Report No.: SZ13030078W01

TESTING
CNAS L3572

FCC TEST REPORT

Issued to

TCT Mobile Limited

For

HSPA+ AP

Model Name:	One Touch Y580Q
Trade Name:	Alcatel
Brand Name:	Alcatel
FCC ID :	RAD369
Standard:	47 CFR Part 22 Subpart H
	47 CFR Part 24 Subpart E
	47 CFR Part 27 Subpart L
Test date:	2013-2-26to 2013-3-29
Issue date:	2013-4-2

Shenzhen Morlab Communications Technology Co., Ltd.

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(Test Engineer)	(Department Manager)	(Project Manager)
Date 2013.4.2	*Date* 2013.4.2	*Date* 2013.4.2

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Change History		
Issue	Date	Reason for change
1.0	April 2, 2013	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type ..... :	HSPA+ AP
Serial No. ..... :	(n.a, marked #1 by test site)
Hardware Version ..... :	V3.0
Software Version ..... :	S1_B15001S_1110000_B10001S
Applicant ..... :	TCT Mobile Limited 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
Manufacturer ..... :	TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED 70 Huifeng 4rd,ZhongKai Hi-tech Development District ,Huizhou,Guangdong 516006 P.R.China （TCL Mobile Communication Co.,LTD.Huizhou）
Frequency Range ..... :	GSM 850MHz: Tx: 824.20 - 848.80MHz (at intervals of 200kHz); Rx: 869.20 - 893.80MHz (at intervals of 200kHz) GSM 1900MHz: Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz); Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz) WCDMA 1900MHz Tx: 1852.4 - 1907.6MHz (at intervals of 200kHz); Rx: 1932.4 - 1987.6MHz (at intervals of 200kHz) WCDMA 1700MHz Tx: 1712.4 - 1752.6MHz (at intervals of 200kHz); Rx: 2112.4 - 2152.6MHz (at intervals of 200kHz)
Modulation Type..... :	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 Class12,EGPRS: Multislot Class12
Antenna Type..... :	PIFA Antenna
Emission Designators ..... :	GPRS 850:249KGXW,GPRS 1900:246KGXW EGPRS850:248KG7W, EGPRS1900:246KG7W, WCDMA1900:4M21F9W WCDMA1700:4M20F9W

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 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 4: The transmitter (Tx) frequency arrangement of the WCDMA 1700MHz band used by the EUT can be represented with the formula F(n)=1712.4+0.2*(n-1312), 1312<=n<=1513; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 1312 (1712.4MHz), 1412 (1732.4MHz) and 1513 (1752.6MHz).

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 (10-1-09 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-09 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-09 Edition)	Personal Communications Services
4	47 CFR Part 27 (10-1-09 Edition)	Miscellaneous Wireless 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) ,27.50(d)(5)	Peak to average radio	PASS
2	2.1049,22.917 24.238, 27.53(g)	99% Occupied Bandwidth	PASS
3	2.1055,22.355 24.235,27.54	Frequency Stability	PASS
4	2.1051,2.1057 22.917,24.238, 27.53(g)	Conducted Out of Band Emissions	PASS
5	2.1051,2.1057 22.917,24.238 27.53(g)(h)	Band Edge	PASS
6	22.913,24.232 27.50(d)(4)	Transmitter Radiated Power (EIPR/ERP)	PASS
7	2.1053,2.1057 22.917,24.238 27.53(g)	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 27L REQUIREMENTS

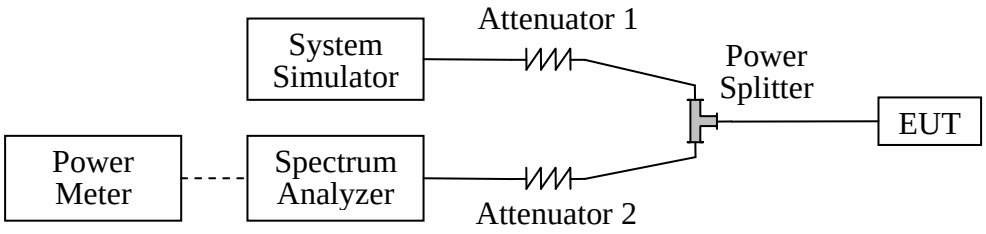
2.1 Conducted RF Output Power

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	2012.05	2013.05
Spectrum Analyzer	Agilent	E7405A	US44210471	2012.05	2013.05
Power Meter	Agilent	E4418B	GB43318055	2012.05	2013.05
Power Sensor	Agilent	8482A	MY41091706	2012.05	2013.05
Power Splitter	Weinschel	1506A	NW521	2012.05	2013.05
Attenuator 1	Resnet	20dB	(n.a.)	2012.05	2013.05
Attenuator 2	Resnet	3dB	(n.a.)	2012.05	2013.05

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	
GPRS 850MHz	128	824.2	32.49	Plot A1 to A3 Note 1	35	PASS
	190	836.6	33.11			PASS
	251	848.8	33.47			PASS
GPRS 1900MHz	512	1850.2	28.02	Plot B1 to B3 Note 1	32	PASS
	661	1880.0	29.85			PASS
	810	1909.8	28.57			PASS
EGPRS 850MHz	128	824.2	32.47	Plot C1 to C3 Note 1	35	PASS
	190	836.6	33.08			PASS
	251	848.8	33.45			PASS
EGPRS 1900MHz	512	1850.2	29.05	Plot D1 to D3 Note 1	32	PASS
	661	1880.0	29.85			PASS
	810	1909.8	28.96			PASS

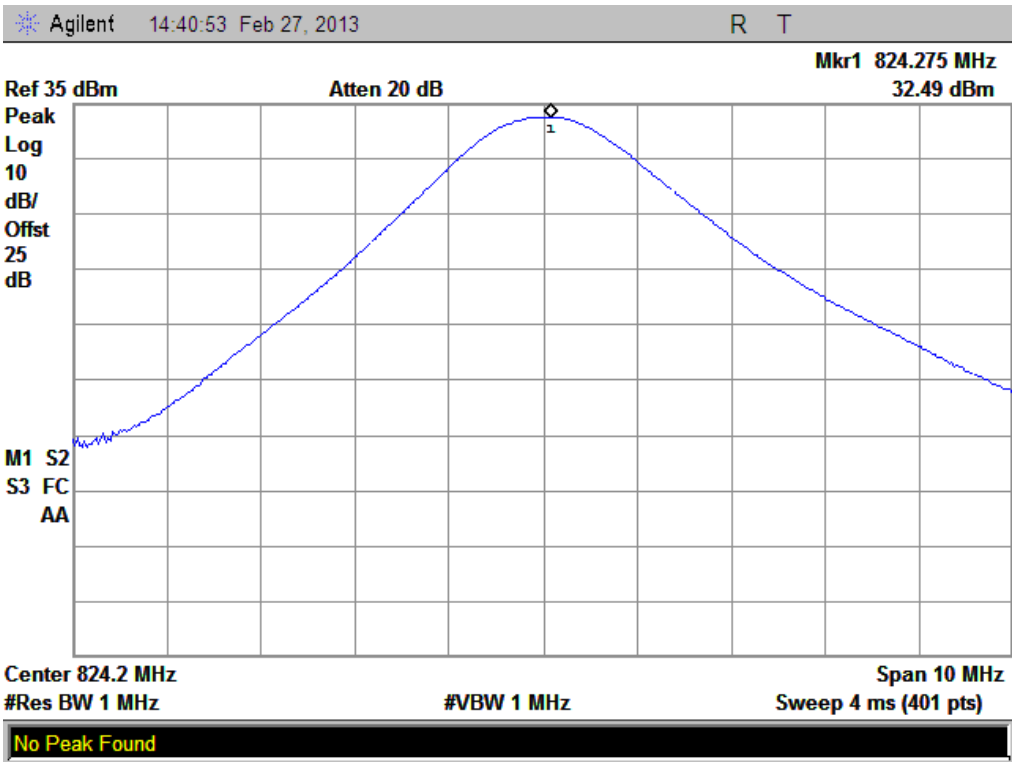
Note 1: For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.

2. WCDMA Model Test Verdict:

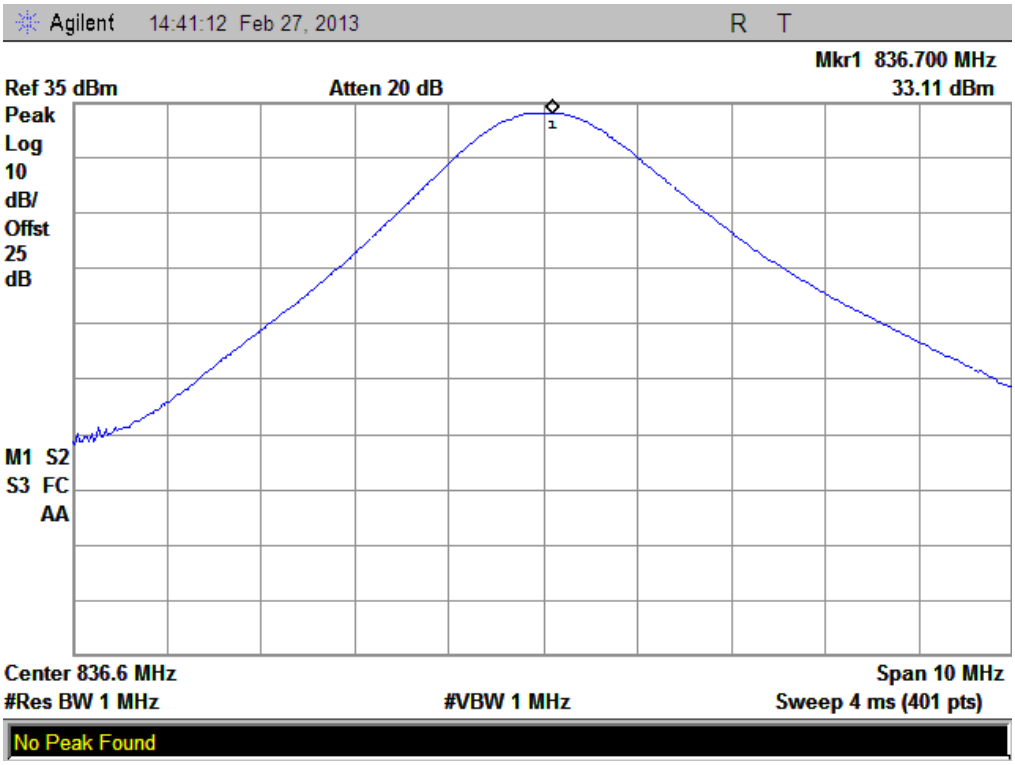
Item	band	WCDMA 1900		
	ARFCN	9262	9400	9538
	subtest	dBm		
5.2(WCDMA)	non	22.55	22.29	22.59
HSDPA	1	22.53	22.27	22.47
	2	22.51	22.25	22.46
	3	21.05	21.78	21.95
	4	21.02	21.75	21.97
HSUPA	1	22.51	22.25	22.45
	2	20.51	20.07	20.45
	3	21.52	21.26	21.47
	4	20.49	20.27	20.47
	5	22.49	22.23	22.41
HSPA+	1	22.45	22.23	22.43
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA /HSPA+ was tested by power meter.			

Item	band	WCDMA 1700		
	ARFCN	1312	1412	1513
	subtest	dBm		
5.2(WCDMA)	non	23.67	23.57	23.65
HSDPA	1	23.63	23.55	23.62
	2	23.61	23.54	23.61
	3	23.15	23.06	23.13
	4	23.12	23.05	23.12
HSUPA	1	23.62	23.53	23.61
	2	21.65	21.55	21.63
	3	22.63	22.54	22.64
	4	21.61	21.56	21.59
	5	23.61	23.53	23.62
HSPA+	1	23.61	23.52	23.59
Note	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA /HSPA+ was tested by power meter.			

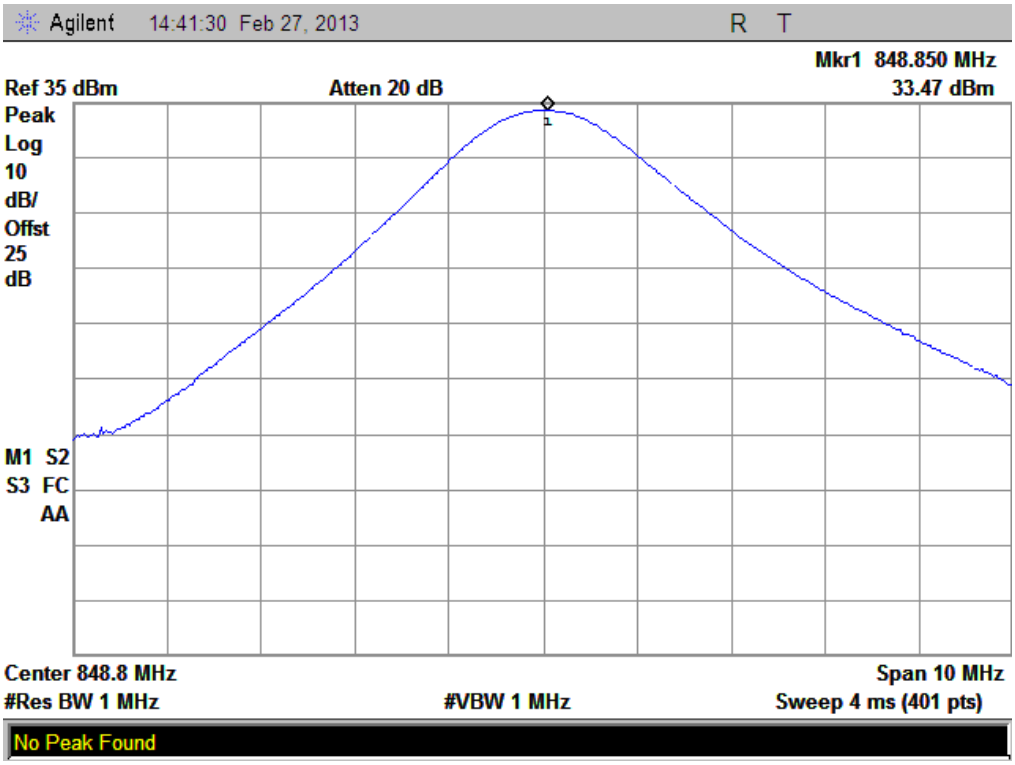
3. GSM Model Test Plots:



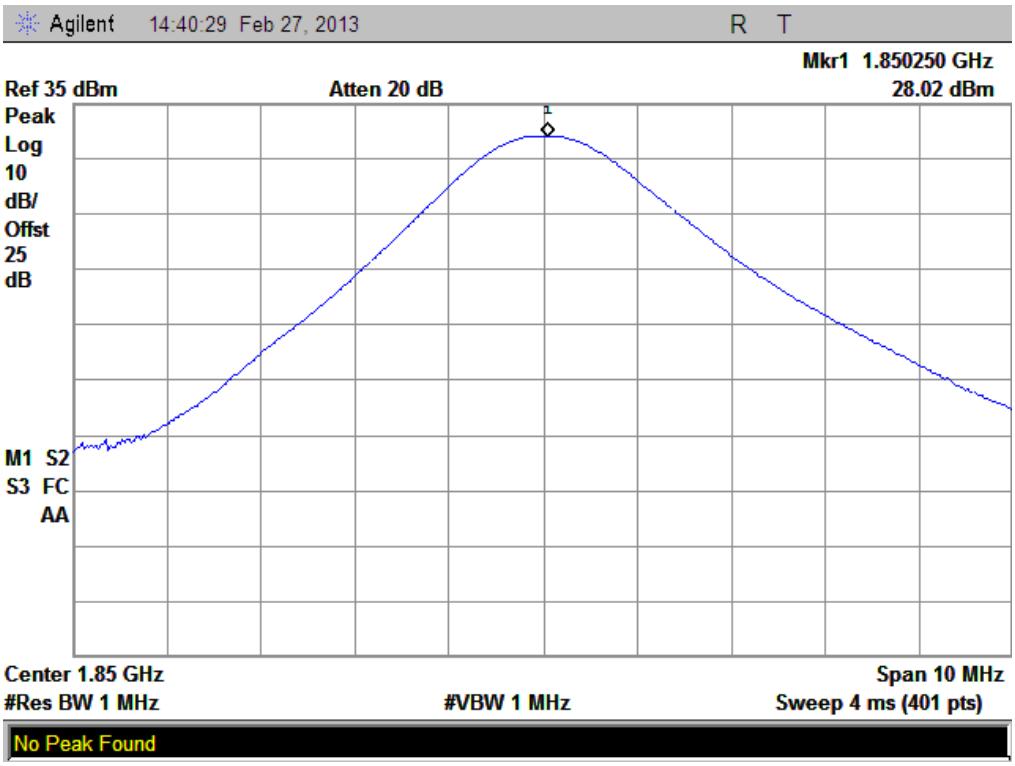
(Plot A1: GPRS 850MHz Channel = 128)



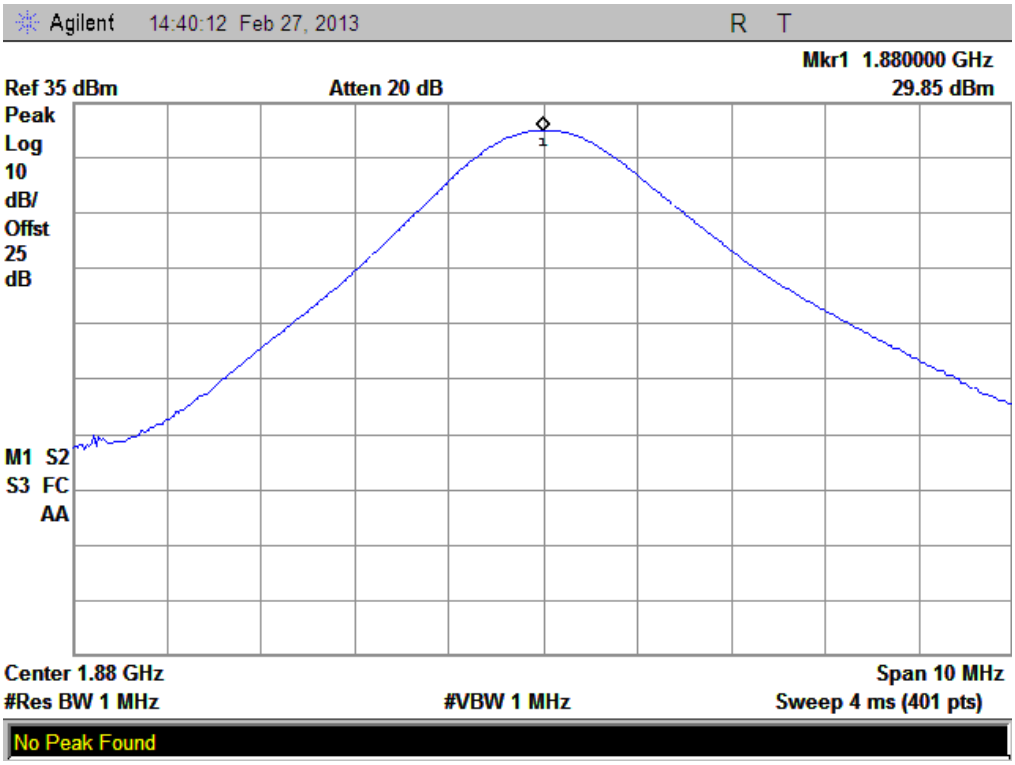
(Plot A2: GPRS 850MHz Channel = 190)



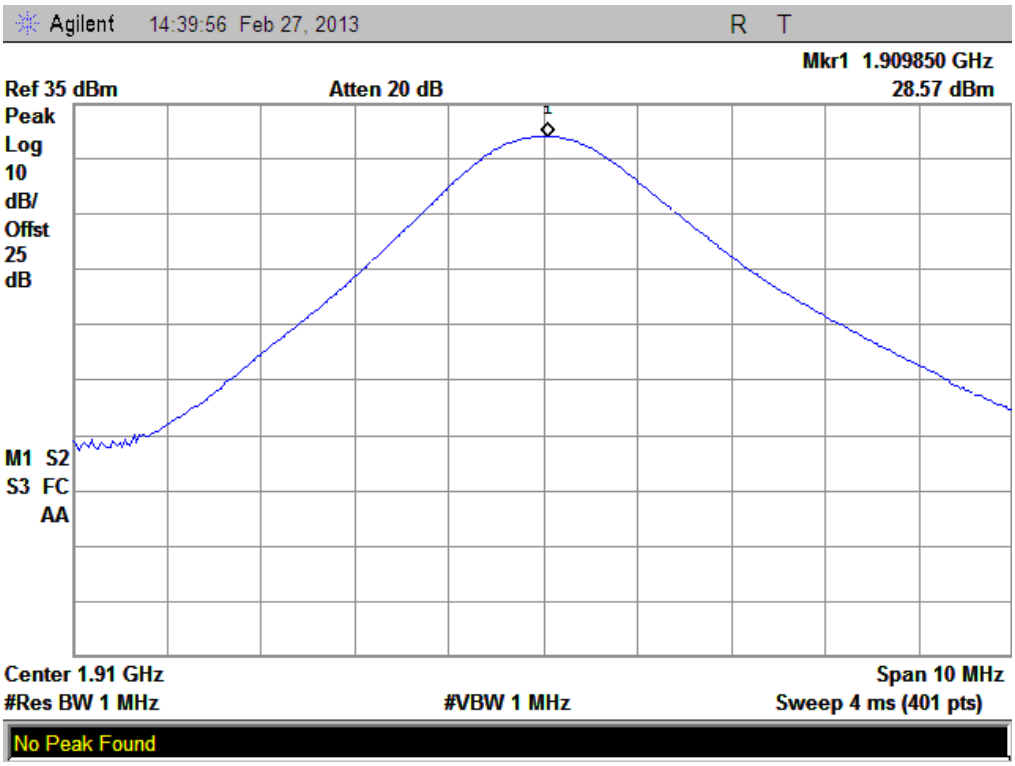
(Plot A3: GPRS 850MHz Channel = 251)



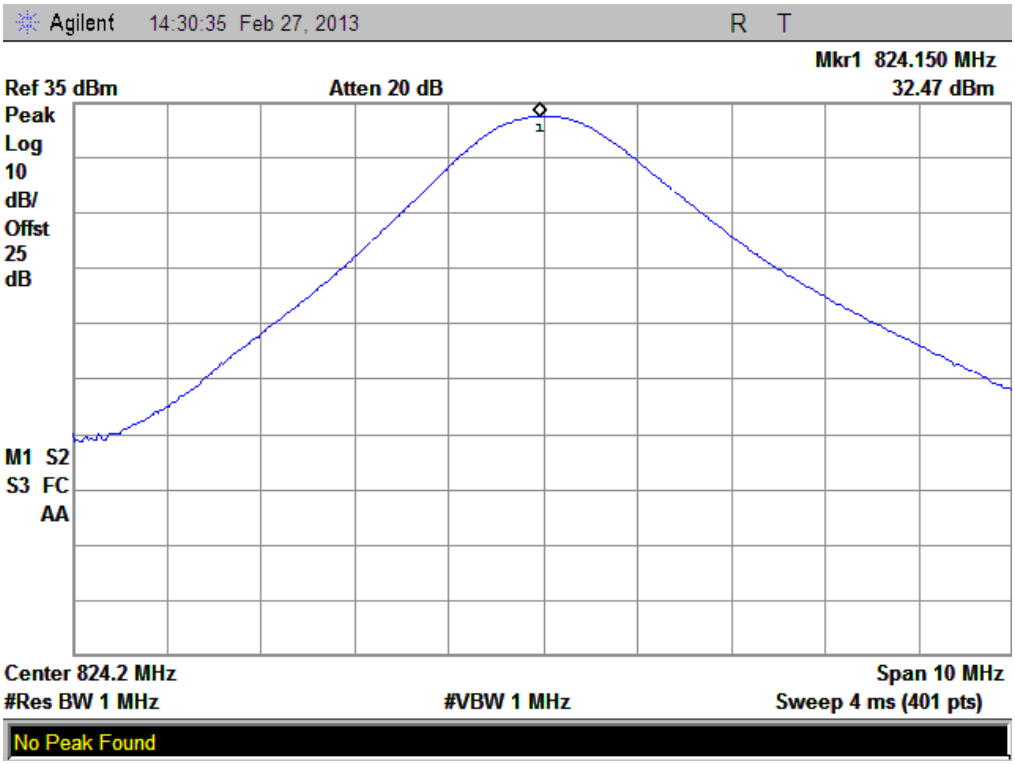
(Plot B1: GPRS 1900MHz Channel = 512)



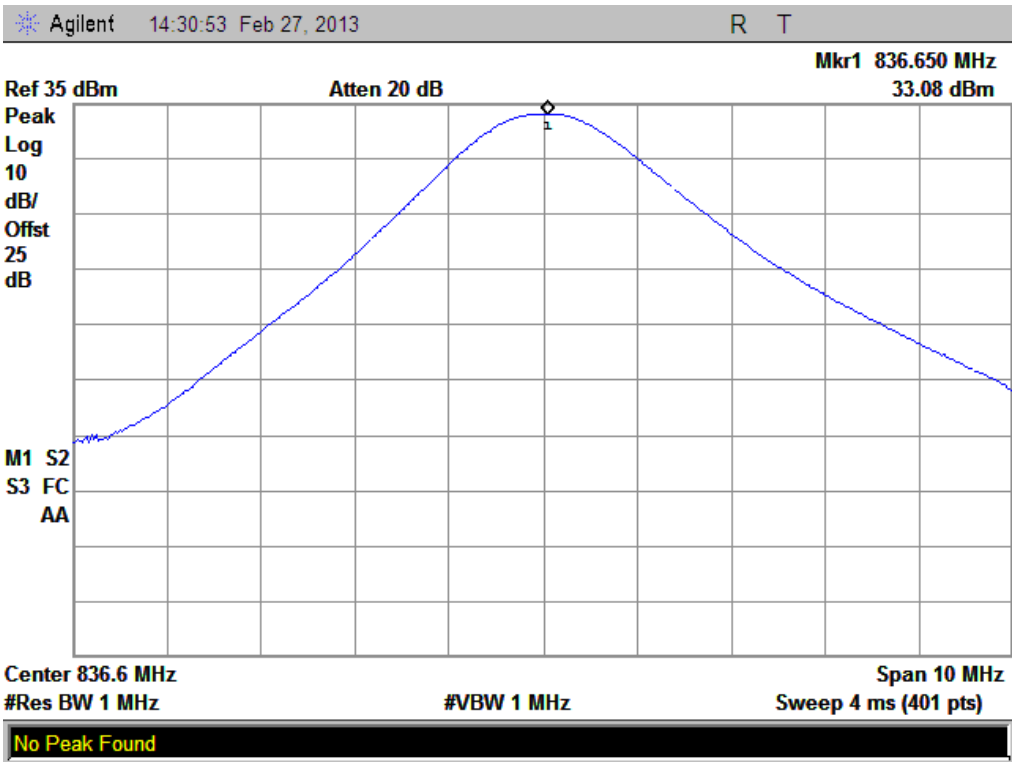
(Plot B2: GPRS 1900MHz Channel = 661)



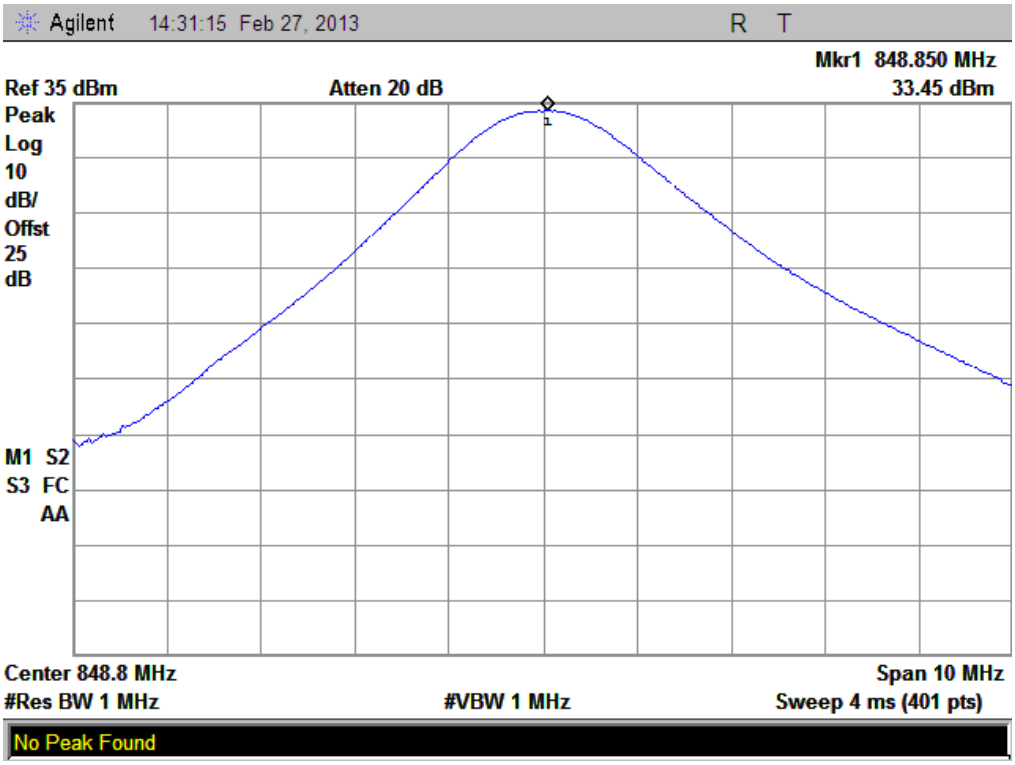
(Plot B3: GPRS 1900Hz Channel = 810)



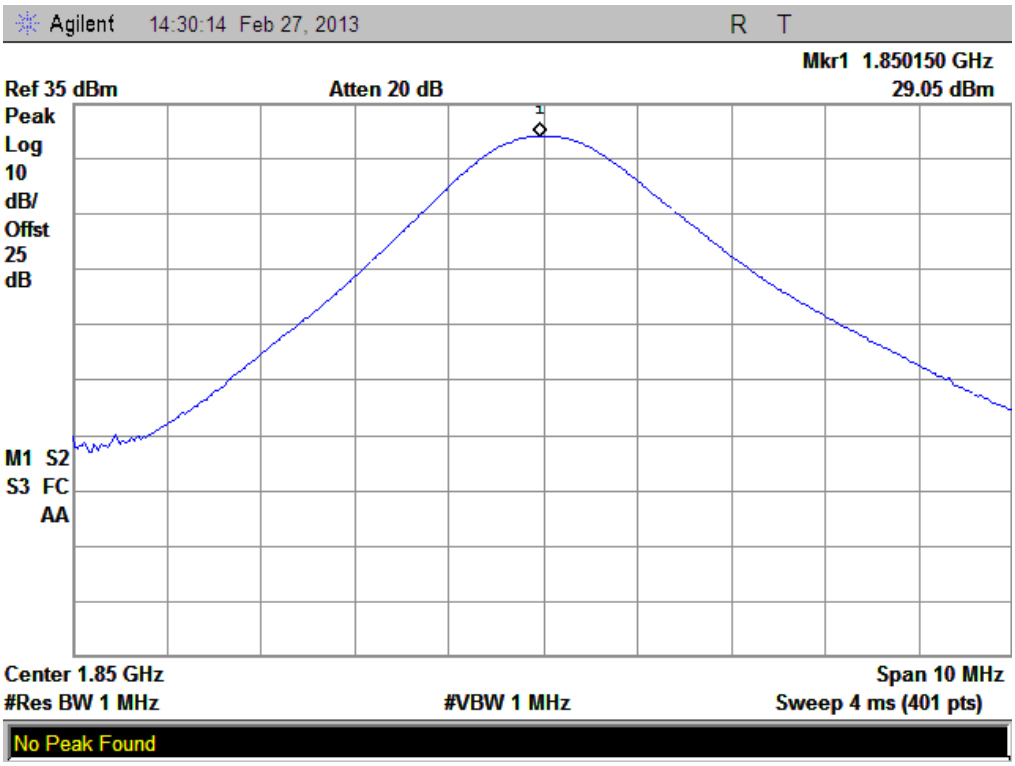
(Plot C 1: EGPRS 850MHz Channel = 128)



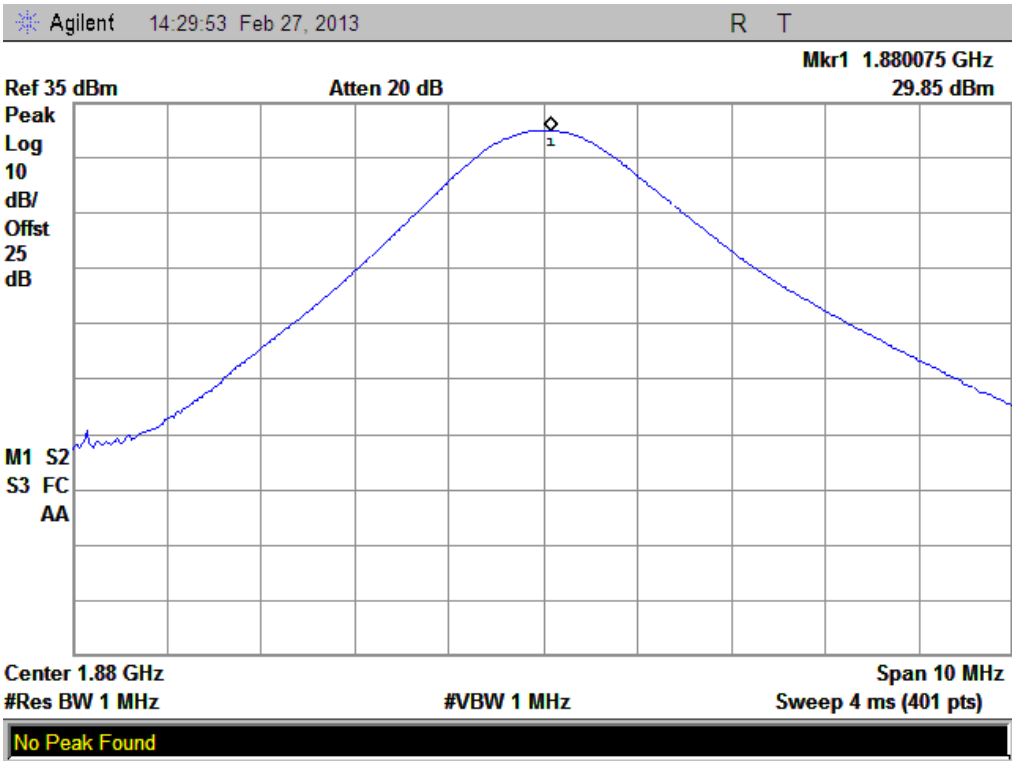
(Plot C 2: EGPRS 850MHz Channel = 190)



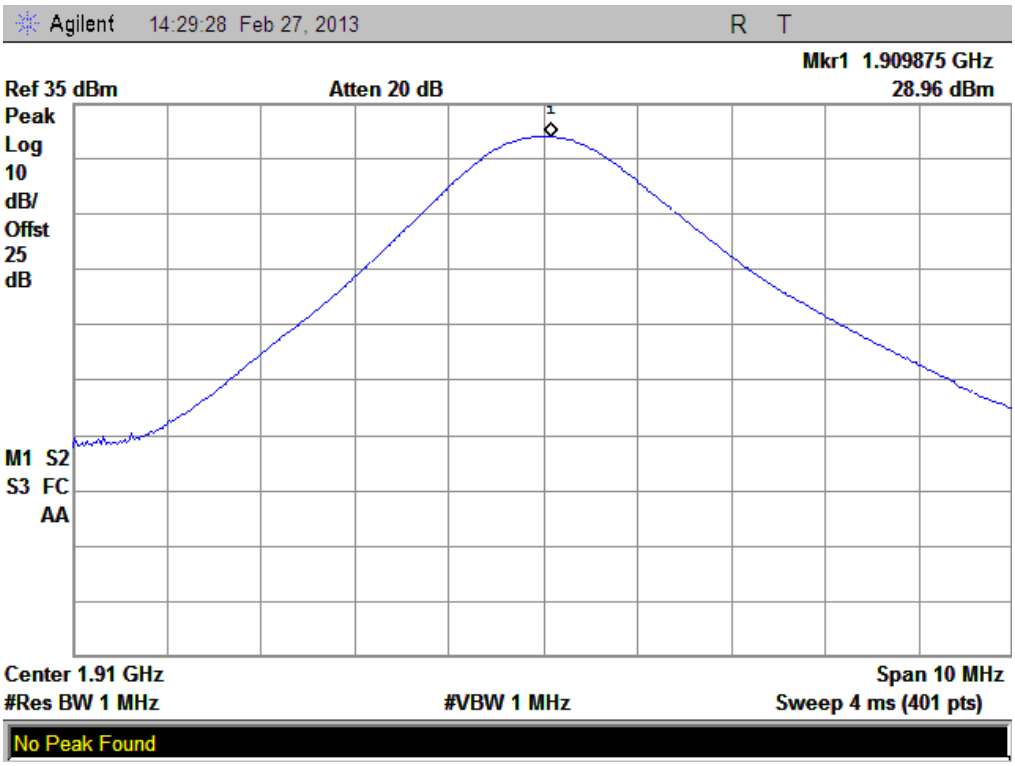
(Plot C 3: EGPRS 850MHz Channel = 251)



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



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



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

2.2 Peak to Average Radio

2.2.1 Definition

According to FCC section 2.1049 and FCC 24.232(d), 27.50(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.

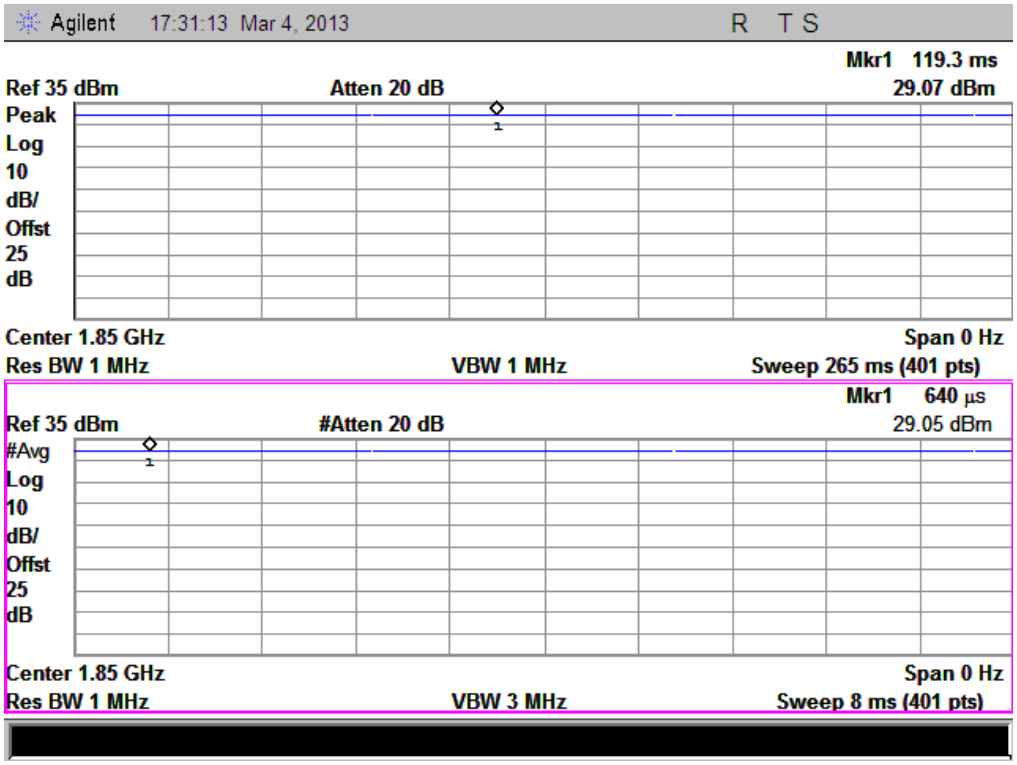
B. For UMTS operating mode:

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

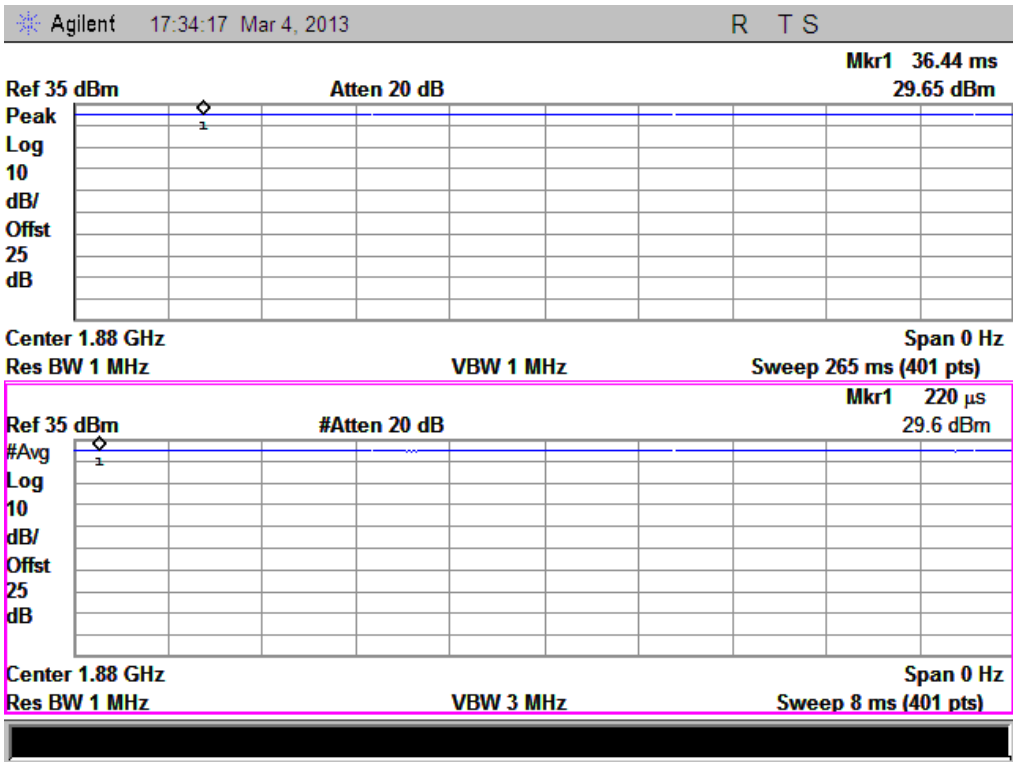
b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.

1. Test Verdict:

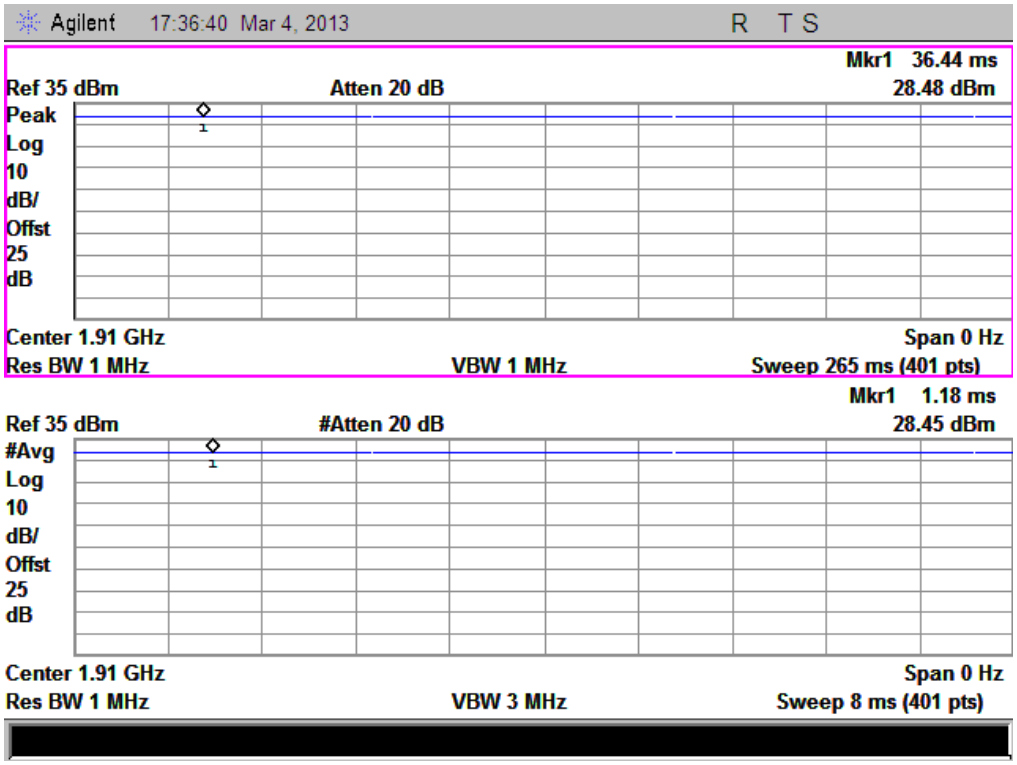
Band	Channel	Frequency (MHz)	Peak to Average radio		Limit	Verdict
			dBm	Refer to Plot	dBm	
GPRS 1900MHz	512	1850.2	0.02	Plot A1 to A3	13	PASS
	661	1880.0	0.05			PASS
	810	1909.8	0.03			PASS
EGPRS 1900MHz	512	1850.2	0.02	Plot B1 to B3	13	PASS
	661	1880.0	0.02			PASS
	810	1909.8	0.05			PASS
WCDMA 1900MHz	9262	1852.4	3.17	Plot C1 toC3	13	PASS
	9400	1880	3.11			PASS
	9538	1907.6	2.99			PASS
WCDMA 1700MHz	1312	1712.4	3.23	Plot D1 toD3	13	PASS
	1412	1732.4	3.28			PASS
	1513	1752.6	3.22			PASS



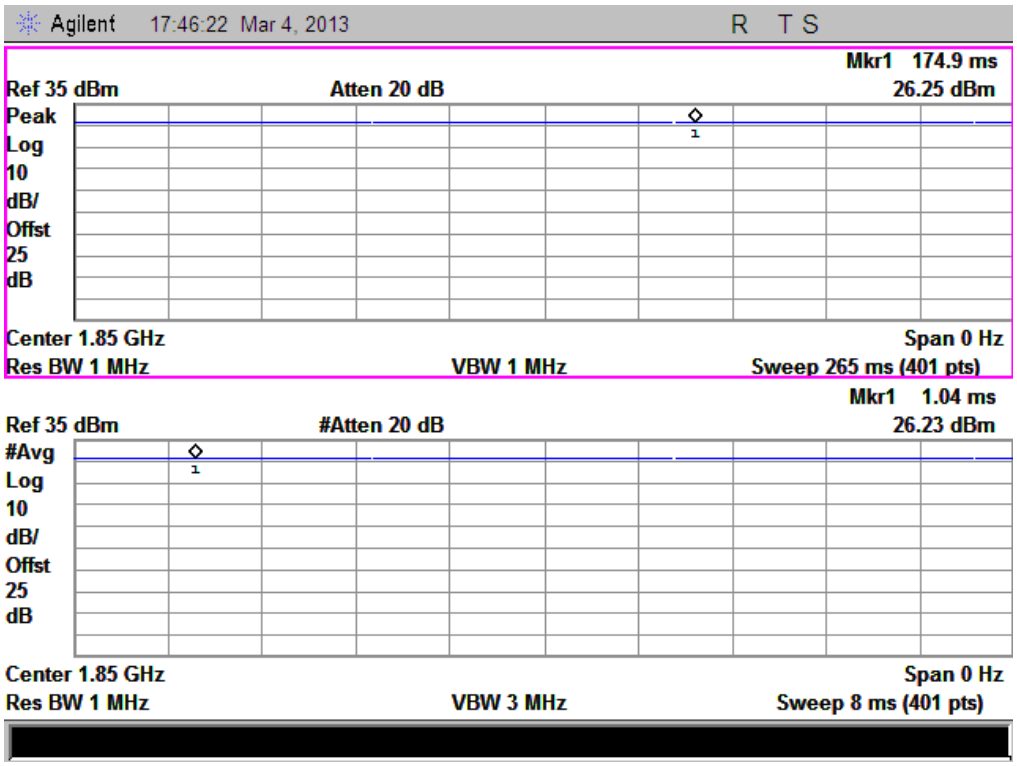
(Plot A1: GPRS 1900 MHz Channel = 512)



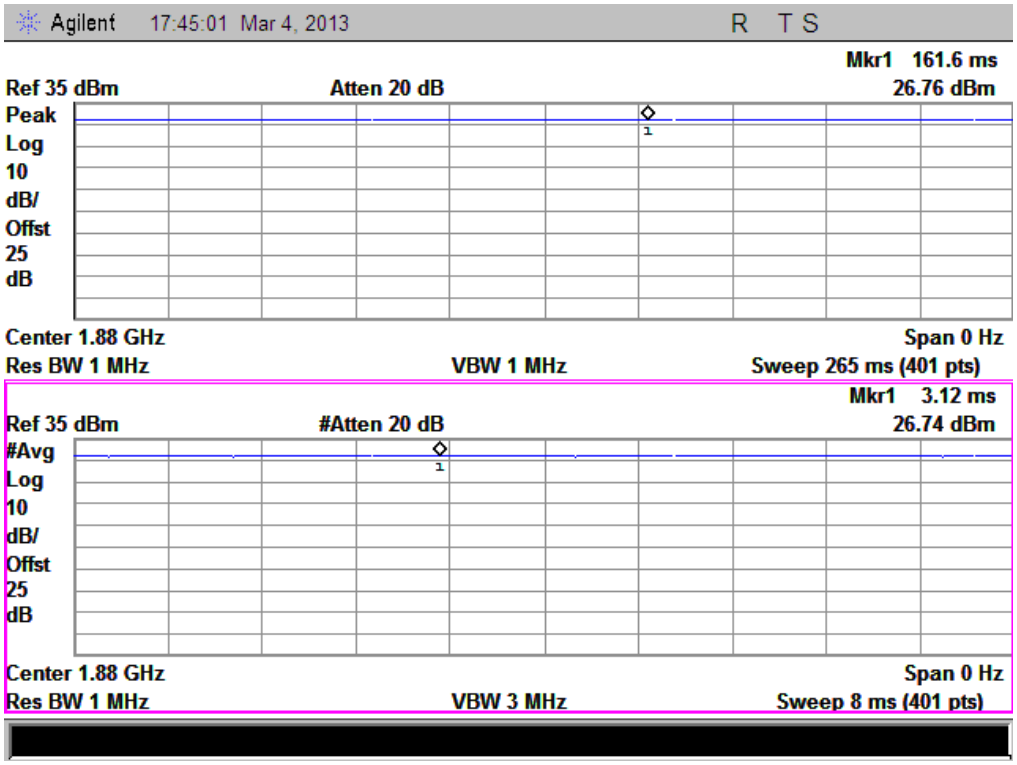
(Plot A2: GPRS 1900 MHz Channel = 661)



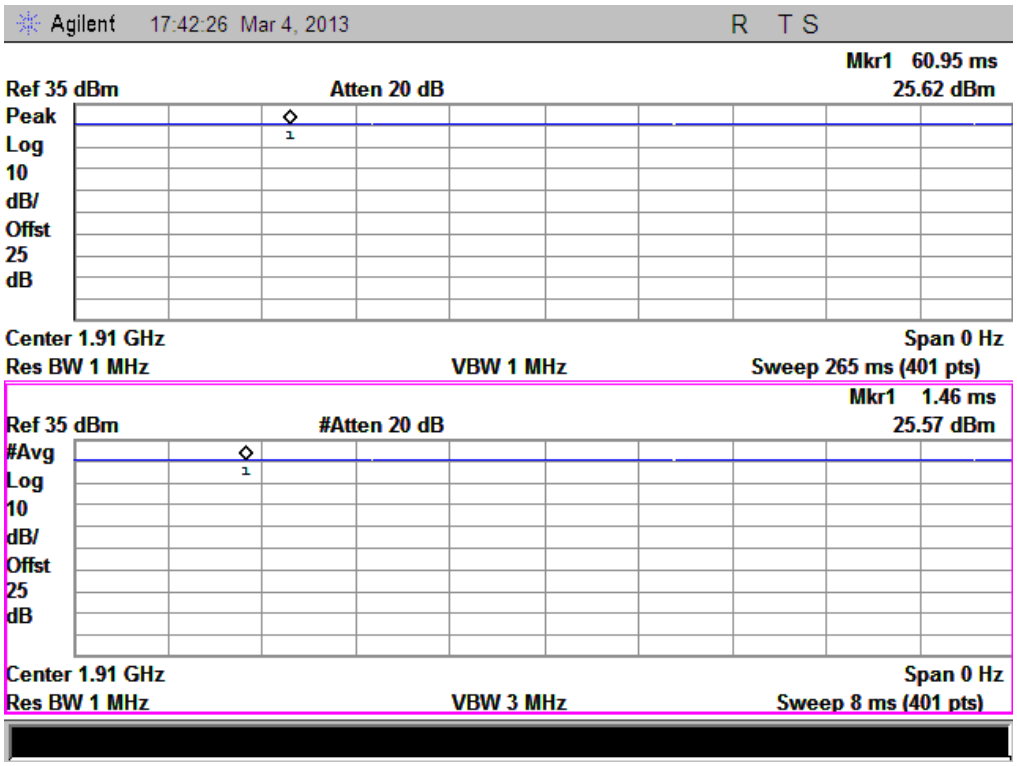
(Plot A3: GPRS 1900MHz Channel = 810)



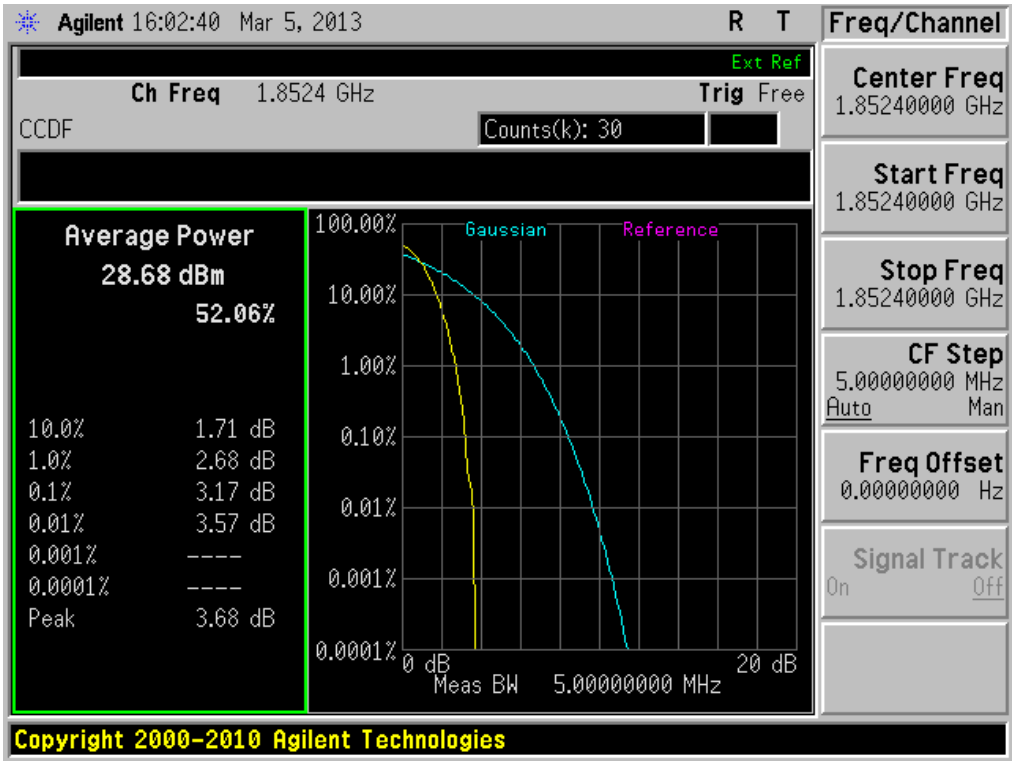
(Plot B1: EGPRS 1900MHz Channel = 512)



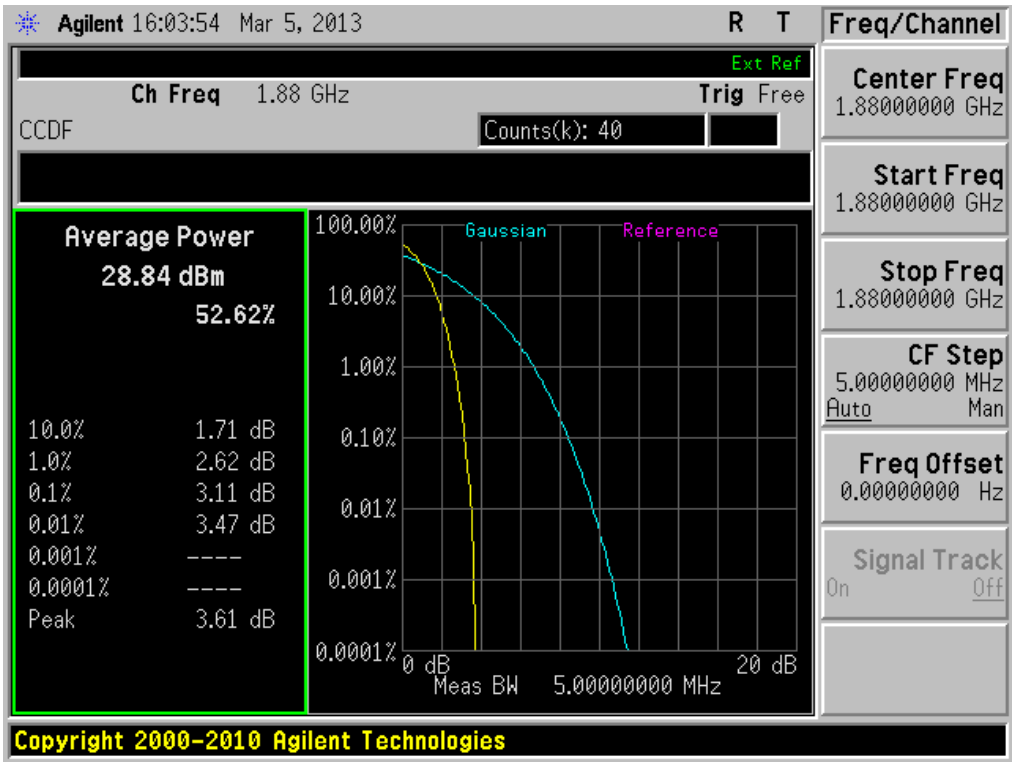
(Plot B2: EGPRS 1900MHz Channel = 661)



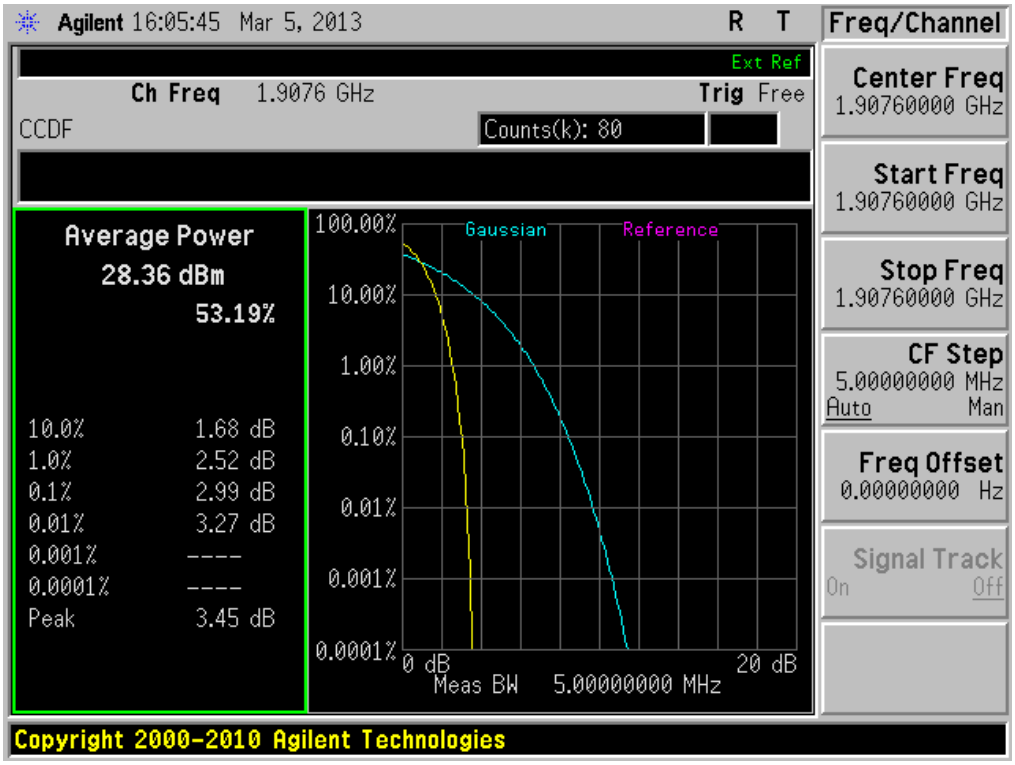
(Plot B3: EGPRS 1900MHz Channel = 810)



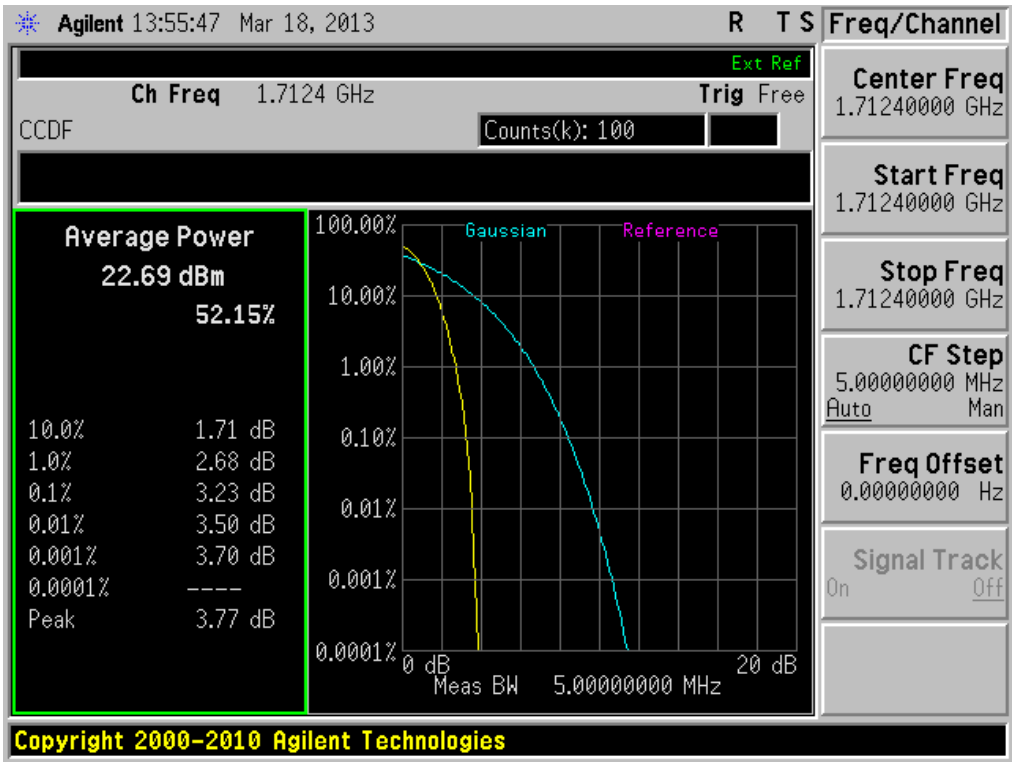
(Plot C1: WCDMA 1900MHz Channel = 9262)



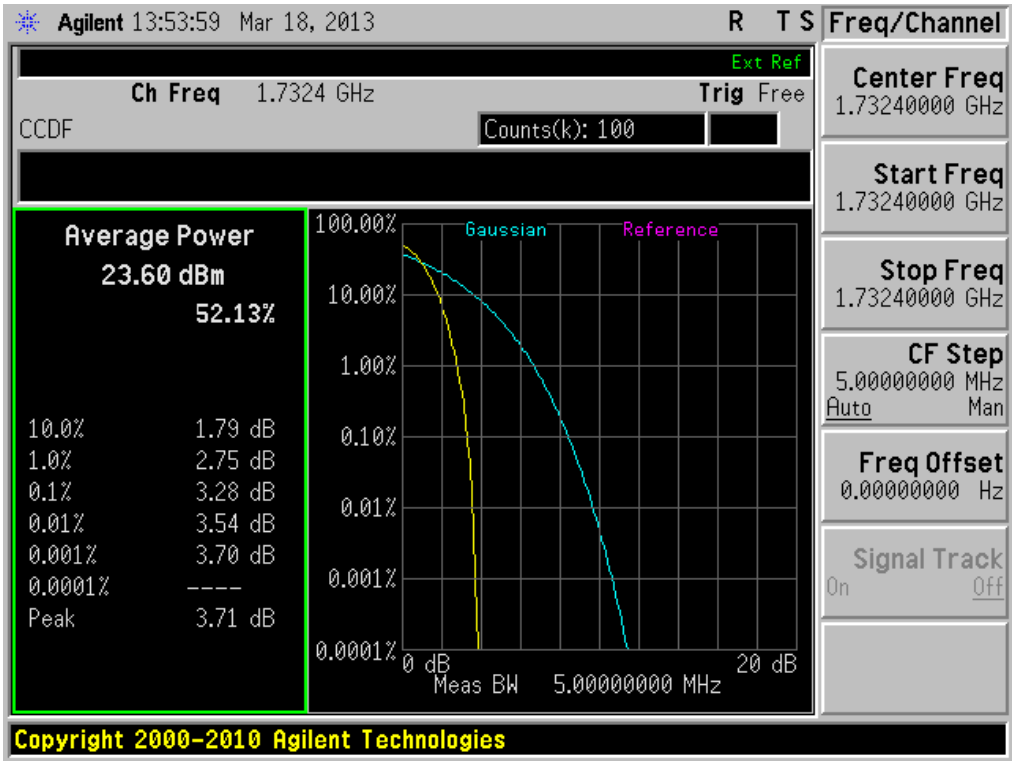
(Plot C2: WCDMA 1900MHz Channel = 9400)



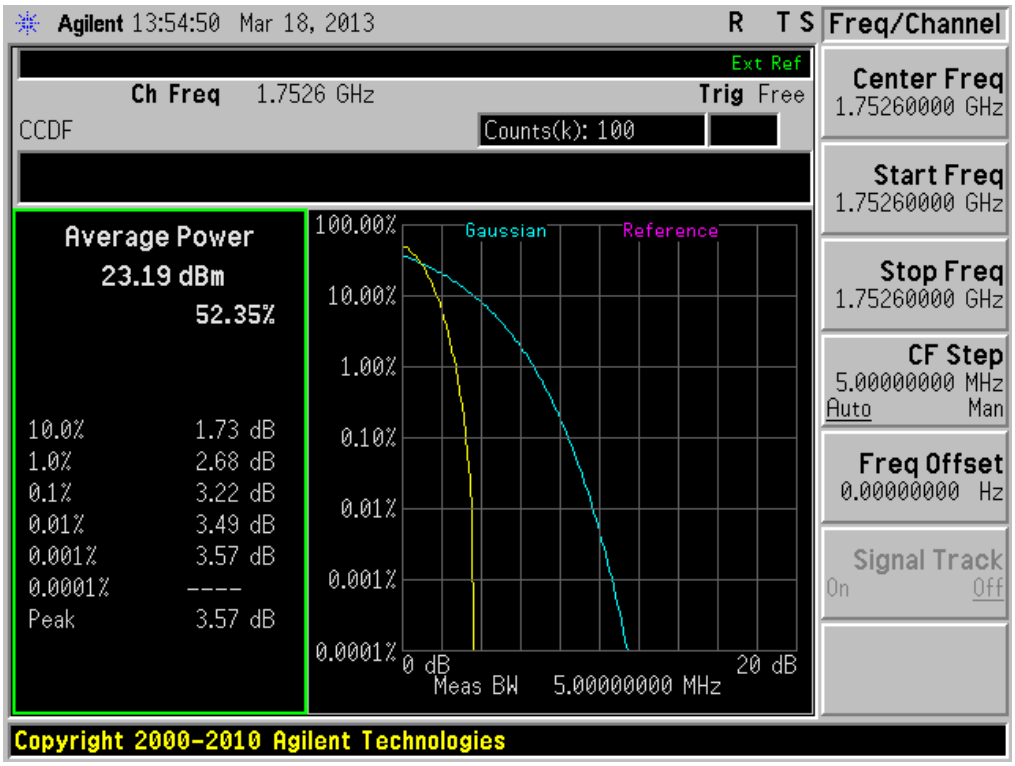
(Plot C3: WCDMA 1900MHz Channel = 9538)



(Plot D1: WCDMA 1700MHz Channel = 1312)



(Plot D2: WCDMA 1700MHz Channel = 1412)



(Plot D3: WCDMA 1700MHz Channel = 1513)

2.3 99% Occupied Bandwidth

2.3.1 Definition

According to FCC section 2.1049 and FCC § 22.917 &24.238 and 27.53(g), 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

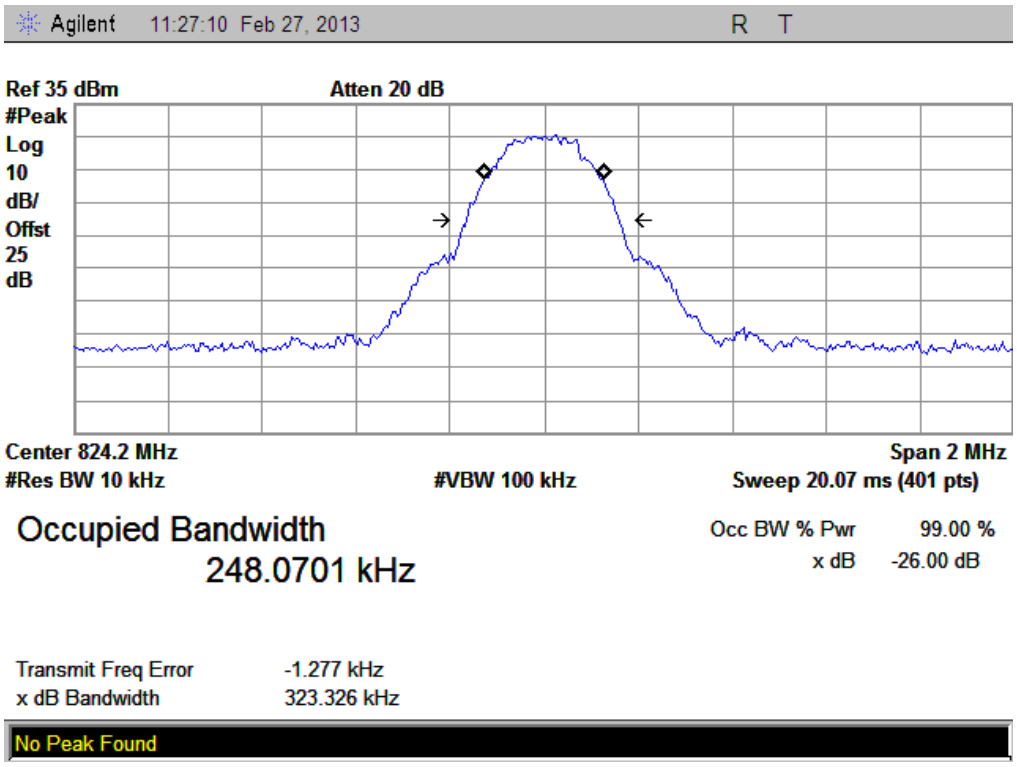
Here the lowest, middle and highest channels are selected to perform testing to verify the 99% occupied bandwidth.

