



**FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E
&
INDUSTRY CANADA RSS-132 & RSS-133
(Class II Permissive Change)**

TEST REPORT

For

LE920-NAG

Trade Name: LE920

Model: LE920-NAG

Issued to

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

Issued by

**Compliance Certification Services Inc.
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Issued Date: December 10, 2013**



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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 24, 2013	Initial Issue	ALL	Kelly Cheng
01	December 10, 2013	See the following Note Rev. (01)	ALL	Kelly Cheng

Rev. (01):

- 1. Modify the antenna gain to evaluate maximum antenna gain*
- 2. Other information, please refer to the T130708W02 and this test report.*



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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: LE920-NAG

Trade Name: LE920

Model Number: LE920-NAG

Date of Test: July 9, 2008 ~ December 6, 2013

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E & IC RSS-132 Issue 2: September 2005 and IC RSS-133 Issue 5: February 2009	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 2 and IC RSS-133 Issue 4.

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	LE920-NAG
Trade Name	LE920
Model Number	LE920-NAG
Model Discrepancy	N/A
Received Date	December 04, 2013
Power Supply	DC 3.8V 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
Transmit Power (ERP & EIRP Power)	GSM 850MHz : 32.54dBm (1.7947W) GPRS 850MHz : 28.41dBm(0.6934W) EDGE 850MHz : 27.22dBm(0.5272W) WCDMA Band V : 27.00dBm(0.5012W) WCDMA HSDPA Band V : 25.49dBm(0.3540W) WCDMA HSUPA Band V : 23.70dBm(0.2344W) GSM 1900MHz : 32.87dBm(1.9364W) GPRS 1900MHz : 26.92dBm(0.4920W) EDGE 1900MHz : 25.54dBm(0.3581W) WCDMA Band II : 29.31dBm(0.8531W) WCDMA HSDPA Band II : 27.06dBm(0.5082W) WCDMA HSUPA Band II : 25.09dBm(0.3228W)
Modulation Technique	GMSK
Multislot class	GSM / GPRS / EDGE: Class 10
Antenna Gain	Antenna gain including cable loss must not exceed 7.10dBi in the GSM850, 2.01dBi in the PCS1900, 8dBi in the FDD-II and 15.6dBi in the FDD-V for satisfying the requirement of 2.1043 and 2.1091.
Antenna Type	Dipole Antenna
Class II Permissive Change	Modify the antenna gain to evaluate maximum antenna gain

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	32.54	247KGXW
GPRS 850MHz	28.41	246GXW
EDGE 850MHz	27.22	246G7W
WCDMA Band V	27.00	4M17F9W
WCDMA HSDPA Band V	25.49	4M18F9W
WCDMA HSUPA Band V	23.70	4M19F9W

Mode	ERP Power (dBm)	Type of Emission
GSM 1900MHz	32.87	244KGXW
GPRS 1900MHz	26.92	243KGXW
EDGE 1900MHz	25.54	243KG7W
WCDMA Band II	29.31	4M31F9W
WCDMA HSDPA Band II	27.06	4M31F9W
WCDMA HSUPA Band II	25.09	4M31F9W



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: LE920-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.

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



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	03/20/2014
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	02/17/2014
Pre-Amplifier	Mini-Circuits	ZFL-1000LN	SF350700823	01/12/2014
Bilog Antenna	Sunol Sciences	JB3	A030105	02/17/2014
Bilog Antenna	Sunol Sciences	JB3	A030205	10/01/2014
Horn Antenna	EMCO	3117	00055165	02/17/2014
Horn Antenna	EMCO	3117	00055167	01/28/2014
Horn Antenna	EMCO	3116	26370	01/07/2014
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	12/22/2013
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.	Universal Radio Communication Tester	R&S	CMU200	101245	N/A	N/A	Unshielded, 1.8m

Remark:

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



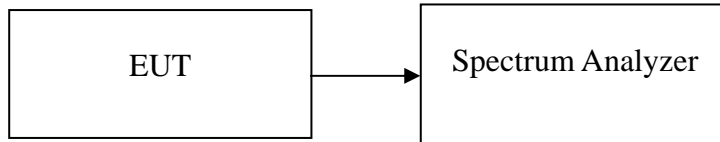
7. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133

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)	Occupied Bandwidth (kHz)
GSM 850	128	824.200	315.518
	190	836.400	321.211
	251	848.800	320.504
GPRS 850 (Class 10)	128	824.200	324.037
	190	836.400	321.659
	251	848.800	317.050
EDGE 850 (Class 10)	128	824.200	312.334
	190	836.570	320.923
	251	848.800	321.987
GSM 1900	512	1850.210	322.460
	661	1880.000	323.735
	810	1909.823	324.866
GPRS 1900 (Class 10)	512	1850.210	312.138
	661	1880.000	313.882
	810	1909.823	307.976
EDGE 1900 (Class 10)	512	1850.173	320.660
	661	1880.000	313.058
	810	1909.800	309.841



Test Mode	CH	Frequency (MHz)	Occupied Bandwidth (MHz)
WCDMA (Band II)	9262	1852.40	4.690
	9400	1880.00	4.685
	9538	1907.60	4.683
WCDMA (Band V)	4132	826.40	4.675
	4182	836.40	4.681
	4233	846.60	4.684
WCDMA / HSDPA (BAND II)	9262	1852.40	4.662
	9400	1880.00	4.660
	9538	1907.60	4.675
WCDMA / HSDPA (BAND V)	4132	826.40	4.674
	4182	836.40	4.678
	4233	846.60	4.672
WCDMA / HSUPA (BAND II)	9262	1852.40	4.669
	9400	1880.00	4.659
	9538	1907.60	4.654
WCDMA / HSUPA (BAND V)	4132	826.40	4.676
	4182	836.40	4.684
	4233	846.60	4.644

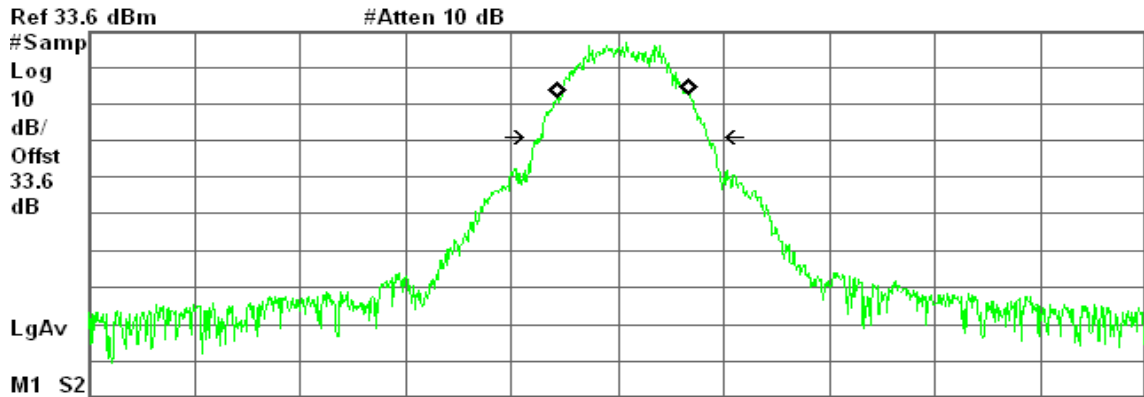


Test Plot

GSM 850 (CH Low)

Agilent

R T



Ref 33.6 dBm

#Atten 10 dB

#Samp

Log

10

dB/

Offst

33.6

dB

LgAv

M1 S2

Center 824.190 MHz

Span 2 MHz

#Res BW 20 kHz

#VBW 62 kHz

Sweep 15.13 ms (1001 pts)

Occupied Bandwidth

247.5263 kHz

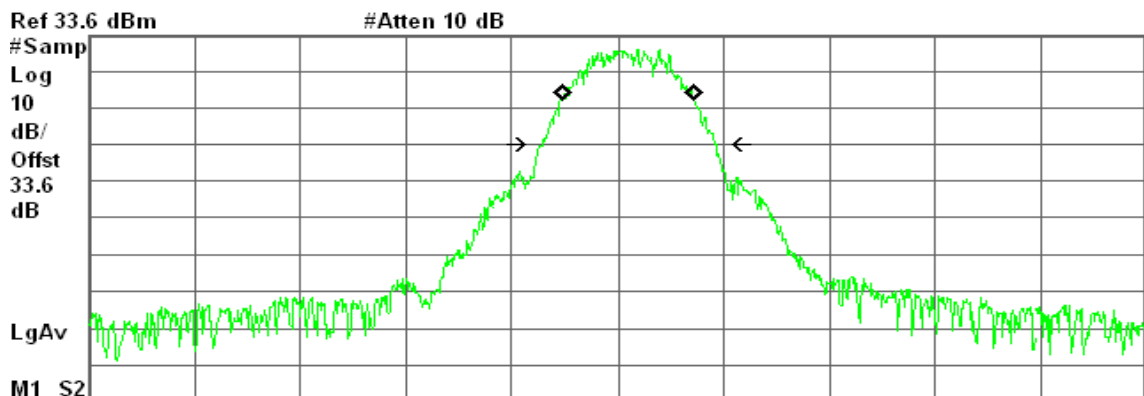
Occ BW % Pwr	99.00 %
x dB	-26.00 dB

Transmit Freq Error	11.056 kHz
x dB Bandwidth	315.518 kHz*

GSM 850 (CH Mid)

Agilent

R T



Ref 33.6 dBm

#Atten 10 dB

#Samp

Log

10

dB/

Offst

33.6

dB

LgAv

M1 S2

Center 836.580 MHz

Span 2 MHz

#Res BW 20 kHz

#VBW 62 kHz

Sweep 15.13 ms (1001 pts)

Occupied Bandwidth

249.1665 kHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

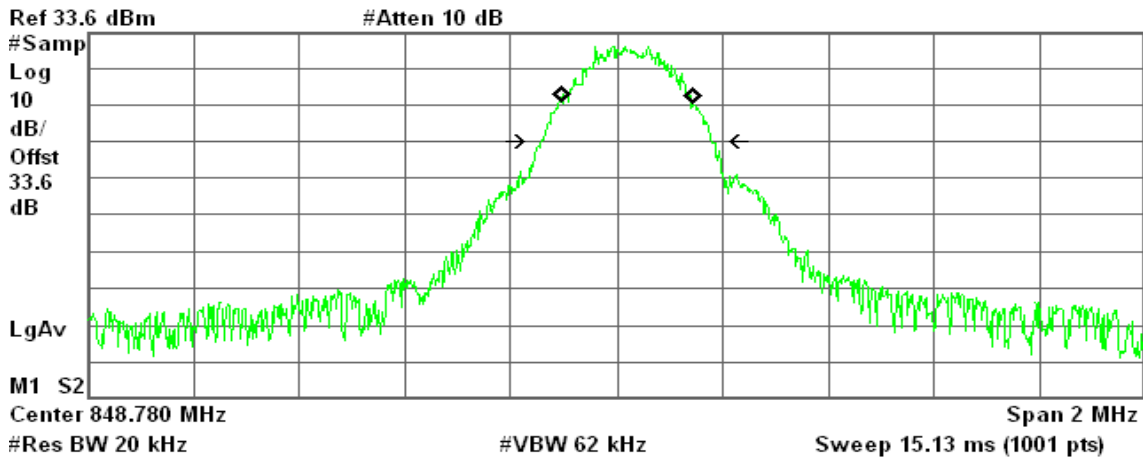
Transmit Freq Error	20.392 kHz
x dB Bandwidth	321.211 kHz*



GSM 850 (CH High)

Agilent

R T



Occupied Bandwidth
247.7914 kHz

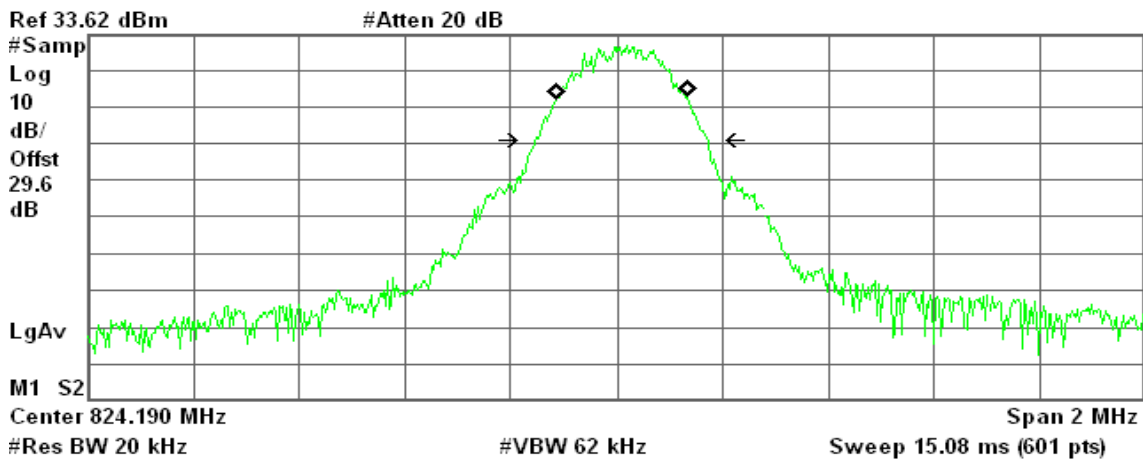
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 19.729 kHz
x dB Bandwidth 320.504 kHz*

GPRS 850 (CH Low)

Agilent

R T



Occupied Bandwidth
245.1537 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

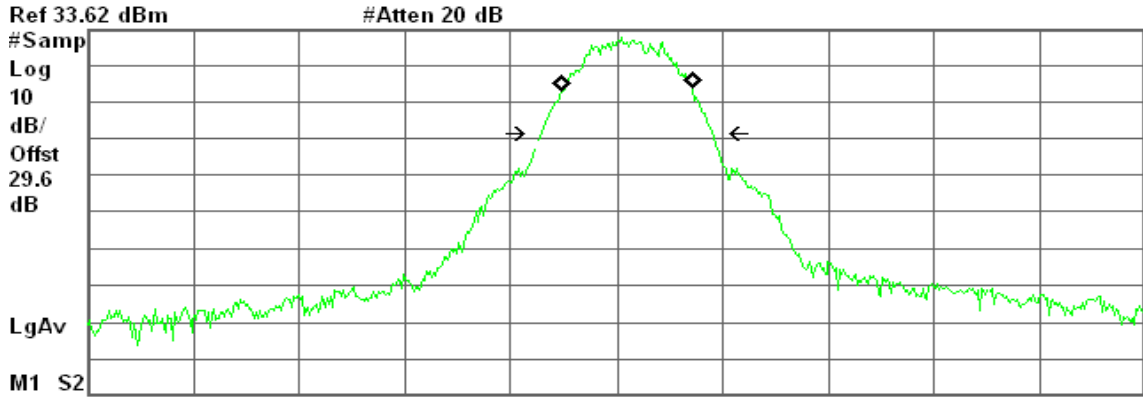
Transmit Freq Error 9.963 kHz
x dB Bandwidth 324.037 kHz*



GPRS 850 (CH Mid)

Agilent

R T



Center 836.580 MHz Span 2 MHz

#Res BW 20 kHz #VBW 62 kHz Sweep 15.08 ms (601 pts)

Occupied Bandwidth
244.2938 kHz

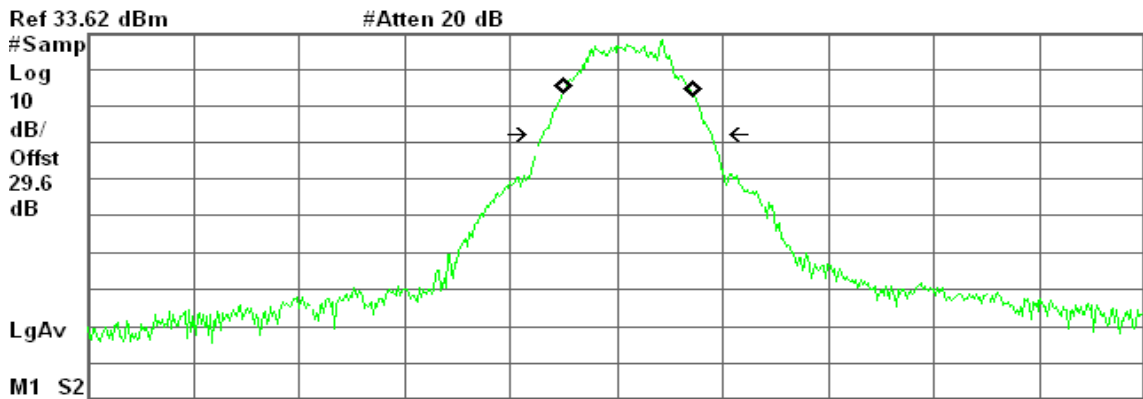
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 20.244 kHz
x dB Bandwidth 321.659 kHz*

GPRS 850(CH High)

Agilent

R T



Center 848.780 MHz Span 2 MHz

#Res BW 20 kHz #VBW 62 kHz Sweep 15.08 ms (601 pts)

Occupied Bandwidth
243.8242 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

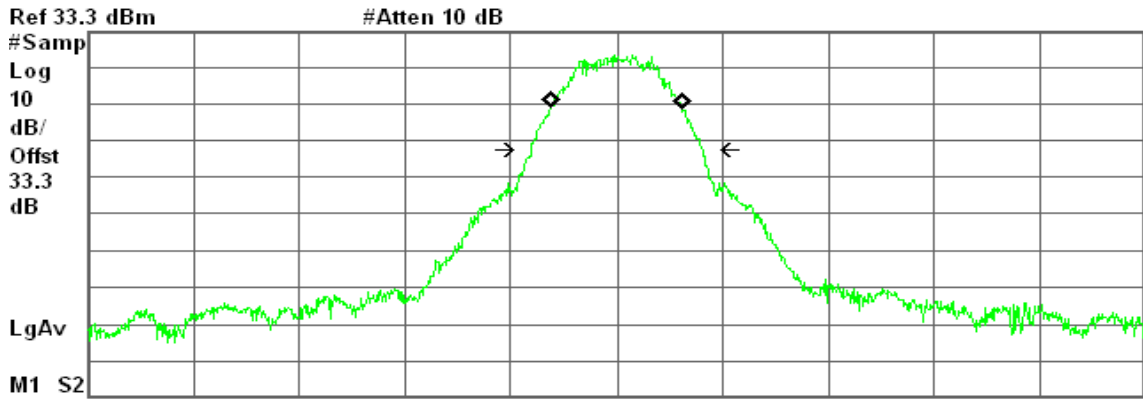
Transmit Freq Error 21.255 kHz
x dB Bandwidth 317.050 kHz*



GSM 1900 (CH Low)

Agilent

R T



Occupied Bandwidth
244.4179 kHz

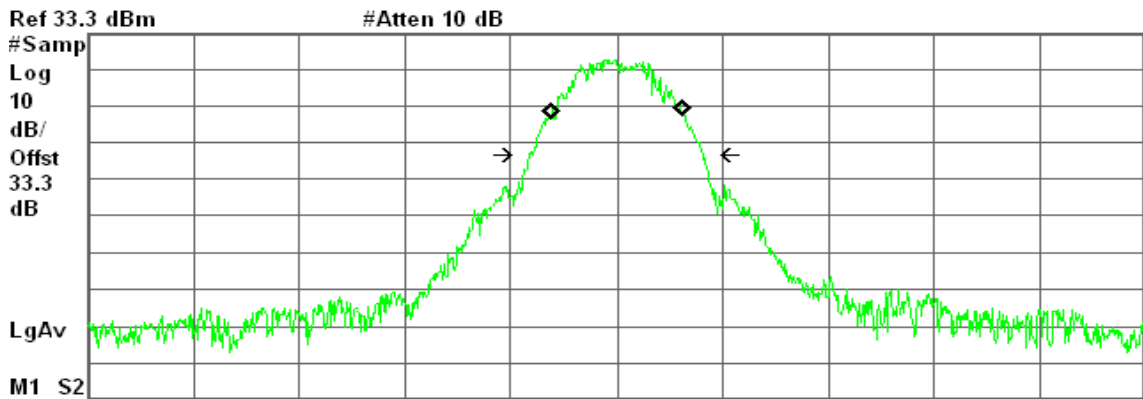
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -574.046 Hz
x dB Bandwidth 322.460 kHz*

GSM 1900 (CH Mid)

Agilent

R T



Occupied Bandwidth
246.6517 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

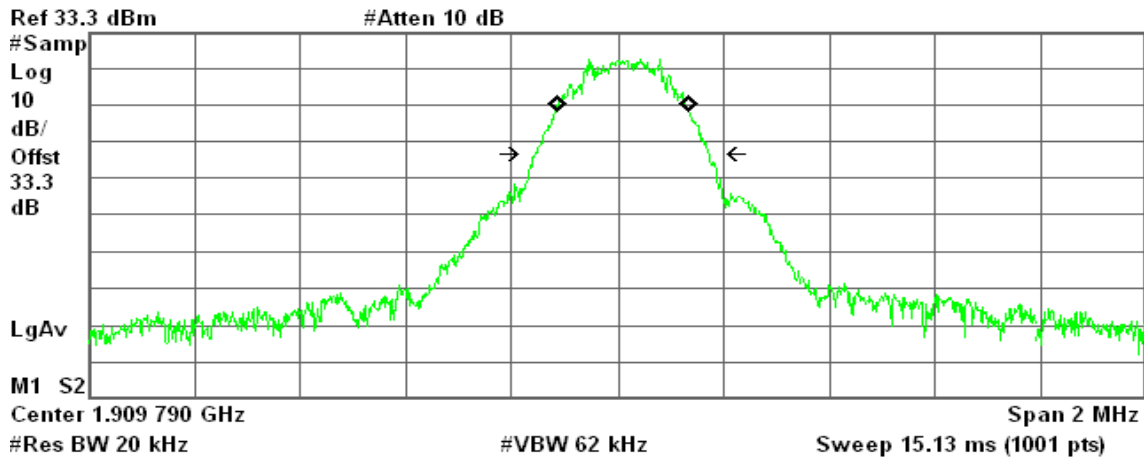
Transmit Freq Error 166.903 Hz
x dB Bandwidth 323.735 kHz*



GSM 1900 (CH High)

Agilent

R T



Occupied Bandwidth
247.6575 kHz

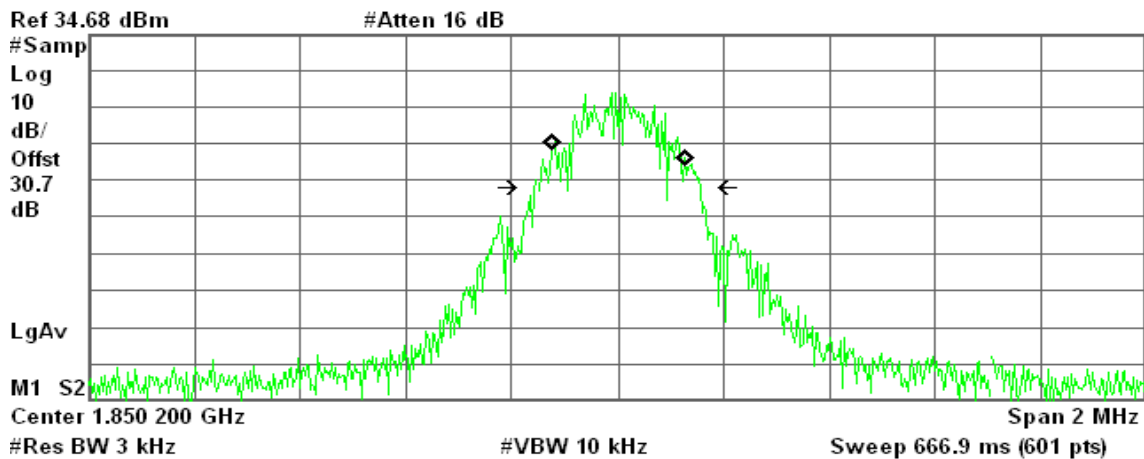
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.846 kHz
x dB Bandwidth 324.866 kHz*

GPRS 1900 (CH Low)

Agilent

R T



Occupied Bandwidth
249.0336 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

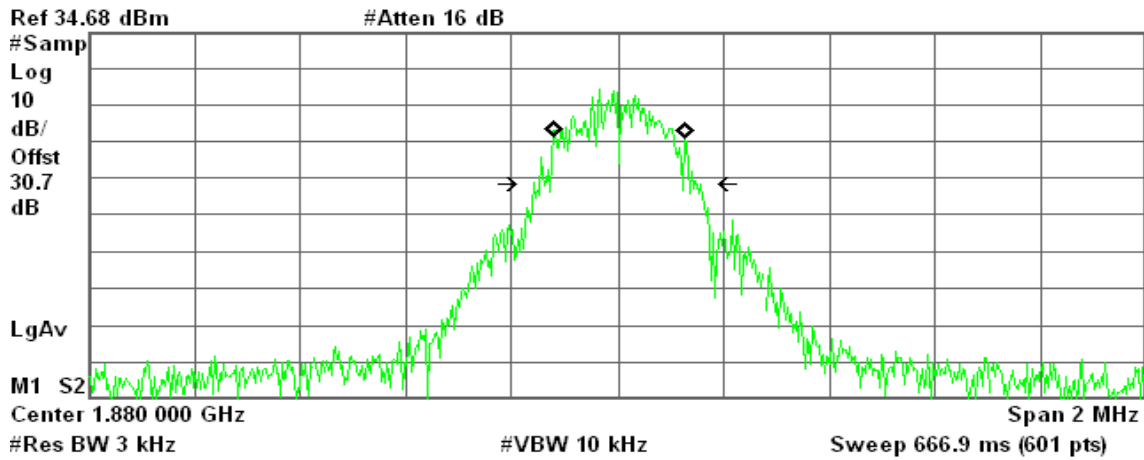
Transmit Freq Error 1.011 kHz
x dB Bandwidth 312.138 kHz*



GPRS 1900 (CH Mid)

Agilent

R T



Occupied Bandwidth
248.3274 kHz

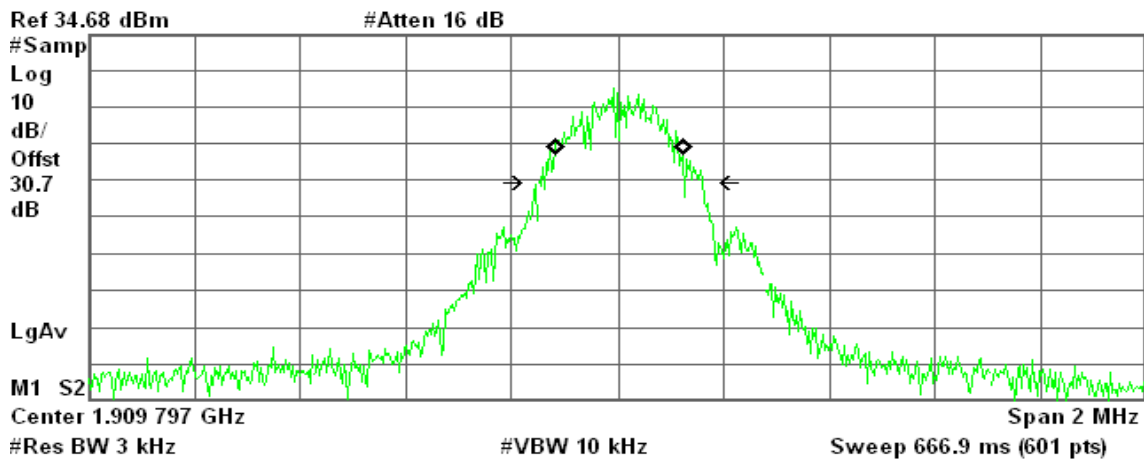
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 3.474 kHz
x dB Bandwidth 313.882 kHz*

GPRS 1900 (CH High)

Agilent

R T



Occupied Bandwidth
241.2252 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

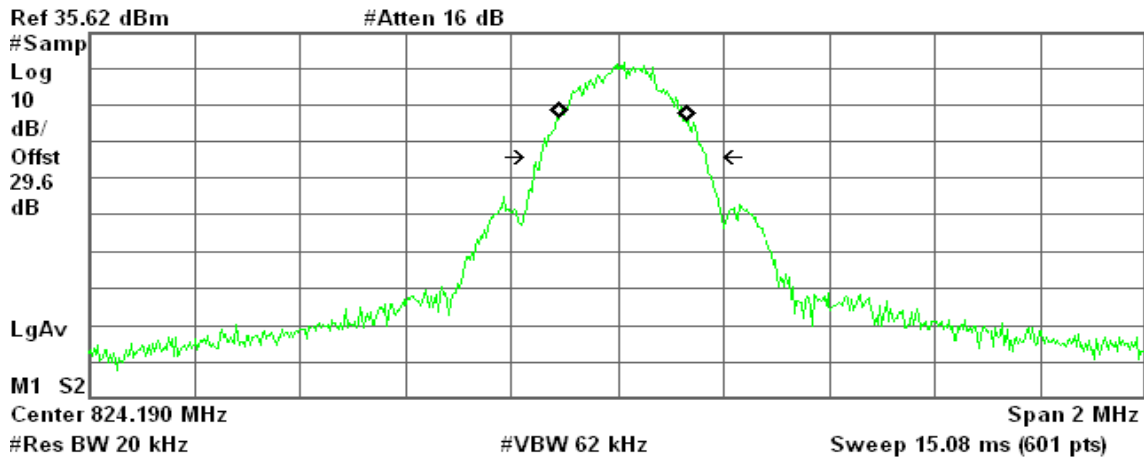
Transmit Freq Error 2.660 kHz
x dB Bandwidth 307.976 kHz*



EDGE 850 (CH Low)

Agilent

R T



Occupied Bandwidth
242.7279 kHz

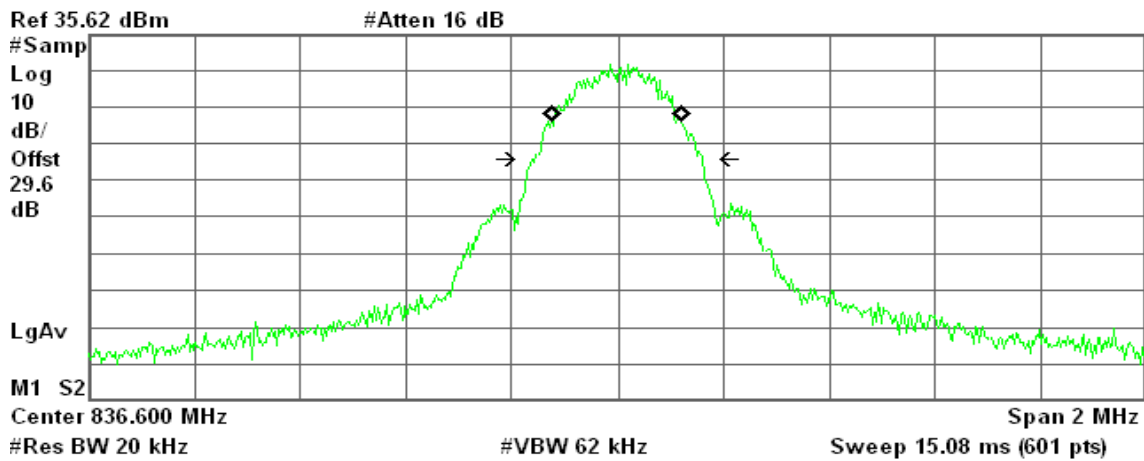
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 10.301 kHz
x dB Bandwidth 312.334 kHz*

EDGE 850 (CH Mid)

Agilent

R T



Occupied Bandwidth
245.0645 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

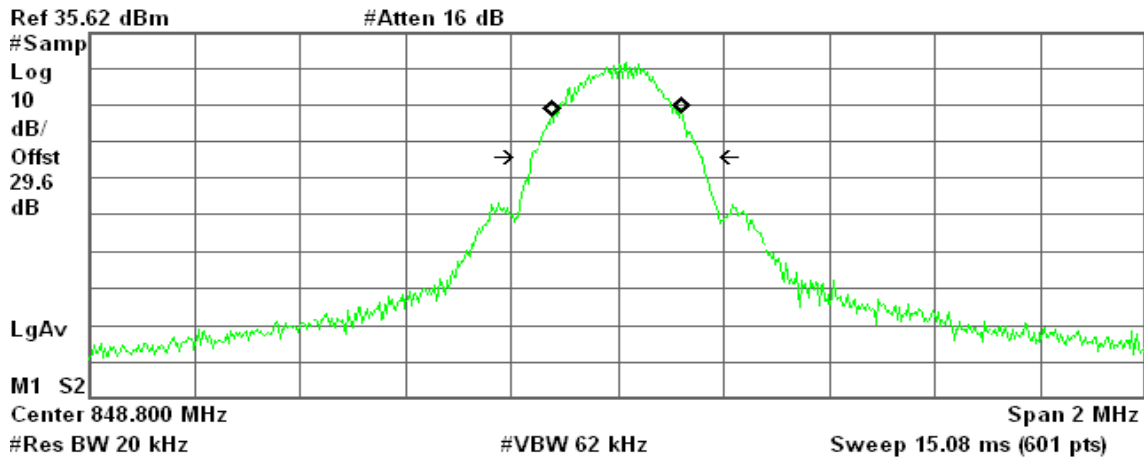
Transmit Freq Error -1.918 kHz
x dB Bandwidth 320.923 kHz*



EDGE 850 (CH High)

Agilent

R T



Occupied Bandwidth
245.4542 kHz

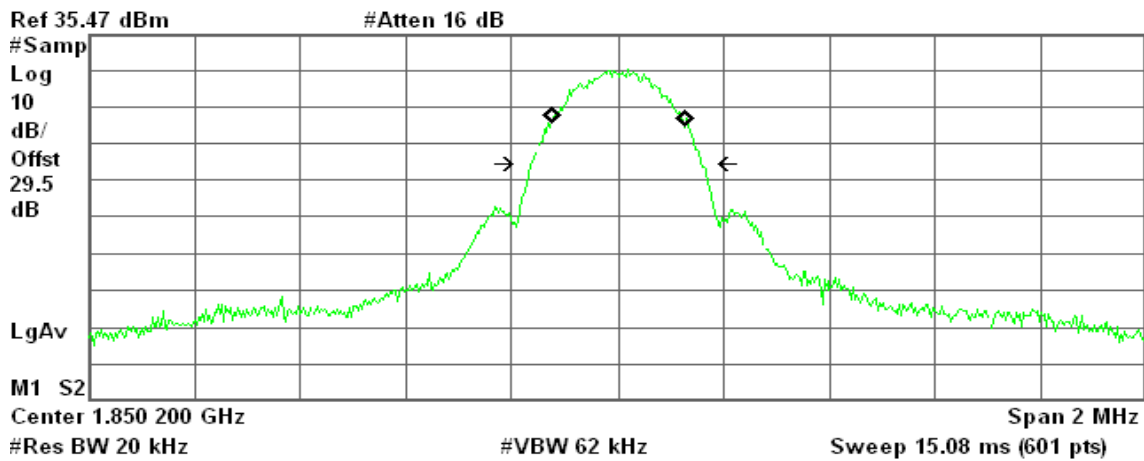
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.376 kHz
x dB Bandwidth 321.987 kHz*

EDGE 1900 (CH Low)

Agilent

R T



Occupied Bandwidth
251.7408 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

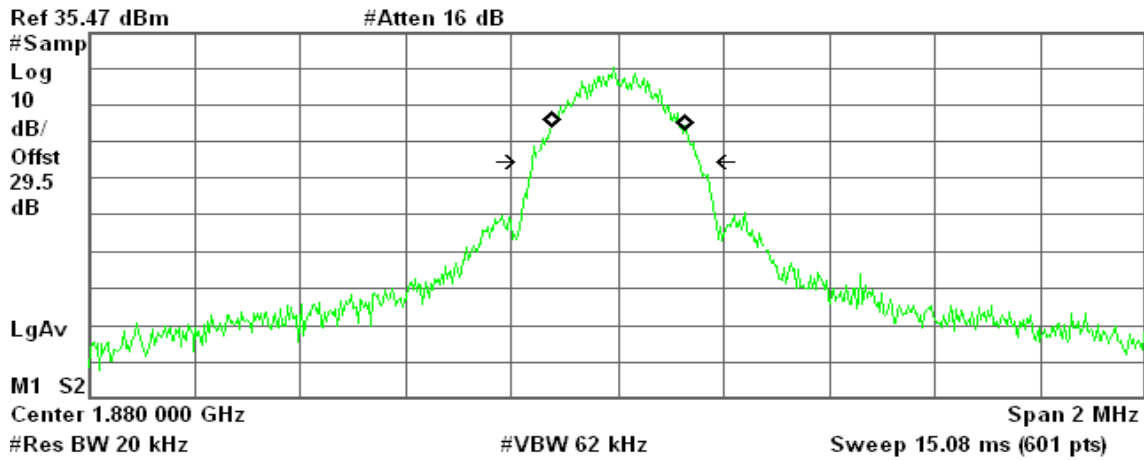
Transmit Freq Error 1.448 kHz
x dB Bandwidth 320.660 kHz*



EDGE 1900 (CH Mid)

Agilent

R T



Occupied Bandwidth
248.7395 kHz

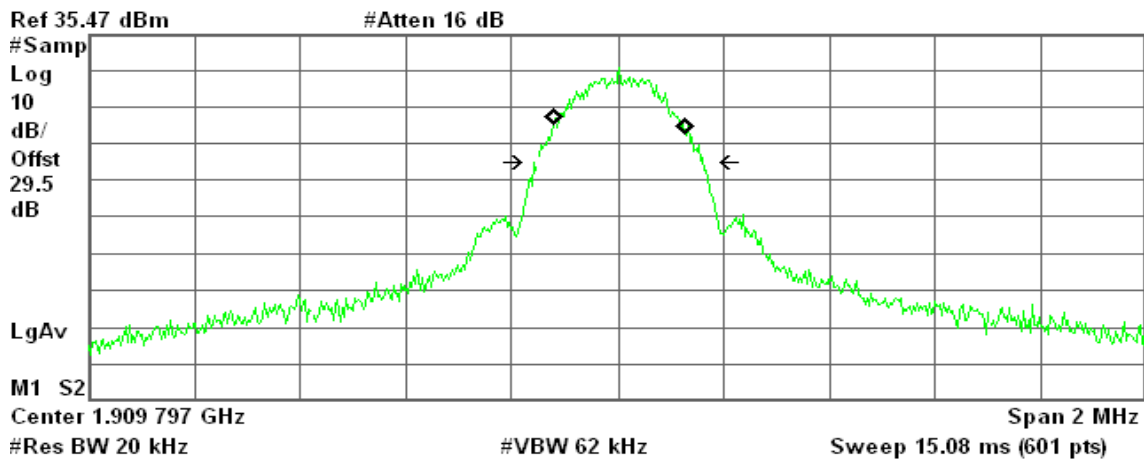
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 713.051 Hz
x dB Bandwidth 313.058 kHz*

EDGE 1900 (CH High)

Agilent

R T



Occupied Bandwidth
247.0616 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

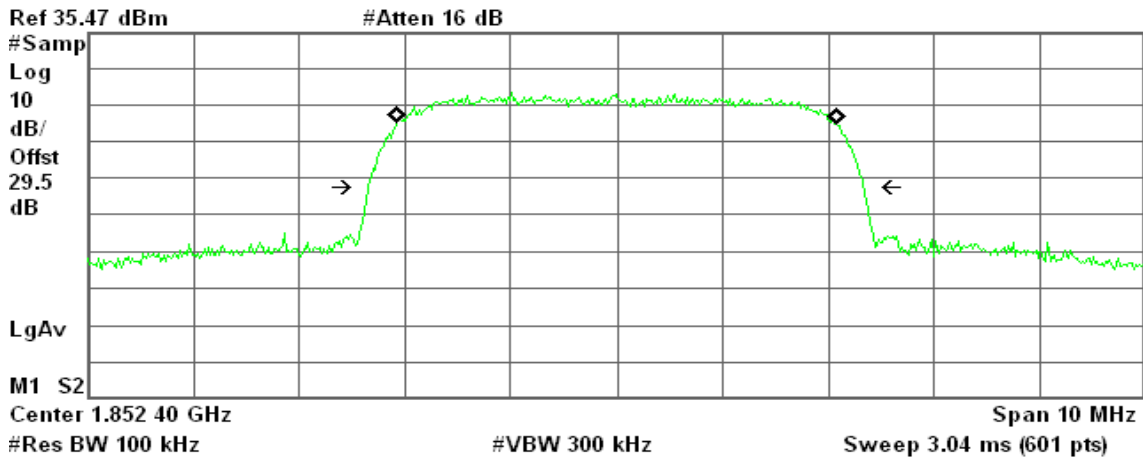
Transmit Freq Error 4.439 kHz
x dB Bandwidth 309.841 kHz*



WCDMA Band II (CH Low)

