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

TEST REPORT

For

Product Name: Tablet

Brand Name: PCD

Model No.: Q PAD

Series Model: N/A

FCC ID: ZTP-QPAD

Test Report Number:
C141224R01-RP1

Issued for

Technology Brokers, INC

7412 SW 48ST Suite B, Miami, FL, 33133

Issued by

Compliance Certification Services Inc.

Kun shan Laboratory

No.10 Weiye Rd., Innovation park, Eco&Tec,
Development Zone, Kunshan City, Jiangsu, China

TEL: 86-512-57355888

FAX: 86-512-57370818

TESTING CERT #2541.01

REVISION HISTORY

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	December 26, 2014	C141224R01-RP1	ALL	N/A

TABLE OF CONTENTS

1 TEST RESULT CERTIFICATION

Product Name:	Tablet
Trade Name:	PCD
Model Name.:	Q PAD
Series Model:	N/A
Applicant Discrepancy:	Initial
Devices supporting GPRS：	Class B
Description Test Modes(worst case):	The all Models EUT were pretested, the SIM1 was found to transmit the highest SAR value
Device Category:	Mobile unit
Exposure Category:	GENERAL POPULATION/UNCONTROLLED EXPOSURE
Date of Test:	December 26, 2014
Applicant:	**Technology Brokers, INC** 7412 SW 48ST Suite B, Miami, FL, 33133
Manufacturer:	**Technology Brokers, INC** 7412 SW 48ST Suite B, Miami, FL, 33133
Application Type:	Certification

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

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 ANSI C63.4: 2003 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 Subpart H and PART 24 Subpart E.

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

Approved by:

Jeff.Fang
RF Manager
Compliance Certification Service Inc.

Tested by:

James.yan
Test Engineer
Compliance Certification Service Inc.

2 EUT DESCRIPTION

Product Name:	Tablet
Brand Name:	PCD
Model Name:	Q PAD
Series Model:	N/A
Model Discrepancy:	N/A
Hardware Version	KT837701
Software Version	M6502W_01_V006
Power Supply:	Power supply and ADP（rating）: Model：RYH60US0500100A Input: 100-240VAC 50/60HZ 0.2A Output: DC5.0V 1A Battery（rating）: Capacitance: 3500mAh 3.7V
Frequency Range:	GSM 850: 824.20 ~ 848.80 MHz GSM 1900: 1850.20 ~ 1909.80 MHz GPRS 850: 824.20 ~ 848.80 MHz GPRS 1900: 1850.20 ~ 1909.80 MHz WCDMA Band II:1852.4~1907.6MHz WCDMA Band V:826.4~846.6 MHz
Transmit Power (ERP & EIRP Power):	GSM 850: 32.90 dBm GSM 1900: 29.60dBm GPRS 850: 32.90 dBm GPRS 1900:29.60 dBm WCDMA Band II: 26.09 dBm WCDMA Band V: 26.33 dBm
Modulation Technique:	GSM/GPRS: GMSK WCDMA/HSDPA/HSUPA: QPSK
Antenna Gain:	GSM/GPRS/WCDMA : 1.0 dBi
Antenna Type:	GSM/GPRS/WCDMA：PIFA Antenna

Remark:

1. *The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*
2. *This submittal(s) (test report) is intended for **FCC ID: ZTP-QPAD** filing to comply with Part 22 and Part 24 of the FCC 47 CFR Rules.*

3 TEST METHODOLOGY

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

3.1. EUT CONFIGURATION

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

3.2. EUT EXERCISE

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

3.3. GENERAL TEST PROCEDURES

Conducted Emissions

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

RADIATED EMISSIONS

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

3.4. DESCRIPTION OF TEST MODES

The EUT (model: Gobi2) had been tested under operating condition.

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

EUT staying in continuous transmitting mode was programmed.

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

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

WCDMA Band V:
Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.
HSDPA Band V:
Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

4 INSTRUMENT CALIBRATION

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. MEASUREMENT EQUIPMENT USED

Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	RS	FSU26	200789	2015-8-18
Detector Negative	Agilent	8473B	MY42240176	2015-5-12
universal Radio communication tester	R&S	CMU200	111092	2015-1-22
Oscilloscope	Agilent	DSO6104A	MY44002585	2015-3-16
Power Sensor	Agilent	E9327A	US40441788	2015-3-17
Power Meter	Agilent	E4416A	QB41292714	2015-3-17
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	N.C.R
DC Power Supply	AGILENT	E3632A	MY50340053	N.C.R
Temp. / Humidity Chamber	TERCHY	MHK-120AK	X30109	2015-1-22
Test Software	EZ-EMC			

977 Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	RS	FSU26	200789	2015-8-18
EMI Test Receiver	R&S	ESPI3	101378	2015-1-22
universal Radio communication tester	R&S	CMU200	111092	2015-1-22
Pre-Amplfier	MINI	ZFL-1000VH2	070306	2015-1-22
Pre-Amplfier	Miteq	NSP400-NF	N/A	N.C.R
Bilog Antenna	Sunol	JB1	A110204-1	2015-3-7
Horn-antenna	SCHWARZBECK	BBHA9120D	D:267	2015-3-7
TRILOG SUPER BROADBAND TEST ANTENNA	SCHWARZBECK	VULB9160	9160-3342	2015-3-7
TRILOG SUPER BROADBAND TEST ANTENNA	SCHWARZBECK	VULB9160	9160-3343	2015-3-6
Turn Table	CT	CT123	4165	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R
Controller	CT	CT1OO	95637	N.C.R
Test Software	EZ-EMC			

Conducted Emission				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI TEST RECEIVER	R&S	ESCI	100781	2015-3-16
V (V-LISN)	Schwarzbeck	NNLK 8129	8129-143	2015-8-18
universal Radio communication tester	R&S	CMU200	111092	2015-1-22
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	SN:05012	2015-3-16
10dB Attenuation	SCHAFFNER	CFL9206	1710	N.C.R
Test Software	EZ-EMC			

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

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	**Frequency**	***Uncertainty***
Conducted emissions	0.15MHz~30MHz	± 3.43 dB

Measurement	**Polarity**	**Frequency**	**Uncertainty**
Radiated emissions (below 1GHz)	H	30MHz ~ 200MHz	+/- 4.72dB
		200MHz ~1000MHz	+/- 4.72dB
	V	30MHz ~ 200MHz	+/- 4.83dB
		200MHz ~1000MHz	+/- 4.70dB
Radiated emissions (above 1GHz)	H	1000MHz ~5000MHz	+/- 3.94dB
		5000MHz ~6000MHz	+/- 3.94dB
	V	1000MHz ~5000MHz	+/- 3.94dB
		5000MHz ~6000MHz	+/- 3.94dB

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

5 FACILITIES AND ACCREDITATIONS

5.1. FACILITIES

☒ No.10Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

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

5.2. EQUIPMENT

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

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

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

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

5.3. ACCREDITATIONS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

USA	A2LA
China	CNAS

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada
Japan	VCCI
Taiwan	BSMI
USA	FCC

Copies of granted accreditation certificates are available for downloading from our web site, http://www.ccsrf.com

6 SETUP OF EQUIPMENT UNDER TEST

6.1. SETUP CONFIGURATION OF EUT

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

6.2. SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	FCC ID	Series No.	Data Cable	Power Cord
N/A							

Remark:

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

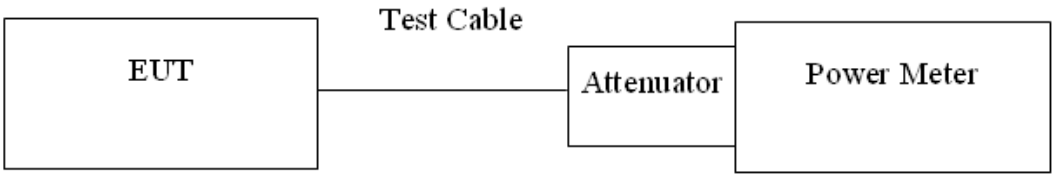
7 FCC PART 22 & 24 REQUIREMENTS

7.1. PEAK POWER

LIMIT

According to FCC §2.1046.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
GSM 850	128	824.20	32.80
	190	836.40	32.90
	251	848.80	**32.90**
GPRS 850 (Class 12)	128	824.20	32.80
	190	836.40	32.90
	251	848.80	**32.90**

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
GSM 1900	512	1850.20	29.40
	661	1880.00	29.60
	810	1909.80	**29.60**
GPRS 1900 (Class 12)	512	1850.20	29.50
	661	1880.00	29.50
	810	1909.80	**29.60**

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
WCDMA (BAND II)	9262	1852.4	25.43
	9400	1880.0	26.09
	9538	1907.6	25.73
HSDPA (BAND II)	9262	1852.4	24.76
	9400	1880.0	25.24
	9538	1907.6	25.16
HSUPA (BAND II)	9262	1852.4	24.47
	9400	1880.0	24.85
	9538	1907.6	24.94

Test Mode	CH	Frequency (MHz)	Peak Power (dBm)
WCDMA (BAND V)	4132	826.40	25.97
	4182	836.40	26.33
	4233	846.60	26.03
HSDPA (BAND V)	4132	826.40	25.09
	4182	836.40	25.39
	4233	846.60	25.06
HSUPA (BAND V)	4132	826.40	24.61
	4182	836.40	24.92
	4233	846.60	24.18

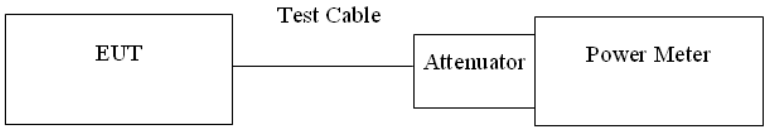
Remark: *The value of factor includes both the loss of cable and external attenuator*

7.2. AVERAGE POWER

LIMIT

For reporting purposes only.

TEST CONFIGURATION



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Test Data

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)
GSM 850	128	824.20	32.72
	190	836.40	32.82
	251	848.80	32.78
GPRS 850 (Class 12)	128	824.20	32.65
	190	836.40	32.79
	251	848.80	32.76

Test Mode	CH	Frequency (MHz)	AVG Power (dBm)
GSM 1900	512	1850.20	29.34
	661	1880.00	29.43
	810	1909.80	29.52
GPRS 1900 (Class 12)	512	1850.20	29.32
	661	1880.00	29.39
	810	1909.80	29.51

Test Mode	CH	Frequency (MHz)	Average Power (dBm)
WCDMA (BAND II)	9262	1852.4	22.85
	9400	1880.0	23.04
	9538	1907.6	23.24
HSDPA (BAND II)	9262	1852.4	21.77
	9400	1880.0	22.05
	9538	1907.6	22.25
HSUPA (BAND II)	9262	1852.4	20.33
	9400	1880.0	20.64
	9538	1907.6	20.79

Test Mode	CH	Frequency (MHz)	Average Power (dBm)
WCDMA (BAND V)	4132	826.40	22.84
	4182	836.40	22.98
	4233	846.60	22.78
HSDPA (BAND V)	4132	826.40	21.84
	4182	836.40	22.05
	4233	846.60	21.81
HSUPA (BAND V)	4132	826.40	20.25
	4182	836.40	20.47
	4233	846.60	20.33

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

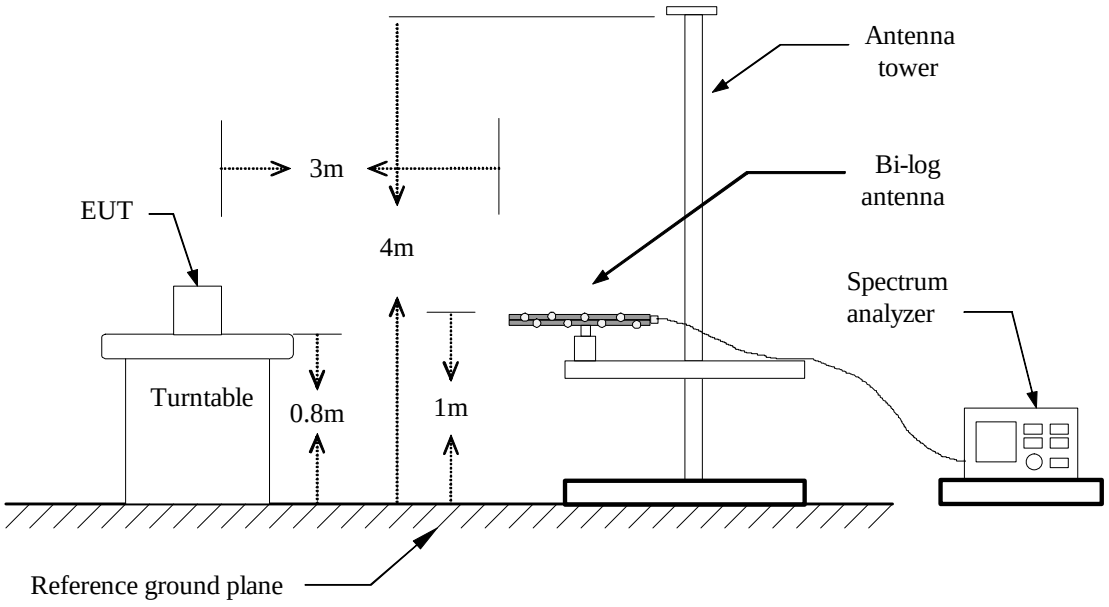
7.3. ERP & EIRP MEASUREMENT

LIMIT

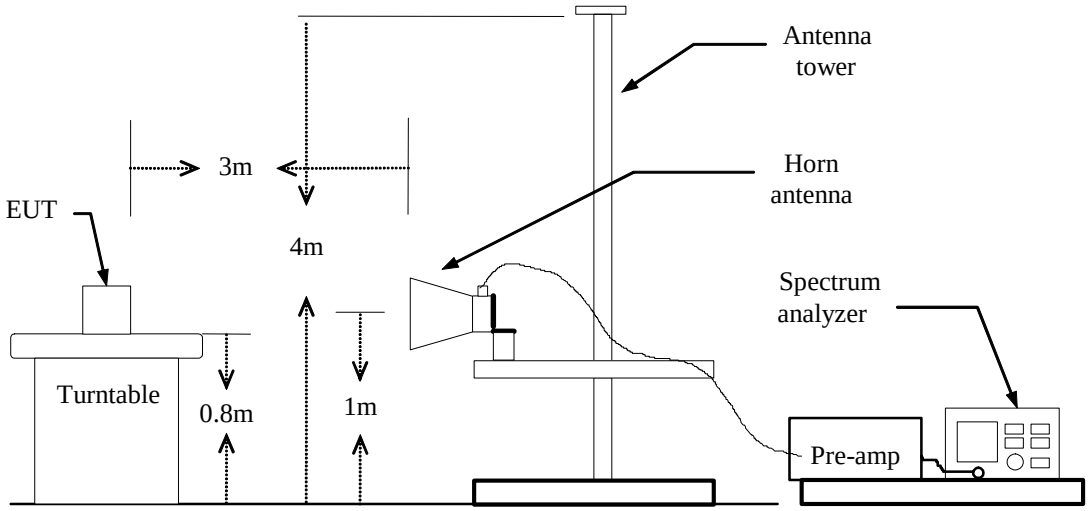
According to FCC §2.1046
FCC 22.913(a): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts.
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

TEST CONFIGURATION

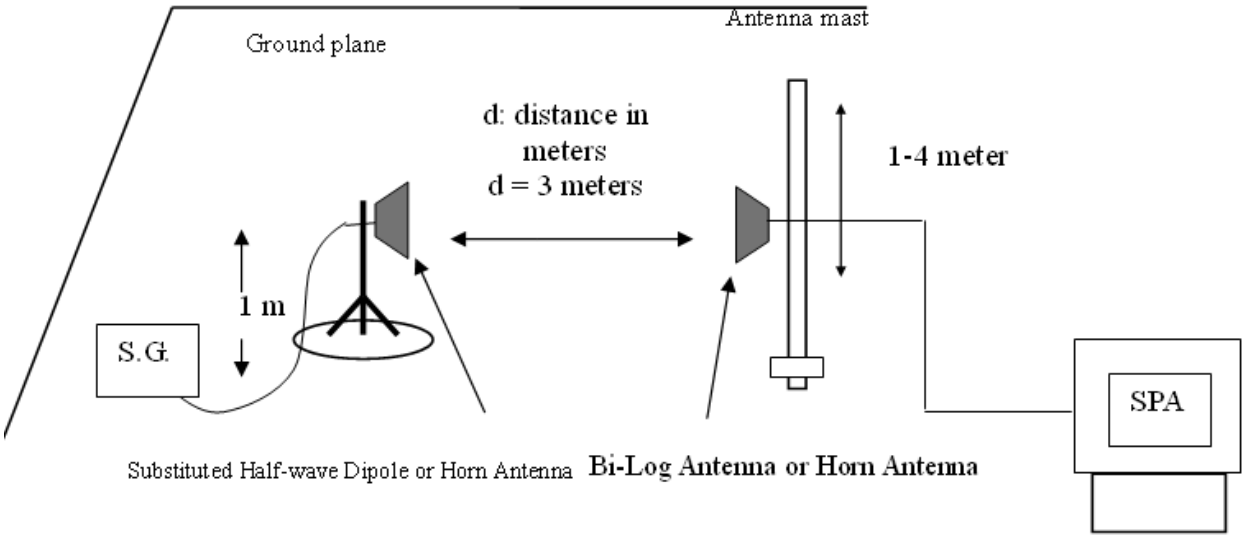
Below 1 GHz



Above 1 GHz



FOR SUBSTITUTED METHOD TEST SET-UP



TEST PROCEDURE

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

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

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

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

TEST RESULTS

No non-compliance noted.

GSM850 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.26	V	32.54	-1.58	30.96	38.50	-7.54
	824.23	H	31.02	-1.69	29.33	38.50	-9.17
190	836.56	V	32.79	-1.56	31.23	38.50	-7.27
	836.49	H	31.05	-1.73	29.32	38.50	-9.18
251	848.72	V	32.81	-1.54	31.27	38.50	-7.23
	848.71	H	31.12	-1.72	29.40	38.50	-9.10

GSM1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.13	V	27.68	-0.27	27.41	33.00	-5.59
	1850.21	H	26.33	-0.65	25.68	33.00	-7.32
661	1880.01	V	27.74	0.06	27.80	33.00	-5.20
	1879.93	H	26.37	-0.25	26.12	33.00	-6.88
810	1909.82	V	27.85	0.23	28.08	33.00	-4.92
	1909.79	H	26.46	-0.04	26.42	33.00	-6.58

GPRS850 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.26	V	32.52	-1.58	30.94	38.50	-7.56
	824.23	H	31.03	-1.69	29.34	38.50	-9.16
190	836.56	V	32.76	-1.56	31.20	38.50	-7.30
	836.49	H	31.02	-1.73	29.29	38.50	-9.21
251	848.72	V	32.79	-1.54	31.25	38.50	-7.25
	848.71	H	31.06	-1.72	29.34	38.50	-9.16

GPRS1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.13	V	27.67	-0.27	27.40	33.00	-5.60
	1850.21	H	26.35	-0.65	25.70	33.00	-7.30
661	1880.01	V	27.71	0.06	27.77	33.00	-5.23
	1879.93	H	26.35	-0.25	26.10	33.00	-6.90
810	1909.82	V	27.84	0.23	28.07	33.00	-4.93
	1909.79	H	26.43	-0.04	26.39	33.00	-6.61

WCDMA BAND II TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.25	V	25.61	-0.27	25.34	33.00	-7.66
	1852.19	H	24.32	-0.65	23.67	33.00	-9.33
9400	1880.06	V	25.72	0.06	25.78	33.00	-7.22
	1879.95	H	24.48	-0.25	24.23	33.00	-8.77
9538	1908.82	V	25.66	0.23	25.89	33.00	-7.11
	1908.74	H	24.37	-0.04	24.33	33.00	-8.67

WCDMA BAND II HSDPA TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.25	V	23.42	-0.27	23.15	33.00	-9.85
	1852.19	H	22.39	-0.65	21.74	33.00	-11.26
9400	1880.06	V	23.98	0.06	24.04	33.00	-8.96
	1879.95	H	22.75	-0.25	22.50	33.00	-10.50
9538	1908.82	V	23.74	0.23	23.97	33.00	-9.03
	1908.74	H	22.56	-0.04	22.52	33.00	-10.48

WCDMA BAND II HSUPA TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.25	V	23.38	-0.27	23.11	33.00	-9.89
	1852.19	H	22.26	-0.65	21.61	33.00	-11.39
9400	1880.06	V	23.75	0.06	23.81	33.00	-9.19
	1879.95	H	22.54	-0.25	22.29	33.00	-10.71
9538	1908.82	V	23.62	0.23	23.85	33.00	-9.15
	1908.74	H	22.47	-0.04	22.43	33.00	-10.57

WCDMA BAND V TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.57	V	25.17	-0.27	24.90	38.50	-13.60
	826.48	H	24.01	-0.65	23.36	38.50	-15.14
4182	836.61	V	25.36	0.06	25.42	38.50	-13.08
	836.69	H	24.12	-0.25	23.87	38.50	-14.63
4233	846.22	V	25.21	0.23	25.44	38.50	-13.06
	846.35	H	24.09	-0.04	24.05	38.50	-14.45

WCDMA BAND V HSDPA TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.57	V	23.69	-0.27	23.42	38.50	-15.08
	826.48	H	22.21	-0.65	21.56	38.50	-16.94
4182	836.61	V	23.98	0.06	24.04	38.50	-14.46
	836.69	H	22.45	-0.25	22.20	38.50	-16.30
4233	846.22	V	23.77	0.23	24.00	38.50	-14.50
	846.35	H	22.26	-0.04	22.22	38.50	-16.28

WCDMA BAND V HSUPA TEST DATA

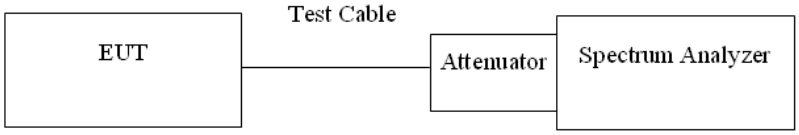
Channel	Frequency (MHz)	Antenna Pol.	Reading level (dB)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.57	V	23.58	-0.27	23.31	38.50	-15.19
	826.48	H	22.13	-0.65	21.48	38.50	-17.02
4182	836.61	V	23.85	0.06	23.91	38.50	-14.59
	836.69	H	22.34	-0.25	22.09	38.50	-16.41
4233	846.22	V	23.71	0.23	23.94	38.50	-14.56
	846.35	H	22.19	-0.04	22.15	38.50	-16.35

7.4. OCCUPIED BANDWIDTH MEASUREMENT

LIMIT

According to §FCC 2.1049.

TEST CONFIGURATION



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted

Test Data

Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)
GSM 850	128	824.20	243.0429
	190	836.40	243.9326
	251	848.80	246.8662
GPRS 850	128	824.20	244.1993
	190	836.40	244.5382
	251	848.80	244.2228

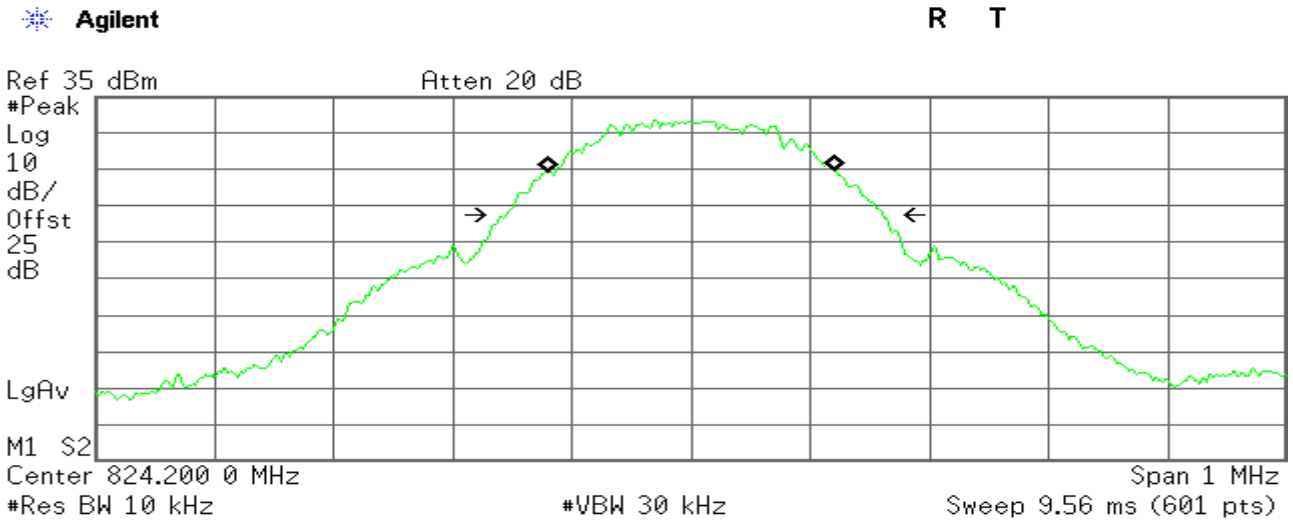
Test Mode	CH	Frequency (MHz)	99% Bandwidth (kHz)
GSM 1900	512	1850.20	244.2887
	661	1880.00	245.1202
	810	1909.80	245.9161
GPRS 1900	512	1850.20	241.3904
	661	1880.00	248.2193
	810	1909.80	239.8582

Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)	26dB Bandwidth MHz
WCDMA (Band II)	9262	1852.4	4.1544	4.704
	9400	1880.0	4.1732	4.687
	9538	1907.6	4.1660	4.727
HSDPA (BAND II)	9262	1852.4	4.1835	4.717
	9400	1880.0	4.1546	4.700
	9538	1907.6	4.1533	4.712
HSUPA (BAND II)	9262	1852.4	4.1471	4.731
	9400	1880.0	4.1820	4.678
	9538	1907.6	4.1578	4.720

Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)	26dB Bandwidth MHz
WCDMA (Band V)	4132	826.40	4.1471	4.677
	4182	836.40	4.1719	4.697
	4233	846.60	4.1757	4.765
HSDPA (BAND V)	4132	826.40	4.1424	4.696
	4182	836.40	4.1452	4.679
	4233	846.60	4.1560	4.729
HSUPA (BAND V)	4132	826.40	4.1514	4.698
	4182	836.40	4.1584	4.702
	4233	846.60	4.1642	4.715

Test Plot

GSM 850 (CH Low)

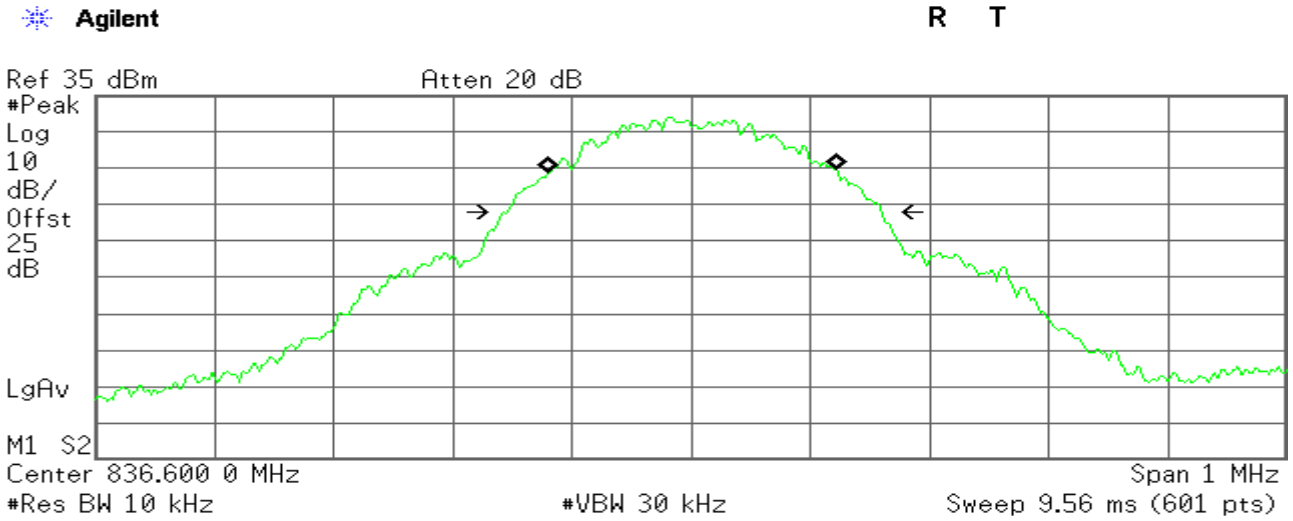


Occupied Bandwidth
243.0429 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 406.878 Hz
x dB Bandwidth 319.609 kHz

GSM 850 (CH Mid)

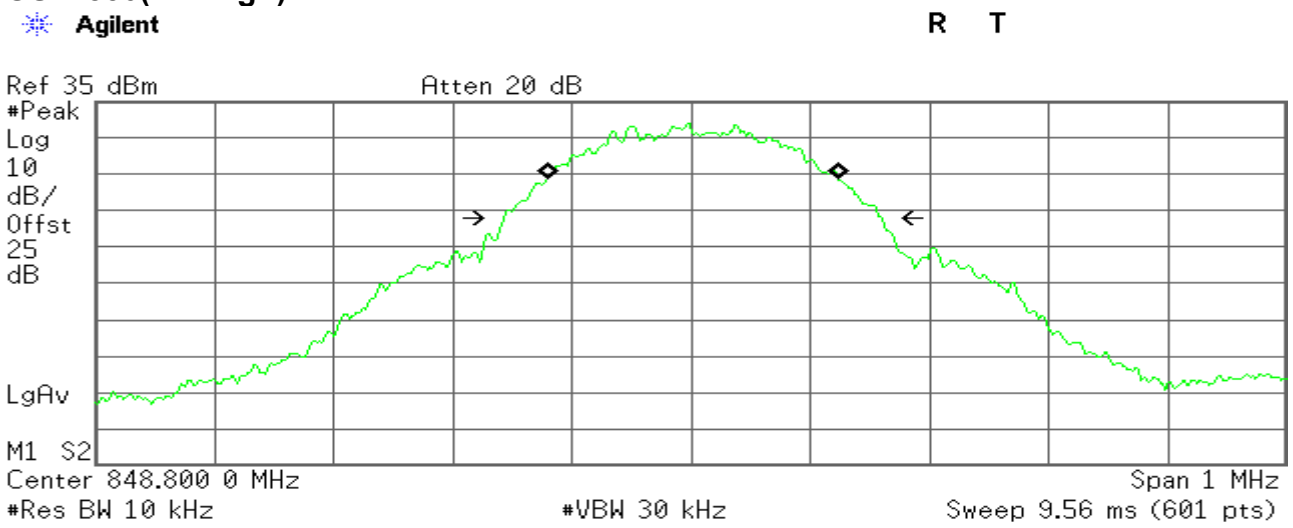


Occupied Bandwidth
243.9326 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.298 kHz
x dB Bandwidth 316.019 kHz

GSM 850(CH High)

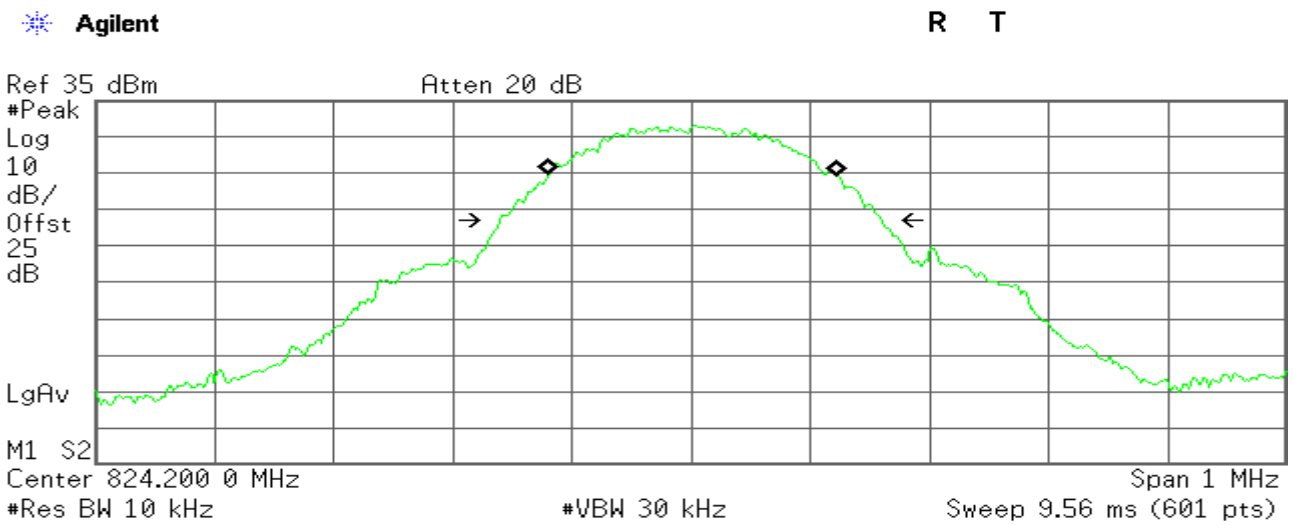


Occupied Bandwidth
246.8662 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.324 kHz
x dB Bandwidth 320.371 kHz

GPRS 850 (CH Low)

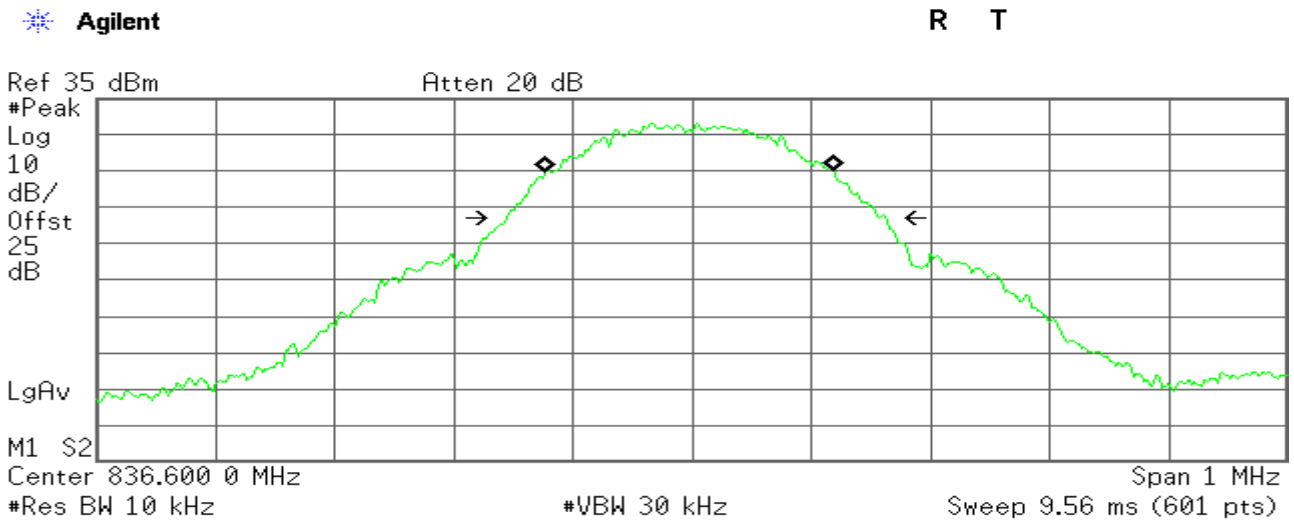


Occupied Bandwidth
244.1993 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.379 kHz
x dB Bandwidth 323.636 kHz

GPRS 850 (CH Mid)

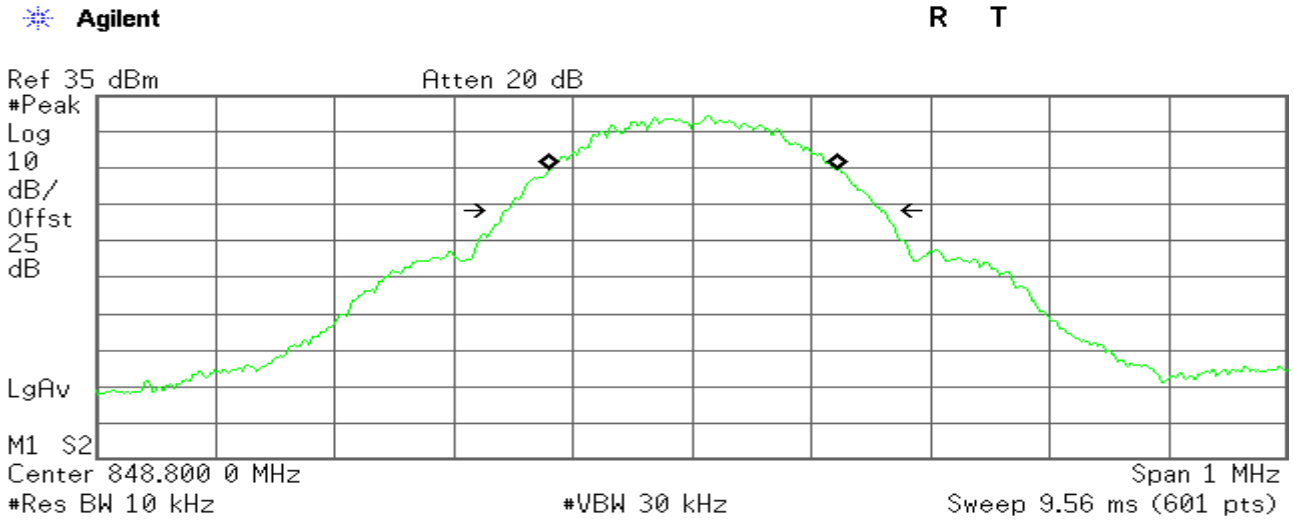


Occupied Bandwidth
244.5382 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.904 kHz
x dB Bandwidth 321.058 kHz

