



Report No.: SZ12070093W02



FCC TEST REPORT

Issued to

ARCHOS S.A

For

Internet Tablet

Model Name: AC97XEUS
Trade Name: ARCHOS
Brand Name: ARCHOS
FCC ID : SOVAC97XEUS
Standard: 47 CFR Part 2
47 CFR Part 22 Subpart H
47 CFR Part 24 Subpart E
Test date: 2012-8-9 to 2012-8-30
Issue date: 2012-9-3

Shenzhen Morlab Communications Technology Co., Ltd.



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Nie Quan

Date 2012.9.3

Approved by [Signature]
Date 2012.09.03

Reviewed by [Signature]
Peng Huarui

Date 2012.9.3

CTIA Authorized Test Lab
LAB CODE 20081223-00
IEEE 1725

OFTA
電訊管理局



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Bluetooth
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FCC
Reg. No.
741109

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Change History		
Issue	Date	Reason for change
1.0	Sep 3, 2012	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type: Internet Tablet
Serial No.....: (n.a, marked #1 by test site)
Hardware Version: V0.3
Software Version: FW8935-V0.4.3.0
Applicant: ARCHOS S.A
12 rue Ampère - 91430 Igny FRANCE
Manufacturer: Foxda Technology Industrial(Shenzhen)Co.,LTD
4/F, Fuxing Bldg, Binlang Road, Futian Free Trade Zone,
SHENZHEN,CHINA
Frequency Range.....: WCDMA 850MHz
Tx: 826.4 - 846.6MHz (at intervals of 200kHz);
Rx: 871.4 - 891.6MHz (at intervals of 200kHz)
WCDMA 1900MHz
Tx: 1852.4 - 1907.6MHz (at intervals of 200kHz);
Rx: 1932.4 - 1987.6MHz (at intervals of 200kHz)
Modulation Type.....: WCDMA Mode with QPSK Modulation
HSDPA Mode with QPSK Modulation
HSUPA Mode with QPSK Modulation
Antenna Type.....: PIFA Antenna
Emission Designators: 4M11F9W

Note 1: The transmitter (Tx) frequency arrangement of the WCDMA 850MHz band used by the EUT can be represented with the formula $F(n)=826.4+0.2*(n-4132)$, $4132 \leq n \leq 4233$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 4132 (826.4MHz), 4175(835MHz) and 4233 (846.6MHz).

Note 2: The transmitter (Tx) frequency arrangement of the WCDMA 1900MHz band used by the EUT can be represented with the formula $F(n)=1852.4+0.2*(n-9262)$, $9262 \leq n \leq 9538$; 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 3: 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

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	2.1049	99% Occupied Bandwidth	PASS
3	2.1055 22.355 24.235	Frequency Stability	PASS
4	2.1051 2.1057 22.917 24.238	Conducted Out of Band Emissions	PASS
5	2.1051 2.1057 22.917 24.238	Band Edge	PASS
6	22.913 24.232	Transmitter Radiated Power (EIPR/ERP)	PASS
7	2.1053 2.1057 22.917 24.238	Radiated Out of Band Emissions	PASS

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

1.3 Facilities and Accreditations

1.3.1 Facilities

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

All measurement facilities used to collect the measurement data are located at 3/F, Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen, 518055 P. R. China. 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 741109.

1.3.2 Test Environment Conditions

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

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

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

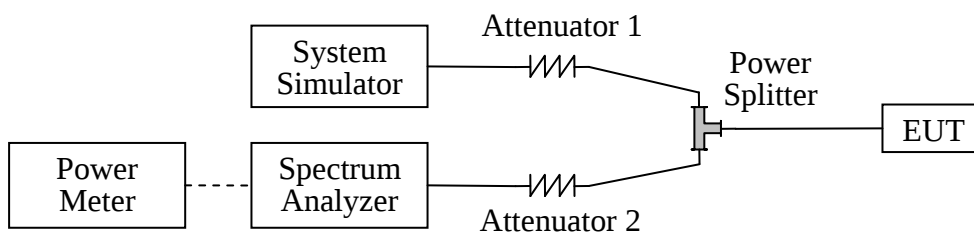
2.1 Conducted RF Output Power

2.1.1 Requirement

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

2.1.2 Test Description

1. Test Setup:



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

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

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date
System Simulator	Agilent	E5515C	GB43130131	2012.05
Spectrum Analyzer	Agilent	E7405A	US44210471	2012.05
Power Meter	Agilent	E4418B	GB43318055	2012.05
Power Splitter	Weinschel	1506A	NW521	(n.a.)
Attenuator 1	Resnet	20dB	(n.a.)	(n.a.)
Attenuator 2	Resnet	3dB	(n.a.)	(n.a.)

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. WCDMA Model Test Verdict:

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest	dBm			dBm		
5.2(WCDMA)	non	22.68	22.73	22.77	21.85	21.83	21.96
HSDPA	1	22.63	22.67	22.68	21.81	21.79	21.88
	2	22.63	22.66	22.69	21.80	21.77	21.89
	3	22.16	22.15	22.52	21.33	21.28	21.35
	4	22.19	22.17	22.58	21.32	21.27	21.39
HSUPA	1	22.65	22.65	22.67	21.81	21.75	21.86
	2	20.67	20.66	20.63	19.79	19.77	19.85
	3	21.59	21.67	21.69	20.85	20.76	20.85
	4	20.61	20.67	20.65	19.82	19.76	19.81
	5	22.63	22.66	22.69	21.80	21.73	21.85

2.2 99% Occupied Bandwidth

2.2.1 Definition

According to FCC section 2.1049, 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,

2.2.2 Test Description

See section 2.1.2 of this report.

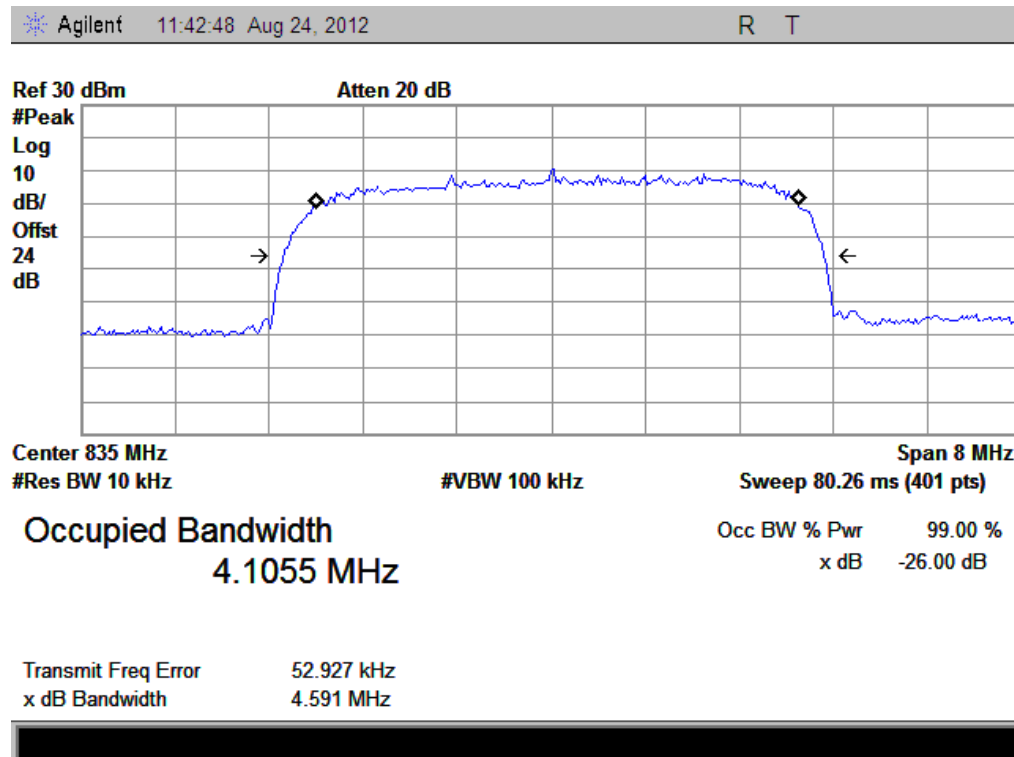
2.2.3 Test Verdict

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

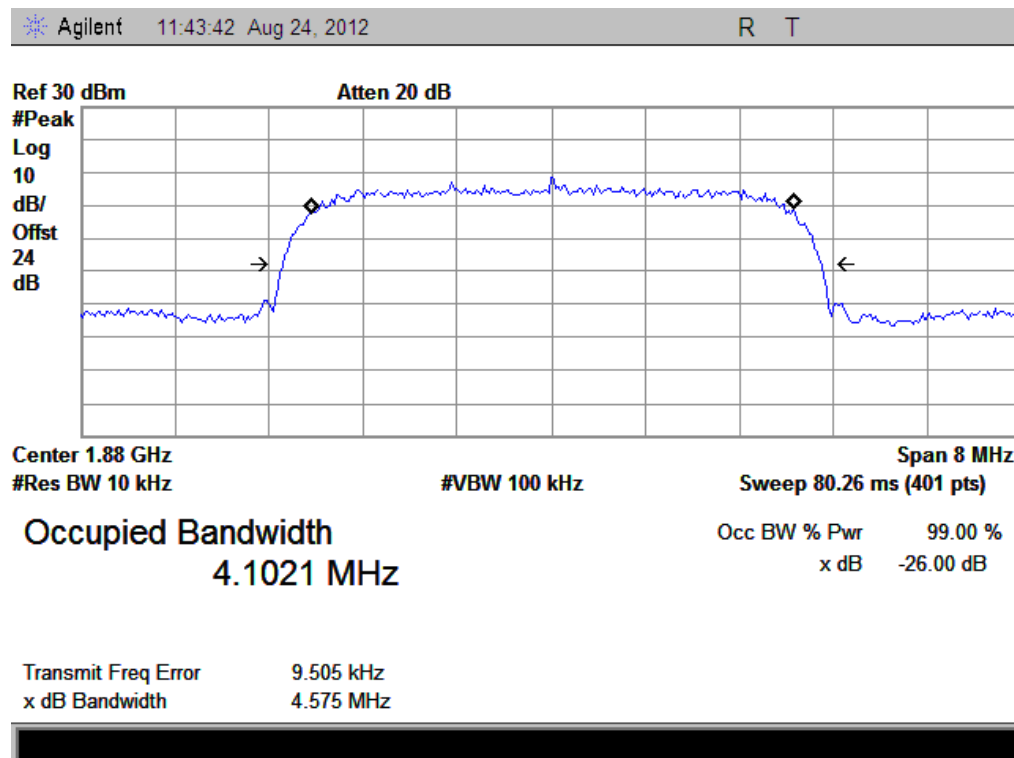
1. Test Verdict:

Band	Channel	Frequency (MHz)	99% Occupied Bandwidth	Refer to Plot
WCDMA 850MHz	4175	835	4.1055 MHz	Plot A
WCDMA 1900MHz	9400	1880	4.1021 MHz	Plot B
HSDPA 850MHz	4175	835	4.0994 MHz	Plot C
HSDPA 1900MHz	9400	1880	4.0975 MHz	Plot D
HSUPA 850MHz	4175	835	4.1157 MHz	Plot E
HSUPA 1900MHz	9400	1880	4.1071 MHz	Plot F

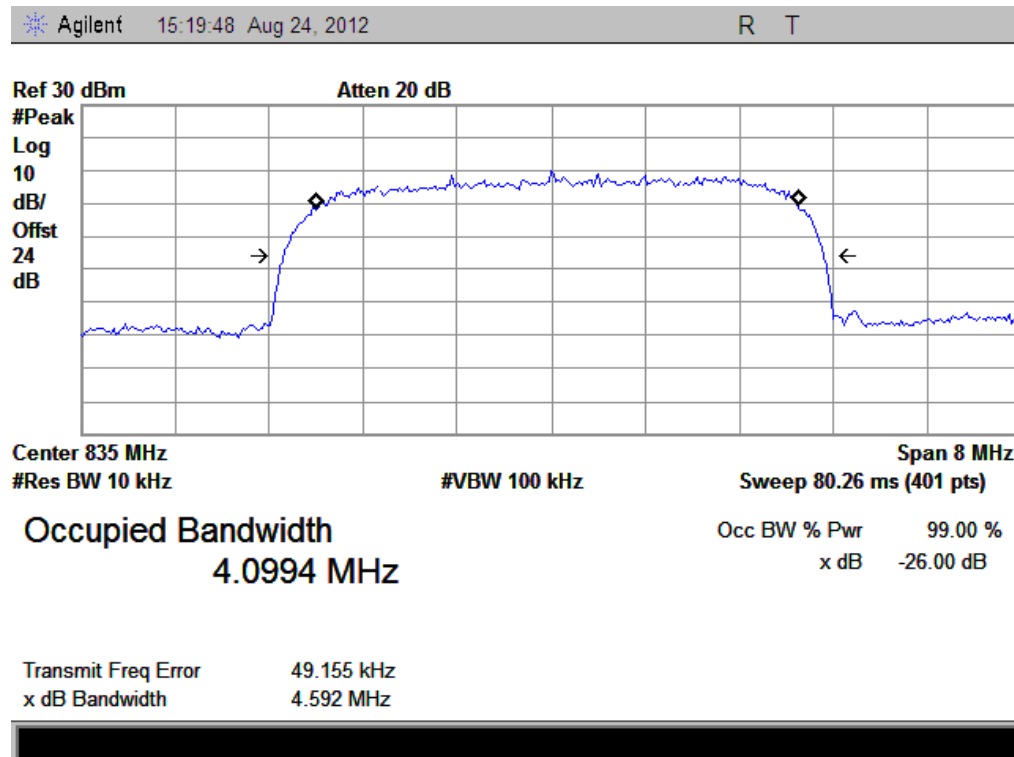
2. Test Plots:



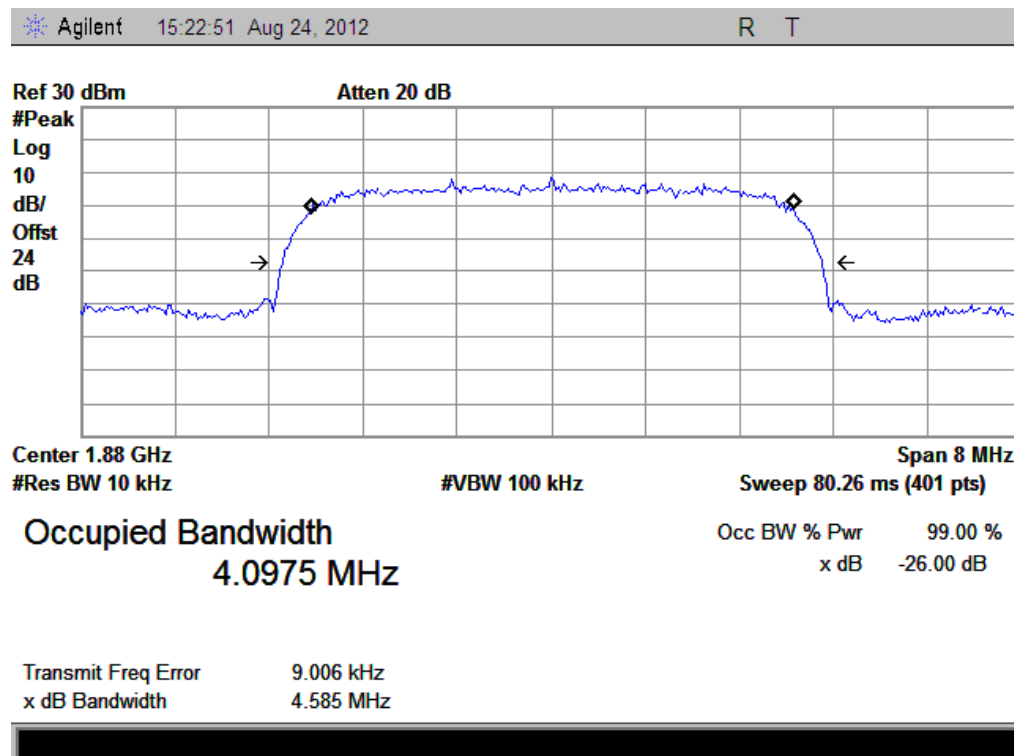
(Plot A: WCDMA 850MHz Channel = 4175)



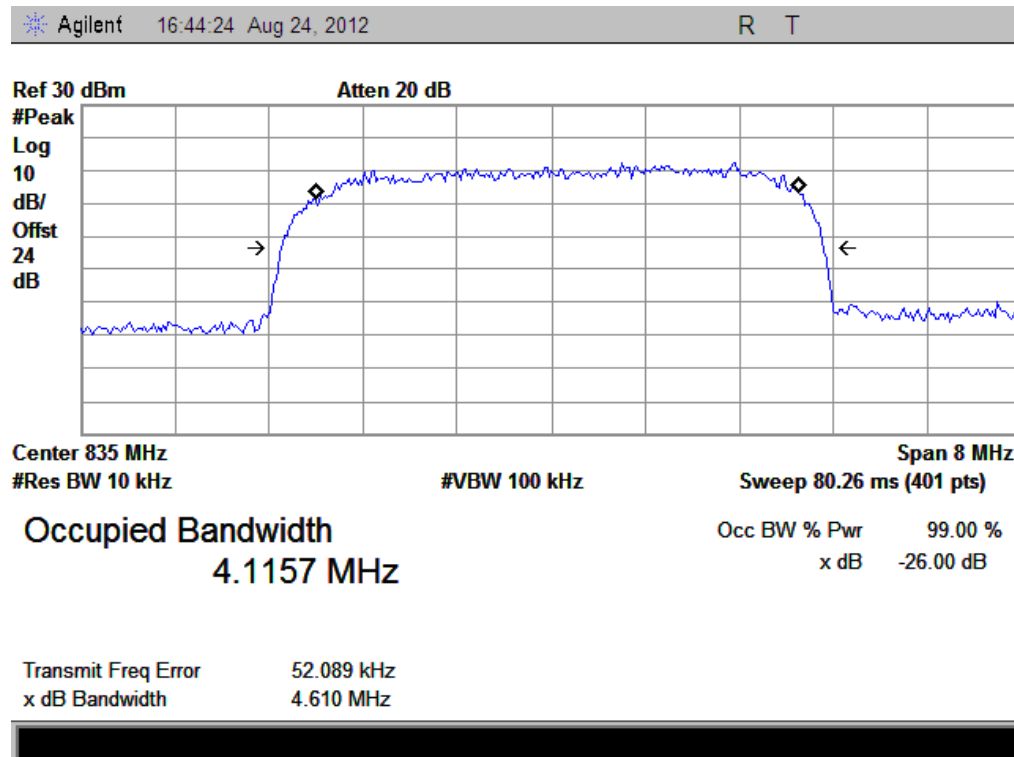
(Plot B: WCDMA 1900MHz Channel = 9400)



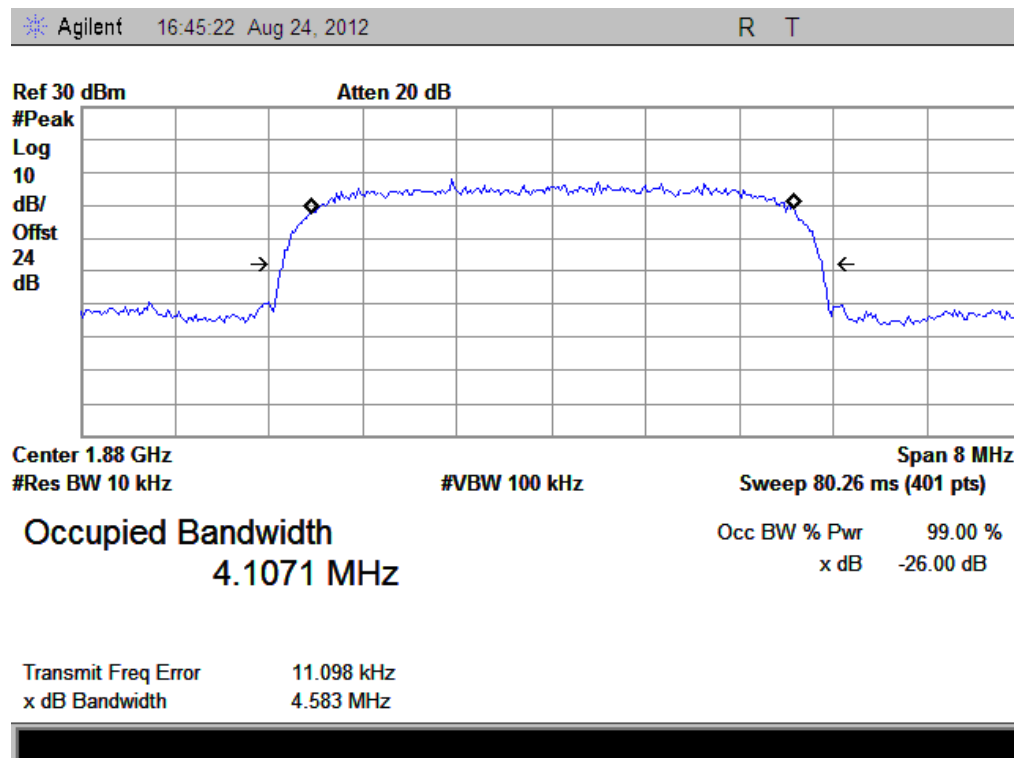
(Plot C: HSDPA 850MHz Channel = 4175)



(Plot D: HSDPA1900MHz Channel = 9400)



(Plot E: HSUPA 850MHz Channel = 4175)



(Plot F: HSUPA1900MHz Channel = 9400)

2.3 Frequency Stability

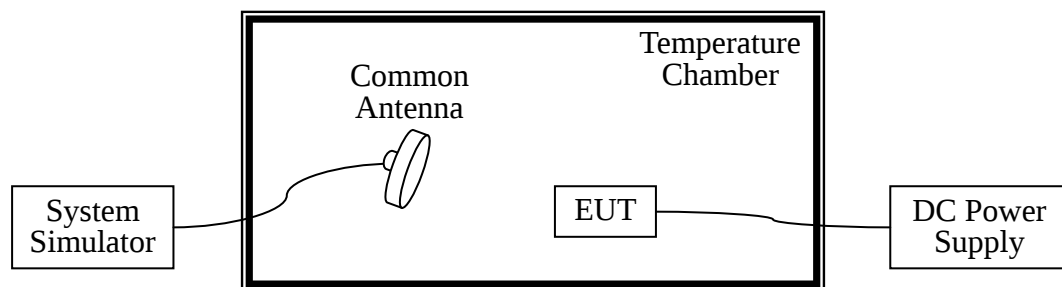
2.3.1 Requirement

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

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

2.3.2 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
System Simulator	Agilent	E5515C	GB43130131	2012.05
DC Power Supply	Good Will	GPS-3030DD	EF920938	2012.05
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2012.05

2.3.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.7VDC, 4.2VDC and 3.6VDC, which are specified by the applicant; the normal temperature here used is 25°C. The frequency

deviation limit of 850MHz band is $\pm 2.5\text{ppm}$, and 1900MHz is $\pm 1\text{ppm}$

1. WCDMA 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4123 (826.4MHz)		Channel = 4175 (835MHz)		Channel = 4233 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.7	-30	17.29	±826.4	11.87	±835	-9.81	±846.6	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		
4.2	+25	-6.18		30.62		22.19		
3.6	+25	18.66		-18.00		-18.70		

2. WCDMA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.7	-30	17.29	±1852.4	18.25	±1880.0	-8.99	±1907.6	PASS
	-20	-7.32		2.49		23.60		
	-10	-3.40		-10.71		14.81		
	0	16.47		-7.77		-3.07		
	+10	30.18		21.97		17.42		
	+20	-2.62		11.87		-10.39		
	+30	22.31		-0.59		17.47		
	+40	0.32		21.45		27.84		
	+50	-13.55		-5.71		-2.53		
4.2	+25	23.21		14.58		20.95		
3.6	+25	22.00		26.37		-23.22		

3. HSDPA 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4123 (826.4MHz)		Channel = 4175 (835MHz)		Channel = 4233 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.7	-30	27.46	±826.4	-24.37	±835	15.81	±846.6	PASS
	-20	-8.56		-13.96		14.41		
	-10	20.65		35.23		21.57		
	0	12.88		-8.31		-24.37		
	+10	-14.75		-13.95		-13.96		
	+20	8.78		-24.37		35.23		
	+30	-1.49		12.88		-8.31		
	+40	17.14		-14.75		-13.95		
	+50	-23.61		23.37		26.37		
4.2	+25	32.03		7.93		7.90		
3.6	+25	17.51		-31.21		1.78		

4. HSDPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.7	-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		
	+50	16.32		-25.88		-12.52		
4.2	+25	-11.28		29.43		-2.83		
3.6	+25	10.33		-2.27		14.42		

5. HSUPA 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4123 (826.4MHz)		Channel = 4175 (835MHz)		Channel = 4233 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.7	-30	13.82	±826.4	13.5	±835	13.55	±846.6	PASS
	-20	-15.25		-15.31		7.43		
	-10	-11.79		-11.79		7.00		
	0	-0.44		-0.44		-7.32		
	+10	0.01		0.01		-4.91		
	+20	13.82		-6.64		21.35		
	+30	-15.25		24.25		-5.94		
	+40	-11.79		9.63		13.78		
	+50	-0.44		23.76		28.45		
4.2	+25	1.71		-4.57		29.11		
3.6	+25	1.54		5.25		-7.70		

6. HSUPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.7	-30	14.55	±1852.4	30.18	±1880	-12.97	±1907.6	PASS
	-20	7.15		19.36		12.35		
	-10	8.69		-5.91		29.57		
	0	2.01		7.29		-6.20		
	+10	-4.75		-4.52		-12.61		
	+20	16.38		31.70		-13.09		
	+30	-1.76		33.66		-0.38		
	+40	23.52		1.15		-11.85		
	+50	13.79		-7.94		-5.91		
4.2	+25	-7.08		6.81		25.48		
3.6	+25	22.58		-1.83		-15.78		

2.4 Conducted Out of Band Emissions

2.4.1 Requirement

According to FCC section 22.917(a) and FCC section 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13dBm.

2.4.2 Test Description

See section 2.1.2 of this report.

2.4.3 Test Result

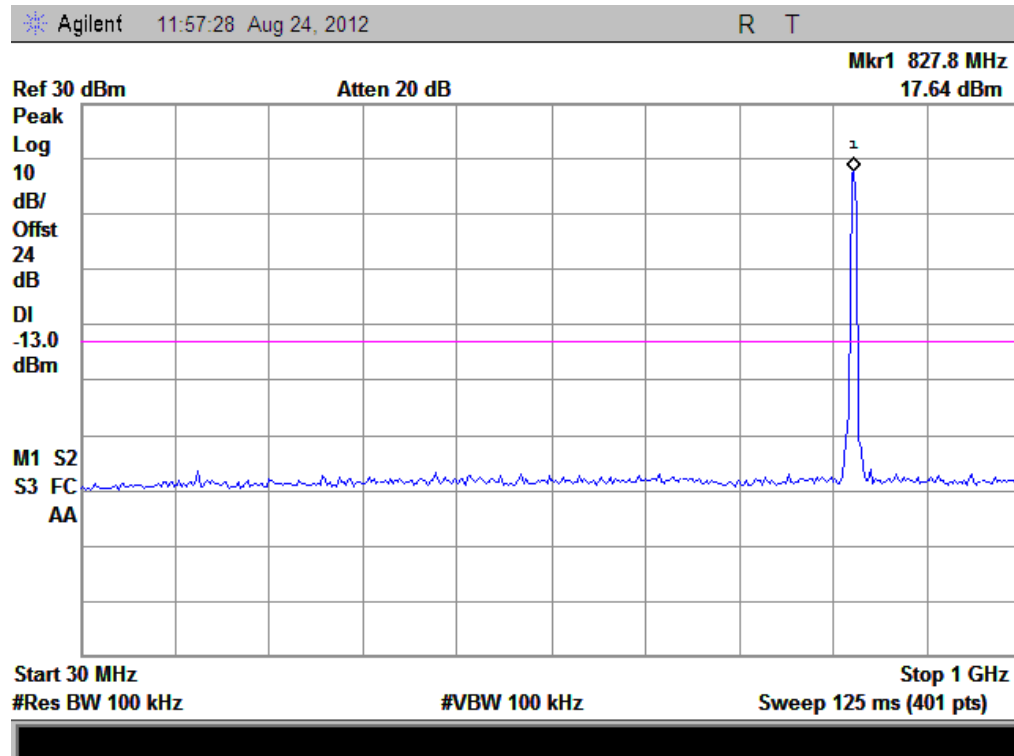
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

1. Test Verdict:

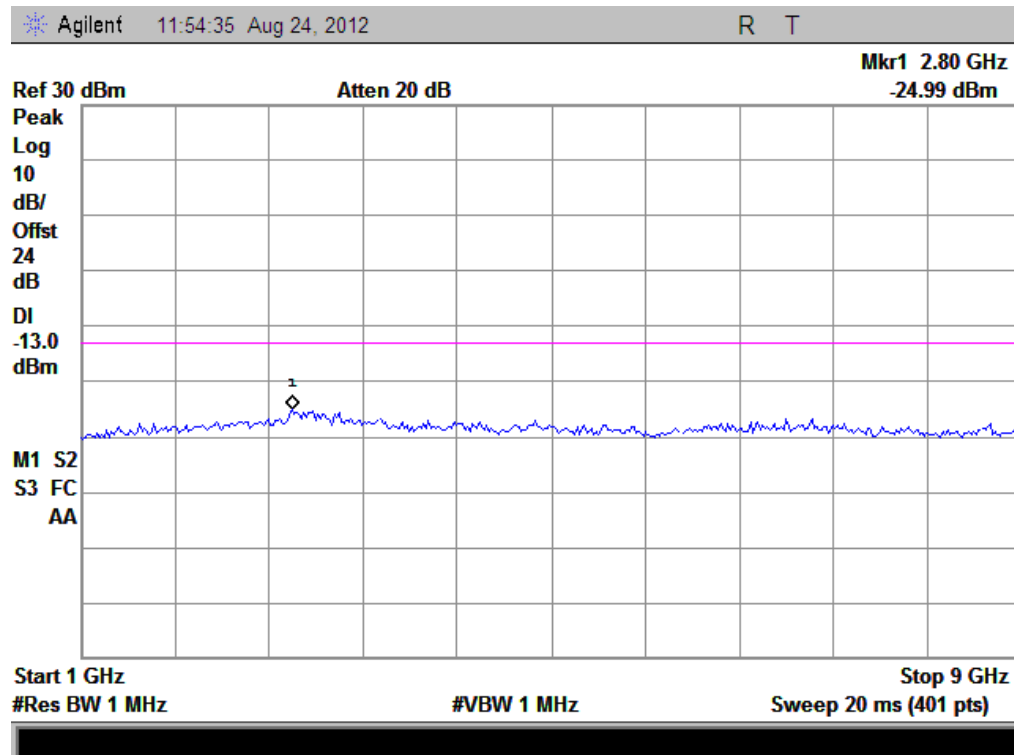
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
WCDMA 850MHz	4132	826.4	-24.99	Plot A1toA1.1	-13	PASS
	4175	835	-24.45	Plot A2toA2.1		PASS
	4233	846.6	< -25	Plot A3toA3.1		PASS
WCDMA 1900MHz	9262	1852.4	< -25	Plot B1toB1.1	-13	PASS
	9400	1880	-23.11	Plot B2toB2.1		PASS
	9538	1907.6	< -25	Plot B3toB3.1		PASS
HSDPA 850MHz	4132	826.4	-24.15	Plot C1toC1.1	-13	PASS
	4175	835	-24.87	Plot C2toC2.1		PASS
	4233	846.6	-24.86	Plot C3toC3.1		PASS
HSDPA 1900MHz	9262	1852.4	< -25	Plot D1toD1.1	-13	PASS
	9400	1880	-24.25	Plot D2toD2.1		PASS
	9538	1907.6	< -25	Plot D3toD3.1		PASS
HSUPA 850MHz	4132	826.4	-24.77	Plot E1toE1.1	-13	PASS
	4175	835	-24.41	Plot E2toE2.1		PASS
	4233	846.6	-24.44	Plot E3toE3.1		PASS
HSUPA 1900MHz	9262	1852.4	-24.55	Plot F1toF1.1	-13	PASS
	9400	1880	< -25	Plot F2toF2.1		PASS
	9538	1907.6	< -25	Plot F3toF3.1		PASS

2. Test Plots for the Whole Measurement Frequency Range:

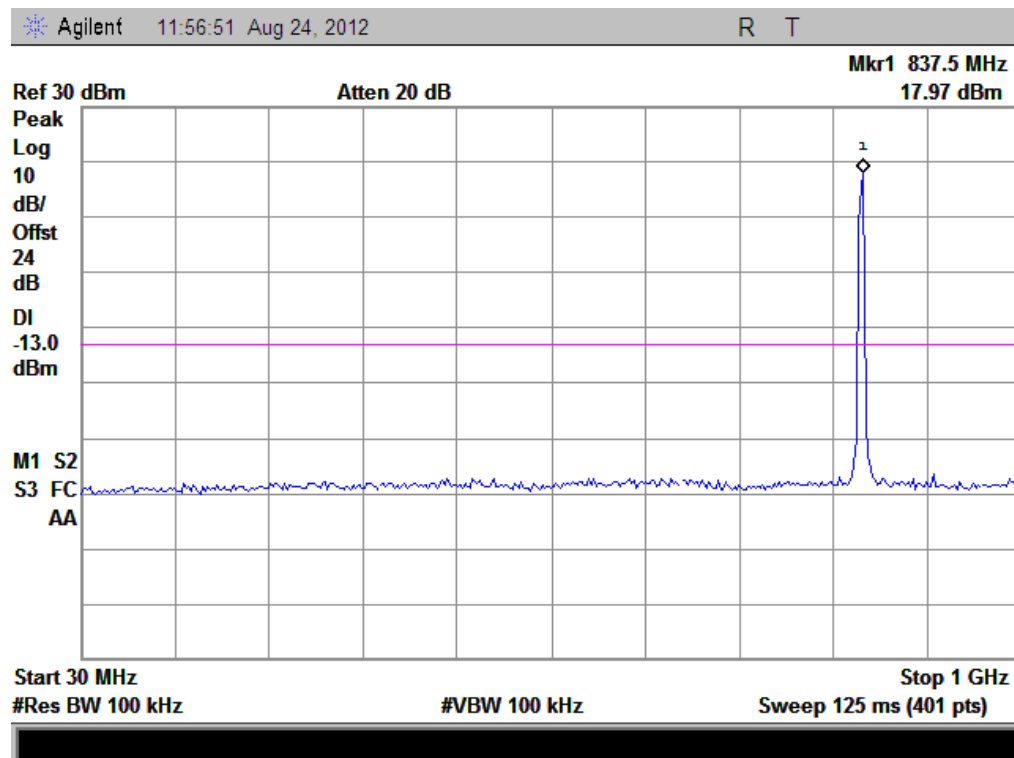
Note: the power of the EUT transmitting frequency should be ignored.



