



**FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E
&
INDUSTRY CANADA RSS-132 & RSS-133**

TEST REPORT

For

LE910-NAG

Trade Name: Telit

Model: LE910-NAG

Issued to

**Telit Communications S.p.A.
Via Stazione di Prosecco 5/B
34010 Sgonico, Trieste - Italy**

Issued by

**Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)**

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Issued Date: May 10, 2014



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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	May 10, 2014	Initial Issue	ALL	Angel Cheng



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1. TEST RESULT CERTIFICATION

Applicant: Telit Communications S.p.A.
Via Stazione di Prosecco 5/B
34010 Sgonico, Trieste - Italy

Manufacturer: Telit Communications S.p.A.
Via Stazione di Prosecco 5/B
34010 Sgonico, Trieste - Italy

Equipment Under Test: LE910-NAG

Trade Name: Telit

Model Number: LE910-NAG

Date of Test: May 5, 2014

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E & IC RSS-132 Issue 3: January, 2013 and IC RSS-133 Issue 6: January, 2013	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 and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rule FCC PART 22 Subpart H, PART 24 Subpart E, IC RSS-132 Issue 3 and IC RSS-133 Issue 6.

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

Approved by:

Reviewed by:

Miller Lee
Section Manager
Compliance Certification Services Inc.

Angel Cheng
Section Manager
Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	LE910-NAG
Trade Name	Telit
Model Number	LE910-NAG
Model Discrepancy	N/A
Received Date	April 15, 2014
Power Supply	DC 3.3V powered from Host device.
Frequency Range	GSM / GPRS / EDGE: 850: 824.2 ~ 848.8 MHz GSM / GPRS / EDGE: 1900: 1850.2 ~ 1909.8 MHz WCDMA / HSDPA / HSUPA Band II: 1852.4 ~ 1907.6 MHz WCDMA / HSDPA / HSUPA Band V: 826.4 ~ 846.6MHz
Modulation Technique	GMSK, 8PSK, QPSK
Antenna Specification	1/4l Antenna / Gain: 2.14 dBi

Remark: The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.



Mode	ERP Power (dBm)	Type of Emission
GSM 850MHz	30.40	246GXW
GPRS 850MHz	29.81	257GXW
EDGE 850MHz	27.63	248G7W
WCDMA Band V	22.47	4M15G7W
WCDMA HSDPA Band V	20.90	4M17G7W
WCDMA HSUPA Band V	22.61	4M16G7W

Mode	ERP Power (dBm)	Type of Emission
GSM 1900MHz	26.71	248GXW
GPRS 1900MHz	26.59	252GXW
EDGE 1900MHz	25.05	246G7W
WCDMA Band II	15.04	4M15G7W
WCDMA HSDPA Band II	18.96	4M17G7W
WCDMA HSUPA Band II	18.11	4M16G7W



3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4: 2009, TIA/EIA-603-C: 2004 and FCC CFR 47, Part 2 and Part 22 Subpart H & Part 24 Subpart E.

The tests documented in this report were performed in accordance with IC RSS-132, SPSR503, RSS-133, SPSR510 and ANSI C63.4 and TIA/EIA-603-C.

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: 2009. 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: 2009.



3.4 DESCRIPTION OF TEST MODES

The EUT (model: LE910-NAG) had been tested under operating condition.

EUT staying in continuous transmitting mode was programmed.

After verification, all tests carried out are with the worst-case test modes as shown below except radiated spurious emission below 1GHz which worst case was in normal link mode.

GSM / GPRS / EDGE 850MHz:

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

GSM / GPRS / EDGE 1900MHz:

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.



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 and Loop Antenna is scheduled for calibration once three years.

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360131	03/19/2015
Power Meter	Anritsu	ML2495A	1012009	06/04/2014
Power Sensor	Anritsu	MA2411A	0917072	06/04/2014

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510268	11/05/2014
EMI Test Receiver	R&S	ESCI	100064	02/16/2015
Pre-Amplifier	Mini-Circuits	ZFL-1000LN	SF350700823	01/11/2015
Bilog Antenna	Sunol Sciences	JB3	A030105	02/16/2015
Bilog Antenna	Sunol Sciences	JB3	A030205	10/01/2014
Horn Antenna	EMCO	3117	00055165	02/16/2015
Horn Antenna	EMCO	3117	00055167	01/27/2015
Horn Antenna	EMCO	3116	26370	01/06/2015
Loop Antenna	EMCO	6502	8905/2356	06/12/2014
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Site NSA	CCS	N/A	N/A	12/22/2014
Test S/W	EZ-EMC (CCS-3A1RE)			



4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

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



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

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

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

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN, R.O.C.
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: 2009 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.

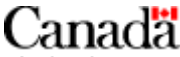
All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.



5.4 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 II 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.	Test Kit	N/A	N/A	N/A	N/A	N/A	N/A

Remark:

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



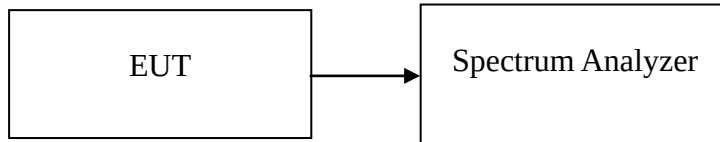
7. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133

7.1 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

Test Configuration



TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled.

TEST RESULTS

No non-compliance noted.

**Test Data**

Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)
GSM 850 (Class 12)	128	824.200	246.6768
	190	836.400	242.8159
	251	848.800	242.3511
GPRS 850 (Class 12)	128	824.200	240.6707
	190	836.400	244.1071
	251	848.800	247.6768
EDGE 850 (Class 12)	128	824.200	243.2826
	190	836.570	242.8230
	251	848.800	248.0802
GSM 1900 (Class 12)	512	1850.210	248.9953
	661	1880.000	243.8030
	810	1909.823	244.7721
GPRS 1900 (Class 12)	512	1850.210	246.9118
	661	1880.000	234.3843
	810	1909.823	252.9969
EDGE 1900 (Class 12)	512	1850.173	246.1149
	661	1880.000	245.3931
	810	1909.800	243.6313



Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.1546
	9400	1880.00	4.1428
	9538	1907.60	4.1498
WCDMA (Band V)	4132	826.40	4.1503
	4182	836.40	4.1434
	4233	846.60	4.1568
WCDMA / HSDPA (BAND II)	9262	1852.40	4.1594
	9400	1880.00	4.1705
	9538	1907.60	4.1695
WCDMA / HSDPA (BAND V)	4132	826.40	4.1607
	4182	836.40	4.1616
	4233	846.60	4.1756
WCDMA / HSUPA (BAND II)	9262	1852.40	4.1484
	9400	1880.00	4.1604
	9538	1907.60	4.1665
WCDMA / HSUPA (BAND V)	4132	826.40	4.1695
	4182	836.40	4.1646
	4233	846.60	4.1697

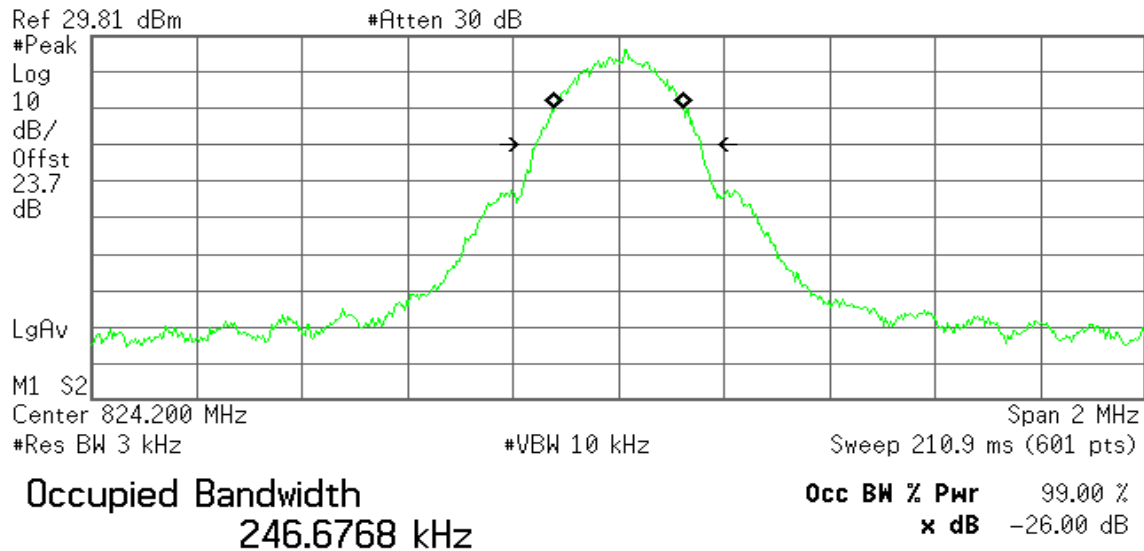


Test Plot

GSM 850 (CH Low)

Agilent

R T

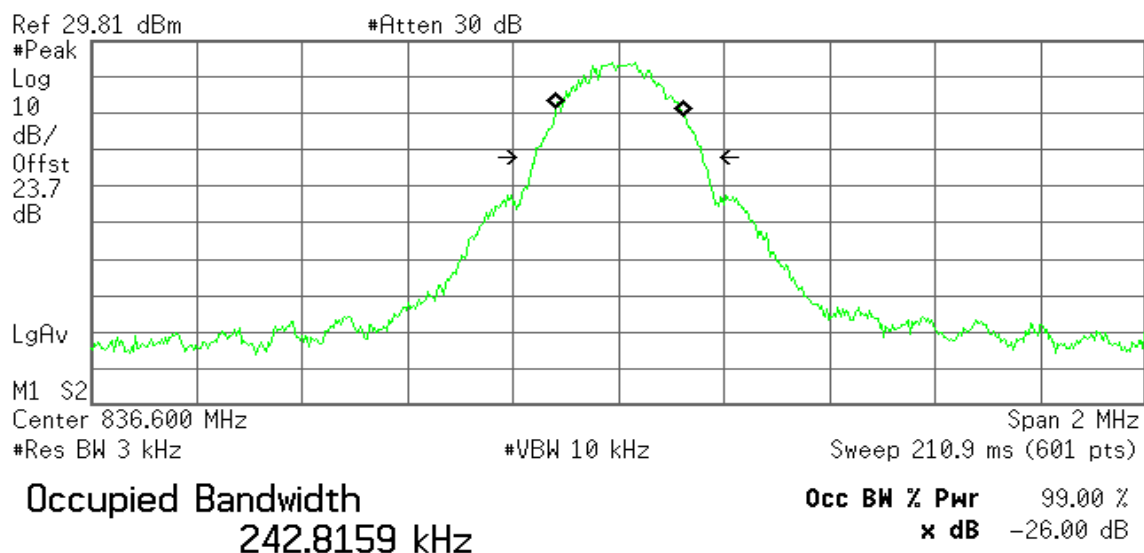


Transmit Freq Error 1.112 kHz
x dB Bandwidth 314.618 kHz

GSM 850 (CH Mid)

Agilent

R T



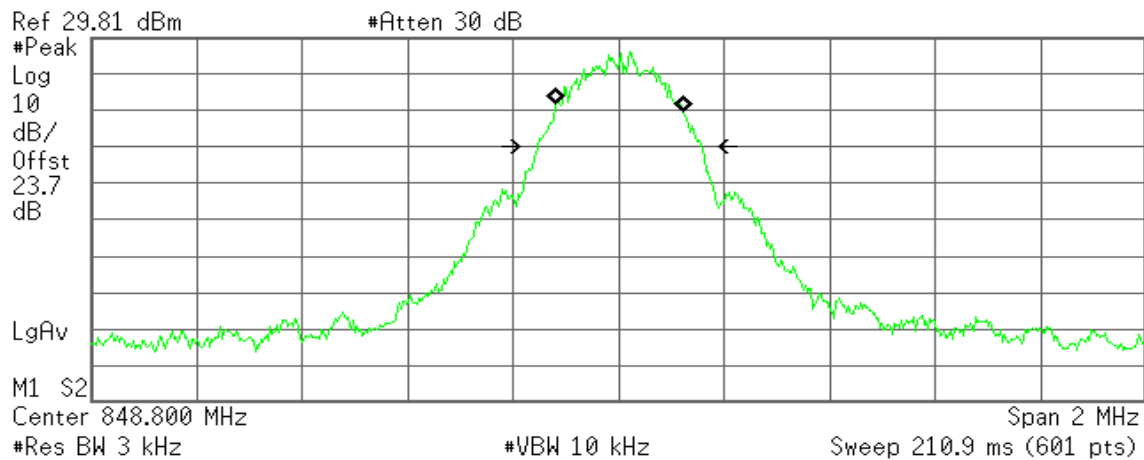
Transmit Freq Error 2.249 kHz
x dB Bandwidth 318.267 kHz



GSM 850 (CH High)

Agilent

R T

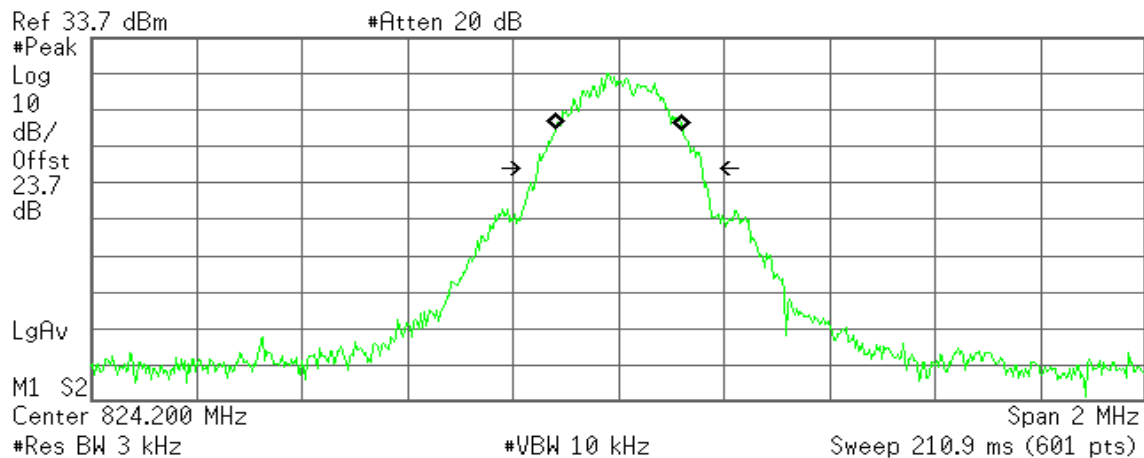


Transmit Freq Error 1.429 kHz
x dB Bandwidth 309.800 kHz

GPRS 850 (CH Low)

Agilent

R T



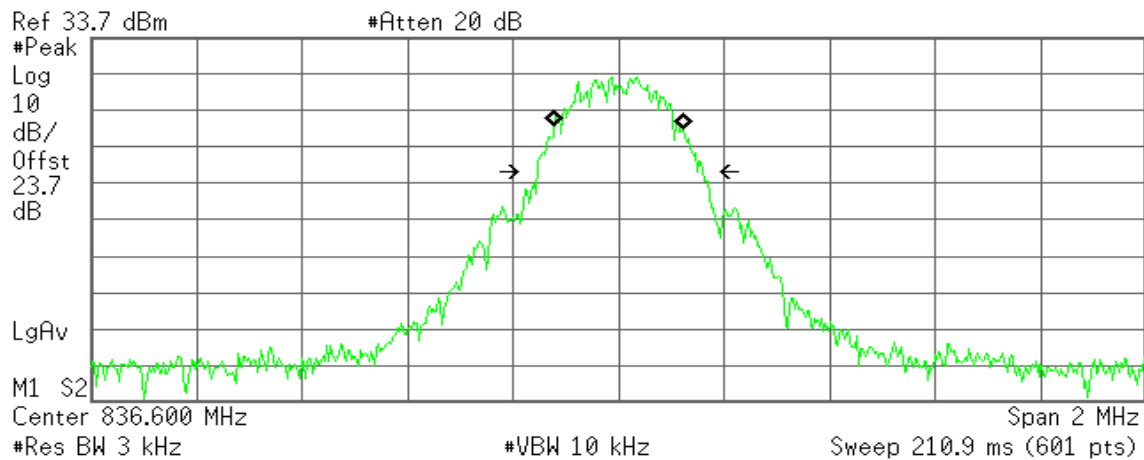
Transmit Freq Error 1.066 kHz
x dB Bandwidth 312.357 kHz



GPRS 850 (CH Mid)

Agilent

R T

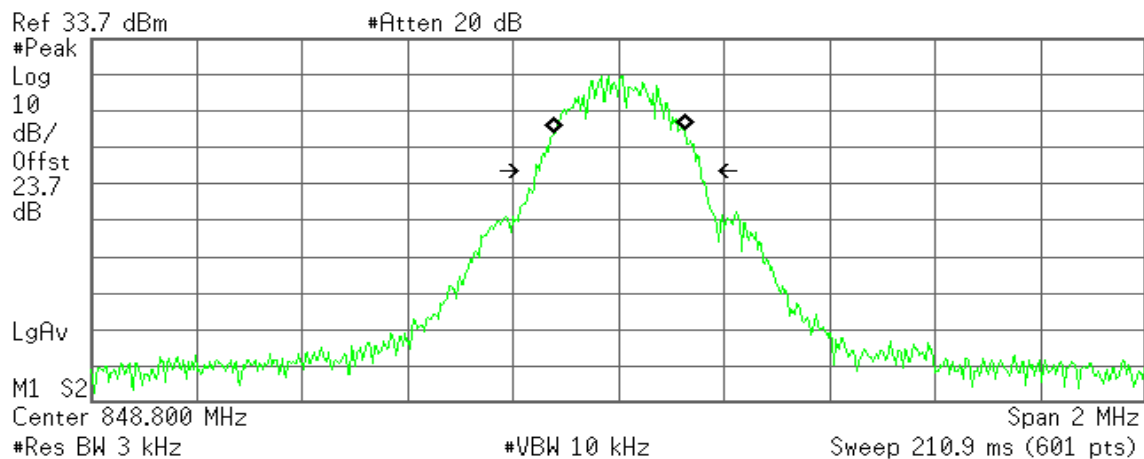


Transmit Freq Error 382.080 Hz
x dB Bandwidth 315.325 kHz

GPRS 850(CH High)

Agilent

R T



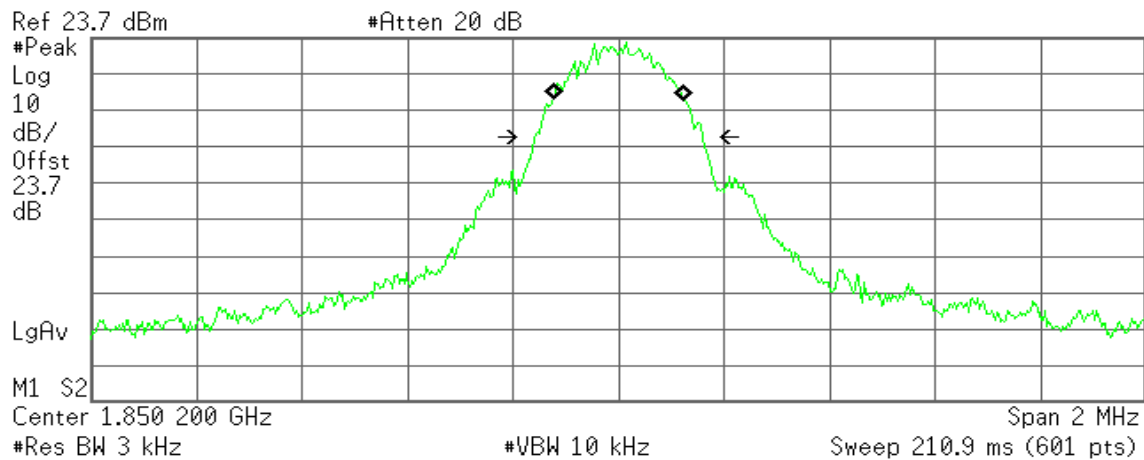
Transmit Freq Error 1.805 kHz
x dB Bandwidth 314.075 kHz



GSM 1900 (CH Low)

Agilent

R T

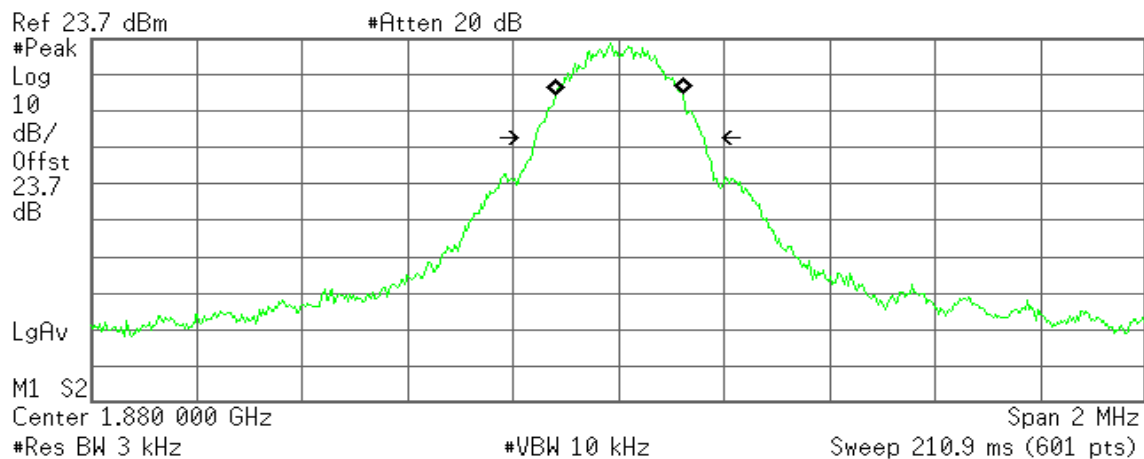


Transmit Freq Error -88.835 Hz
x dB Bandwidth 318.683 kHz

GSM 1900 (CH Mid)

Agilent

R T



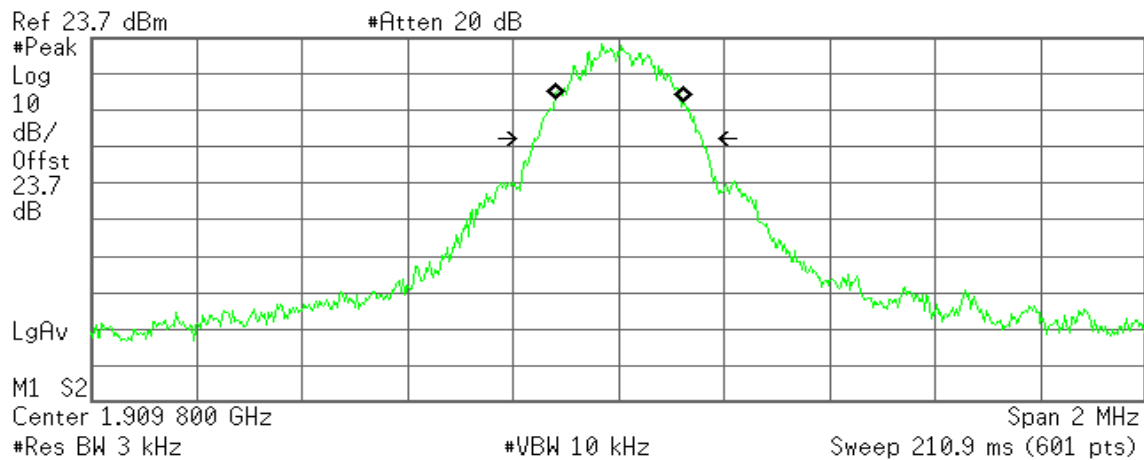
Transmit Freq Error 904.464 Hz
x dB Bandwidth 320.248 kHz



GSM 1900 (CH High)

Agilent

R T



Occupied Bandwidth
244.7721 kHz

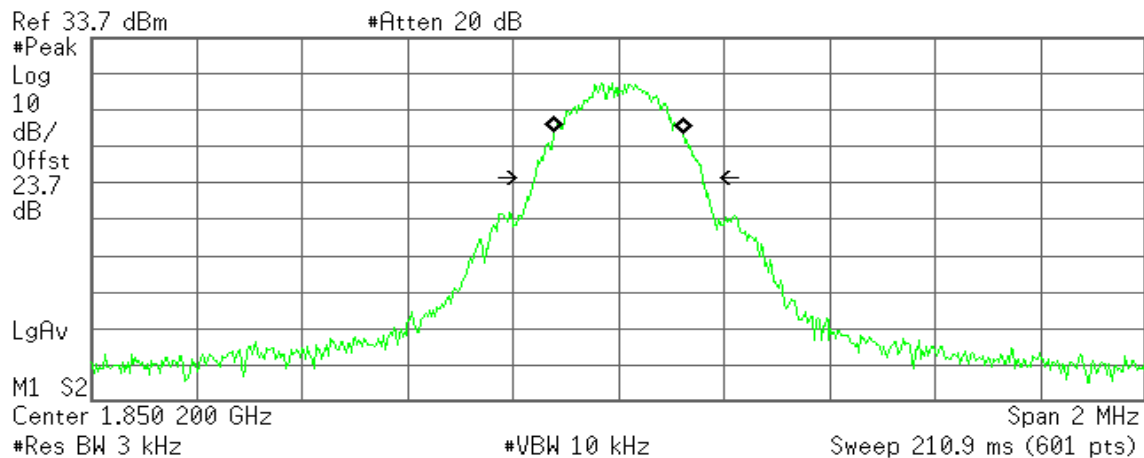
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 961.213 Hz
x dB Bandwidth 317.972 kHz

GPRS 1900 (CH Low)

Agilent

R T



Occupied Bandwidth
246.9118 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

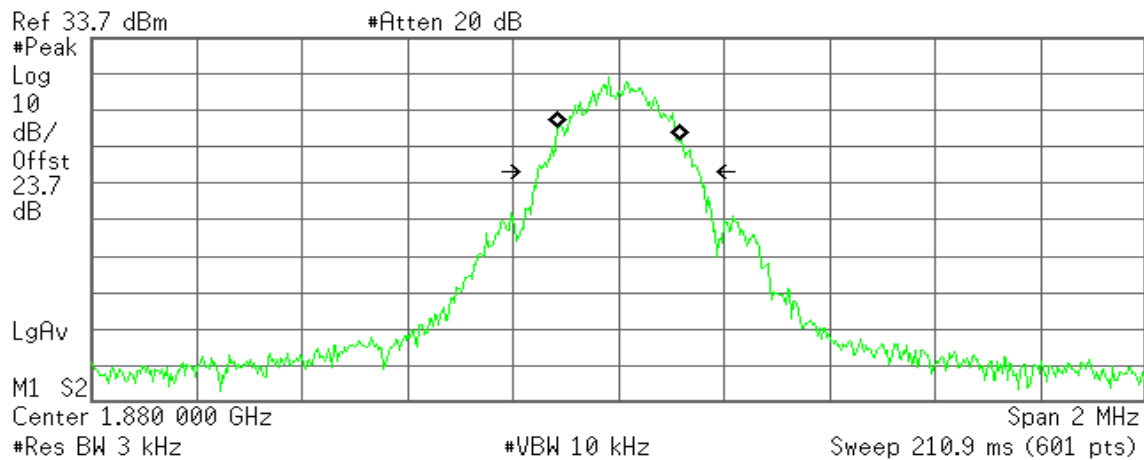
Transmit Freq Error 142.432 Hz
x dB Bandwidth 318.679 kHz



GPRS 1900 (CH Mid)

Agilent

R T



Occupied Bandwidth
234.3843 kHz

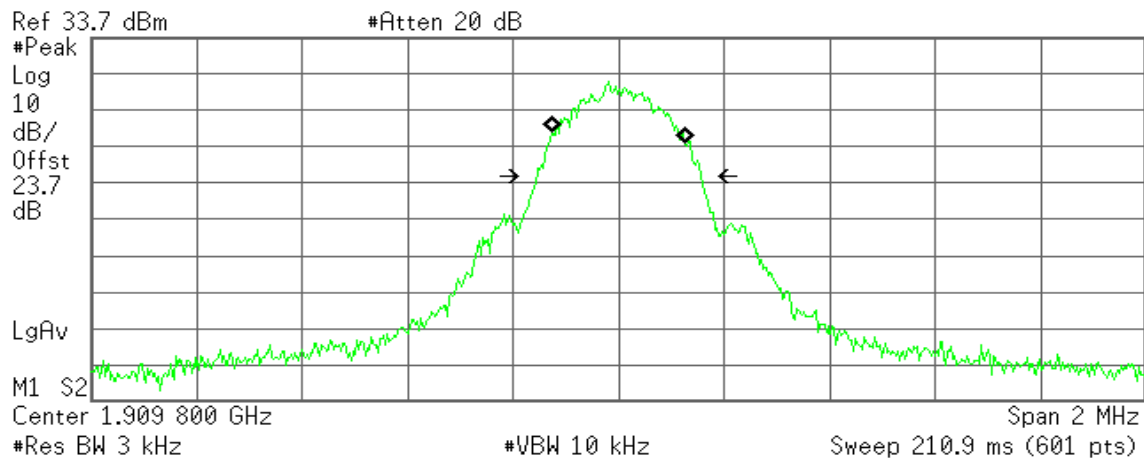
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 459.785 Hz
x dB Bandwidth 306.458 kHz

GPRS 1900 (CH High)

Agilent

R T



Occupied Bandwidth
252.9969 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

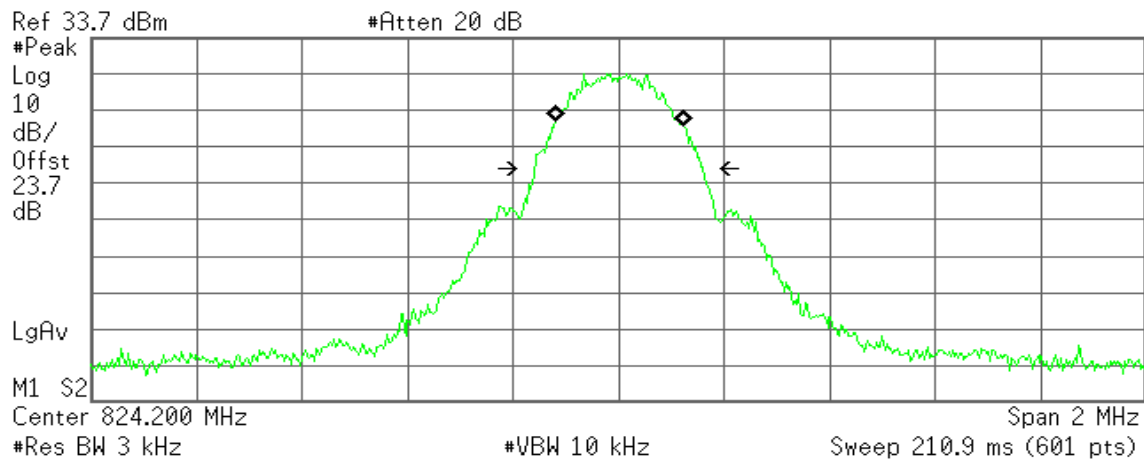
Transmit Freq Error -264.949 Hz
x dB Bandwidth 311.497 kHz



EDGE 850 (CH Low)

Agilent

R T



Occupied Bandwidth
243.2826 kHz

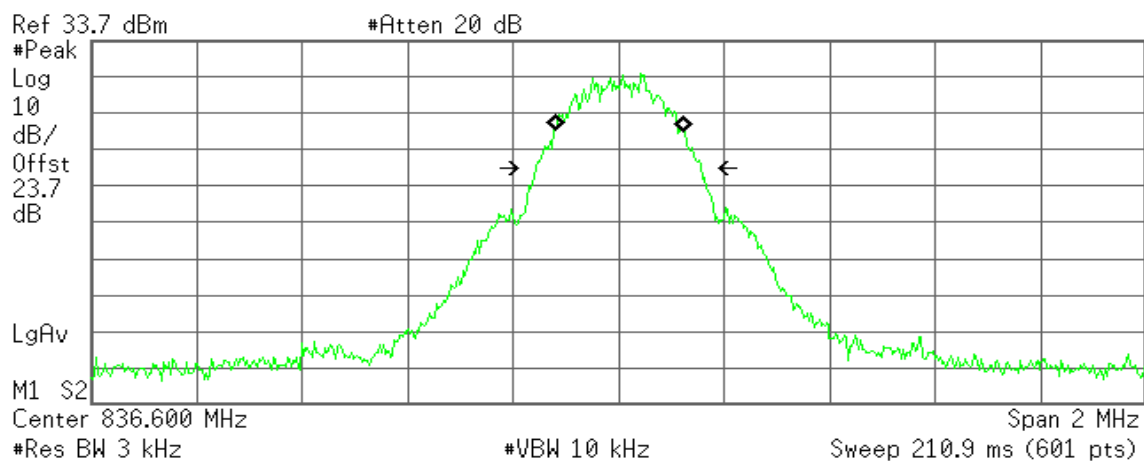
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 529.470 Hz
x dB Bandwidth 319.406 kHz

EDGE 850 (CH Mid)

Agilent

R T



Occupied Bandwidth
242.8230 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

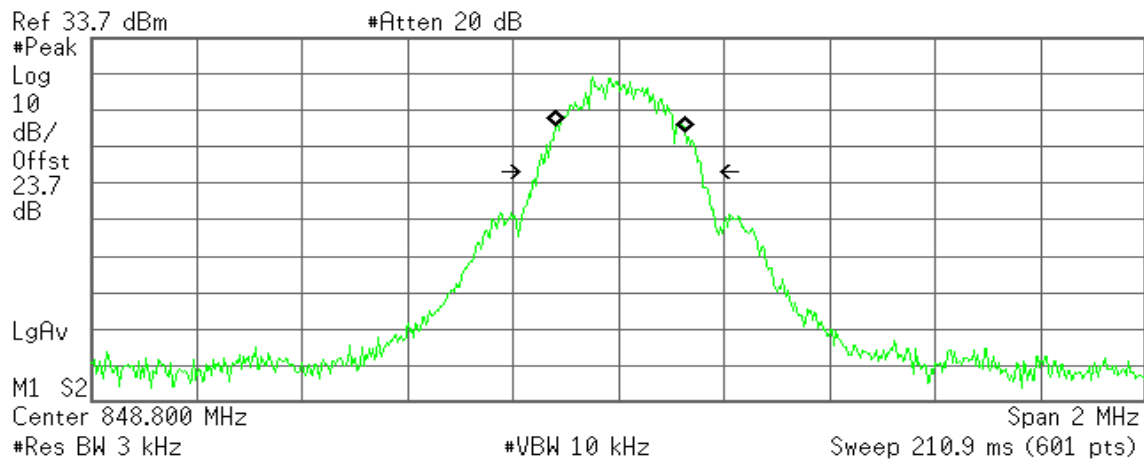
Transmit Freq Error 367.478 Hz
x dB Bandwidth 314.398 kHz



EDGE 850 (CH High)

Agilent

R T



Occupied Bandwidth
248.0802 kHz

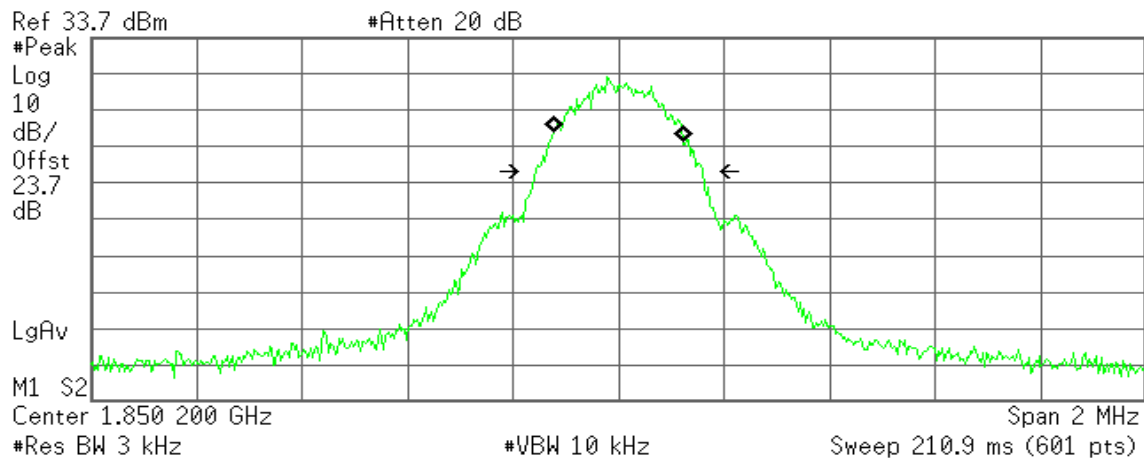
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 3.328 kHz
x dB Bandwidth 312.509 kHz

EDGE 1900 (CH Low)

Agilent

R T



Occupied Bandwidth
246.1149 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

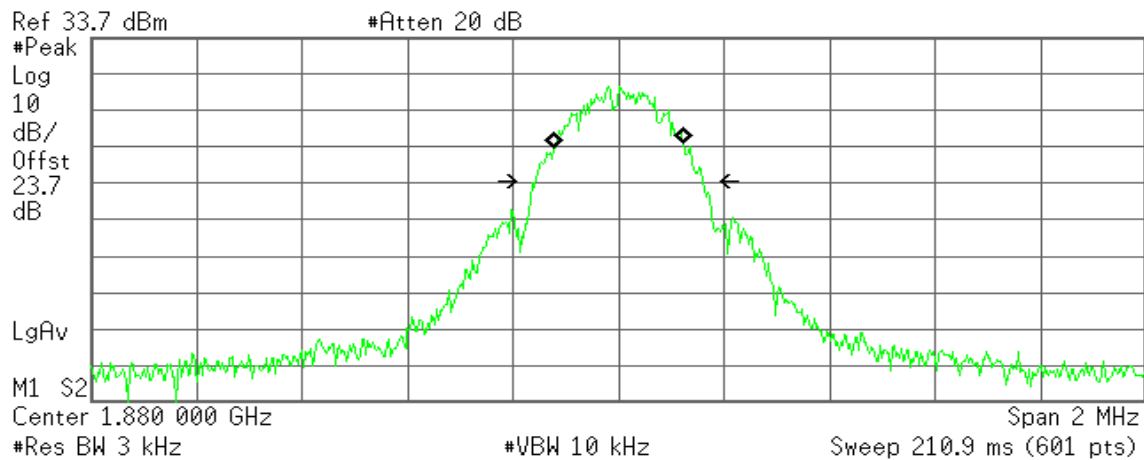
Transmit Freq Error -154.382 Hz
x dB Bandwidth 318.580 kHz



EDGE 1900 (CH Mid)

Agilent

R T



Occupied Bandwidth
245.3931 kHz

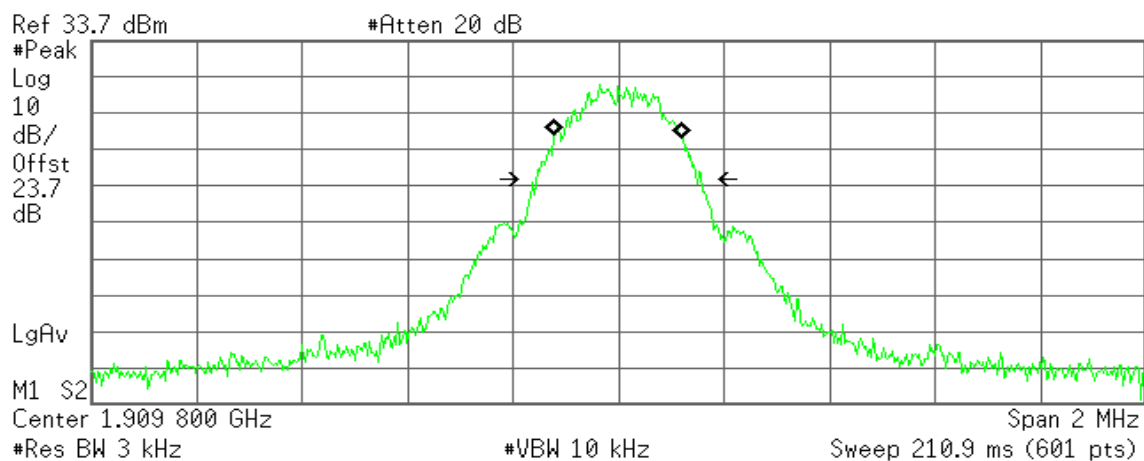
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 880.987 Hz
x dB Bandwidth 318.452 kHz

EDGE 1900 (CH High)

Agilent

R T



Occupied Bandwidth
243.6313 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

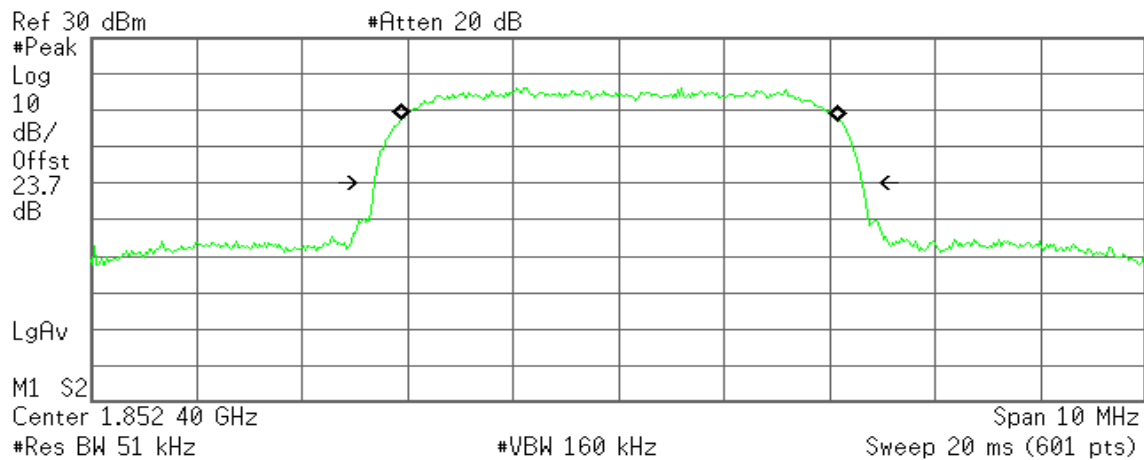
Transmit Freq Error -611.836 Hz
x dB Bandwidth 314.061 kHz



WCDMA Band II (CH Low)