GPRS 850(CH High)

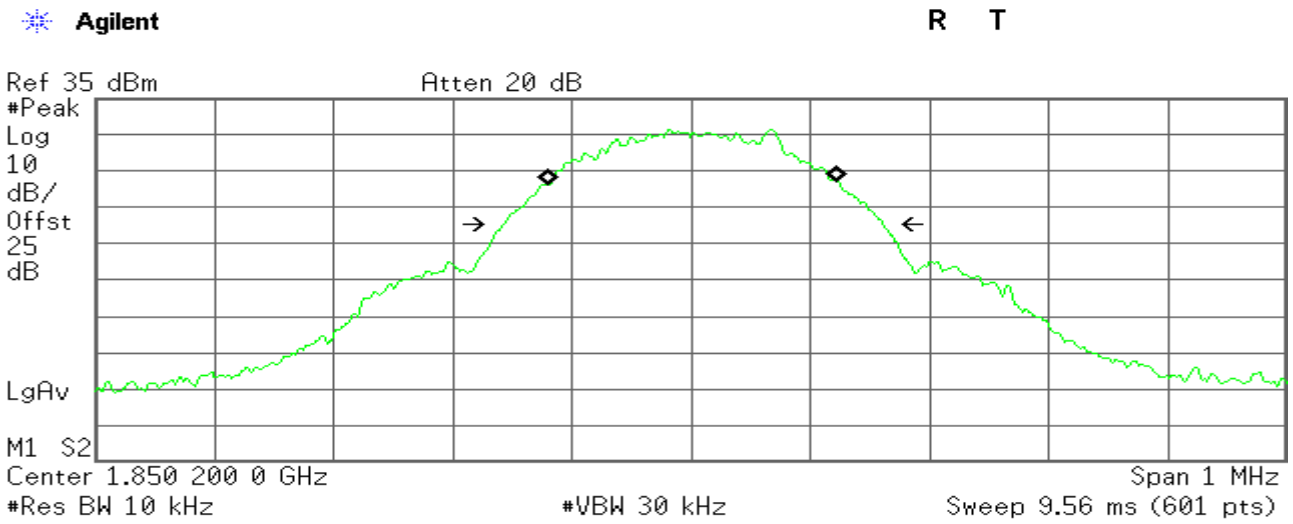


Occupied Bandwidth
244.2228 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 906.115 Hz
x dB Bandwidth 319.390 kHz

GSM 1900 (CH Low)

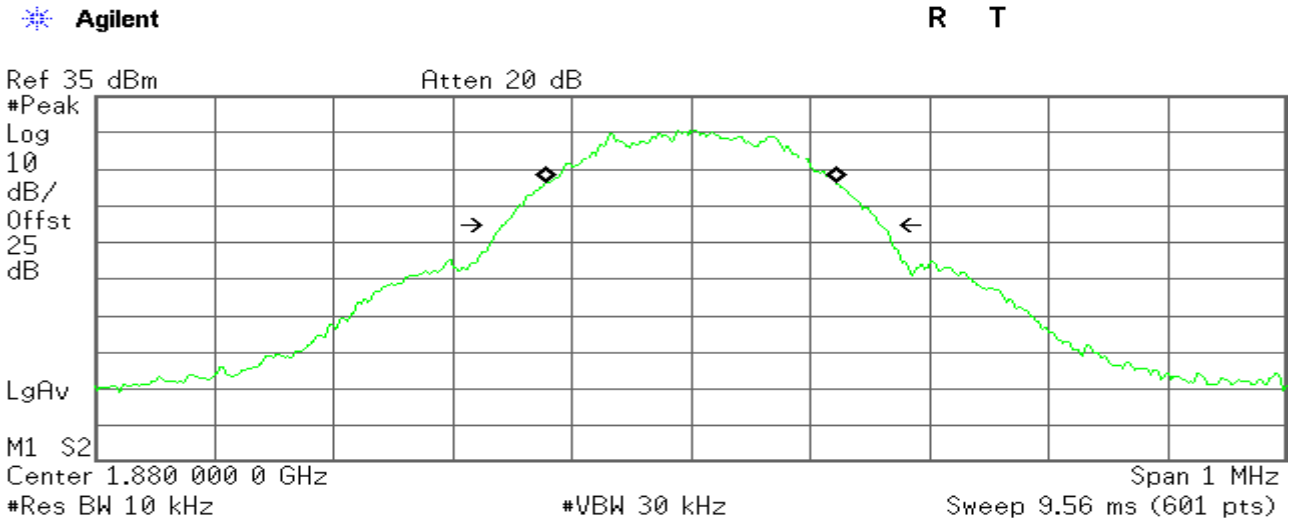


Occupied Bandwidth
244.2887 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.210 kHz
x dB Bandwidth 320.372 kHz

GSM 1900 (CH Mid)

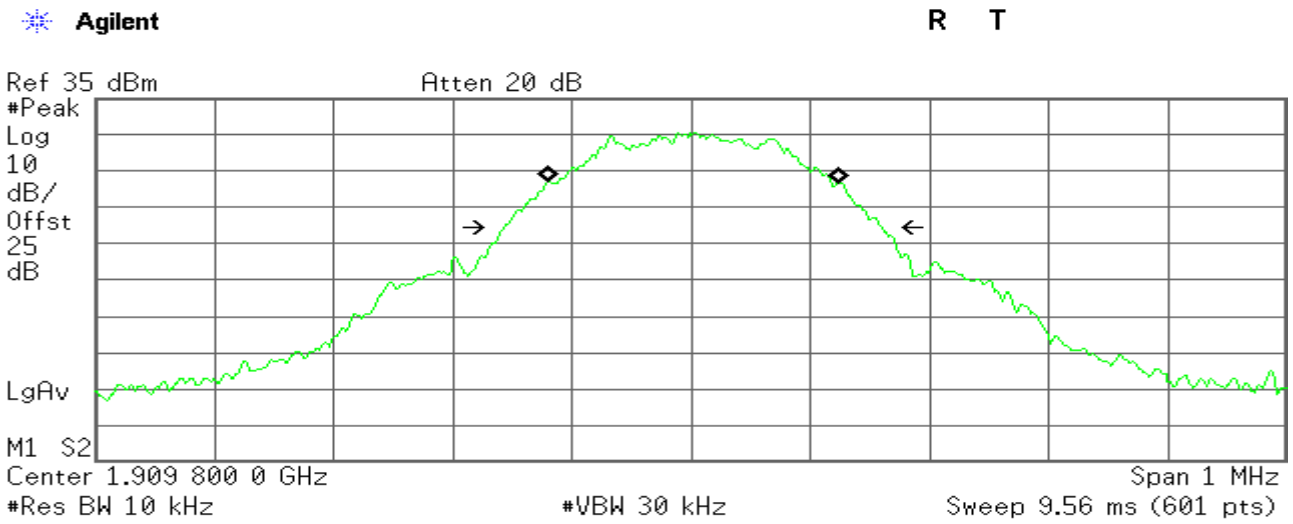


Occupied Bandwidth
245.1202 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -170.912 Hz
x dB Bandwidth 321.626 kHz

GSM 1900 (CH High)

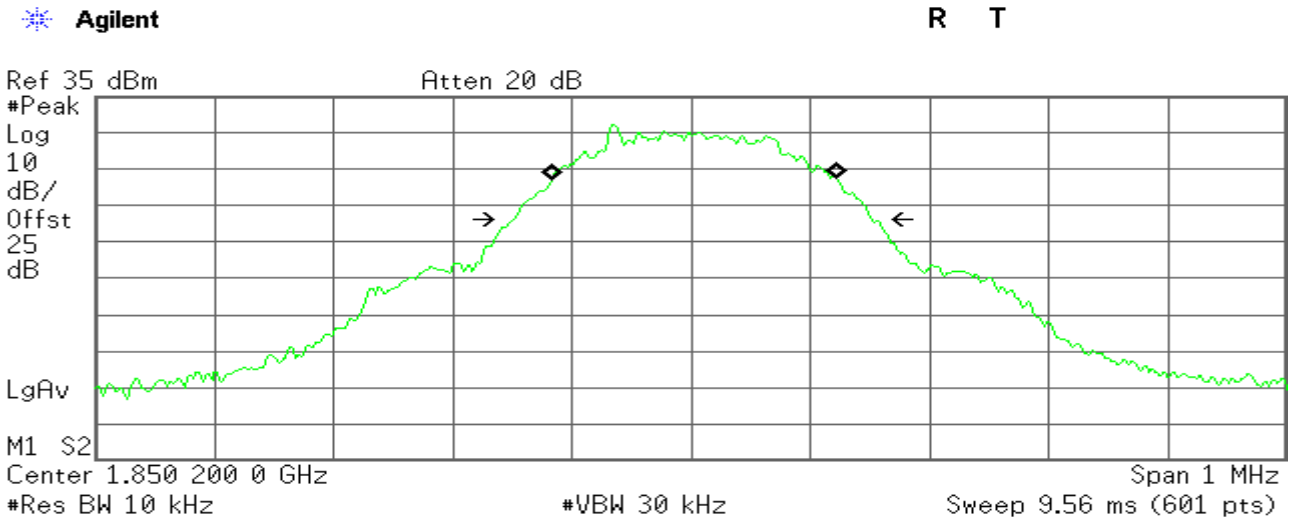


Occupied Bandwidth
245.9161 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.422 kHz
x dB Bandwidth 319.960 kHz

GPRS 1900 (CH Low)

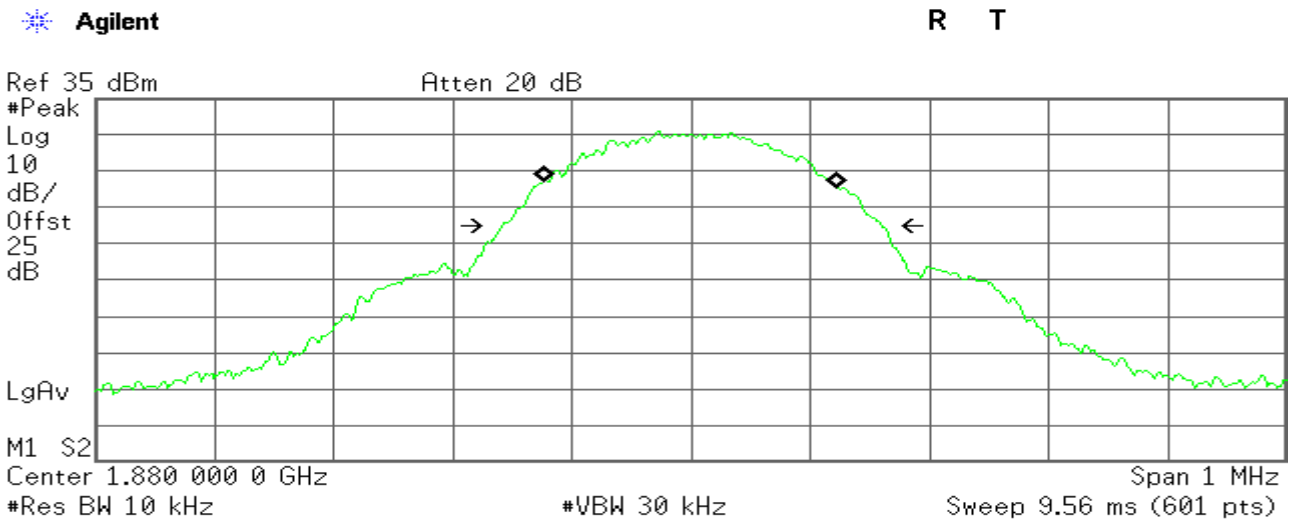


Occupied Bandwidth
241.3904 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 2.461 kHz
x dB Bandwidth 303.618 kHz

GPRS 1900 (CH Mid)

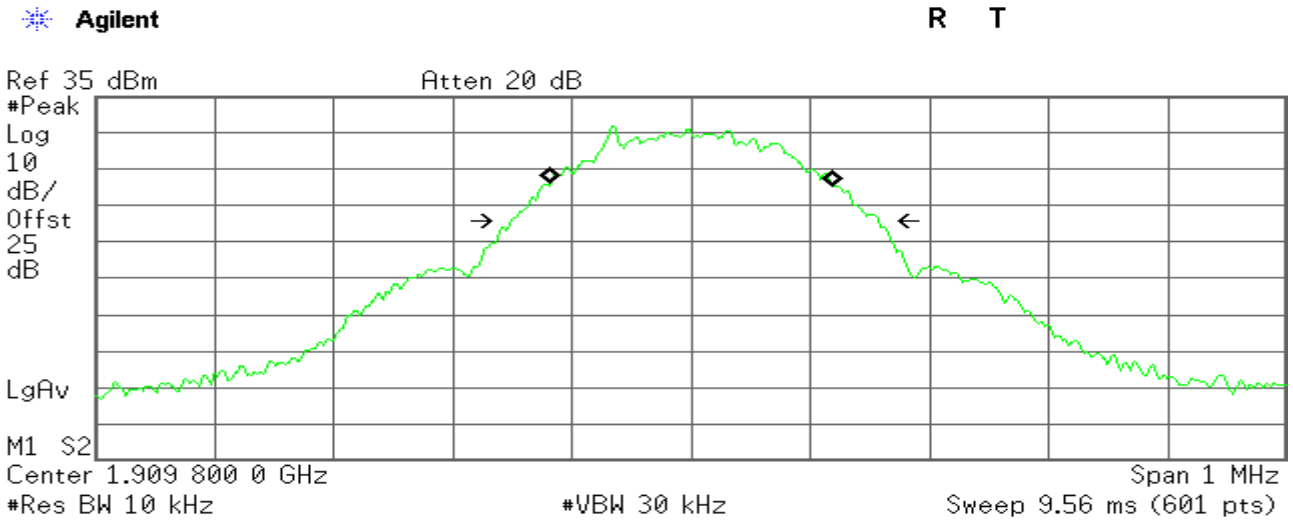


Occupied Bandwidth
248.2193 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.238 kHz
x dB Bandwidth 322.186 kHz

GPRS 1900 (CH High)

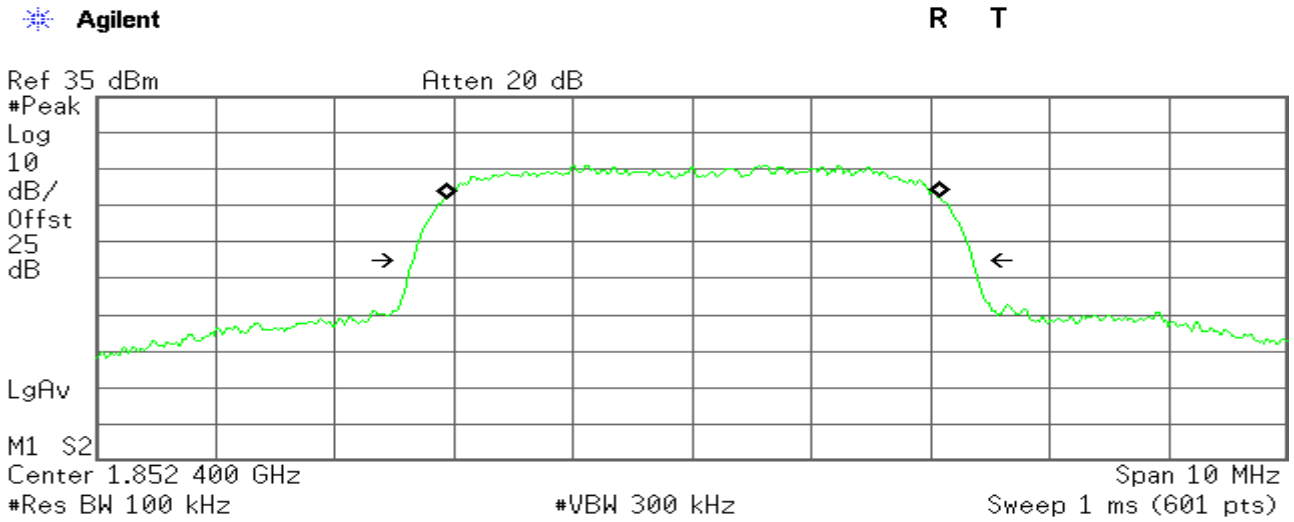


Occupied Bandwidth
239.8582 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

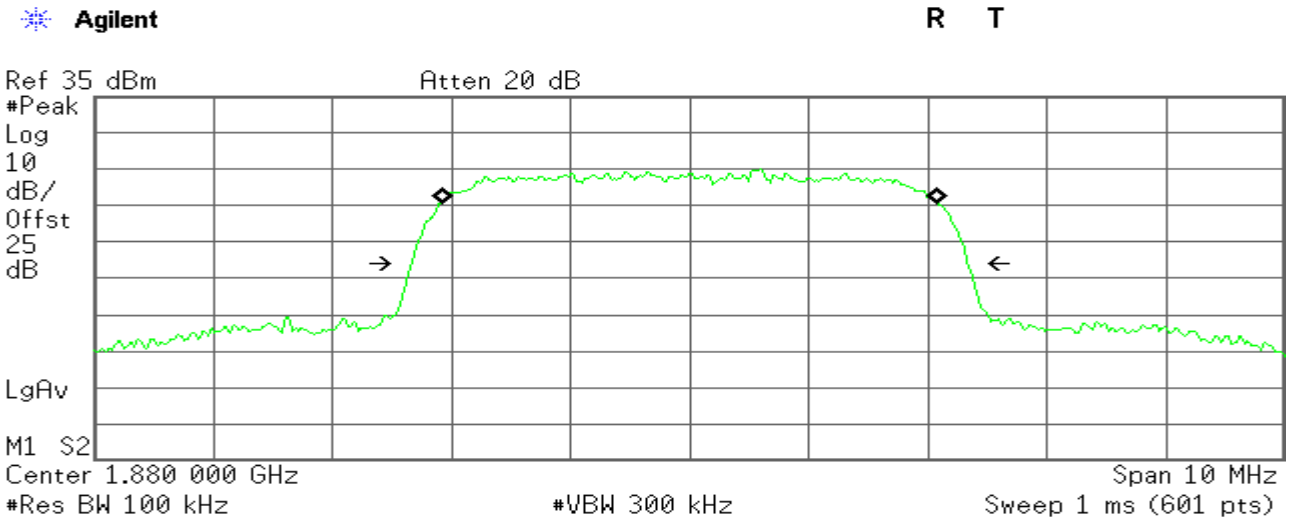
Transmit Freq Error 711.214 Hz
x dB Bandwidth 311.342 kHz

WCDMA Band II (CH Low)



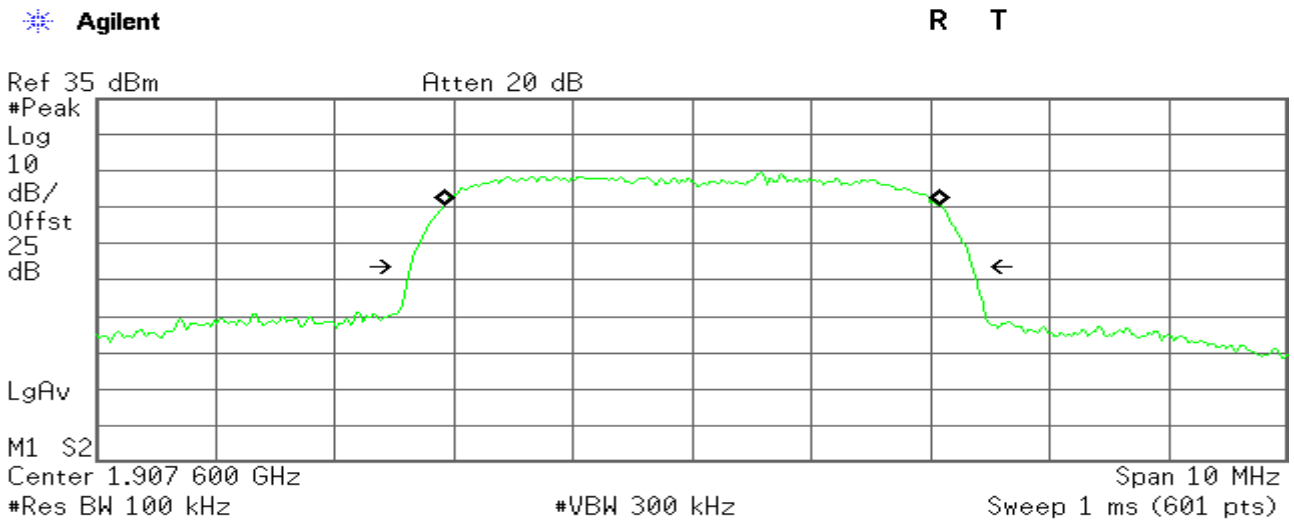
Transmit Freq Error	6.877 kHz
x dB Bandwidth	4.704 MHz

WCDMA Band II (CH Mid)



Transmit Freq Error	4.821 kHz
x dB Bandwidth	4.687 MHz

WCDMA Band II (CH High)

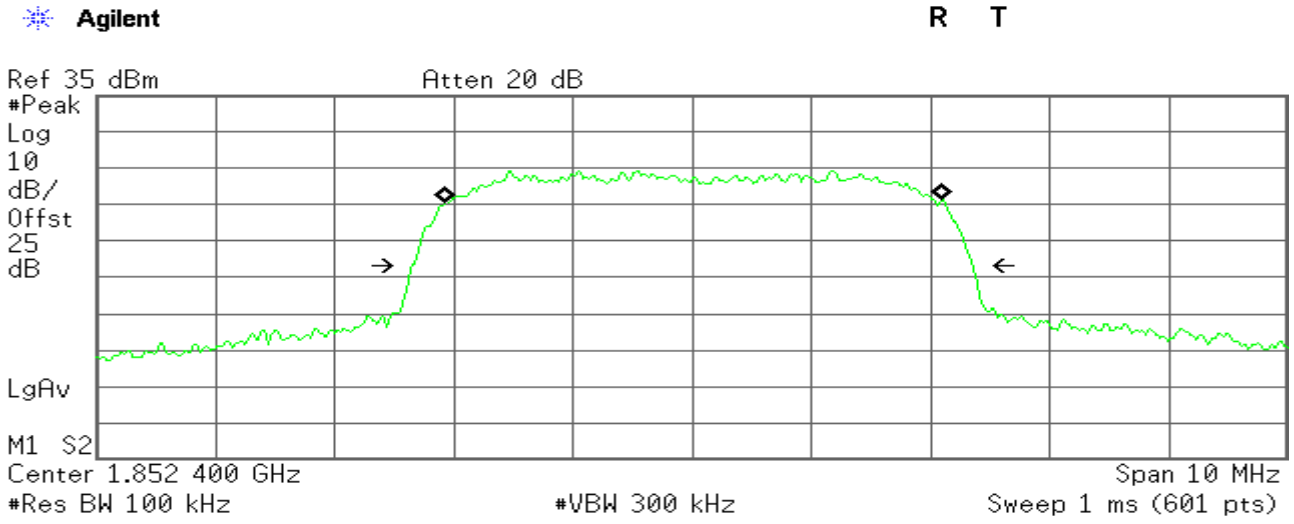


Occupied Bandwidth
4.1660 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -2.488 kHz
x dB Bandwidth 4.727 MHz

HSDPA Band II (CH Low)

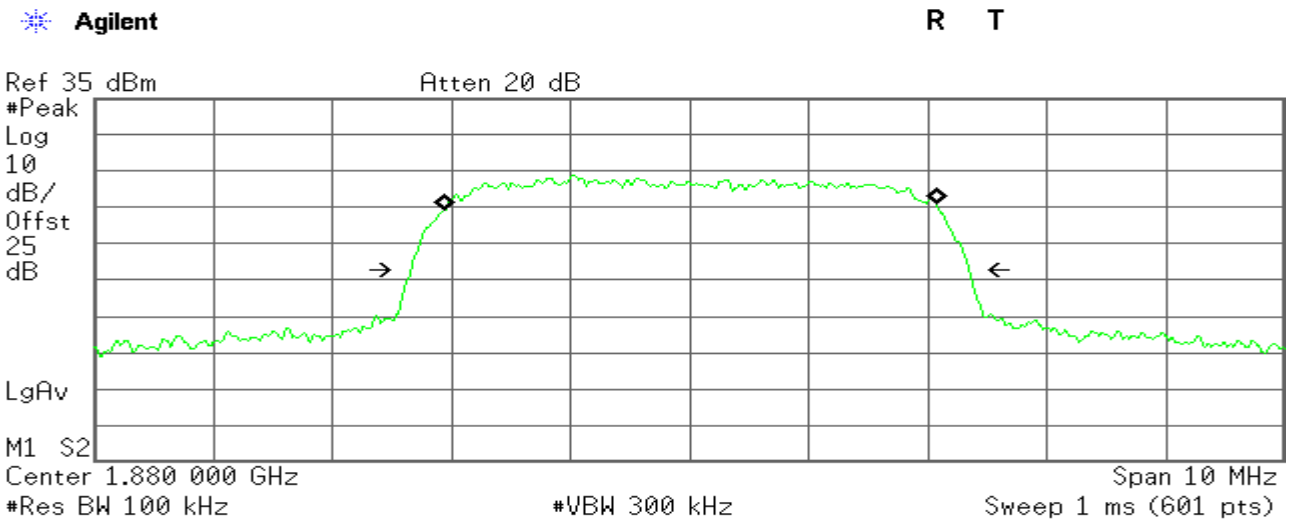


Occupied Bandwidth
4.1835 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 11.028 kHz
x dB Bandwidth 4.717 MHz

HSDPA Band II (CH Mid)

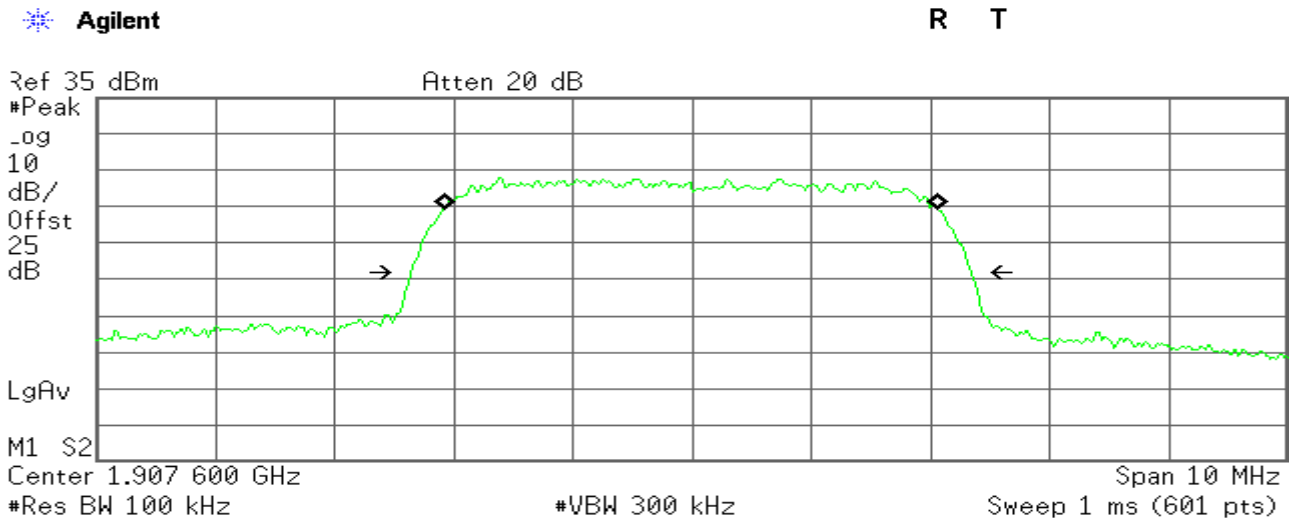


Occupied Bandwidth
4.1546 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 2.990 kHz
x dB Bandwidth 4.700 MHz

HSDPA Band II (CH High)

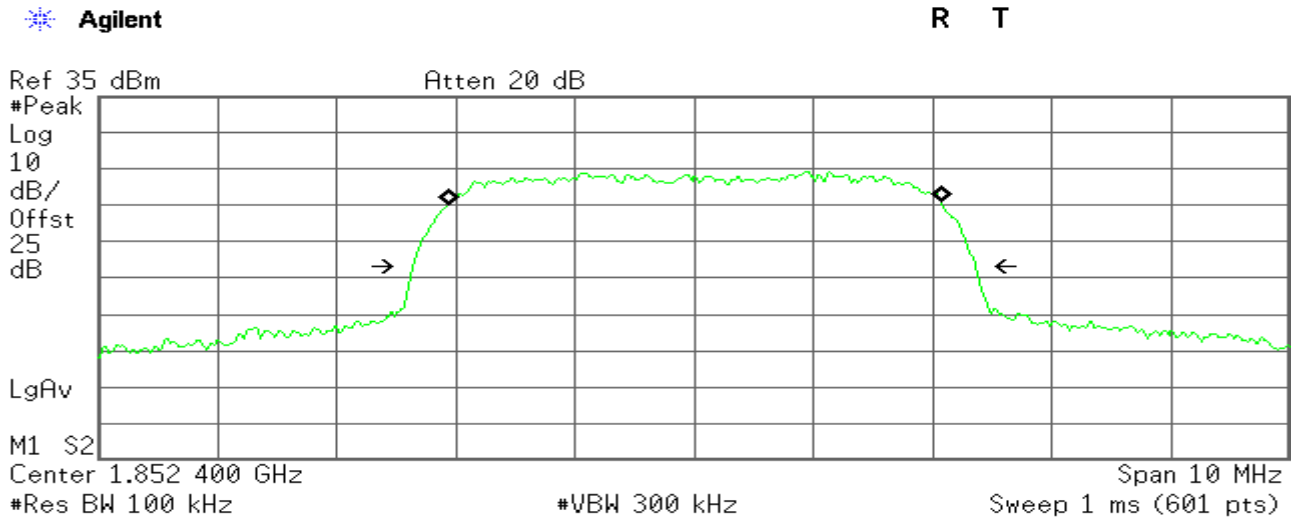


Occupied Bandwidth
4.1533 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -10.780 kHz
x dB Bandwidth 4.712 MHz

HSUPA Band II (CH Low)

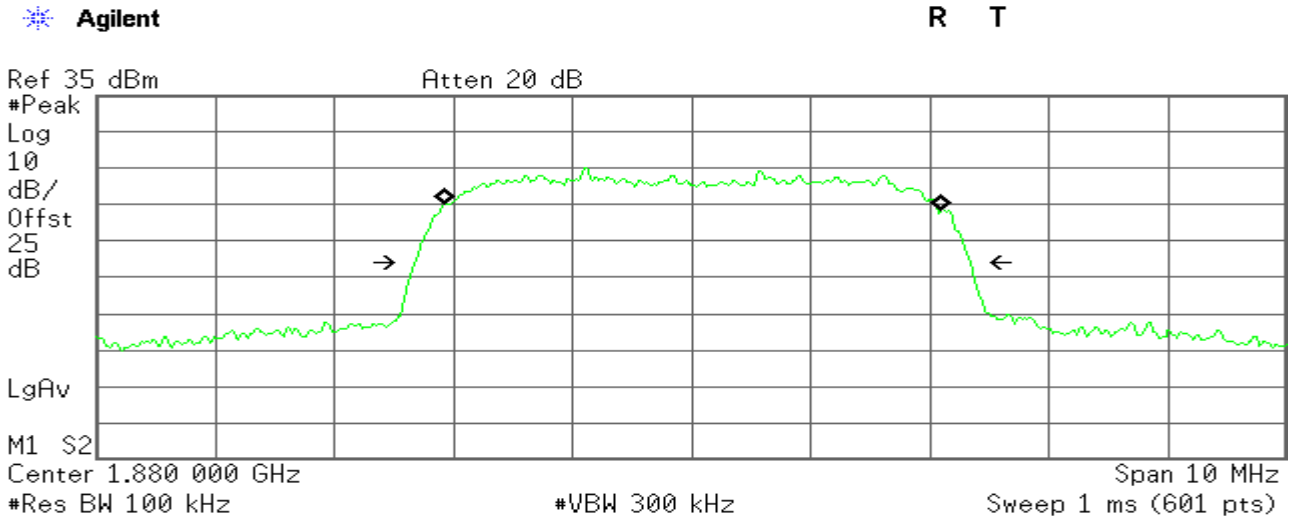


Occupied Bandwidth
4.1471 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.722 kHz
x dB Bandwidth 4.731 MHz

HSUPA Band II (CH Mid)

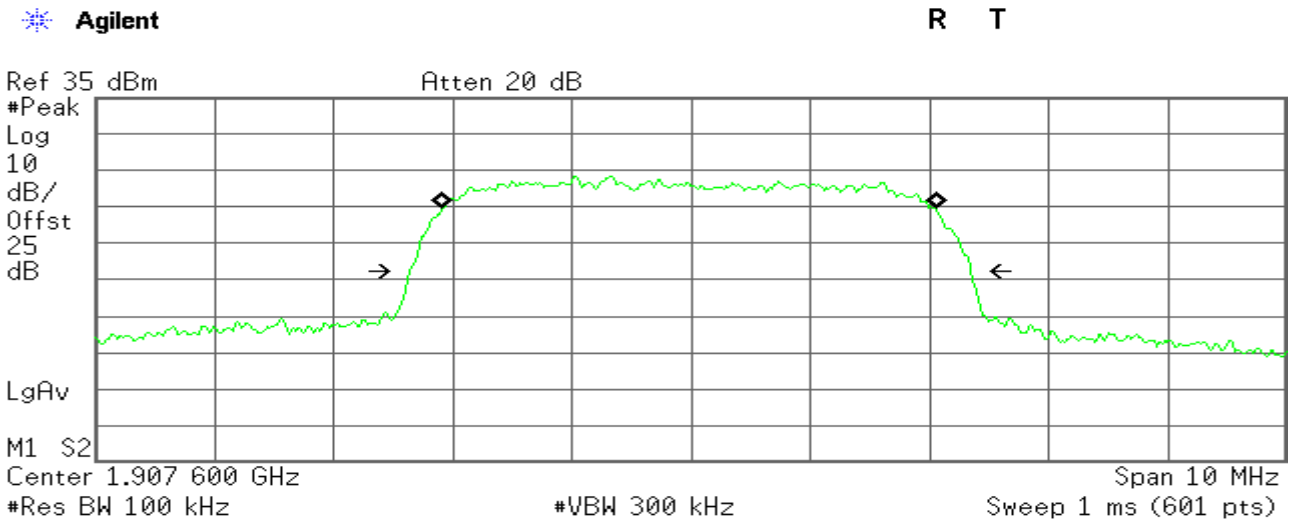


Occupied Bandwidth
4.1820 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 8.576 kHz
x dB Bandwidth 4.678 MHz

HSUPA Band II (CH High)

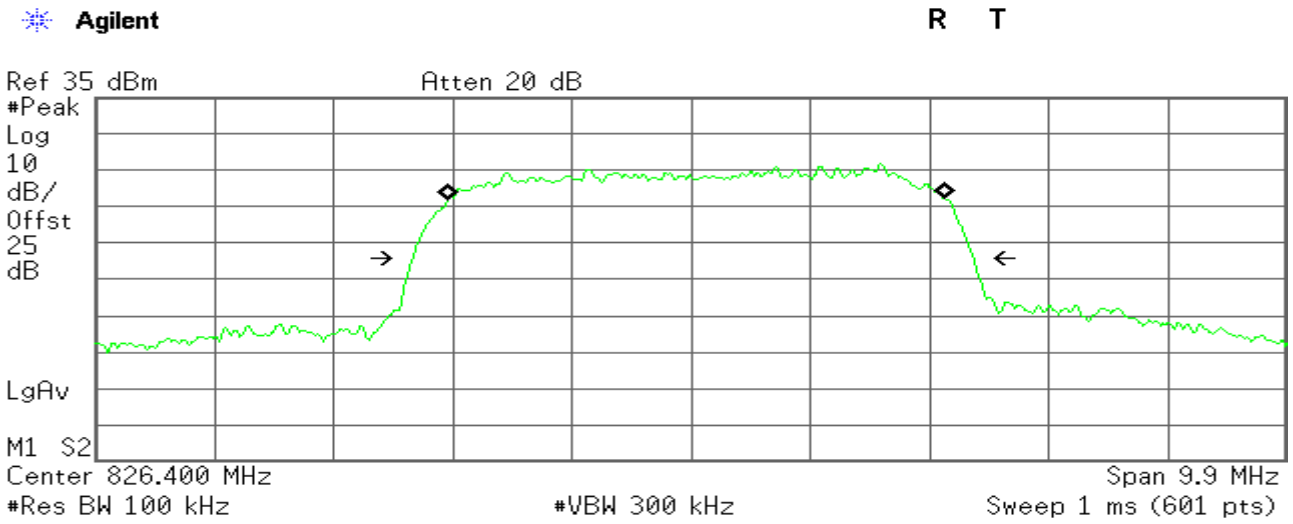


Occupied Bandwidth
4.1578 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -20.531 kHz
x dB Bandwidth 4.720 MHz