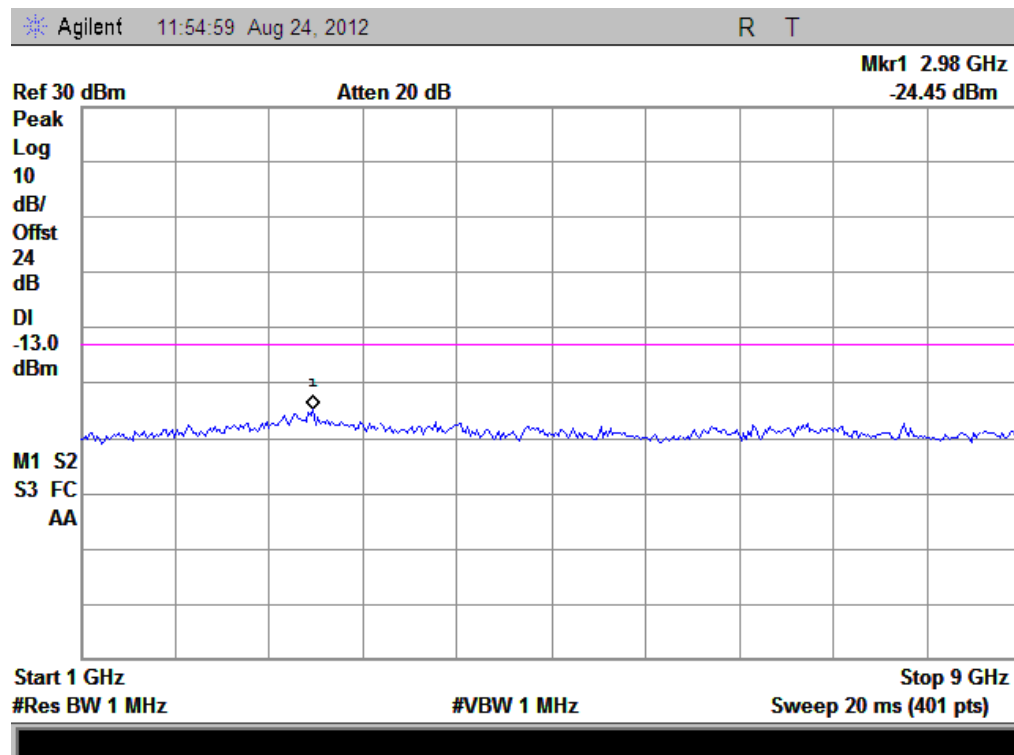
(Plot A1: WCDMA850MHz Channel = 4132, 30MHz to 1GHz)



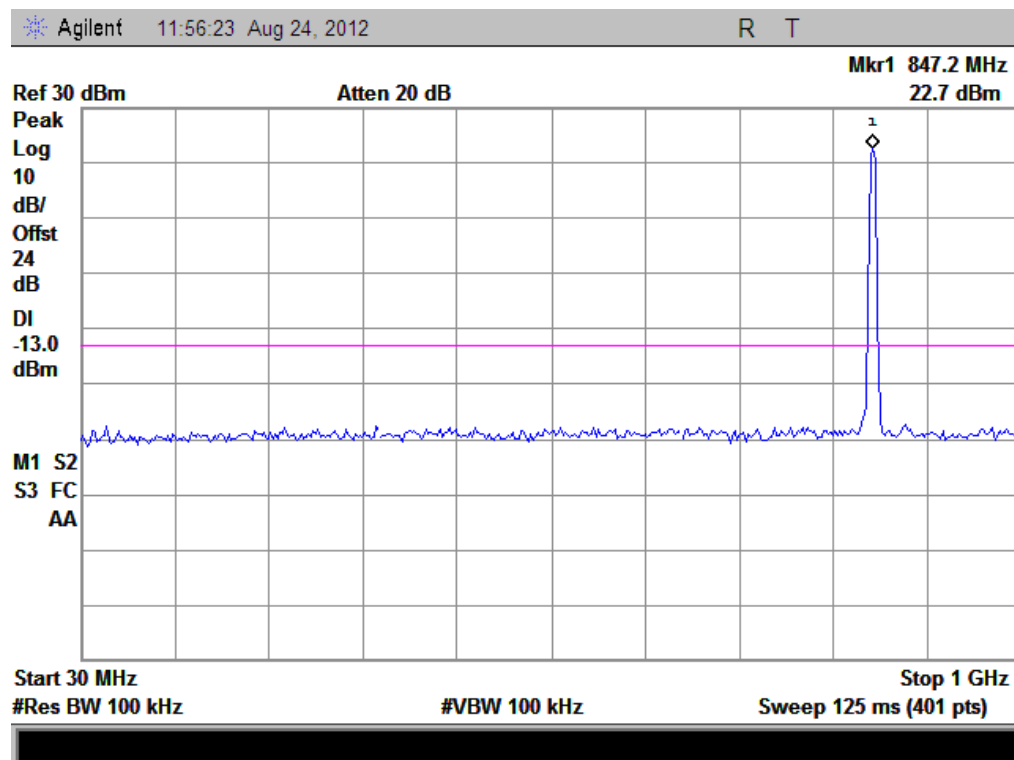
(Plot A1.1: WCDMA850MHz Channel = 4132, 1GHz to 9GHz)



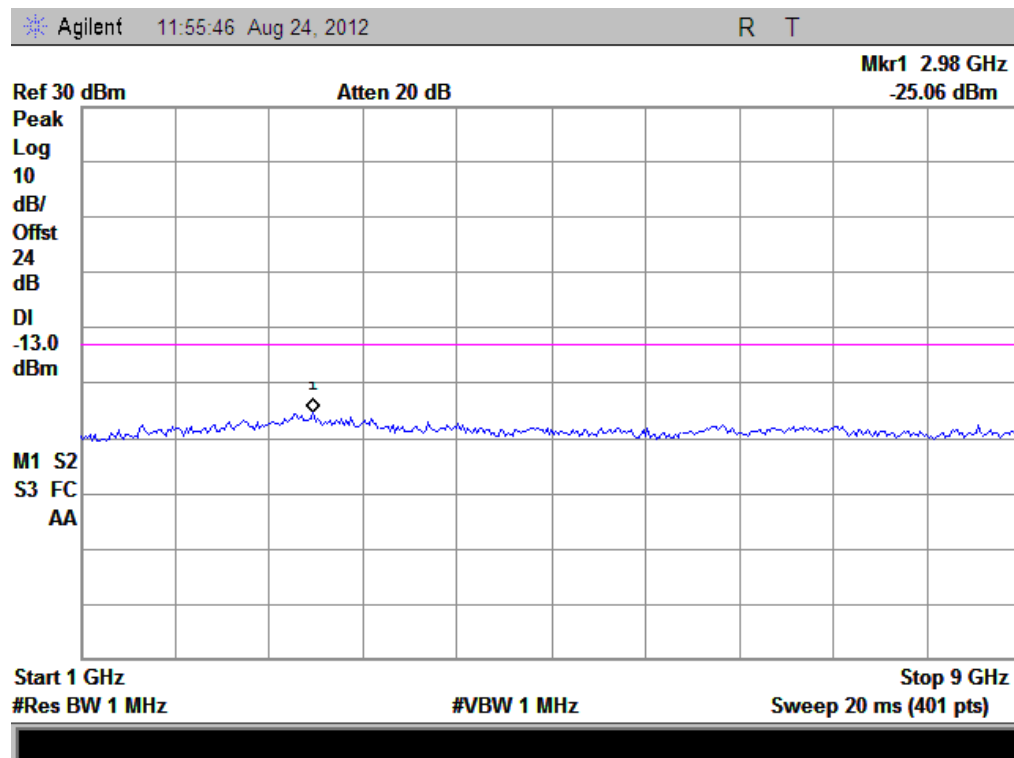
(Plot A2: WCDMA850MHz Channel = 4175, 30MHz to 1GHz)



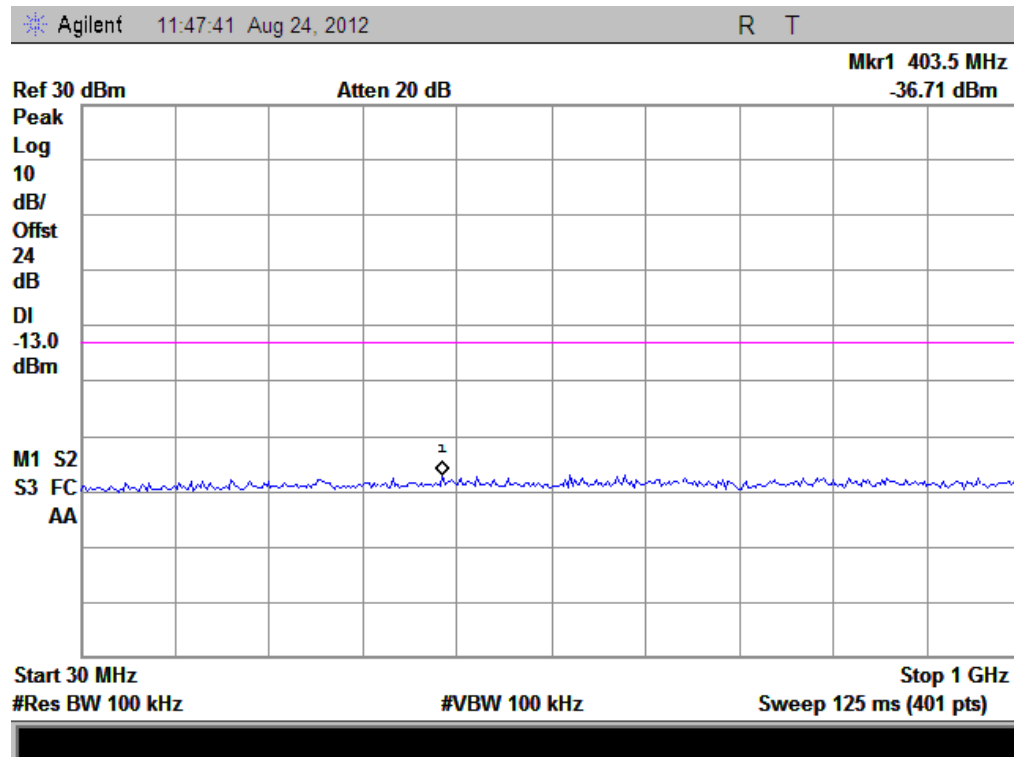
(Plot A2.1: WCDMA850MHz Channel = 4175, 1GHz to 9GHz)



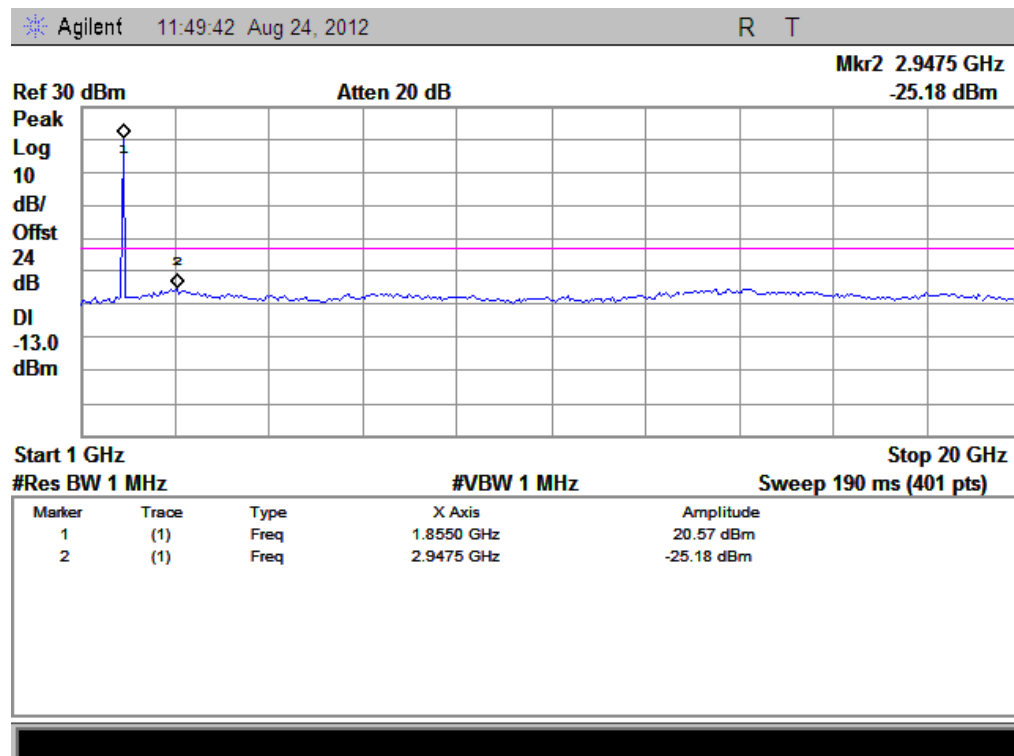
(Plot A3: WCDMA850MHz Channel = 4233, 30MHz to 1GHz)



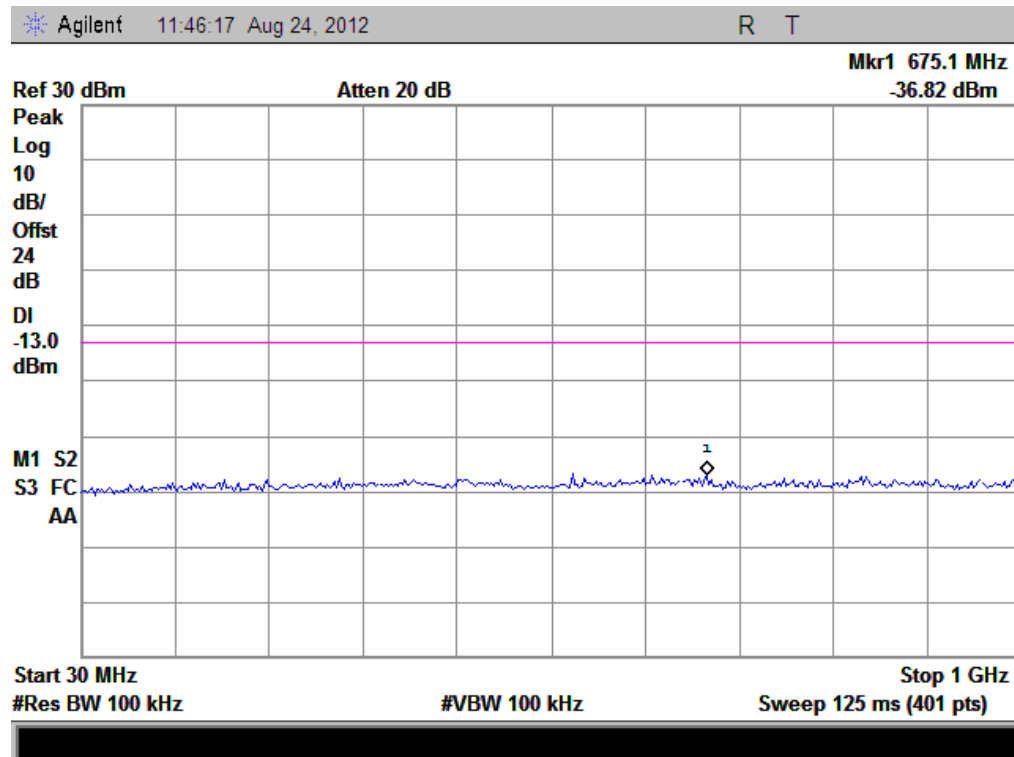
(Plot A3.1: WCDMA850MHz Channel = 4233, 1GHz to 9GHz)



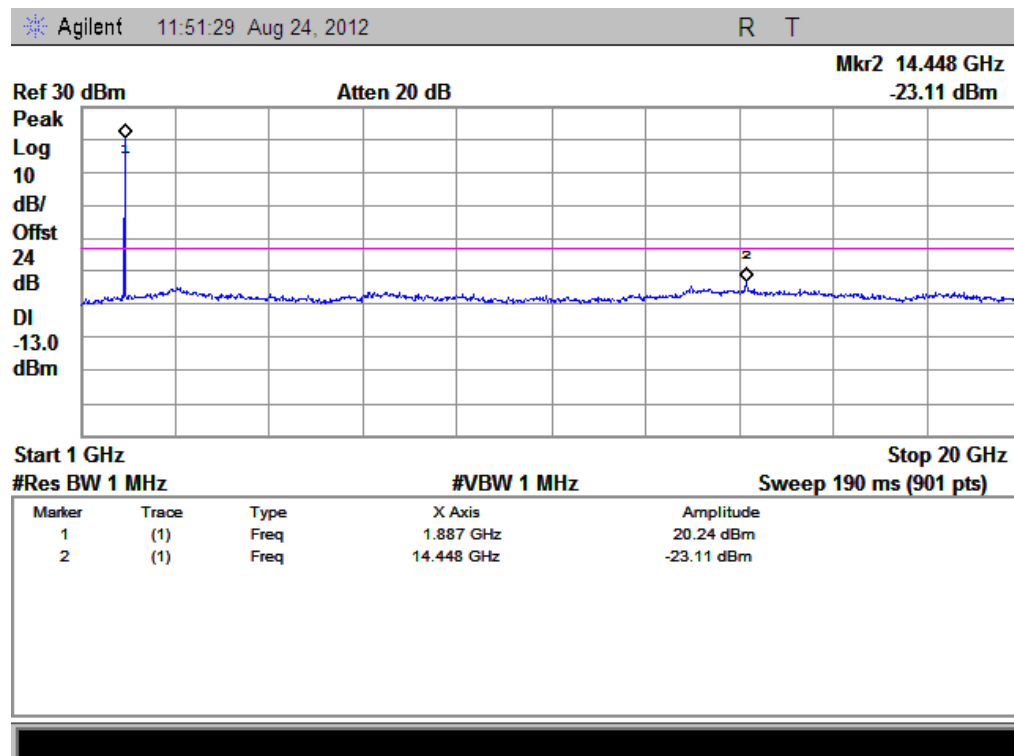
(Plot B1: WCDMA1900MHz Channel = 9262, 30MHz to 1GHz)



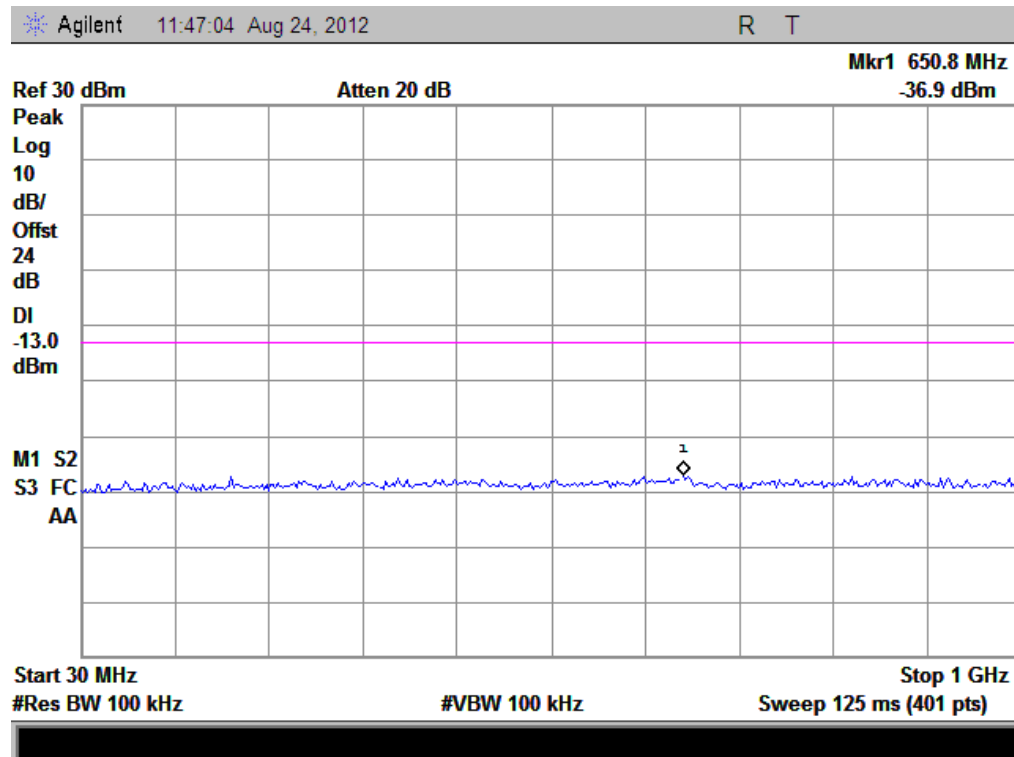
(Plot B1.1: WCDMA1900MHz Channel = 9262, 1GHz to 20GHz)



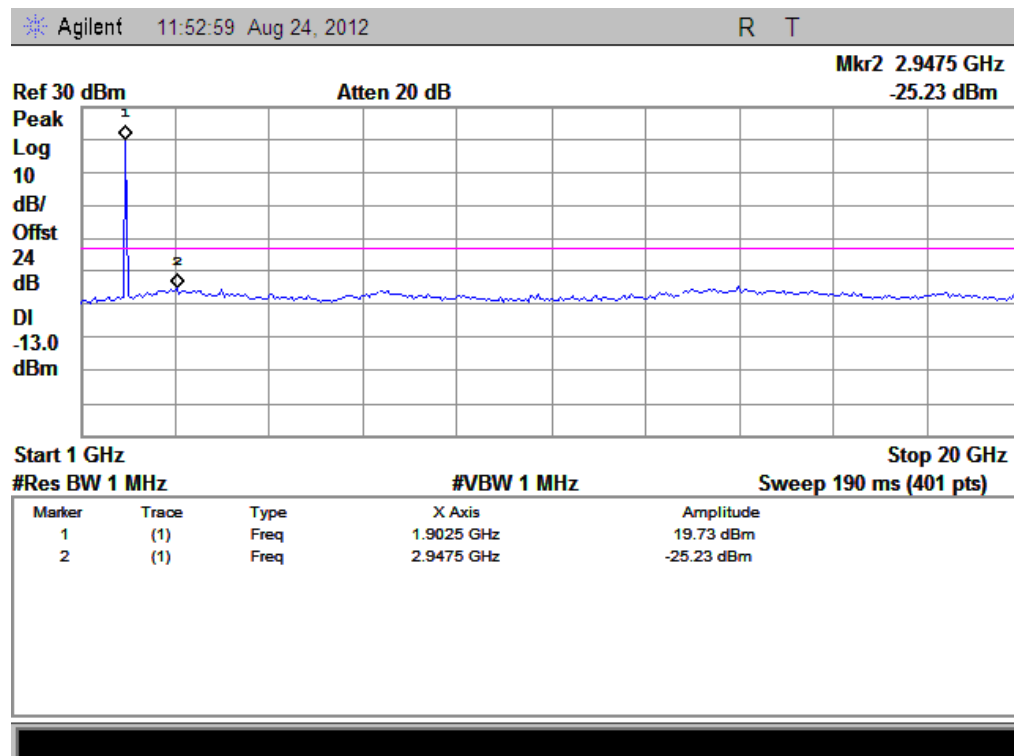
(Plot B2: WCDMA1900MHz Channel = 9400, 30MHz to 1GHz)



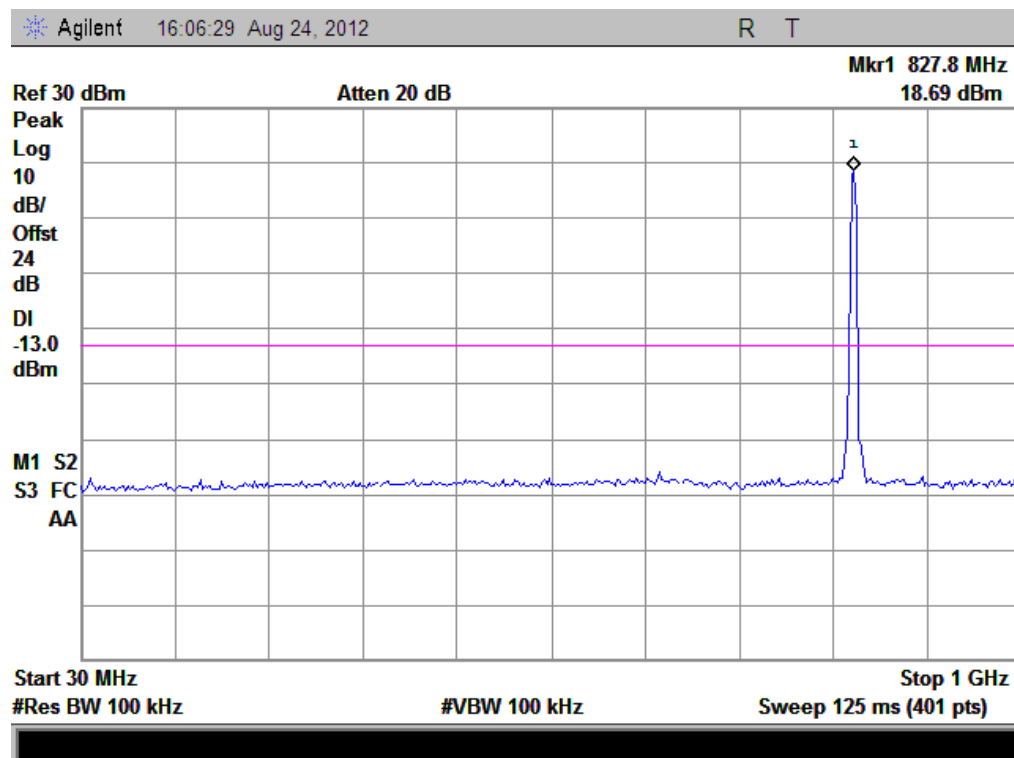
(Plot B2.1: WCDMA1900MHz Channel = 9400, 1GHz to 20GHz)



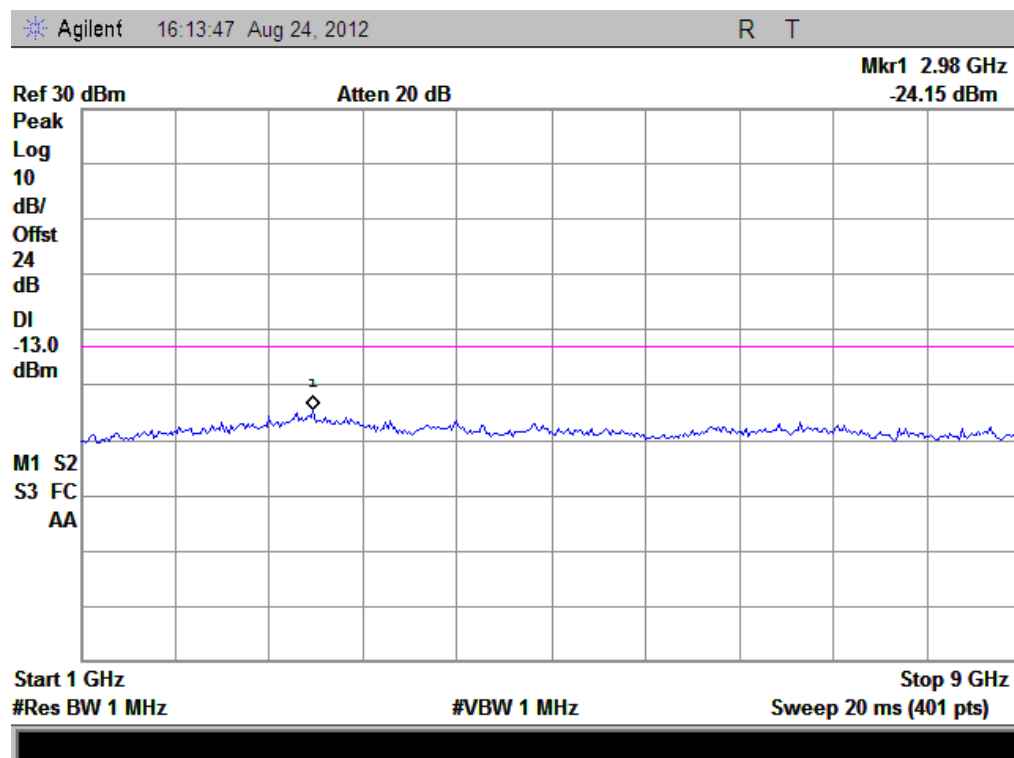
(Plot B3: WCDMA1900MHz Channel = 9538, 30MHz to 1GHz)



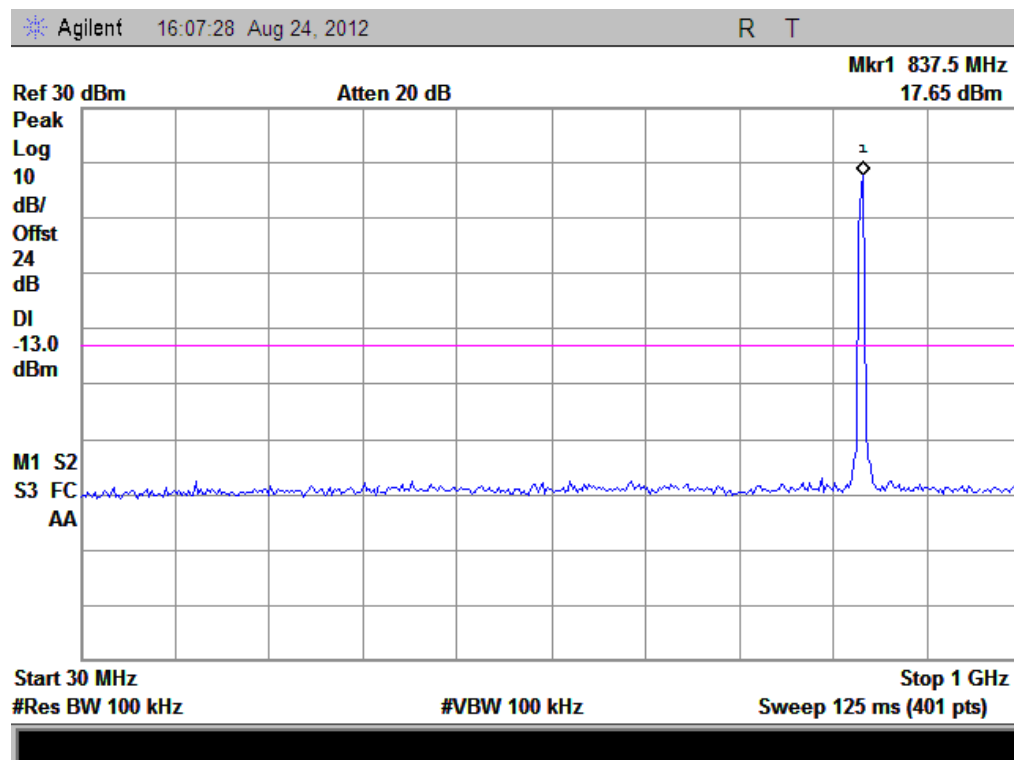
(Plot B3.1: WCDMA1900MHz Channel = 9538 1GHz to 20GHz)