Agilent

R T

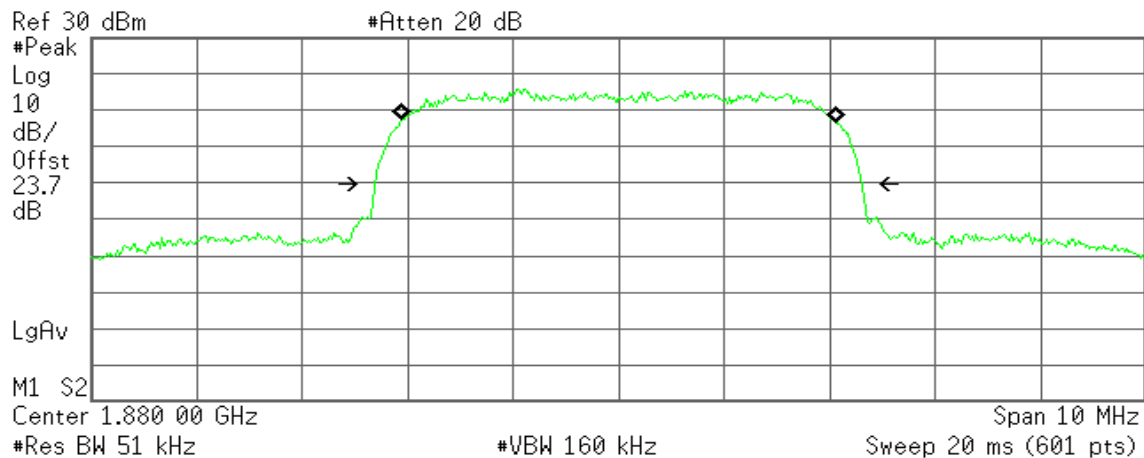


Transmit Freq Error 3.499 kHz
x dB Bandwidth 4.635 MHz

WCDMA Band II (CH Mid)

Agilent

R T



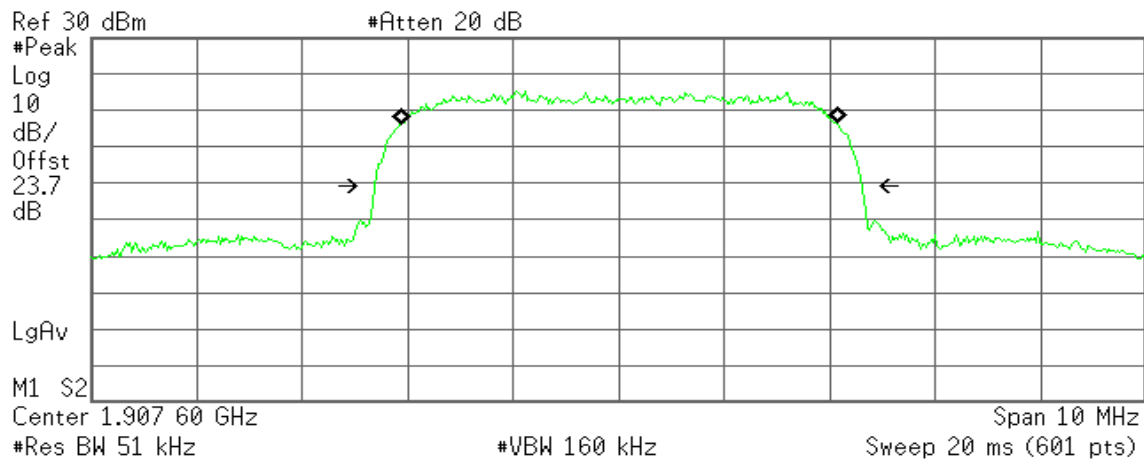
Transmit Freq Error 3.195 kHz
x dB Bandwidth 4.625 MHz



WCDMA Band II (CH High)

Agilent

R T

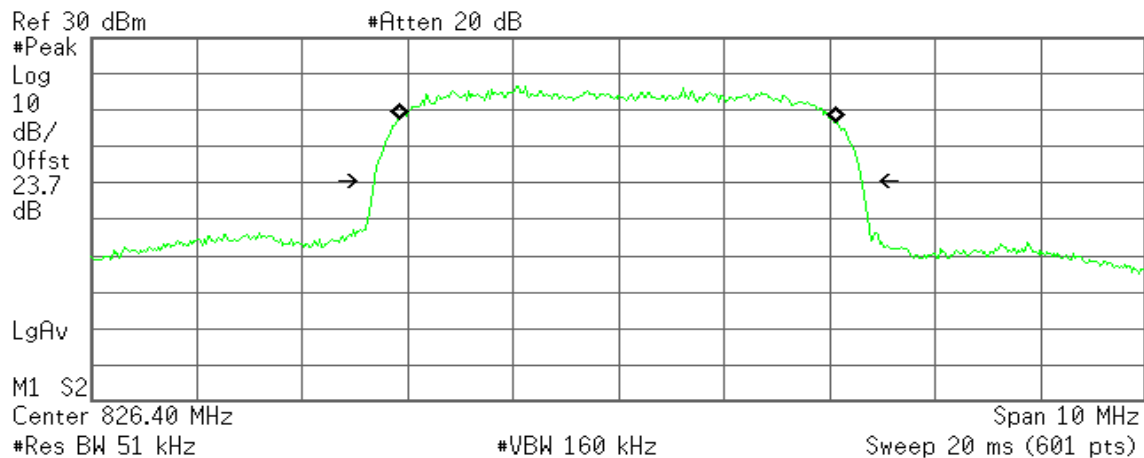


Transmit Freq Error 98.276 Hz
x dB Bandwidth 4.628 MHz

WCDMA Band V (CH Low)

Agilent

R T



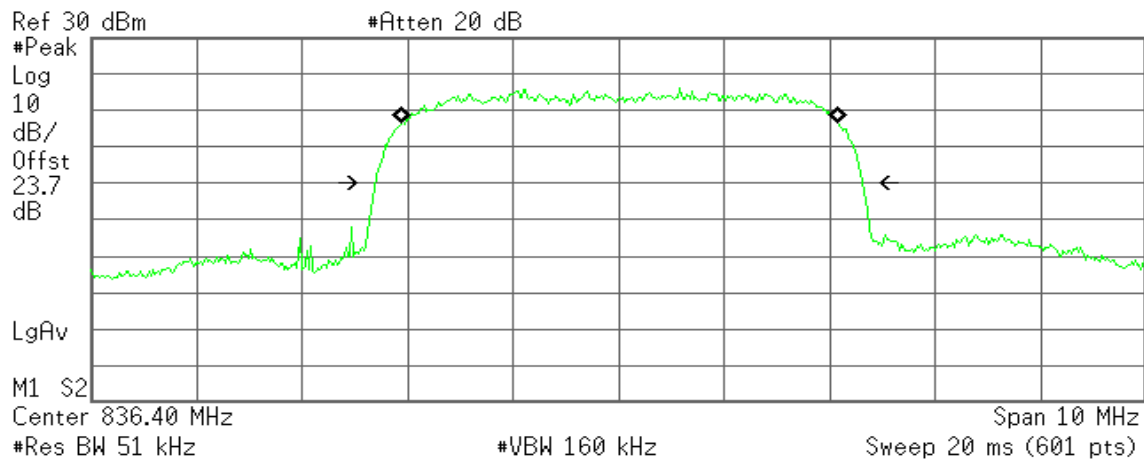
Transmit Freq Error -13.055 kHz
x dB Bandwidth 4.633 MHz



WCDMA Band V (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1434 MHz

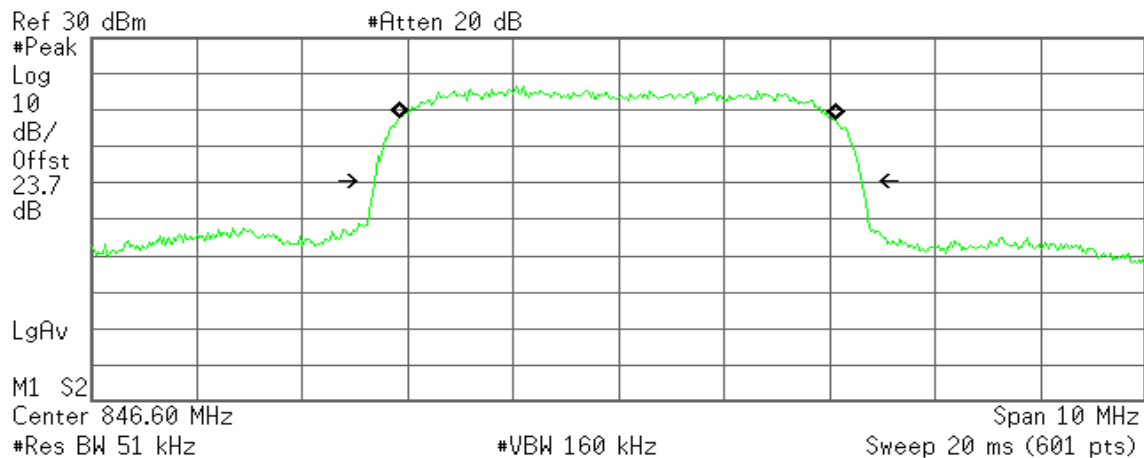
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 10.828 kHz
x dB Bandwidth 4.631 MHz

WCDMA Band V (CH High)

Agilent

R T



Occupied Bandwidth
4.1568 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

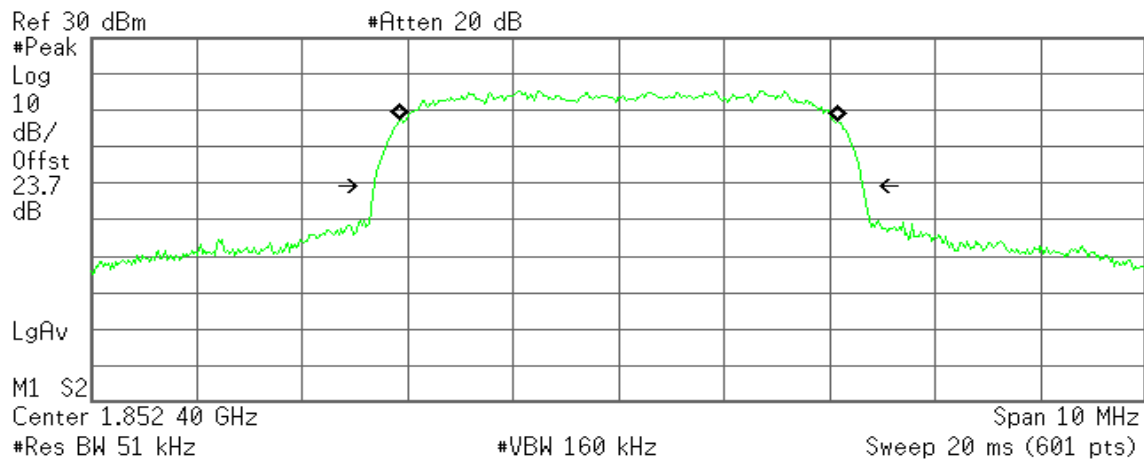
Transmit Freq Error -12.503 kHz
x dB Bandwidth 4.625 MHz



WCDMA / HSDPA Band II (CH Low)

Agilent

R T



Occupied Bandwidth
4.1594 MHz

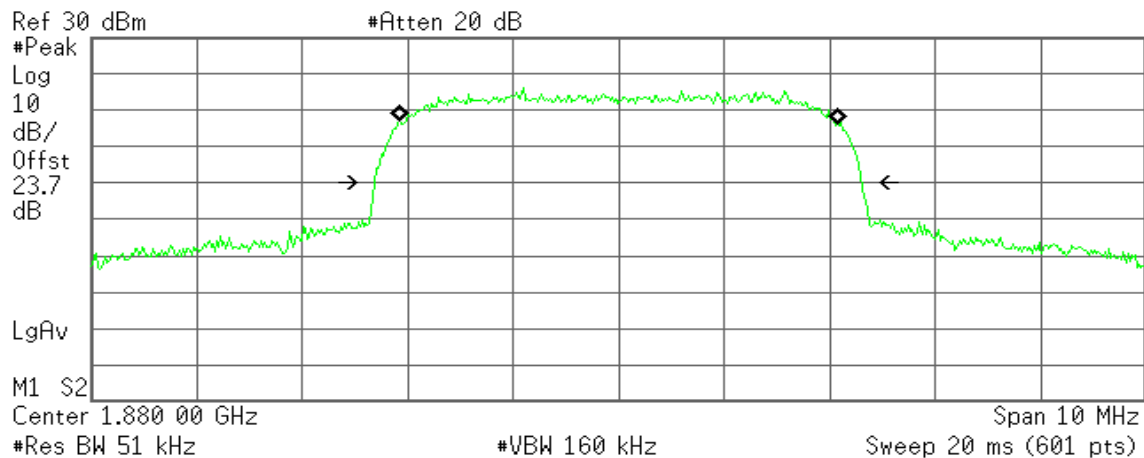
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 3.808 kHz
x dB Bandwidth 4.636 MHz

WCDMA / HSDPA Band II (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1705 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

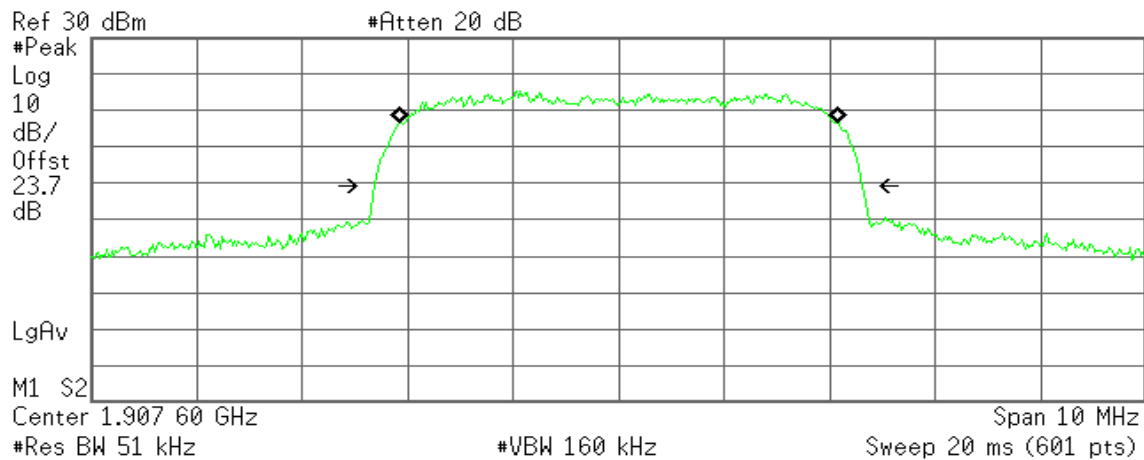
Transmit Freq Error 3.458 kHz
x dB Bandwidth 4.626 MHz



WCDMA / HSDPA Band II (CH High)

Agilent

R T



Occupied Bandwidth
4.1695 MHz

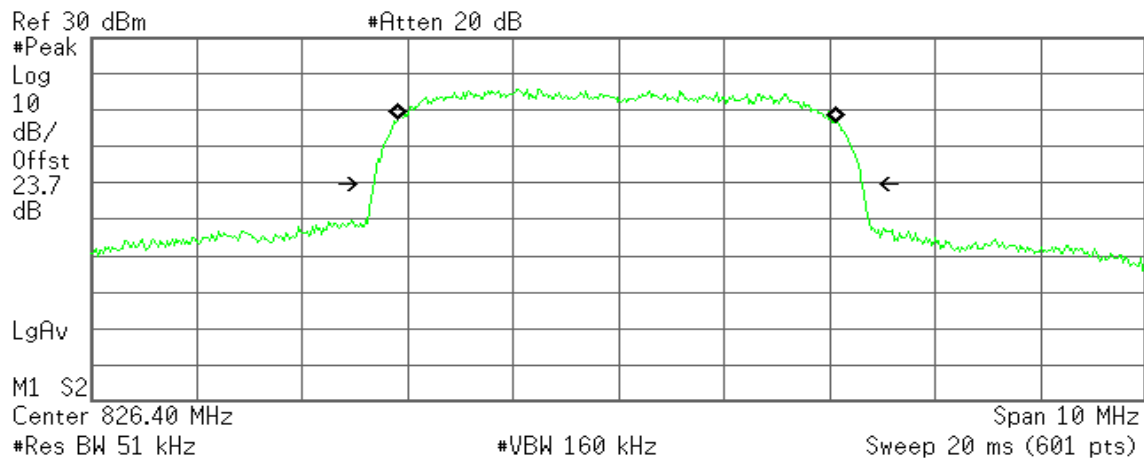
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 5.181 kHz
x dB Bandwidth 4.632 MHz

WCDMA / HSDPA Band V (CH Low)

Agilent

R T



Occupied Bandwidth
4.1607 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

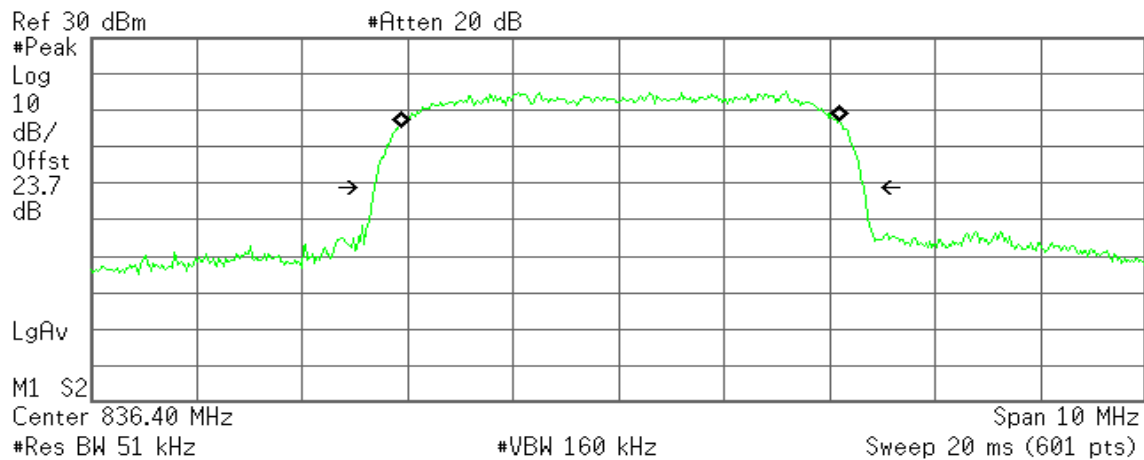
Transmit Freq Error -15.786 kHz
x dB Bandwidth 4.638 MHz



WCDMA / HSDPA Band V (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1616 MHz

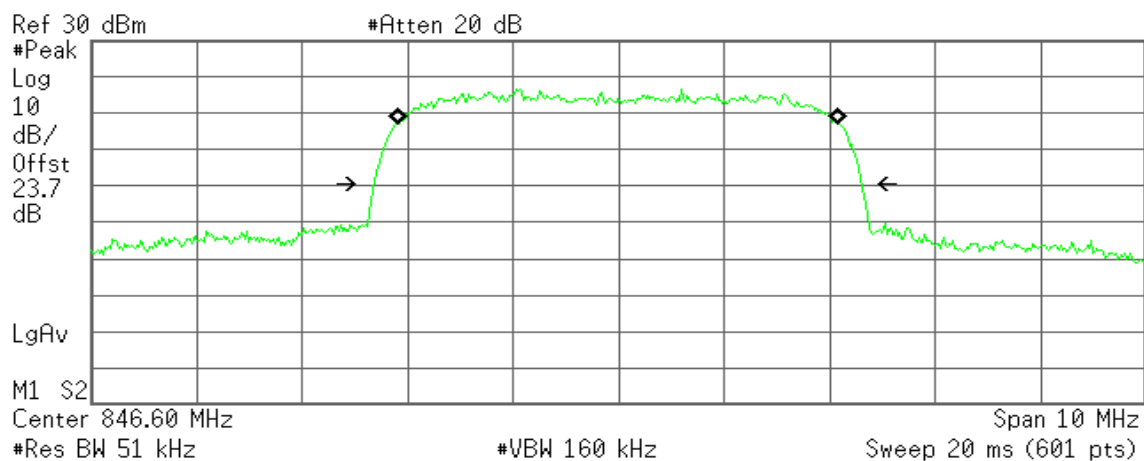
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 17.474 kHz
x dB Bandwidth 4.650 MHz

WCDMA / HSDPA Band V (CH High)

Agilent

R T



Occupied Bandwidth
4.1756 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

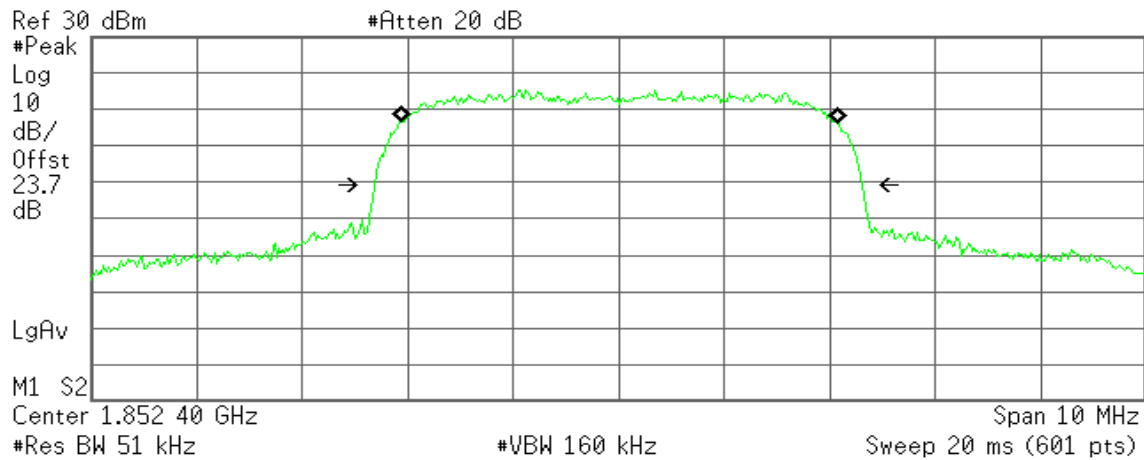
Transmit Freq Error -4.122 kHz
x dB Bandwidth 4.632 MHz



WCDMA / HSUPA Band II (CH Low)

Agilent

R T



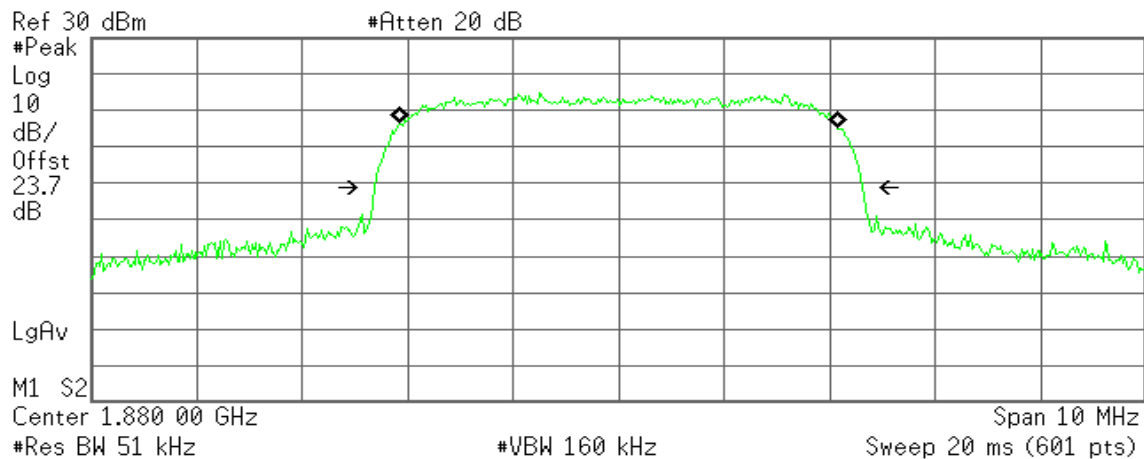
Transmit Freq Error 1.942 kHz

x dB Bandwidth 4.633 MHz

WCDMA / HSUPA Band II (CH Mid)

Agilent

R T



Transmit Freq Error 299.333 Hz

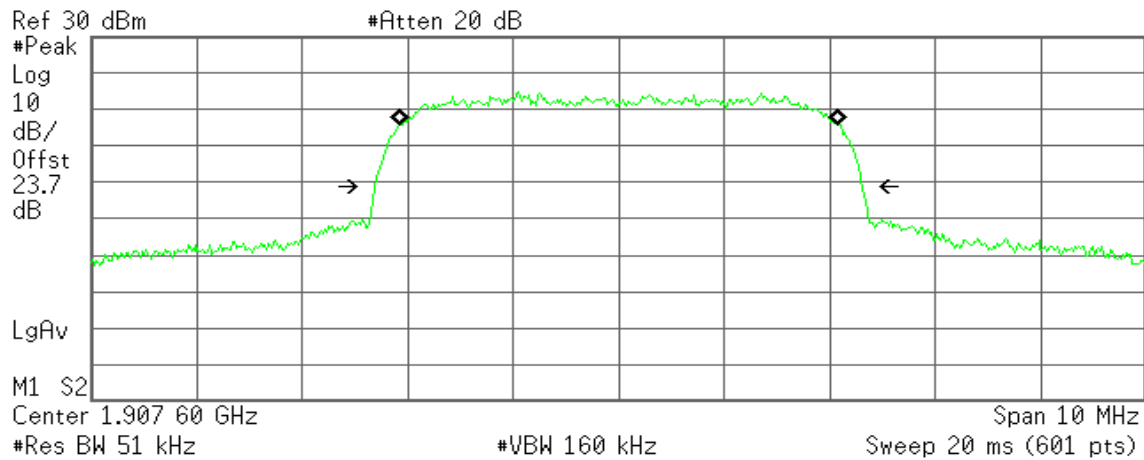
x dB Bandwidth 4.639 MHz



WCDMA / HSUPA Band II (CH High)

Agilent

R T

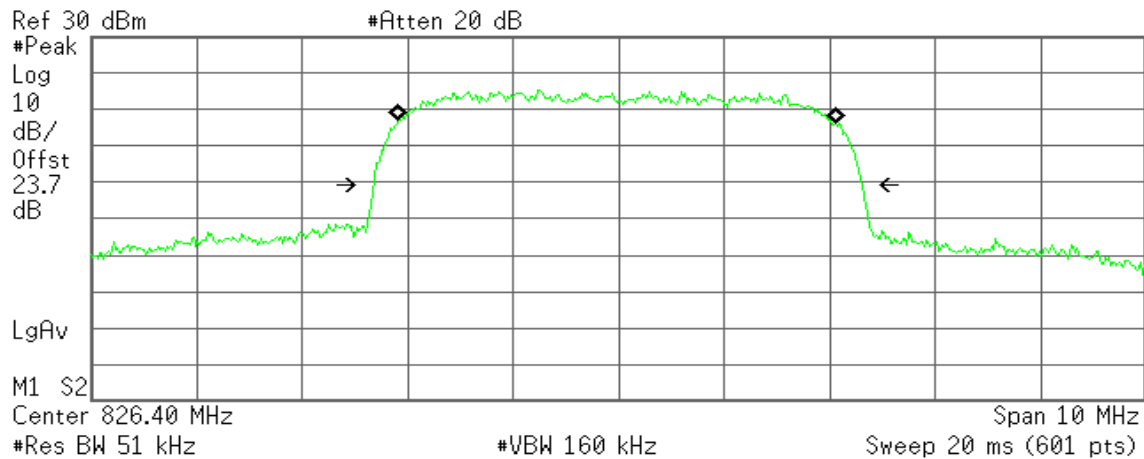


Transmit Freq Error 5.230 kHz
x dB Bandwidth 4.627 MHz

WCDMA / HSUPA Band V (CH Low)

Agilent

R T



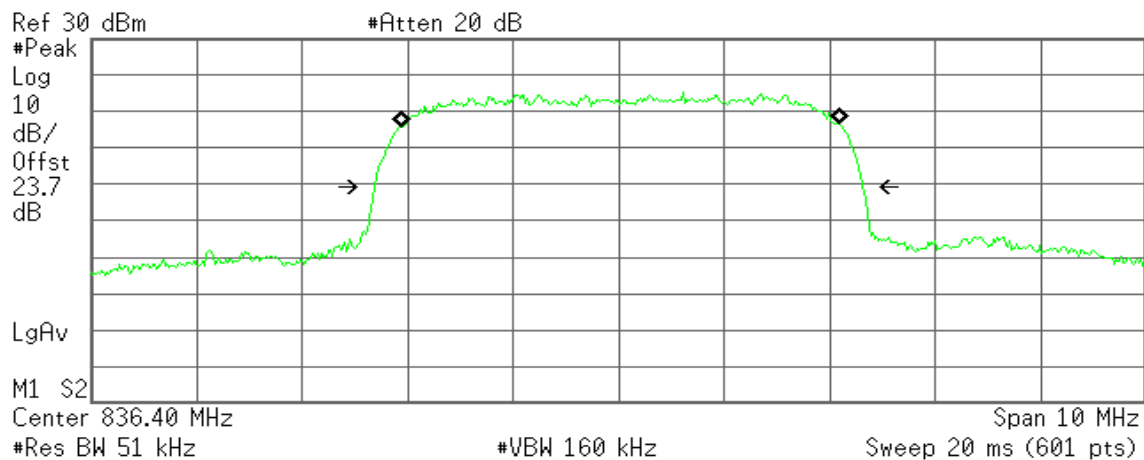
Transmit Freq Error -12.569 kHz
x dB Bandwidth 4.641 MHz



WCDMA / HSUPA Band V (CH Mid)

Agilent

R T

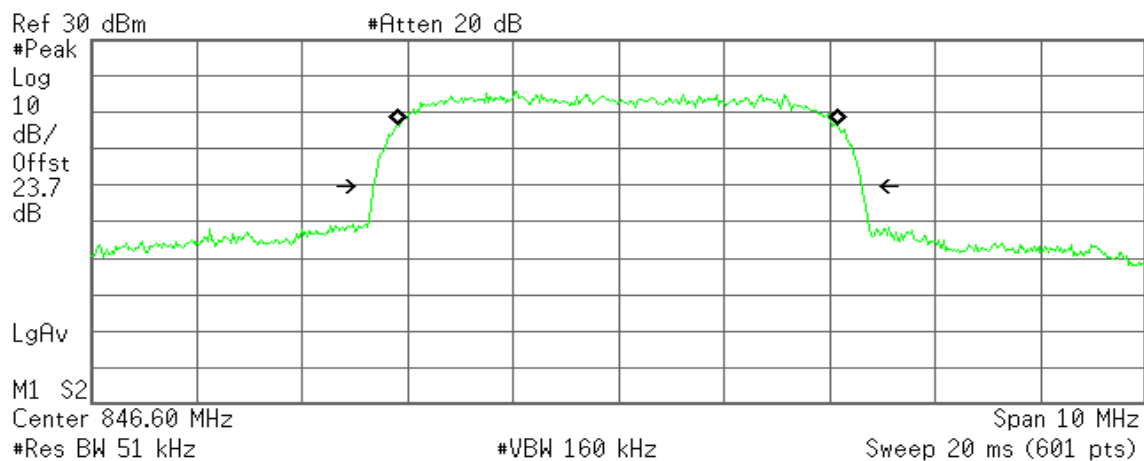


Transmit Freq Error 16.233 kHz
x dB Bandwidth 4.639 MHz

WCDMA / HSUPA Band V (CH High)

Agilent

R T



Transmit Freq Error -9.597 kHz
x dB Bandwidth 4.638 MHz

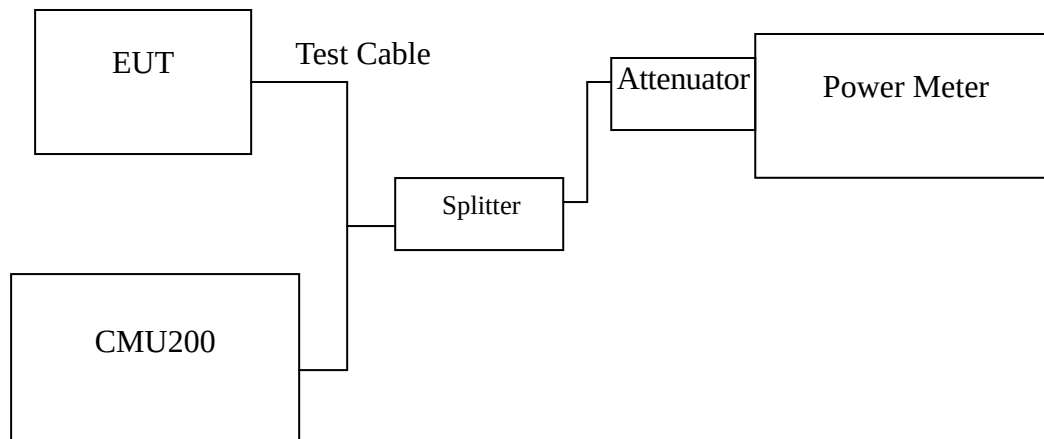


7.2 PEAK POWER

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)
GSM 850 (Class B)	128	824.20	32.33	1.71002
	190	836.40	32.38	1.72982
	251	848.80	32.34	1.71396
GPRS 850 (Class 12)	128	824.20	32.27	1.68655
	190	836.40	32.25	1.67880
	251	848.80	32.18	1.65196
EDGE 850 (Class 12)	128	824.20	32.31	1.70216
	190	836.40	32.26	1.68267
	251	848.80	32.17	1.64816

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
GSM 1900 (Class B)	512	1850.20	29.65	0.92257
	661	1880.00	29.78	0.95060
	810	1910.00	29.81	0.95719
GPRS 1900 (Class 12)	512	1850.20	29.69	0.93111
	661	1880.00	29.71	0.93541
	810	1910.00	29.64	0.92045
EDGE 1900 (Class 12)	512	1850.20	29.72	0.93756
	661	1880.00	29.69	0.93111
	810	1910.00	29.63	0.91833

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	26.98	0.49888
	9400	1880.00	26.79	0.47753
	9538	1907.60	26.43	0.43954
WCDMA (BAND V)	4132	826.40	26.88	0.48753
	4182	836.40	26.47	0.44361
	4233	846.60	27.12	0.51523

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSDPA (BAND II)	9262	1852.40	27.13	0.51642
	9400	1880.00	27.02	0.50350
	9538	1907.60	26.96	0.49659
WCDMA / HSDPA (BAND V)	4132	826.40	27.03	0.50466
	4182	836.40	26.66	0.46345
	4233	846.60	27.24	0.52966

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSUPA (BAND II)	9262	1852.40	26.67	0.46452
	9400	1880.00	26.51	0.44771
	9538	1907.60	26.75	0.47315
WCDMA / HSUPA (BAND V)	4132	826.40	26.91	0.49091
	4182	836.40	26.56	0.45290
	4233	846.60	27.14	0.51761

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

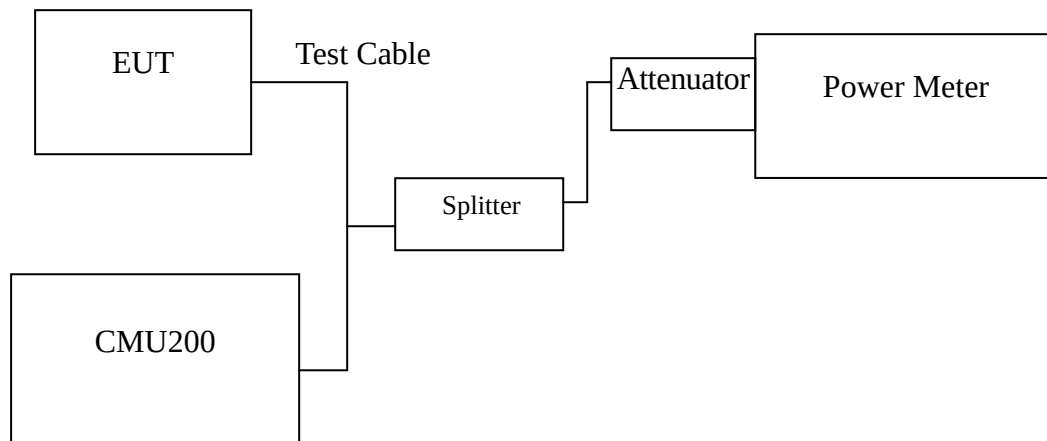


7.3 AVERAGE POWER

LIMIT

For reporting purposes only.

Test Configuration



Remark: Measurement setup for testing on Antenna connector

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

**Test Data**

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
GSM 850 (Class 12)	128	824.20	32.12	1.62930
	190	836.40	32.15	1.64059
	251	848.80	32.13	1.63305
GPRS 850 (Class 12)	128	824.20	26.25	0.42164
	190	836.40	26.23	0.41970
	251	848.80	26.16	0.41299
EDGE 850 (Class 12)	128	824.20	26.29	0.42554
	190	836.40	26.24	0.42067
	251	848.80	26.15	0.41204

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
GSM 1900 (Class 12)	512	1850.20	29.45	0.88105
	661	1880.00	29.58	0.90782
	810	1909.80	29.70	0.93325
GPRS 1900 (Class 12)	512	1850.20	23.67	0.23278
	661	1880.00	23.69	0.23385
	810	1909.80	23.62	0.23011
EDGE 1900 (Class 12)	512	1850.20	23.70	0.23439
	661	1880.00	23.67	0.23278
	810	1909.80	23.61	0.22958

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



Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
WCDMA (BAND II)	9262	1852.40	23.11	0.20464
	9400	1880.00	22.82	0.19143
	9538	1907.60	22.61	0.18239
WCDMA (BAND V)	4132	826.40	23.35	0.21627
	4182	836.40	22.97	0.19815
	4233	846.60	23.37	0.21727

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
WCDMA / HSDPA (BAND II)	9262	1852.40	22.58	0.18113
	9400	1880.00	22.43	0.17498
	9538	1907.60	22.43	0.17498
WCDMA / HSDPA (BAND V)	4132	826.40	22.90	0.19498
	4182	836.40	22.47	0.17660
	4233	846.60	23.19	0.20845

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
WCDMA / HSUPA (BAND II)	9262	1852.40	22.59	0.18155
	9400	1880.00	22.27	0.16866
	9538	1907.60	22.25	0.16788
WCDMA / HSUPA (BAND V)	4132	826.40	22.97	0.19815
	4182	836.40	22.47	0.17660
	4233	846.60	23.22	0.20989

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



7.4 ERP & EIRP MEASUREMENT

LIMIT

According to FCC §2.1046

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

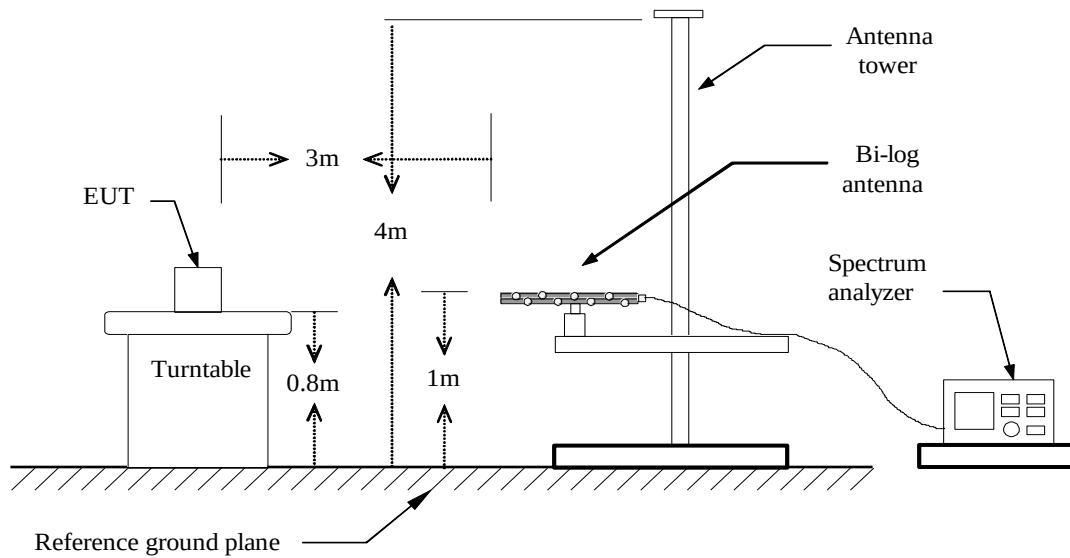
RSS-132 § 4.4 The maximum (ERP) shall be 6.3 Watts for mobile stations.

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

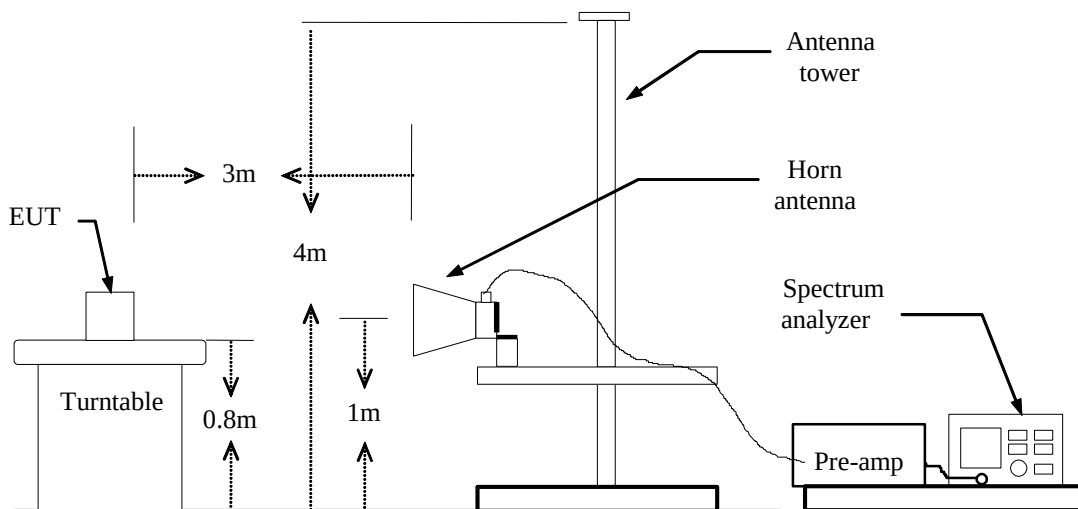
RSS133 § 6.4: Mobile stations and hand-held portables are limited to 2 watts maximum (EIRP).