WCDMA Band V (CH Low)

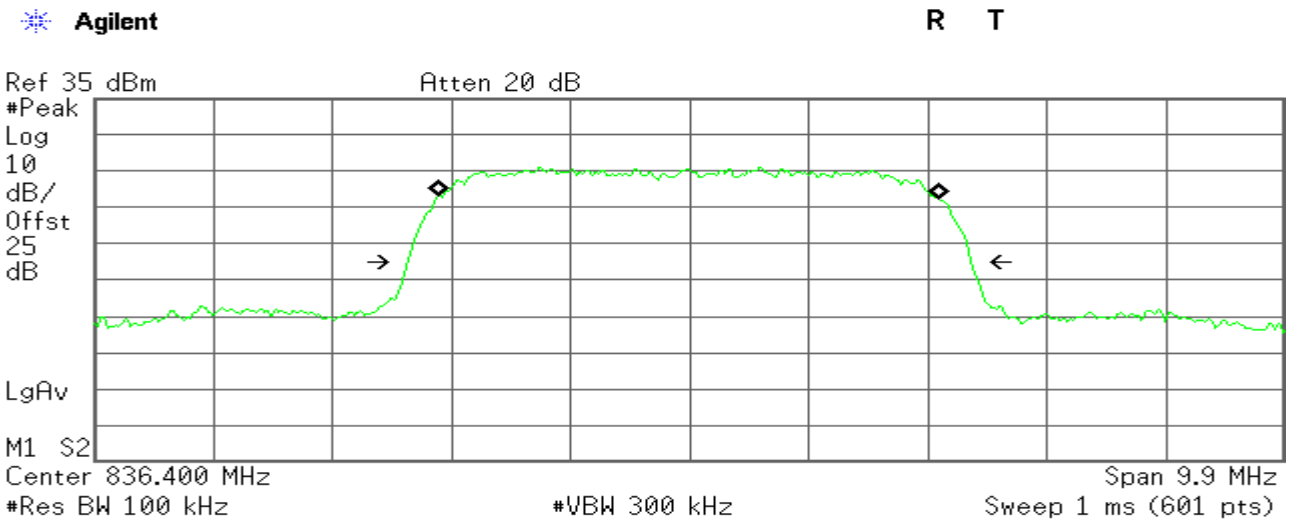


Occupied Bandwidth
4.1471 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 40.795 kHz
x dB Bandwidth 4.677 MHz

WCDMA Band V (CH Mid)

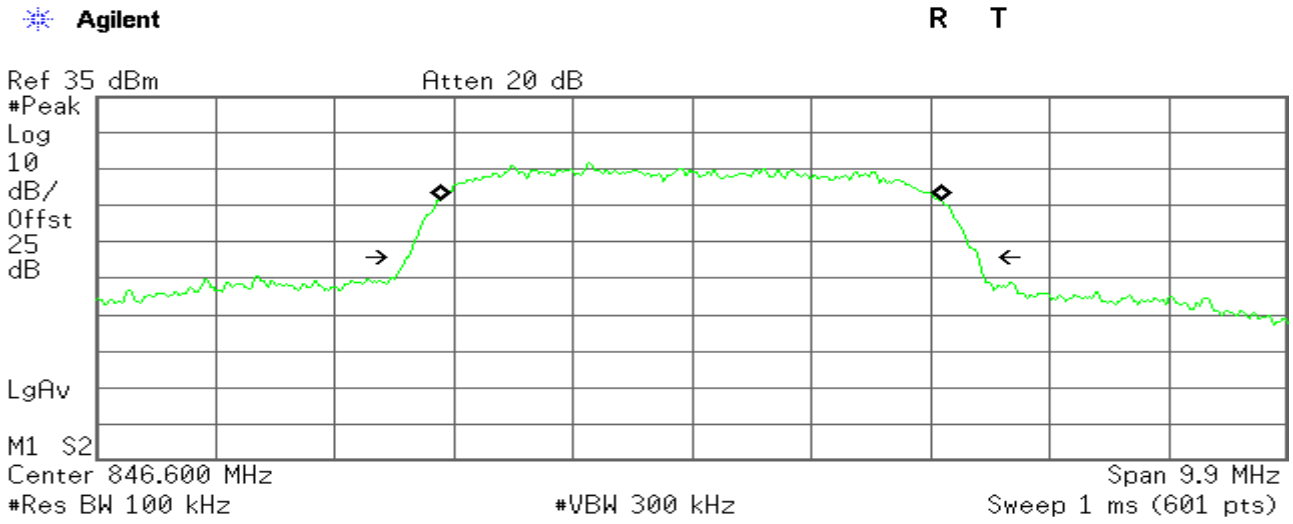


Occupied Bandwidth
4.1719 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -4.672 kHz
x dB Bandwidth 4.697 MHz

WCDMA Band V (CH High)

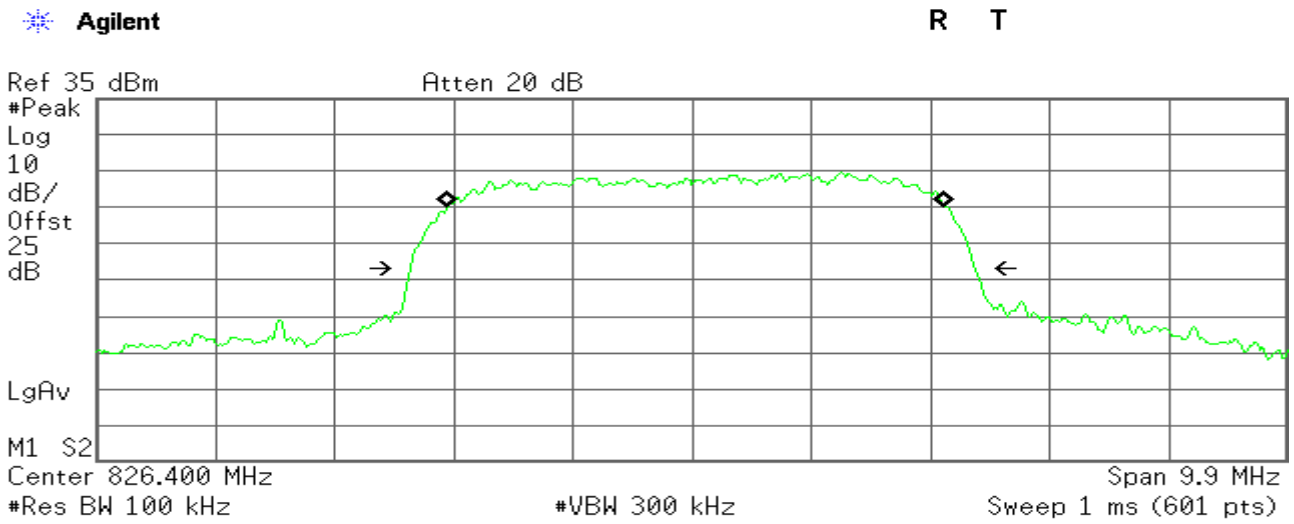


Occupied Bandwidth
4.1757 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -15.418 kHz
x dB Bandwidth 4.765 MHz

HSDPA Band V (CH Low)

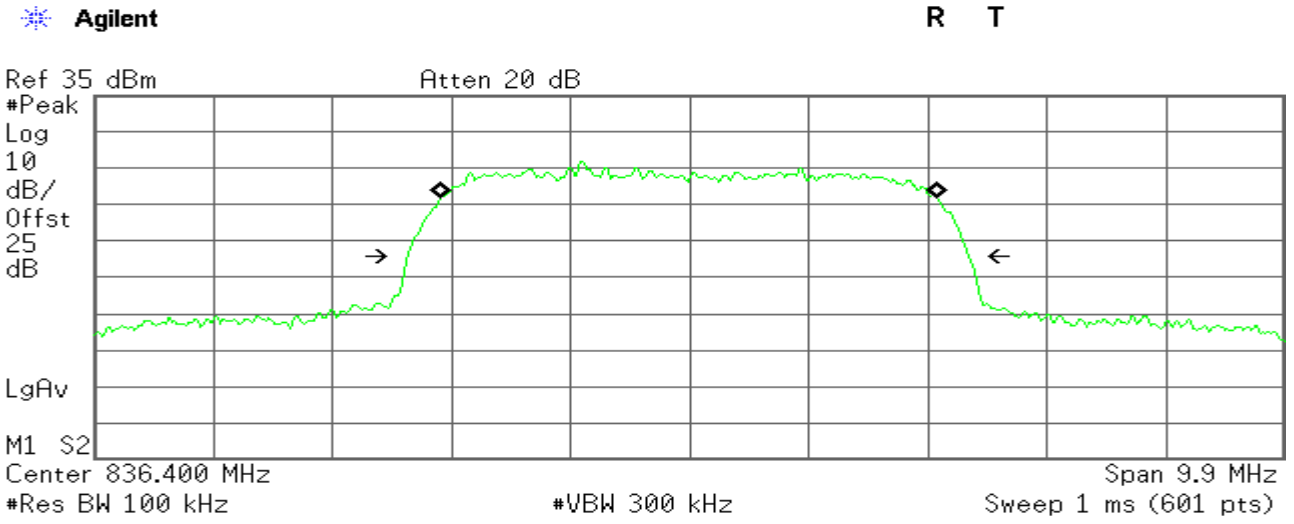


Occupied Bandwidth
4.1424 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 26.081 kHz
x dB Bandwidth 4.696 MHz

HSDPA Band V (CH Mid)

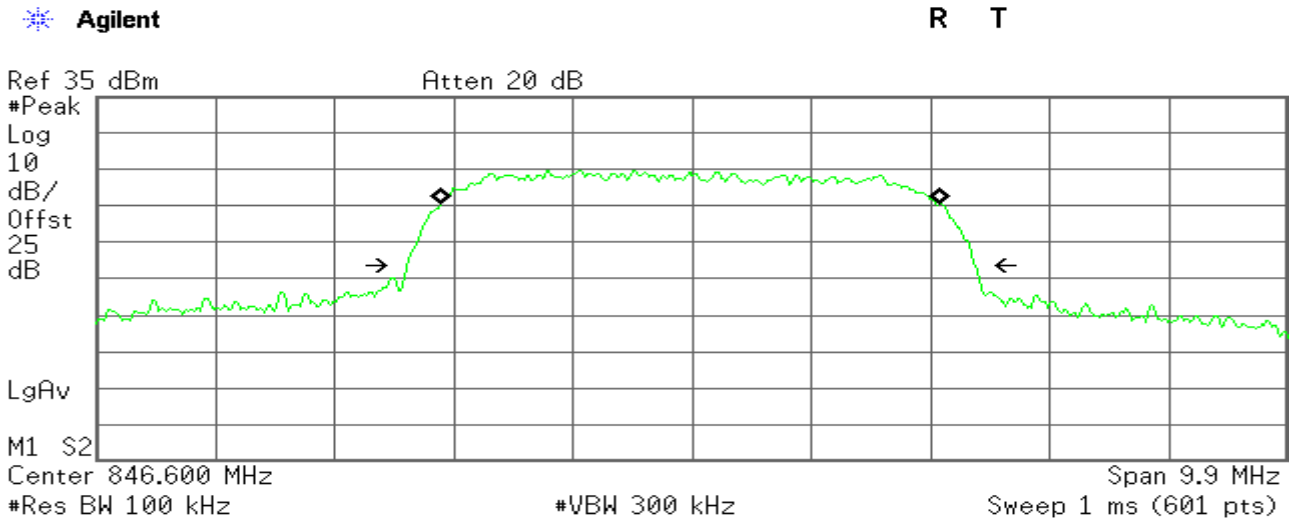


Occupied Bandwidth
4.1452 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

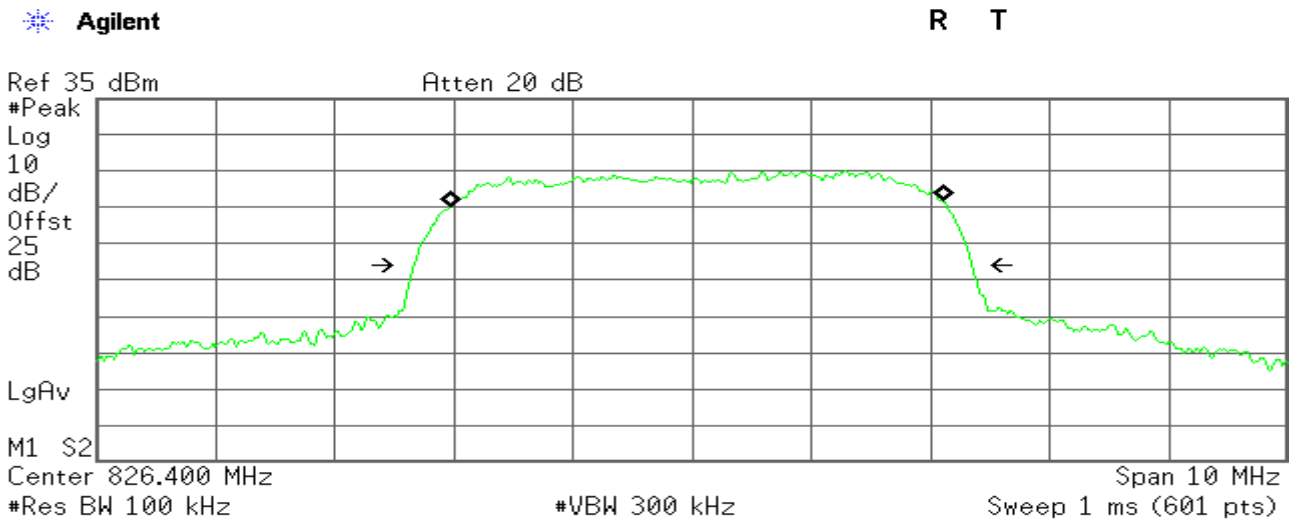
Transmit Freq Error -4.319 kHz
x dB Bandwidth 4.679 MHz

HSDPA Band V (CH High)



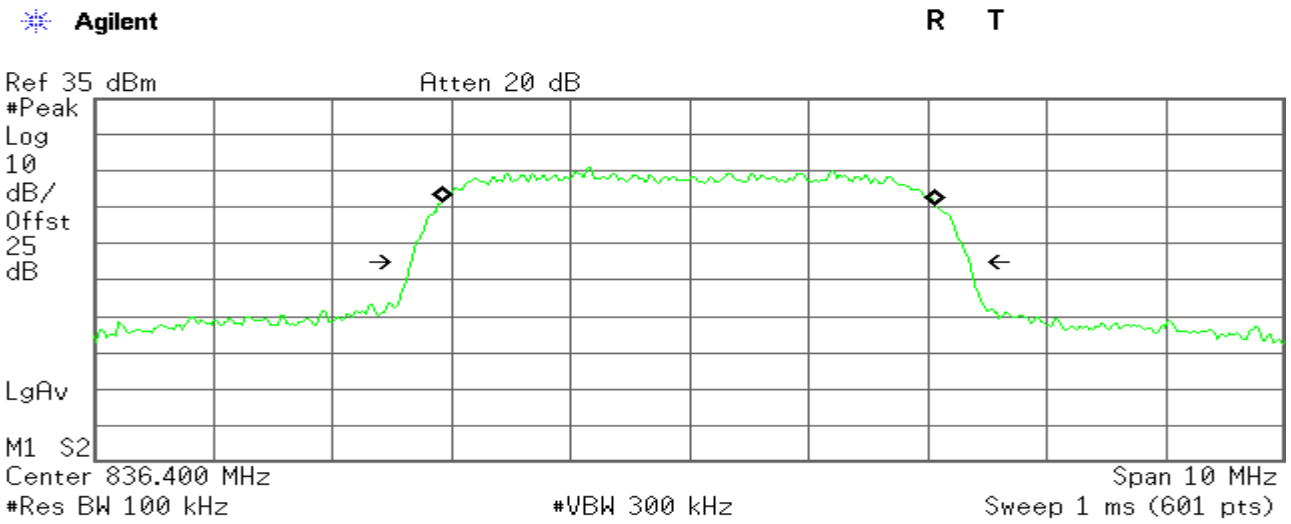
Transmit Freq Error -13.637 kHz
x dB Bandwidth 4.729 MHz

HSUPA Band V (CH Low)



Transmit Freq Error 35.838 kHz
x dB Bandwidth 4.698 MHz

HSUPA Band V (CH Mid)

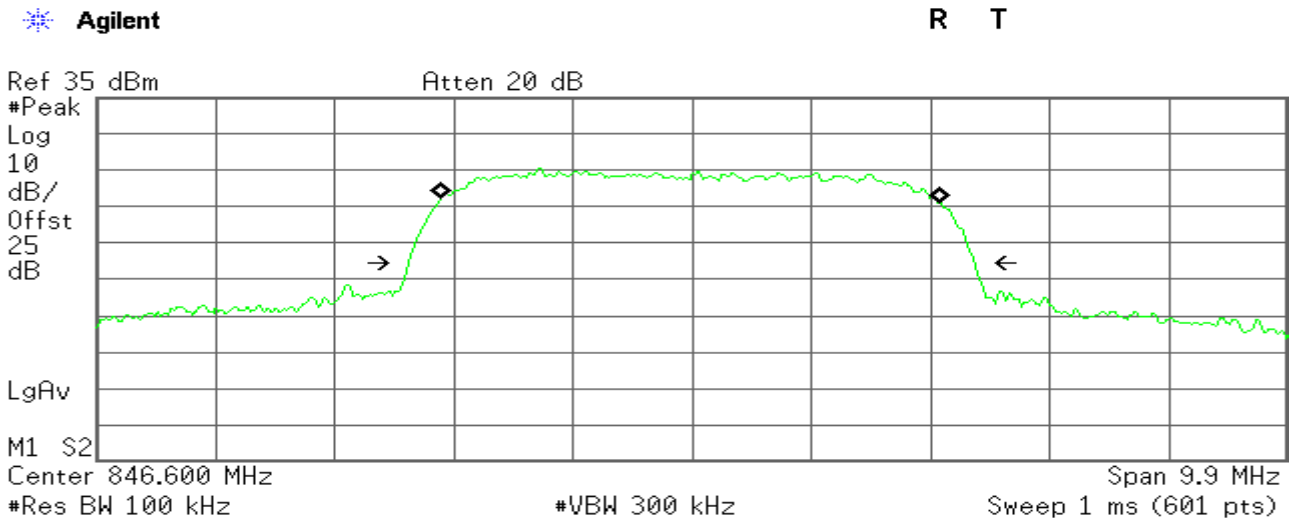


Occupied Bandwidth
4.1584 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -8.602 kHz
x dB Bandwidth 4.702 MHz

HSUPA Band V (CH High)



Occupied Bandwidth
4.1642 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -16.509 kHz
x dB Bandwidth 4.715 MHz

7.5. OUT OF BAND EMISSION AT ANTENNA TERMINALS

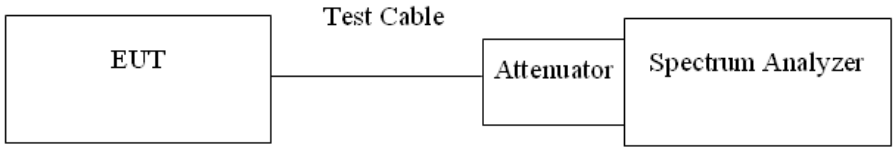
LIMIT

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

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

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

TEST CONFIGURATION



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 3-1	Band Edge emissions
	251	Figure 3-2	Band Edge emissions

Mode	CH	Location	Description
GPRS 850	128	Figure 4-1	Band Edge emissions
	251	Figure 4-2	Band Edge emissions

Mode	CH	Location	Description
GSM 1900	512	Figure 6-1	Band Edge emissions
	810	Figure 6-2	Band Edge emissions

Mode	CH	Location	Description
GPRS 1900	512	Figure 7-1	Band Edge emissions
	810	Figure 7-2	Band Edge emissions

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 9-1	Band Edge emissions
	9538	Figure 9-2	Band Edge emissions

Mode	CH	Location	Description
HSDPA (Band II)	9262	Figure 10-1	Band Edge emissions
	9538	Figure 10-2	Band Edge emissions

Mode	CH	Location	Description
HSUPA (Band II)	9262	Figure 11-1	Band Edge emissions
	9538	Figure 11-2	Band Edge emissions

Mode	CH	Location	Description
WCDMA (Band V)	4132	Figure 12-1	Band Edge emissions
	4233	Figure 12-2	Band Edge emissions

Mode	CH	Location	Description
HSDPA (Band V)	4132	Figure 13-1	Band Edge emissions
	4233	Figure 13-2	Band Edge emissions

Mode	CH	Location	Description
HSUPA (Band V)	4132	Figure 14-1	Band Edge emissions
	4233	Figure 14-2	Band Edge emissions

Mode	CH	Location	Description
GSM 850	128	Figure 15-1	Conducted spurious emissions, 30MHz - 9GHz
	190	Figure 15-2	Conducted spurious emissions, 30MHz - 9GHz
	251	Figure 15-3	Conducted spurious emissions, 30MHz - 9GHz

Mode	CH	Location	Description
GPRS 850	128	Figure 16-1	Conducted spurious emissions, 30MHz - 9GHz
	190	Figure 16-2	Conducted spurious emissions, 30MHz - 9GHz
	251	Figure 16-3	Conducted spurious emissions, 30MHz - 9GHz

Mode	CH	Location	Description
GSM 1900	512	Figure 18-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 18-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 18-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
GSM 1900	512	Figure 19-1	Conducted spurious emissions, 30MHz - 20GHz
	661	Figure 19-2	Conducted spurious emissions, 30MHz - 20GHz
	810	Figure 19-3	Conducted spurious emissions, 30MHz - 20GHz

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

Mode	CH	Location	Description
WCDMA (Band II)	9262	Figure 22-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 22-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 22-3	Conducted spurious emissions, 30MHz - 20GHz

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

Mode	CH	Location	Description
HSUPA (Band II)	9262	Figure 24-1	Conducted spurious emissions, 30MHz - 20GHz
	9400	Figure 24-2	Conducted spurious emissions, 30MHz - 20GHz
	9538	Figure 24-3	Conducted spurious emissions, 30MHz - 20GHz

Mode	CH	Location	Description
WCDMA (Band V)	4132	Figure 25-1	Conducted spurious emissions, 30MHz - 9GHz
	4182	Figure 25-2	Conducted spurious emissions, 30MHz - 9GHz
	4233	Figure 25-3	Conducted spurious emissions, 30MHz - 9GHz

Mode	CH	Location	Description
HSDPA (Band V)	4132	Figure 26-1	Conducted spurious emissions, 30MHz - 9GHz
	4182	Figure 26-2	Conducted spurious emissions, 30MHz - 9GHz
	4233	Figure 26-3	Conducted spurious emissions, 30MHz - 9GHz

Mode	CH	Location	Description
HSUPA (Band V)	4132	Figure 27-1	Conducted spurious emissions, 30MHz - 9GHz
	4182	Figure 27-2	Conducted spurious emissions, 30MHz - 9GHz
	4233	Figure 27-3	Conducted spurious emissions, 30MHz - 9GHz

Test Plot

GSM 850

Figure 3-1: Band Edge emissions – GSM CH Low

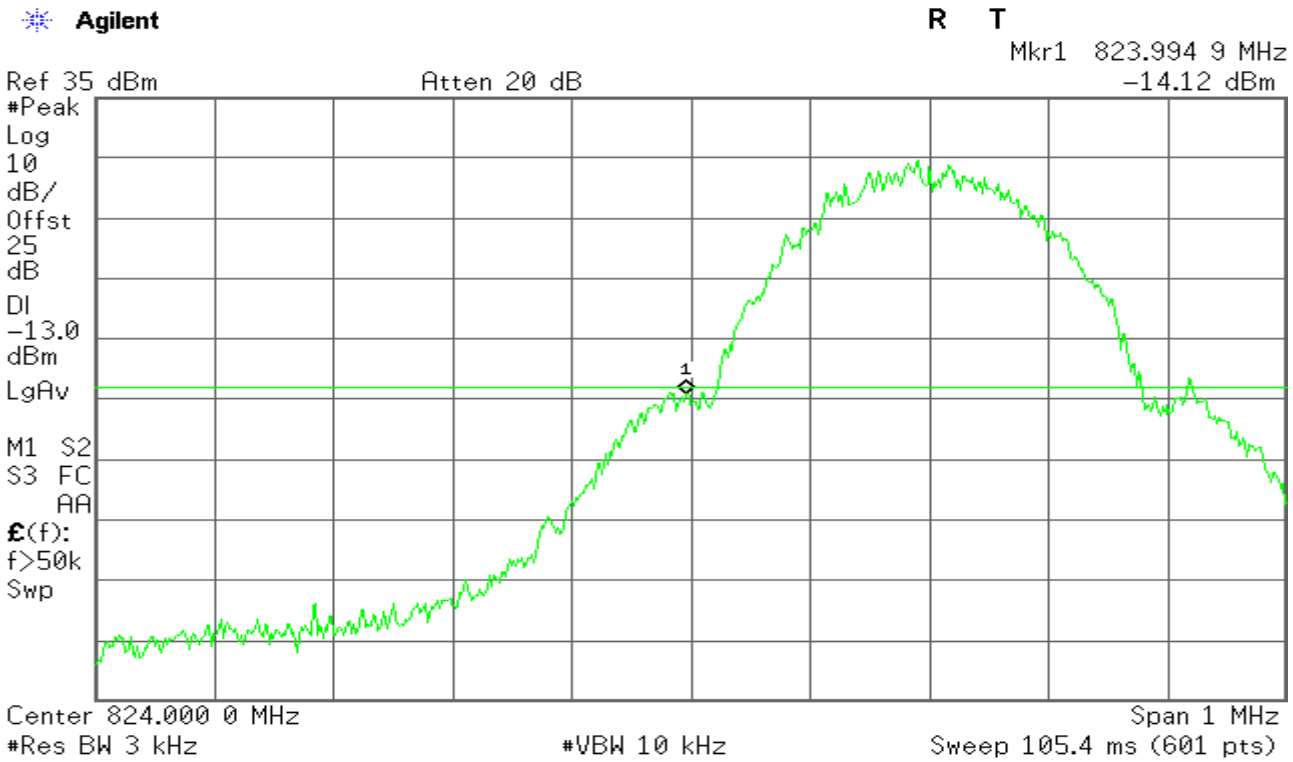
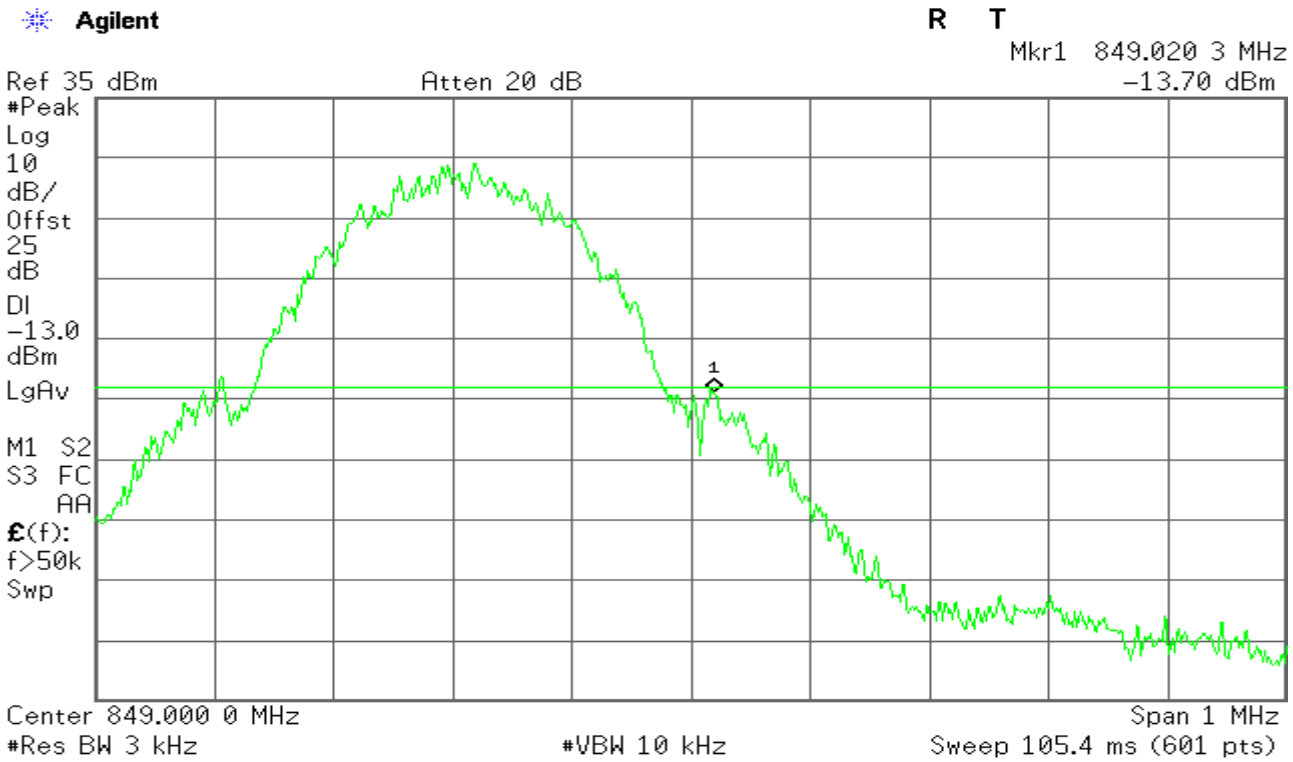


Figure 3-2: Band Edge emissions –GSM CH High



GPRS 850

Figure 4-1: Band Edge emissions – GPRS CH Low

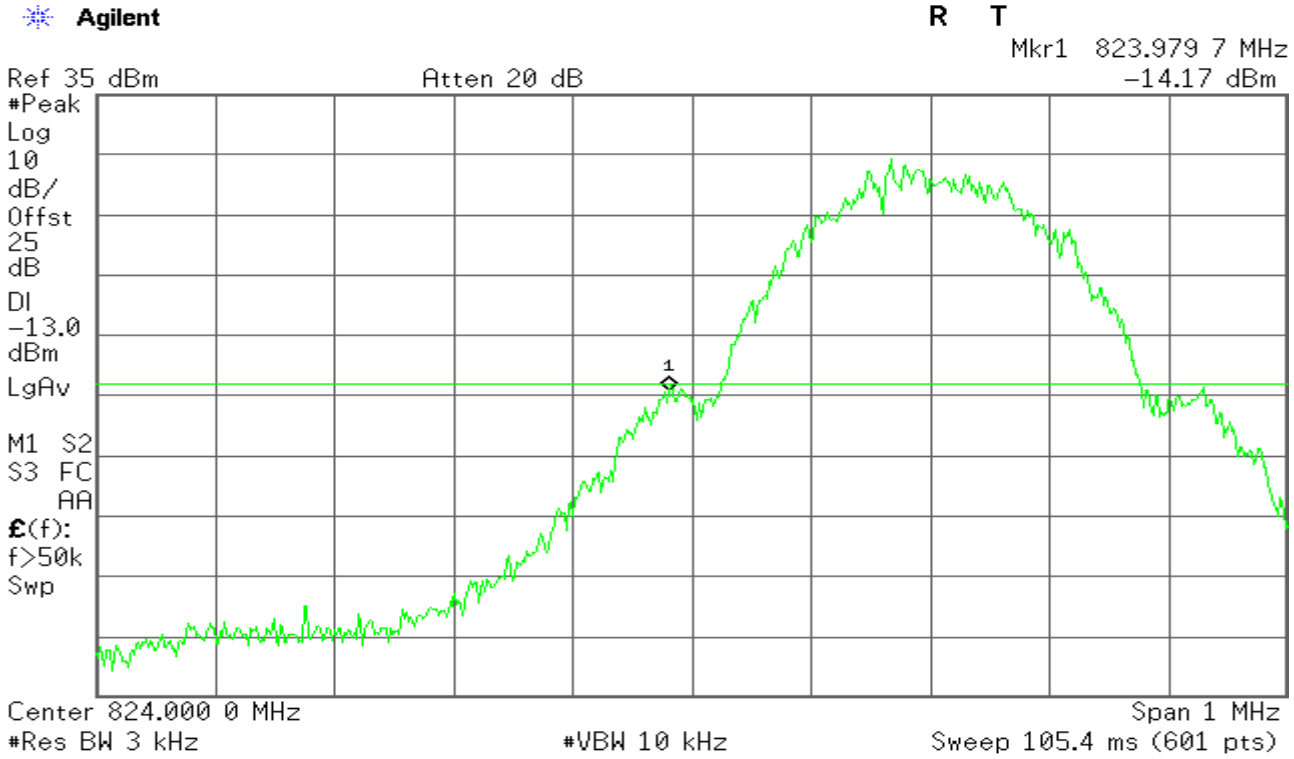
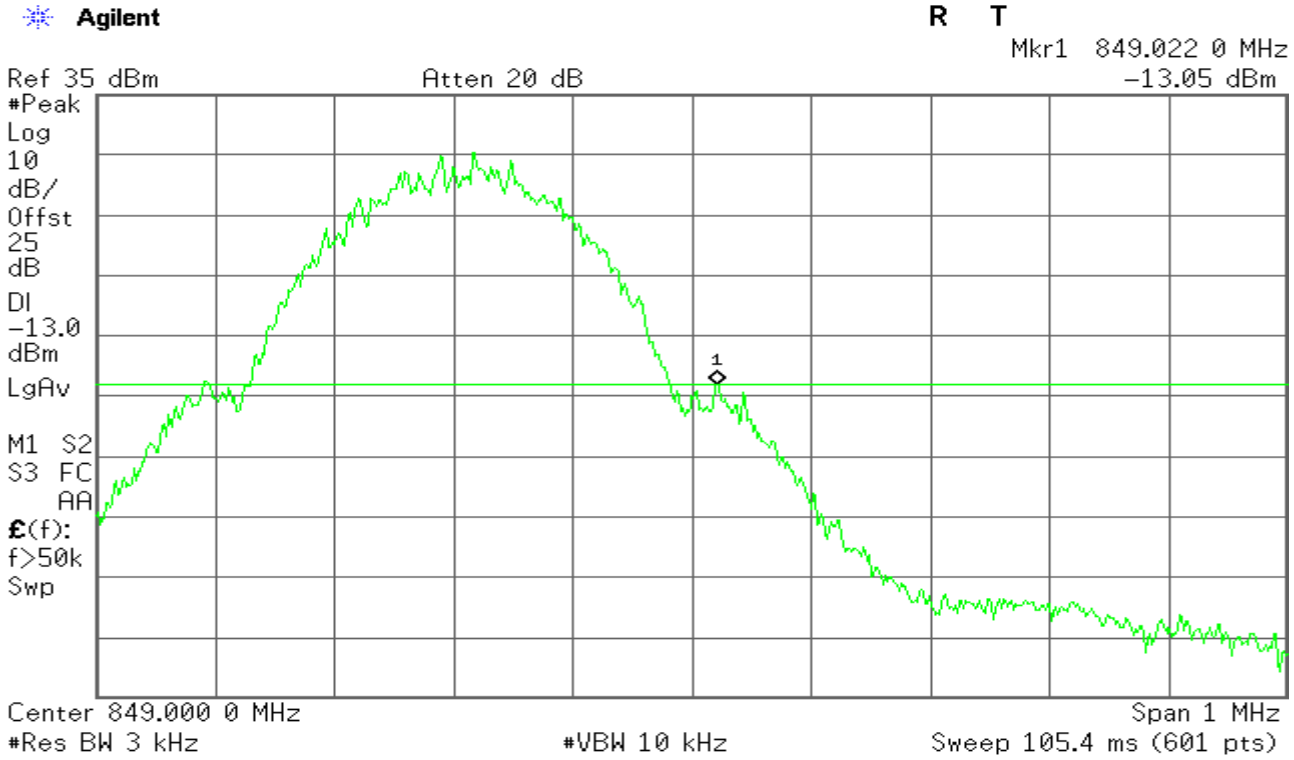