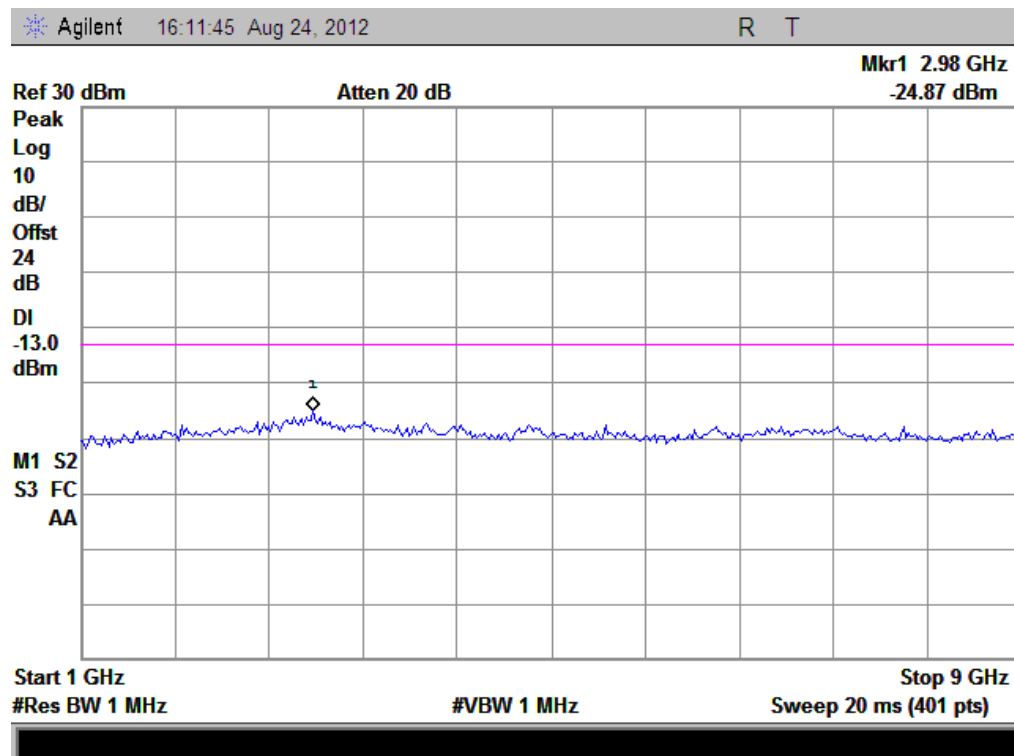
(Plot C1: HSDPA 850MHz Channel = 4132, 30MHz to 1GHz)



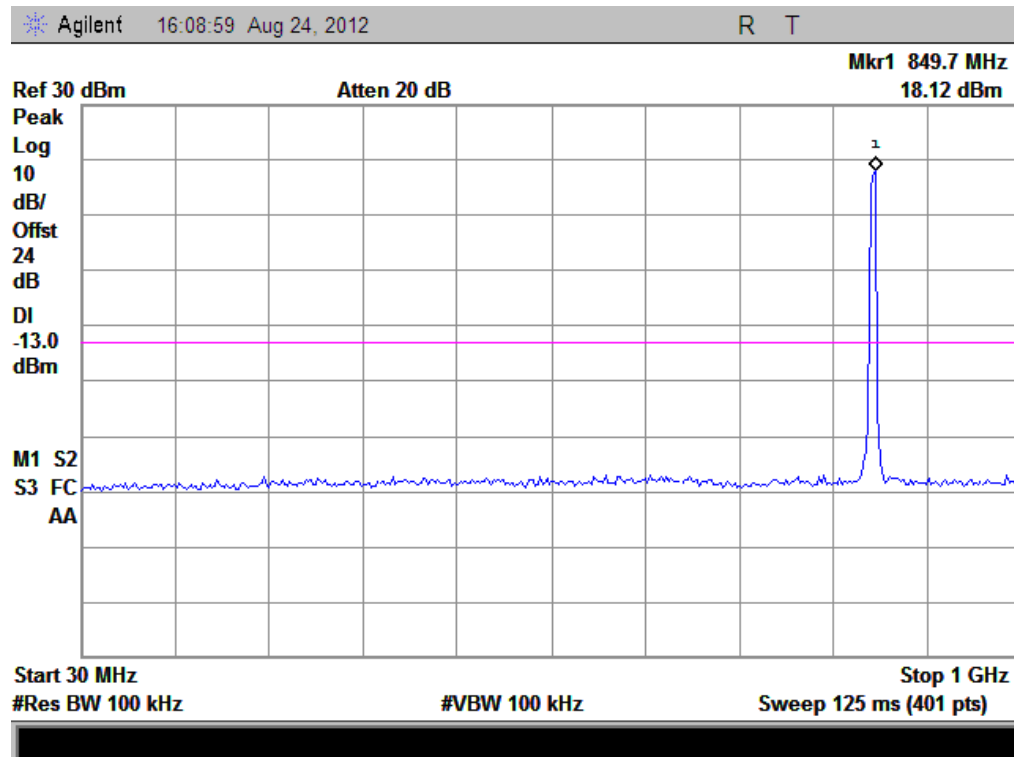
(Plot C1.1: HSDPA 850MHz Channel = 4132, 1GHz to 9GHz)



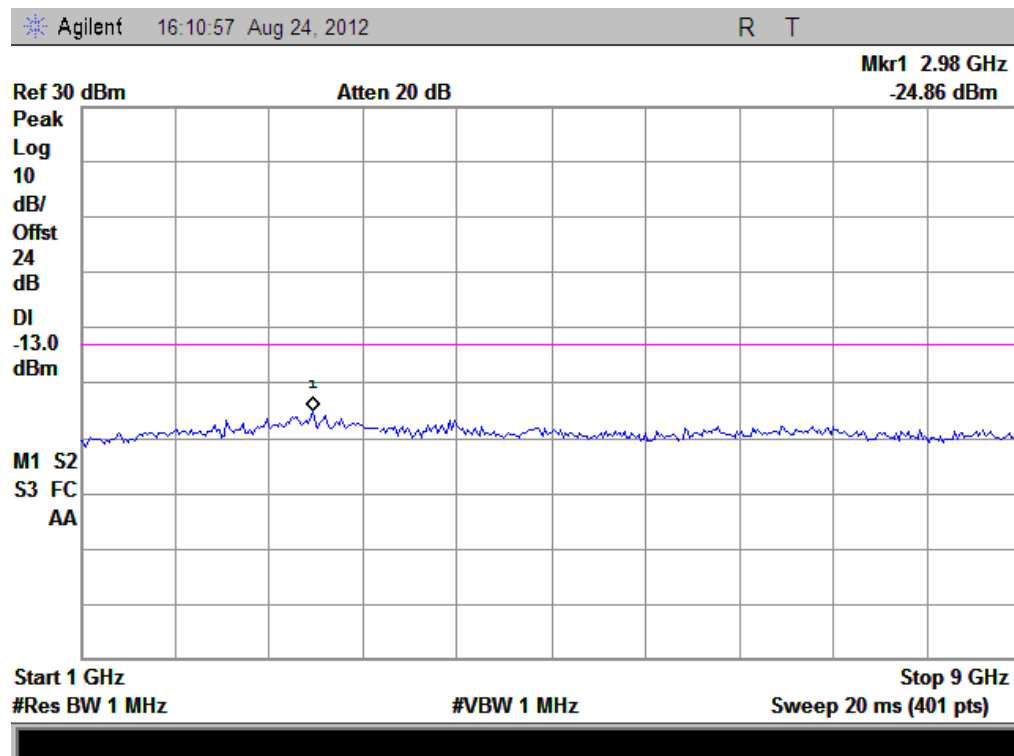
(Plot C2: HSDPA 850MHz Channel = 4175, 30MHz to 1GHz)



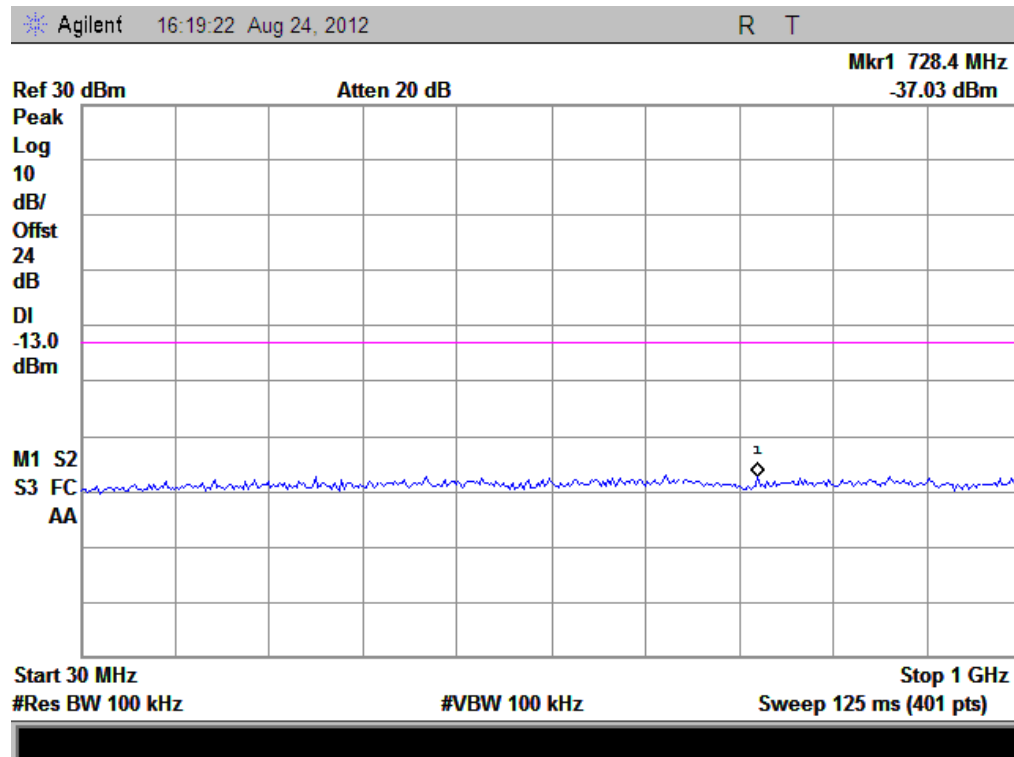
(Plot C2.1: HSDPA 850MHz Channel = 4175, 1GHz to 9GHz)



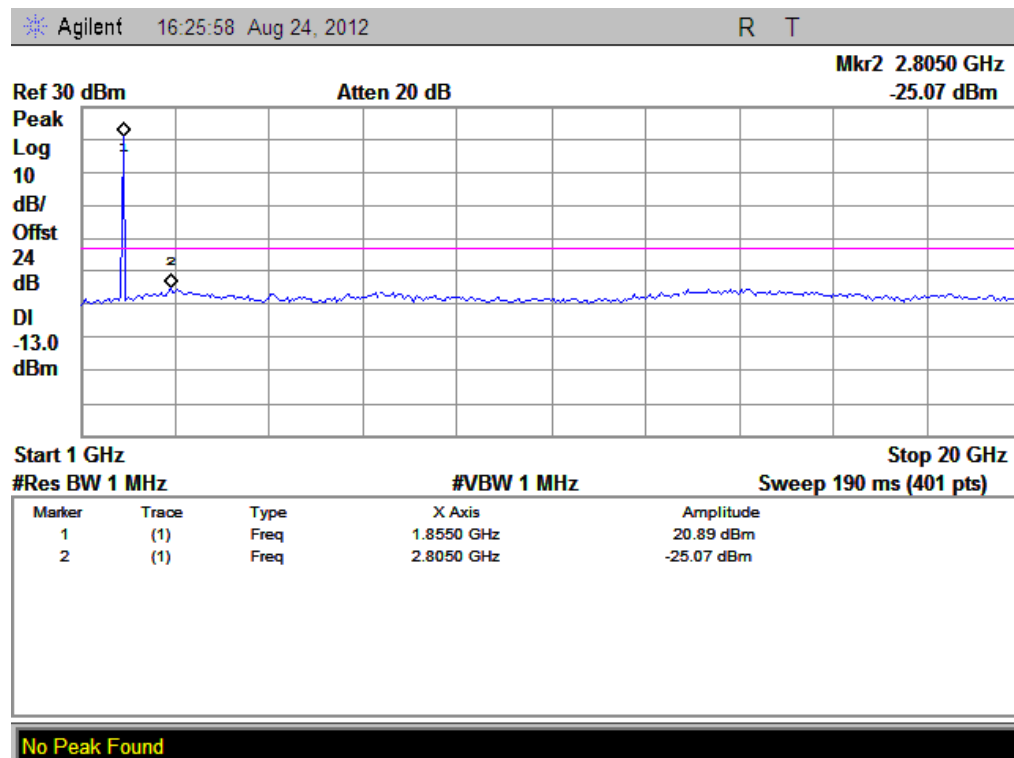
(Plot C3: HSDPA850MHz Channel = 4233, 30MHz to 1GHz)



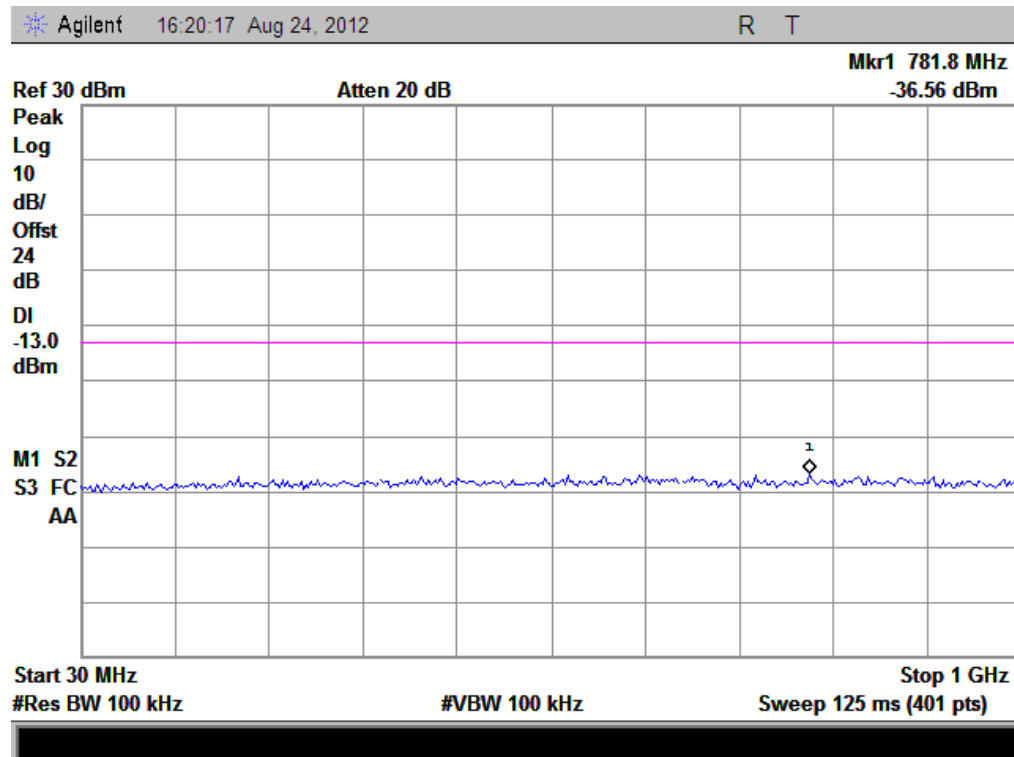
(Plot C3.1: HSDPA850MHz Channel = 4233, 1GHz to 9GHz)



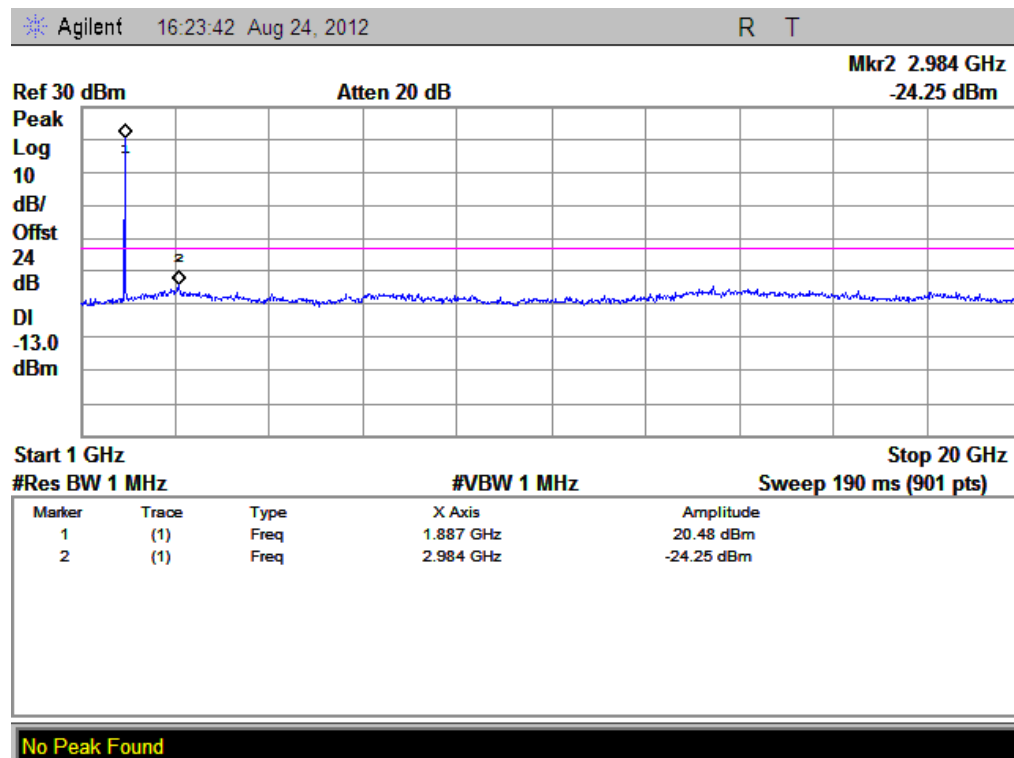
(Plot D1: HSDPA1900MHz Channel = 9262, 30MHz to 1GHz)



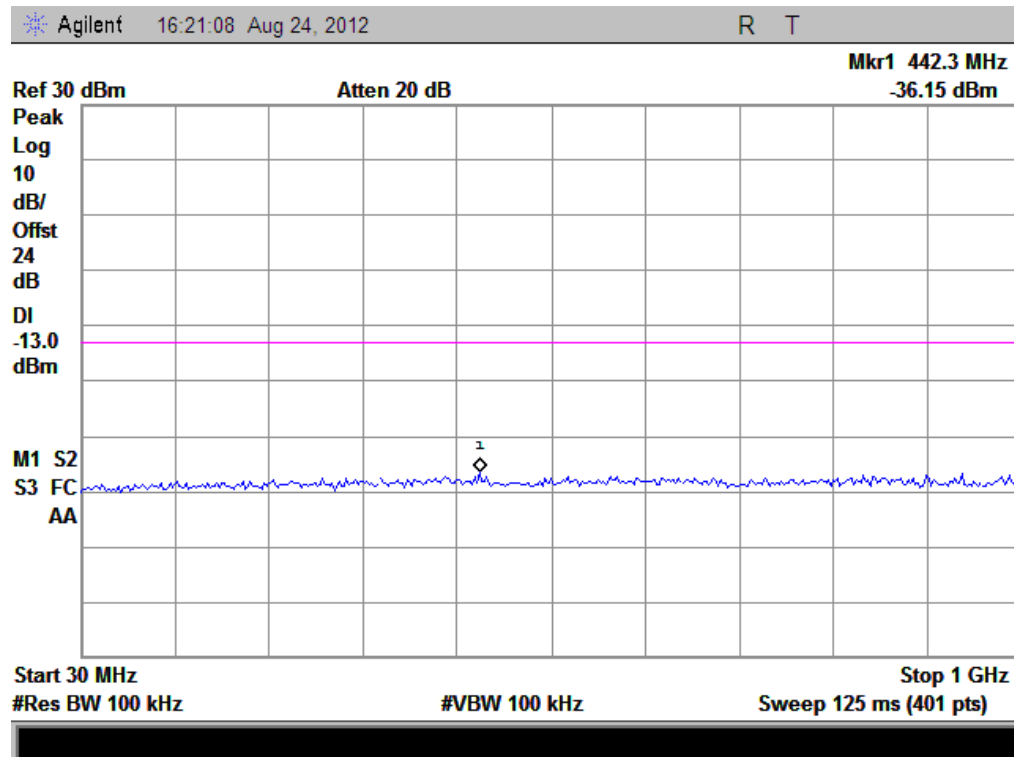
(Plot D1.1: HSDPA1900MHz Channel = 9262, 1GHz to 20GHz)



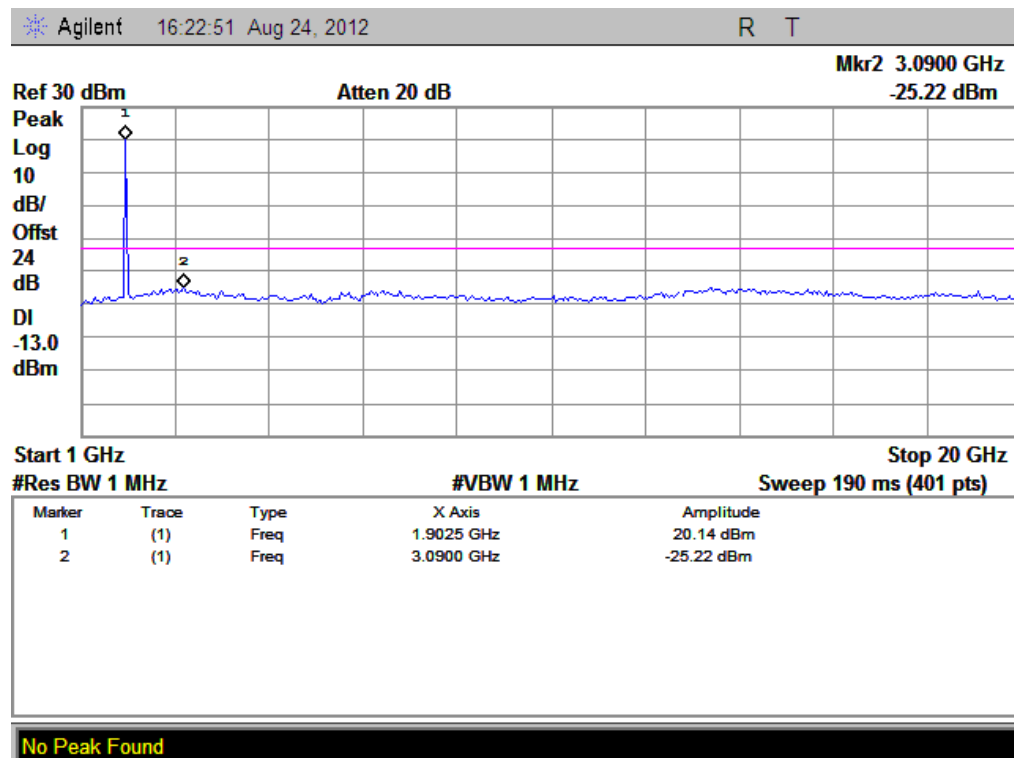
(Plot D2: HSDPA1900MHz Channel = 9400, 30MHz to 1GHz)



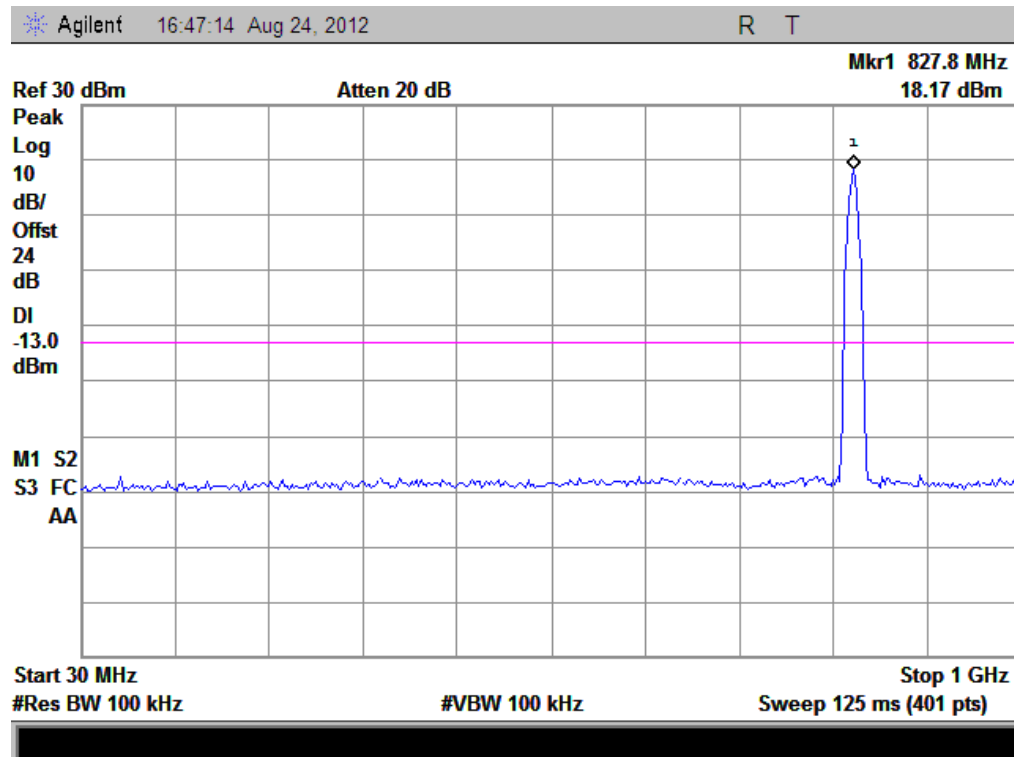
(Plot D2.1: HSDPA1900MHz Channel = 9400, 1GHz to 20GHz)



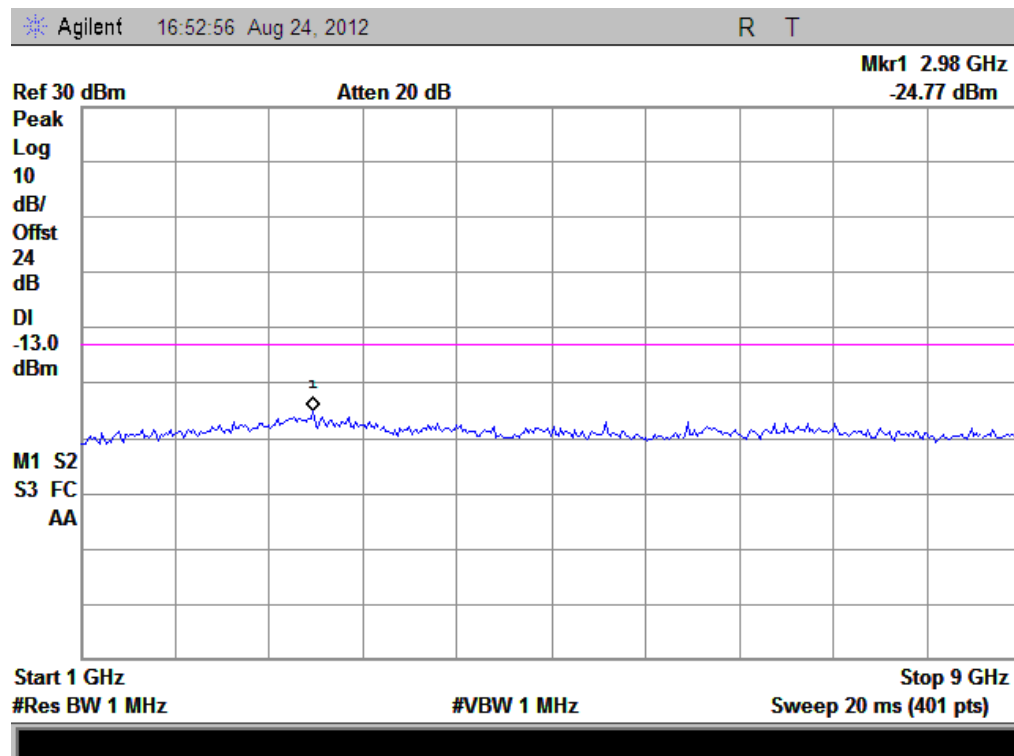
(Plot D3: HSDPA1900MHz Channel = 9538, 30MHz to 1GHz)



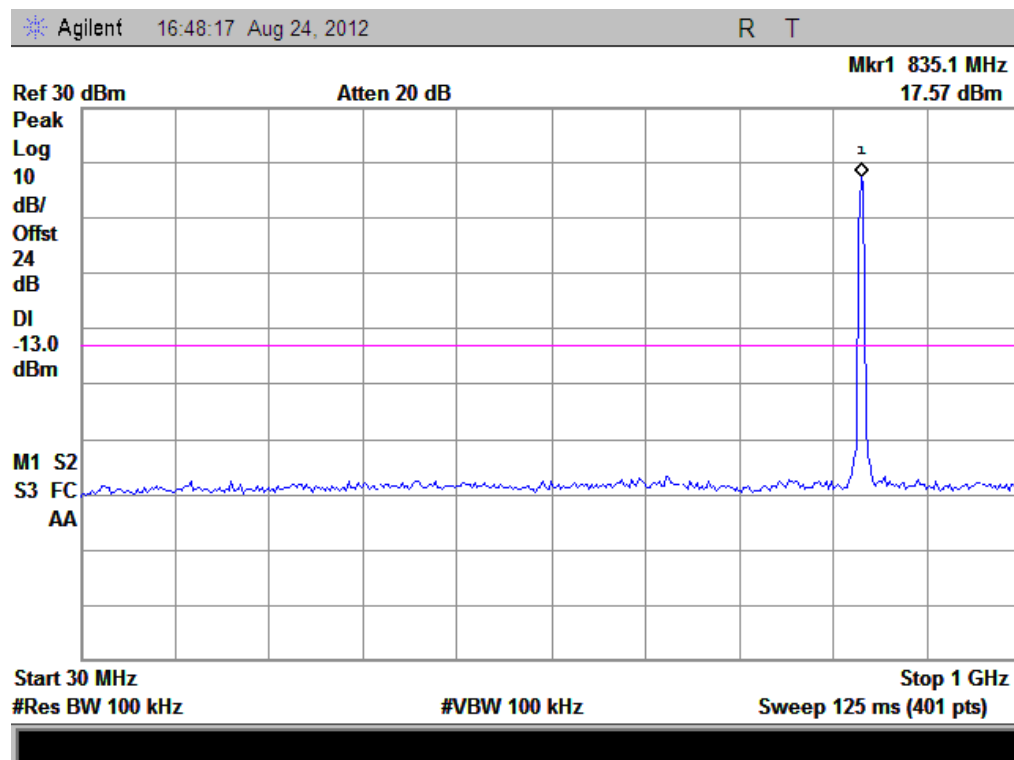
(Plot D3.1: HSDPA1900MHz Channel = 9538 1GHz to 20GHz)



