13.00	-61.71
47.46	H	-54.99	-13.40	-68.39	-13.00	-55.39
162.89	H	-62.38	-14.23	-76.61	-13.00	-63.61
199.75	H	-63.45	-13.37	-76.83	-13.00	-63.83
274.44	H	-64.84	-13.50	-78.34	-13.00	-65.34
566.41	H	-68.28	-7.81	-76.09	-13.00	-63.09
633.34	H	-66.74	-6.70	-73.44	-13.00	-60.44

Remark:

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



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

Test Date: March 21, 2010

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	-46.21	-14.95	-61.16	-13.00	-48.16
199.75	V	-61.18	-14.21	-75.39	-13.00	-62.39
269.59	V	-60.21	-12.88	-73.09	-13.00	-60.09
345.25	V	-59.09	-13.46	-72.55	-13.00	-59.55
433.52	V	-64.56	-10.45	-75.01	-13.00	-62.01
566.41	V	-67.09	-7.94	-75.03	-13.00	-62.03
49.40	H	-54.40	-14.71	-69.11	-13.00	-56.11
197.81	H	-64.16	-13.57	-77.73	-13.00	-64.73
276.38	H	-63.99	-13.35	-77.34	-13.00	-64.34
433.52	H	-66.41	-10.41	-76.82	-13.00	-63.82
566.41	H	-68.61	-7.81	-76.42	-13.00	-63.42
633.34	H	-66.69	-6.70	-73.39	-13.00	-60.39

Remark:

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



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

Test Date: March 21, 2010

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)
34.85	V	-45.31	-15.50	-60.81	-13.00	-47.81
199.75	V	-62.11	-14.21	-76.32	-13.00	-63.32
268.62	V	-60.06	-13.04	-73.10	-13.00	-60.10
299.66	V	-58.79	-13.59	-72.37	-13.00	-59.37
345.25	V	-61.47	-13.46	-74.93	-13.00	-61.93
433.52	V	-64.02	-10.45	-74.47	-13.00	-61.47
48.43	H	-54.84	-14.06	-68.89	-13.00	-55.89
161.92	H	-62.77	-14.30	-77.07	-13.00	-64.07
276.38	H	-63.36	-13.35	-76.71	-13.00	-63.71
566.41	H	-67.87	-7.81	-75.68	-13.00	-62.68
633.34	H	-66.30	-6.70	-73.00	-13.00	-60.00
766.23	H	-68.29	-5.53	-73.82	-13.00	-60.82

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 V / TX / CH 4132

Test Date: March 22, 2010

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	-46.60	-14.95	-61.55	-13.00	-48.55
63.95	V	-61.35	-15.89	-77.25	-13.00	-64.25
150.28	V	-64.86	-13.10	-77.96	-13.00	-64.96
299.66	V	-60.47	-13.59	-74.06	-13.00	-61.06
345.25	V	-63.49	-13.46	-76.95	-13.00	-63.95
474.26	V	-67.61	-9.21	-76.81	-13.00	-63.81
41.64	H	-60.48	-11.68	-72.16	-13.00	-59.16
150.28	H	-59.66	-13.88	-73.54	-13.00	-60.54
299.66	H	-60.04	-14.22	-74.26	-13.00	-61.26
398.60	H	-65.29	-11.73	-77.02	-13.00	-64.02
453.89	H	-67.47	-9.83	-77.30	-13.00	-64.30
633.34	H	-67.78	-6.70	-74.48	-13.00	-61.48

Remark:

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



Operation Mode: WCDMA / HSUPA Band V / TX / CH 4182

Test Date: March 22, 2010

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	-46.20	-14.95	-61.15	-13.00	-48.15
63.95	V	-60.58	-15.89	-76.47	-13.00	-63.47
150.28	V	-64.06	-13.10	-77.16	-13.00	-64.16
291.90	V	-63.26	-12.37	-75.63	-13.00	-62.63
345.25	V	-61.25	-13.46	-74.71	-13.00	-61.71
433.52	V	-66.58	-10.45	-77.03	-13.00	-64.03
42.61	H	-59.02	-11.70	-70.71	-13.00	-57.71
116.33	H	-62.51	-14.83	-77.35	-13.00	-64.35
151.25	H	-59.60	-13.93	-73.54	-13.00	-60.54
299.66	H	-59.22	-14.22	-73.44	-13.00	-60.44
345.25	H	-65.05	-13.61	-78.66	-13.00	-65.66
431.58	H	-66.86	-10.43	-77.29	-13.00	-64.29

