FCC TEST REPORT

Issued to

GUANGDONG OPPO MOBILE TELECOMMUNICATIONS CORP.,LTD

For

Mobile Phone

Model Name:	OPPO R8006
Trade Name:	OPPO
Brand Name:	OPPO
FCC ID :	R9C-R8006
Standard:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E
Test date:	2014-3-4 to 2013-3-28
Issue date:	2014-4-1

By

Shenzhen Morlab Communications Technology Co., Ltd.
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Tested by Liu Zhisen	**Approved by** Zeng Dexin	**Reviewed by** Peng Huarui
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(Test Engineer)	*(Chief Engineer)*	*(Dept. Manager)*
Date 2014.4.1	**Date** 2014.4.1	**Date** 2014.4.1

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Change History		
Issue	Date	Reason for change
1.0	Apr 1, 2014	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type..... :	Mobile Phone
Serial No..... :	(n.a, marked #1 by test site)
Hardware Version ..... :	213095
Software Version..... :	R8006_11_140219
Applicant..... :	GUANGDONG OPPO MOBILE TELECOMMUNICATIONS CORP.,LTD NO.18 HAIBIN ROAD, WUSHA, CHANG'AN, DONGGUAN, GUANGDONG, CHINA
Manufacturer ..... :	GUANGDONG OPPO MOBILE TELECOMMUNICATIONS CORP.,LTD NO.18 HAIBIN ROAD, WUSHA, CHANG'AN, DONGGUAN, GUANGDONG, 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 850MHz Tx: 826.4 - 846.6MHz (at intervals of 200kHz); Rx: 871.4 - 891.6MHz (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 Class 33,EGPRS: Multislot Class 33
Antenna Type..... :	PIFA Antenna
Emission Designators ..... :	GSM 850:247KGXW,GSM 1900:250KGXW EGPRS850:250KG7W, EGPRS1900:248KG7W, WCDMA 850:4M18F9W ,WCDMA1900:4M18F9W

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 (10-1-13 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-13 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-13 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, ANSI C63.4 and CISPR Publication 22; 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

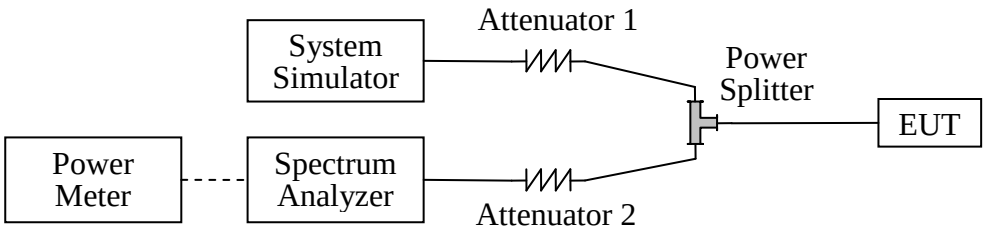
2.1 Conducted RF Output Power

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

1. 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.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2014.02.26	2015.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2014.02.26	2015.02.25
Power Meter	Agilent	E4418B	GB43318055	2014.02.26	2015.02.25
Power Sensor	Agilent	8482A	MY41091706	2014.02.26	2015.02.25
Power Splitter	Weinschel	1506A	NW521	2014.02.26	2015.02.25
Attenuator 1	Resnet	20dB	(n.a.)	2014.02.26	2015.02.25
Attenuator 2	Resnet	3dB	(n.a.)	2014.02.26	2015.02.25

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.

1. GSM Model Test Verdict:

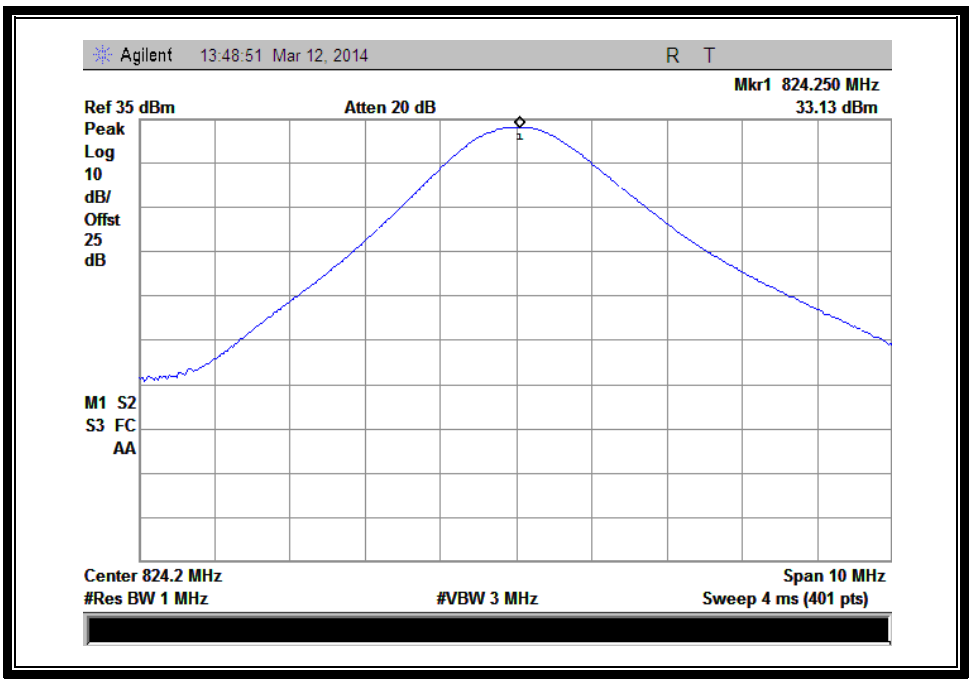
Band	Channel	Frequency (MHz)	Measured Output Power		Limit	Verdict
			dBm	Refer to Plot	dBm	
GSM 850MHz	128	824.2	33.13	Plot A1 to A3	35	PASS
	190	836.6	33.15			PASS
	251	848.8	33.13			PASS
GSM 1900MHz	512	1850.2	28.08	Plot B1 to B3	32	PASS
	661	1880.0	30.46			PASS
	810	1909.8	29.79			PASS
GPRS 850MHz	128	824.2	30.58	Plot C1 to C3 Note 1	35	PASS
	190	836.6	30.74			PASS
	251	848.8	31.16			PASS
GPRS 1900MHz	512	1850.2	26.88	Plot D1 to D3 Note 1	32	PASS
	661	1880.0	27.54			PASS
	810	1909.8	27.91			PASS
EGPRS 850MHz	128	824.2	33.10	Plot E1 to E3 Note 1	35	PASS
	190	836.6	33.11			PASS
	251	848.8	33.14			PASS
EGPRS 1900MHz	512	1850.2	27.58	Plot F1 to F3 Note 1	32	PASS
	661	1880.0	30.77			PASS
	810	1909.8	28.66			PASS

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

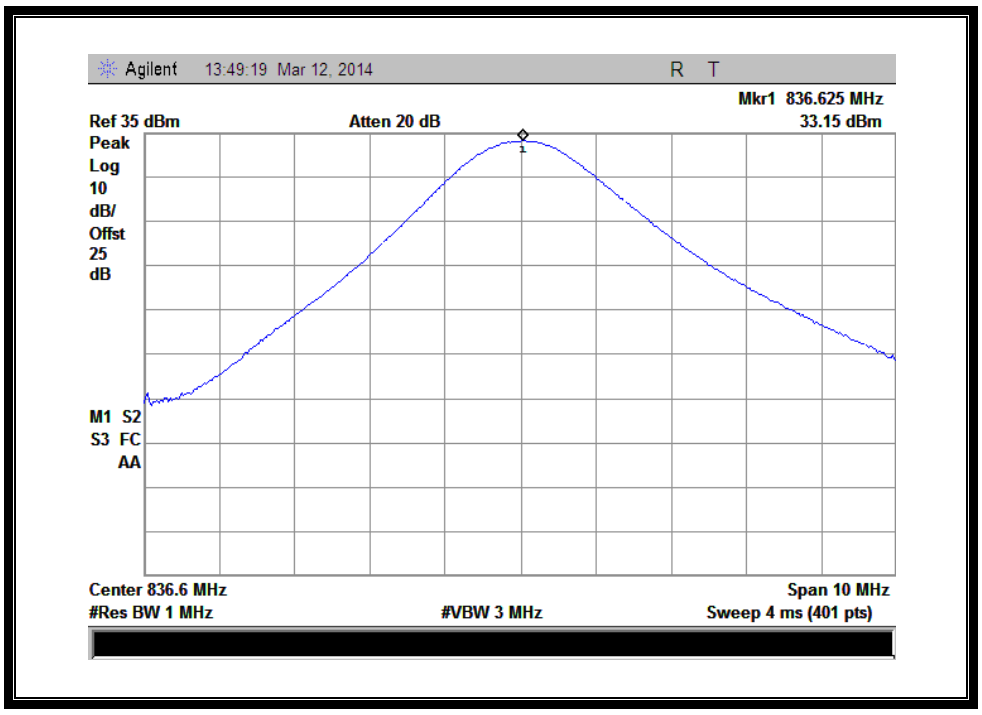
2. WCDMA Model Test Verdict:

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest	dBm			dBm		
5.2(WCDMA)	non	24.47	24.54	24.53	23.27	24.07	23.53
HSDPA	1	24.44	24.46	24.47	23.18	24.04	23.43
	2	24.38	24.49	24.45	23.14	24.01	23.44
	3	23.91	23.95	23.94	22.67	23.54	22.95
	4	23.92	23.98	23.92	22.63	23.51	22.89
HSUPA	1	24.47	24.52	24.52	23.21	24.03	23.42
	2	22.45	22.53	22.47	21.19	22.12	21.35
	3	23.51	23.49	23.50	22.26	23.09	22.40
	4	22.44	22.38	22.60	21.20	22.01	21.41
	5	24.40	24.33	24.37	23.14	24.02	23.36
HSPA+	1	24.33	24.35	24.45	23.21	24.07	23.40
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA /HSPA+ was tested by power meter.						

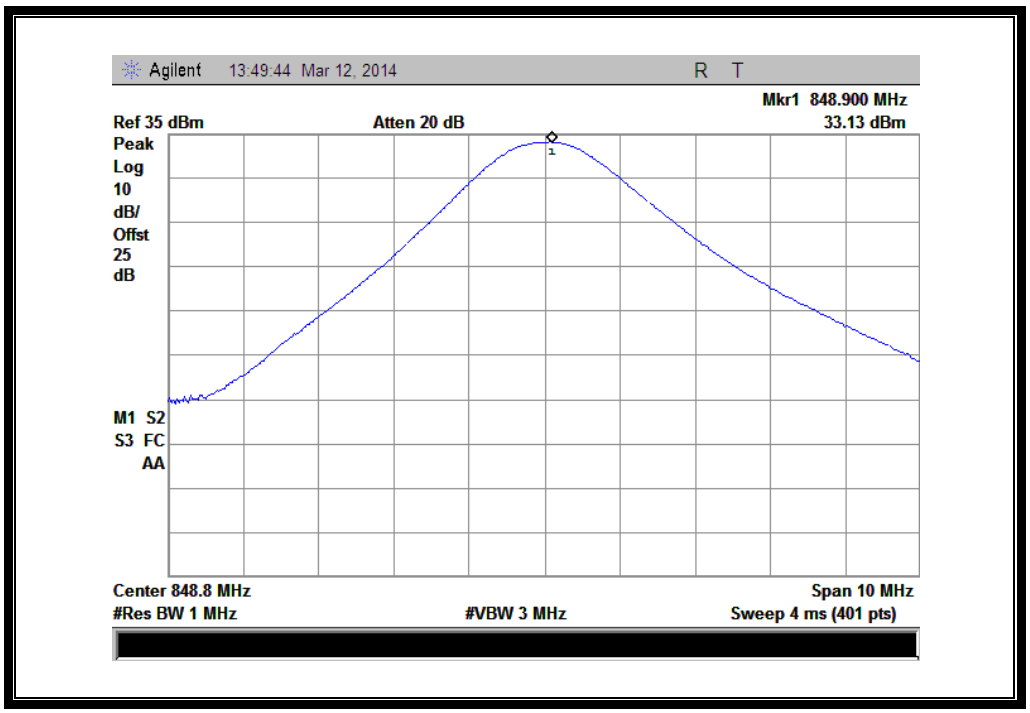
3. GSM Model Test Plots:



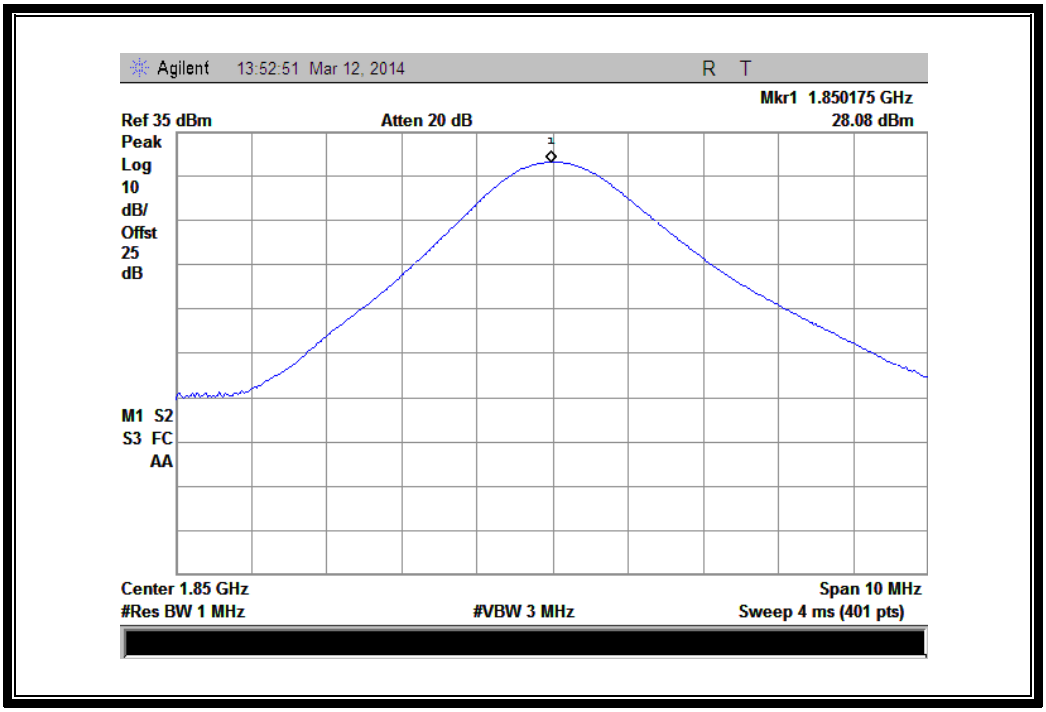
(Plot A1:GSM 850MHz Channel = 128)



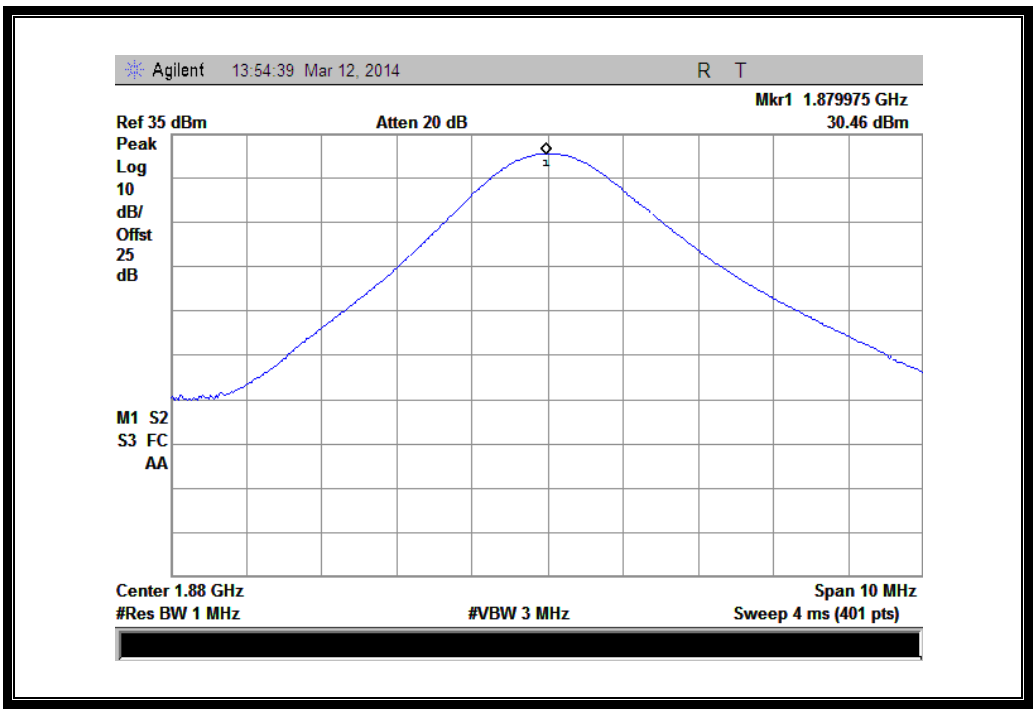
(Plot A2:GSM 850MHz Channel = 190)



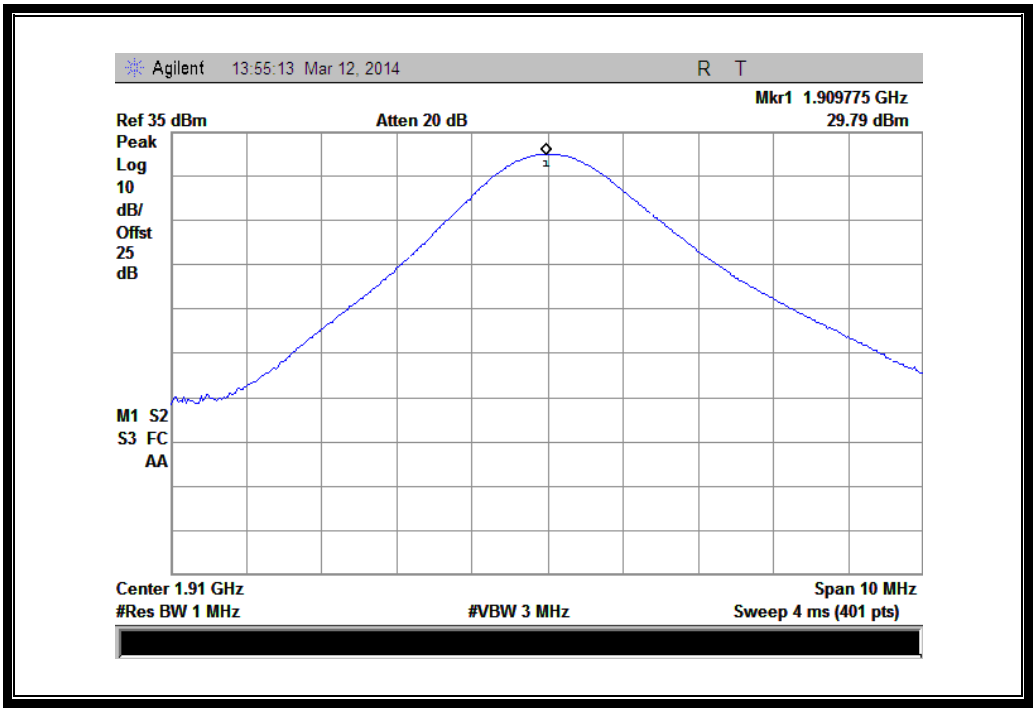
(Plot A3:GSM 850MHz Channel = 251)



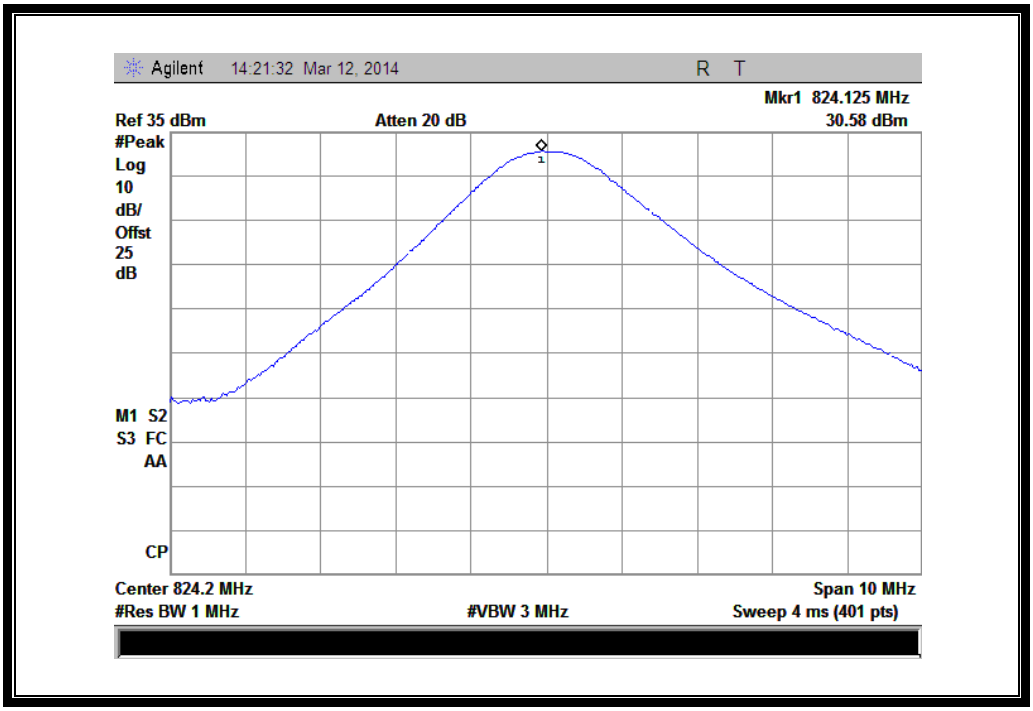
(Plot B1: GSM 1900MHz Channel = 512)



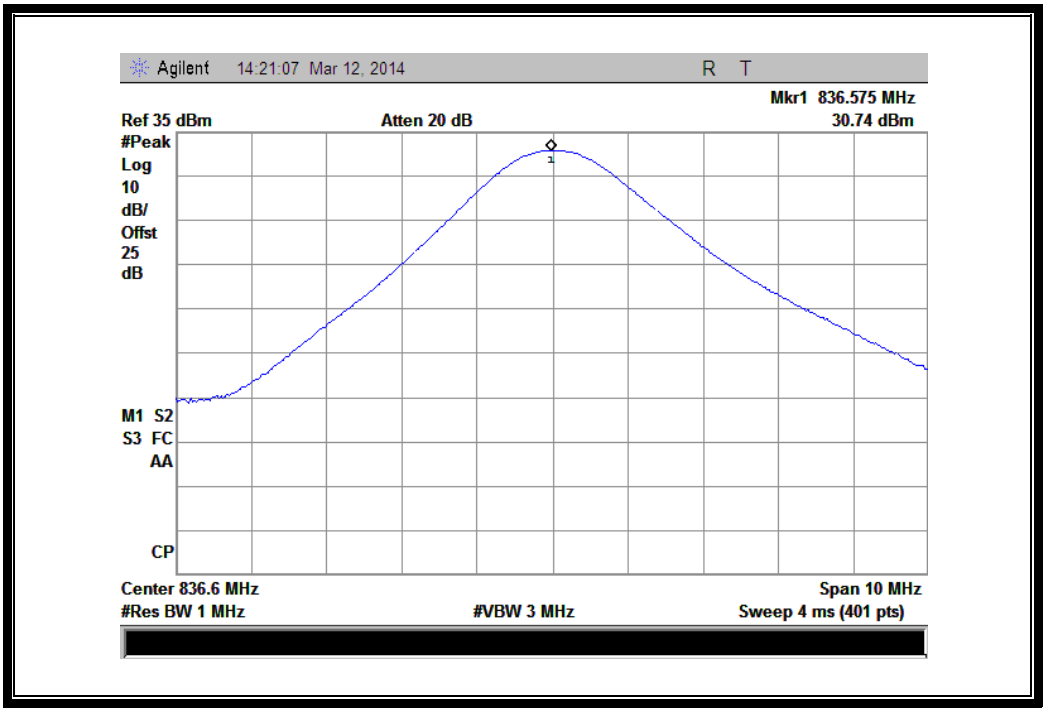
(Plot B2: GSM 1900MHz Channel = 661)



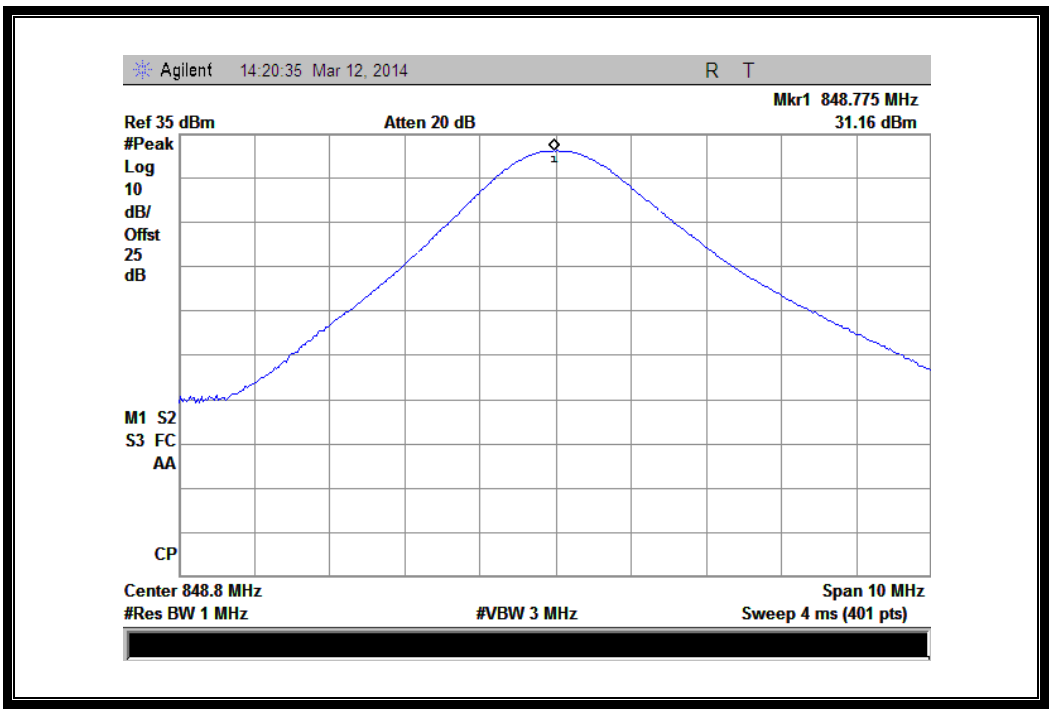
(Plot B3: GSM 1900Hz Channel = 810)



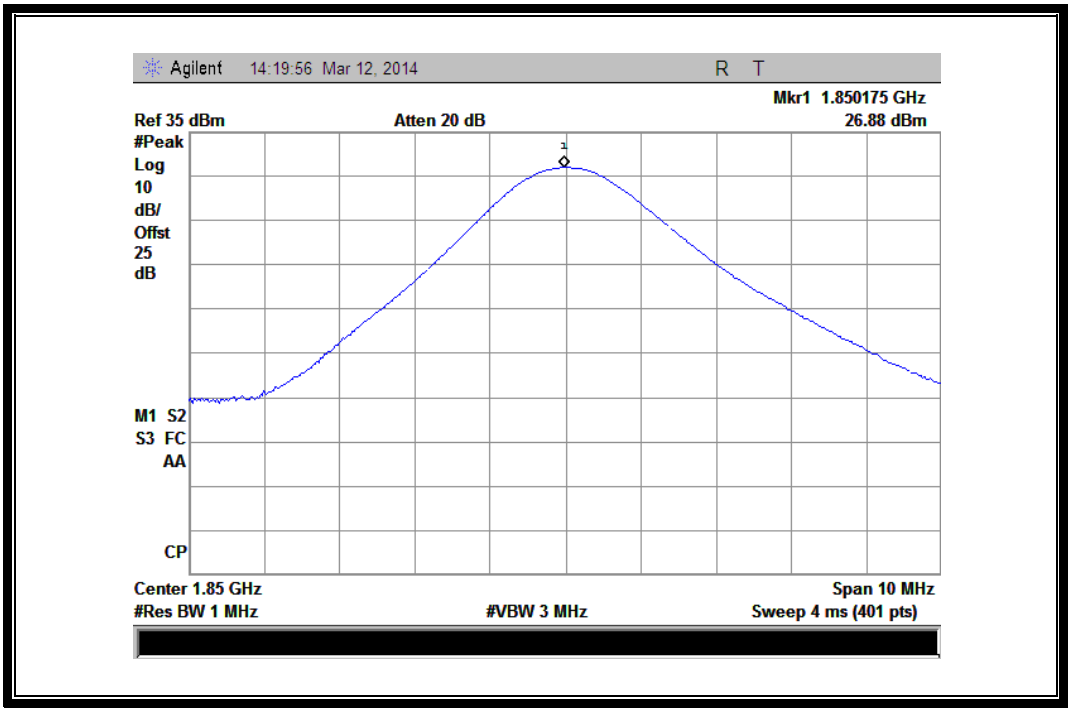
(Plot C 1: GPRS 850MHz Channel = 128)



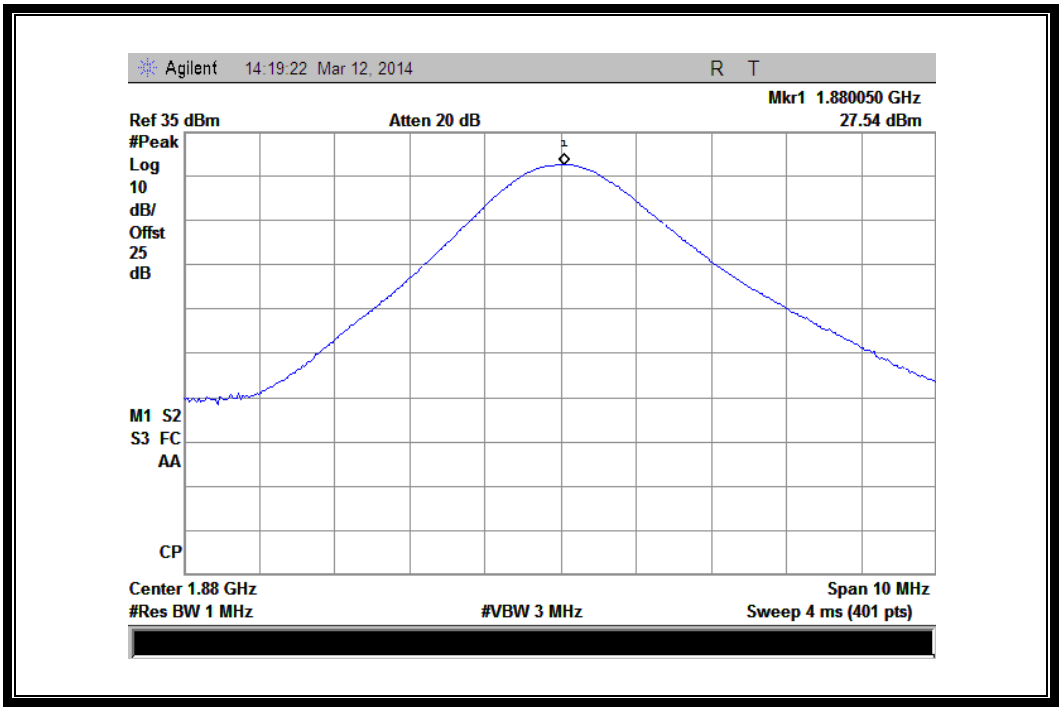
(Plot C 2: GPRS 850MHz Channel = 190)



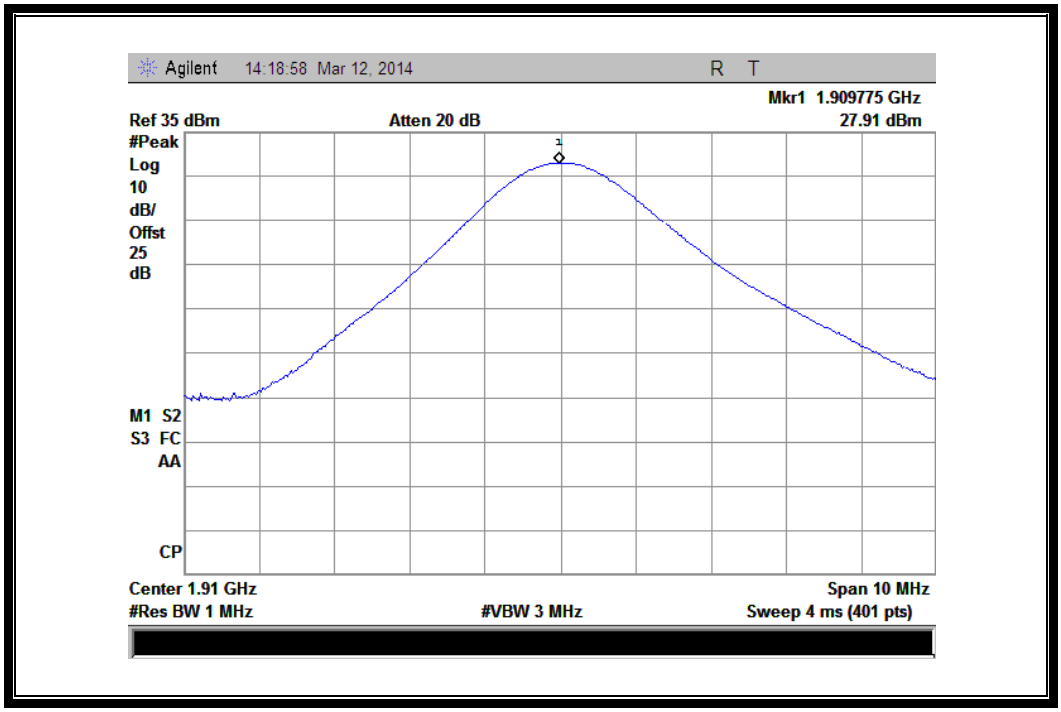
(Plot C 3: GPRS 850MHz Channel = 251)



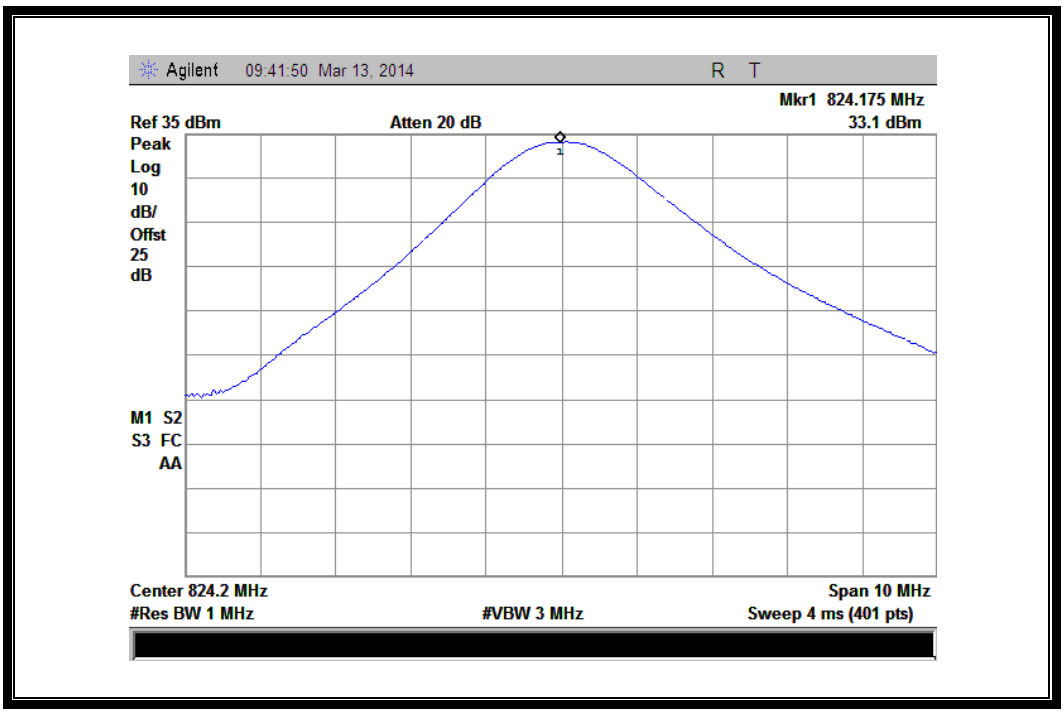
(Plot D 1: GPRS 1900MHz Channel = 512)



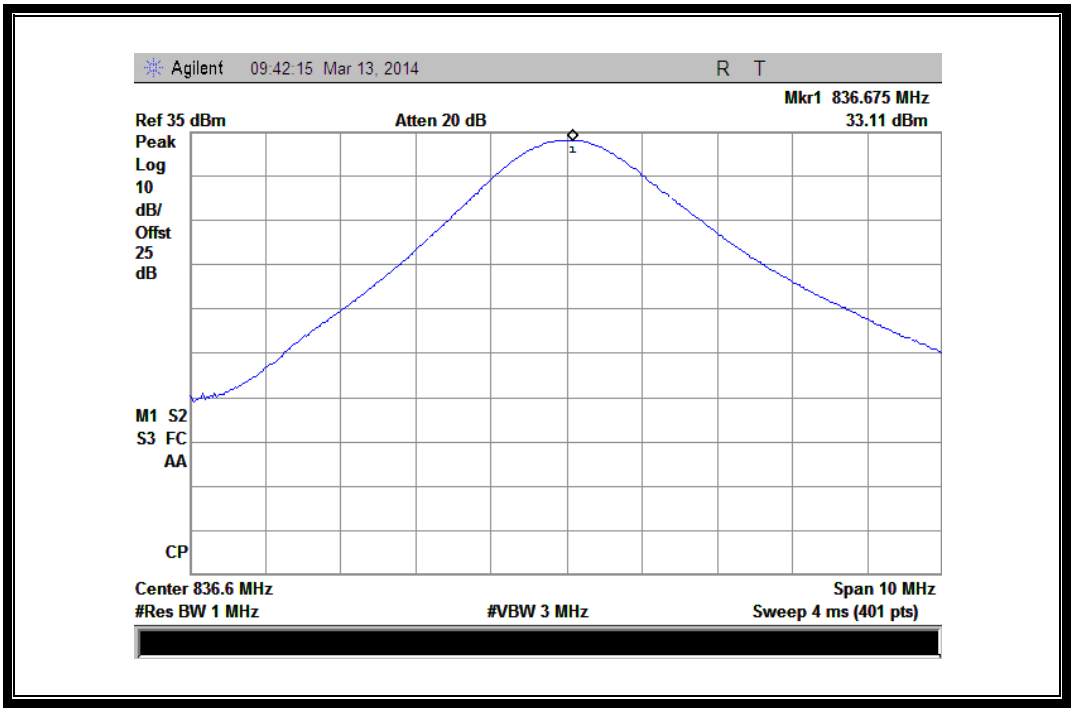
(Plot D 2: GPRS 1900MHz Channel = 661)



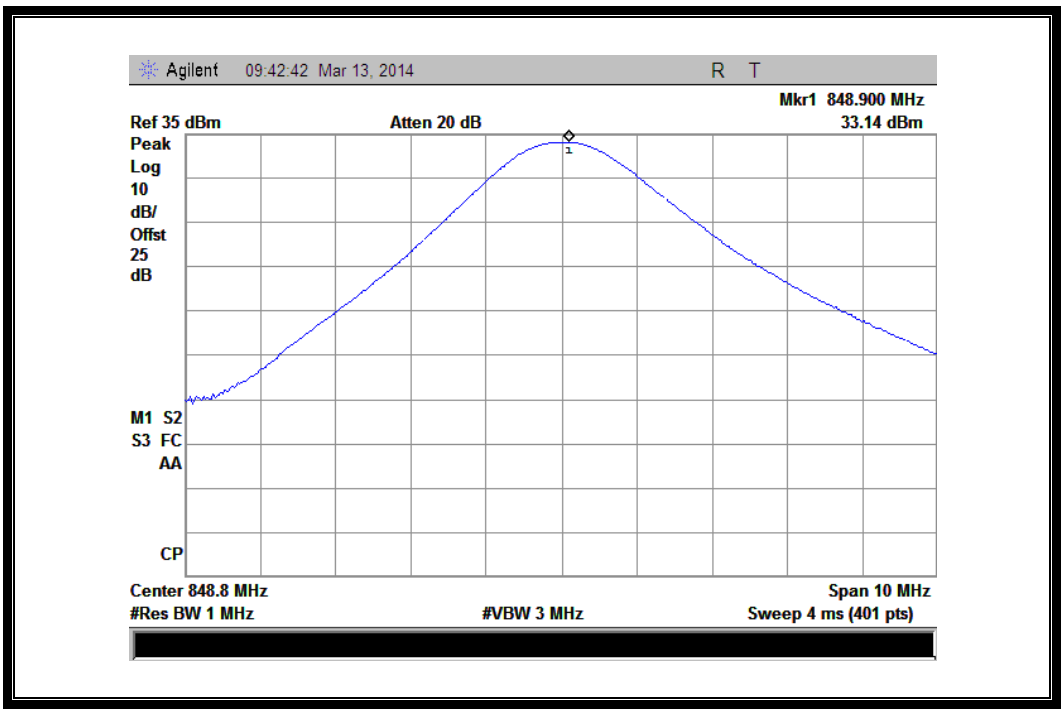
(Plot D 3: GPRS 1900MHz Channel = 810)



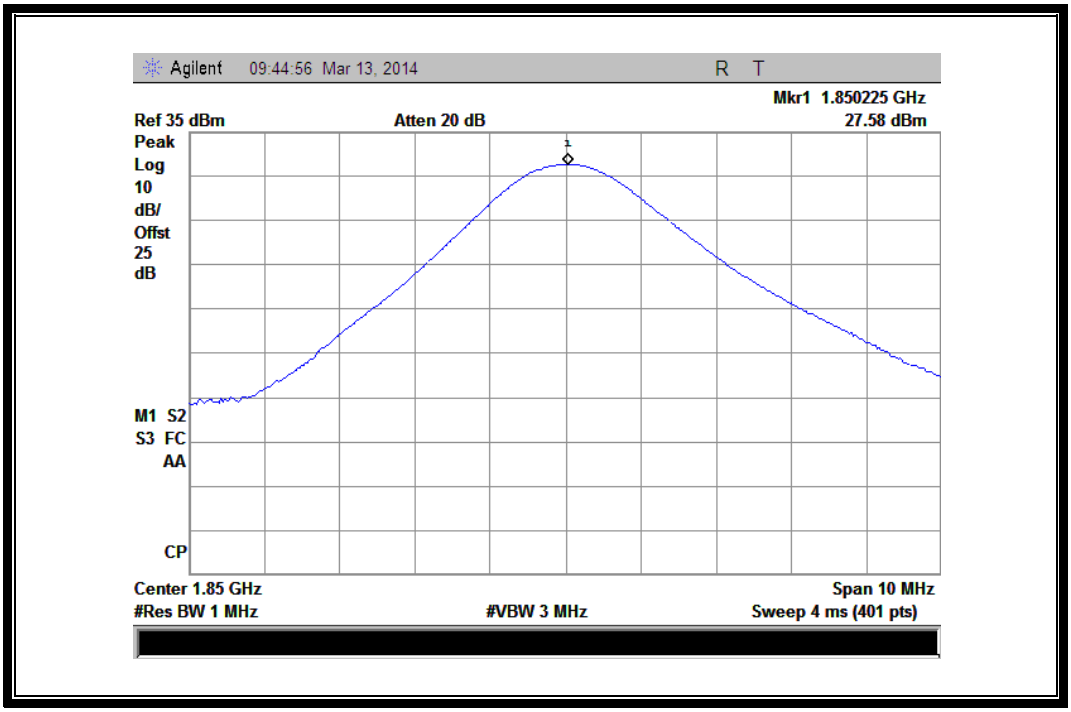
(Plot E1: EGPRS 850MHz Channel = 128)



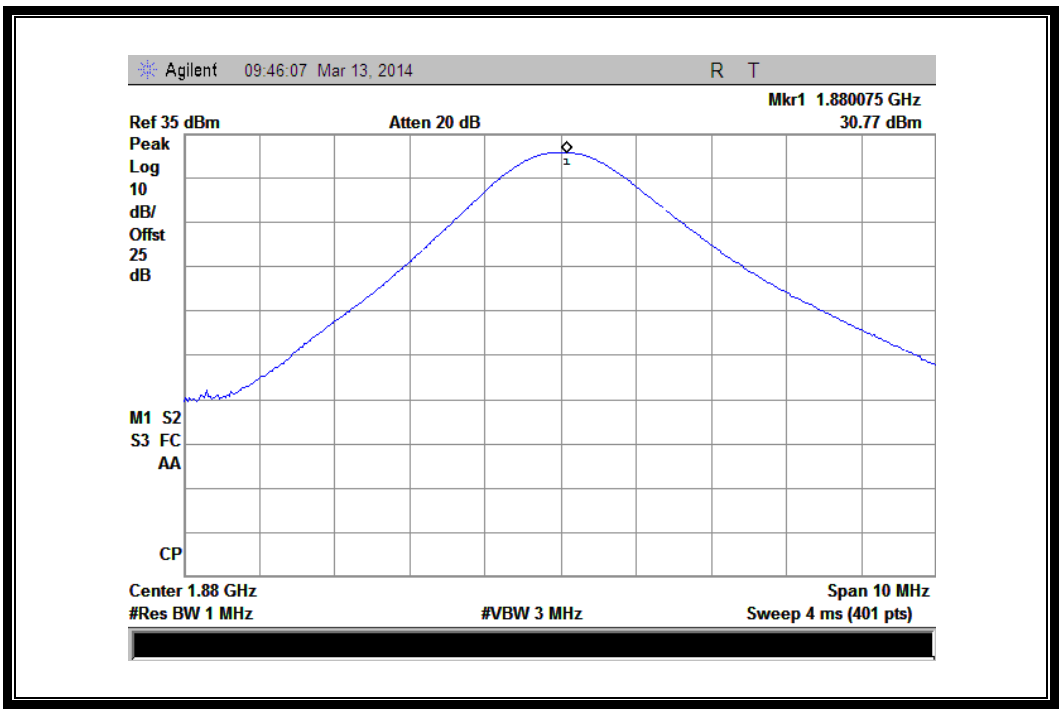
(Plot E2: EGPRS 850MHz Channel = 190)



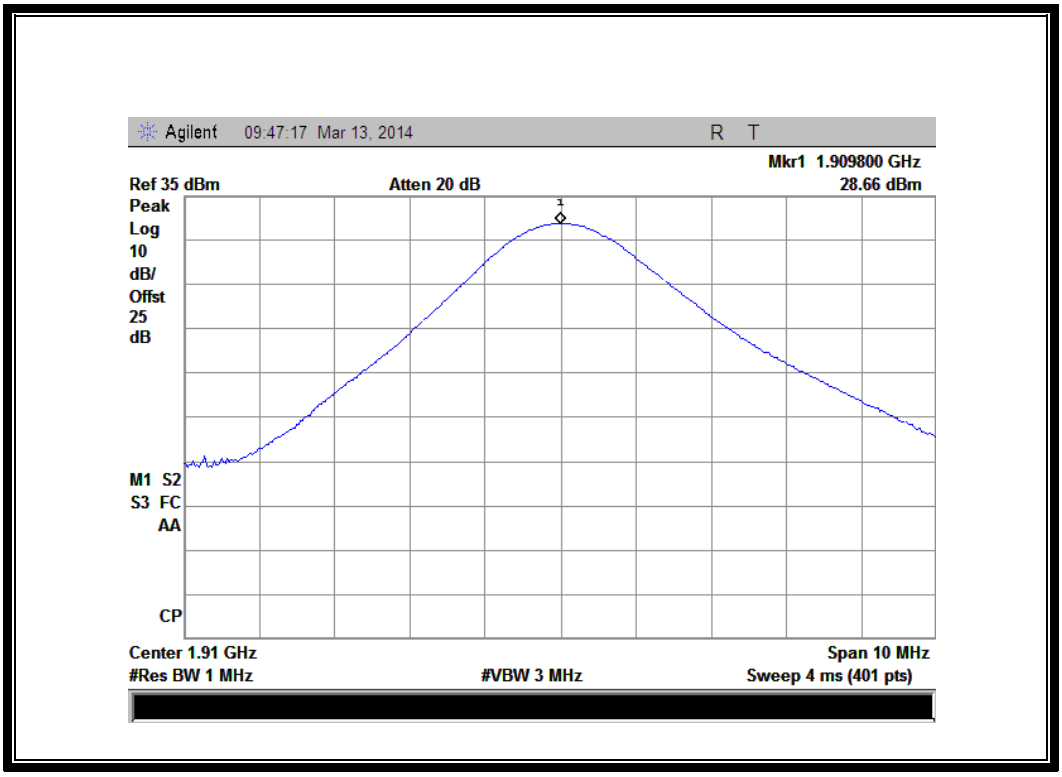
(Plot E3: EGPRS 850MHz Channel = 251)



(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=1MHz, 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.

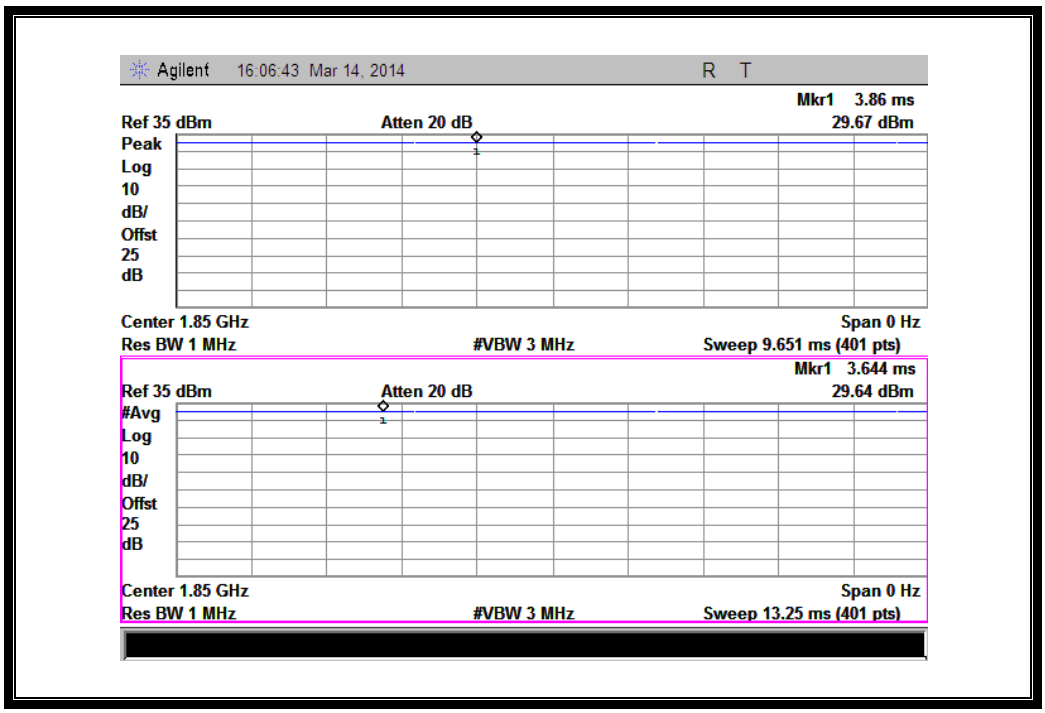
B. For UMTS operating mode:

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

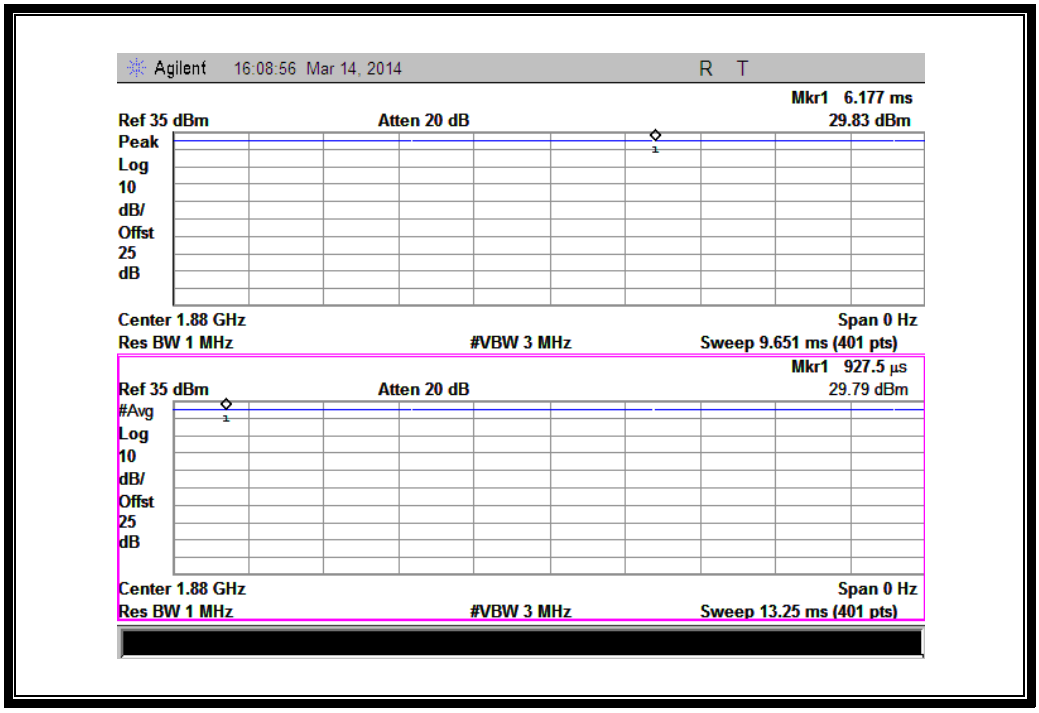
b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.

1. Test Verdict:

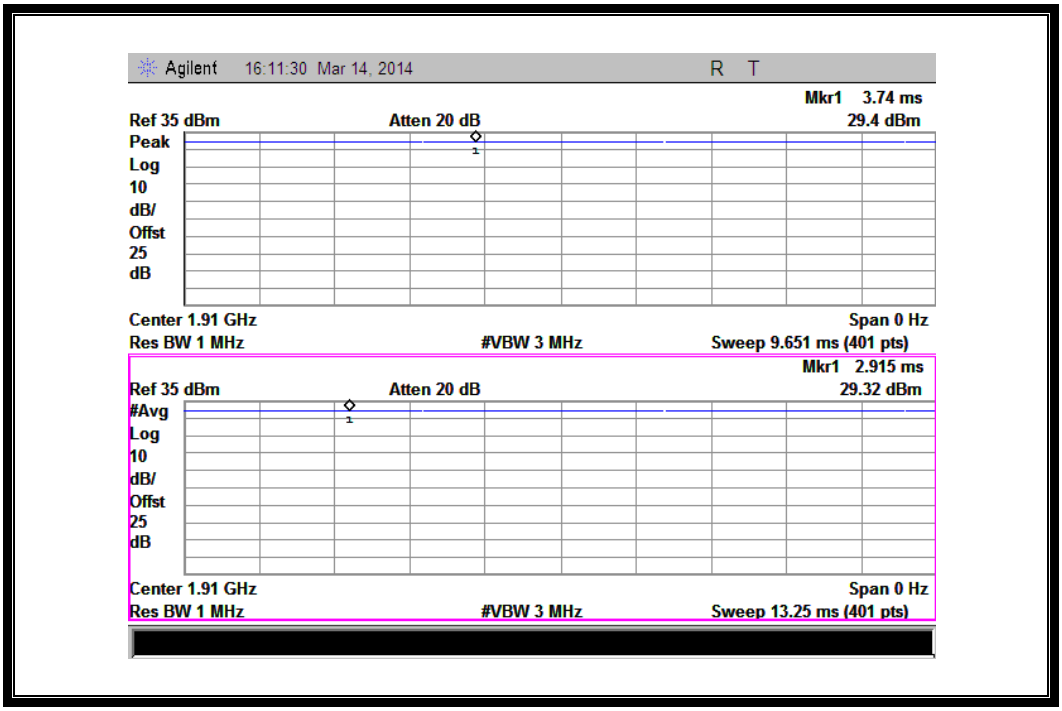
Band	Channel	Frequency (MHz)	Peak to Average radio		Limit	Verdict
			dBm	Refer to Plot	dBm	
GSM 1900MHz	512	1850.2	0.03	Plot A1 to A3	13	PASS
	661	1880.0	0.04			PASS
	810	1909.8	0.08			PASS
EGPRS 1900MHz	512	1850.2	0.03	Plot B1 to B3	13	PASS
	661	1880.0	0.04			PASS
	810	1909.8	0.04			PASS
WCDMA 1900MHz	9262	1852.4	3.86	Plot C1 toC3	13	PASS
	9400	1880	3.17			PASS
	9538	1907.6	3.13			PASS



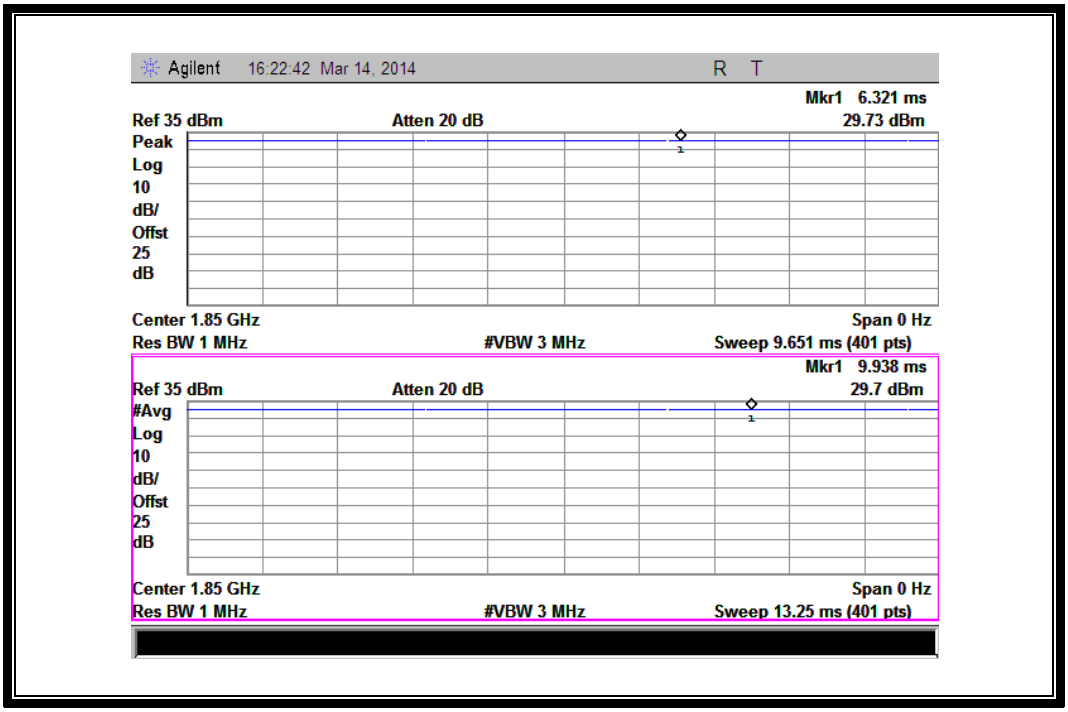
(Plot A1:GSM 1900 MHz Channel = 512)



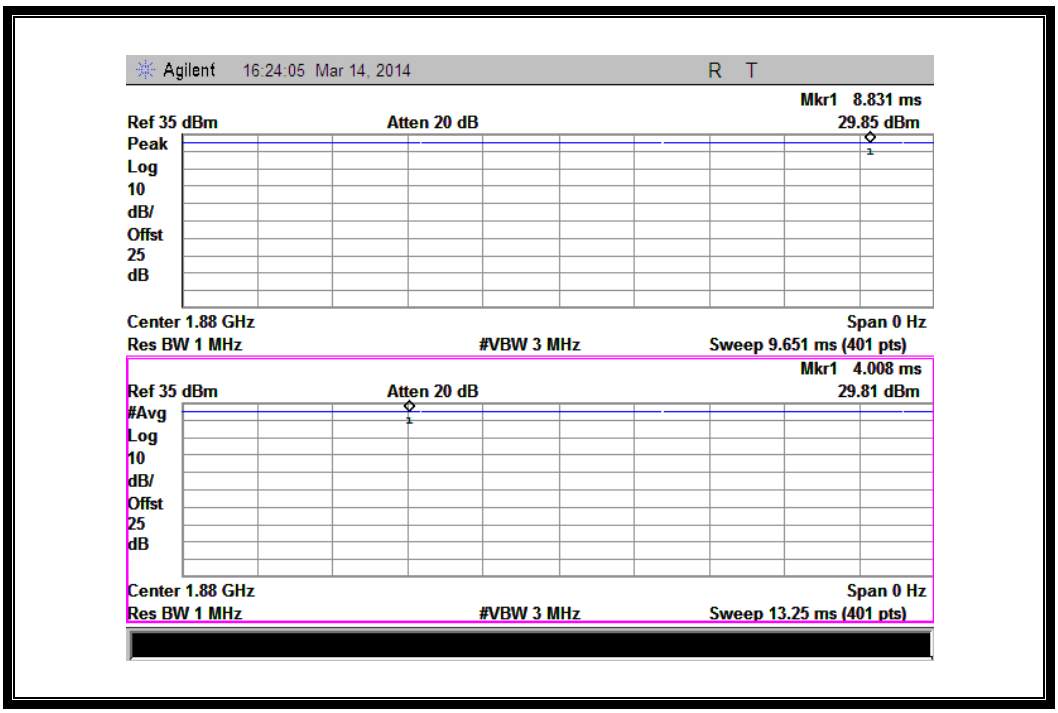
(Plot A2:GSM 1900 MHz Channel = 661)



(Plot A3:GSM 1900MHz Channel = 810)



(Plot B1: EGPRS 1900MHz Channel = 512)



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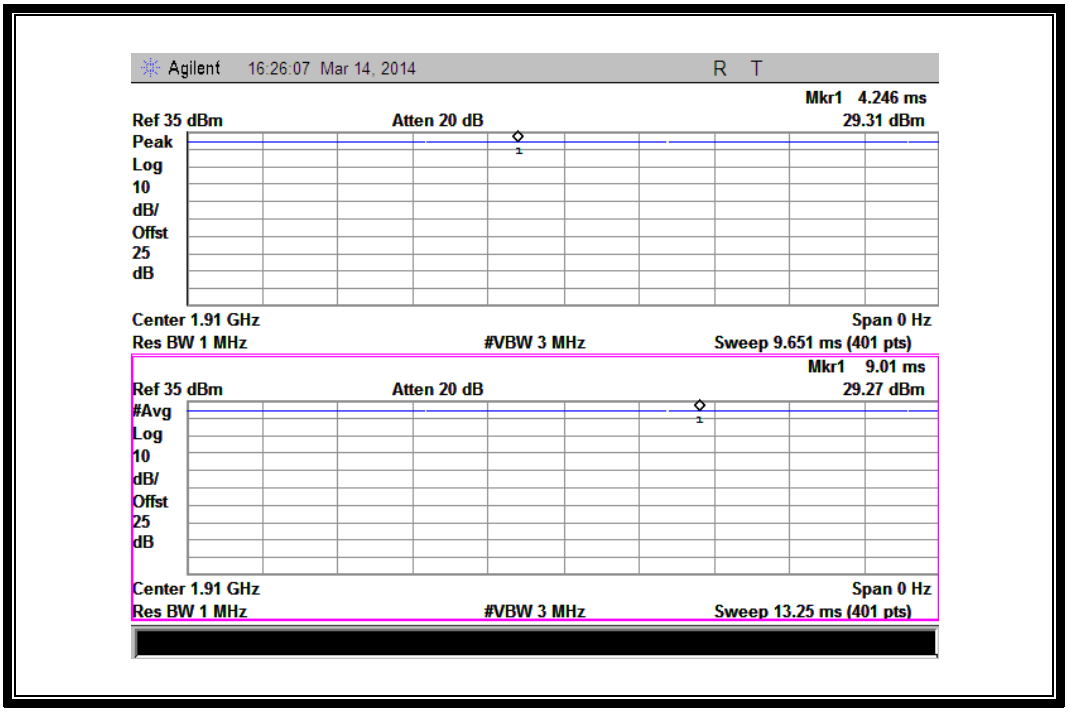

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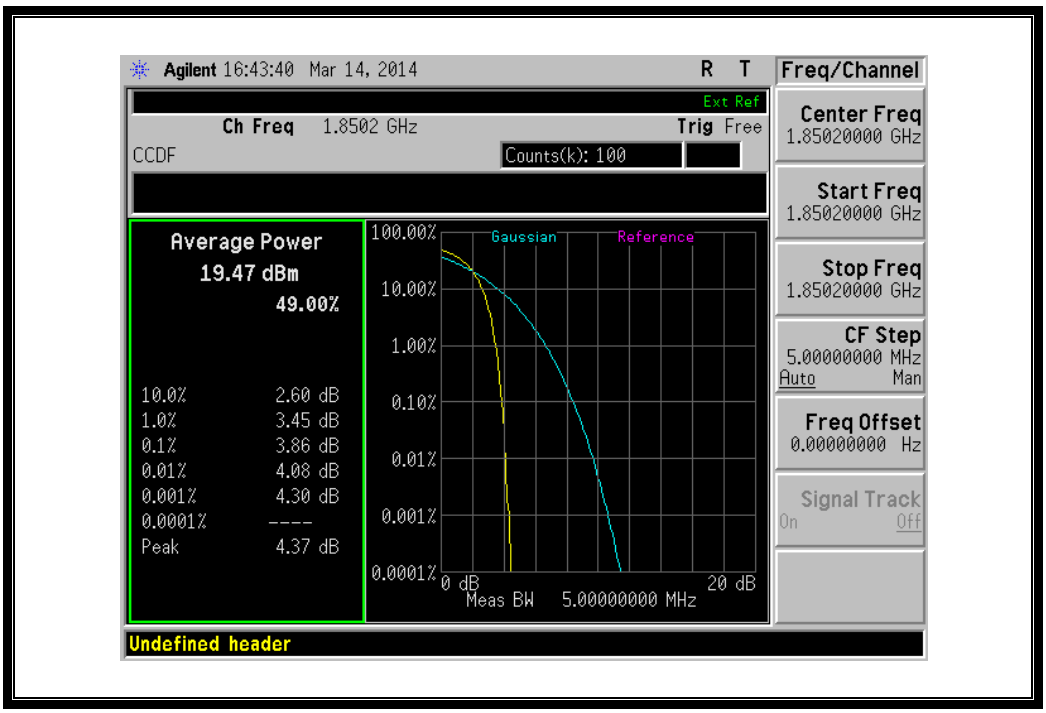
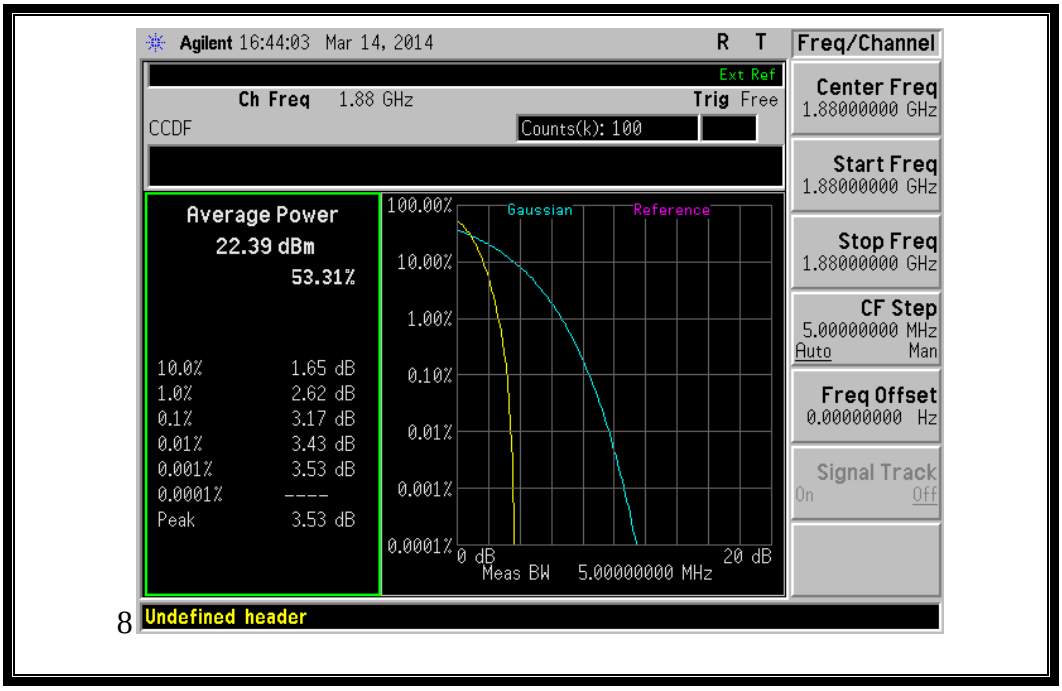


(Plot C1: WCDMA 1900MHz Channel = 9262)



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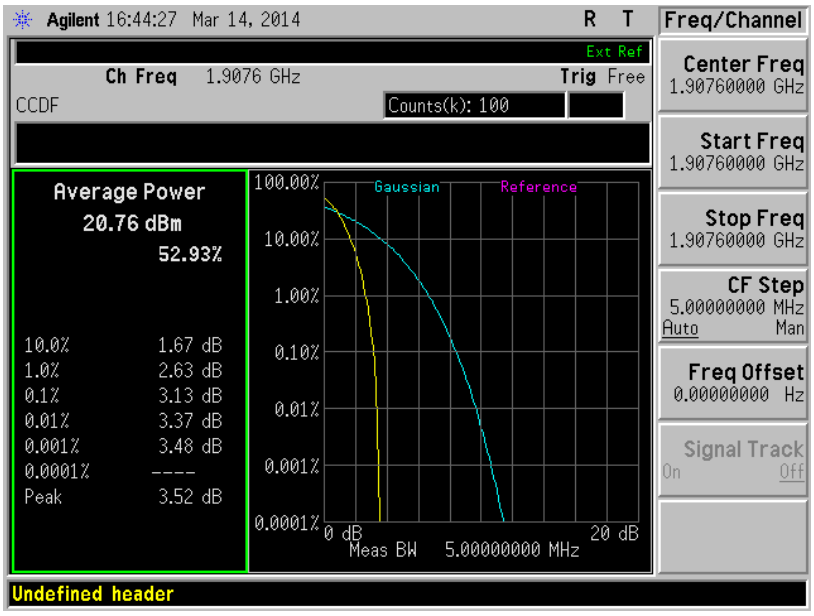
(Plot C2: WCDMA 1900MHz Channel = 9400)



(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

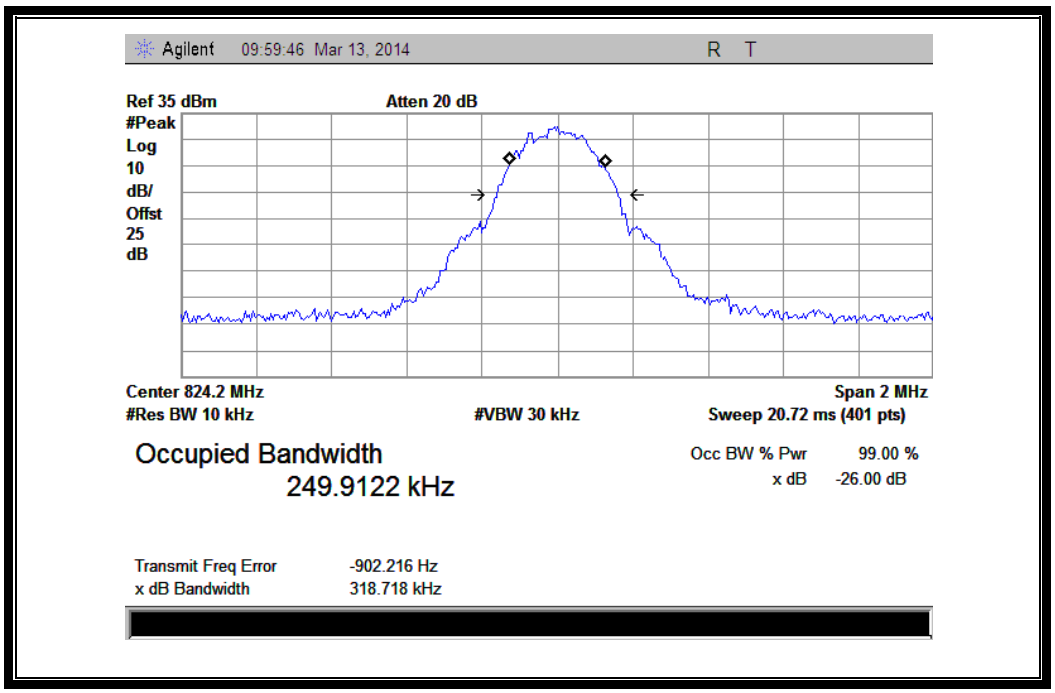
Here the lowest, middle and highest channels are selected to perform testing to verify the 99% occupied bandwidth.