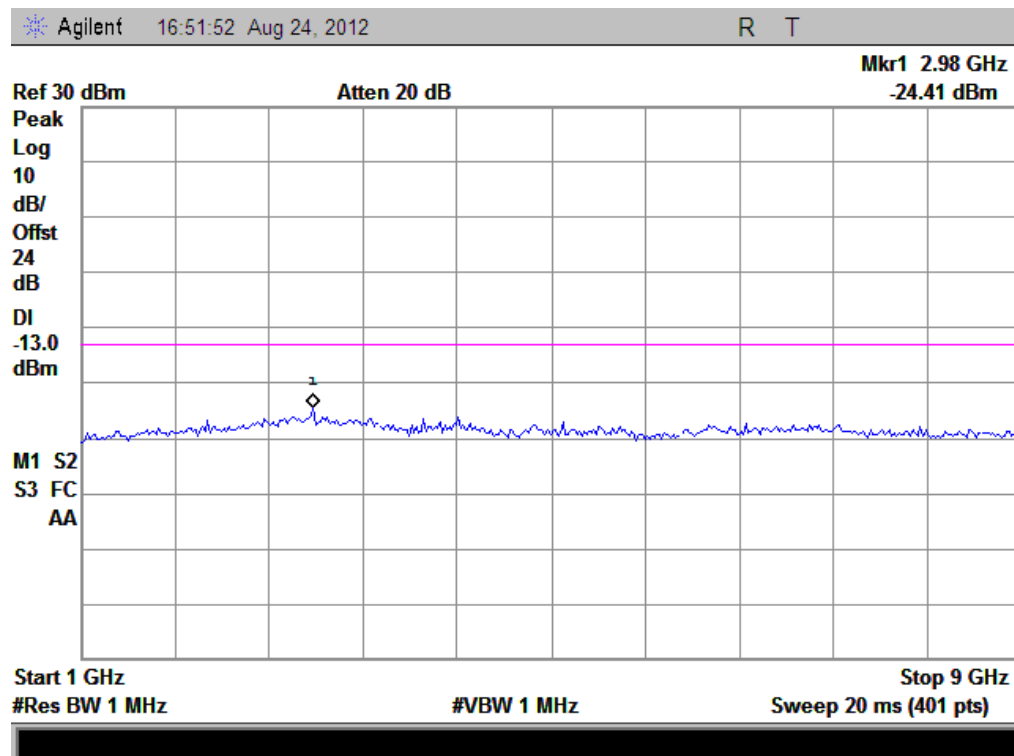
(Plot E 1: HSUPA 850MHz Channel = 4132, 30MHz to 1GHz)



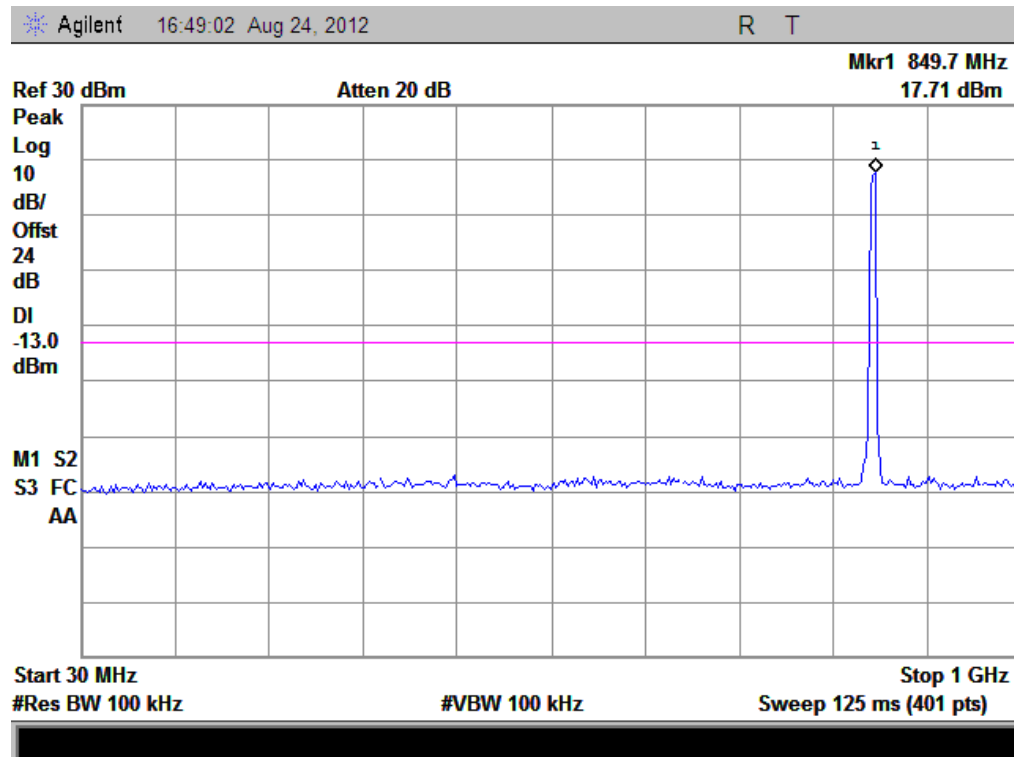
(Plot E1.1: HSUPA 850MHz Channel = 4132, 1GHz to 9GHz)



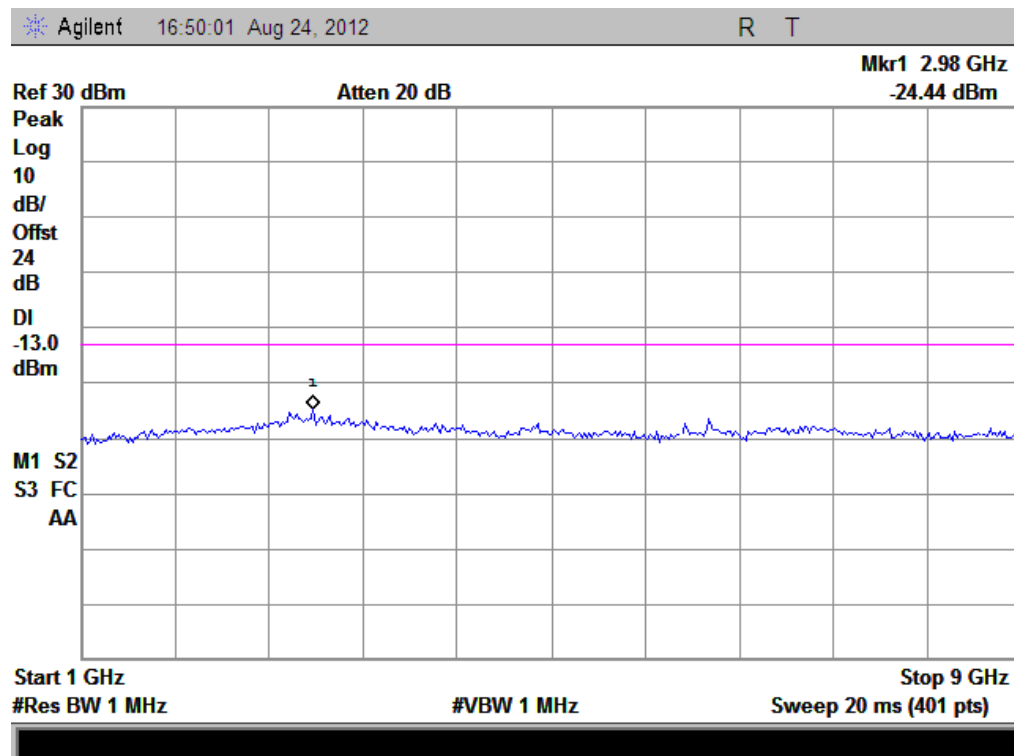
(Plot E 2: HSUPA 850MHz Channel = 4175, 30MHz to 1GHz)



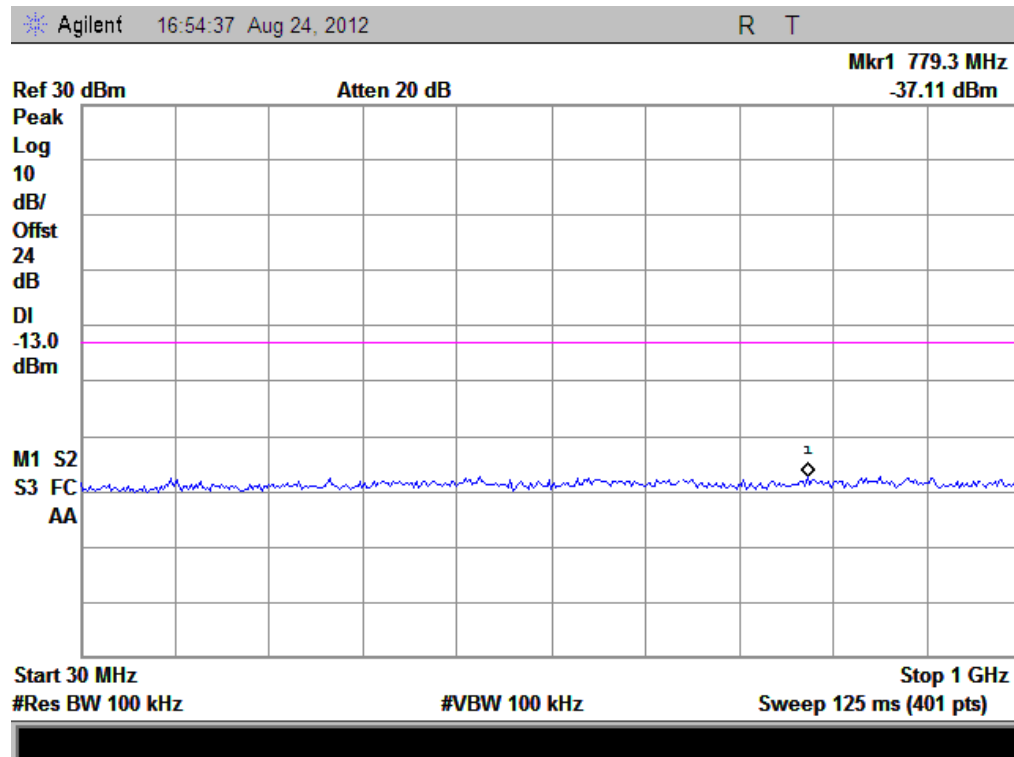
(Plot E2.1: HSUPA 850MHz Channel = 4175, 1GHz to 9GHz)



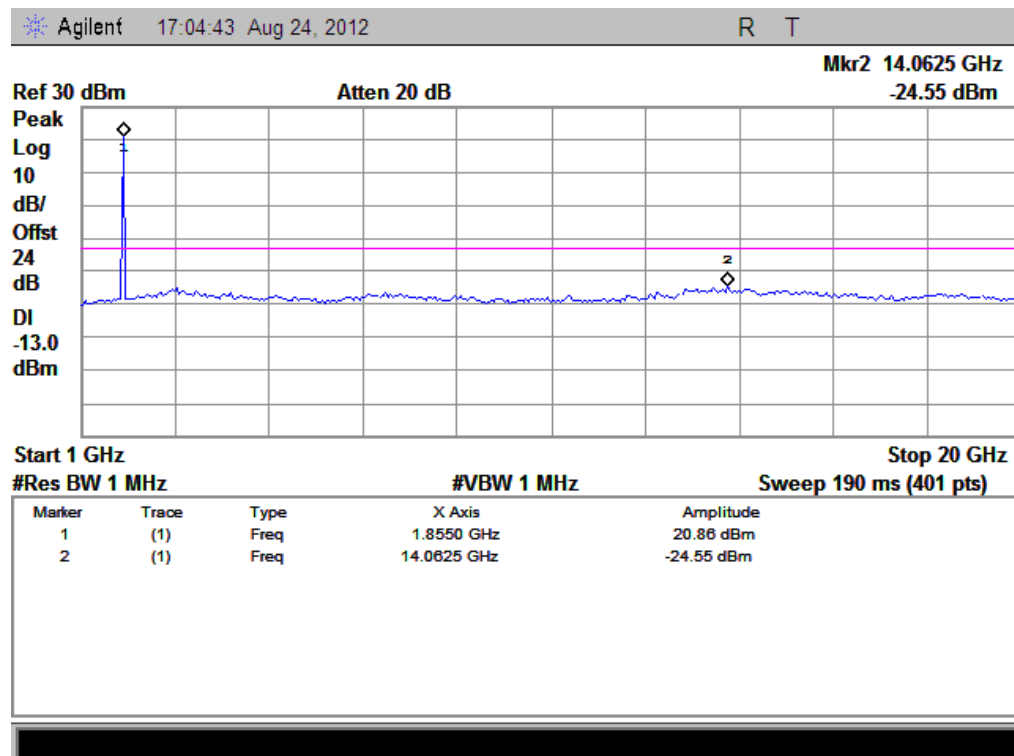
(Plot E 3: HSUPA850MHz Channel = 4233, 30MHz to 1GHz)



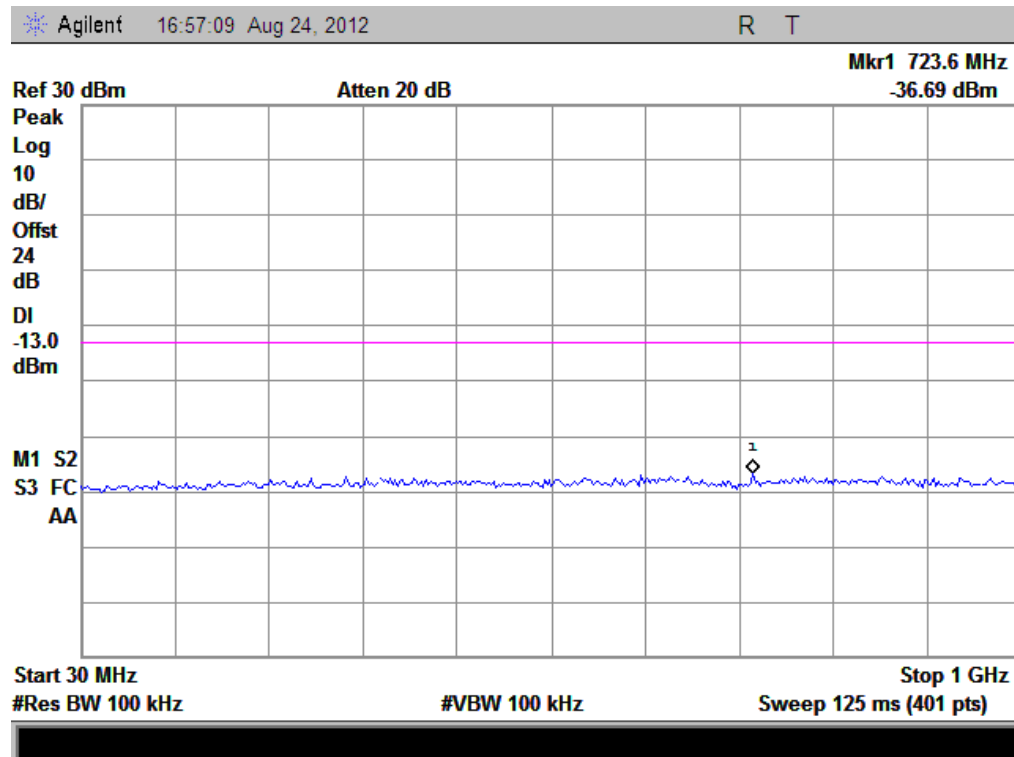
(Plot E3.1: HSUPA850MHz Channel = 4233, 1GHz to 9GHz)



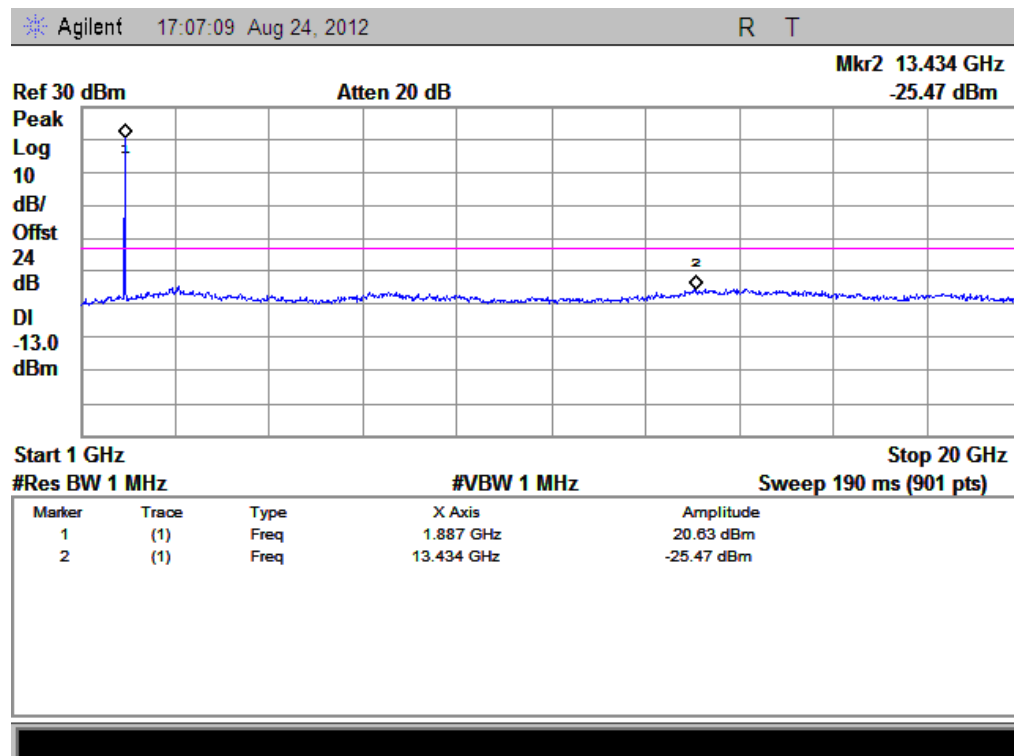
(Plot F 1: HSUPA1900MHz Channel = 9262, 30MHz to 1GHz)



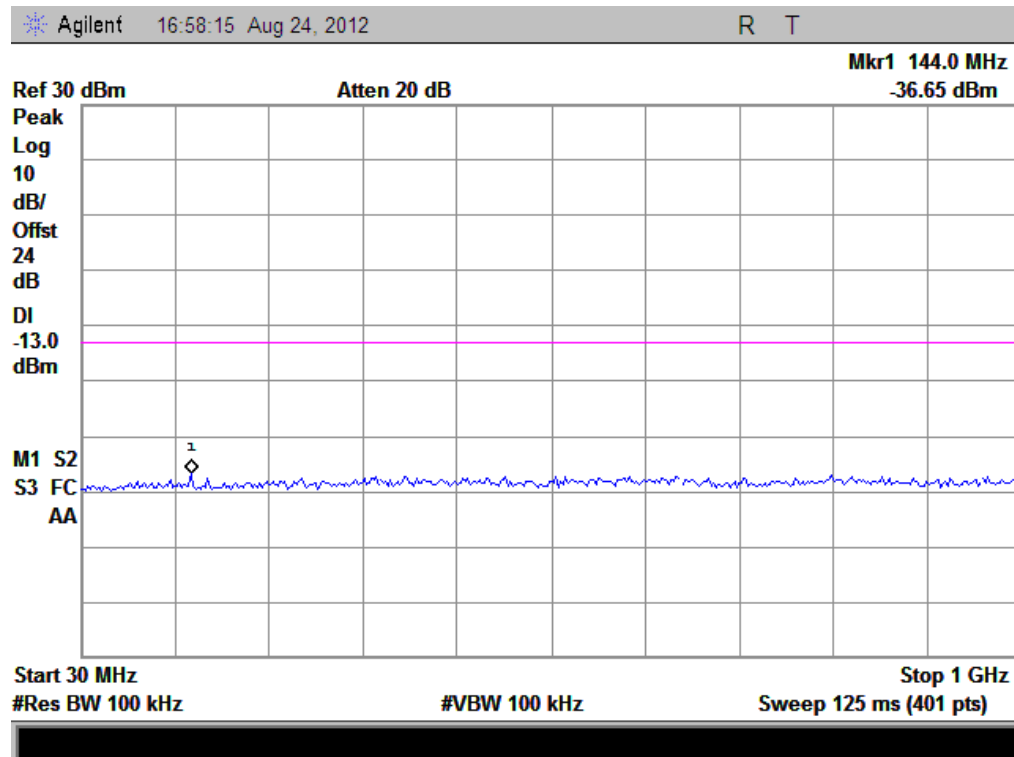
(Plot F1.1: HSUPA1900MHz Channel = 9262, 1GHz to 20GHz)



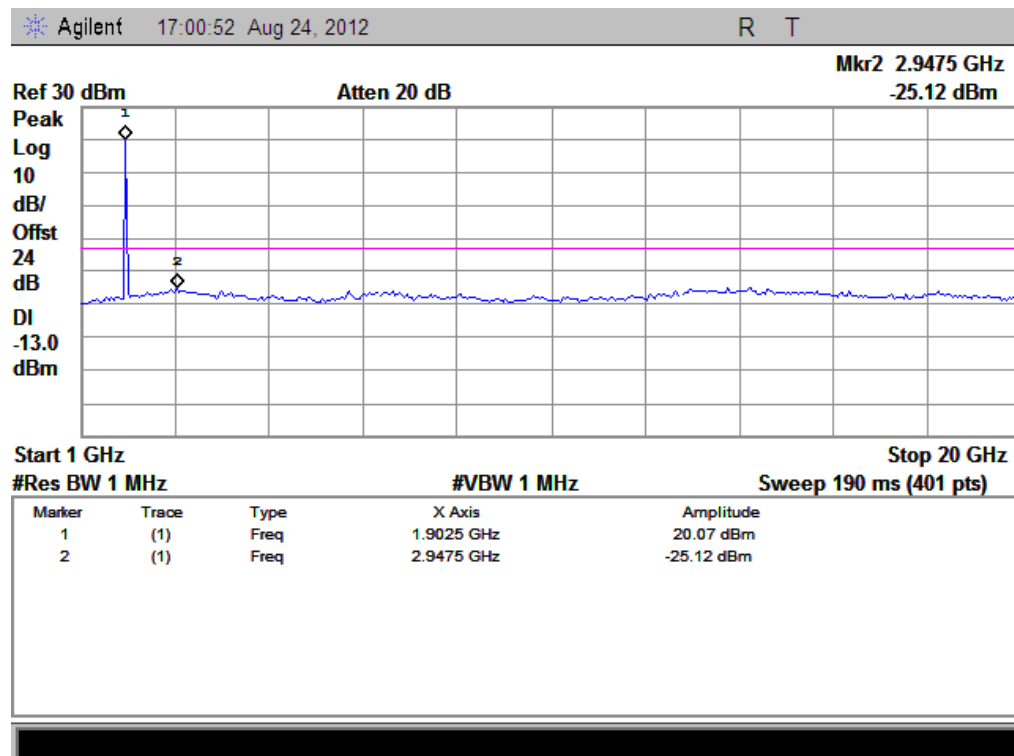
(Plot F 2: HSUPA1900MHz Channel = 9400, 30MHz to 1GHz)



(Plot F2.1: HSUPA1900MHz Channel = 9400, 1GHz to 20GHz)



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



(Plot F3.1: HSUPA1900MHz Channel = 9538 1GHz to 20GHz)

2.5 Band Edge

2.5.1 Requirement

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

2.5.2 Test Description

See section 2.1.2 of this report.

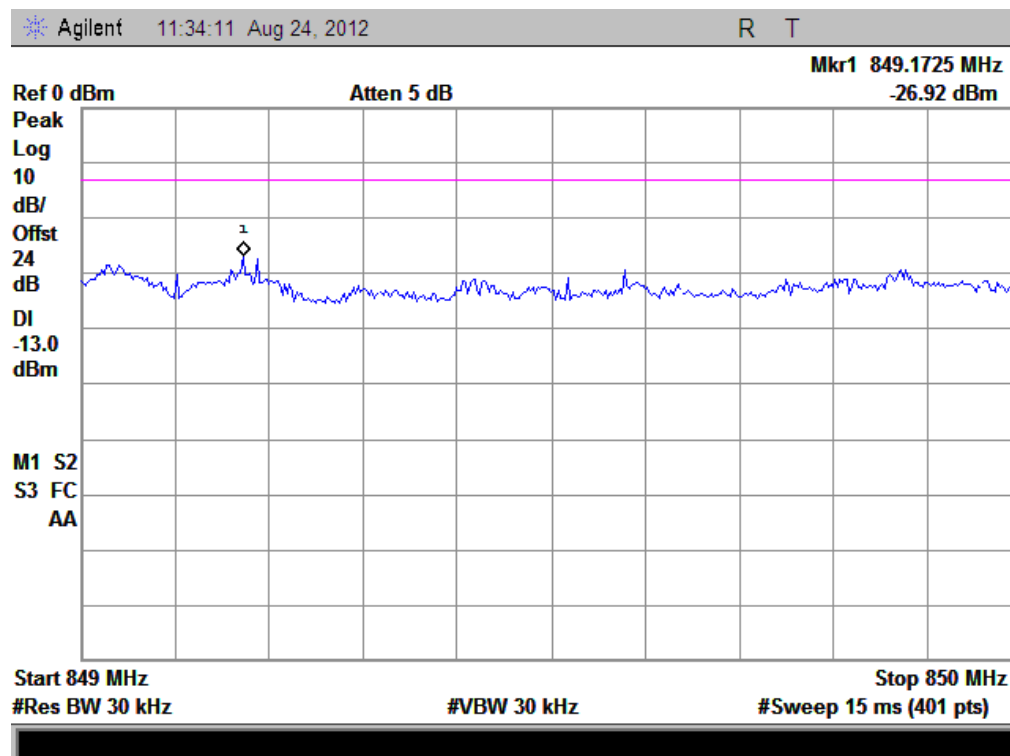
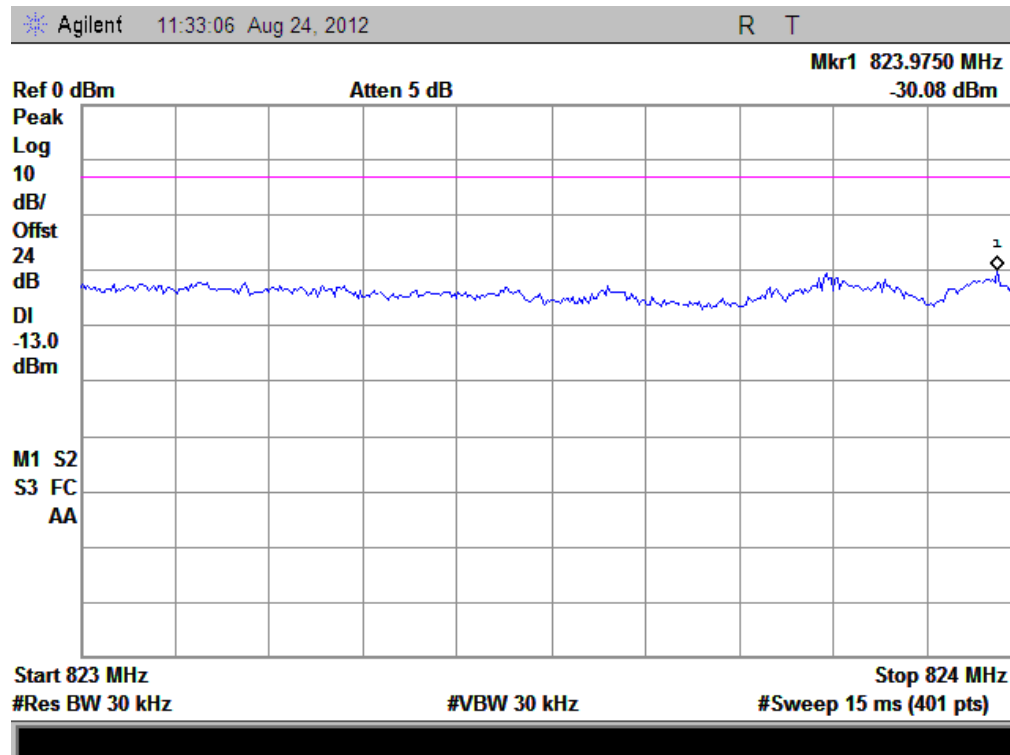
2.5.3 Test Result

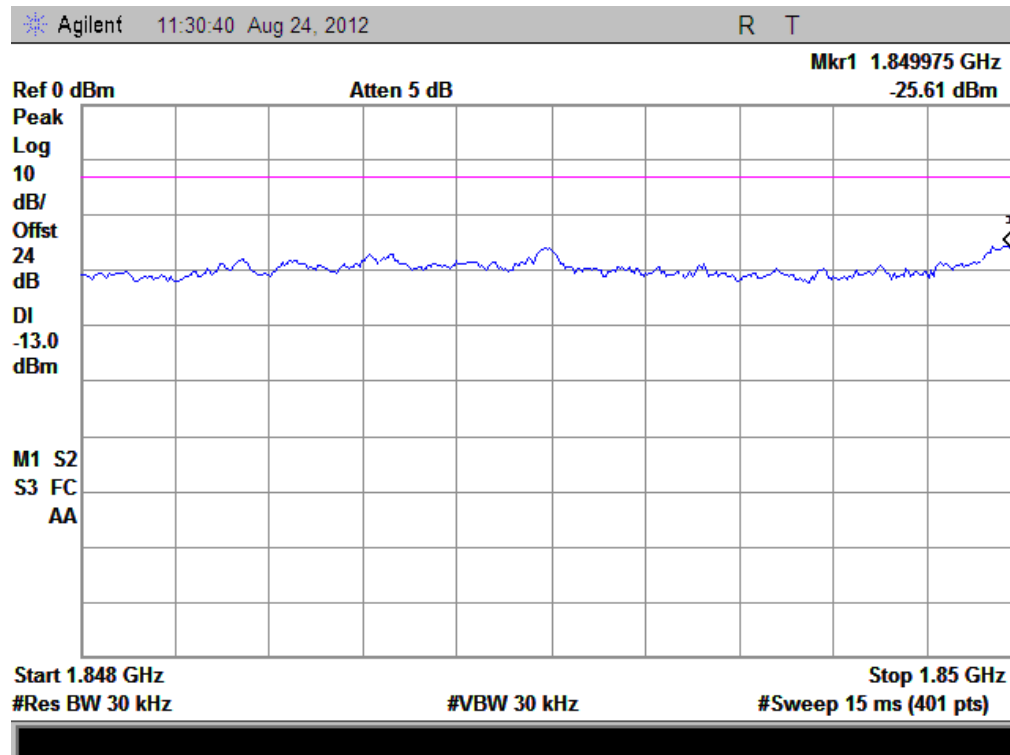
The lowest and highest channels are tested to verify the band edge emissions.

