FCC TEST REPORT

Issued to

Brightstar Corporation

For

Fixed Wireless Phone

Model Name:	FXP-853WQ
Trade Name:	MOTOROLA
Brand Name:	MOTOROLA
FCC ID :	WVB-FXP853WQ
Standard:	47 CFR Part 22 Subpart H
	47 CFR Part 24 Subpart E
Test date:	Jul 5, 2011 – Jul 14, 2011
Issue date:	Jul 26, 2011

Shenzhen Morlab Communications Technology Co., Ltd.

Tested by *Zhang Yan*
Zhang Yan

Date 2011. 7. 26

Approved by *Wei Yanquan*
Wei Yanquan

Date 2011. 7. 26

Reviewed by *Peng Huarui*
Peng Huarui

Date 2011. 7. 26

CTIA Authorized Test Lab
LAB CODE 20081223-00
IEEE 1725   OTA

OFTA
電訊管理局

ilac-MRA

TAF
Testing Laboratory
2030

GCF'
Official Observer of
Global Certification Forum

Bluetooth
BQTF

FCC
Reg. No.
741109

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Change History		
Issue	Date	Reason for change
1.0	Jul 26, 2011	First edition

1.   GENERAL INFORMATION

1.1   EUT Description

EUT Type ....: Fixed Wireless Phone
Serial No. ....: (n.a, marked #1 by test site)
Hardware Version ....: HV2.0
Software Version ....: M640_SS_V0.1.0.19631
Applicant ....: Brightstar Corporation
9725 NW 117th Avenue, #300 Miami, FL 33178
Manufacturer ....: LAKIA Teletech Co., Ltd.
2F, Unit A, Technology Service Building, Software Garden 1, Xiamen, China
Frequency Range ....: GSM 850MHz:
       Tx: 824.20 - 848.80MHz (at intervals of 200kHz);
       Rx: 869.20 - 893.80MHz (at intervals of 200kHz)
GSM 1900MHz:
       Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz);
       Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz)
WCDMA 850MHz
       Tx: 826.4- 846.6MHz (at intervals of 200kHz);
       Rx: 871.4 – 891.6MHz (at intervals of 200kHz)
WCDMA 1900MHz
       Tx: 1852.4 – 1907.6MHz (at intervals of 200kHz);
       Rx: 1932.4 – 1987.6MHz (at intervals of 200kHz)
Modulation Type ....: GPRS/GSM Mode with GMSK Modulation
EDGE Mode with 8PSK Modulation
WCDMA Mode with QPSK Modulation
Emission Designators ....: GSM:265KGXW, EGPRS:260KG7W
WCDMA:4M18F9W
Power Supply ....: Battery
      Model Name: 3xNR44AAA600P 3.6V
      Brand name: GREPOW
      Capacitance: 600mAh
      Rated voltage: 3.6V
      Charge Limit: 4.2V
      Manufacturer: SHENZHEN GREPOW BATTERY CO., LTD.
Ancillary Equipments ....: AC Adapter (Charger for Battery)
      Model Name: IVP045-050-1000
      Brand Name: INNOV
      Serial No.:   (n.a. marked #1 by test site)

Rated Input: $\sim$ 100-240V, 50/60Hz, $\pm$ 3Hz

Rated Output: $\approx$ 4.7~5.3V, 1.0A

Manufacturer: Innov Electronics Tech Co., Ltd.

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

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

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

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

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

1.2 Test Standards and Results

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

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-09 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	20dB 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.C-2004

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:
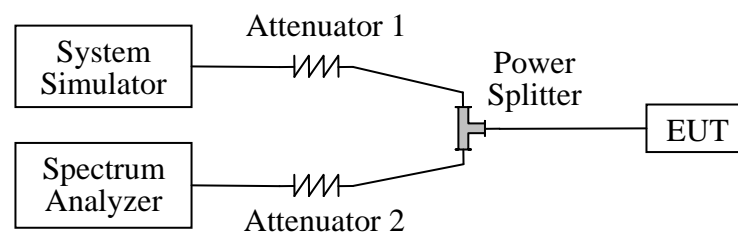
The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded 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.

2.   Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date
System Simulator	Agilent	E5515C	GB43130131	2010.09
Spectrum Analyzer	Agilent	E7405A	US44210471	2010.09
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 Result

Here the lowest, middle and highest channels are selected to perform testing to verify the conducted RF output power of the EUT. For the GSM 850MHz operates at PCL=5 (where Power Class is 4), the rated conducted RF output power is 33dBm, and For the GSM 1900MHz operates at PCL=0 (where Power Class is 1), the rated conducted RF output power is 30dBm.

1. Test Verdict:

| Band	Channel	Frequency (MHz)	Measured Output Power		Limit dBm	Verdict
			dBm	Refer to Plot		
GSM 850MHz	128	824.2	32.4	Plot A1 to A3	35	PASS
	190	836.6	32.59			PASS
	251	848.8	32.51			PASS
GSM 1900MHz	512	1850.2	29.3	Plot B1 to B3	32	PASS
	661	1880.0	30.01			PASS
	810	1909.8	29.88			PASS
GPRS 850MHz	128	824.2	32.41	Plot C1 to C3 1down link 4up link	35	PASS
	190	836.6	32.58			PASS
	251	848.8	32.51			PASS
GPRS 1900MHz	512	1850.2	27.7	Plot D1 to D3 1down link 4up link	32	PASS
	661	1880.0	28.31			PASS
	810	1909.8	28.2			PASS
GPRS 850MHz	128	824.2	32.18	Plot E1 to E3 2down link 3up link	35	PASS
	190	836.6	32.34			PASS
	251	848.8	32.32			PASS
GPRS 1900MHz	512	1850.2	34.26	Plot F1 to F3 2down link 3up link	32	PASS
	661	1880.0	29.4			PASS
	810	1909.8	29.26			PASS
GPRS 850MHz	128	824.2	32.23	Plot G1 to G3 3down link 2up link	35	PASS
	190	836.6	32.4			PASS
	251	848.8	32.36			PASS
GPRS 1900MHz	512	1850.2	29.12	Plot H1 to H3 3down link 2up link	32	PASS
	661	1880.0	29.47			PASS
	810	1909.8	29.29			PASS
GPRS 850MHz	128	824.2	32.53	Plot I1 to I3 4down link 1up link	35	PASS
	190	836.6	32.67			PASS
	251	848.8	32.62			PASS
GPRS 1900MHz	512	1850.2	29.19	Plot J1 to J3 4down link 1up link	32	PASS
	661	1880.0	29.87			PASS
	810	1909.8	29.76			PASS
EGPRS	128	824.2	32.41	Plot K1 to K3	35	PASS

Band	Channel	Frequency (MHz)	Measured Output Power		Limit dBm	Verdict
			dBm	Refer to Plot		
850MHz	190	836.6	32.58	1down link		PASS
	251	848.8	32.51	4up link		PASS
EGPRS 1900MHz	512	1850.2	29.31	Plot L1 to L3	32	PASS
	661	1880.0	29.97	1down link		PASS
	810	1909.8	29.84	4up link		PASS
EGPRS 850MHz	128	824.2	32.22	Plot M1 to M3	35	PASS
	190	836.6	32.37	2down link		PASS
	251	848.8	32.49	3up link		PASS
EGPRS 1900MHz	512	1850.2	29	Plot N1 to N3	32	PASS
	661	1880.0	29.58	2down link		PASS
	810	1909.8	29.44	3up link		PASS
EGPRS 850MHz	128	824.2	32.22	Plot O1 to O3	35	PASS
	190	836.6	32.4	3down link		PASS
	251	848.8	32.33	2up link		PASS
EGPRS 1900MHz	512	1850.2	28.94	Plot P1 to P3	32	PASS
	661	1880.0	29.56	3down link		PASS
	810	1909.8	29.45	2up link		PASS
EGPRS 850MHz	128	824.2	32.45	Plot Q1 to Q3	35	PASS
	190	836.6	32.62	4down link		PASS
	251	848.8	32.56	1up link		PASS
EGPRS 1900MHz	512	1850.2	29.31	Plot R1 to R3	32	PASS
	661	1880.0	29.95	4down link		PASS
	810	1909.8	29.81	1up link		PASS

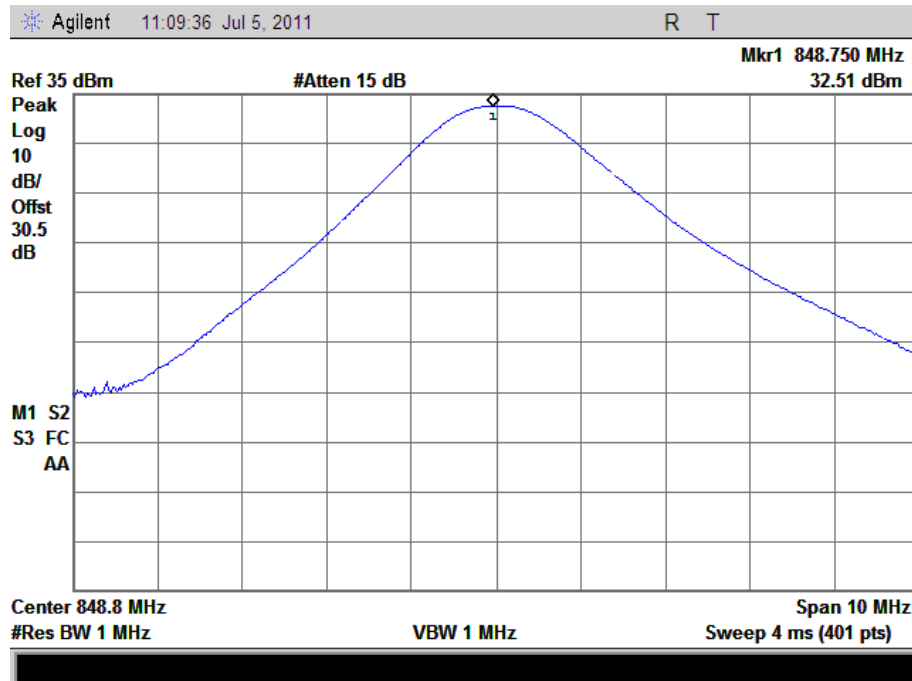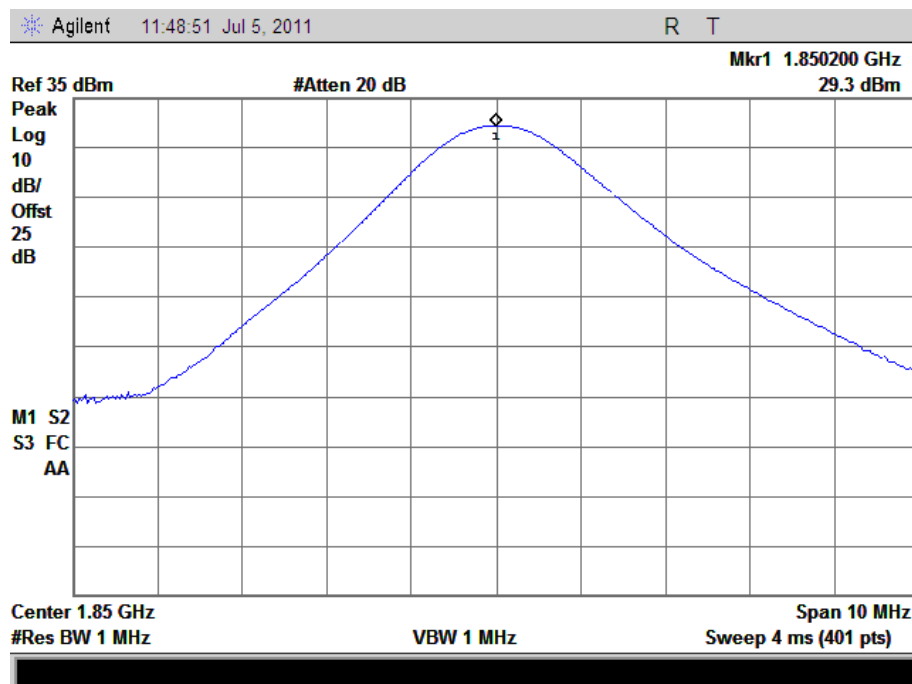|	band	WCDMA 850			WCDMA 1900		
Item	ARFCN	4357	4400	4458	9662	9800	9938
	subtest	dBm			dBm		
5.2(WCDMA)	non	21.7	21.84	21.62	21.21	21.12	21.25

2.   Test Plots:
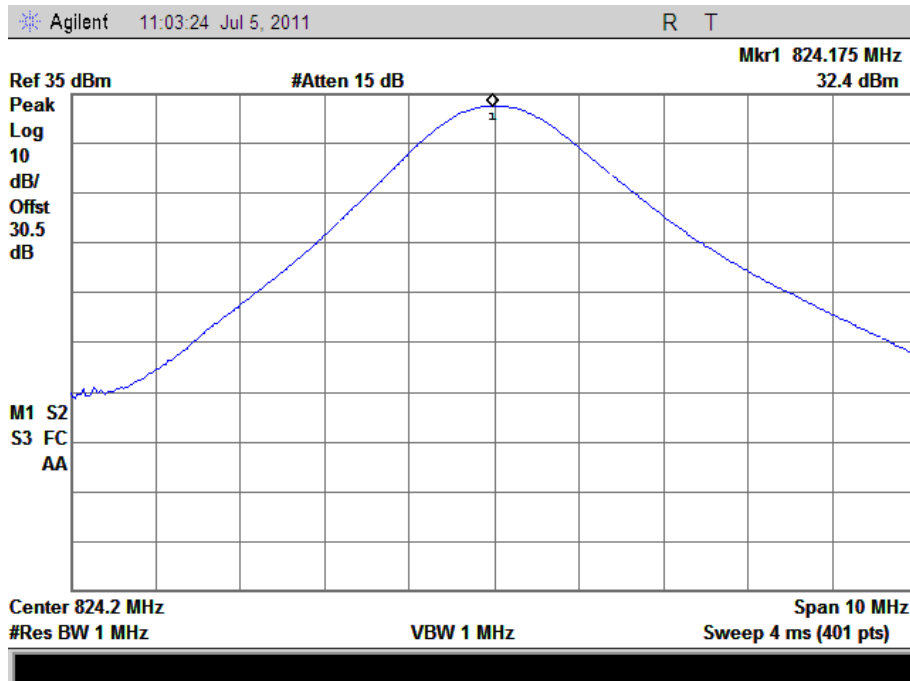
(Plot A1:   GSM 850MHz Channel = 128)
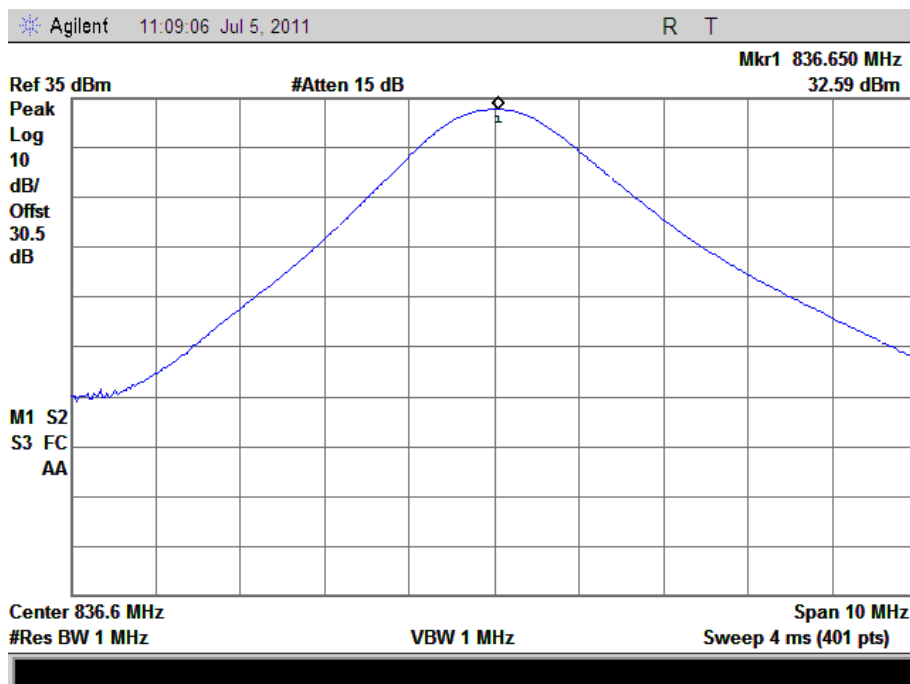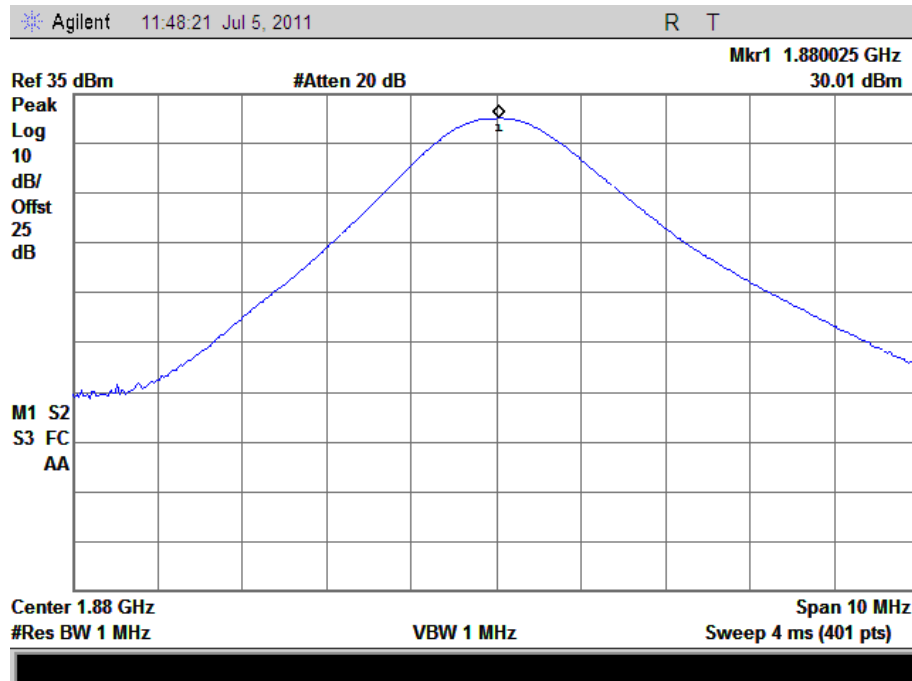

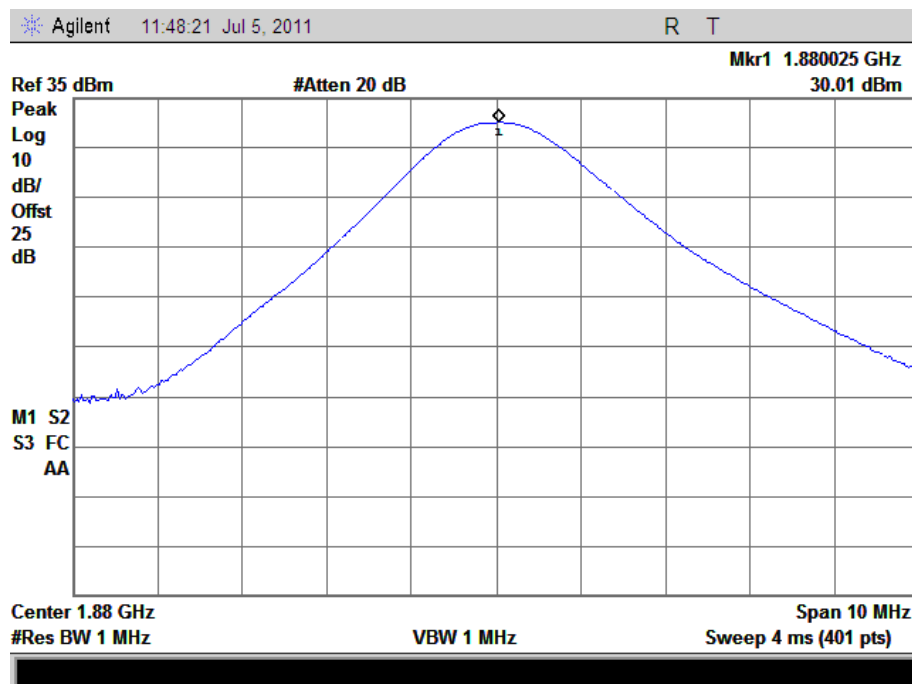(Plot A2:   GSM 850MHz Channel = 190)

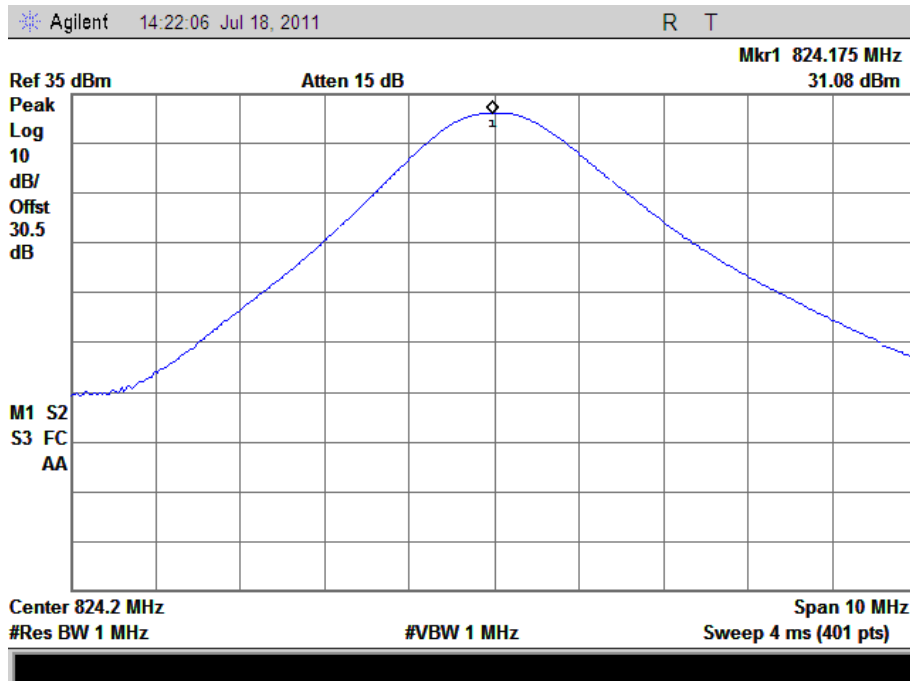(Plot A3:   GSM 850MHz Channel = 251)

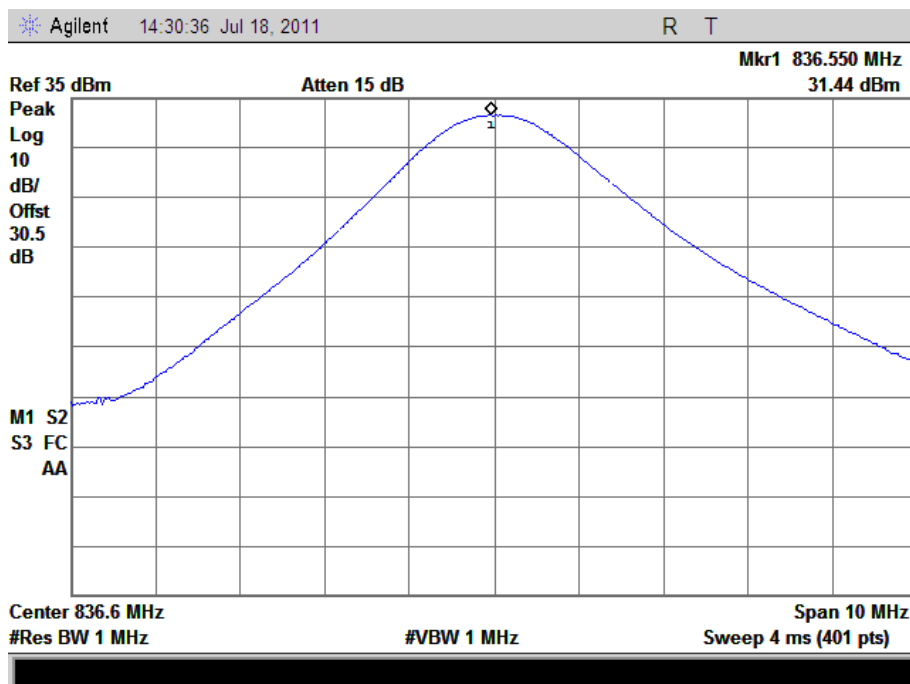(Plot B1:   GSM 1900MHz Channel = 512)

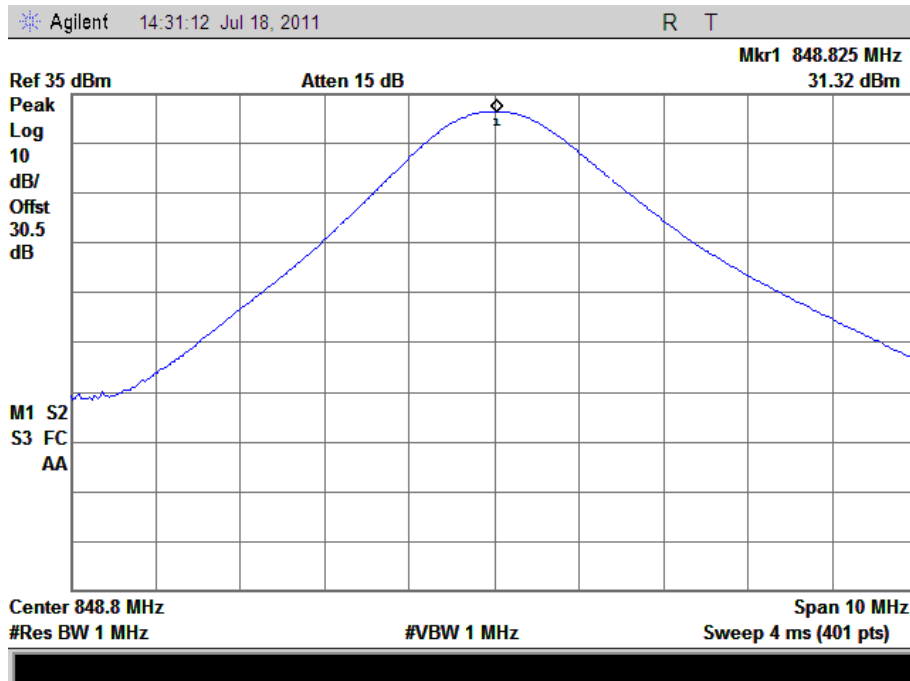(Plot B2:   GSM 1900MHz Channel = 661)