2. Test Verdict:

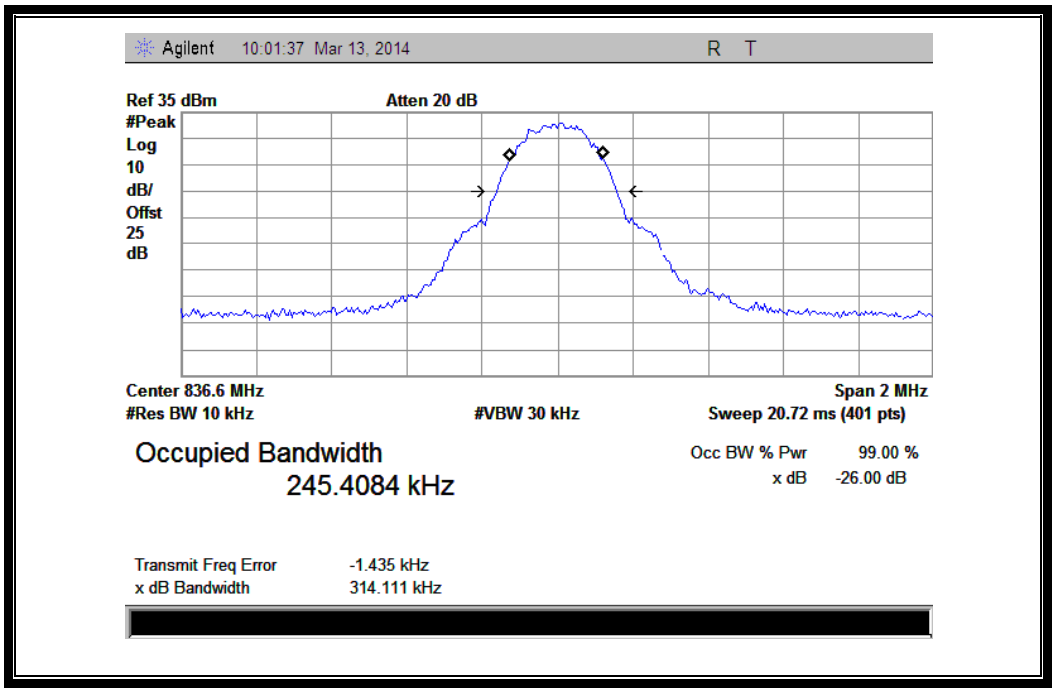
Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
EDGE 850MHz	128	824.2	318.718 KHz	249.9122 KHz	Plot A
	190	836.6	314.111 KHz	245.4084 KHz	Plot B
	251	848.8	322.290 KHz	244.7862 KHz	Plot C
EDGE 1900MHz	512	1850.2	316.272 KHz	248.4247 KHz	Plot D
	661	1880.0	314.291 KHz	247.8172 KHz	Plot E
	810	1909.8	324.422 KHz	244.9717 KHz	Plot F
WCDMA 850MHz	4132	826.4	4.709 MHz	4.1573 MHz	Plot G
	4175	835	4.712 MHz	4.1712 MHz	Plot H
	4233	846.6	4.679 MHz	4.1513 MHz	Plot I
WCDMA 1900MHz	9262	1852.4	4.710 MHz	4.1599 MHz	Plot J
	9400	1880	4.704 MHz	4.1530 MHz	Plot K
	9538	1907.6	4.692 MHz	4.1529 MHz	Plot L
HSDPA 850MHz	4132	826.4	4.692 MHz	4.1588 MHz	Plot M
	4175	835	4.679 MHz	4.1762 MHz	Plot N
	4233	846.6	4.681 MHz	4.1558 MHz	Plot O
HSDPA 1900MHz	9262	1852.4	4.693 MHz	4.1593 MHz	Plot P
	9400	1880	4.705 MHz	4.1603 MHz	Plot Q
	9538	1907.6	4.717 MHz	4.1630 MHz	Plot R
HSUPA 850MHz	4132	826.4	4.695 MHz	4.1596 MHz	Plot S
	4175	835	4.708 MHz	4.1598 MHz	Plot T
	4233	846.6	4.690 MHz	4.1396 MHz	Plot U
HSUPA 1900MHz	9262	1852.4	4.716 MHz	4.1665 MHz	Plot V

Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
	9400	1880	4.701 MHz	4.1614 MHz	Plot W
	9538	1907.6	4.688 MHz	4.1575 MHz	Plot X
HSPA+ 850MHz	4132	826.4	4.707 MHz	4.1615 MHz	Plot Y
	4175	835	4.700 MHz	4.1735 MHz	Plot Z
	4233	846.6	4.694 MHz	4.1438 MHz	Plot A1
HSPA+ 1900MHz	9262	1852.4	4.714 MHz	4.1752 MHz	Plot B1
	9400	1880	4.697 MHz	4.1599 MHz	Plot C1
	9538	1907.6	4.682 MHz	4.1541 MHz	Plot D1
GSM 850MHz	128	824.2	313.030 KHz	244.1832 KHz	Plot E1
	190	836.6	314.705 KHz	246.3719 KHz	Plot F1
	251	848.8	320.030 KHz	244.1318 KHz	Plot G1
GSM 1900MHz	512	1850.2	319.145 KHz	246.7309 KHz	Plot H1
	661	1880.0	323.164 KHz	245.2097 KHz	Plot I1
	810	1909.8	316.993 KHz	244.8328 KHz	Plot J2
GPRS 850MHz	128	824.2	323.077 KHz	246.0380 KHz	Plot K1
	190	836.6	303.397 KHz	247.0839 KHz	Plot L1
	251	848.8	319.724 KHz	245.1765 KHz	Plot M1
GPRS 1900MHz	512	1850.2	321.566 KHz	245.4654 KHz	Plot N1
	661	1880.0	316.508 KHz	246.9526 KHz	Plot O1
	810	1909.8	323.142 KHz	250.1687 KHz	Plot P1

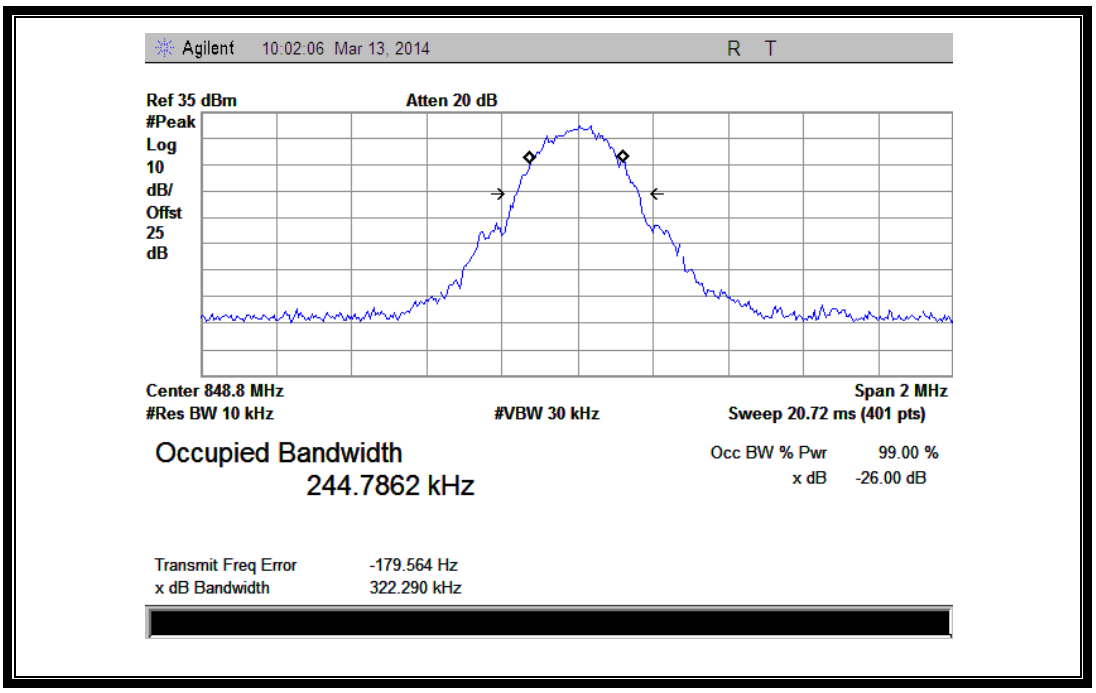
3. Test Plots:



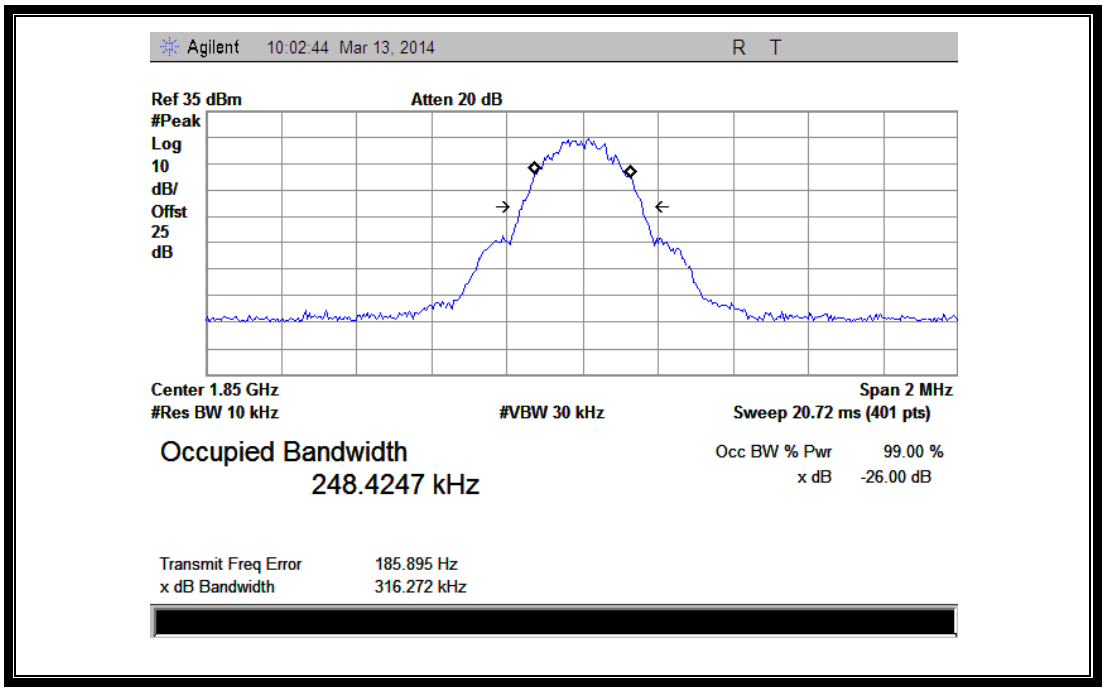
(Plot A: EGPRS 850MHz Channel = 128)



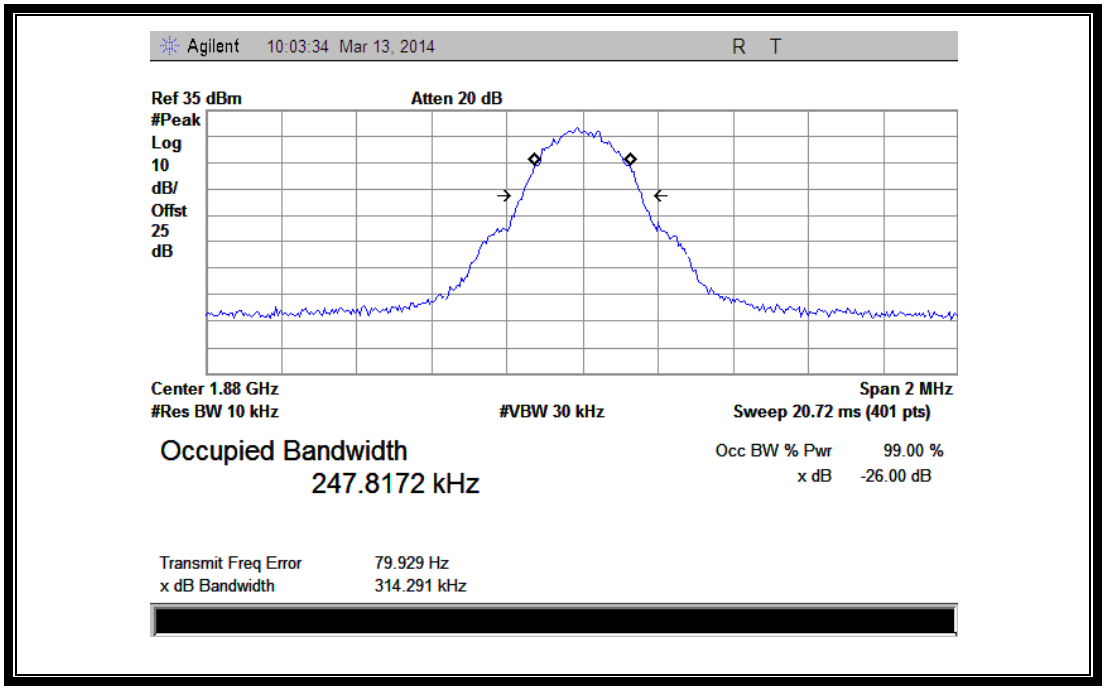
(Plot B: EGPRS 850MHz Channel = 190)



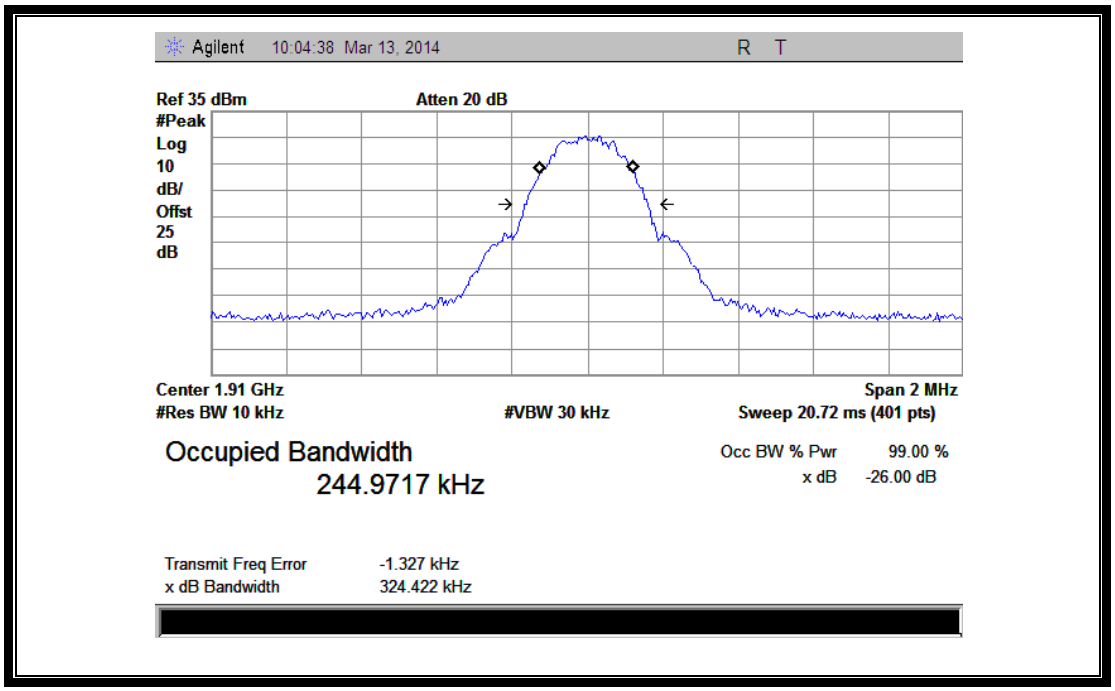
(Plot C: EGPRS 850MHz Channel = 251)



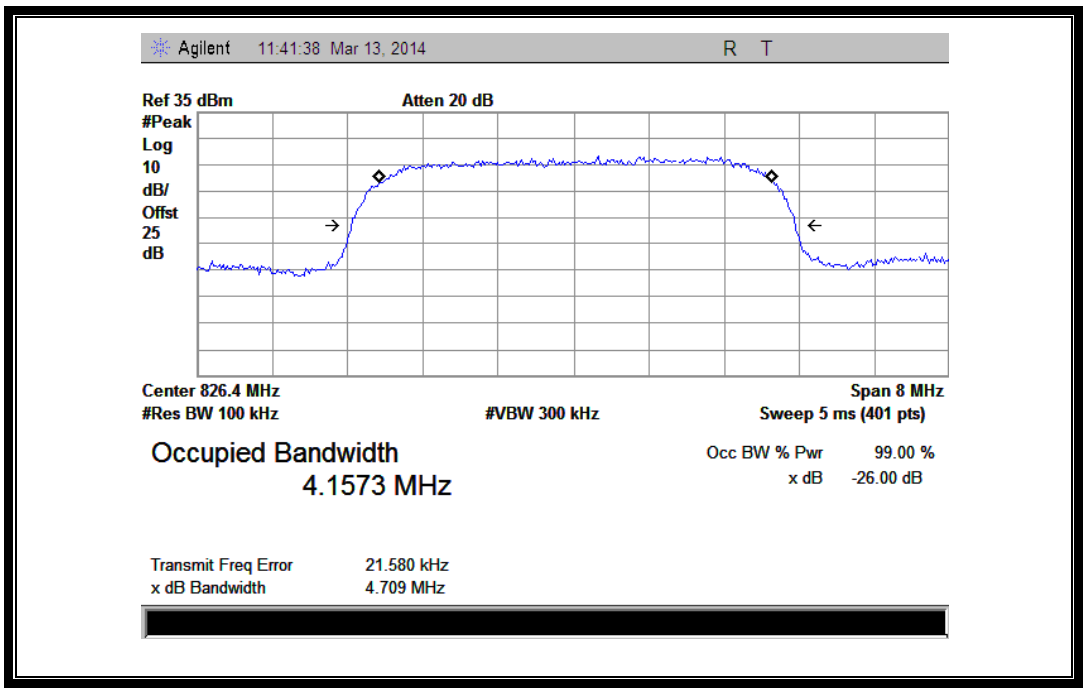
(Plot D: EGPRS1900MHz Channel = 512)



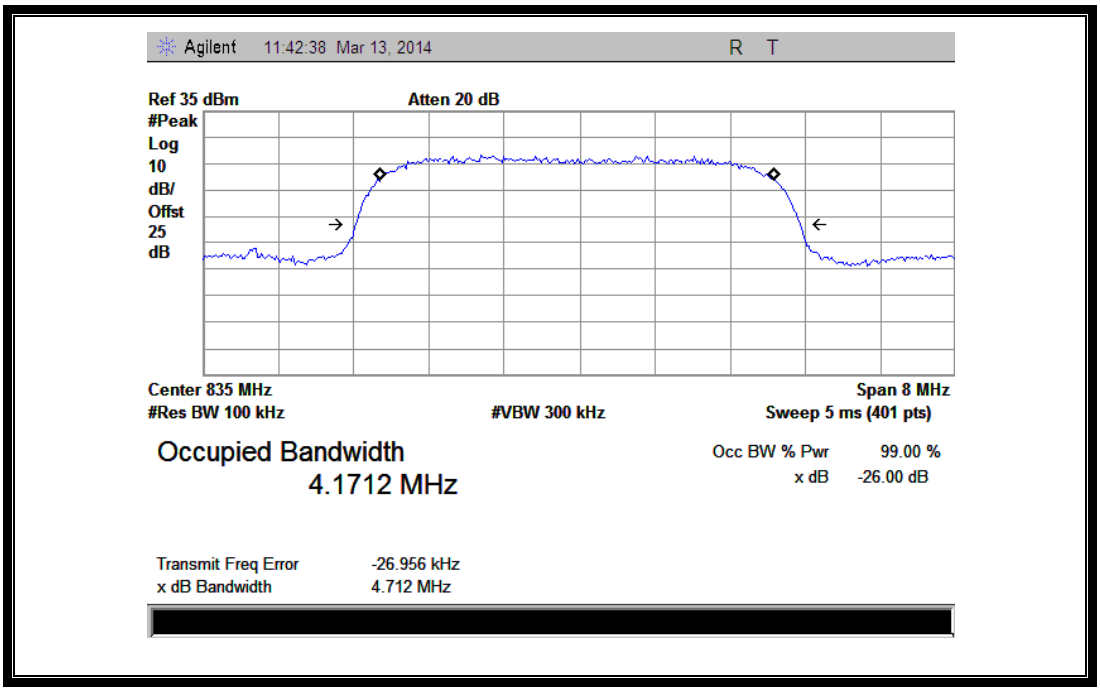
(Plot E: EGPRS1900MHz Channel = 661)



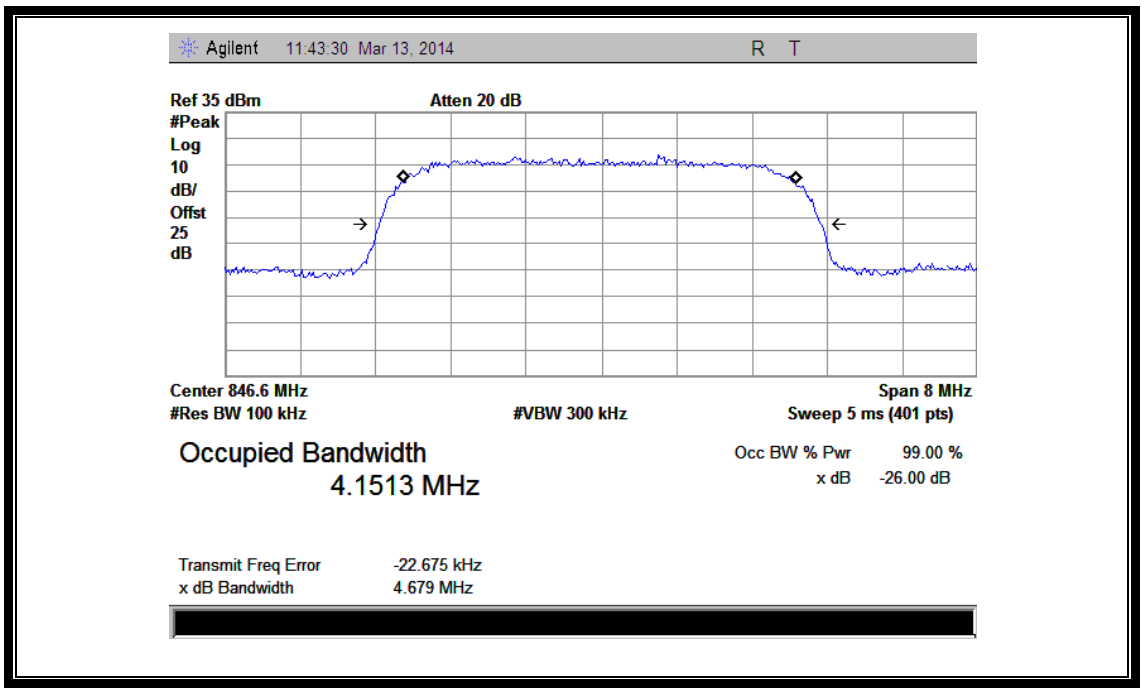
(Plot F: EGPRS 1900MHz Channel = 810)



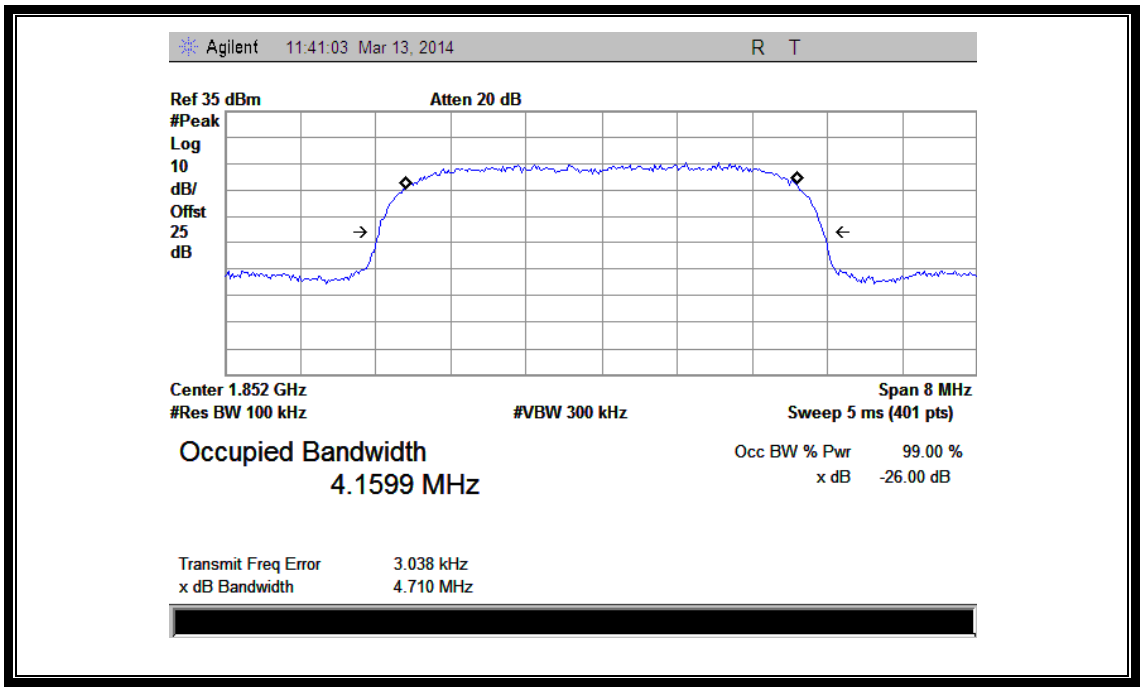
(Plot G: WCDMA 850MHz Channel = 4132)



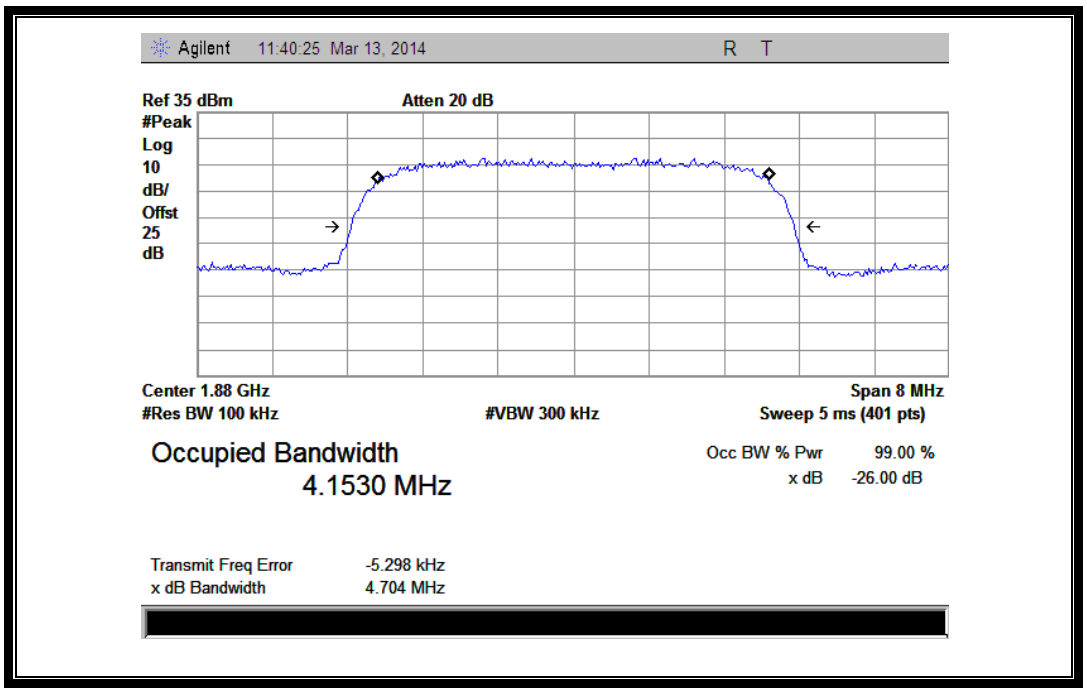
(Plot H: WCDMA 850 MHz Channel = 4175)



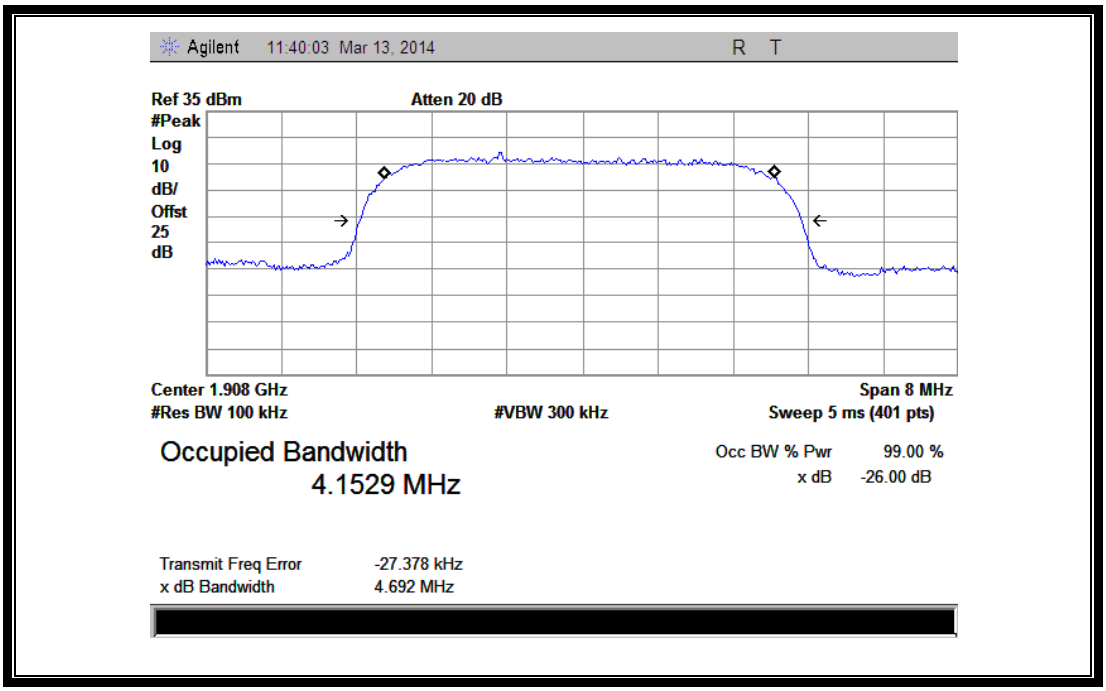
(Plot I: WCDMA 850MHz Channel = 4233)



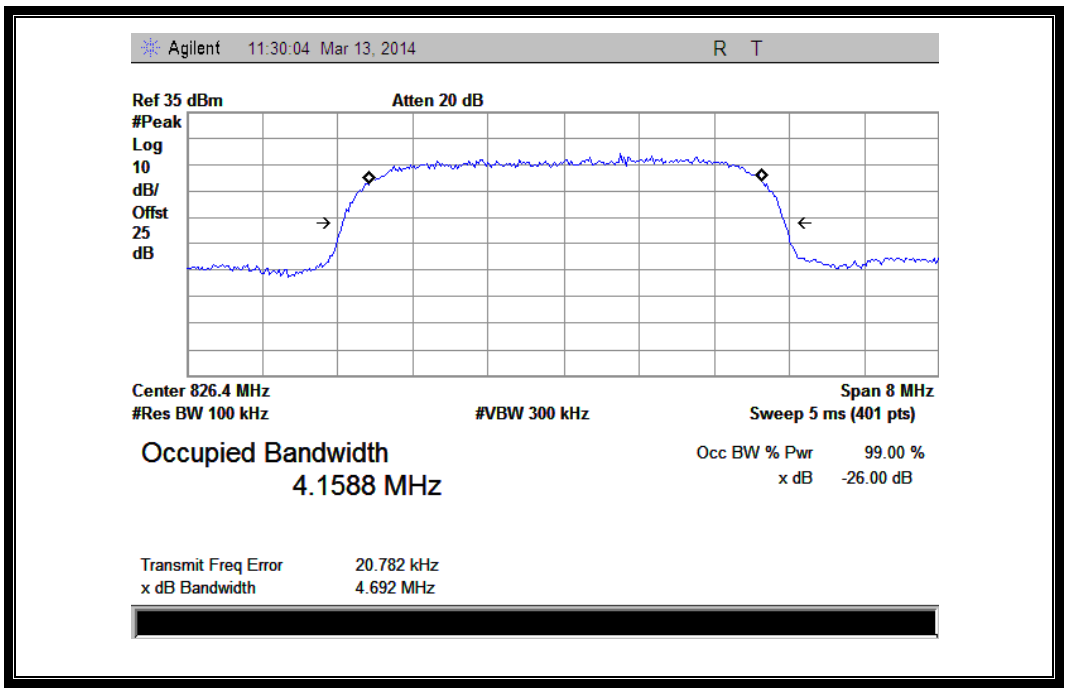
(Plot J: WCDMA 1900MHz Channel = 9262)



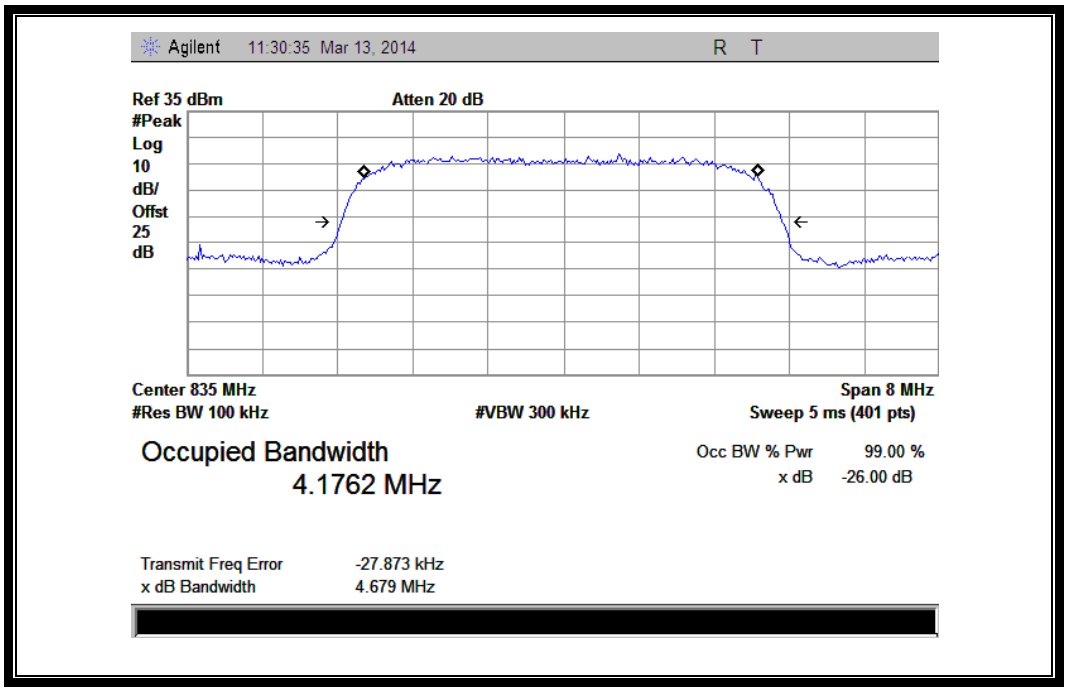
(Plot K: WCDMA 1900 MHz Channel = 9400)



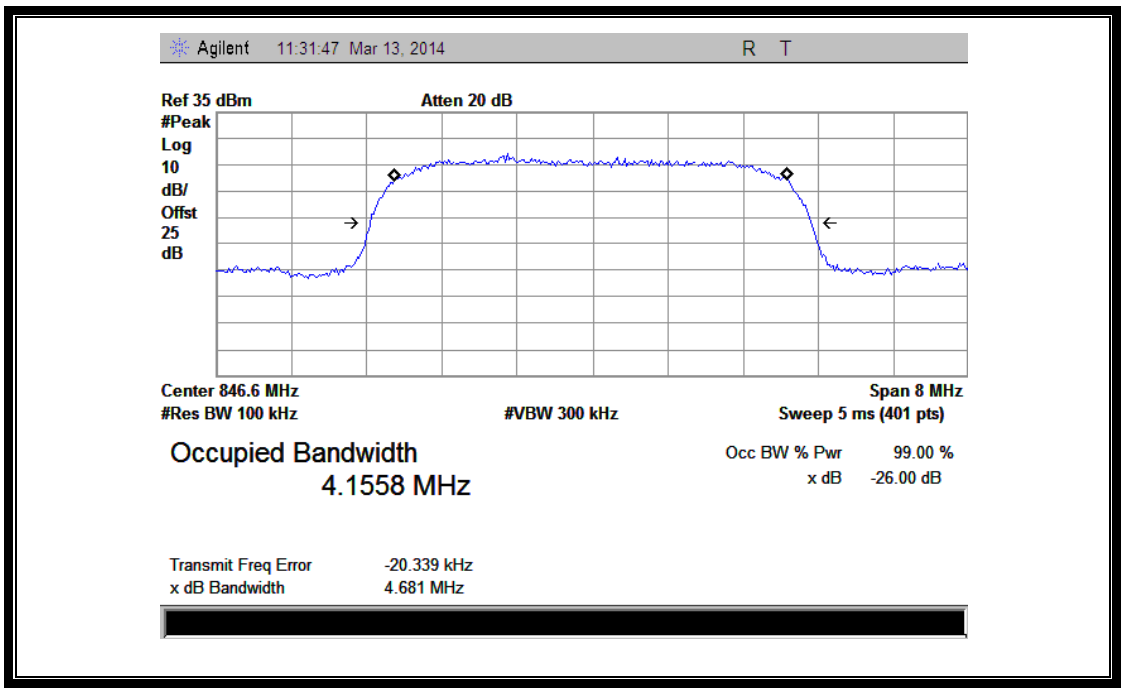
(Plot L: WCDMA1900MHz Channel = 9538)



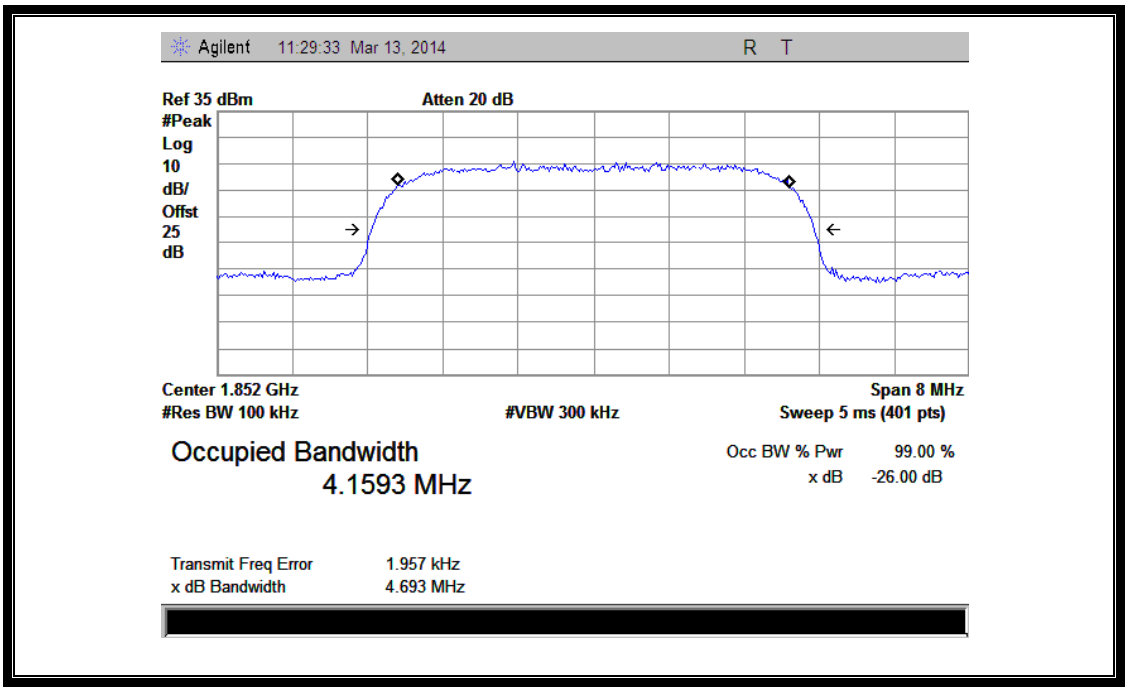
(Plot M: HSDPA 850MHz Channel = 4132)



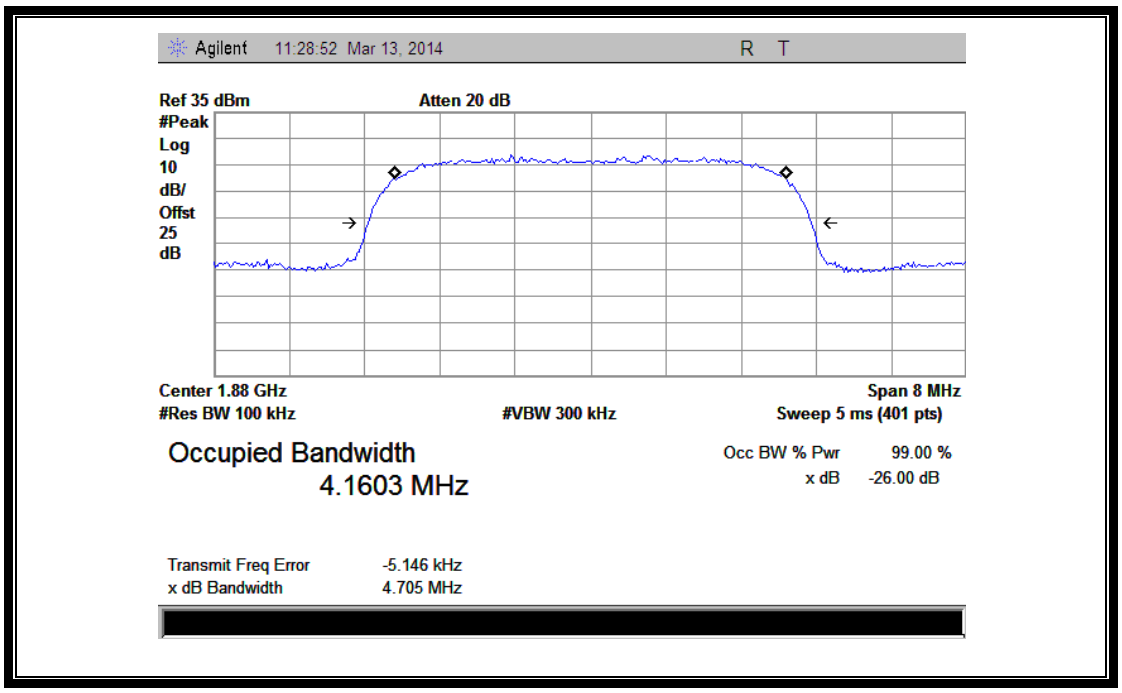
(Plot N: HSDPA850 MHz Channel = 4175)



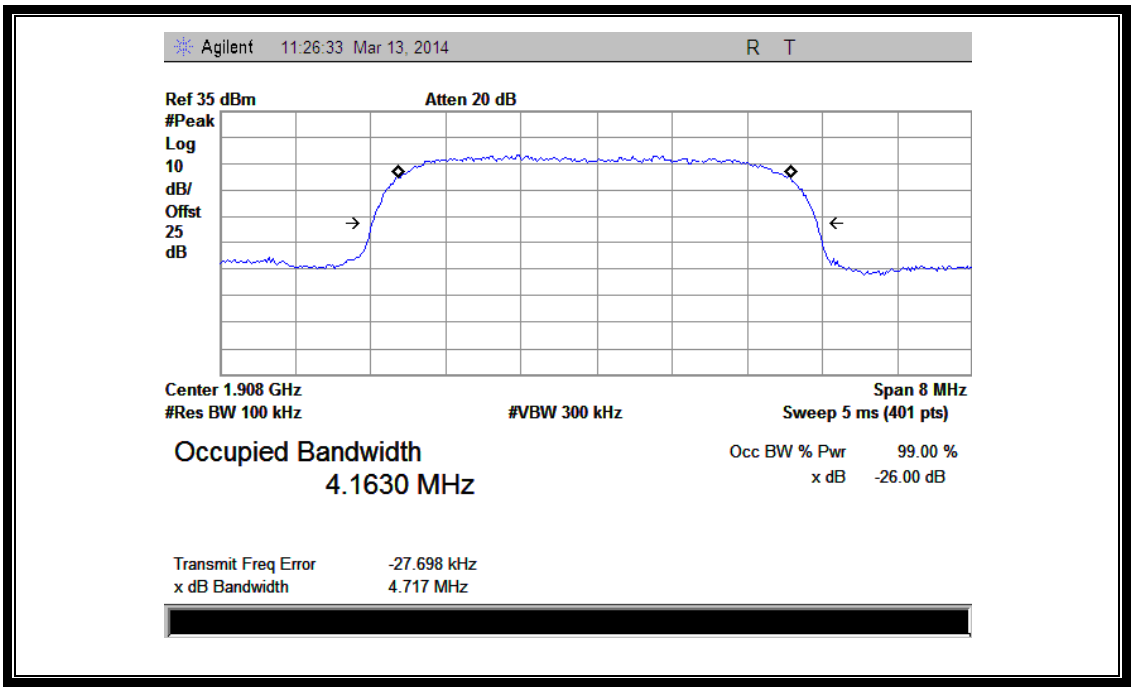
(Plot O: HSDPA 850 MHz Channel = 4233)



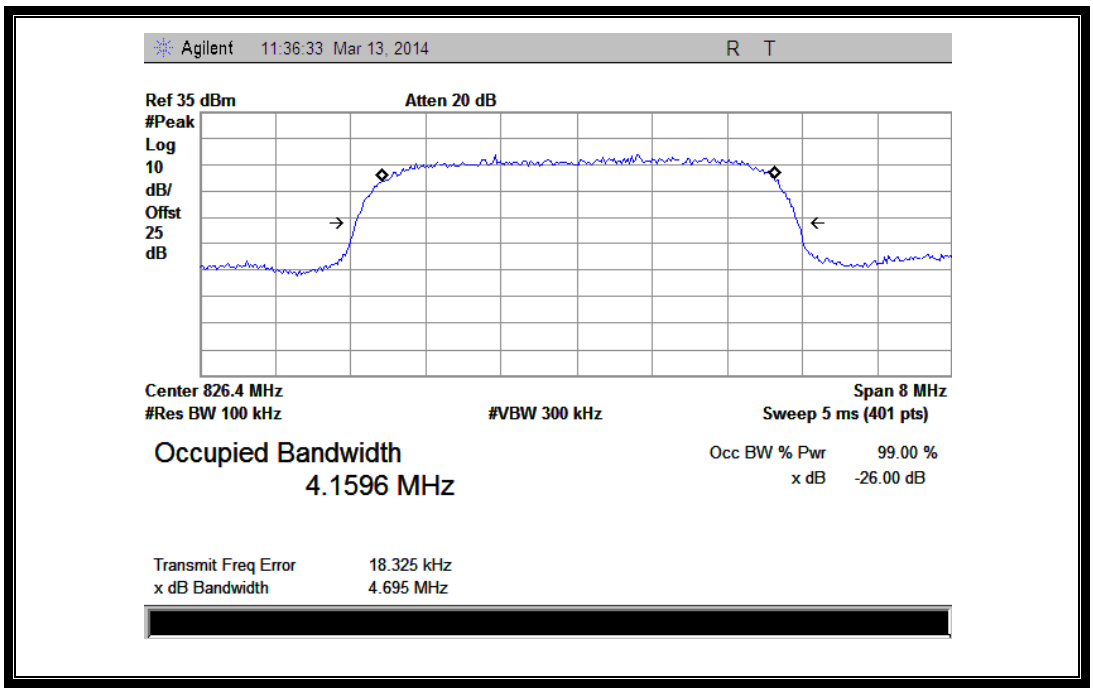
(Plot P: HSDPA1900 MHz Channel = 9262)



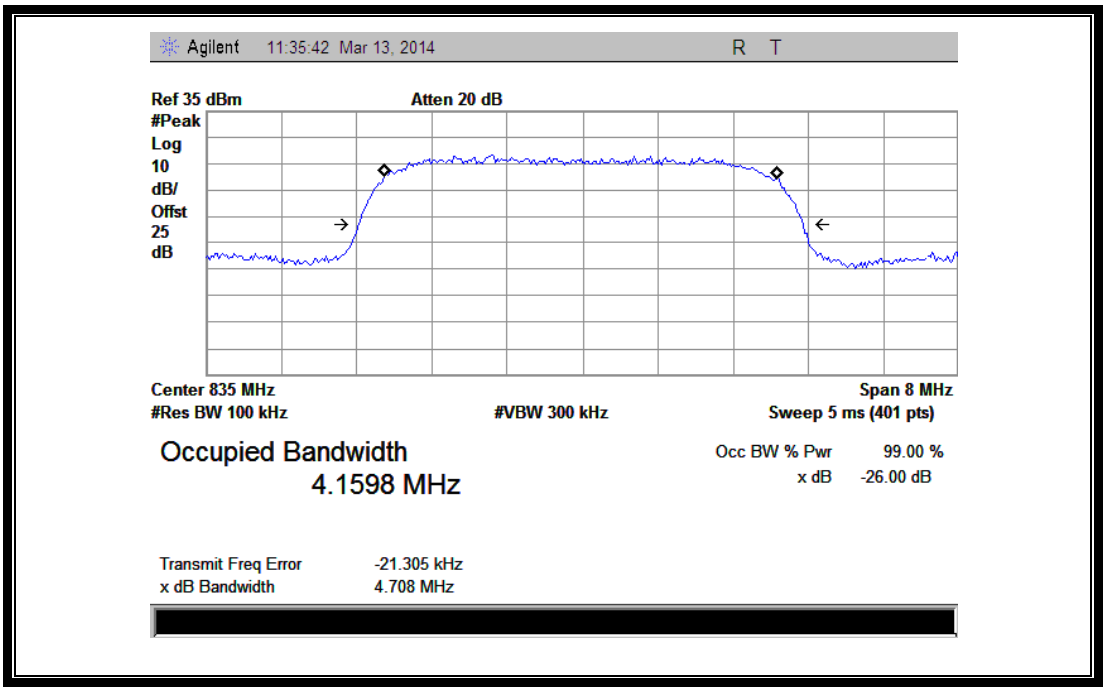
(Plot Q: HSDPA1900 MHz Channel = 9400)



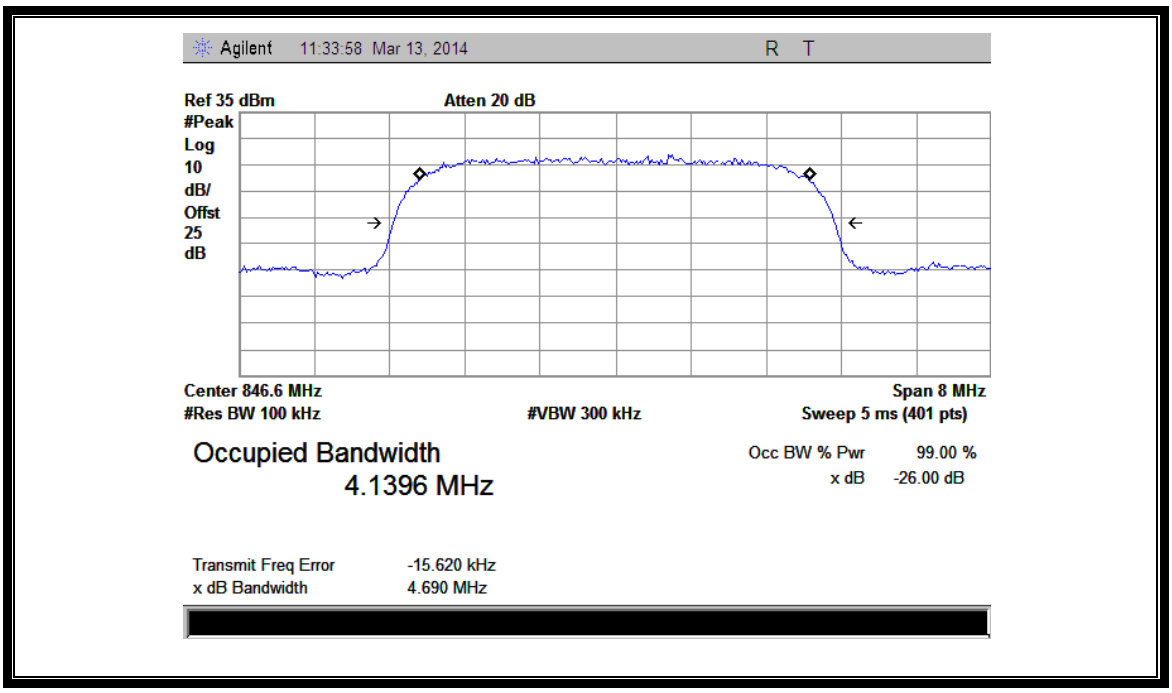
(Plot R: HSDPA 1900 MHz Channel = 9538)



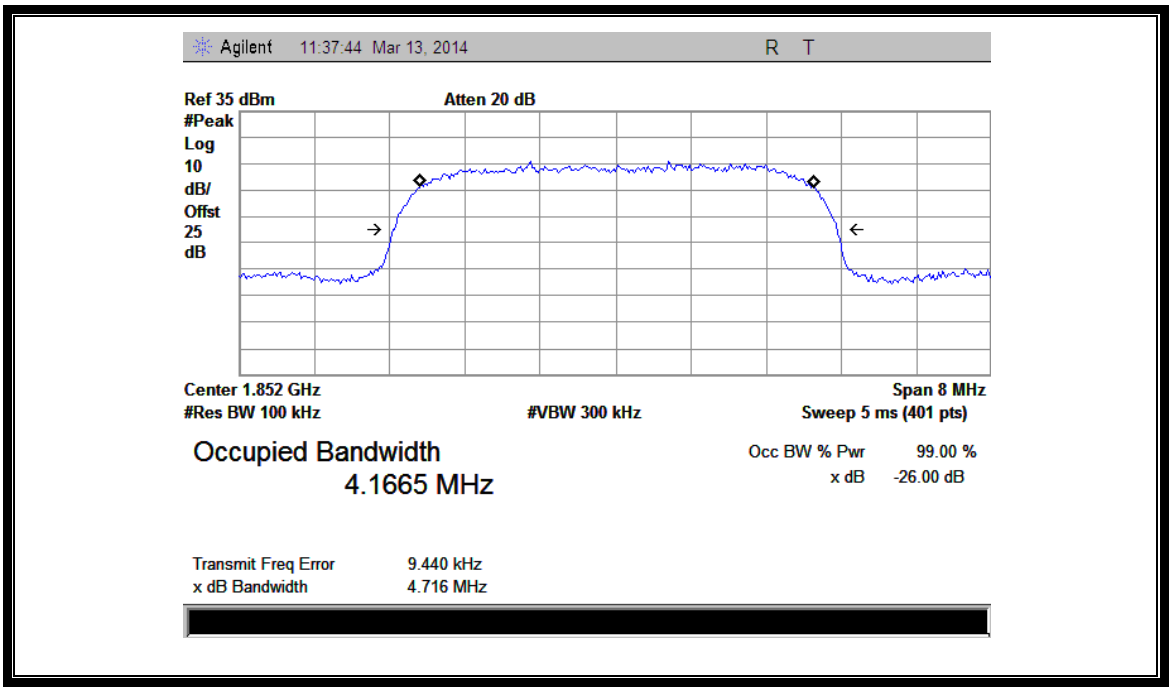
(Plot S: HSUPA850 MHz Channel = 4132)



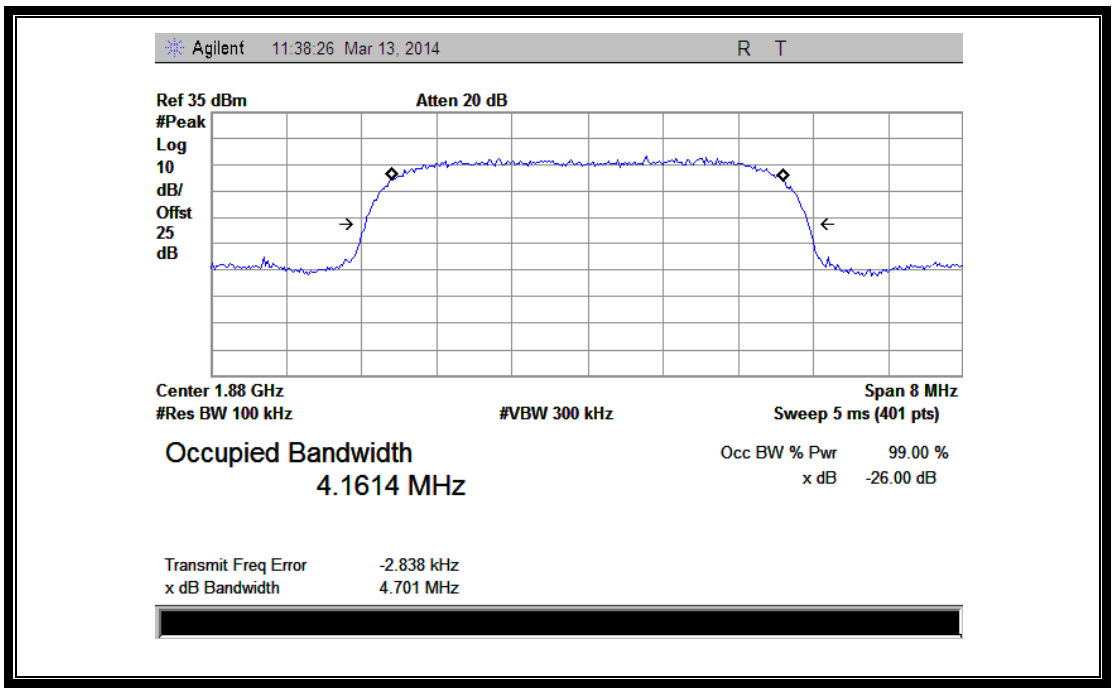
(Plot T: HSUPA850 MHz Channel = 4175)



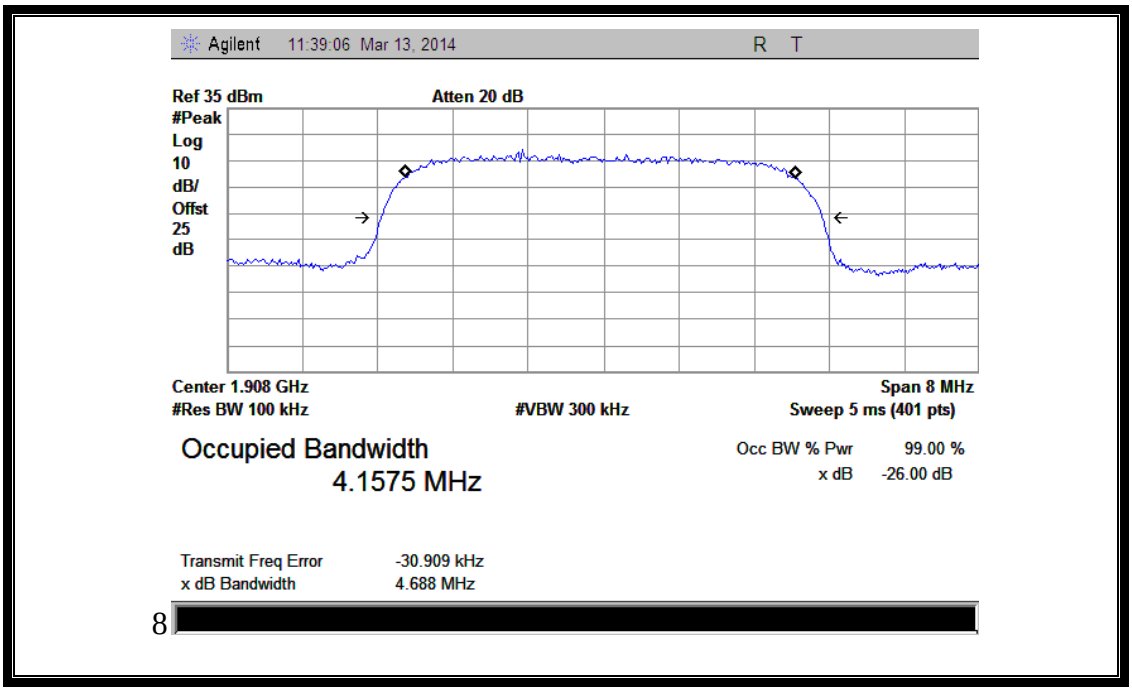
(Plot U: HSUPA850 MHz Channel = 4233)



(Plot V: HSUPA1900 MHz Channel = 9262)

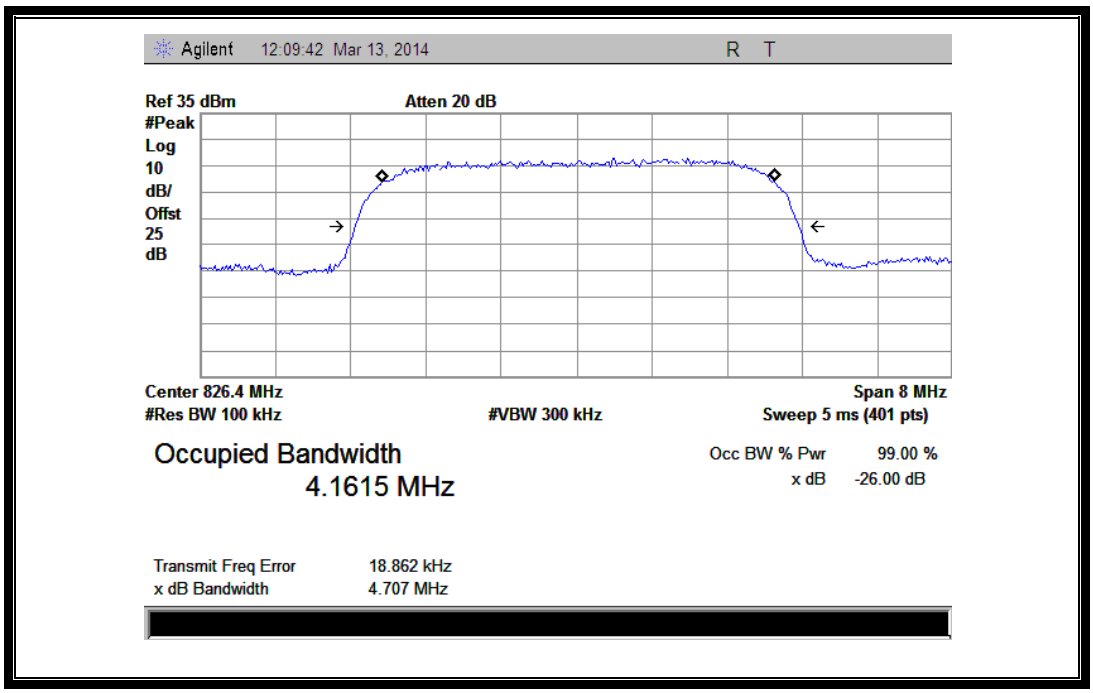


(Plot W: HSUPA1900 MHz Channel = 9400)

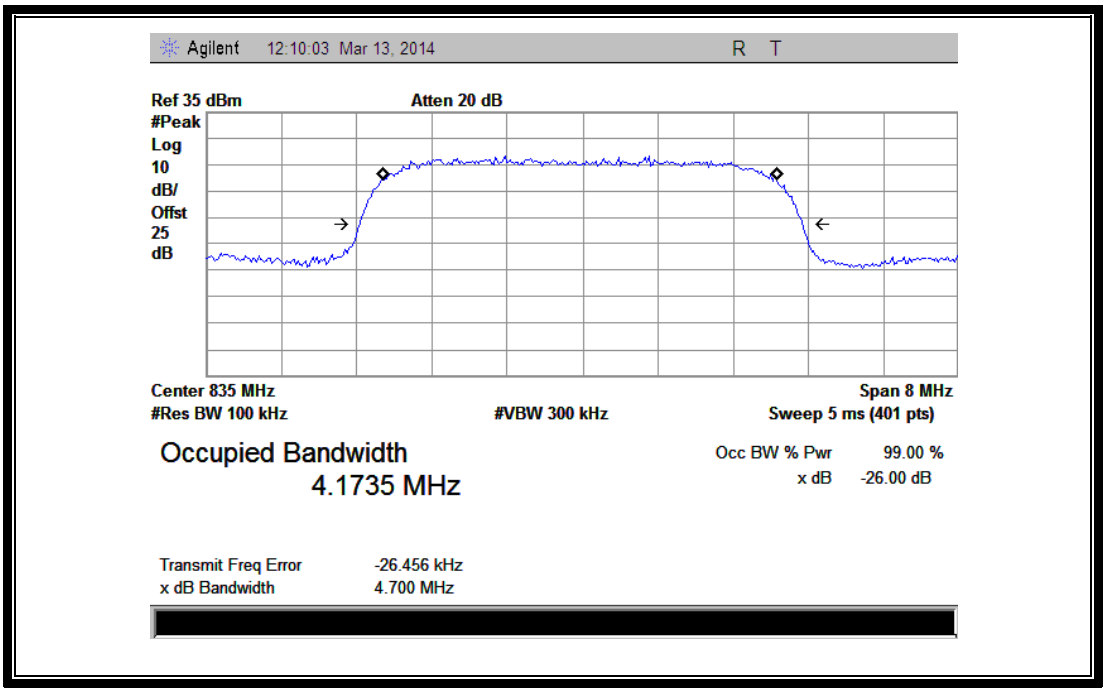


8

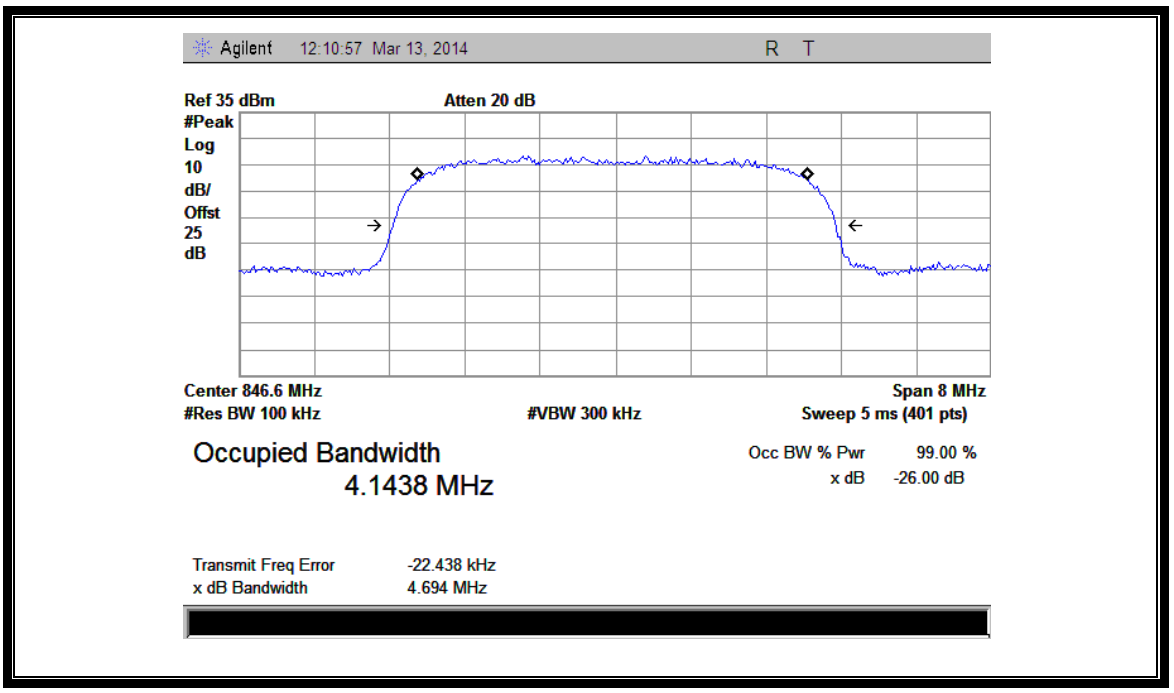
(Plot X: HSUPA1900 MHz Channel = 9538)



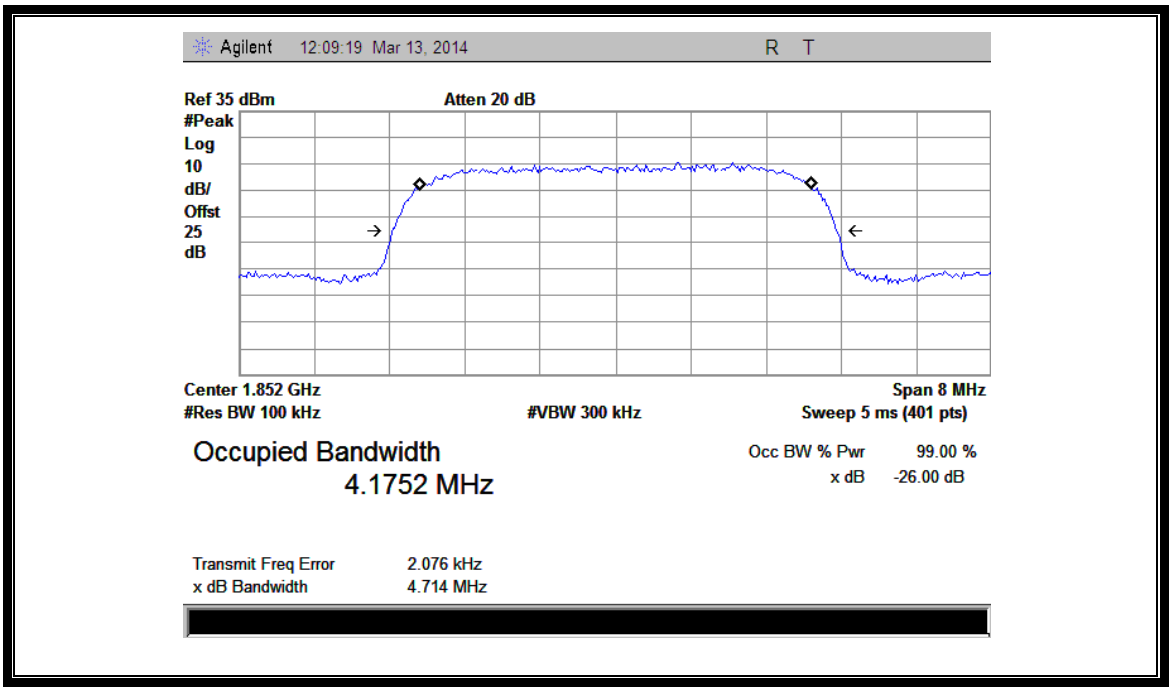
(Plot Y: HSPA+850 MHz Channel = 4132)



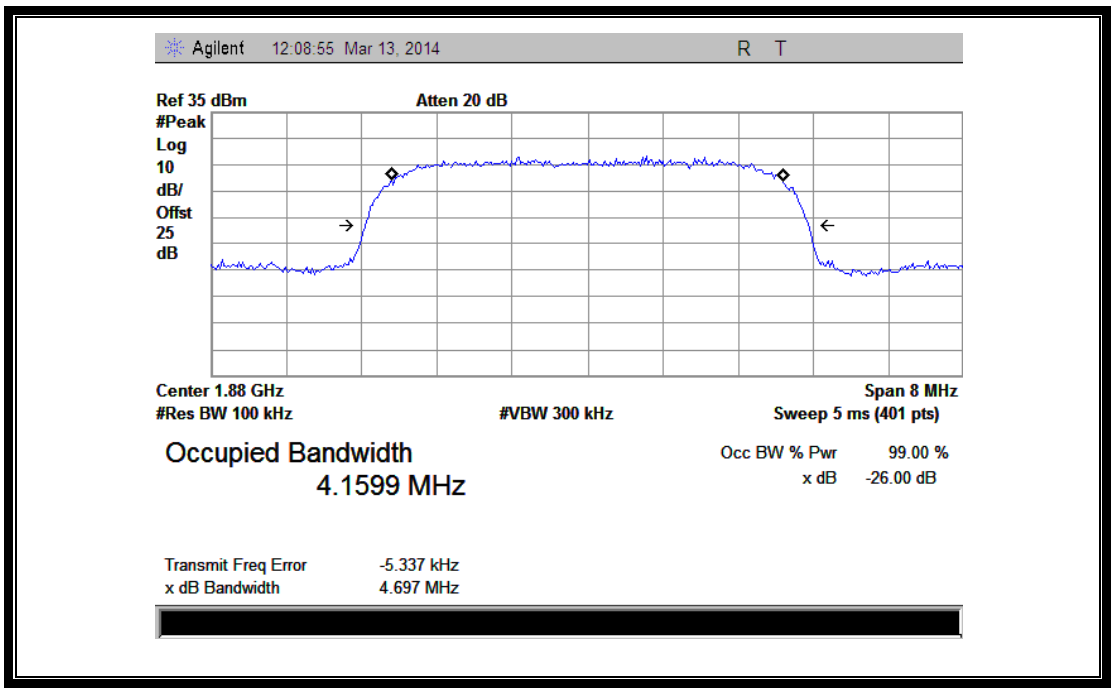
(Plot Z: HSPA+850 MHz Channel = 4175)



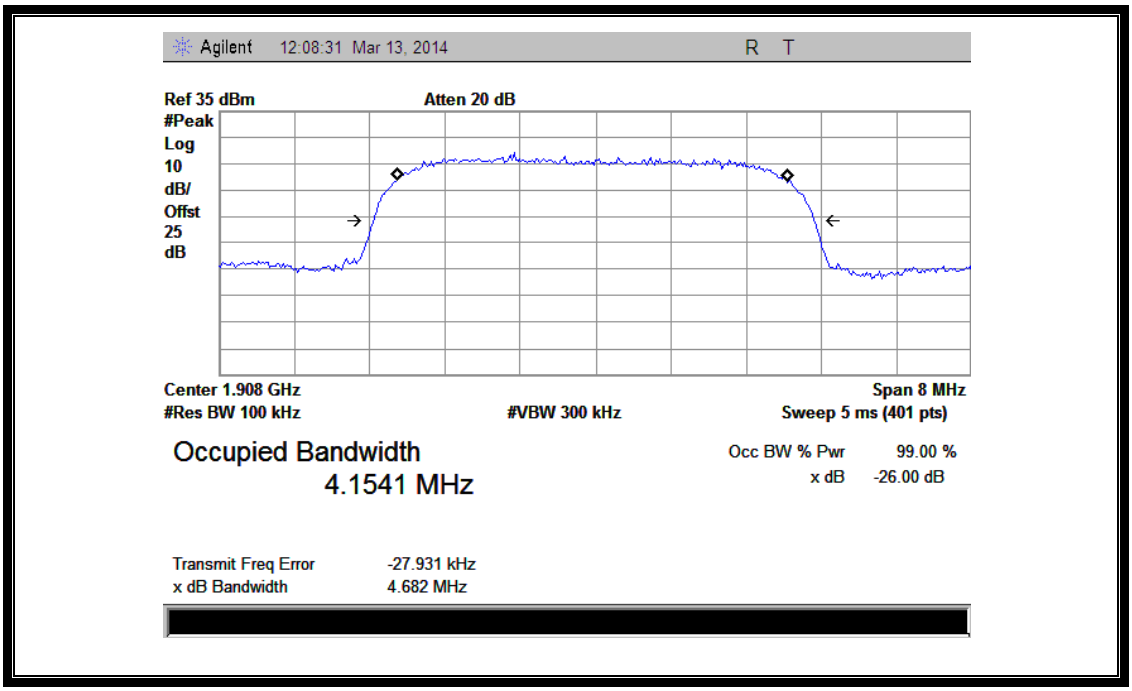
(Plot A1:HSPA+850 MHz Channel = 4233)



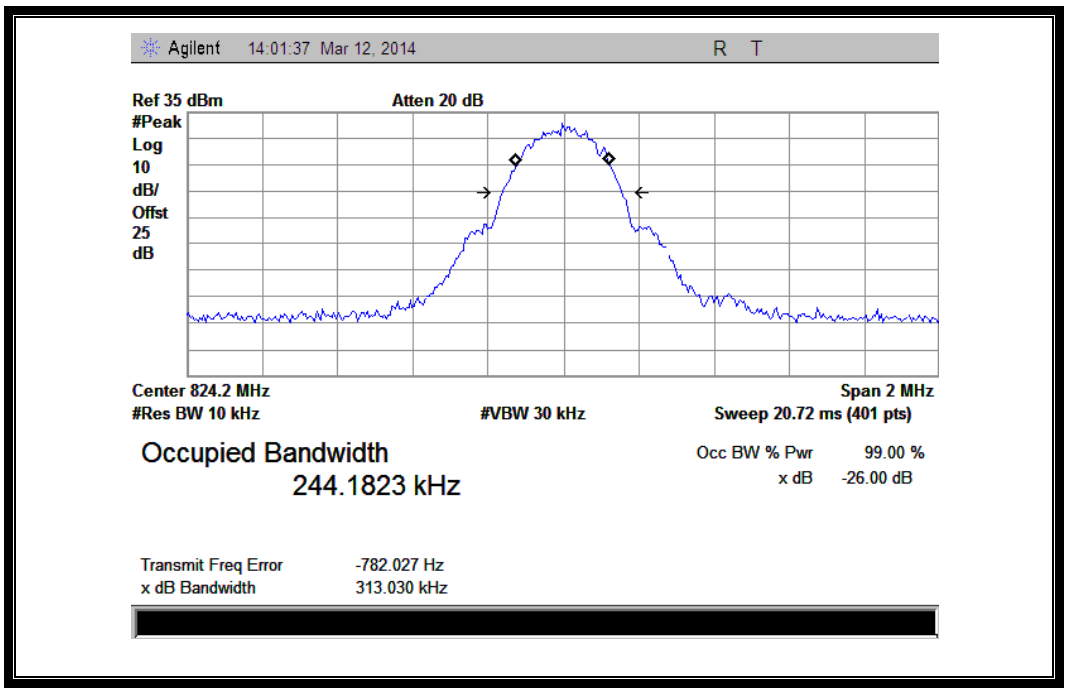
(Plot B1: HSPA+1900 MHz Channel = 9262)



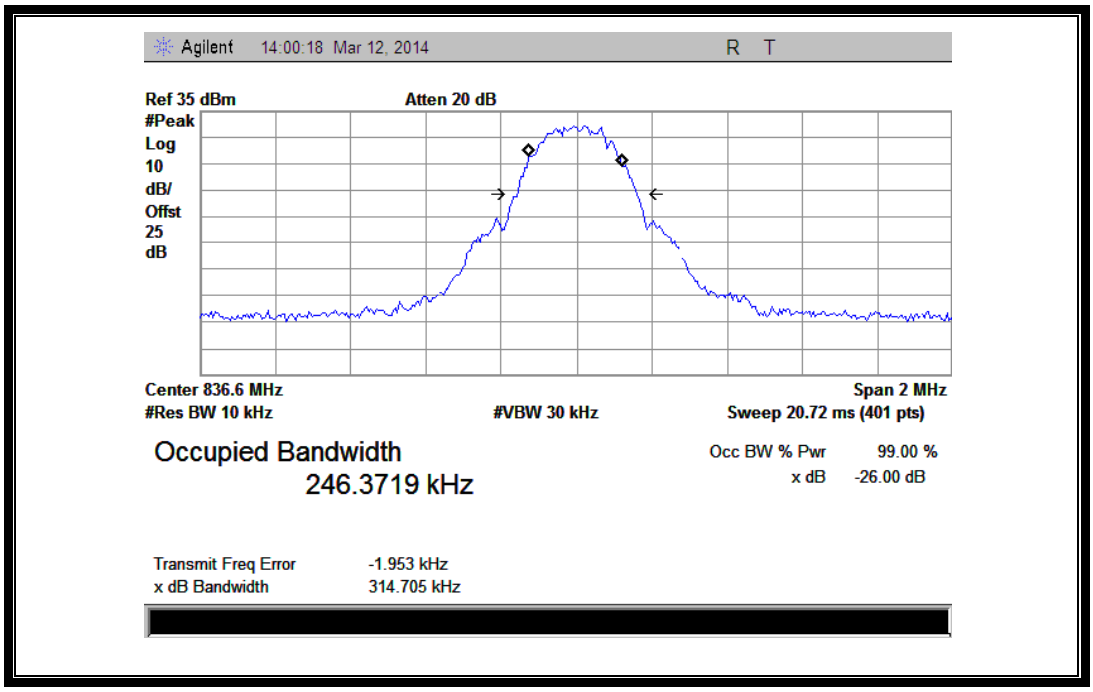
(Plot C1: HSPA+1900 MHz Channel = 9400)



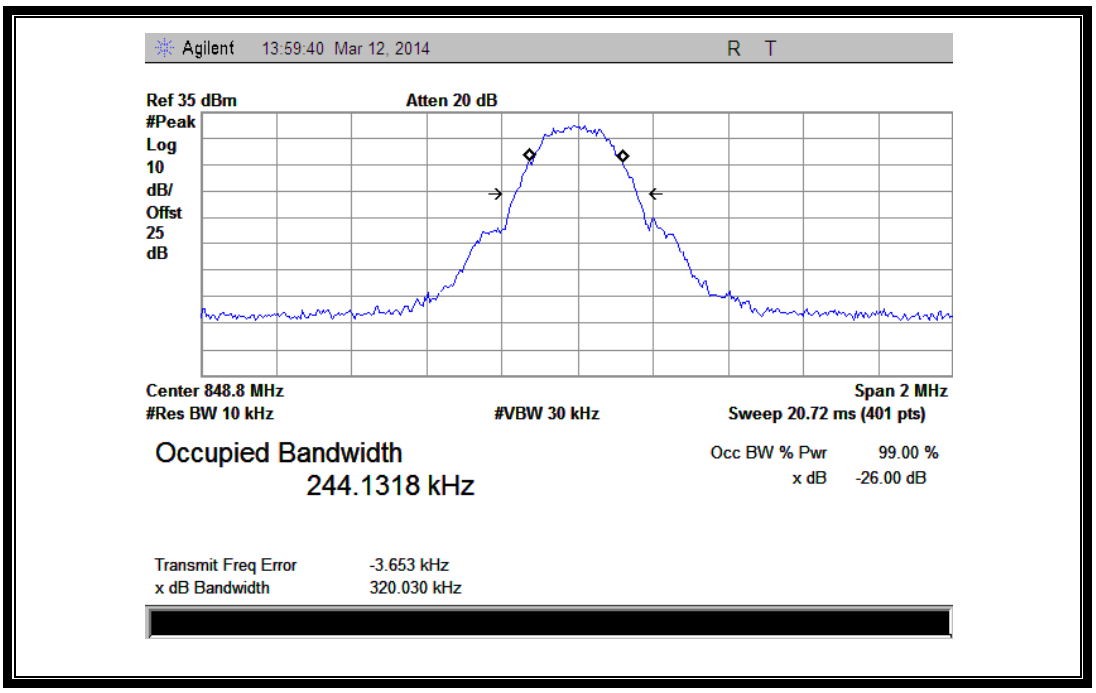
(Plot D1: HSPA+1900 MHz Channel = 9538)



