REPORT No.: SZ15110010W01

FCC RF TEST REPORT

APPLICANT	:	ZTE Corporation
PRODUCT NAME	:	LTE Digital Mobile Handset
MODEL NAME	:	NX512J
TRADE NAME	:	ZTE
BRAND NAME	:	ZTE
FCC ID	:	SRQ-NX512J
STANDARD(S)	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E
ISSUE DATE	:	2015-11-30

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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DIRECTORY

Change History		
Issue	Date	Reason for change
1.0	2015-11-30	First edition

TEST REPORT DECLARATION

Applicant	ZTE Corporation
Applicant Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Manufacturer	ZTE Corporation
Manufacturer Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Product Name	LTE Digital Mobile Handset
Model Name	NX512J
Brand Name	ZTE
HW Version	NX512JMB_E
SW Version	NX512J_VeCommon_V1.01
Test Standards	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E
Test Date	2015-11-10 to 2015-11-25
Test Result	PASS

Tested by : Zou Jian
Zou Jian (Test Engineer)

Reviewed by : Qiu Xiaojun
Qiu Xiaojun(RF Manager)

Approved by : Zeng Dexin
Zeng Dexin(Chief Engineer)

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type ..... : LTE Digital Mobile Handset
Serial No. ..... : (n.a, marked #1 by test site)
Hardware Version ..... : NX512JMB_E
Software Version ..... : NX512J_VeCommon_V1.01
Applicant ..... : ZTE Corporation
ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Manufacturer ..... : ZTE Corporation
ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Frequency Range ..... : GSM 850MHz:
Tx: 824.20 - 848.80MHz (at intervals of 200kHz);
Rx: 869.20 - 893.80MHz (at intervals of 200kHz)
GSM 1900MHz:
Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz);
Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz)
WCDMA 1900MHz
Tx: 1852.4 - 1907.6MHz (at intervals of 200kHz);
Rx: 1932.4 - 1987.6MHz (at intervals of 200kHz)
Modulation Type ..... : GSM,GPRS Mode with GMSK Modulation
EDGE Mode with 8PSK Modulation
WCDMA Mode with QPSK Modulation
HSDPA Mode with QPSK Modulation
HSUPA Mode with QPSK Modulation
HSPA+ Mode with QPSK Modulation
Multislot Class ..... : GPRS: Multislot Class33; EGPRS: Multislot Class33
Antenna Type ..... : PIFA Antenna
Emission Designators ..... : GSM 850:249KGXW,GSM 1900:247KGXW
EGPRS850:252KG7W, EGPRS1900:251KG7W,
WCDMA1900:4M19F9W

Note 1: The transmitter (Tx) frequency arrangement of the Cellular 850MHz band used by the EUT can be represented with the formula F(n)=824.2+0.2*(n-128), 128<=n<=251; the lowest, middle, highest channel numbers (ARFCHs) used and tested in this report are separately 128 (824.2MHz), 190 (836.6MHz) and 251 (848.8MHz).

Note 2: The transmitter (Tx) frequency arrangement of the PCS 1900MHz band used by the EUT can be represented with the formula F(n)=1850.2+0.2*(n-512), 512<=n<=810; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 512 (1850.2MHz), 661 (1880.0MHz) and 810 (1909.8MHz).

Note 3: The transmitter (Tx) frequency arrangement of the WCDMA 850MHz band used by the EUT can be represented with the formula F(n)=826.4+0.2*(n-4132), 4132<=n<=4233; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 4132 (826.4MHz), 4175(835MHz) and 4233 (846.6MHz).

Note 4: The transmitter (Tx) frequency arrangement of the WCDMA 1900MHz band used by the EUT can be represented with the formula F(n)=1852.4+0.2*(n-9262), 9262<=n<=9538; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 9262 (1852.4MHz), 9400 (1880MHz) and 9538 (1907.6MHz).

Note 5: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22 and Part 24 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-12 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-12 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-12 Edition)	Personal Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	2.1046	Conducted RF Output Power	PASS
2.	24.232(d)	Peak to average radio	PASS
2	2.1049,22.917, 24.238,	99% Occupied Bandwidth	PASS
3	2.1055,22.355, 24.235	Frequency Stability	PASS
4	2.1051,2.1057, 22.917, 24.238,	Conducted Out of Band Emissions	PASS
5	2.1051, 2.1057, 22.917, 24.238	Band Edge	PASS
6	22.913, 24.232	Transmitter Radiated Power (EIPR/ERP)	PASS
7	2.1053, 2.1057, 22.917, 24.238	Radiated Out of Band Emissions	PASS

NOTE: Measurement method according to TIA/EIA 603.D-2010

1.3 Facilities and Accreditations

1.3.1 Facilities

Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L3572.

All measurement facilities used to collect the measurement data are located at FL.1, Building A, FeiYang Science Park, No.8 LongChang Road,Block 67, BaoAn District, ShenZhen, GuangDong Province,P. R. China 518101. The test site is constructed in conformance with the requirements of ANSI C63.7-2009, ANSI C63.4-2009 and CISPR Publication 22:2010; the FCC registration number is 695796.

1.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2. 47 CFR PART 2, PART 22H & 24E REQUIREMENTS

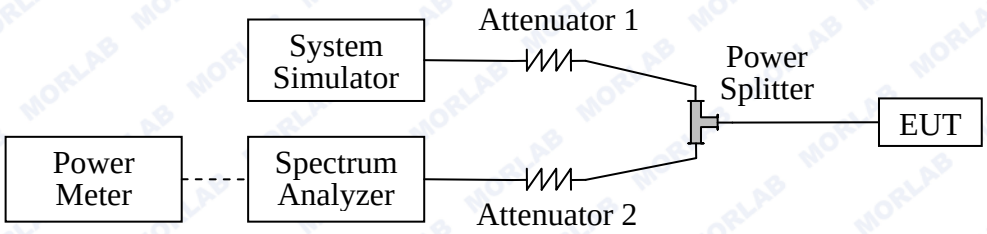
2.1 Conducted RF Output Power

2.1.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

2.1.2 Test Description

Test Setup:



The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

The Power Meter was just used for the Conducted RF Output Power test of WCDMA Model.

Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2015.02.26	2016.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2015.02.26	2016.02.25
Power Meter	Agilent	E4418B	GB43318055	2015.02.26	2016.02.25
Power Sensor	Agilent	8482A	MY41091706	2015.02.26	2016.02.25
Power Splitter	Weinschel	1506A	NW521	2015.02.26	2016.02.25
Attenuator 1	Resnet	20dB	(n.a.)	2015.02.26	2016.02.25
Attenuator 2	Resnet	3dB	(n.a.)	2015.02.26	2016.02.25

2.1.3 Test Results

Here the lowest, middle and highest channels are selected to perform testing to verify the conducted RF output power of the EUT.

GSM Model Test Verdict:

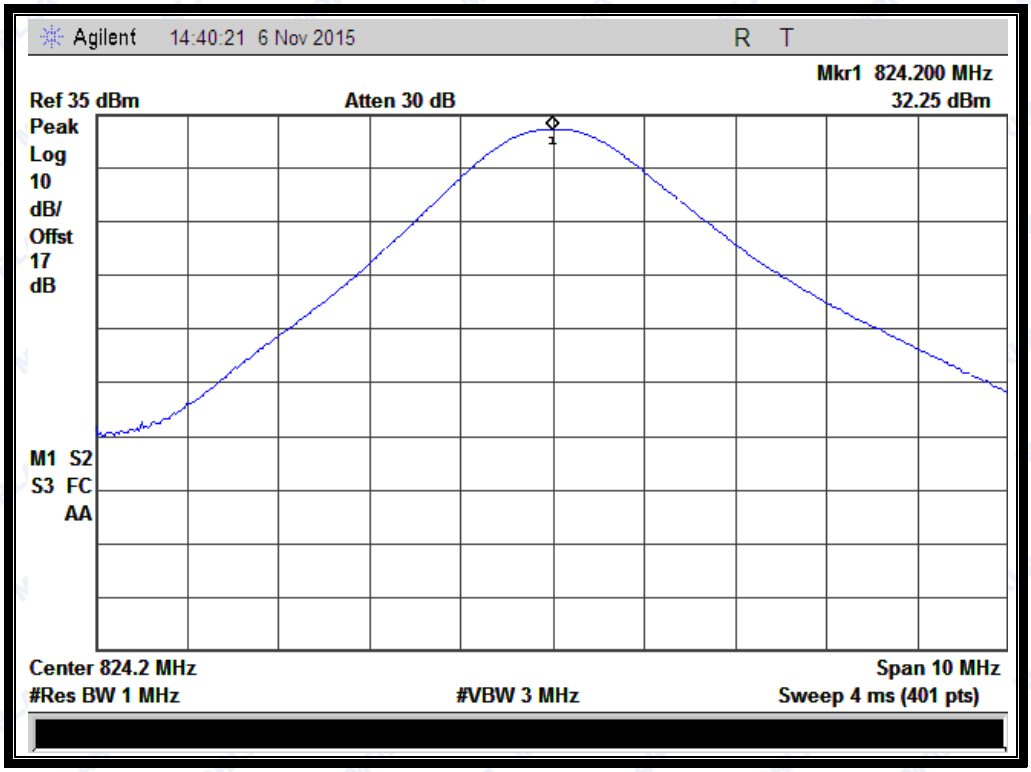
Band	Channel	Frequency (MHz)	Measured Output Power		Limit	Verdict
			dBm	Refer to Plot	dBm	
GSM 850MHz	128	32.25	1.6788	Plot A1 to A3	35	PASS
	190	32.30	1.6982			PASS
	251	32.33	1.7100			PASS
GSM 1900MHz	512	28.84	0.7656	Plot B1 to B3	32	PASS
	661	29.22	0.8356			PASS
	810	28.90	0.7762			PASS
GPRS 850MHz	128	30.31	1.0740	Plot C1 to C3 Note 1	35	PASS
	190	30.17	1.0399			PASS
	251	30.47	1.1143			PASS
GPRS 1900MHz	512	27.06	0.5082	Plot D1 to D3 Note 1	32	PASS
	661	27.41	0.5508			PASS
	810	27.11	0.5140			PASS
EGPRS 850MHz	128	28.68	0.7379	Plot E1 to E3 Note 1	35	PASS
	190	28.67	0.7362			PASS
	251	28.54	0.7145			PASS
EGPRS 1900MHz	512	26.15	0.4121	Plot F1 to F3 Note 1	32	PASS
	661	26.80	0.4786			PASS
	810	26.71	0.4688			PASS

Note 1: For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.

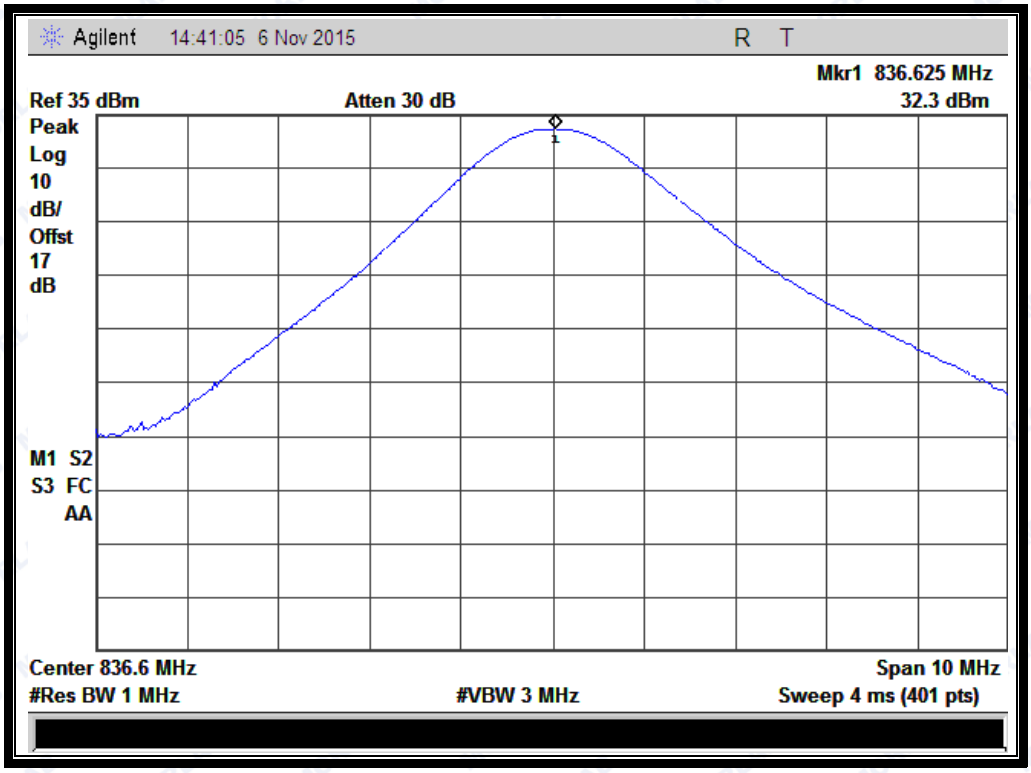
WCDMA Model Test Verdict:

Item	band	WCDMA 1900		
	ARFCN	9262	9400	9538
	subtest	dBm		
5.2(WCDMA)	non	23.51	23.59	23.70
HSDPA	1	23.52	23.45	23.65
	2	23.50	23.42	23.67
	3	23.01	22.94	23.16
	4	23.00	22.95	23.15
HSUPA	1	23.57	23.56	23.58
	2	21.55	21.54	21.55
	3	22.56	22.55	22.54
	4	21.53	21.55	21.57
	5	23.56	23.54	23.56
HSPA+	1	23.20	23.32	23.39

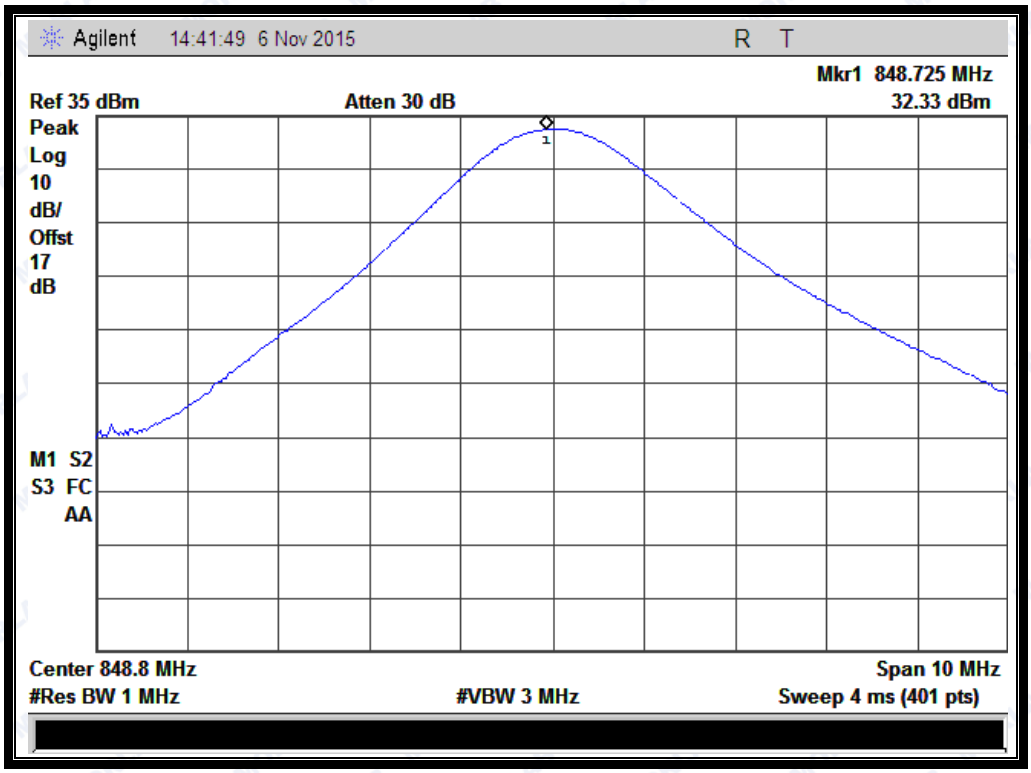
GSM Model Test Plots:



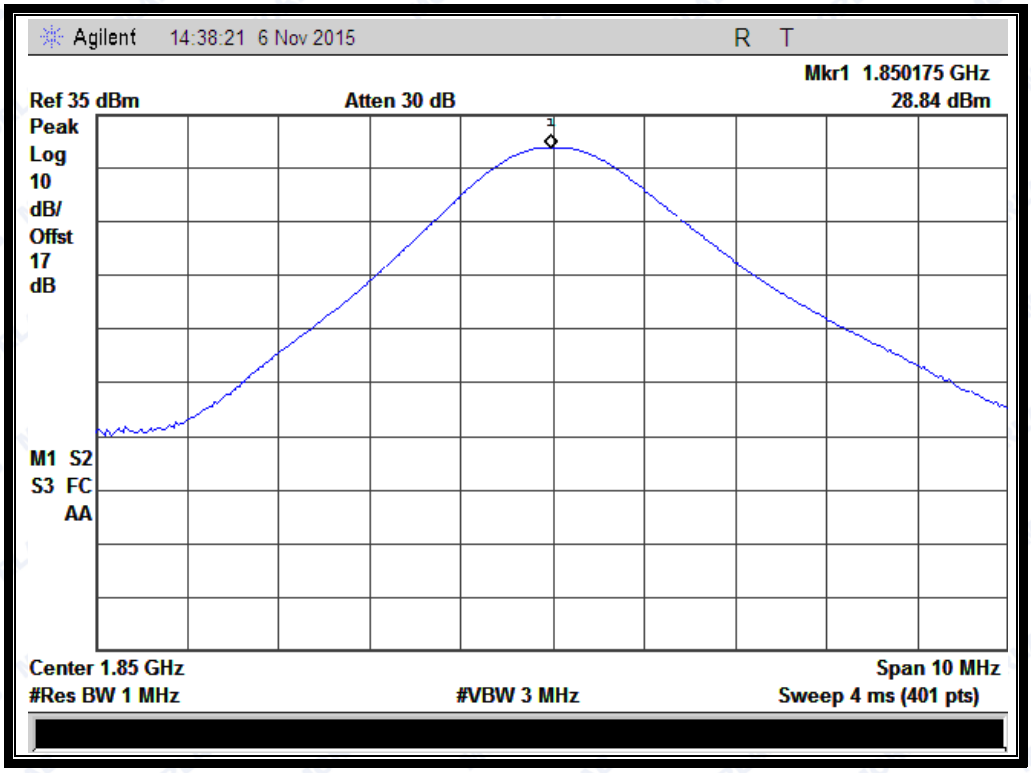
(Plot A1: GSM 850MHz Channel = 128)



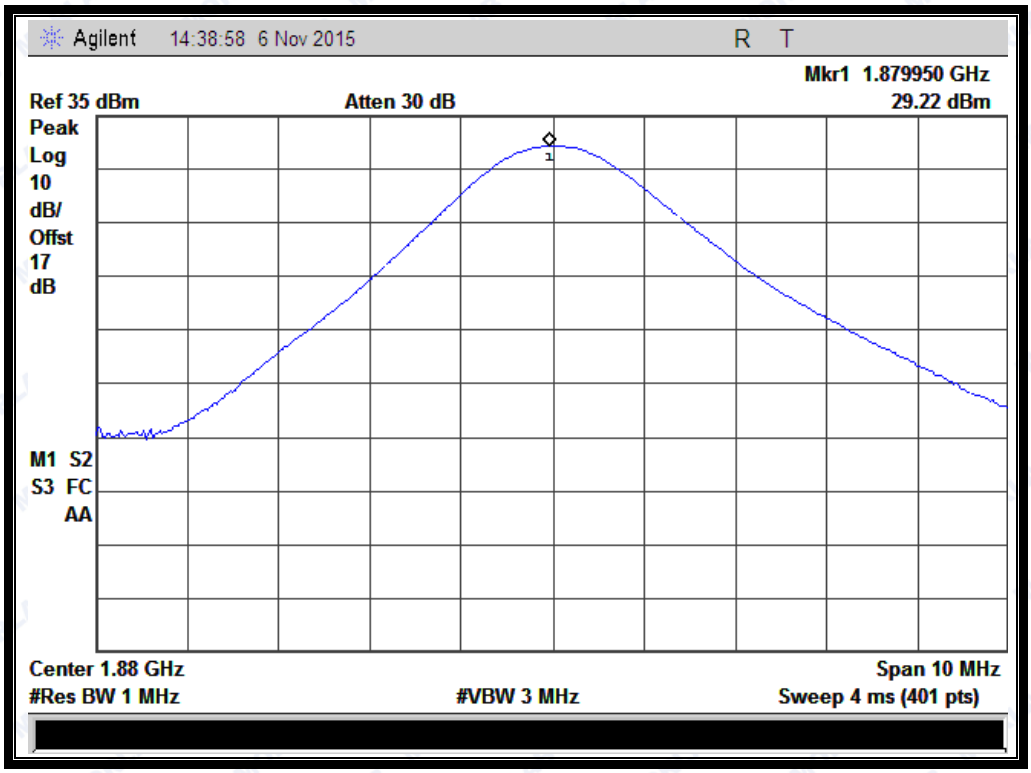
(Plot A2: GSM 850MHz Channel = 190)



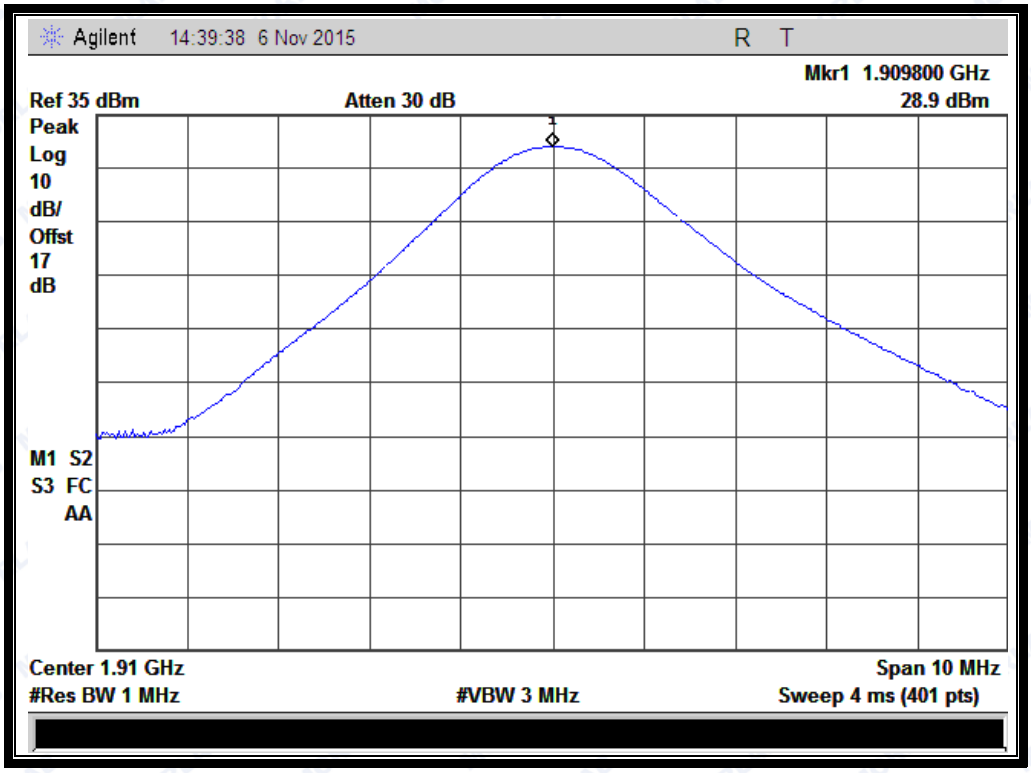
(Plot A3: GSM 850MHz Channel = 251)



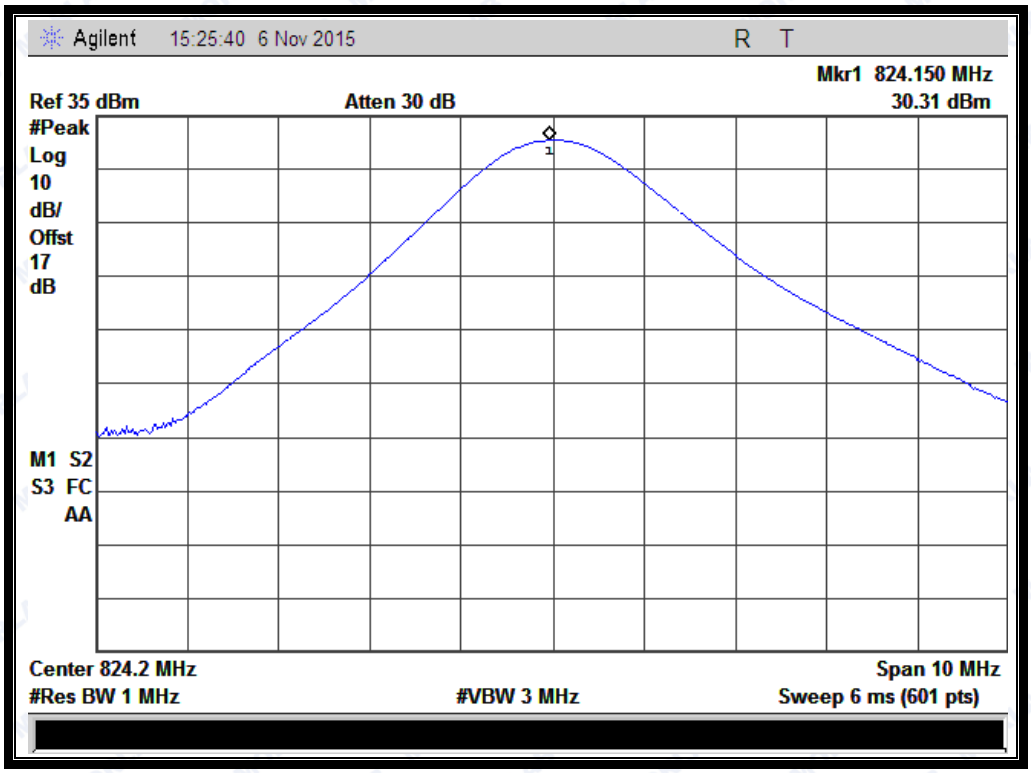
(Plot B1: GSM 1900MHz Channel = 512)



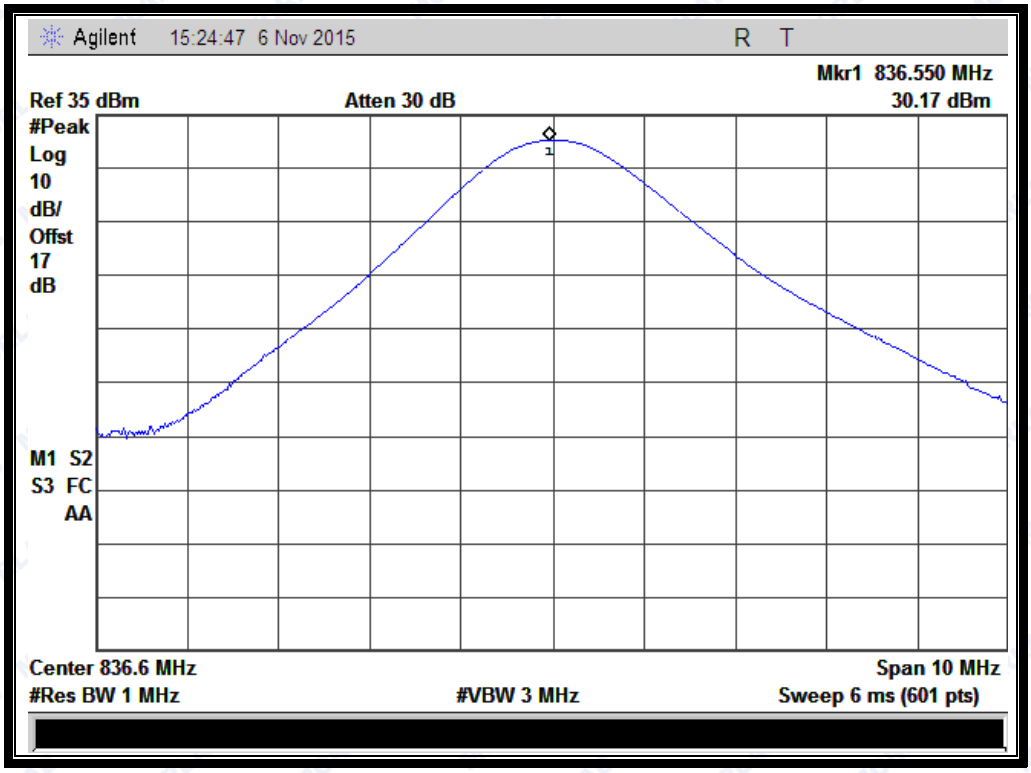
(Plot B2: GSM 1900MHz Channel = 661)



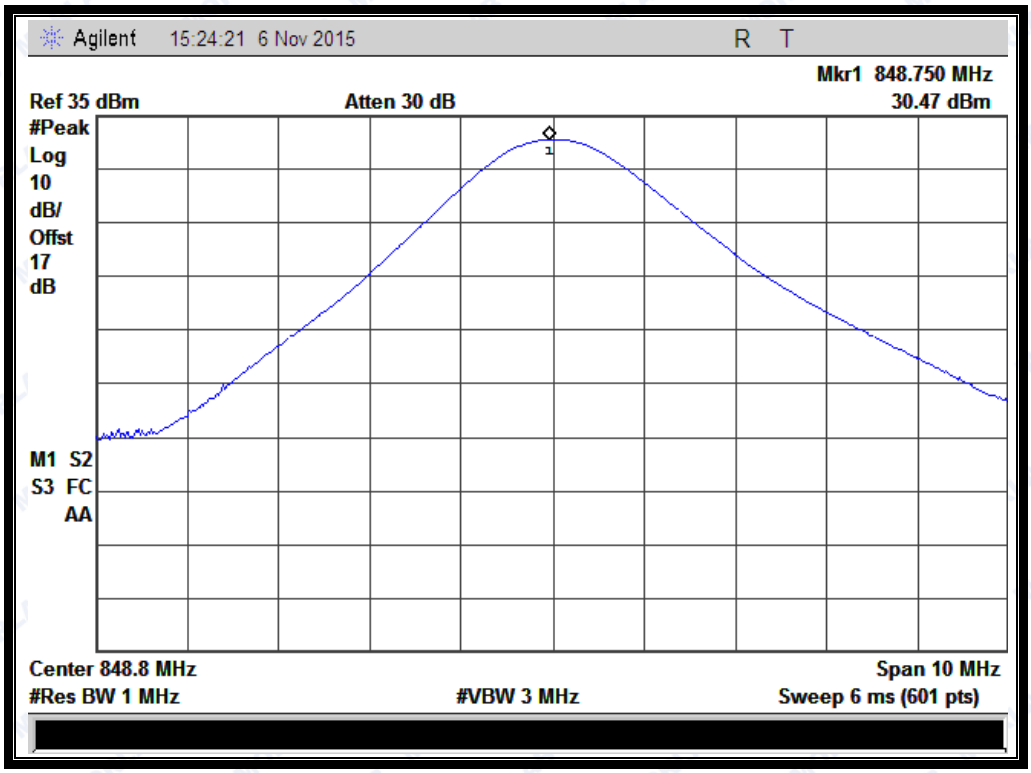
(Plot B3: GSM 1900Hz Channel = 810)



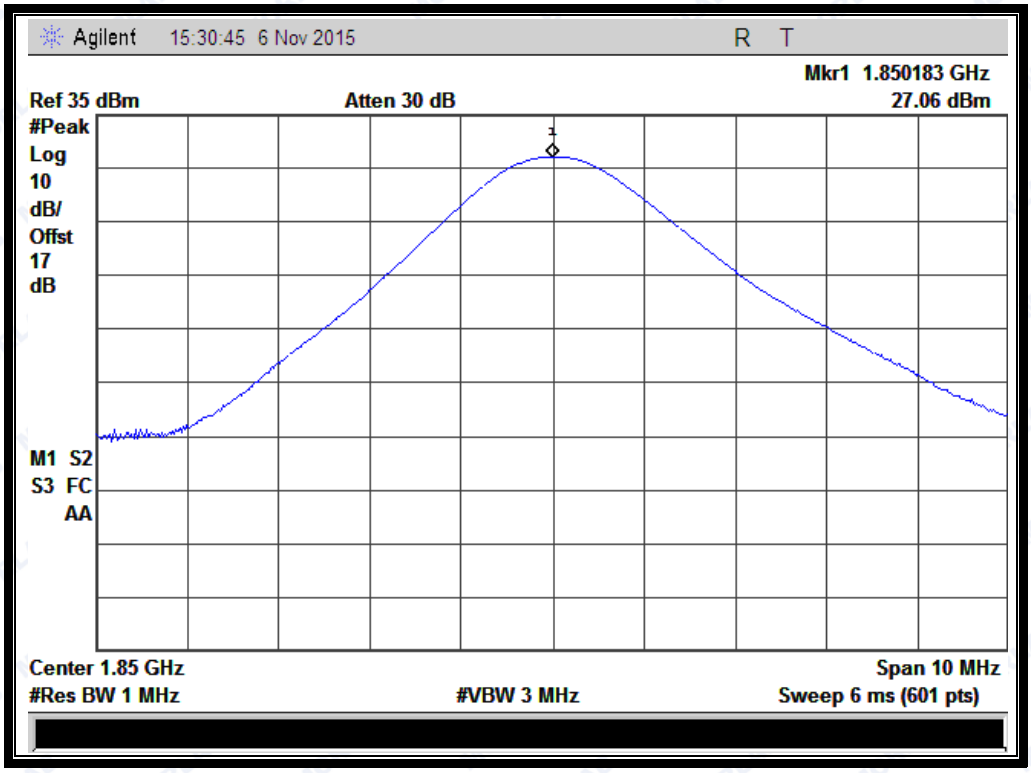
(Plot C1: GPRS 850MHz Channel = 128)



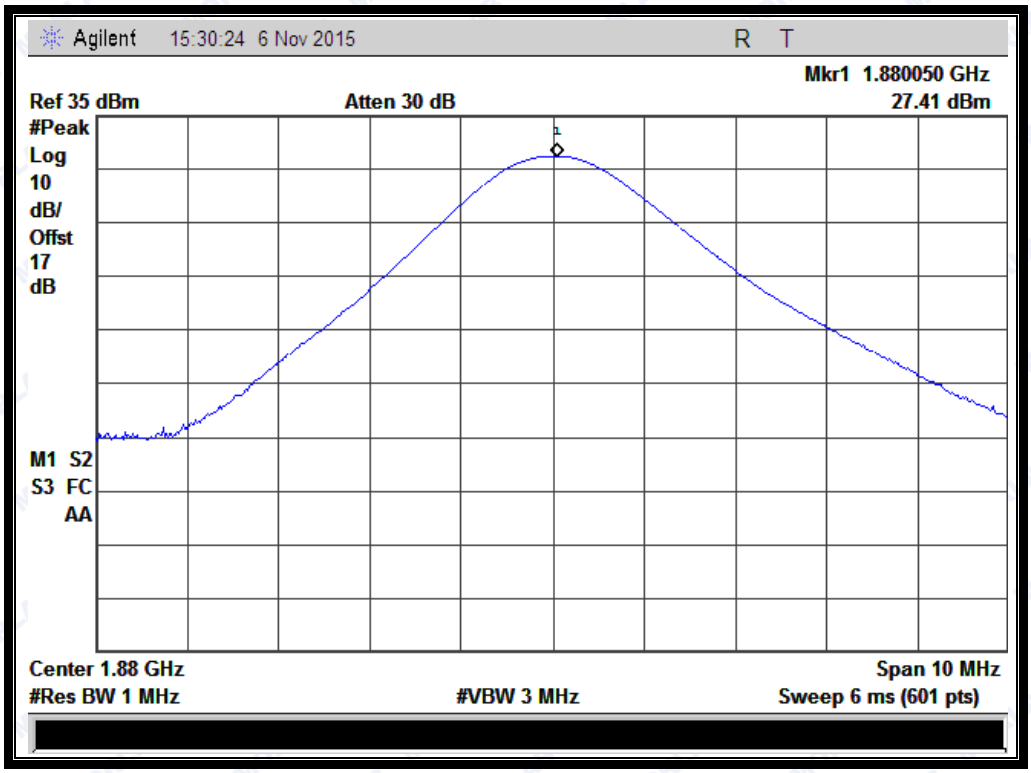
(Plot C2: GPRS 850MHz Channel = 190)



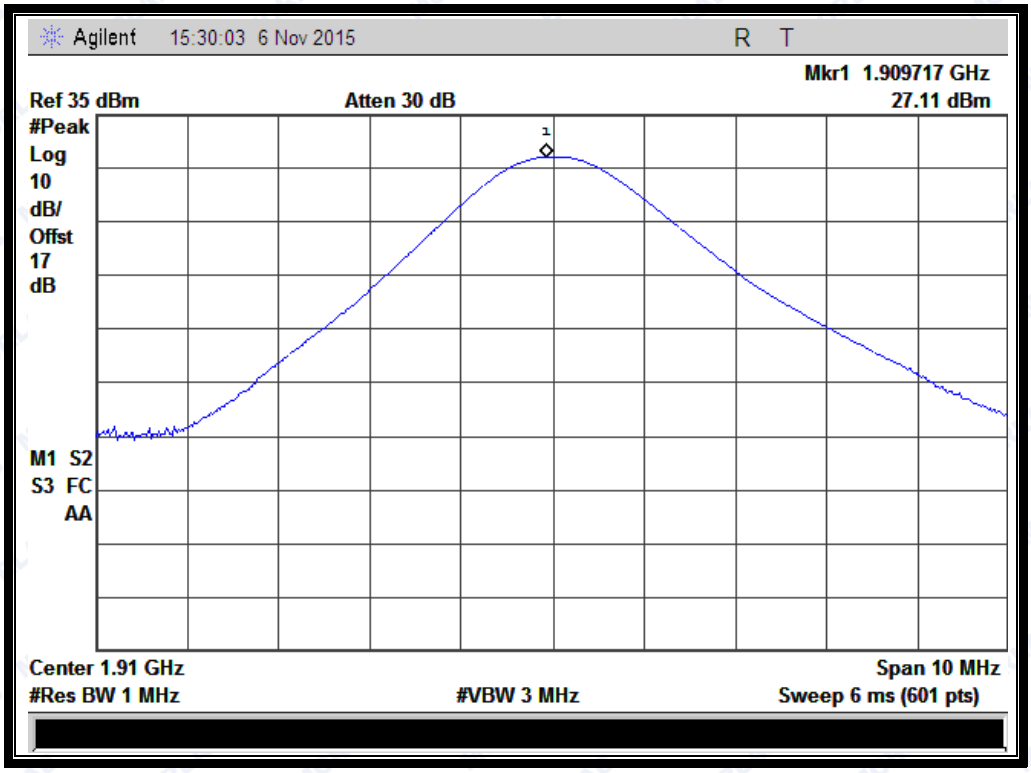
(Plot C3: GPRS 850MHz Channel = 251)



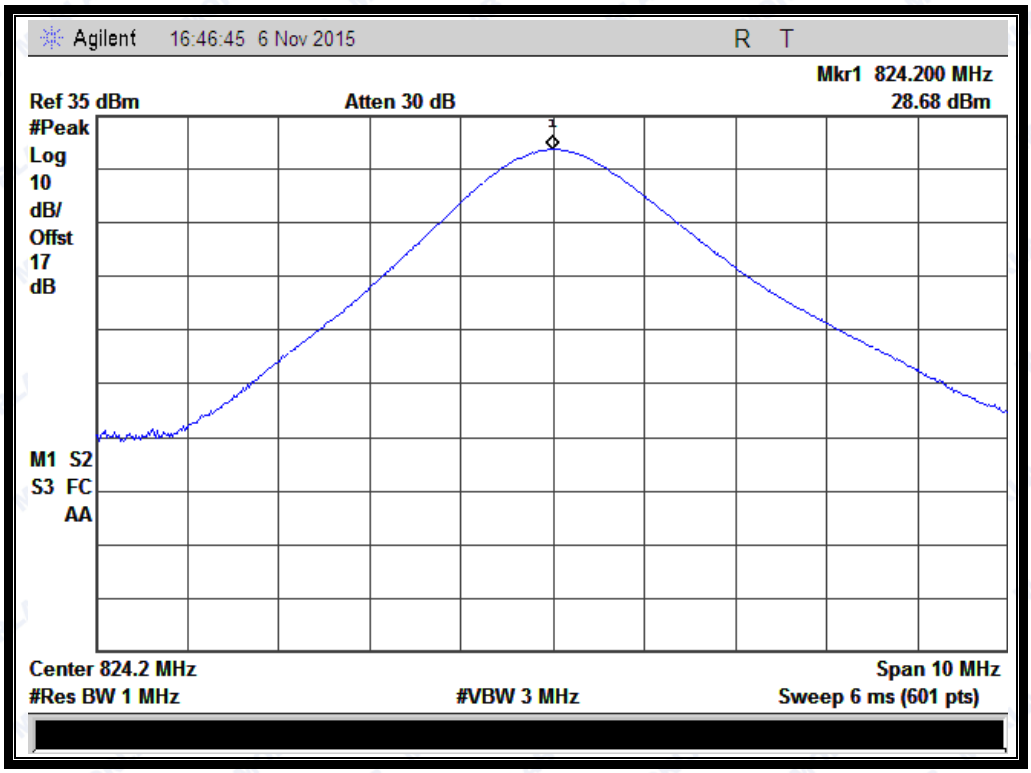
(Plot D1: GPRS 1900MHz Channel = 512)



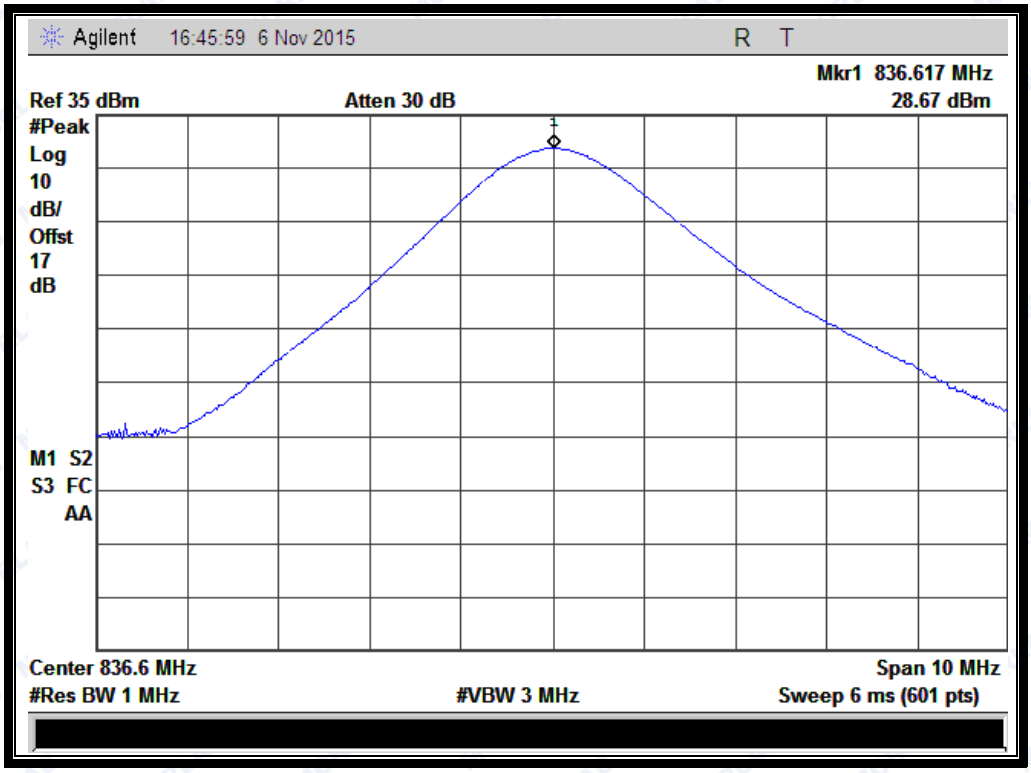
(Plot D2: GPRS 1900MHz Channel = 661)



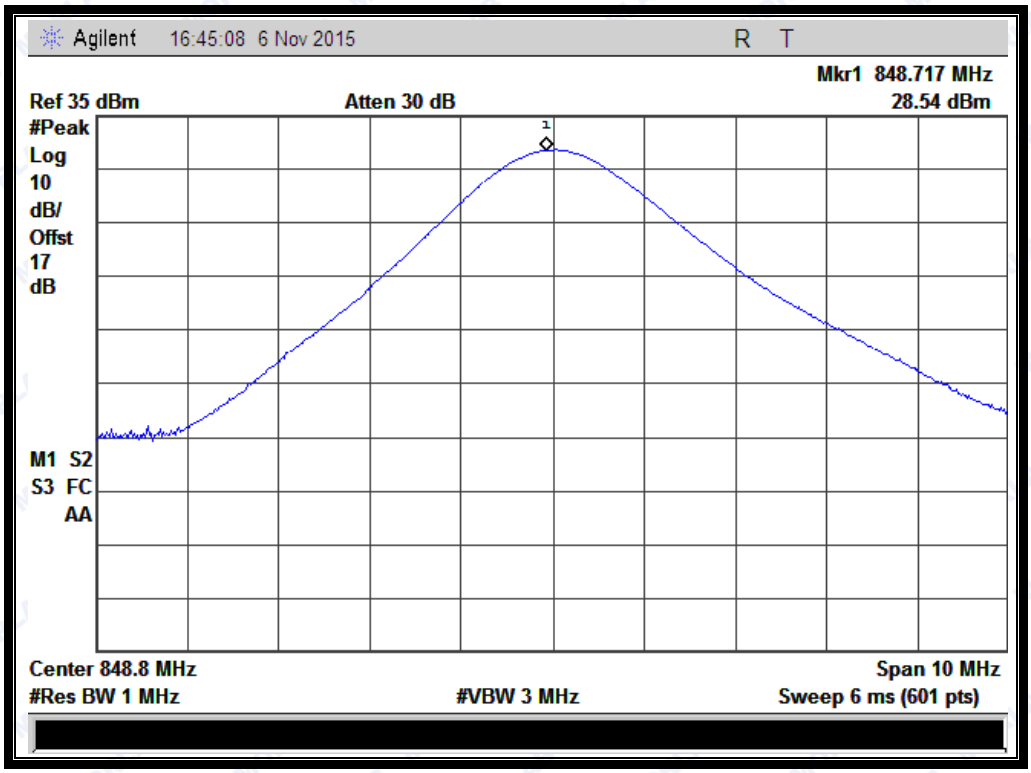
(Plot D3: GPRS 1900Hz Channel = 810)



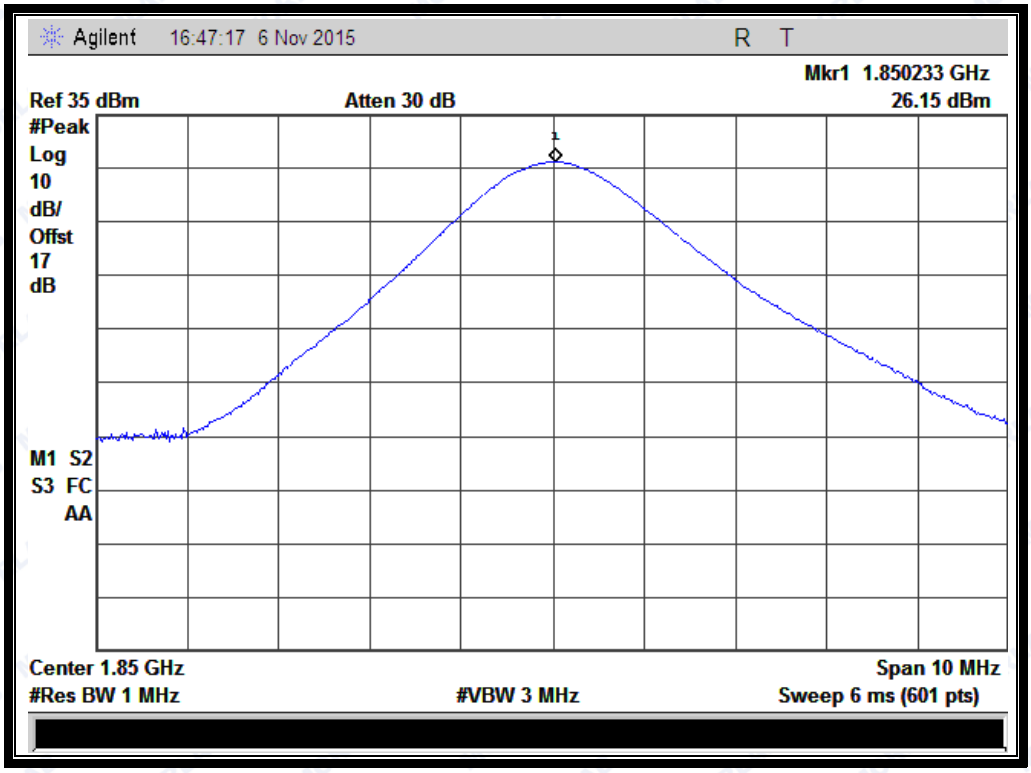
(Plot E1: EGPRS 850MHz Channel = 128)



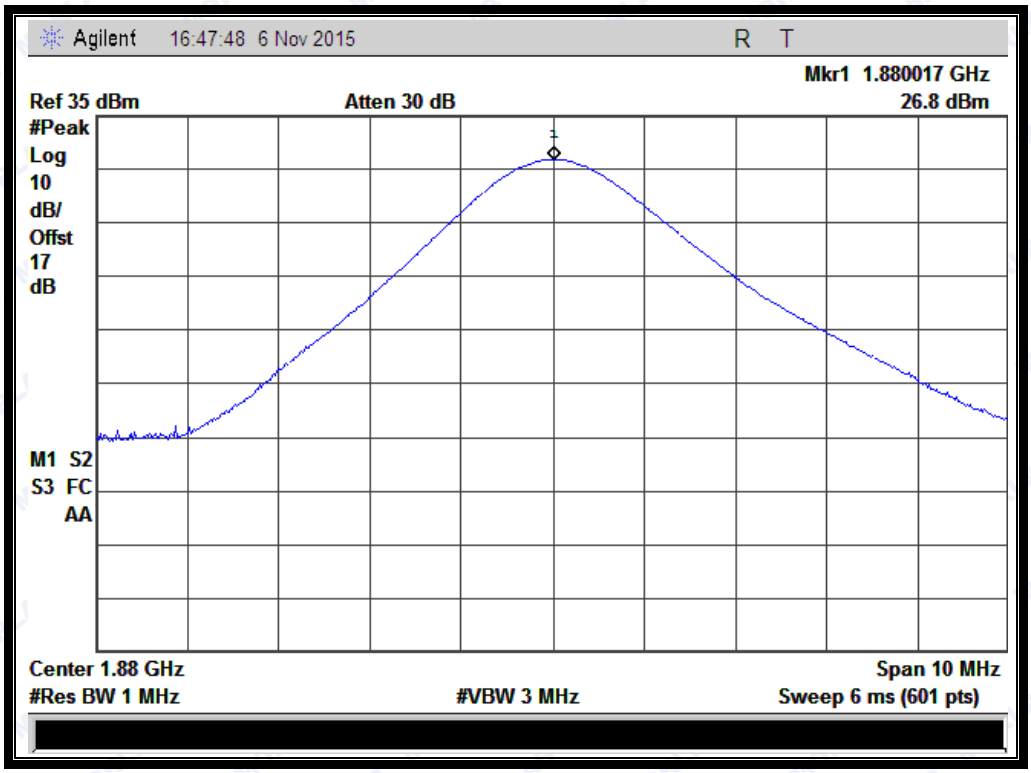
(Plot E2: EGPRS 850MHz Channel = 190)



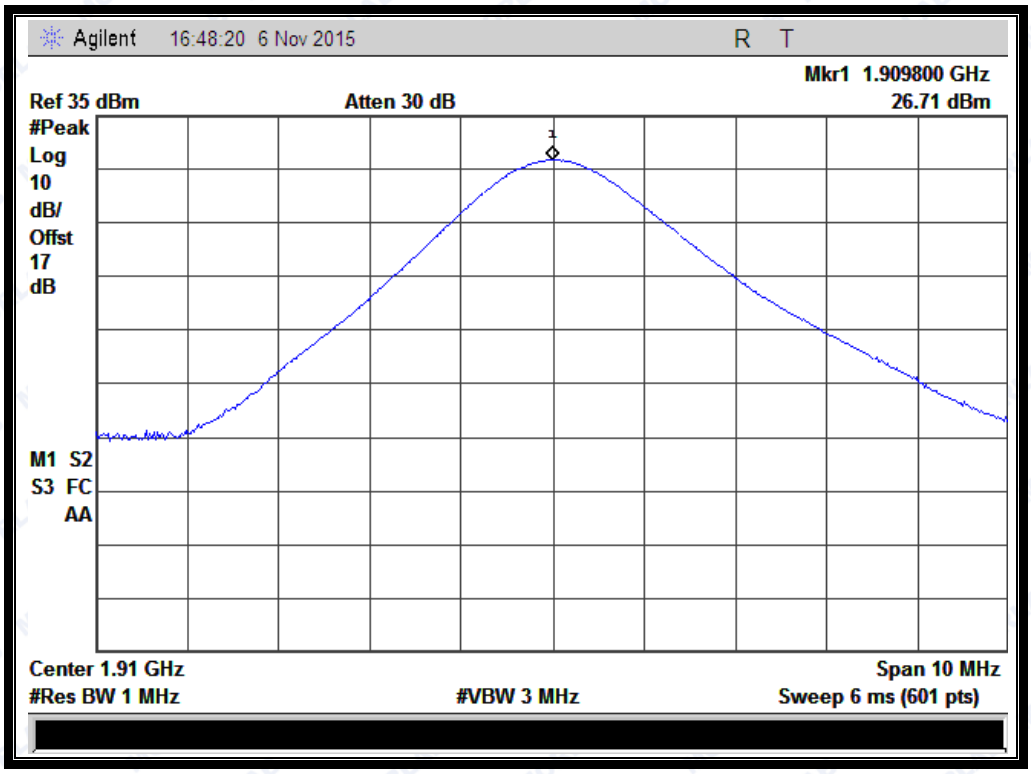
(Plot E3: EGPRS 850MHz Channel = 251)



(Plot F1: EGPRS 1900MHz Channel = 512)



(Plot F2: EGPRS 1900MHz Channel = 661)



(Plot F3: EGPRS 1900Hz Channel = 810)

2.2 Peak to Average Radio

2.2.1 Definition

According to FCC section 2.1049 and FCC 24.232(d) the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.2.2 Test Description

See section 2.1.2 of this report.

2.2.3 Test Verdict

Here the lowest, middle and highest channels are selected to perform testing to verify the peak-to-average ratio.

Test procedures:

A .For GSM/EGPRS operating mode:

a. Set RBW=1MHz, VBW=3MHz, peak detector in spectrum analyzer.

b. Set EUT in maximum output power, and triggered the bust signal.

c. Measured respectively the peak level and mean level, and the deviation was recorded as Peak to Average radio.

