

TEST REPORT

Reference No...... : WTX20X06035311W-1
FCC ID : 2AWTK-S12PRO
Applicant : Shen Zhen Conquest Communication Equipment Co., Ltd.
Address : 2nd Floor, Building B, Yong xiang Street East on the 17th, Bantian Street,
Longgang District, Shen Zhen, Guangdong, China
Product Name : TD-LTE Smart Phone
Test Model. : S12pro
Standards : FCC Part 22H, FCC Part 24E, FCC Part 27
Date of Receipt sample : Jun.09, 2020
Date of Test..... : Jun.09, 2020 to Jul.09, 2020
Date of Issue : Jul.09, 2020
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

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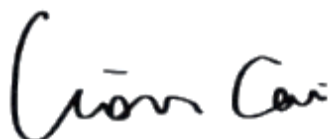
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Report version

Version No.	Date of issue	Description
Rev.00	Jul.09, 2020	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Shen Zhen Conquest Communication Equipment Co., Ltd.
 Address of applicant: 2nd Floor, Building B, Yong xiang Street East on the 17th,
 Bantian Street, Longgang District, Shen Zhen, Guangdong,
 China

Manufacturer: Shen Zhen Conquest Communication Equipment Co., Ltd.
 Address of manufacturer: 2nd Floor, Building B, Yong xiang Street East on the 17th,
 Bantian Street, Longgang District, Shen Zhen, Guangdong,
 China

General Description of EUT:	
Product Name:	TD-LTE Smart Phone
Trade Name:	CONQUEST
Model No.:	S12pro
Adding Model(s):	/
Rated Voltage:	DC3.85V
Battery:	8000mAh
Adapter Model:	HJ-FC017K7-US Input: 100-240V~50/60Hz 0.6A Output: DC5.0V2.0A,DC7.0V/2.0A, DC9.0V2.0A, DC12V1.5A
Software Version:	S12pro_EEA_V1.0_20191106
Hardware Version:	S62_V1.0
<i>Note: The test data is gathered from a production sample provided by the manufacturer.</i>	

Technical Characteristics of EUT:	
2G	
Support Networks:	GSM, GPRS, EDGE
Support Band:	GSM850/PCS1900
Uplink Frequency:	GSM/GPRS/EDGE 850: 824~849MHz GSM/GPRS/EDGE 1900: 1850~1910MHz
Downlink Frequency:	GSM/GPRS/EDGE 850: 869~894MHz GSM/GPRS/EDGE 1900: 1930~1990MHz
Max RF Output Power:	GSM850: 32.75dBm, GSM1900: 29.62dBm EDGE850: 27.16dBm, EDGE1900: 26.02dBm
Type of Emission:	GSM850: 251KGXW, GSM1900: 252KGXW EDGE850: 249KG7W, EDGE1900: 250KG7W
Type of Modulation:	GMSK, 8PSK
Type of Antenna:	Integral Antenna
Antenna Gain:	GSM850: 1.51dBi; GSM1900: 1.68dBi
GPRS/EDGE Class:	Class 12
3G	
Support Networks:	WCDMA, HSDPA, HSUPA
Support Band:	WCDMA Band 2, WCDMA Band 4, WCDMA Band 5
Uplink Frequency:	WCDMA Band 2: 1850~1910MHz WCDMA Band 4: 1710~1755MHz WCDMA Band 5: 824~849MHz
Downlink Frequency:	WCDMA Band 2: 1930~1990MHz WCDMA Band 4: 2110~2155MHz WCDMA Band 5: 869~894MHz
RF Output Power:	WCDMA Band 2: 23.09dBm, WCDMA Band 4: 23.11dBm WCDMA Band 5: 23.81dBm
Type of Emission:	WCDMA Band 2: 4M19F9W WCDMA Band 4: 4M20F9W WCDMA Band 5: 4M20F9W
Type of Modulation:	BPSK
Antenna Type:	Integral Antenna
Antenna Gain:	WCDMA Band 2: 1.68dBi, WCDMA Band 4: 1.53dBi, WCDMA Band 5: 1.51dBi

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 2: FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS.

FCC Rules Part 22: PRIVATE LAND MOBILE RADIO SERVICES.

FCC Rules Part 24: PUBLIC MOBILE SERVICES.

FCC Rules Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES.

TIA/EIA 603 E March 2016: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

KDB 971168 D01 Power Meas License Digital Systems v03r01: MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with TIA/EIA 603 E/ KDB 971168/ ANSI C63.26. The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	GSM 850	Low, Middle, High Channels
TM2	GPRS 850	Low, Middle, High Channels
TM3	EDGE 850	Low, Middle, High Channels
TM4	GSM 1900	Low, Middle, High Channels
TM5	GPRS 1900	Low, Middle, High Channels
TM6	EDGE 1900	Low, Middle, High Channels
TM7	WCDMA Band 5	Low, Middle, High Channels
TM8	HSDPA Band 5	Low, Middle, High Channels
TM9	HSUPA Band 5	Low, Middle, High Channels
TM10	WCDMA Band 4	Low, Middle, High Channels
TM11	HSDPA Band 4	Low, Middle, High Channels
TM12	HSUPA Band 4	Low, Middle, High Channels
TM13	WCDMA Band 2	Low, Middle, High Channels
TM14	HSDPA Band 2	Low, Middle, High Channels
TM15	HSUPA Band 2	Low, Middle, High Channels

Testing Configure			
Support Band	Support Standard	Channel Frequency	Channel Number
GSM 850	GSM/GPRS/EDGE	824.2 MHz	128
		836.6 MHz	190
		848.8 MHz	251
PCS 1900	GSM/GPRS/EDGE	1850.2 MHz	512
		1880.0 MHz	661
		1909.8 MHz	810
WCDMA Band 5	WCDMA/HSDPA/HSUPA	826.4 MHz	4132
		836.6 MHz	4183
		846.6 MHz	4233
WCDMA Band 4	WCDMA/HSDPA/HSUPA	1712.4 MHz	1312
		1732.4 MHz	1412
		1752.6 MHz	1513
WCDMA Band 2	WCDMA/HSDPA/HSUPA	1852.4 MHz	9262
		1880.0 MHz	9400
		1907.6 MHz	9538

Note: the transmitter has been tested on the communications mode of GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA compliance test and record the worst case.

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	50~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.0	Shielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Earphone Cable	1.0	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E40	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.42\text{dB}$
Occupied Bandwidth	Conducted	$\pm 1.5\%$
Frequency Stability	Conducted	2.3%
Transmitter Spurious Emissions	Conducted	$\pm 0.42\text{dB}$
Transmitter Spurious Emissions	Radiated	30-200MHz $\pm 4.52\text{dB}$
		0.2-1GHz $\pm 5.56\text{dB}$
		1-6GHz $\pm 3.84\text{dB}$
		6-18GHz $\pm 3.92\text{dB}$

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2020-04-28	2021-04-27
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2020-04-28	2021-04-27
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2020-04-28	2021-04-27
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2020-04-28	2021-04-27
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2020-04-28	2021-04-27
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2020-04-28	2021-04-27
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2020-04-28	2021-04-27
SEMT-1082	Power Divider	RF-Lambda	RFLT4W5M18G	14110400027	2020-04-28	2021-04-27
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2020-04-28	2021-04-27
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2020-04-28	2021-04-27
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2020-04-28	2021-04-27
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2020-04-28	2021-04-27
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2019-05-05	2021-05-04
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2019-05-05	2021-05-04
SEMT-1042	Horn Antenna	ETS	3117	00086197	2019-05-05	2021-05-04
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2019-05-05	2021-05-04
SEMT-1168	Pre-amplifier	Direction Systems Inc.	PAP-0126	14141-12838	2020-04-28	2021-04-27
SEMT-1169	Pre-amplifier	Direction Systems Inc.	PAP-2640	14145-14153	2020-04-28	2021-04-27
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2020-04-28	2021-04-27
SEMT-1170	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2019-05-05	2021-05-04
SEMT-1166	Power Limiter	Agilent	N9356B	MY45450376	2020-04-28	2021-04-27
SEMT-1048	RF Limiter	ATTEN	AT-BSF-2400~2500	/	2020-04-28	2021-04-27
SEMT-1076	RF Switcher	Top Precision	RCS03-A2	/	2020-04-28	2021-04-27
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	2020-03-17	2021-03-16
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	2020-03-17	2021-03-16
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	2020-03-17	2021-03-16
SEMT-C004	Cable	Zheng DI	2M0RFC	/	2020-03-17	2021-03-16

SEMT-C005	Cable	Zheng DI	1M0RFC	/	2020-03-17	2021-03-16
SEMT-C006	Cable	Zheng DI	1M0RFC	/	2020-03-17	2021-03-16

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§1.1307, §2.1093	RF Exposure	Compliant
§22.913(a), §24.232(c), §27.50(d)	RF Output Power	Compliant
§24.51, §27.50	Peak-to-average Ratio (PAR) of Transmitter	Compliant
§22.917(b), §24.238(b), §27.53	Emission Bandwidth	Compliant
§22.917(a), §24.238(a), §27.53(h)	Spurious Emissions at Antenna Terminal	Compliant
§22.917(a), §24.238(a), §27.53(h)	Spurious Radiation Emissions	Compliant
§22.917(a), §24.238(a), §27.53(h)	Out of Band Emissions	Compliant
§22.355, §24.235, §27.54	Frequency Stability	Compliant

3. RF Exposure

3.1 Standard Applicable

According to §1.1307 and §2.1093, the portable transmitter must comply the RF exposure requirements.

3.2 Test Result

This product complied with the requirement of the RF exposure, please see the SAR report.

4. RF Output Power

4.1 Standard Applicable

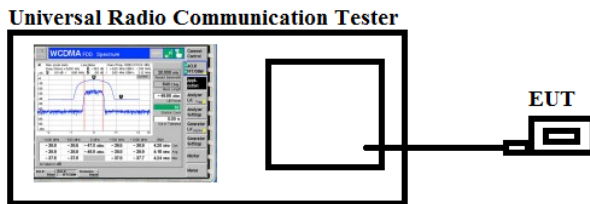
According to §22.913(a)(2), the ERP of mobile and portable stations transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to §24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to §27.50(d)(4), fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

4.2 Test Procedure

- Conducted output power test method:



- Radiated power test method:

1. The setup of EUT is according with per ANSI/TIA Standard 603E and ANSI C63.26 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

4.3 Summary of Test Results/Plots

➤ **Max. Radiated Power**

Mode	Channel	Antenna Polar	ERP (dBm)	Limit (dBm)	Result
GSM850	128	V	30.15	<38.45	Pass
		H	23.57		
	190	V	30.05		
		H	23.96		
	251	V	30.14		
		H	23.25		
GPRS850	128	V	30.42	<38.45	Pass
		H	23.08		
	190	V	30.21		
		H	23.19		
	251	V	30.46		
		H	23.04		
EGPRS850	128	V	24.13	<38.45	Pass
		H	18.42		
	190	V	24.36		
		H	17.17		
	251	V	18.39		
		H	17.03		

Mode	Channel	Antenna Polar	EIRP (dBm)	Limit (dBm)	Result
PCS1900	512	V	27.54	<33.00	Pass
		H	21.17		
	661	V	27.14		
		H	21.06		
	810	V	27.25		
		H	21.13		
GPRS1900	512	V	27.53	<33.00	Pass
		H	21.52		
	661	V	27.85		
		H	20.92		
	810	V	27.05		
		H	20.43		
EGPRS1900	512	V	23.41	<33.00	Pass
		H	16.05		
	661	V	23.24		
		H	16.27		
	810	V	23.43		
		H	16.74		

Mode	Channel	Antenna Polar	ERP	Limit (dBm)	Result
WCDMA Band V	4132	V	20.15	<38.45	Pass
		H	15.57		
	4183	V	20.39		
		H	15.05		
	4233	V	20.43		
		H	15.38		

Mode	Channel	Antenna Polar	EIRP	Limit (dBm)	Result
WCDMA Band IV	1312	V	20.74	<30.00	Pass
		H	14.16		
	1412	V	20.05		
		H	14.24		
	1513	V	20.49		
		H	14.32		

Mode	Channel	Antenna Polar	EIRP	Limit (dBm)	Result
WCDMA Band II	9262	V	20.43	<33.00	Pass
		H	14.05		
	9400	V	20.49		
		H	14.21		
	9538	V	20.11		
		H	14.28		

Note: Pre-scan mode WCDMA/HSDPA/HSUPA find the worst case at WCDMA mode and recorded in the test report.

➤ **Max. Conducted Power (Average power)**

Conducted Average power (dBm)						
Band	GSM850			PCS1900		
Channel	128	190	251	512	661	810
Frequency(MHz)	824.20	836.60	848.80	1850.20	1880.00	1909.80
GSM	32.74	32.72	32.67	29.58	29.4	29.35
GPRS(1Slot)	32.74	32.75	32.7	29.62	29.45	29.38
EGPRS(1Slot)	27.16	27.1	27.04	25.97	26.02	25.78

Conducted Average power (dBm)						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4183	4233	9262	9400	9538
Frequency(MHz)	826.4	836.6	846.6	1852.4	1880.0	1907.6
RMC 12.2k	23.71	23.70	23.81	22.86	22.98	23.09
HSDPA Subtest-1	22.66	22.73	22.84	21.74	21.86	22.01
HSDPA Subtest-2	22.63	22.71	22.82	21.71	21.85	21.98
HSDPA Subtest-3	22.64	22.69	22.81	21.72	21.83	21.96
HSDPA Subtest-4	22.65	22.72	22.82	21.72	21.84	21.97
HSUPA Subtest-1	22.59	22.70	22.82	21.72	21.71	21.85
HSUPA Subtest-2	22.56	22.67	22.8	21.67	21.68	21.83
HSUPA Subtest-3	22.56	22.68	22.81	21.69	21.69	21.82
HSUPA Subtest-4	22.57	22.69	22.79	21.69	21.67	21.82
HSUPA Subtest-5	22.58	22.67	22.79	21.68	21.68	21.81

Conducted Average power (dBm)						
Band	WCDMA Band IV					
Channel	1312	1412	1513			
Frequency(MHz)	1712.4	1733.4	1752.6			
RMC 12.2k	23.11	22.98	22.95			
HSDPA Subtest-1	22	21.84	21.88			
HSDPA Subtest-2	21.96	21.81	21.86			
HSDPA Subtest-3	22.97	21.82	21.87			
HSDPA Subtest-4	22.96	21.83	21.85			
HSUPA Subtest-1	21.94	21.77	21.79			
HSUPA Subtest-2	21.92	21.75	21.76			
HSUPA Subtest-3	21.91	21.76	21.78			
HSUPA Subtest-4	21.92	21.75	21.78			
HSUPA Subtest-5	21.93	21.74	21.77			

5. Peak-to-average Ratio (PAR) of Transmitter

5.1 Standard Applicable

According to §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51, in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

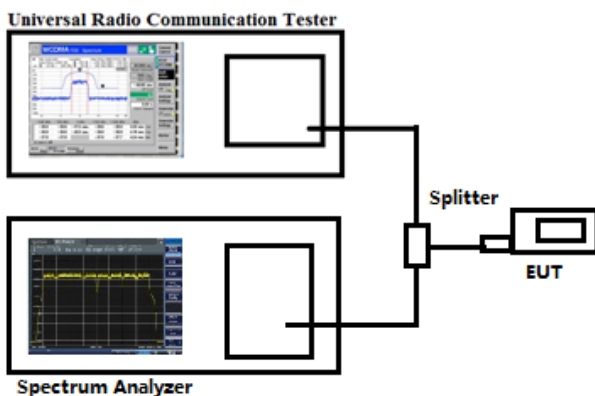
According to §27.50(B), the peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

5.2 Test Procedure

According with KDB 971168

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Configuration for the emission bandwidth testing:



5.3 Summary of Test Results

PCS1900				
Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
GSM	661	1850.2	4.29	13
GPRS(1 Slot)	661	1850.2	5.28	13
EDGE(1 Slot)	661	1850.2	4.36	13

WCDMA Band IV				
Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
WCDMA	1312	1712.4	3.87	13
	1412	1733.4	3.65	13
	1513	1752.6	4.24	13

WCDMA Band II				
Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
WCDMA	9262	1852.4	4.57	13
	9400	1880.0	3.78	13
	9538	1907.6	4.21	13

Note: Only the worst case was selected to record.

6. Emission Bandwidth

6.1 Standard Applicable

According to §22.917(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

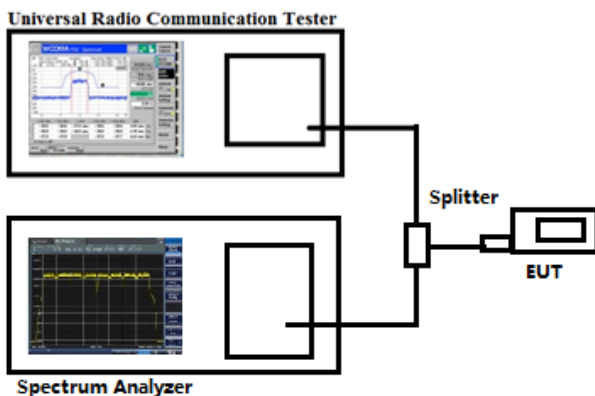
According to §24.238(b), the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

According to §27.53, the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

6.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 10kHz for GSM mode and 100kHz for WCDMA mode, VBW shall be at least 3 times the RBW, and the 26dB bandwidth was recorded.

Test Configuration for the emission bandwidth testing:



6.3 Summary of Test Results/Plots

EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (kHz)	-26dB bandwidth (kHz)
GSM 850 (GMSK)	128	824.20	244.9420	316.164
	190	836.60	250.0780	313.210
	251	848.80	249.9468	309.812
GPRS850 (GMSK,1Slot)	128	824.20	250.6473	312.422
	190	836.60	245.8473	314.155
	251	848.80	251.2402	316.091
EGPRS850 (8PSK,1Slot)	128	824.20	251.6244	302.156
	190	836.60	244.0260	325.551
	251	848.80	251.1732	328.275
PCS1900 (GMSK)	512	1850.20	247.9916	313.192
	661	1880.00	241.5870	320.527
	810	1909.80	247.0619	316.980
GPRS1900 (GMSK,1Slot)	512	1850.20	247.9775	313.078
	661	1880.00	246.6557	316.173
	810	1909.80	249.4029	312.211
EGPRS1900 (8PSK,1Slot)	512	1850.20	250.4157	314.048
	661	1880.00	246.7488	318.355
	810	1909.80	246.6756	320.867

EUT Mode	Channel	Frequency (MHz)	99% Occupy bandwidth (kHz)	-26dB bandwidth (kHz)
WCDMA Band V	4132	826.40	4171.2	4708
	4183	836.60	4168.7	4723
	4233	846.60	4157.4	4687
HSDPA	4132	826.40	4194.0	4692
	4183	836.60	4156.6	4750
	4233	846.60	4162.7	4702
HSUPA	4132	826.40	4195.1	4736
	4183	836.60	4180.7	4916
	4233	846.60	4164.6	4675
WCDMA Band II	9262	1852.40	4187.8	4678
	9400	1880.00	4176.1	4706
	9538	1907.60	4168.9	4682
HSDPA	9262	1852.40	4169.5	4700
	9400	1880.00	4185.7	4709
	9538	1907.60	4170.7	4673
HSUPA	9262	1852.40	4174.5	4713
	9400	1880.00	4171.5	4706
	9538	1907.60	4175.7	4695
WCDMA Band IV	1312	1712.4	4168.0	4719
	1412	1733.4	4182.2	4691
	1513	1752.6	4172.1	4744
HSDPA	1312	1712.4	4170.2	4737
	1412	1733.4	4201.9	4707
	1513	1752.6	4166.1	4726
HSUPA	1312	1712.4	4175.8	4732
	1412	1733.4	4181.7	4724
	1513	1752.6	41933	4737

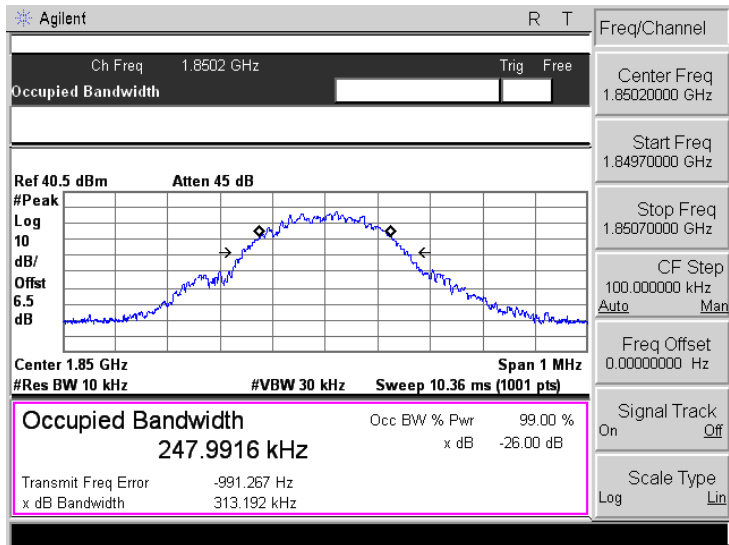
GSM900	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 824.2 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 824.2 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 244.9420 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 860.962 Hz</p> <p>x dB Bandwidth 316.164 kHz</p> <p>Freq/Channel</p> <p>Center Freq 824.200000 MHz</p> <p>Start Freq 823.700000 MHz</p> <p>Stop Freq 824.700000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 836.6 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 250.0780 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 782.390 Hz</p> <p>x dB Bandwidth 313.210 kHz</p> <p>Freq/Channel</p> <p>Center Freq 836.600000 MHz</p> <p>Start Freq 836.100000 MHz</p> <p>Stop Freq 837.100000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 848.8 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 848.8 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 249.9468 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -1.530 kHz</p> <p>x dB Bandwidth 309.812 kHz</p> <p>Freq/Channel</p> <p>Center Freq 848.800000 MHz</p> <p>Start Freq 848.300000 MHz</p> <p>Stop Freq 849.300000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

GPRS900	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 824.2 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 824.2 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 250.6473 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 459.641 Hz</p> <p>x dB Bandwidth 312.422 kHz</p> <p>Freq/Channel</p> <p>Center Freq 824.200000 MHz</p> <p>Start Freq 823.700000 MHz</p> <p>Stop Freq 824.700000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 836.6 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 245.8473 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -978.502 Hz</p> <p>x dB Bandwidth 314.155 kHz</p> <p>Freq/Channel</p> <p>Center Freq 836.600000 MHz</p> <p>Start Freq 836.100000 MHz</p> <p>Stop Freq 837.100000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 836.6 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 251.2402 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 165.354 Hz</p> <p>x dB Bandwidth 316.091 kHz</p> <p>Trace/View</p> <p>Trace 1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>

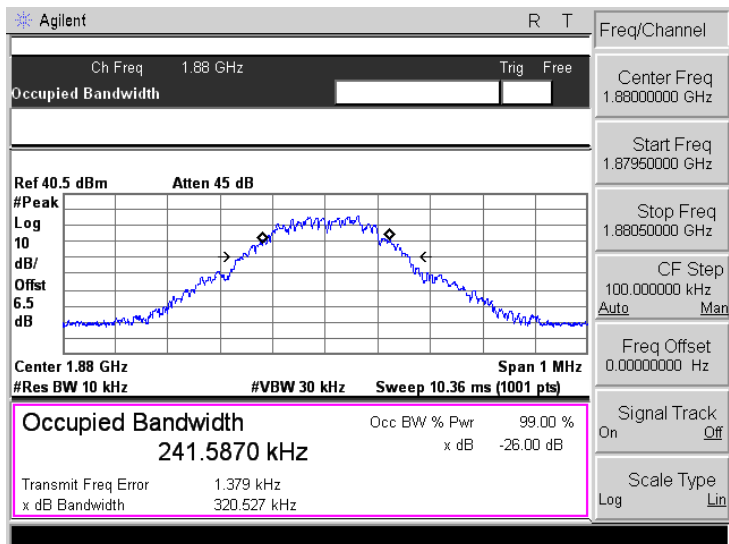
EGPRS900	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 824.2 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/Offset 6.5 dB</p> <p>Center 824.2 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 251.6244 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -2.848 kHz</p> <p>x dB Bandwidth 302.156 kHz</p> <p>Freq/Channel</p> <p>Center Freq 824.200000 MHz</p> <p>Start Freq 823.700000 MHz</p> <p>Stop Freq 824.700000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/Offset 6.5 dB</p> <p>Center 836.6 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 244.0260 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -1.212 kHz</p> <p>x dB Bandwidth 325.551 kHz</p> <p>Freq/Channel</p> <p>Center Freq 836.600000 MHz</p> <p>Start Freq 836.100000 MHz</p> <p>Stop Freq 837.100000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 848.8 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak Log 10 dB/Offset 6.5 dB</p> <p>Center 848.8 MHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 251.1732 kHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 1.042 kHz</p> <p>x dB Bandwidth 328.275 kHz</p> <p>Freq/Channel</p> <p>Center Freq 848.800000 MHz</p> <p>Start Freq 848.300000 MHz</p> <p>Stop Freq 849.300000 MHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

PCS1900

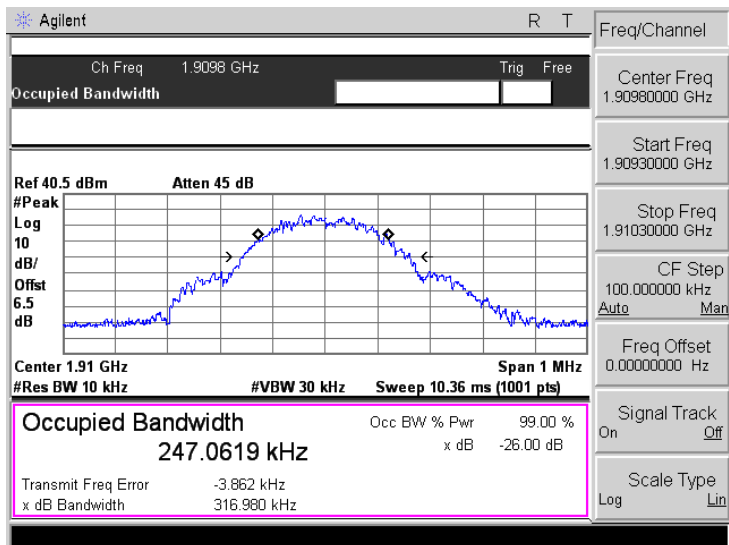
Low Channel



Middle Channel



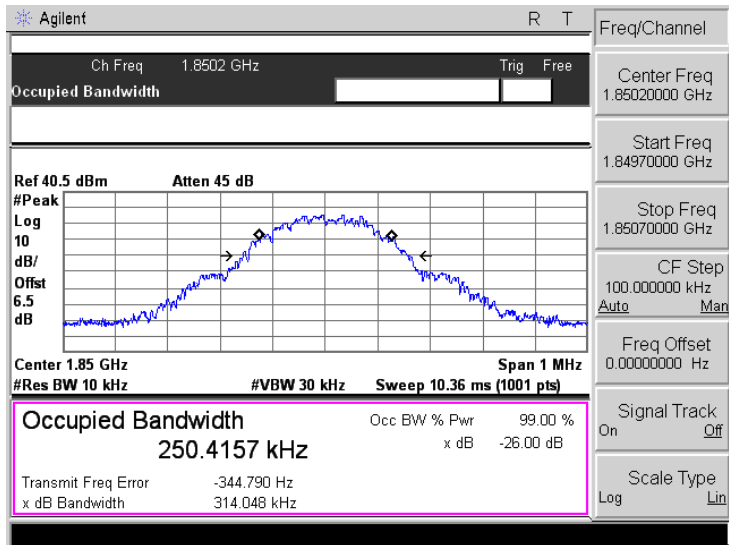
High Channel



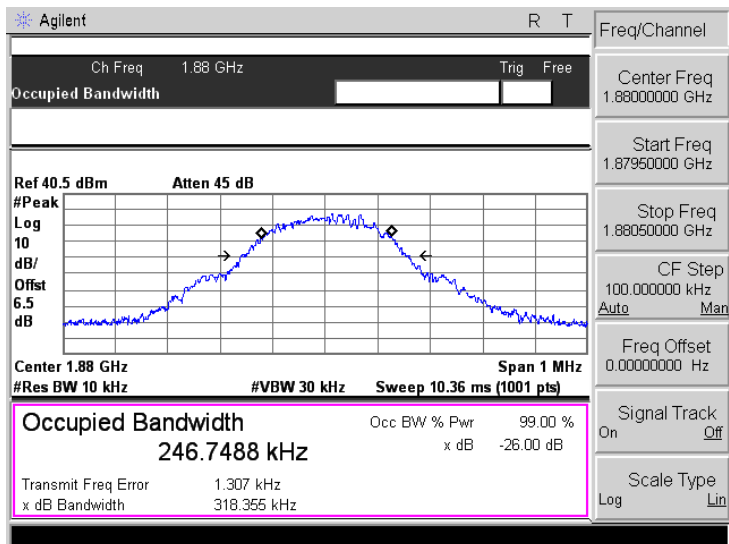
GPRS1900	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 1.8502 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 1.85 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 247.9775 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 778.285 Hz</p> <p>x dB Bandwidth 313.078 kHz</p> <p>Freq/Channel</p> <p>Center Freq 1.85020000 GHz</p> <p>Start Freq 1.84970000 GHz</p> <p>Stop Freq 1.85070000 GHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 1.88 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 1.88 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 246.6557 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -286.286 Hz</p> <p>x dB Bandwidth 316.173 kHz</p> <p>Freq/Channel</p> <p>Center Freq 1.88000000 GHz</p> <p>Start Freq 1.87950000 GHz</p> <p>Stop Freq 1.88050000 GHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 1.9098 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 40.5 dBm Atten 45 dB</p> <p>#Peak</p> <p>Log 10 dB/Offset 6.5 dB</p> <p>Center 1.91 GHz Span 1 MHz</p> <p>#Res BW 10 kHz #VBW 30 kHz Sweep 10.36 ms (1001 pts)</p> <p>Occupied Bandwidth 249.4029 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -3.526 kHz</p> <p>x dB Bandwidth 312.211 kHz</p> <p>Freq/Channel</p> <p>Center Freq 1.90980000 GHz</p> <p>Start Freq 1.90930000 GHz</p> <p>Stop Freq 1.91030000 GHz</p> <p>CF Step 100.000000 kHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