(Plot B3:   GSM 1900MHz Channel = 810)
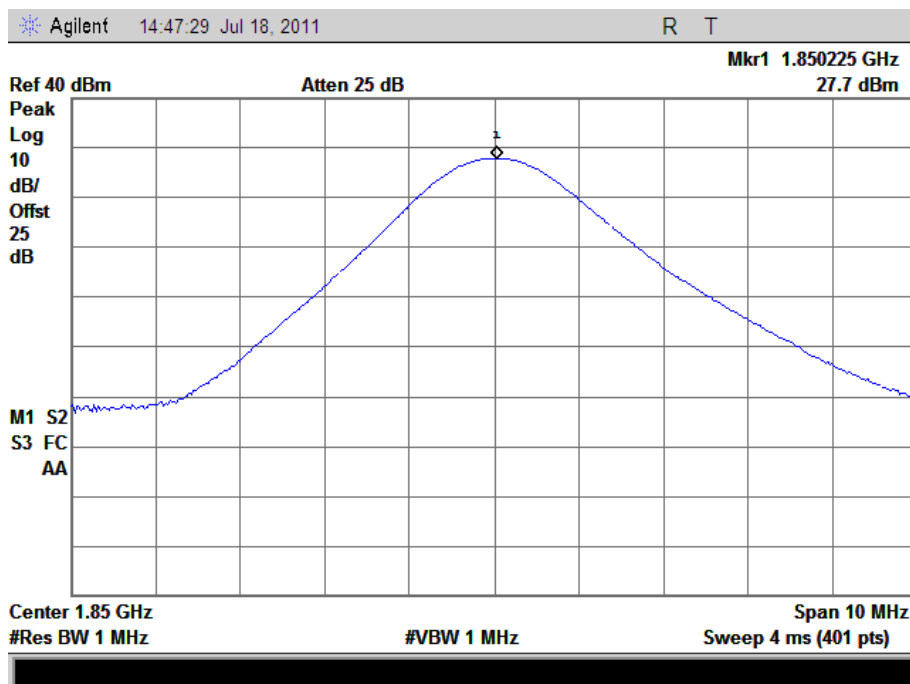
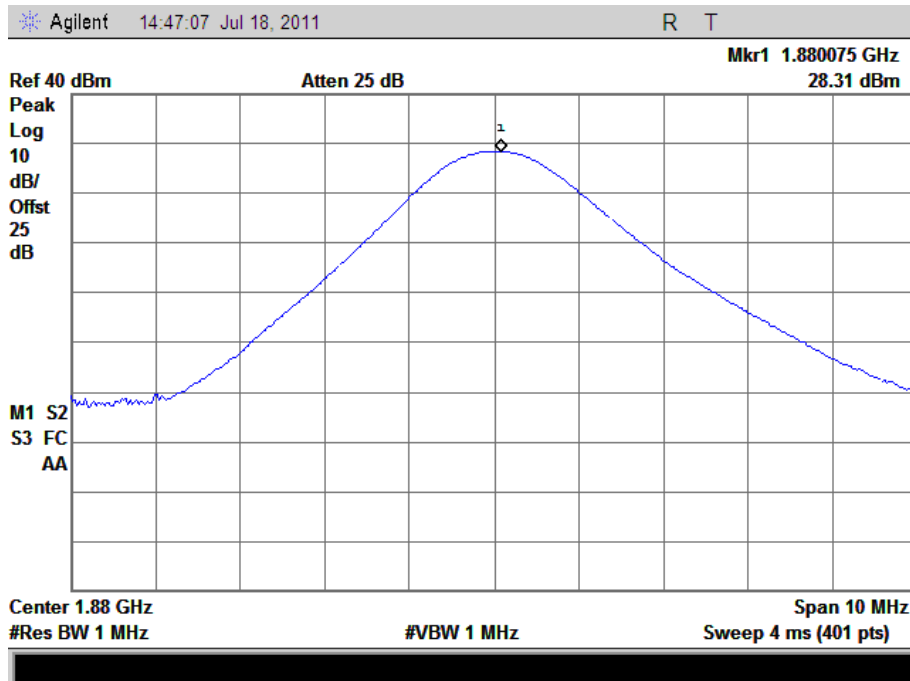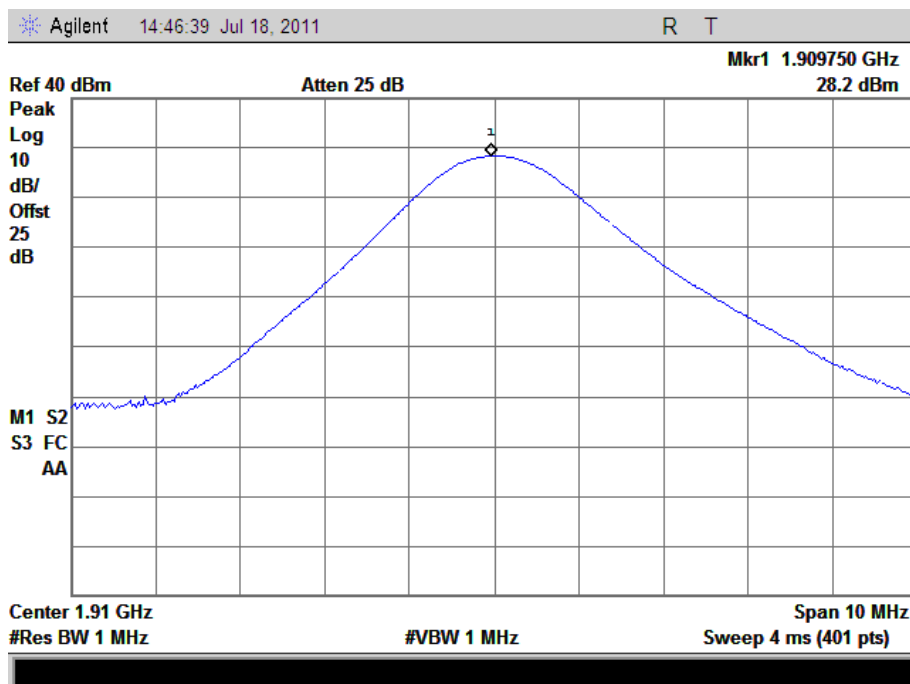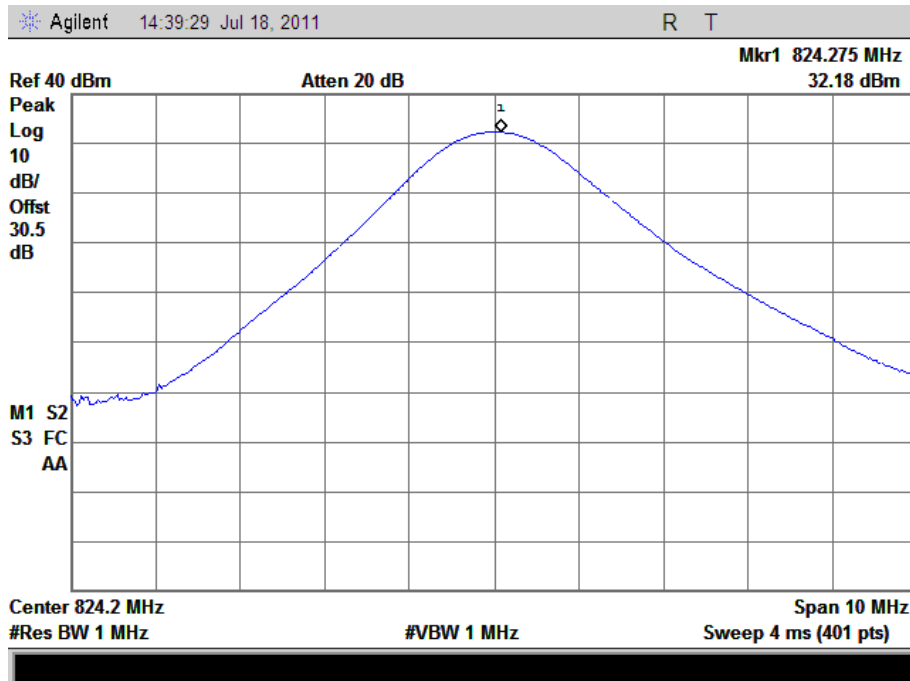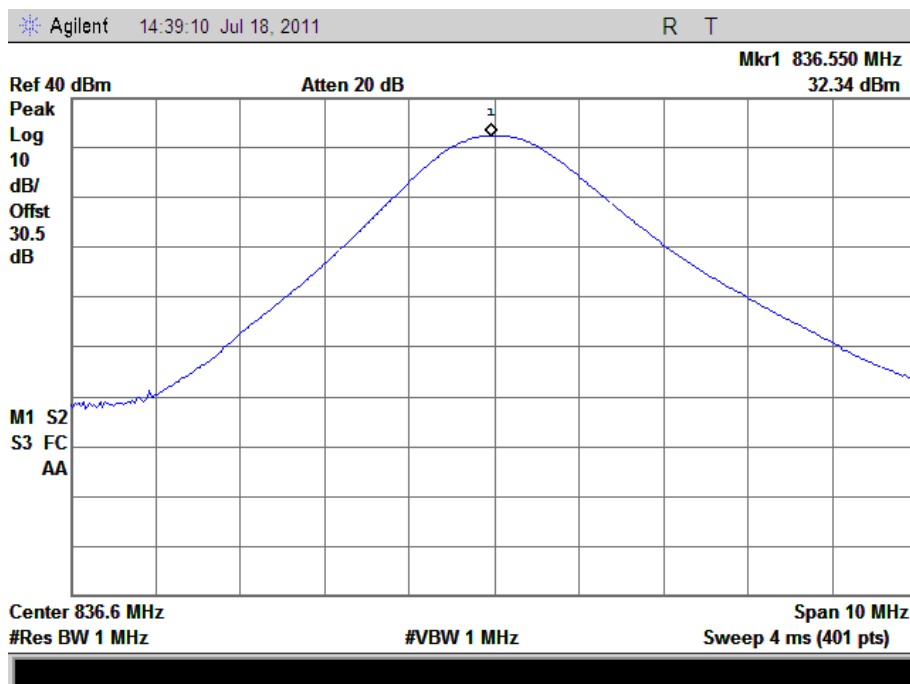(Plot C1:   GPRS 850MHz Channel = 128)

(Plot C2:   GPRS 850MHz Channel = 190)

(Plot C3:   GPRS 850MHz Channel = 251)

(Plot D1:   GPRS 1900MHz Channel = 512)

(Plot D2:   GPRS 1900MHz Channel = 661)

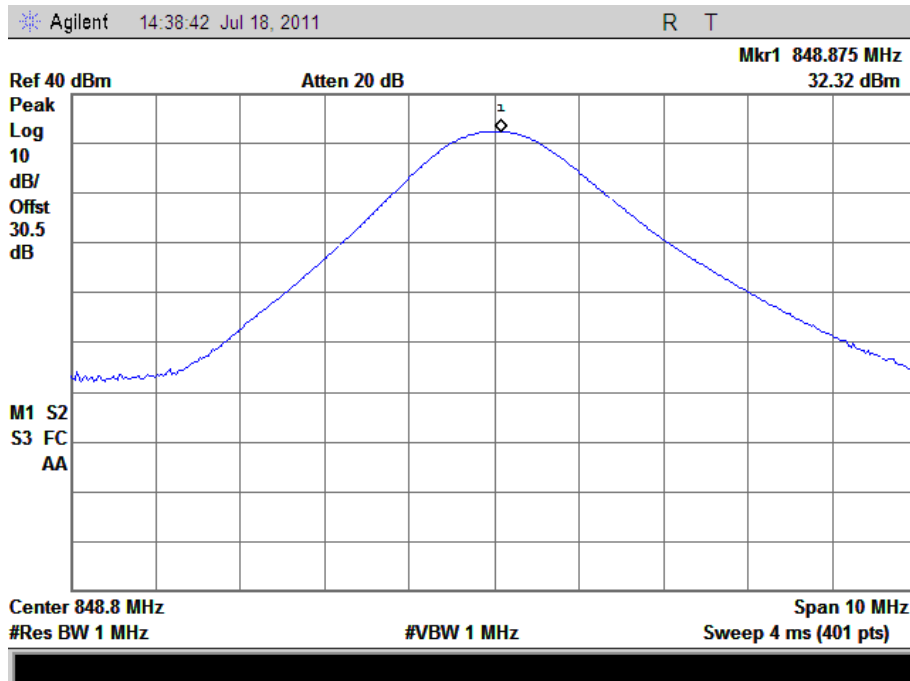

(Plot D3:   GPRS 1900MHz Channel = 810)

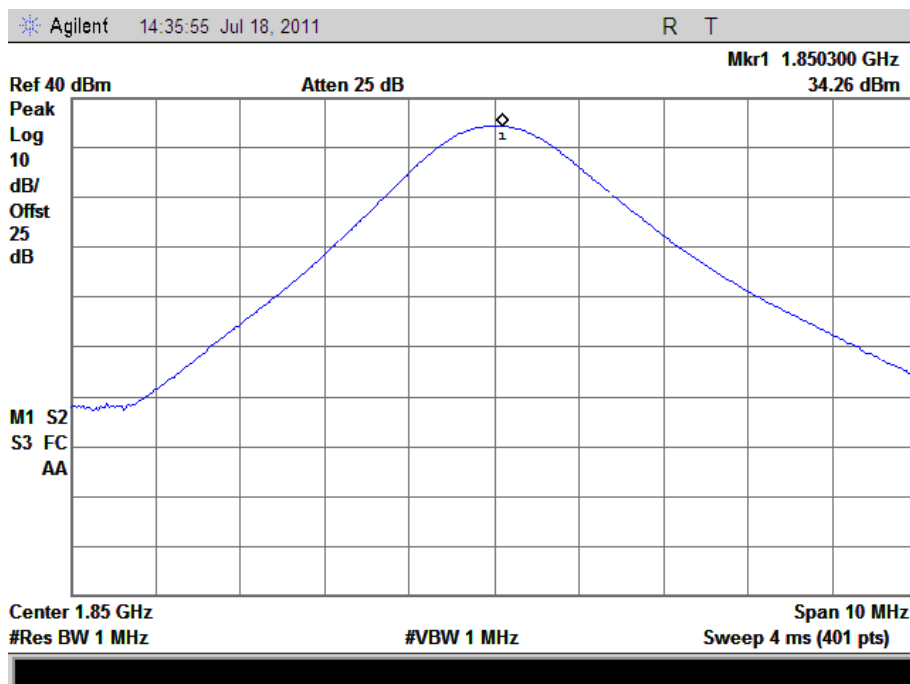(Plot E1:   GPRS 850MHz Channel = 128)
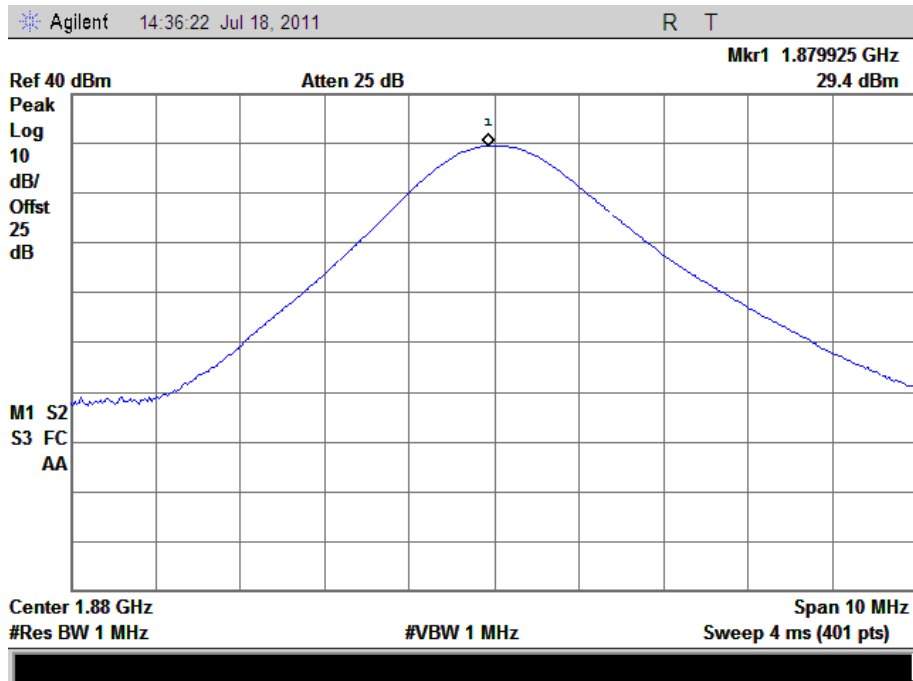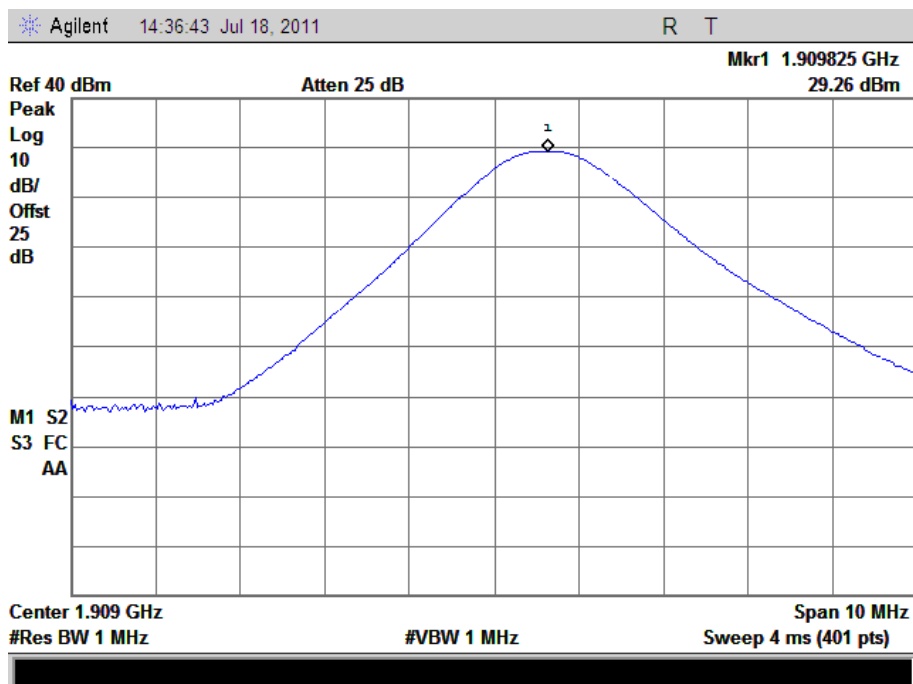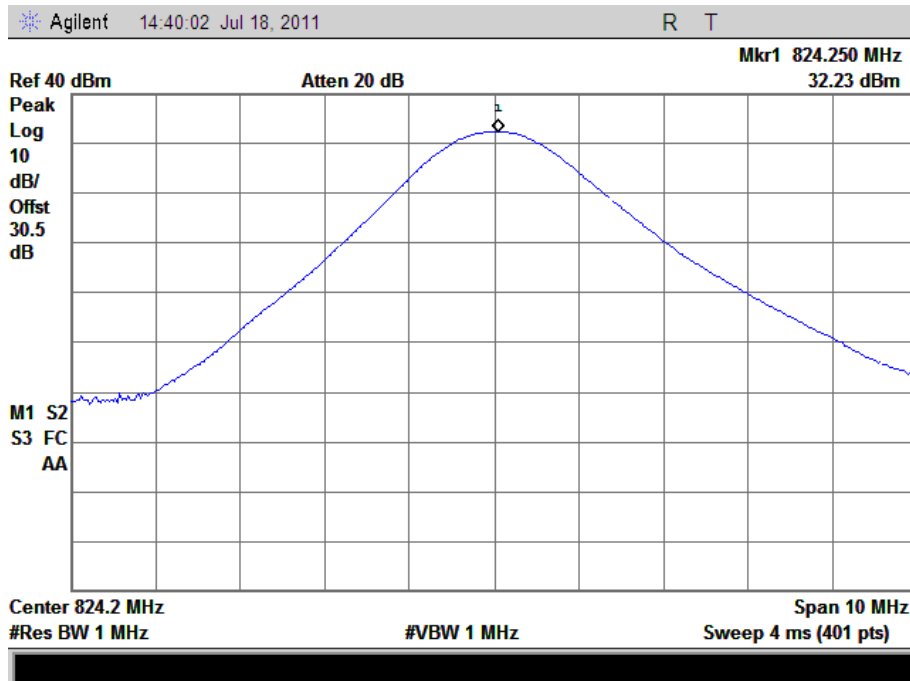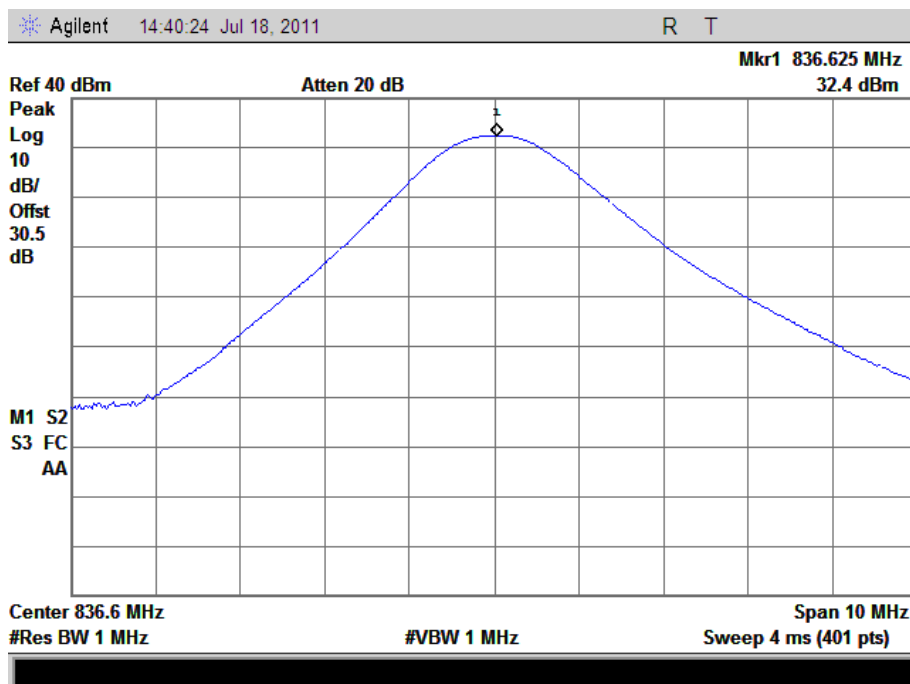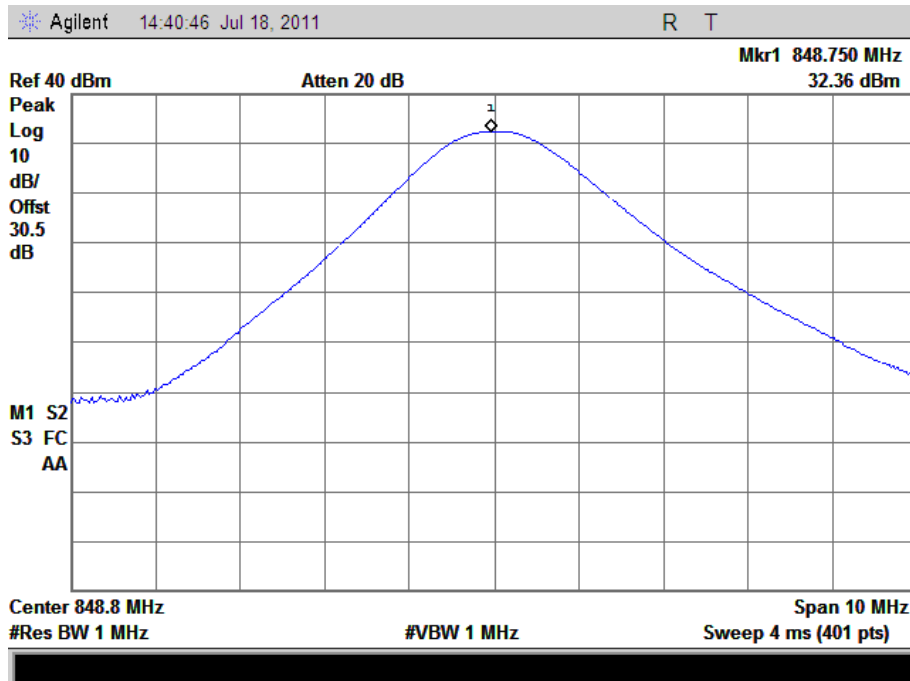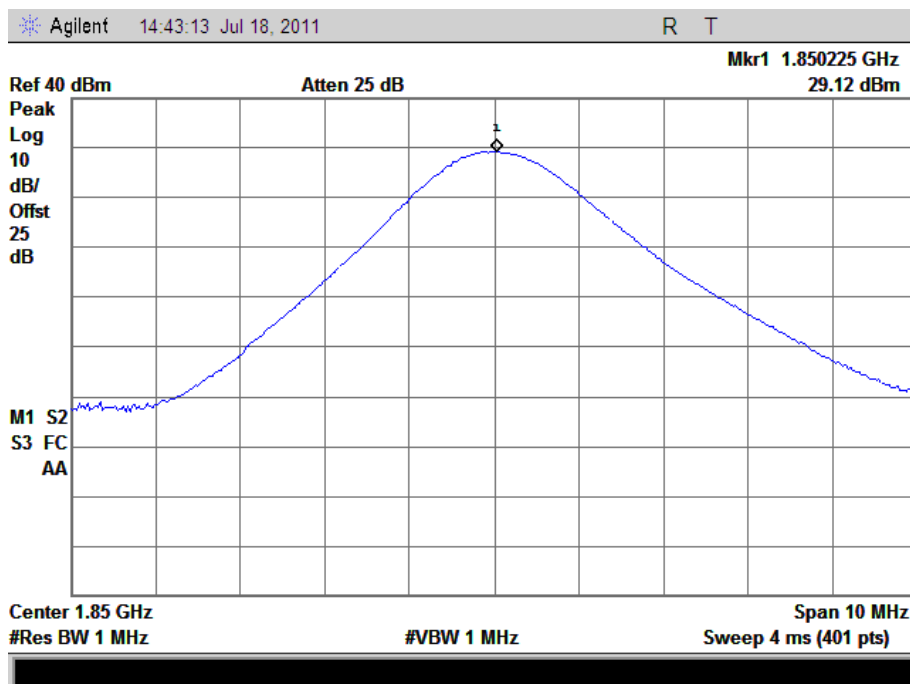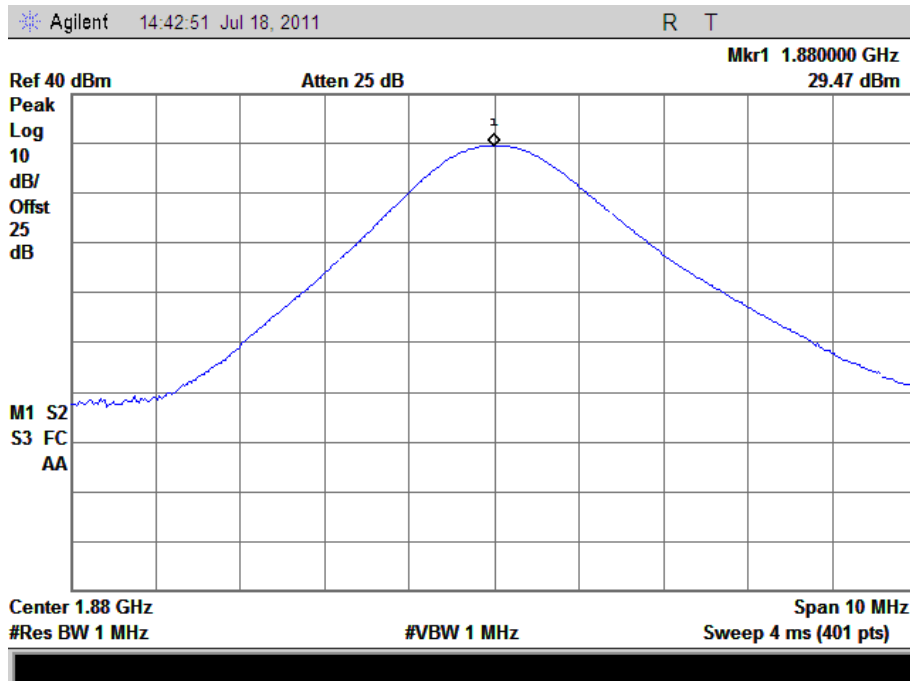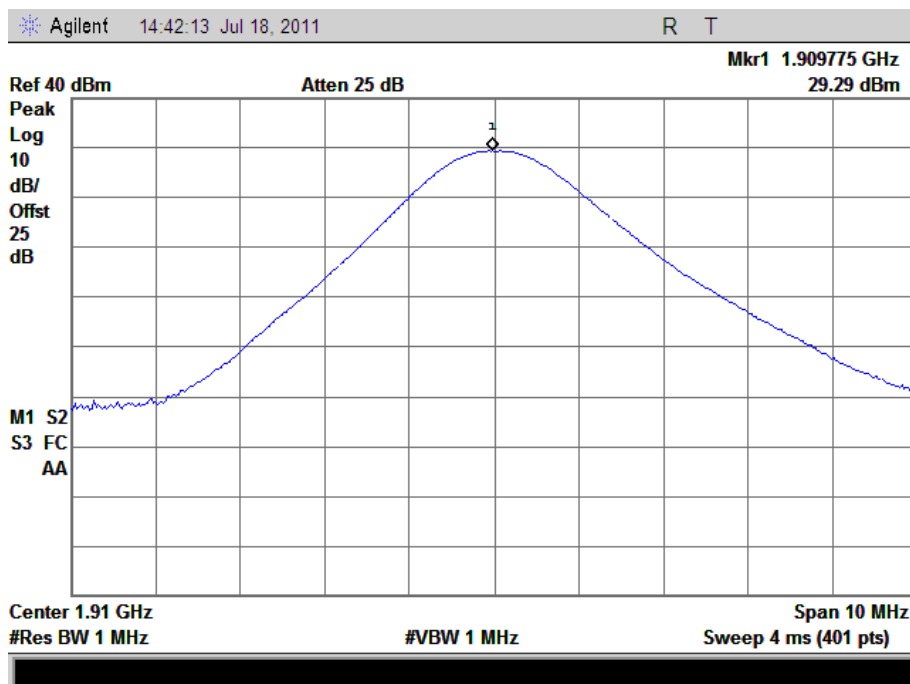

(Plot E2:   GPRS 850MHz Channel = 190)

Agilent   14:38:42 Jul 18, 2011   R   T

Mkr1 848.875 MHz

Ref 40 dBm   Atten 20 dB   32.32 dBm

Peak
Log
10
dB/
Offst
30.5
dB

M1 S2
S3 FC
    AA

Center 848.8 MHz   Span 10 MHz
#Res BW 1 MHz   #VBW 1 MHz   Sweep 4 ms (401 pts)

(Plot E3:   GPRS 850MHz Channel = 251)

Agilent   14:35:55 Jul 18, 2011   R   T

Mkr1 1.850300 GHz

Ref 40 dBm   Atten 25 dB   34.26 dBm

Peak
Log
10
dB/
Offst
25
dB

M1 S2
S3 FC
    AA

Center 1.85 GHz   Span 10 MHz
#Res BW 1 MHz   #VBW 1 MHz   Sweep 4 ms (401 pts)
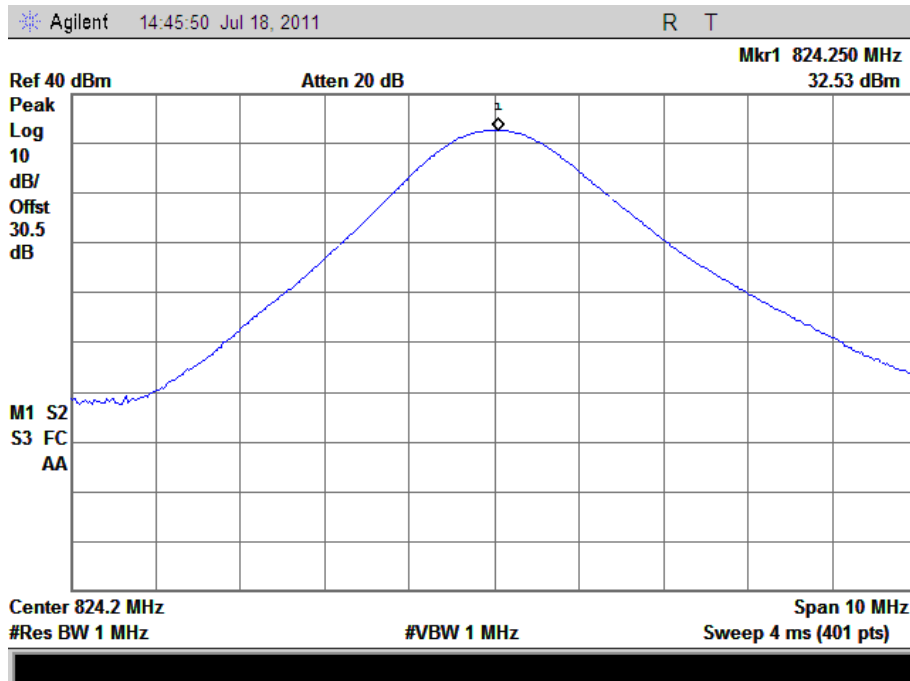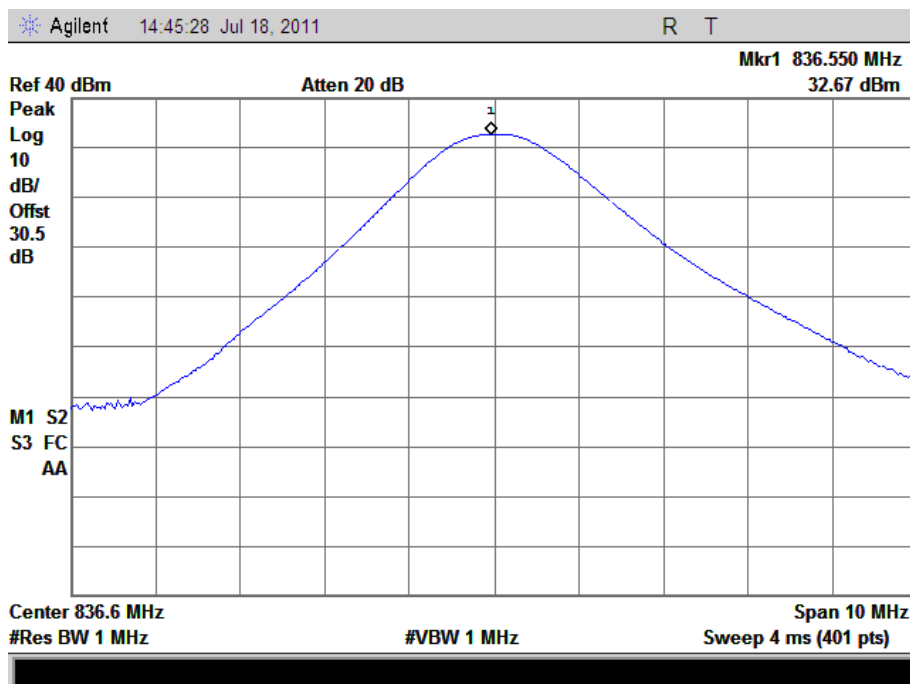
(Plot F1:   GPRS 1900MHz Channel = 512)
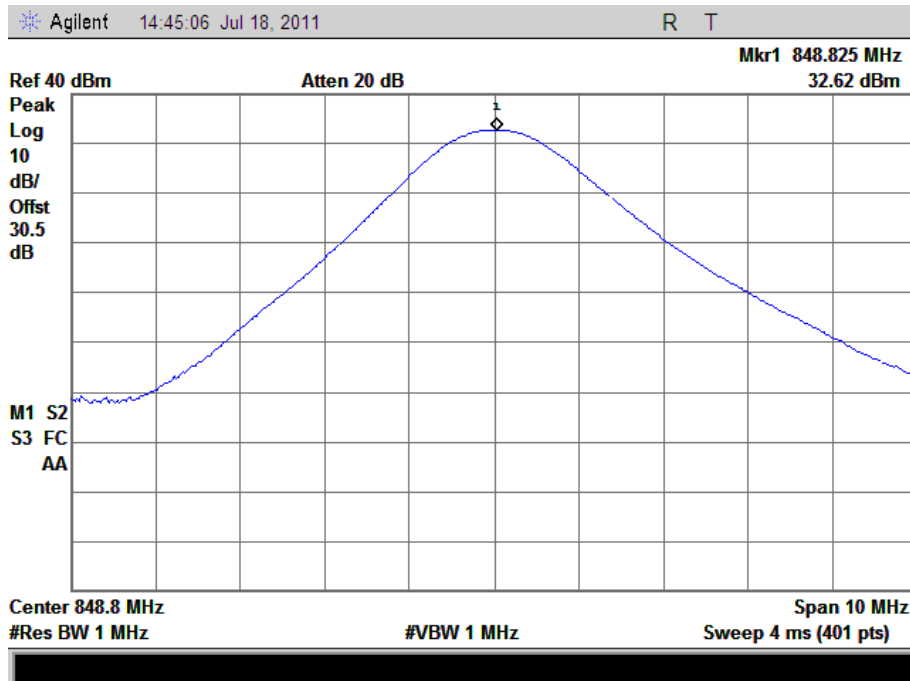
(Plot F2:   GPRS 1900MHz Channel = 661)