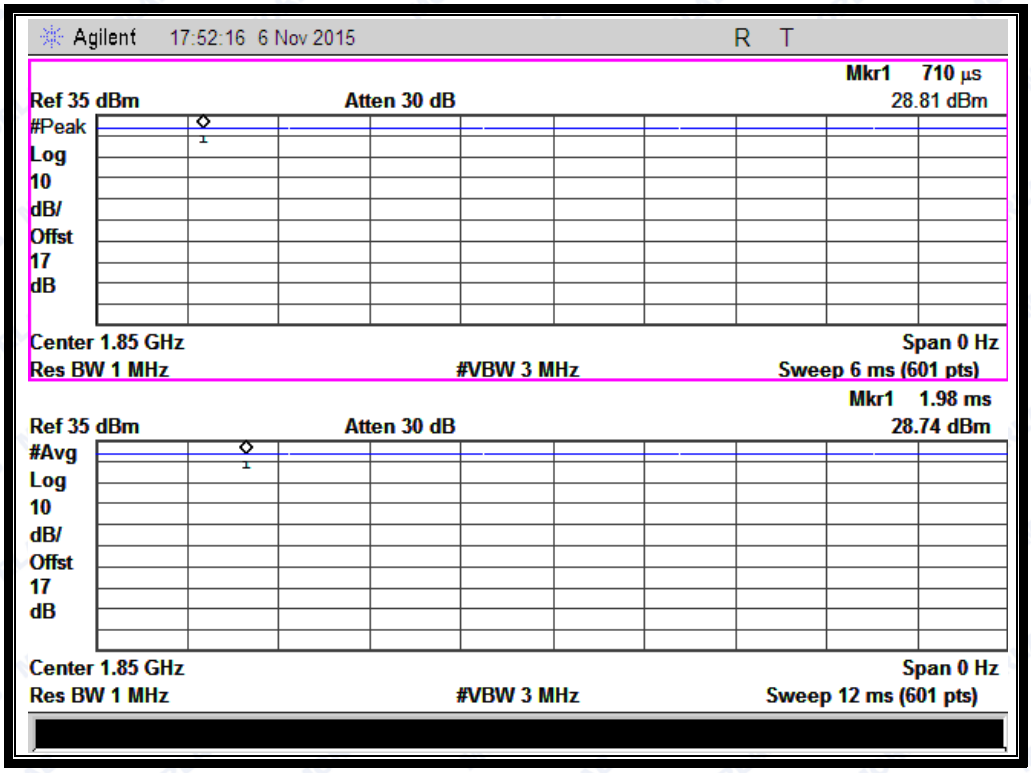
B. For UMTS operating mode:

a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

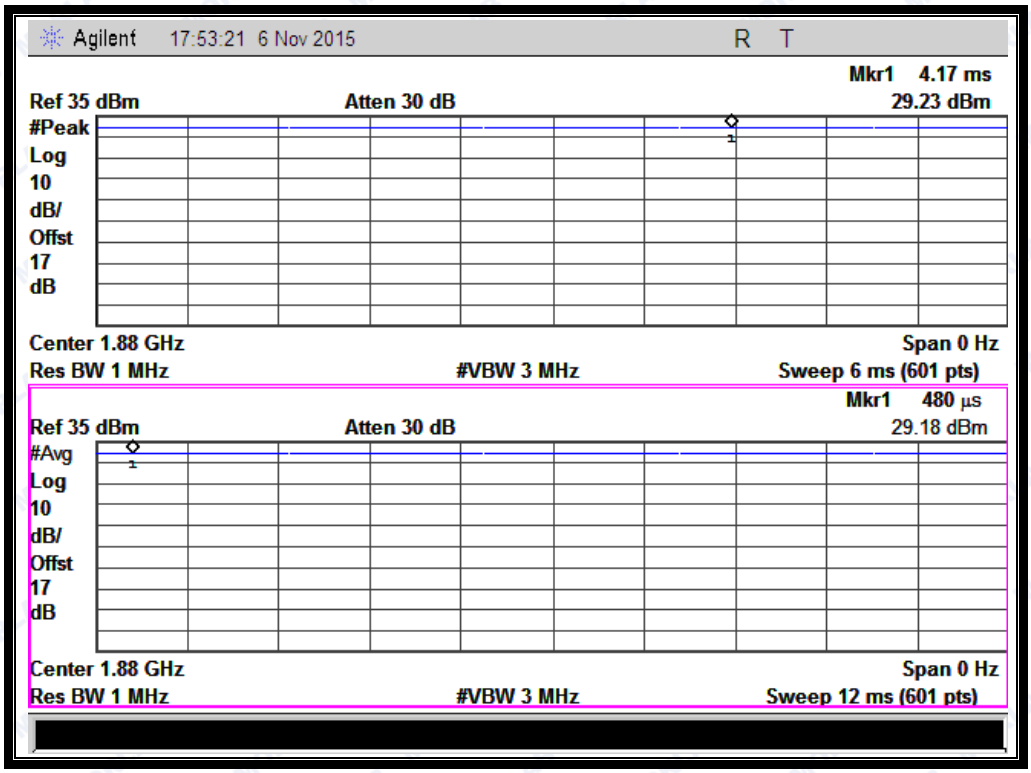
b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.

Test Verdict:

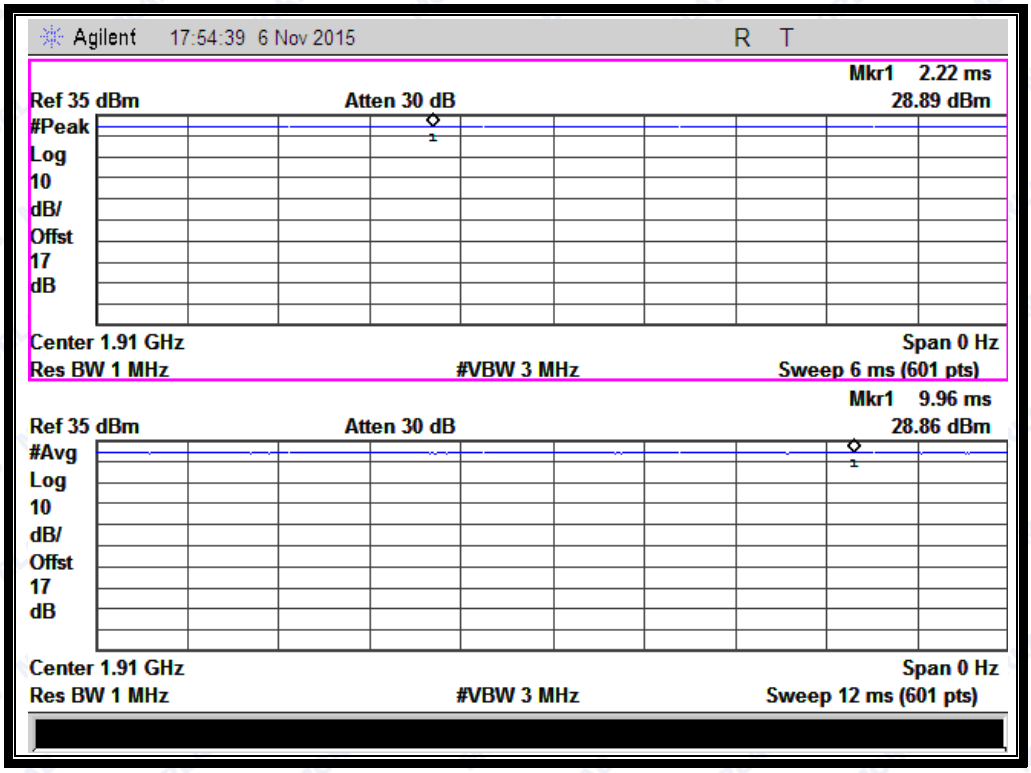
Band	Channel	Frequency (MHz)	Peak to Average radio		Limit	Verdict
			dB	Refer to Plot	dB	
GSM 1900MHz	512	1850.2	0.07	Plot A1 to A3	13	PASS
	661	1880.0	0.05			PASS
	810	1909.8	0.03			PASS
EGPRS 1900MHz	512	1850.2	0.10	Plot B1 to B3	13	PASS
	661	1880.0	0.07			PASS
	810	1909.8	0.11			PASS
WCDMA 1900MHz	9262	1852.4	3.04	Plot C1 to C3	13	PASS
	9400	1880.0	2.83			PASS
	9538	1907.6	2.66			PASS



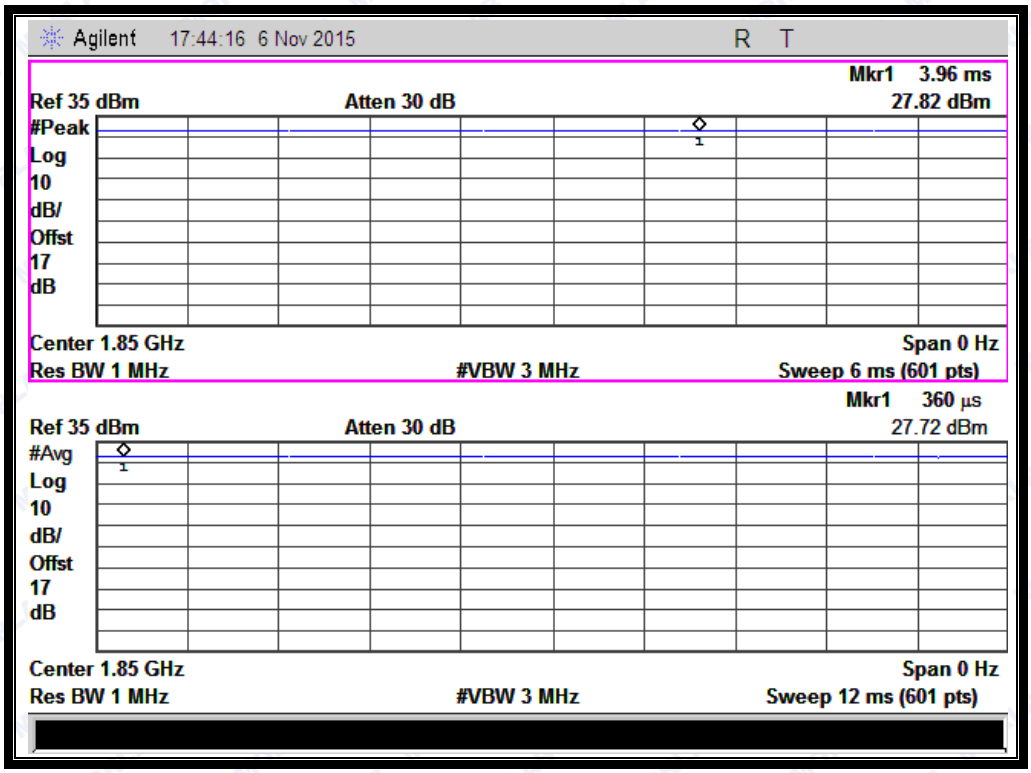
(Plot A1: GSM 1900 MHz Channel = 512)



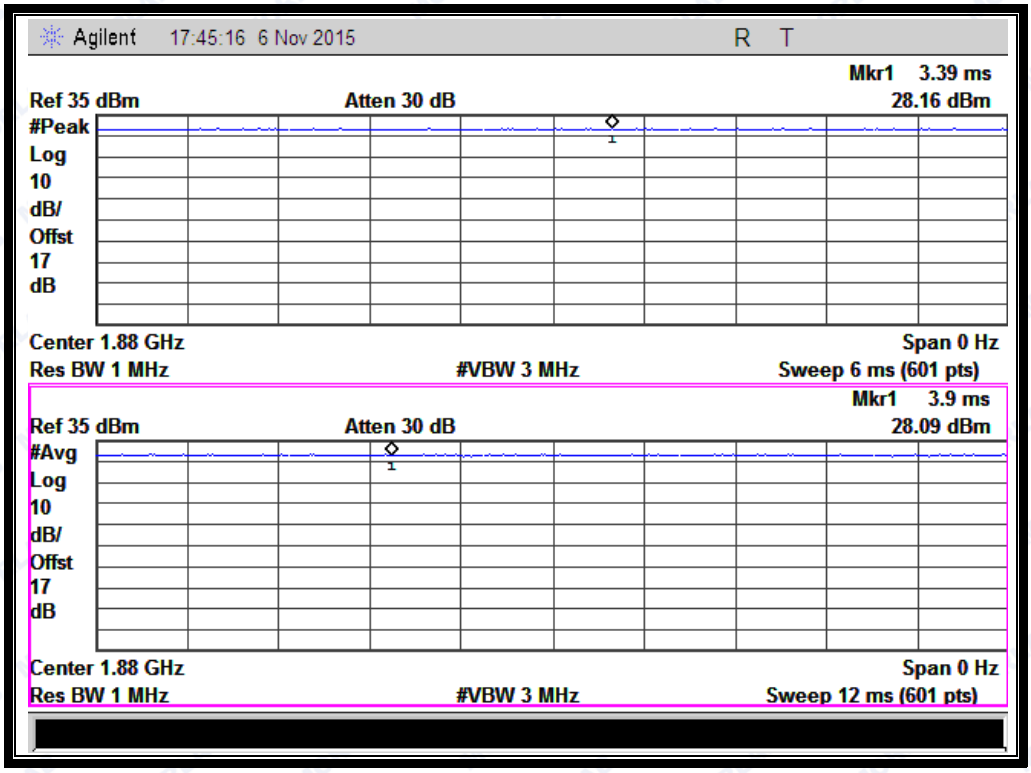
(Plot A2: GSM 1900 MHz Channel = 661)



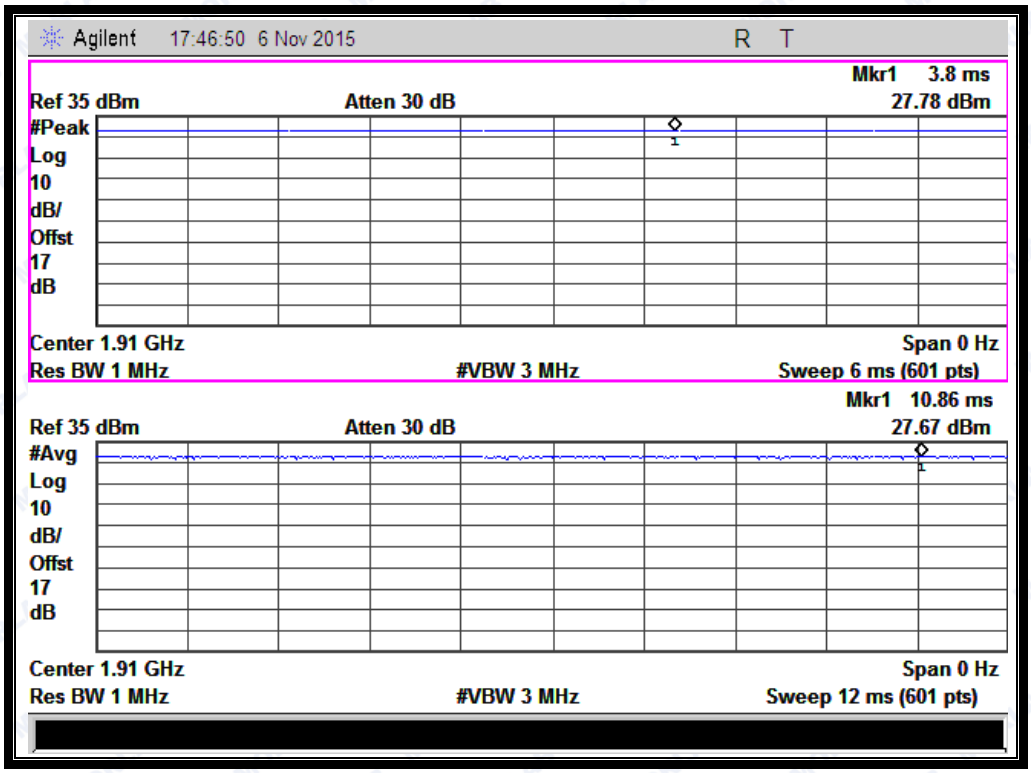
(Plot A3: GSM 1900MHz Channel = 810)



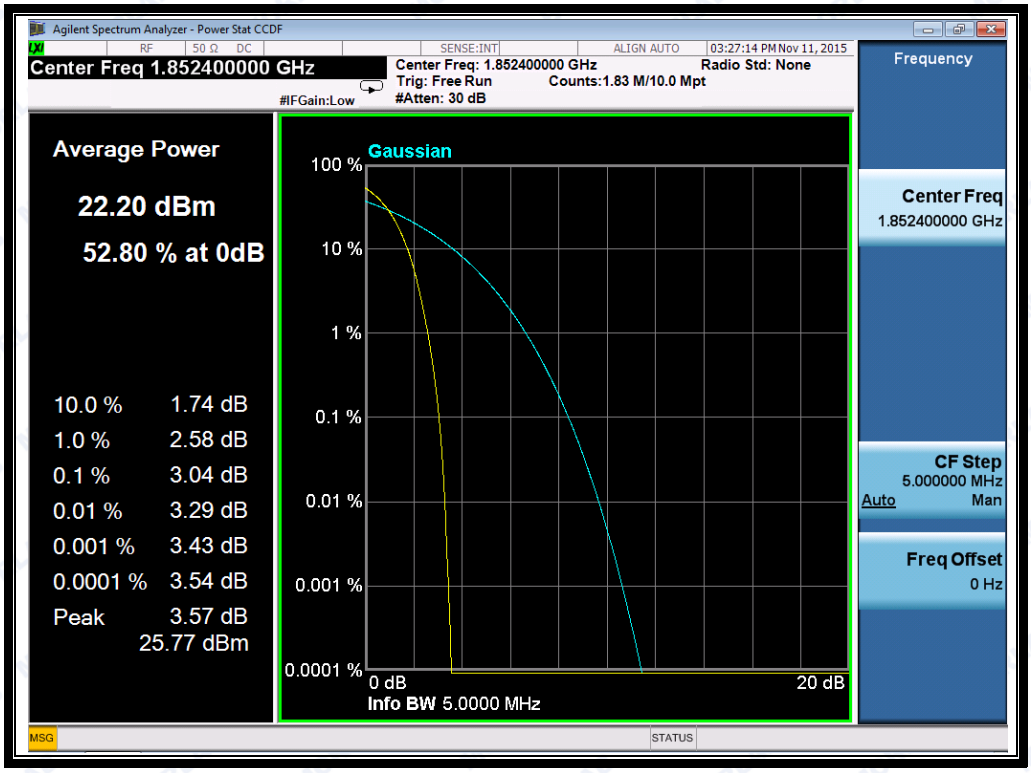
(Plot B1: EGPRS 1900 MHz Channel = 512)



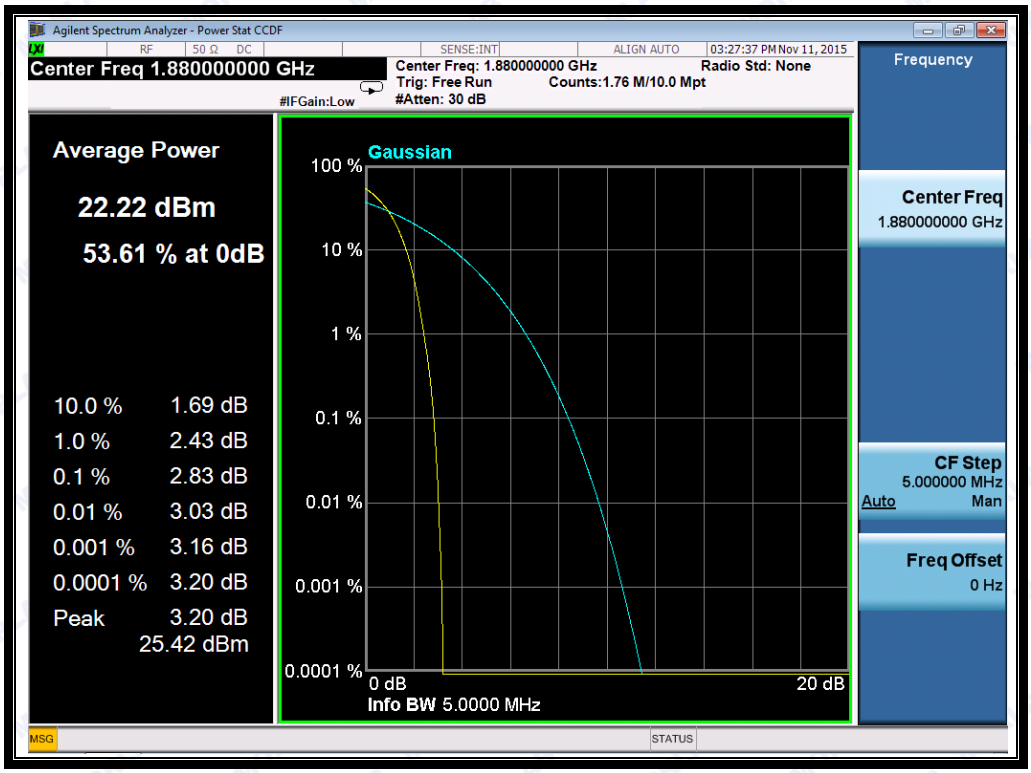
(Plot B2: EGPRS 1900 MHz Channel = 661)



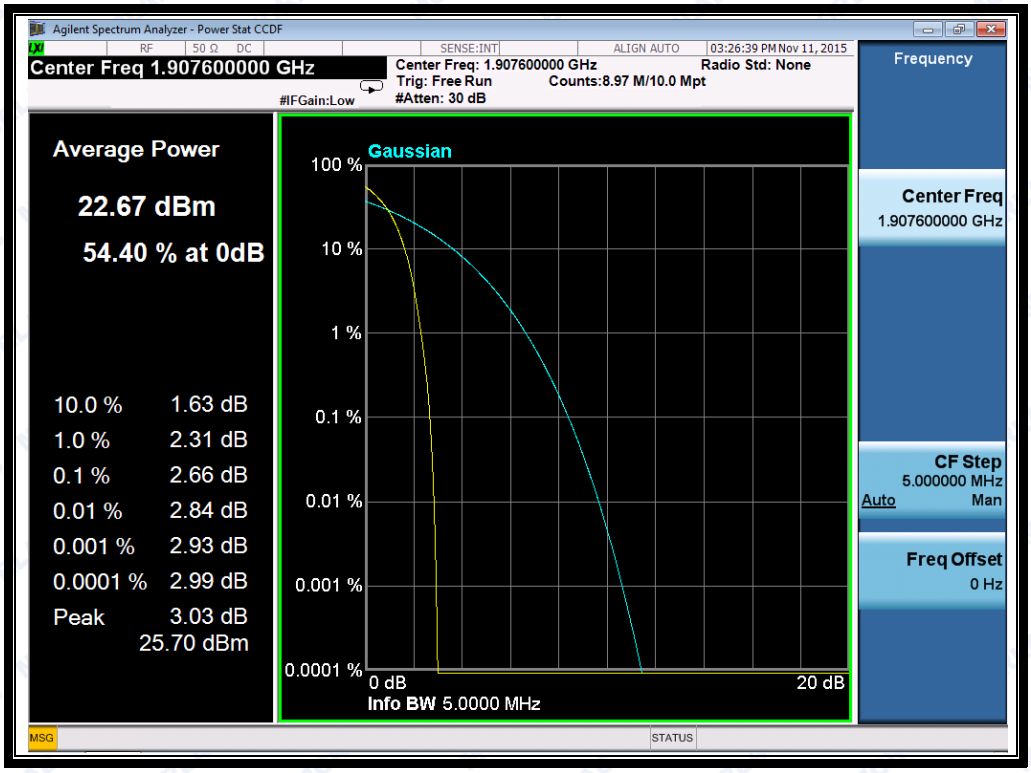
(Plot B3: EGPRS 1900MHz Channel = 810)



(Plot C1: WCDMA 1900MHz Channel = 9262)



(Plot C2: WCDMA 1900MHz Channel = 9400)



(Plot C3: WCDMA 1900MHz Channel = 9538)

2.3 99% Occupied Bandwidth

2.3.1 Definition

According to FCC section 2.1049 and FCC § 22.917 &24.238, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.3.2 Test Description

See section 2.1.2 of this report.

2.3.3 Test Verdict

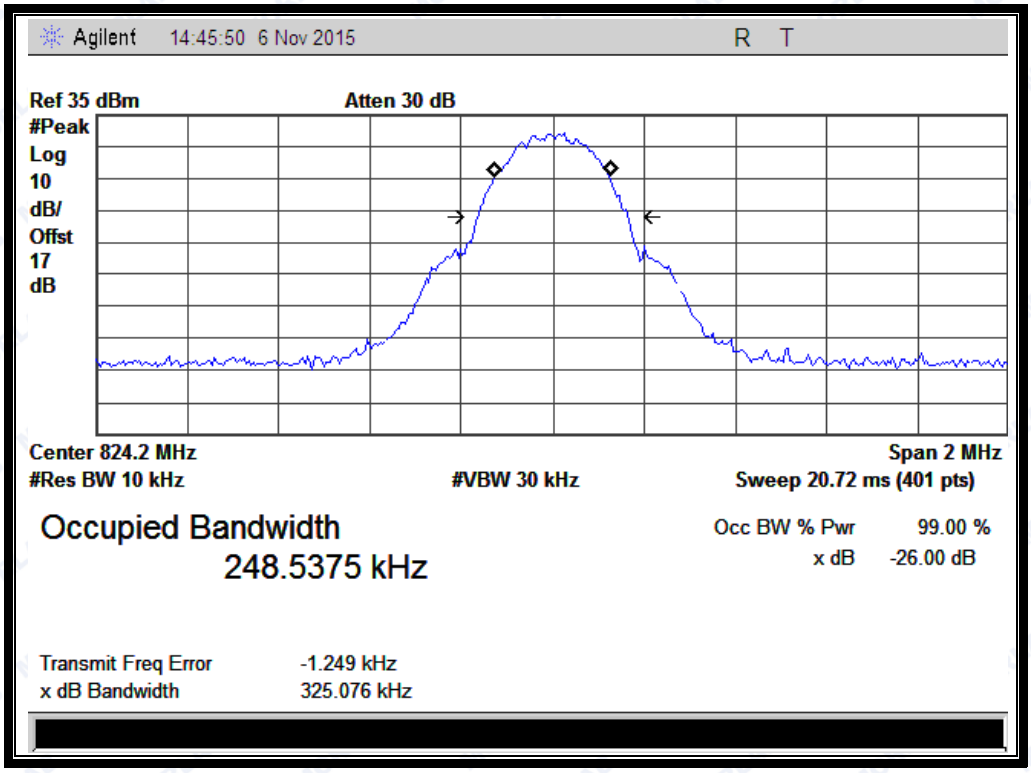
Here the lowest, middle and highest channels are selected to perform testing to verify the 99% occupied bandwidth.

Test Verdict:

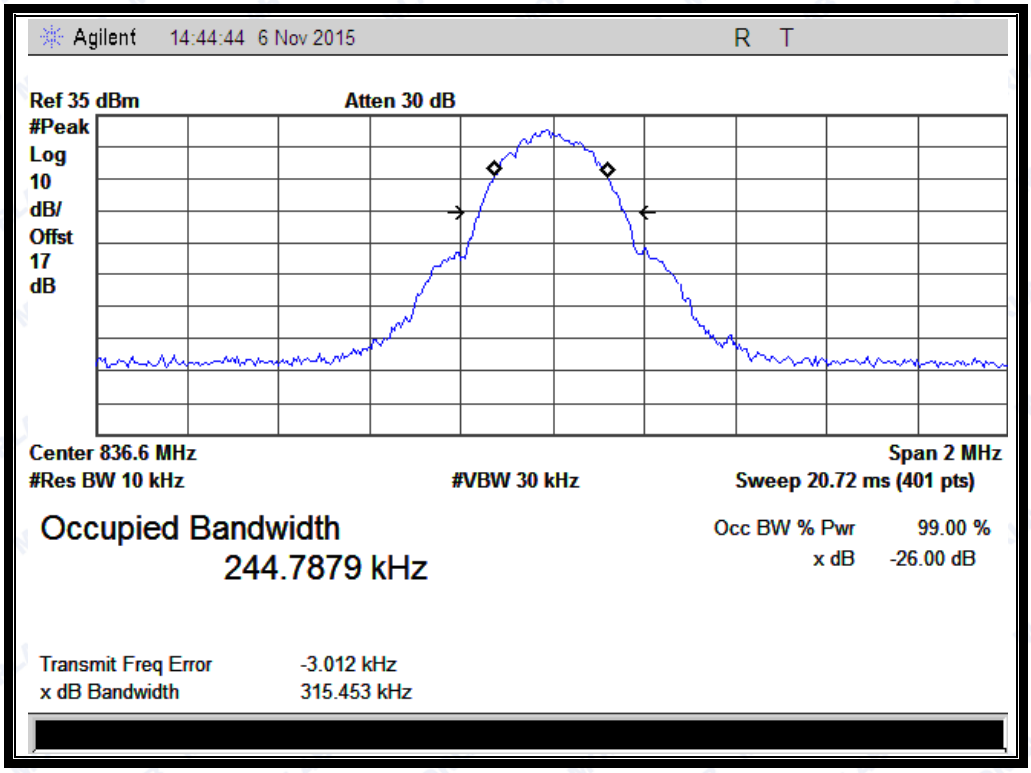
Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
GSM 850MHz	128	824.2	325.076 KHz	248.5375 KHz	Plot A1 to A3
	190	836.6	315.453 KHz	244.7879 KHz	
	251	848.8	319.669 KHz	249.0576 KHz	
GSM 1900MHz	512	1850.2	327.890 KHz	243.8056 KHz	Plot B1 to B3
	661	1880.0	319.082 KHz	246.1383 KHz	
	810	1909.8	318.870 KHz	247.1539 KHz	
GPRS 850MHz	128	824.2	317.315 KHz	246.0248 KHz	Plot C1 to C3
	190	836.6	320.380 KHz	247.1645 KHz	
	251	848.8	316.746 KHz	244.5933 KHz	
GPRS 1900MHz	512	1850.2	323.549 KHz	245.9655 KHz	Plot D1 to D3
	661	1880.0	320.750 KHz	246.2297 KHz	
	810	1909.8	315.373 KHz	245.3438 KHz	
EGPRS 850MHz	128	824.2	315.231 KHz	252.0246 KHz	Plot E1 to E3
	190	836.6	314.792 KHz	246.5234 KHz	
	251	848.8	312.021 KHz	244.4752 KHz	
EGPRS 1900MHz	512	1850.2	318.509 KHz	247.8641 KHz	Plot F1 to F3
	661	1880.0	314.100 KHz	251.2710 KHz	
	810	1909.8	315.528 KHz	248.4105 KHz	
WCDMA 1900MHz	9262	1852.4	4.642 MHz	4.1738 MHz	Plot H1 to H3
	9400	1880.0	4.654 MHz	4.1841 MHz	
	9538	1907.6	4.652 MHz	4.1582 MHz	

Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
HSDPA 1900MHz	9262	1852.4	4.640 MHz	4.1691 MHz	Plot J1 to J3
	9400	1880.0	4.642 MHz	4.1915 MHz	
	9538	1907.6	4.669 MHz	4.1651 MHz	
HSUPA 1900MHz	9262	1852.4	4.653 MHz	4.1846 MHz	Plot L1 to L3
	9400	1880.0	4.655 MHz	4.1644 MHz	
	9538	1907.6	4.666 MHz	4.1684 MHz	
HSPA+ 1900MHz	9262	1852.4	4.651 MHz	4.1705 MHz	Plot N1 to N3
	9400	1880.0	4.648 MHz	4.1683 MHz	
	9538	1907.6	4.666 MHz	4.1683 MHz	

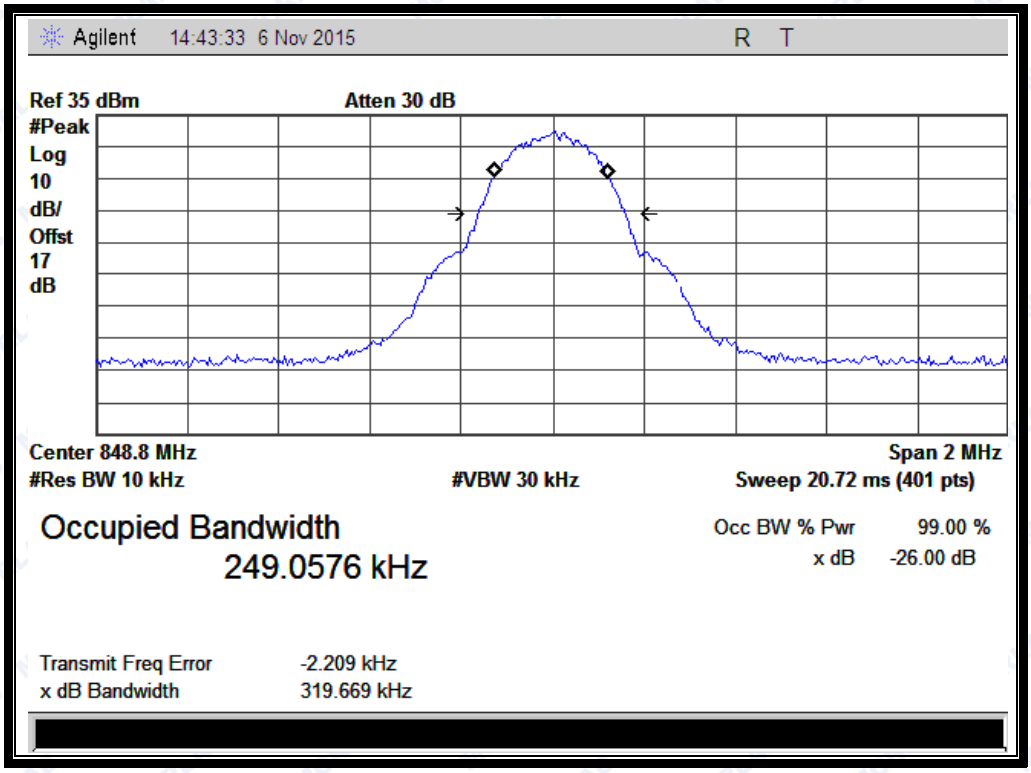
Test Plots:



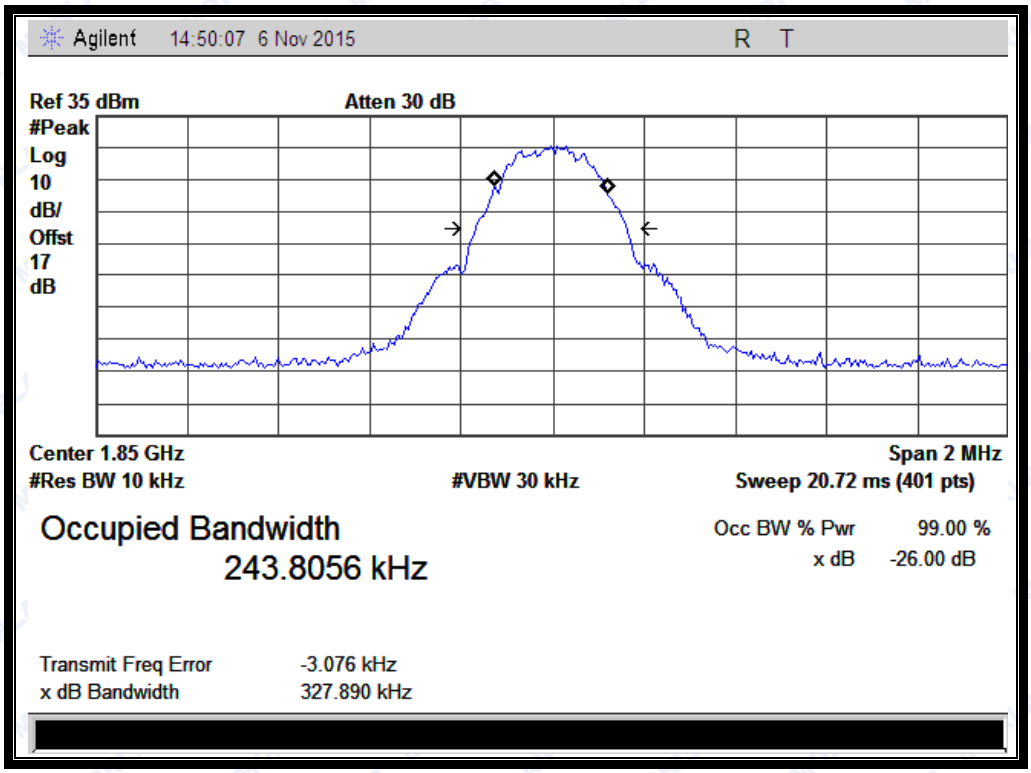
(Plot A1: GSM 850MHz Channel = 128)



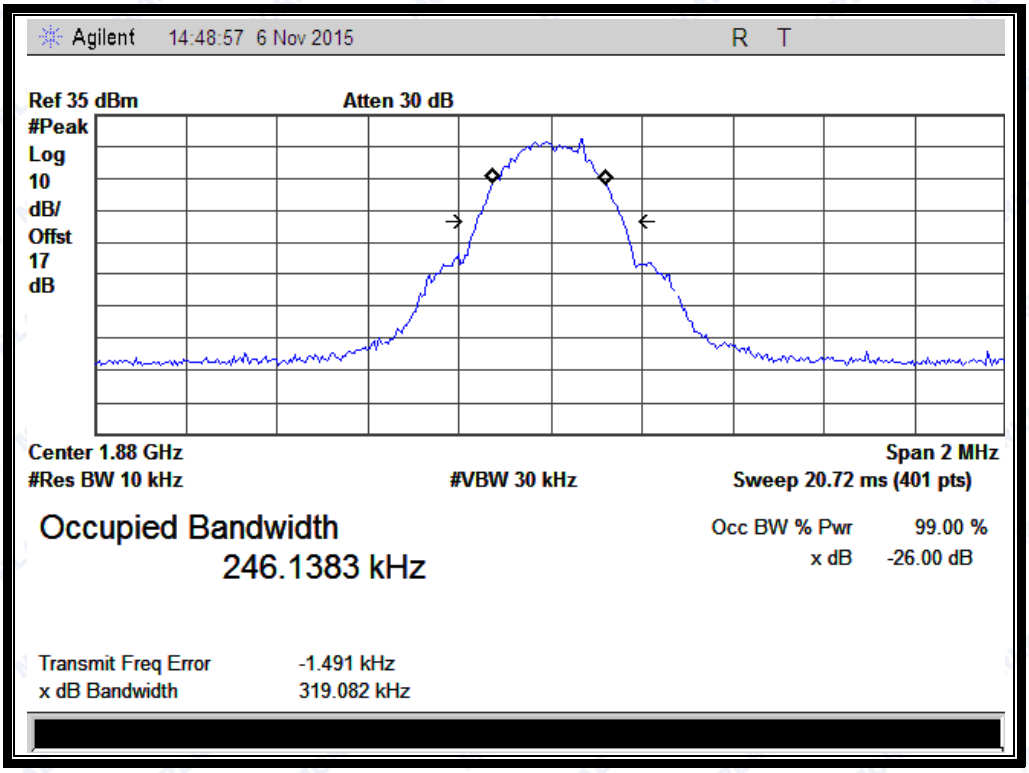
(Plot A2: GSM 850MHz Channel = 190)



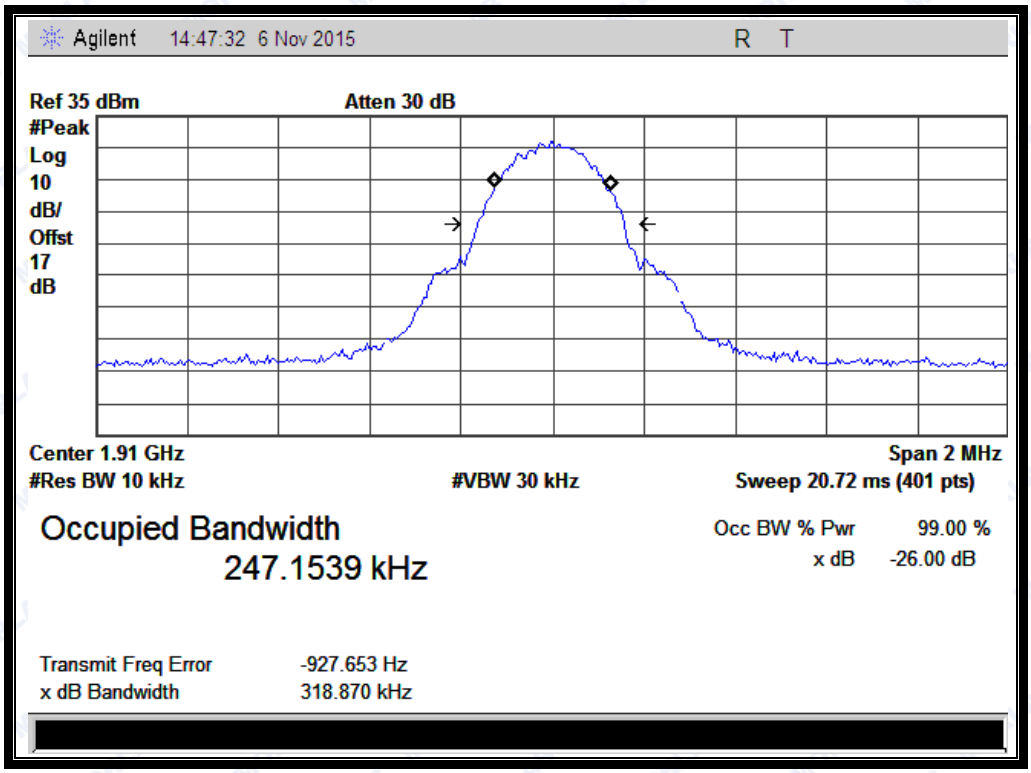
(Plot A3: GSM 850MHz Channel = 251)



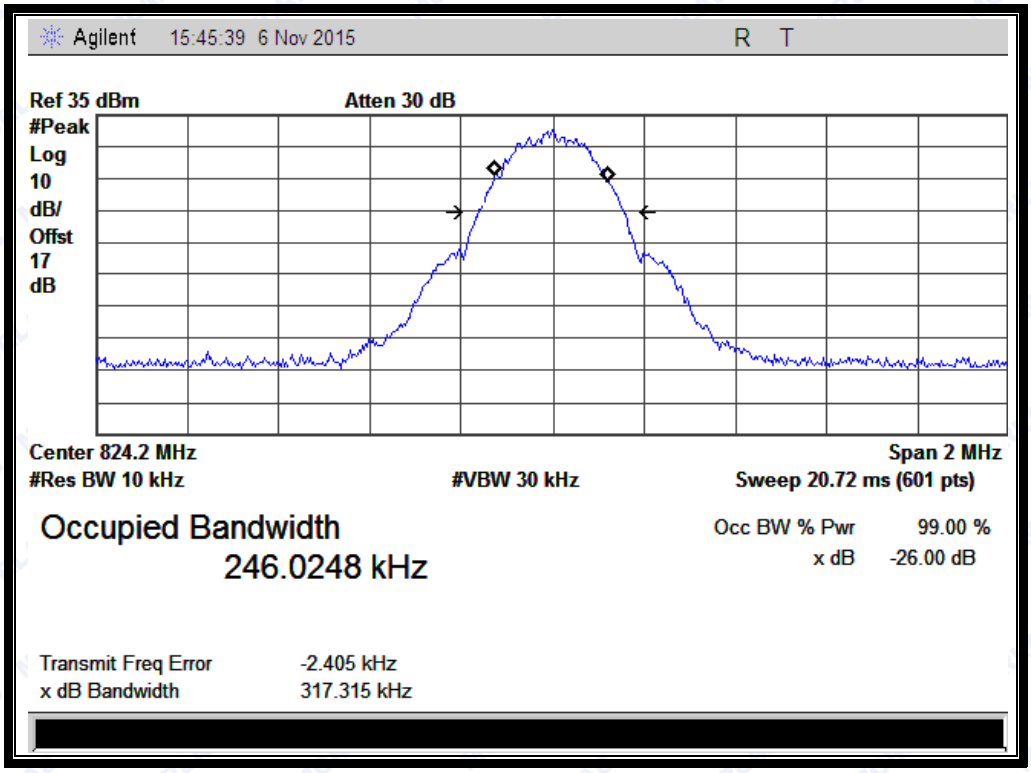
(Plot B1: GSM1900MHz Channel = 512)



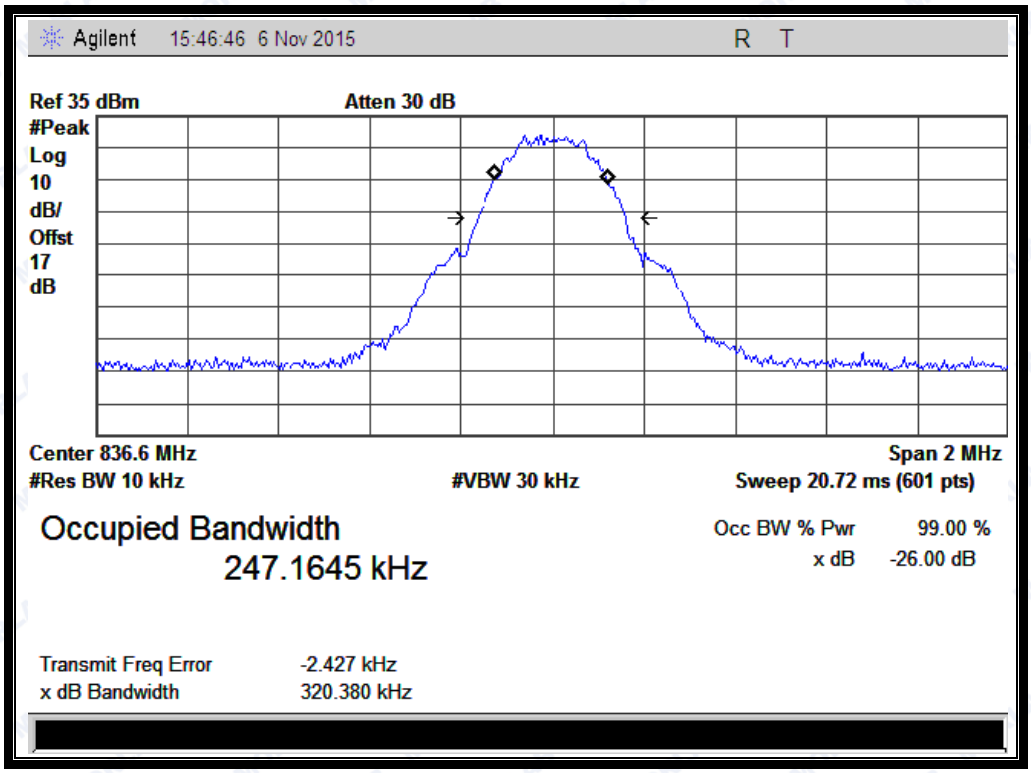
(Plot B2: GSM1900MHz Channel = 661)



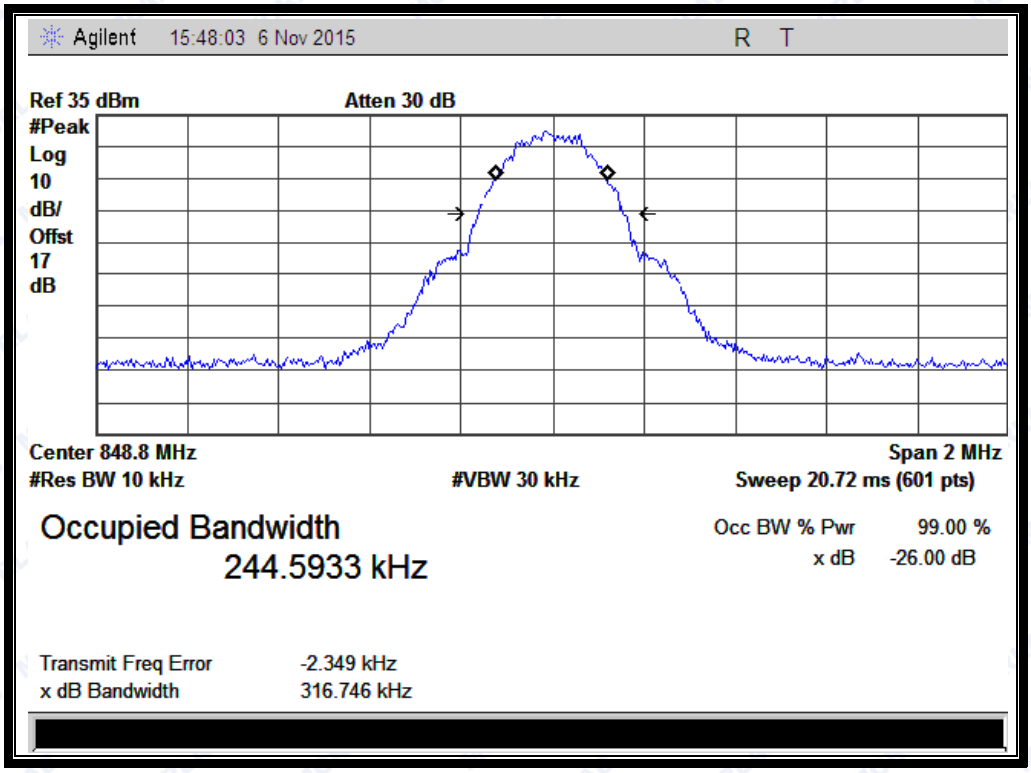
(Plot B3: GSM 1900MHz Channel = 810)



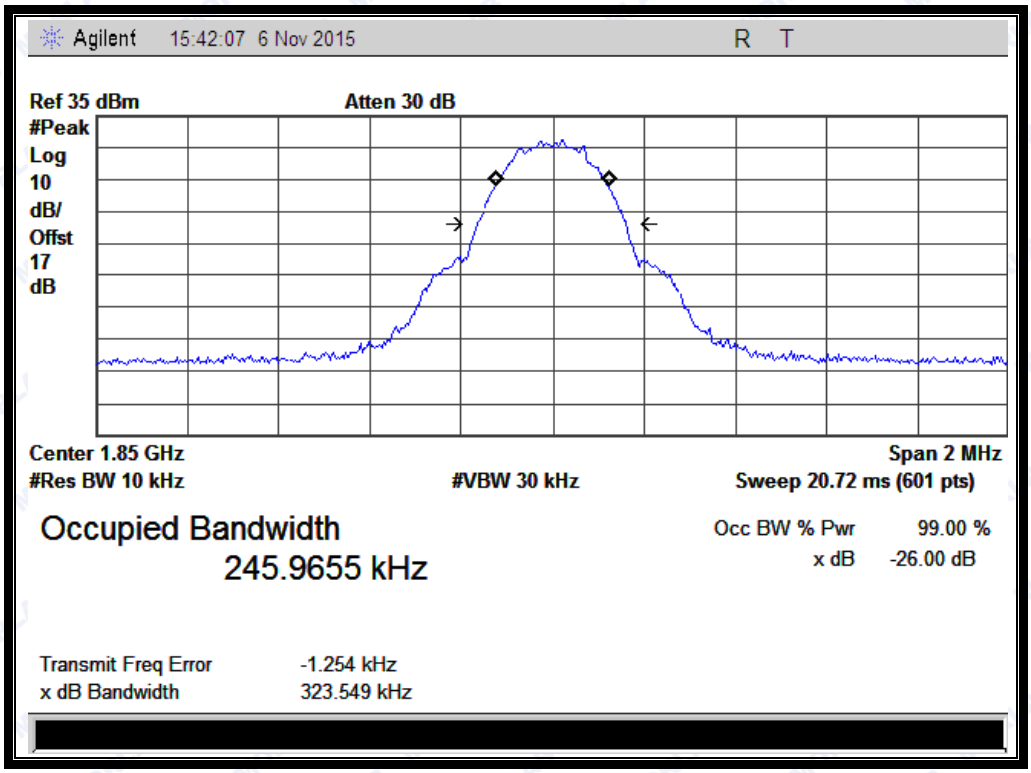
(Plot C1: GPRS 850MHz Channel = 128)



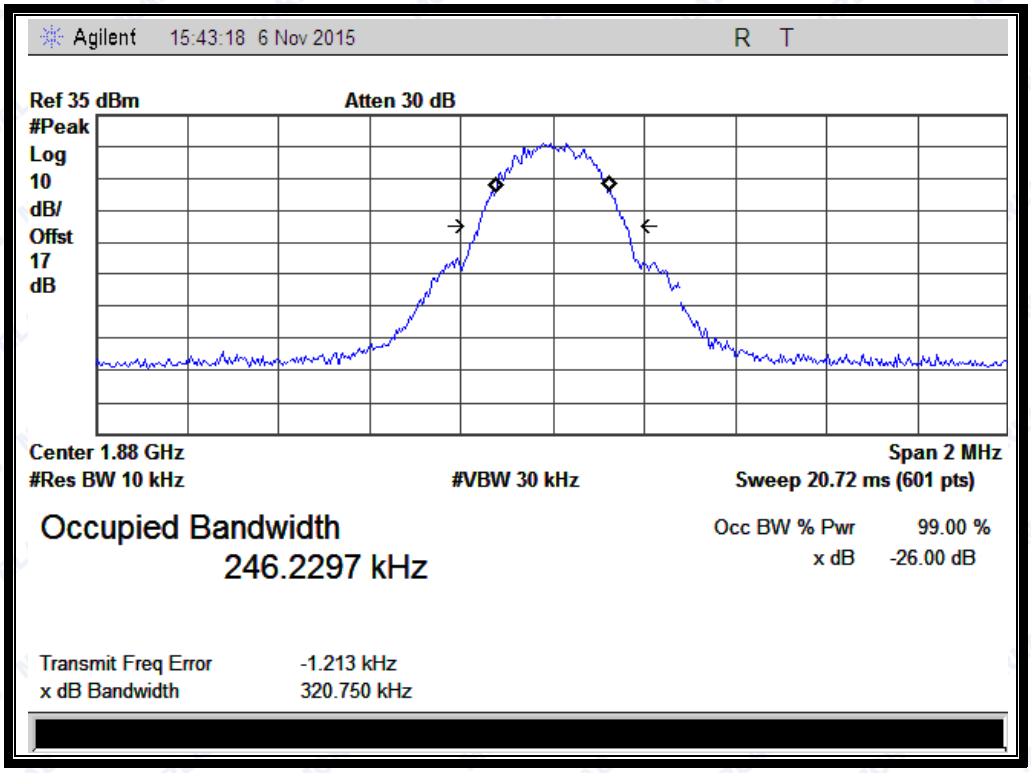
(Plot C2: GPRS 850MHz Channel = 190)



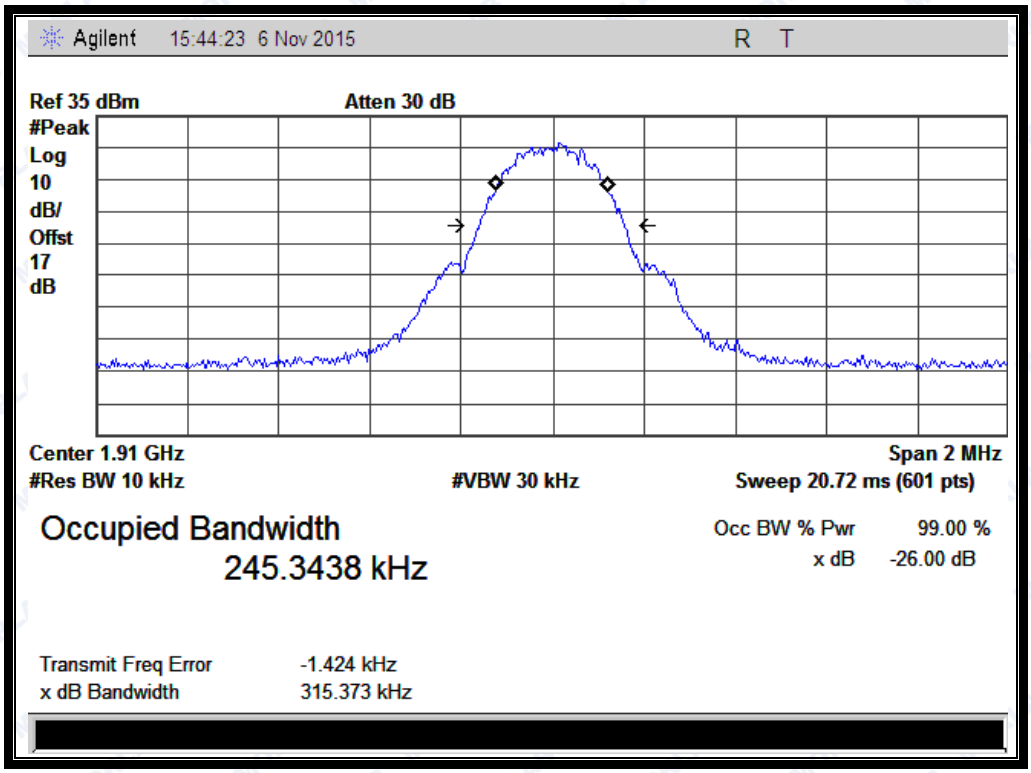
(Plot C3: GPRS 850MHz Channel = 251)