2. Test Verdict:

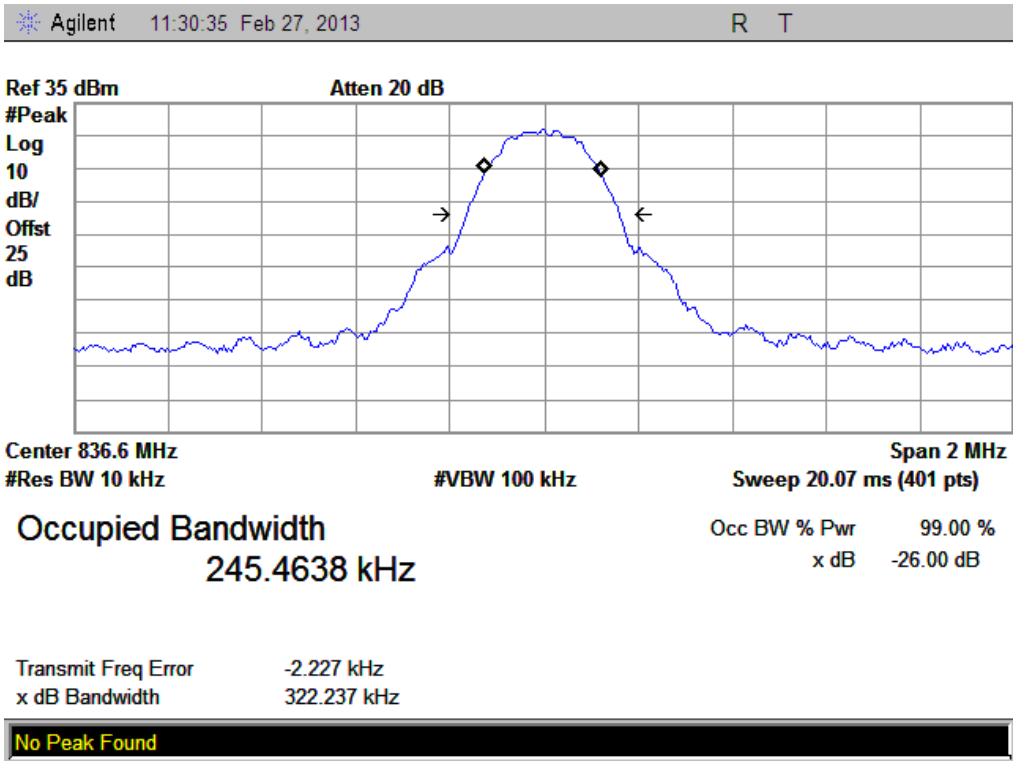
Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
EDGE 850MHz	128	824.2	323.326 KHz	248.0701 KHz	Plot A
	190	836.6	322.237 KHz	245.4638 KHz	Plot B
	251	848.8	313.764 KHz	248.1814 KHz	Plot C
EDGE 1900MHz	512	1850.2	322.715 KHz	246.3999 KHz	Plot D
	661	1880.0	320.957 KHz	244.8490 KHz	Plot E
	810	1909.8	314.260 KHz	245.6086 KHz	Plot F
WCDMA 1900MHz	9262	1852.4	4.740MHz	4.1833MHz	Plot G
	9400	1880	4.726MHz	4.2011MHz	Plot H
	9538	1907.6	4.723MHz	4.2045MHz	Plot I
HSDPA 1900MHz	9262	1852.4	4.705MHz	4.2005MHz	Plot J
	9400	1880	4.696MHz	4.1560MHz	Plot K
	9538	1907.6	4.734MHz	4.2063MHz	Plot L
HSUPA 1900MHz	9262	1852.4	4.720MHz	4.1993MHz	Plot M
	9400	1880	4.715MHz	4.1954MHz	Plot N
	9538	1907.6	4.735MHz	4.2064MHz	Plot O
HSPA+ 1900MHz	9262	1852.4	4.706MHz	4.1955MHz	Plot P
	9400	1880	4.719MHz	4.1876MHz	Plot Q
	9538	1907.6	4.738MHz	4.2078MHz	Plot R
GPRS 850MHz	128	824.2	317.454 KHz	243.3536 KHz	Plot S
	190	836.6	317.518 KHz	249.3954 KHz	Plot T
	251	848.8	319.041 KHz	247.7650 KHz	Plot U
GPRS 1900MHz	512	1850.2	319.517 KHz	244.3408 KHz	Plot V

Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
	661	1880.0	319.430 KHz	244.1825 KHz	Plot W
	810	1909.8	323.091 KHz	246.3102 KHz	Plot X
WCDMA 1700MHz	1312	1712.4	4.711MHz	4.1871MHz	Plot Y
	1412	1732.4	4.692MHz	4.1869MHz	Plot Z
	1513	1752.6	4.719MHz	4.1907MHz	Plot A1
HSDPA 1700MHz	1312	1712.4	4.718MHz	4.1898MHz	Plot B1
	1412	1732.4	4.719MHz	4.1891MHz	Plot C1
	1513	1752.6	4.711MHz	4.1949MHz	Plot D1
HSUPA 1700MHz	1312	1712.4	4.679MHz	4.1816MHz	Plot E1
	1412	1732.4	4.711MHz	4.1897MHz	Plot F1
	1513	1752.6	4.715MHz	4.1976MHz	Plot G1
HSPA+ 1700MHz	1312	1712.4	4.711MHz	4.1928MHz	Plot H1
	1412	1732.4	4.697MHz	4.1963MHz	Plot I1
	1513	1752.6	4.723MHz	4.1711MHz	Plot J1

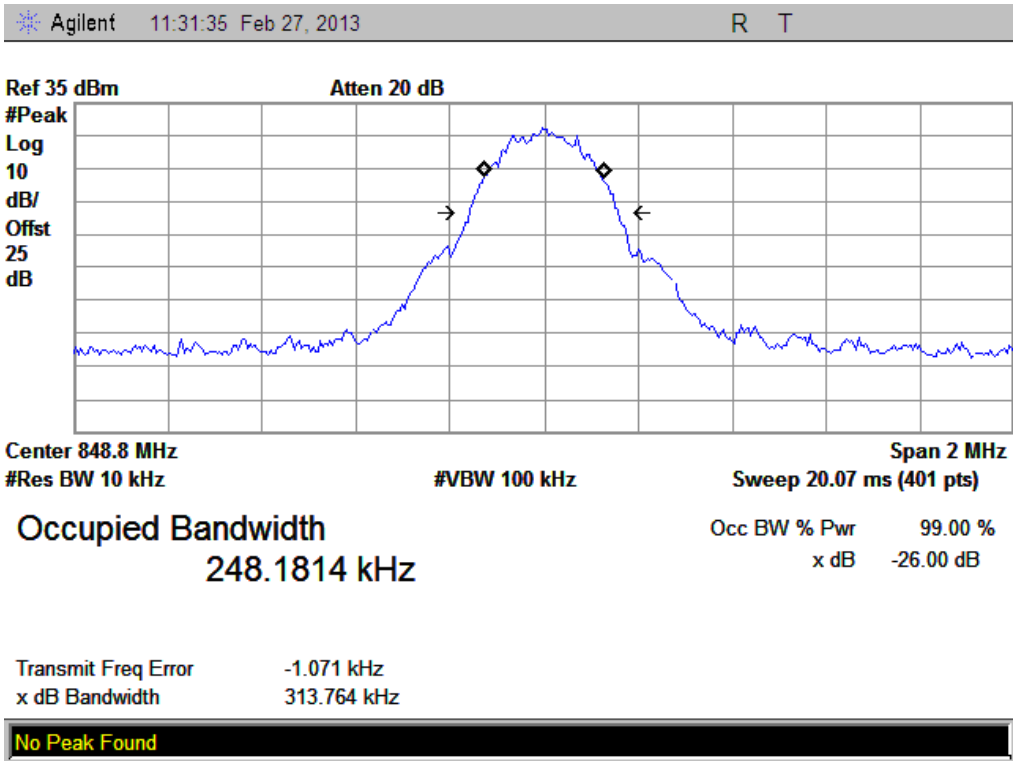
3. Test Plots:



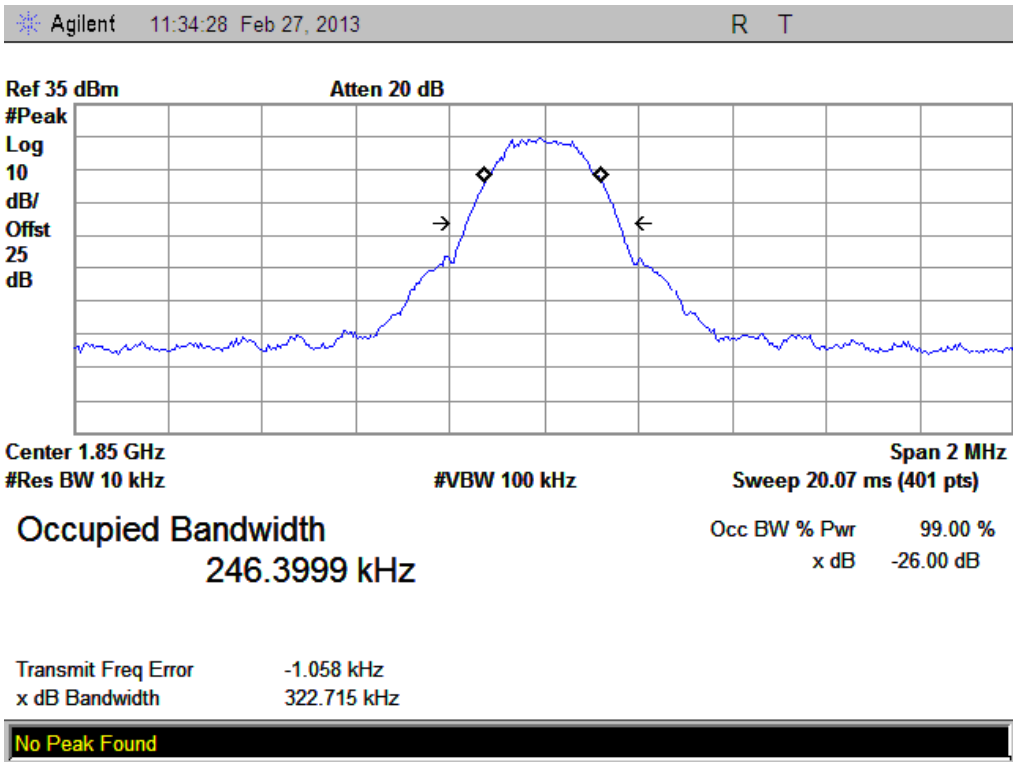
(Plot A: EGPRS 850MHz Channel = 128)



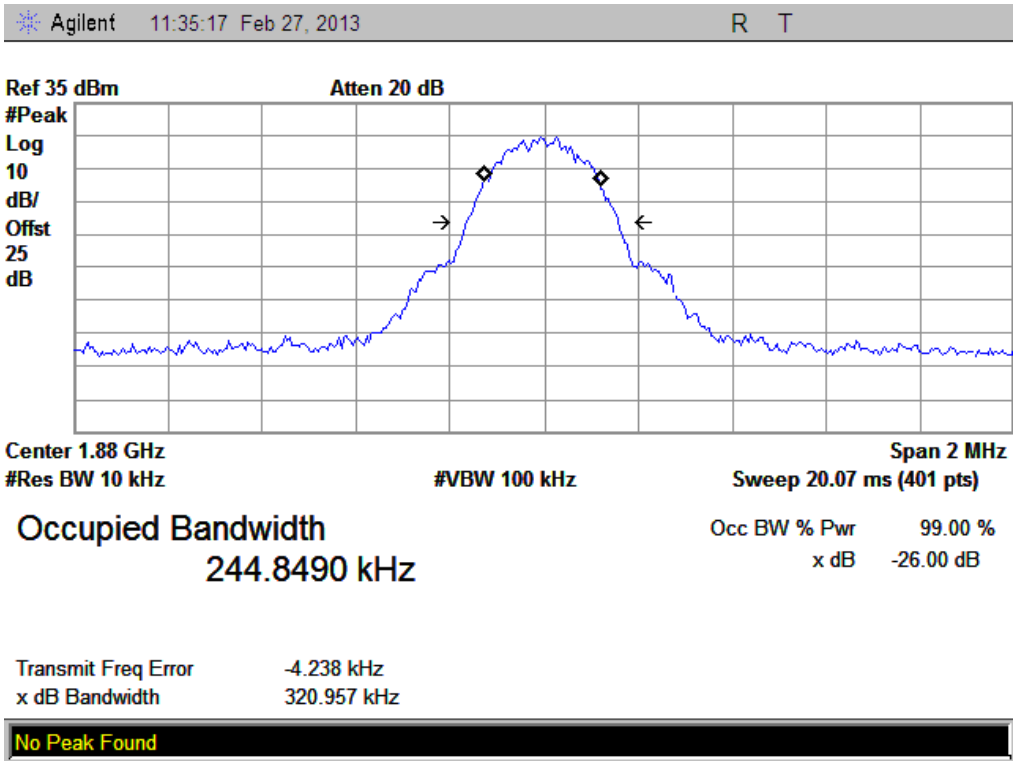
(Plot B: EGPRS 850MHz Channel = 190)



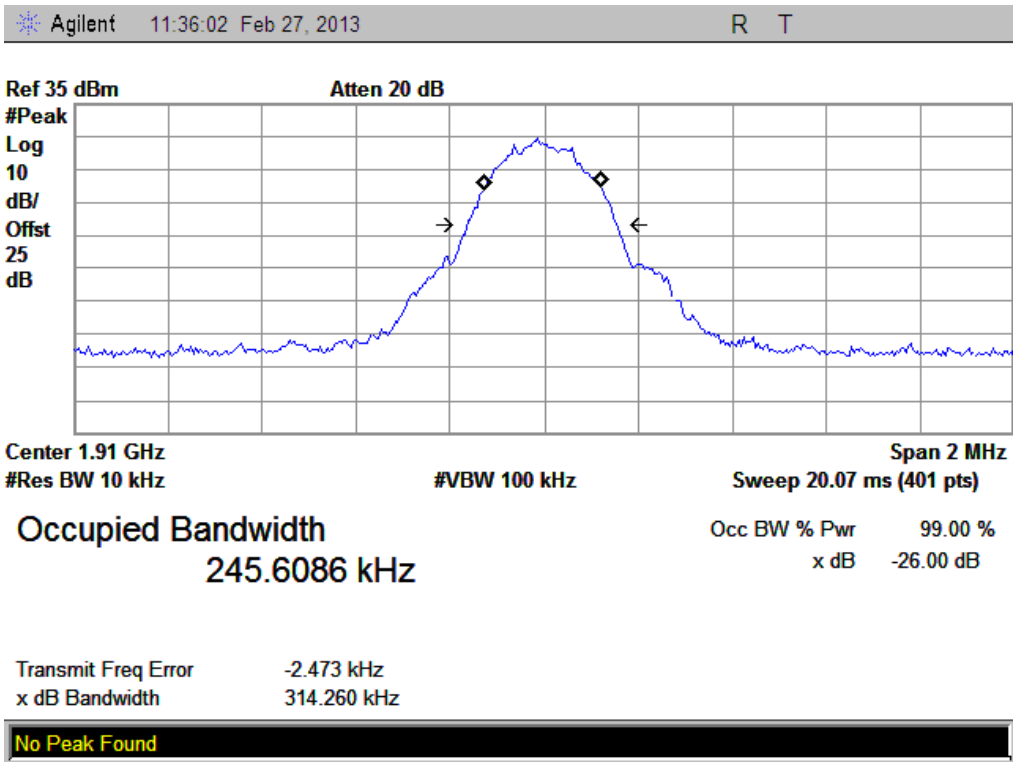
(Plot C: EGPRS 850MHz Channel = 251)



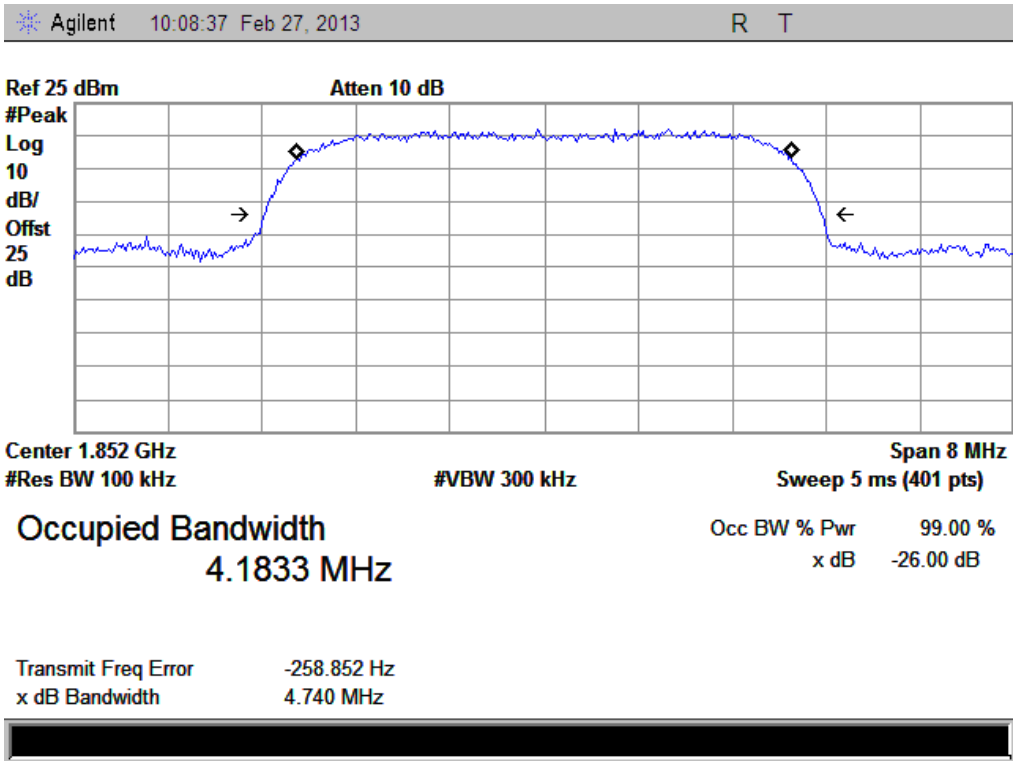
(Plot D: EGPRS1900MHz Channel = 512)



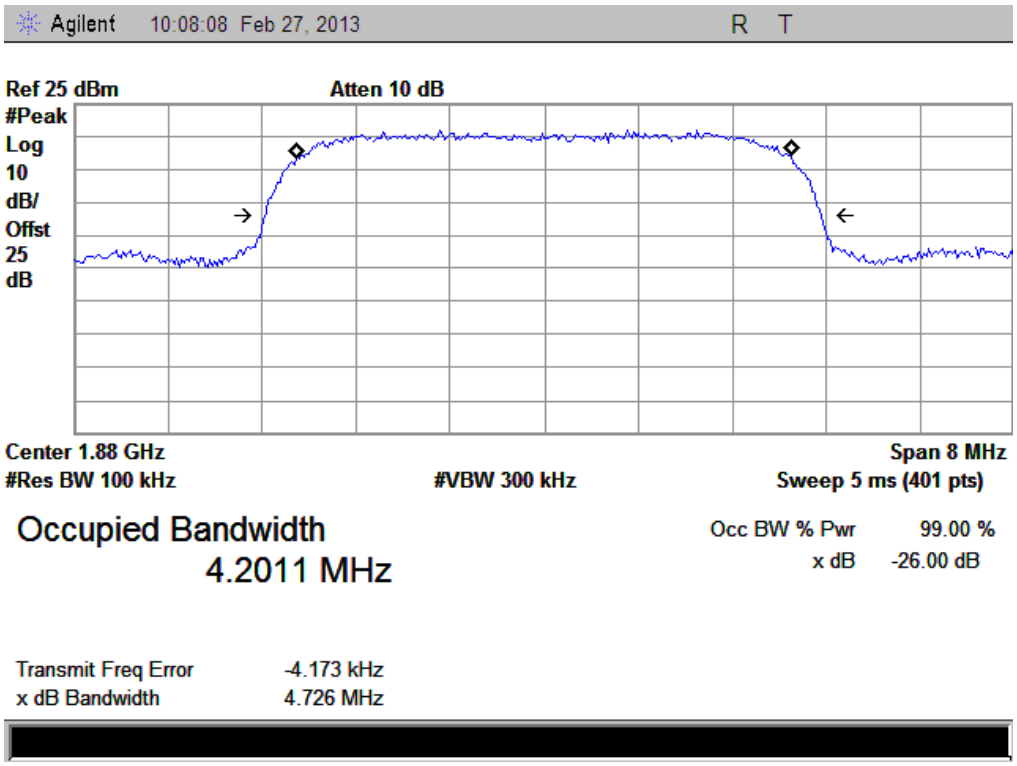
(Plot E: EGPRS1900MHz Channel = 661)



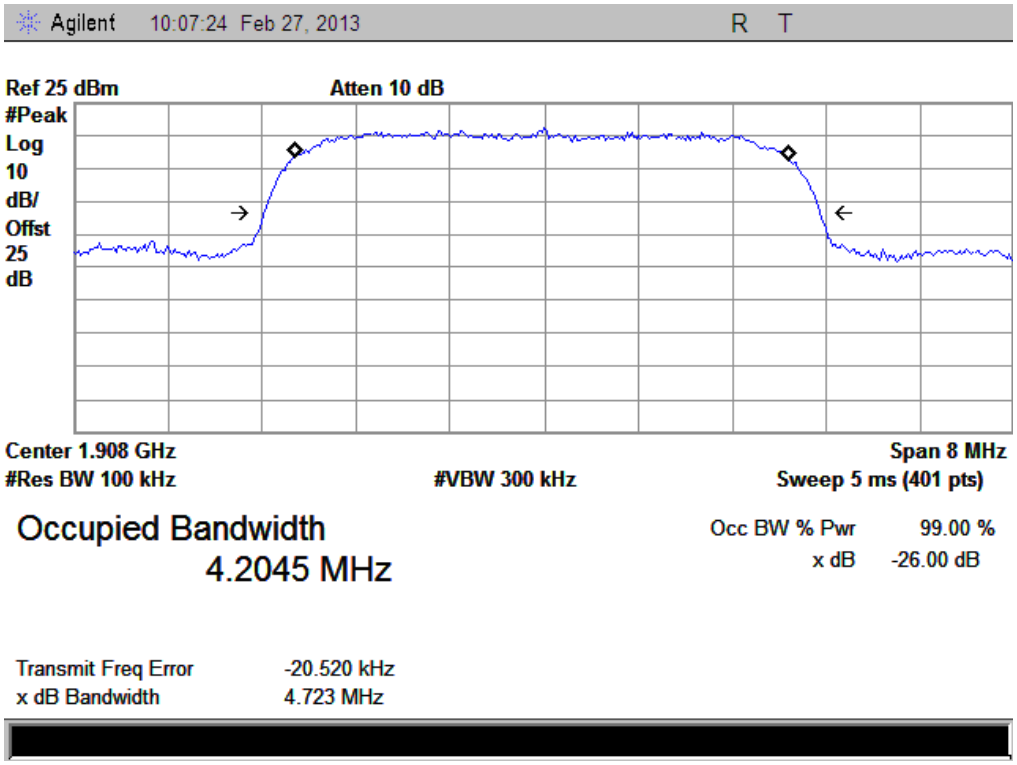
(Plot F: EGPRS 1900MHz Channel = 810)



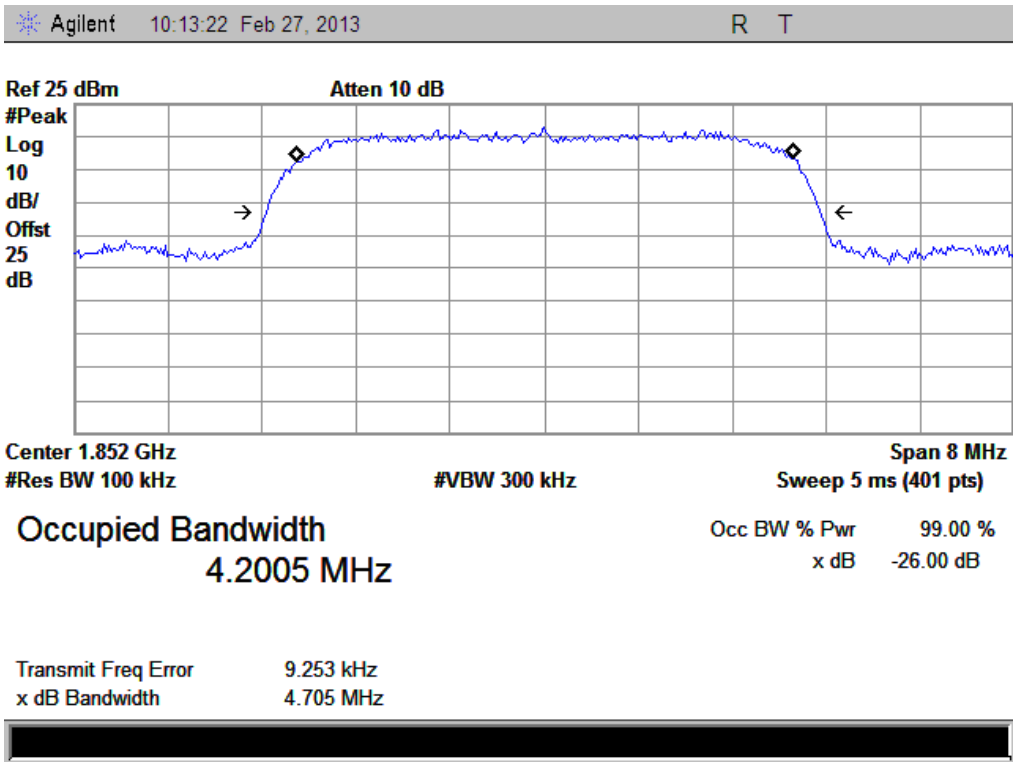
(Plot G: WCDMA 1900MHz Channel = 9262)



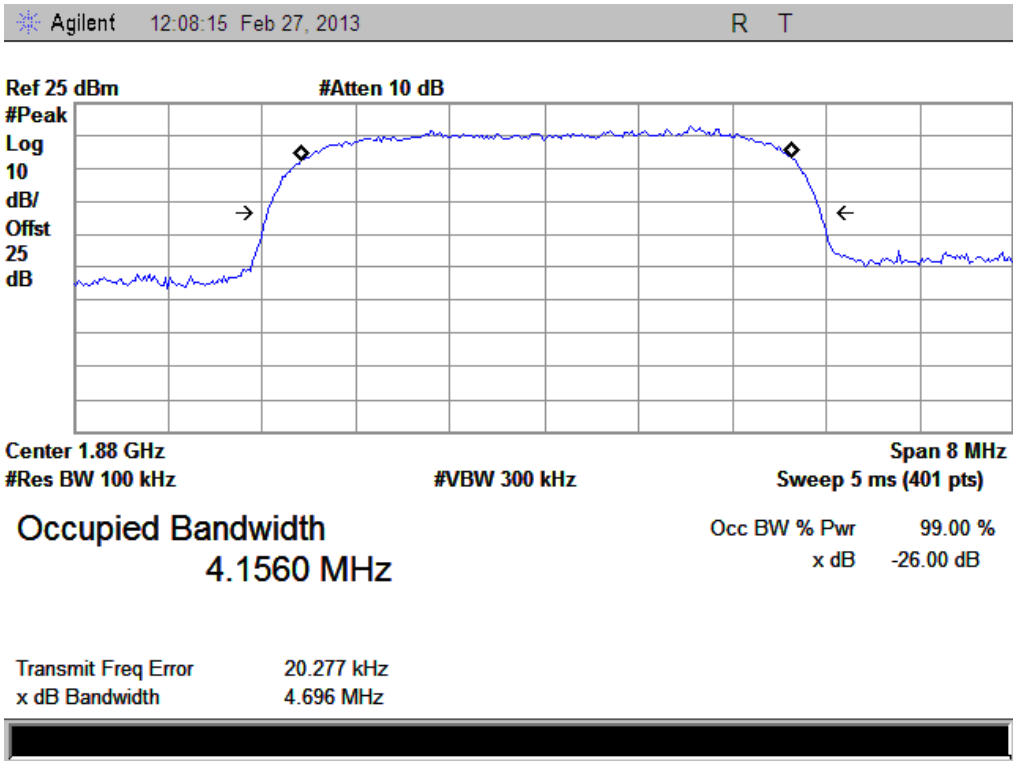
(Plot H: WCDMA 1900 MHz Channel = 9400)



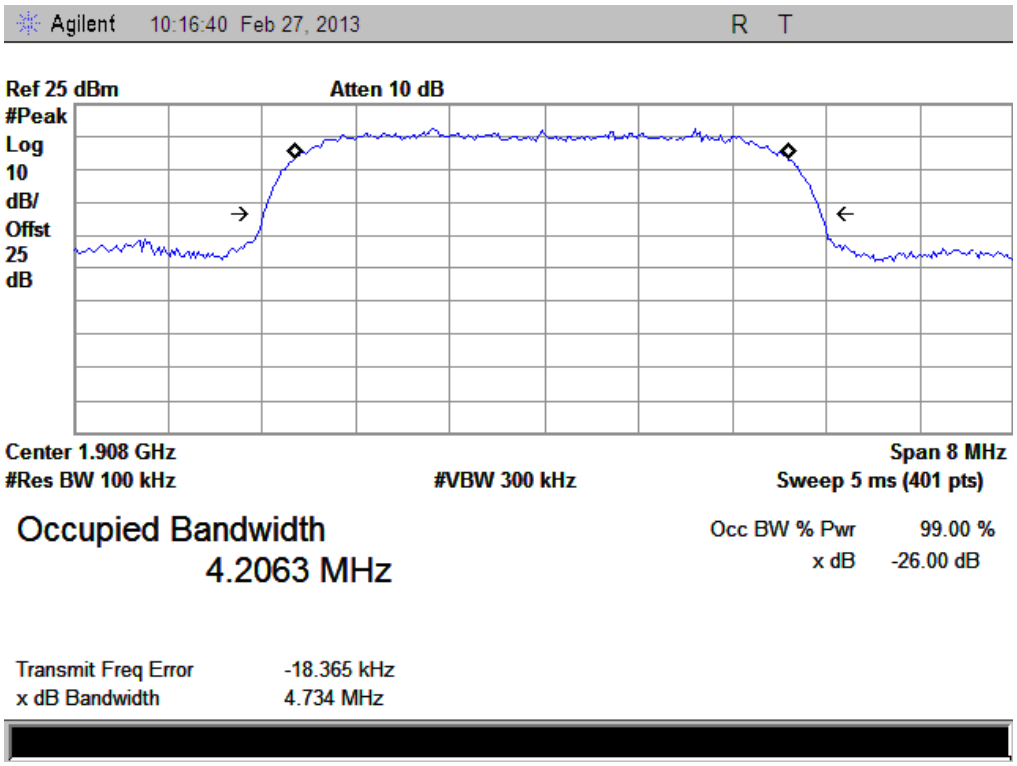
(Plot I: WCDMA1900MHz Channel = 9538)



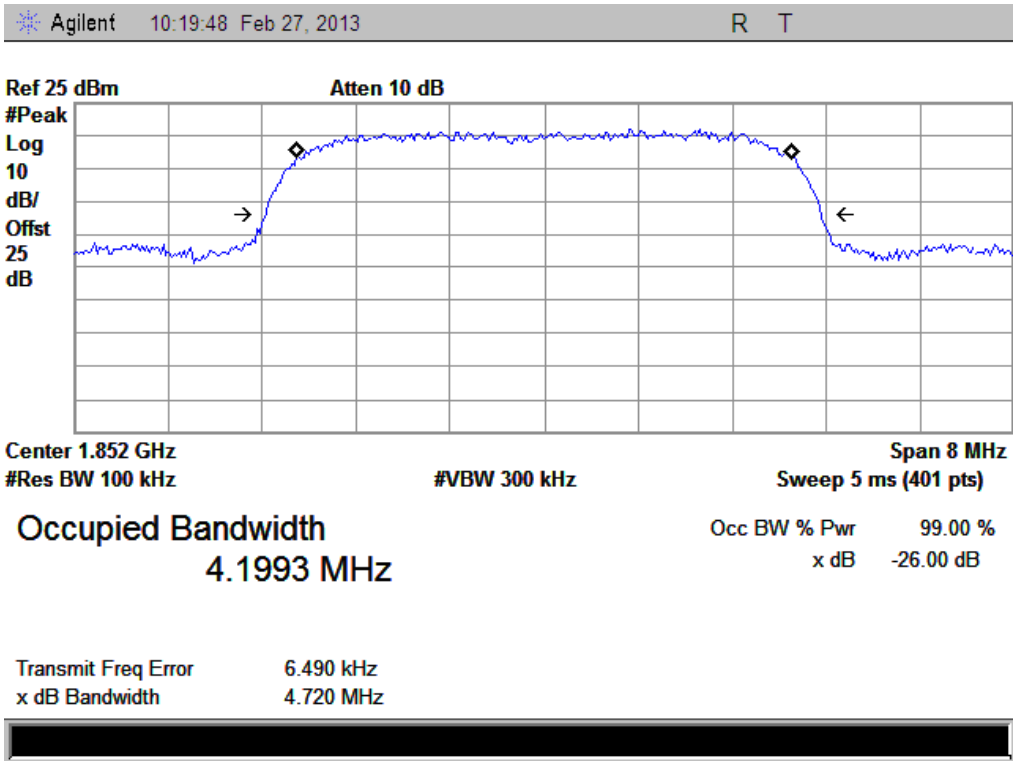
(Plot J: HSDPA1900 MHz Channel = 9262)



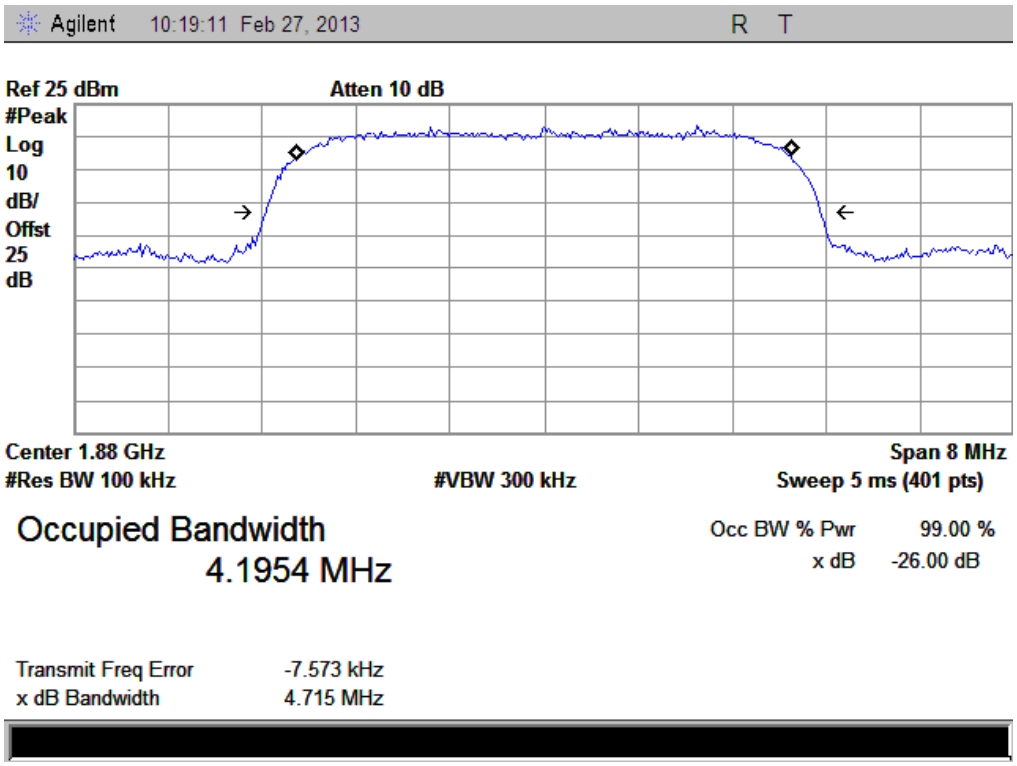
(Plot K: HSDPA1900 MHz Channel = 9400)



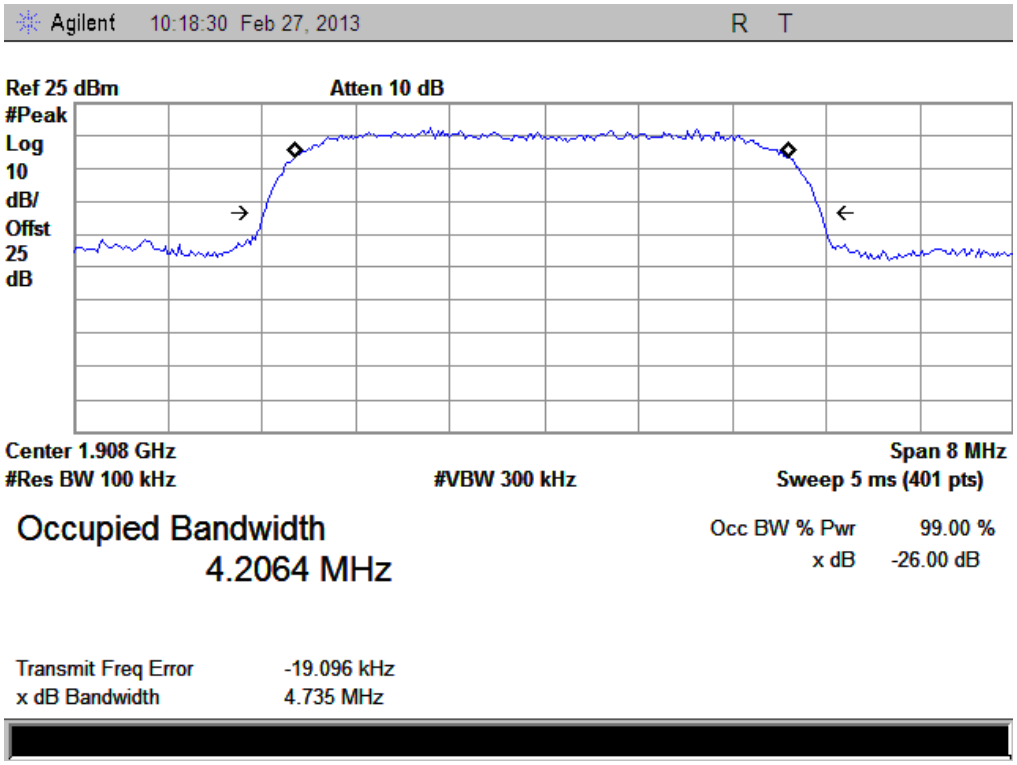
(Plot L: HSDPA1900 MHz Channel = 9538)



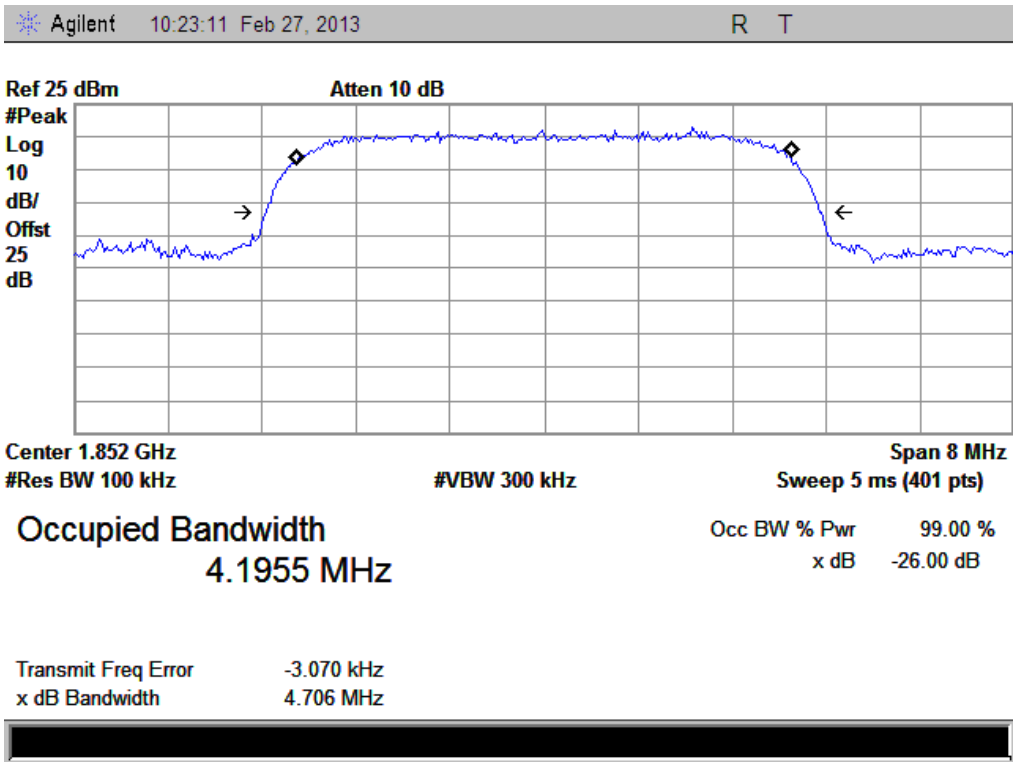
(Plot M: HSUPA1900 MHz Channel = 9262)



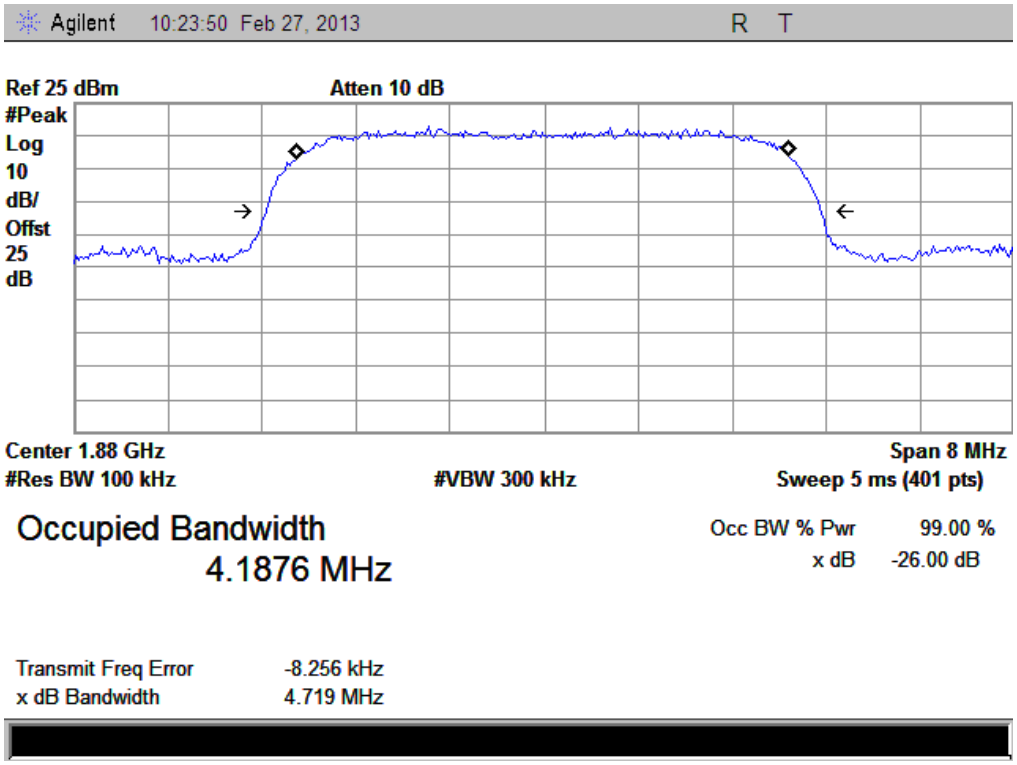
(Plot N: HSUPA1900 MHz Channel = 9400)



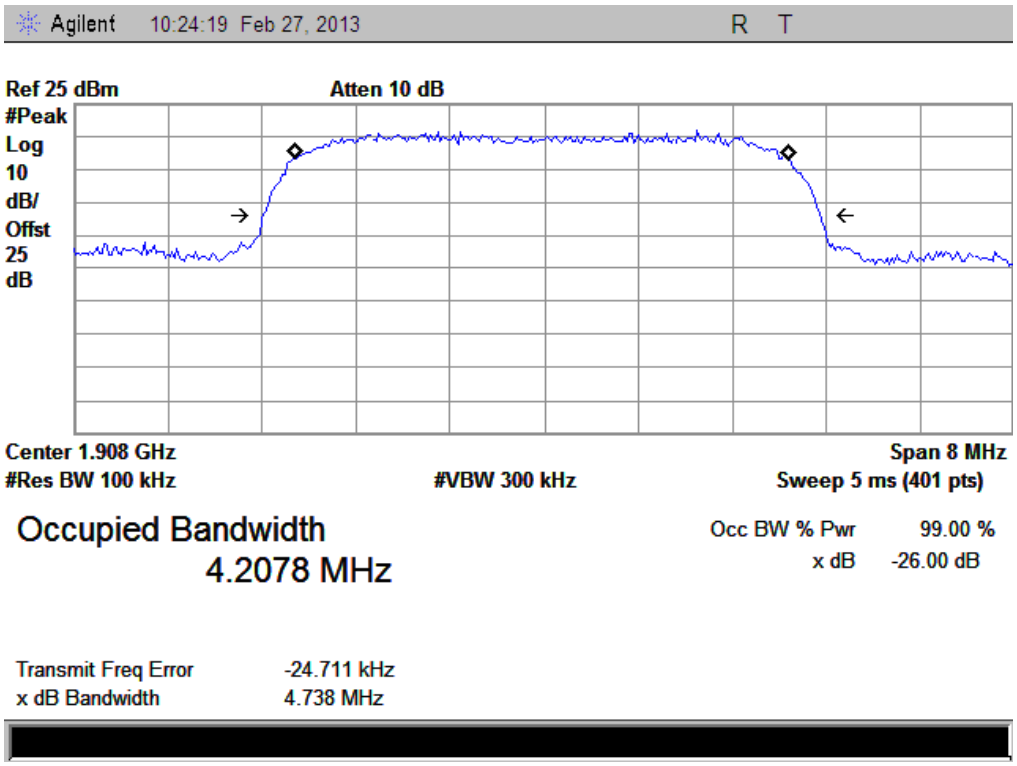
(Plot O: HSUPA1900 MHz Channel = 9538)



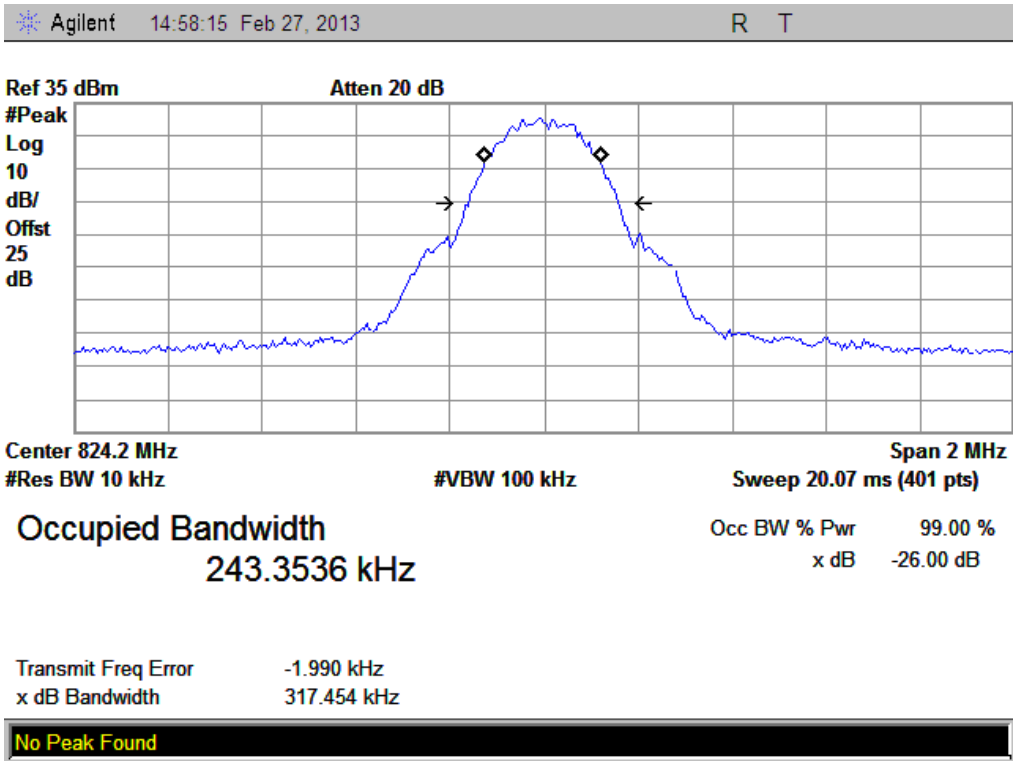
(Plot P: HSPA+1900 MHz Channel = 9262)



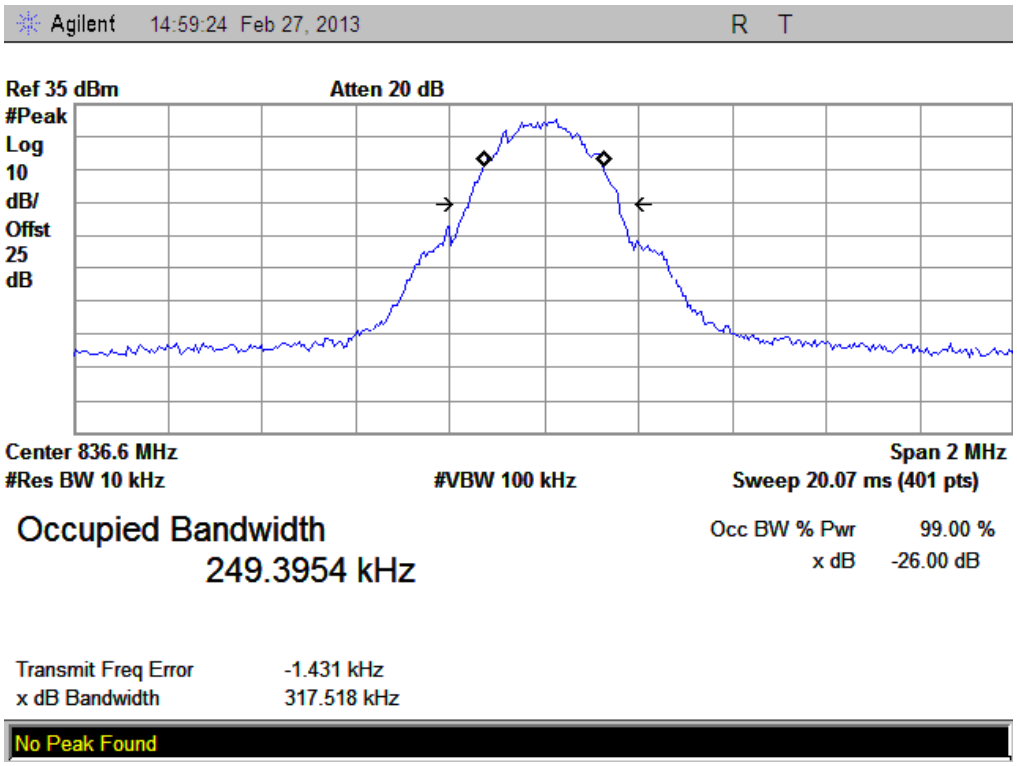
(Plot Q: HSPA+1900 MHz Channel = 9400)



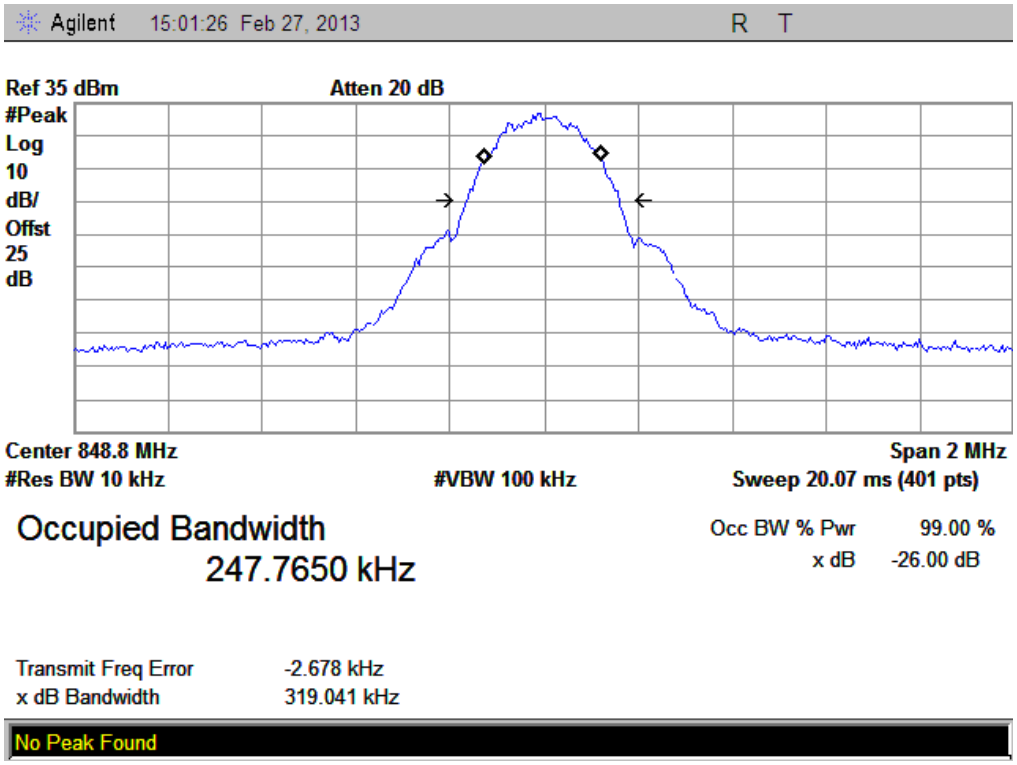
(Plot R: HSPA+1900 MHz Channel = 9538)



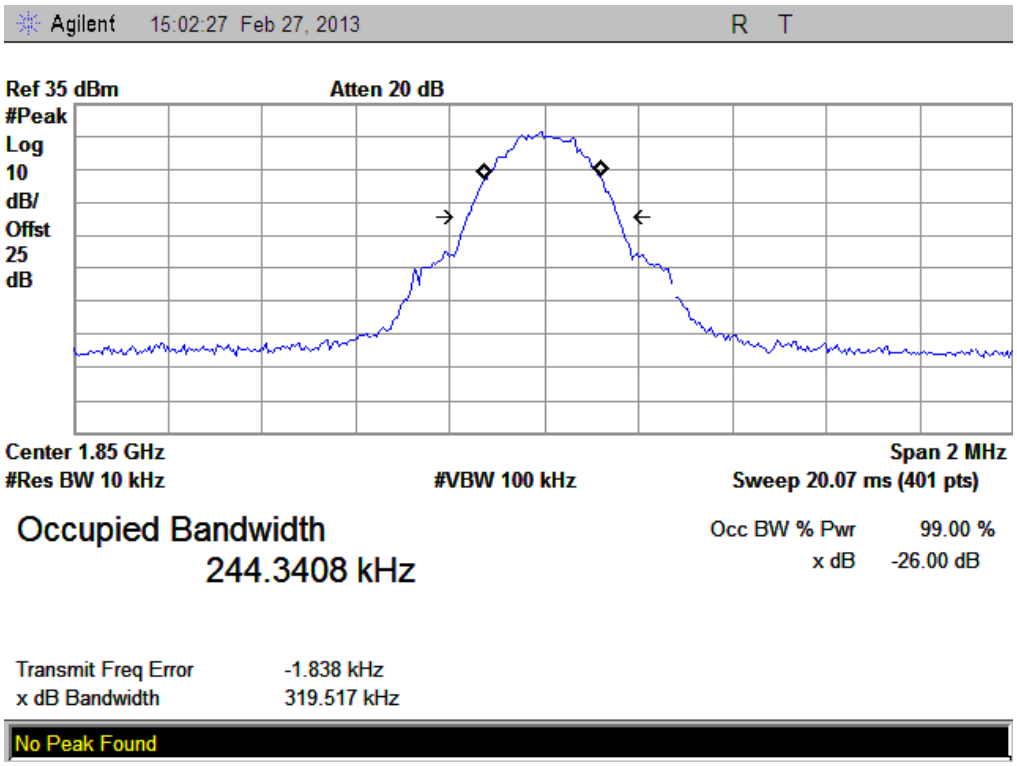
(Plot S: GPRS 850MHz Channel = 128)



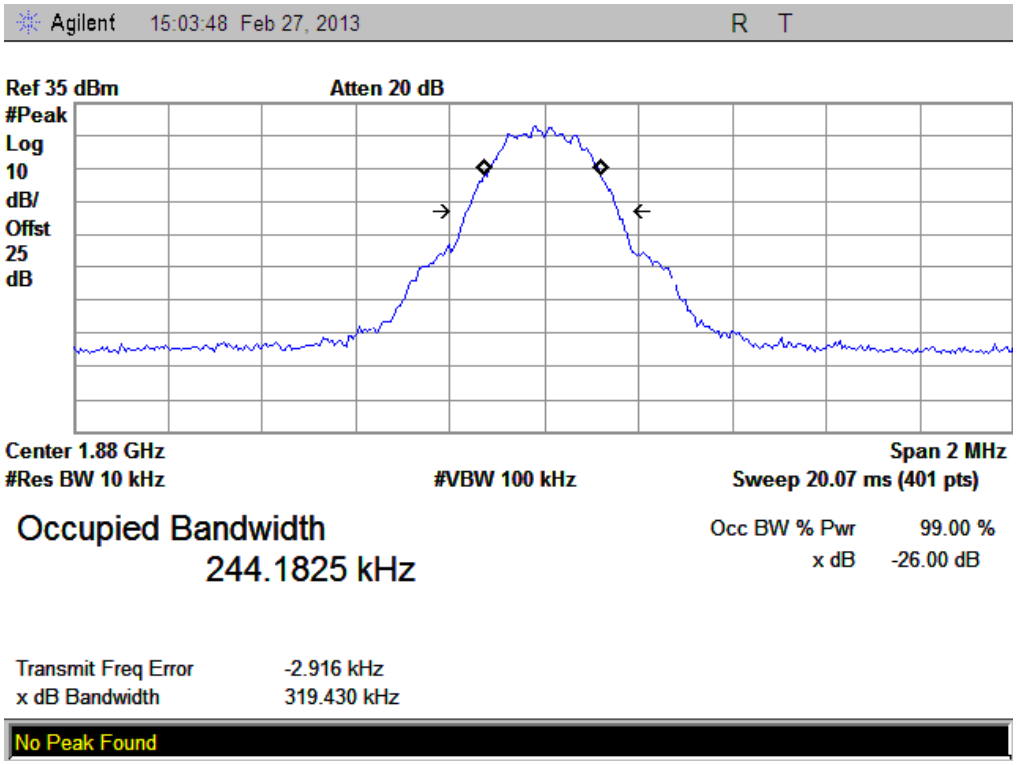
(Plot T: GPRS 850MHz Channel = 190)



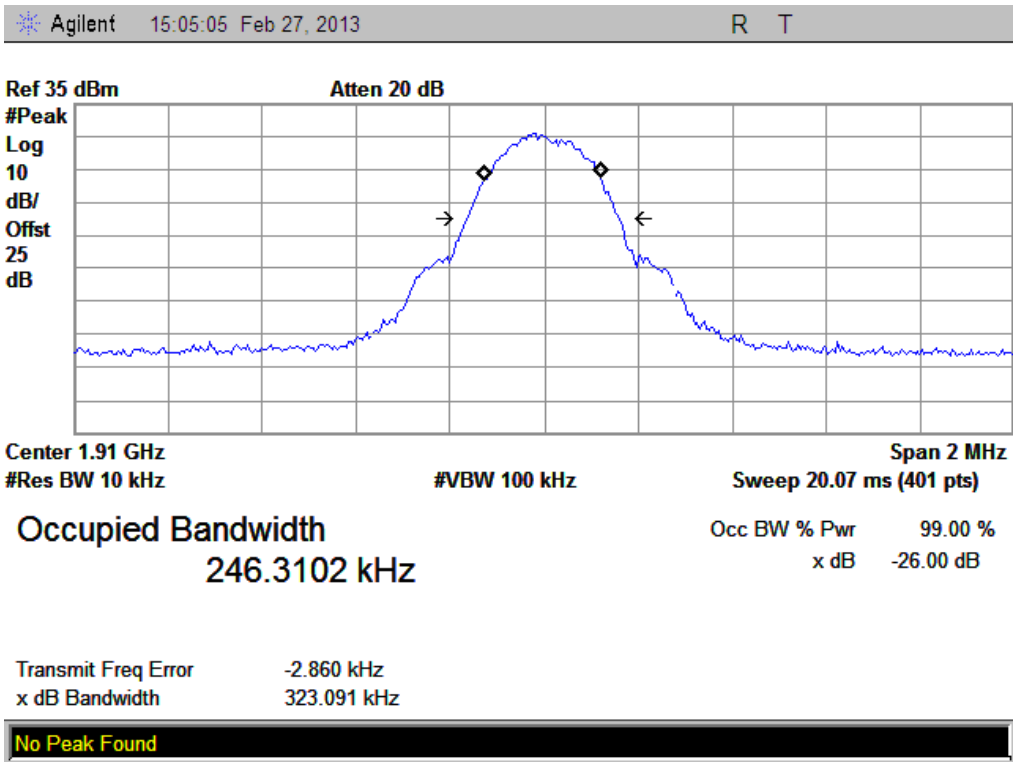
(Plot U: GPRS 850MHz Channel = 251)



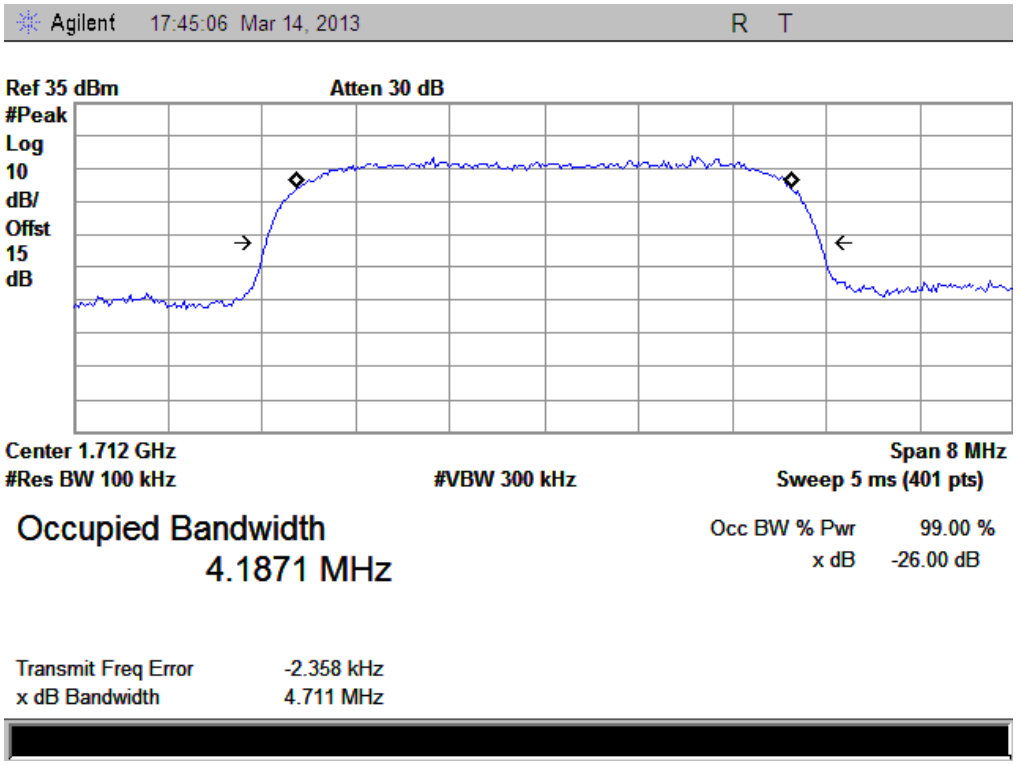
(Plot V: GPRS 1900MHz Channel = 512)



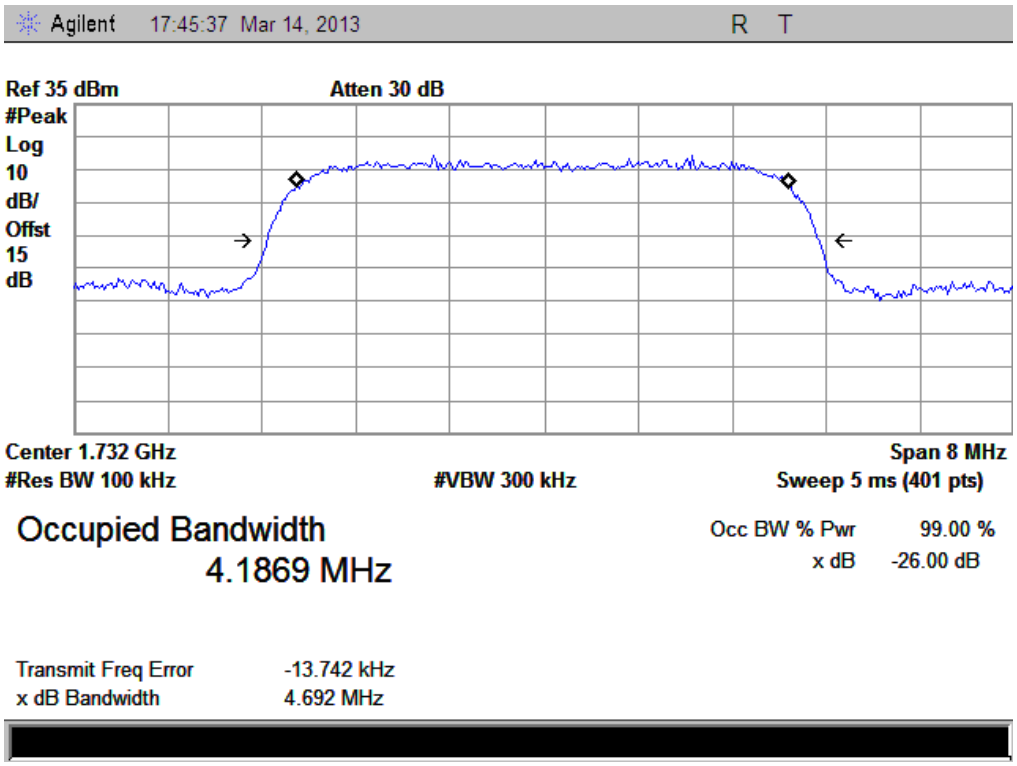
(Plot W: GPRS 1900MHz Channel = 661)



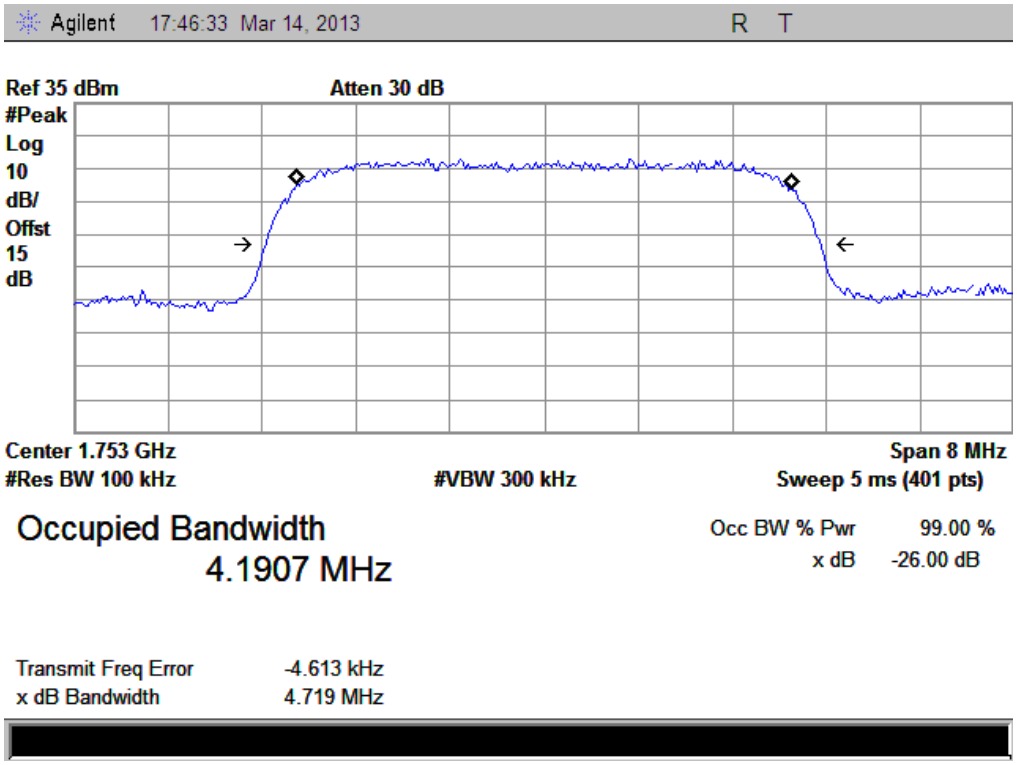
(Plot X: GPRS 1900MHz Channel = 810)



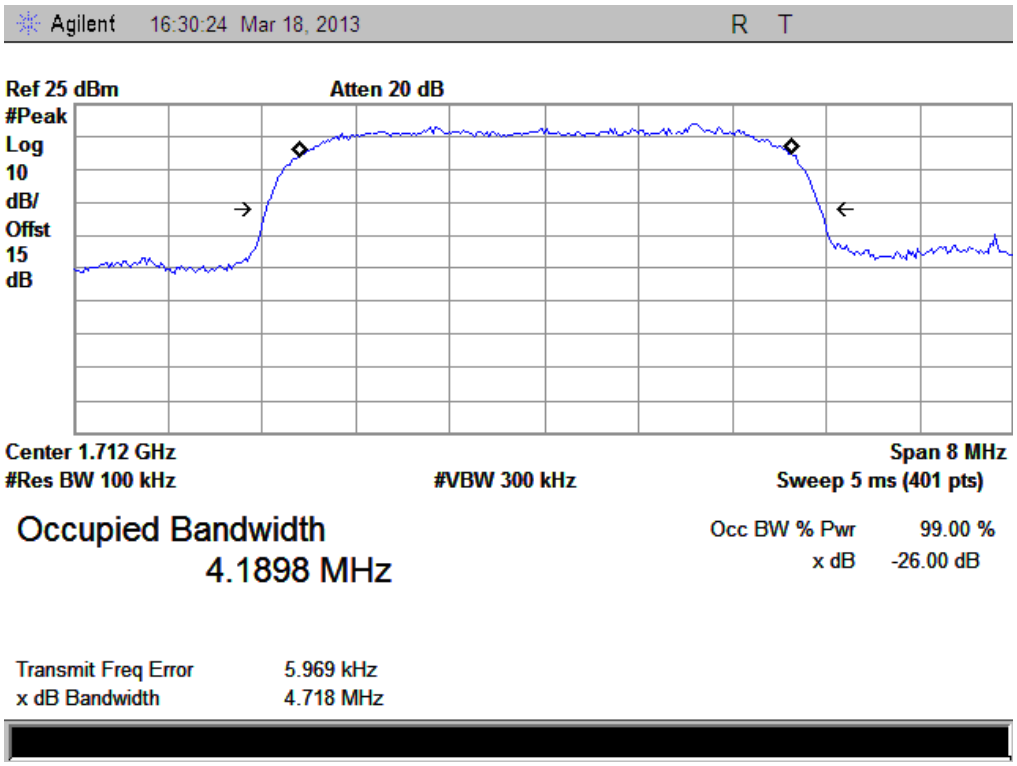
(Plot Y: WCDMA 1700MHz Channel = 1312)



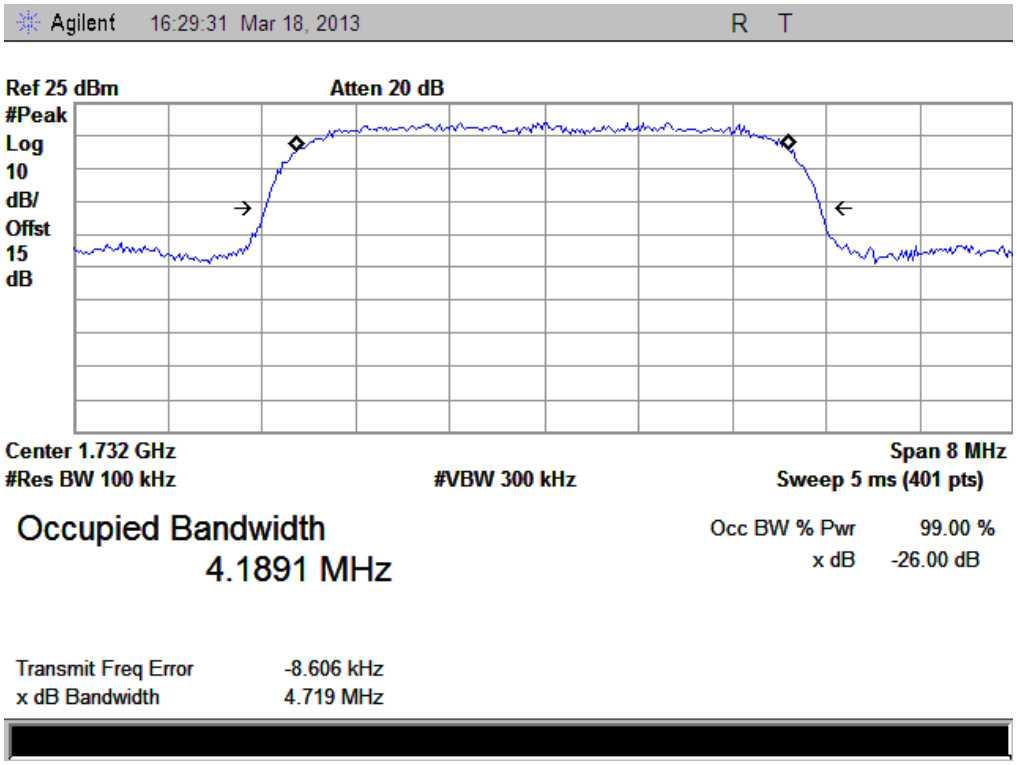
(Plot Z: WCDMA 1700 MHz Channel = 1412)



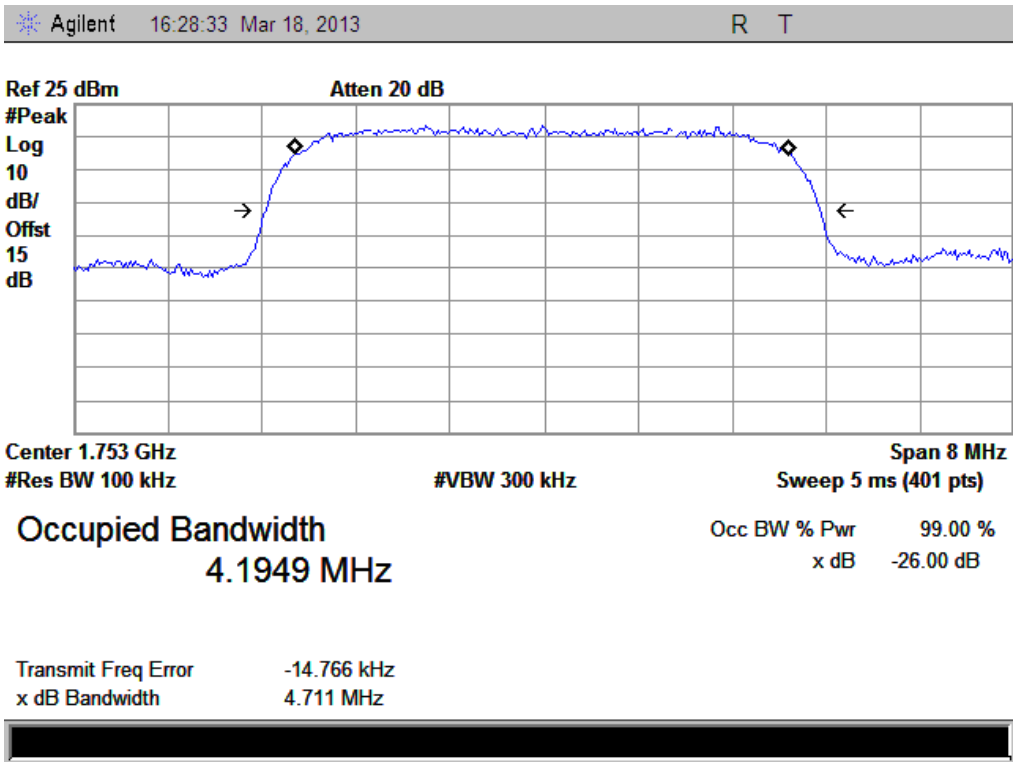
(Plot A1: WCDMA 1700MHz Channel = 1513)



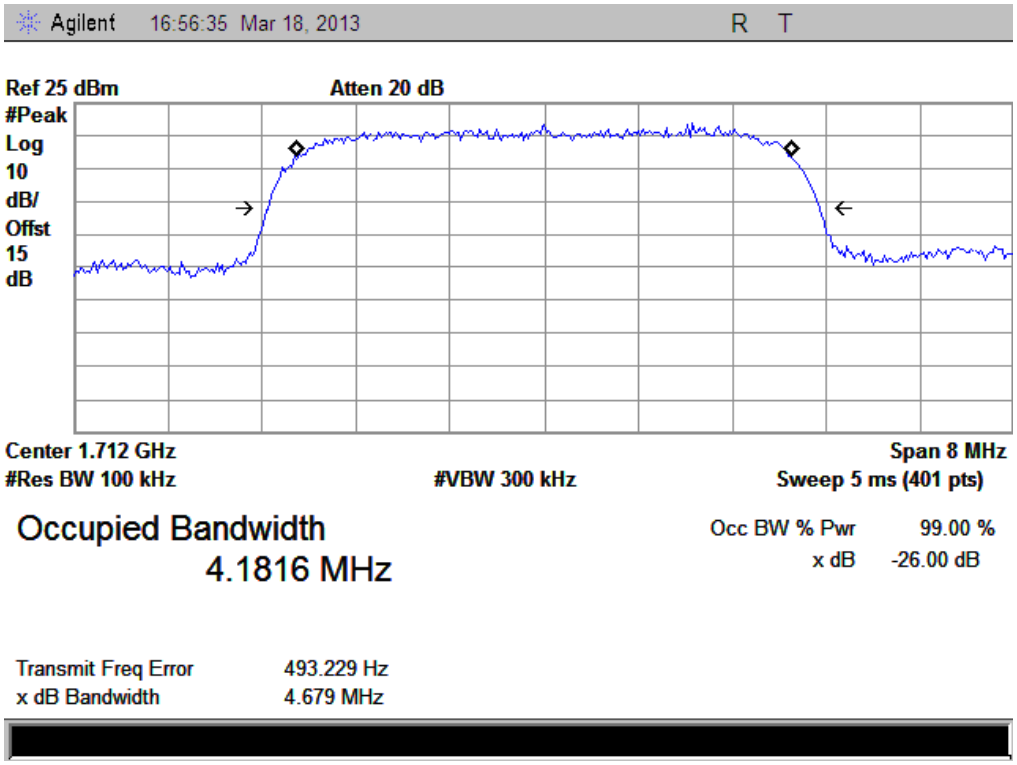
(Plot B1: HSDPA 1700MHz Channel = 1312)



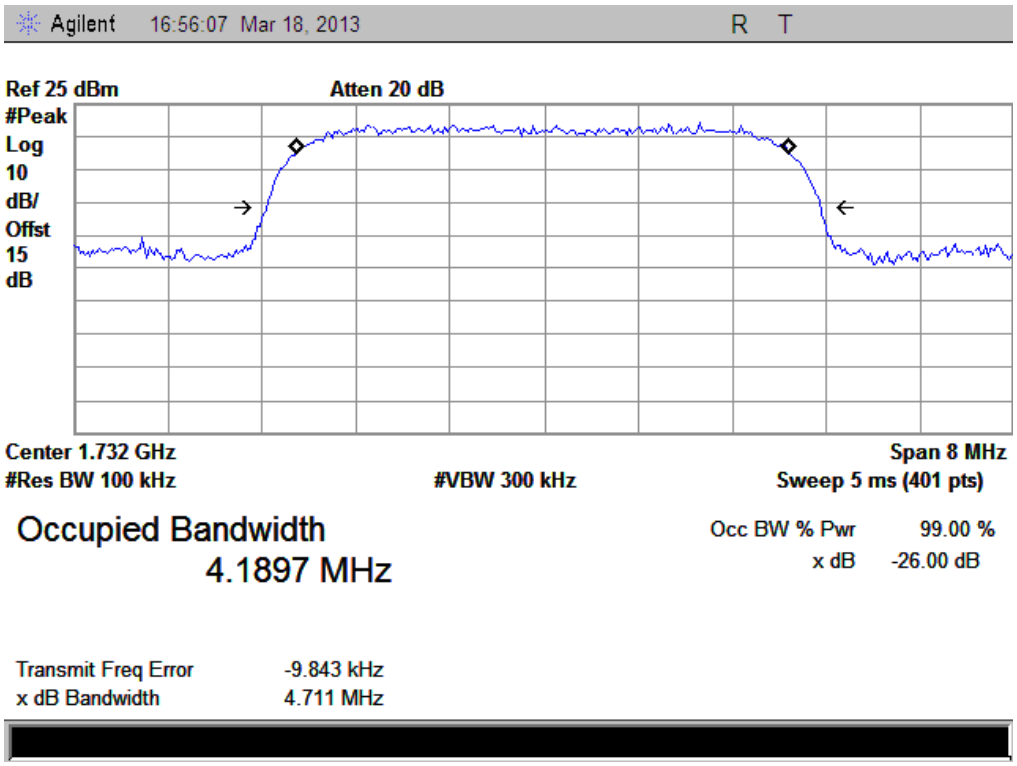
(Plot C1: HSDPA 1700 MHz Channel = 1412)



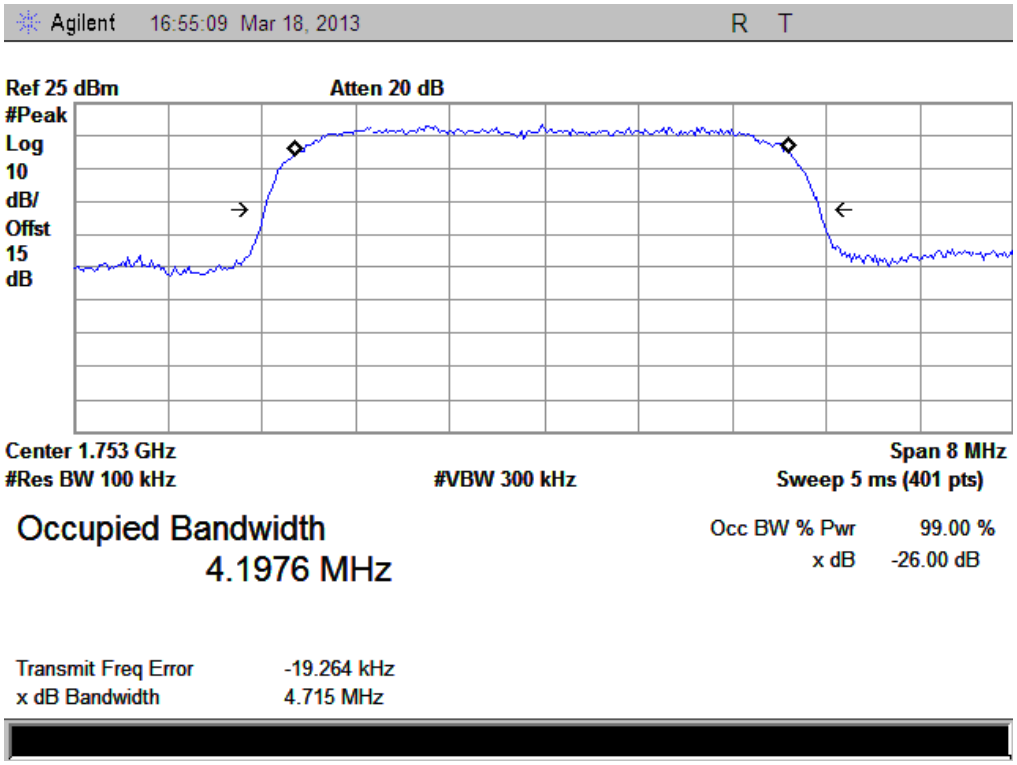
(Plot D1: HSDPA 1700MHz Channel = 1513)



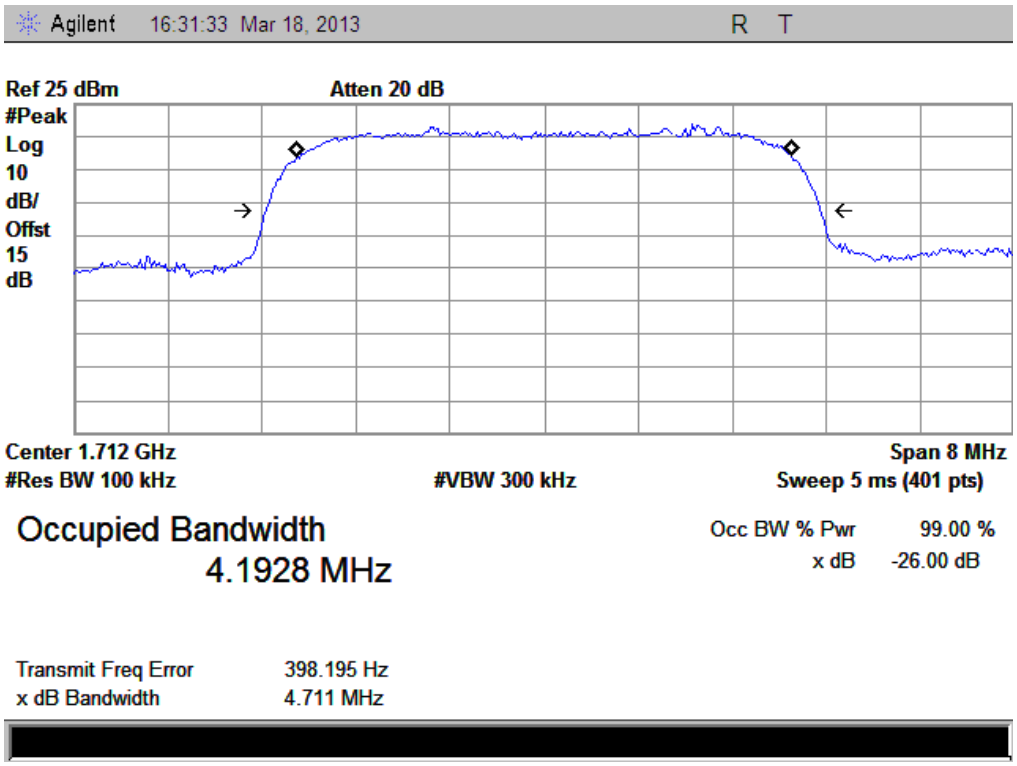
(Plot E1: HSUPA 1700MHz Channel = 1312)