Agilent

R T



Occupied Bandwidth
4.1677 MHz

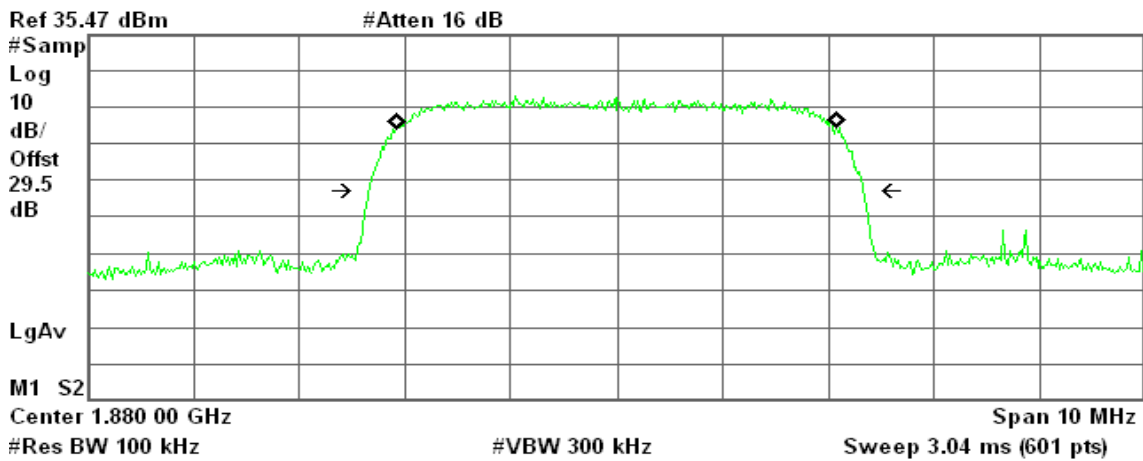
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 4.917 kHz
x dB Bandwidth 4.690 MHz*

WCDMA Band II (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1755 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

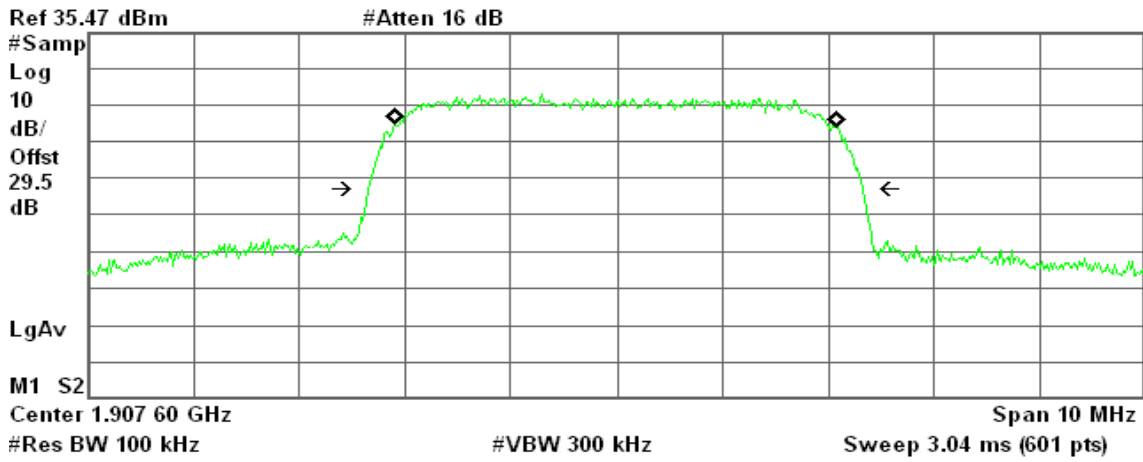
Transmit Freq Error -657.619 Hz
x dB Bandwidth 4.685 MHz*



WCDMA Band II (CH High)

Agilent

R T



Occupied Bandwidth
4.1781 MHz

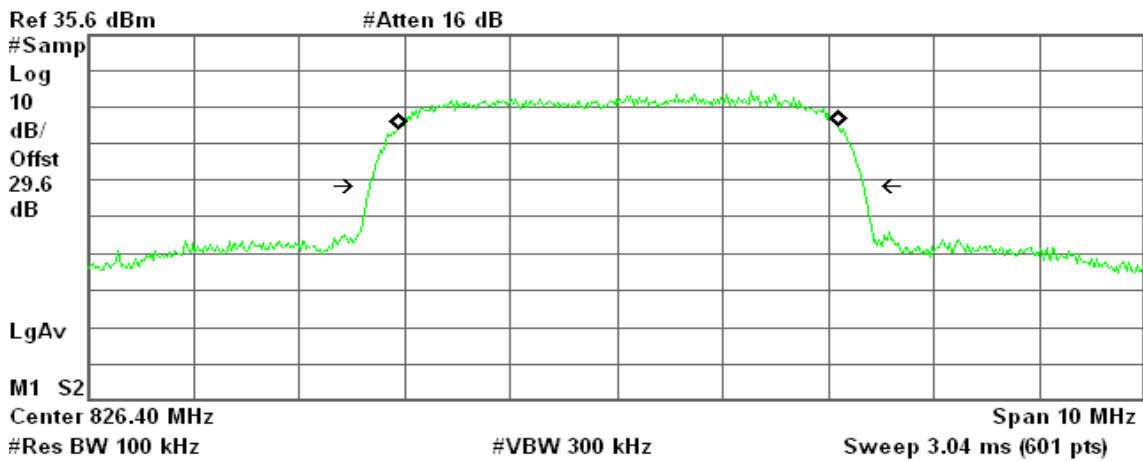
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -13.629 kHz
x dB Bandwidth 4.683 MHz*

WCDMA Band V (CH Low)

Agilent

R T



Occupied Bandwidth
4.1761 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

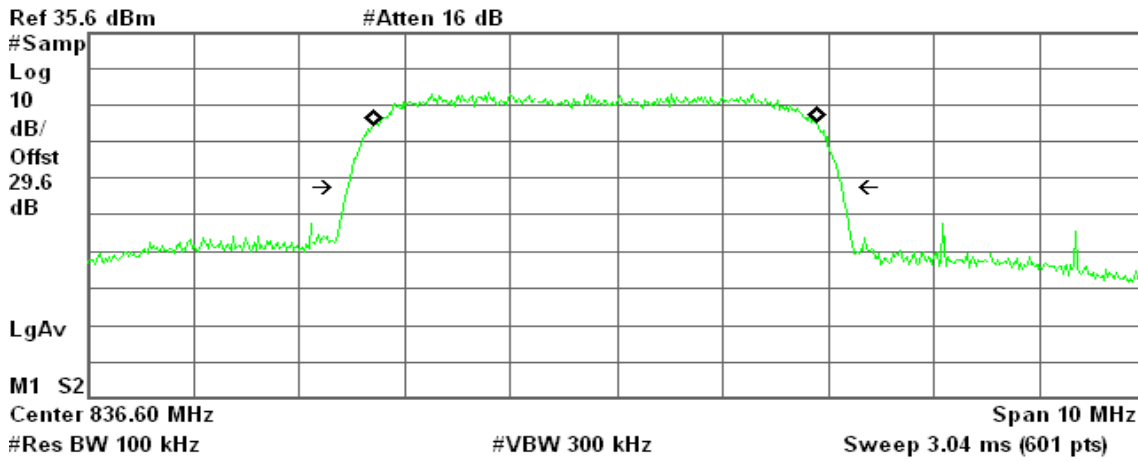
Transmit Freq Error 14.738 kHz
x dB Bandwidth 4.675 MHz*



WCDMA Band V (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1788 MHz

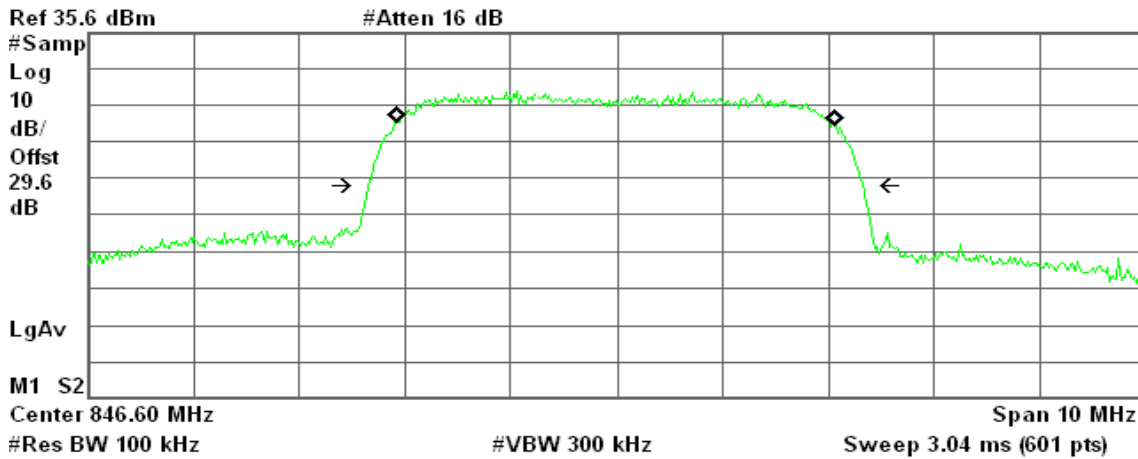
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -206.036 kHz
x dB Bandwidth 4.681 MHz*

WCDMA Band V (CH High)

Agilent

R T



Occupied Bandwidth
4.1658 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

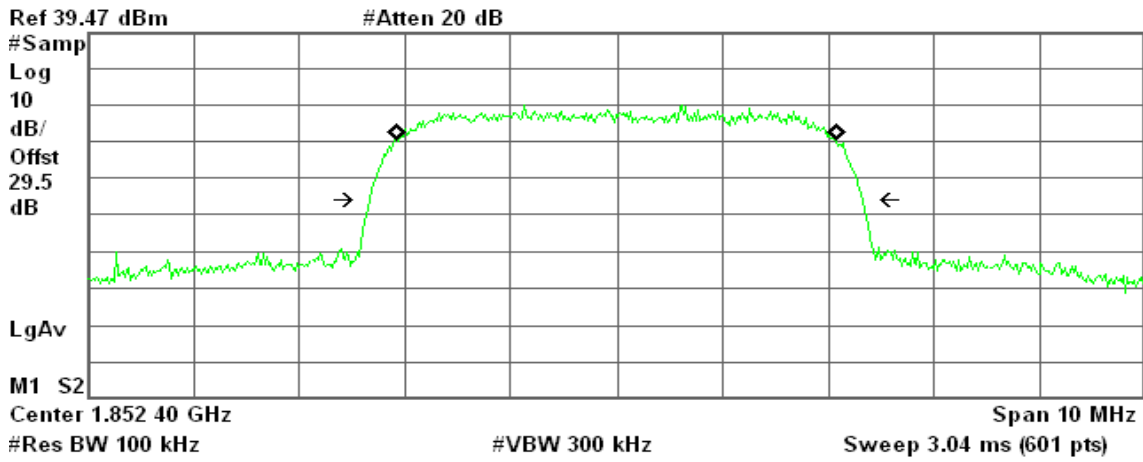
Transmit Freq Error -8.184 kHz
x dB Bandwidth 4.684 MHz*



WCDMA / HSDPA Band II (CH Low)

Agilent

R T



Occupied Bandwidth
4.1772 MHz

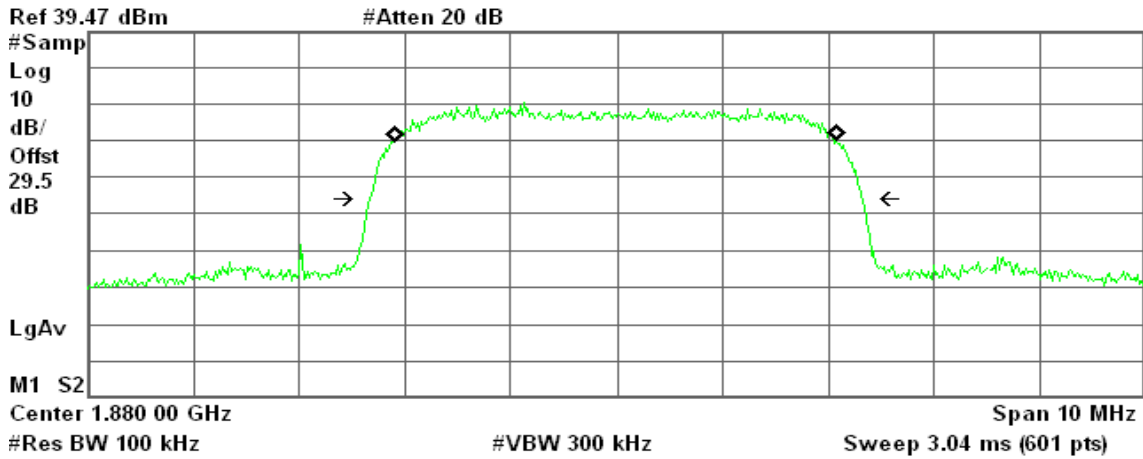
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.836 kHz
x dB Bandwidth 4.662 MHz*

WCDMA / HSDPA Band II (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1773 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

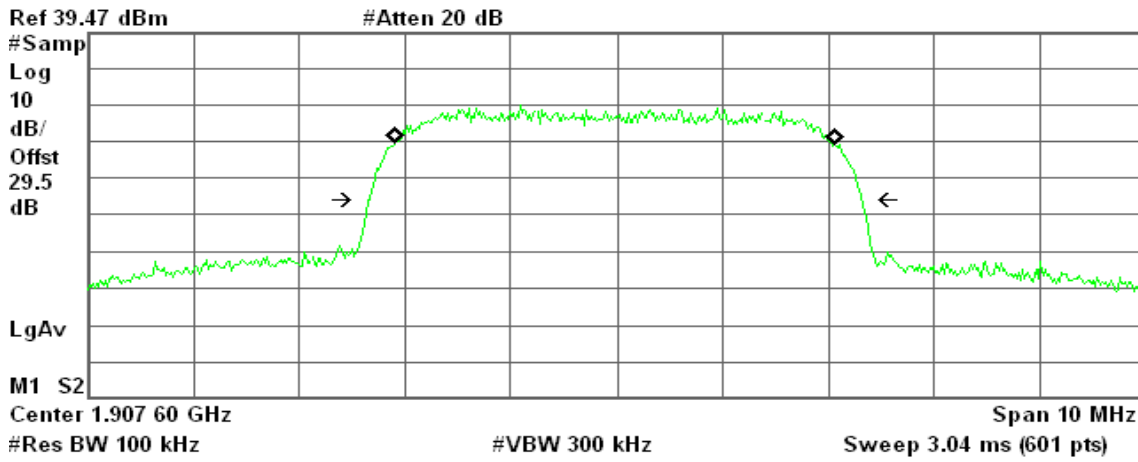
Transmit Freq Error -7.005 kHz
x dB Bandwidth 4.660 MHz*



WCDMA / HSDPA Band II (CH High)

Agilent

R T



Occupied Bandwidth
4.1584 MHz

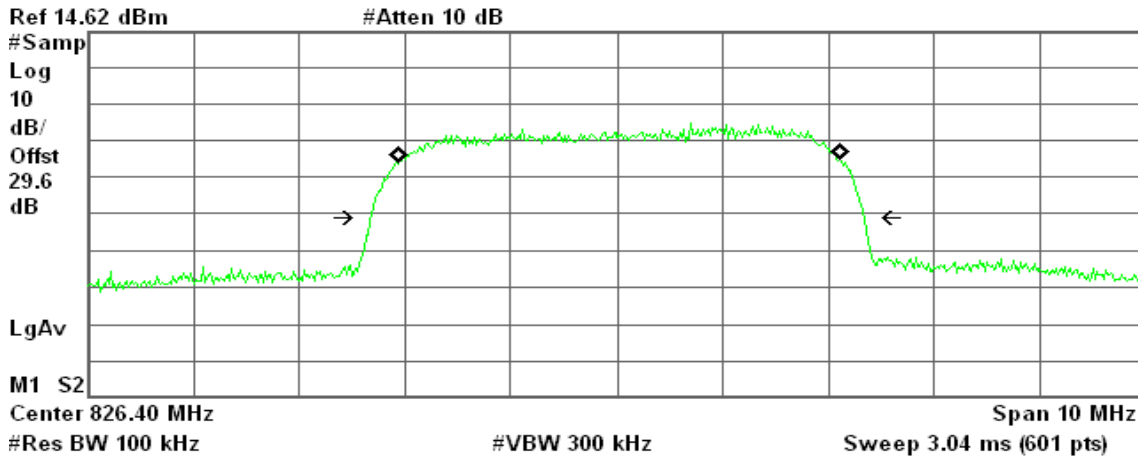
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -12.448 kHz
x dB Bandwidth 4.675 MHz*

WCDMA / HSDPA Band V (CH Low)

Agilent

R T



Occupied Bandwidth
4.1861 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

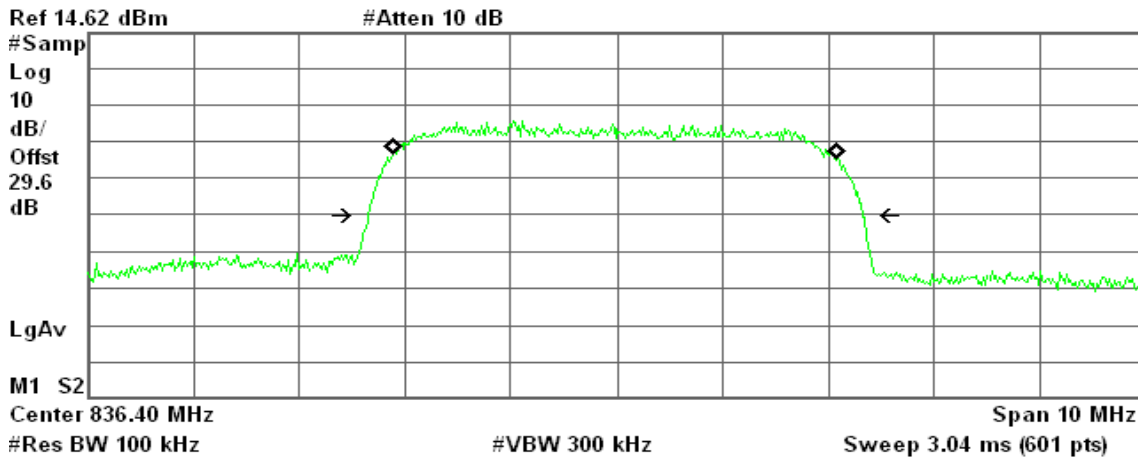
Transmit Freq Error 30.649 kHz
x dB Bandwidth 4.674 MHz*



WCDMA / HSDPA Band V (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1971 MHz

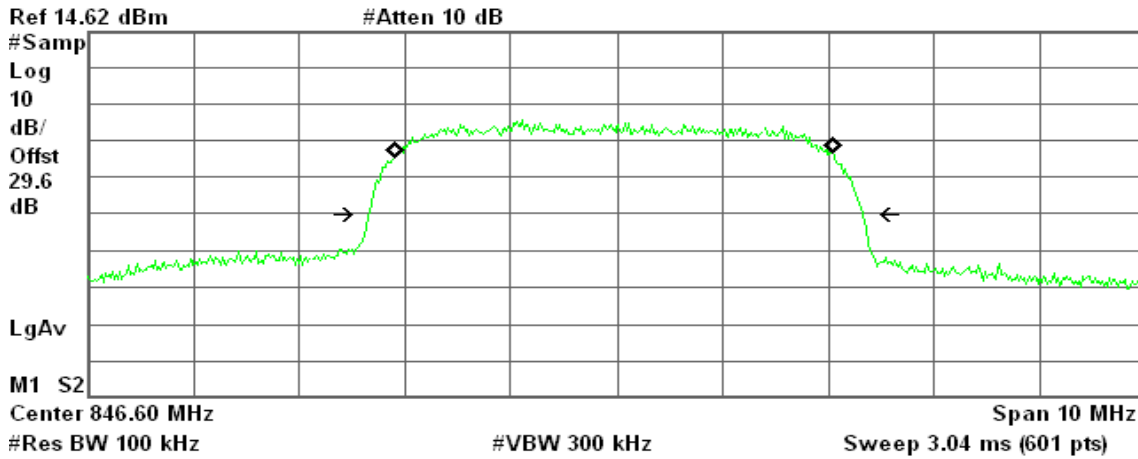
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -21.271 kHz
x dB Bandwidth 4.678 MHz*

WCDMA / HSDPA Band V (CH High)

Agilent

R T



Occupied Bandwidth
4.1566 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

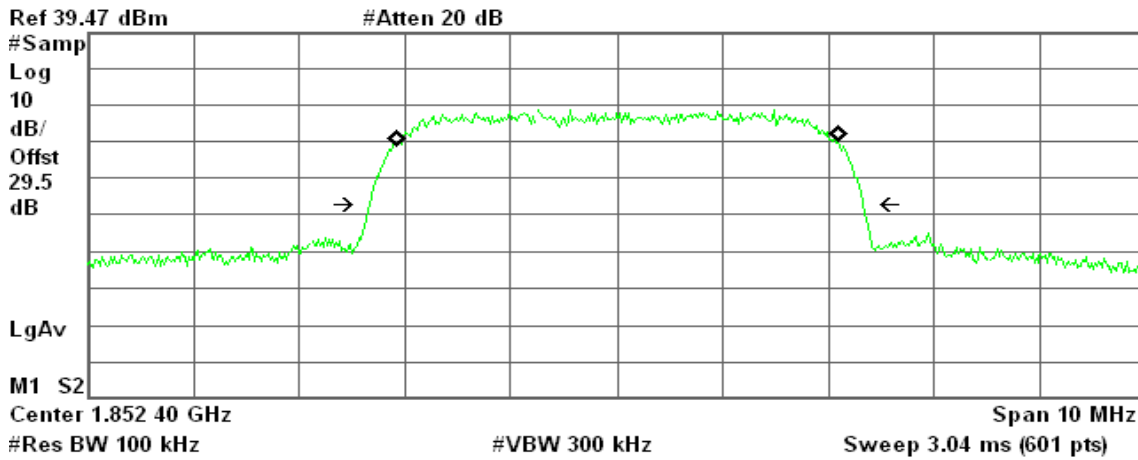
Transmit Freq Error -24.611 kHz
x dB Bandwidth 4.672 MHz*



WCDMA / HSUPA Band II (CH Low)

Agilent

R T



Occupied Bandwidth
4.1821 MHz

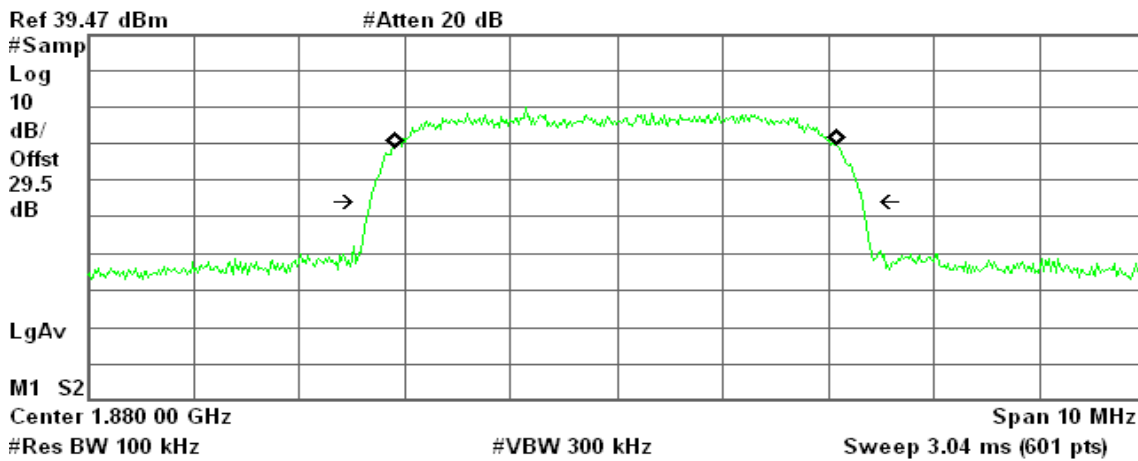
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 8.120 kHz
x dB Bandwidth 4.669 MHz*

WCDMA / HSUPA Band II (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1713 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

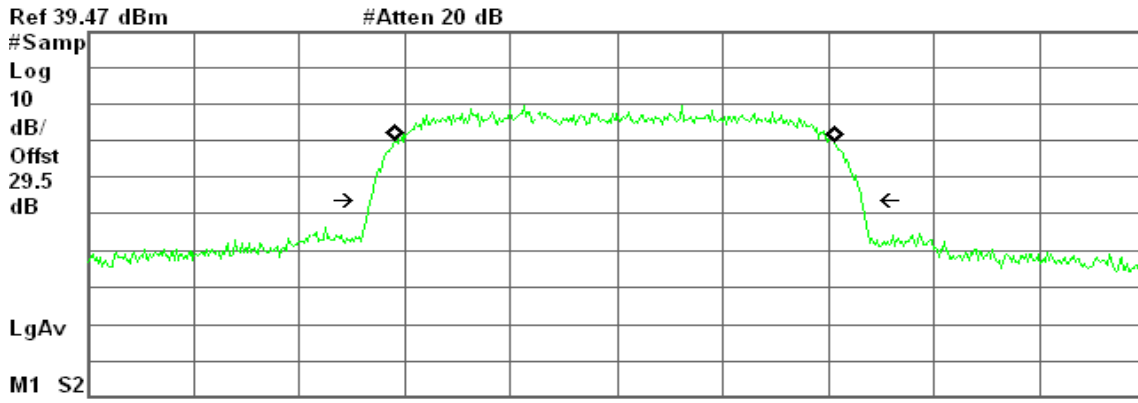
Transmit Freq Error -7.215 kHz
x dB Bandwidth 4.659 MHz*



WCDMA / HSUPA Band II (CH High)

Agilent

R T



Ref 39.47 dBm

#Atten 20 dB

#Samp

Log

10

dB/

Offst

29.5

dB

LgAv

M1 S2

Center 1.907 60 GHz

Span 10 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 3.04 ms (601 pts)

Occupied Bandwidth
4.1587 MHz

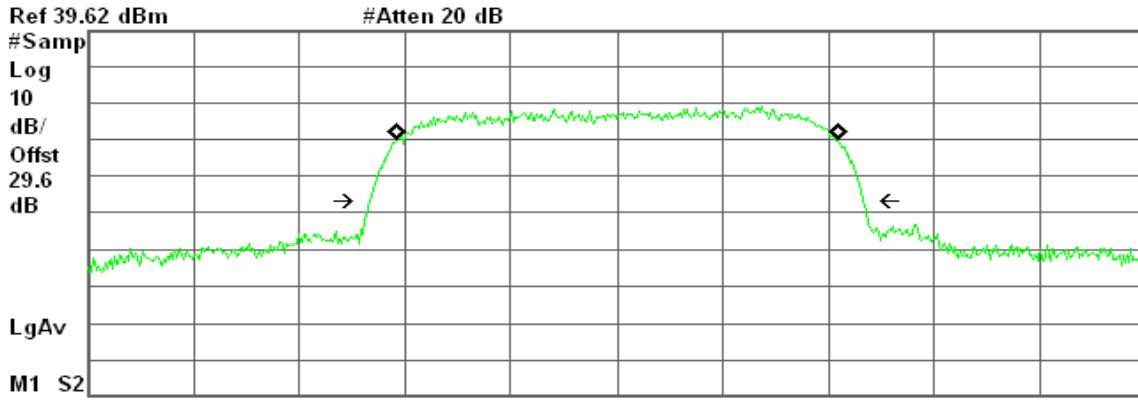
Occ BW % Pwr	99.00 %
x dB	-26.00 dB

Transmit Freq Error	-15.108 kHz
x dB Bandwidth	4.654 MHz*

WCDMA / HSUPA Band V (CH Low)

Agilent

R T



Ref 39.62 dBm

#Atten 20 dB

#Samp

Log

10

dB/

Offst

29.6

dB

LgAv

M1 S2

Center 826.40 MHz

Span 10 MHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 3.04 ms (601 pts)

Occupied Bandwidth
4.1739 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

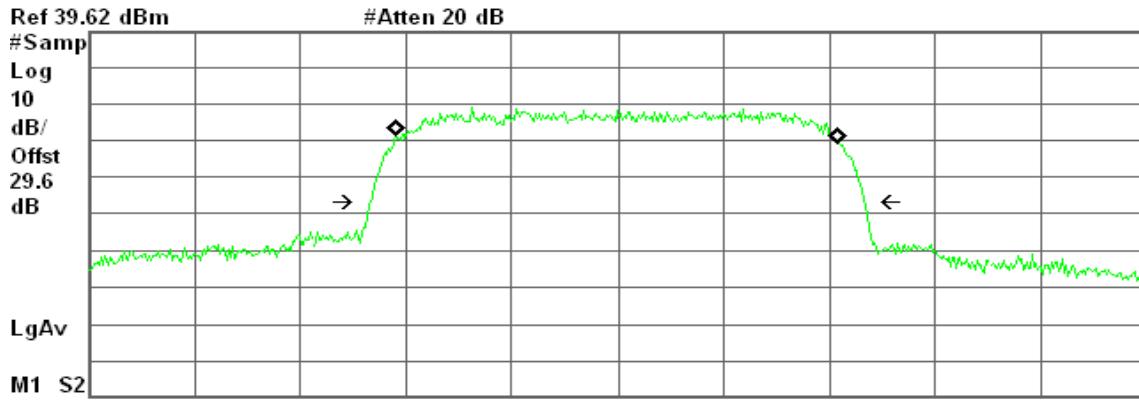
Transmit Freq Error	9.583 kHz
x dB Bandwidth	4.676 MHz*



WCDMA / HSUPA Band V (CH Mid)

Agilent

R T



Occupied Bandwidth
4.1883 MHz

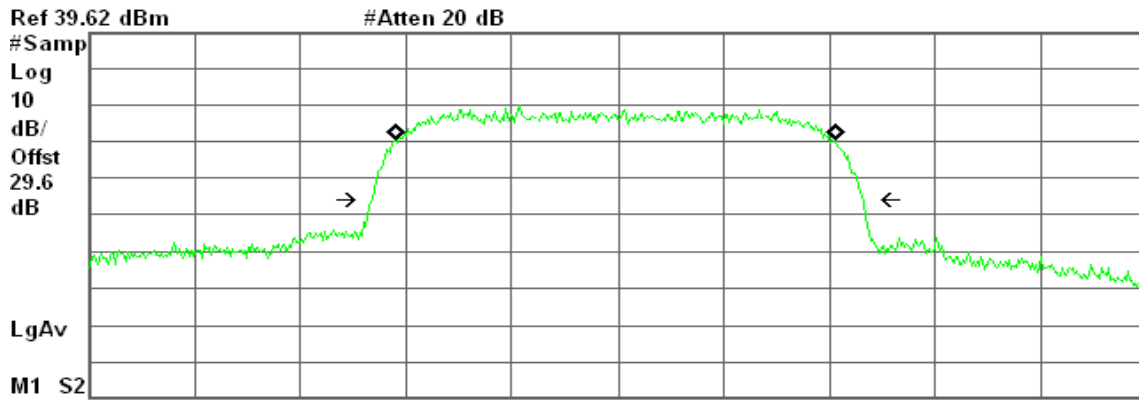
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -3.711 kHz
x dB Bandwidth 4.684 MHz*

WCDMA / HSUPA Band V (CH High)

Agilent

R T



Occupied Bandwidth
4.1634 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -18.867 kHz
x dB Bandwidth 4.644 MHz*

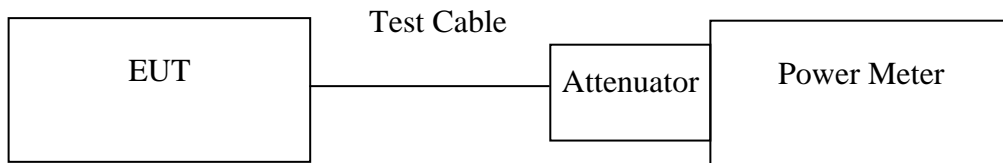


7.2 PEAK POWER

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	128	824.20	32.80	1.90546
	190	836.40	32.60	1.81970
	251	848.80	32.70	1.86209
GPRS 850 (Class 10)	128	824.20	31.40	1.3804
	190	836.40	31.50	1.4125
	251	848.80	31.50	1.4125
EDGE 850 (Class 10)	128	824.20	26.70	0.4677
	190	836.40	26.90	0.4898
	251	848.80	26.70	0.4677

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
GSM 1900	512	1850.20	28.20	0.66069
	661	1880.00	29.30	0.85114
	810	1910.00	29.60	0.91201
GPRS 1900 (Class 10)	512	1850.20	28.30	0.6761
	661	1880.00	28.00	0.63096
	810	1910.00	28.40	0.69183
EDGE 1900 (Class 10)	512	1850.20	25.60	0.3631
	661	1880.00	25.80	0.3802
	810	1910.00	26.10	0.4074

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	24.98	0.31477
	9400	1880.00	24.98	0.31477
	9538	1907.60	24.60	0.28840
WCDMA (BAND V)	4132	826.40	24.95	0.31261
	4182	836.40	24.91	0.30974
	4233	846.60	24.98	0.31477

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSDPA (BAND II)	9262	1852.40	24.96	0.31333
	9400	1880.00	24.95	0.31261
	9538	1907.60	24.50	0.28184
WCDMA / HSDPA (BAND V)	4132	826.40	24.93	0.31117
	4182	836.40	24.84	0.30479
	4233	846.60	24.95	0.31261

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSUPA (BAND II)	9262	1852.40	24.95	0.31261
	9400	1880.00	24.90	0.30903
	9538	1907.60	24.28	0.26792
WCDMA / HSUPA (BAND V)	4132	826.40	24.90	0.30903
	4182	836.40	24.83	0.30409
	4233	846.60	24.90	0.30903

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

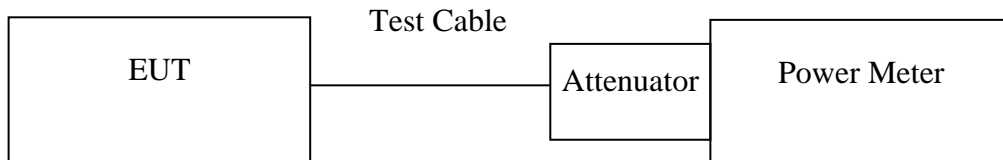


7.3 AVERAGE POWER

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	128	824.20	32.20	1.65959
	190	836.40	32.10	1.62181
	251	848.80	32.10	1.62181
GPRS 850 (Class 10)	128	824.20	28.39	0.6902
	190	836.40	28.49	0.7063
	251	848.80	28.49	0.7063
EDGE 850 (Class 10)	128	824.20	23.69	0.2339
	190	836.40	23.89	0.2449
	251	848.80	23.69	0.2339

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
GSM 1900	512	1850.20	27.70	0.58884
	661	1880.00	28.80	0.75858
	810	1909.80	29.30	0.85114
GPRS 1900 (Class 10)	512	1850.20	25.29	0.3381
	661	1880.00	24.99	0.3155
	810	1909.80	25.39	0.3459
EDGE 1900 (Class 10)	512	1850.20	22.59	0.1816
	661	1880.00	22.79	0.1901
	810	1909.80	23.09	0.2037

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	24.96	0.31333
	9400	1880.00	24.91	0.30974
	9538	1907.60	24.49	0.28119
WCDMA (BAND V)	4132	826.40	24.93	0.31117
	4182	836.40	24.88	0.30761
	4233	846.60	24.93	0.31117

Test Mode	CH	Frequency (MHz)	Average Power (dBm)	Output Power (W)
WCDMA / HSDPA (BAND II)	9262	1852.40	24.91	0.30974
	9400	1880.00	24.93	0.31117
	9538	1907.60	24.45	0.27861
WCDMA / HSDPA (BAND V)	4132	826.40	24.86	0.30620
	4182	836.40	24.82	0.30339
	4233	846.60	24.91	0.30974

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)	Output Power (W)
WCDMA / HSUPA (BAND II)	9262	1852.40	24.92	0.31046
	9400	1880.00	24.89	0.30832
	9538	1907.60	24.20	0.26303
WCDMA / HSUPA (BAND V)	4132	826.40	24.83	0.30409
	4182	836.40	24.79	0.30130
	4233	846.60	24.86	0.30620

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.

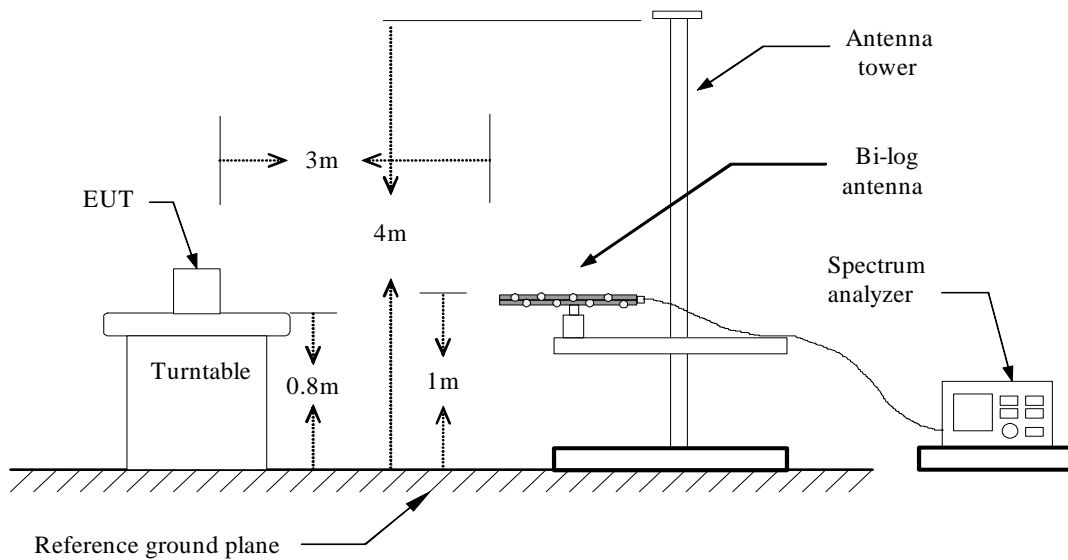
RSS-132 § 4.4 The maximum (ERP) shall be 6.3 Watts for mobile stations.

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

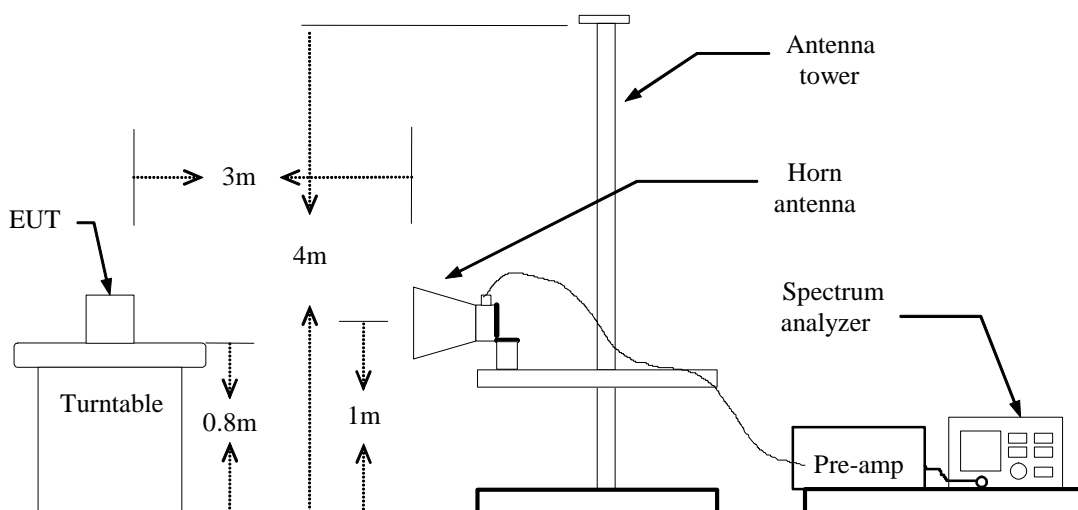
RSS133 § 6.4: Mobile stations and hand-held portables are limited to 2 watts maximum (EIRP).

Test Configuration

Below 1 GHz

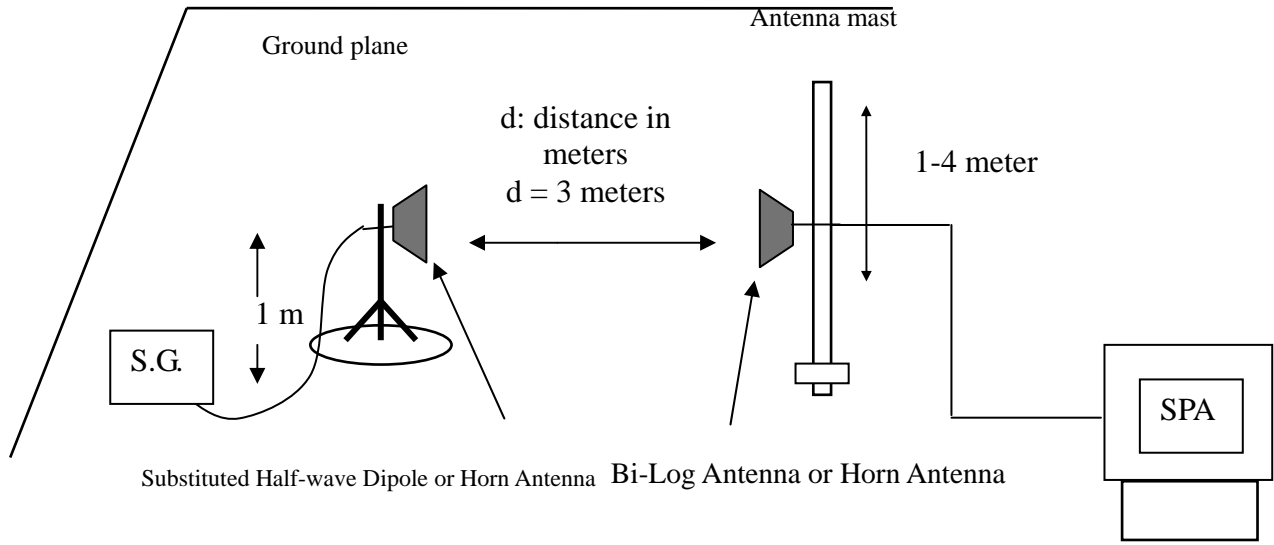


Above 1 GHz





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

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

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

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

TEST RESULTS

No non-compliance noted.