(Plot F3:   GPRS 1900MHz Channel = 810)

(Plot G1:   GPRS 850MHz Channel = 128)

(Plot G2:   GPRS 850MHz Channel = 190)

Agilent   14:40:46 Jul 18, 2011   R   T

Mkr1 848.750 MHz

Ref 40 dBm   Atten 20 dB   32.36 dBm

Peak
Log
10
dB/
Offst
30.5
dB

M1 S2
S3 FC
AA

Center 848.8 MHz   Span 10 MHz
#Res BW 1 MHz   #VBW 1 MHz   Sweep 4 ms (401 pts)

(Plot G3:   GPRS 850MHz Channel = 251)

Agilent   14:43:13 Jul 18, 2011   R   T

Mkr1 1.850225 GHz

Ref 40 dBm   Atten 25 dB   29.12 dBm

Peak
Log
10
dB/
Offst
25
dB

M1 S2
S3 FC
AA

Center 1.85 GHz   Span 10 MHz
#Res BW 1 MHz   #VBW 1 MHz   Sweep 4 ms (401 pts)

(Plot H1:   GPRS 1900MHz Channel = 512)

(Plot H2:   GPRS 1900MHz Channel = 661)

(Plot H3:   GPRS 1900MHz Channel = 810)

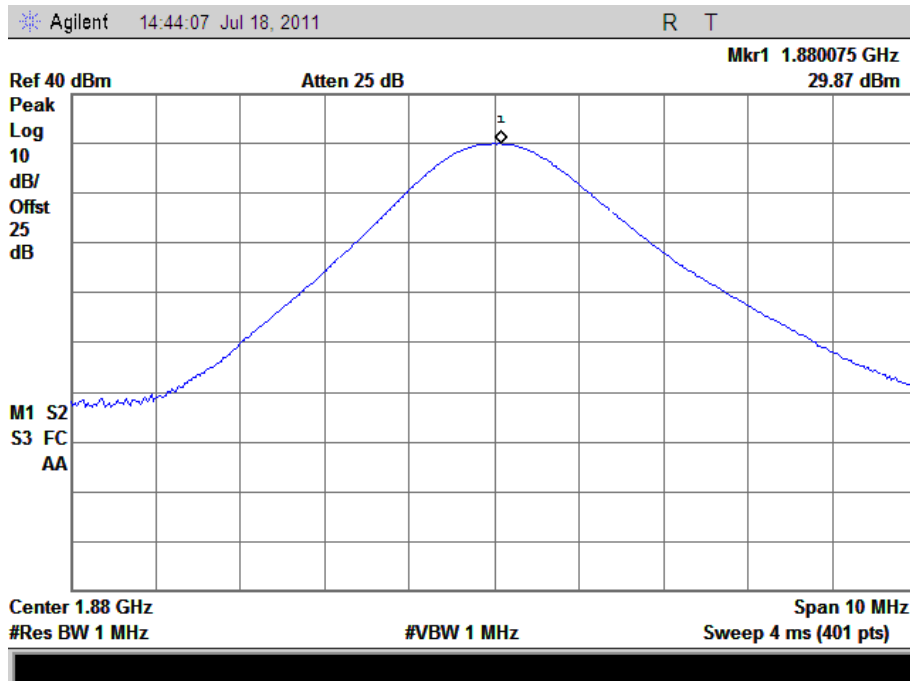(Plot I 1 :   GPRS 850MHz Channel = 128)

(Plot I 2 :   GPRS 850MHz Channel = 190)
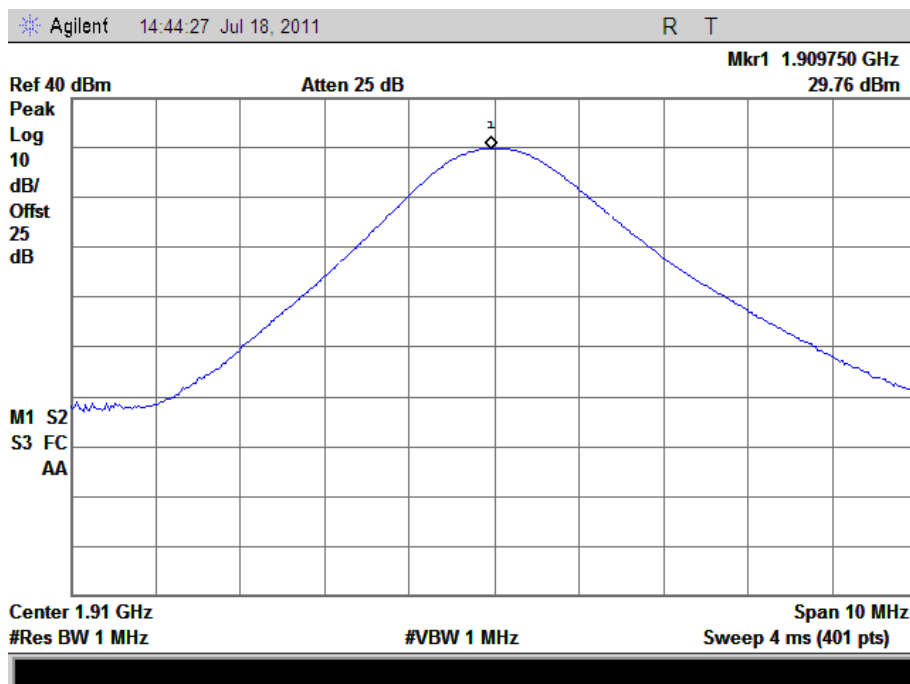
(Plot I 3 :   GPRS 850MHz Channel = 251)
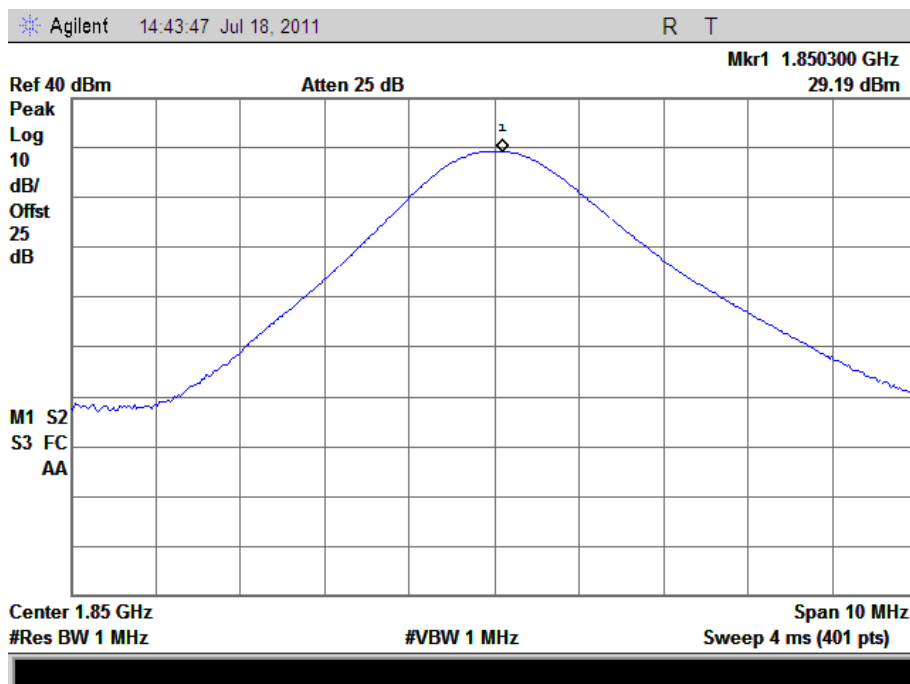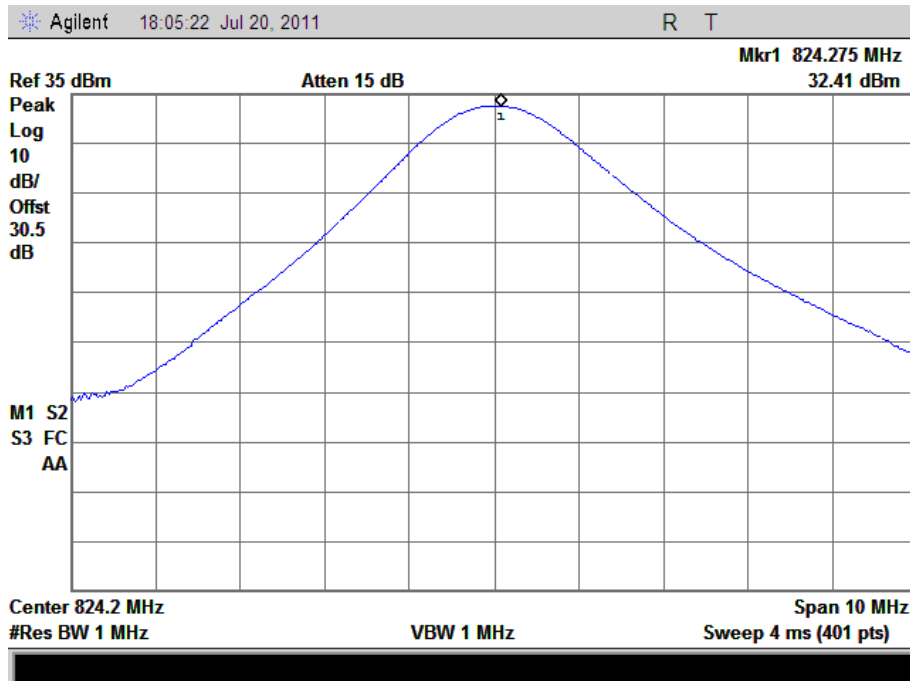

(Plot J 1:   GPRS 1900MHz Channel = 512)

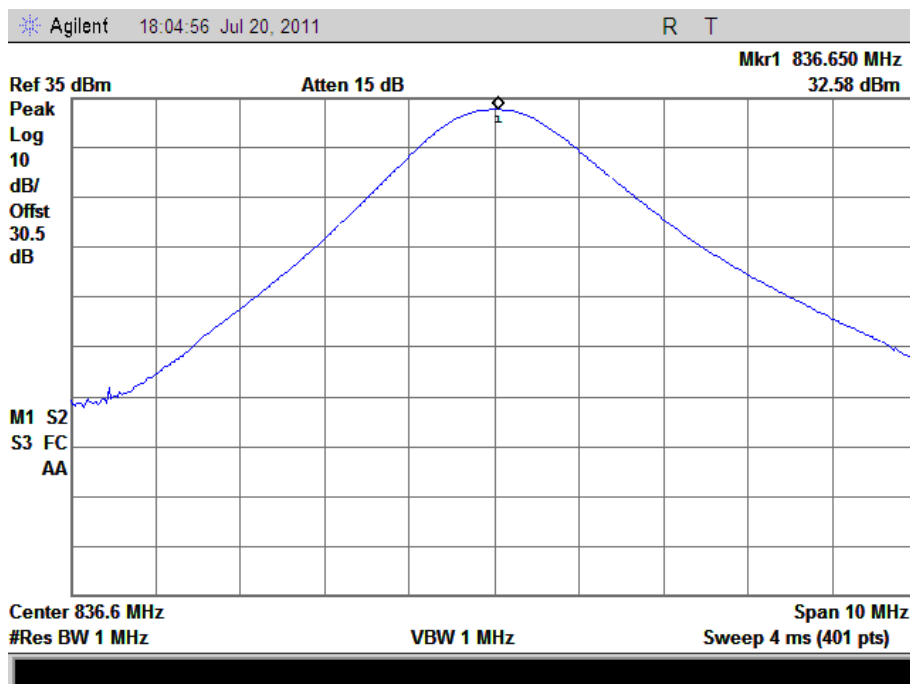(Plot J 2:   GPRS 1900MHz Channel =661)
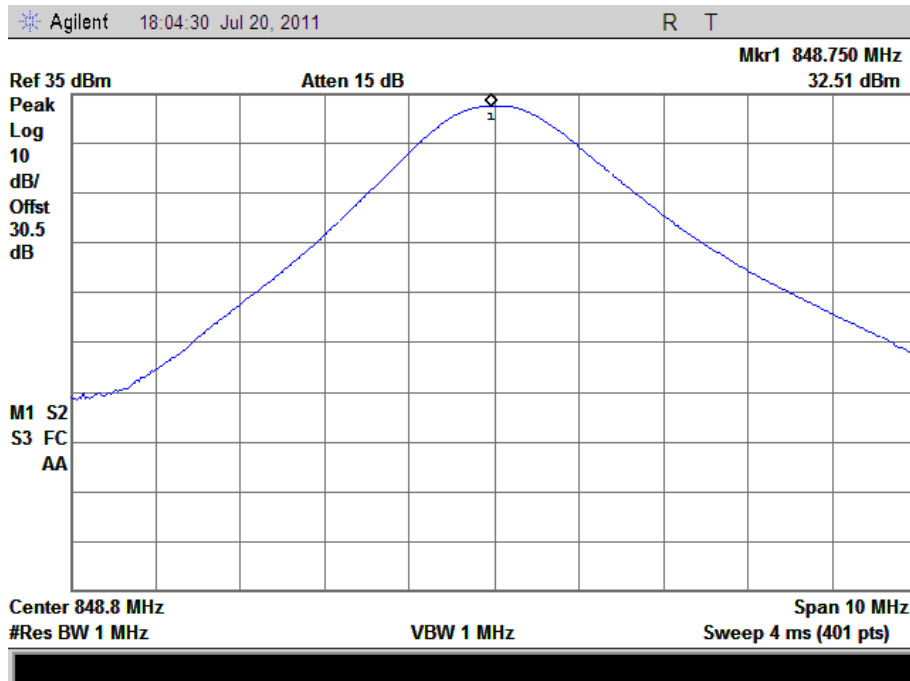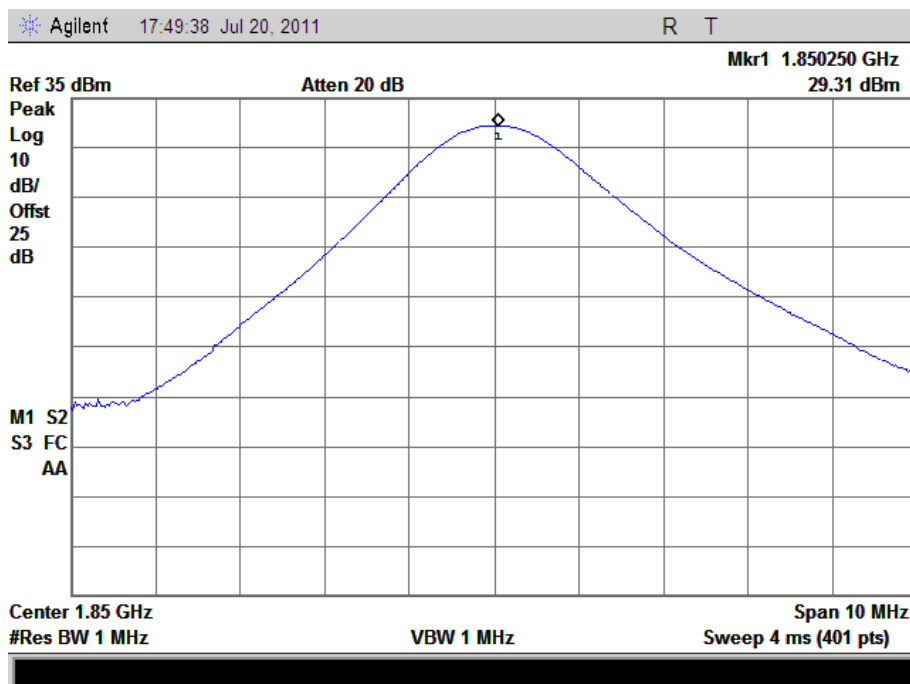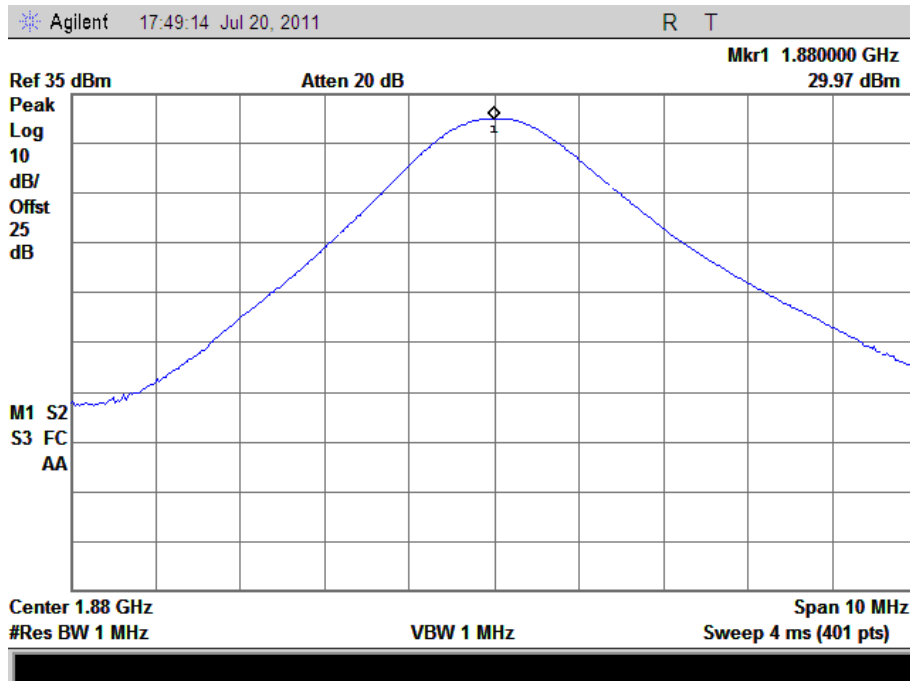

(Plot J 3:   GPRS 1900MHz Channel = 810)

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

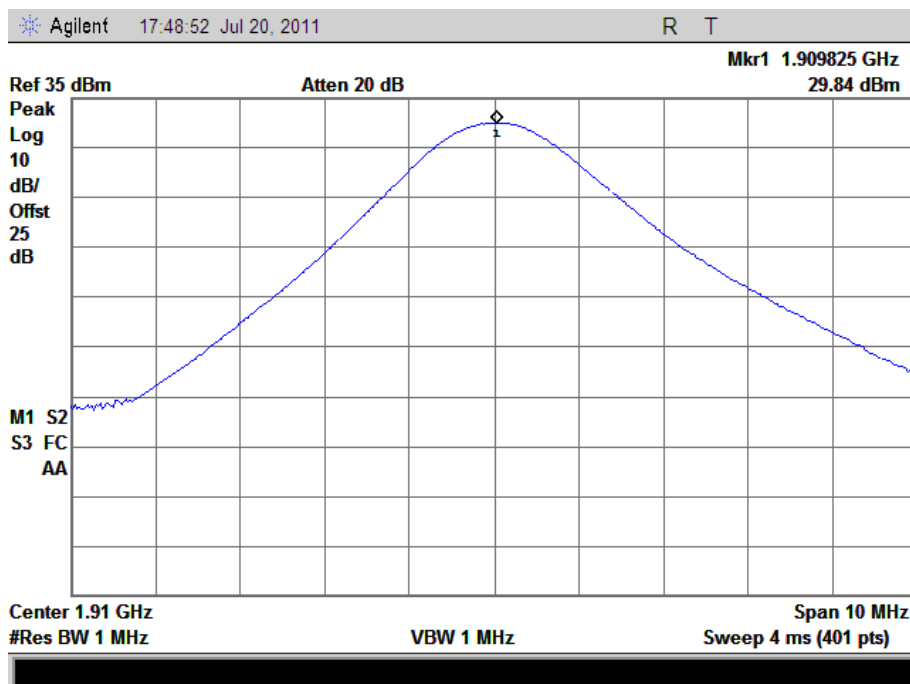(Plot K 2:   EGPRS 850MHz Channel = 190)

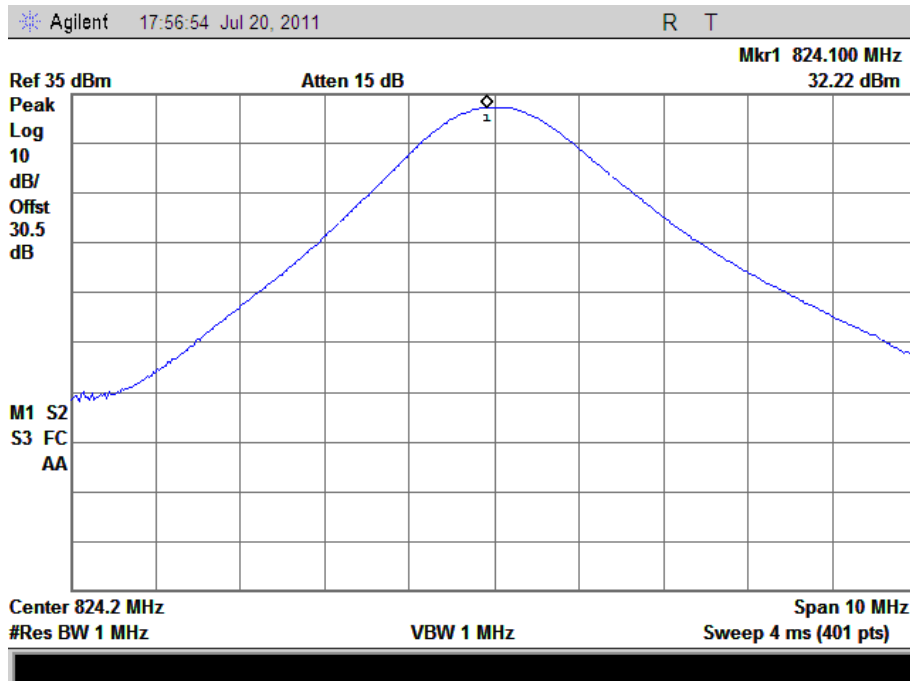(Plot K 3:   EGPRS 850MHz Channel = 251)

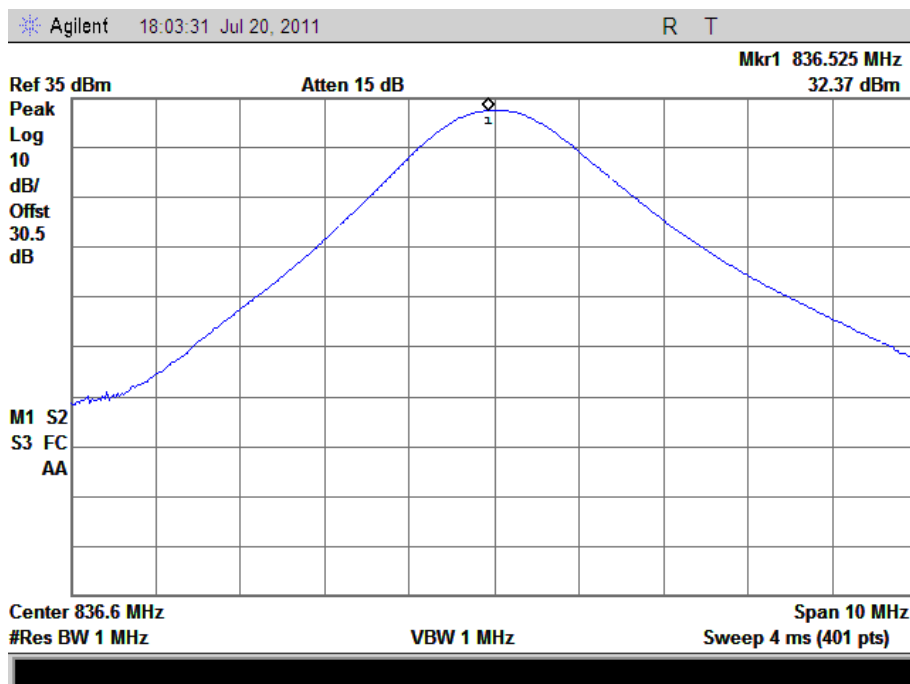(Plot L 1:   EGPRS 1900MHz Channel = 512)

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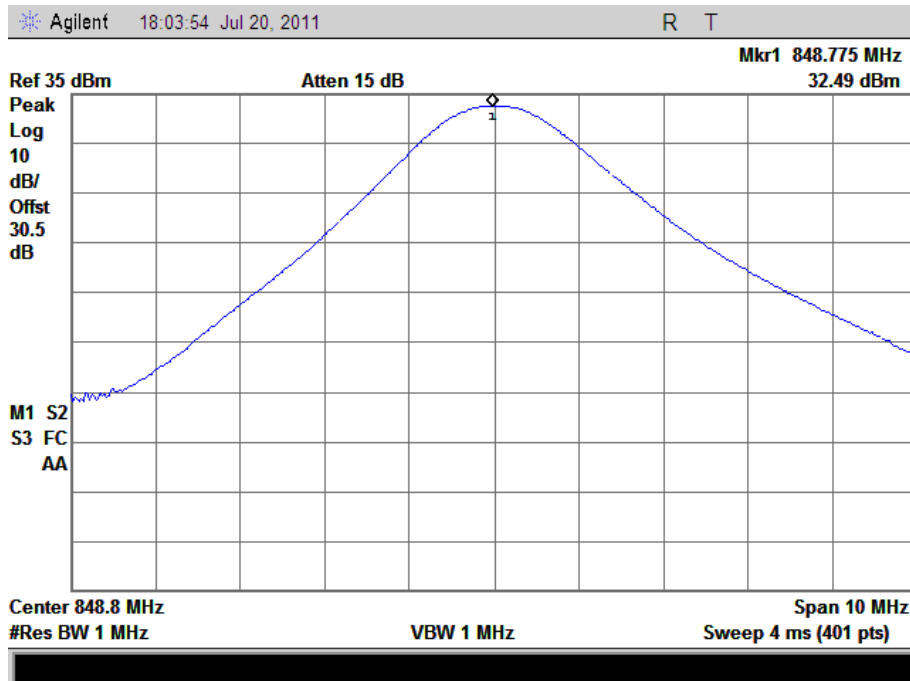

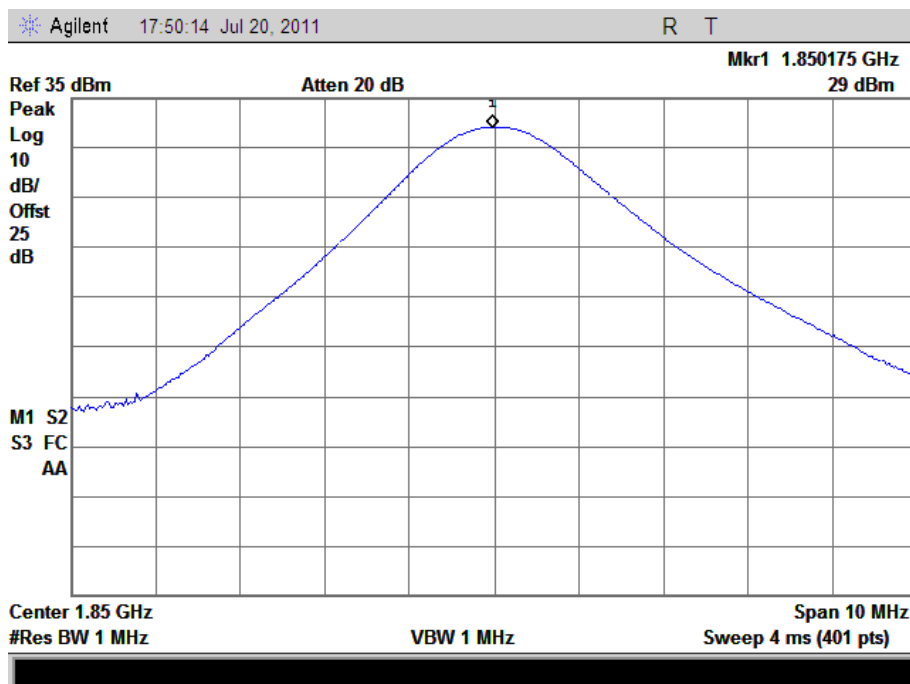(Plot L 3:   EGPRS 1900MHz Channel = 810)

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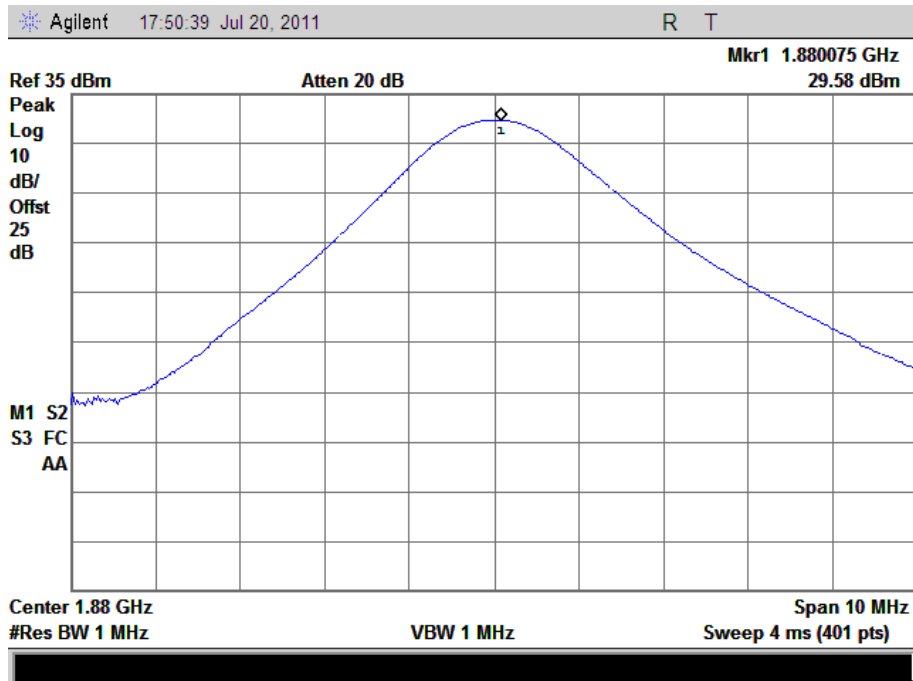