Test Configuration

Below 1 GHz

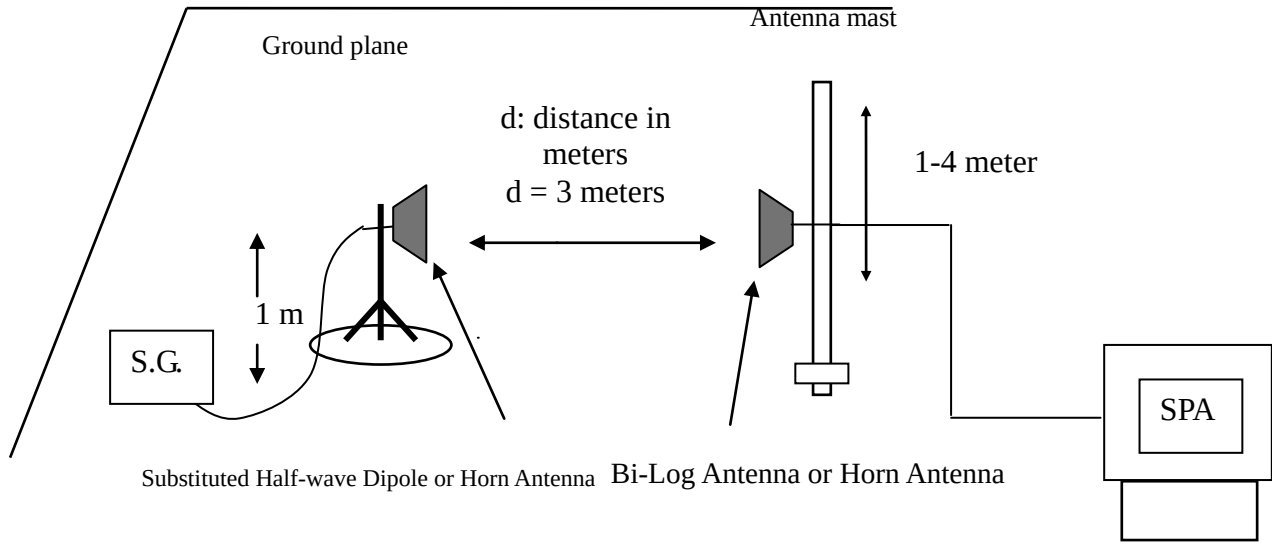


Above 1 GHz





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 5MHz and the average bandwidth was set to 50MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

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

$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)} - 2.15$$

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

TEST RESULTS

No non-compliance noted.

**GSM 850 Test Data**

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.1500	V	27.53	3.39	6.24	30.38	38.45	-8.07
	824.5700	H	25.38	3.39	6.24	28.23	38.45	-10.22
190	836.9600	V	27.43	3.4	6.37	*30.40	38.45	-8.05
	836.6100	H	24.6	3.4	6.37	27.57	38.45	-10.88
251	848.8600	V	26.64	3.4	6.4	29.64	38.45	-8.81
	848.7900	H	24.69	3.4	6.4	27.69	38.45	-10.76

GPRS 850 Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.2900	V	26.96	3.39	6.24	*29.81	38.45	-8.64
	824.1500	H	24.84	3.39	6.24	27.69	38.45	-10.76
190	836.6100	V	26.67	3.4	6.37	29.64	38.45	-8.81
	836.6800	H	24.45	3.4	6.37	27.42	38.45	-11.03
251	848.7900	V	25.94	3.4	6.4	28.94	38.45	-9.51
	848.8600	H	24.43	3.4	6.4	27.43	38.45	-11.02

GSM 1900 Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.160	V	24.91	5.37	5.67	25.21	33.00	-7.79
	1850.280	H	19.51	5.37	5.67	19.81	33.00	-13.19
661	1879.920	V	25.84	5.42	5.62	26.04	33.00	-6.96
	1879.920	H	20.16	5.42	5.62	20.36	33.00	-12.64
810	1909.680	V	26.63	5.48	5.56	*26.71	33.00	-6.29
	1909.800	H	19.52	5.48	5.56	19.60	33.00	-13.40

GPRS 1900 Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.160	V	25.13	5.37	5.67	25.43	33.00	-7.57
	1850.040	H	19.52	5.37	5.67	19.82	33.00	-13.18
661	1880.040	V	25.84	5.42	5.62	26.04	33.00	-6.96
	1880.160	H	20.07	5.42	5.62	20.27	33.00	-12.73
810	1909.800	V	26.51	5.48	5.56	*26.59	33.00	-6.41
	1909.680	H	19.92	5.48	5.56	20.00	33.00	-13.00

**EDGE 850 Test Data**

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.2200	V	24.46	3.39	6.24	27.31	38.45	-11.14
	824.1500	H	23.06	3.39	6.24	25.91	38.45	-12.54
190	836.6100	V	24.37	3.4	6.37	27.34	38.45	-11.11
	836.5400	H	22.96	3.4	6.36	25.92	38.45	-12.53
251	848.8600	V	24.63	3.4	6.4	*27.63	38.45	-10.82
	848.8600	H	23.08	3.4	6.4	26.08	38.45	-12.37

EDGE 1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.040	V	23.07	5.37	5.67	23.37	33.00	-9.63
	1850.160	H	17.87	5.37	5.67	18.17	33.00	-14.83
661	1880.040	V	23.97	5.42	5.62	24.17	33.00	-8.83
	1879.920	H	18.27	5.42	5.62	18.47	33.00	-14.53
810	1909.680	V	24.97	5.48	5.56	*25.05	33.00	-7.95
	1909.680	H	18.24	5.48	5.56	18.32	33.00	-14.68

WCDMA BAND II Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1851.840	V	12.48	5.37	5.67	12.78	33.00	-20.22
	1851.600	H	13.34	5.37	5.67	13.64	33.00	-19.36
9400	1881.240	V	10.86	5.42	5.61	11.05	33.00	-21.95
	1880.520	H	13.8	5.42	5.62	14.00	33.00	-19.00
9538	1906.560	V	12.88	5.47	5.57	12.98	33.00	-20.02
	1906.560	H	14.94	5.47	5.57	*15.04	33.00	-17.96

WCDMA BAND V Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	827.2300	V	18.42	3.39	6.27	21.30	38.45	-17.15
	827.3700	H	17.86	3.39	6.27	20.74	38.45	-17.71
4182	835.0700	V	18.66	3.4	6.35	21.61	38.45	-16.84
	835.1400	H	19.07	3.4	6.35	22.02	38.45	-16.43
4233	845.8500	V	19.47	3.4	6.4	*22.47	38.45	-15.98
	845.7800	H	19.42	3.4	6.4	22.42	38.45	-16.03

**HSDPA BAND II Test Data**

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1851.360	V	18.48	5.37	5.67	18.78	33.00	-14.22
	1851.360	H	12.53	5.37	5.67	12.83	33.00	-20.17
9400	1881.240	V	18.77	5.42	5.61	*18.96	33.00	-14.04
	1881.120	H	15.14	5.42	5.61	15.33	33.00	-17.67
9538	1906.560	V	17.77	5.47	5.57	17.87	33.00	-15.13
	1906.440	H	14.59	5.47	5.57	14.69	33.00	-18.31

HSDPA BAND V Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	827.3700	V	16.24	3.39	6.27	19.12	38.45	-19.33
	827.5100	H	16.91	3.39	6.27	19.79	38.45	-18.66
4182	835.2800	V	17.08	3.4	6.35	20.03	38.45	-18.42
	835.2800	H	17.08	3.4	6.35	20.03	38.45	-18.42
4233	845.7800	V	17.9	3.4	6.4	*20.90	38.45	-17.55
	845.5000	H	16.64	3.4	6.4	19.64	38.45	-18.81

HSUPA Band II Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1853.400	V	17.28	5.38	5.66	17.56	33.00	-15.44
	1851.720	H	11.88	5.37	5.67	12.18	33.00	-20.82
9400	1880.760	V	17.56	5.42	5.61	17.75	33.00	-15.25
	1881.240	H	14.35	5.42	5.61	14.54	33.00	-18.46
9538	1906.560	V	18.01	5.47	5.57	*18.11	33.00	-14.89
	1906.560	H	12.04	5.47	5.57	12.14	33.00	-20.86

HSUPA Band V Test Data

Channel	Frequency (MHz)	Antenna Pol.	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	827.4400	V	17.23	3.39	6.27	20.11	38.45	-18.34
	827.4400	H	19.68	3.39	6.27	22.56	38.45	-15.89
4182	835.2800	V	17.42	3.4	6.35	20.37	38.45	-18.08
	835.4900	H	19.66	3.4	6.35	*22.61	38.45	-15.84
4233	845.1500	V	17.38	3.4	6.4	20.38	38.45	-18.07
	845.2900	H	17.08	3.4	6.4	20.08	38.45	-18.37



7.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS

LIMIT

According to FCC §2.1051, FCC §22.917, FCC §24.238(a). RSS-132 (4.5.2), RSS-133 (6.6).

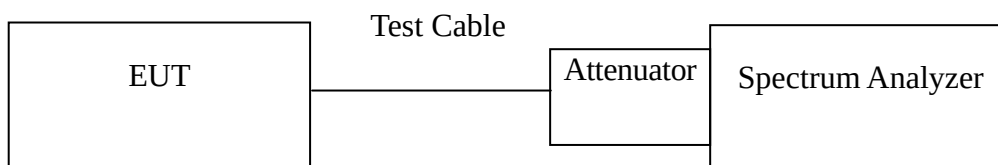
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

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

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

Test Configuration

Out of band emission at antenna terminals:



TEST PROCEDURE

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

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

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

TEST RESULTS

No non-compliance noted.

**Test Data**

Mode	CH	Location	Description
GSM 850	128	Figure 7-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 7-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 7-3	Conducted spurious emissions, 30MHz - 20GHz
GPRS 850	128	Figure 8-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 8-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 8-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
GSM 1900	512	Figure 9-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 9-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 9-3	Conducted spurious emissions, 30MHz - 20GHz
GPRS 1900	512	Figure 10-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 10-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 10-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
GSM 850	128	Figure 11-1	Band Edge emissions
	251	Figure 11-2	Band Edge emissions
GPRS 850	128	Figure 12-1	Band Edge emissions
	251	Figure 12-2	Band Edge emissions

Mode	CH	Location	Description
GSM 1900	512	Figure 13-1	Band Edge emissions
	810	Figure 13-2	Band Edge emissions
GPRS 1900	512	Figure 14-1	Band Edge emissions
	810	Figure 14-2	Band Edge emissions



Mode	CH	Location	Description
EDGE 850	128	Figure 15-1	Conducted spurious emissions, 30MHz - 20GHz
	190	Figure 15-2	Conducted spurious emissions, 30MHz - 20GHz
	251	Figure 15-3	Conducted spurious emissions, 30MHz - 20GHz
EDGE 1900	512	Figure 16-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 16-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 16-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
EDGE 850	128	Figure 17-1	Band Edge emissions
	251	Figure 17-2	Band Edge emissions
EDGE 1900	512	Figure 18-1	Band Edge emissions
	810	Figure 18-2	Band Edge emissions



Mode	CH	Location	Description
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
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
WCDMA (Band II)	9262	Figure 21-1	Band Edge emissions
	9538	Figure 21-2	Band Edge emissions
WCDMA (Band V)	4132	Figure 22-1	Band Edge emissions
	4233	Figure 22-2	Band Edge emissions

Mode	CH	Location	Description
HSDPA 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
HSDPA 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
HSDPA WCDMA (Band II)	9262	Figure 25-1	Band Edge emissions
	9538	Figure 25-2	Band Edge emissions
HSDPA WCDMA (Band V)	4132	Figure 26-1	Band Edge emissions
	4233	Figure 26-2	Band Edge emissions



Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 27-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 27-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 27-3	Conducted spurious emissions, 30MHz - 20GHz
HSUPA WCDMA (Band V)	4132	Figure 28-1	Conducted spurious emissions, 30MHz - 20GHz
	4182	Figure 28-2	Conducted spurious emissions, 30MHz - 20GHz
	4233	Figure 28-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
HSUPA WCDMA (Band II)	9262	Figure 29-1	Band Edge emissions
	9538	Figure 29-2	Band Edge emissions
HSUPA WCDMA (Band V)	4132	Figure 30-1	Band Edge emissions
	4233	Figure 30-2	Band Edge emissions



Test Plot

GSM 850

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

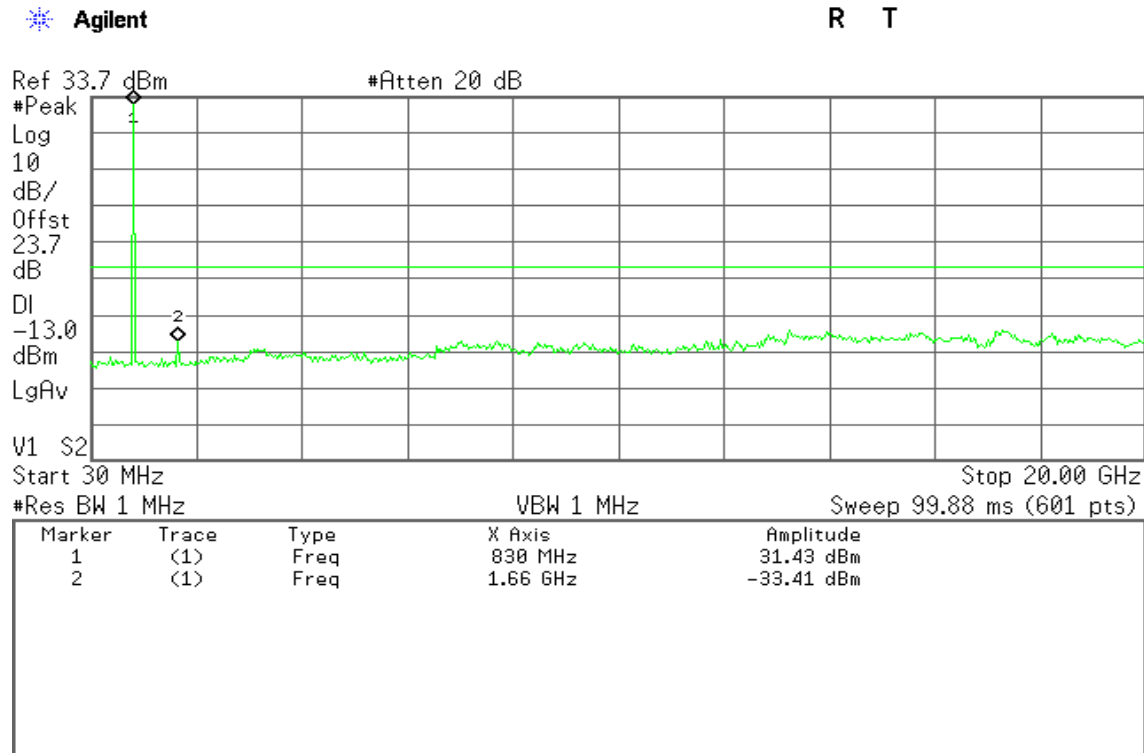


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

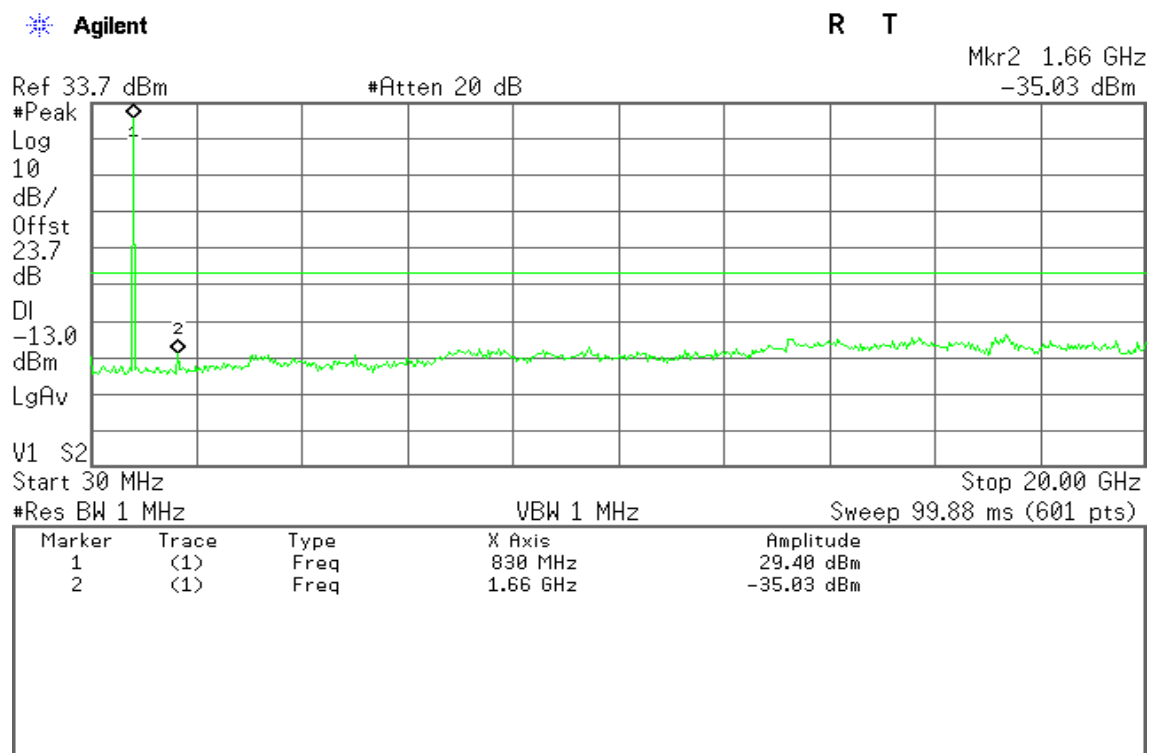
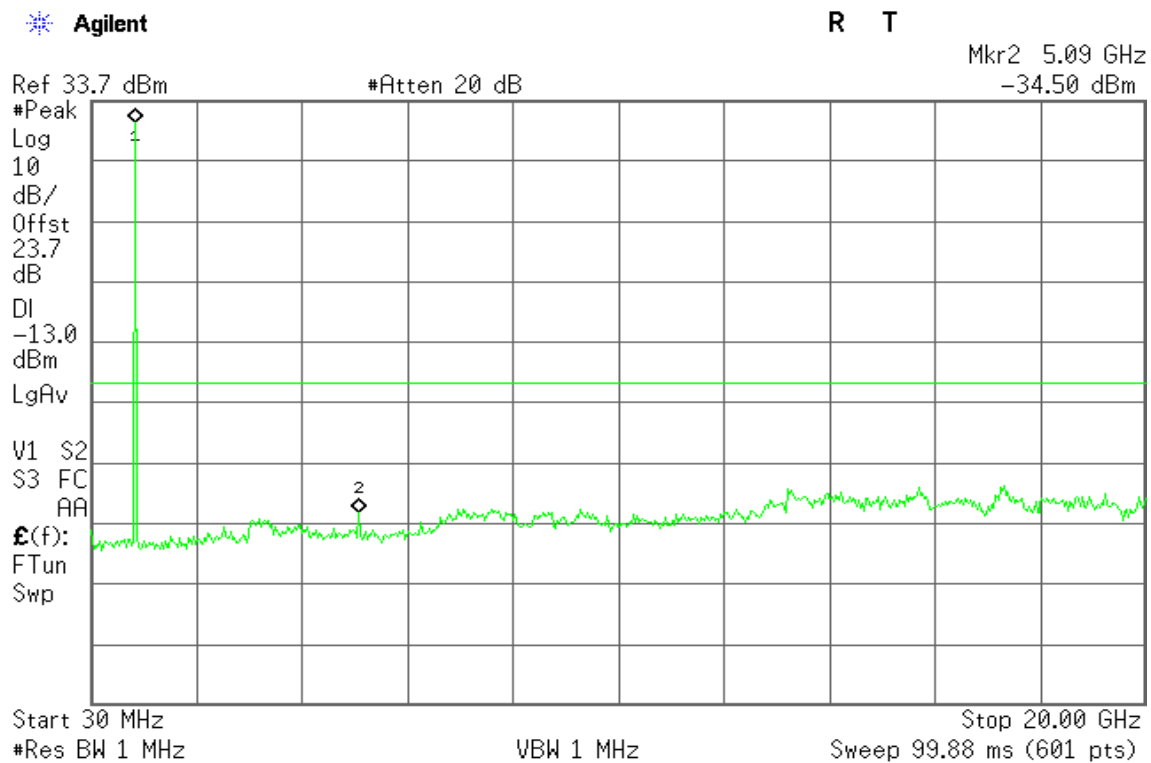




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

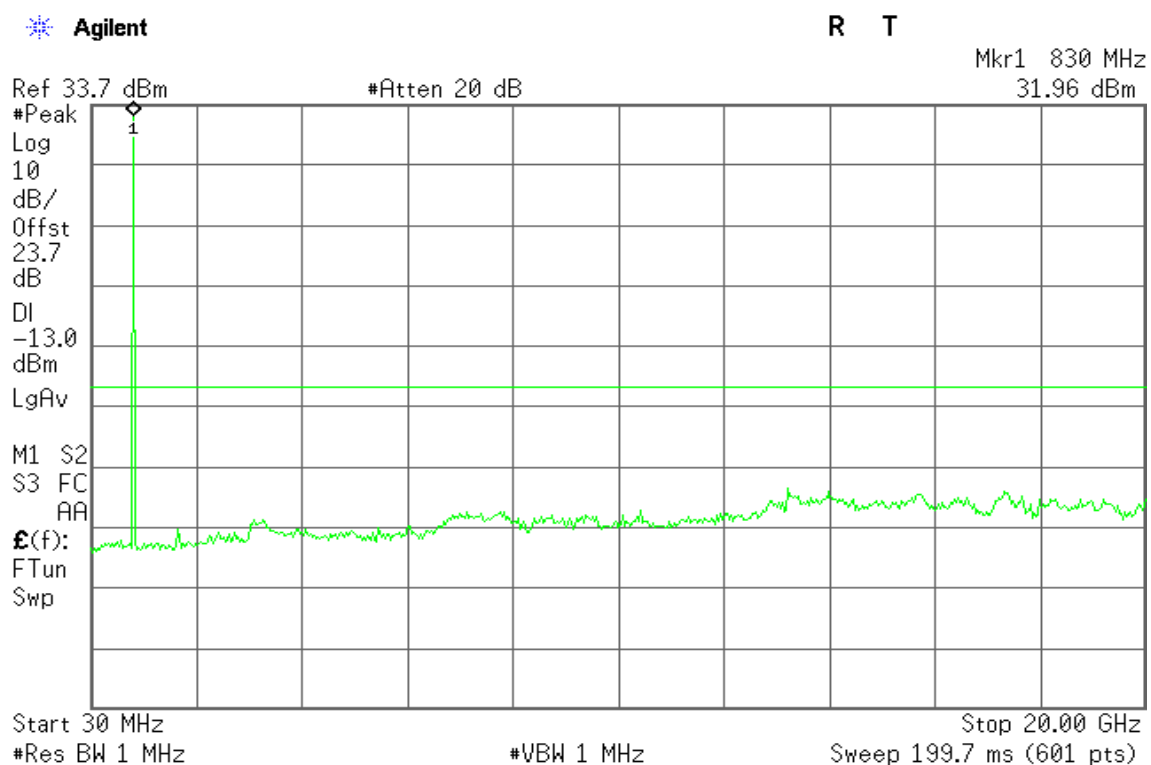




Figure 8-2: Out of Band emission at antenna terminals – GPRS CH Mid

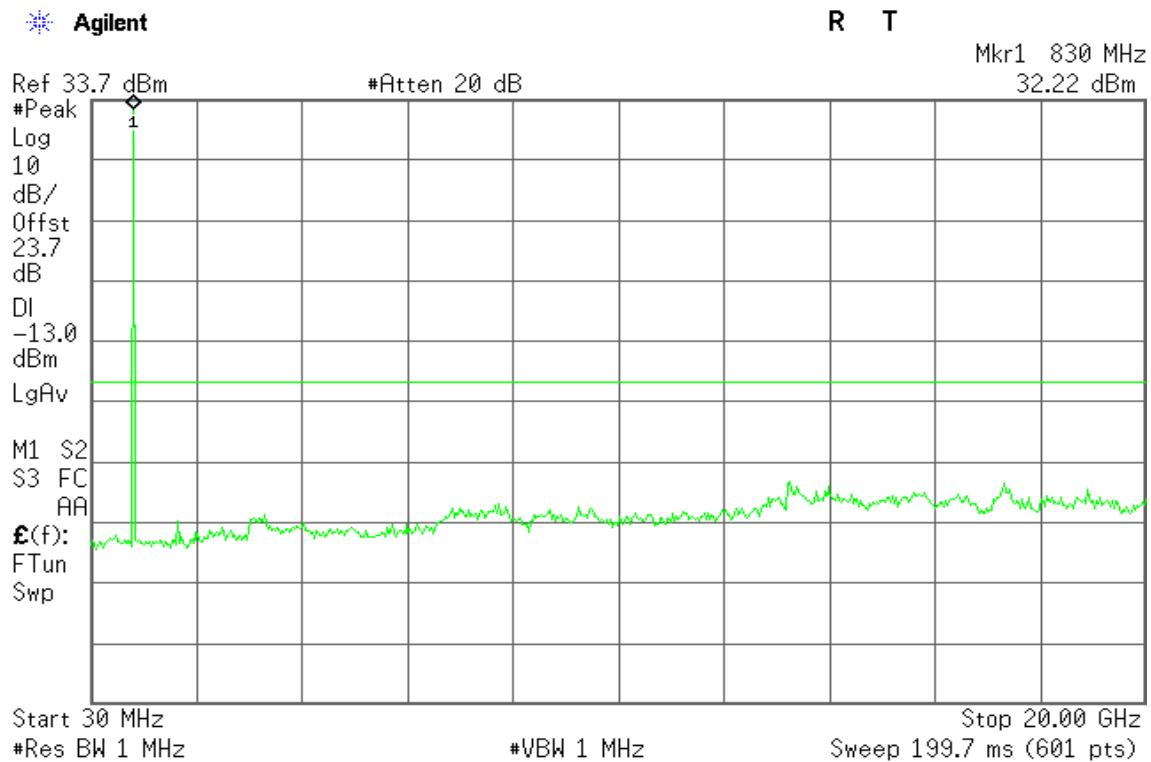
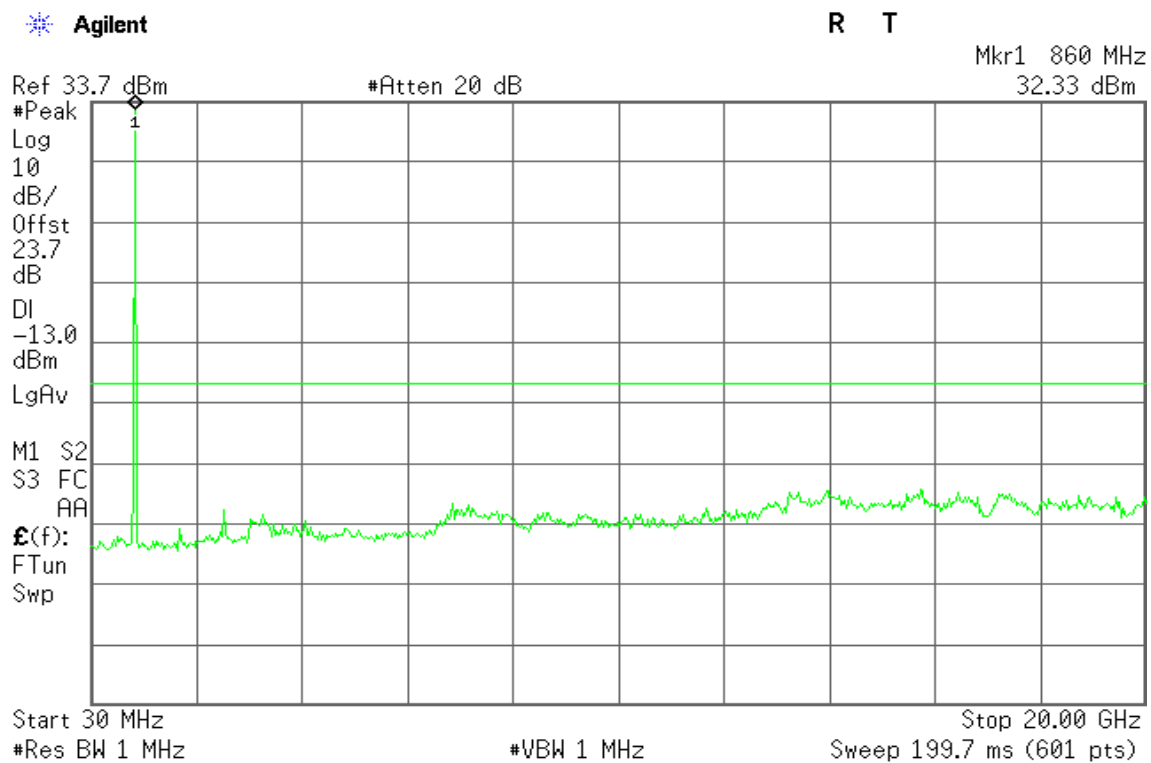


Figure 8-3: Out of Band emission at antenna terminals – GPRS CH High





GSM 1900

Figure 9-1: Out of Band emission at antenna terminals – GSM CH Low

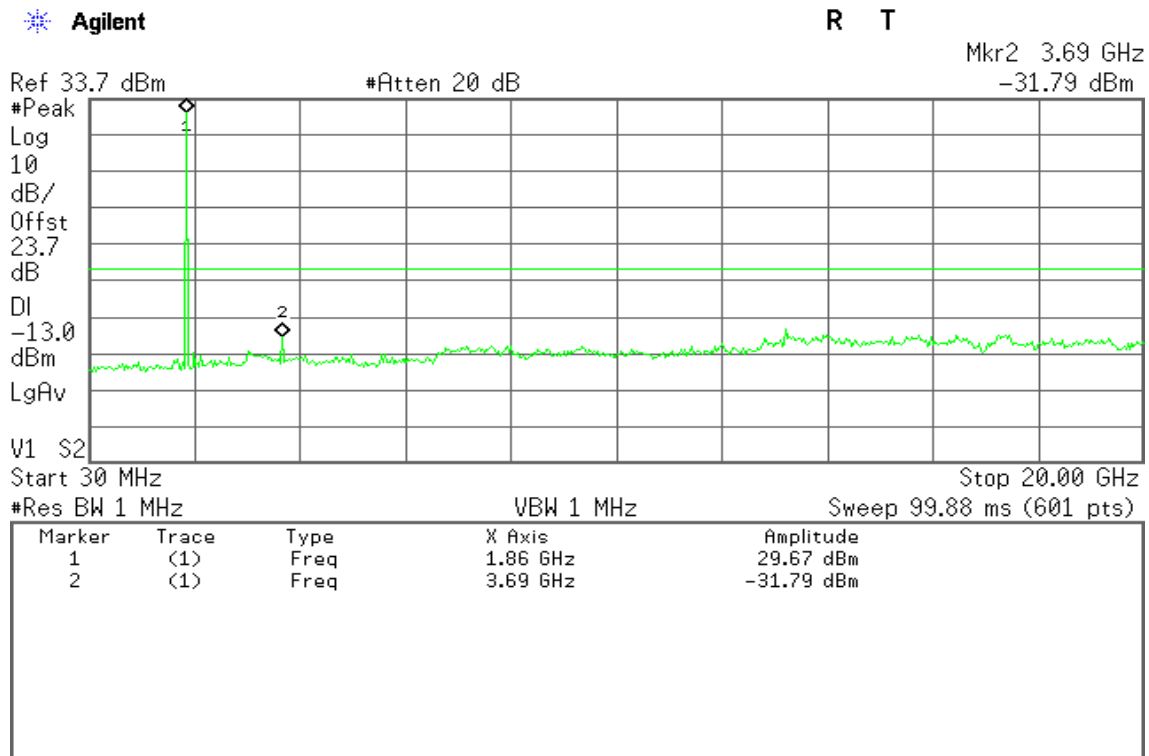


Figure 9-2: Out of Band emission at antenna terminals – GSM CH Mid

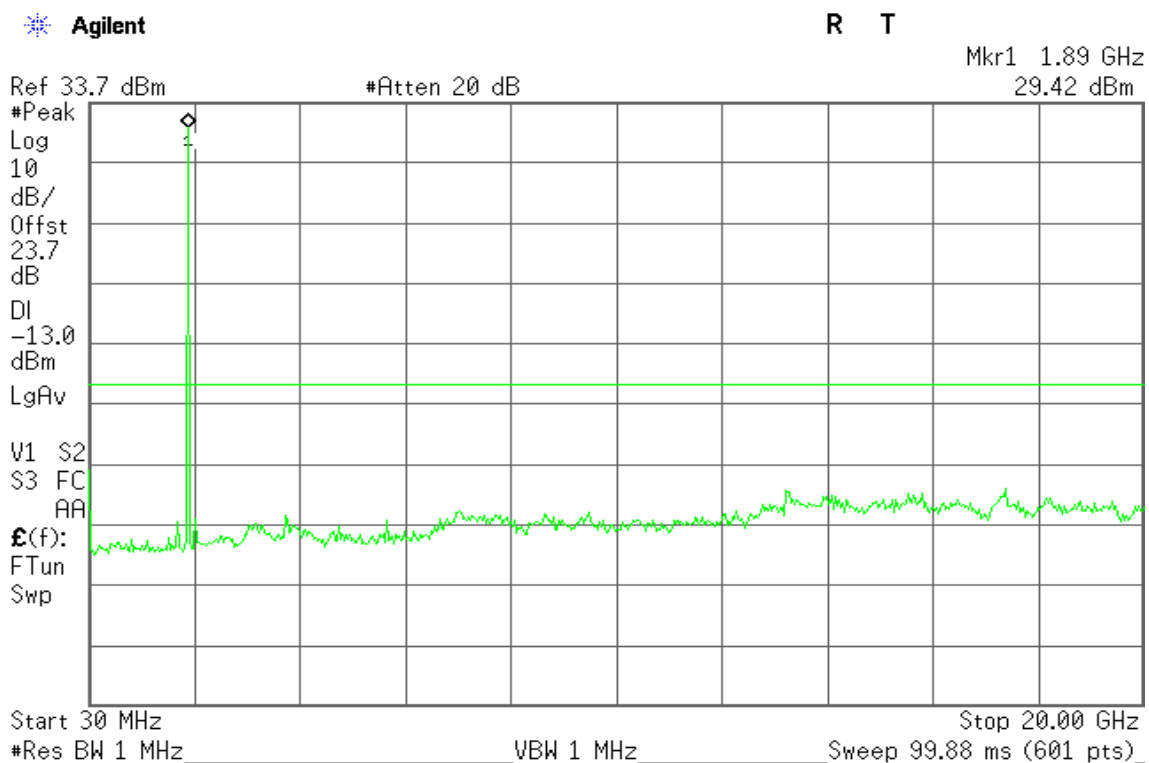
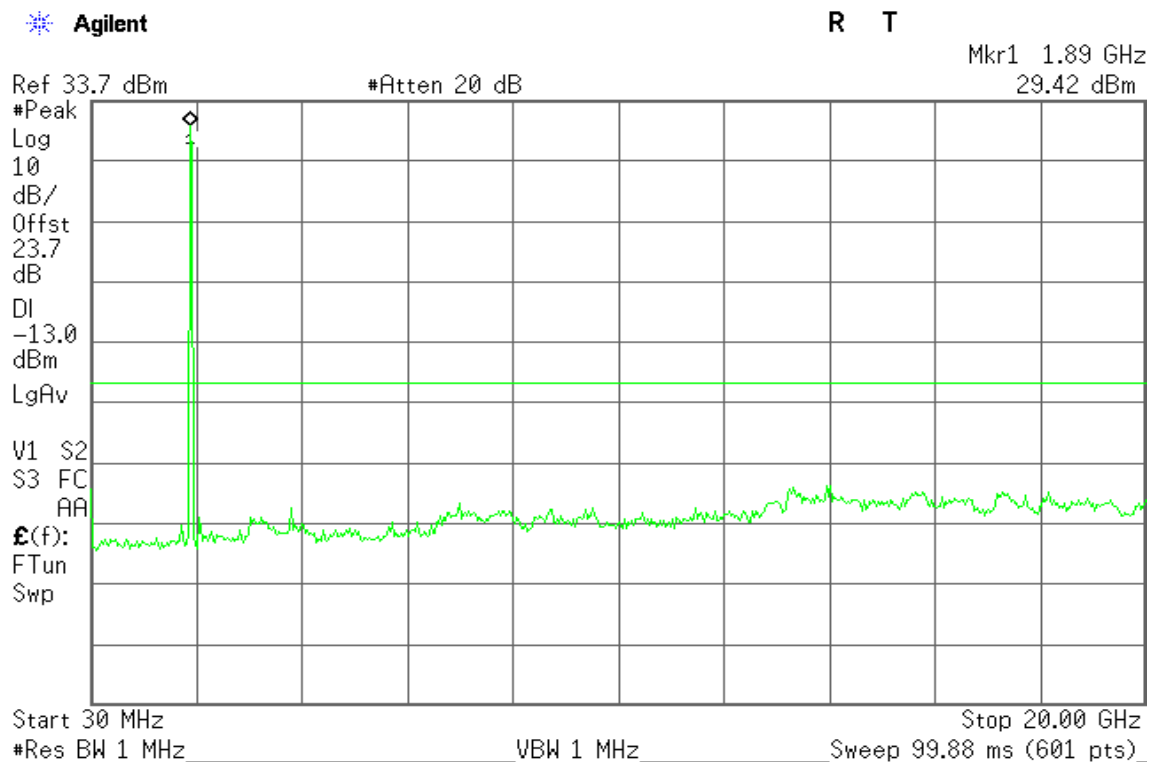




Figure 9-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

Figure 10-1: Out of Band emission at antenna terminals – GSM CH Low

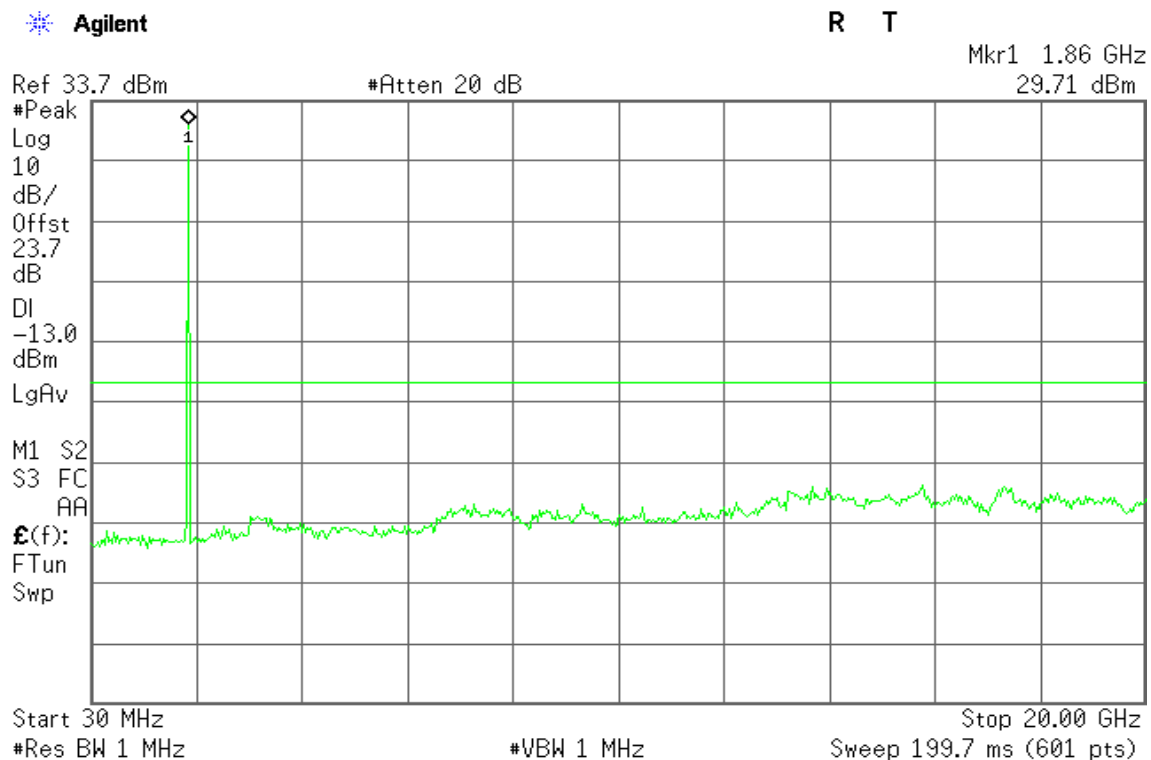




Figure 10-2: Out of Band emission at antenna terminals – GSM CH Mid

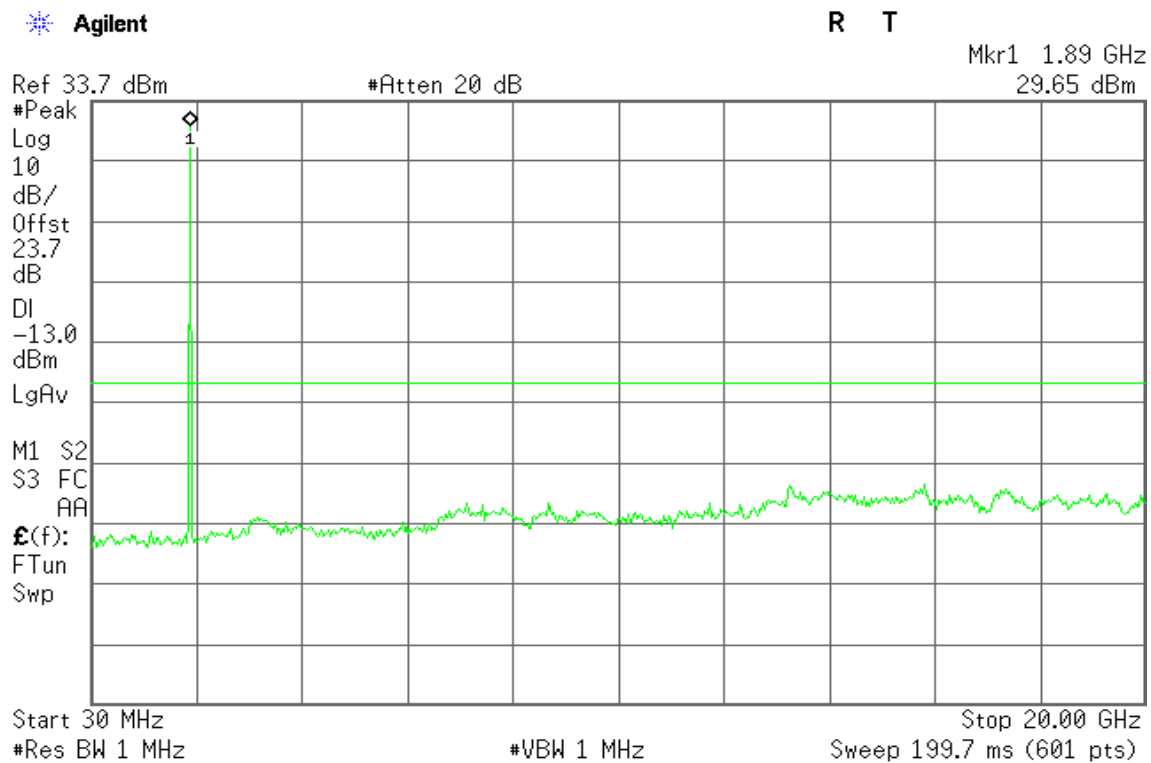
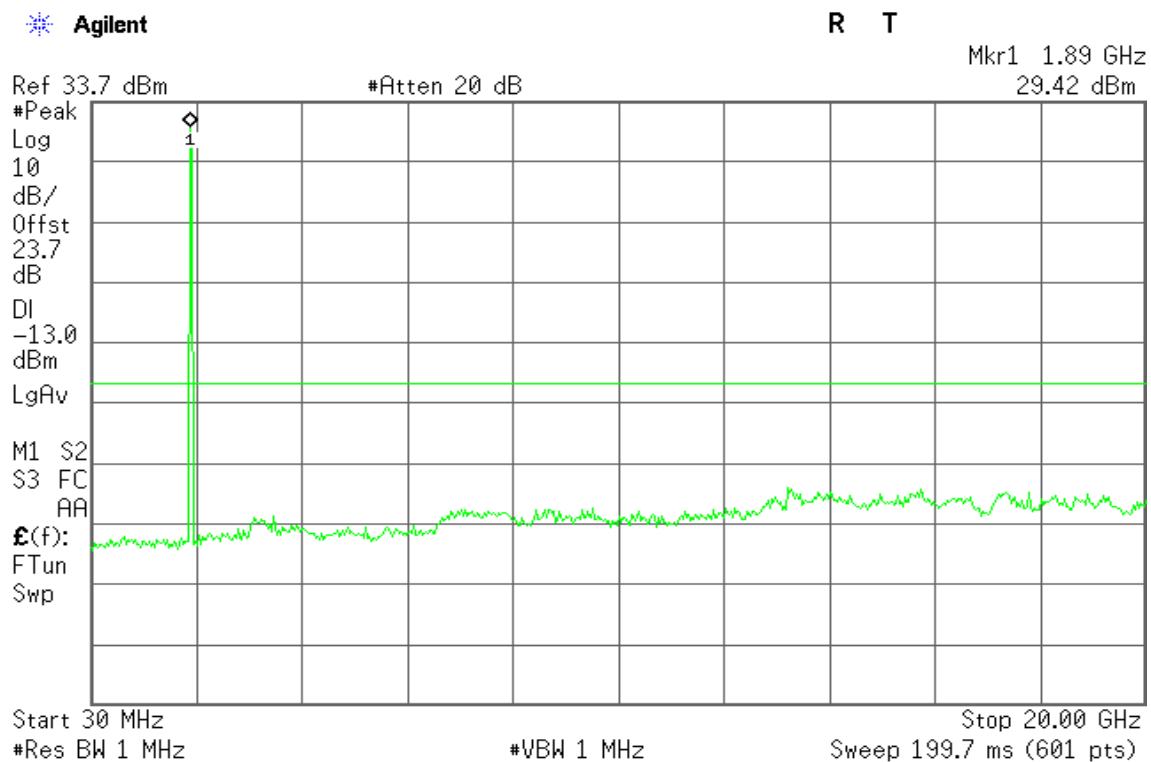