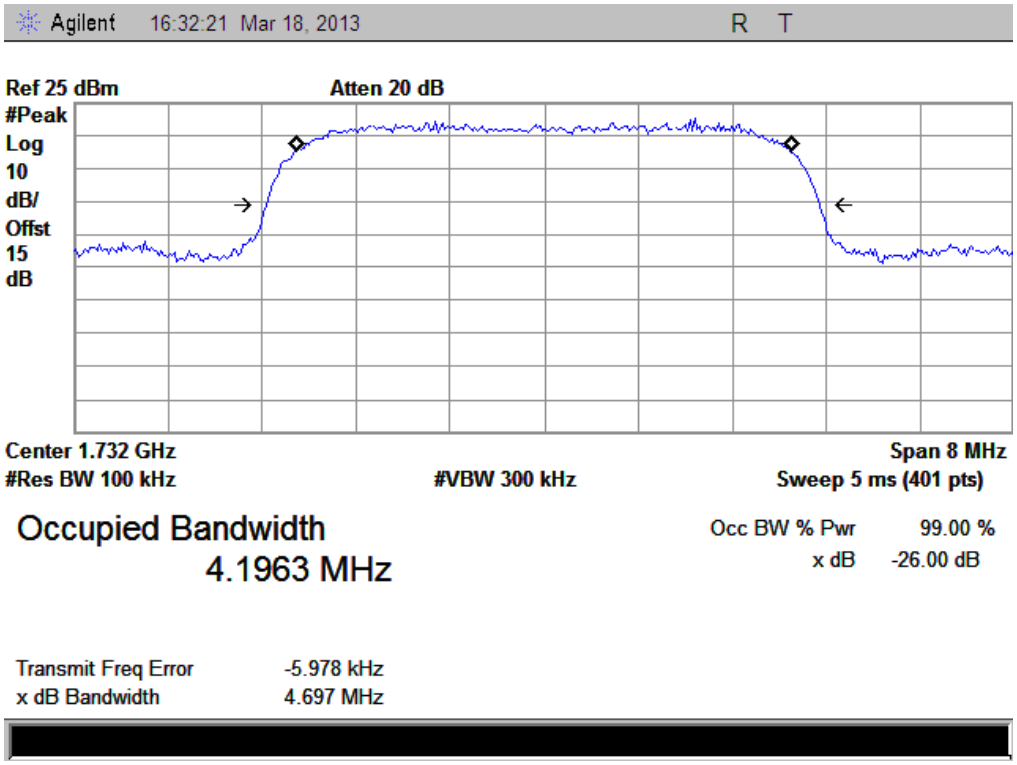
(Plot F1: HSUPA1700 MHz Channel = 1412)



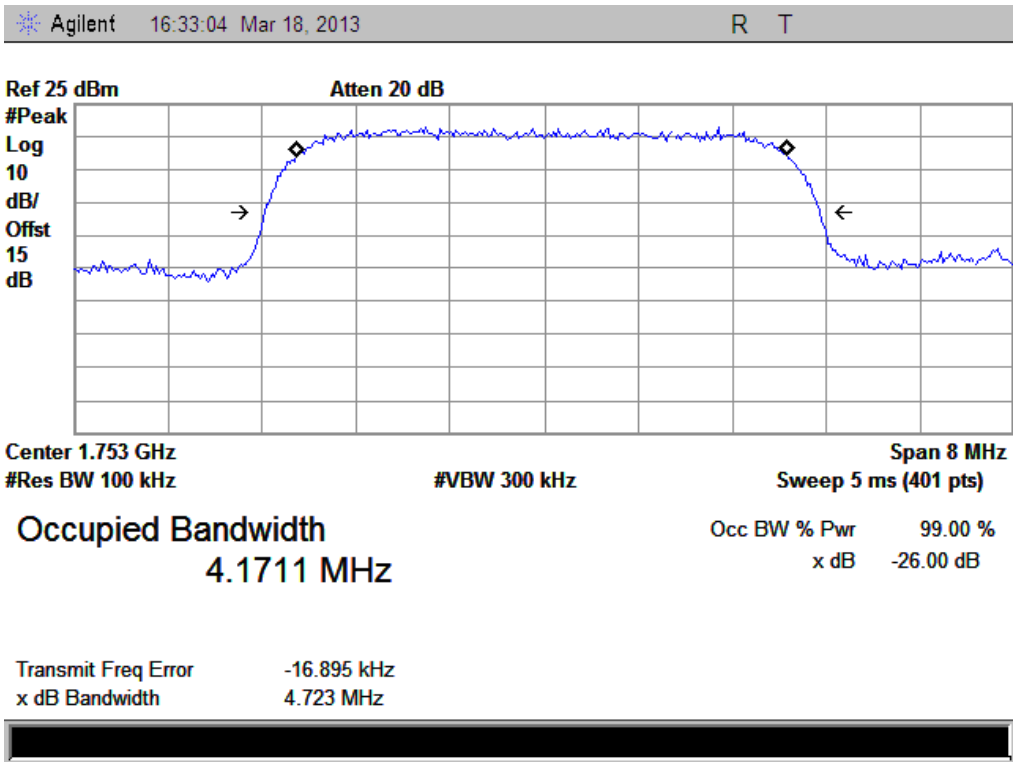
(Plot G1: HSUPA 1700 MHz Channel = 1513)



(Plot H1: HSPA+1700 MHz Channel = 1312)



(Plot I1: HSPA+1700 MHz Channel = 1412)



(Plot J1: HSPA+1700 MHz Channel = 1513)

2.4 Frequency Stability

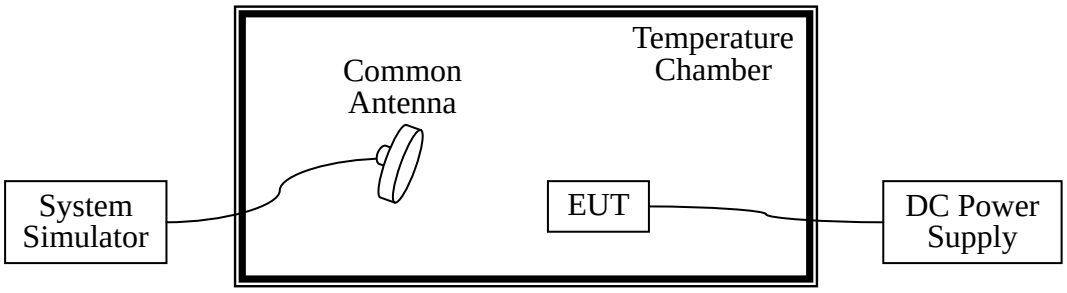
2.4.1 Requirement

According to FCC section 22.355 and FCC section 24.235, section27.54, 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	2012.05	2013.05
DC Power Supply	Good Will	GPS-3030DD	EF920938	2012.05	2013.05
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2012.05	2013.05

2.4.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 5.0VDC, 5.25VDC and 4.75VDC, which are specified by the applicant; the normal temperature here used is 25°C. The frequency

deviation limit of 850MHz band is ±2.5ppm, and 1900MHz is ±1ppm

1. GPRS 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	
5.0	-30	-22.37	±2060.5	23.17	±2091.5	18.52	±2122	PASS
	-20	28.21		11.33		-13.92		
	-10	-2.15		-17.56		15.16		
	0	30.16		32.11		5.05		
	+10	21.99		-25.03		3.02		
	+20	-19.16		-17.19		10.76		
	+30	35.26		19.36		-16.51		
	+40	42.63		19.64		-2.10		
	+55	35.28		22.27		-12.99		
5.25	+25	-14.73		28.95		-7.53		
4.75	+25	-17.75		36.23		6.78		

2. GPRS 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	
5.0	-30	7.23	±1850.2	23.62	±1880.0	32.27	±1909.8	PASS
	-20	-24.78		27.13		-19.71		
	-10	-1.26		-21.28		-18.28		
	0	-18.68		-13.16		17.33		
	+10	-21.61		-18.38		25.31		
	+20	14.58		-21.61		35.26		
	+30	-0.68		15.52		-23.28		
	+40	5.33		-0.68		19.33		
	+55	-2.56		33.27		-19.27		
5.25	+25	17.60		23.82		26.29		
4.75	+25	-8.09		15.32		18.93		

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	
5.0	-30	-32.10	±2060.5	25.12	±2091.5	8.51	±2122	PASS
	-20	38.28		11.33		-12.90		
	-10	-2.15		-17.55		12.66		
	0	40.06		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	46.60		15.64		-2.10		
	+55	39.98		3.67		-12.99		
5.25	+25	-15.71		13.95		-7.53		
4.75	+25	-17.70		6.23		6.78		

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	
5.0	-30	-13.77	±1850.2	23.62	±1880.0	2.47	±1909.8	PASS
	-20	0.62		7.23		-11.76		
	-10	1.65		-24.78		-12.21		
	0	2.47		-1.26		13.33		
	+10	-10.76		-18.68		5.33		
	+20	-2.11		-21.61		35.26		
	+30	13.33		14.58		-26.78		
	+40	5.33		-0.68		19.54		
	+55	-2.56		36.87		-16.67		
5.25	+25	17.60		3.88		26.79		
4.75	+25	-8.09		13.12		19.93		

5. WCDMA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
5.0	-30	-4.75	±1852.4	-13.47	±1880.0	-8.99	±1907.6	PASS
	-20	18.85		12.18		23.60		
	-10	5.05		-14.06		14.81		
	0	19.62		18.79		-3.07		
	+10	30.40		22.39		17.42		
	+20	13.45		37.27		-10.39		
	+30	1.31		2.37		17.47		
	+40	-12.52		-13.47		27.84		
	+55	-13.55		-5.71		-2.53		
5.25	+25	23.21		14.58		20.95		
4.75	+25	22.00		26.37		-23.22		

6. HSDPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
5.0	-30	11.87	±1852.4	-3.01	±1880	2.61	±1907.6	PASS
	-20	-16.65		21.71		-8.38		
	-10	20.12		14.37		-13.02		
	0	-3.01		-11.21		-8.51		
	+10	21.71		10.60		5.64		
	+20	20.12		-4.81		-3.85		
	+30	-15.01		34.31		9.57		
	+40	22.71		8.36		27.54		
	+55	16.32		-25.88		-12.52		
5.25	+25	-11.28		29.43		-2.83		
4.75	+25	10.33		-2.27		14.42		

7. HSUPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
5.0	-30	31.57	±1852.4	-11.79	±1880	8.69	±1907.6	PASS
	-20	27.13		-0.44		2.01		
	-10	7.62		0.01		-4.75		
	0	2.31		13.82		16.38		
	+10	-4.73		-15.25		-1.76		
	+20	16.22		-11.79		23.52		
	+30	-1.55		-0.44		-0.38		
	+40	23.16		1.15		-11.85		
	+55	13.79		-7.94		-5.91		
5.25	+25	-7.08		6.81		25.48		
4.75	+25	22.58		-1.83		-15.78		

8. HSPA+ 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
5.0	-30	12.11	±1852.4	-15.31	±1880	3.31	±1907.6	PASS
	-20	20.15		-11.79		-5.73		
	-10	11.61		-0.44		18.22		
	0	3.31		0.01		-33.55		
	+10	-5.73		-15.31		3.31		
	+20	18.22		-11.79		-5.73		
	+30	-33.55		-0.44		19.21		
	+40	27.16		0.01		-31.05		
	+55	23.79		-6.64		22.36		
5.25	+25	-37.01		24.25		3.31		
4.75	+25	22.58		9.63		-17.08		

9. WCDMA 1700MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 1312 (1712.4MHz)		Channel = 1412 (1732.4MHz)		Channel = 1513 (1752.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
5.0	-30	17.29	±4281	11.87	±4331	-9.81	±4381.5	PASS
	-20	-7.32		-0.59		-23.82		
	-10	-3.40		21.45		26.39		
	0	16.47		13.45		30.98		
	+10	30.18		1.31		-2.65		
	+20	32.07		-12.52		18.30		
	+30	-7.98		30.62		-12.57		
	+40	26.21		13.45		28.93		
	+50	11.10		-12.52		19.66		
5.25	+25	-6.18		30.62		22.19		
4.75	+25	18.66		-18.00		-18.70		

10. HSDPA 1700MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 1312 (1712.4MHz)		Channel = 1412 (1732.4MHz)		Channel = 1513 (1752.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
5.0	-30	16.22	±4281	13.81	±4331	-23.81	±4381.5	PASS
	-20	-17.31		-20.51		26.31		
	-10	-13.20		22.15		29.08		
	0	12.57		19.35		-12.62		
	+10	31.18		21.31		19.30		
	+20	28.07		-17.52		18.30		
	+30	-17.98		28.62		-19.53		
	+40	23.25		17.25		28.93		
	+50	17.10		-19.52		19.66		
5.25	+25	-16.18		30.62		22.19		
4.75	+25	12.65		-18.00		-18.70		

11. HSUPA 1700MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 1312 (1712.4MHz)		Channel = 1412 (1732.4MHz)		Channel = 1513 (1752.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
5.0	-30	-4.75	±4281	-18.56	±4331	-21.01	±4381.5	PASS
	-20	18.85		-13.47		-19.32		
	-10	5.05		12.18		22.35		
	0	19.62		-14.06		31.18		
	+10	30.40		18.79		-22.05		
	+20	13.45		22.39		19.33		
	+30	1.31		37.27		-12.57		
	+40	-12.52		2.37		28.93		
	+50	16.10		-11.52		15.62		
5.25	+25	-6.18		-5.41		22.19		
4.75	+25	18.66		12.65		-17.75		

12. HSPA+ 1700MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 1312 (1712.4MHz)		Channel = 1412 (1732.4MHz)		Channel = 1513 (1752.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
5.0	-30	12.51	±4281	31.07	±4331	-6.57	±4381.5	PASS
	-20	23.84		28.79		38.42		
	-10	53.59		3.28		12.94		
	0	44.56		27.29		49.17		
	+10	-6.88		-4.29		64.85		
	+20	55.91		10.89		-1.72		
	+30	59.30		9.50		56.31		
	+40	11.35		43.76		3.94		
	+50	21.93		60.11		3.99		
5.25	+25	48.98		53.02		15.36		
4.75	+25	11.59		47.73		11.03		

2.5 Conducted Out of Band Emissions

2.5.1 Requirement

According to FCC section 22.917(a) and FCC section 24.238(a), 27.53(g) 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.

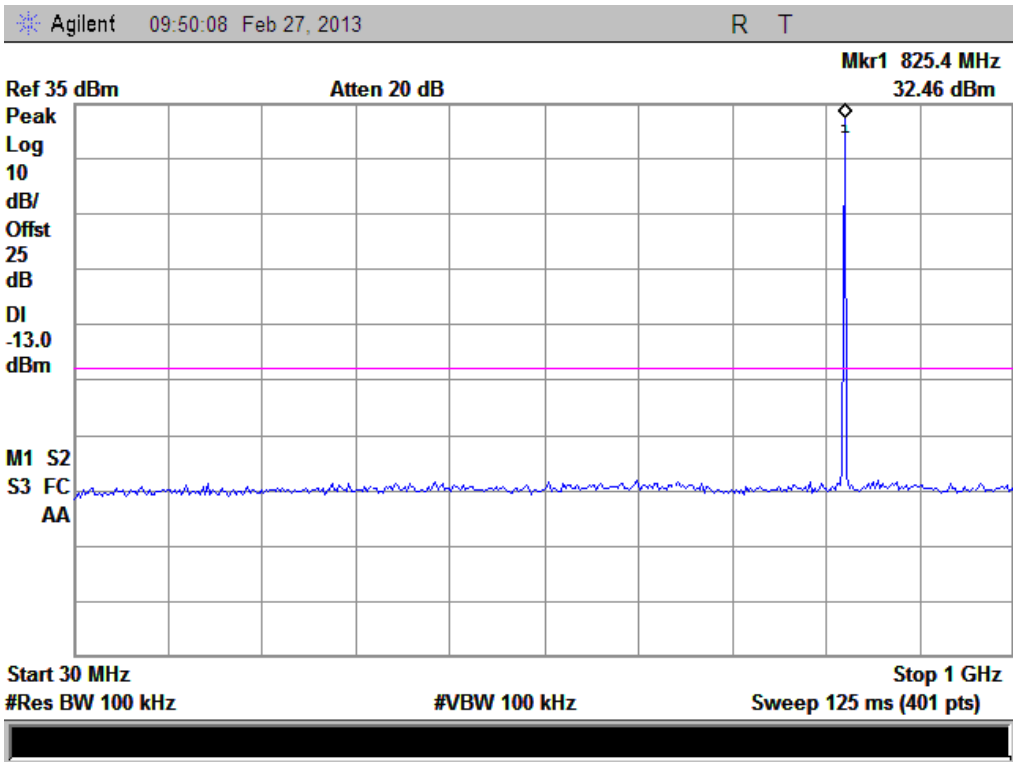
1. Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GPRS 850MHz	128	824.2	-20.39	Plot A1toA1.1	-13	PASS
	190	836.6	-20.54	Plot A2toA2.1		PASS
	251	848.8	-20.83	Plot A3toA3.1		PASS
GPRS 1900MHz	512	1850.2	-20.88	Plot B1toB1.1	-13	PASS
	661	1880.0	-21.02	Plot B2toB2.1		PASS
	810	1909.8	-20.57	Plot B3toB3.1		PASS
EDGE 850MHz	128	824.2	-22.84	Plot C1toC1.1	-13	PASS
	190	836.6	-22.08	Plot C2toC2.1		PASS
	251	848.8	-22.41	Plot C3toC3.1		PASS
EDGE 1900MHz	512	1850.2	-20.42	Plot D1toD1.1	-13	PASS
	661	1880.0	-21.26	Plot D2toD2.1		PASS
	810	1909.8	-20.63	Plot D3toD3.1		PASS
WCDMA 1900MHz	9262	1852.4	< -25	Plot E1toE1.1	-13	PASS
	9400	1880	< -25	Plot E2toE2.1		PASS
	9538	1907.6	< -25	Plot E3toE3.1		PASS
HSDPA 1900MHz	9262	1852.4	< -25	Plot F1toF1.1	-13	PASS
	9400	1880	< -25	Plot F2toF2.1		PASS
	9538	1907.6	< -25	Plot F3toF3.1		PASS
HSUPA	9262	1852.4	< -25	Plot G1toG1.1	-13	PASS

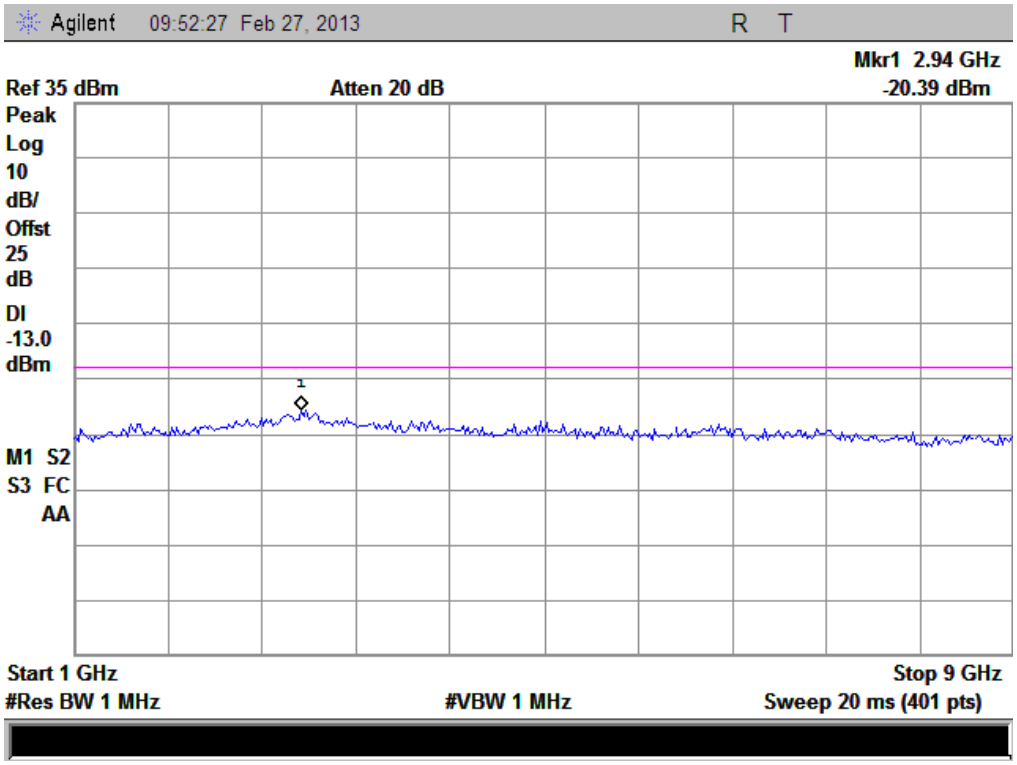
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
1900MHz	9400	1880	< -25	Plot G2toG2.1		PASS
	9538	1907.6	< -25	Plot G3toG3.1		PASS
HSPA+ 1900MHz	9262	1852.4	< -25	Plot H1toH1.1	-13	PASS
	9400	1880	< -25	Plot H2toH2.1		PASS
	9538	1907.6	< -25	Plot H3toH3.1		PASS
WCDMA 1700MHz	1312	1712.4	< -25	Plot I1toI1.1	-13	PASS
	1412	1732.4	< -25	Plot I2toI2.1		PASS
	1513	1752.6	< -25	Plot I3toI3.1		PASS
HSDPA 1700MHz	1312	1712.4	< -25	Plot J1toJ1.1	-13	PASS
	1412	1732.4	< -25	Plot J2toJ2.1		PASS
	1513	1752.6	< -25	Plot J3toJ3.1		PASS
HSUPA 1700MHz	1312	1712.4	< -25	Plot K1toK1.1	-13	PASS
	1412	1732.4	< -25	Plot K2toK2.1		PASS
	1513	1752.6	< -25	Plot K3toK3.1		PASS
HSPA+ 1700MHz	1312	1712.4	< -25	Plot L1toL1.1	-13	PASS
	1412	1732.4	< -25	Plot L2toL2.1		PASS
	1513	1752.6	< -25	Plot L3toL3.1		PASS

2. Test Plots for the Whole Measurement Frequency Range:

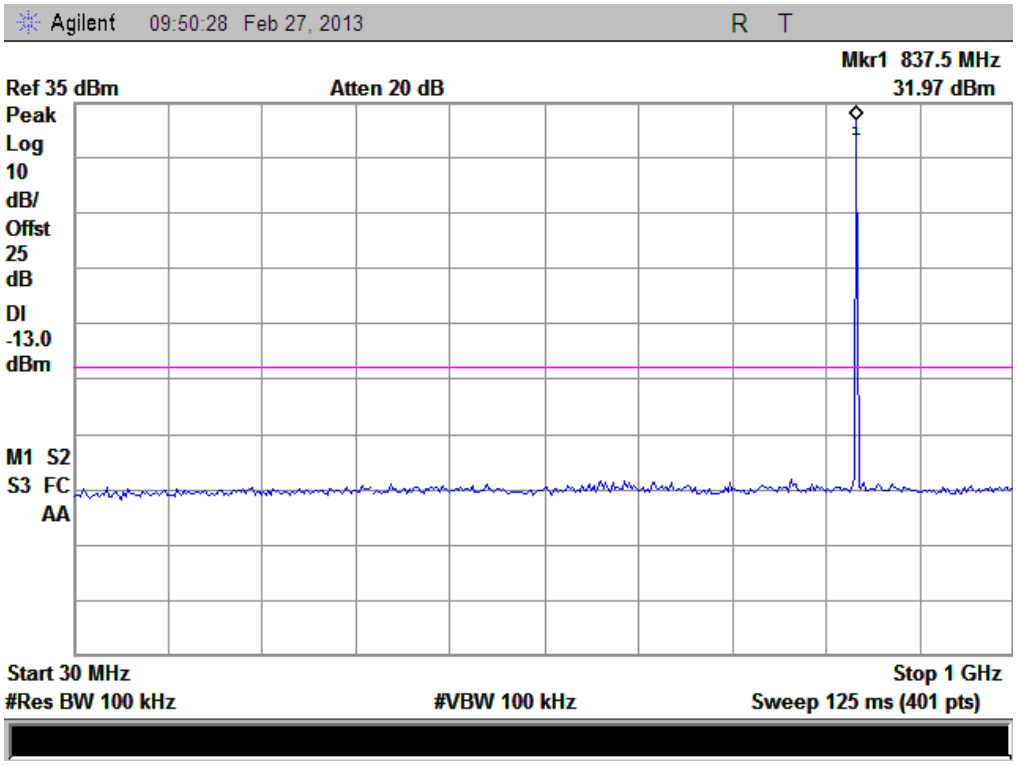
Note: the power of the EUT transmitting frequency should be ignored.



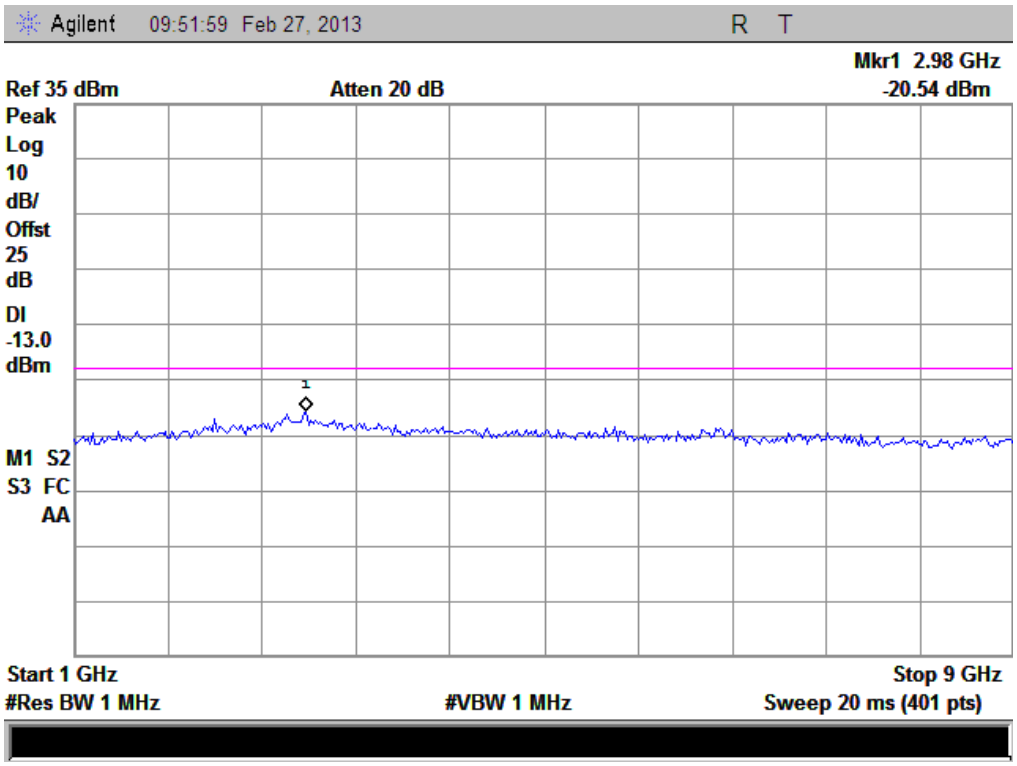
(Plot A1: GPRS 850MHz Channel = 128, 30MHz to 1GHz)



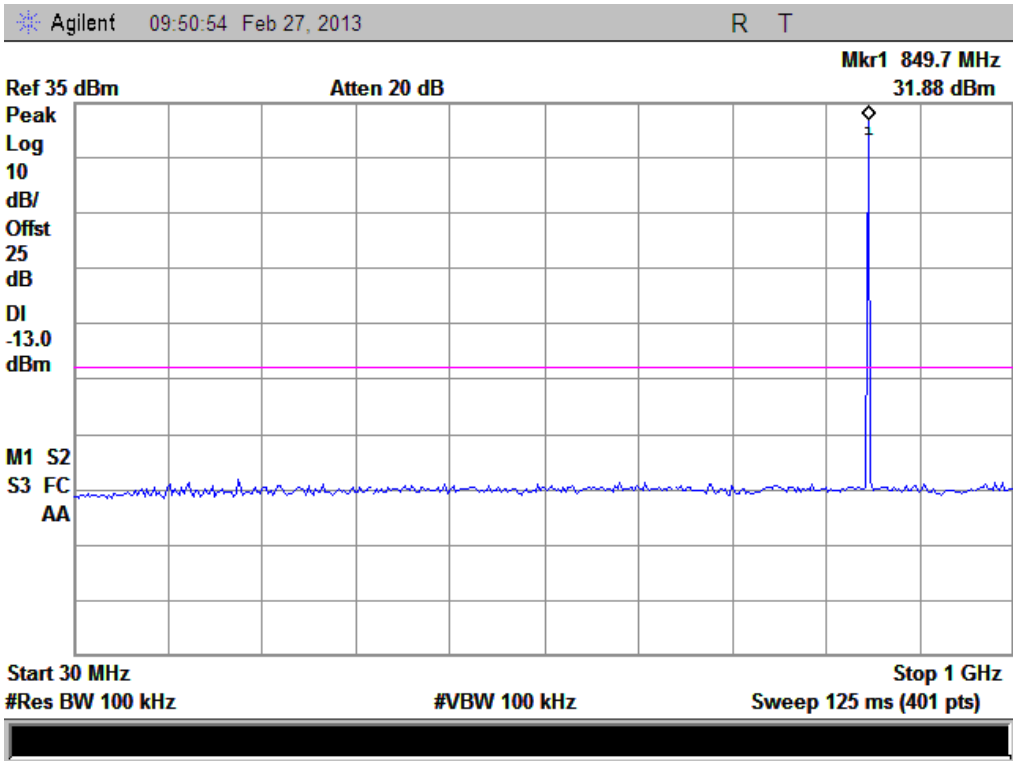
(Plot A1.1: GPRS 850MHz Channel = 128, 1GHz to 9GHz)



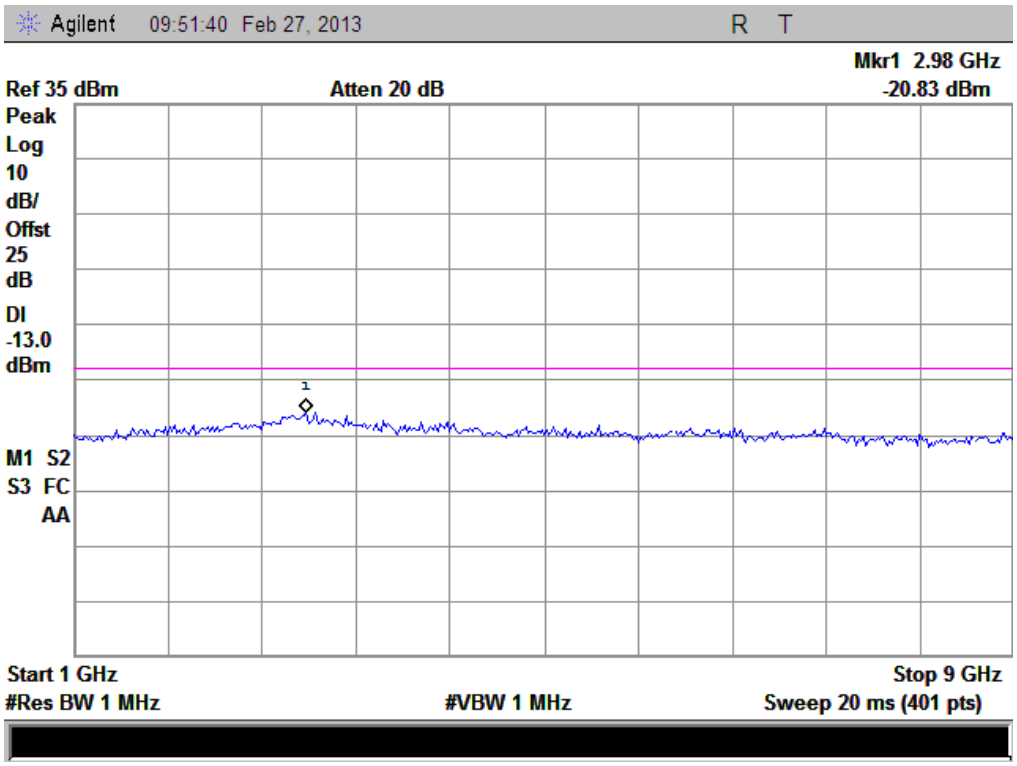
(Plot A2: GPRS 850MHz Channel = 190, 30MHz to 1GHz)



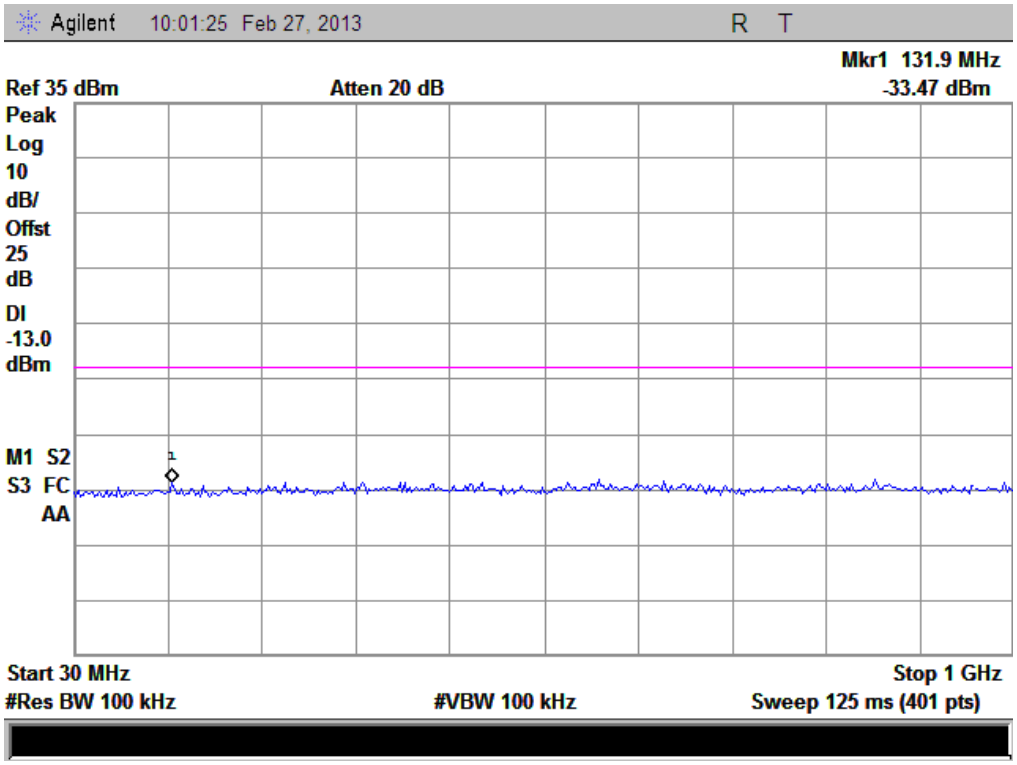
(Plot A2.1: GPRS 850MHz Channel = 190, 1GHz to 9GHz)



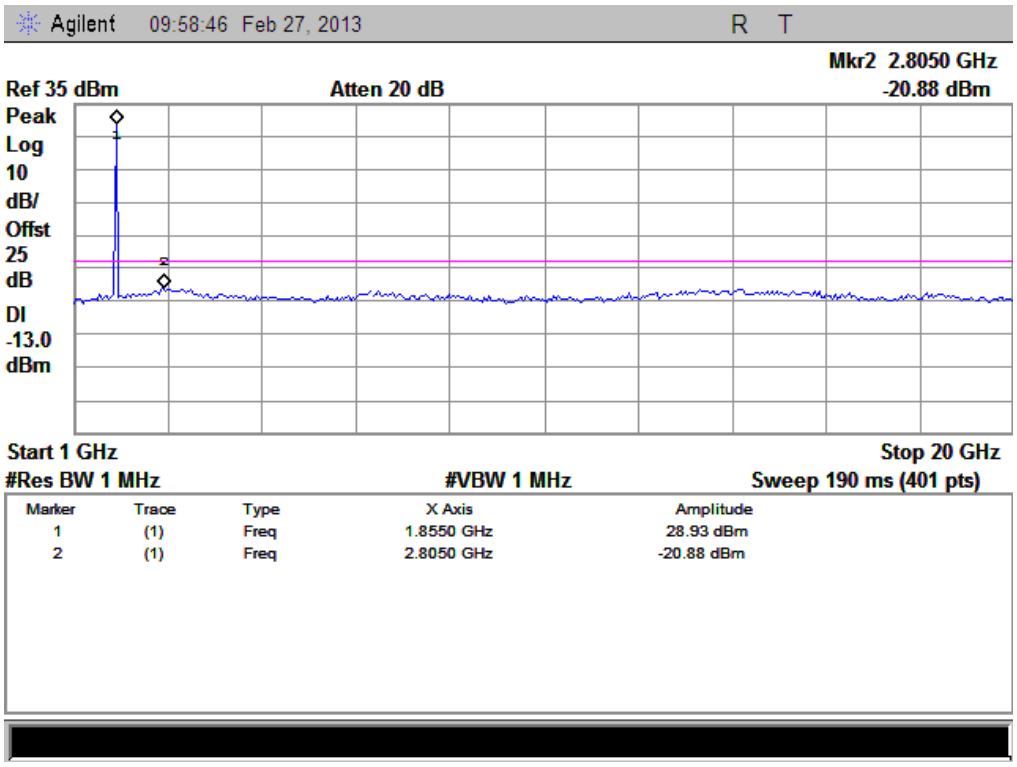
(Plot A3: GPRS 850MHz Channel = 251, 30MHz to 1GHz)



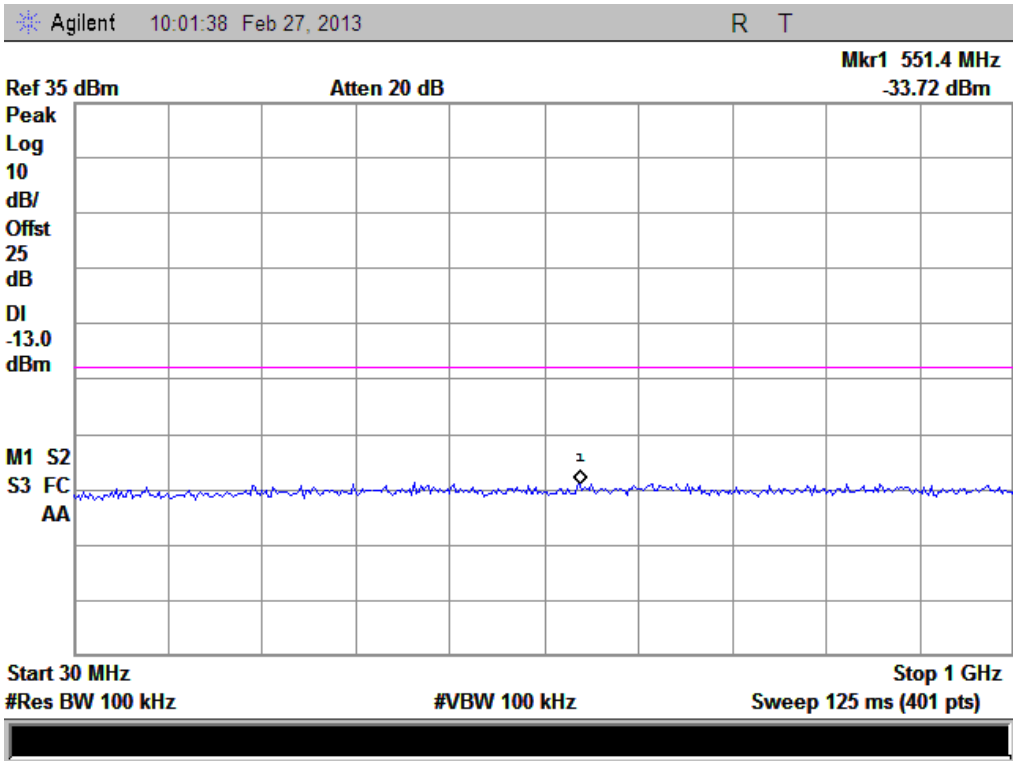
(Plot A3.1: GPRS 850MHz Channel = 251, 1GHz to 9GHz)



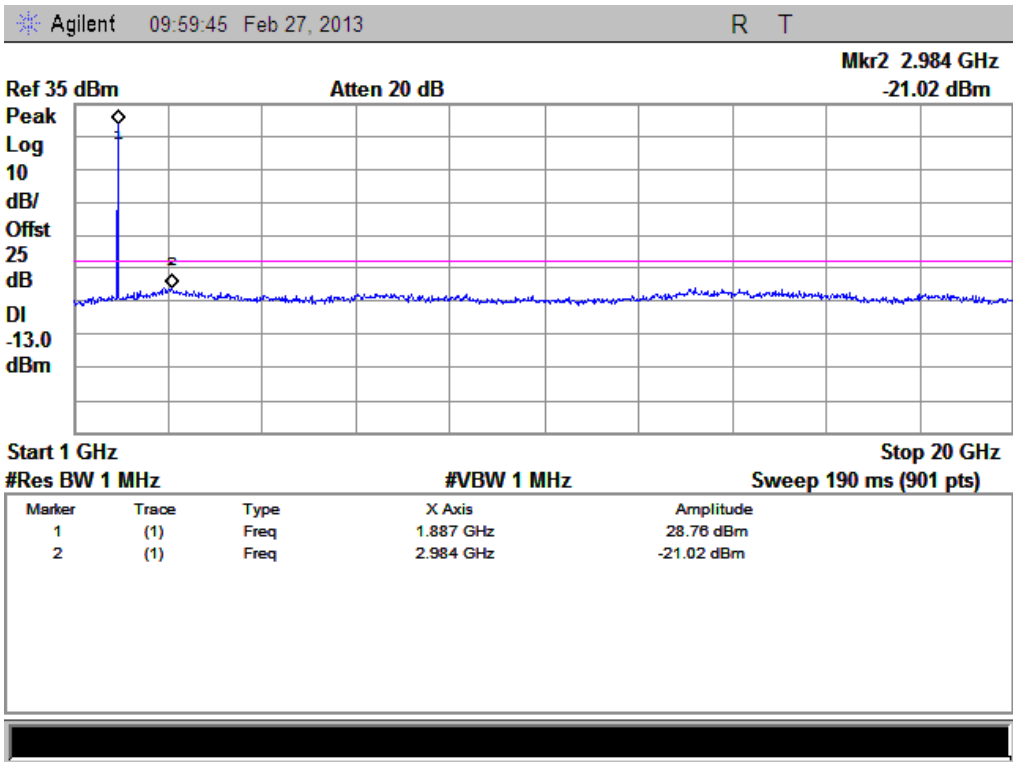
(Plot B1: GPRS 1900MHz Channel = 512, 30MHz to 1GHz)



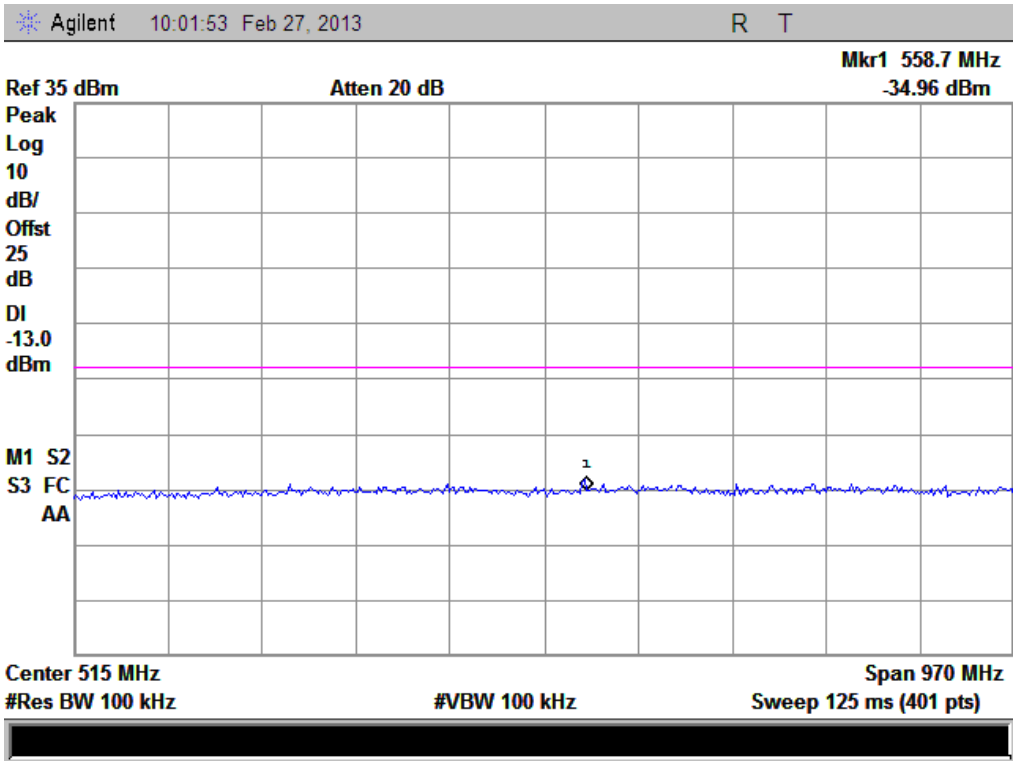
(Plot B1.1: GPRS 1900MHz Channel = 512, 1GHz to 20GHz)



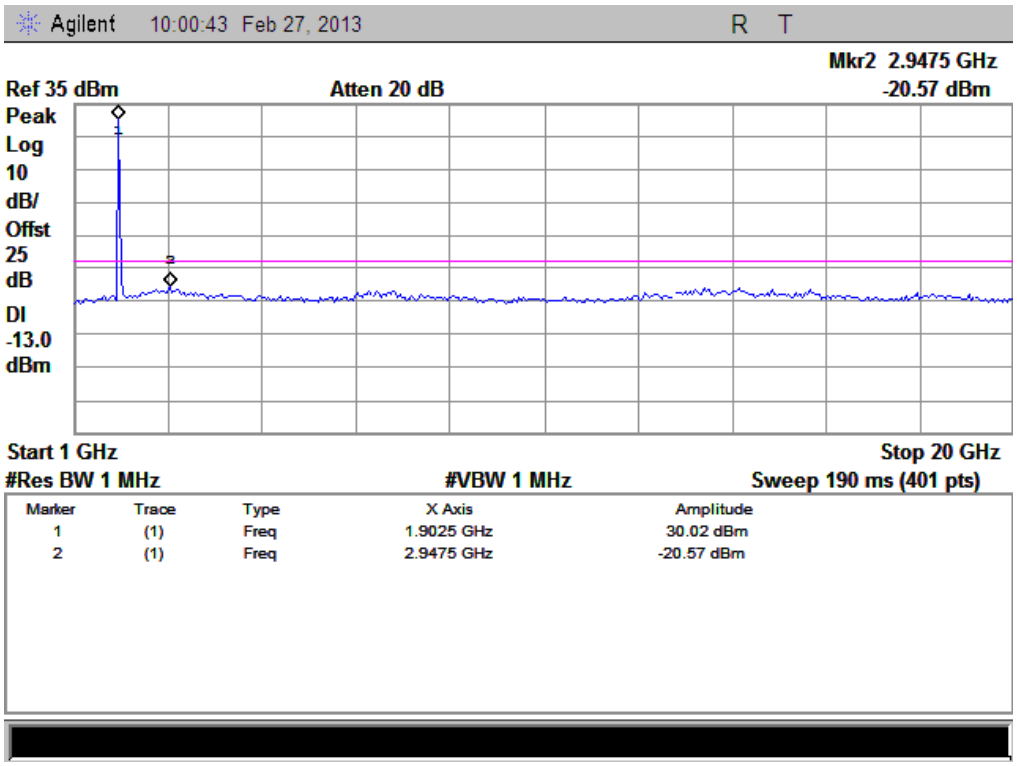
(Plot B2: GPRS 1900MHz Channel = 661, 30MHz to 1GHz)



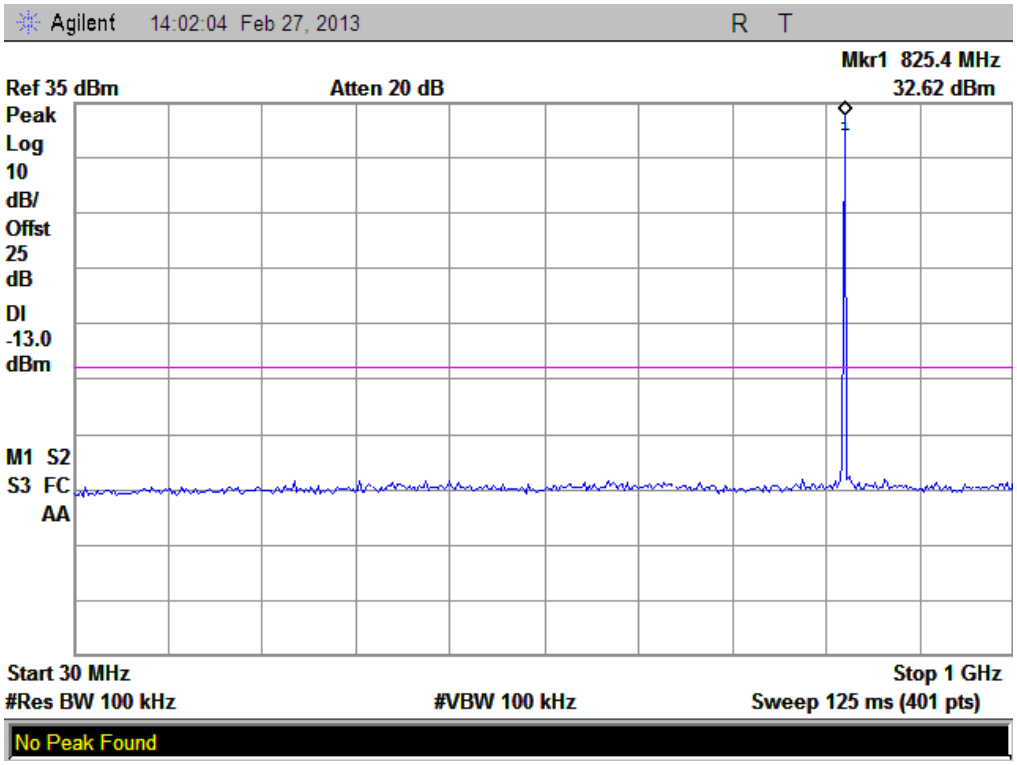
(Plot B2.1: GPRS 1900MHz Channel = 661, 1GHz to 20GHz)



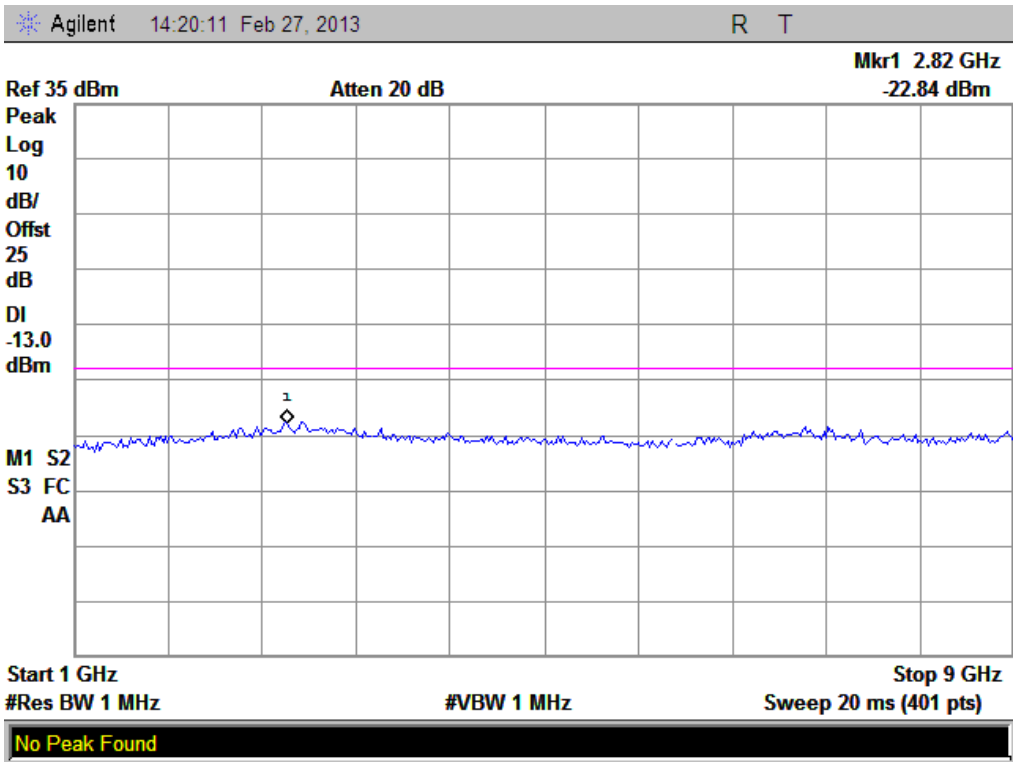
(Plot B3: GPRS 1900MHz Channel = 810, 30MHz to 1GHz)



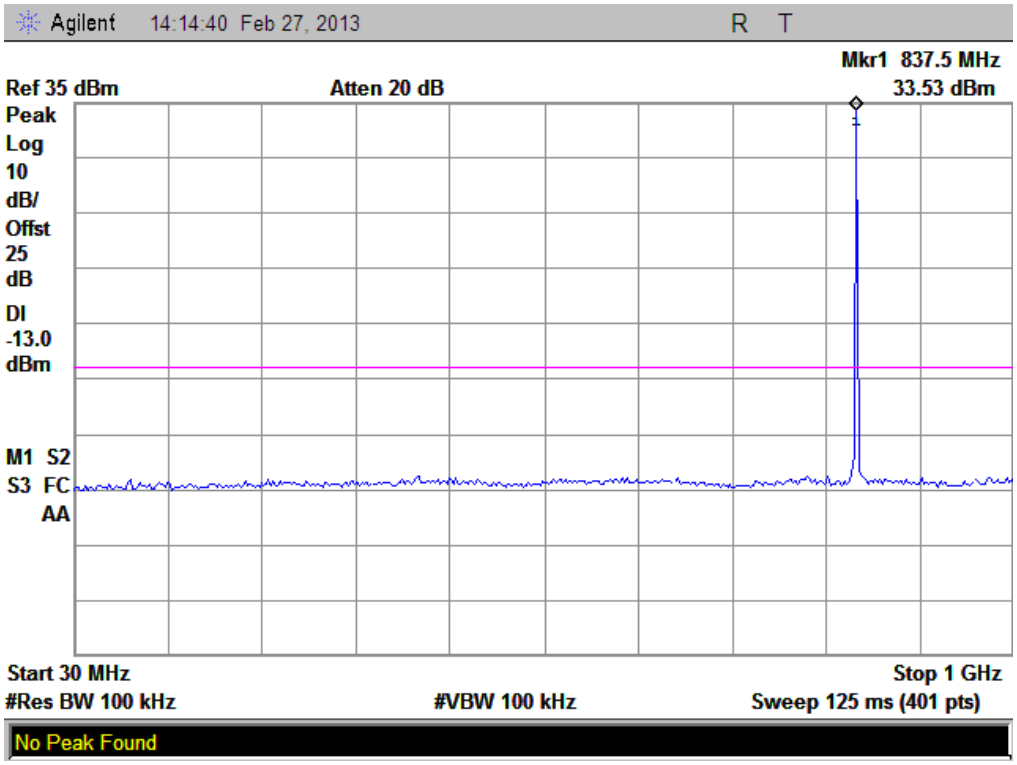
(Plot B3.1: GPRS 1900MHz Channel = 810, 1GHz to 20GHz)



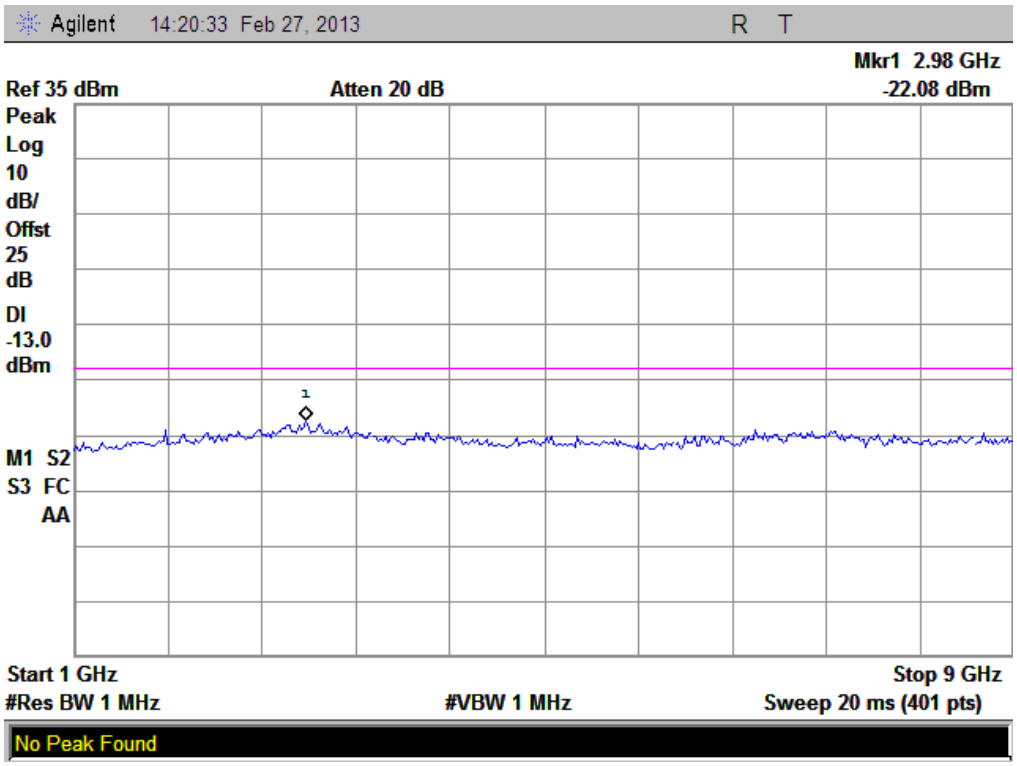
(Plot C1: EDGE 850MHz Channel = 128, 30MHz to 1GHz)



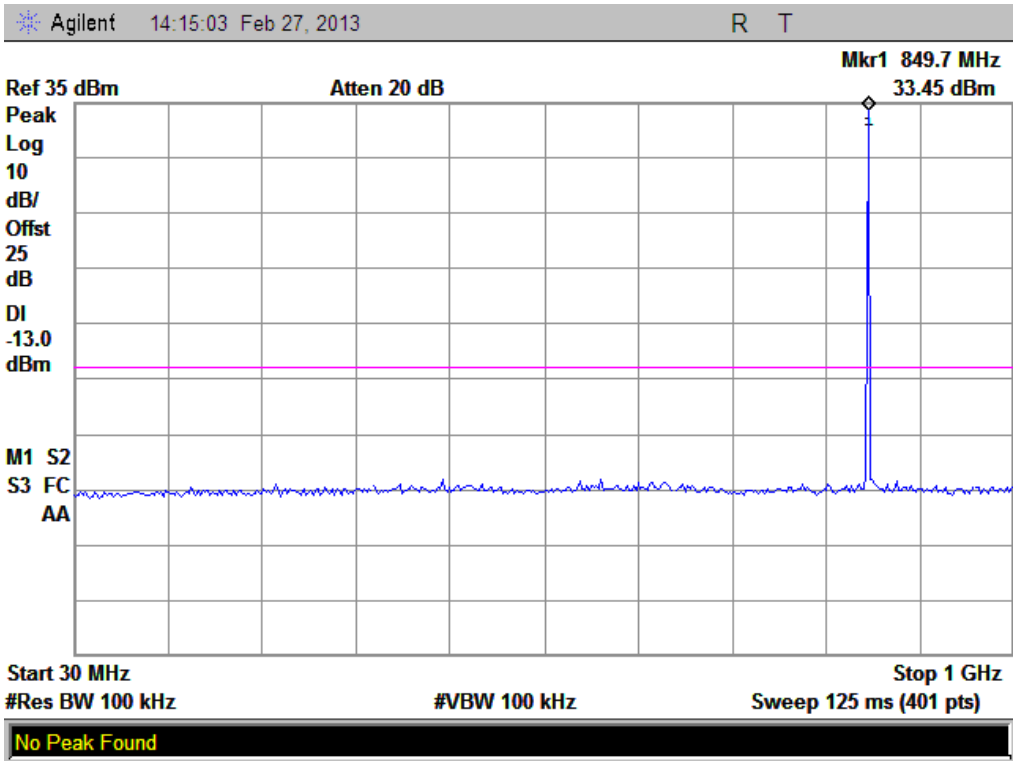
(Plot C1.1: EDGE 850MHz Channel = 128, 1GHz to 9GHz)



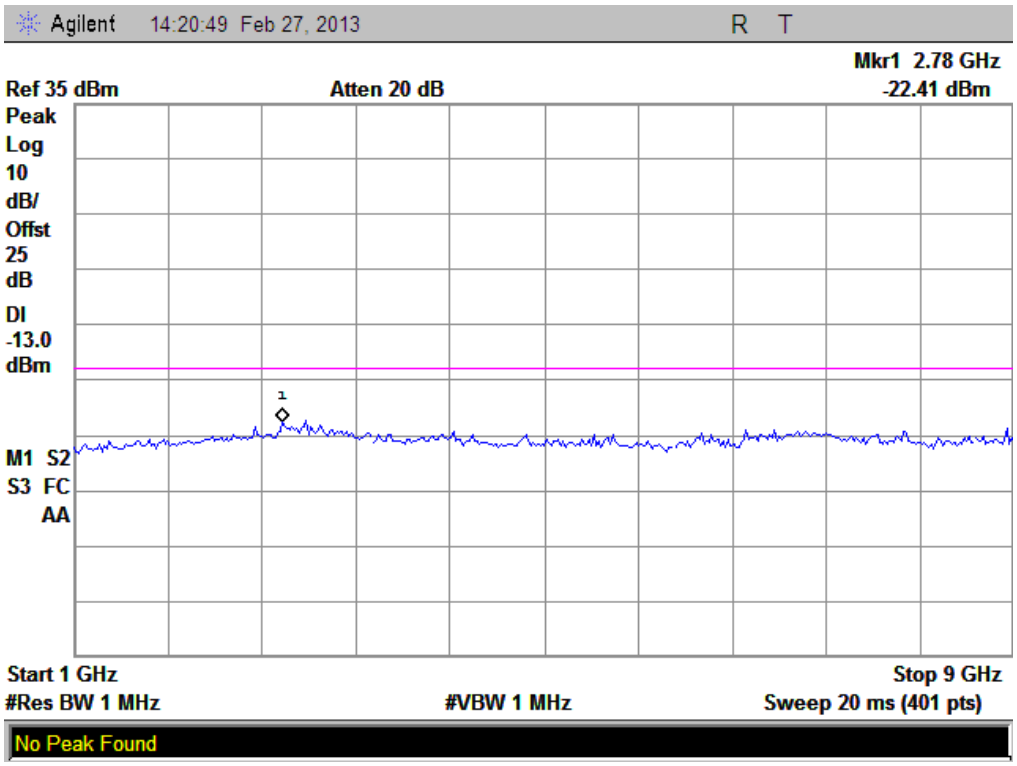
(Plot C2: EDGE 850MHz Channel = 190, 30MHz to 1GHz)



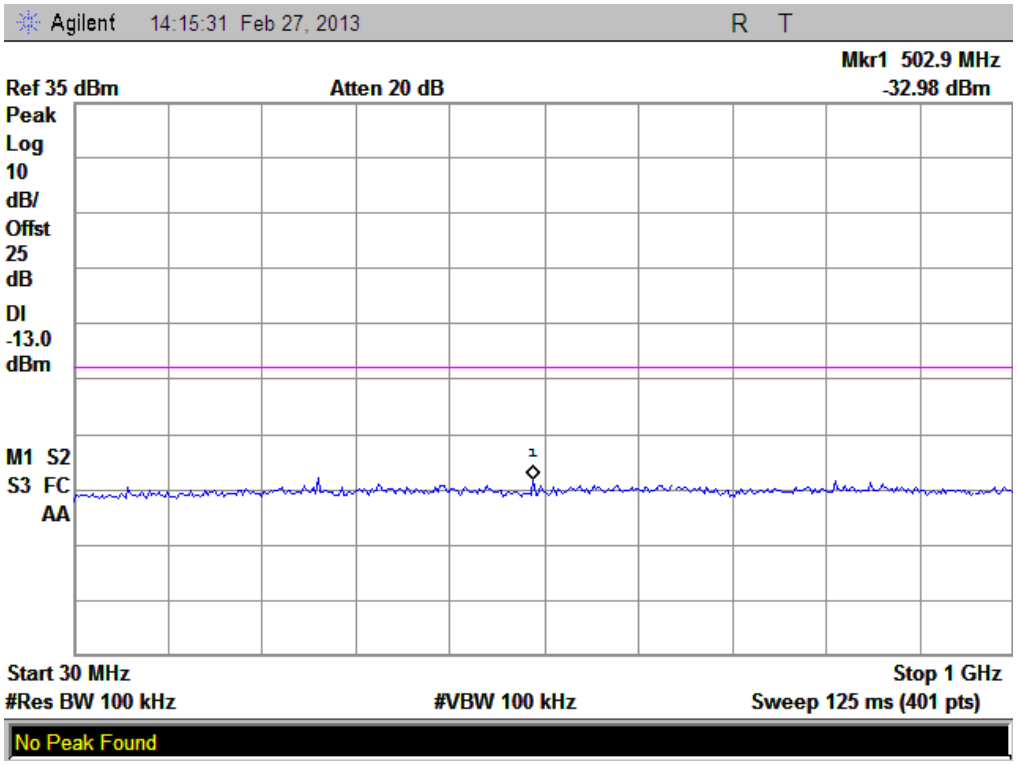
(Plot C2.1: EDGE 850MHz Channel = 190, 1GHz to 9GHz)



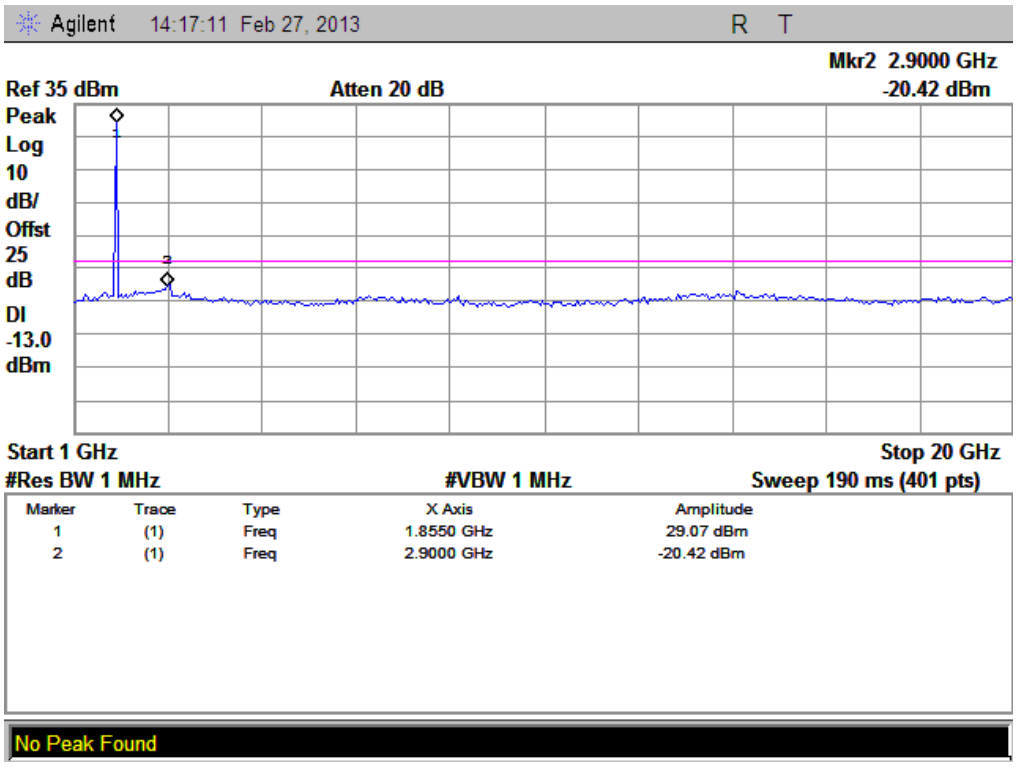
(Plot C3: EDGE 850MHz Channel = 251, 30MHz to 1GHz)



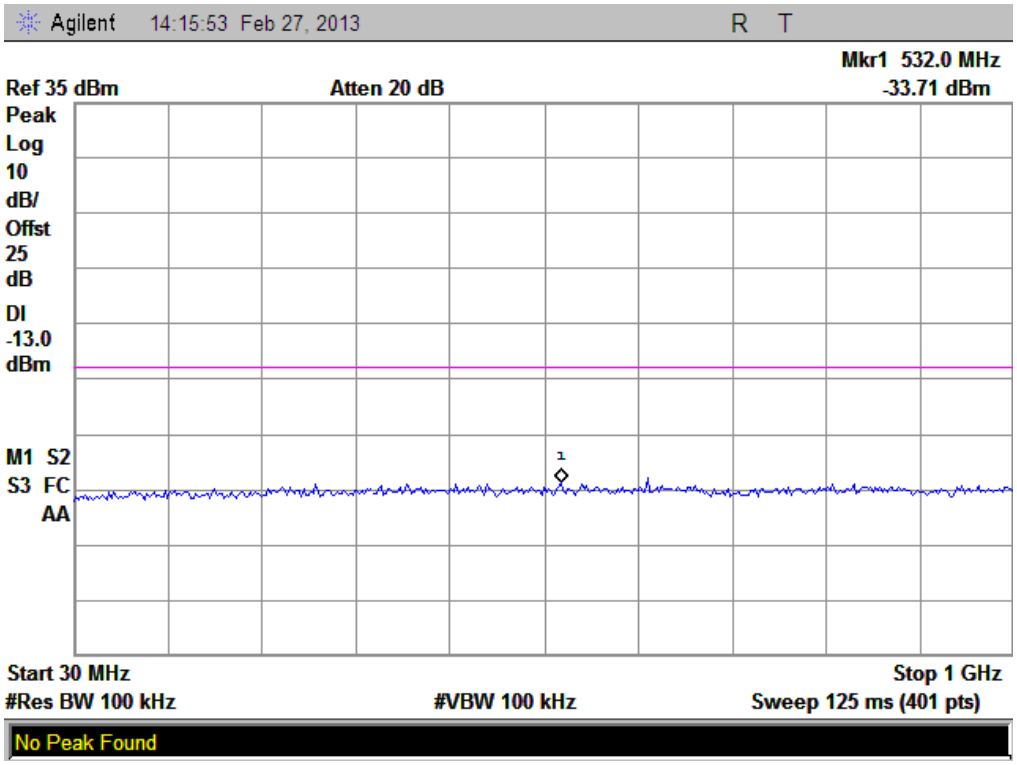
(Plot C3.1: EDGE 850MHz Channel = 251, 1GHz to 9GHz)



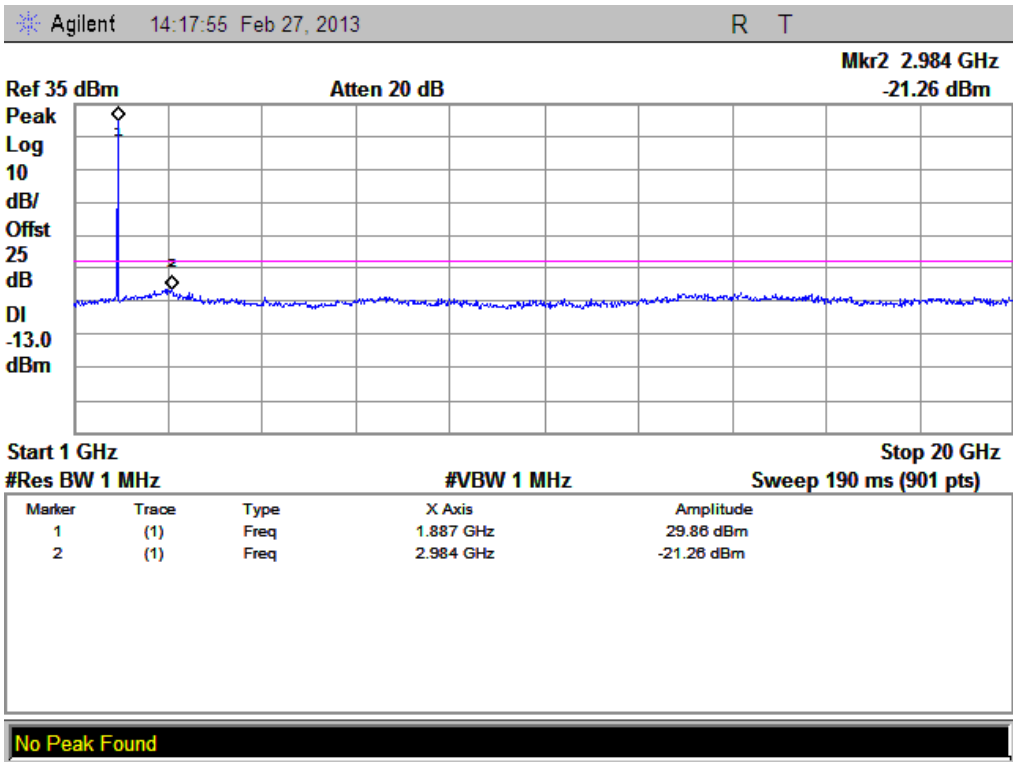
(Plot D1: EDGE 1900MHz Channel = 512, 30MHz to 1GHz)



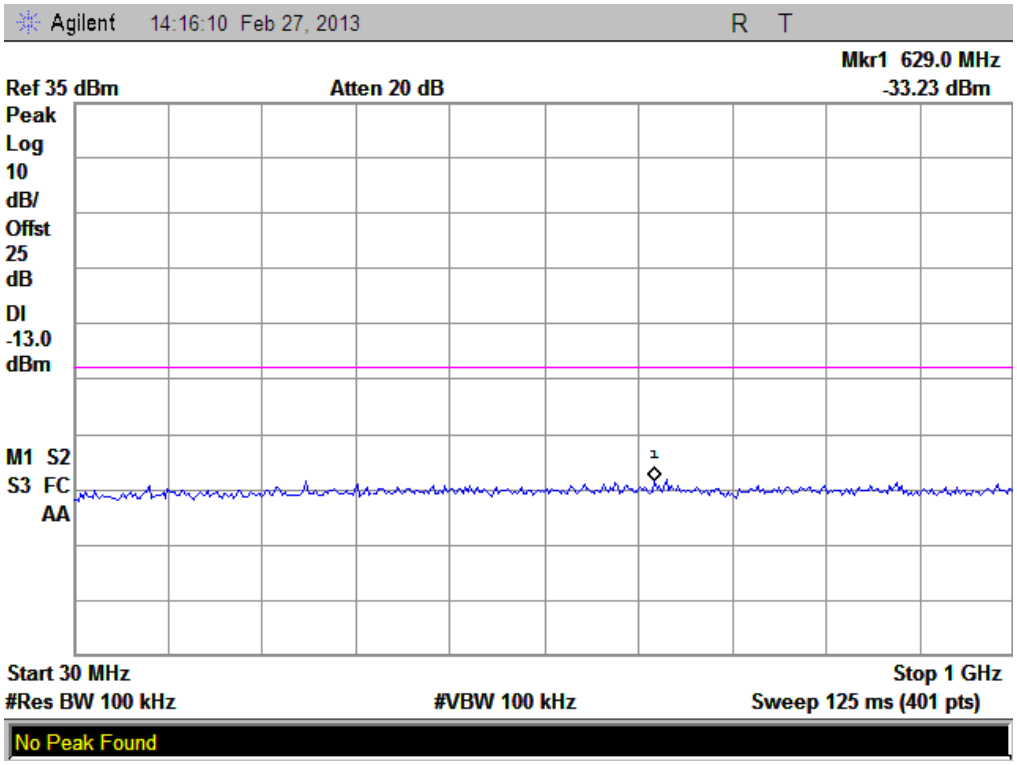
(Plot D1.1: EDGE 1900MHz Channel = 512, 1GHz to 20GHz)



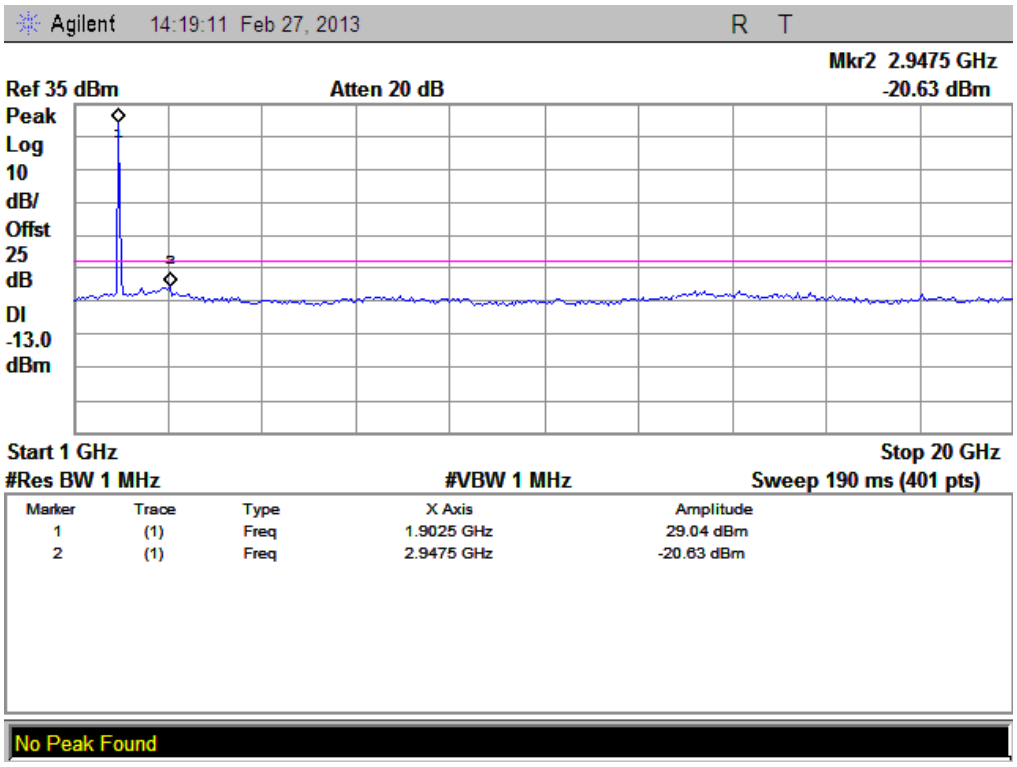
(Plot D2: EDGE 1900MHz Channel = 661, 30MHz to 1GHz)