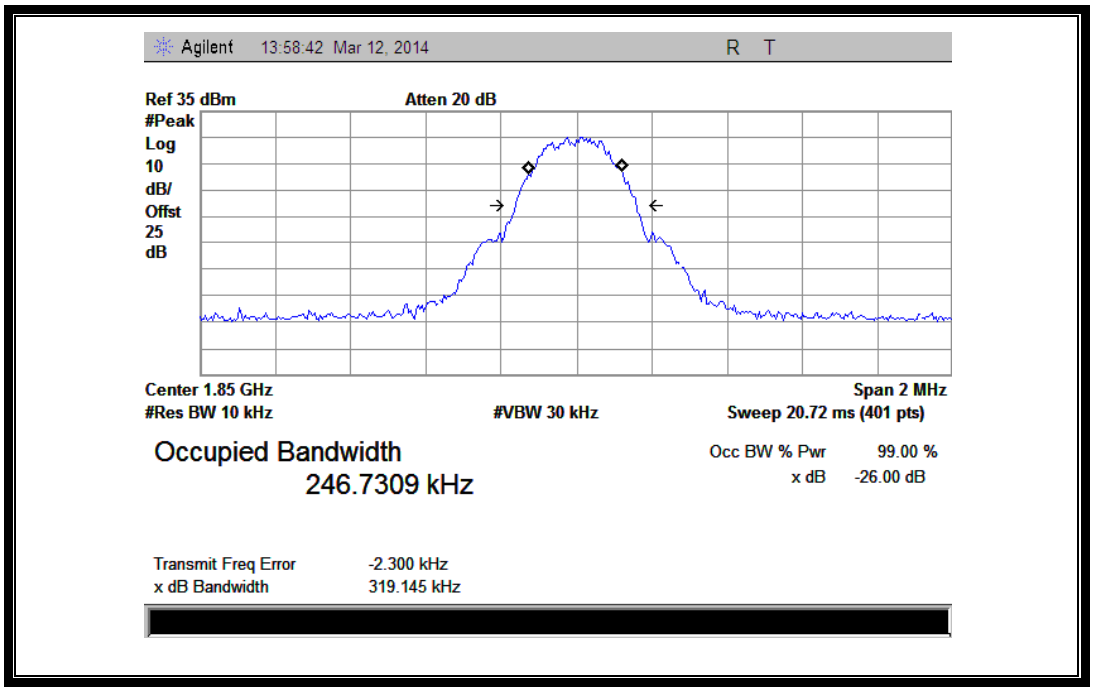
(Plot E1: GSM 850MHz Channel = 128)



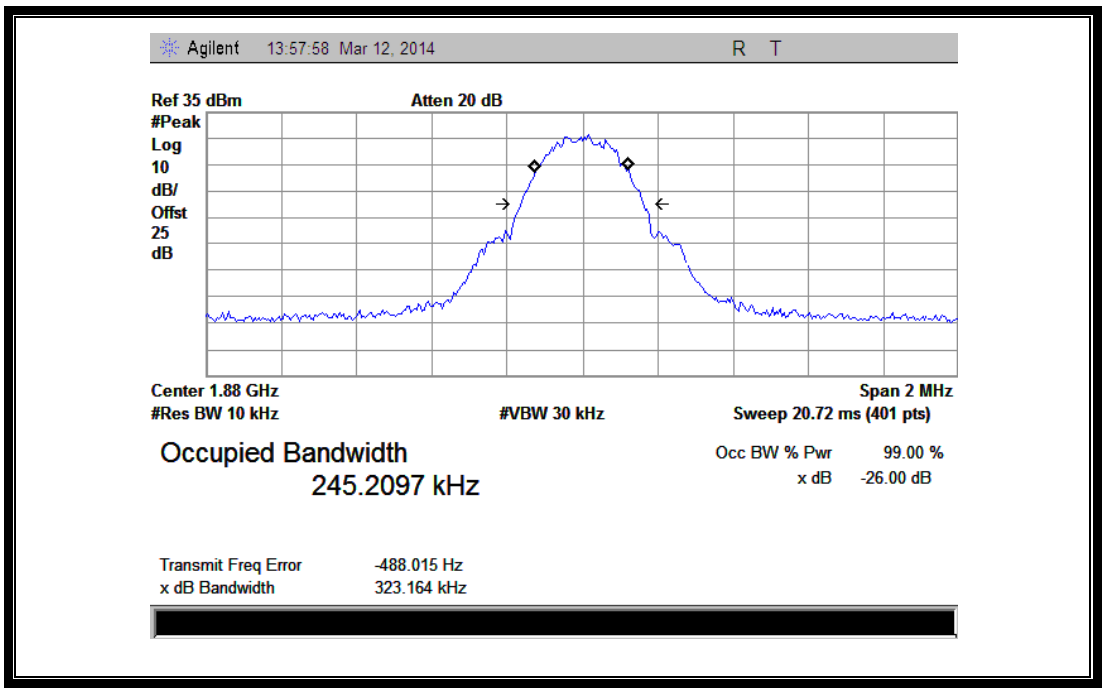
(Plot F1:GSM 850MHz Channel = 190)



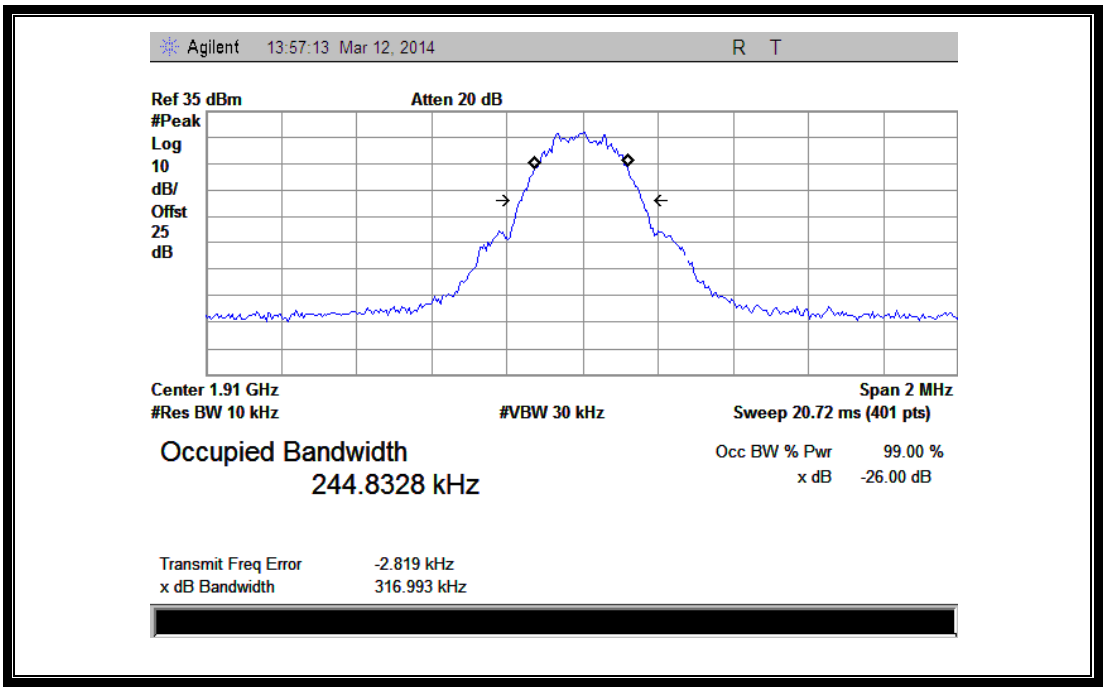
(Plot G1: GSM 850MHz Channel = 251)



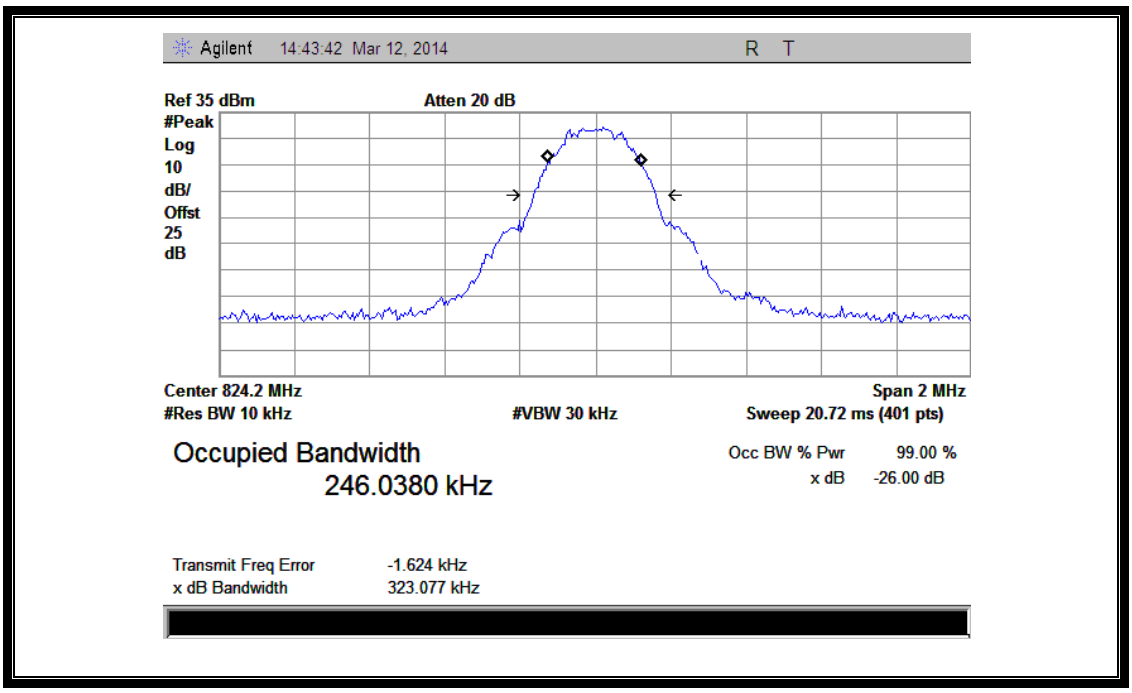
(Plot H1: GSM 1900MHz Channel = 512)



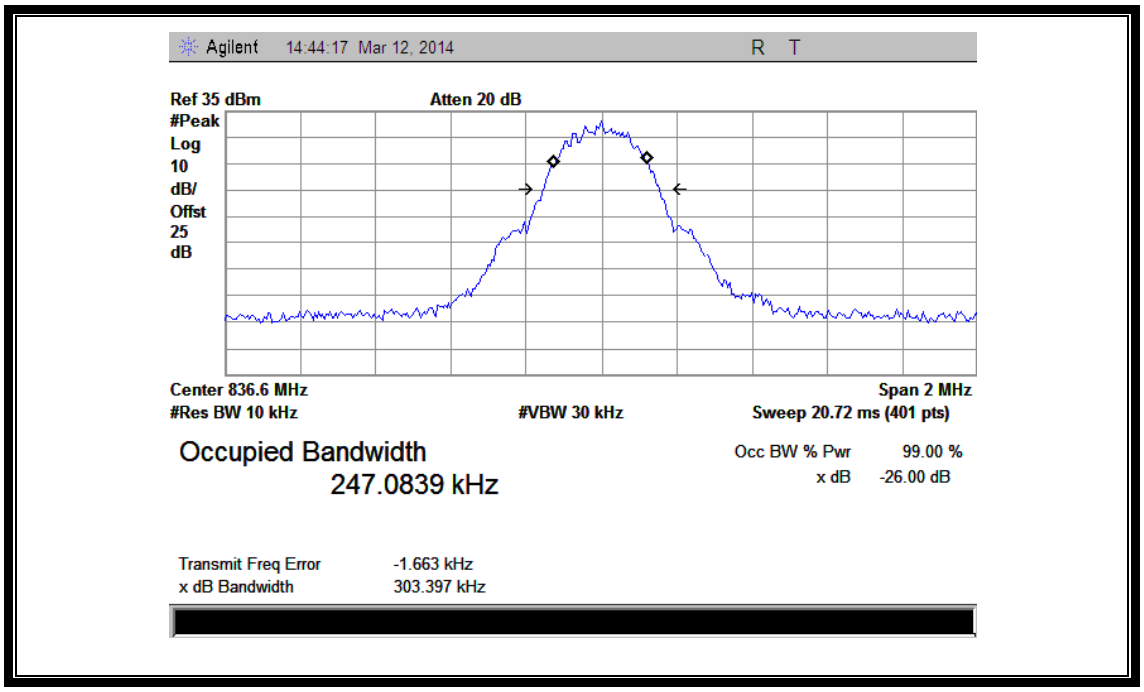
(Plot I1: GSM 1900MHz Channel = 661)



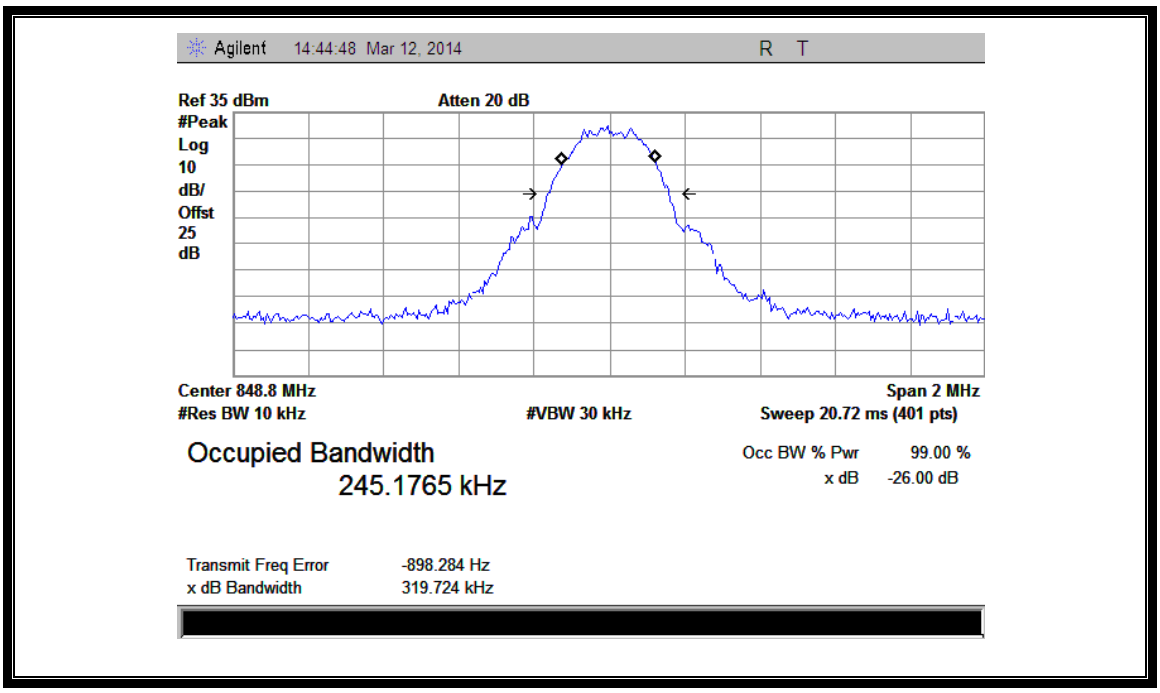
(Plot J1: GSM 1900MHz Channel = 810)



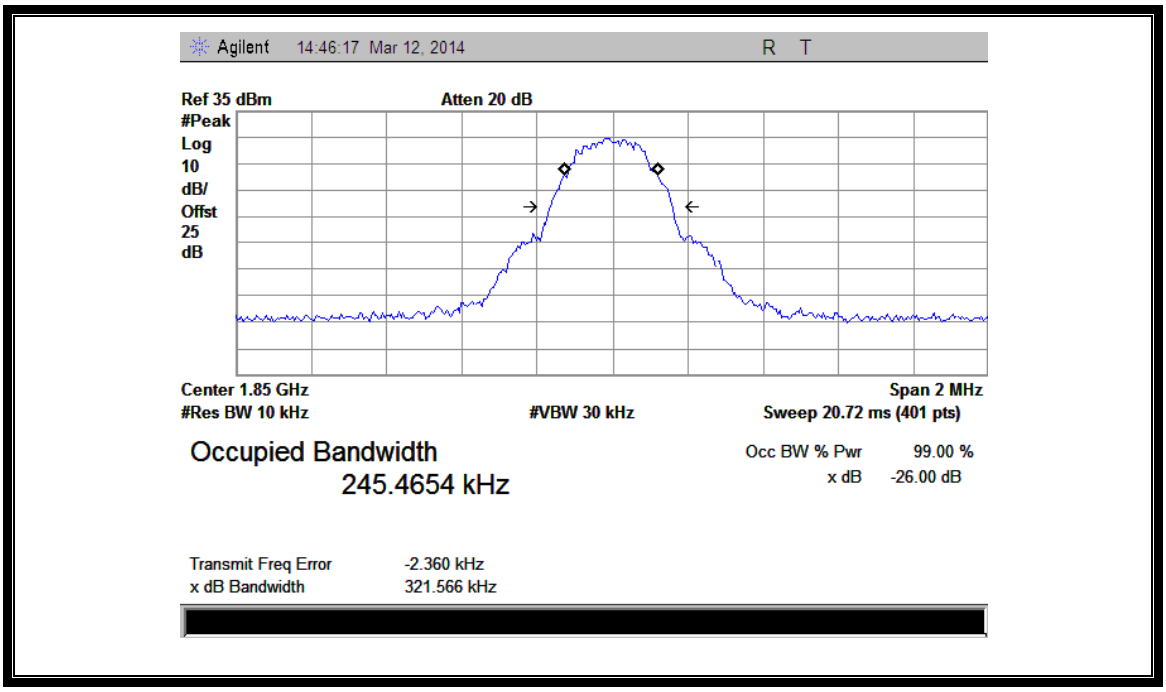
(Plot K1: GPRS 850MHz Channel = 128)



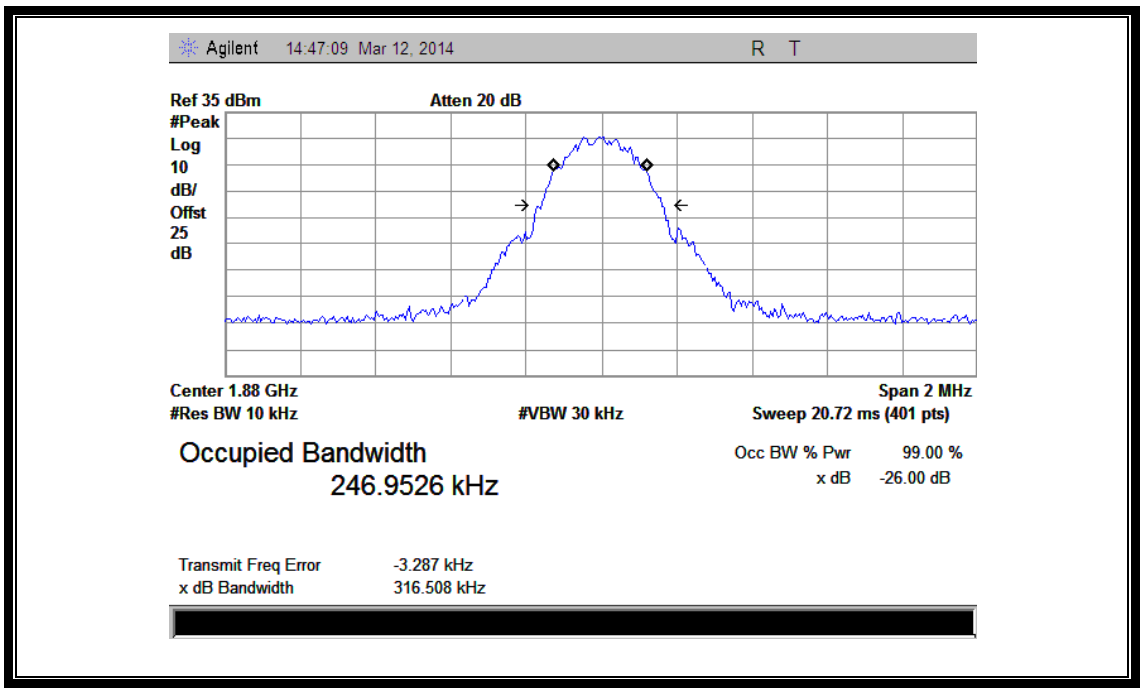
(Plot L1:GPRS 850MHz Channel = 190)



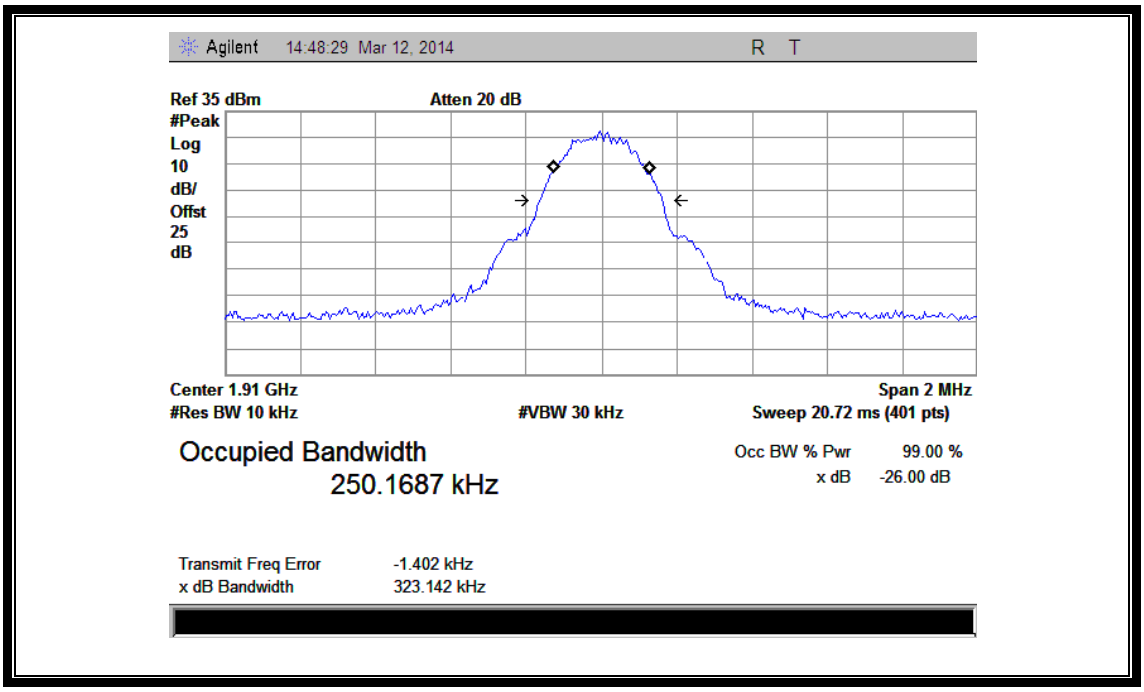
(Plot M1: GPRS850MHz Channel = 251)



(Plot N1: GPRS 1900MHz Channel = 512)



(Plot O1: GPRS 1900MHz Channel = 661)



(Plot P1: GPRS 1900MHz Channel = 810)

2.4 Frequency Stability

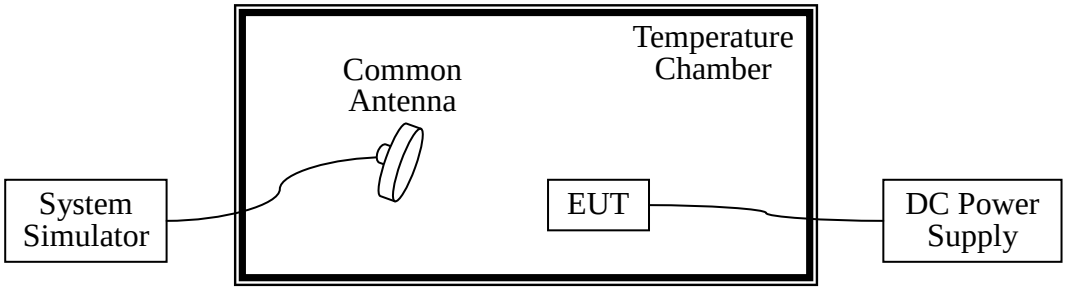
2.4.1 Requirement

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

1. 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.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2014.02.26	2015.02.25
DC Power Supply	Good Will	GPS-3030DD	EF920938	2014.02.26	2015.02.25
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2014.02.26	2015.02.25

2.4.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.8VDC, 4.35VDC and 3.6VDC, 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, 1700MHz ±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	
3.8	-30	-23.45	±2060.5	21.12	±2091.5	17.87	±2122	PASS
	-20	27.31		12.43		-15.02		
	-10	-2.25		-17.46		15.16		
	0	30.26		32.14		5.05		
	+10	21.79		-24.93		3.02		
	+20	-19.56		-17.19		10.76		
	+30	34.36		19.36		-16.53		
	+40	42.63		19.64		-2.13		
	+55	35.28		23.27		-12.89		
4.35	+25	-15.73		29.05		-7.55		
3.6	+25	-17.75		37.73		7.78		

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	
3.8	-30	17.21	±1850.2	20.78	±1880.0	31.75	±1909.8	PASS
	-20	37.08		-20.48		-18.88		
	-10	-2.05		-13.76		-16.88		
	0	40.06		-18.38		19.32		
	+10	1.98		-21.61		25.31		
	+20	-19.76		15.52		30.26		
	+30	39.76		-0.78		-29.21		
	+40	46.66		33.37		19.33		
	+55	39.88		24.02		-19.37		
4.35	+25	37.88		23.72		27.09		
3.6	+25	-7.69		15.92		19.99		

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	
3.8	-30	-30.10	±2060.5	26.18	±2091.5	6.41	±2122	PASS
	-20	36.98		13.73		-13.80		
	-10	-3.25		-18.35		12.06		
	0	41.06		38.10		5.05		
	+10	1.99		-22.06		3.02		
	+20	-19.86		-16.11		10.76		
	+30	39.56		17.76		-16.51		
	+40	46.62		15.54		-2.11		
	+55	39.98		3.57		-12.89		
4.35	+25	-15.71		14.05		-7.83		
3.6	+25	-17.02		6.93		6.98		

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	
3.8	-30	-13.87	±1850.2	25.02	±1880.0	3.57	±1909.8	PASS
	-20	1.72		7.63		-13.76		
	-10	1.75		-25.78		-13.21		
	0	2.57		-1.36		13.23		
	+10	-10.78		-17.98		5.23		
	+20	-2.11		-21.61		35.16		
	+30	14.03		14.58		-26.88		
	+40	5.43		-0.78		19.34		
	+55	-2.46		37.07		-16.77		
4.35	+25	18.02		4.08		26.59		
3.6	+25	-7.29		14.13		19.03		

5. WCDMA 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4123 (826.4MHz)		Channel = 4175 (835MHz)		Channel = 4233 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.8	-30	19.29	±2066	12.97	±2087.5	-1.40	±2116.5	PASS
	-20	-7.52		-0.62		-18.48		
	-10	-3.43		22.45		7.67		
	0	16.47		13.25		4.32		
	+10	30.18		1.31		-17.33		
	+20	32.07		-12.22		11.90		
	+30	-7.98		30.62		6.63		
	+40	26.31		13.45		28.93		
	+55	12.10		-12.42		19.76		
4.35	+25	-6.87		30.82		23.89		
3.6	+25	18.66		-17.80		-18.60		

6. 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	
3.8	-30	-4.62	±1852.4	-13.67	±1880.0	-7.89	±1907.6	PASS
	-20	19.35		13.28		25.60		
	-10	5.35		-14.36		15.11		
	0	18.92		18.59		-3.17		
	+10	31.40		21.39		18.12		
	+20	13.55		37.27		-10.39		
	+30	1.31		2.37		17.47		
	+40	-12.52		-13.47		27.84		
	+55	-13.65		-5.81		-2.53		
4.35	+25	23.23		14.68		21.05		
3.6	+25	23.12		26.37		-25.22		

7. HSDPA 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4123 (826.4MHz)		Channel = 4175 (835MHz)		Channel = 4233 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.8	-30	27.46	±2066	-24.07	±2087.5	17.11	±2116.5	PASS
	-20	-8.66		-14.06		14.41		
	-10	20.85		36.23		21.57		
	0	12.78		-8.41		-24.37		
	+10	-14.75		-13.95		-13.96		
	+20	8.78		-24.37		35.23		
	+30	-1.49		12.88		-8.31		
	+40	17.14		-14.75		-13.95		
	+55	-23.61		23.37		25.37		
4.35	+25	32.03		7.93		7.98		
3.6	+25	17.11		-31.21		1.98		

8. 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	
3.8	-30	12.77	±1852.4	-3.71	±1880	2.71	±1907.6	PASS
	-20	-16.05		22.71		-8.48		
	-10	20.42		15.37		-14.02		
	0	-3.11		-12.21		-9.01		
	+10	21.71		10.60		5.64		
	+20	20.12		-4.81		-3.85		
	+30	-15.01		34.31		9.57		
	+40	22.71		8.46		27.54		
	+55	16.42		-24.88		-12.42		
4.35	+25	-11.25		29.53		-2.83		
3.6	+25	10.53		-2.47		15.52		

9. HSUPA 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4123 (826.4MHz)		Channel = 4175 (835MHz)		Channel = 4233 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.8	-30	27.02	±2066	14.51	±2087.5	14.75	±2116.5	PASS
	-20	-15.40		-19.43		27.52		
	-10	-12.71		-12.79		37.71		
	0	-14.09		-0.44		-7.32		
	+10	-0.37		0.01		-4.91		
	+20	-11.85		-6.64		21.35		
	+30	29.57		24.25		-5.94		
	+40	-11.89		9.73		13.78		
	+55	-0.45		24.76		28.55		
4.35	+25	1.78		-4.67		29.31		
3.6	+25	1.65		6.65		-7.60		

10. 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	
3.8	-30	31.57	±1852.4	-13.79	±1880	7.49	±1907.6	PASS
	-20	28.13		-0.84		2.11		
	-10	7.82		0.11		-4.85		
	0	2.41		14.82		17.08		
	+10	-4.73		-15.25		-1.86		
	+20	16.22		-11.79		23.52		
	+30	-1.55		-0.44		-0.48		
	+40	24.16		1.25		-12.05		
	+55	14.79		-7.84		-5.81		
4.35	+25	-8.08		6.71		25.38		
3.6	+25	23.78		-1.73		-15.88		

11. HSPA+ 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4123 (826.4MHz)		Channel = 4175 (835MHz)		Channel = 4233 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.8	-30	27.02	±2066	14.51	±2087.5	13.45	±2116.5	PASS
	-20	-14.40		-19.43		27.52		
	-10	-12.71		-12.79		37.71		
	0	-14.09		-0.44		-7.32		
	+10	-0.37		0.01		-4.91		
	+20	-11.85		-6.64		21.35		
	+30	29.57		24.25		-5.94		
	+40	-11.89		9.73		13.78		
	+55	-0.45		24.76		28.55		
4.35	+25	1.78		-4.67		29.31		
3.6	+25	1.45		6.75		-7.90		

12. 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	
3.8	-30	31.57	±1852.4	-12.39	±1880	7.39	±1907.6	PASS
	-20	28.13		-0.84		2.11		
	-10	7.82		0.11		-4.85		
	0	2.41		14.82		17.08		
	+10	-4.73		-15.25		-1.86		
	+20	16.22		-11.79		23.52		
	+30	-1.55		-0.44		-0.48		
	+40	24.16		1.25		-12.05		
	+55	14.79		-7.84		-5.81		
4.35	+25	-8.08		6.71		25.38		
3.6	+25	23.38		-1.33		-15.38		

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.

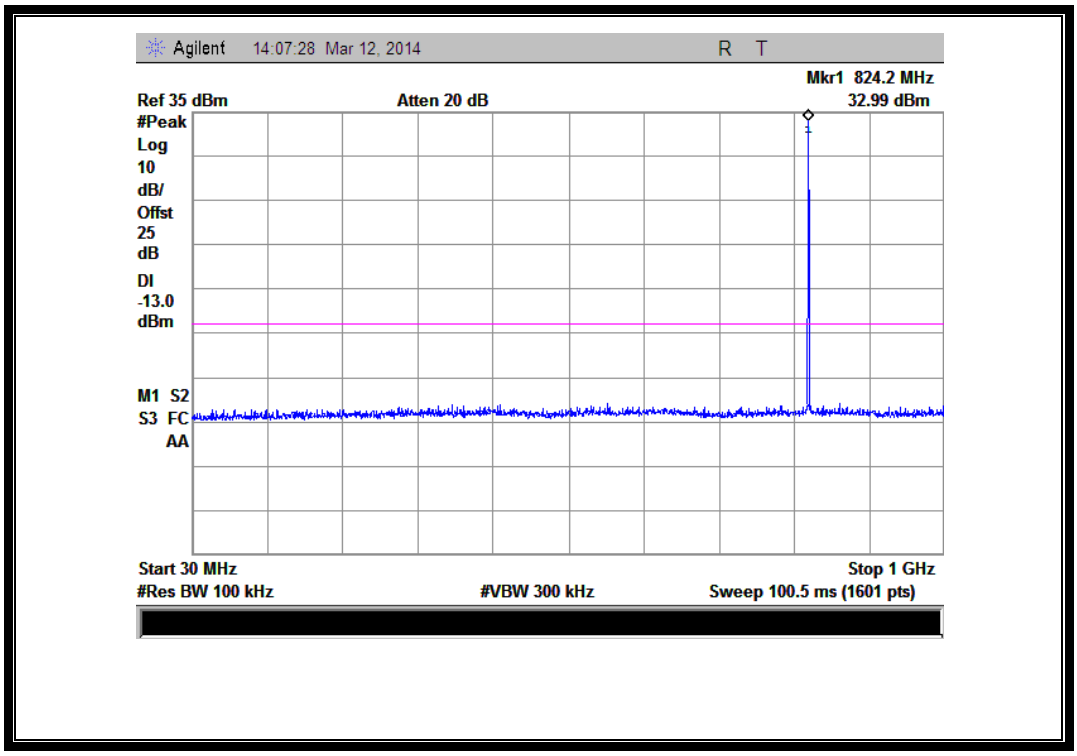
1. Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	-20.16	Plot A1toA1.1	-13	PASS
	190	836.6	-20.69	Plot A2toA2.1		PASS
	251	848.8	-20.84	Plot A3toA3.1		PASS
GSM 1900MHz	512	1850.2	-20.04	Plot B1toB1.1	-13	PASS
	661	1880.0	-19.36	Plot B2toB2.1		PASS
	810	1909.8	-20.02	Plot B3toB3.1		PASS
EDGE 850MHz	128	824.2	-19.32	Plot C1toC1.1	-13	PASS
	190	836.6	-20.02	Plot C2toC2.1		PASS
	251	848.8	-20.50	Plot C3toC3.1		PASS
EDGE 1900MHz	512	1850.2	-18.05	Plot D1toD1.1	-13	PASS
	661	1880.0	-19.14	Plot D2toD2.1		PASS
	810	1909.8	-18.53	Plot D3toD3.1		PASS
WCDMA 850MHz	4132	826.4	-20.40	Plot E1toE1.1	-13	PASS
	4175	835	-20.90	Plot E2toE2.1		PASS
	4233	846.6	-22.06	Plot E3toE3.1		PASS
WCDMA 1900MHz	9262	1852.4	-19.62	Plot F1toF1.1	-13	PASS
	9400	1880	-19.82	Plot F2toF2.1		PASS
	9538	1907.6	-19.62	Plot F3toF3.1		PASS
HSDPA	4132	826.4	-19.27	Plot G1toG1.1	-13	PASS

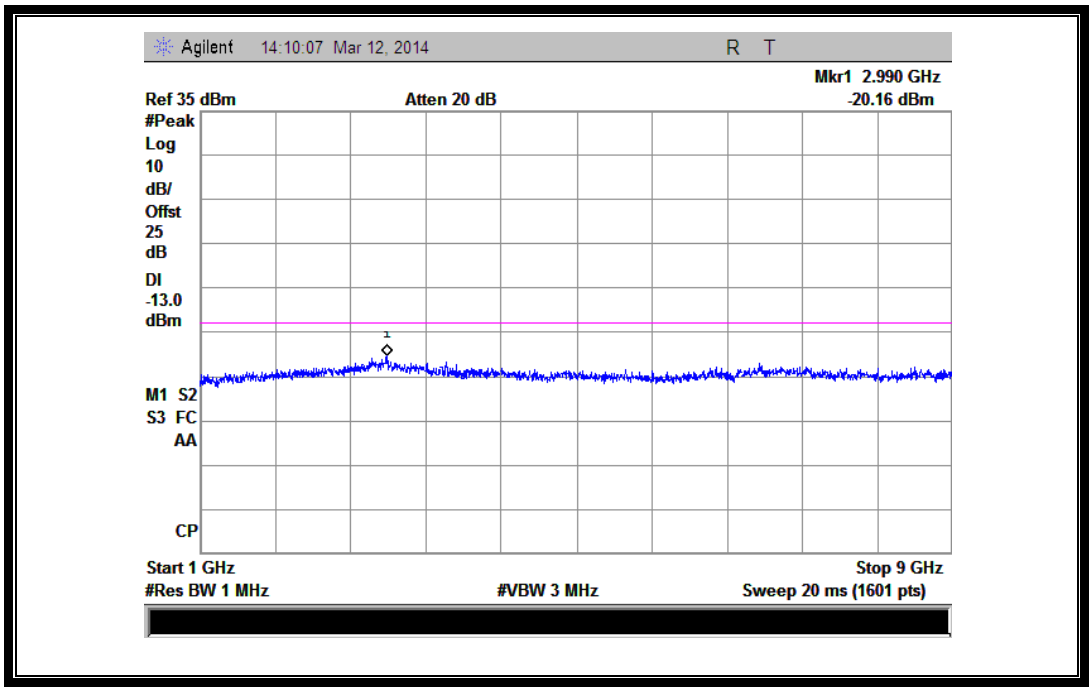
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
850MHz	4175	835	-19.72	Plot G2toG2.1		PASS
	4233	846.6	-18.78	Plot G3toG3.1		PASS
HSDPA 1900MHz	9262	1852.4	-20.50	Plot H1toH1.1	-13	PASS
	9400	1880	-20.69	Plot H2toH2.1		PASS
	9538	1907.6	-20.24	Plot H3toH3.1		PASS
HSUPA 850MHz	4132	826.4	-19.71	Plot I1toI1.1	-13	PASS
	4175	835	-18.80	Plot I2toI2.1		PASS
	4233	846.6	-20.11	Plot I3toI3.1		PASS
HSUPA 1900MHz	9262	1852.4	-18.70	Plot J1toJ1.1	-13	PASS
	9400	1880	-19.93	Plot J2toJ2.1		PASS
	9538	1907.6	-18.28	Plot J3toJ3.1		PASS
HSPA+ 850MHz	4132	826.4	-18.39	Plot K1toK1.1	-13	PASS
	4175	835	-19.36	Plot K2toK2.1		PASS
	4233	846.6	-19.47	Plot K3toK3.1		PASS
HSPA+ 1900MHz	9262	1852.4	-18.74	Plot L1toL1.1	-13	PASS
	9400	1880	-19.88	Plot L2toL2.1		PASS
	9538	1907.6	-19.70	Plot L3toL3.1		PASS

2. Test Plots for the Whole Measurement Frequency Range:

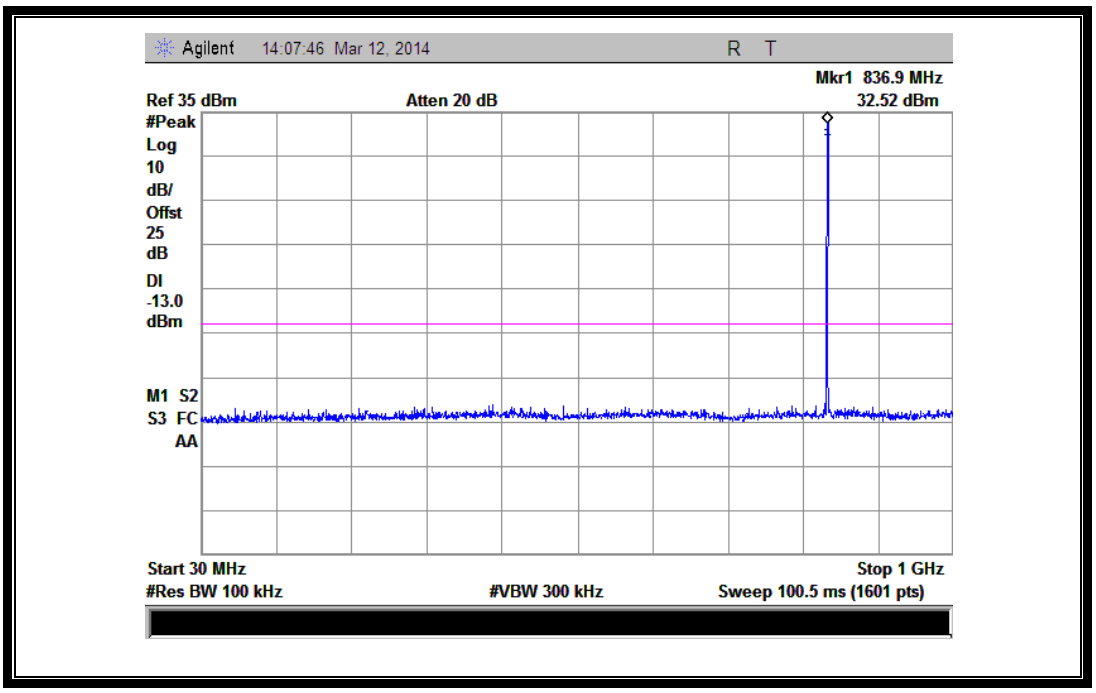
Note: the power of the EUT transmitting frequency should be ignored.



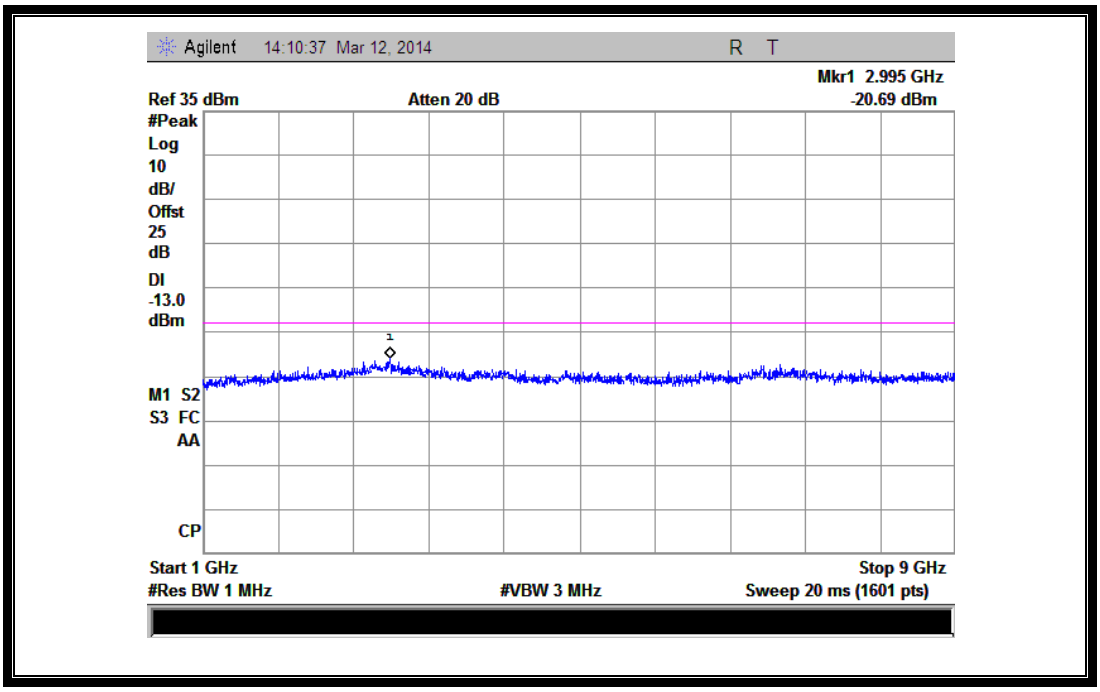
(Plot A1:GSM 850MHz Channel = 128, 30MHz to 1GHz)



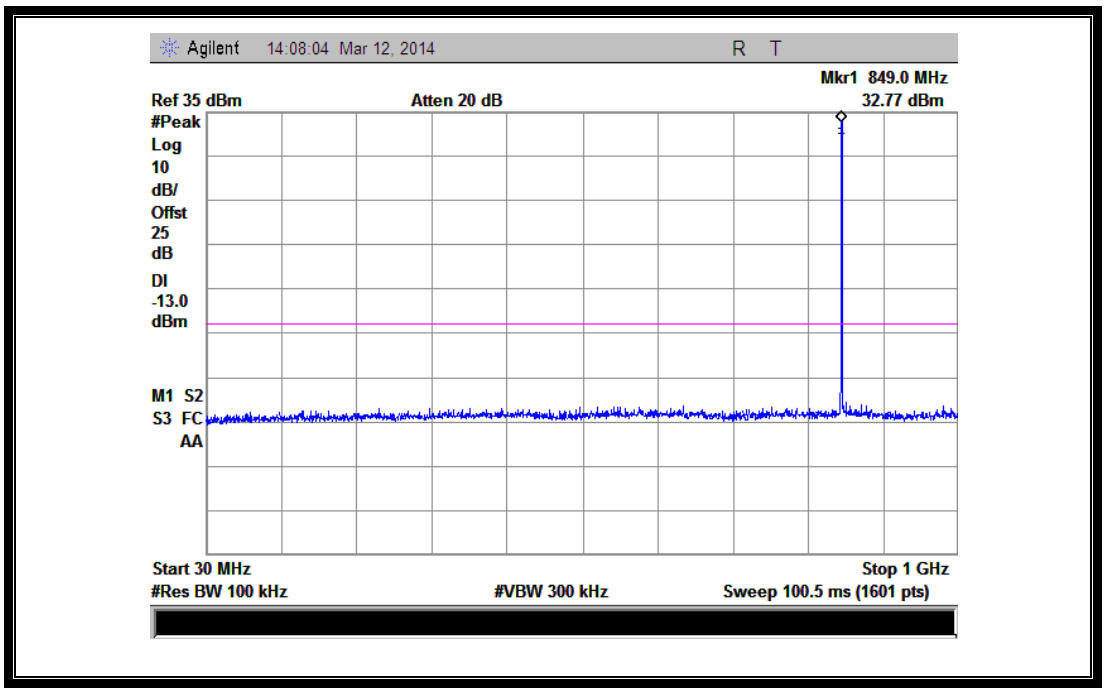
(Plot A1.1: GSM 850MHz Channel = 128, 1GHz to 9GHz)



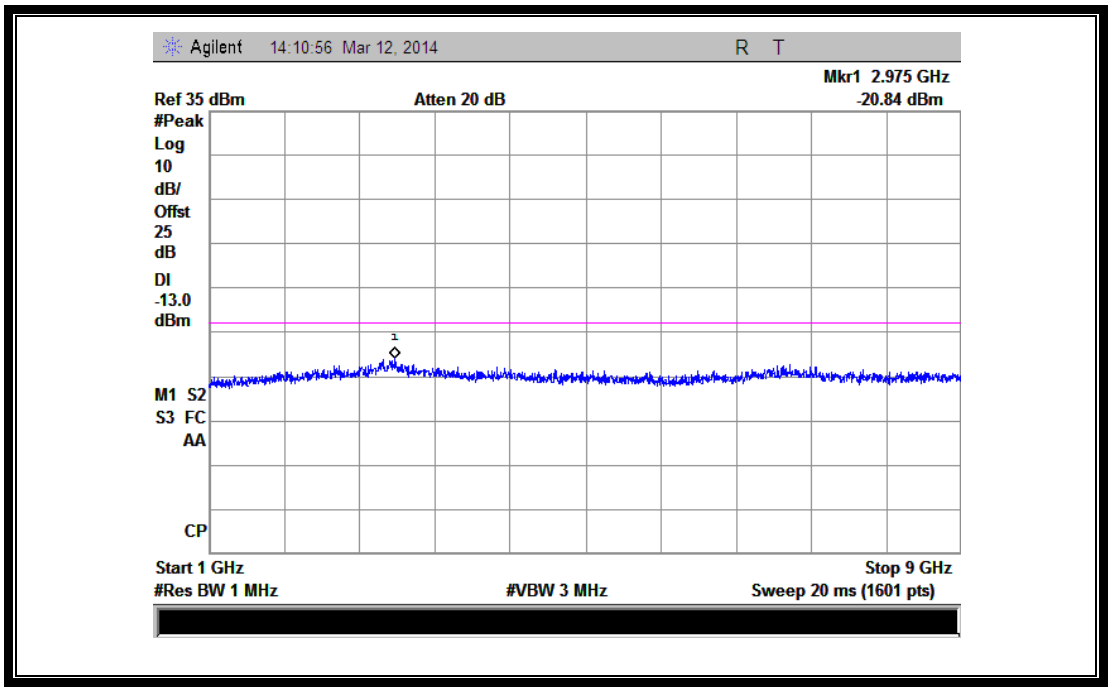
(Plot A2:GSM 850MHz Channel = 190, 30MHz to 1GHz)



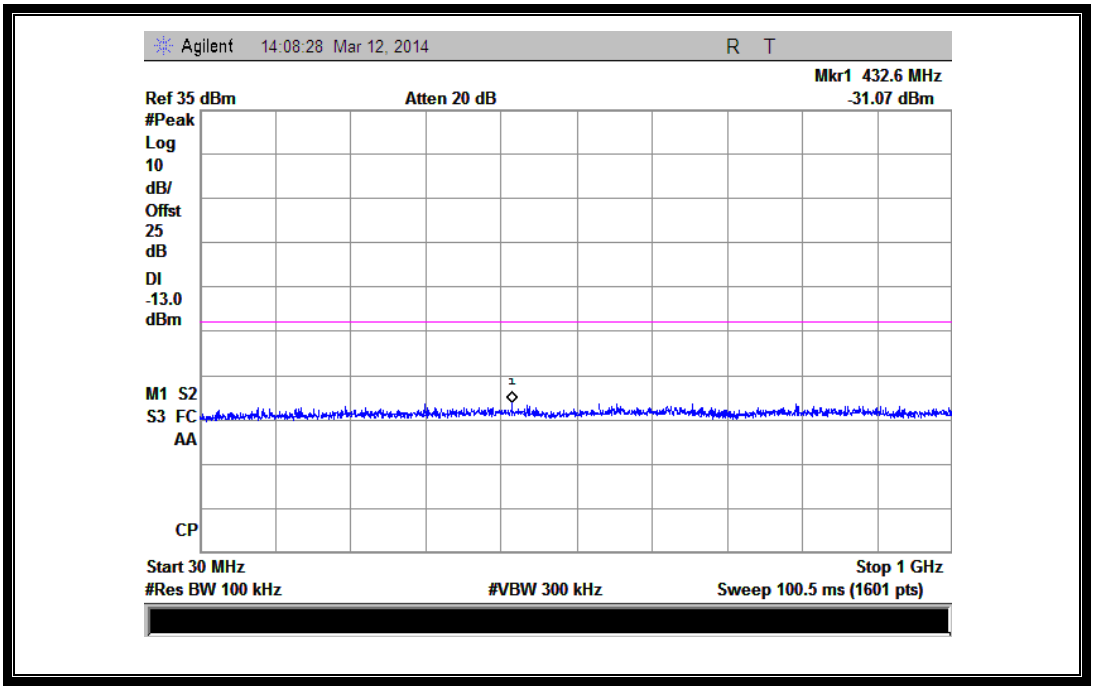
(Plot A2.1: GSM 850MHz Channel = 190, 1GHz to 9GHz)



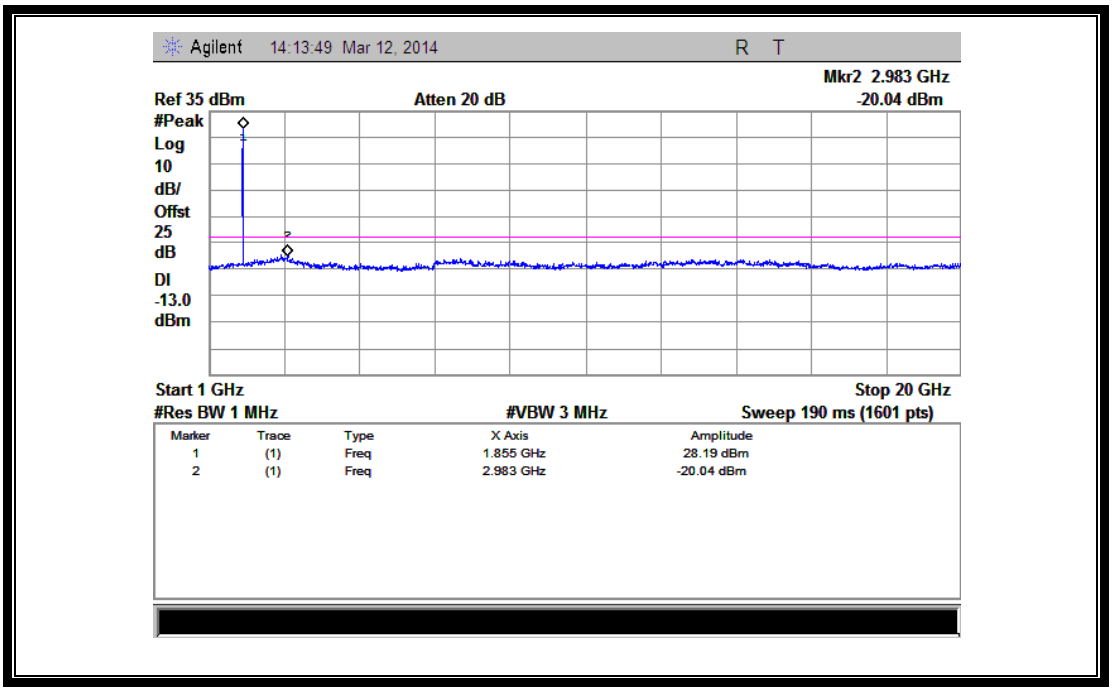
(Plot A3:GSM 850MHz Channel = 251, 30MHz to 1GHz)



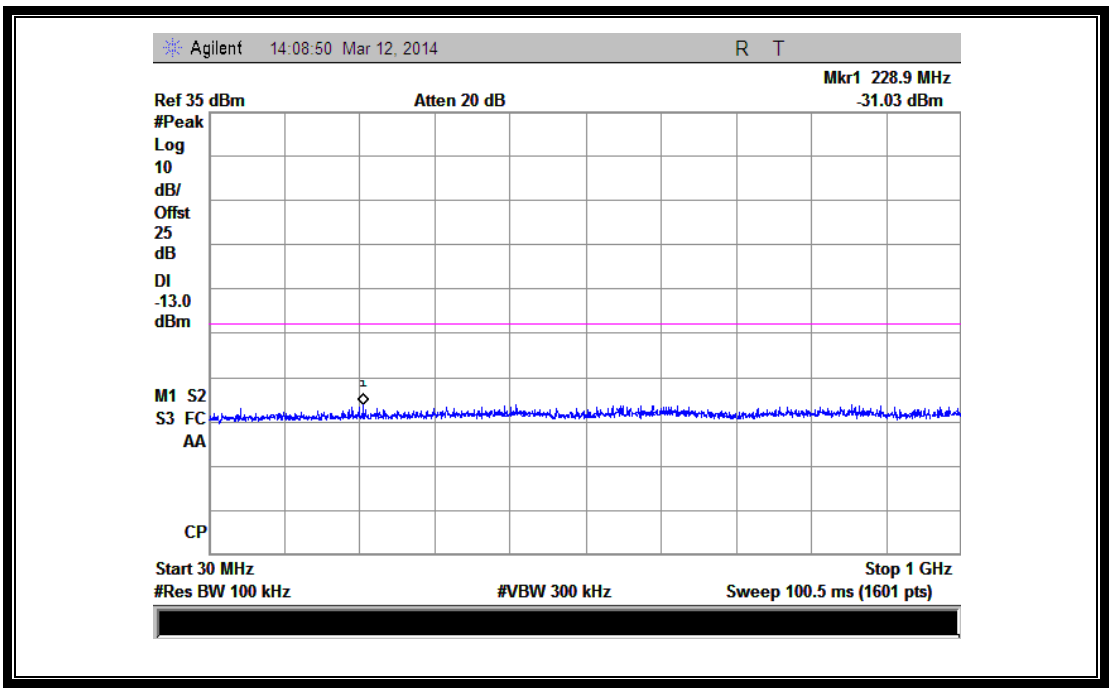
(Plot A3.1: GSM 850MHz Channel = 251, 1GHz to 9GHz)



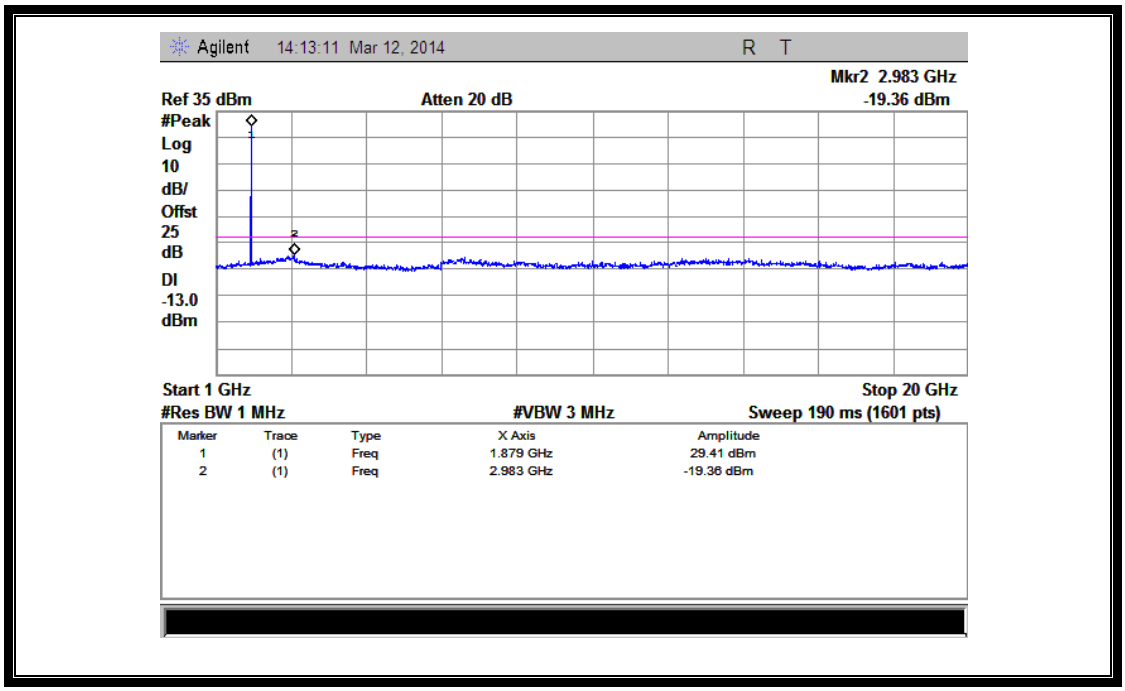
(Plot B1: GSM 1900MHz Channel = 512, 30MHz to 1GHz)



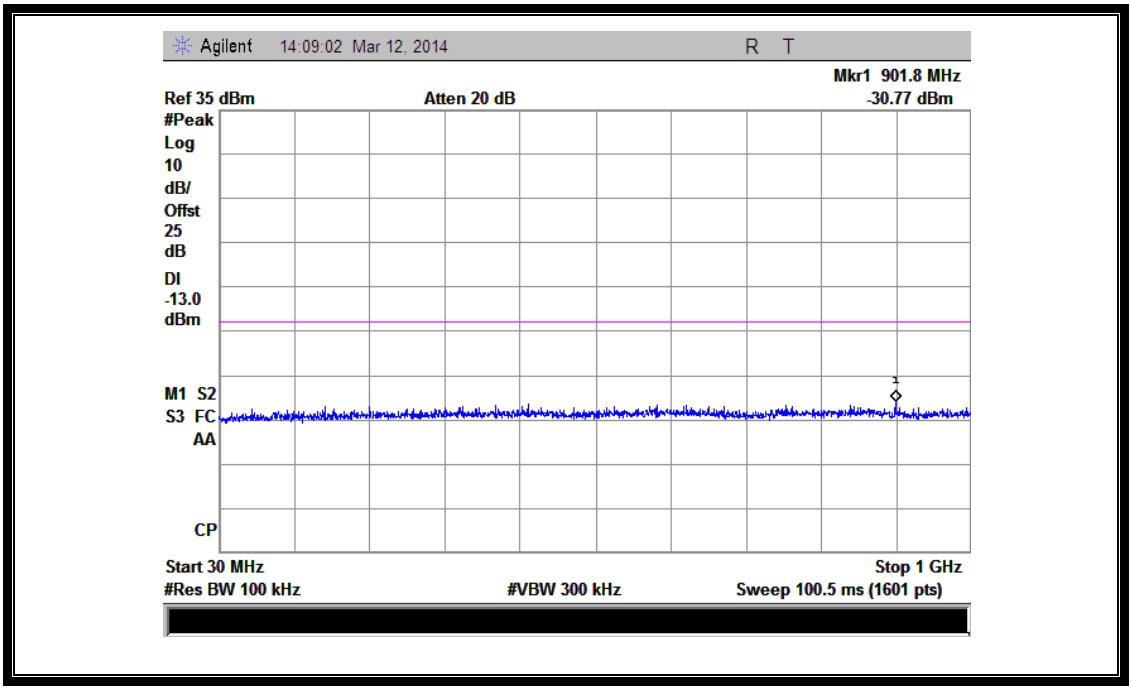
(Plot B1.1: GSM 1900MHz Channel = 512, 1GHz to 20GHz)



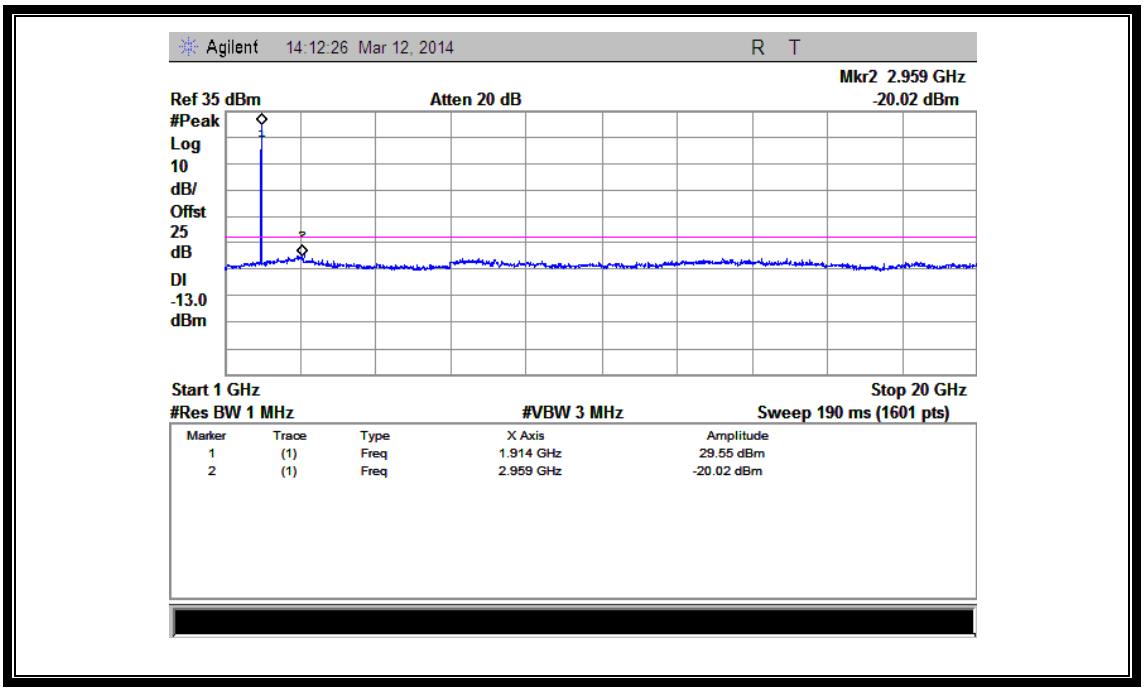
(Plot B2: GSM 1900MHz Channel = 661, 30MHz to 1GHz)



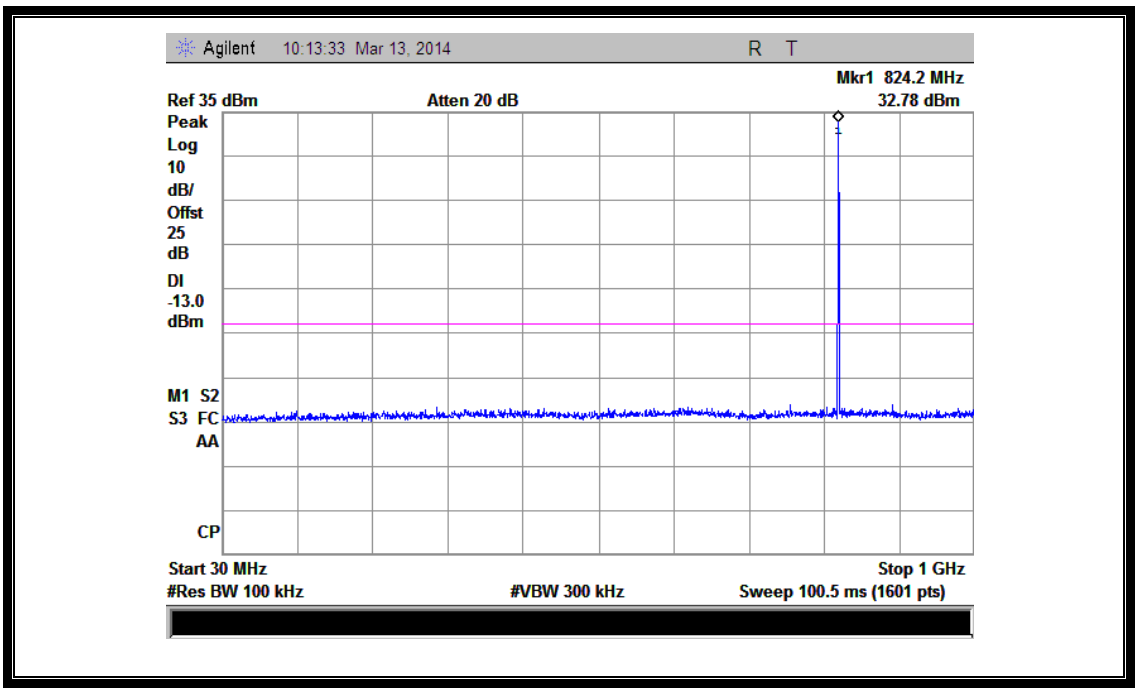
(Plot B2.1: GSM 1900MHz Channel = 661, 1GHz to 20GHz)



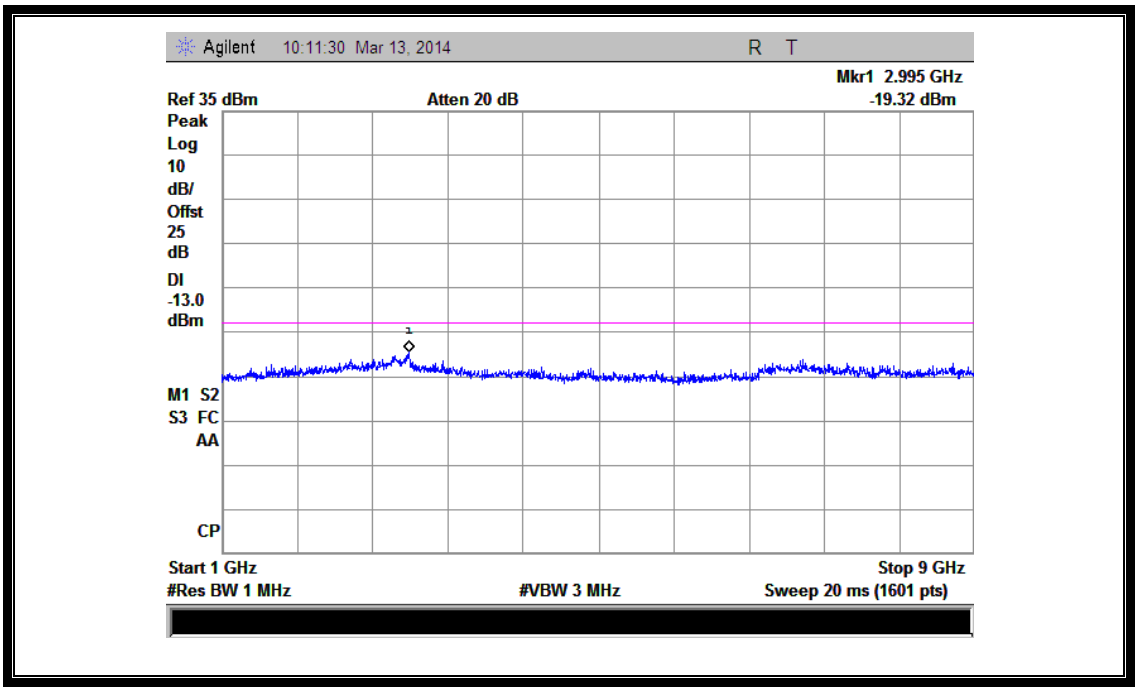
(Plot B3: GSM 1900MHz Channel = 810, 30MHz to 1GHz)



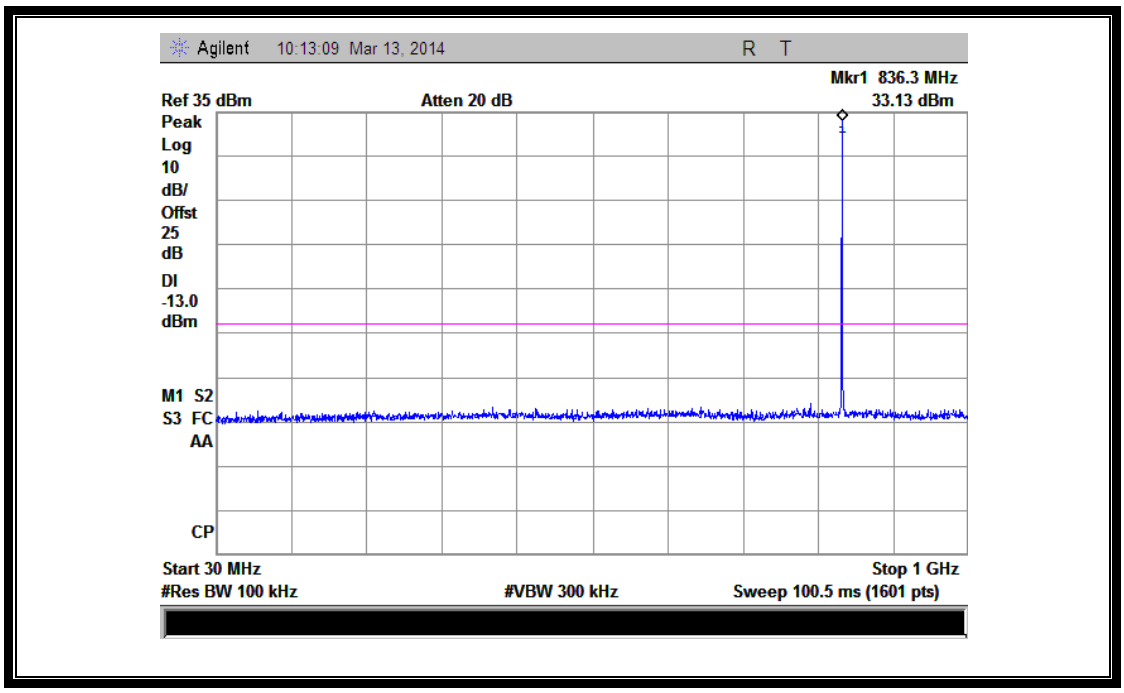
(Plot B3.1: GSM 1900MHz Channel = 810, 1GHz to 20GHz)



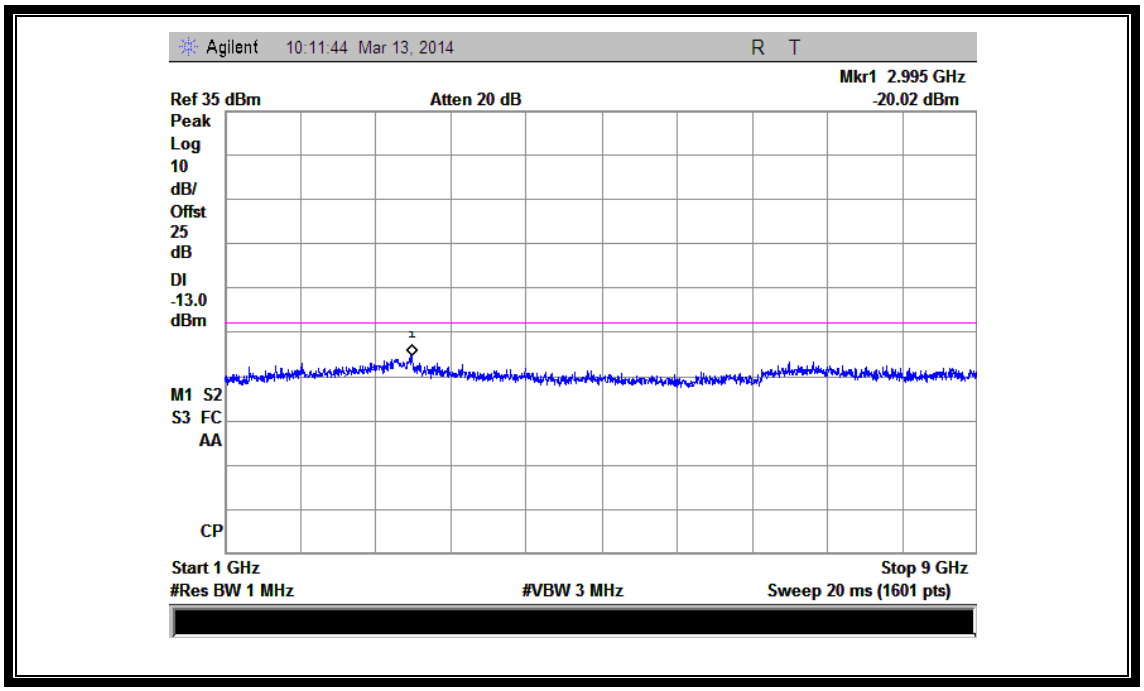
(Plot C1: EDGE 850MHz Channel = 128, 30MHz to 1GHz)



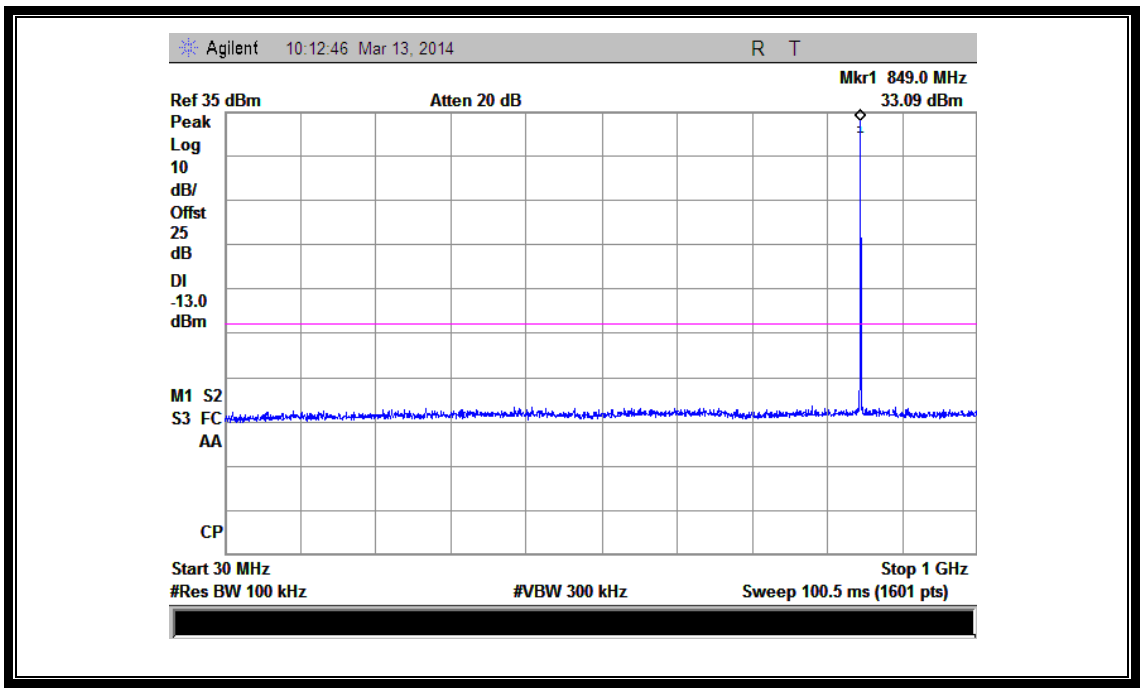
(Plot C1.1: EDGE 850MHz Channel = 128, 1GHz to 9GHz)



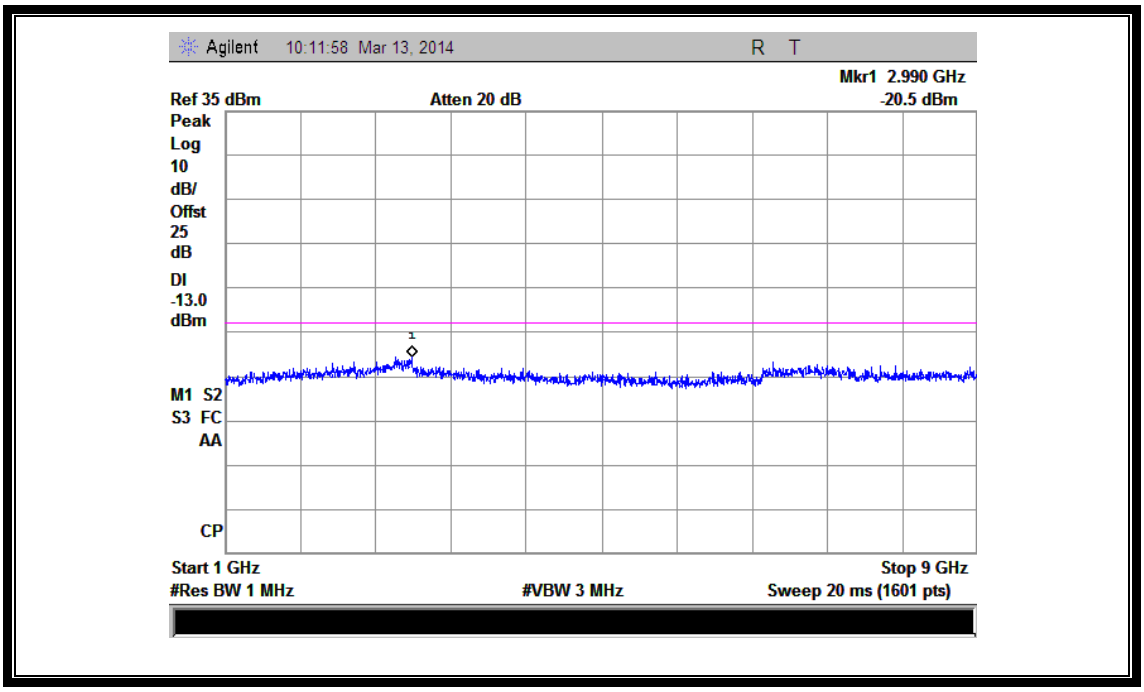
(Plot C2: EDGE 850MHz Channel = 190, 30MHz to 1GHz)