Remark:

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



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

Test Date: March 22, 2010

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	-46.40	-14.95	-61.35	-13.00	-48.35
63.95	V	-60.57	-15.89	-76.46	-13.00	-63.46
116.33	V	-62.84	-14.58	-77.41	-13.00	-64.41
288.99	V	-63.63	-12.08	-75.70	-13.00	-62.70
345.25	V	-60.10	-13.46	-73.56	-13.00	-60.56
433.52	V	-64.73	-10.45	-75.18	-13.00	-62.18
33.88	H	-54.35	-15.77	-70.13	-13.00	-57.13
116.33	H	-61.75	-14.83	-76.58	-13.00	-63.58
149.31	H	-58.78	-13.92	-72.70	-13.00	-59.70
206.54	H	-63.51	-14.57	-78.07	-13.00	-65.07
299.66	H	-59.65	-14.22	-73.87	-13.00	-60.87
612.97	H	-68.46	-7.17	-75.63	-13.00	-62.63

Remark:

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



Above 1GHz

Operation Mode: GPRS 850 / TX / CH 128

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-44.70	1.61	-43.08	-13.00	-30.08
2470.00	V	-52.62	4.41	-48.21	-13.00	-35.21
N/A						
1651.00	H	-45.56	1.42	-44.15	-13.00	-31.15
2470.00	H	-50.68	4.43	-46.25	-13.00	-33.25
N/A						

Remark:

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



Operation Mode: GPRS 850 / TX / CH 190

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-46.05	1.63	-44.43	-13.00	-31.43
2512.00	V	-47.20	4.62	-42.58	-13.00	-29.58
N/A						
1672.00	H	-42.34	1.40	-40.94	-13.00	-27.94
2512.00	H	-43.68	4.69	-38.99	-13.00	-25.99
N/A						

Remark:

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



Operation Mode: GPRS 850 / TX / CH 251

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1553.00	V	-56.37	1.55	-54.82	-13.00	-41.82
1700.00	V	-45.51	1.64	-43.87	-13.00	-30.87
2547.00	V	-52.26	4.76	-47.50	-13.00	-34.50
N/A						
1700.00	H	-43.59	1.38	-42.21	-13.00	-29.21
2547.00	H	-46.68	4.82	-41.86	-13.00	-28.86
N/A						

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 512

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-44.36	9.11	-35.25	-13.00	-22.25
5550.00	V	-53.02	10.32	-42.70	-13.00	-29.70
N/A						
3702.00	H	-35.59	8.89	-26.70	-13.00	-13.70
5550.00	H	-54.50	10.12	-44.38	-13.00	-31.38
7342.00	H	-51.31	16.31	-35.00	-13.00	-22.00
N/A						

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 661

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-43.85	8.98	-34.87	-13.00	-21.87
5641.00	V	-53.13	10.40	-42.72	-13.00	-29.72
N/A						
3758.00	H	-37.37	8.76	-28.61	-13.00	-15.61
5641.00	H	-57.52	10.23	-47.29	-13.00	-34.29
N/A						

Remark:

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



Operation Mode: GPRS 1900 / TX / CH 810

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3821.00	V	-53.71	8.83	-44.88	-13.00	-31.88
5732.00	V	-52.49	10.48	-42.00	-13.00	-29.00
N/A						
3821.00	H	-39.01	8.62	-30.39	-13.00	-17.39
5732.00	H	-56.39	10.33	-46.06	-13.00	-33.06
N/A						

Remark:

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



Operation Mode: EGPRS 850 / TX / CH 128

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1420.00	V	-57.12	1.39	-55.73	-13.00	-42.73
1553.00	V	-57.07	1.55	-55.52	-13.00	-42.52
1651.00	V	-54.47	1.61	-52.85	-13.00	-39.85
2477.00	V	-60.21	4.44	-55.76	-13.00	-42.76
N/A						
1651.00	H	-51.39	1.42	-49.97	-13.00	-36.97
2470.00	H	-58.02	4.43	-53.58	-13.00	-40.58
3408.00	H	-60.66	8.84	-51.82	-13.00	-38.82
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: EGPRS 850 / TX / CH 190