Figure 4-2: Band Edge emissions –GPRS CH High



GSM 1900

Figure 6-1: Band Edge emissions – GSM CH Low

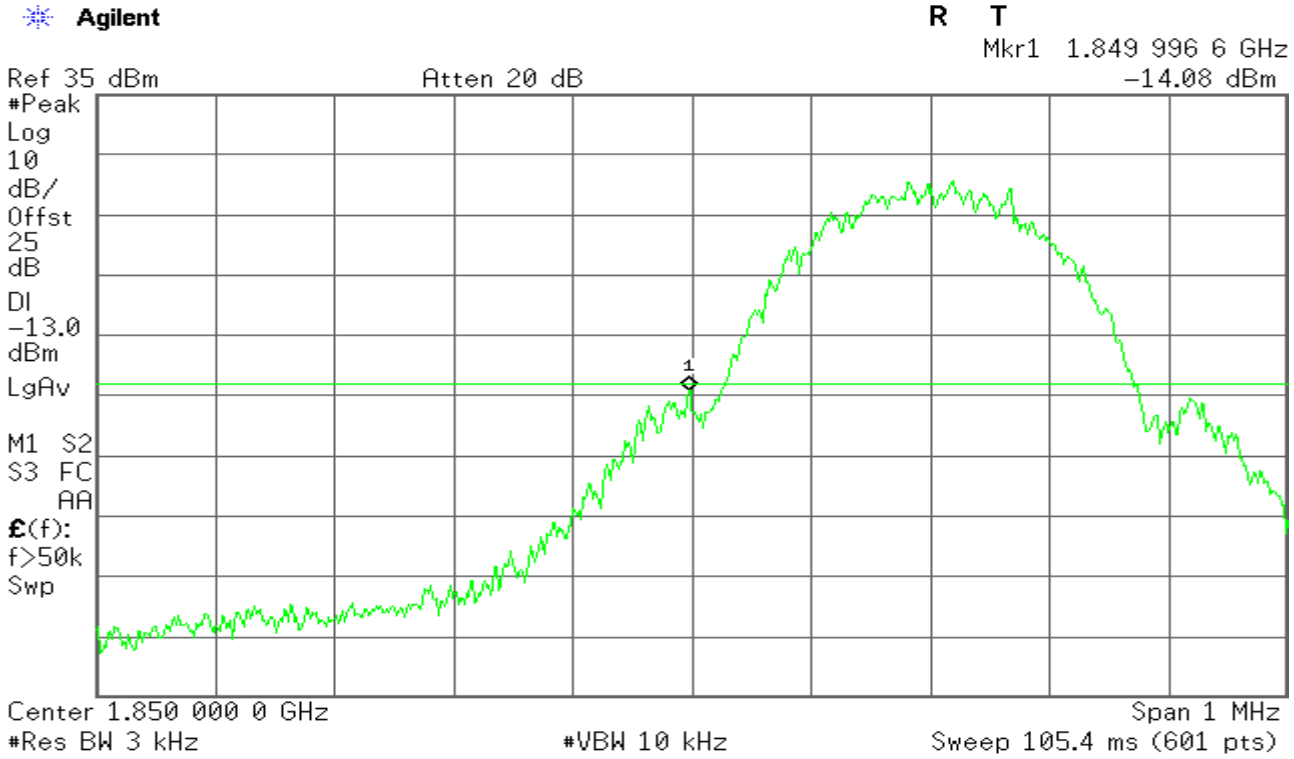
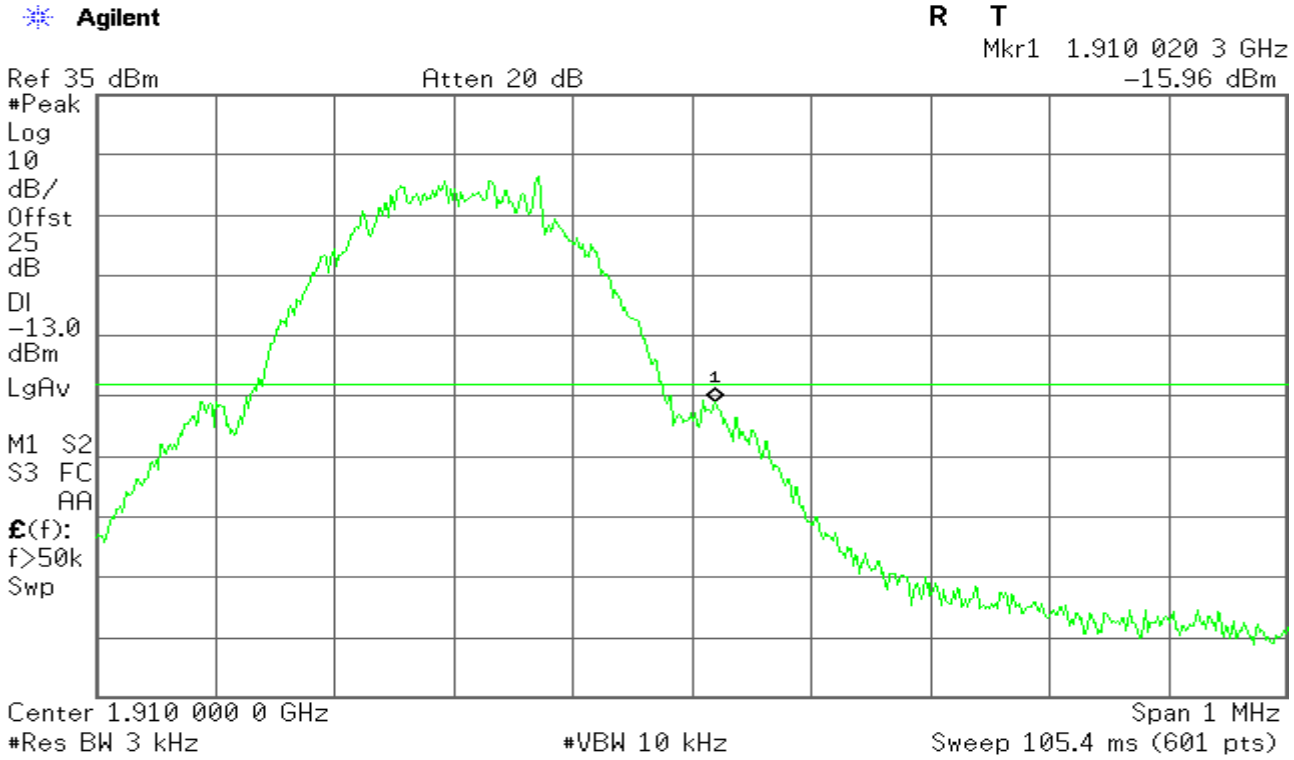


Figure 6-2: Band Edge emissions – GSM CH High



GPRS 1900

Figure 7-1: Band Edge emissions – GPRS CH Low

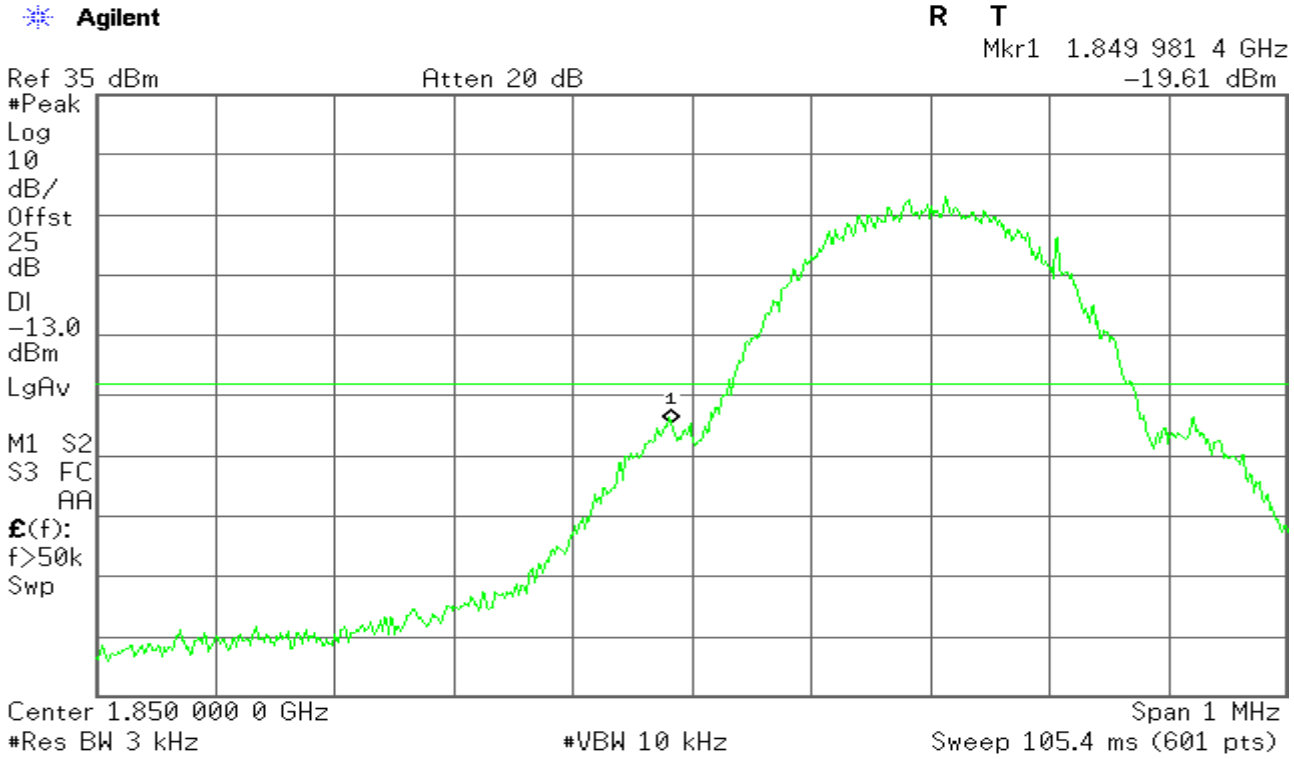
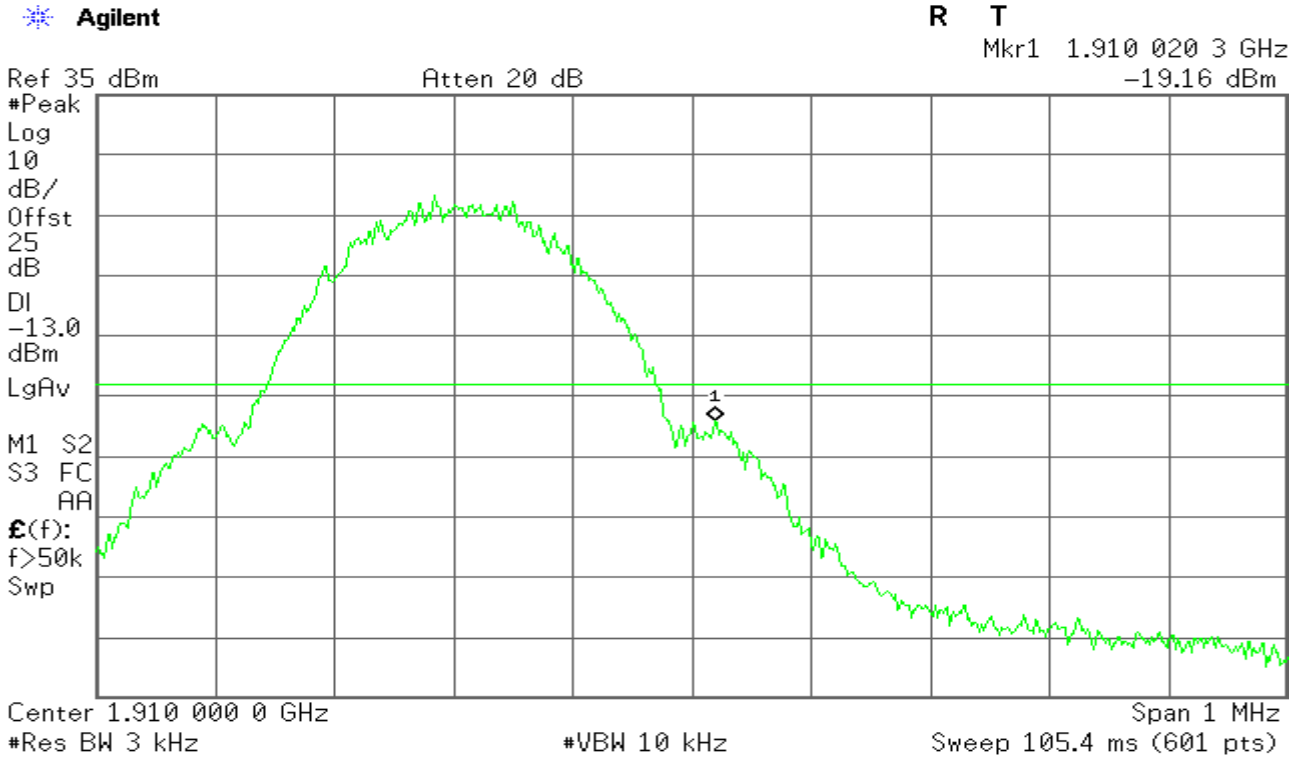


Figure 7-2: Band Edge emissions – GPRS CH High



WCDMA Band II

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

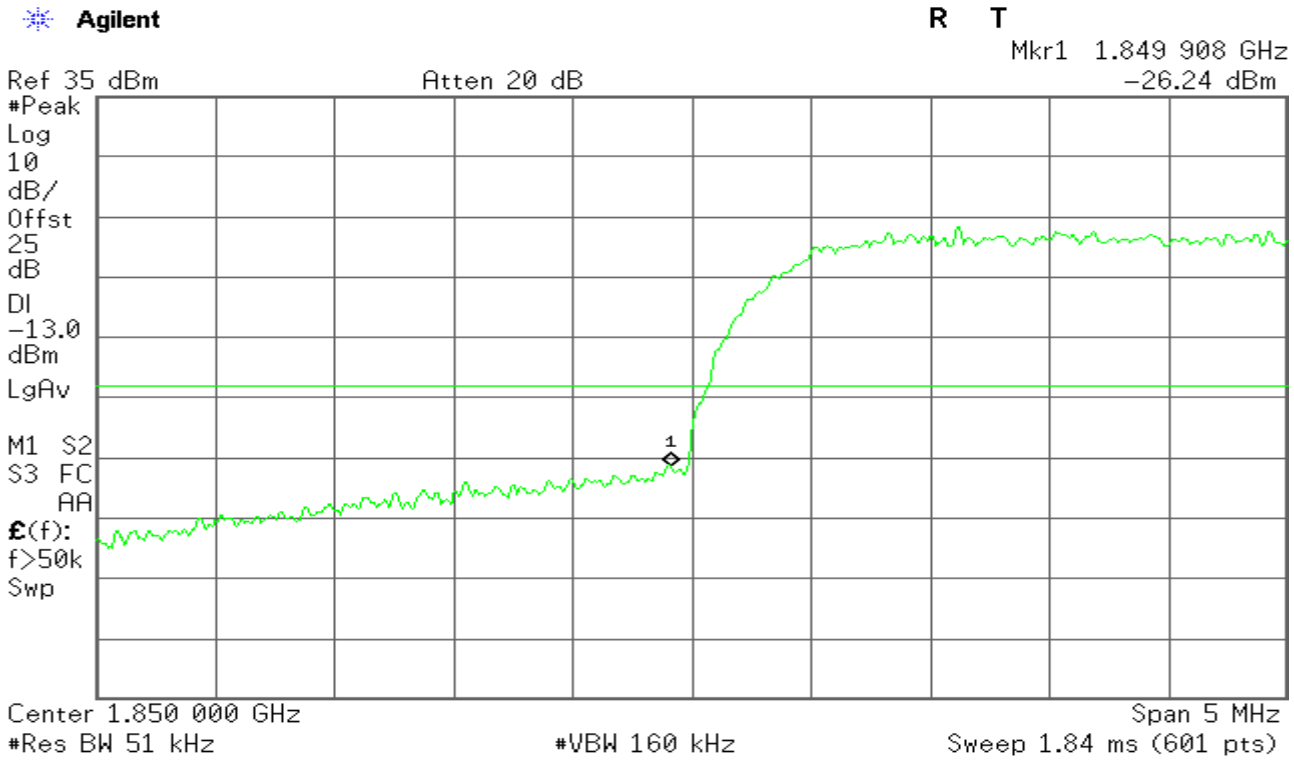
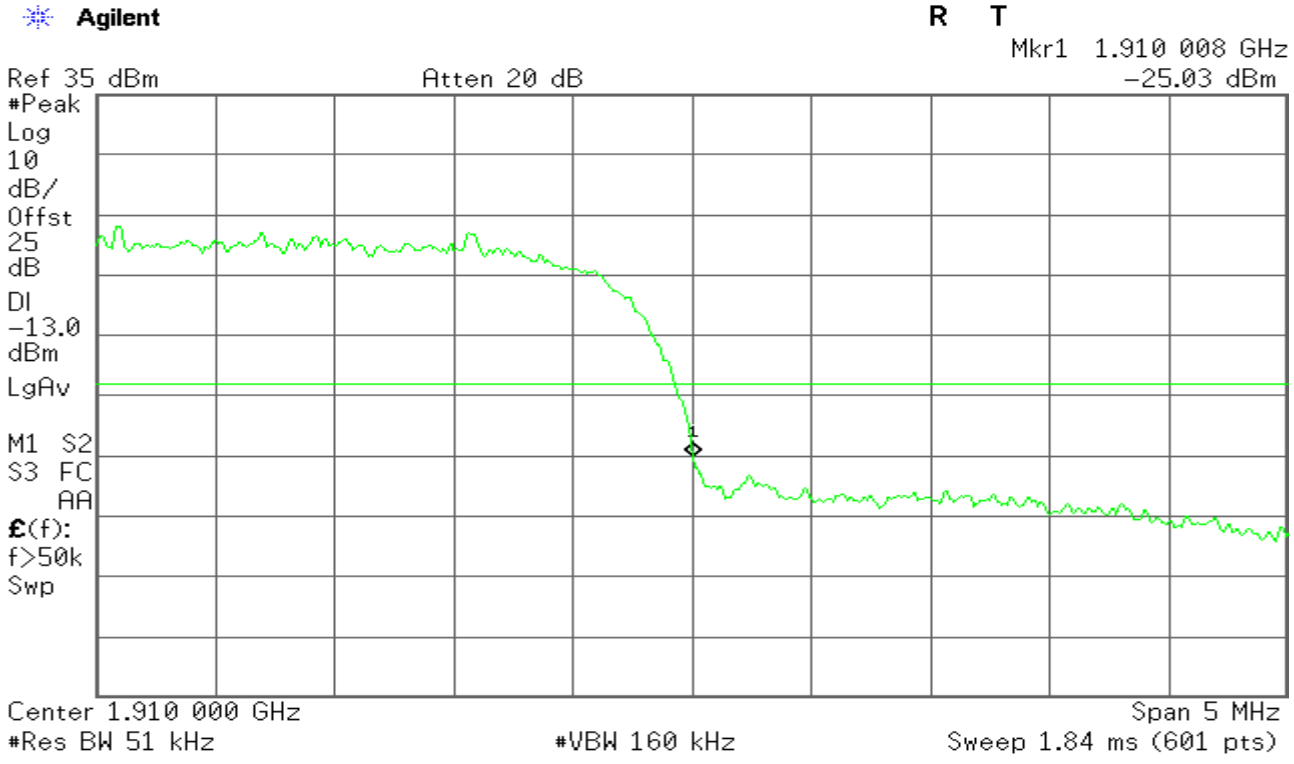


Figure 9-2: Band Edge emissions –WCDMA CH High



WCDMA Band HSDPA II

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

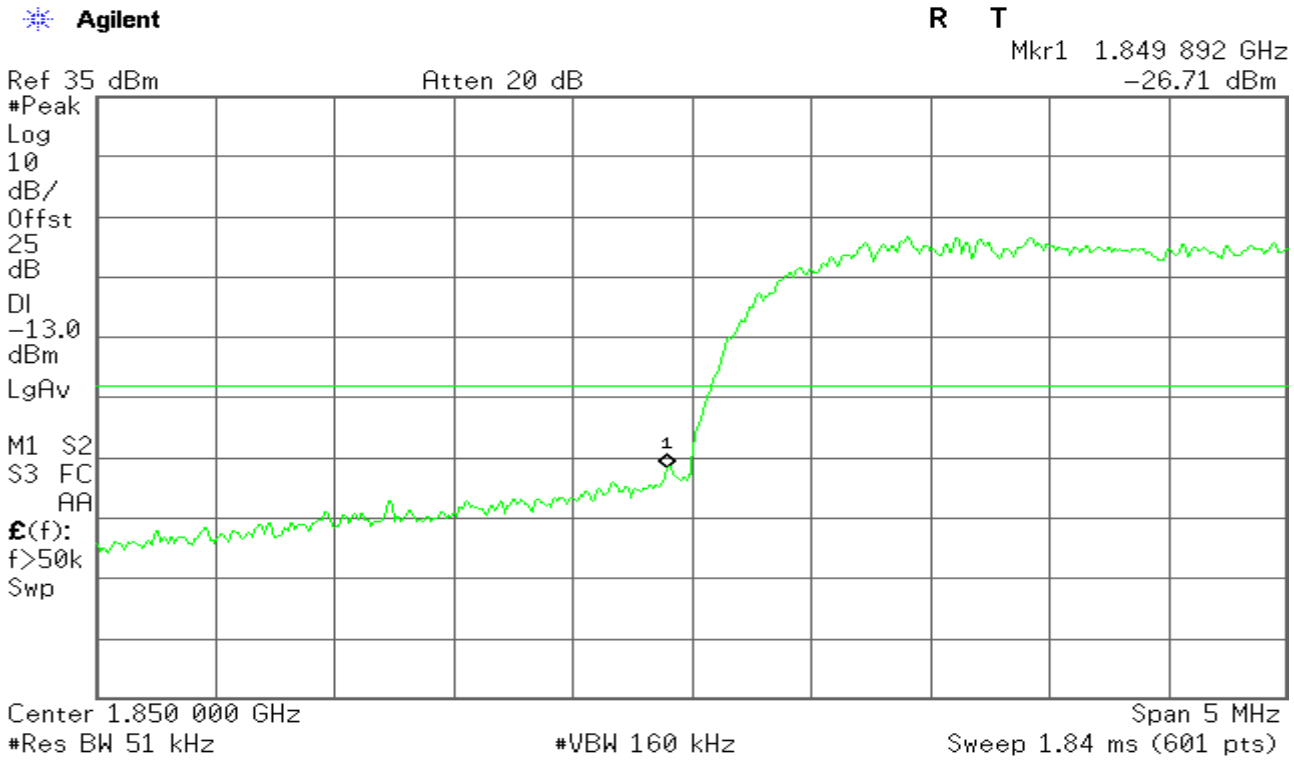
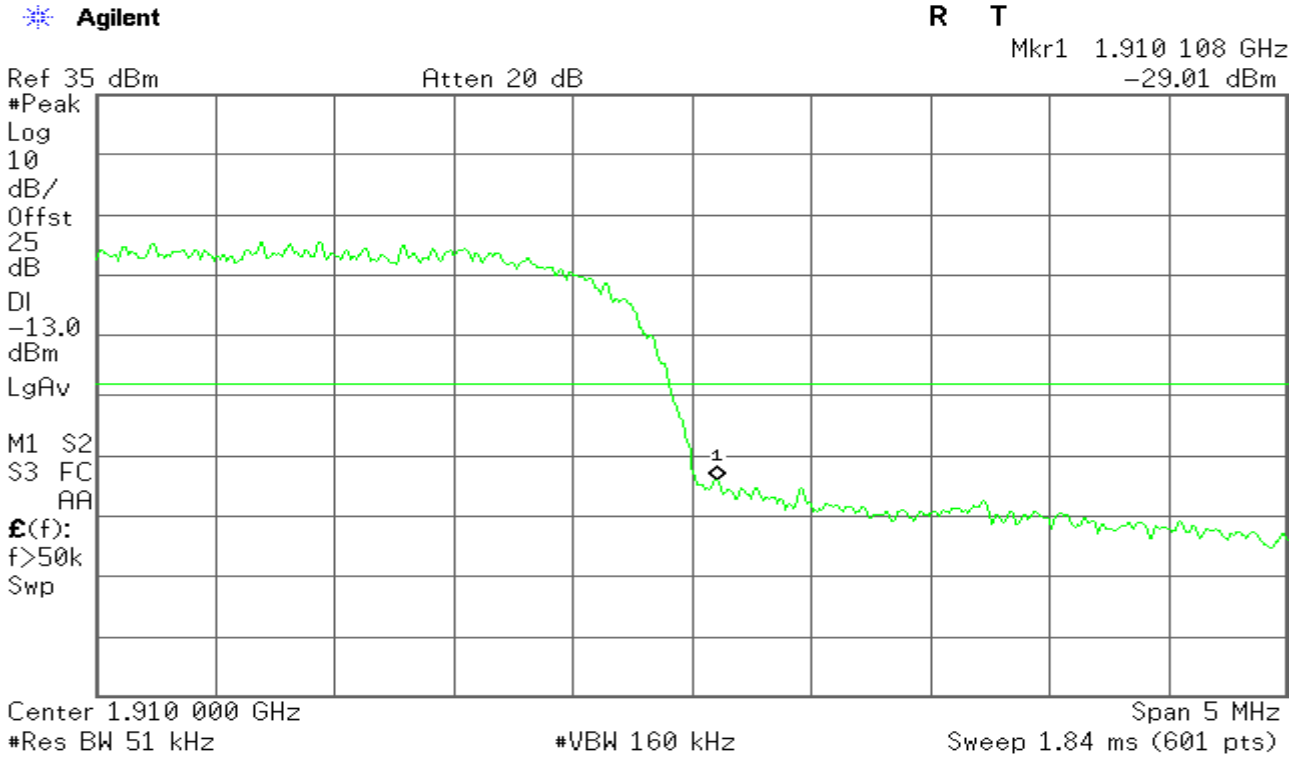


Figure 10-2: Band Edge emissions –HSDPA CH High



WCDMA Band HSUPA II

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

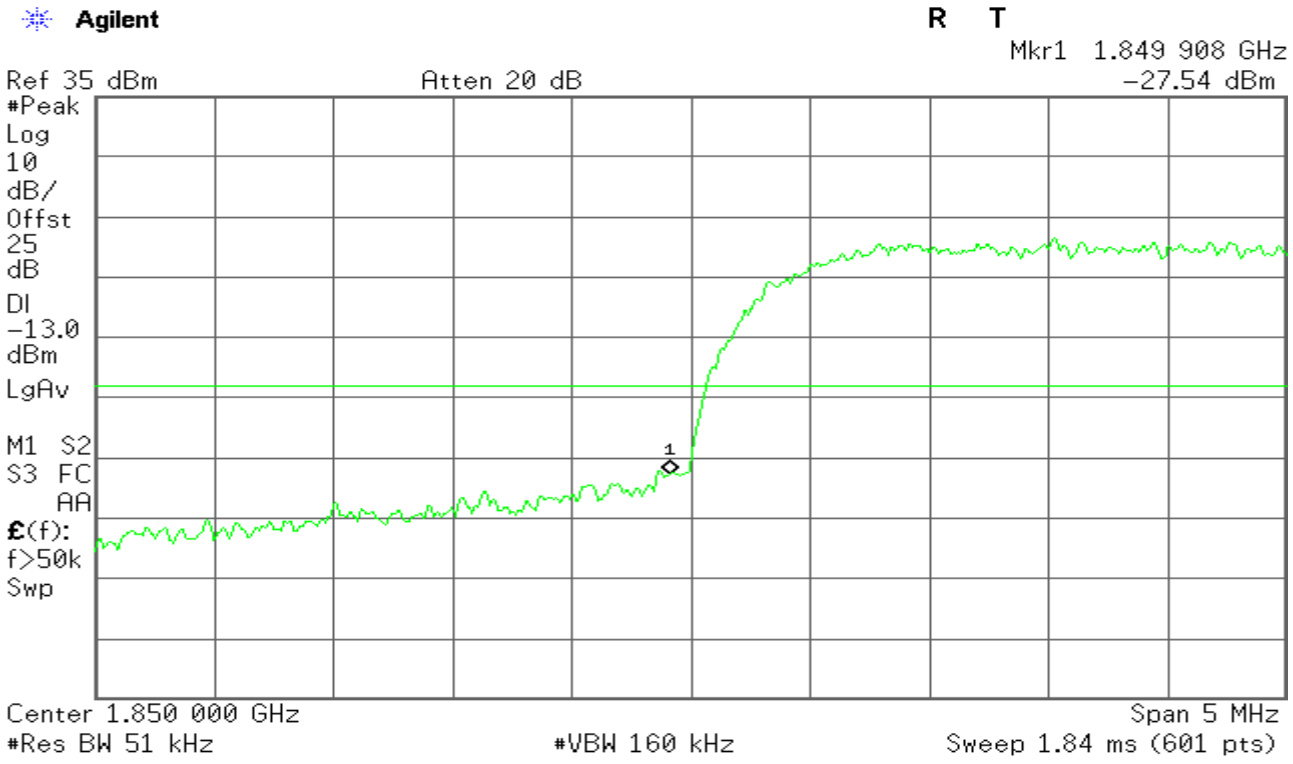
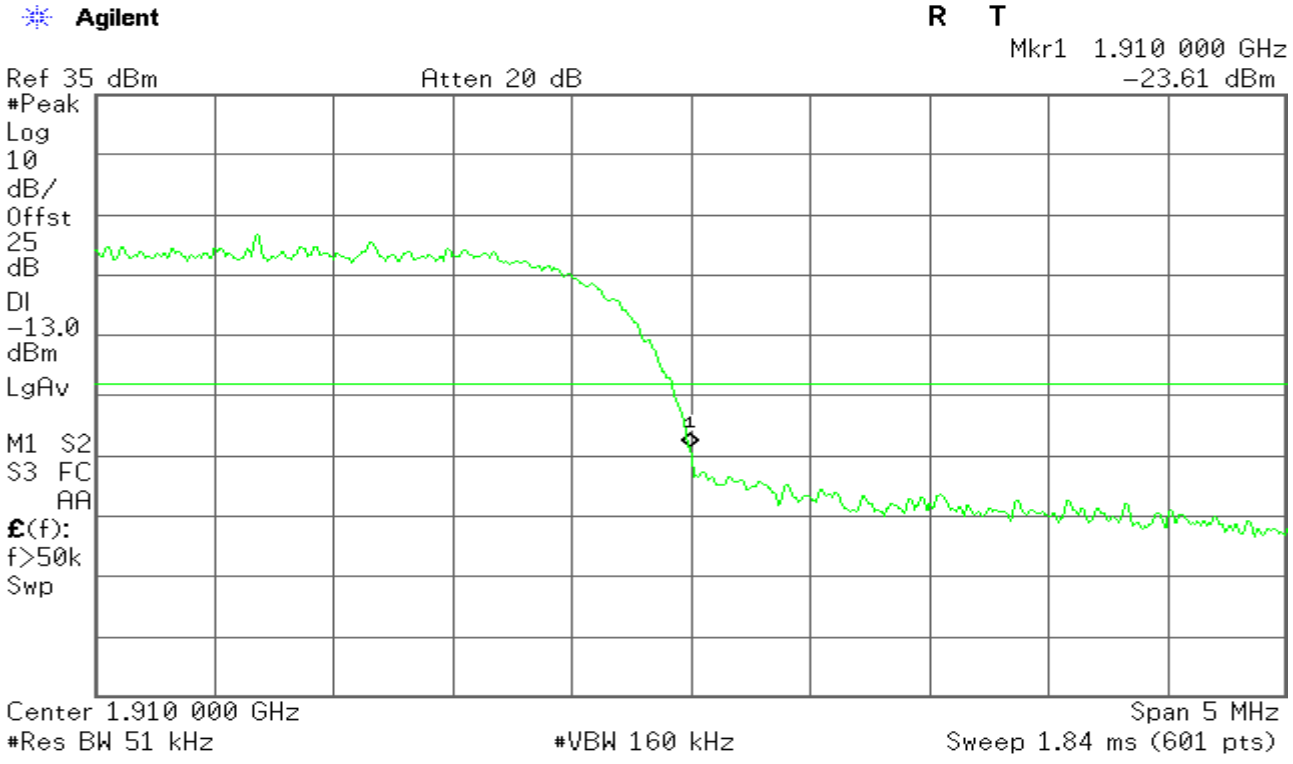


Figure 11-2: Band Edge emissions –HSUPA CH High



WCDMA Band V

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

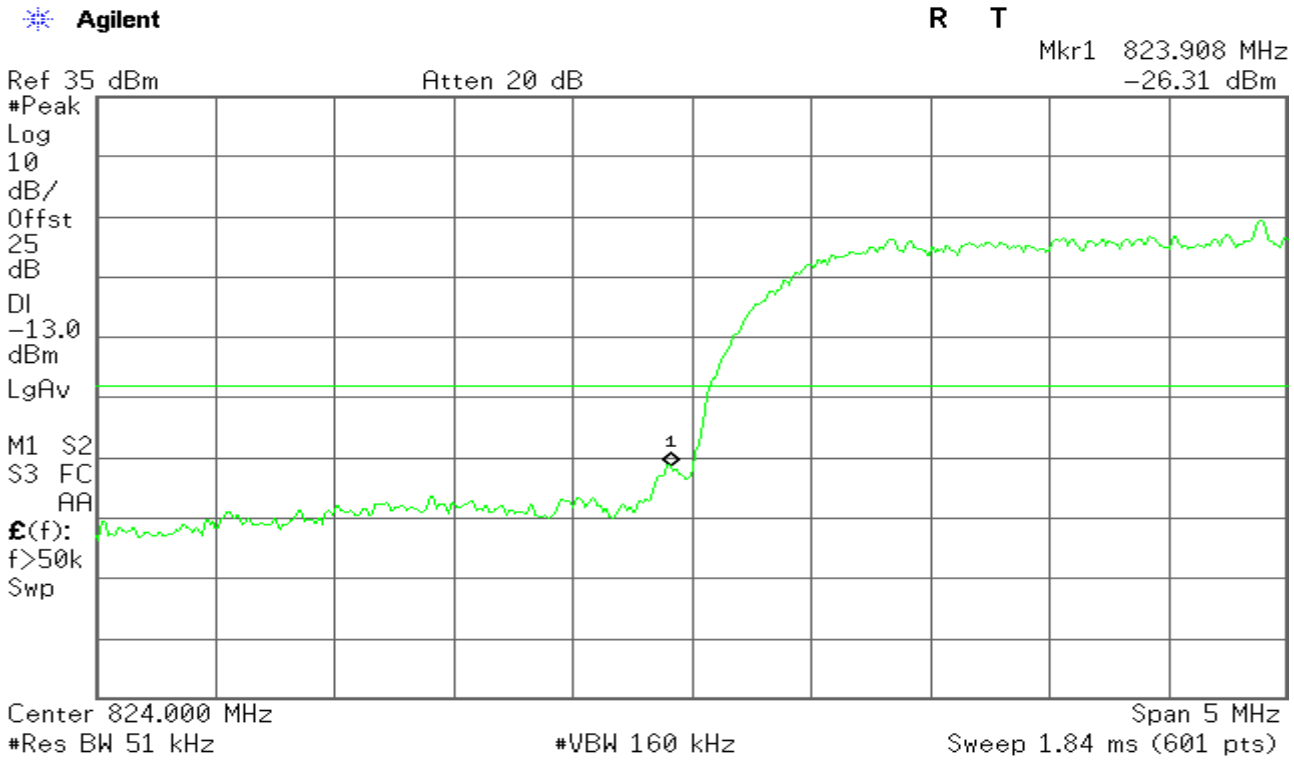
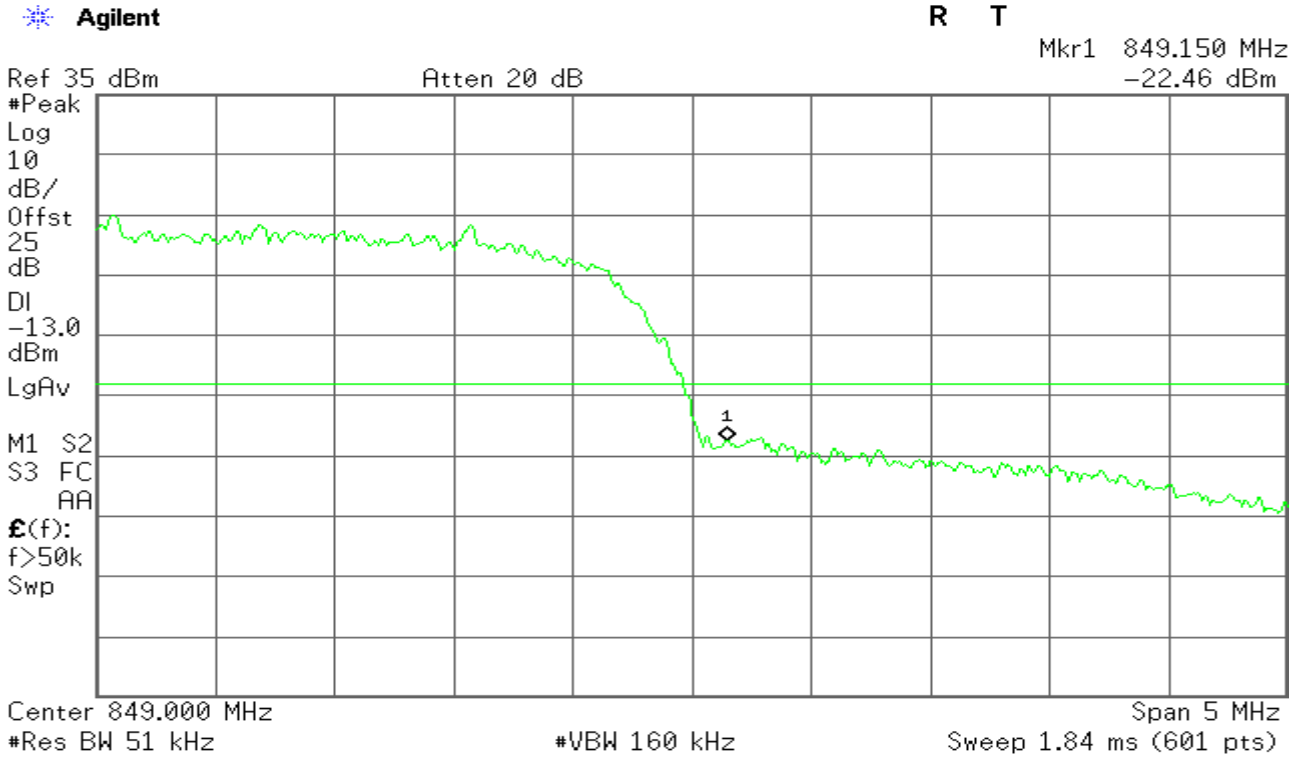