Calculation of maximum antenna gain

850MHz frequency band				RF Output Power				Calculations to meet ERP limits		
GSM850, FDD-V				Burst Average Power		Max peak tune up power		ERP limit	Antenna Gain to meet	
BAND	MODE	Sub-Test	Frequency [MHz]	[dBm]	[W]	[dBm]	[W]	[W]	Numerical	[dBi]
GSM850	GSM850	-	824.2	32.2	1.65959	33.5	2.23872	7	5.128	7.10
			836.4	32.1	1.62181	33.5	2.23872	7	5.128	7.10
			848.8	32.1	1.62181	33.5	2.23872	7	5.128	7.10
	(class 10)	3Down2Up	824.2	28.39	0.69024	34	2.51189	7	4.570	6.60
			836.4	28.49	0.70632	34	2.51189	7	4.570	6.60
			848.8	28.49	0.70632	34	2.51189	7	4.570	6.60
	(class 10)	3Down2Up	824.2	23.69	0.23388	28	0.63096	7	18.195	12.60
			836.4	23.89	0.24491	28	0.63096	7	18.195	12.60
			848.8	23.69	0.23388	28	0.63096	7	18.195	12.60
WCDMA FDD-V	WCDMA FDD-V	-	826.4	24.93	0.31117	25	0.31623	7	36.303	15.60
			836.4	24.88	0.30761	25	0.31623	7	36.303	15.60
			846.6	24.93	0.31117	25	0.31623	7	36.303	15.60
	HSDPA FDD-V	-	826.4	24.86	0.30620	25	0.31623	7	36.303	15.60
			836.4	24.82	0.30339	25	0.31623	7	36.303	15.60
			846.6	24.91	0.30974	25	0.31623	7	36.303	15.60
	HSUPA FDD-V	-	826.4	24.83	0.30409	25	0.31623	7	36.303	15.60
			836.4	24.79	0.30130	25	0.31623	7	36.303	15.60
			846.6	24.86	0.30620	25	0.31623	7	36.303	15.60

1900MHz frequency band				RF Output Power				Calculations to meet ERP limits		
GSM1900, FDD-II				Burst Average Power		Max peak tune up power		EIRP limit	Antenna Gain to meet	
BAND	MODE	Sub-Test	Frequency [MHz]	[dBm]	[W]	[dBm]	[W]	[W]	Numerical	[dBi]
GSM1900	GSM1900	-	1850.2	27.7	0.58884	31	1.25893	2	1.589	2.01
			1880	28.8	0.75858	31	1.25893	2	1.589	2.01
			1910	29.3	0.85114	31	1.25893	2	1.589	2.01
	(class 10)	3Down2Up	1850.2	25.29	0.33806	31	1.25893	2	1.589	2.01
			1880	24.99	0.31550	31	1.25893	2	1.589	2.01
			1910	25.39	0.34594	31	1.25893	2	1.589	2.01
	(class 10)	3Down2Up	1850.2	22.59	0.18155	27	0.50119	2	3.991	6.01
			1880	22.79	0.19011	27	0.50119	2	3.991	6.01
			1910	23.09	0.20370	27	0.50119	2	3.991	6.01
WCDMA FDD-II	WCDMA FDD-II	-	1852.4	24.96	0.31333	25	0.31623	2	6.325	8.01
			1880	24.91	0.30974	25	0.31623	2	6.325	8.01
			1907.6	24.49	0.28119	25	0.31623	2	6.325	8.01
	HSDPA FDD-II	-	1852.4	24.91	0.30974	25	0.31623	2	6.325	8.01
			1880	24.93	0.31117	25	0.31623	2	6.325	8.01
			1907.6	24.45	0.27861	25	0.31623	2	6.325	8.01
	HSUPA FDD-II	-	1852.4	24.92	0.31046	25	0.31623	2	6.325	8.01
			1880	24.89	0.30832	25	0.31623	2	6.325	8.01
			1907.6	24.2	0.26303	25	0.31623	2	6.325	8.01



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).

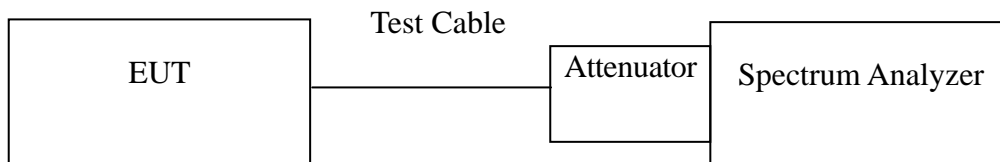
Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

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



Out of Band emission at antenna terminals						
GSM 850						
Operation Mode	Frequency (MHz)	Emission level (dBm)	Max.Ant.Gain (dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	NA		7.4		-13	
			7.4		-13	
Mid	NA		7.4		-13	
			7.4		-13	
High	NA		7.4		-13	
			7.4		-13	
GSM 1900						
Operation Mode	Frequency (MHz)	Emission level (dBm)	Max.Ant.Gain (dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	NA		2.7		-13	
			2.7		-13	
Mid	NA		2.7		-13	
			2.7		-13	
High	NA		2.7		-13	
			2.7		-13	
GPRS 850						
Operation Mode	Frequency (MHz)	Emission level (dBm)	Max.Ant.Gain (dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	NA		7.4		-13	
			7.4		-13	
Mid	NA		7.4		-13	
			7.4		-13	
High	NA		7.4		-13	
			7.4		-13	
GPRS 1900						
Operation Mode	Frequency (MHz)	Emission level (dBm)	Max.Ant.Gain (dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	NA		2.7		-13	
			2.7		-13	
Mid	NA		2.7		-13	
			2.7		-13	
High	NA		2.7		-13	
			2.7		-13	
EGPRS 850						
Operation Mode	Frequency (MHz)	Emission level (dBm)	Max.Ant.Gain (dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	NA		7.4		-13	
			7.4		-13	
Mid	NA		7.4		-13	
			7.4		-13	
High	NA		7.4		-13	
			7.4		-13	
EGPRS 1900						
Operation Mode	Frequency (MHz)	Emission level (dBm)	Max.Ant.Gain (dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	NA		2.7		-13	
			2.7		-13	
Mid	NA		2.7		-13	
			2.7		-13	
High	NA		2.7		-13	
			2.7		-13	

Remark: Data of measurement within this frequency range shown “ N/A ” in the table above means the emission is too small to be measured



Test Plot

GSM 850

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

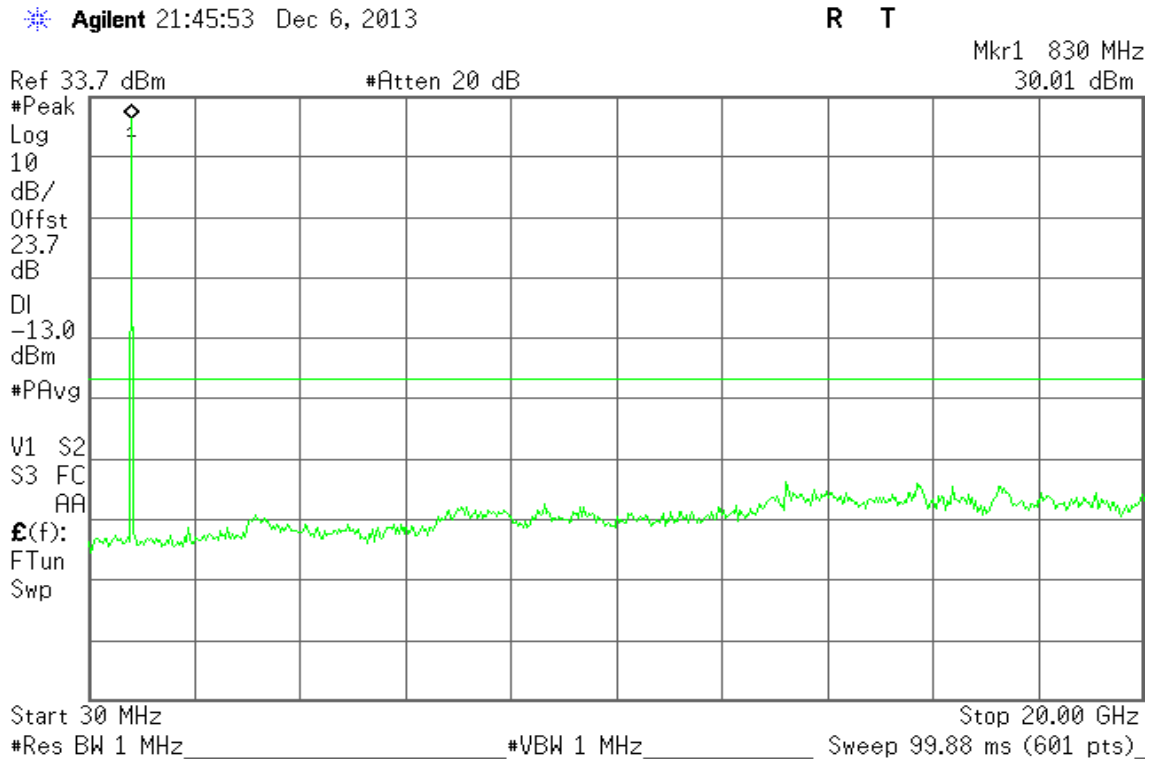


Figure 7-2: Out of Band emission at antenna terminals – GSM CH Mid

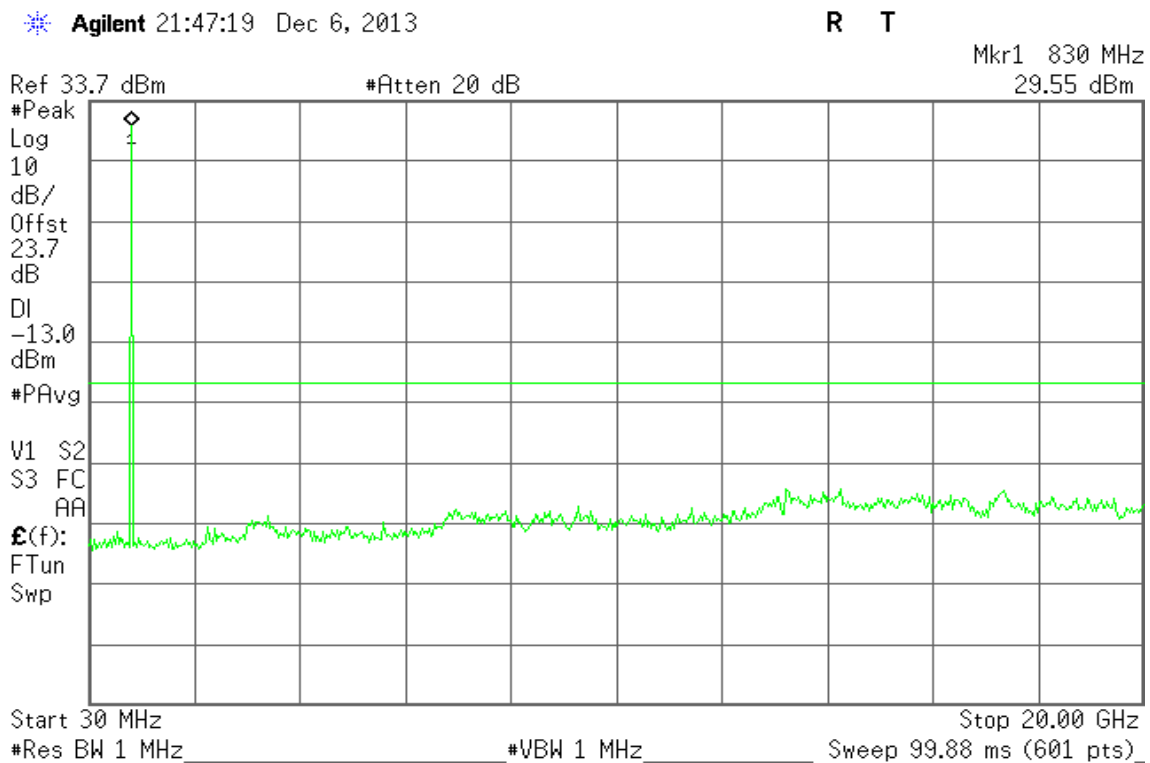
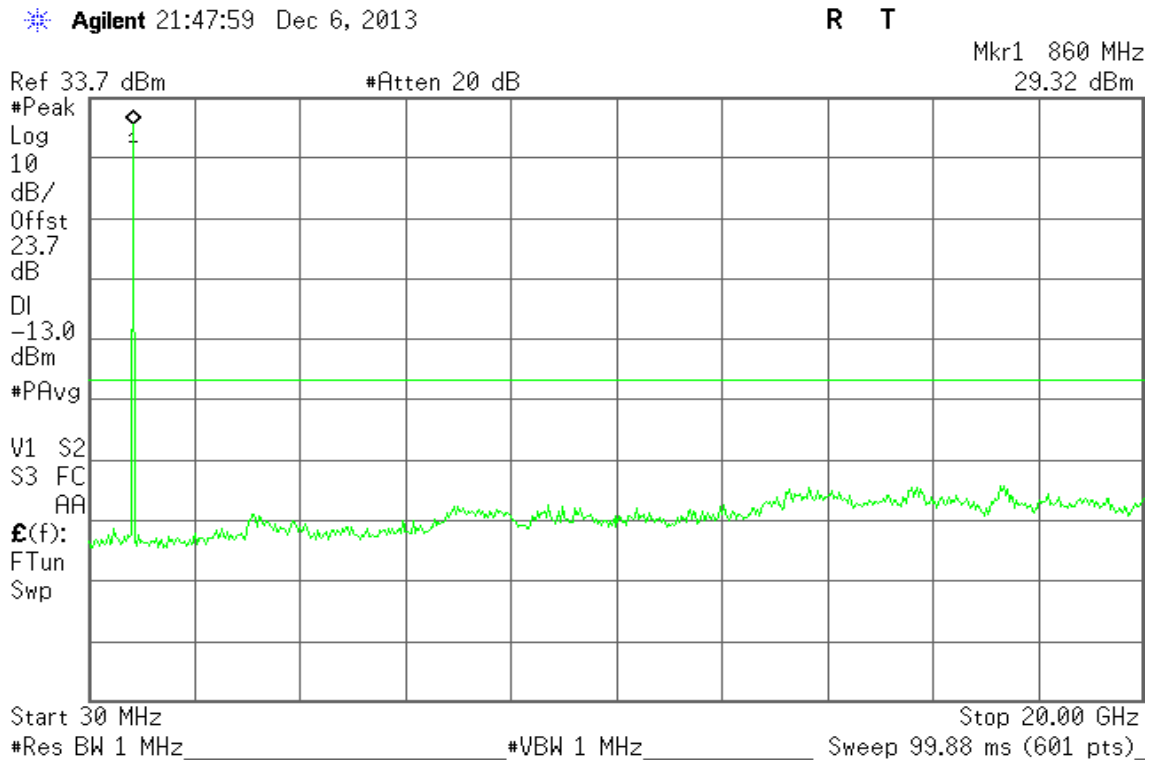




Figure 7-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

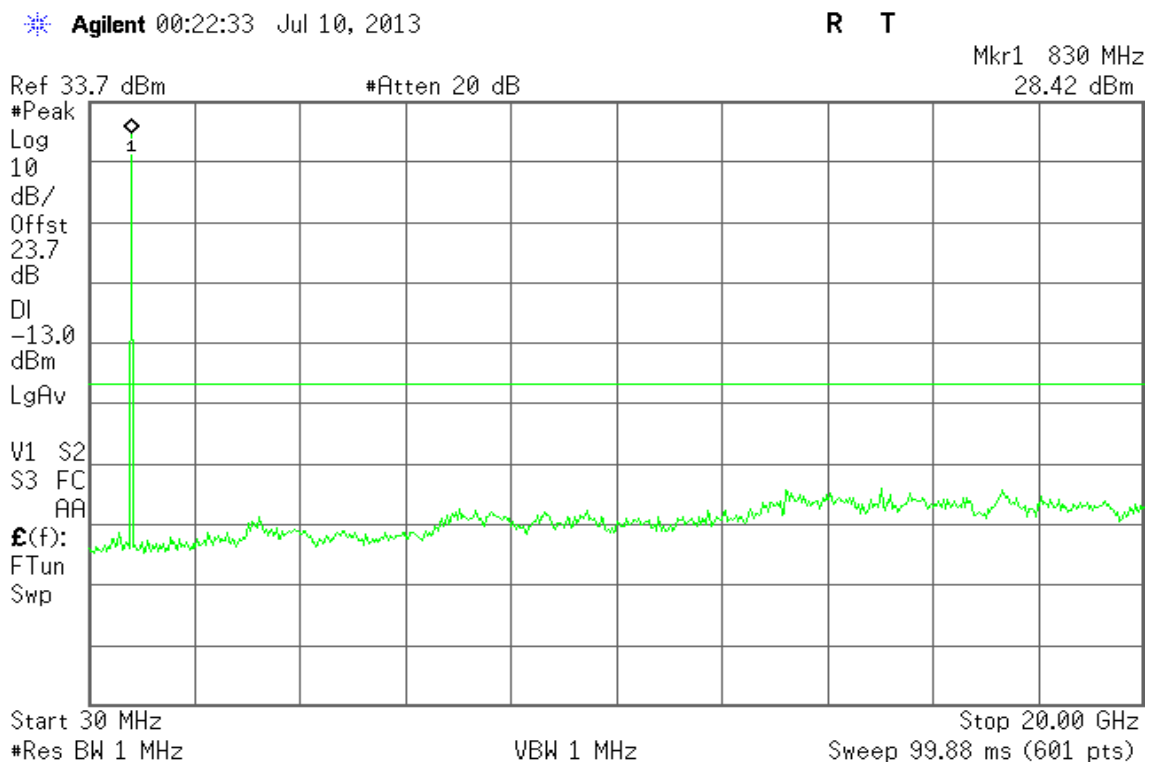




Figure 8-2: Out of Band emission at antenna terminals – GPRS CH Mid

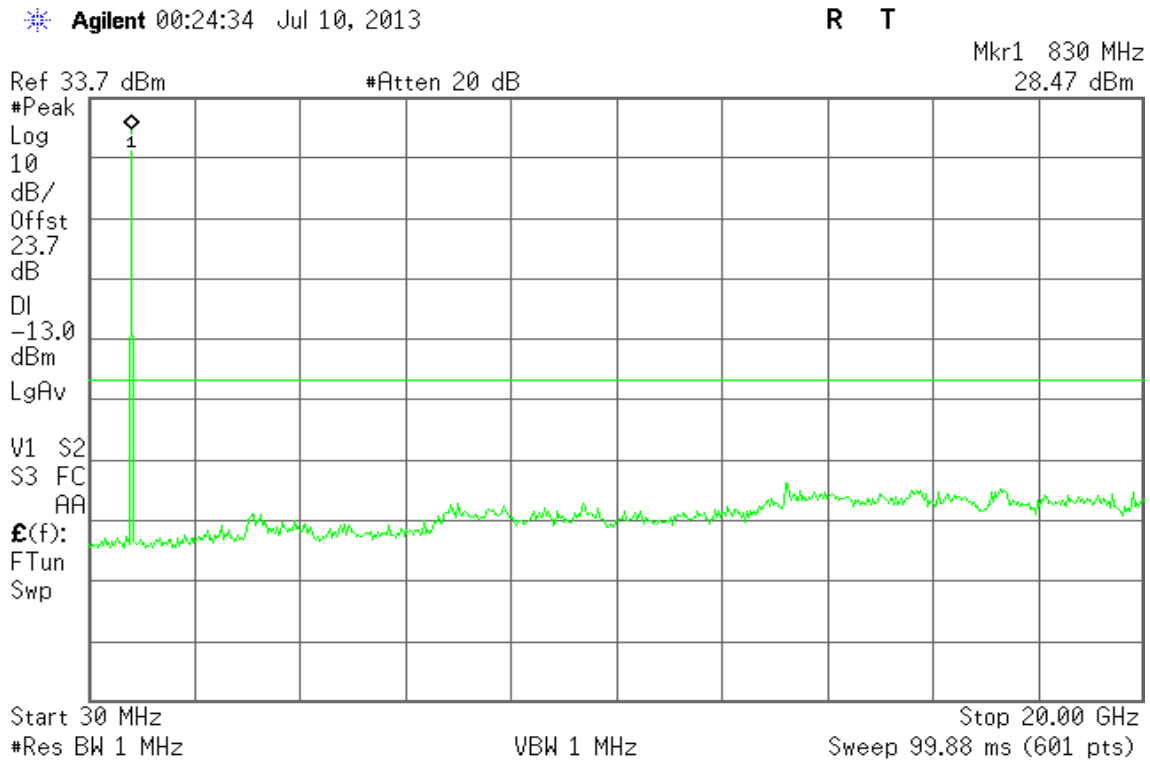
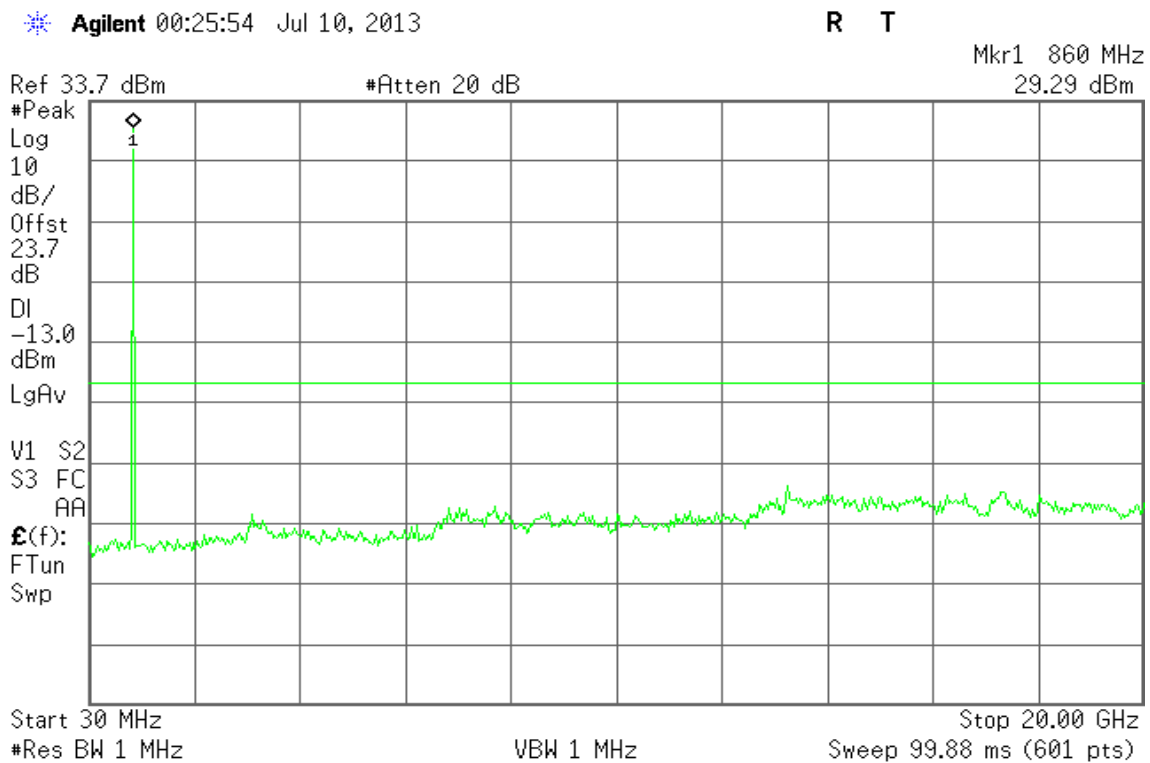


Figure 8-3: Out of Band emission at antenna terminals – GPRS CH High





GSM 1900

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

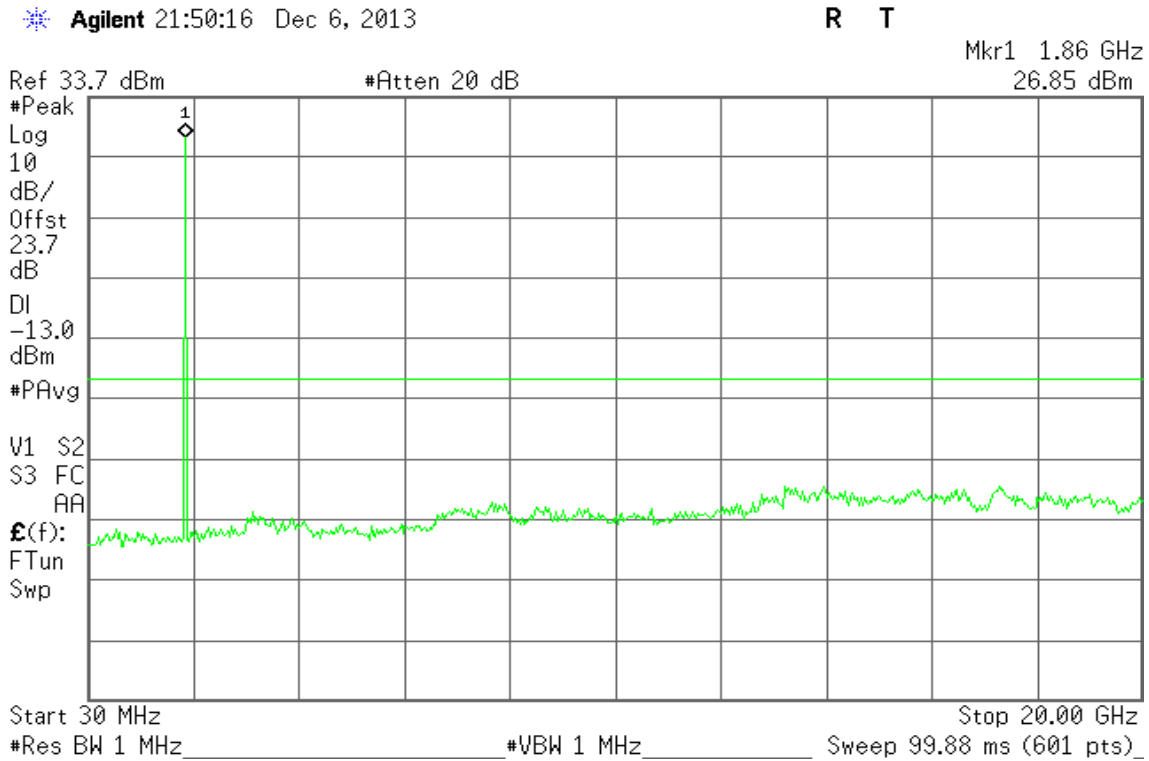


Figure 9-2: Out of Band emission at antenna terminals – GSM CH Mid

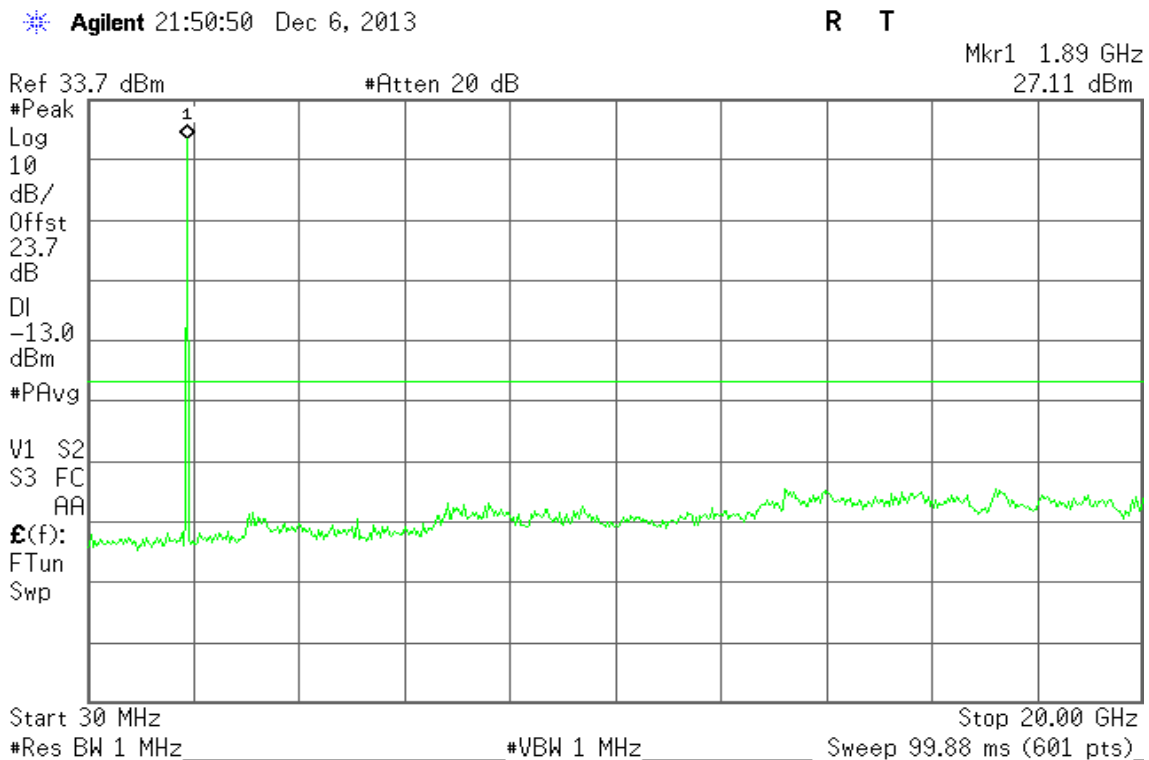
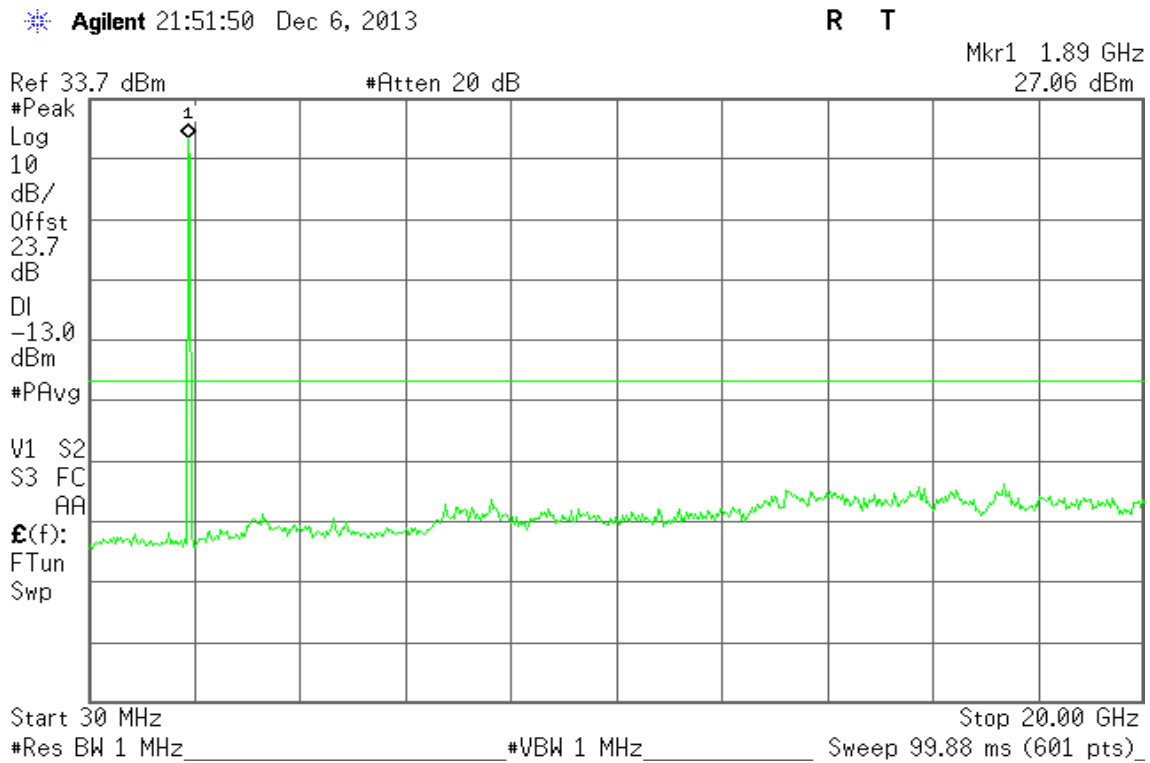




Figure 9-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

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

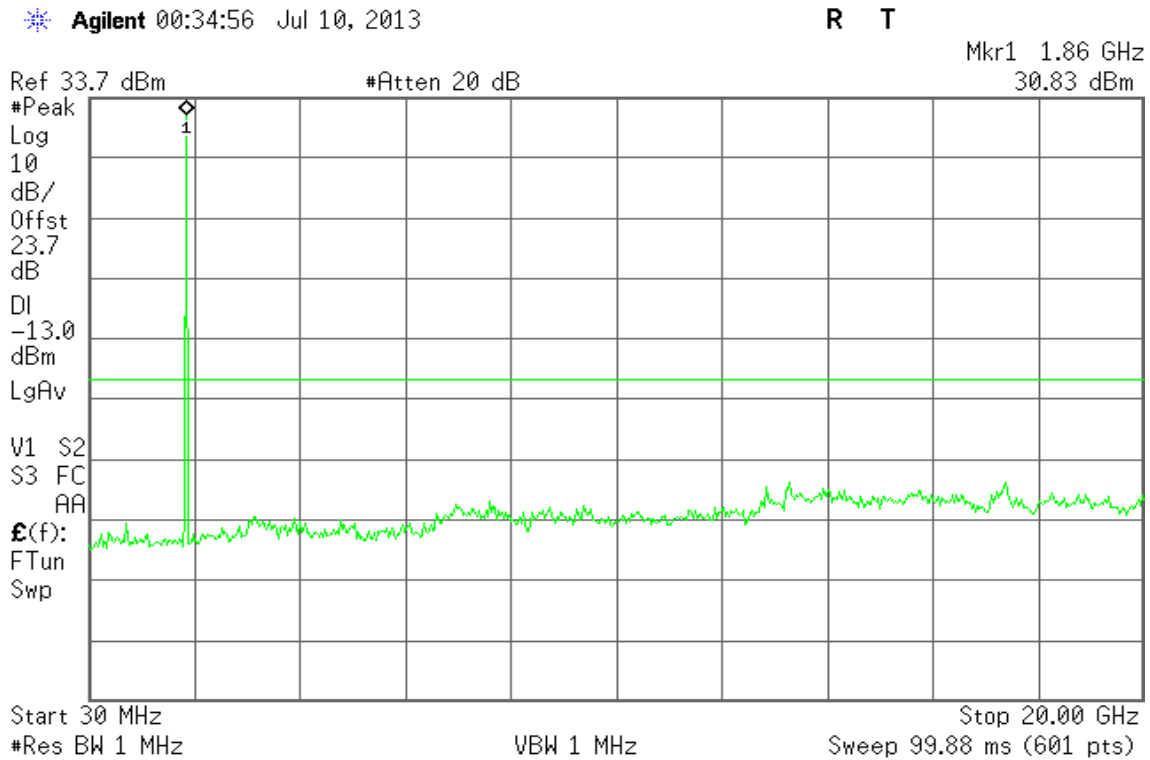




Figure 10-2: Out of Band emission at antenna terminals – GSM CH Mid

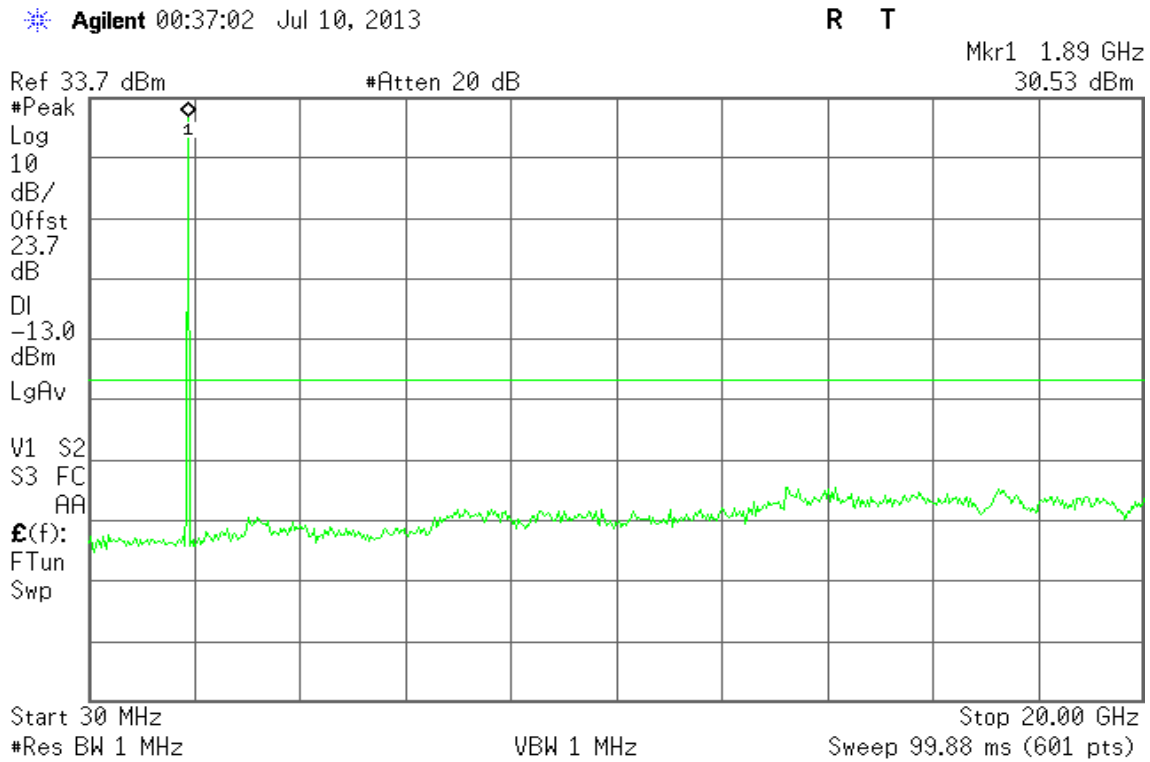
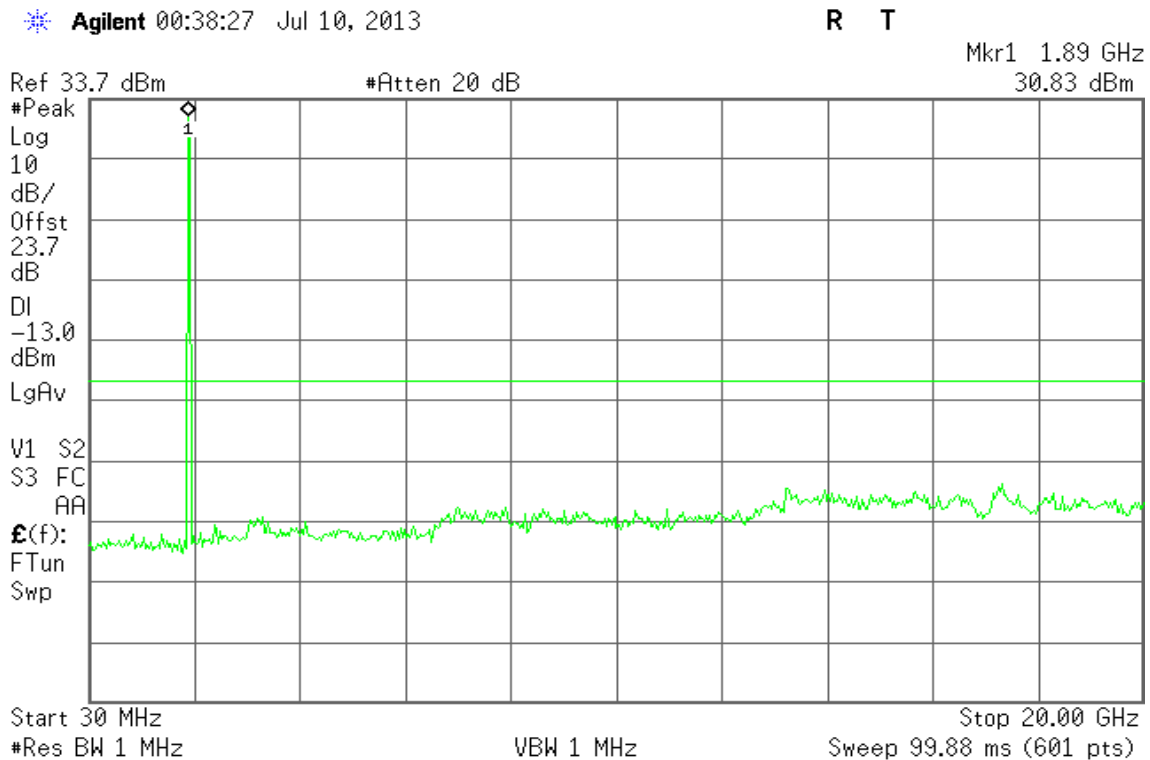