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1420.00	V	-56.97	1.39	-55.57	-13.00	-42.57
1672.00	V	-48.61	1.63	-46.99	-13.00	-33.99
2512.00	V	-58.13	4.62	-53.51	-13.00	-40.51
N/A						
1672.00	H	-51.93	1.40	-50.52	-13.00	-37.52
2512.00	H	-51.08	4.69	-46.39	-13.00	-33.39
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: EGPRS 850 / TX / CH 251

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1553.00	V	-55.83	1.55	-54.28	-13.00	-41.28
1700.00	V	-49.61	1.64	-47.96	-13.00	-34.96
2547.00	V	-57.46	4.76	-52.70	-13.00	-39.70
N/A						
1700.00	H	-47.49	1.38	-46.11	-13.00	-33.11
2547.00	H	-53.54	4.82	-48.72	-13.00	-35.72
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: EGPRS 1900 / TX / CH 512

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % 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	-36.52	9.11	-27.42	-13.00	-14.42
5550.00	V	-51.33	10.32	-41.01	-13.00	-28.01
N/A						
3702.00	H	-41.30	8.89	-32.41	-13.00	-19.41
N/A						

Remark:

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



Operation Mode: EGPRS 1900 / TX / CH 661

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3758.00	V	-45.70	8.98	-36.73	-13.00	-23.73
4864.00	V	-46.23	10.10	-36.13	-13.00	-23.13
5641.00	V	-56.78	10.40	-46.38	-13.00	-33.38
N/A						
3758.00	H	-45.10	8.76	-36.34	-13.00	-23.34
5641.00	H	-57.55	10.23	-47.32	-13.00	-34.32
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: EGPRS 1900 / TX / CH 810

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % 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	-56.49	8.83	-47.66	-13.00	-34.66
5732.00	V	-57.30	10.48	-46.81	-13.00	-33.81
N/A						
3821.00	H	-37.51	8.62	-28.89	-13.00	-15.89
5732.00	H	-58.42	10.33	-48.10	-13.00	-35.10
N/A						

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9262

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % 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	-40.88	9.09	-31.79	-13.00	-18.79
5557.00	V	-52.80	10.33	-42.47	-13.00	-29.47
N/A						
3709.00	H	-39.49	8.87	-30.62	-13.00	-17.62
5557.00	H	-55.97	10.13	-45.84	-13.00	-32.84
N/A						

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9400

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 47 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3765.00	V	-48.10	8.96	-39.14	-13.00	-26.14
5641.00	V	-58.68	10.40	-48.28	-13.00	-35.28
N/A						
3765.00	H	-47.30	8.75	-38.56	-13.00	-25.56
N/A						

Remark:

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



Operation Mode: WCDMA Band II / TX / CH 9538

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 46 % 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	-45.71	8.83	-36.87	-13.00	-23.87
5718.00	V	-58.00	10.47	-47.53	-13.00	-34.53
N/A						
3814.00	H	-43.19	8.63	-34.56	-13.00	-21.56
5718.00	H	-59.50	10.31	-49.19	-13.00	-36.19
N/A						

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4132

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 46 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1392.00	V	-54.30	1.35	-52.96	-13.00	-39.96
1553.00	V	-55.66	1.55	-54.10	-13.00	-41.10
4962.00	V	-56.84	10.34	-46.50	-13.00	-33.50
5795.00	V	-57.66	10.54	-47.12	-13.00	-34.12
N/A						
1658.00	H	-56.83	1.41	-55.42	-13.00	-42.42
2484.00	H	-59.64	4.53	-55.11	-13.00	-42.11
N/A						

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4182

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 46 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1553.00	V	-55.97	1.55	-54.42	-13.00	-41.42
2393.00	V	-58.80	3.98	-54.82	-13.00	-41.82
5025.00	V	-53.70	10.42	-43.28	-13.00	-30.28
5858.00	V	-56.74	10.60	-46.15	-13.00	-33.15
N/A						
1672.00	H	-56.55	1.40	-55.15	-13.00	-42.15
4178.00	H	-58.63	8.48	-50.15	-13.00	-37.15
5025.00	H	-55.76	10.14	-45.62	-13.00	-32.62
5858.00	H	-58.87	10.46	-48.40	-13.00	-35.40
N/A						

Remark:

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



Operation Mode: WCDMA Band V / TX / CH 4233

Test Date: March 20, 2010

Temperature: 23°C

Tested by: Wolf Huang

Humidity: 46 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1693.00	V	-49.04	1.64	-47.40	-13.00	-34.40
3387.00	V	-60.43	8.89	-51.53	-13.00	-38.53
5074.00	V	-59.13	10.41	-48.72	-13.00	-35.72
5935.00	V	-57.94	10.66	-47.28	-13.00	-34.28
N/A						
1693.00	H	-46.22	1.39	-44.84	-13.00	-31.84
N/A						

Remark:

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



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

Test Date: March 21, 2010

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	-46.11	9.11	-37.00	-13.00	-24.00
5557.00	V	-59.91	10.33	-49.58	-13.00	-36.58
N/A						
3702.00	H	-45.14	8.89	-36.25	-13.00	-23.25
N/A						

Remark:

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



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

Test Date: March 21, 2010

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	-52.64	8.98	-43.66	-13.00	-30.66
N/A						
3758.00	H	-51.06	8.76	-42.30	-13.00	-29.30
N/A						

Remark:

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



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

Test Date: March 21, 2010

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3814.00	V	-46.95	8.85	-38.10	-13.00	-25.10
5718.00	V	-60.00	10.47	-49.53	-13.00	-36.53
N/A						
3814.00	H	-43.96	8.63	-35.32	-13.00	-22.32
N/A						

Remark:

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



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

Test Date: March 21, 2010

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)
1420.00	V	-59.13	1.39	-57.74	-13.00	-44.74
2484.00	V	-59.69	4.48	-55.20	-13.00	-42.20
3660.00	V	-61.87	9.20	-52.67	-13.00	-39.67
4962.00	V	-60.22	10.34	-49.88	-13.00	-36.88
N/A						
1420.00	H	-60.13	1.34	-58.79	-13.00	-45.79
1658.00	H	-59.85	1.41	-58.44	-13.00	-45.44
N/A						

Remark:

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



Operation Mode: WCDMA / HSDPA Band V / TX / CH 4182

Test Date: March 21, 2010

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)
1420.00	V	-55.60	1.39	-54.21	-13.00	-41.21
1546.00	V	-57.69	1.55	-56.15	-13.00	-43.15
1672.00	V	-57.76	1.63	-56.13	-13.00	-43.13
5011.00	V	-60.07	10.43	-49.64	-13.00	-36.64
5851.00	V	-60.08	10.59	-49.49	-13.00	-36.49
N/A						
1420.00	H	-59.66	1.34	-58.32	-13.00	-45.32
1672.00	H	-58.82	1.40	-57.42	-13.00	-44.42
N/A						

Remark:

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



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

Test Date: March 22, 2010

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)
1420.00	V	-56.98	1.39	-55.59	-13.00	-42.59
1693.00	V	-51.88	1.64	-50.24	-13.00	-37.24
3345.00	V	-60.82	8.64	-52.18	-13.00	-39.18
N/A						
1693.00	H	-52.66	1.39	-51.28	-13.00	-38.28
N/A						

Remark:

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



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

Test Date: March 21, 2010

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	-44.80	9.11	-35.70	-13.00	-22.70
5557.00	V	-59.03	10.33	-48.70	-13.00	-35.70
N/A						
3702.00	H	-44.34	8.89	-35.45	-13.00	-22.45
5557.00	H	-59.13	10.13	-48.99	-13.00	-35.99
N/A						

Remark:

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



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

Test Date: March 21, 2010

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	-50.51	8.98	-41.53	-13.00	-28.53
N/A						
3758.00	H	-47.09	8.76	-38.33	-13.00	-25.33
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: WCDMA / HSUPA Band II / TX / CH 9538

Test Date: March 21, 2010

Temperature: 25°C

Tested by: Mark Yang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3814.00	V	-46.92	8.85	-38.07	-13.00	-25.07
5718.00	V	-59.19	10.47	-48.72	-13.00	-35.72
N/A						
3814.00	H	-44.11	8.63	-35.47	-13.00	-22.47
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: WCDMA / HSUPA Band V / TX / CH 4132

Test Date: March 22, 2010

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)
1420.00	V	-56.13	1.39	-54.74	-13.00	-41.74
4962.00	V	-60.27	10.34	-49.93	-13.00	-36.93
N/A						
1420.00	H	-58.97	1.34	-57.62	-13.00	-44.62
2484.00	H	-59.48	4.53	-54.95	-13.00	-41.95
4297.00	H	-61.13	8.66	-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: WCDMA / HSUPA Band V / TX / CH 4182