Figure 12-2: Band Edge emissions –WCDMA CH High



WCDMA Band HSDPA V

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

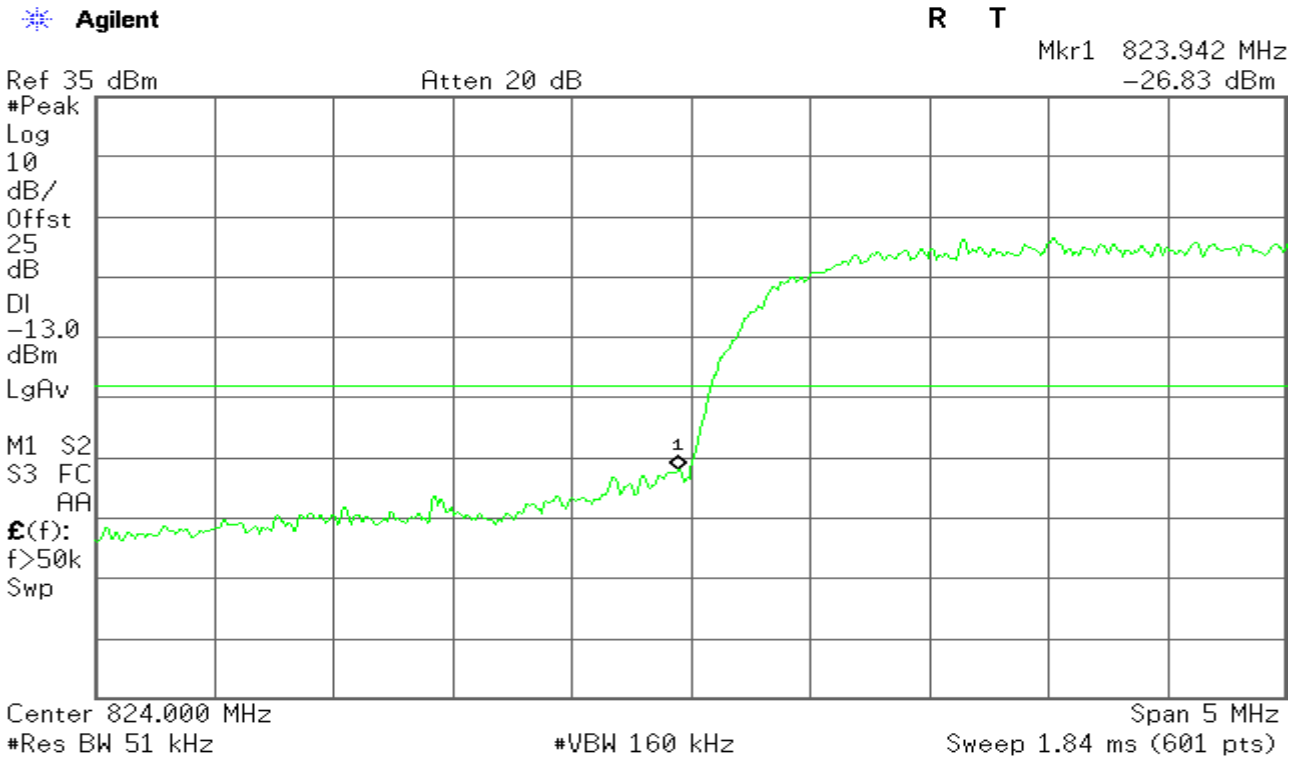
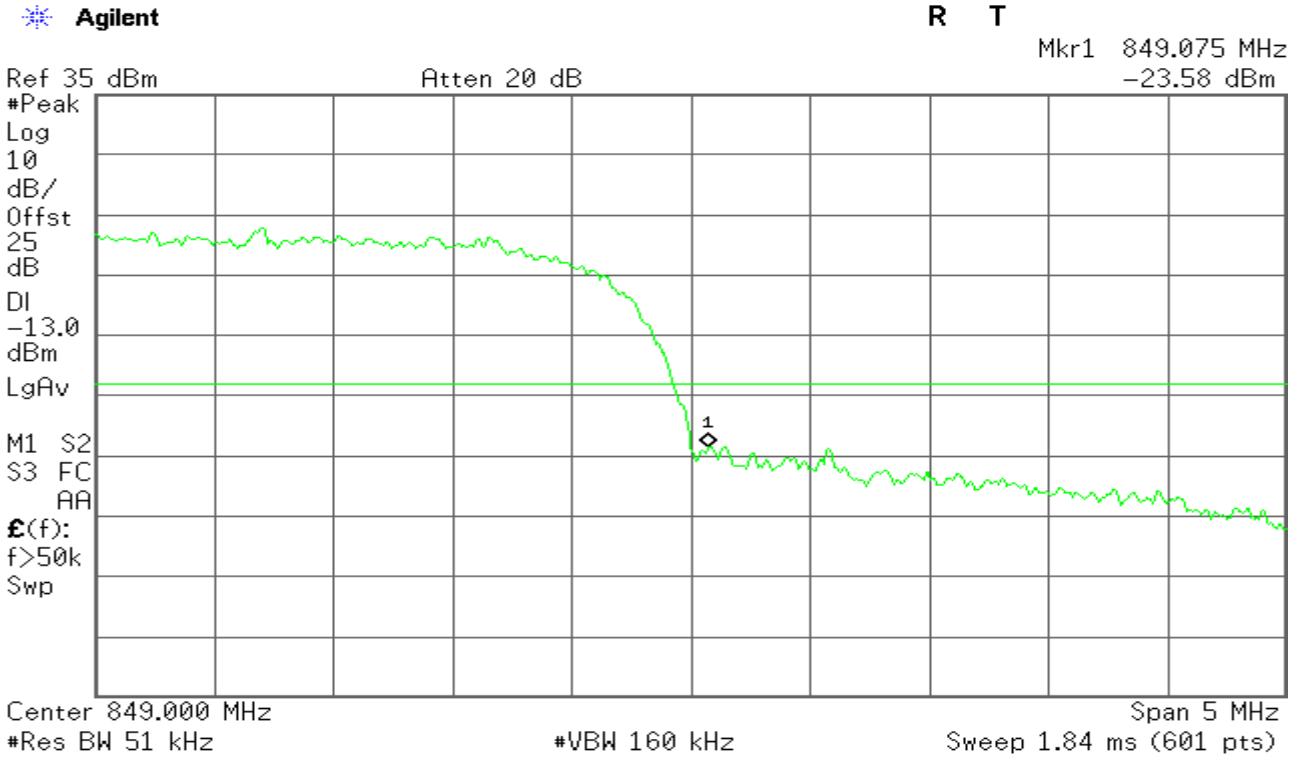


Figure 13-2: Band Edge emissions –HSDPA CH High



WCDMA Band HSUPA V

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

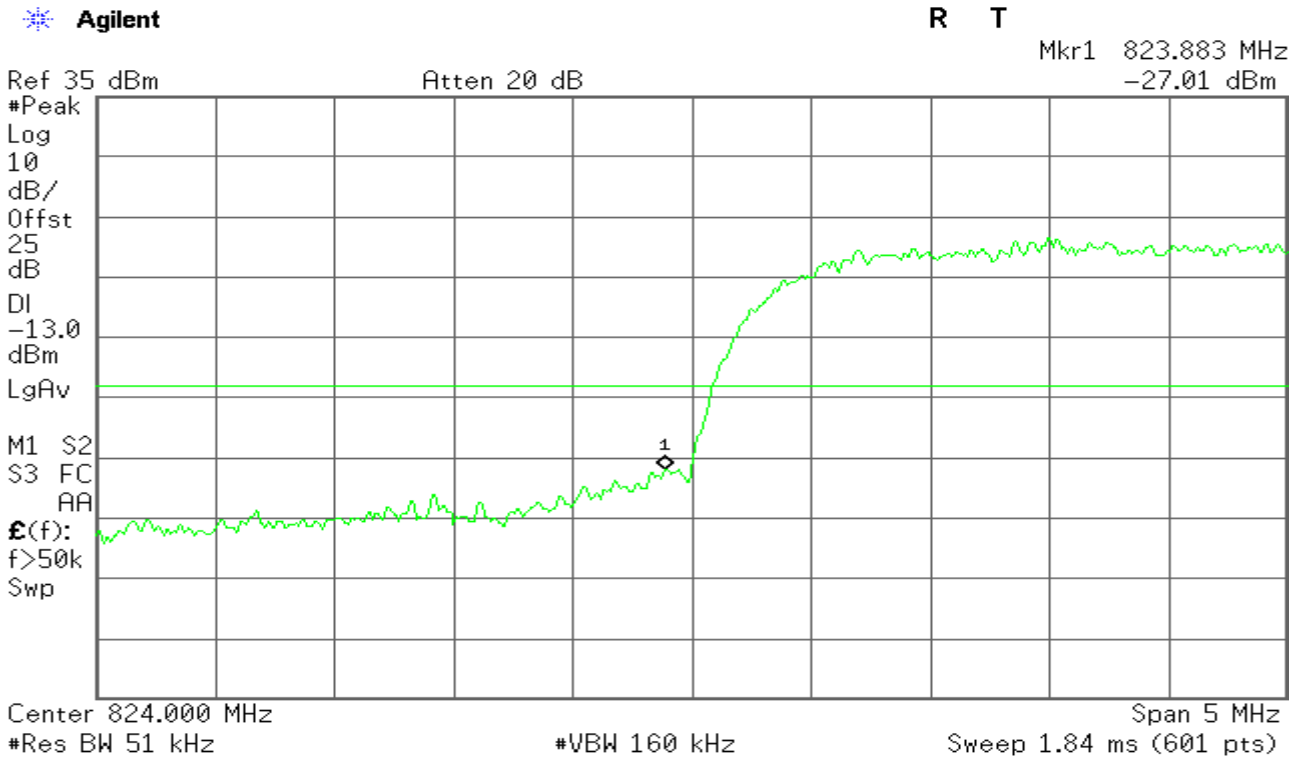
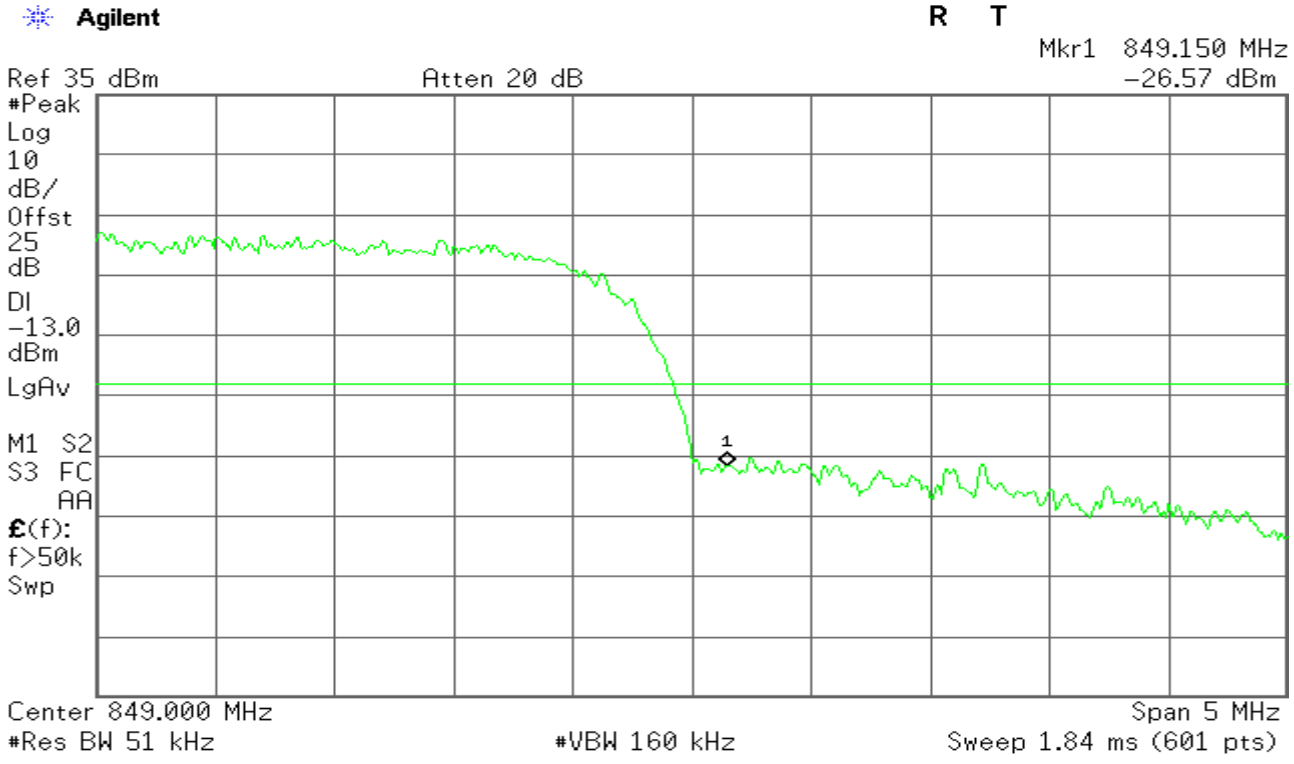


Figure 14-2: Band Edge emissions –HSUPA CH High



GSM 850

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

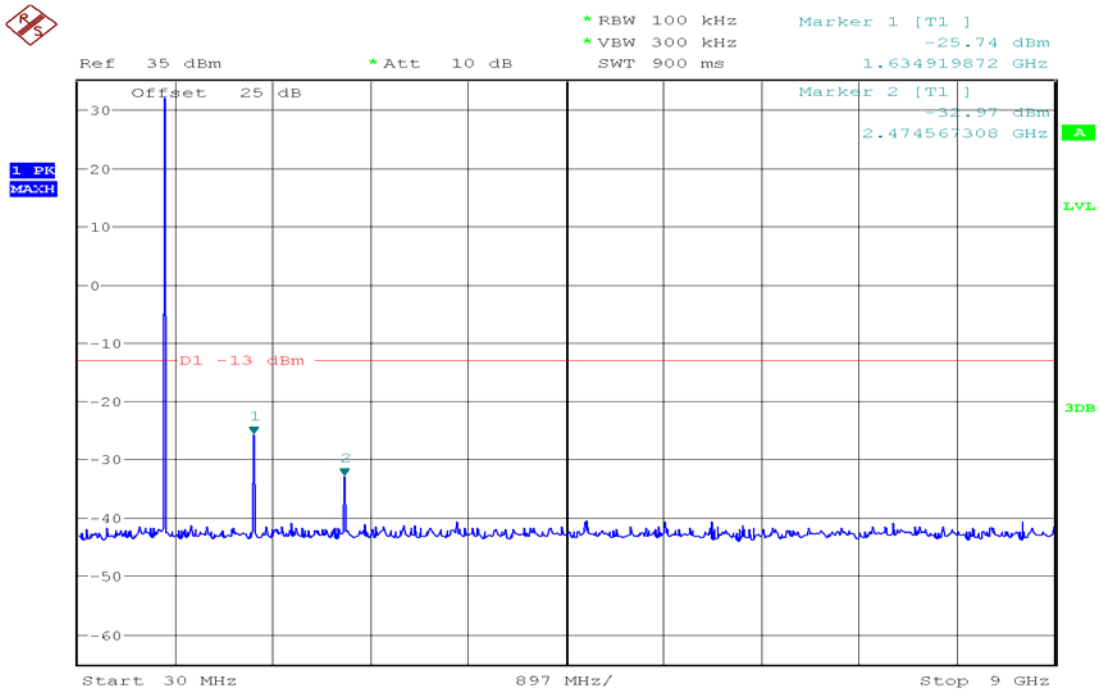


Figure 15-2: Out of Band emission at antenna terminals – GSM CH Mid

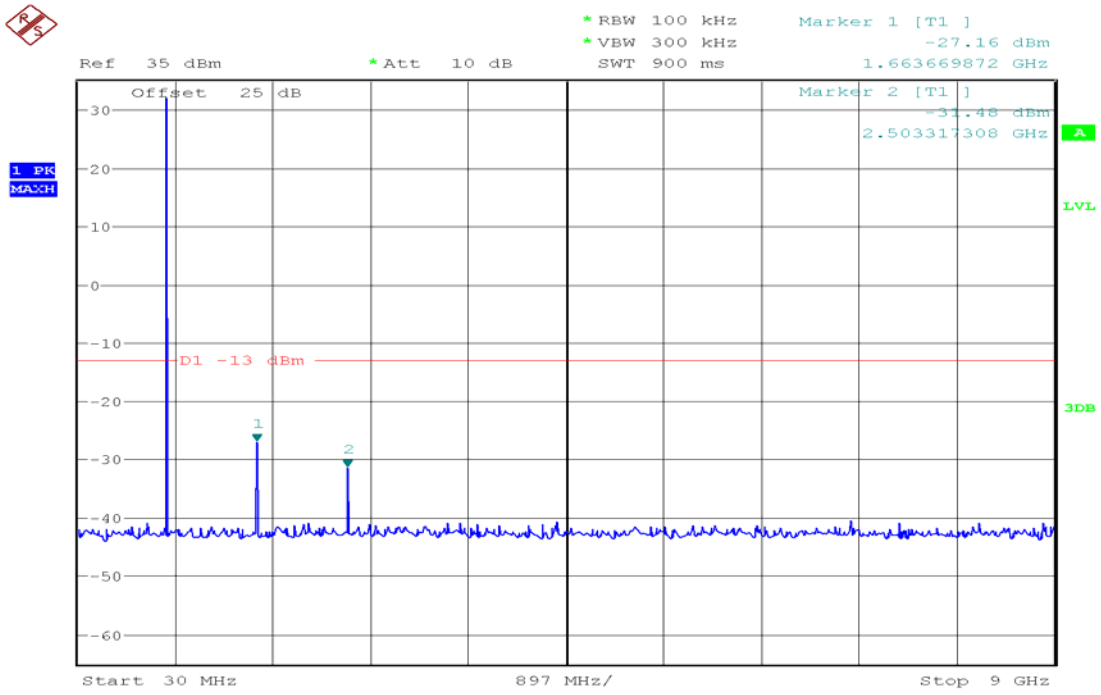
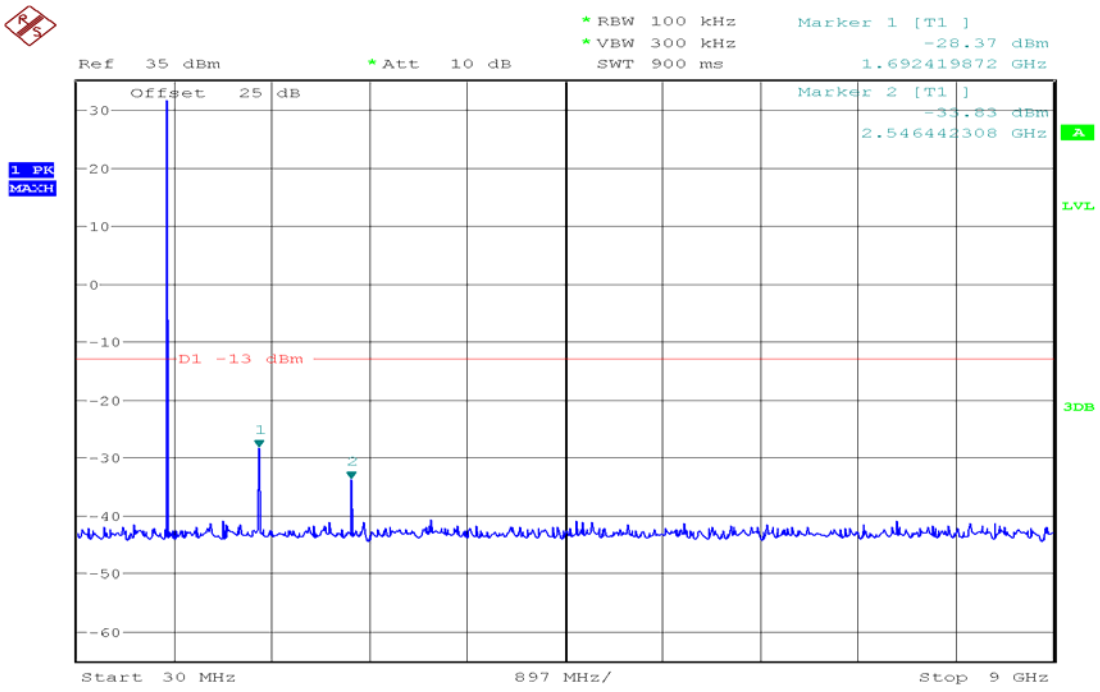


Figure 15-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 850

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

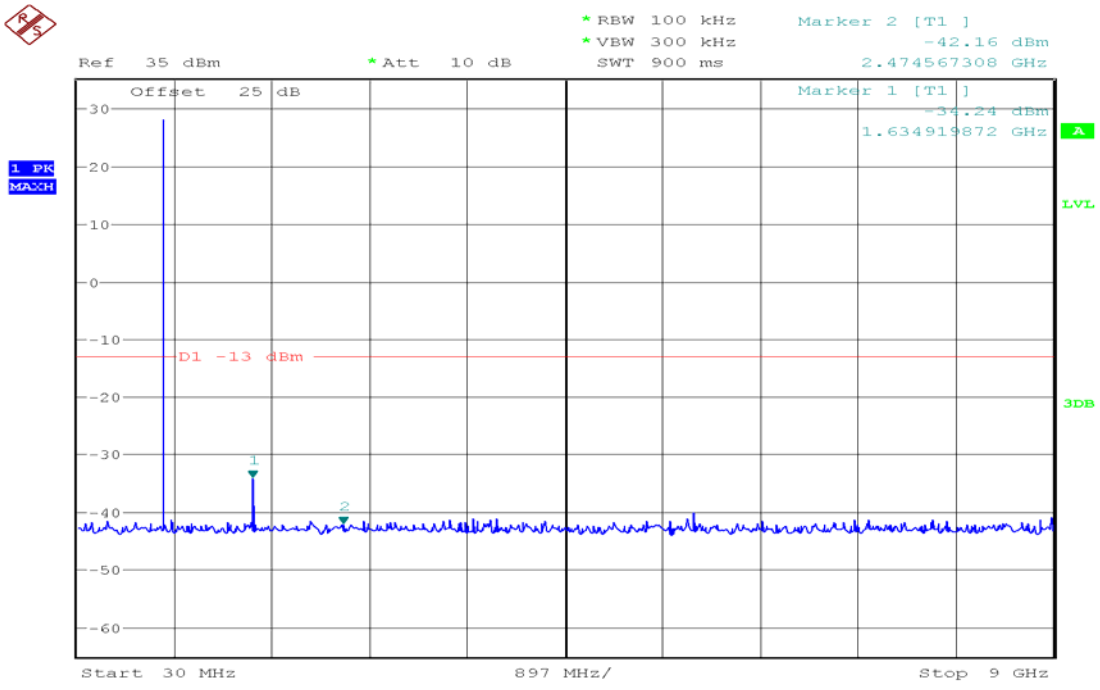


Figure 16-2: Out of Band emission at antenna terminals – GPRS CH Mid

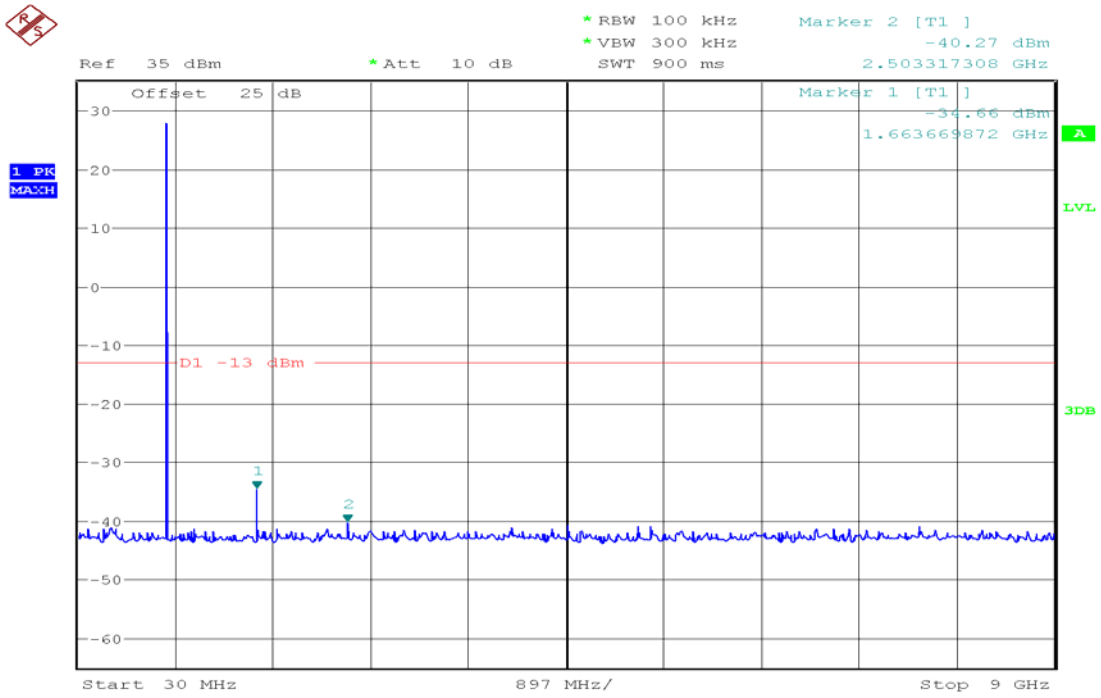
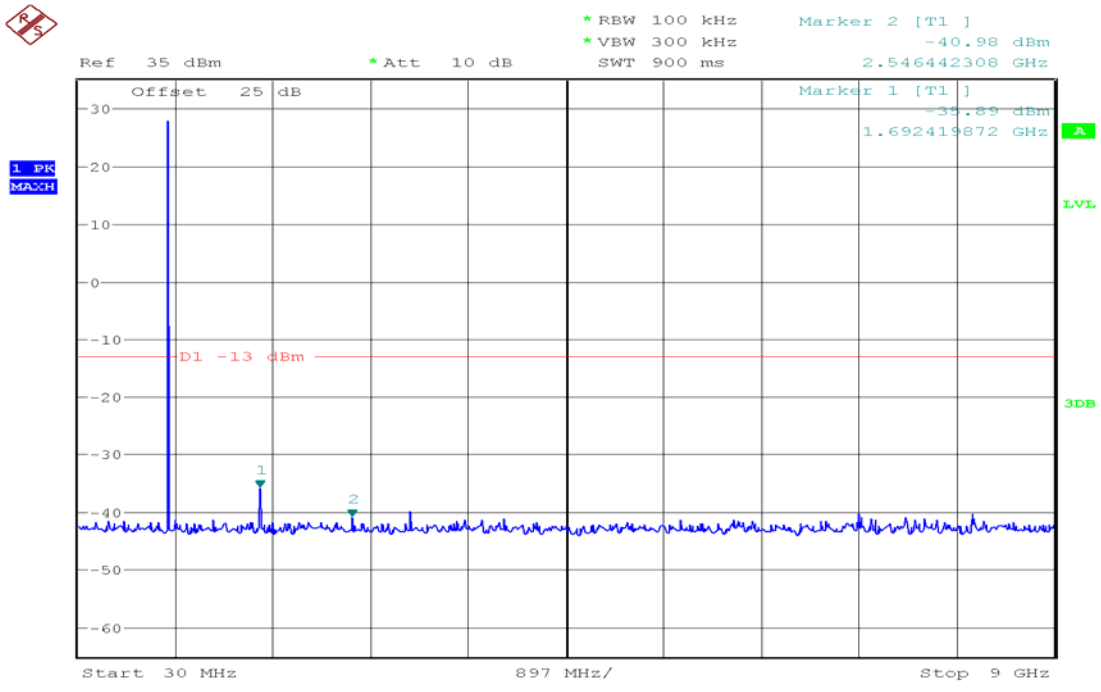


Figure 16-3: Out of Band emission at antenna terminals – GPRS CH High



GSM 1900

Figure 18-1: Out of Band emission at antenna terminals – GSM CH Low

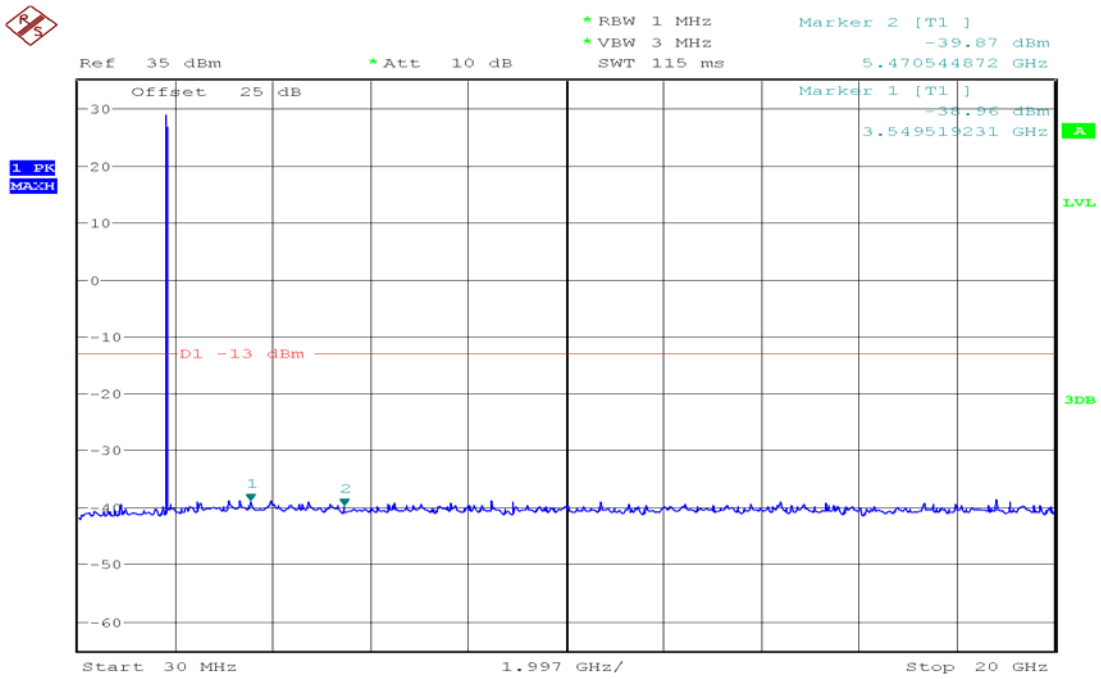


Figure 18-2: Out of Band emission at antenna terminals – GSM CH Mid

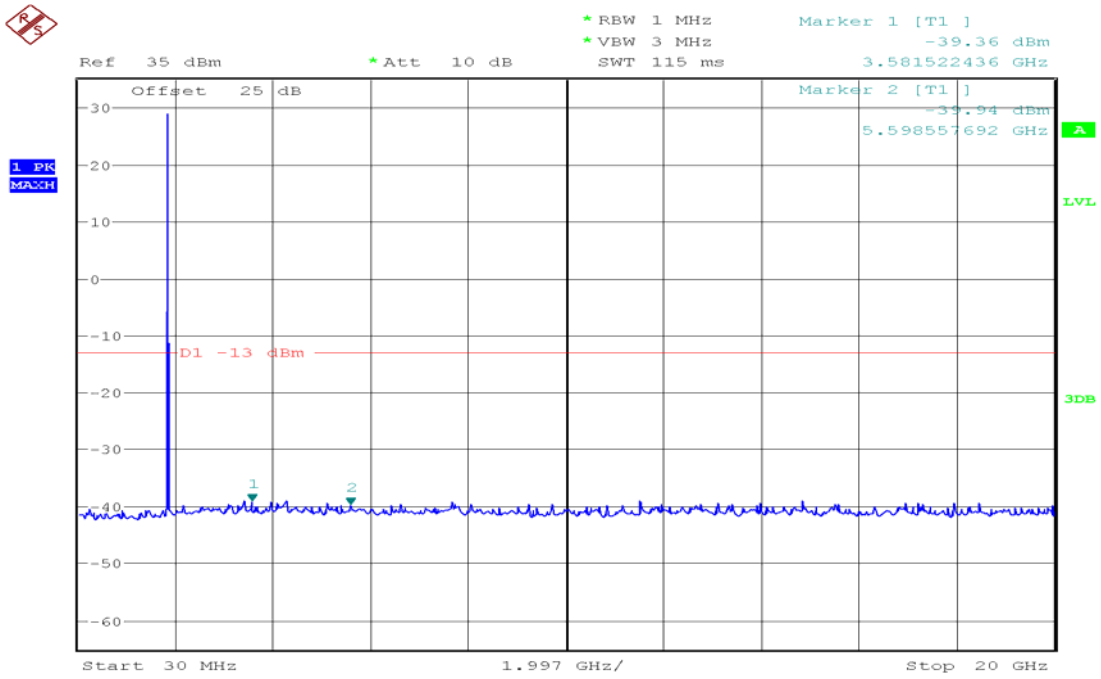
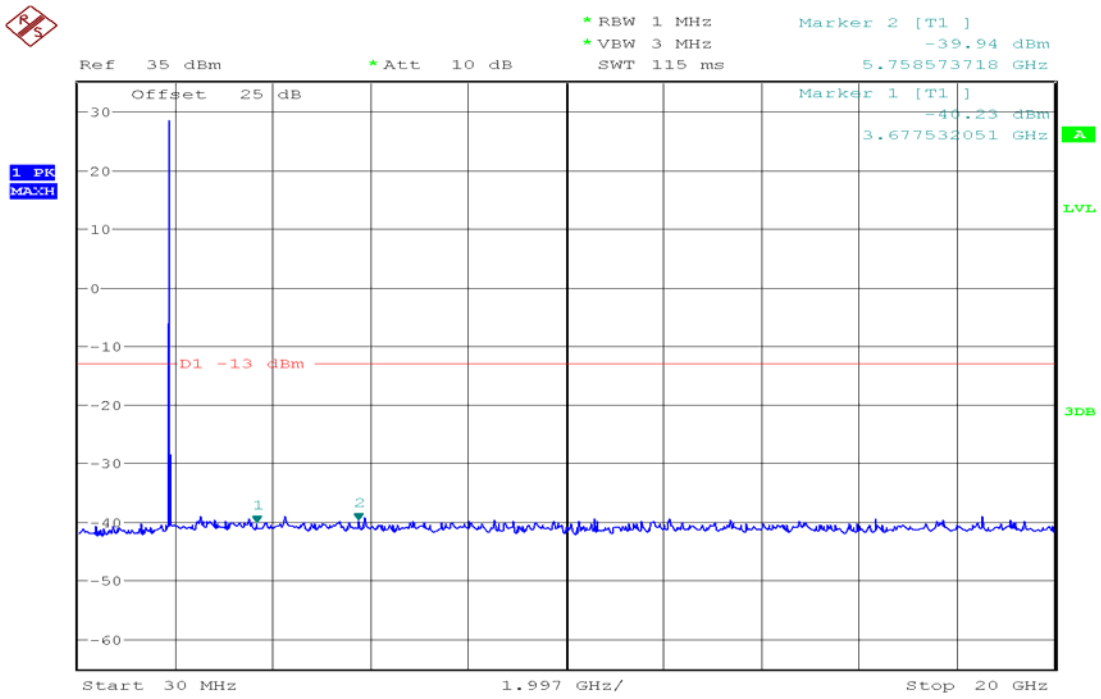