Figure 10-3: Out of Band emission at antenna terminals – GSM CH High





GSM 850

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

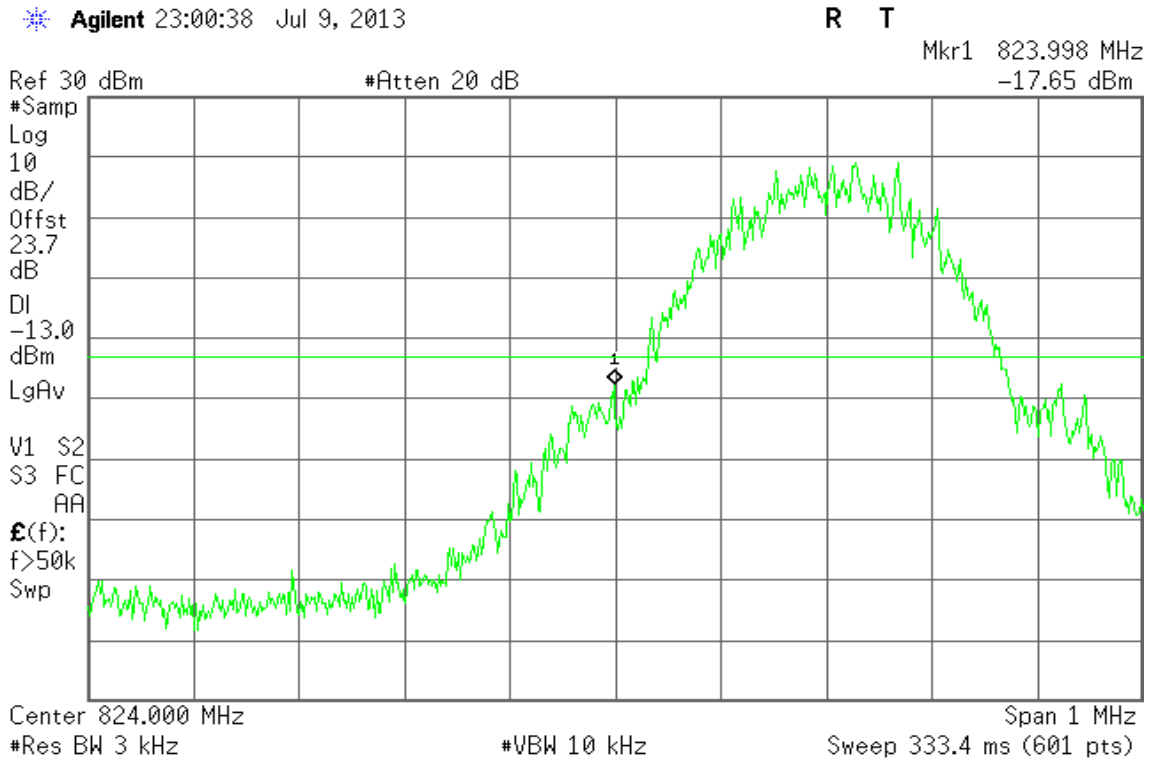
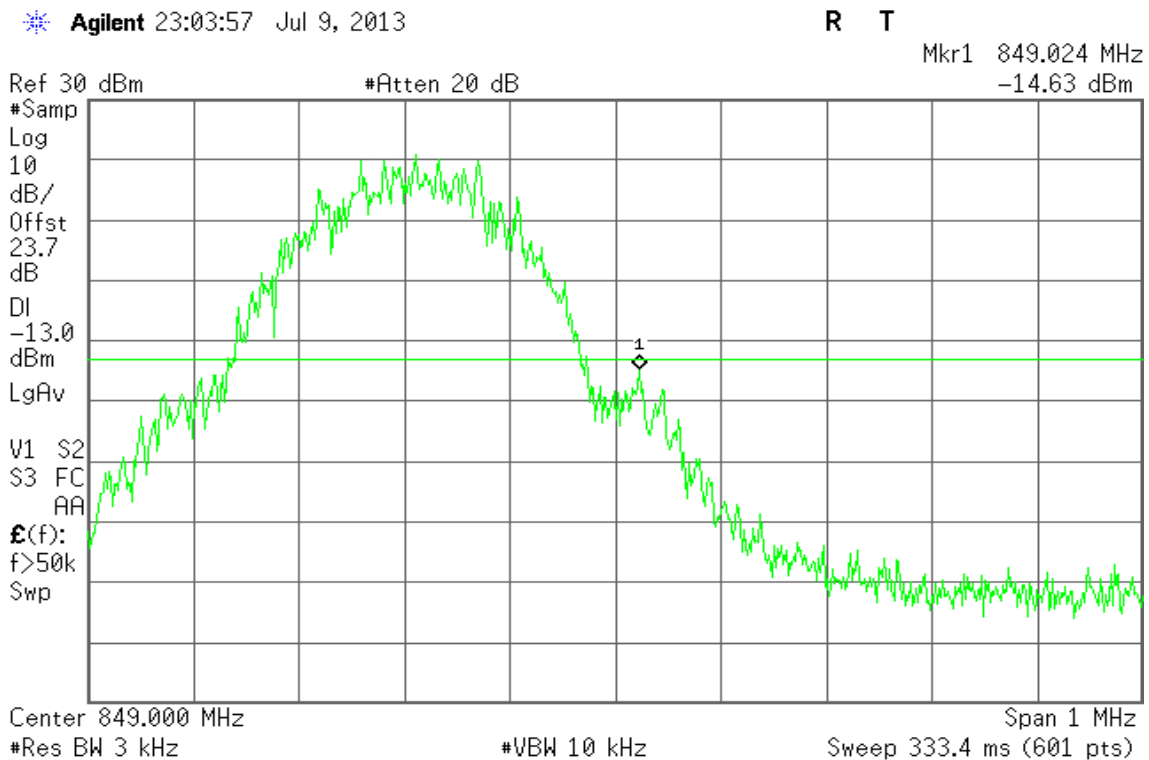


Figure 11-2: Band Edge emissions – GSM CH High





GPRS 850

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

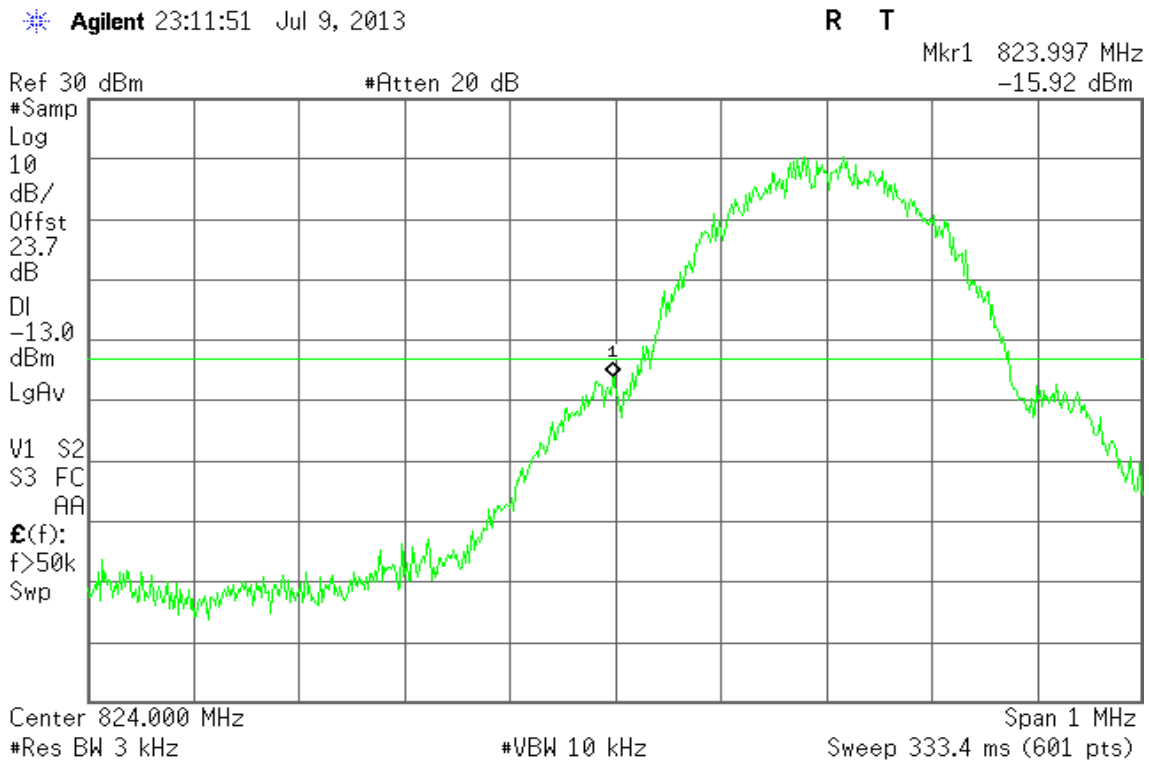
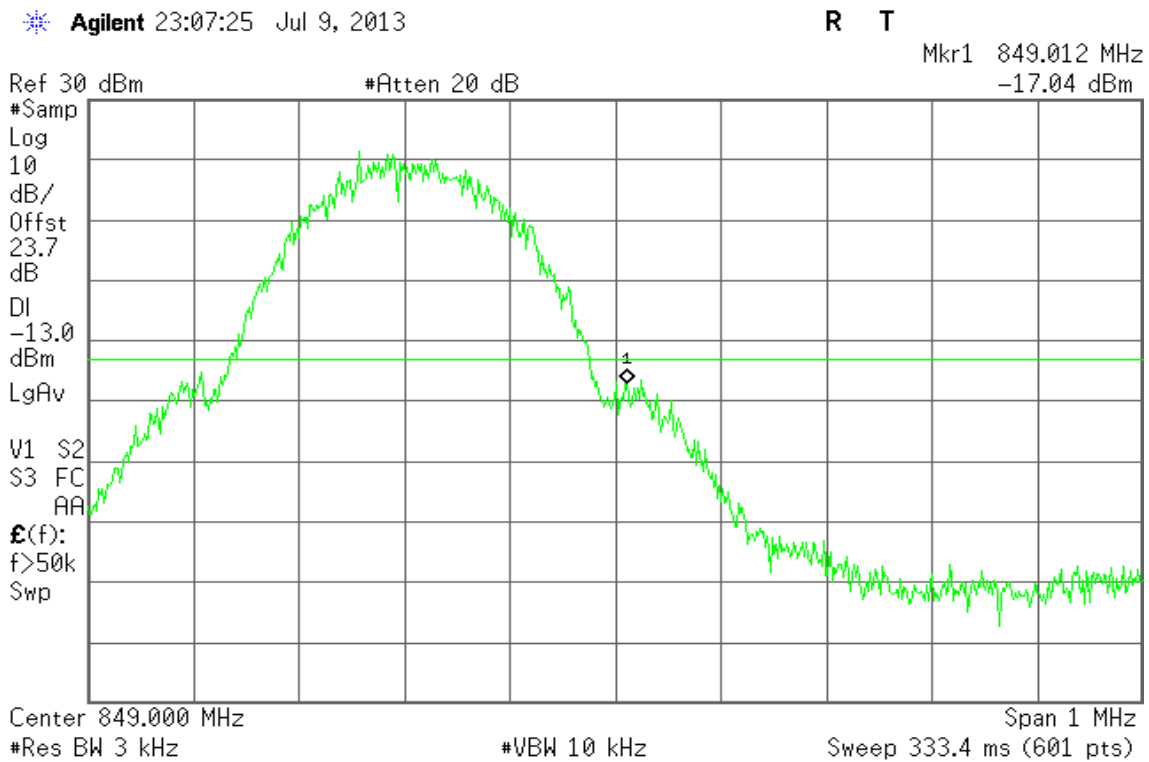


Figure 12-2: Band Edge emissions –GPRS CH High





GSM 1900

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

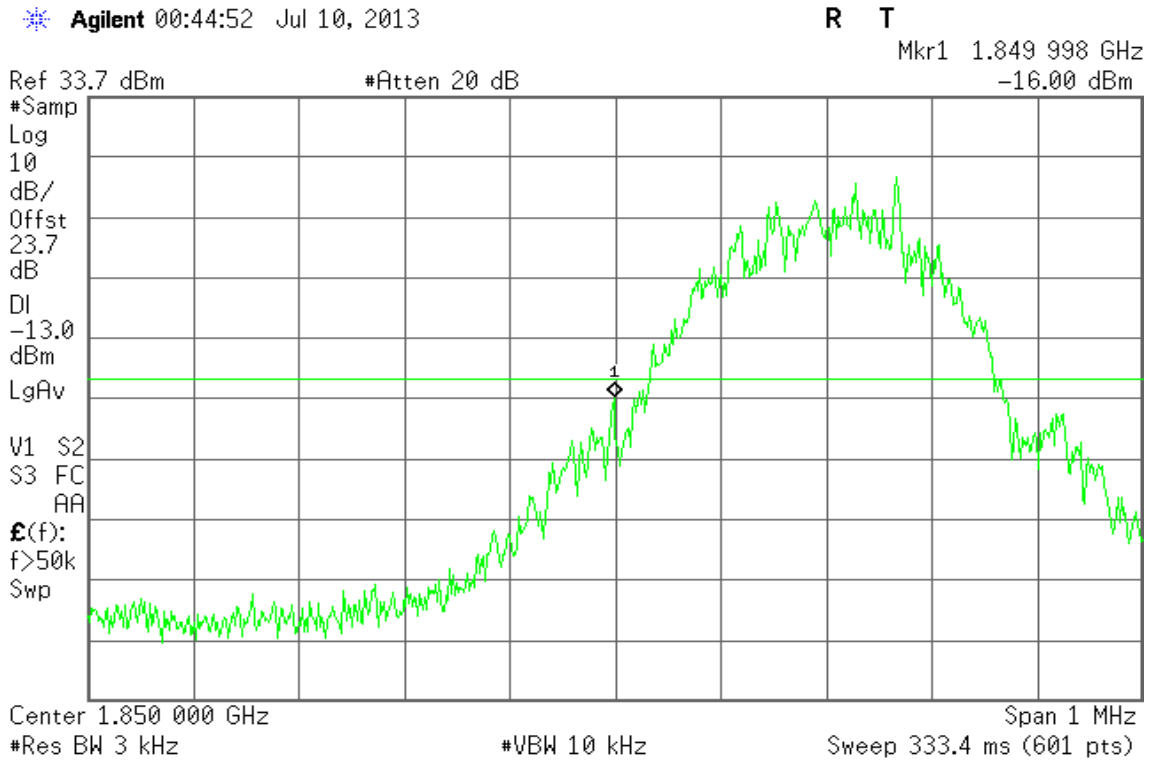
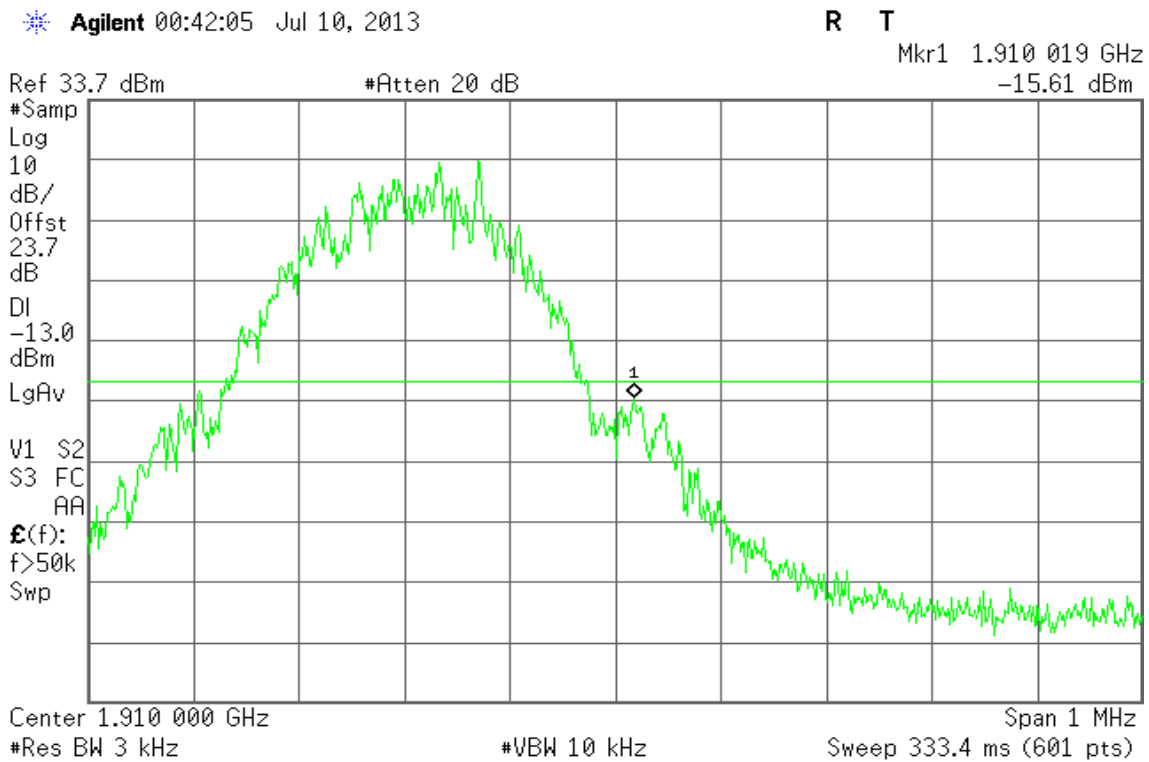


Figure 13-2: Band Edge emissions – GSM CH High





GPRS 1900

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

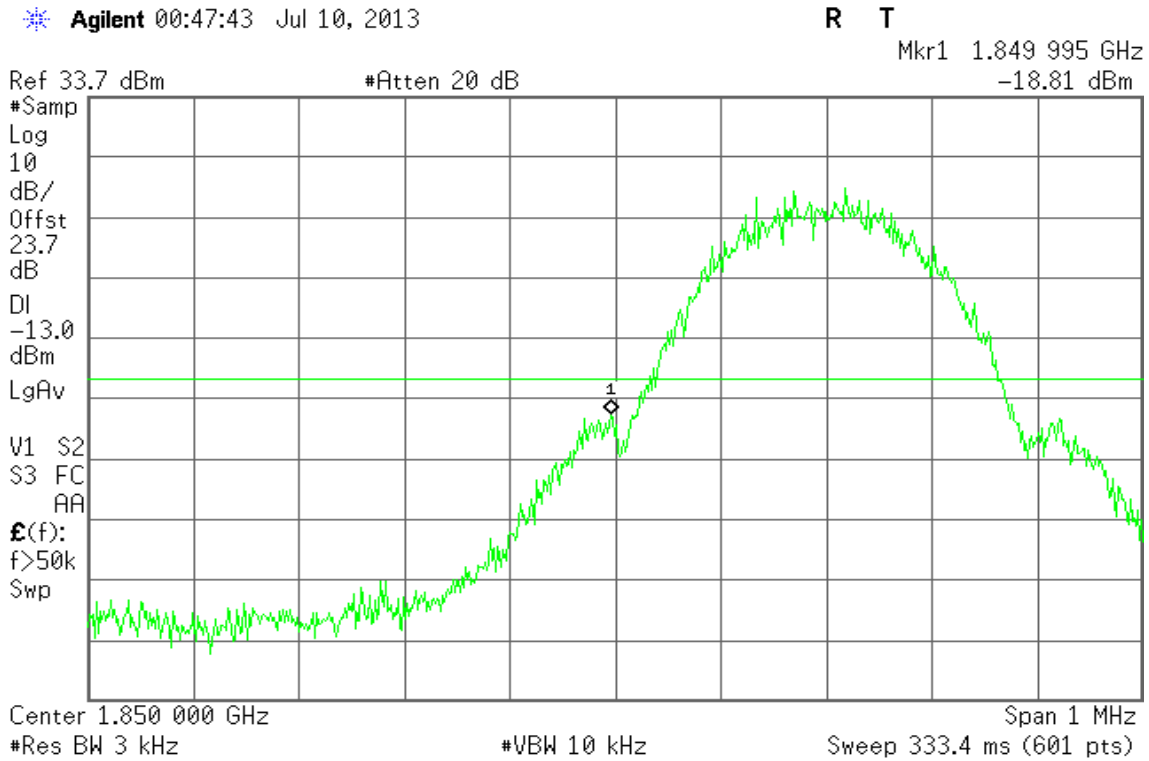
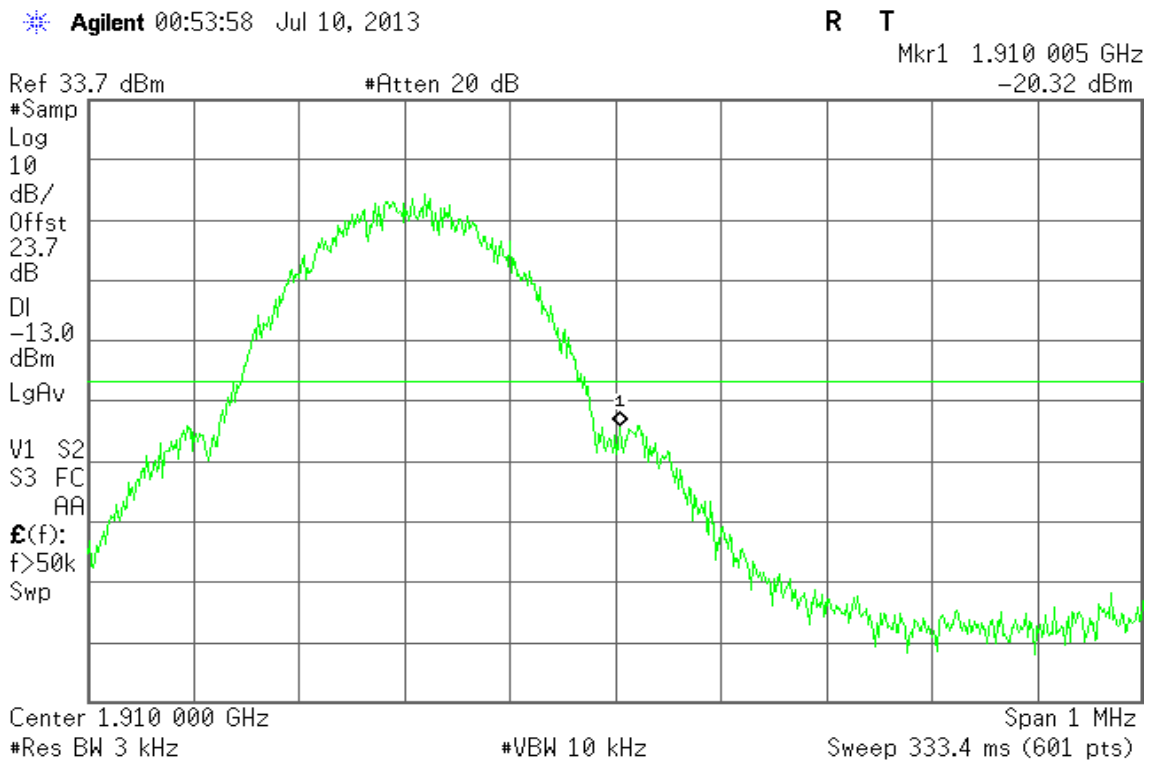


Figure 14-2: Band Edge emissions – GPRS CH High





EDGE 850

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

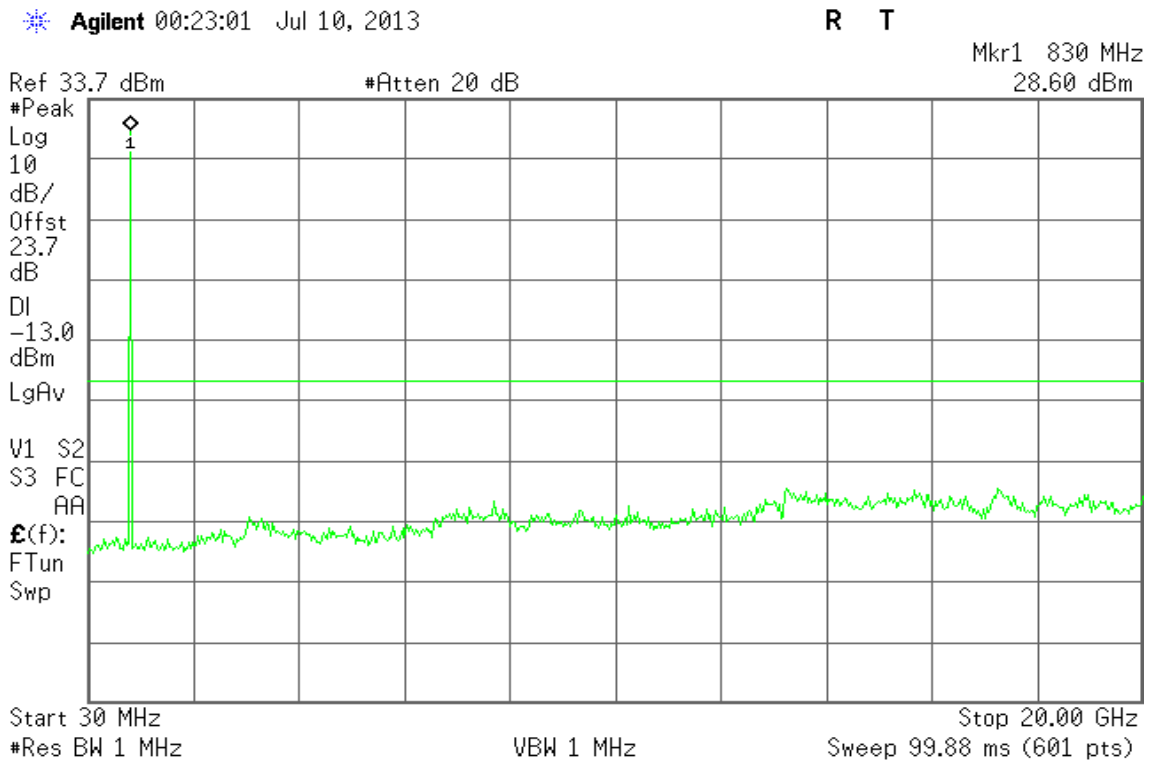


Figure 15-2: Out of Band emission at antenna terminals –EDGE CH Mid

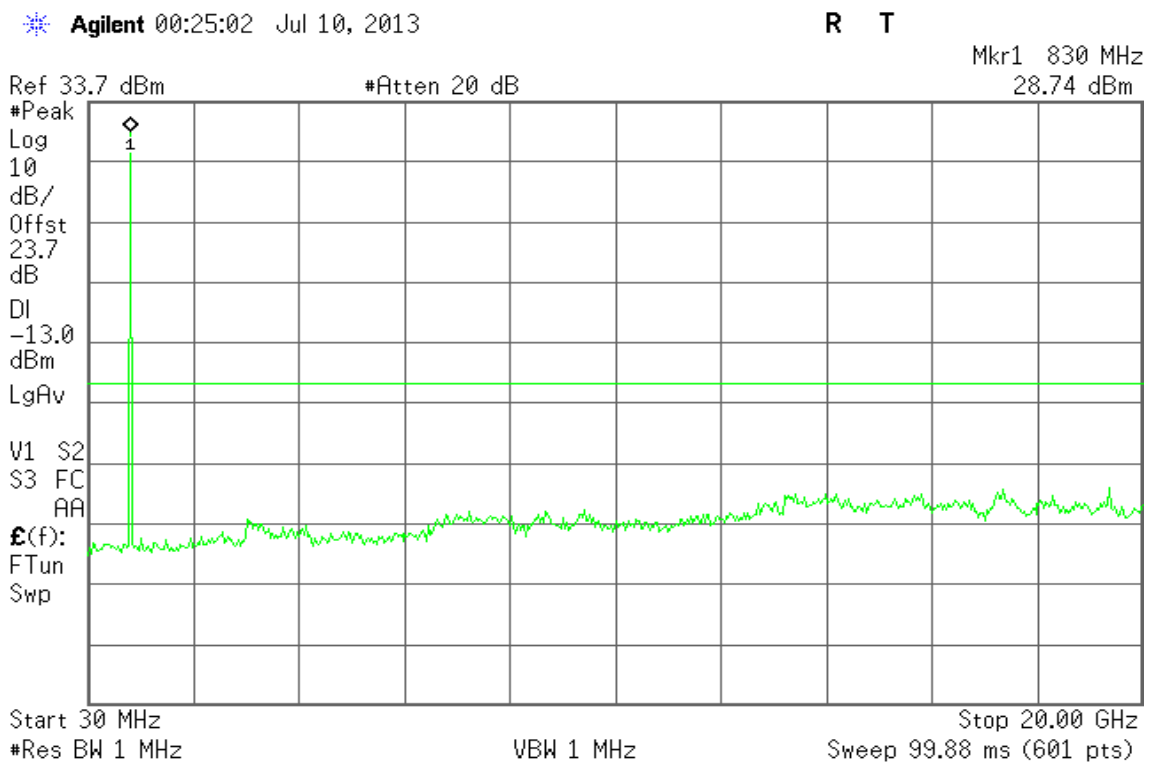
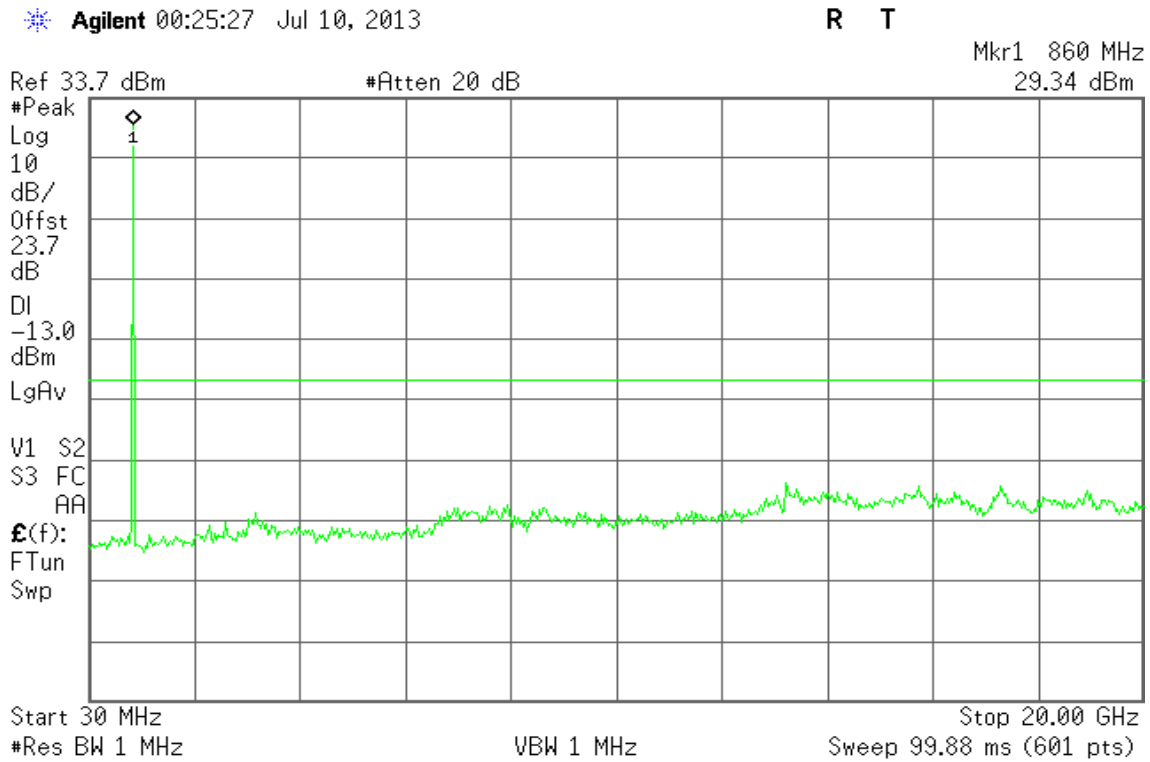




Figure 15-3: Out of Band emission at antenna terminals –EDGE CH High



EDGE 1900

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

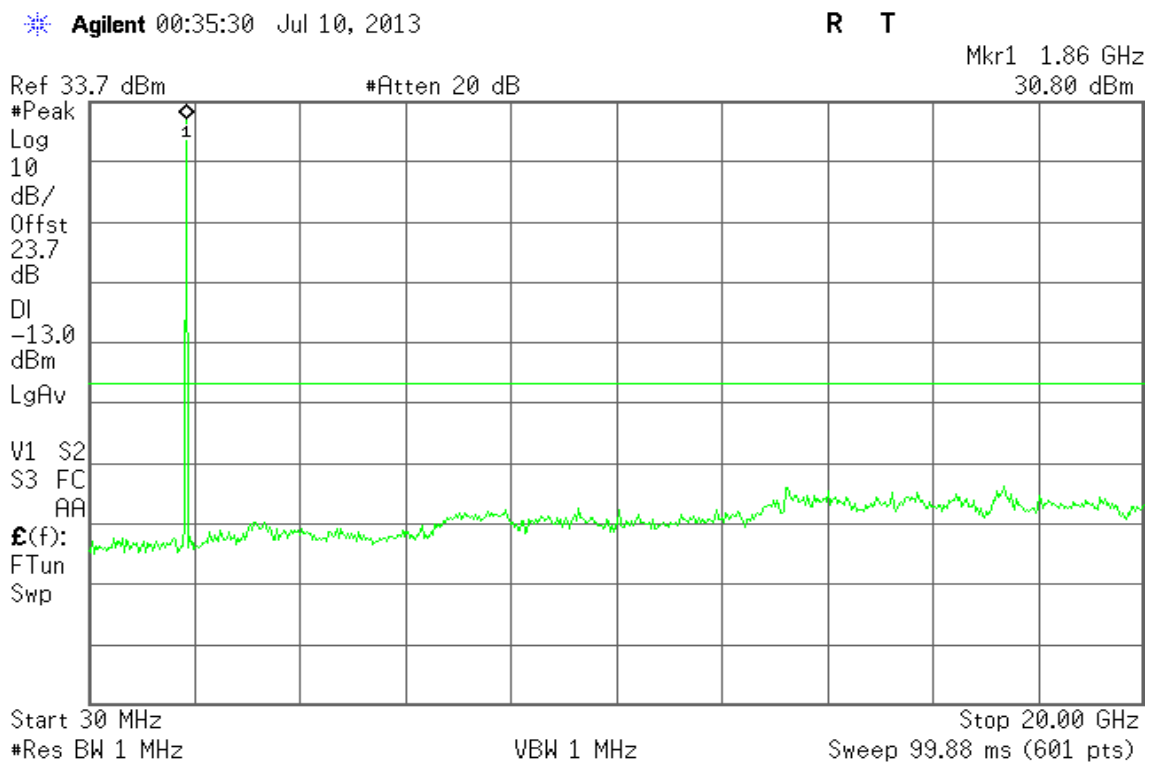




Figure 16-2: Out of Band emission at antenna terminals –EDGE CH Mid

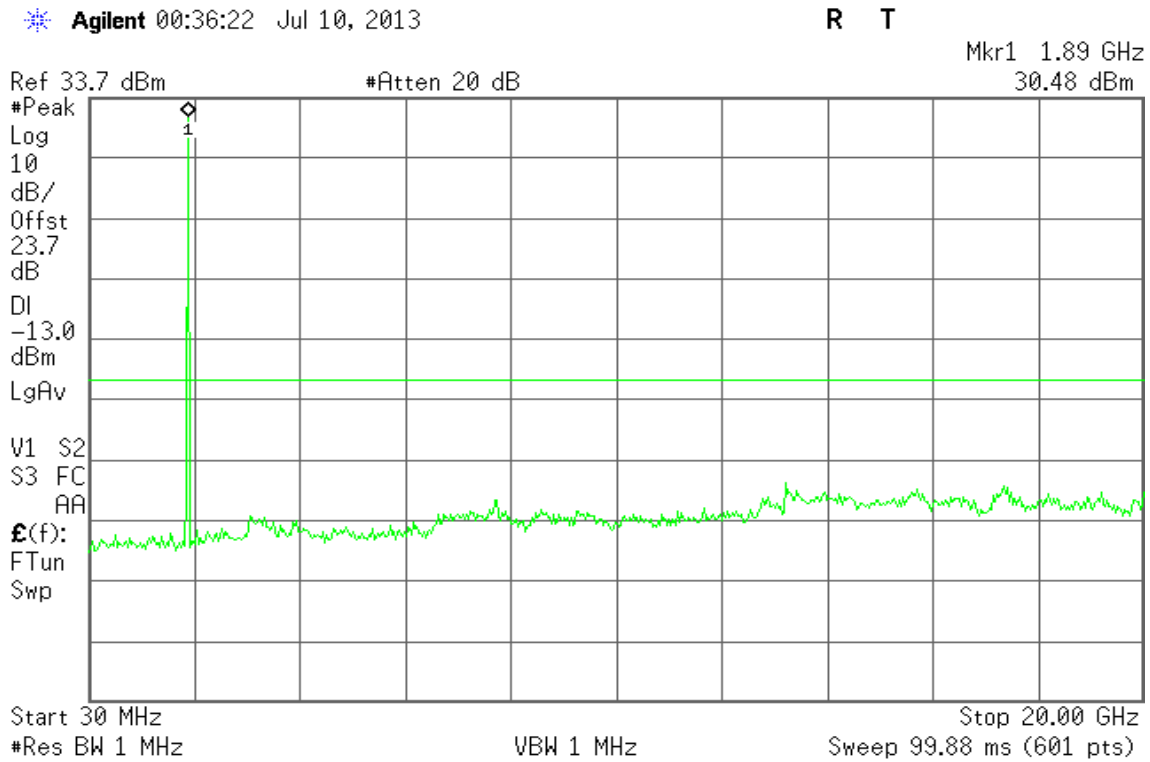
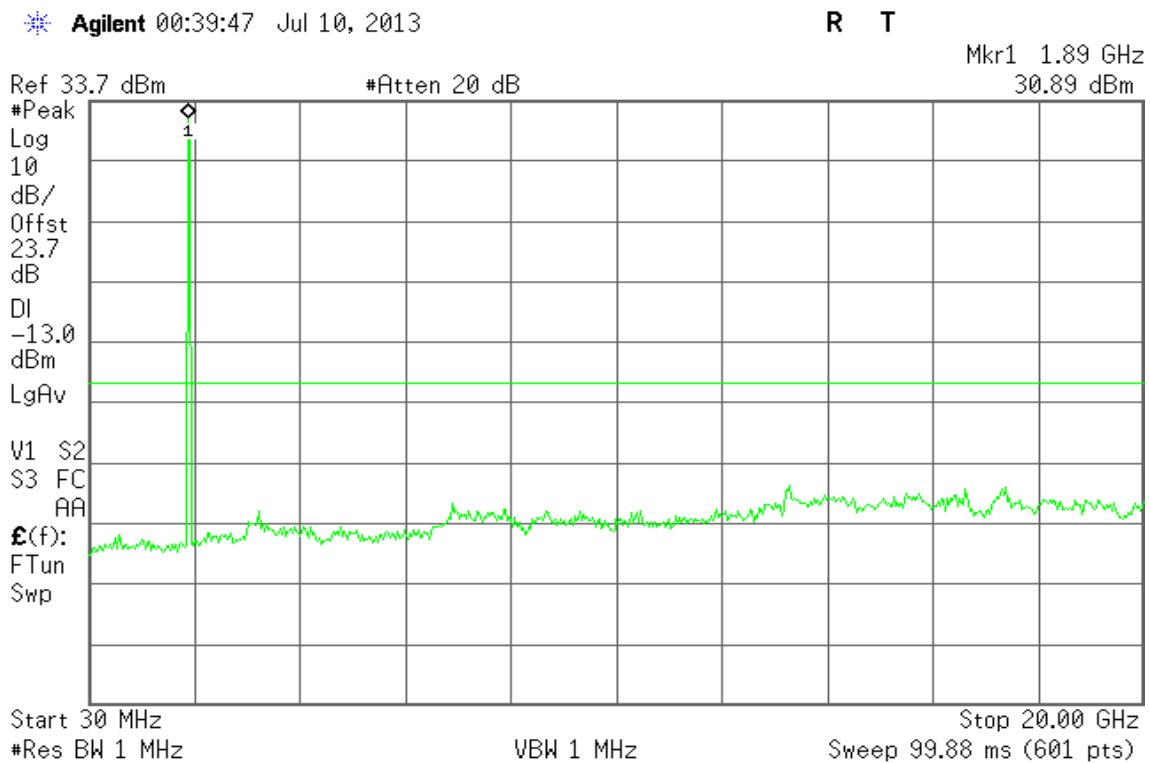