Figure 10-3: Out of Band emission at antenna terminals – GSM CH High





GSM 850

Figure 11-1: Band Edge emissions – GSM CH Low

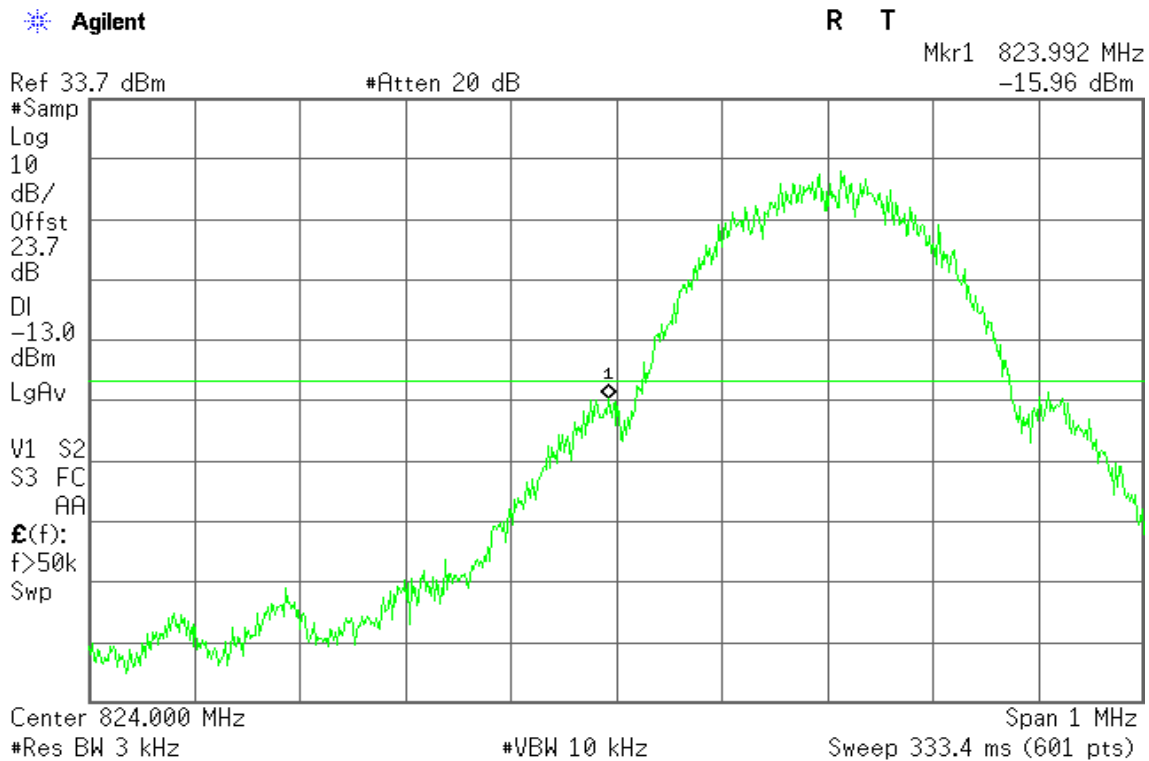
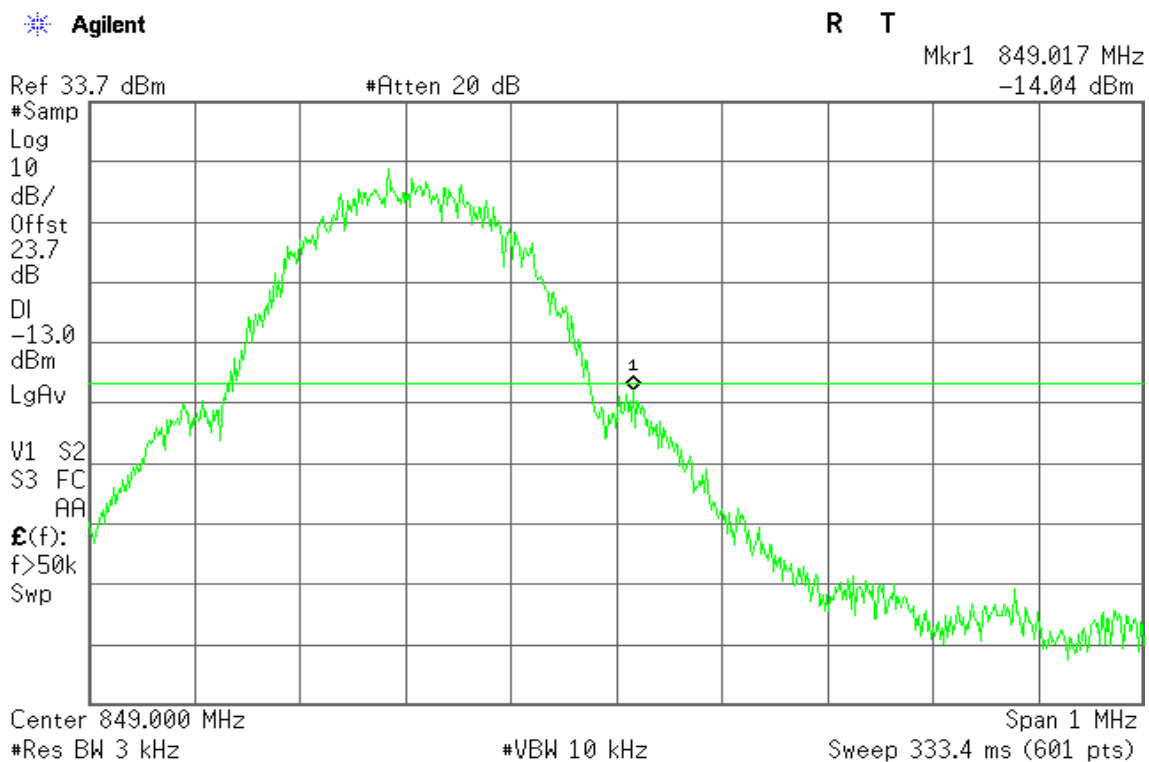


Figure 11-2: Band Edge emissions – GSM CH High





GPRS 850

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

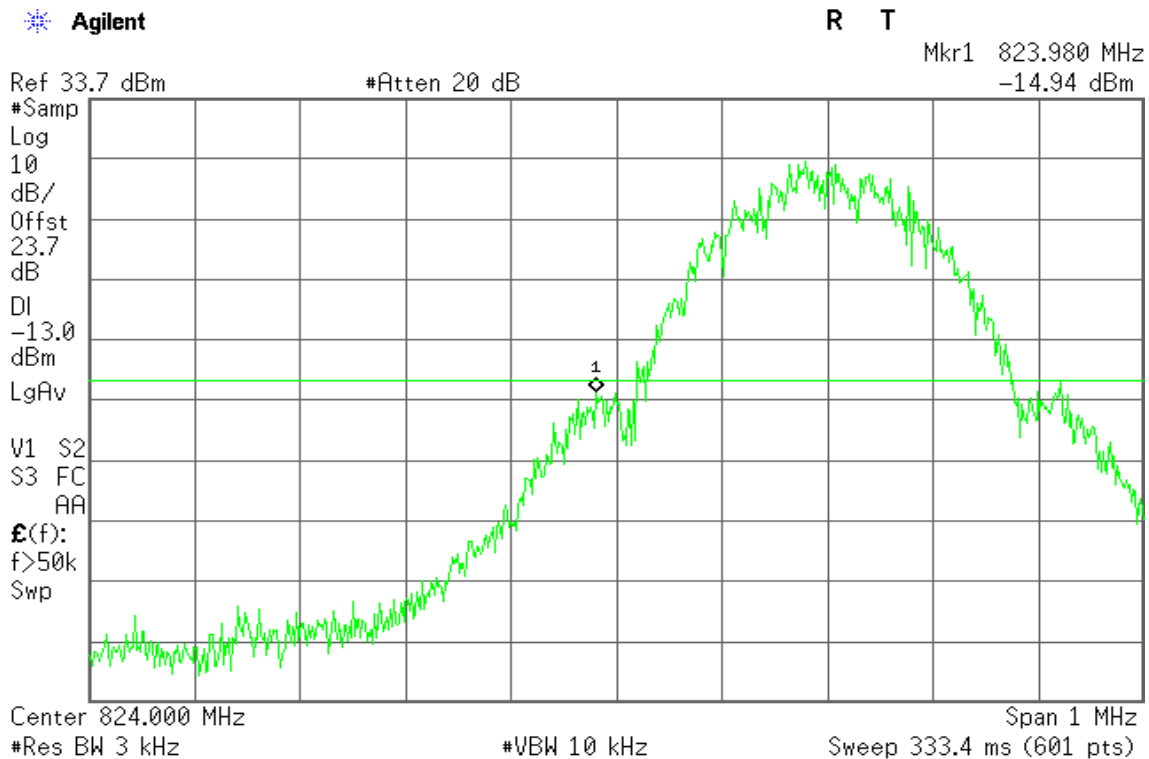
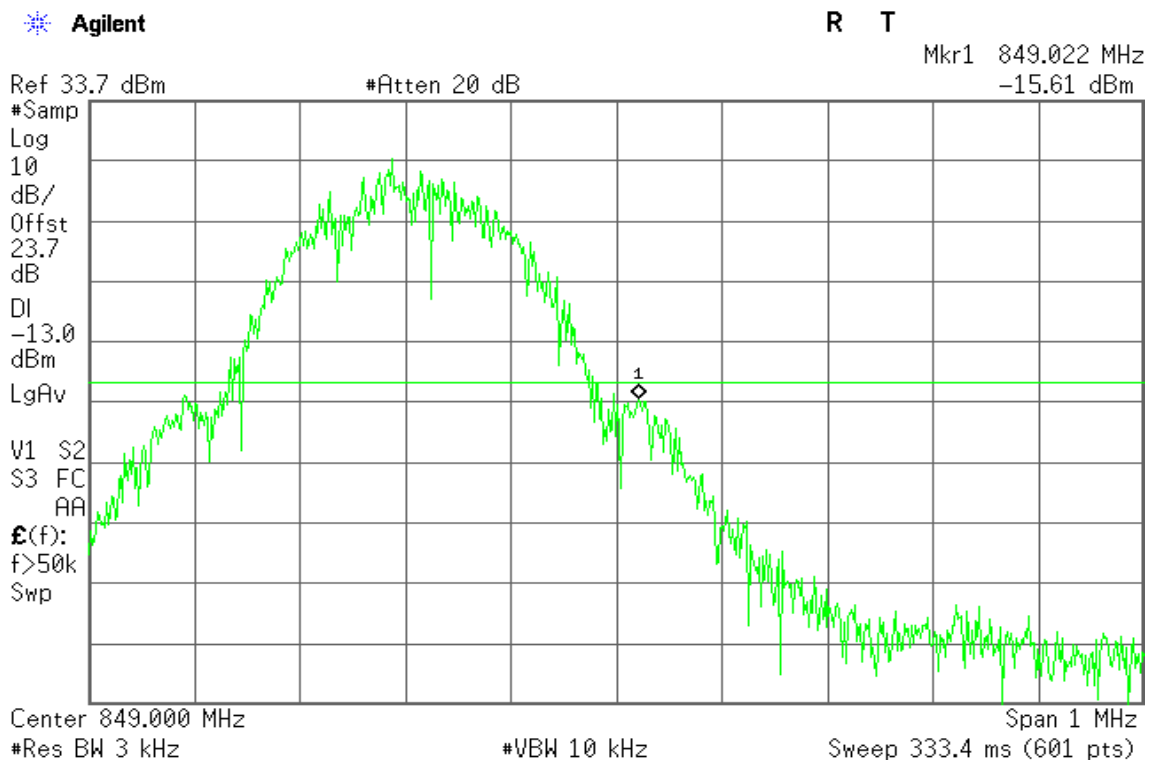


Figure 12-2: Band Edge emissions –GPRS CH High





GSM 1900

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

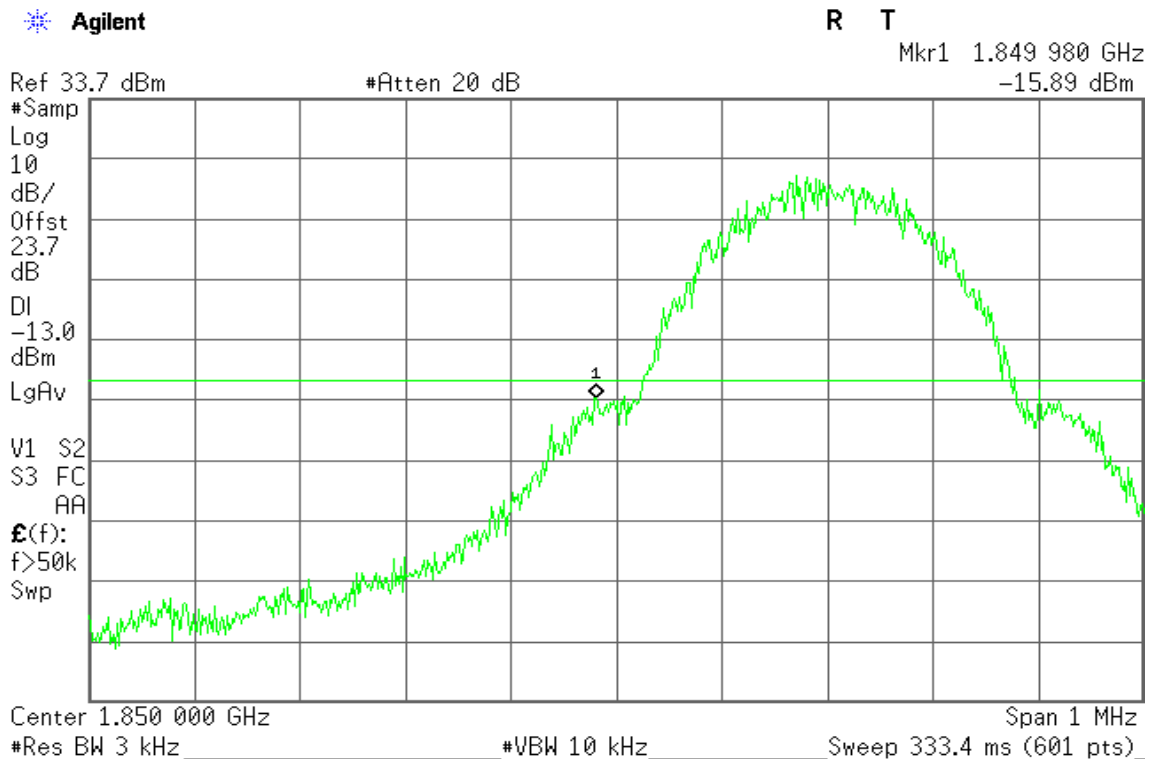
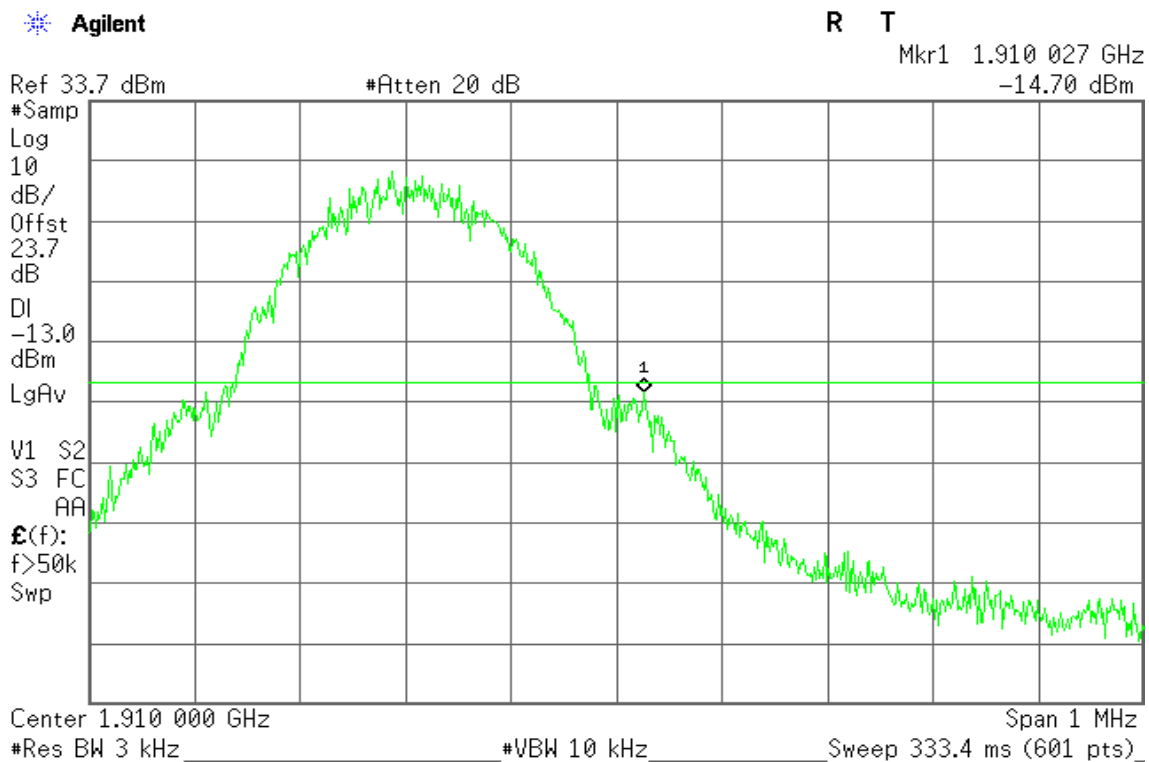


Figure 13-2: Band Edge emissions – GSM CH High





GPRS 1900

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

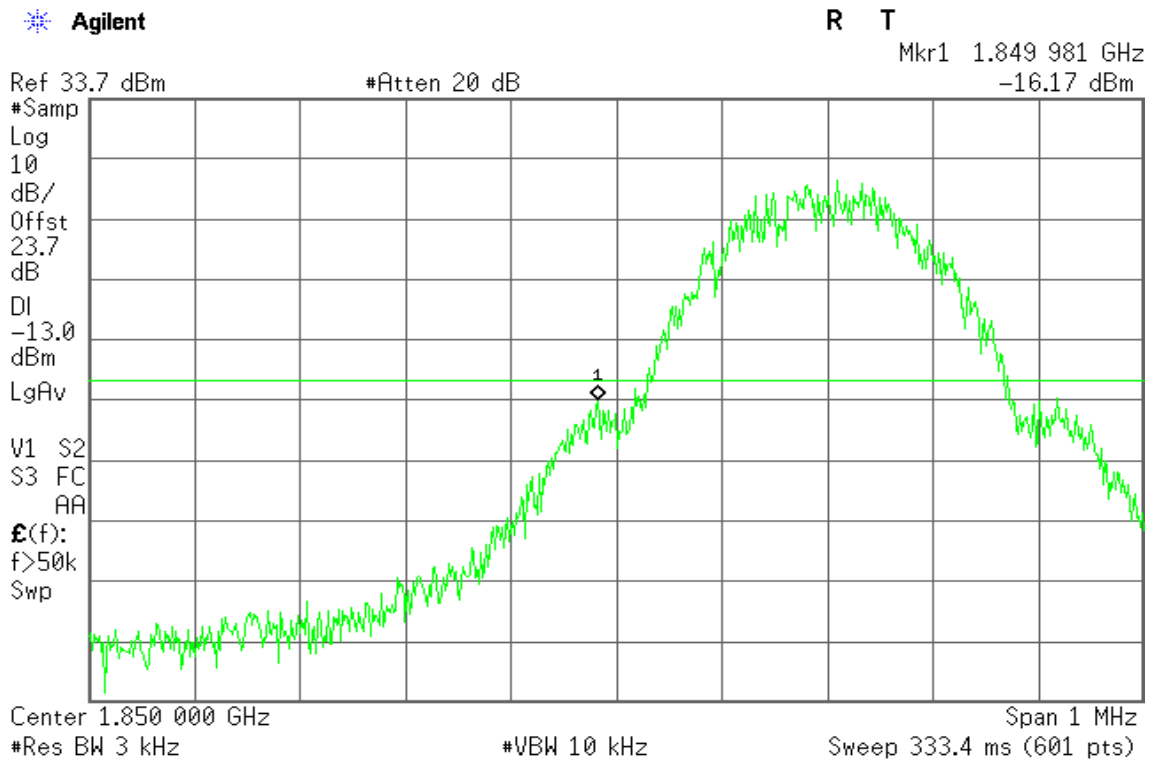
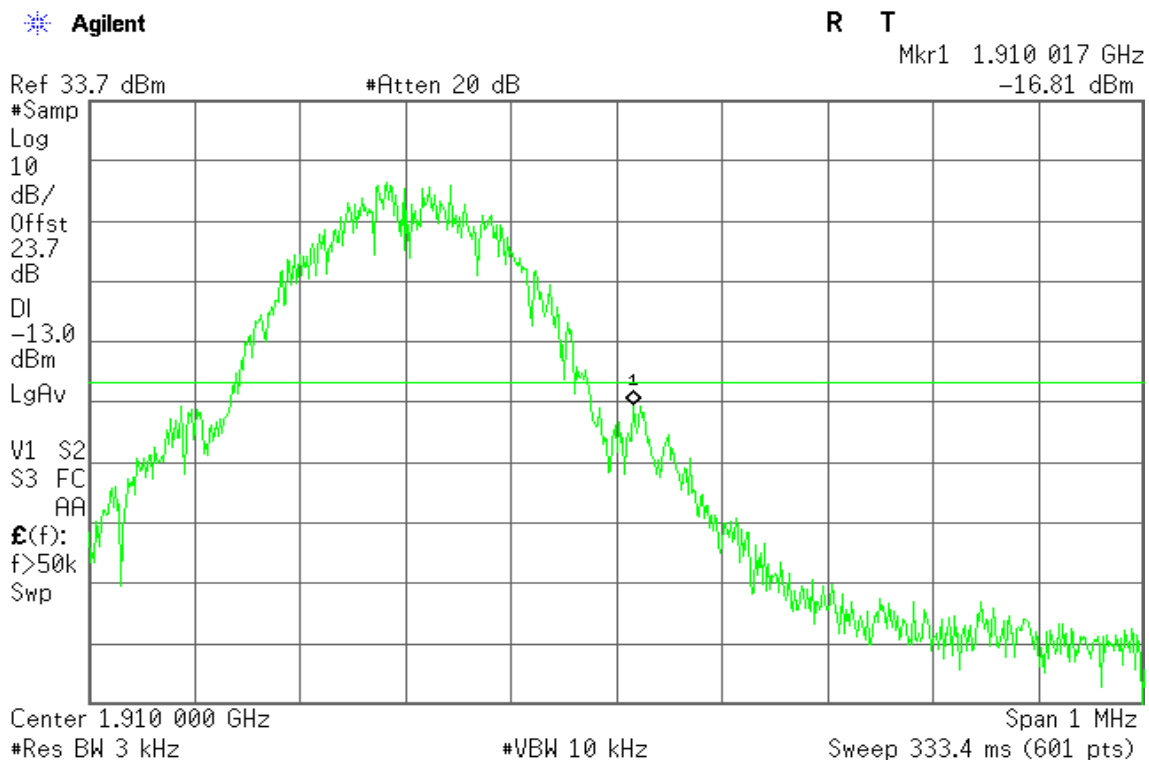


Figure 14-2: Band Edge emissions – GPRS CH High





EDGE 850

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

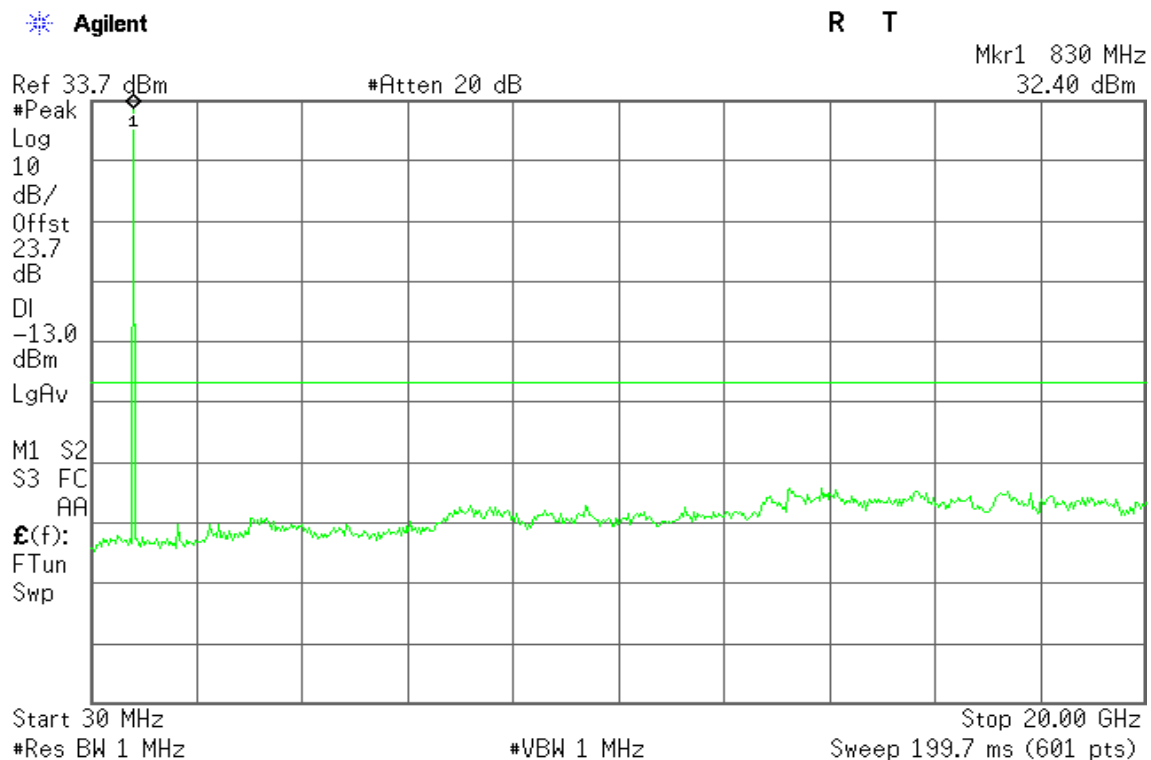


Figure 15-2: Out of Band emission at antenna terminals –EDGE CH Mid

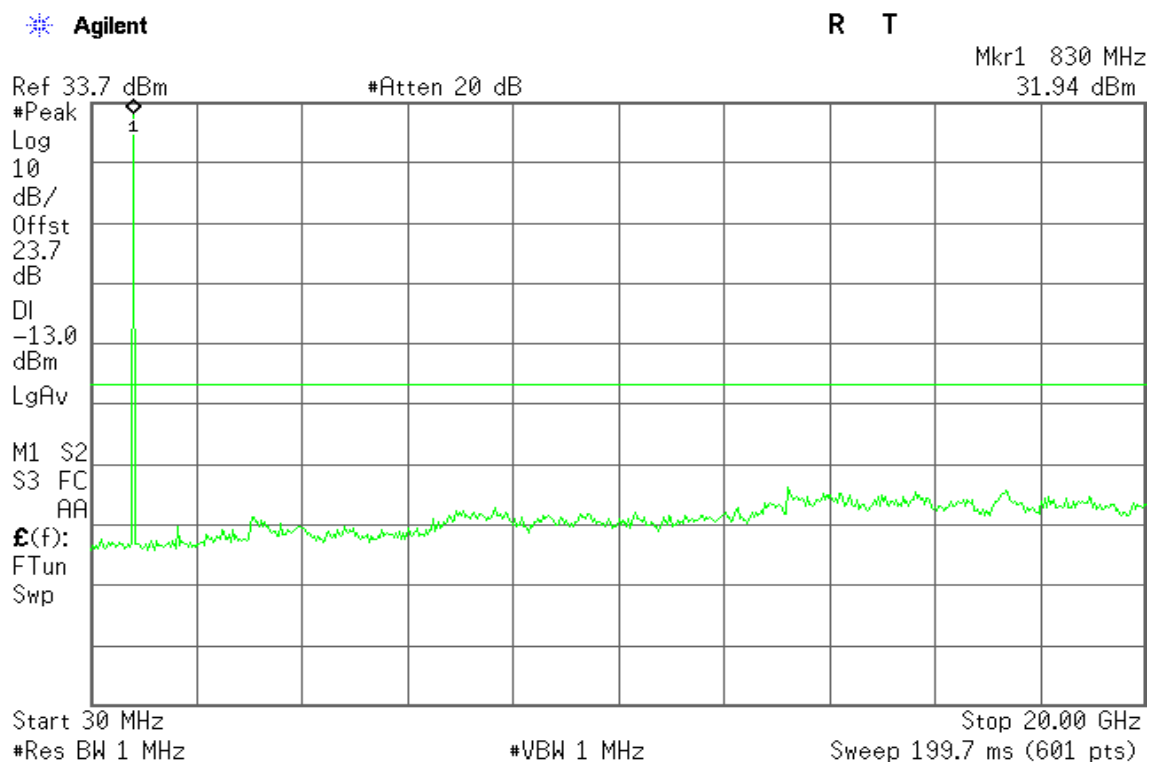
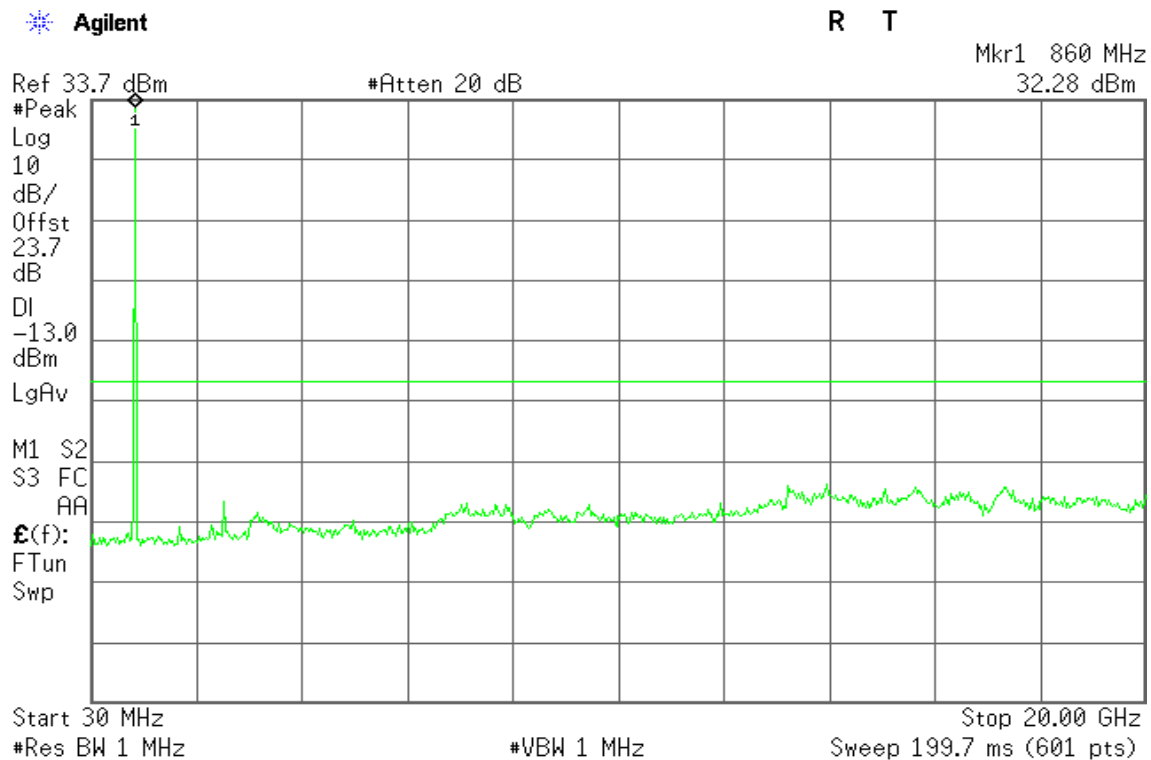




Figure 15-3: Out of Band emission at antenna terminals –EDGE CH High



EDGE 1900

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

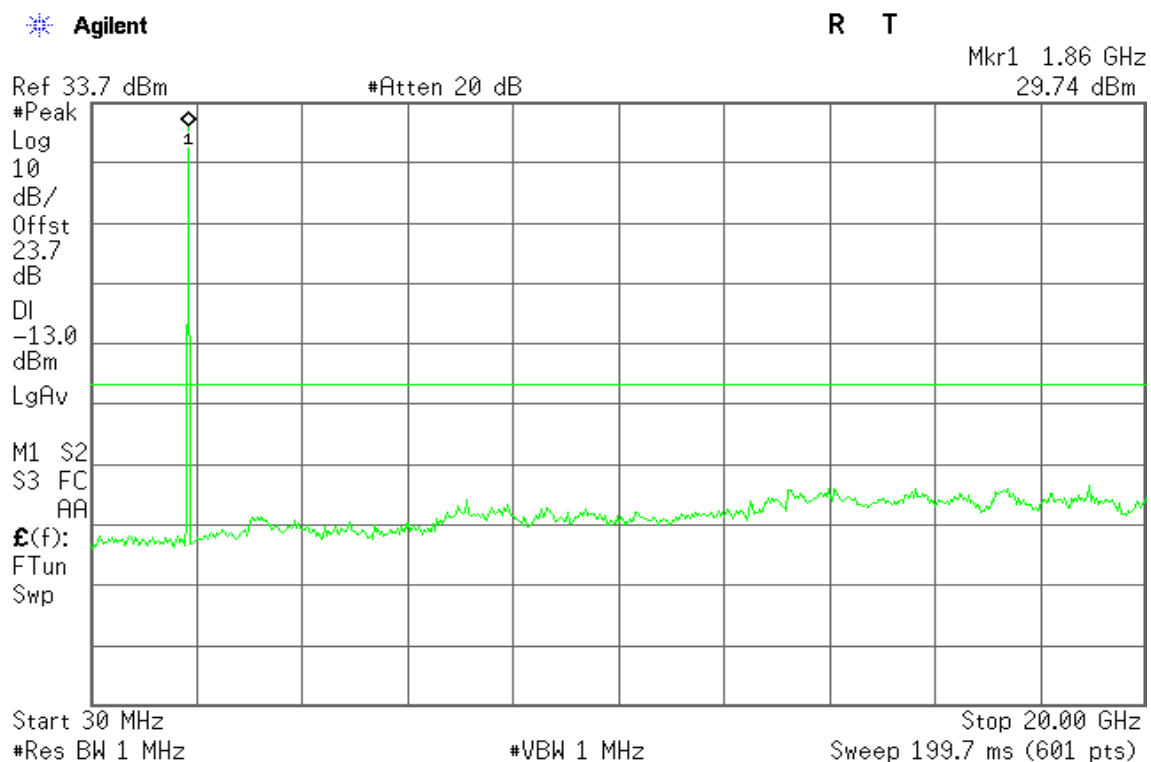




Figure 16-2: Out of Band emission at antenna terminals –EDGE CH Mid

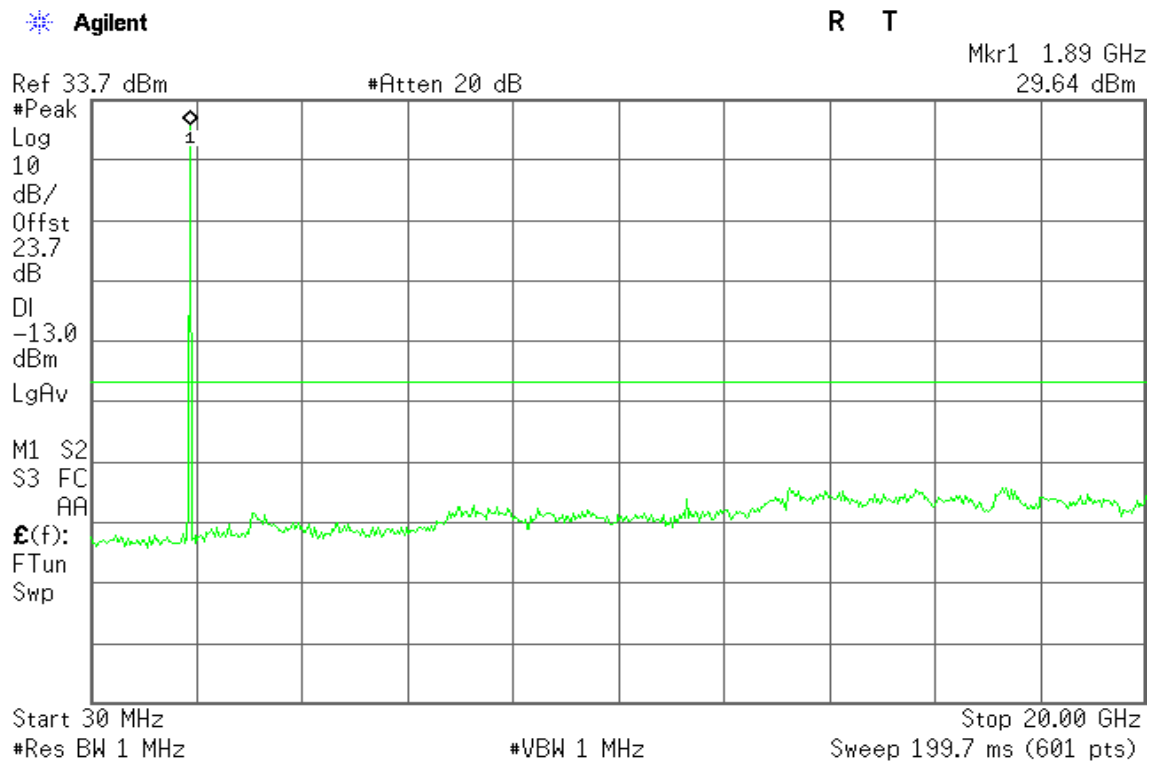
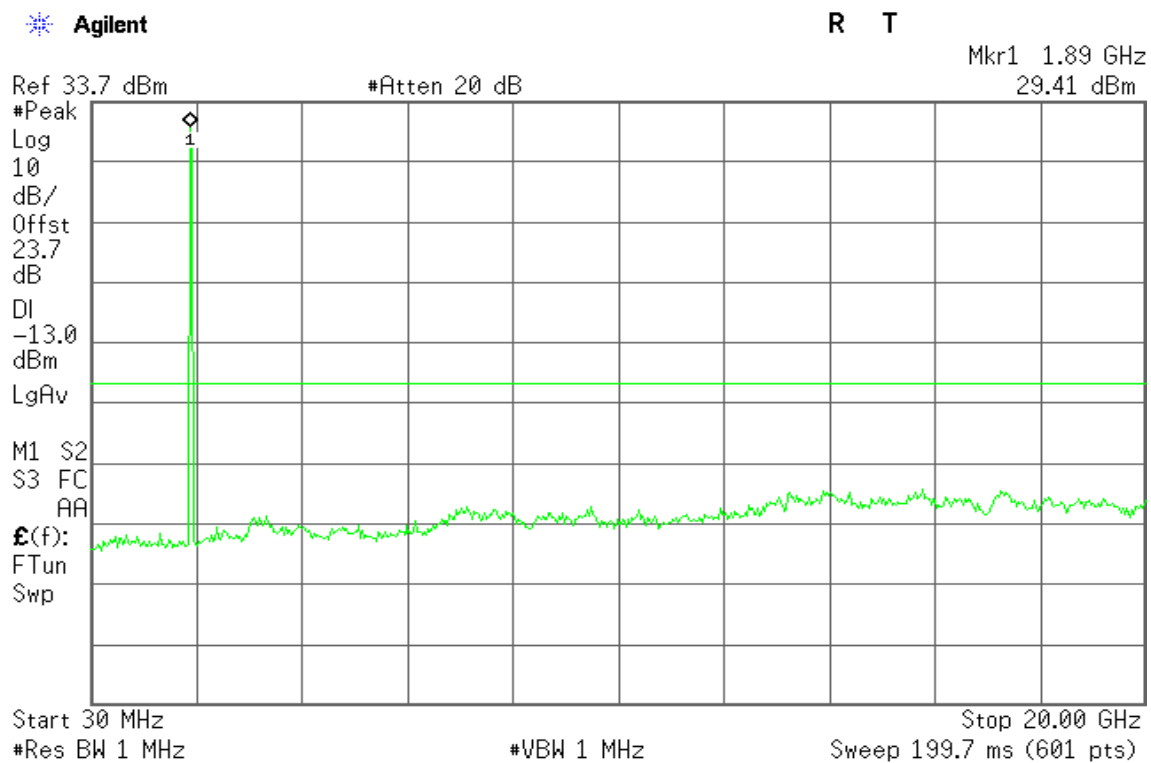