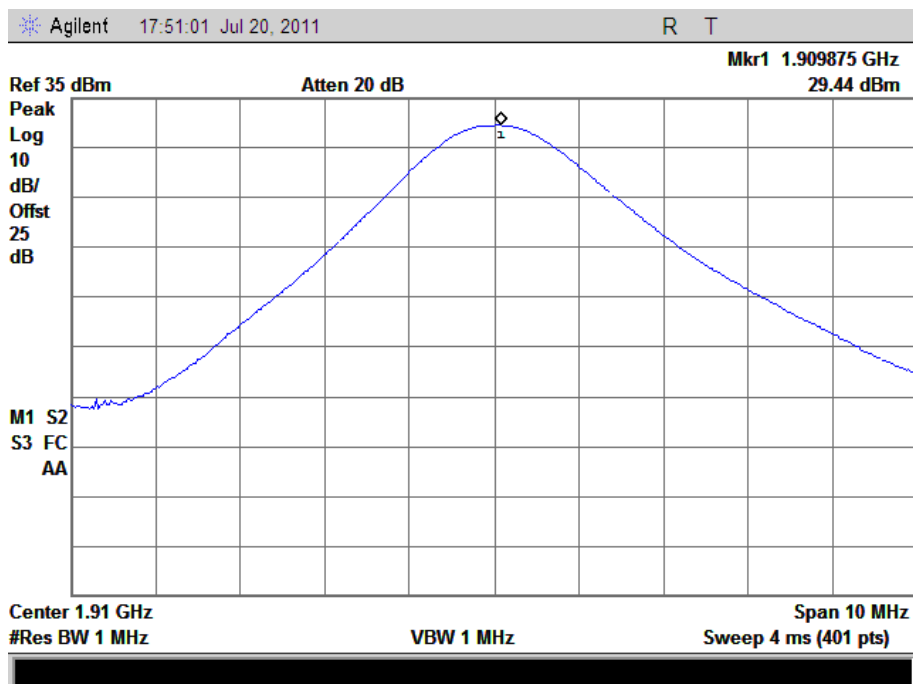(Plot M 2:   EGPRS 850MHz Channel = 190)

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

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

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

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

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

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

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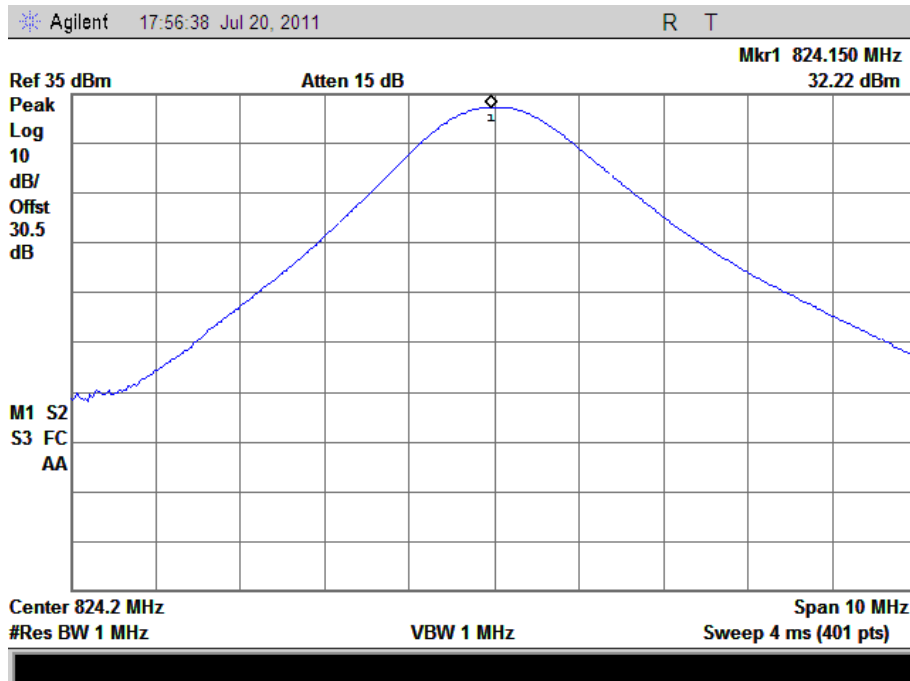

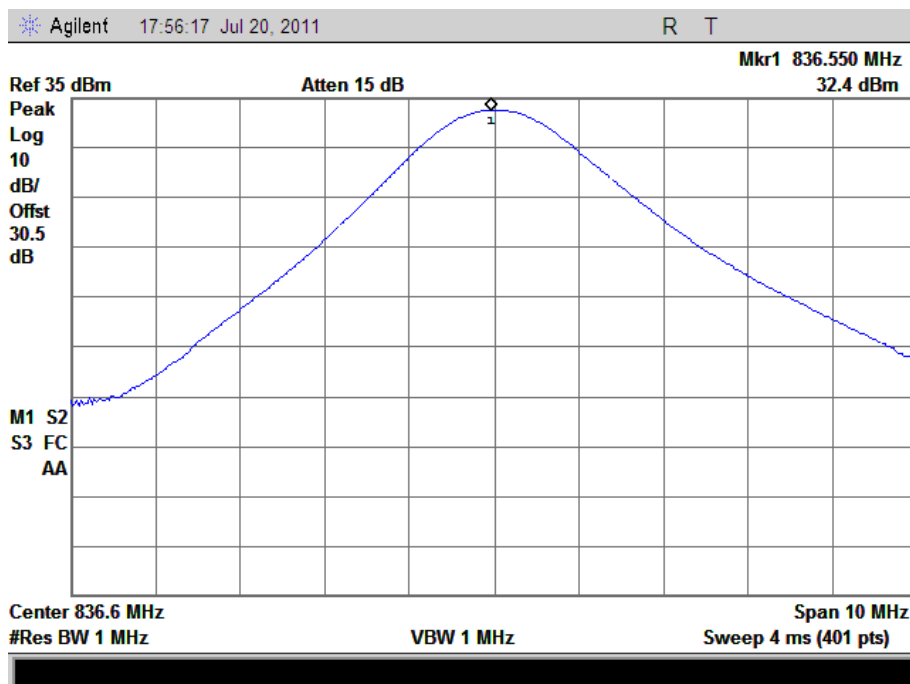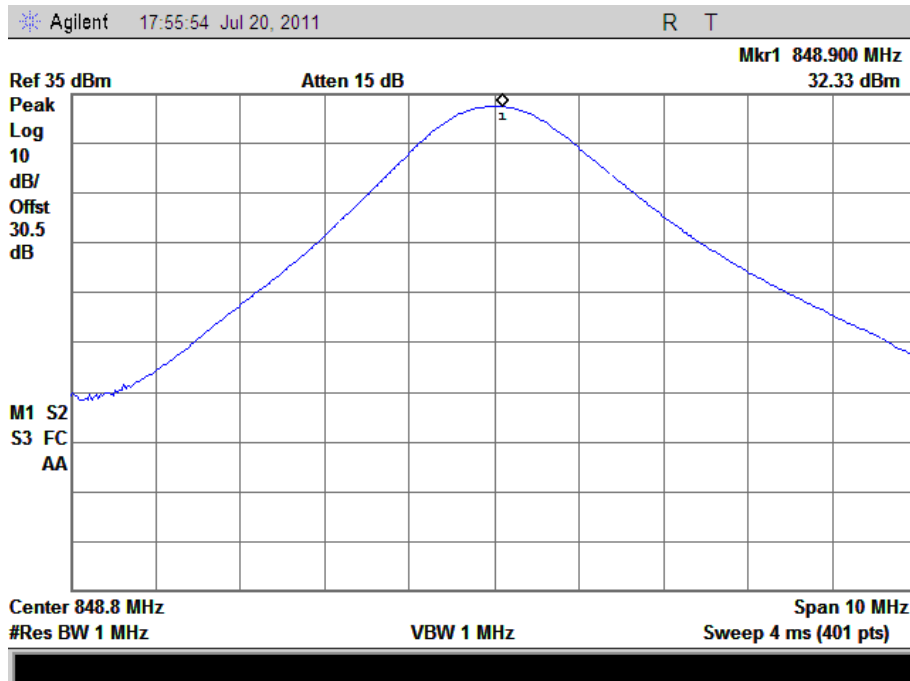(Plot P 1:   EGPRS 1900MHz Channel = 512)

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

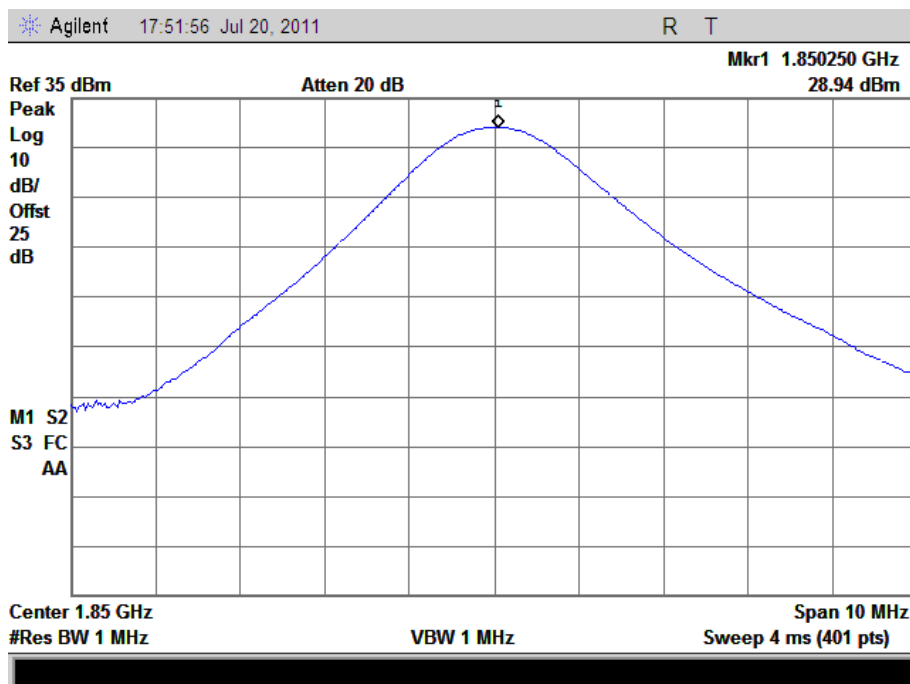(Plot P 3:   EGPRS 1900MHz Channel = 810)

(Plot Q1:   EGPRS 850MHz Channel = 128)
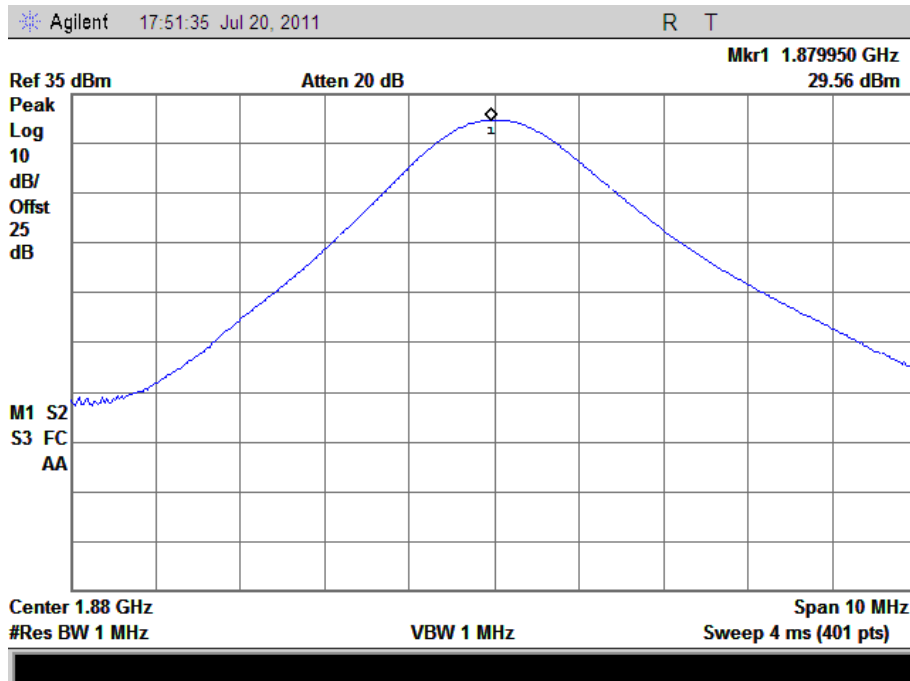

(Plot Q 2:   EGPRS 850MHz Channel = 190)

(Plot Q3:   EGPRS 850MHz Channel = 251)
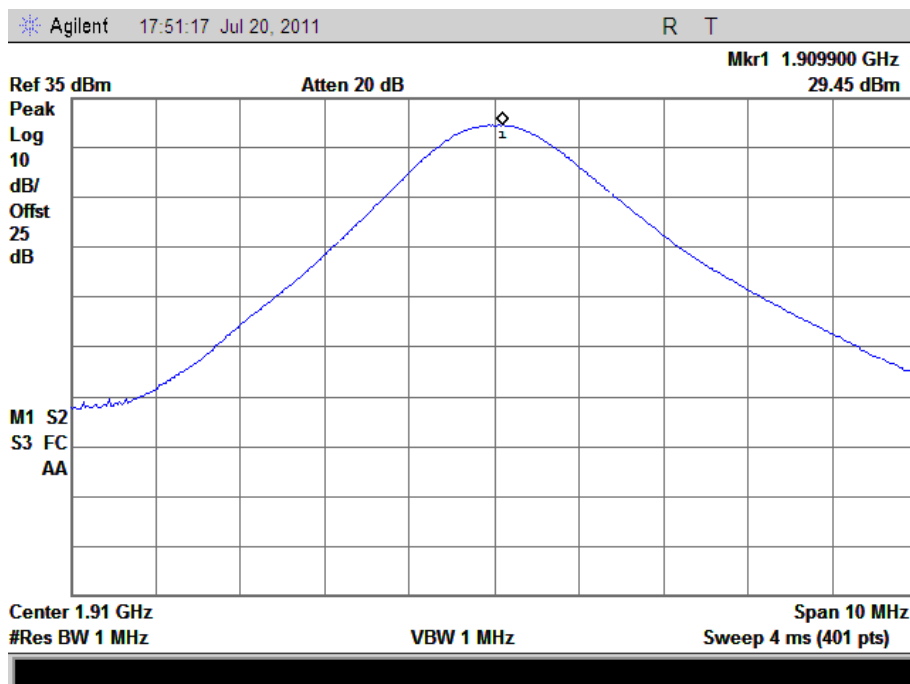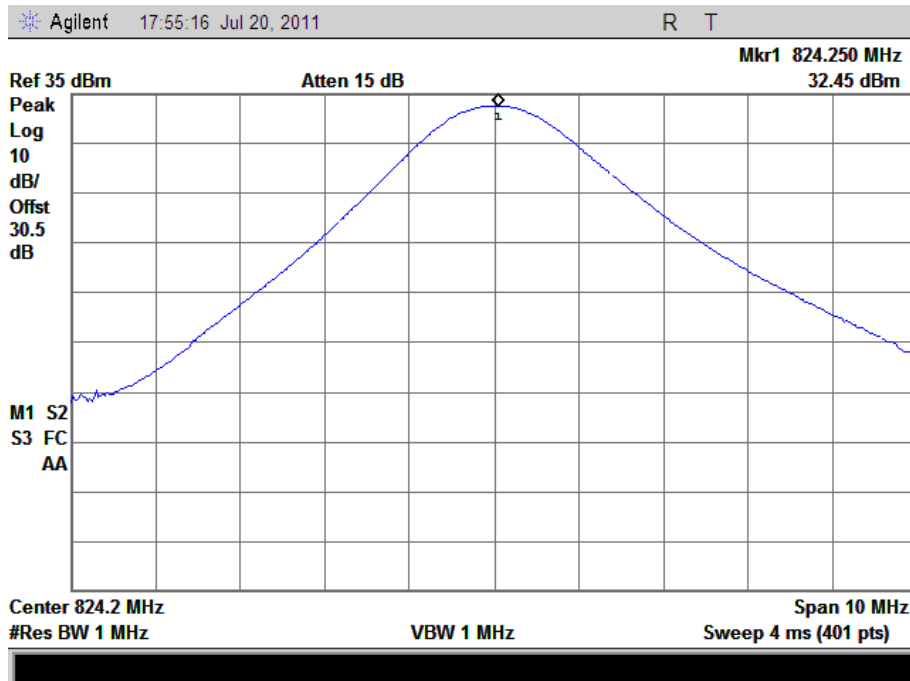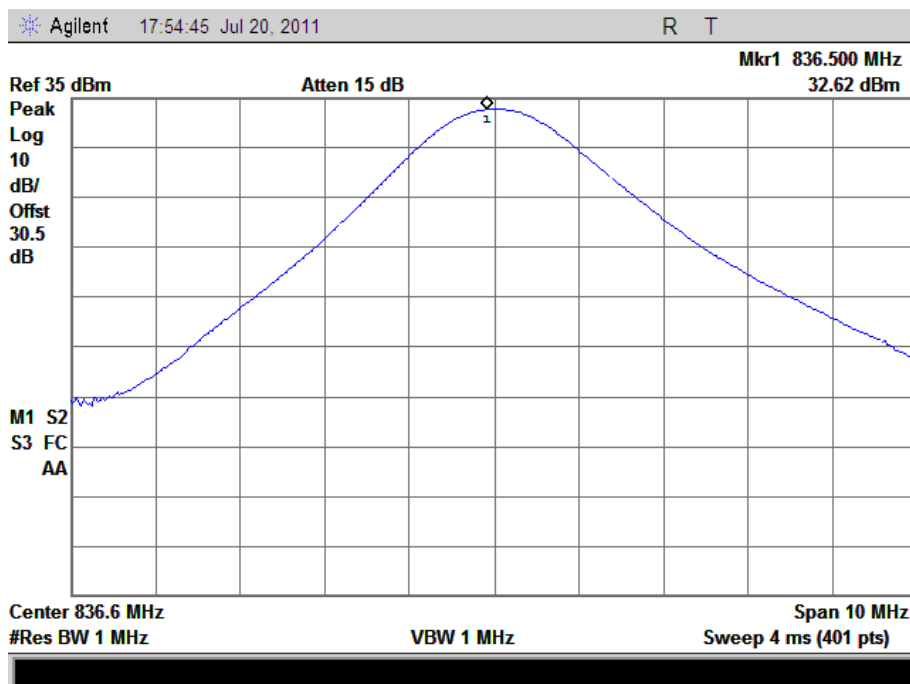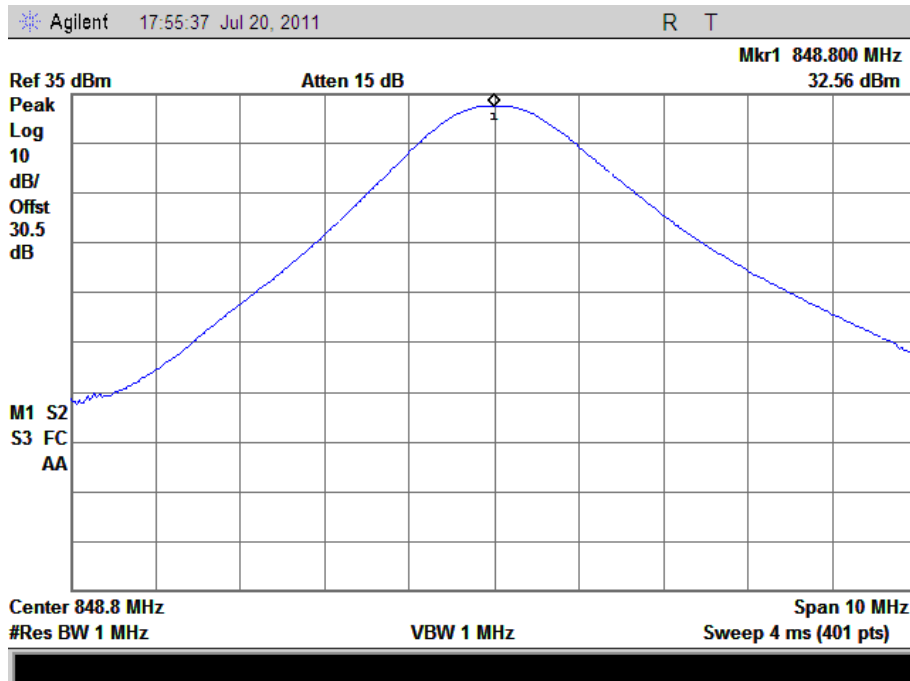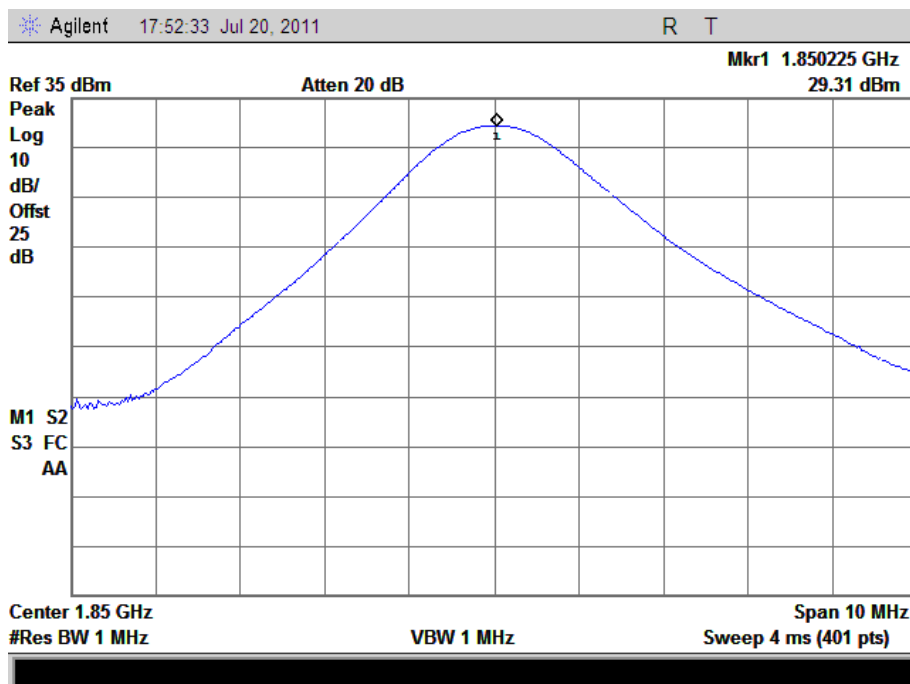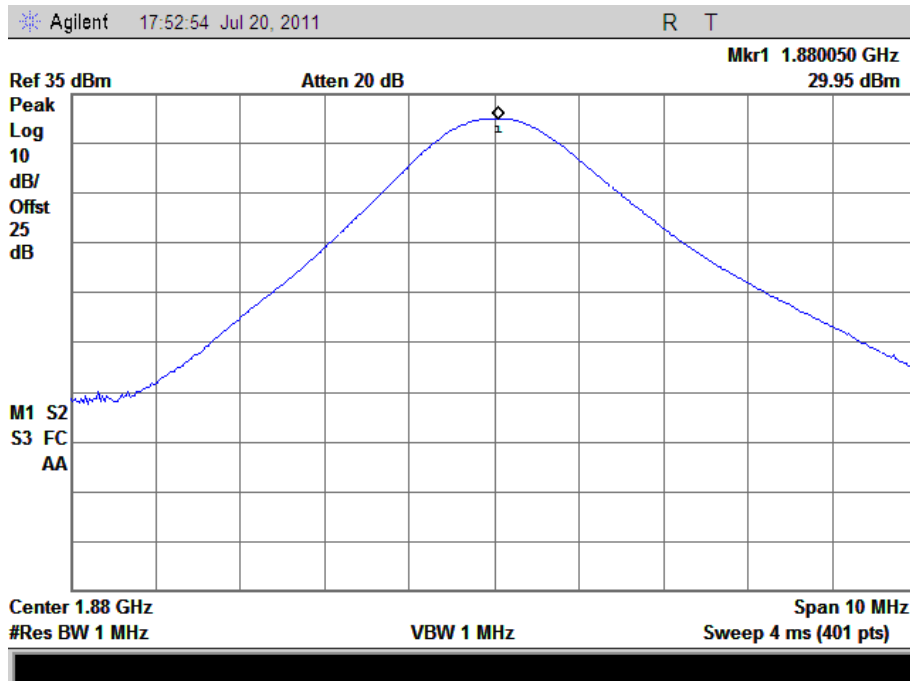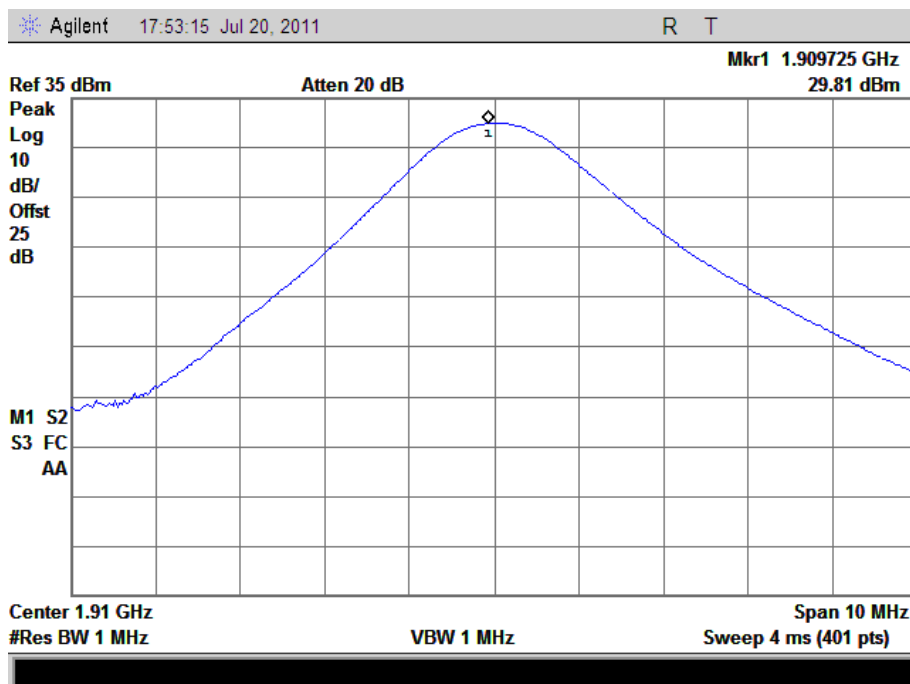

(Plot R 1:   EGPRS 1900MHz Channel = 512)

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

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

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
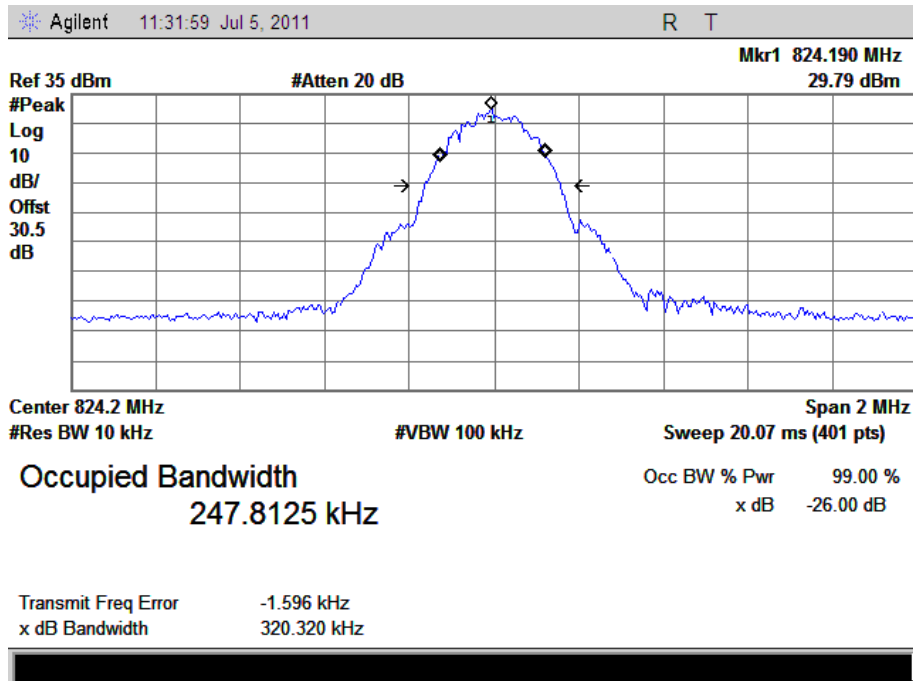
See section 2.1.2 of this report.