EGPRS1900

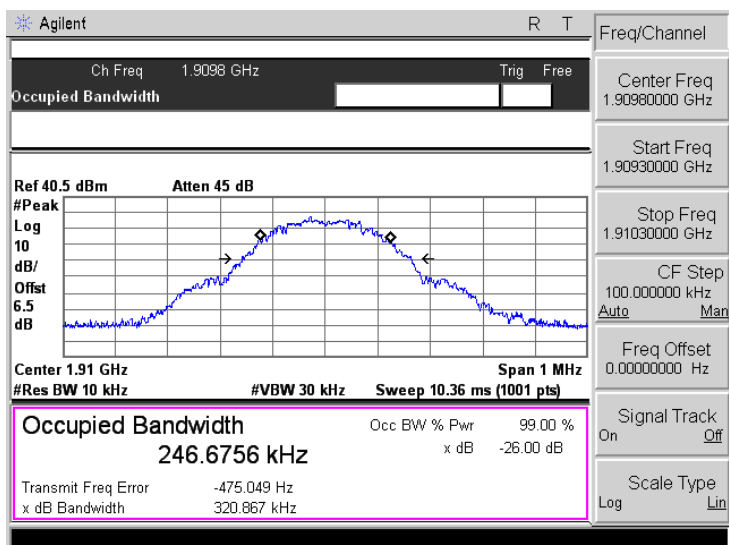
Low Channel



Middle Channel

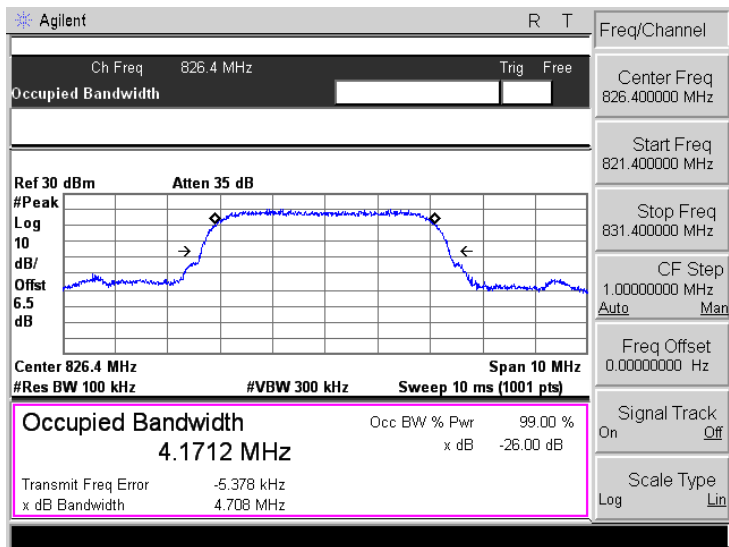


High Channel

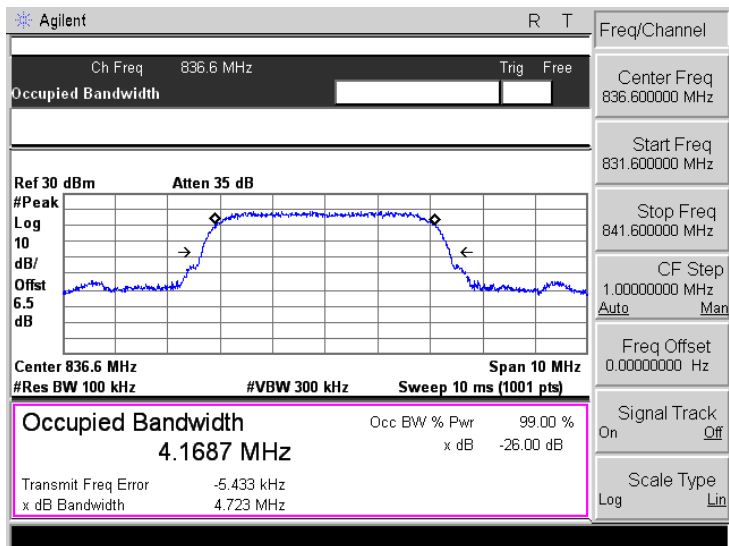


WCDMA Band V

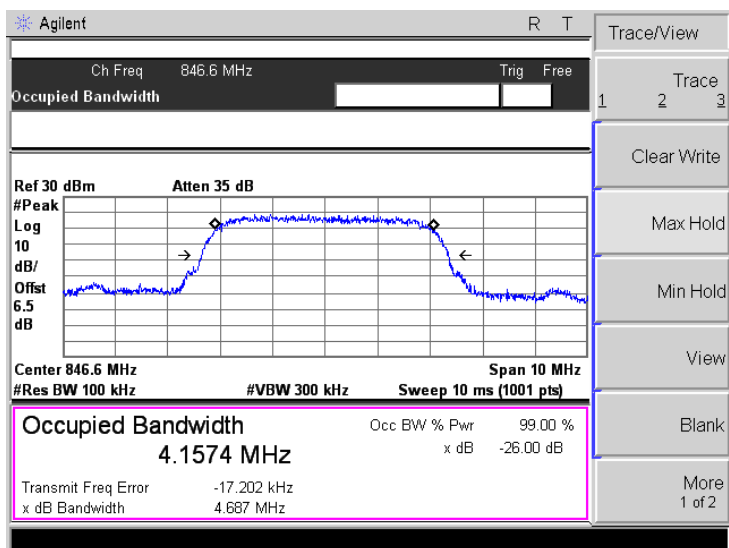
Low Channel



Middle Channel



High Channel

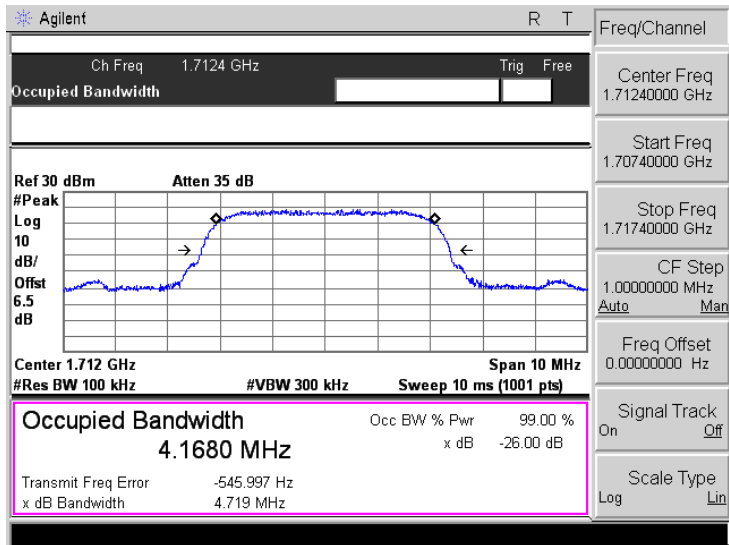


WCDMA Band V- HSDPA	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 826.4 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 826.4 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1940 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -6.491 kHz</p> <p>x dB Bandwidth 4.692 MHz</p> <p>Freq/Channel</p> <p>Center Freq 826.400000 MHz</p> <p>Start Freq 821.400000 MHz</p> <p>Stop Freq 831.400000 MHz</p> <p>CF Step 1.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 836.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1566 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -3.230 kHz</p> <p>x dB Bandwidth 4.750 MHz</p> <p>Trace/View</p> <p>1 2 3</p> <p>Clear Write</p> <p>Max Hold</p> <p>Min Hold</p> <p>View</p> <p>Blank</p> <p>More 1 of 2</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 846.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 846.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1627 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -19.186 kHz</p> <p>x dB Bandwidth 4.702 MHz</p> <p>Freq/Channel</p> <p>Center Freq 846.600000 MHz</p> <p>Start Freq 841.600000 MHz</p> <p>Stop Freq 851.600000 MHz</p> <p>CF Step 1.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

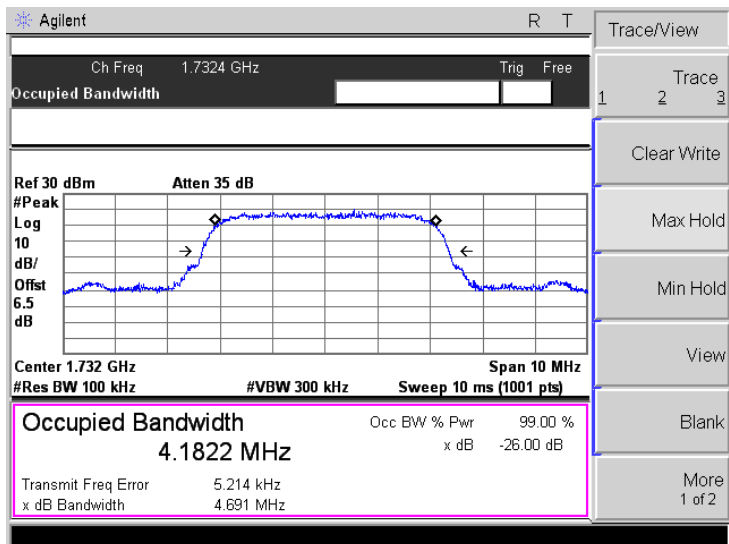
WCDMA Band V- HSUPA	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 826.4 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 826.4 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1951 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -4.550 kHz</p> <p>x dB Bandwidth 4.736 MHz</p> <p>Freq/Channel</p> <p>Center Freq 826.400000 MHz</p> <p>Start Freq 821.400000 MHz</p> <p>Stop Freq 831.400000 MHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 836.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 836.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1807 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -3.467 kHz</p> <p>x dB Bandwidth 4.916 MHz</p> <p>Freq/Channel</p> <p>Center Freq 836.600000 MHz</p> <p>Start Freq 831.600000 MHz</p> <p>Stop Freq 841.600000 MHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 846.6 MHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 846.6 MHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1646 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -18.998 kHz</p> <p>x dB Bandwidth 4.675 MHz</p> <p>Freq/Channel</p> <p>Center Freq 846.600000 MHz</p> <p>Start Freq 841.600000 MHz</p> <p>Stop Freq 851.600000 MHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

WCDMA Band IV

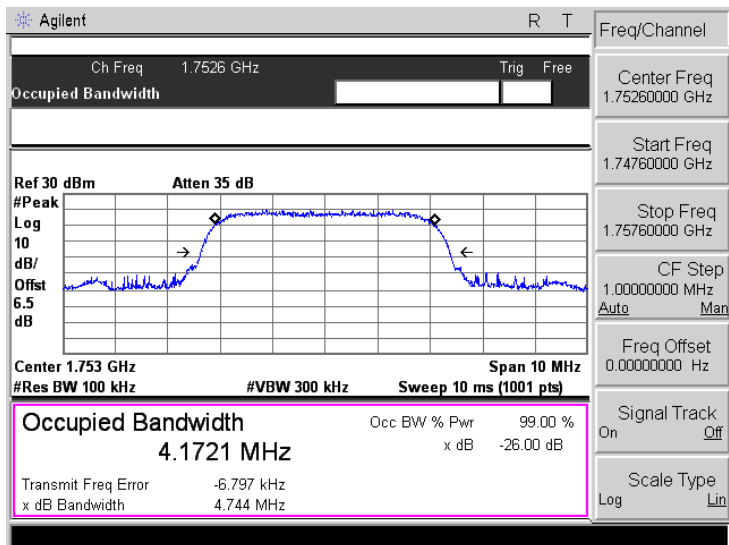
Low Channel



Middle Channel

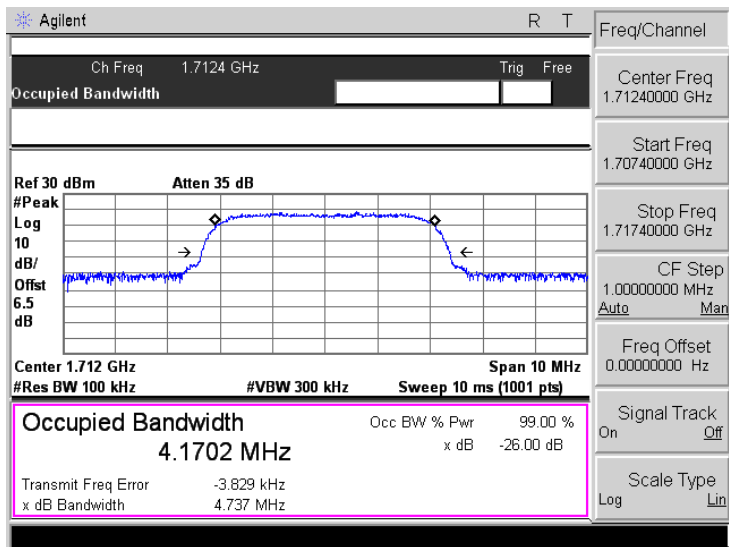


High Channel

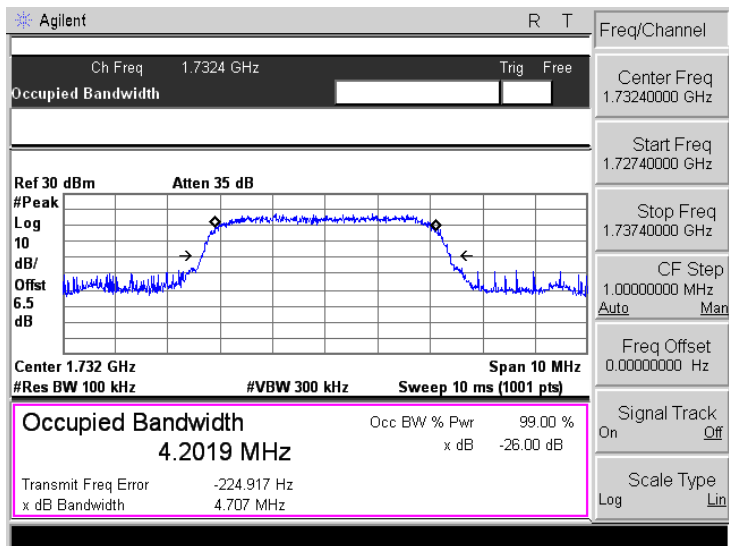


WCDMA Band IV- HSDPA

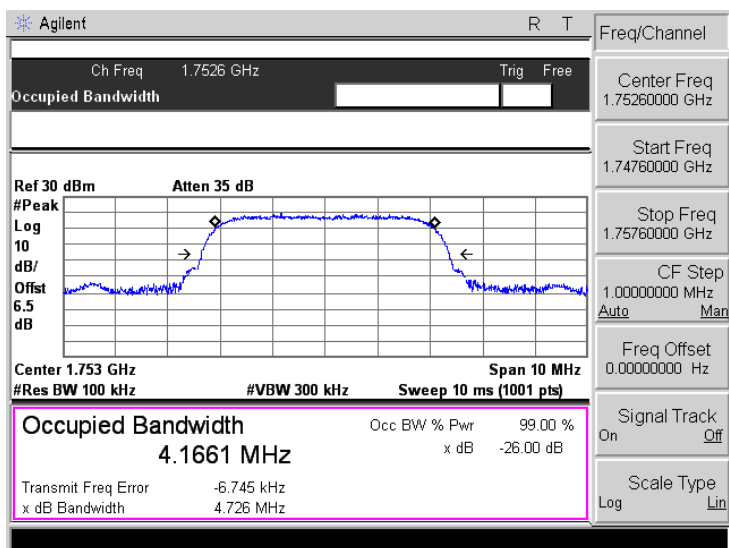
Low Channel



Middle Channel



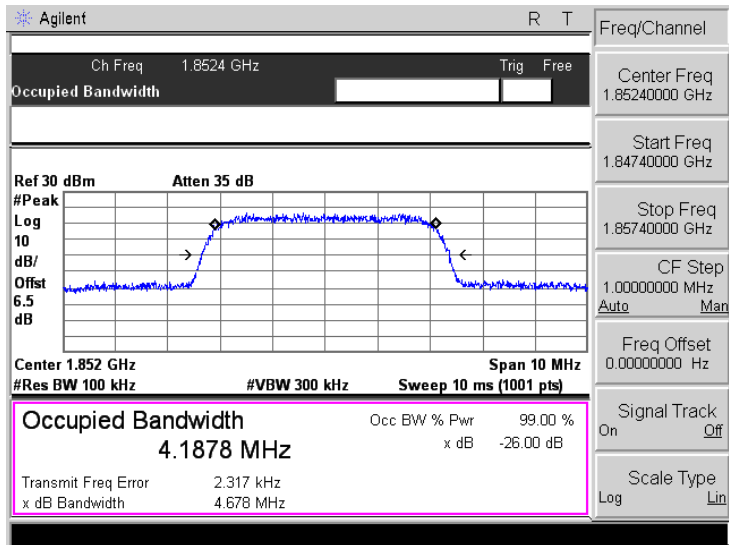
High Channel



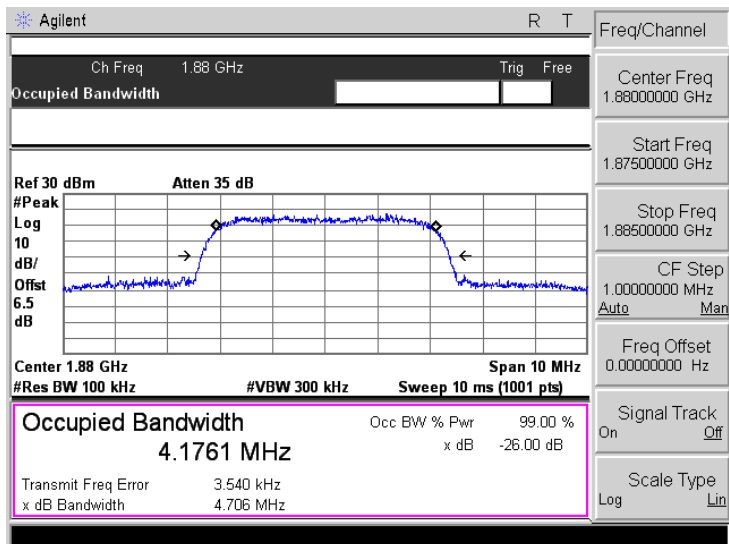
WCDMA Band IV- HSUPA	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 1.7124 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.712 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1758 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -394.234 Hz</p> <p>x dB Bandwidth 4.732 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.71240000 GHz</p> <p>Start Freq 1.70740000 GHz</p> <p>Stop Freq 1.71740000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 1.7324 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.732 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1817 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -3.364 kHz</p> <p>x dB Bandwidth 4.724 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.73240000 GHz</p> <p>Start Freq 1.72740000 GHz</p> <p>Stop Freq 1.73740000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 1.7526 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.753 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1933 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -8.007 kHz</p> <p>x dB Bandwidth 4.737 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.75260000 GHz</p> <p>Start Freq 1.74760000 GHz</p> <p>Stop Freq 1.75760000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

WCDMA Band II

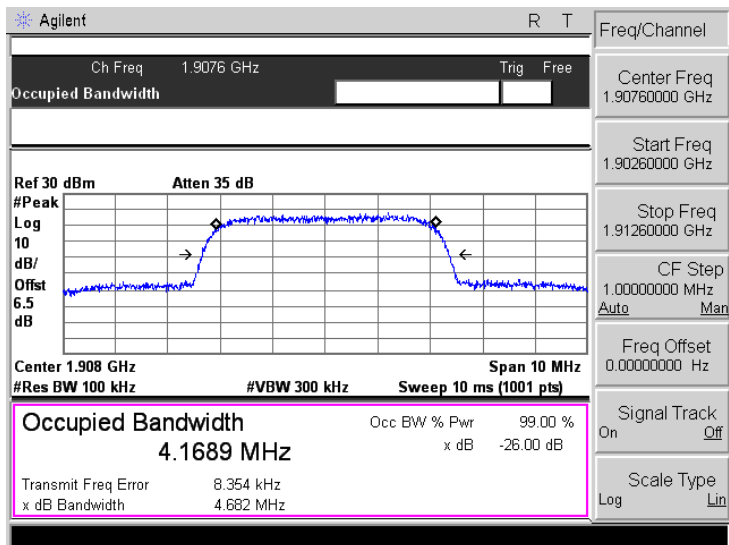
Low Channel



Middle Channel



High Channel



WCDMA Band II- HSDPA	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 1.8524 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.852 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1695 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 309.443 Hz</p> <p>x dB Bandwidth 4.700 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.85240000 GHz</p> <p>Start Freq 1.84740000 GHz</p> <p>Stop Freq 1.85740000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 1.88 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.88 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1857 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -6.442 kHz</p> <p>x dB Bandwidth 4.709 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.88000000 GHz</p> <p>Start Freq 1.87500000 GHz</p> <p>Stop Freq 1.88500000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 1.9076 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.908 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1707 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 17.432 kHz</p> <p>x dB Bandwidth 4.673 MHz</p> <p>Freq/Channel</p> <p>Center Freq 1.90760000 GHz</p> <p>Start Freq 1.90260000 GHz</p> <p>Stop Freq 1.91260000 GHz</p> <p>CF Step 1.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

WCDMA Band II- HSUPA	
Low Channel	<p>Agilent R T</p> <p>Ch Freq 1.8524 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.852 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1745 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 622.220 Hz</p> <p>x dB Bandwidth 4.713 MHz</p> <p>Trace/View: Trace 1, 2, 3; Clear Write; Max Hold; Min Hold; View; Blank; More 1 of 2</p>
Middle Channel	<p>Agilent R T</p> <p>Ch Freq 1.88 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.88 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1715 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -8.352 kHz</p> <p>x dB Bandwidth 4.706 MHz</p> <p>Freq/Channel: Center Freq 1.8800000 GHz; Start Freq 1.8750000 GHz; Stop Freq 1.8850000 GHz; CF Step 1.0000000 MHz; Freq Offset 0.0000000 Hz; Signal Track On; Scale Type Log</p>
High Channel	<p>Agilent R T</p> <p>Ch Freq 1.9076 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Ref 30 dBm Atten 35 dB</p> <p>#Peak Log 10 dB/ Offst 6.5 dB</p> <p>Center 1.908 GHz Span 10 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 4.1757 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error 16.301 kHz</p> <p>x dB Bandwidth 4.695 MHz</p> <p>Freq/Channel: Center Freq 1.9076000 GHz; Start Freq 1.9026000 GHz; Stop Freq 1.9126000 GHz; CF Step 1.0000000 MHz; Freq Offset 0.0000000 Hz; Signal Track On; Scale Type Log</p>

7. Out of Band Emissions at Antenna Terminal

7.1 Standard Applicable

According to §22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

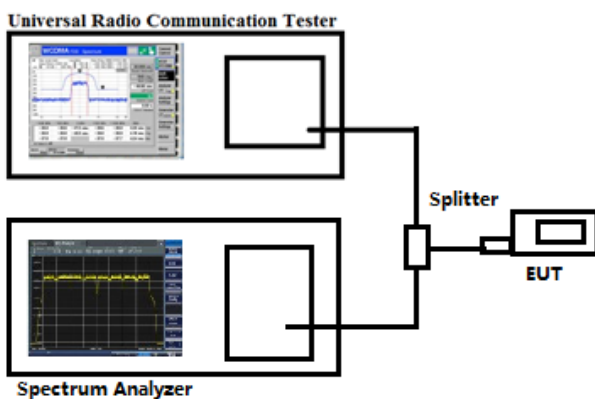
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §27.53 (h), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

7.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 100kHz and 1MHz for the scan frequency from 30MHz to 1GHz and the scan frequency from 1GHz to up to 10th harmonic.

Test Configuration for the out of band emissions testing:



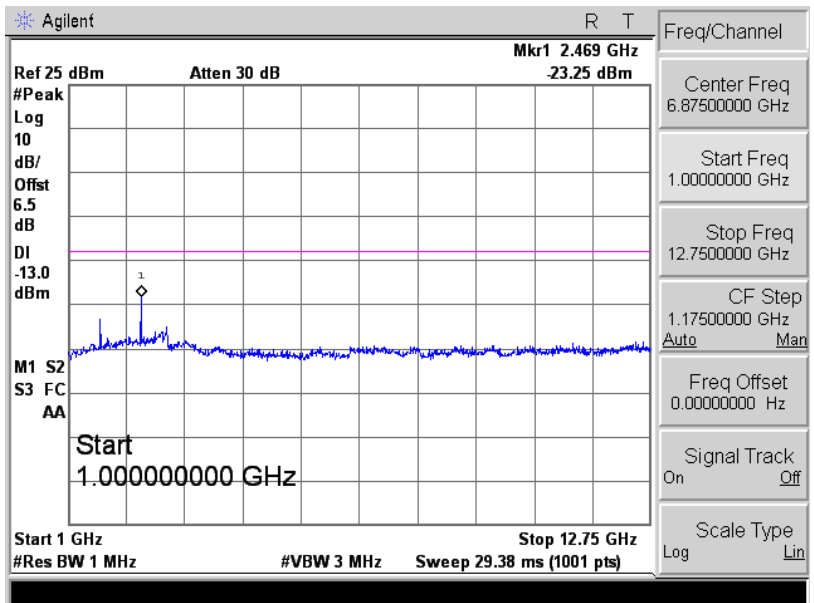
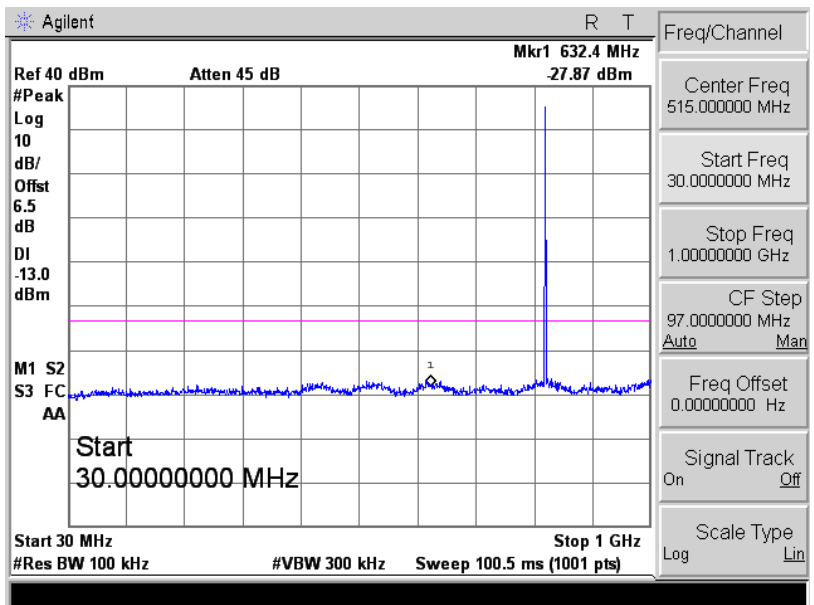
7.3 Summary of Test Results/Plots

Note: Pre-scan mode WCDMA/HSDPA/HSUPA find the worst case at WCDMA mode and recorded in the test report.