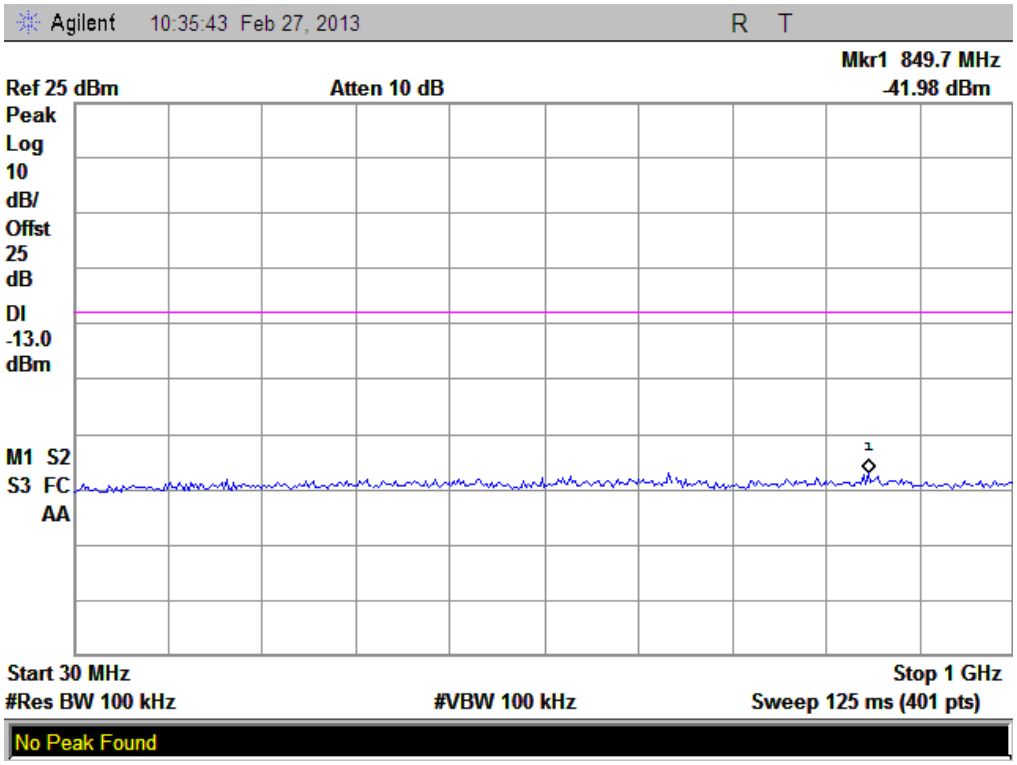
(Plot D2.1: EDGE 1900MHz Channel = 661,1GHz to 20GHz)



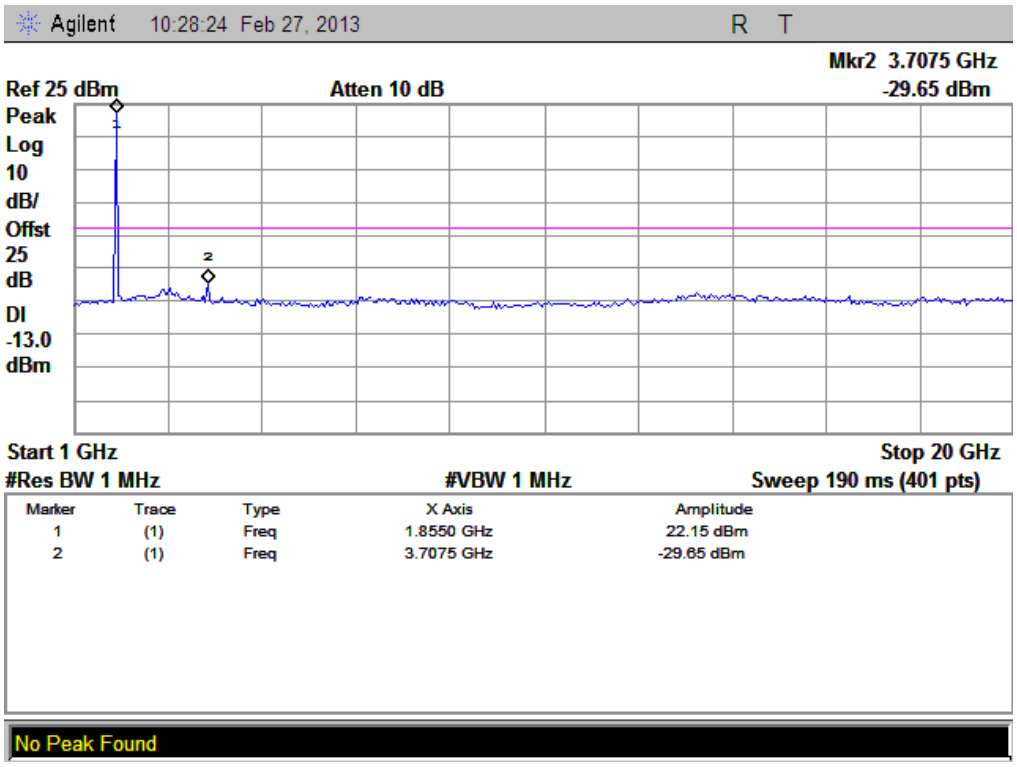
(Plot D3: EDGE 1900MHz Channel = 810, 30MHz to 1GHz)



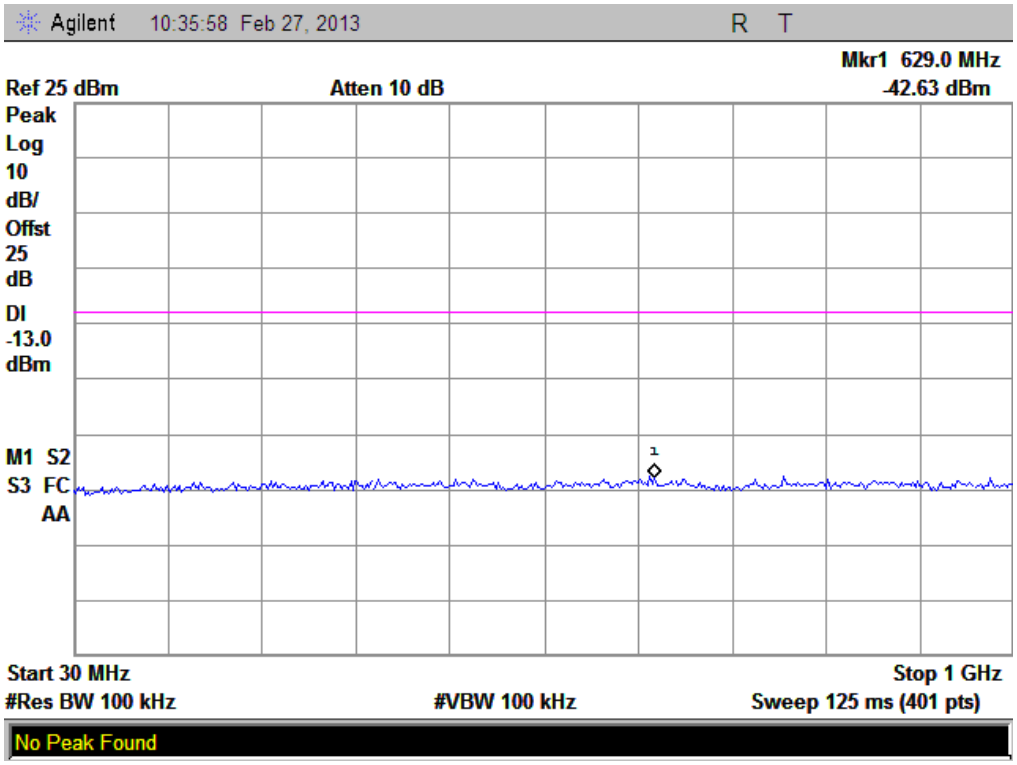
(Plot D3.1: EDGE 1900MHz Channel = 810, 1GHz to 20GHz)



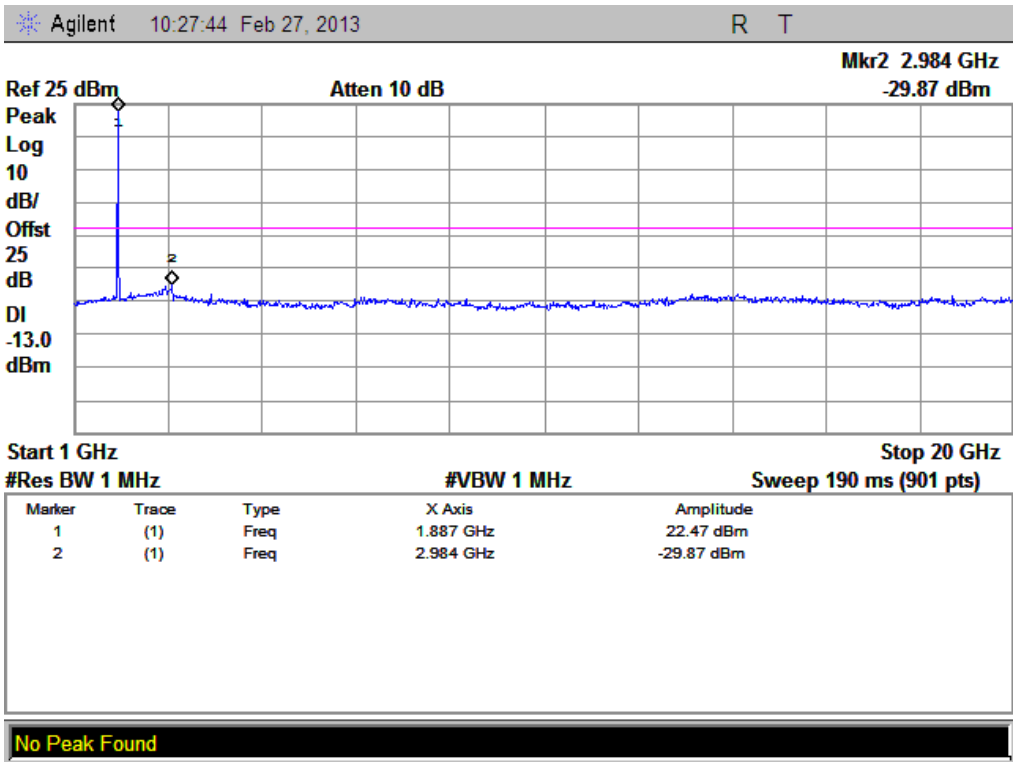
(Plot E1: WCDMA1900MHz Channel = 9262, 30MHz to 1GHz)



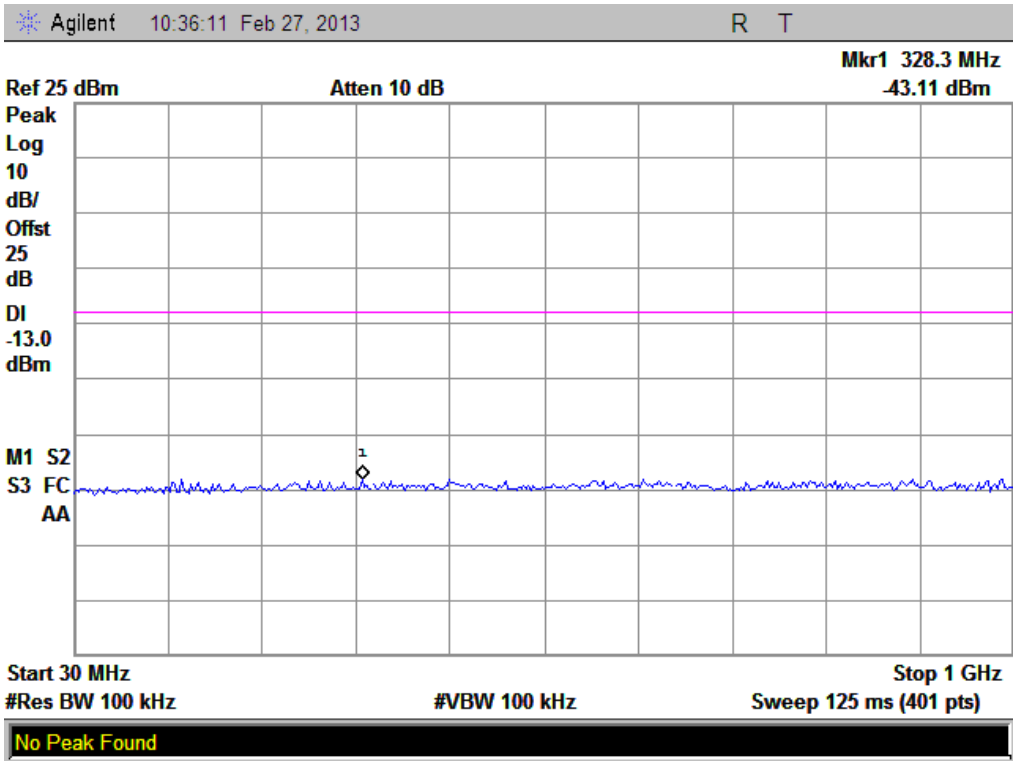
(Plot E1.1: WCDMA1900MHz Channel = 9262, 1GHz to 20GHz)



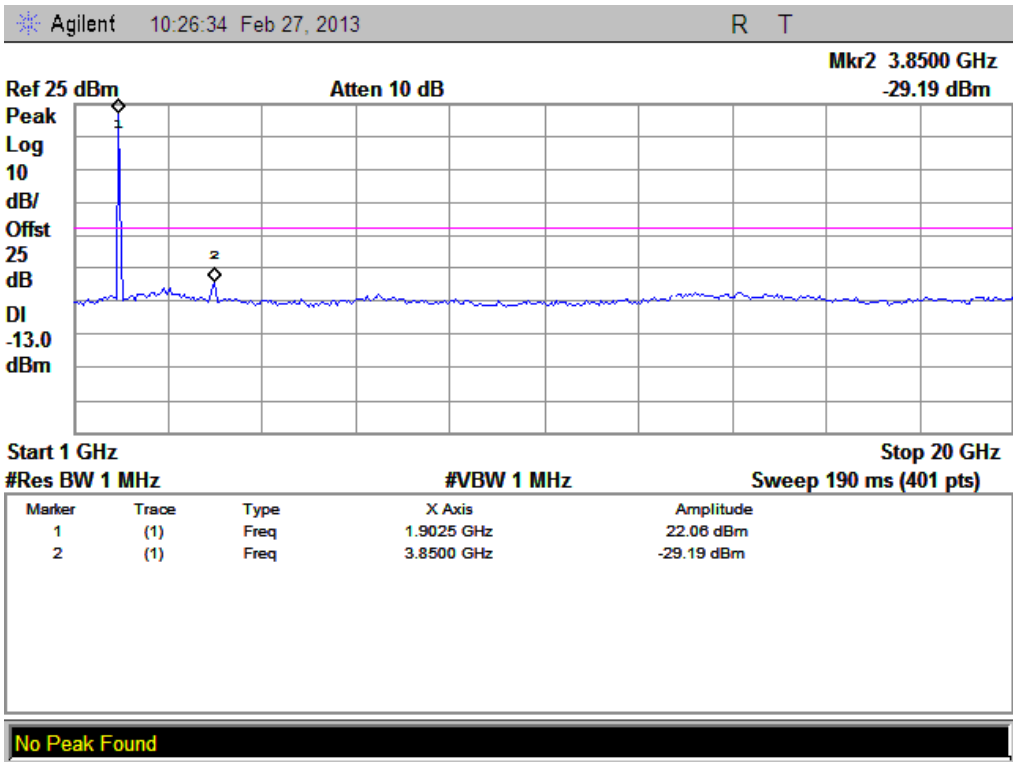
(Plot E2: WCDMA1900MHz Channel = 9400, 30MHz to 1GHz)



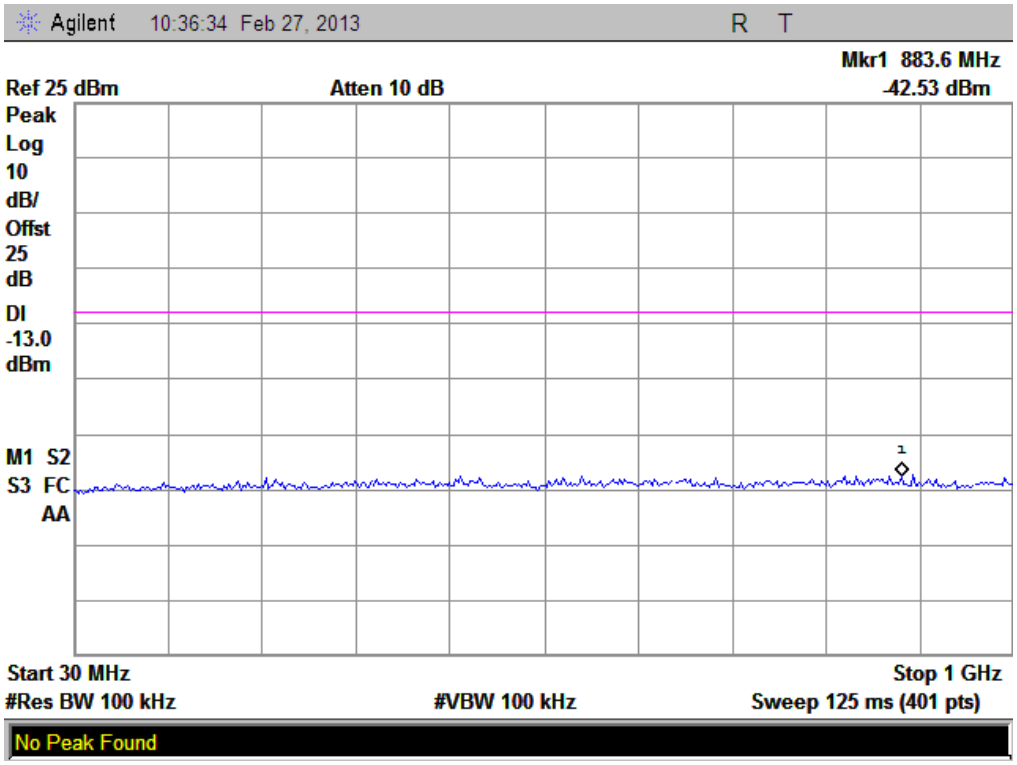
(Plot E2.1: WCDMA1900MHz Channel = 9400, 1GHz to 20GHz)



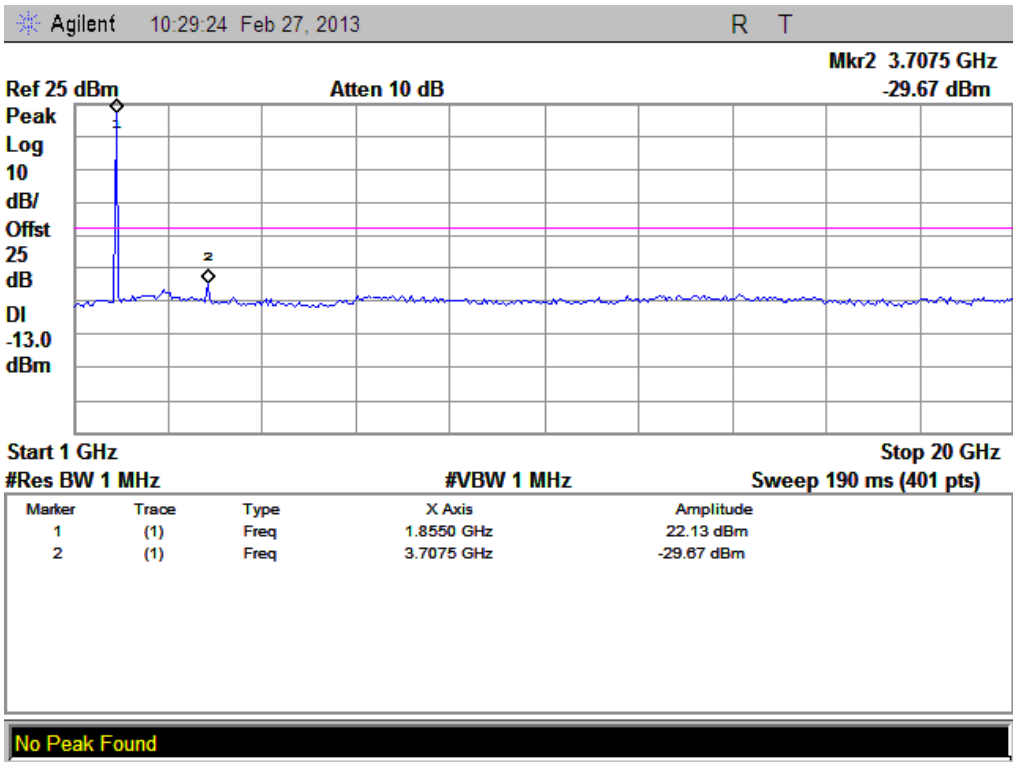
(Plot E3: WCDMA1900MHz Channel = 9538, 30MHz to 1GHz)



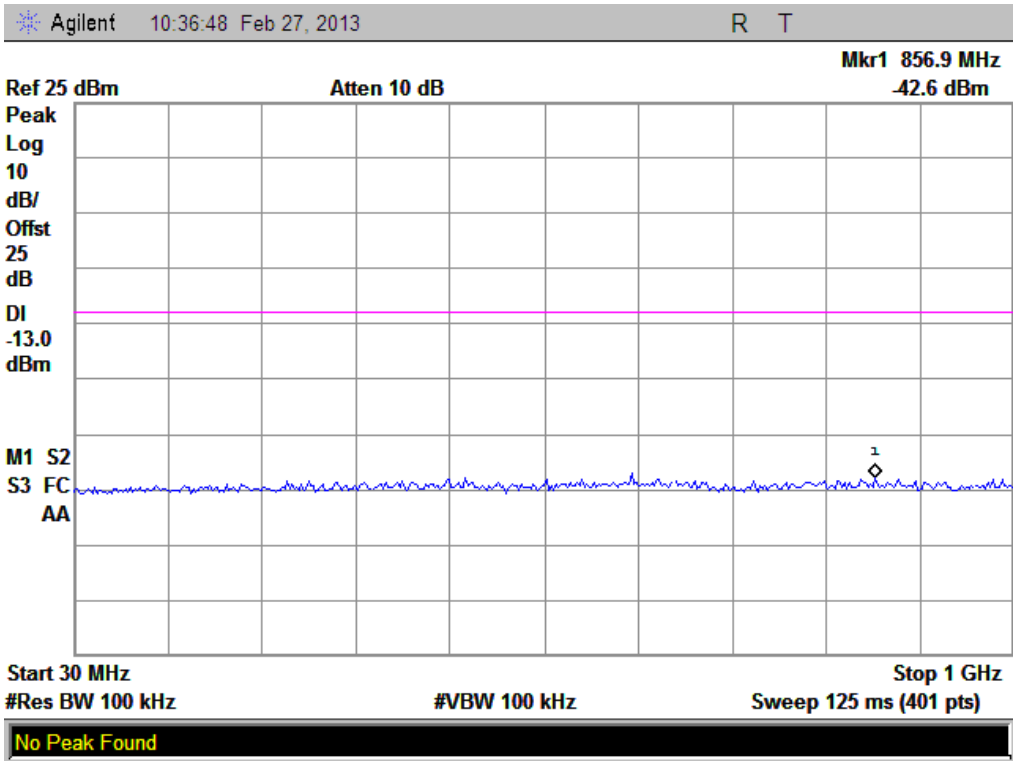
(Plot E3.1: WCDMA1900MHz Channel = 9538 1GHz to 20GHz)



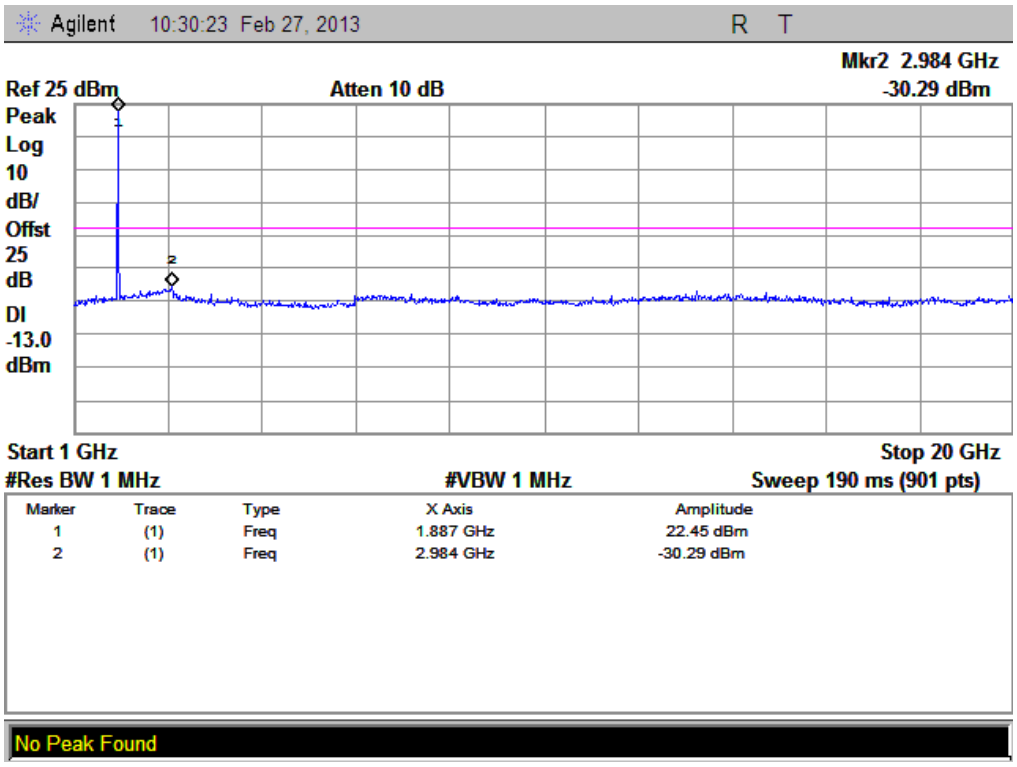
(Plot F1: HSDPA1900MHz Channel = 9262, 30MHz to 1GHz)



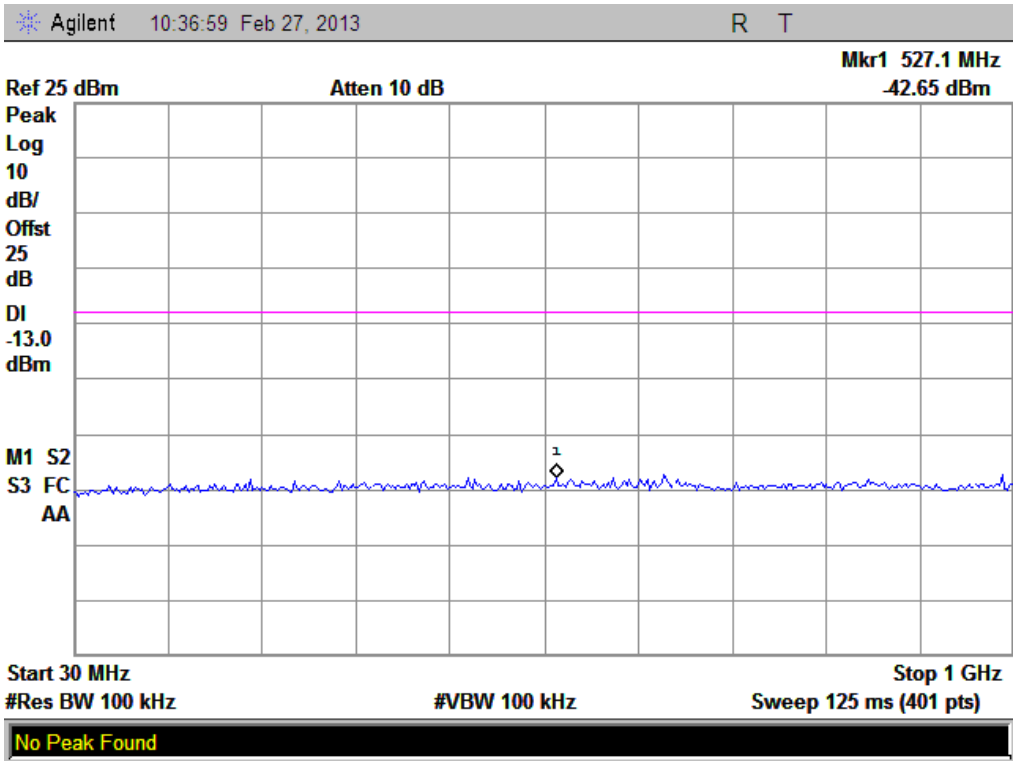
(Plot F1.1: HSDPA1900MHz Channel = 9262, 1GHz to 20GHz)



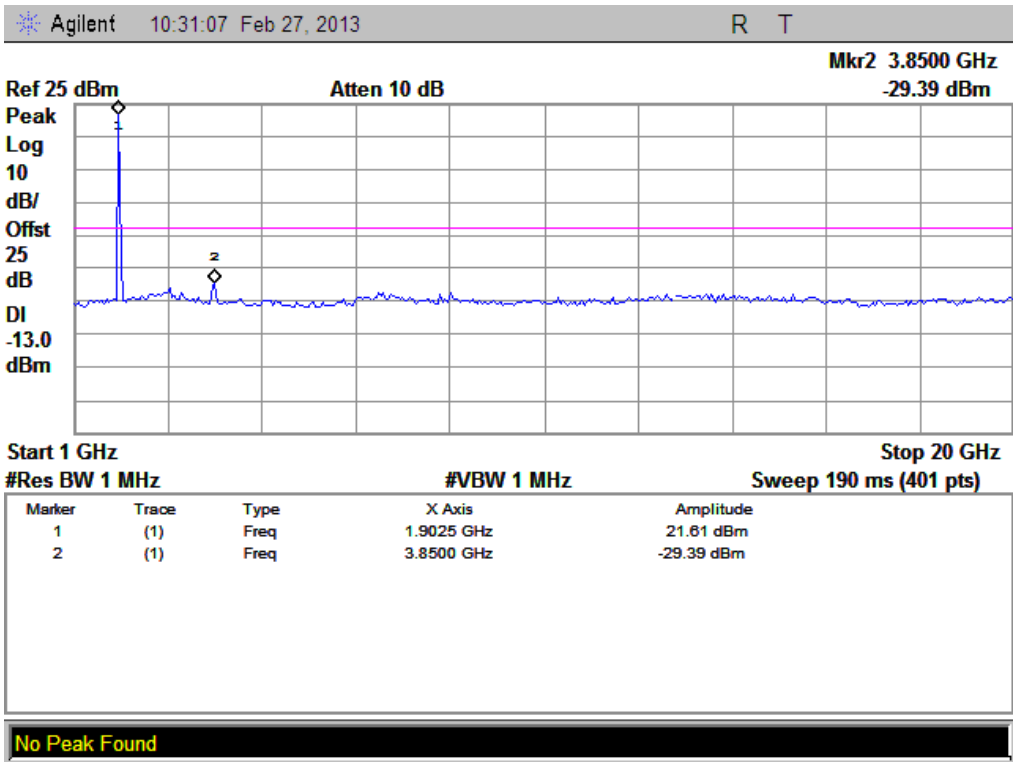
(Plot F2: HSDPA1900MHz Channel = 9400, 30MHz to 1GHz)



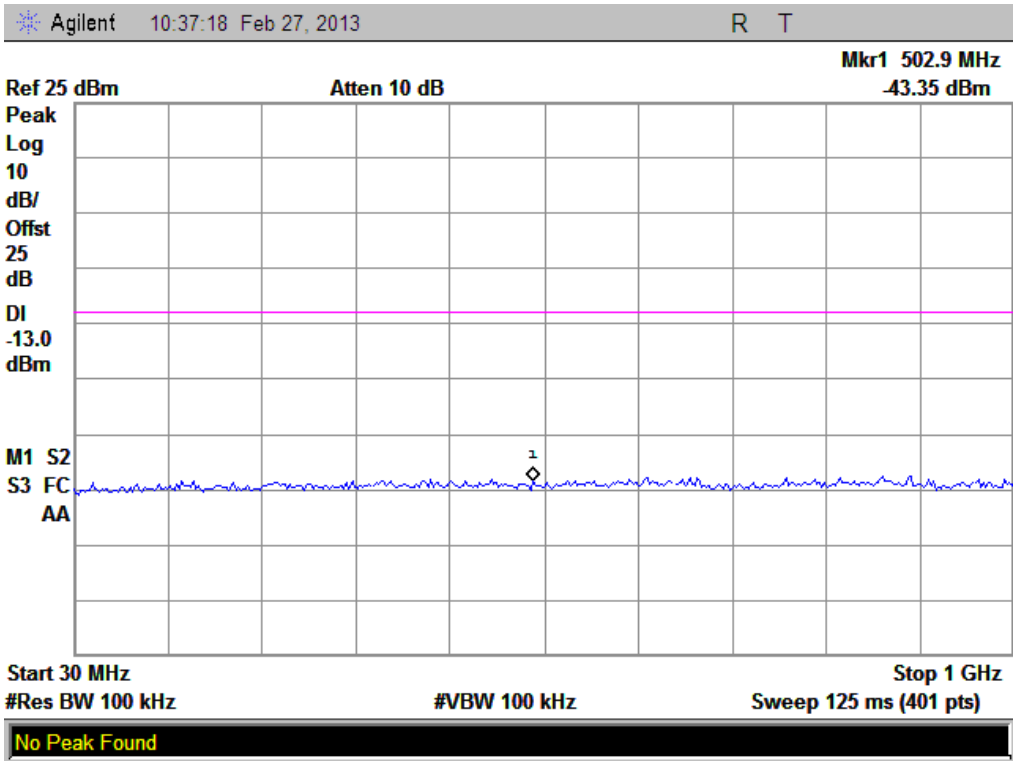
(Plot F2.1: HSDPA1900MHz Channel = 9400, 1GHz to 20GHz)



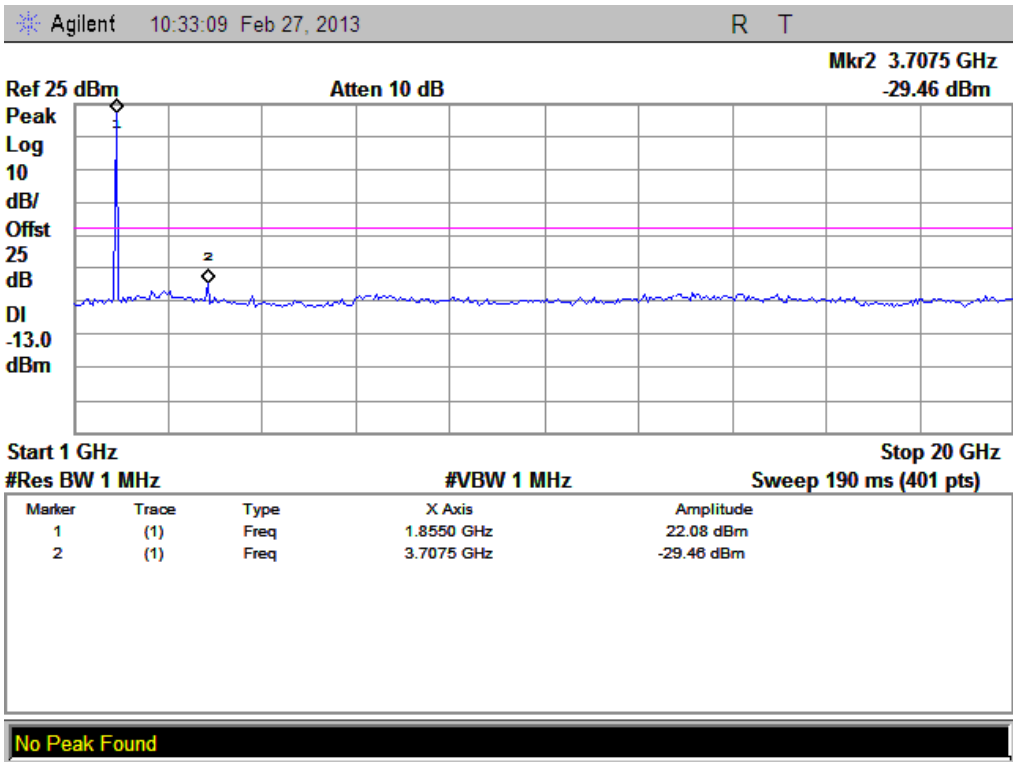
(Plot F3: HSDPA1900MHz Channel = 9538, 30MHz to 1GHz)



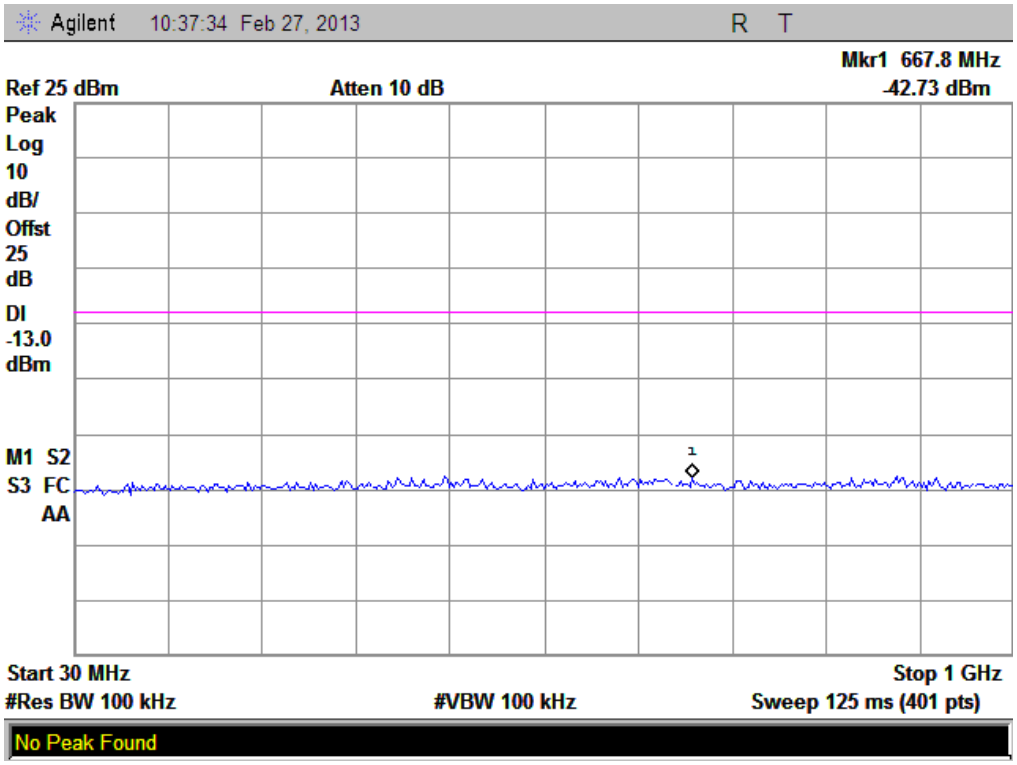
(Plot F3.1: HSDPA1900MHz Channel = 9538 1GHz to 20GHz)



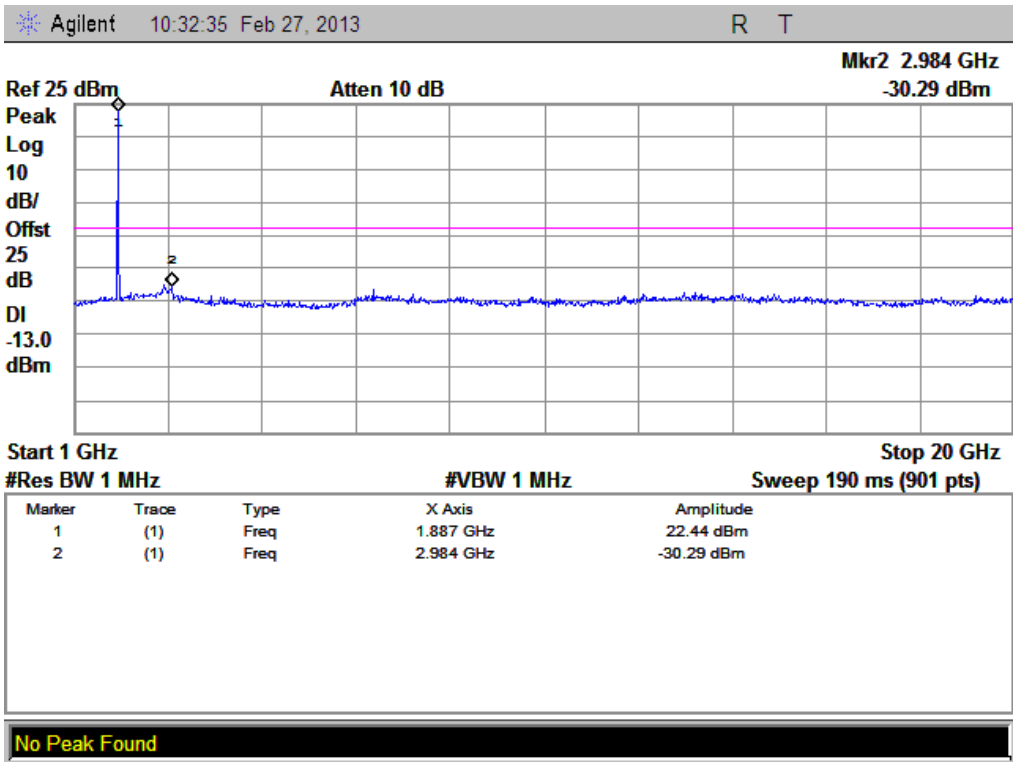
(Plot G 1: HSUPA1900MHz Channel = 9262, 30MHz to 1GHz)



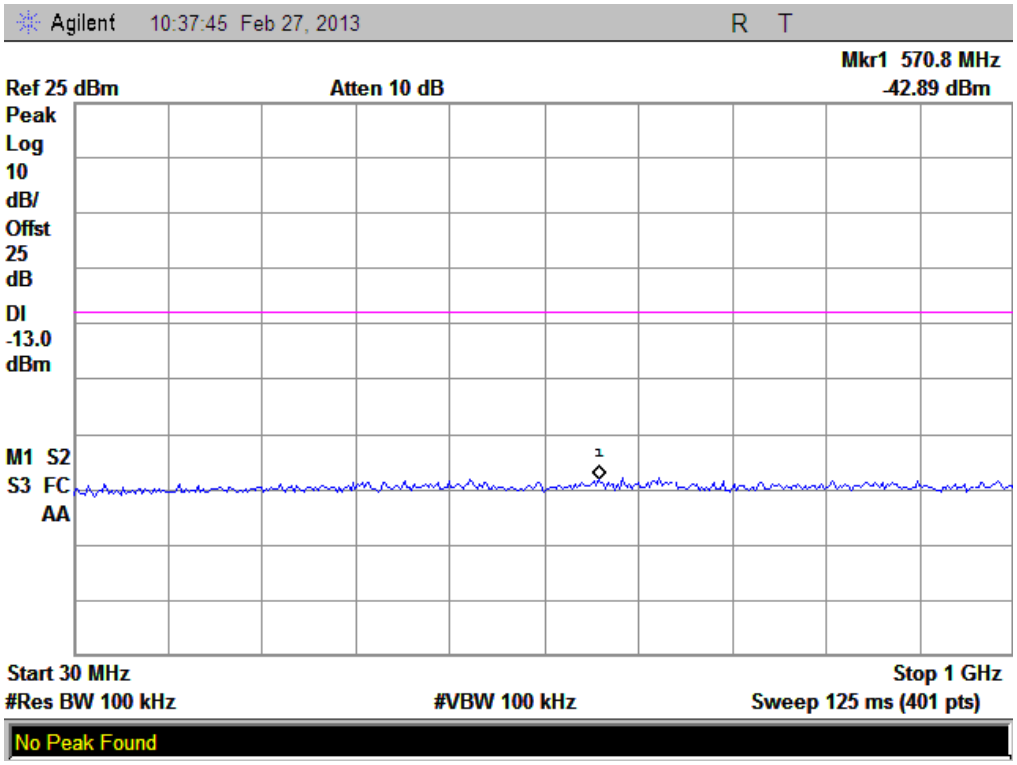
(Plot G1.1: HSUPA1900MHz Channel = 9262, 1GHz to 20GHz)



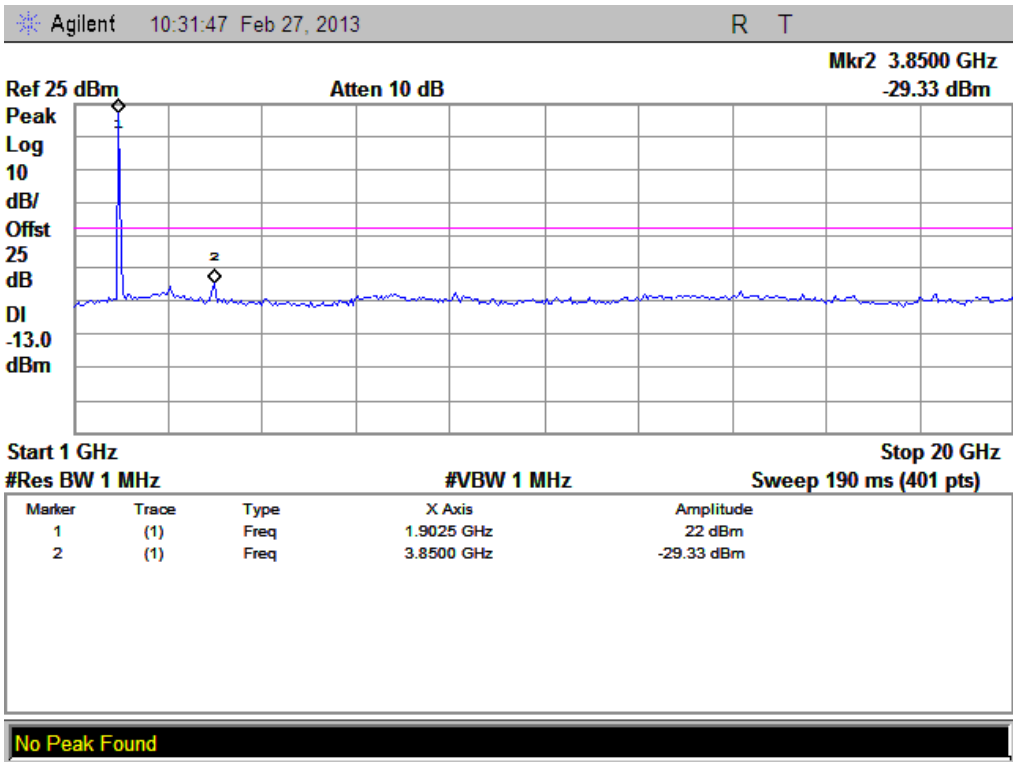
(Plot G 2: HSUPA1900MHz Channel = 9400, 30MHz to 1GHz)



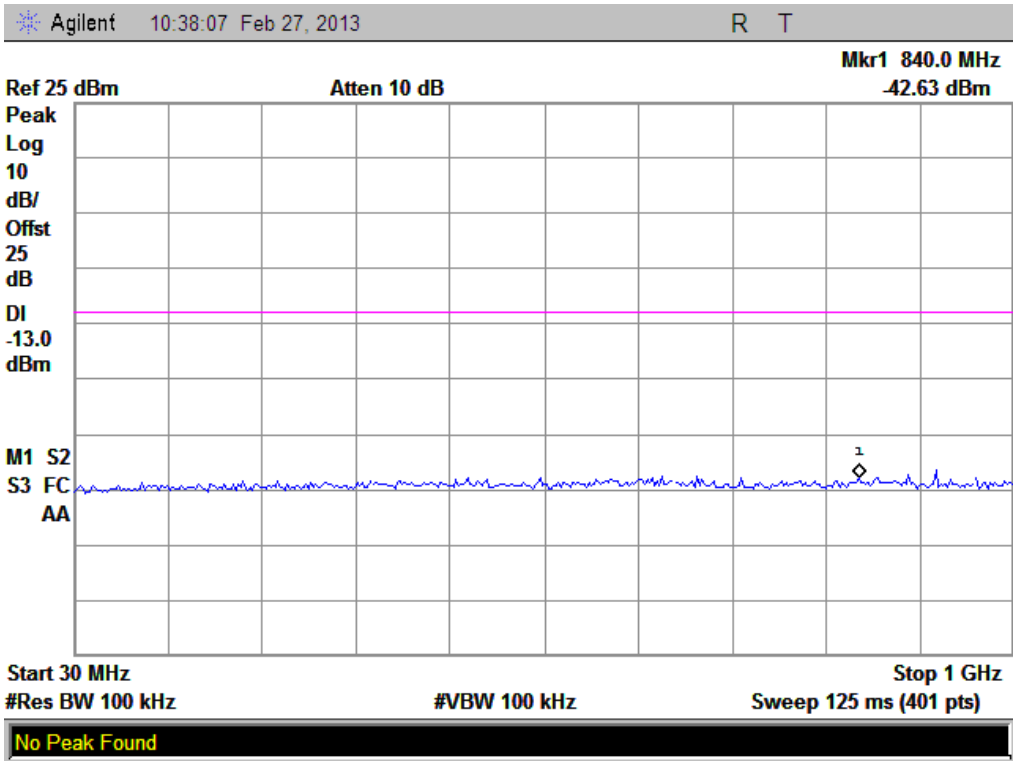
(Plot G2.1: HSUPA1900MHz Channel = 9400, 1GHz to 20GHz)



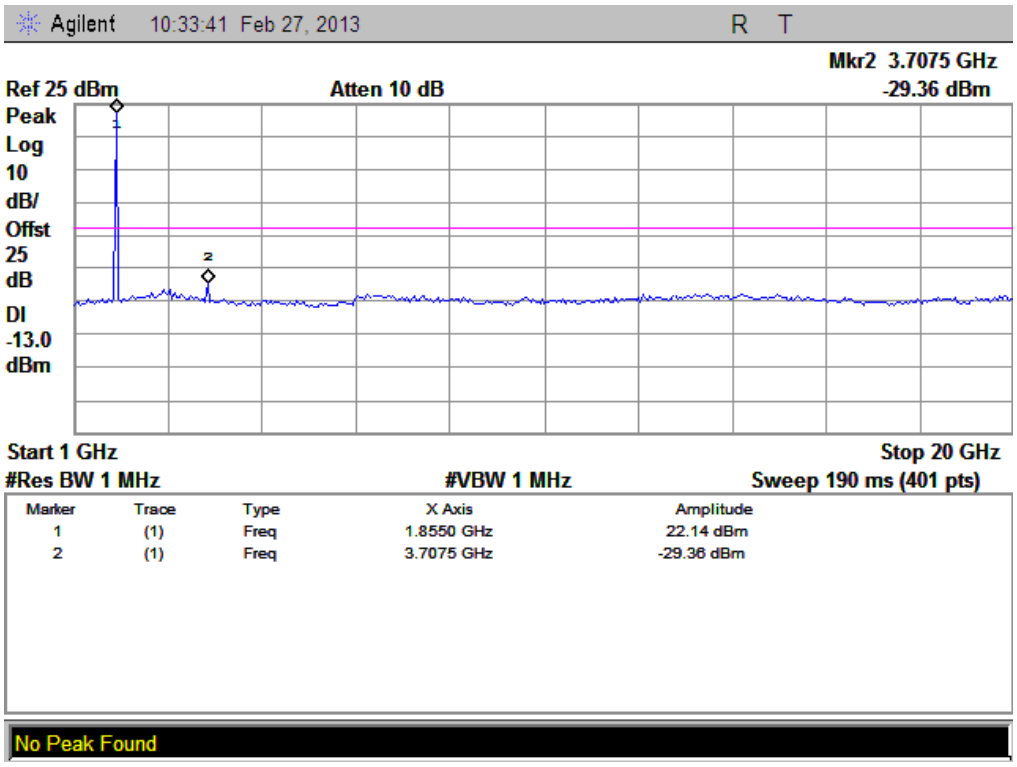
(Plot G 3: HSUPA1900MHz Channel = 9538, 30MHz to 1GHz)



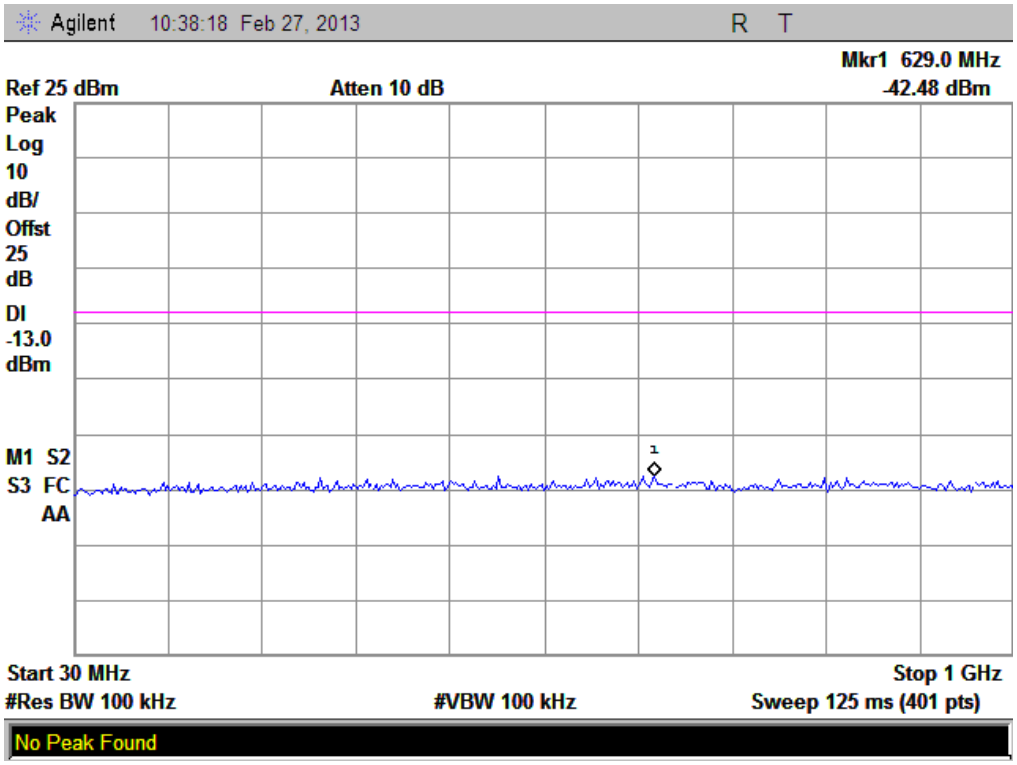
(Plot G3.1: HSUPA1900MHz Channel = 9538 1GHz to 20GHz)



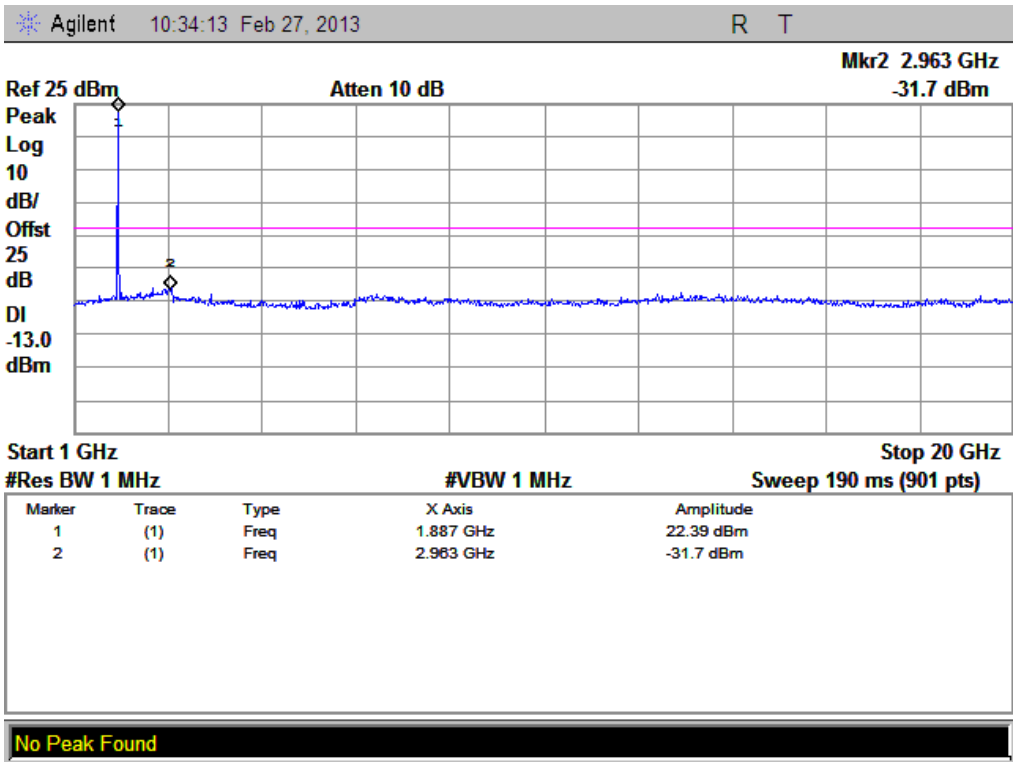
(Plot H 1: HSPA+1900MHz Channel = 9262, 30MHz to 1GHz)



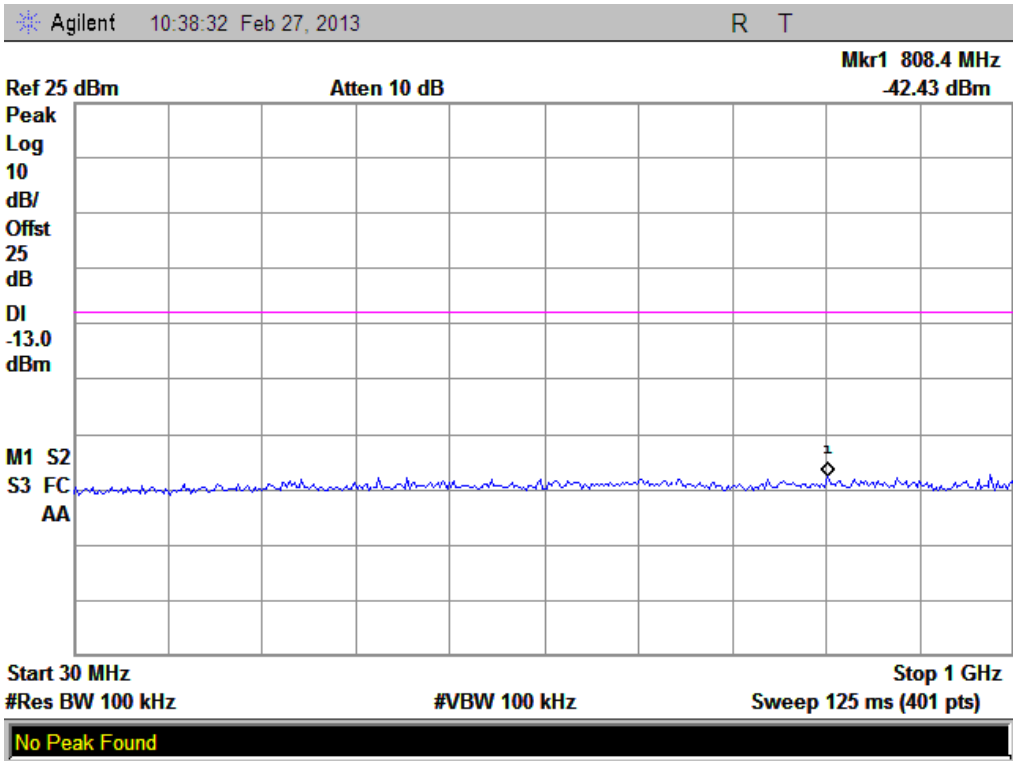
(Plot H1.1: HSPA+1900MHz Channel = 9262, 1GHz to 20GHz)



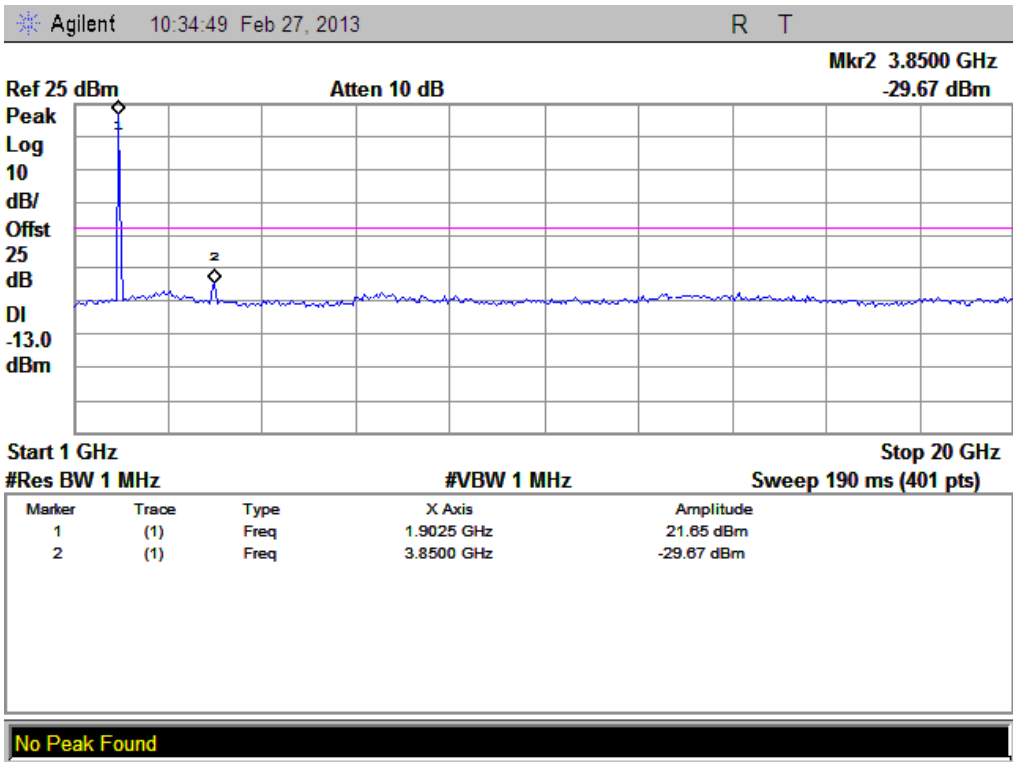
(Plot H 2: HSPA+1900MHz Channel = 9400, 30MHz to 1GHz)



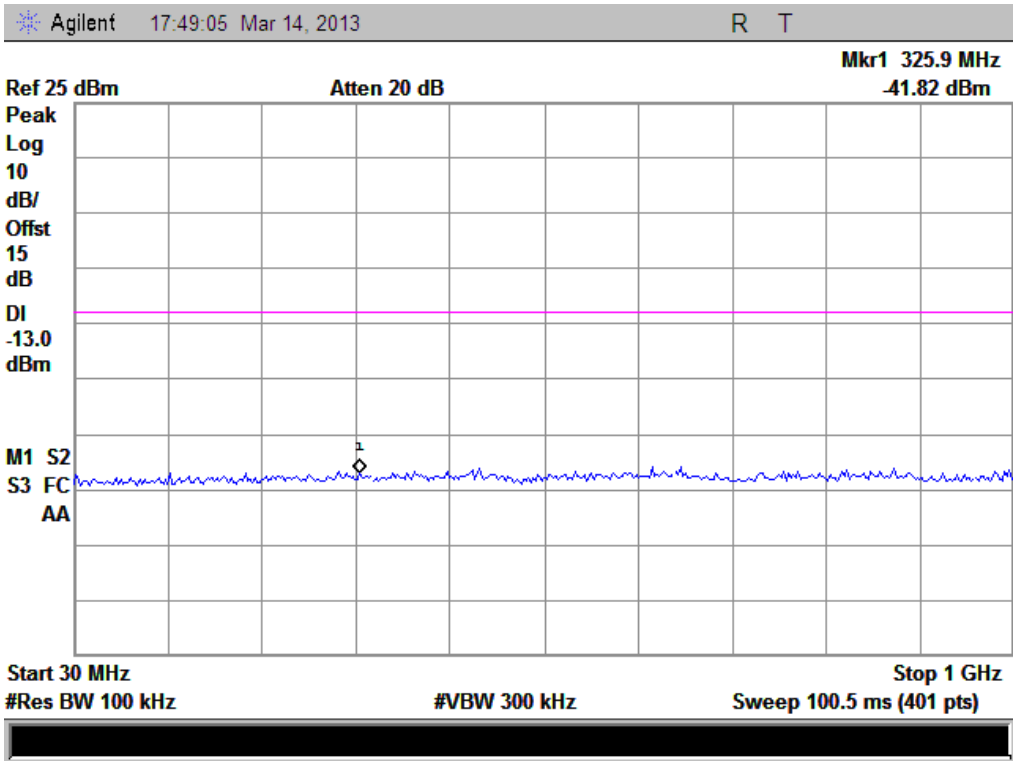
(Plot H2.1: HSPA+1900MHz Channel = 9400, 1GHz to 20GHz)



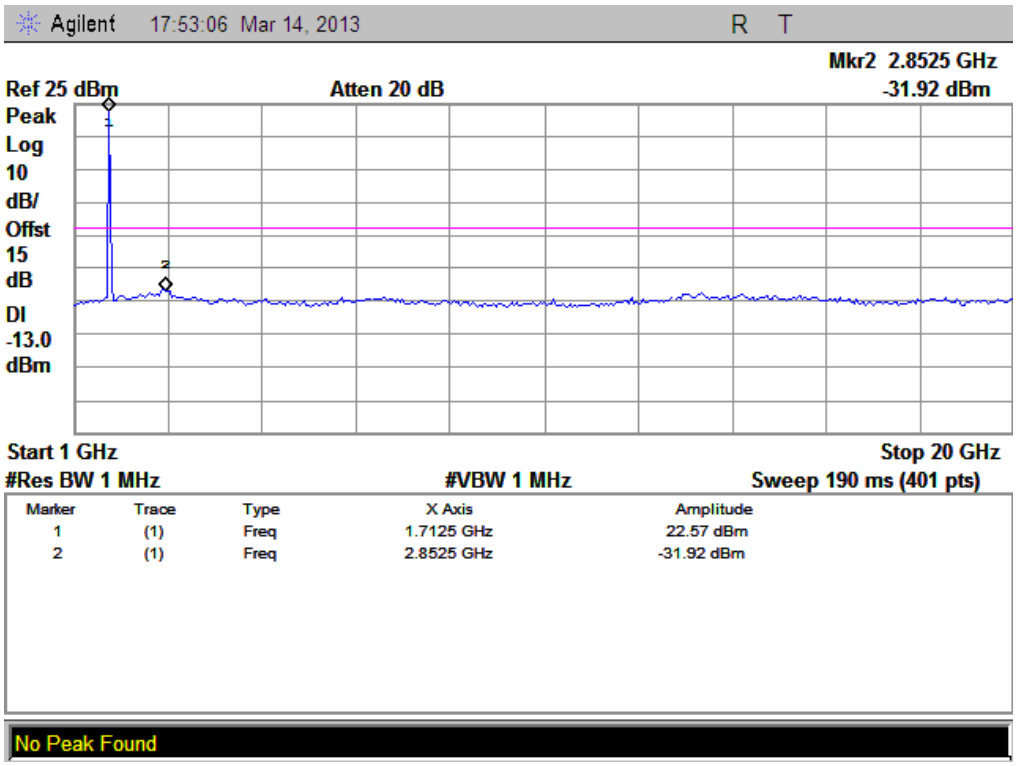
(Plot H 3: HSPA+1900MHz Channel = 9538, 30MHz to 1GHz)



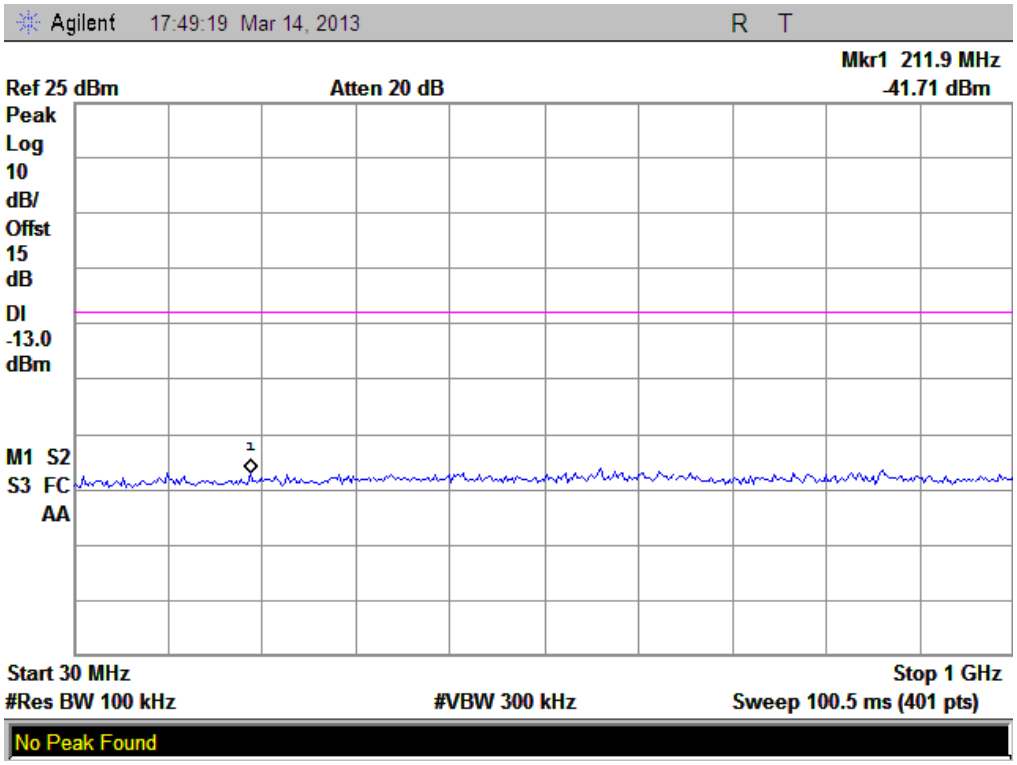
(Plot H3.1: HSPA+1900MHz Channel = 9538 1GHz to 20GHz)



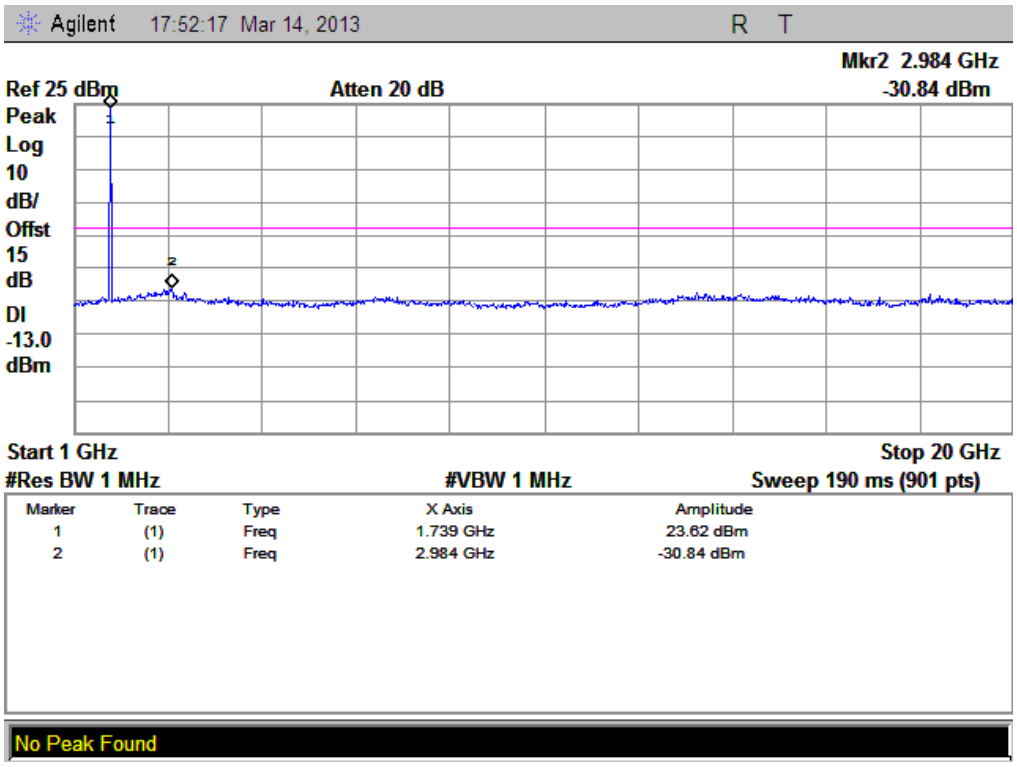
(Plot I1: WCDMA1700MHz Channel = 1312, 30MHz to 1GHz)



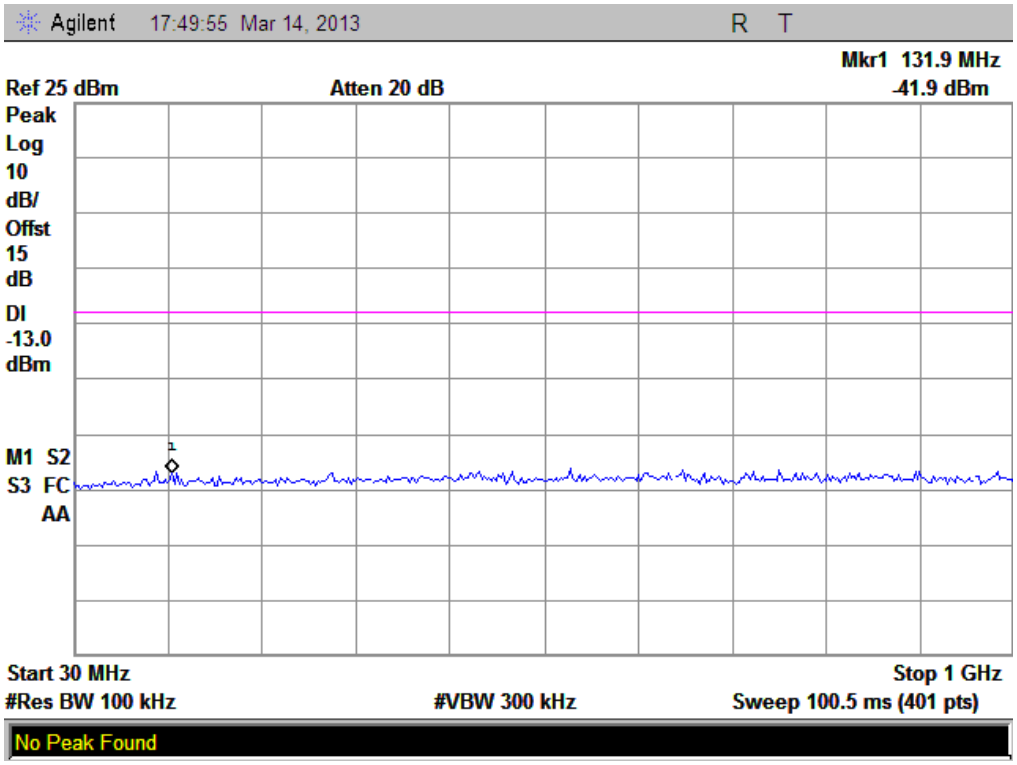
(Plot I1.1: WCDMA1700MHz Channel = 1312, 1GHz to 20GHz)



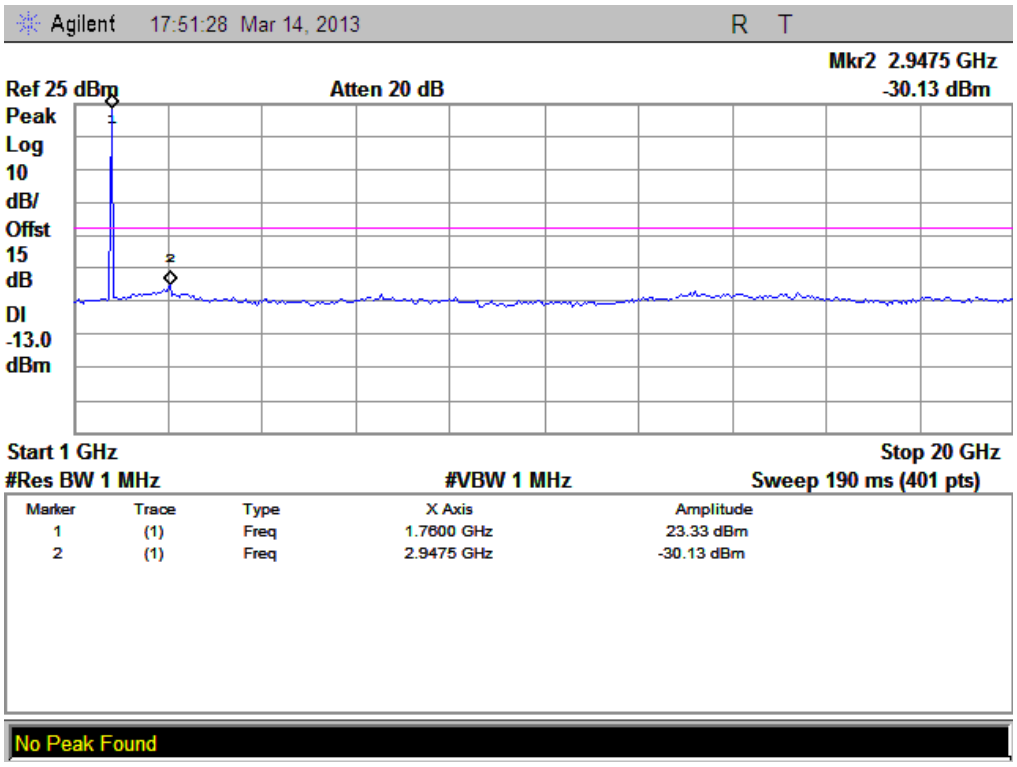
(Plot I2: WCDMA1700MHz Channel = 1412, 30MHz to 1GHz)



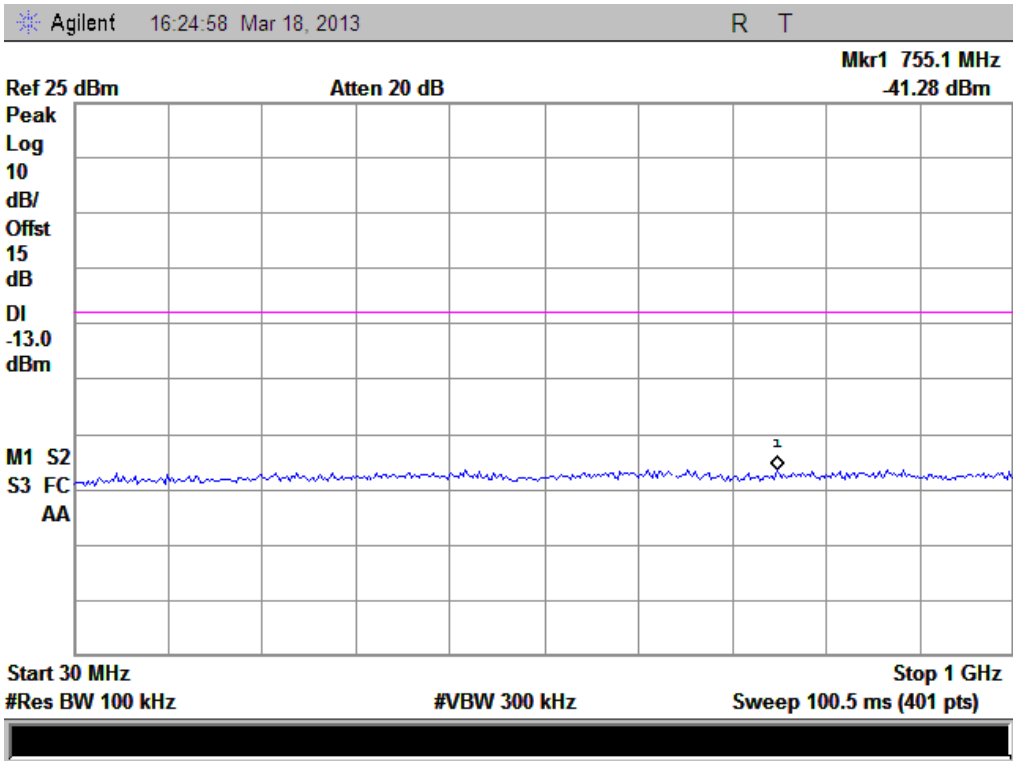
(Plot I2.1: WCDMA1700MHz Channel = 1412, 1GHz to 20GHz)