2.2.3   Test Verdict

Here the lowest, middle and highest channels are tested to record the 99% occupied bandwidth, it's about GSM, and WCDMA.
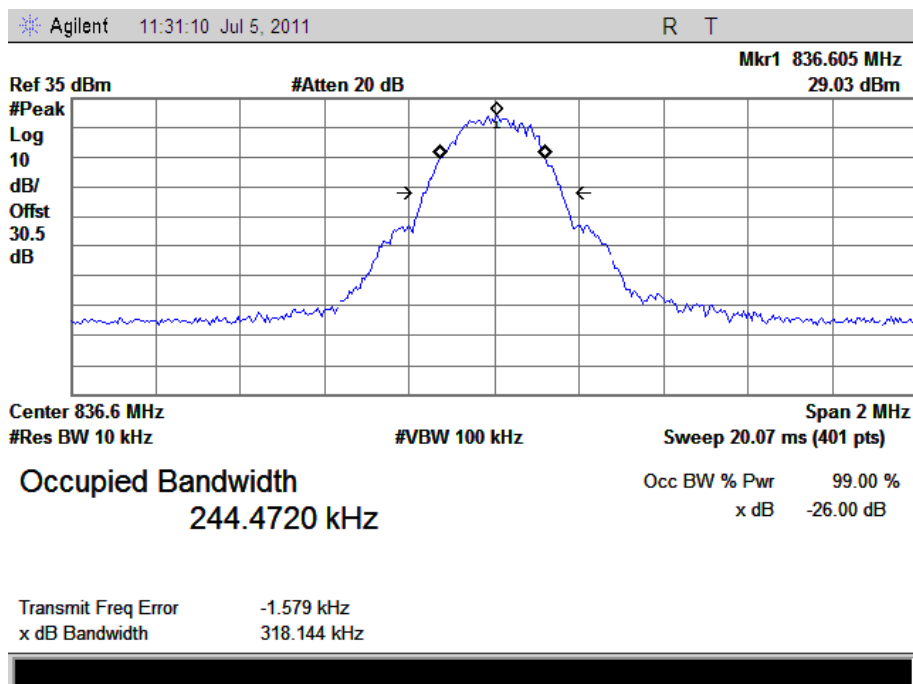
1.   Test Verdict:

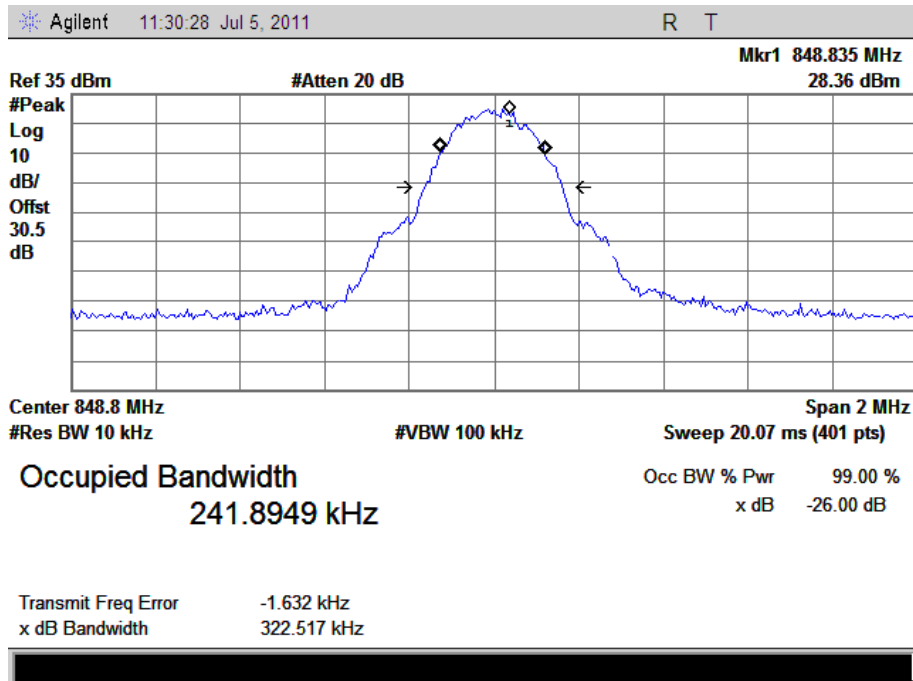| Band	Channel	Frequency (MHz)	Measured 99% Occupied Bandwidth	Refer to Plot
GSM 850MHz	128	824.2	247.8152 K	Plot A
	190	836.6	244.472K	Plot B
	251	848.8	241.8949 K	Plot C
GSM 1900MHz	512	1850.2	241.4340 K	Plot D
	661	1880.0	249.0889 K	Plot E
	810	1909.8	243.1270K	Plot F
EDGE 850MHz	128	824.2	247.5588 K	Plot G
	190	836.6	235.9385 K	Plot H
	251	848.8	240.5491 K	Plot I
EDGE 1900MHz	512	1850.2	233.9202 K	Plot J
	661	1880.0	239.8614 K	Plot K
	810	1909.8	236.1418 K	Plot L
WCDMA 850MHz	4400	835	4.1570M	Plot M
WCDMA 1900MHz	9800	1880	4.1615 M	Plot N

2.   Test Plots:

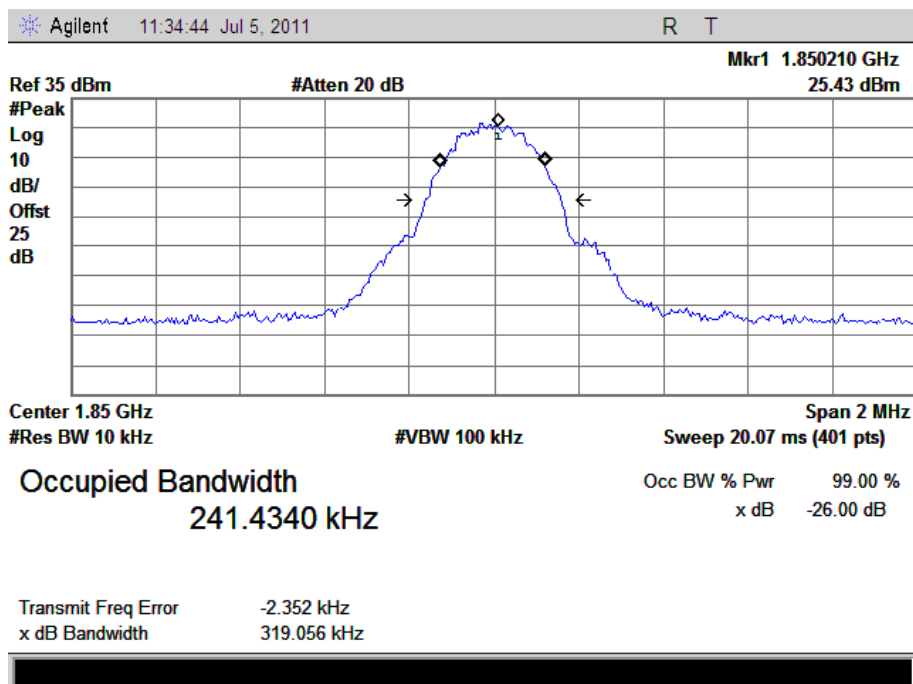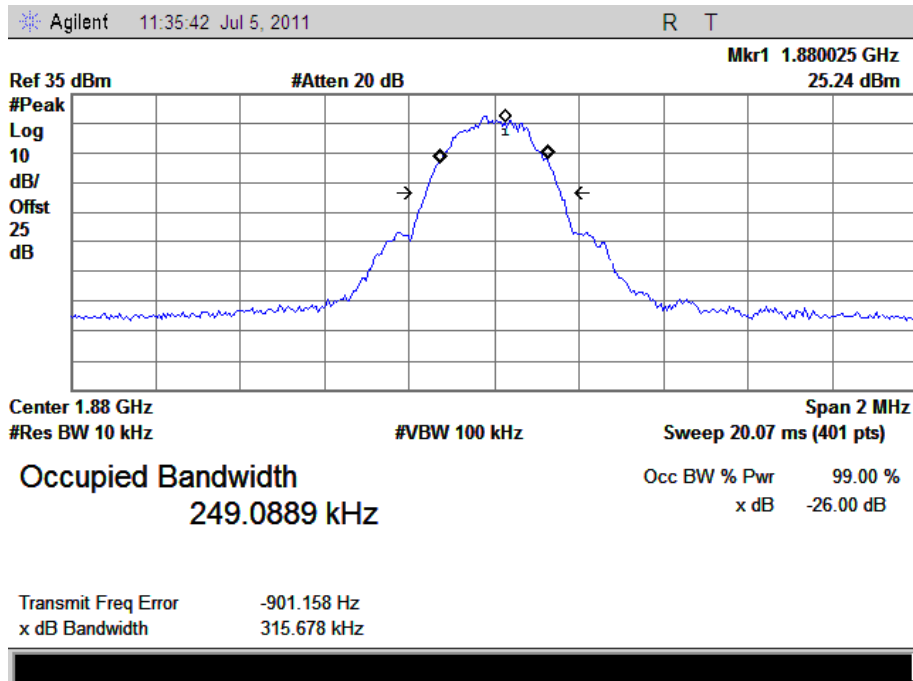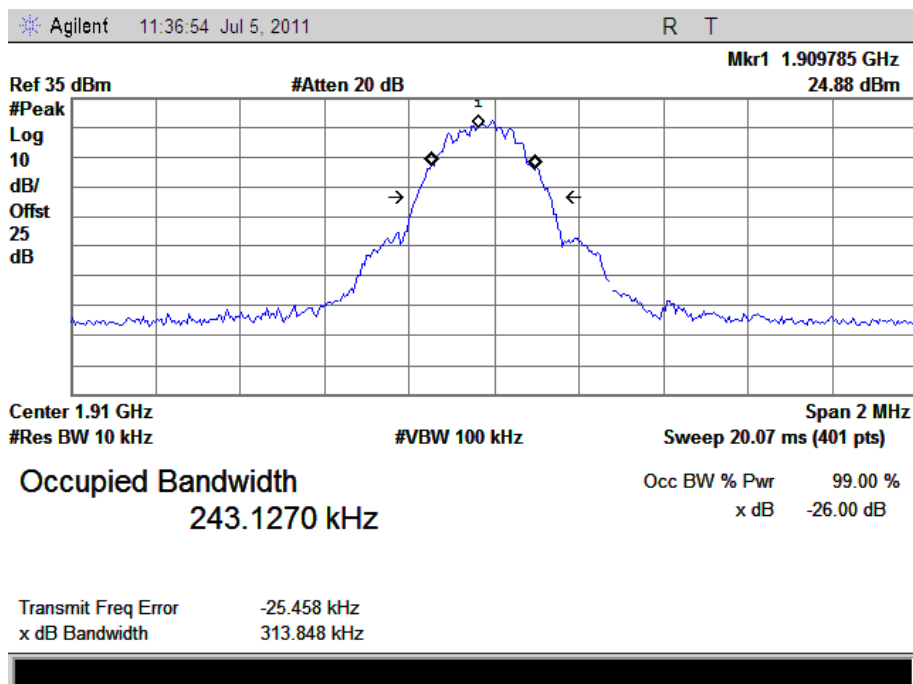(Plot A: GSM 850MHz Channel = 128)

(Plot B: GSM 850MHz Channel = 190)

Agilent   11:30:28 Jul 5, 2011   R T

Mkr1 848.835 MHz
Ref 35 dBm   #Atten 20 dB   28.36 dBm
#Peak
Log
10
dB/
Offst
30.5
dB

Center 848.8 MHz   Span 2 MHz
#Res BW 10 kHz   #VBW 100 kHz   Sweep 20.07 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
         241.8949 kHz   x dB   -26.00 dB

Transmit Freq Error   -1.632 kHz
x dB Bandwidth   322.517 kHz

(Plot C: GSM 850MHz Channel = 251)

Agilent   11:34:44 Jul 5, 2011   R T

Mkr1 1.850210 GHz
Ref 35 dBm   #Atten 20 dB   25.43 dBm
#Peak
Log
10
dB/
Offst
25
dB

Center 1.85 GHz   Span 2 MHz
#Res BW 10 kHz   #VBW 100 kHz   Sweep 20.07 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
         241.4340 kHz   x dB   -26.00 dB

Transmit Freq Error   -2.352 kHz
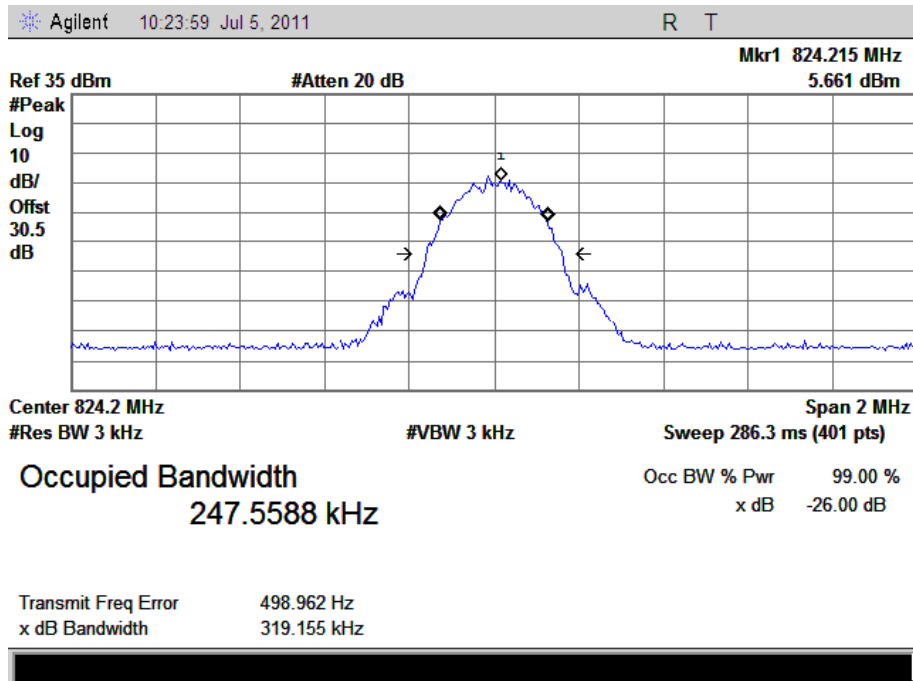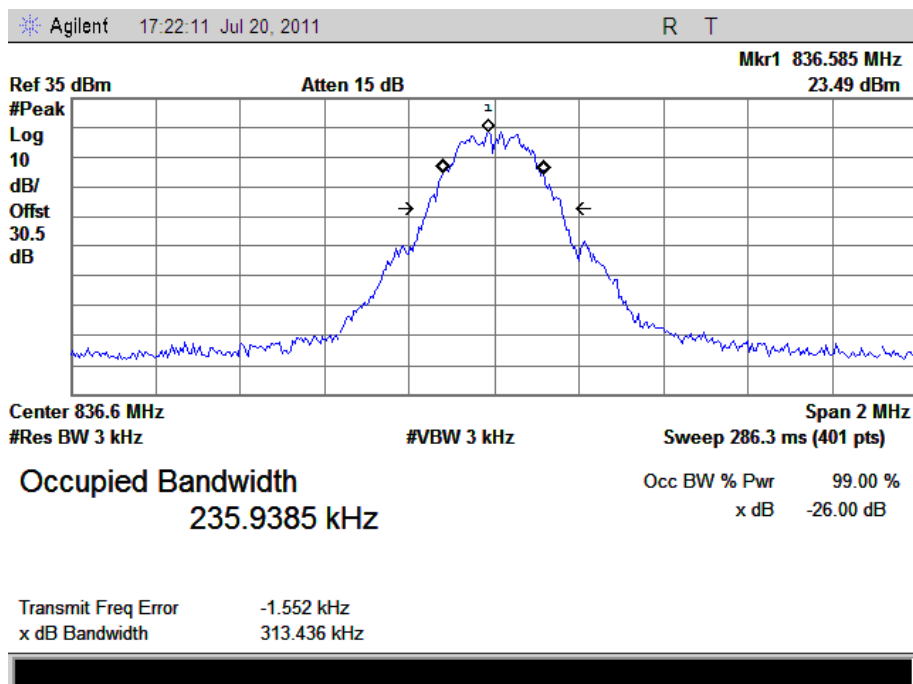x dB Bandwidth   319.056 kHz

(Plot D: GSM 1900MHz Channel = 512)

(Plot E: GSM 1900MHz Channel = 661)

(Plot F: GSM 1900MHz Channel = 810)

※ Agilent   10:23:59 Jul 5, 2011   R T

Mkr1 824.215 MHz
Ref 35 dBm   #Atten 20 dB   5.661 dBm

#Peak
Log
10
dB/
Offst
30.5
dB

Center 824.2 MHz   Span 2 MHz
#Res BW 3 kHz   #VBW 3 kHz   Sweep 286.3 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
        247.5588 kHz   x dB   -26.00 dB

Transmit Freq Error   498.962 Hz
x dB Bandwidth   319.155 kHz

(Plot G: EDGE 850MHz Channel = 128)

※ Agilent   17:22:11 Jul 20, 2011   R T

Mkr1 836.585 MHz
Ref 35 dBm   Atten 15 dB   23.49 dBm

#Peak
Log
10
dB/
Offst
30.5
dB

Center 836.6 MHz   Span 2 MHz
#Res BW 3 kHz   #VBW 3 kHz   Sweep 286.3 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
        235.9385 kHz   x dB   -26.00 dB

Transmit Freq Error   -1.552 kHz
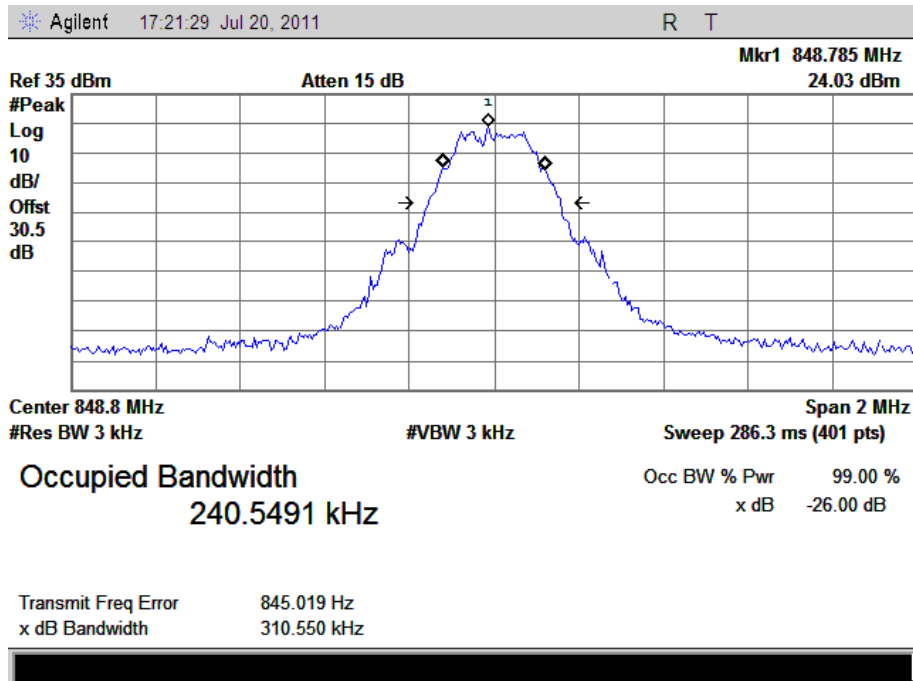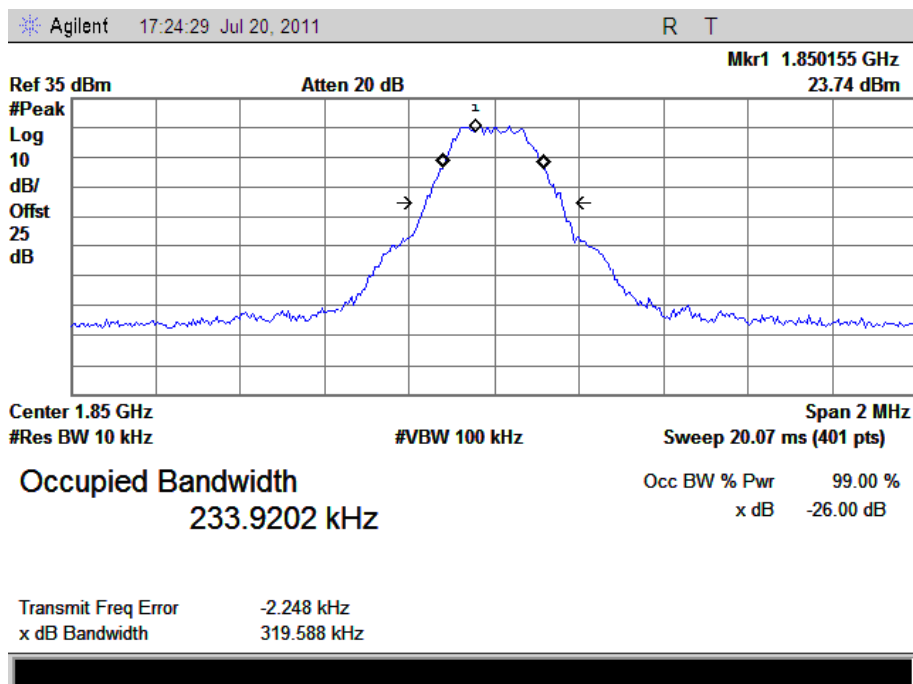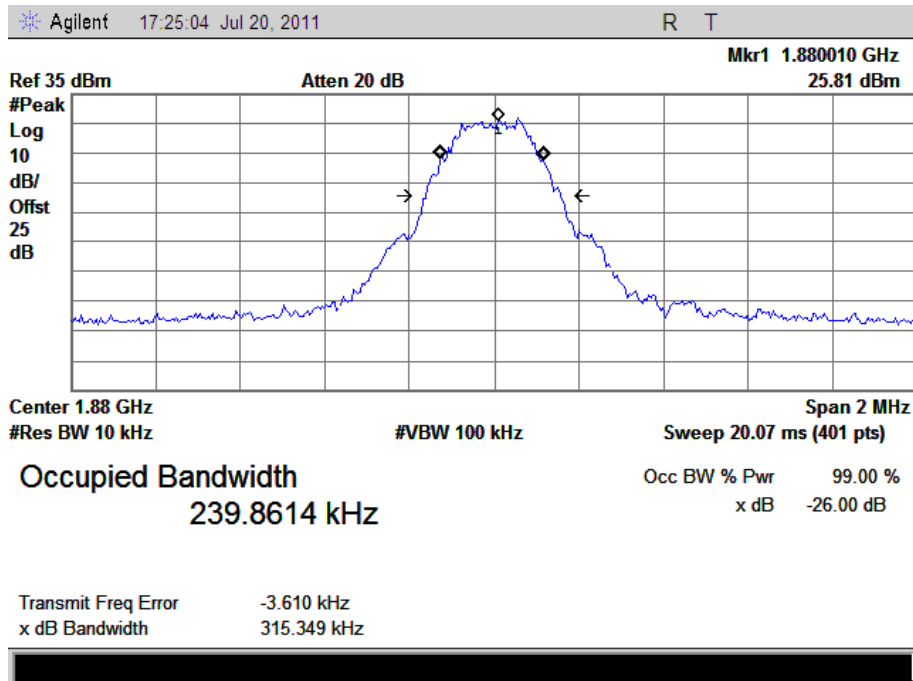x dB Bandwidth   313.436 kHz

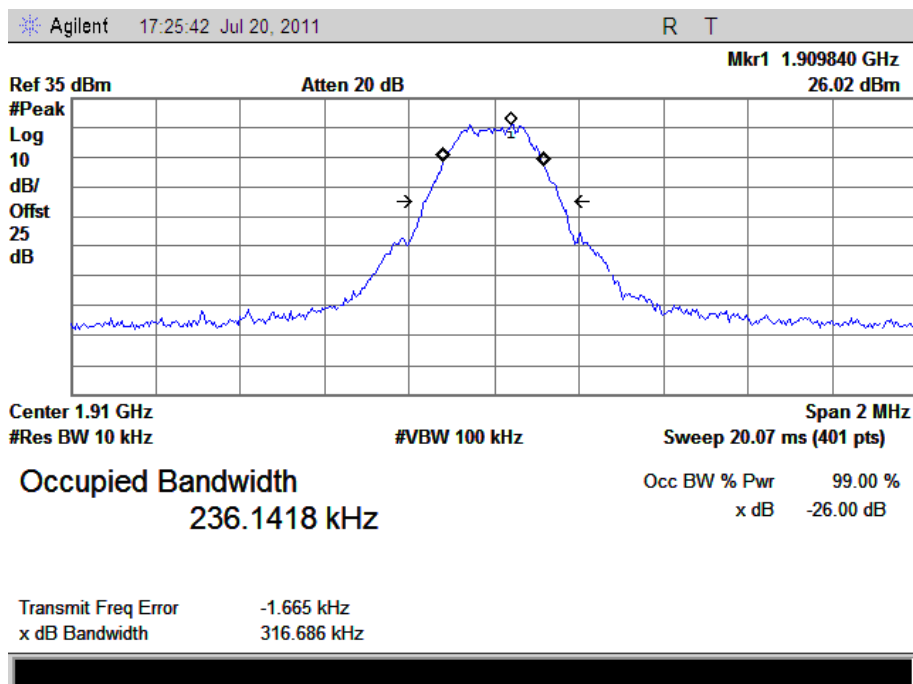(Plot H: EDGE 850MHz Channel = 190)

(Plot I: EDGE 850MHz Channel = 251)

(Plot J: EDGE 1900MHz Channel = 512)

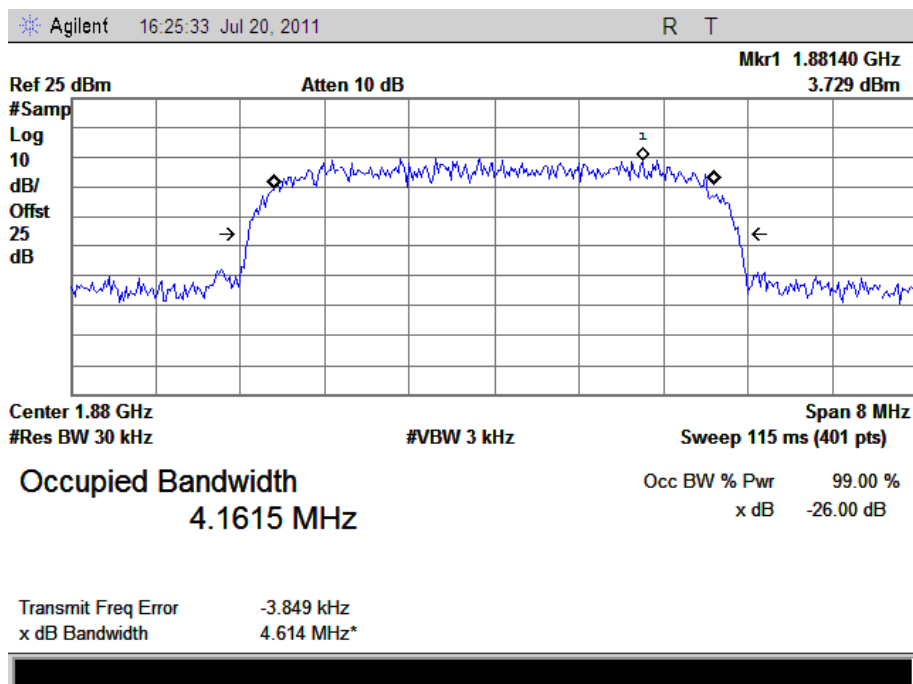Agilent   17:25:04 Jul 20, 2011   R   T

Mkr1 1.880010 GHz

Ref 35 dBm   Atten 20 dB   25.81 dBm

#Peak
Log
10
dB/
Offst
25
dB

Center 1.88 GHz   Span 2 MHz
#Res BW 10 kHz   #VBW 100 kHz   Sweep 20.07 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
        239.8614 kHz   x dB   -26.00 dB

Transmit Freq Error   -3.610 kHz
x dB Bandwidth   315.349 kHz

(Plot K: EDGE 1900MHz Channel = 661)

Agilent   17:25:42 Jul 20, 2011   R   T

Mkr1 1.909840 GHz

Ref 35 dBm   Atten 20 dB   26.02 dBm

#Peak
Log
10
dB/
Offst
25
dB

Center 1.91 GHz   Span 2 MHz
#Res BW 10 kHz   #VBW 100 kHz   Sweep 20.07 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
        236.1418 kHz   x dB   -26.00 dB

Transmit Freq Error   -1.665 kHz
x dB Bandwidth   316.686 kHz

(Plot L: EDGE 1900MHz Channel = 810)

Agilent 16:24:27 Jul 20, 2011   R   T

Mkr1 836.40 MHz

Ref 30.5 dBm   Atten 10 dB   0.503 dBm

#Samp
Log
10
dB/
Offst
30.5
dB

Center 835 MHz   Span 8 MHz
#Res BW 30 kHz   #VBW 3 kHz   Sweep 115 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
        4.1570 MHz   x dB   -26.00 dB

Transmit Freq Error   -7.561 kHz
x dB Bandwidth   4.609 MHz*

(Plot M: WCDMA 850MHz Channel = 4400)

Agilent 16:25:33 Jul 20, 2011   R   T

Mkr1 1.88140 GHz

Ref 25 dBm   Atten 10 dB   3.729 dBm

#Samp
Log
10
dB/
Offst
25
dB

Center 1.88 GHz   Span 8 MHz
#Res BW 30 kHz   #VBW 3 kHz   Sweep 115 ms (401 pts)

Occupied Bandwidth   Occ BW % Pwr   99.00 %
        4.1615 MHz   x dB   -26.00 dB

Transmit Freq Error   -3.849 kHz
x dB Bandwidth   4.614 MHz*

(Plot N: WCDMA 1900MHz Channel = 9800)

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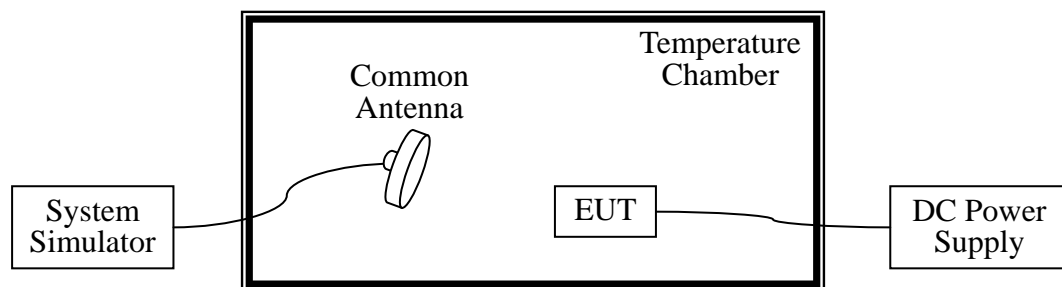
The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS via a Common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

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date
System Simulator	Agilent	E5515C	GB43130131	2010.09
DC Power Supply	Good Will	GPS-3030DD	EF920938	2010.09
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2010.09

2.3.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.7VDC, 4.2VDC and 3.4VDC, which are specified by the applicant; the normal temperature here used is 25°C. The frequency

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

GSM 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 128 (824.2MHz)		Channel = 190 (836.6MHz)		Channel = 251 (848.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.7	-30	5.78	±2060.5	-5.66	±2091.5	5.05	±2122	PASS
	-20	-10.17		9.70		7.49		
	-10	23.28		-10.06		0.19		
	0	-3.03		21.06		34.30		
	+10	-3.03		13.07		45.99		
	+20	-10.39		-12.76		-16.51		
	+30	17.75		-2.05		19.46		
	+40	5.31		-3.77		-6.80		
	+50	-12.19		5.39		7.58		
4.2	+25	20.74		9.65		3.11		
3.4	+25	23.29		-0.70		-4.93		

GSM 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 512 (1850.2MHz)		Channel = 661 (1880.0MHz)		Channel = 810 (1909.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.7	-30	-11.03	±1850.2	21.02	±1880.0	26.47	±1909.8	PASS
	-20	-2.06		43.08		37.73		
	-10	12.88		20.65		-5.51		
	0	-21.75		-3.32		22.29		
	+10	-18.76		42.75		41.22		
	+20	32.54		-2.32		-8.03		
	+30	-18.89		23.12		-11.01		
	+40	44.49		11.33		0.52		
	+50	40.72		-17.55		25.40		
4.2	+25	16.15		38.10		-6.06		
3.4	+25	52.34		-12.06		-2.86		

EDGE 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 128 (824.2MHz)		Channel = 190 (836.6MHz)		Channel = 251 (848.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.7	-30	-3.10	±2060.5	-2.80	±2091.5	9.49	±2122	PASS
	-20	38.28		-14.67		-12.90		
	-10	-2.15		0.84		12.66		
	0	40.06		9.35		5.05		
	+10	1.99		-10.10		3.02		
	+20	-19.86		-16.11		10.76		
	+30	39.56		17.76		-16.51		
	+40	46.60		15.64		-2.10		
	+50	39.98		3.67		-12.99		
4.2	+25	-15.71		13.95		-7.53		
3.4	+25	-17.70		6.23		6.78		

EDGE 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 512 (1850.2MHz)		Channel = 661 (1880.0MHz)		Channel = 810 (1909.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.7	-30	-13.77	±1850.2	23.62	±1880.0	24.03	±1909.8	PASS
	-20	0.62		7.23		-6.98		
	-10	1.65		-24.78		4.55		
	0	2.47		-1.26		-0.20		
	+10	-10.76		-18.68		26.30		
	+20	-2.11		-21.61		35.26		
	+30	13.33		14.58		-26.78		
	+40	5.33		-0.68		19.54		
	+50	-2.56		36.87		-16.67		
4.2	+25	17.60		3.88		26.79		
3.4	+25	-8.09		13.12		19.93		