Please refer to the following test plots

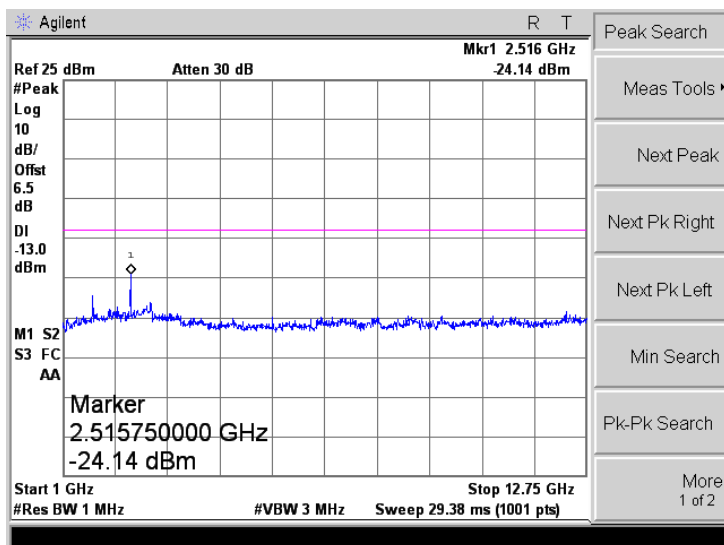
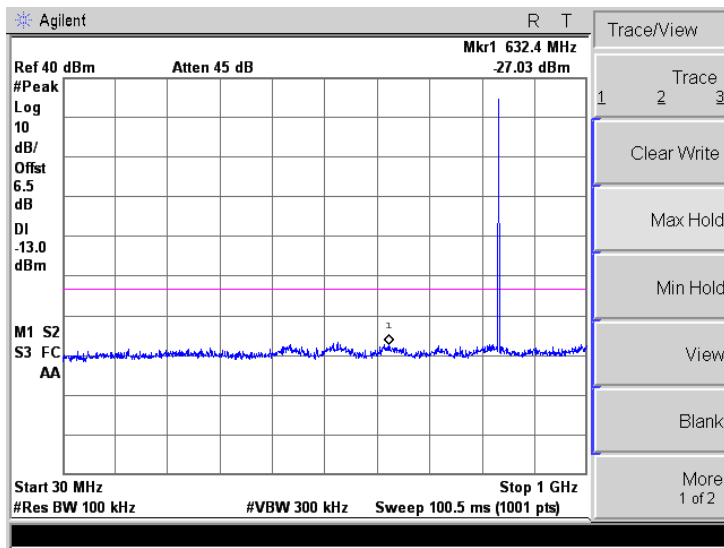
GSM850

Low Channel



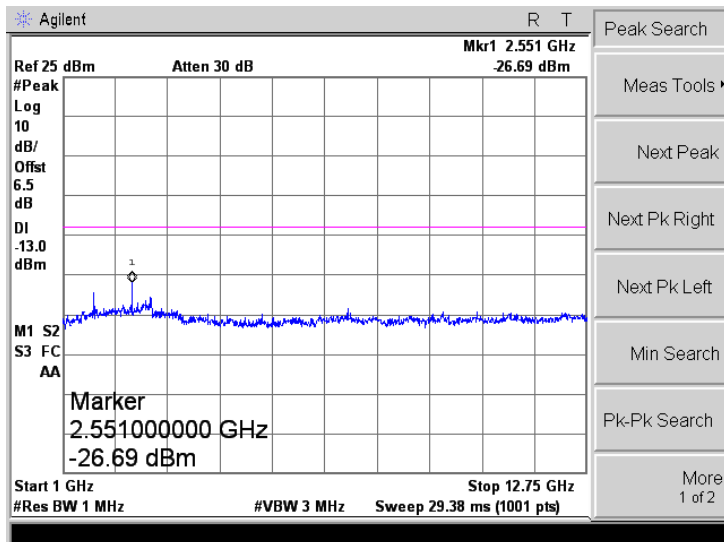
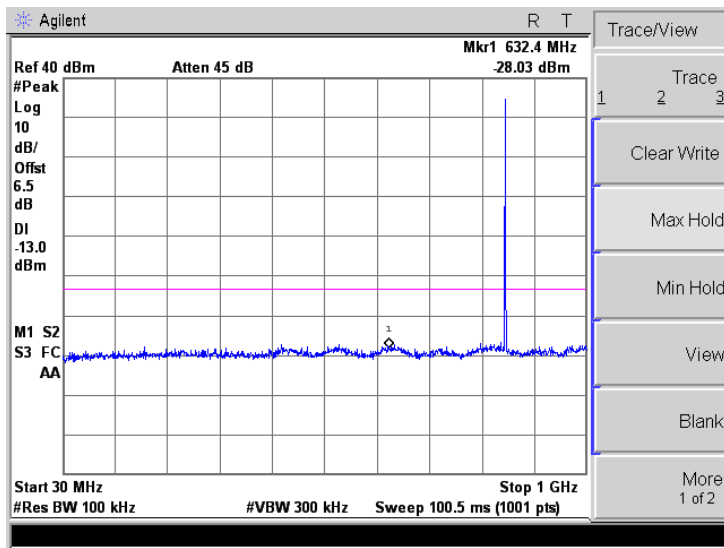
GSM850

Middle Channel



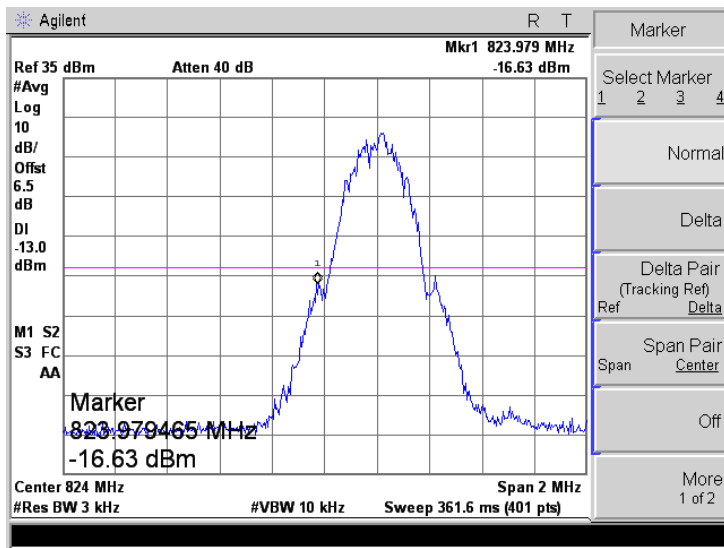
GSM850

High Channel

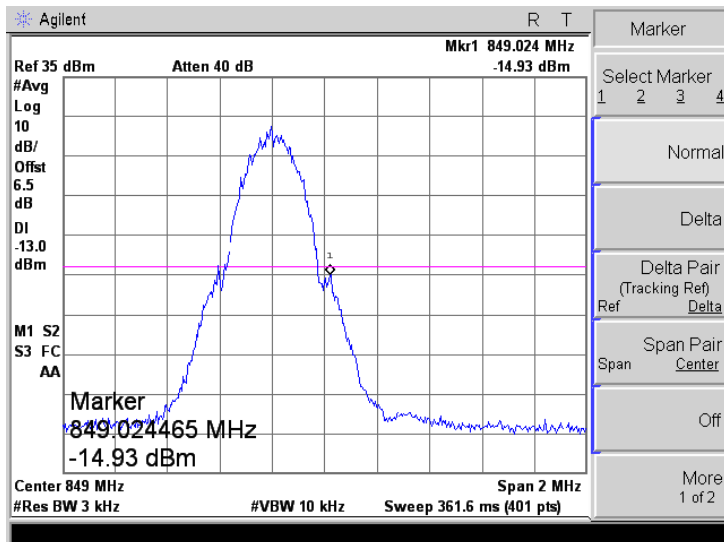


GSM850

Low Band Emission

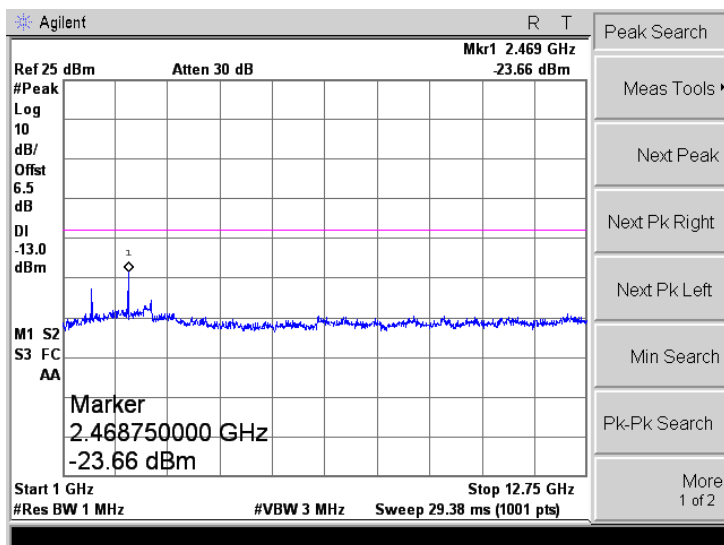
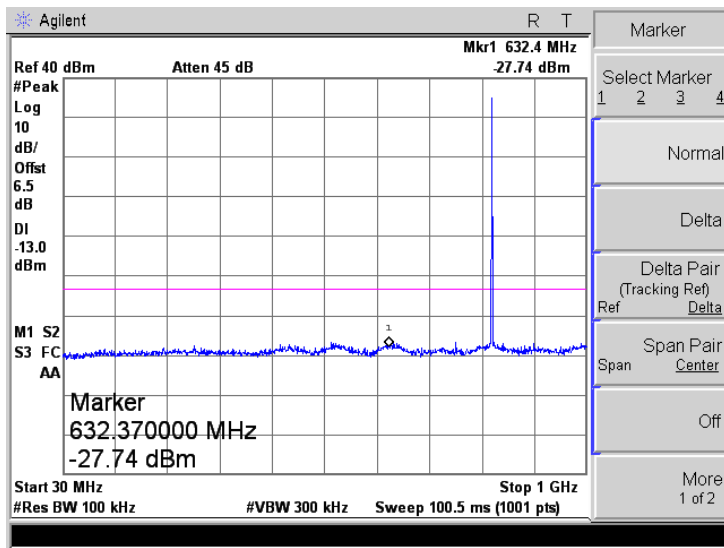


High Band Emission



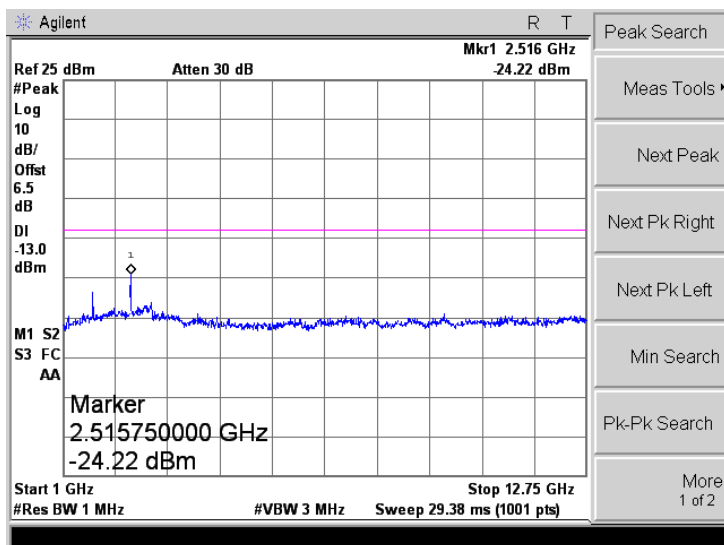
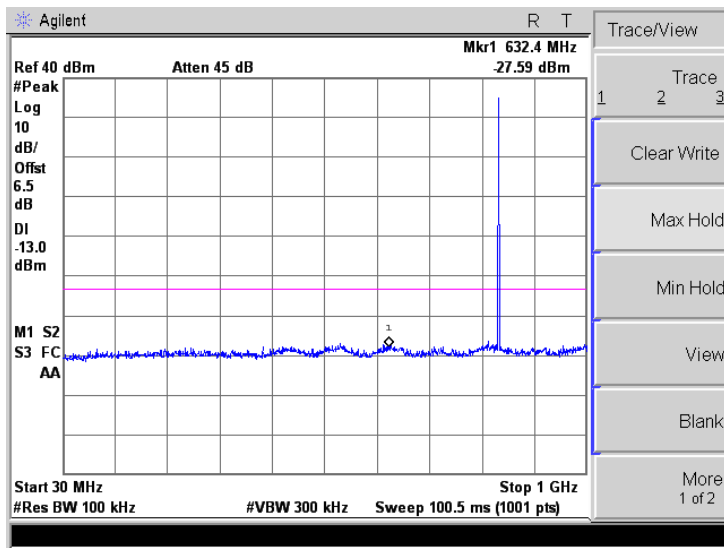
For Cellular Band

GPRS Low Channel



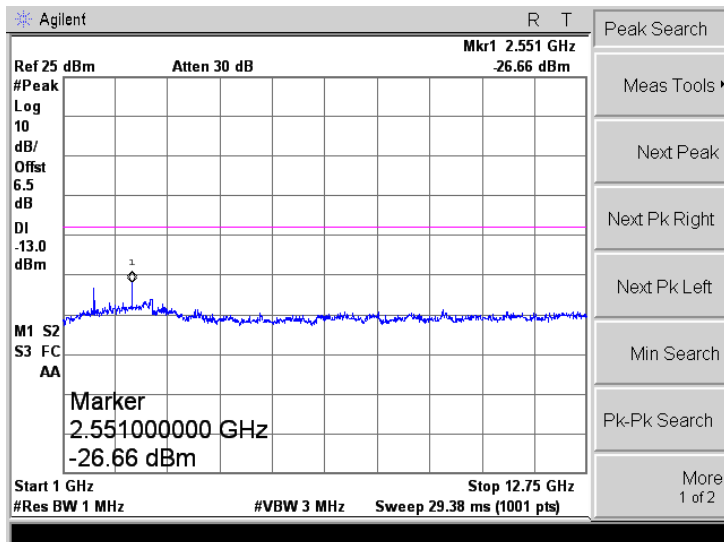
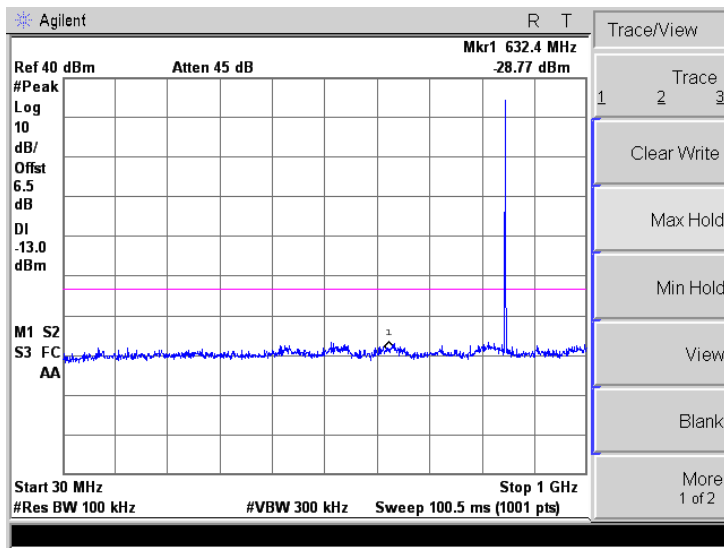
GPRS850

Middle Channel



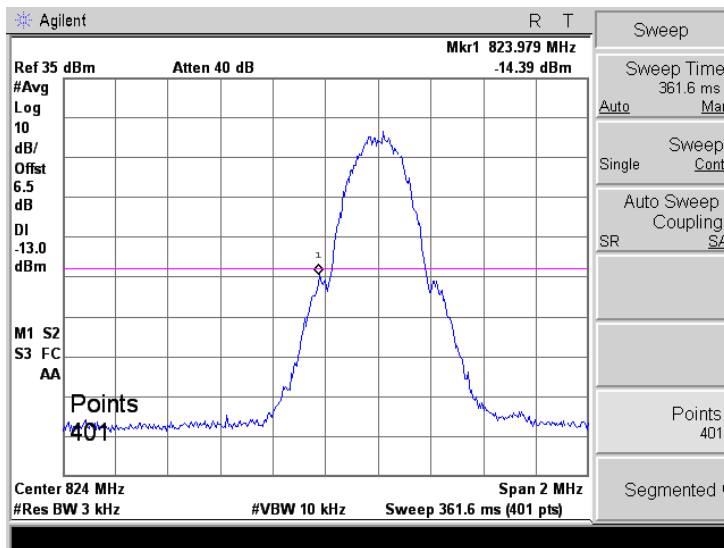
GPRS850

High Channel

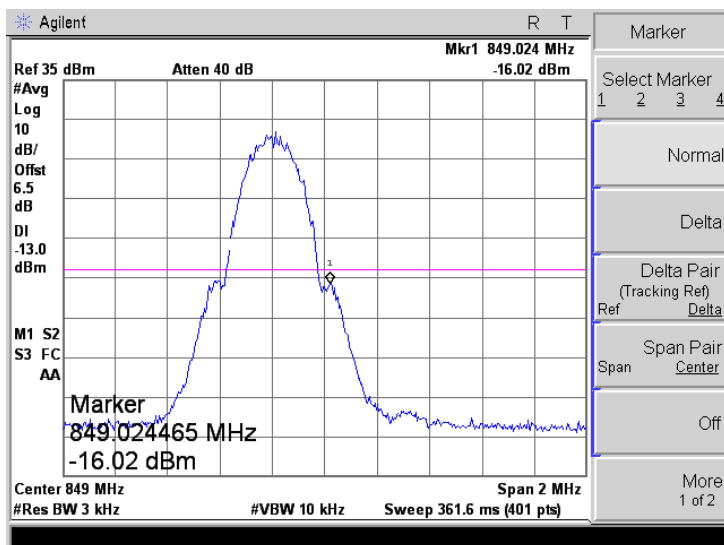


GPRS850

Low Band Emission

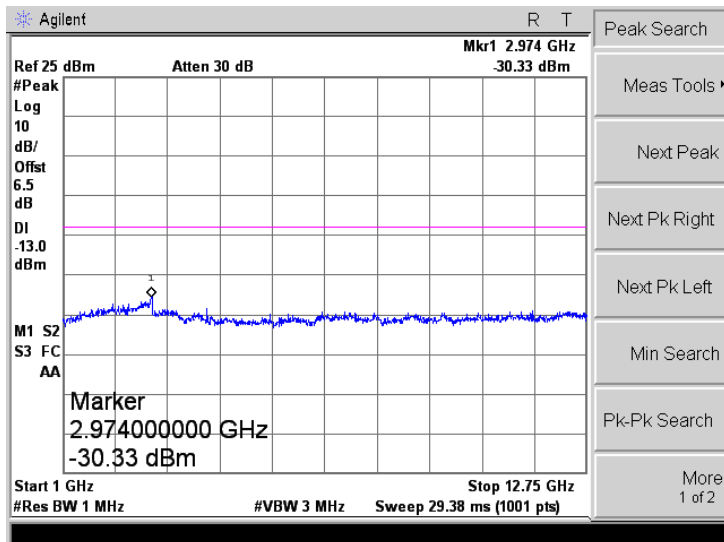
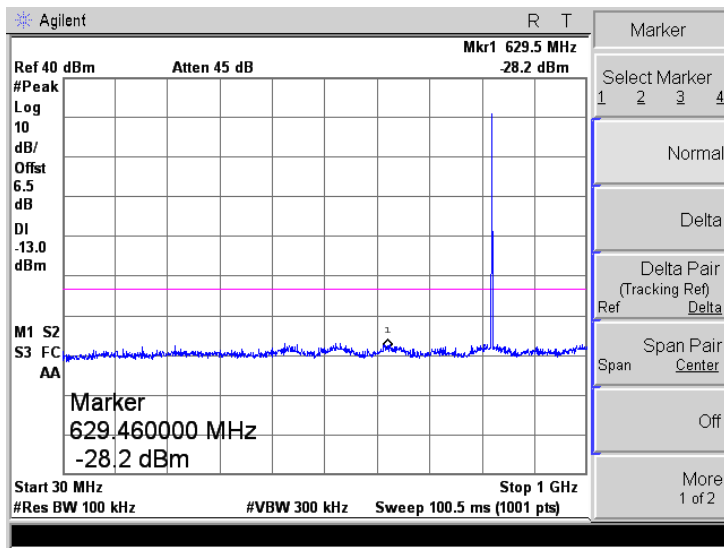


High Band Emission



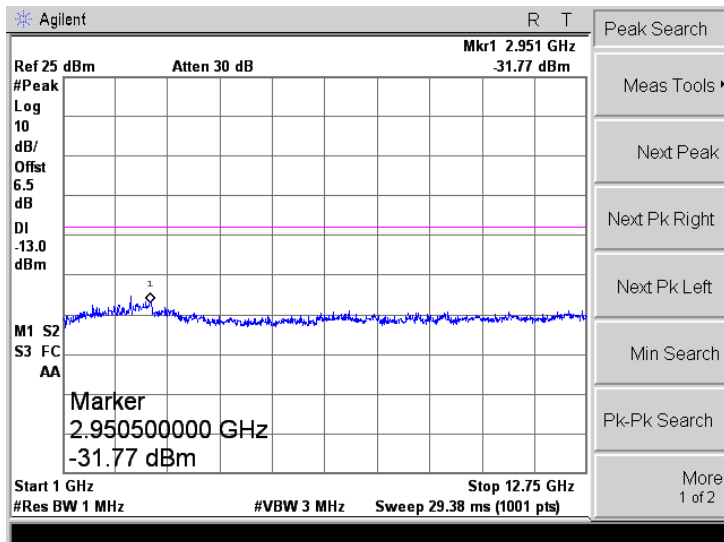
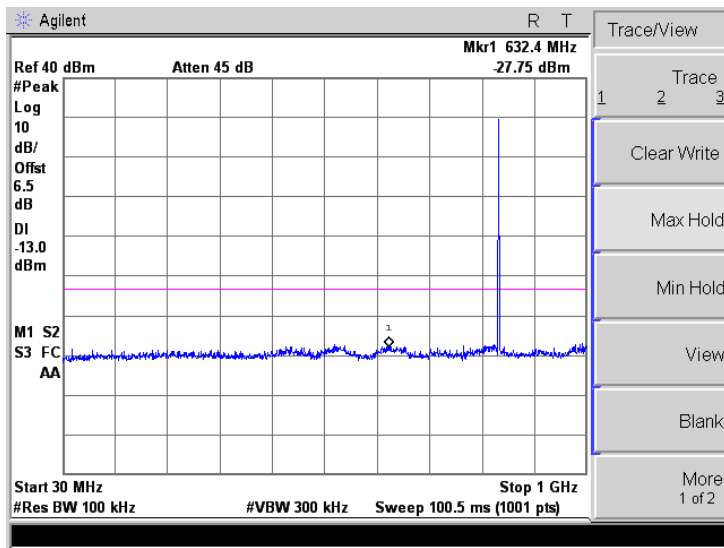
EGPRS850

Low Channel



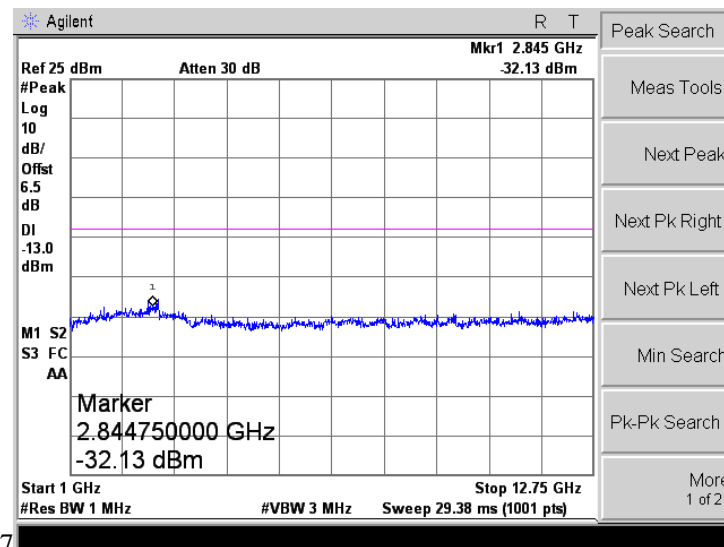
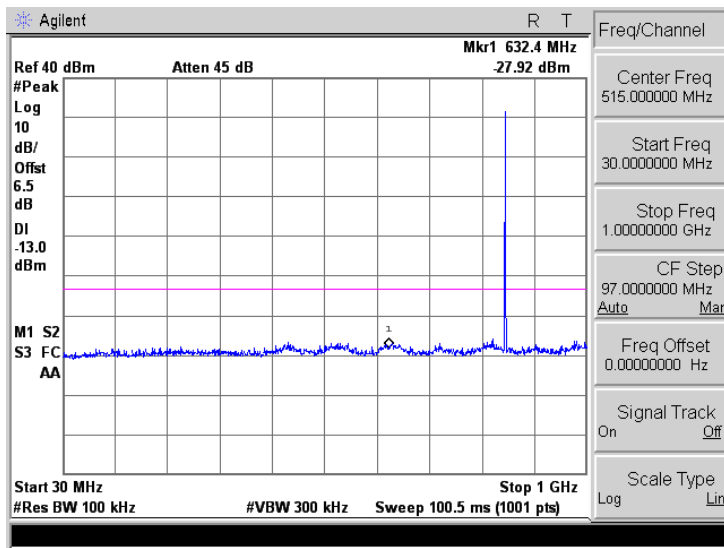
EGPRS850

Middle Channel



EGPRS850

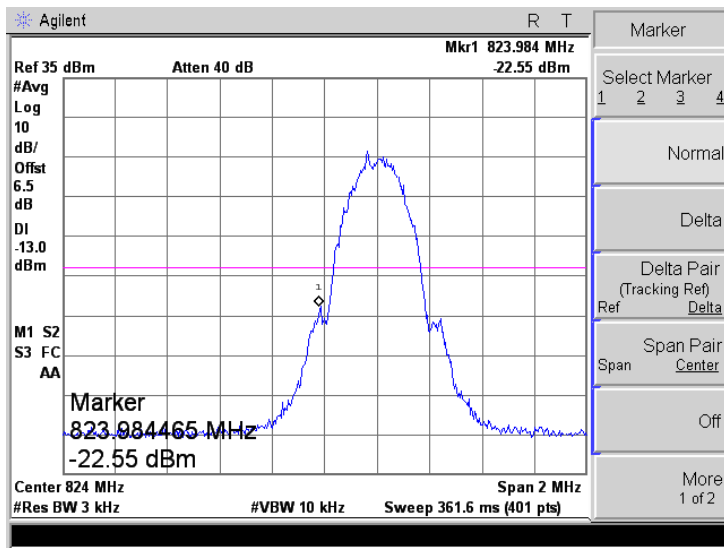
High Channel



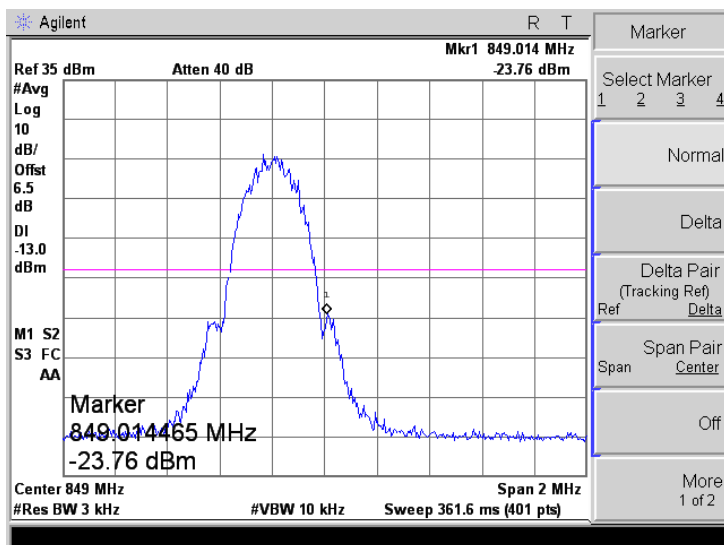
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EGPRS850