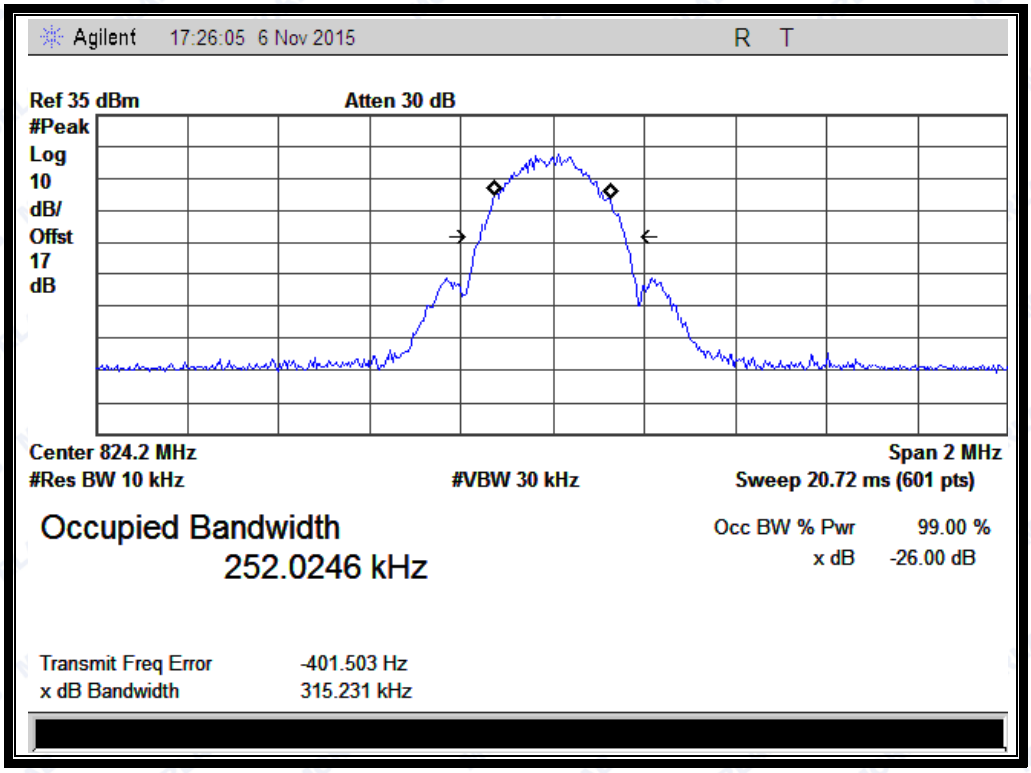
(Plot D1: GPRS1900MHz Channel = 512)



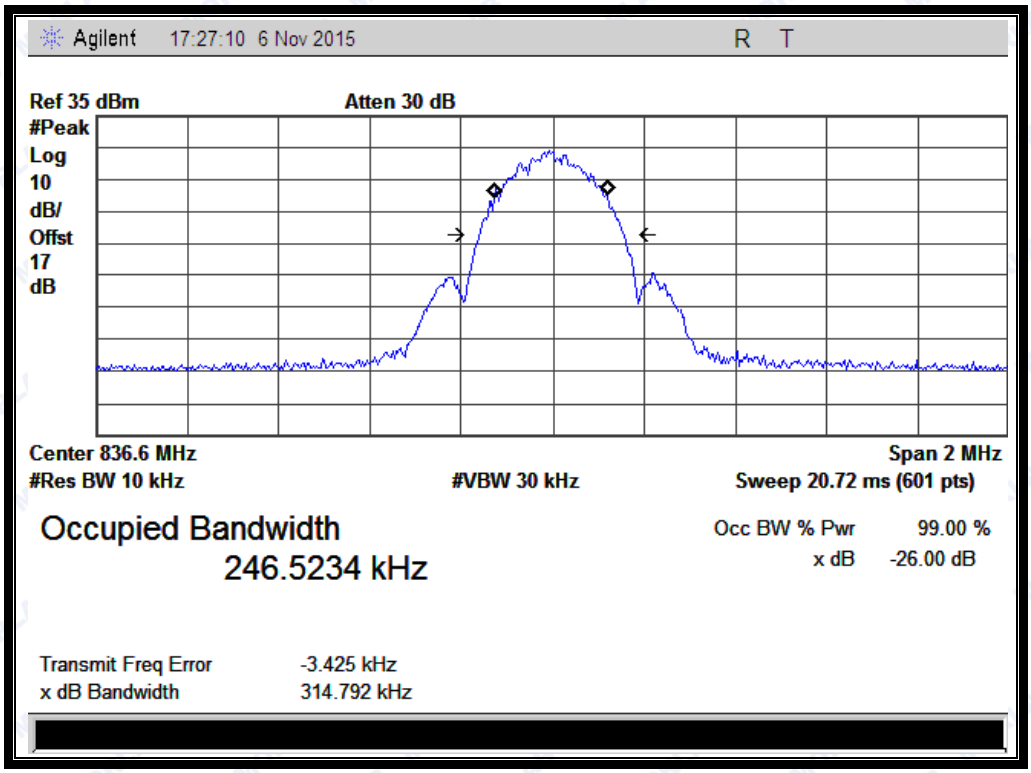
(Plot D2: GPRS1900MHz Channel = 661)



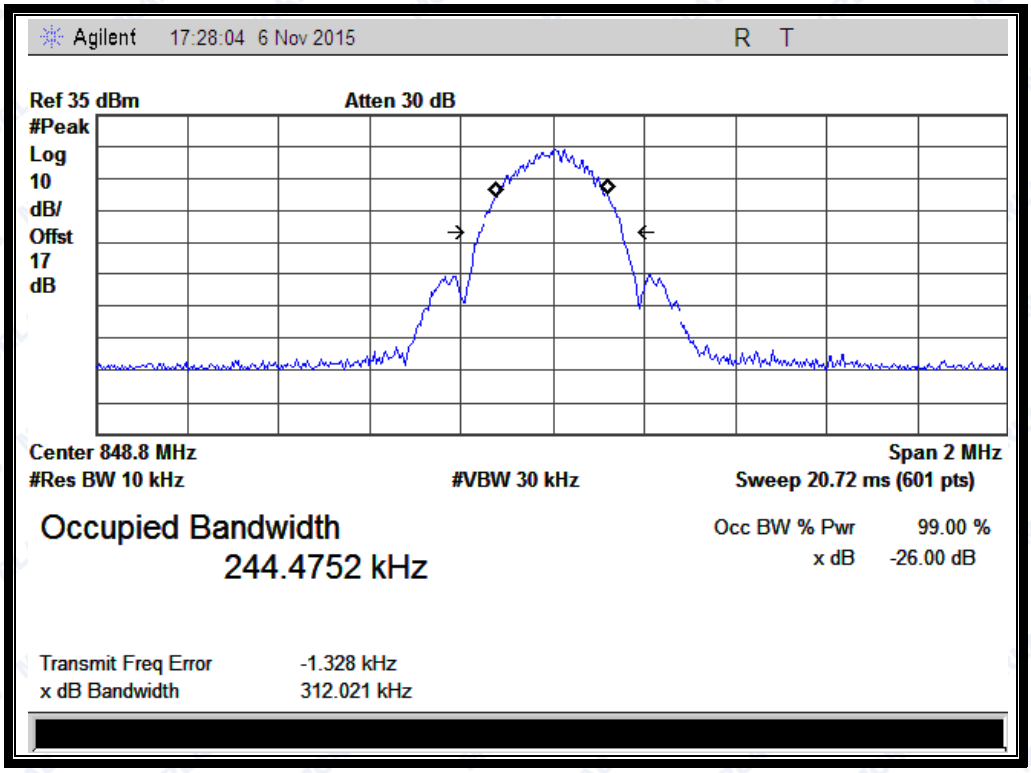
(Plot D3: GPRS 1900MHz Channel = 810)



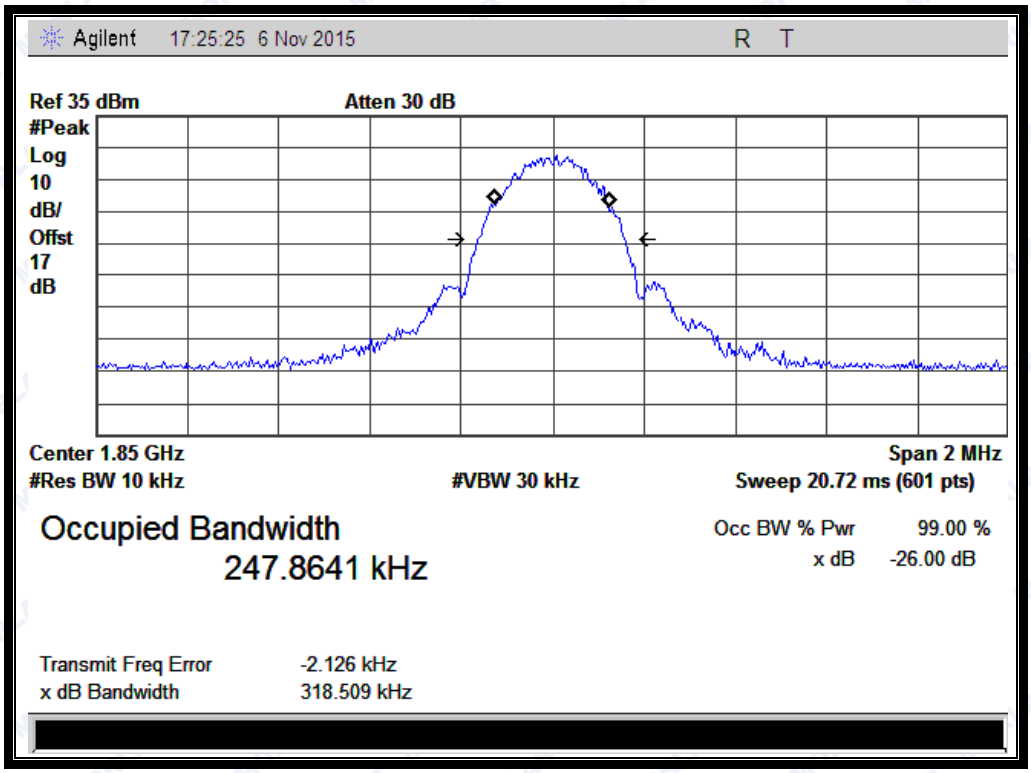
(Plot E1: EGPRS 850MHz Channel = 128)



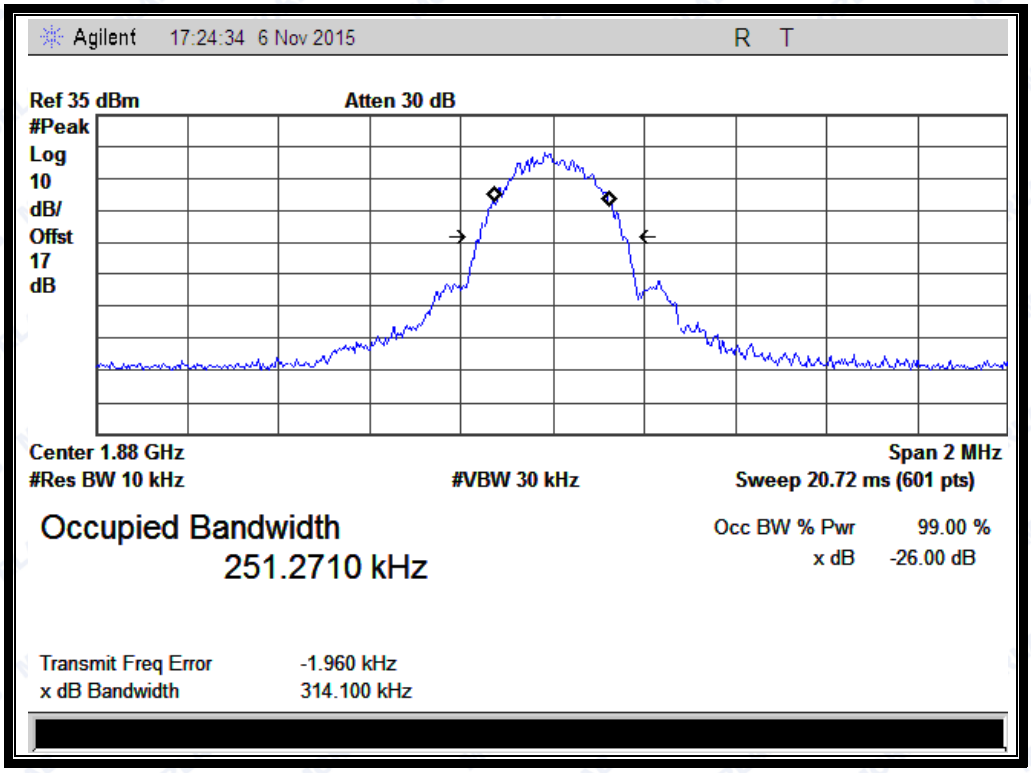
(Plot E2: EGPRS 850MHz Channel = 190)



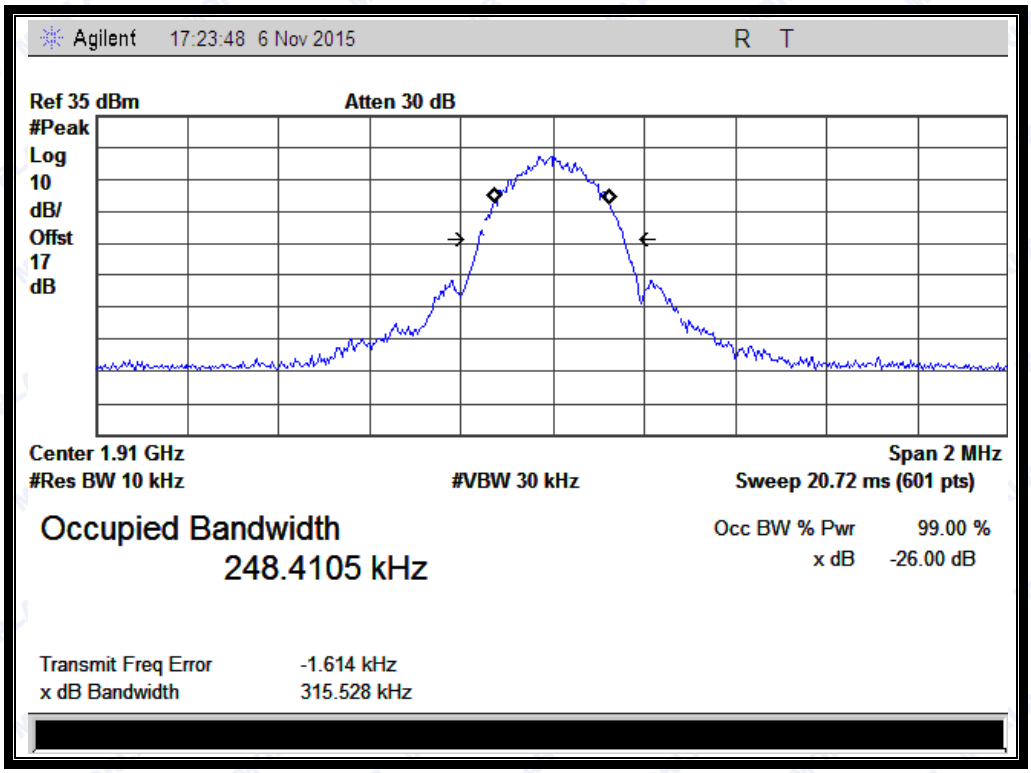
(Plot E3: EGPRS 850MHz Channel = 251)



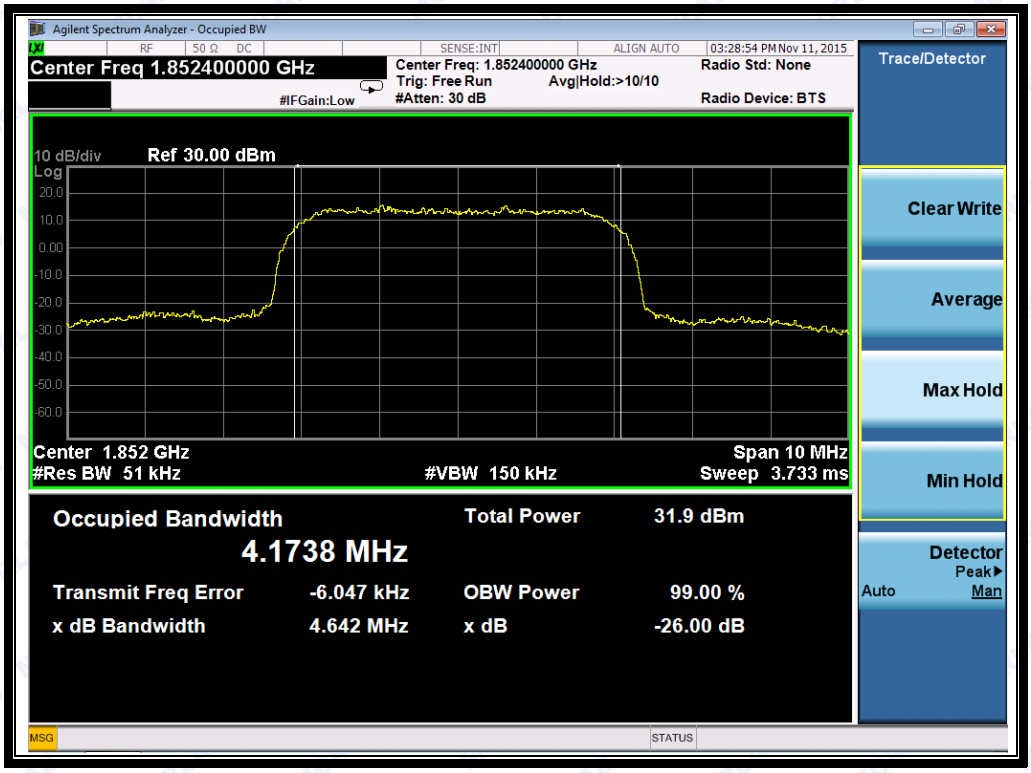
(Plot F1: EGPRS1900MHz Channel = 512)



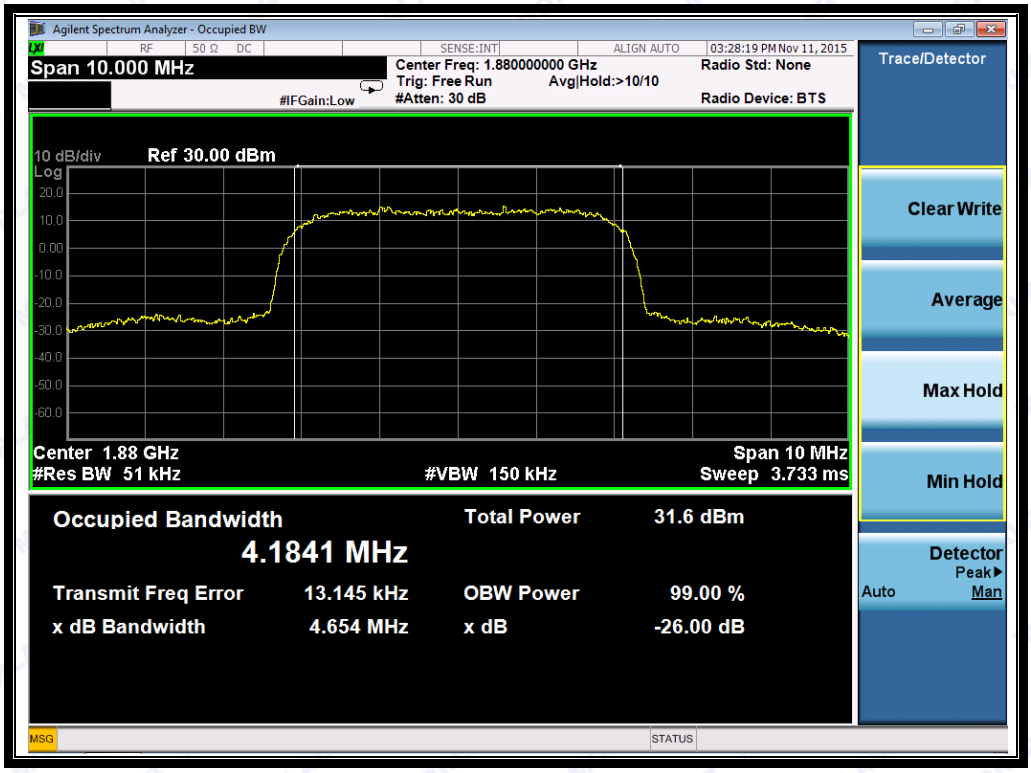
(Plot F2: EGPRS1900MHz Channel = 661)



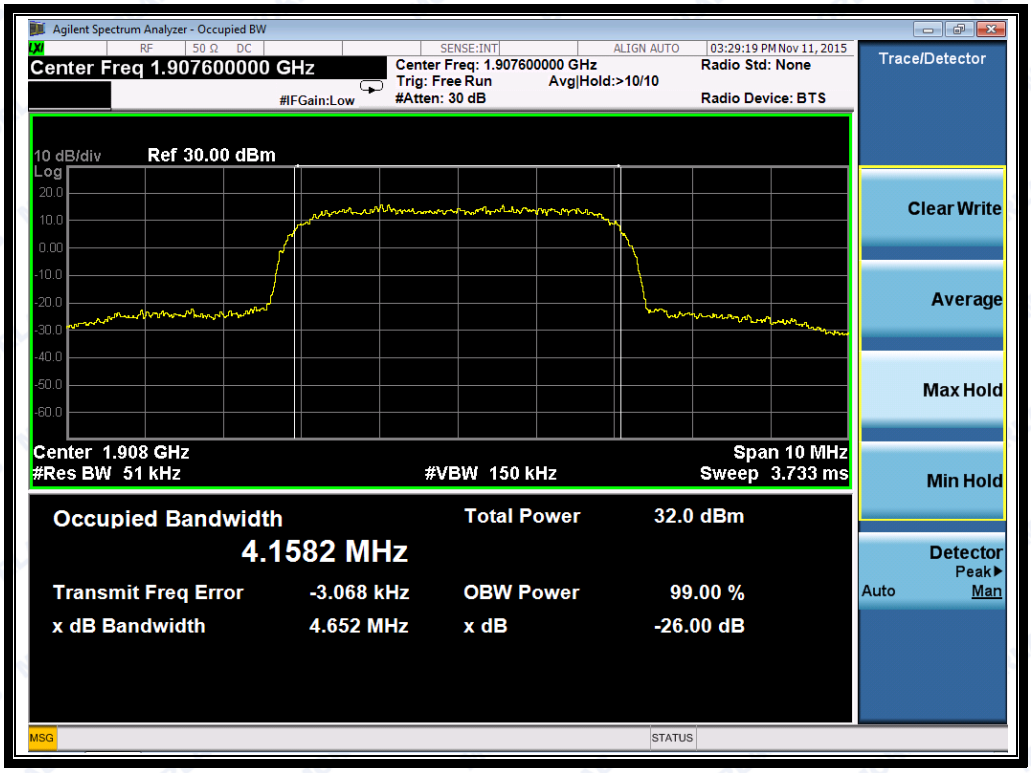
(Plot F3: EGPRS 1900MHz Channel = 810)



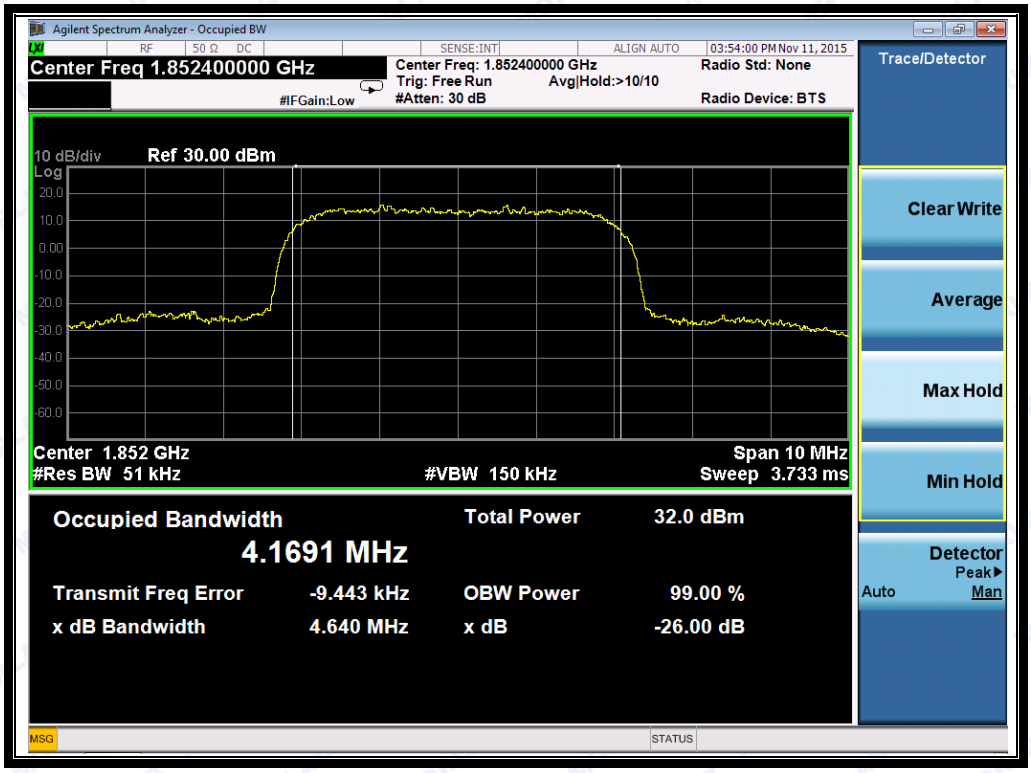
(Plot H1: WCDMA 1900MHz Channel = 9262)



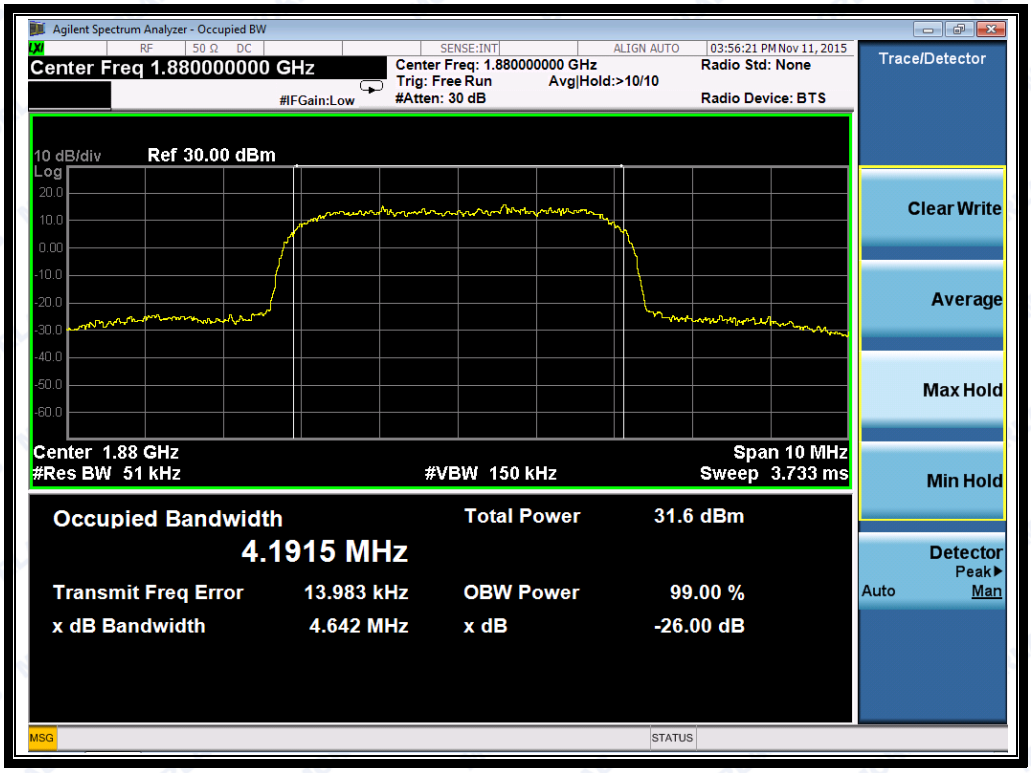
(Plot H2: WCDMA 1900 MHz Channel = 9400)



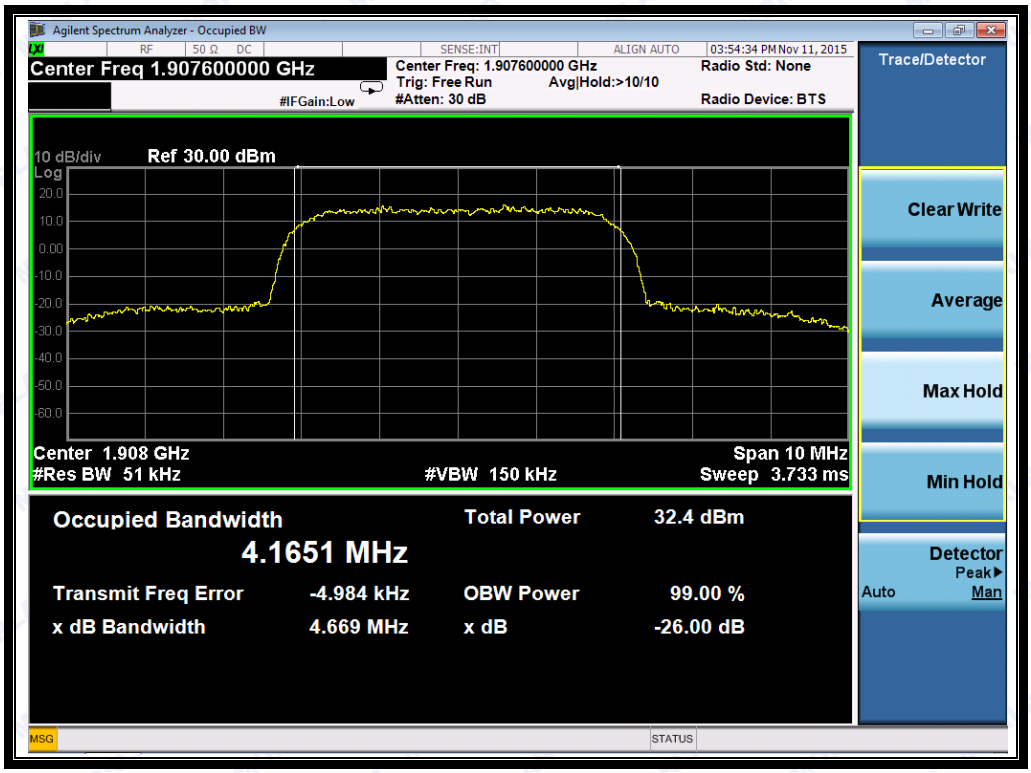
(Plot H3: WCDMA1900MHz Channel = 9538)



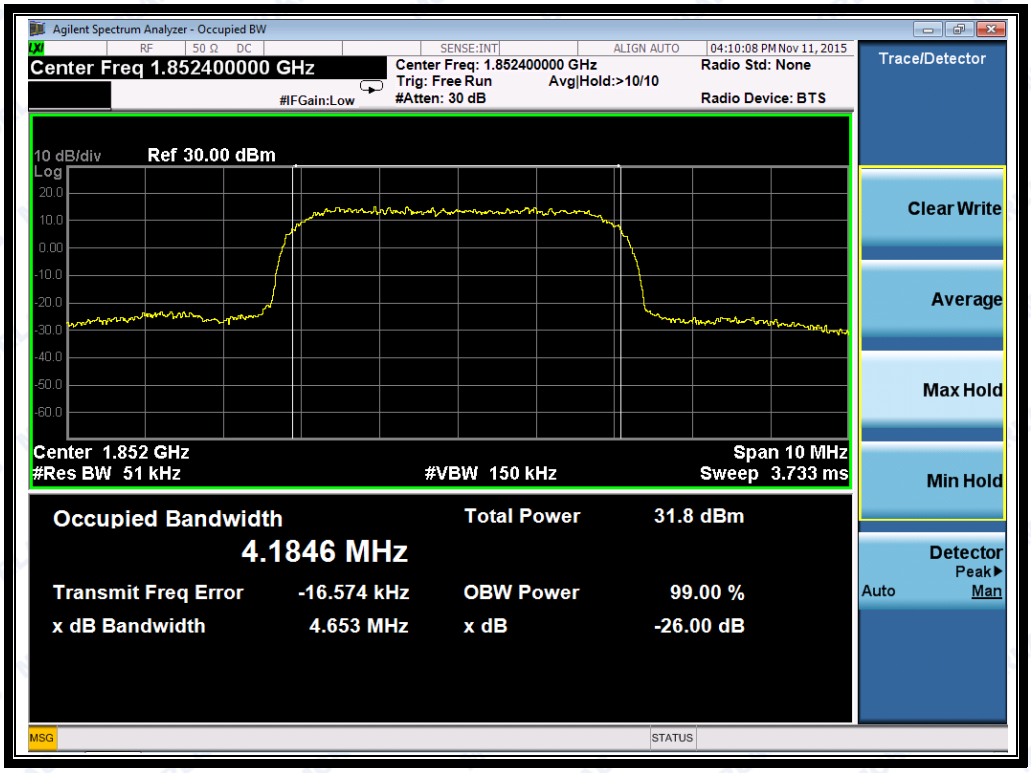
(Plot J1: HSDPA 1900MHz Channel = 9262)



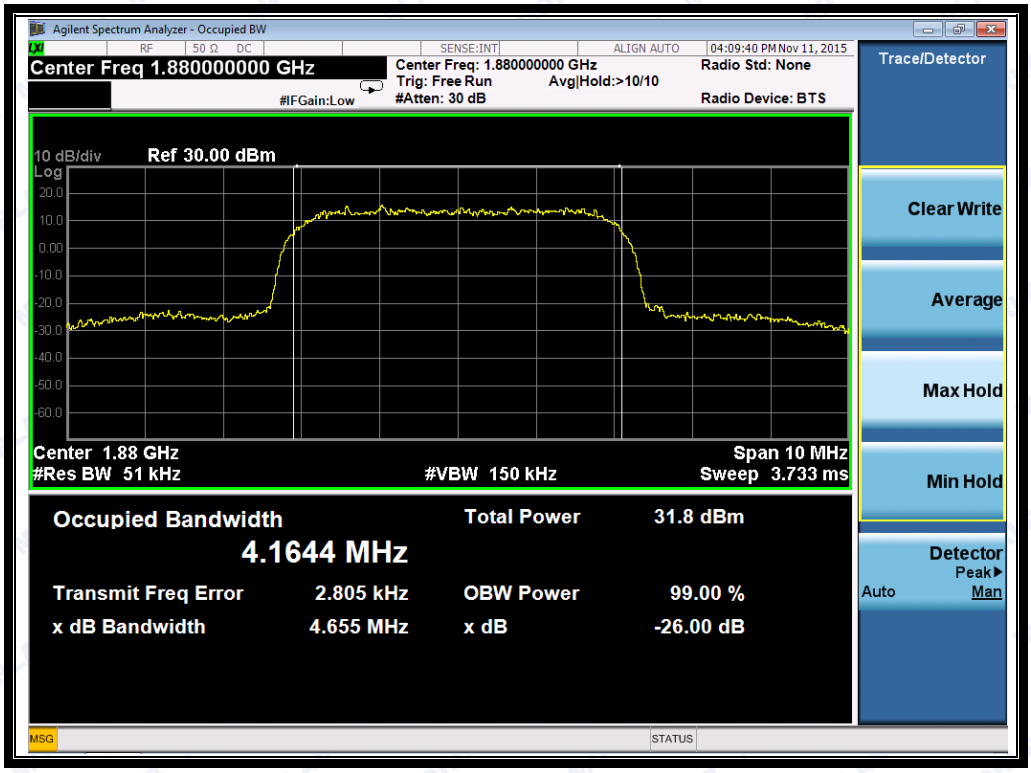
(Plot J2: HSDPA 1900 MHz Channel = 9400)



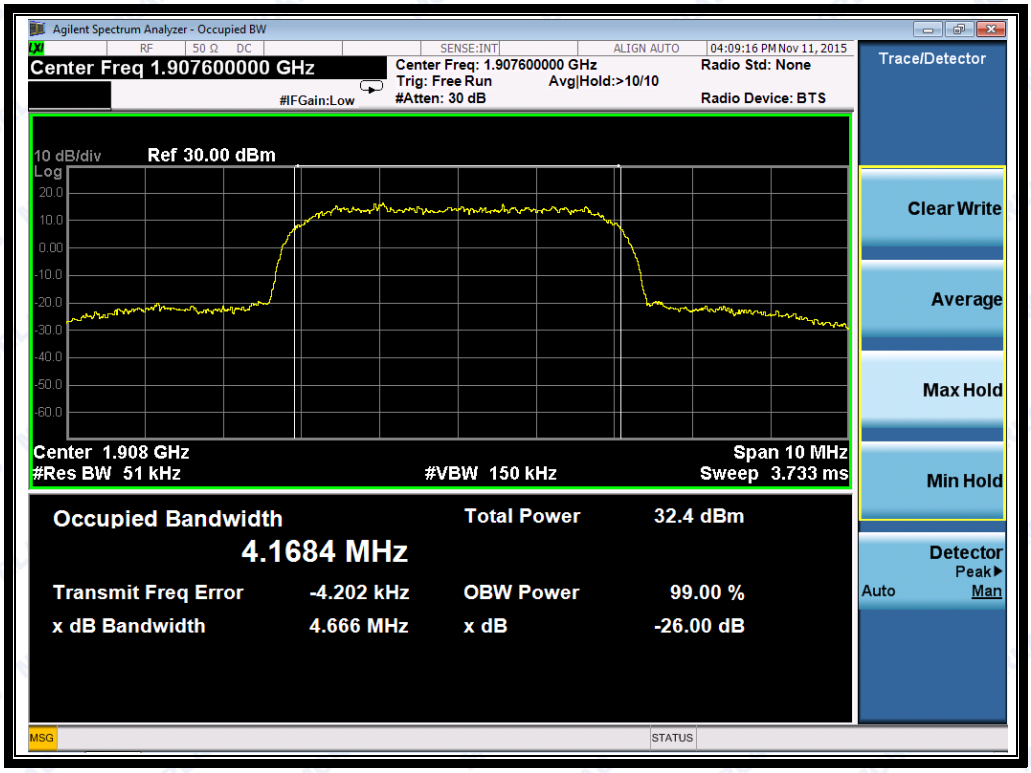
(Plot J3: HSDPA 1900MHz Channel = 9538)



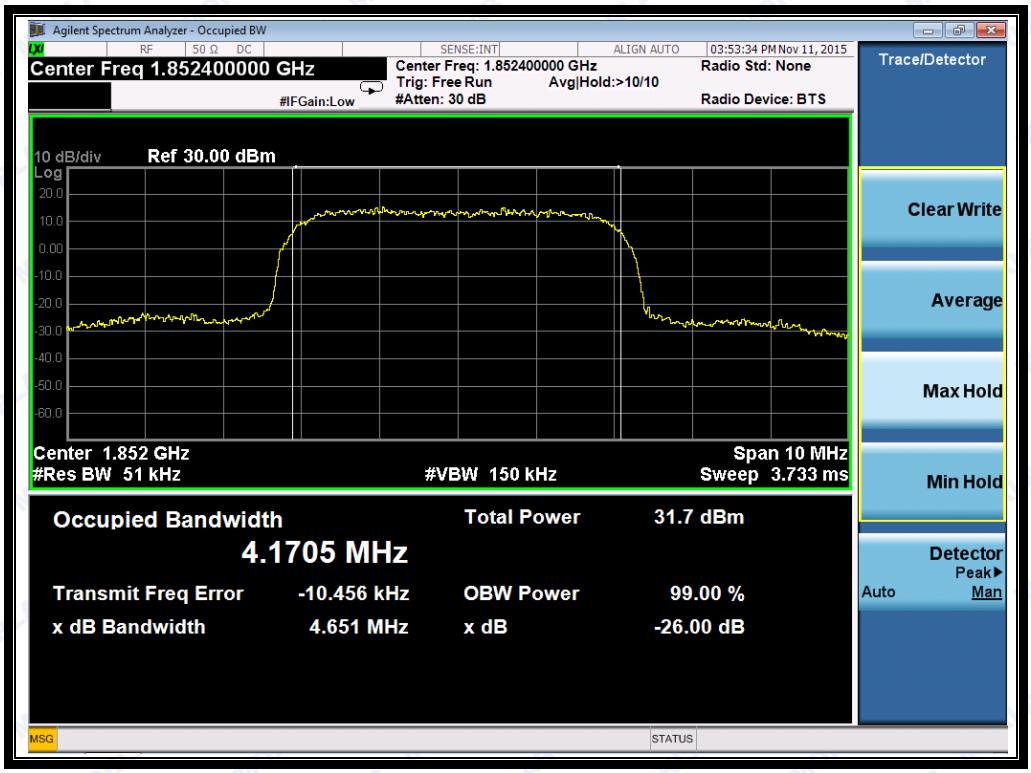
(Plot L1: HSUPA 1900MHz Channel = 9262)



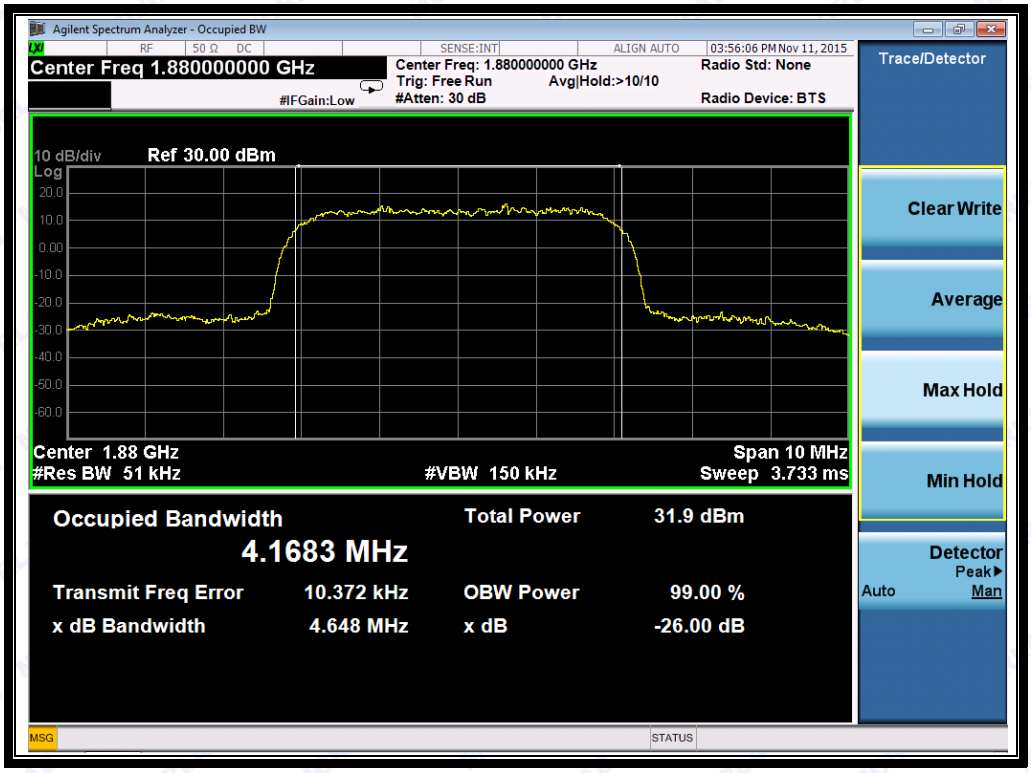
(Plot L2: HSUPA 1900 MHz Channel = 9400)



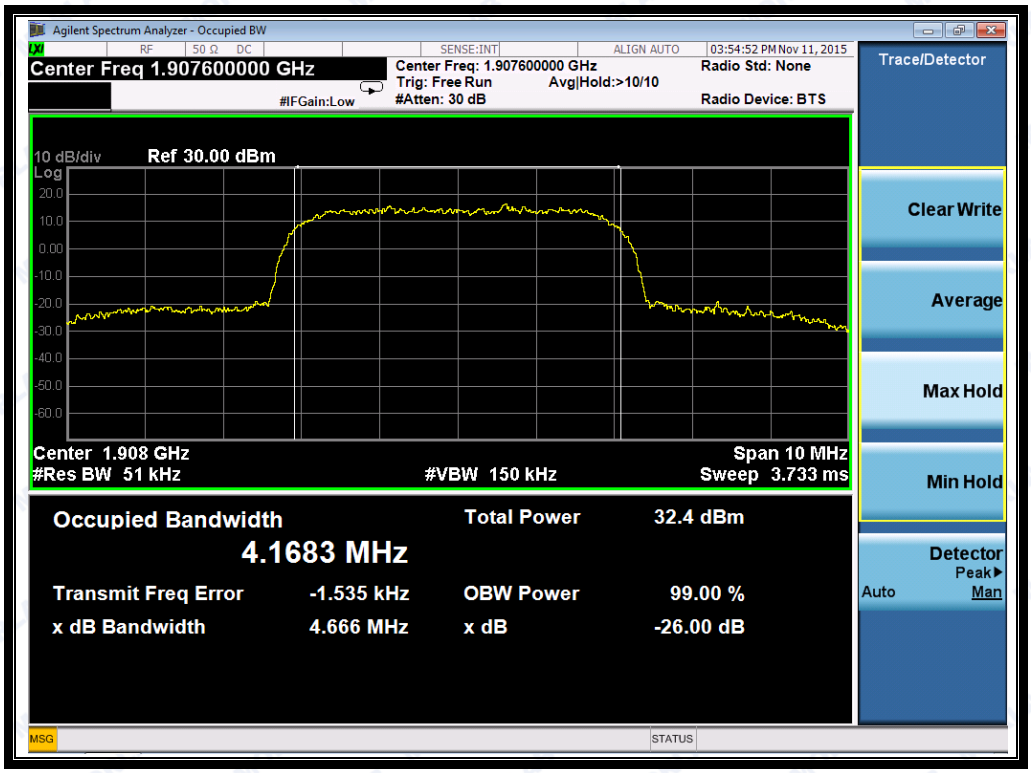
(Plot L3: HSUPA 1900MHz Channel = 9538)



(Plot N1: HSPA+ 1900MHz Channel = 9262)



(Plot N2: HSPA+ 1900 MHz Channel = 9400)



(Plot N3: HSPA+ 1900MHz Channel = 9538)

2.4 Frequency Stability

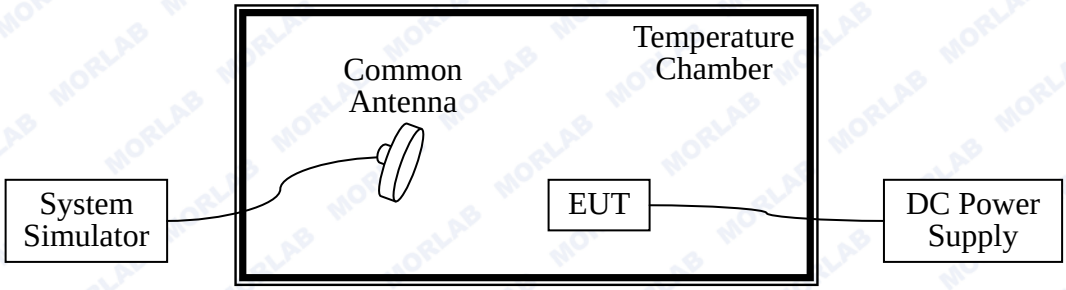
2.4.1 Requirement

According to FCC section 22.355 and FCC section 24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

(a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.
(b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

2.4.2 Test Description

Test Setup:



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS via a Common Antenna.

Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2015.02.26	2016.02.25
DC Power Supply	Good Will	GPS -3030DD	EF920938	2015.02.26	2016.02.25
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2015.02.26	2016.02.25

2.4.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.84VDC, 4.4VDC and 3.45VDC, which are specified by the applicant; the normal temperature here used is 25°C. The frequency deviation limit of 850MHz band is ±2.5ppm, and 1900MHz is ±1ppm.

1. GSM 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 128 (824.2MHz)		Channel = 190 (836.6MHz)		Channel = 251 (848.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	10.49	±2060.5	5.73	±2091.5	-10.44	±2122	PASS
	-20	-12.14		4.61		11.37		
	-10	-7.63		4.69		-17.77		
	0	6.52		8.81		22.96		
	+10	-2.97		1.83		24.37		
	+20	10.45		8.15		-11.76		
	+30	28.42		-4.17		22.96		
	+40	-11.64		-2.04		17.57		
	+55	-1.95		8.03		-10.4		
4.4	+25	-12.14		9.6		11.37		
3.45	+25	-7.63		11.83		-11.84		

2. GSM 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 512 (1850.2MHz)		Channel = 661 (1880.0MHz)		Channel = 810 (1909.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	-11.86	±1850.2	9.66	±1880.0	-15.32	±1909.8	PASS
	-20	31.66		19.45		-1.68		
	-10	-7.85		-16.89		23.04		
	0	-13.49		-15.52		21.45		
	+10	-23.85		33.65		-13.76		
	+20	13.31		-9.87		24.04		
	+30	-14.29		-15.48		17.65		
	+40	23.83		12.85		-9.94		
	+55	17.48		19.99		11.66		
4.4	+25	35.69		-25.93		-1.68		
3.45	+25	-17.61		9.46		23.06		

3. EDGE 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 128 (824.2MHz)		Channel = 190 (836.6MHz)		Channel = 251 (848.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	-17.98	±2060.5	1.58	±2091.5	13.54	±2122	PASS
	-20	28.19		23.62		29.31		
	-10	44.21		17.62		30.2		
	0	-17.22		4.48		-9.85		
	+10	11.08		-9.35		24.34		
	+20	6.8		33.79		9.23		
	+30	29.1		16.62		-8.04		
	+40	19.39		-9.35		-14.55		
	+55	22.36		2.58		35		
4.4	+25	26.96		18.77		1.15		
3.45	+25	19.1		-33.84		11.32		

4. EDGE 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 512 (1850.2MHz)		Channel = 661 (1880.0MHz)		Channel = 810 (1909.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	5.01	±1850.2	-11.57	±1880.0	12.69	±1909.8	PASS
	-20	-24		-9.06		-17.09		
	-10	-2.48		14.48		38.56		
	0	-19.9		6.48		-21.6		
	+10	-22.83		36.41		-15.65		
	+20	13.36		-25.63		18.22		
	+30	-1.9		20.69		16.1		
	+40	35.65		-15.52		17.79		
	+55	2.45		27.94		-17.09		
4.4	+25	15.73		-9.61		-16.25		
3.45	+25	34.01		8.93		-15.24		

5. WCDMA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	14.36	±1852.4	-13.6	±1880	8.6	±1907.6	PASS
	-20	-7.16		39.57		-0.46		
	-10	8.1		-20.64		-13.69		
	0	10.99		-14.69		-5.04		
	+10	9.14		19.18		10.4		
	+20	6.53		17.06		2.4		
	+30	-20.74		5.09		-5.49		
	+40	-6.33		15.37		7.68		
	+55	-17.22		-16.13		9.58		
4.4	+25	-11.76		15.37		8.6		
3.45	+25	11.84		17.64		-20.7		

6. HSDPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	23.73	±1852.4	17.28	±1880	12.67	±1907.6	PASS
	-20	-18.79		21.09		-19.54		
	-10	-14.2		29.82		-4.27		
	0	-14.68		-18.45		-1.82		
	+10	-1.97		-15.74		-18.14		
	+20	-13.44		20.12		-13.62		
	+30	27.98		-7.17		-2.27		
	+40	-13.38		12.55		-1.82		
	+55	-2.03		27.22		21.93		
4.4	+25	7.12		27.88		-6.4		
3.45	+25	10.95		-8.98		14.42		

7. HSUPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	13.21	±1852.4	16.74	±1880	28.36	±1907.6	PASS
	-20	27.08		-15.39		23.92		
	-10	35.67		-9.85		3.41		
	0	-8.66		1.5		-1.9		
	+10	-6.25		1.95		-8.94		
	+20	20.01		-4.7		12.01		
	+30	-7.28		26.19		-5.76		
	+40	12.44		11.57		18.95		
	+55	27.11		25.7		9.58		
4.4	+25	27.77		-2.63		-11.29		
3.45	+25	-9.14		6.99		17.37		

8. HSPA+ 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.84	-30	12.38	±1852.4	-22.13	±1880	24.01	±1907.6	PASS
	-20	12.98		-11.72		-12.01		
	-10	19.14		38.47		18.2		
	0	-26.8		-5.07		10.43		
	+10	-16.39		-10.71		-17.2		
	+20	32.8		-21.13		6.33		
	+30	-10.74		16.12		-3.94		
	+40	-16.38		-11.51		14.69		
	+55	23.94		26.61		-26.06		
4.4	+25	5.49		11.17		27.58		
3.45	+25	0.35		-28.97		16.06		

2.5 Conducted Out of Band Emissions

2.5.1 Requirement

According to FCC section 22.917(a) and FCC section 24.238(a) the power of any emission 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. This calculated to be -13dBm.

2.5.2 Test Description

See section 2.1.2 of this report.