Test Date: March 22, 2010

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)
1420.00	V	-57.57	1.34	-56.23	-13.00	-43.23
1672.00	V	-58.83	1.40	-57.43	-13.00	-44.43
N/A						
1420.00	H	-57.87	1.39	-56.48	-13.00	-43.48
5025.00	H	-60.59	10.42	-50.17	-13.00	-37.17
N/A						

Remark:

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



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

Test Date: March 21, 2010

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)
1420.00	V	-57.50	1.39	-56.11	-13.00	-43.11
1693.00	V	-52.54	1.64	-50.90	-13.00	-37.90
N/A						
1420.00	H	-59.44	1.34	-58.10	-13.00	-45.10
1693.00	H	-52.86	1.39	-51.47	-13.00	-38.47
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.

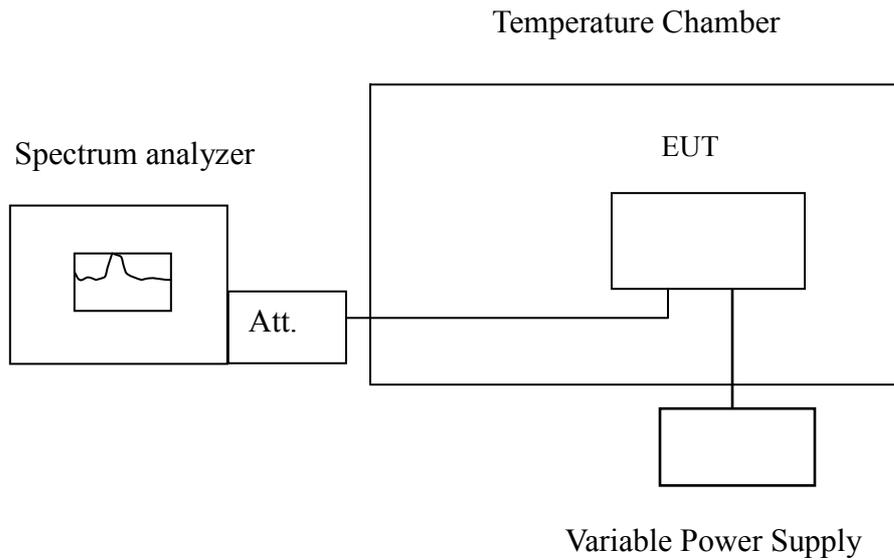
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

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: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	83600010	26	2090
	40	83600005	21	
	30	83600004	20	
	20	83599984	0	
	10	83600001	17	
	0	83600008	24	
	-10	83600002	18	
	-20	83600003	19	
	-30	83600000	16	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000019	34	4700
	40	1880000021	36	
	30	1880000025	40	
	20	1879999985	0	
	10	1880000014	29	
	0	1880000022	37	
	-10	1880000018	33	
	-20	1880000016	31	
	-30	1880000021	36	



Reference Frequency: EGPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	83599999	4	2090
	40	83599994	-1	
	30	83600005	10	
	20	83599995	0	
	10	83600010	15	
	0	83600004	9	
	-10	83600000	5	
	-20	83599999	4	
	-30	83599996	1	

Reference Frequency: EGPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000026	46	4700
	40	1880000015	35	
	30	1880000031	51	
	20	1879999980	0	
	10	1880000022	42	
	0	1880000036	56	
	-10	1880000016	36	
	-20	1880000032	52	
	-30	1880000018	38	



Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000004	2	4700
	40	1879999998	-4	
	30	1879999986	-16	
	20	1880000002	0	
	10	1880000014	12	
	0	1880000007	5	
	-10	1879999998	-4	
	-20	1879999992	-10	
	-30	1880000014	12	

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	83600010	-6	2090
	40	83599984	-32	
	30	83600004	-12	
	20	83600016	0	
	10	83600011	-5	
	0	83599991	-25	
	-10	83599999	-17	
	-20	83599997	-19	
	-30	83600023	7	



Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	1880000018	18	4700
	40	1879999975	-25	
	30	1879999984	-16	
	20	1880000000	0	
	10	1880000010	10	
	0	1879999953	-47	
	-10	1879999973	-27	
	-20	1879999945	-55	
	-30	1879999920	-80	

Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	83600005	-17	2090
	40	83599984	-38	
	30	83599963	-59	
	20	83600022	0	
	10	83599976	-46	
	0	83600054	32	
	-10	83600034	12	
	-20	83599985	-37	
	-30	83599964	-58	



Reference Frequency: WCDMA / HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	188000009	14	4700
	40	188000010	15	
	30	187999985	-10	
	20	187999995	0	
	10	188000010	15	
	0	187999986	-9	
	-10	188000008	13	
	-20	188000004	9	
	-30	188000017	22	

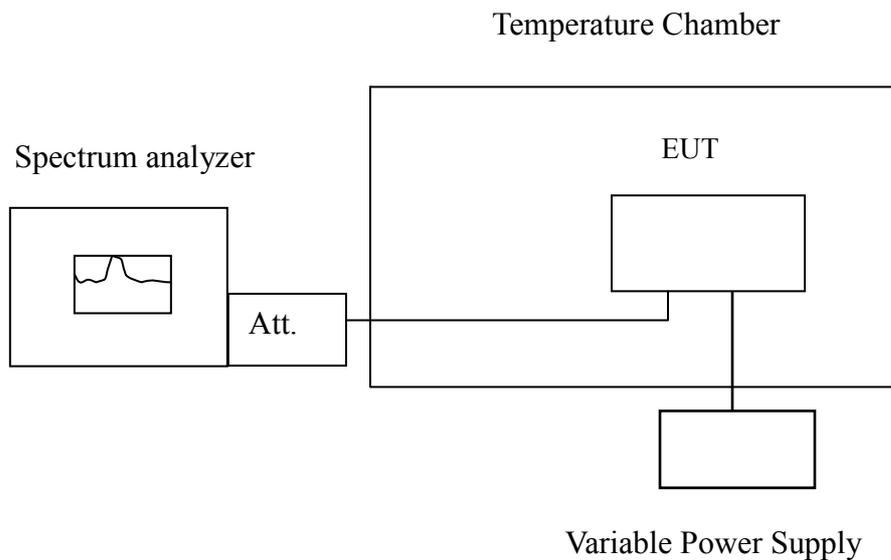
Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
120	50	83600016	13	2090
	40	83600010	7	
	30	83599997	-6	
	20	83600003	0	
	10	83600004	1	
	0	83599998	-5	
	-10	83600011	8	
	-20	83600006	3	
	-30	83600003	0	

7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

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

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

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

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	83599988	4	2090
120		83599984	0	
108		83599992	8	
98END		83599519	-473	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	1879999979	-6	4700
120		1879999985	0	
108		1879999980	-5	
98END		1879999184	-801	



Reference Frequency: EGPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	83599997	2	2090
120		83599995	0	
108		83599996	1	
98END		83599727	-269	

Reference Frequency: EGPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	1879999978	-2	4700
120		1879999980	0	
108		1879999979	-1	
98END		1879999442	-538	



Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	1880000009	7	4700
120		1880000002	0	
108		1880000017	15	
98END		1879999932	-70	

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	83600011	-5	2090
120		83600016	0	
108		83599985	-31	
98END		83599905	-80	



Reference Frequency: WCDMA HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	1880000033	33	4700
120		1880000000	0	
108		1880000037	37	
98END		1880000094	94	

Reference Frequency: WCDMA HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	83600031	9	2090
120		83600022	0	
108		83599995	-27	
98END		83600103	81	



Reference Frequency: WCDMA HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	1879999992	-3	4700
120		1879999995	0	
108		1880000018	23	
98END		1879999913	-82	

Reference Frequency: WCDMA HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply VAC	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
132	20	83599986	-17	2090
120		83600003	0	
108		83600005	2	
98END		83600073	68	