Figure 18-3: Out of Band emission at antenna terminals – GSM CH High



GPRS 1900

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

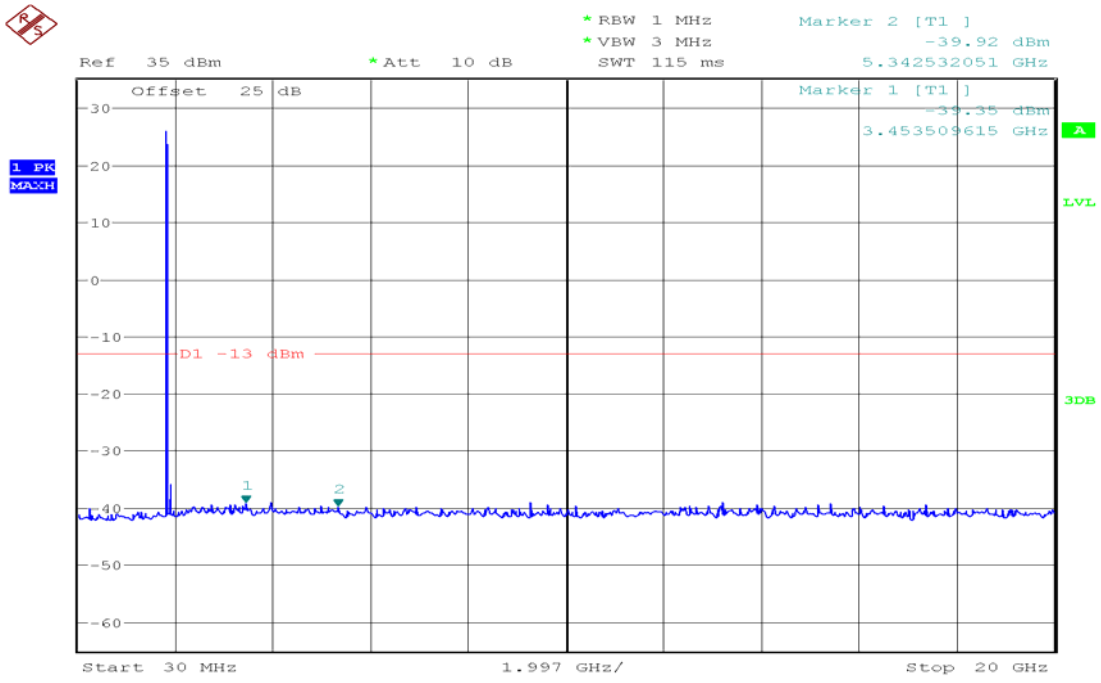


Figure 19-2: Out of Band emission at antenna terminals – GPRS CH Mid

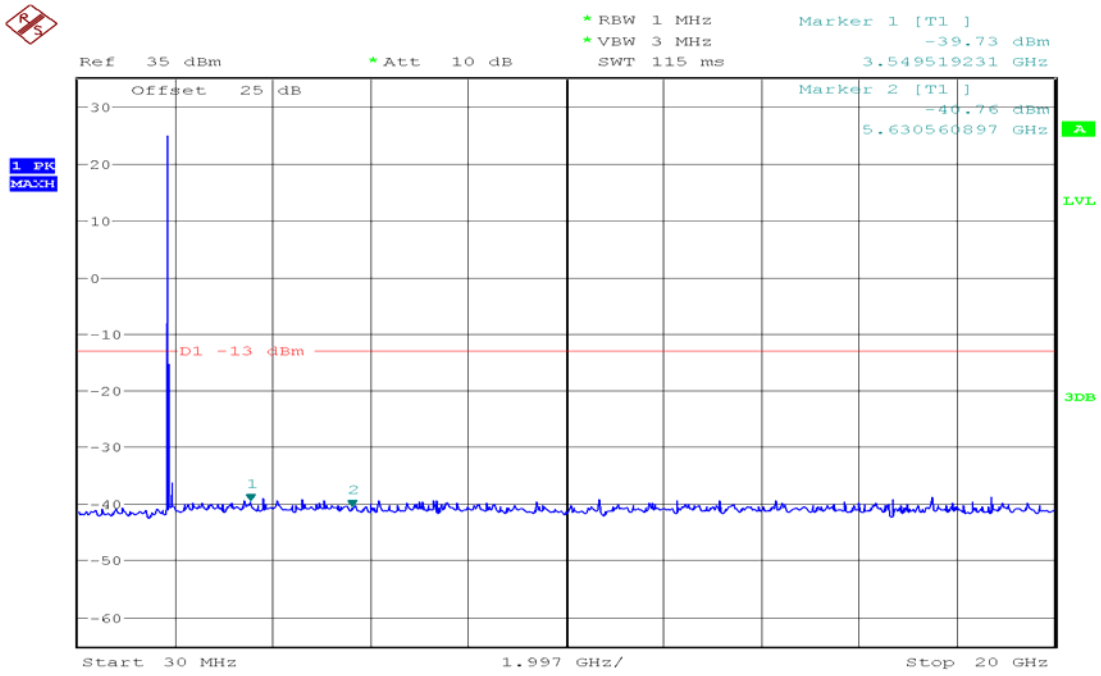
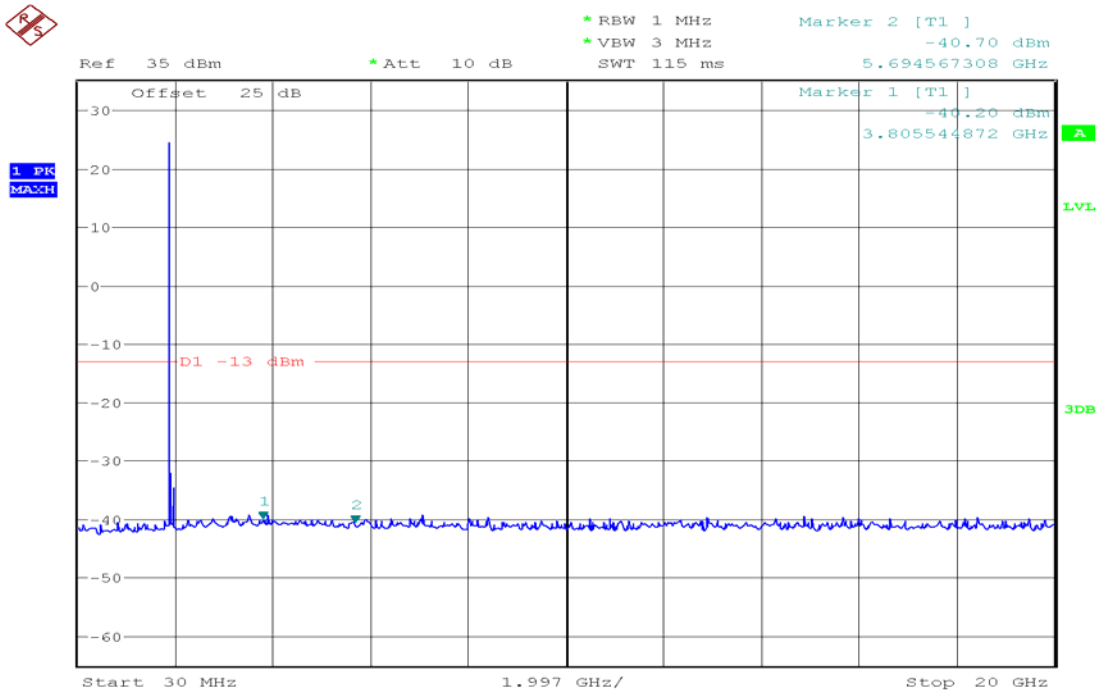


Figure 19-3: Out of Band emission at antenna terminals – GPRS CH High



WCDMA Band II

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

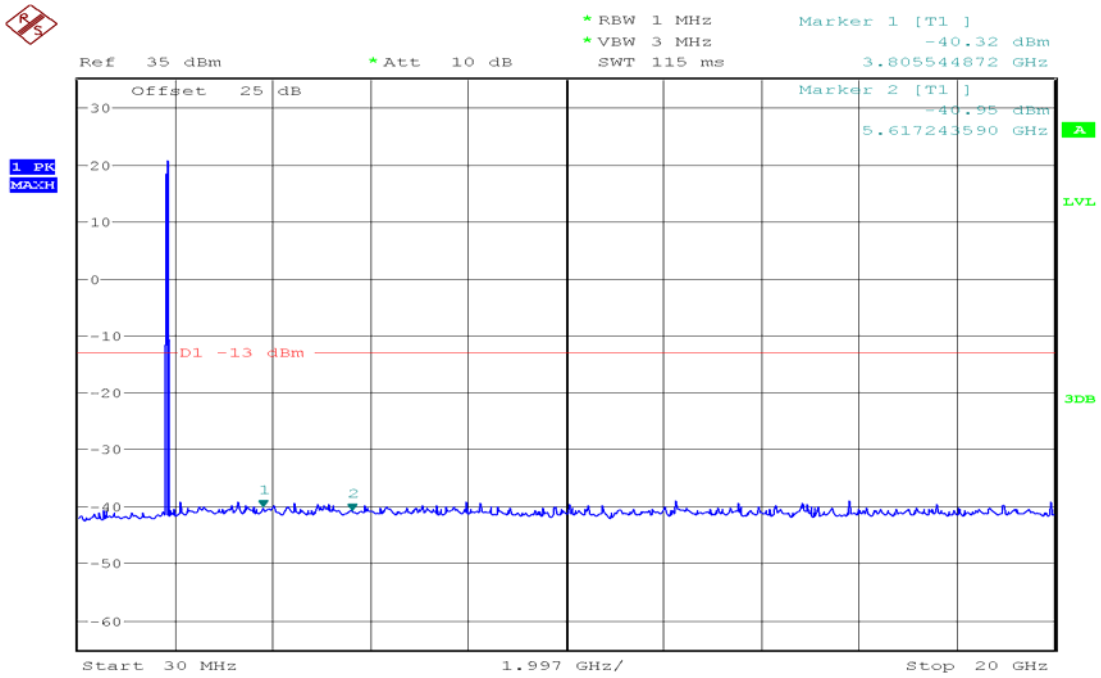


Figure 21-2: Out of Band emission at antenna terminals – WCDMA CH Mid

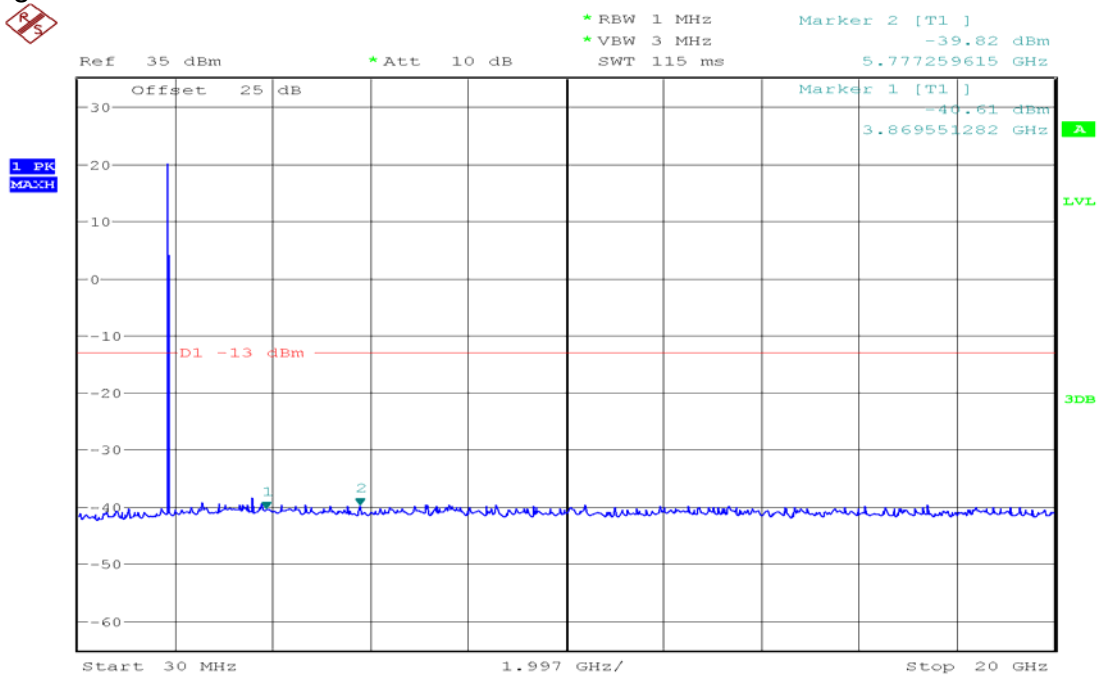
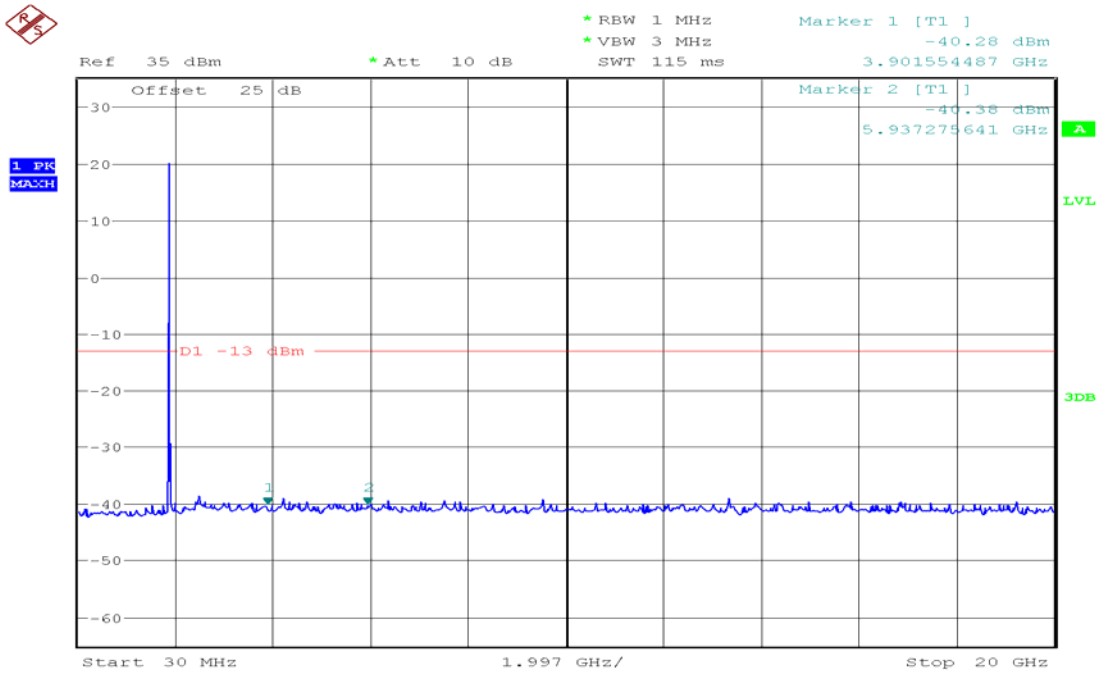


Figure 21-3: Out of Band emission at antenna terminals – WCDMA CH High



HSDPA Band II

Figure 22-1: Out of Band emission at antenna terminals – HSDPA CH Low

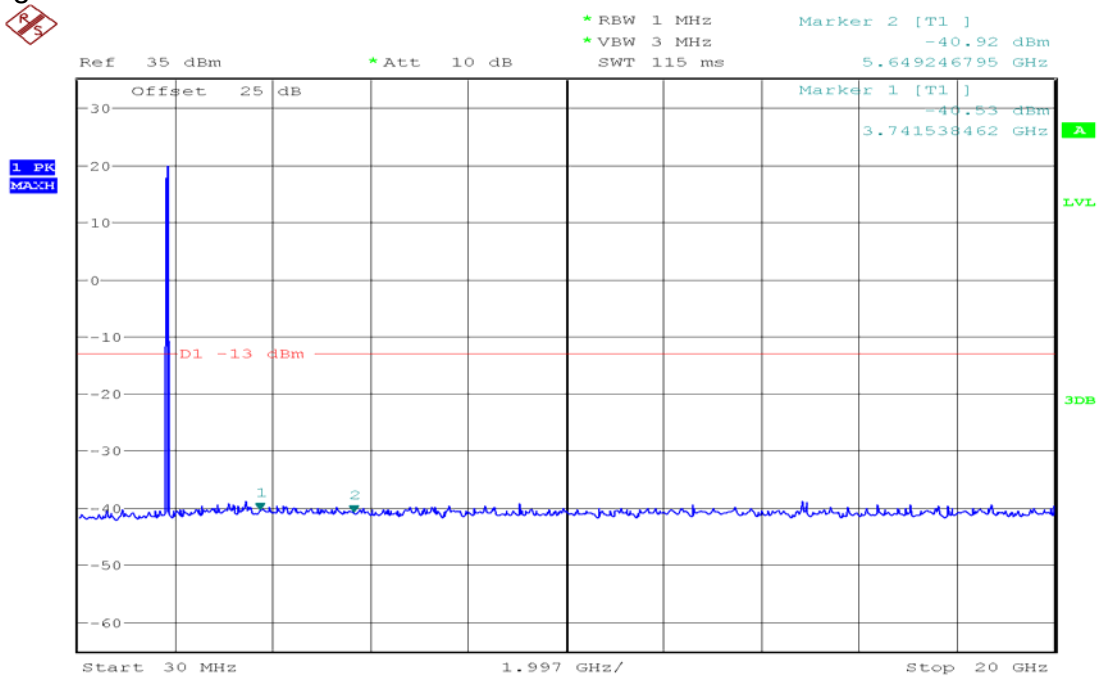


Figure 22-2: Out of Band emission at antenna terminals – HSDPA CH Mid

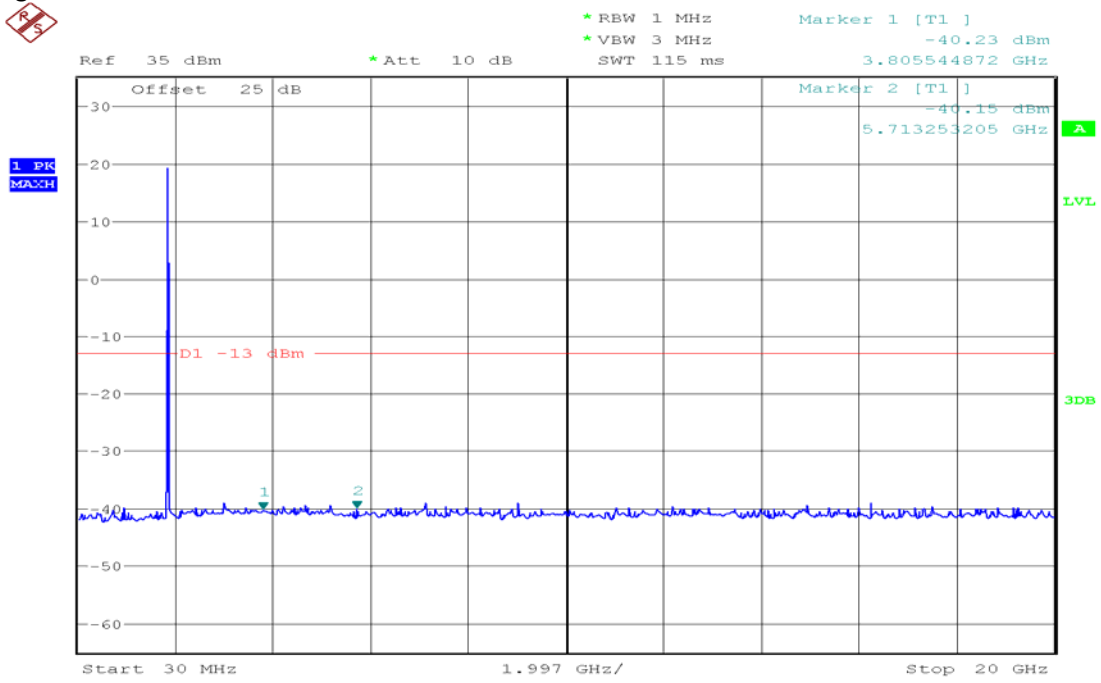
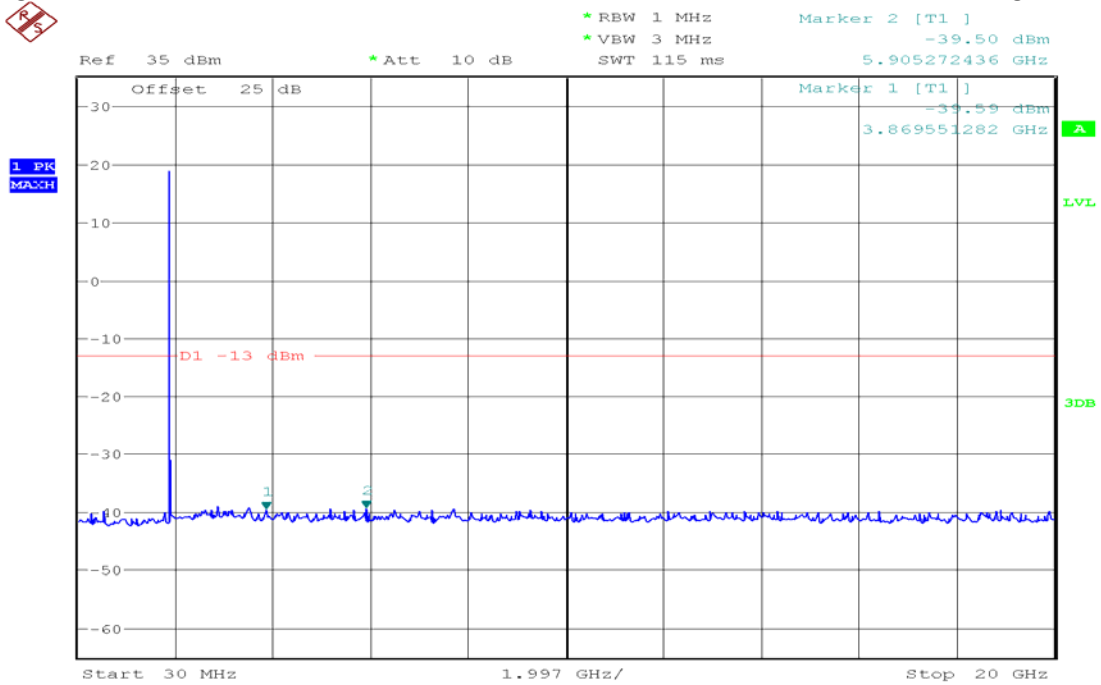


Figure 22-3: Out of Band emission at antenna terminals – HSDPA CH High



HSUPA Band II

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

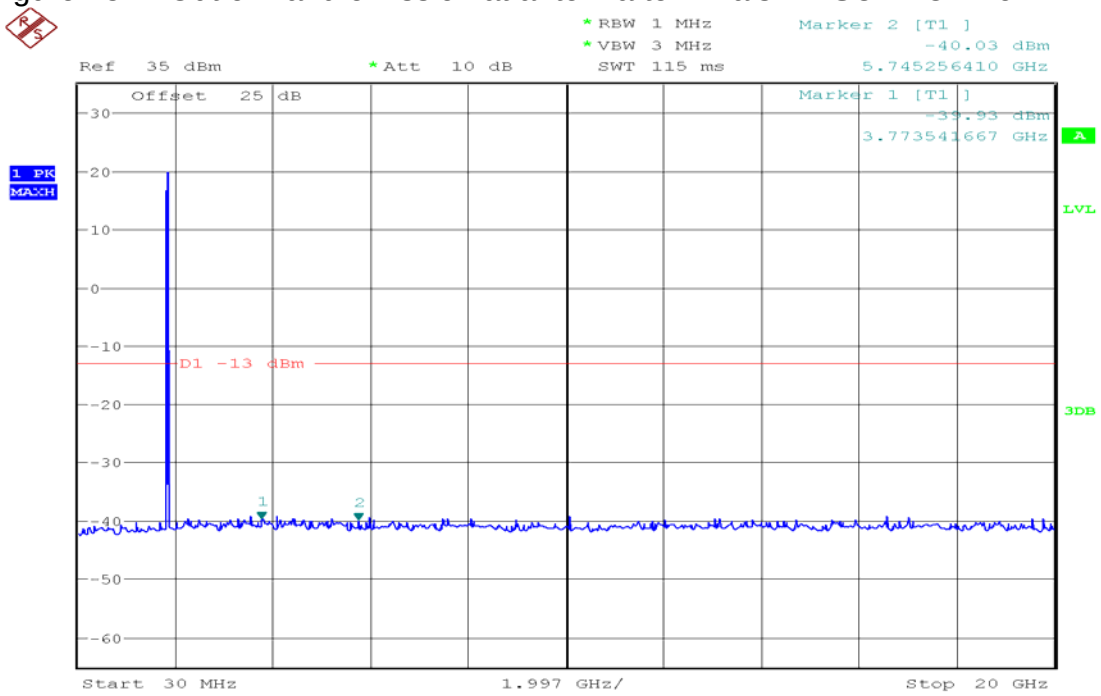


Figure 23-2: Out of Band emission at antenna terminals – HSUPA CH Mid

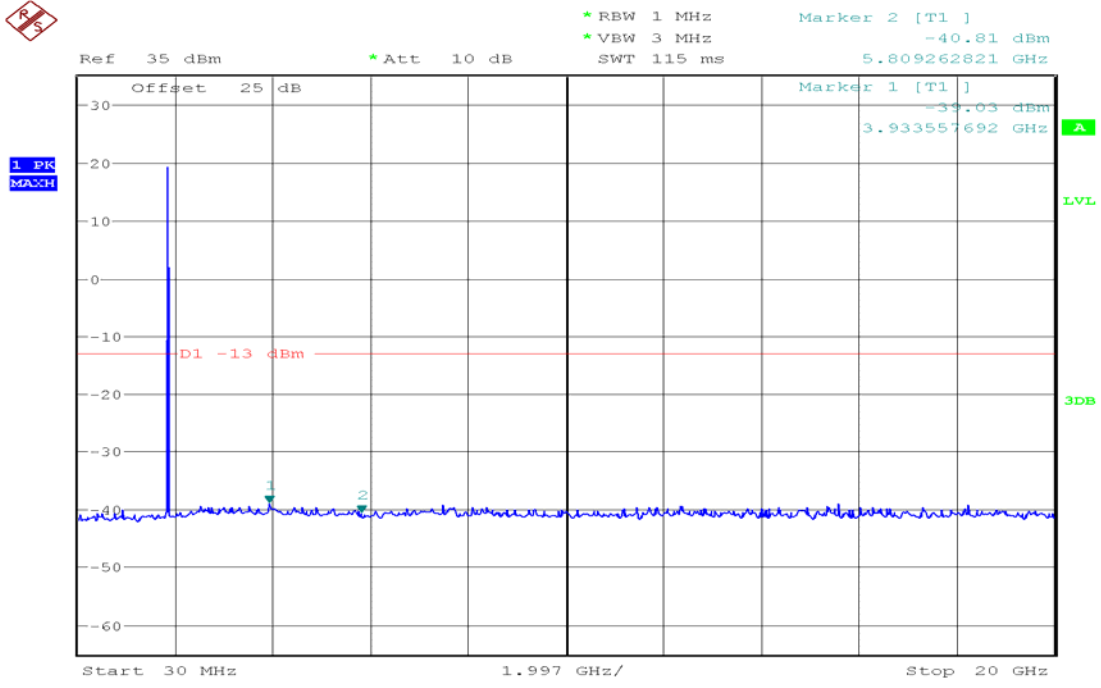
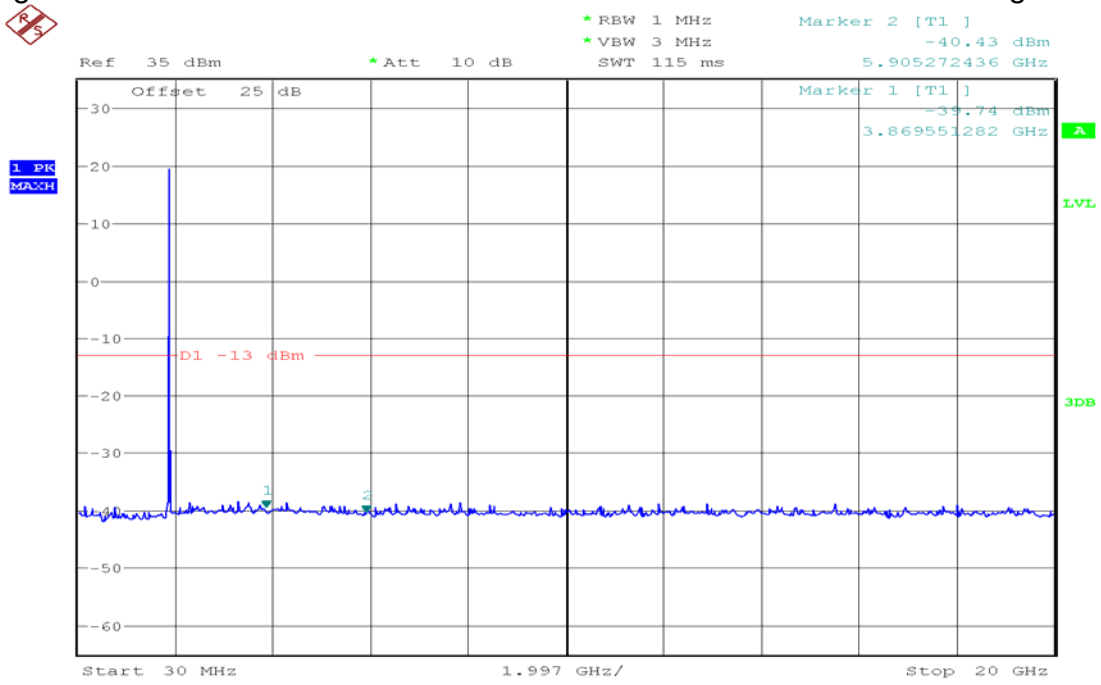


Figure 23-3: Out of Band emission at antenna terminals – HSUPA CH High



WCDMA Band V

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

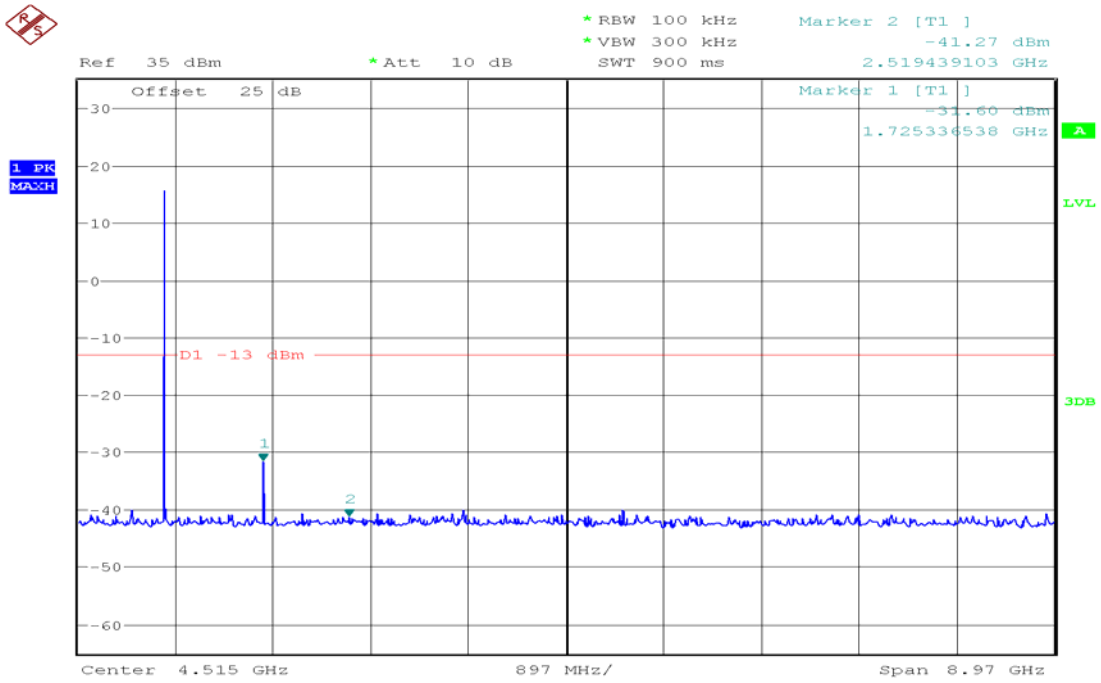


Figure 24-2: Out of Band emission at antenna terminals – WCDMA CH Mid

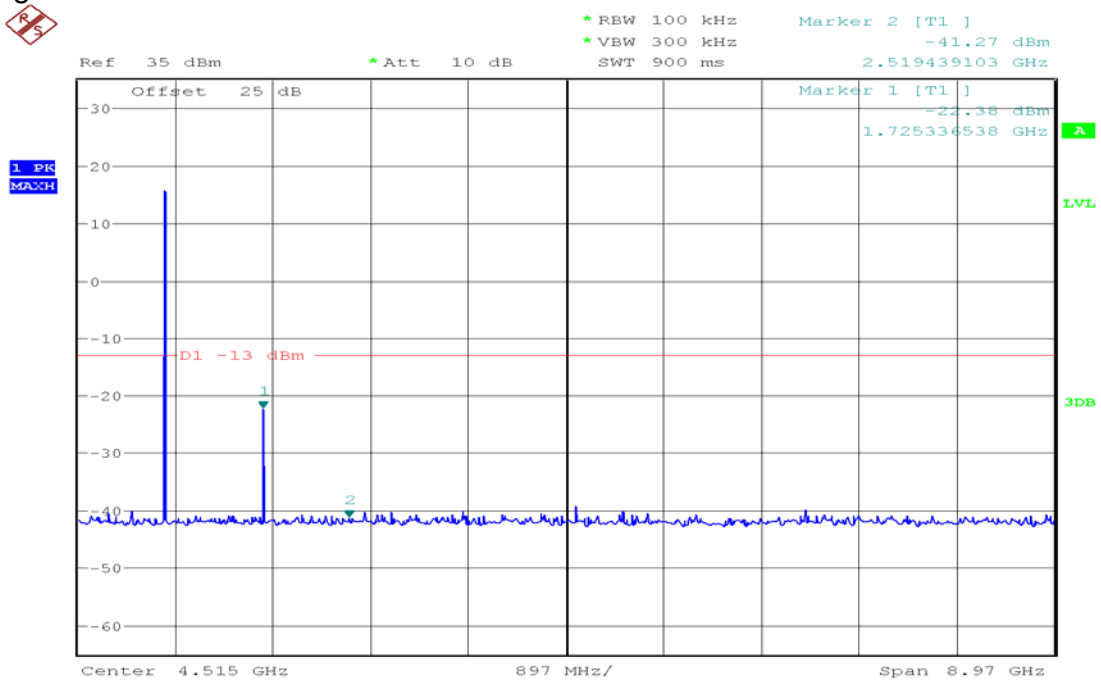
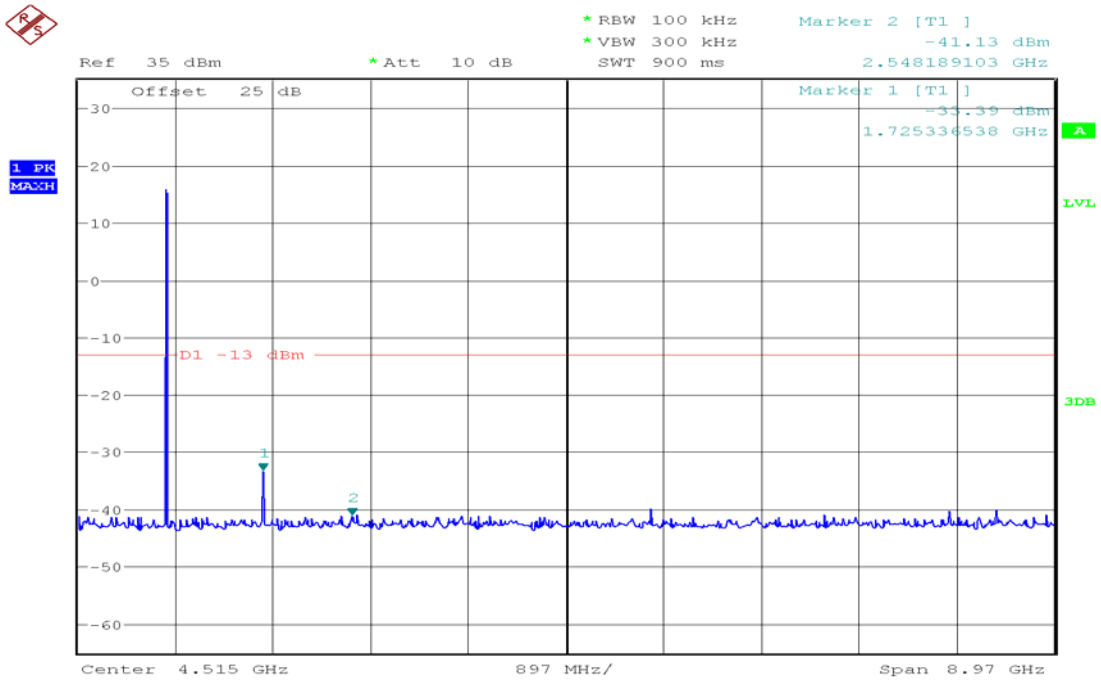