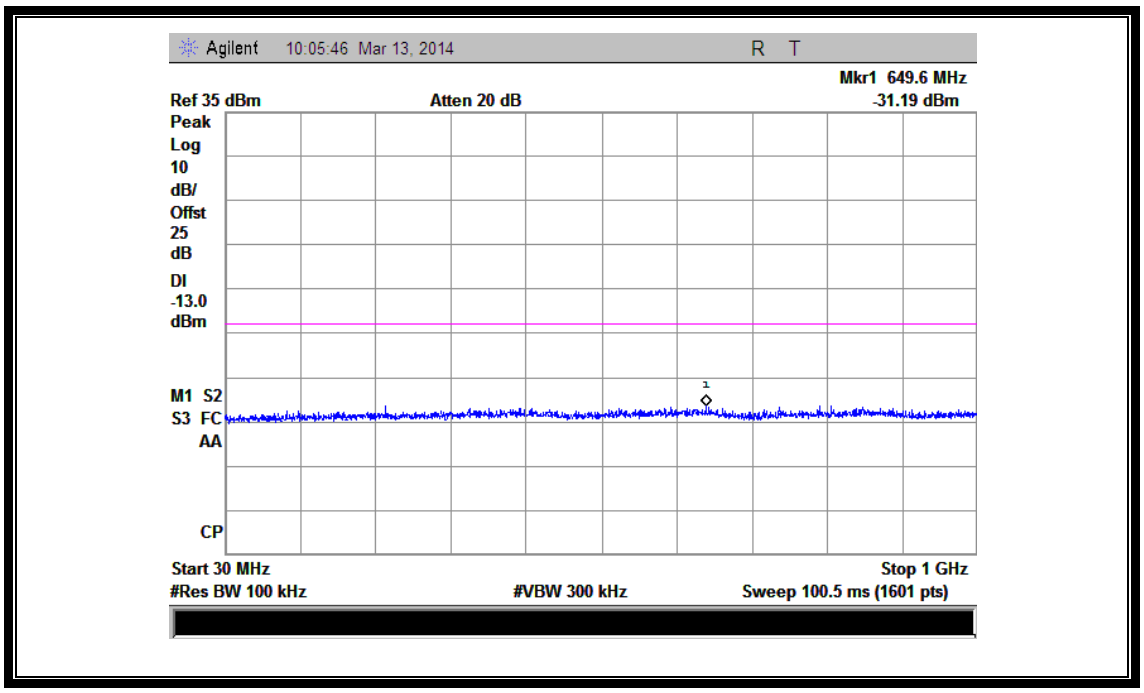
(Plot C2.1: EDGE 850MHz Channel = 190, 1GHz to 9GHz)



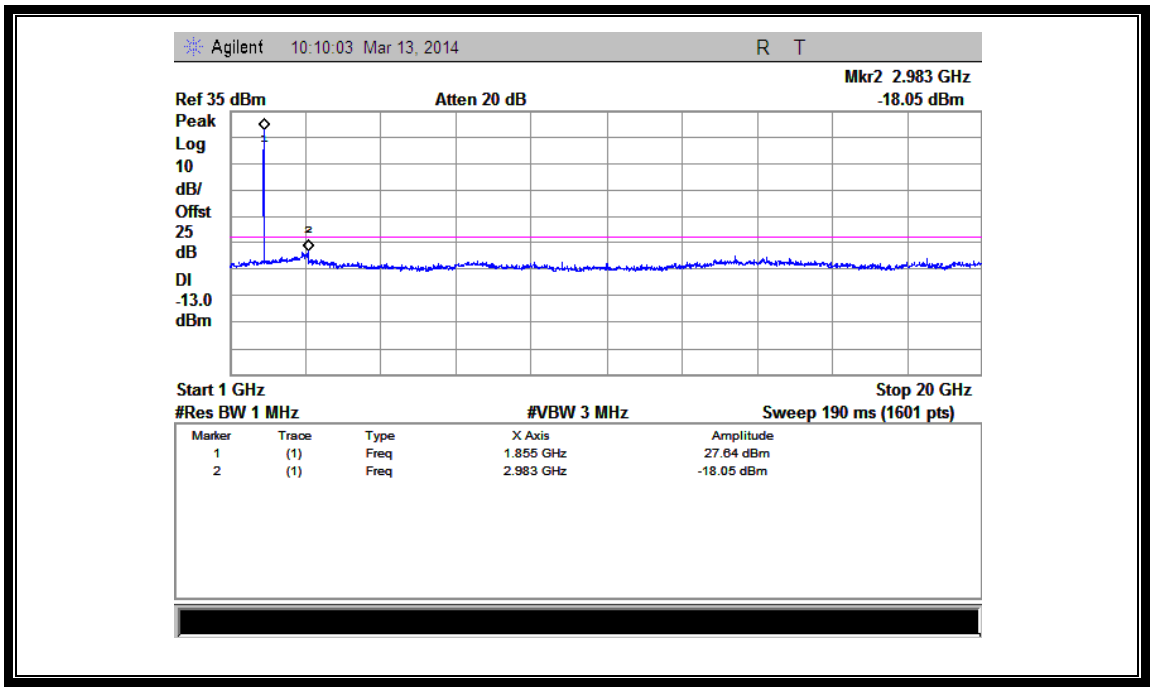
(Plot C3: EDGE 850MHz Channel = 251, 30MHz to 1GHz)



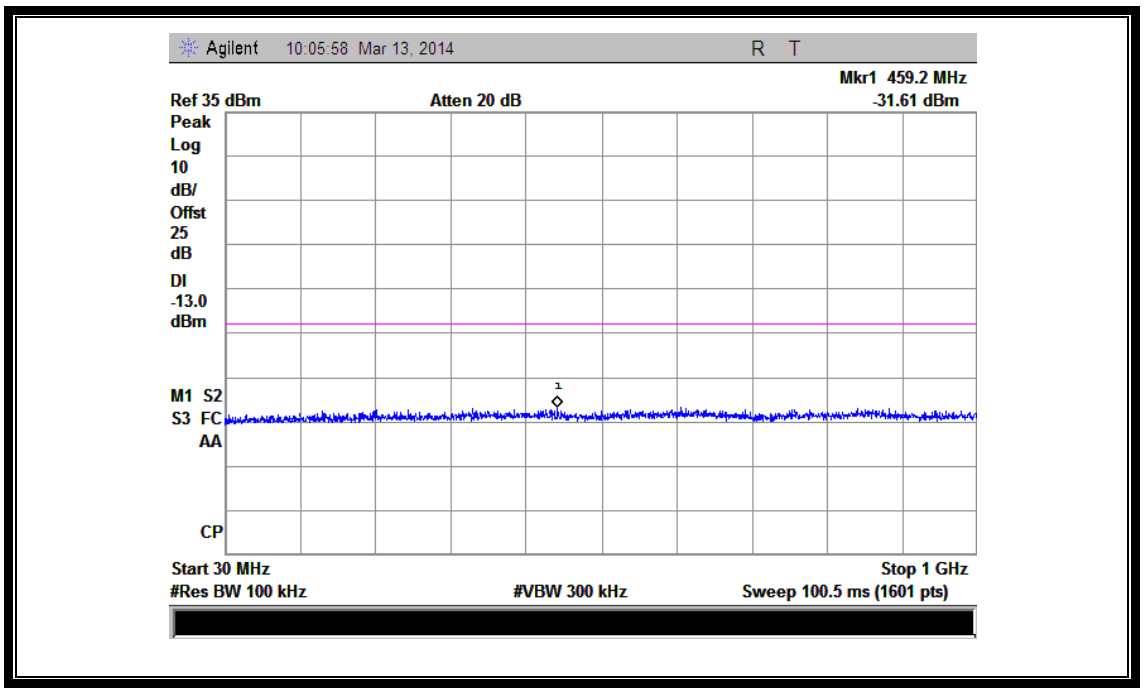
(Plot C3.1: EDGE 850MHz Channel = 251, 1GHz to 9GHz)



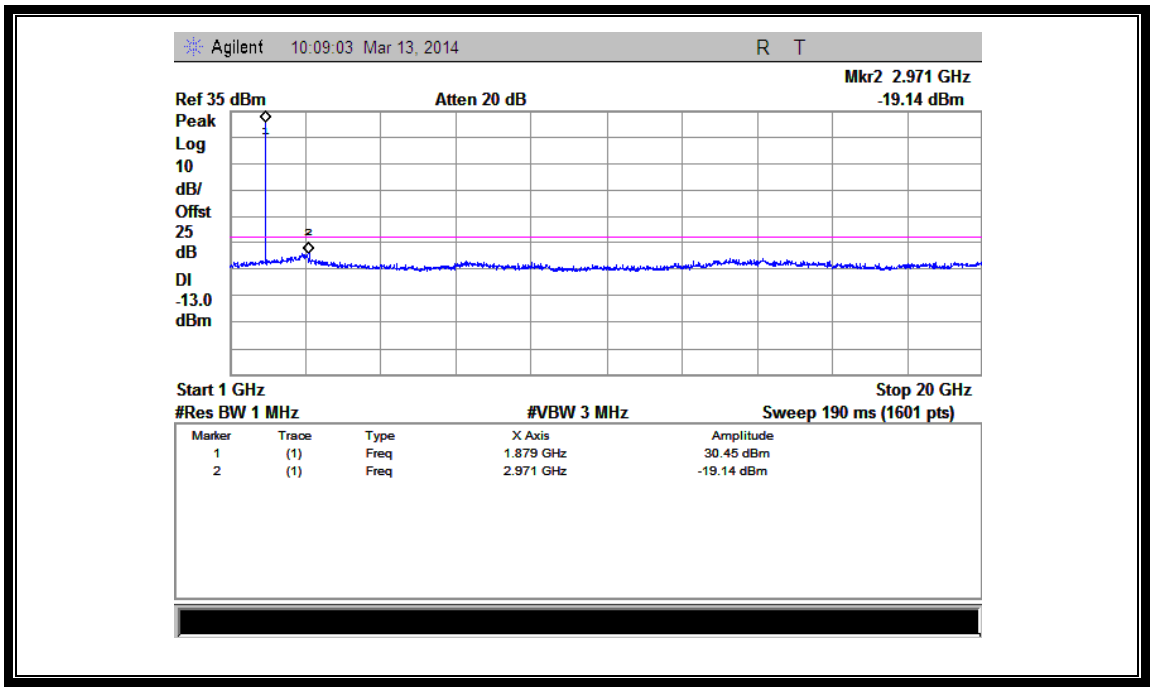
(Plot D1: EDGE 1900MHz Channel = 512, 30MHz to 1GHz)



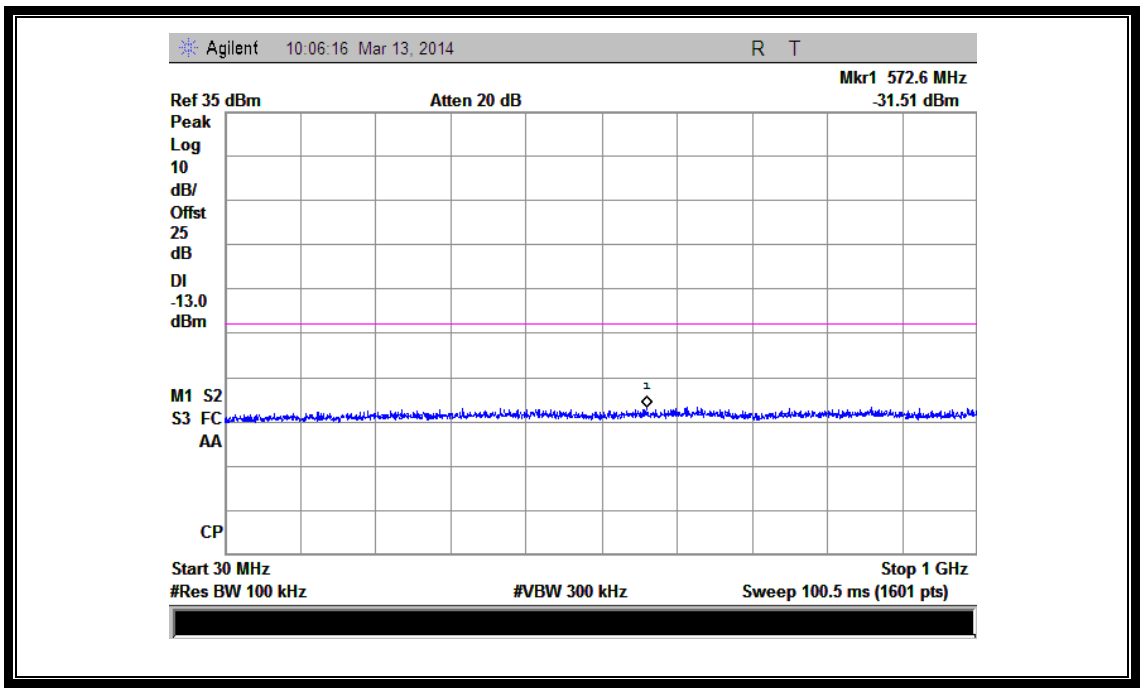
(Plot D1.1: EDGE 1900MHz Channel = 512, 1GHz to 20GHz)



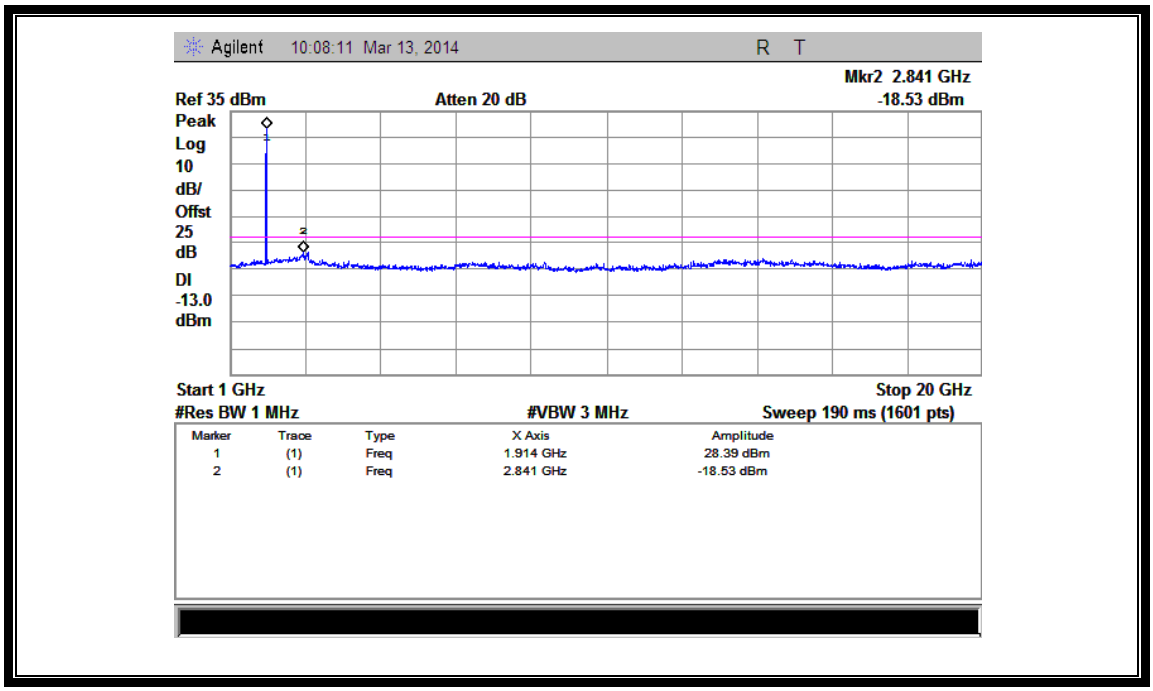
(Plot D2: EDGE 1900MHz Channel = 661, 30MHz to 1GHz)



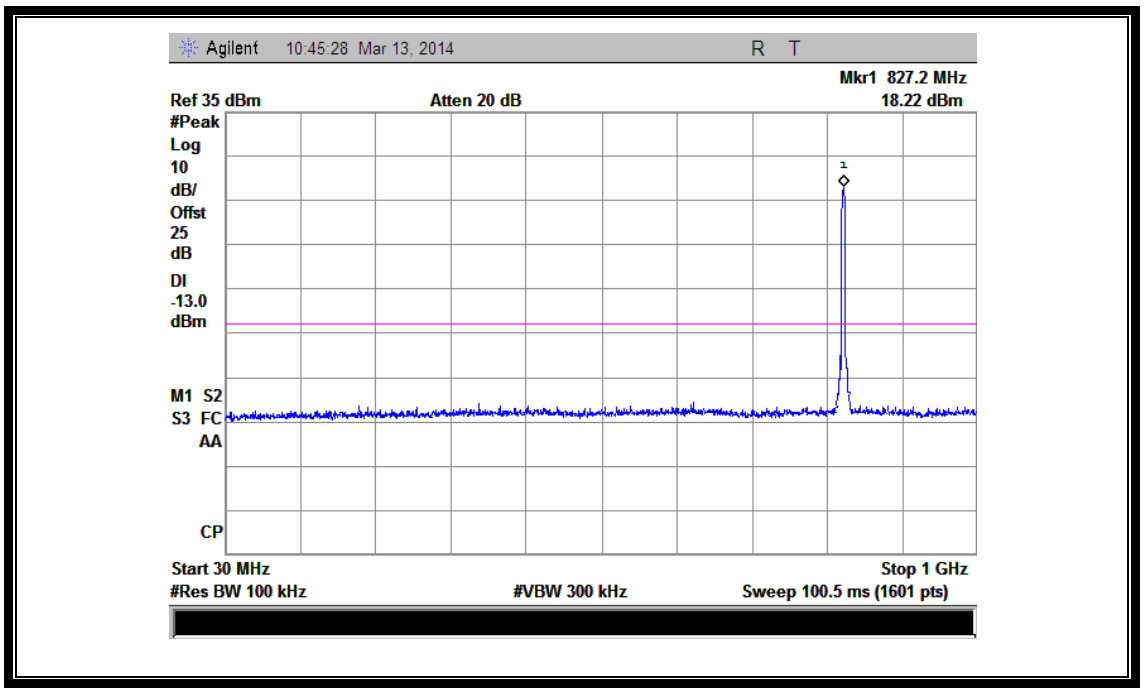
(Plot D2.1: EDGE 1900MHz Channel = 661,1GHz to 20GHz)



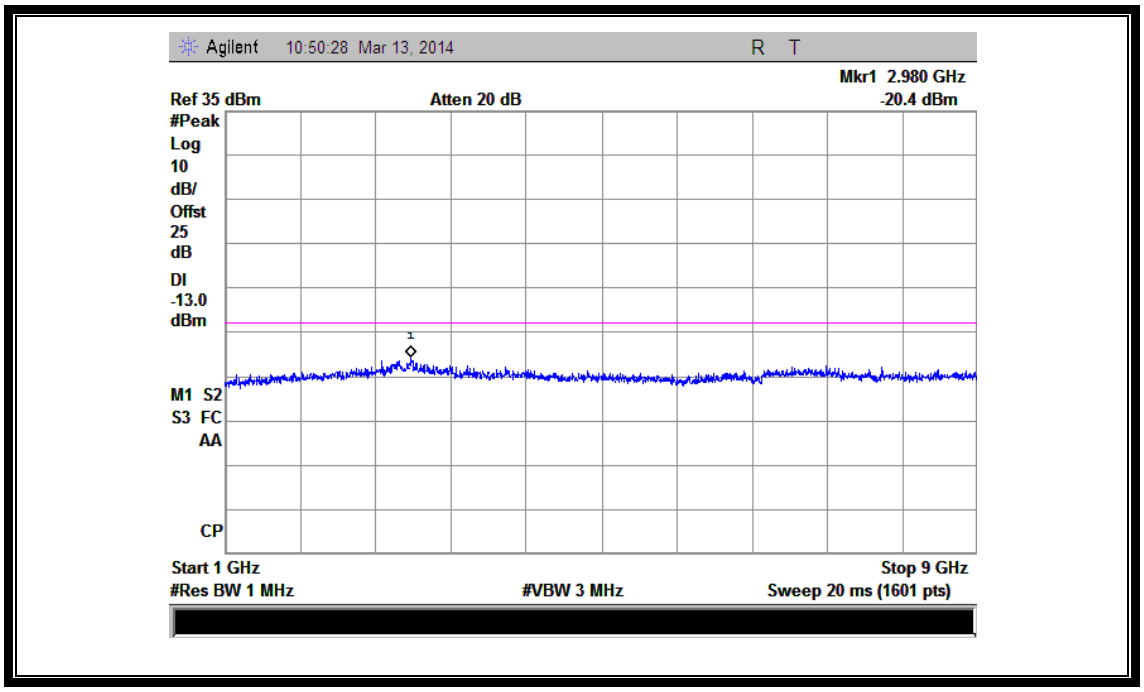
(Plot D3: EDGE 1900MHz Channel = 810, 30MHz to 1GHz)



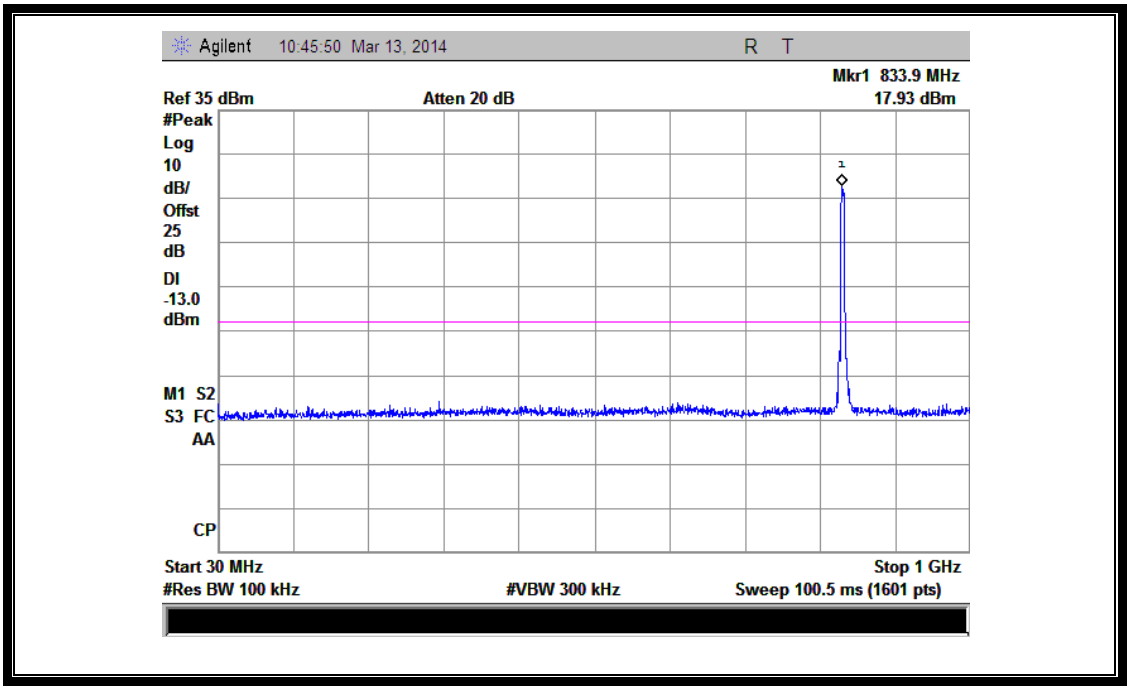
(Plot D3.1: EDGE 1900MHz Channel = 810, 1GHz to 20GHz)



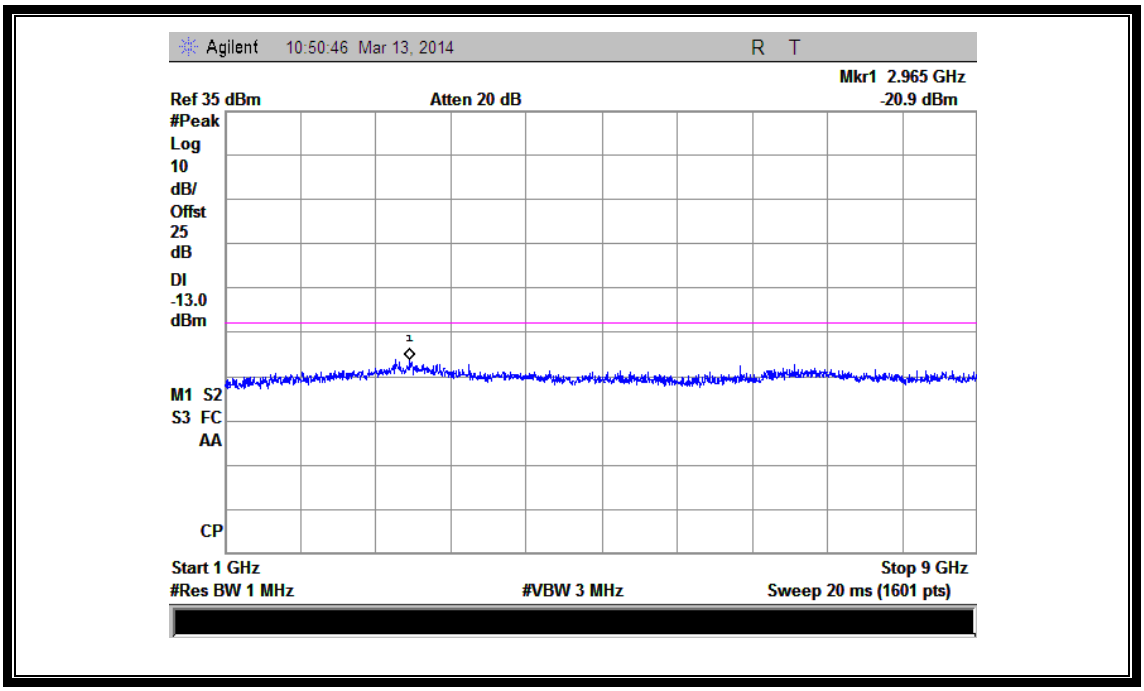
(Plot E1: WCDMA850MHz Channel = 4132, 30MHz to 1GHz)



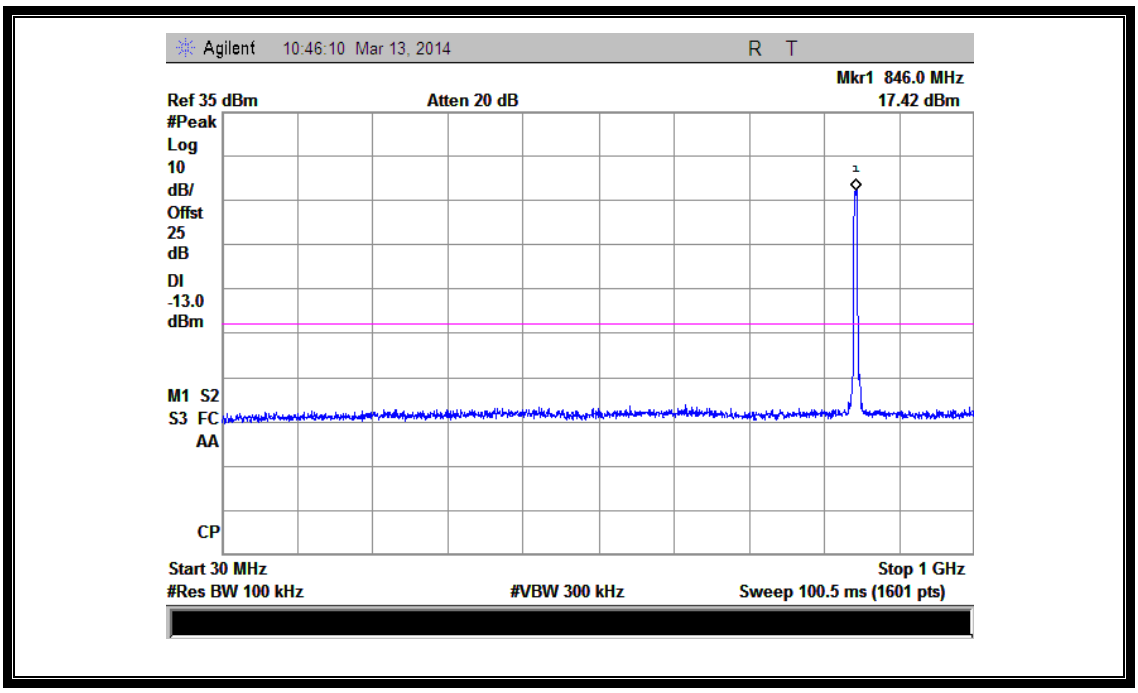
(Plot E1.1: WCDMA850MHz Channel = 4132, 1GHz to 9GHz)



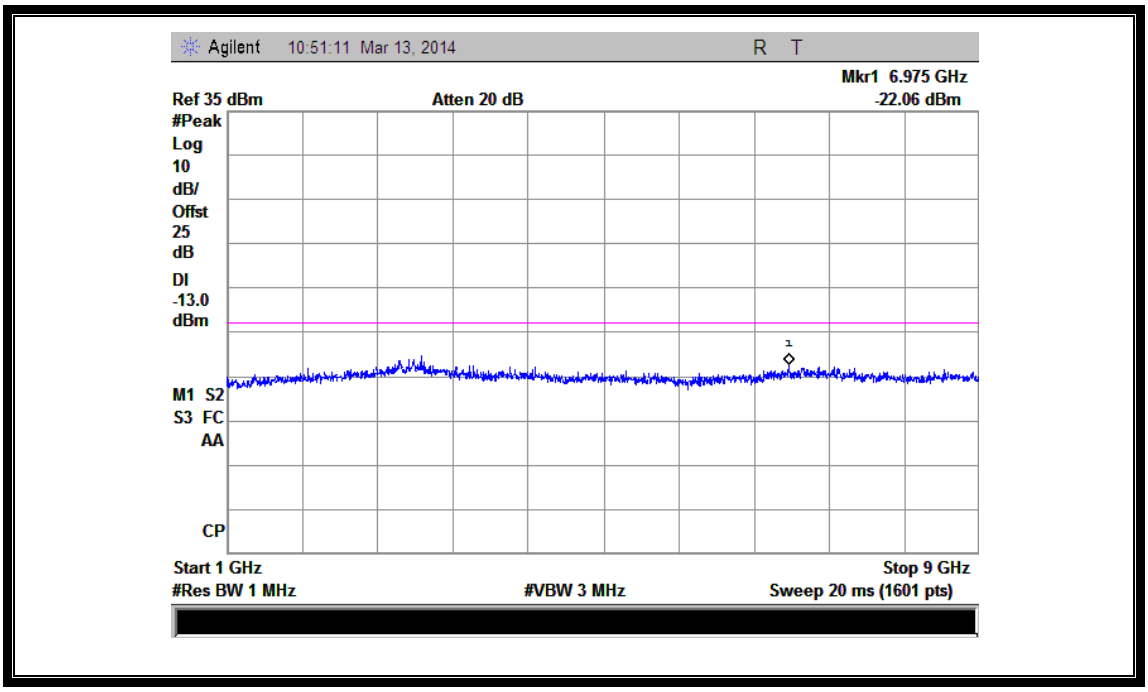
(Plot E2: WCDMA850MHz Channel = 4175, 30MHz to 1GHz)



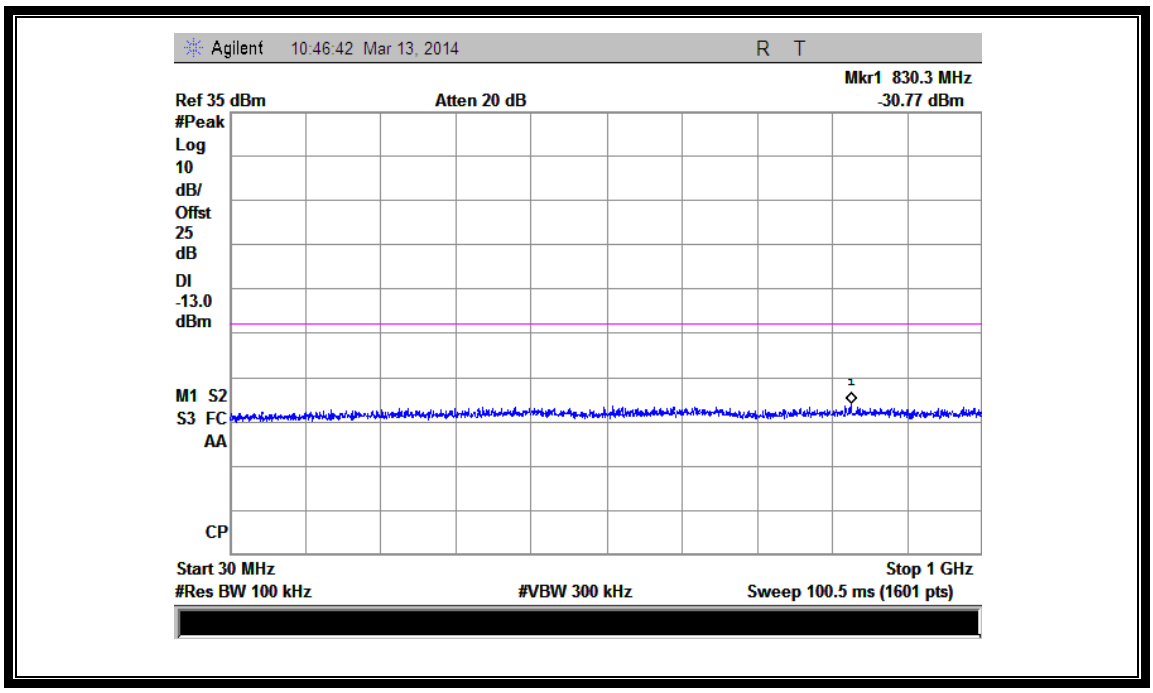
(Plot E2.1: WCDMA850MHz Channel = 4175, 1GHz to 9GHz)



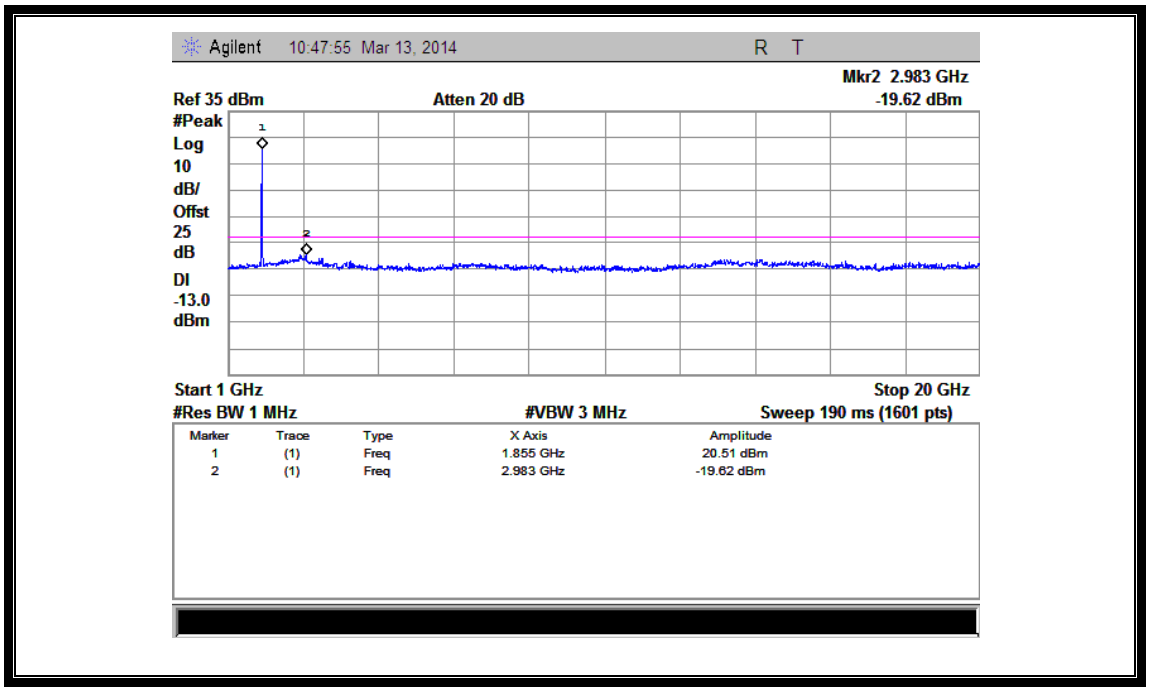
(Plot E3: WCDMA850MHz Channel = 4233, 30MHz to 1GHz)



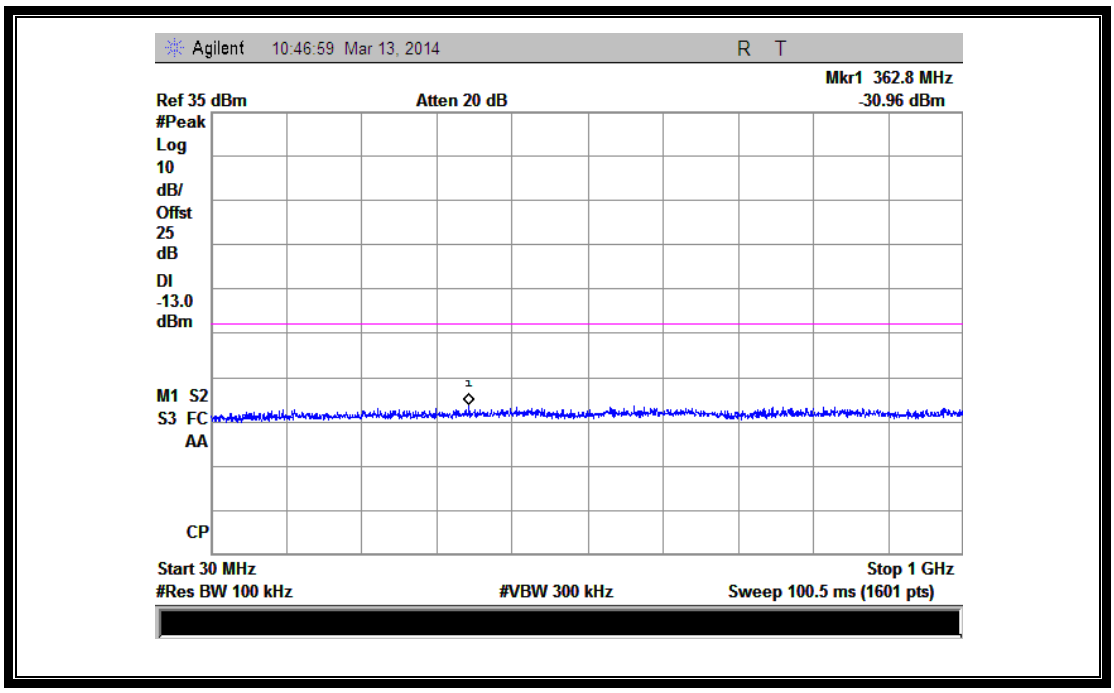
(Plot E3.1: WCDMA850MHz Channel = 4233, 1GHz to 9GHz)



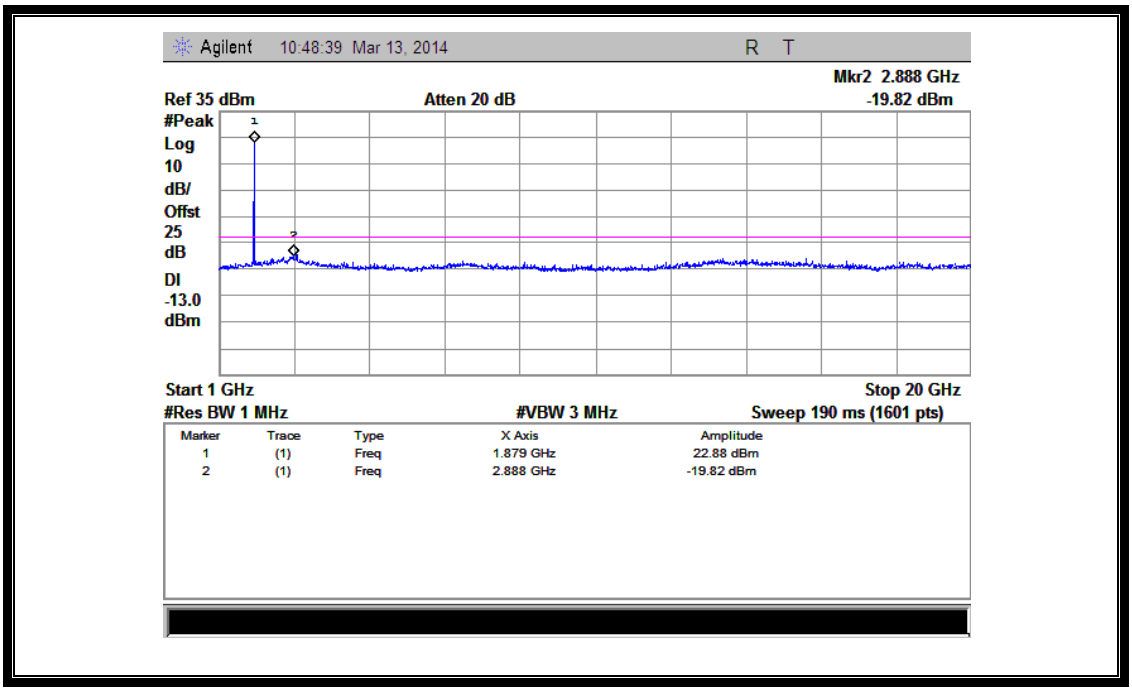
(Plot F1:WCDMA1900MHz Channel = 9262, 30MHz to 1GHz)



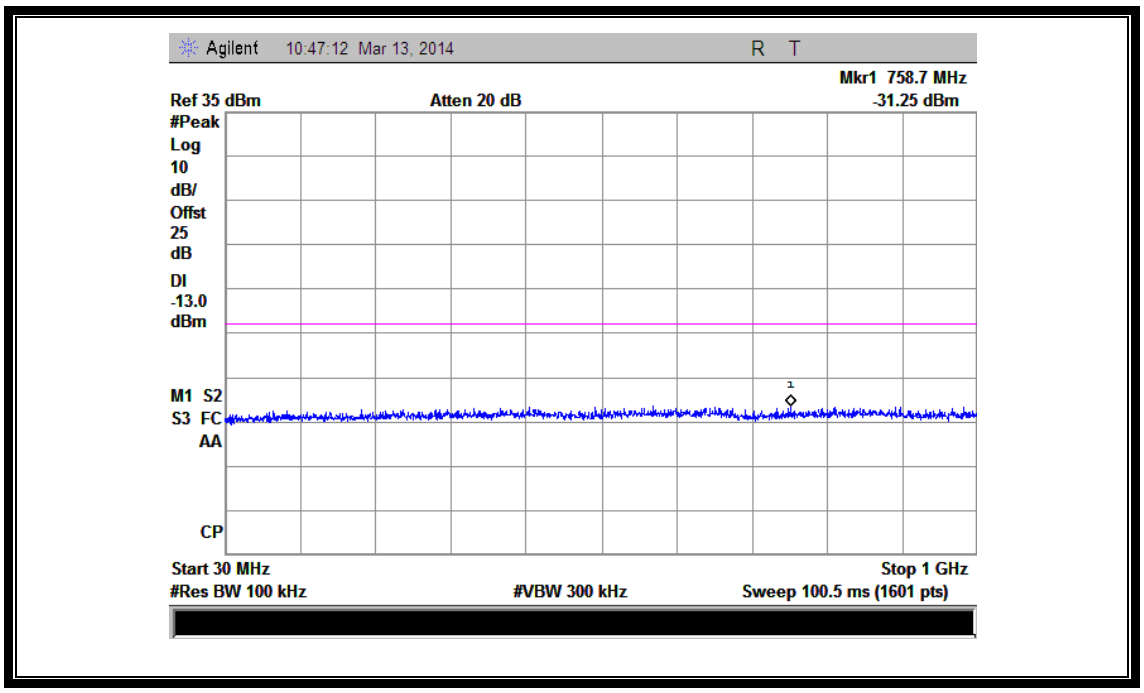
(Plot F1.1: WCDMA1900MHz Channel = 9262, 1GHz to 20GHz)



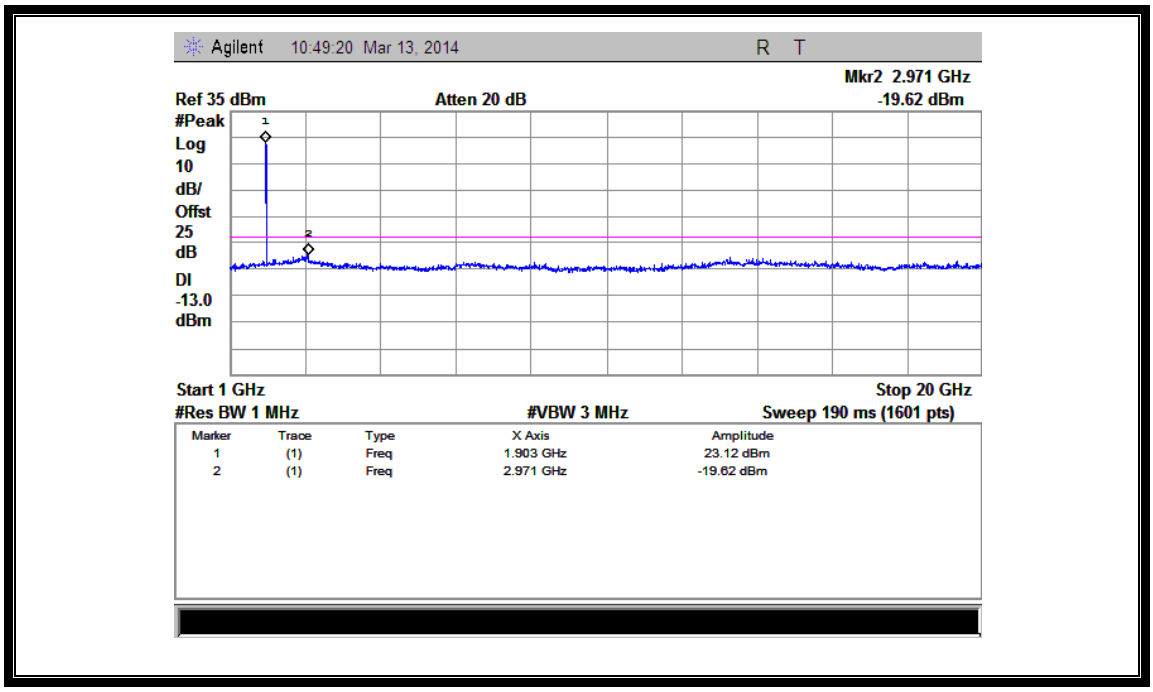
(Plot F2:WCDMA1900MHz Channel = 9400, 30MHz to 1GHz)



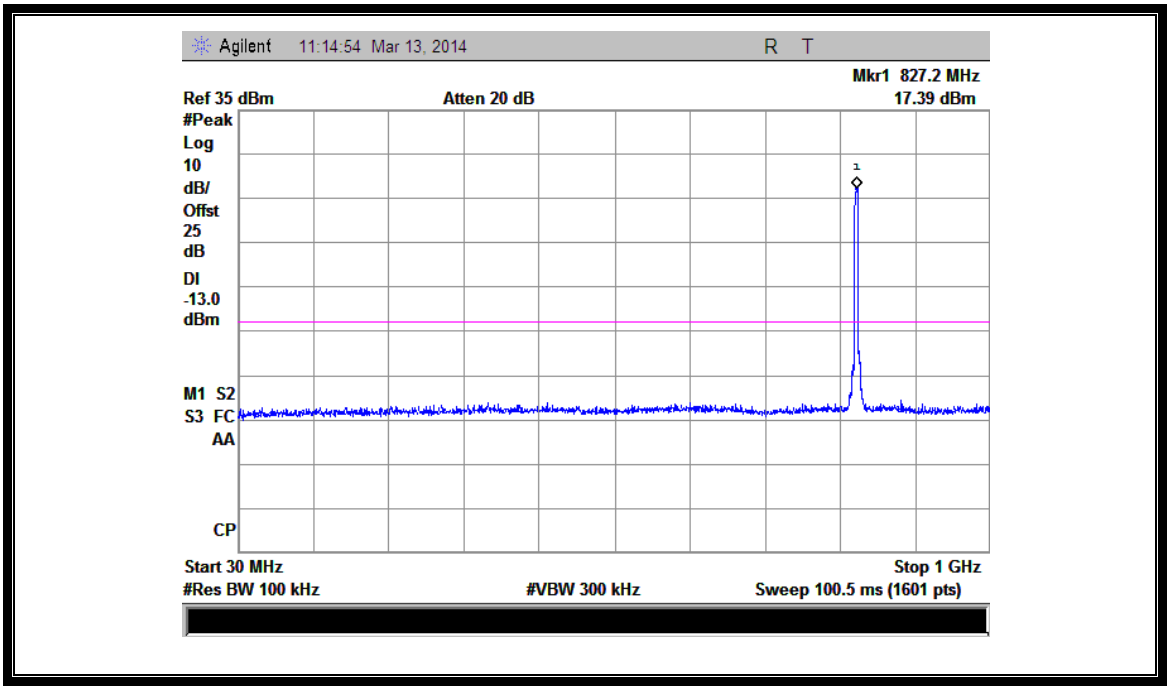
(Plot F2.1: WCDMA1900MHz Channel = 9400, 1GHz to 20GHz)



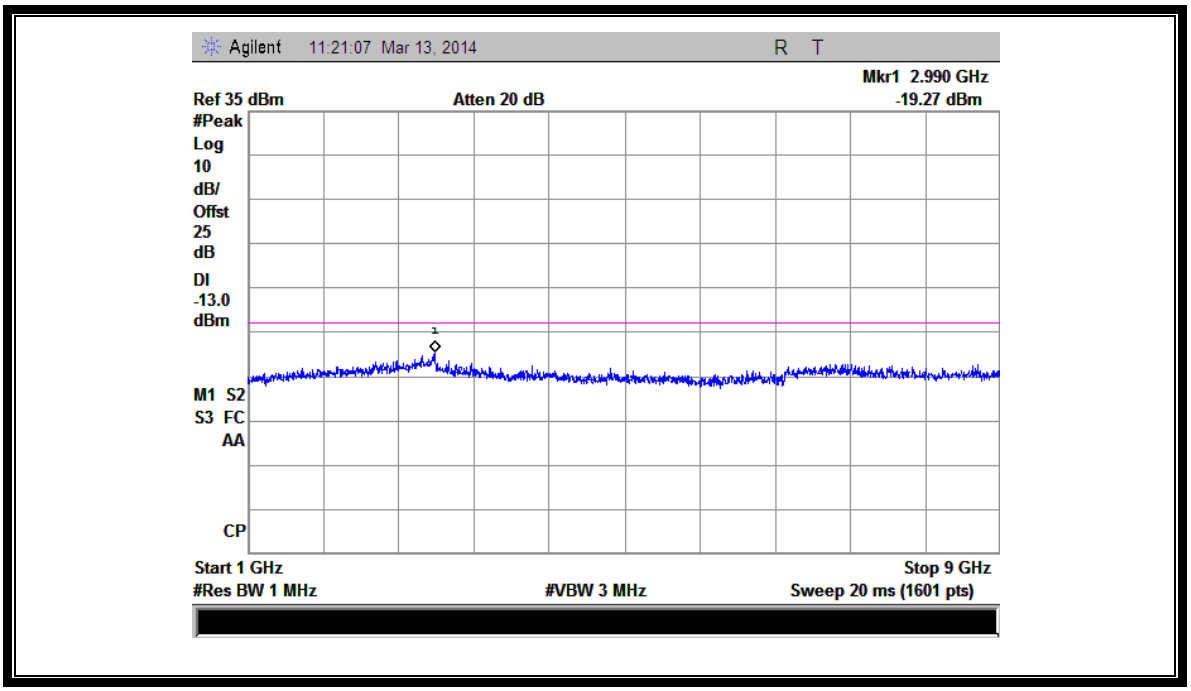
(Plot F3:WCDMA1900MHz Channel = 9538, 30MHz to 1GHz)



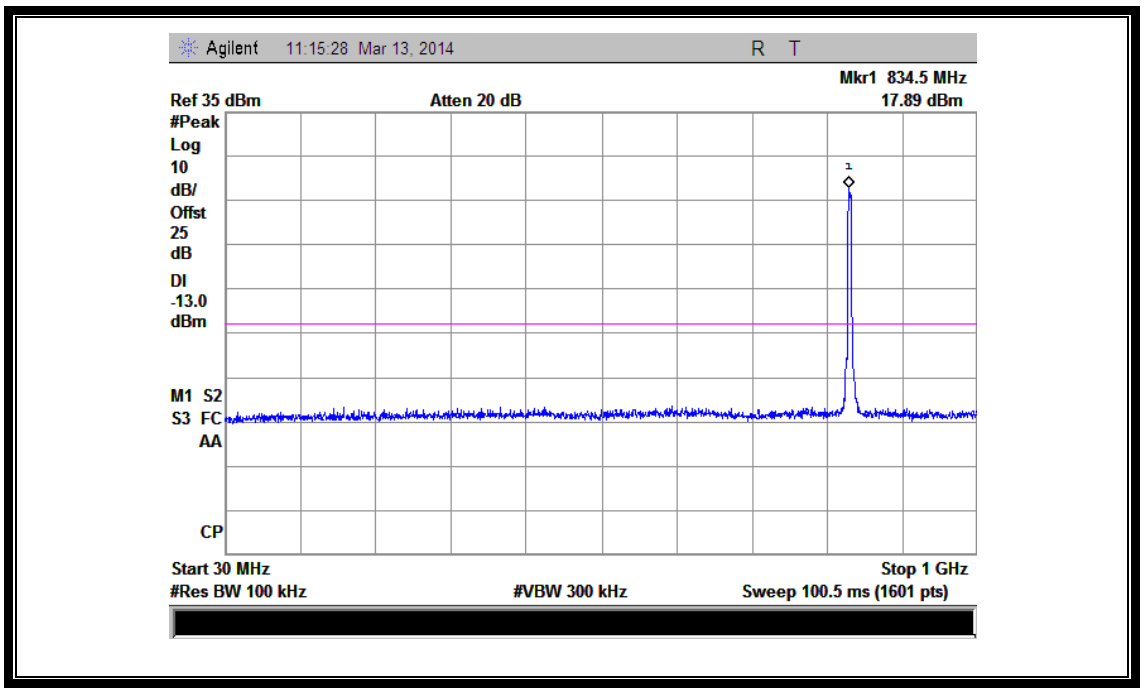
(Plot F3.1: WCDMA1900MHz Channel = 9538 1GHz to 20GHz)



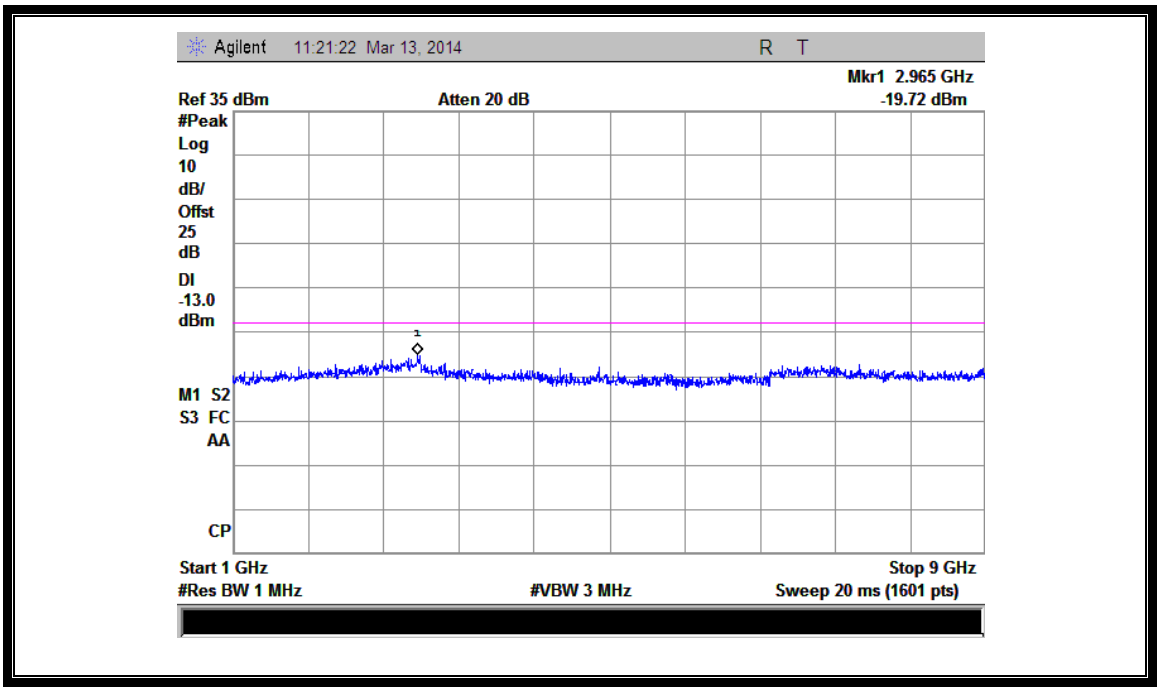
(Plot G1: HSDPA 850MHz Channel = 4132, 30MHz to 1GHz)



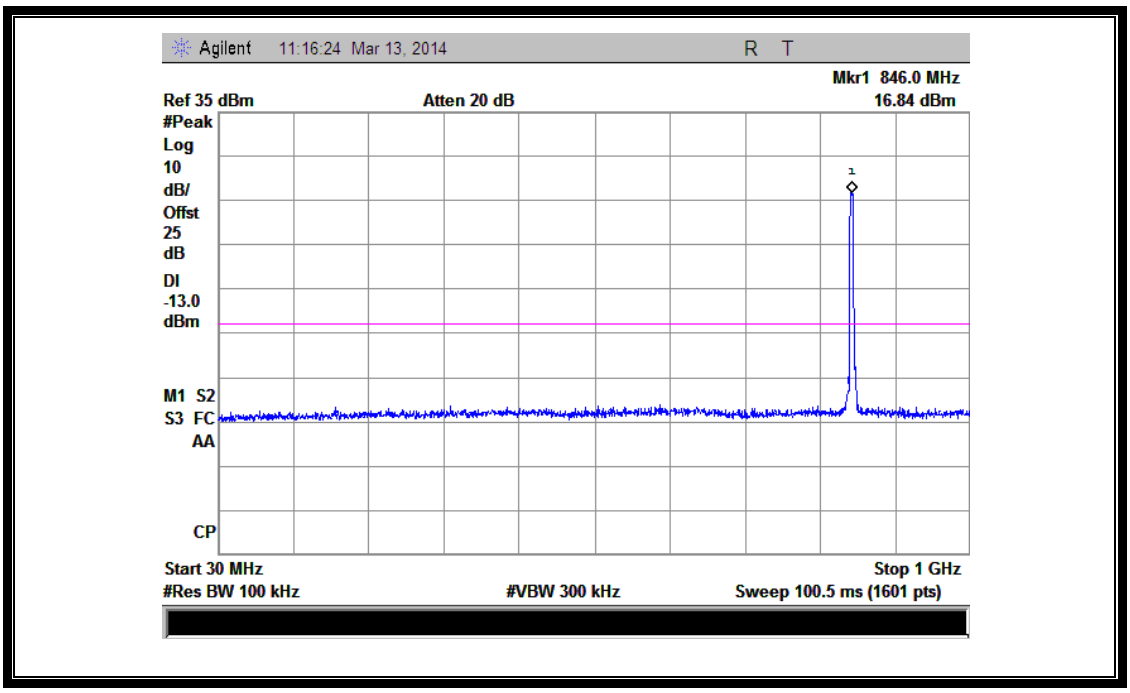
(Plot G1.1: HSDPA 850MHz Channel = 4132, 1GHz to 9GHz)



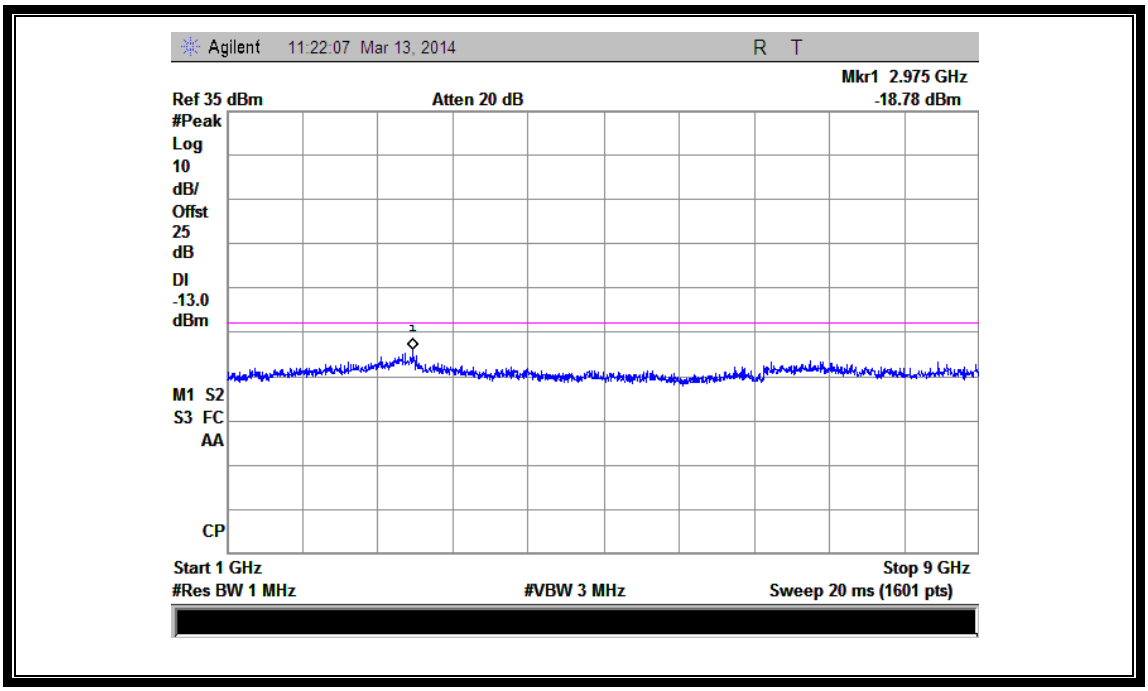
(Plot G2: HSDPA 850MHz Channel = 4175, 30MHz to 1GHz)



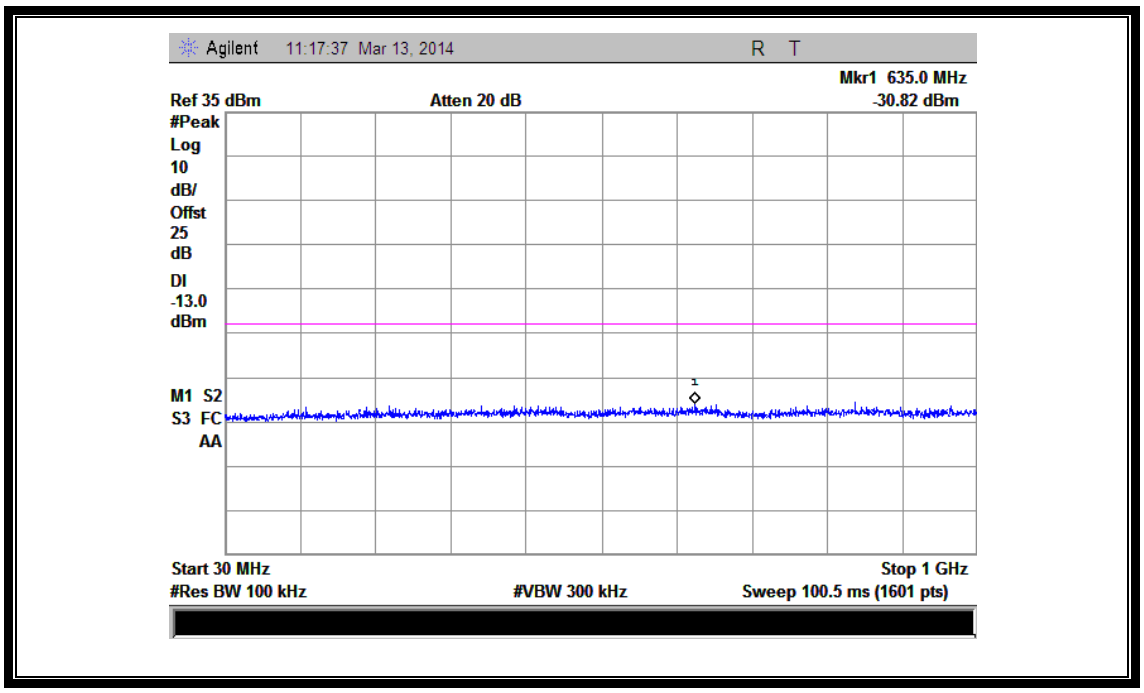
(Plot G2.1: HSDPA 850MHz Channel = 4175, 1GHz to 9GHz)



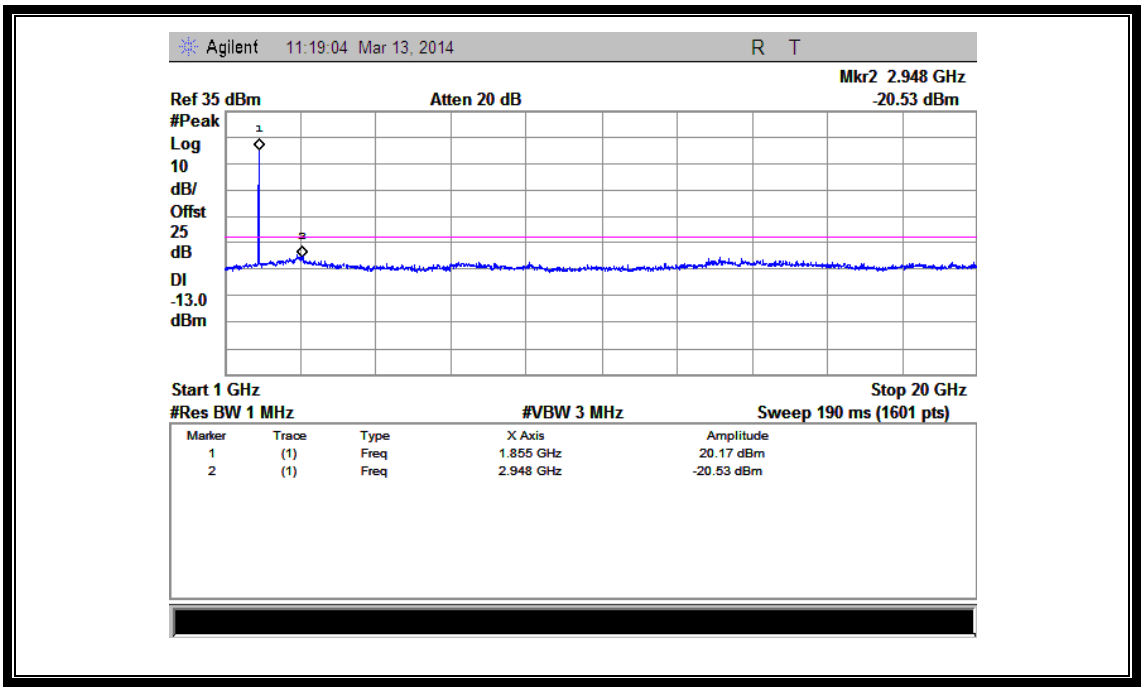
(Plot G3: HSDPA850MHz Channel = 4233, 30MHz to 1GHz)



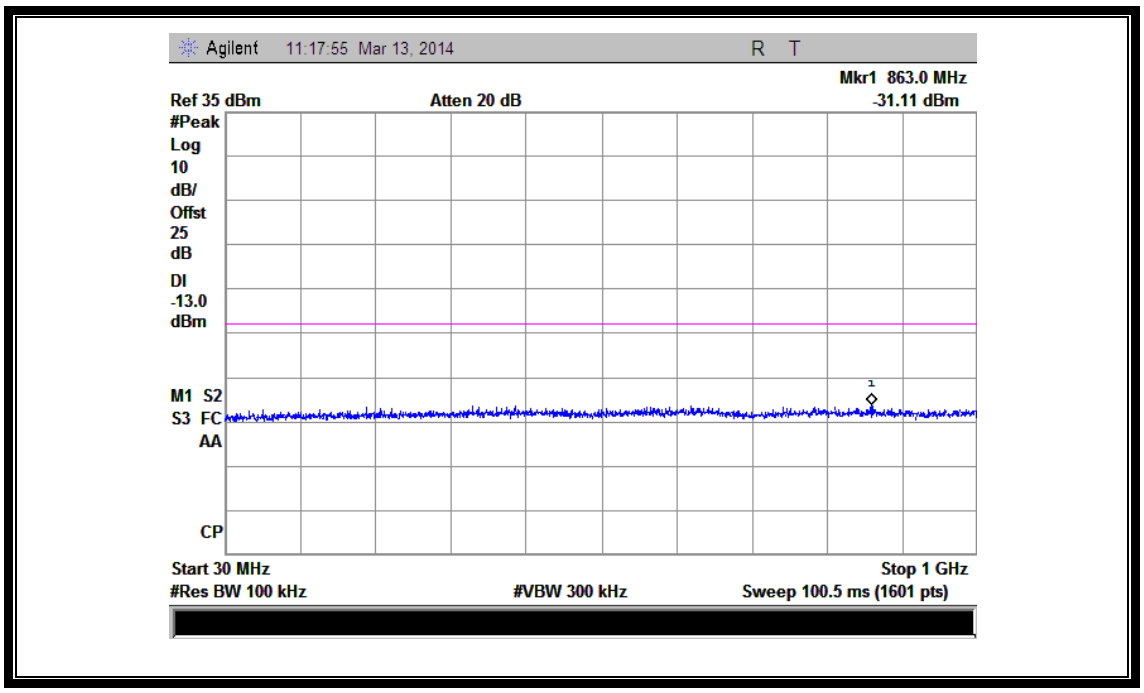
(Plot G3.1: HSDPA850MHz Channel = 4233, 1GHz to 9GHz)



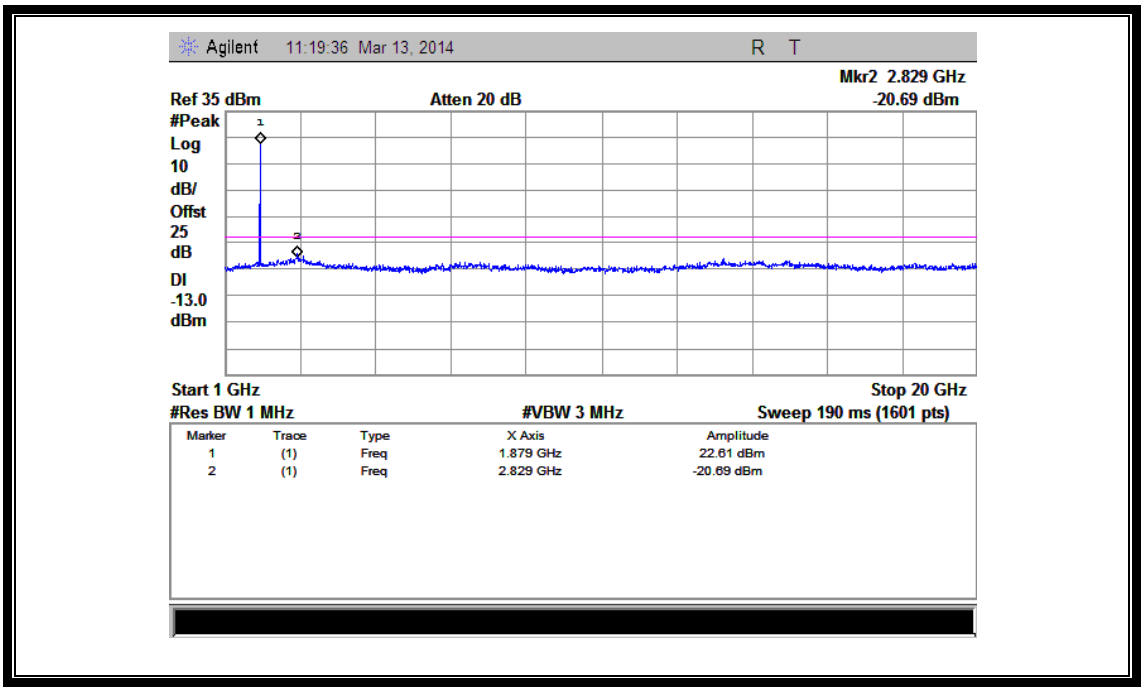
(Plot H1: HSDPA1900MHz Channel = 9262, 30MHz to 1GHz)



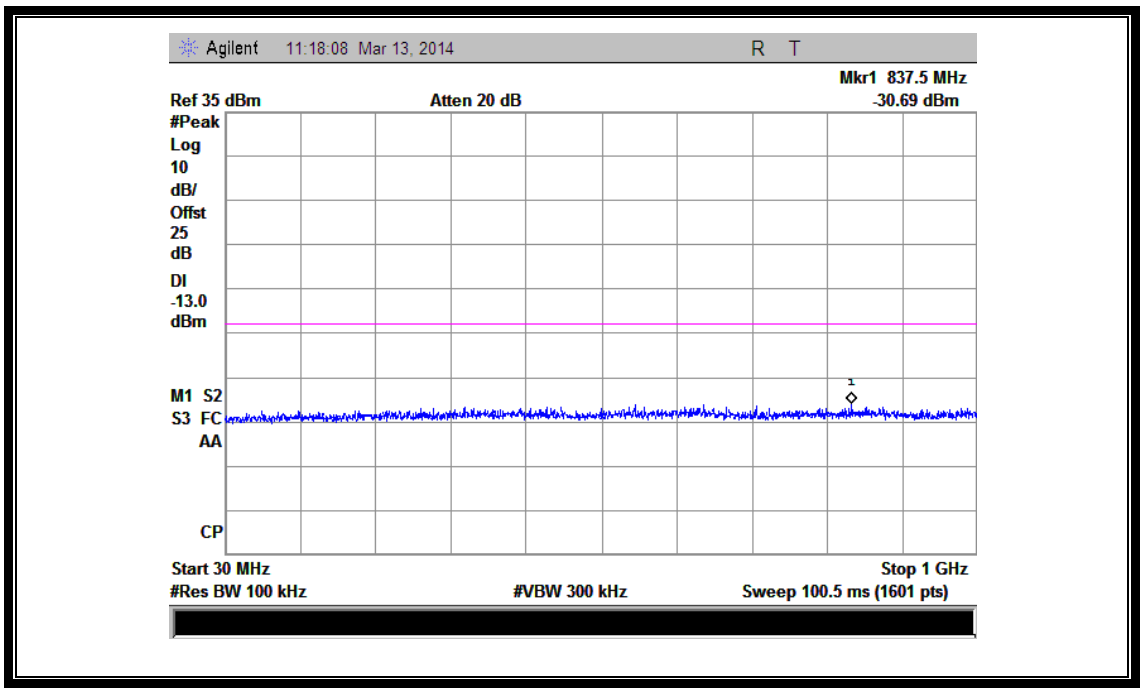
(Plot H1.1: HSDPA1900MHz Channel = 9262, 1GHz to 20GHz)



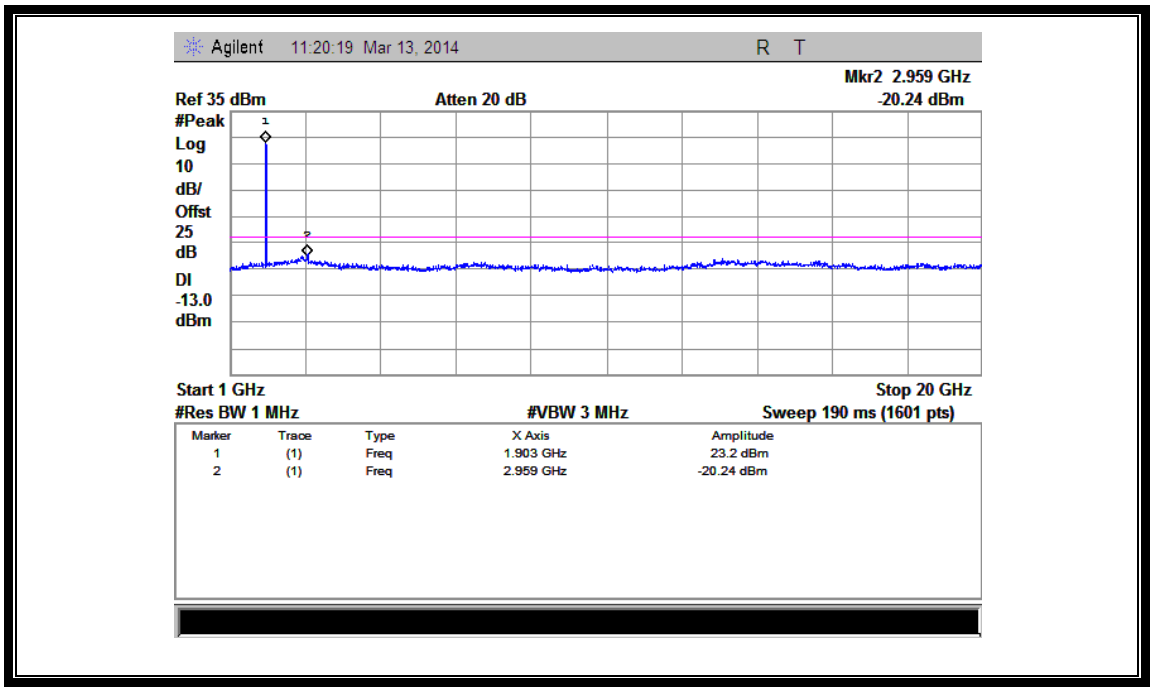
(Plot H2: HSDPA1900MHz Channel = 9400, 30MHz to 1GHz)