Low Band Emission

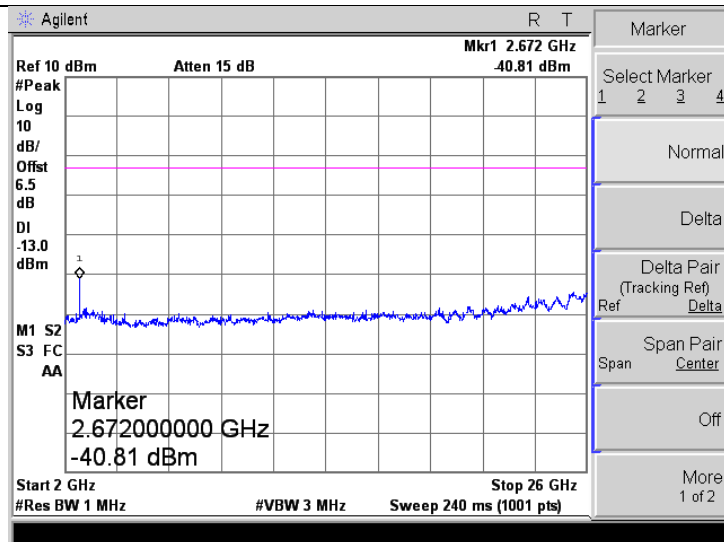
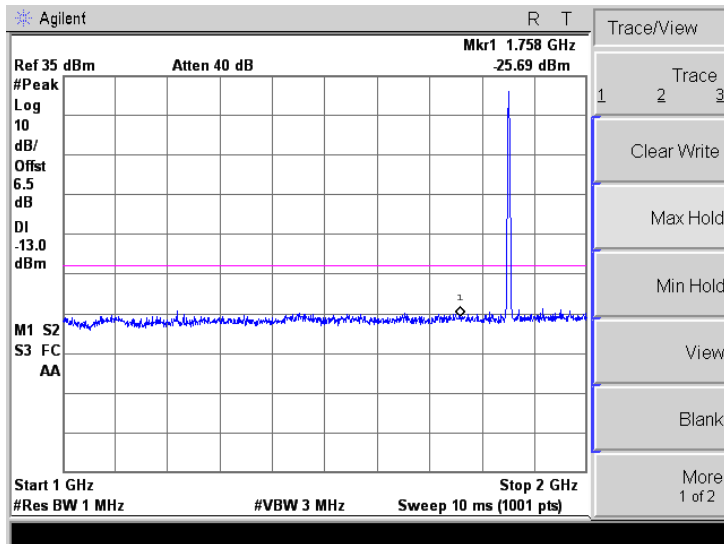
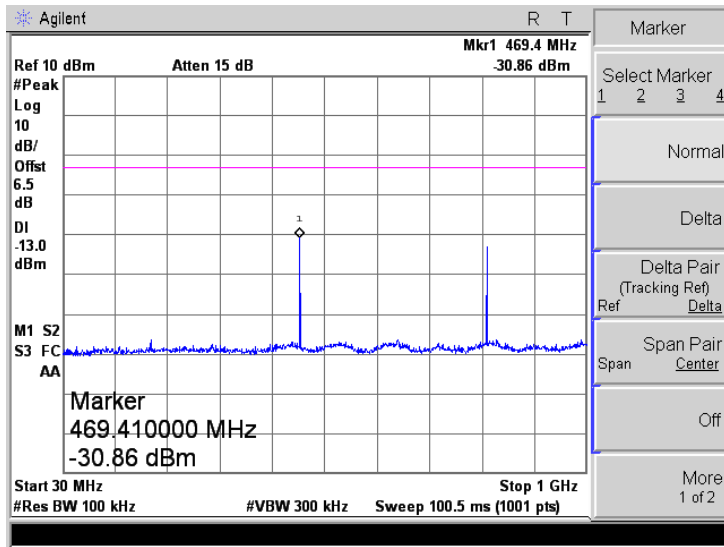


High Band Emission



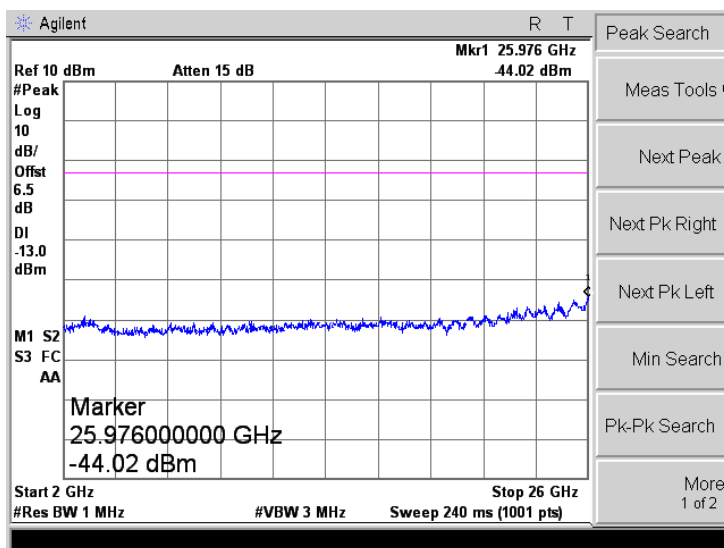
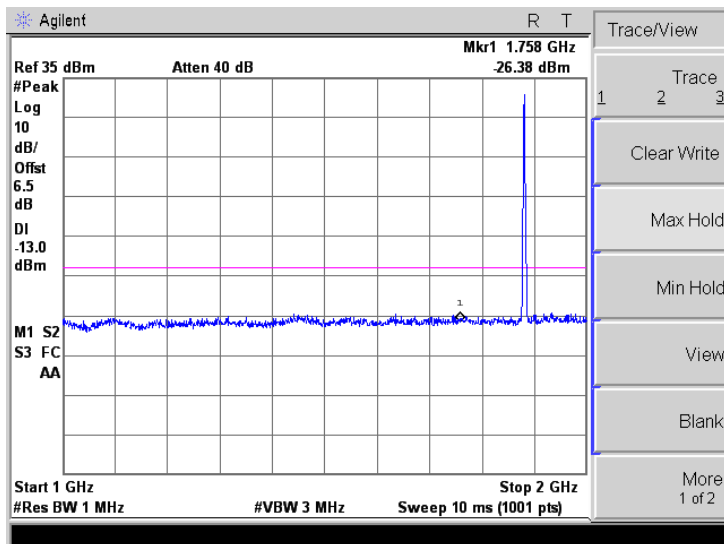
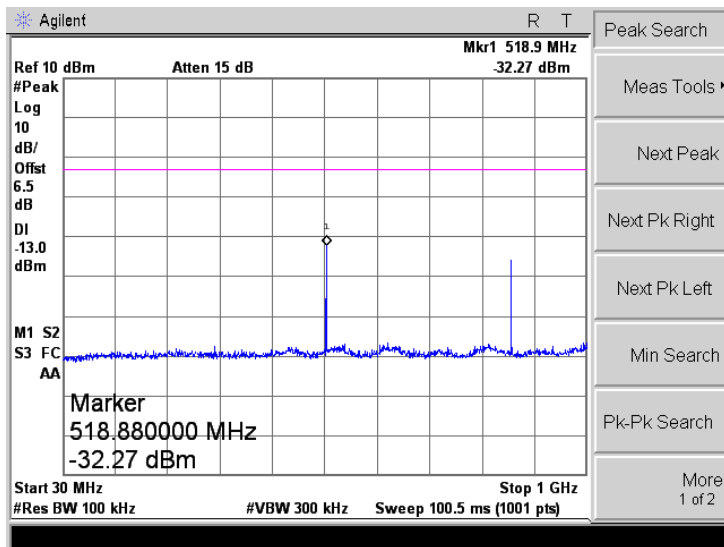
PCS1900

Low Channel



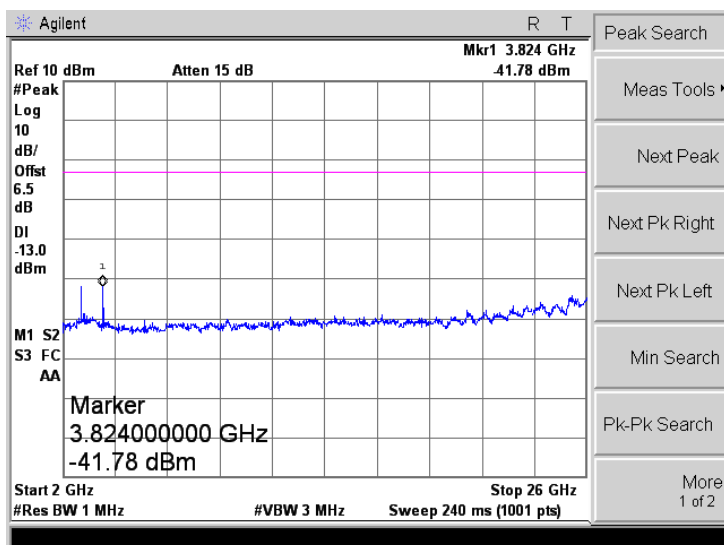
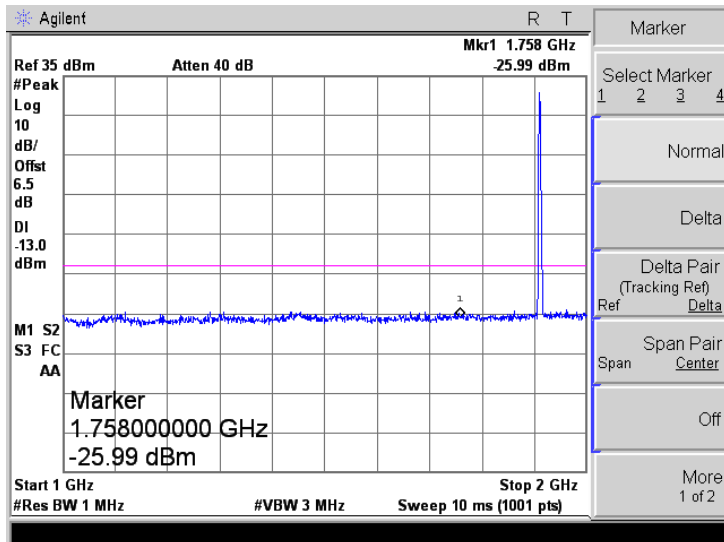
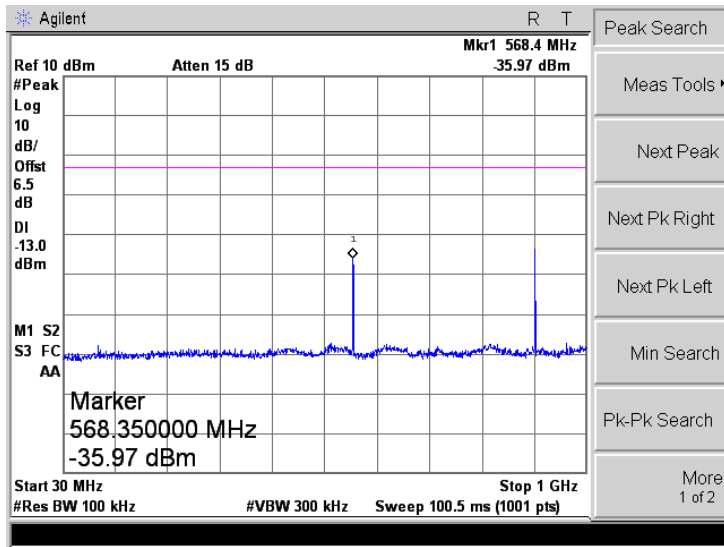
PCS1900

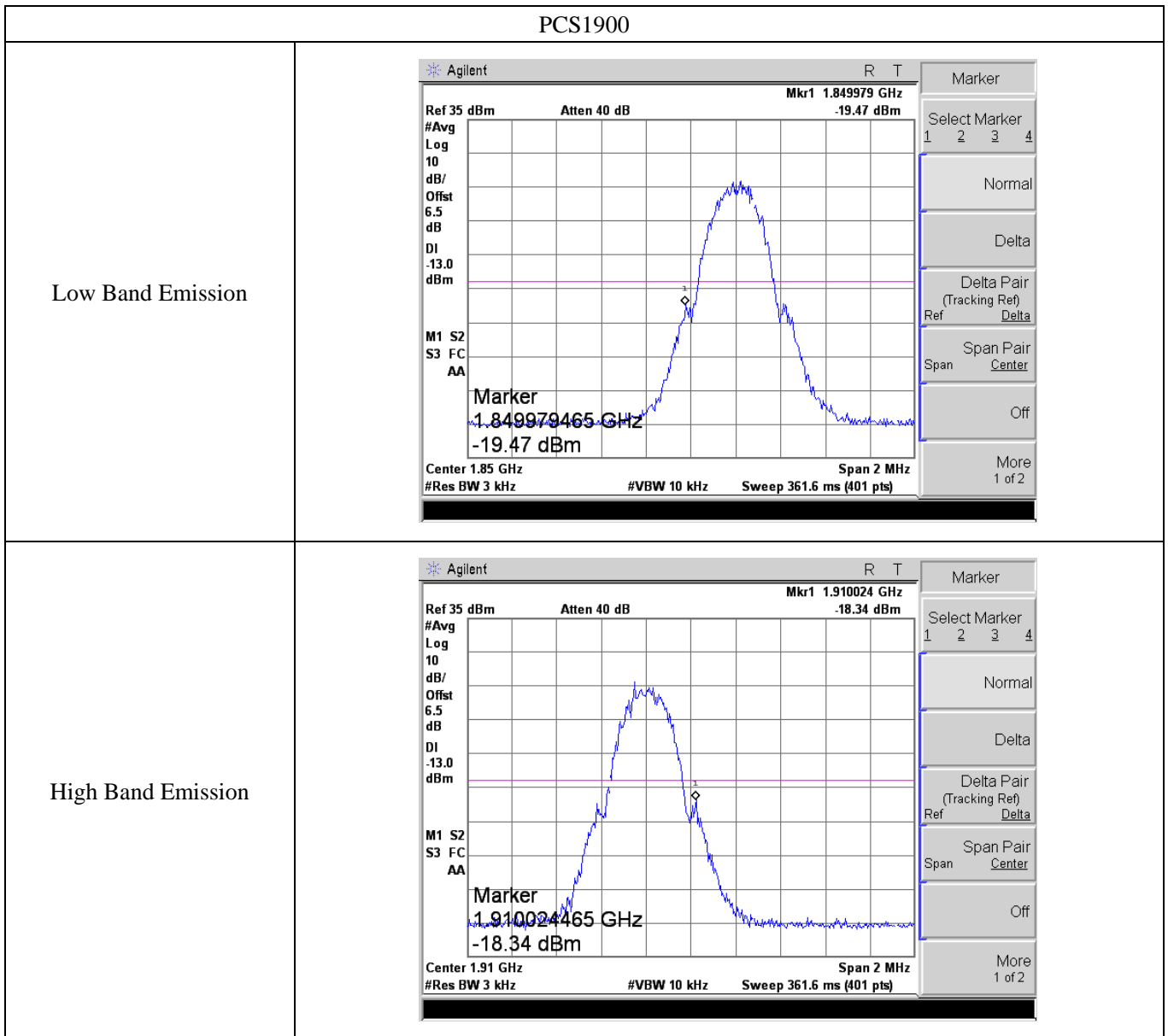
Middle Channel



PCS1900

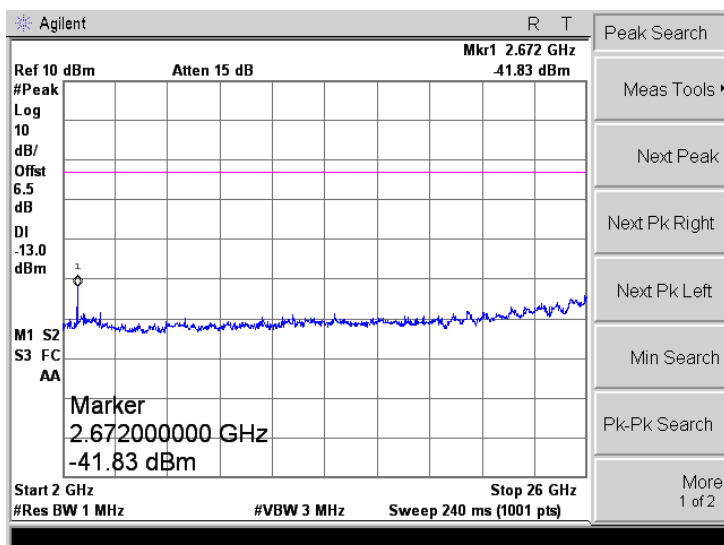
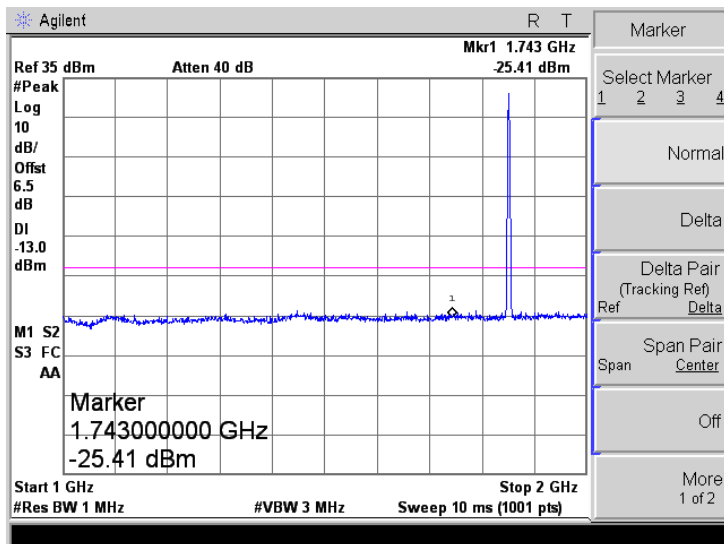
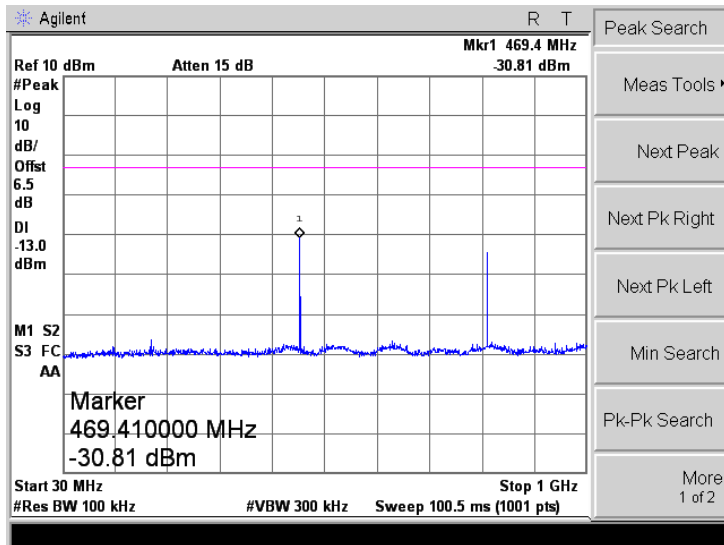
High Channel





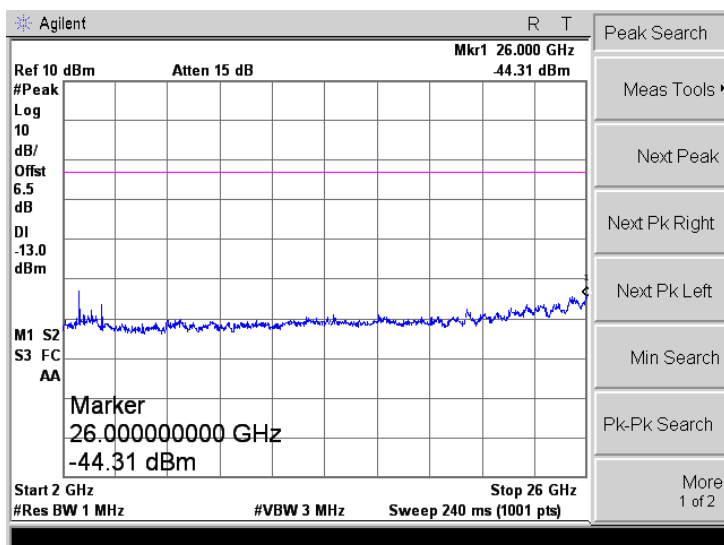
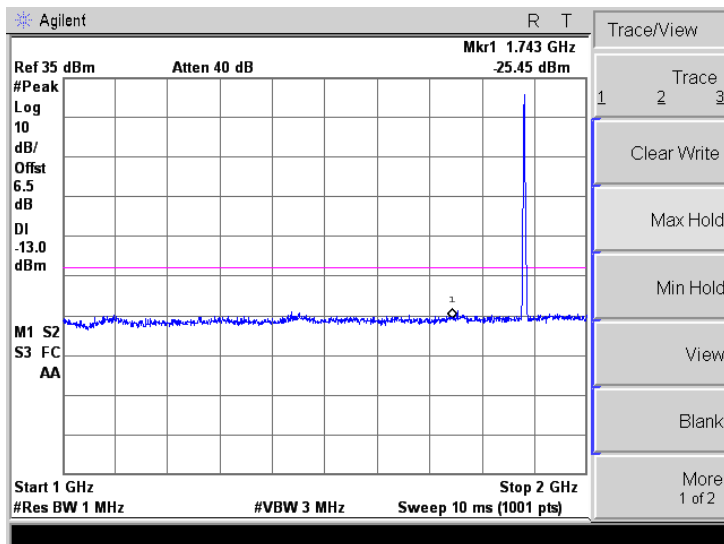
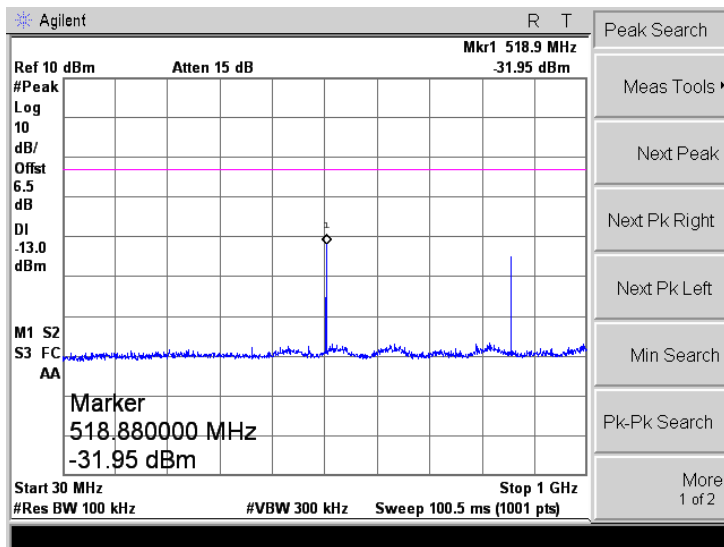
GPRS1900

Low Channel



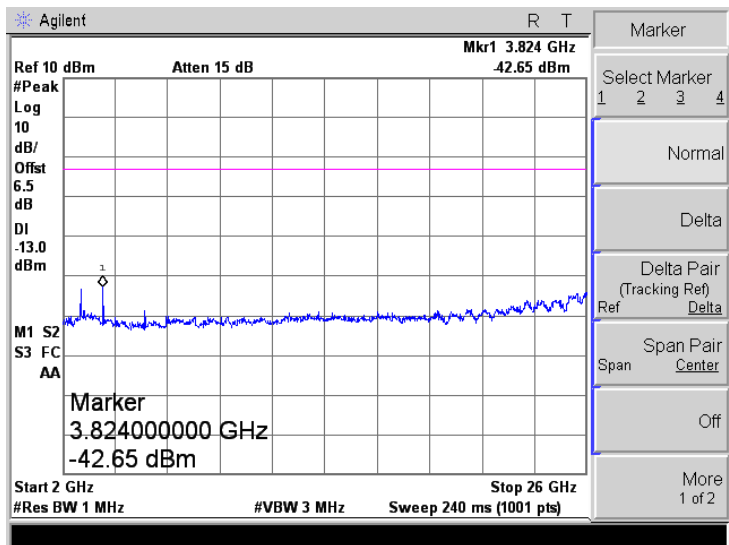
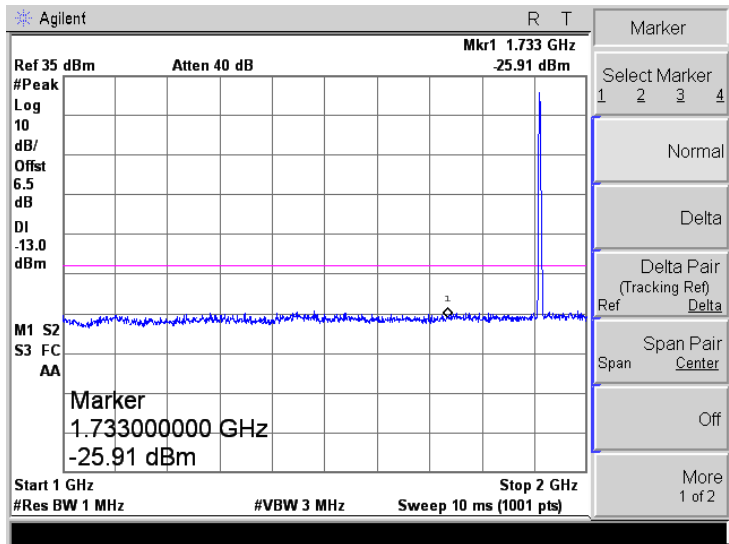
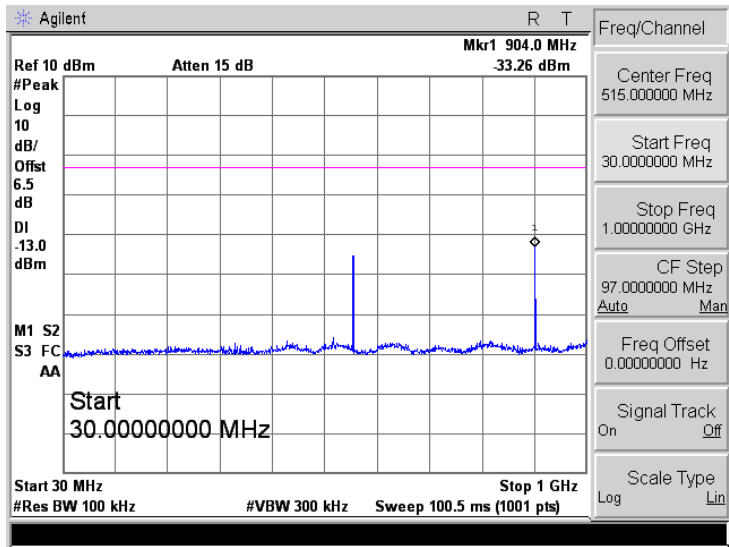
GPRS1900