1. Test Verdict:

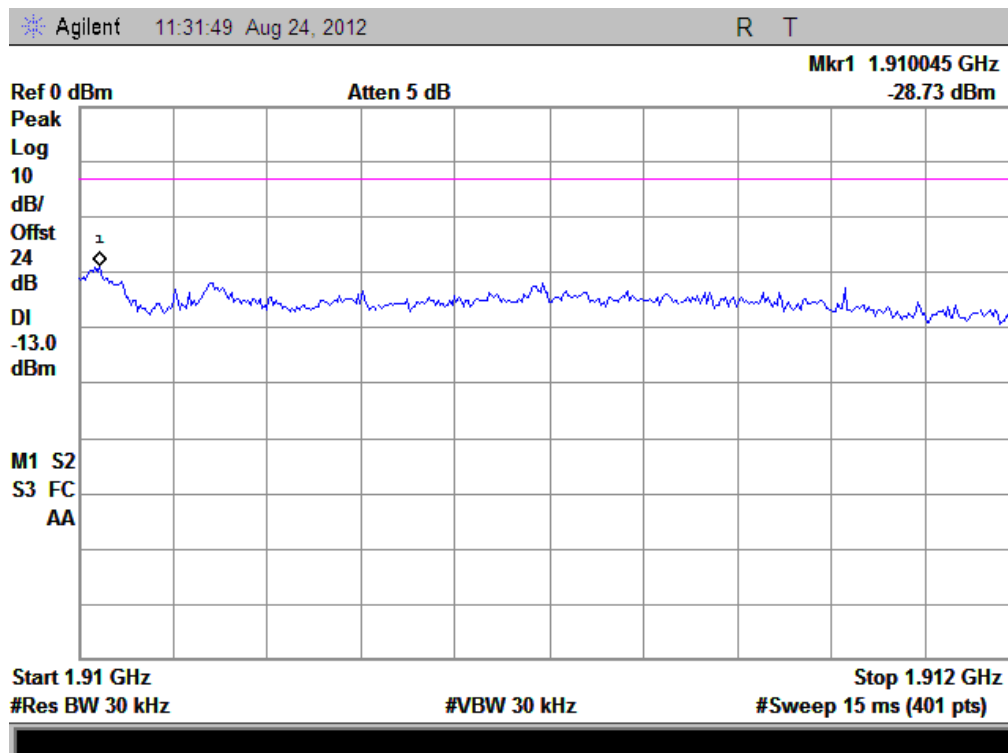
Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
WCDMA 850MHz	4132	826.4	<-25	Plat A	-13	PASS
	4233	846.6	<-25	Plot B		PASS
WCDMA 1900MHz	9262	1852.4	<-25	Plat C	-13	PASS
	9538	1907.6	<-25	Plot D		PASS
HSDPA 850MHz	4132	826.4	<-25	Plat E	-13	PASS
	4233	846.6	<-25	Plot F		PASS
HSDPA 1900MHz	9262	1852.4	<-25	Plat G	-13	PASS
	9538	1907.6	<-25	Plot H		PASS
HSUPA 850MHz	4132	826.4	<-25	Plat I	-13	PASS
	4233	846.6	<-25	Plot J		PASS
HSUPA 1900MHz	9262	1852.4	<-25	Plat K	-13	PASS
	9538	1907.6	<-25	Plot L		PASS

2. Test Plots:

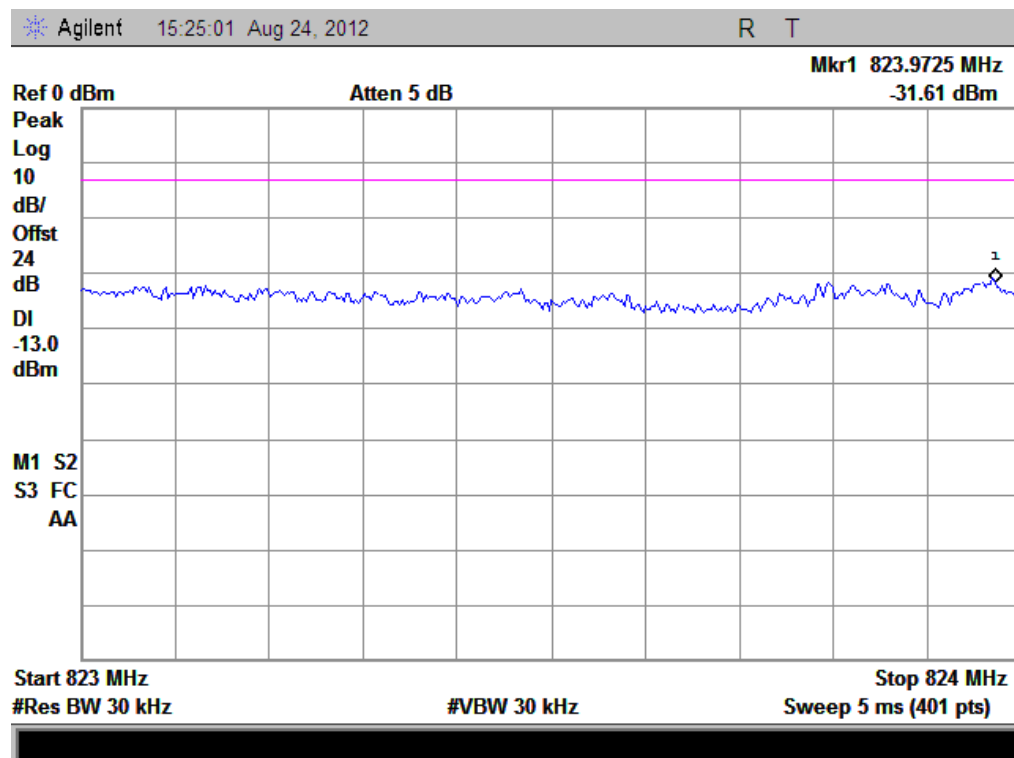




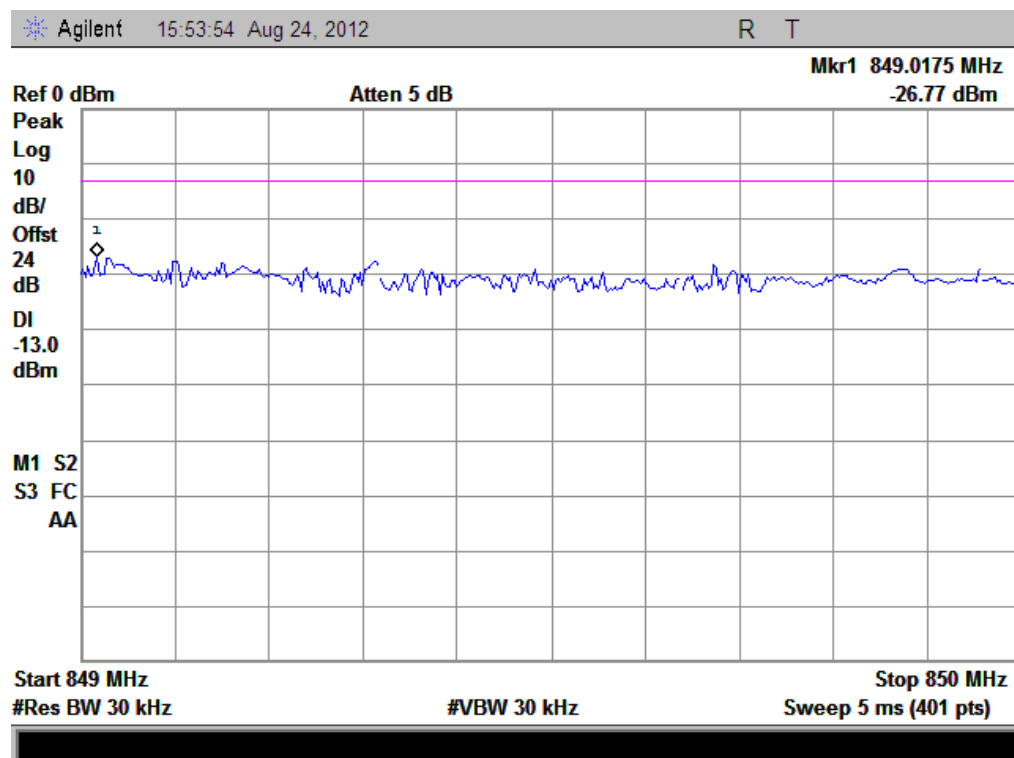
(Plot C: WCDMA 1900 Channel = 9262)



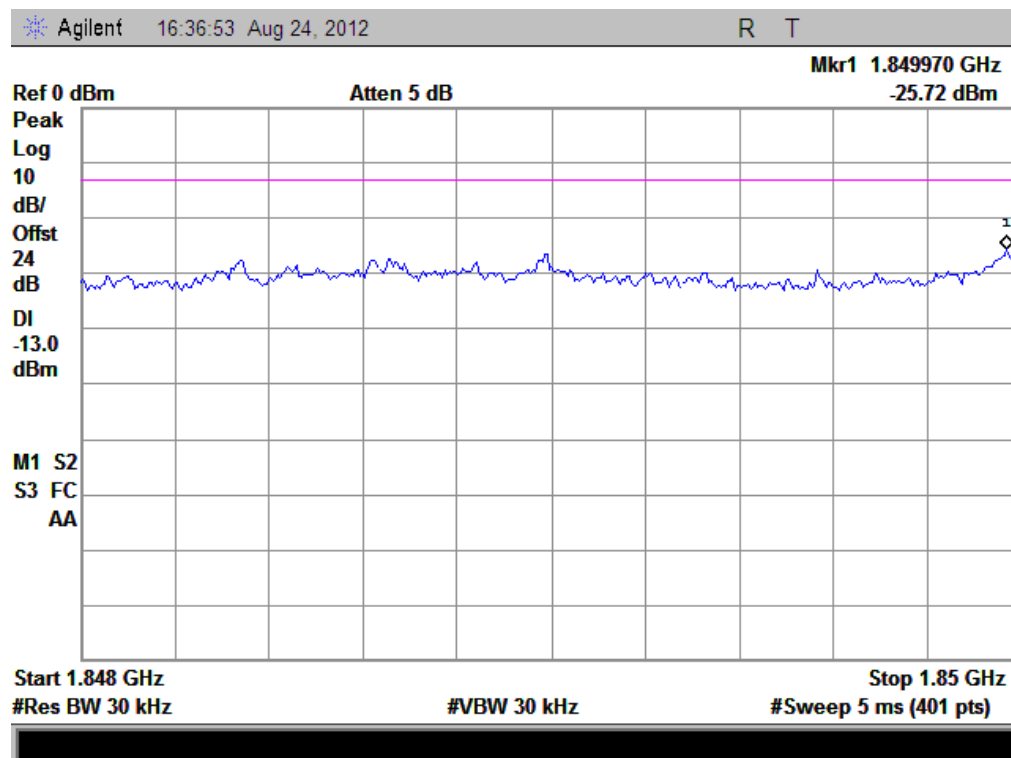
(Plot D: WCDMA 1900 Channel = 9538)



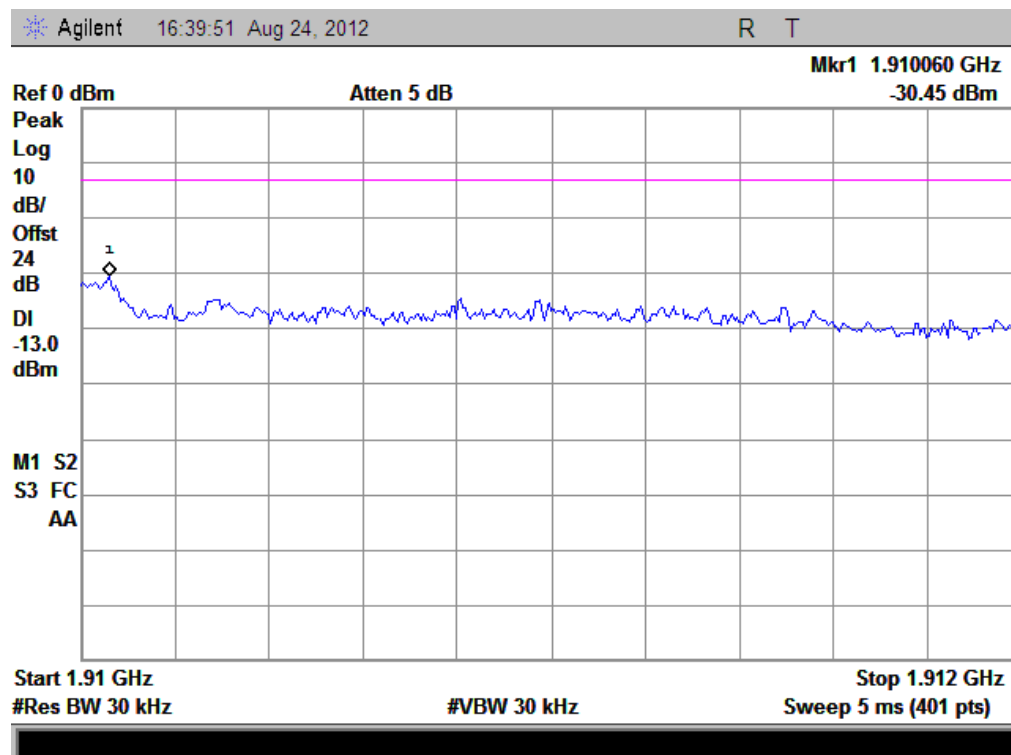
(Plot E: HSDPA 850 Channel = 4132)



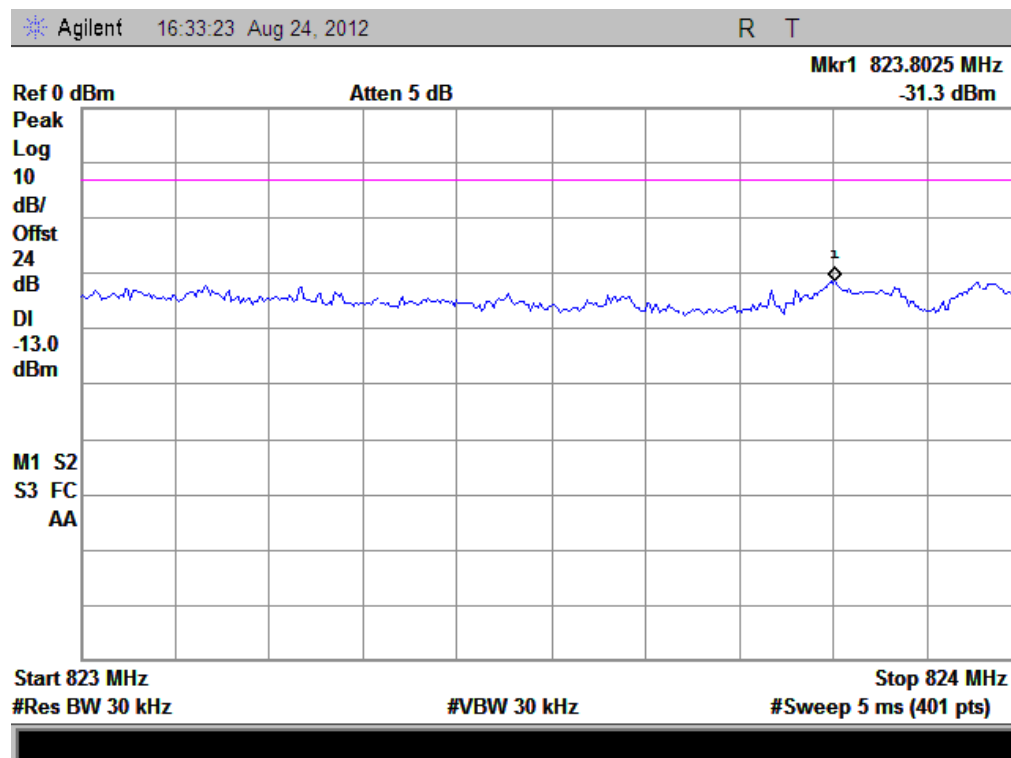
(Plot F: HSDPA850 Channel = 4233)



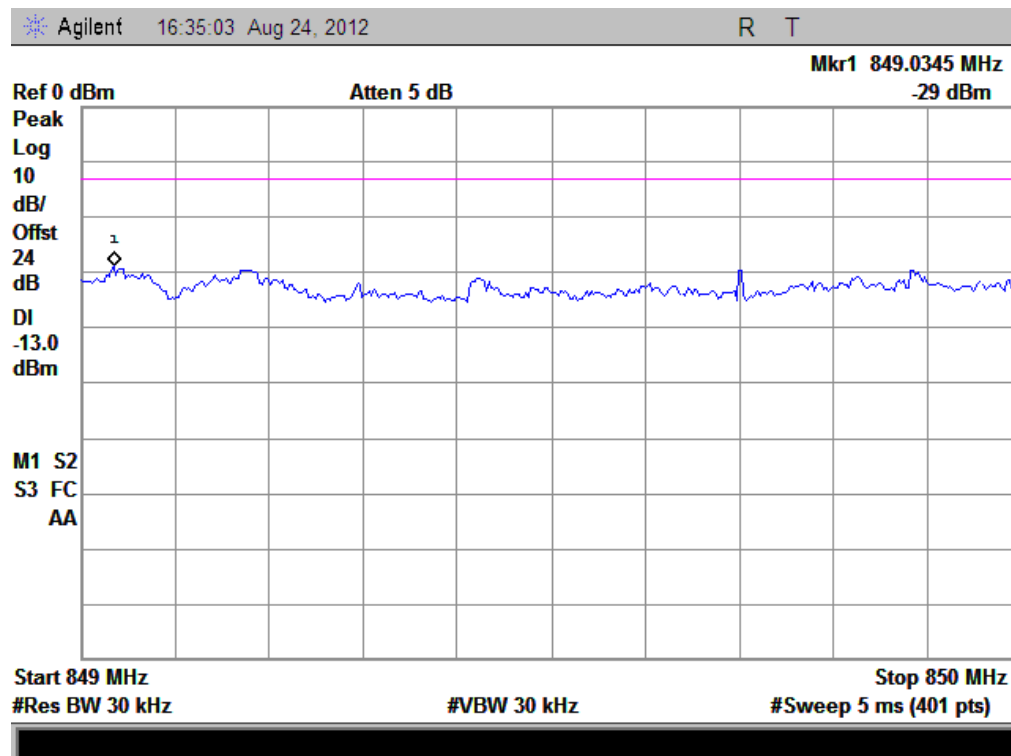
(Plot G: HSDPA 1900 Channel = 9262)



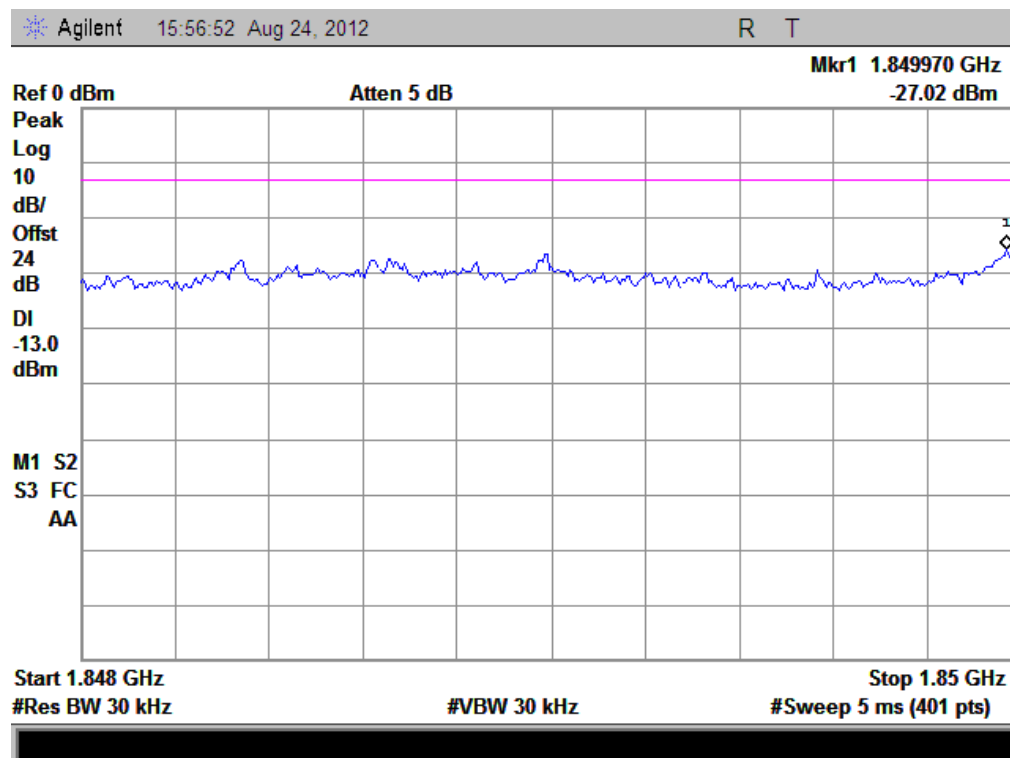
(Plot H: HSDPA 1900 Channel = 9538)



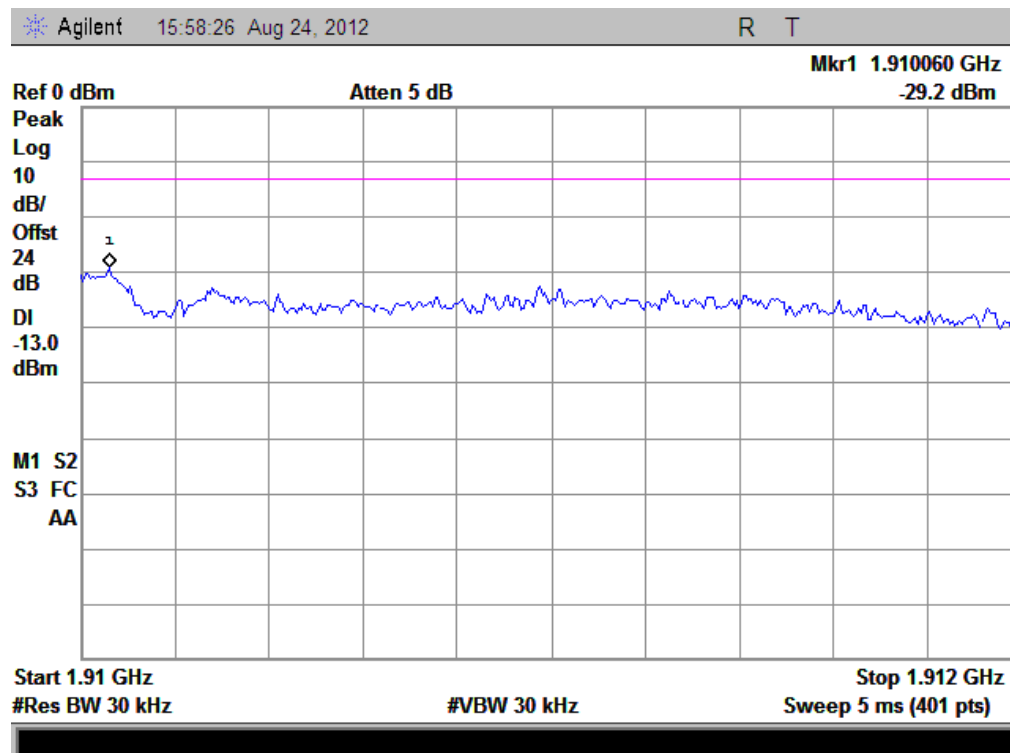
(Plot I: HSUPA 850 Channel = 4132)



(Plot J: HSUPA850 Channel = 4233)



(Plot K: HSUPA 1900 Channel = 9262)



(Plot L: HSUPA 1900 Channel = 9538)

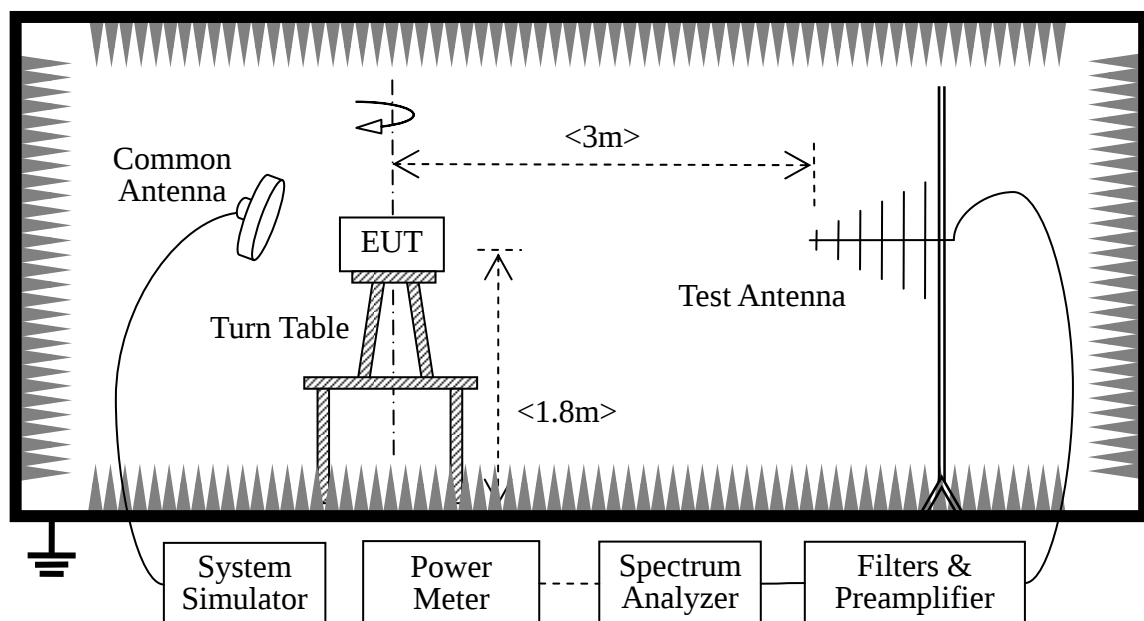
2.6 Transmitter Radiated Power (EIRP/ERP)

2.6.1 Requirement

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

2.6.2 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: WCDMA 850 22.77, WCDMA 1900 21.96, Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

- Minimum RF power: WCDMA 850 2.01dBm, WCDMA 1900 0.5dBm.

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

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date
System Simulator	Agilent	E5515C	GB43130131	2012.05
Spectrum Analyzer	Agilent	E7405A	US44210471	2012.05
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2012.05
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2012.05
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2012.05

2.6.3 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:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

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

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

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ 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} .

2. WCDMA Model Test Verdict:

Band	Channel	Frequency (MHz)	Measured ERP		Limit		Verdict
			dBm	W	dBm	W	
WCDMA 850MHz	4132	826.4	23.22	0.209894	38.5	7	PASS
	4175	835	23.19	0.208449			PASS
	4233	846.6	23.13	0.205589			PASS
HSDPA 850MHz	4132	826.4	23.07	0.202768	38.5	7	PASS
	4175	835	23.03	0.200909			PASS
	4233	846.6	23.05	0.201837			PASS
HSUPA 850MHz	4132	826.4	22.72	0.187068	38.5	7	PASS
	4175	835	22.71	0.186638			PASS
	4233	846.6	22.75	0.188365			PASS

Band	Channel	Frequency (MHz)	Measured EIRP		Limit		Verdict
			dBm	W	dBm	W	
WCDMA 1900MHz	9262	1852.4	22.05	0.160325	33	2	PASS
	9400	1880	22.11	0.162555			PASS
	9538	1907.6	22.09	0.161808			PASS
HSDPA 1900MHz	9262	1852.4	22.19	0.165577	33	2	PASS
	9400	1880	22.07	0.161065			PASS
	9538	1907.6	22.06	0.160694			PASS
HSUPA 1900MHz	9262	1852.4	22.05	0.160325	33	2	PASS
	9400	1880	22.07	0.161065			PASS
	9538	1907.6	22.03	0.159588			PASS

Note2: For the WCDMA and HSDPA test band, the measured output power was calculated by the reading of the Power Meter.

2.7 Radiated Out of Band Emissions

2.7.1 Requirement

According to FCC section 22.917(a) and section 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13dBm.

2.7.2 Test Description

See section 2.6.2 of this report.

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

2.7.3 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:

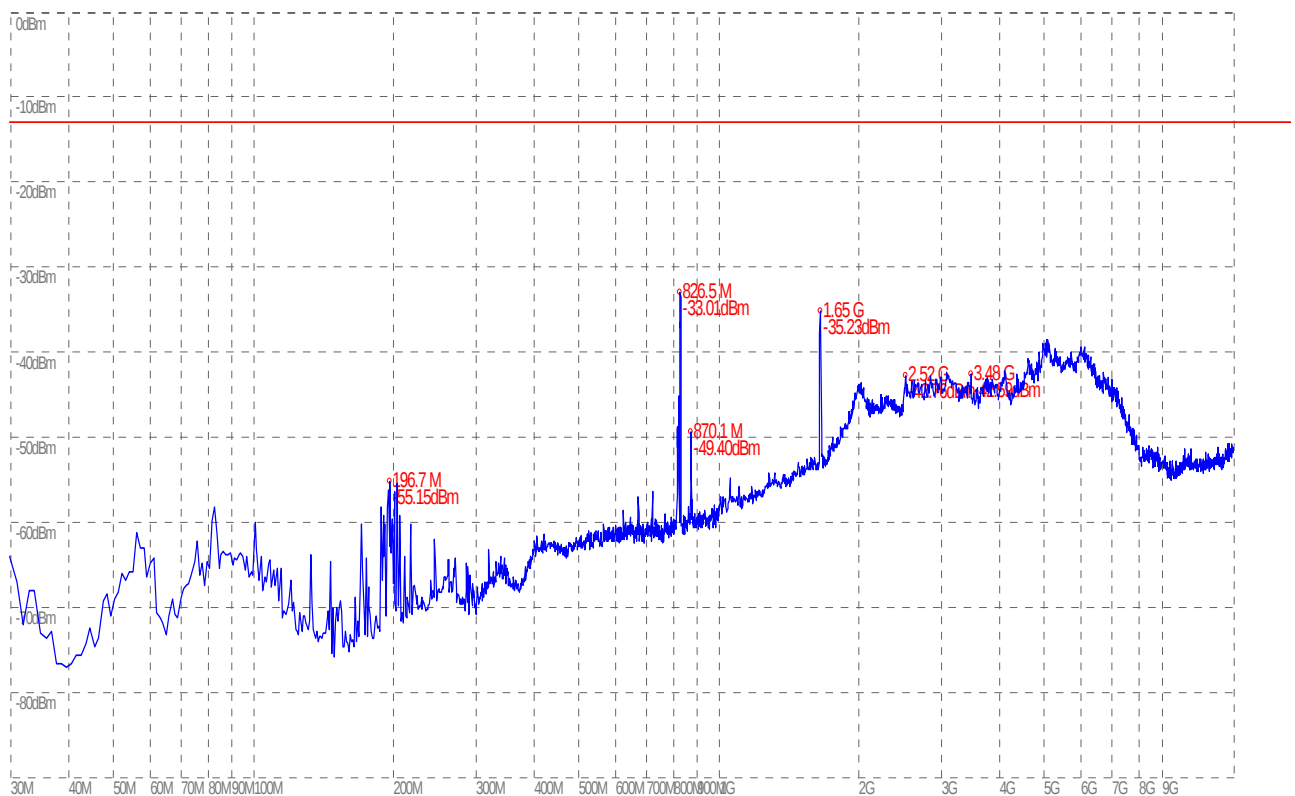
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
WCDMA 850MHz	4132	826.4	< -25	< -25	Plot E.1/E.2	-13	PASS
	4175	835	< -25	< -25	Plot E.3/E.4		PASS
	4233	846.6	< -25	< -25	Plot E.5/E.6		PASS
WCDMA 1900MHz	9262	1852.4	< -25	< -25	Plot F.1/F.2	-13	PASS
	9400	1880	< -25	< -25	Plot F.3/F.4		PASS
	9538	1907.6	< -25	< -25	Plot F.5/F.6		PASS
HSDPA 850MHz	4132	826.4	< -25	< -25	Plot G.1/G.2	-13	PASS
	4175	835	< -25	< -25	Plot G.3/G.4		PASS
	4233	846.6	< -25	< -25	Plot G.5/G.6		PASS
HSDPA 1900MHz	9262	1852.4	< -25	< -25	Plot H.1/H.2	-13	PASS
	9400	1880	< -25	< -25	Plot H.3/H.4		PASS
	9538	1907.6	< -25	< -25	Plot H.5/H.6		PASS
HSUPA	4132	826.4	< -25	< -25	Plot I.1/I.2	-13	PASS

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
850MHz	4175	835	< -25	< -25	Plot I.3/I.4		PASS
	4233	846.6	< -25	< -25	Plot I.5/I.6		PASS
HSUPA 1900MHz	9262	1852.4	< -25	< -25	Plot J.1/J.2	-13	PASS
	9400	1880	< -25	< -25	Plot J.3/J.4		PASS
	9538	1907.6	< -25	< -25	Plot J.5/J.6		PASS

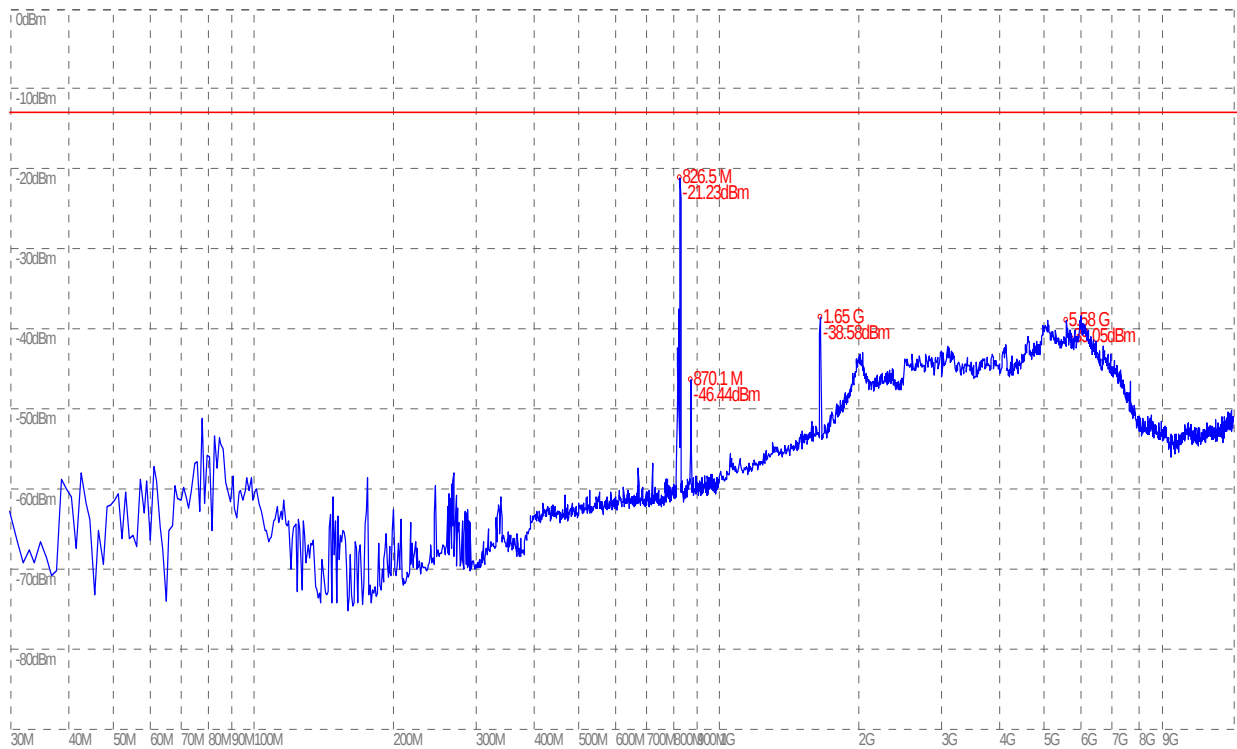
2. Test Plots for the Whole Measurement Frequency Range:

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

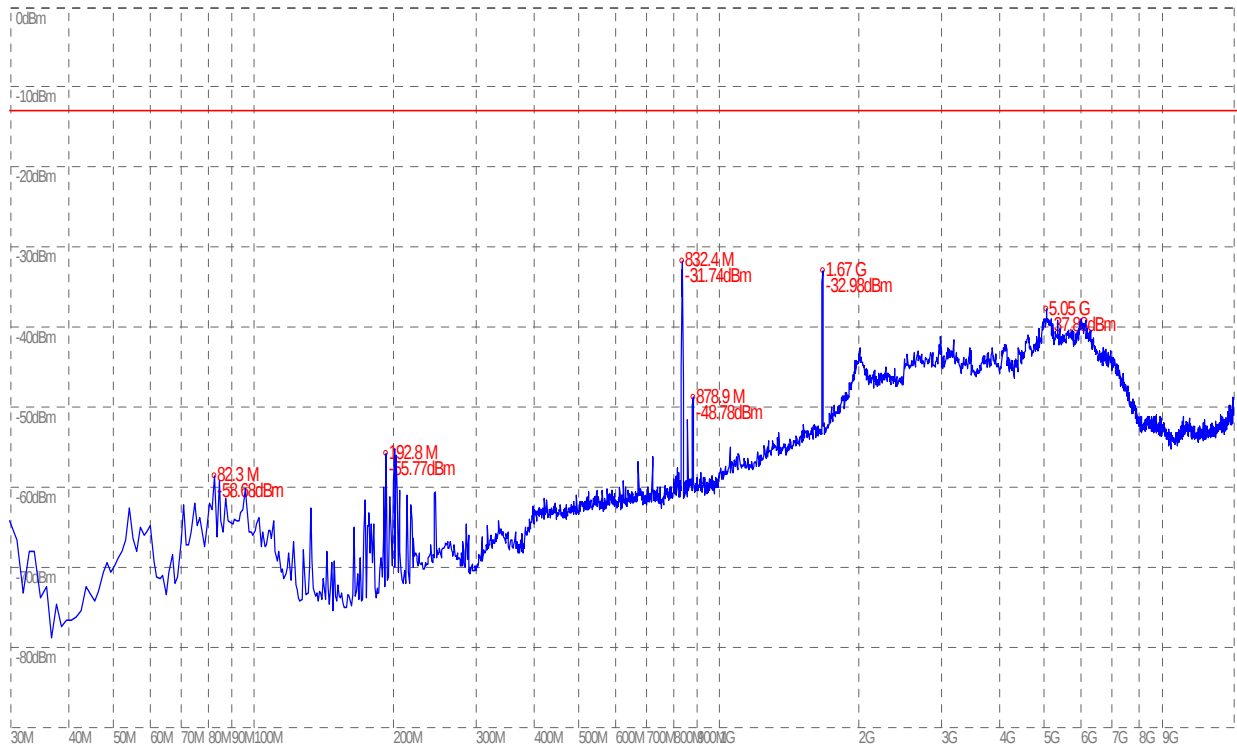
Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.