WCDMA 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 4357 (826.4MHz)		Channel = 4400 (835MHz)		Channel = 4458 (846.6MHz)		
		Hz	Limit	Hz	Limit	Hz	Limit	
3.7	-30	27.16	±826.4	-13.39	±835	-9.81	±846.6	PASS
	-20	-17.02		-4.75		-23.82		
	-10	10.82		18.85		26.39		
	0	13.98		5.05		30.98		
	+10	-2.66		19.62		-2.65		
	+20	32.07		30.40		18.30		
	+30	-7.98		13.45		-12.57		
	+40	26.21		1.31		28.93		
	+50	11.10		-12.52		19.66		
4.2	+25	-6.18		30.62		22.19		
3.4	+25	18.66		-18.00		-18.70		

WCDMA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9662 (1852.4MHz)		Channel = 9800 (1880.0MHz)		Channel = 9938 (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		
3.4	+25	22.00		26.37		-23.22		

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
GSM 850MHz	128	824.2	-26.34	Plot A1toA1.1	-13	PASS
	190	836.6	-26.93	Plot A2toA2.1		PASS
	251	848.8	-28.82	Plot A3toA3.1		PASS
GSM 1900MHz	512	1850.2	-51.71	Plot B1toB1.1	-13	PASS
	661	1880.0	-50.84	Plot B2toB2.1		PASS
	810	1909.8	--51.68	Plot B3toB3.1		PASS
EDGE 850MHz	128	824.2	-29.88	Plot C1toC1.1	-13	PASS
	190	836.6	-26.42	Plot C2toC2.1		PASS
	251	848.8	-28.32	Plot C3toC3.1		PASS
EDGE	512	1850.2	--48.4	Plot	-13	PASS

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
1900MHz				D1toD1.1		
	661	1880.0	-47.88	Plot D2toD2.1		PASS
	810	1909.8	-48.05	Plot D3toD3.1		PASS
WCDMA 850MHz	4357	826.4	-40.25	Plot E1toE1.1	-13	PASS
	4400	835	-43.75	Plot E2toE2.1		PASS
	4458	846.6	-39.52	Plot E3toE3.1		PASS
WCDMA 1900MHz	9662	1852.4	-48.04	Plot F1toF1.1	-13	PASS
	9800	1880	-37.82	Plot F2toF2.1		PASS
	9938	1907.6	-37.98	Plot F3to3.1		PASS

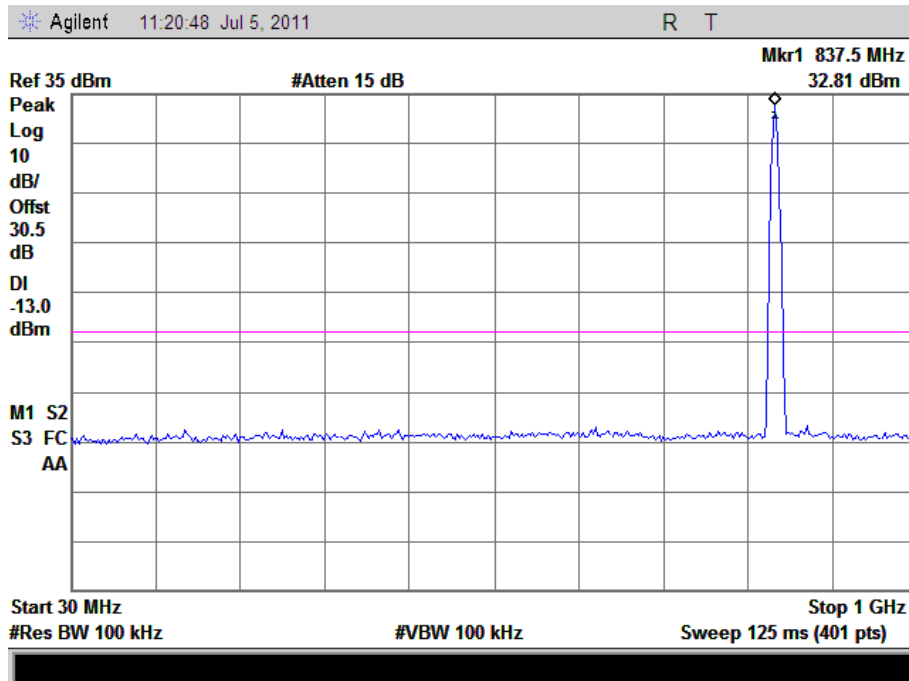2. Test Plots for the Whole Measurement Frequency Range:

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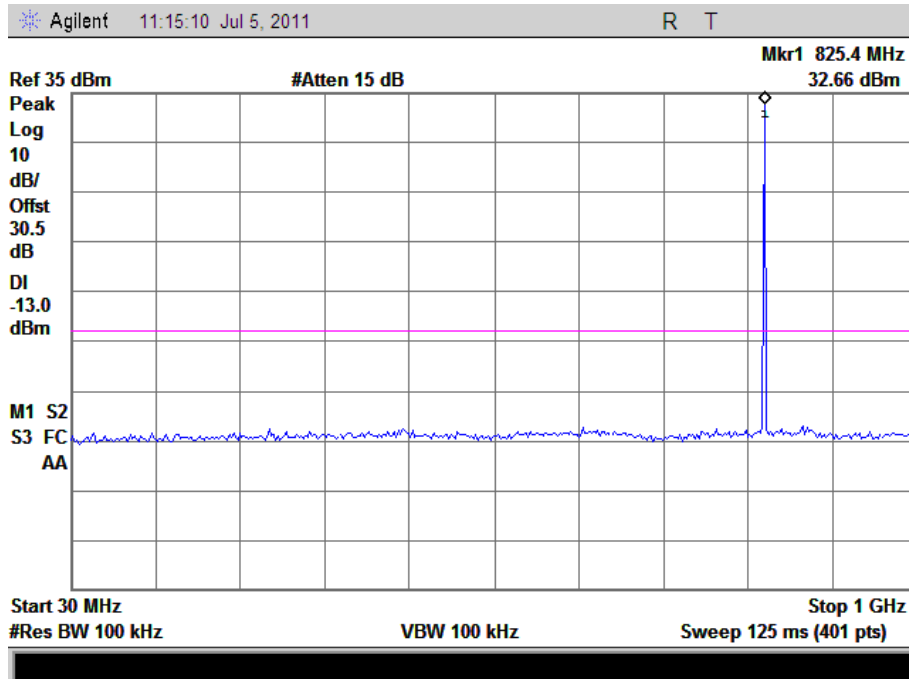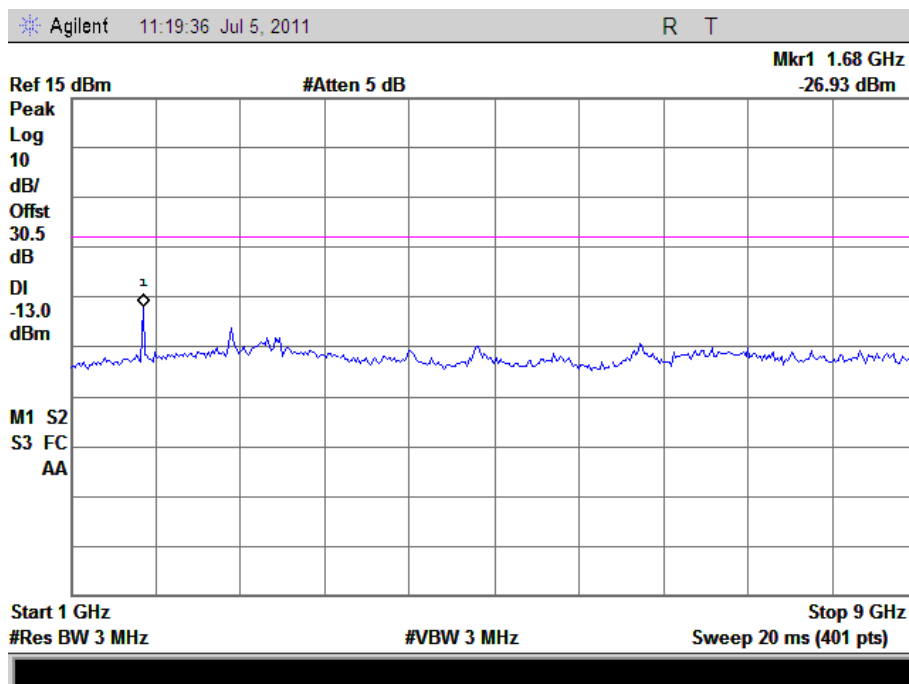

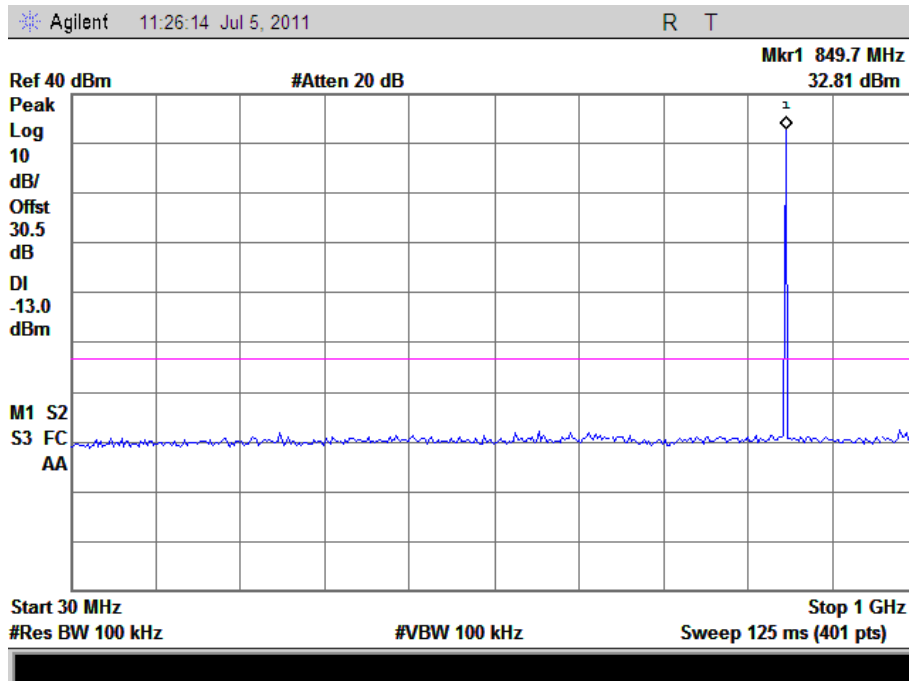(Plot A1:   GSM 850MHz Channel = 128, 30MHz to 1GHz)
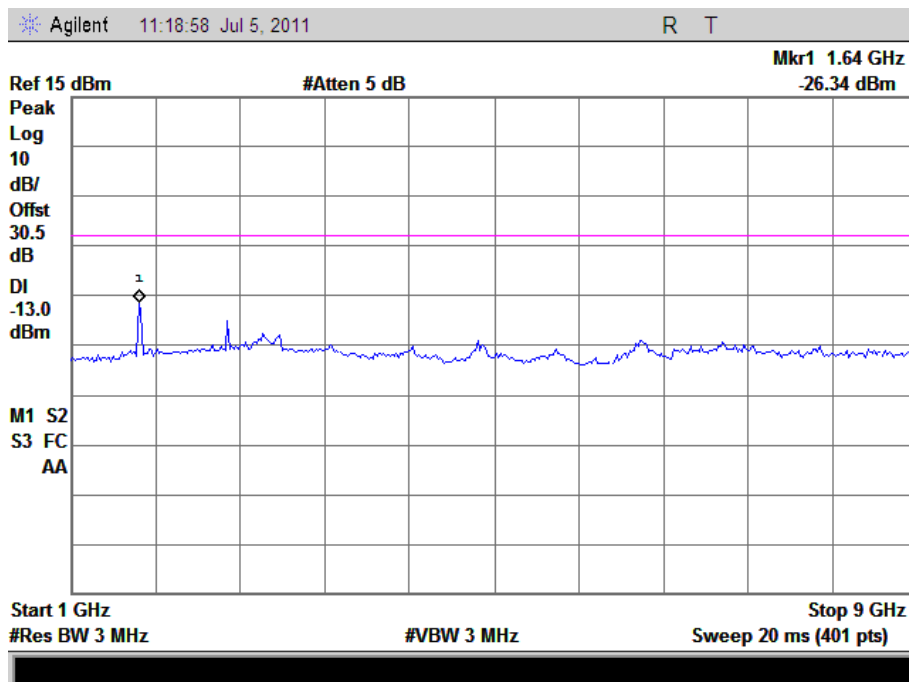
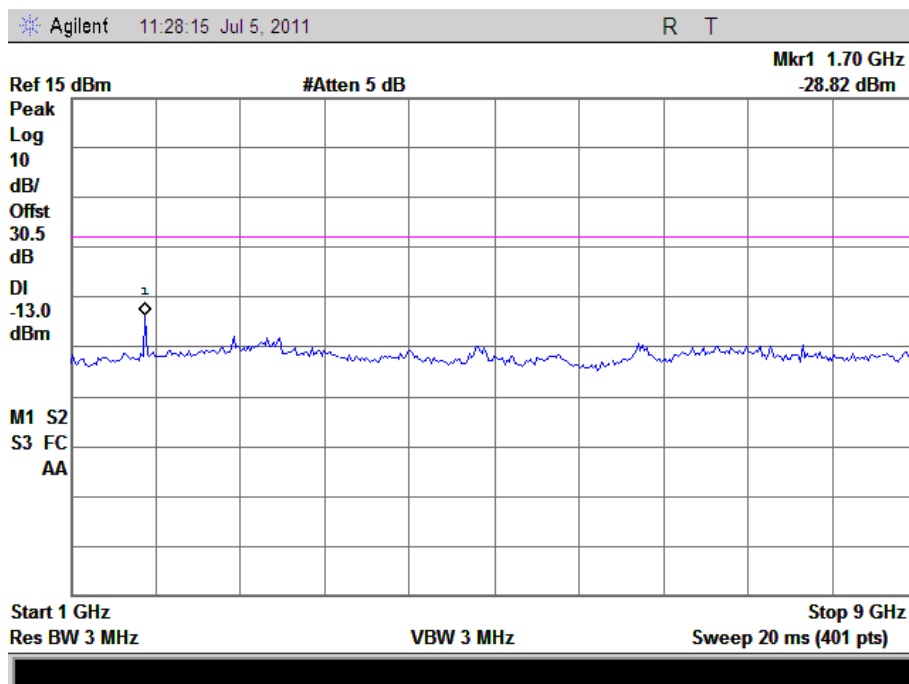(Plot A1.1:   GSM 850MHz Channel = 128, 1GHz to 9GHz)

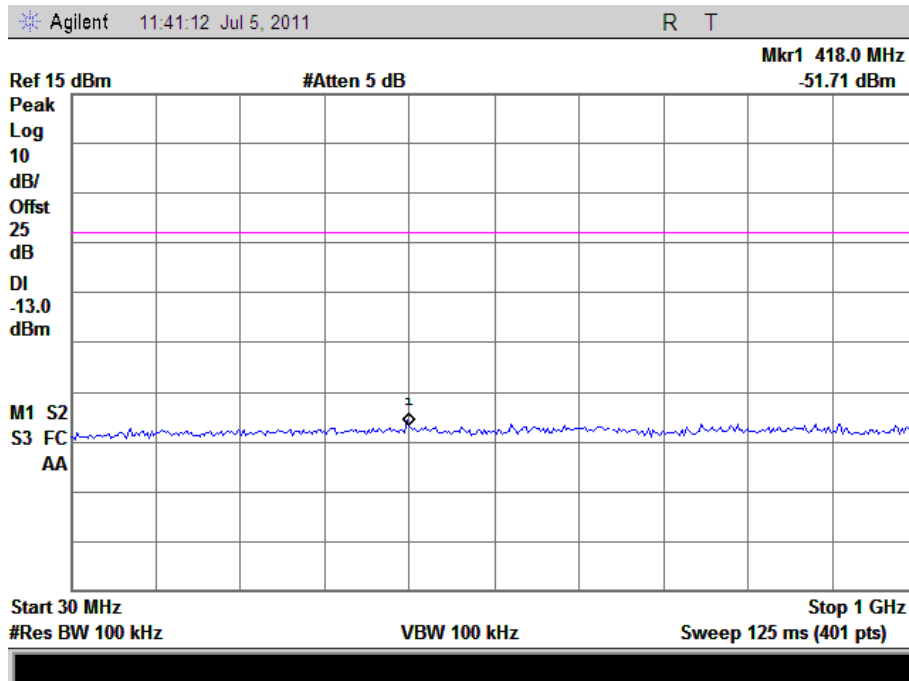(Plot A2:   GSM 850MHz Channel = 190, 30MHz to 1GHz)

(Plot A2.1:   GSM 850MHz Channel = 190, 1GHz to 9GHz)
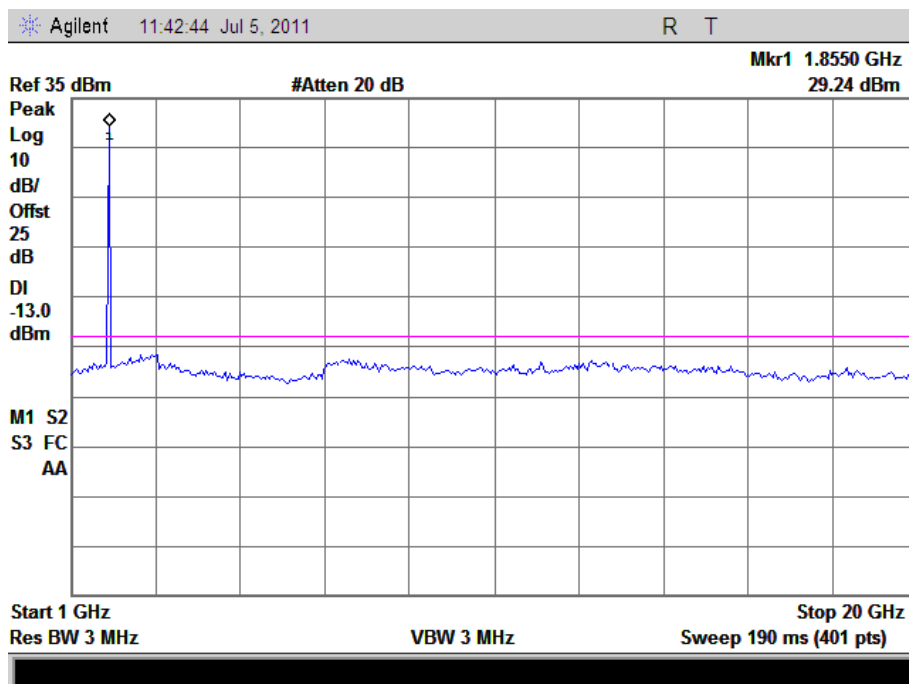
(Plot A3:   GSM 850MHz Channel = 251, 30MHz to 1GHz)
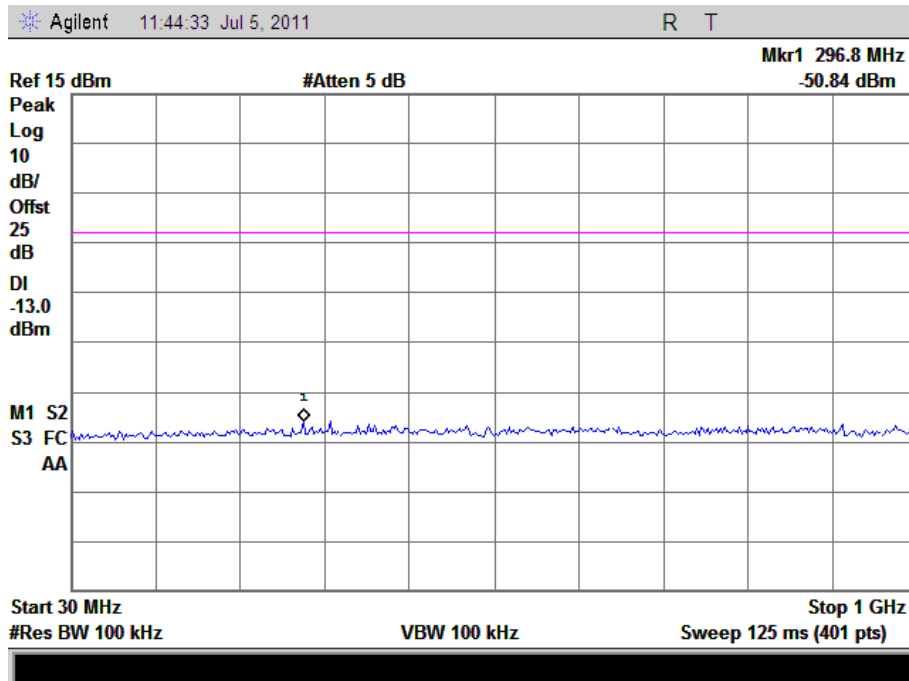

(Plot A3.1:   GSM 850MHz Channel = 251, 1GHz to 9GHz)
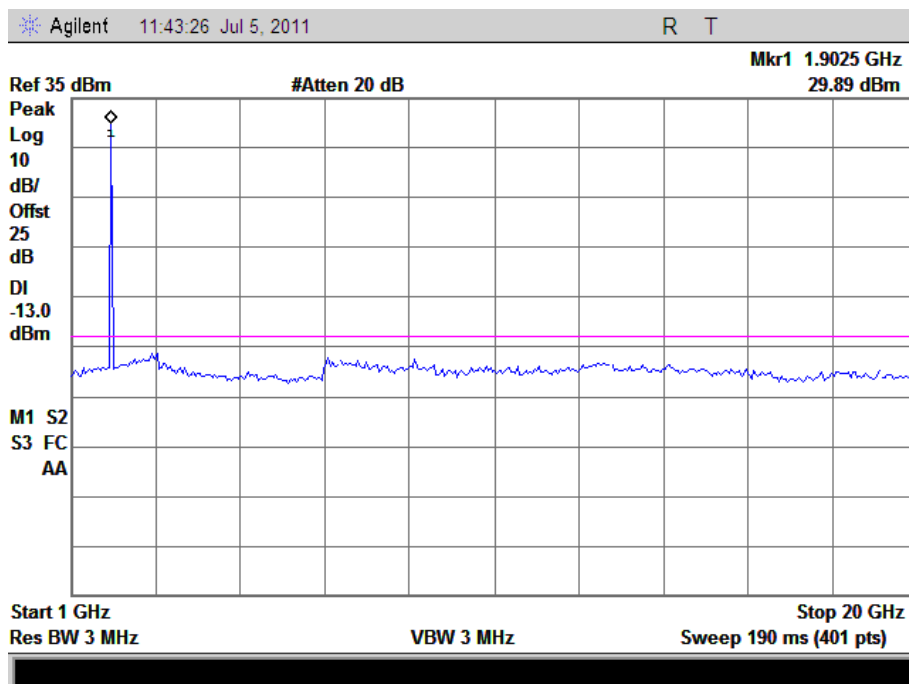
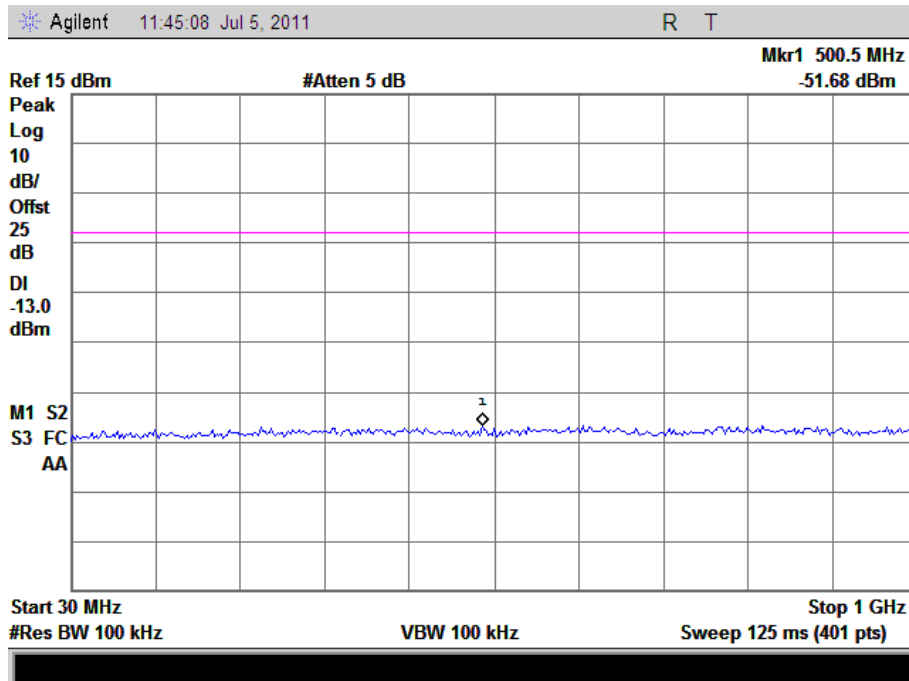(Plot B1:   GSM 1900MHz Channel = 512, 30MHz to 1GHz)

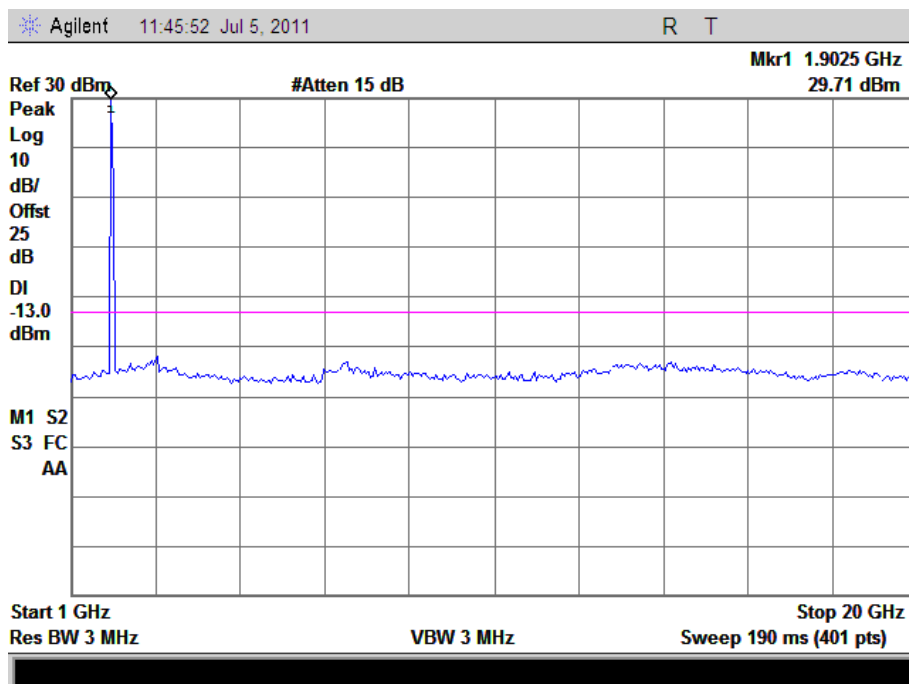(Plot B1.1:   GSM 1900MHz Channel = 512, 1GHz to 20GHz)

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

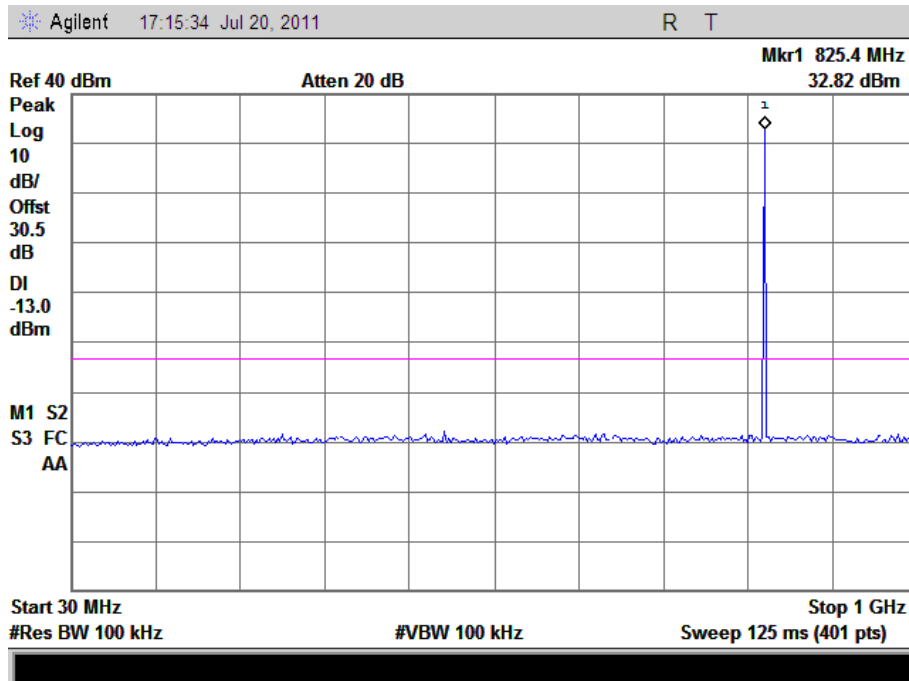(Plot B2.1:   GSM 1900MHz Channel = 661, 1GHz to 20GHz)

※ Agilent   11:45:08 Jul 5, 2011   R   T

Mkr1 500.5 MHz

Ref 15 dBm   #Atten 5 dB   -51.68 dBm

Peak
Log
10
dB/
Offst
25
dB

DI
-13.0
dBm

M1 S2
S3 FC
   AA

Start 30 MHz   Stop 1 GHz
#Res BW 100 kHz   VBW 100 kHz   Sweep 125 ms (401 pts)