Middle Channel



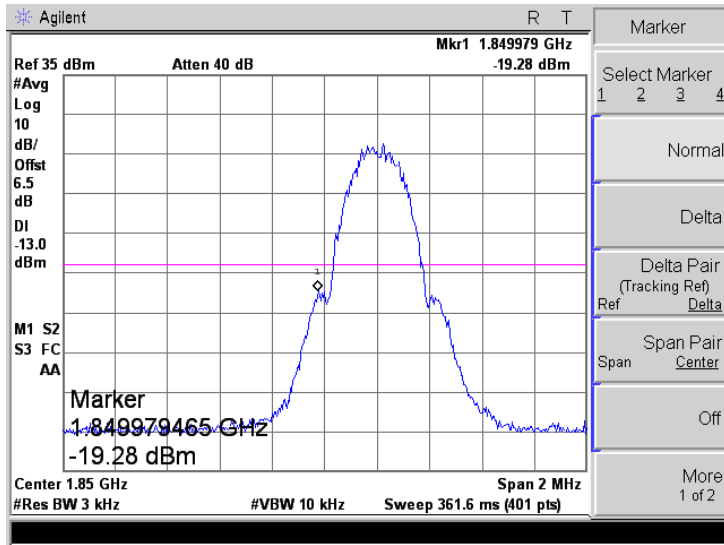
GPRS1900

High Channel

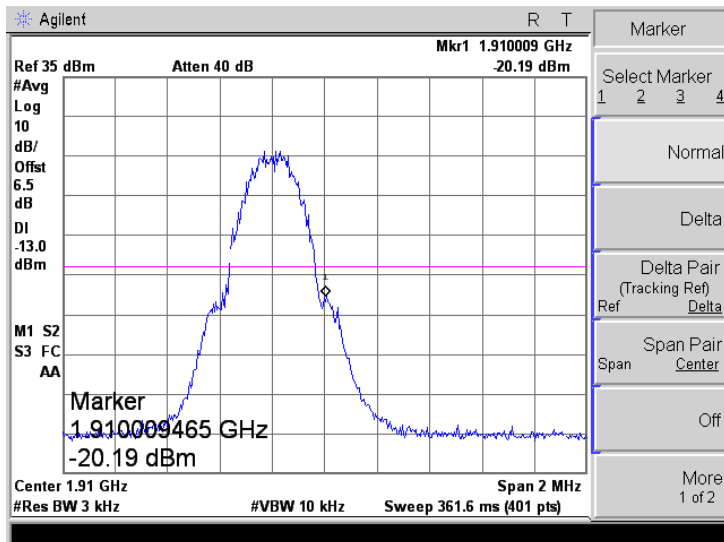


GPRS1900

Low Band Emission

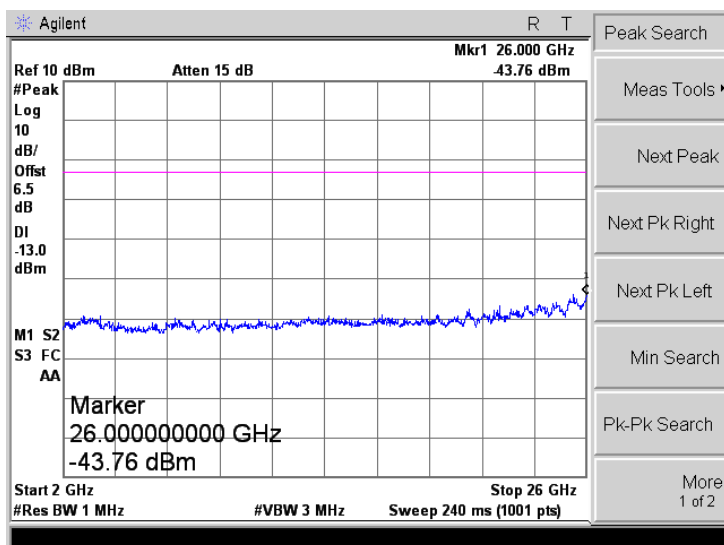
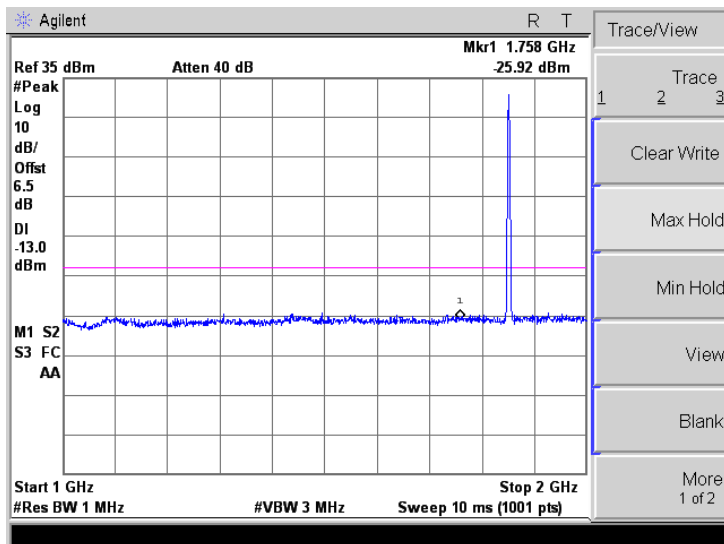
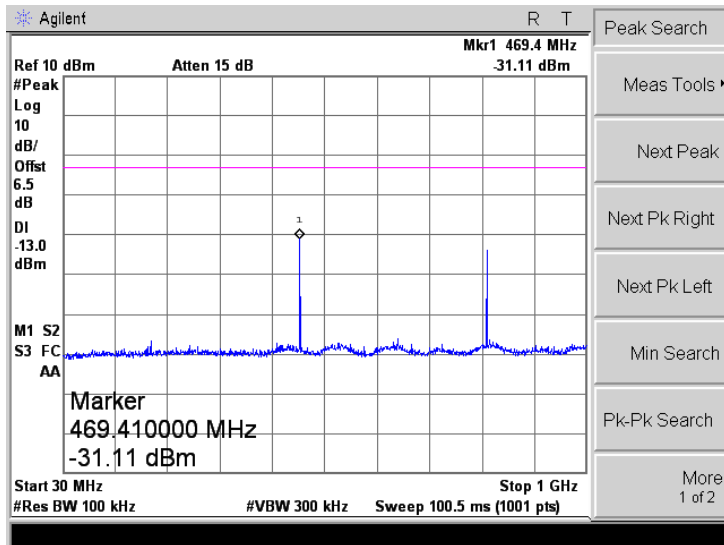


High Band Emission



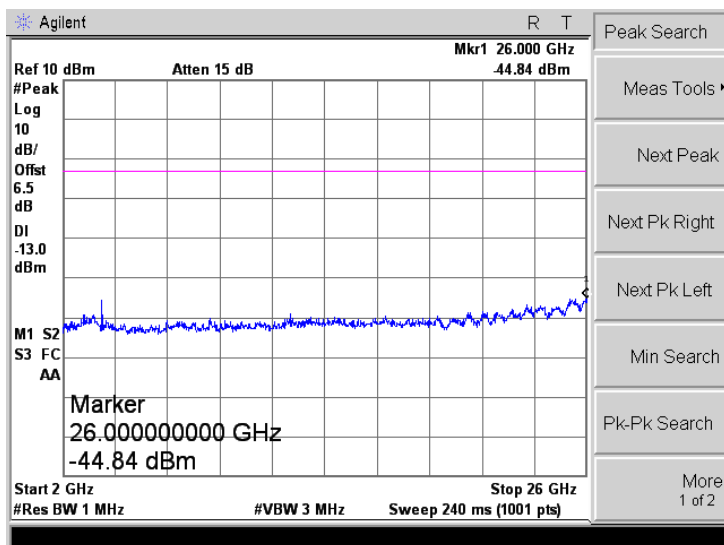
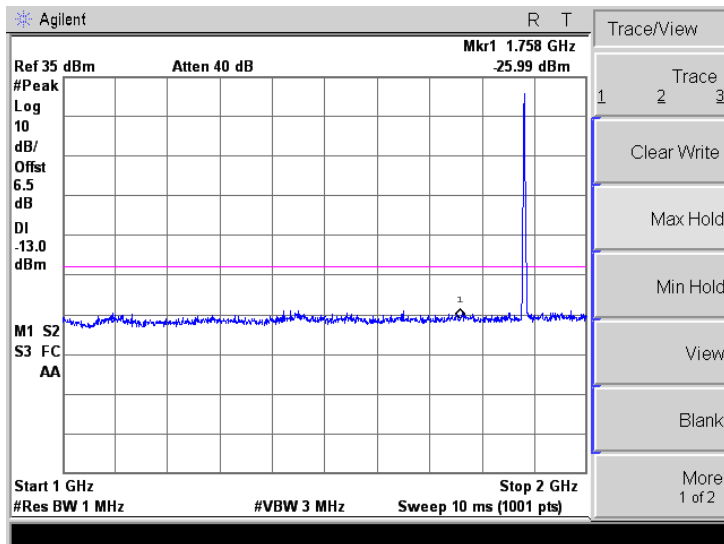
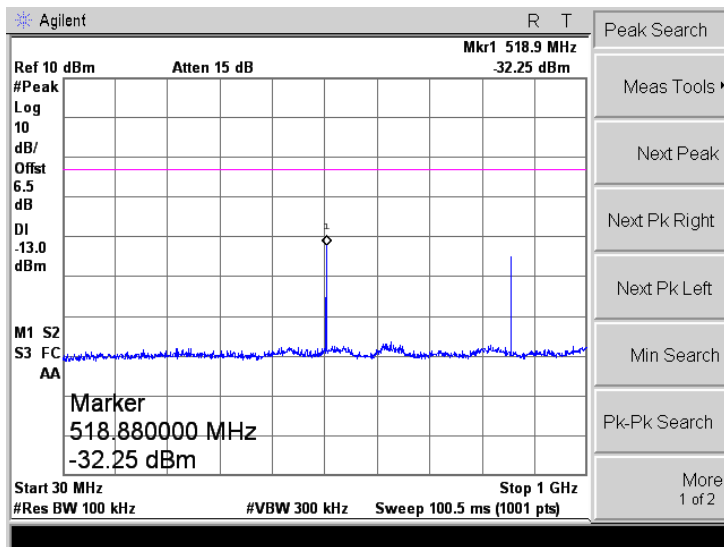
EGPRS1900

Low Channel



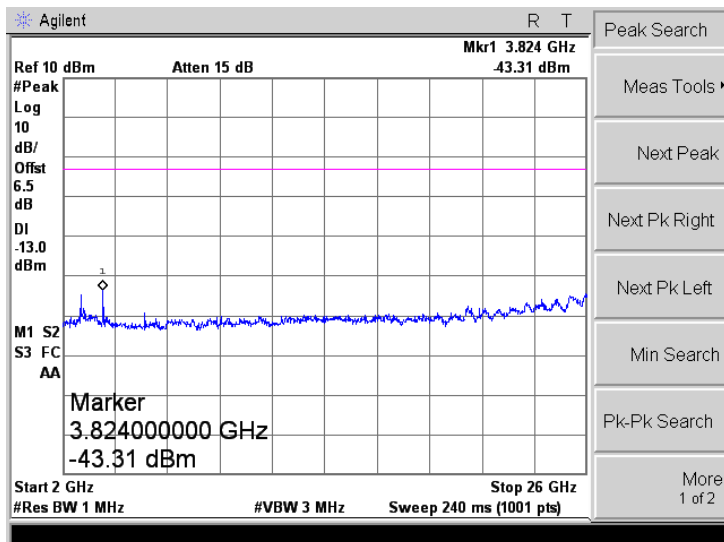
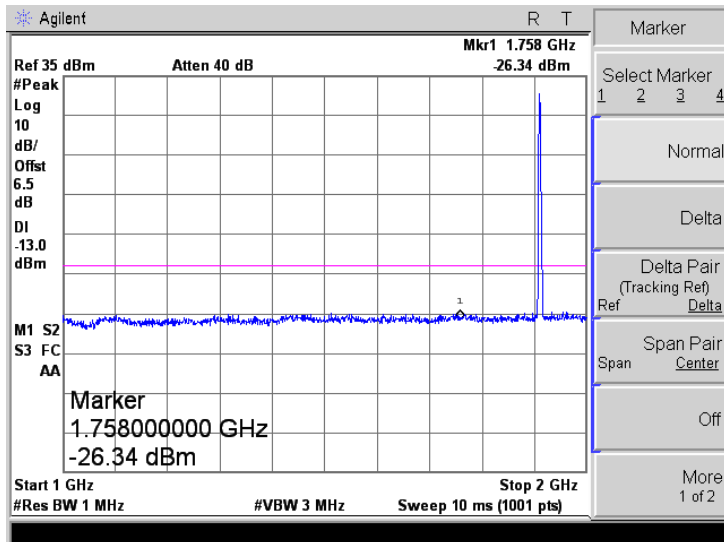
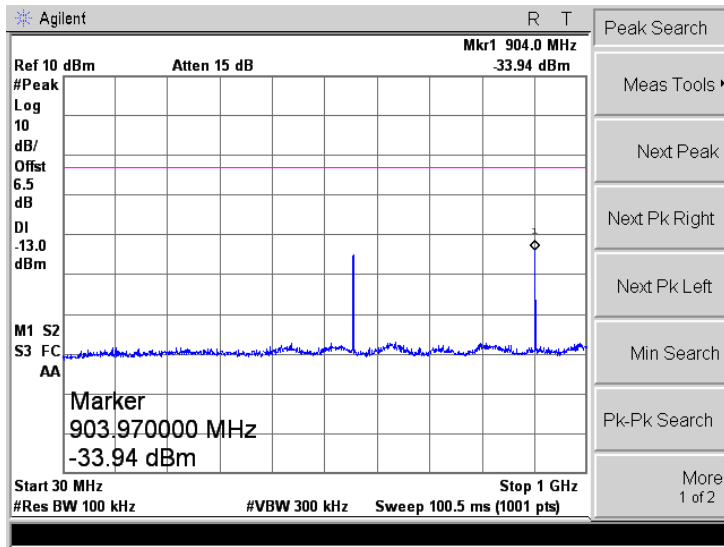
EGPRS1900

Middle Channel



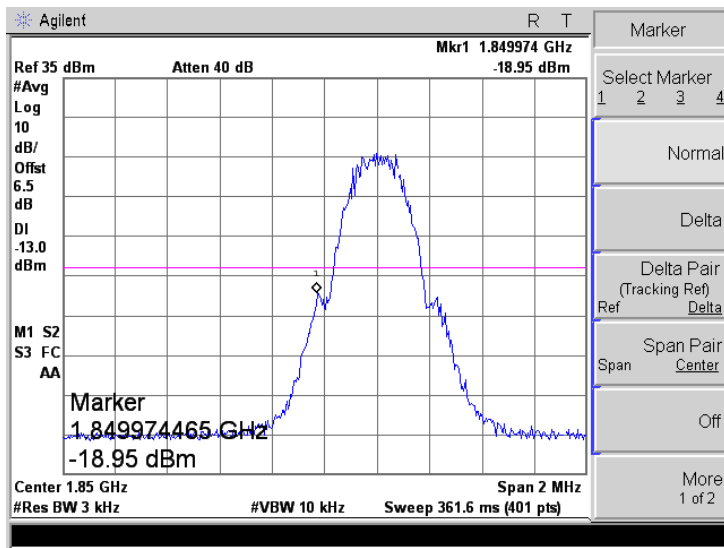
EGPRS1900

High Channel

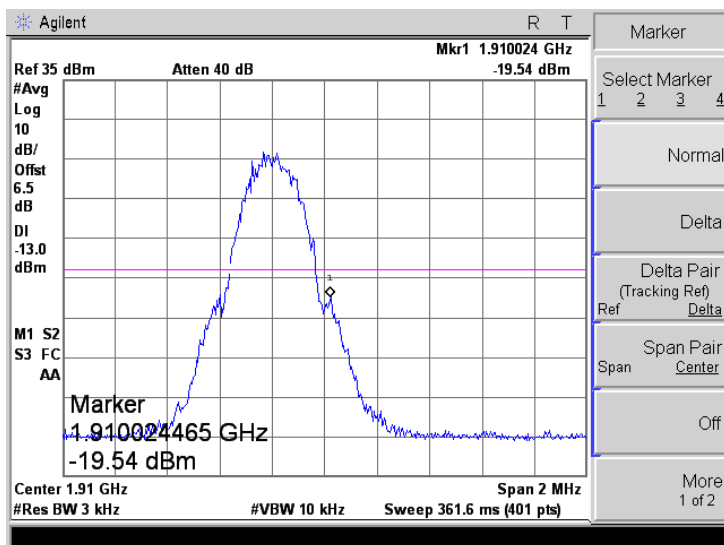


EGPRS1900

Low Band Emission

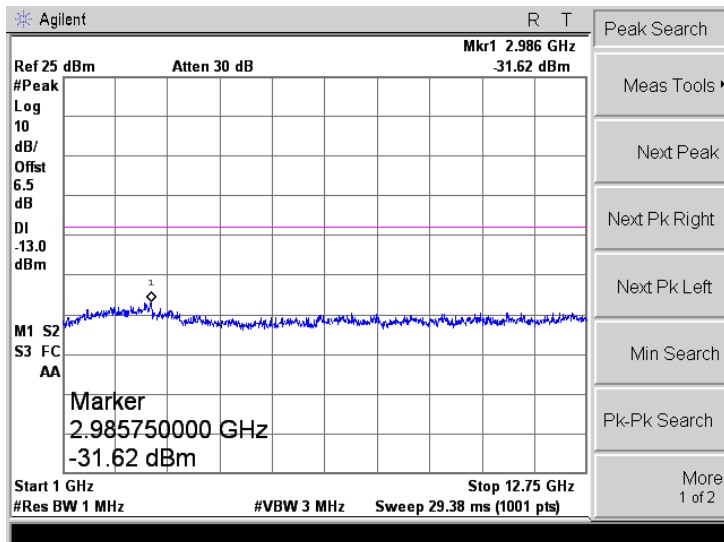
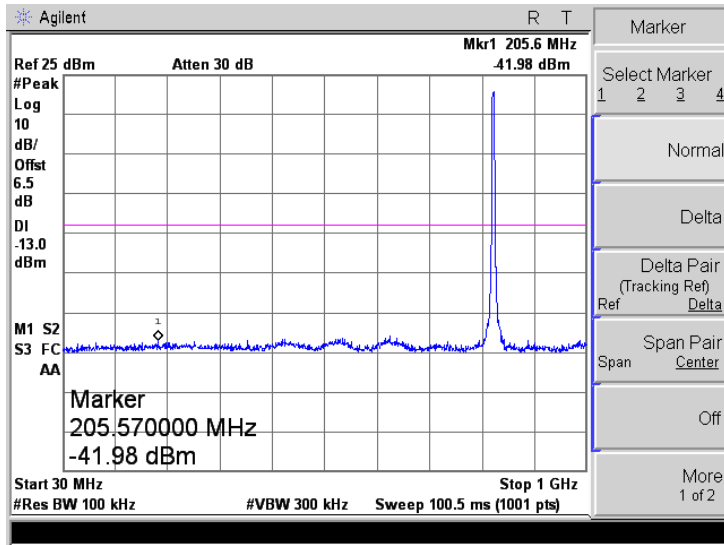


High Band Emission



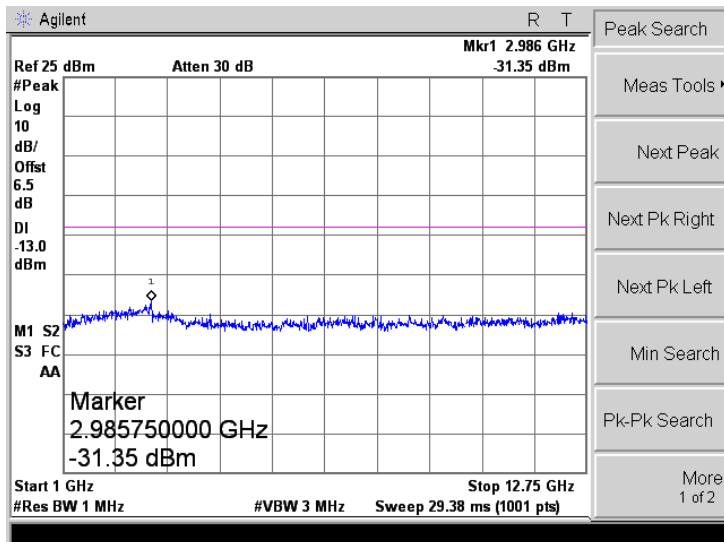
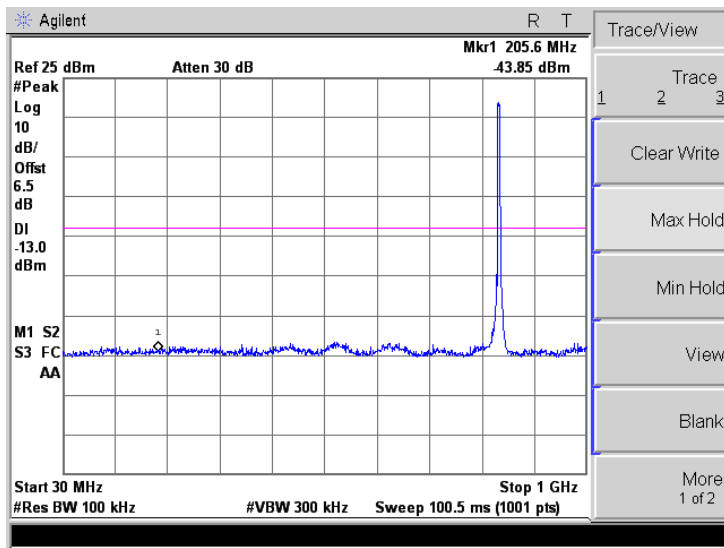
WCDMA Band V

Low Channel



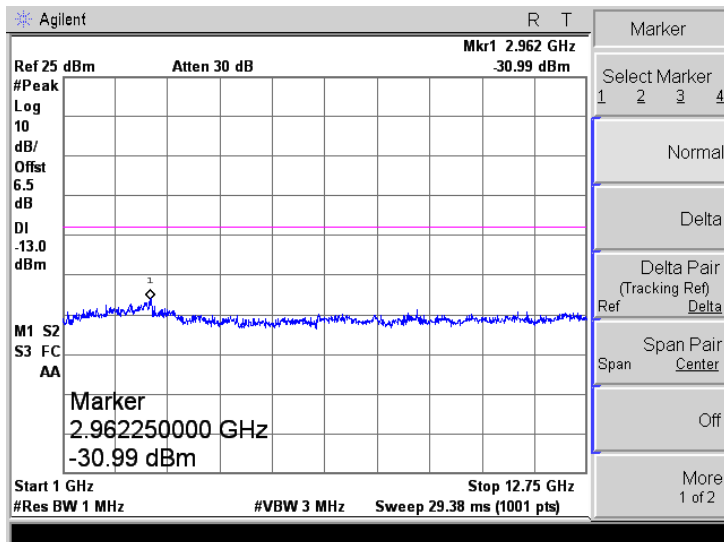
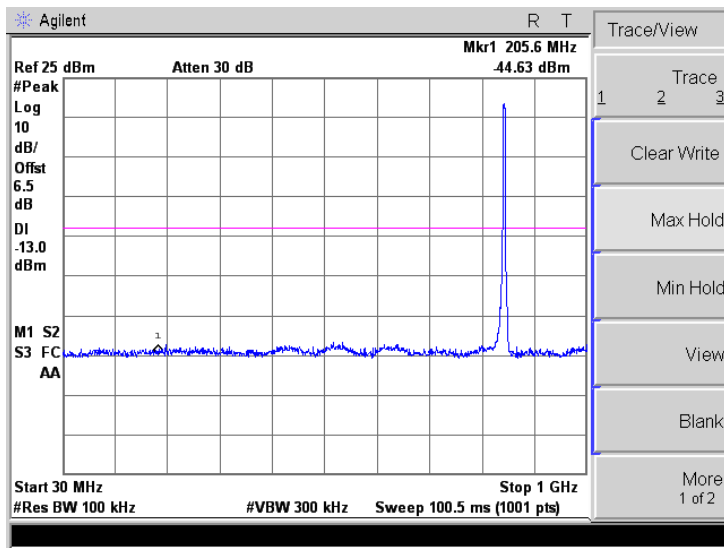
WCDMA Band V

Middle Channel



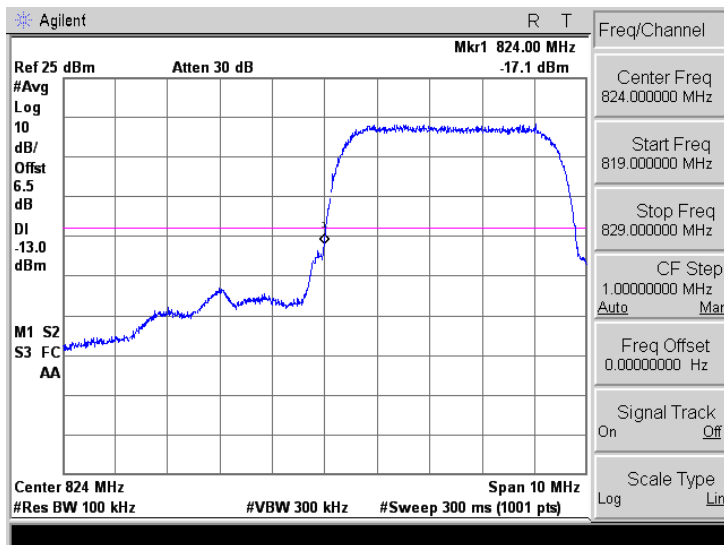
WCDMA Band V

High Channel

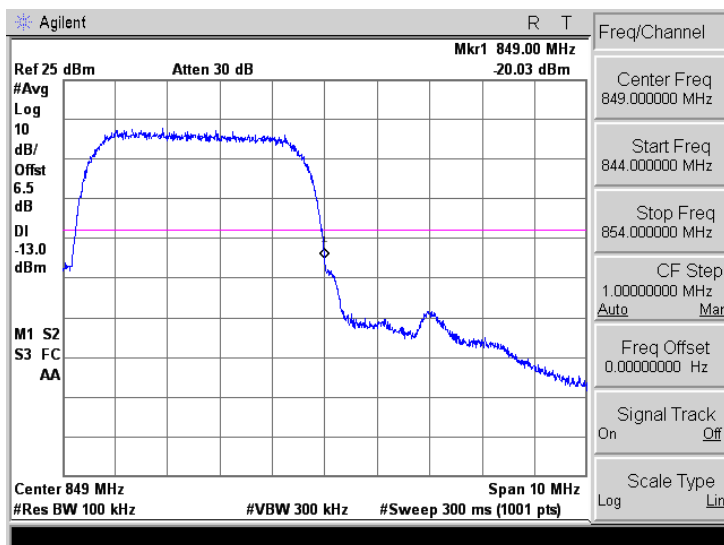


WCDMA Band V

Low Band Emission

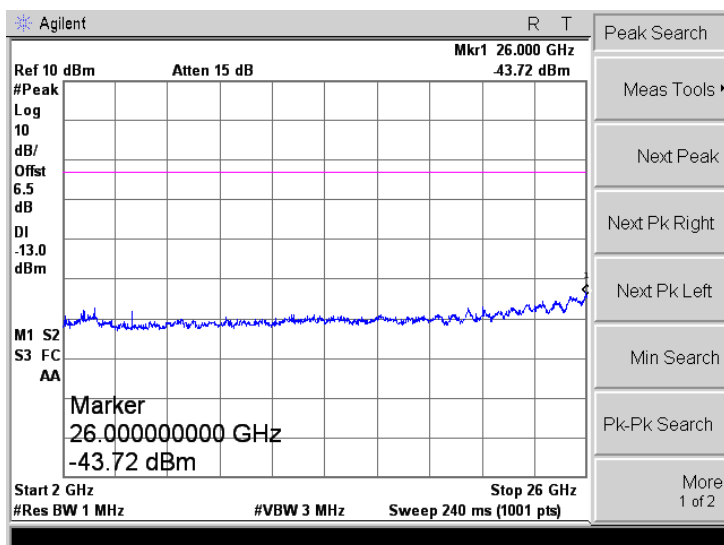
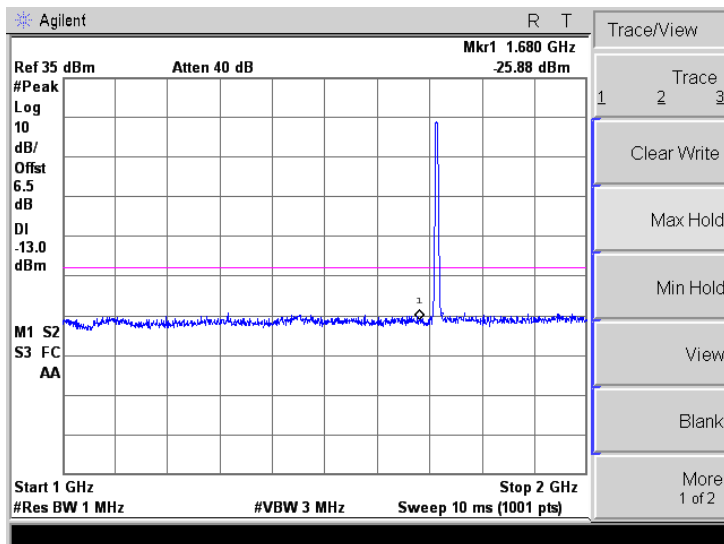
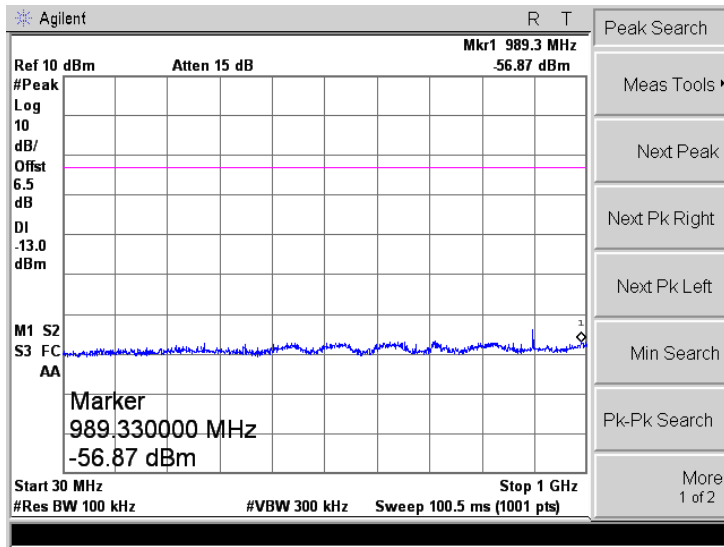