2.5.3 Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

1. Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2015.02.26	2016.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2015.02.26	2016.02.25
Power Meter	Agilent	E4418B	GB43318055	2015.02.26	2016.02.25
Power Sensor	Agilent	8482A	MY41091706	2015.02.26	2016.02.25
Power Splitter	Weinschel	1506A	NW521	2015.02.26	2016.02.25
Attenuator 1	Resnet	20dB	(n.a.)	2015.02.26	2016.02.25
Attenuator 2	Resnet	3dB	(n.a.)	2015.02.26	2016.02.25

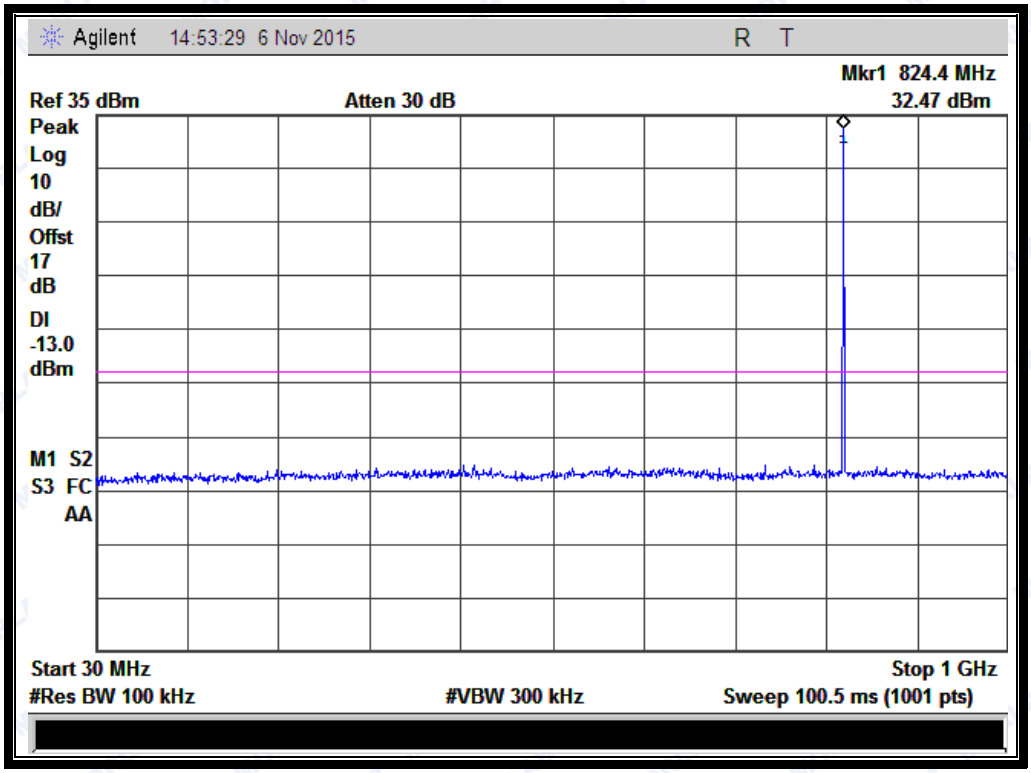
2. Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	< -25	Plot A1 to A1.1	-13	PASS
	190	836.6	< -25	Plot A2 to A2.1		PASS
	251	848.8	< -25	Plot A3 to A3.1		PASS
GSM 1900MHz	512	1850.2	-19.92	Plot B1 to B1.1	-13	PASS
	661	1880.0	-19.6	Plot B2 to B2.1		PASS
	810	1909.8	-19.52	Plot B3 to B3.1		PASS
EGPRS 850MHz	128	824.2	< -25	Plot E1 to E1.1	-13	PASS
	190	836.6	< -25	Plot E2 to E2.1		PASS
	251	848.8	< -25	Plot E3 to E3.1		PASS
EGPRS 1900MHz	512	1850.2	-21.1	Plot F1 to F1.1	-13	PASS
	661	1880.0	-19.46	Plot F2 to F2.1		PASS
	810	1909.8	-19.99	Plot F3 to F3.1		PASS

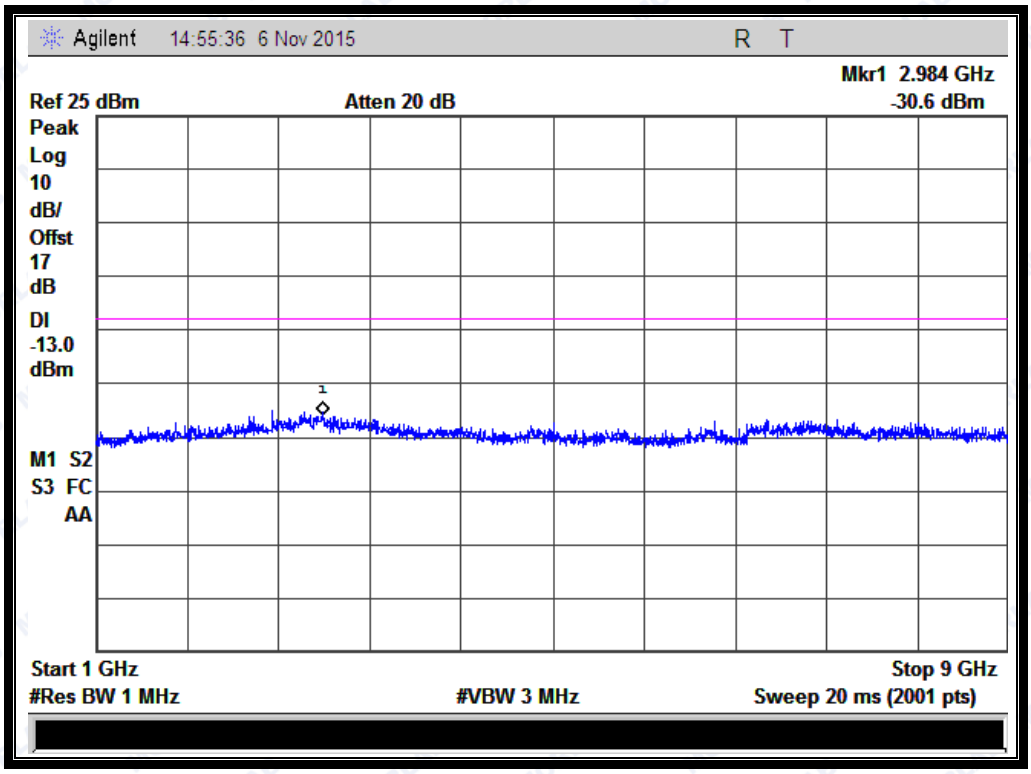
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
WCDMA 1900MHz	9262	1852.4	< -25	Plot H1 to H1.1	-13	PASS
	9400	1880.0	< -25	Plot H2 to H2.1		PASS
	9538	1907.6	< -25	Plot H3 to H3.1		PASS
HSDPA 1900MHz	9262	1852.4	< -25	Plot J1 to J1.1	-13	PASS
	9400	1880.0	< -25	Plot J2 to J2.1		PASS
	9538	1907.6	< -25	Plot J3 to J3.1		PASS
HSUPA 1900MHz	9262	1852.4	< -25	Plot L1 to L1.1	-13	PASS
	9400	1880.0	< -25	Plot L2 to L2.1		PASS
	9538	1907.6	< -25	Plot L3 to L3.1		PASS
HSPA+ 1900MHz	9262	1852.4	< -25	Plot N1 to N1.1	-13	PASS
	9400	1880.0	< -25	Plot N2 to N2.1		PASS
	9538	1907.6	< -25	Plot N3 to N3.1		PASS

Test Plots for the Whole Measurement Frequency Range:

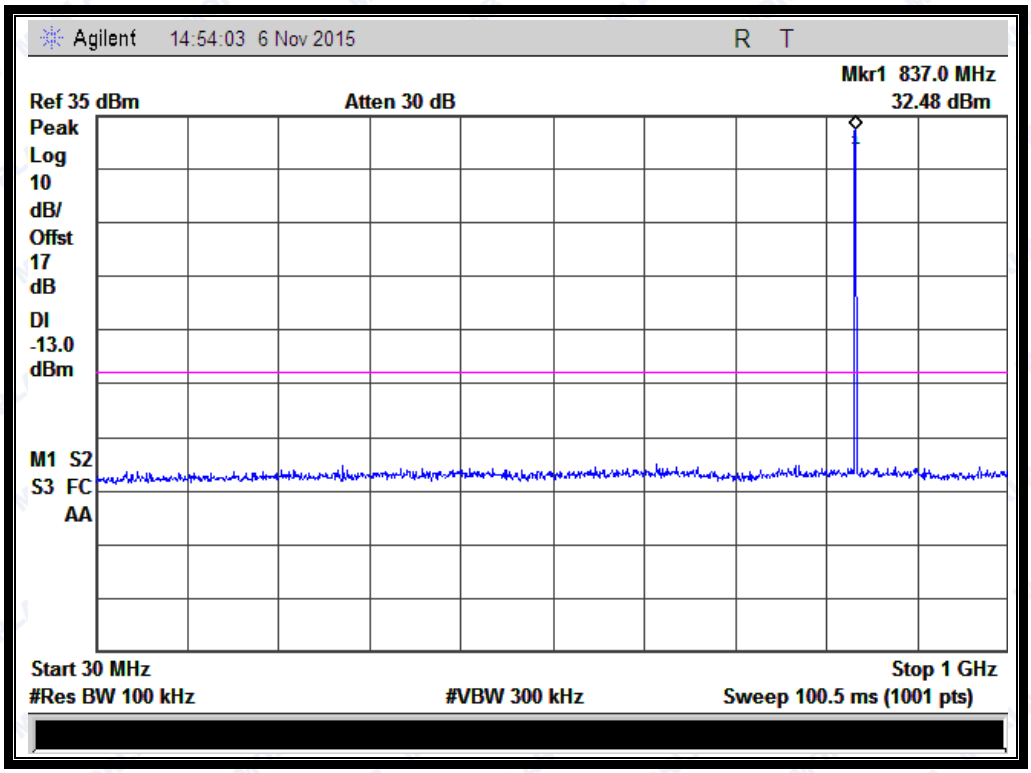
Note: the power of the EUT transmitting frequency should be ignored.



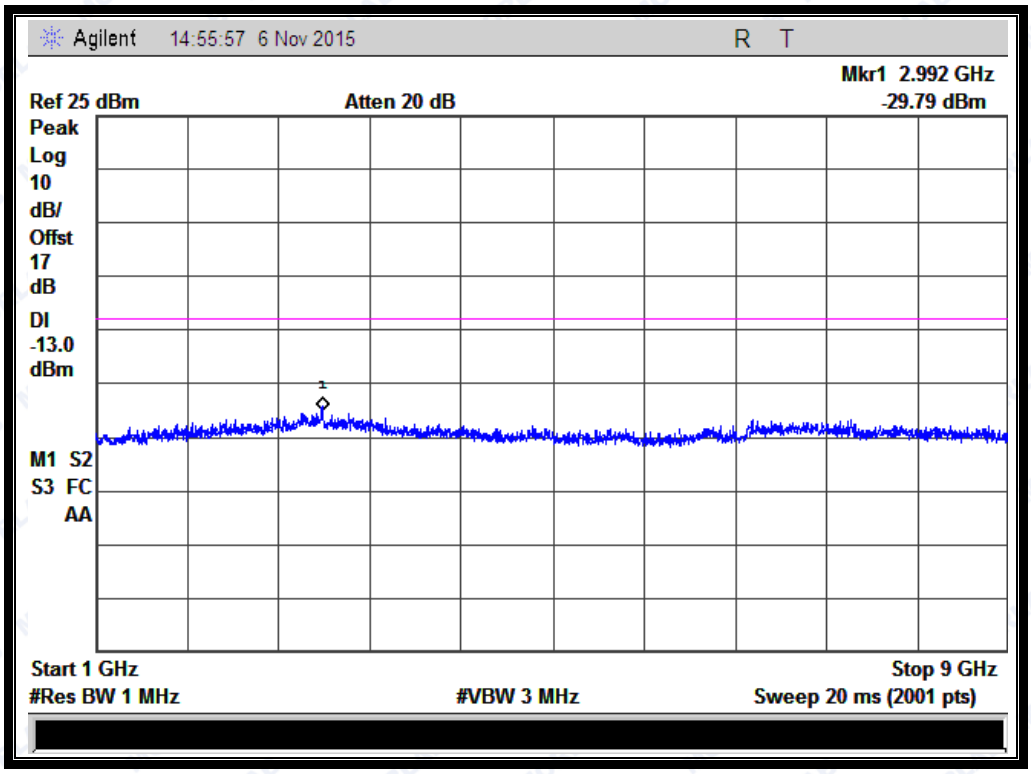
(Plot A1: GSM 850MHz Channel = 128, 30MHz to 1GHz)



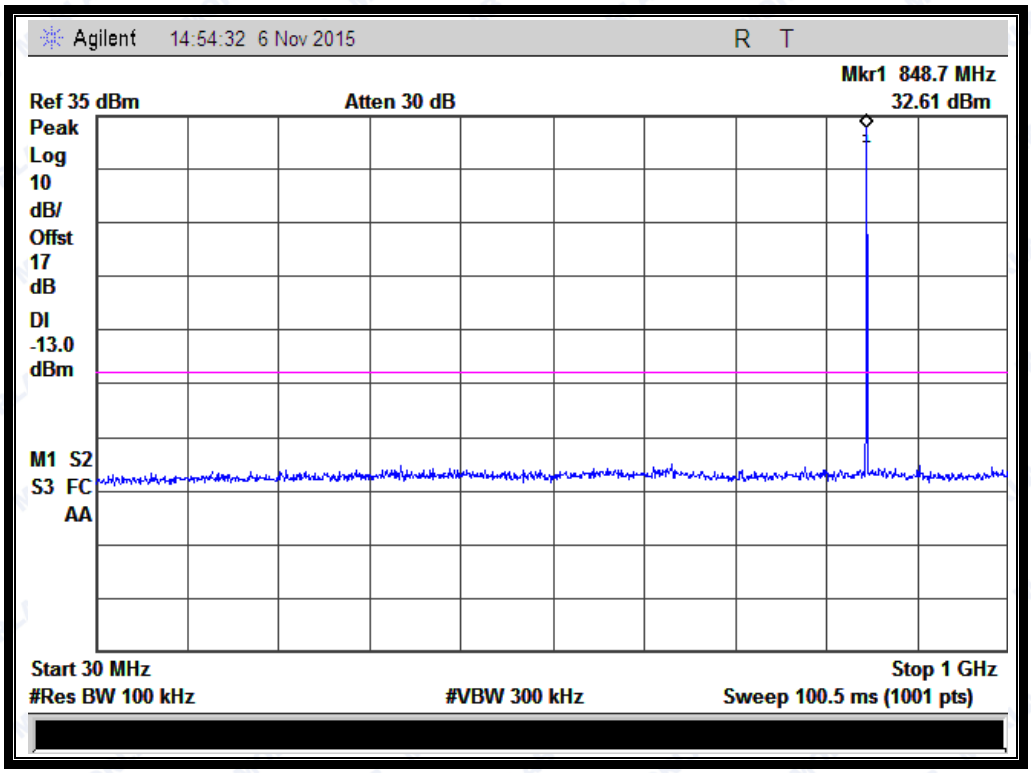
(Plot A1.1: GSM 850MHz Channel = 128, 1GHz to 9GHz)



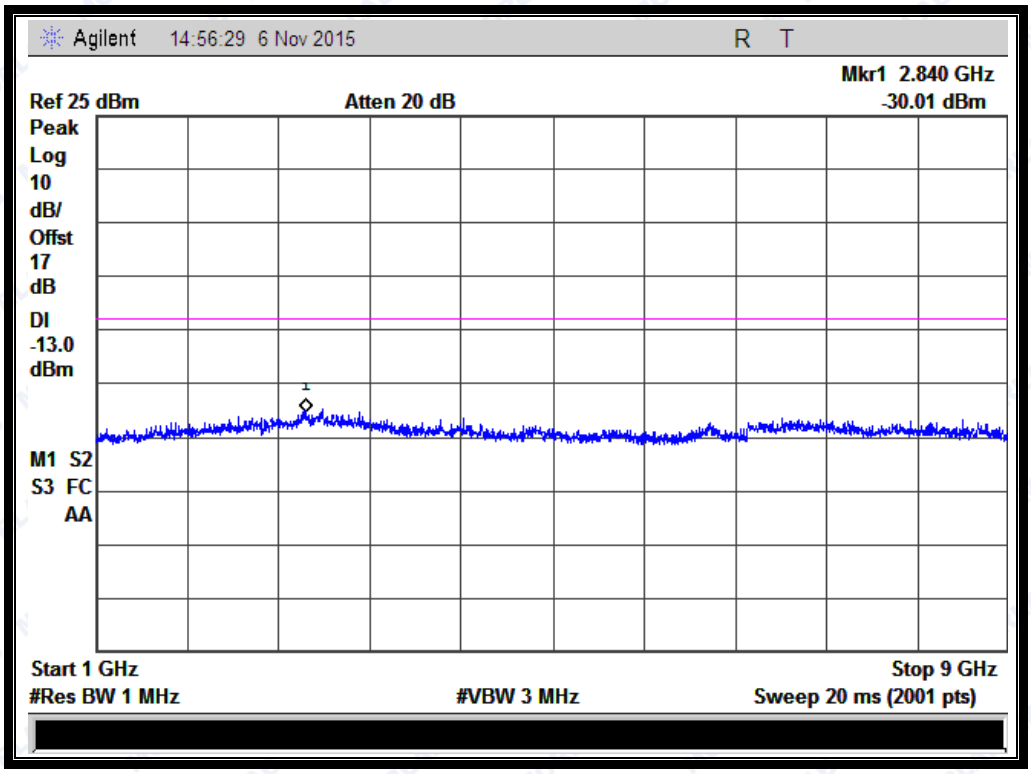
(Plot A2: GSM 850MHz Channel = 190, 30MHz to 1GHz)



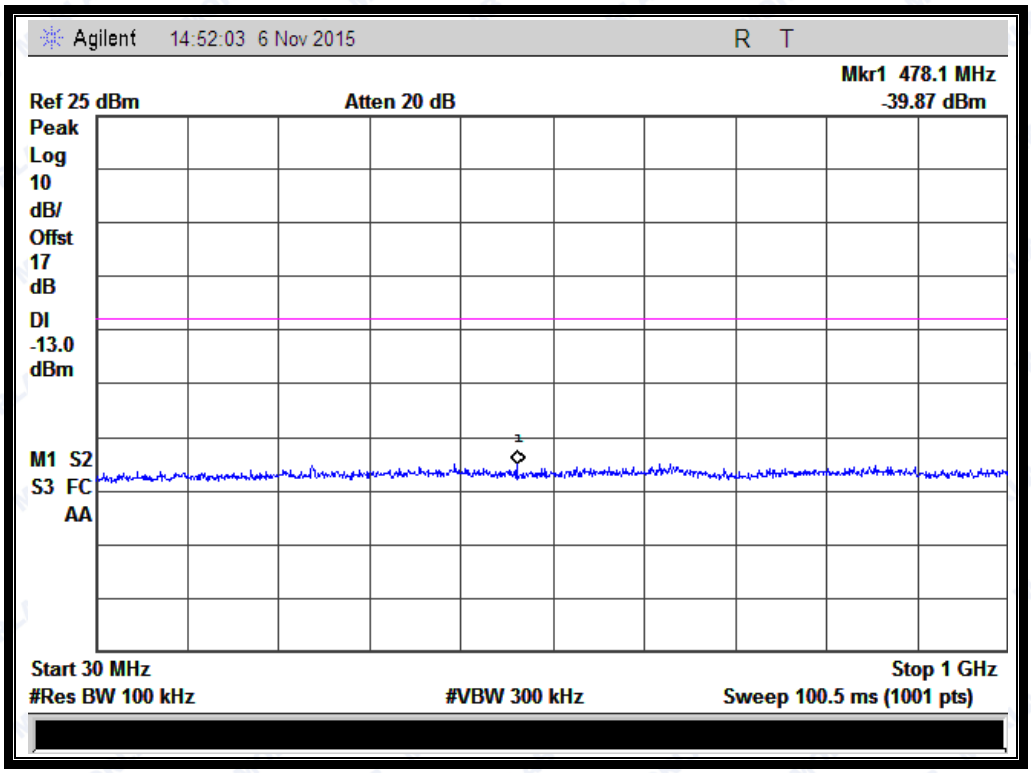
(Plot A2.1: GSM 850MHz Channel = 190, 1GHz to 9GHz)



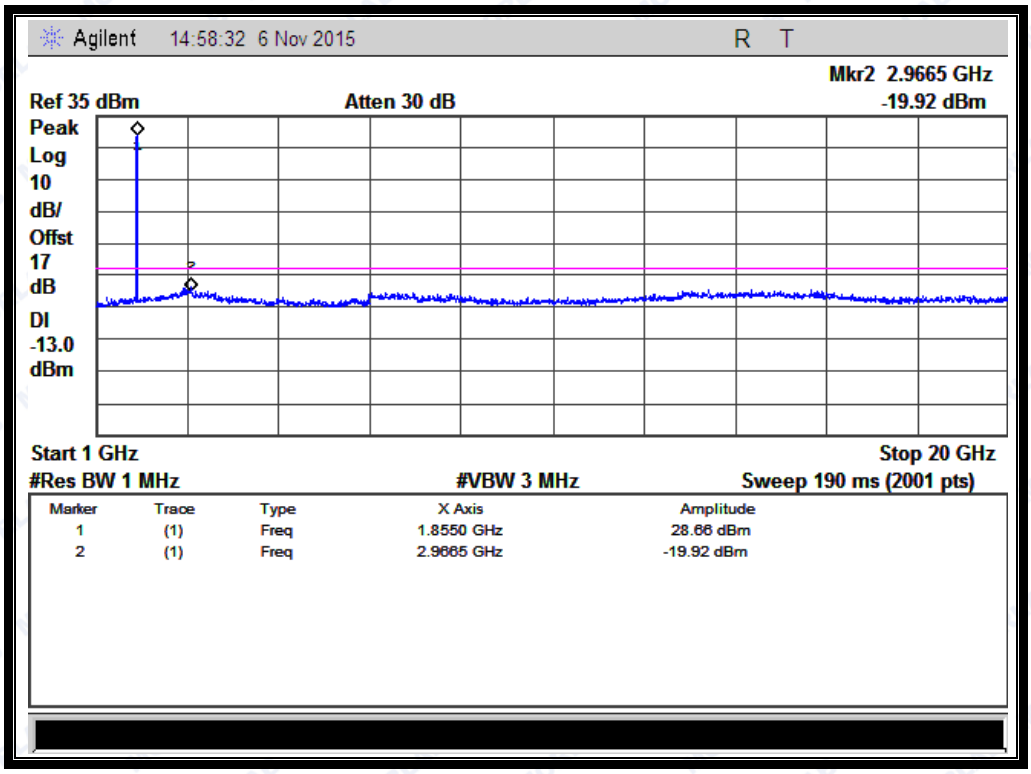
(Plot A3: GSM 850MHz Channel = 251, 30MHz to 1GHz)



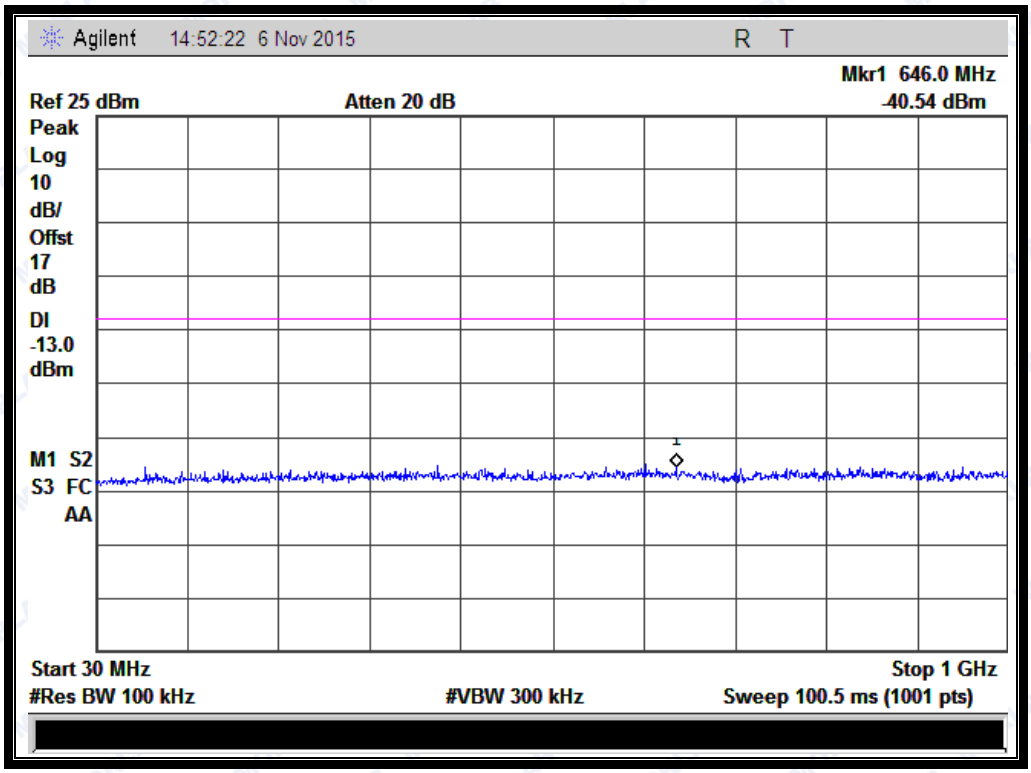
(Plot A3.1: GSM 850MHz Channel = 251, 1GHz to 9GHz)



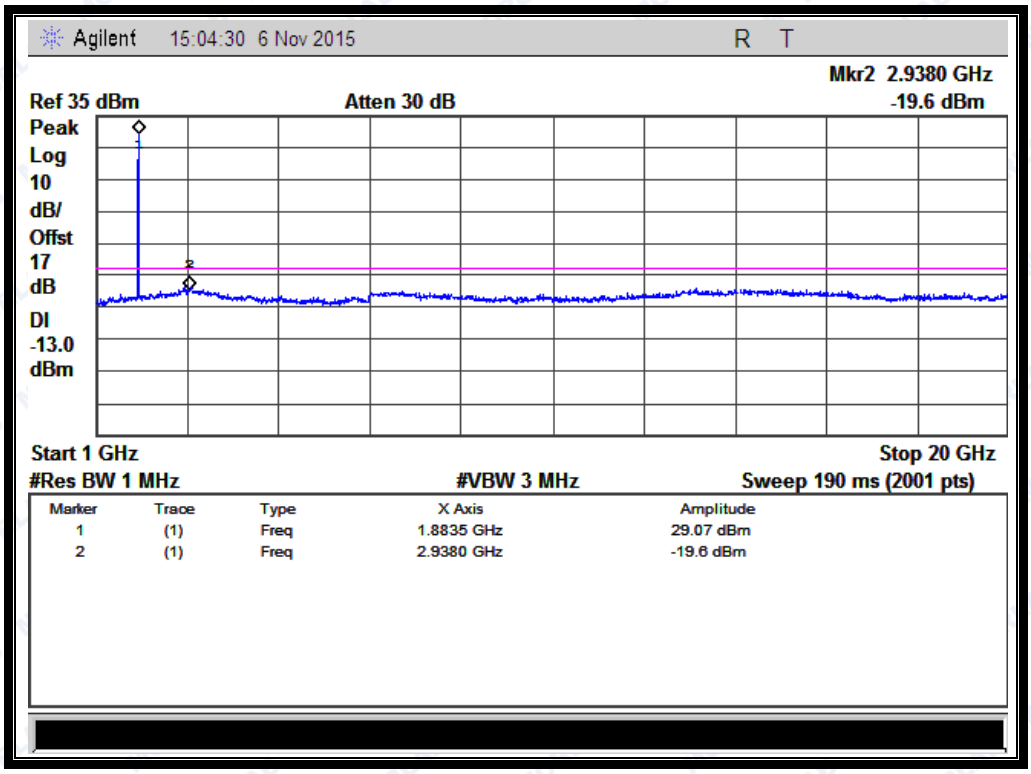
(Plot B1: GSM 1900MHz Channel = 512, 30MHz to 1GHz)



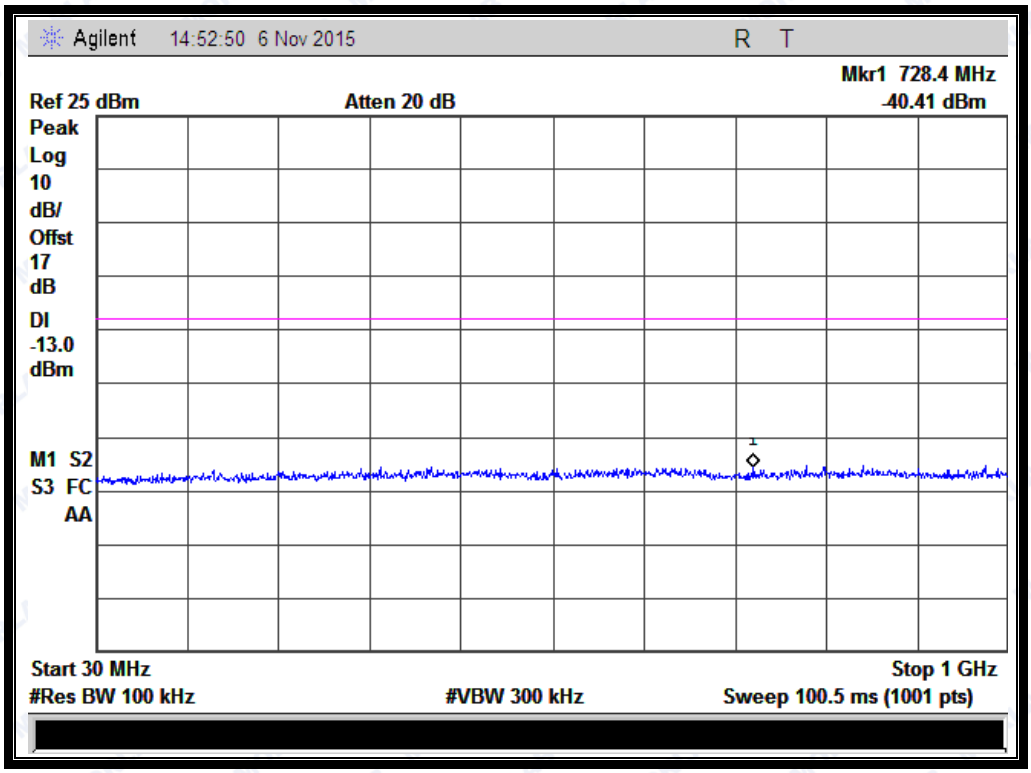
(Plot B1.1: GSM 1900MHz Channel = 512, 1GHz to 20GHz)



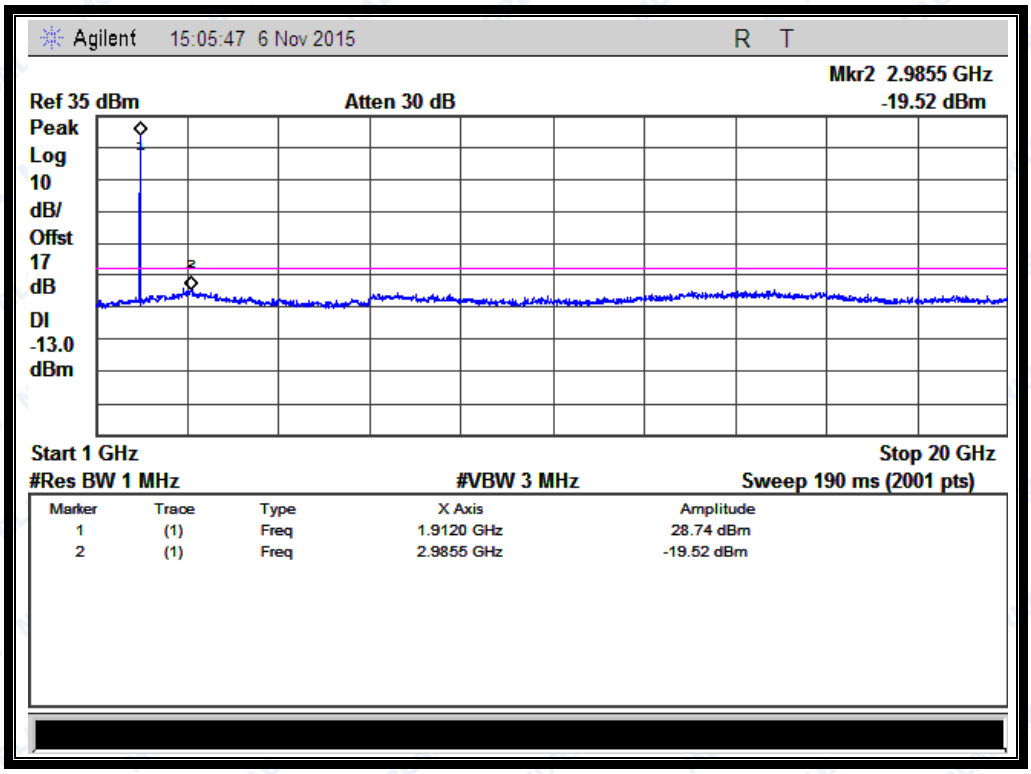
(Plot B2: GSM 1900MHz Channel = 661, 30MHz to 1GHz)



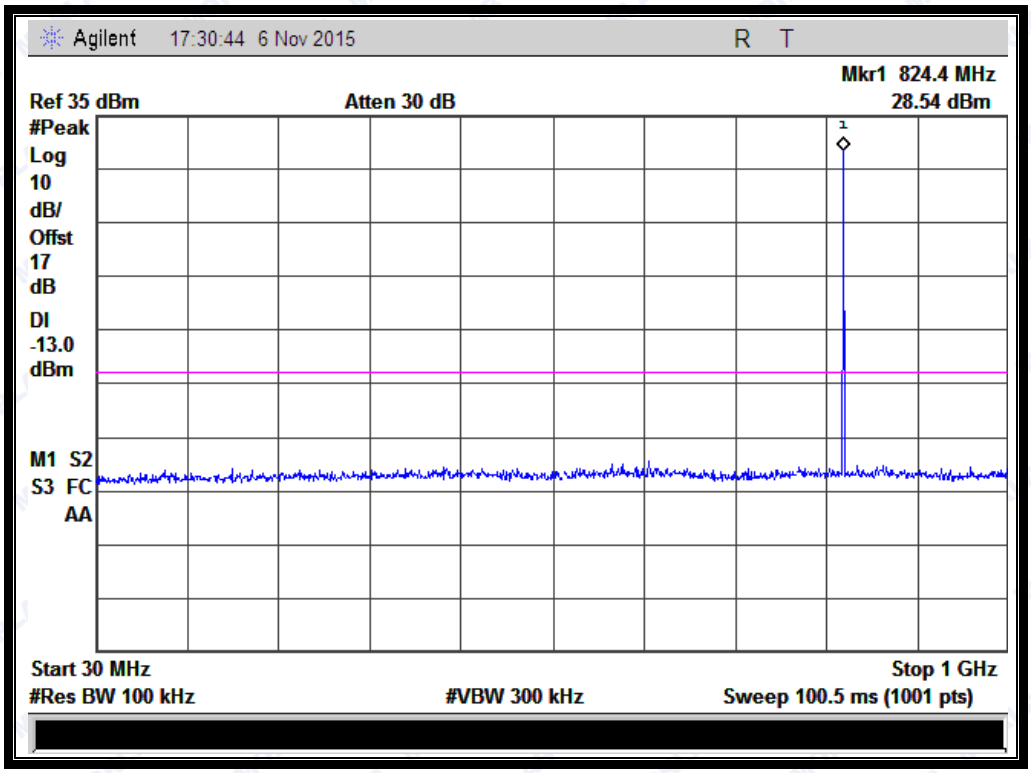
(Plot B2.1: GSM 1900MHz Channel = 661, 1GHz to 20GHz)



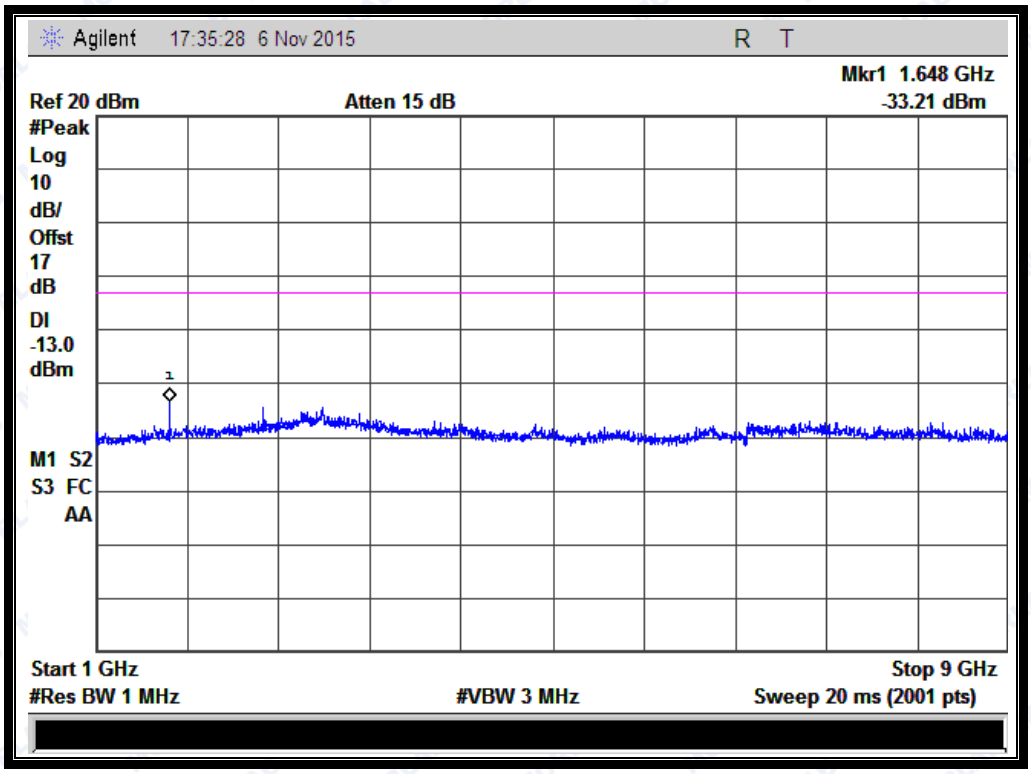
(Plot B3: GSM 1900MHz Channel = 810, 30MHz to 1GHz)



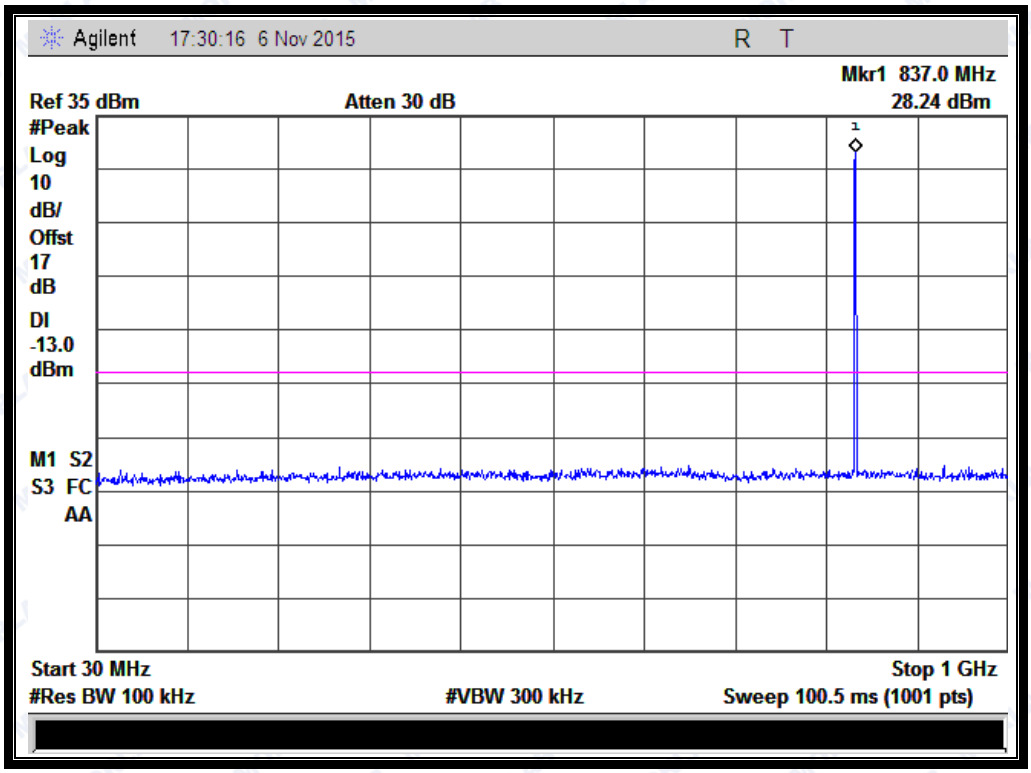
(Plot B3.1: GSM 1900MHz Channel = 810, 1GHz to 20GHz)



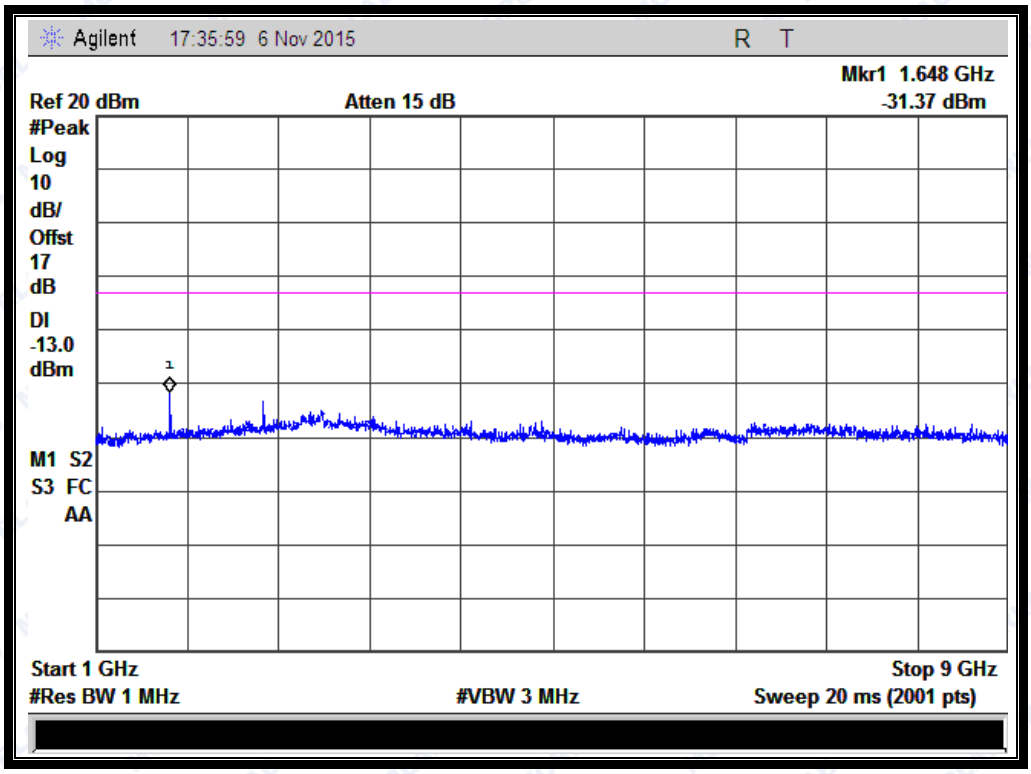
(Plot E1: EGPRS 850MHz Channel = 128, 30MHz to 1GHz)



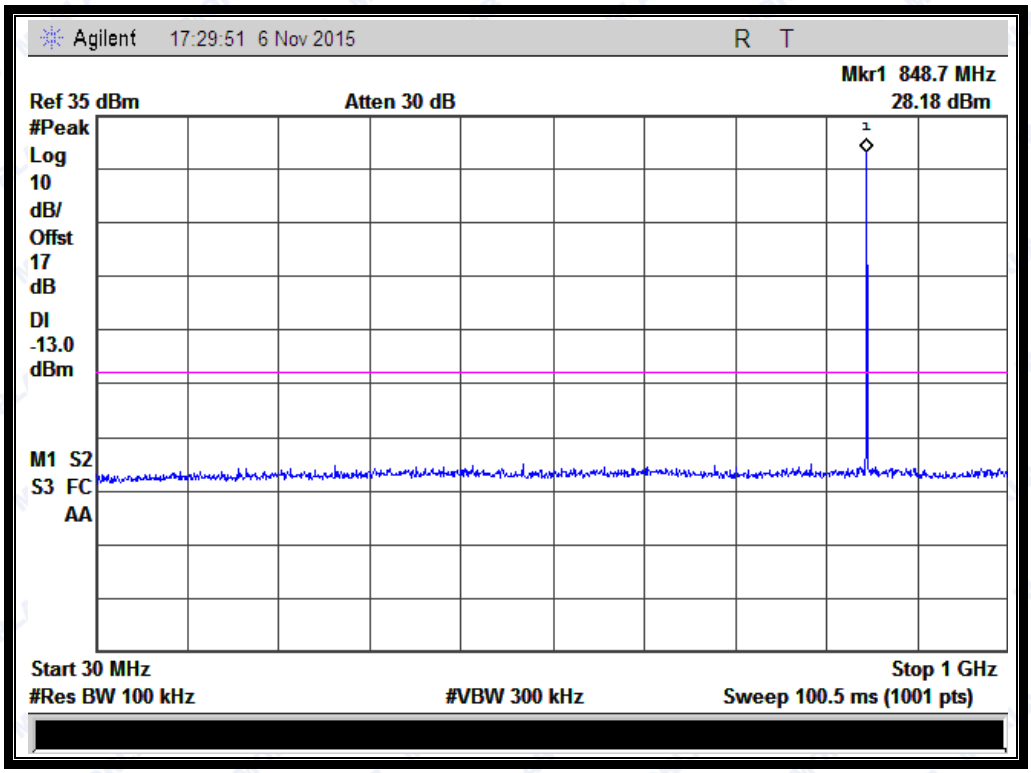
(Plot E1.1: EGPRS 850MHz Channel = 128, 1GHz to 9GHz)



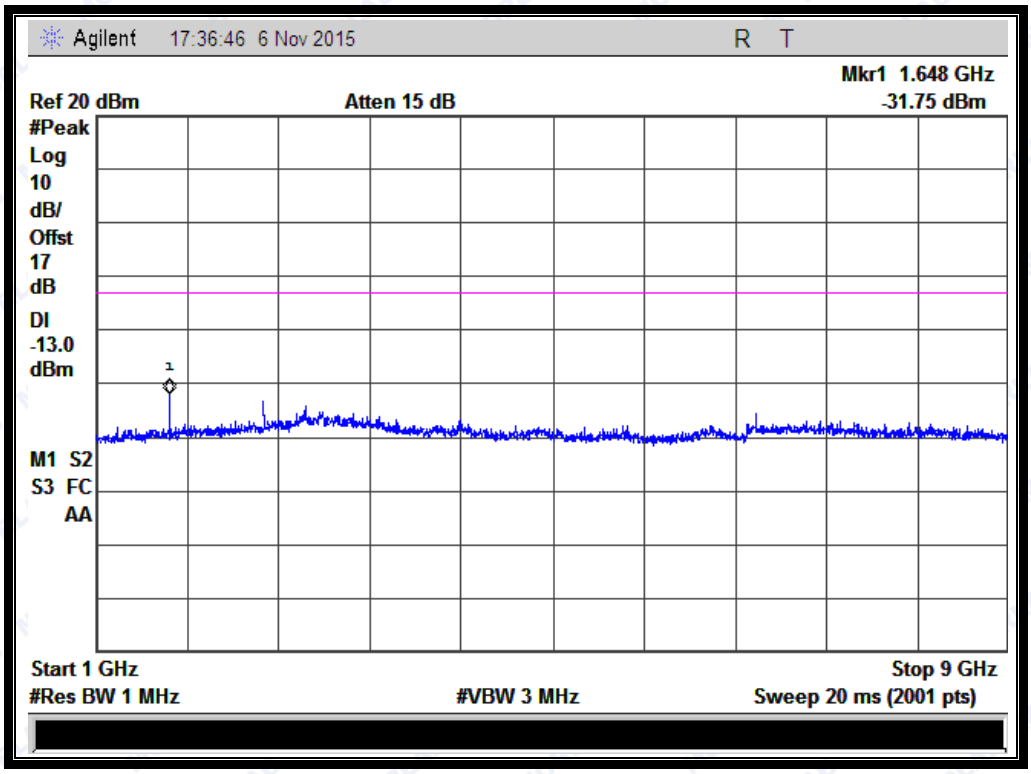
(Plot E2: EGPRS 850MHz Channel = 190, 30MHz to 1GHz)



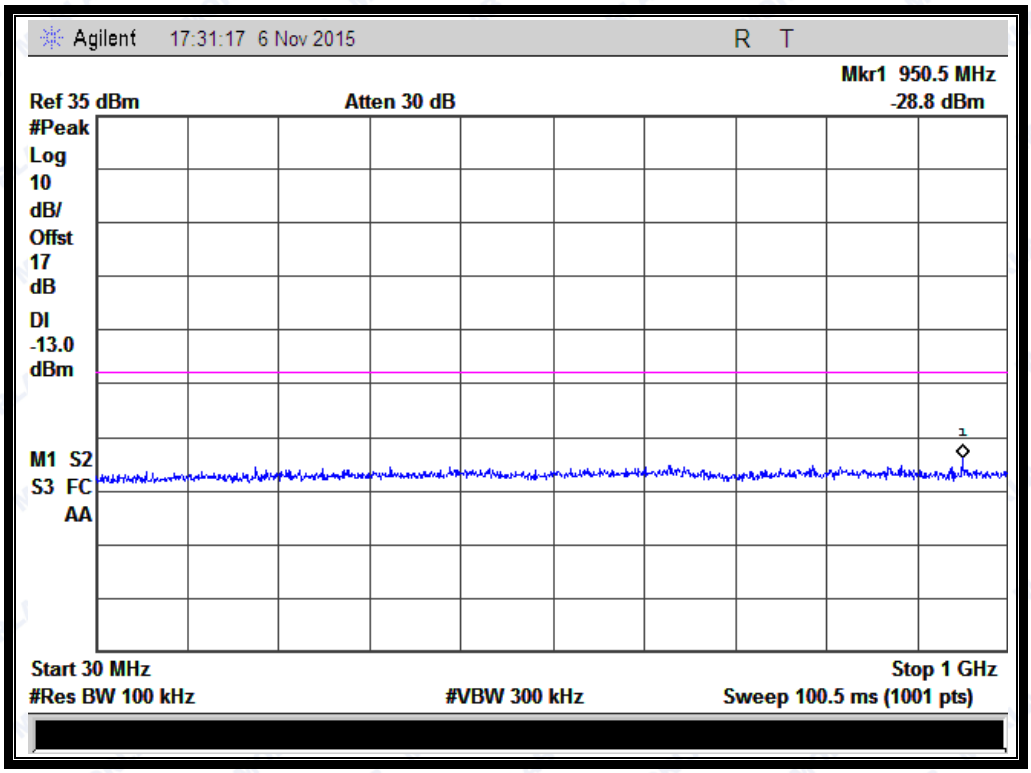
(Plot E2.1: EGPRS 850MHz Channel = 190, 1GHz to 9GHz)



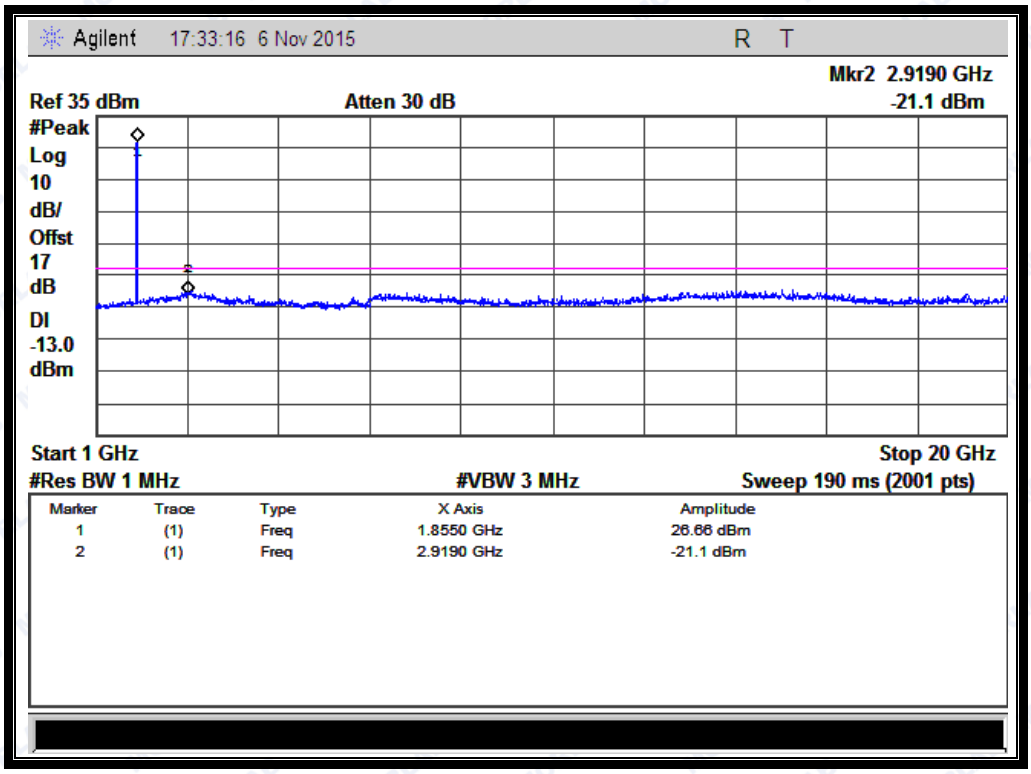
(Plot E3: EGPRS 850MHz Channel = 251, 30MHz to 1GHz)



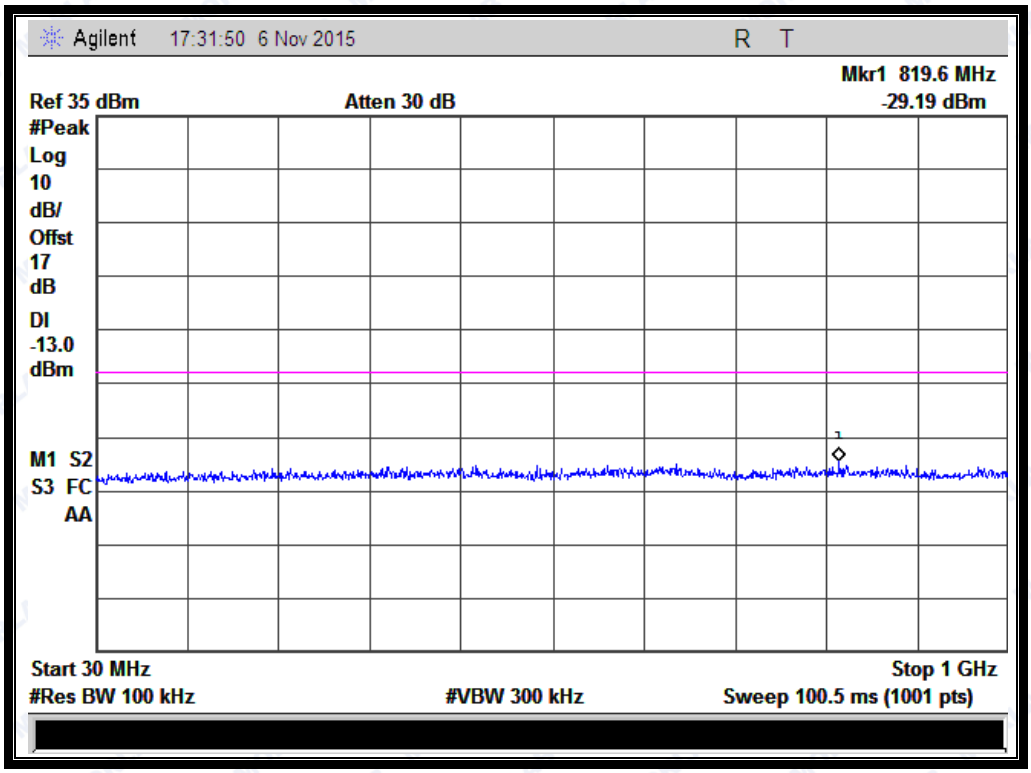
(Plot E3.1: EGPRS 850MHz Channel = 251, 1GHz to 9GHz)



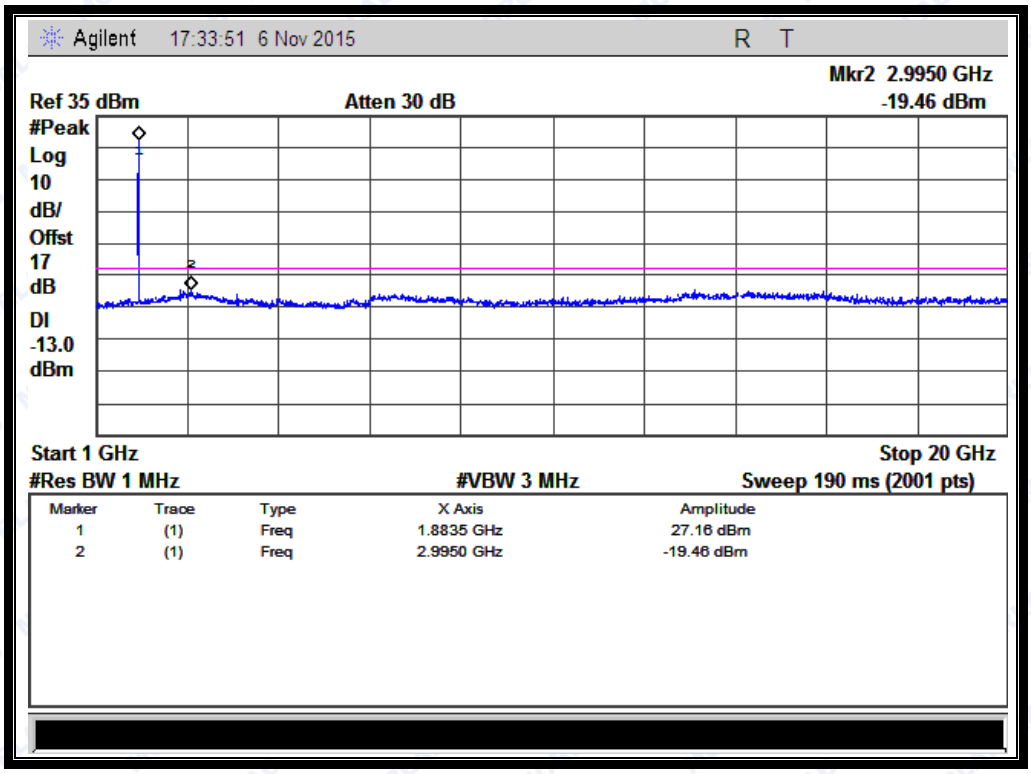
(Plot F1: EGPRS 1900MHz Channel = 512, 30MHz to 1GHz)