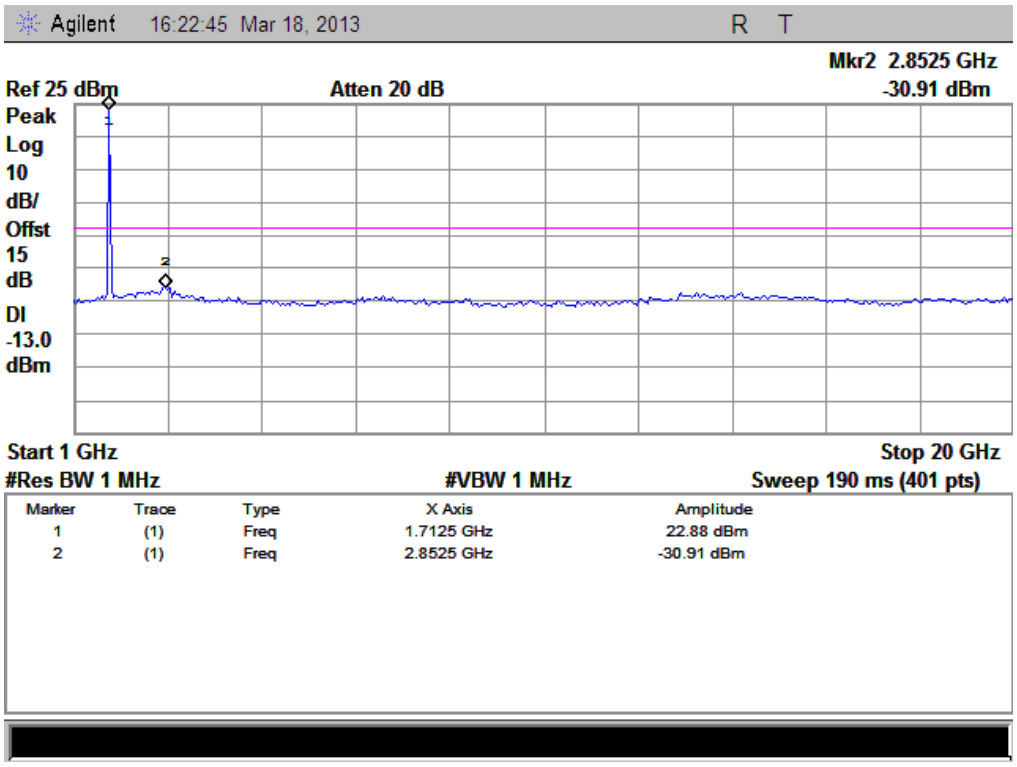
(Plot I3: WCDMA1700MHz Channel = 1513, 30MHz to 1GHz)



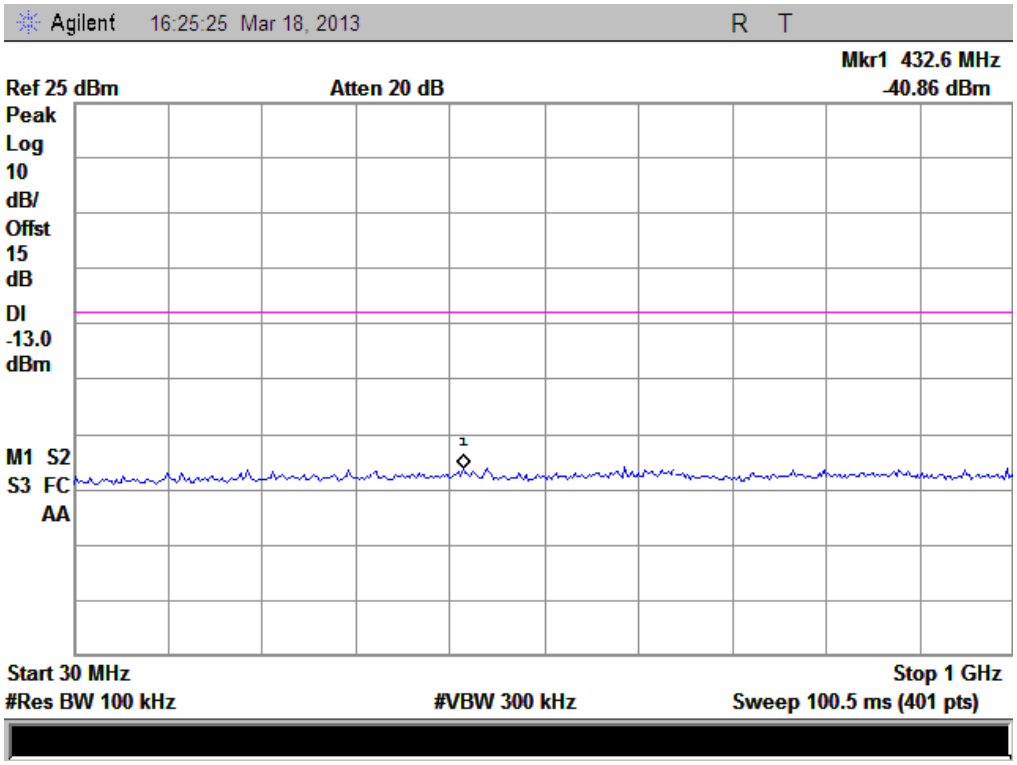
(Plot I3.1: WCDMA1700MHz Channel = 1513, 1GHz to 20GHz)



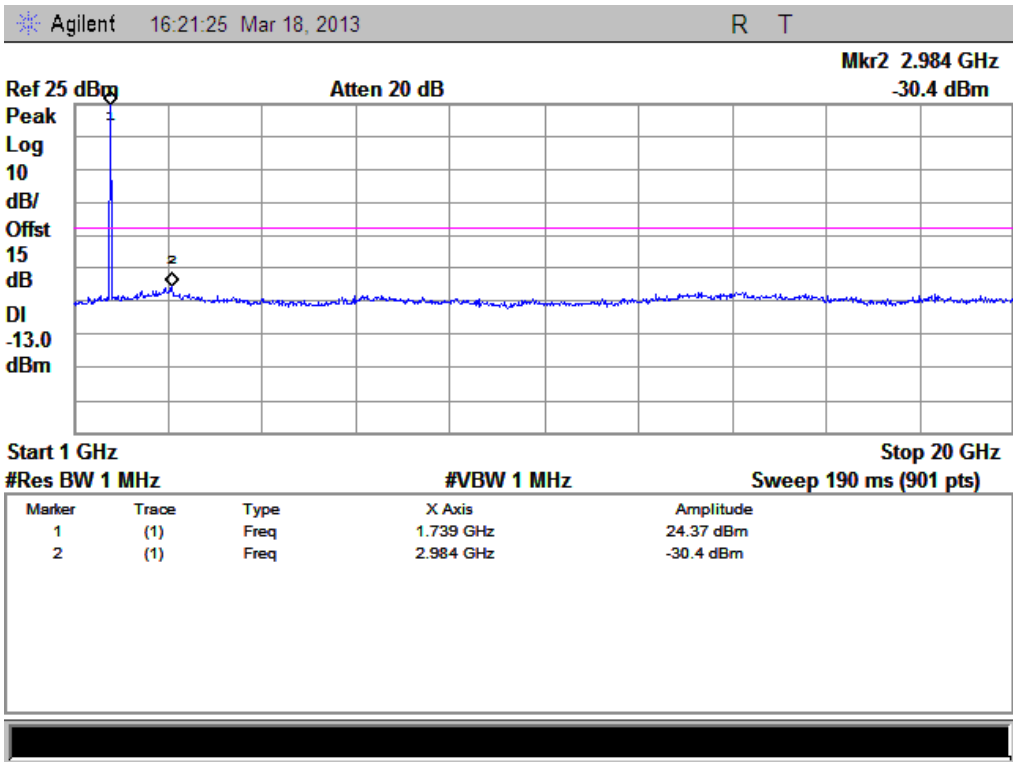
(Plot J1: HSDPA1700MHz Channel = 1312, 30MHz to 1GHz)



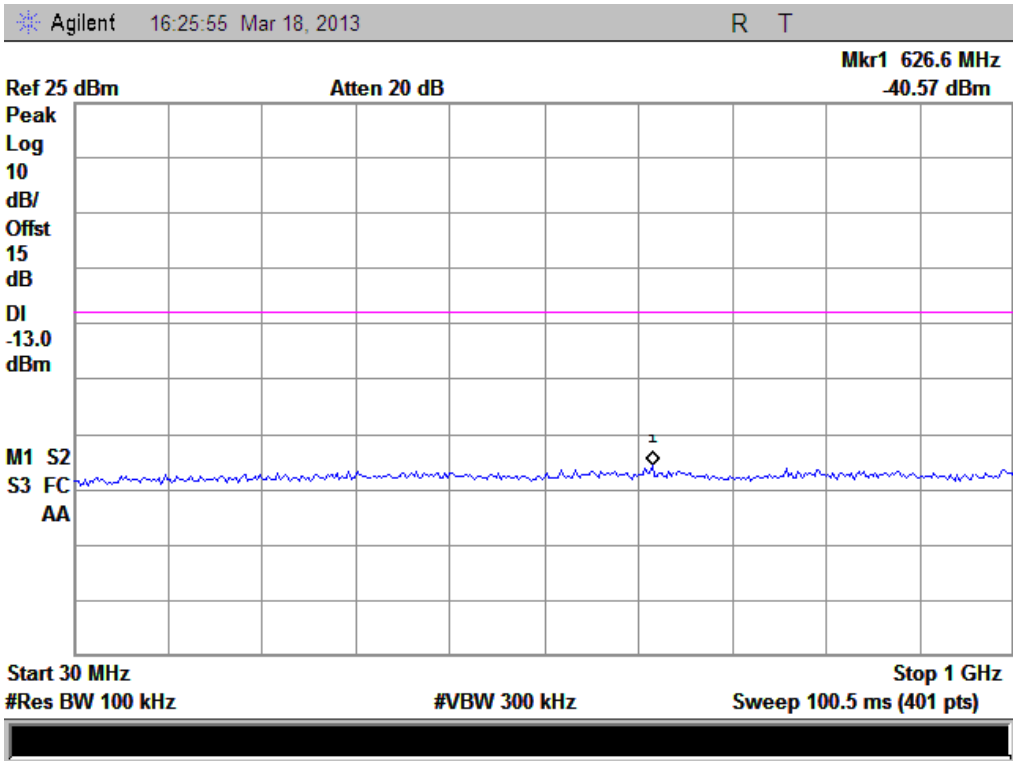
(Plot J1.1: HSDPA1700MHz Channel = 1312, 1GHz to 20GHz)



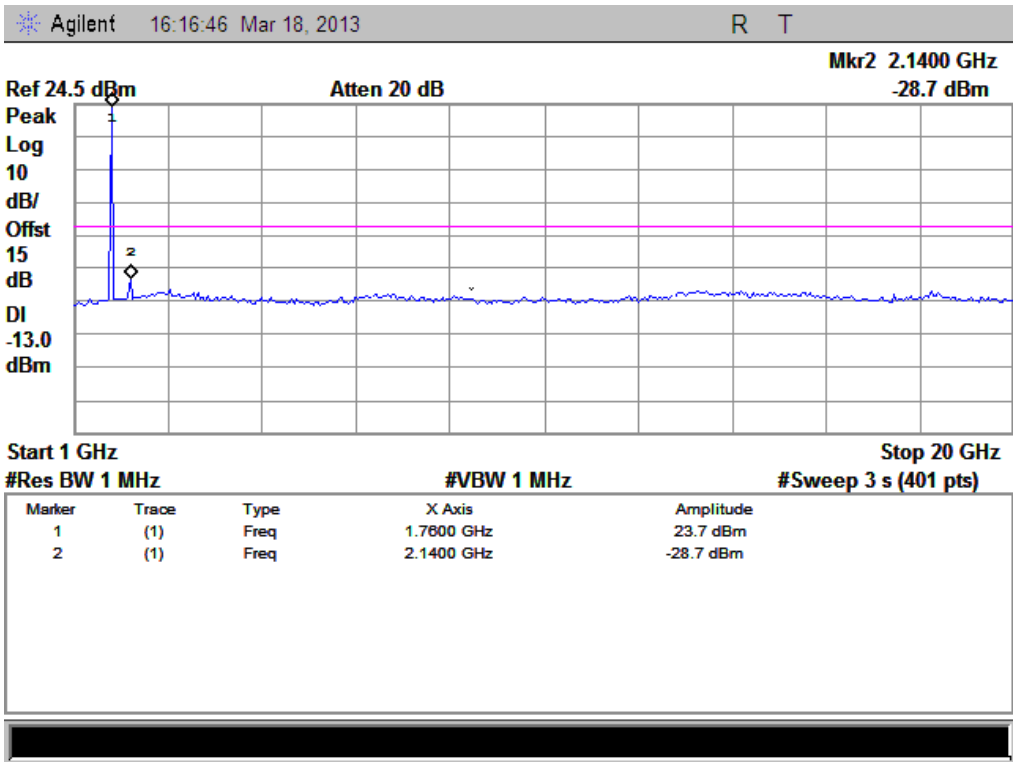
(Plot J2: HSDPA1700MHz Channel = 1412, 30MHz to 1GHz)



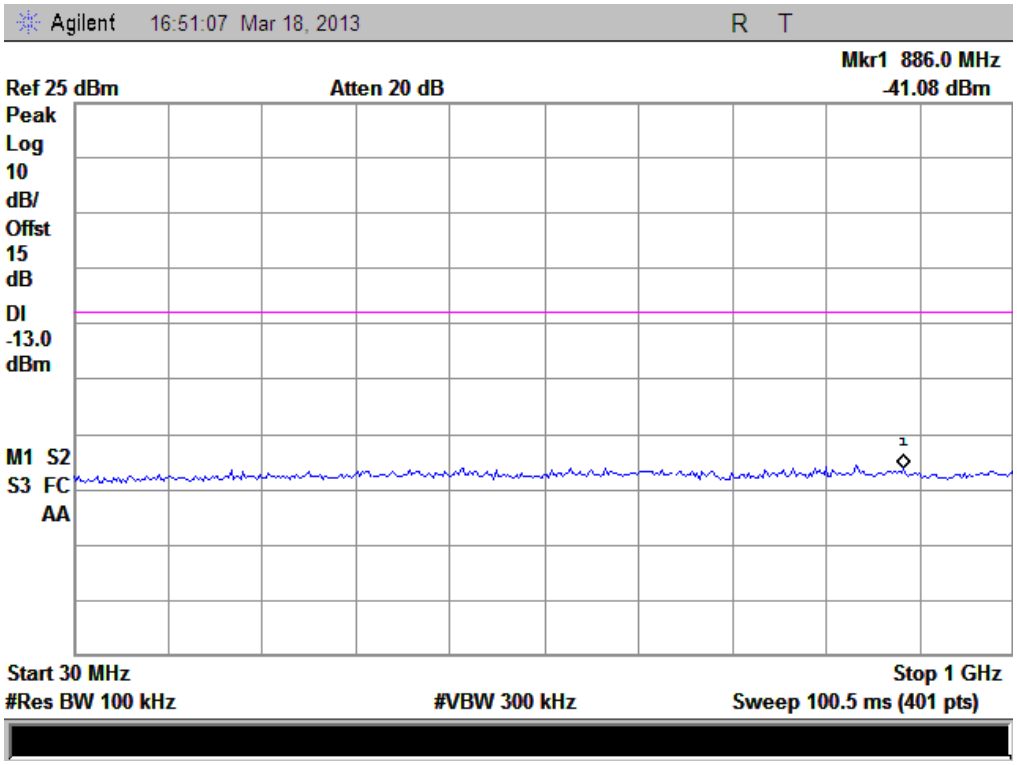
(Plot J2.1: HSDPA1700MHz Channel = 1412, 1GHz to 20GHz)



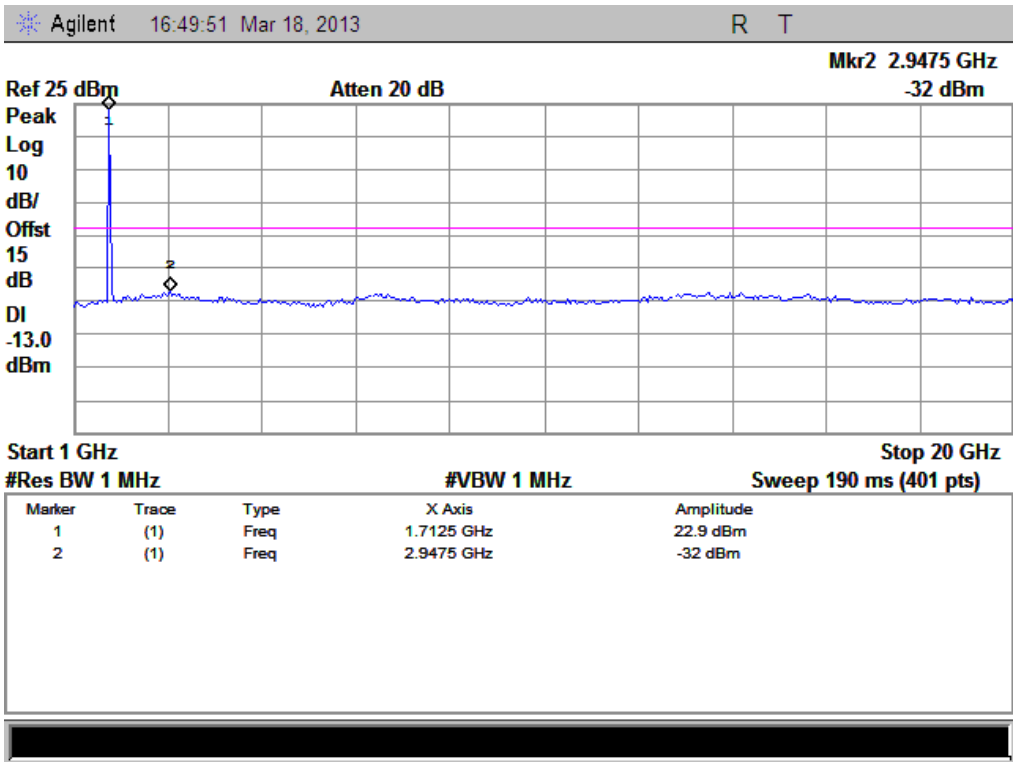
(Plot J3: HSDPA1700MHz Channel = 1513, 30MHz to 1GHz)



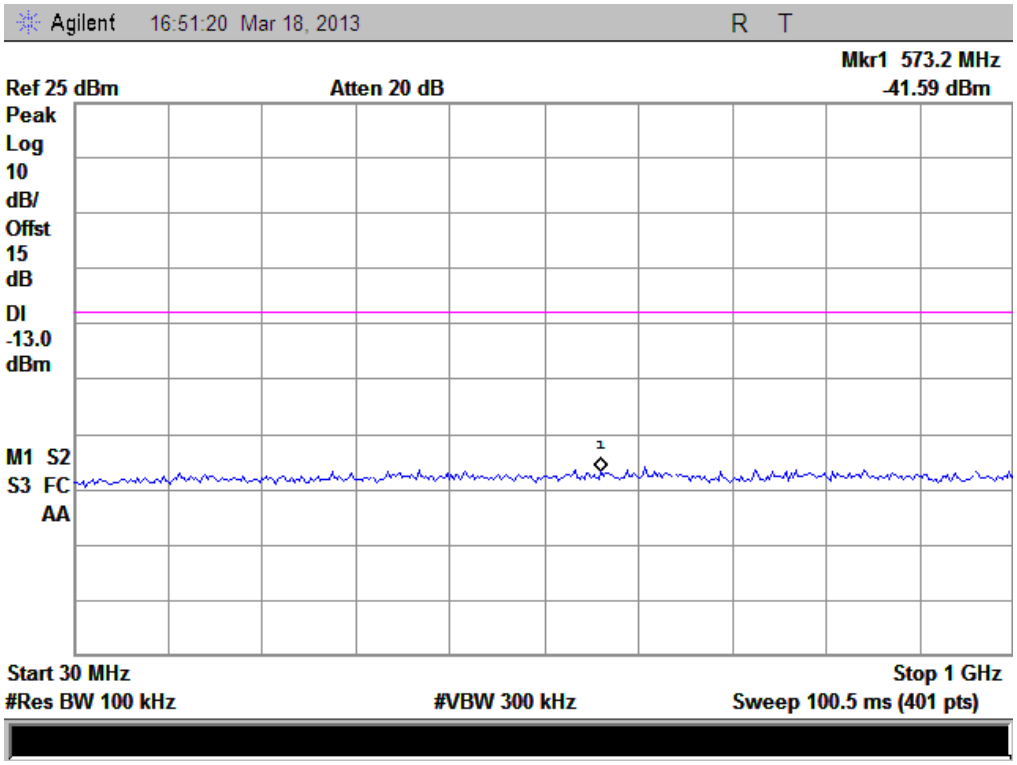
(Plot J3.1: HSDPA1700MHz Channel = 1513 1GHz to 20GHz)



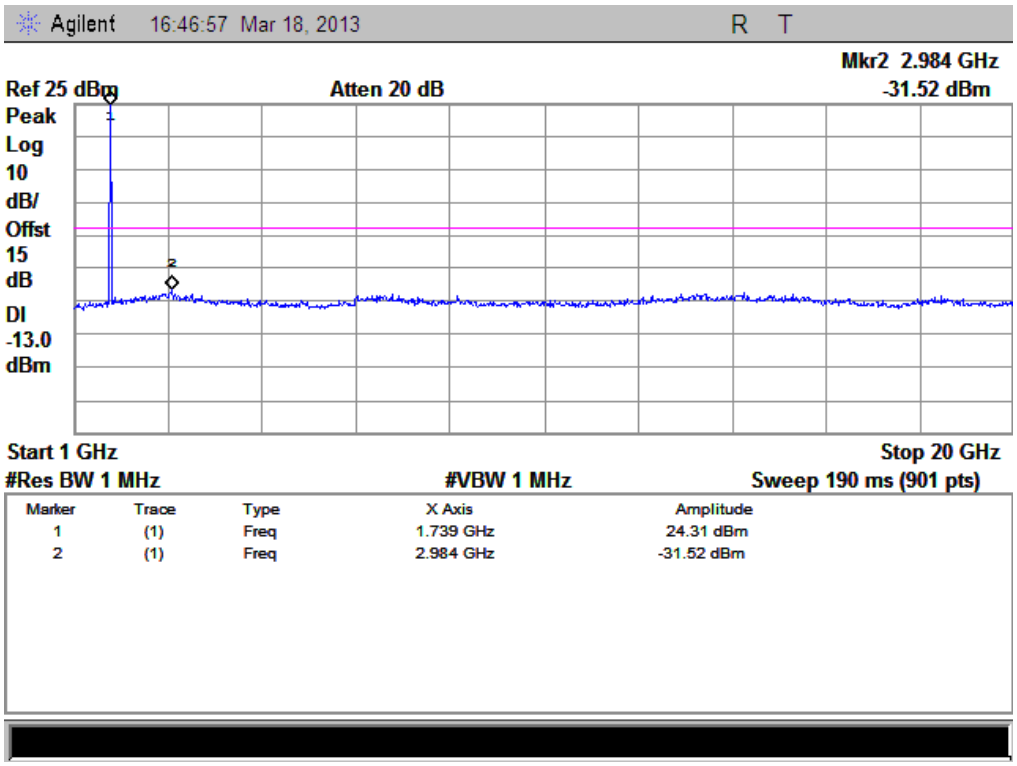
(Plot K1: HSUPA 1700MHz Channel = 1312, 30MHz to 1GHz)



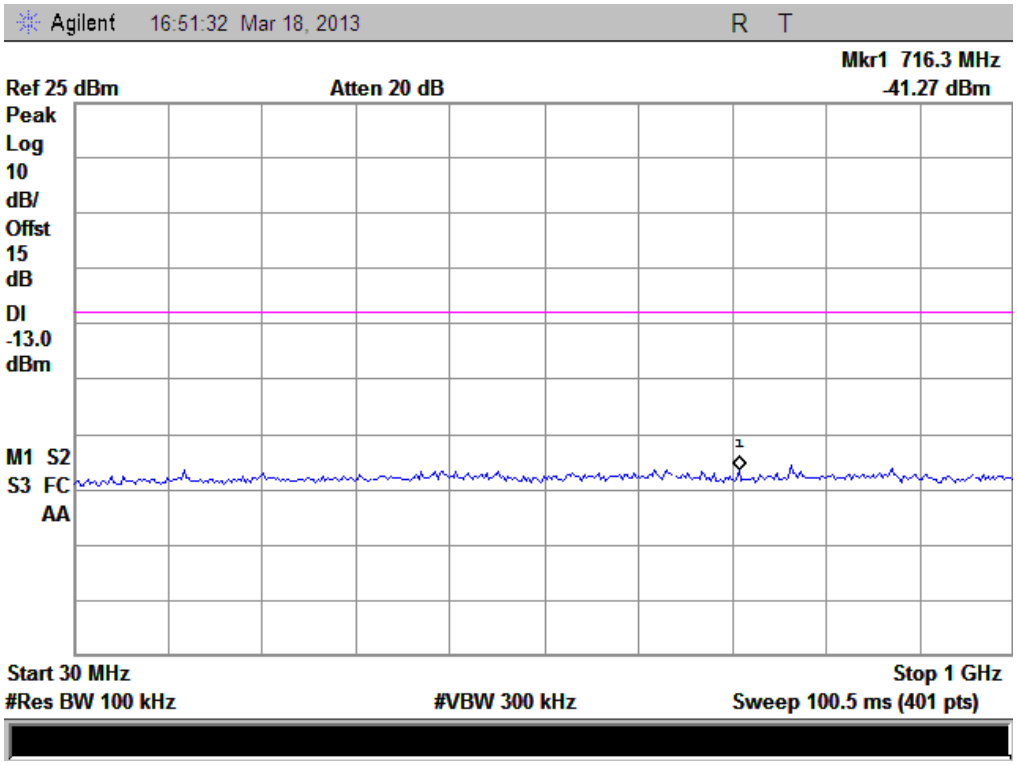
(Plot K1.1: HSUPA 1700MHz Channel = 1312, 1GHz to 20GHz)



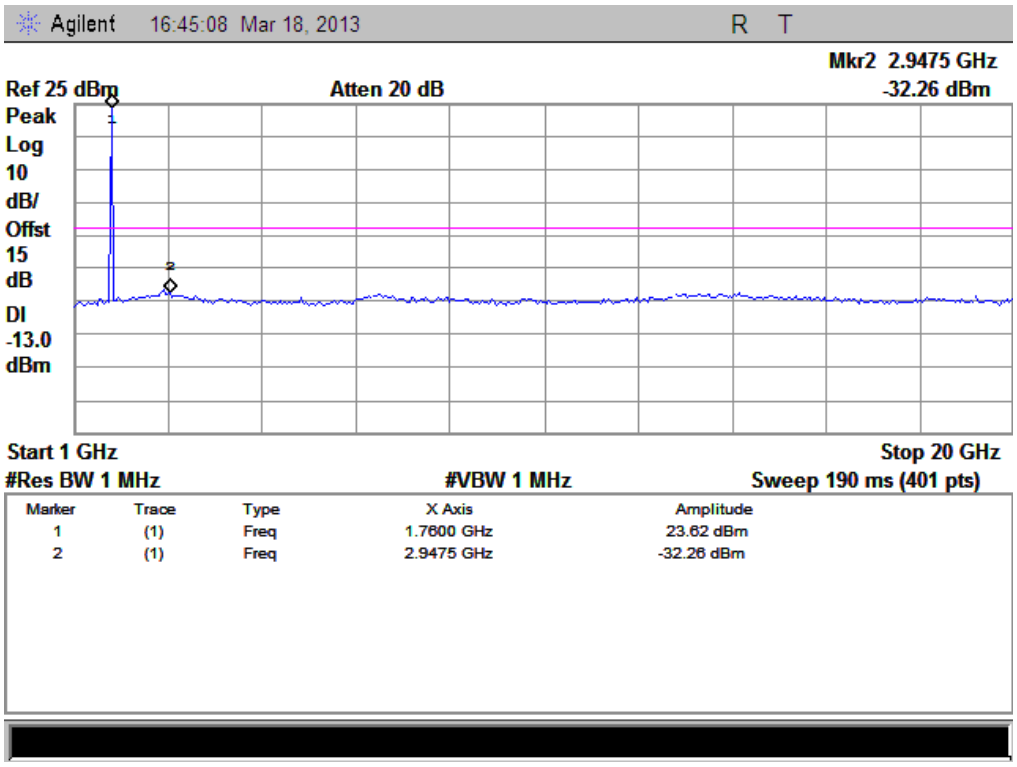
(Plot K2: HSUPA 1700MHz Channel = 1412, 30MHz to 1GHz)



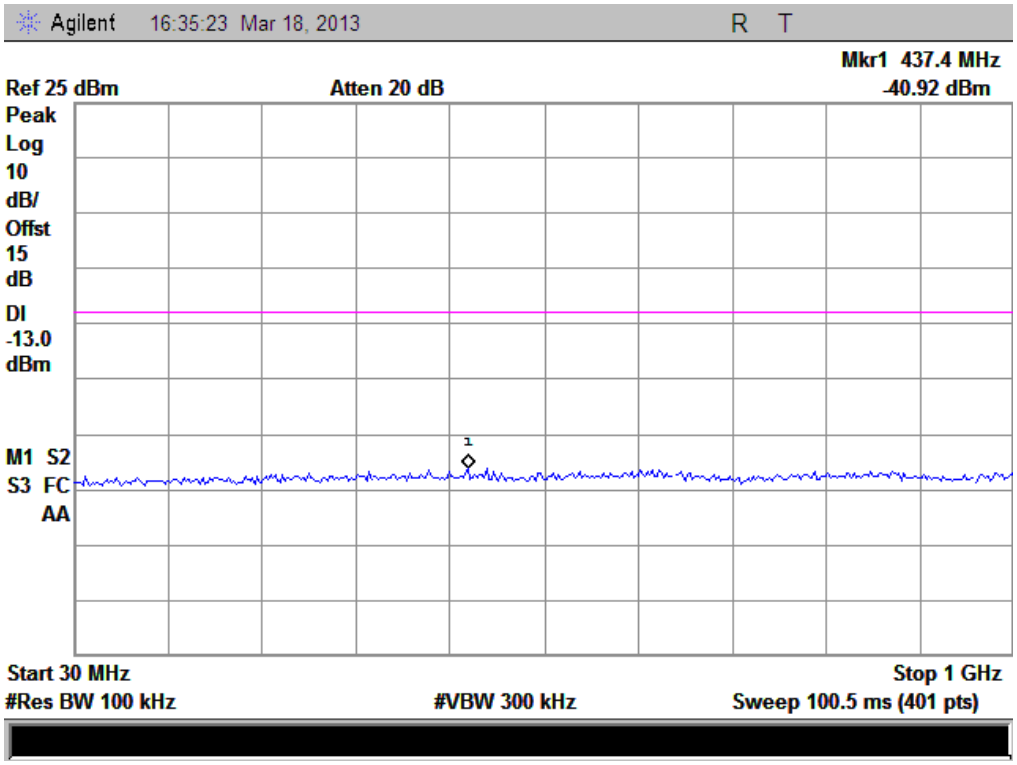
(Plot K2.1: HSUPA 1700MHz Channel = 1412, 1GHz to 20GHz)



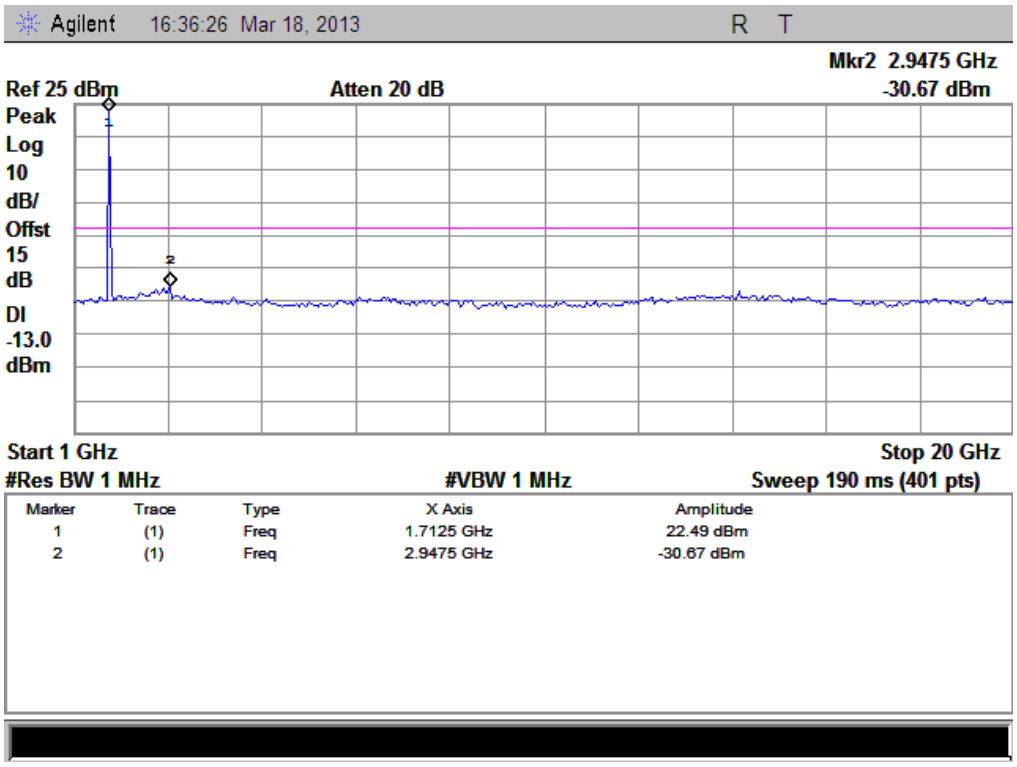
(Plot K3: HSUPA1700MHz Channel = 1513, 30MHz to 1GHz)



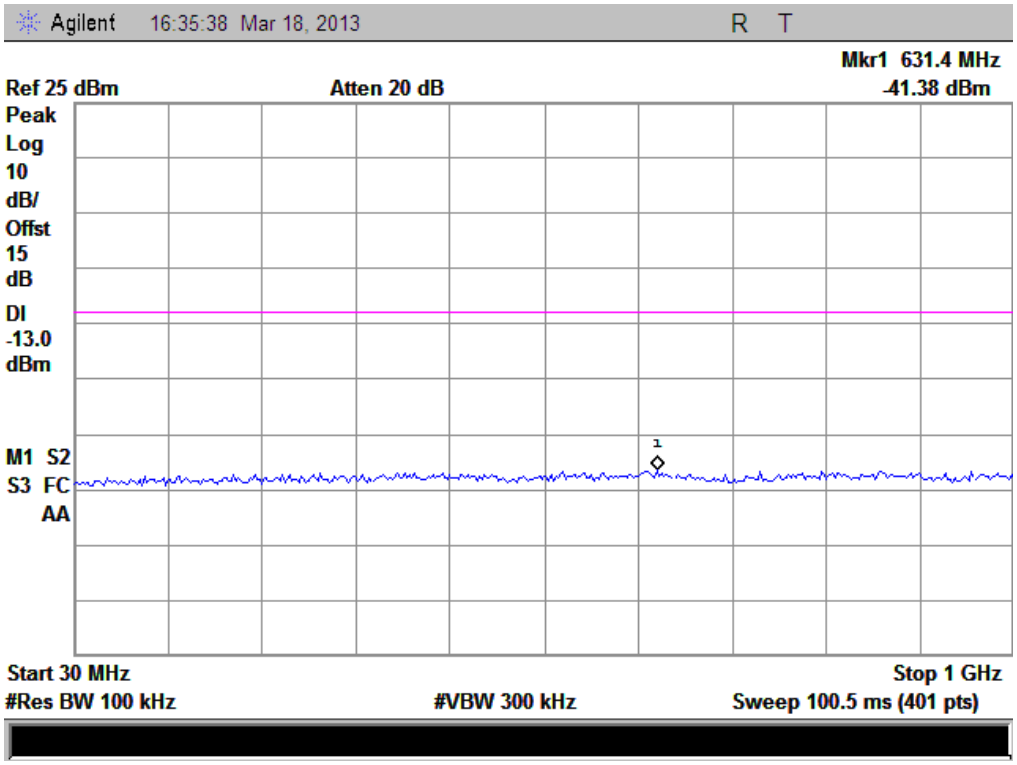
(Plot K3.1: HSUPA1700MHz Channel = 1513, 1GHz to 20GHz)



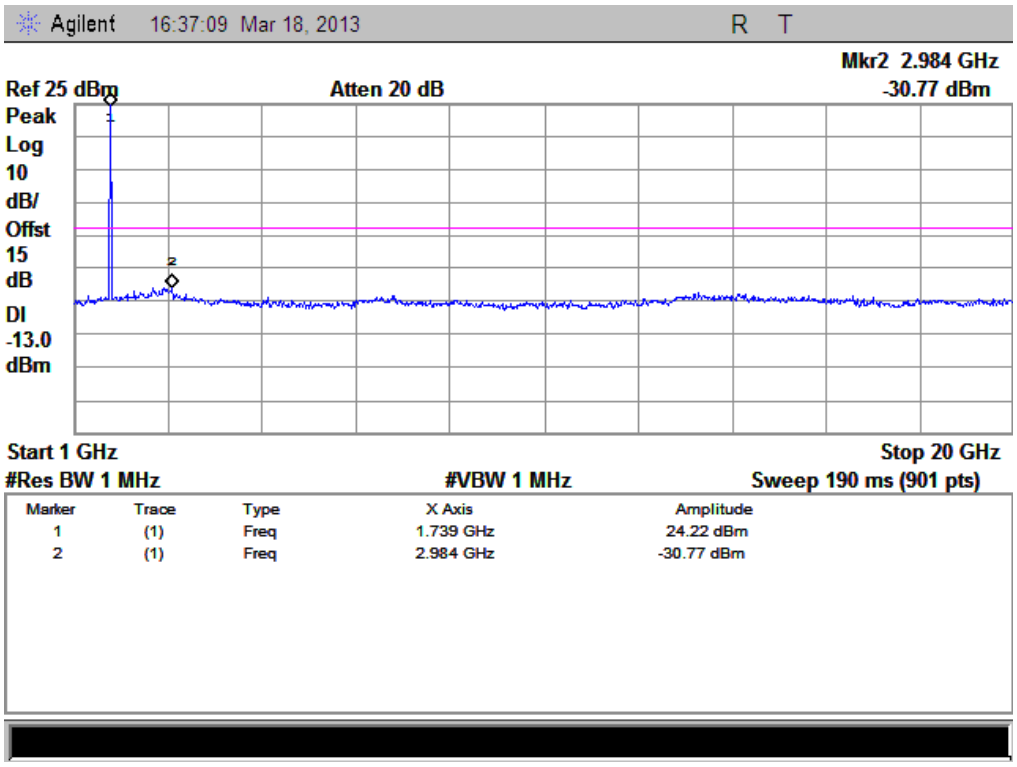
(Plot L1: HSPA+1700MHz Channel = 1312, 30MHz to 1GHz)



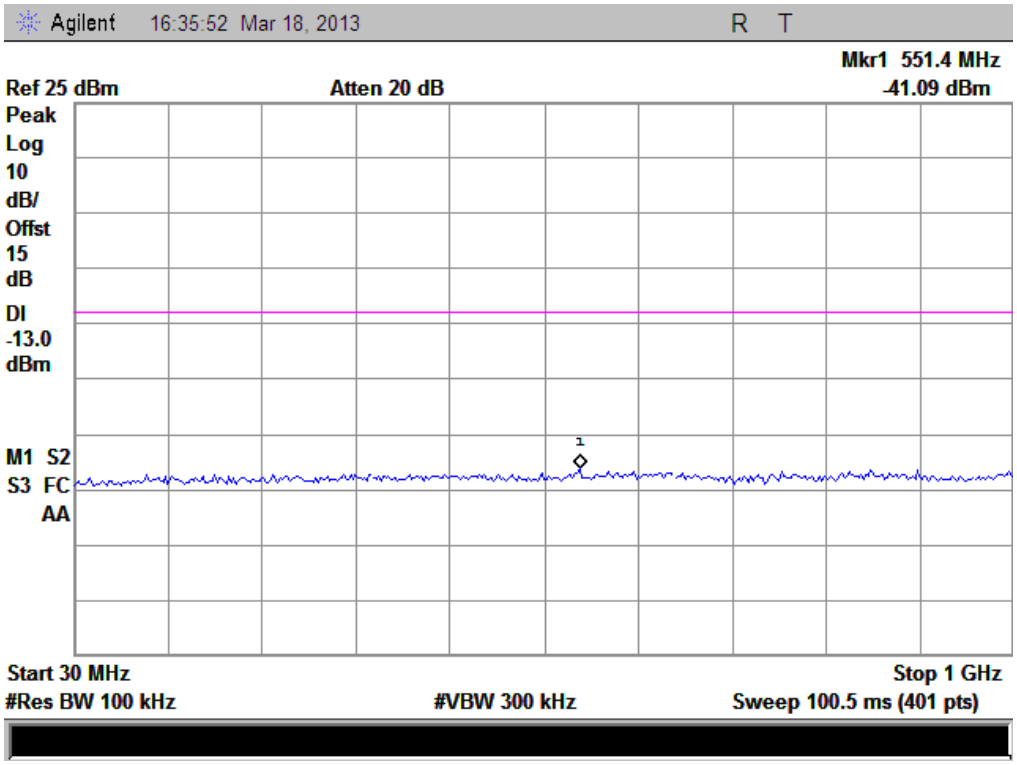
(Plot L1.1: HSPA+1700MHz Channel = 1312, 1GHz to 20GHz)



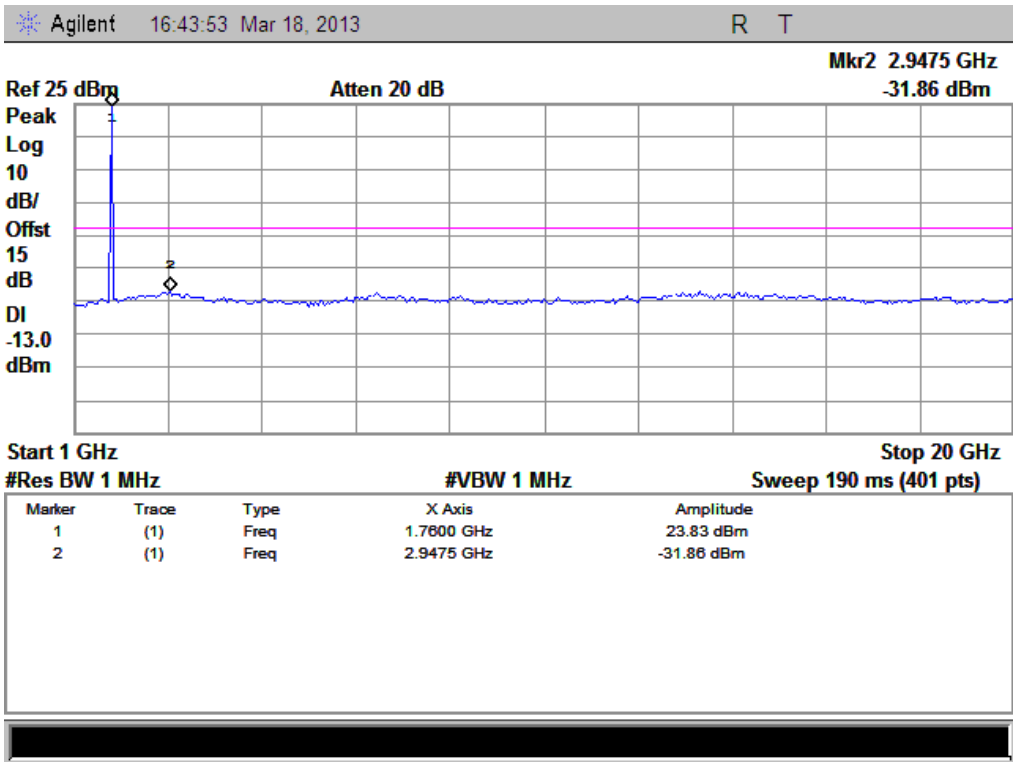
(Plot L2: HSPA+1700MHz Channel = 1412, 30MHz to 1GHz)



(Plot L2.1: HSPA+1700MHz Channel = 1412, 1GHz to 20GHz)



(Plot L3: HSPA+1700MHz Channel = 1513, 30MHz to 1GHz)



(Plot L3.1: HSPA+1700MHz Channel = 1513 1GHz to 20GHz)

2.6 Band Edge

2.6.1 Requirement

According to FCC section 22.917(b) and FCC section 24.238(b), 27.53(g)(h) 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

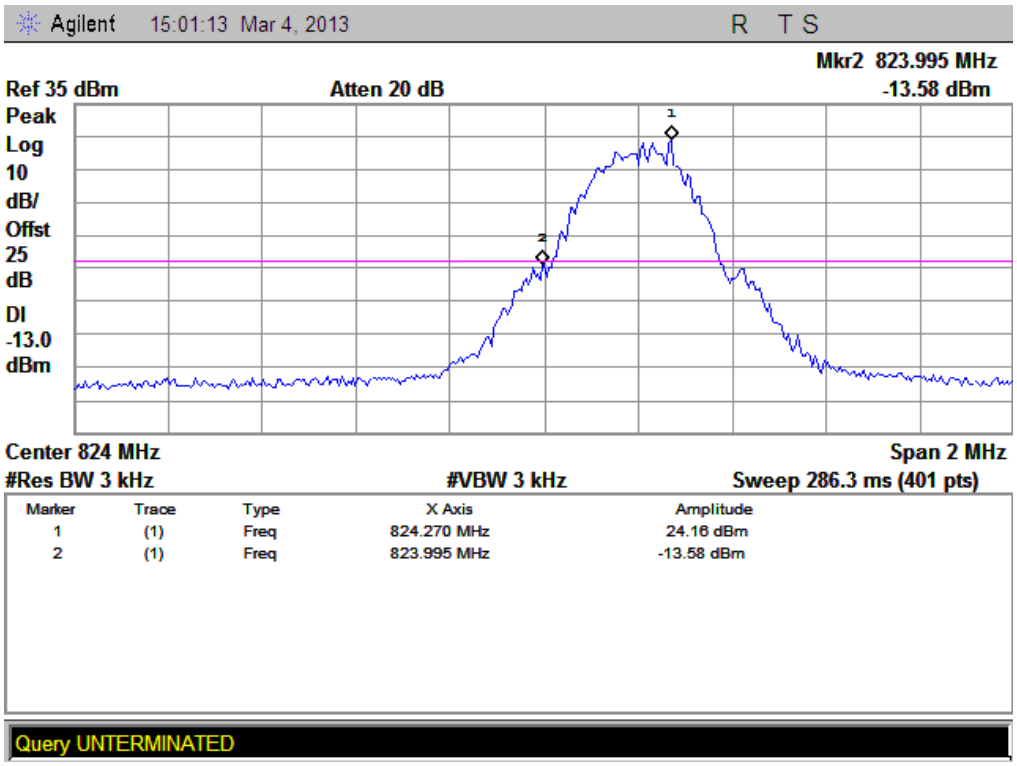
The lowest and highest channels are tested to verify the band edge emissions.

1. Test Verdict:

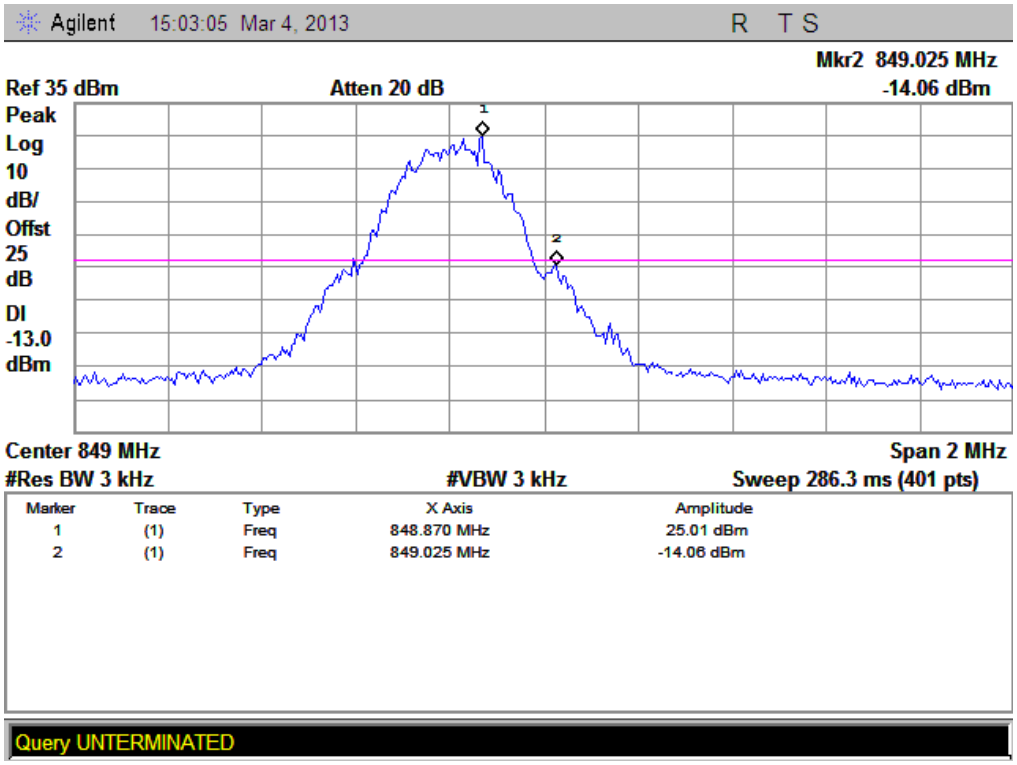
Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GPRS 850MHz	128	824.2	-13.58	Plat A	-13	PASS
	251	848.8	-14.06	Plot B		PASS
GPRS 1900MHz	512	1850.2	-16.16	Plat C	-13	PASS
	810	1909.8	-16.56	Plot D		PASS
EDGE 850MHz	128	824.2	-18.34	Plat E	-13	PASS
	251	848.8	-15.44	Plot F		PASS
EDGE 1900MHz	512	1850.2	-17.8	Plat G	-13	PASS
	810	1909.8	-17.97	Plot H		PASS
WCDMA 1900MHz	9262	1852.4	-15.13	Plat I	-13	PASS
	9538	1907.6	-14.85	Plot J		PASS
HSDPA 1900MHz	9262	1852.4	-16.23	Plat K	-13	PASS
	9538	1907.6	-15.11	Plot L		PASS
HSUPA 1900MHz	9262	1852.4	-15.32	Plat M	-13	PASS
	9538	1907.6	-14.92	Plot N		PASS
HSPA+ 1900MHz	9262	1852.4	-15.87	Plat O	-13	PASS
	9538	1907.6	-14.59	Plot P		PASS
WCDMA 1700MHz	1312	1712.4	-15.69	Plat Q	-13	PASS
	1513	1752.6	-15.07	Plot R		PASS
HSDPA	1312	1712.4	-15.35	Plat S	-13	PASS

1700MHz	1513	1752.6	-14.60	Plot T		PASS
HSUPA	1312	1712.4	-14.99	Plat U	-13	PASS
1700MHz	1513	1752.6	-14.16	Plot V		PASS
HSPA+	1312	1712.4	-16.56	Plat W	-13	PASS
1700MHz	1513	1752.6	-15.28	Plot X		PASS

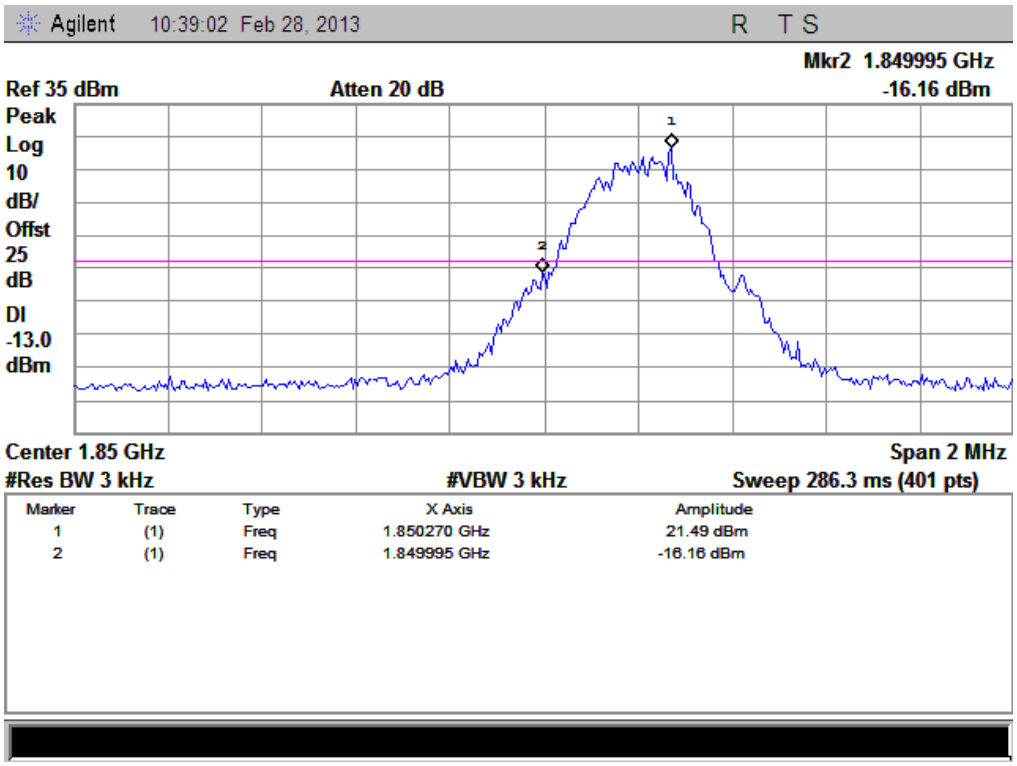
2. Test Plots:



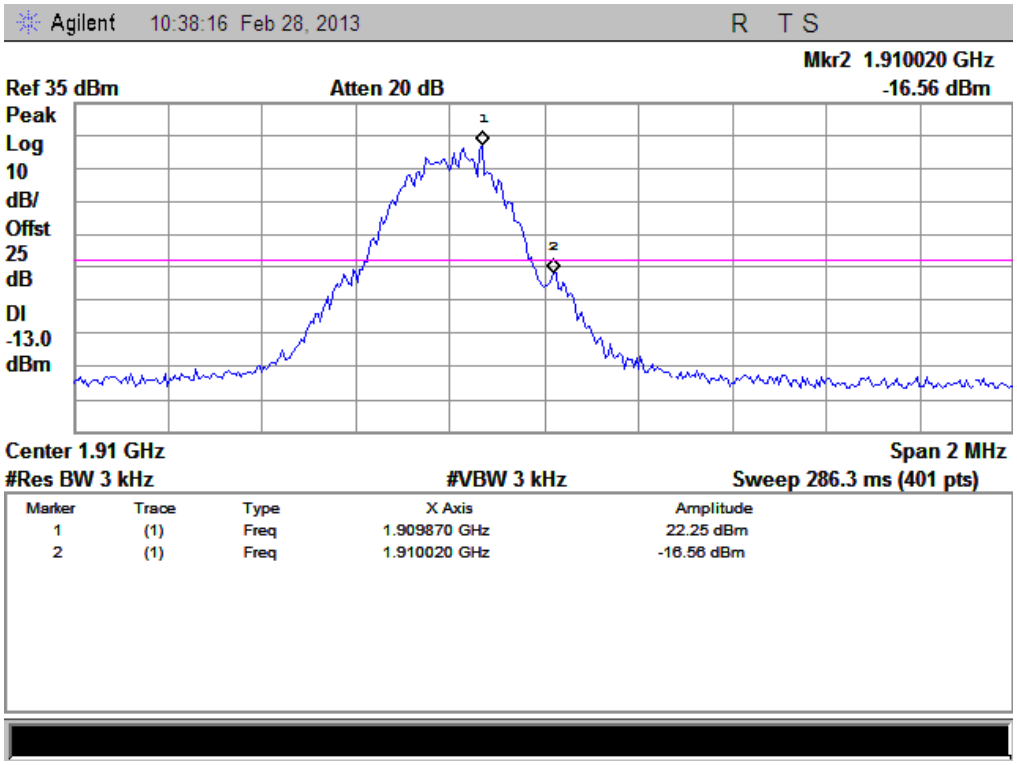
(Plot A: GPRS 850 Channel = 128)



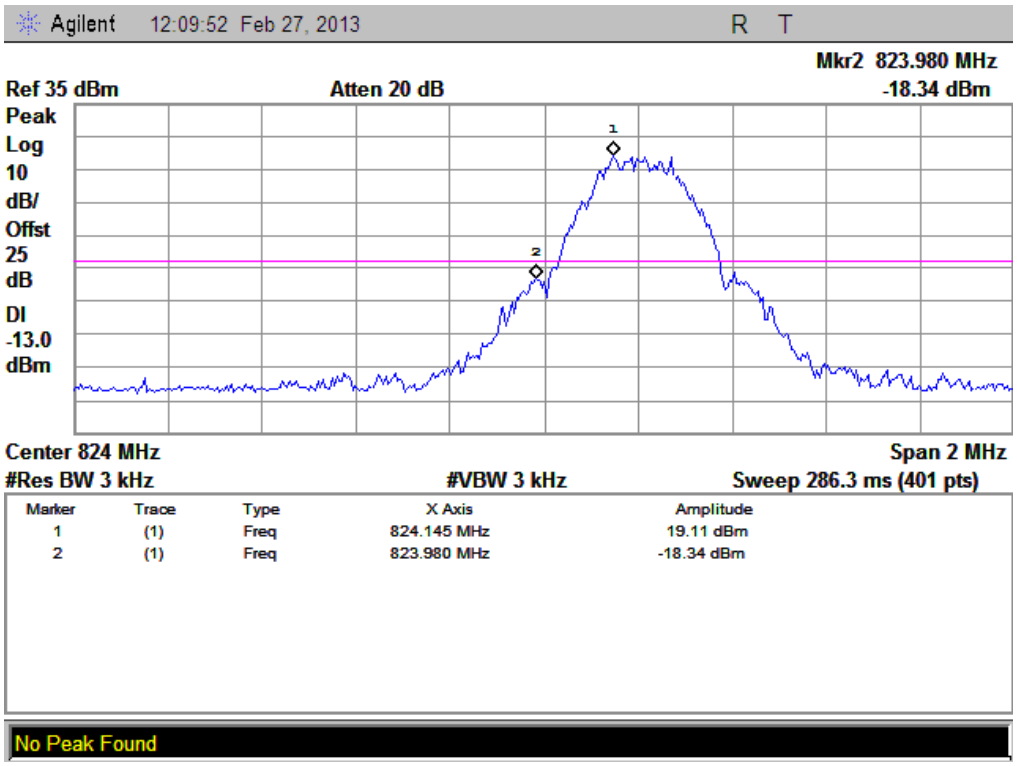
(Plot B: GPRS 850 Channel = 251)



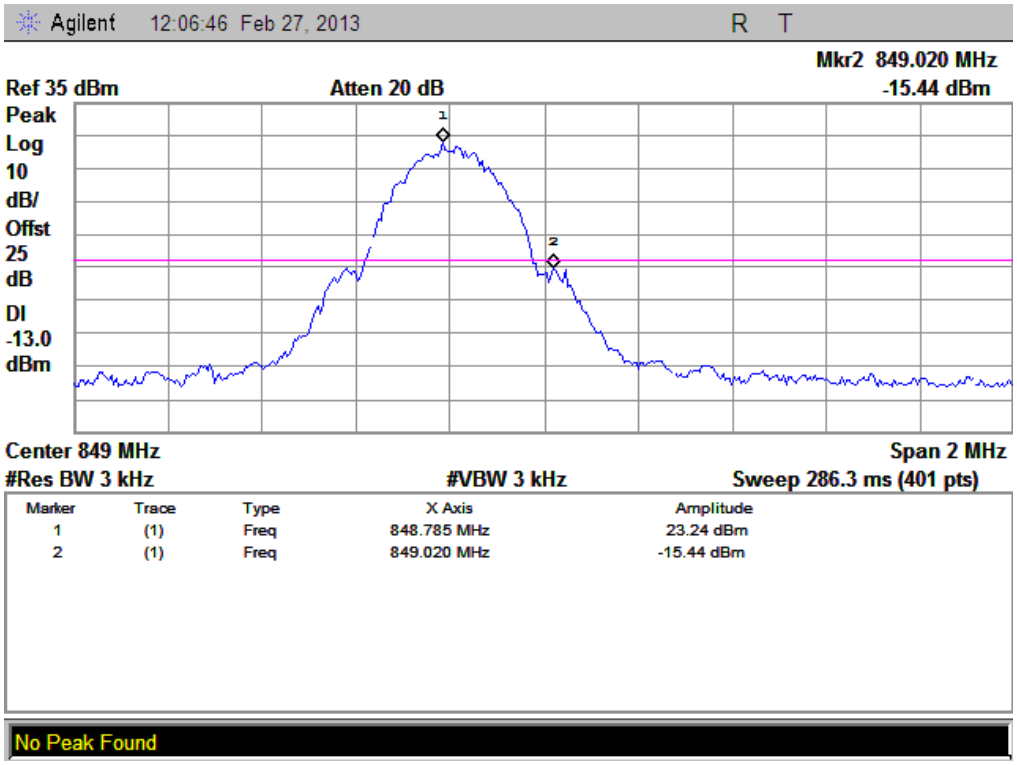
(Plot C: GPRS 1900 Channel = 512)



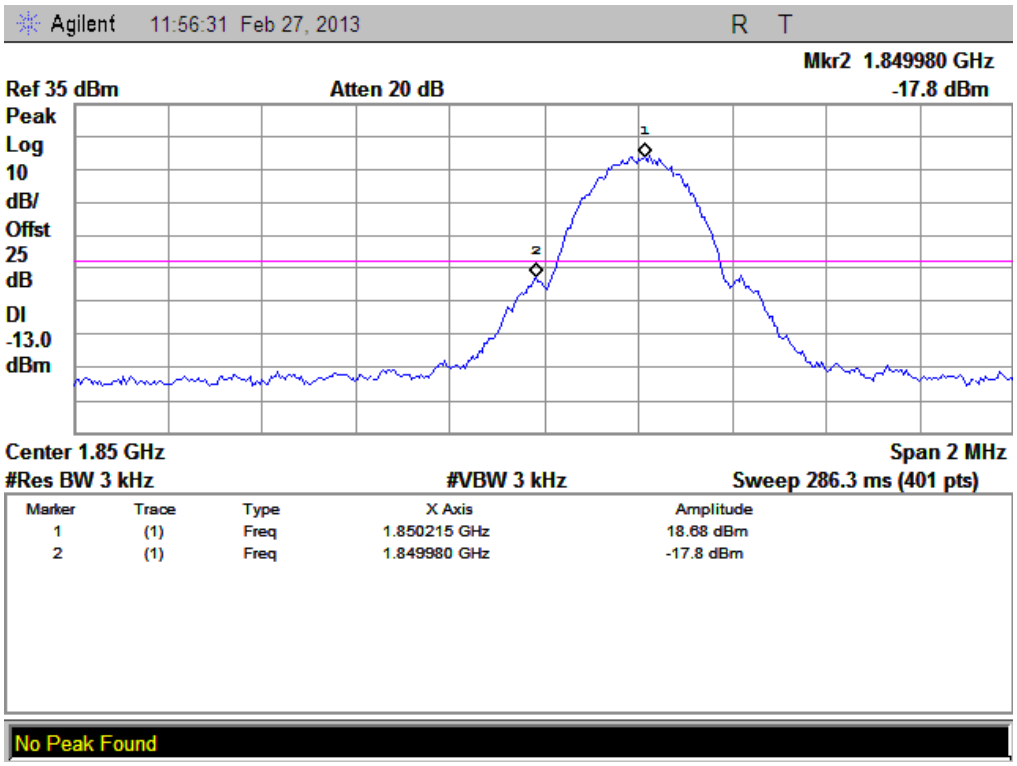
(Plot D: GPRS 1900 Channel = 810)



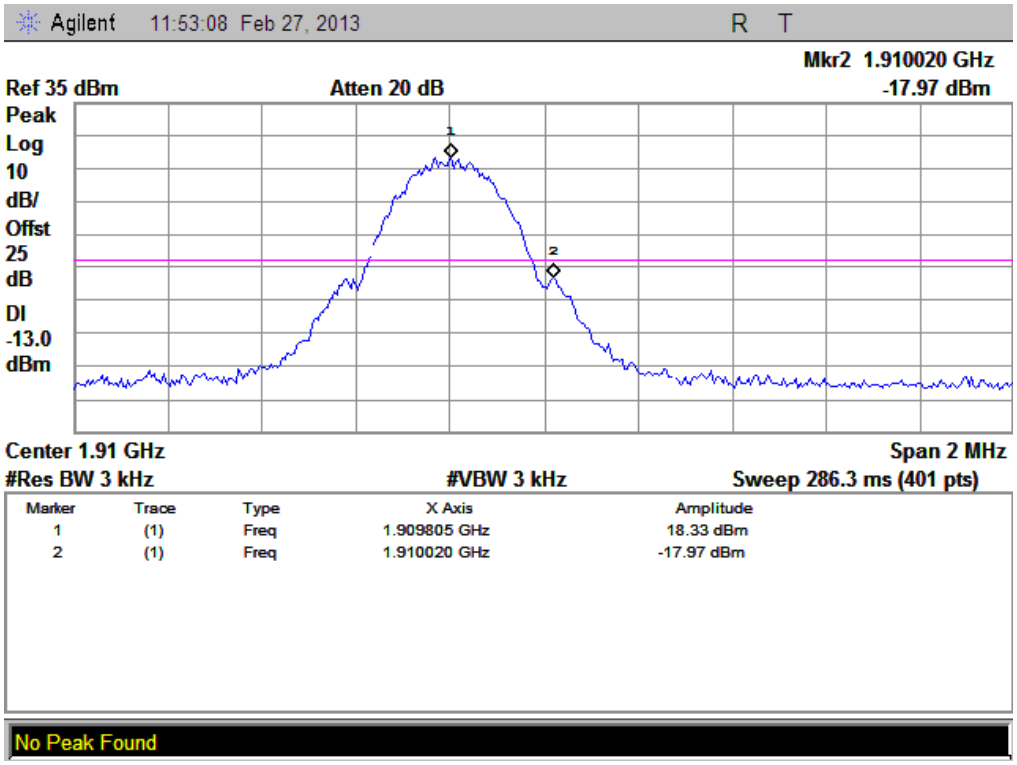
(Plot E: EDGE 850 Channel = 128)



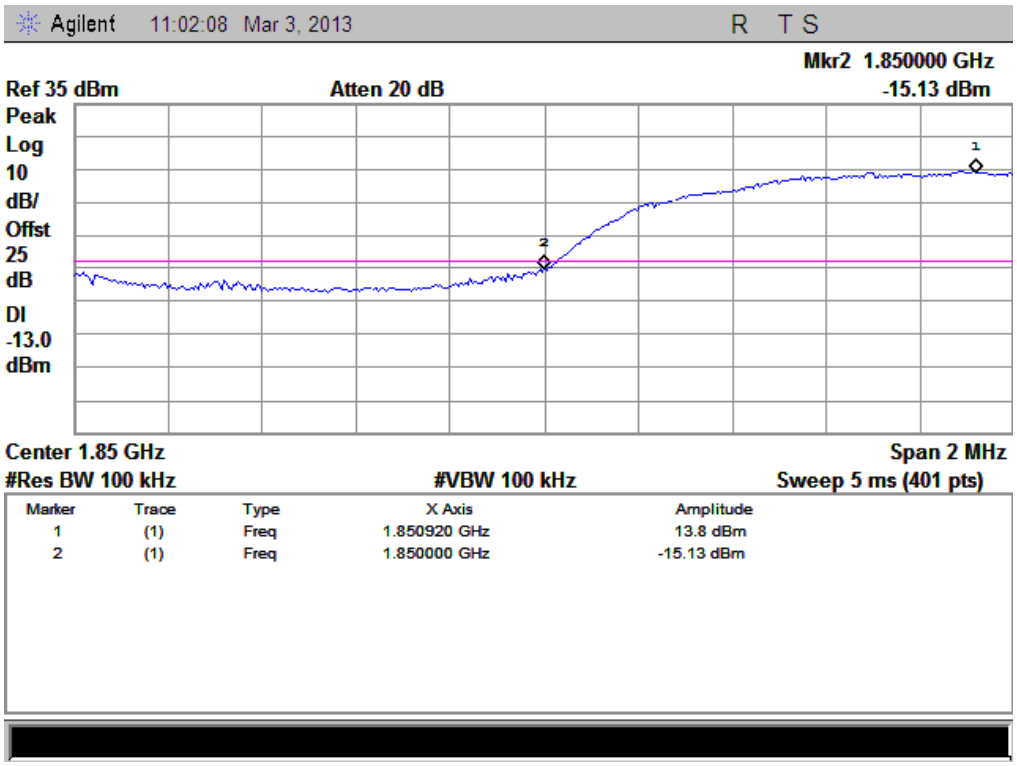
(Plot F: EDGE 850 Channel = 251)



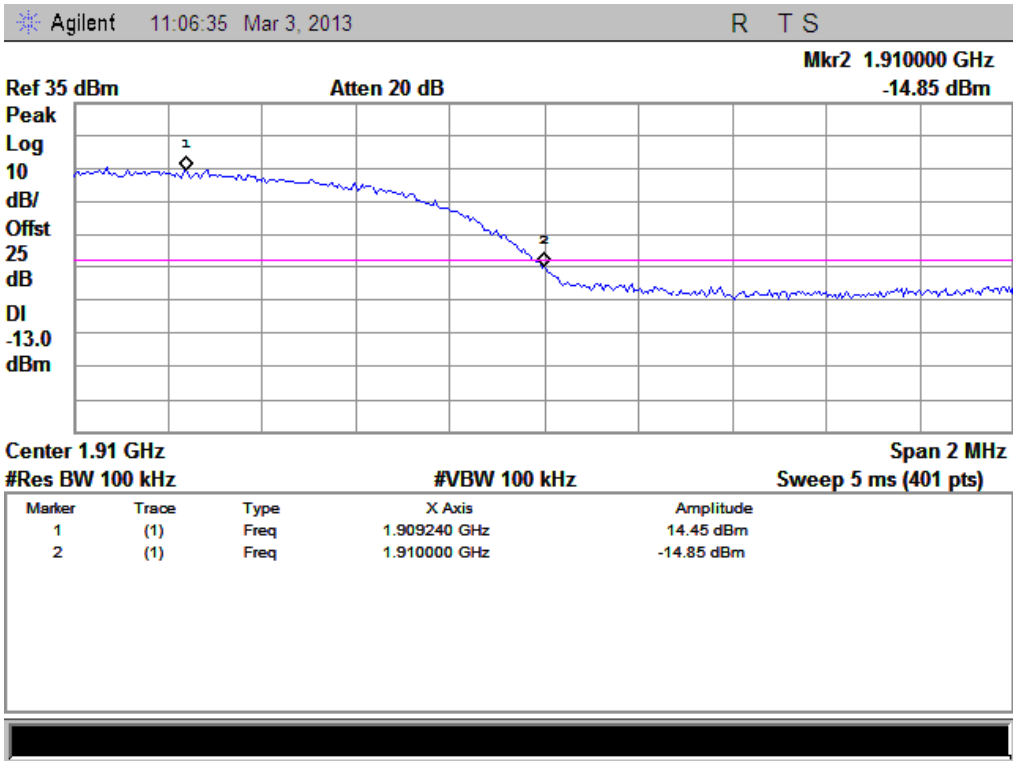
(Plot G: EDGE 1900 Channel = 512)



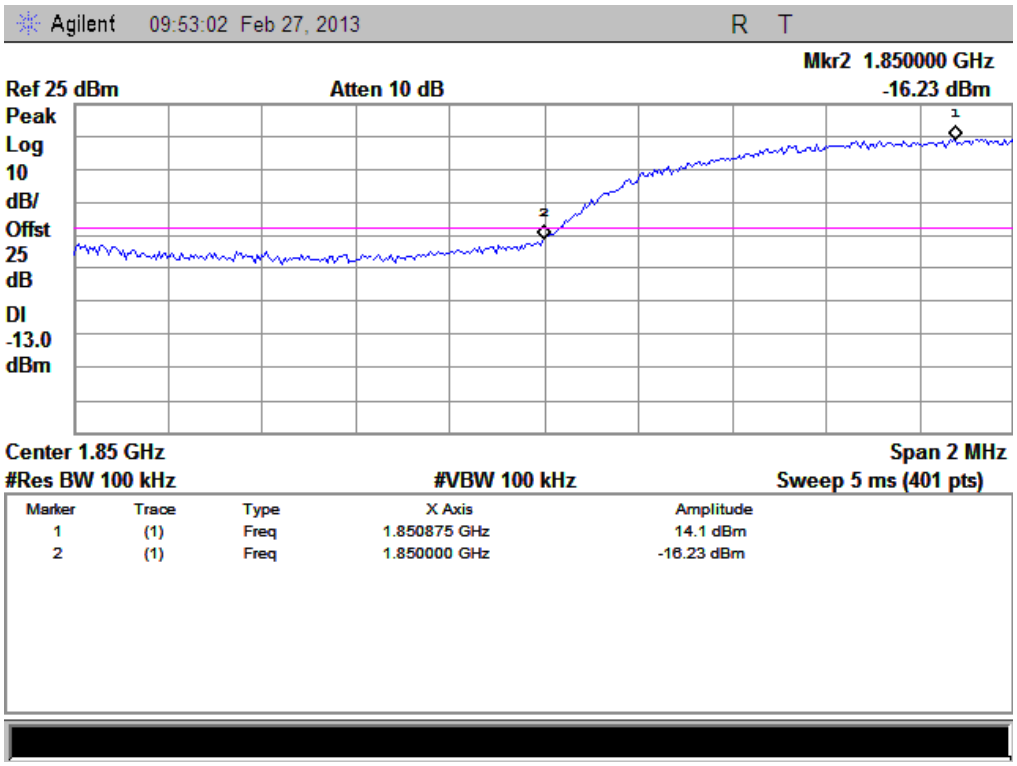
(Plot H: EDGE 1900 Channel = 810)



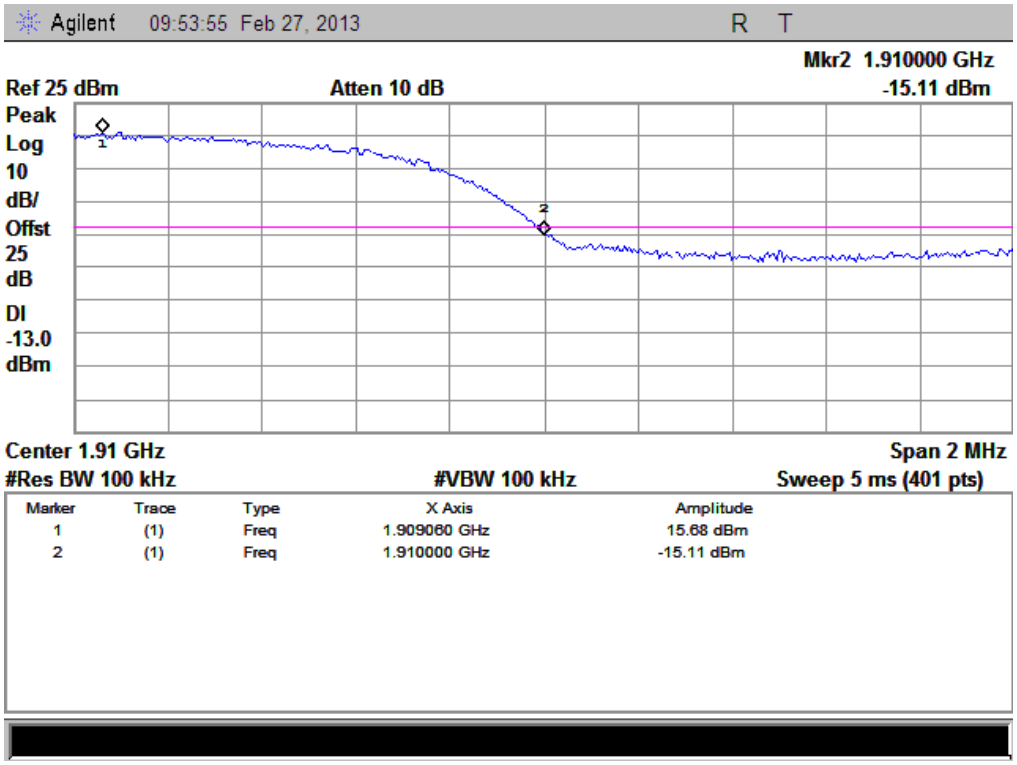
(Plot I: WCDMA 1900 Channel = 9262)



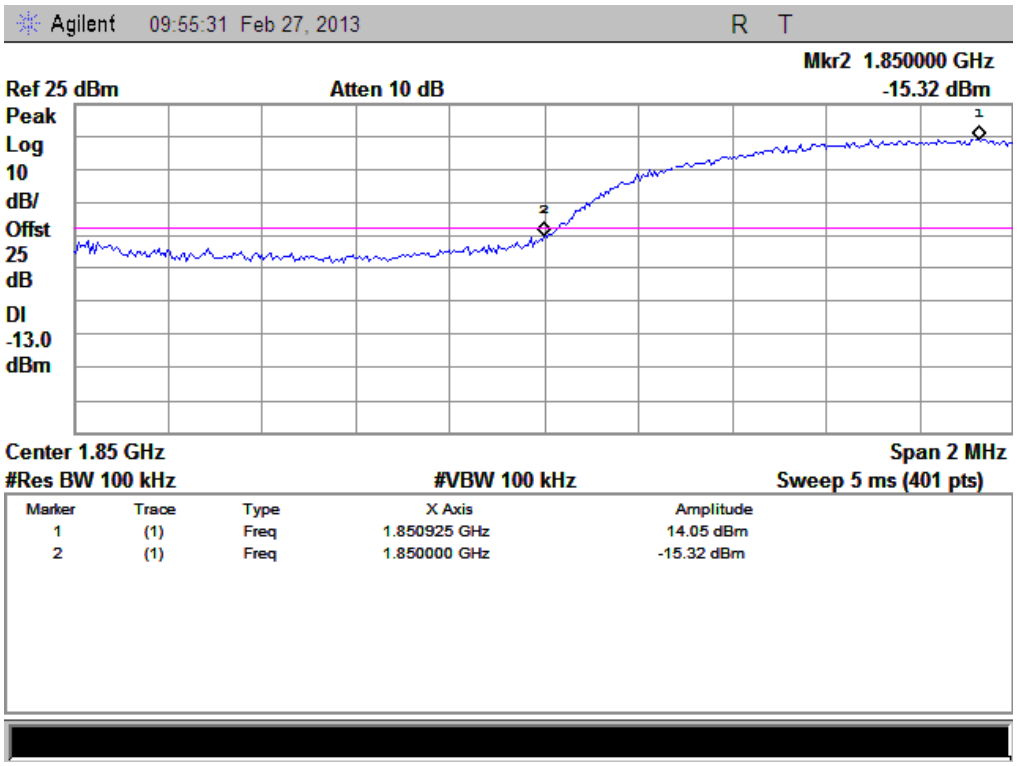
(Plot J: WCDMA 1900 Channel = 9538)