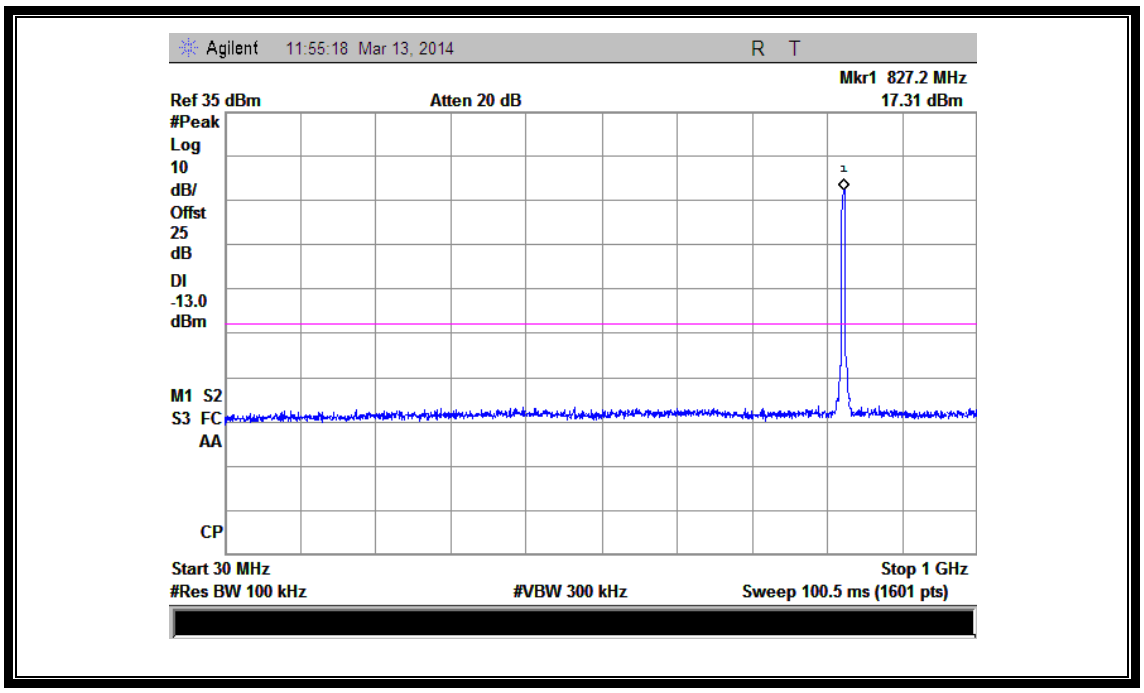
(Plot H2.1: HSDPA1900MHz Channel = 9400, 1GHz to 20GHz)



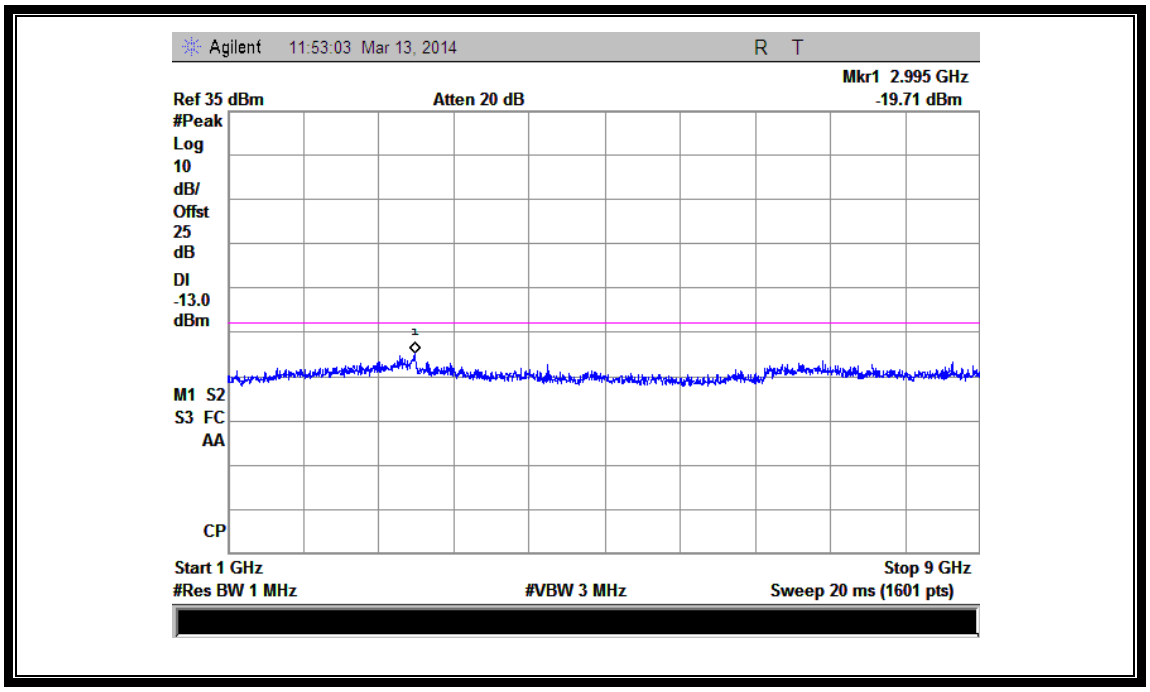
(Plot H3: HSDPA1900MHz Channel = 9538, 30MHz to 1GHz)



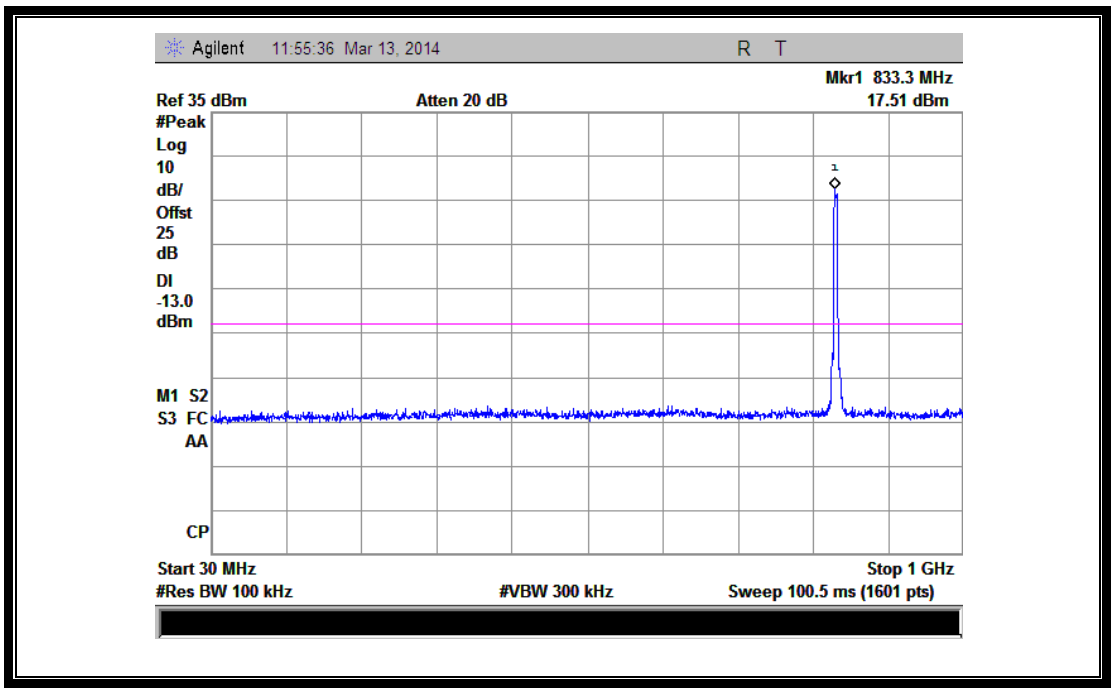
(Plot H3.1: HSDPA1900MHz Channel = 9538 1GHz to 20GHz)



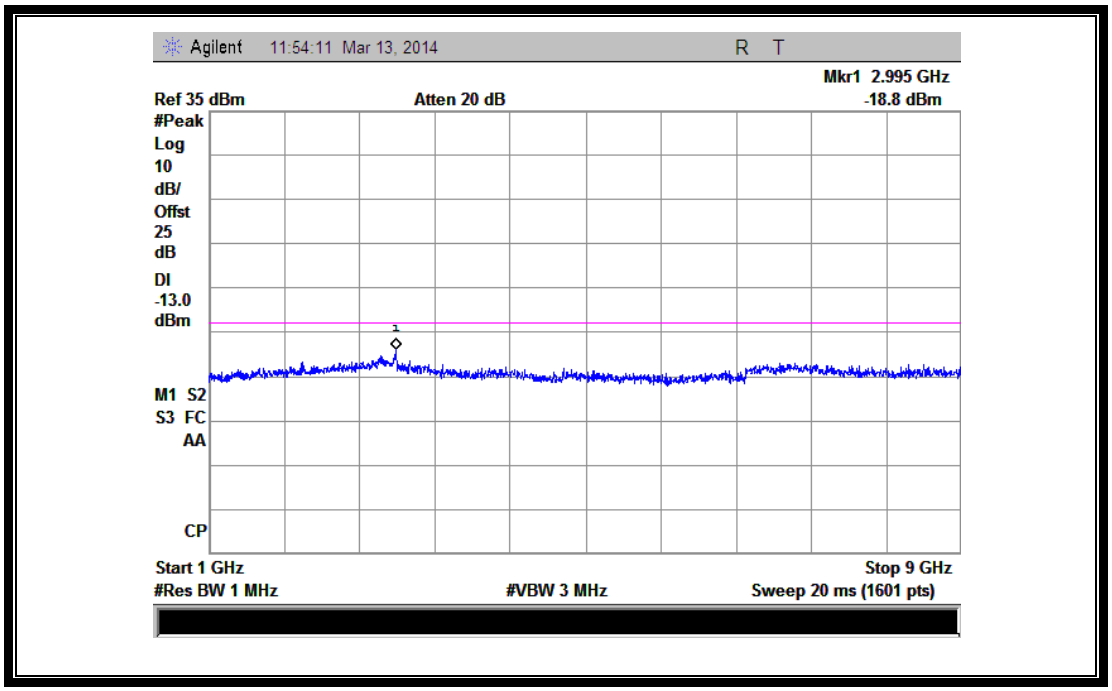
(Plot I 1:HSUPA 850MHz Channel = 4132, 30MHz to 1GHz)



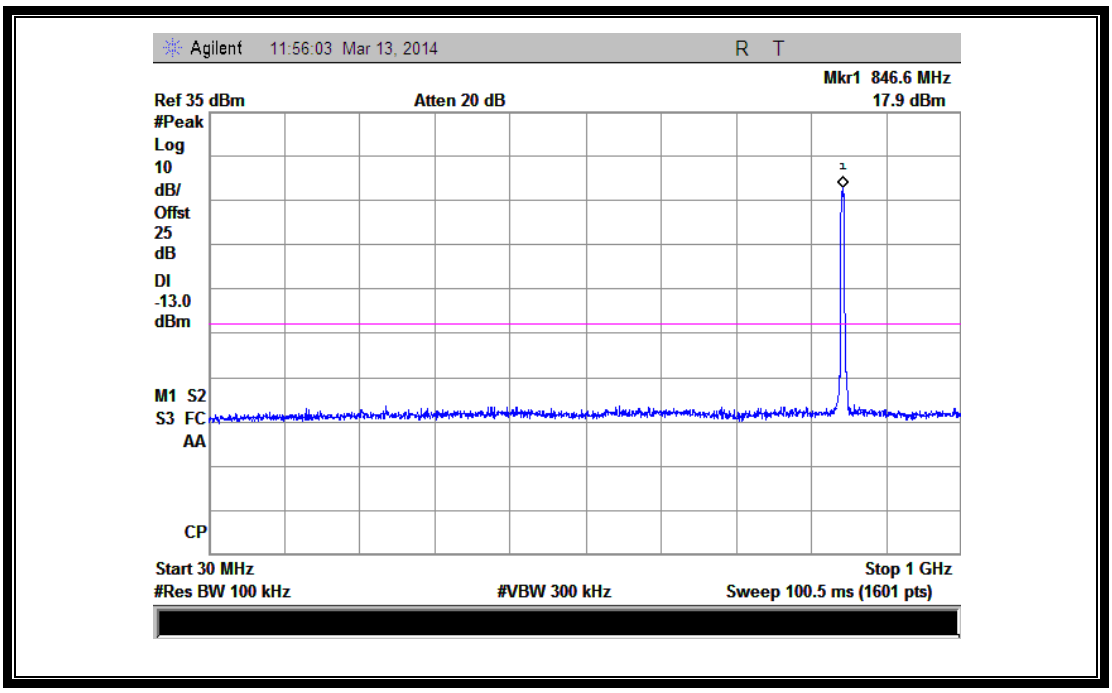
(Plot I1.1: HSUPA 850MHz Channel = 4132, 1GHz to 9GHz)



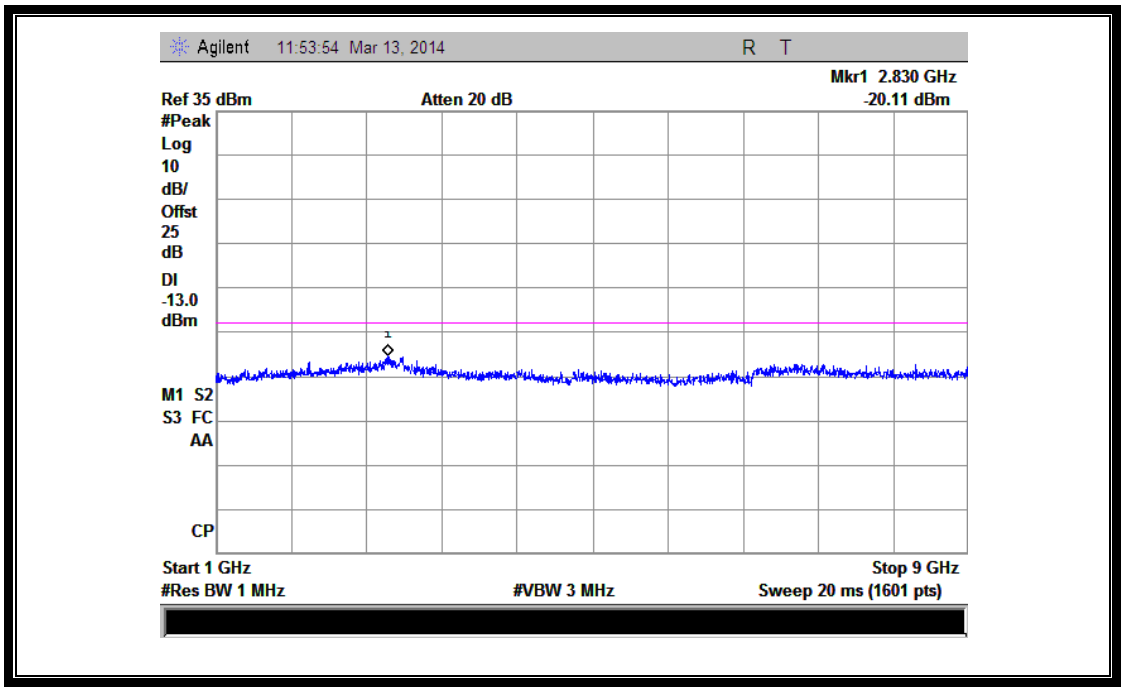
(Plot I 2: HSUPA 850MHz Channel = 4175, 30MHz to 1GHz)



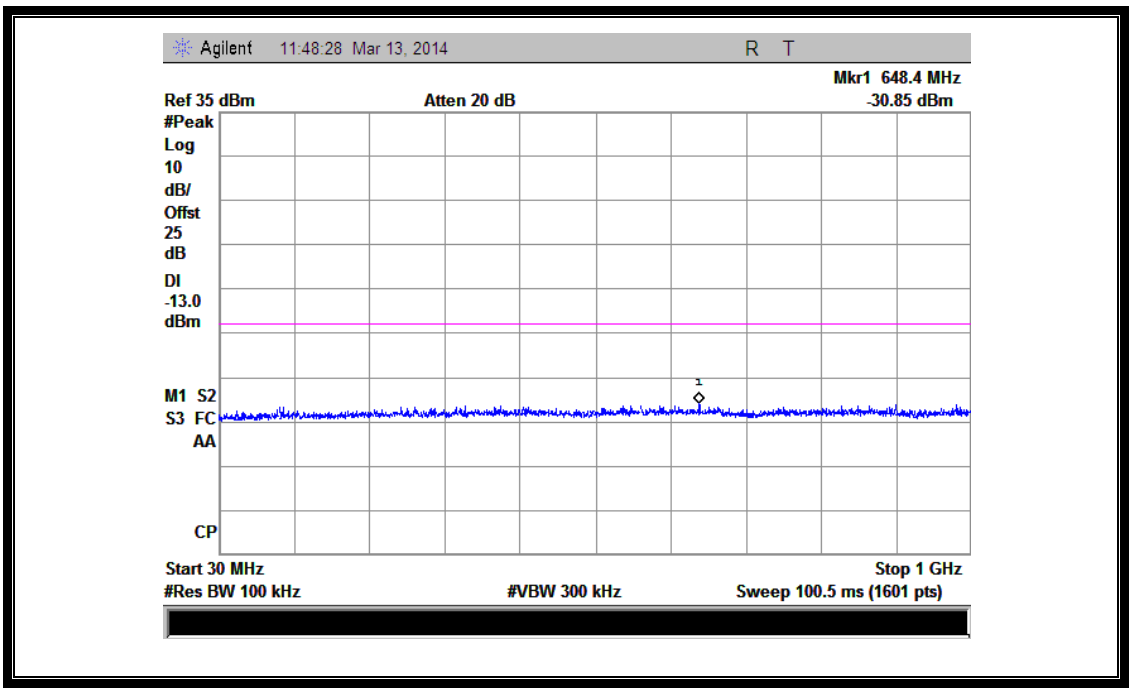
(Plot I2.1: HSUPA 850MHz Channel = 4175, 1GHz to 9GHz)



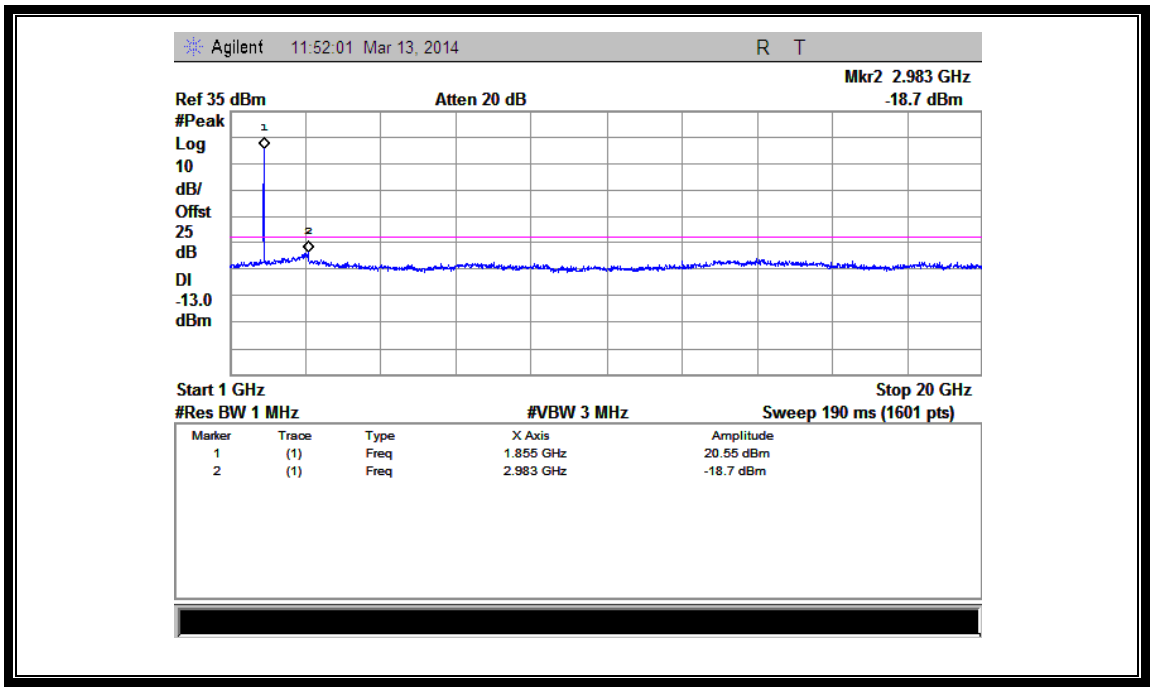
(Plot I 3: HSUPA850MHz Channel = 4233, 30MHz to 1GHz)



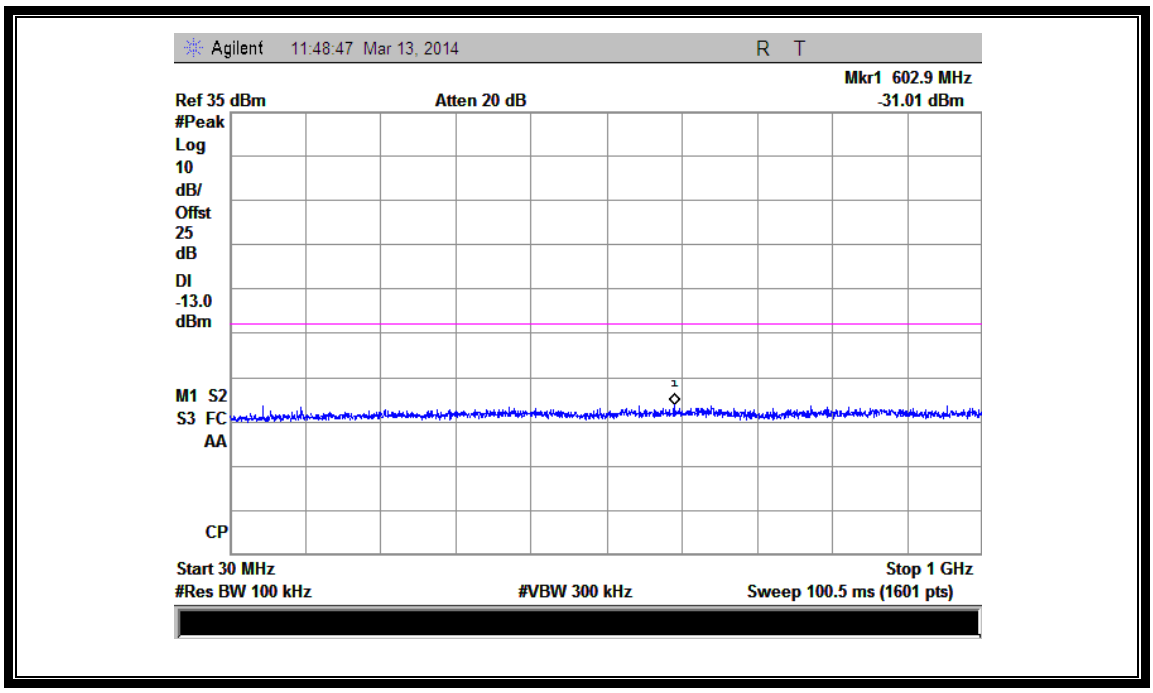
(Plot I3.1: HSUPA850MHz Channel = 4233, 1GHz to 9GHz)



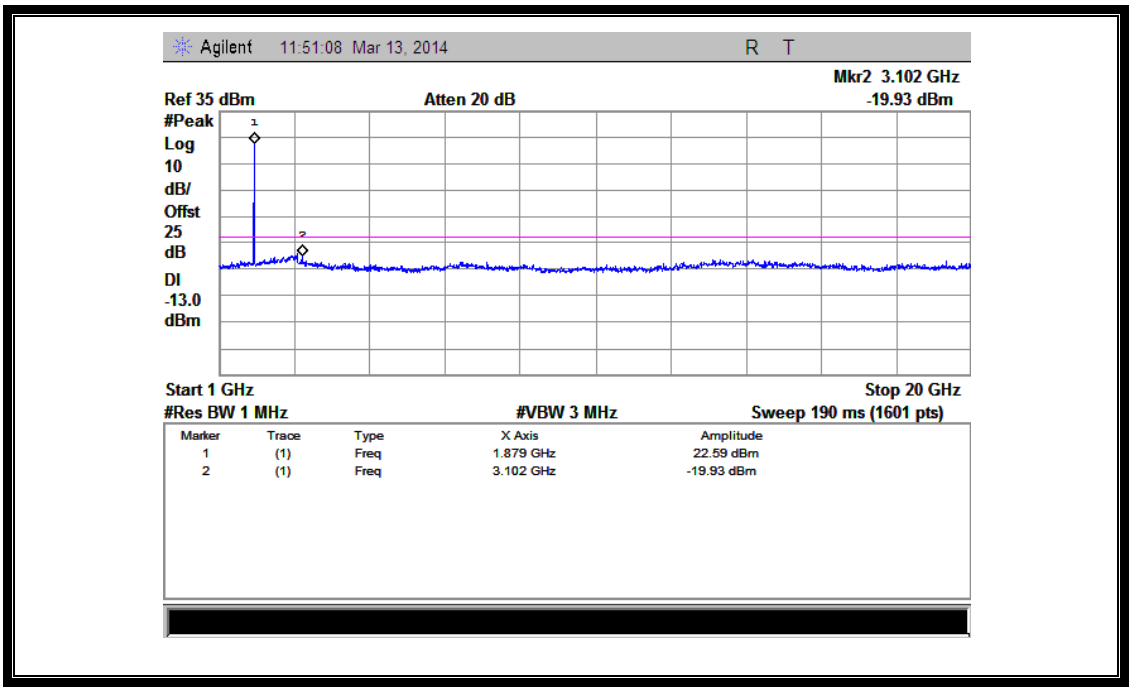
(Plot J 1: HSUPA1900MHz Channel = 9262, 30MHz to 1GHz)



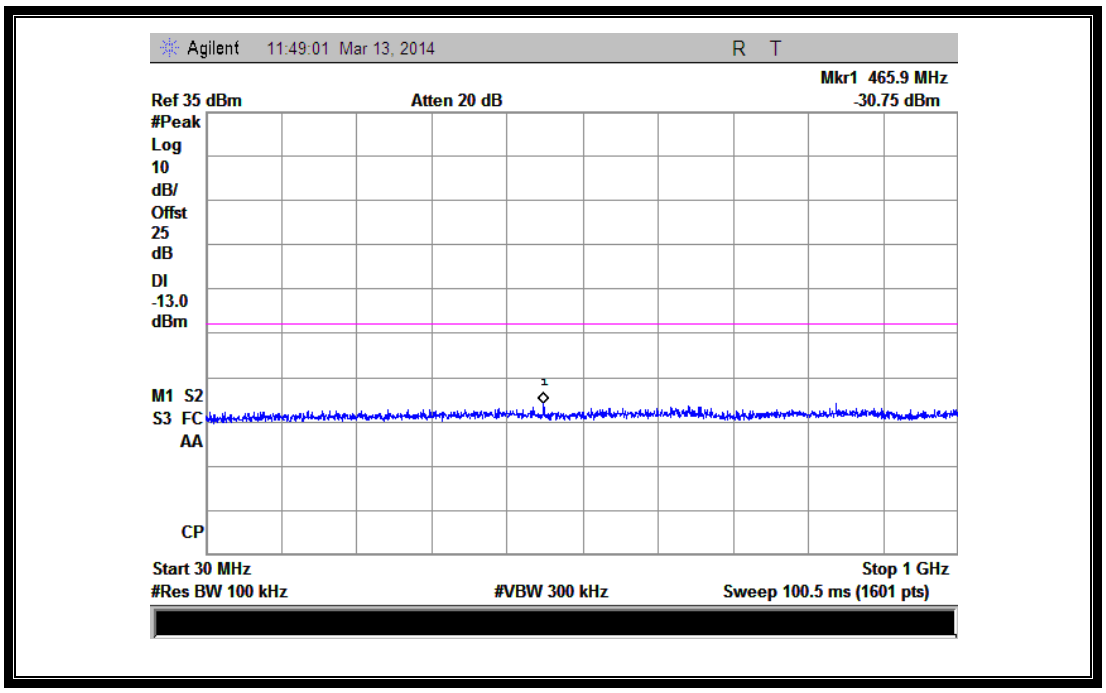
(Plot J1.1: HSUPA1900MHz Channel = 9262, 1GHz to 20GHz)



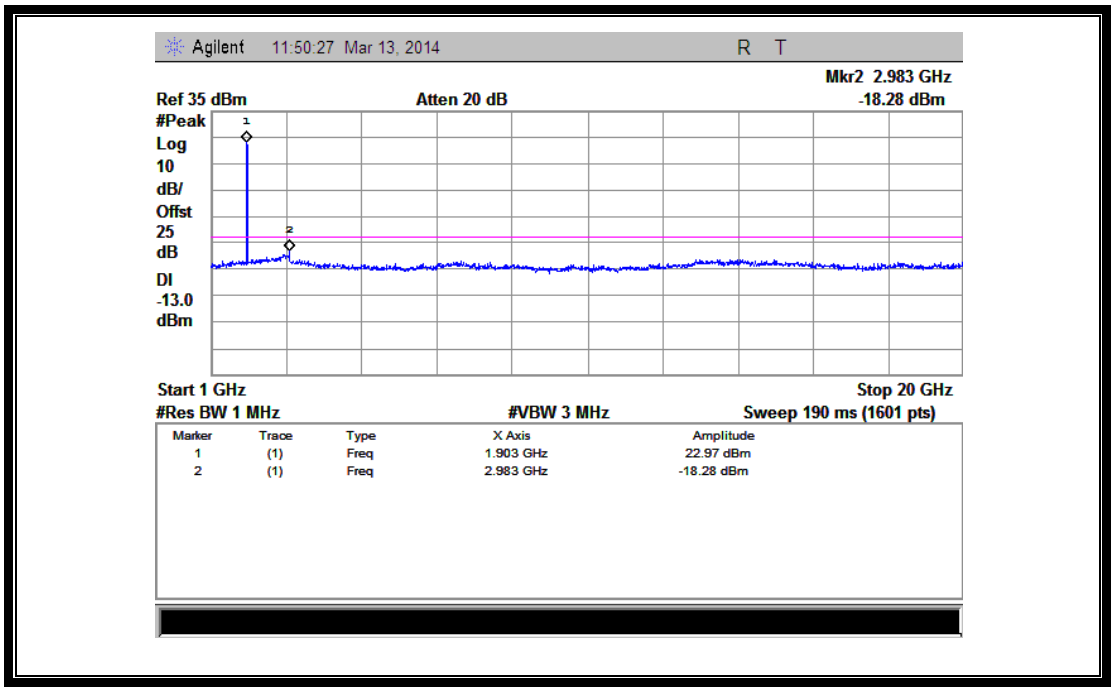
(Plot J 2: HSUPA1900MHz Channel = 9400, 30MHz to 1GHz)



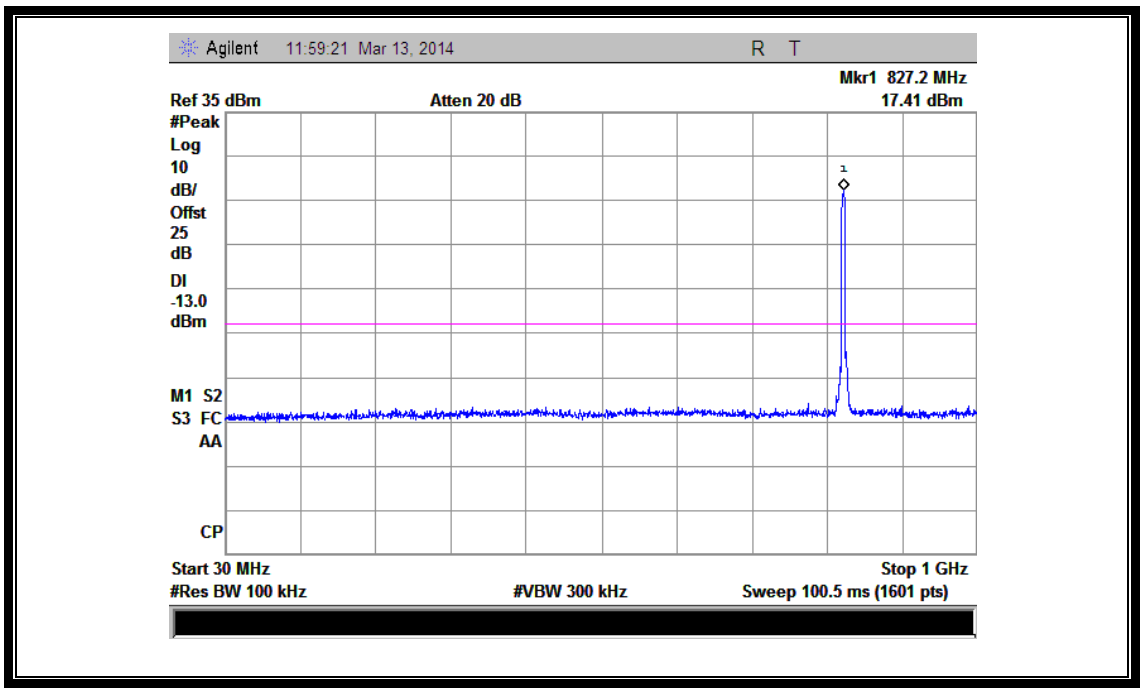
(Plot J2.1: HSUPA1900MHz Channel = 9400, 1GHz to 20GHz)



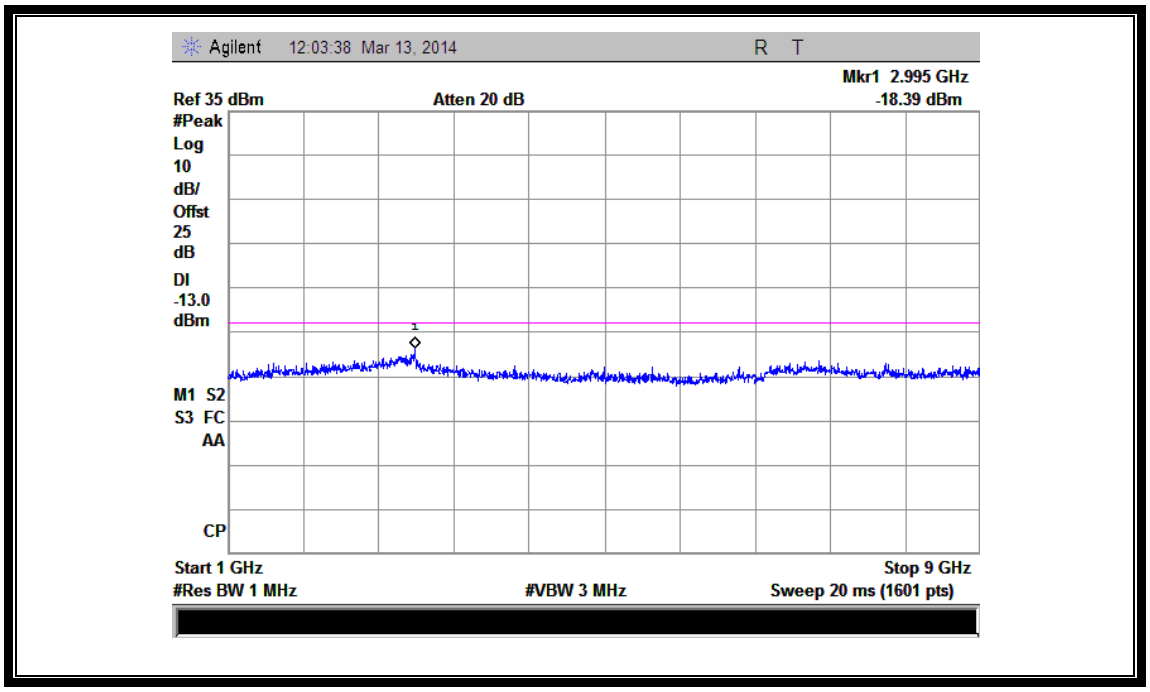
(Plot J 3: HSUPA1900MHz Channel = 9538, 30MHz to 1GHz)



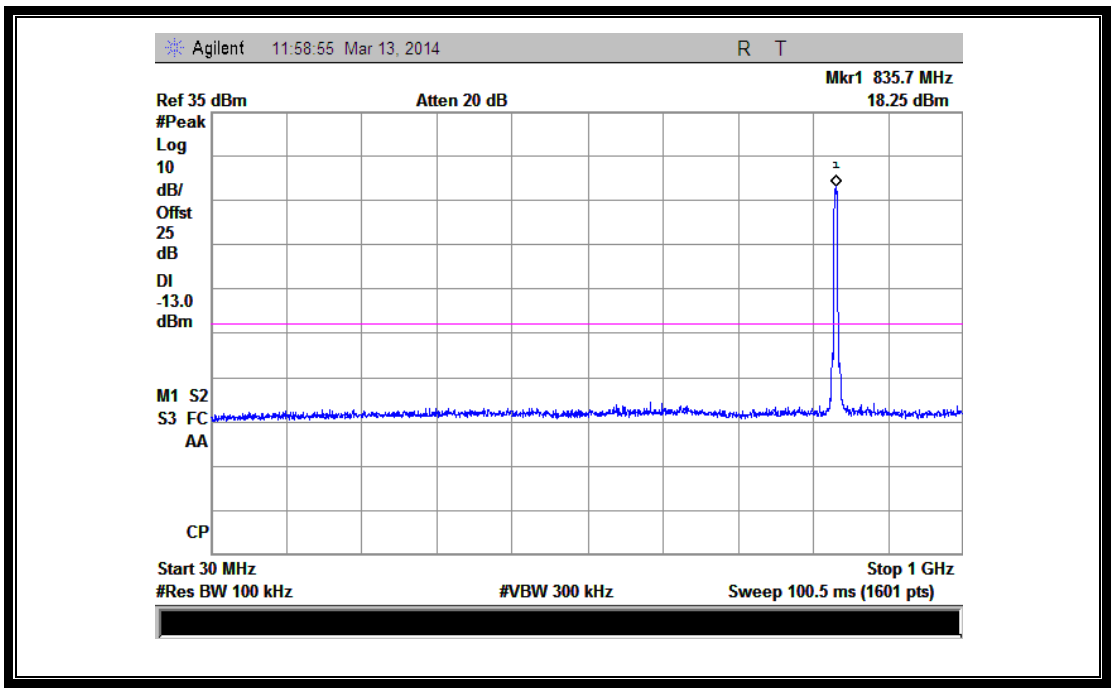
(Plot J3.1: HSUPA1900MHz Channel = 9538 1GHz to 20GHz)



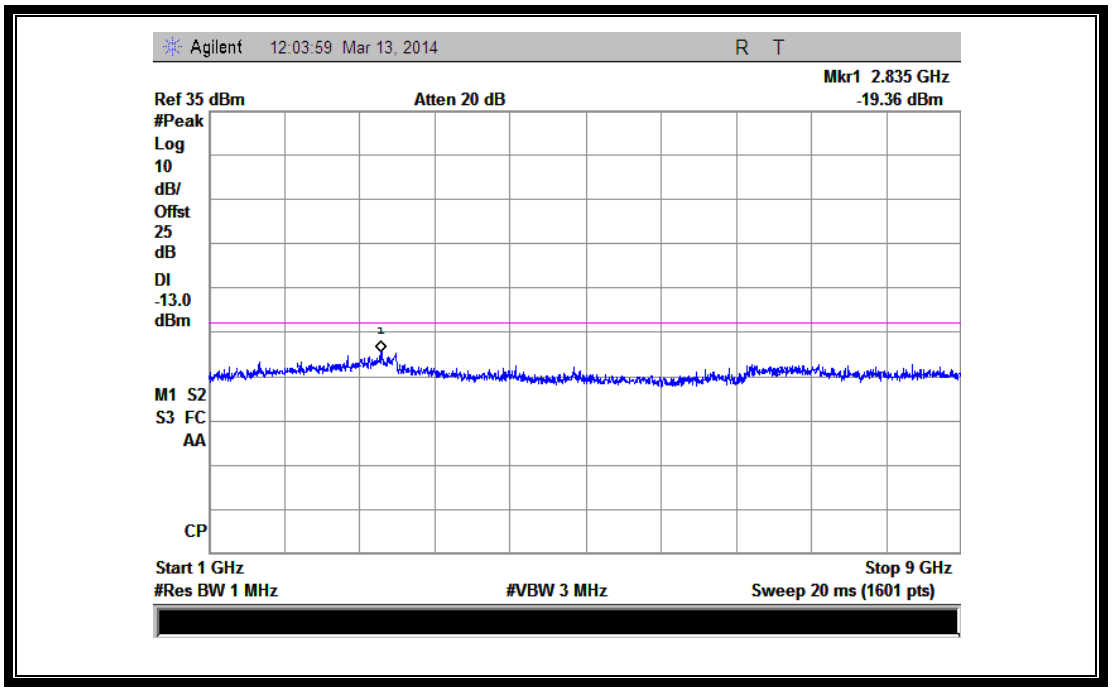
(Plot K 1: HSPA+ 850MHz Channel = 4132, 30MHz to 1GHz)



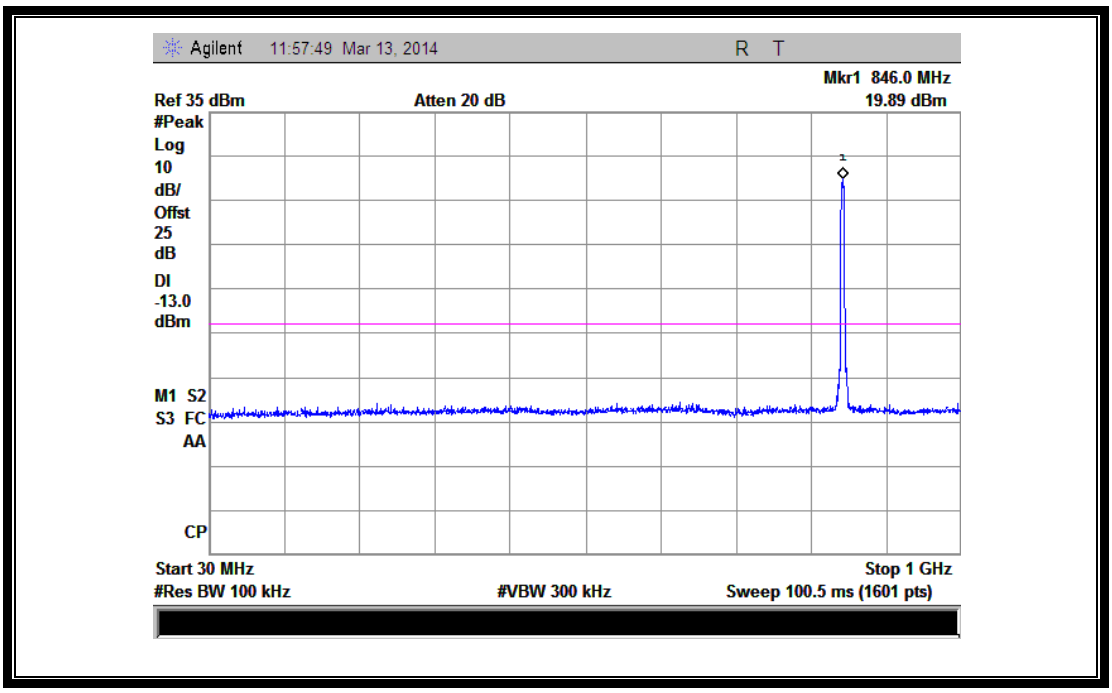
(Plot K1.1: HSPA+ 850MHz Channel = 4132, 1GHz to 9GHz)



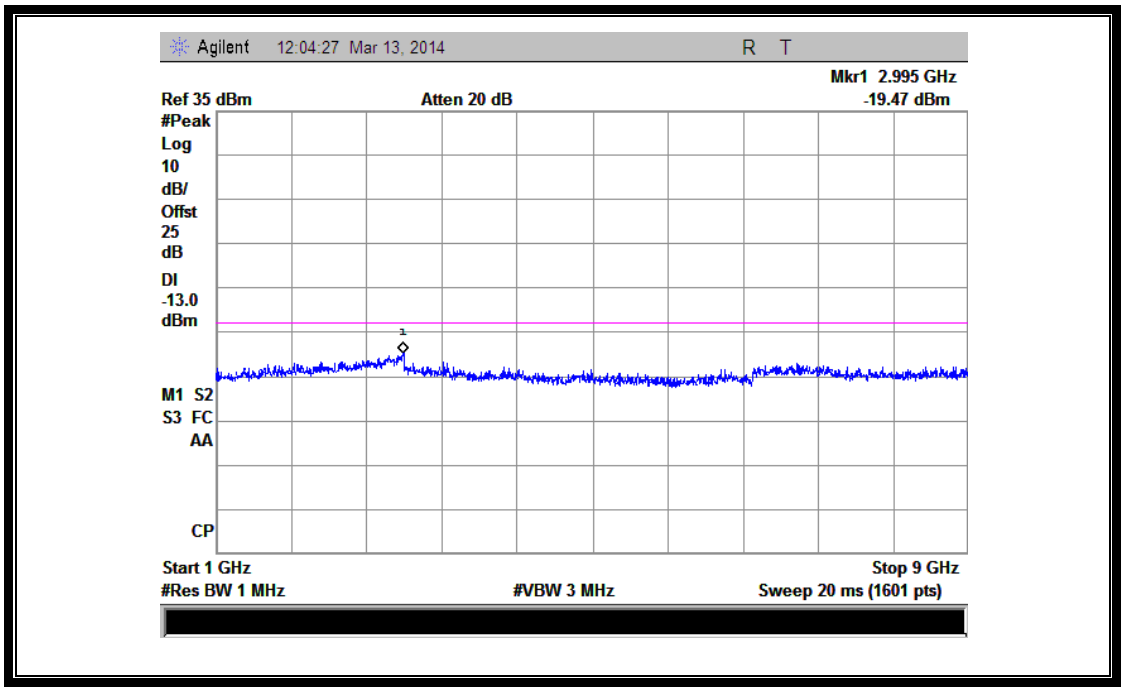
(Plot K 2: HSPA+ 850MHz Channel = 4175, 30MHz to 1GHz)



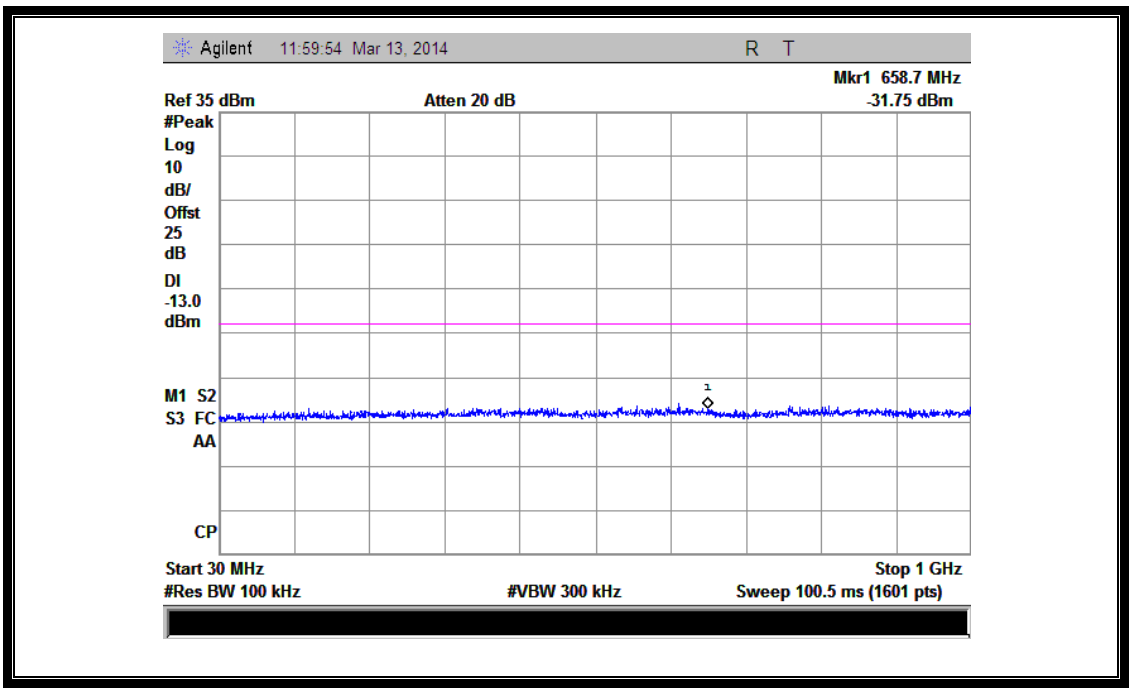
(Plot K2.1: HSPA+ 850MHz Channel = 4175, 1GHz to 9GHz)



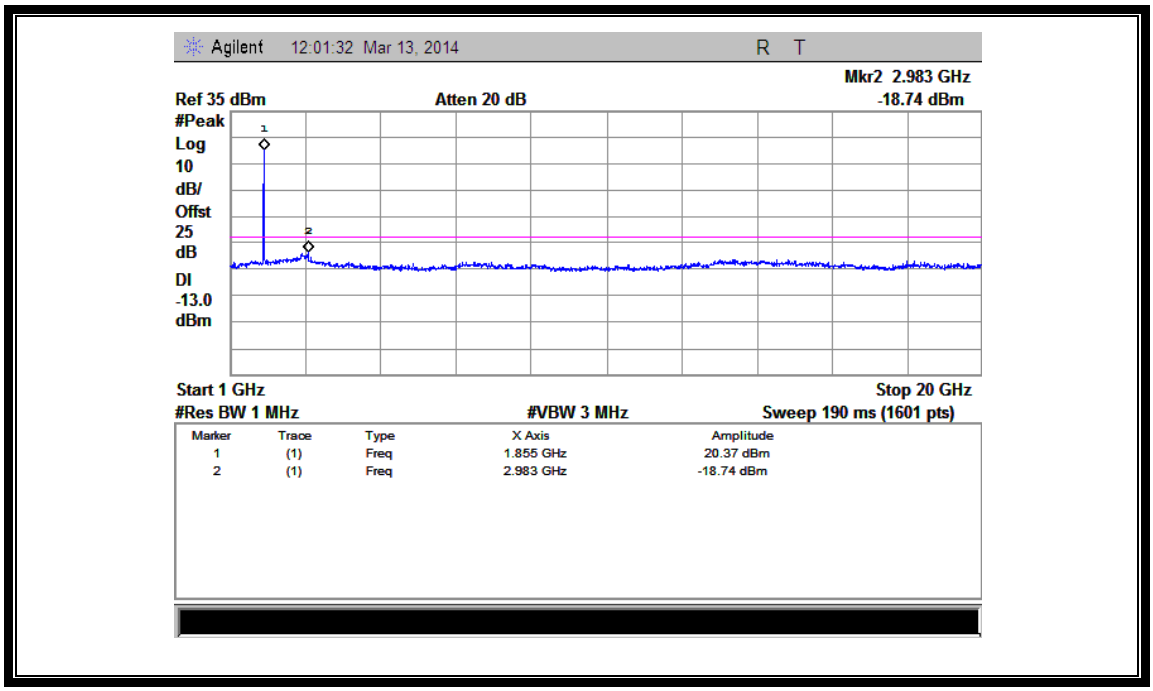
(Plot K 3: HSPA+ 850MHz Channel = 4233, 30MHz to 1GHz)



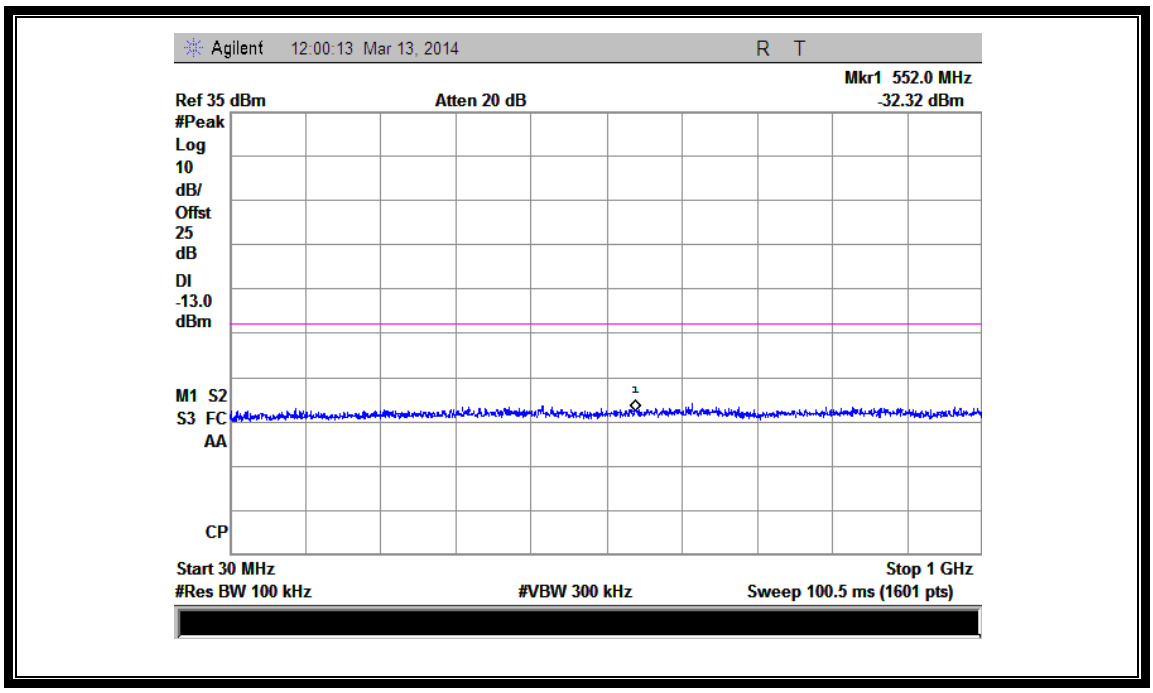
(Plot K3.1: HSPA+ 850MHz Channel = 4233, 1GHz to 9GHz)



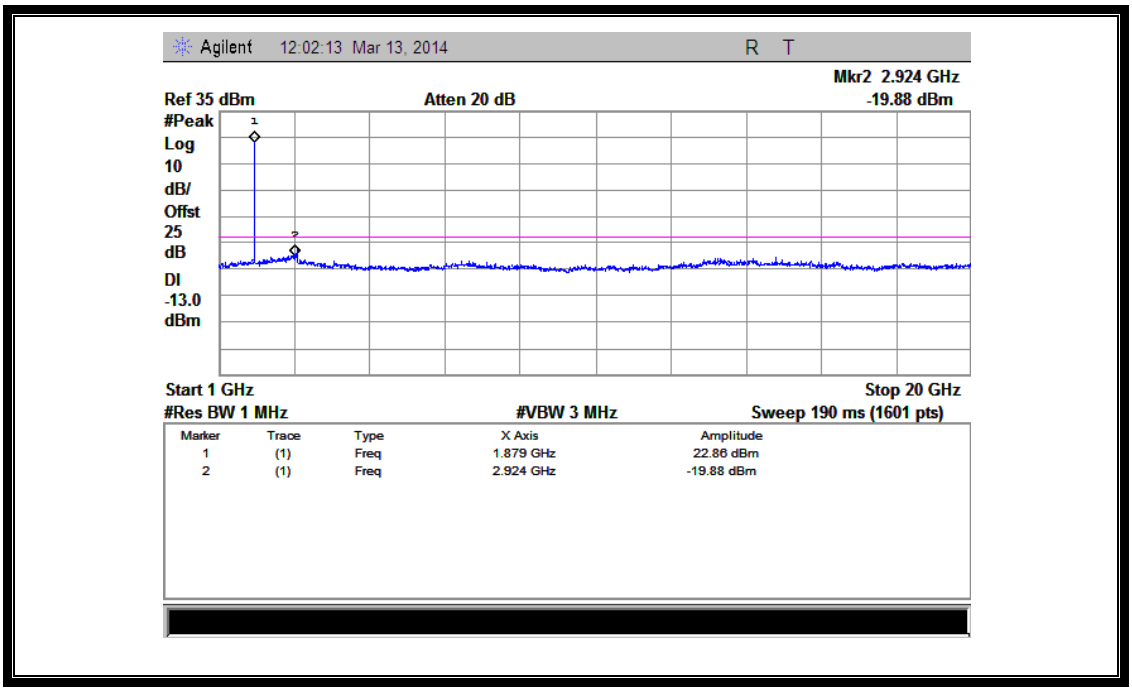
(Plot K 1: HSPA+ 1900MHz Channel = 9262, 30MHz to 1GHz)



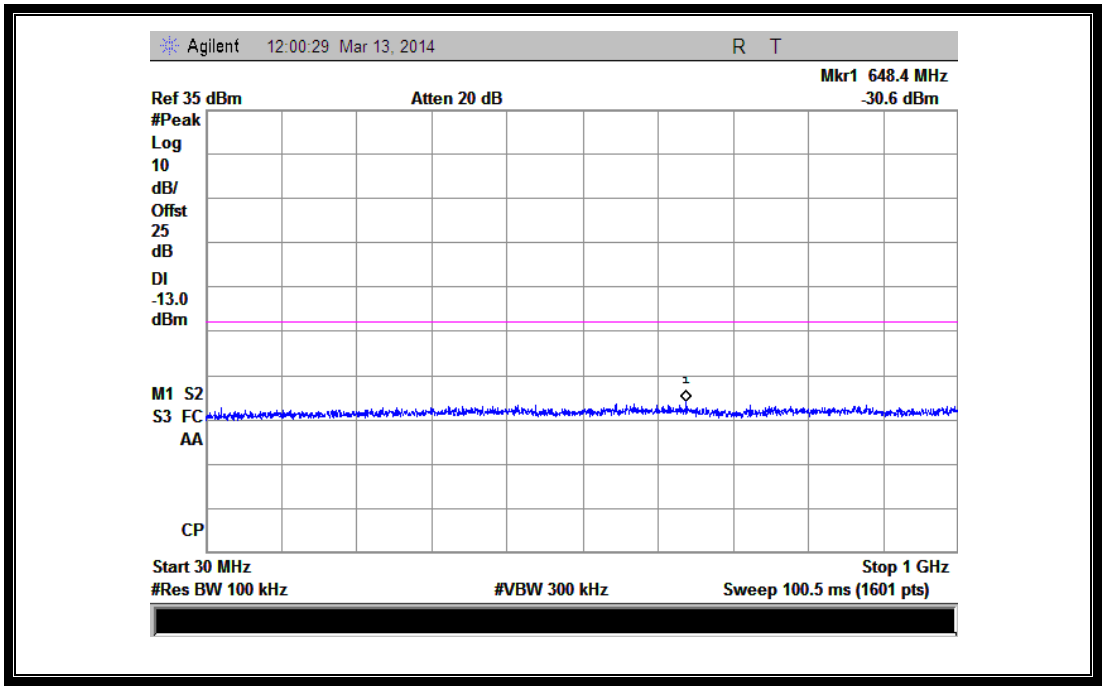
(Plot K1.1: HSPA+ 1900MHz Channel = 9262, 1GHz to 20GHz)



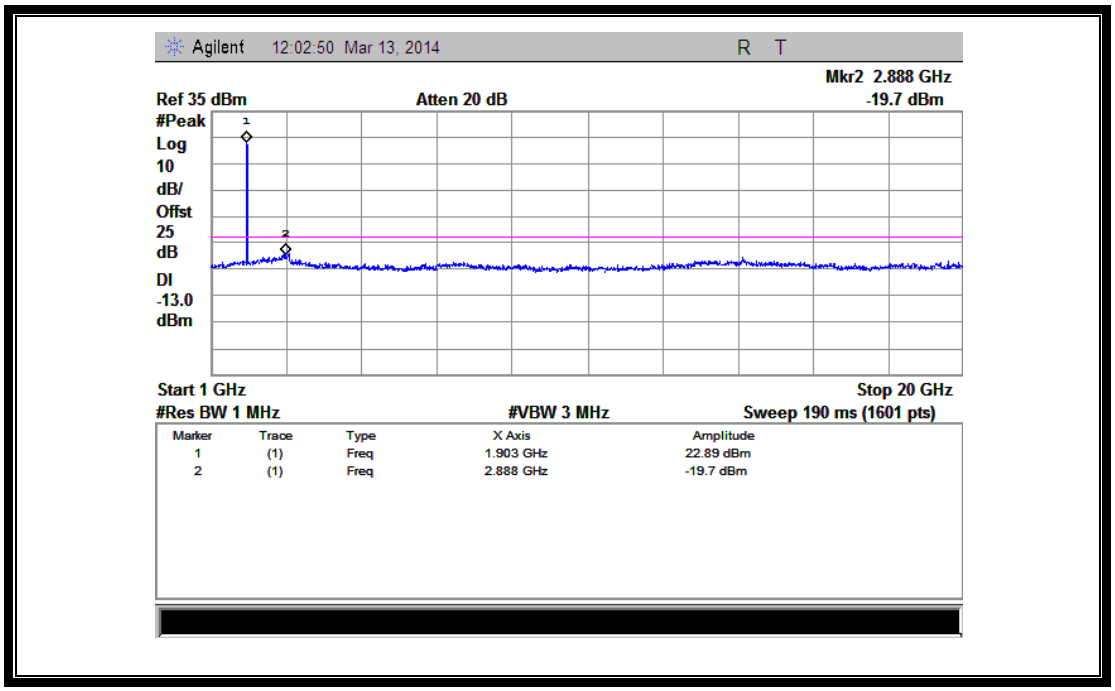
(Plot K 2: HSPA+ 1900MHz Channel = 9400, 30MHz to 1GHz)



(Plot K2.1: HSPA+ 1900MHz Channel = 9400, 1GHz to 20GHz)



(Plot K 3: HSPA+ 1900MHz Channel = 9538, 30MHz to 1GHz)



(Plot K3.1: 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

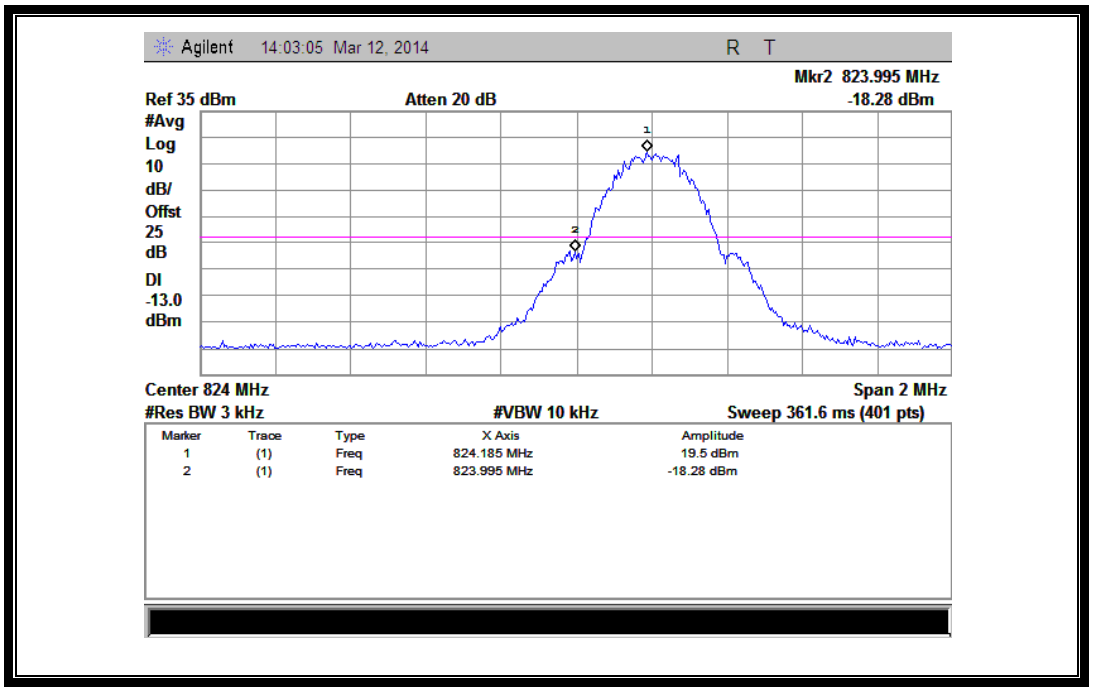
The lowest and highest channels are tested to verify the band edge emissions.

1. Test Verdict:

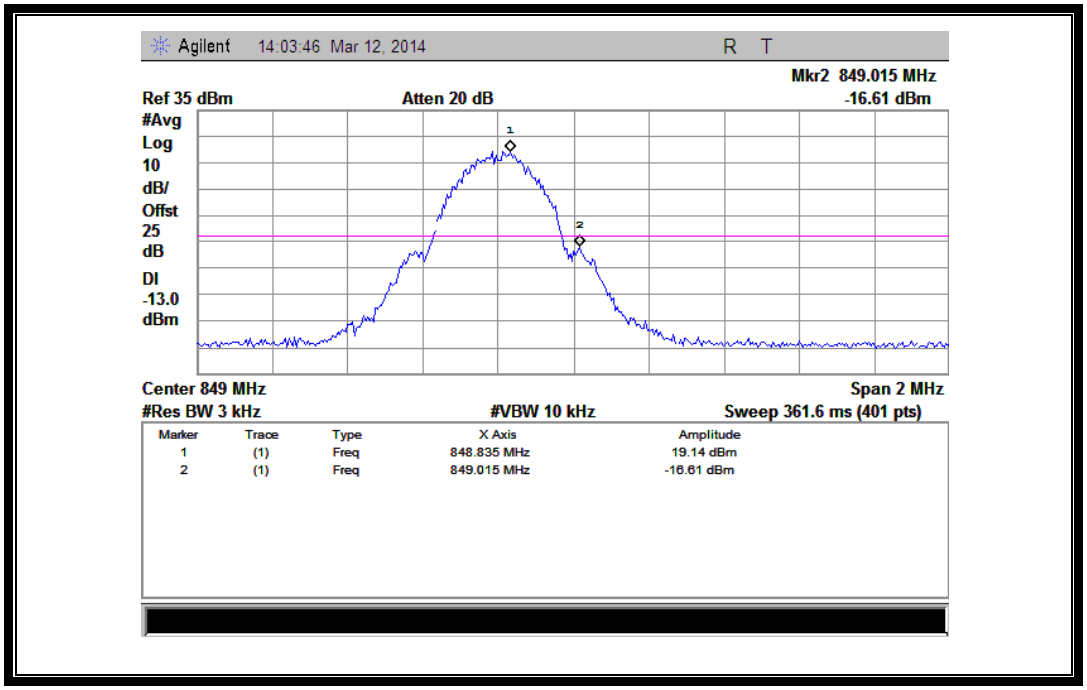
Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	-18.28	Plat A	-13	PASS
	251	848.8	-16.61	Plot B		PASS
GSM 1900MHz	512	1850.2	-22.55	Plat C	-13	PASS
	810	1909.8	-21.44	Plot D		PASS
EDGE 850MHz	128	824.2	-18.22	Plat E	-13	PASS
	251	848.8	-16.83	Plot F		PASS
EDGE 1900MHz	512	1850.2	-23.00	Plat G	-13	PASS
	810	1909.8	-23.53	Plot H		PASS
WCDMA 850MHz	4132	826.4	-16.54	Plat I	-13	PASS
	4233	846.6	-18.12	Plot J		PASS
WCDMA 1900MHz	9262	1852.4	-19.93	Plat K	-13	PASS
	9538	1907.6	-17.22	Plot L		PASS
HSDPA 850MHz	4132	826.4	-16.66	Plat M	-13	PASS
	4233	846.6	-15.38	Plot N		PASS
HSDPA 1900MHz	9262	1852.4	-18.32	Plat O	-13	PASS
	9538	1907.6	-15.68	Plot P		PASS
HSUPA 850MHz	4132	826.4	-17.41	Plat Q	-13	PASS
	4233	846.6	-17.00	Plot R		PASS
HSUPA	9262	1852.4	-17.68	Plat S	-13	PASS

1900MHz	9538	1907.6	-17.28	Plot T		PASS
HSPA+ 850MHz	4132	826.4	-16.15	Plat U	-13	PASS
	4233	846.6	-16.76	Plot V		PASS
HSPA+ 1900MHz	9262	1852.4	-19.31	Plat W	-13	PASS
	9538	1907.6	-17.86	Plot X		PASS

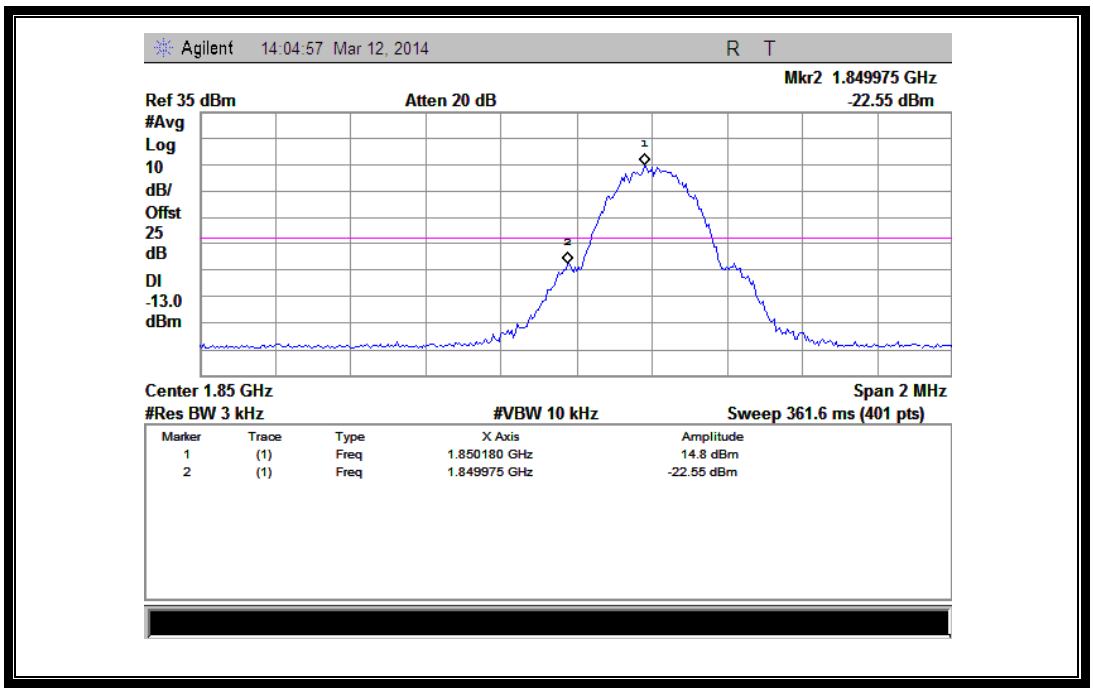
2. Test Plots:



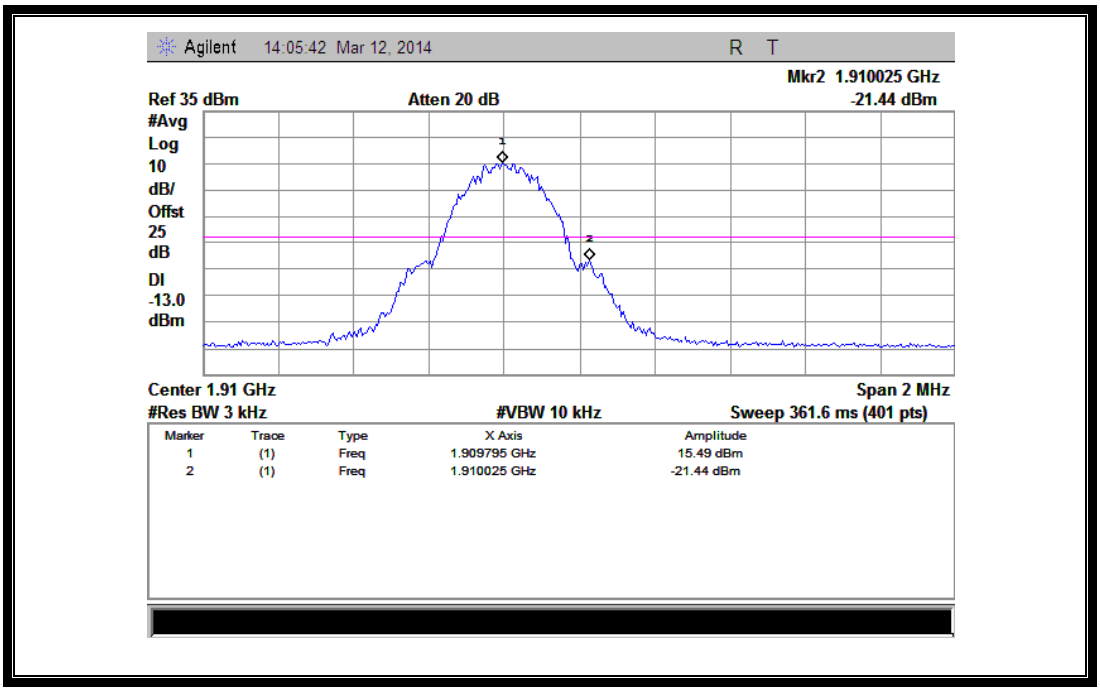
(Plot A: GSM 850 Channel = 128)



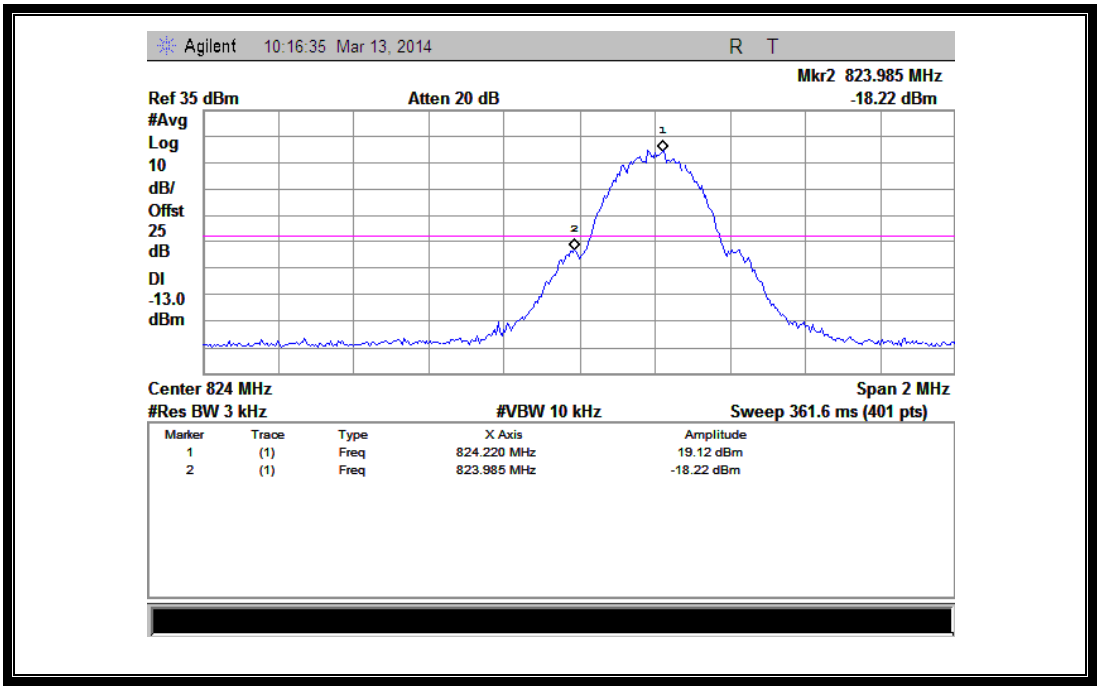
(Plot B: GSM 850 Channel = 251)



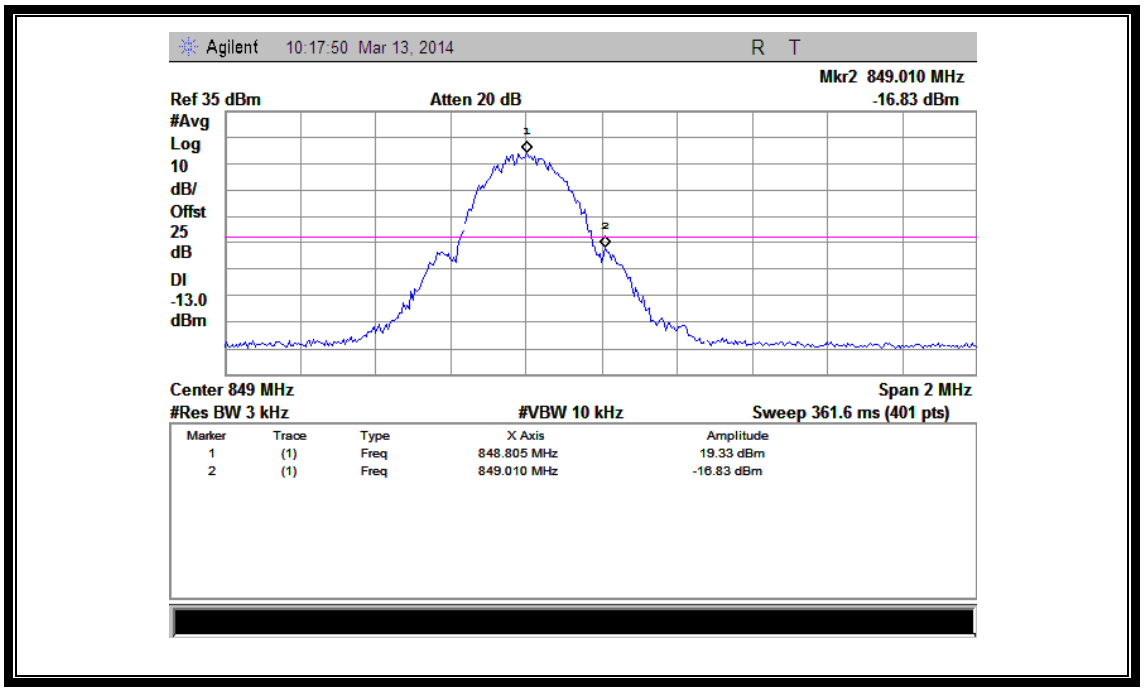
(Plot C: GSM 1900 Channel = 512)