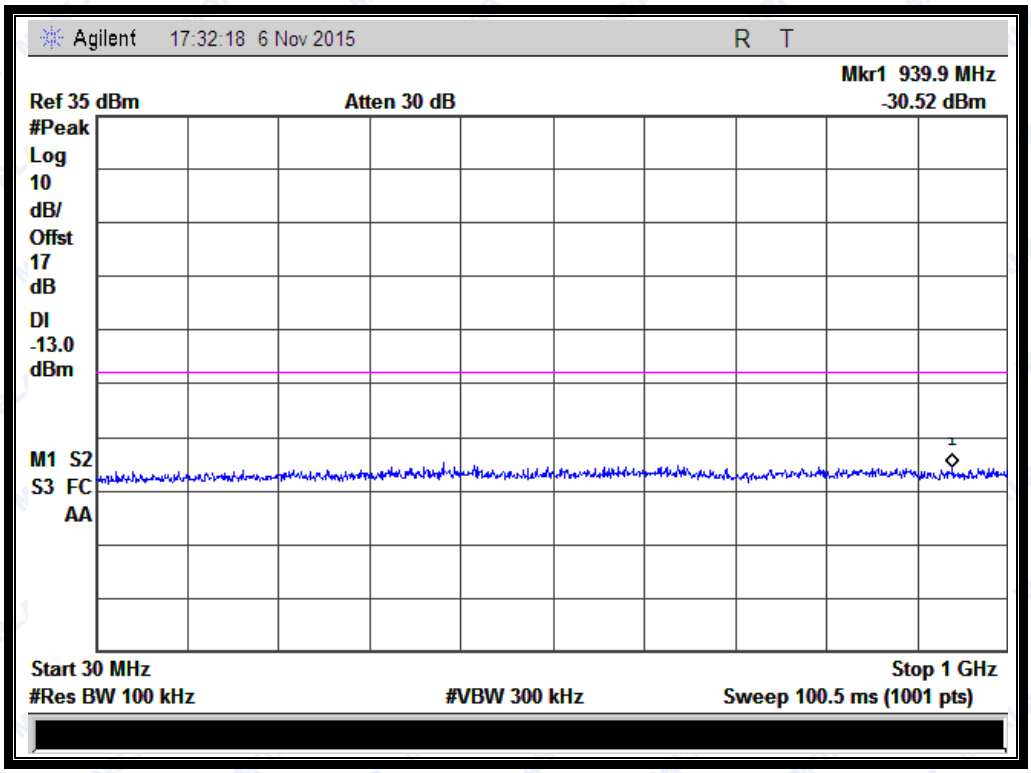
(Plot F1.1: EGPRS 1900MHz Channel = 512, 1GHz to 20GHz)



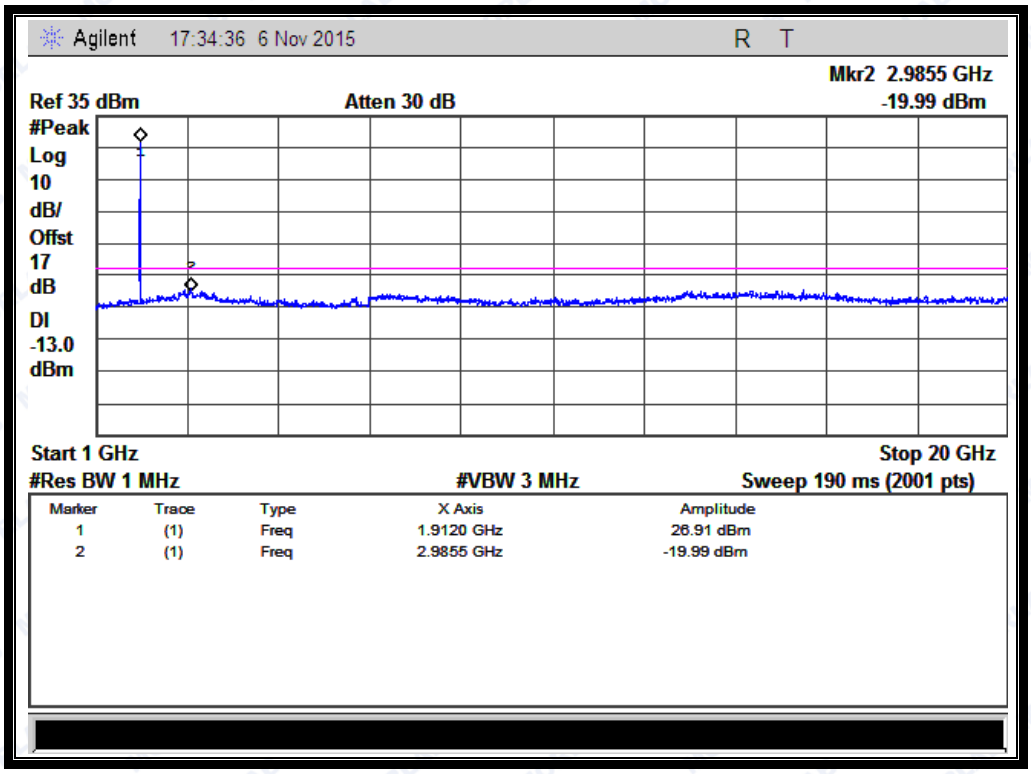
(Plot F2: EGPRS 1900MHz Channel = 661, 30MHz to 1GHz)



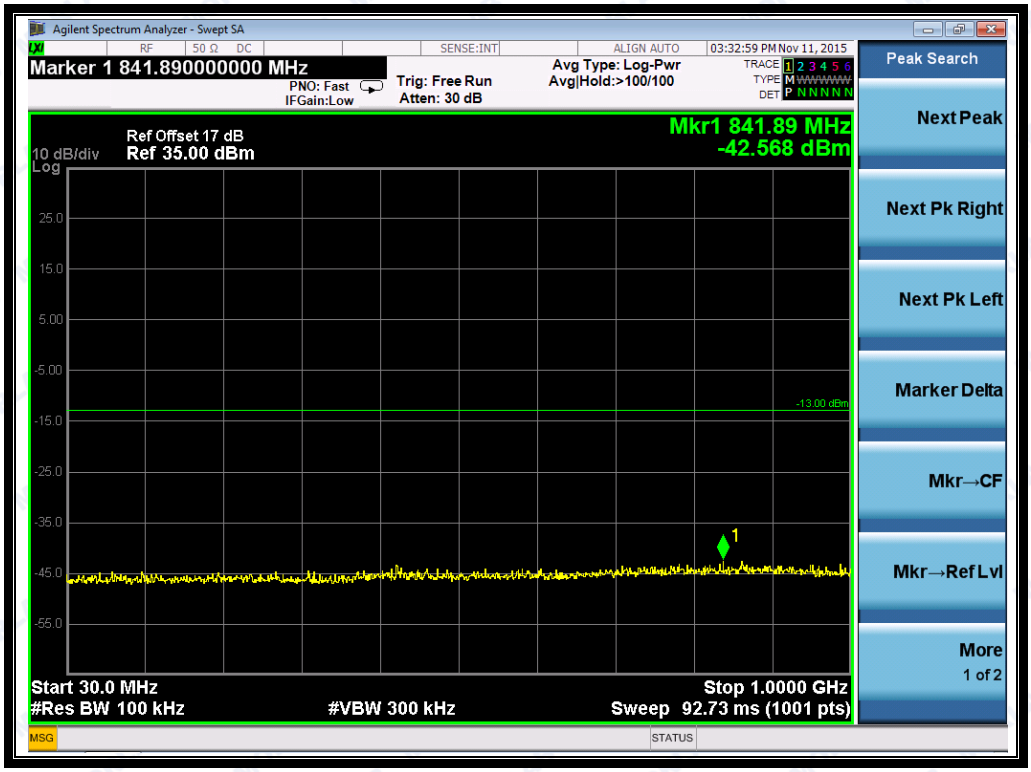
(Plot F2.1: EGPRS 1900MHz Channel = 661, 1GHz to 20GHz)



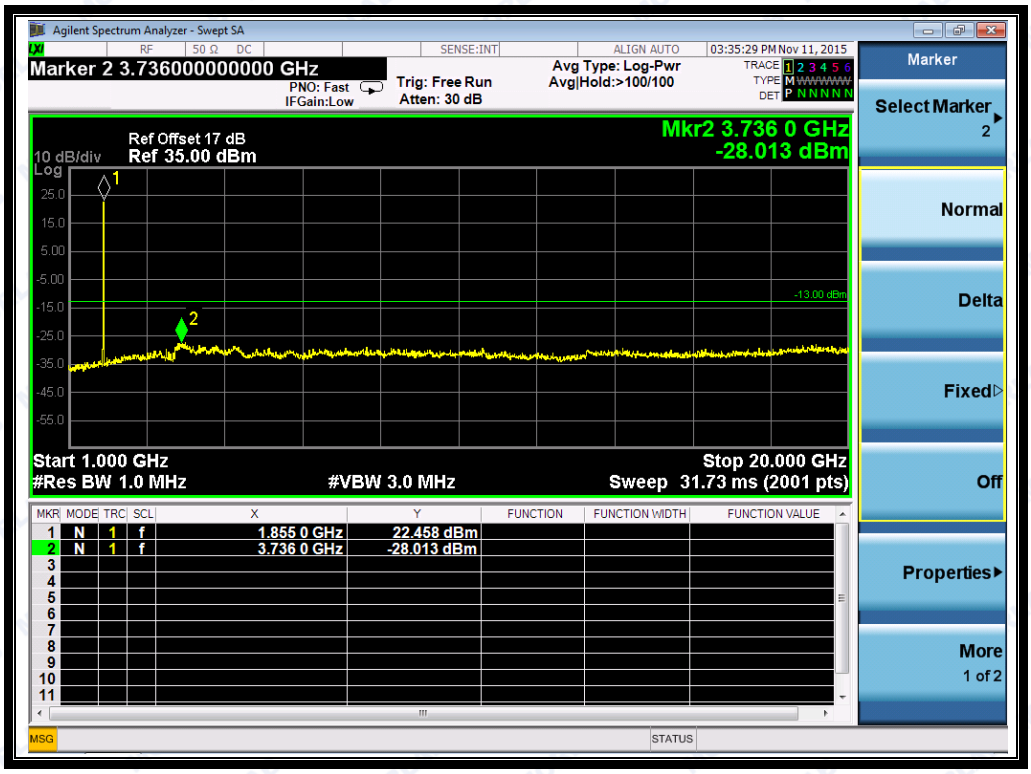
(Plot F3: EGPRS 1900MHz Channel = 810, 30MHz to 1GHz)



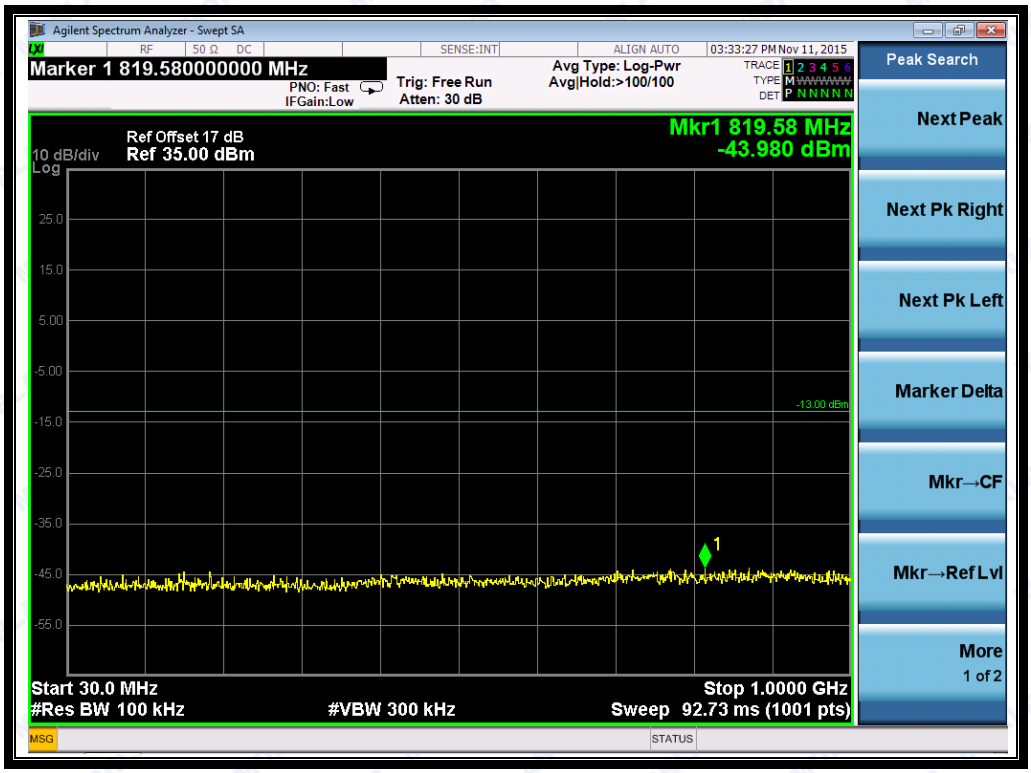
(Plot F3.1: EGPRS 1900MHz Channel = 810, 1GHz to 20GHz)



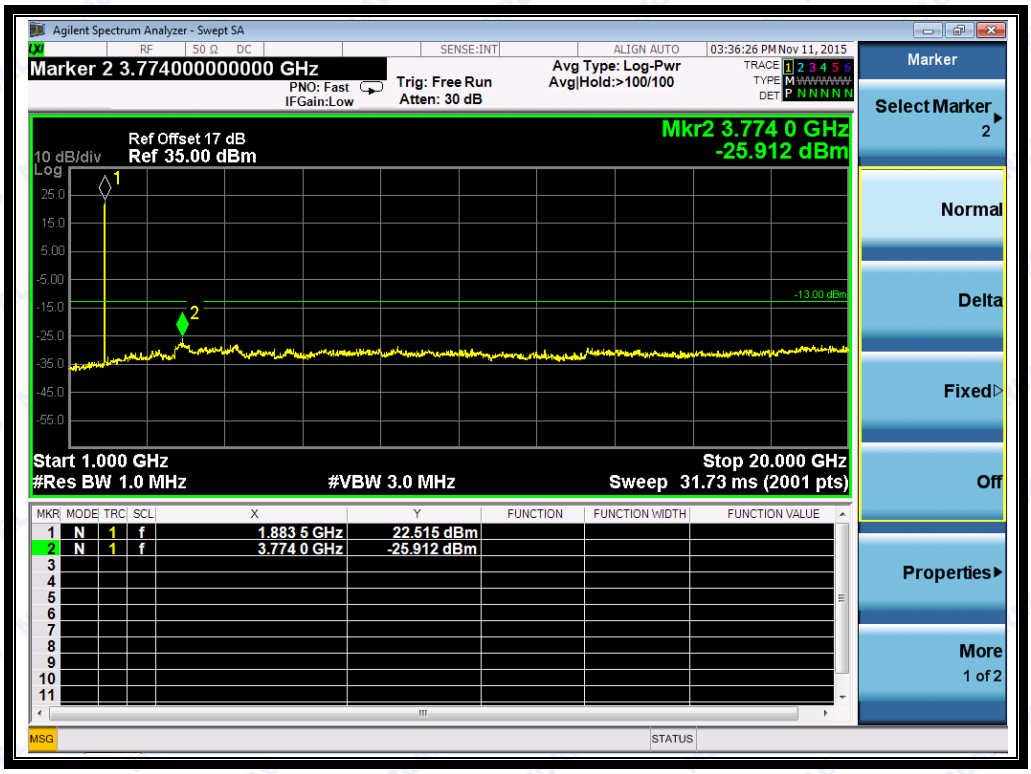
(Plot H1: WCDMA1900MHz Channel = 9262, 30MHz to 1GHz)



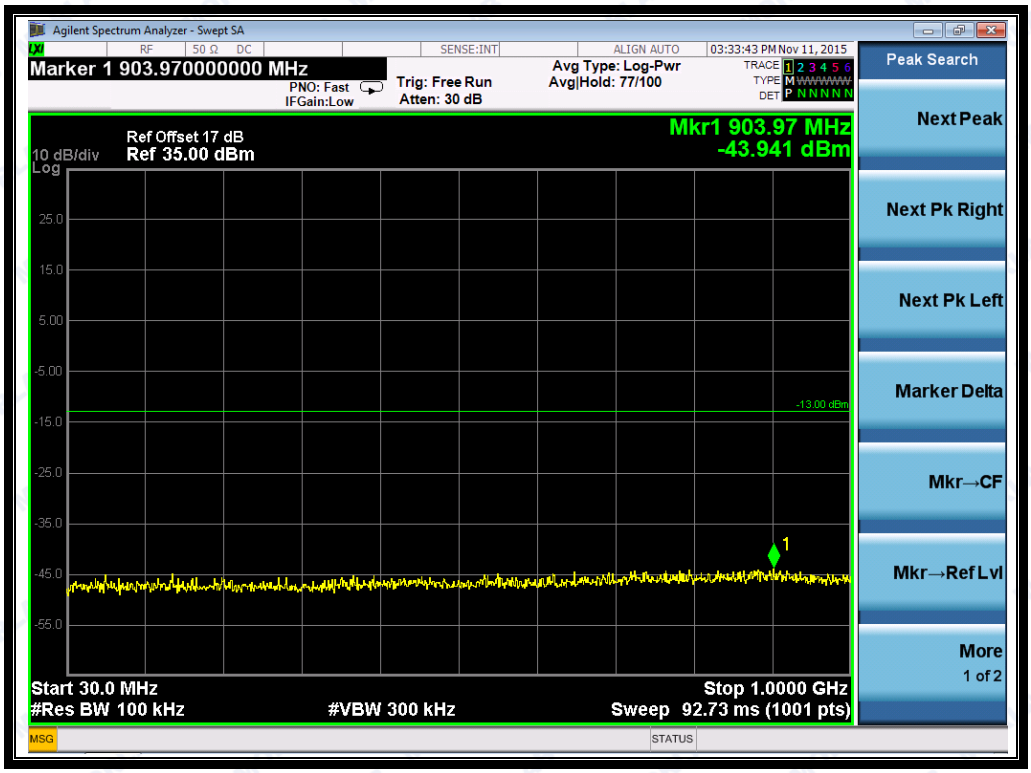
(Plot H1.1: WCDMA1900MHz Channel = 9262, 1GHz to 20GHz)



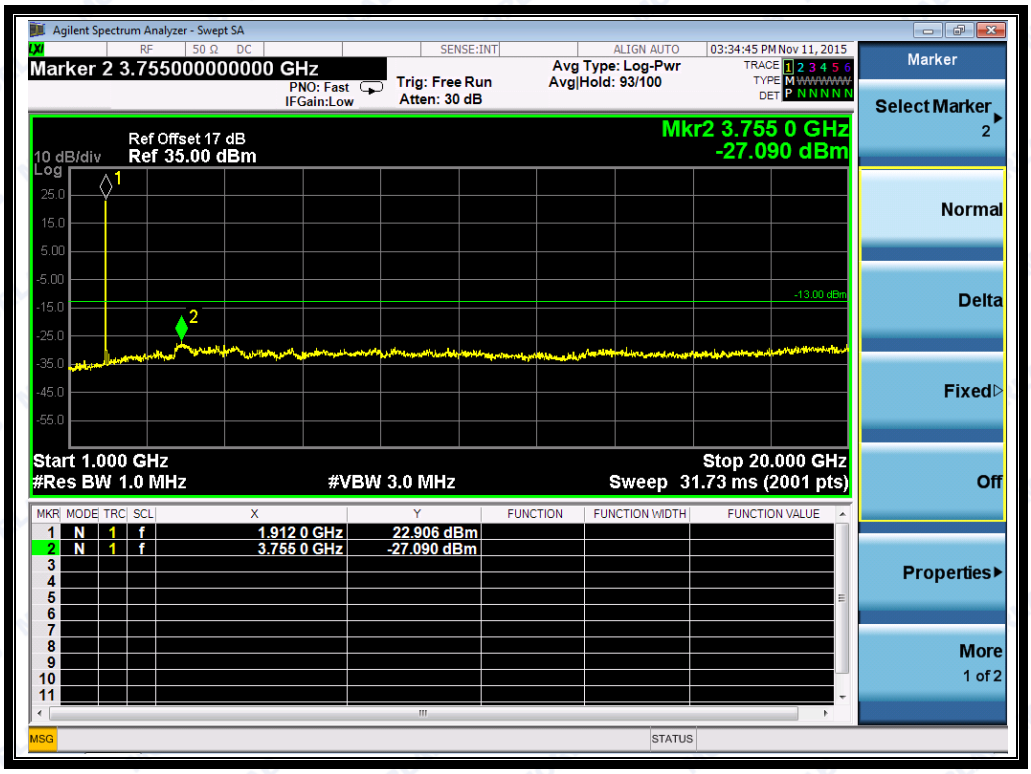
(Plot H2: WCDMA1900MHz Channel = 9400, 30MHz to 1GHz)



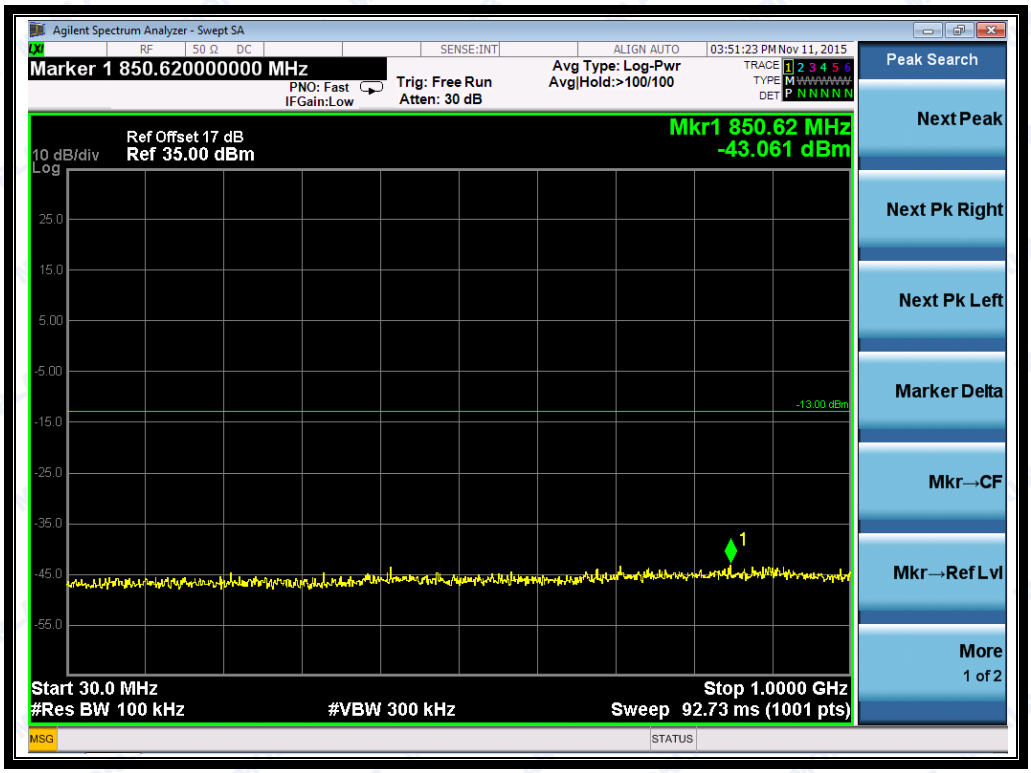
(Plot H2.1: WCDMA1900MHz Channel = 9400, 1GHz to 20GHz)



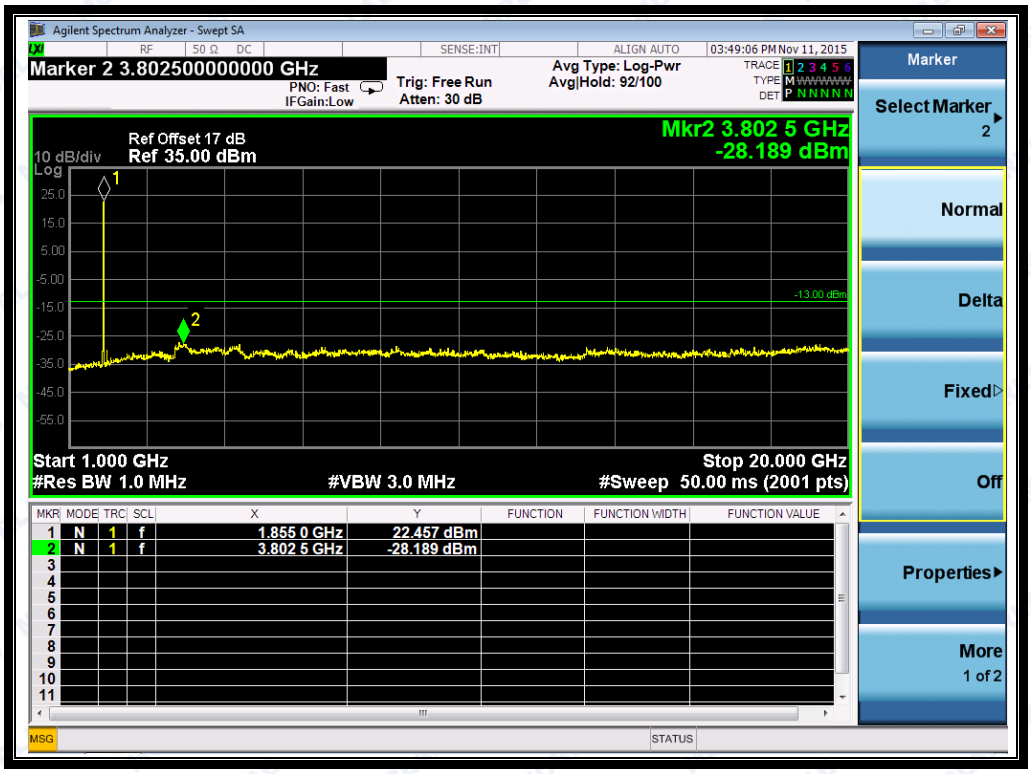
(Plot H3: WCDMA1900MHz Channel = 9538, 30MHz to 1GHz)



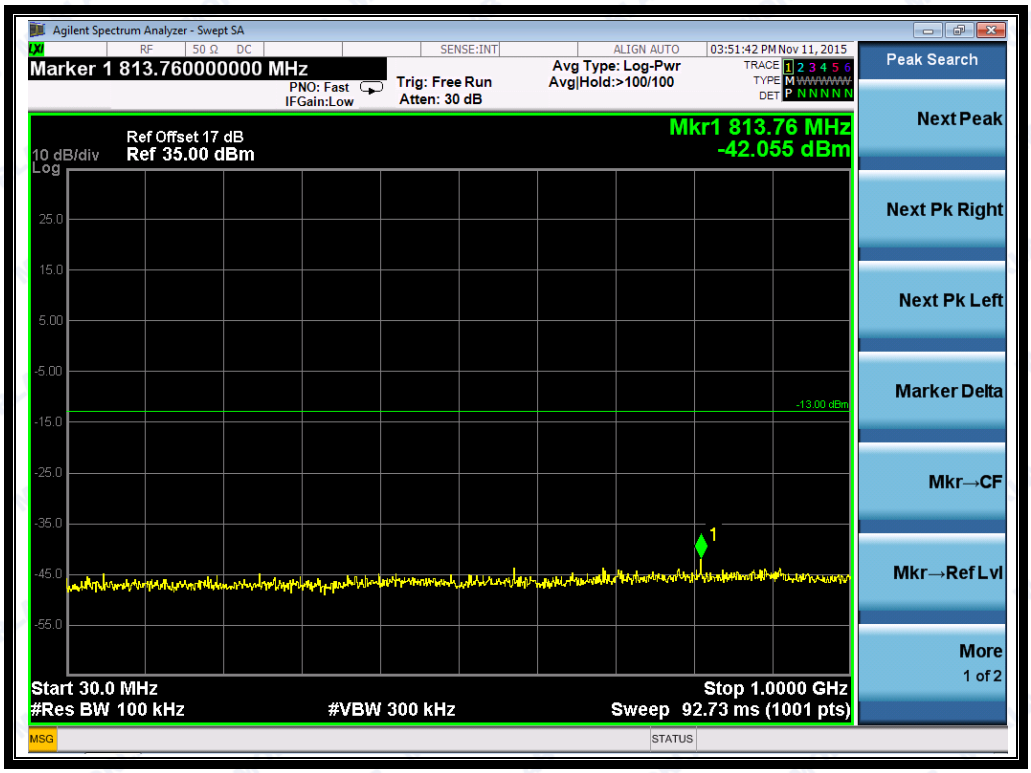
(Plot H3.1: WCDMA1900MHz Channel = 9538 1GHz to 20GHz)



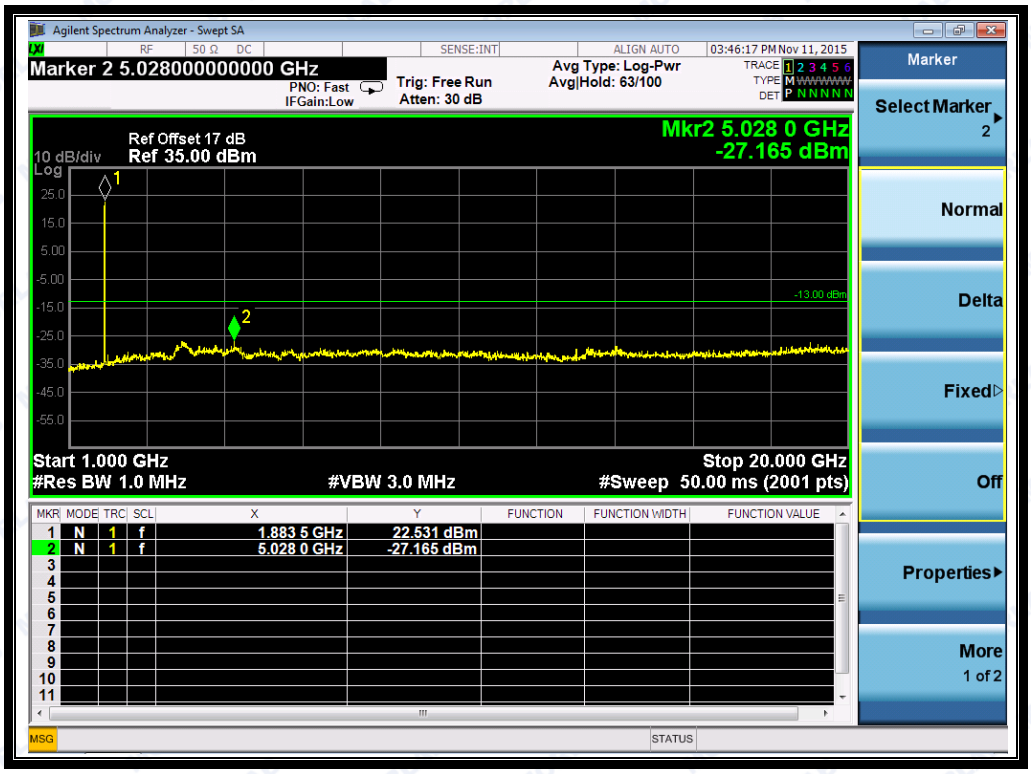
(Plot J1: HSDPA 1900MHz Channel = 9262, 30MHz to 1GHz)



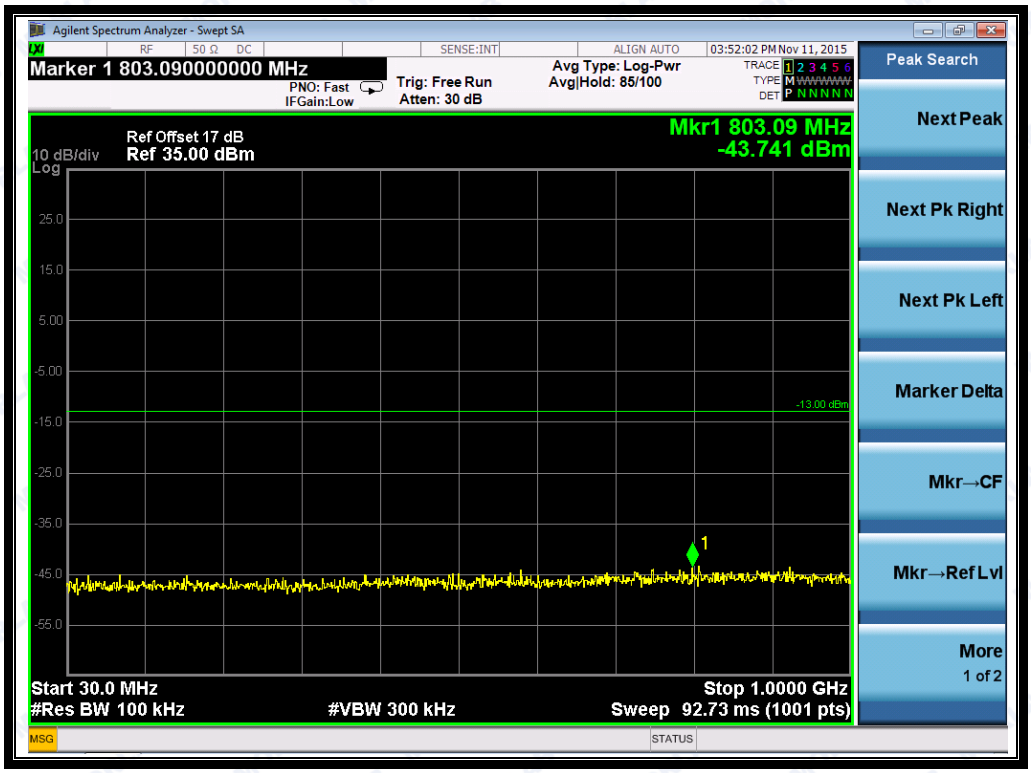
(Plot J1.1: HSDPA 1900MHz Channel = 9262, 1GHz to 20GHz)



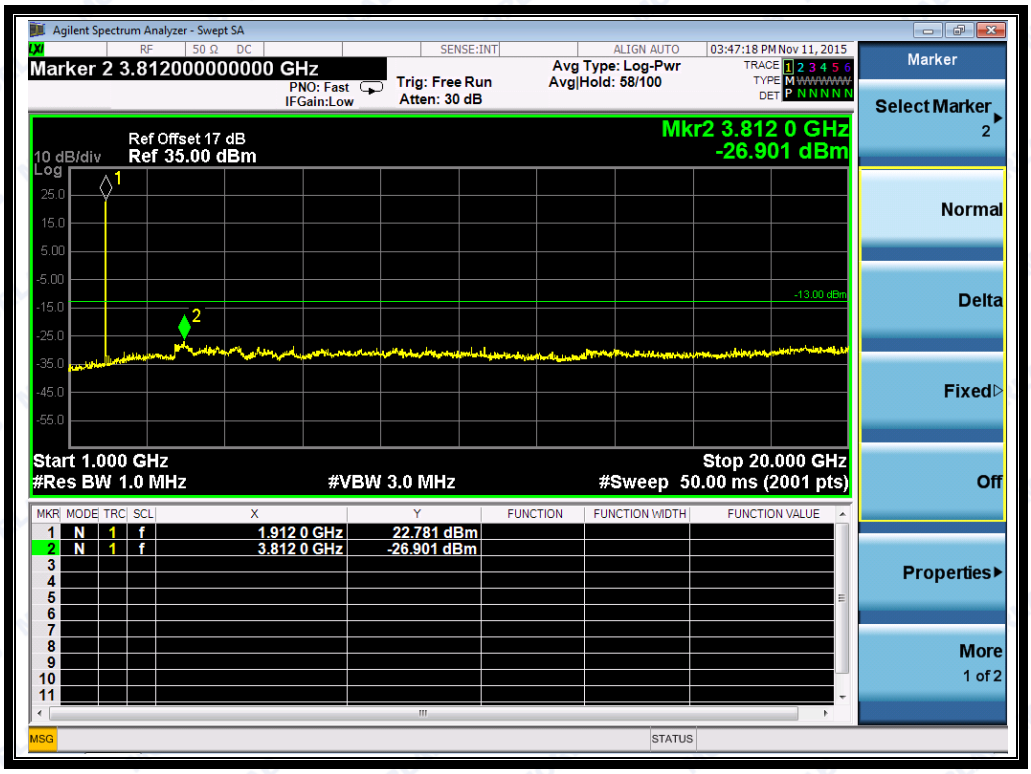
(Plot J2: HSDPA 1900MHz Channel = 9400, 30MHz to 1GHz)



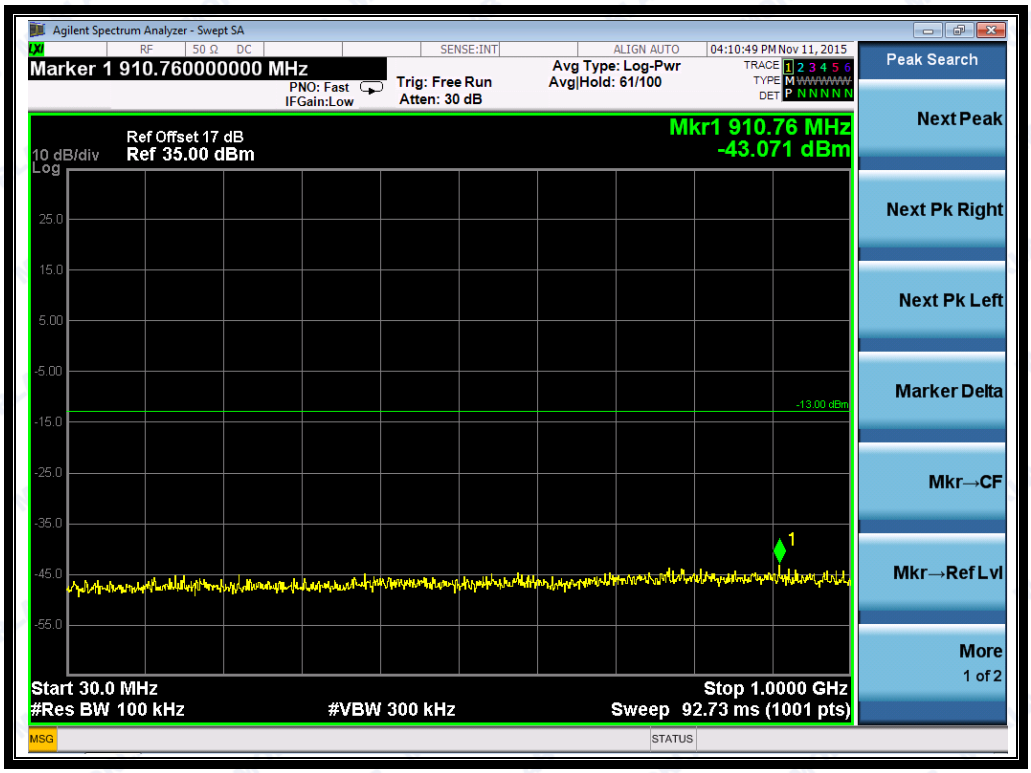
(Plot J2.1: HSDPA1900MHz Channel = 9400, 1GHz to 20GHz)



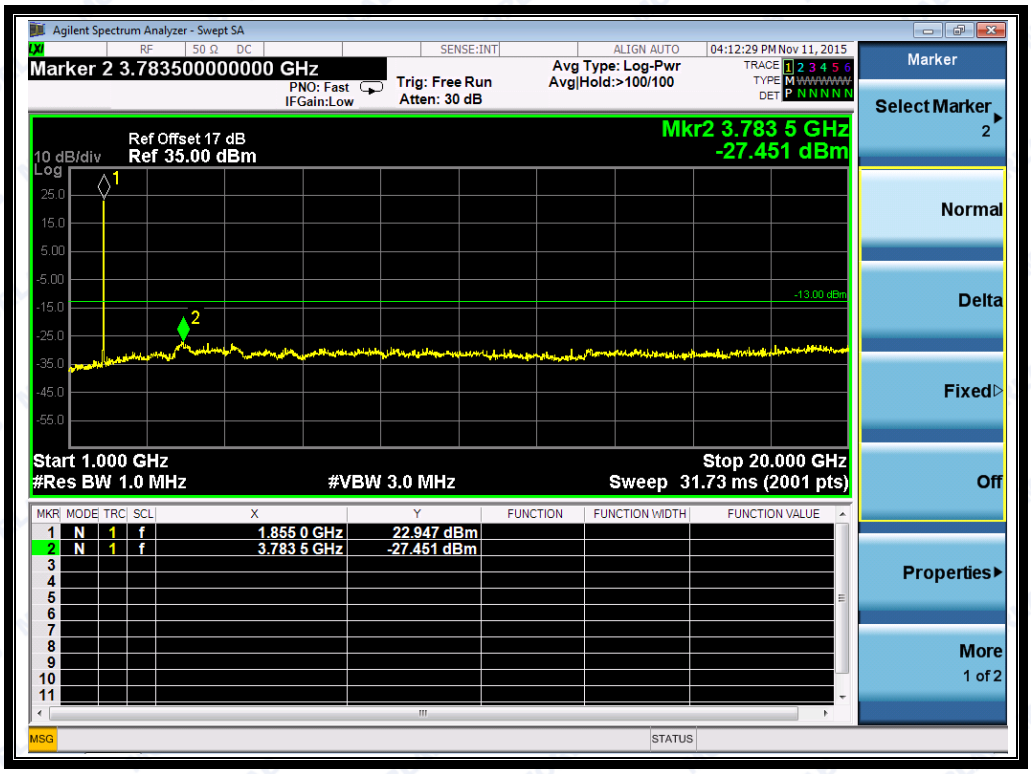
(Plot J3: HSDPA1900MHz Channel = 9538, 30MHz to 1GHz)



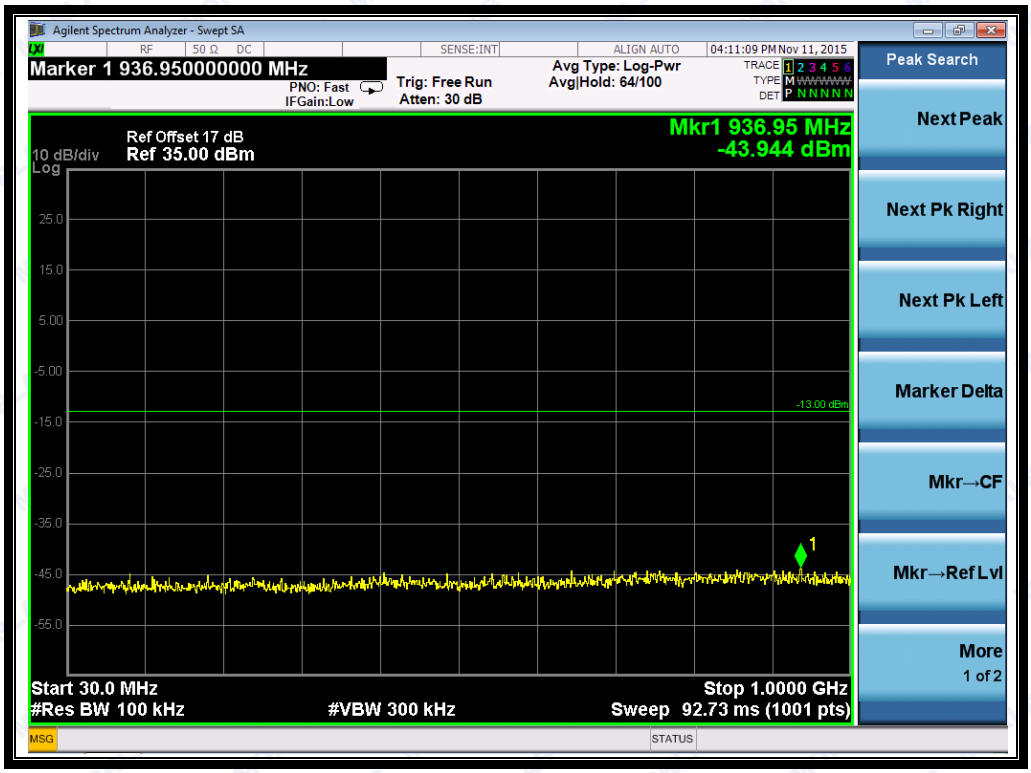
(Plot J3.1: HSDPA1900MHz Channel = 9538 1GHz to 20GHz)



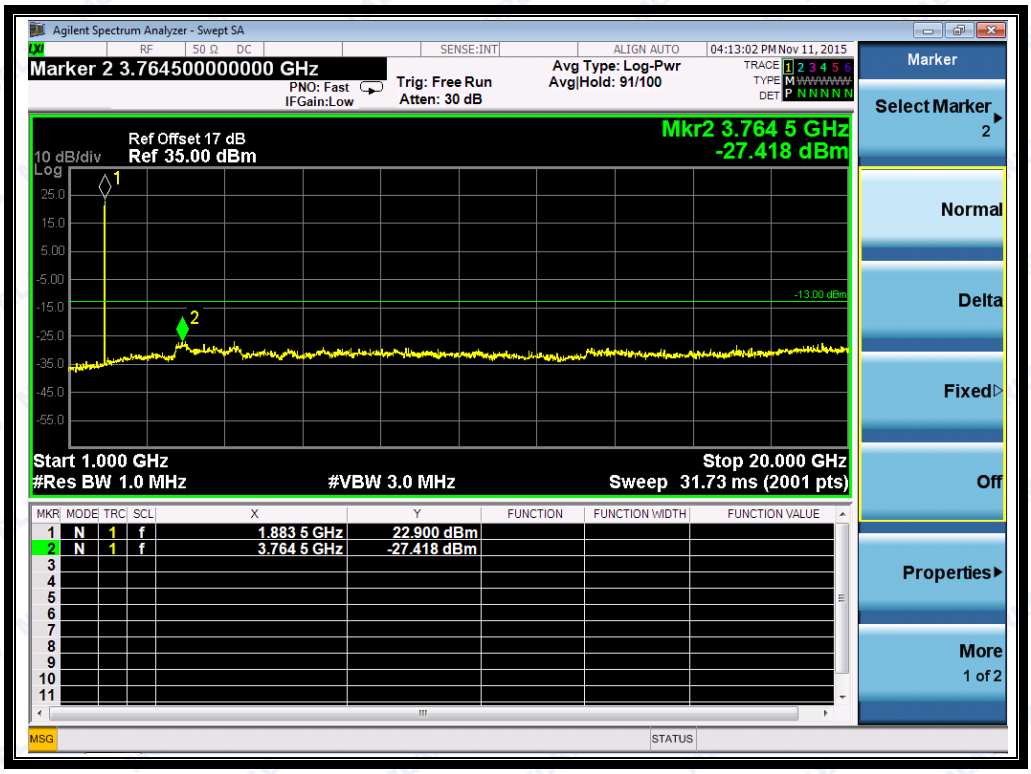
(Plot L1: HSUPA 1900MHz Channel = 9262, 30MHz to 1GHz)



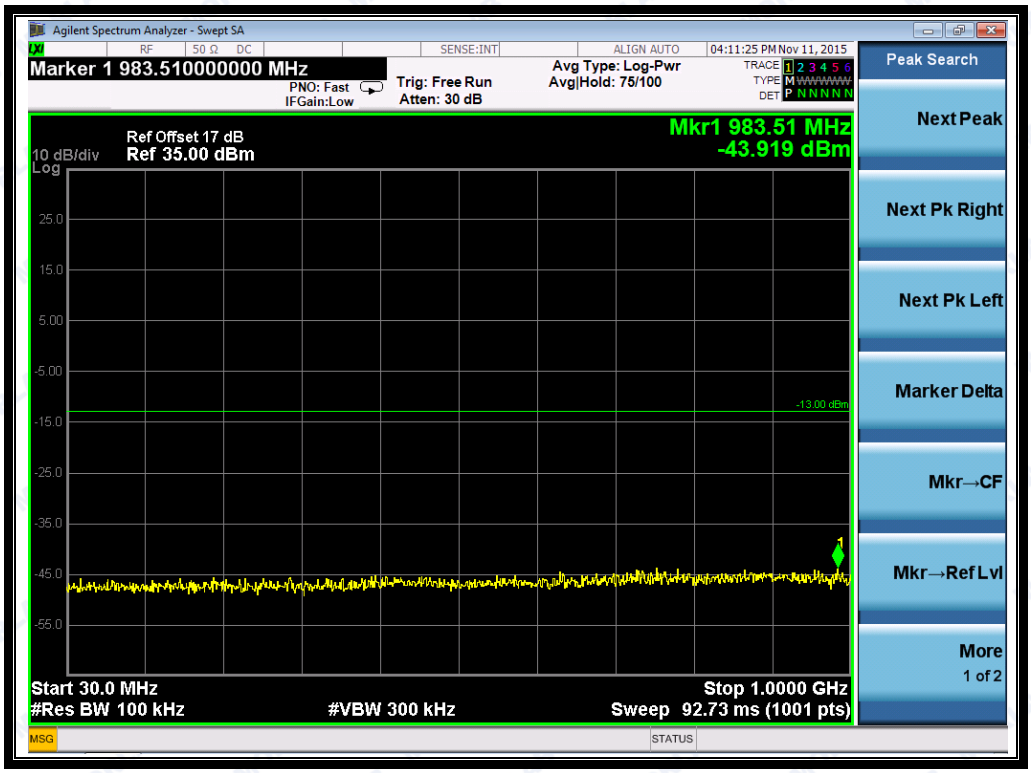
(Plot L1.1: HSUPA 1900MHz Channel = 9262, 1GHz to 20GHz)



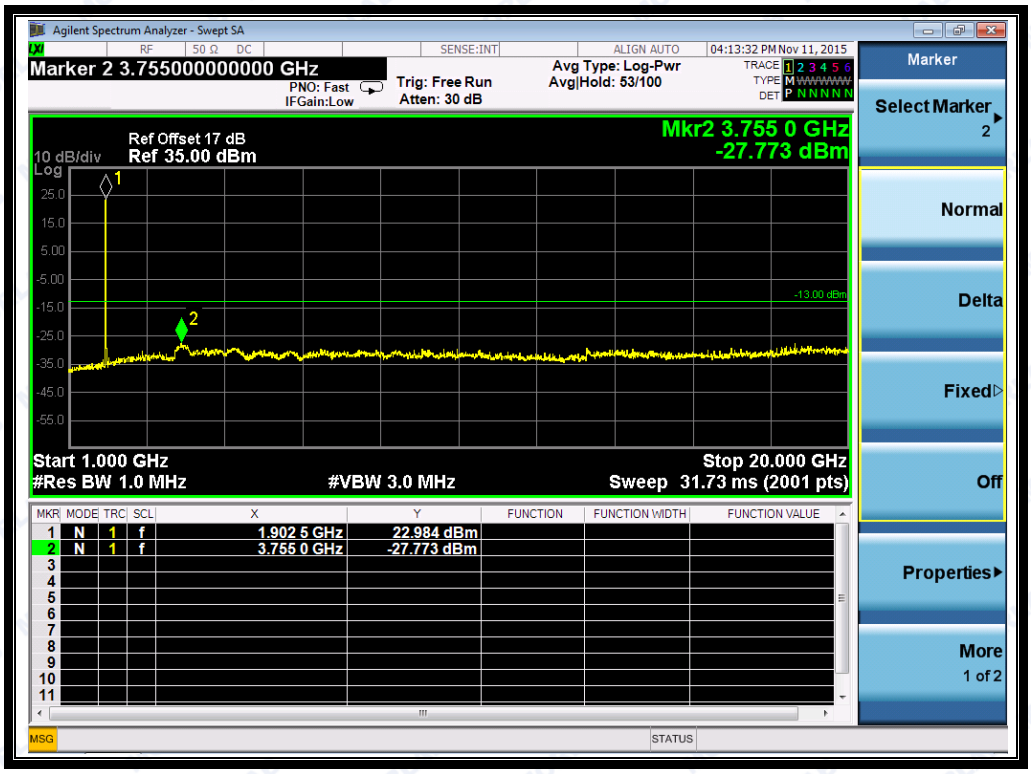
(Plot L2: HSUPA 1900MHz Channel = 9400, 30MHz to 1GHz)



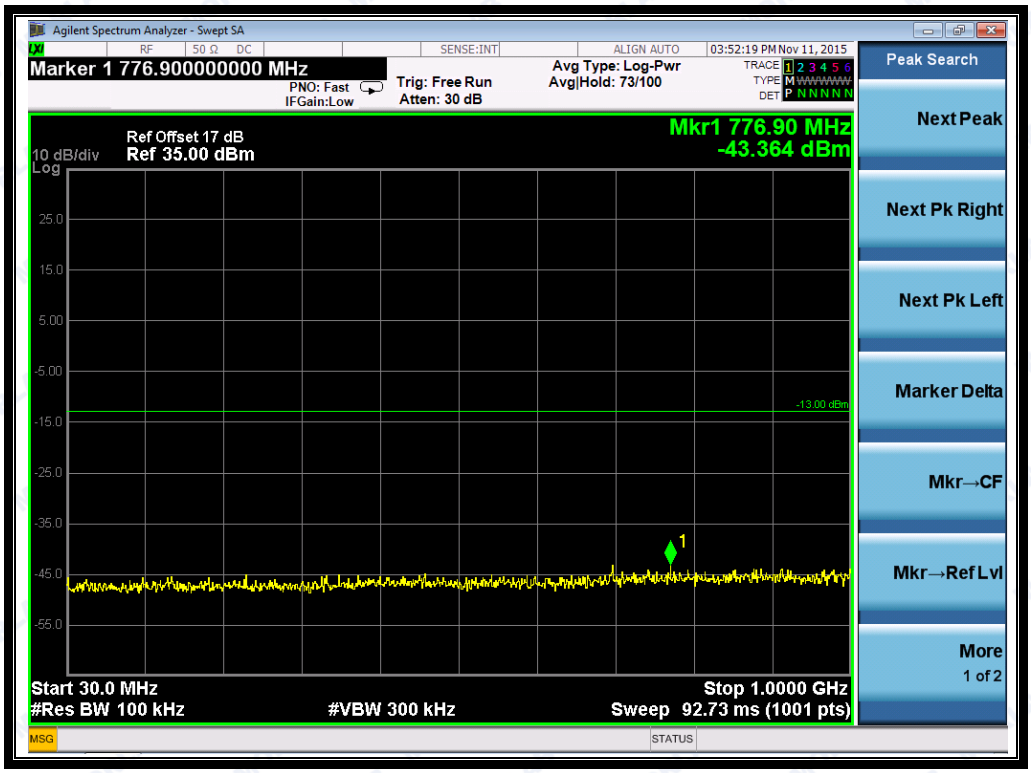
(Plot L2.1: HSUPA1900MHz Channel = 9400, 1GHz to 20GHz)



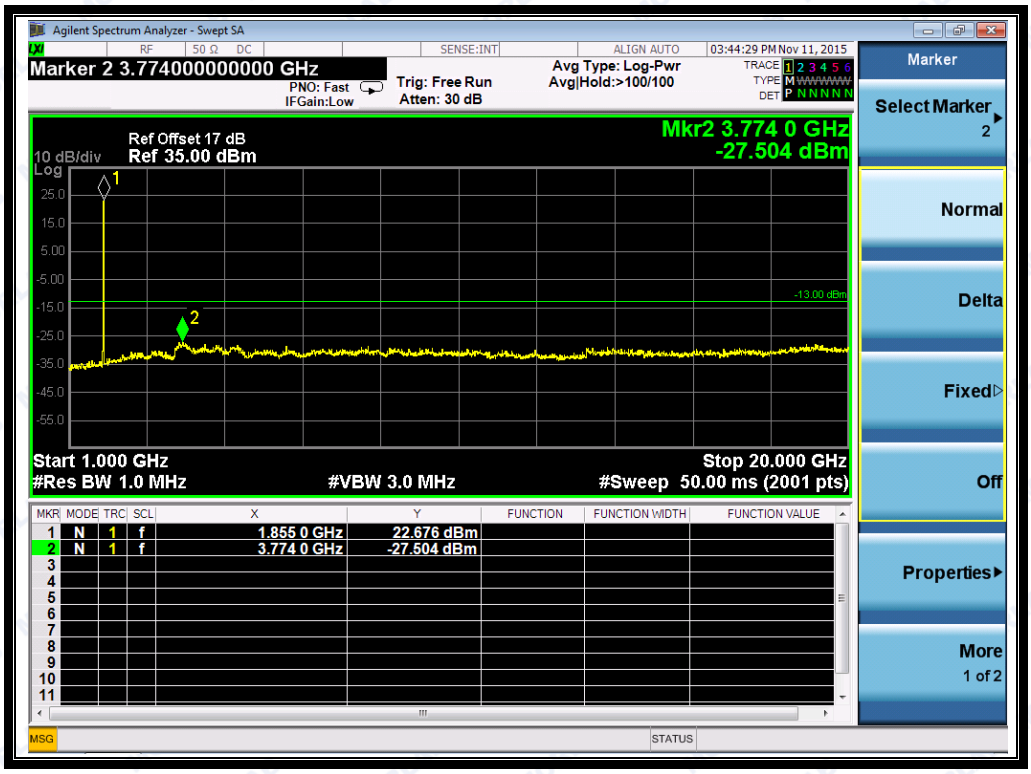
(Plot L3: HSUPA1900MHz Channel = 9538, 30MHz to 1GHz)