Figure 24-3: Out of Band emission at antenna terminals – WCDMA CH High



HSDPA Band V

Figure 25-1: Out of Band emission at antenna terminals – HSDPA CH Low

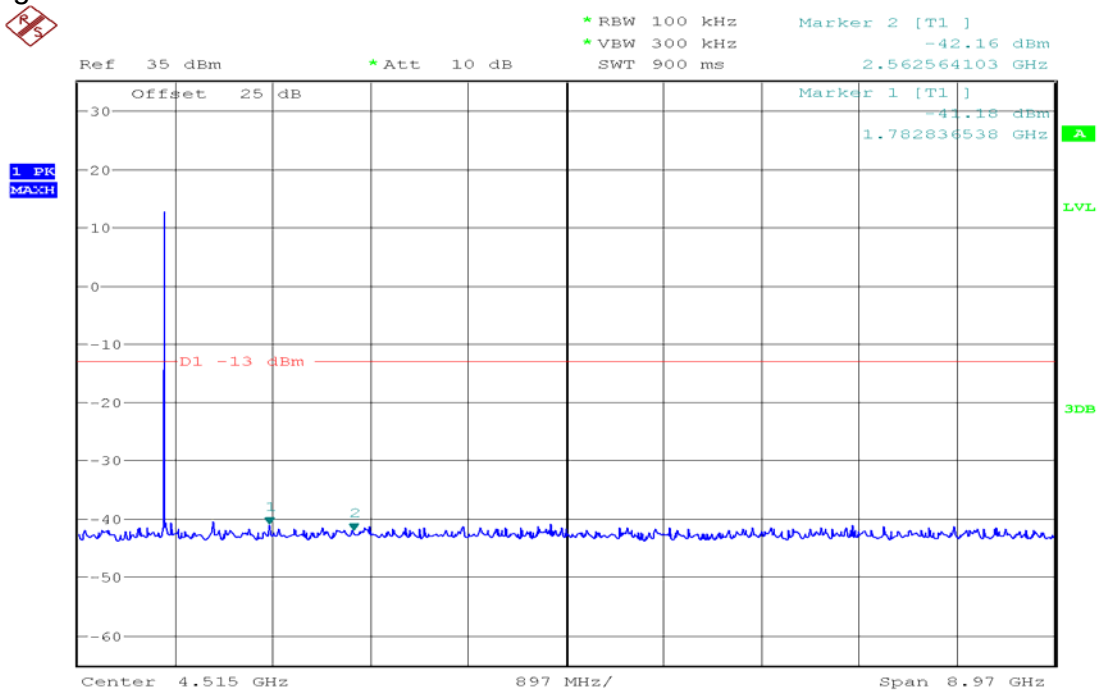


Figure 25-2: Out of Band emission at antenna terminals – HSDPA CH Mid

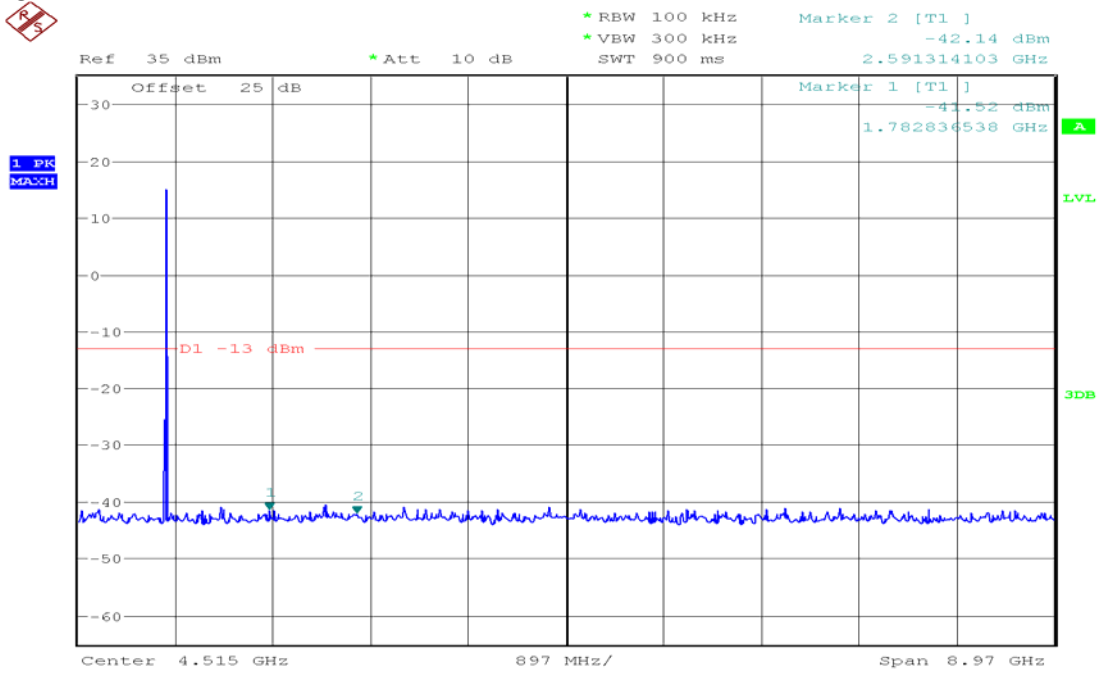
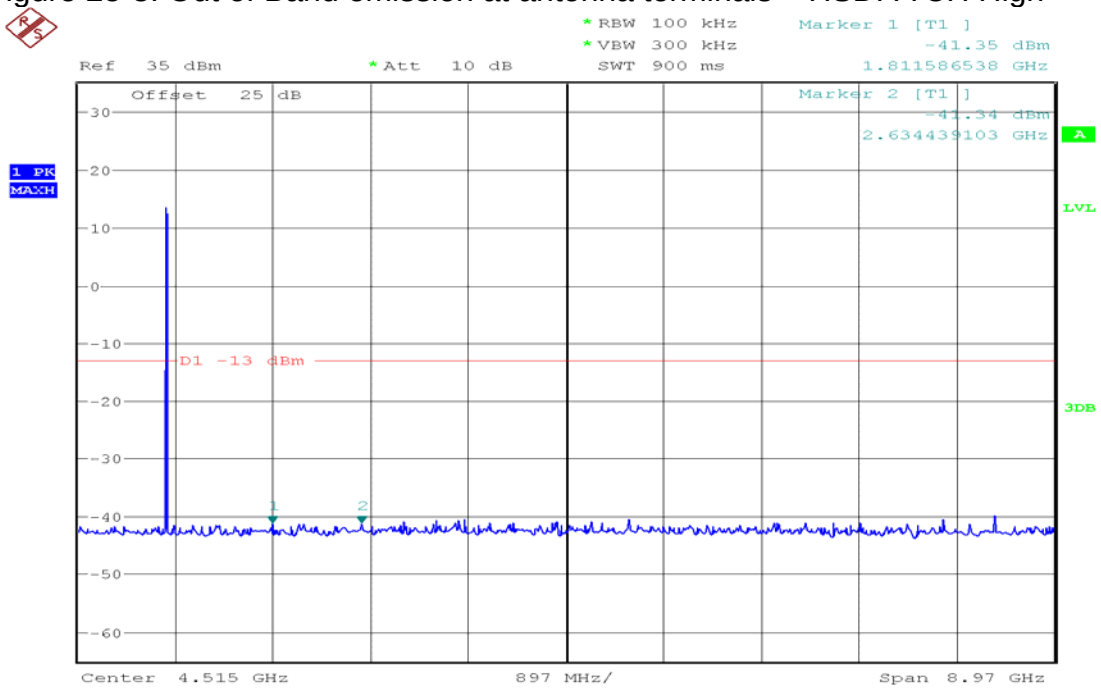


Figure 25-3: Out of Band emission at antenna terminals – HSDPA CH High



HSUPA Band V

Figure 26-1: Out of Band emission at antenna terminals – HSUPA CH Low

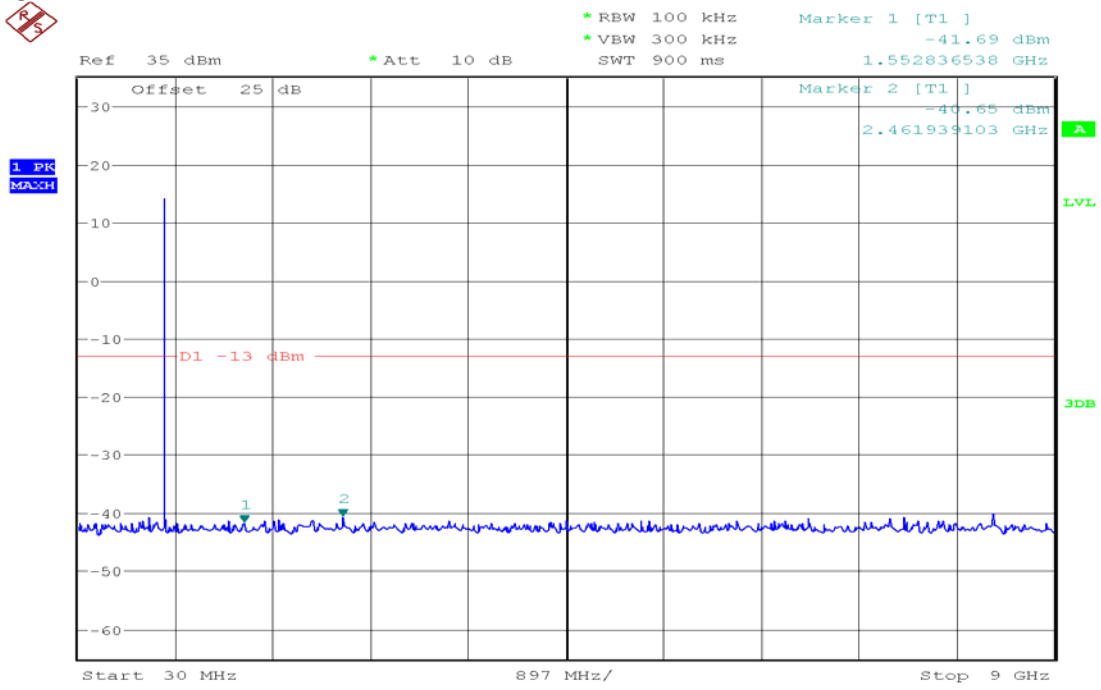


Figure 26-2: Out of Band emission at antenna terminals – HSUPA CH Mid

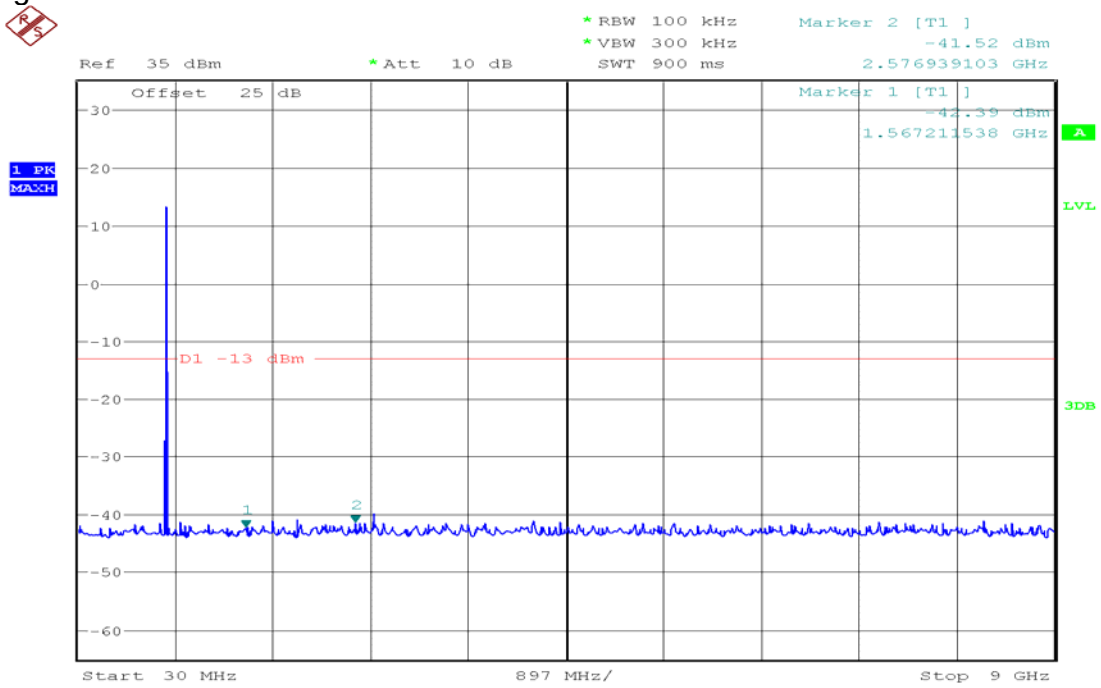
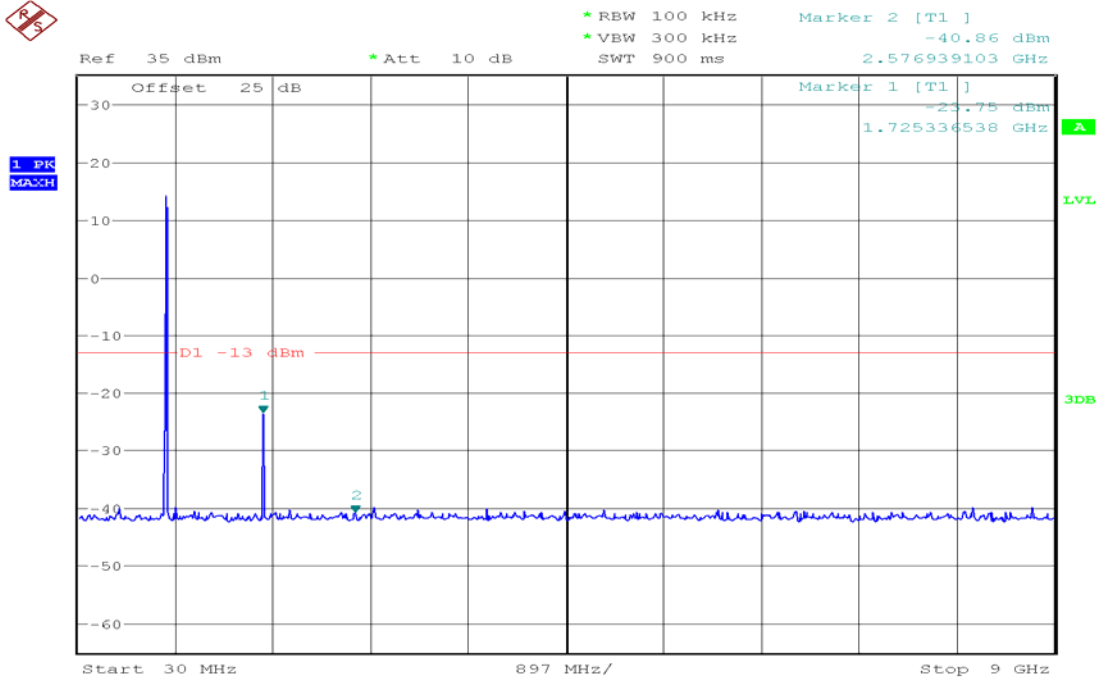


Figure 26-3: Out of Band emission at antenna terminals – HSUPA CH High



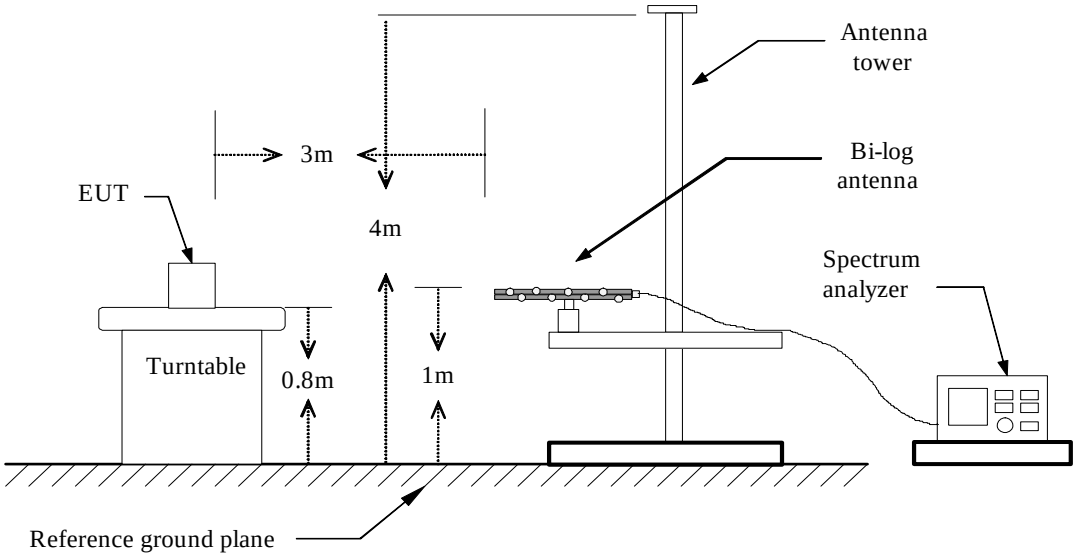
7.6. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

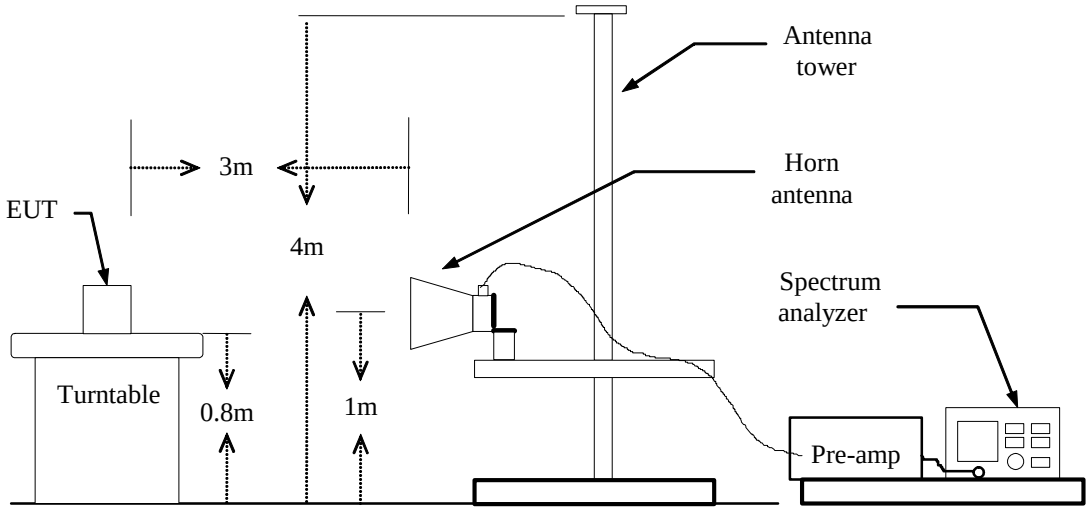
According to FCC §2.1053

TEST CONFIGURATION

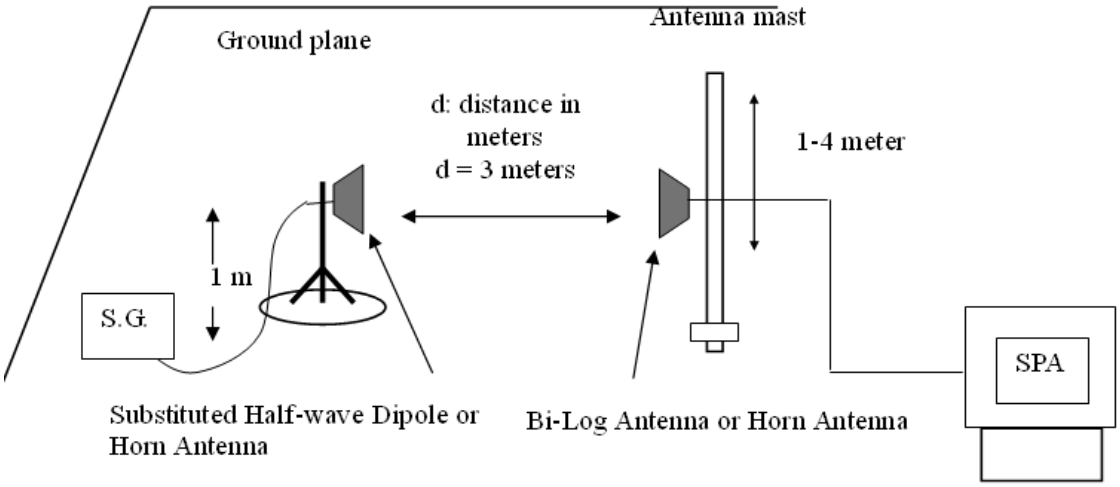
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

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

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

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

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

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

TEST RESULTS

Refer to the attached tabular data sheets.

Radiated Spurious Emission Measurement Result / Below 1GHz

Operation Mode:	GSM 850 / TX / CH 128	**Test Date:**	December 26,2014
Temperature:	23°C	**Tested by:**	James.Yan
Humidity:	51 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-39.19	-11.90	-51.09	-13.00	-38.09
118.27	V	-40.13	-12.14	-52.27	-13.00	-39.27
210.42	V	-39.72	-13.35	-53.07	-13.00	-40.07
474.26	V	-46.79	-6.02	-52.81	-13.00	-39.81
733.25	V	-47.72	-2.67	-50.39	-13.00	-37.39
920.46	V	-47.42	-0.60	-48.02	-13.00	-35.02
39.70	H	-38.41	-9.22	-47.63	-13.00	-34.63
140.58	H	-40.93	-9.44	-50.37	-13.00	-37.37
366.59	H	-41.88	-8.85	-50.73	-13.00	-37.73
536.34	H	-47.68	-5.69	-53.37	-13.00	-40.37
752.65	H	-48.13	-2.27	-50.40	-13.00	-37.40
906.88	H	-45.28	-0.99	-46.27	-13.00	-33.27

Operation Mode:	GSM 850 / TX / CH 190	**Test Date:**	December 26,2014
Temperature:	23°C	**Tested by:**	James.Yan
Humidity:	51 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
63.95	V	-40.42	-13.65	-54.07	-13.00	-41.07
179.38	V	-38.22	-11.75	-49.97	-13.00	-36.97
356.89	V	-44.14	-8.97	-53.11	-13.00	-40.11
473.29	V	-46.46	-6.03	-52.49	-13.00	-39.49
669.23	V	-47.42	-3.30	-50.72	-13.00	-37.72
870.99	V	-45.98	-0.98	-46.96	-13.00	-33.96
101.78	H	-36.86	-12.76	-49.62	-13.00	-36.62
209.45	H	-39.20	-13.42	-52.62	-13.00	-39.62
320.03	H	-40.09	-9.77	-49.86	-13.00	-36.86
477.17	H	-44.54	-6.06	-50.60	-13.00	-37.60
692.51	H	-48.73	-2.87	-51.60	-13.00	-38.60
869.05	H	-46.80	-1.06	-47.86	-13.00	-34.86

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 26,2014
Temperature:	23°C	**Tested by:**	James.Yan
Humidity:	51 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
79.47	V	-38.77	-13.28	-52.05	-13.00	-39.05
233.70	V	-38.93	-12.65	-51.58	-13.00	-38.58
416.06	V	-45.81	-7.26	-53.07	-13.00	-40.07
598.42	V	-47.17	-4.38	-51.55	-13.00	-38.55
783.69	V	-47.65	-1.99	-49.64	-13.00	-36.64
935.01	V	-45.67	-0.47	-46.14	-13.00	-33.14
62.98	H	-31.75	-16.38	-48.13	-13.00	-35.13
133.79	H	-39.00	-8.55	-47.55	-13.00	-34.55
265.71	H	-40.79	-10.59	-51.38	-13.00	-38.38
426.73	H	-41.63	-7.14	-48.77	-13.00	-35.77
578.05	H	-46.22	-4.88	-51.10	-13.00	-38.10
791.45	H	-45.88	-1.96	-47.84	-13.00	-34.84

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:	December 26,2014
Temperature:	23°C	Tested by:	James.Yan
Humidity:	51 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
81.41	V	-40.61	-13.24	-53.85	-13.00	-40.85
248.25	V	-39.67	-12.00	-51.67	-13.00	-38.67
385.99	V	-44.48	-8.54	-53.02	-13.00	-40.02
578.05	V	-46.66	-4.83	-51.49	-13.00	-38.49
739.07	V	-48.28	-2.45	-50.73	-13.00	-37.73
913.67	V	-47.75	-0.72	-48.47	-13.00	-35.47
101.78	H	-36.86	-12.76	-49.62	-13.00	-36.62
198.78	H	-40.55	-12.28	-52.83	-13.00	-39.83
368.53	H	-40.26	-8.77	-49.03	-13.00	-36.03
521.79	H	-46.62	-5.93	-52.55	-13.00	-39.55
723.55	H	-47.56	-2.74	-50.30	-13.00	-37.30
890.39	H	-48.07	-1.30	-49.37	-13.00	-36.37

Operation Mode:	GPRS 850 / TX / CH 190	**Test Date:**	December 26,2014
Temperature:	23°C	**Tested by:**	James.Yan
Humidity:	51 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
47.46	V	-39.82	-13.22	-53.04	-13.00	-40.04
182.29	V	-37.58	-11.74	-49.32	-13.00	-36.32
318.09	V	-42.38	-10.07	-52.45	-13.00	-39.45
481.05	V	-47.90	-5.93	-53.83	-13.00	-40.83
653.71	V	-47.93	-3.41	-51.34	-13.00	-38.34
831.22	V	-47.75	-1.57	-49.32	-13.00	-36.32
30.00	H	-38.59	-2.79	-41.38	-13.00	-28.38
133.79	H	-39.00	-8.55	-47.55	-13.00	-34.55
288.99	H	-39.99	-10.20	-50.19	-13.00	-37.19
465.53	H	-44.59	-6.35	-50.94	-13.00	-37.94
645.95	H	-47.40	-3.52	-50.92	-13.00	-37.92
828.31	H	-48.13	-1.73	-49.86	-13.00	-36.86

Remark:

3. The emission behaviour belongs to narrowband spurious emission.

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

Operation Mode:	GPRS 850 / TX / CH 251	**Test Date:**	December 26,2014
Temperature:	23°C	**Tested by:**	James.Yan
Humidity:	51 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
106.63	V	-39.46	-12.53	-51.99	-13.00	-38.99
219.15	V	-37.24	-13.11	-50.35	-13.00	-37.35
370.47	V	-44.92	-8.64	-53.56	-13.00	-40.56
559.62	V	-47.01	-5.04	-52.05	-13.00	-39.05
757.50	V	-46.22	-2.04	-48.26	-13.00	-35.26
950.53	V	-47.78	-0.60	-48.38	-13.00	-35.38
110.51	H	-37.88	-10.39	-48.27	-13.00	-35.27
233.70	H	-39.11	-13.14	-52.25	-13.00	-39.25
435.46	H	-42.41	-6.96	-49.37	-13.00	-36.37
606.18	H	-46.25	-4.10	-50.35	-13.00	-37.35
766.23	H	-48.06	-2.09	-50.15	-13.00	-37.15
927.25	H	-47.16	-0.36	-47.52	-13.00	-34.52

Remark:

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

Operation Mode:	GSM 1900 / TX / CH 512	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
39.70	V	-39.15	-10.58	-49.73	-13.00	-36.73
175.50	V	-39.11	-11.78	-50.89	-13.00	-37.89
335.55	V	-43.40	-9.61	-53.01	-13.00	-40.01
554.77	V	-46.31	-5.10	-51.41	-13.00	-38.41
717.73	V	-48.86	-2.77	-51.63	-13.00	-38.63
870.02	V	-45.54	-0.97	-46.51	-13.00	-33.51
149.31	H	-39.31	-10.59	-49.90	-13.00	-36.90
354.95	H	-41.28	-9.33	-50.61	-13.00	-37.61
527.61	H	-46.42	-5.92	-52.34	-13.00	-39.34
686.69	H	-48.27	-3.00	-51.27	-13.00	-38.27
811.82	H	-47.70	-1.59	-49.29	-13.00	-36.29
967.02	H	-46.63	-0.44	-47.07	-13.00	-34.07

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
104.69	V	-40.24	-12.59	-52.83	-13.00	-39.83
244.37	V	-39.74	-12.17	-51.91	-13.00	-38.91
440.31	V	-45.53	-6.92	-52.45	-13.00	-39.45
628.49	V	-47.62	-3.37	-50.99	-13.00	-37.99
715.79	V	-47.56	-2.76	-50.32	-13.00	-37.32
943.74	V	-46.41	-0.55	-46.96	-13.00	-33.96
114.39	H	-39.53	-9.92	-49.45	-13.00	-36.45
267.65	H	-41.39	-10.35	-51.74	-13.00	-38.74
446.13	H	-42.69	-6.76	-49.45	-13.00	-36.45
612.97	H	-45.85	-3.88	-49.73	-13.00	-36.73
729.37	H	-46.82	-2.76	-49.58	-13.00	-36.58
881.66	H	-46.84	-1.19	-48.03	-13.00	-35.03

Remark:

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

Operation Mode:	GSM 1900 / TX / CH 810	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
97.90	V	-39.58	-12.81	-52.39	-13.00	-39.39
201.69	V	-39.44	-12.67	-52.11	-13.00	-39.11
318.09	V	-42.38	-10.07	-52.45	-13.00	-39.45
494.63	V	-46.43	-5.81	-52.24	-13.00	-39.24
680.87	V	-47.05	-3.06	-50.11	-13.00	-37.11
842.86	V	-47.36	-1.55	-48.91	-13.00	-35.91
81.41	H	-35.72	-16.28	-52.00	-13.00	-39.00
283.17	H	-40.52	-10.16	-50.68	-13.00	-37.68
424.79	H	-41.52	-7.18	-48.70	-13.00	-35.70
558.65	H	-46.59	-5.11	-51.70	-13.00	-38.70
707.06	H	-48.20	-2.72	-50.92	-13.00	-37.92
884.57	H	-46.19	-1.23	-47.42	-13.00	-34.42

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
77.53	V	-33.96	-16.38	-50.34	-13.00	-37.34
238.55	V	-39.39	-12.97	-52.36	-13.00	-39.36
462.62	V	-44.06	-6.41	-50.47	-13.00	-37.47
598.42	V	-46.81	-4.38	-51.19	-13.00	-38.19
722.58	V	-47.15	-2.73	-49.88	-13.00	-36.88
863.23	V	-47.63	-1.26	-48.89	-13.00	-35.89
58.13	H	-40.36	-13.83	-54.19	-13.00	-41.19
164.83	H	-39.31	-11.69	-51.00	-13.00	-38.00
307.42	H	-42.52	-10.26	-52.78	-13.00	-39.78
494.63	H	-46.43	-5.81	-52.24	-13.00	-39.24
599.39	H	-47.65	-4.34	-51.99	-13.00	-38.99
846.74	H	-47.45	-1.54	-48.99	-13.00	-35.99

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
152.22	V	-39.93	-11.38	-51.31	-13.00	-38.31
252.13	V	-38.97	-11.76	-50.73	-13.00	-37.73
399.57	V	-45.47	-7.94	-53.41	-13.00	-40.41
548.95	V	-46.52	-5.20	-51.72	-13.00	-38.72
734.22	V	-47.80	-2.64	-50.44	-13.00	-37.44
908.82	V	-47.54	-0.81	-48.35	-13.00	-35.35
48.43	H	-35.78	-15.00	-50.78	-13.00	-37.78
155.13	H	-41.18	-10.79	-51.97	-13.00	-38.97
393.75	H	-41.62	-8.38	-50.00	-13.00	-37.00
510.15	H	-44.20	-5.94	-50.14	-13.00	-37.14
629.46	H	-46.71	-3.45	-50.16	-13.00	-37.16
831.22	H	-48.64	-1.74	-50.38	-13.00	-37.38

Remark:

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

Operation Mode:	GPRS 1900 / TX / CH 810	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
135.55	V	-41.25	-12.84	-54.09	-13.00	-41.09
205.21	V	-41.24	-14.98	-56.22	-13.00	-43.22
401.41	V	-41.12	-11.17	-52.29	-13.00	-39.29
500.25	V	-49.75	-8.38	-58.13	-13.00	-45.13
695.15	V	-55.21	-6.25	-61.46	-13.00	-48.46
801.42	V	52.26	-4.92	47.34	-13.00	60.34
116.26	H	-38.24	-14.09	-52.33	-13.00	-39.33
194.24	H	-42.24	-13.34	-55.58	-13.00	-42.58
400.12	H	-46.45	-10.96	-57.41	-13.00	-44.41
500.24	H	-53.75	-8.27	-62.02	-13.00	-49.02
698.52	H	-52.54	-6.18	-58.72	-13.00	-45.72
799.42	H	-54.62	-4.89	-59.51	-13.00	-46.51

Remark:

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

Operation Mode:	WCDMA Band II / TX / CH 9262	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
145.43	V	-39.62	-11.42	-51.04	-13.00	-38.04
233.70	V	-38.93	-12.65	-51.58	-13.00	-38.58
385.99	V	-44.48	-8.54	-53.02	-13.00	-40.02
589.69	V	-46.74	-4.74	-51.48	-13.00	-38.48
781.75	V	-47.83	-2.00	-49.83	-13.00	-36.83
923.37	V	-47.99	-0.55	-48.54	-13.00	-35.54
162.89	H	-41.57	-10.94	-52.51	-13.00	-39.51
349.13	H	-42.03	-9.54	-51.57	-13.00	-38.57
477.17	H	-44.54	-6.06	-50.60	-13.00	-37.60
605.21	H	-45.95	-4.13	-50.08	-13.00	-37.08
753.62	H	-47.52	-2.25	-49.77	-13.00	-36.77
939.86	H	-46.03	-0.49	-46.52	-13.00	-33.52

Remark:

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

Operation Mode:	WCDMA Band II / TX / CH 9400	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
94.02	V	-39.73	-12.94	-52.67	-13.00	-39.67
168.71	V	-38.53	-11.78	-50.31	-13.00	-37.31
310.33	V	-42.47	-10.25	-52.72	-13.00	-39.72
486.87	V	-45.83	-5.84	-51.67	-13.00	-38.67
667.29	V	-45.78	-3.31	-49.09	-13.00	-36.09
855.47	V	-47.62	-1.38	-49.00	-13.00	-36.00
104.69	H	-38.64	-11.94	-50.58	-13.00	-37.58
329.73	H	-41.22	-9.59	-50.81	-13.00	-37.81
520.82	H	-46.51	-5.93	-52.44	-13.00	-39.44
671.17	H	-47.88	-3.49	-51.37	-13.00	-38.37
867.11	H	-47.42	-1.13	-48.55	-13.00	-35.55
939.86	H	-46.03	-0.49	-46.52	-13.00	-33.52

Remark:

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

Operation Mode:	WCDMA Band II / TX / CH 9538	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
102.75	V	-40.33	-12.66	-52.99	-13.00	-39.99
228.85	V	-37.07	-12.85	-49.92	-13.00	-36.92
415.09	V	-45.26	-7.27	-52.53	-13.00	-39.53
583.87	V	-48.76	-4.79	-53.55	-13.00	-40.55
714.82	V	-47.91	-2.76	-50.67	-13.00	-37.67
931.13	V	-46.90	-0.44	-47.34	-13.00	-34.34
43.58	H	-37.12	-11.79	-48.91	-13.00	-35.91
156.10	H	-41.67	-10.80	-52.47	-13.00	-39.47
250.19	H	-40.44	-12.56	-53.00	-13.00	-40.00
439.34	H	-42.95	-6.89	-49.84	-13.00	-36.84
606.18	H	-46.25	-4.10	-50.35	-13.00	-37.35
814.73	H	-47.23	-1.62	-48.85	-13.00	-35.85

Remark:

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

Operation Mode:	HSDPA Band II / TX / CH 9262	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
66.86	V	-39.85	-13.56	-53.41	-13.00	-40.41
198.78	V	-39.58	-12.42	-52.00	-13.00	-39.00
345.25	V	-43.00	-9.29	-52.29	-13.00	-39.29
504.33	V	-45.05	-5.84	-50.89	-13.00	-37.89
648.86	V	-45.73	-3.43	-49.16	-13.00	-36.16
843.83	V	-46.83	-1.55	-48.38	-13.00	-35.38
94.99	H	-38.31	-14.67	-52.98	-13.00	-39.98
184.23	H	-40.14	-11.27	-51.41	-13.00	-38.41
396.66	H	-42.22	-8.23	-50.45	-13.00	-37.45
531.49	H	-45.89	-5.87	-51.76	-13.00	-38.76
737.13	H	-47.67	-2.60	-50.27	-13.00	-37.27
920.46	H	-47.63	-0.58	-48.21	-13.00	-35.21

Remark:

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

Operation Mode:	HSDPA Band II / TX / CH 9400	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
90.14	V	-39.97	-13.07	-53.04	-13.00	-40.04
244.37	V	-39.74	-12.17	-51.91	-13.00	-38.91
412.18	V	-46.79	-7.29	-54.08	-13.00	-41.08
575.14	V	-47.00	-4.85	-51.85	-13.00	-38.85
756.53	V	-47.96	-2.04	-50.00	-13.00	-37.00
925.31	V	-47.75	-0.51	-48.26	-13.00	-35.26
40.67	H	-37.86	-9.86	-47.72	-13.00	-34.72
122.15	H	-39.58	-8.99	-48.57	-13.00	-35.57
273.47	H	-39.78	-10.08	-49.86	-13.00	-36.86
440.31	H	-42.90	-6.87	-49.77	-13.00	-36.77
661.47	H	-47.56	-3.53	-51.09	-13.00	-38.09
863.23	H	-47.63	-1.26	-48.89	-13.00	-35.89

Remark:

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

Operation Mode:	HSDPA Band II / TX / CH 9538	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
43.58	V	-39.19	-11.90	-51.09	-13.00	-38.09
207.51	V	-39.29	-13.15	-52.44	-13.00	-39.44
323.91	V	-43.18	-9.93	-53.11	-13.00	-40.11
494.63	V	-46.43	-5.81	-52.24	-13.00	-39.24
704.15	V	-47.08	-2.79	-49.87	-13.00	-36.87
880.69	V	-46.40	-1.10	-47.50	-13.00	-34.50
87.23	H	-35.28	-16.14	-51.42	-13.00	-38.42
201.69	H	-40.03	-12.59	-52.62	-13.00	-39.62
404.42	H	-42.27	-7.82	-50.09	-13.00	-37.09
582.90	H	-46.06	-4.80	-50.86	-13.00	-37.86
779.81	H	-47.62	-2.02	-49.64	-13.00	-36.64
901.06	H	-47.14	-1.10	-48.24	-13.00	-35.24