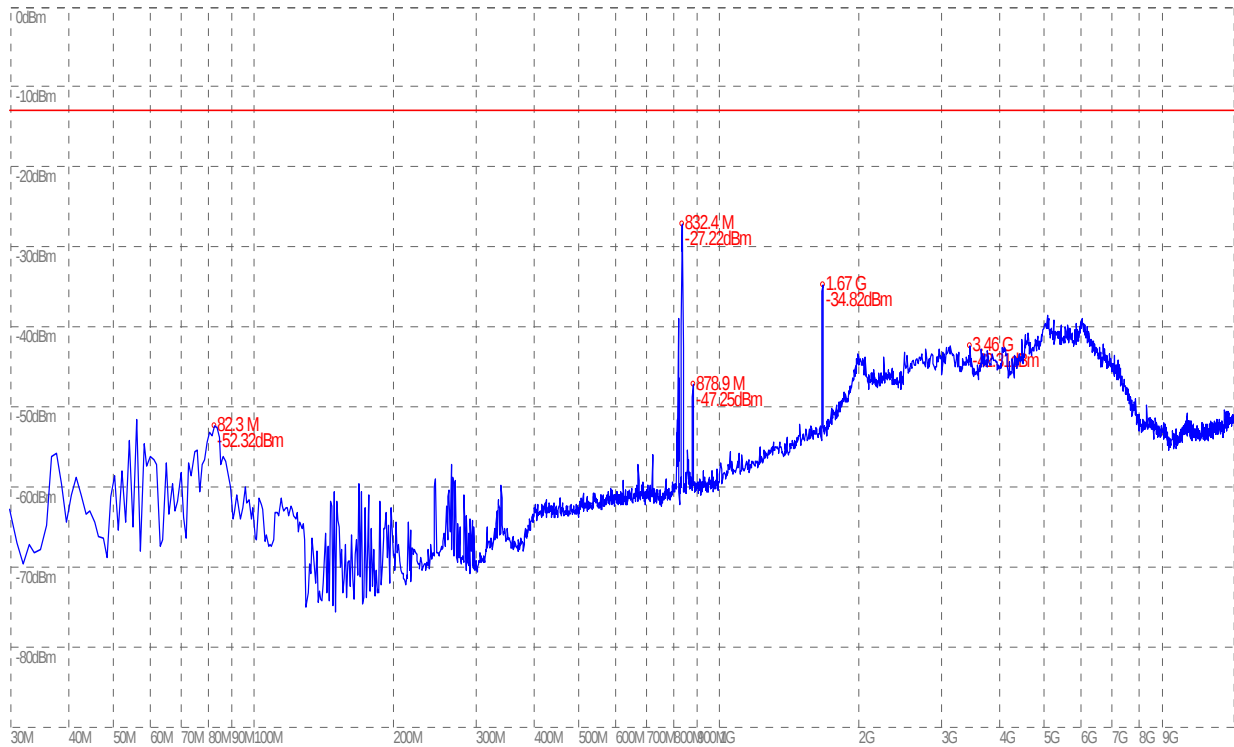
(Plot E.1: WCDMA 850MHz Channel = 4132, Test Antenna Horizontal)



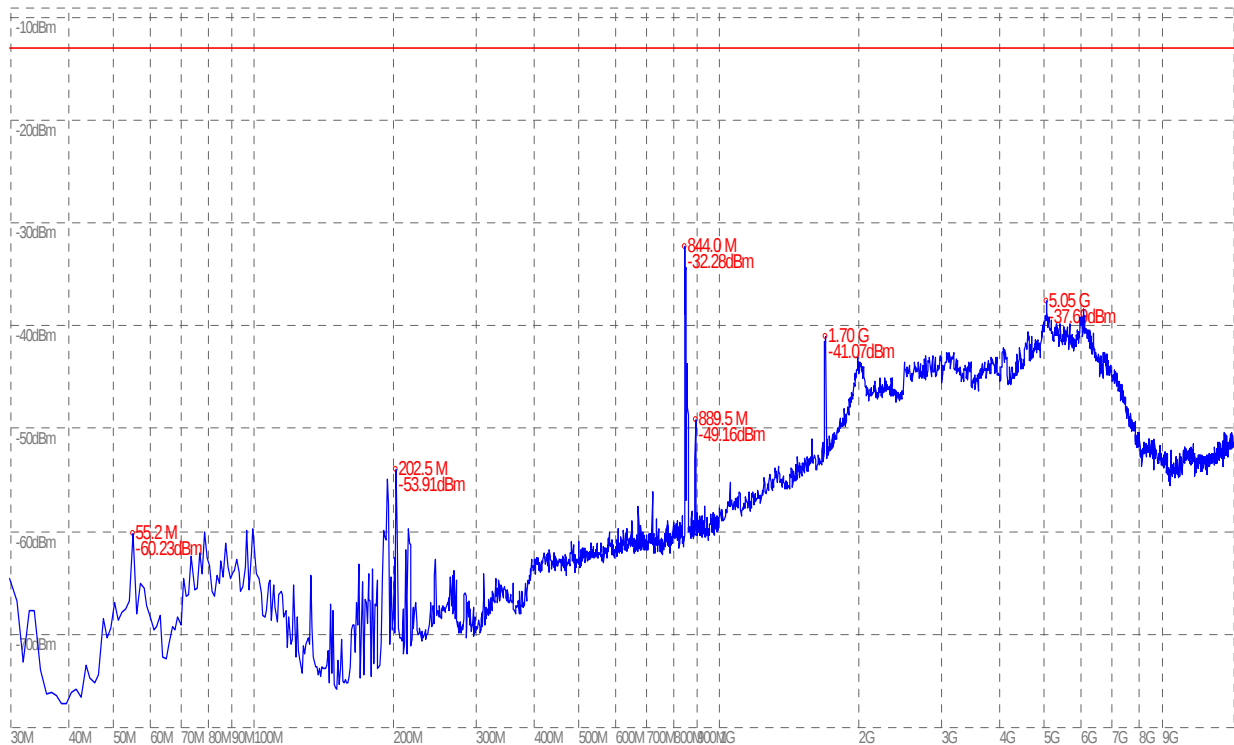
(Plot E.2: WCDMA 850MHz Channel = 4132, Test Antenna Vertical)



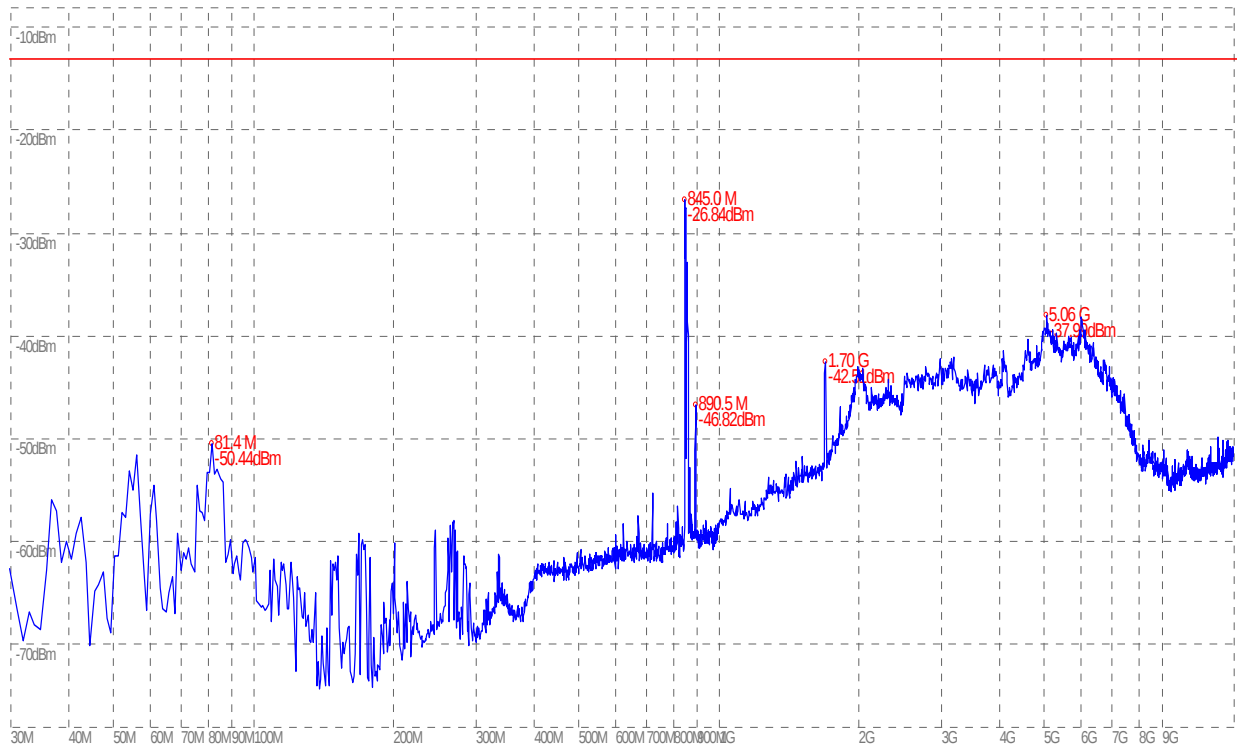
(Plot E.3: WCDMA 850MHz Channel = 4175, Test Antenna Horizontal)



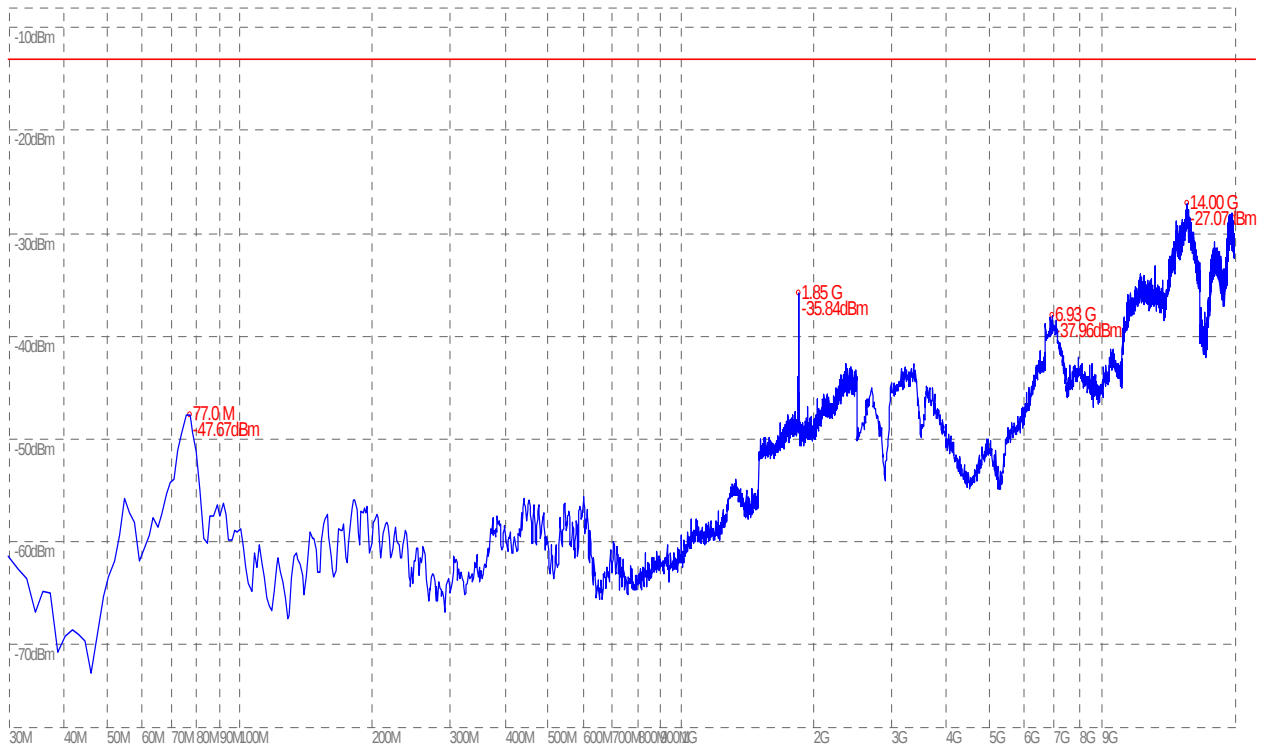
(Plot E.4: WCDMA 850MHz Channel = 4175, Test Antenna Vertical)



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



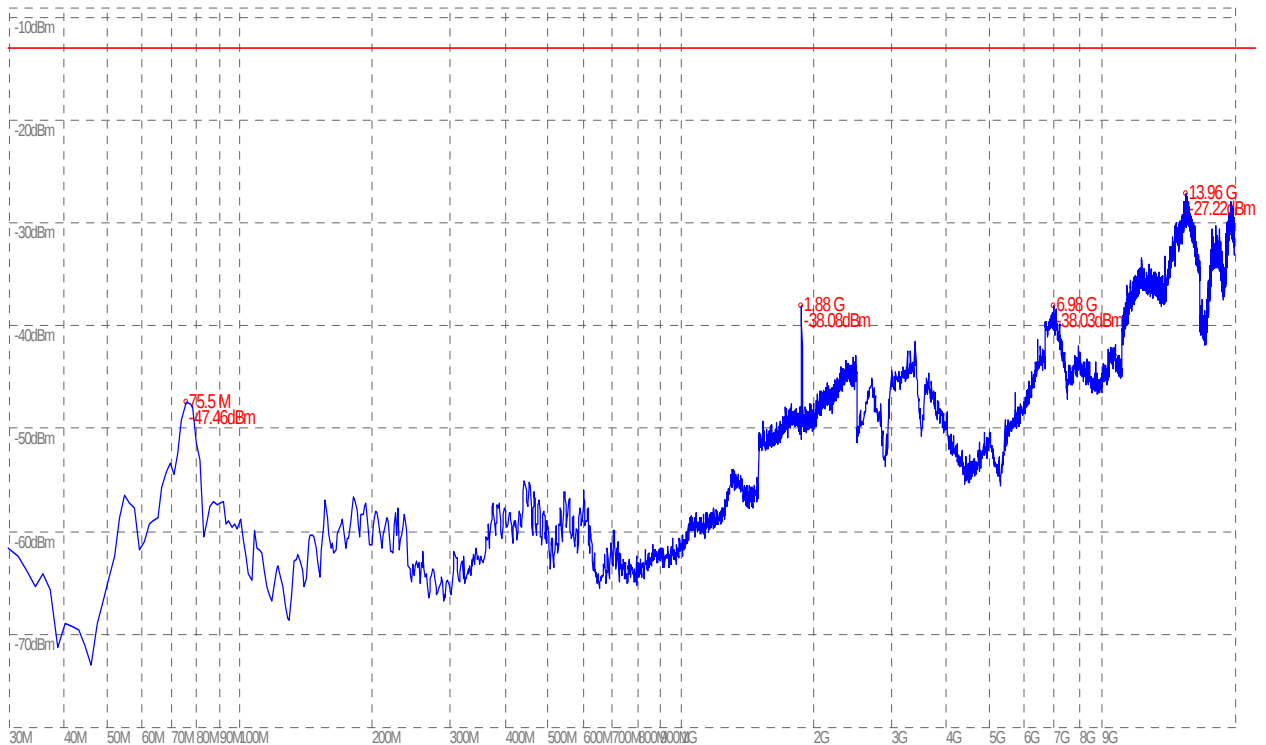
(Plot E.6: WCDMA 850MHz Channel = 4233, Test Antenna Vertical)



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



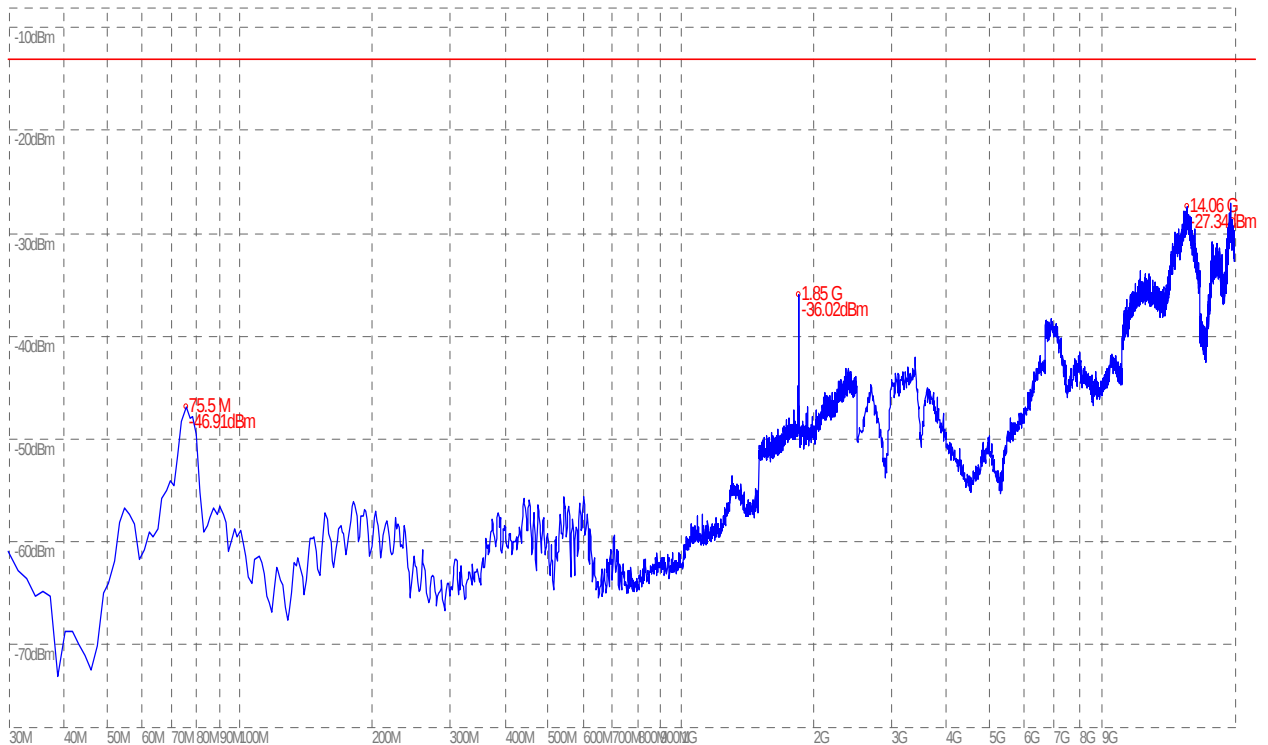
(Plot F.2: WCDMA 1900MHz Channel = 9262, Test Antenna Vertical)



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



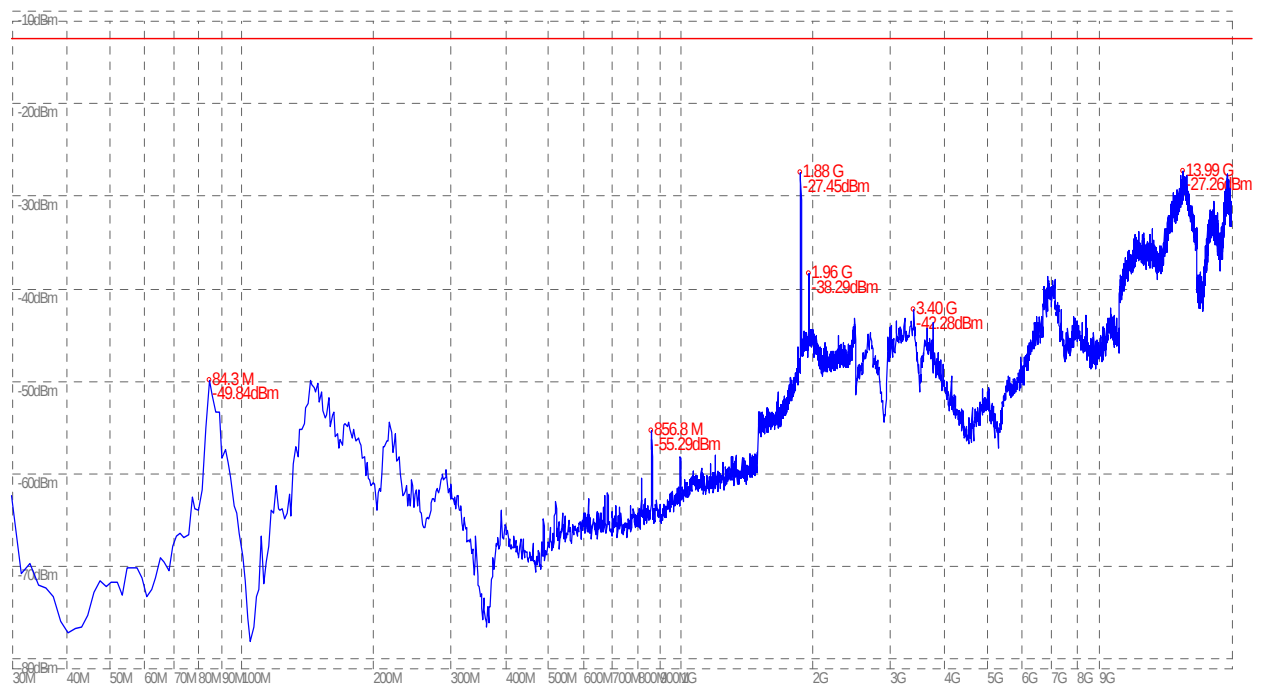
(Plot F.4: WCDMA 1900MHz Channel = 9400, Test Antenna Vertical)



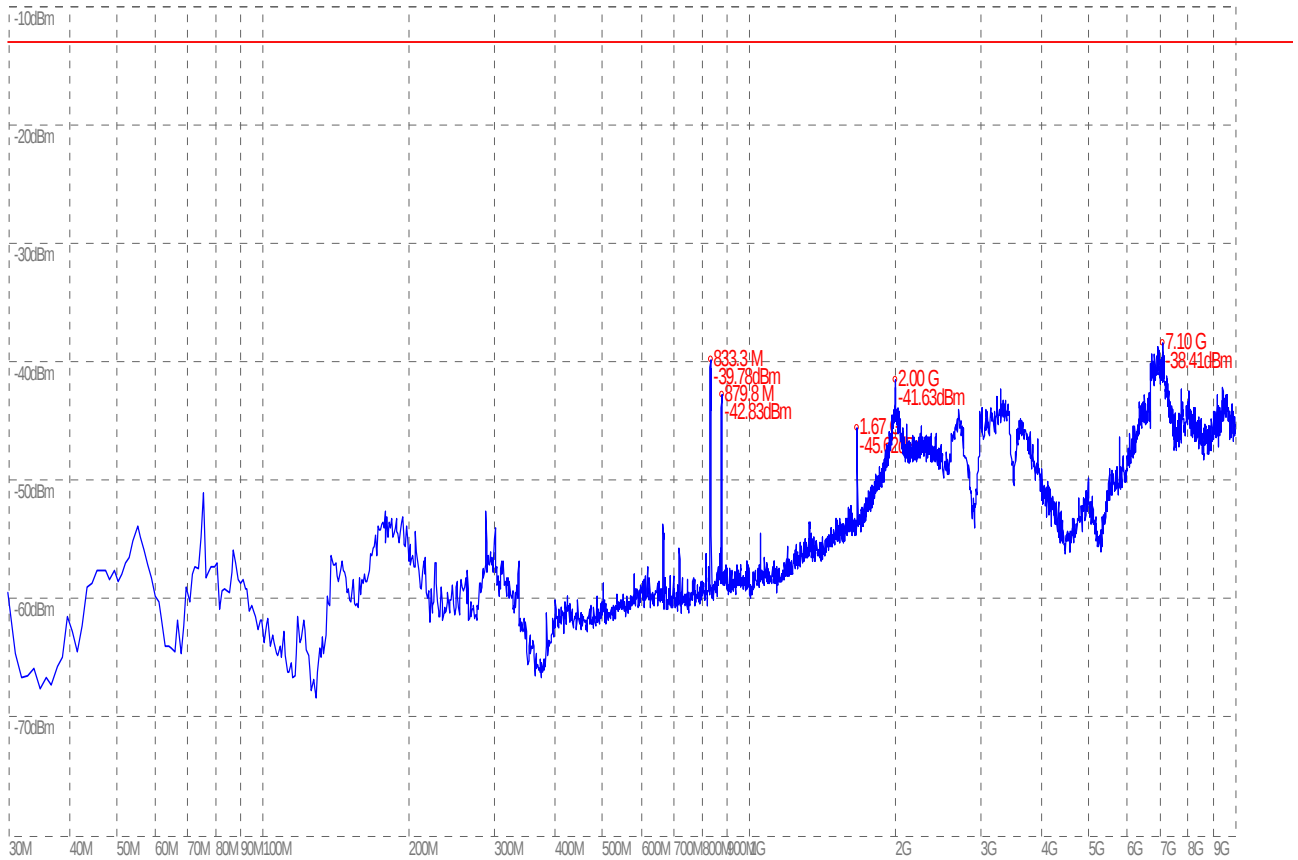
(Plot F.5: WCDMA 1900MHz Channel = 9538, Test Antenna Horizontal)



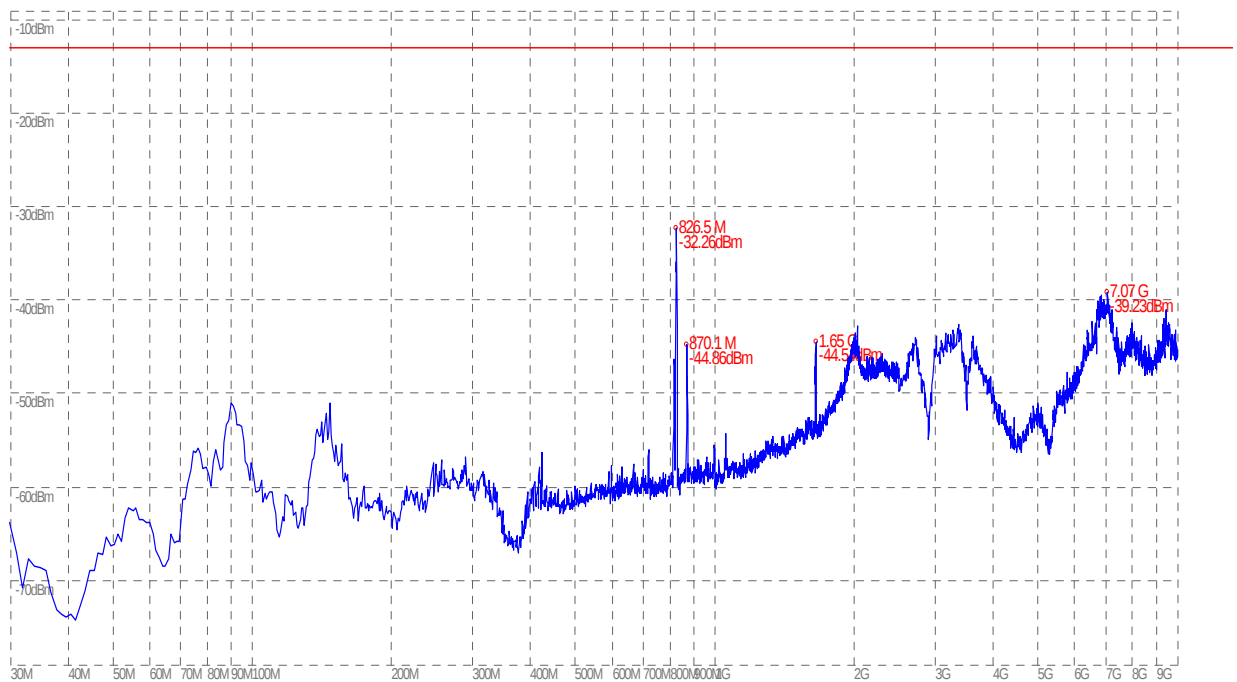
(Plot F.6: WCDMA 1900MHz Channel = 9538, Test Antenna Vertical)