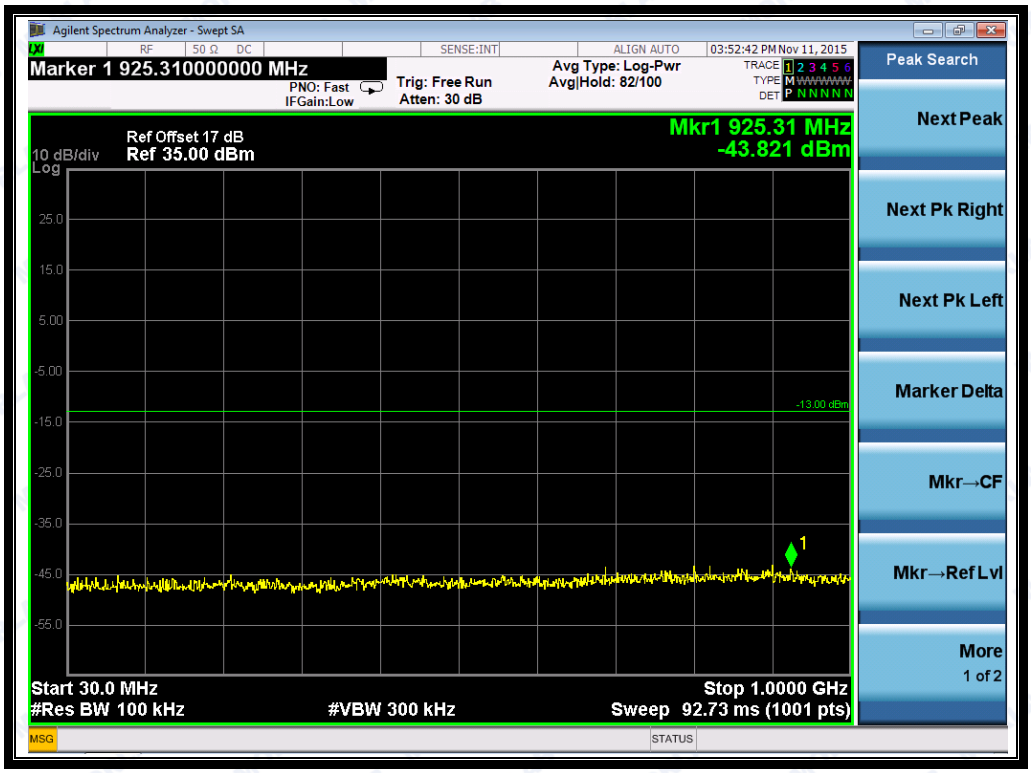
(Plot L3.1: HSUPA1900MHz Channel = 9538 1GHz to 20GHz)



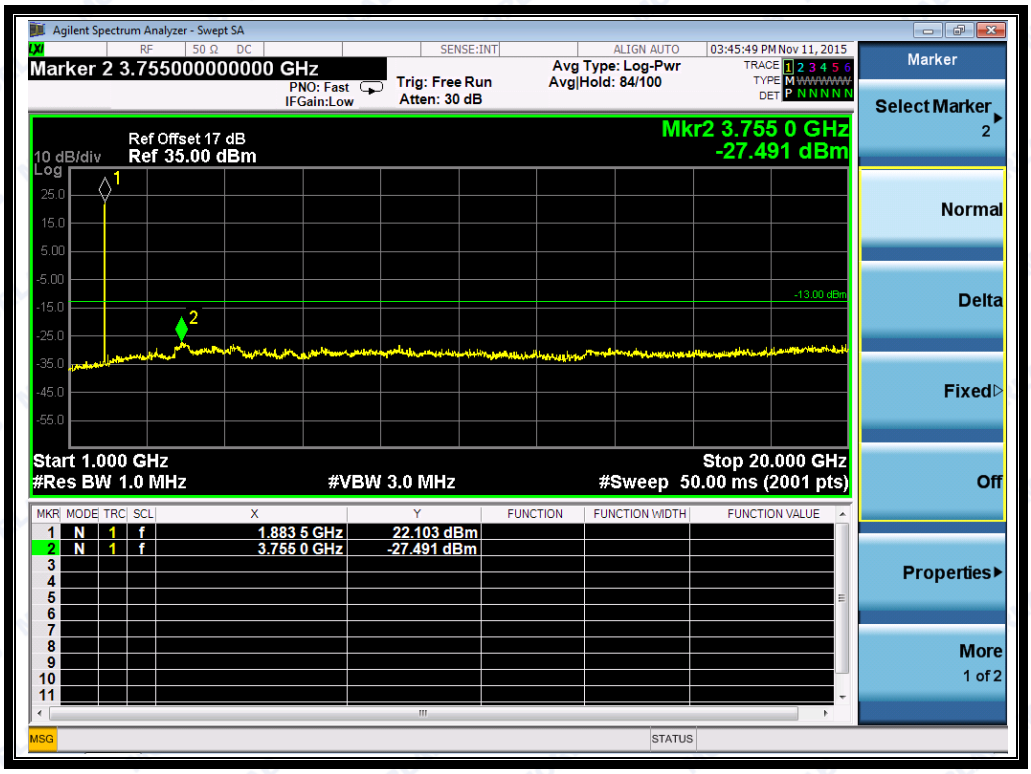
(Plot N1: HSPA+ 1900MHz Channel = 9262, 30MHz to 1GHz)



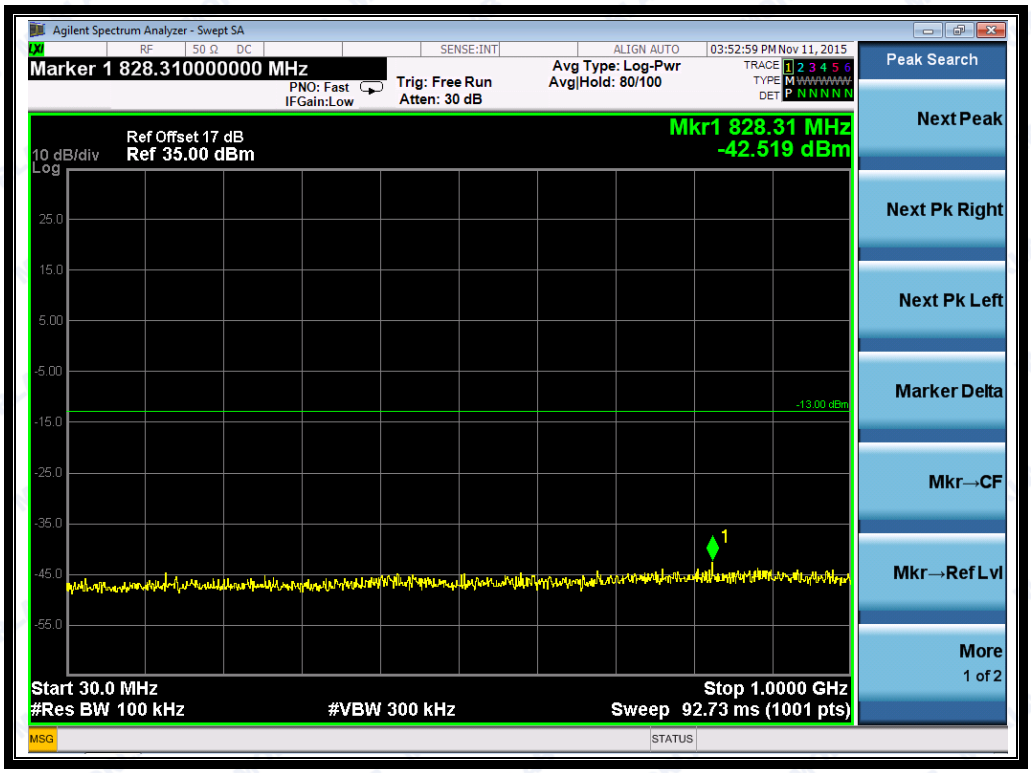
(Plot N1.1: HSPA+ 1900MHz Channel = 9262, 1GHz to 20GHz)



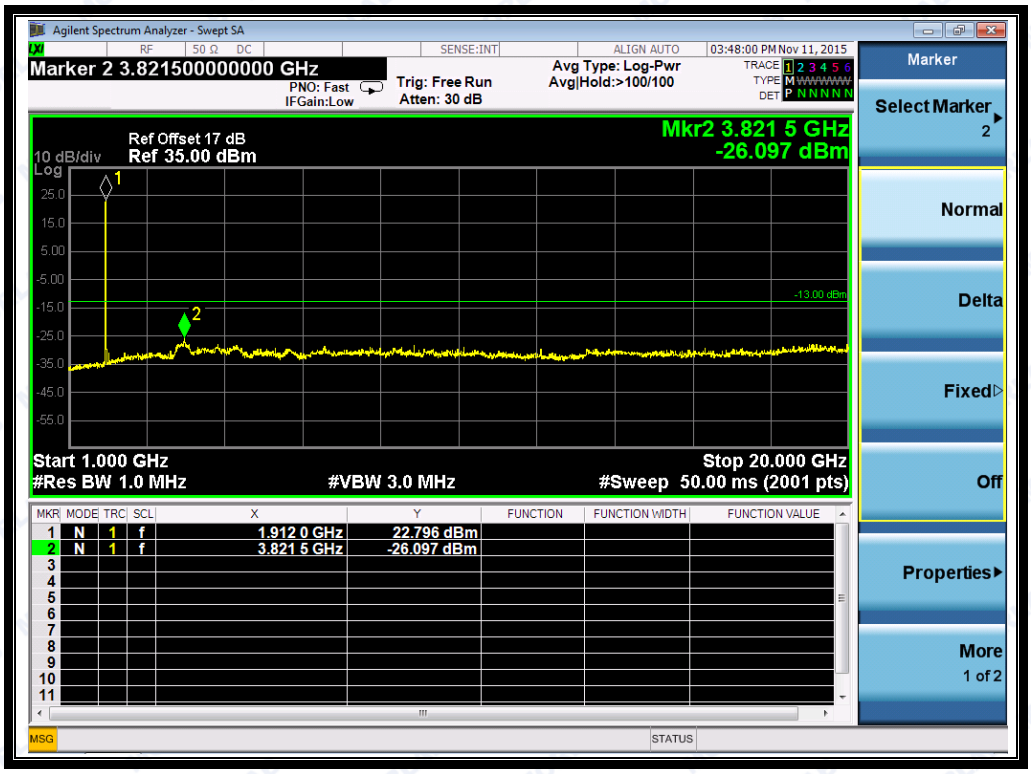
(Plot N2: HSPA+ 1900MHz Channel = 9400, 30MHz to 1GHz)



(Plot N2.1: HSPA+ 1900MHz Channel = 9400, 1GHz to 20GHz)



(Plot N3: HSPA+ 1900MHz Channel = 9538, 30MHz to 1GHz)



(Plot N3.1: HSPA+ 1900MHz Channel = 9538 1GHz to 20GHz)

2.6 Band Edge

2.6.1 Requirement

According to FCC section 22.917(b) and FCC section 24.238(b) in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth (26dB emission bandwidth) of the fundamental emission of the transmitter may be employed.

2.6.2 Test Description

See section 2.1.2 of this report.

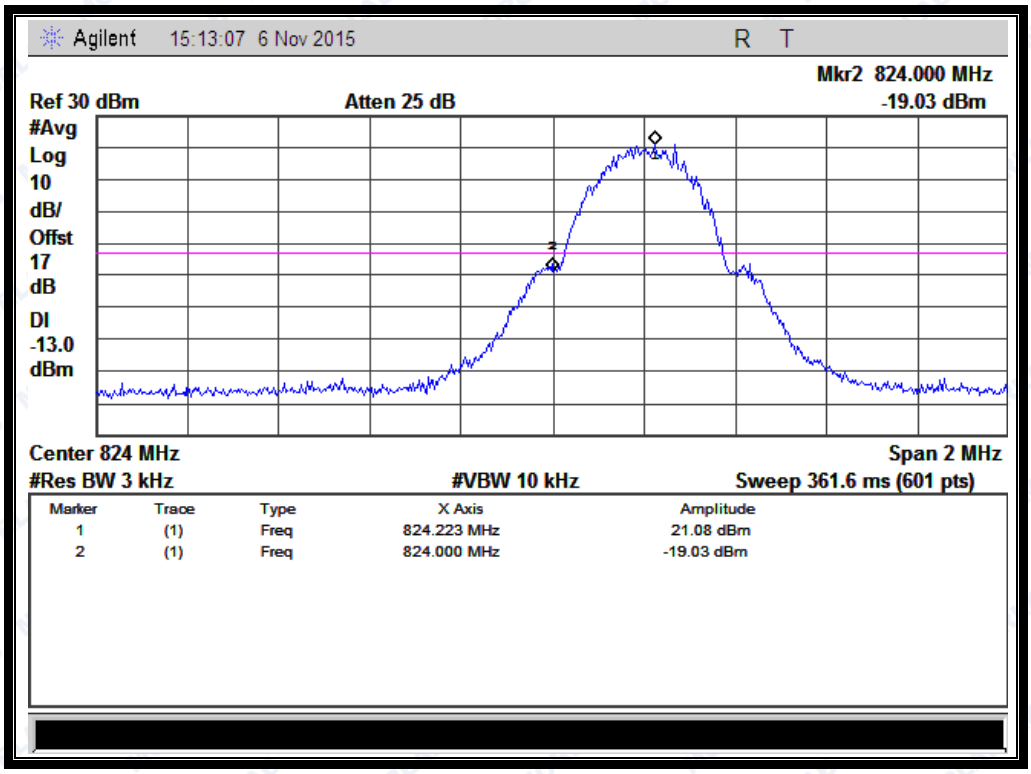
2.6.3 Test Result

The lowest and highest channels are tested to verify the band edge emissions.

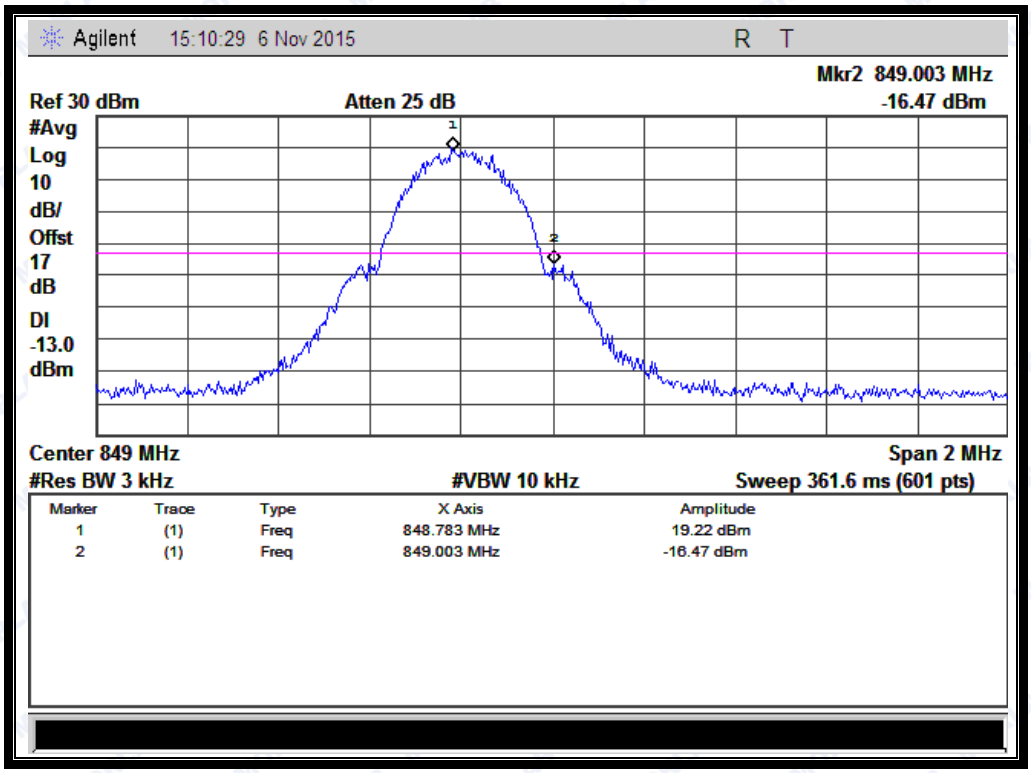
Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	-19.03	Plat A1	-13	PASS
	251	848.8	-16.47	Plot A2		PASS
GSM 1900MHz	512	1850.2	-17.55	Plat B1	-13	PASS
	810	1909.8	-19.17	Plot B2		PASS
EGPRS 850MHz	128	824.2	-25.04	Plat C1	-13	PASS
	251	848.8	-25.36	Plot C2		PASS
EGPRS 1900MHz	512	1850.2	-28.84	Plat D1	-13	PASS
	810	1909.8	-28.04	Plot D2		PASS
WCDMA 1900MHz	9262	1852.4	-19.80	Plat F1	-13	PASS
	9538	1907.6	-18.17	Plot F2		PASS
HSDPA 1900MHz	9262	1852.4	-19.73	Plat H1	-13	PASS
	9538	1907.6	-19.11	Plot H2		PASS
HSUPA 1900MHz	9262	1852.4	-19.96	Plat J1	-13	PASS
	9538	1907.6	-18.47	Plot J2		PASS
HSPA + 1900MHz	9262	1852.4	-20.10	Plat L1	-13	PASS
	9538	1907.6	-18.10	Plot L2		PASS

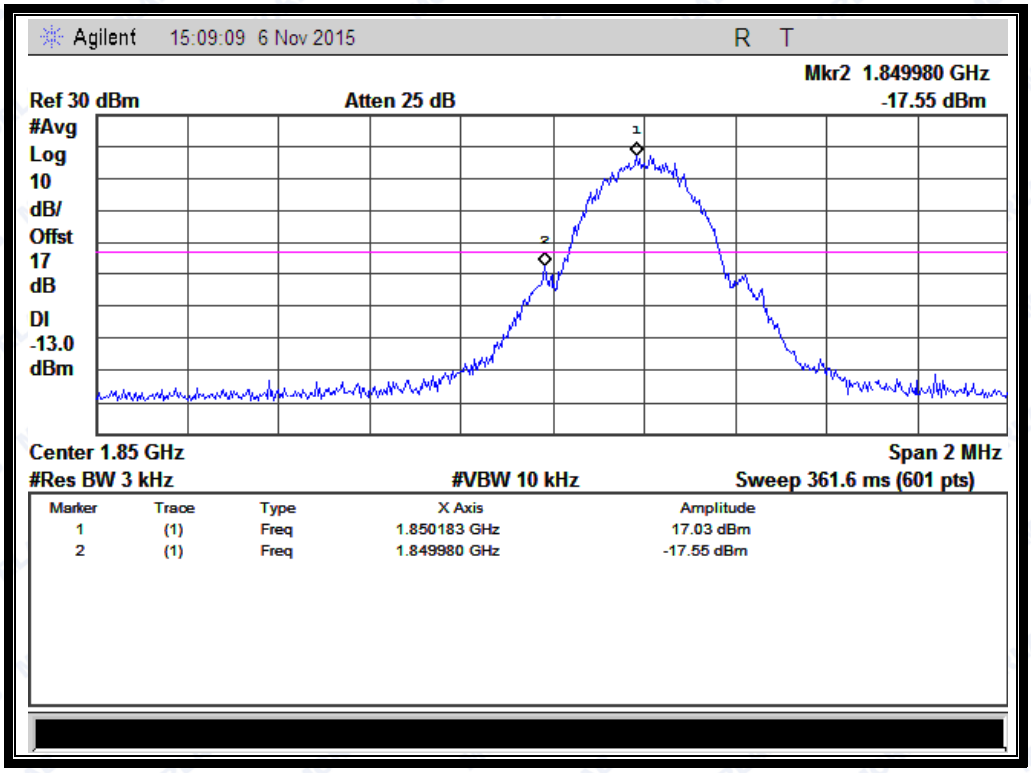
Test Plots:



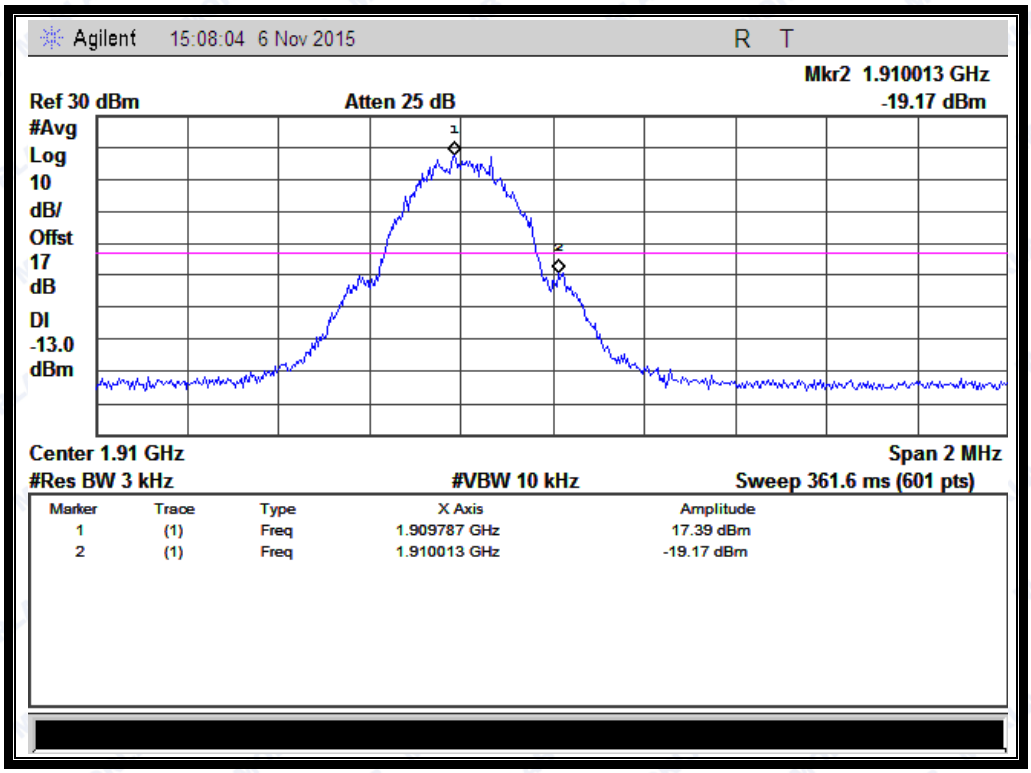
(Plot A1: GSM 850 Channel = 128)



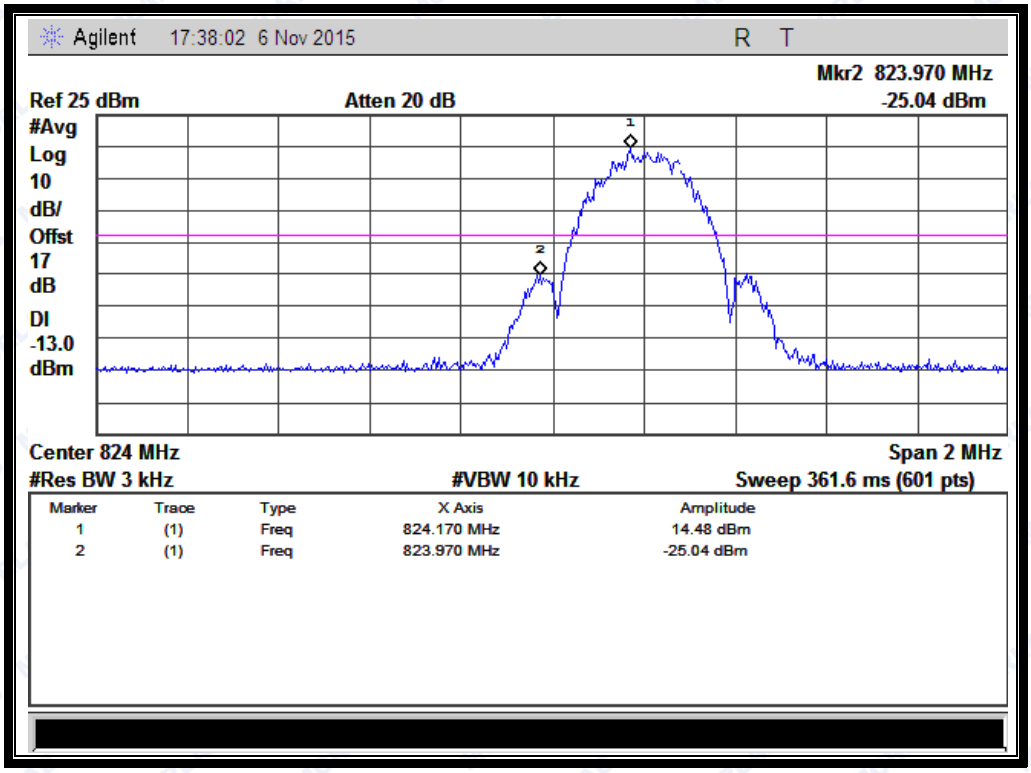
(Plot A2: GSM 850 Channel = 251)



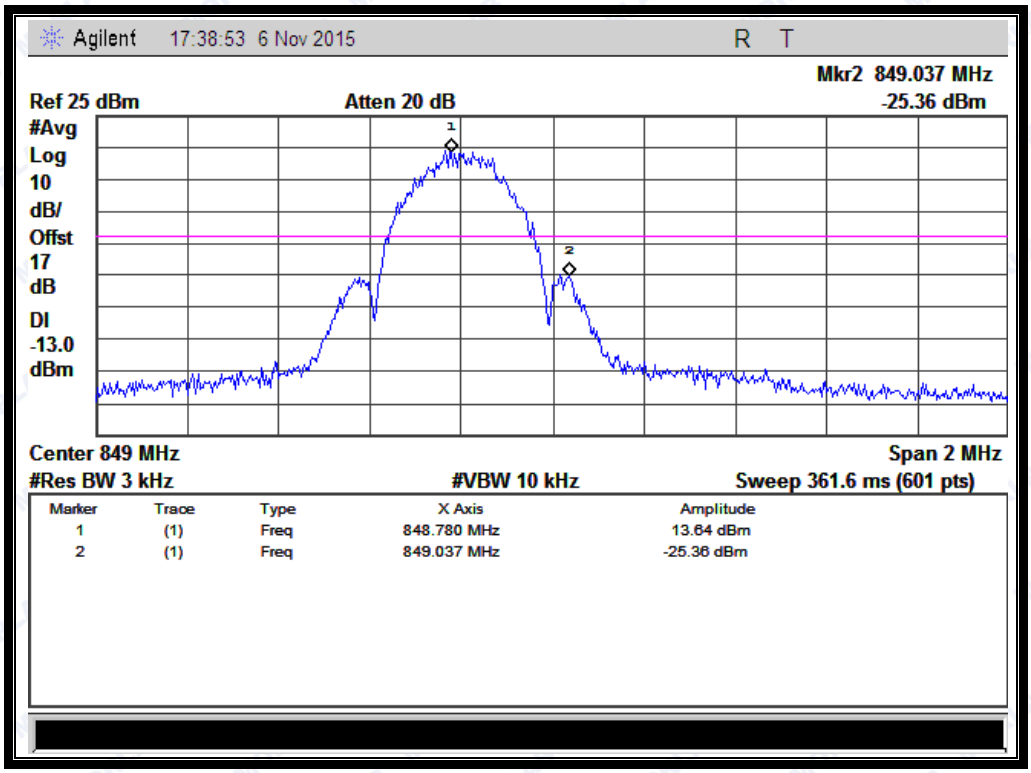
(Plot B1: GSM 1900 Channel = 512)



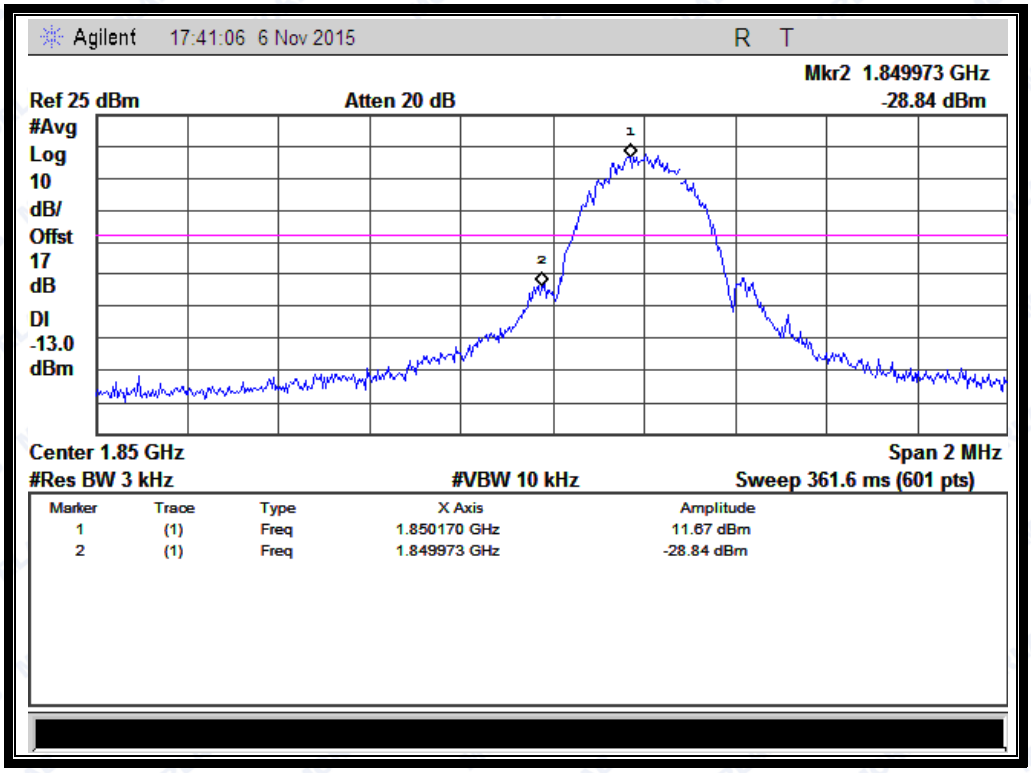
(Plot B2: GSM 1900 Channel = 810)



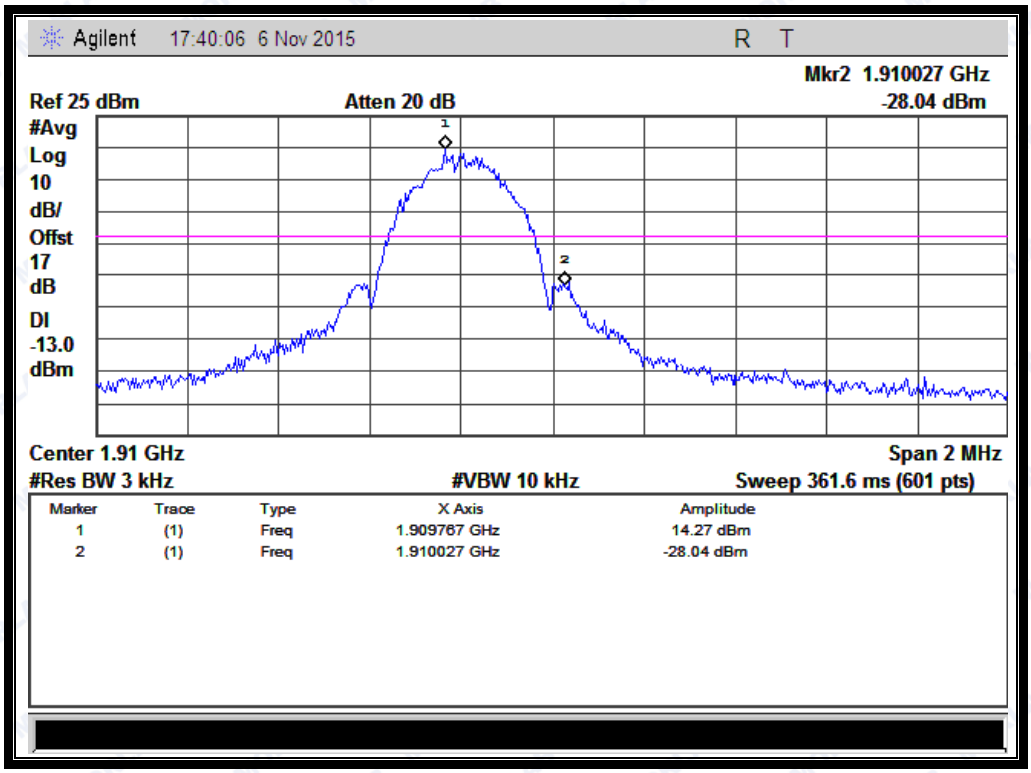
(Plot C1: EGPRS 850 Channel = 128)



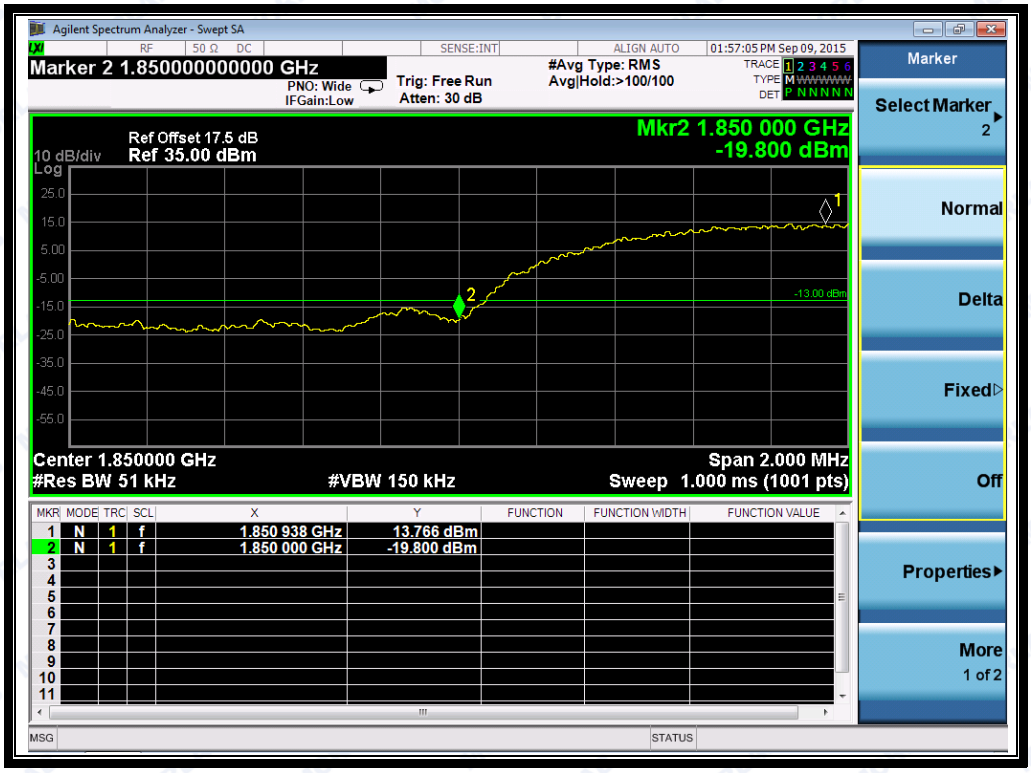
(Plot C2: EGPRS 850 Channel = 251)



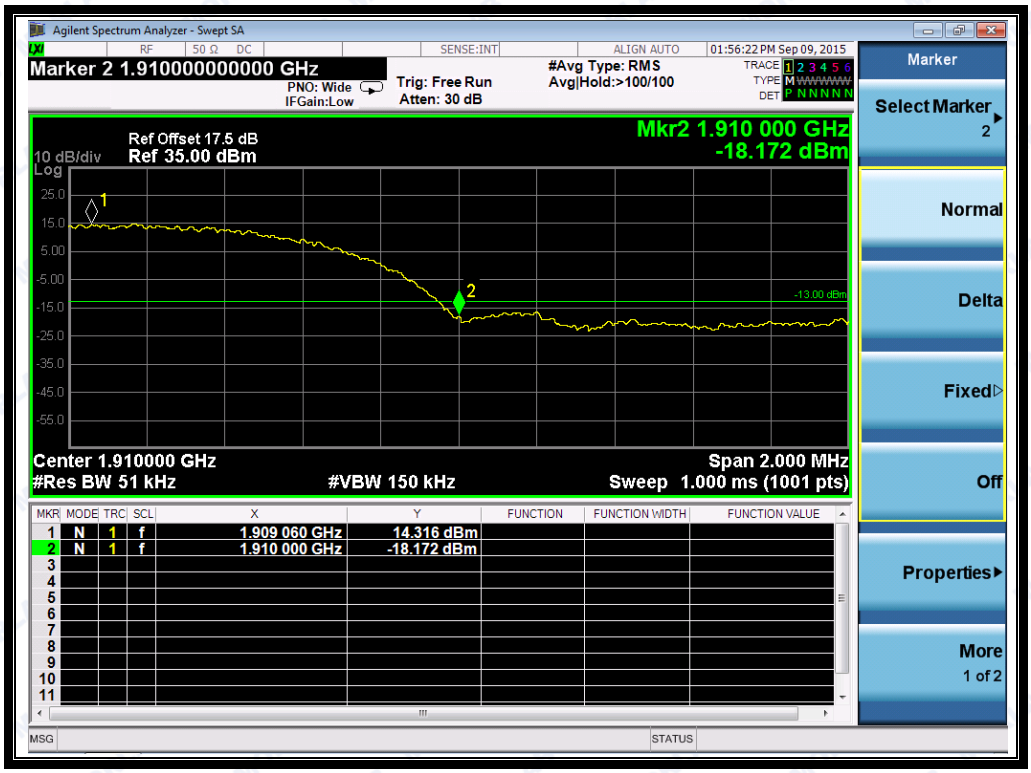
(Plot D1: EGPRS 1900 Channel = 512)



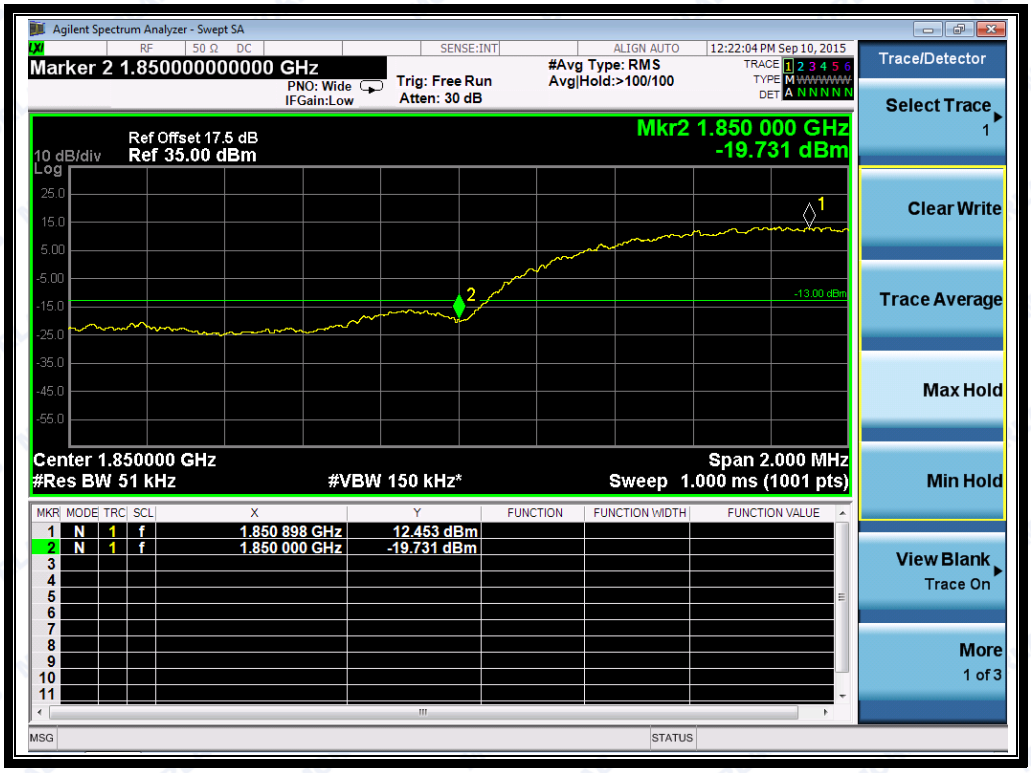
(Plot D2: EGPRS 1900 Channel = 810)



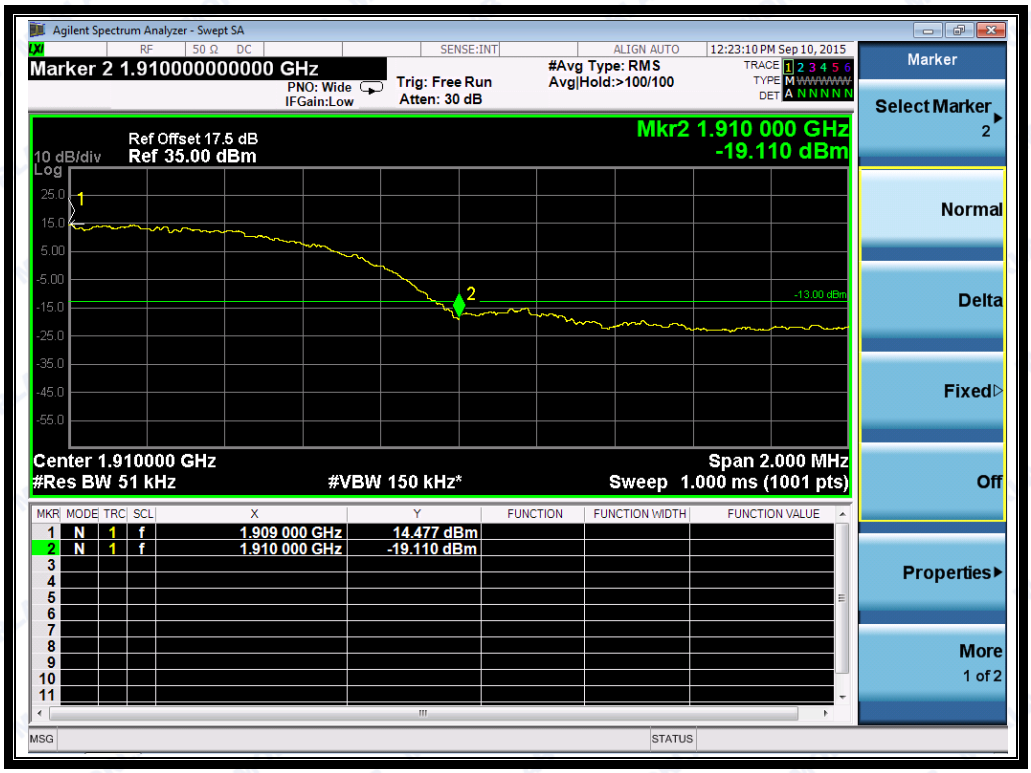
(Plot F1: WCDMA 1900 Channel = 9262)



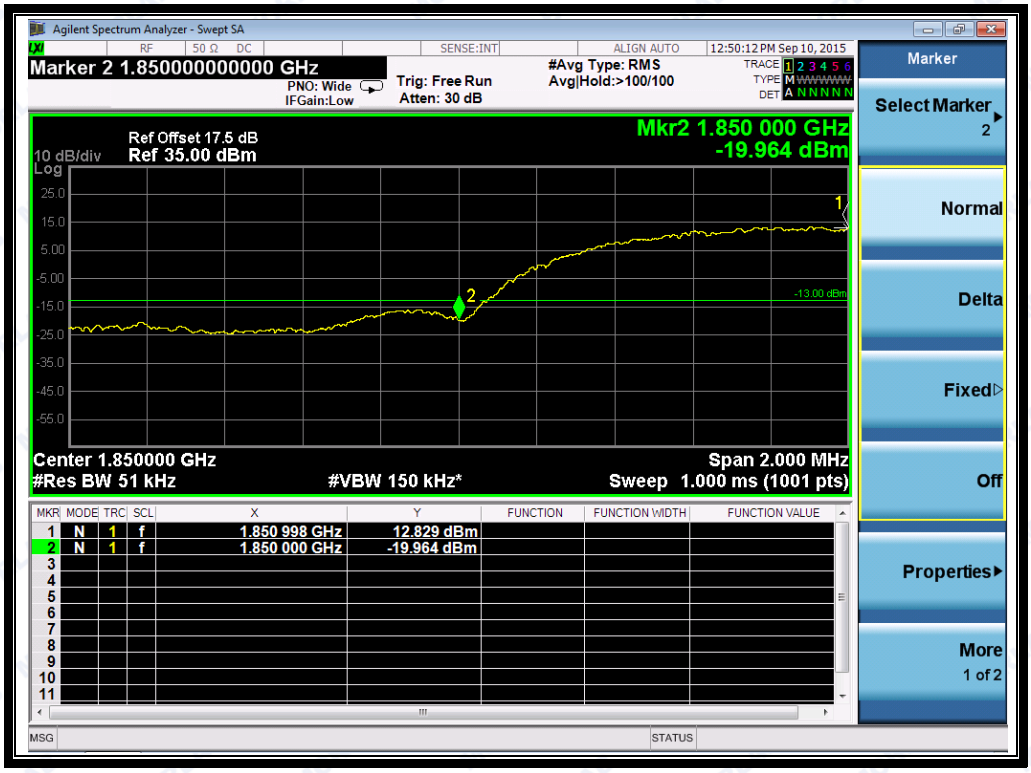
(Plot F2: WCDMA 1900 Channel = 9538)



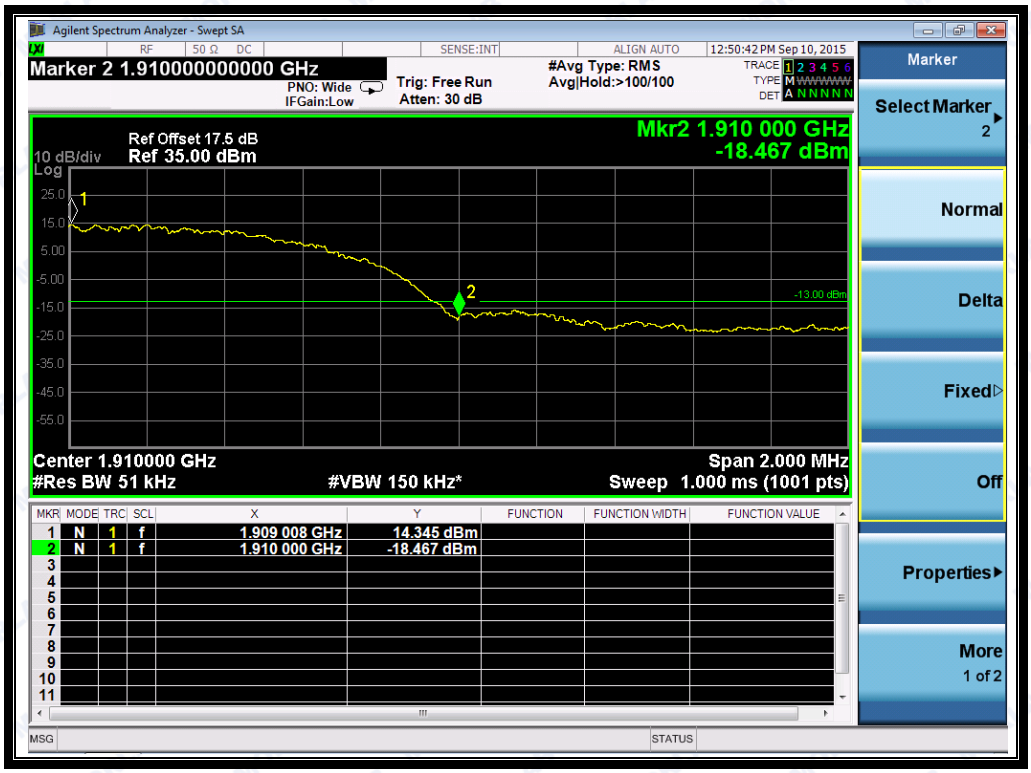
(Plot H1: HSDPA 1900 Channel = 9262)



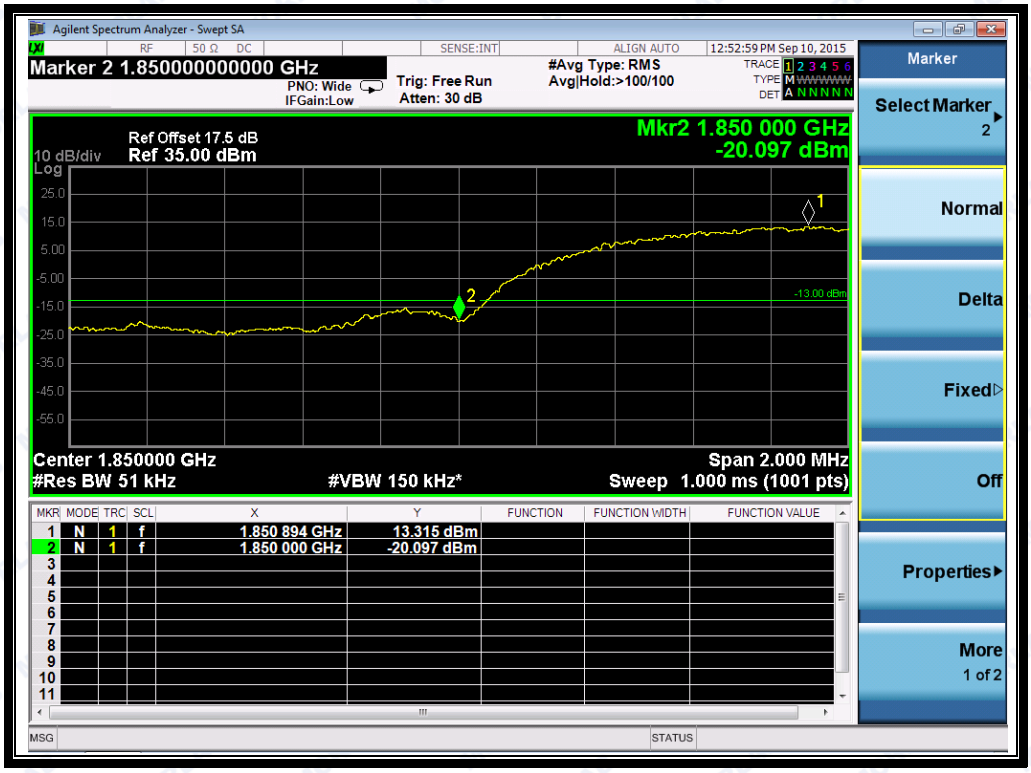
(Plot H2: HSDPA 1900 Channel = 9538)



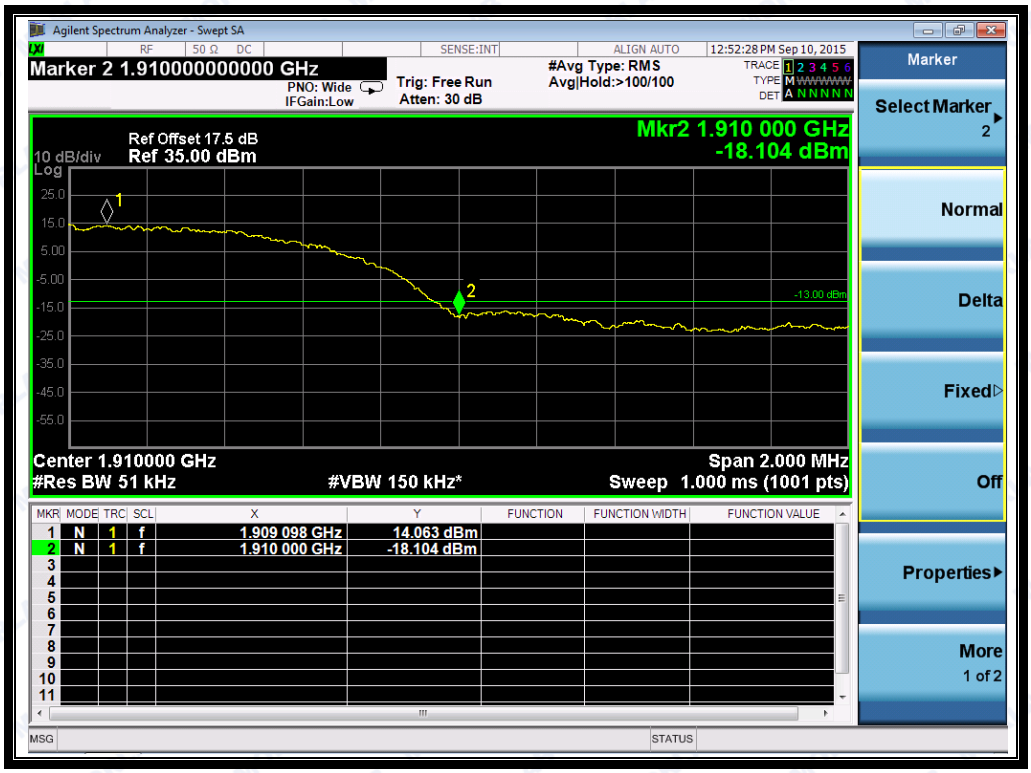
(Plot J1: HSUPA 1900 Channel = 9262)



(Plot J2: HSUPA 1900 Channel = 9538)



(Plot L1: HSPA+ 1900 Channel = 9262)



(Plot L2: HSPA+ 1900 Channel = 9538)

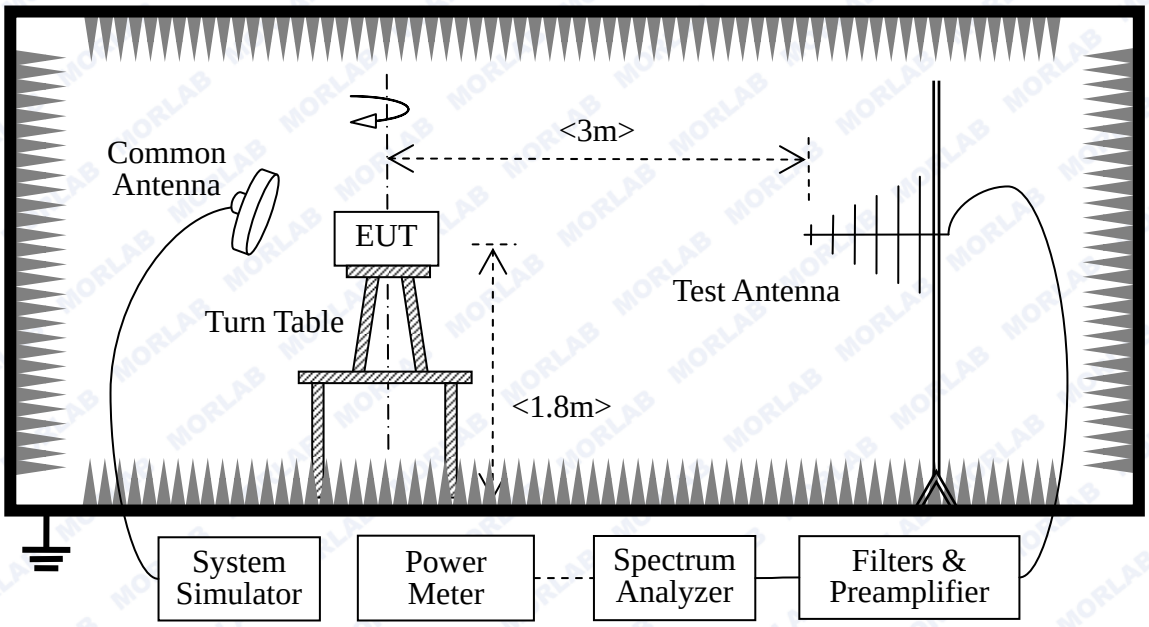
2.7 Transmitter Radiated Power (EIRP/ERP)

2.7.1 Requirement

According to FCC section 22.913, the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7Watts, and FCC section 24.232, the broadband PCS mobile station is limited to 2 Watts e.i.r.p. peak power.

2.7.2 Test Description

Test Setup:



The EUT, which is powered by the Battery charged with the AC Adapter, is located in a 3m Full-Anechoic Chamber; the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.

A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power (i.e. GSM850MHz band Power Control Level (PCL) = 5/19 and Power Class = 4, GSM1900MHz band Power Control Level (PCL) = 0/15 and Power Class = 1), and only the test result of the maximum output power was recorded.