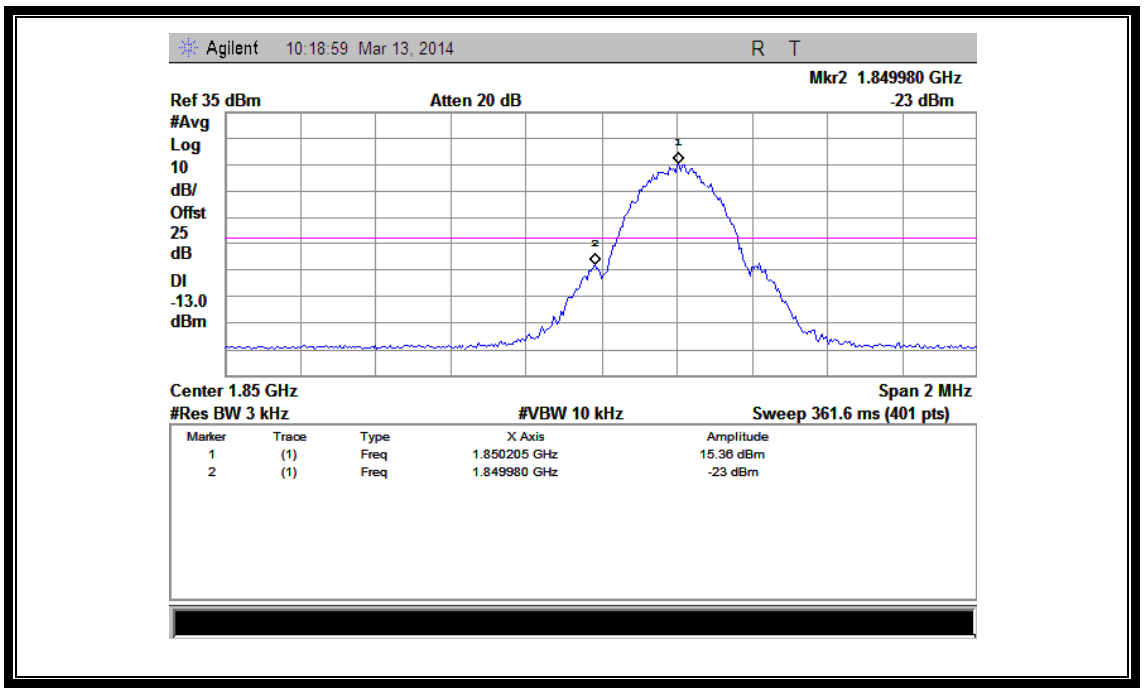
(Plot D: GSM 1900 Channel = 810)



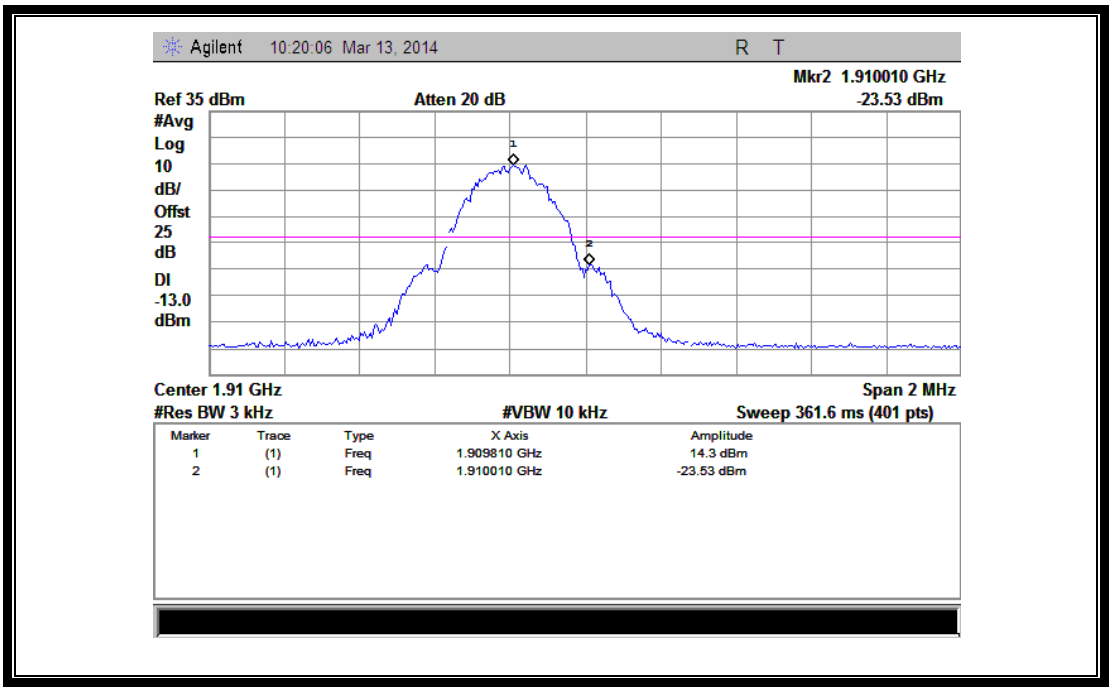
(Plot E: EGPRS 850 Channel = 128)



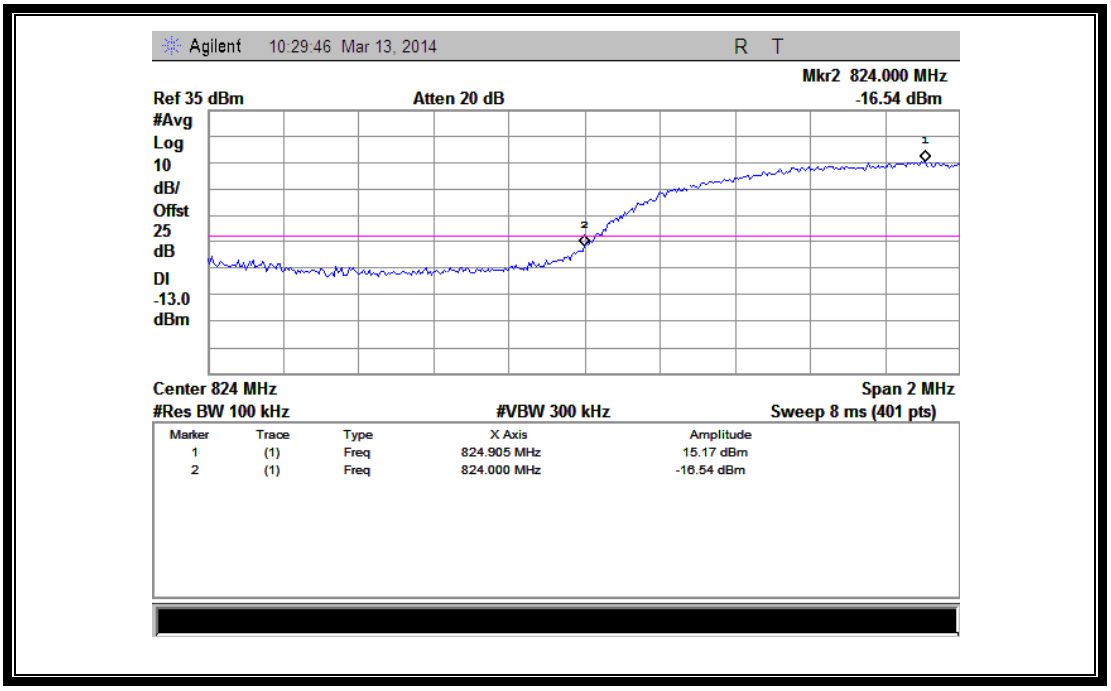
(Plot F: EGPRS 850 Channel = 251)



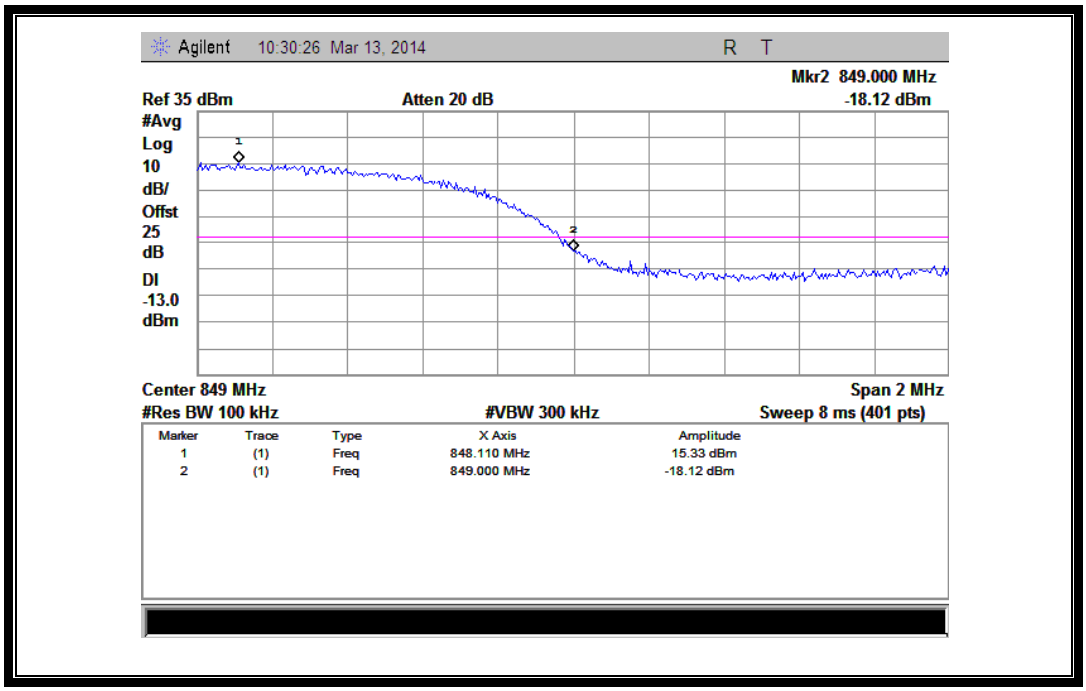
(Plot G: EGPRS 1900 Channel = 512)



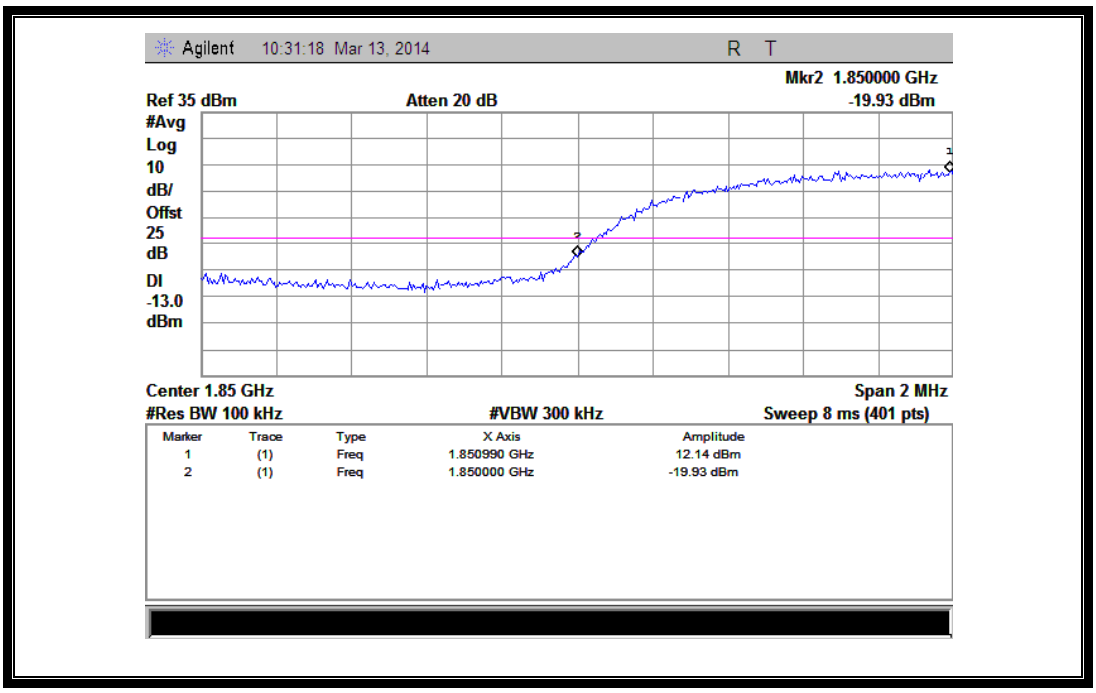
(Plot H: EGPRS 1900 Channel = 810)



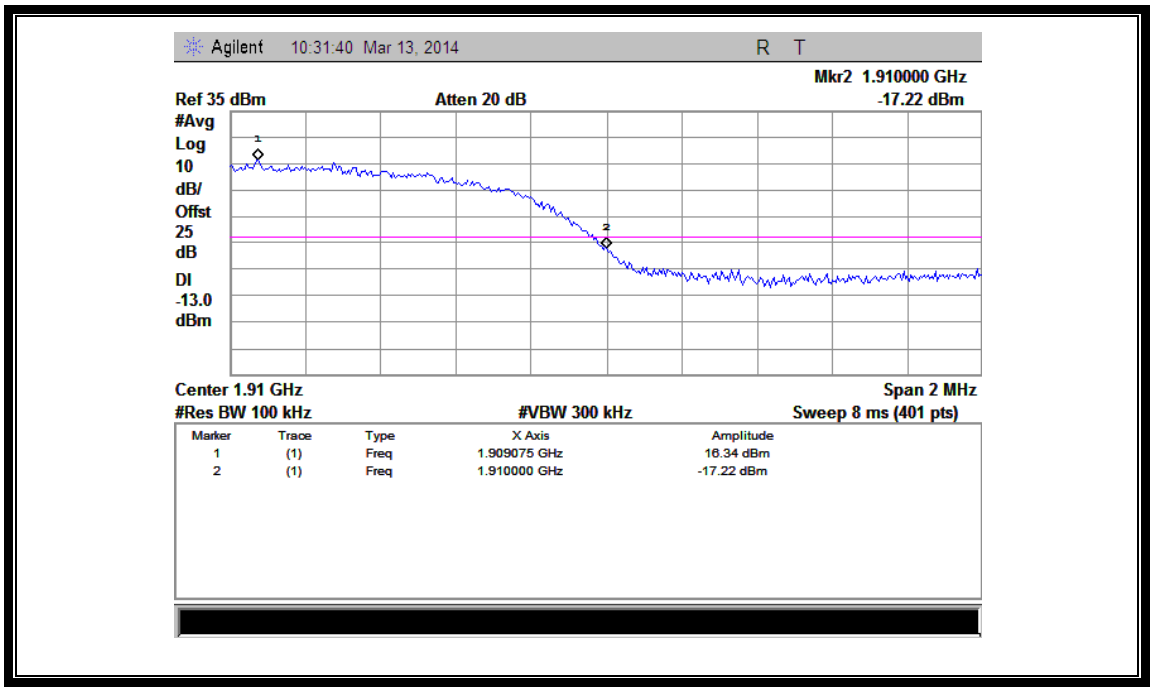
(Plot I: WCDMA 850 Channel = 4132)



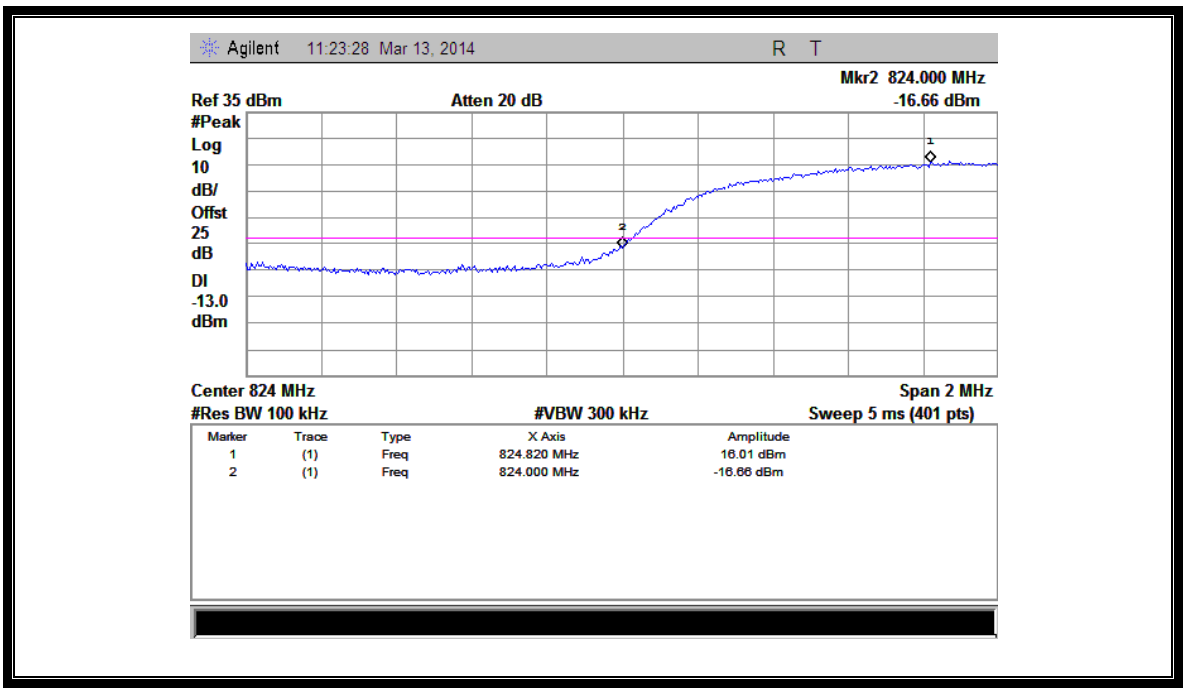
(Plot J: WCDMA 850 Channel = 4233)



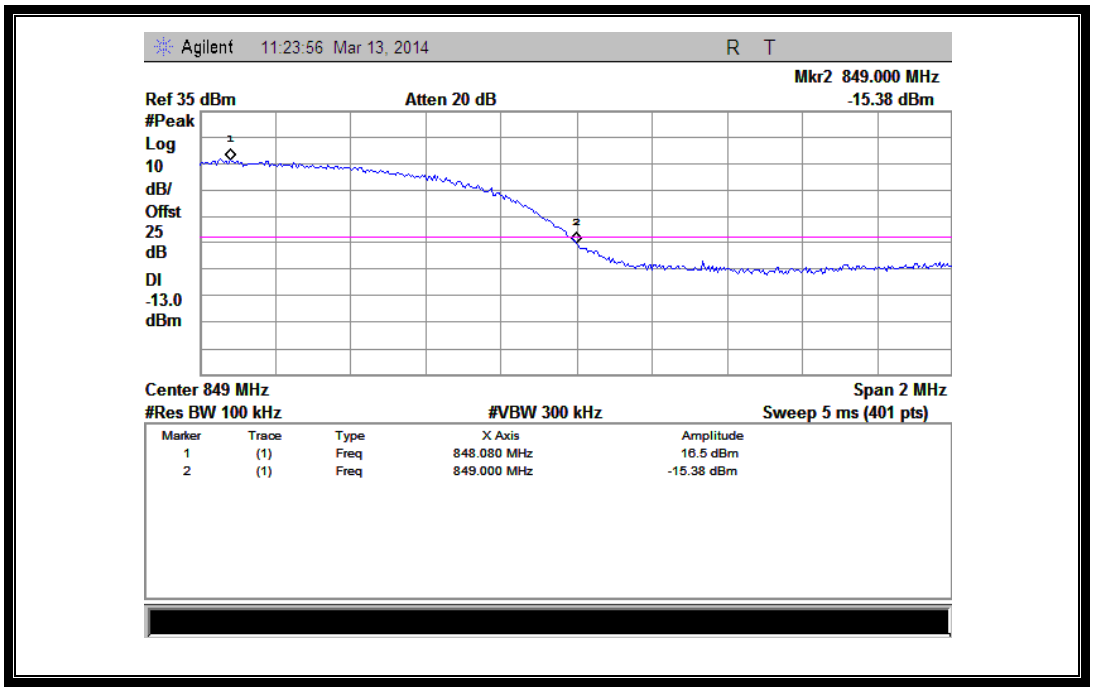
(Plot K: WCDMA 1900 Channel = 9262)



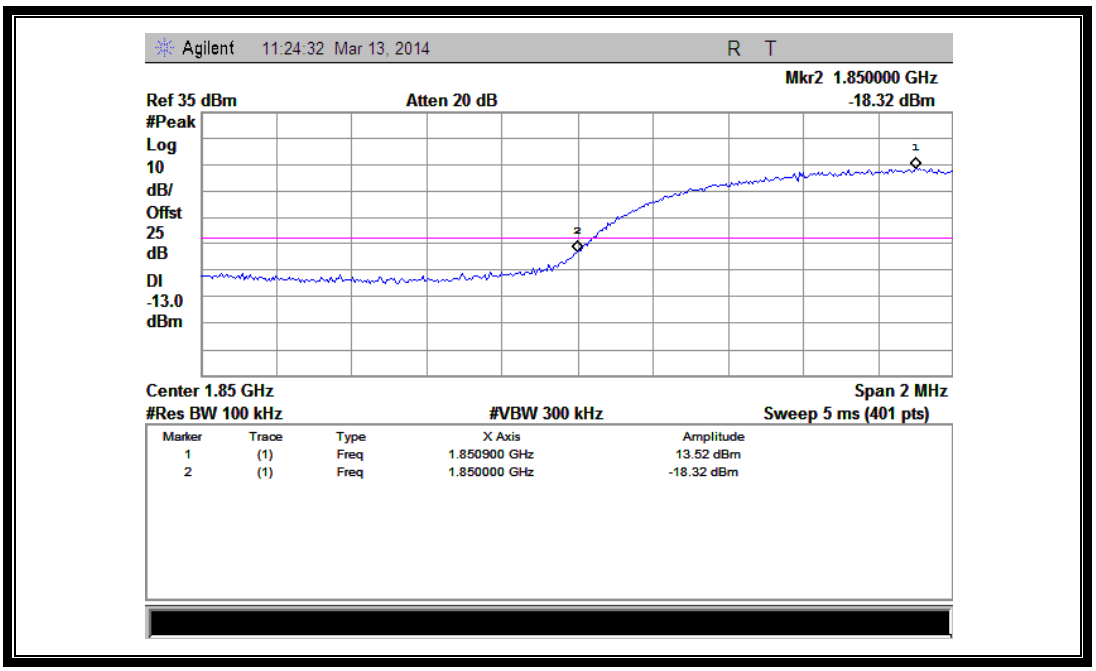
(Plot L: WCDMA 1900 Channel = 9538)



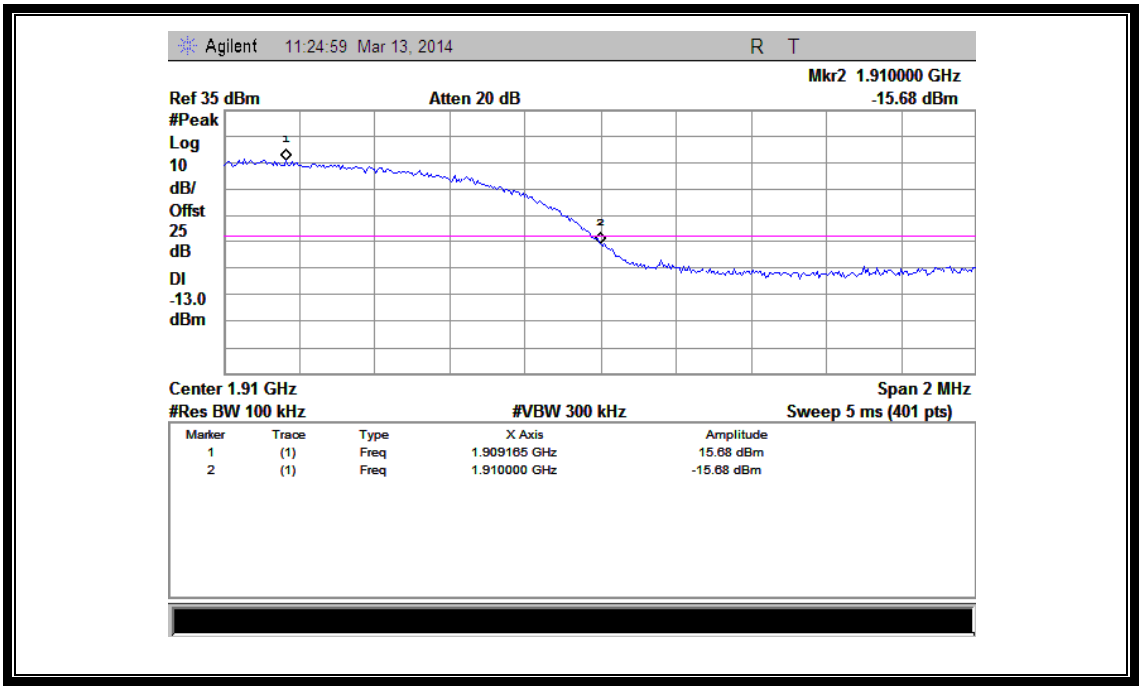
(Plot M: HSDPA 850 Channel = 4132)



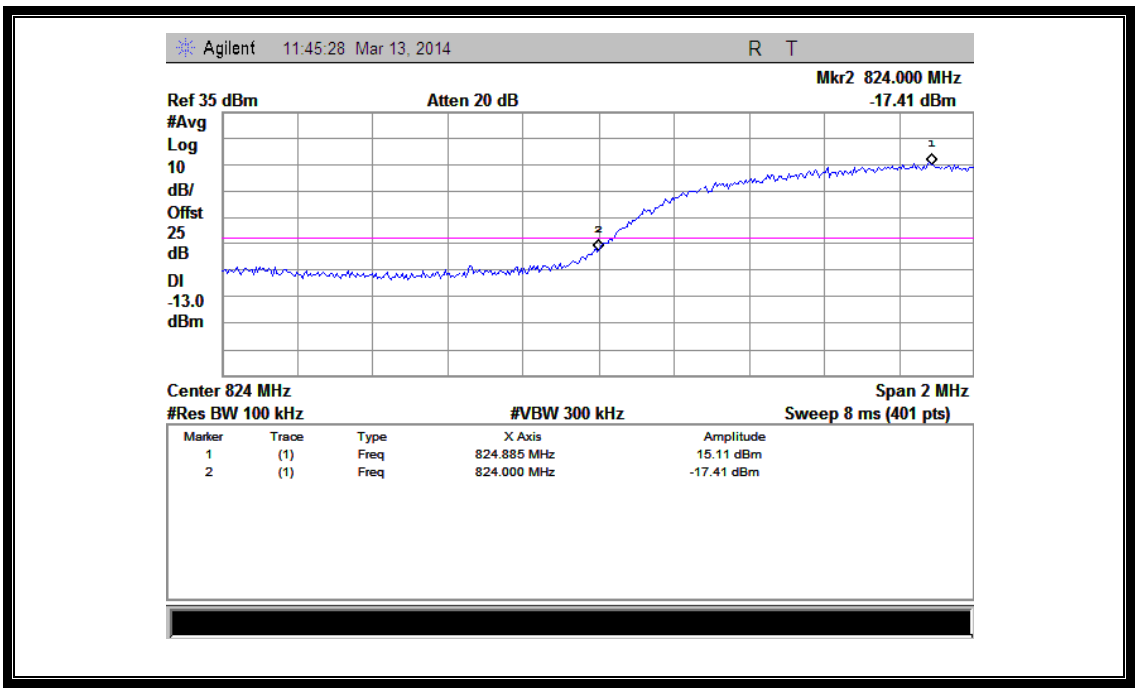
(Plot N: HSDPA850 Channel = 4233)



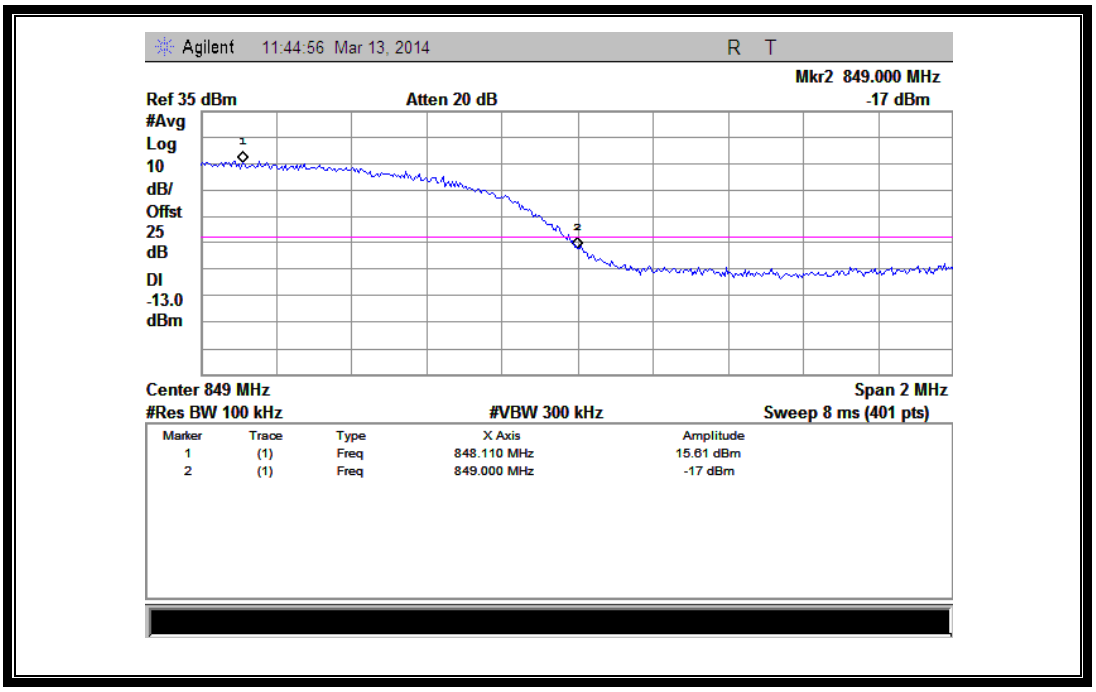
(Plot O: HSDPA 1900 Channel = 9262)



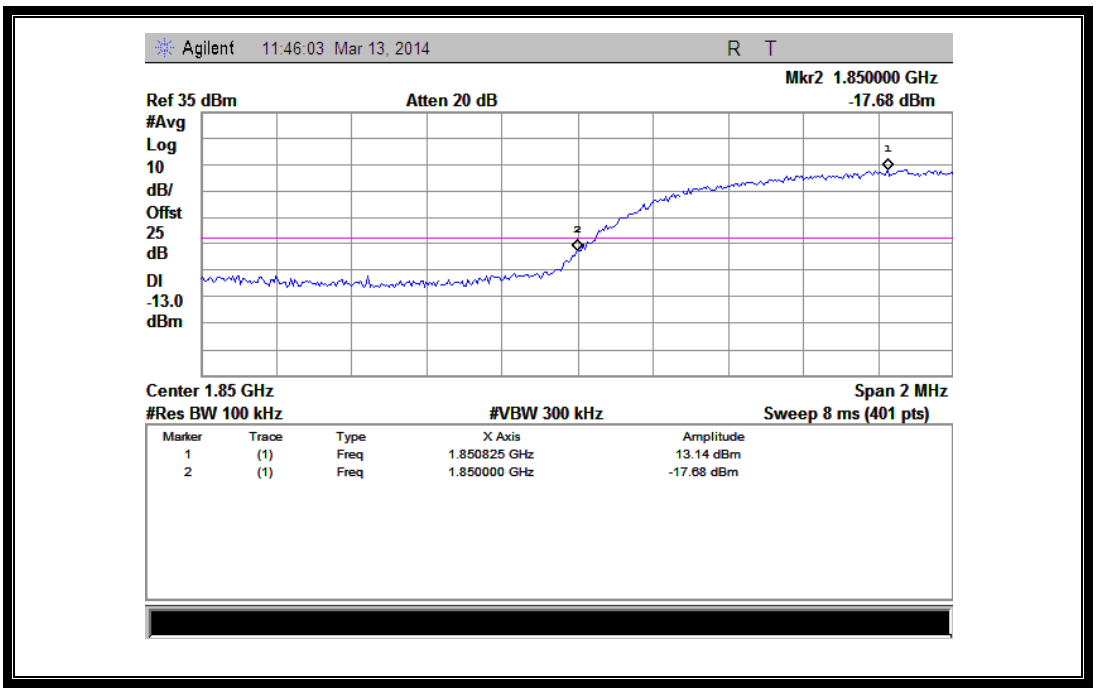
(Plot P: HSDPA 1900 Channel = 9538)



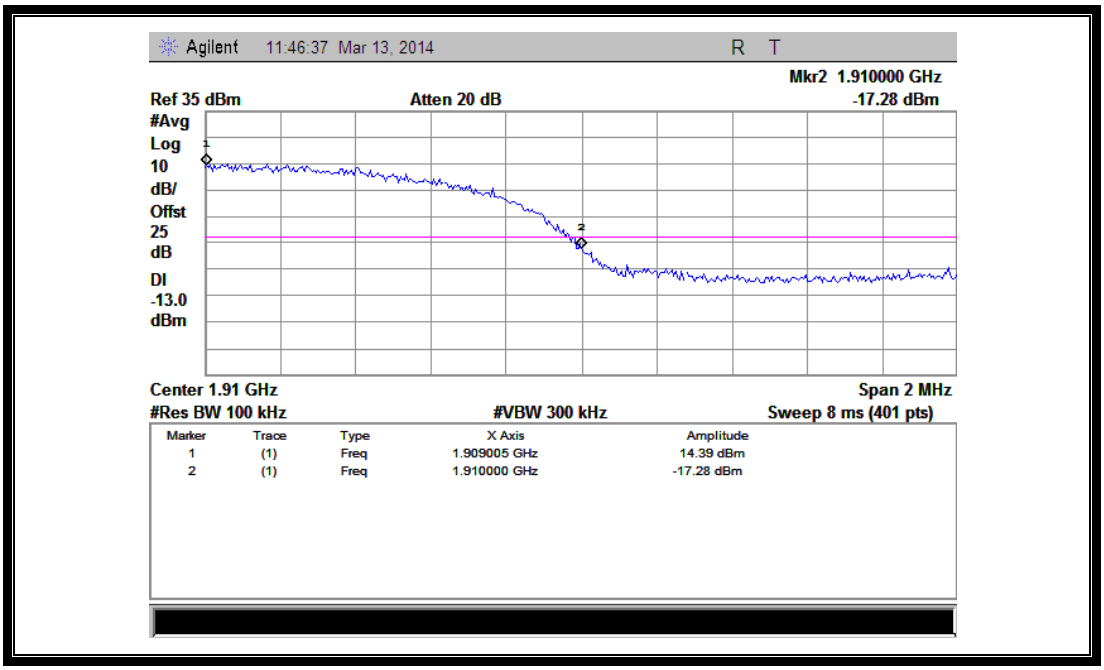
(Plot Q: HSUPA 850 Channel = 4132)



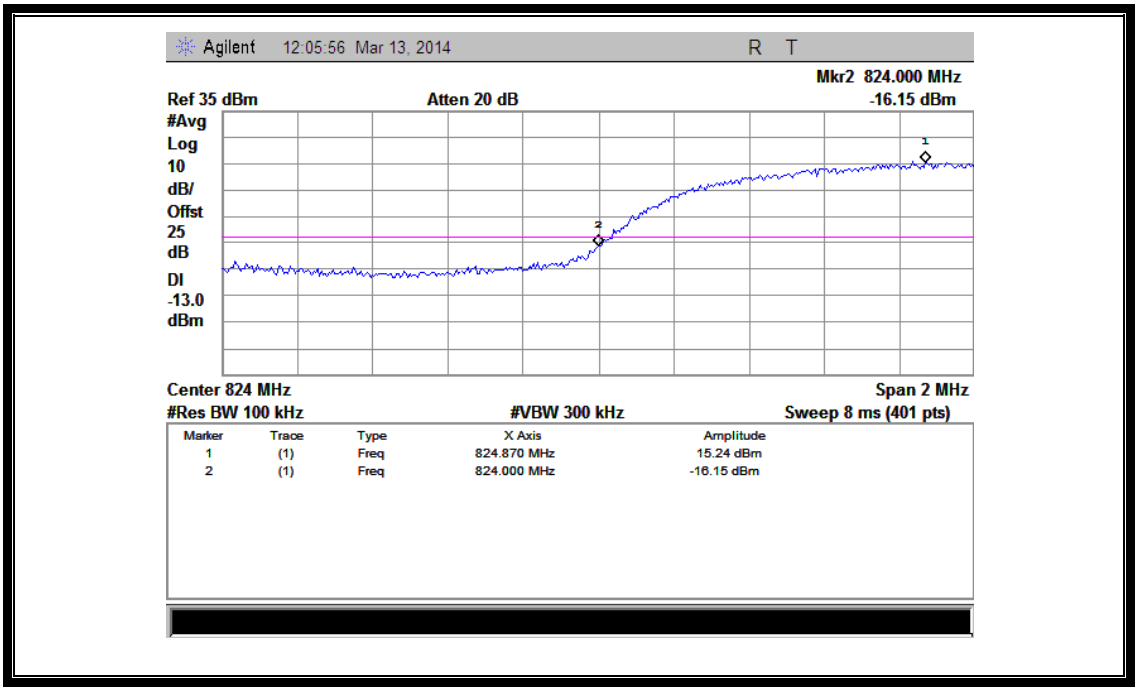
(Plot R: HSUPA850 Channel = 4233)



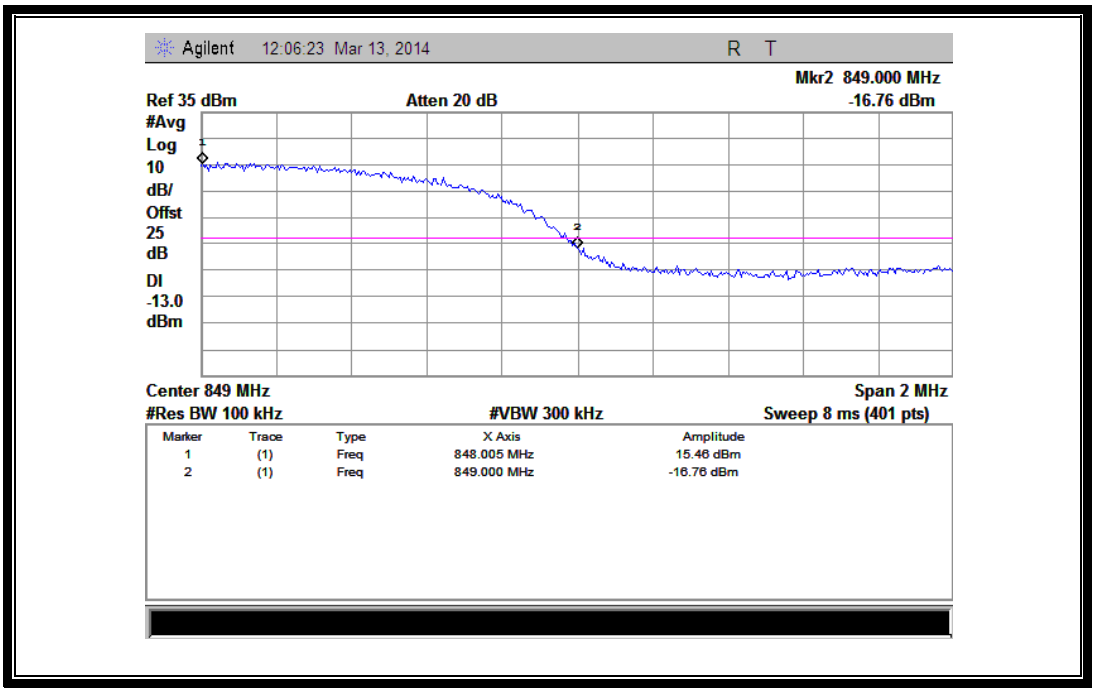
(Plot S: HSUPA 1900 Channel = 9262)



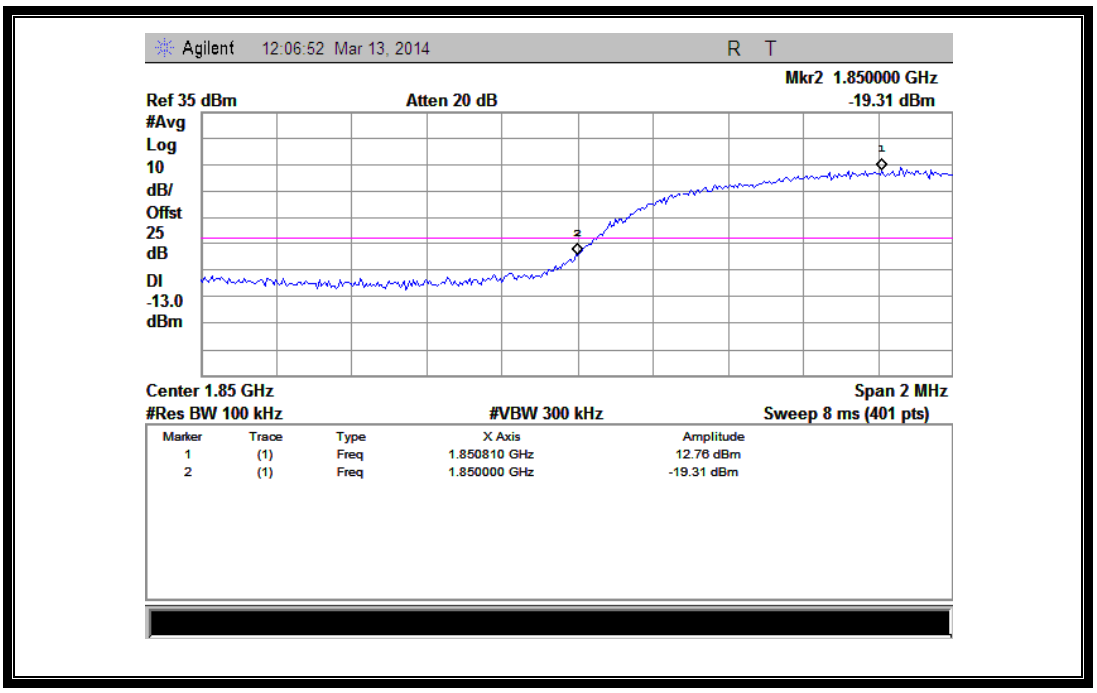
(Plot T: HSUPA 1900 Channel = 9538)



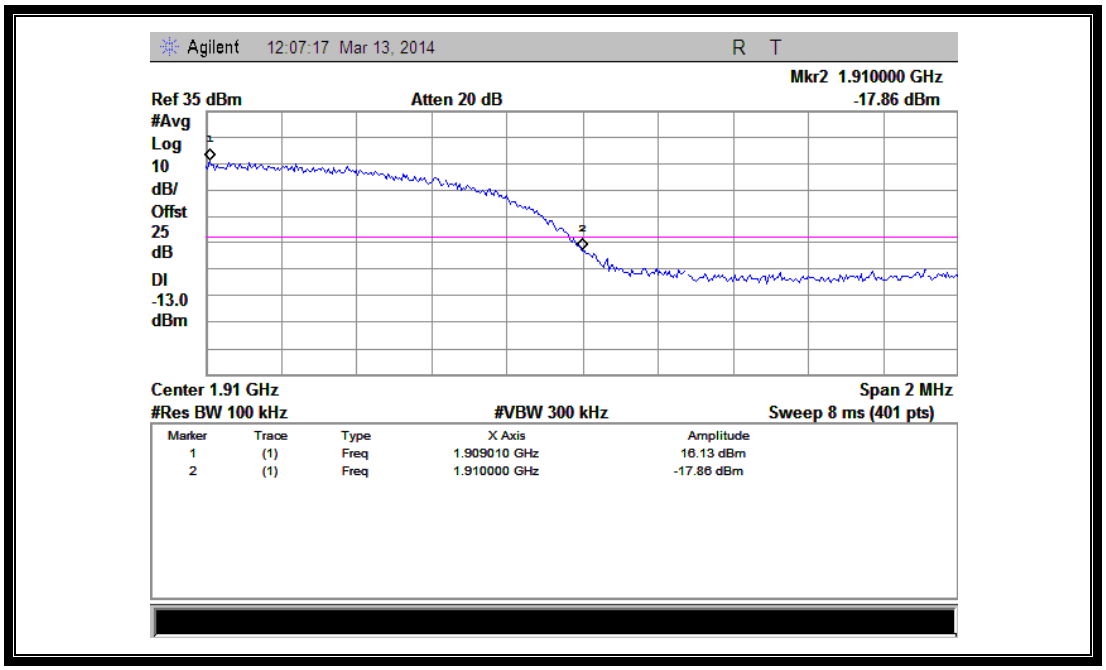
(Plot U: HSPA+ 850 Channel = 4132)



(Plot V: HSPA+ 850 Channel = 4233)



(Plot W: HSPA+ 1900 Channel = 9262)



(Plot X: HSPA+ 1900 Channel = 9538)

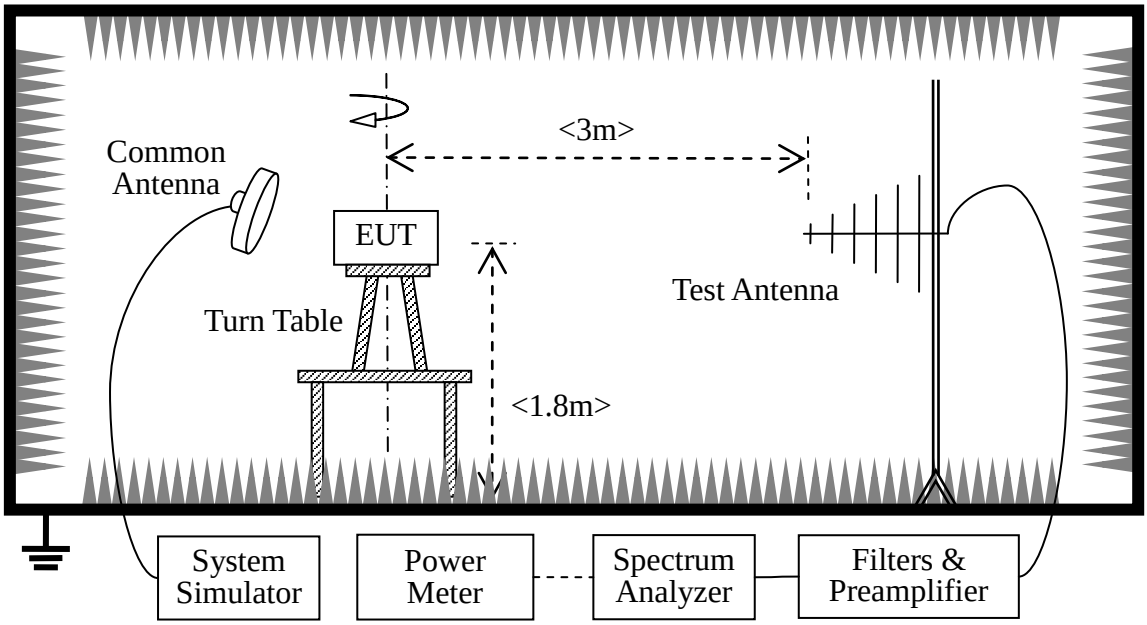
2.7 Transmitter Radiated Power (EIRP/ERP)

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

1. 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 33.15dBm, GSM 1900 30.46dBm, EGPRS 850 33.14dBm，EGPRS 1900 30.77,WCDMA 850 24.54dBm, WCDMA 1900 24.07 dBm, Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

- Minimum RF power: GSM 850 3.1dBm, GSM 1900 0.3dBm，EGPRS 850 3.1dBm, EGPRS 1900

0.21dBm ,WCDMA 850 0.39dBm ,WCDMA 1900 0.5dBm.

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.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2014.02.26	2015.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2014.02.26	2015.02.25
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2014.02.26	2015.02.25
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2014.02.26	2015.02.25
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2014.02.26	2015.02.25
Substitution Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2014.02.26	2015.02.25
Pre-AMPs	lucix	S10M100L3802	S020180L3203	2014.02.26	2015.02.25
Notch Filter	COM-MW	ZBSF-C836.5-25-X	NA	2014.02.26	2015.02.25
Notch Filter	COM-MW	ZBSF-C1747.5-75-X2	NA	2014.02.26	2015.02.25
Notch Filter	COM-MW	ZBSF-C1880-60-X2	NA	2014.02.26	2015.02.25

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}.

1. 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	31.04	1.271	Plot A	38.5	7	PASS
	190	836.60	5	31.21	1.321				PASS
	251	848.80	5	31.09	1.285				PASS
GPRS 850MHz	128	824.20	5	31.28	1.343	Plot B Note 1	38.5	7	PASS
	190	836.60	5	31.13	1.297				PASS
	251	848.80	5	31.11	1.291				PASS
EGPRS 850MHz	128	824.20	5	31.08	1.282	Plot C Note 1	38.5	7	PASS
	190	836.60	5	31.07	1.279				PASS
	251	848.80	5	31.03	1.268				PASS

Band	Channel	Frequency (MHz)	PCL	Measured EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 1900MHz	512	1850.2	0	28.04	0.637	Plot D	33	2	PASS
	661	1880.0	0	30.27	1.064				PASS
	810	1909.8	0	29.11	0.815				PASS
GPRS 1900MHz	512	1850.2	0	30.10	1.023	Plot E Note 1	33	2	PASS
	661	1880.0	0	30.28	1.067				PASS
	810	1909.8	0	29.81	0.957				PASS
EGPRS 1900MHz	512	1850.2	0	30.32	1.076	Plot F Note 1	33	2	PASS
	661	1880.0	0	30.20	1.047				PASS
	810	1909.8	0	29.71	0.935				PASS

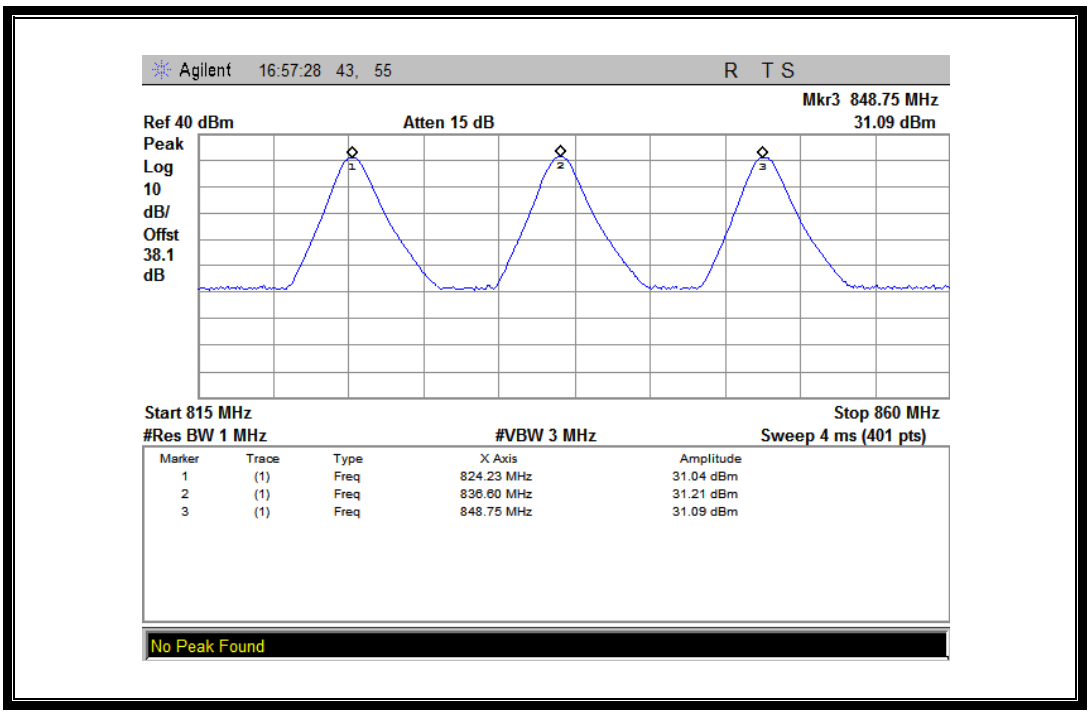
Note 1:	For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.

2. WCDMA Model Test Verdict:

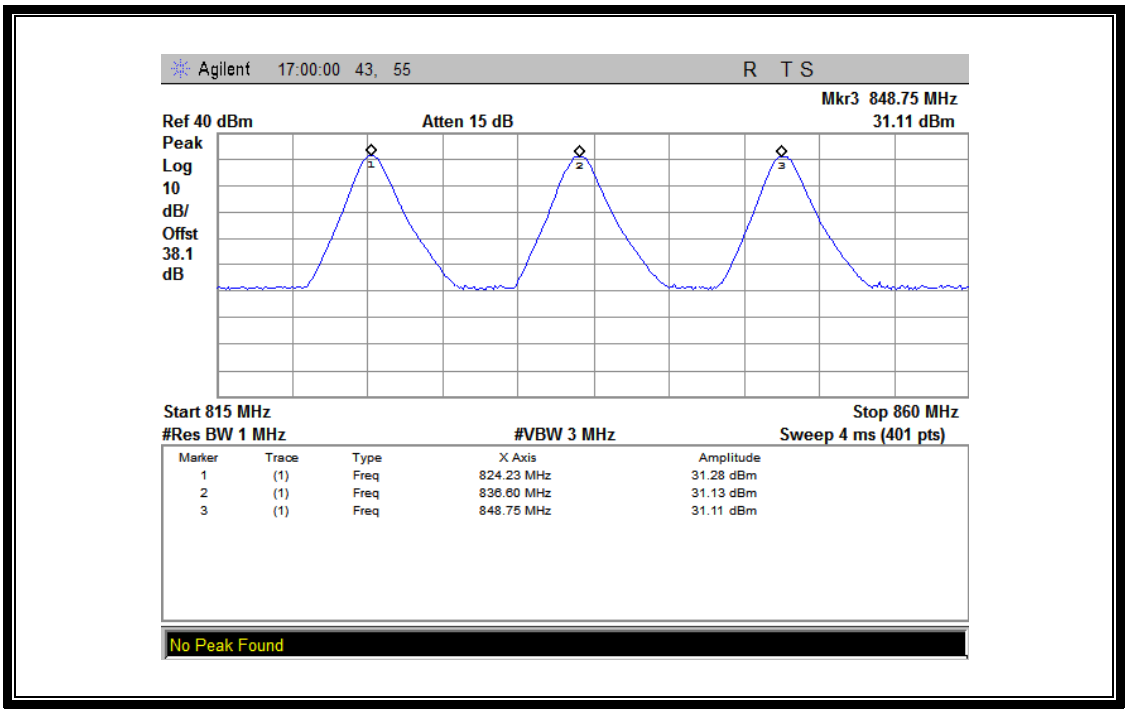
Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
WCDMA 850MHz	4132	826.4	27.52	0.565	Plot G	38.5	7	PASS
	4175	835	27.46	0.557				PASS
	4233	846.6	28.33	0.681				PASS
HSDPA 850MHz	4132	826.4	27.10	0.513	Plot H	38.5	7	PASS
	4175	835	27.26	0.532				PASS
	4233	846.6	27.35	0.543				PASS
HSUPA 850MHz	4132	826.4	27.14	0.518	Plot I	38.5	7	PASS
	4175	835	27.19	0.523				PASS
	4233	846.6	27.37	0.546				PASS
HSPA+ 850MHz	4132	826.4	27.23	0.528	Plot J	38.5	7	PASS
	4175	835	27.18	0.522				PASS
	4233	846.6	27.14	0.518				PASS

Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W		dBm	W	
WCDMA 1900MHz	9262	1852.4	27.17	0.521	Plot K	33	2	PASS
	9400	1880	26.45	0.441				PASS
	9538	1907.6	27.40	0.550				PASS
HSDPA 1900MHz	9262	1852.4	26.85	0.484	Plot L	33	2	PASS
	9400	1880	26.49	0.446				PASS
	9538	1907.6	27.34	0.542				PASS
HSUPA 1900MHz	9262	1852.4	27.12	0.515	Plot M	33	2	PASS
	9400	1880	26.40	0.437				PASS
	9538	1907.6	27.43	0.553				PASS
HSPA+ 1900MHz	9262	1852.4	26.89	0.489	Plot N	33	2	PASS
	9400	1880	26.54	0.451				PASS
	9538	1907.6	27.35	0.543				PASS

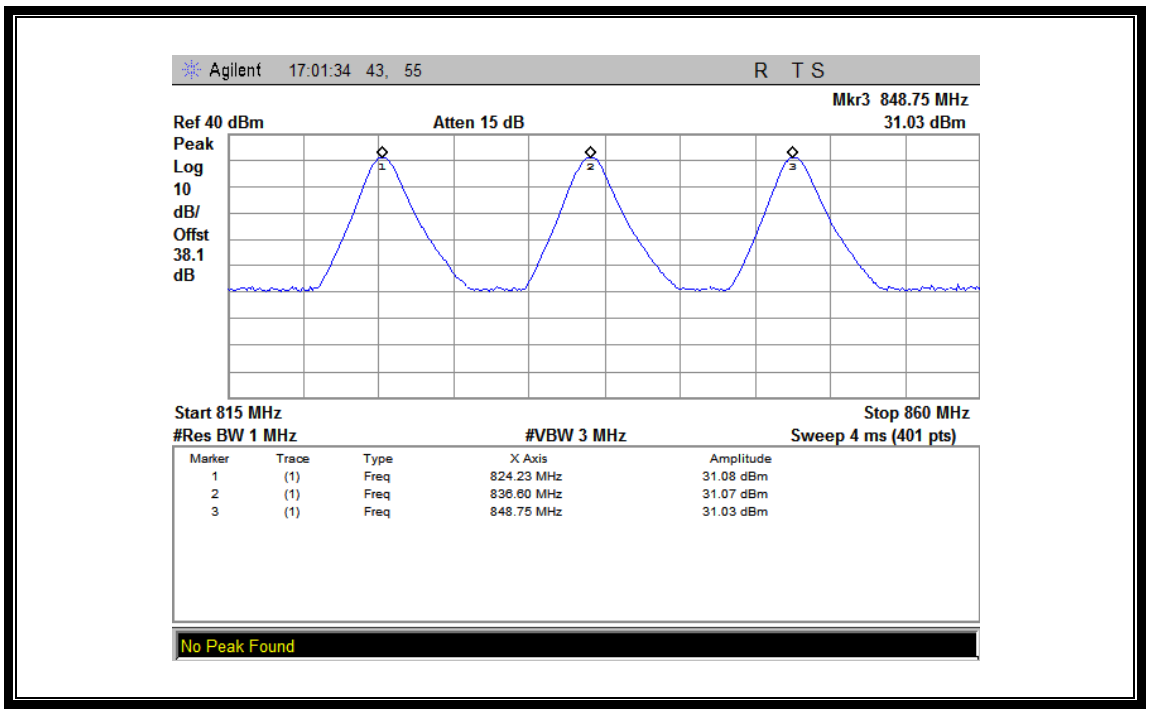
3. Test Plots:



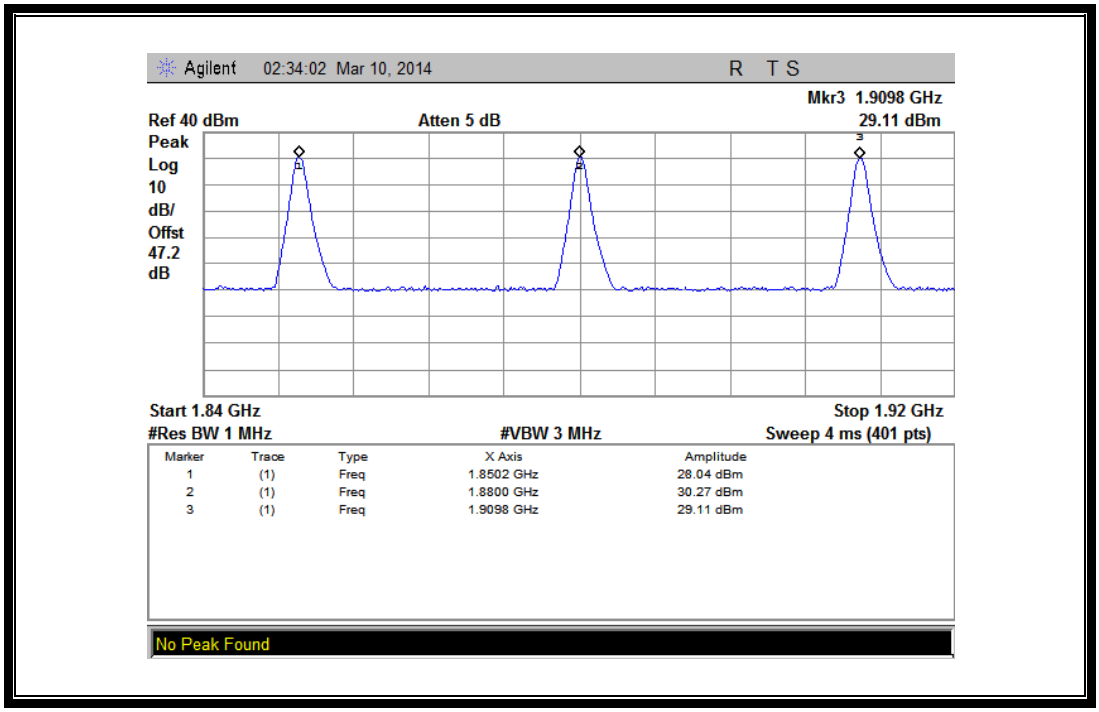
(Plot A: GSM 850MHz Channel = 128, 190, 251)



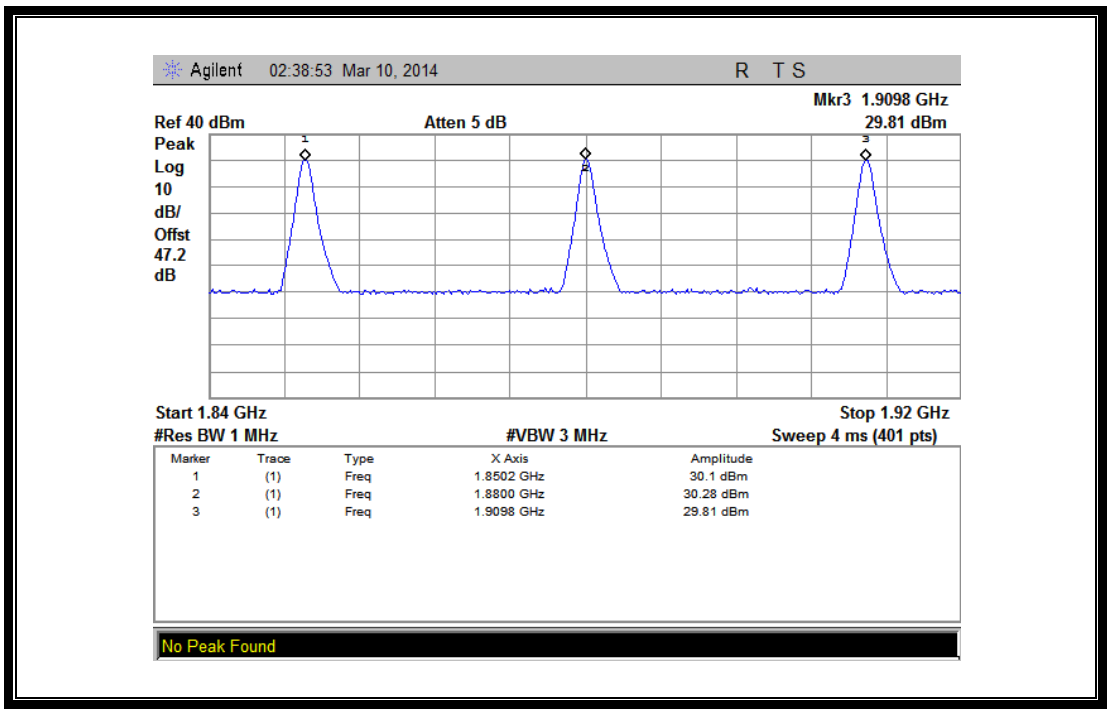
(Plot B: GPRS 850MHz Channel = 128, 190, 251)



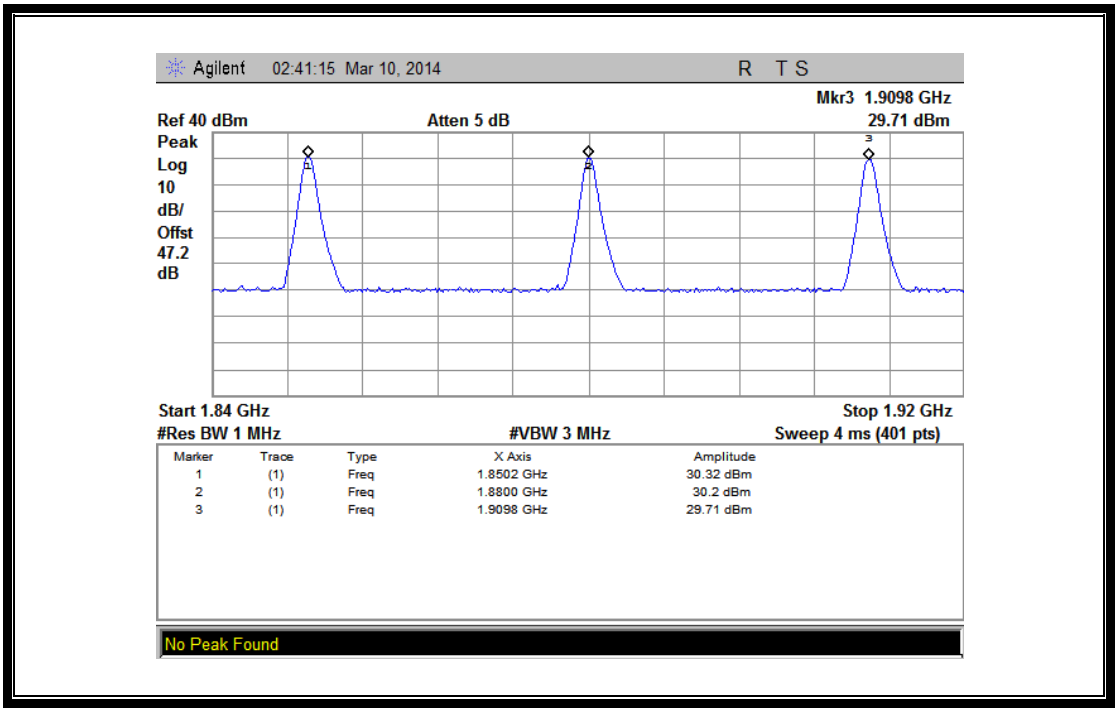
(Plot C: EGPRS 850MHz Channel = 128, 190, 251)



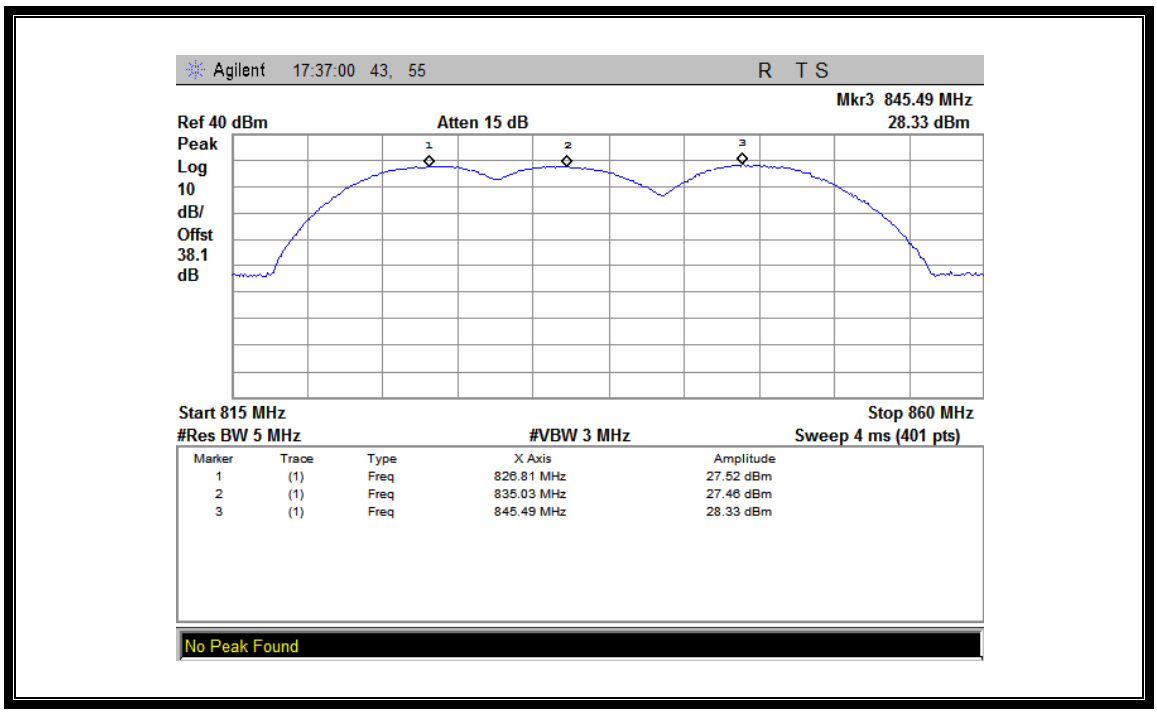
(Plot D: GSM 1900MHz Channel = 512, 661, 810)



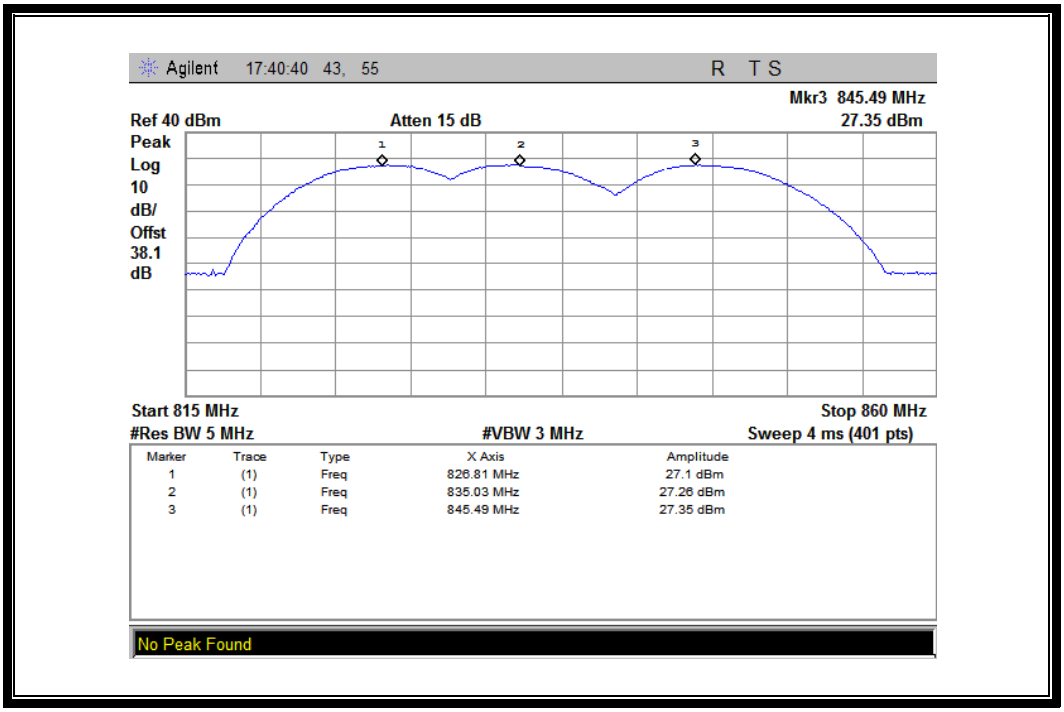
(Plot E: GPRS 1900MHz Channel = 512, 661, 810)



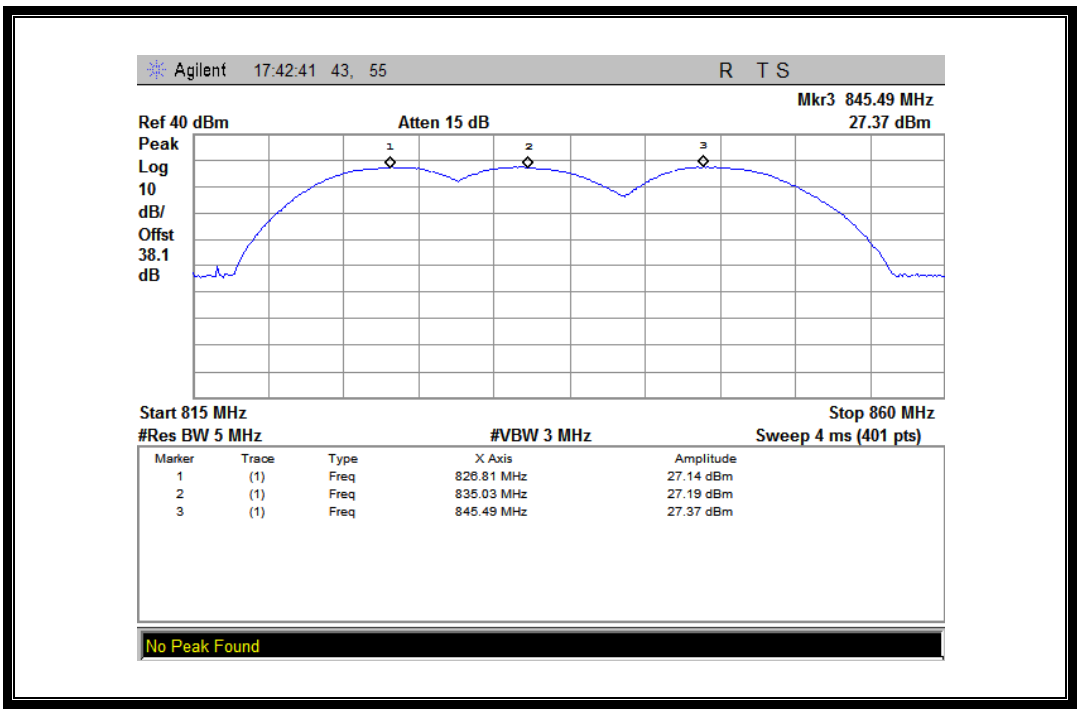
(Plot F: EGPRS 1900MHz Channel = 512, 661, 810)



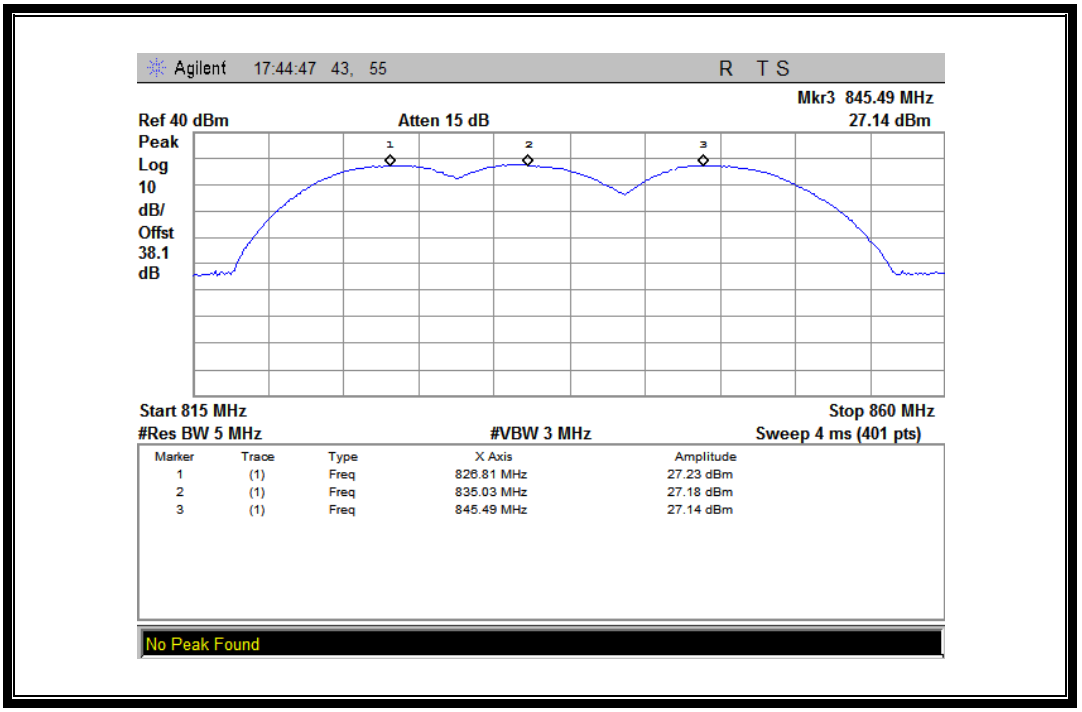
(Plot G: WCDMA 850 MHz Channel = 4132, 4175, 4233)



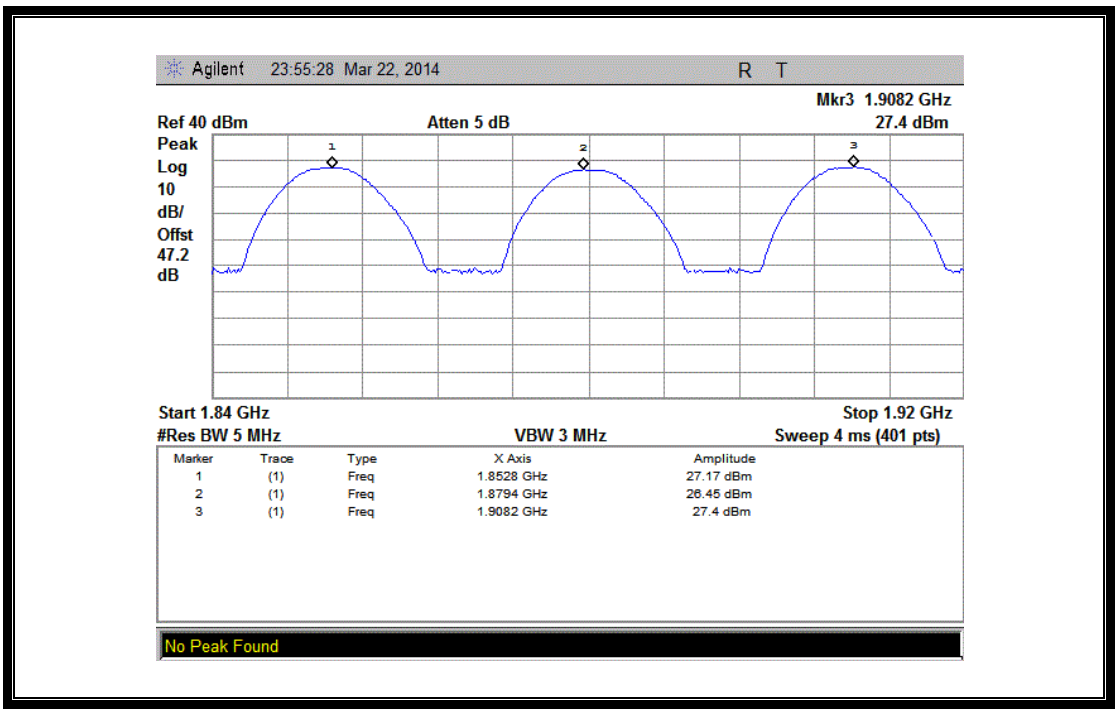
(Plot H: HSDPA 850 MHz Channel = 4132, 4175, 4233)