Figure 16-3: Out of Band emission at antenna terminals –EDGE CH High





EDGE 850

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

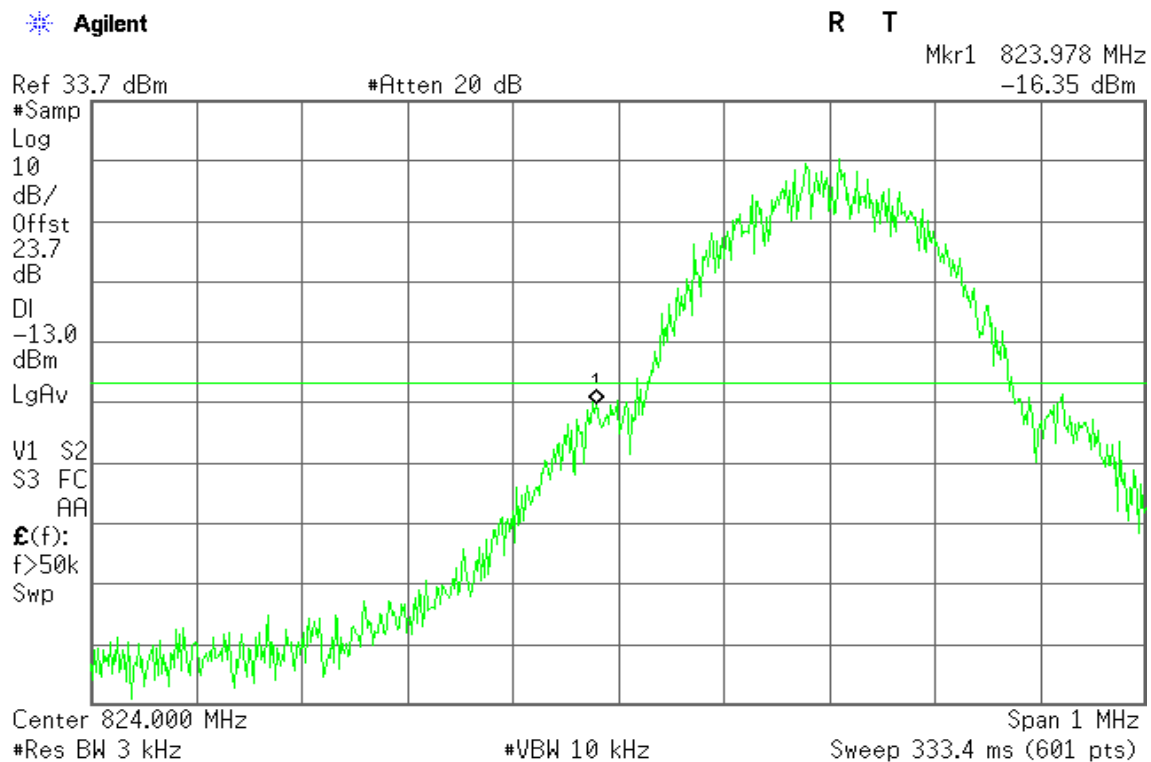
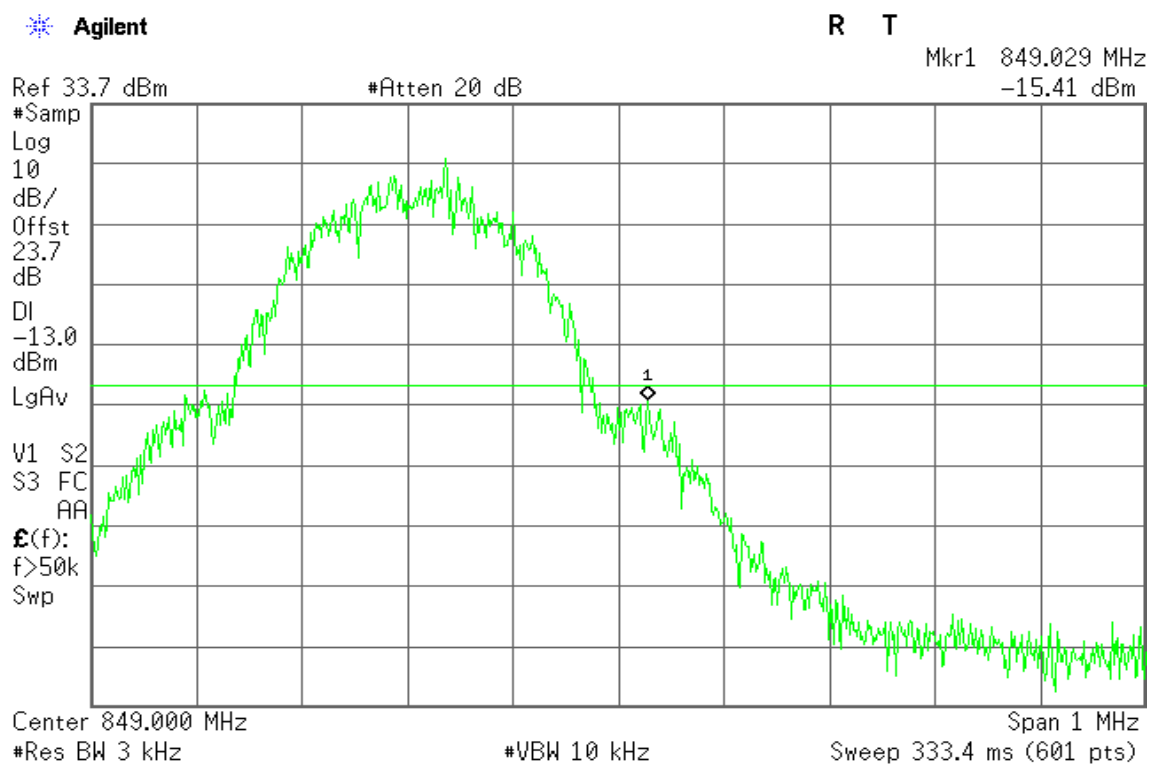


Figure 17-2: Band Edge emissions – EDGE CH High





EDGE 1900

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

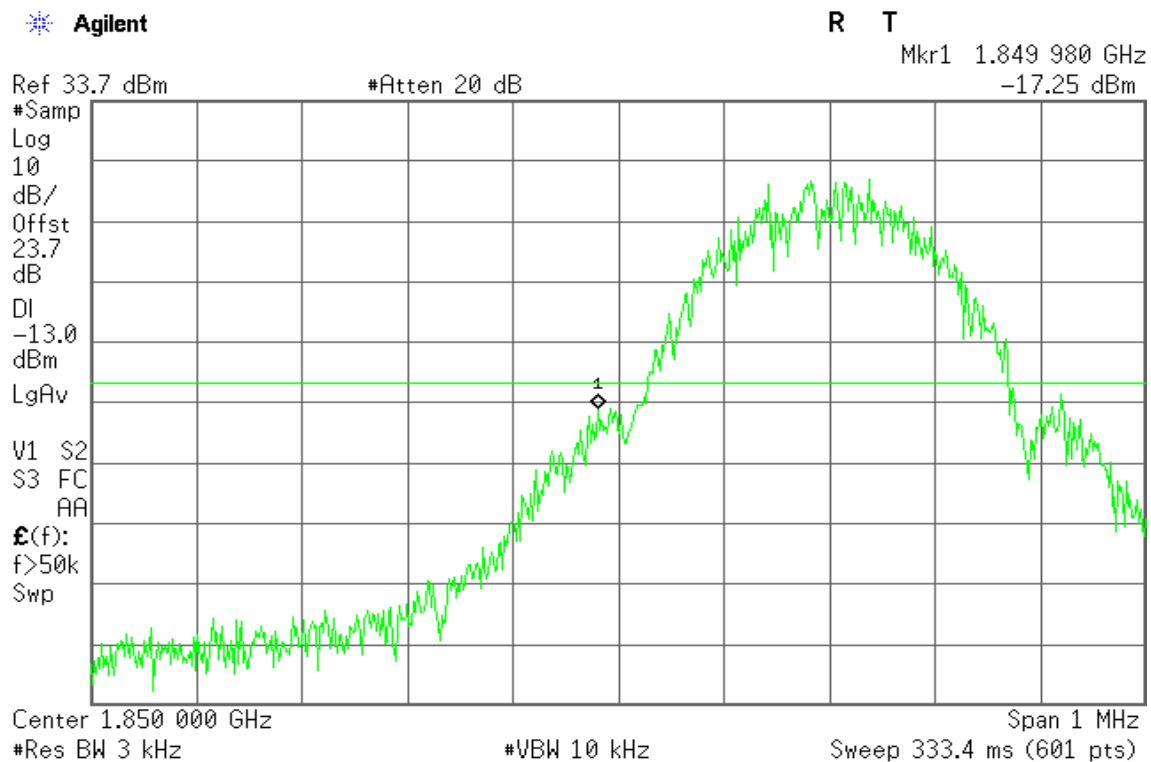
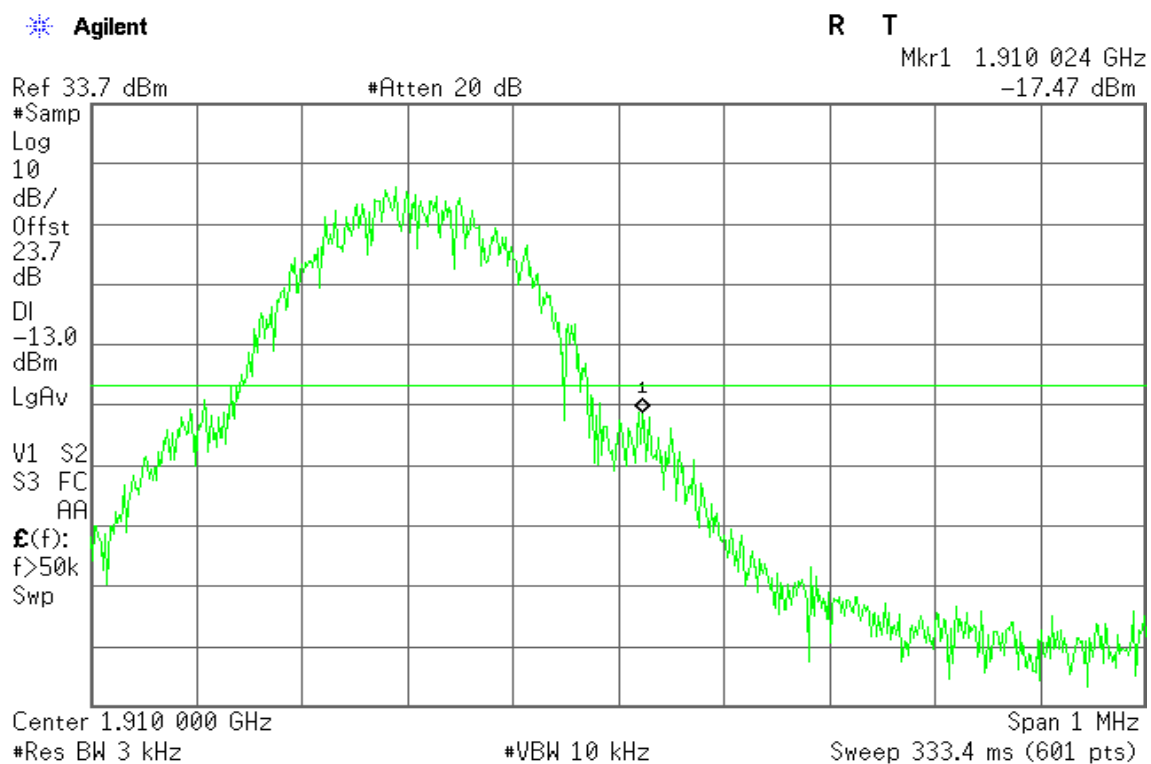


Figure 18-2: Band Edge emissions – EDGE CH High





WCDMA Band II

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

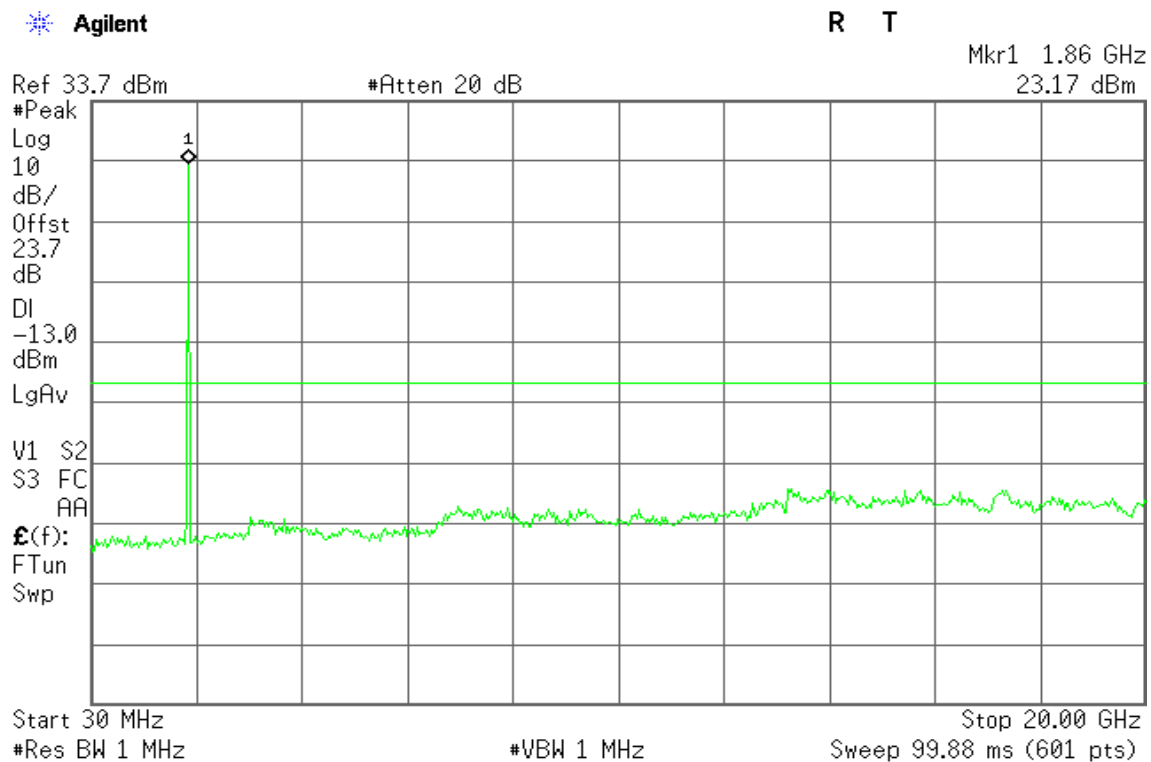


Figure 19-2: Out of Band emission at antenna terminals – WCDMA CH Mid

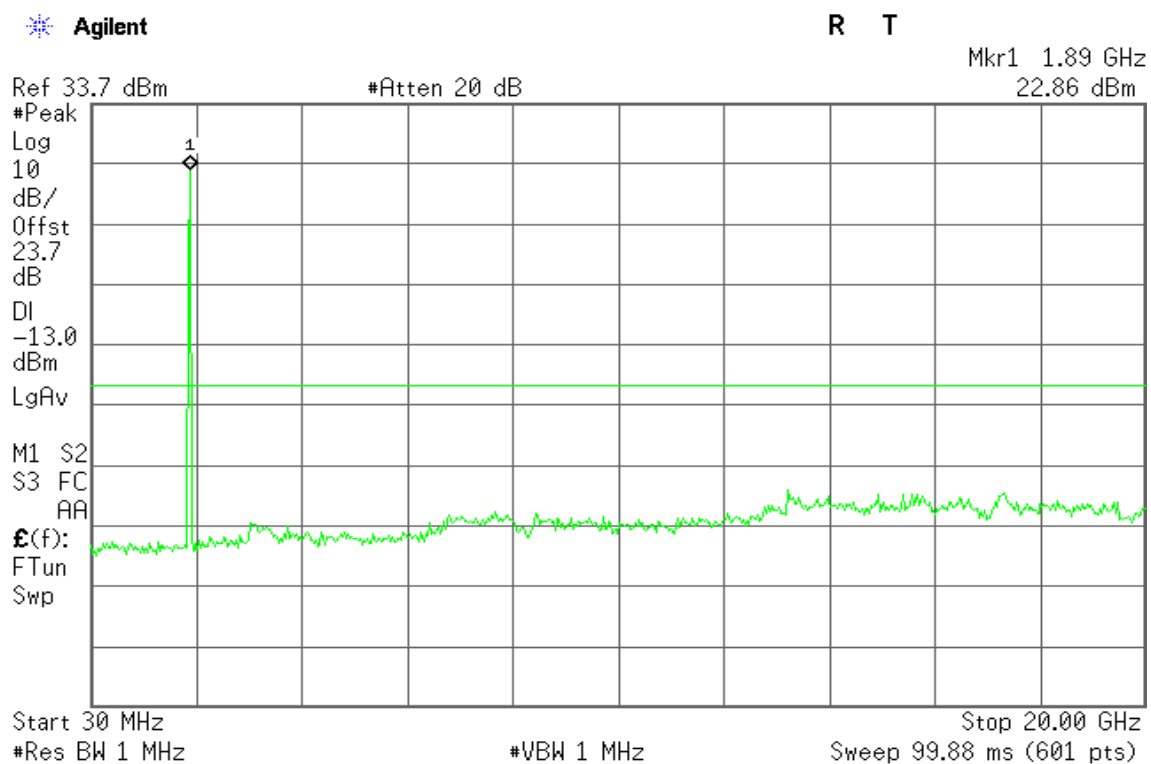
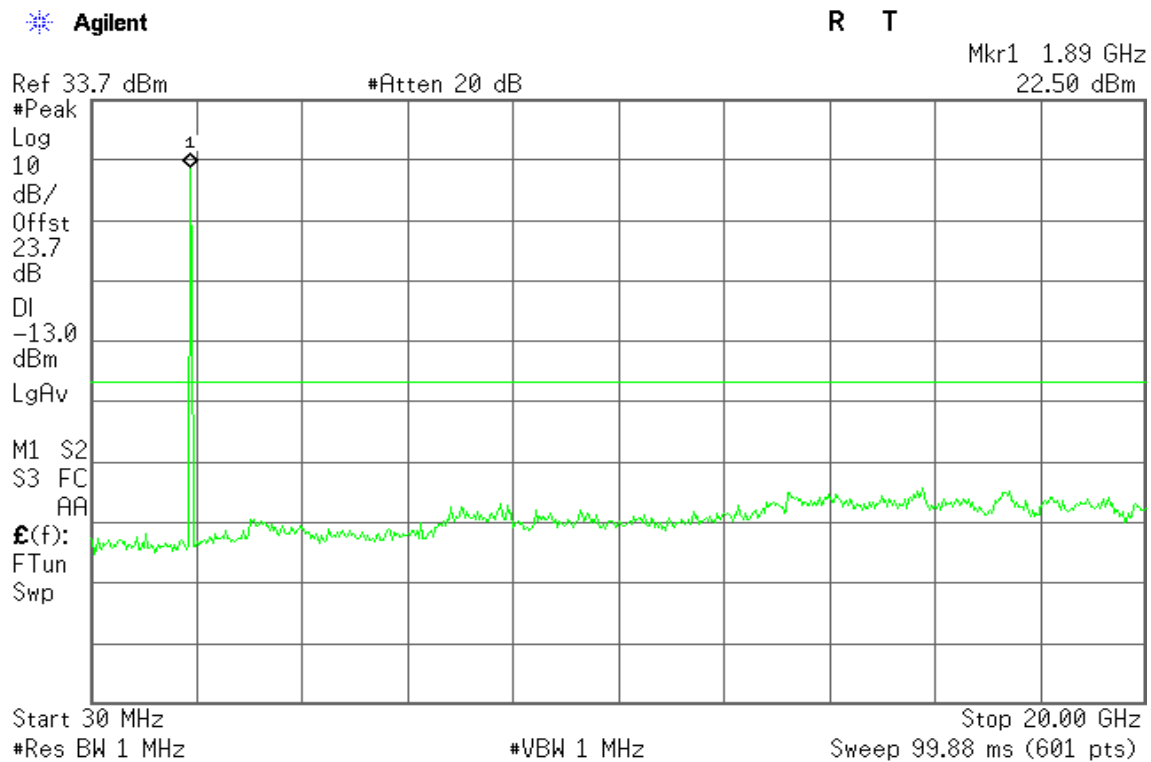




Figure 19-3: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA Band V

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

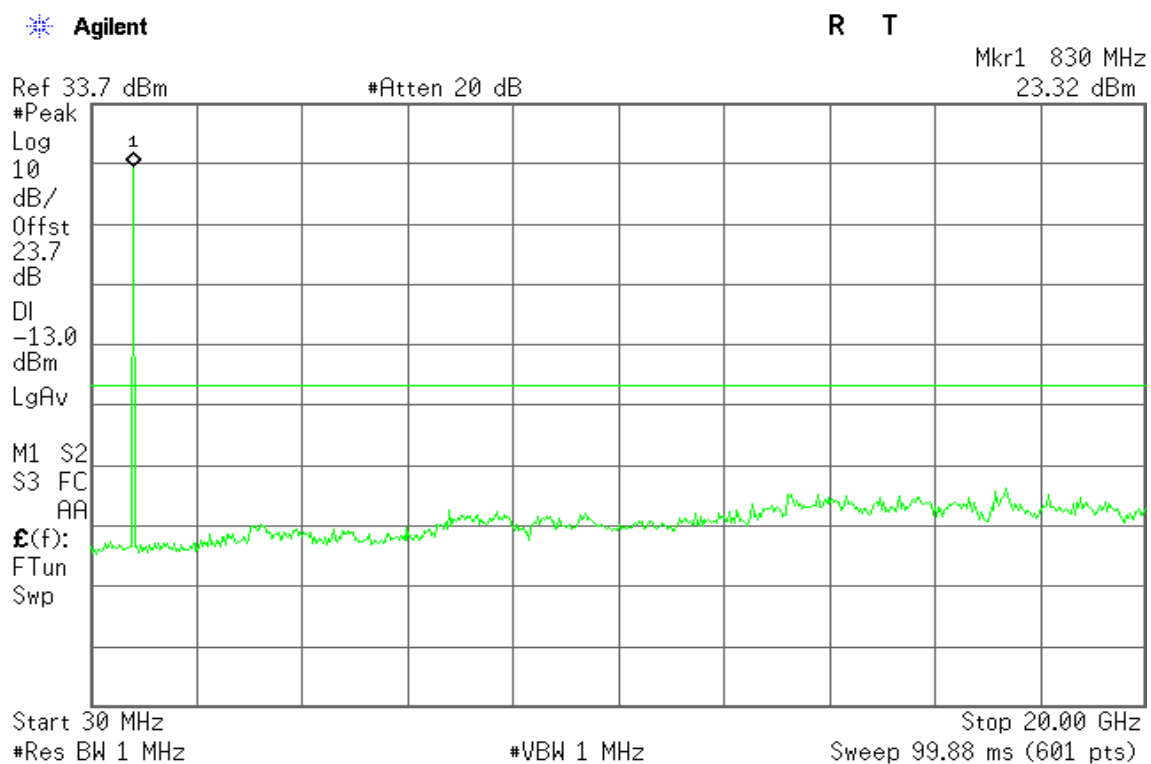




Figure 20-2: Out of Band emission at antenna terminals – WCDMA CH Mid

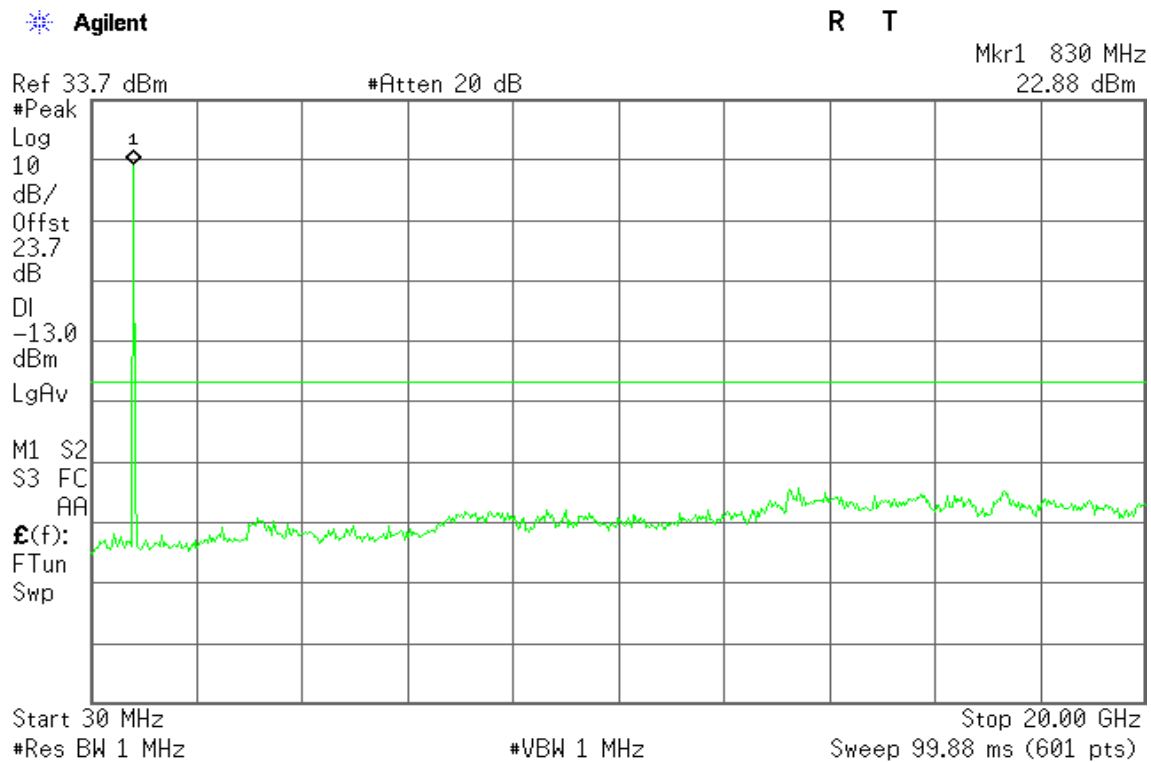
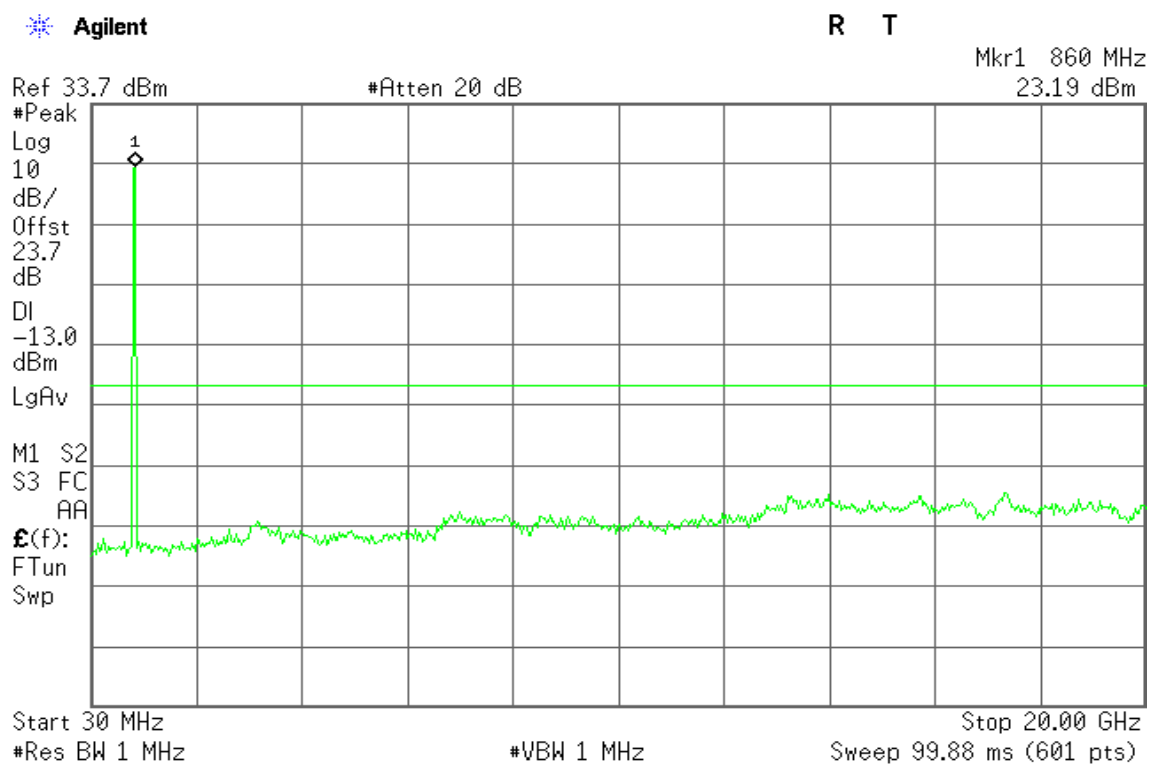


Figure 20-3: Out of Band emission at antenna terminals – WCDMA CH High





WCDMA Band II

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

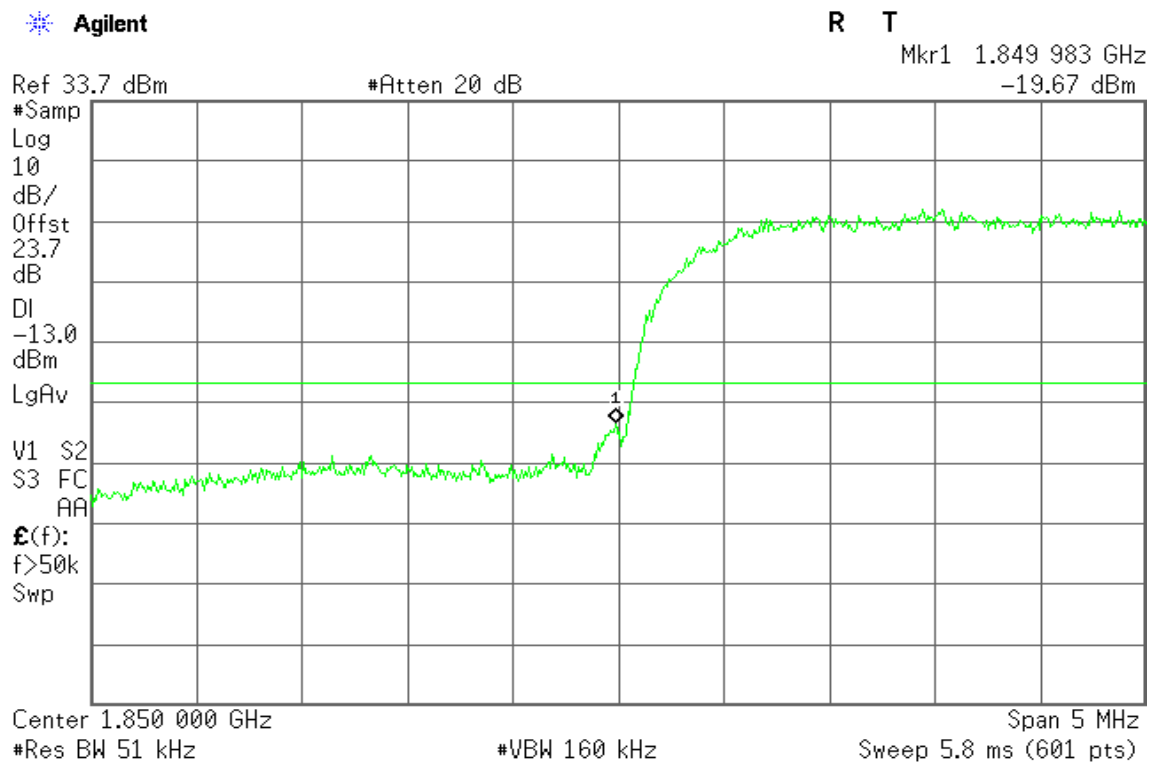
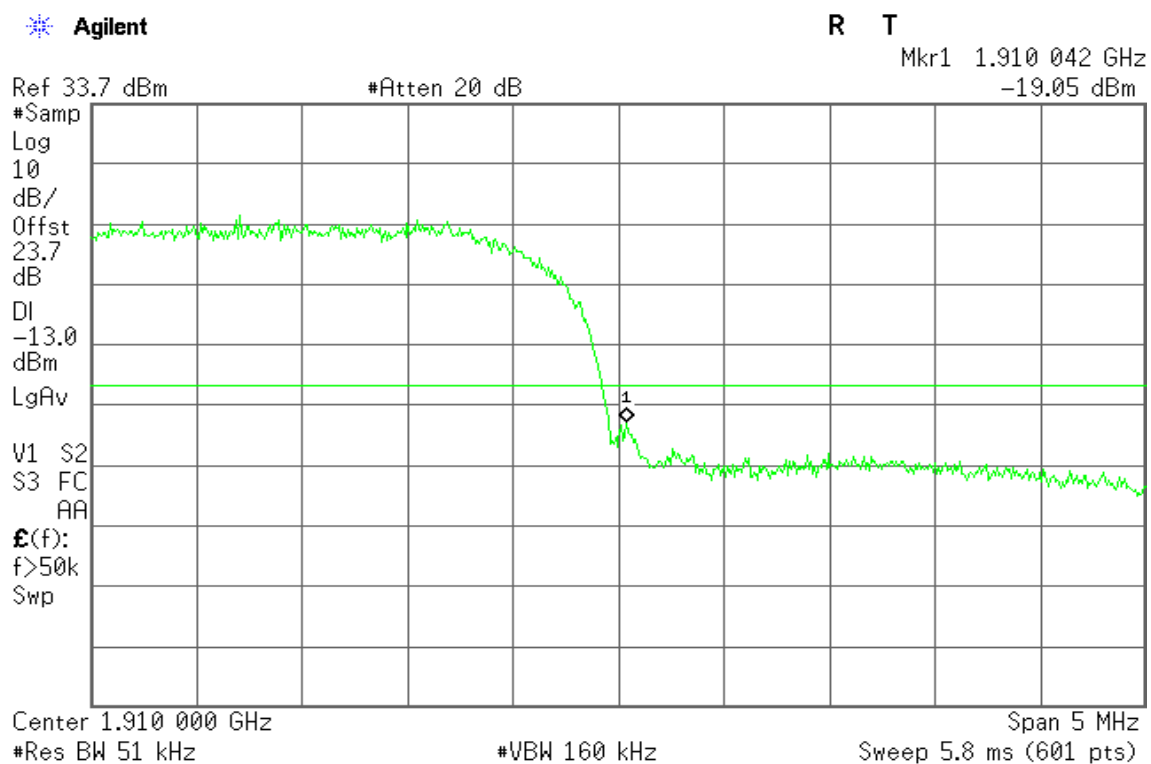


Figure 21-2: Band Edge emissions –WCDMA CH High





WCDMA Band V

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

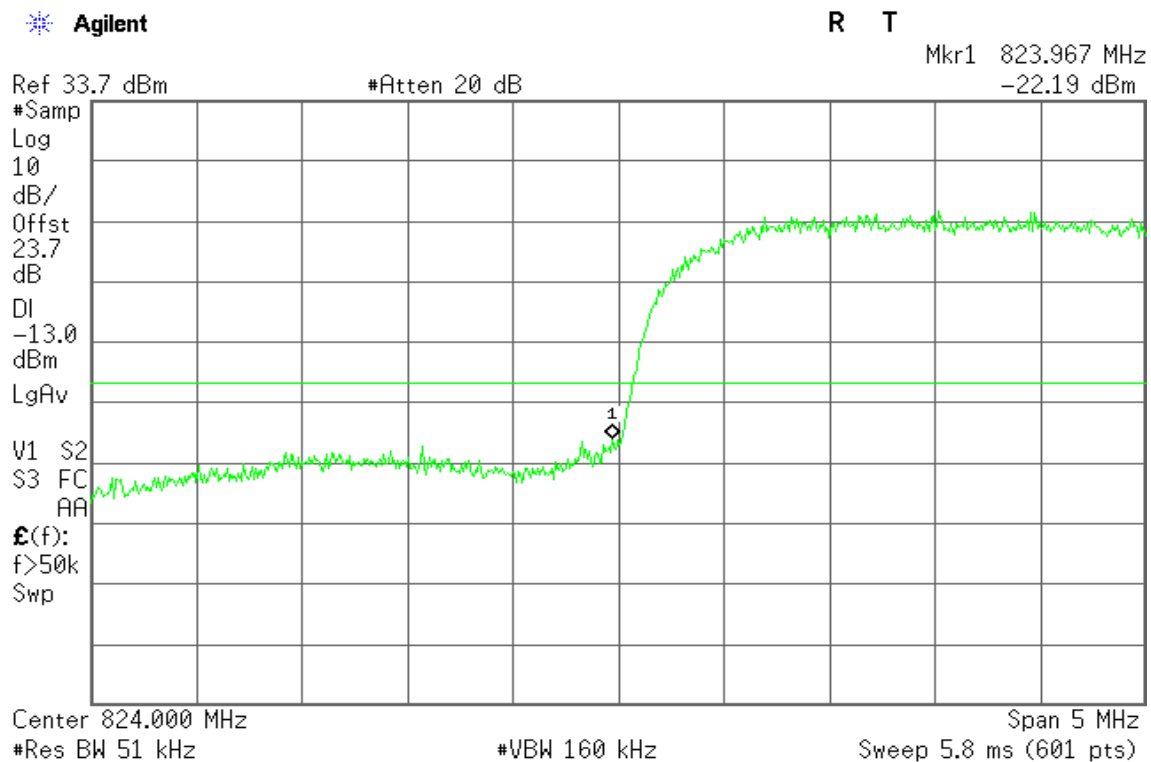
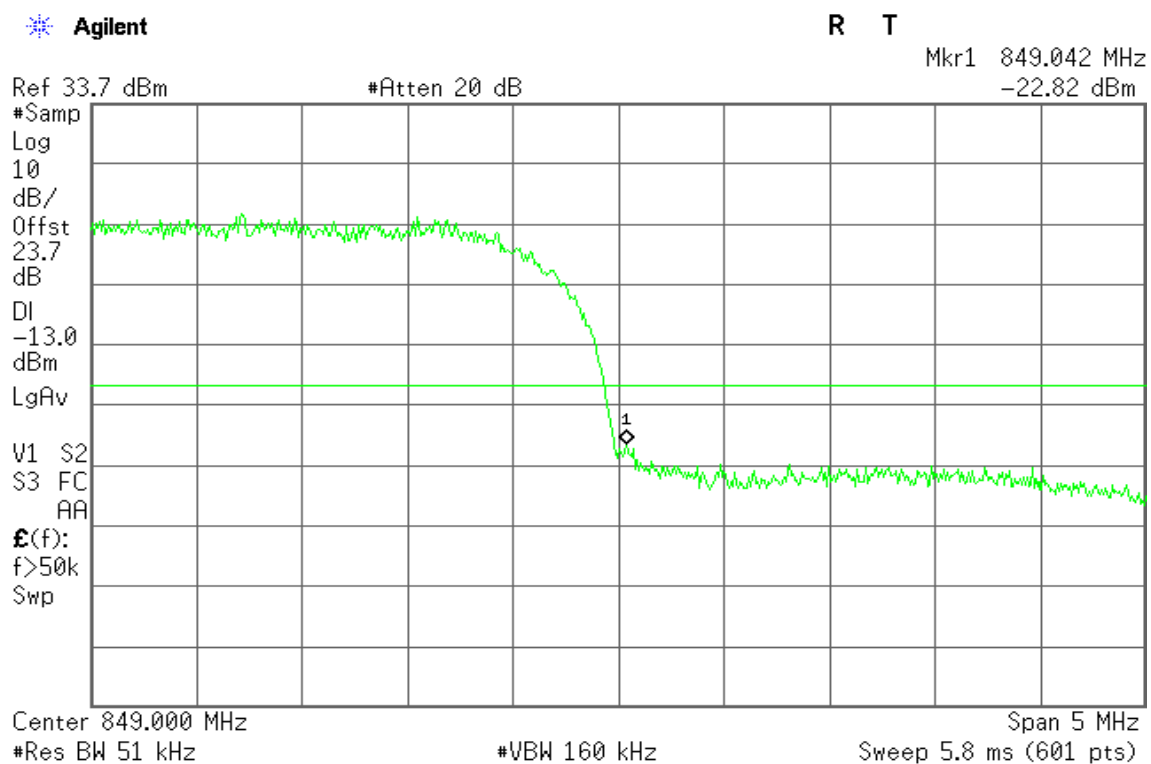