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

※ Agilent   11:45:52 Jul 5, 2011   R   T

Mkr1 1.9025 GHz

Ref 30 dBm   #Atten 15 dB   29.71 dBm

Peak
Log
10
dB/
Offst
25
dB

DI
-13.0
dBm

M1 S2
S3 FC
   AA

Start 1 GHz   Stop 20 GHz
Res BW 3 MHz   VBW 3 MHz   Sweep 190 ms (401 pts)
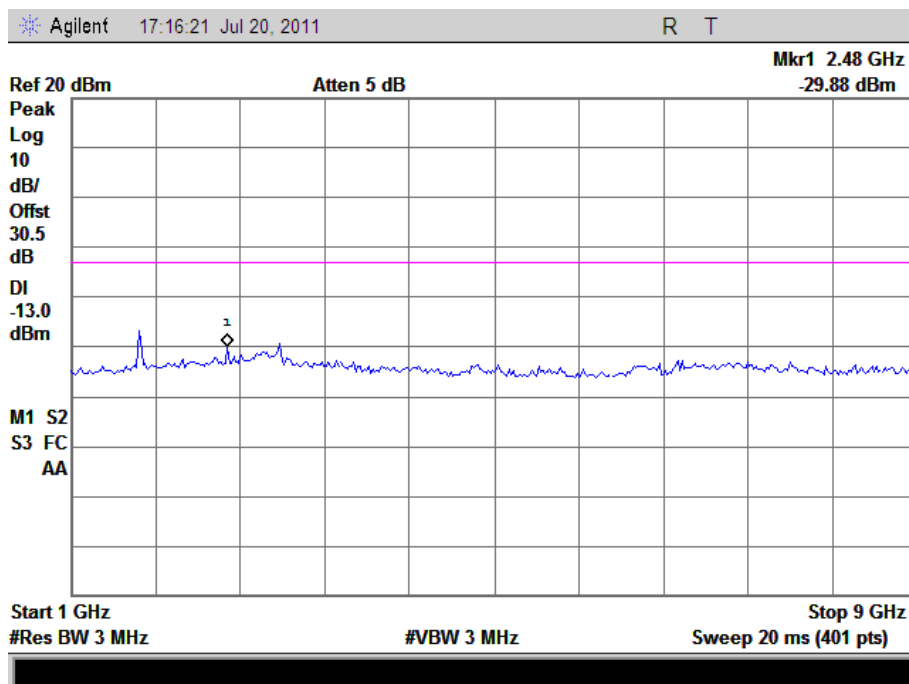
(Plot B3.1:   GSM 1900MHz Channel = 810, 1GHz to 20GHz)
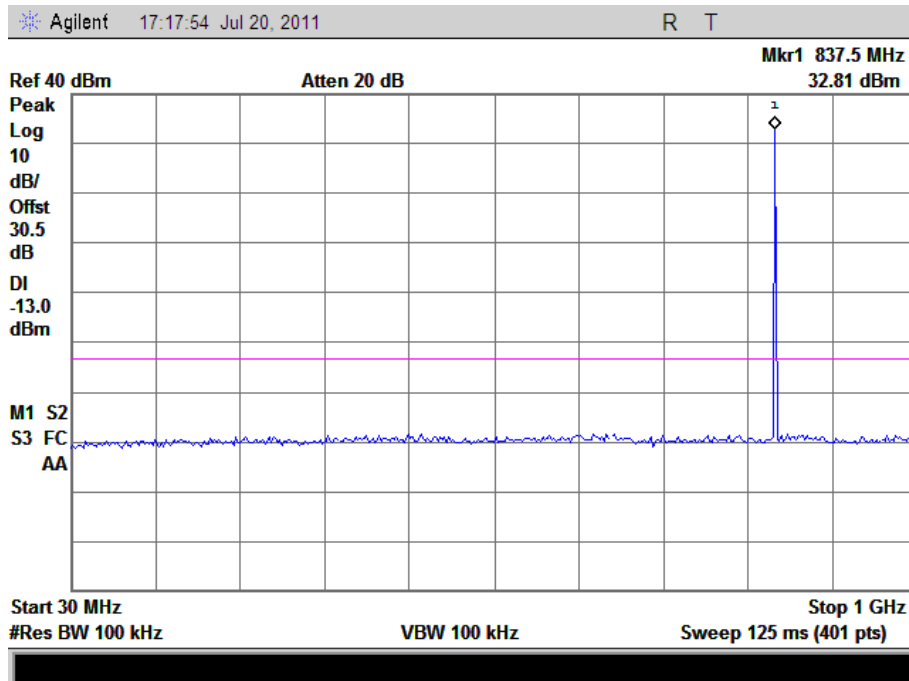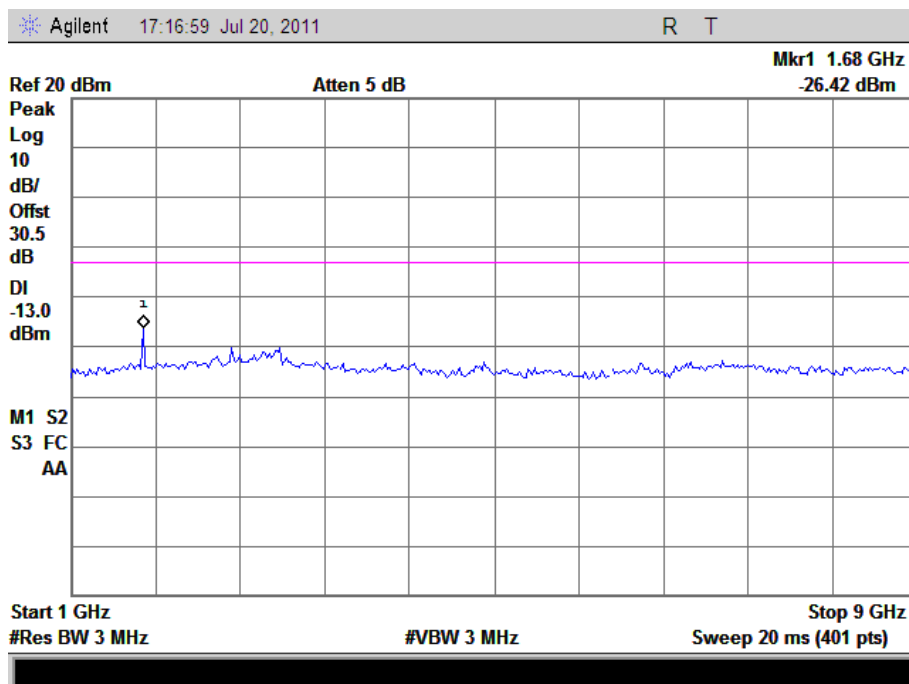
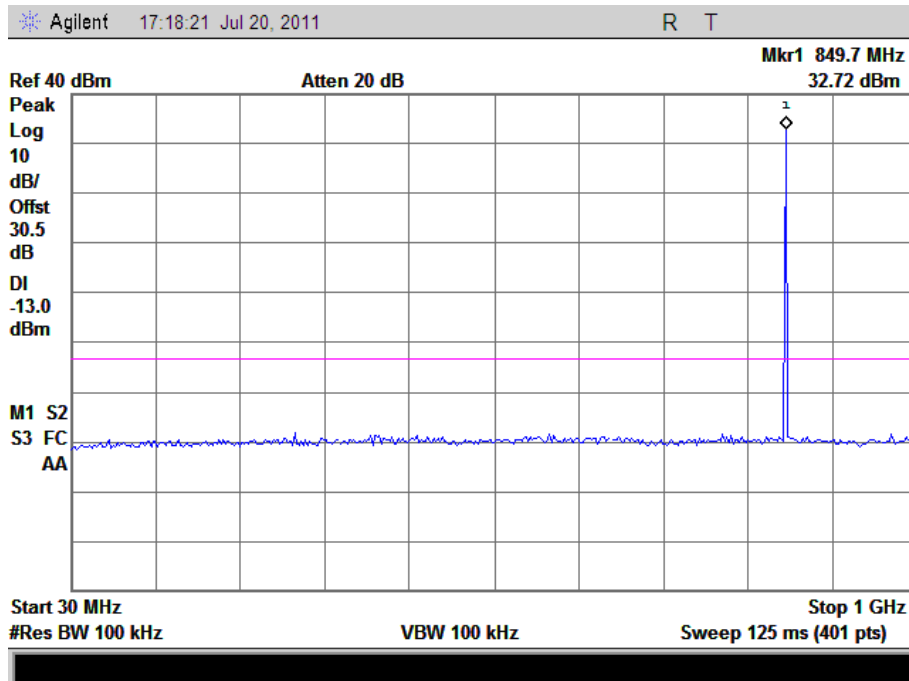(Plot C1:   EDGE 850MHz Channel = 128, 30MHz to 1GHz)

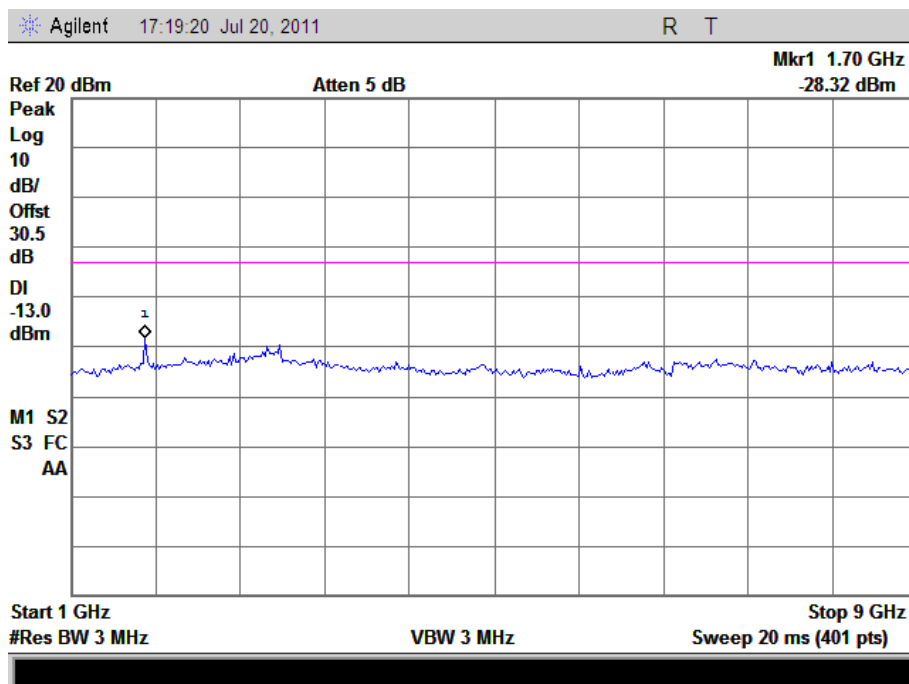(Plot C1.1:   EDGE 850MHz Channel = 128, 1GHz to 9GHz)

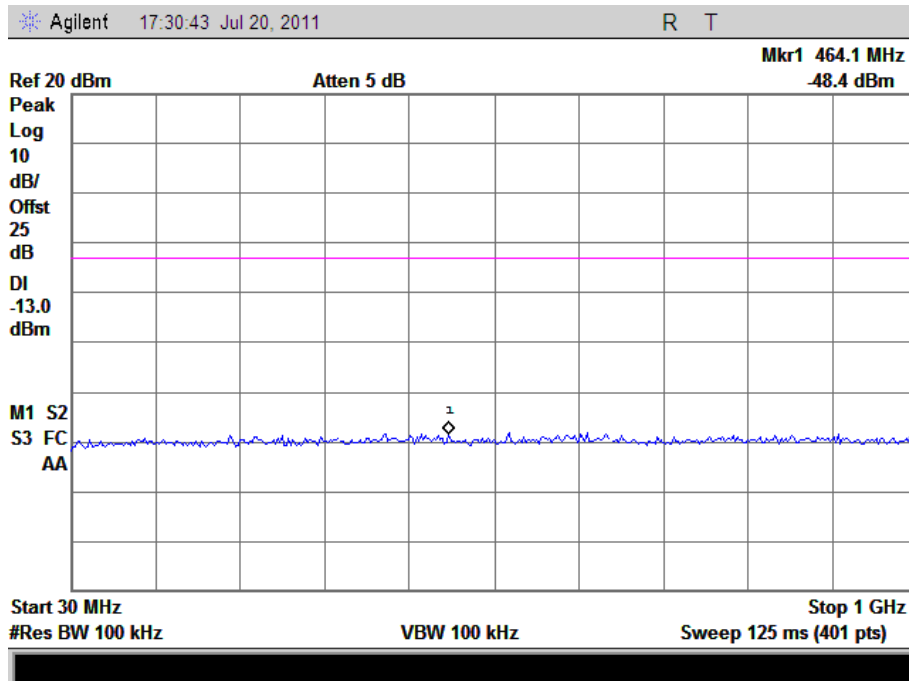(Plot C2:   EDGE 850MHz Channel = 190, 30MHz to 1GHz)

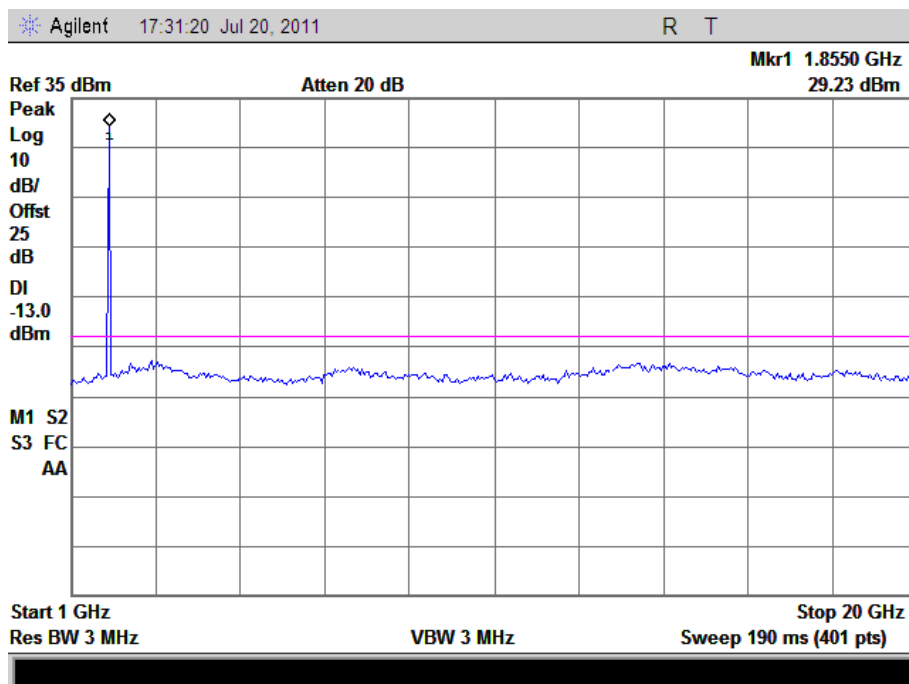(Plot C2.1:   EDGE 850MHz Channel = 190, 1GHz to 9GHz)

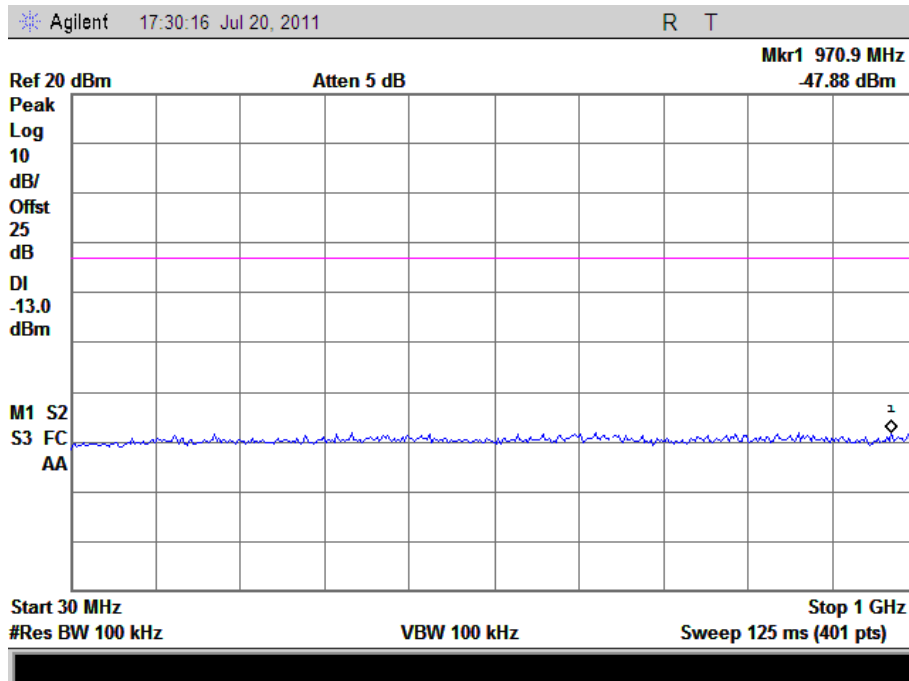(Plot C3:   EDGE 850MHz Channel = 251, 30MHz to 1GHz)

(Plot C3.1:   EDGE 850MHz Channel = 251, 1GHz to 9GHz)
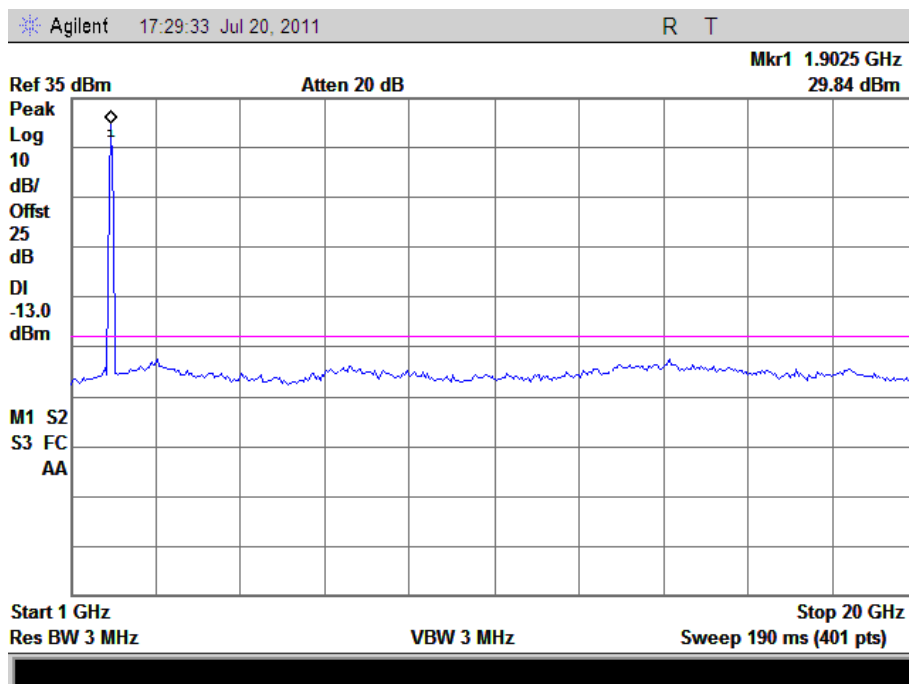
(Plot D1:   EDGE 1900MHz Channel = 512, 30MHz to 1GHz)

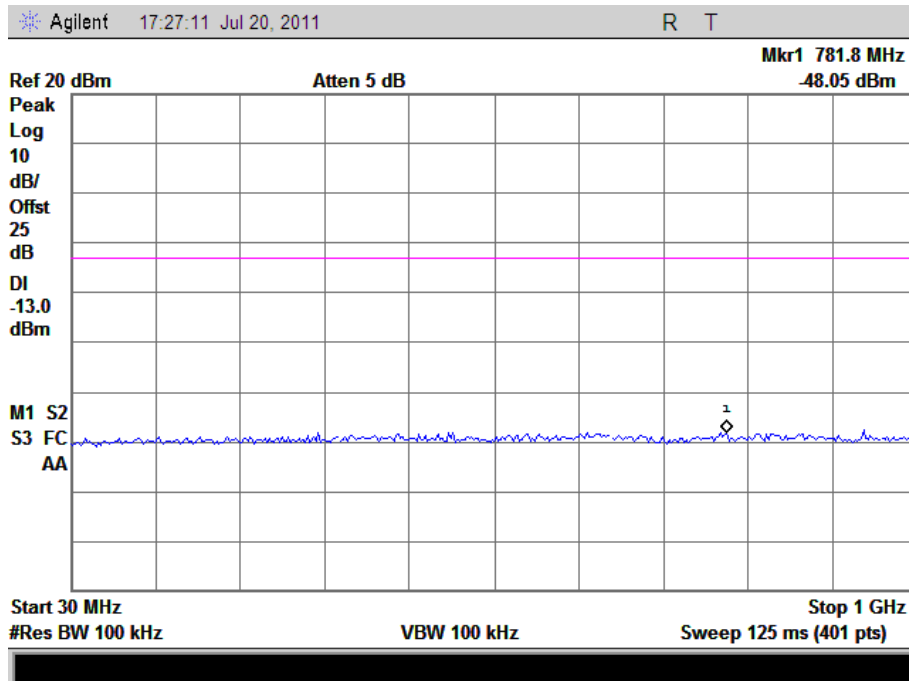(Plot D1.1:   EDGE 850MHz Channel = 512, 1GHz to 20GHz)

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

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

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

(Plot D3.1:   EDGE 1900MHz Channel = 810, 1GHz to 20GHz)
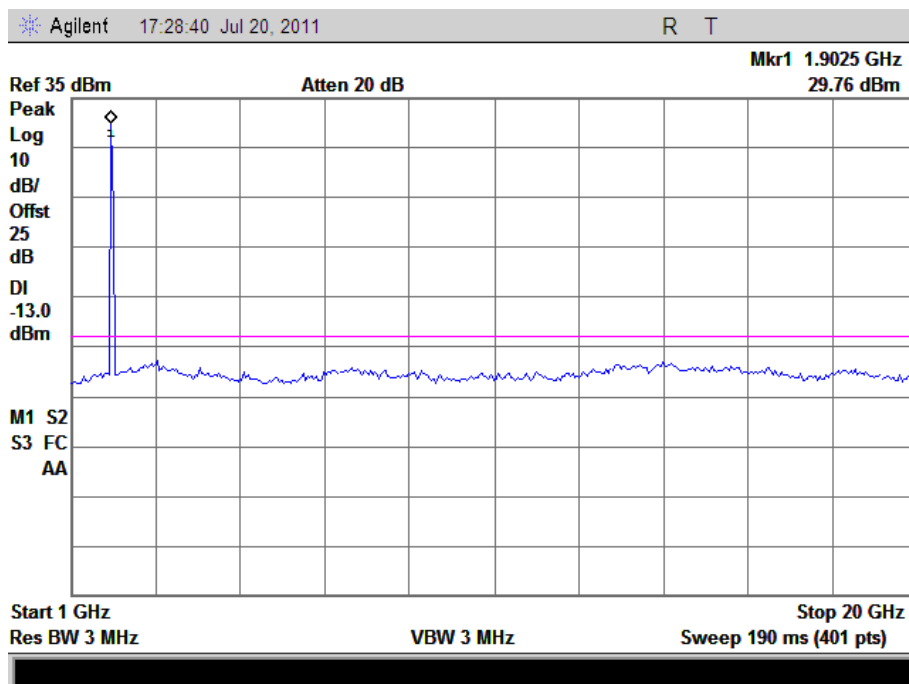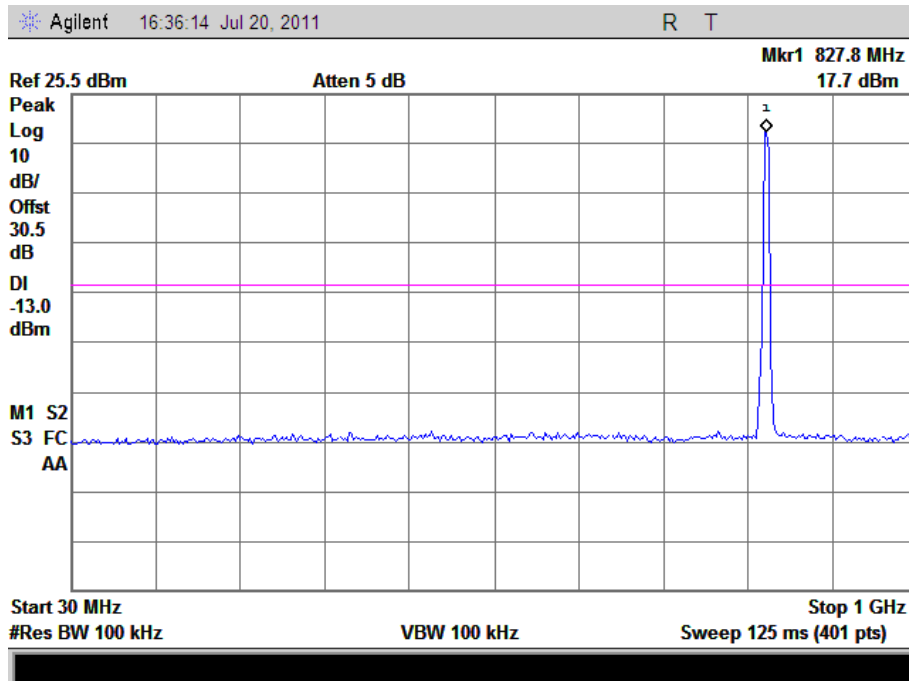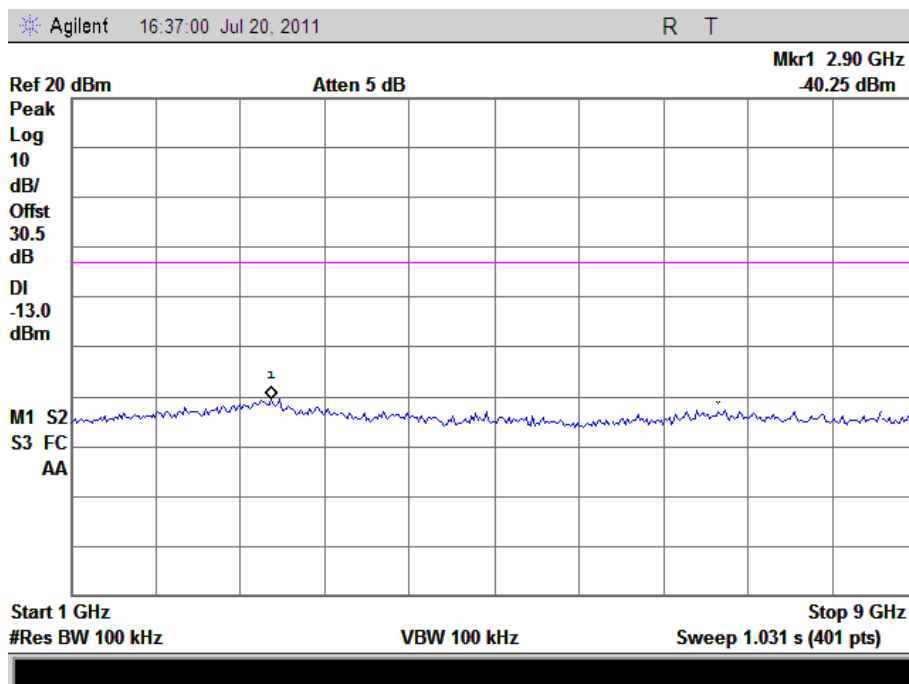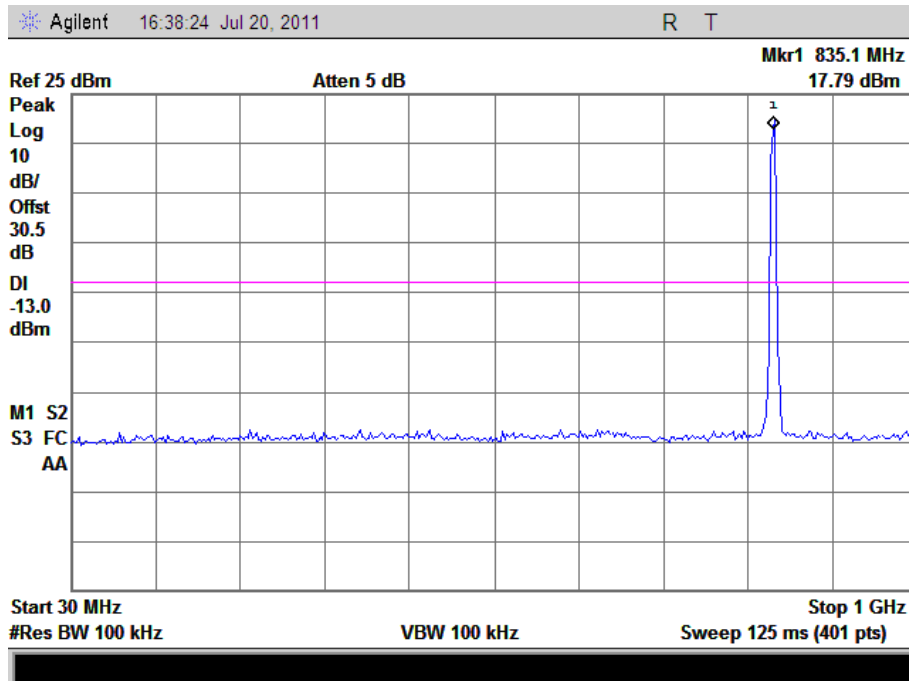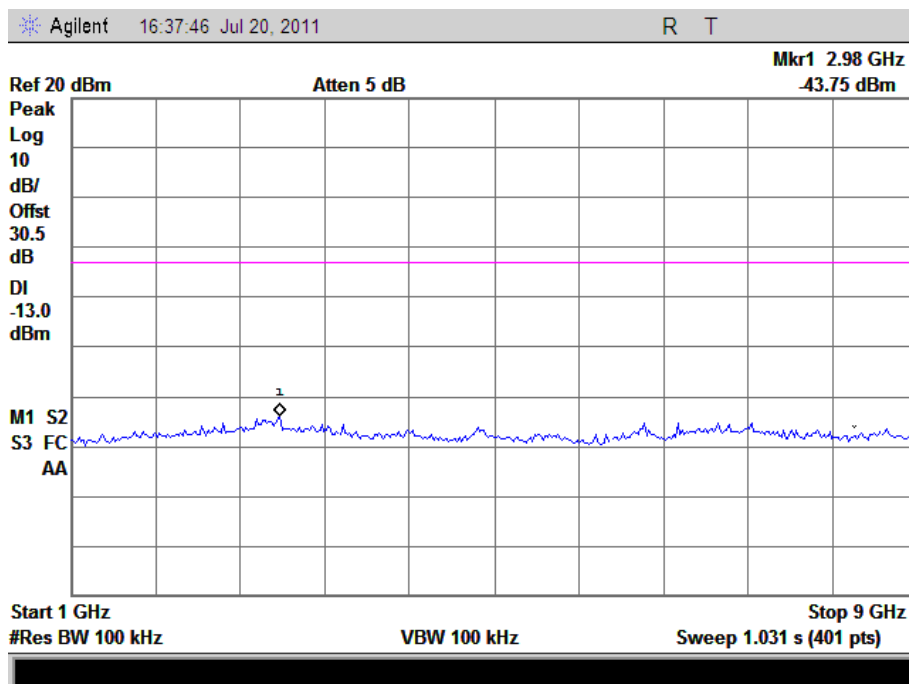
(Plot E1:   WCDMA850MHz Channel = 4357, 30MHz to 1GHz)

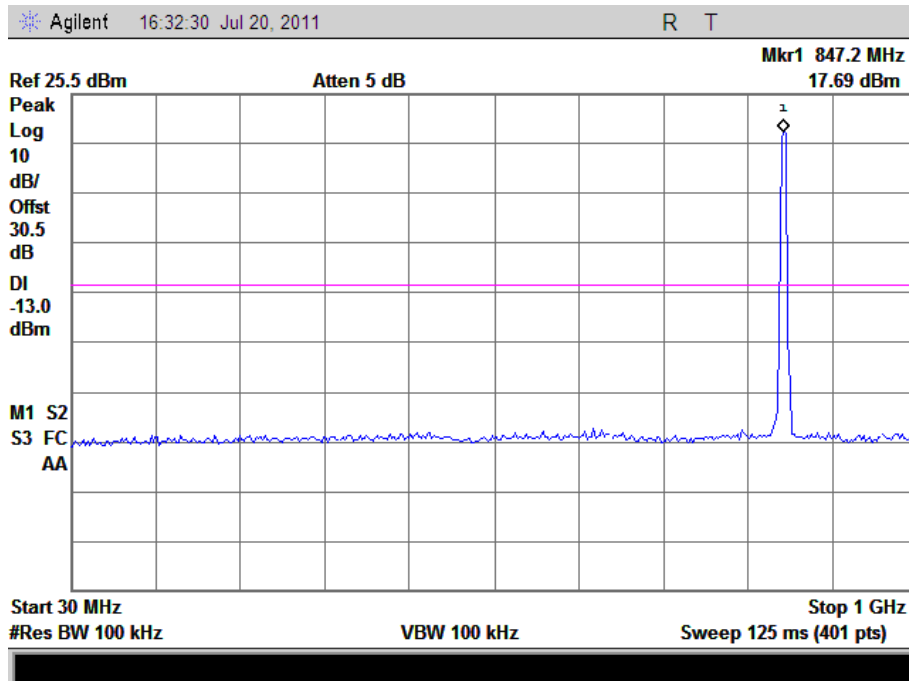(Plot E1.1:   WCDMA850MHz Channel = 4357, 1GHz to 9GHz)