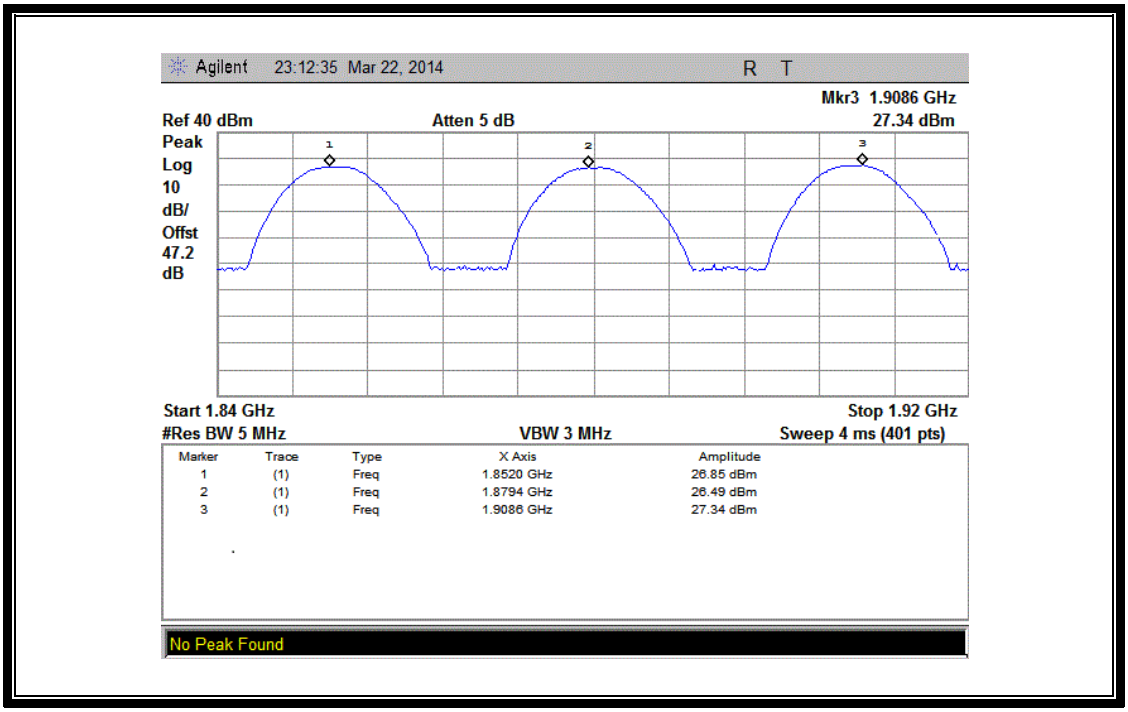
(Plot I: HSUPA 850 MHz Channel = 4132, 4175, 4233)



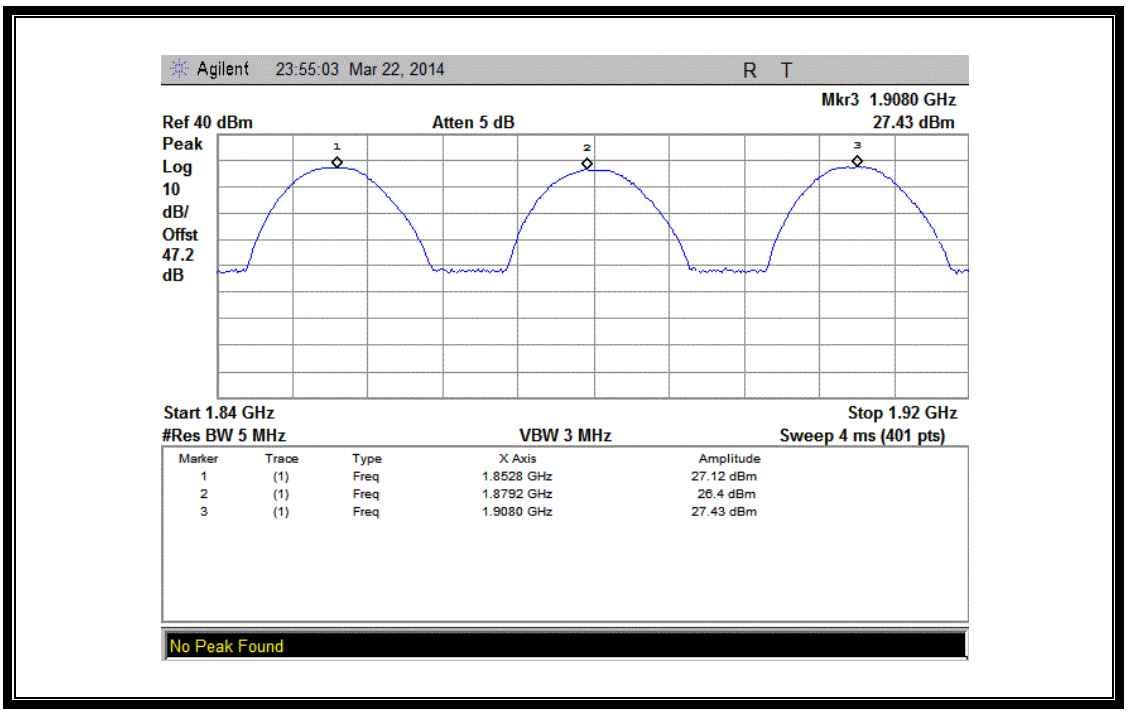
(Plot J: HSPA+ 850 MHz Channel = 4132, 4175, 4233)



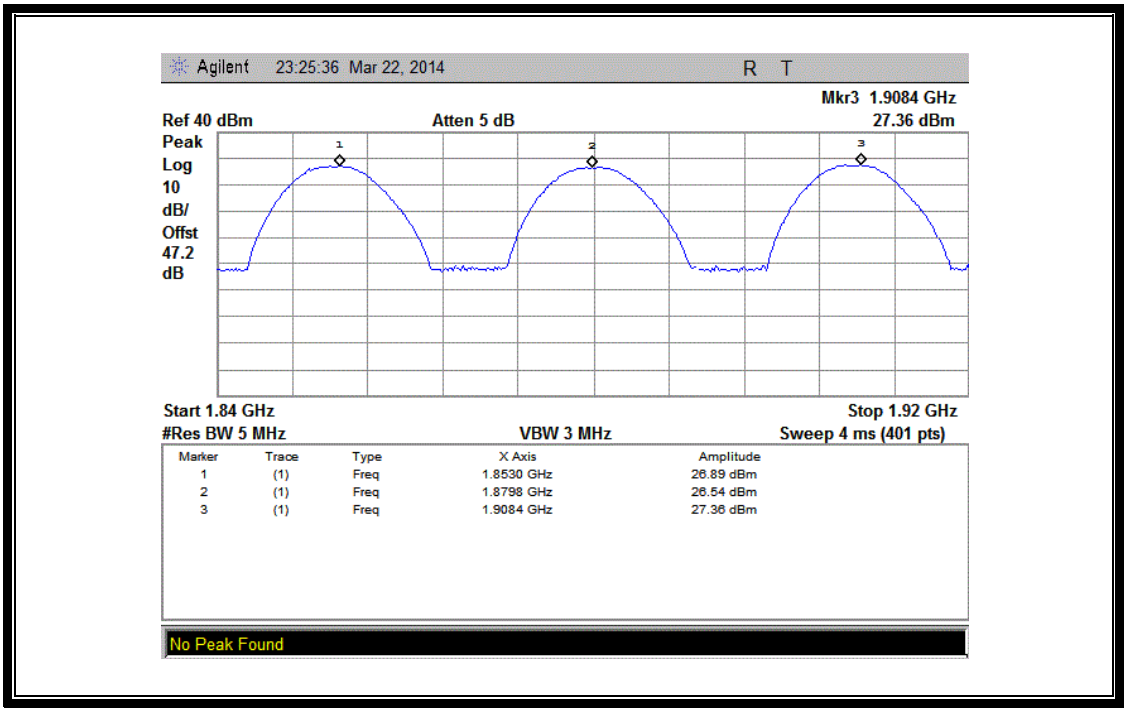
(Plot K: WCDMA 1900 MHz Channel = 9262, 9400, 9538)



(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	2014.02.26	2015.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2014.02.26	2015.02.25
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2014.02.26	2015.02.25
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2014.02.26	2015.02.25
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2014.02.26	2015.02.25
Substitution Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2014.02.26	2015.02.25
Pre-AMPs	lucix	S10M100L3802	S020180L3203	2014.02.26	2015.02.25
Notch Filter	COM-MW	ZBSF-C836.5-25-X	NA	2014.02.26	2015.02.25
Notch Filter	COM-MW	ZBSF-C1747.5-75-X2	NA	2014.02.26	2015.02.25
Notch Filter	COM-MW	ZBSF-C1880-60-X2	NA	2014.02.26	2015.02.25

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:

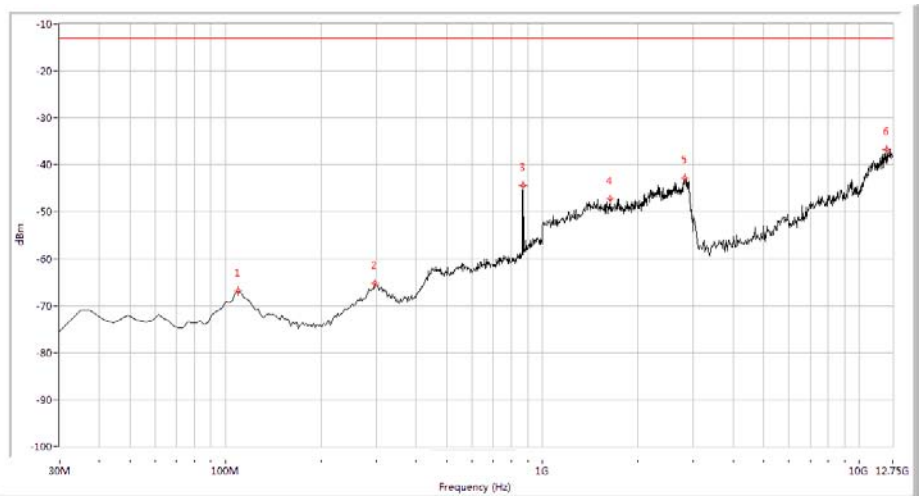
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
GSM 850MHz	128	824.2	< -25	< -25	Plot A.1/A.2	-13	PASS
	190	836.6	< -25	< -25	Plot A.3/A.4		PASS
	251	848.8	< -25	< -25	Plot A.5/A.6		PASS
GSM 1900MHz	512	1850.2	< -25	< -25	Plot B.1/B.2	-13	PASS
	661	1880.0	< -25	< -25	Plot B.3/B.4		PASS
	810	1909.8	< -25	< -25	Plot B.5/B.6		PASS
EDGE 850MHz	128	824.2	< -25	< -25	Plot C.1/C.2	-13	PASS
	190	836.6	< -25	< -25	Plot C.3/C.4		PASS
	251	848.8	< -25	< -25	Plot C.5/C.6		PASS
EDGE 1900MHz	512	1850.2	< -25	< -25	Plot D.1/D.2	-13	PASS
	661	1880.0	< -25	< -25	Plot D.3/D.4		PASS
	810	1909.8	< -25	< -25	Plot D.5/D.6		PASS
WCDMA 850MHz	4132	826.4	< -25	< -25	Plot E.1/E.2	-13	PASS
	4175	835	< -25	< -25	Plot E.3/E.4		PASS
	4233	846.6	< -25	< -25	Plot E.5/E.6		PASS
WCDMA 1900MHz	9262	1852.4	< -25	< -25	Plot F.1/F.2	-13	PASS
	9400	1880	< -25	< -25	Plot F.3/F.4		PASS
	9538	1907.6	< -25	< -25	Plot F.5/F.6		PASS
HSDPA 850MHz	4132	826.4	< -25	< -25	Plot G.1/G.2	-13	PASS
	4175	835	< -25	< -25	Plot G.3/G.4		PASS
	4233	846.6	< -25	< -25	Plot G.5/G.6		PASS
HSDPA 1900MHz	9262	1852.4	< -25	< -25	Plot H.1/H.2	-13	PASS
	9400	1880	< -25	< -25	Plot H.3/H.4		PASS
	9538	1907.6	< -25	< -25	Plot H.5/H.6		PASS
HSUPA 850MHz	4132	826.4	< -25	< -25	Plot I.1/I.2	-13	PASS
	4175	835	< -25	< -25	Plot I.3/I.4		PASS
	4233	846.6	< -25	< -25	Plot I.5/I.6		PASS
HSUPA 1900MHz	9262	1852.4	< -25	< -25	Plot J.1/J.2	-13	PASS
	9400	1880	< -25	< -25	Plot J.3/J.4		PASS
	9538	1907.6	< -25	< -25	Plot J.5/J.6		PASS
HSPA+ 850MHz	4132	826.4	< -25	< -25	Plot K.1/K.2	-13	PASS
	4175	835	< -25	< -25	Plot K.3/K.4		PASS
	4233	846.6	< -25	< -25	Plot K.5/K.6		PASS
HSPA+ 1900MHz	9262	1852.4	< -25	< -25	Plot L.1/L.2	-13	PASS
	9400	1880	< -25	< -25	Plot L.3/L.4		PASS

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
	9538	1907.6	< -25	< -25	Plot L.5/L.6		PASS

2. Test Plots for the Whole Measurement Frequency Range:

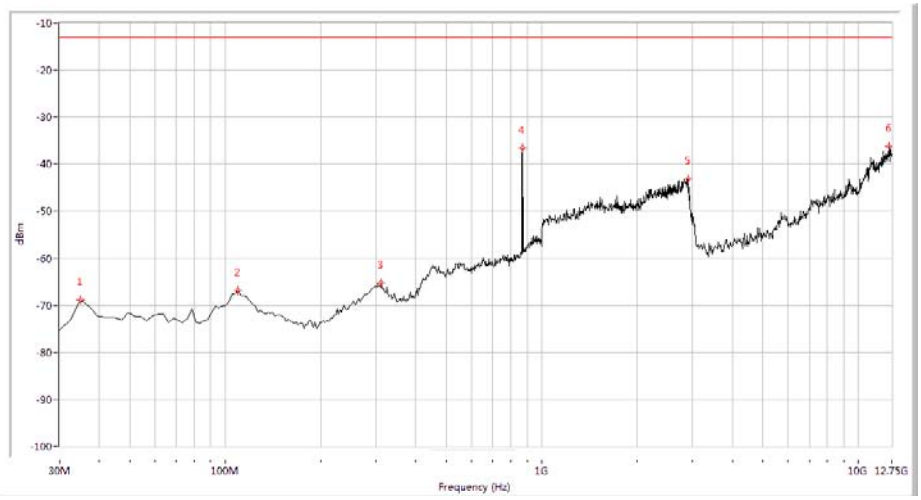
Note1: the power of the EUT transmitting frequency should be ignored.

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.



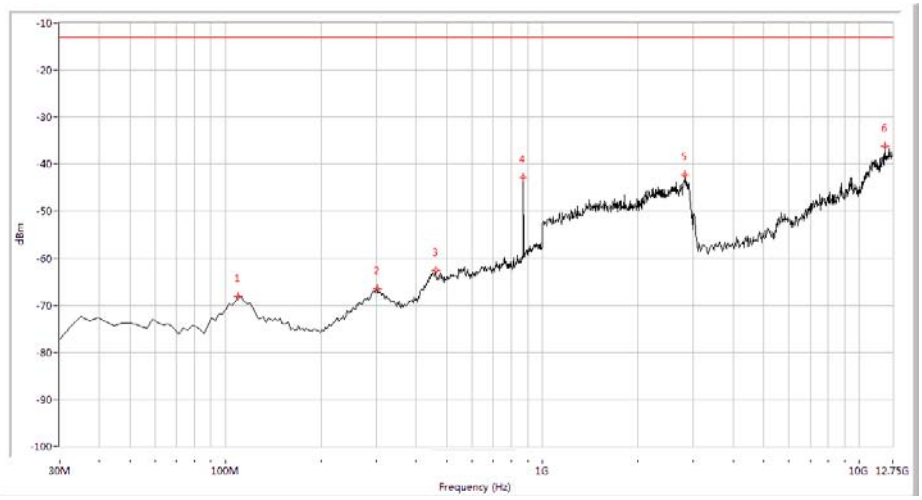
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-66.87	-13.0	53.9	333.9	Horizontal	PASS
296.085	-65.26	-13.0	52.3	246.5	Horizontal	PASS
871.796	-44.35	-13.0	31.3	69.4	Horizontal	PASS
1633.416	-47.31	-13.0	34.3	225.3	Horizontal	PASS
2815.461	-42.71	-13.0	29.7	49.6	Horizontal	PASS
12190.773	-36.74	-13.0	23.7	303.3	Horizontal	PASS

(Plot A.1: GSM 850MHz Channel = 128, Test Antenna Horizontal)



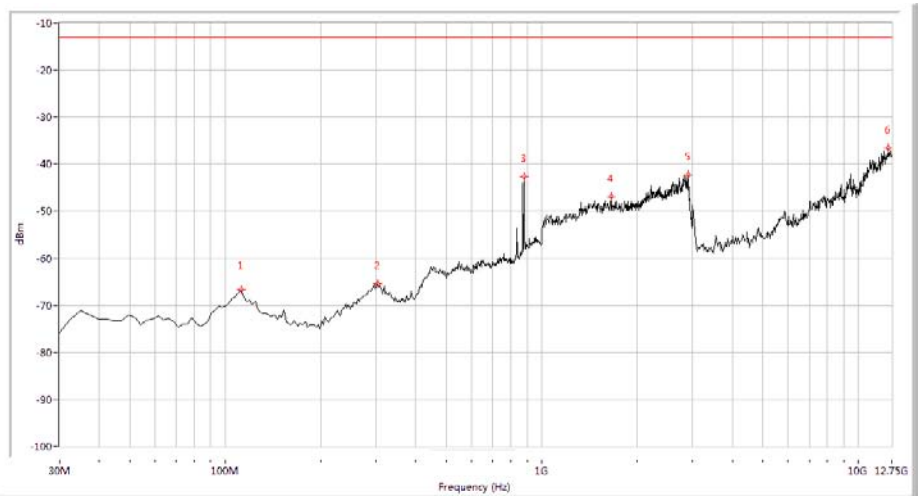
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-68.90	-13.0	55.9	216.5	Vertical	PASS
109.825	-66.84	-13.0	53.8	172.0	Vertical	PASS
310.599	-65.30	-13.0	52.3	239.3	Vertical	PASS
871.796	-36.47	-13.0	23.5	272.7	Vertical	PASS
2905.237	-43.12	-13.0	30.1	68.1	Vertical	PASS
12482.544	-36.18	-13.0	23.2	285.3	Vertical	PASS

(Plot A.2: GSM 850MHz Channel = 128, Test Antenna Vertical)



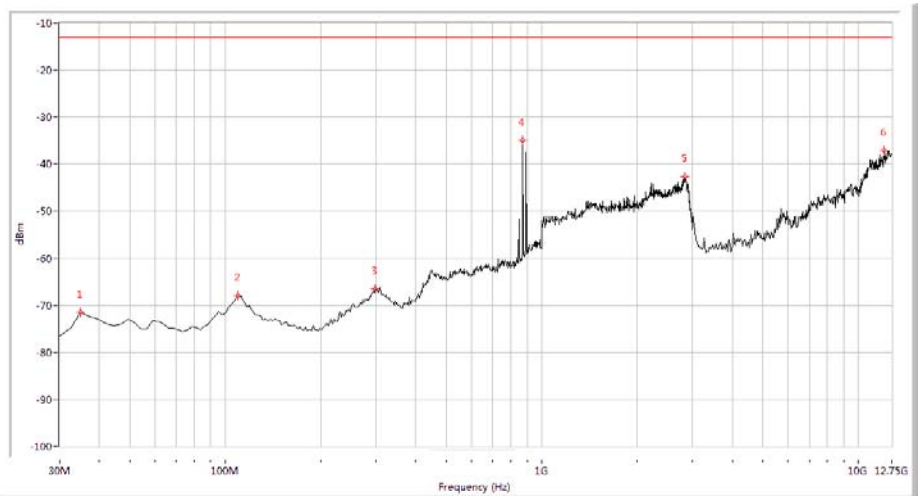
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.08	-13.0	55.1	1.2	Horizontal	PASS
300.923	-66.45	-13.0	53.5	36.6	Horizontal	PASS
460.574	-62.57	-13.0	49.6	23.9	Horizontal	PASS
871.796	-42.72	-13.0	29.7	265.9	Horizontal	PASS
2820.449	-42.18	-13.0	29.2	263.1	Horizontal	PASS
12044.888	-36.26	-13.0	23.3	133.2	Horizontal	PASS

(Plot A.3: GSM 850MHz Channel = 190, Test Antenna Horizontal)



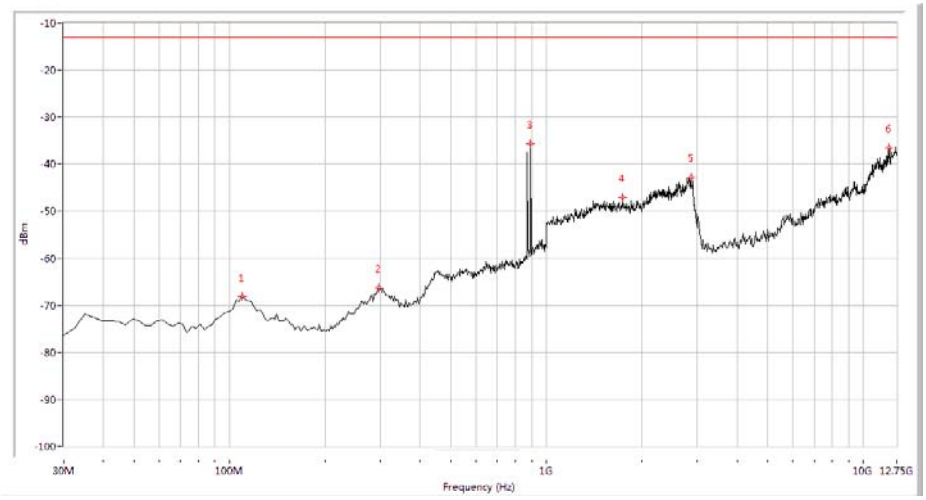
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-66.72	-13.0	53.7	235.3	Vertical	PASS
303.342	-65.36	-13.0	52.4	235.3	Vertical	PASS
879.052	-42.62	-13.0	29.6	359.2	Vertical	PASS
1653.367	-46.82	-13.0	33.8	21.2	Vertical	PASS
2895.262	-42.25	-13.0	29.3	201.4	Vertical	PASS
12458.229	-36.48	-13.0	23.5	139.9	Vertical	PASS

(Plot A.4: GSM 850MHz Channel = 190, Test Antenna Vertical)



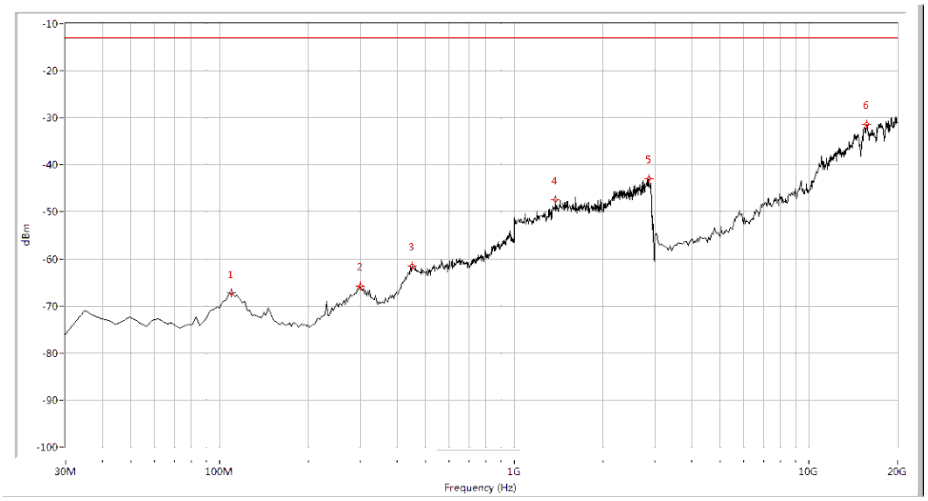
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-71.42	-13.0	58.4	360.0	Horizontal	PASS
109.825	-67.91	-13.0	54.9	305.7	Horizontal	PASS
298.504	-66.48	-13.0	53.5	294.9	Horizontal	PASS
871.796	-34.94	-13.0	21.9	54.5	Horizontal	PASS
2830.424	-42.69	-13.0	29.7	7.9	Horizontal	PASS
12044.888	-37.11	-13.0	24.1	358.3	Horizontal	PASS

(Plot A.5: GSM 850MHz Channel = 251, Test Antenna Horizontal)



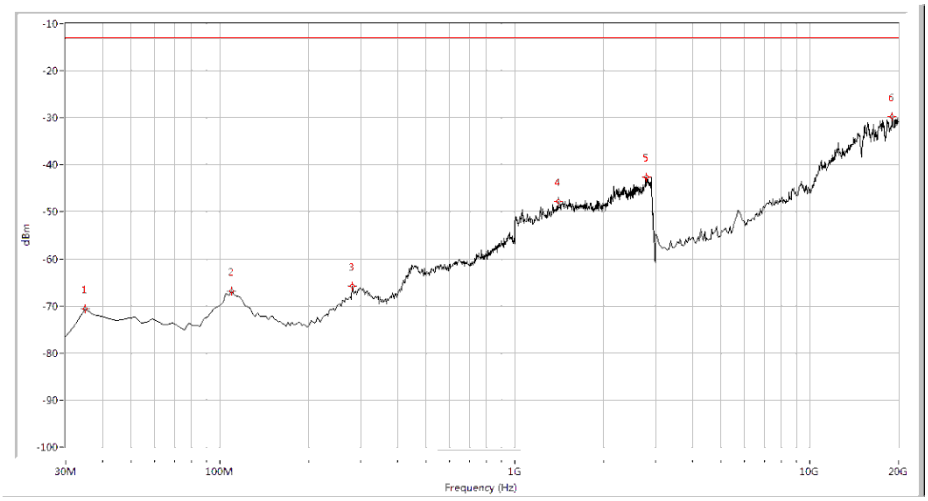
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.16	-13.0	55.2	156.3	Vertical	PASS
296.085	-66.40	-13.0	53.4	27.0	Vertical	PASS
891.147	-35.68	-13.0	22.7	81.2	Vertical	PASS
1743.142	-47.14	-13.0	34.1	234.9	Vertical	PASS
2860.349	-42.80	-13.0	29.8	339.5	Vertical	PASS
12044.888	-36.47	-13.0	23.5	8.8	Vertical	PASS

(Plot A.6: GSM 850MHz Channel = 251, Test Antenna Vertical)



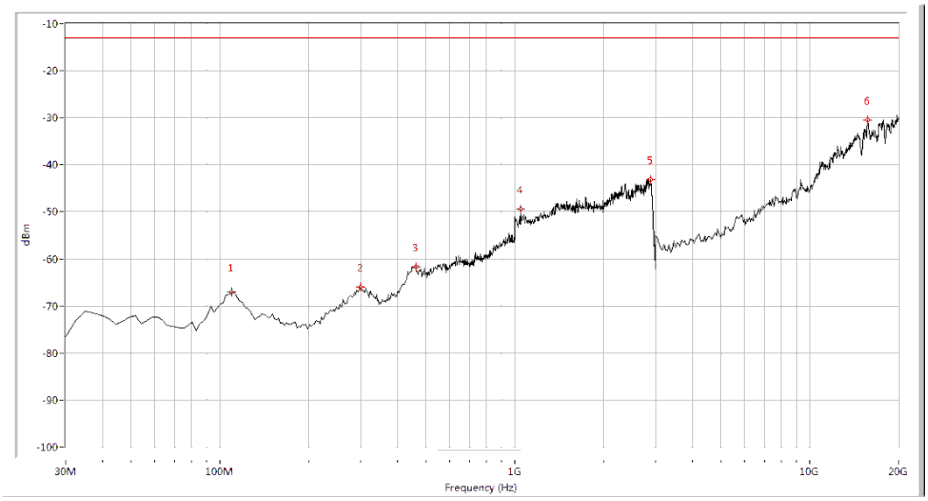
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.20	-13.0	54.2	136.5	Horizontal	PASS
300.923	-65.74	-13.0	52.7	24.7	Horizontal	PASS
450.898	-61.58	-13.0	48.6	32.9	Horizontal	PASS
1379.052	-47.50	-13.0	34.5	8.0	Horizontal	PASS
2860.349	-43.05	-13.0	30.0	206.1	Horizontal	PASS
15718.204	-31.31	-13.0	18.3	189.2	Horizontal	PASS

(Plot B.1: GSM 1900MHz Channel = 512, Test Antenna Horizontal)



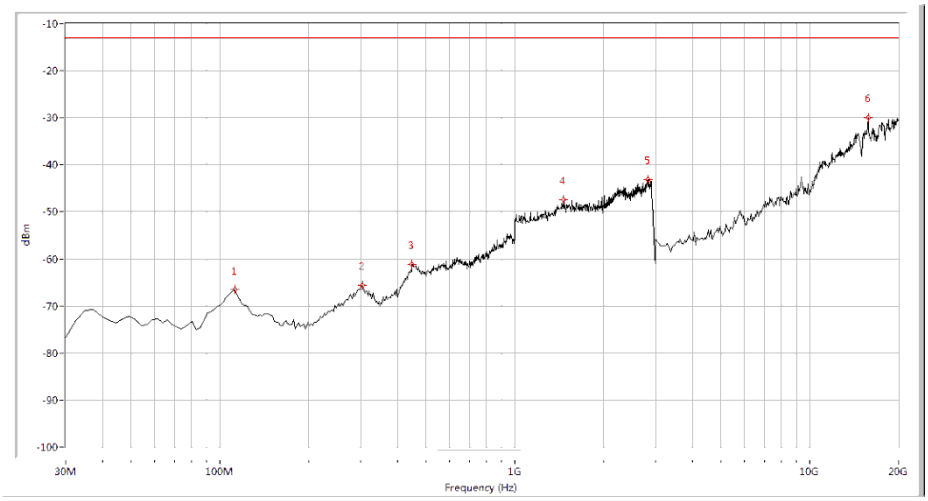
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-70.59	-13.0	57.6	0.1	Vertical	PASS
109.825	-66.80	-13.0	53.8	133.8	Vertical	PASS
281.571	-65.84	-13.0	52.8	1.2	Vertical	PASS
1403.990	-47.84	-13.0	34.8	261.0	Vertical	PASS
2800.499	-42.69	-13.0	29.7	106.9	Vertical	PASS
18982.544	-29.82	-13.0	16.8	171.7	Vertical	PASS

(Plot B.2: GSM 1900MHz Channel = 512, Test Antenna Vertical)



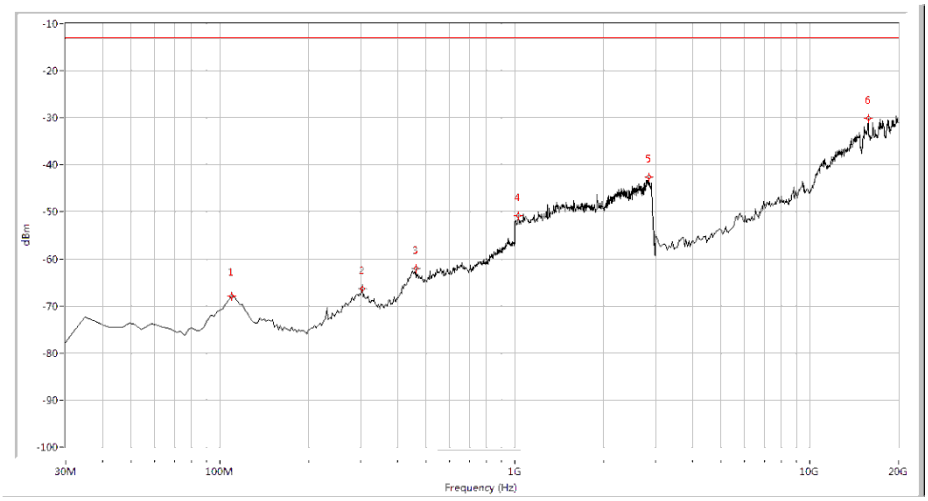
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.05	-13.0	54.0	144.8	Horizontal	PASS
300.923	-65.94	-13.0	52.9	310.5	Horizontal	PASS
460.574	-61.62	-13.0	48.6	160.8	Horizontal	PASS
1044.888	-49.42	-13.0	36.4	-0.0	Horizontal	PASS
2885.287	-43.15	-13.0	30.1	80.8	Horizontal	PASS
15718.204	-30.44	-13.0	17.4	251.1	Horizontal	PASS

(Plot B.3: GSM 1900MHz Channel = 661, Test Antenna Horizontal)



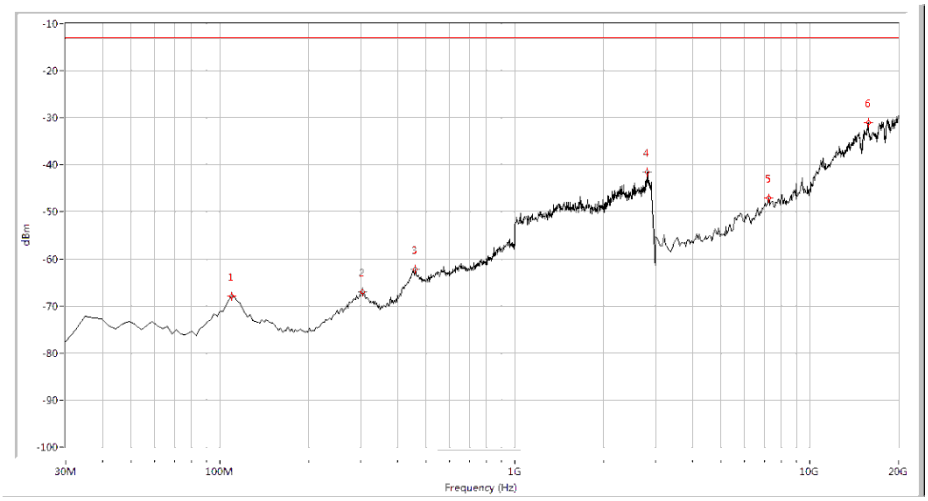
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-66.46	-13.0	53.5	78.3	Vertical	PASS
303.342	-65.54	-13.0	52.5	43.1	Vertical	PASS
448.479	-61.07	-13.0	48.1	315.6	Vertical	PASS
1463.840	-47.40	-13.0	34.4	19.6	Vertical	PASS
2825.436	-43.18	-13.0	30.2	69.1	Vertical	PASS
15760.599	-29.98	-13.0	17.0	54.2	Vertical	PASS

(Plot B.4: GSM 1900MHz Channel = 661, Test Antenna Vertical)



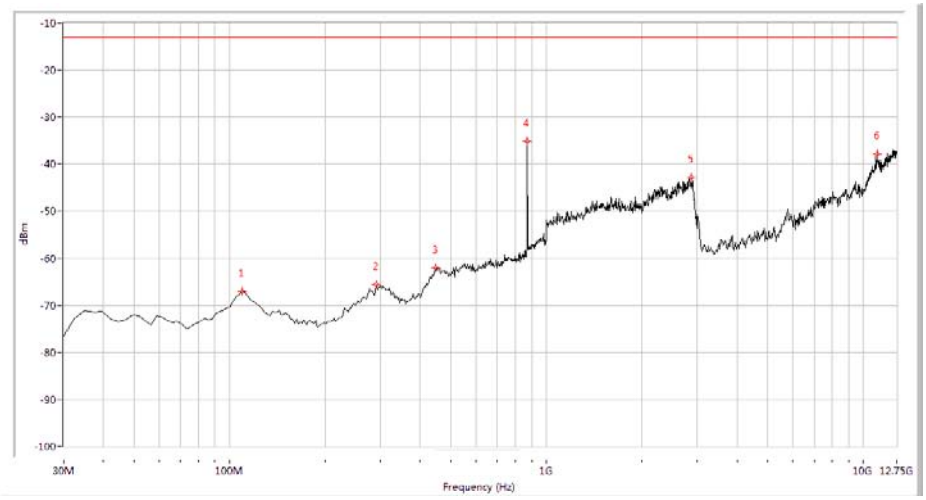
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.94	-13.0	54.9	50.5	Horizontal	PASS
303.342	-66.28	-13.0	53.3	359.4	Horizontal	PASS
460.574	-61.96	-13.0	49.0	114.1	Horizontal	PASS
1024.938	-50.88	-13.0	37.9	22.1	Horizontal	PASS
2840.399	-42.64	-13.0	29.6	63.1	Horizontal	PASS
15802.993	-30.08	-13.0	17.1	111.5	Horizontal	PASS

(Plot B.5: GSM 1900MHz Channel = 810, Test Antenna Horizontal)



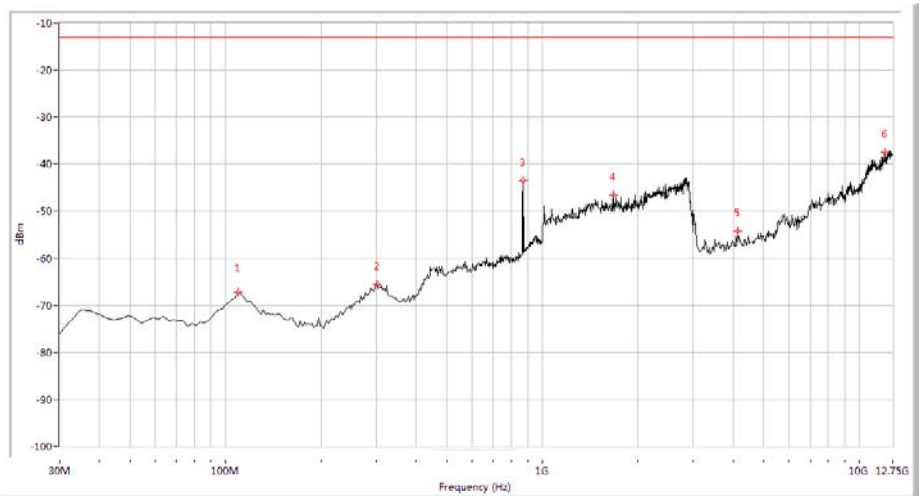
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.97	-13.0	55.0	122.0	Vertical	PASS
303.342	-66.99	-13.0	54.0	101.2	Vertical	PASS
458.155	-62.29	-13.0	49.3	360.0	Vertical	PASS
2805.486	-41.56	-13.0	28.6	195.1	Vertical	PASS
7239.401	-47.06	-13.0	34.1	286.3	Vertical	PASS
15802.993	-30.95	-13.0	18.0	-0.0	Vertical	PASS

(PlotB.6: GSM 1900MHz Channel = 810, Test Antenna Vertical)



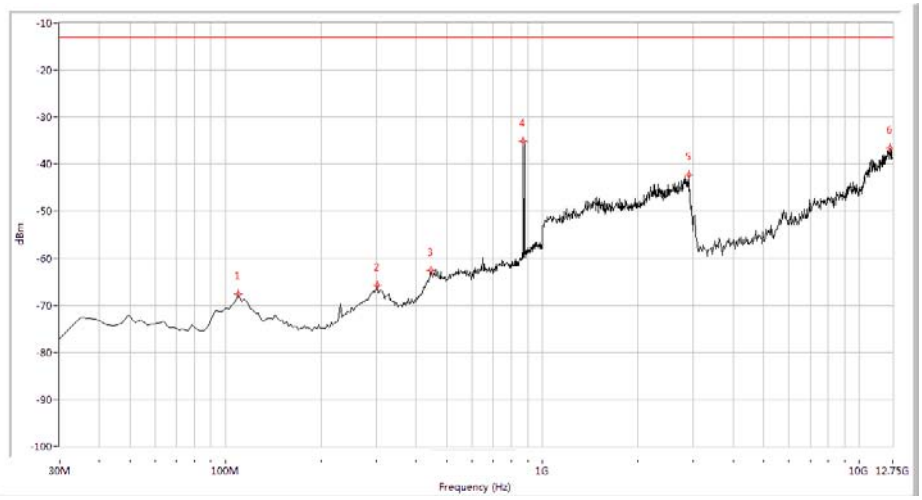
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.08	-13.0	54.1	256.7	Horizontal	PASS
291.247	-65.67	-13.0	52.7	294.1	Horizontal	PASS
448.479	-61.97	-13.0	49.0	214.5	Horizontal	PASS
871.796	-35.16	-13.0	22.2	75.3	Horizontal	PASS
2860.349	-42.87	-13.0	29.9	231.5	Horizontal	PASS
11072.319	-37.76	-13.0	24.8	49.6	Horizontal	PASS

(Plot C.1: EGPRS 850MHz Channel = 128, Test Antenna Horizontal)



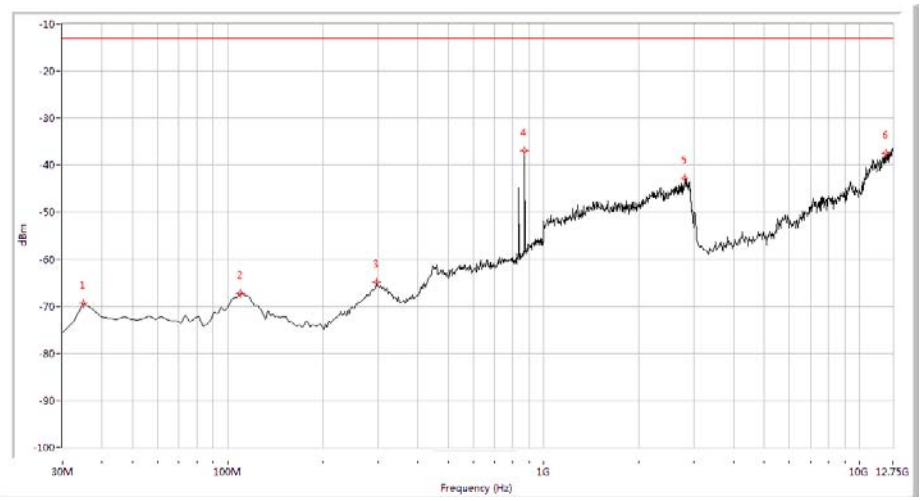
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.22	-13.0	54.2	46.3	Vertical	PASS
300.923	-65.56	-13.0	52.6	245.1	Vertical	PASS
871.796	-43.46	-13.0	30.5	315.3	Vertical	PASS
1683.292	-46.50	-13.0	33.5	249.8	Vertical	PASS
4142.768	-54.23	-13.0	41.2	10.5	Vertical	PASS
12069.202	-37.48	-13.0	24.5	47.0	Vertical	PASS

(Plot C.2: EGPRS 850MHz Channel = 128, Test Antenna Vertical)



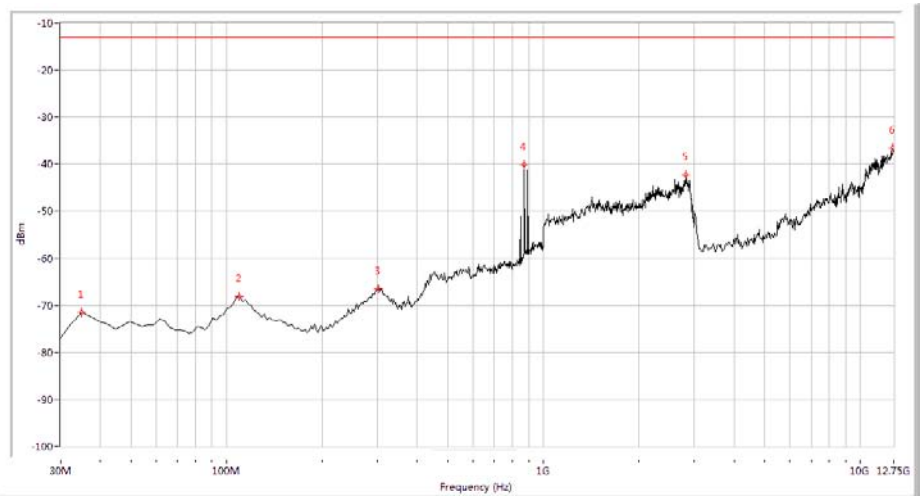
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.48	-13.0	54.5	146.5	Horizontal	PASS
300.923	-65.85	-13.0	52.9	219.7	Horizontal	PASS
446.060	-62.53	-13.0	49.5	263.5	Horizontal	PASS
871.796	-35.16	-13.0	22.2	0.1	Horizontal	PASS
2900.249	-42.30	-13.0	29.3	19.7	Horizontal	PASS
12506.858	-36.50	-13.0	23.5	163.8	Horizontal	PASS

(Plot C.3: EGPRS 850MHz Channel = 190, Test Antenna Horizontal)



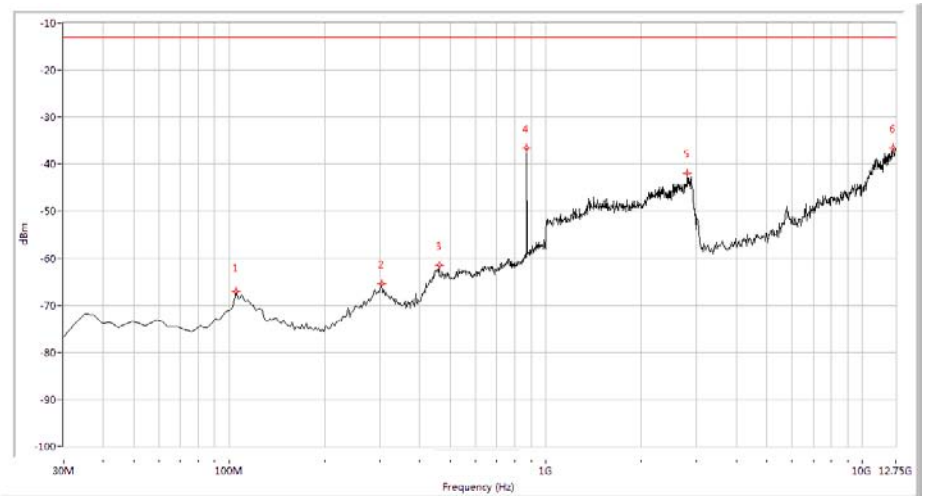
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-69.43	-13.0	56.4	16.4	Vertical	PASS
109.825	-67.15	-13.0	54.1	58.9	Vertical	PASS
296.085	-64.93	-13.0	51.9	164.7	Vertical	PASS
871.796	-36.94	-13.0	23.9	23.1	Vertical	PASS
2805.486	-42.74	-13.0	29.7	154.6	Vertical	PASS
12117.830	-37.51	-13.0	24.5	279.5	Vertical	PASS

(Plot C.4: EGPRS 850MHz Channel = 190, Test Antenna Vertical)



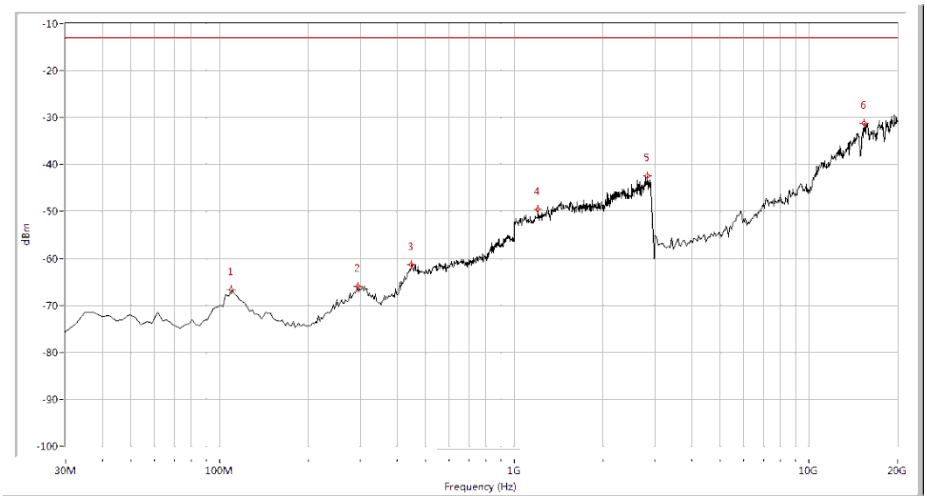
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-71.50	-13.0	58.5	163.4	Horizontal	PASS
109.825	-68.15	-13.0	55.2	82.5	Horizontal	PASS
300.923	-66.53	-13.0	53.5	275.9	Horizontal	PASS
871.796	-40.07	-13.0	27.1	23.1	Horizontal	PASS
2815.461	-42.34	-13.0	29.3	219.5	Horizontal	PASS
12677.057	-36.51	-13.0	23.5	172.4	Horizontal	PASS

(Plot C.5: EGPRS 850MHz Channel = 251, Test Antenna Horizontal)



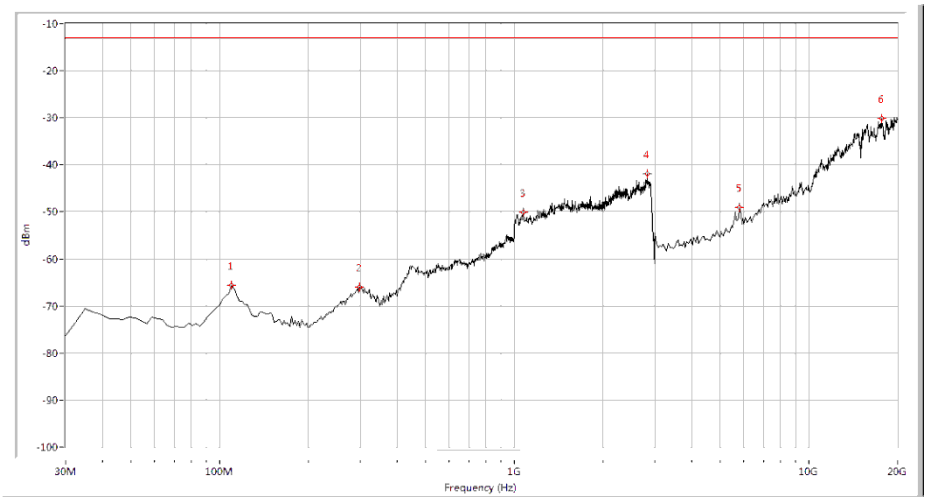
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
104.988	-67.08	-13.0	54.1	134.9	Vertical	PASS
303.342	-65.35	-13.0	52.3	258.4	Vertical	PASS
460.574	-61.42	-13.0	48.4	76.3	Vertical	PASS
871.796	-36.55	-13.0	23.5	324.5	Vertical	PASS
2805.486	-41.84	-13.0	28.8	194.8	Vertical	PASS
12506.858	-36.53	-13.0	23.5	10.6	Vertical	PASS

(Plot C.6: EGPRS 850MHz Channel = 251, Test Antenna Vertical)



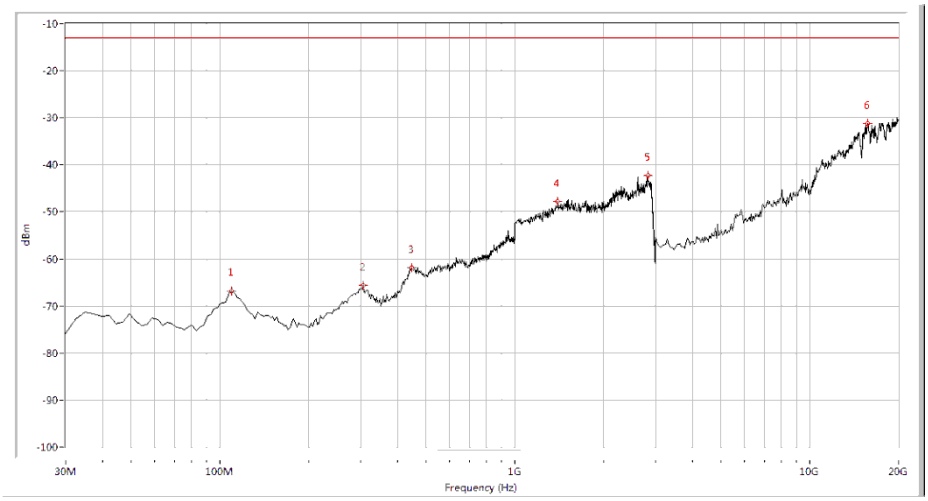
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-66.69	-13.0	53.7	46.3	Horizontal	PASS
293.666	-66.02	-13.0	53.0	174.6	Horizontal	PASS
448.479	-61.32	-13.0	48.3	29.6	Horizontal	PASS
1204.489	-49.54	-13.0	36.5	34.5	Horizontal	PASS
2825.436	-42.47	-13.0	29.5	274.9	Horizontal	PASS
15379.052	-31.23	-13.0	18.2	205.6	Horizontal	PASS

(Plot D.1: EGPRS 1900MHz Channel = 512, Test Antenna Horizontal)



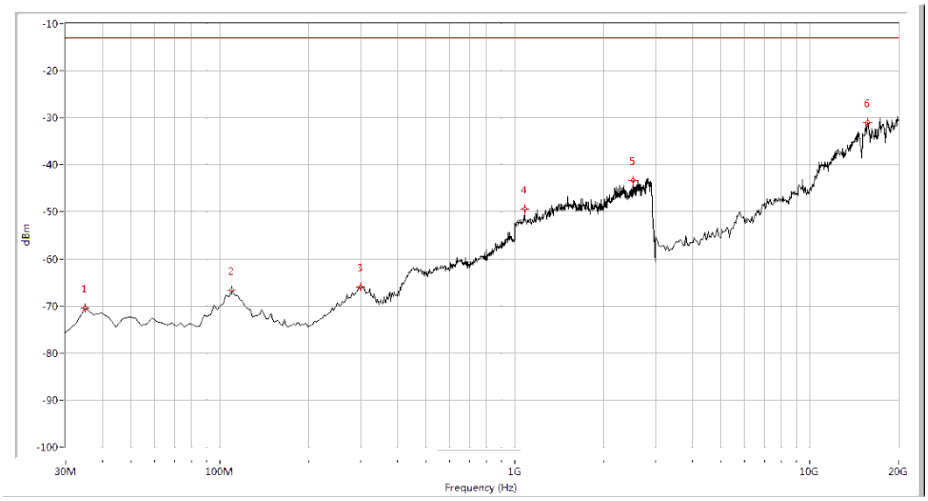
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-65.66	-13.0	52.7	345.6	Vertical	PASS
298.504	-66.02	-13.0	53.0	15.3	Vertical	PASS
1074.813	-50.05	-13.0	37.0	57.1	Vertical	PASS
2825.436	-41.82	-13.0	28.8	159.8	Vertical	PASS
5798.005	-49.07	-13.0	36.1	226.4	Vertical	PASS
17625.935	-30.18	-13.0	17.2	324.5	Vertical	PASS

(Plot D.2: EGPRS 1900MHz Channel = 512, Test Antenna Vertical)



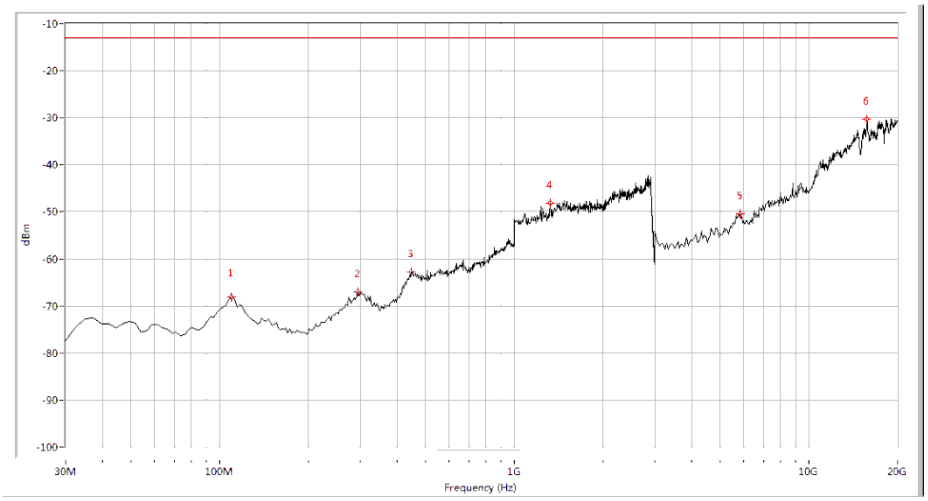
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-66.92	-13.0	53.9	163.7	Horizontal	PASS
305.761	-65.52	-13.0	52.5	41.6	Horizontal	PASS
448.479	-61.95	-13.0	48.9	273.5	Horizontal	PASS
1399.002	-47.81	-13.0	34.8	149.8	Horizontal	PASS
2830.424	-42.18	-13.0	29.2	247.9	Horizontal	PASS
15718.204	-31.27	-13.0	18.3	112.0	Horizontal	PASS

(Plot D.3: EGPRS 1900MHz Channel = 661, Test Antenna Horizontal)



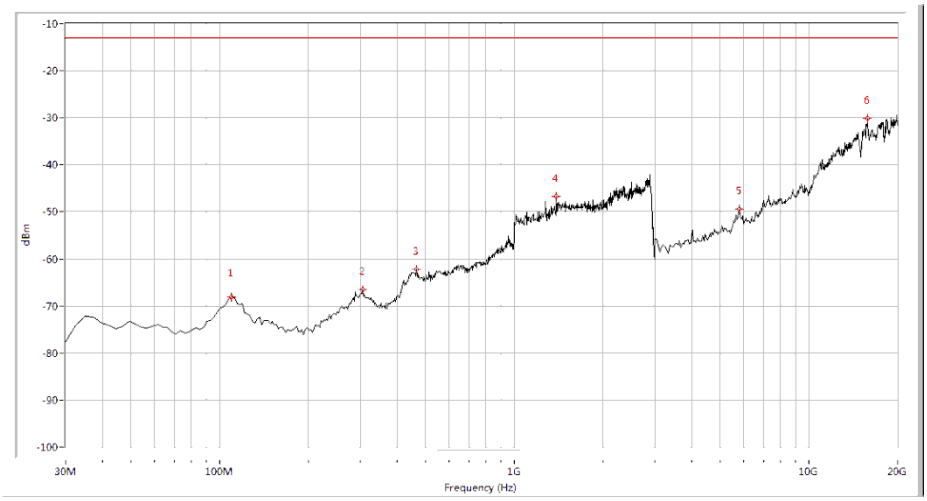
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-70.46	-13.0	57.5	175.4	Vertical	PASS
109.825	-66.61	-13.0	53.6	165.9	Vertical	PASS
300.923	-66.01	-13.0	53.0	144.5	Vertical	PASS
1079.800	-49.43	-13.0	36.4	89.4	Vertical	PASS
2516.209	-43.30	-13.0	30.3	163.2	Vertical	PASS
15675.810	-31.11	-13.0	18.1	0.0	Vertical	PASS

(Plot D.4: EGPRS 1900MHz Channel = 661, Test Antenna Vertical)



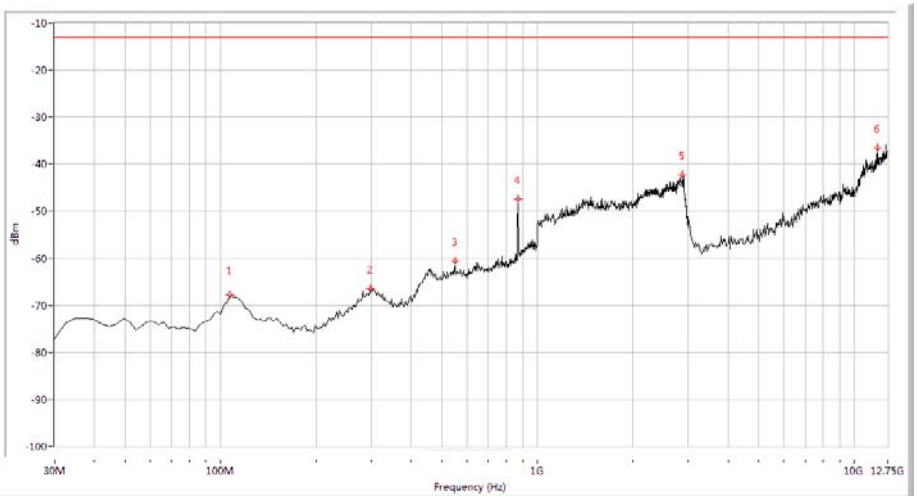
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.09	-13.0	55.1	164.9	Horizontal	PASS
293.666	-67.02	-13.0	54.0	246.2	Horizontal	PASS
446.060	-62.76	-13.0	49.8	78.2	Horizontal	PASS
1324.190	-48.06	-13.0	35.1	201.3	Horizontal	PASS
5840.399	-50.49	-13.0	37.5	197.4	Horizontal	PASS
15718.204	-30.36	-13.0	17.4	84.6	Horizontal	PASS

(Plot D.5: EGPRS 1900MHz Channel = 810, Test Antenna Horizontal)



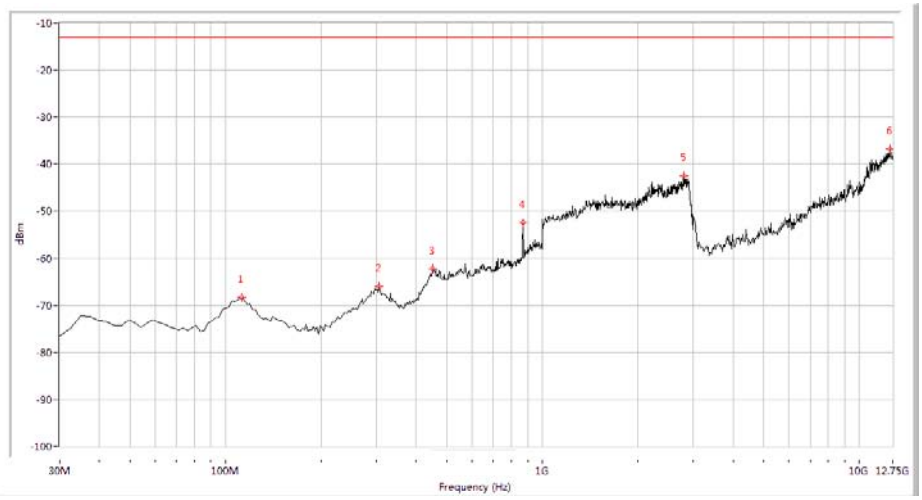
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.09	-13.0	55.1	175.9	Vertical	PASS
305.761	-66.44	-13.0	53.4	297.7	Vertical	PASS
465.411	-62.15	-13.0	49.1	143.2	Vertical	PASS
1389.027	-46.64	-13.0	33.6	185.5	Vertical	PASS
5798.005	-49.40	-13.0	36.4	197.9	Vertical	PASS
15802.993	-30.22	-13.0	17.2	29.1	Vertical	PASS

(Plot D.6: EGPRS 1900MHz Channel = 810, Test Antenna Vertical)



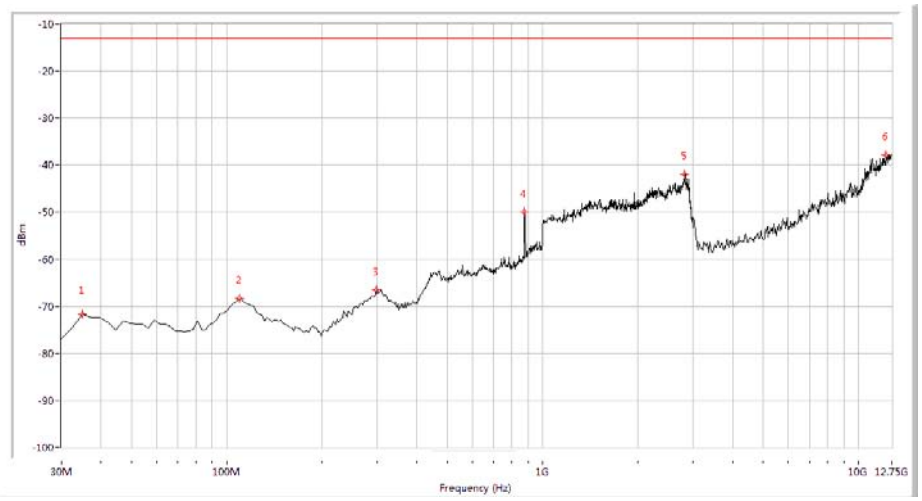
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
107.406	-67.72	-13.0	54.7	63.5	Horizontal	PASS
298.504	-66.45	-13.0	53.5	42.1	Horizontal	PASS
550.075	-60.60	-13.0	47.6	78.9	Horizontal	PASS
871.796	-47.44	-13.0	34.4	324.5	Horizontal	PASS
2865.337	-42.28	-13.0	29.3	210.0	Horizontal	PASS
11850.374	-36.49	-13.0	23.5	269.8	Horizontal	PASS

(Plot E.1: WCDMA 850MHz Channel = 4132, Test Antenna Horizontal)



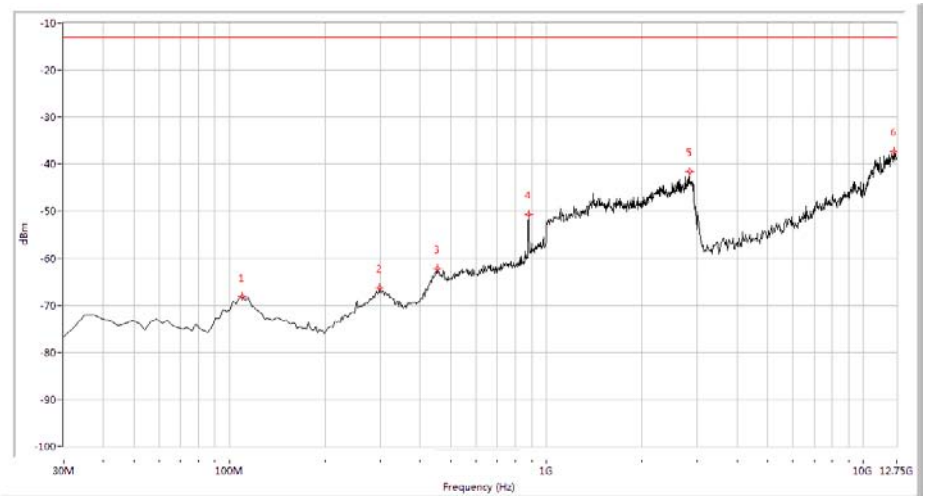
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-68.32	-13.0	55.3	36.6	Vertical	PASS
305.761	-66.00	-13.0	53.0	45.7	Vertical	PASS
450.898	-62.24	-13.0	49.2	63.4	Vertical	PASS
869.377	-52.35	-13.0	39.4	243.0	Vertical	PASS
2795.511	-42.50	-13.0	29.5	169.6	Vertical	PASS
12506.858	-36.74	-13.0	23.7	303.8	Vertical	PASS

(Plot E.2: WCDMA 850MHz Channel = 4132, Test Antenna Vertical)



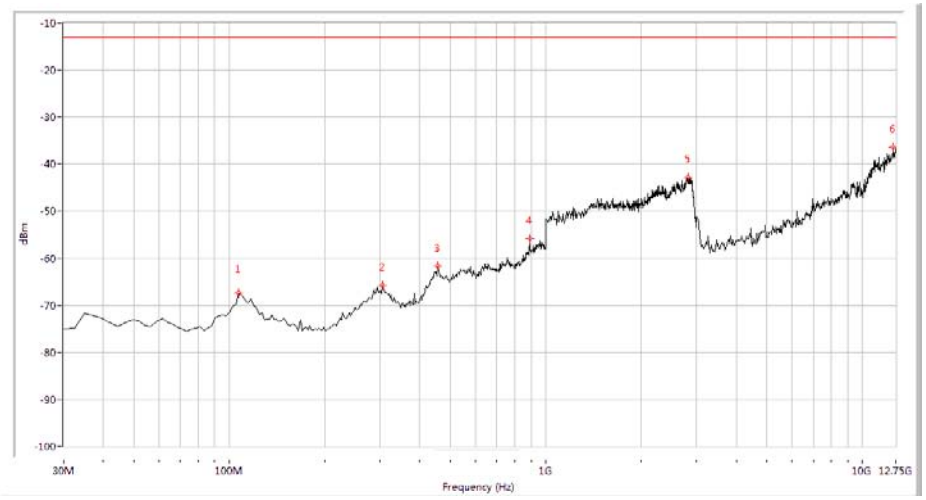
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-71.73	-13.0	58.7	85.4	Horizontal	PASS
109.825	-68.30	-13.0	55.3	63.0	Horizontal	PASS
298.504	-66.54	-13.0	53.5	2.6	Horizontal	PASS
876.633	-49.96	-13.0	37.0	324.1	Horizontal	PASS
2815.461	-41.97	-13.0	29.0	247.9	Horizontal	PASS
12215.087	-37.84	-13.0	24.8	220.3	Horizontal	PASS

(Plot E.3: WCDMA 850MHz Channel = 4175, Test Antenna Horizontal)



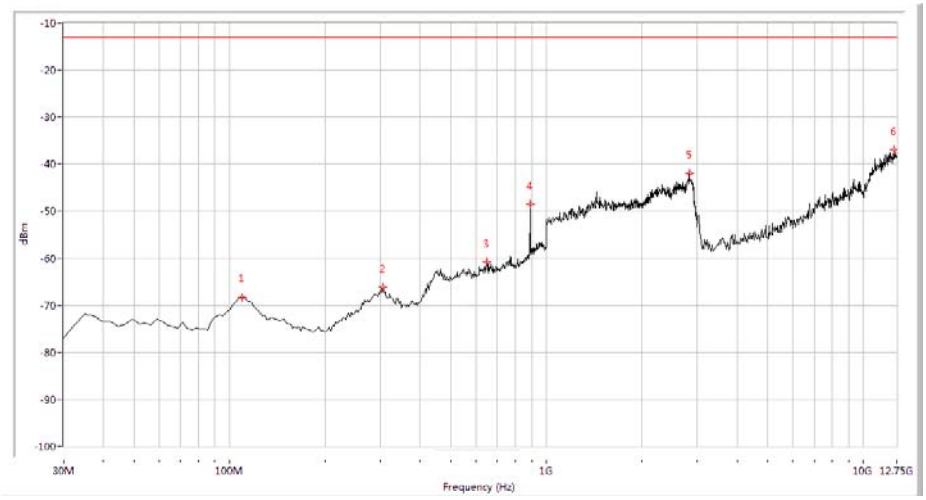
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.15	-13.0	55.1	63.9	Vertical	PASS
298.504	-66.27	-13.0	53.3	174.2	Vertical	PASS
453.317	-62.28	-13.0	49.3	236.3	Vertical	PASS
879.052	-50.69	-13.0	37.7	20.0	Vertical	PASS
2825.436	-41.61	-13.0	28.6	165.7	Vertical	PASS
12482.544	-37.23	-13.0	24.2	186.9	Vertical	PASS

(Plot E.4: WCDMA 850MHz Channel = 4175, Test Antenna Vertical)



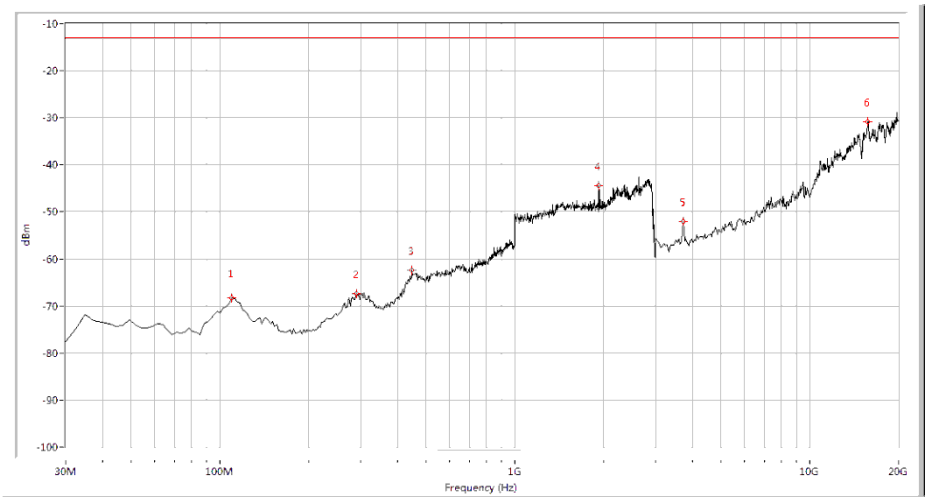
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
107.406	-67.47	-13.0	54.5	12.4	Horizontal	PASS
305.761	-65.77	-13.0	52.8	63.3	Horizontal	PASS
455.736	-61.71	-13.0	48.7	328.7	Horizontal	PASS
888.728	-55.82	-13.0	42.8	276.8	Horizontal	PASS
2810.474	-42.73	-13.0	29.7	55.6	Horizontal	PASS
12555.486	-36.33	-13.0	23.3	3.9	Horizontal	PASS

(Plot E.5: WCDMA 850MHz Channel = 4233, Test Antenna Horizontal)



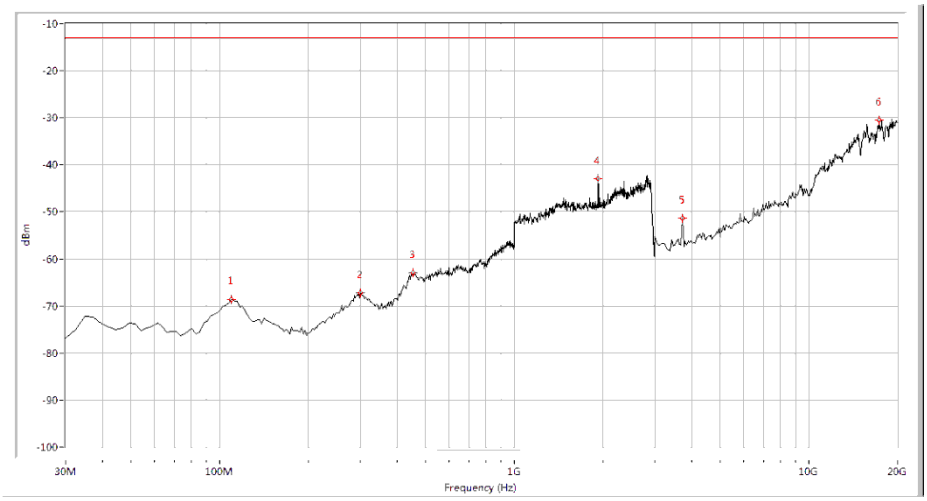
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.19	-13.0	55.2	66.2	Vertical	PASS
305.761	-66.17	-13.0	53.2	162.8	Vertical	PASS
649.252	-60.77	-13.0	47.8	27.6	Vertical	PASS
891.147	-48.48	-13.0	35.5	260.1	Vertical	PASS
2825.436	-41.90	-13.0	28.9	329.2	Vertical	PASS
12555.486	-36.83	-13.0	23.8	78.2	Vertical	PASS

(Plot E.6: WCDMA 850MHz Channel = 4233, Test Antenna Vertical)



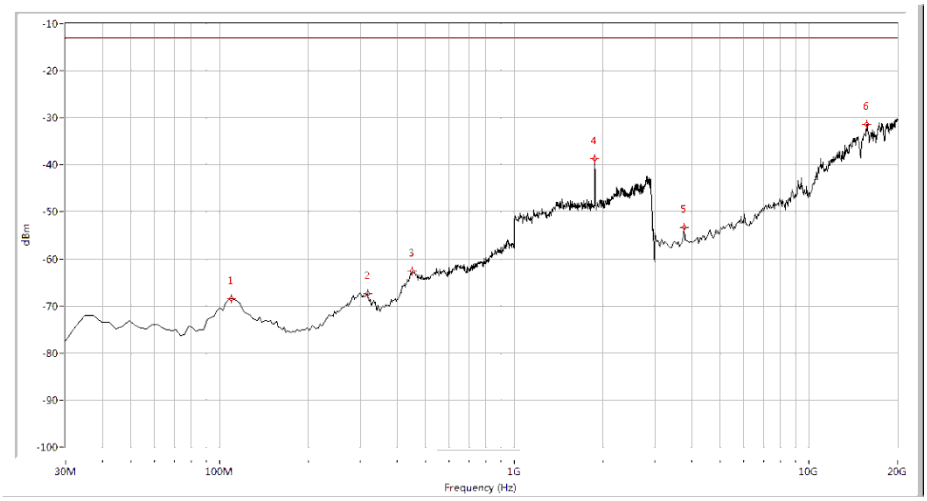
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.20	-13.0	55.2	155.2	Horizontal	PASS
291.247	-67.46	-13.0	54.5	32.1	Horizontal	PASS
448.479	-62.39	-13.0	49.4	74.8	Horizontal	PASS
1927.681	-44.48	-13.0	31.5	66.9	Horizontal	PASS
3720.698	-52.06	-13.0	39.1	242.0	Horizontal	PASS
15675.810	-30.83	-13.0	17.8	8.7	Horizontal	PASS

(Plot F.1: WCDMA 1900MHz Channel = 9262, Test Antenna Horizontal)



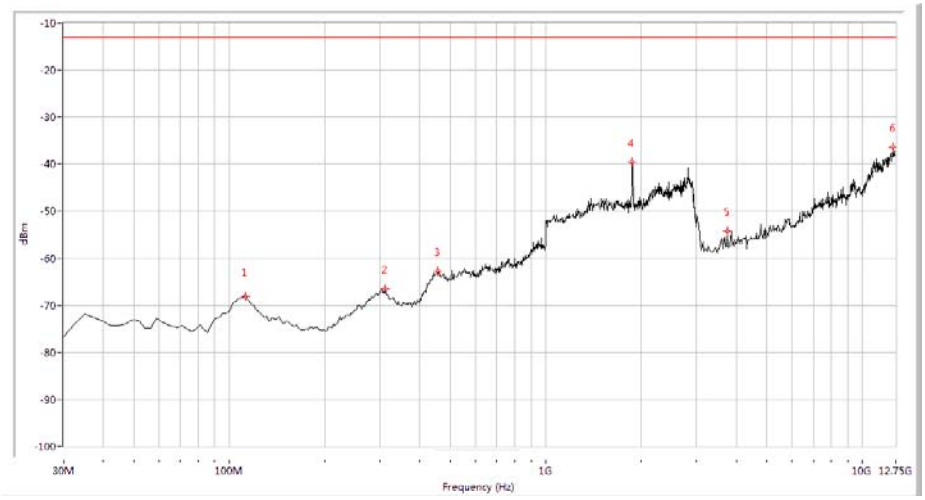
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.60	-13.0	55.6	278.0	Vertical	PASS
300.923	-67.24	-13.0	54.2	204.9	Vertical	PASS
453.317	-62.87	-13.0	49.9	359.4	Vertical	PASS
1927.681	-42.94	-13.0	29.9	67.5	Vertical	PASS
3720.698	-51.31	-13.0	38.3	112.5	Vertical	PASS
17371.571	-30.53	-13.0	17.5	335.2	Vertical	PASS