- GSM Maximum RF output power: GSM 850 32.33dBm, GSM 1900 29.22dBm. WCDMA 1900 23.59 dBm .Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

- Minimum RF power: GSM 850 1.5dBm, GSM 1900 1.1dBm, WCDMA 850 0.11dBm, WCDMA 1900 0.15dBm.

The Test Antenna is a Bi-Log one (used for 30MHz to 1GHz) or a Horn one (used for above 3GHz), and it's located at the same height as the EUT. The Filters consists of Notch Filters and High Pass Filter.

Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2015.02.26	2016.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2015.02.26	2016.02.25
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2015.02.26	2016.02.25
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2015.02.26	2016.02.25
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2015.02.26	2016.02.25
Substitution Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2015.02.26	2016.02.25
Pre-AMPs	lucix	S10M100L3802	S020180L3203	2015.02.26	2016.02.25
Notch Filter	COM-MW	ZBSF-C836.5-25-X	NA	2015.02.26	2016.02.25
Notch Filter	COM-MW	ZBSF-C1747.5-75-X2	NA	2015.02.26	2016.02.25
Notch Filter	COM-MW	ZBSF-C1880-60-X2	NA	2015.02.26	2016.02.25

2.7.3 Test Result

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested.

The substitution corrections are obtained as described below:

$A_{SUBST} = P_{SUBST\_TX} - P_{SUBST\_RX} - L_{SUBST\_CABLES} + G_{SUBST\_TX\_ANT}$

$A_{TOT} = L_{CABLES} + A_{SUBST}$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

P_{SUBST_TX} is signal generator level,

P_{SUBST_RX} is receiver level,

L_{SUBST_CABLES} is cable losses including TX cable,

$G_{SUBST\_TX\_ANT}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final values which contain the data of A_{TOT}.

GSM Model Test Verdict:

Band	Channel	Frequency (MHz)	PCL	Measured ERP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 850MHz	128	824.20	5	33.74	2.3659	Plot A	38.5	7	PASS
	190	836.60	5	33.36	2.1677				PASS
	251	848.80	5	33.07	2.0277				PASS
GPRS 850MHz	128	824.20	5	31.34	1.3614	Plot B Note 1	38.5	7	PASS
	190	836.60	5	31.45	1.3964				PASS
	251	848.80	5	31.06	1.2764				PASS
EGPRS 850MHz	128	824.20	5	29.59	0.9099	Plot C Note 1	38.5	7	PASS
	190	836.60	5	29.45	0.8810				PASS
	251	848.80	5	29.35	0.8610				PASS

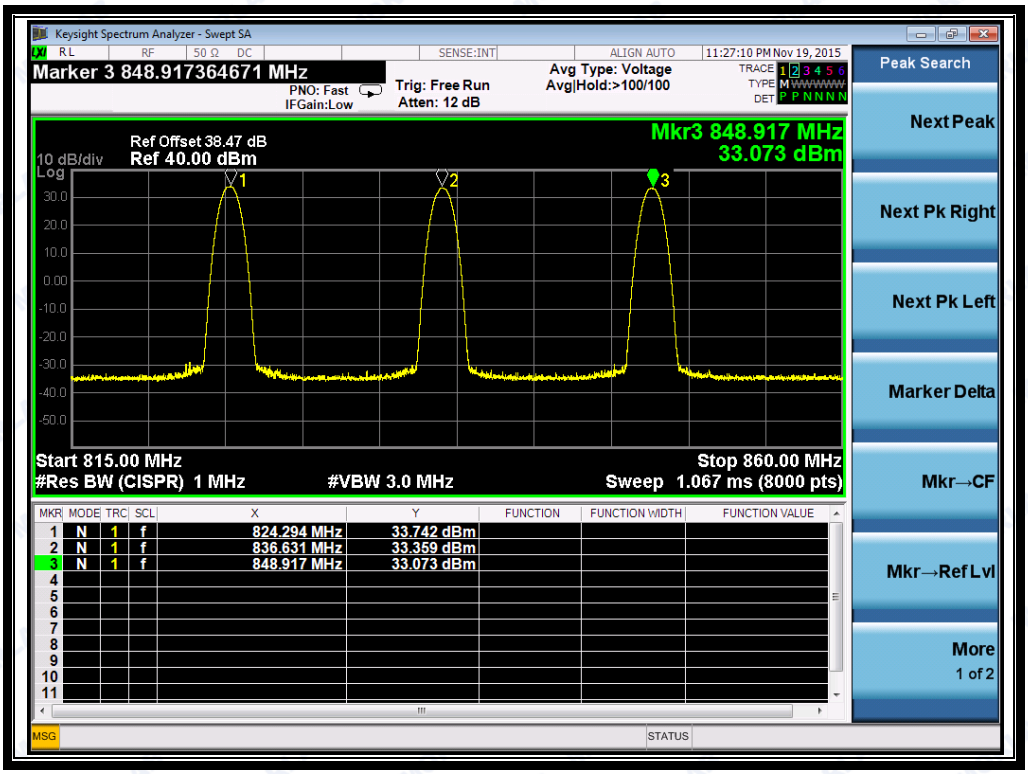
Band	Channel	Frequency (MHz)	PCL	Measured EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 1900MHz	512	1850.2	0	30.95	1.2445	Plot D	33	2	PASS
	661	1880.0	0	30.14	1.0328				PASS
	810	1909.8	0	31.50	1.4125				PASS
GPRS 1900MHz	512	1850.2	0	29.76	0.9462	Plot E Note 1	33	2	PASS
	661	1880.0	0	29.29	0.8492				PASS
	810	1909.8	0	28.96	0.7870				PASS
EGPRS 1900MHz	512	1850.2	0	26.96	0.4966	Plot F Note 1	33	2	PASS
	661	1880.0	0	27.25	0.5309				PASS
	810	1909.8	0	27.58	0.5728				PASS

Note 1: For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.

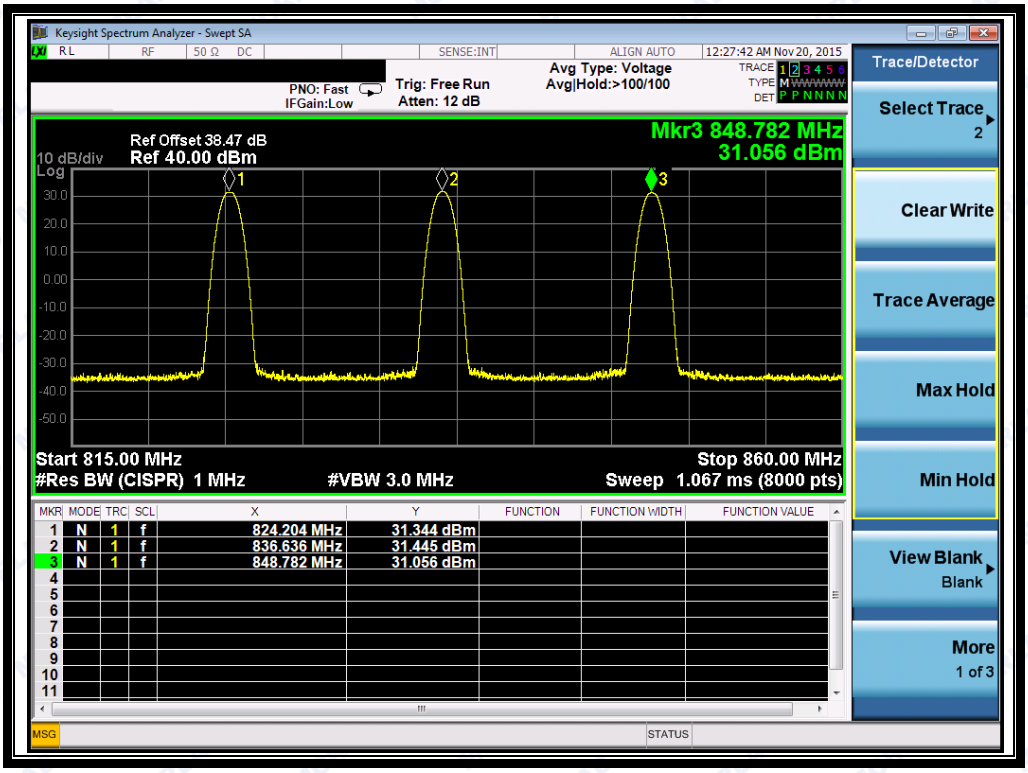
WCDMA Model Test Verdict:

Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
WCDMA 1900MHz	9262	1852.4	26.33	0.4295	Plot K	33	2	PASS
	9400	1880.0	26.98	0.4989				PASS
	9538	1907.6	26.37	0.4335				PASS
HSDPA 1900MHz	9262	1852.4	26.23	0.4198	Plot L	33	2	PASS
	9400	1880.0	26.97	0.4977				PASS
	9538	1907.6	25.49	0.3540				PASS
HSUPA 1900MHz	9262	1852.4	26.52	0.4487	Plot M	33	2	PASS
	9400	1880.0	26.23	0.4198				PASS
	9538	1907.6	25.75	0.3758				PASS
HSPA+ 1900MHz	9262	1852.4	26.1	0.4074	Plot N	33	2	PASS
	9400	1880.0	26.78	0.4764				PASS
	9538	1907.6	26.16	0.4130				PASS

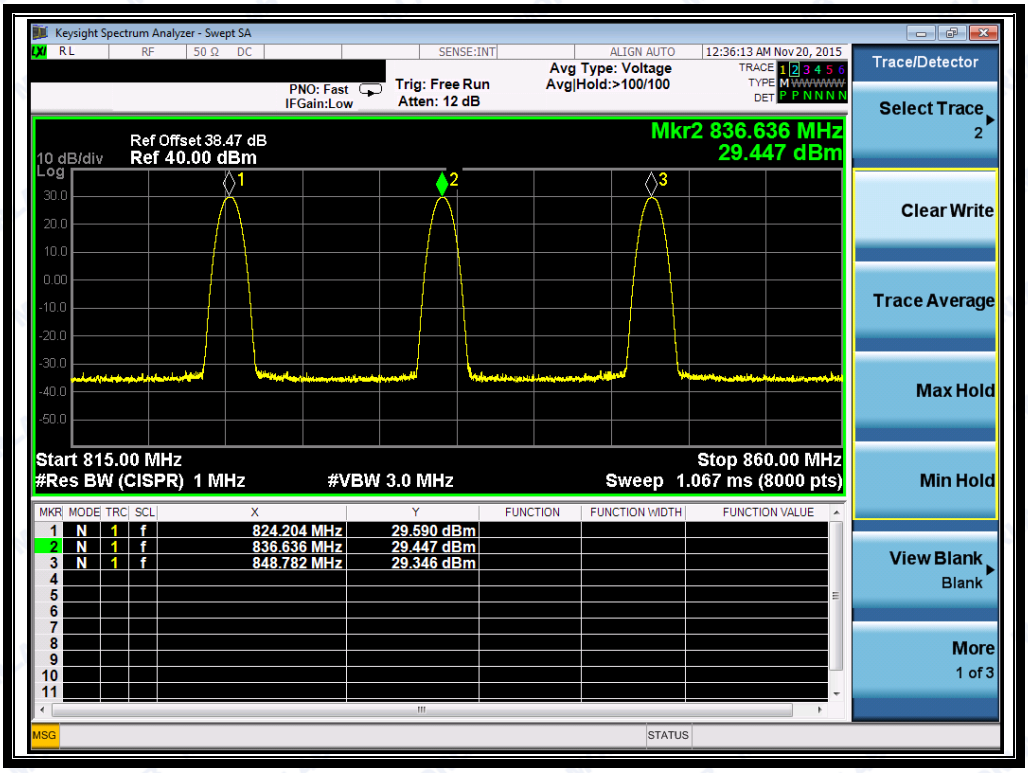
Test Plots:



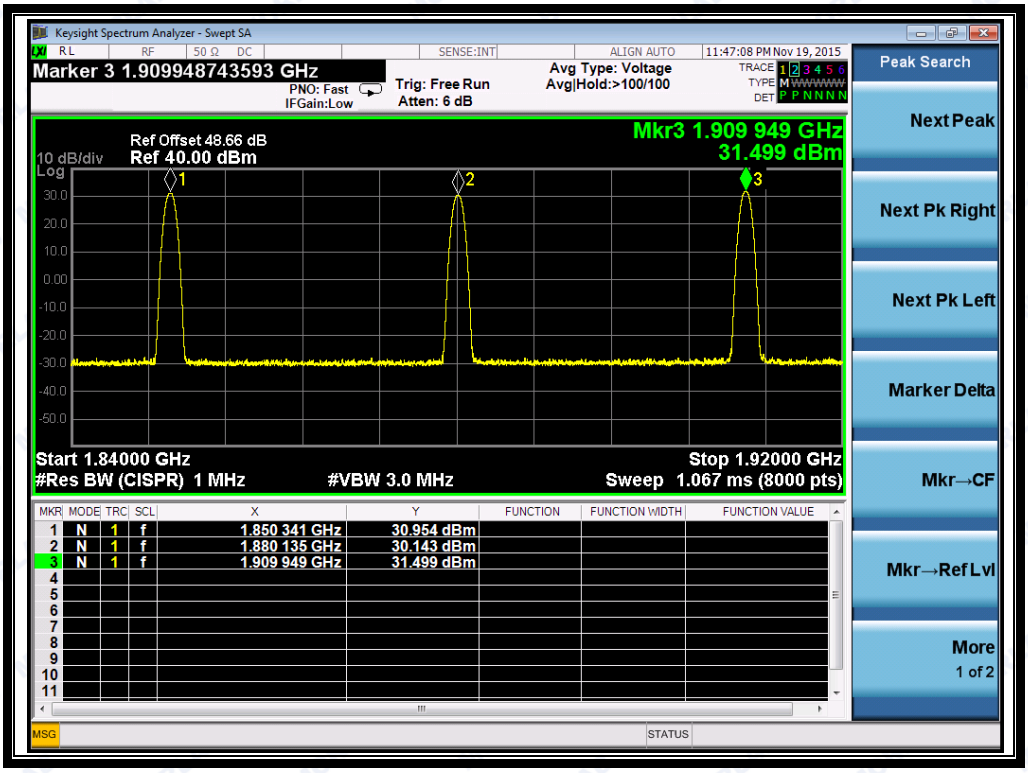
(Plot A: GSM 850MHz Channel = 128, 190, 251)



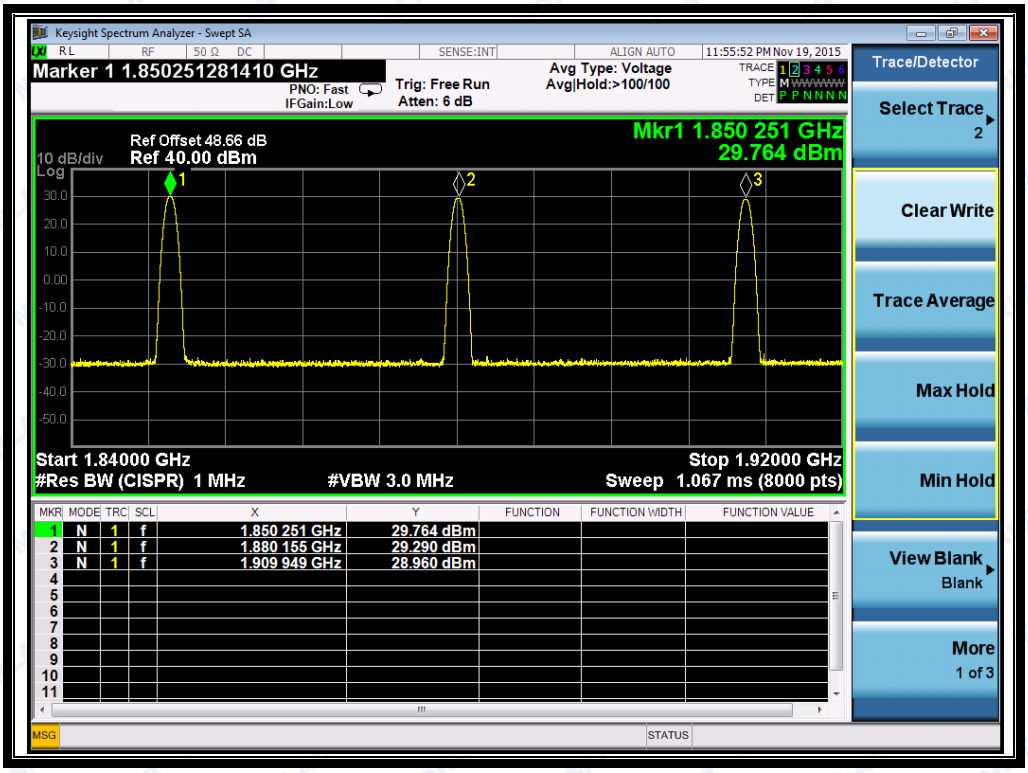
(Plot B:GPRS 850MHz Channel = 128, 190, 251)



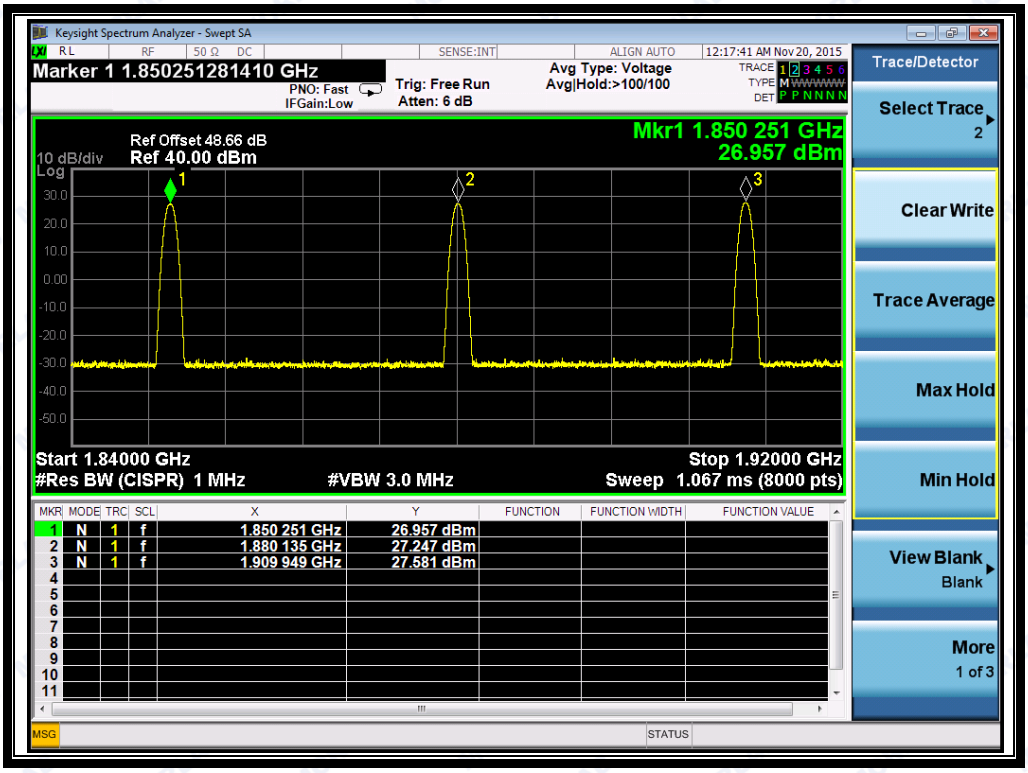
(Plot C: EGPRS 850MHz Channel = 128, 190, 251)



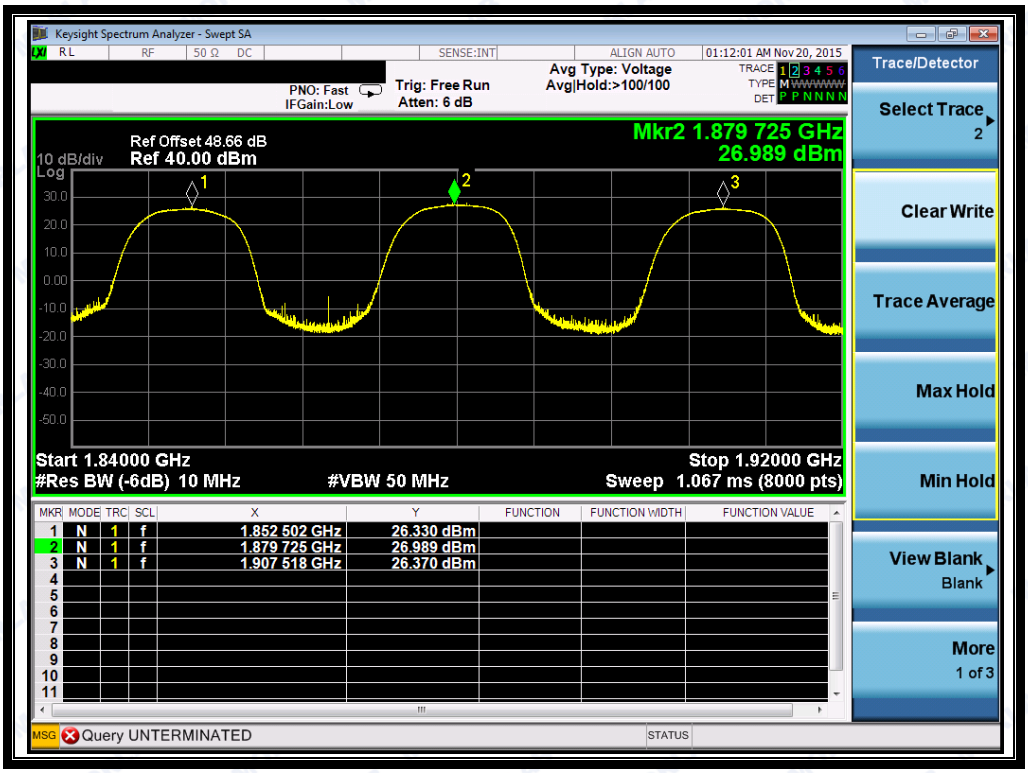
(Plot D: GSM 1900MHz Channel = 512, 661, 810)



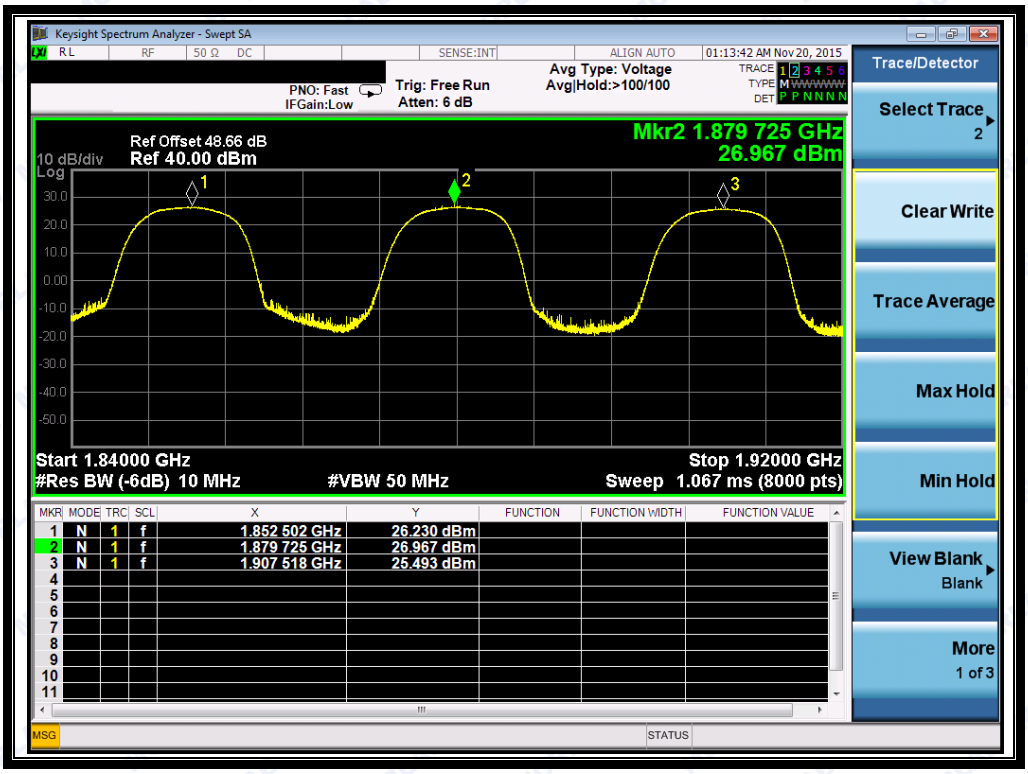
(Plot E: GPRS 1900MHz Channel = 512, 661, 810)



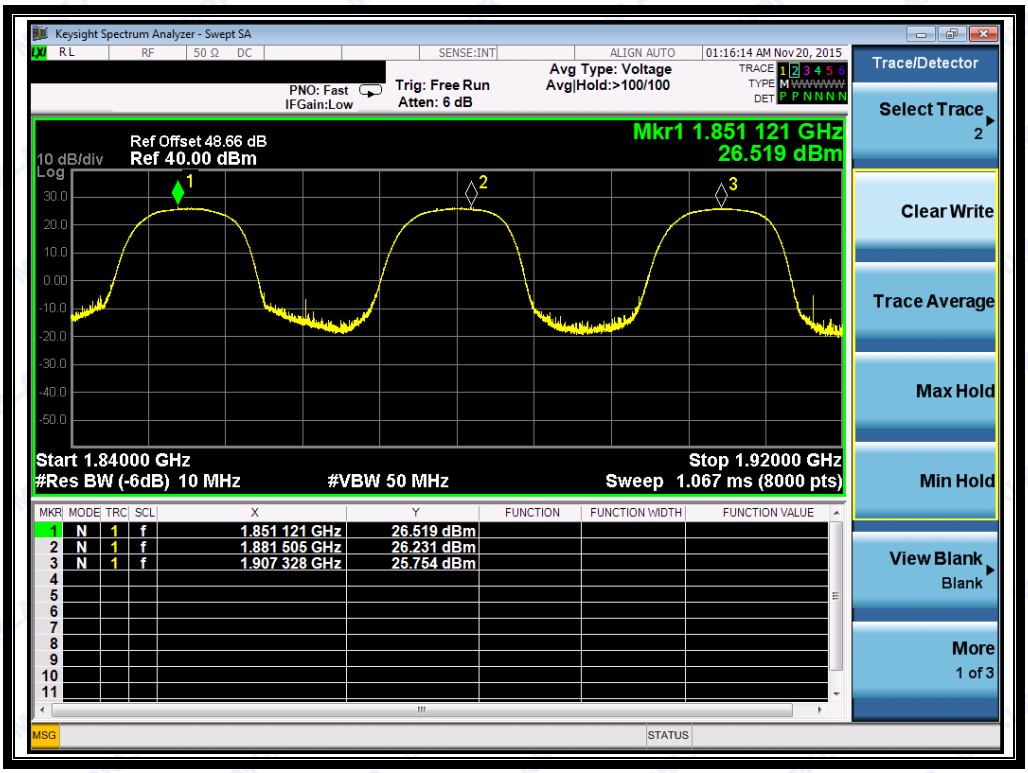
(Plot F: EGPRS 1900MHz Channel = 512, 661, 810)



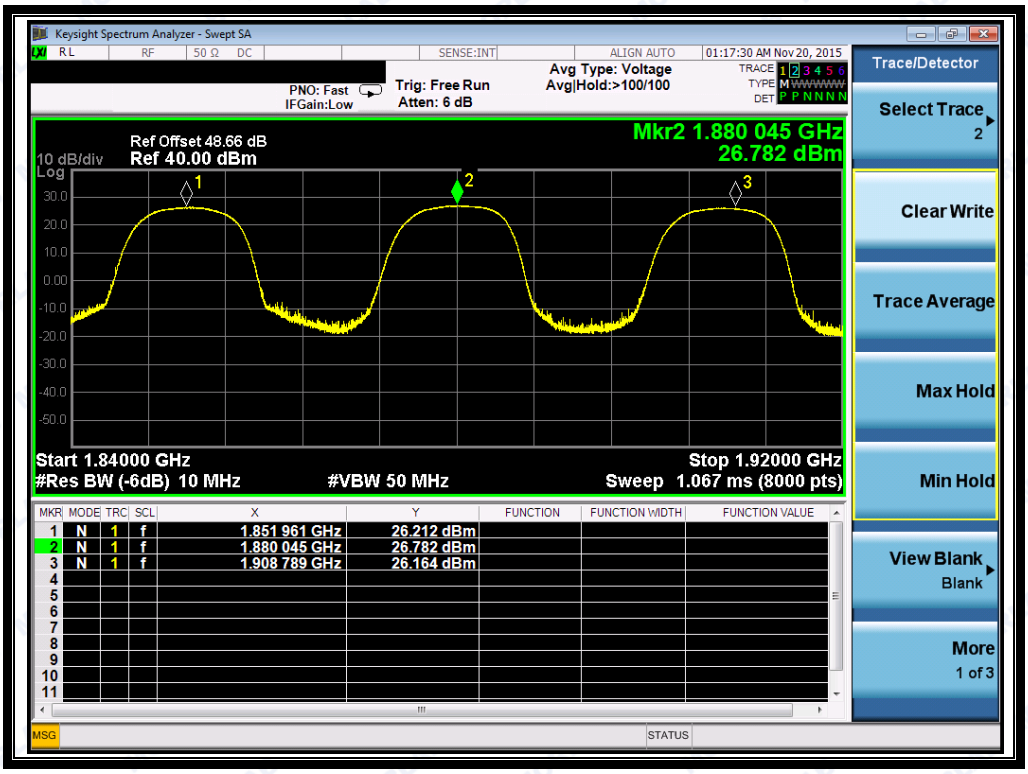
(Plot K: WCDMA 1900 MHz Channel = 9262, 9400, 9538)



(Plot L: HSDPA1900 MHz Channel = 9262, 9400, 9538)



(Plot M: HSUPA1900 MHz Channel = 9262, 9400, 9538)



(Plot N: HSPA+ 1900 MHz Channel = 9262, 9400, 9538)

2.8 Radiated Out of Band Emissions

2.8.1 Requirement

According to FCC section 22.917(a) and section 24.238(a) the power of any emission 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. This calculated to be -13dBm.

The spurious emission with frequency band 1900 according to FCC section 2.1057.

2.8.2 Test Description

See section 2.7.2 of this report.

Equipment List:

Description	Manufacturer	Model	Serial No.	Cal.Date	Cal.Due
System Simulator	Agilent	E5515C	GB43130131	2015.02.26	2016.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2015.02.26	2016.02.25
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2015.02.26	2016.02.25
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2015.02.26	2016.02.25
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2015.02.26	2016.02.25
Substitution Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2015.02.26	2016.02.25
Pre-AMPs	lucix	S10M100L3802	S020180L3203	2015.02.26	2016.02.25
Notch Filter	COM-MW	ZBSF-C836.5-25-X	NA	2015.02.26	2016.02.25
Notch Filter	COM-MW	ZBSF-C1747.5-75-X2	NA	2015.02.26	2016.02.25
Notch Filter	COM-MW	ZBSF-C1880-60-X2	NA	2015.02.26	2016.02.25

Note: when doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.8.3 Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

1. Test Verdict:

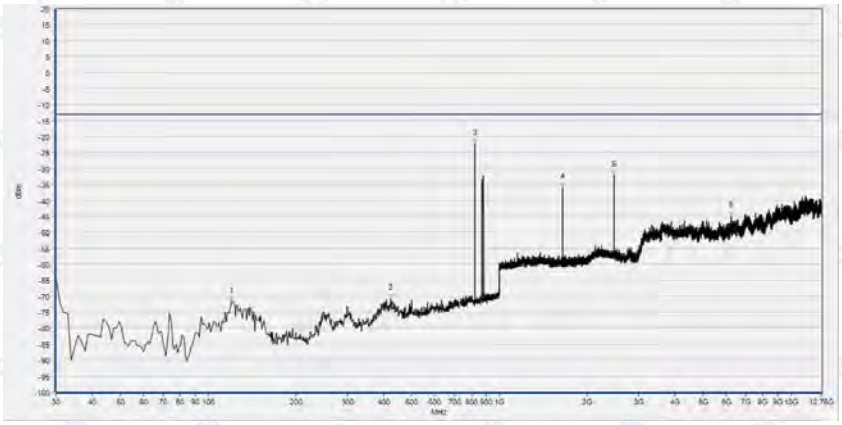
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
GSM 850MHz	128	824.2	< -25	< -25	Plot A1/A2	-13	PASS
	190	836.6	< -25	< -25	Plot A3/A4		PASS
	251	848.8	< -25	< -25	Plot A5/A6		PASS
GSM 1900MHz	512	1850.2	< -25	< -25	Plot B1/B2	-13	PASS
	661	1880.0	< -25	< -25	Plot B3/B4		PASS
	810	1909.8	< -25	< -25	Plot B5/B6		PASS
EGPRS 850MHz	128	824.2	< -25	< -25	Plot C1/C2	-13	PASS
	190	836.6	< -25	< -25	Plot C3/C4		PASS
	251	848.8	< -25	< -25	Plot C5/C6		PASS
EGPRS 1900MHz	512	1850.2	< -25	< -25	Plot D1/D2	-13	PASS
	661	1880.0	< -25	< -25	Plot D3/D4		PASS
	810	1909.8	< -25	< -25	Plot D5/D6		PASS
WCDMA 850MHz	4132	826.4	< -25	< -25	Plot E1/E2	-13	PASS
	4175	835.0	< -25	< -25	Plot E3/E4		PASS
	4233	846.6	< -25	< -25	Plot E5/E6		PASS
WCDMA 1900MHz	9262	1852.4	< -25	< -25	Plot F1/F2	-13	PASS
	9400	1880.0	< -25	< -25	Plot F3/F4		PASS
	9538	1907.6	< -25	< -25	Plot F5/F6		PASS
HSDPA 850MHz	4132	826.4	< -25	< -25	Plot G1/G2	-13	PASS
	4175	835.0	< -25	< -25	Plot G3/G4		PASS
	4233	846.6	< -25	< -25	Plot G5/G6		PASS
HSDPA 1900MHz	9262	1852.4	< -25	< -25	Plot H1/H2	-13	PASS
	9400	1880.0	< -25	< -25	Plot H3/H4		PASS
	9538	1907.6	< -25	< -25	Plot H5/H6		PASS
HSUPA 850MHz	4132	826.4	< -25	< -25	Plot I1/I2	-13	PASS
	4175	835.0	< -25	< -25	Plot I3/I4		PASS
	4233	846.6	< -25	< -25	Plot I5/I6		PASS
HSUPA 1900MHz	9262	1852.4	< -25	< -25	Plot J1/J2	-13	PASS
	9400	1880.0	< -25	< -25	Plot H3/J4		PASS
	9538	1907.6	< -25	< -25	Plot J5/J6		PASS
HSPA+ 850MHz	4132	826.4	< -25	< -25	Plot K1/K2	-13	PASS
	4175	835.0	< -25	< -25	Plot K3/K4		PASS
	4233	846.6	< -25	< -25	Plot K5/K6		PASS

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
HSPA+ 1900MHz	9262	1852.4	< -25	< -25	Plot L1/L2	-13	PASS
	9400	1880.0	< -25	< -25	Plot L3/L4		PASS
	9538	1907.6	< -25	< -25	Plot L5/L6		PASS

2. Test Plots for the Whole Measurement Frequency Range:

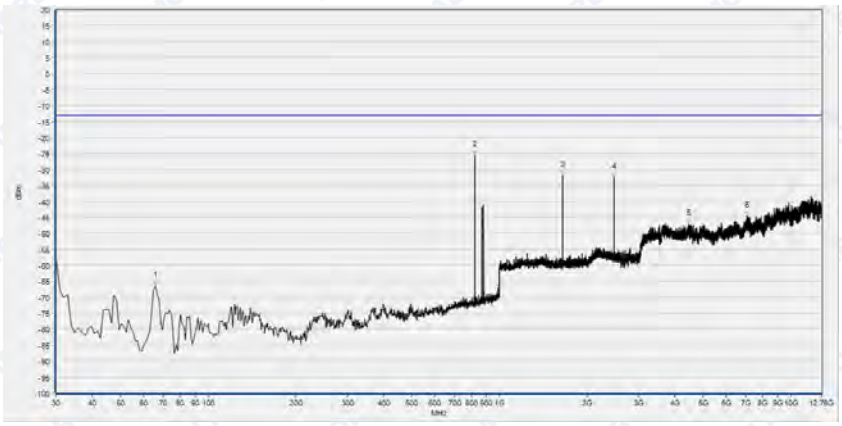
Note1: the power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.



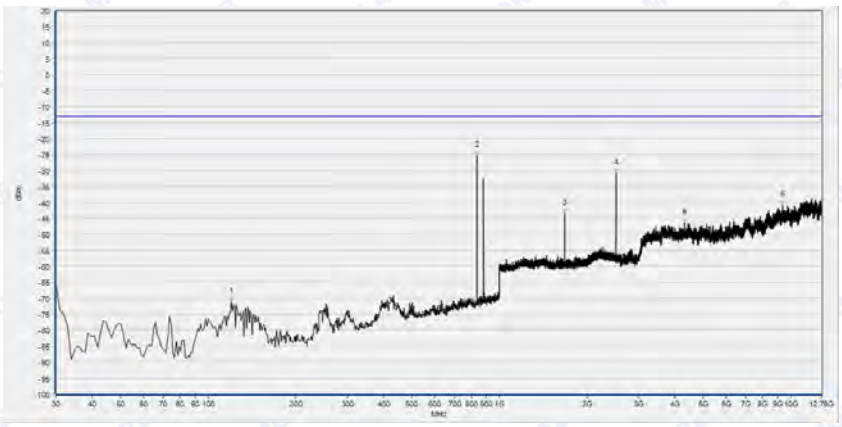
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	120.210	-71.67	-13.00	Horizontal	PASS
2	423.820	-70.77	-13.00	Horizontal	PASS
3	824.430	-22.23	-13.00	Horizontal	N.A
4	1648.579	-35.82	-13.00	Horizontal	PASS
5	2473.229	-32.12	-13.00	Horizontal	PASS
6	6247.281	-44.74	-13.00	Horizontal	PASS

(Plot A1: GSM 850MHz Channel = 128, Test Antenna Horizontal)



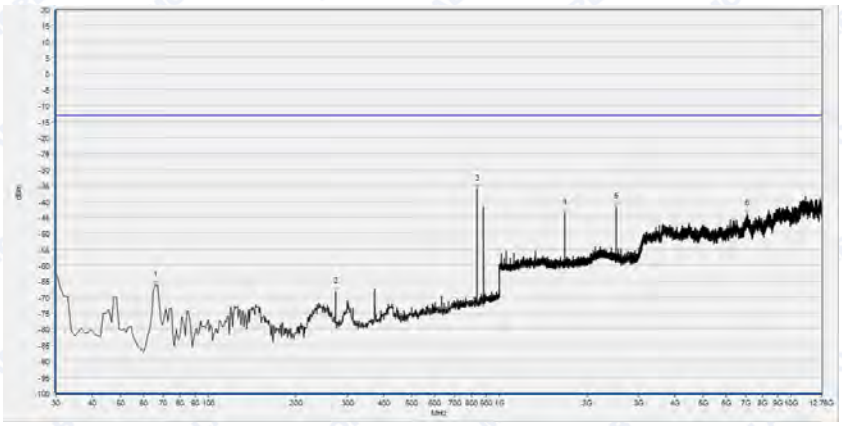
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-66.57	-13.00	Vertical	PASS
2	824.430	-25.58	-13.00	Vertical	N.A
3	1649.220	-31.87	-13.00	Vertical	PASS
4	2473.229	-32.44	-13.00	Vertical	PASS
5	4462.402	-47.11	-13.00	Vertical	PASS
6	7068.658	-44.59	-13.00	Vertical	PASS

(Plot A2: GSM 850MHz Channel = 128, Test Antenna Vertical)



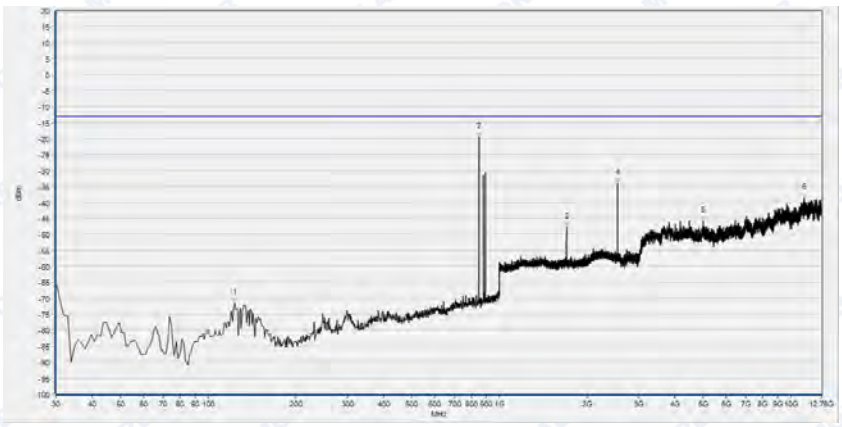
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	120.210	-71.28	-13.00	Horizontal	PASS
2	837.040	-25.45	-13.00	Horizontal	N.A
3	1673.549	-43.41	-13.00	Horizontal	PASS
4	2510.364	-30.92	-13.00	Horizontal	PASS
5	4323.968	-46.37	-13.00	Horizontal	PASS
6	9385.125	-40.75	-13.00	Horizontal	PASS

(Plot A3: GSM850MHz Channel = 190, Test Antenna Horizontal)



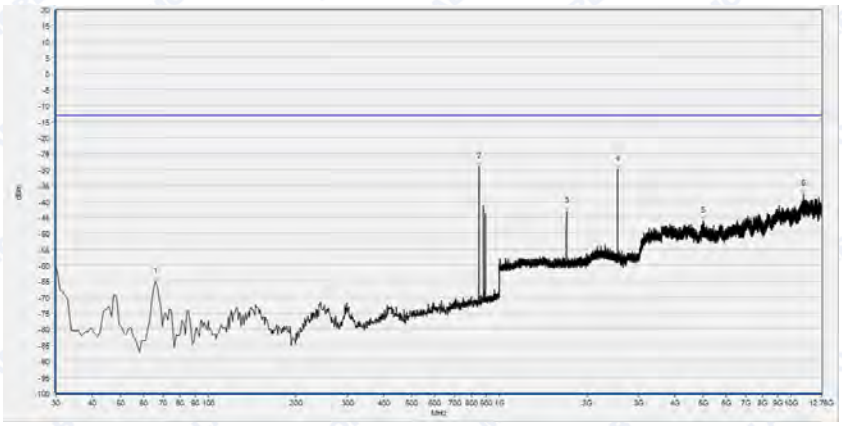
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-66.29	-13.00	Vertical	PASS
2	273.470	-68.36	-13.00	Vertical	PASS
3	836.070	-36.09	-13.00	Vertical	N.A
4	1673.549	-43.75	-13.00	Vertical	PASS
5	2510.364	-41.76	-13.00	Vertical	PASS
6	7068.658	-43.88	-13.00	Vertical	PASS

(Plot A4: GSM 850MHz Channel = 190, Test Antenna Vertical)



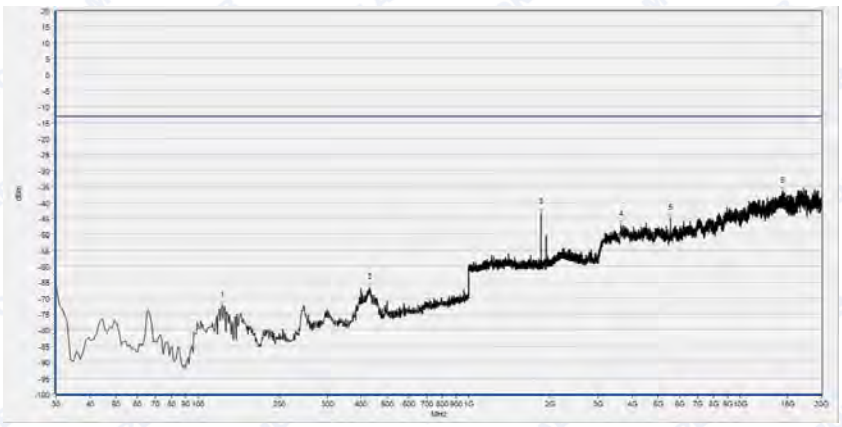
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	123.120	-71.31	-13.00	Vertical	PASS
2	848.680	-19.54	-13.00	Vertical	N.A
3	1697.879	-47.81	-13.00	Vertical	PASS
4	2546.859	-34.13	-13.00	Vertical	PASS
5	5005.065	-45.75	-13.00	Vertical	PASS
6	11140.471	-38.46	-13.00	Vertical	PASS

(Plot A5: GSM 850MHz Channel = 251, Test Antenna Horizontal)



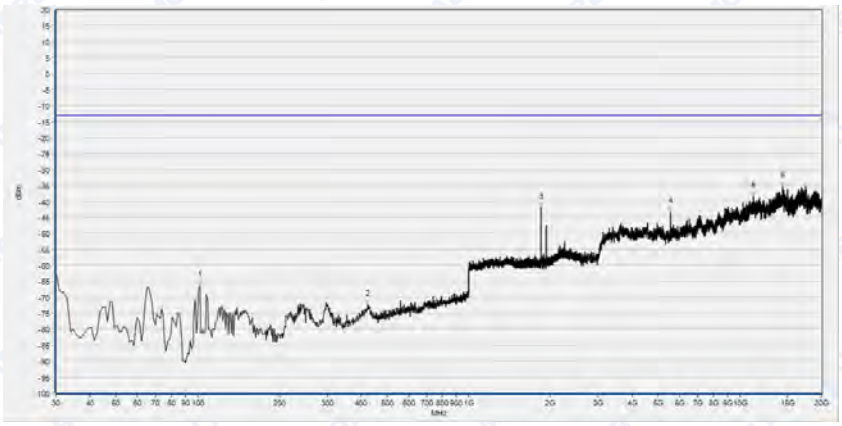
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-65.14	-13.00	Horizontal	PASS
2	848.680	-29.22	-13.00	Horizontal	N.A
3	1697.879	-43.27	-13.00	Horizontal	PASS
4	2546.859	-30.17	-13.00	Horizontal	PASS
5	4999.527	-46.22	-13.00	Horizontal	PASS
6	11077.714	-37.62	-13.00	Horizontal	PASS

(Plot A6: GSM 850MHz Channel = 251, Test Antenna Vertical)



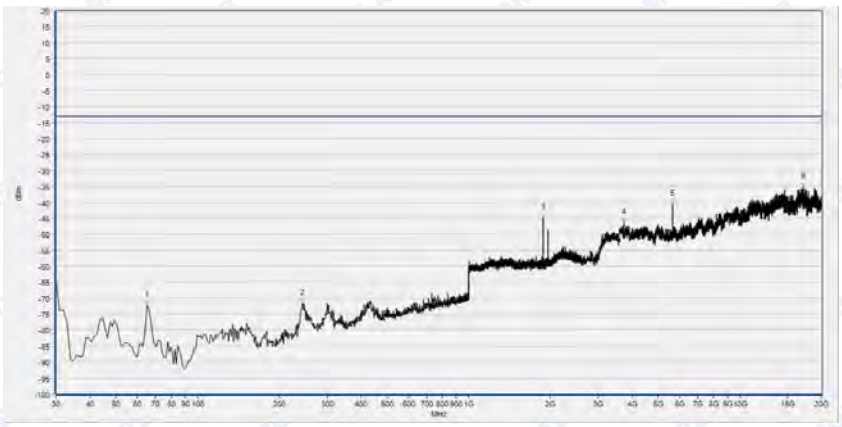
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	123.120	-72.34	-13.00	Vertical	PASS
2	430.610	-66.73	-13.00	Vertical	PASS
3	1850.260	-43.33	-13.00	Vertical	N.A
4	3644.190	-47.01	-13.00	Vertical	PASS
5	5552.209	-44.93	-13.00	Vertical	PASS
6	14383.524	-36.49	-13.00	Vertical	PASS

(Plot B1: GSM 1900MHz Channel = 512, Test Antenna Horizontal)



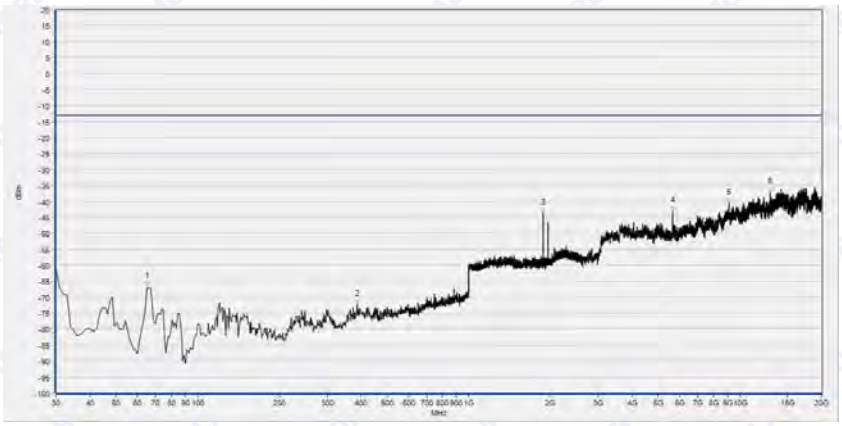
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-66.37	-13.00	Horizontal	PASS
2	422.850	-72.29	-13.00	Horizontal	PASS
3	1850.900	-41.87	-13.00	Horizontal	N.A
4	5552.209	-43.25	-13.00	Horizontal	PASS
5	11200.327	-38.38	-13.00	Horizontal	PASS
6	14396.181	-35.24	-13.00	Horizontal	PASS

(Plot B2: GSM 1900MHz Channel = 512, Test Antenna Vertical)



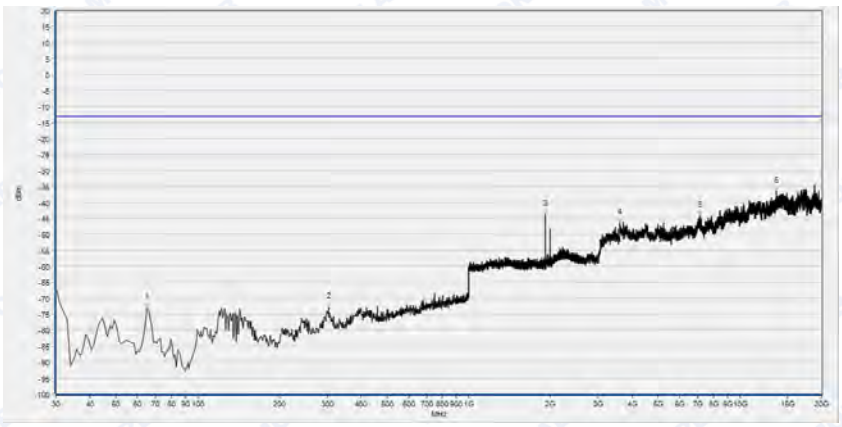
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-72.34	-13.00	Vertical	PASS
2	243.400	-71.73	-13.00	Vertical	PASS
3	1880.352	-44.80	-13.00	Vertical	N.A
4	3726.459	-46.44	-13.00	Vertical	PASS
5	5640.807	-40.59	-13.00	Vertical	PASS
6	17136.388	-35.13	-13.00	Vertical	PASS

(Plot B3: GSM 1900MHz Channel = 661, Test Antenna Horizontal)



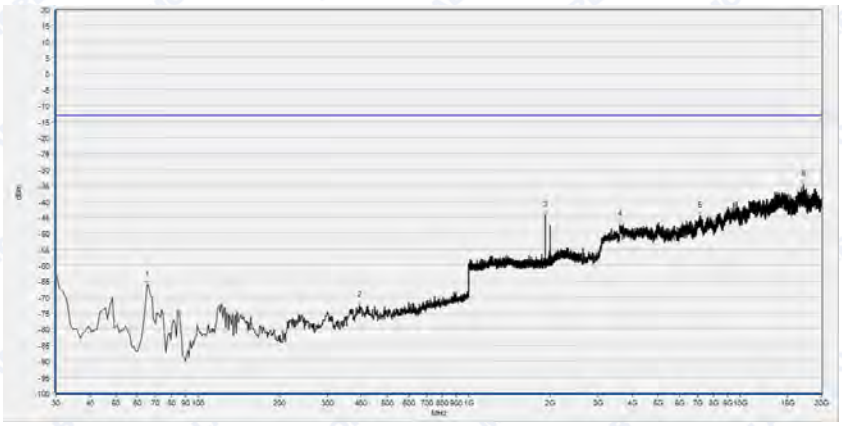
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-66.80	-13.00	Horizontal	PASS
2	386.960	-72.25	-13.00	Horizontal	PASS
3	1880.352	-43.72	-13.00	Horizontal	N.A
4	5640.807	-43.09	-13.00	Horizontal	PASS
5	9105.619	-40.64	-13.00	Horizontal	PASS
6	12912.166	-37.25	-13.00	Horizontal	PASS

(Plot B4: GSM 1900MHz Channel = 661, Test Antenna Vertical)



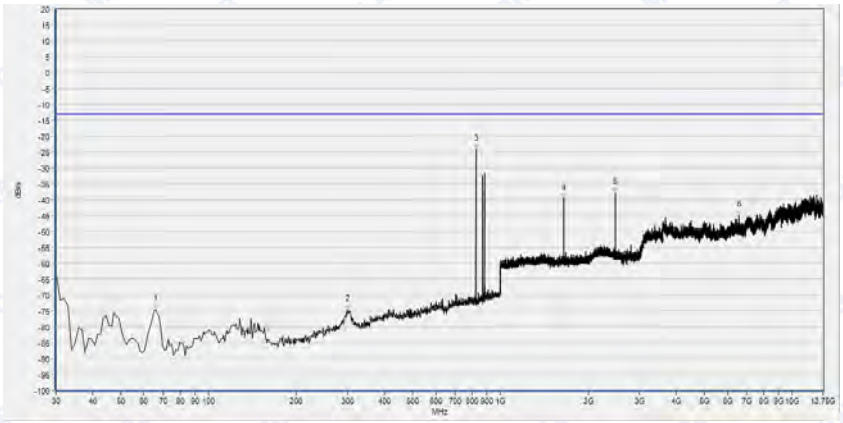
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-73.00	-13.00	Vertical	PASS
2	303.540	-72.71	-13.00	Vertical	PASS
3	1910.444	-43.62	-13.00	Vertical	N.A
4	3612.548	-46.42	-13.00	Vertical	PASS
5	7118.494	-44.23	-13.00	Vertical	PASS
6	13598.800	-36.52	-13.00	Vertical	PASS

(Plot B5: GSM 1900MHz Channel = 810, Test Antenna Horizontal)



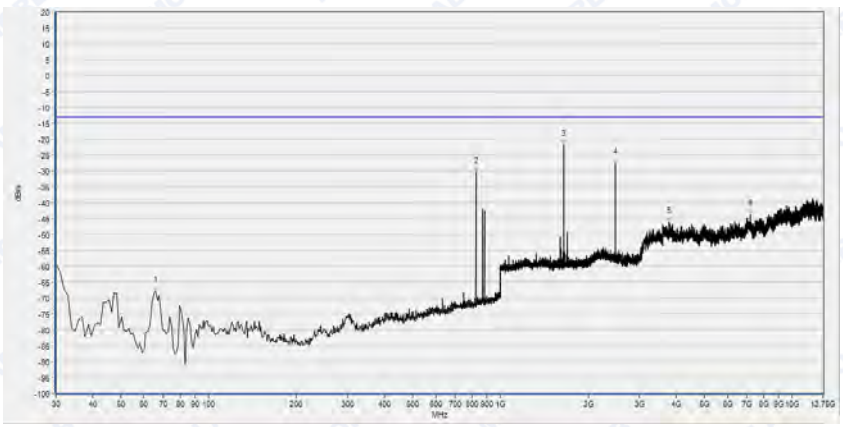
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-66.25	-13.00	Horizontal	PASS
2	393.750	-72.56	-13.00	Horizontal	PASS
3	1910.444	-44.30	-13.00	Horizontal	N.A
4	3609.384	-47.34	-13.00	Horizontal	PASS
5	7115.330	-44.69	-13.00	Horizontal	PASS
6	17180.687	-34.66	-13.00	Horizontal	PASS