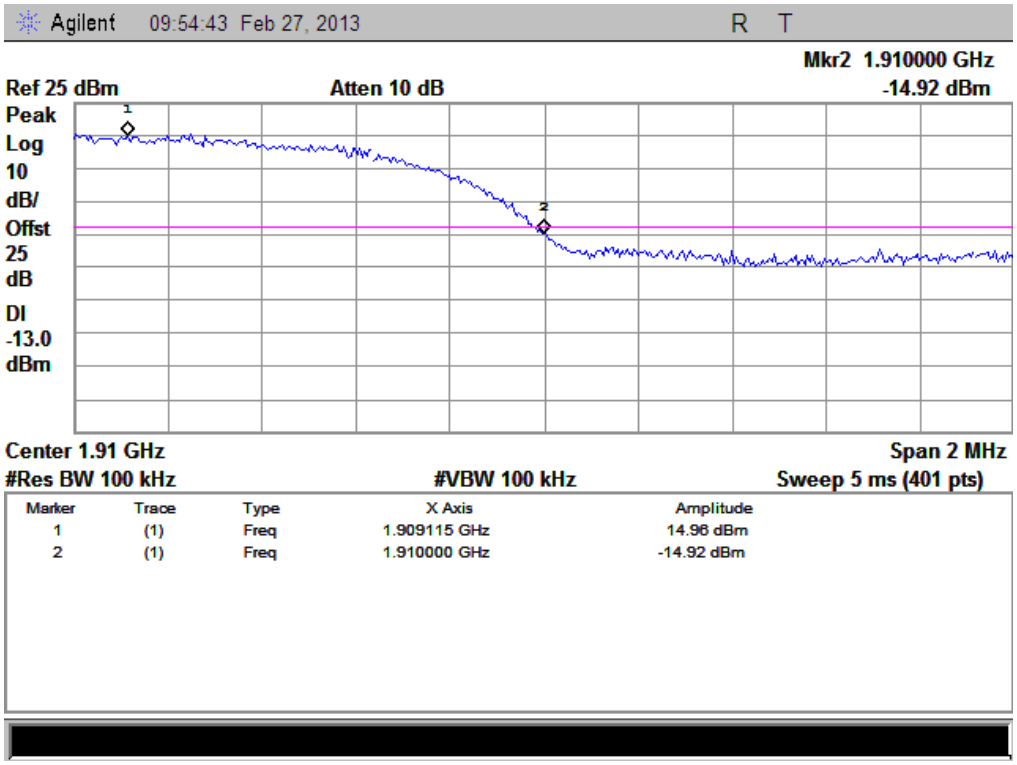
(Plot K: HSDPA 1900 Channel = 9262)



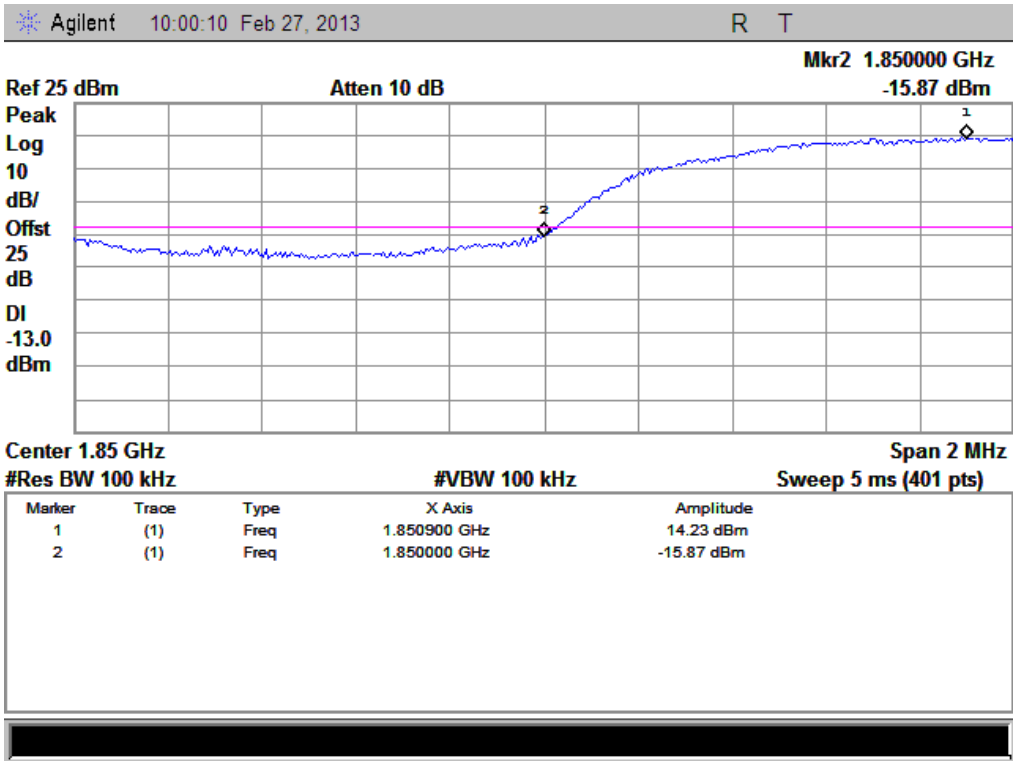
(Plot L: HSDPA 1900 Channel = 9538)



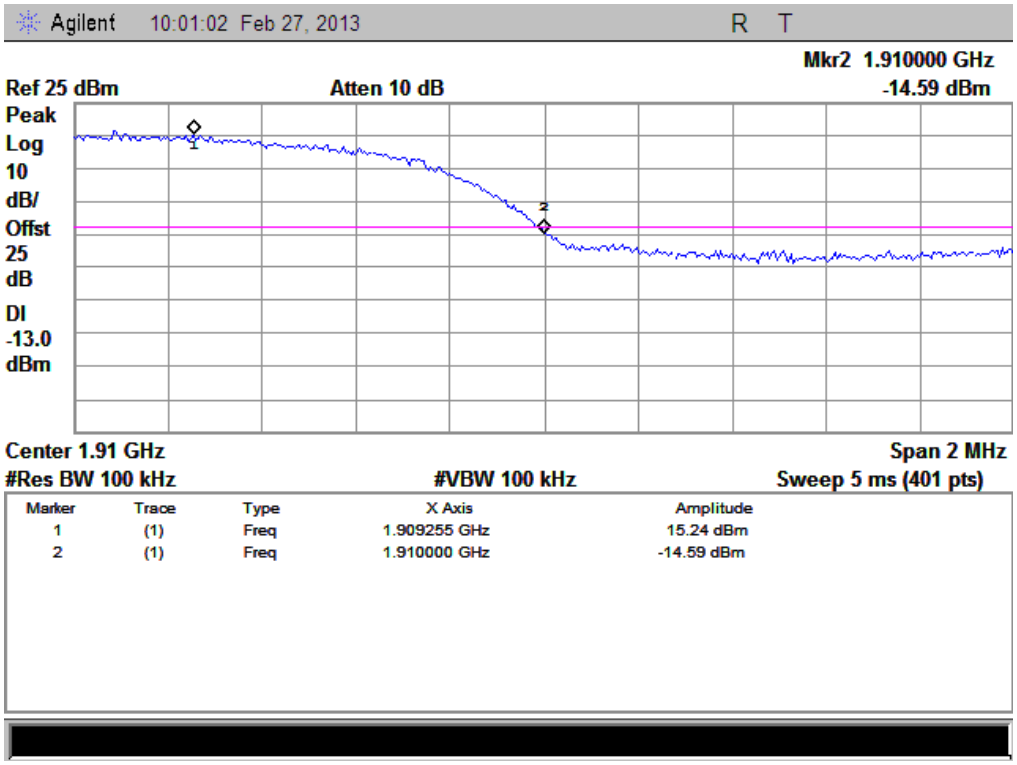
(Plot M: HSUPA 1900 Channel = 9262)



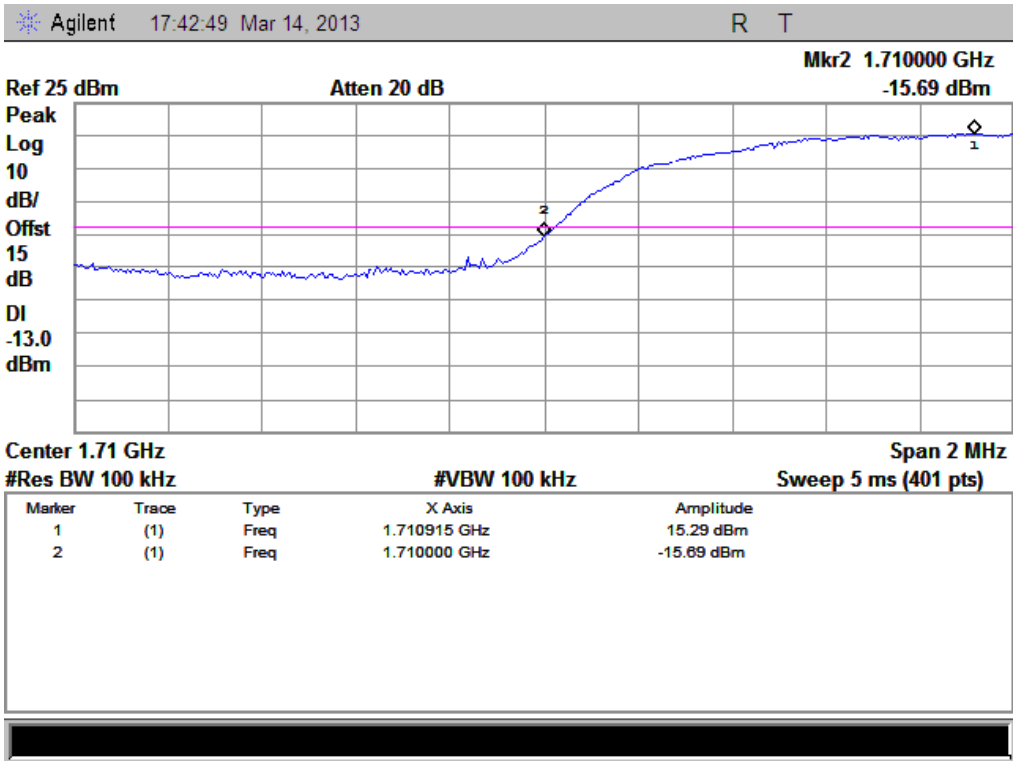
(Plot N: HSUPA 1900 Channel = 9538)



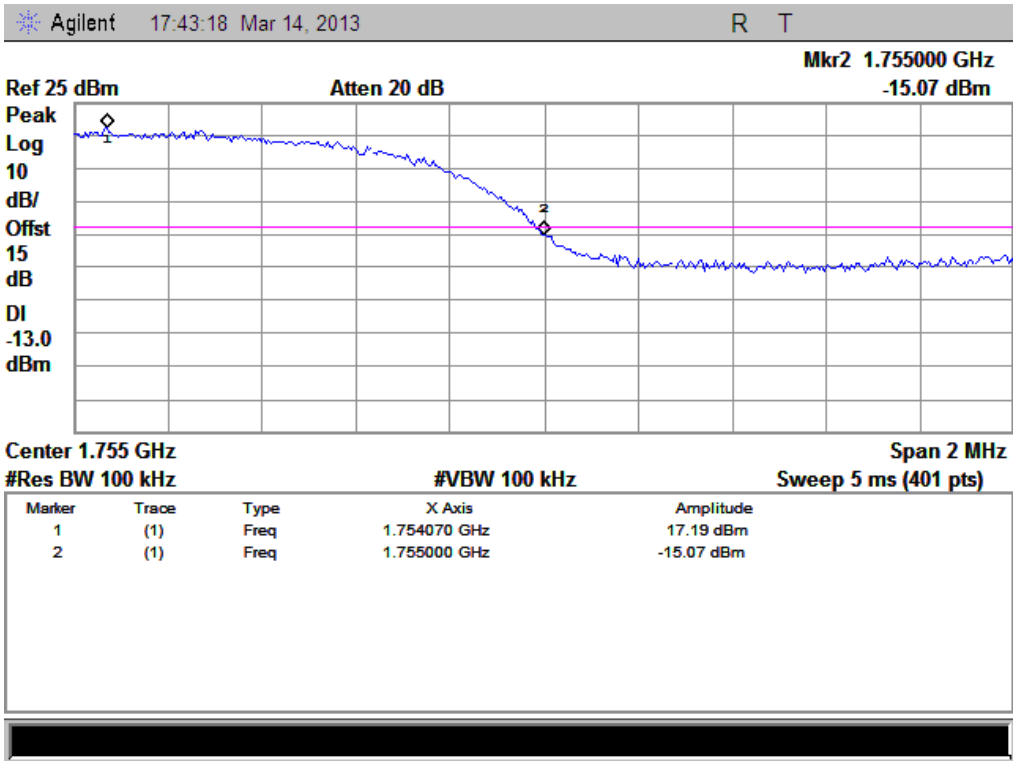
(Plot O: HSPA+ 1900 Channel = 9262)



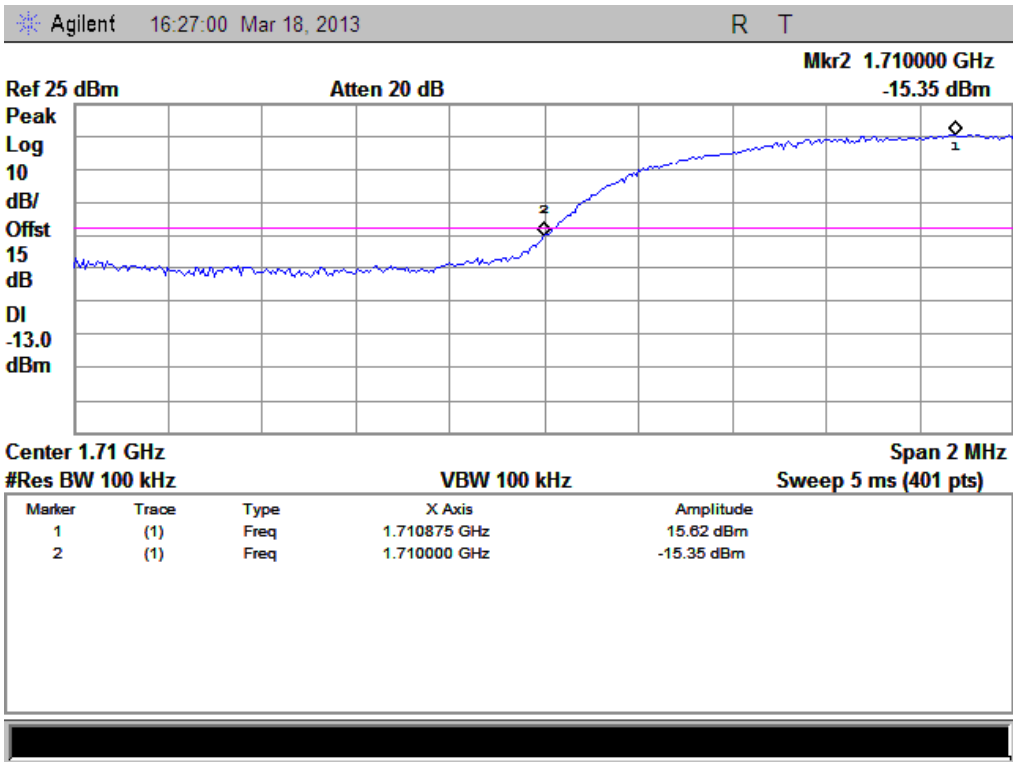
(Plot P: HSPA+ 1900 Channel = 9538)



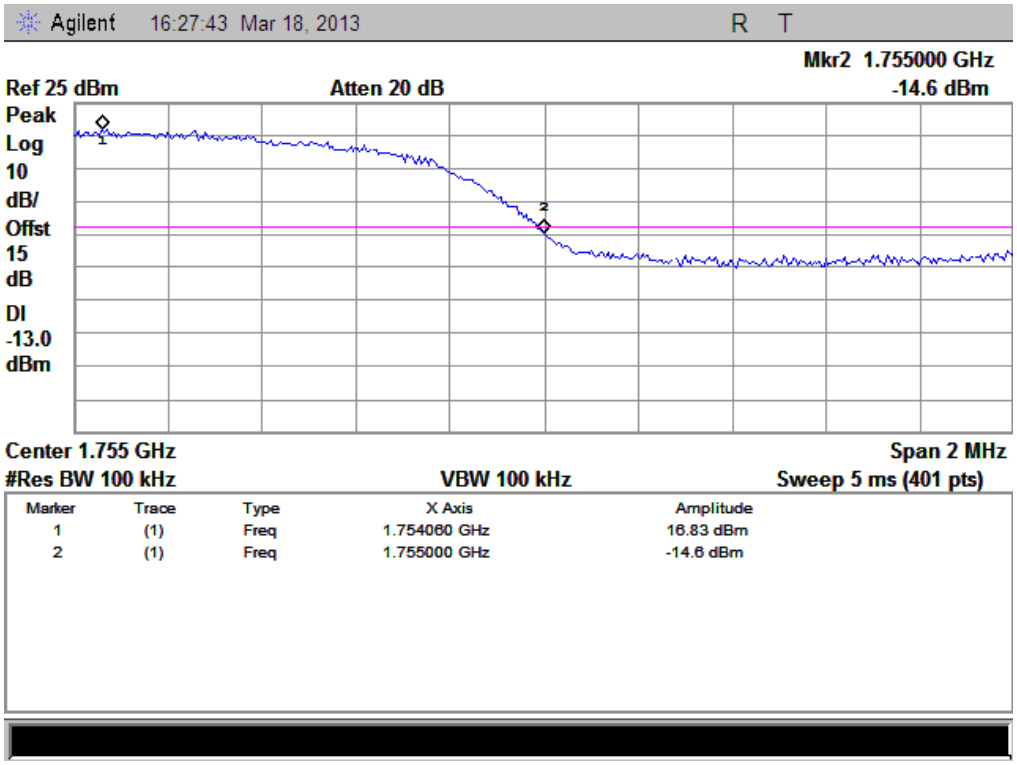
(Plot Q: WCDMA 1700 Channel = 1312)



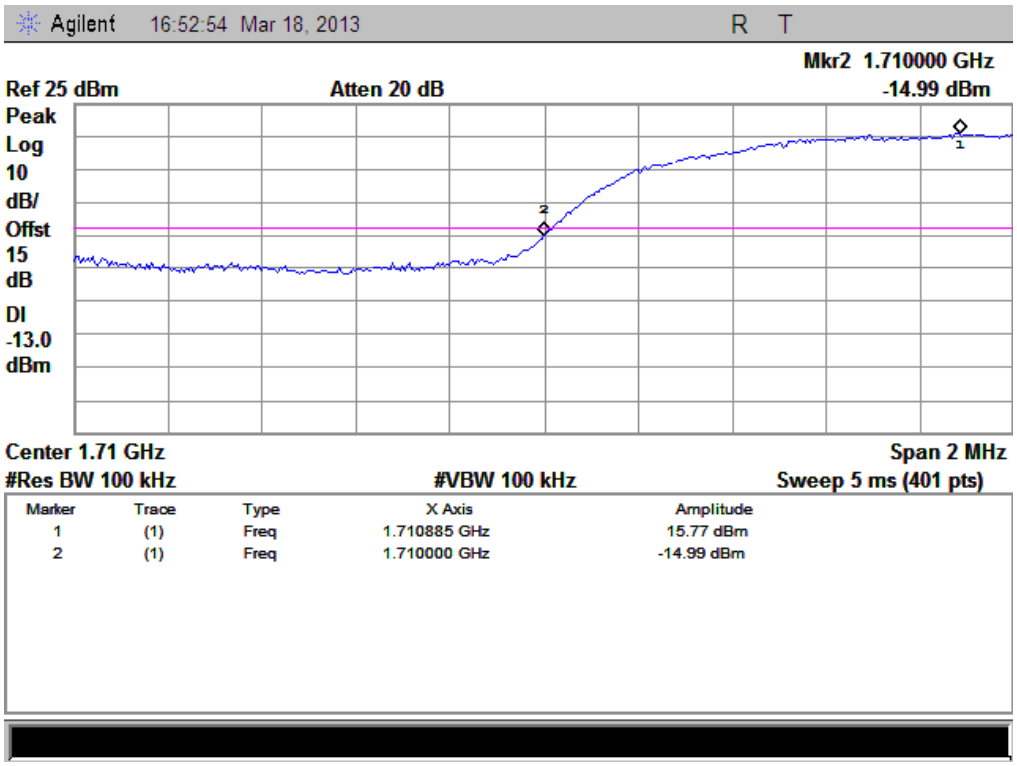
(Plot R: WCDMA 1700 Channel = 1513)



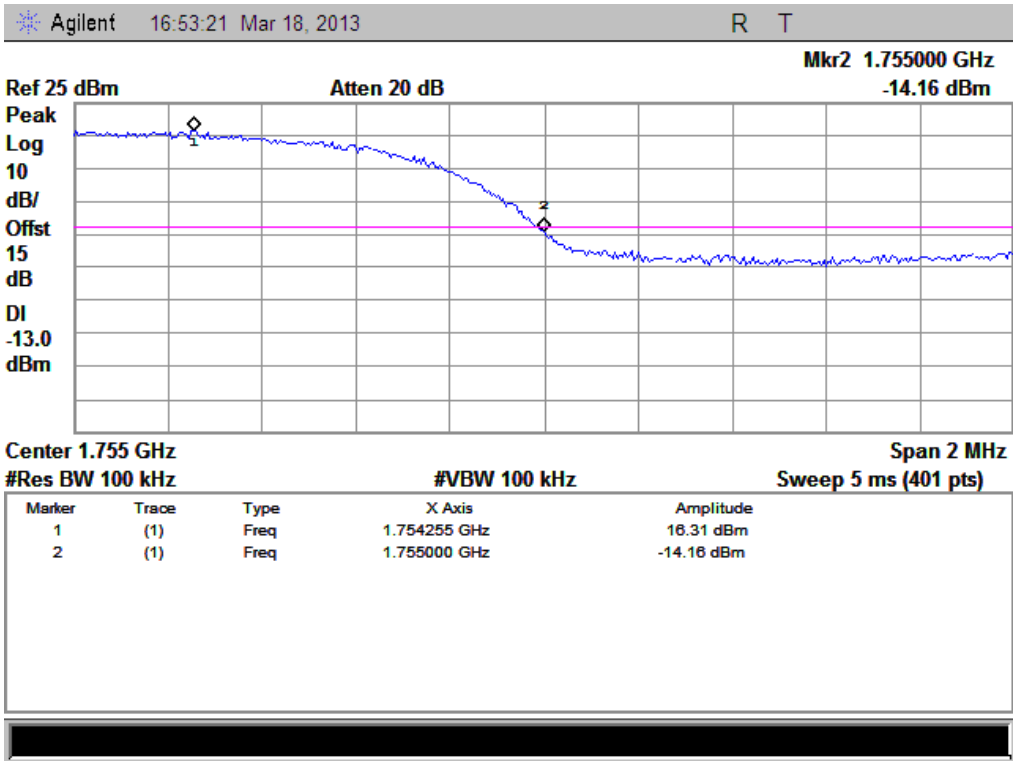
(Plot S: HSDPA 1700 Channel = 1312)



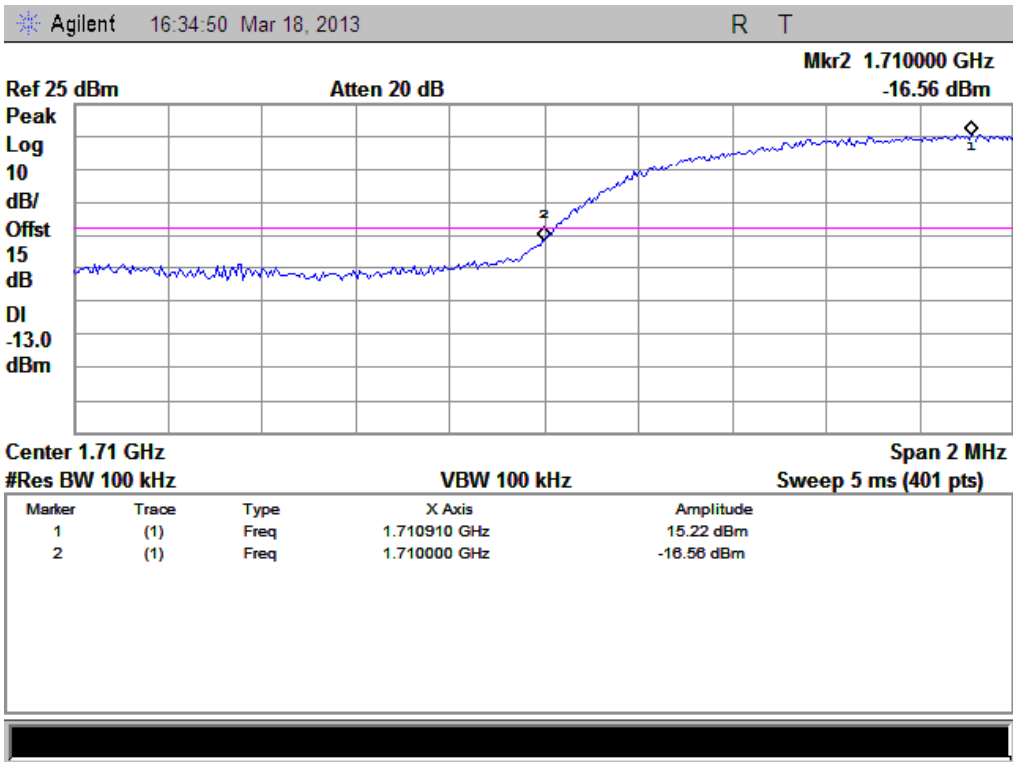
(Plot T: HSDPA 1700 Channel = 1513)



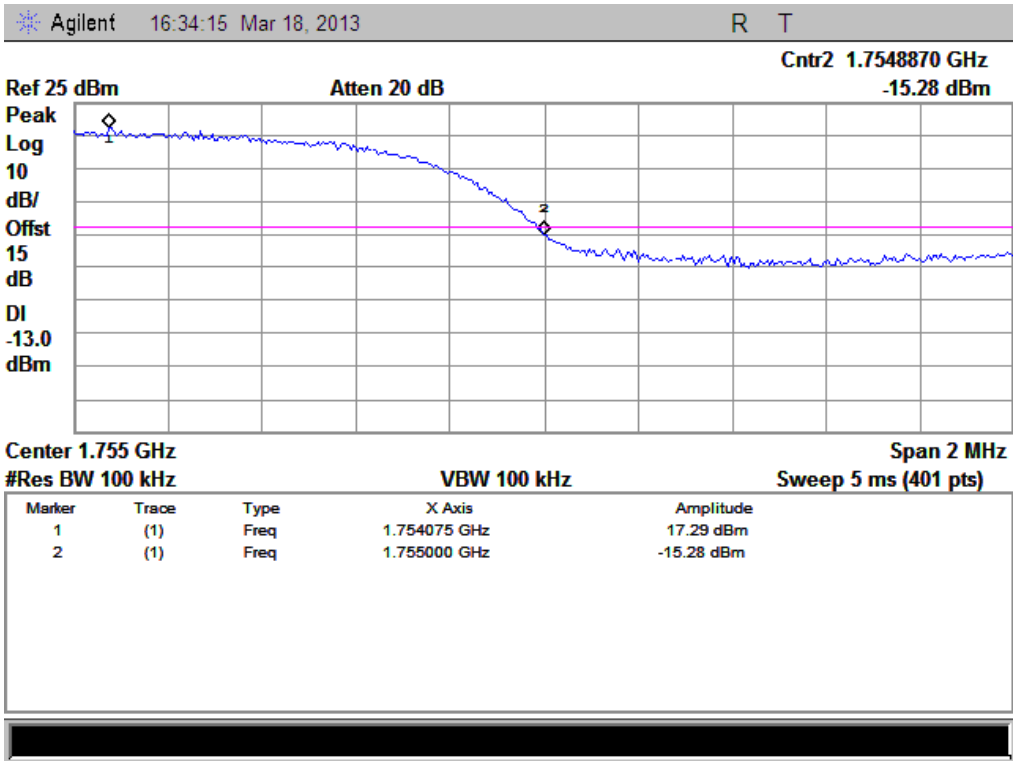
(Plot U: HSUPA 1700 Channel = 1312)



(Plot V: HSUPA1700 Channel = 1513)



(Plot W: HSPA+ 1700 Channel = 1312)



(Plot X: HSPA+ 1700 Channel = 1513)

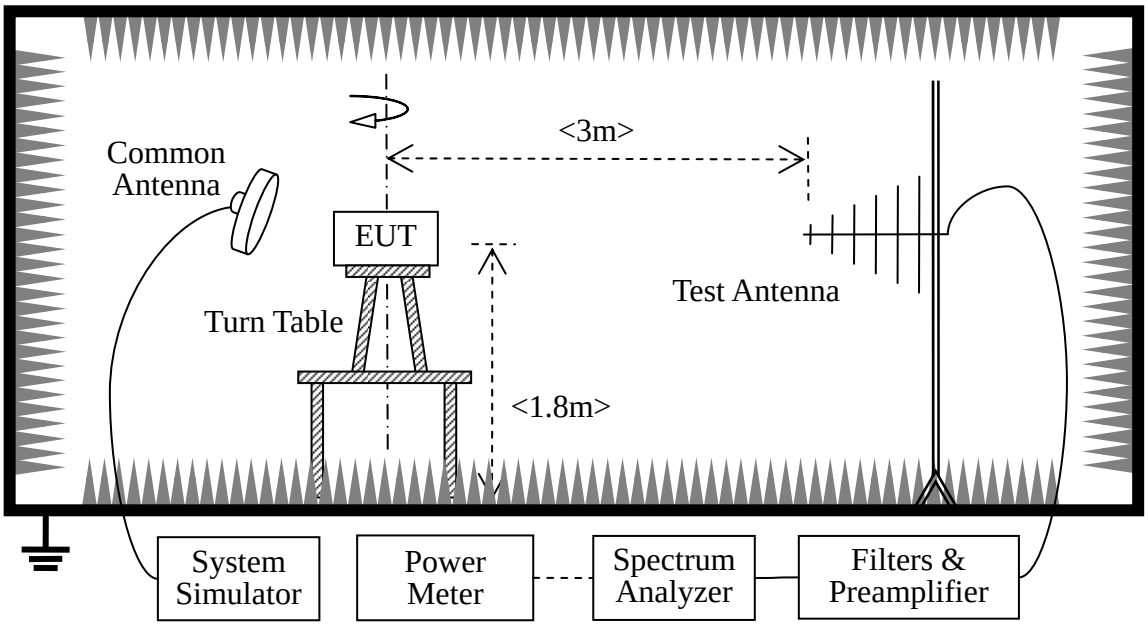
2.7 Transmitter Radiated Power (EIRP/ERP)

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. FCC section 27.50, AWS 1700 test transmitters must not exceed 1Watts

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: GPRS850 33.47dBm, GPRS 1900 29.85dBm, EGPRS 850 33.45dBm，EGPRS 29.85.WCDMA 1900 22.59 dBm, WCDMA1700 23.67 dBm Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

- Minimum RF power: GPRS 850 3.1dBm, GPRS 1900 0.3dBm，EGPRS 850 3.1dBm, EGPRS 1900 0.21dBm ,WCDMA 1900 0.5dBm WCDMA 1700 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	2012.05	2013.05
Spectrum Analyzer	Agilent	E7405A	US44210471	2012.05	2013.05
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2012.05	2013.05
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2012.05	2013.05
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2012.05	2013.05
Substitution Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2012.05	2013.05
Pre-AMPs	lucix	S10M100L3802	S020180L3203	2012.05	2013.05
Notch Filter	COM-MW	ZBSF-C836.5-25-X	NA	2012.05	2013.05
Notch Filter	COM-MW	ZBSF-C1747.5-75-X2	NA	2012.05	2013.05
Notch Filter	COM-MW	ZBSF-C1880-60-X2	NA	2012.05	2013.05

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	
GPRS 850MHz	128	824.20	5	31.32	1.355	Plot A Note 1	38.5	7	PASS
	190	836.60	5	31.53	1.422				PASS
	251	848.80	5	32.91	1.954				PASS
EGPRS 850MHz	128	824.20	5	32.05	1.603	Plot B Note 1	38.5	7	PASS
	190	836.60	5	32.62	1.828				PASS
	251	848.80	5	33.1	2.042				PASS

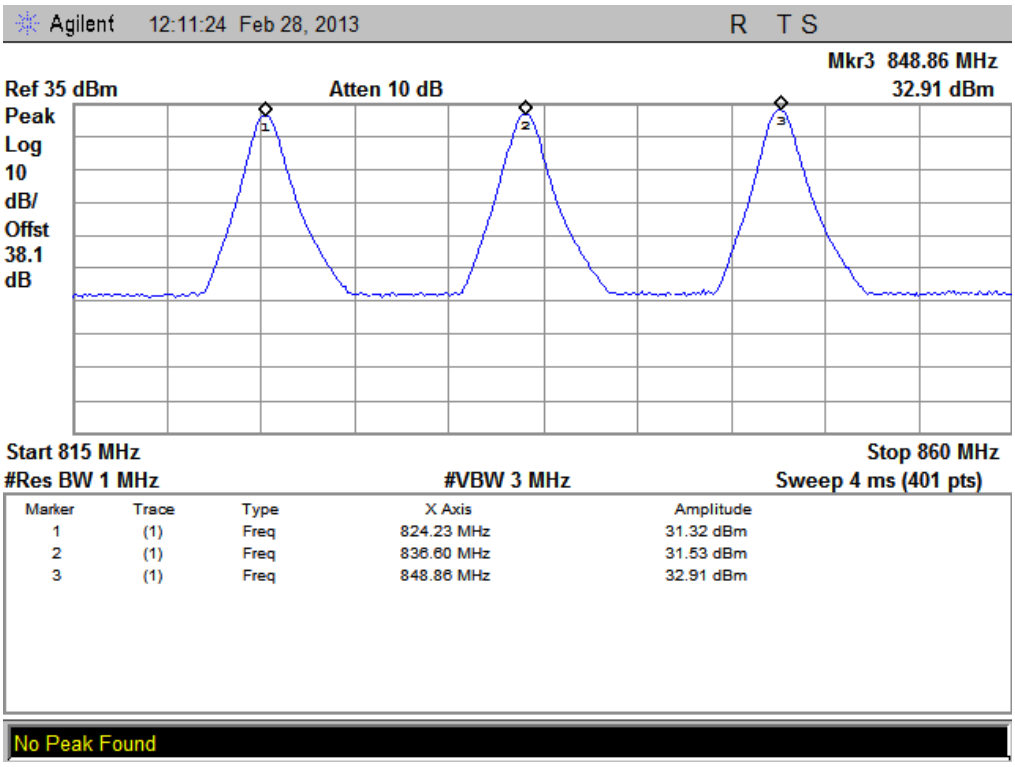
Band	Channel	Frequency (MHz)	PCL	Measured EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GPRS 1900MHz	512	1850.2	0	30.4	1.096	Plot C Note 1	33	2	PASS
	661	1880.0	0	30.24	1.057				PASS
	810	1909.8	0	30.00	1.000				PASS
EGPRS 1900MHz	512	1850.2	0	30.59	1.146	Plot D Note 1	33	2	PASS
	661	1880.0	0	30.51	1.125				PASS
	810	1909.8	0	30.75	1.189				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:

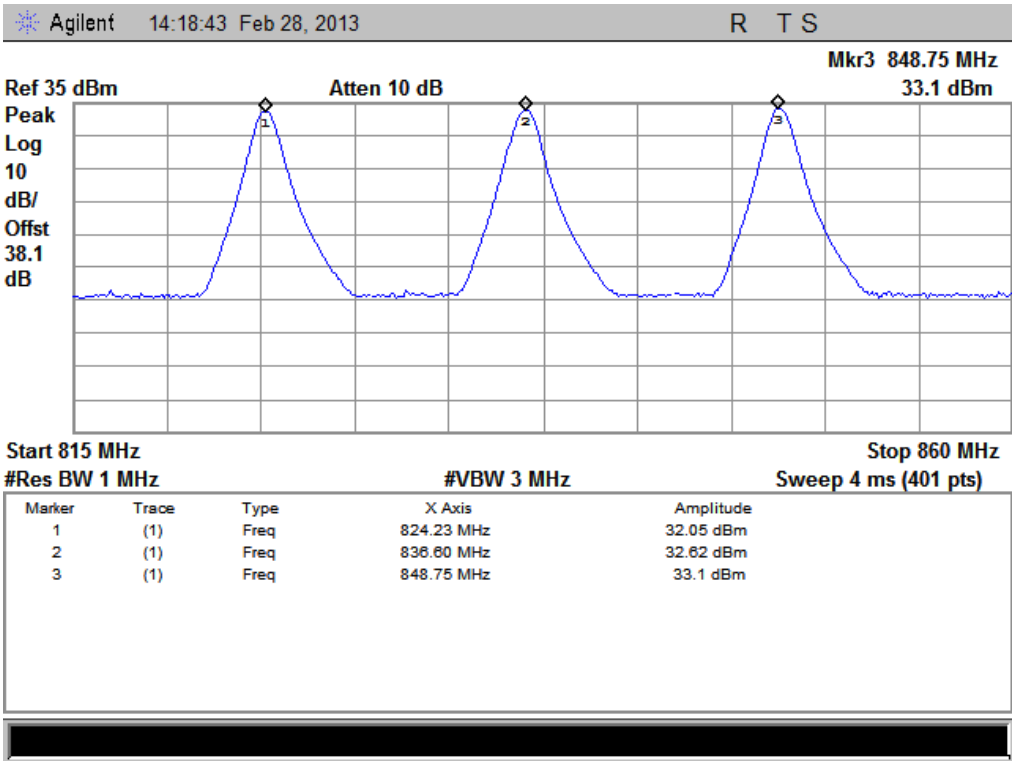
Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W		dBm	W	
WCDMA 1900MHz	9262	1852.4	22.51	0.178	Plot E	33	2	PASS
	9400	1880	22.19	0.166				PASS
	9538	1907.6	22.43	0.175				PASS
HSDPA 1900MHz	9262	1852.4	22.48	0.177	Plot F	33	2	PASS
	9400	1880	22.19	0.166				PASS
	9538	1907.6	22.39	0.173				PASS
HSUPA 1900MHz	9262	1852.4	22.45	0.176	Plot G	33	2	PASS
	9400	1880	22.16	0.164				PASS
	9538	1907.6	22.35	0.172				PASS
HSPA+ 1900MHz	9262	1852.4	22.36	0.172	Plot H	33	2	PASS
	9400	1880	22.21	0.166				PASS
	9538	1907.6	22.39	0.173				PASS

Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W		dBm	W	
WCDMA 1700MHz	1312	1712.4	25.86	0.385	Plot I	30	1	PASS
	1412	1732.4	25.05	0.320				PASS
	1513	1752.6	25.12	0.325				PASS
HSDPA 1700MHz	1312	1712.4	25.75	0.376	Plot J	30	1	PASS
	1412	1732.4	25.04	0.319				PASS
	1513	1752.6	25.11	0.324				PASS
HSUPA 1700MHz	1312	1712.4	25.24	0.334	Plot K	30	1	PASS
	1412	1732.4	25.02	0.318				PASS
	1513	1752.6	25.09	0.323				PASS
HSPA+ 1700MHz	1312	1712.4	25.22	0.333	Plot L	30	1	PASS
	1412	1732.4	24.85	0.305				PASS
	1513	1752.6	25.03	0.318				PASS

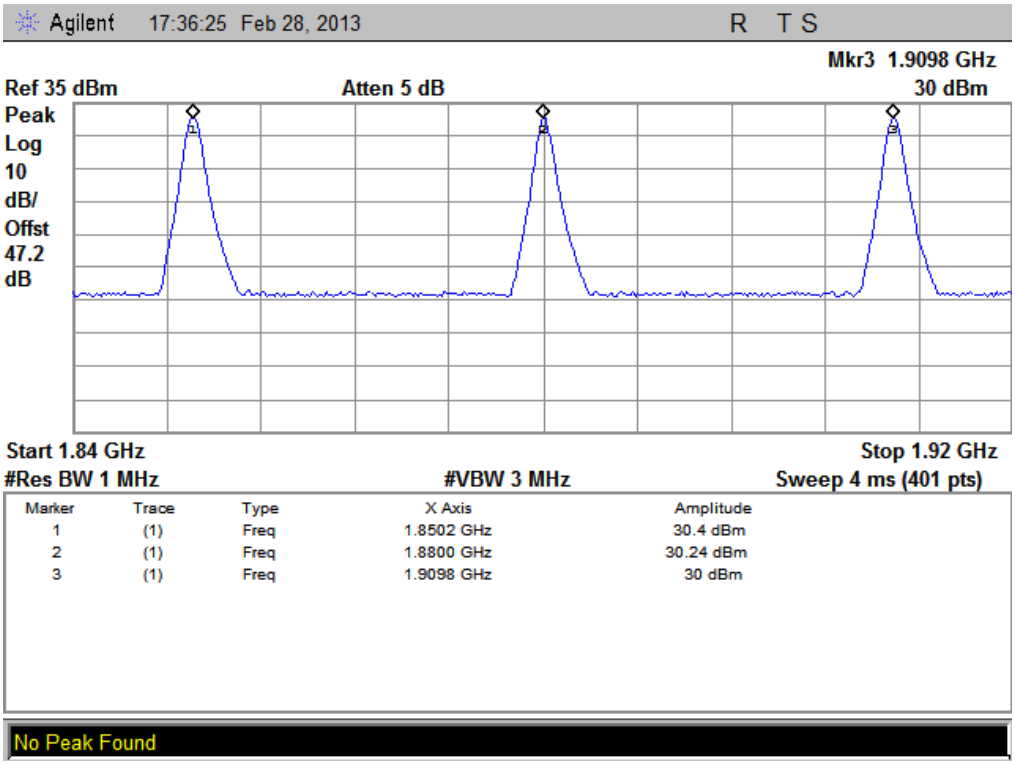
3. Test Plots:



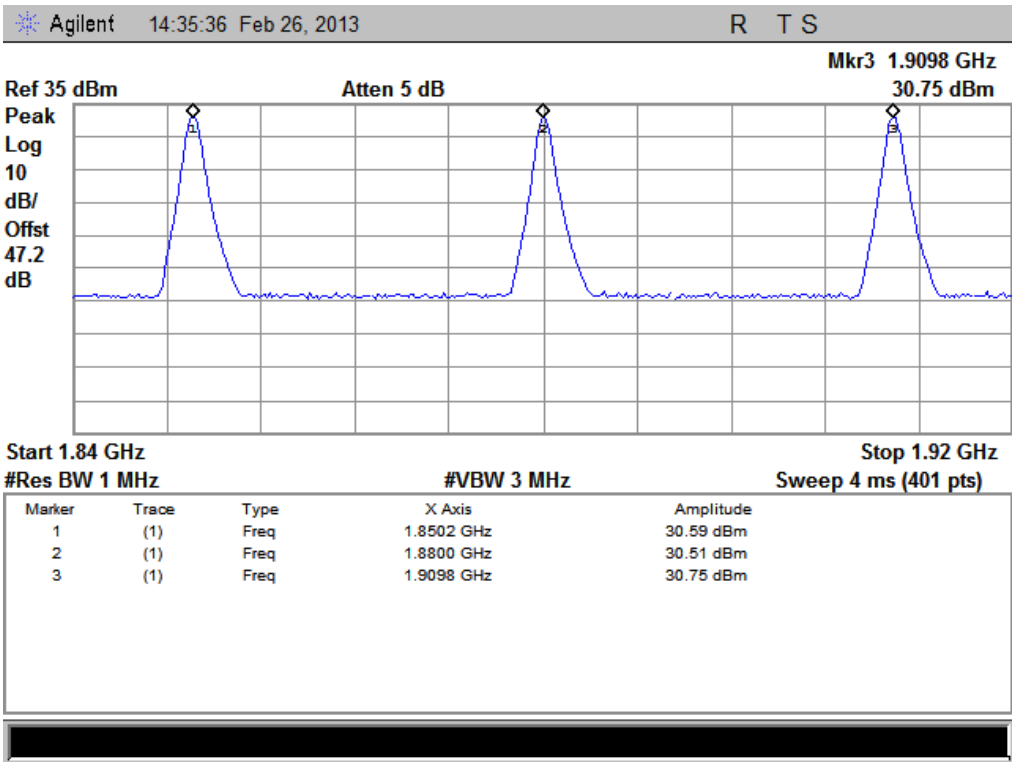
(Plot A: GPRS 850MHz Channel = 128, 190, 251)



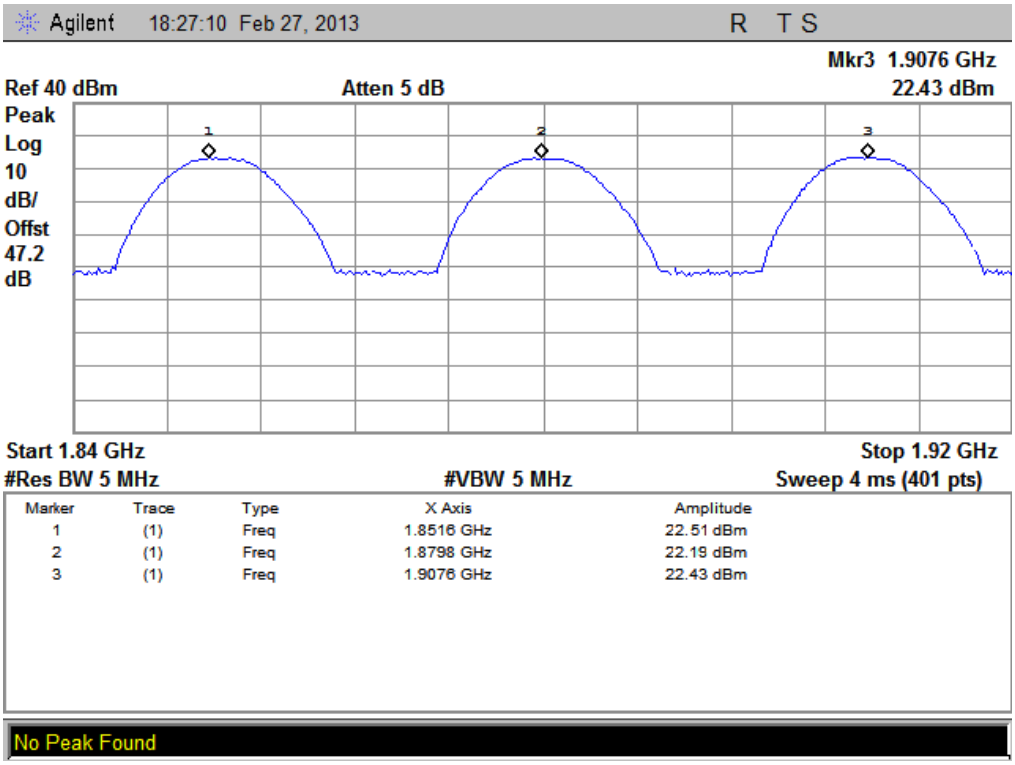
(Plot B: EDGE 850MHz Channel = 128, 190, 251)



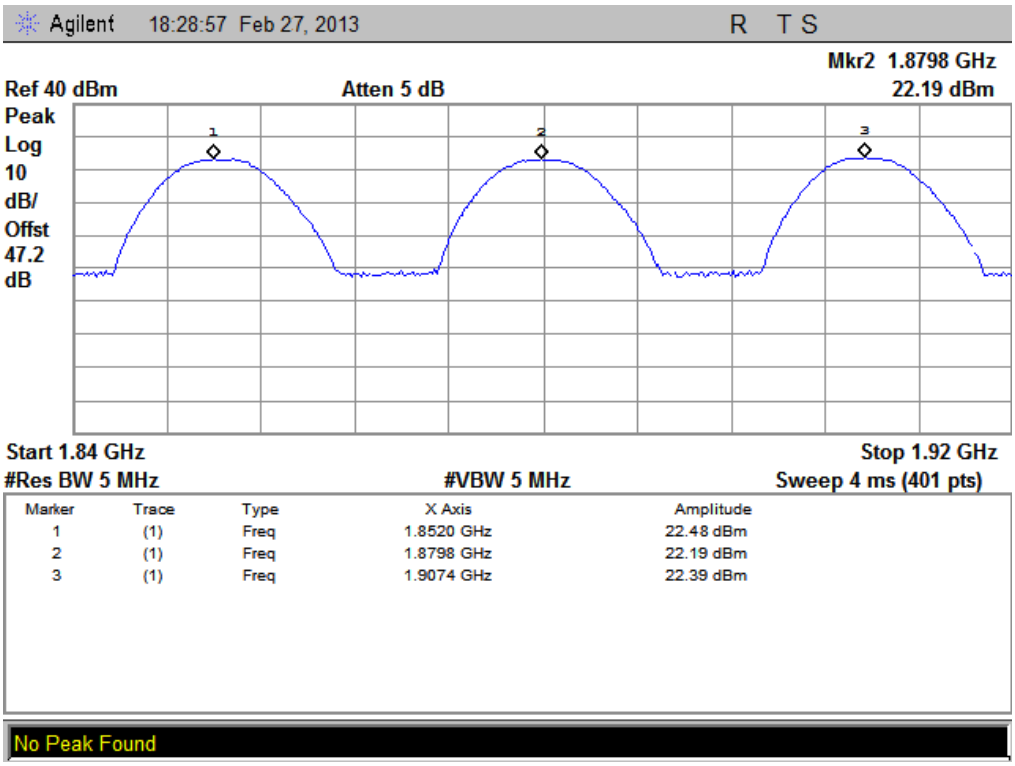
(Plot C: GPRS 1900MHz Channel = 512, 661, 810)



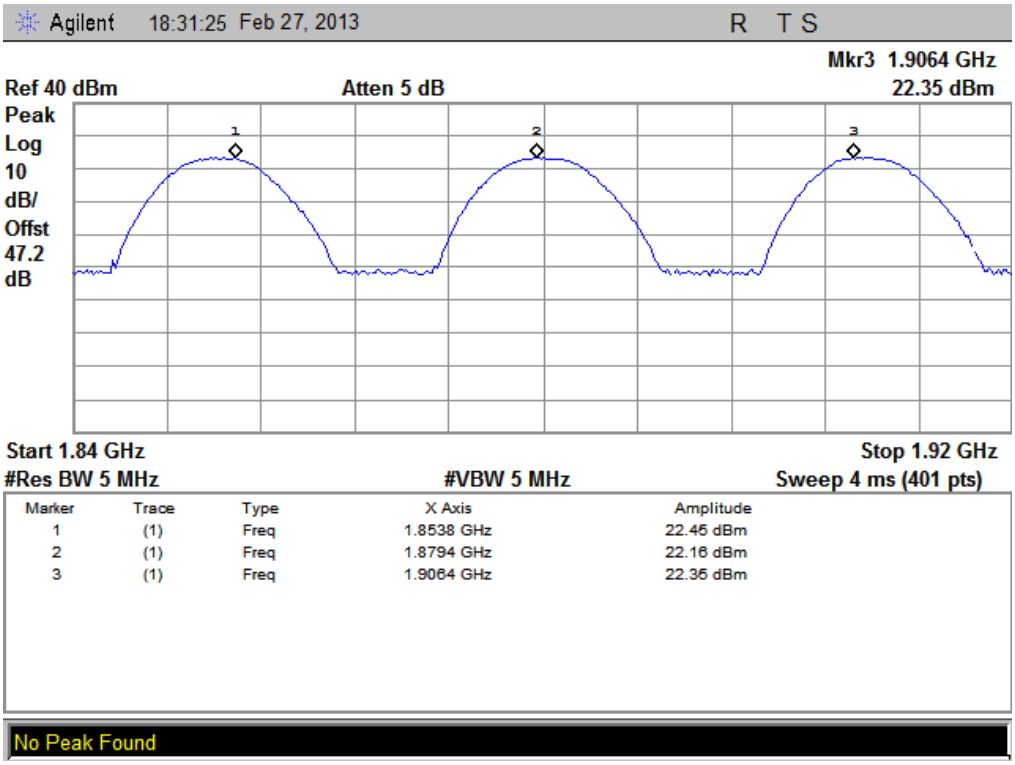
(Plot D: EDGE 1900MHz Channel = 512, 661, 810)



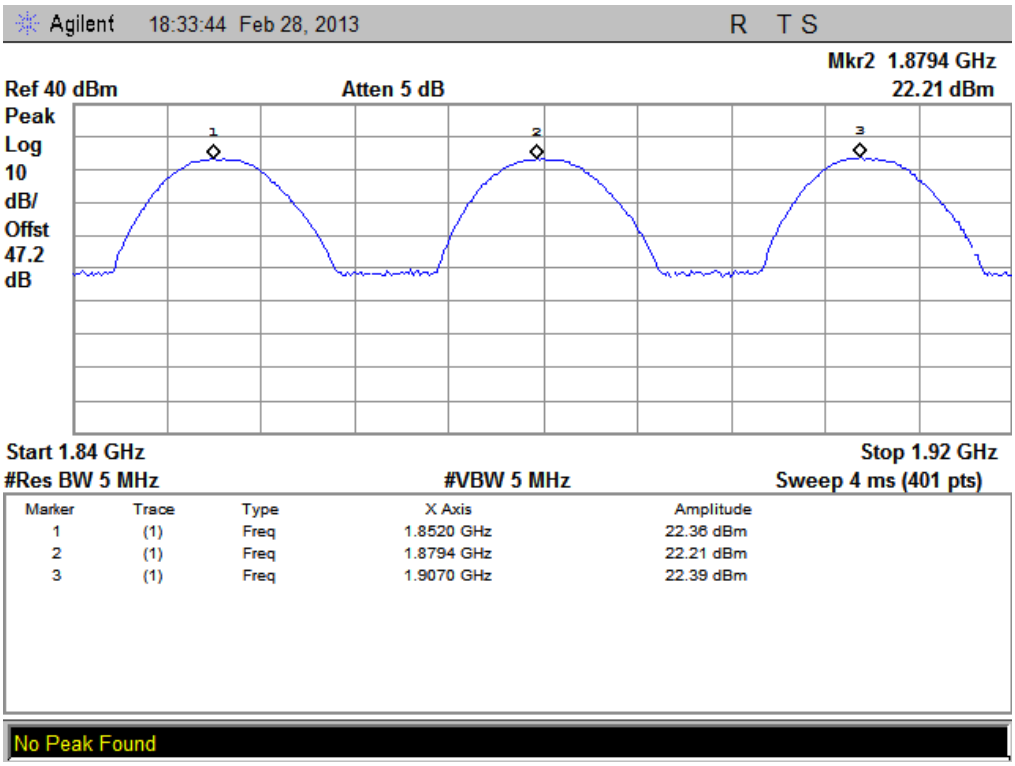
(Plot E: WCDMA 1900 MHz Channel = 9262, 9400, 9538)



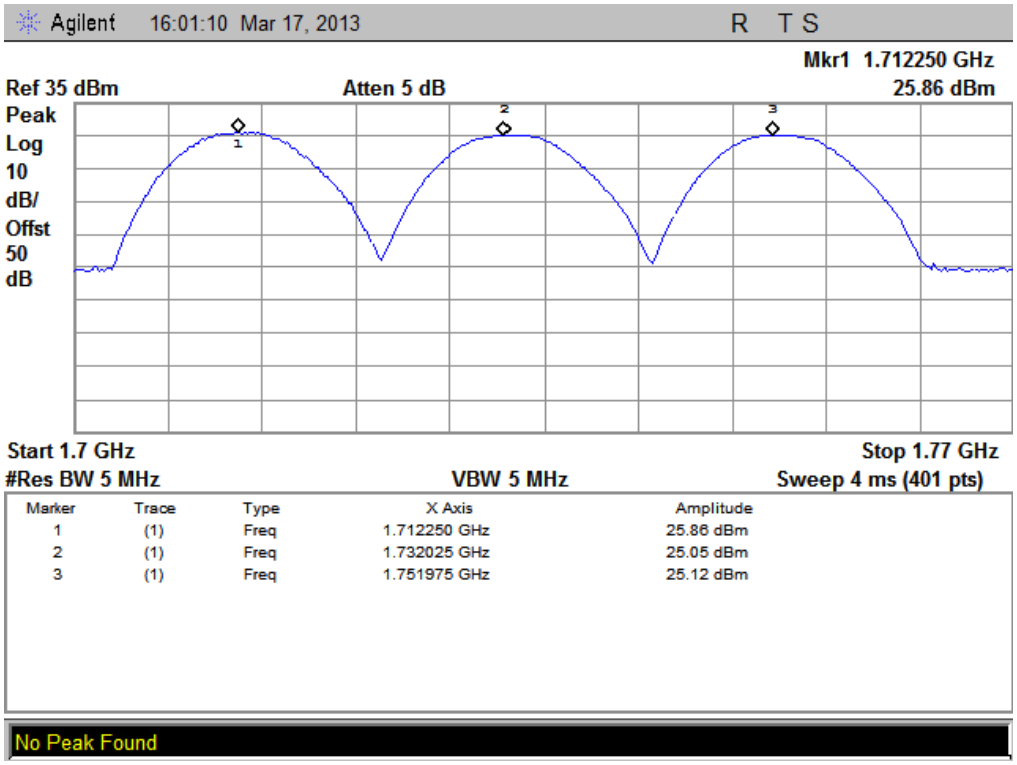
(Plot F: HSDPA1900 MHz Channel = 9262, 9400, 9538)



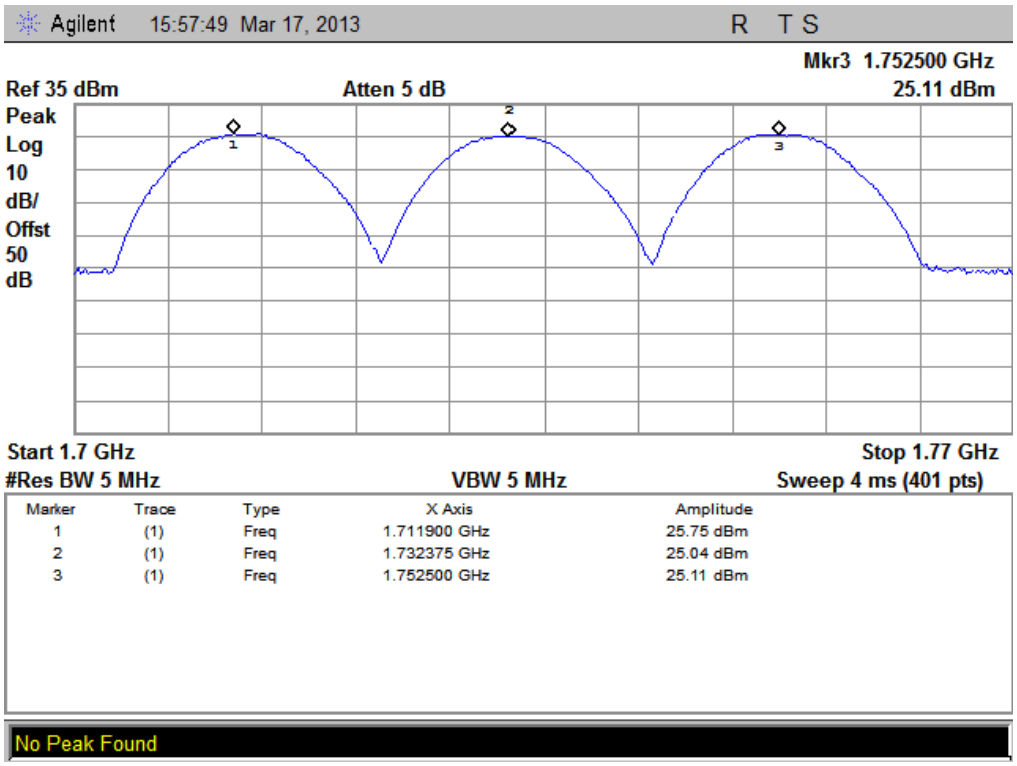
(Plot G: HSUPA1900 MHz Channel = 9262, 9400, 9538)



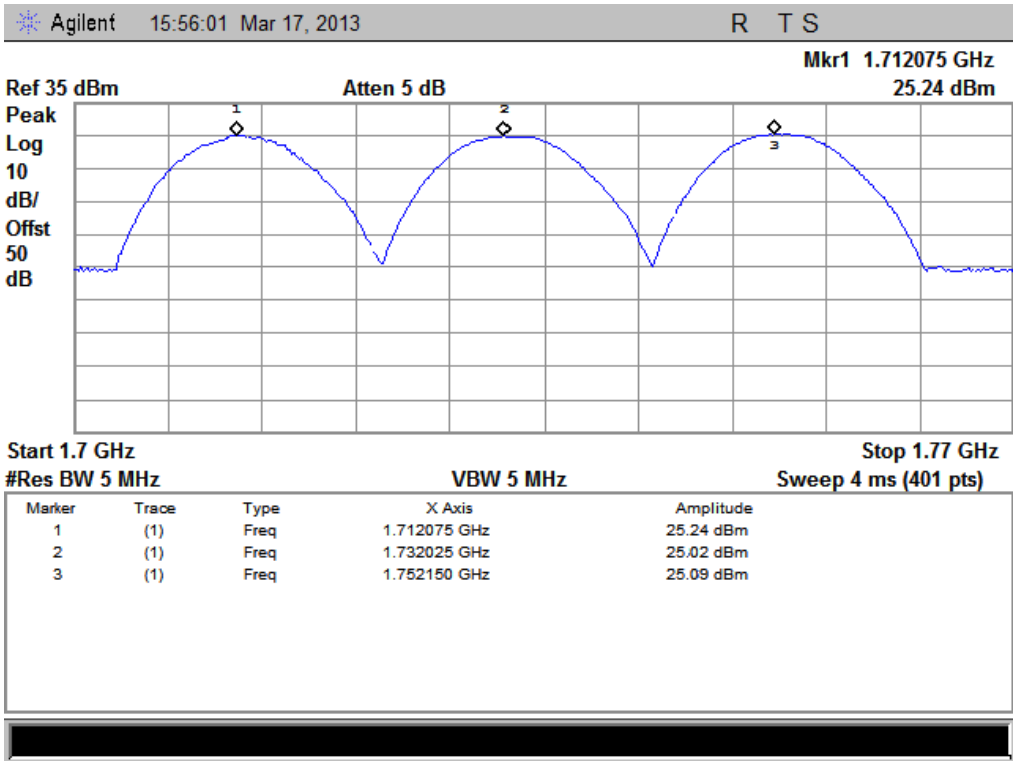
(Plot H: HSPA+1900 MHz Channel = 9262, 9400, 9538)



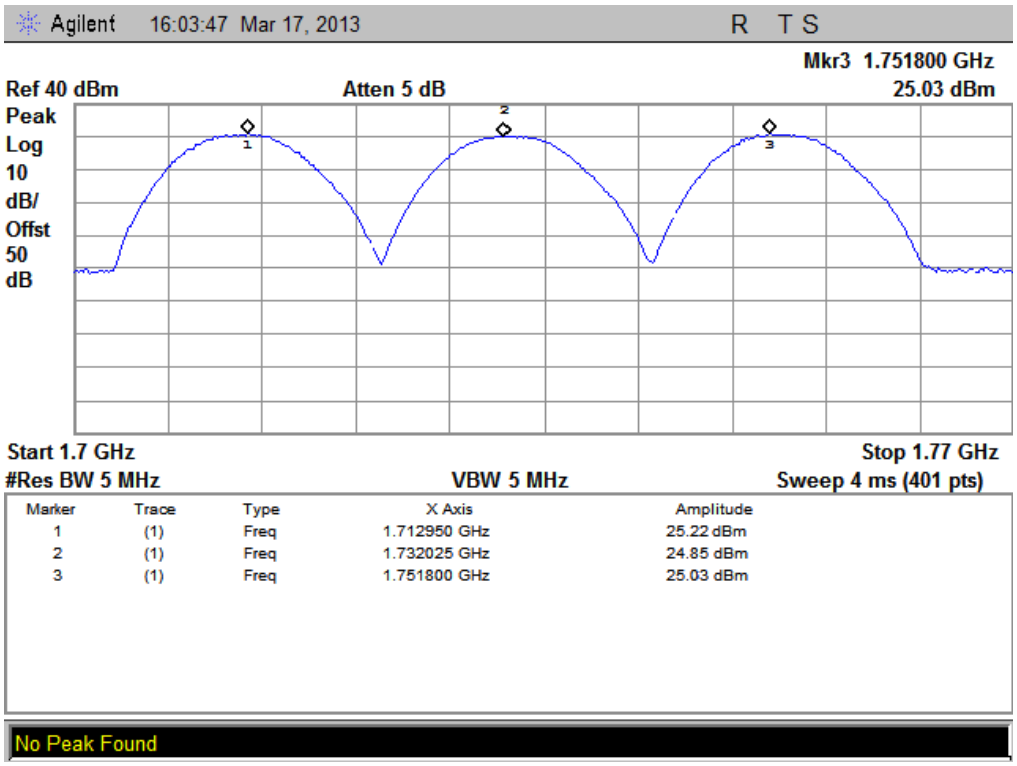
(Plot I: WCDMA 1700MHz Channel = 1312, 1412, 1513)



(Plot J: HSDPA 1700MHz Channel = 1312, 1412, 1513)



(Plot K: HSUPA 1700MHz Channel = 1312, 1412, 1513)



(Plot L: HSPA+ 1700MHz Channel = 1312, 1412, 1513)

2.8 Radiated Out of Band Emissions

2.8.1 Requirement

According to FCC section 22.917(a) and section 24.238(a), 27.53(g) 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	2012.05	2013.05
Spectrum Analyzer	Agilent	E7405A	US44210471	2012.05	2013.05
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2012.05	2013.05
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2012.05	2013.05
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2012.05	2013.05
Substitution Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2012.05	2013.05
Pre-AMPs	lucix	S10M100L3802	S020180L3203	2012.05	2013.05
Notch Filter	COM-MW	ZBSF-C836.5-25-X	NA	2012.05	2013.05
Notch Filter	COM-MW	ZBSF-C1747.5-75-X2	NA	2012.05	2013.05
Notch Filter	COM-MW	ZBSF-C1880-60-X2	NA	2012.05	2013.05

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:

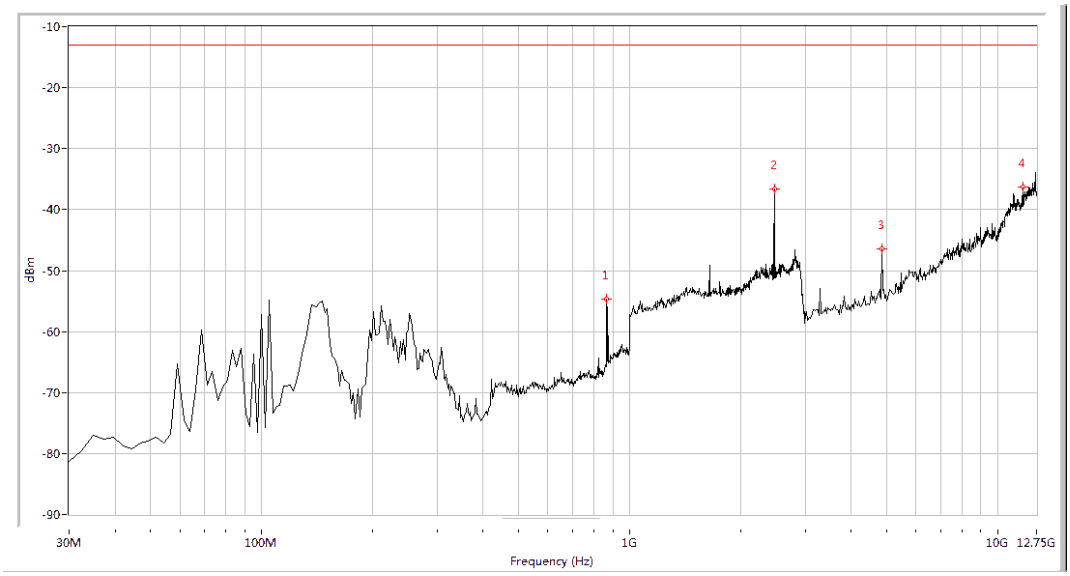
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
GPRS 850MHz	128	824.2	< -25	< -25	Plot A.1/A.2	-13	PASS
	190	836.6	< -25	< -25	Plot A.3/A.4		PASS
	251	848.8	< -25	< -25	Plot A.5/A.6		PASS
GPRS 1900MHz	512	1850.2	< -25	< -25	Plot B.1/B.2	-13	PASS
	661	1880.0	< -25	< -25	Plot B.3/B.4		PASS

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
	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 1900MHz	9262	1852.4	< -25	< -25	Plot E.1/E.2	-13	PASS
	9400	1880	< -25	< -25	Plot E.3/E.4		PASS
	9538	1907.6	< -25	< -25	Plot E.5/E.6		PASS
HSDPA 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
HSUPA 1900MHz	9262	1852.4	< -25	< -25	Plot G.1/G.2	-13	PASS
	9400	1880	< -25	< -25	Plot G.3/G.4		PASS
	9538	1907.6	< -25	< -25	Plot G.5/G.6		PASS
HSPA+ 1900MHz	9662	1852.4	< -25	< -25	Plot H.1/H.2	-13	PASS
	9800	1880	< -25	< -25	Plot H.3/H.4		PASS
	9938	1907.6	< -25	< -25	Plot H.5/H.6		PASS
WCDMA 1700MHz	1312	1712.4	< -25	< -25	Plot I.1/I.2	-13	PASS
	1412	1732.4	< -25	< -25	Plot I.3/I.4		PASS
	1513	1752.6	< -25	< -25	Plot I.5/I.6		PASS
HSDPA 1700MHz	1312	1712.4	< -25	< -25	Plot J.1/J.2	-13	PASS
	1412	1732.4	< -25	< -25	Plot J.3/J.4		PASS
	1513	1752.6	< -25	< -25	Plot J.5/J.6		PASS
HSUPA 1700MHz	1312	1712.4	< -25	< -25	Plot K.1/K.2	-13	PASS
	1412	1732.4	< -25	< -25	Plot K.3/K.4		PASS
	1513	1752.6	< -25	< -25	Plot K.5/K.6		PASS
HSPA+ 1700MHz	1312	1712.4	< -25	< -25	Plot L.1/L.2	-13	PASS
	1412	1732.4	< -25	< -25	Plot L.3/L.4		PASS
	1513	1752.6	< -25	< -25	Plot L.5/L.6		PASS

2. Test Plots for the Whole Measurement Frequency Range:

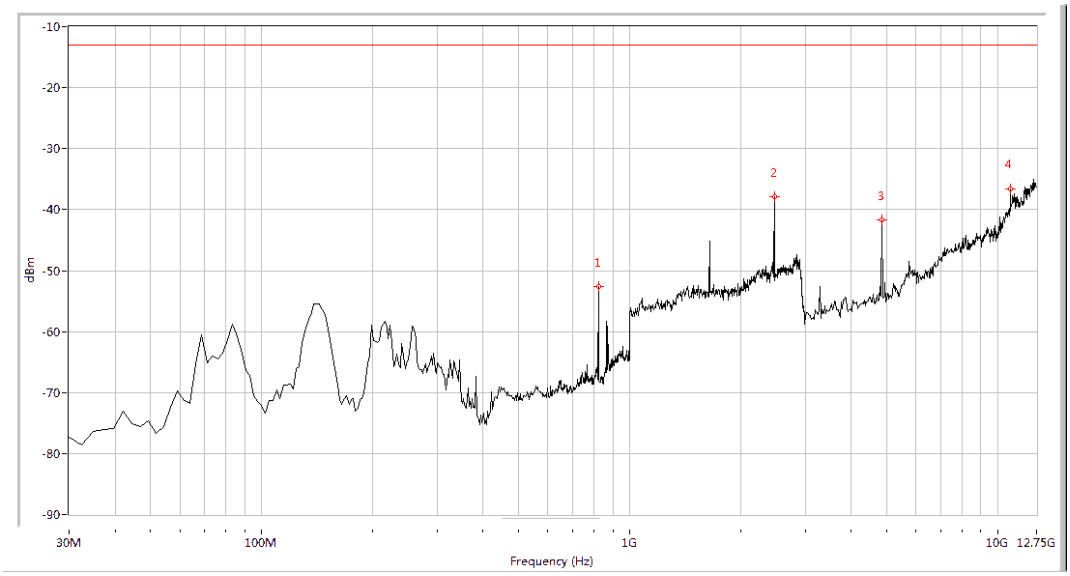
Note1: the power of the EUT transmitting frequency should be ignored.

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.