High Band Emission



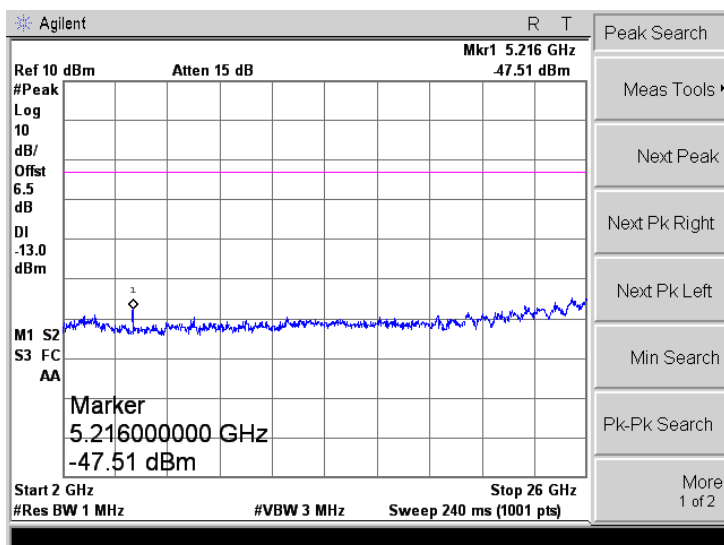
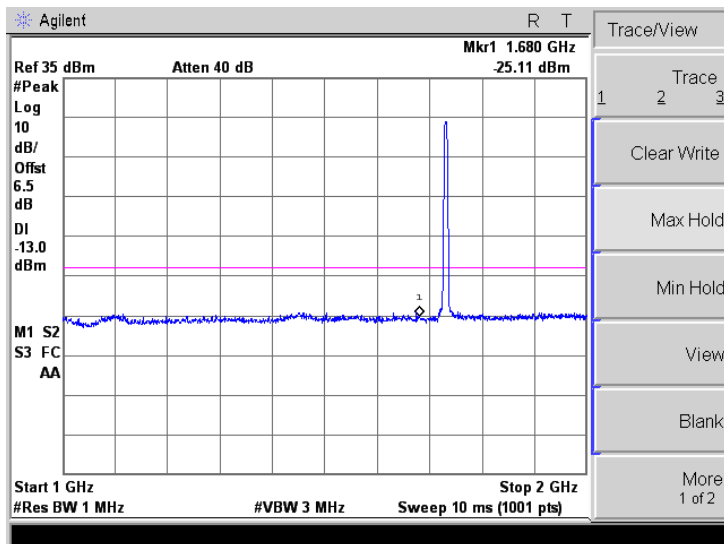
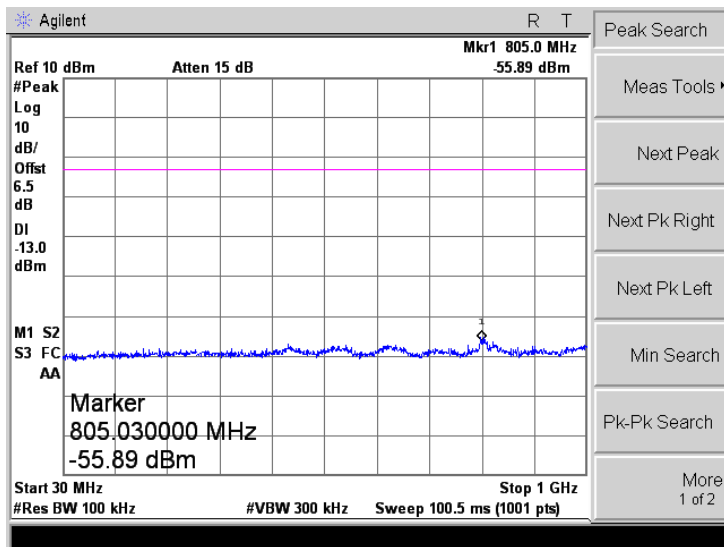
WCDMA Band IV

Low Channel



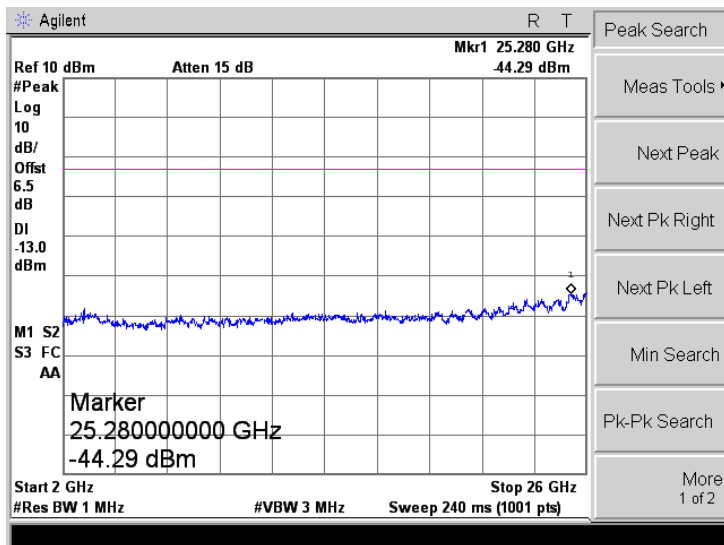
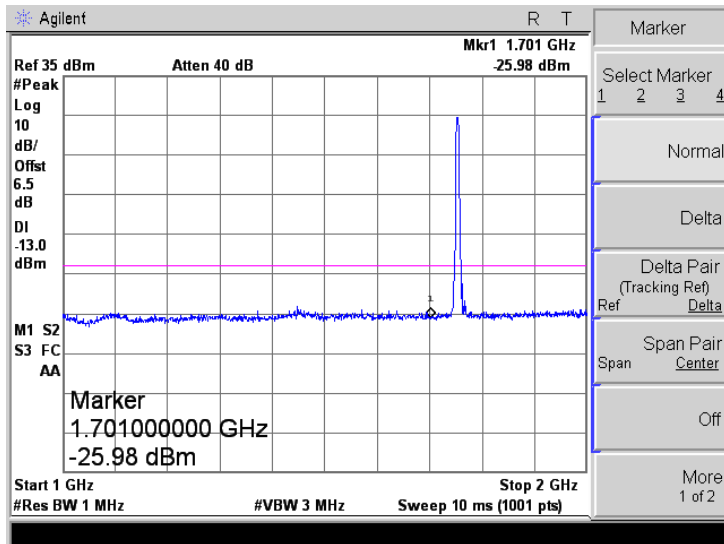
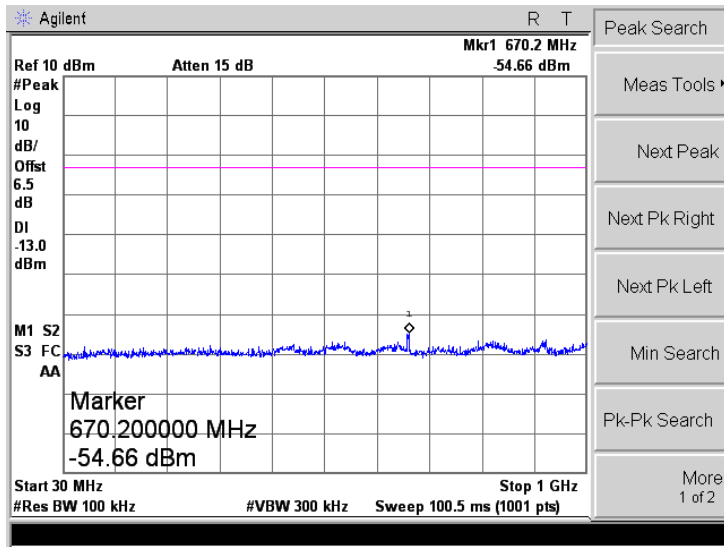
WCDMA Band IV

Middle Channel



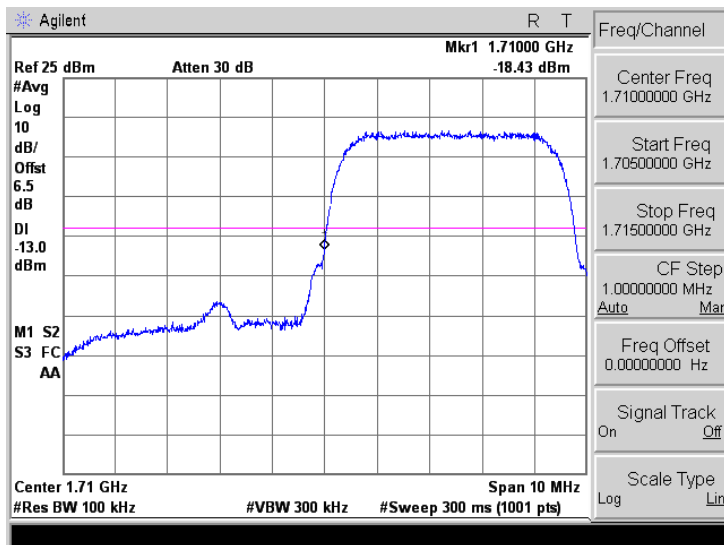
WCDMA Band IV

High Channel

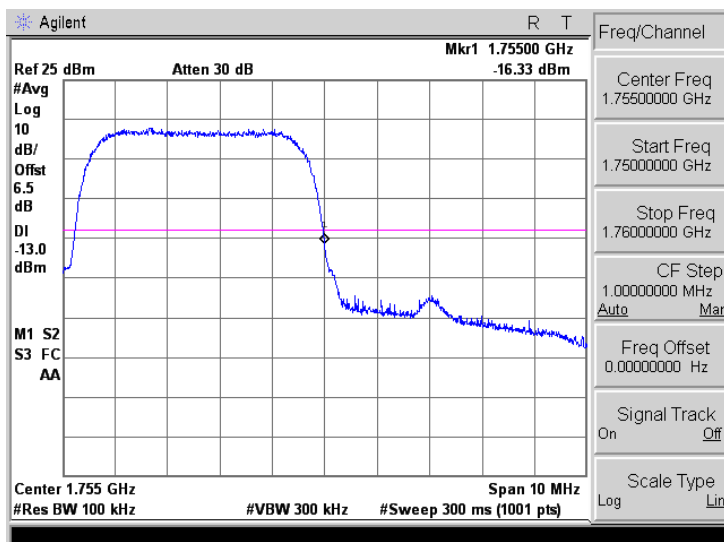


WCDMA Band IV

Low Band Emission

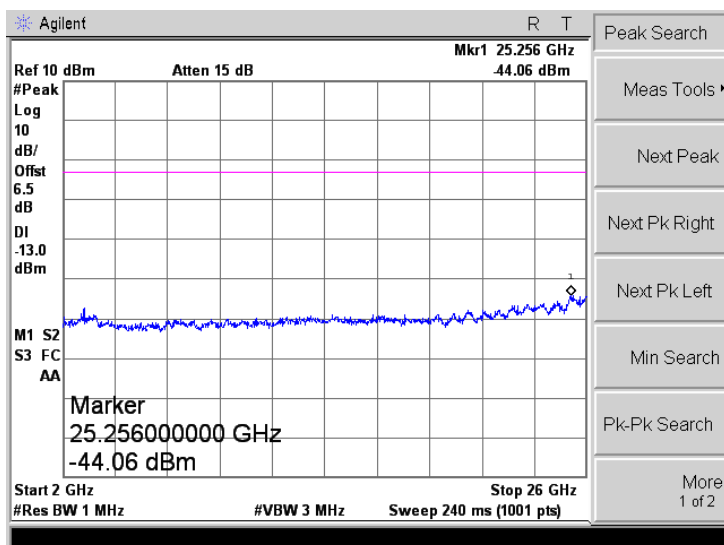
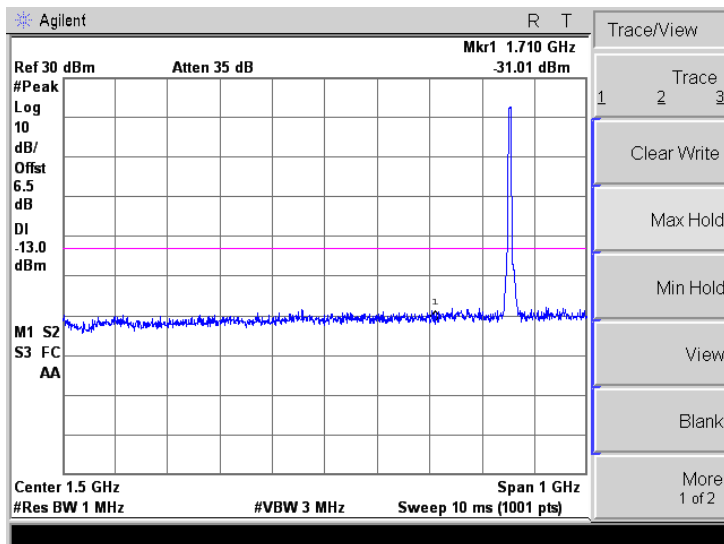
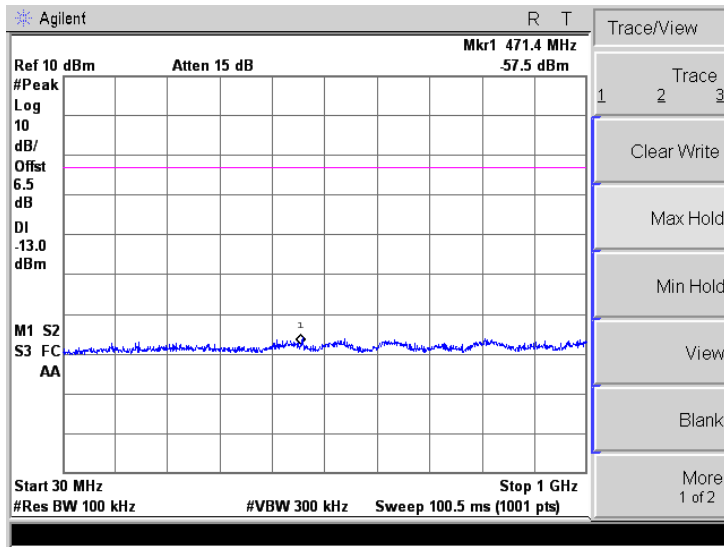


High Band Emission



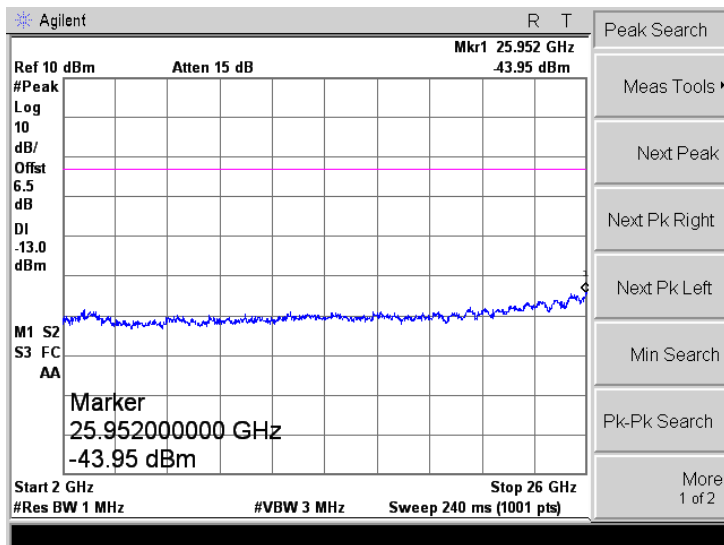
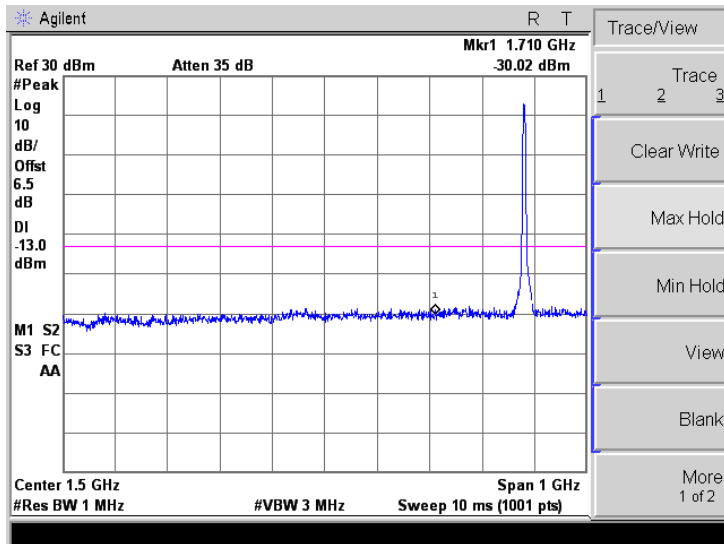
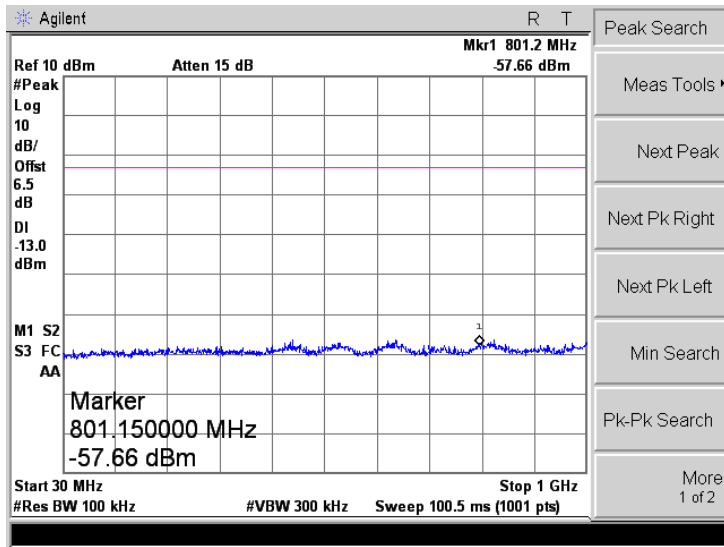
WCDMA Band II

Low Channel



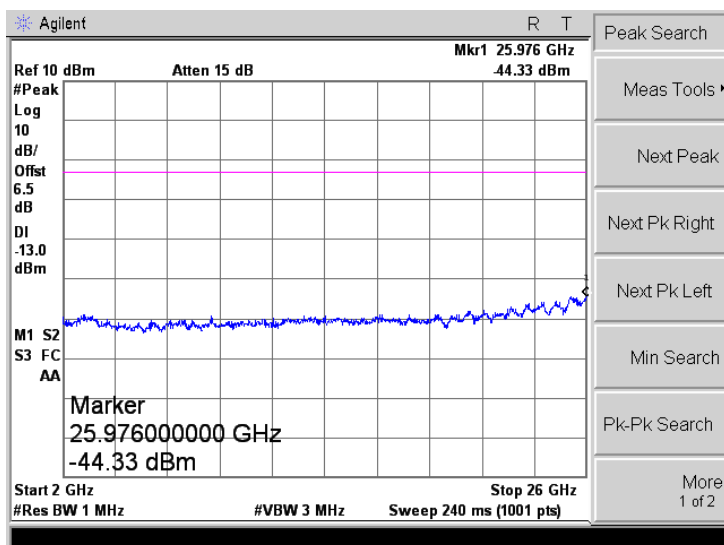
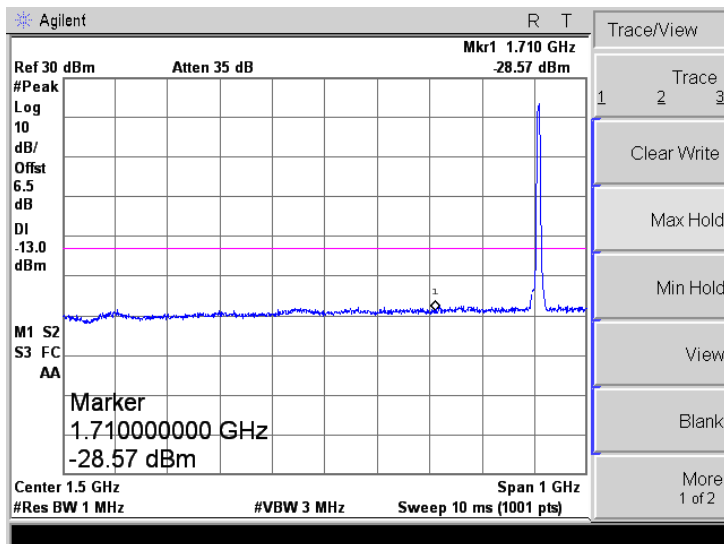
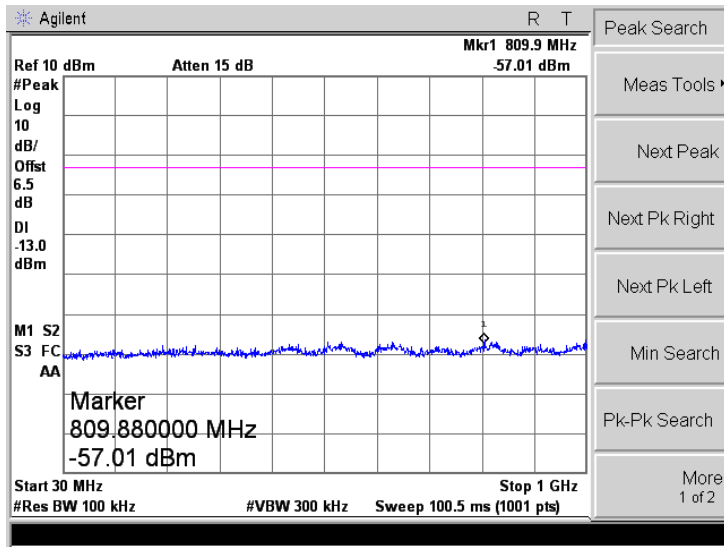
WCDMA Band II

Middle Channel



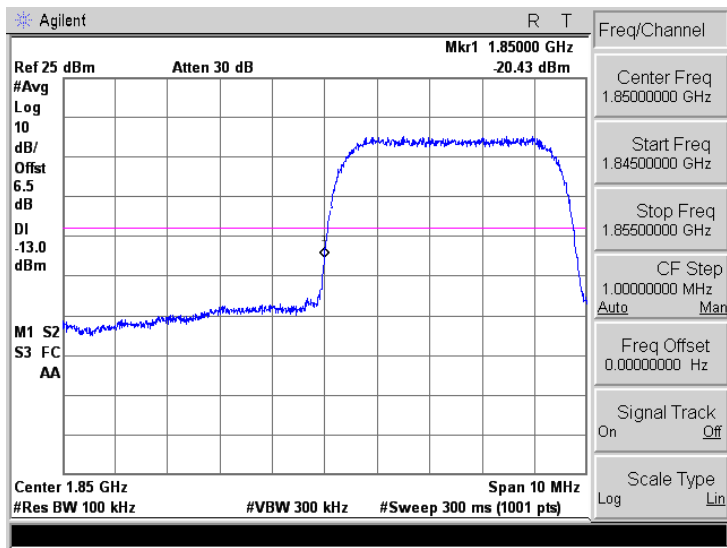
WCDMA Band II

High Channel

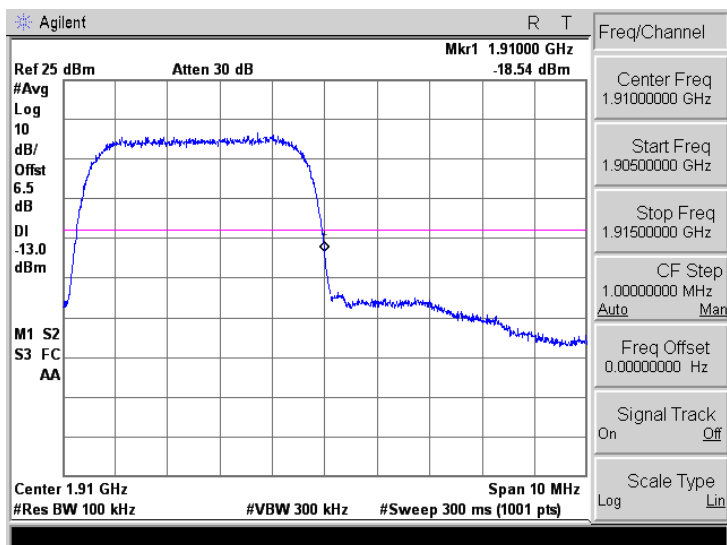


WCDMA Band II

Low Band Emission



High Band Emission



8. Spurious Radiated Emissions

8.1 Standard Applicable

According to §22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §27.53 (h), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

8.2 Test Procedure

1. The setup of EUT is according with per ANSI/TIA Standard 603E and ANSI C63.26 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

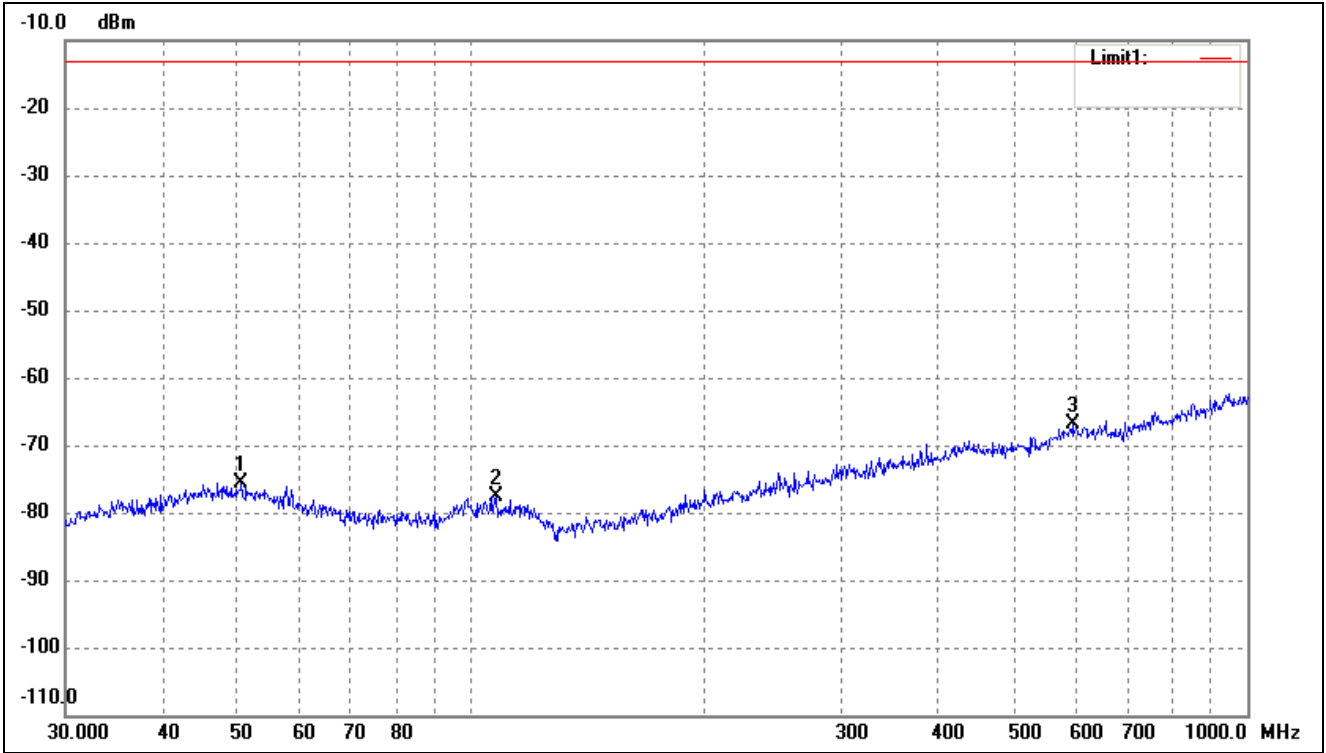
$$\text{Spurious attenuation limit in dB} = 43 + 10 \log_{10}(\text{power out in Watts})$$