Figure 16-3: Out of Band emission at antenna terminals –EDGE CH High





EDGE 850

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

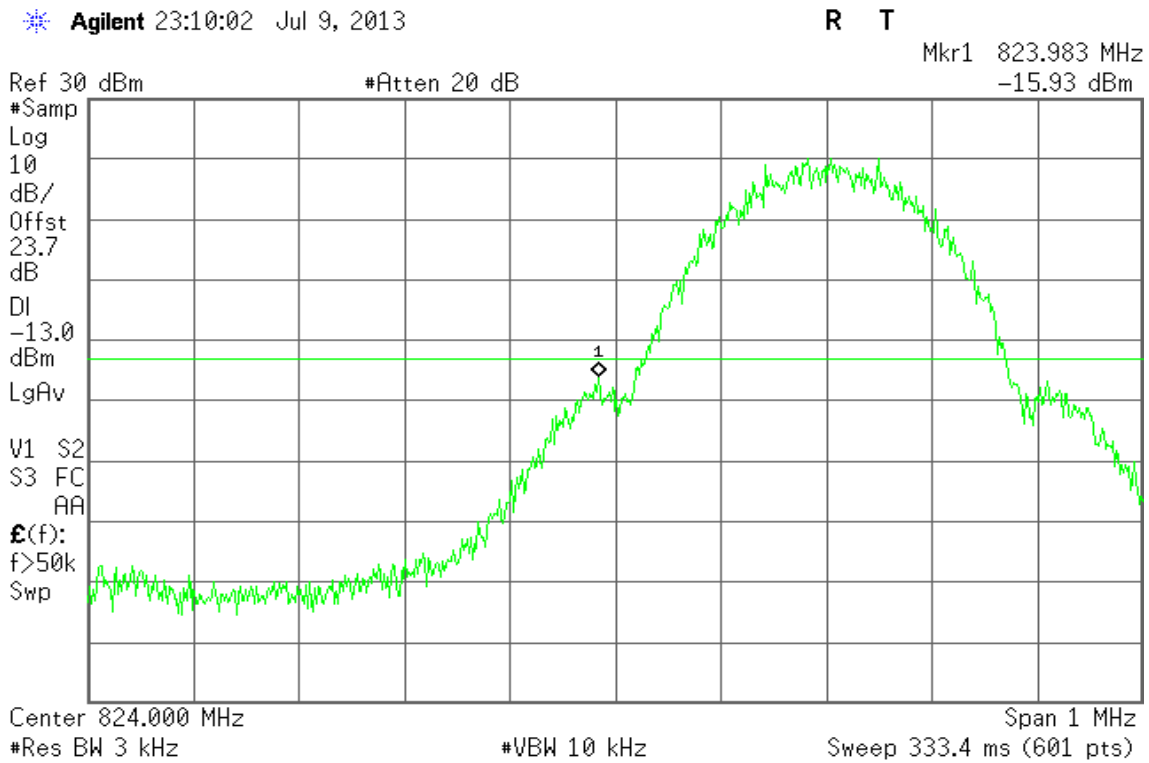
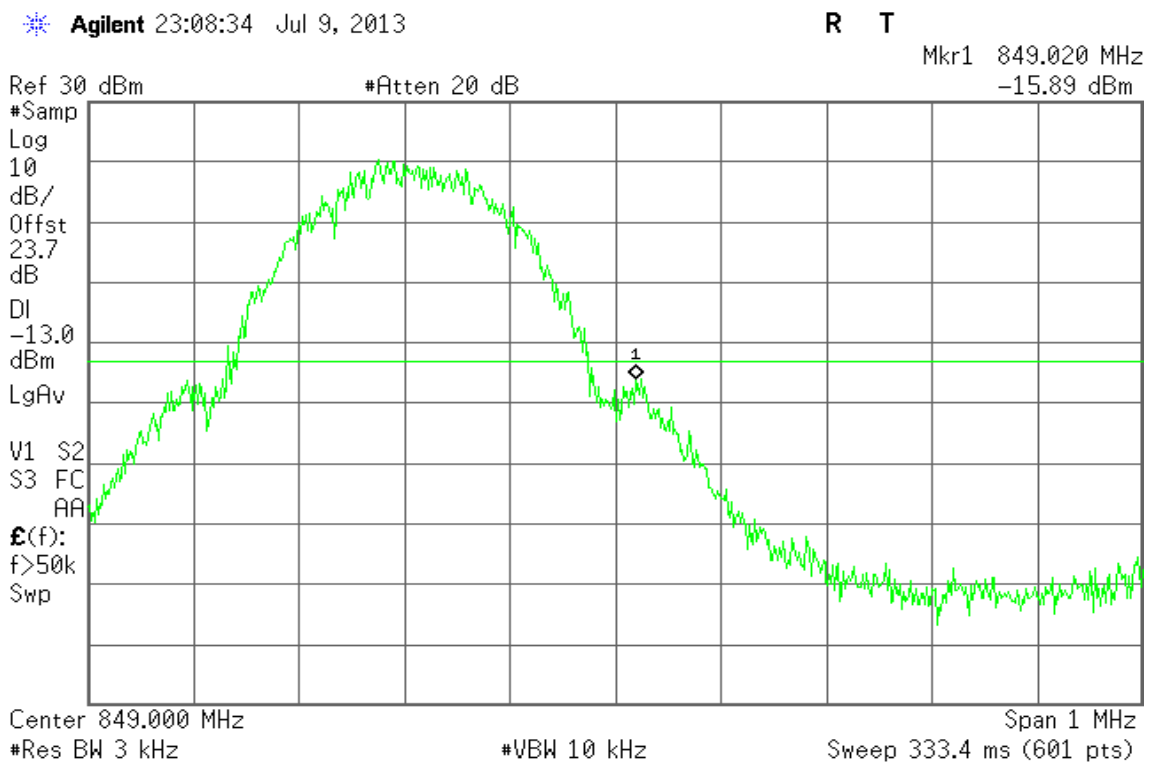


Figure 17-2: Band Edge emissions – EDGE CH High





EDGE 1900

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

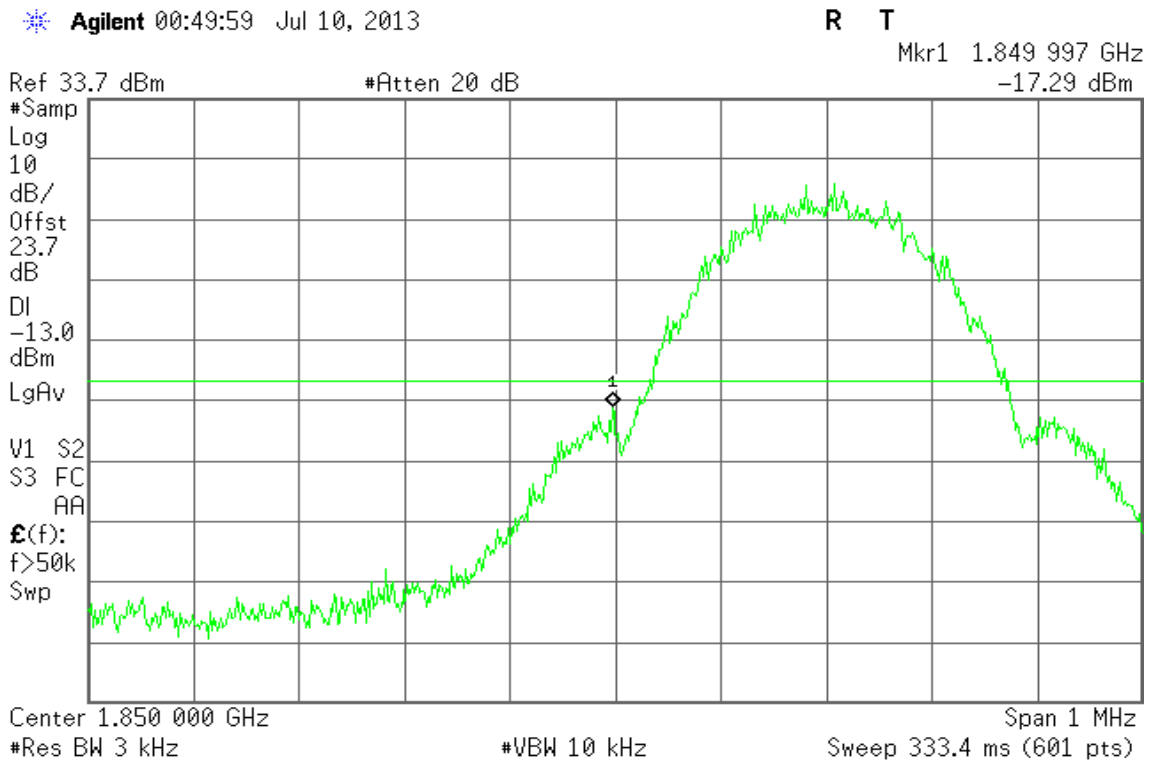
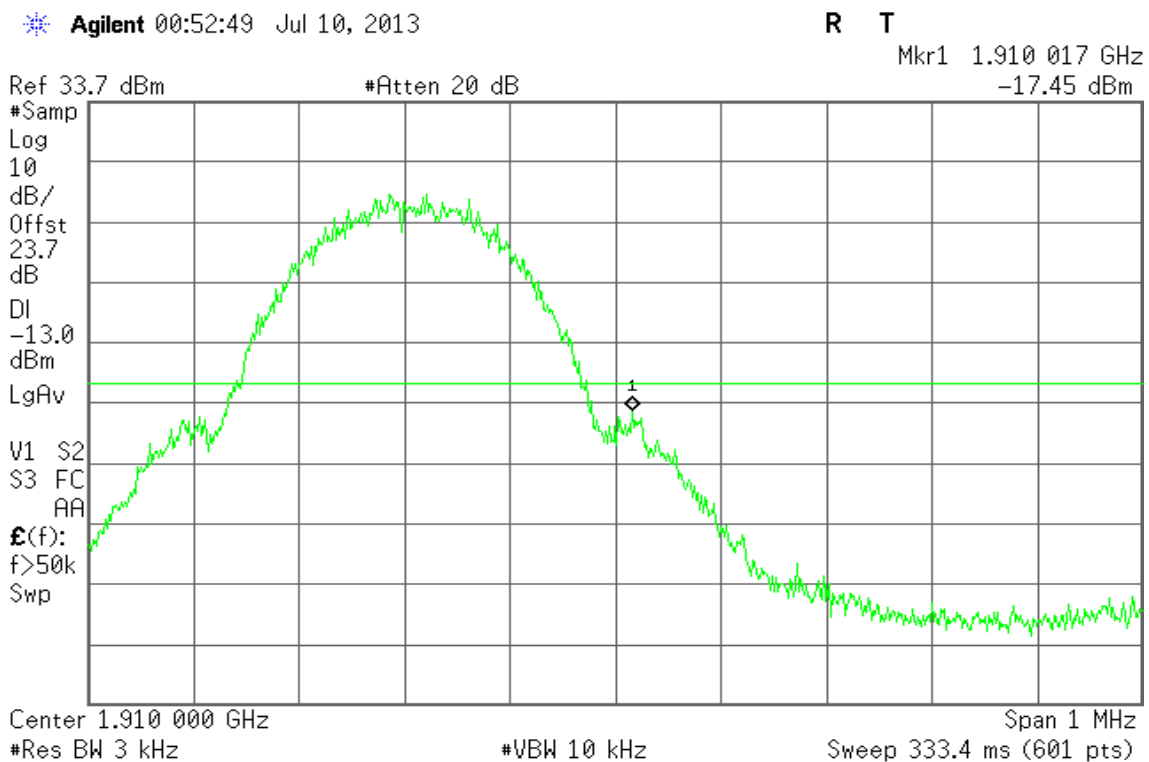


Figure 18-2: Band Edge emissions – EDGE CH High





WCDMA Band II

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

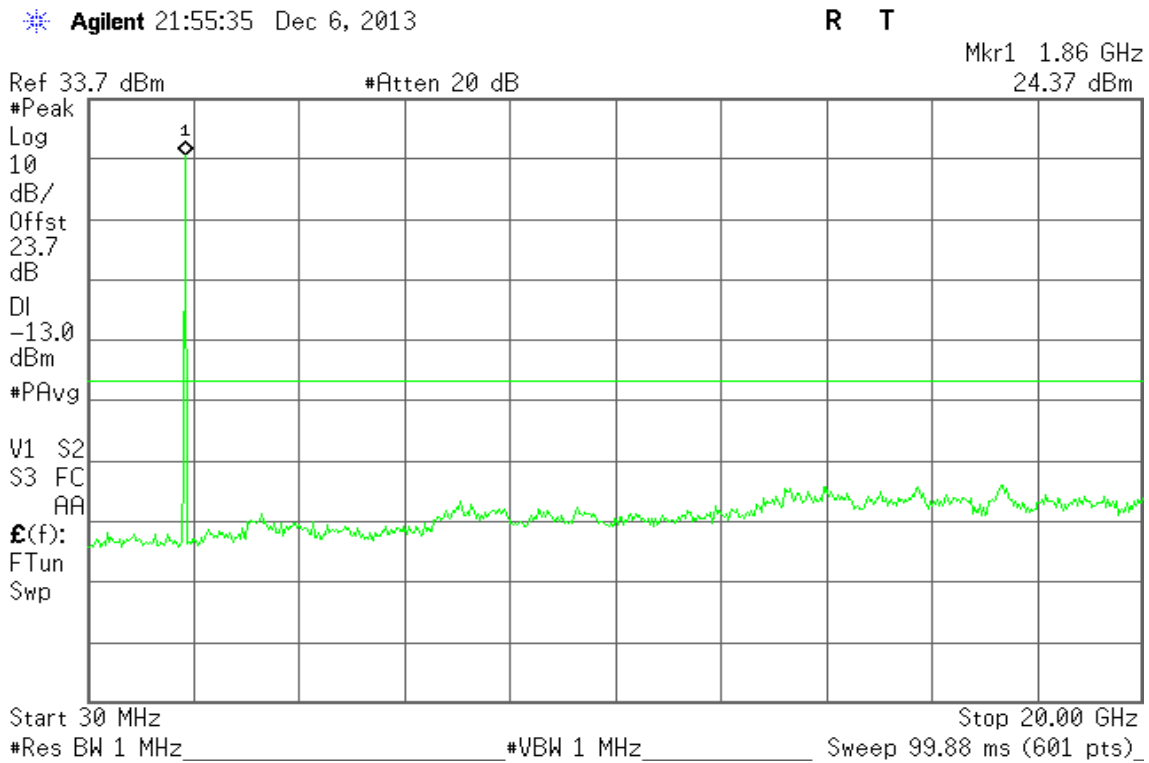


Figure 19-2: Out of Band emission at antenna terminals – WCDMA CH Mid

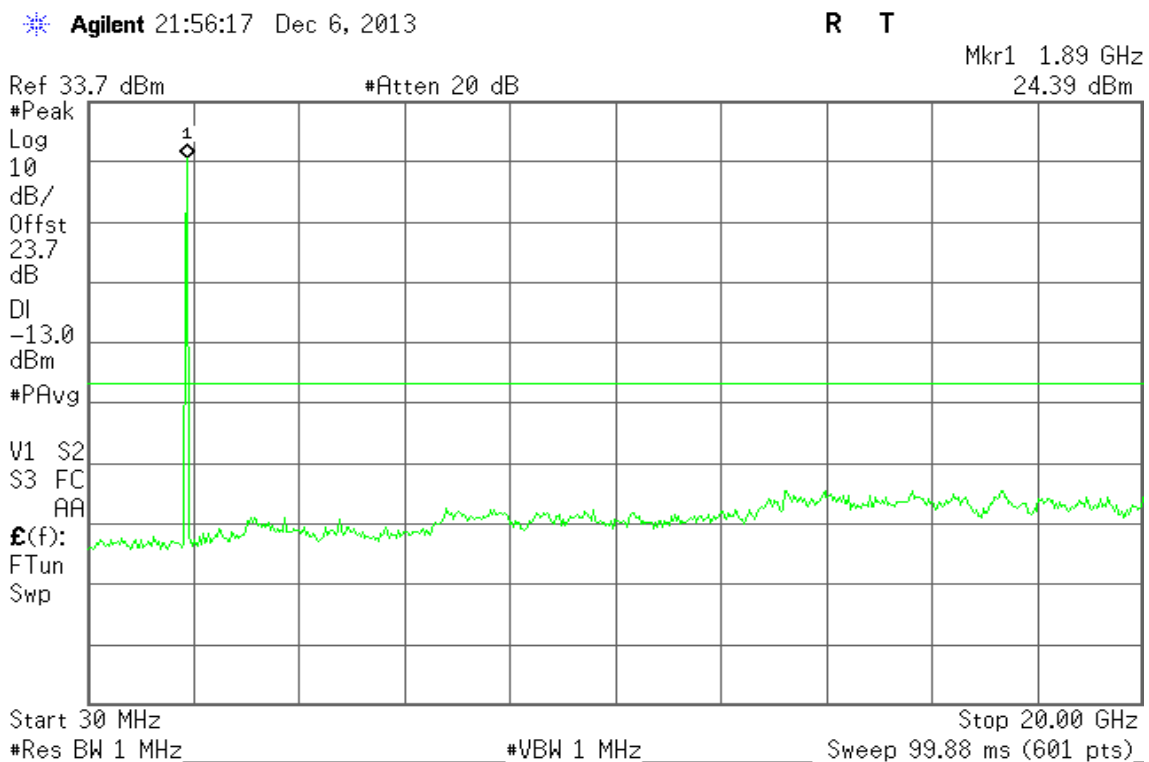
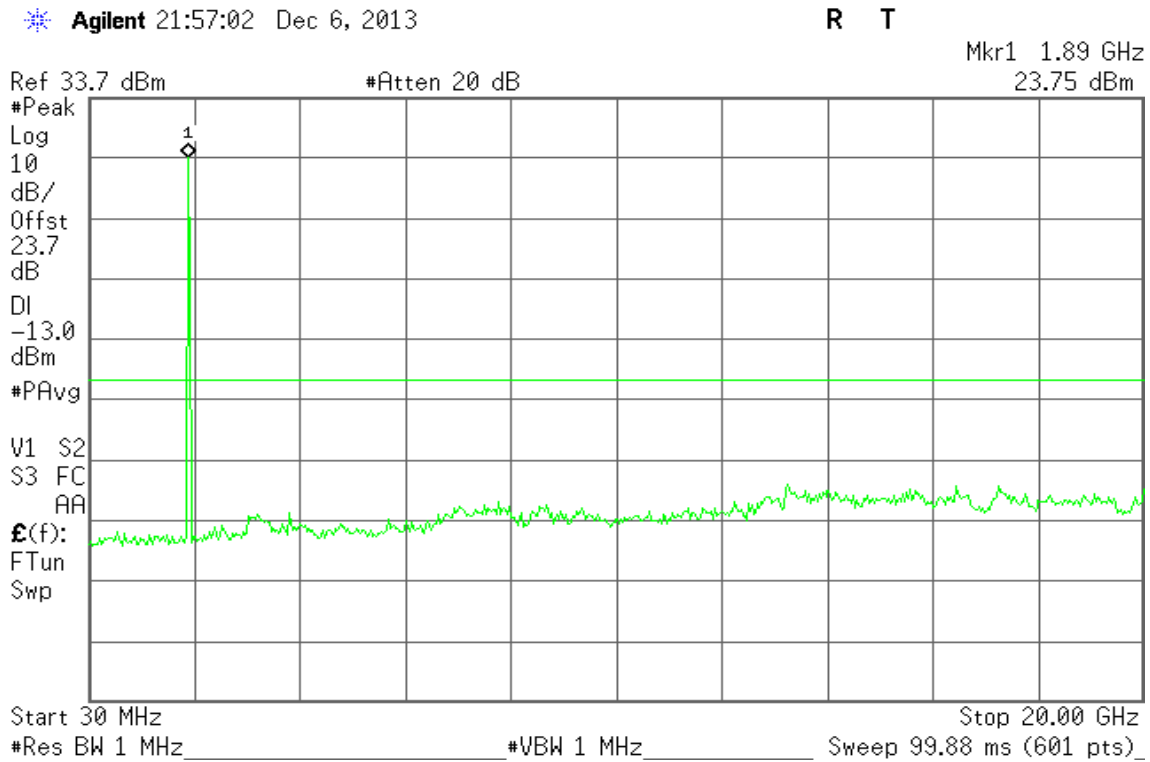




Figure 19-3: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA Band V

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

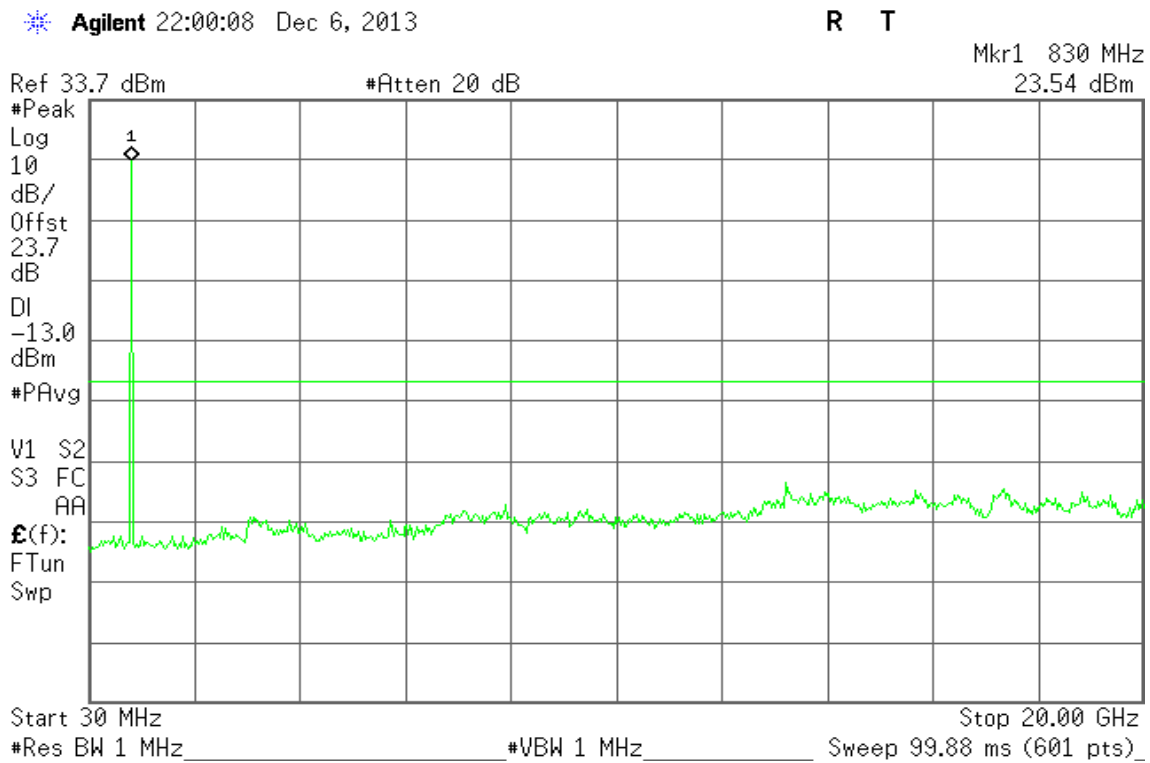




Figure 20-2: Out of Band emission at antenna terminals – WCDMA CH Mid

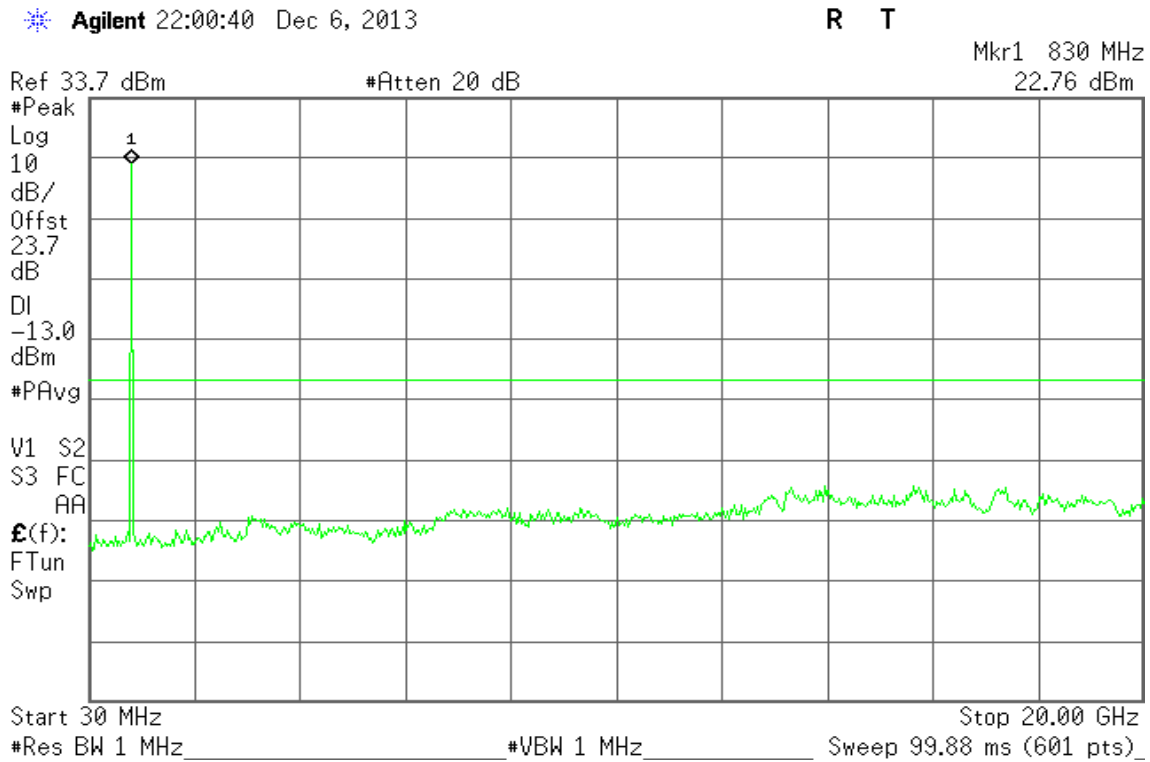
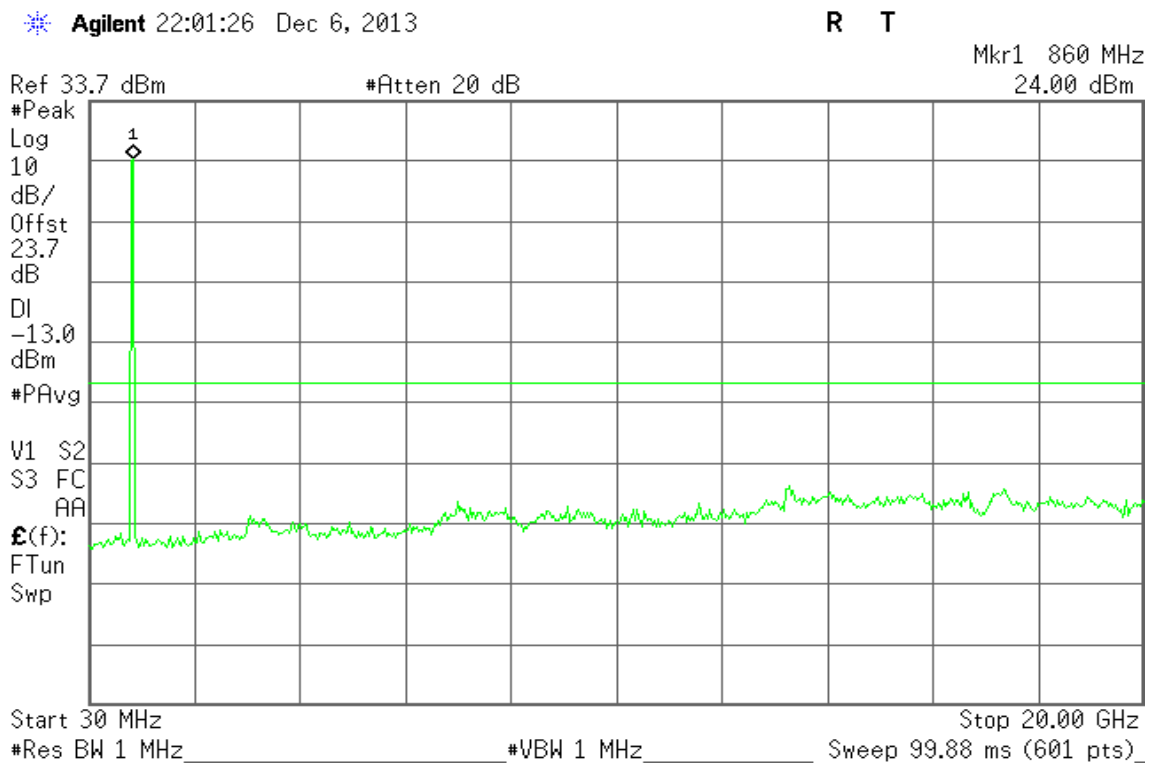


Figure 20-3: Out of Band emission at antenna terminals – WCDMA CH High





WCDMA Band II

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

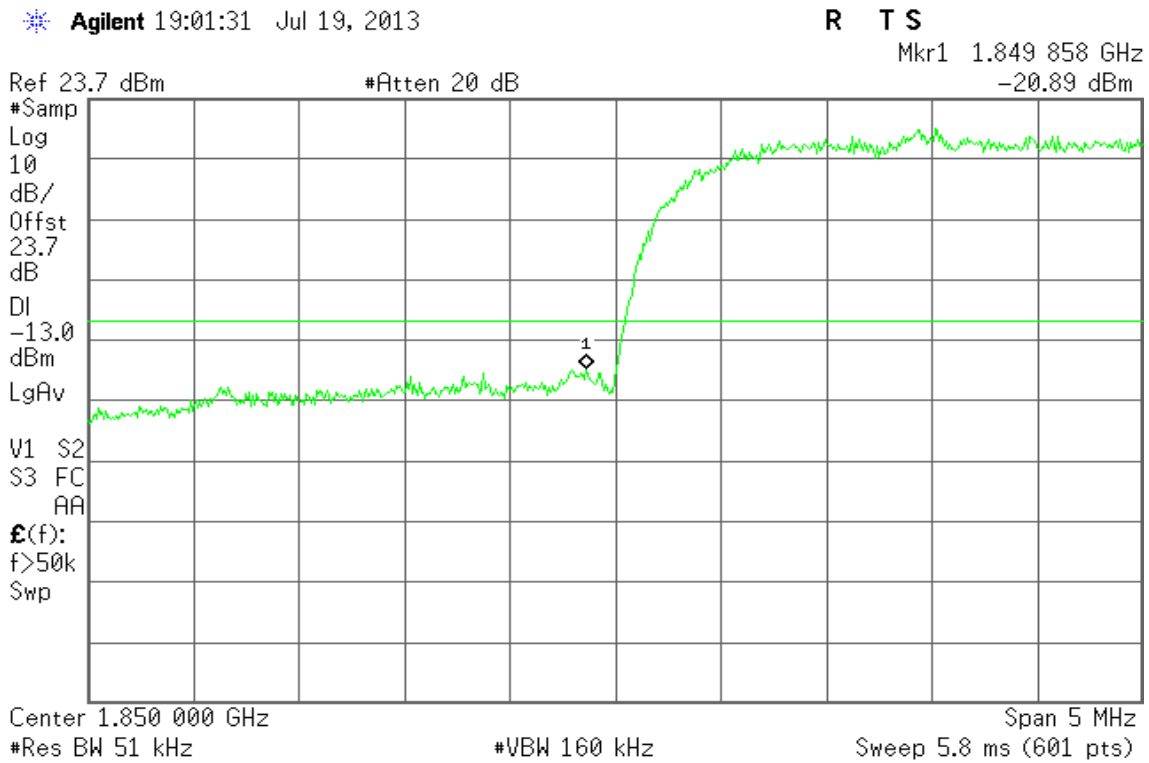
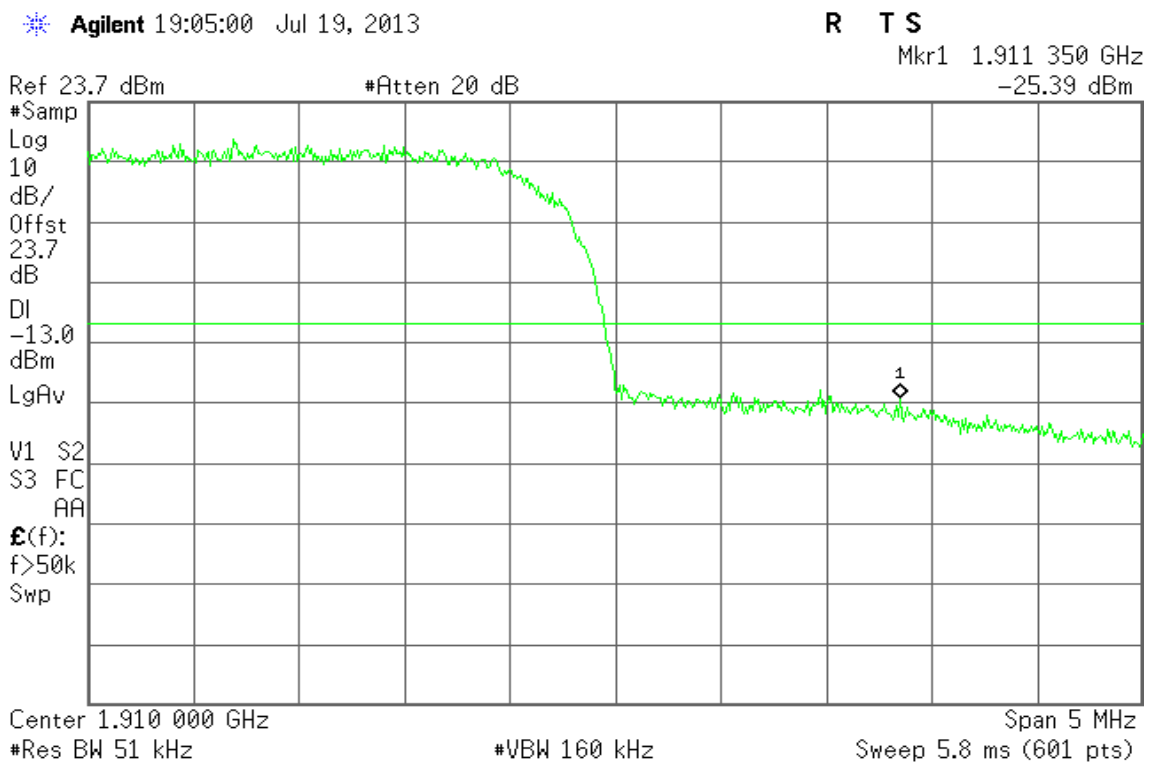


Figure 21-2: Band Edge emissions –WCDMA CH High





WCDMA Band V

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

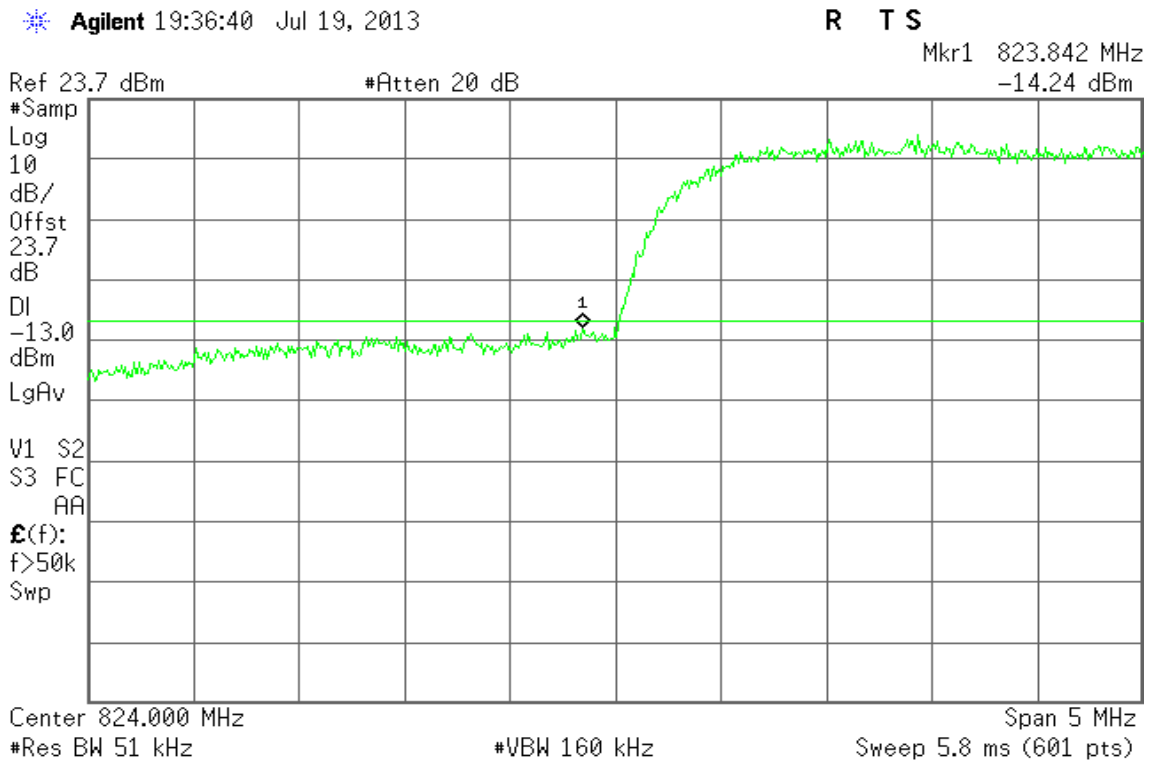
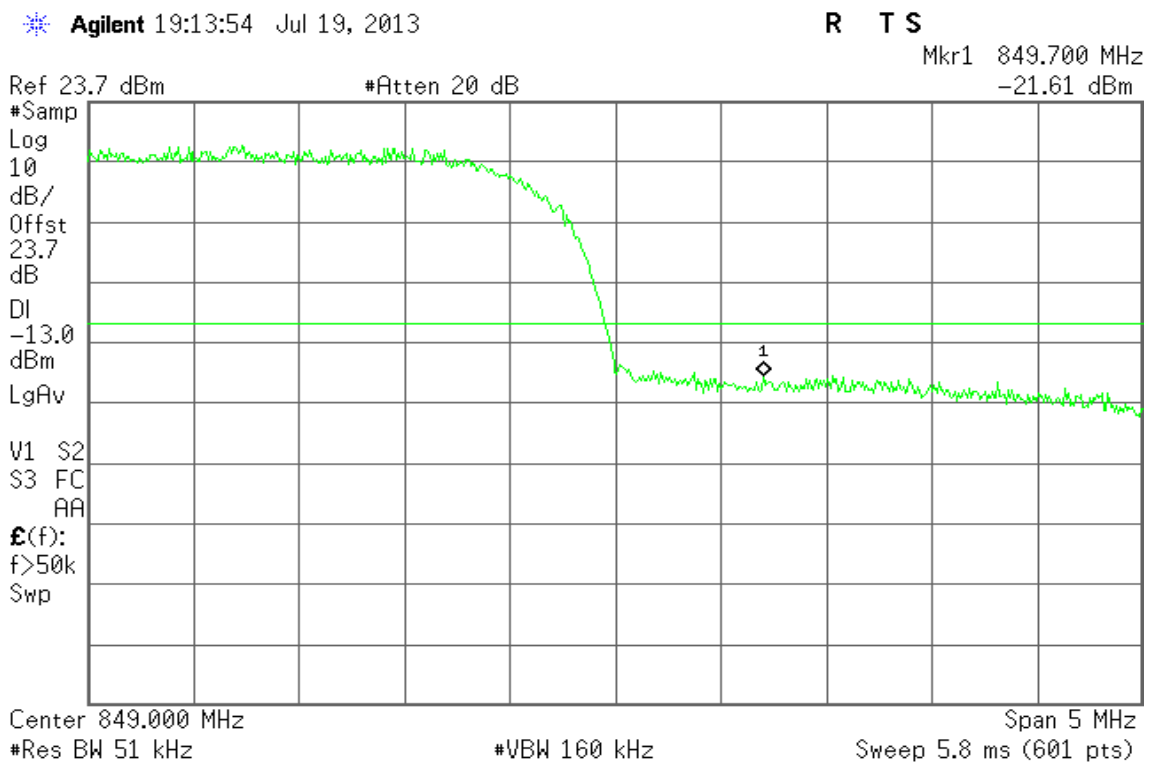