(Plot B6: GSM 1900MHz Channel = 810, Test Antenna Vertical)



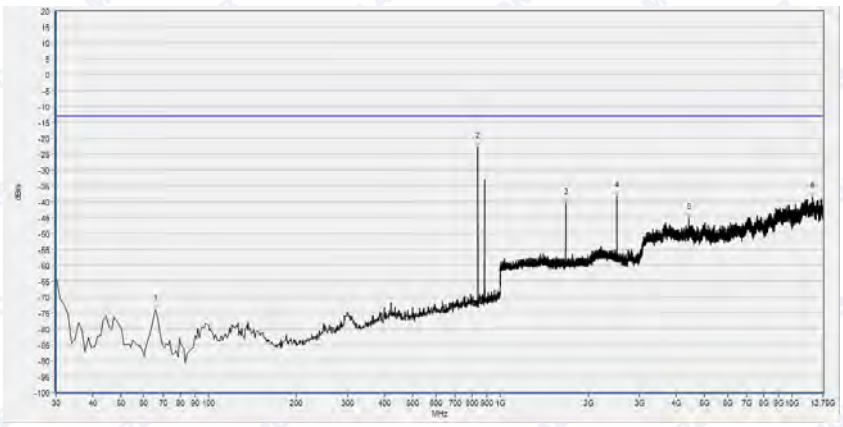
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-74.79	-13.00	Horizontal	PASS
2	299.660	-74.70	-13.00	Horizontal	PASS
3	824.430	-24.29	-13.00	Horizontal	N.A
4	1648.579	-39.71	-13.00	Horizontal	PASS
5	2472.589	-37.81	-13.00	Horizontal	PASS
6	6572.140	-44.92	-13.00	Horizontal	PASS

(Plot C1: EGPRS 850MHz Channel = 128, Test Antenna Horizontal)



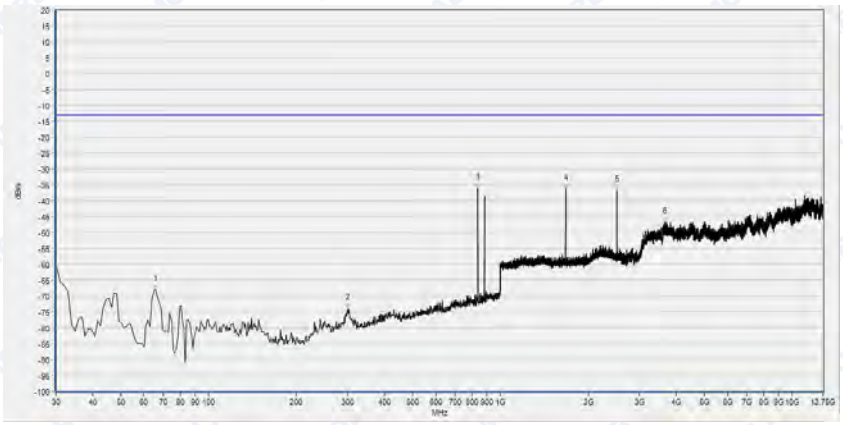
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-67.80	-13.00	Vertical	PASS
2	824.430	-30.46	-13.00	Vertical	N.A
3	1648.579	-22.02	-13.00	Vertical	PASS
4	2472.589	-27.65	-13.00	Vertical	PASS
5	3781.306	-46.17	-13.00	Vertical	PASS
6	7170.176	-43.90	-13.00	Vertical	PASS

(Plot C2: EGPRS 850MHz Channel = 128, Test Antenna Vertical)



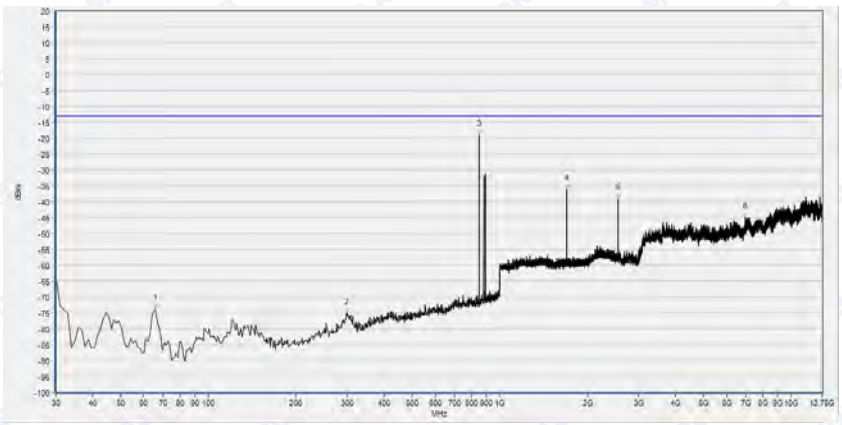
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-74.07	-13.00	Horizontal	PASS
2	837.040	-22.75	-13.00	Horizontal	N.A
3	1673.549	-40.41	-13.00	Horizontal	PASS
4	2510.364	-38.33	-13.00	Horizontal	PASS
5	4416.258	-45.34	-13.00	Horizontal	PASS
6	11716.358	-38.61	-13.00	Horizontal	PASS

(Plot C3: EGPRS 850MHz Channel = 190, Test Antenna Horizontal)



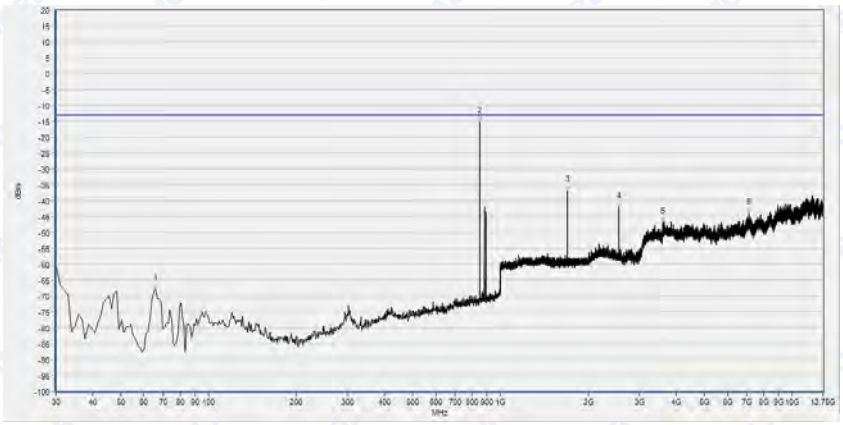
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-68.09	-13.00	Vertical	PASS
2	299.660	-74.02	-13.00	Vertical	PASS
3	837.040	-36.14	-13.00	Vertical	N.A
4	1673.549	-36.43	-13.00	Vertical	PASS
5	2510.364	-36.82	-13.00	Vertical	PASS
6	3652.100	-46.79	-13.00	Vertical	PASS

(Plot C4: EGPRS 850MHz Channel = 190, Test Antenna Vertical)



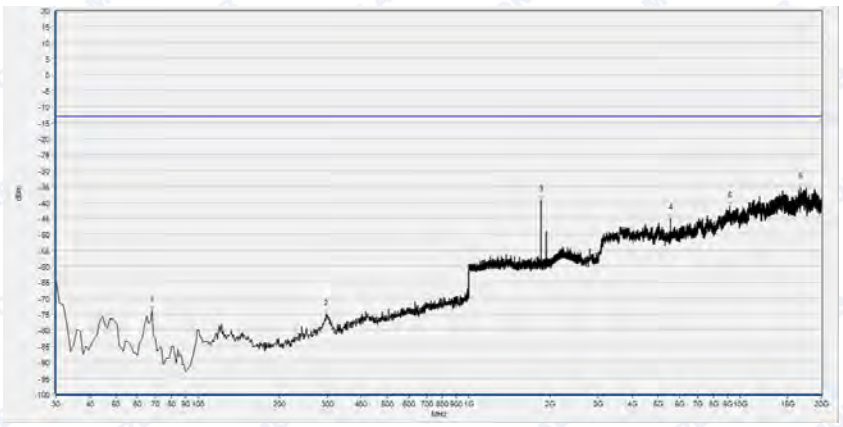
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-73.74	-13.00	Horizontal	PASS
2	297.720	-75.18	-13.00	Horizontal	PASS
3	848.680	-18.95	-13.00	Horizontal	N.A
4	1697.879	-36.21	-13.00	Horizontal	PASS
5	2546.859	-39.01	-13.00	Horizontal	PASS
6	6946.836	-45.07	-13.00	Horizontal	PASS

(Plot C5: EGPRS 850MHz Channel = 251, Test Antenna Horizontal)



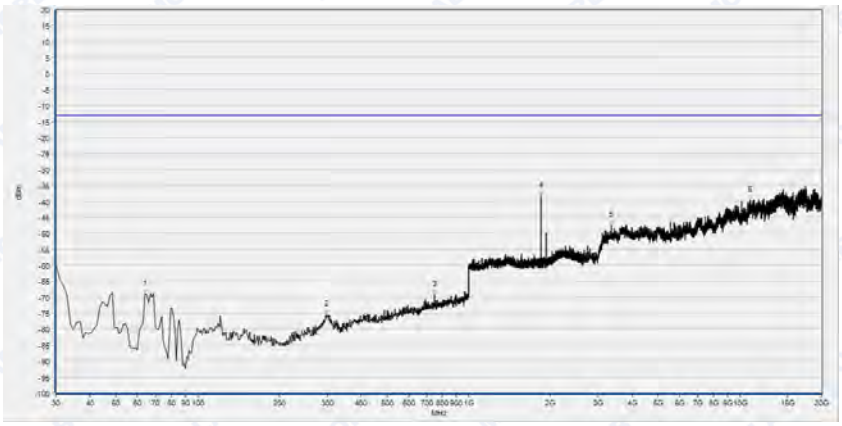
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-67.74	-13.00	Vertical	PASS
2	848.680	-15.33	-13.00	Vertical	N.A
3	1697.879	-36.98	-13.00	Vertical	PASS
4	2546.859	-42.11	-13.00	Vertical	PASS
5	3604.110	-46.96	-13.00	Vertical	PASS
6	7087.116	-43.96	-13.00	Vertical	PASS

(Plot C6: EGPRS 850MHz Channel = 251, Test Antenna Vertical)



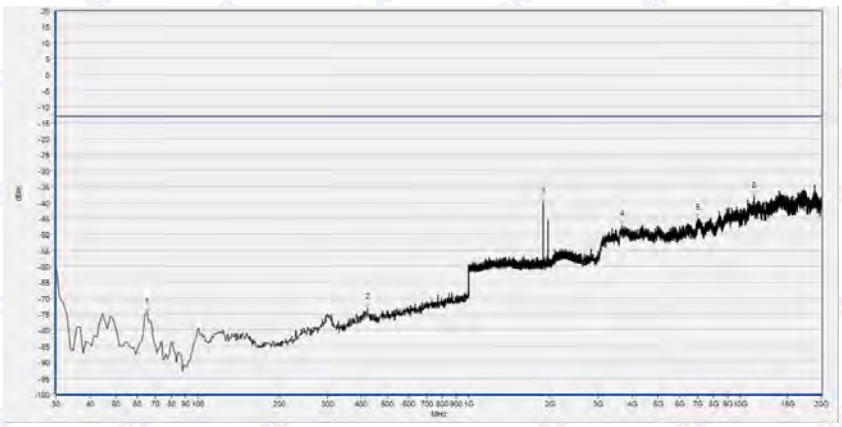
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	67.830	-73.79	-13.00	Horizontal	PASS
2	297.720	-74.96	-13.00	Horizontal	PASS
3	1850.260	-39.32	-13.00	Horizontal	N.A
4	5552.209	-45.03	-13.00	Horizontal	PASS
5	9149.918	-41.29	-13.00	Horizontal	PASS
6	16791.489	-35.19	-13.00	Horizontal	PASS

(Plot D1: EGPRS 1900MHz Channel = 512, Test Antenna Horizontal)



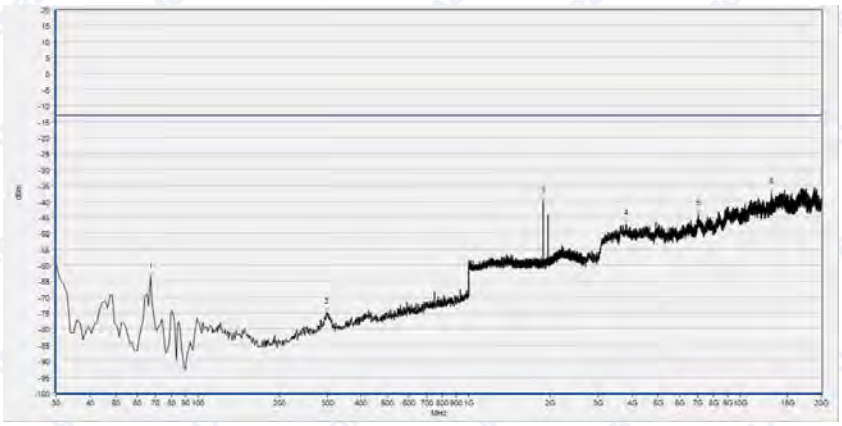
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	63.950	-69.02	-13.00	Vertical	PASS
2	298.690	-75.48	-13.00	Vertical	PASS
3	748.770	-69.27	-13.00	Vertical	PASS
4	1850.260	-38.42	-13.00	Vertical	N.A
5	3349.918	-47.41	-13.00	Vertical	PASS
6	10899.727	-39.72	-13.00	Vertical	PASS

(Plot D2: EGPRS 1900MHz Channel = 512, Test Antenna Vertical)



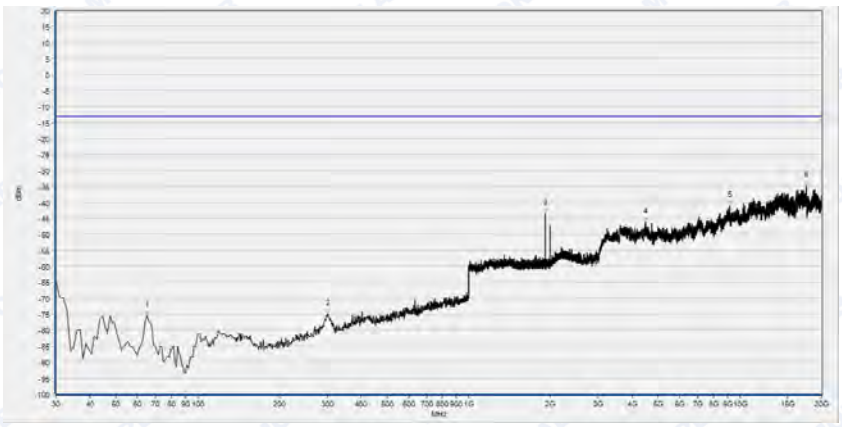
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-74.42	-13.00	Horizontal	PASS
2	422.850	-72.93	-13.00	Horizontal	PASS
3	1880.352	-39.93	-13.00	Horizontal	N.A
4	3666.339	-47.11	-13.00	Horizontal	PASS
5	6972.941	-45.12	-13.00	Horizontal	PASS
6	11273.104	-38.04	-13.00	Horizontal	PASS

(Plot D3: EGPRS 1900MHz Channel = 661, Test Antenna Horizontal)



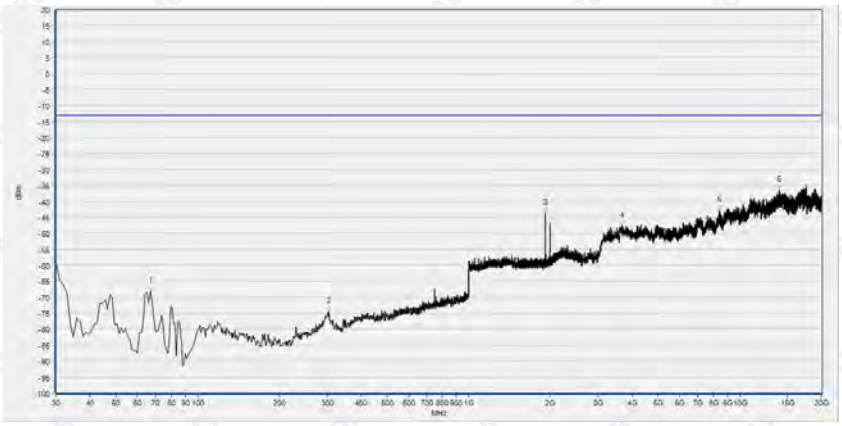
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	66.860	-63.50	-13.00	Vertical	PASS
2	298.690	-74.80	-13.00	Vertical	PASS
3	1880.352	-39.86	-13.00	Vertical	N.A
4	3796.072	-47.08	-13.00	Vertical	PASS
5	7023.568	-44.01	-13.00	Vertical	PASS
6	13060.884	-37.17	-13.00	Vertical	PASS

(Plot D4: EGPRS 1900MHz Channel = 661, Test Antenna Vertical)



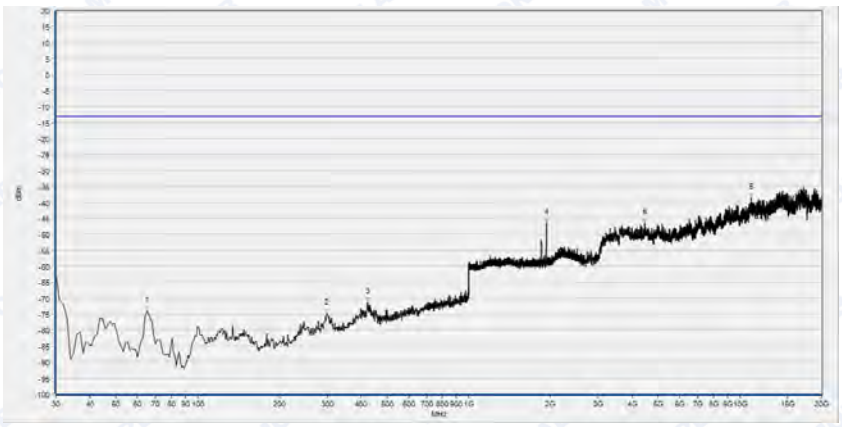
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-75.51	-13.00	Horizontal	PASS
2	302.570	-75.01	-13.00	Horizontal	PASS
3	1910.444	-43.36	-13.00	Horizontal	N.A
4	4476.378	-46.17	-13.00	Horizontal	PASS
5	9143.590	-40.93	-13.00	Horizontal	PASS
6	17535.079	-34.82	-13.00	Horizontal	PASS

(Plot D5: EGPRS 1900MHz Channel = 810, Test Antenna Horizontal)



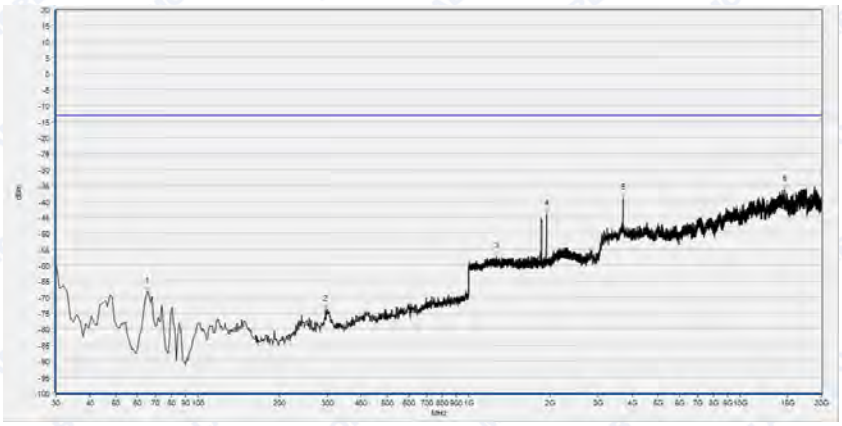
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	66.860	-68.00	-13.00	Vertical	PASS
2	304.510	-74.60	-13.00	Vertical	PASS
3	1910.444	-43.62	-13.00	Vertical	N.A
4	3660.011	-47.64	-13.00	Vertical	PASS
5	8387.343	-42.81	-13.00	Vertical	PASS
6	13981.669	-36.49	-13.00	Vertical	PASS

(Plot D6: EGPRS 1900MHz Channel = 810, Test Antenna Vertical)



Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-74.01	-13.00	Horizontal	PASS
2	299.660	-74.73	-13.00	Horizontal	PASS
3	422.850	-71.26	-13.00	Horizontal	PASS
4	1934.134	-46.34	-13.00	Horizontal	N.A
5	4444.735	-46.27	-13.00	Horizontal	PASS
6	10985.161	-38.45	-13.00	Horizontal	PASS

(Plot F1: WCDMA 1900MHz Channel = 9262, Test Antenna Horizontal)

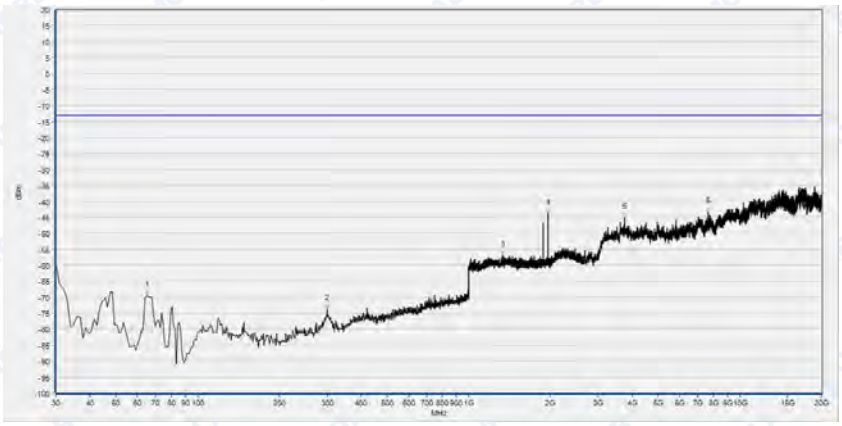


Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-68.34	-13.00	Vertical	PASS
2	295.780	-73.94	-13.00	Vertical	PASS
3	1265.066	-57.32	-13.00	Vertical	PASS
4	1934.134	-43.81	-13.00	Vertical	N.A
5	3707.474	-38.89	-13.00	Vertical	PASS
6	14658.811	-36.34	-13.00	Vertical	PASS

(Plot F2: WCDMA 1900MHz Channel = 9262, Test Antenna Vertical)

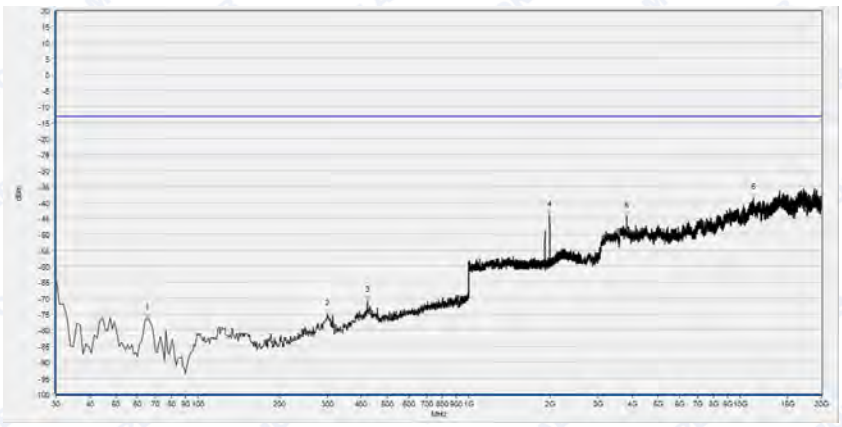
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-73.45	-13.00	Horizontal	PASS
2	299.660	-74.38	-13.00	Horizontal	PASS
3	633.340	-70.38	-13.00	Horizontal	PASS
4	1961.665	-40.00	-13.00	Horizontal	N.A
5	3758.101	-38.62	-13.00	Horizontal	PASS
6	14386.688	-36.05	-13.00	Horizontal	PASS

(Plot F3: WCDMA 1900MHz Channel = 9400, Test Antenna Horizontal)



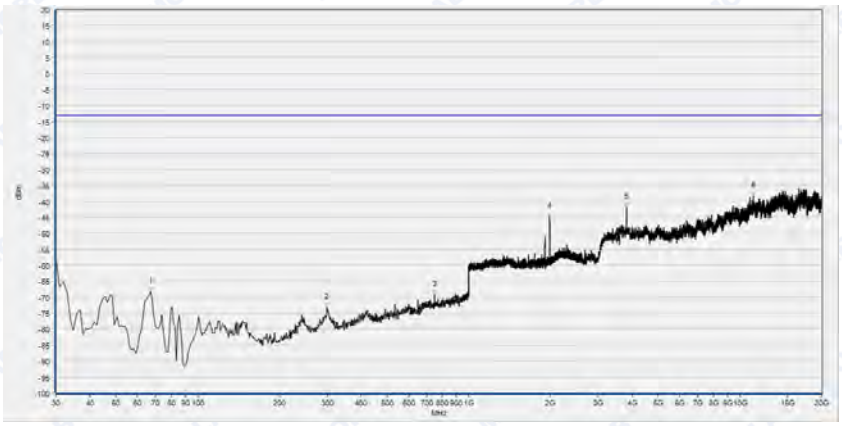
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-69.42	-13.00	Vertical	PASS
2	300.630	-73.61	-13.00	Vertical	PASS
3	1336.134	-56.88	-13.00	Vertical	PASS
4	1959.744	-43.75	-13.00	Vertical	N.A
5	3761.266	-44.98	-13.00	Vertical	PASS
6	7650.082	-43.20	-13.00	Vertical	PASS

(Plot F4: WCDMA 1900MHz Channel = 9400, Test Antenna Vertical)



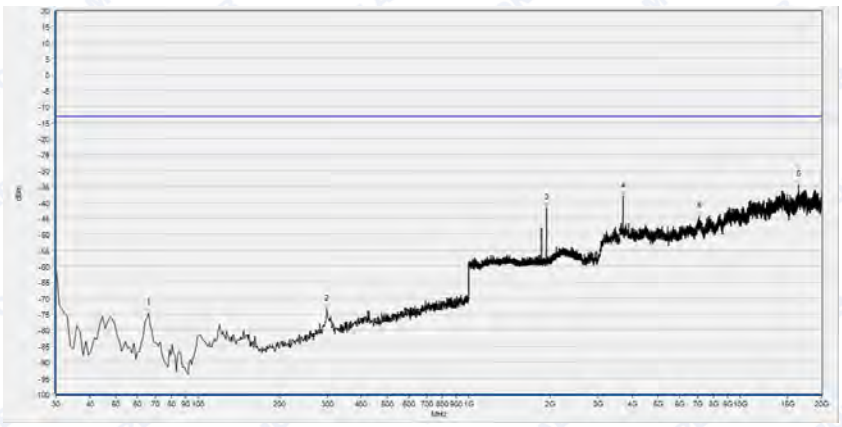
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-76.37	-13.00	Horizontal	PASS
2	300.630	-75.05	-13.00	Horizontal	PASS
3	422.850	-70.68	-13.00	Horizontal	PASS
4	1986.635	-43.90	-13.00	Horizontal	N.A
5	3818.221	-44.35	-13.00	Horizontal	PASS
6	11216.148	-38.48	-13.00	Horizontal	PASS

(Plot F5: WCDMA 1900MHz Channel = 9538, Test Antenna Horizontal)



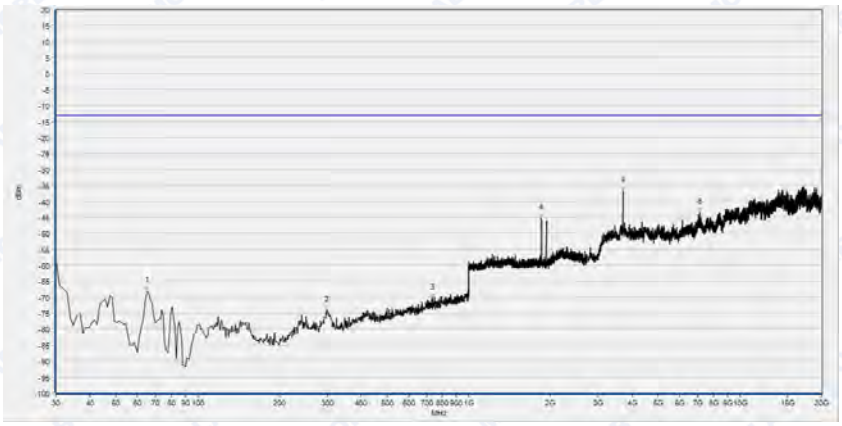
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	66.860	-68.38	-13.00	Vertical	PASS
2	299.660	-73.17	-13.00	Vertical	PASS
3	748.770	-69.24	-13.00	Vertical	PASS
4	1987.915	-44.75	-13.00	Vertical	N.A
5	3818.221	-41.97	-13.00	Vertical	PASS
6	11216.148	-38.28	-13.00	Vertical	PASS

(Plot F6: WCDMA 1900MHz Channel = 9538, Test Antenna Vertical)



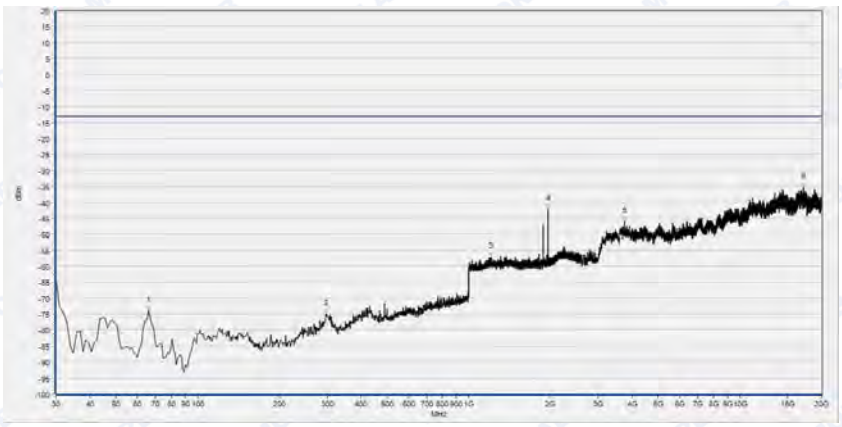
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-74.77	-13.00	Horizontal	PASS
2	299.660	-73.47	-13.00	Horizontal	PASS
3	1934.134	-41.67	-13.00	Horizontal	N.A
4	3704.310	-38.12	-13.00	Horizontal	PASS
5	7074.195	-44.28	-13.00	Horizontal	PASS
6	16468.740	-34.42	-13.00	Horizontal	PASS

(Plot H1: HSDPA 1900MHz Channel = 9262, Test Antenna Horizontal)



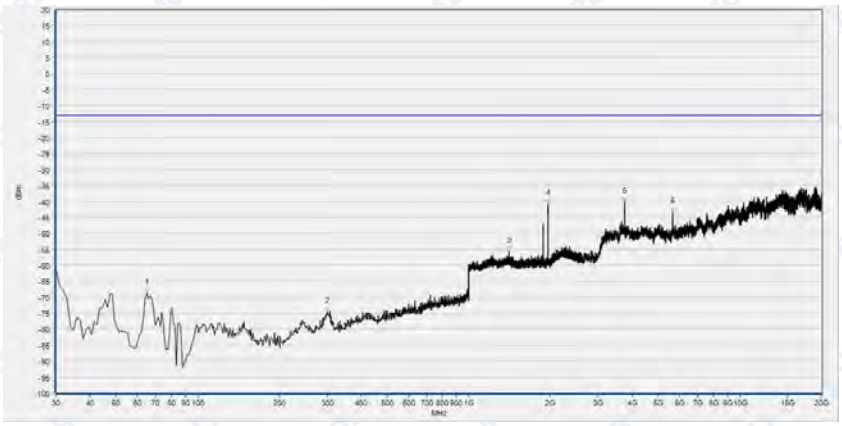
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-67.94	-13.00	Vertical	PASS
2	299.660	-73.99	-13.00	Vertical	PASS
3	734.220	-70.36	-13.00	Vertical	PASS
4	1852.181	-45.30	-13.00	Vertical	N.A
5	3701.146	-36.75	-13.00	Vertical	PASS
6	7102.673	-43.42	-13.00	Vertical	PASS

(Plot H2: HSDPA 1900MHz Channel = 9262, Test Antenna Vertical)



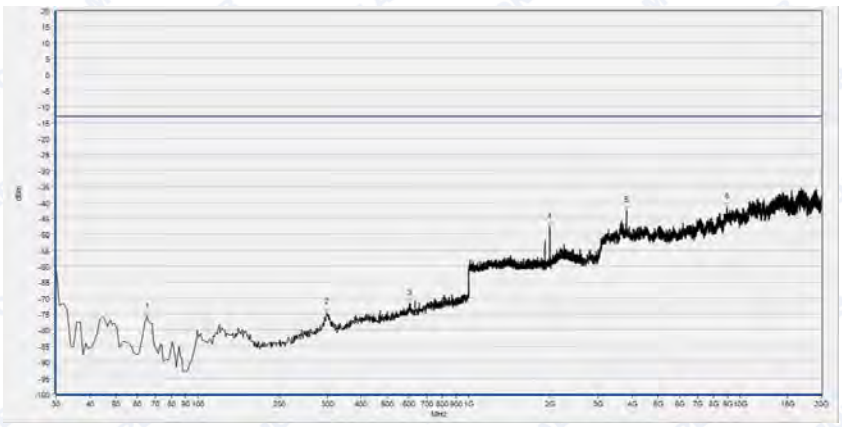
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-73.83	-13.00	Horizontal	PASS
2	296.750	-74.88	-13.00	Horizontal	PASS
3	1204.882	-57.00	-13.00	Horizontal	PASS
4	1959.104	-42.17	-13.00	Horizontal	N.A
5	3758.101	-45.89	-13.00	Horizontal	PASS
6	17149.045	-35.12	-13.00	Horizontal	PASS

(Plot H3: HSDPA 1900MHz Channel = 9400, Test Antenna Horizontal)



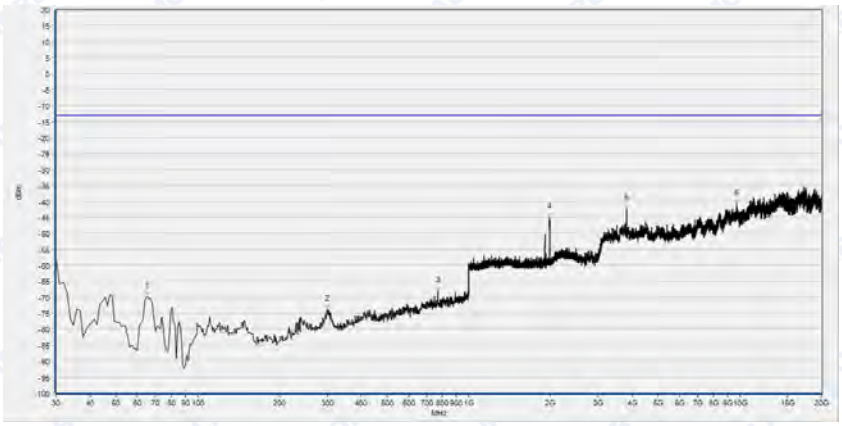
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-68.80	-13.00	Vertical	PASS
2	301.600	-74.51	-13.00	Vertical	PASS
3	1406.563	-55.62	-13.00	Vertical	PASS
4	1961.024	-40.70	-13.00	Vertical	N.A
5	3758.101	-40.01	-13.00	Vertical	PASS
6	5643.972	-43.32	-13.00	Vertical	PASS

(Plot H4: HSDPA 1900MHz Channel = 9400, Test Antenna Vertical)



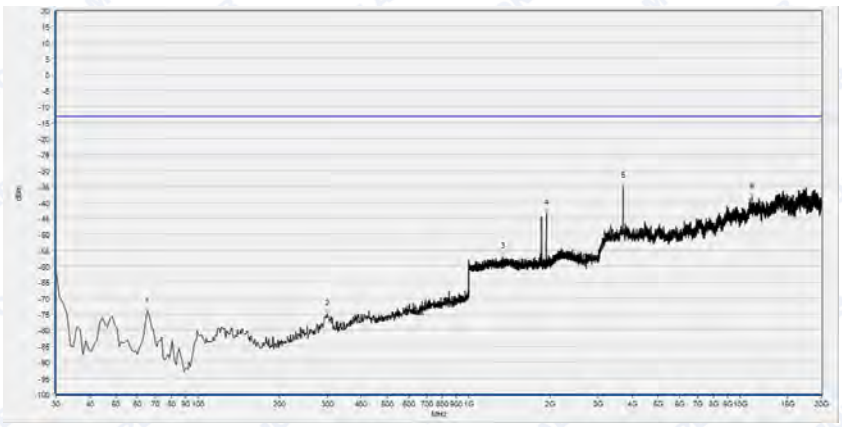
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-75.86	-13.00	Horizontal	PASS
2	299.660	-74.52	-13.00	Horizontal	PASS
3	603.270	-71.69	-13.00	Horizontal	PASS
4	1988.555	-47.73	-13.00	Horizontal	N.A
5	3818.221	-42.55	-13.00	Horizontal	PASS
6	8944.244	-41.55	-13.00	Horizontal	PASS

(Plot H5: HSDPA 1900MHz Channel = 9538, Test Antenna Horizontal)



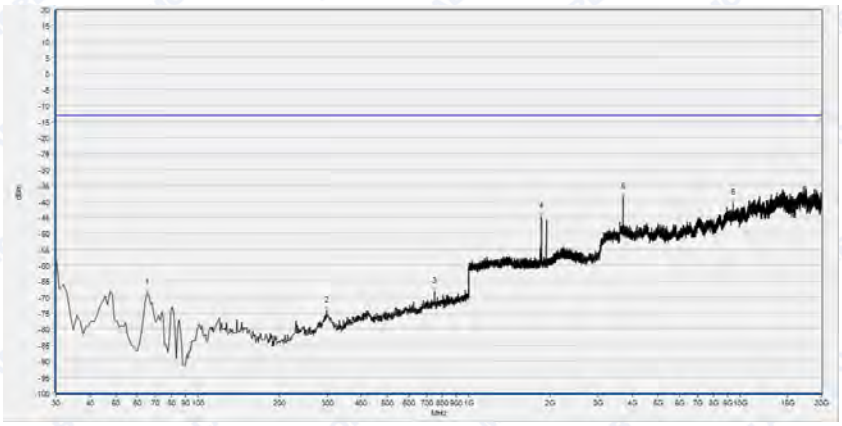
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-69.86	-13.00	Vertical	PASS
2	300.630	-73.96	-13.00	Vertical	PASS
3	768.170	-68.04	-13.00	Vertical	PASS
4	1987.275	-45.02	-13.00	Vertical	N.A
5	3818.221	-42.25	-13.00	Vertical	PASS
6	9741.626	-40.70	-13.00	Vertical	PASS

(Plot H6: HSDPA 1900MHz Channel = 9538, Test Antenna Vertical)



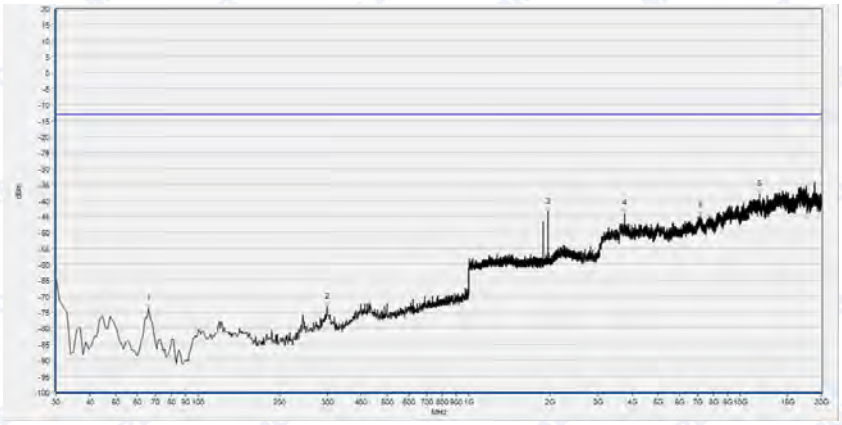
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-74.28	-13.00	Horizontal	PASS
2	300.630	-74.98	-13.00	Horizontal	PASS
3	1335.494	-57.00	-13.00	Horizontal	PASS
4	1934.134	-43.46	-13.00	Horizontal	N.A
5	3704.310	-34.91	-13.00	Horizontal	PASS
6	11048.445	-38.31	-13.00	Horizontal	PASS

(Plot J1: HSUPA 1900MHz Channel = 9262, Test Antenna Horizontal)



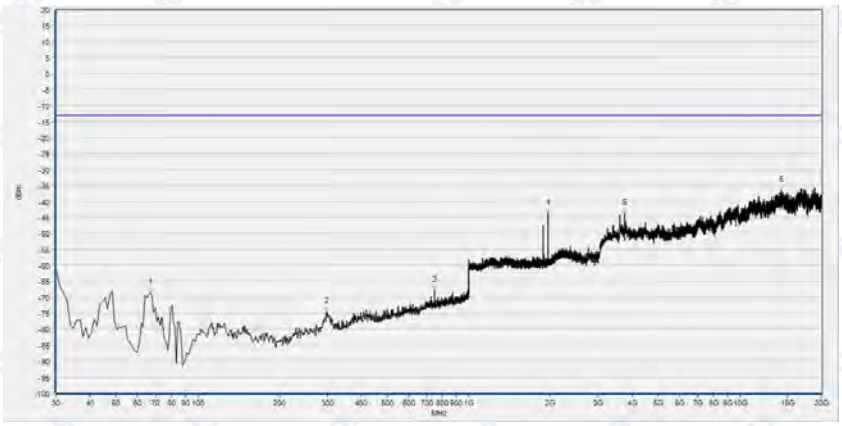
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-68.80	-13.00	Vertical	PASS
2	298.690	-74.24	-13.00	Vertical	PASS
3	748.770	-68.37	-13.00	Vertical	PASS
4	1851.541	-44.90	-13.00	Vertical	N.A
5	3704.310	-38.77	-13.00	Vertical	PASS
6	9444.190	-40.48	-13.00	Vertical	PASS

(Plot J2: HSUPA 1900MHz Channel = 9262, Test Antenna Vertical)



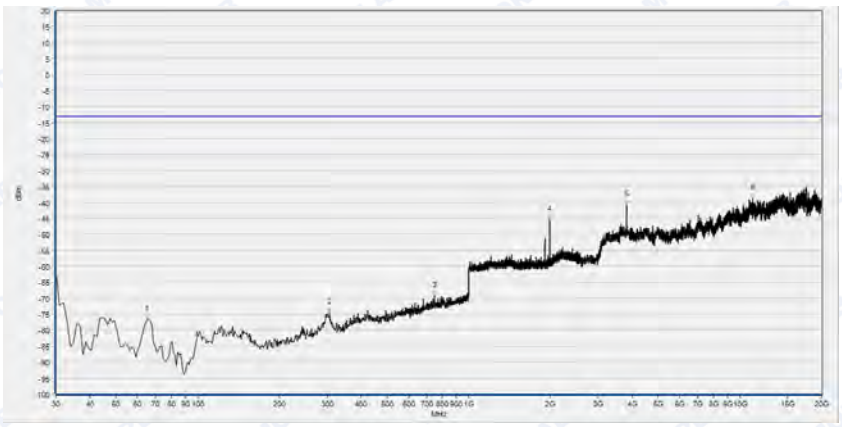
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-73.95	-13.00	Horizontal	PASS
2	300.630	-73.37	-13.00	Horizontal	PASS
3	1959.104	-43.66	-13.00	Horizontal	N.A
4	3761.266	-44.03	-13.00	Horizontal	PASS
5	7146.972	-44.79	-13.00	Horizontal	PASS
6	11833.170	-38.18	-13.00	Horizontal	PASS

(Plot J3: HSUPA 1900MHz Channel = 9400, Test Antenna Horizontal)



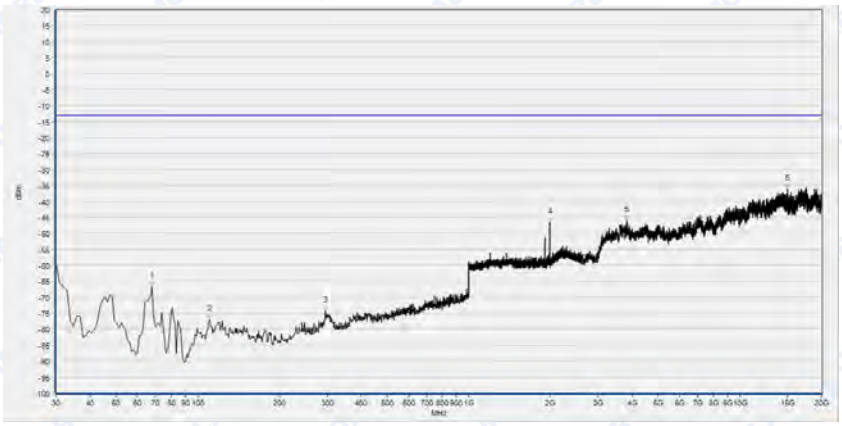
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	66.860	-68.51	-13.00	Vertical	PASS
2	298.690	-74.58	-13.00	Vertical	PASS
3	748.770	-67.78	-13.00	Vertical	PASS
4	1960.384	-43.72	-13.00	Vertical	N.A
5	3758.101	-43.76	-13.00	Vertical	PASS
6	14212.657	-36.56	-13.00	Vertical	PASS

(Plot J4: HSUPA 1900MHz Channel = 9400, Test Antenna Vertical)



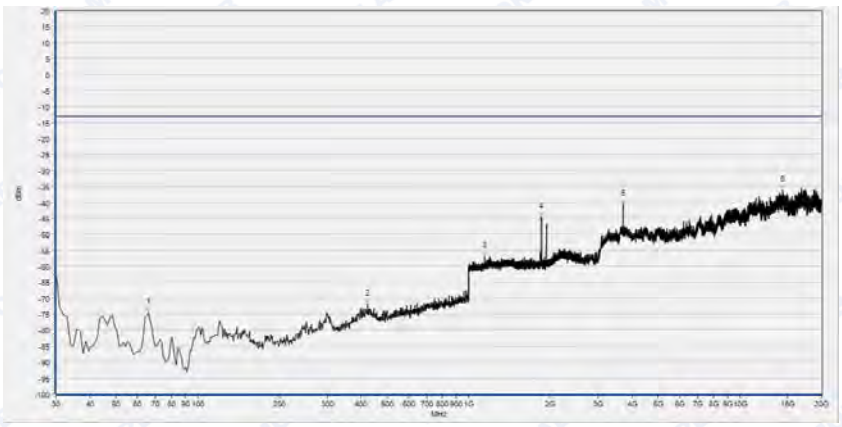
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-76.71	-13.00	Horizontal	PASS
2	306.450	-74.50	-13.00	Horizontal	PASS
3	748.770	-69.07	-13.00	Horizontal	PASS
4	1987.915	-45.45	-13.00	Horizontal	N.A
5	3818.221	-40.88	-13.00	Horizontal	PASS
6	11140.207	-38.74	-13.00	Horizontal	PASS

(Plot J5: HSUPA 1900MHz Channel = 9538, Test Antenna Horizontal)



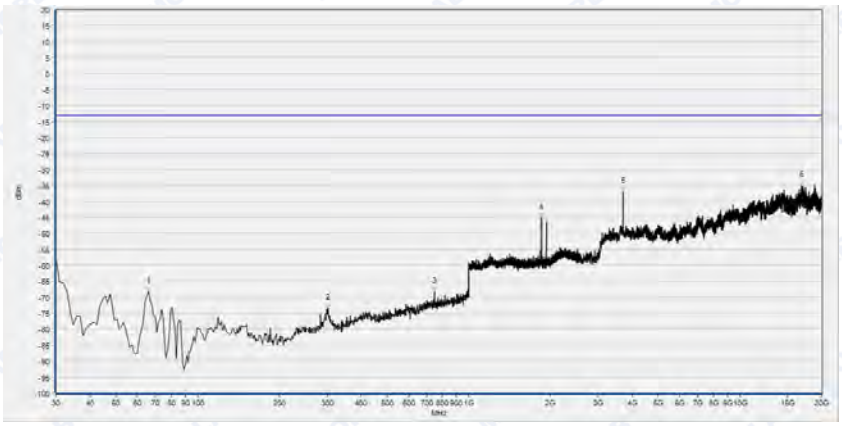
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	67.830	-66.67	-13.00	Vertical	PASS
2	110.510	-77.02	-13.00	Vertical	PASS
3	294.810	-74.21	-13.00	Vertical	PASS
4	1989.196	-46.49	-13.00	Vertical	N.A
5	3818.221	-45.85	-13.00	Vertical	PASS
6	15010.038	-36.01	-13.00	Vertical	PASS

(Plot J6: HSUPA 1900MHz Channel = 9538, Test Antenna Vertical)



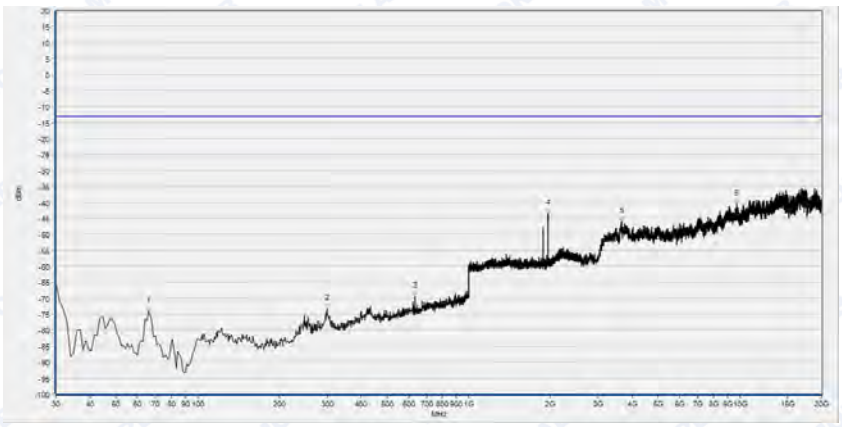
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-74.62	-13.00	Horizontal	PASS
2	422.850	-71.73	-13.00	Horizontal	PASS
3	1145.338	-56.81	-13.00	Horizontal	PASS
4	1851.541	-44.51	-13.00	Horizontal	N.A
5	3707.474	-40.62	-13.00	Horizontal	PASS
6	14402.510	-36.10	-13.00	Horizontal	PASS

(Plot L1: HSPA+ 1900MHz Channel = 9262, Test Antenna Horizontal)



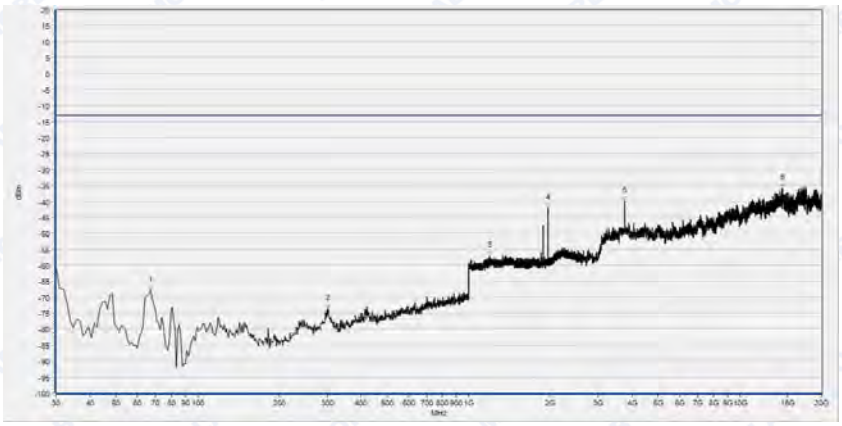
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-68.23	-13.00	Vertical	PASS
2	302.570	-73.34	-13.00	Vertical	PASS
3	748.770	-68.18	-13.00	Vertical	PASS
4	1852.181	-45.14	-13.00	Vertical	N.A
5	3704.310	-36.98	-13.00	Vertical	PASS
6	16829.460	-34.93	-13.00	Vertical	PASS

(Plot L2: HSPA+ 1900MHz Channel = 9262, Test Antenna Vertical)



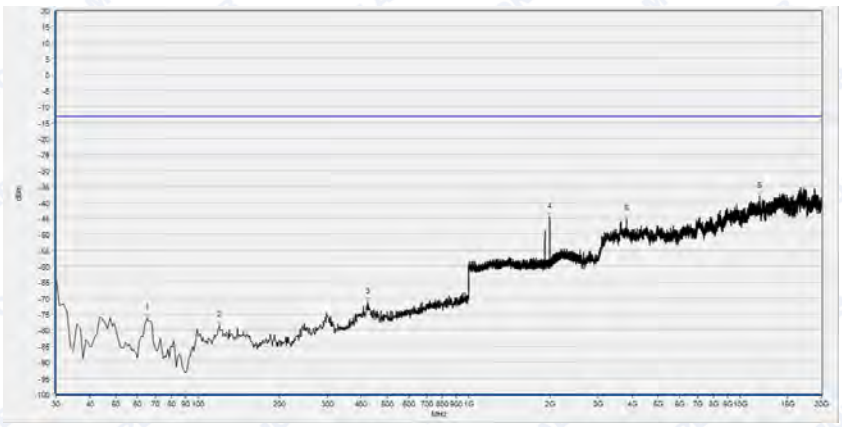
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	65.890	-74.10	-13.00	Horizontal	PASS
2	300.630	-73.25	-13.00	Horizontal	PASS
3	633.340	-69.32	-13.00	Horizontal	PASS
4	1959.104	-43.57	-13.00	Horizontal	N.A
5	3666.339	-45.93	-13.00	Horizontal	PASS
6	9709.984	-40.63	-13.00	Horizontal	PASS

(Plot L3: HSPA+ 1900MHz Channel = 9400, Test Antenna Horizontal)



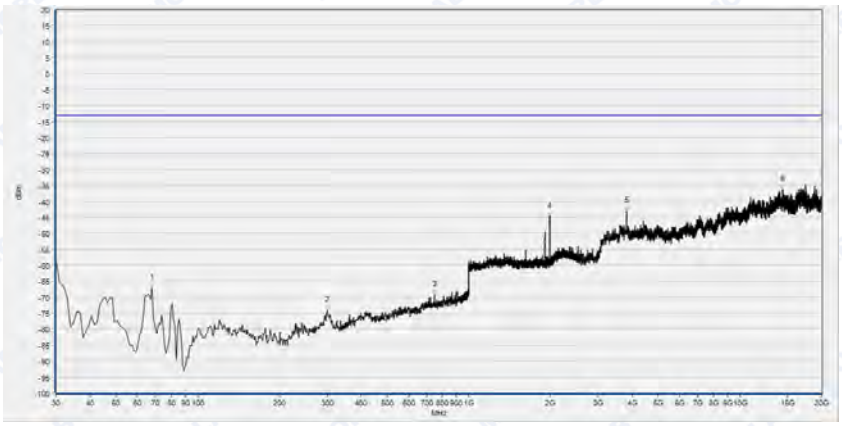
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	66.860	-67.77	-13.00	Vertical	PASS
2	302.570	-73.60	-13.00	Vertical	PASS
3	1190.156	-57.00	-13.00	Vertical	PASS
4	1961.024	-42.23	-13.00	Vertical	N.A
5	3761.266	-39.84	-13.00	Vertical	PASS
6	14386.688	-35.76	-13.00	Vertical	PASS

(Plot L4: HSPA+ 1900MHz Channel = 9400, Test Antenna Vertical)



Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	64.920	-76.26	-13.00	Horizontal	PASS
2	120.210	-78.51	-13.00	Horizontal	PASS
3	422.850	-71.22	-13.00	Horizontal	PASS
4	1988.555	-44.64	-13.00	Horizontal	N.A
5	3811.893	-45.30	-13.00	Horizontal	PASS
6	11848.991	-38.03	-13.00	Horizontal	PASS

(Plot L5: HSPA+ 1900MHz Channel = 9538, Test Antenna Horizontal)



Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	67.830	-67.21	-13.00	Vertical	PASS
2	300.630	-74.15	-13.00	Vertical	PASS
3	748.770	-69.09	-13.00	Vertical	PASS
4	1987.915	-44.76	-13.00	Vertical	N.A
5	3818.221	-43.03	-13.00	Vertical	PASS
6	14329.733	-36.35	-13.00	Vertical	PASS

(Plot L6: HSPA+ 1900MHz Channel = 9538, Test Antenna Vertical)

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