8.3 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

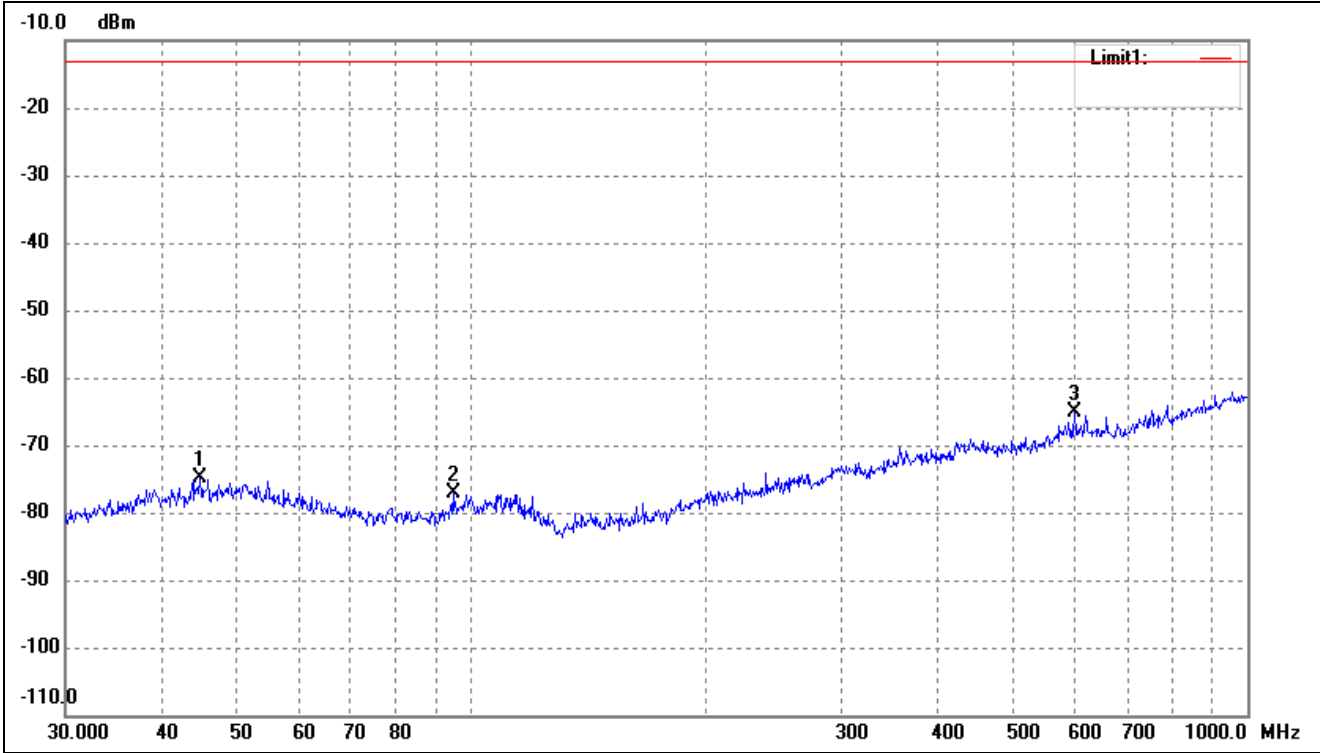
➤ Spurious Emissions Below 1GHz

For Cellular Band			
Test Channel	GSM850	Polarity:	Horizontal



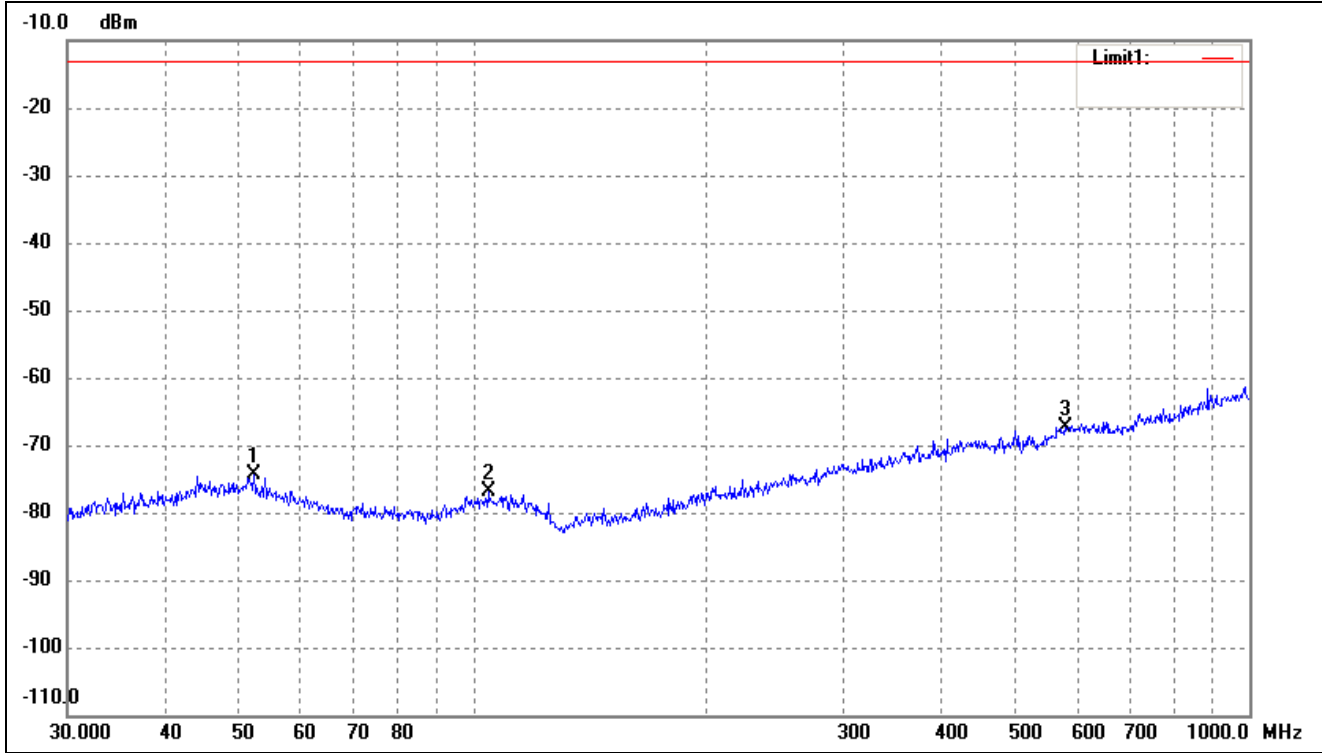
No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	50.5860	-77.01	1.48	-75.53	-13.00	-62.53	ERP
2	107.8877	-77.17	-0.40	-77.57	-13.00	-64.57	ERP
3	595.1329	-76.33	9.47	-66.86	-13.00	-53.86	ERP

For Cellular Band			
Test Channel	GSM850	Polarity:	Vertical



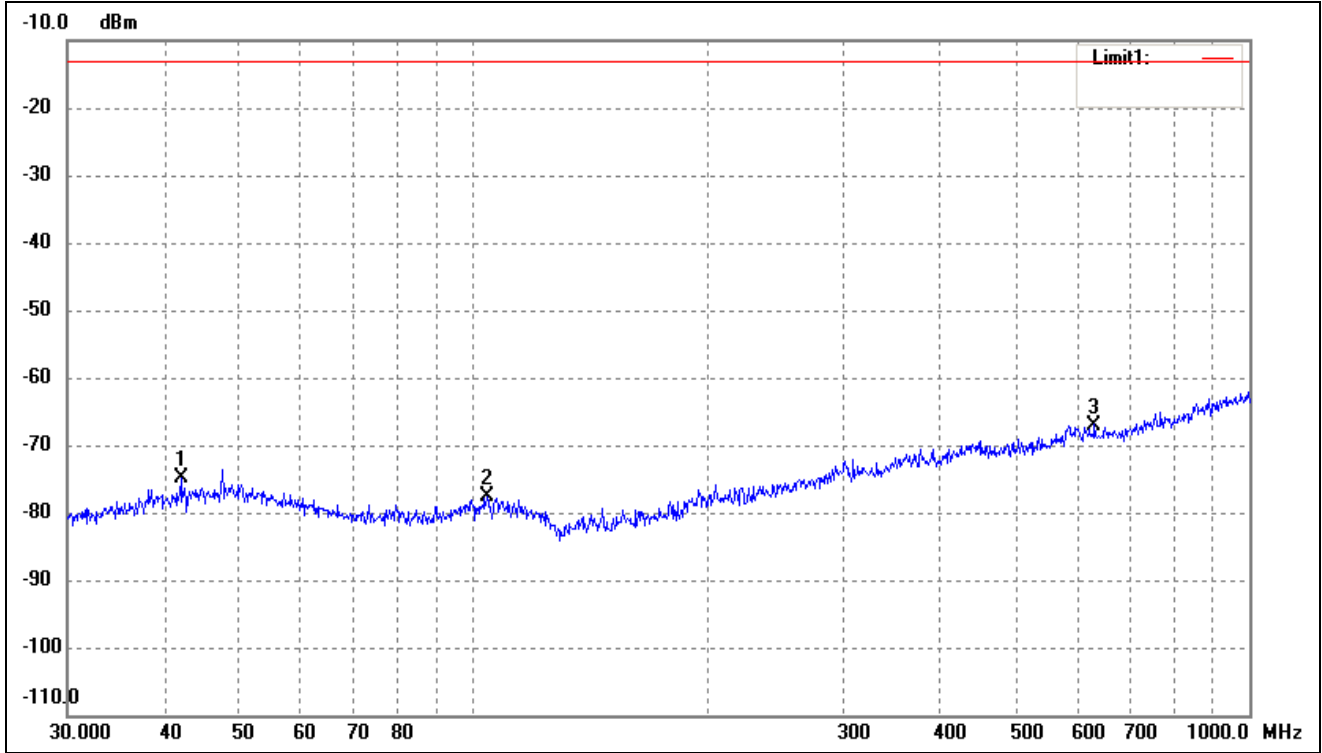
No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	44.7434	-76.15	1.17	-74.98	-13.00	-61.98	ERP
2	94.7601	-75.48	-1.66	-77.14	-13.00	-64.14	ERP
3	599.3213	-74.68	9.51	-65.17	-13.00	-52.17	ERP

For Cellular Band			
Test Channel	GSM1900	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	52.2079	-75.42	1.13	-74.29	-13.00	-61.29	ERP
2	104.5361	-76.49	-0.47	-76.96	-13.00	-63.96	ERP
3	578.6699	-76.58	9.30	-67.28	-13.00	-54.28	ERP

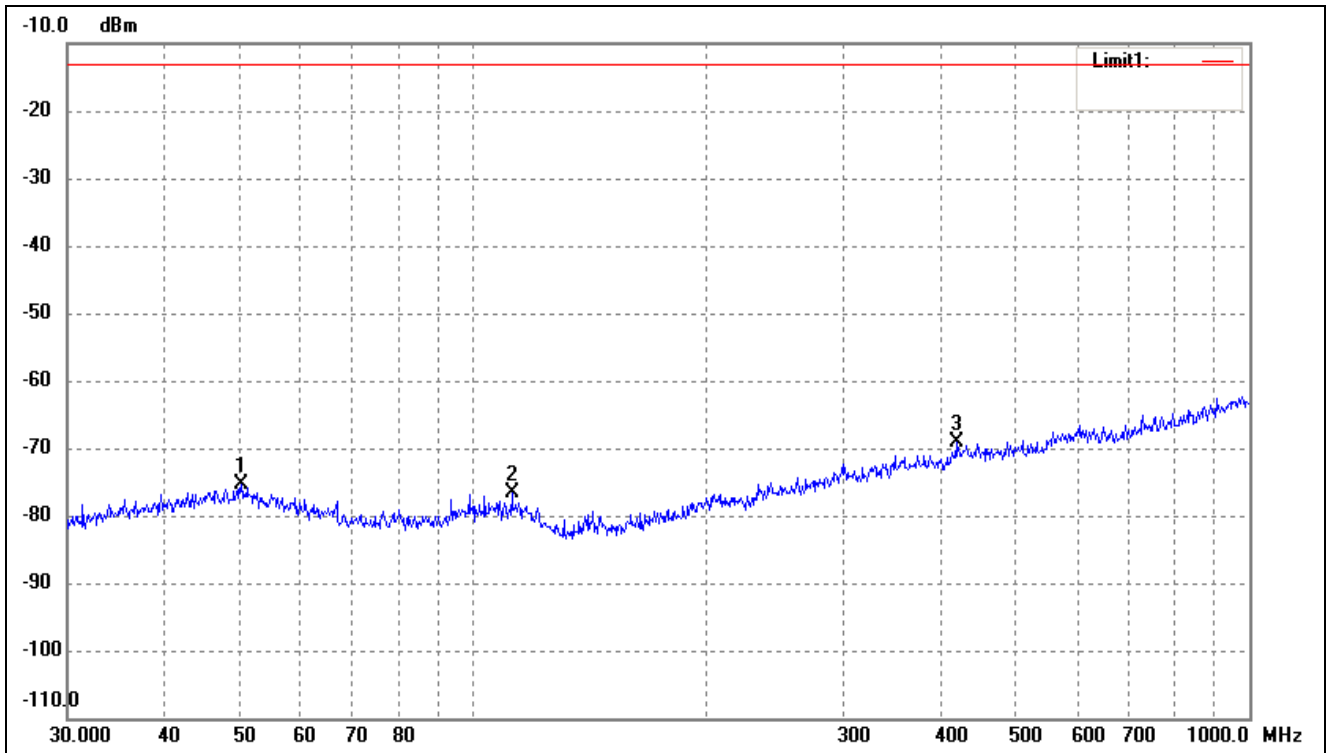
For Cellular Band			
Test Channel	GSM1900	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	42.0066	-75.33	0.52	-74.81	-13.00	-61.81	ERP
2	104.1701	-77.17	-0.49	-77.66	-13.00	-64.66	ERP
3	631.6884	-76.40	9.40	-67.00	-13.00	-54.00	ERP

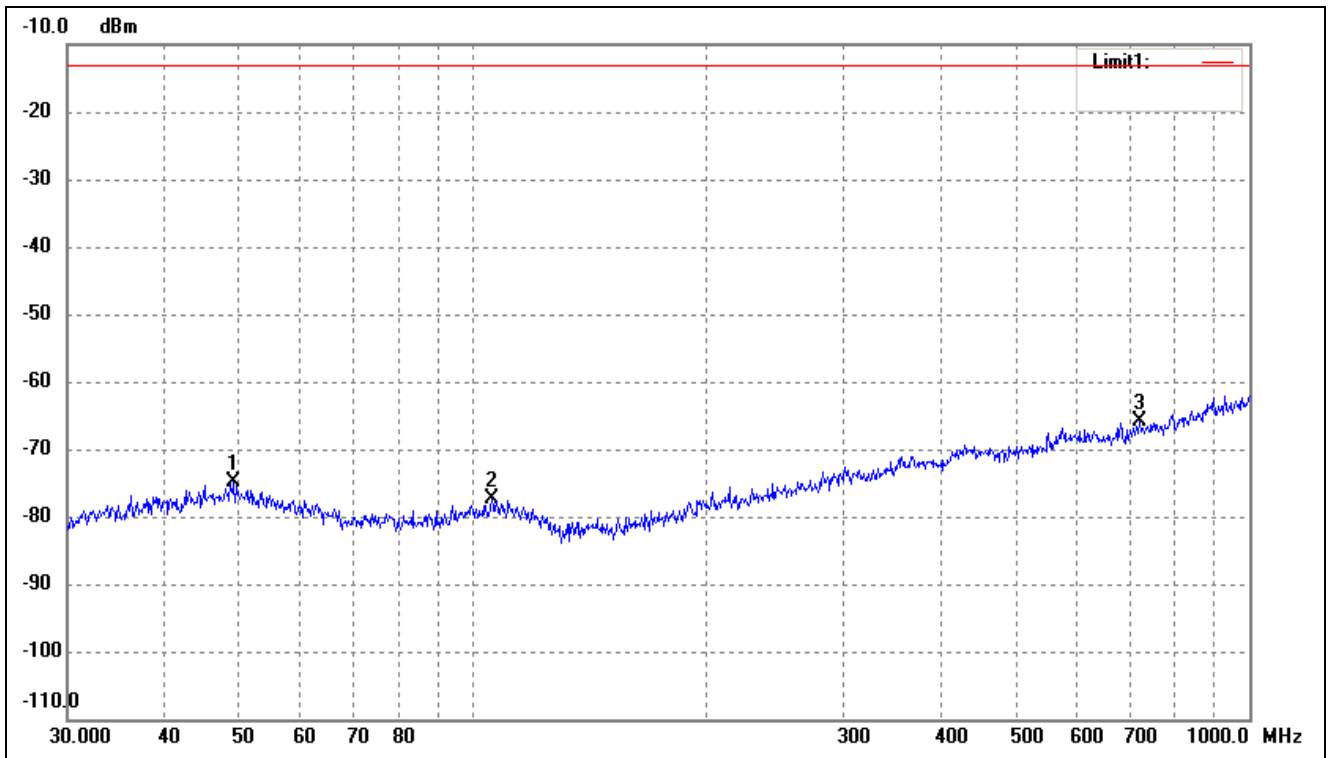
Note: Margin= (Reading+ Correct)- Limit

Test Channel	WCDMA Band V	Polarity:	Horizontal
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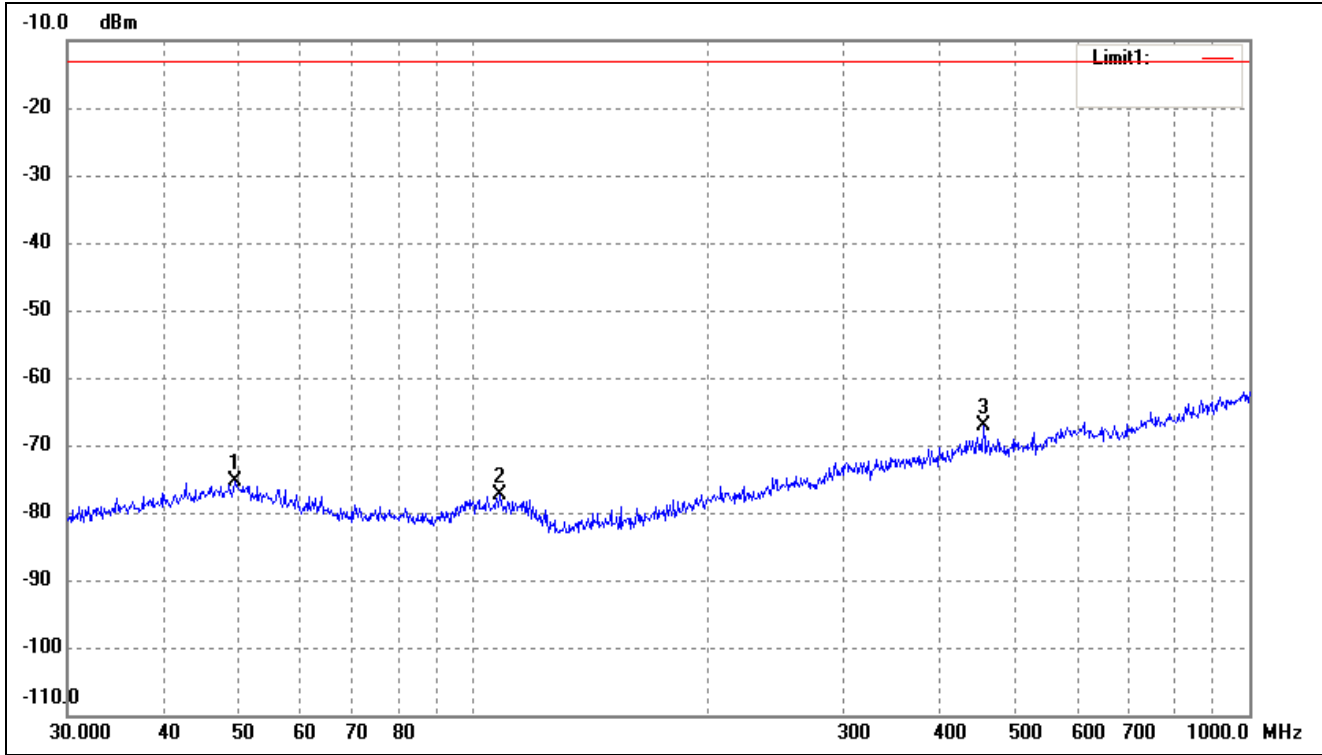
No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	50.2325	-76.98	1.56	-75.42	-13.00	-62.42	ERP
2	112.1305	-76.10	-0.59	-76.69	-13.00	-63.69	ERP
3	419.1081	-76.33	7.20	-69.13	-13.00	-56.13	ERP

Test Channel	WCDMA Band V	Polarity:	Vertical
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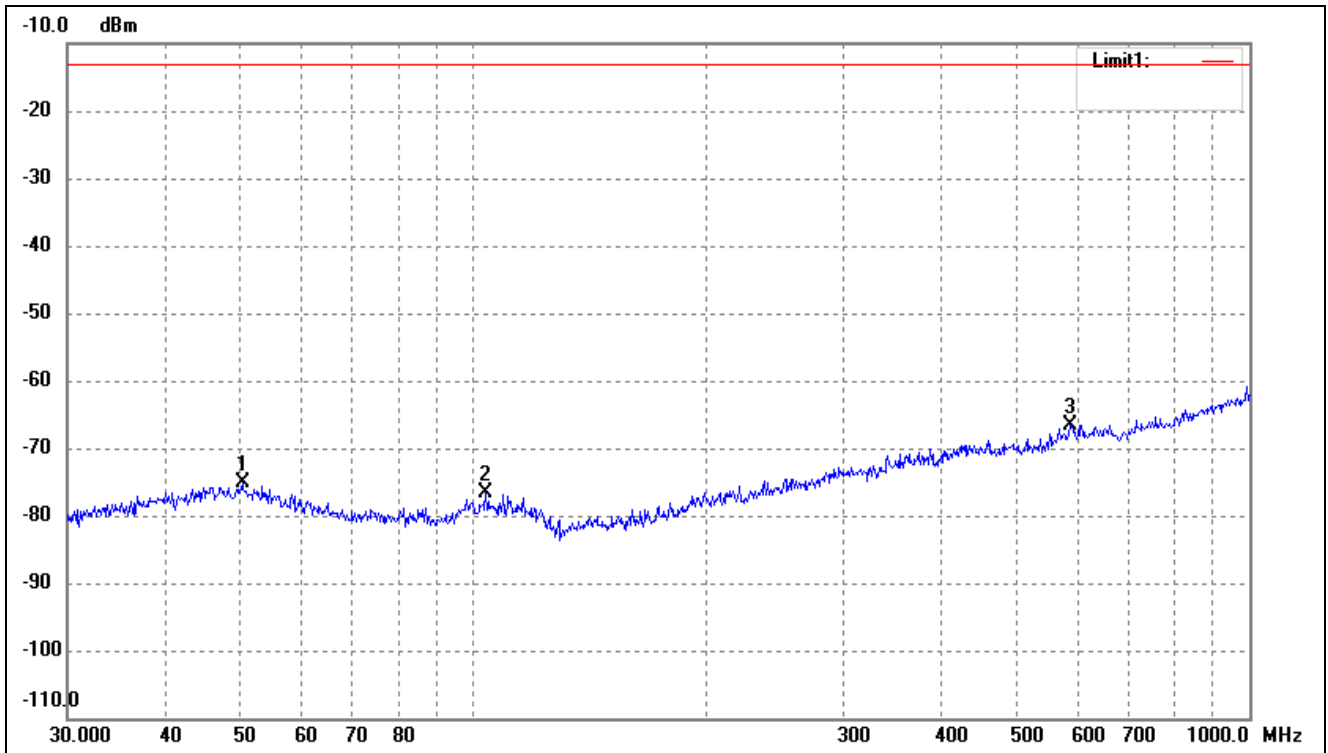
No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	49.1866	-76.31	1.55	-74.76	-13.00	-61.76	ERP
2	105.6415	-76.88	-0.45	-77.33	-13.00	-64.33	ERP
3	721.7259	-76.27	10.48	-65.79	-13.00	-52.79	ERP

Test Channel	WCDMA Band IV	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	49.3594	-76.85	1.56	-75.29	-13.00	-62.29	ERP
2	108.2667	-76.92	-0.40	-77.32	-13.00	-64.32	ERP
3	454.3100	-74.26	7.11	-67.15	-13.00	-54.15	ERP

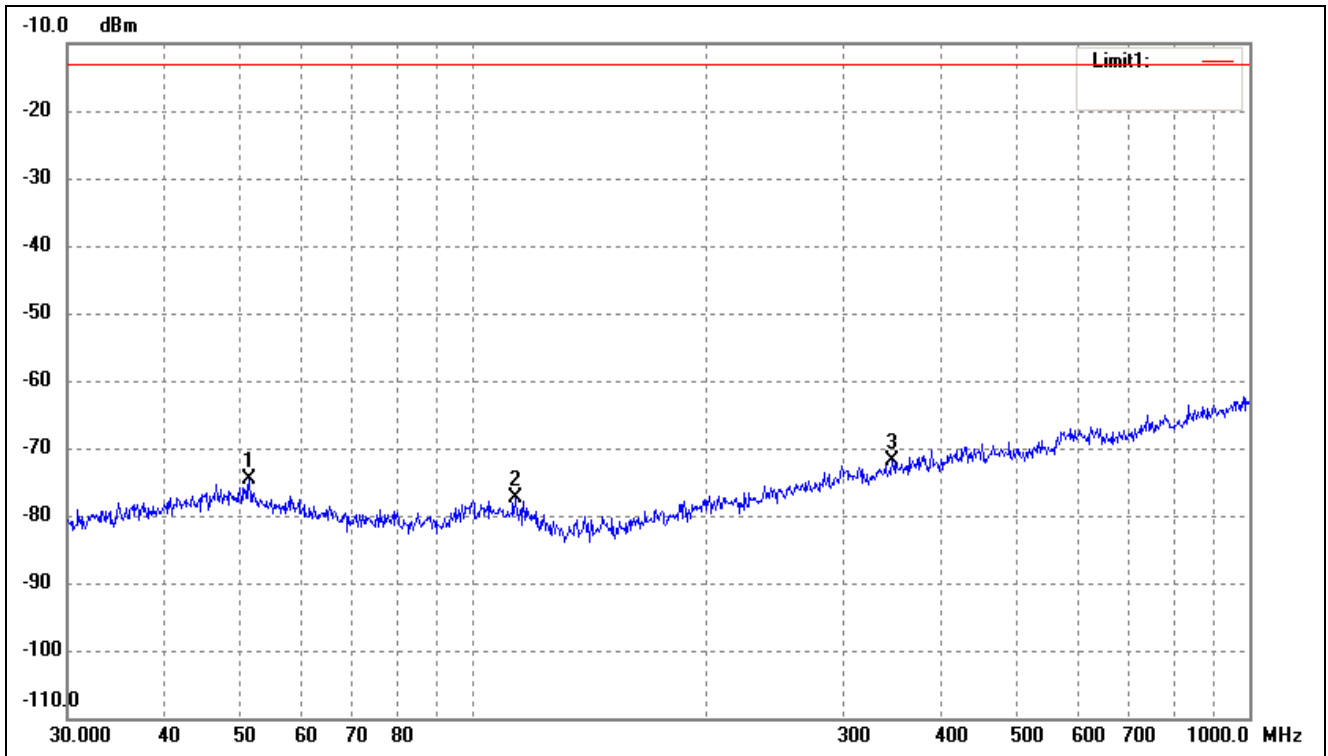
Test Channel	WCDMA Band IV	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	50.4089	-76.72	1.52	-75.20	-13.00	-62.20	ERP
2	103.8055	-76.20	-0.50	-76.70	-13.00	-63.70	ERP
3	588.9051	-76.00	9.40	-66.60	-13.00	-53.60	ERP