Remark:

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

Operation Mode:	HSUPA Band II / TX / CH 9262	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
155.13	V	-39.16	-11.45	-50.61	-13.00	-37.61
268.62	V	-42.51	-10.55	-53.06	-13.00	-40.06
423.82	V	-45.88	-7.20	-53.08	-13.00	-40.08
578.05	V	-46.66	-4.83	-51.49	-13.00	-38.49
785.63	V	-47.98	-1.98	-49.96	-13.00	-36.96
929.19	V	-39.89	-0.44	-40.33	-13.00	-27.33
116.33	H	-40.60	-9.69	-50.29	-13.00	-37.29
174.53	H	-41.18	-11.15	-52.33	-13.00	-39.33
333.61	H	-40.74	-9.58	-50.32	-13.00	-37.32
513.06	H	-46.93	-5.94	-52.87	-13.00	-39.87
678.93	H	-47.58	-3.25	-50.83	-13.00	-37.83
854.50	H	-47.76	-1.56	-49.32	-13.00	-36.32

Remark:

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

Operation Mode:	HSUPA Band II / TX / CH 9400	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

(MHz)	Polarization	(dBm)	(dB)	(dBm)	(dBm)	(dB)
60.07	V	-41.40	-13.77	-55.17	-13.00	-42.17
225.94	V	-38.40	-12.93	-51.33	-13.00	-38.33
351.07	V	-43.98	-9.11	-53.09	-13.00	-40.09
484.93	V	-46.14	-5.87	-52.01	-13.00	-39.01
686.69	V	-47.18	-2.94	-50.12	-13.00	-37.12
793.39	V	-47.69	-1.90	-49.59	-13.00	-36.59
110.51	H	-37.88	-10.39	-48.27	-13.00	-35.27
267.65	H	-41.39	-10.35	-51.74	-13.00	-38.74
438.37	H	-43.30	-6.91	-50.21	-13.00	-37.21
585.81	H	-47.43	-4.76	-52.19	-13.00	-39.19
744.89	H	-47.64	-2.42	-50.06	-13.00	-37.06
911.73	H	-47.30	-0.87	-48.17	-13.00	-35.17

Remark:

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

Operation Mode:	HSUPA Band II / TX / CH 9538	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
91.11	V	-40.34	-13.03	-53.37	-13.00	-40.37
280.26	V	-43.41	-10.36	-53.77	-13.00	-40.77
416.06	V	-45.81	-7.26	-53.07	-13.00	-40.07
572.23	V	-46.95	-4.87	-51.82	-13.00	-38.82
700.27	V	-47.94	-2.81	-50.75	-13.00	-37.75
858.38	V	-47.19	-1.30	-48.49	-13.00	-35.49
48.43	H	-35.78	-15.00	-50.78	-13.00	-37.78
194.90	H	-40.22	-11.86	-52.08	-13.00	-39.08
341.37	H	-42.26	-9.56	-51.82	-13.00	-38.82
515.97	H	-47.11	-5.93	-53.04	-13.00	-40.04
684.75	H	-46.84	-3.07	-49.91	-13.00	-36.91
867.11	H	-47.42	-1.13	-48.55	-13.00	-35.55

Remark:

5. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
6. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128.94	V	-41.87	-8.18	-50.05	-13.00	-37.05
250.19	V	-40.43	-12.56	-52.99	-13.00	-39.99
420.91	V	-42.79	-7.27	-50.06	-13.00	-37.06
591.63	V	-46.21	-4.63	-50.84	-13.00	-37.84
764.29	V	-47.76	-2.11	-49.87	-13.00	-36.87
946.65	V	-46.32	-0.64	-46.96	-13.00	-33.96
219.15	H	-37.24	-13.11	-50.35	-13.00	-37.35
331.67	H	-43.51	-9.74	-53.25	-13.00	-40.25
501.42	H	-44.89	-5.83	-50.72	-13.00	-37.72
620.73	H	-48.47	-3.58	-52.05	-13.00	-39.05
765.26	H	-47.16	-2.05	-49.21	-13.00	-36.21
935.01	H	-45.67	-0.47	-46.14	-13.00	-33.14

Remark:

7. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
8. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
118.27	V	-40.13	-12.14	-52.27	-13.00	-39.27
280.26	V	-43.41	-10.36	-53.77	-13.00	-40.77
409.27	V	-46.89	-7.35	-54.24	-13.00	-41.24
536.34	V	-45.65	-5.53	-51.18	-13.00	-38.18
707.06	V	-47.45	-2.77	-50.22	-13.00	-37.22
878.75	V	-47.02	-1.07	-48.09	-13.00	-35.09
78.50	H	-33.53	-16.36	-49.89	-13.00	-36.89
197.81	H	-41.67	-12.18	-53.85	-13.00	-40.85
338.46	H	-42.51	-9.57	-52.08	-13.00	-39.08
482.99	H	-44.84	-5.91	-50.75	-13.00	-37.75
683.78	H	-47.68	-3.10	-50.78	-13.00	-37.78
874.87	H	-46.10	-1.10	-47.20	-13.00	-34.20

Remark:

7. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
8. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
82.38	V	-40.32	-13.22	-53.54	-13.00	-40.54
207.51	V	-39.29	-13.15	-52.44	-13.00	-39.44
320.03	V	-42.40	-10.02	-52.42	-13.00	-39.42
470.38	V	-47.57	-6.07	-53.64	-13.00	-40.64
634.31	V	-47.82	-3.35	-51.17	-13.00	-38.17
832.19	V	-47.16	-1.57	-48.73	-13.00	-35.73
62.98	H	-31.75	-16.38	-48.13	-13.00	-35.13
139.61	H	-41.03	-9.31	-50.34	-13.00	-37.34
260.86	H	-40.45	-11.21	-51.66	-13.00	-38.66
430.61	H	-42.71	-7.05	-49.76	-13.00	-36.76
579.02	H	-45.53	-4.87	-50.40	-13.00	-37.40
800.18	H	-48.14	-1.78	-49.92	-13.00	-36.92

Remark:

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

Operation Mode:	HSDPA Band V / TX / CH 4132	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
137.67	V	-38.93	-11.58	-50.51	-13.00	-37.51
276.38	V	-42.64	-10.39	-53.03	-13.00	-40.03
401.51	V	-46.15	-7.82	-53.97	-13.00	-40.97
556.71	V	-46.39	-5.08	-51.47	-13.00	-38.47
754.59	V	-46.53	-2.03	-48.56	-13.00	-35.56
936.95	V	-47.67	-0.49	-48.16	-13.00	-35.16
46.49	H	-37.05	-13.71	-50.76	-13.00	-37.76
199.75	H	-40.90	-12.38	-53.28	-13.00	-40.28
384.05	H	-41.84	-8.62	-50.46	-13.00	-37.46
536.34	H	-47.68	-5.69	-53.37	-13.00	-40.37
699.30	H	-49.11	-2.80	-51.91	-13.00	-38.91
898.15	H	-47.10	-1.16	-48.26	-13.00	-35.26

Remark:

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

Operation Mode:	HSDPA Band V / TX / CH 4182	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
228.85	V	-37.07	-12.85	-49.92	-13.00	-36.92
368.53	V	-44.14	-8.68	-52.82	-13.00	-39.82
498.51	V	-43.36	-5.83	-49.19	-13.00	-36.19
686.69	V	-47.18	-2.94	-50.12	-13.00	-37.12
831.22	V	-47.75	-1.57	-49.32	-13.00	-36.32
991.27	V	-47.76	0.09	-47.67	-13.00	-34.67
86.26	H	-34.40	-16.16	-50.56	-13.00	-37.56
147.37	H	-39.89	-10.33	-50.22	-13.00	-37.22
281.23	H	-39.36	-10.14	-49.50	-13.00	-36.50
451.95	H	-44.22	-6.65	-50.87	-13.00	-37.87
659.53	H	-47.99	-3.54	-51.53	-13.00	-38.53
849.65	H	-48.19	-1.72	-49.91	-13.00	-36.91

Remark:

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

Operation Mode:	HSDPA Band V / TX / CH 4233	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
140.58	V	-39.38	-11.52	-50.90	-13.00	-37.90
299.66	V	-42.58	-10.27	-52.85	-13.00	-39.85
426.73	V	-44.85	-7.18	-52.03	-13.00	-39.03
625.58	V	-47.55	-3.45	-51.00	-13.00	-38.00
796.30	V	-47.80	-1.84	-49.64	-13.00	-36.64
925.31	V	-47.75	-0.51	-48.26	-13.00	-35.26
174.53	H	-41.18	-11.15	-52.33	-13.00	-39.33
303.54	H	-40.62	-10.04	-50.66	-13.00	-37.66
442.25	H	-42.60	-6.83	-49.43	-13.00	-36.43
581.93	H	-46.23	-4.82	-51.05	-13.00	-38.05
788.54	H	-47.01	-1.99	-49.00	-13.00	-36.00
928.22	H	-43.00	-0.33	-43.33	-13.00	-30.33

Remark:

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

Operation Mode:	HSUPA Band V / TX / CH 4132	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
65.89	V	-40.31	-13.59	-53.90	-13.00	-40.90
373.38	V	-44.34	-8.62	-52.96	-13.00	-39.96
470.38	V	-47.57	-6.07	-53.64	-13.00	-40.64
531.49	V	-45.22	-5.65	-50.87	-13.00	-37.87
717.73	V	-48.86	-2.77	-51.63	-13.00	-38.63
876.81	V	-46.67	-1.05	-47.72	-13.00	-34.72
129.91	H	-41.83	-8.06	-49.89	-13.00	-36.89
238.55	H	-39.39	-12.97	-52.36	-13.00	-39.36
347.19	H	-40.58	-9.55	-50.13	-13.00	-37.13
531.49	H	-45.89	-5.87	-51.76	-13.00	-38.76
692.51	H	-48.73	-2.87	-51.60	-13.00	-38.60
876.81	H	-47.05	-1.13	-48.18	-13.00	-35.18

Remark:

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

Operation Mode:	HSUPA Band V / TX / CH 4182	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
36.79	V	-41.10	-9.59	-50.69	-13.00	-37.69
159.01	V	-38.54	-11.55	-50.09	-13.00	-37.09
285.11	V	-42.86	-10.31	-53.17	-13.00	-40.17
403.45	V	-45.33	-7.70	-53.03	-13.00	-40.03
606.18	V	-46.79	-4.04	-50.83	-13.00	-37.83
832.19	V	-47.16	-1.57	-48.73	-13.00	-35.73
83.35	H	-34.81	-16.24	-51.05	-13.00	-38.05
174.53	H	-41.18	-11.15	-52.33	-13.00	-39.33
288.02	H	-39.79	-10.19	-49.98	-13.00	-36.98
454.86	H	-44.32	-6.58	-50.90	-13.00	-37.90
621.70	H	-46.62	-3.66	-50.28	-13.00	-37.28
803.09	H	-48.14	-1.72	-49.86	-13.00	-36.86

Remark:

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

Operation Mode:	HSUPA Band V / TX / CH 4233	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
93.05	V	-40.49	-12.97	-53.46	-13.00	-40.46
225.94	V	-38.40	-12.93	-51.33	-13.00	-38.33
357.86	V	-43.97	-8.94	-52.91	-13.00	-39.91
531.49	V	-45.22	-5.65	-50.87	-13.00	-37.87
723.55	V	-48.15	-2.78	-50.93	-13.00	-37.93
869.05	V	-45.93	-1.00	-46.93	-13.00	-33.93
94.99	H	-38.31	-14.67	-52.98	-13.00	-39.98
230.79	H	-38.69	-13.24	-51.93	-13.00	-38.93
387.93	H	-41.80	-8.59	-50.39	-13.00	-37.39
562.53	H	-47.87	-5.08	-52.95	-13.00	-39.95
754.59	H	-46.96	-2.24	-49.20	-13.00	-36.20
881.66	H	-46.84	-1.19	-48.03	-13.00	-35.03

Remark:

11. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
12. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2136.00	V	-41.33	1.81	-39.52	-13.00	-26.52
3744.00	V	-44.61	6.48	-38.13	-13.00	-25.13
1760.00	H	-43.34	-0.62	-43.96	-13.00	-30.96
3120.00	H	-47.03	4.56	-42.47	-13.00	-29.47

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1464.00	V	-42.70	0.12	-42.58	-13.00	-29.58
3104.00	V	-45.62	4.79	-40.83	-13.00	-27.83
1432.00	H	-44.47	-0.15	-44.62	-13.00	-31.62
3648.00	H	-46.55	5.25	-41.30	-13.00	-28.30

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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

Operation Mode:	GSM 850 / TX / CH 251	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1880.00	V	-38.12	0.06	-38.06	-13.00	-25.06
3320.00	V	-46.05	4.59	-41.46	-13.00	-28.46
2168.00	H	-44.36	2.04	-42.32	-13.00	-29.32
3096.00	H	-46.47	4.59	-41.88	-13.00	-28.88

Remark:

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

Operation Mode:	GPRS 850 / TX / CH 128	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2640.00	V	-43.65	3.23	-40.42	-13.00	-27.42
3680.00	V	-44.97	5.56	-39.41	-13.00	-26.41
1272.00	H	-43.99	-0.18	-44.17	-13.00	-31.17
2656.00	H	-44.79	3.16	-41.63	-13.00	-28.63

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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

Operation Mode:	GPRS 850 / TX / CH 190	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1584.00	V	-43.86	-0.40	-44.26	-13.00	-31.26
3168.00	V	-45.50	4.95	-40.55	-13.00	-27.55
1696.00	H	-43.70	-0.50	-44.20	-13.00	-31.20
3200.00	H	-46.90	4.81	-42.09	-13.00	-29.09

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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

Operation Mode:	GPRS 850 / TX / CH 251	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1104.00	V	-44.01	-0.56	-44.57	-13.00	-31.57
2800.00	V	-43.22	4.01	-39.21	-13.00	-26.21
1872.00	H	-42.34	-0.36	-42.70	-13.00	-29.70
3704.00	H	-46.23	5.36	-40.87	-13.00	-27.87

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4534.00	V	-41.02	1.73	-39.29	-13.00	-26.29
6795.00	V	-43.12	8.10	-35.02	-13.00	-22.02
4230.00	H	-42.39	0.46	-41.93	-13.00	-28.93
6681.00	H	-49.20	8.57	-40.63	-13.00	-27.63

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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

Operation Mode:	GSM 1900 / TX / CH 661	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5047.00	V	-44.18	6.44	-37.74	-13.00	-24.74
7555.00	V	-45.35	10.34	-35.01	-13.00	-22.01
4838.00	H	-47.79	5.73	-42.06	-13.00	-29.06
7194.00	H	-49.60	10.12	-39.48	-13.00	-26.48

Remark:

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

Operation Mode:	GSM 1900 / TX / CH 810	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4154.00	V	-39.76	0.29	-39.47	-13.00	-26.47
6738.00	V	-43.40	8.12	-35.28	-13.00	-22.28
5617.00	H	-50.98	7.32	-43.66	-13.00	-30.66
6985.00	H	-48.58	8.01	-40.57	-13.00	-27.57

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5009.00	V	-42.80	5.96	-36.84	-13.00	-23.84
7498.00	V	-44.81	11.43	-33.38	-13.00	-20.38
4534.00	H	-45.92	1.32	-44.60	-13.00	-31.60
7042.00	H	-48.43	9.21	-39.22	-13.00	-26.22

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4762.00	V	-40.60	4.83	-35.77	-13.00	-22.77
7498.00	V	-44.81	11.43	-33.38	-13.00	-20.38
4629.00	H	-46.58	3.08	-43.50	-13.00	-30.50
6833.00	H	-48.32	7.67	-40.65	-13.00	-27.65

Remark:

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

Operation Mode:	GPRS 1900 / TX / CH 810	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4761.20	V	-61.55	8.99	-52.56	-13.00	-39.56
7075.10	V	-61.12	14.17	-46.95	-13.00	-33.95
5192.10	H	-55.21	10.22	-44.99	-13.00	-31.99
7033.10	H	-55.23	14.23	-41.00	-13.00	-28.00

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5218.00	V	-45.09	6.95	-38.14	-13.00	-25.14
7745.00	V	-45.18	8.11	-37.07	-13.00	-24.07
4477.00	H	-44.66	0.87	-43.79	-13.00	-30.79
7365.00	H	-52.30	11.27	-41.03	-13.00	-28.03

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4363.00	V	-39.19	0.72	-38.47	-13.00	-25.47
6719.00	V	-44.10	8.38	-35.72	-13.00	-22.72
4781.00	H	-47.93	5.21	-42.72	-13.00	-29.72
6681.00	H	-49.20	8.57	-40.63	-13.00	-27.63

Remark:

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

Operation Mode:	WCDMA Band II / TX / CH 9538	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4990.00	V	-42.63	5.67	-36.96	-13.00	-23.96
7251.00	V	-44.91	10.20	-34.71	-13.00	-21.71
5294.00	H	-50.92	6.19	-44.73	-13.00	-31.73
7346.00	H	-53.14	11.19	-41.95	-13.00	-28.95

Remark:

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

Operation Mode:	HSDPA Band II / TX / CH 9262	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4135.00	V	-38.71	0.09	-38.62	-13.00	-25.62
6301.00	V	-45.95	7.15	-38.80	-13.00	-25.80
4914.00	H	-43.36	5.27	-38.09	-13.00	-25.09
7175.00	H	-43.32	9.96	-33.36	-13.00	-20.36

Remark:

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

Operation Mode:	HSDPA Band II / TX / CH 9400	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5161.00	V	-44.31	7.08	-37.23	-13.00	-24.23
7194.00	V	-45.30	10.14	-35.16	-13.00	-22.16
4325.00	H	-40.12	0.88	-39.24	-13.00	-26.24
6890.00	H	-42.75	7.29	-35.46	-13.00	-22.46

Remark:

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

Operation Mode:	HSDPA Band II / TX / CH 9538	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1699.30	V	-54.60	0.79	-53.81	-13.00	-40.81
2546.50	V	-55.50	3.77	-51.73	-13.00	-38.73
1700.50	H	-56.42	0.90	-55.52	-13.00	-42.52
4597.35	H	-51.36	9.69	-41.67	-13.00	-28.67

Remark:

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

Operation Mode:	HSUPA Band II / TX / CH 9262	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4230.00	V	-40.24	0.46	-39.78	-13.00	-26.78
6529.00	V	-45.22	8.64	-36.58	-13.00	-23.58
4895.00	H	-43.57	5.27	-38.30	-13.00	-25.30
6206.00	H	-46.44	6.50	-39.94	-13.00	-26.94

Remark:

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

Operation Mode:	HSUPA Band II / TX / CH 9400	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5237.00	V	-45.15	6.91	-38.24	-13.00	-25.24
6757.00	V	-45.32	7.98	-37.34	-13.00	-24.34
4857.00	H	-44.63	5.80	-38.83	-13.00	-25.83
7099.00	H	-43.51	9.54	-33.97	-13.00	-20.97

Remark:

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

Operation Mode:	HSUPA Band II / TX / CH 9538	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
5655.00	V	-45.68	6.93	-38.75	-13.00	-25.75
7498.00	V	-47.70	11.43	-36.27	-13.00	-23.27
4762.00	H	-42.28	4.83	-37.45	-13.00	-24.45
6415.00	H	-45.85	8.06	-37.79	-13.00	-24.79

Remark:

5. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
6. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1840.00	V	-43.25	-0.26	-43.51	-13.00	-30.51
3608.00	V	-45.66	5.60	-40.06	-13.00	-27.06
1336.00	H	-43.60	-0.25	-43.85	-13.00	-30.85
3520.00	H	-46.36	5.04	-41.32	-13.00	-28.32

Remark:

7. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
8. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1216.00	V	-44.25	-0.01	-44.26	-13.00	-31.26
3776.00	V	-45.02	6.87	-38.15	-13.00	-25.15
1744.00	H	-43.70	-0.60	-44.30	-13.00	-31.30
2936.00	H	-44.13	3.59	-40.54	-13.00	-27.54

Remark:

7. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
8. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions 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 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1688.00	V	-44.12	-0.18	-44.30	-13.00	-31.30
2848.00	V	-44.68	3.97	-40.71	-13.00	-27.71
1424.00	H	-44.45	-0.26	-44.71	-13.00	-31.71
3568.00	H	-46.83	5.28	-41.55	-13.00	-28.55

Remark:

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

Operation Mode:	HSDPA Band V / TX / CH 4132	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2080.00	V	-43.31	0.70	-42.61	-13.00	-29.61
3472.00	V	-46.14	4.90	-41.24	-13.00	-28.24
1808.00	H	-35.43	-0.63	-36.06	-13.00	-23.06
3040.00	H	-45.06	4.31	-40.75	-13.00	-27.75

Remark:

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

Operation Mode:	HSDPA Band V / TX / CH 4182	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1392.00	V	-43.13	-0.39	-43.52	-13.00	-30.52
3872.00	V	-44.96	7.39	-37.57	-13.00	-24.57
1216.00	H	-44.94	-0.28	-45.22	-13.00	-32.22
3504.00	H	-46.75	4.93	-41.82	-13.00	-28.82

Remark:

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

Operation Mode:	HSDPA Band V / TX / CH 4233	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1792.00	V	-42.80	-0.20	-43.00	-13.00	-30.00
2976.00	V	-44.78	3.90	-40.88	-13.00	-27.88
1696.00	H	-43.70	-0.50	-44.20	-13.00	-31.20
3184.00	H	-47.11	4.71	-42.40	-13.00	-29.40

Remark:

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

Operation Mode:	HSUPA Band V / TX / CH 4132	Test Date:	December 26,2014
Temperature:	21°C	Tested by:	James.Yan
Humidity:	53 % RH	Polarity:	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1248.00	V	-42.55	0.20	-42.35	-13.00	-29.35
3096.00	V	-44.66	4.79	-39.87	-13.00	-26.87
1304.00	H	-44.48	-0.25	-44.73	-13.00	-31.73
3296.00	H	-47.41	4.58	-42.83	-13.00	-29.83

Remark:

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

Operation Mode:	HSUPA Band V / TX / CH 4182	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1624.00	V	-44.25	-0.48	-44.73	-13.00	-31.73
3648.00	V	-44.78	5.46	-39.32	-13.00	-26.32
1664.00	H	-44.56	-0.65	-45.21	-13.00	-32.21
3040.00	H	-45.06	4.31	-40.75	-13.00	-27.75

Remark:

11. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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

Operation Mode:	HSUPA Band V / TX / CH 4233	**Test Date:**	December 26,2014
Temperature:	21°C	**Tested by:**	James.Yan
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2128.00	V	-41.80	1.59	-40.21	-13.00	-27.21
3424.00	V	-46.85	4.65	-42.20	-13.00	-29.20
1568.00	H	-43.42	-0.77	-44.19	-13.00	-31.19
3480.00	H	-47.09	4.48	-42.61	-13.00	-29.61

Remark:

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

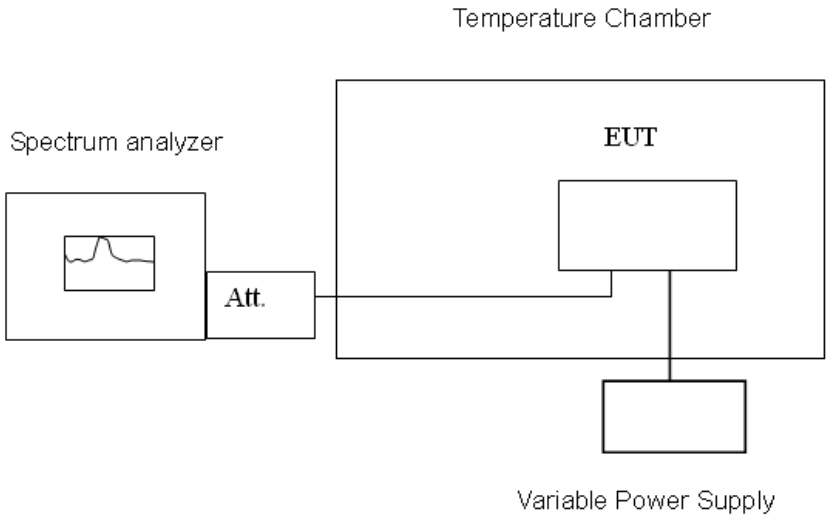
7.7. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

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

Frequency Tolerance: 2.5 ppm

TEST CONFIGURATION



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

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

TEST RESULTS

No non-compliance noted.

Reference Frequency: GSM Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091.5 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	836600035	35	2091.5
	40	836600033	33	
	30	836600032	32	
	20	836599985	15	
	10	836600029	29	
	0	836600031	31	
	-5	836600036	36	
	-10	836600038	38	

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091.5 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	83660033	33	2091.5
	40	83660035	35	
	30	83660039	39	
	20	83659985	15	
	10	83660029	29	
	0	83660032	32	
	-5	83660025	25	
	-10	83660038	38	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	1879999983	17	4700
	40	1879999983	17	
	30	1879999978	22	
	20	1880000015	15	
	10	1879999989	11	
	0	1879999979	21	
	-5	1879999986	14	
	-10	1879999983	17	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	1879999982	18	4700
	40	1879999983	17	
	30	1879999974	26	
	20	1880000015	15	
	10	1879999988	12	
	0	1879999976	24	
	-5	1879999987	13	
	-10	1879999985	15	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	1879999971	29	4700
	40	1879999972	28	
	30	1879999979	21	
	20	1880000015	15	
	10	1879999988	12	
	0	1879999977	23	
	-5	1879999985	15	
	-10	1879999981	19	

Reference Frequency: HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	1879999974	26	4700
	40	1879999971	29	
	30	1879999976	24	
	20	1880000015	15	
	10	1879999984	16	
	0	1879999972	28	
	-5	1879999983	17	
	-10	1879999982	18	

Reference Frequency: HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	1879999978	22	4700
	40	1879999975	25	
	30	1879999979	21	
	20	1880000015	15	
	10	1879999982	18	
	0	1879999979	21	
	-5	1879999982	18	
	-10	1879999979	21	

Reference Frequency: WCDMA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	83639978	22	2091
	40	83640017	17	
	30	83640013	13	
	20	83639984	16	
	10	83640015	15	
	0	83639986	14	
	-5	83640018	18	
	-10	83640014	14	

Reference Frequency: HSDPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	83639977	23	2091
	40	83640019	19	
	30	83640017	17	
	20	83639982	18	
	10	83640015	15	
	0	83639987	13	
	-5	83640019	19	
	-10	83640016	16	

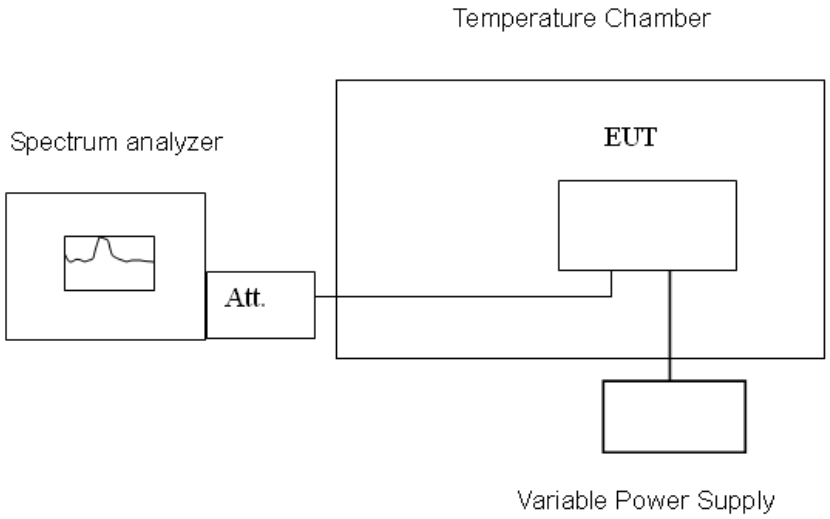
Reference Frequency: HSUPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
3.7	45	83639979	21	2091
	40	83640018	18	
	30	83640015	15	
	20	83639989	11	
	10	83640013	13	
	0	83639983	17	
	-5	83640018	18	
	-10	83640014	14	

7.8. REQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

LIMIT

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

TEST CONFIGURATION



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

TEST PROCEDURE

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

Reduce the input voltage to specify extreme voltage variation (± 10%) 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 = 2091.5Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	836600033	33	2091.5
3.7		836600025	25	
3.6 end		836600036	36	

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091.5Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	836600031	31	2091.5
3.7		836600022	22	
3.6 end		836600035	35	

Reference Frequency: GSM Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1879999975	25	4700
3.7		1879999984	16	
3.6 end		1879999972	28	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1879999977	23	4700
3.7		1879999985	15	
3.6 end		1879999974	26	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1879999974	26	4700
3.7		1879999981	19	
3.6 end		1879999988	12	

Reference Frequency: HSDPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1879999972	28	4700
3.7		1879999983	17	
3.6 end		1879999974	26	

Reference Frequency: HSUPA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	1879999975	25	4700
3.7		1879999979	21	
3.6 end		1879999968	32	

Reference Frequency: WCDMA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	83640036	36	2091
3.7		83640027	27	
3.6 end		83640033	33	

Reference Frequency: HSDPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	83640032	32	2091
3.7		83640024	24	
3.6 end		83640035	35	

Reference Frequency: HSDUPA Band V Mid Channel 836.4 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
4.2	20	83640029	29	2091
3.7		83640021	21	
3.6 end		83640032	32	

7.9. POWERLINE CONDUCTED EMISSIONS

LIMIT

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

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

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

TEST CONFIGURATION

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

TEST PROCEDURE

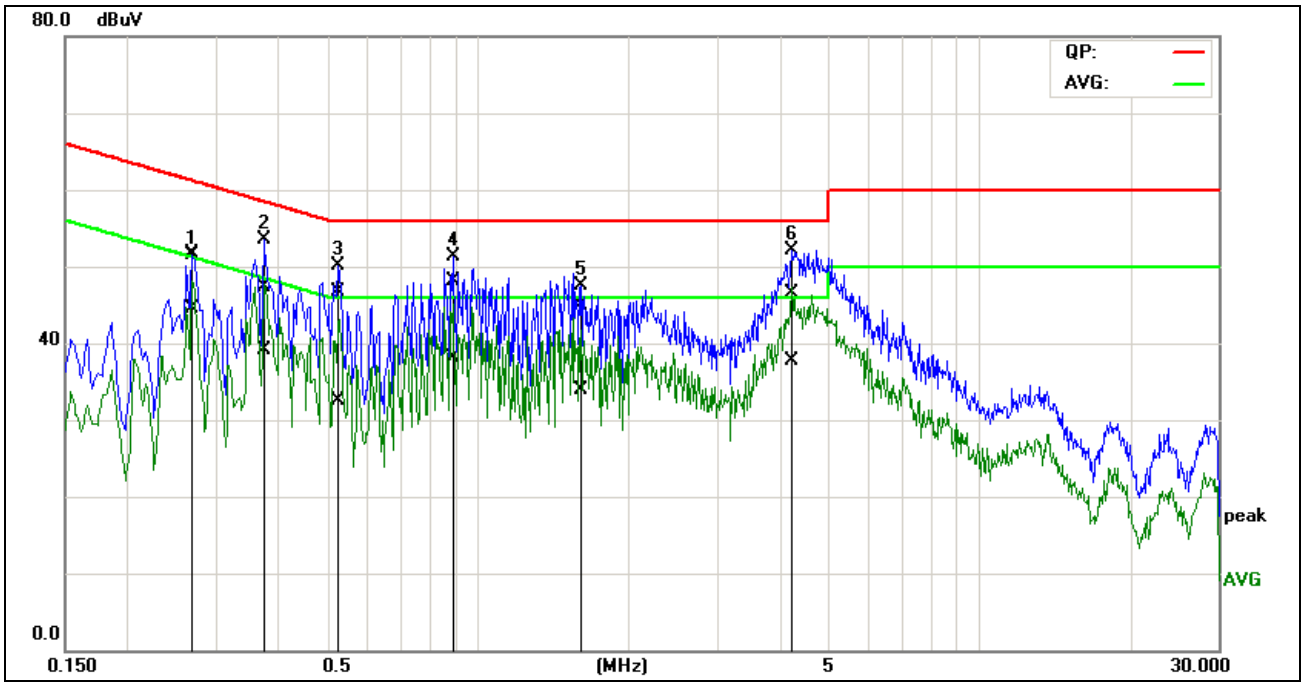
1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

TEST RESULTS

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

Operation Mode:	Normal Link	**Test Date:**	December 26,2014
Temperature:	23°C	**Tested by:**	James.Yan
Humidity:	50% RH		

L1



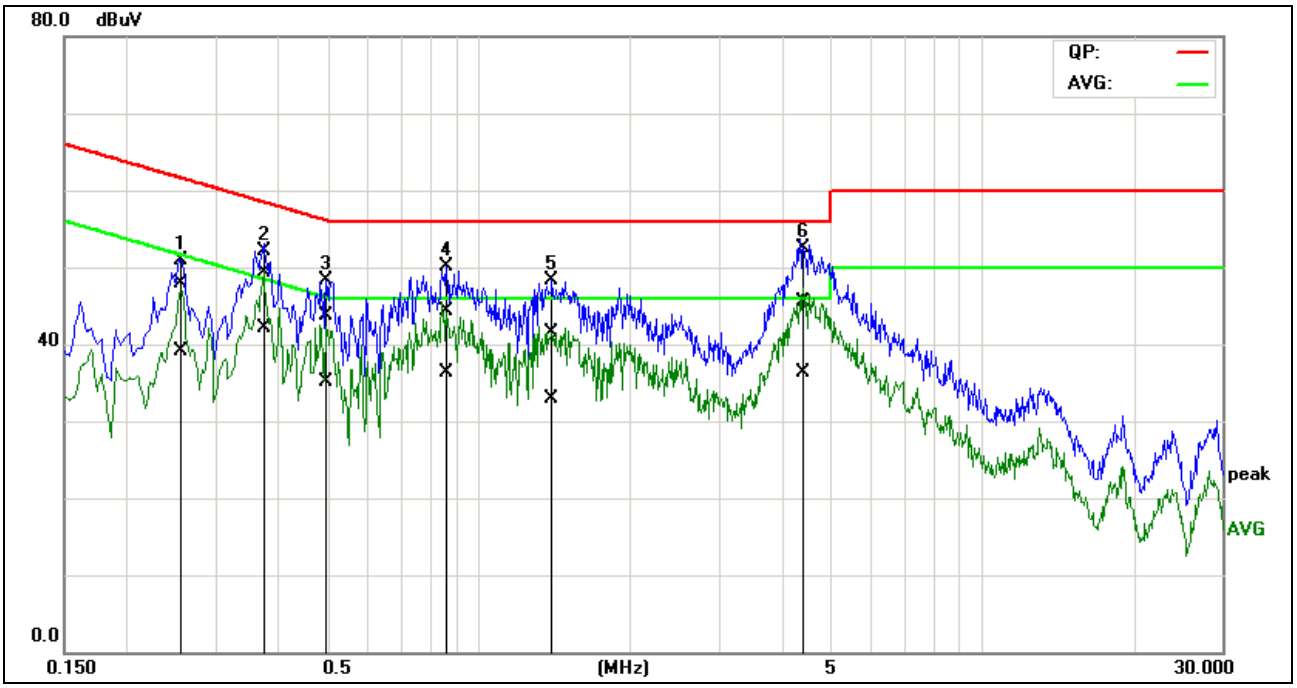
No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.2682	41.54	34.31	10.22	51.76	44.53	61.17	51.17	-9.41	-6.64	Pass
2	0.3738	37.01	28.69	10.37	47.38	39.06	58.42	48.42	-11.04	-9.36	Pass
3	0.5282	35.92	21.64	10.84	46.76	32.48	56.00	46.00	-9.24	-13.52	Pass
4	0.8923	37.14	27.11	11.00	48.14	38.11	56.00	46.00	-7.86	-7.89	Pass
5	1.5936	33.80	22.84	11.06	44.86	33.90	56.00	46.00	-11.14	-12.10	Pass
6	4.2619	35.28	26.56	11.16	46.44	37.72	56.00	46.00	-9.56	-8.28	Pass

Remark:

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

"-" means Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessay

L2



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.2564	37.72	28.88	10.20	47.92	39.08	61.55	51.55	-13.63	-12.47	Pass
2*	0.3775	38.96	31.64	10.38	49.34	42.02	58.33	48.33	-8.99	-6.31	Pass
3	0.4965	32.85	24.36	10.81	43.66	35.17	56.06	46.06	-12.40	-10.89	Pass
4	0.8609	33.27	25.21	11.00	44.27	36.21	56.00	46.00	-11.73	-9.79	Pass
5	1.3868	30.42	21.88	11.05	41.47	32.93	56.00	46.00	-14.53	-13.07	Pass
6	4.3854	34.41	25.23	11.17	45.58	36.40	56.00	46.00	-10.42	-9.60	Pass

Remark:

5. Measuring frequencies from 0.15 MHz to 30MHz.
6. The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.
7. The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;
8. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)

"-" means Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessay

END OF REPORT