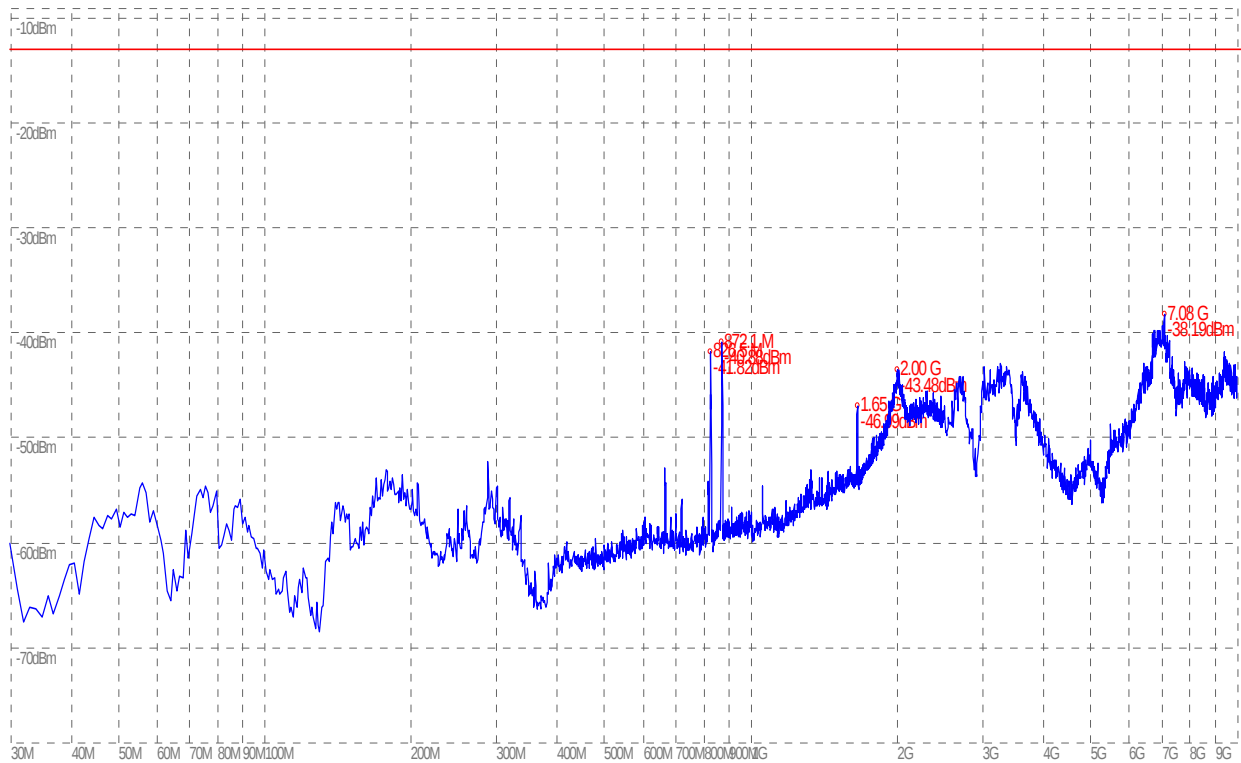
(Plot G.1: HSDPA 850MHz Channel = 4132, Test Antenna Horizontal)



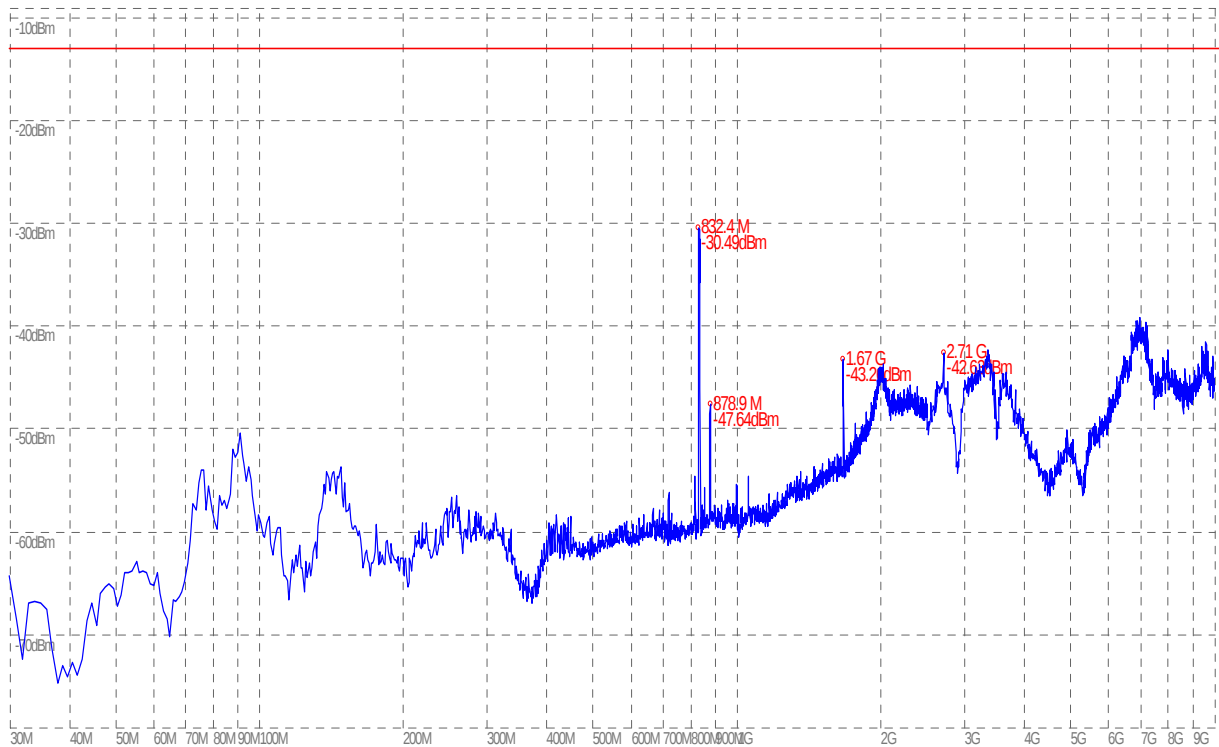
(Plot G.2: HSDPA 850MHz Channel = 4132, Test Antenna Vertical)



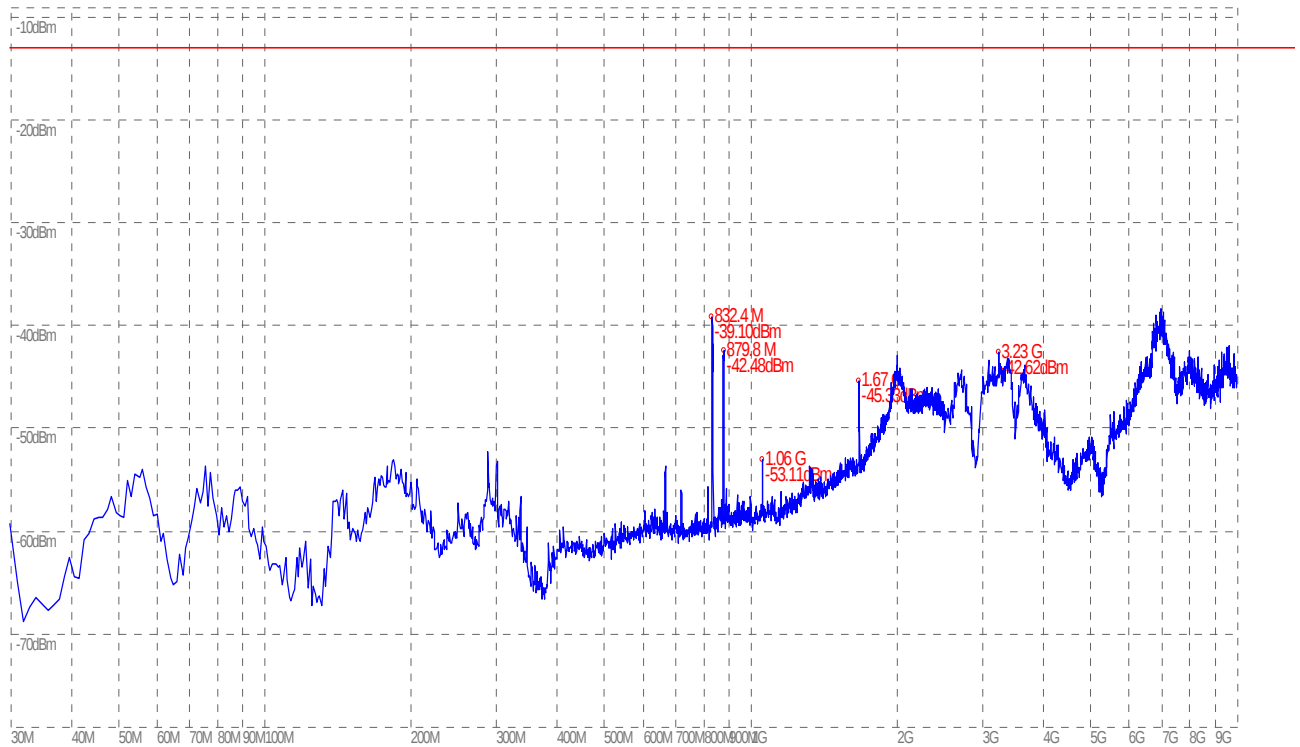
(Plot G.3: HSDPA 850MHz Channel = 4175, Test Antenna Horizontal)



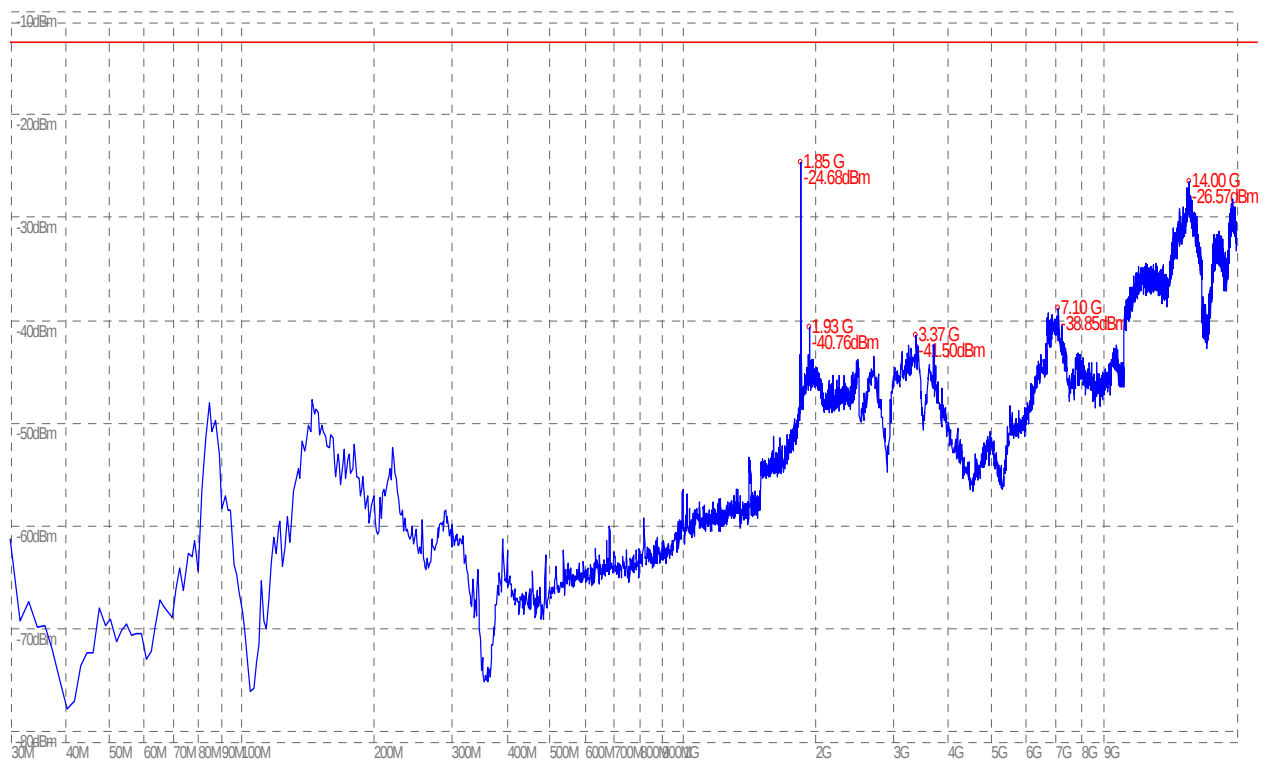
(Plot G.4: HSDPA 850MHz Channel = 4175, Test Antenna Vertical)



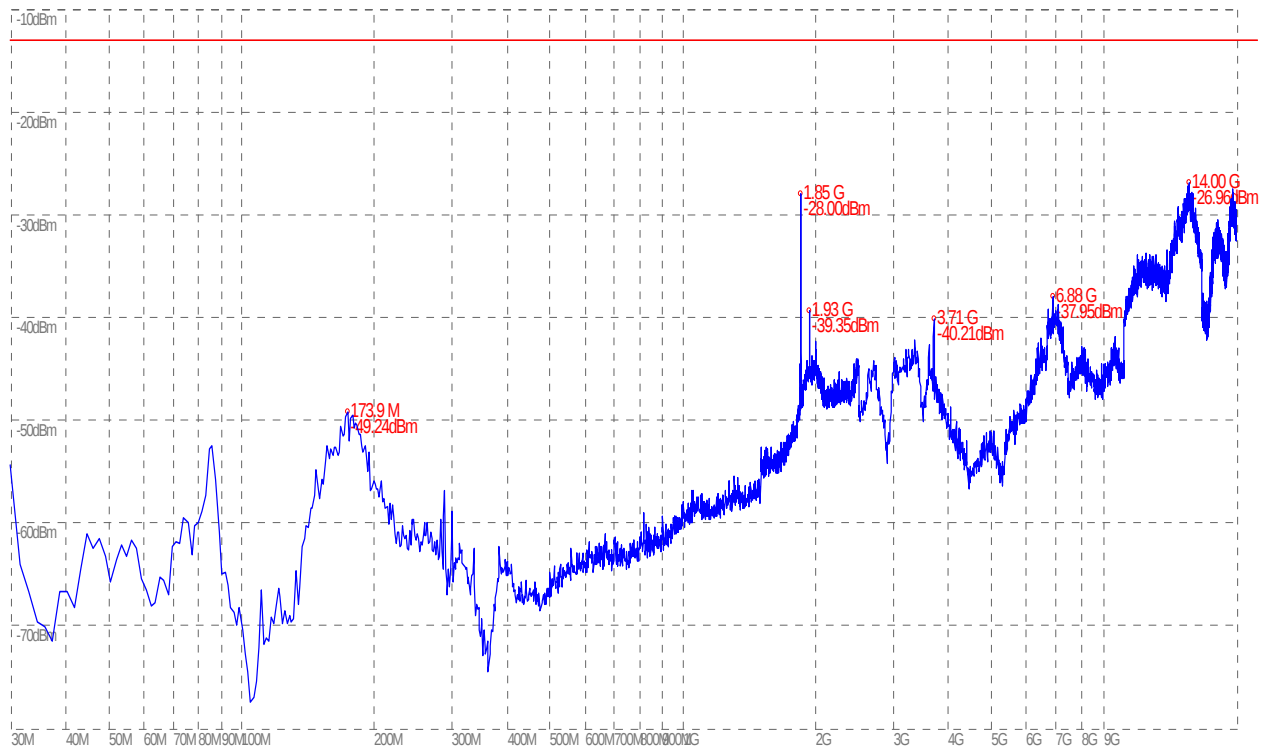
(Plot G.5: HSDPA 850MHz Channel = 4233, Test Antenna Horizontal)



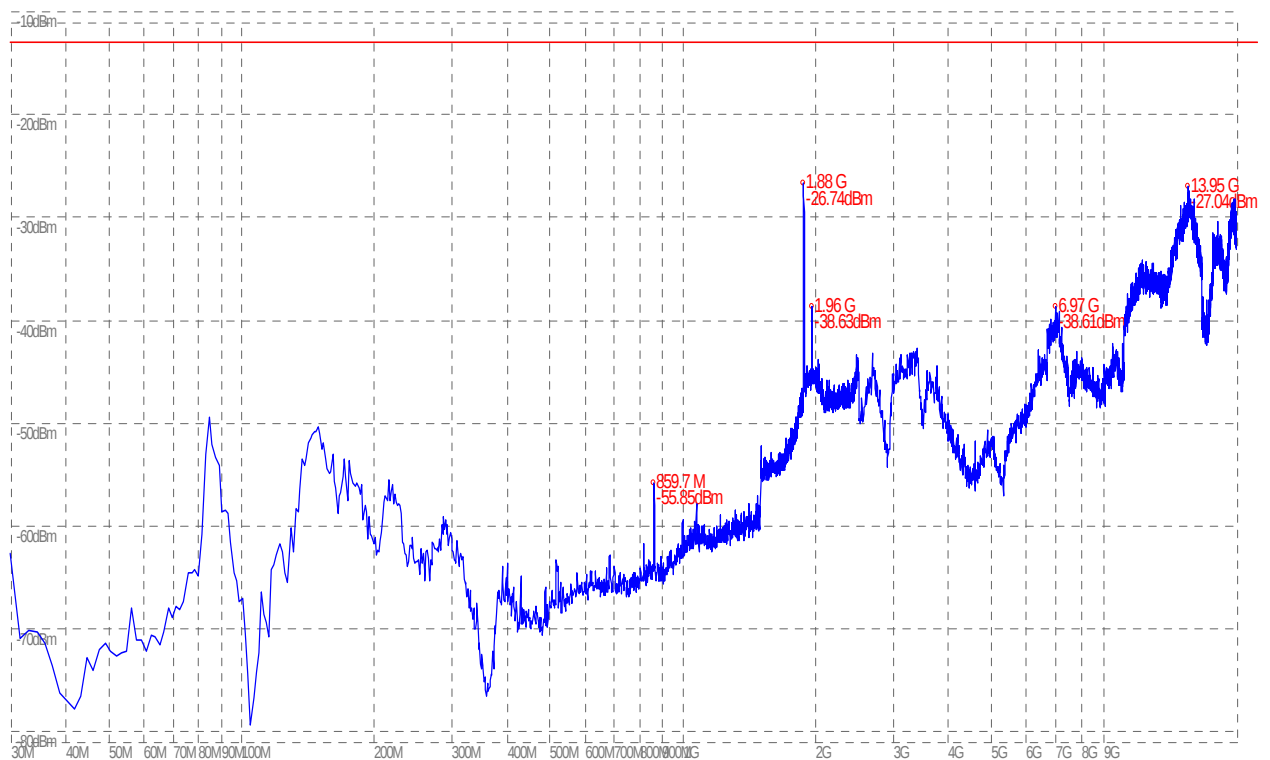
(Plot G.6: HSDPA 850MHz Channel = 4233, Test Antenna Vertical)



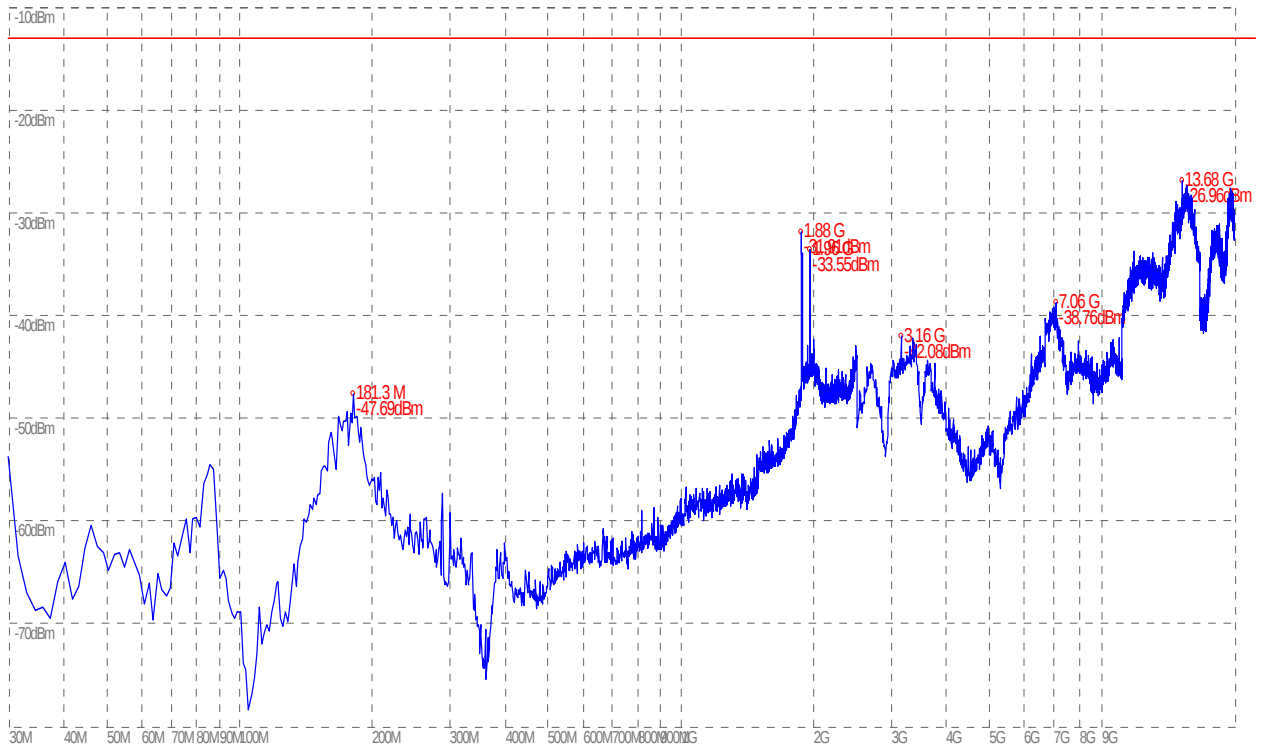
(Plot H.1: HSDPA 1900 MHz Channel = 9262, Test Antenna Horizontal)



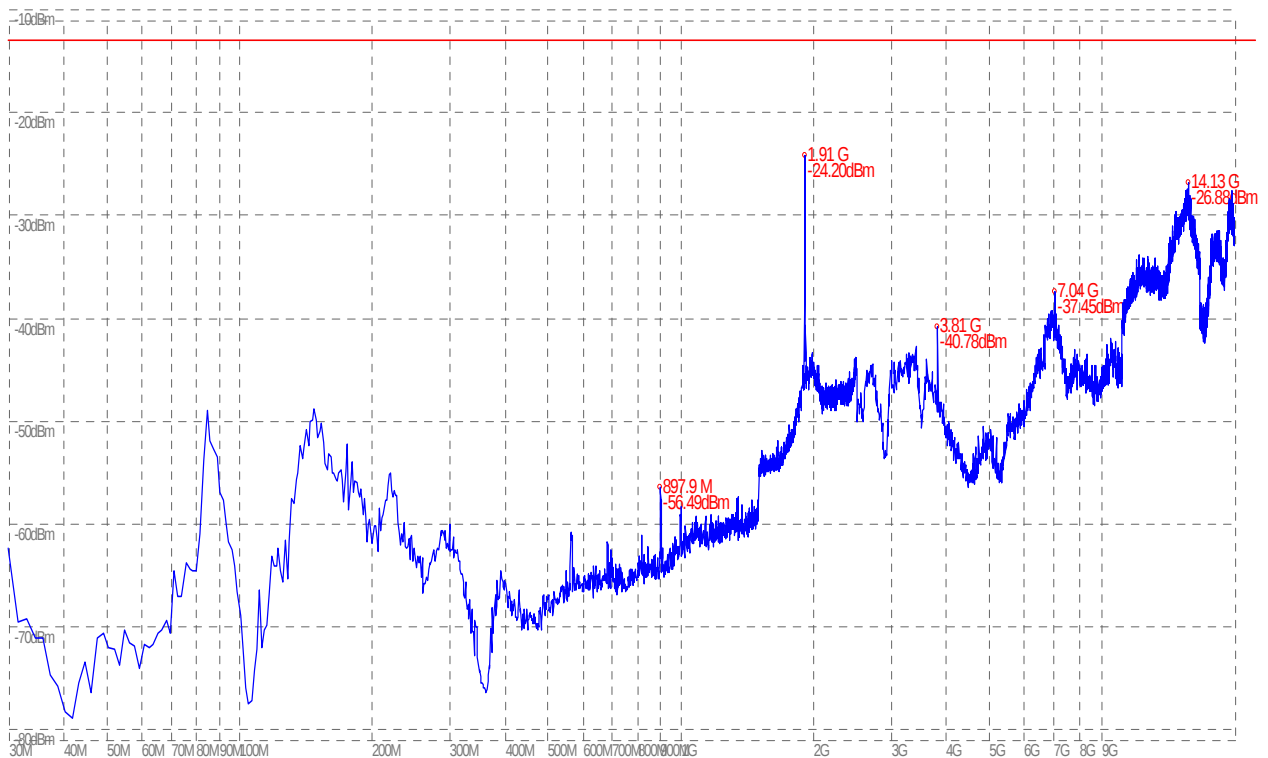
(Plot H.2: HSDPA 1900 MHz Channel = 9262, Test Antenna Vertical)



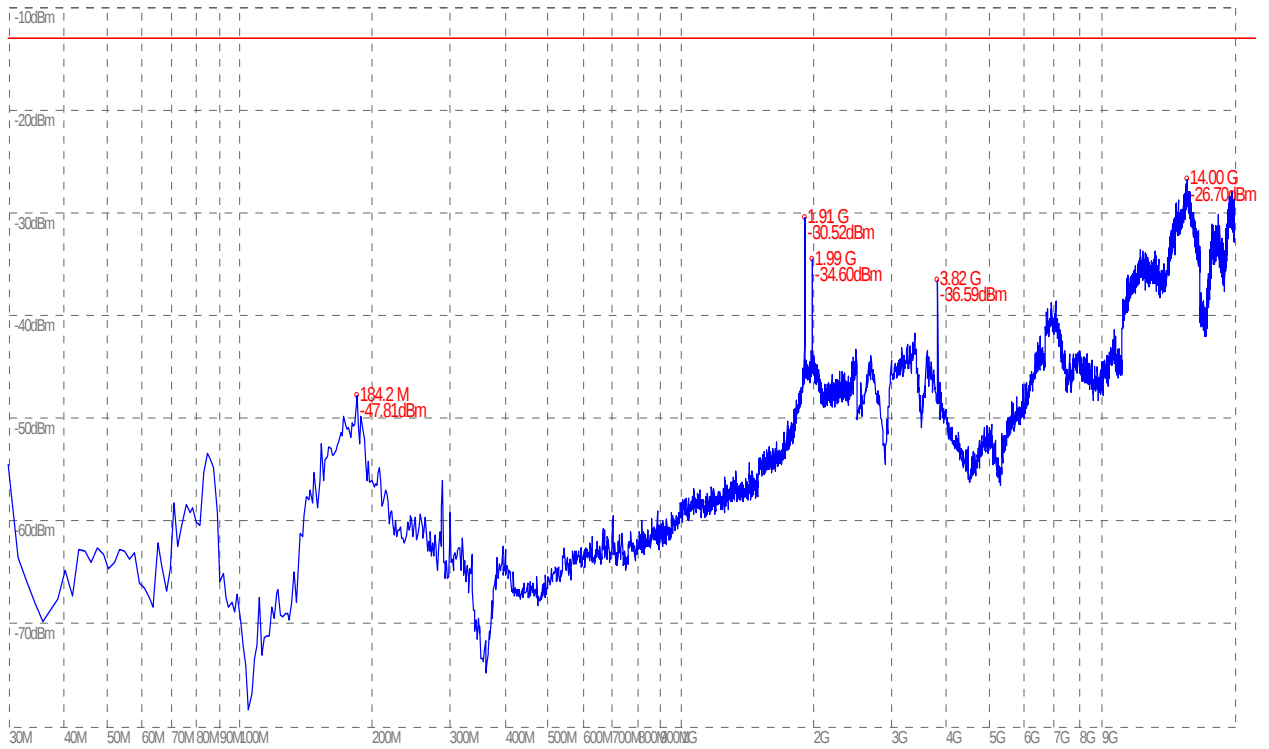
(Plot H.3: HSDPA 1900 MHz Channel = 9400, Test Antenna Horizontal)



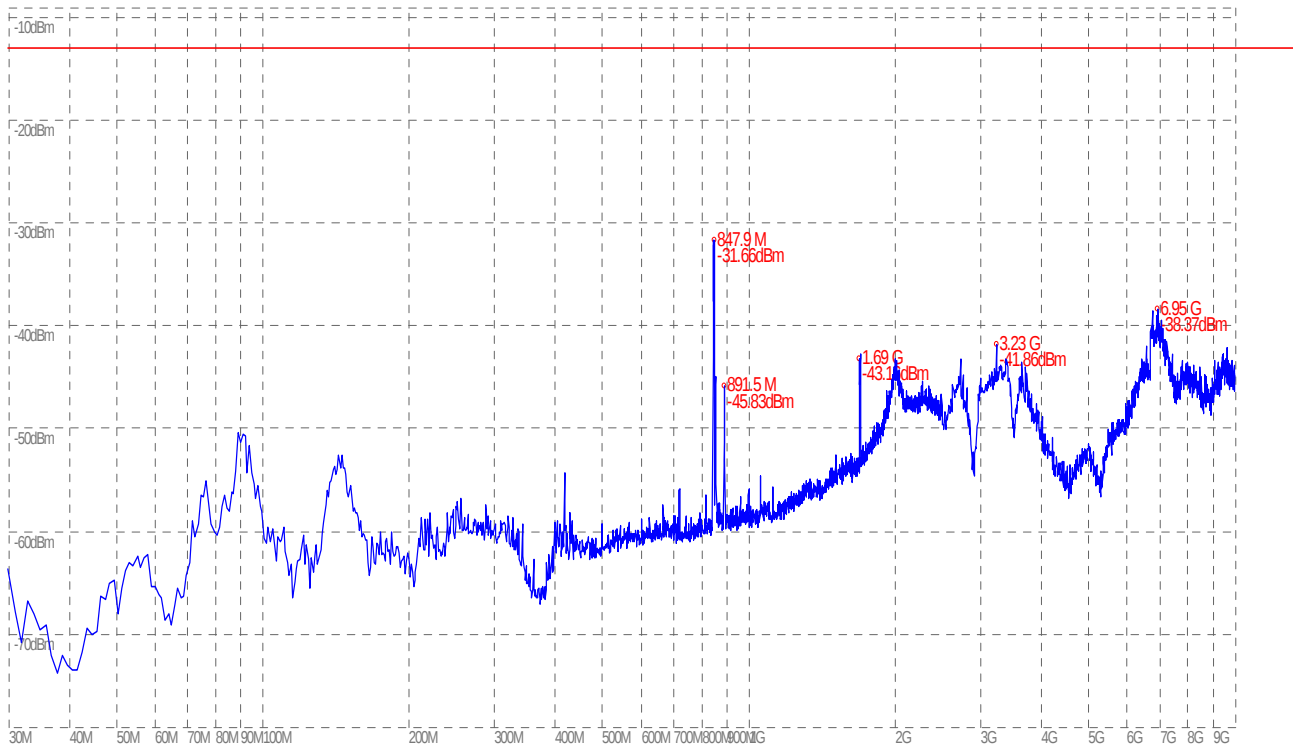
(Plot H.4: HSDPA 1900 MHz Channel = 9400, Test Antenna Vertical)



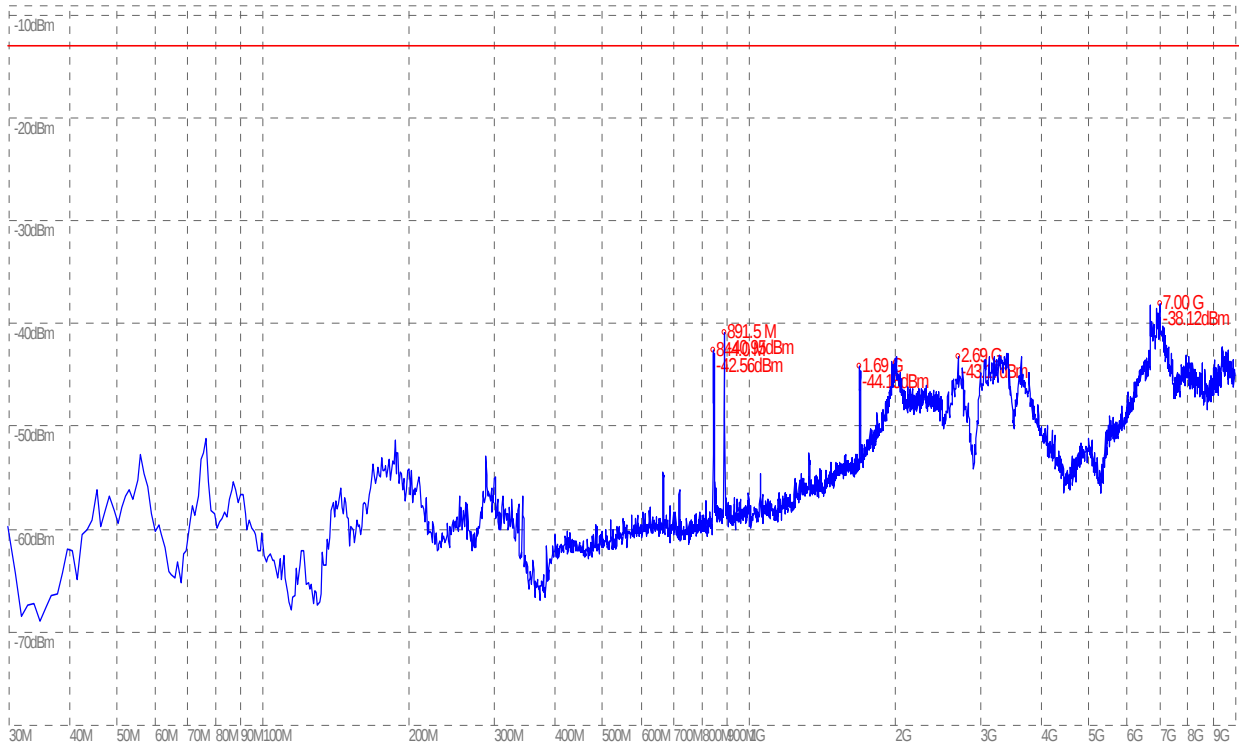
(Plot H.5: HSDPA 1900 MHz Channel = 9538, Test Antenna Horizontal)