Figure 22-2: Band Edge emissions –WCDMA CH High





WCDMA / HSDPA Band II

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

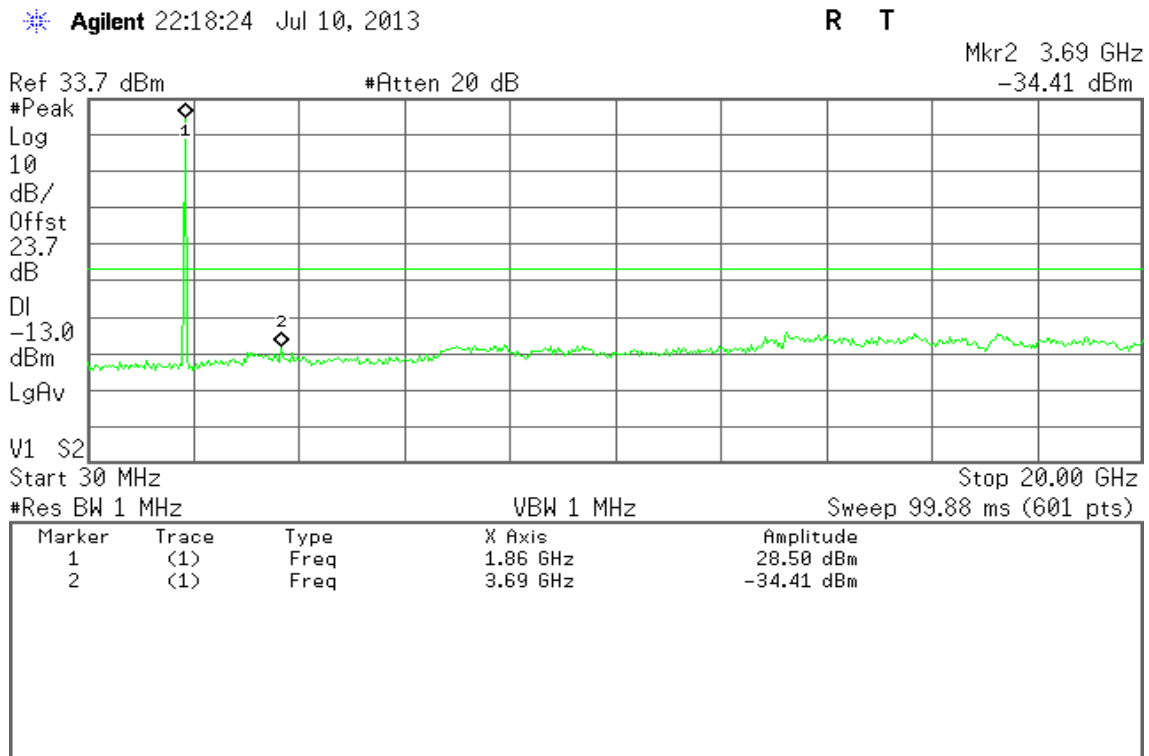


Figure 23-2: Out of Band emission at antenna terminals – HSDPA CH Mid

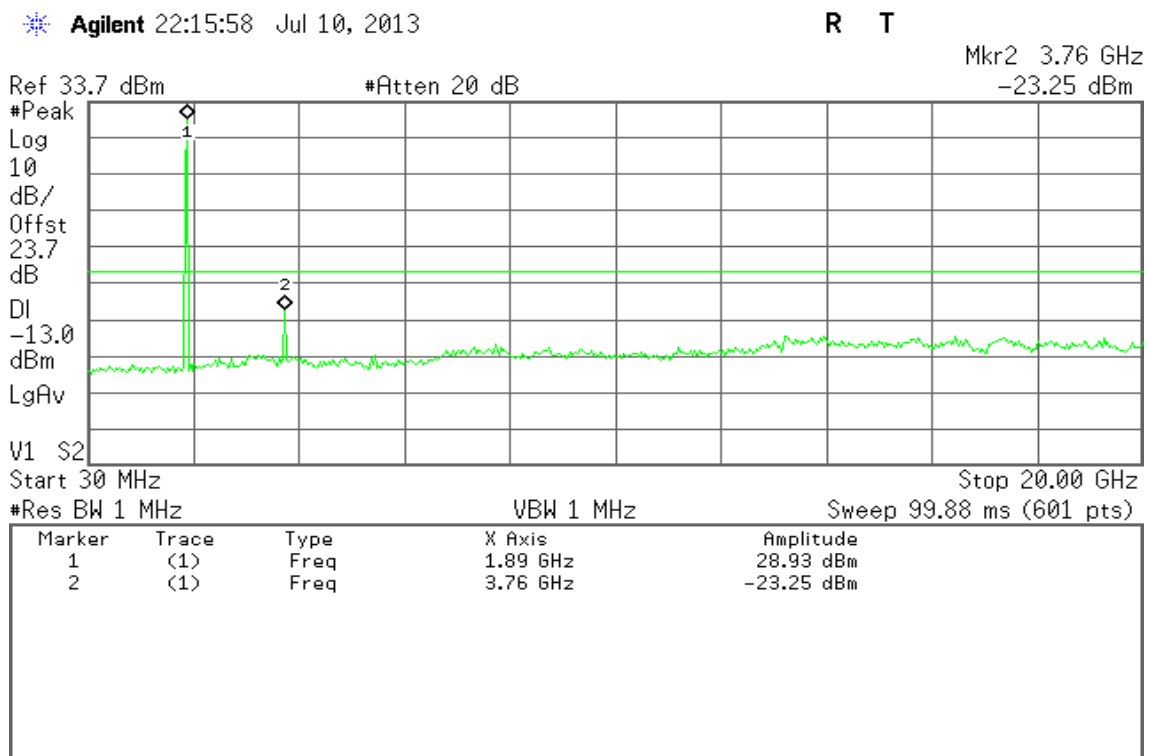
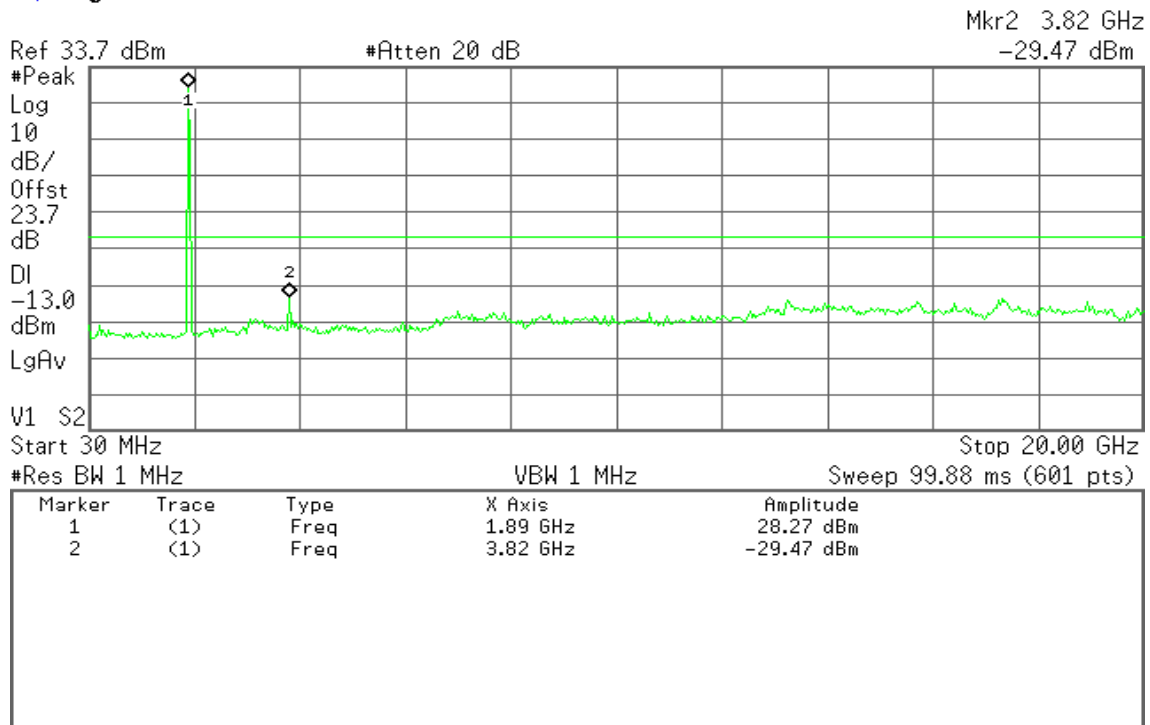




Figure 23-3: Out of Band emission at antenna terminals – HSDPA CH High

Agilent 22:14:51 Jul 10, 2013

R T



WCDMA / HSDPA Band V

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

Agilent 22:27:56 Jul 10, 2013

R T

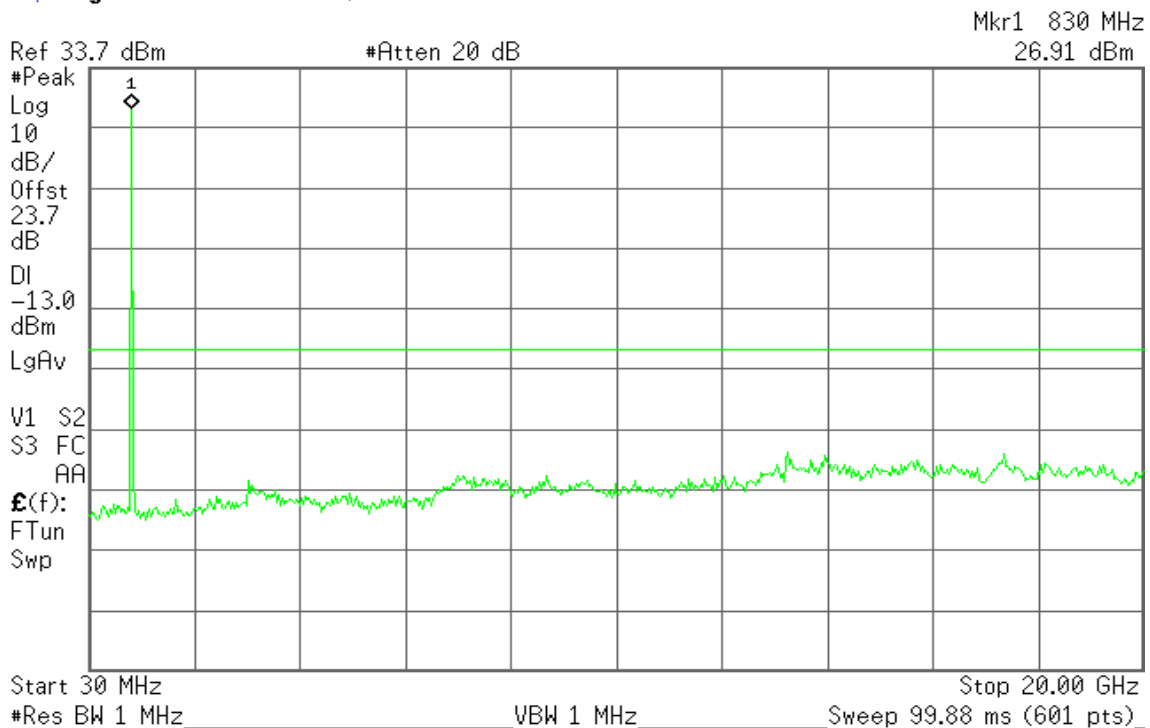




Figure 24-2: Out of Band emission at antenna terminals – HSDPA CH Mid

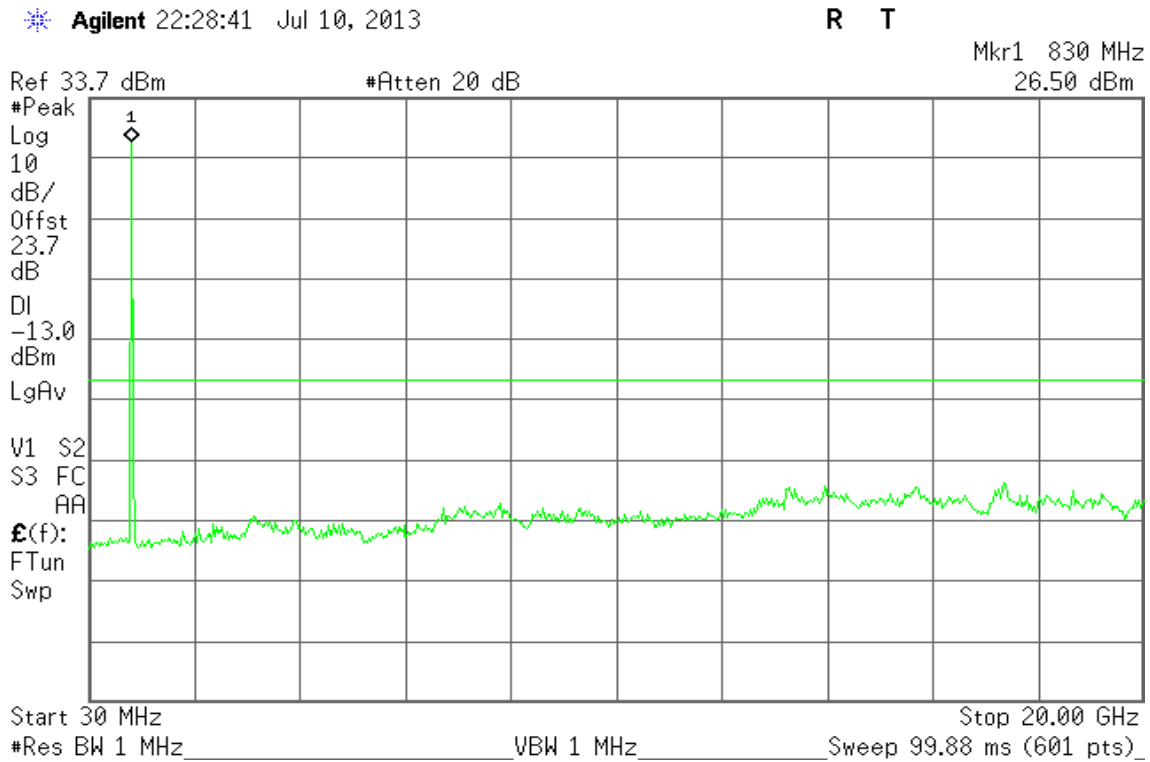
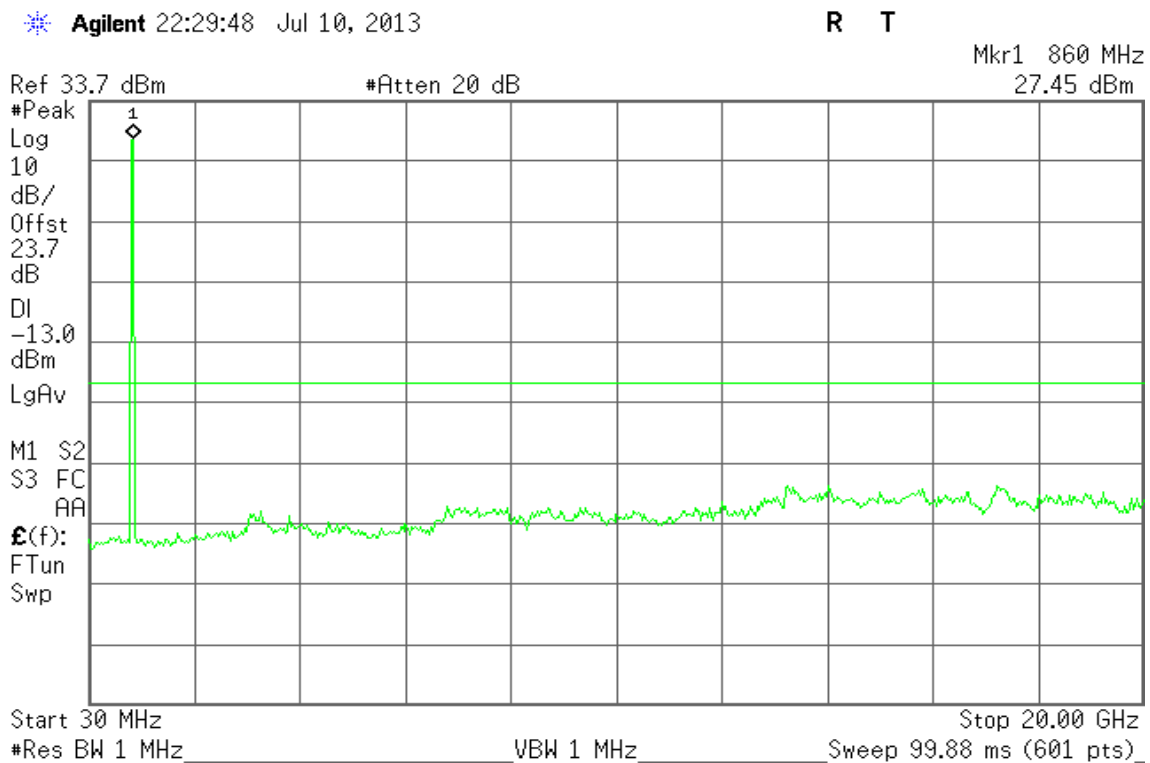


Figure 24-3: Out of Band emission at antenna terminals – HSDPA CH High





WCDMA / HSDPA Band II

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

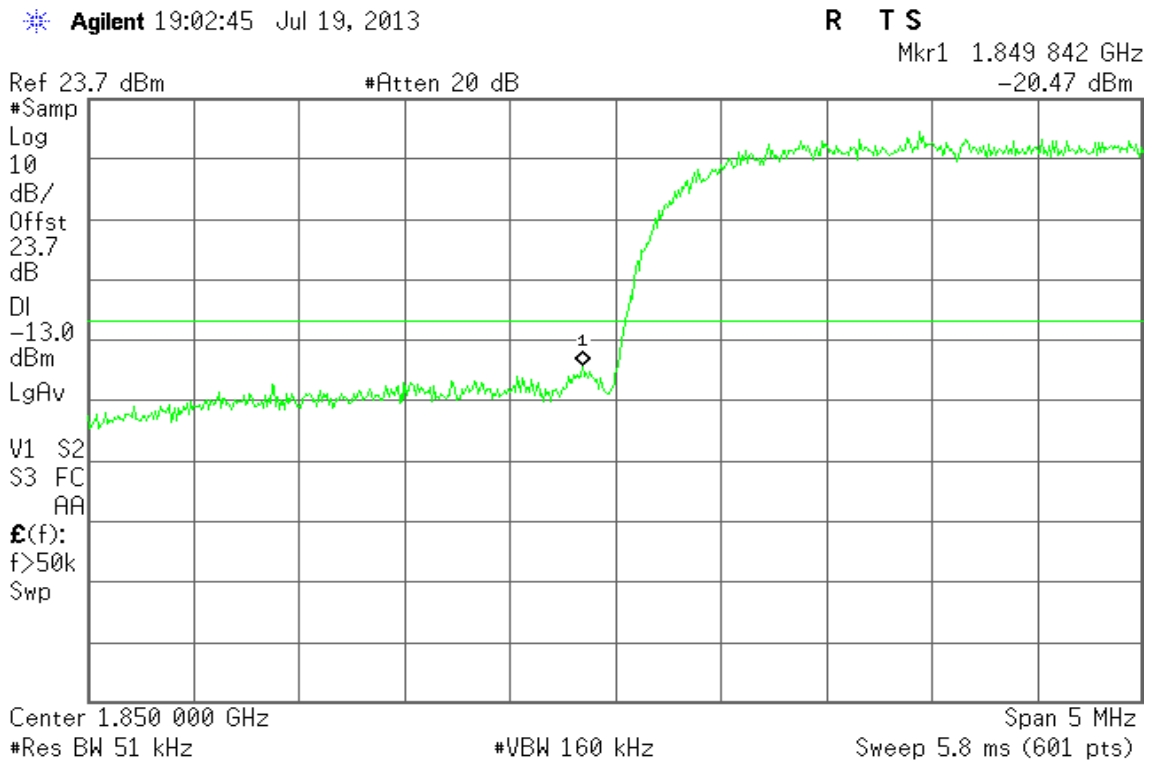
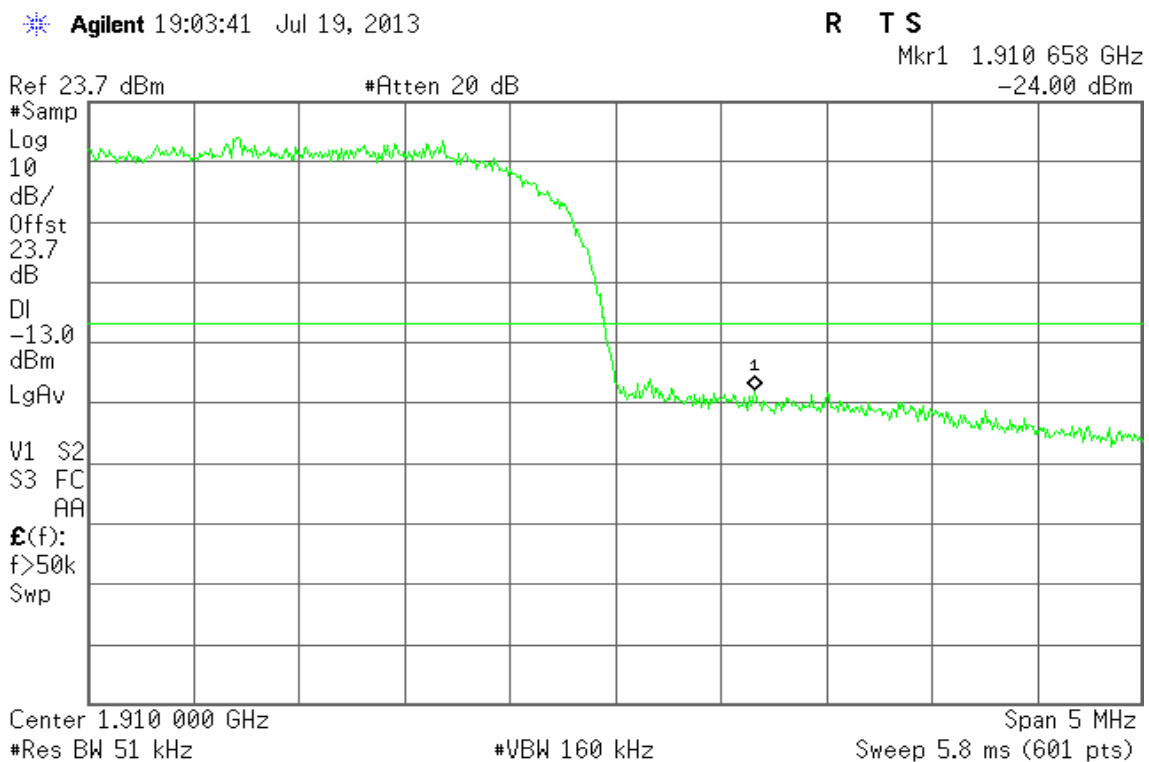


Figure 25-2: Band Edge emissions – HSDPA CH High





WCDMA / HSDPA Band V

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

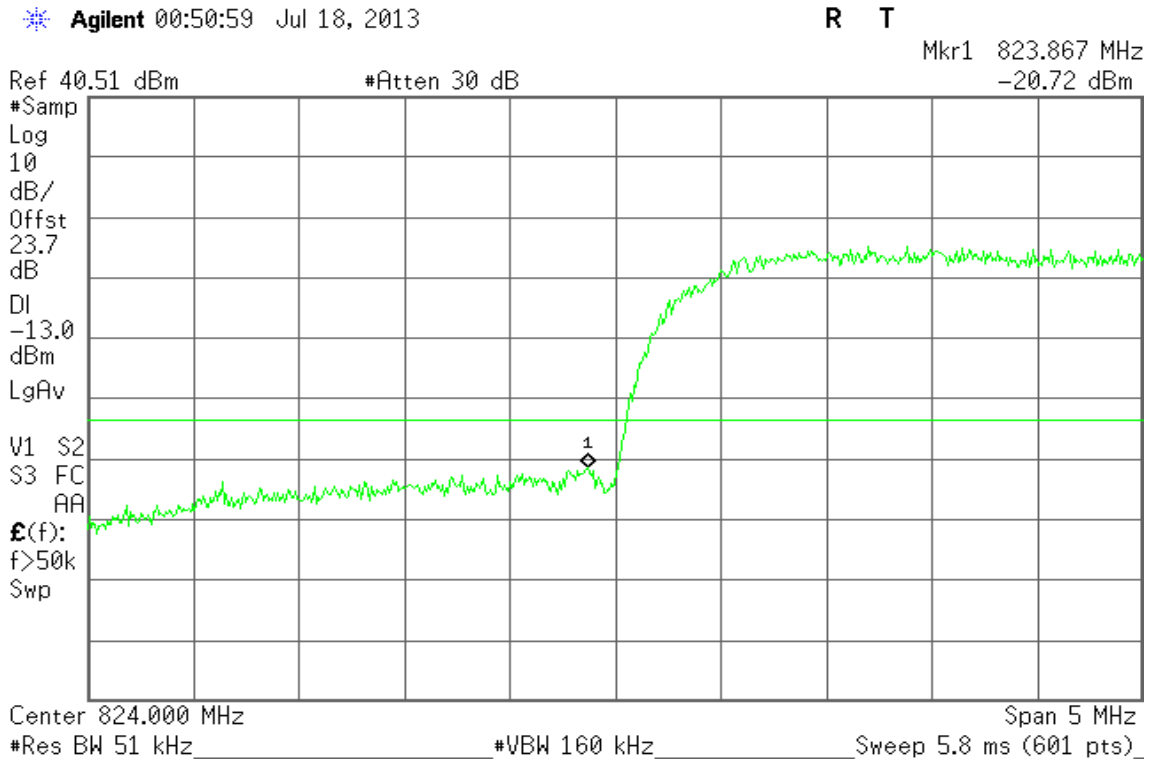
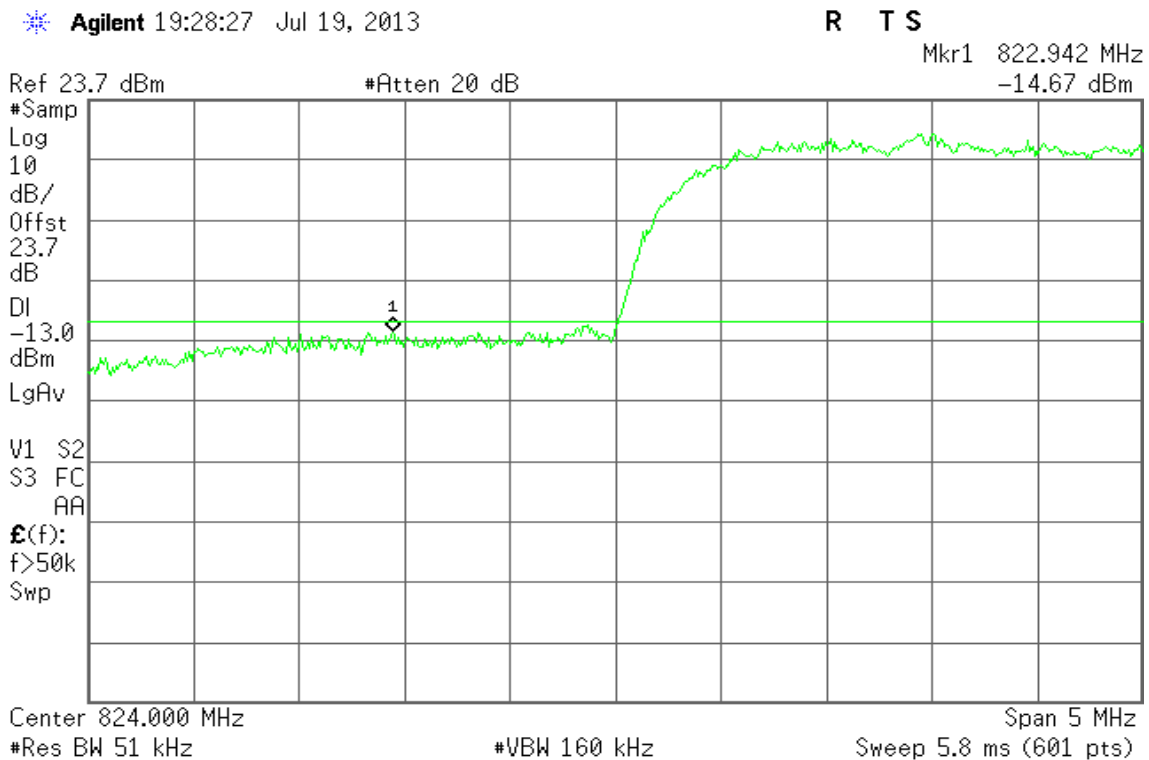


Figure 26-2: Band Edge emissions – HSDPA CH High





WCDMA / HSUPA Band II

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

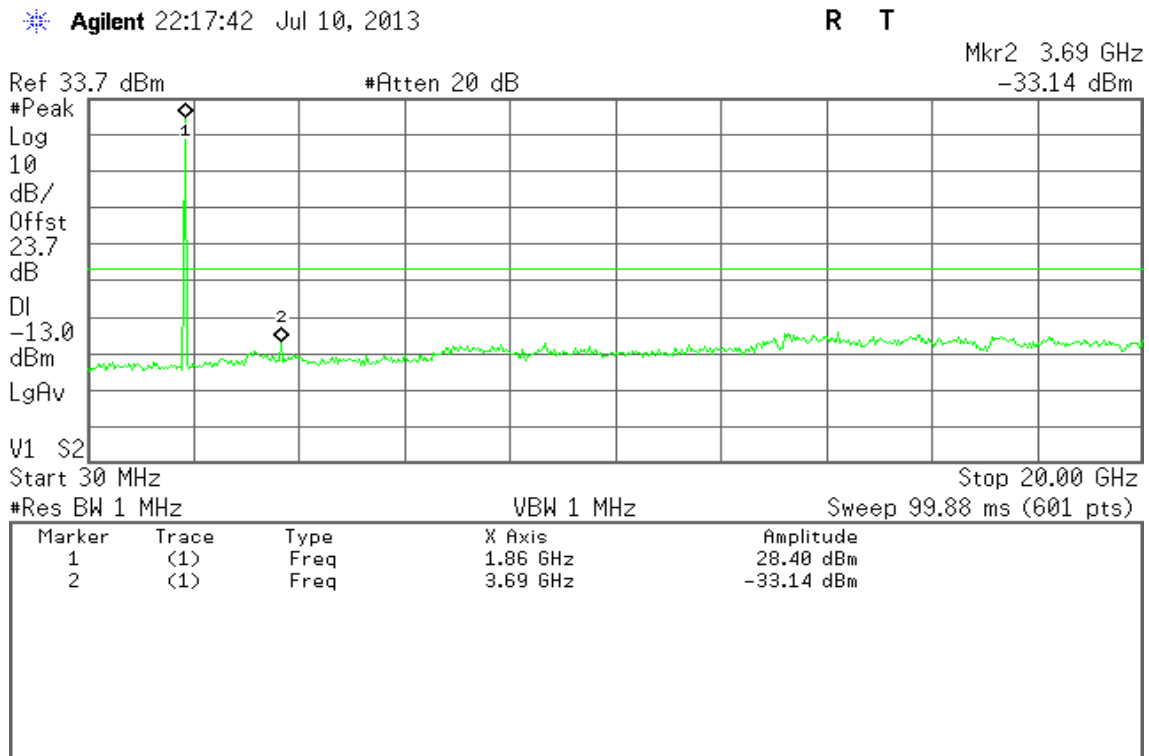


Figure 27-2: Out of Band emission at antenna terminals – HSUPA CH Mid

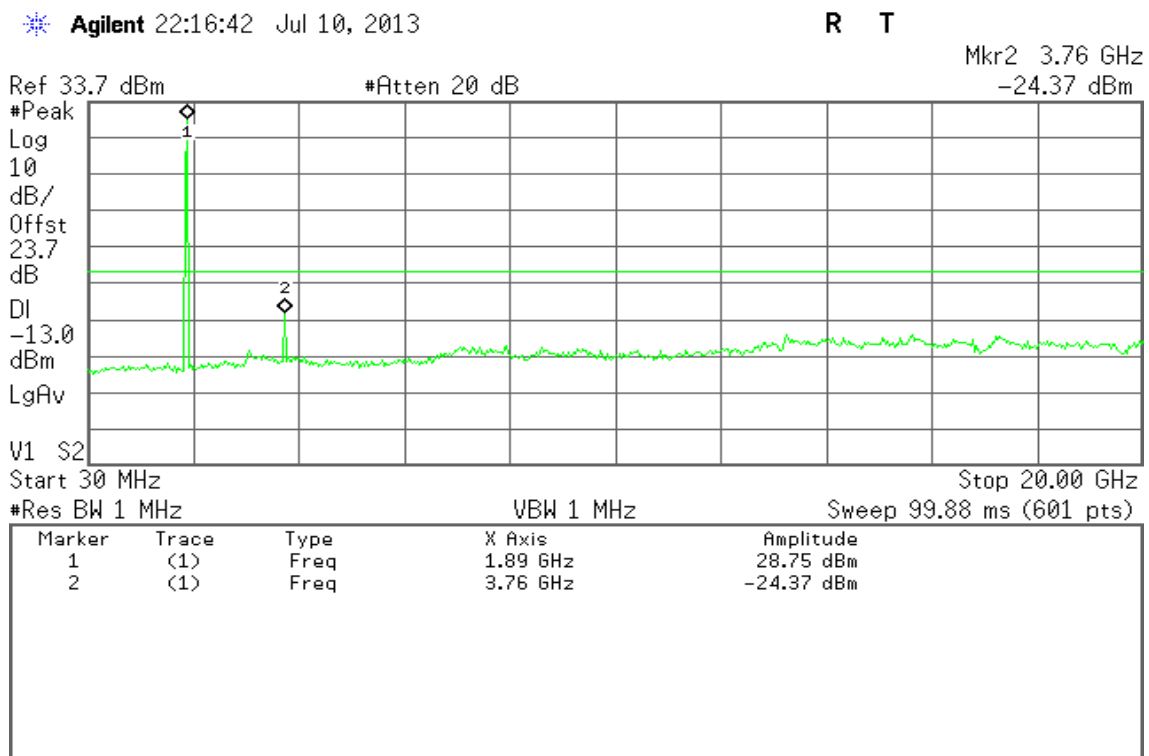
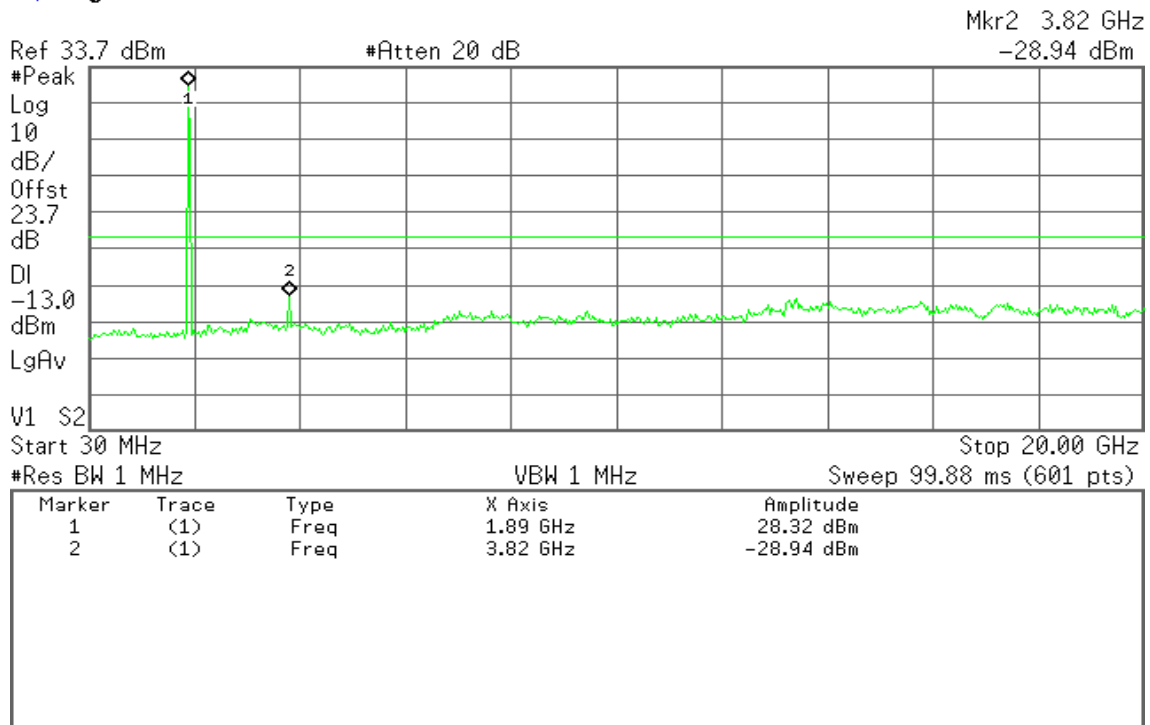




Figure 27-3: Out of Band emission at antenna terminals – HSUPA CH High

Agilent 22:14:10 Jul 10, 2013

R T



HSUPA / WCDMA Band V

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

Agilent 22:27:13 Jul 10, 2013

R T

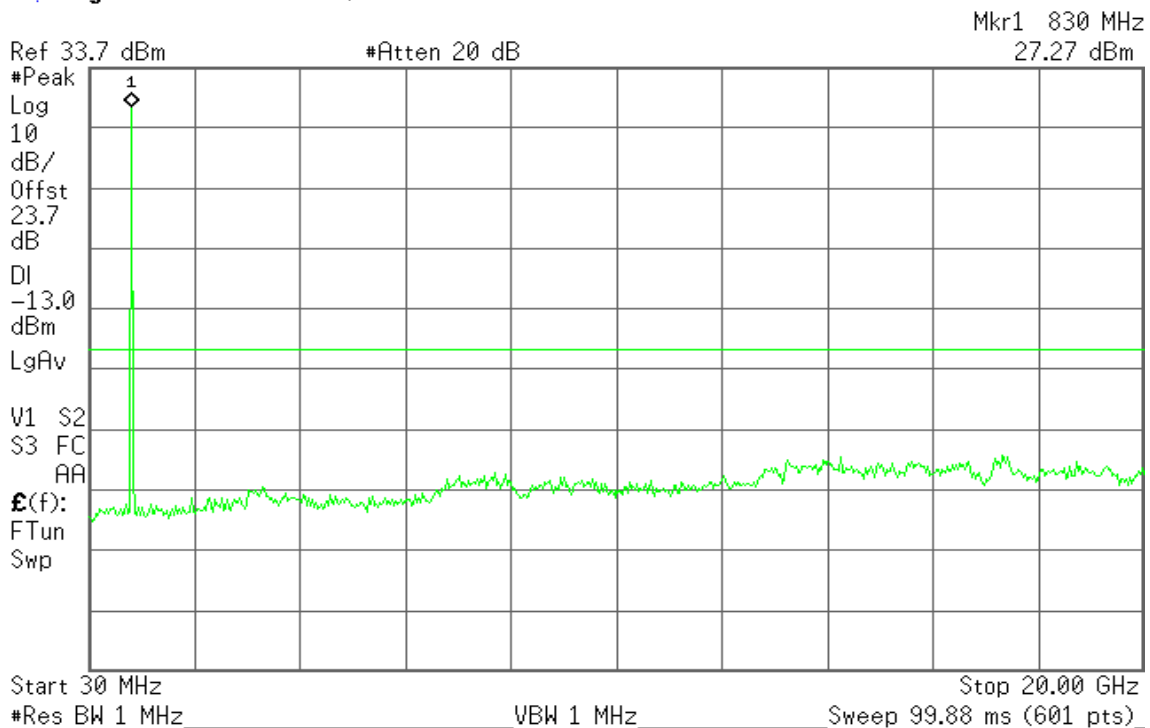




Figure 28-2: Out of Band emission at antenna terminals – HSUPA CH Mid

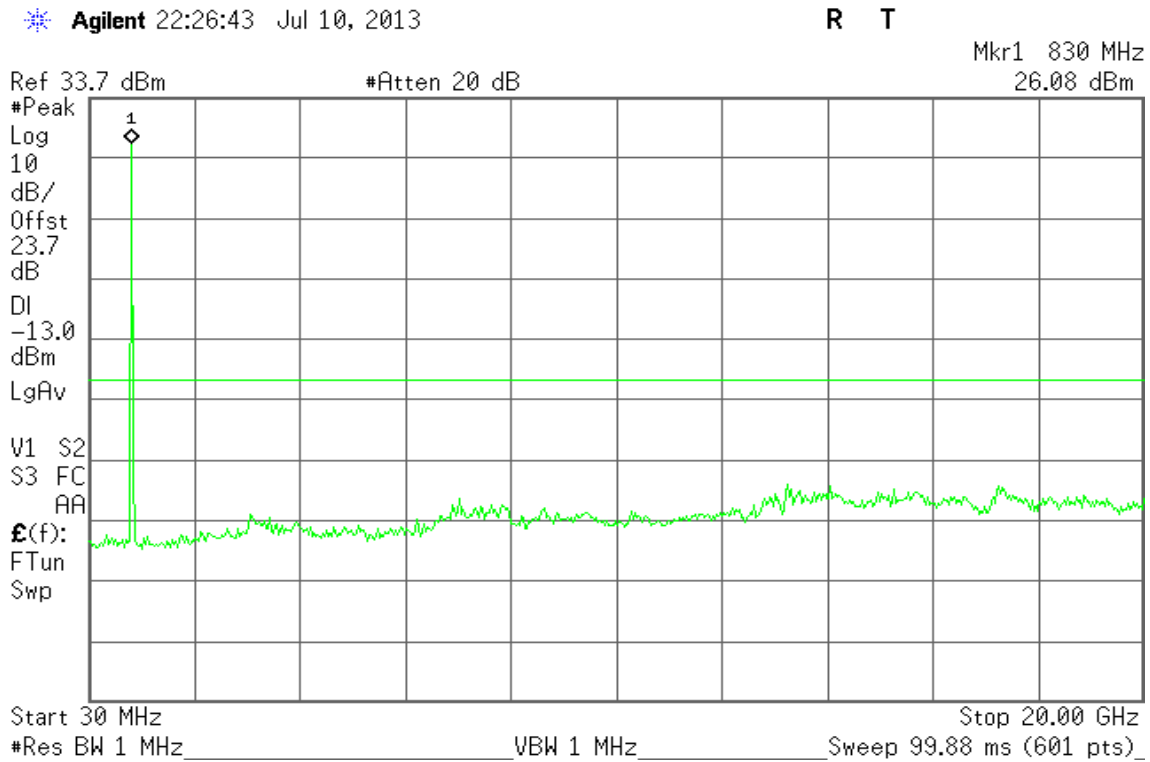
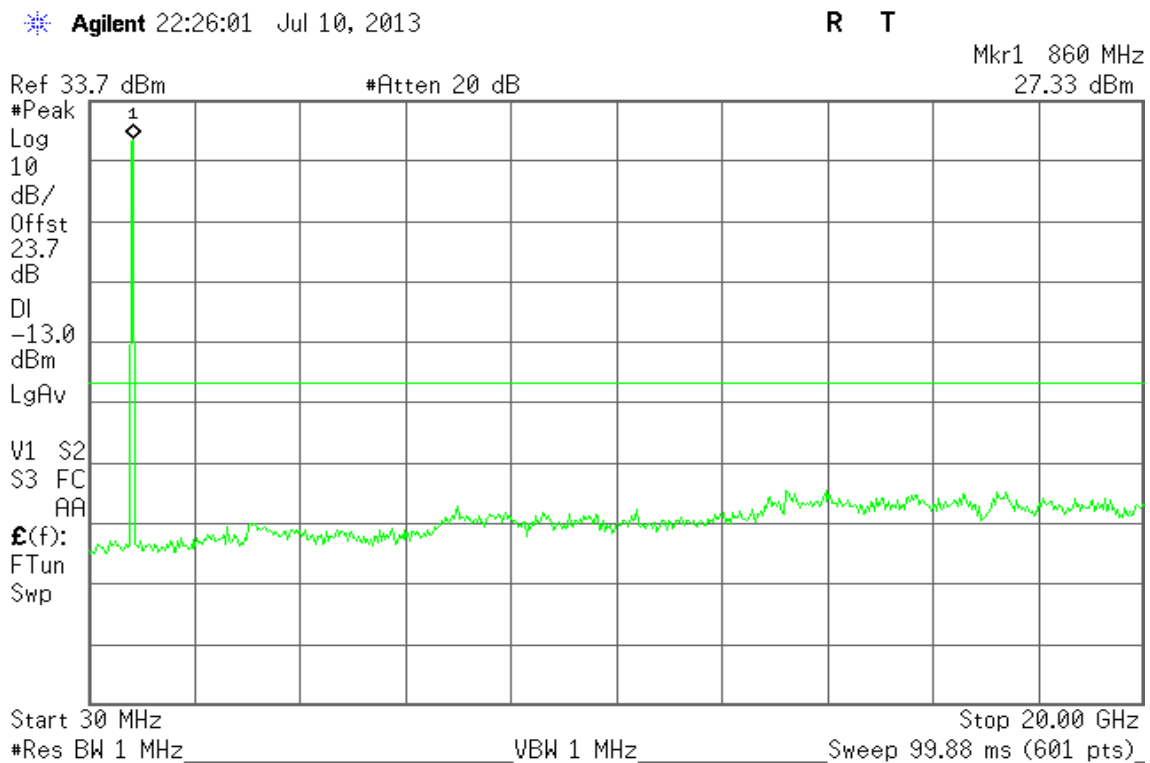