Figure 22-2: Band Edge emissions –WCDMA CH High





WCDMA / HSDPA Band II

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

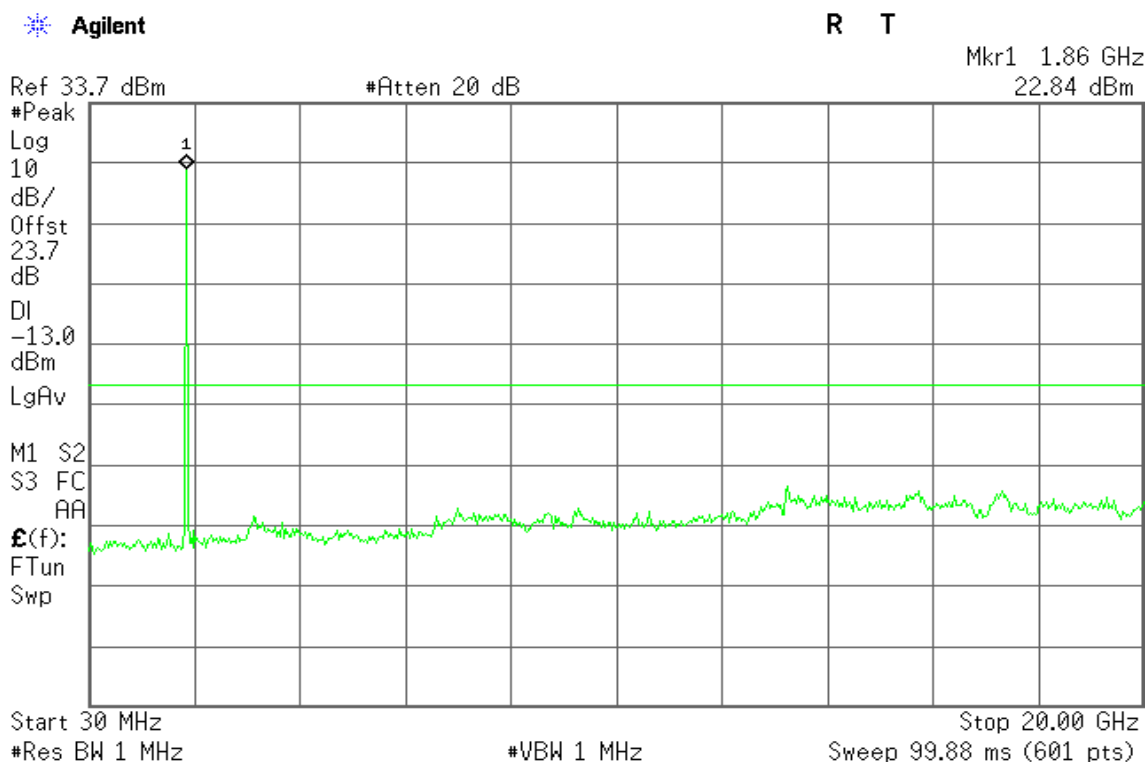


Figure 23-2: Out of Band emission at antenna terminals – HSDPA CH Mid

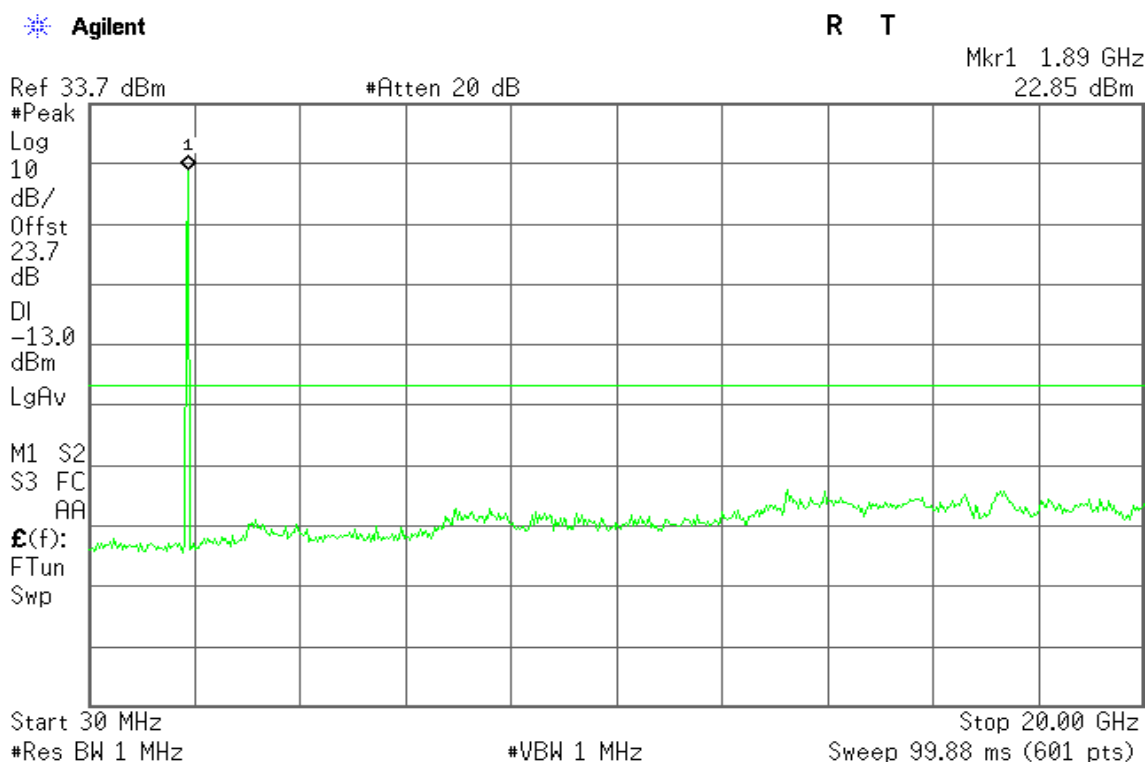
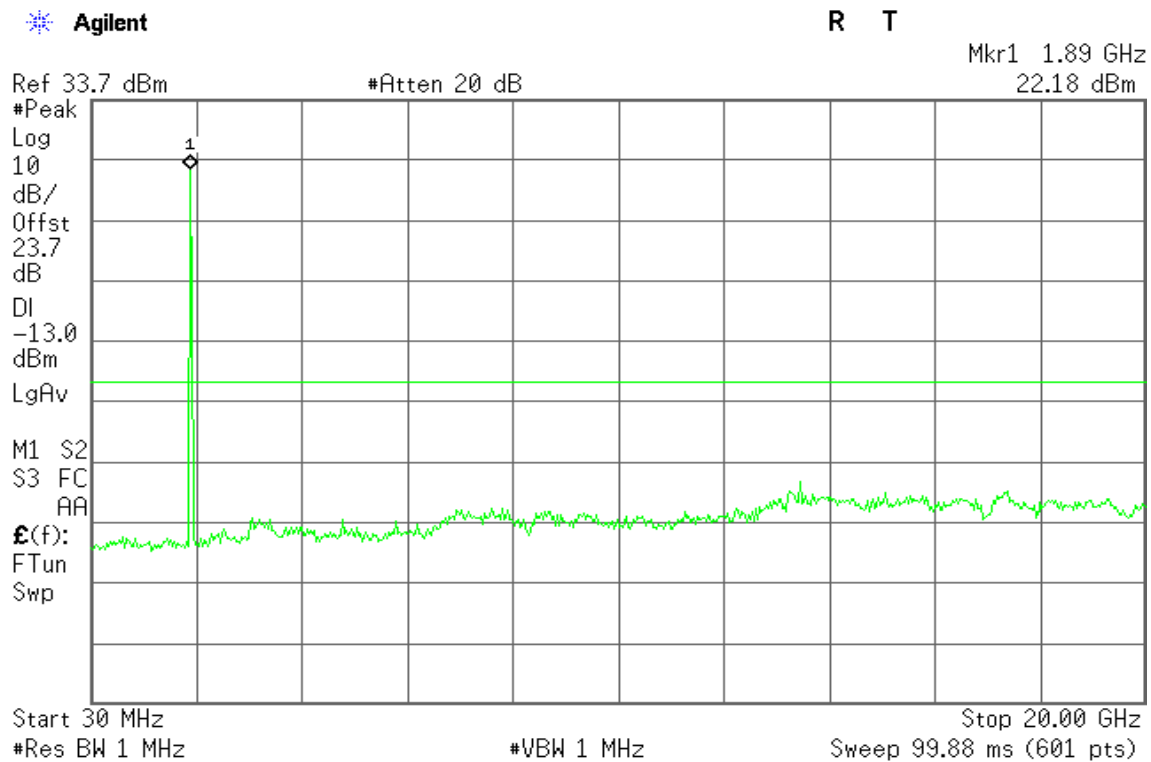




Figure 23-3: Out of Band emission at antenna terminals – HSDPA CH High



WCDMA / HSDPA Band V

Figure 21-1: Out of Band emission at antenna terminals – HSDPA CH Low

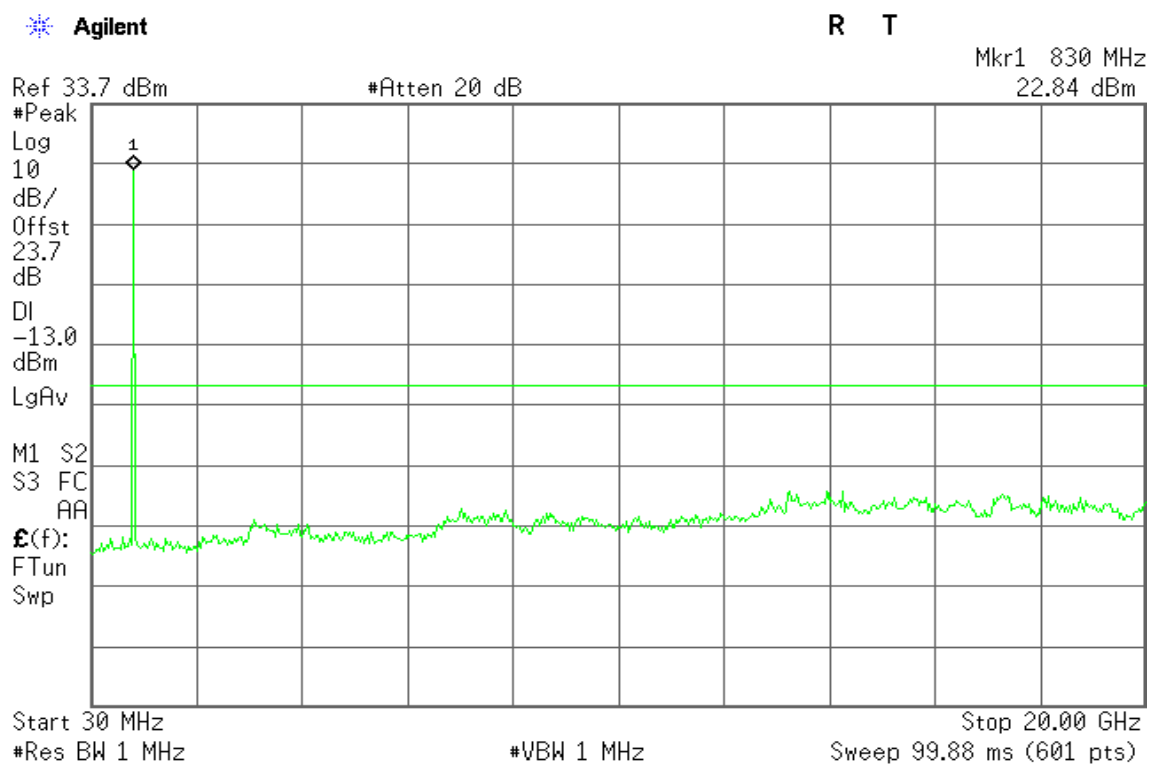




Figure 24-2: Out of Band emission at antenna terminals – HSDPA CH Mid

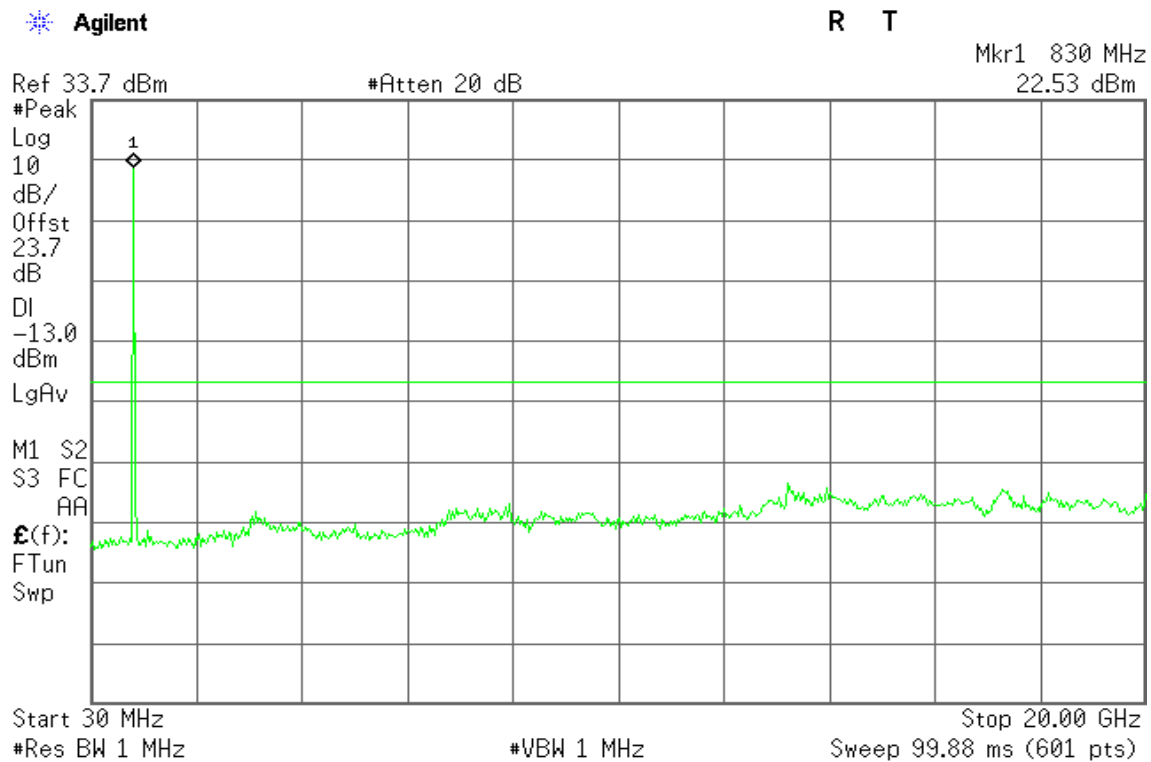
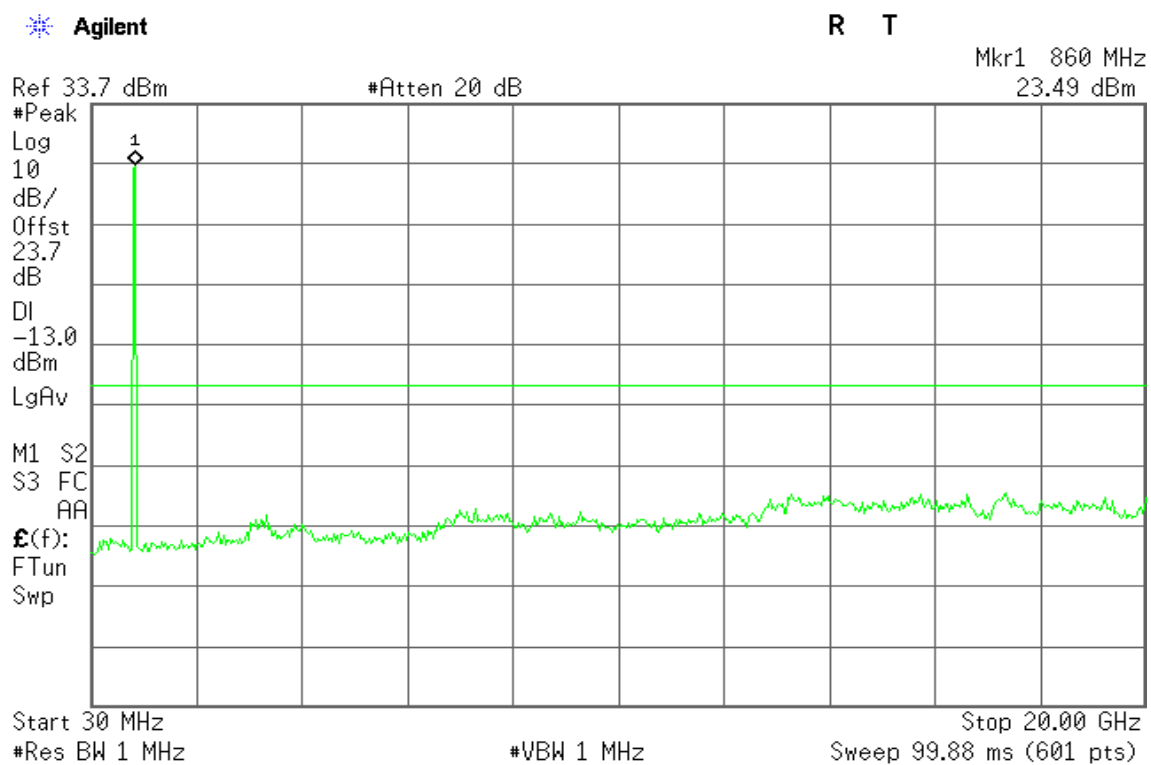


Figure 24-3: Out of Band emission at antenna terminals – HSDPA CH High





WCDMA / HSDPA Band II

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

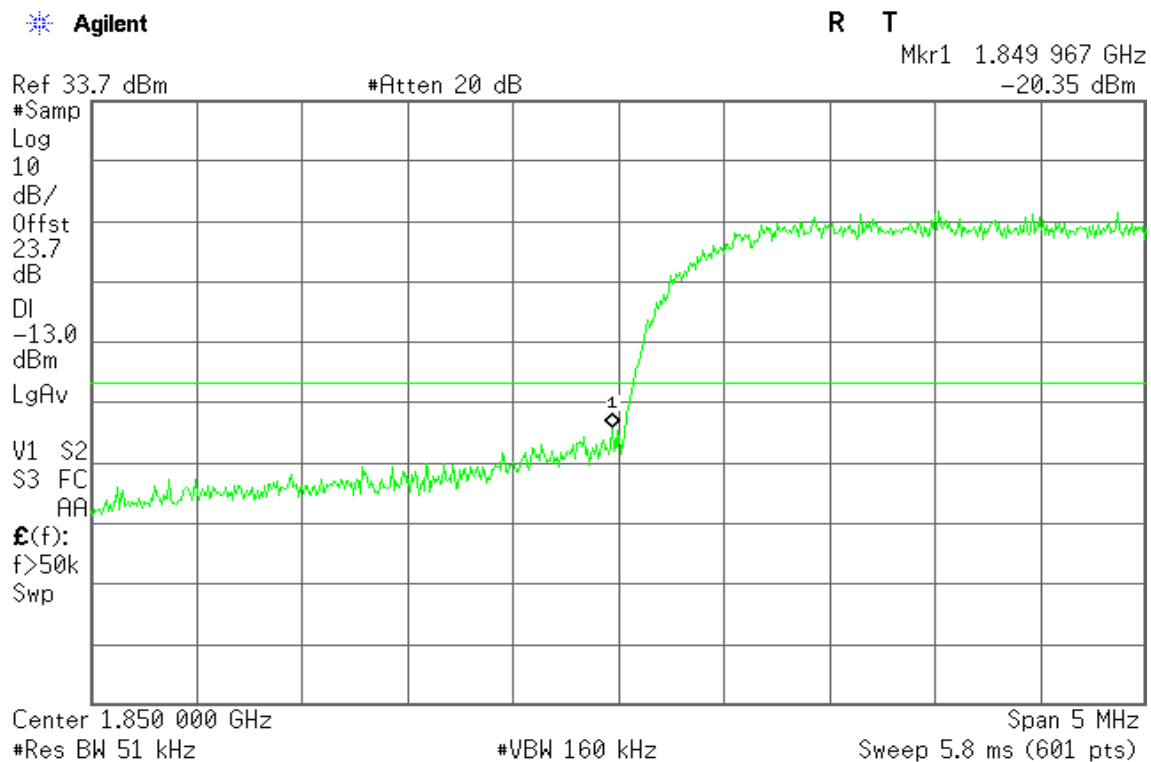
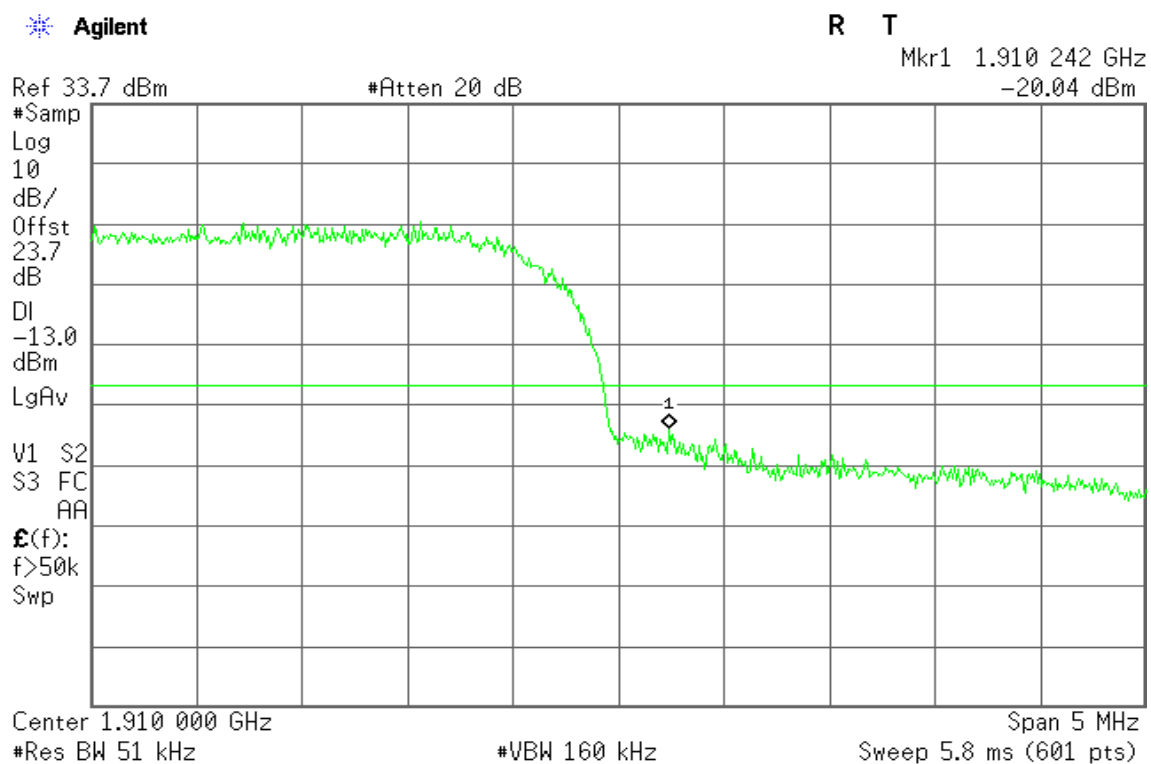


Figure 25-2: Band Edge emissions – HSDPA CH High





WCDMA / HSDPA Band V

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

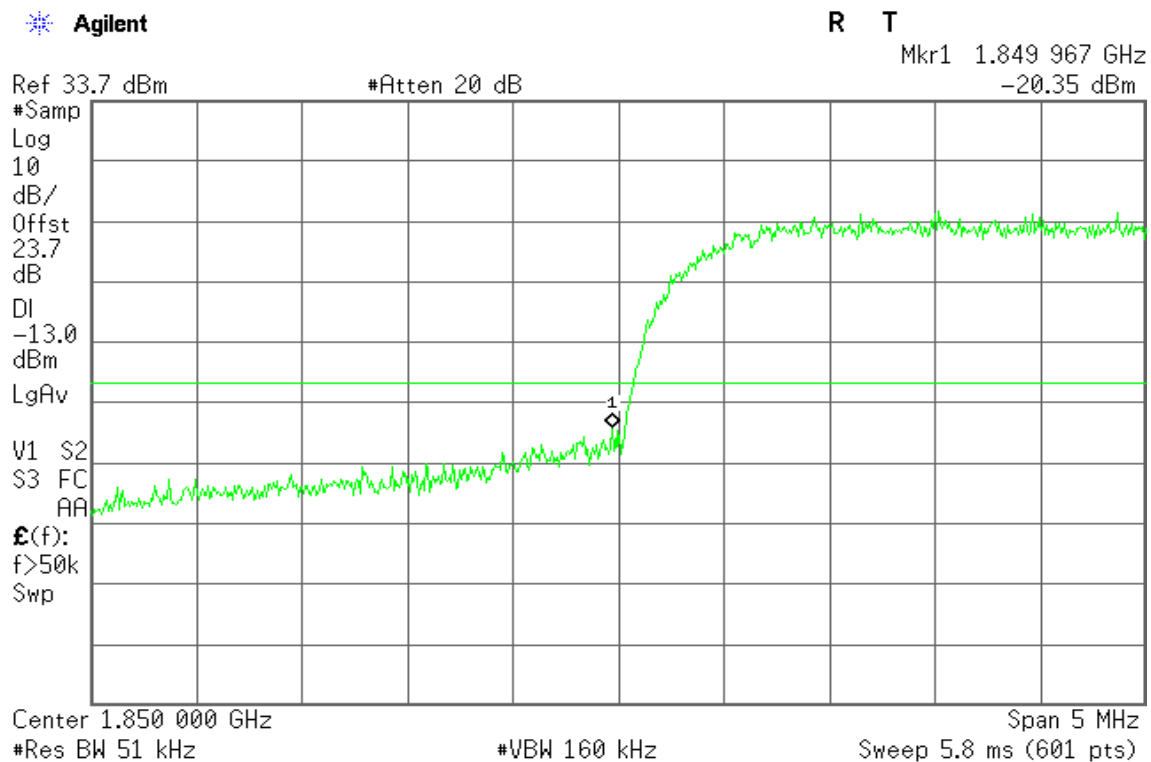
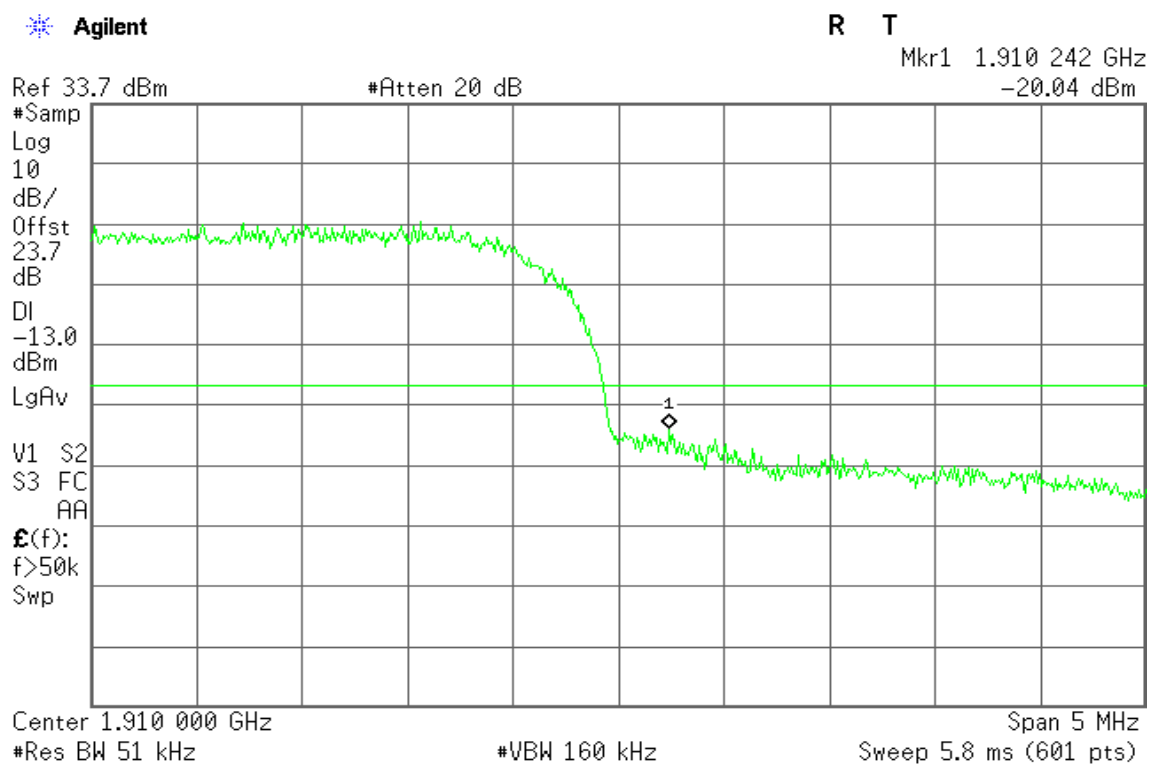


Figure 26-2: Band Edge emissions – HSDPA CH High





WCDMA / HSUPA Band II

Figure 27-1: Out of Band emission at antenna terminals – HSUPA CH Low

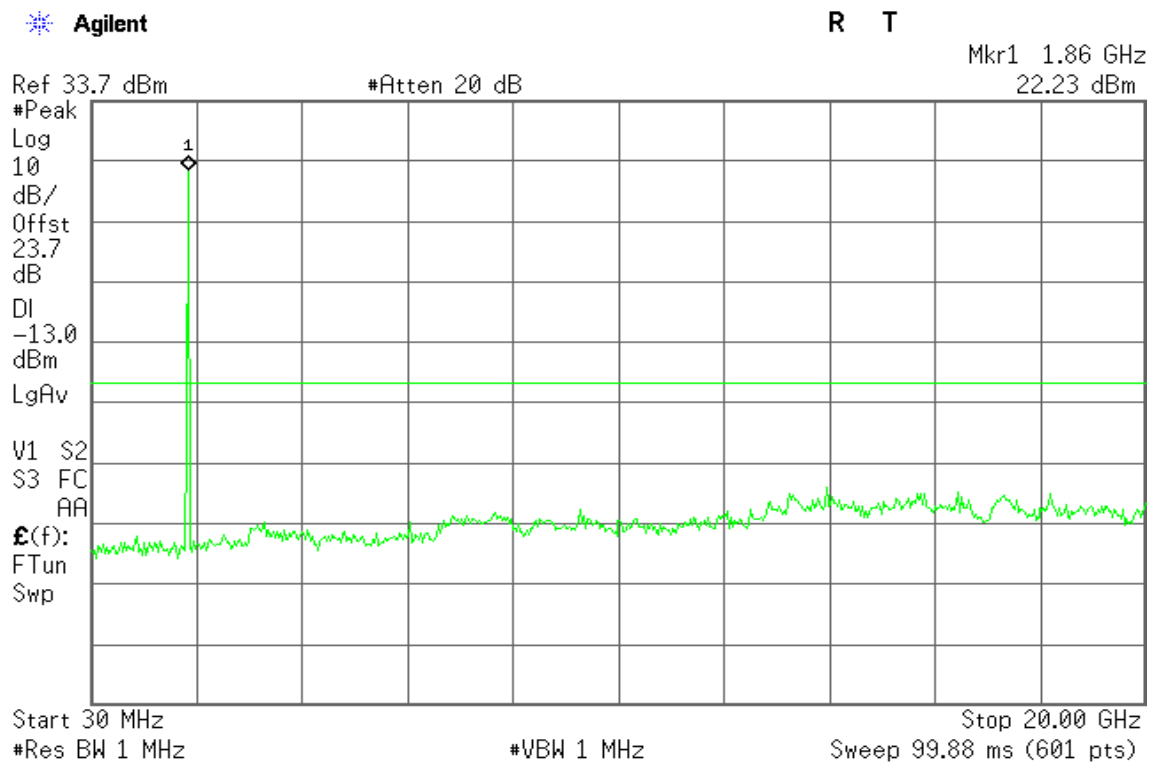


Figure 27-2: Out of Band emission at antenna terminals – HSUPA CH Mid

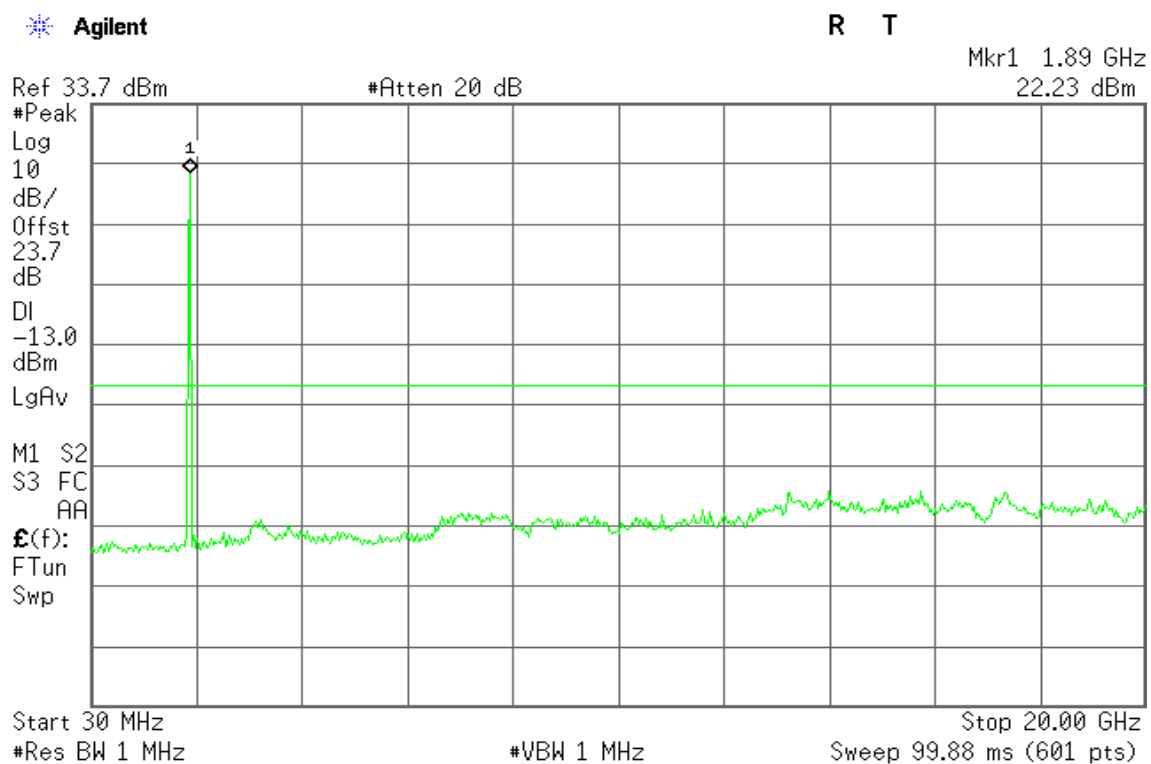
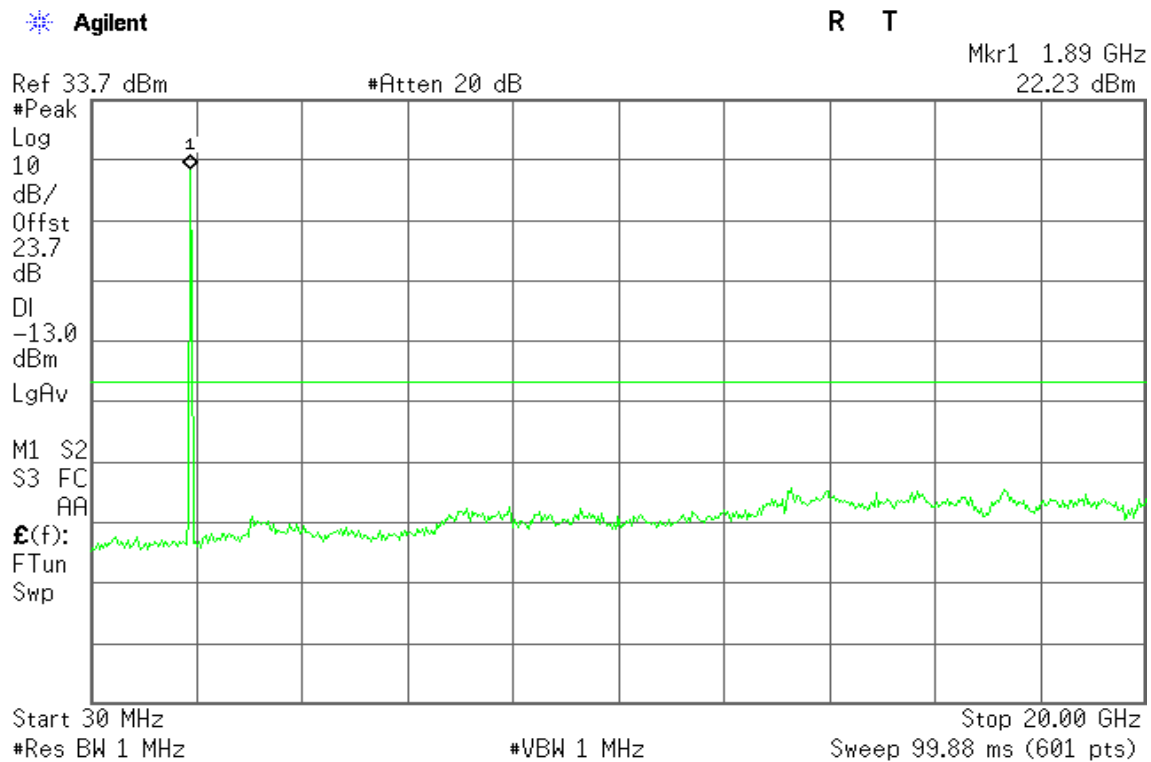