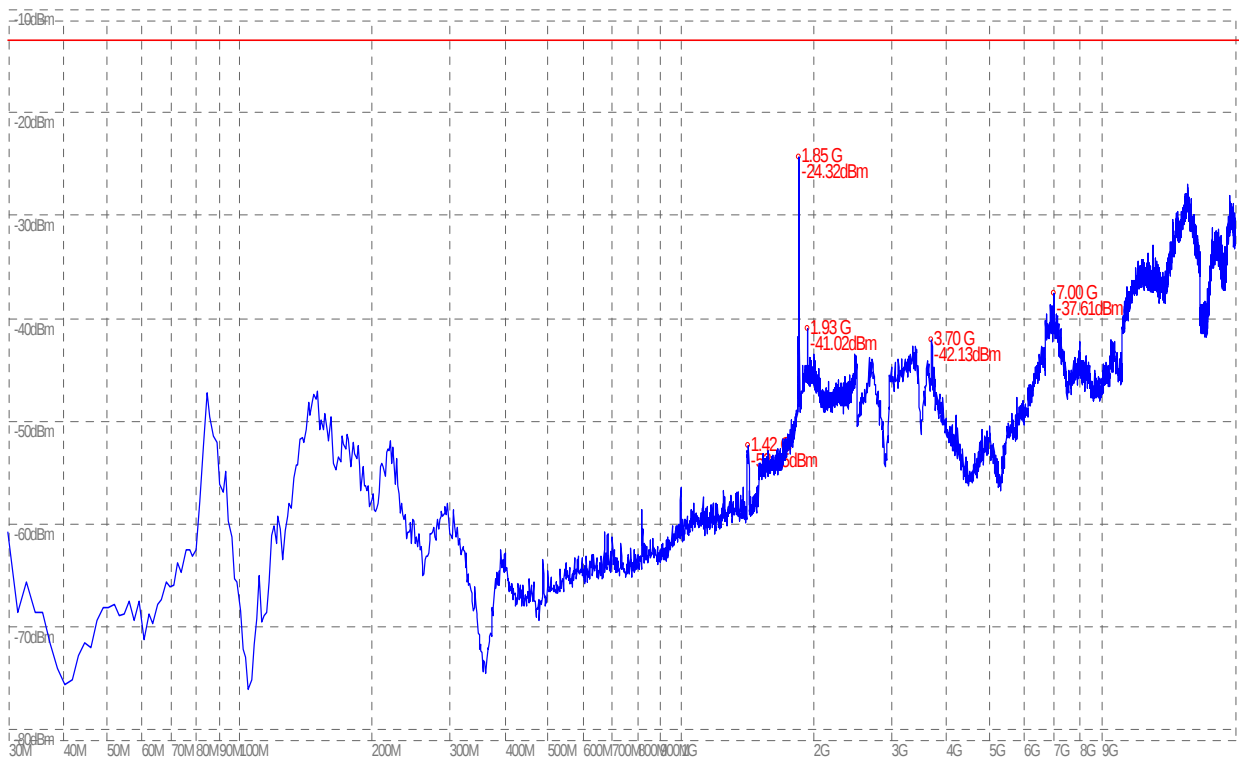
(Plot H.6: HSDPA 1900 MHz Channel = 9538, Test Antenna Vertical)



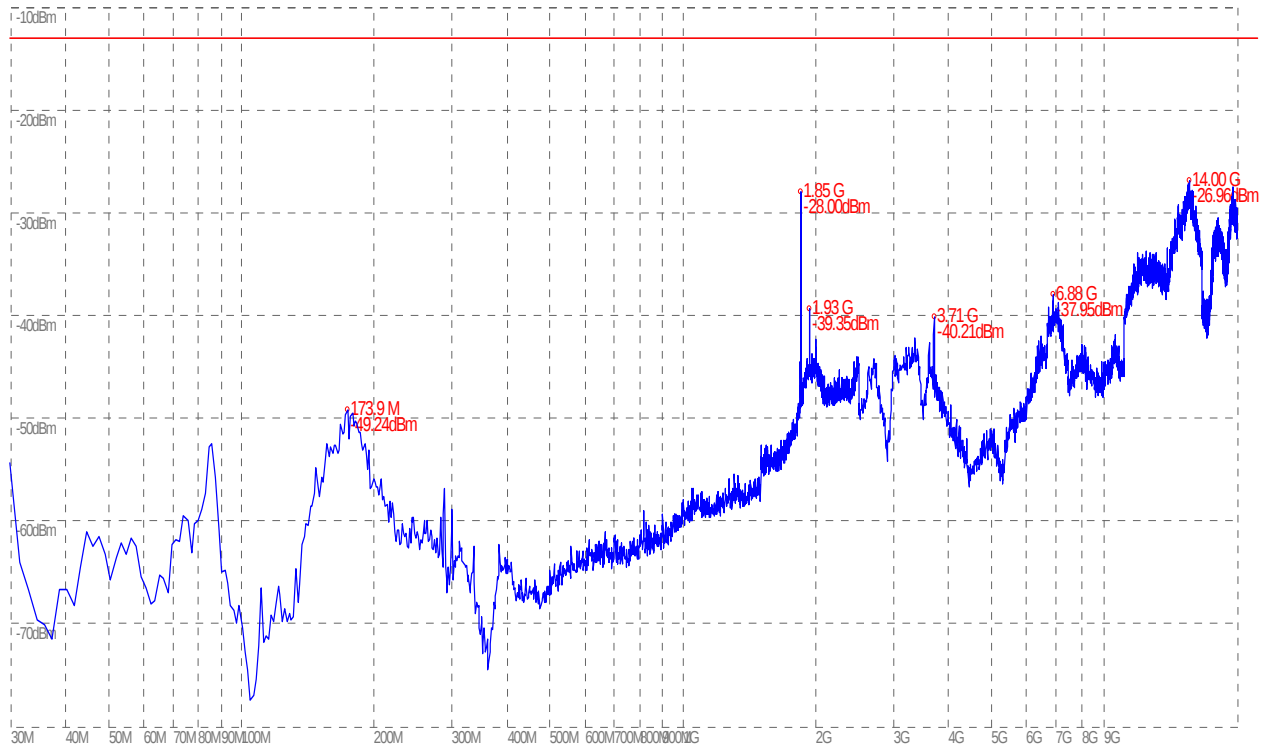
(Plot I.1: HSUPA 850MHz Channel = 4132, Test Antenna Horizontal)



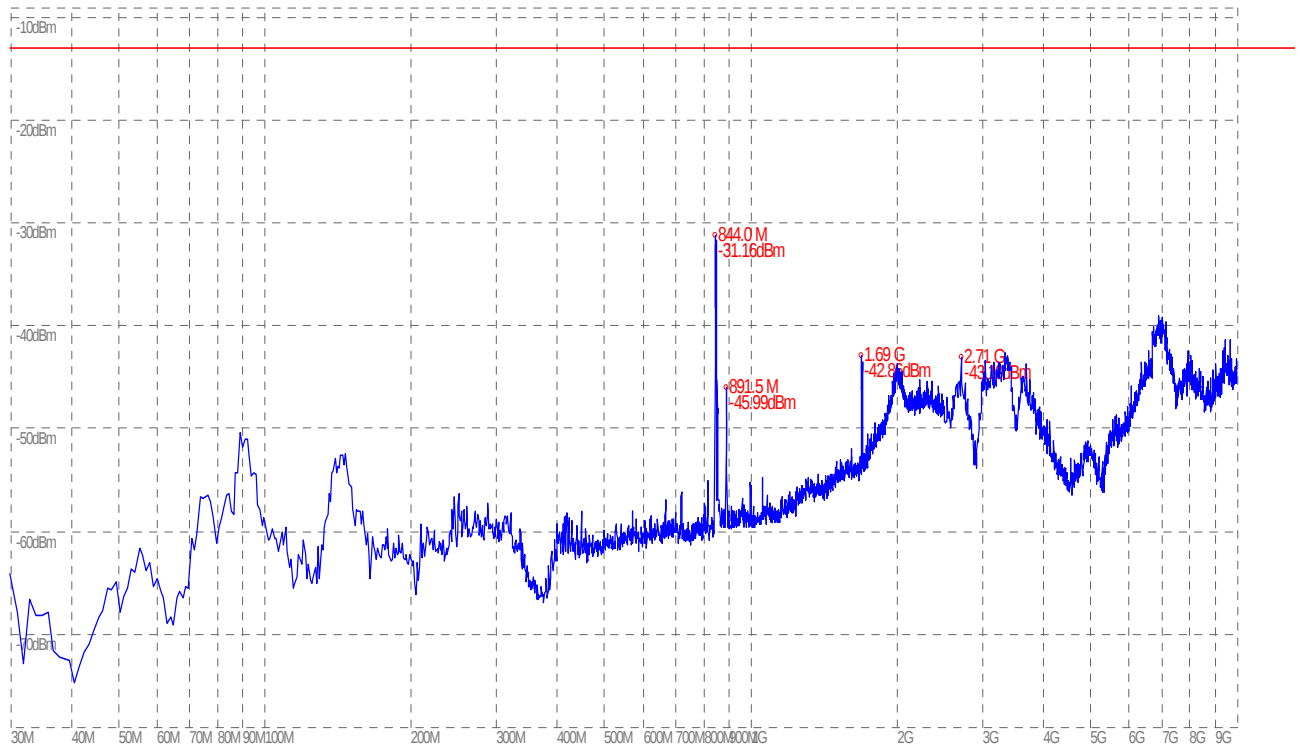
(Plot I.2: HSUPA 850 MHz Channel = 4132, Test Antenna Vertical)



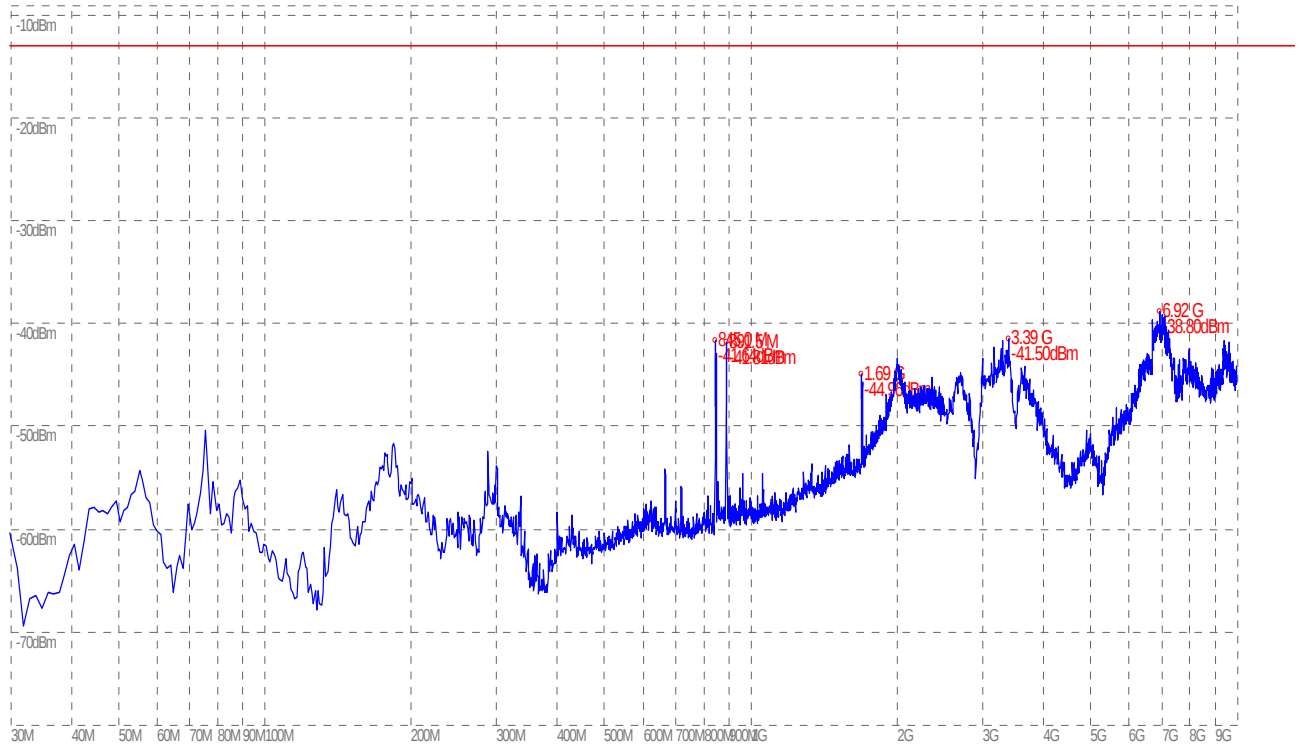
(Plot I.3: HSUPA 850MHz Channel = 4175, Test Antenna Horizontal)



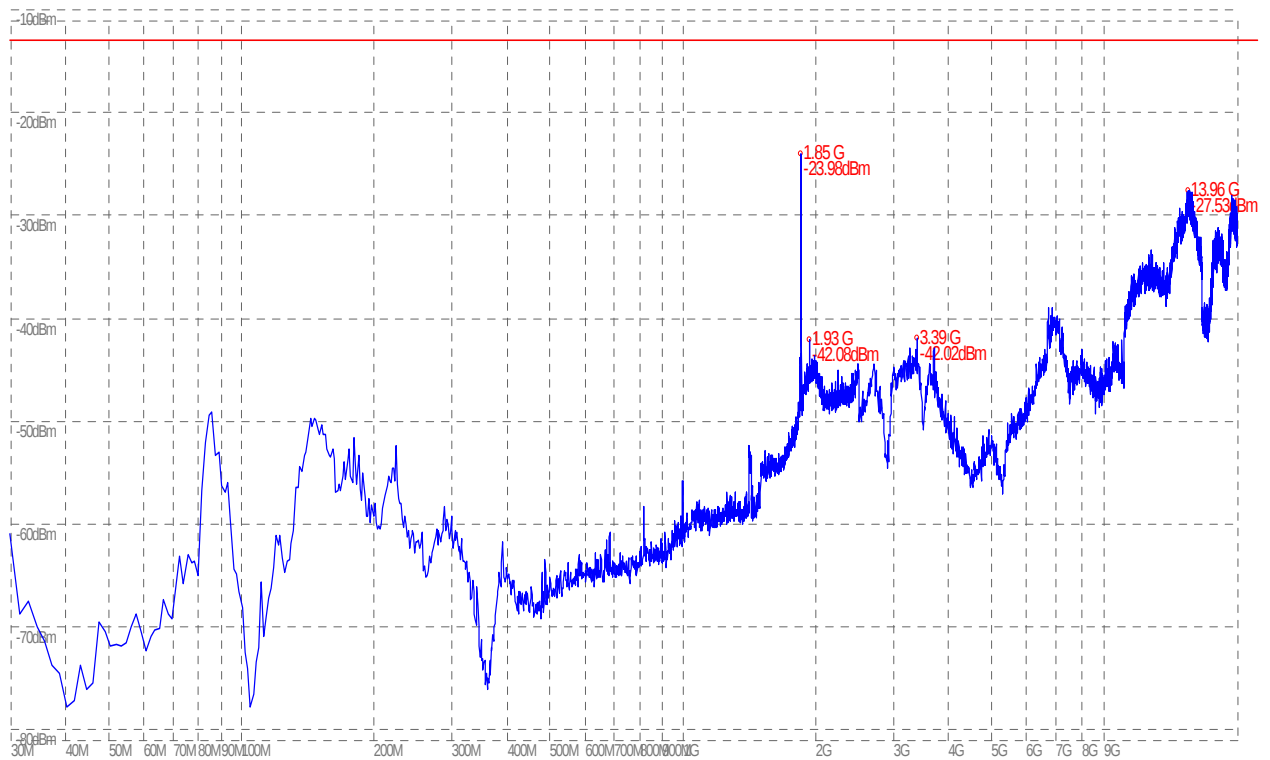
(Plot I.4: HSUPA 850MHz Channel = 4175, Test Antenna Vertical)



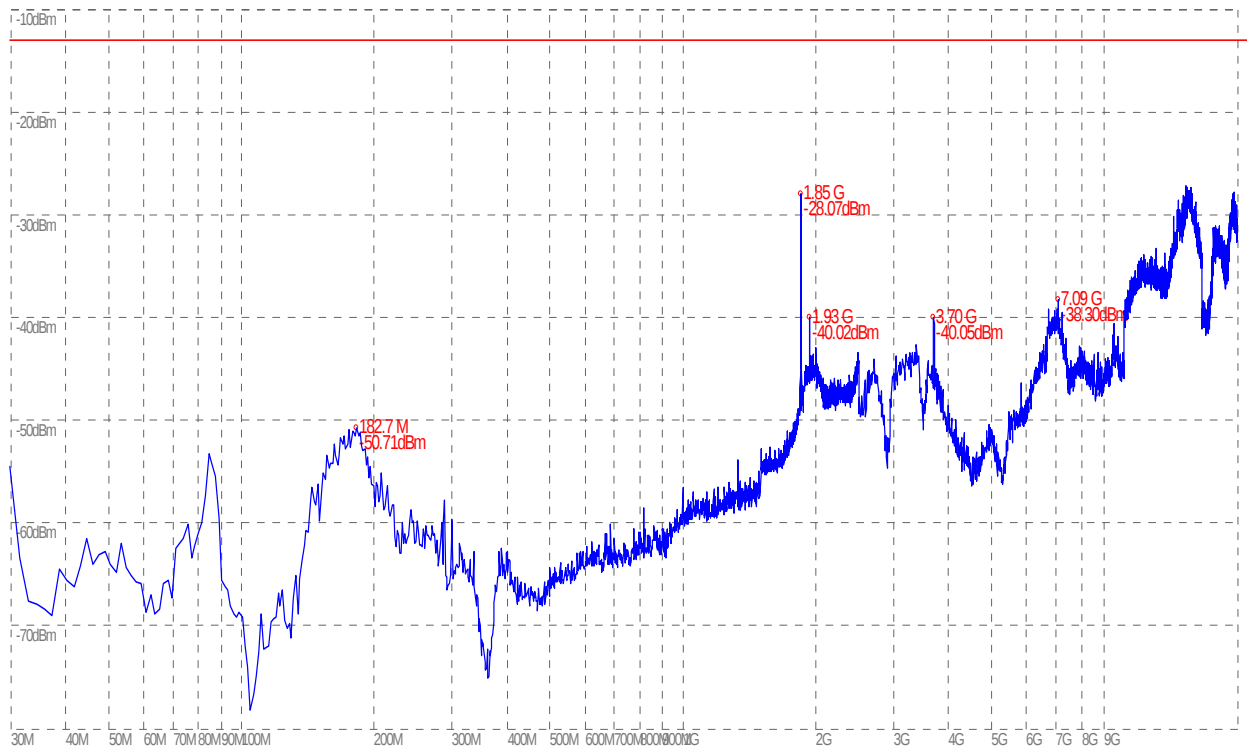
(Plot I.5: HSUPA 850MHz Channel = 4233, Test Antenna Horizontal)



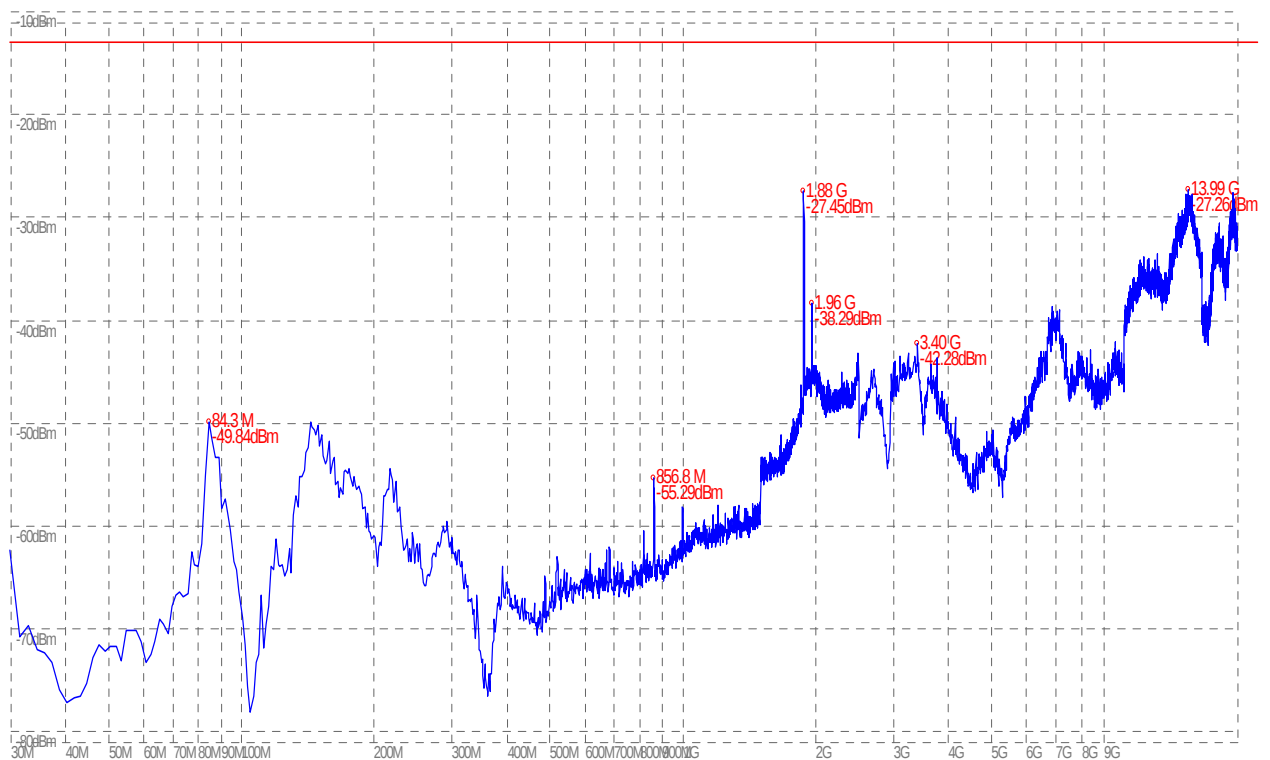
(Plot I.6: HSUPA 850MHz Channel = 4233, Test Antenna Vertical)



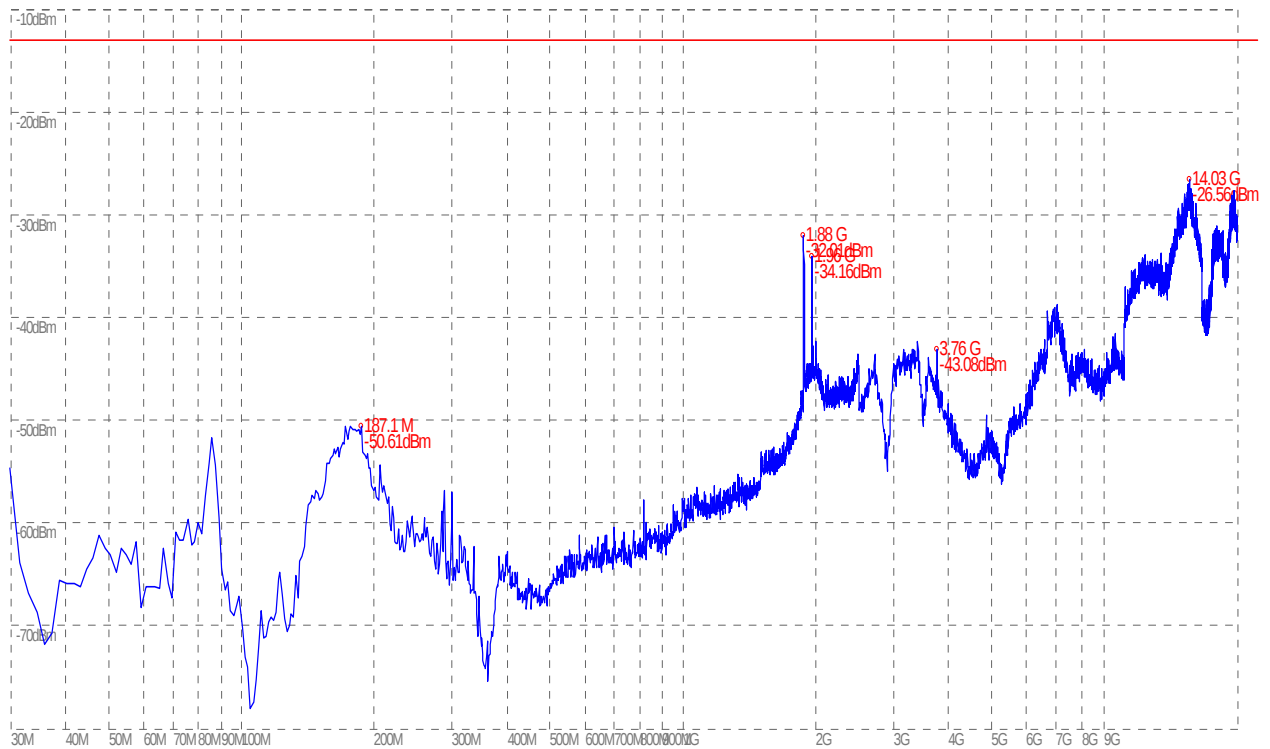
(Plot J.1: HSUPA 1900 MHz Channel = 9262, Test Antenna Horizontal)



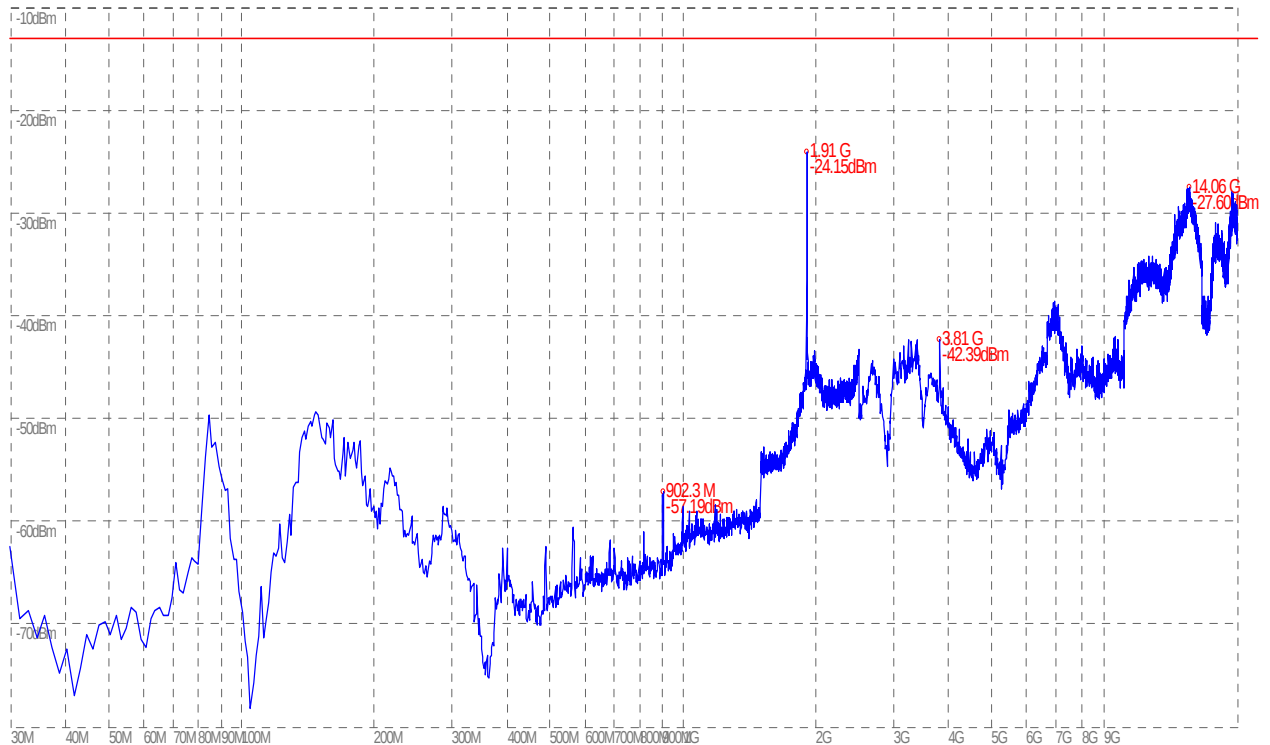
(Plot J.2: HSUPA 1900 MHz Channel = 9262, Test Antenna Vertical)



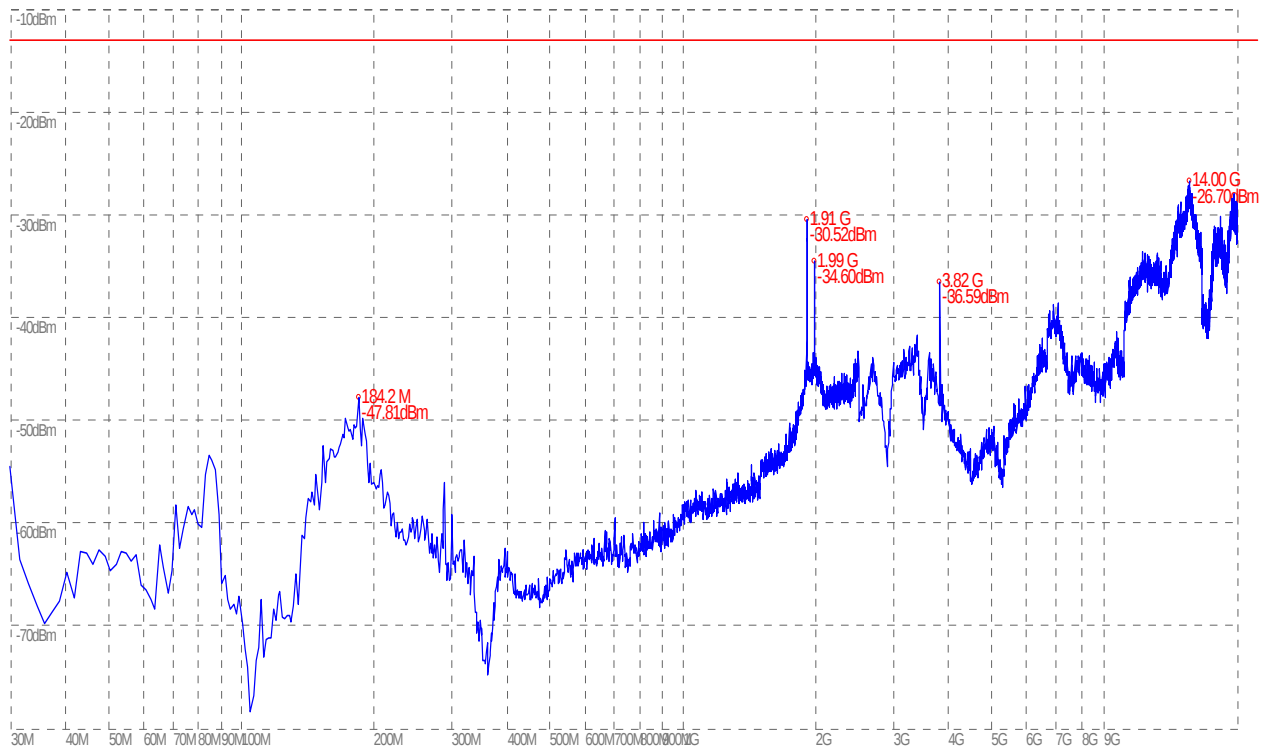
(Plot J.3: HSUPA 1900 MHz Channel = 9400, Test Antenna Horizontal)



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



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



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

**** END OF REPORT ****