(Plot F.2: WCDMA 1900MHz Channel = 9262, Test Antenna Vertical)



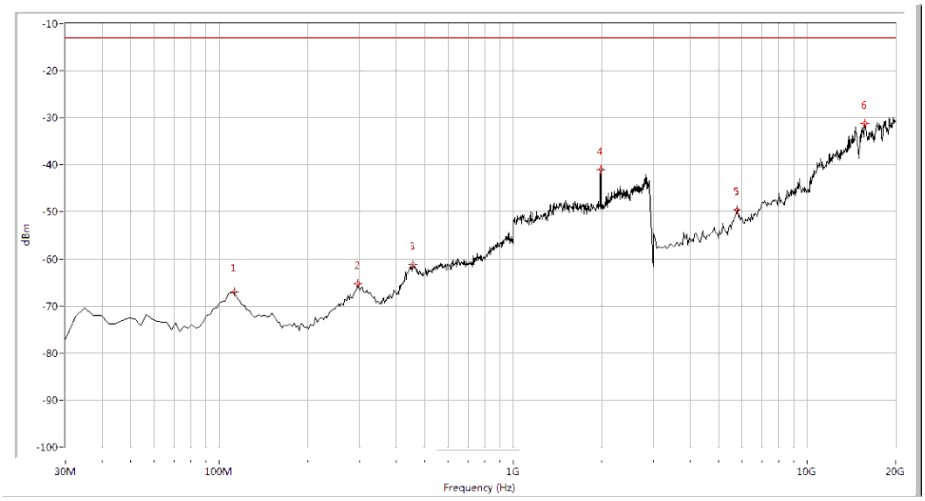
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.53	-13.0	55.5	163.6	Horizontal	PASS
317.855	-67.42	-13.0	54.4	36.4	Horizontal	PASS
450.898	-62.51	-13.0	49.5	24.7	Horizontal	PASS
1877.805	-38.69	-13.0	25.7	153.8	Horizontal	PASS
3763.092	-53.24	-13.0	40.2	242.0	Horizontal	PASS
15718.204	-31.34	-13.0	18.3	68.5	Horizontal	PASS

(Plot F.3: WCDMA 1900MHz Channel = 9400, Test Antenna Horizontal)



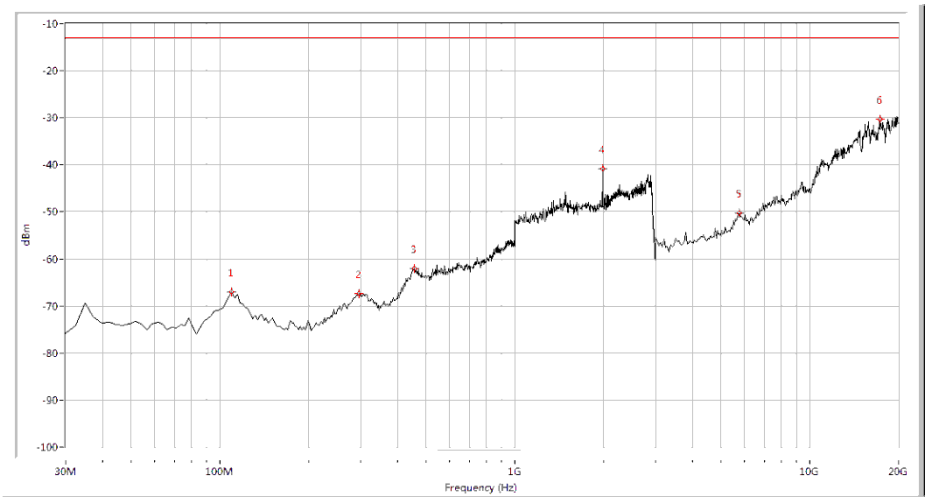
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-68.09	-13.0	55.1	182.9	Vertical	PASS
310.599	-66.57	-13.0	53.6	151.4	Vertical	PASS
455.736	-62.76	-13.0	49.8	186.6	Vertical	PASS
1877.805	-39.61	-13.0	26.6	315.4	Vertical	PASS
3753.741	-54.13	-13.0	41.1	115.6	Vertical	PASS
12506.858	-36.34	-13.0	23.3	358.8	Vertical	PASS

(Plot F.4: WCDMA 1900MHz Channel = 9400, Test Antenna Vertical)



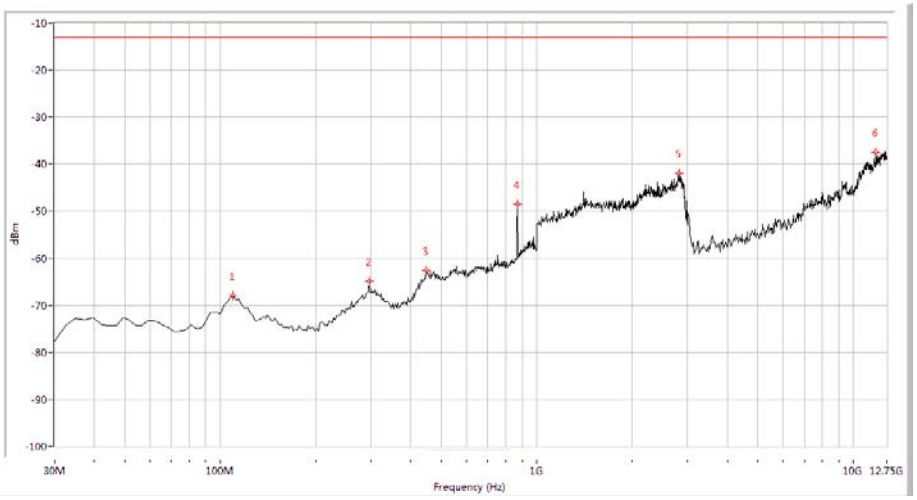
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-67.03	-13.0	54.0	63.1	Horizontal	PASS
296.085	-65.32	-13.0	52.3	256.4	Horizontal	PASS
455.736	-61.22	-13.0	48.2	96.1	Horizontal	PASS
1982.544	-40.99	-13.0	28.0	264.9	Horizontal	PASS
5755.611	-49.51	-13.0	36.5	84.1	Horizontal	PASS
15675.810	-31.19	-13.0	18.2	0.0	Horizontal	PASS

(Plot F.5: WCDMA 1900MHz Channel = 9538, Test Antenna Horizontal)



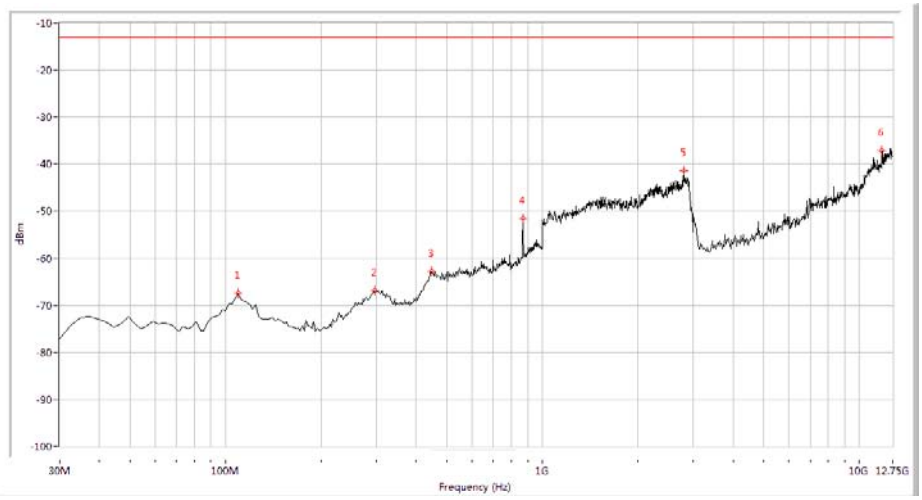
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-66.97	-13.0	54.0	314.6	Vertical	PASS
296.085	-67.47	-13.0	54.5	25.7	Vertical	PASS
455.736	-62.10	-13.0	49.1	69.4	Vertical	PASS
1987.531	-40.82	-13.0	27.8	84.2	Vertical	PASS
5755.611	-50.27	-13.0	37.3	263.4	Vertical	PASS
17286.783	-30.25	-13.0	17.3	10.5	Vertical	PASS

(Plot F.6: WCDMA 1900MHz Channel = 9538, Test Antenna Vertical)



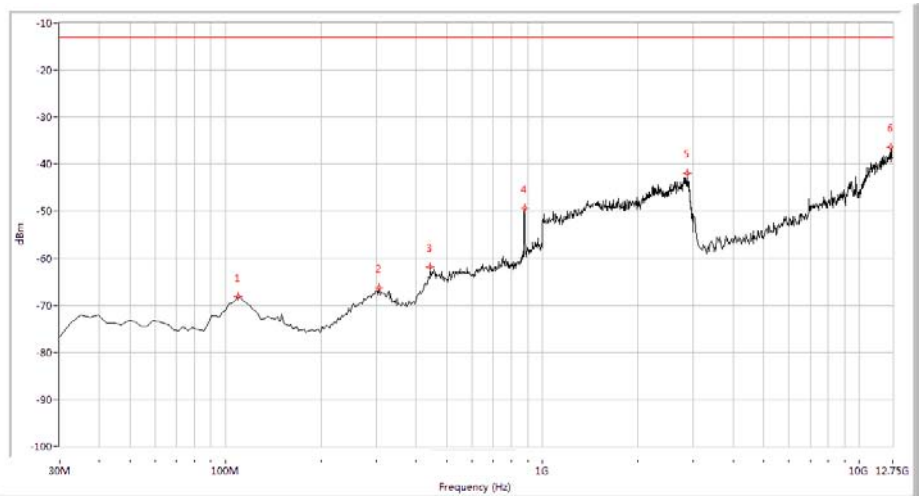
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.87	-13.0	54.9	136.2	Horizontal	PASS
296.085	-64.84	-13.0	51.8	24.5	Horizontal	PASS
448.479	-62.58	-13.0	49.6	247.0	Horizontal	PASS
869.377	-48.45	-13.0	35.4	9.9	Horizontal	PASS
2810.474	-41.94	-13.0	28.9	56.2	Horizontal	PASS
11801.746	-37.51	-13.0	24.5	332.8	Horizontal	PASS

(Plot G.1: HSDPA 850MHz Channel = 4132, Test Antenna Horizontal)



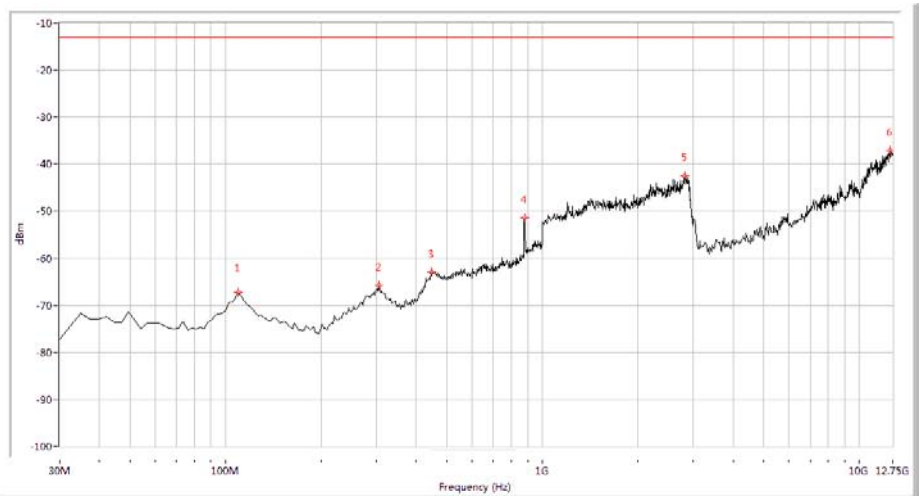
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.42	-13.0	54.4	136.3	Vertical	PASS
296.085	-66.89	-13.0	53.9	24.5	Vertical	PASS
448.479	-62.82	-13.0	49.8	7.8	Vertical	PASS
869.377	-51.59	-13.0	38.6	245.6	Vertical	PASS
2795.511	-41.29	-13.0	28.3	8.9	Vertical	PASS
11801.746	-37.01	-13.0	24.0	163.1	Vertical	PASS

(Plot G.2: HSDPA 850MHz Channel = 4132, Test Antenna Vertical)



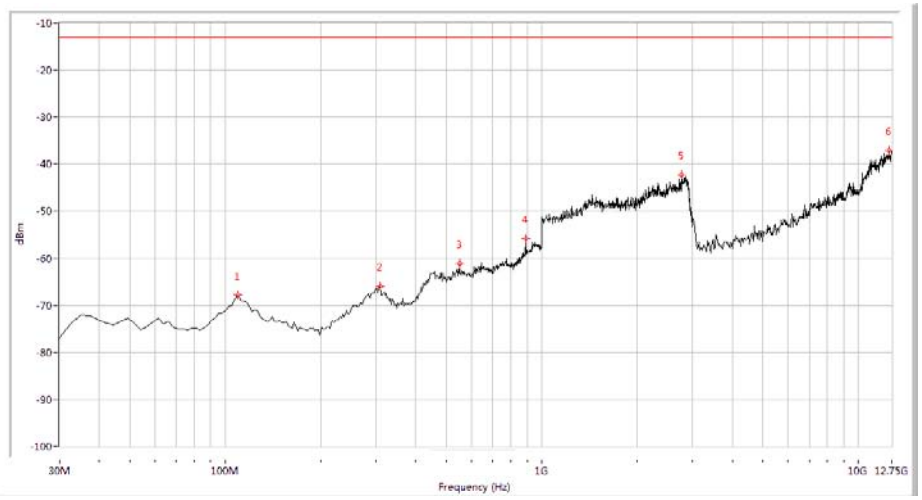
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.02	-13.0	55.0	96.3	Horizontal	PASS
305.761	-66.26	-13.0	53.3	73.6	Horizontal	PASS
443.641	-61.81	-13.0	48.8	46.2	Horizontal	PASS
879.052	-49.44	-13.0	36.4	326.4	Horizontal	PASS
2865.337	-41.91	-13.0	28.9	274.9	Horizontal	PASS
12579.800	-36.32	-13.0	23.3	36.1	Horizontal	PASS

(Plot G.3: HSDPA 850MHz Channel = 4175, Test Antenna Horizontal)



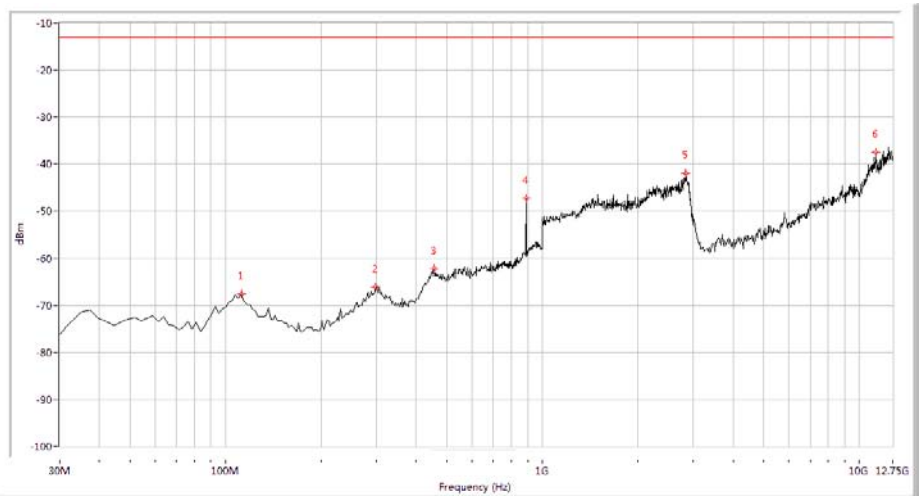
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.18	-13.0	54.2	96.3	Vertical	PASS
305.761	-65.85	-13.0	52.9	136.4	Vertical	PASS
448.479	-62.96	-13.0	50.0	52.7	Vertical	PASS
879.052	-51.28	-13.0	38.3	0.0	Vertical	PASS
2820.449	-42.49	-13.0	29.5	243.1	Vertical	PASS
12482.544	-37.06	-13.0	24.1	20.0	Vertical	PASS

(Plot G.4: HSDPA 850MHz Channel = 4175, Test Antenna Vertical)



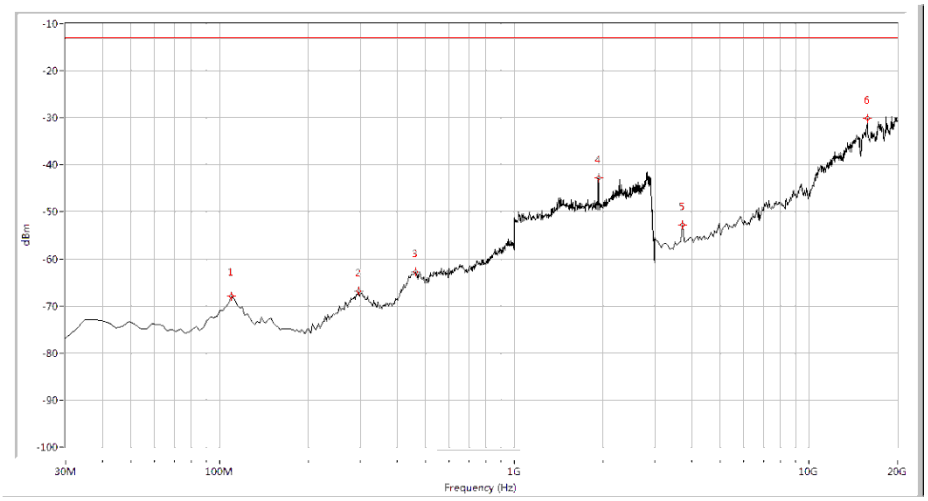
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.82	-13.0	54.8	13.4	Horizontal	PASS
308.180	-65.90	-13.0	52.9	245.7	Horizontal	PASS
550.075	-61.13	-13.0	48.1	56.9	Horizontal	PASS
888.728	-55.83	-13.0	42.8	163.5	Horizontal	PASS
2765.586	-42.28	-13.0	29.3	6.0	Horizontal	PASS
12555.486	-37.18	-13.0	24.2	312.8	Horizontal	PASS

(Plot G.5: HSDPA 850MHz Channel = 4233, Test Antenna Horizontal)



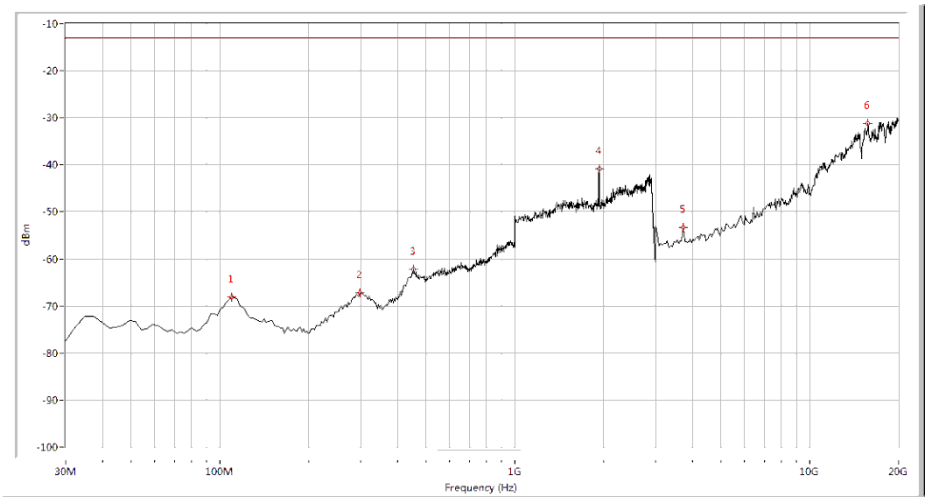
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-67.48	-13.0	54.5	28.6	Vertical	PASS
298.504	-66.07	-13.0	53.1	176.4	Vertical	PASS
455.736	-62.27	-13.0	49.3	162.3	Vertical	PASS
888.728	-47.24	-13.0	34.2	56.1	Vertical	PASS
2825.436	-41.84	-13.0	28.8	344.7	Vertical	PASS
11315.461	-37.40	-13.0	24.4	111.6	Vertical	PASS

(Plot G.6: HSDPA 850MHz Channel = 4233, Test Antenna Vertical)



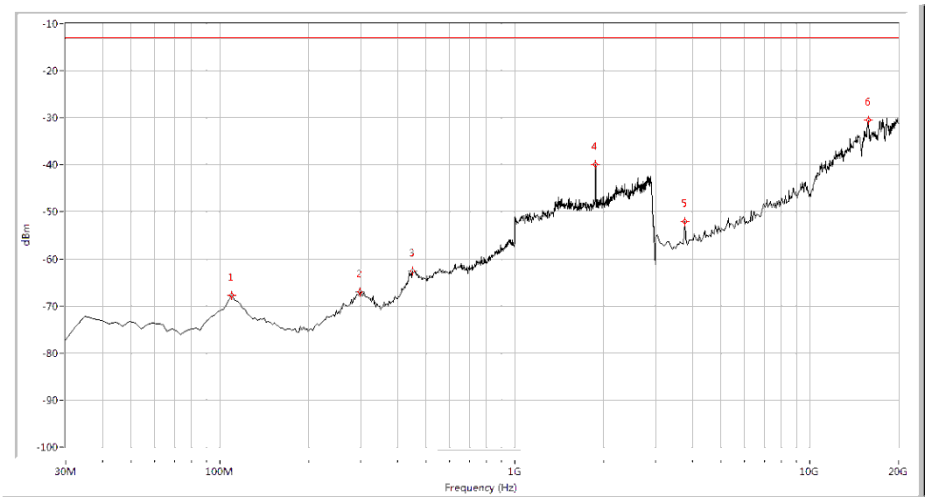
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.96	-13.0	55.0	135.6	Horizontal	PASS
296.085	-66.88	-13.0	53.9	42.5	Horizontal	PASS
460.574	-62.82	-13.0	49.8	96.7	Horizontal	PASS
1932.668	-42.88	-13.0	29.9	321.4	Horizontal	PASS
3720.698	-52.86	-13.0	39.9	78.9	Horizontal	PASS
15802.993	-30.13	-13.0	17.1	243.0	Horizontal	PASS

(Plot H.1: HSDPA 1900 MHz Channel = 9262, Test Antenna Horizontal)



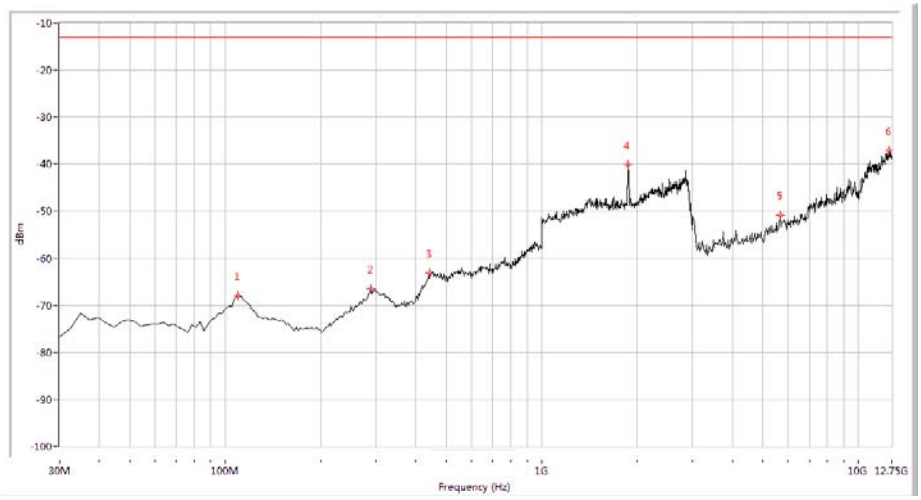
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.15	-13.0	55.2	328.9	Vertical	PASS
298.504	-67.12	-13.0	54.1	157.6	Vertical	PASS
453.317	-62.24	-13.0	49.2	42.0	Vertical	PASS
1932.668	-40.84	-13.0	27.8	173.2	Vertical	PASS
3720.698	-53.33	-13.0	40.3	9.8	Vertical	PASS
15718.204	-31.14	-13.0	18.1	213.8	Vertical	PASS

(Plot H.2: HSDPA 1900 MHz Channel = 9262, Test Antenna Vertical)



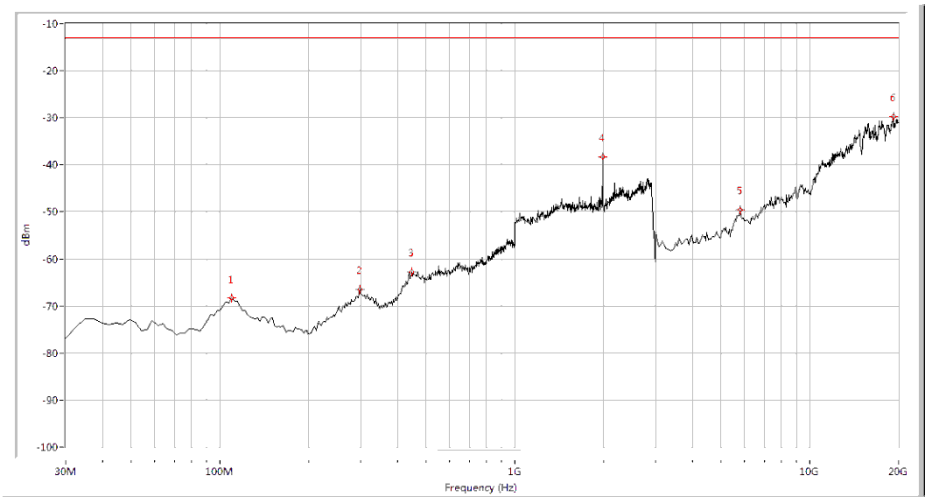
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.69	-13.0	54.7	134.5	Horizontal	PASS
298.504	-67.11	-13.0	54.1	6.2	Horizontal	PASS
450.898	-62.58	-13.0	49.6	78.9	Horizontal	PASS
1877.805	-39.91	-13.0	26.9	243.6	Horizontal	PASS
3763.092	-52.09	-13.0	39.1	9.7	Horizontal	PASS
15760.599	-30.44	-13.0	17.4	343.0	Horizontal	PASS

(PlotH.3:HSDPA 1900 MHz Channel = 9400, Test Antenna Horizontal)



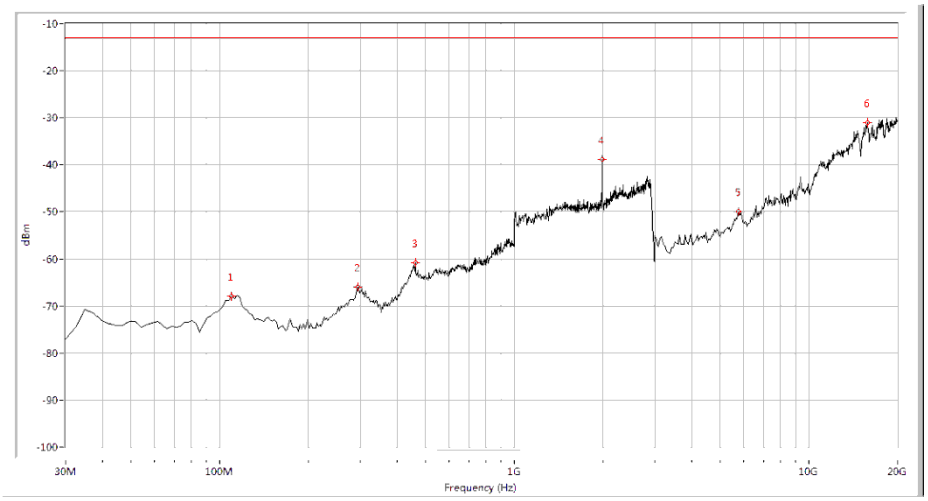
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.92	-13.0	54.9	124.5	Vertical	PASS
288.828	-66.42	-13.0	53.4	35.6	Vertical	PASS
441.222	-63.07	-13.0	50.1	7.8	Vertical	PASS
1877.805	-40.14	-13.0	27.1	169.4	Vertical	PASS
5674.564	-50.84	-13.0	37.8	243.0	Vertical	PASS
12482.544	-37.01	-13.0	24.0	99.0	Vertical	PASS

(Plot H.4: HSDPA 1900 MHz Channel = 9400, Test Antenna Vertical)



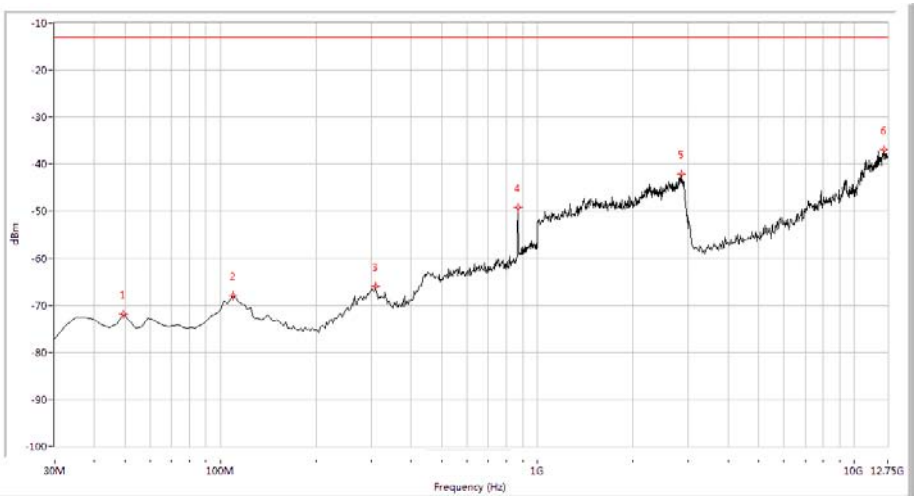
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.24	-13.0	55.2	163.9	Horizontal	PASS
298.504	-66.44	-13.0	53.4	54.0	Horizontal	PASS
448.479	-62.67	-13.0	49.7	189.7	Horizontal	PASS
1987.531	-38.33	-13.0	25.3	5.4	Horizontal	PASS
5798.005	-49.55	-13.0	36.5	62.8	Horizontal	PASS
19194.514	-29.76	-13.0	16.8	309.1	Horizontal	PASS

(Plot H.5: HSDPA 1900 MHz Channel = 9538, Test Antenna Horizontal)



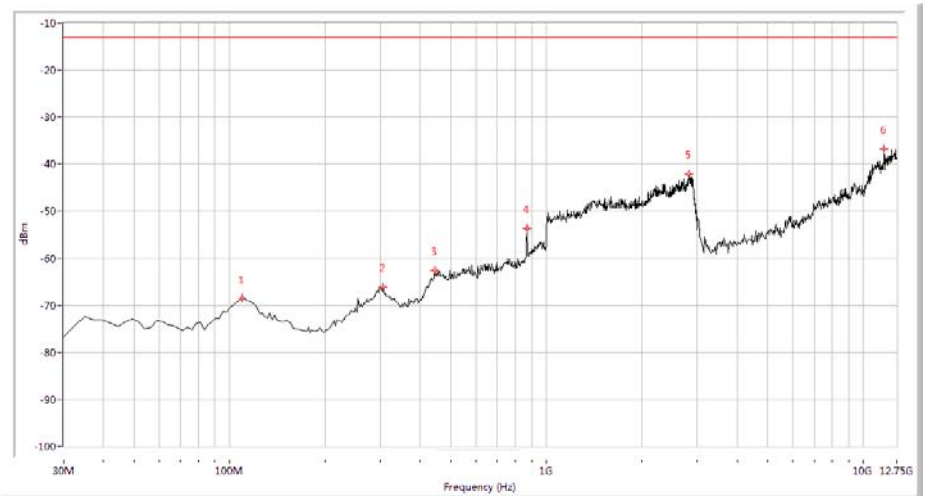
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.83	-13.0	54.8	136.9	Vertical	PASS
293.666	-65.99	-13.0	53.0	52.0	Vertical	PASS
460.574	-60.79	-13.0	47.8	8.7	Vertical	PASS
1987.531	-38.86	-13.0	25.9	199.4	Vertical	PASS
5755.611	-49.96	-13.0	37.0	24.2	Vertical	PASS
15802.993	-30.99	-13.0	18.0	61.6	Vertical	PASS

(Plot H.6: HSDPA 1900 MHz Channel = 9538, Test Antenna Vertical)



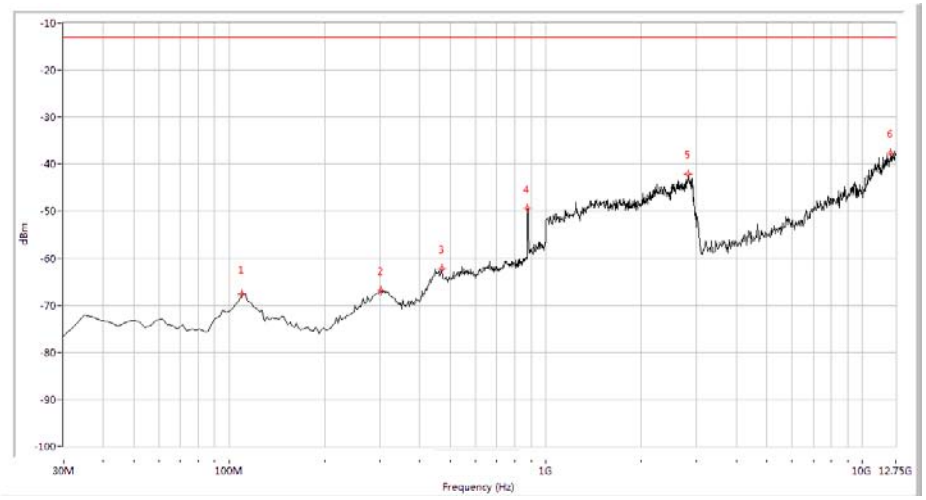
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
49.352	-71.83	-13.0	58.8	36.9	Horizontal	PASS
109.825	-67.87	-13.0	54.9	43.3	Horizontal	PASS
308.180	-66.00	-13.0	53.0	122.0	Horizontal	PASS
869.377	-49.13	-13.0	36.1	78.8	Horizontal	PASS
2855.362	-42.04	-13.0	29.0	242.1	Horizontal	PASS
12458.229	-36.96	-13.0	24.0	9.6	Horizontal	PASS

(Plot I.1: HSUPA 850MHz Channel = 4132, Test Antenna Horizontal)



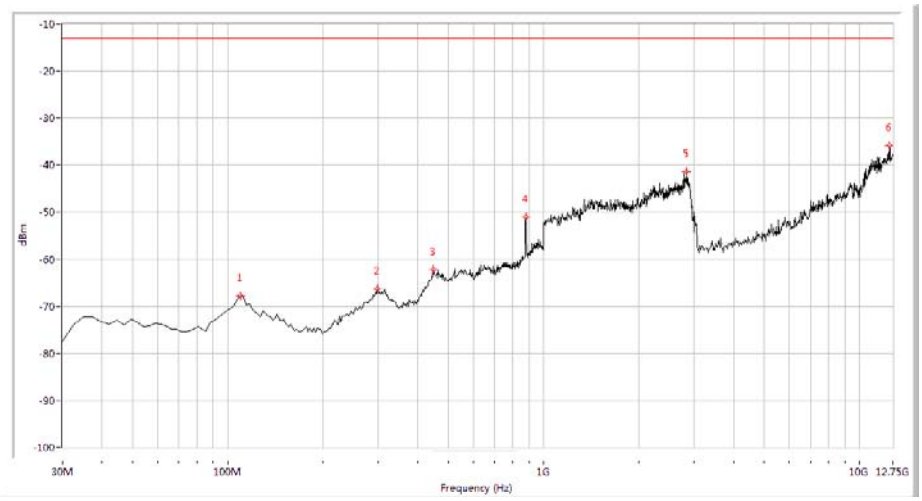
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.41	-13.0	55.4	78.6	Vertical	PASS
305.761	-66.19	-13.0	53.2	323.4	Vertical	PASS
446.060	-62.55	-13.0	49.6	52.0	Vertical	PASS
871.796	-53.64	-13.0	40.6	124.8	Vertical	PASS
2810.474	-42.07	-13.0	29.1	20.9	Vertical	PASS
11655.860	-36.82	-13.0	23.8	244.5	Vertical	PASS

(Plot I.2: HSUPA 850 MHz Channel = 4132, Test Antenna Vertical)



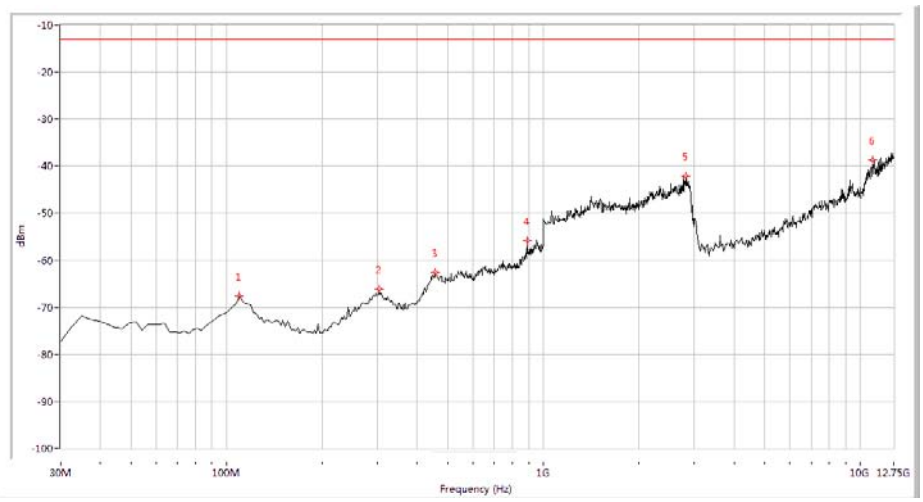
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.57	-13.0	54.6	163.5	Horizontal	PASS
300.923	-66.91	-13.0	53.9	245.3	Horizontal	PASS
470.249	-62.23	-13.0	49.2	52.7	Horizontal	PASS
876.633	-49.46	-13.0	36.5	25.9	Horizontal	PASS
2815.461	-42.01	-13.0	29.0	6.0	Horizontal	PASS
12312.344	-37.54	-13.0	24.5	78.1	Horizontal	PASS

(Plot I.3: HSUPA 850MHz Channel = 4175, Test Antenna Horizontal)



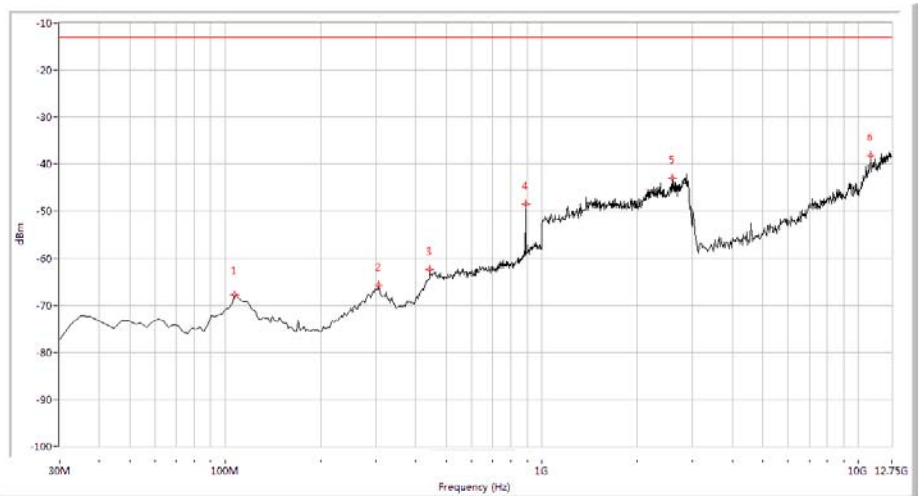
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.81	-13.0	54.8	125.0	Vertical	PASS
298.504	-66.25	-13.0	53.3	49.6	Vertical	PASS
448.479	-62.26	-13.0	49.3	75.8	Vertical	PASS
879.052	-50.92	-13.0	37.9	63.1	Vertical	PASS
2830.424	-41.35	-13.0	28.3	323.5	Vertical	PASS
12458.229	-35.80	-13.0	22.8	66.7	Vertical	PASS

(Plot I.4: HSUPA 850MHz Channel = 4175, Test Antenna Vertical)



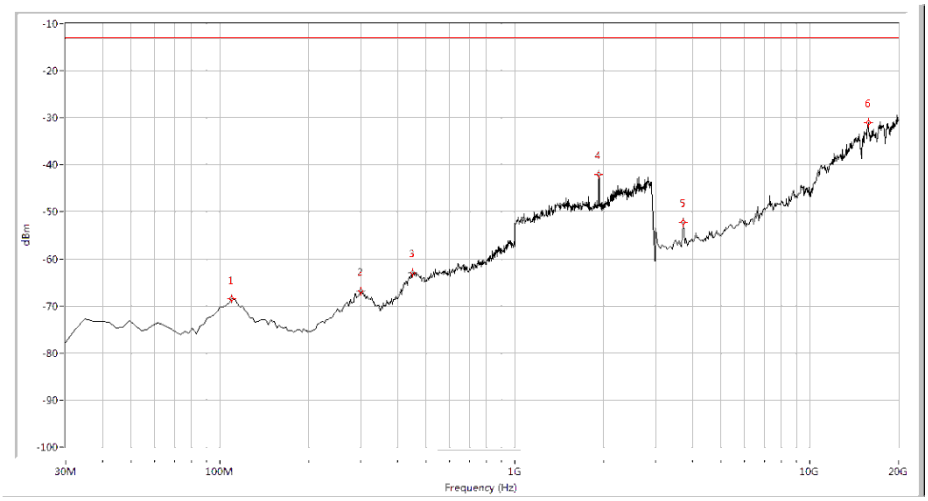
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.62	-13.0	54.6	147.2	Horizontal	PASS
303.342	-66.20	-13.0	53.2	323.3	Horizontal	PASS
455.736	-62.66	-13.0	49.7	56.9	Horizontal	PASS
888.728	-55.79	-13.0	42.8	224.7	Horizontal	PASS
2820.449	-42.08	-13.0	29.1	98.8	Horizontal	PASS
10975.062	-38.70	-13.0	25.7	44.5	Horizontal	PASS

(Plot I.5: HSUPA 850MHz Channel = 4233, Test Antenna Horizontal)



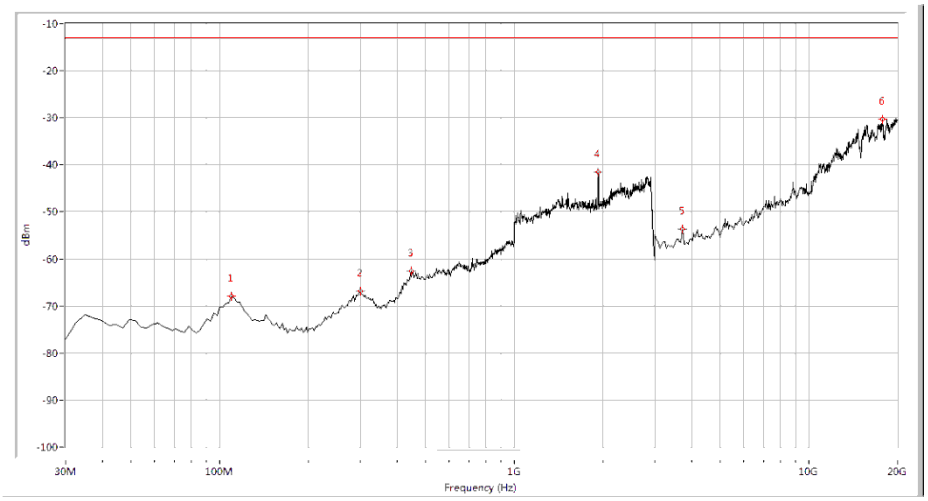
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
107.406	-67.73	-13.0	54.7	323.1	Vertical	PASS
305.761	-65.76	-13.0	52.8	124.5	Vertical	PASS
443.641	-62.31	-13.0	49.3	63.9	Vertical	PASS
891.147	-48.54	-13.0	35.5	247.8	Vertical	PASS
2591.022	-43.00	-13.0	30.0	32.7	Vertical	PASS
10975.062	-38.10	-13.0	25.1	226.6	Vertical	PASS

(Plot I.6: HSUPA 850MHz Channel = 4233, Test Antenna Vertical)



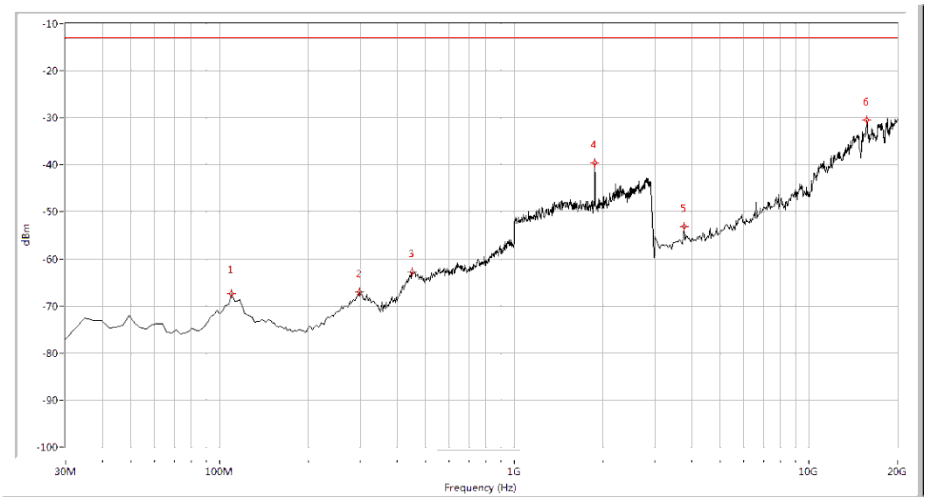
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.52	-13.0	55.5	163.5	Horizontal	PASS
300.923	-66.81	-13.0	53.8	247.3	Horizontal	PASS
450.898	-62.88	-13.0	49.9	87.2	Horizontal	PASS
1927.681	-42.05	-13.0	29.1	3.9	Horizontal	PASS
3720.698	-52.20	-13.0	39.2	12.0	Horizontal	PASS
15802.993	-31.09	-13.0	18.1	331.5	Horizontal	PASS

(Plot J.1: HSUPA 1900 MHz Channel = 9262, Test Antenna Horizontal)



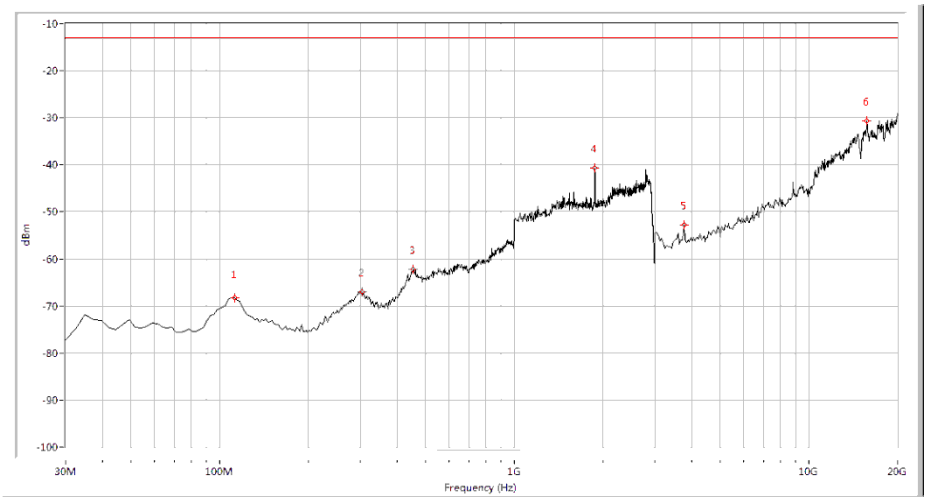
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.00	-13.0	55.0	156.4	Vertical	PASS
300.923	-66.86	-13.0	53.9	324.5	Vertical	PASS
448.479	-62.61	-13.0	49.6	78.9	Vertical	PASS
1927.681	-41.58	-13.0	28.6	12.3	Vertical	PASS
3720.698	-53.61	-13.0	40.6	2.7	Vertical	PASS
17795.511	-30.33	-13.0	17.3	93.6	Vertical	PASS

(Plot J.2: HSUPA 1900 MHz Channel = 9262, Test Antenna Vertical)



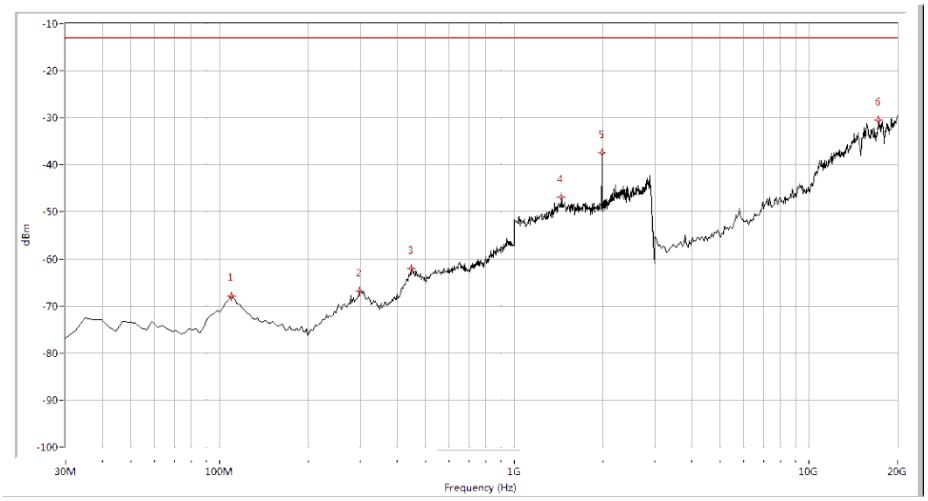
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.38	-13.0	54.4	163.4	Horizontal	PASS
298.504	-67.06	-13.0	54.1	52.0	Horizontal	PASS
450.898	-62.74	-13.0	49.7	78.9	Horizontal	PASS
1877.805	-39.63	-13.0	26.6	213.7	Horizontal	PASS
3763.092	-53.14	-13.0	40.1	9.8	Horizontal	PASS
15718.204	-30.56	-13.0	17.6	121.6	Horizontal	PASS

(Plot J.3: HSUPA 1900 MHz Channel = 9400, Test Antenna Horizontal)



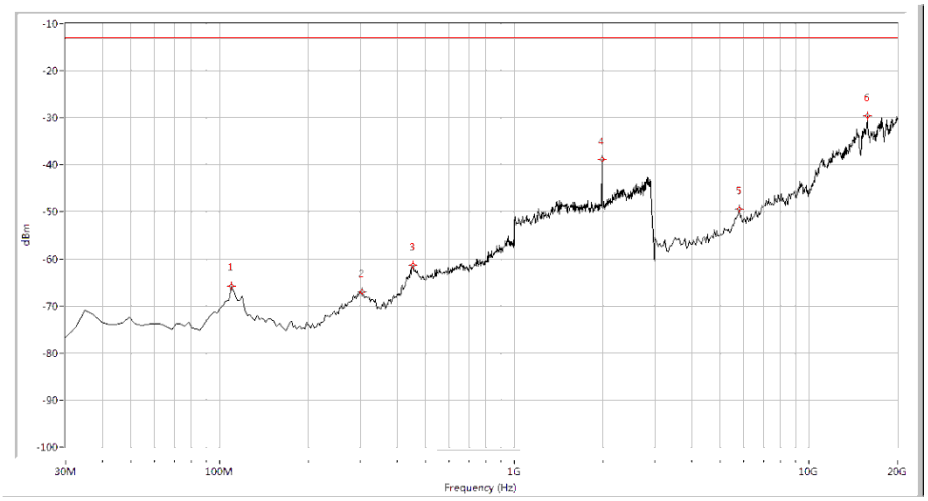
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-68.22	-13.0	55.2	163.4	Vertical	PASS
303.342	-66.99	-13.0	54.0	85.7	Vertical	PASS
453.317	-62.22	-13.0	49.2	32.0	Vertical	PASS
1877.805	-40.62	-13.0	27.6	96.1	Vertical	PASS
3763.092	-52.74	-13.0	39.7	215.9	Vertical	PASS
15718.204	-30.66	-13.0	17.7	9.2	Vertical	PASS

(Plot J.4: HSUPA 1900 MHz Channel = 9400, Test Antenna Vertical)



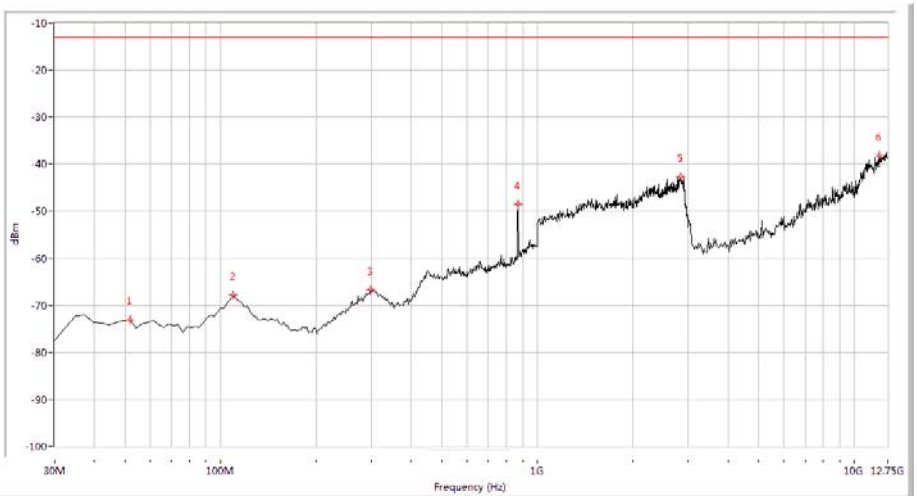
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.98	-13.0	55.0	63.1	Horizontal	PASS
298.504	-66.93	-13.0	53.9	158.5	Horizontal	PASS
446.060	-62.04	-13.0	49.0	41.8	Horizontal	PASS
1443.890	-46.88	-13.0	33.9	15.4	Horizontal	PASS
1987.531	-37.42	-13.0	24.4	58.9	Horizontal	PASS
17201.995	-30.57	-13.0	17.6	254.7	Horizontal	PASS

(Plot J.5: HSUPA 1900 MHz Channel = 9538, Test Antenna Horizontal)



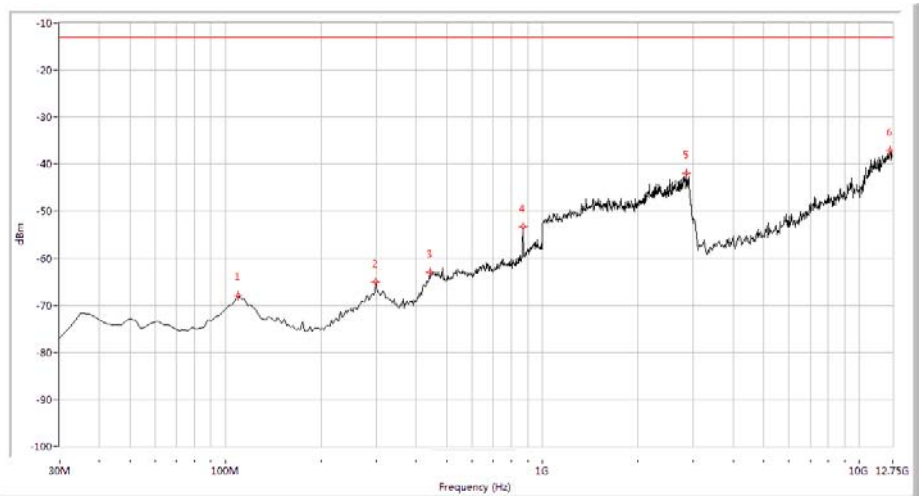
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-65.83	-13.0	52.8	318.4	Vertical	PASS
303.342	-66.99	-13.0	54.0	52.4	Vertical	PASS
453.317	-61.31	-13.0	48.3	156.7	Vertical	PASS
1987.531	-38.96	-13.0	26.0	0.1	Vertical	PASS
5798.005	-49.41	-13.0	36.4	89.7	Vertical	PASS
15802.993	-29.69	-13.0	16.7	214.6	Vertical	PASS

(Plot J.6: HSUPA 1900 MHz Channel = 9538, Test Antenna Vertical)



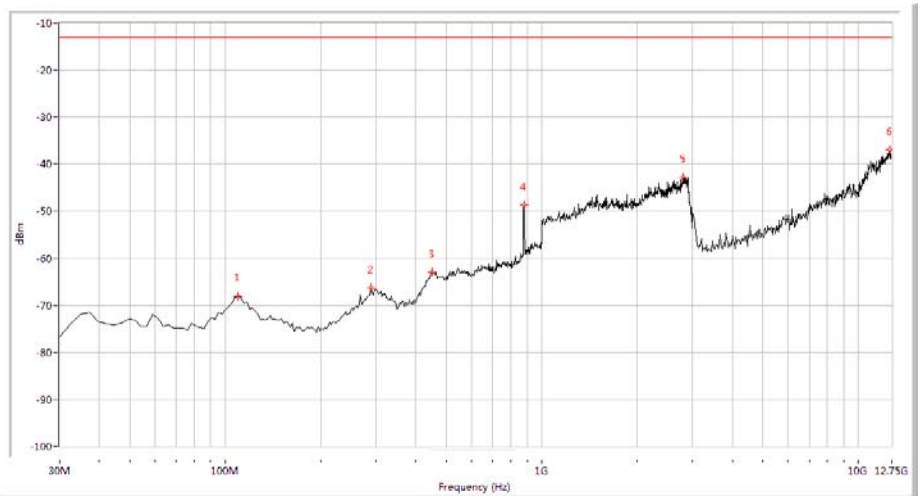
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
51.771	-73.01	-13.0	60.0	36.6	Horizontal	PASS
109.825	-67.69	-13.0	54.7	253.2	Horizontal	PASS
298.504	-66.65	-13.0	53.7	132.4	Horizontal	PASS
869.377	-48.46	-13.0	35.5	7.8	Horizontal	PASS
2840.399	-42.64	-13.0	29.6	321.3	Horizontal	PASS
12020.574	-38.19	-13.0	25.2	98.7	Horizontal	PASS

(Plot K.1: HSPA+ 850MHz Channel = 4132, Test Antenna Horizontal)



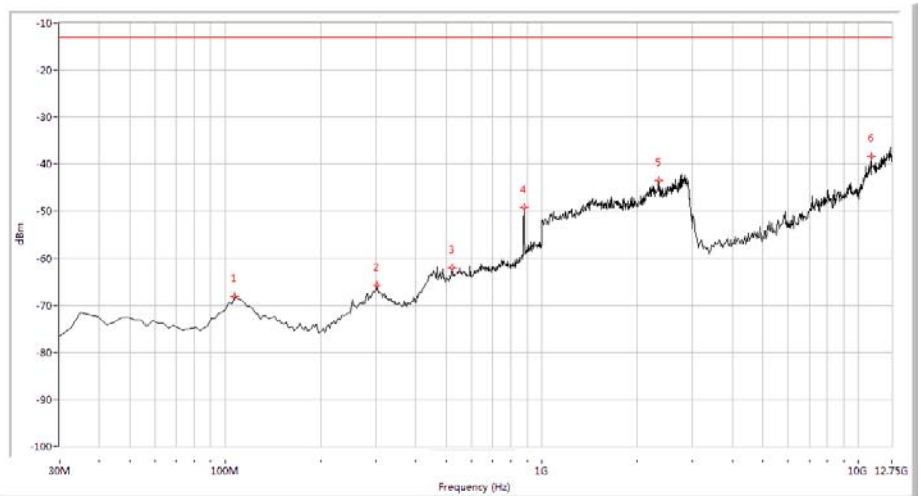
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.86	-13.0	54.9	163.5	Vertical	PASS
298.504	-65.04	-13.0	52.0	343.2	Vertical	PASS
441.222	-63.02	-13.0	50.0	79.8	Vertical	PASS
869.377	-53.33	-13.0	40.3	48.7	Vertical	PASS
2850.374	-41.93	-13.0	28.9	246.3	Vertical	PASS
12555.486	-37.17	-13.0	24.2	9.3	Vertical	PASS

(Plot K.2: HSPA+ 850 MHz Channel = 4132, Test Antenna Vertical)



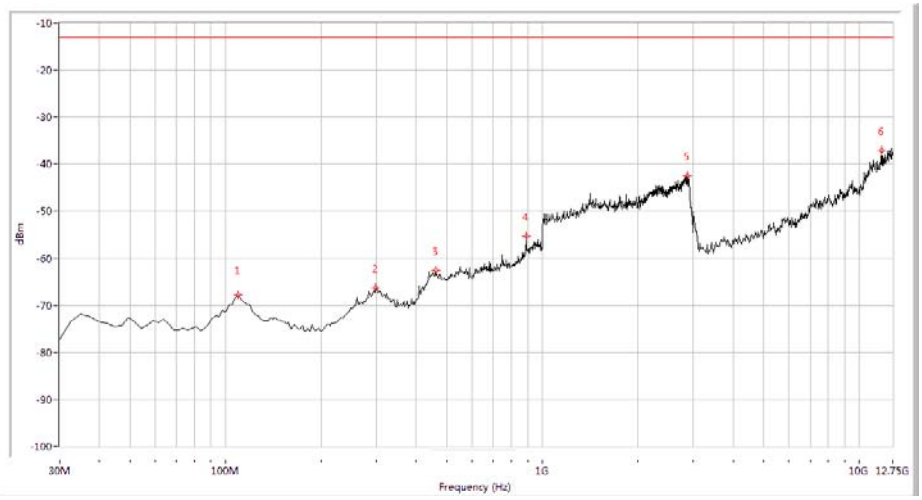
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.02	-13.0	55.0	36.9	Horizontal	PASS
288.828	-66.38	-13.0	53.4	163.4	Horizontal	PASS
450.898	-63.02	-13.0	50.0	78.5	Horizontal	PASS
879.052	-48.74	-13.0	35.7	256.3	Horizontal	PASS
2800.499	-42.76	-13.0	29.8	153.4	Horizontal	PASS
12628.429	-36.85	-13.0	23.8	69.7	Horizontal	PASS

(Plot K.3: HSPA+ 850MHz Channel = 4175, Test Antenna Horizontal)



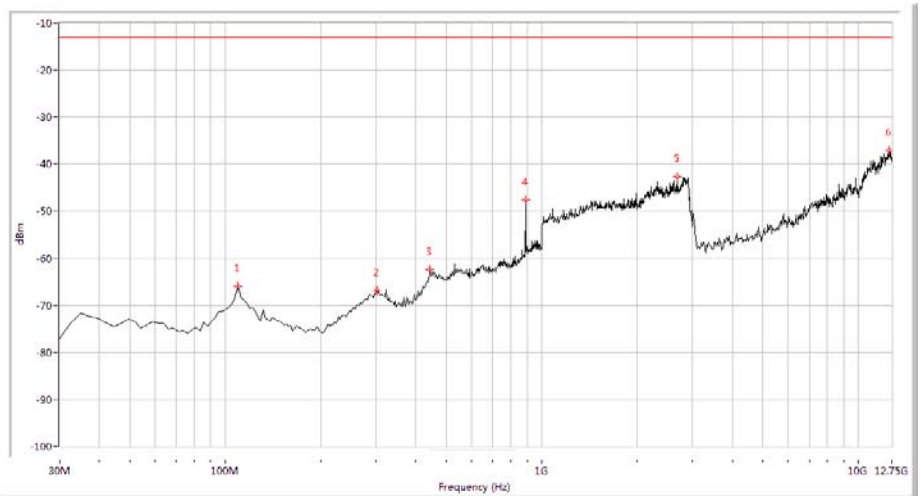
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
107.406	-68.03	-13.0	55.0	63.7	Vertical	PASS
300.923	-65.71	-13.0	52.7	163.4	Vertical	PASS
521.047	-62.09	-13.0	49.1	244.2	Vertical	PASS
879.052	-49.13	-13.0	36.1	55.9	Vertical	PASS
2351.621	-43.54	-13.0	30.5	29.4	Vertical	PASS
10999.377	-38.28	-13.0	25.3	289.1	Vertical	PASS

(Plot K.4: HSPA+ 850MHz Channel = 4175, Test Antenna Vertical)



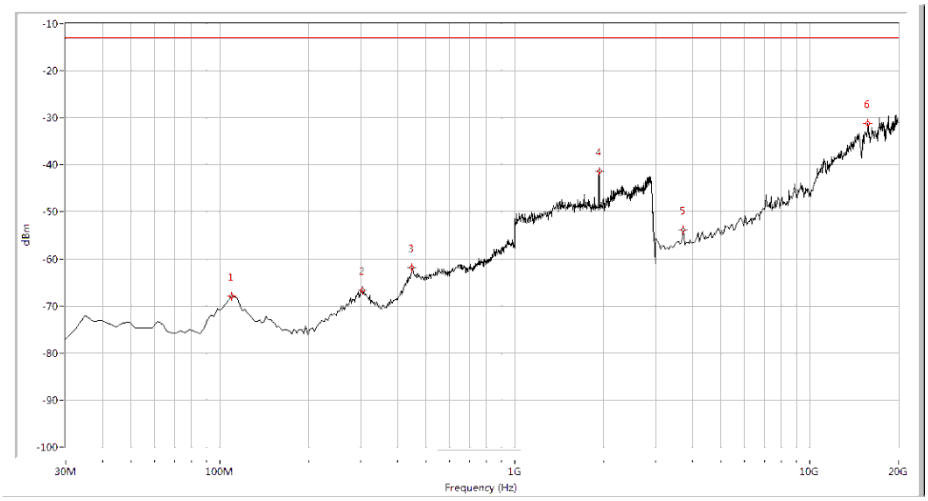
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.83	-13.0	54.8	32.3	Horizontal	PASS
298.504	-66.38	-13.0	53.4	215.6	Horizontal	PASS
460.574	-62.58	-13.0	49.6	45.7	Horizontal	PASS
888.728	-55.19	-13.0	42.2	98.8	Horizontal	PASS
2875.312	-42.52	-13.0	29.5	156.2	Horizontal	PASS
11801.746	-37.07	-13.0	24.1	347.0	Horizontal	PASS

(Plot K.5: HSPA+ 850MHz Channel = 4233, Test Antenna Horizontal)



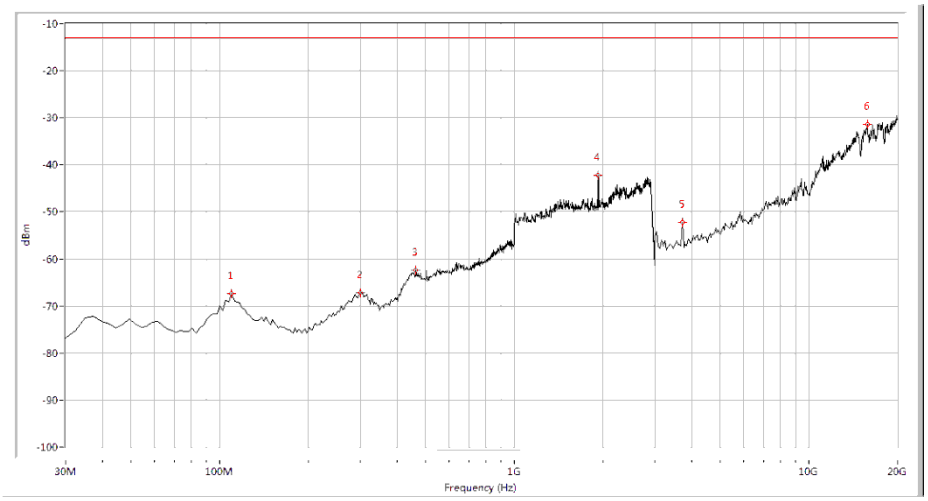
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-66.02	-13.0	53.0	132.4	Vertical	PASS
300.923	-66.81	-13.0	53.8	52.6	Vertical	PASS
443.641	-62.48	-13.0	49.5	7.8	Vertical	PASS
891.147	-47.60	-13.0	34.6	289.6	Vertical	PASS
2685.786	-42.54	-13.0	29.5	32.0	Vertical	PASS
12555.486	-37.12	-13.0	24.1	145.1	Vertical	PASS

(Plot K.6: HSPA+ 850MHz Channel = 4233, Test Antenna Vertical)



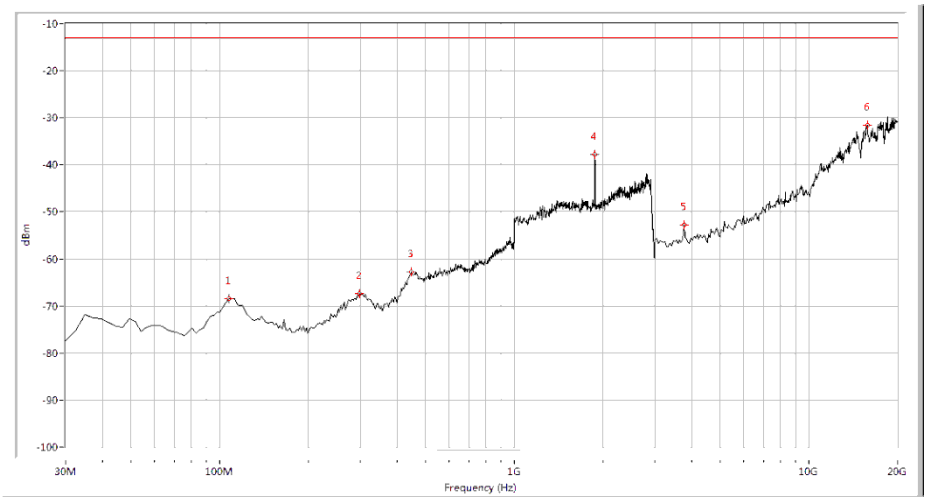
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.90	-13.0	54.9	355.6	Horizontal	PASS
303.342	-66.62	-13.0	53.6	237.0	Horizontal	PASS
448.479	-61.94	-13.0	48.9	6.5	Horizontal	PASS
1932.668	-41.34	-13.0	28.3	155.5	Horizontal	PASS
3720.698	-53.76	-13.0	40.8	100.1	Horizontal	PASS
15718.204	-31.17	-13.0	18.2	340.7	Horizontal	PASS

(Plot L.1: HSPA+ 1900 MHz Channel = 9262, Test Antenna Horizontal)



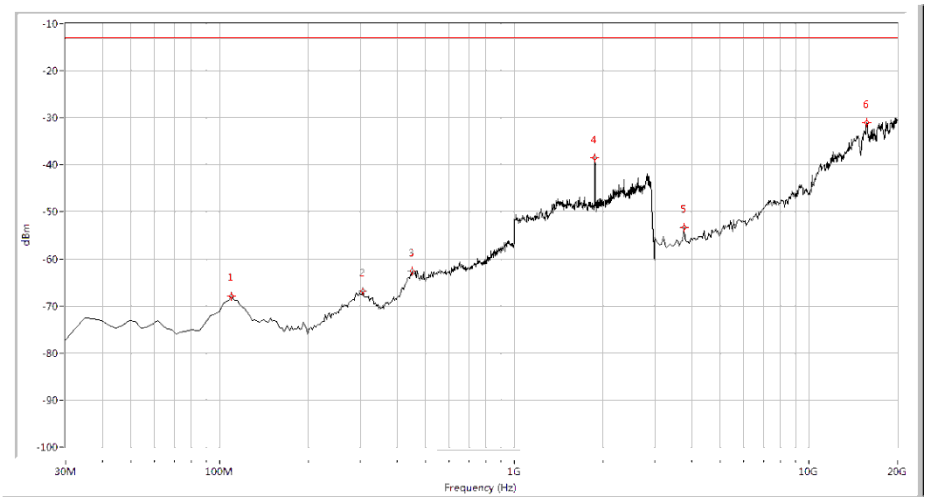
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.44	-13.0	54.4	120.3	Vertical	PASS
300.923	-67.28	-13.0	54.3	263.7	Vertical	PASS
462.993	-62.46	-13.0	49.5	5.9	Vertical	PASS
1927.681	-42.35	-13.0	29.3	45.6	Vertical	PASS
3720.698	-52.24	-13.0	39.2	8.0	Vertical	PASS
15802.993	-31.47	-13.0	18.5	323.4	Vertical	PASS

(Plot L.2: HSPA+ 1900 MHz Channel = 9262, Test Antenna Vertical)



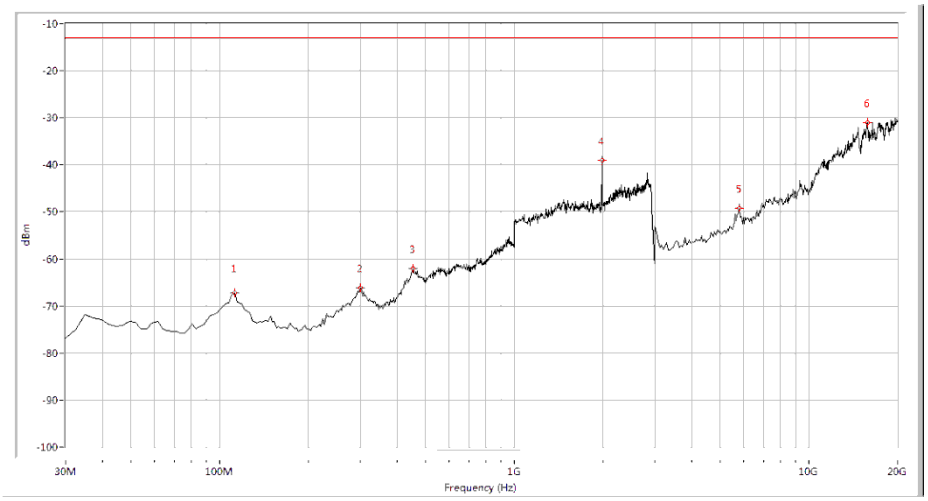
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
107.406	-68.46	-13.0	55.5	163.4	Horizontal	PASS
298.504	-67.38	-13.0	54.4	89.7	Horizontal	PASS
448.479	-62.81	-13.0	49.8	6.0	Horizontal	PASS
1877.805	-37.80	-13.0	24.8	72.1	Horizontal	PASS
3763.092	-52.85	-13.0	39.8	137.6	Horizontal	PASS
15760.599	-31.50	-13.0	18.5	208.9	Horizontal	PASS

(Plot L.3: HSPA+ 1900 MHz Channel = 9400, Test Antenna Horizontal)



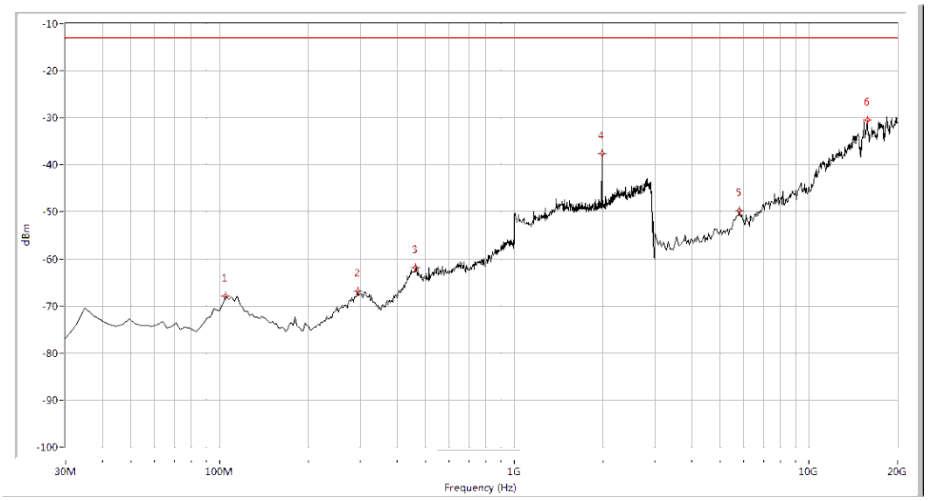
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-67.87	-13.0	54.9	312.8	Vertical	PASS
305.761	-66.85	-13.0	53.8	284.6	Vertical	PASS
450.898	-62.62	-13.0	49.6	54.0	Vertical	PASS
1877.805	-38.49	-13.0	25.5	12.6	Vertical	PASS
3763.092	-53.36	-13.0	40.4	5.9	Vertical	PASS
15675.810	-31.01	-13.0	18.0	117.4	Vertical	PASS

(Plot L.4: HSPA+ 1900 MHz Channel = 9400, Test Antenna Vertical)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-67.25	-13.0	54.3	124.6	Horizontal	PASS
300.923	-66.20	-13.0	53.2	87.9	Horizontal	PASS
453.317	-61.98	-13.0	49.0	3.0	Horizontal	PASS
1987.531	-39.02	-13.0	26.0	69.5	Horizontal	PASS
5798.005	-49.26	-13.0	36.3	244.8	Horizontal	PASS
15760.599	-31.06	-13.0	18.1	305.1	Horizontal	PASS

(Plot L.5: HSPA+ 1900 MHz Channel = 9538, Test Antenna Horizontal)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
104.988	-67.96	-13.0	55.0	154.9	Vertical	PASS
293.666	-66.81	-13.0	53.8	261.4	Vertical	PASS
460.574	-61.91	-13.0	48.9	228.4	Vertical	PASS
1987.531	-37.55	-13.0	24.6	167.9	Vertical	PASS
5798.005	-49.80	-13.0	36.8	15.1	Vertical	PASS
15760.599	-30.41	-13.0	17.4	0.4	Vertical	PASS

(Plot L.6: HSPA+ 1900 MHz Channel = 9538, Test Antenna Vertical)

** END OF REPORT **