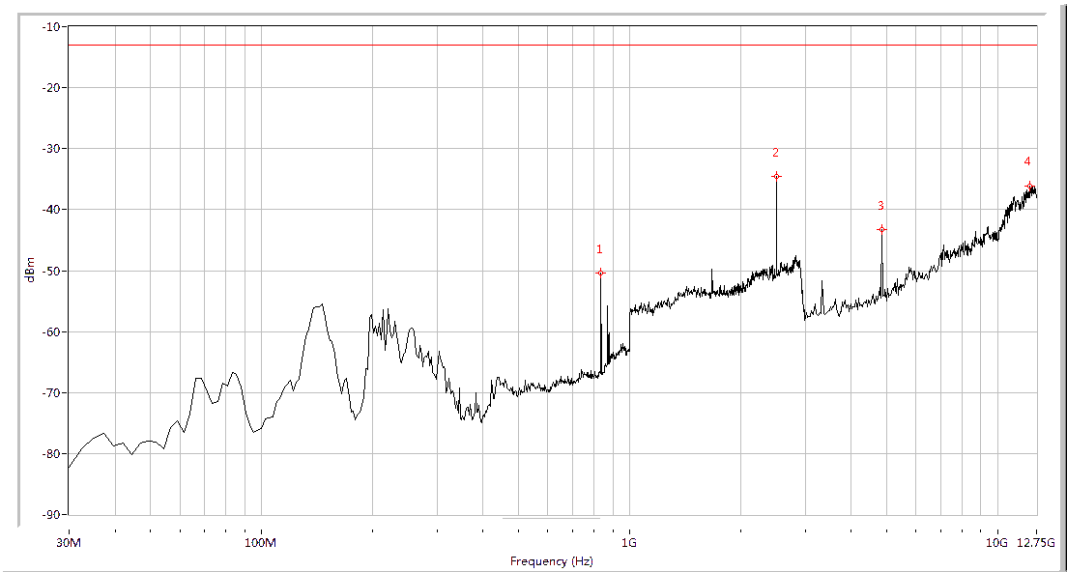
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
866.958	-54.68	-13.0	41.7	25.8	Horizontal	PASS
2471.322	-36.54	-13.0	23.5	158.3	Horizontal	PASS
4847.880	-46.41	-13.0	33.4	14.6	Horizontal	PASS
11680.175	-36.34	-13.0	23.3	29.8	Horizontal	PASS

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



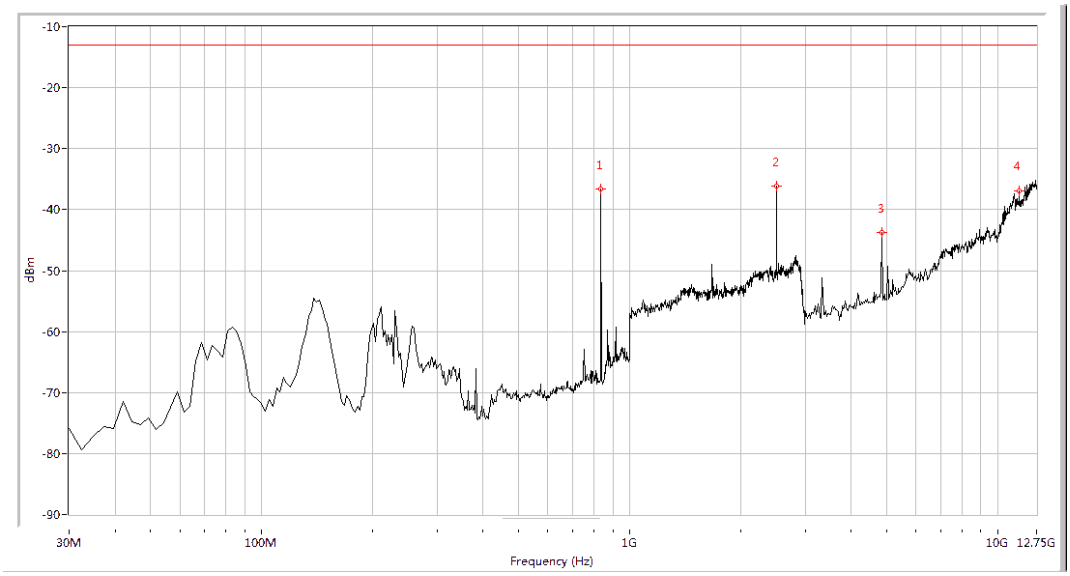
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
823.416	-52.62	-13.0	39.6	54.2	Vertical	PASS
2471.322	-37.92	-13.0	24.9	90.8	Vertical	PASS
4847.880	-41.70	-13.0	28.7	7.4	Vertical	PASS
10829.177	-36.59	-13.0	23.6	5.1	Vertical	PASS

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



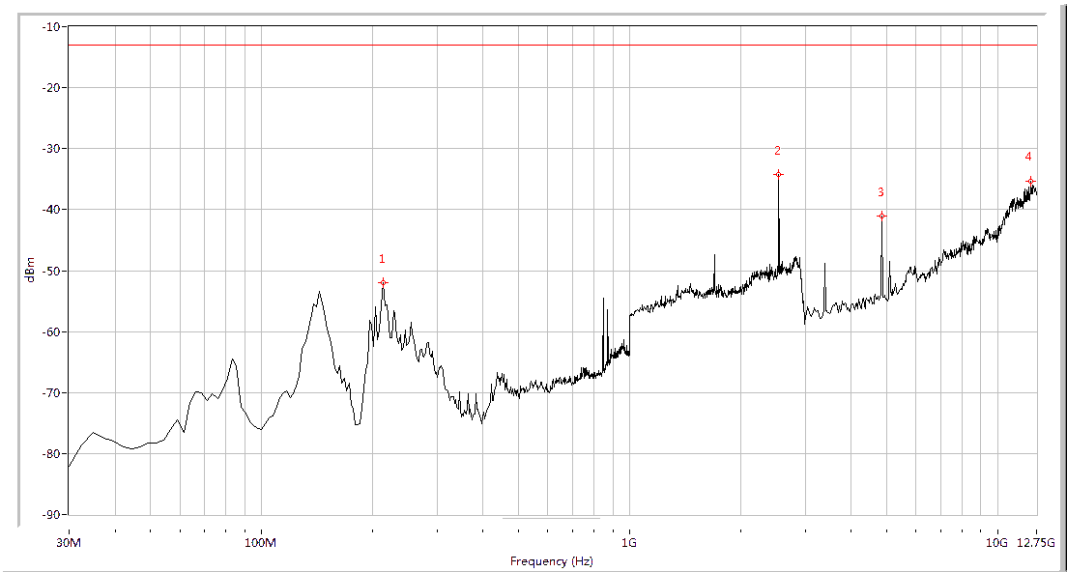
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
835.511	-50.43	-13.0	37.4	348.8	Horizontal	PASS
2506.234	-34.52	-13.0	21.5	248.2	Horizontal	PASS
4847.880	-43.30	-13.0	30.3	324.0	Horizontal	PASS
12190.773	-36.16	-13.0	23.2	14.2	Horizontal	PASS

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



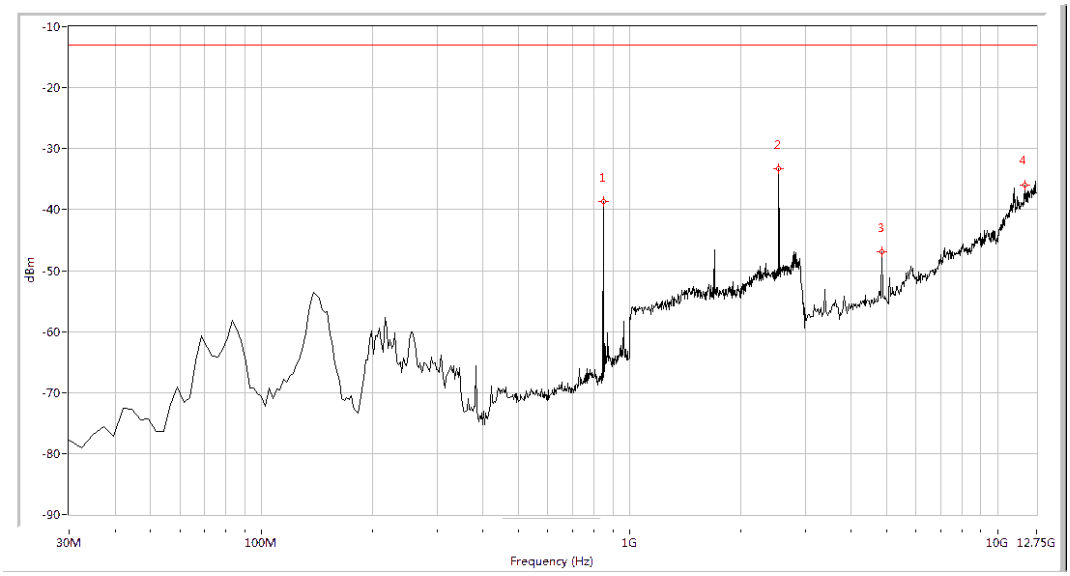
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
835.511	-36.65	-13.0	23.6	14.5	Vertical	PASS
2506.234	-36.10	-13.0	23.1	20.7	Vertical	PASS
4847.880	-43.70	-13.0	30.7	147.2	Vertical	PASS
11437.032	-36.99	-13.0	24.0	240.2	Vertical	PASS

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



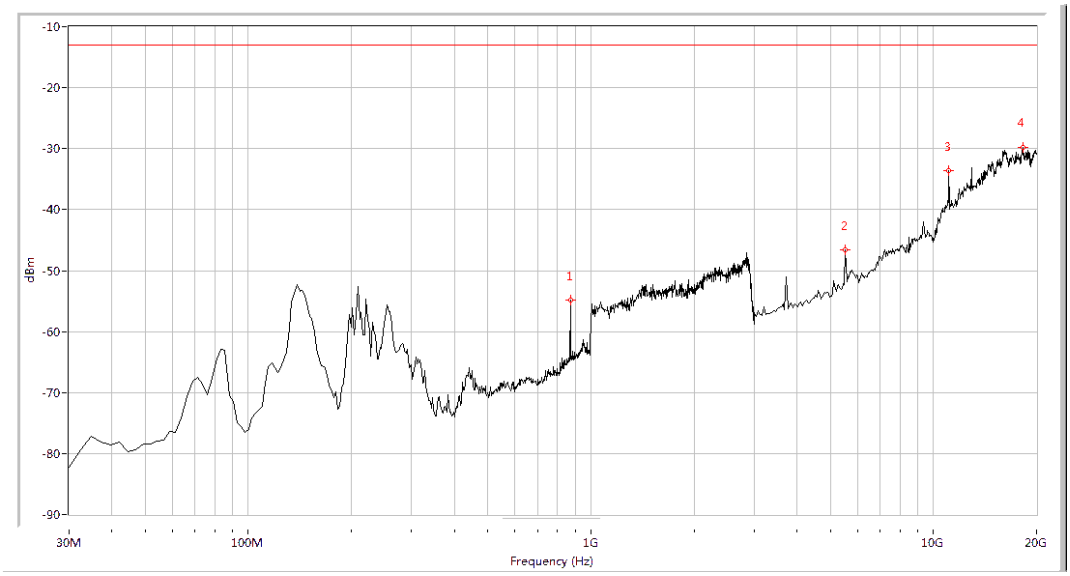
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
213.840	-51.98	-13.0	39.0	51.0	Horizontal	PASS
2541.147	-34.25	-13.0	21.3	53.2	Horizontal	PASS
4847.880	-41.05	-13.0	28.0	41.8	Horizontal	PASS
12288.030	-35.36	-13.0	22.4	159.8	Horizontal	PASS

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



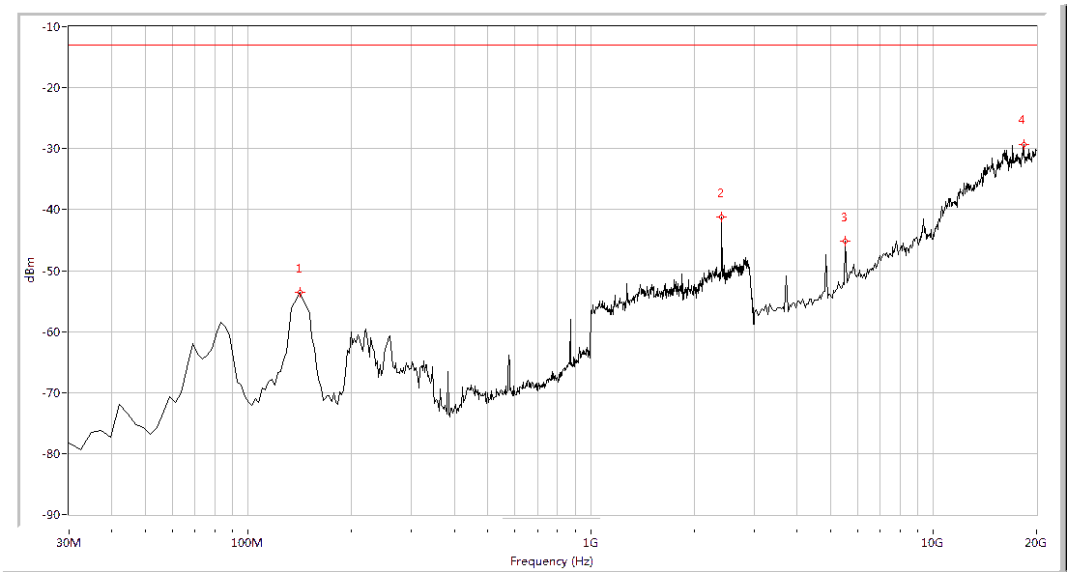
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
847.606	-38.72	-13.0	25.7	195.0	Vertical	PASS
2541.147	-33.35	-13.0	20.4	254.2	Vertical	PASS
4847.880	-46.89	-13.0	33.9	59.2	Vertical	PASS
11874.688	-36.02	-13.0	23.0	90.5	Vertical	PASS

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



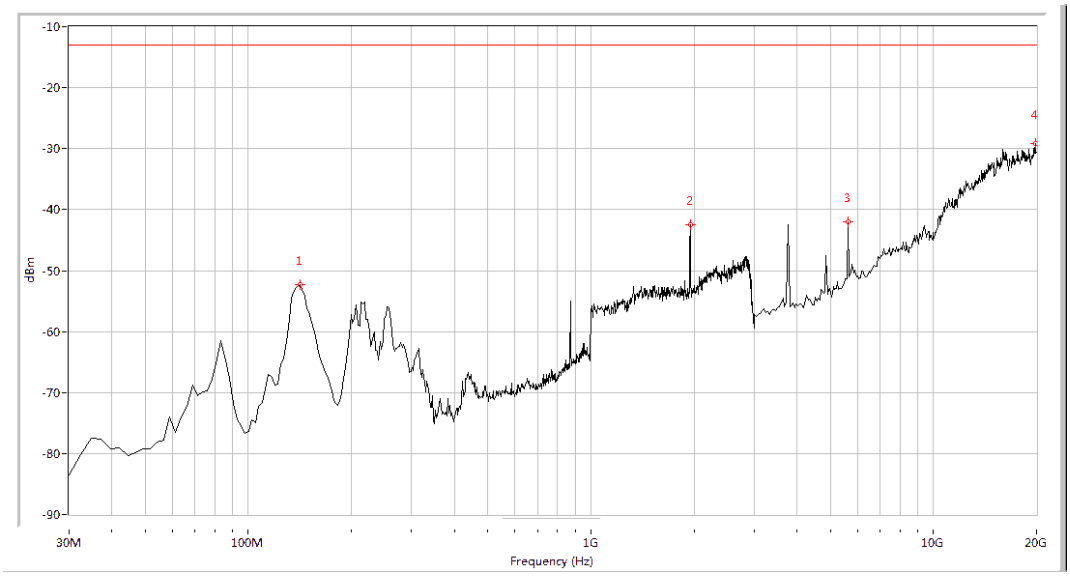
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-54.87	-13.0	41.9	99.5	Horizontal	PASS
5543.641	-46.64	-13.0	33.6	104.4	Horizontal	PASS
11097.257	-33.53	-13.0	20.5	92.1	Horizontal	PASS
18219.451	-29.85	-13.0	16.9	81.4	Horizontal	PASS

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



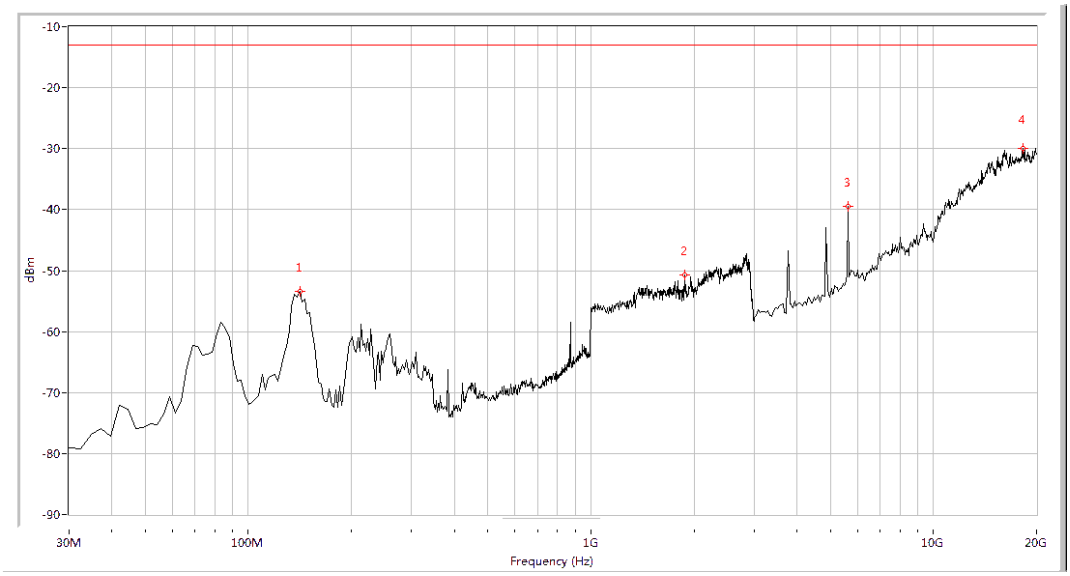
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
141.272	-53.55	-13.0	40.6	49.8	Vertical	PASS
2411.471	-41.25	-13.0	28.3	145.8	Vertical	PASS
5543.641	-45.23	-13.0	32.2	180.5	Vertical	PASS
18346.633	-29.37	-13.0	16.4	95.8	Vertical	PASS

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



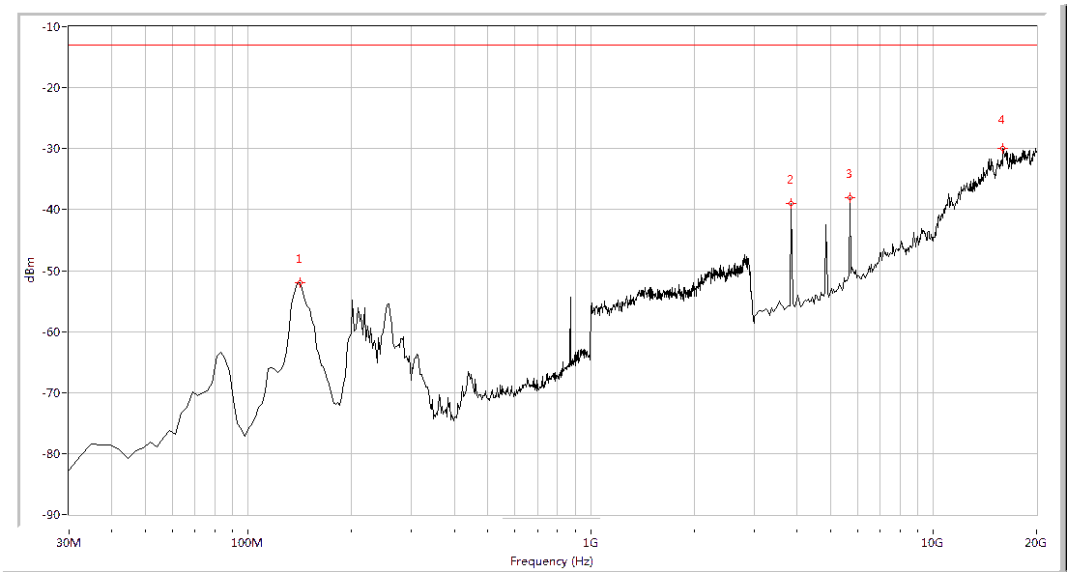
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
141.272	-52.23	-13.0	39.2	98.5	Horizontal	PASS
1952.618	-42.52	-13.0	29.5	105.8	Horizontal	PASS
5628.429	-41.97	-13.0	29.0	58.1	Horizontal	PASS
19830.424	-29.16	-13.0	16.2	85.2	Horizontal	PASS

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



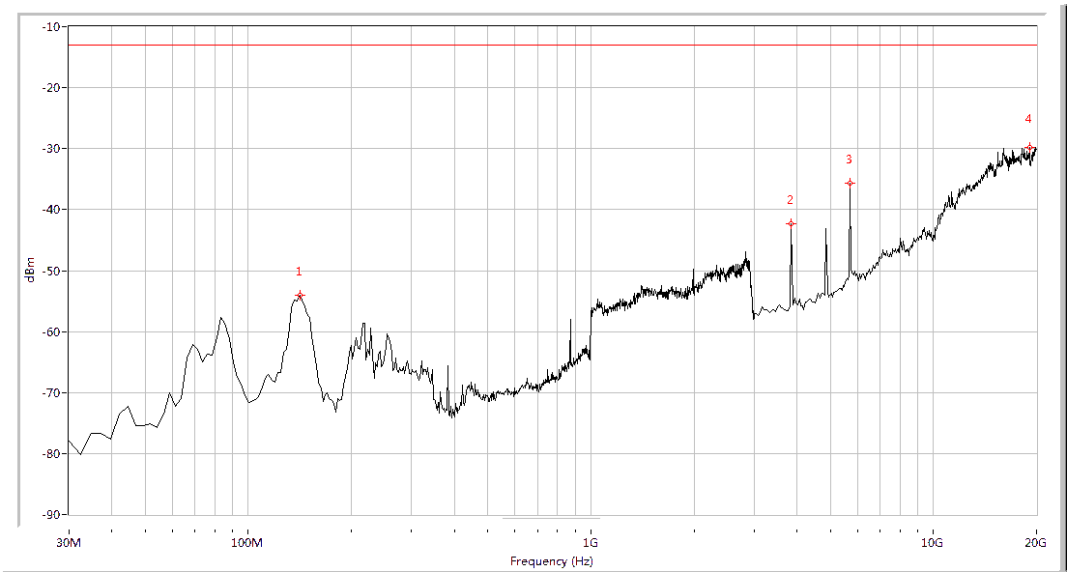
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
141.272	-53.45	-13.0	40.5	111.8	Vertical	PASS
1877.805	-50.77	-13.0	37.8	1.5	Vertical	PASS
5628.429	-39.39	-13.0	26.4	2.9	Vertical	PASS
18219.451	-29.96	-13.0	17.0	58.9	Vertical	PASS

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



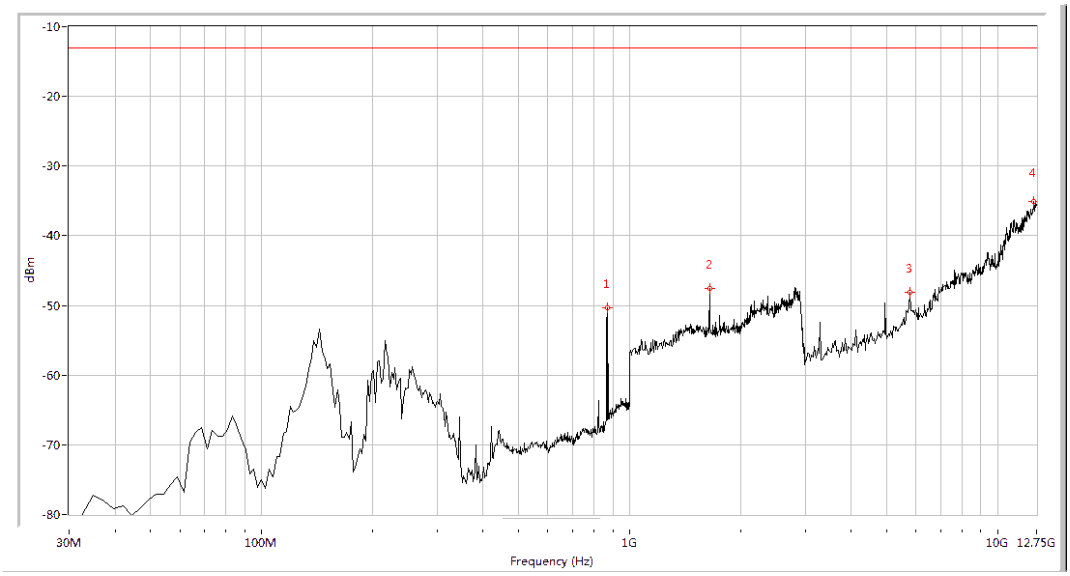
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
141.272	-51.99	-13.0	39.0	95.5	Horizontal	PASS
3847.880	-38.95	-13.0	26.0	124.4	Horizontal	PASS
5713.217	-38.11	-13.0	25.1	82.5	Horizontal	PASS
15930.175	-29.98	-13.0	17.0	42.8	Horizontal	PASS

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



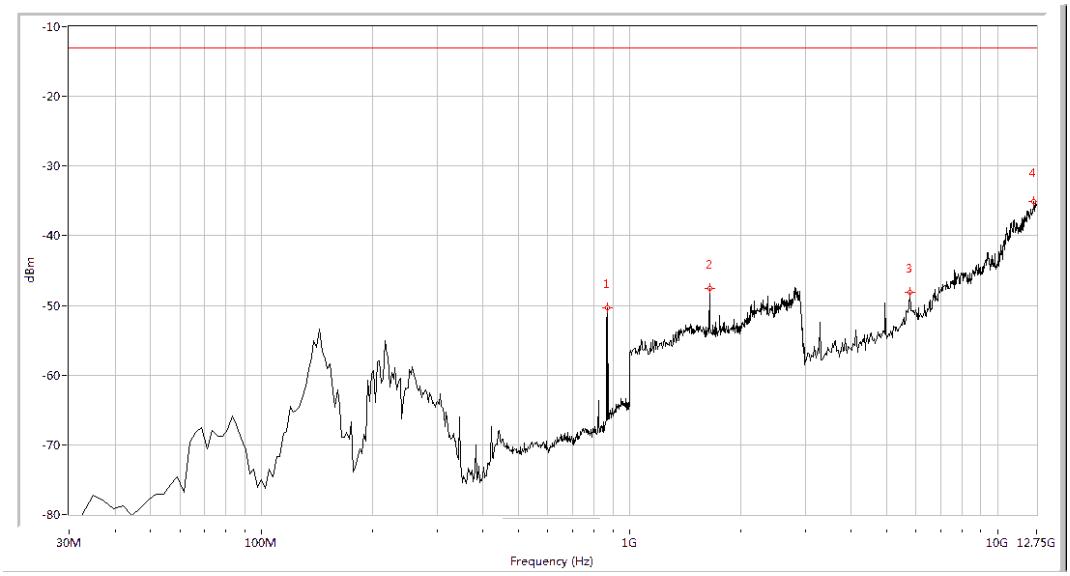
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
141.272	-54.07	-13.0	41.1	259.8	Vertical	PASS
3847.880	-42.29	-13.0	29.3	241.0	Vertical	PASS
5713.217	-35.66	-13.0	22.7	321.5	Vertical	PASS
19109.726	-29.75	-13.0	16.8	98.8	Vertical	PASS

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



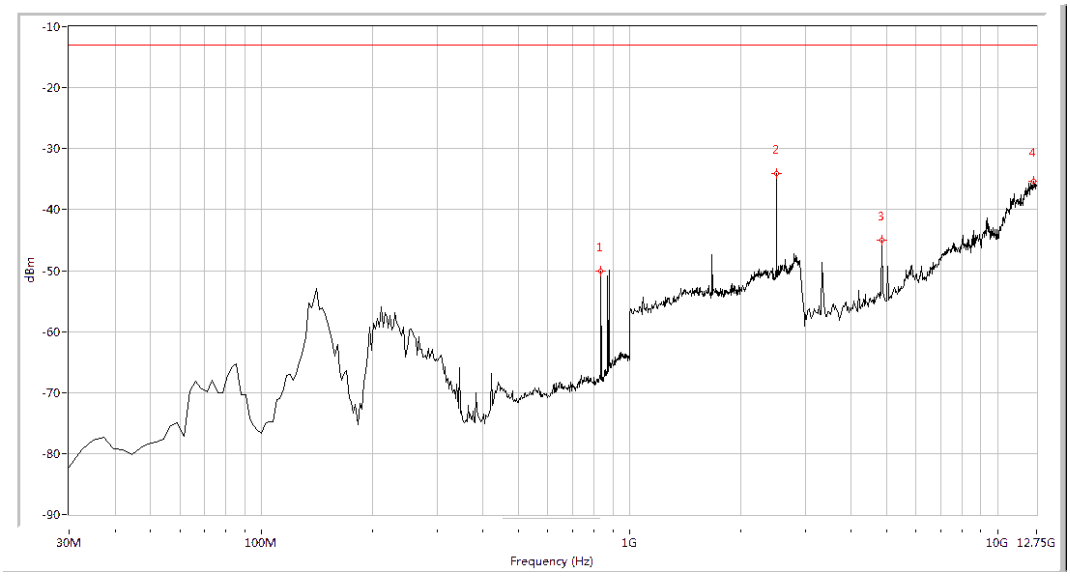
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-50.27	-13.0	37.3	28.7	Horizontal	PASS
1648.379	-47.56	-13.0	34.6	95.8	Horizontal	PASS
5771.820	-48.13	-13.0	35.1	82.5	Horizontal	PASS
12555.486	-35.14	-13.0	22.1	150.2	Horizontal	PASS

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



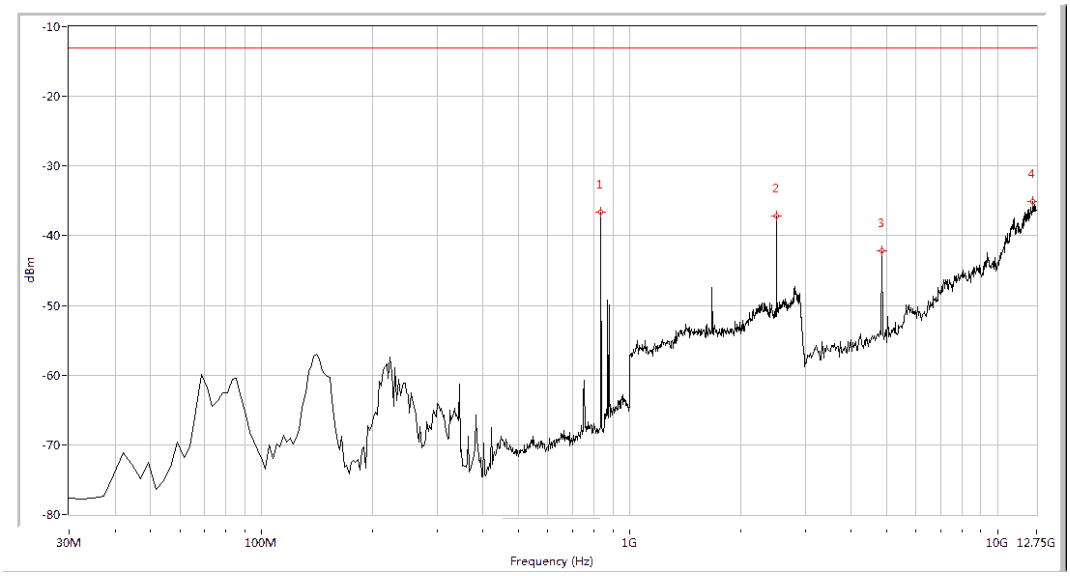
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-50.27	-13.0	37.3	82.4	Vertical	PASS
1648.379	-47.56	-13.0	34.6	90.5	Vertical	PASS
5771.820	-48.13	-13.0	35.1	81.7	Vertical	PASS
12555.486	-35.14	-13.0	22.1	258.9	Vertical	PASS

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



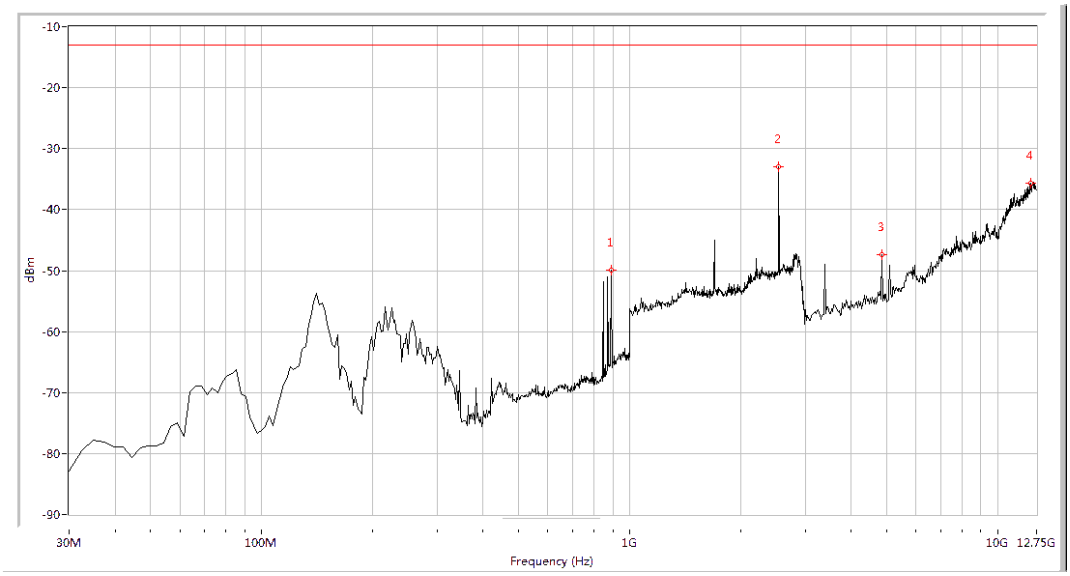
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
835.511	-50.00	-13.0	37.0	92.8	Horizontal	PASS
2506.234	-34.07	-13.0	21.1	190.5	Horizontal	PASS
4847.880	-44.95	-13.0	32.0	359.8	Horizontal	PASS
12506.858	-35.31	-13.0	22.3	357.4	Horizontal	PASS

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



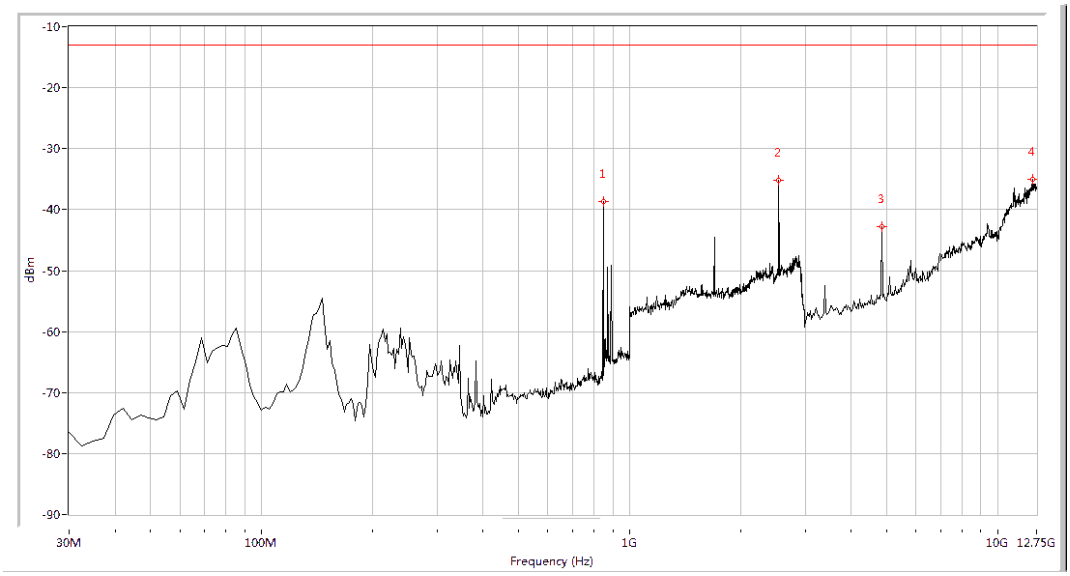
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
835.511	-36.64	-13.0	23.6	5.9	Vertical	PASS
2506.234	-37.13	-13.0	24.1	28.4	Vertical	PASS
4847.880	-42.16	-13.0	29.2	159.8	Vertical	PASS
12482.544	-35.06	-13.0	22.1	150.4	Vertical	PASS

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



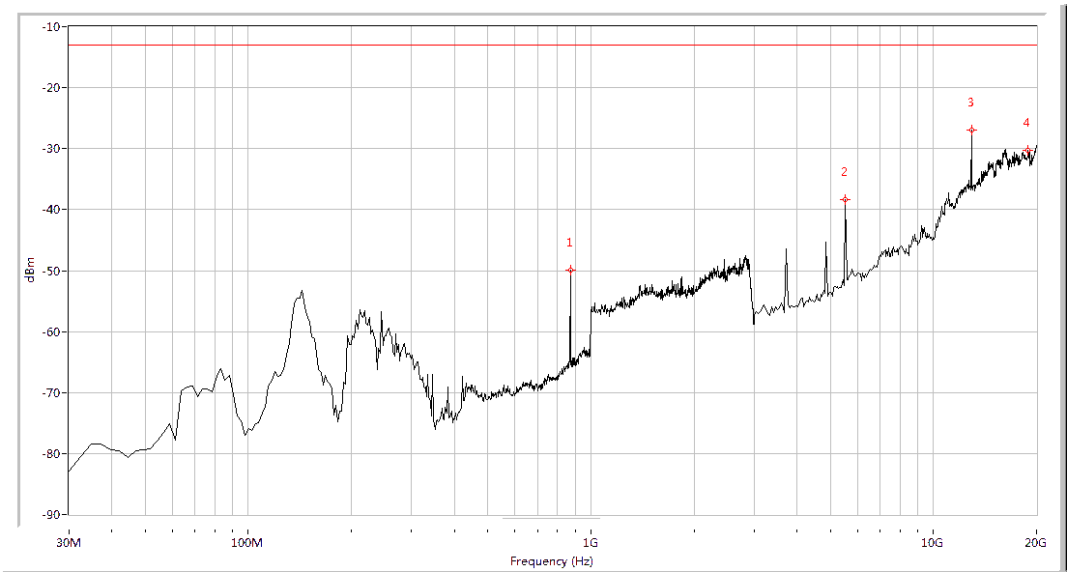
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
891.147	-49.92	-13.0	36.9	198.5	Horizontal	PASS
2541.147	-32.92	-13.0	19.9	91.0	Horizontal	PASS
4847.880	-47.35	-13.0	34.4	82.5	Horizontal	PASS
12263.716	-35.60	-13.0	22.6	59.8	Horizontal	PASS

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



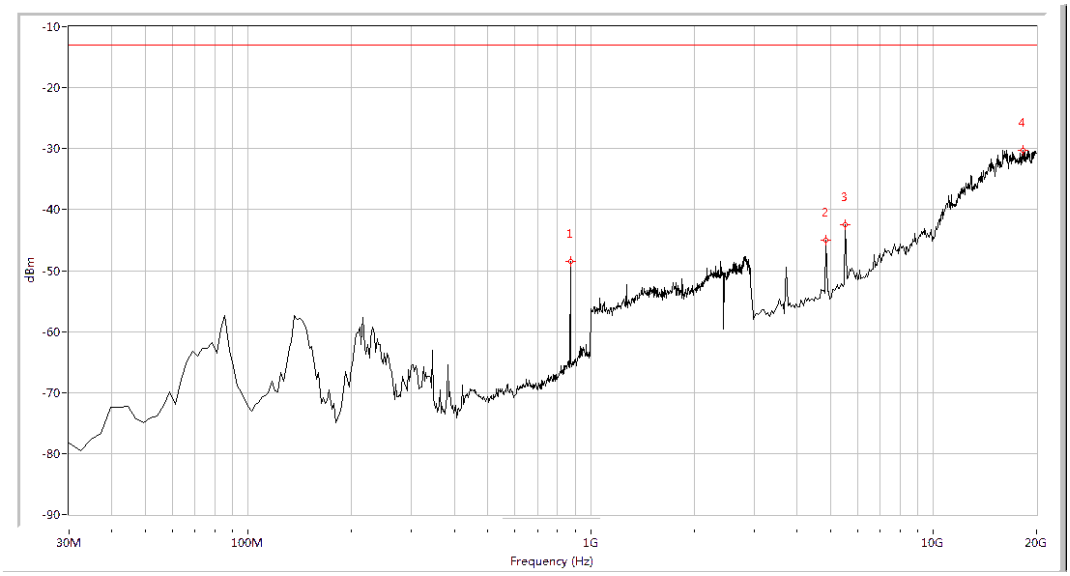
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
847.606	-38.67	-13.0	25.7	158.5	Vertical	PASS
2541.147	-35.14	-13.0	22.1	259.5	Vertical	PASS
4847.880	-42.74	-13.0	29.7	124.7	Vertical	PASS
12409.601	-34.99	-13.0	22.0	293.5	Vertical	PASS

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



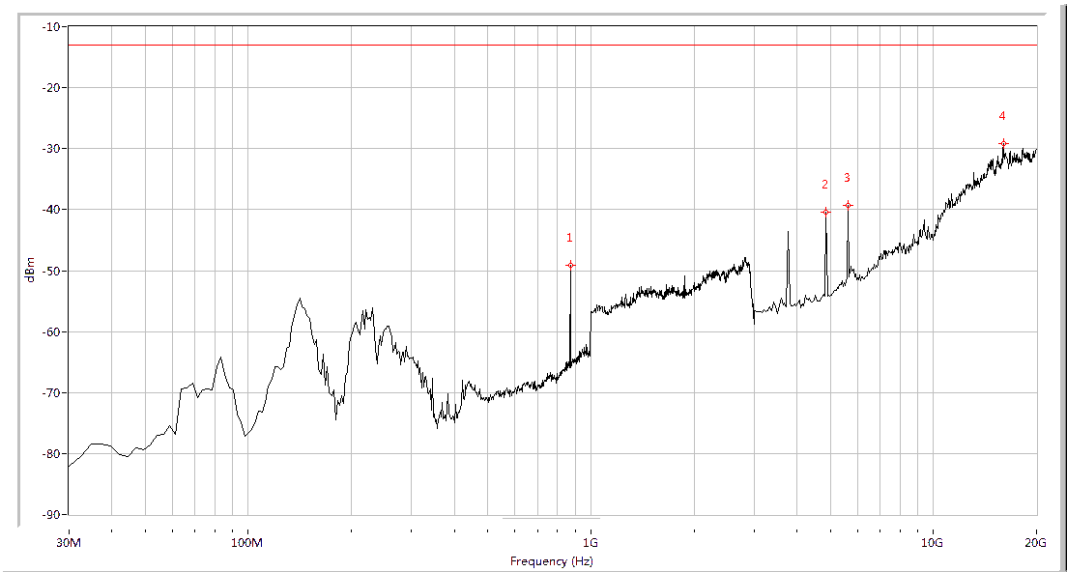
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-49.85	-13.0	36.8	91.4	Horizontal	PASS
5543.641	-38.38	-13.0	25.4	258.3	Horizontal	PASS
12920.200	-26.91	-13.0	13.9	354.0	Horizontal	PASS
18855.362	-30.33	-13.0	17.3	324.7	Horizontal	PASS

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



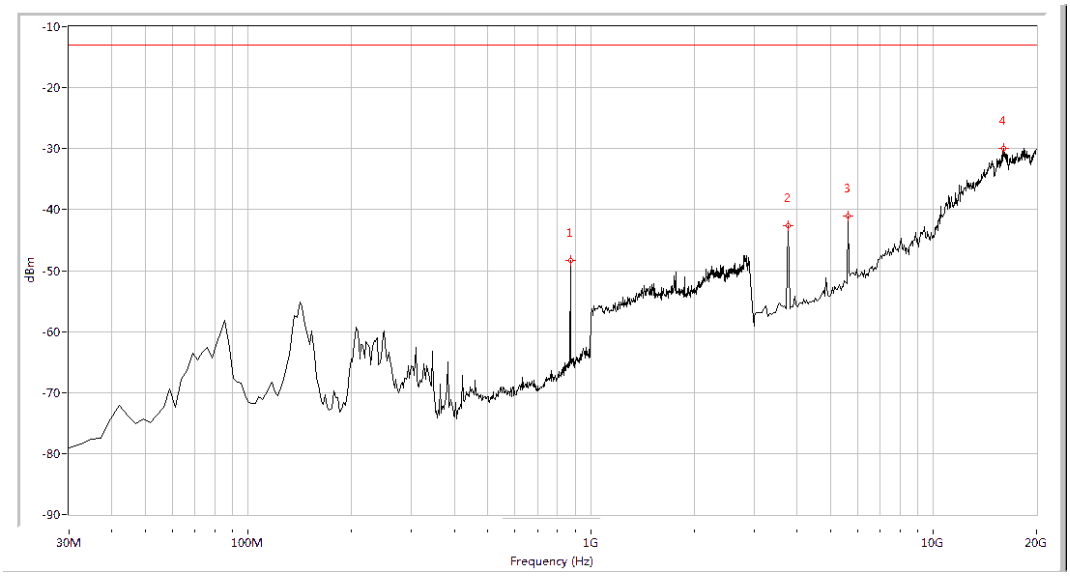
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-48.56	-13.0	35.6	99.1	Vertical	PASS
4865.337	-44.94	-13.0	31.9	0.0	Vertical	PASS
5543.641	-42.50	-13.0	29.5	52.7	Vertical	PASS
18219.451	-30.33	-13.0	17.3	354.2	Vertical	PASS

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



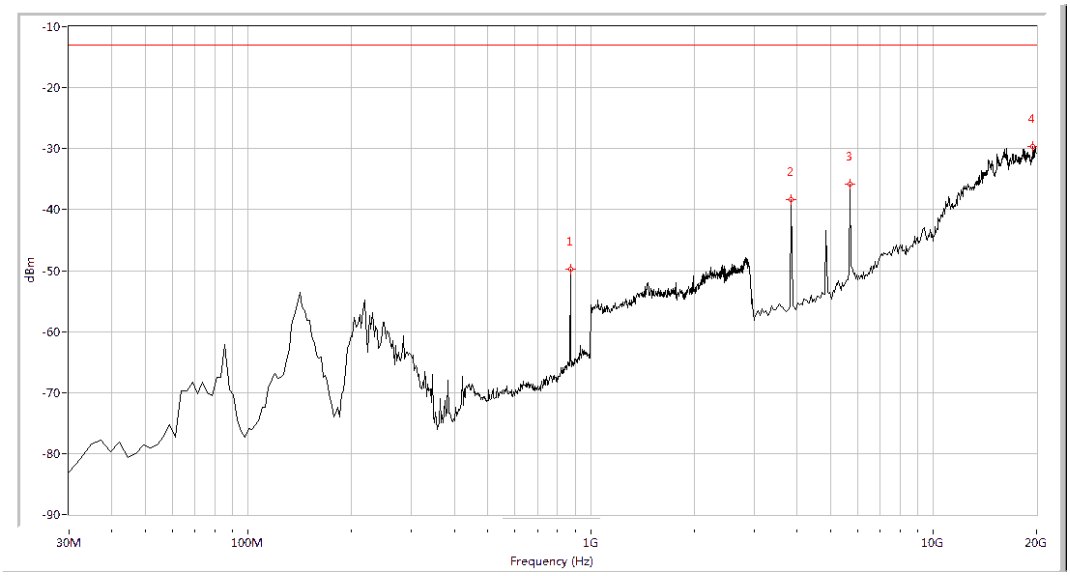
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-49.13	-13.0	36.1	95.7	Horizontal	PASS
4865.337	-40.47	-13.0	27.5	47.1	Horizontal	PASS
5628.429	-39.28	-13.0	26.3	50.8	Horizontal	PASS
16014.963	-29.23	-13.0	16.2	65.7	Horizontal	PASS

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



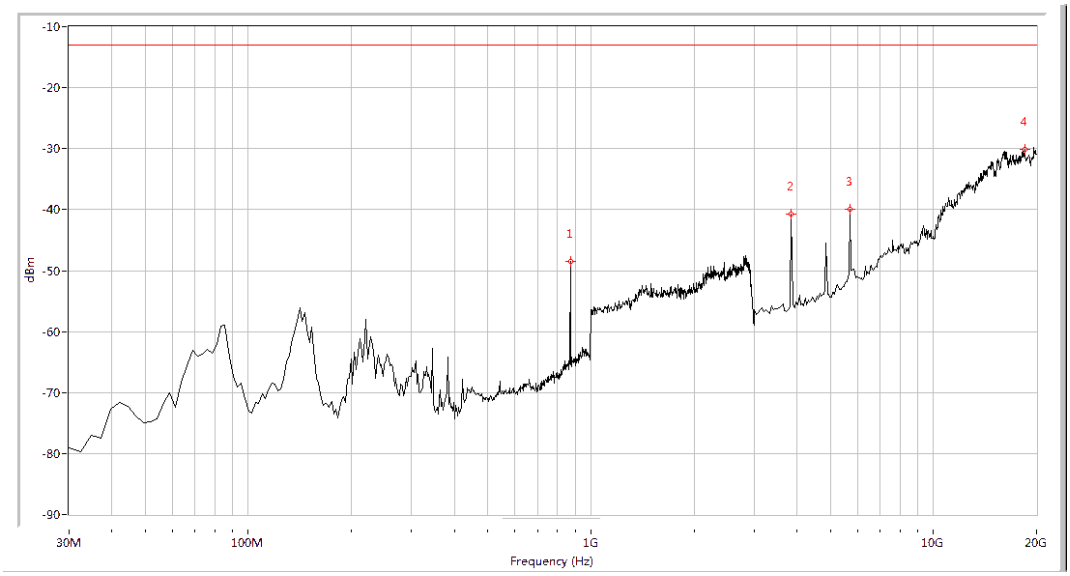
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-48.34	-13.0	35.3	138.5	Vertical	PASS
3763.092	-42.68	-13.0	29.7	149.0	Vertical	PASS
5628.429	-41.04	-13.0	28.0	82.1	Vertical	PASS
16014.963	-30.00	-13.0	17.0	203.5	Vertical	PASS

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



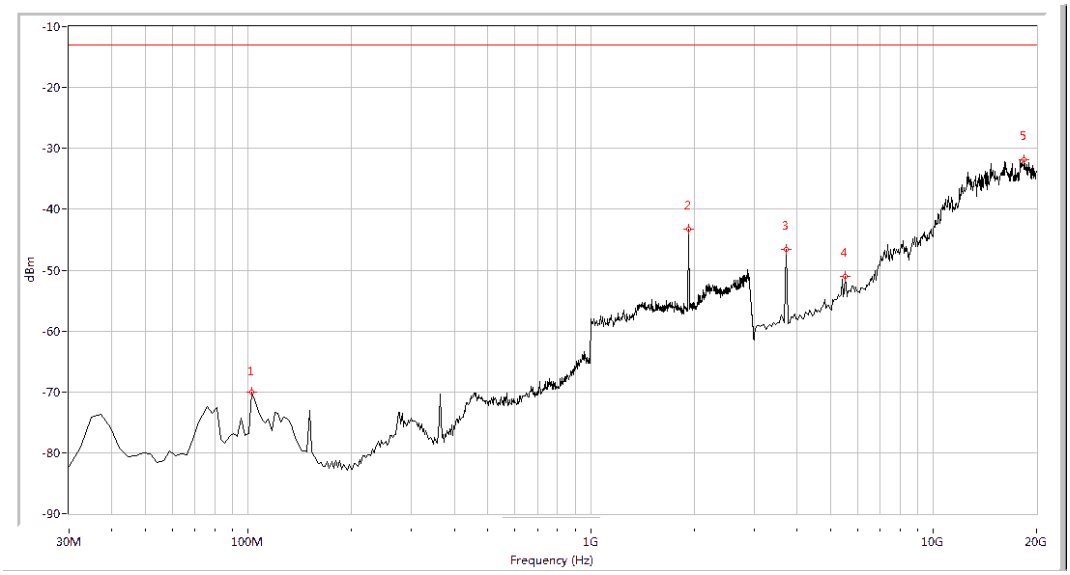
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-49.74	-13.0	36.7	57.9	Horizontal	PASS
3847.880	-38.42	-13.0	25.4	82.1	Horizontal	PASS
5713.217	-35.78	-13.0	22.8	351.0	Horizontal	PASS
19533.666	-29.60	-13.0	16.6	32.7	Horizontal	PASS

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



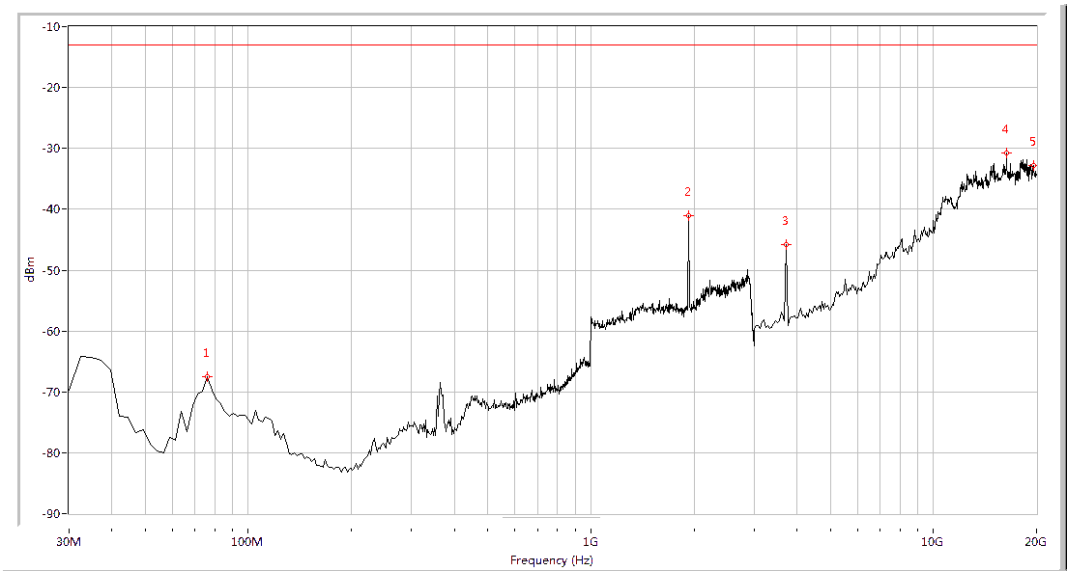
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
871.796	-48.45	-13.0	35.4	290.4	Vertical	PASS
3847.880	-40.69	-13.0	27.7	241.0	Vertical	PASS
5713.217	-39.88	-13.0	26.9	95.1	Vertical	PASS
18473.815	-30.13	-13.0	17.1	168.4	Vertical	PASS

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



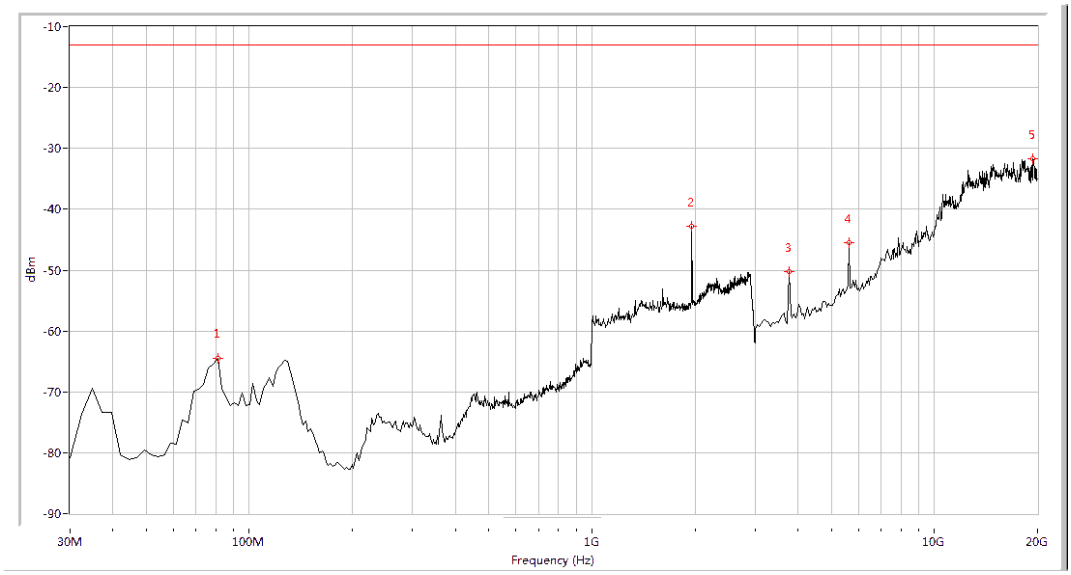
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
102.569	-69.99	-13.0	57.0	42.8	Horizontal	PASS
1932.668	-43.27	-13.0	30.3	6.2	Horizontal	PASS
3720.698	-46.67	-13.0	33.7	360.0	Horizontal	PASS
5543.641	-50.95	-13.0	38.0	47.3	Horizontal	PASS
18431.421	-31.84	-13.0	18.8	97.5	Horizontal	PASS

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



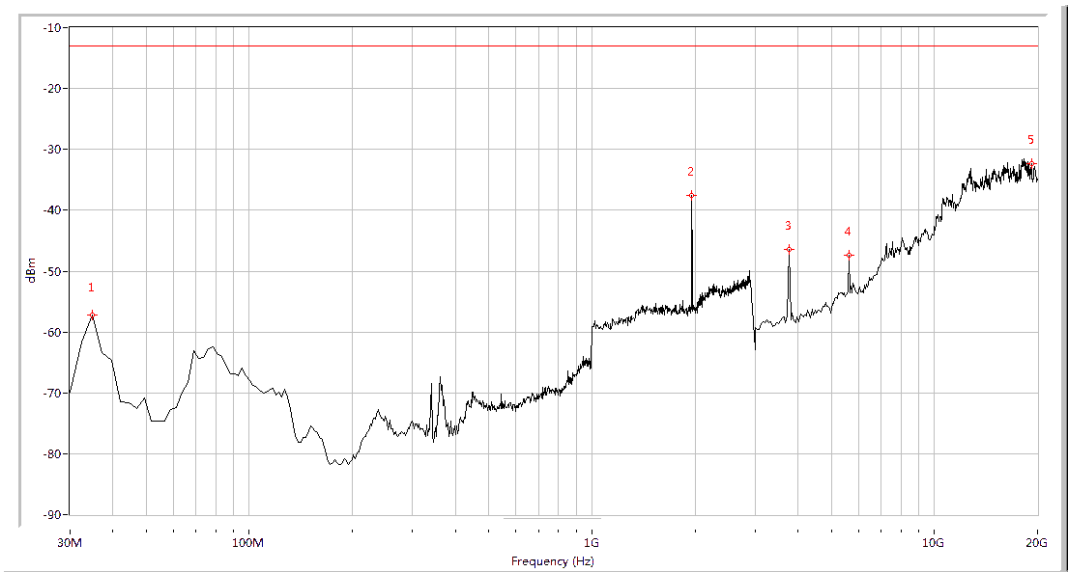
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
75.960	-67.52	-13.0	54.5	351.5	Vertical	PASS
1927.681	-40.97	-13.0	28.0	299.7	Vertical	PASS
3720.698	-45.83	-13.0	32.8	263.7	Vertical	PASS
16354.115	-30.79	-13.0	17.8	358.7	Vertical	PASS
19576.060	-32.85	-13.0	19.9	75.2	Vertical	PASS

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



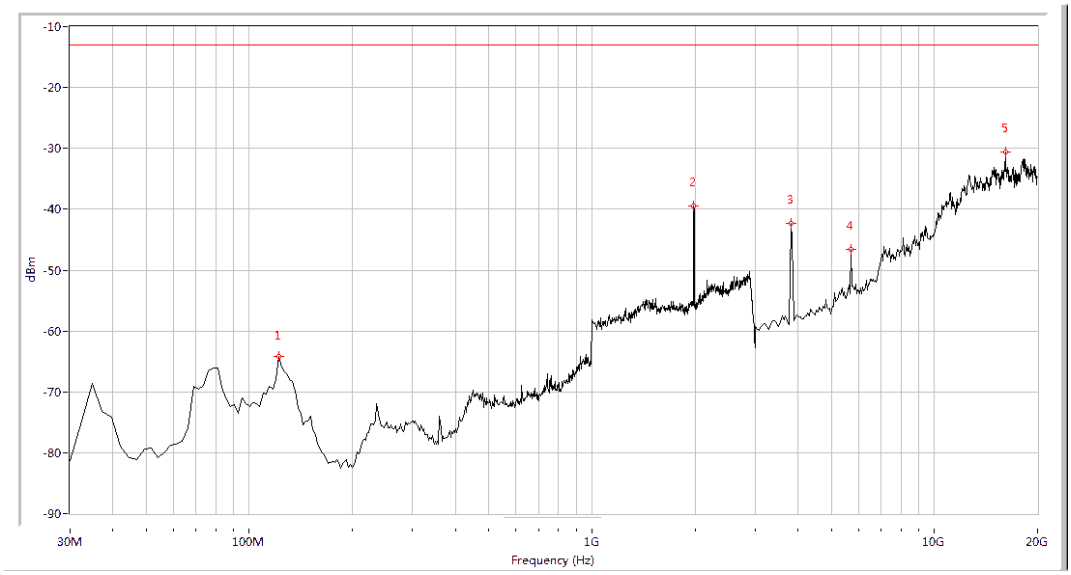
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
80.798	-64.48	-13.0	51.5	155.4	Horizontal	PASS
1957.606	-42.86	-13.0	29.9	194.5	Horizontal	PASS
3763.092	-50.17	-13.0	37.2	-0.0	Horizontal	PASS
5628.429	-45.45	-13.0	32.4	49.3	Horizontal	PASS
19406.484	-31.69	-13.0	18.7	2.9	Horizontal	PASS

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



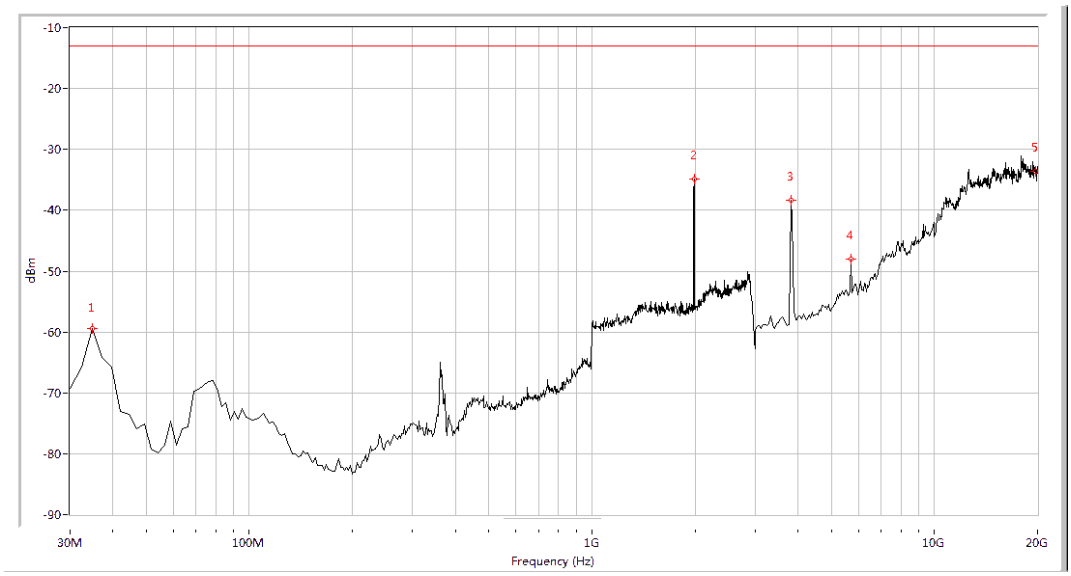
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-57.24	-13.0	44.2	115.9	Vertical	PASS
1957.606	-37.50	-13.0	24.5	59.9	Vertical	PASS
3763.092	-46.37	-13.0	33.4	140.1	Vertical	PASS
5628.429	-47.46	-13.0	34.5	173.9	Vertical	PASS
19236.908	-32.32	-13.0	19.3	55.7	Vertical	PASS

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



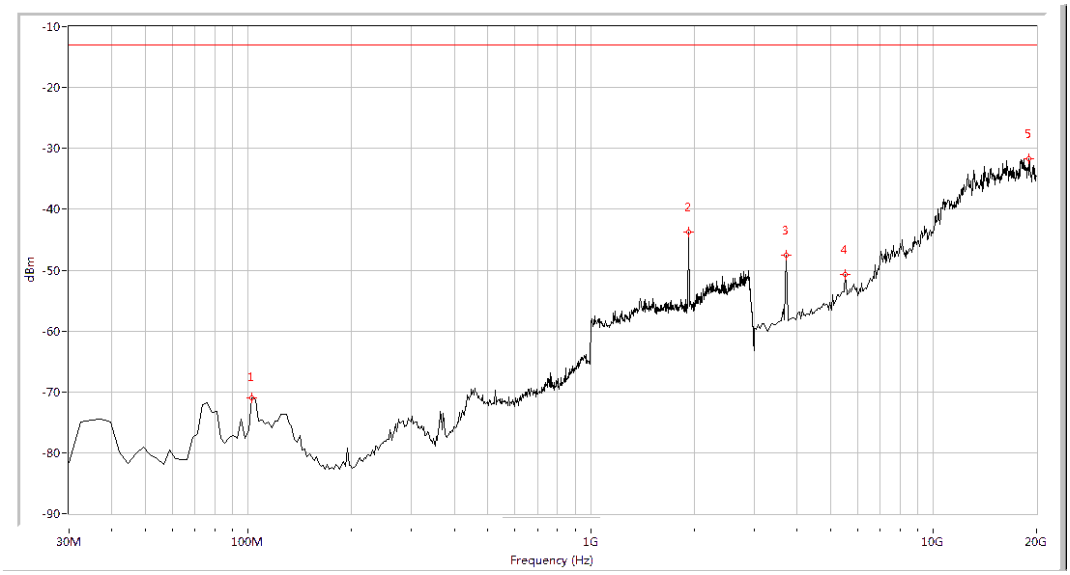
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
121.920	-64.17	-13.0	51.2	69.9	Horizontal	PASS
1982.544	-39.48	-13.0	26.5	248.1	Horizontal	PASS
3805.486	-42.39	-13.0	29.4	139.3	Horizontal	PASS
5713.217	-46.53	-13.0	33.5	48.6	Horizontal	PASS
16099.751	-30.63	-13.0	17.6	0.6	Horizontal	PASS

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



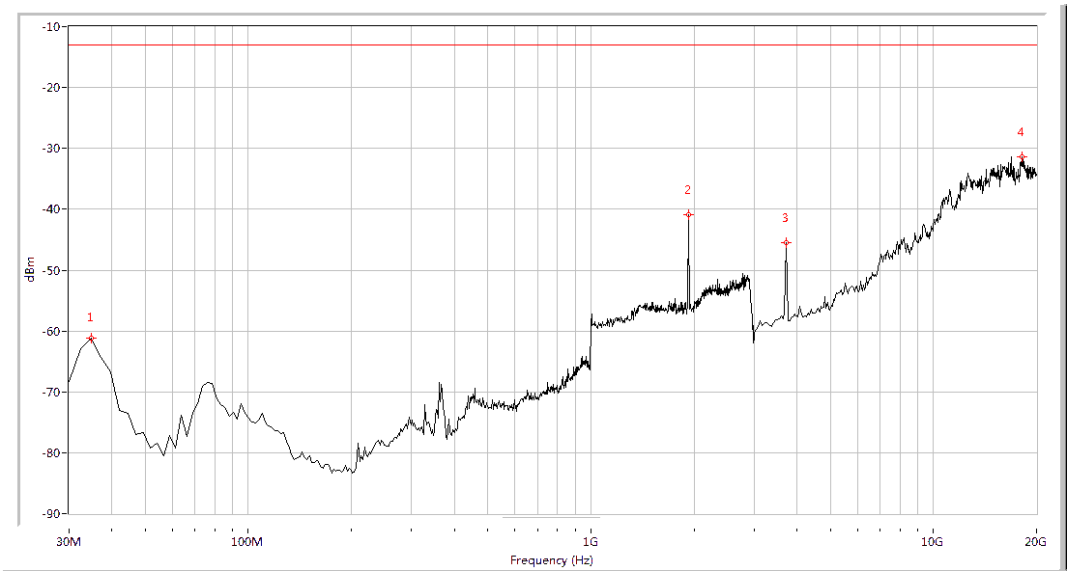
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-59.41	-13.0	46.4	334.0	Vertical	PASS
1987.531	-34.85	-13.0	21.9	316.4	Vertical	PASS
3805.486	-38.40	-13.0	25.4	143.6	Vertical	PASS
5713.217	-47.99	-13.0	35.0	168.1	Vertical	PASS
19703.242	-33.61	-13.0	20.6	85.3	Vertical	PASS

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



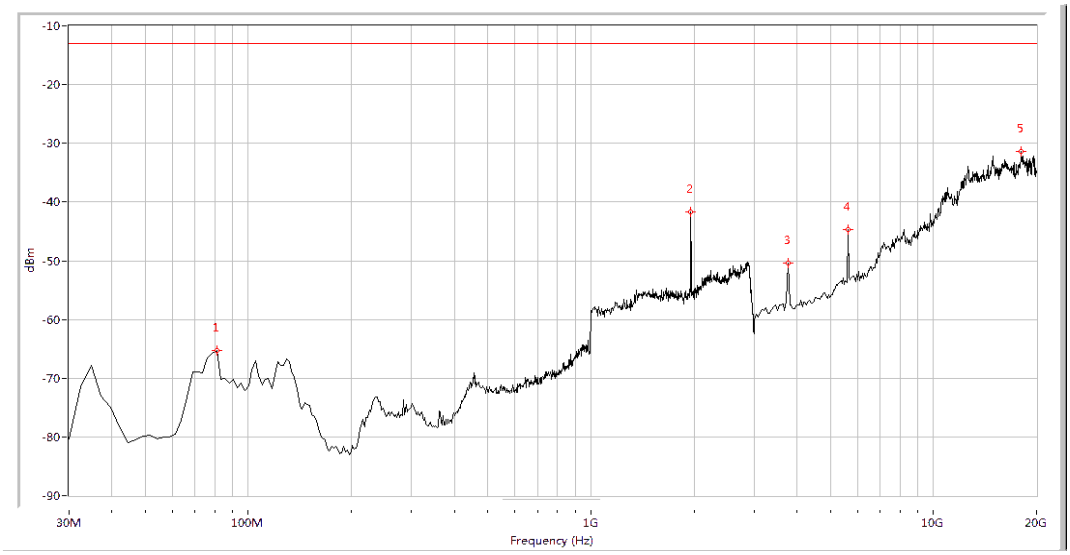
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
102.569	-70.95	-13.0	58.0	309.7	Horizontal	PASS
1927.681	-43.70	-13.0	30.7	45.0	Horizontal	PASS
3720.698	-47.56	-13.0	34.6	351.2	Horizontal	PASS
5543.641	-50.74	-13.0	37.7	52.7	Horizontal	PASS
19024.938	-31.77	-13.0	18.8	226.0	Horizontal	PASS

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



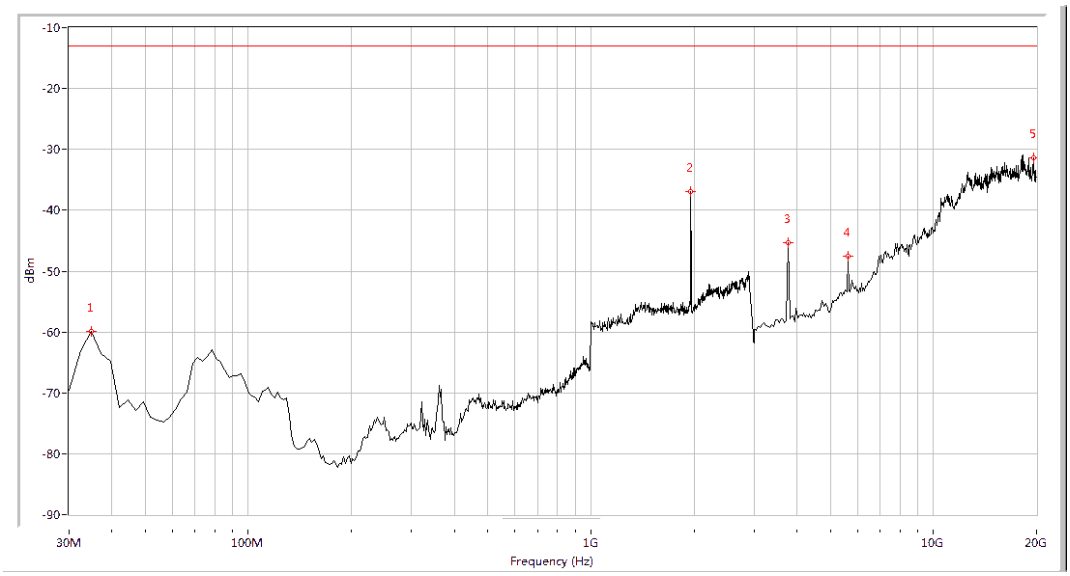
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-61.16	-13.0	48.2	205.9	Vertical	PASS
1927.681	-40.86	-13.0	27.9	51.4	Vertical	PASS
3720.698	-45.44	-13.0	32.4	265.1	Vertical	PASS
18092.269	-31.45	-13.0	18.4	3.2	Vertical	PASS

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



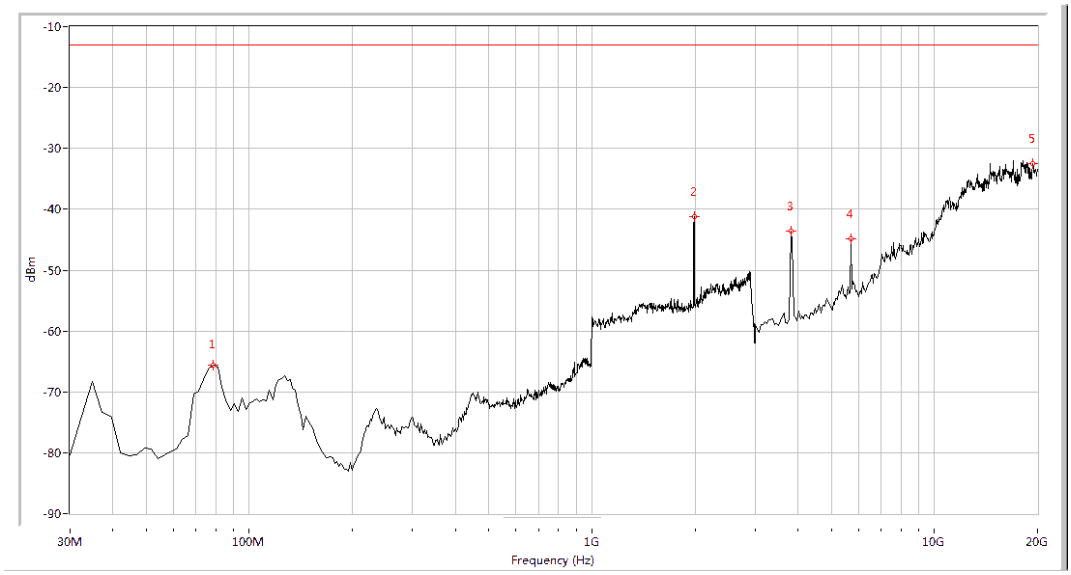
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
80.798	-65.29	-13.0	52.3	155.1	Horizontal	PASS
1957.606	-41.62	-13.0	28.6	244.2	Horizontal	PASS
3763.092	-50.45	-13.0	37.4	76.0	Horizontal	PASS
5628.429	-44.62	-13.0	31.6	58.8	Horizontal	PASS
18049.875	-31.45	-13.0	18.4	331.7	Horizontal	PASS

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



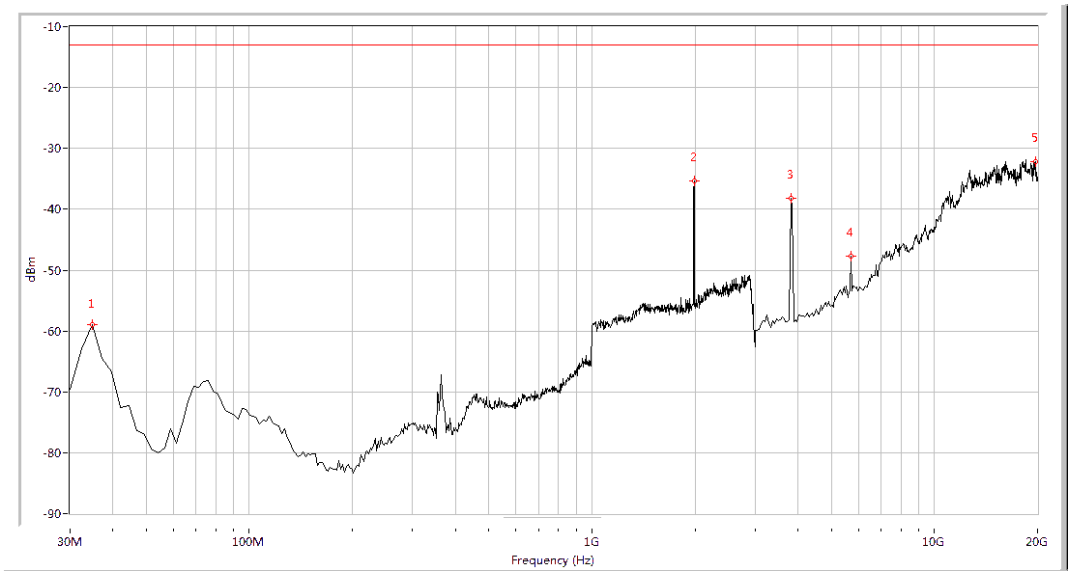
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-59.94	-13.0	46.9	46.9	Vertical	PASS
1957.606	-36.85	-13.0	23.9	-0.0	Vertical	PASS
3763.092	-45.40	-13.0	32.4	125.8	Vertical	PASS
5628.429	-47.52	-13.0	34.5	159.2	Vertical	PASS
19576.060	-31.31	-13.0	18.3	335.5	Vertical	PASS

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



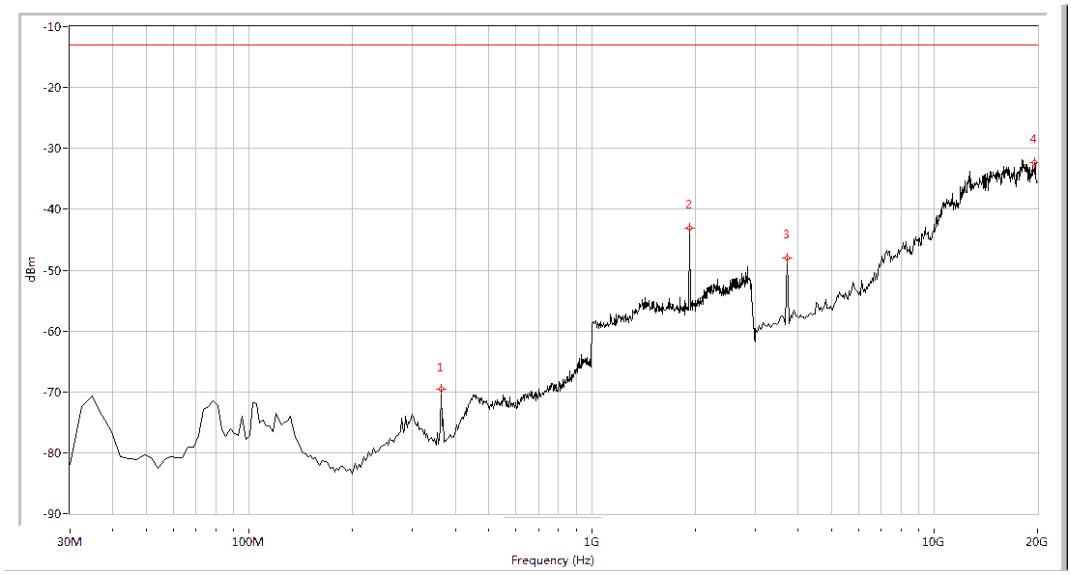
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
78.379	-65.56	-13.0	52.6	134.3	Horizontal	PASS
1987.531	-41.21	-13.0	28.2	113.6	Horizontal	PASS
3805.486	-43.51	-13.0	30.5	9.4	Horizontal	PASS
5713.217	-44.85	-13.0	31.9	9.4	Horizontal	PASS
19321.696	-32.44	-13.0	19.4	158.1	Horizontal	PASS

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



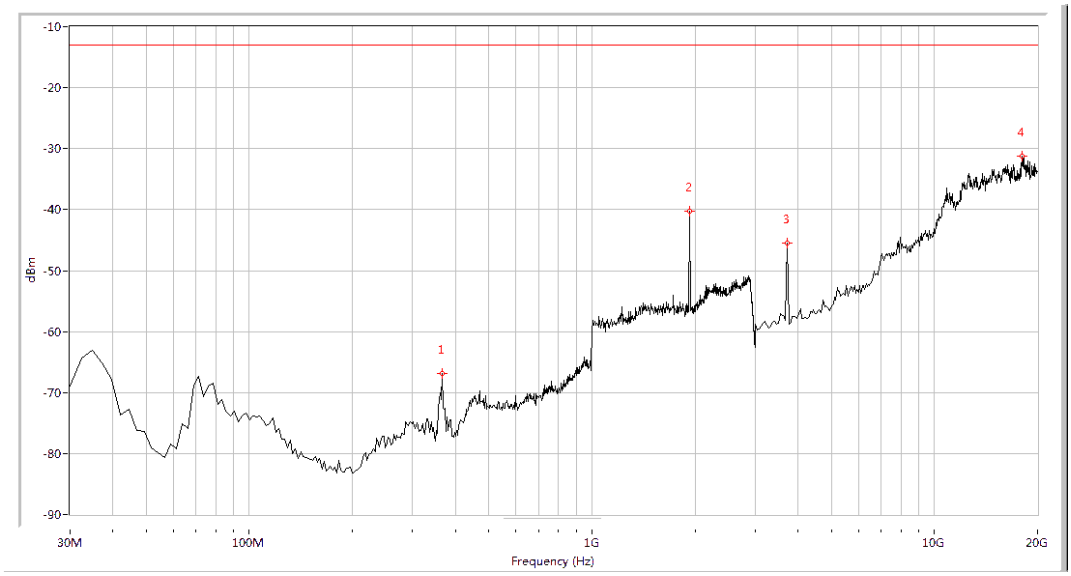
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-58.95	-13.0	45.9	334.0	Vertical	PASS
1987.531	-35.41	-13.0	22.4	316.4	Vertical	PASS
3805.486	-38.21	-13.0	25.2	143.6	Vertical	PASS
5713.217	-47.72	-13.0	34.7	168.1	Vertical	PASS
19703.242	-32.16	-13.0	19.2	85.3	Vertical	PASS

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



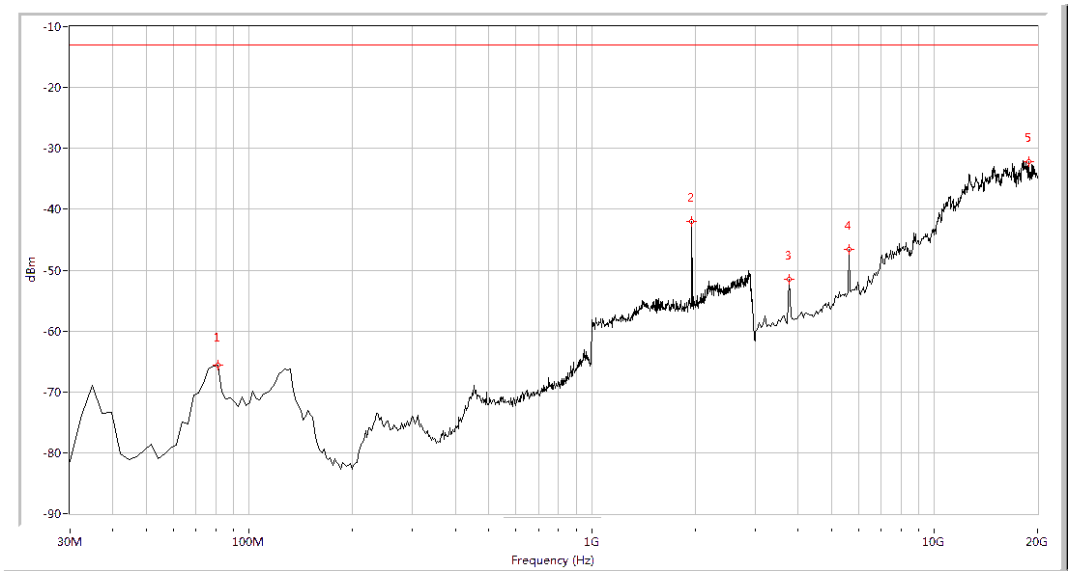
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
363.815	-69.53	-13.0	56.5	54.8	Horizontal	PASS
1932.668	-43.12	-13.0	30.1	77.7	Horizontal	PASS
3720.698	-47.96	-13.0	35.0	-0.0	Horizontal	PASS
19618.454	-32.31	-13.0	19.3	158.1	Horizontal	PASS