Figure 27-3: Out of Band emission at antenna terminals – HSUPA CH High



HSUPA / WCDMA Band V

Figure 28-1: Out of Band emission at antenna terminals – HSUPA CH Low

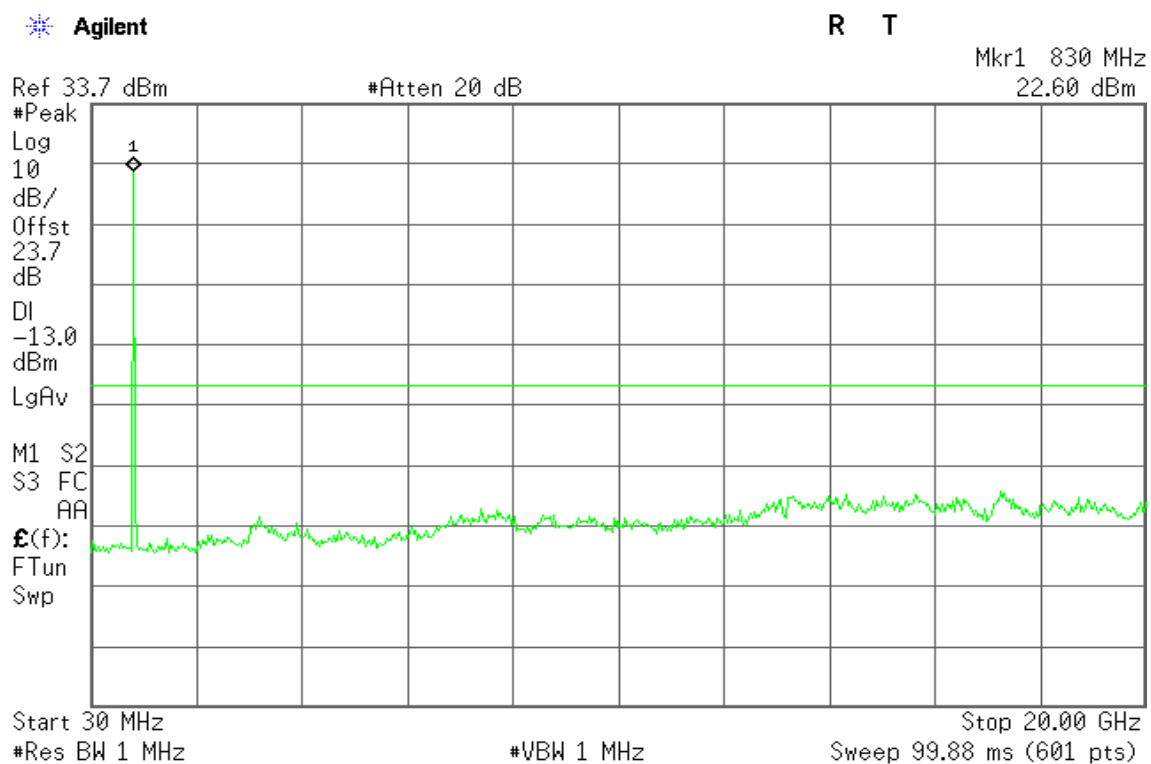




Figure 28-2: Out of Band emission at antenna terminals – HSUPA CH Mid

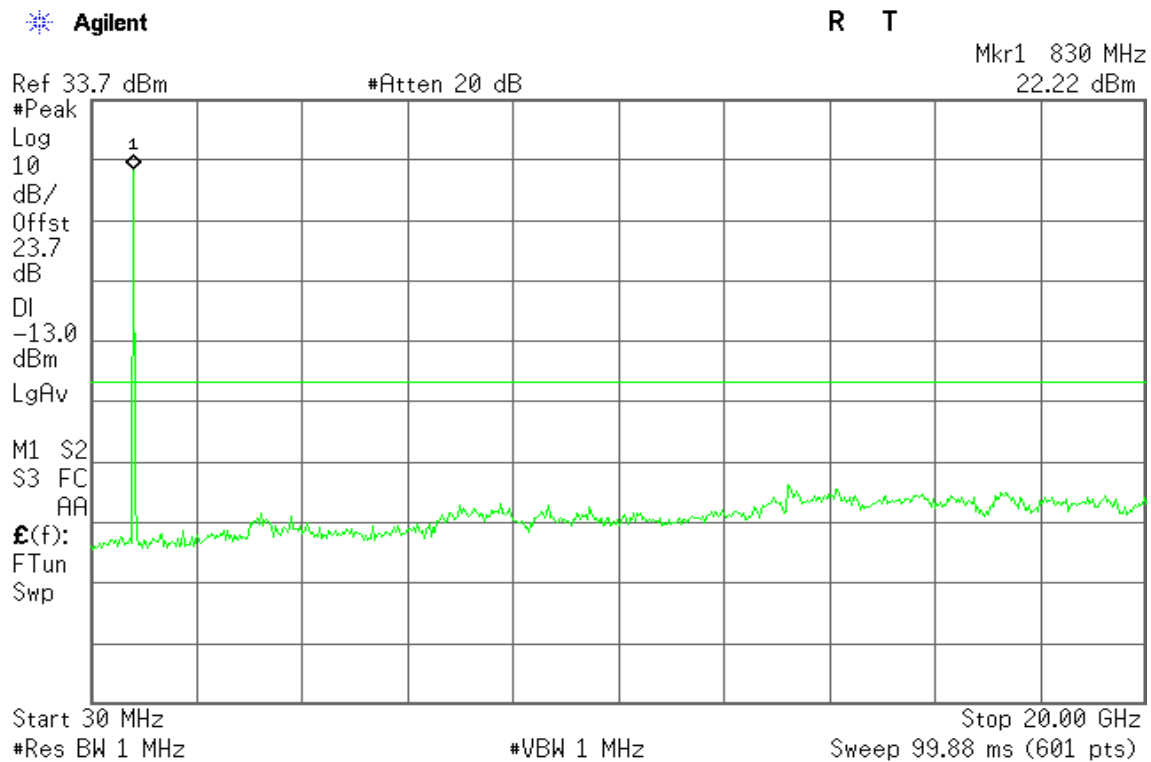
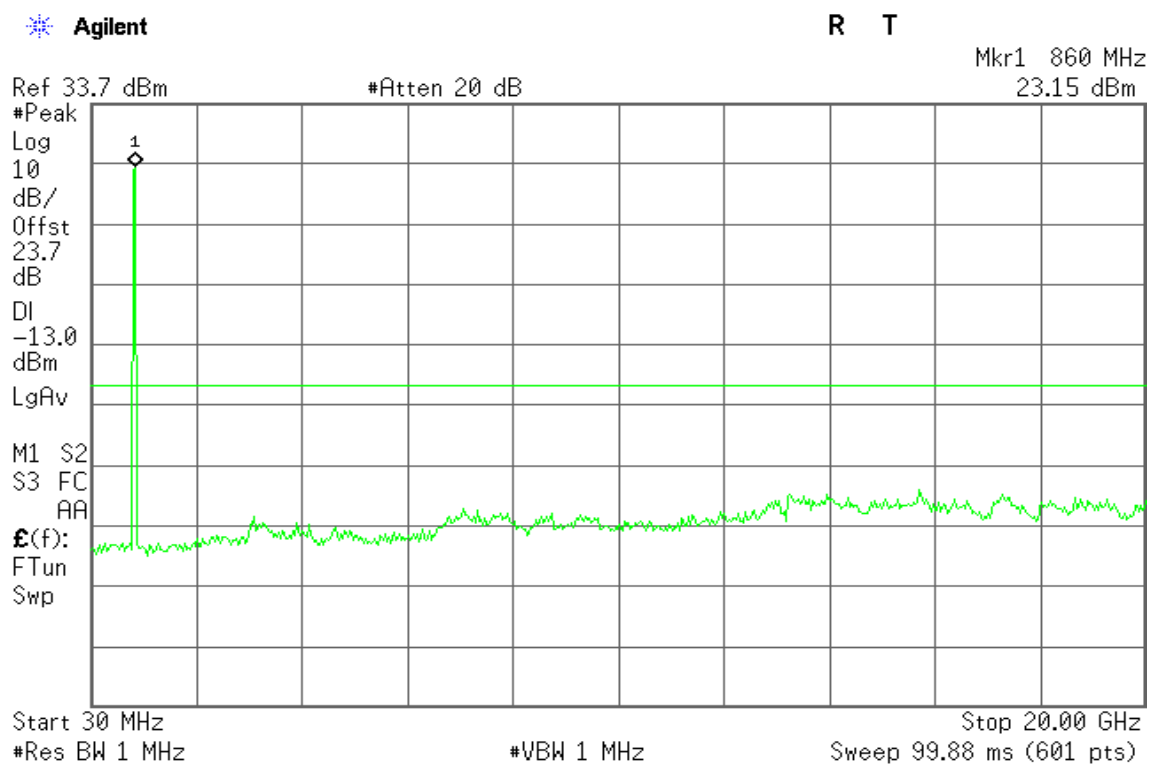


Figure 28-3: Out of Band emission at antenna terminals – HSUPA CH High





WCDMA / HSUPA Band II

Figure 29-1: Band Edge emissions – HSUPA CH Low

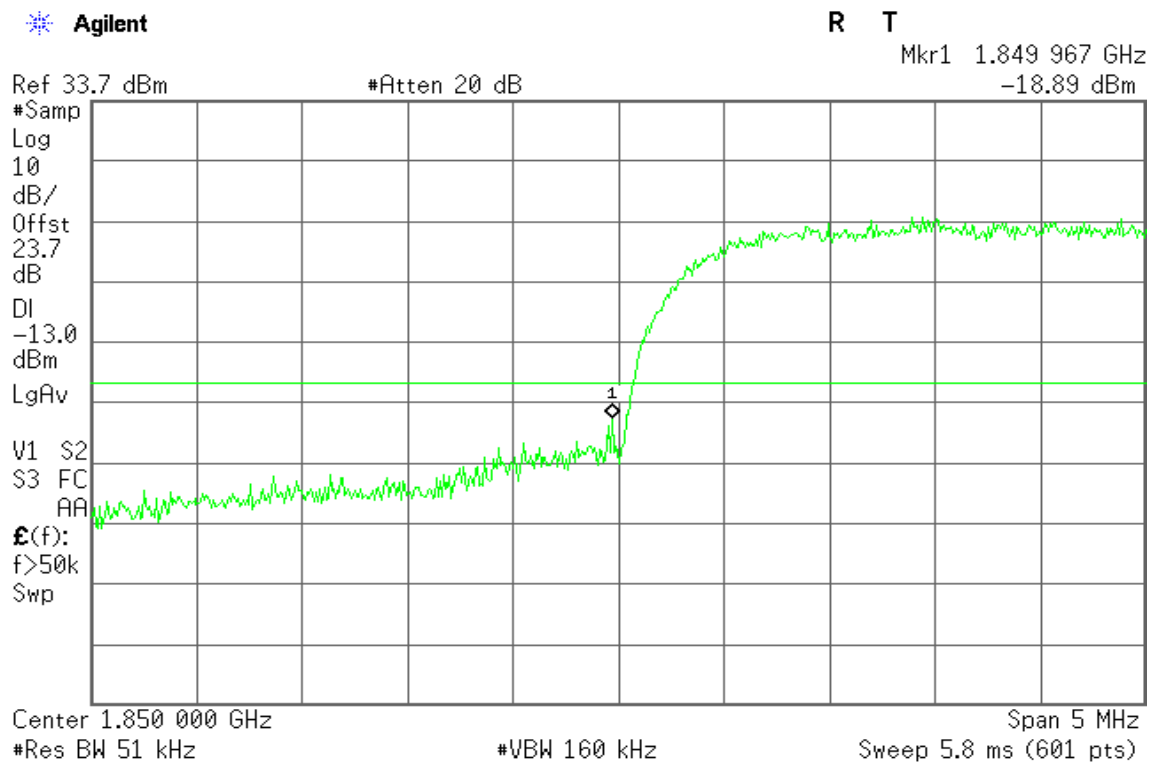
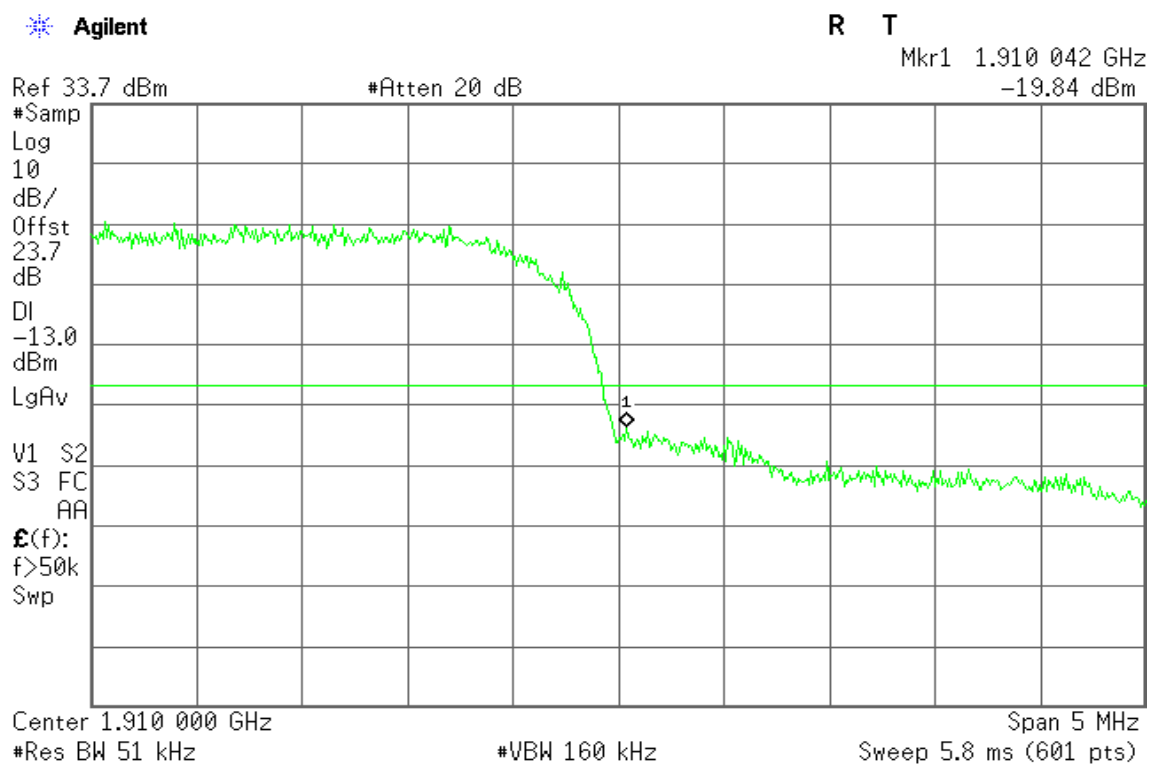


Figure 29-2: Band Edge emissions – HSUPA CH High





WCDMA / HSUPA Band V

Figure 30-1: Band Edge emissions – HSUPA CH Low

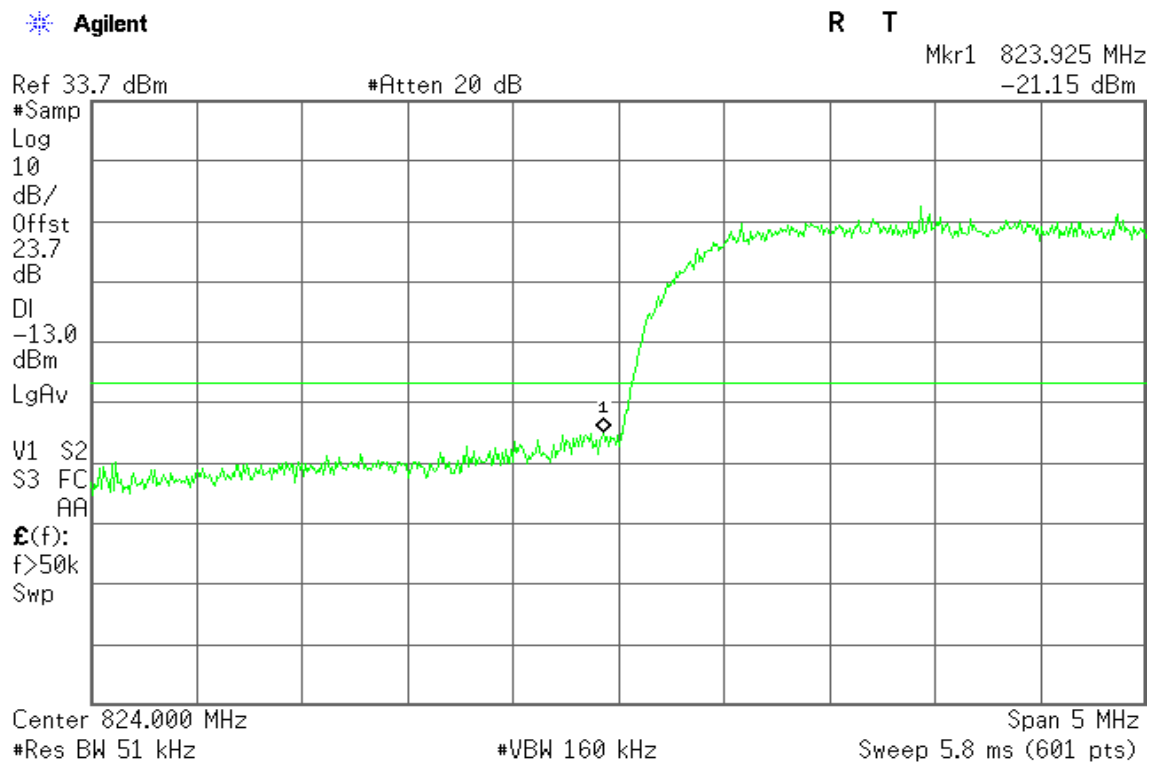
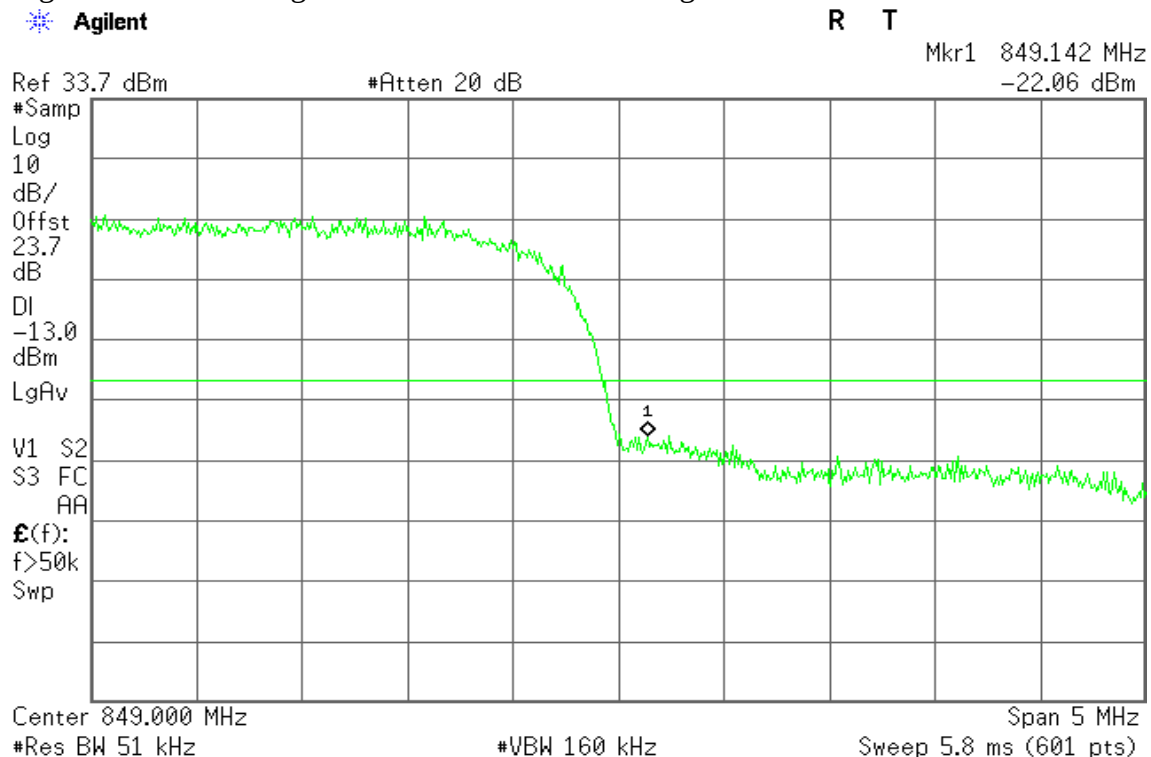


Figure 30-2: Band Edge emissions – HSUPA CH High





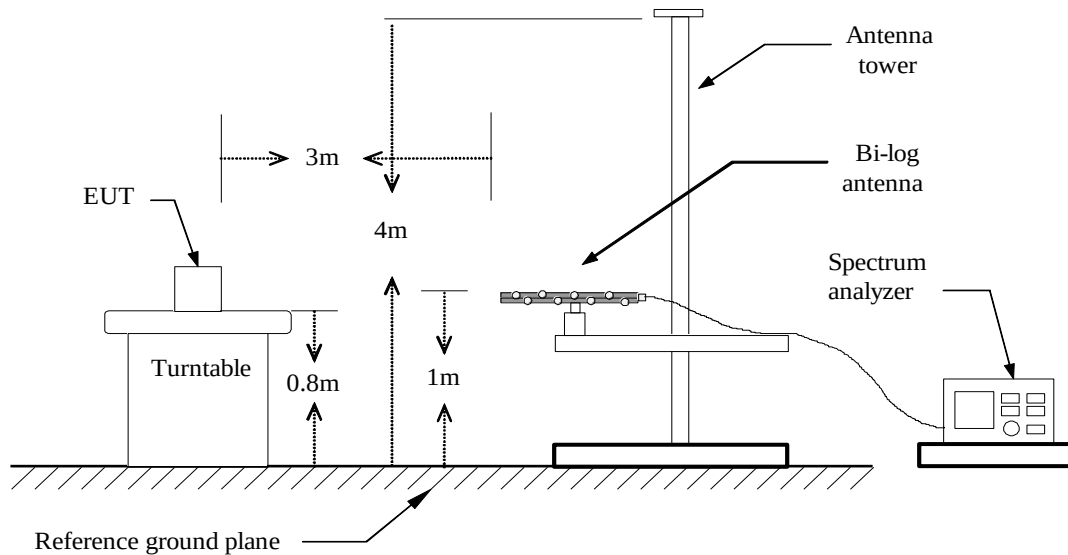
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

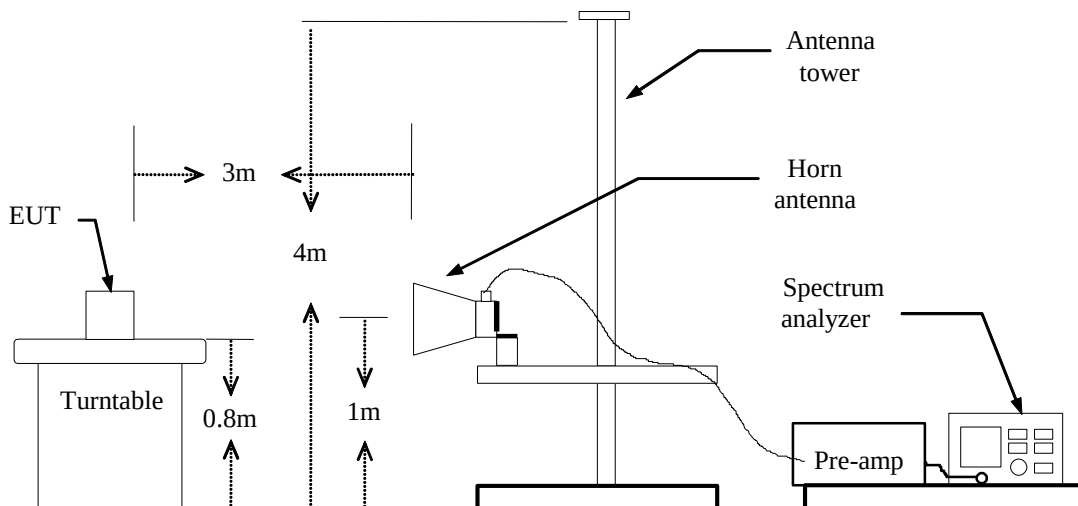
According to FCC §2.1053, RSS-132 (4.6) & RSS-133 (6.5).

Test Configuration

Below 1 GHz

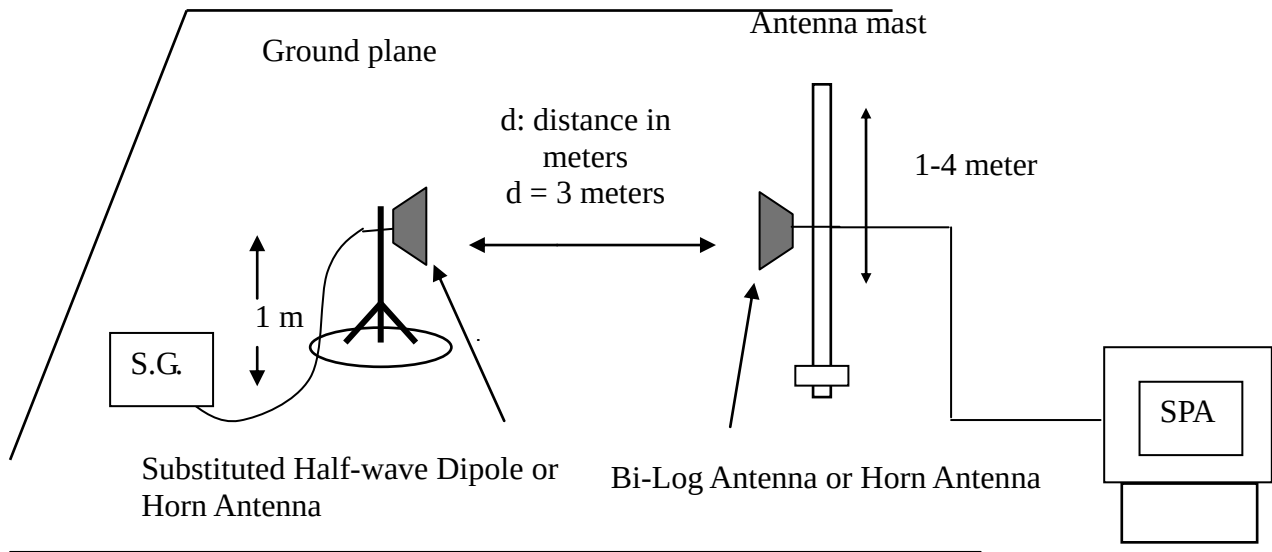


Above 1 GHz





Substituted Method Test Set-up



TEST PROCEDURE

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

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

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

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

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

TEST RESULTS

Refer to the attached tabular data sheets.

**Radiated Spurious Emission Measurement Result / Below 1GHz****Operation Mode:** GSM 850 / TX / CH 128**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-52.76	1.15	-0.37	-54.28	-13.00	-41.28	V
165.8000	-54.68	1.53	2.05	-54.16	-13.00	-41.16	V
238.5500	-56	1.81	5.35	-52.46	-13.00	-39.46	V
299.6600	-63.21	2.09	5.59	-59.71	-13.00	-46.71	V
364.6500	-66.65	2.28	5.75	-63.18	-13.00	-50.18	V
624.6100	-76.57	2.96	6.15	-73.38	-13.00	-60.38	V
165.8000	-55.14	1.53	2.05	-54.62	-13.00	-41.62	H
239.5200	-49.11	1.81	5.35	-45.57	-13.00	-32.57	H
299.6600	-59.21	2.09	5.59	-55.71	-13.00	-42.71	H
377.2600	-59.73	2.31	5.94	-56.10	-13.00	-43.10	H
479.1100	-68	2.64	5.56	-65.08	-13.00	-52.08	H
624.6100	-68.23	2.96	6.15	-65.04	-13.00	-52.04	H

Remark:

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

**Operation Mode:** GSM 850 / TX / CH 190**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
165.8000	-55.13	1.53	2.05	-54.61	-13.00	-41.61	V
236.6100	-57.01	1.81	5.37	-53.45	-13.00	-40.45	V
299.6600	-63.41	2.09	5.59	-59.91	-13.00	-46.91	V
364.6500	-66.9	2.28	5.75	-63.43	-13.00	-50.43	V
415.0900	-74.31	2.45	5.86	-70.90	-13.00	-57.90	V
624.6100	-76.45	2.96	6.15	-73.26	-13.00	-60.26	V
239.5200	-51.04	1.81	5.35	-47.50	-13.00	-34.50	H
299.6600	-61.52	2.09	5.59	-58.02	-13.00	-45.02	H
366.5900	-62.96	2.29	5.77	-59.48	-13.00	-46.48	H
415.0900	-70.29	2.45	5.86	-66.88	-13.00	-53.88	H
480.0800	-69.72	2.64	5.54	-66.82	-13.00	-53.82	H
624.6100	-69.55	2.96	6.15	-66.36	-13.00	-53.36	H

Remark:

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

**Operation Mode:** GSM 850 / TX / CH 251**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-52.81	1.15	-0.37	-54.33	-13.00	-41.33	V
165.8000	-55.9	1.53	2.05	-55.38	-13.00	-42.38	V
238.5500	-55.98	1.81	5.35	-52.44	-13.00	-39.44	V
298.6900	-63.11	2.09	5.57	-59.63	-13.00	-46.63	V
365.6200	-66.82	2.29	5.76	-63.35	-13.00	-50.35	V
500.4500	-77.2	2.7	5.9	-74.00	-13.00	-61.00	V
165.8000	-56.92	1.53	2.05	-56.40	-13.00	-43.40	H
240.4900	-50.52	1.81	5.34	-46.99	-13.00	-33.99	H
298.6900	-60.99	2.09	5.57	-57.51	-13.00	-44.51	H
366.5900	-62.79	2.29	5.77	-59.31	-13.00	-46.31	H
481.0500	-70.92	2.64	5.52	-68.04	-13.00	-55.04	H
624.6100	-70.31	2.96	6.15	-67.12	-13.00	-54.12	H

Remark:

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

**Operation Mode:** GPRS 850 / TX / CH 128**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
165.8000	-55.46	1.53	2.05	-54.94	-13.00	-41.94	V
238.5500	-55.95	1.81	5.35	-52.41	-13.00	-39.41	V
298.6900	-63.11	2.09	5.57	-59.63	-13.00	-46.63	V
364.6500	-66.82	2.28	5.75	-63.35	-13.00	-50.35	V
500.4500	-76.65	2.7	5.9	-73.45	-13.00	-60.45	V
599.3900	-76.46	2.9	6.39	-72.97	-13.00	-59.97	V
165.8000	-55.69	1.53	2.05	-55.17	-13.00	-42.17	H
238.5500	-50.8	1.81	5.35	-47.26	-13.00	-34.26	H
299.6600	-60.84	2.09	5.59	-57.34	-13.00	-44.34	H
366.5900	-62.58	2.29	5.77	-59.10	-13.00	-46.10	H
479.1100	-69.39	2.64	5.56	-66.47	-13.00	-53.47	H
624.6100	-69.55	2.96	6.15	-66.36	-13.00	-53.36	H

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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
165.8000	-55.44	1.53	2.05	-54.92	-13.00	-41.92	V
235.6400	-55.78	1.8	5.37	-52.21	-13.00	-39.21	V
299.6600	-62.99	2.09	5.59	-59.49	-13.00	-46.49	V
366.5900	-66.84	2.29	5.77	-63.36	-13.00	-50.36	V
500.4500	-76.76	2.7	5.9	-73.56	-13.00	-60.56	V
599.3900	-76.72	2.9	6.39	-73.23	-13.00	-60.23	V
240.4900	-51.14	1.81	5.34	-47.61	-13.00	-34.61	H
298.6900	-61.2	2.09	5.57	-57.72	-13.00	-44.72	H
364.6500	-63.2	2.28	5.75	-59.73	-13.00	-46.73	H
482.0200	-70.56	2.64	5.55	-67.65	-13.00	-54.65	H
512.0900	-74.7	2.69	6.02	-71.37	-13.00	-58.37	H
624.6100	-70.03	2.96	6.15	-66.84	-13.00	-53.84	H

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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
165.8000	-55.68	1.53	2.05	-55.16	-13.00	-42.16	V
239.5200	-56.69	1.81	5.35	-53.15	-13.00	-40.15	V
298.6900	-63.46	2.09	5.57	-59.98	-13.00	-46.98	V
366.5900	-67.72	2.29	5.77	-64.24	-13.00	-51.24	V
500.4500	-77.98	2.7	5.9	-74.78	-13.00	-61.78	V
599.3900	-76.42	2.9	6.39	-72.93	-13.00	-59.93	V
99.8400	-54.66	1.15	-0.37	-56.18	-13.00	-43.18	H
241.4600	-50.46	1.81	5.36	-46.91	-13.00	-33.91	H
378.2300	-62.94	2.31	5.96	-59.29	-13.00	-46.29	H
482.0200	-70.31	2.64	5.55	-67.40	-13.00	-54.40	H
576.1100	-74.58	2.88	6.05	-71.41	-13.00	-58.41	H
624.6100	-70.12	2.96	6.15	-66.93	-13.00	-53.93	H

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 512**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.44	1.15	-0.37	-55.96	-13.00	-42.96	V
166.7700	-55.85	1.54	2.15	-55.24	-13.00	-42.24	V
238.5500	-57.6	1.81	5.35	-54.06	-13.00	-41.06	V
298.6900	-63.9	2.09	5.57	-60.42	-13.00	-47.42	V
364.6500	-66.45	2.28	5.75	-62.98	-13.00	-49.98	V
663.4100	-74.07	3.06	6.3	-70.83	-13.00	-57.83	V
238.5500	-51.25	1.81	5.35	-47.71	-13.00	-34.71	H
299.6600	-61.83	2.09	5.59	-58.33	-13.00	-45.33	H
366.5900	-62.8	2.29	5.77	-59.32	-13.00	-46.32	H
478.1400	-71.22	2.63	5.59	-68.26	-13.00	-55.26	H
624.6100	-69.34	2.96	6.15	-66.15	-13.00	-53.15	H
749.7400	-71.81	3.2	6.1	-68.91	-13.00	-55.91	H

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 661**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.32	1.15	-0.37	-55.84	-13.00	-42.84	V
165.8000	-55.94	1.53	2.05	-55.42	-13.00	-42.42	V
239.5200	-56.77	1.81	5.35	-53.23	-13.00	-40.23	V
298.6900	-64.04	2.09	5.57	-60.56	-13.00	-47.56	V
364.6500	-67.11	2.28	5.75	-63.64	-13.00	-50.64	V
663.4100	-73.85	3.06	6.3	-70.61	-13.00	-57.61	V
166.7700	-57.08	1.54	2.15	-56.47	-13.00	-43.47	H
239.5200	-52.1	1.81	5.35	-48.56	-13.00	-35.56	H
378.2300	-61.08	2.31	5.96	-57.43	-13.00	-44.43	H
415.0900	-69.07	2.45	5.86	-65.66	-13.00	-52.66	H
478.1400	-70.15	2.63	5.59	-67.19	-13.00	-54.19	H
624.6100	-69.89	2.96	6.15	-66.70	-13.00	-53.70	H

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 810**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
165.8000	-56.03	1.53	2.05	-55.51	-13.00	-42.51	V
240.4900	-57.02	1.81	5.34	-53.49	-13.00	-40.49	V
298.6900	-63.85	2.09	5.57	-60.37	-13.00	-47.37	V
365.6200	-67.32	2.29	5.76	-63.85	-13.00	-50.85	V
624.6100	-75.47	2.96	6.15	-72.28	-13.00	-59.28	V
663.4100	-73.8	3.06	6.3	-70.56	-13.00	-57.56	V
75.5900	-51.77	1.01	-0.94	-53.72	-13.00	-40.72	H
165.8000	-57.54	1.53	2.05	-57.02	-13.00	-44.02	H
241.4600	-52.14	1.81	5.36	-48.59	-13.00	-35.59	H
366.5900	-62.75	2.29	5.77	-59.27	-13.00	-46.27	H
476.2000	-70.33	2.63	5.63	-67.33	-13.00	-54.33	H
624.6100	-70.27	2.96	6.15	-67.08	-13.00	-54.08	H

Remark:

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

**Operation Mode:** GPRS 1900 / TX / CH 512**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.36	1.15	-0.37	-55.88	-13.00	-42.88	V
165.8000	-55.68	1.53	2.05	-55.16	-13.00	-42.16	V
238.5500	-56.68	1.81	5.35	-53.14	-13.00	-40.14	V
299.6600	-63.83	2.09	5.59	-60.33	-13.00	-47.33	V
364.6500	-66.62	2.28	5.75	-63.15	-13.00	-50.15	V
666.3200	-73.37	3.07	6.3	-70.14	-13.00	-57.14	V
76.5600	-52.11	1.01	-0.77	-53.89	-13.00	-40.89	H
240.4900	-52.03	1.81	5.34	-48.50	-13.00	-35.50	H
299.6600	-61.76	2.09	5.59	-58.26	-13.00	-45.26	H
365.6200	-63.36	2.29	5.76	-59.89	-13.00	-46.89	H
480.0800	-70.37	2.64	5.54	-67.47	-13.00	-54.47	H
624.6100	-69.86	2.96	6.15	-66.67	-13.00	-53.67	H

Remark:

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

**Operation Mode:** GPRS 1900 / TX / CH 661**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.16	1.15	-0.37	-55.68	-13.00	-42.68	V
165.8000	-55.96	1.53	2.05	-55.44	-13.00	-42.44	V
239.5200	-57.25	1.81	5.35	-53.71	-13.00	-40.71	V
299.6600	-63.84	2.09	5.59	-60.34	-13.00	-47.34	V
364.6500	-66.41	2.28	5.75	-62.94	-13.00	-49.94	V
663.4100	-73.69	3.06	6.3	-70.45	-13.00	-57.45	V
99.8400	-54.78	1.15	-0.37	-56.30	-13.00	-43.30	H
241.4600	-51.05	1.81	5.36	-47.50	-13.00	-34.50	H
299.6600	-61.52	2.09	5.59	-58.02	-13.00	-45.02	H
366.5900	-62.66	2.29	5.77	-59.18	-13.00	-46.18	H
624.6100	-70	2.96	6.15	-66.81	-13.00	-53.81	H
749.7400	-71.47	3.2	6.1	-68.57	-13.00	-55.57	H

Remark:

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

**Operation Mode:** GPRS 1900 / TX / CH 810**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.4	1.15	-0.37	-55.92	-13.00	-42.92	V
165.8000	-55.61	1.53	2.05	-55.09	-13.00	-42.09	V
232.7300	-57.14	1.8	5.39	-53.55	-13.00	-40.55	V
364.6500	-66.81	2.28	5.75	-63.34	-13.00	-50.34	V
415.0900	-73.66	2.45	5.86	-70.25	-13.00	-57.25	V
663.4100	-73.6	3.06	6.3	-70.36	-13.00	-57.36	V
165.8000	-57.13	1.53	2.05	-56.61	-13.00	-43.61	H
241.4600	-52.1	1.81	5.36	-48.55	-13.00	-35.55	H
299.6600	-62.13	2.09	5.59	-58.63	-13.00	-45.63	H
366.5900	-62.94	2.29	5.77	-59.46	-13.00	-46.46	H
477.1700	-70.07	2.63	5.61	-67.09	-13.00	-54.09	H
624.6100	-69.33	2.96	6.15	-66.14	-13.00	-53.14	H

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 128**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
165.8000	-54.71	1.53	2.05	-54.19	-13.00	-41.19	V
239.5200	-55.29	1.81	5.35	-51.75	-13.00	-38.75	V
366.5900	-66.78	2.29	5.77	-63.30	-13.00	-50.30	V
415.0900	-73.09	2.45	5.86	-69.68	-13.00	-56.68	V
500.4500	-76.96	2.7	5.9	-73.76	-13.00	-60.76	V
624.6100	-76.25	2.96	6.15	-73.06	-13.00	-60.06	V
166.7700	-55.35	1.54	2.15	-54.74	-13.00	-41.74	H
241.4600	-50.07	1.81	5.36	-46.52	-13.00	-33.52	H
299.6600	-60.75	2.09	5.59	-57.25	-13.00	-44.25	H
366.5900	-62.06	2.29	5.77	-58.58	-13.00	-45.58	H
479.1100	-69.95	2.64	5.56	-67.03	-13.00	-54.03	H
624.6100	-69.81	2.96	6.15	-66.62	-13.00	-53.62	H

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 190**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-53.03	1.15	-0.37	-54.55	-13.00	-41.55	V
165.8000	-55.35	1.53	2.05	-54.83	-13.00	-41.83	V
238.5500	-56.52	1.81	5.35	-52.98	-13.00	-39.98	V
299.6600	-63.23	2.09	5.59	-59.73	-13.00	-46.73	V
365.6200	-67.05	2.29	5.76	-63.58	-13.00	-50.58	V
476.2000	-76.12	2.63	5.63	-73.12	-13.00	-60.12	V
240.4900	-51.6	1.81	5.34	-48.07	-13.00	-35.07	H
299.6600	-61.16	2.09	5.59	-57.66	-13.00	-44.66	H
364.6500	-63.32	2.28	5.75	-59.85	-13.00	-46.85	H
479.1100	-70.76	2.64	5.56	-67.84	-13.00	-54.84	H
576.1100	-74.89	2.88	6.05	-71.72	-13.00	-58.72	H
624.6100	-70.32	2.96	6.15	-67.13	-13.00	-54.13	H

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 251**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-53.1	1.15	-0.37	-54.62	-13.00	-41.62	V
165.8000	-55.49	1.53	2.05	-54.97	-13.00	-41.97	V
239.5200	-55.87	1.81	5.35	-52.33	-13.00	-39.33	V
299.6600	-63.34	2.09	5.59	-59.84	-13.00	-46.84	V
366.5900	-67.06	2.29	5.77	-63.58	-13.00	-50.58	V
416.0600	-73.78	2.46	5.85	-70.39	-13.00	-57.39	V
165.8000	-56.67	1.53	2.05	-56.15	-13.00	-43.15	H
242.4300	-51.17	1.81	5.39	-47.59	-13.00	-34.59	H
299.6600	-61.42	2.09	5.59	-57.92	-13.00	-44.92	H
366.5900	-62.69	2.29	5.77	-59.21	-13.00	-46.21	H
479.1100	-70.34	2.64	5.56	-67.42	-13.00	-54.42	H
624.6100	-69.44	2.96	6.15	-66.25	-13.00	-53.25	H

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 512**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** Jerry Lin**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.06	1.15	-0.37	-55.58	-13.00	-42.58	V
165.8000	-55.88	1.53	2.05	-55.36	-13.00	-42.36	V
239.5200	-56.51	1.81	5.35	-52.97	-13.00	-39.97	V
364.6500	-67.28	2.28	5.75	-63.81	-13.00	-50.81	V
415.0900	-74.05	2.45	5.86	-70.64	-13.00	-57.64	V
666.3200	-73.81	3.07	6.3	-70.58	-13.00	-57.58	V
77.5300	-50.31	1.02	-0.6	-51.93	-13.00	-38.93	H
240.4900	-51.5	1.81	5.34	-47.97	-13.00	-34.97	H
299.6600	-61.97	2.09	5.59	-58.47	-13.00	-45.47	H
365.6200	-62.79	2.29	5.76	-59.32	-13.00	-46.32	H
624.6100	-69.99	2.96	6.15	-66.80	-13.00	-53.80	H
749.7400	-71.21	3.2	6.1	-68.31	-13.00	-55.31	H

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 661**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.13	1.15	-0.37	-55.65	-13.00	-42.65	V
240.4900	-56.81	1.81	5.34	-53.28	-13.00	-40.28	V
299.6600	-64.18	2.09	5.59	-60.68	-13.00	-47.68	V
365.6200	-66.66	2.29	5.76	-63.19	-13.00	-50.19	V
599.3900	-77.29	2.9	6.39	-73.80	-13.00	-60.80	V
666.3200	-73.33	3.07	6.3	-70.10	-13.00	-57.10	V
242.4300	-51.09	1.81	5.39	-47.51	-13.00	-34.51	H
298.6900	-61.75	2.09	5.57	-58.27	-13.00	-45.27	H
366.5900	-62.75	2.29	5.77	-59.27	-13.00	-46.27	H
478.1400	-71.47	2.63	5.59	-68.51	-13.00	-55.51	H
576.1100	-73.07	2.88	6.05	-69.90	-13.00	-56.90	H
663.4100	-73.66	3.06	6.3	-70.42	-13.00	-57.42	H

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 810**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
99.8400	-54.29	1.15	-0.37	-55.81	-13.00	-42.81	V
166.7700	-55.89	1.54	2.15	-55.28	-13.00	-42.28	V
237.5800	-57.6	1.81	5.36	-54.05	-13.00	-41.05	V
299.6600	-63.98	2.09	5.59	-60.48	-13.00	-47.48	V
366.5900	-66.85	2.29	5.77	-63.37	-13.00	-50.37	V
663.4100	-73.91	3.06	6.3	-70.67	-13.00	-57.67	V
236.6100	-40.75	-6.73	-47.48	-13.00	-34.48	236.6100	H
299.6600	-51.69	-6.28	-57.97	-13.00	-44.97	299.6600	H
364.6500	-55.02	-4.60	-59.62	-13.00	-46.62	364.6500	H
478.1400	-66.75	-1.68	-68.43	-13.00	-55.43	478.1400	H
624.6100	-68.34	1.61	-66.73	-13.00	-53.73	624.6100	H
749.7400	-71.19	2.78	-68.41	-13.00	-55.41	749.7400	H

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9262**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-58.51	1.16	-0.64	-60.31	-13.00	-47.31	V
138.6400	-59.53	1.39	-0.38	-61.30	-13.00	-48.30	V
342.3400	-74.16	2.18	5.8	-70.54	-13.00	-57.54	V
529.5500	-76.63	2.75	6	-73.38	-13.00	-60.38	V
721.6100	-75.68	3.17	6.49	-72.36	-13.00	-59.36	V
836.0700	-75.31	3.4	6.36	-72.35	-13.00	-59.35	V
84.3200	-54.03	1.07	0.39	-54.71	-13.00	-41.71	H
153.1900	-66.52	1.44	0.94	-67.02	-13.00	-54.02	H
378.2300	-68.49	2.31	5.96	-64.84	-13.00	-51.84	H
516.9400	-76.29	2.7	6.07	-72.92	-13.00	-59.92	H
733.2500	-74.33	3.19	6.31	-71.21	-13.00	-58.21	H
911.7300	-75.5	3.57	6.6	-72.47	-13.00	-59.47	H