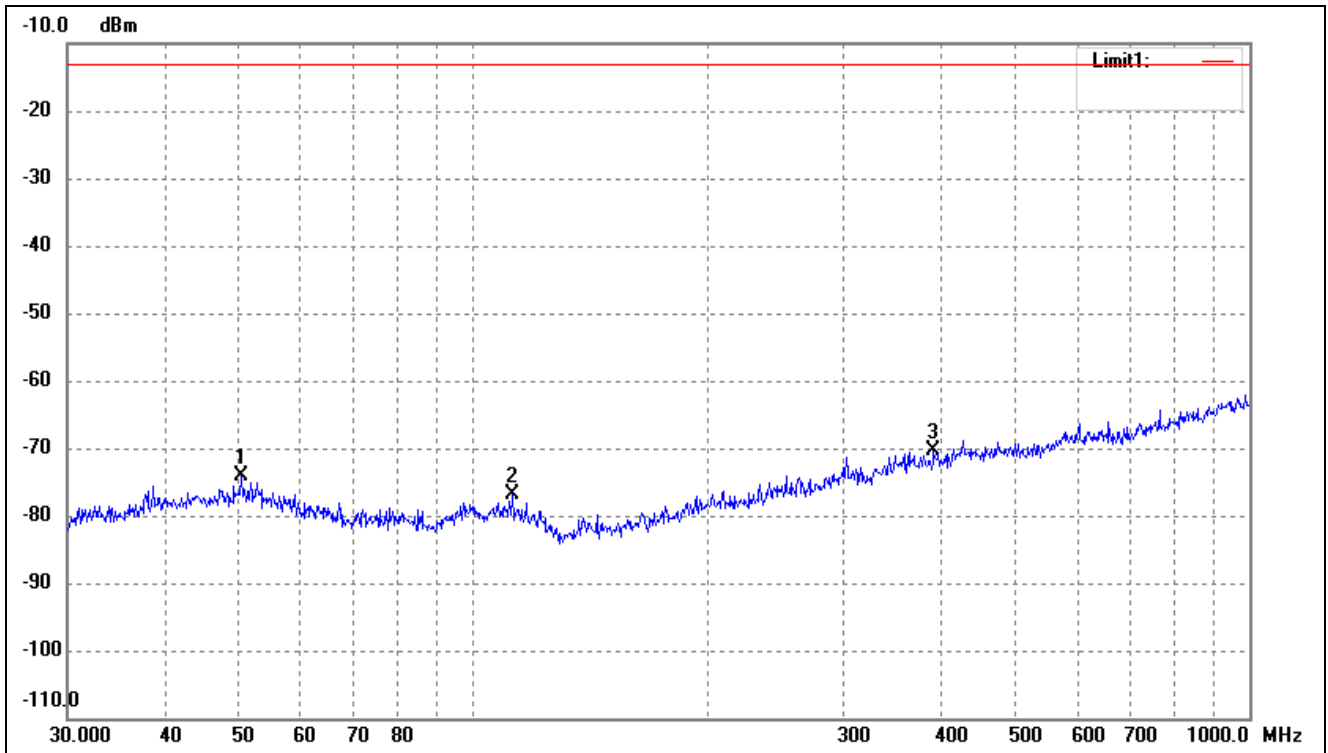
Note: Margin= (Reading+ Correct)- Limit

Test Channel	WCDMA Band II	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	51.4807	-75.84	1.29	-74.55	-13.00	-61.55	ERP
2	113.3163	-76.75	-0.71	-77.46	-13.00	-64.46	ERP
3	346.8092	-77.48	5.49	-71.99	-13.00	-58.99	ERP

Test Channel	WCDMA Band II	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	50.2325	-75.68	1.56	-74.12	-13.00	-61.12	ERP
2	112.5244	-76.18	-0.63	-76.81	-13.00	-63.81	ERP
3	392.0951	-76.35	6.01	-70.34	-13.00	-57.34	ERP

Note: Margin= (Reading+ Correct)- Limit

- Spurious Emissions Above 1GHz
- For Cellular Band_GSM850 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (824.2MHz)						
1648.4	-43.61	8.46	-35.15	-13	-22.15	H
2472.6	-35.37	4.94	-30.43	-13	-17.43	H
1648.4	-42.18	8.46	-33.72	-13	-20.72	V
2472.6	-43.61	8.46	-35.15	-13	-22.15	V
Middle Channel (836.6MHz)						
1673.2	-34.17	5.11	-29.06	-13	-16.06	H
2509.8	-44.42	8.54	-35.88	-13	-22.88	H
1673.2	-35.72	5.11	-30.61	-13	-17.61	V
2509.8	-43.33	8.54	-34.79	-13	-21.79	V
High Channel (848.8MHz)						
1697.6	-36.39	5.25	-31.14	-13	-18.14	H
2546.4	-44.78	8.57	-36.21	-13	-23.21	H
1697.6	-36.71	5.25	-31.46	-13	-18.46	V
2546.4	-42.4	8.57	-33.83	-13	-20.83	V

- For PCS Band_GSM1900 Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (1850.2MHz)						
3700.4	-42.02	10.54	-31.48	-13	-18.48	H
5550.6	-47.74	13.37	-34.37	-13	-21.37	H
3700.4	-42.28	10.54	-31.74	-13	-18.74	V
5550.6	-47.58	13.37	-34.21	-13	-21.21	V
Middle Channel (1880MHz)						
3760.0	-39.81	10.64	-29.17	-13	-16.17	H
5640.0	-47.45	13.54	-33.91	-13	-20.91	H
3760.0	-39.96	10.64	-29.32	-13	-16.32	V
5640.0	-48.97	13.54	-35.43	-13	-22.43	V
High Channel (1909.8MHz)						
3819.6	-40.53	10.74	-29.79	-13	-16.79	H
5729.4	-47.88	13.71	-34.17	-13	-21.17	H
3819.6	-42.34	10.74	-31.6	-13	-18.6	V
5729.4	-47.69	13.71	-33.98	-13	-20.98	V

➤ For WCDMA Band V Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (826.4MHz)						
1652.8	-36.03	4.94	-31.09	-13	-18.09	H
2479.2	-42.37	8.46	-33.91	-13	-20.91	H
1652.8	-34.44	4.94	-29.5	-13	-16.5	V
2479.2	-41.73	8.46	-33.27	-13	-20.27	V
Middle Channel (836.6MHz)						
1672.8	-36.02	5.11	-30.91	-13	-17.91	H
2509.2	-43.8	8.54	-35.26	-13	-22.26	H
1672.8	-34.52	5.11	-29.41	-13	-16.41	V
2509.2	-43.3	8.54	-34.76	-13	-21.76	V
High Channel (846.6MHz)						
1693.2	-35.79	5.25	-30.54	-13	-17.54	H
2539.8	-42.3	8.57	-33.73	-13	-20.73	H
1693.2	-36.82	5.25	-31.57	-13	-18.57	V
2539.8	-42.35	8.57	-33.78	-13	-20.78	V

➤ For WCDMA Band IV Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (1712.4MHz)						
3424.8	-34.18	8.65	-25.53	-13	-12.53	H
5137.2	-42.77	12.03	-30.74	-13	-17.74	H
3424.8	-34.09	8.65	-25.44	-13	-12.44	V
5137.2	-42.4	12.03	-30.37	-13	-17.37	V
Middle Channel (1732.4MHz)						
3466.8	-33.85	8.91	-24.94	-13	-11.94	H
5200.2	-41.32	12.29	-29.03	-13	-16.03	H
3466.8	-33.93	8.91	-25.02	-13	-12.02	V
5200.2	-40.83	12.29	-28.54	-13	-15.54	V
High Channel (1752.6MHz)						
3505.2	-32.97	9.11	-23.86	-13	-10.86	H
5257.8	-42.03	12.56	-29.47	-13	-16.47	H
3505.2	-34.29	9.11	-25.18	-13	-12.18	V
5257.8	-42.03	12.56	-29.47	-13	-16.47	V

➤ For WCDMA Band II Mode

Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Low Channel (1852.4MHz)						
3704.8	-39.58	10.54	-29.04	-13	-16.04	H
5557.2	-47.93	13.37	-34.56	-13	-21.56	H
3704.8	-39.1	10.54	-28.56	-13	-15.56	V
5557.2	-49.04	13.37	-35.67	-13	-22.67	V
Middle Channel (1880MHz)						
3760.0	-40.46	10.64	-29.82	-13	-16.82	H
5640.0	-48.6	13.54	-35.06	-13	-22.06	H
3760.0	-40.48	10.64	-29.84	-13	-16.84	V
5640.0	-48.52	13.54	-34.98	-13	-21.98	V
High Channel (1907.6MHz)						
3815.2	-42.27	10.74	-31.53	-13	-18.53	H
5722.8	-47.12	13.71	-33.41	-13	-20.41	H
3815.2	-42.45	10.74	-31.71	-13	-18.71	V
5722.8	-47.87	13.71	-34.16	-13	-21.16	H

Note: $Result = Reading + Correct$, $Margin = Result - Limit$

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9. Frequency Stability

9.1 Standard Applicable

According to §22.355, §24.235, §27.54 the limit is 2.5ppm.

9.2 Test Procedure

According to §2.1055, the following test procedure was performed.

The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.

The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode.

9.3 Summary of Test Results/Plots

Note: 1. Worst case at GSM850/PCS1900/WCDMA B2/B4/B5 middle channel

2. Normal Voltage NV=DC3.85V; Low Voltage LV=DC3.5V; High Voltage HV=DC4.35V

➤ Frequency stability V.S. Temperature measurement

Reference Frequency: GSM850 Middle channel=190 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
NV	-30	55	0.0662	2.50	Pass
	-20	52	0.0616		
	-10	42	0.0497		
	0	35	0.0414		
	10	28	0.0340		
	20	24	0.0285		
	30	28	0.0331		
	40	35	0.0423		
	50	39	0.0469		
Reference Frequency: PCS1900 Middle channel=661 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
NV	-30	75	0.0397	2.50	Pass
	-20	59	0.0315		
	-10	49	0.0262		
	0	45	0.0237		
	10	41	0.0217		
	20	37	0.0196		
	30	41	0.0217		
	40	45	0.0237		
	50	50	0.0266		

Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
NV	-30	59	0.0708	2.50	Pass
	-20	45	0.0533		
	-10	35	0.0414		
	0	28	0.0340		
	10	23	0.0276		
	20	18	0.0221		
	30	25	0.0294		
	40	28	0.0340		
	50	36	0.0432		
Reference Frequency: WCDMA Band IV Middle channel=1412 channel=1733.6MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
NV	-30	47	0.0271	2.50	Pass
	-20	38	0.0218		
	-10	33	0.0191		
	0	28	0.0164		
	10	24	0.0138		
	20	18	0.0102		
	30	22	0.0124		
	40	26	0.0151		
	50	30	0.0173		

Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
NV	-30	55	0.0291	2.50	Pass
	-20	50	0.0266		
	-10	46	0.0245		
	0	42	0.0225		
	10	38	0.0205		
	20	35	0.0184		
	30	42	0.0225		
	40	48	0.0254		
	50	54	0.0286		

➤ Frequency stability V.S. Voltage measurement

Reference Frequency: GSM850 (GSM link) Middle channel=190 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	HV	62	0.0745	2.50	Pass
	NV	52	0.0616		
	LV	40	0.0478		
Reference Frequency: PCS1900 (GSM link) Middle channel=661 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error			Result
		Hz	ppm		
25	HV	62	0.0327	2.50	Pass
	NV	56	0.0299		
	LV	45	0.0237		

Reference Frequency: WCDMA Band V Middle channel=4183 channel=836.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	
		Hz	ppm	Result	
25	HV	26	0.0313	2.50	Pass
	NV	33	0.0395		
	LV	40	0.0478		
Reference Frequency: WCDMA Band IV Middle channel=1412 channel=1733.6MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error			Result
		Hz	ppm		
25	HV	42	0.0244	2.50	Pass
	NV	48	0.0275		
	LV	52	0.0297		
Reference Frequency: WCDMA Band II Middle channel=9400 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error			Result
		Hz	ppm		
25	HV	34	0.0180	2.50	Pass
	NV	40	0.0213		
	LV	46	0.0245		

10. Modulation characteristics

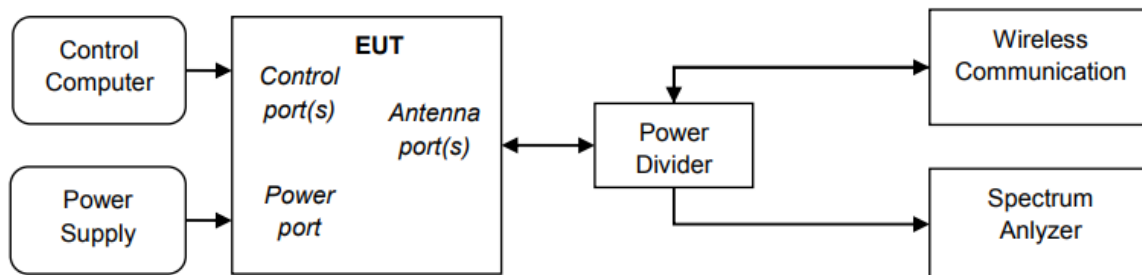
10.1 Standard Applicable

According to §2.1047, measurements required: Modulation characteristics is given below:

- (a) Voice modulated communication equipment. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter, or of all circuitry installed between the modulation limiter and the modulated stage shall be submitted.
- (b) Equipment which employs modulation limiting. A curve or family of curves showing the percentage of modulation versus the modulation input voltage shall be supplied. The information submitted shall be sufficient to show modulation limiting capability throughout the range of modulating frequencies and input modulating signal levels employed.
- (c) Single sideband and independent sideband radiotelephone transmitters which employ a device or circuit to limit peak envelope power. A curve showing the peak envelope power output versus the modulation input voltage shall be supplied. The modulating signals shall be the same in frequency as specified in paragraph (c) of §2.1049 for the occupied bandwidth tests.
- (d) Other types of equipment. A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

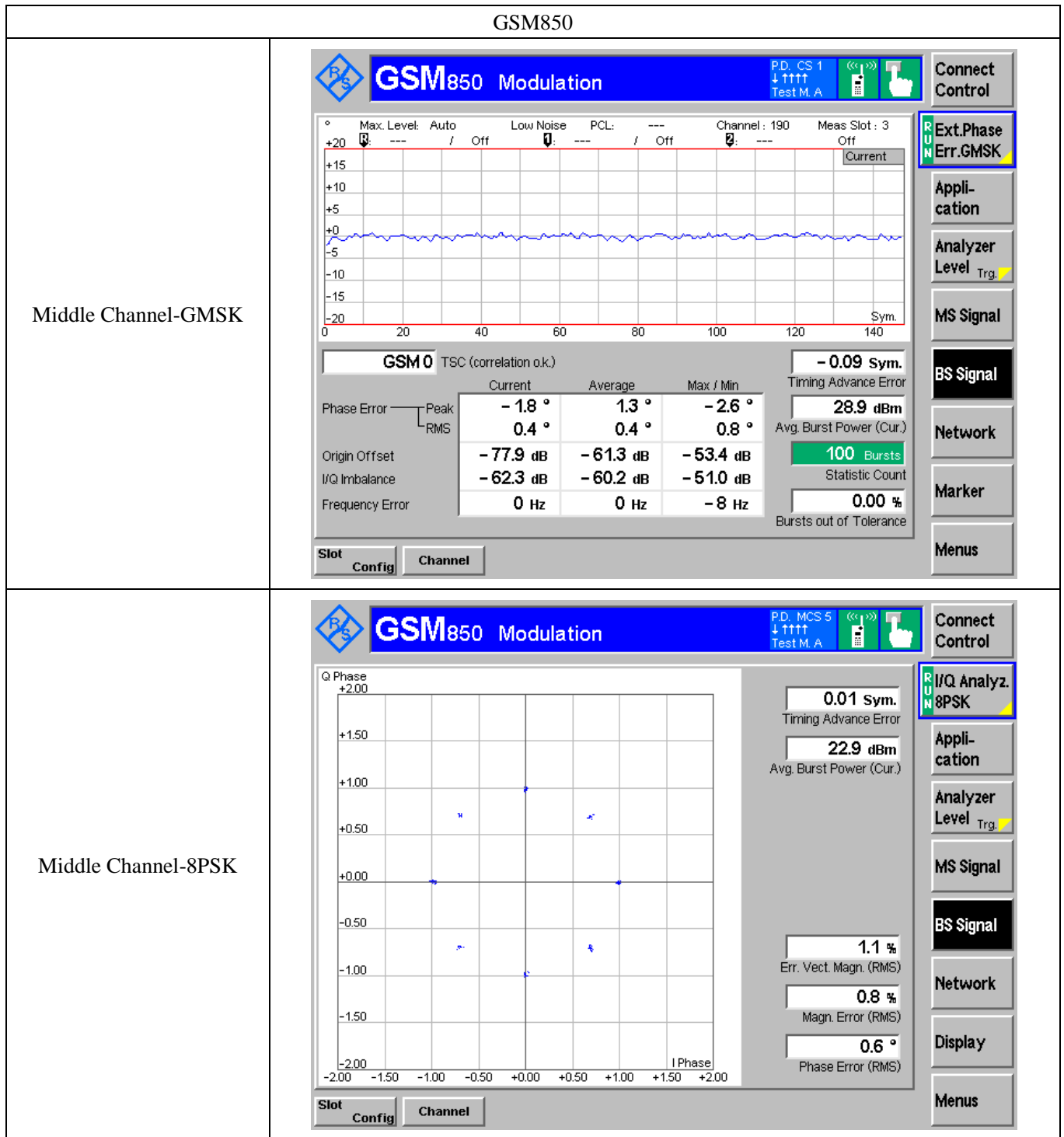
10.2 Test Procedure

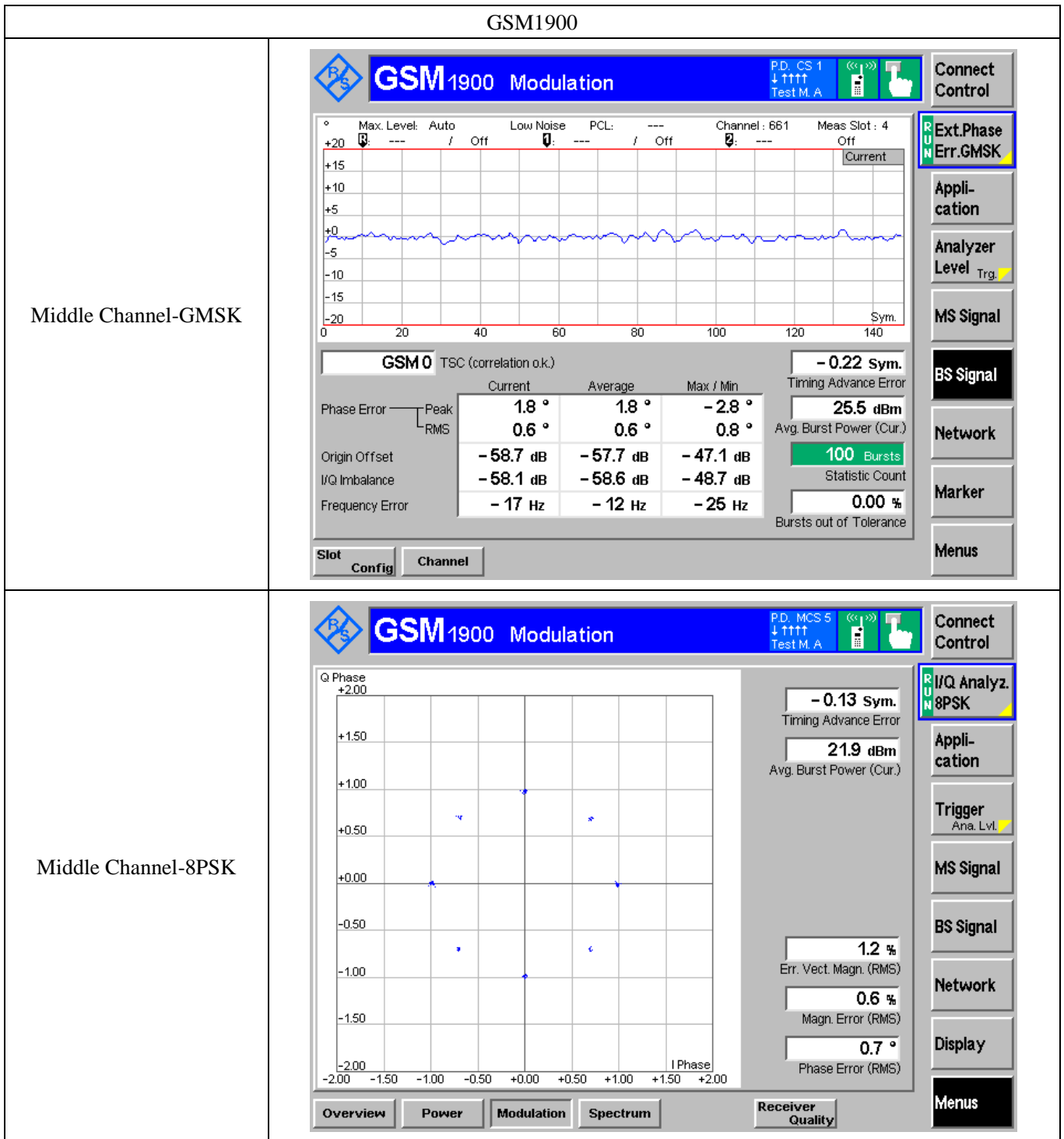
According to ANSI C63.26-2015 section 5.3.2, the following test setup was performed.

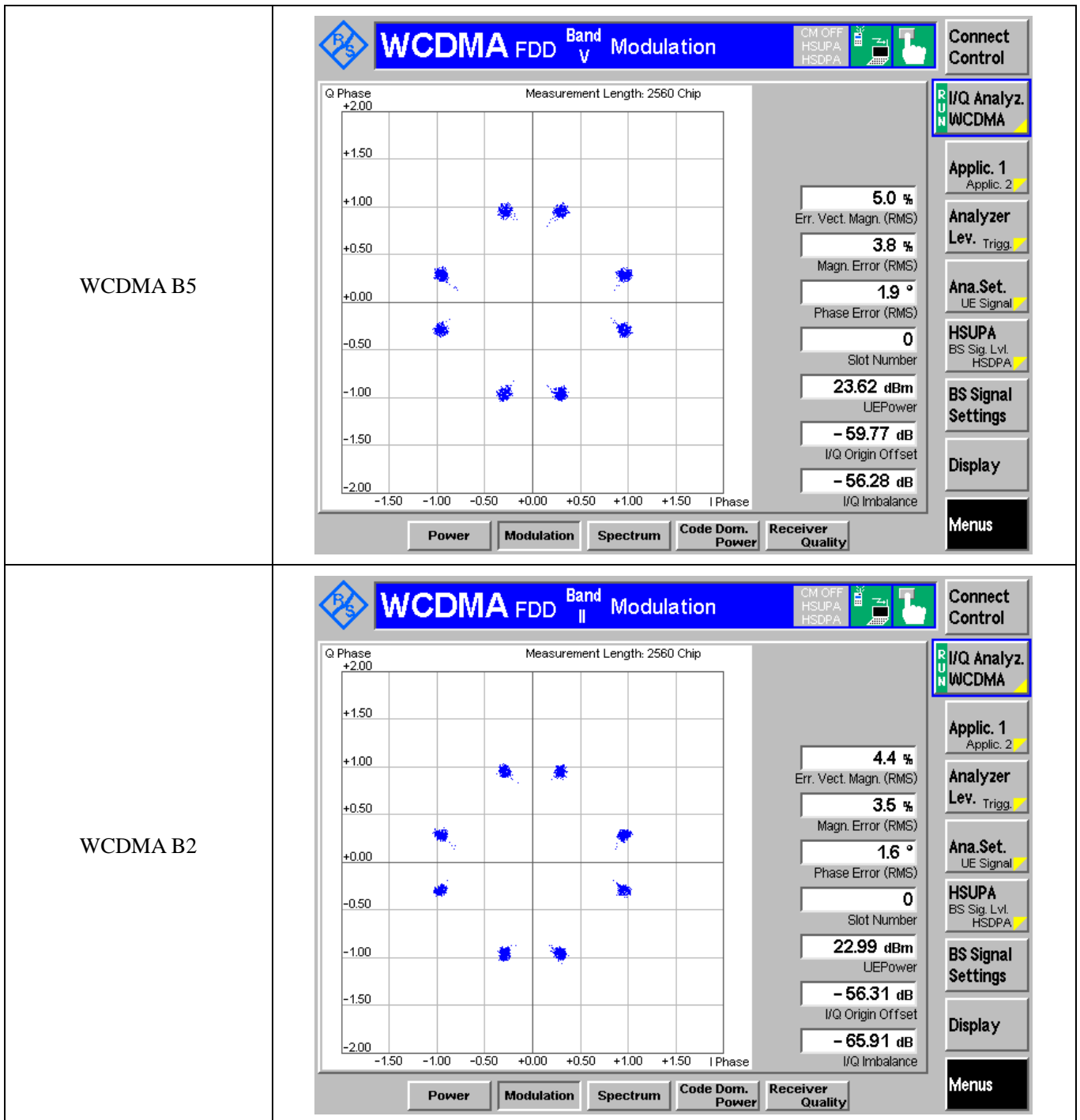


10.3 Summary of Test Results/Plots

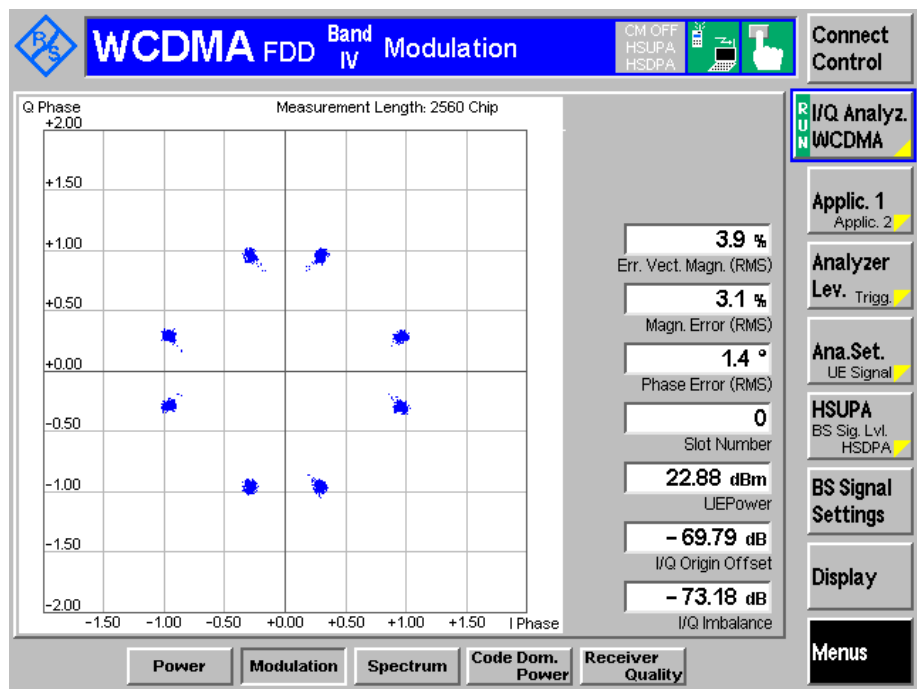
Only the worst case was selected to record







WCDMA B4



***** END OF REPORT *****