Figure 28-3: Out of Band emission at antenna terminals – HSUPA CH High





WCDMA / HSUPA Band II

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

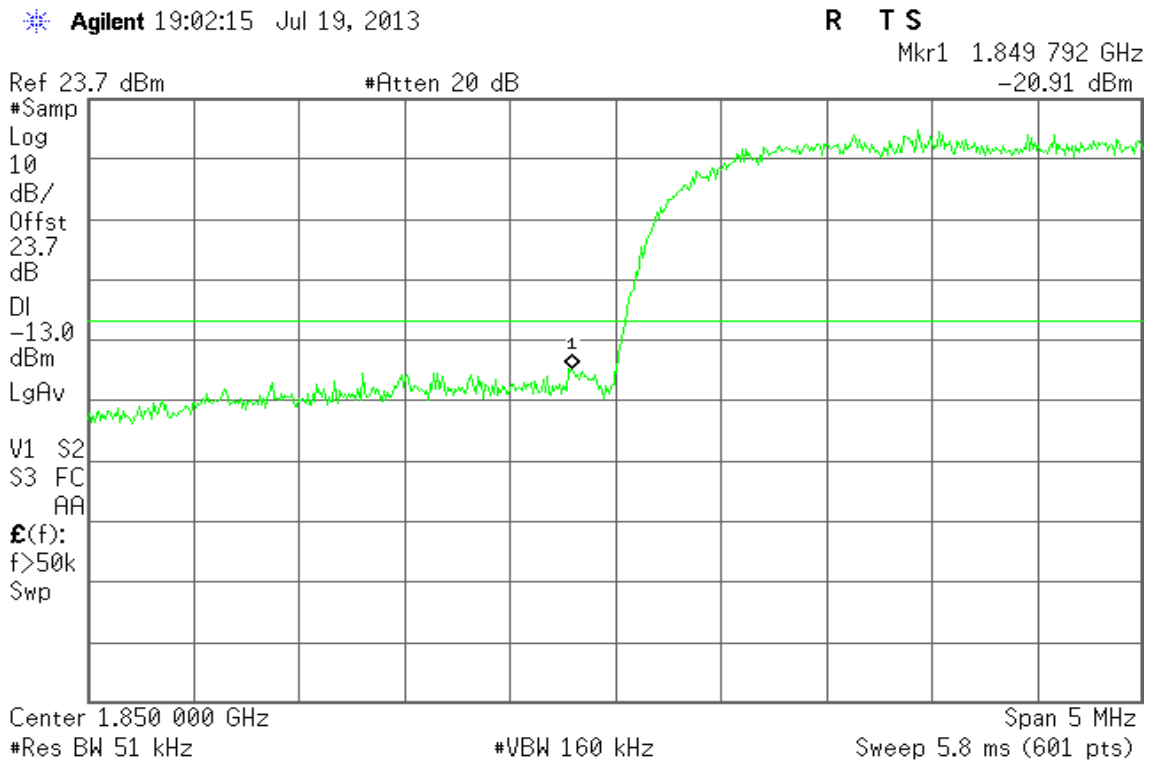
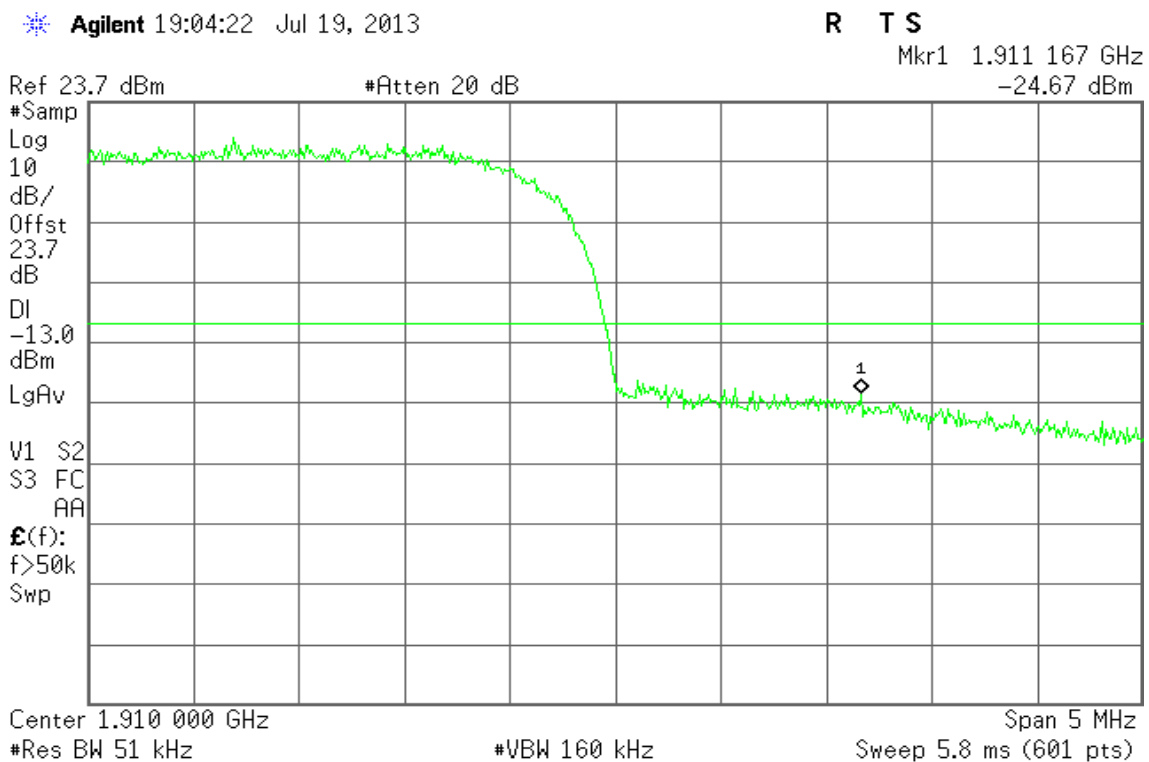


Figure 29-2: Band Edge emissions – HSUPA CH High





WCDMA / HSUPA Band V

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

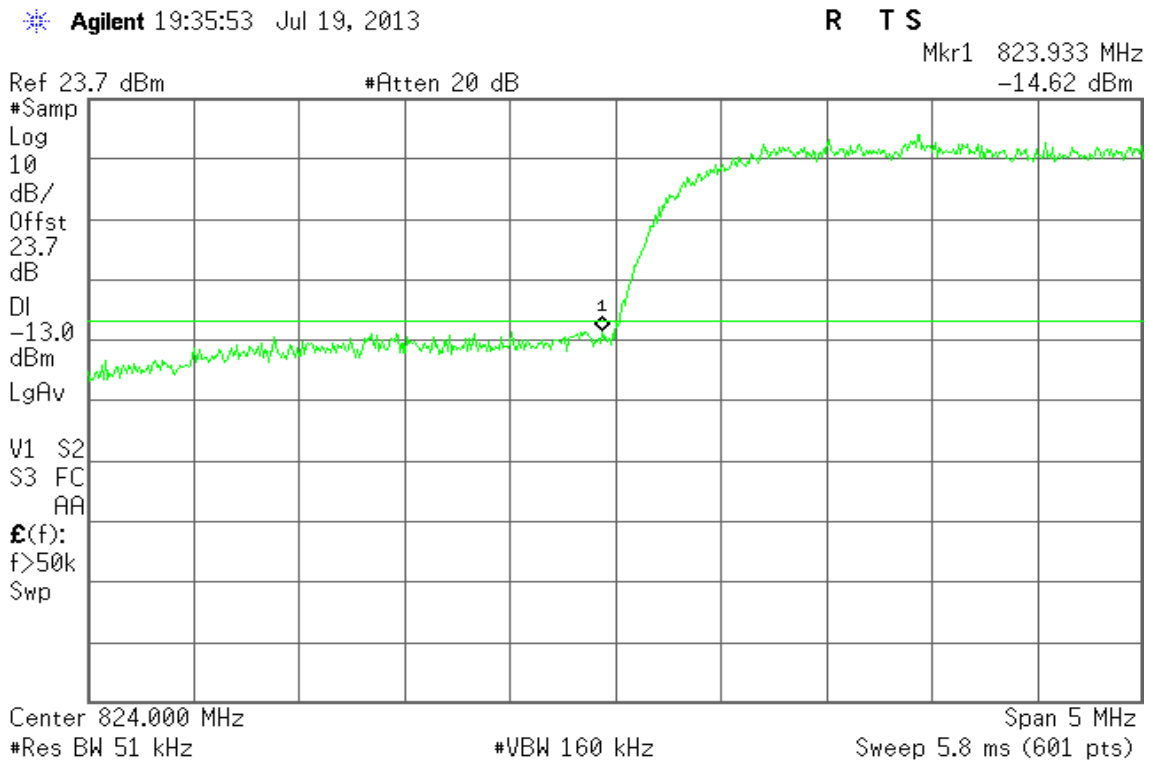
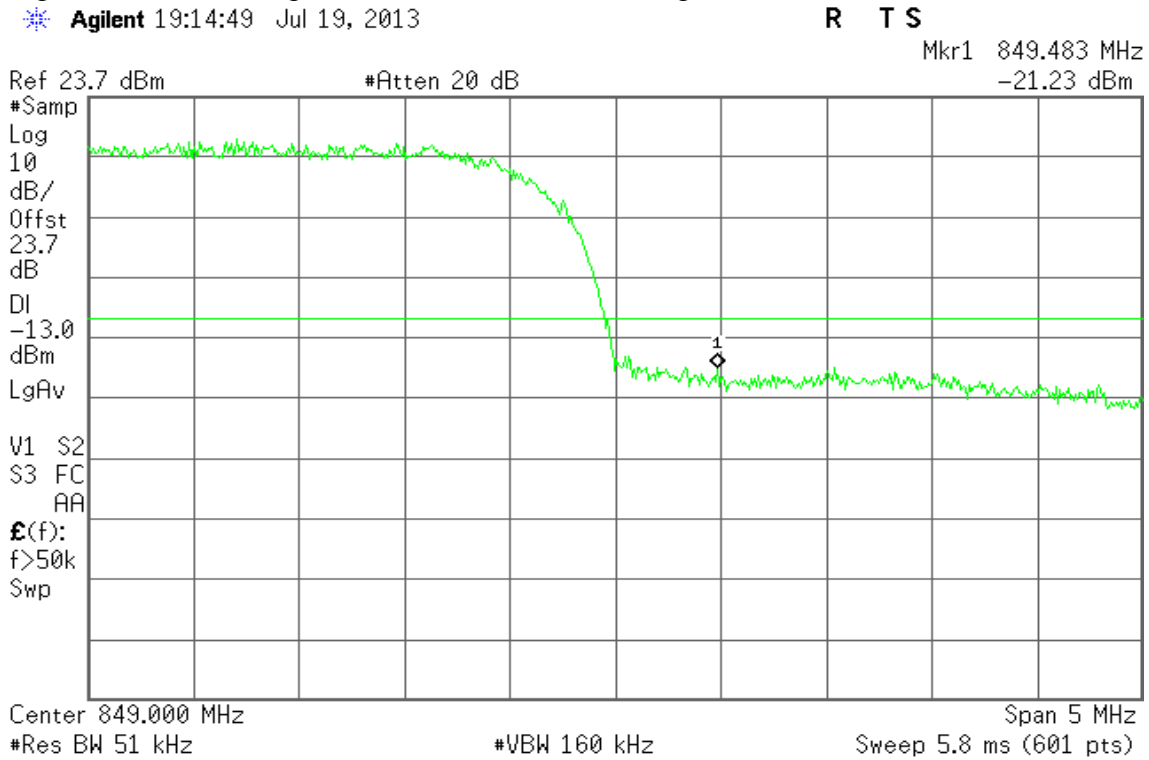


Figure 30-2: Band Edge emissions – HSUPA CH High





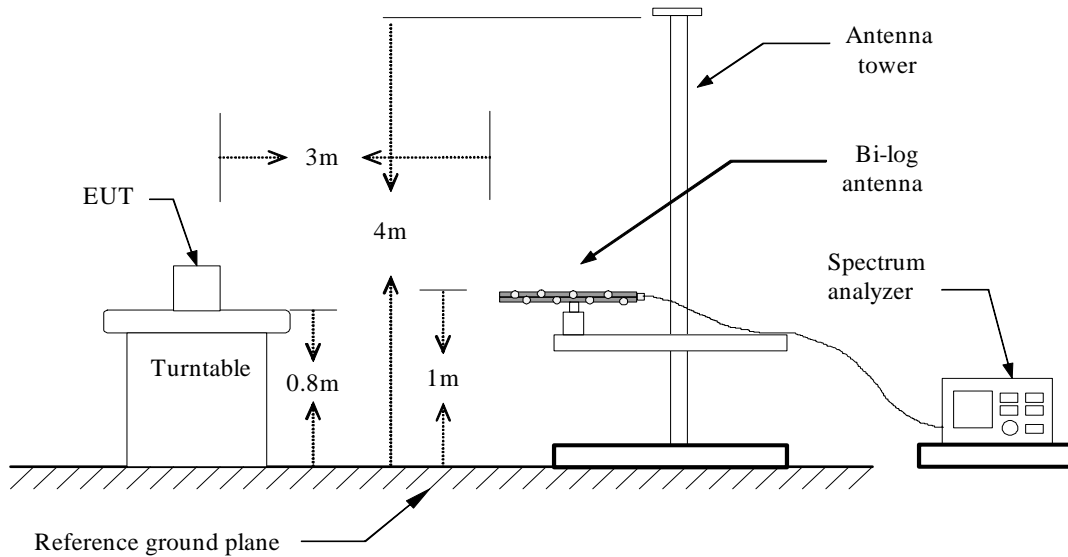
7.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

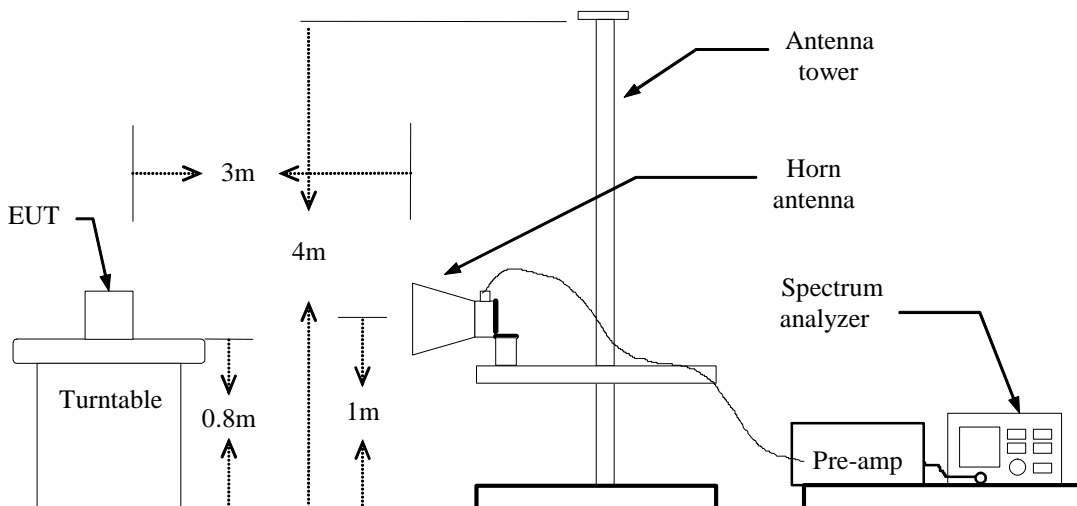
According to FCC §2.1053, RSS-132 (4.6) & RSS-133 (6.5).

Test Configuration

Below 1 GHz

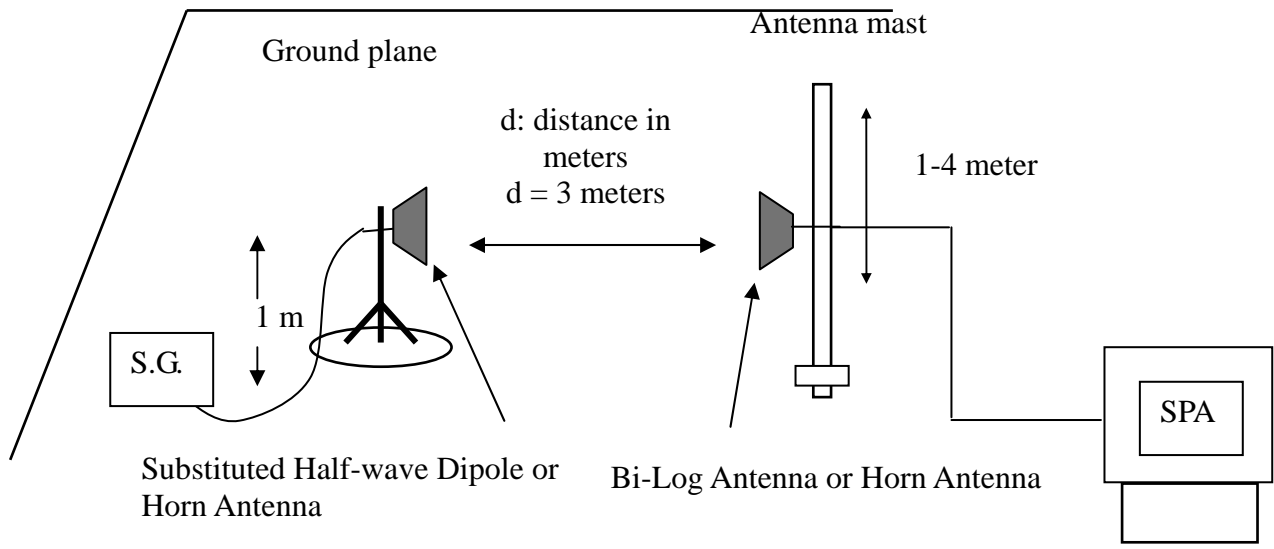


Above 1 GHz





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:** December 6, 2013**Temperature:** 26°C**Tested by:** David Shu**Humidity:** 60 % 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)
84.3200	-63.66	1.07	0.39	-64.34	-13.00	-51.34	V
150.2800	-72.2	1.43	0.71	-72.92	-13.00	-59.92	V
297.7200	-77.2	2.08	5.55	-73.73	-13.00	-60.73	V
342.3400	-74.82	2.18	5.8	-71.20	-13.00	-58.20	V
462.6200	-77.67	2.61	5.85	-74.43	-13.00	-61.43	V
597.4500	-73.23	2.9	6.35	-69.78	-13.00	-56.78	V
95.9600	-56.76	1.13	0.26	-57.63	-13.00	-44.63	H
165.8000	-65.93	1.53	2.05	-65.41	-13.00	-52.41	H
332.6400	-73.4	2.16	5.73	-69.83	-13.00	-56.83	H
465.5300	-74	2.61	5.83	-70.78	-13.00	-57.78	H
516.9400	-76.99	2.7	6.07	-73.62	-13.00	-60.62	H
597.4500	-67.51	2.9	6.35	-64.06	-13.00	-51.06	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-64.04	1.13	0.26	-64.91	-13.00	-51.91	V
191.9900	-80.94	1.62	3.79	-78.77	-13.00	-65.77	V
342.3400	-74.63	2.18	5.8	-71.01	-13.00	-58.01	V
448.0700	-79.08	2.58	5.74	-75.92	-13.00	-62.92	V
529.5500	-79.64	2.75	6	-76.39	-13.00	-63.39	V
597.4500	-73.22	2.9	6.35	-69.77	-13.00	-56.77	V
95.9600	-55.47	1.13	0.26	-56.34	-13.00	-43.34	H
150.2800	-60.67	1.43	0.71	-61.39	-13.00	-48.39	H
332.6400	-73.56	2.16	5.73	-69.99	-13.00	-56.99	H
464.5600	-72.83	2.61	5.84	-69.60	-13.00	-56.60	H
531.4900	-75.29	2.76	6.05	-72.00	-13.00	-59.00	H
597.4500	-67.13	2.9	6.35	-63.68	-13.00	-50.68	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
57.1600	-69.09	0.86	-2.8	-72.75	-13.00	-59.75	V
120.2100	-61.56	1.27	-2.06	-64.89	-13.00	-51.89	V
195.8700	-80.58	1.63	3.36	-78.85	-13.00	-65.85	V
330.7000	-75.66	2.16	5.71	-72.11	-13.00	-59.11	V
402.4800	-78.1	2.41	5.97	-74.54	-13.00	-61.54	V
597.4500	-72.79	2.9	6.35	-69.34	-13.00	-56.34	V
95.9600	-56.74	1.13	0.26	-57.61	-13.00	-44.61	H
150.2800	-61.04	1.43	0.71	-61.76	-13.00	-48.76	H
332.6400	-71.82	2.16	5.73	-68.25	-13.00	-55.25	H
464.5600	-72.59	2.61	5.84	-69.36	-13.00	-56.36	H
516.9400	-75.57	2.7	6.07	-72.20	-13.00	-59.20	H
597.4500	-67.09	2.9	6.35	-63.64	-13.00	-50.64	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: July 25, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-57.67	1.16	-0.64	-59.47	-13.00	-46.47	V
150.2800	-66.81	1.43	0.71	-67.53	-13.00	-54.53	V
189.0800	-79.78	1.62	3.96	-77.44	-13.00	-64.44	V
354.9500	-75.01	2.25	5.75	-71.51	-13.00	-58.51	V
516.9400	-79.09	2.7	6.07	-75.72	-13.00	-62.72	V
601.3300	-79.31	2.91	6.39	-75.83	-13.00	-62.83	V
71.7100	-46.37	0.97	-1.61	-48.95	-13.00	-35.95	H
150.2800	-57.88	1.43	0.71	-58.60	-13.00	-45.60	H
233.7000	-73.31	1.8	5.39	-69.72	-13.00	-56.72	H
357.8600	-68.9	2.26	5.72	-65.44	-13.00	-52.44	H
516.9400	-72.23	2.7	6.07	-68.86	-13.00	-55.86	H
612.9700	-73.68	2.94	6.23	-70.39	-13.00	-57.39	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-59.45	1.13	0.26	-60.32	-13.00	-47.32	V
150.2800	-67.2	1.43	0.71	-67.92	-13.00	-54.92	V
234.6700	-79.5	1.8	5.38	-75.92	-13.00	-62.92	V
352.0400	-77.08	2.24	5.78	-73.54	-13.00	-60.54	V
390.8400	-77.1	2.32	6	-73.42	-13.00	-60.42	V
456.8000	-78.92	2.6	5.84	-75.68	-13.00	-62.68	V
71.7100	-48.33	0.97	-1.61	-50.91	-13.00	-37.91	H
150.2800	-59.42	1.43	0.71	-60.14	-13.00	-47.14	H
234.6700	-74.41	1.8	5.38	-70.83	-13.00	-57.83	H
357.8600	-70.45	2.26	5.72	-66.99	-13.00	-53.99	H
499.4800	-72.81	2.7	5.89	-69.62	-13.00	-56.62	H
601.3300	-74.89	2.91	6.39	-71.41	-13.00	-58.41	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-59.05	1.16	-0.64	-60.85	-13.00	-47.85	V
150.2800	-68.23	1.43	0.71	-68.95	-13.00	-55.95	V
234.6700	-81.75	1.8	5.38	-78.17	-13.00	-65.17	V
354.9500	-76.56	2.25	5.75	-73.06	-13.00	-60.06	V
448.0700	-79.17	2.58	5.74	-76.01	-13.00	-63.01	V
516.9400	-78.96	2.7	6.07	-75.59	-13.00	-62.59	V
71.7100	-48.67	0.97	-1.61	-51.25	-13.00	-38.25	H
150.2800	-59.24	1.43	0.71	-59.96	-13.00	-46.96	H
234.6700	-74.22	1.8	5.38	-70.64	-13.00	-57.64	H
345.2500	-70.23	2.2	5.8	-66.63	-13.00	-53.63	H
459.7100	-74.41	2.6	5.88	-71.13	-13.00	-58.13	H
601.3300	-75.43	2.91	6.39	-71.95	-13.00	-58.95	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
78.5000	-68.39	1.03	-0.43	-69.85	-13.00	-56.85	V
120.2100	-62.84	1.27	-2.06	-66.17	-13.00	-53.17	V
330.7000	-75.83	2.16	5.71	-72.28	-13.00	-59.28	V
402.4800	-77.64	2.41	5.97	-74.08	-13.00	-61.08	V
448.0700	-79.25	2.58	5.74	-76.09	-13.00	-63.09	V
597.4500	-73.52	2.9	6.35	-70.07	-13.00	-57.07	V
101.7800	-55.5	1.16	-0.64	-57.30	-13.00	-44.30	H
150.2800	-59.95	1.43	0.71	-60.67	-13.00	-47.67	H
177.4400	-70.75	1.6	3.31	-69.04	-13.00	-56.04	H
342.3400	-73.23	2.18	5.8	-69.61	-13.00	-56.61	H
464.5600	-73.41	2.61	5.84	-70.18	-13.00	-57.18	H
597.4500	-67.75	2.9	6.35	-64.30	-13.00	-51.30	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: GSM 1900 / TX / CH 661

Test Date: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-63.53	1.13	0.26	-64.40	-13.00	-51.40	V
120.2100	-62.11	1.27	-2.06	-65.44	-13.00	-52.44	V
150.2800	-71.73	1.43	0.71	-72.45	-13.00	-59.45	V
342.3400	-75.09	2.18	5.8	-71.47	-13.00	-58.47	V
510.1500	-76.92	2.69	6	-73.61	-13.00	-60.61	V
597.4500	-73.51	2.9	6.35	-70.06	-13.00	-57.06	V
101.7800	-56.02	1.16	-0.64	-57.82	-13.00	-44.82	H
150.2800	-61.15	1.43	0.71	-61.87	-13.00	-48.87	H
342.3400	-74.01	2.18	5.8	-70.39	-13.00	-57.39	H
464.5600	-73.73	2.61	5.84	-70.50	-13.00	-57.50	H
493.6600	-75.48	2.68	5.83	-72.33	-13.00	-59.33	H
597.4500	-67.41	2.9	6.35	-63.96	-13.00	-50.96	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
78.5000	-68.82	1.03	-0.43	-70.28	-13.00	-57.28	V
84.3200	-63.99	1.07	0.39	-64.67	-13.00	-51.67	V
150.2800	-71.07	1.43	0.71	-71.79	-13.00	-58.79	V
342.3400	-75.65	2.18	5.8	-72.03	-13.00	-59.03	V
402.4800	-78.03	2.41	5.97	-74.47	-13.00	-61.47	V
597.4500	-72.78	2.9	6.35	-69.33	-13.00	-56.33	V
101.7800	-56.2	1.16	-0.64	-58.00	-13.00	-45.00	H
150.2800	-61.1	1.43	0.71	-61.82	-13.00	-48.82	H
191.9900	-72.55	1.62	3.79	-70.38	-13.00	-57.38	H
342.3400	-72.8	2.18	5.8	-69.18	-13.00	-56.18	H
464.5600	-72.66	2.61	5.84	-69.43	-13.00	-56.43	H
597.4500	-67.6	2.9	6.35	-64.15	-13.00	-51.15	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-60.35	1.16	-0.64	-62.15	-13.00	-49.15	V
150.2800	-68.14	1.43	0.71	-68.86	-13.00	-55.86	V
246.3100	-81.98	1.83	5.54	-78.27	-13.00	-65.27	V
309.3600	-81	2.13	5.78	-77.35	-13.00	-64.35	V
354.9500	-77.15	2.25	5.75	-73.65	-13.00	-60.65	V
448.0700	-79.01	2.58	5.74	-75.85	-13.00	-62.85	V
71.7100	-49.6	0.97	-1.61	-52.18	-13.00	-39.18	H
150.2800	-60.75	1.43	0.71	-61.47	-13.00	-48.47	H
234.6700	-75.65	1.8	5.38	-72.07	-13.00	-59.07	H
357.8600	-71.99	2.26	5.72	-68.53	-13.00	-55.53	H
499.4800	-74.85	2.7	5.89	-71.66	-13.00	-58.66	H
601.3300	-75	2.91	6.39	-71.52	-13.00	-58.52	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-59.52	1.16	-0.64	-61.32	-13.00	-48.32	V
138.6400	-67.34	1.39	-0.38	-69.11	-13.00	-56.11	V
234.6700	-81.4	1.8	5.38	-77.82	-13.00	-64.82	V
352.0400	-76.49	2.24	5.78	-72.95	-13.00	-59.95	V
402.4800	-79.11	2.41	5.97	-75.55	-13.00	-62.55	V
456.8000	-80.06	2.6	5.84	-76.82	-13.00	-63.82	V
71.7100	-49.81	0.97	-1.61	-52.39	-13.00	-39.39	H
150.2800	-60.83	1.43	0.71	-61.55	-13.00	-48.55	H
243.4000	-75.98	1.82	5.43	-72.37	-13.00	-59.37	H
369.5000	-72.62	2.3	5.8	-69.12	-13.00	-56.12	H
516.9400	-75.1	2.7	6.07	-71.73	-13.00	-58.73	H
601.3300	-74.98	2.91	6.39	-71.50	-13.00	-58.50	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-60.27	1.13	0.26	-61.14	-13.00	-48.14	V
150.2800	-68.26	1.43	0.71	-68.98	-13.00	-55.98	V
246.3100	-80.87	1.83	5.54	-77.16	-13.00	-64.16	V
309.3600	-80.85	2.13	5.78	-77.20	-13.00	-64.20	V
354.9500	-77.01	2.25	5.75	-73.51	-13.00	-60.51	V
450.9800	-78.75	2.59	5.74	-75.60	-13.00	-62.60	V
71.7100	-50.09	0.97	-1.61	-52.67	-13.00	-39.67	H
150.2800	-60.82	1.43	0.71	-61.54	-13.00	-48.54	H
246.3100	-75.69	1.83	5.54	-71.98	-13.00	-58.98	H
369.5000	-72	2.3	5.8	-68.50	-13.00	-55.50	H
459.7100	-75.91	2.6	5.88	-72.63	-13.00	-59.63	H
601.3300	-75.05	2.91	6.39	-71.57	-13.00	-58.57	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: EDGE 850 / TX / CH 128

Test Date: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-60.1	1.13	0.26	-60.97	-13.00	-47.97	V
150.2800	-68.44	1.43	0.71	-69.16	-13.00	-56.16	V
234.6700	-81.53	1.8	5.38	-77.95	-13.00	-64.95	V
354.9500	-76.82	2.25	5.75	-73.32	-13.00	-60.32	V
469.4100	-80.12	2.62	5.79	-76.95	-13.00	-63.95	V
529.5500	-80.82	2.75	6	-77.57	-13.00	-64.57	V
71.7100	-49.43	0.97	-1.61	-52.01	-13.00	-39.01	H
150.2800	-59.55	1.43	0.71	-60.27	-13.00	-47.27	H
200.7200	-72.91	1.63	3.19	-71.35	-13.00	-58.35	H
357.8600	-72.7	2.26	5.72	-69.24	-13.00	-56.24	H
516.9400	-75.01	2.7	6.07	-71.64	-13.00	-58.64	H
601.3300	-75.09	2.91	6.39	-71.61	-13.00	-58.61	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-59.92	1.16	-0.64	-61.72	-13.00	-48.72	V
150.2800	-68.27	1.43	0.71	-68.99	-13.00	-55.99	V
234.6700	-81.47	1.8	5.38	-77.89	-13.00	-64.89	V
354.9500	-76.7	2.25	5.75	-73.20	-13.00	-60.20	V
456.8000	-79.59	2.6	5.84	-76.35	-13.00	-63.35	V
529.5500	-80.16	2.75	6	-76.91	-13.00	-63.91	V
71.7100	-49.2	0.97	-1.61	-51.78	-13.00	-38.78	H
150.2800	-59.96	1.43	0.71	-60.68	-13.00	-47.68	H
234.6700	-75.54	1.8	5.38	-71.96	-13.00	-58.96	H
357.8600	-72.34	2.26	5.72	-68.88	-13.00	-55.88	H
516.9400	-74.63	2.7	6.07	-71.26	-13.00	-58.26	H
601.3300	-76.05	2.91	6.39	-72.57	-13.00	-59.57	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: EDGE 850 / TX / CH 251

Test Date: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-59.64	1.16	-0.64	-61.44	-13.00	-48.44	V
150.2800	-67.78	1.43	0.71	-68.50	-13.00	-55.50	V
234.6700	-80.42	1.8	5.38	-76.84	-13.00	-63.84	V
309.3600	-80.25	2.13	5.78	-76.60	-13.00	-63.60	V
354.9500	-76.78	2.25	5.75	-73.28	-13.00	-60.28	V
450.9800	-79.4	2.59	5.74	-76.25	-13.00	-63.25	V
71.7100	-49.02	0.97	-1.61	-51.60	-13.00	-38.60	H
150.2800	-59.45	1.43	0.71	-60.17	-13.00	-47.17	H
222.0600	-76.18	1.77	5.34	-72.61	-13.00	-59.61	H
345.2500	-72.45	2.2	5.8	-68.85	-13.00	-55.85	H
516.9400	-74.32	2.7	6.07	-70.95	-13.00	-57.95	H
601.3300	-75.63	2.91	6.39	-72.15	-13.00	-59.15	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: July 19, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-60.04	1.16	-0.64	-61.84	-13.00	-48.84	V
138.6400	-64.43	1.39	-0.38	-66.20	-13.00	-53.20	V
234.6700	-80.66	1.8	5.38	-77.08	-13.00	-64.08	V
342.3400	-74.82	2.18	5.8	-71.20	-13.00	-58.20	V
450.9800	-78.52	2.59	5.74	-75.37	-13.00	-62.37	V
529.5500	-80.53	2.75	6	-77.28	-13.00	-64.28	V
71.7100	-52.79	0.97	-1.61	-55.37	-13.00	-42.37	H
138.6400	-56.5	1.39	-0.38	-58.27	-13.00	-45.27	H
234.6700	-75.56	1.8	5.38	-71.98	-13.00	-58.98	H
330.7000	-72.29	2.16	5.71	-68.74	-13.00	-55.74	H
439.3400	-73.96	2.53	5.9	-70.59	-13.00	-57.59	H
589.6900	-74.71	2.89	6.19	-71.41	-13.00	-58.41	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: EDGE 1900 / TX / CH 661

Test Date: July 19, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-59.67	1.16	-0.64	-61.47	-13.00	-48.47	V
138.6400	-63.89	1.39	-0.38	-65.66	-13.00	-52.66	V
246.3100	-80.25	1.83	5.54	-76.54	-13.00	-63.54	V
342.3400	-75.71	2.18	5.8	-72.09	-13.00	-59.09	V
448.0700	-78.2	2.58	5.74	-75.04	-13.00	-62.04	V
625.5800	-80.91	2.96	6.16	-77.71	-13.00	-64.71	V
71.7100	-52.74	0.97	-1.61	-55.32	-13.00	-42.32	H
138.6400	-56.99	1.39	-0.38	-58.76	-13.00	-45.76	H
246.3100	-75.66	1.83	5.54	-71.95	-13.00	-58.95	H
346.2200	-71.76	2.21	5.8	-68.17	-13.00	-55.17	H
439.3400	-74.46	2.53	5.9	-71.09	-13.00	-58.09	H
499.4800	-74.51	2.7	5.89	-71.32	-13.00	-58.32	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: July 19, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-59.58	1.16	-0.64	-61.38	-13.00	-48.38	V
138.6400	-64.43	1.39	-0.38	-66.20	-13.00	-53.20	V
246.3100	-81.09	1.83	5.54	-77.38	-13.00	-64.38	V
342.3400	-74.4	2.18	5.8	-70.78	-13.00	-57.78	V
448.0700	-76.98	2.58	5.74	-73.82	-13.00	-60.82	V
529.5500	-79.93	2.75	6	-76.68	-13.00	-63.68	V
71.7100	-52.22	0.97	-1.61	-54.80	-13.00	-41.80	H
138.6400	-56.47	1.39	-0.38	-58.24	-13.00	-45.24	H
246.3100	-75.69	1.83	5.54	-71.98	-13.00	-58.98	H
390.8400	-71.96	2.32	6	-68.28	-13.00	-55.28	H
439.3400	-74.81	2.53	5.9	-71.44	-13.00	-58.44	H
601.3300	-74.34	2.91	6.39	-70.86	-13.00	-57.86	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
120.2100	-61.64	1.27	-2.06	-64.97	-13.00	-51.97	V
150.2800	-71.83	1.43	0.71	-72.55	-13.00	-59.55	V
342.3400	-75.87	2.18	5.8	-72.25	-13.00	-59.25	V
597.4500	-66.63	2.9	6.35	-63.18	-13.00	-50.18	V
710.9400	-75.2	3.14	6.33	-72.01	-13.00	-59.01	V
897.1800	-69.7	3.51	6.64	-66.57	-13.00	-53.57	V
101.7800	-56.41	1.16	-0.64	-58.21	-13.00	-45.21	H
182.2900	-66.04	1.61	3.7	-63.95	-13.00	-50.95	H
342.3400	-74.04	2.18	5.8	-70.42	-13.00	-57.42	H
464.5600	-73.64	2.61	5.84	-70.41	-13.00	-57.41	H
597.4500	-66.23	2.9	6.35	-62.78	-13.00	-49.78	H
897.1800	-65.86	3.51	6.64	-62.73	-13.00	-49.73	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
120.2100	-61.62	1.27	-2.06	-64.95	-13.00	-51.95	V
150.2800	-71.44	1.43	0.71	-72.16	-13.00	-59.16	V
330.7000	-75.83	2.16	5.71	-72.28	-13.00	-59.28	V
598.4200	-66.61	2.9	6.37	-63.14	-13.00	-50.14	V
770.1100	-78.03	3.27	6.38	-74.92	-13.00	-61.92	V
897.1800	-69.44	3.51	6.64	-66.31	-13.00	-53.31	V
120.2100	-61.6	1.27	-2.06	-64.93	-13.00	-51.93	H
150.2800	-71.8	1.43	0.71	-72.52	-13.00	-59.52	H
342.3400	-75.01	2.18	5.8	-71.39	-13.00	-58.39	H
448.0700	-79.46	2.58	5.74	-76.30	-13.00	-63.30	H
597.4500	-66.42	2.9	6.35	-62.97	-13.00	-49.97	H
897.1800	-69.64	3.51	6.64	-66.51	-13.00	-53.51	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-63.33	1.13	0.26	-64.20	-13.00	-51.20	V
120.2100	-61.75	1.27	-2.06	-65.08	-13.00	-52.08	V
342.3400	-75.64	2.18	5.8	-72.02	-13.00	-59.02	V
597.4500	-66.6	2.9	6.35	-63.15	-13.00	-50.15	V
721.6100	-77.9	3.17	6.49	-74.58	-13.00	-61.58	V
897.1800	-70.44	3.51	6.64	-67.31	-13.00	-54.31	V
101.7800	-55.61	1.16	-0.64	-57.41	-13.00	-44.41	H
161.9200	-63.44	1.5	1.61	-63.33	-13.00	-50.33	H
342.3400	-73.69	2.18	5.8	-70.07	-13.00	-57.07	H
597.4500	-66.23	2.9	6.35	-62.78	-13.00	-49.78	H
719.6700	-65.67	3.17	6.48	-62.36	-13.00	-49.36	H
897.1800	-65.63	3.51	6.64	-62.50	-13.00	-49.50	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
84.3200	-62.89	1.07	0.39	-63.57	-13.00	-50.57	V
150.2800	-71.06	1.43	0.71	-71.78	-13.00	-58.78	V
297.7200	-77.05	2.08	5.55	-73.58	-13.00	-60.58	V
342.3400	-74.95	2.18	5.8	-71.33	-13.00	-58.33	V
402.4800	-77.11	2.41	5.97	-73.55	-13.00	-60.55	V
597.4500	-65.35	2.9	6.35	-61.90	-13.00	-48.90	V
95.9600	-55.88	1.13	0.26	-56.75	-13.00	-43.75	H
161.9200	-62.47	1.5	1.61	-62.36	-13.00	-49.36	H
342.3400	-72.65	2.18	5.8	-69.03	-13.00	-56.03	H
465.5300	-73.37	2.61	5.83	-70.15	-13.00	-57.15	H
511.1200	-76.97	2.69	6.01	-73.65	-13.00	-60.65	H
598.4200	-66.38	2.9	6.37	-62.91	-13.00	-49.91	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 Band V / TX / CH 4182