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9400**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.24	1.16	-0.64	-64.04	-13.00	-51.04	V
138.6400	-63.51	1.39	-0.38	-65.28	-13.00	-52.28	V
342.3400	-80.58	2.18	5.8	-76.96	-13.00	-63.96	V
448.0700	-78.88	2.58	5.74	-75.72	-13.00	-62.72	V
516.9400	-82.81	2.7	6.07	-79.44	-13.00	-66.44	V
781.7500	-77.68	3.31	6.13	-74.86	-13.00	-61.86	V
101.7800	-58.64	1.16	-0.64	-60.44	-13.00	-47.44	H
138.6400	-59.12	1.39	-0.38	-60.89	-13.00	-47.89	H
191.9900	-74.93	1.62	3.79	-72.76	-13.00	-59.76	H
360.7700	-76.31	2.27	5.71	-72.87	-13.00	-59.87	H
448.0700	-76.63	2.58	5.74	-73.47	-13.00	-60.47	H
554.7700	-78.41	2.82	6.11	-75.12	-13.00	-62.12	H

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9538**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.53	1.16	-0.64	-64.33	-13.00	-51.33	V
138.6400	-63.64	1.39	-0.38	-65.41	-13.00	-52.41	V
342.3400	-80.23	2.18	5.8	-76.61	-13.00	-63.61	V
448.0700	-80.58	2.58	5.74	-77.42	-13.00	-64.42	V
601.3300	-82.96	2.91	6.39	-79.48	-13.00	-66.48	V
781.7500	-77.89	3.31	6.13	-75.07	-13.00	-62.07	V
90.1400	-58.62	1.11	1.07	-58.66	-13.00	-45.66	H
171.6200	-70.32	1.57	2.69	-69.20	-13.00	-56.20	H
342.3400	-74.52	2.18	5.8	-70.90	-13.00	-57.90	H
516.9400	-77.15	2.7	6.07	-73.78	-13.00	-60.78	H
733.2500	-73.64	3.19	6.31	-70.52	-13.00	-57.52	H
836.0700	-76.26	3.4	6.36	-73.30	-13.00	-60.30	H

Remark:

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

**Operation Mode:** WCDMA Band V / TX / CH 4132**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
95.9600	-56.36	1.13	0.26	-57.23	-13.00	-44.23	V
138.6400	-62.43	1.39	-0.38	-64.20	-13.00	-51.20	V
222.0600	-78.64	1.77	5.34	-75.07	-13.00	-62.07	V
333.6100	-81.37	2.16	5.74	-77.79	-13.00	-64.79	V
459.7100	-80.01	2.6	5.88	-76.73	-13.00	-63.73	V
625.5800	-78.75	2.96	6.16	-75.55	-13.00	-62.55	V
90.1400	-53.61	1.11	1.07	-53.65	-13.00	-40.65	H
191.9900	-73.76	1.62	3.79	-71.59	-13.00	-58.59	H
319.0600	-78.72	2.17	5.71	-75.18	-13.00	-62.18	H
377.2600	-64.86	2.31	5.94	-61.23	-13.00	-48.23	H
529.5500	-76.77	2.75	6	-73.52	-13.00	-60.52	H
647.8900	-78.91	3.02	6.25	-75.68	-13.00	-62.68	H

Remark:

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

**Operation Mode:** WCDMA Band V / TX / CH 4182**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
95.9600	-59.19	1.13	0.26	-60.06	-13.00	-47.06	V
138.6400	-65.41	1.39	-0.38	-67.18	-13.00	-54.18	V
191.9900	-78.42	1.62	3.79	-76.25	-13.00	-63.25	V
377.2600	-72.41	2.31	5.94	-68.78	-13.00	-55.78	V
529.5500	-80.9	2.75	6	-77.65	-13.00	-64.65	V
625.5800	-81.29	2.96	6.16	-78.09	-13.00	-65.09	V
90.1400	-52.94	1.11	1.07	-52.98	-13.00	-39.98	H
138.6400	-62.67	1.39	-0.38	-64.44	-13.00	-51.44	H
234.6700	-76.05	1.8	5.38	-72.47	-13.00	-59.47	H
377.2600	-66.6	2.31	5.94	-62.97	-13.00	-49.97	H
516.9400	-75.62	2.7	6.07	-72.25	-13.00	-59.25	H
625.5800	-78.6	2.96	6.16	-75.40	-13.00	-62.40	H

Remark:

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

**Operation Mode:** WCDMA Band V / TX / CH 4233**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
95.9600	-58.17	1.13	0.26	-59.04	-13.00	-46.04	V
150.2800	-70.27	1.43	0.71	-70.99	-13.00	-57.99	V
191.9900	-79.35	1.62	3.79	-77.18	-13.00	-64.18	V
377.2600	-74.05	2.31	5.94	-70.42	-13.00	-57.42	V
516.9400	-81.42	2.7	6.07	-78.05	-13.00	-65.05	V
717.7300	-82.82	3.16	6.44	-79.54	-13.00	-66.54	V
90.1400	-54.72	1.11	1.07	-54.76	-13.00	-41.76	H
138.6400	-62.05	1.39	-0.38	-63.82	-13.00	-50.82	H
186.1700	-73.1	1.62	3.85	-70.87	-13.00	-57.87	H
376.2900	-70.17	2.31	5.93	-66.55	-13.00	-53.55	H
516.9400	-75.07	2.7	6.07	-71.70	-13.00	-58.70	H
712.8800	-78.37	3.15	6.36	-75.16	-13.00	-62.16	H

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9262**Test Date:** May 3, 2014**Temperature:** 24°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.47	1.16	-0.64	-64.27	-13.00	-51.27	V
138.6400	-63.48	1.39	-0.38	-65.25	-13.00	-52.25	V
342.3400	-78.08	2.18	5.8	-74.46	-13.00	-61.46	V
450.9800	-80.06	2.59	5.74	-76.91	-13.00	-63.91	V
619.7600	-81.31	2.94	6.11	-78.14	-13.00	-65.14	V
781.7500	-77.03	3.31	6.13	-74.21	-13.00	-61.21	V
87.2300	-58.61	1.09	0.73	-58.97	-13.00	-45.97	H
138.6400	-60.42	1.39	-0.38	-62.19	-13.00	-49.19	H
342.3400	-72.79	2.18	5.8	-69.17	-13.00	-56.17	H
516.9400	-76.11	2.7	6.07	-72.74	-13.00	-59.74	H
721.6100	-75.58	3.17	6.49	-72.26	-13.00	-59.26	H
781.7500	-73.73	3.31	6.13	-70.91	-13.00	-57.91	H

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9400**Test Date:** May 3, 2014**Temperature:** 24°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.35	1.16	-0.64	-64.15	-13.00	-51.15	V
138.6400	-64.15	1.39	-0.38	-65.92	-13.00	-52.92	V
342.3400	-79.28	2.18	5.8	-75.66	-13.00	-62.66	V
450.9800	-80.5	2.59	5.74	-77.35	-13.00	-64.35	V
806.0000	-77.53	3.33	6.38	-74.48	-13.00	-61.48	V
907.8500	-78.34	3.56	6.6	-75.30	-13.00	-62.30	V
90.1400	-60.5	1.11	1.07	-60.54	-13.00	-47.54	H
150.2800	-65.49	1.43	0.71	-66.21	-13.00	-53.21	H
342.3400	-73.43	2.18	5.8	-69.81	-13.00	-56.81	H
435.4600	-78.19	2.51	5.86	-74.84	-13.00	-61.84	H
516.9400	-76.41	2.7	6.07	-73.04	-13.00	-60.04	H
733.2500	-72.67	3.19	6.31	-69.55	-13.00	-56.55	H

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band II /
TX / CH 9538**Test Date:** May 3, 2014**Temperature:** 24°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.94	1.16	-0.64	-64.74	-13.00	-51.74	V
138.6400	-64.89	1.39	-0.38	-66.66	-13.00	-53.66	V
342.3400	-79.98	2.18	5.8	-76.36	-13.00	-63.36	V
450.9800	-81.77	2.59	5.74	-78.62	-13.00	-65.62	V
597.4500	-82.24	2.9	6.35	-78.79	-13.00	-65.79	V
733.2500	-78.37	3.19	6.31	-75.25	-13.00	-62.25	V
87.2300	-60.24	1.09	0.73	-60.60	-13.00	-47.60	H
138.6400	-61.35	1.39	-0.38	-63.12	-13.00	-50.12	H
342.3400	-73.43	2.18	5.8	-69.81	-13.00	-56.81	H
516.9400	-76.86	2.7	6.07	-73.49	-13.00	-60.49	H
770.1100	-73.31	3.27	6.38	-70.20	-13.00	-57.20	H
853.5300	-76.46	3.41	6.4	-73.47	-13.00	-60.47	H

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band V / TX / CH 4132**Test Date:** May 3, 2014**Temperature:** 24°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-63.43	1.16	-0.64	-65.23	-13.00	-52.23	V
138.6400	-63.91	1.39	-0.38	-65.68	-13.00	-52.68	V
377.2600	-75.08	2.31	5.94	-71.45	-13.00	-58.45	V
448.0700	-80.35	2.58	5.74	-77.19	-13.00	-64.19	V
625.5800	-81.75	2.96	6.16	-78.55	-13.00	-65.55	V
759.4400	-82.27	3.22	6.29	-79.20	-13.00	-66.20	V
87.2300	-60.63	1.09	0.73	-60.99	-13.00	-47.99	H
138.6400	-60.4	1.39	-0.38	-62.17	-13.00	-49.17	H
377.2600	-64.86	2.31	5.94	-61.23	-13.00	-48.23	H
516.9400	-77.03	2.7	6.07	-73.66	-13.00	-60.66	H
648.8600	-78.91	3.03	6.26	-75.68	-13.00	-62.68	H
769.1400	-78.23	3.27	6.39	-75.11	-13.00	-62.11	H

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band V / TX / CH 4182**Test Date:** May 3, 2014**Temperature:** 24°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.73	1.16	-0.64	-64.53	-13.00	-51.53	V
138.6400	-65.12	1.39	-0.38	-66.89	-13.00	-53.89	V
377.2600	-77.65	2.31	5.94	-74.02	-13.00	-61.02	V
450.9800	-81.62	2.59	5.74	-78.47	-13.00	-65.47	V
529.5500	-82.29	2.75	6	-79.04	-13.00	-66.04	V
655.6500	-83.73	3.04	6.3	-80.47	-13.00	-67.47	V
90.1400	-59.09	1.11	1.07	-59.13	-13.00	-46.13	H
138.6400	-62.07	1.39	-0.38	-63.84	-13.00	-50.84	H
222.0600	-77.89	1.77	5.34	-74.32	-13.00	-61.32	H
376.2900	-68.63	2.31	5.93	-65.01	-13.00	-52.01	H
516.9400	-77.07	2.7	6.07	-73.70	-13.00	-60.70	H
637.2200	-78.61	3	6.15	-75.46	-13.00	-62.46	H

Remark:

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

**Operation Mode:** WCDMA / HSDPA Band V / TX / CH 4233**Test Date:** May 3, 2014**Temperature:** 24°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-61.44	1.16	-0.64	-63.24	-13.00	-50.24	V
138.6400	-64.73	1.39	-0.38	-66.50	-13.00	-53.50	V
342.3400	-81.02	2.18	5.8	-77.40	-13.00	-64.40	V
448.0700	-82.46	2.58	5.74	-79.30	-13.00	-66.30	V
612.9700	-83.05	2.94	6.23	-79.76	-13.00	-66.76	V
704.1500	-82.07	3.13	6.35	-78.85	-13.00	-65.85	V
87.2300	-58.58	1.09	0.73	-58.94	-13.00	-45.94	H
138.6400	-62.61	1.39	-0.38	-64.38	-13.00	-51.38	H
240.4900	-77.73	1.81	5.34	-74.20	-13.00	-61.20	H
378.2300	-70.62	2.31	5.96	-66.97	-13.00	-53.97	H
516.9400	-75.95	2.7	6.07	-72.58	-13.00	-59.58	H
720.6400	-78.73	3.17	6.49	-75.41	-13.00	-62.41	H

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band II /
TX / CH 9262**Temperature:** 25°C**Humidity:** 50 % RH**Test Date:** May 3, 2014**Tested by:** David Shu**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.18	1.16	-0.64	-63.98	-13.00	-50.98	V
138.6400	-64.37	1.39	-0.38	-66.14	-13.00	-53.14	V
342.3400	-80.3	2.18	5.8	-76.68	-13.00	-63.68	V
450.9800	-80.59	2.59	5.74	-77.44	-13.00	-64.44	V
541.1900	-82.97	2.78	6.25	-79.50	-13.00	-66.50	V
793.3900	-79.2	3.33	6.33	-76.20	-13.00	-63.20	V
90.1400	-58.87	1.11	1.07	-58.91	-13.00	-45.91	H
138.6400	-60.04	1.39	-0.38	-61.81	-13.00	-48.81	H
342.3400	-74.37	2.18	5.8	-70.75	-13.00	-57.75	H
516.9400	-75.87	2.7	6.07	-72.50	-13.00	-59.50	H
769.1400	-72.83	3.27	6.39	-69.71	-13.00	-56.71	H
910.7600	-76.4	3.57	6.6	-73.37	-13.00	-60.37	H

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band II /
TX / CH 9400**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.42	1.16	-0.64	-64.22	-13.00	-51.22	V
138.6400	-64.08	1.39	-0.38	-65.85	-13.00	-52.85	V
342.3400	-79.67	2.18	5.8	-76.05	-13.00	-63.05	V
448.0700	-80.71	2.58	5.74	-77.55	-13.00	-64.55	V
733.2500	-79.11	3.19	6.31	-75.99	-13.00	-62.99	V
836.0700	-78.93	3.4	6.36	-75.97	-13.00	-62.97	V
90.1400	-58.95	1.11	1.07	-58.99	-13.00	-45.99	H
138.6400	-60.84	1.39	-0.38	-62.61	-13.00	-49.61	H
342.3400	-74.55	2.18	5.8	-70.93	-13.00	-57.93	H
516.9400	-76.73	2.7	6.07	-73.36	-13.00	-60.36	H
770.1100	-73.66	3.27	6.38	-70.55	-13.00	-57.55	H
911.7300	-76.33	3.57	6.6	-73.30	-13.00	-60.30	H

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band II /
TX / CH 9538**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.46	1.16	-0.64	-64.26	-13.00	-51.26	V
138.6400	-64.28	1.39	-0.38	-66.05	-13.00	-53.05	V
342.3400	-80.63	2.18	5.8	-77.01	-13.00	-64.01	V
450.9800	-80.13	2.59	5.74	-76.98	-13.00	-63.98	V
733.2500	-79.07	3.19	6.31	-75.95	-13.00	-62.95	V
836.0700	-79.26	3.4	6.36	-76.30	-13.00	-63.30	V
90.1400	-58.62	1.11	1.07	-58.66	-13.00	-45.66	H
138.6400	-60.91	1.39	-0.38	-62.68	-13.00	-49.68	H
342.3400	-74.73	2.18	5.8	-71.11	-13.00	-58.11	H
516.9400	-77.11	2.7	6.07	-73.74	-13.00	-60.74	H
612.9700	-76.71	2.94	6.23	-73.42	-13.00	-60.42	H
769.1400	-73.51	3.27	6.39	-70.39	-13.00	-57.39	H

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band V /
TX / CH 4132**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-63.52	1.16	-0.64	-65.32	-13.00	-52.32	V
138.6400	-65.28	1.39	-0.38	-67.05	-13.00	-54.05	V
342.3400	-80.18	2.18	5.8	-76.56	-13.00	-63.56	V
448.0700	-80.69	2.58	5.74	-77.53	-13.00	-64.53	V
561.5600	-82.82	2.85	6	-79.67	-13.00	-66.67	V
698.3300	-82.49	3.11	6.41	-79.19	-13.00	-66.19	V
90.1400	-60.73	1.11	1.07	-60.77	-13.00	-47.77	H
138.6400	-61.76	1.39	-0.38	-63.53	-13.00	-50.53	H
342.3400	-74.78	2.18	5.8	-71.16	-13.00	-58.16	H
486.8700	-79.33	2.66	5.69	-76.30	-13.00	-63.30	H
529.5500	-78.28	2.75	6	-75.03	-13.00	-62.03	H
637.2200	-77.84	3	6.15	-74.69	-13.00	-61.69	H

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band V /
TX / CH 4182**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-63.57	1.16	-0.64	-65.37	-13.00	-52.37	V
138.6400	-65.67	1.39	-0.38	-67.44	-13.00	-54.44	V
342.3400	-80.35	2.18	5.8	-76.73	-13.00	-63.73	V
448.0700	-80.65	2.58	5.74	-77.49	-13.00	-64.49	V
585.8100	-82.69	2.89	6.11	-79.47	-13.00	-66.47	V
734.2200	-82.36	3.19	6.28	-79.27	-13.00	-66.27	V
90.1400	-60.51	1.11	1.07	-60.55	-13.00	-47.55	H
138.6400	-62.32	1.39	-0.38	-64.09	-13.00	-51.09	H
342.3400	-74.27	2.18	5.8	-70.65	-13.00	-57.65	H
516.9400	-76.38	2.7	6.07	-73.01	-13.00	-60.01	H
612.9700	-77.6	2.94	6.23	-74.31	-13.00	-61.31	H
767.2000	-78.11	3.26	6.37	-75.00	-13.00	-62.00	H

Remark:

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

**Operation Mode:** WCDMA / HSUPA Band V /
TX / CH 4233**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
101.7800	-62.75	1.16	-0.64	-64.55	-13.00	-51.55	V
138.6400	-64.33	1.39	-0.38	-66.10	-13.00	-53.10	V
336.5200	-82.02	2.17	5.76	-78.43	-13.00	-65.43	V
448.0700	-79.42	2.58	5.74	-76.26	-13.00	-63.26	V
552.8300	-82.47	2.82	6.14	-79.15	-13.00	-66.15	V
747.8000	-81.28	3.2	6.1	-78.38	-13.00	-65.38	V
87.2300	-59.1	1.09	0.73	-59.46	-13.00	-46.46	H
138.6400	-61.83	1.39	-0.38	-63.60	-13.00	-50.60	H
342.3400	-73.32	2.18	5.8	-69.70	-13.00	-56.70	H
505.3000	-77.22	2.69	5.95	-73.96	-13.00	-60.96	H
637.2200	-78.56	3	6.15	-75.41	-13.00	-62.41	H
770.1100	-78.15	3.27	6.38	-75.04	-13.00	-62.04	H

Remark:

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

**Above 1GHz****Operation Mode:** GSM 850 / TX / CH 128**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-56.92	5.05	6.03	-55.94	-13.00	-42.94	V
2470.000	-48.89	6.3	6.06	-49.13	-13.00	-36.13	V
N/A							
1917.000	-57.87	5.5	5.55	-57.82	-13.00	-44.82	H
2470.000	-53.77	6.3	6.06	-54.01	-13.00	-41.01	H
N/A							

Remark:

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

**Operation Mode:** GSM 850 / TX / CH 190**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2512.000	-44.96	6.37	6.13	-45.20	-13.00	-32.20	V
4591.000	-53.38	9.11	9.95	-52.54	-13.00	-39.54	V
N/A							
2512.000	-47.82	6.37	6.13	-48.06	-13.00	-35.06	H
3688.000	-55.26	8.19	9.09	-54.36	-13.00	-41.36	H
N/A							

Remark:

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

**Operation Mode:** GSM 850 / TX / CH 251**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2512.000	-45.62	6.37	6.13	-45.86	-13.00	-32.86	V
4675.000	-54	9.13	10.08	-53.05	-13.00	-40.05	V
N/A							
1196.000	-59.09	4.25	4.11	-59.23	-13.00	-46.23	H
2512.000	-48.57	6.37	6.13	-48.81	-13.00	-35.81	H
N/A							

Remark:

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

**Operation Mode:** GPRS 850 / TX / CH 128**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2470.000	-48.91	6.3	6.06	-49.15	-13.00	-36.15	V
4066.000	-54.35	8.42	9.45	-53.32	-13.00	-40.32	V
N/A							
1651.000	-56.05	5.05	6.03	-55.07	-13.00	-42.07	H
2470.000	-53.49	6.3	6.06	-53.73	-13.00	-40.73	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1672.000	-54.67	5.07	5.99	-53.75	-13.00	-40.75	V
2512.000	-44.99	6.37	6.13	-45.23	-13.00	-32.23	V
N/A							
1672.000	-54.67	5.07	5.99	-53.75	-13.00	-40.75	H
2512.000	-44.99	6.37	6.13	-45.23	-13.00	-32.23	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2512.000	-44.78	6.37	6.13	-45.02	-13.00	-32.02	V
3310.000	-56.36	7.47	8.33	-55.50	-13.00	-42.50	V
N/A							
2512.000	-47.67	6.37	6.13	-47.91	-13.00	-34.91	H
3758.000	-54.78	8.23	9.16	-53.85	-13.00	-40.85	H
N/A							

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 512**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3856.000	-50.27	8.33	9.26	-49.34	-13.00	-36.34	V
7398.000	-38.51	12.09	12.54	-38.06	-13.00	-25.06	V
N/A							
4423.000	-52.79	8.7	9.74	-51.75	-13.00	-38.75	H
5550.000	-52.15	10.06	10.81	-51.40	-13.00	-38.40	H
N/A							

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 661**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3919.000	-51.4	8.38	9.32	-50.46	-13.00	-37.46	V
7517.000	-38.3	12.24	12.72	-37.82	-13.00	-24.82	V
N/A							
3527.000	-55.66	7.93	8.93	-54.66	-13.00	-41.66	H
4129.000	-53.16	8.47	9.5	-52.13	-13.00	-39.13	H
N/A							

Remark:

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

**Operation Mode:** GSM 1900 / TX / CH 810**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3863.000	-53.47	8.34	9.26	-52.55	-13.00	-39.55	V
7398.000	-39.01	12.09	12.54	-38.56	-13.00	-25.56	V
N/A							
3149.000	-56.05	7.21	7.85	-55.41	-13.00	-42.41	H
4339.000	-53.61	8.62	9.67	-52.56	-13.00	-39.56	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3863.000	-52.06	8.34	9.26	-51.14	-13.00	-38.14	V
7398.000	-39.22	12.09	12.54	-38.77	-13.00	-25.77	V
N/A							
3877.000	-53.49	8.36	9.28	-52.57	-13.00	-39.57	H
4262.000	-52.79	8.56	9.61	-51.74	-13.00	-38.74	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3919.000	-52.09	8.38	9.32	-51.15	-13.00	-38.15	V
7517.000	-37.28	12.24	12.72	-36.80	-13.00	-23.80	V
N/A							
3527.000	-56.03	7.93	8.93	-55.03	-13.00	-42.03	H
4808.000	-52.48	9.32	10.29	-51.51	-13.00	-38.51	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3604.000	-56	8.11	9	-55.11	-13.00	-42.11	V
4423.000	-54.35	8.7	9.74	-53.31	-13.00	-40.31	V
N/A							
3142.000	-55.31	7.21	7.83	-54.69	-13.00	-41.69	H
4297.000	-53.3	8.6	9.64	-52.26	-13.00	-39.26	H
N/A							

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 128**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2470.000	-49.74	6.3	6.06	-49.98	-13.00	-36.98	V
4073.000	-54.13	8.43	9.46	-53.10	-13.00	-40.10	V
N/A							
1651.000	-56.51	5.05	6.03	-55.53	-13.00	-42.53	H
2470.000	-52.58	6.3	6.06	-52.82	-13.00	-39.82	H
N/A							

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 190**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2512.000	-44.89	6.37	6.13	-45.13	-13.00	-32.13	V
3527.000	-55.2	7.93	8.93	-54.20	-13.00	-41.20	V
N/A							
1672.000	-55.07	5.07	5.99	-54.15	-13.00	-41.15	H
2512.000	-48.11	6.37	6.13	-48.35	-13.00	-35.35	H
N/A							

Remark:

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

**Operation Mode:** EDGE 850 / TX / CH 251**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1672.000	-54.53	5.07	5.99	-53.61	-13.00	-40.61	V
2512.000	-45.22	6.37	6.13	-45.46	-13.00	-32.46	V
N/A							
2512.000	-48.72	6.37	6.13	-48.96	-13.00	-35.96	H
5032.000	-54.15	9.42	10.61	-52.96	-13.00	-39.96	H
N/A							

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 512**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3863.000	-52.49	8.34	9.26	-51.57	-13.00	-38.57	V
7398.000	-39.83	12.09	12.54	-39.38	-13.00	-26.38	V
N/A							
3254.000	-56.02	7.37	8.16	-55.23	-13.00	-42.23	H
3954.000	-54.03	8.37	9.35	-53.05	-13.00	-40.05	H
N/A							

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 661**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3919.000	-51.97	8.38	9.32	-51.03	-13.00	-38.03	V
7517.000	-39.24	12.24	12.72	-38.76	-13.00	-25.76	V
N/A							
2981.000	-56.43	7.04	7.35	-56.12	-13.00	-43.12	H
4346.000	-53.1	8.62	9.68	-52.04	-13.00	-39.04	H
N/A							

Remark:

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

**Operation Mode:** EDGE 1900 / TX / CH 810**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3982.000	-52.17	8.36	9.38	-51.15	-13.00	-38.15	V
7636.000	-32.99	12.24	12.84	-32.39	-13.00	-19.39	V
N/A							
3744.000	-55.26	8.23	9.14	-54.35	-13.00	-41.35	H
4430.000	-53.38	8.72	9.74	-52.36	-13.00	-39.36	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3709.000	-38.42	8.21	9.11	-37.52	-13.00	-24.52	V
5564.000	-52.11	10.1	10.81	-51.40	-13.00	-38.40	V
N/A							
3702.000	-36.93	8.2	9.1	-36.03	-13.00	-23.03	H
5557.000	-48.78	10.08	10.81	-48.05	-13.00	-35.05	H
7412.000	-37.48	12.11	12.56	-37.03	-13.00	-24.03	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-38.67	8.24	9.16	-37.75	-13.00	-24.75	V
5641.000	-53.12	10.18	10.83	-52.47	-13.00	-39.47	V
N/A							
3765.000	-37.56	8.24	9.16	-36.64	-13.00	-23.64	H
5641.000	-49.92	10.18	10.83	-49.27	-13.00	-36.27	H
7517.000	-39.44	12.24	12.72	-38.96	-13.00	-25.96	H
N/A							
					-13.00		H

Remark:

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

**Operation Mode:** WCDMA Band II / TX / CH 9538**Test Date:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3814.000	-36.93	8.28	9.21	-36.00	-13.00	-23.00	V
5718.000	-51.56	10.21	10.84	-50.93	-13.00	-37.93	V
N/A							
3814.000	-35.77	8.28	9.21	-34.84	-13.00	-21.84	H
5718.000	-47.9	10.21	10.84	-47.27	-13.00	-34.27	H
7636.000	-37.09	12.24	12.84	-36.49	-13.00	-23.49	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-59.69	5.05	6.03	-58.71	-13.00	-45.71	V
4262.000	-54.38	8.56	9.61	-53.33	-13.00	-40.33	V
N/A							
1651.000	-57.84	5.05	6.03	-56.86	-13.00	-43.86	H
3919.000	-53.19	8.38	9.32	-52.25	-13.00	-39.25	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3597.000	-55.22	8.1	9	-54.32	-13.00	-41.32	V
4507.000	-54.17	8.93	9.81	-53.29	-13.00	-40.29	V
N/A							
3107.000	-55.05	7.18	7.72	-54.51	-13.00	-41.51	H
4325.000	-53.31	8.61	9.66	-52.26	-13.00	-39.26	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2890.000	-56.66	7.12	7.11	-56.67	-13.00	-43.67	V
3919.000	-54.58	8.38	9.32	-53.64	-13.00	-40.64	V
N/A							
2827.000	-56.01	6.9	6.95	-55.96	-13.00	-42.96	H
5144.000	-51.85	9.5	10.66	-50.69	-13.00	-37.69	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3709.000	-36.92	8.21	9.11	-36.02	-13.00	-23.02	V
5557.000	-49.65	10.08	10.81	-48.92	-13.00	-35.92	V
7405.000	-37.45	12.1	12.55	-37.00	-13.00	-24.00	V
N/A							
3702.000	-40.31	8.2	9.1	-39.41	-13.00	-26.41	H
5557.000	-51.83	10.08	10.81	-51.10	-13.00	-38.10	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3758.000	-38.57	8.23	9.16	-37.64	-13.00	-24.64	V
5641.000	-50.64	10.18	10.83	-49.99	-13.00	-36.99	V
7517.000	-39.92	12.24	12.72	-39.44	-13.00	-26.44	V
N/A							
3758.000	-38.72	8.23	9.16	-37.79	-13.00	-24.79	H
5641.000	-52.72	10.18	10.83	-52.07	-13.00	-39.07	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3814.000	-36.44	8.28	9.21	-35.51	-13.00	-22.51	V
5718.000	-47.9	10.21	10.84	-47.27	-13.00	-34.27	V
7636.000	-37.4	12.24	12.84	-36.80	-13.00	-23.80	V
N/A							
3814.000	-35.89	8.28	9.21	-34.96	-13.00	-21.96	H
5718.000	-51.22	10.21	10.84	-50.59	-13.00	-37.59	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-57.18	5.05	6.03	-56.20	-13.00	-43.20	V
3646.000	-54.77	8.15	9.05	-53.87	-13.00	-40.87	V
N/A							
1658.000	-56.53	5.06	6.02	-55.57	-13.00	-42.57	H
4003.000	-52.86	8.35	9.4	-51.81	-13.00	-38.81	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1952.000	-56.92	5.59	5.49	-57.02	-13.00	-44.02	V
3947.000	-53.51	8.37	9.35	-52.53	-13.00	-39.53	V
N/A							
2211.000	-56.68	5.96	5.7	-56.94	-13.00	-43.94	H
3625.000	-54.51	8.13	9.03	-53.61	-13.00	-40.61	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1693.000	-58.64	5.1	5.95	-57.79	-13.00	-44.79	V
2925.000	-56.33	7.12	7.21	-56.24	-13.00	-43.24	V
N/A							
2204.000	-56.37	5.95	5.69	-56.63	-13.00	-43.63	H
3996.000	-53.61	8.35	9.4	-52.56	-13.00	-39.56	H
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: May 3, 2014

Temperature: 25°C

Tested by: David Shu

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3709.000	-38.11	8.21	9.11	-37.21	-13.00	-24.21	V
5557.000	-50.45	10.08	10.81	-49.72	-13.00	-36.72	V
7412.000	-38.43	12.11	12.56	-37.98	-13.00	-24.98	V
N/A							
3709.000	-39.7	8.21	9.11	-38.80	-13.00	-25.80	H
5557.000	-52.27	10.08	10.81	-51.54	-13.00	-38.54	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.000	-39.61	8.24	9.16	-38.69	-13.00	-25.69	V
5634.000	-51.07	10.18	10.83	-50.42	-13.00	-37.42	V
7524.000	-40.67	12.23	12.72	-40.18	-13.00	-27.18	V
N/A							
3758.000	-38.66	8.23	9.16	-37.73	-13.00	-24.73	H
5641.000	-53.41	10.18	10.83	-52.76	-13.00	-39.76	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3814.000	-37.41	8.28	9.21	-36.48	-13.00	-23.48	V
5725.000	-50.08	10.22	10.84	-49.46	-13.00	-36.46	V
7636.000	-39.49	12.24	12.84	-38.89	-13.00	-25.89	V
N/A							
3814.000	-38.1	8.28	9.21	-37.17	-13.00	-24.17	H
5725.000	-51.52	10.22	10.84	-50.90	-13.00	-37.90	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1952.000	-55.43	5.59	5.49	-55.53	-13.00	-42.53	V
4290.000	-54.14	8.59	9.63	-53.10	-13.00	-40.10	V
N/A							
3086.000	-56.14	7.15	7.66	-55.63	-13.00	-42.63	H
4227.000	-53.68	8.52	9.58	-52.62	-13.00	-39.62	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2932.000	-57.08	7.11	7.22	-56.97	-13.00	-43.97	V
3919.000	-54.66	8.38	9.32	-53.72	-13.00	-40.72	V
N/A							
2953.000	-56.25	7.08	7.28	-56.05	-13.00	-43.05	H
4773.000	-52.6	9.27	10.24	-51.63	-13.00	-38.63	H
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:** May 3, 2014**Temperature:** 25°C**Tested by:** David Shu**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	S.G. (dBm)	Cable loss (dB)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3191.000	-56.45	7.25	7.97	-55.73	-13.00	-42.73	V
4815.000	-53.8	9.31	10.3	-52.81	-13.00	-39.81	V
N/A							
2666.000	-57.08	6.65	6.53	-57.20	-13.00	-44.20	H
4430.000	-53.5	8.72	9.74	-52.48	-13.00	-39.48	H
N/A							

Remark:

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



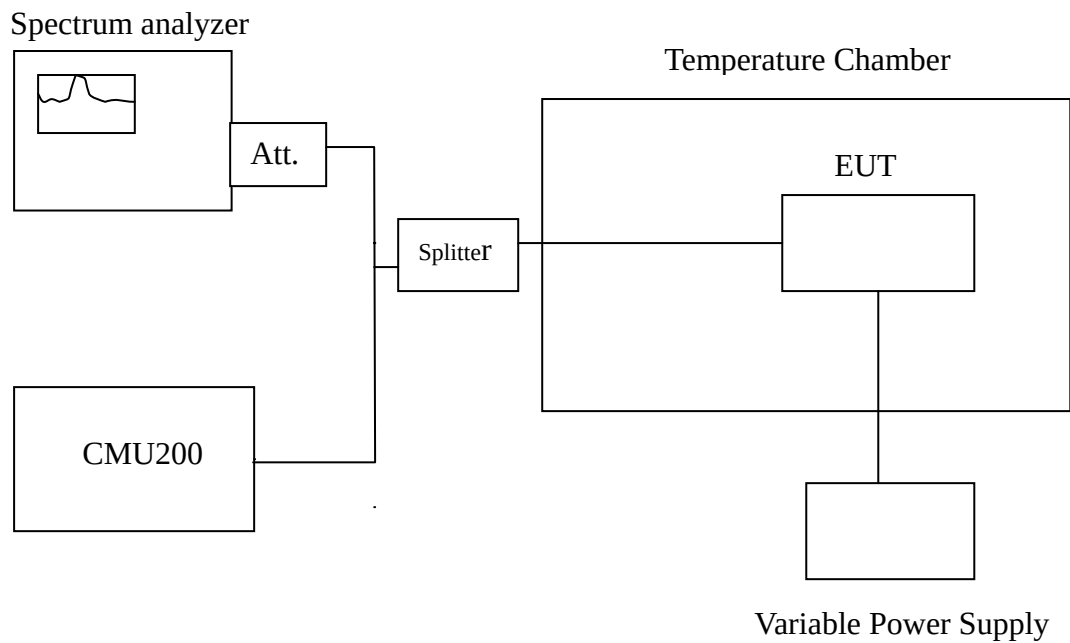
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §24.235, RSS-132 (4.3) & RSS-133 (6.3).

Frequency Tolerance: 2.5 ppm

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836600001	-8	2090
	40	836599988	-21	
	30	836599989	-20	
	20	836600009	0	
	10	836599982	-27	
	0	836599995	-14	
	-10	836599991	-18	
	-20	836599993	-16	
	-30	836600012	3	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1880000001	1	4700
	40	1880000016	16	
	30	1880000013	13	
	20	1880000000	0	
	10	1880000018	18	
	0	1880000019	19	
	-10	1880000011	11	
	-20	1880000024	24	
	-30	1880000007	7	



Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836600001	10	2090
	40	836600016	25	
	30	836600013	22	
	20	836599991	0	
	10	836600018	27	
	0	836600019	28	
	-10	836600011	20	
	-20	836600024	33	
	-30	836600007	16	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1880000001	1	4700
	40	1880000016	16	
	30	1880000013	13	
	20	1880000000	0	
	10	1880000018	18	
	0	1880000019	19	
	-10	1880000011	11	
	-20	1880000024	24	
	-30	1880000007	7	



Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836600001	10	2090
	40	836600016	25	
	30	836600013	22	
	20	836599991	0	
	10	836600018	27	
	0	836600019	28	
	-10	836600011	20	
	-20	836600024	33	
	-30	836600007	16	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1880000001	1	4700
	40	1880000016	16	
	30	1880000013	13	
	20	1880000000	0	
	10	1880000018	18	
	0	1880000019	19	
	-10	1880000011	11	
	-20	1880000024	24	
	-30	1880000007	7	



Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836399995	-15	2090
	40	836399991	-19	
	30	836399996	-14	
	20	836400010	0	
	10	836399994	-16	
	0	836399999	-11	
	-10	836399979	-31	
	-20	836399989	-21	
	-30	836399975	-35	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1880000001	-9	4700
	40	1880000003	-7	
	30	1879999999	-11	
	20	1880000010	0	
	10	1879999994	-16	
	0	1880000007	-3	
	-10	1879999995	-15	
	-20	1880000001	-9	
	-30	1879999998	-12	



Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836399986	-19	2090
	40	836399989	-16	
	30	836399988	-17	
	20	836400005	0	
	10	836400004	-1	
	0	836399985	-20	
	-10	836399994	-11	
	-20	836399988	-17	
	-30	836400000	-5	

Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999999	-1	4700
	40	1879999989	-11	
	30	1879999984	-16	
	20	1880000000	0	
	10	1879999992	-8	
	0	1880000004	4	
	-10	1879999997	-3	
	-20	1879999995	-5	
	-30	1879999992	-8	



Reference Frequency: WCDMA / HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836400004	3	4700
	40	836400005	4	
	30	836399997	-4	
	20	836400001	0	
	10	836399998	-3	
	0	836399994	-7	
	-10	836400008	7	
	-20	836400009	8	
	-30	836399989	-12	

Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999999	-3	2090
	40	1879999996	-6	
	30	1879999995	-7	
	20	1880000002	0	
	10	1879999999	-3	
	0	1879999995	-7	
	-10	1879999994	-8	
	-20	1879999992	-10	
	-30	1879999999	-3	



7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

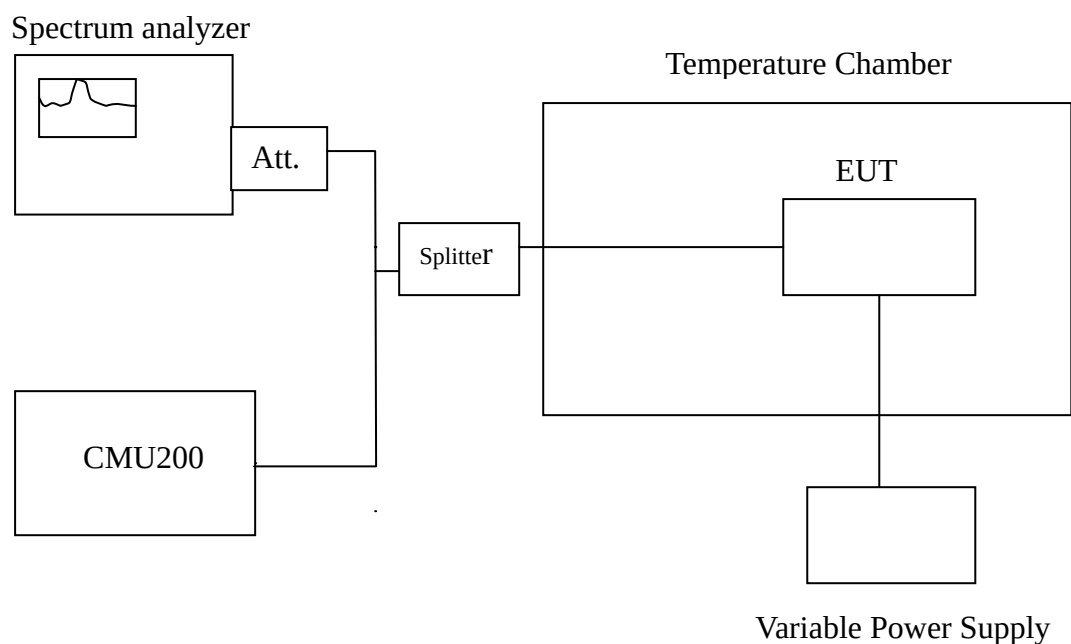
According to FCC §2.1055, FCC §24.235,

Frequency Tolerance: 2.5 ppm.

According to RSS-132 (4.3) & RSS-133 (6.3).

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations and ± 1.0 ppm for base stations.

Test Configuration



Remark: Measurement setup for testing on Antenna connector.



TEST PROCEDURE

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

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836600005	-4	2090
3.8		836600009	0	
3.23		836600006	-3	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1879999980	-20	4700
3.8		1880000000	0	
3.23		1879999977	-23	



Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836599980	-11	2090
3.8		836599991	0	
3.23		836599977	-14	
8.9END		836599562	-429	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1879999980	-20	4700
3.8		1880000000	0	
3.23		1879999977	-23	
8.9END		1879999562	-438	



Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836599980	-11	2090
3.8		836599991	0	
3.23		836599977	-14	
8.9END		836599562	-429	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1879999980	-20	4700
3.8		1880000000	0	
3.23		1879999977	-23	
8.9END		1879999562	-438	



Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400009	-1	2090
3.8		836400010	0	
3.23		836400005	-5	
8.9END		836400007	-3	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1880000016	6	4700
3.8		1880000010	0	
3.23		1880000009	-1	
8.9END		1879999943	-67	



Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400004	-1	2090
3.8		836400005	0	
3.23		836400000	-5	
8.9END		836400083	78	

Reference Frequency: WCDMA / HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1879999996	-4	4700
3.8		1880000000	0	
3.23		1880000003	3	
8.9END		1880000061	61	



Reference Frequency: WCDMA HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400002	1	4700
3.8		836400001	0	
3.23		836400004	3	
8.9END		836400083	82	

Reference Frequency: WCDMA HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	1880000010	8	2090
3.8		1880000002	0	
3.23		1880000003	1	
8.9END		1879999916	-86	