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



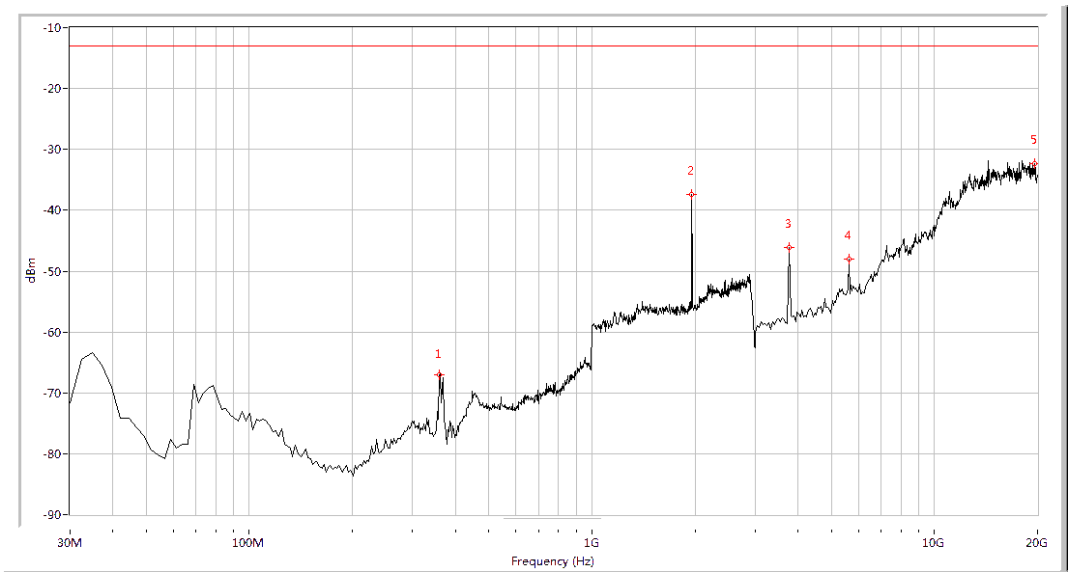
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
366.234	-66.82	-13.0	53.8	69.6	Vertical	PASS
1932.668	-40.26	-13.0	27.3	234.2	Vertical	PASS
3720.698	-45.46	-13.0	32.5	257.8	Vertical	PASS
18049.875	-31.25	-13.0	18.2	91.9	Vertical	PASS

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



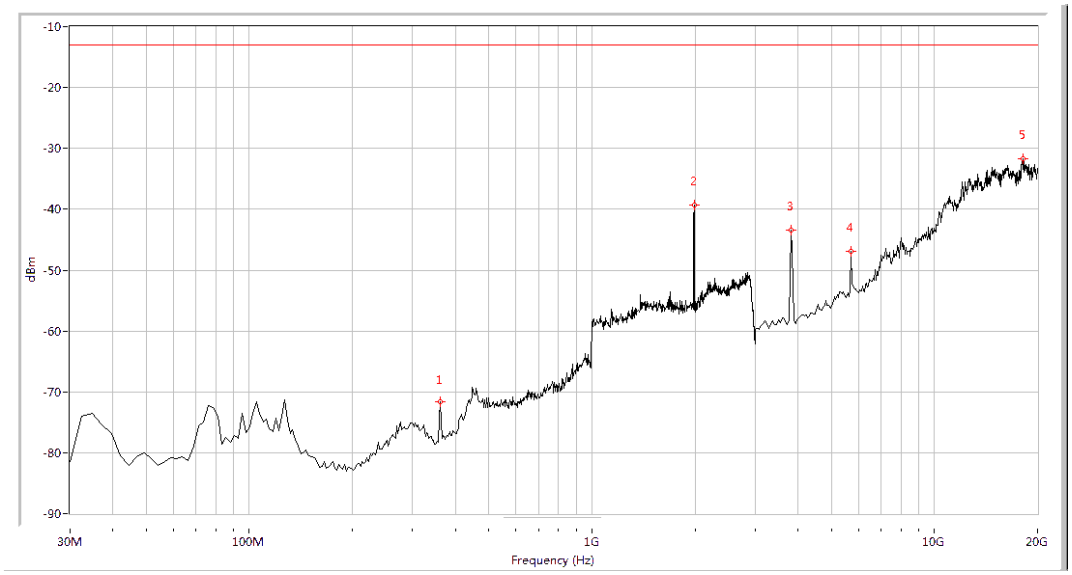
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
80.798	-65.54	-13.0	52.5	136.1	Horizontal	PASS
1957.606	-42.01	-13.0	29.0	240.3	Horizontal	PASS
3763.092	-51.54	-13.0	38.5	81.3	Horizontal	PASS
5628.429	-46.63	-13.0	33.6	48.2	Horizontal	PASS
18812.968	-32.20	-13.0	19.2	-0.0	Horizontal	PASS

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



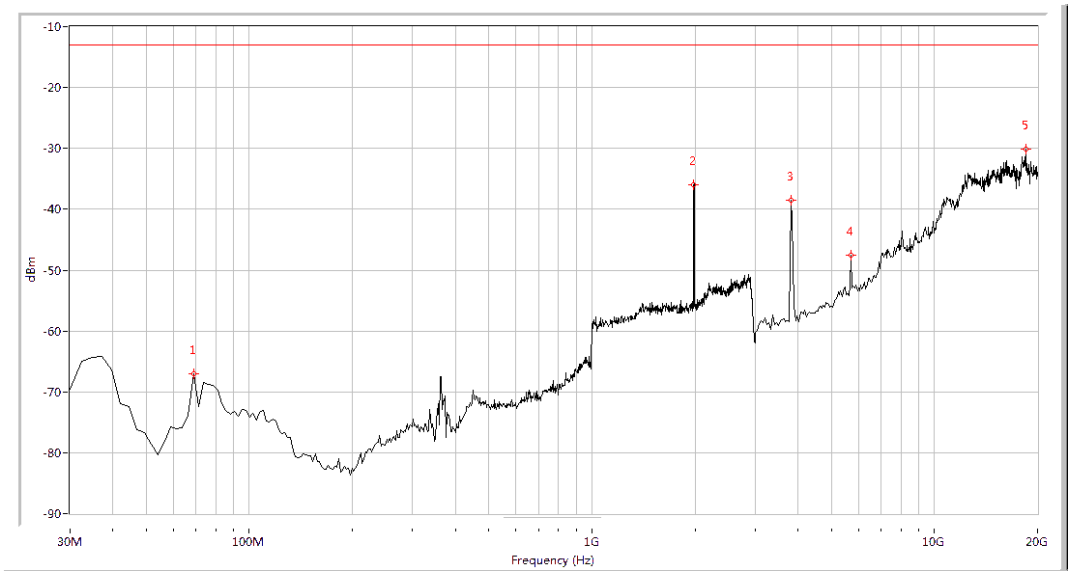
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
358.978	-67.02	-13.0	54.0	253.9	Vertical	PASS
1957.606	-37.37	-13.0	24.4	286.5	Vertical	PASS
3763.092	-46.08	-13.0	33.1	142.3	Vertical	PASS
5628.429	-47.99	-13.0	35.0	191.0	Vertical	PASS
19660.848	-32.27	-13.0	19.3	200.3	Vertical	PASS

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



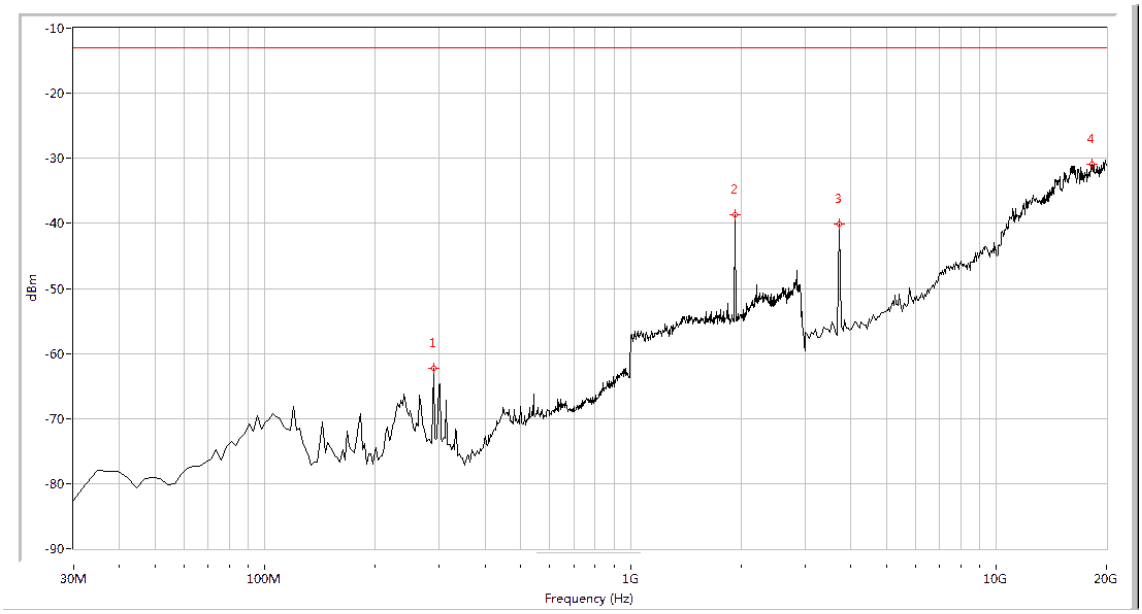
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
361.397	-71.61	-13.0	58.6	60.5	Horizontal	PASS
1987.531	-39.28	-13.0	26.3	182.7	Horizontal	PASS
3805.486	-43.50	-13.0	30.5	226.7	Horizontal	PASS
5713.217	-46.87	-13.0	33.9	3.0	Horizontal	PASS
18092.269	-31.72	-13.0	18.7	134.1	Horizontal	PASS

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



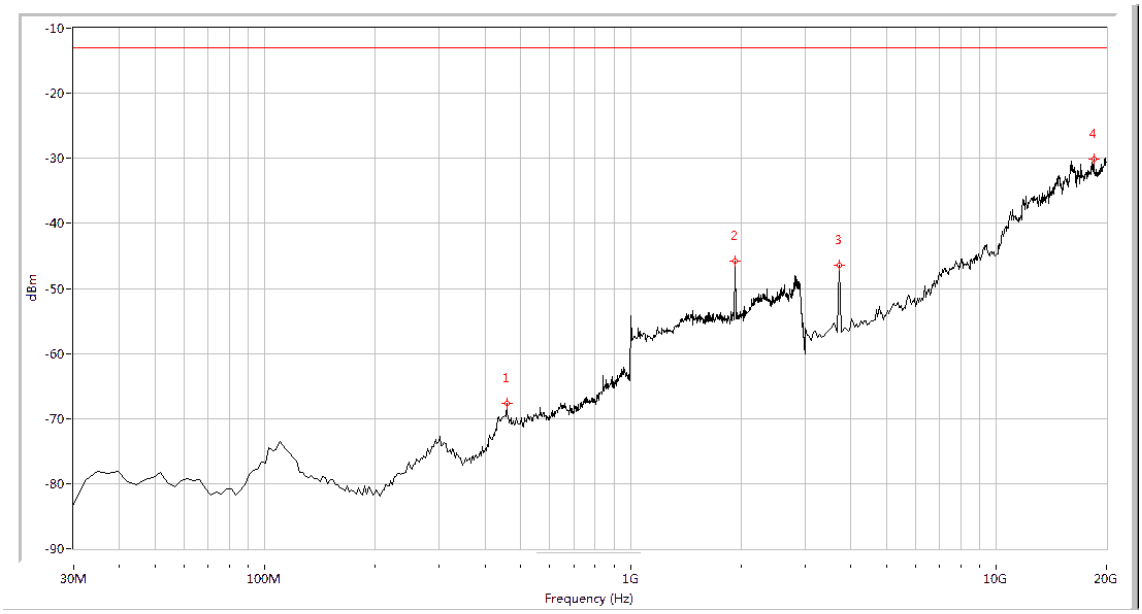
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
68.703	-67.11	-13.0	54.1	359.1	Vertical	PASS
1982.544	-36.06	-13.0	23.1	61.8	Vertical	PASS
3805.486	-38.52	-13.0	25.5	135.6	Vertical	PASS
5713.217	-47.57	-13.0	34.6	192.5	Vertical	PASS
18473.815	-30.15	-13.0	17.2	94.7	Vertical	PASS

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



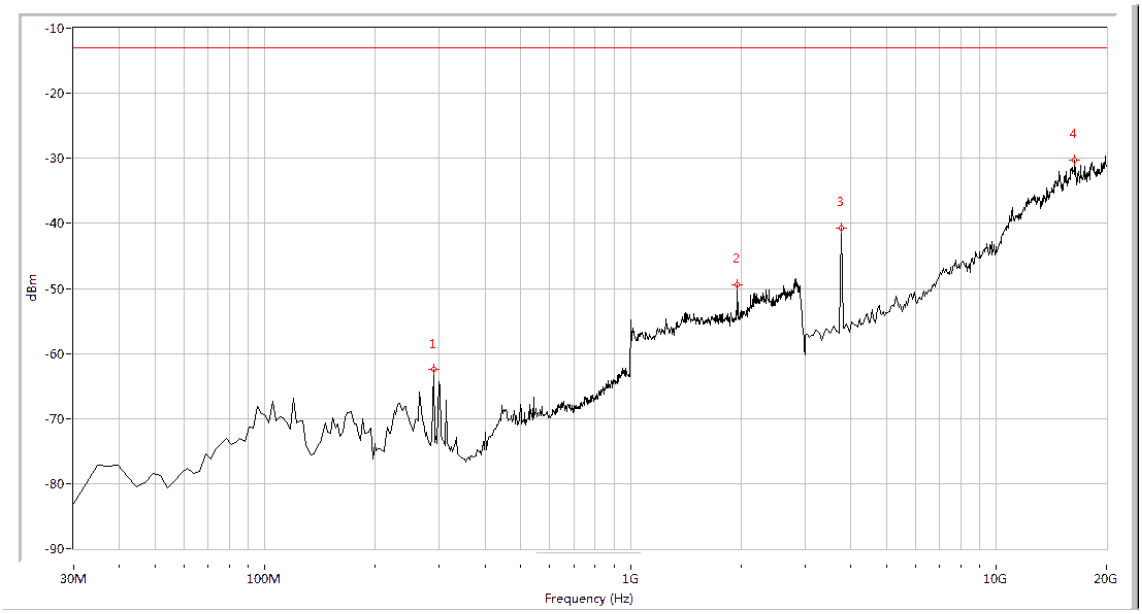
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
288.828	-62.26	-13.0	49.3	239.4	Horizontal	PASS
1927.681	-38.70	-13.0	25.7	53.6	Horizontal	PASS
3720.698	-40.05	-13.0	27.0	237.9	Horizontal	PASS
18219.451	-30.91	-13.0	17.9	31.8	Horizontal	PASS

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



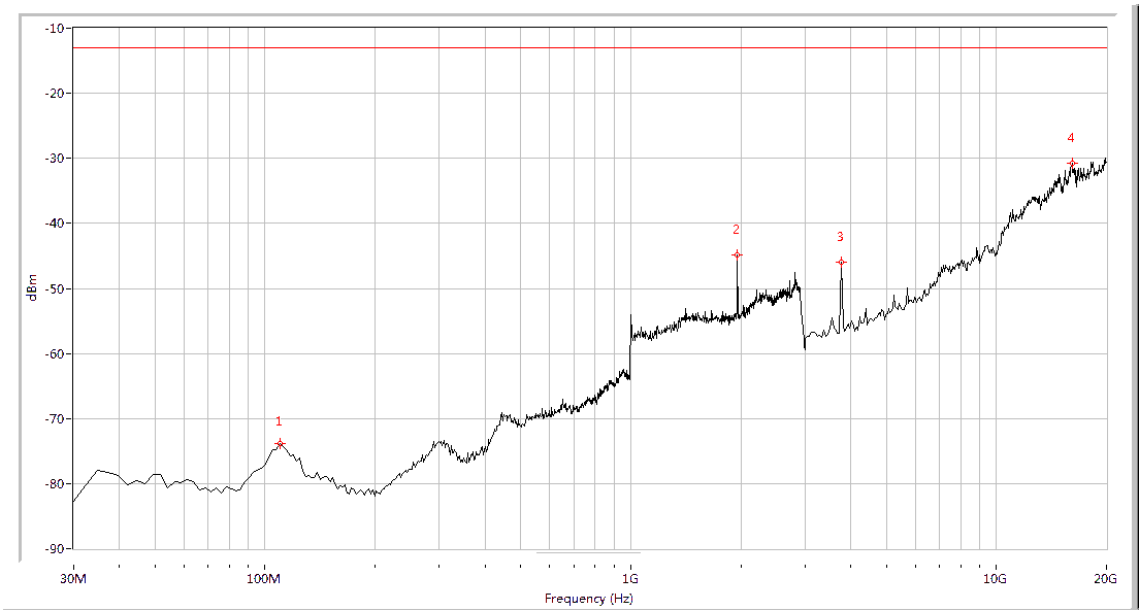
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
458.155	-67.62	-13.0	54.6	349.5	Vertical	PASS
1932.668	-45.81	-13.0	32.8	80.4	Vertical	PASS
3720.698	-46.46	-13.0	33.5	45.6	Vertical	PASS
18473.815	-30.07	-13.0	17.1	356.5	Vertical	PASS

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



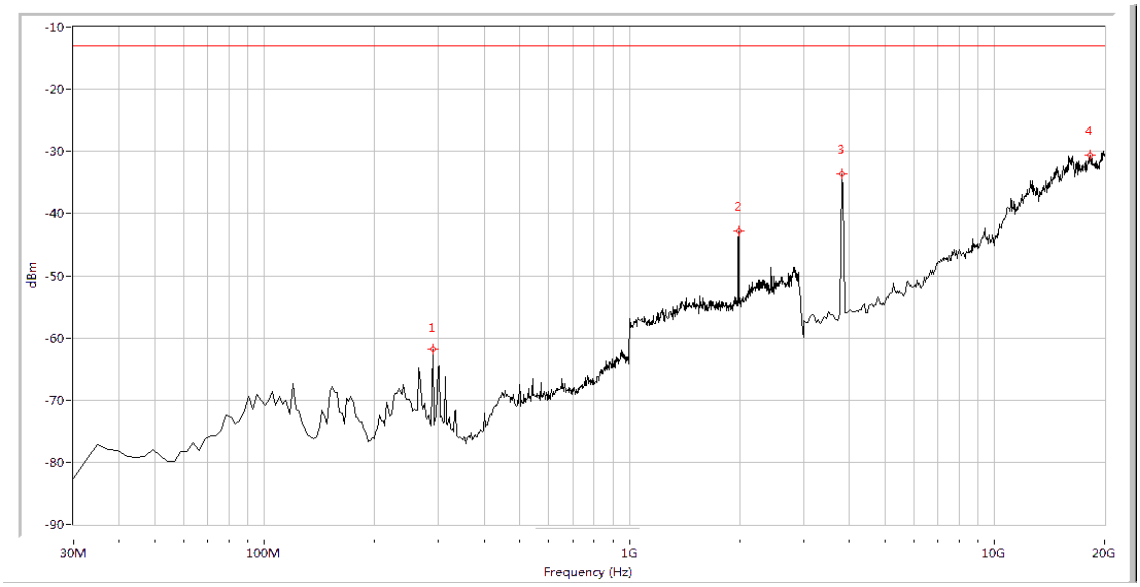
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
288.828	-62.43	-13.0	49.4	256.5	Horizontal	PASS
1957.606	-49.52	-13.0	36.5	173.4	Horizontal	PASS
3763.092	-40.76	-13.0	27.8	245.0	Horizontal	PASS
16396.509	-30.31	-13.0	17.3	303.0	Horizontal	PASS

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



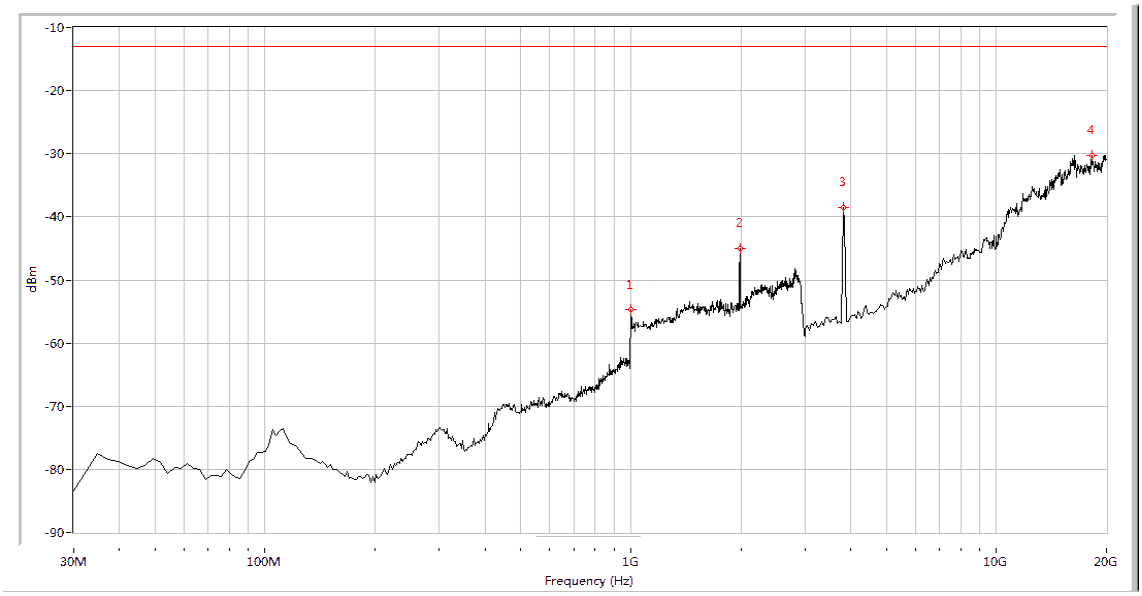
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-73.79	-13.0	60.8	229.4	Vertical	PASS
1957.606	-44.91	-13.0	31.9	236.6	Vertical	PASS
3763.092	-45.95	-13.0	33.0	291.1	Vertical	PASS
16099.751	-30.69	-13.0	17.7	224.1	Vertical	PASS

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



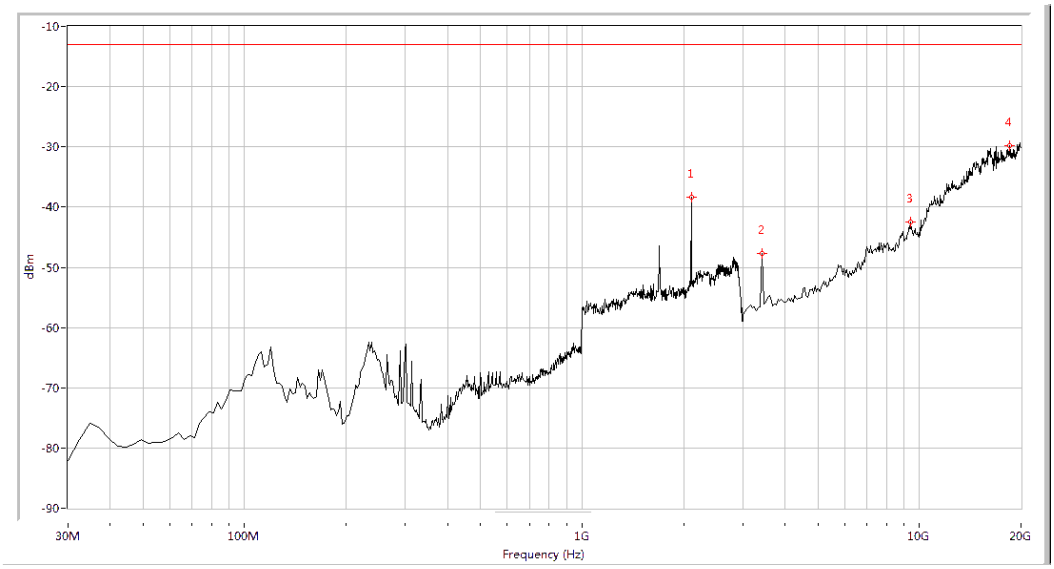
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
288.828	-61.79	-13.0	48.8	243.5	Horizontal	PASS
1987.531	-42.75	-13.0	29.8	20.9	Horizontal	PASS
3805.486	-33.65	-13.0	20.6	249.8	Horizontal	PASS
18304.239	-30.53	-13.0	17.5	226.4	Horizontal	PASS

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



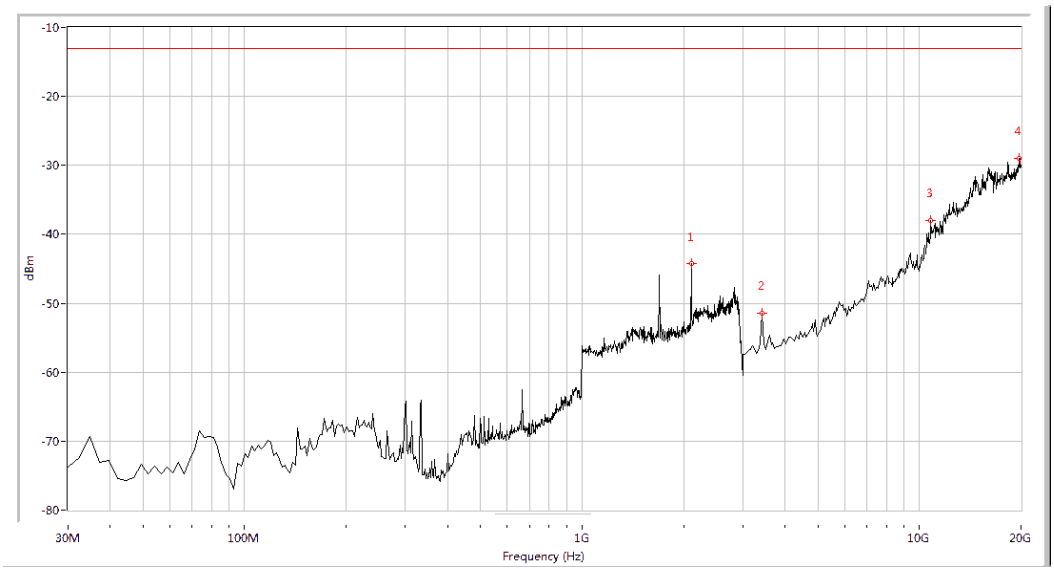
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
1000.000	-54.68	-13.0	41.7	217.6	Vertical	PASS
1987.531	-44.95	-13.0	32.0	110.1	Vertical	PASS
3805.486	-38.44	-13.0	25.4	28.4	Vertical	PASS
18219.451	-30.24	-13.0	17.2	196.9	Vertical	PASS

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



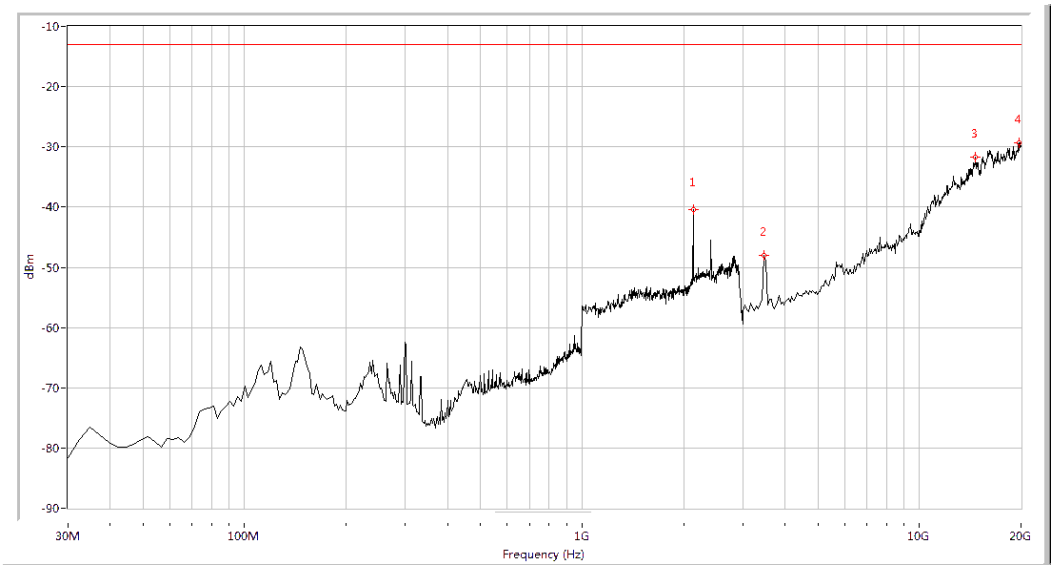
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2107.232	-38.43	-13.0	25.4	56.2	Horizontal	PASS
3423.940	-47.67	-13.0	34.7	72.8	Horizontal	PASS
9401.496	-42.40	-13.0	29.4	252.5	Horizontal	PASS
18558.603	-29.76	-13.0	16.8	358.6	Horizontal	PASS

(Plot I.1: WCDMA 1700MHz Channel = 1312, Test Antenna Horizontal)



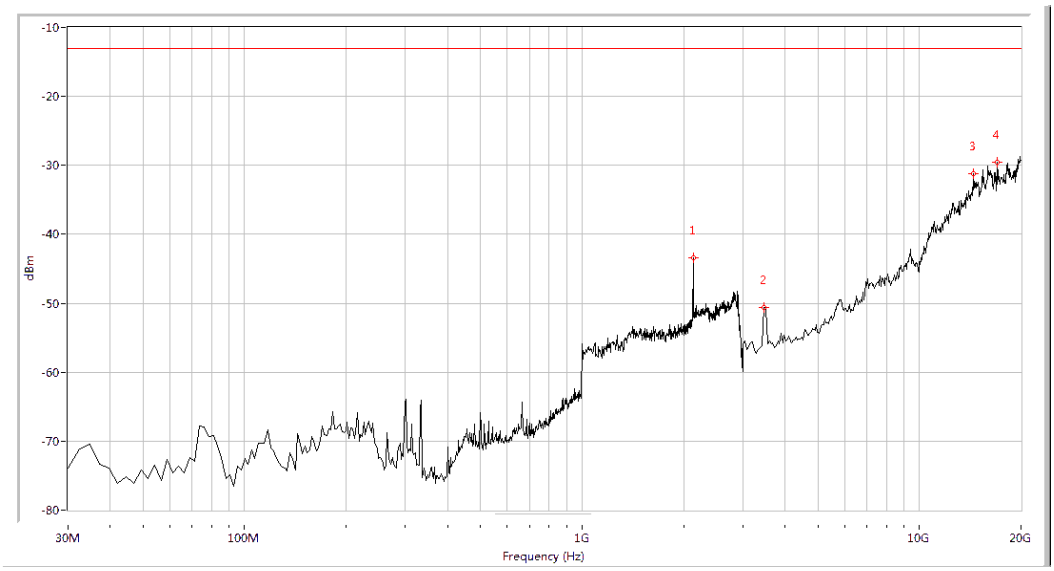
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2112.219	-44.18	-13.0	31.2	62.3	Vertical	PASS
3423.940	-51.42	-13.0	38.4	32.1	Vertical	PASS
10800.499	-38.02	-13.0	25.0	65.9	Vertical	PASS
19745.636	-29.00	-13.0	16.0	-0.0	Vertical	PASS

(Plot I.2: WCDMA 1700MHz Channel = 1312, Test Antenna Vertical)



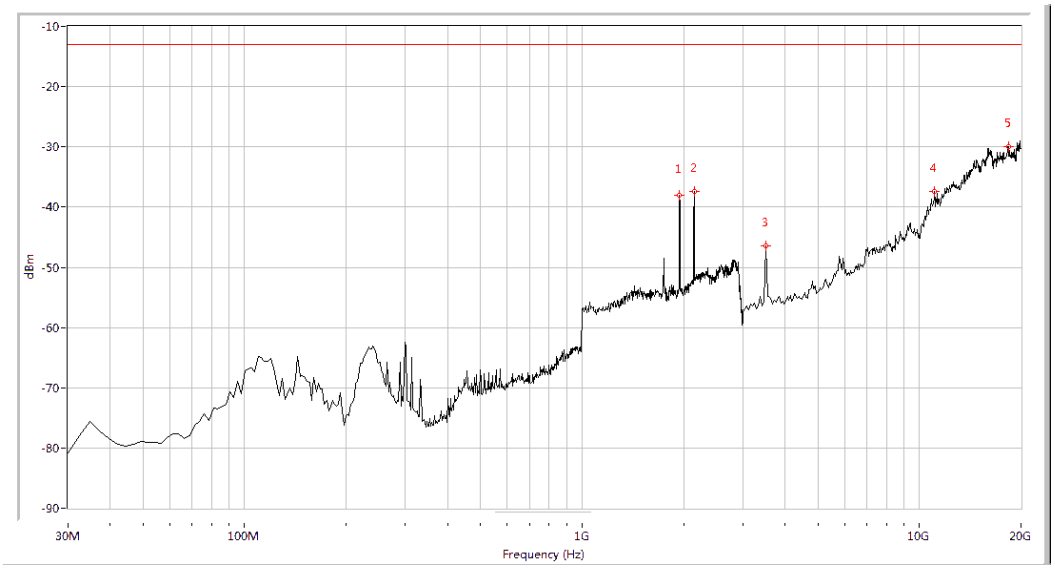
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-40.39	-13.0	27.4	51.4	Horizontal	PASS
3466.334	-48.10	-13.0	35.1	75.8	Horizontal	PASS
14658.354	-31.67	-13.0	18.7	-0.0	Horizontal	PASS
19703.242	-29.35	-13.0	16.4	91.7	Horizontal	PASS

(Plot I.3: WCDMA 1700MHz Channel = 1412, Test Antenna Horizontal)



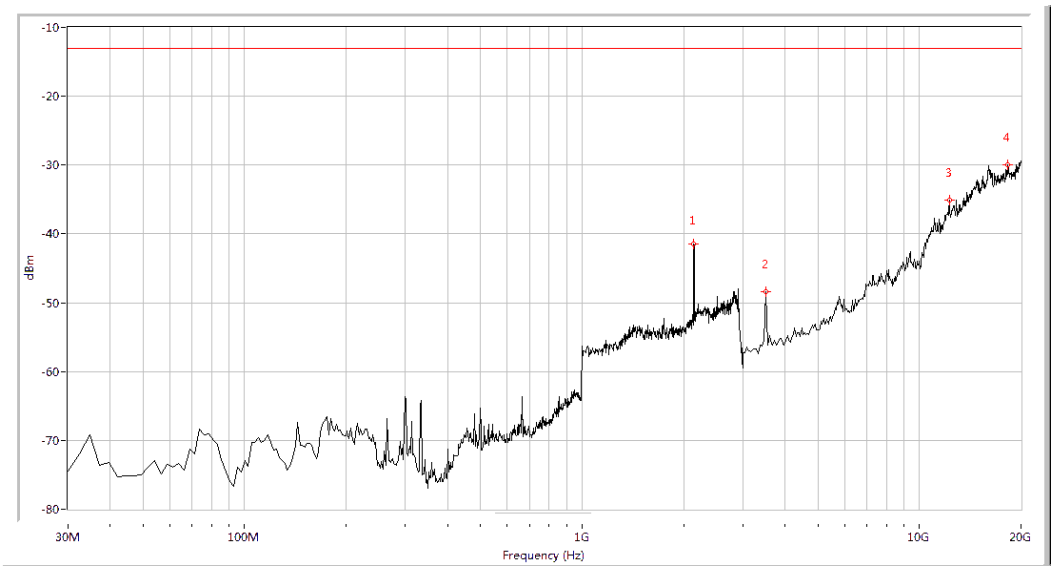
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-43.40	-13.0	30.4	60.3	Vertical	PASS
3466.334	-50.65	-13.0	37.6	168.8	Vertical	PASS
14488.778	-31.20	-13.0	18.2	26.7	Vertical	PASS
17032.419	-29.56	-13.0	16.6	128.6	Vertical	PASS

(Plot I.4: WCDMA 1700MHz Channel = 1412, Test Antenna Vertical)



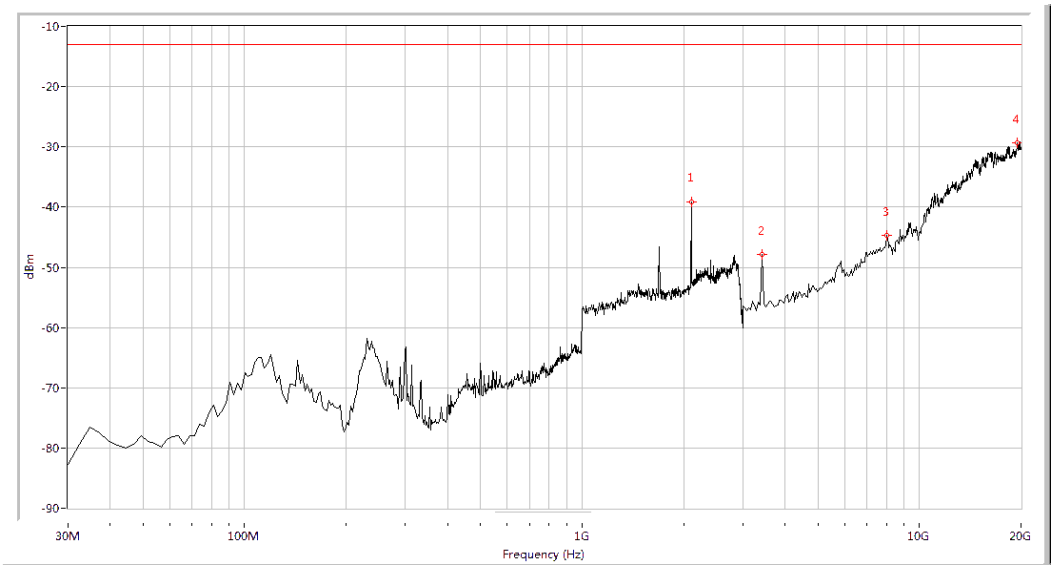
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
1947.631	-38.10	-13.0	25.1	341.2	Horizontal	PASS
2152.120	-37.35	-13.0	24.4	54.3	Horizontal	PASS
3508.728	-46.43	-13.0	33.4	41.8	Horizontal	PASS
11097.257	-37.45	-13.0	24.5	101.3	Horizontal	PASS
18346.633	-29.90	-13.0	16.9	360.0	Horizontal	PASS

(Plot I.5: WCDMA 1700MHz Channel = 1513, Test Antenna Horizontal)



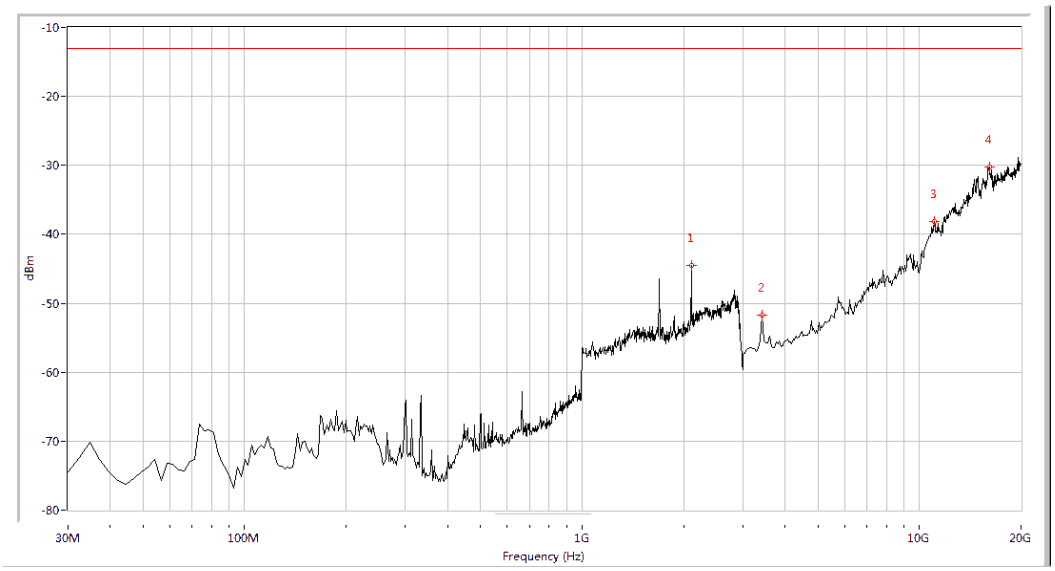
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2147.132	-41.47	-13.0	28.5	304.6	Vertical	PASS
3508.728	-48.46	-13.0	35.5	169.5	Vertical	PASS
12284.289	-35.02	-13.0	22.0	59.4	Vertical	PASS
18304.239	-29.93	-13.0	16.9	176.9	Vertical	PASS

(Plot I.6: WCDMA 1700MHz Channel = 1513, Test Antenna Vertical)



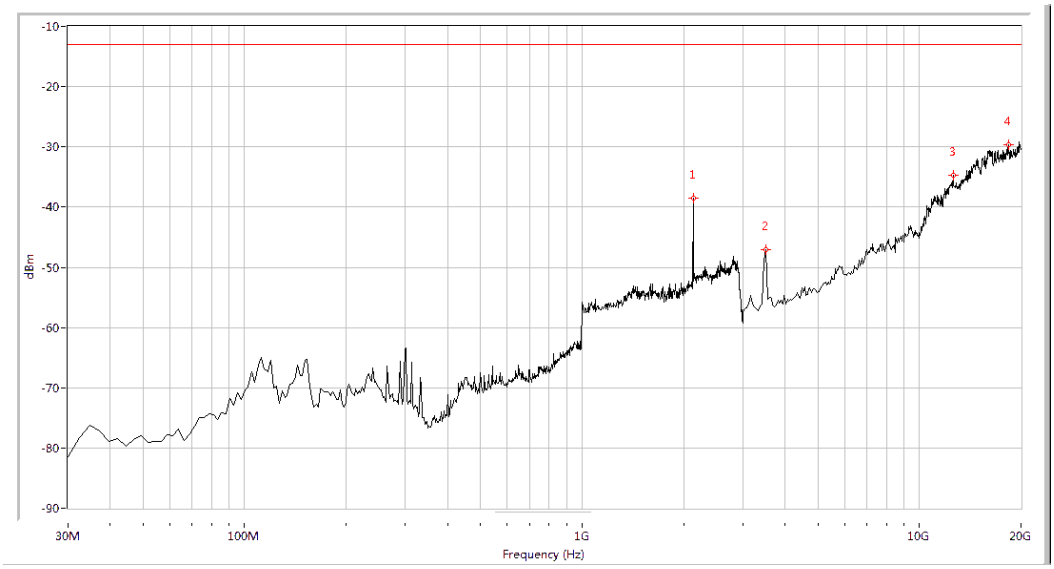
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2107.232	-39.22	-13.0	26.2	57.3	Horizontal	PASS
3423.940	-47.85	-13.0	34.9	61.2	Horizontal	PASS
8002.494	-44.75	-13.0	31.7	18.8	Horizontal	PASS
19491.272	-29.28	-13.0	16.3	-0.0	Horizontal	PASS

(Plot J.1: HSDPA 1700MHz Channel = 1312, Test Antenna Horizontal)



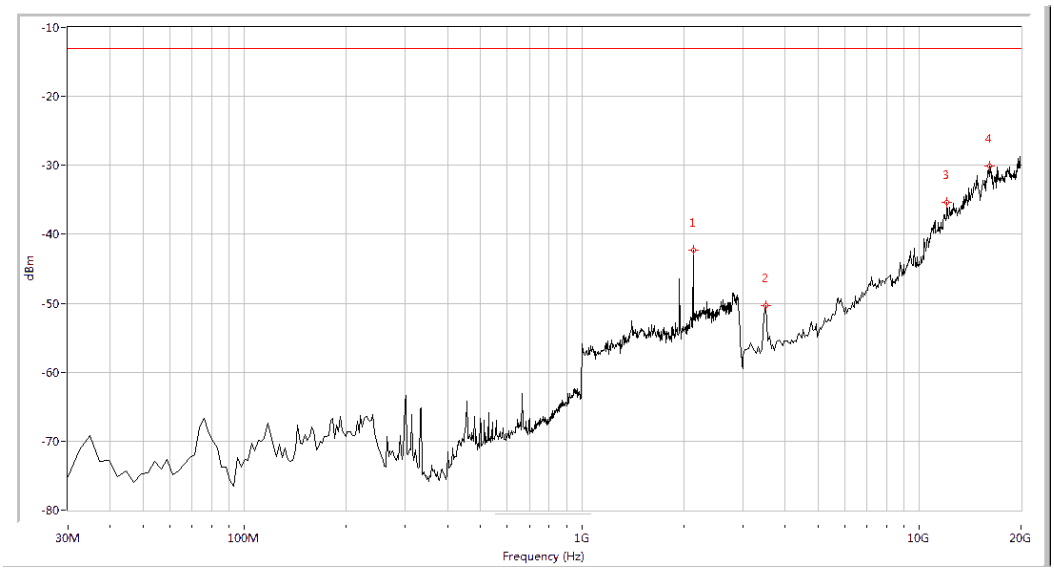
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2112.219	-44.58	-13.0	31.6	68.6	Vertical	PASS
3423.940	-51.75	-13.0	38.7	106.1	Vertical	PASS
11054.863	-38.20	-13.0	25.2	213.2	Vertical	PASS
16099.751	-30.23	-13.0	17.2	66.6	Vertical	PASS

(Plot J.2: HSDPA 1700MHz Channel = 1312, Test Antenna Vertical)



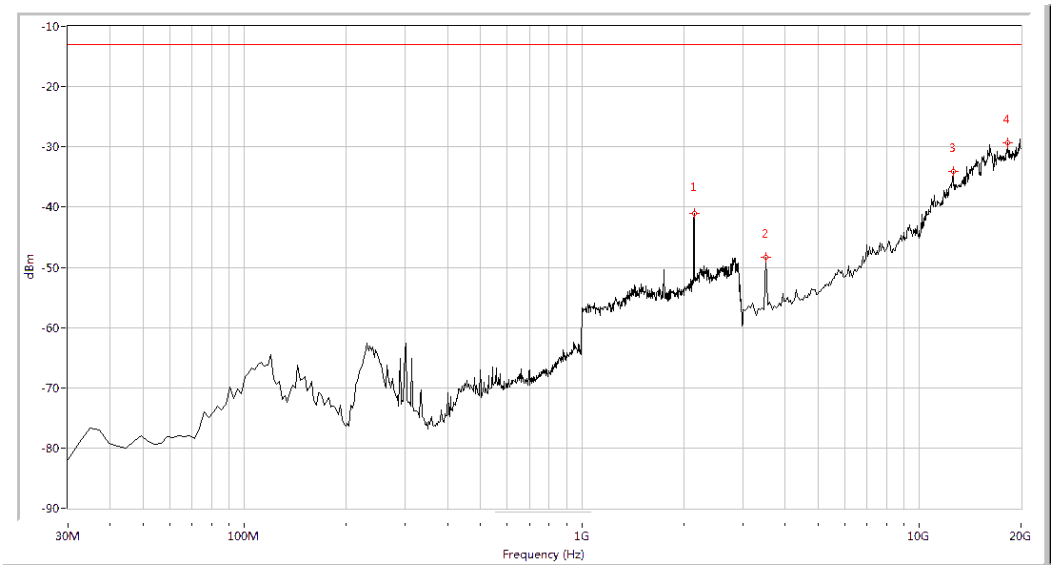
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-38.49	-13.0	25.5	54.7	Horizontal	PASS
3508.728	-47.04	-13.0	34.0	55.3	Horizontal	PASS
12581.047	-34.70	-13.0	21.7	229.4	Horizontal	PASS
18346.633	-29.67	-13.0	16.7	300.8	Horizontal	PASS

(Plot J.3: HSDPA 1700MHz Channel = 1412, Test Antenna Horizontal)



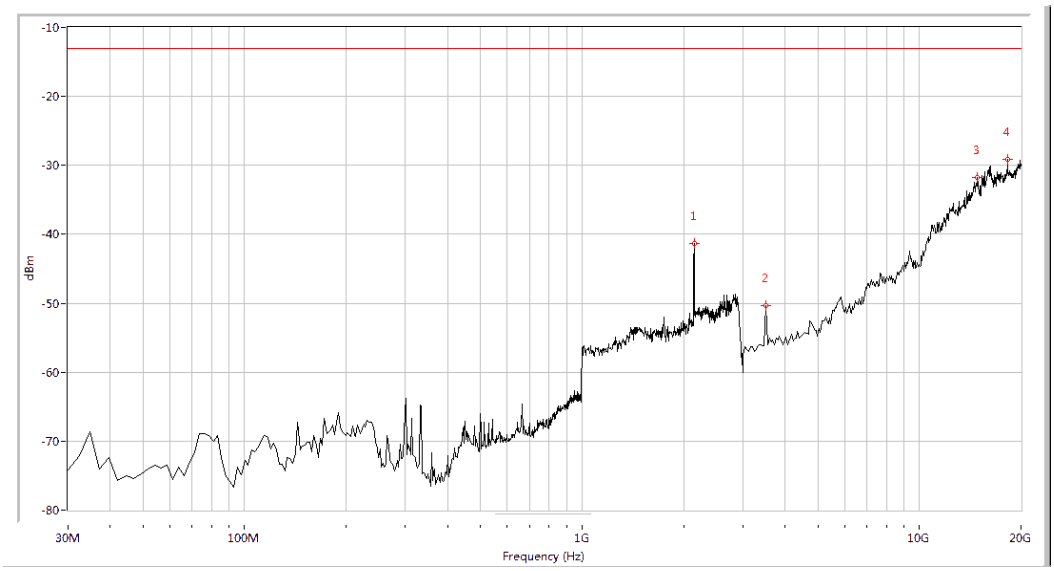
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-42.35	-13.0	29.4	145.6	Vertical	PASS
3508.728	-50.34	-13.0	37.3	33.9	Vertical	PASS
12072.319	-35.32	-13.0	22.3	325.1	Vertical	PASS
16099.751	-30.16	-13.0	17.2	299.8	Vertical	PASS

(Plot J.4: HSDAP 1700MHz Channel = 1412, Test Antenna Vertical)



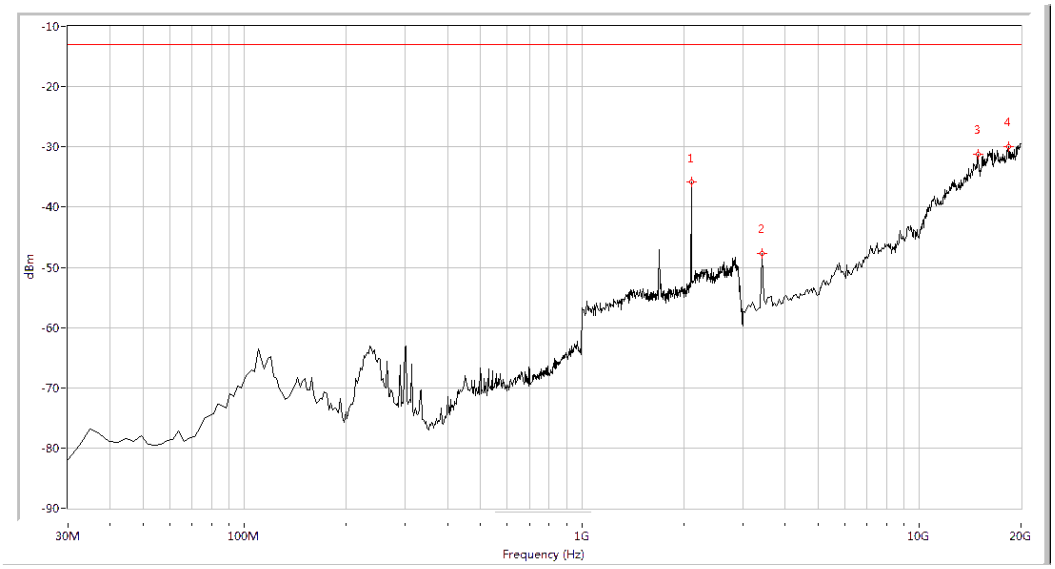
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2152.120	-41.02	-13.0	28.0	58.5	Horizontal	PASS
3508.728	-48.40	-13.0	35.4	74.2	Horizontal	PASS
12581.047	-34.07	-13.0	21.1	278.4	Horizontal	PASS
18304.239	-29.33	-13.0	16.3	90.2	Horizontal	PASS

(Plot J.5: HSDPA 1700MHz Channel = 1513, Test Antenna Horizontal)



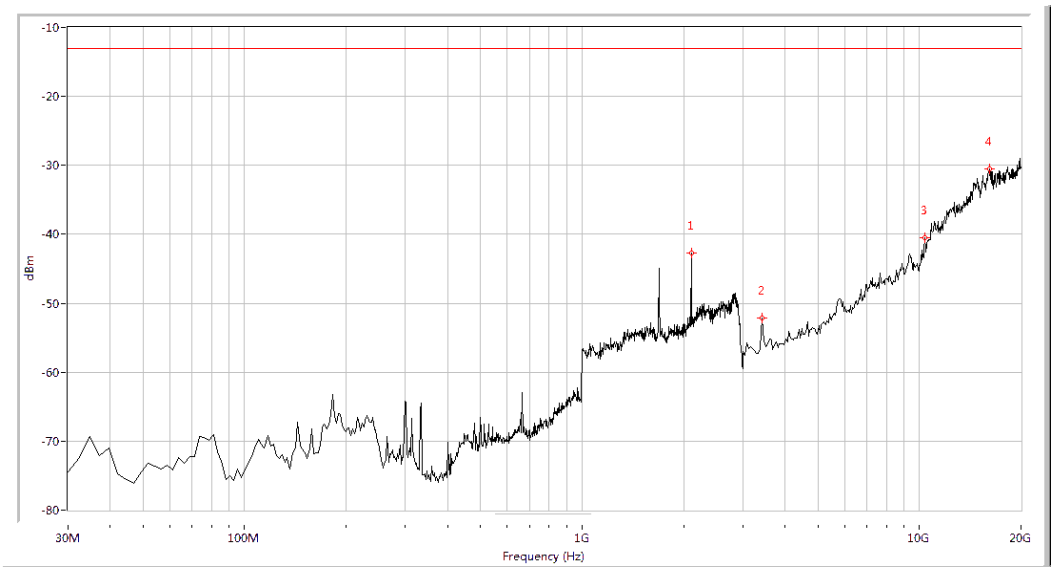
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2152.120	-41.37	-13.0	28.4	73.0	Vertical	PASS
3508.728	-50.34	-13.0	37.3	184.7	Vertical	PASS
14870.324	-31.75	-13.0	18.7	-0.0	Vertical	PASS
18261.845	-29.17	-13.0	16.2	55.3	Vertical	PASS

(Plot J.6: HSDPA 1700MHz Channel = 1513, Test Antenna Vertical)



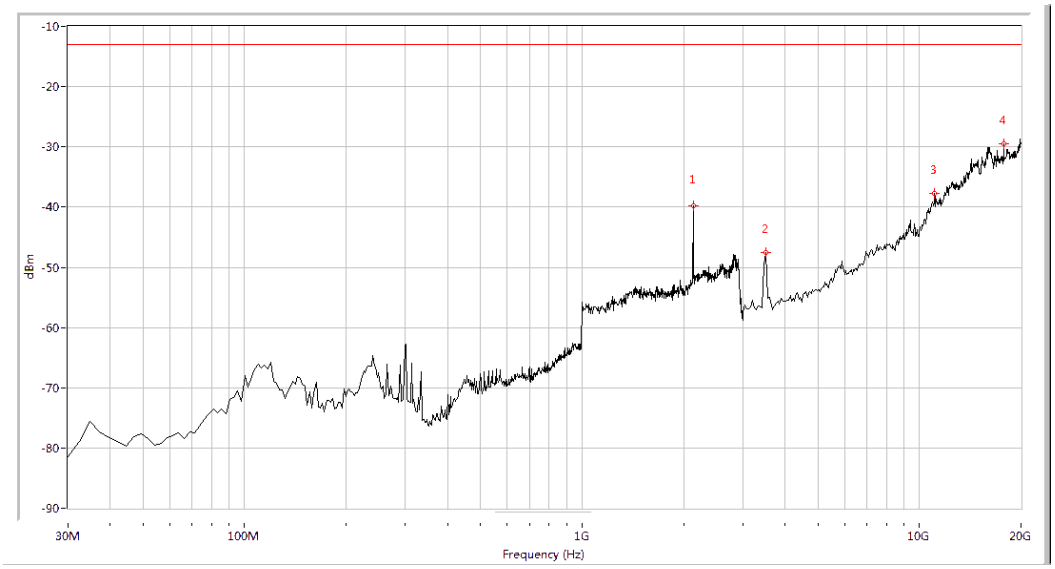
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2107.232	-35.75	-13.0	22.8	56.0	Horizontal	PASS
3423.940	-47.72	-13.0	34.7	58.5	Horizontal	PASS
14912.718	-31.22	-13.0	18.2	268.6	Horizontal	PASS
18389.027	-30.03	-13.0	17.0	157.4	Horizontal	PASS

(Plot K.1: HSUPA 1700MHz Channel = 1312, Test Antenna Horizontal)



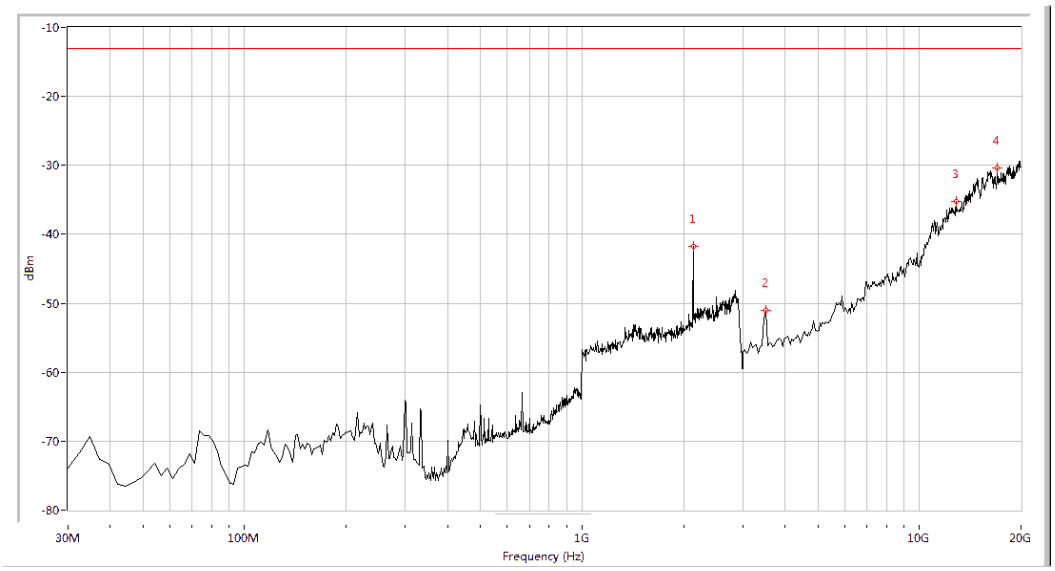
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2112.219	-42.74	-13.0	29.7	84.5	Vertical	PASS
3423.940	-52.17	-13.0	39.2	34.8	Vertical	PASS
10376.559	-40.49	-13.0	27.5	222.2	Vertical	PASS
16184.539	-30.57	-13.0	17.6	11.7	Vertical	PASS

(Plot K.2: HSUPA 1700MHz Channel = 1312, Test Antenna Vertical)



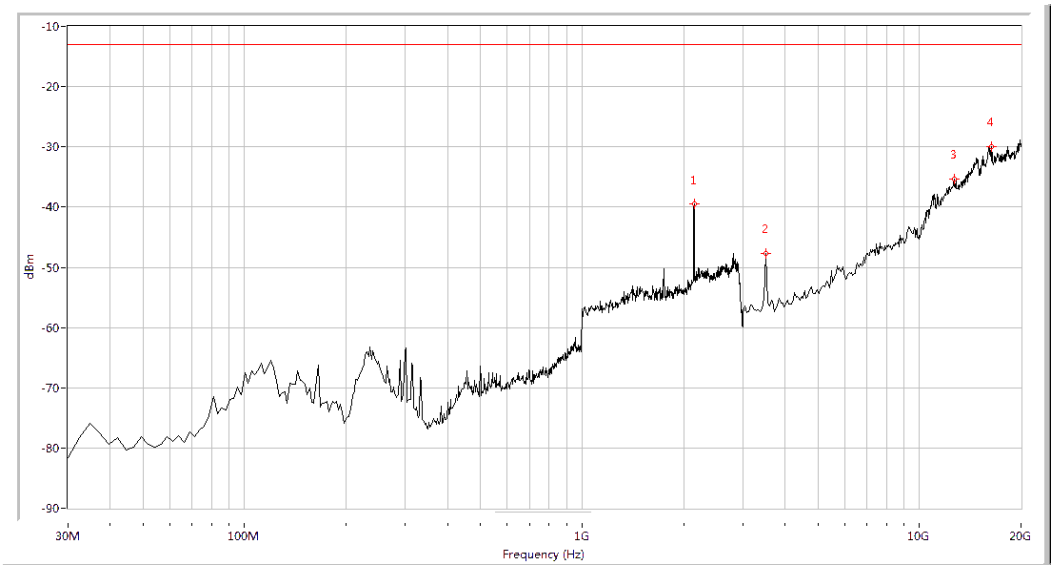
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-39.71	-13.0	26.7	54.9	Horizontal	PASS
3508.728	-47.58	-13.0	34.6	58.1	Horizontal	PASS
11097.257	-37.76	-13.0	24.8	3.7	Horizontal	PASS
17795.511	-29.43	-13.0	16.4	124.7	Horizontal	PASS

(Plot K.3: HSUPA 1700MHz Channel = 1412, Test Antenna Horizontal)



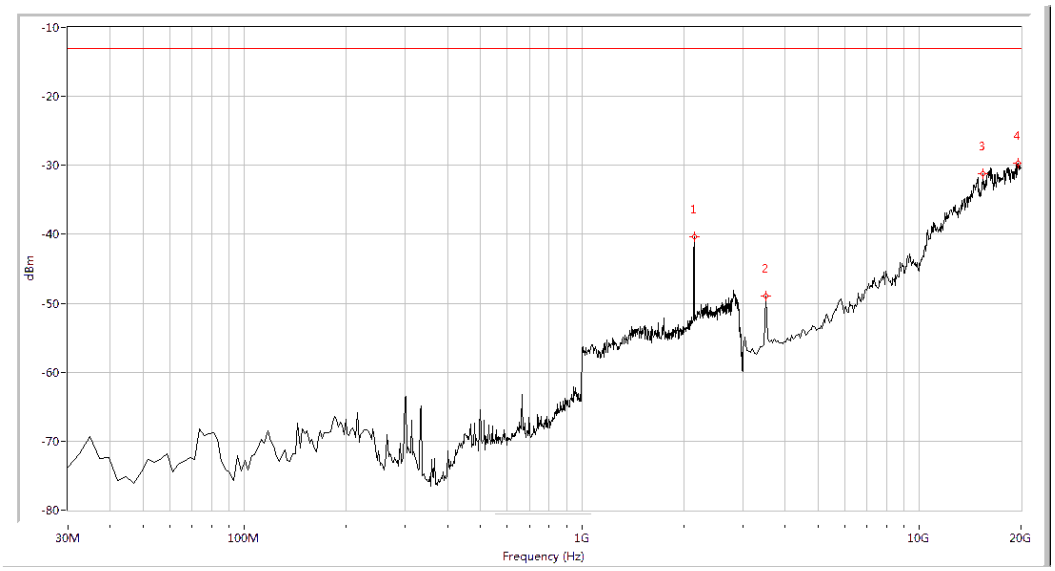
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-41.76	-13.0	28.8	71.8	Vertical	PASS
3508.728	-51.01	-13.0	38.0	171.9	Vertical	PASS
12835.411	-35.26	-13.0	22.3	319.6	Vertical	PASS
17032.419	-30.35	-13.0	17.3	25.7	Vertical	PASS

(Plot K.4: HSUPA 1700MHz Channel =1412, Test Antenna Vertical)



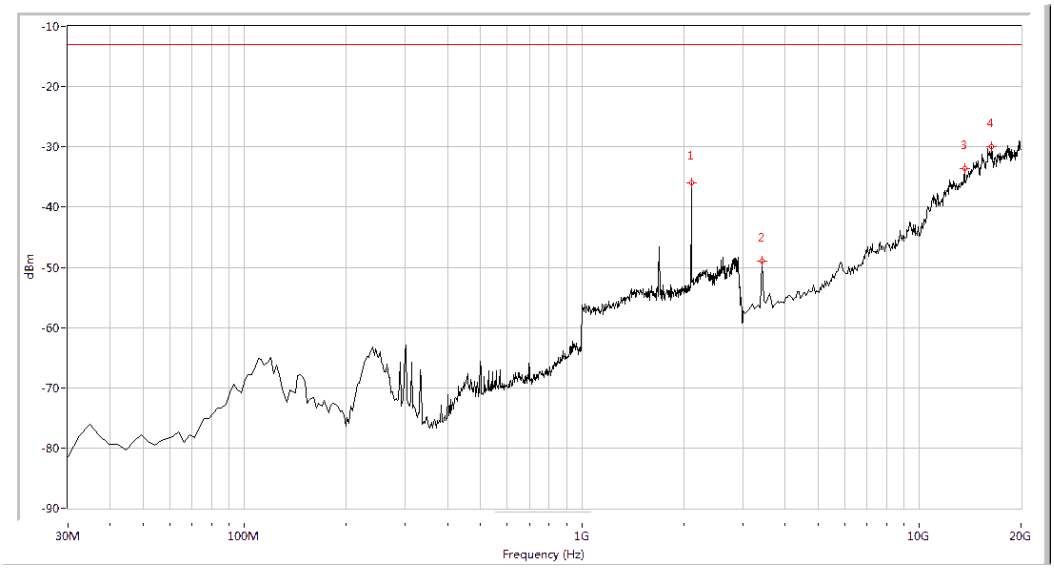
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2152.120	-39.40	-13.0	26.4	54.2	Horizontal	PASS
3508.728	-47.67	-13.0	34.7	74.5	Horizontal	PASS
12665.835	-35.33	-13.0	22.3	270.1	Horizontal	PASS
16396.509	-30.01	-13.0	17.0	221.4	Horizontal	PASS

(Plot K.5: HSUPA 1700MHz Channel = 1513, Test Antenna Horizontal)



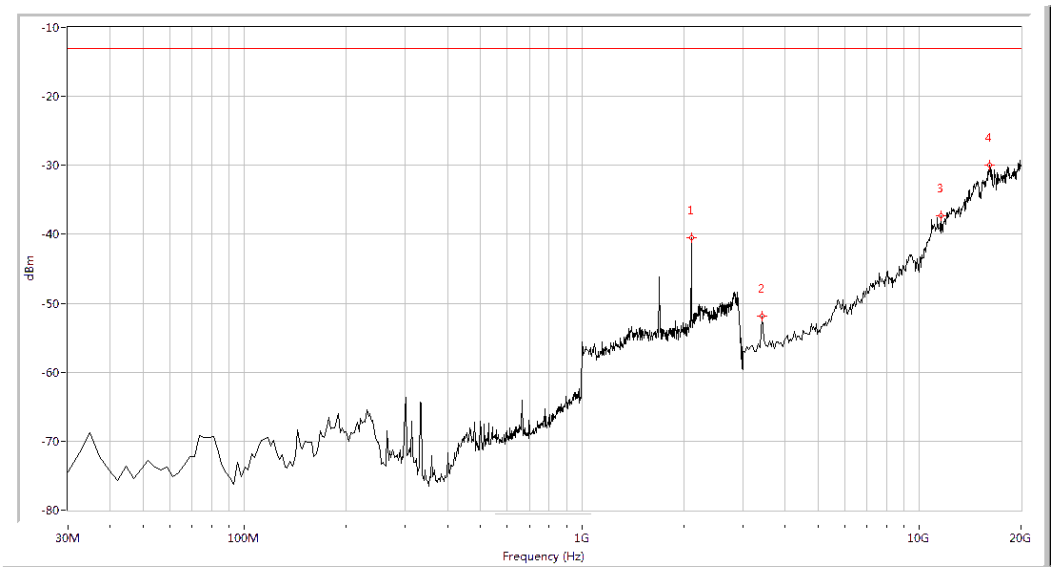
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2152.120	-40.33	-13.0	27.3	24.8	Vertical	PASS
3508.728	-48.98	-13.0	36.0	167.4	Vertical	PASS
15421.446	-31.26	-13.0	18.3	257.0	Vertical	PASS
19576.060	-29.65	-13.0	16.7	322.1	Vertical	PASS

(Plot K.6: HSUPA 1700MHz Channel = 1513, Test Antenna Vertical)



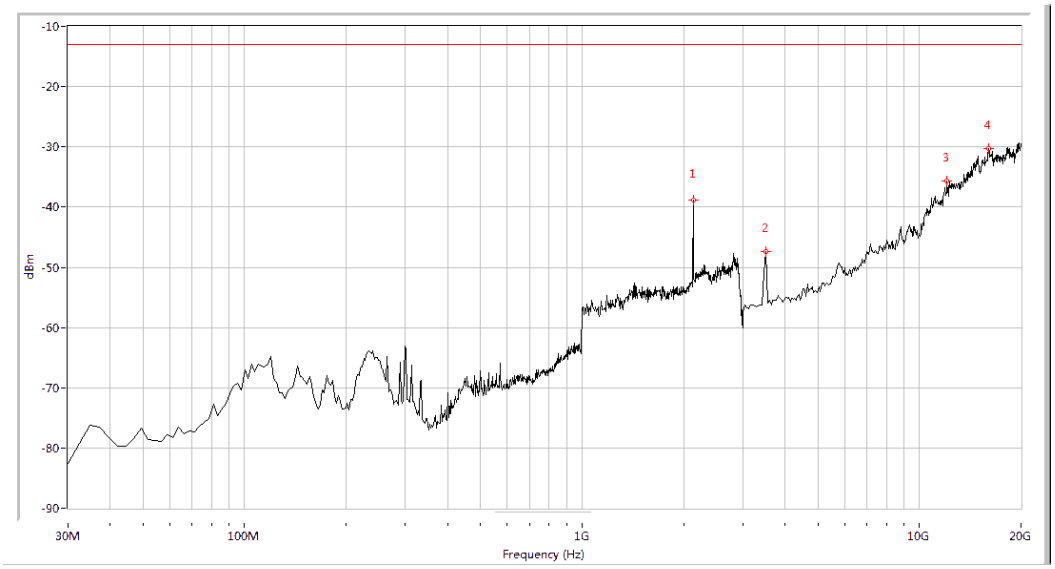
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2112.219	-36.00	-13.0	23.0	58.3	Horizontal	PASS
3423.940	-49.03	-13.0	36.0	75.2	Horizontal	PASS
13598.504	-33.55	-13.0	20.6	309.2	Horizontal	PASS
16396.509	-29.97	-13.0	17.0	109.0	Horizontal	PASS

(Plot L.1: HSPA+ 1700 MHz Channel = 1312, Test Antenna Horizontal)



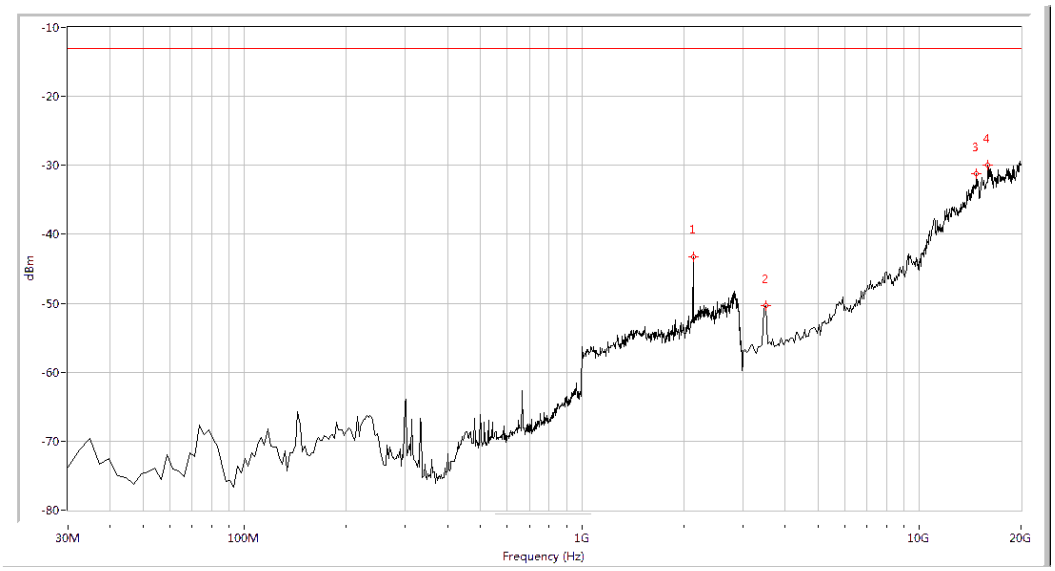
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2112.219	-40.47	-13.0	27.5	62.2	Vertical	PASS
3423.940	-51.85	-13.0	38.8	90.2	Vertical	PASS
11563.591	-37.33	-13.0	24.3	188.8	Vertical	PASS
16099.751	-30.03	-13.0	17.0	302.6	Vertical	PASS

(Plot L.2: HSPA+ 1700 MHz Channel = 1312, Test Antenna Vertical)



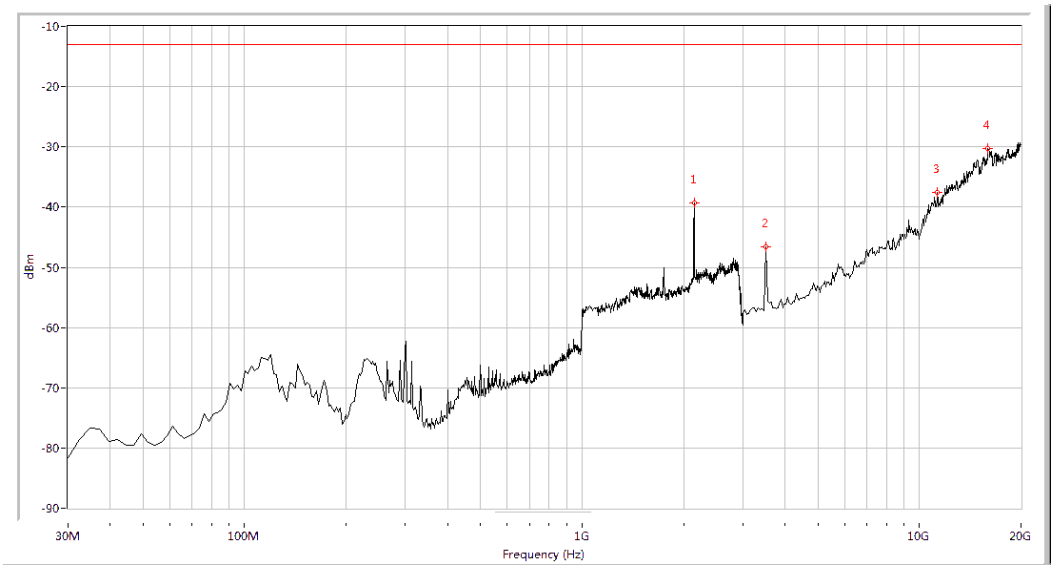
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-38.84	-13.0	25.8	61.1	Horizontal	PASS
3508.728	-47.46	-13.0	34.5	58.8	Horizontal	PASS
12072.319	-35.69	-13.0	22.7	360.0	Horizontal	PASS
16014.963	-30.28	-13.0	17.3	201.6	Horizontal	PASS

(Plot L.3: HSPA+ 1700 MHz Channel = 1412, Test Antenna Horizontal)



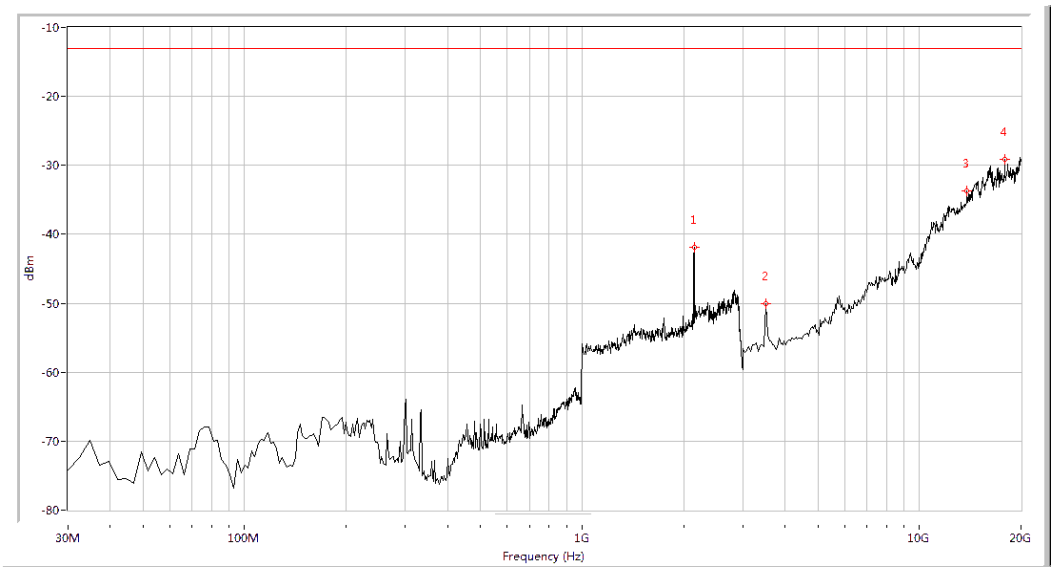
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2137.157	-43.27	-13.0	30.3	94.2	Vertical	PASS
3508.728	-50.39	-13.0	37.4	0.5	Vertical	PASS
14785.536	-31.23	-13.0	18.2	121.9	Vertical	PASS
15972.569	-29.92	-13.0	16.9	14.4	Vertical	PASS

(Plot L.4: HSPA+ 1700 MHz Channel = 1412, Test Antenna Vertical)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2152.120	-39.31	-13.0	26.3	56.1	Horizontal	PASS
3508.728	-46.60	-13.0	33.6	77.4	Horizontal	PASS
11309.227	-37.59	-13.0	24.6	128.4	Horizontal	PASS
15930.175	-30.27	-13.0	17.3	360.0	Horizontal	PASS

(Plot L.5: HSPA+ 1700 MHz Channel = 1513, Test Antenna Horizontal)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
2152.120	-41.83	-13.0	28.8	17.3	Vertical	PASS
3508.728	-50.06	-13.0	37.1	207.6	Vertical	PASS
13810.474	-33.67	-13.0	20.7	312.1	Vertical	PASS
17922.693	-29.16	-13.0	16.2	200.2	Vertical	PASS

(Plot L.6: HSPA+ 1700 MHz Channel = 1513, Test Antenna Vertical)

** END OF REPORT **