Test Date: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-63.35	1.13	0.26	-64.22	-13.00	-51.22	V
120.2100	-62.74	1.27	-2.06	-66.07	-13.00	-53.07	V
196.8400	-79.48	1.63	3.26	-77.85	-13.00	-64.85	V
342.3400	-75.21	2.18	5.8	-71.59	-13.00	-58.59	V
402.4800	-76.86	2.41	5.97	-73.30	-13.00	-60.30	V
597.4500	-66.39	2.9	6.35	-62.94	-13.00	-49.94	V
95.9600	-56.31	1.13	0.26	-57.18	-13.00	-44.18	H
150.2800	-60.6	1.43	0.71	-61.32	-13.00	-48.32	H
332.6400	-72.74	2.16	5.73	-69.17	-13.00	-56.17	H
379.2000	-74.86	2.31	5.98	-71.19	-13.00	-58.19	H
465.5300	-74.08	2.61	5.83	-70.86	-13.00	-57.86	H
597.4500	-65.65	2.9	6.35	-62.20	-13.00	-49.20	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-63.39	1.13	0.26	-64.26	-13.00	-51.26	V
222.0600	-82.92	1.77	5.34	-79.35	-13.00	-66.35	V
342.3400	-75.68	2.18	5.8	-72.06	-13.00	-59.06	V
384.0500	-75.24	2.31	5.99	-71.56	-13.00	-58.56	V
402.4800	-78.06	2.41	5.97	-74.50	-13.00	-61.50	V
597.4500	-66.54	2.9	6.35	-63.09	-13.00	-50.09	V
101.7800	-56.39	1.16	-0.64	-58.19	-13.00	-45.19	H
150.2800	-60.91	1.43	0.71	-61.63	-13.00	-48.63	H
332.6400	-71.93	2.16	5.73	-68.36	-13.00	-55.36	H
415.0900	-77.45	2.45	5.86	-74.04	-13.00	-61.04	H
464.5600	-74.29	2.61	5.84	-71.06	-13.00	-58.06	H
597.4500	-66.64	2.9	6.35	-63.19	-13.00	-50.19	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-58.74	1.16	-0.64	-60.54	-13.00	-47.54	V
150.2800	-68.62	1.43	0.71	-69.34	-13.00	-56.34	V
161.9200	-73.74	1.5	1.61	-73.63	-13.00	-60.63	V
354.9500	-76.45	2.25	5.75	-72.95	-13.00	-59.95	V
448.0700	-79.24	2.58	5.74	-76.08	-13.00	-63.08	V
529.5500	-80.73	2.75	6	-77.48	-13.00	-64.48	V
71.7100	-50.17	0.97	-1.61	-52.75	-13.00	-39.75	H
102.7500	-58.64	1.16	-0.76	-60.56	-13.00	-47.56	H
150.2800	-61.05	1.43	0.71	-61.77	-13.00	-48.77	H
319.0600	-75.12	2.17	5.71	-71.58	-13.00	-58.58	H
369.5000	-72.69	2.3	5.8	-69.19	-13.00	-56.19	H
499.4800	-74.66	2.7	5.89	-71.47	-13.00	-58.47	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 II / TX / CH 9400

Test Date: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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
111.4800	-64.67	1.22	-1.76	-67.65	-13.00	-54.65	V
150.2800	-68.86	1.43	0.71	-69.58	-13.00	-56.58	V
196.8400	-78.6	1.63	3.26	-76.97	-13.00	-63.97	V
354.9500	-75.93	2.25	5.75	-72.43	-13.00	-59.43	V
450.9800	-79.31	2.59	5.74	-76.16	-13.00	-63.16	V
71.7100	-49.92	0.97	-1.61	-52.50	-13.00	-39.50	H
150.2800	-60.29	1.43	0.71	-61.01	-13.00	-48.01	H
222.0600	-75.29	1.77	5.34	-71.72	-13.00	-58.72	H
357.8600	-72.73	2.26	5.72	-69.27	-13.00	-56.27	H
499.4800	-73.87	2.7	5.89	-70.68	-13.00	-57.68	H
604.2400	-76.38	2.92	6.36	-72.94	-13.00	-59.94	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-59.17	1.13	0.26	-60.04	-13.00	-47.04	V
150.2800	-69.09	1.43	0.71	-69.81	-13.00	-56.81	V
165.8000	-78.44	1.53	2.05	-77.92	-13.00	-64.92	V
354.9500	-74.95	2.25	5.75	-71.45	-13.00	-58.45	V
448.0700	-79.41	2.58	5.74	-76.25	-13.00	-63.25	V
511.1200	-81.26	2.69	6.01	-77.94	-13.00	-64.94	V
71.7100	-49.77	0.97	-1.61	-52.35	-13.00	-39.35	H
150.2800	-60.69	1.43	0.71	-61.41	-13.00	-48.41	H
161.9200	-66.33	1.5	1.61	-66.22	-13.00	-53.22	H
234.6700	-75.49	1.8	5.38	-71.91	-13.00	-58.91	H
369.5000	-72.89	2.3	5.8	-69.39	-13.00	-56.39	H
612.9700	-74.93	2.94	6.23	-71.64	-13.00	-58.64	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-60.2	1.13	0.26	-61.07	-13.00	-48.07	V
112.4500	-66.8	1.22	-1.8	-69.82	-13.00	-56.82	V
161.9200	-73.85	1.5	1.61	-73.74	-13.00	-60.74	V
354.9500	-75.68	2.25	5.75	-72.18	-13.00	-59.18	V
382.1100	-74.7	2.31	5.99	-71.02	-13.00	-58.02	V
516.9400	-80.36	2.7	6.07	-76.99	-13.00	-63.99	V
71.7100	-49.68	0.97	-1.61	-52.26	-13.00	-39.26	H
150.2800	-60.41	1.43	0.71	-61.13	-13.00	-48.13	H
234.6700	-71.83	1.8	5.38	-68.25	-13.00	-55.25	H
301.6000	-70.56	2.1	5.63	-67.03	-13.00	-54.03	H
394.7200	-65.59	2.35	5.99	-61.95	-13.00	-48.95	H
516.9400	-74.23	2.7	6.07	-70.86	-13.00	-57.86	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-58.68	1.13	0.26	-59.55	-13.00	-46.55	V
150.2800	-68.05	1.43	0.71	-68.77	-13.00	-55.77	V
252.1300	-78.73	1.85	5.68	-74.90	-13.00	-61.90	V
354.9500	-75.42	2.25	5.75	-71.92	-13.00	-58.92	V
415.0900	-76.91	2.45	5.86	-73.50	-13.00	-60.50	V
540.2200	-78.78	2.78	6.26	-75.30	-13.00	-62.30	V
71.7100	-51.72	0.97	-1.61	-54.30	-13.00	-41.30	H
150.2800	-60.67	1.43	0.71	-61.39	-13.00	-48.39	H
234.6700	-73.79	1.8	5.38	-70.21	-13.00	-57.21	H
319.0600	-72.26	2.17	5.71	-68.72	-13.00	-55.72	H
390.8400	-69.69	2.32	6	-66.01	-13.00	-53.01	H
516.9400	-73.88	2.7	6.07	-70.51	-13.00	-57.51	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:** July 18, 2013

Temperature: 26°C **Tested by:** David Shu

Humidity: 60 % 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	-59.48	1.13	0.26	-60.35	-13.00	-47.35	V
150.2800	-68.16	1.43	0.71	-68.88	-13.00	-55.88	V
252.1300	-76.8	1.85	5.68	-72.97	-13.00	-59.97	V
402.4800	-75.69	2.41	5.97	-72.13	-13.00	-59.13	V
452.9200	-77.37	2.59	5.77	-74.19	-13.00	-61.19	V
540.2200	-77.81	2.78	6.26	-74.33	-13.00	-61.33	V
84.3200	-53.88	1.07	0.39	-54.56	-13.00	-41.56	H
150.2800	-60.13	1.43	0.71	-60.85	-13.00	-47.85	H
333.6100	-73.06	2.16	5.74	-69.48	-13.00	-56.48	H
407.3300	-67.96	2.43	5.93	-64.46	-13.00	-51.46	H
516.9400	-73.87	2.7	6.07	-70.50	-13.00	-57.50	H
612.9700	-75.18	2.94	6.23	-71.89	-13.00	-58.89	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

Test Date: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-58.84	1.16	-0.64	-60.64	-13.00	-47.64	V
150.2800	-68.56	1.43	0.71	-69.28	-13.00	-56.28	V
234.6700	-82.78	1.8	5.38	-79.20	-13.00	-66.20	V
354.9500	-75.21	2.25	5.75	-71.71	-13.00	-58.71	V
448.0700	-78.52	2.58	5.74	-75.36	-13.00	-62.36	V
516.9400	-80.45	2.7	6.07	-77.08	-13.00	-64.08	V
71.7100	-49.9	0.97	-1.61	-52.48	-13.00	-39.48	H
95.9600	-54	1.13	0.26	-54.87	-13.00	-41.87	H
150.2800	-60.93	1.43	0.71	-61.65	-13.00	-48.65	H
234.6700	-74.14	1.8	5.38	-70.56	-13.00	-57.56	H
369.5000	-72.25	2.3	5.8	-68.75	-13.00	-55.75	H
516.9400	-75.29	2.7	6.07	-71.92	-13.00	-58.92	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-59.03	1.13	0.26	-59.90	-13.00	-46.90	V
150.2800	-68.93	1.43	0.71	-69.65	-13.00	-56.65	V
234.6700	-82.27	1.8	5.38	-78.69	-13.00	-65.69	V
354.9500	-75.97	2.25	5.75	-72.47	-13.00	-59.47	V
448.0700	-78.92	2.58	5.74	-75.76	-13.00	-62.76	V
516.9400	-79.79	2.7	6.07	-76.42	-13.00	-63.42	V
71.7100	-50.2	0.97	-1.61	-52.78	-13.00	-39.78	H
95.9600	-53.04	1.13	0.26	-53.91	-13.00	-40.91	H
150.2800	-60.59	1.43	0.71	-61.31	-13.00	-48.31	H
234.6700	-75.74	1.8	5.38	-72.16	-13.00	-59.16	H
372.4100	-73.32	2.3	5.85	-69.77	-13.00	-56.77	H
511.1200	-74.58	2.69	6.01	-71.26	-13.00	-58.26	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-59.57	1.13	0.26	-60.44	-13.00	-47.44	V
150.2800	-68.93	1.43	0.71	-69.65	-13.00	-56.65	V
306.4500	-81.55	2.12	5.73	-77.94	-13.00	-64.94	V
354.9500	-77.18	2.25	5.75	-73.68	-13.00	-60.68	V
390.8400	-76.7	2.32	6	-73.02	-13.00	-60.02	V
448.0700	-78.94	2.58	5.74	-75.78	-13.00	-62.78	V
71.7100	-49.78	0.97	-1.61	-52.36	-13.00	-39.36	H
150.2800	-60.8	1.43	0.71	-61.52	-13.00	-48.52	H
234.6700	-75.83	1.8	5.38	-72.25	-13.00	-59.25	H
357.8600	-71.73	2.26	5.72	-68.27	-13.00	-55.27	H
439.3400	-74.14	2.53	5.9	-70.77	-13.00	-57.77	H
516.9400	-74.97	2.7	6.07	-71.60	-13.00	-58.60	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-59.59	1.13	0.26	-60.46	-13.00	-47.46	V
150.2800	-67.48	1.43	0.71	-68.20	-13.00	-55.20	V
246.3100	-80.74	1.83	5.54	-77.03	-13.00	-64.03	V
354.9500	-75.64	2.25	5.75	-72.14	-13.00	-59.14	V
402.4800	-74.68	2.41	5.97	-71.12	-13.00	-58.12	V
516.9400	-77.99	2.7	6.07	-74.62	-13.00	-61.62	V
71.7100	-49.43	0.97	-1.61	-52.01	-13.00	-39.01	H
150.2800	-60.74	1.43	0.71	-61.46	-13.00	-48.46	H
234.6700	-72.51	1.8	5.38	-68.93	-13.00	-55.93	H
305.4800	-71.45	2.12	5.71	-67.86	-13.00	-54.86	H
401.5100	-64.41	2.4	5.98	-60.83	-13.00	-47.83	H
499.4800	-74.79	2.7	5.89	-71.60	-13.00	-58.60	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-58.88	1.16	-0.64	-60.68	-13.00	-47.68	V
150.2800	-68.3	1.43	0.71	-69.02	-13.00	-56.02	V
252.1300	-78.1	1.85	5.68	-74.27	-13.00	-61.27	V
354.9500	-75.98	2.25	5.75	-72.48	-13.00	-59.48	V
390.8400	-76.46	2.32	6	-72.78	-13.00	-59.78	V
415.0900	-76.97	2.45	5.86	-73.56	-13.00	-60.56	V
71.7100	-51.74	0.97	-1.61	-54.32	-13.00	-41.32	H
150.2800	-60.88	1.43	0.71	-61.60	-13.00	-48.60	H
161.9200	-65.37	1.5	1.61	-65.26	-13.00	-52.26	H
234.6700	-74.03	1.8	5.38	-70.45	-13.00	-57.45	H
330.7000	-73.94	2.16	5.71	-70.39	-13.00	-57.39	H
392.7800	-68.91	2.33	5.99	-65.25	-13.00	-52.25	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: WCDMA / HSUPA Band V /
TX / CH 4233

Test Date: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-60.12	1.13	0.26	-60.99	-13.00	-47.99	V
150.2800	-68.24	1.43	0.71	-68.96	-13.00	-55.96	V
252.1300	-77.89	1.85	5.68	-74.06	-13.00	-61.06	V
390.8400	-75.22	2.32	6	-71.54	-13.00	-58.54	V
452.9200	-77.87	2.59	5.77	-74.69	-13.00	-61.69	V
516.9400	-80.45	2.7	6.07	-77.08	-13.00	-64.08	V
71.7100	-51.33	0.97	-1.61	-53.91	-13.00	-40.91	H
150.2800	-60.38	1.43	0.71	-61.10	-13.00	-48.10	H
240.4900	-74.66	1.81	5.34	-71.13	-13.00	-58.13	H
401.5100	-68.66	2.4	5.98	-65.08	-13.00	-52.08	H
516.9400	-74.55	2.7	6.07	-71.18	-13.00	-58.18	H
612.9700	-74.48	2.94	6.23	-71.19	-13.00	-58.19	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: December 6, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1966.000	-46.35	5.63	5.46	-46.52	-13.00	-33.52	V
2099.000	-49.51	5.78	5.54	-49.75	-13.00	-36.75	V
4192.000	-50	8.49	9.55	-48.94	-13.00	-35.94	V
N/A							
1497.000	-54.66	4.85	6.28	-53.23	-13.00	-40.23	H
1966.000	-42.26	5.63	5.46	-42.43	-13.00	-29.43	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: December 6, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-55.74	5.07	5.99	-54.82	-13.00	-41.82	V
1959.000	-47.35	5.61	5.47	-47.49	-13.00	-34.49	V
2099.000	-49.86	5.78	5.54	-50.10	-13.00	-37.10	V
4192.000	-50.83	8.49	9.55	-49.77	-13.00	-36.77	V
N/A							
1497.000	-55.83	4.85	6.28	-54.40	-13.00	-41.40	H
2099.000	-50.87	5.78	5.54	-51.11	-13.00	-38.11	H
4192.000	-51.97	8.49	9.55	-50.91	-13.00	-37.91	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: December 6, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1966.000	-49.11	5.63	5.46	-49.28	-13.00	-36.28	V
3800.000	-50.76	8.26	9.2	-49.82	-13.00	-36.82	V
4192.000	-50.63	8.49	9.55	-49.57	-13.00	-36.57	V
N/A							
1497.000	-56.31	4.85	6.28	-54.88	-13.00	-41.88	H
2099.000	-50.53	5.78	5.54	-50.77	-13.00	-37.77	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-55.21	5.05	6.03	-54.23	-13.00	-41.23	V
2470.000	-52.25	6.3	6.06	-52.49	-13.00	-39.49	V
N/A							
1651.000	-49.39	5.05	6.03	-48.41	-13.00	-35.41	H
2470.000	-48.41	6.3	6.06	-48.65	-13.00	-35.65	H
3296.000	-53.39	7.45	8.29	-52.55	-13.00	-39.55	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1749.000	-48.14	5.2	5.85	-47.49	-13.00	-34.49	V
2512.000	-52.8	6.37	6.13	-53.04	-13.00	-40.04	V
N/A							
1672.000	-46.83	5.07	5.99	-45.91	-13.00	-32.91	H
2512.000	-45.29	6.37	6.13	-45.53	-13.00	-32.53	H
3345.000	-54.85	7.51	8.44	-53.92	-13.00	-40.92	H
4185.000	-52.83	8.49	9.55	-51.77	-13.00	-38.77	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1700.000	-56.94	5.11	5.94	-56.11	-13.00	-43.11	V
2547.000	-53.46	6.42	6.22	-53.66	-13.00	-40.66	V
N/A							
1700.000	-46.63	5.11	5.94	-45.80	-13.00	-32.80	H
2547.000	-46.17	6.42	6.22	-46.37	-13.00	-33.37	H
4241.000	-51.45	8.54	9.59	-50.40	-13.00	-37.40	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 512

Test Date: December 6, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1196.000	-54.18	4.25	4.11	-54.32	-13.00	-41.32	V
4192.000	-51.76	8.49	9.55	-50.70	-13.00	-37.70	V
N/A							
3177.000	-55.5	7.24	7.93	-54.81	-13.00	-41.81	H
4192.000	-52.92	8.49	9.55	-51.86	-13.00	-38.86	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: December 6, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1196.000	-53.45	4.25	4.11	-53.59	-13.00	-40.59	V
3800.000	-50.53	8.26	9.2	-49.59	-13.00	-36.59	V
4192.000	-51.53	8.49	9.55	-50.47	-13.00	-37.47	V
N/A							
3345.000	-55.77	7.51	8.44	-54.84	-13.00	-41.84	H
4192.000	-52.05	8.49	9.55	-50.99	-13.00	-37.99	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: December 6, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
3800.000	-51.22	8.26	9.2	-50.28	-13.00	-37.28	V
4192.000	-50.64	8.49	9.55	-49.58	-13.00	-36.58	V
N/A							
1497.000	-57.16	4.85	6.28	-55.73	-13.00	-42.73	H
2505.000	-55.64	6.36	6.11	-55.89	-13.00	-42.89	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
3583.000	-55.58	8.07	8.98	-54.67	-13.00	-41.67	V
4731.000	-55.24	9.19	10.17	-54.26	-13.00	-41.26	V
N/A							
2687.000	-24.21	6.7	6.59	-24.32	-13.00	-11.32	H
3583.000	-49.03	8.07	8.98	-48.12	-13.00	-35.12	H
4479.000	-43.07	8.85	9.78	-42.14	-13.00	-29.14	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
3583.000	-56.11	8.07	8.98	-55.20	-13.00	-42.20	V
5067.000	-54.96	9.44	10.63	-53.77	-13.00	-40.77	V
N/A							
2687.000	-17.96	6.7	6.59	-18.07	-13.00	-5.07	H
3583.000	-48.21	8.07	8.98	-47.30	-13.00	-34.30	H
4479.000	-40.72	8.85	9.78	-39.79	-13.00	-26.79	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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	-57.23	7.12	7.11	-57.24	-13.00	-44.24	V
3933.000	-55.67	8.38	9.33	-54.72	-13.00	-41.72	V
N/A							
2687.000	-18.76	6.7	6.59	-18.87	-13.00	-5.87	H
3583.000	-45.82	8.07	8.98	-44.91	-13.00	-31.91	H
4479.000	-41.94	8.85	9.78	-41.01	-13.00	-28.01	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: EDGE 850 / TX / CH 128

Test Date: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1966.000	-50.77	5.63	5.46	-50.94	-13.00	-37.94	V
3583.000	-55.28	8.07	8.98	-54.37	-13.00	-41.37	V
N/A							
1791.000	-59.04	5.27	5.78	-58.53	-13.00	-45.53	H
3989.000	-55.36	8.35	9.39	-54.32	-13.00	-41.32	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
2176.000	-58.34	5.91	5.65	-58.60	-13.00	-45.60	V
3583.000	-55.44	8.07	8.98	-54.53	-13.00	-41.53	V
N/A							
1791.000	-59.64	5.27	5.78	-59.13	-13.00	-46.13	H
4052.000	-55.17	8.41	9.44	-54.14	-13.00	-41.14	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
1749.000	-49.29	5.2	5.85	-48.64	-13.00	-35.64	V
3583.000	-54.79	8.07	8.98	-53.88	-13.00	-40.88	V
N/A							
1952.000	-56.05	5.59	5.49	-56.15	-13.00	-43.15	H
3142.000	-55.64	7.21	7.83	-55.02	-13.00	-42.02	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: July 19, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
3702.000	-50.1	8.2	9.1	-49.20	-13.00	-36.20	V
5550.000	-47.06	10.06	10.81	-46.31	-13.00	-33.31	V
N/A							
3702.000	-44.8	8.2	9.1	-43.90	-13.00	-30.90	H
5550.000	-37.61	10.06	10.81	-36.86	-13.00	-23.86	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: July 18, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
3583.000	-53.67	8.07	8.98	-52.76	-13.00	-39.76	V
4892.000	-53.64	9.26	10.43	-52.47	-13.00	-39.47	V
N/A							
2687.000	-16.99	6.7	6.59	-17.10	-13.00	-4.10	H
3583.000	-44.22	8.07	8.98	-43.31	-13.00	-30.31	H
4479.000	-46.75	8.85	9.78	-45.82	-13.00	-32.82	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 1900 / TX / CH 810

Test Date: July 19, 2013

Temperature: 26°C

Tested by: Wayne Tasi

Humidity: 60 % 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)
3198.000	-57.13	7.26	7.99	-56.40	-13.00	-43.40	V
6201.000	-51.35	11.22	11.06	-51.51	-13.00	-38.51	V
N/A							
2687.000	-22.56	6.7	6.59	-22.67	-13.00	-9.67	H
3583.000	-43.07	8.07	8.98	-42.16	-13.00	-29.16	H
4479.000	-49.06	8.85	9.78	-48.13	-13.00	-35.13	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: WCDMA Band II / TX / CH 9262

Test Date: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
2519.000	-41.84	6.38	6.15	-42.07	-13.00	-29.07	V
4171.000	-50.02	8.48	9.54	-48.96	-13.00	-35.96	V
N/A							
1497.000	-55.59	4.85	6.28	-54.16	-13.00	-41.16	H
2456.000	-46.28	6.28	6.04	-46.52	-13.00	-33.52	H
4171.000	-51.54	8.48	9.54	-50.48	-13.00	-37.48	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.



Operation Mode: WCDMA Band II / TX / CH 9400

Test Date: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
1196.000	-52.82	4.25	4.11	-52.96	-13.00	-39.96	V
2519.000	-42.69	6.38	6.15	-42.92	-13.00	-29.92	V
4171.000	-50.15	8.48	9.54	-49.09	-13.00	-36.09	V
4619.000	-52.54	9.13	9.99	-51.68	-13.00	-38.68	V
N/A							
1497.000	-57.28	4.85	6.28	-55.85	-13.00	-42.85	H
2456.000	-46.73	6.28	6.04	-46.97	-13.00	-33.97	H
4171.000	-52.2	8.48	9.54	-51.14	-13.00	-38.14	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 9538

Test Date: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
2519.000	-42.73	6.38	6.15	-42.96	-13.00	-29.96	V
3793.000	-52.2	8.26	9.19	-51.27	-13.00	-38.27	V
4171.000	-49.49	8.48	9.54	-48.43	-13.00	-35.43	V
N/A							
2456.000	-46.51	6.28	6.04	-46.75	-13.00	-33.75	H
3814.000	-52.65	8.28	9.21	-51.72	-13.00	-38.72	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
2085.000	-51.62	5.77	5.52	-51.87	-13.00	-38.87	V
2519.000	-42.7	6.38	6.15	-42.93	-13.00	-29.93	V
2890.000	-42.54	7.12	7.11	-42.55	-13.00	-29.55	V
4171.000	-49.89	8.48	9.54	-48.83	-13.00	-35.83	V
N/A							
1497.000	-55.96	4.85	6.28	-54.53	-13.00	-41.53	H
2085.000	-51.64	5.77	5.52	-51.89	-13.00	-38.89	H
2519.000	-46.37	6.38	6.15	-46.60	-13.00	-33.60	H
2890.000	-44.58	7.12	7.11	-44.59	-13.00	-31.59	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 Band V / TX / CH 4182

Test Date: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
1196.000	-54	4.25	4.11	-54.14	-13.00	-41.14	V
1966.000	-45.65	5.63	5.46	-45.82	-13.00	-32.82	V
2519.000	-42.43	6.38	6.15	-42.66	-13.00	-29.66	V
2890.000	-42.37	7.12	7.11	-42.38	-13.00	-29.38	V
4171.000	-50.56	8.48	9.54	-49.50	-13.00	-36.50	V
N/A							
2085.000	-51.69	5.77	5.52	-51.94	-13.00	-38.94	H
2456.000	-47.19	6.28	6.04	-47.43	-13.00	-34.43	H
2890.000	-44.56	7.12	7.11	-44.57	-13.00	-31.57	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: December 6, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
1966.000	-51.84	5.63	5.46	-52.01	-13.00	-39.01	V
2519.000	-42.66	6.38	6.15	-42.89	-13.00	-29.89	V
2946.000	-43.02	7.09	7.26	-42.85	-13.00	-29.85	V
4171.000	-49.59	8.48	9.54	-48.53	-13.00	-35.53	V
N/A							
2456.000	-46.65	6.28	6.04	-46.89	-13.00	-33.89	H
2890.000	-44.45	7.12	7.11	-44.46	-13.00	-31.46	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:** July 18, 2013
Temperature: 26°C **Tested by:** David Shu
Humidity: 60 % 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	-55.47	8.21	9.11	-54.57	-13.00	-41.57	V
5557.000	-52.04	10.08	10.81	-51.31	-13.00	-38.31	V
N/A							
3709.000	-41.55	8.21	9.11	-40.65	-13.00	-27.65	H
5557.000	-46.37	10.08	10.81	-45.64	-13.00	-32.64	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: July 18, 2013

Temperature: 26°C Tested by: David Shu

Humidity: 60 % 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	-53.09	8.23	9.16	-52.16	-13.00	-39.16	V
5641.000	-53.35	10.18	10.83	-52.70	-13.00	-39.70	V
N/A							
3758.000	-39.86	8.23	9.16	-38.93	-13.00	-25.93	H
5641.000	-48.4	10.18	10.83	-47.75	-13.00	-34.75	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: July 18, 2013

Temperature: 26°C Tested by: David Shu

Humidity: 60 % 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	-46.76	8.28	9.21	-45.83	-13.00	-32.83	V
5718.000	-52.85	10.21	10.84	-52.22	-13.00	-39.22	V
N/A							
3821.000	-28.6	8.29	9.22	-27.67	-13.00	-14.67	H
5718.000	-45.43	10.21	10.84	-44.80	-13.00	-31.80	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: July 18, 2013

Temperature: 26°C Tested by: David Shu

Humidity: 60 % 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)
4073.000	-55.37	8.43	9.46	-54.34	-13.00	-41.34	V
5361.000	-55.64	9.75	10.74	-54.65	-13.00	-41.65	V
N/A							
1651.000	-48.95	5.05	6.03	-47.97	-13.00	-34.97	H
1966.000	-50.72	5.63	5.46	-50.89	-13.00	-37.89	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: July 18, 2013

Temperature: 26°C Tested by: David Shu

Humidity: 60 % 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)
4332.000	-55.61	8.61	9.67	-54.55	-13.00	-41.55	V
6334.000	-51.65	10.91	11.17	-51.39	-13.00	-38.39	V
N/A							
1672.000	-49.65	5.07	5.99	-48.73	-13.00	-35.73	H
3905.000	-55.81	8.39	9.31	-54.89	-13.00	-41.89	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: July 18, 2013

Temperature: 26°C Tested by: David Shu

Humidity: 60 % 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)
4283.000	-54.92	8.58	9.63	-53.87	-13.00	-40.87	V
5242.000	-55.64	9.6	10.7	-54.54	-13.00	-41.54	V
N/A							
1693.000	-47.99	5.1	5.95	-47.14	-13.00	-34.14	H
2995.000	-55.74	7.02	7.39	-55.37	-13.00	-42.37	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
4535.000	-54.8	8.99	9.86	-53.93	-13.00	-40.93	V
6796.000	-49.84	11.3	11.66	-49.48	-13.00	-36.48	V
N/A							
3709.000	-42.45	8.21	9.11	-41.55	-13.00	-28.55	H
5564.000	-49.16	10.1	10.81	-48.45	-13.00	-35.45	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: July 18, 2013

Temperature: 25°C

Tested by: David Shu

Humidity: 60 % 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	-53.52	8.23	9.16	-52.59	-13.00	-39.59	V
5641.000	-52.16	10.18	10.83	-51.51	-13.00	-38.51	V
N/A							
3765.000	-36.67	8.24	9.16	-35.75	-13.00	-22.75	H
5641.000	-47.33	10.18	10.83	-46.68	-13.00	-33.68	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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	-45.3	8.28	9.21	-44.37	-13.00	-31.37	V
5718.000	-50.9	10.21	10.84	-50.27	-13.00	-37.27	V
N/A							
3814.000	-30.7	8.28	9.21	-29.77	-13.00	-16.77	H
5718.000	-45.67	10.21	10.84	-45.04	-13.00	-32.04	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: WCDMA / HSUPA Band V / TX / CH 4132

Test Date: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
4311.000	-55.44	8.6	9.65	-54.39	-13.00	-41.39	V
6005.000	-54.09	10.82	10.9	-54.01	-13.00	-41.01	V
N/A							
1658.000	-49.24	5.06	6.02	-48.28	-13.00	-35.28	H
4787.000	-53.52	9.3	10.26	-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 V / TX / CH 4182

Test Date: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
4080.000	-56.04	8.44	9.46	-55.02	-13.00	-42.02	V
5466.000	-55.14	9.9	10.79	-54.25	-13.00	-41.25	V
N/A							
1672.000	-50.06	5.07	5.99	-49.14	-13.00	-36.14	H
5382.000	-53.63	9.79	10.75	-52.67	-13.00	-39.67	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: July 18, 2013

Temperature: 26°C

Tested by: David Shu

Humidity: 60 % 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)
3254.000	-57.24	7.37	8.16	-56.45	-13.00	-43.45	V
5109.000	-54.51	9.46	10.64	-53.33	-13.00	-40.33	V
N/A							
1693.000	-47.51	5.1	5.95	-46.66	-13.00	-33.66	H
4829.000	-53.81	9.3	10.33	-52.78	-13.00	-39.78	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.



Calculation of maximum antenna gain

GSM850						
Operation Mode	Frequency	Emission level	Max. Ant. Gain	Result	Limit	Margin
	(MHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Low	71.71	-52.26	7.4	-44.86	-13	-31.86
Mid	71.71	-51.58	7.4	-44.18	-13	-31.18
High	71.71	-51.83	7.4	-44.43	-13	-31.43
GPRS850						
Operation Mode	Frequency	Emission level	Max. Ant. Gain	Result	Limit	Margin
	(MHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Low	1651	-48.41	7.4	-41.01	-13	-28.01
Mid	2512	-45.53	7.4	-38.13	-13	-25.13
High	1700	-45.8	7.4	-38.4	-13	-25.4
EDGE850						
Operation Mode	Frequency	Emission level	Max. Ant. Gain	Result	Limit	Margin
	(MHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Low	1966	-50.94	7.4	-43.54	-13	-30.54
Mid	71.71	-51.78	7.4	-44.38	-13	-31.38
High	1749	-48.64	7.4	-41.24	-13	-28.24



PCS1900						
Operation Mode	Frequency	Emission level	Max. Ant. Gain	Result	Limit	Margin
	(MHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Low	5550	-36.86	2.7	-34.16	-13	-21.16
Mid	5641	-48.61	2.7	-45.91	-13	-32.91
High	2687	-22.67	2.7	-19.97	-13	-6.97
GPRS1900						
Operation Mode	Frequency	Emission level	Max. Ant. Gain	Result	Limit	Margin
	(MHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Low	2687	-24.32	2.7	-21.62	-13	-8.62
Mid	2687	-18.07	2.7	-15.37	-13	-2.37
High	2687	-18.87	2.7	-16.17	-13	-3.17
EDGE1900						
Operation Mode	Frequency	Emission level	Max. Ant. Gain	Result	Limit	Margin
	(MHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Low	5550	-36.86	2.7	-34.16	-13	-21.16
Mid	2687	-17.1	2.7	-14.4	-13	-1.4
High	2687	-22.67	2.7	-19.97	-13	-6.97

Remark: Data of measurement within this frequency range shown “ N/A ” in the table above means the emission is too small to be measured



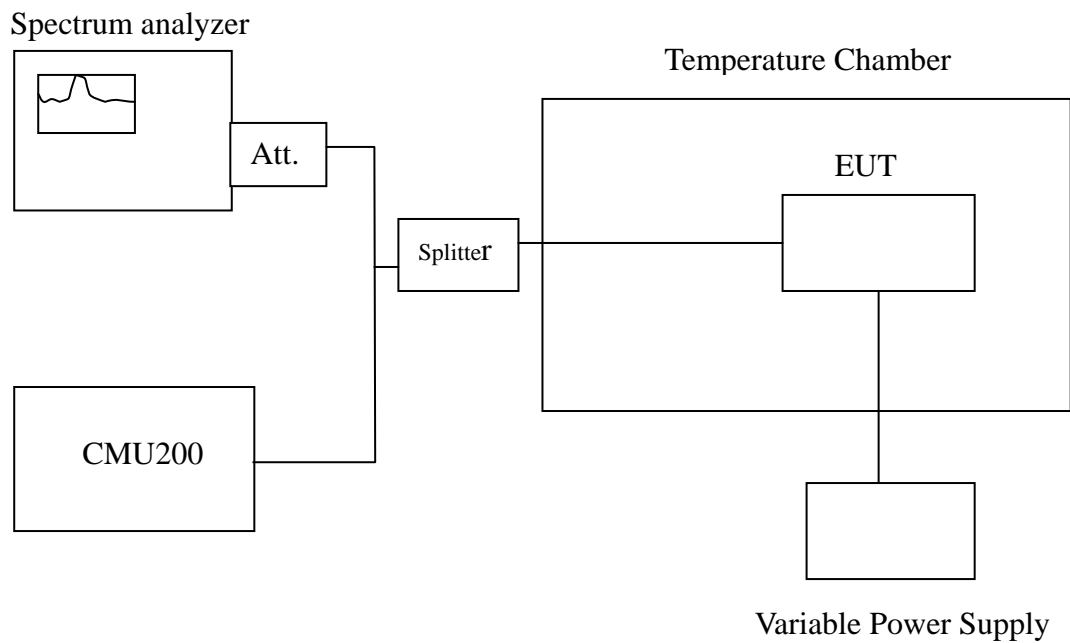
7.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

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 = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836599979	-35	2091
	40	836599976	-38	
	30	836599973	-41	
	20	836600014	0	
	10	836599990	-24	
	0	836599989	-25	
	-10	836599986	-28	
	-20	836599986	-28	
	-30	836599983	-31	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	1879999980	-20	4700
	40	1879999975	-25	
	30	1879999976	-24	
	20	1880000000	0	
	10	1879999970	-30	
	0	1879999983	-17	
	-10	1879999948	-52	
	-20	1879999986	-14	
	-30	1879999952	-48	



Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836600001	10	2091
	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	1879999986	-14	4700
	40	1879999985	-15	
	30	1879999956	-44	
	20	1880000000	0	
	10	1879999953	-47	
	0	1879999975	-25	
	-10	1879999974	-26	
	-20	1879999967	-33	
	-30	1879999968	-32	



Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836599997	-28	2091
	40	836599982	-43	
	30	836599993	-32	
	20	836600025	0	
	10	836599990	-35	
	0	836599986	-39	
	-10	836599985	-40	
	-20	836599982	-43	
	-30	836599981	-44	

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	1879999996	-4	4700
	40	1879999982	-18	
	30	1879999975	-25	
	20	1880000000	0	
	10	1879999998	-2	
	0	1879999997	-3	
	-10	1879999992	-8	
	-20	1879999991	-9	
	-30	1879999978	-22	



Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836400000	-2	2091
	40	836399996	-6	
	30	836399999	-3	
	20	836400002	0	
	10	836399995	-7	
	0	836399996	-6	
	-10	836400000	-2	
	-20	836399998	-4	
	-30	836399999	-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)
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 = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836399999	-6	2091
	40	836399995	-10	
	30	836399992	-13	
	20	836400005	0	
	10	836399989	-16	
	0	836399983	-22	
	-10	836399981	-24	
	-20	836399975	-30	
	-30	836399974	-31	

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	1879999997	-3	4700
	40	1879999992	-8	
	30	1879999967	-33	
	20	1880000000	0	
	10	1879999977	-23	
	0	1879999975	-25	
	-10	1879999972	-28	
	-20	1879999970	-30	
	-30	1879999966	-34	



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	1879999994	-8	4700
	40	1879999973	-29	
	30	1879999971	-31	
	20	1880000002	0	
	10	1879999983	-19	
	0	1879999981	-21	
	-10	1879999988	-14	
	-20	1879999986	-16	
	-30	1879999984	-18	

Reference Frequency: WCDMA / HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.8	50	836399993	-8	2091
	40	836399991	-10	
	30	836399986	-15	
	20	836400001	0	
	10	836399980	-21	
	0	836399972	-29	
	-10	836399967	-34	
	-20	836399983	-18	
	-30	836399972	-29	



7.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

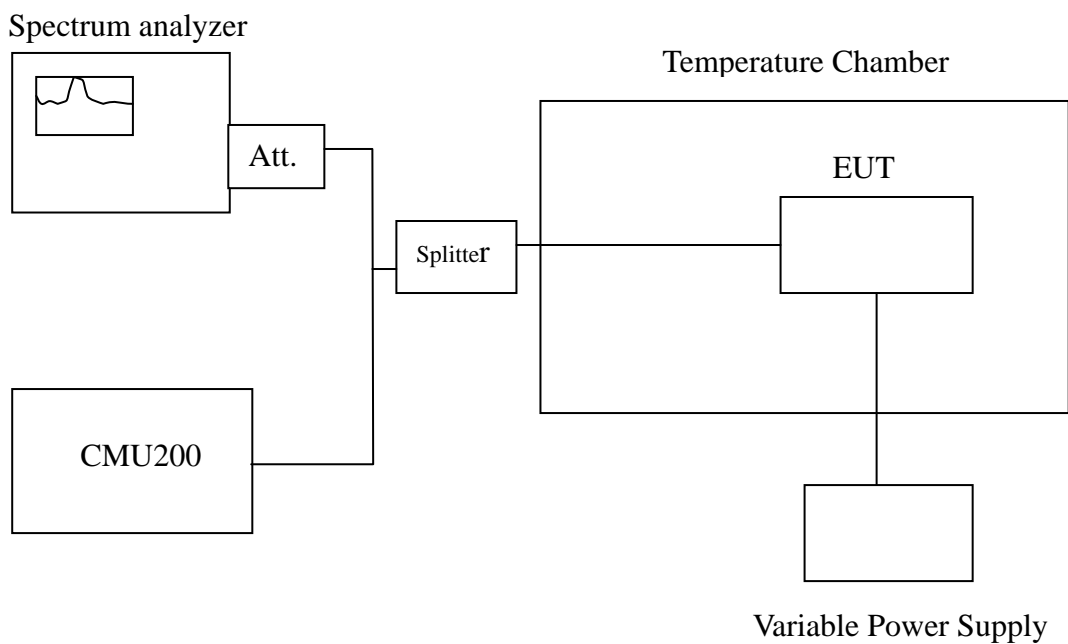
According to FCC §2.1055, FCC §24.235,

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 (± 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 = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836600017	3	2091
3.8		836600014	0	
3.23		836600015	1	
2.7END		836600016	2	

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	1880000011	11	4700
3.8		1880000000	0	
3.23		1880000025	25	
2.7END		1880000012	12	



Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836599980	-11	2091
3.8		836599991	0	
3.23		836599977	-14	
2.7END		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	188000011	11	4700
3.8		188000000	0	
3.23		188000034	34	
2.7END		188000025	25	



Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836600021	-4	2091
3.8		836600025	0	
3.23		836600027	2	
2.7END		836600029	4	

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	
2.7END		1880000002	2	



Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400001	-1	2091
3.8		836400002	0	
3.23		836400003	1	
2.7END		836400073	71	

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	1880000005	-5	4700
3.8		1880000010	0	
3.23		1880000009	-1	
2.7END		1879999943	-67	



Reference Frequency: WCDMA / HSDPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400011	6	2091
3.8		836400005	0	
3.23		836400018	13	
2.7END		836400019	14	

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	1880000009	9	4700
3.8		1880000000	0	
3.23		1880000004	4	
2.7END		1880000034	34	



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	1880000001	-1	4700
3.8		1880000002	0	
3.23		1880000003	1	
2.7END		1880000008	6	

Reference Frequency: WCDMA HSUPA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.37	20	836400002	1	2091
3.8		836400001	0	
3.23		836400004	3	
2.7END		836400029	28	