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:** April 3, 2010
Temperature: 26°C **Tested by:** Lawrence Lee
Humidity: 60% 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
0.1770	53.80	36.40	0.20	54.00	36.60	64.63	54.63	-10.63	-18.03	L1
0.2400	45.84	28.64	0.16	46.00	28.80	62.10	52.10	-16.10	-23.30	L1
3.5880	34.60	24.30	0.10	34.70	24.40	56.00	46.00	-21.30	-21.60	L1
4.9920	37.15	26.75	0.15	37.30	26.90	56.00	46.00	-18.70	-19.10	L1
13.2090	37.48	29.88	0.72	38.20	30.60	60.00	50.00	-21.80	-19.40	L1
21.6240	39.81	34.91	0.79	40.60	35.70	60.00	50.00	-19.40	-14.30	L1
0.1770	54.88	36.98	0.22	55.10	37.20	64.63	54.63	-9.53	-17.43	L2
0.2400	46.52	29.42	0.18	46.70	29.60	62.10	52.10	-15.40	-22.50	L2
2.9220	35.09	22.49	0.11	35.20	22.60	56.00	46.00	-20.80	-23.40	L2
3.5880	38.36	25.66	0.14	38.50	25.80	56.00	46.00	-17.50	-20.20	L2
13.5330	37.84	30.84	0.76	38.60	31.60	60.00	50.00	-21.40	-18.40	L2
21.6240	41.46	36.76	0.84	42.30	37.60	60.00	50.00	-17.70	-12.40	L2

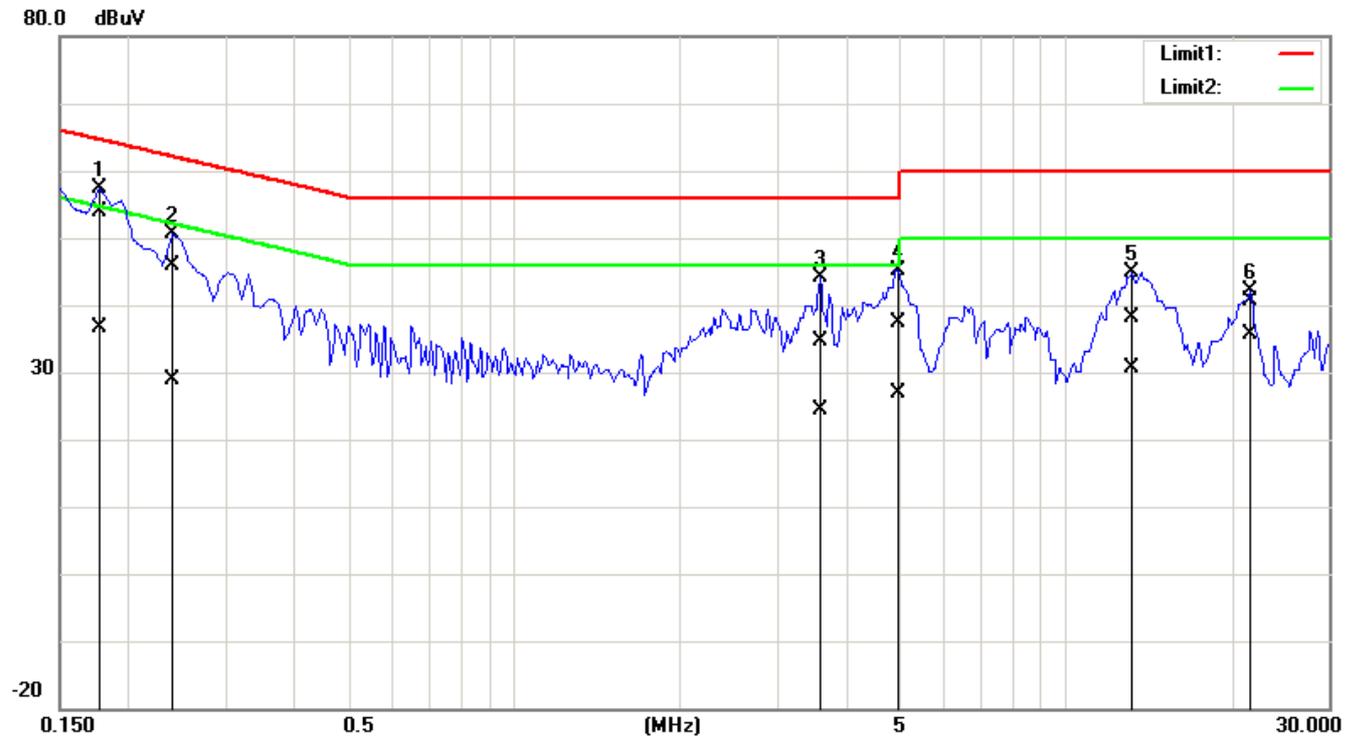
Remark:

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)