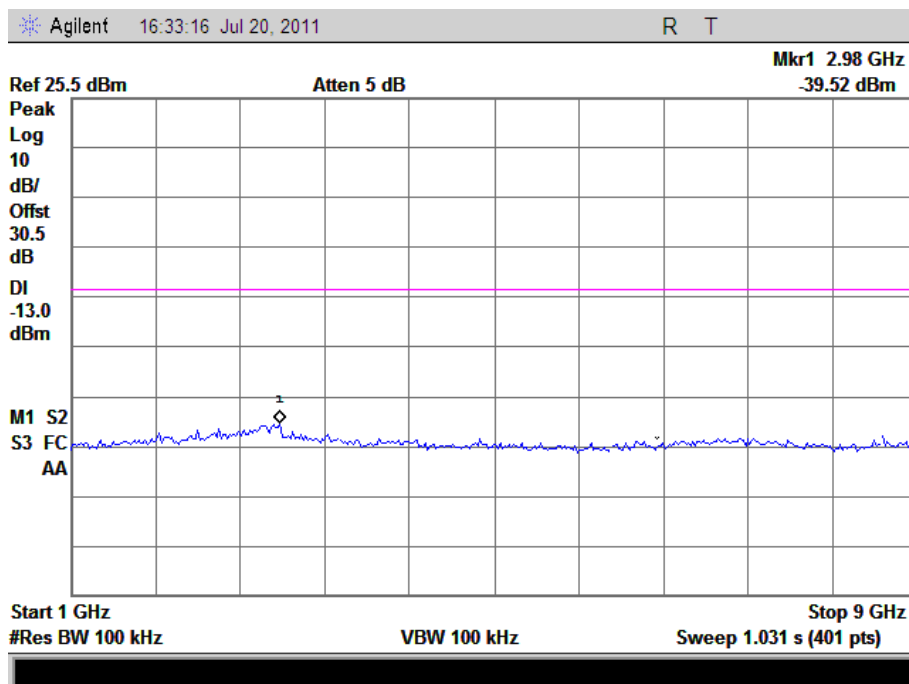(Plot E2:   WCDMA850MHz Channel = 4400, 30MHz to 1GHz)

(Plot E2.1:   WCDMA850MHz Channel = 4400, 1GHz to 9GHz)

Agilent   16:32:30 Jul 20, 2011   R   T

Mkr1 847.2 MHz
Ref 25.5 dBm   Atten 5 dB   17.69 dBm
Peak
Log
10
dB/
Offst
30.5
dB
DI
-13.0
dBm

M1 S2
S3 FC
    AA

Start 30 MHz   Stop 1 GHz
#Res BW 100 kHz   VBW 100 kHz   Sweep 125 ms (401 pts)

(Plot E3:   WCDMA850MHz Channel = 4458, 30MHz to 1GHz)

Agilent   16:33:16 Jul 20, 2011   R   T

Mkr1 2.98 GHz
Ref 25.5 dBm   Atten 5 dB   -39.52 dBm
Peak
Log
10
dB/
Offst
30.5
dB
DI
-13.0
dBm

M1 S2
S3 FC
    AA

Start 1 GHz   Stop 9 GHz
#Res BW 100 kHz   VBW 100 kHz   Sweep 1.031 s (401 pts)

(Plot E3.1:   WCDMA850MHz Channel = 4458, 1GHz to 20GHz)

(Plot F1: WCDMA1900MHz Channel = 9662, 30MHz to 1GHz)

(Plot F1.1: WCDMA1900MHz Channel = 9662, 1GHz to 20GHz)

(Plot F2: WCDMA1900MHz Channel = 9800, 30MHz to 1GHz)

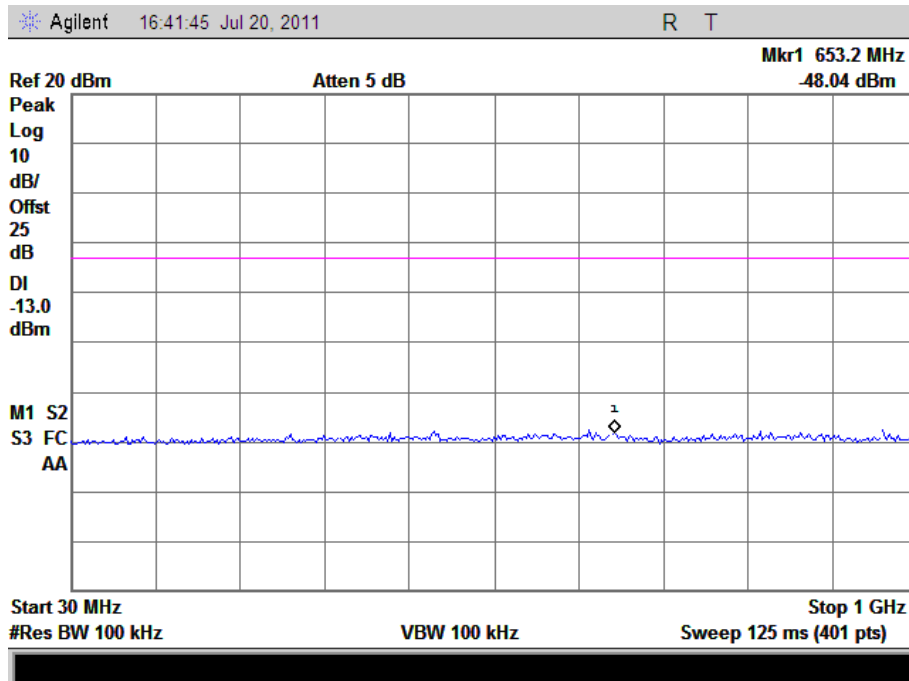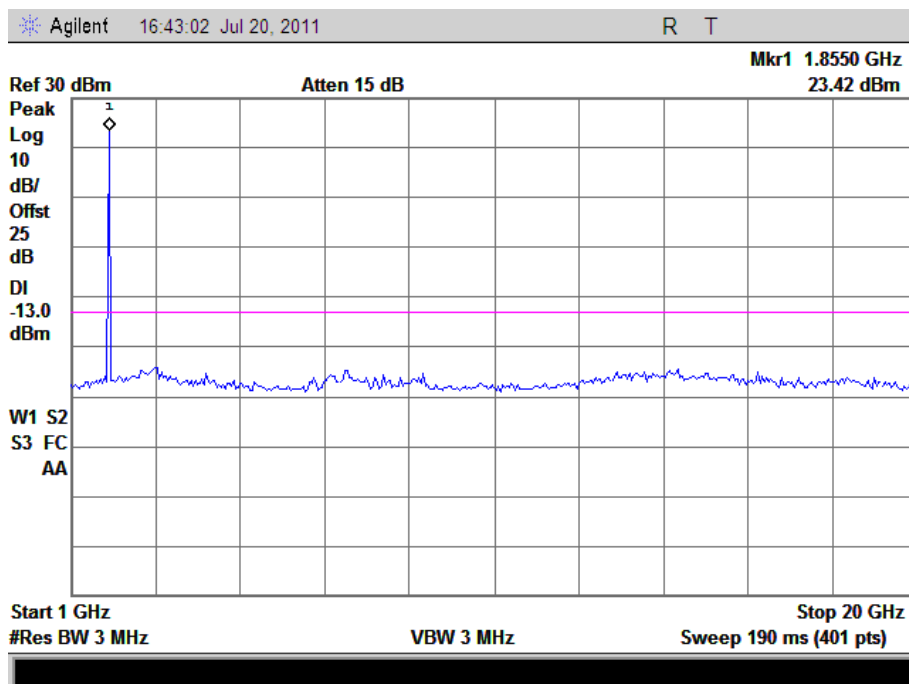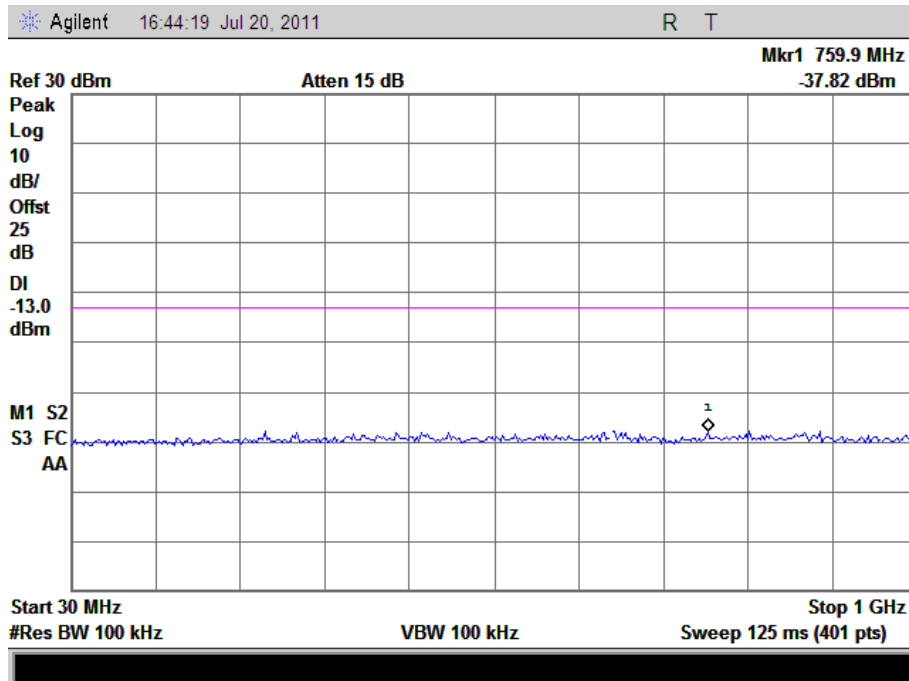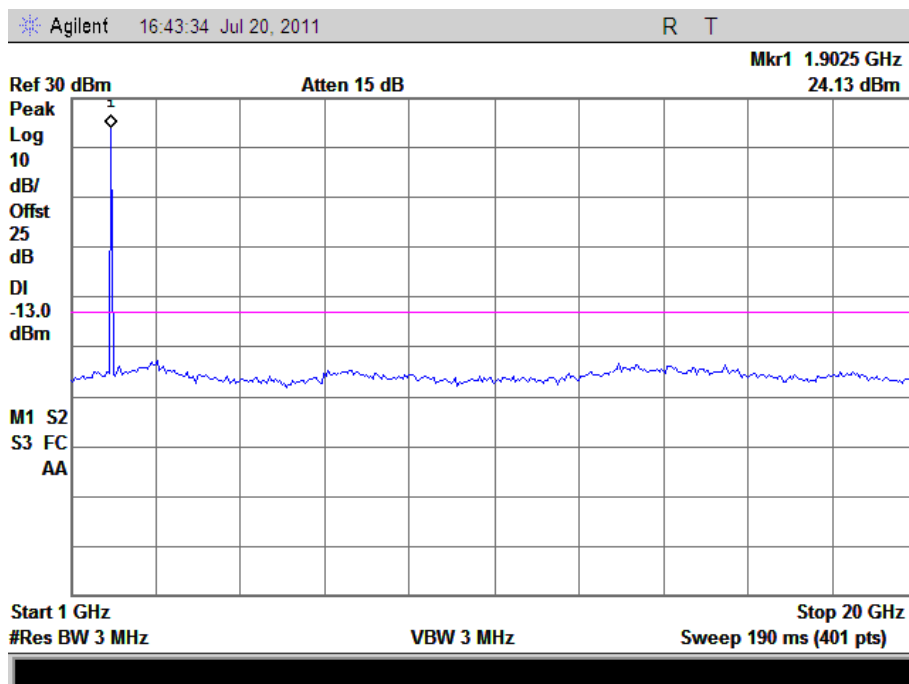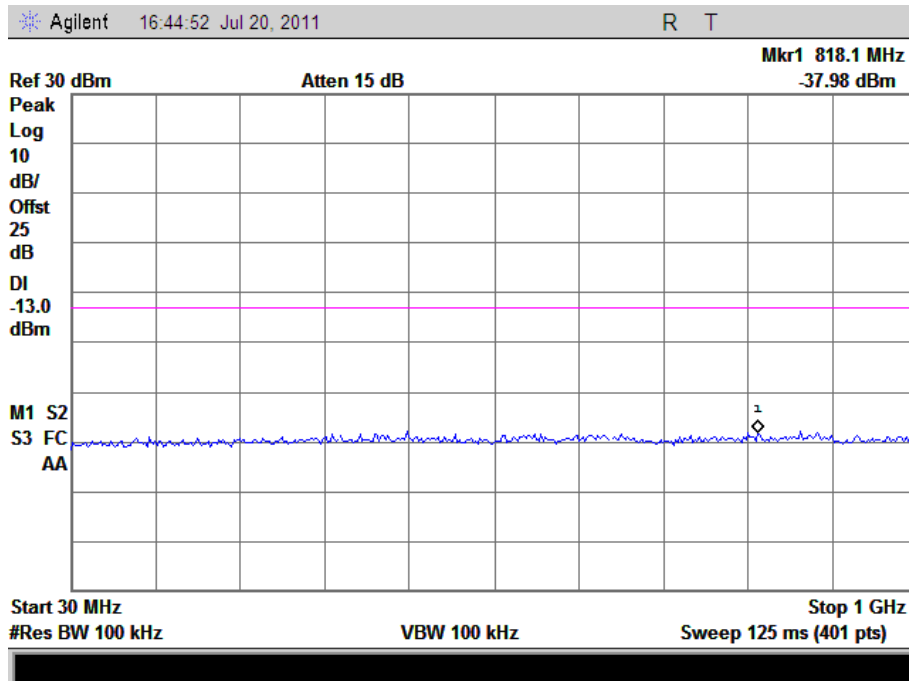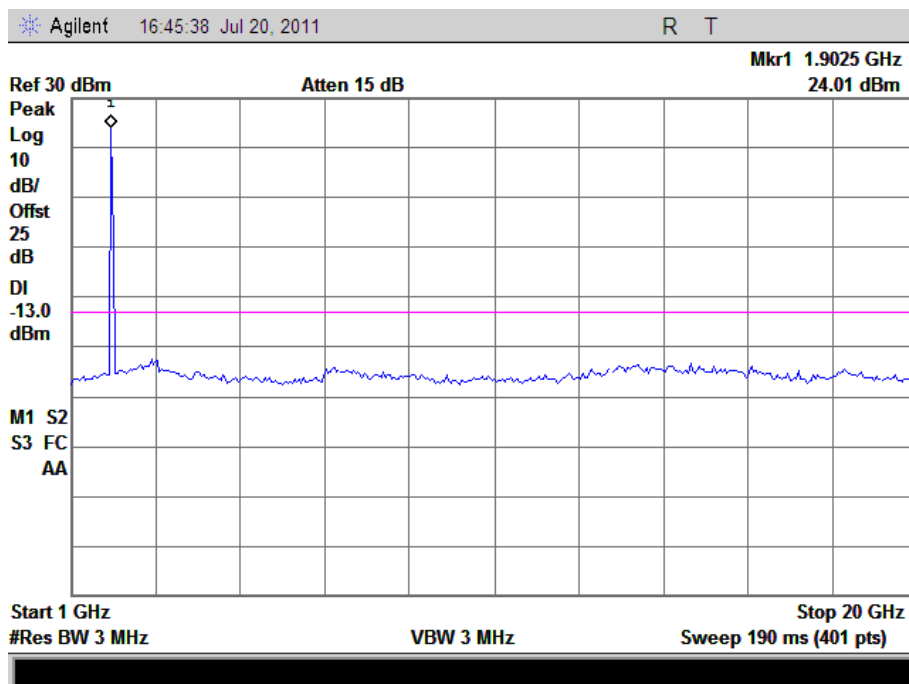(Plot F2.1: WCDMA1900MHz Channel = 9800, 1GHz to 20GHz)

(Plot F3:   WCDMA1900MHz Channel = 9938, 30MHz to 1GHz)

(Plot F3.1:   WCDMA1900MHz Channel = 9938 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
GSM 850MHz	128	824.2	-13.83	Plat A	-13	PASS
	251	848.8	-14.95	Plot B		PASS
GSM 1900MHz	512	1850.2	-17.4	Plat C	-13	PASS
	810	1909.8	-15.08	Plot D		PASS
EDGE 850MHz	128	824.2	-13.34	Plat E	-13	PASS
	251	848.8	-15.47	Plot F		PASS
EDGE 1900MHz	512	1850.2	-19.54	Plat G	-13	PASS
	810	1909.8	-16.47	Plot H		PASS
WCDMA 850MHz	4357	826.4	-22.7	Plat I	-13	PASS
	4458	846.6	-27.61	Plot J		PASS
WCDMA 1900MHz	9662	1852.4	-21.96	Plat K	-13	PASS
	9938	1907.6	-24.59	Plot L		PASS

2. Test Plots:
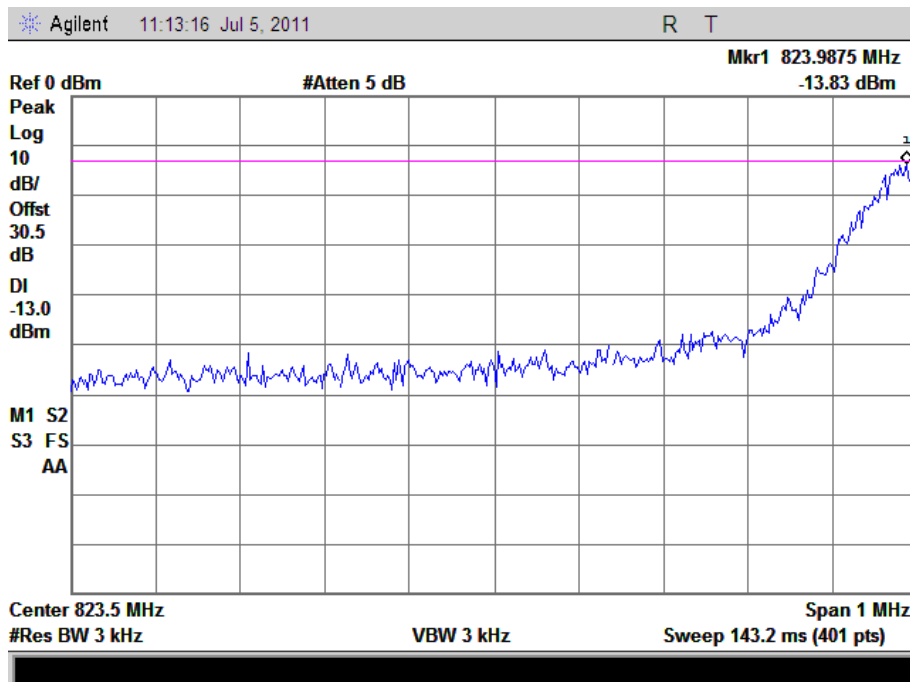
(Plot A: GSM 850 Channel = 128)
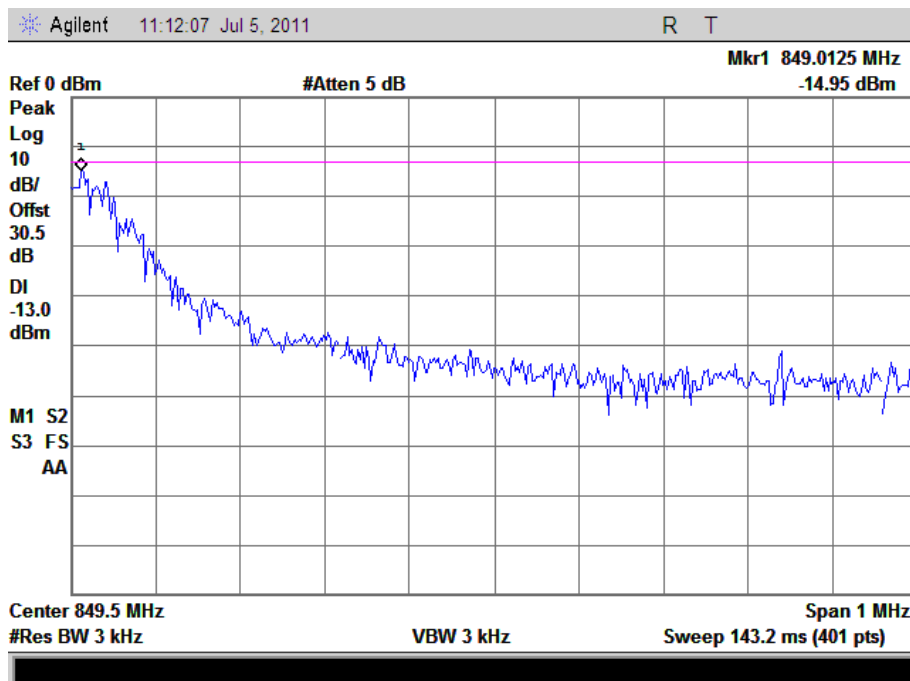
(Plot B: GSM 850 Channel = 251)
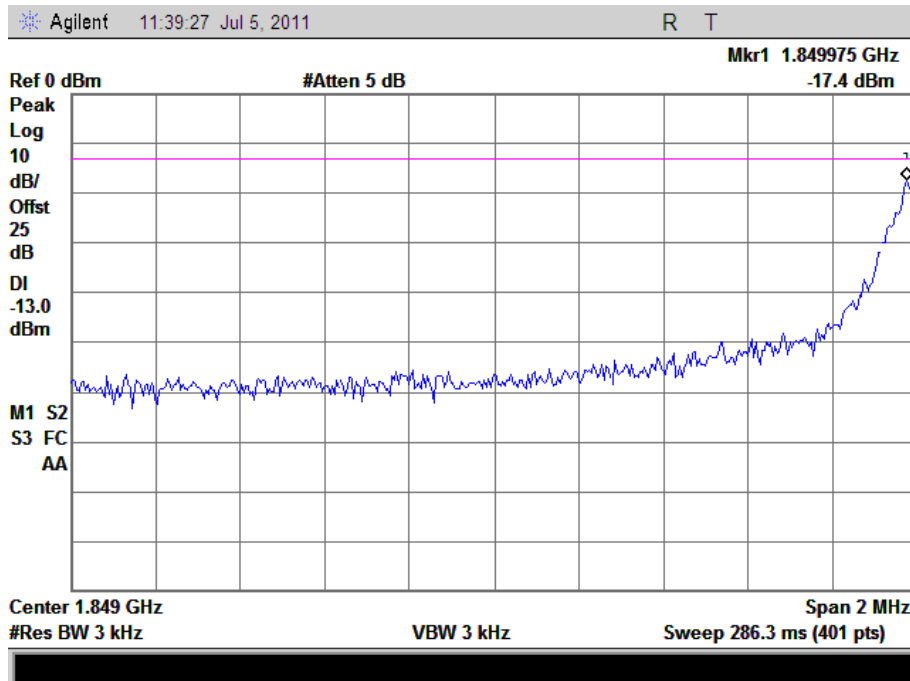
(Plot C: GSM 1900 Channel = 512)
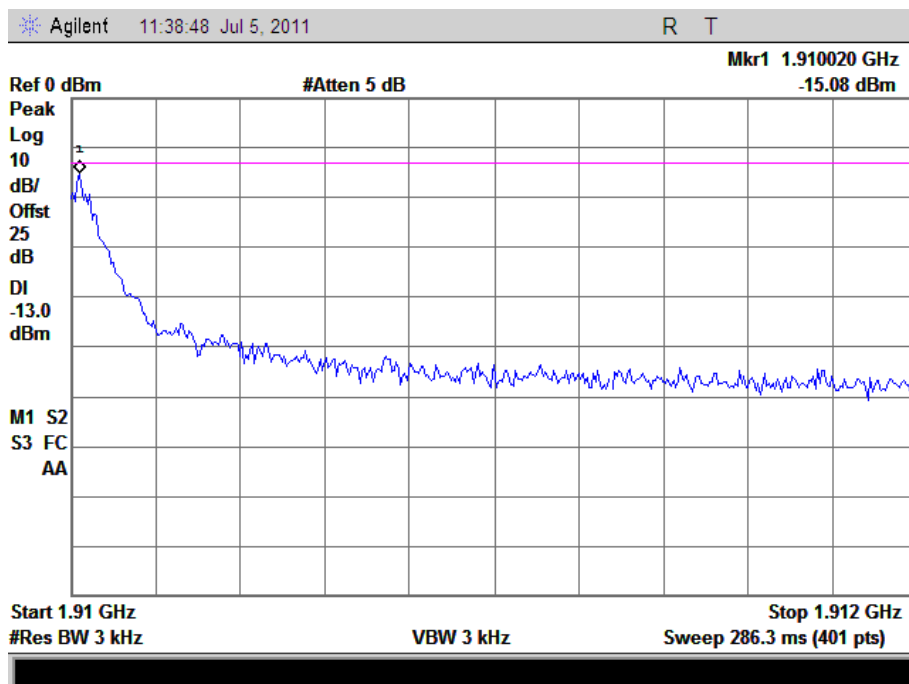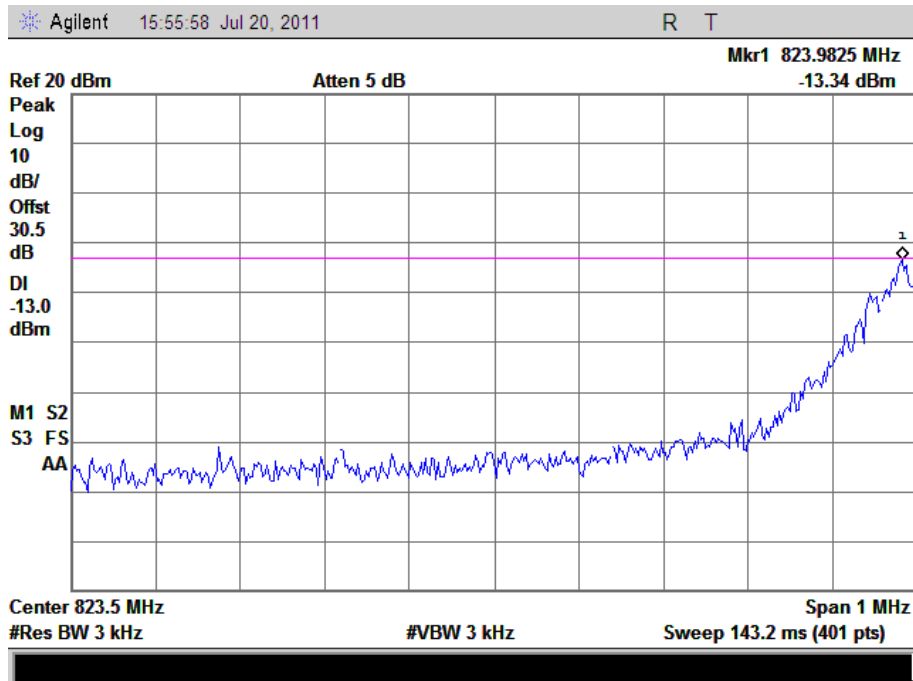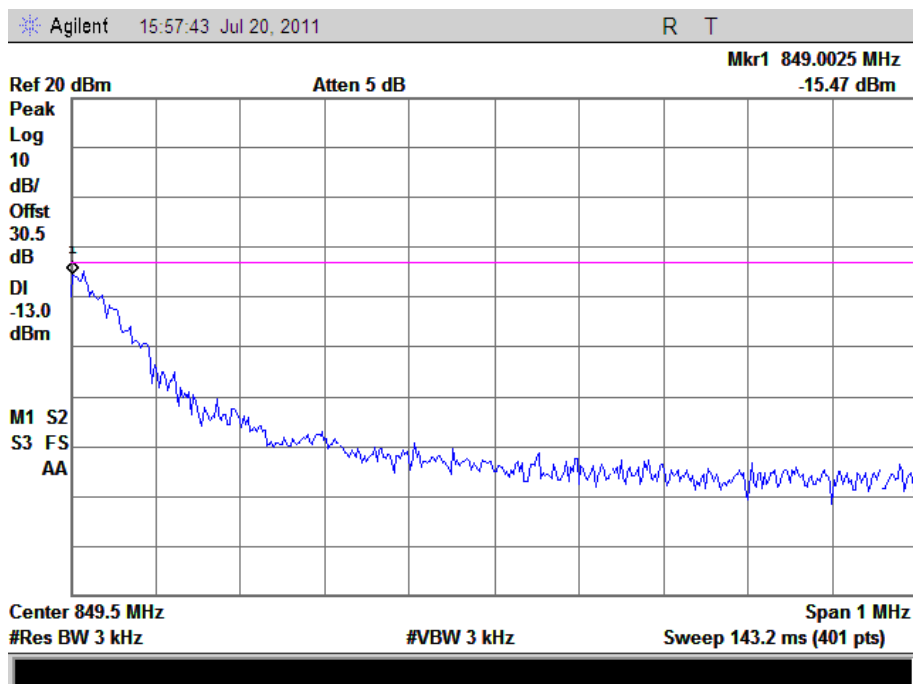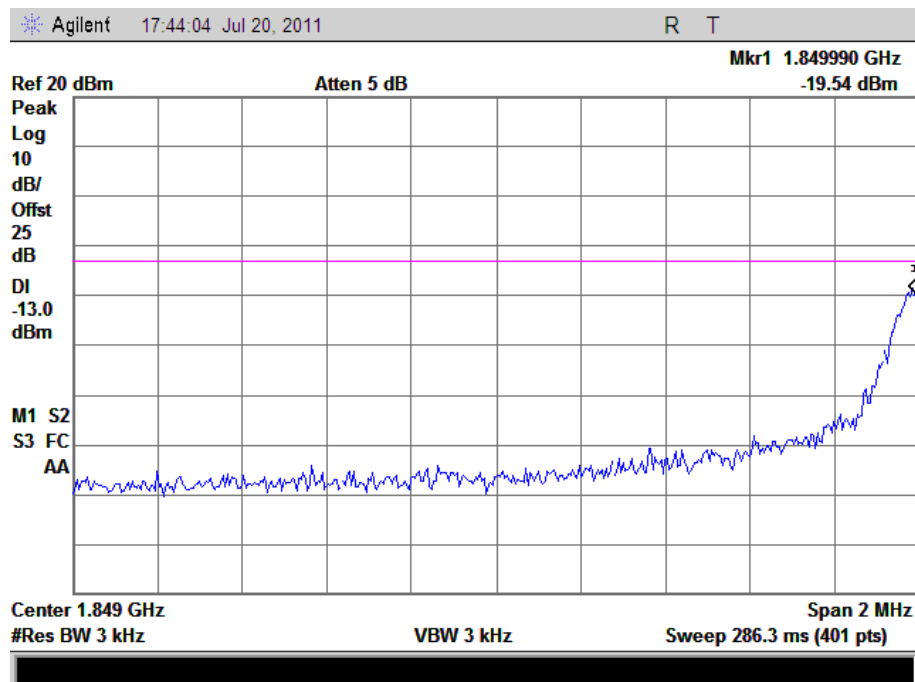

(Plot D: GSM 1900 Channel = 810)
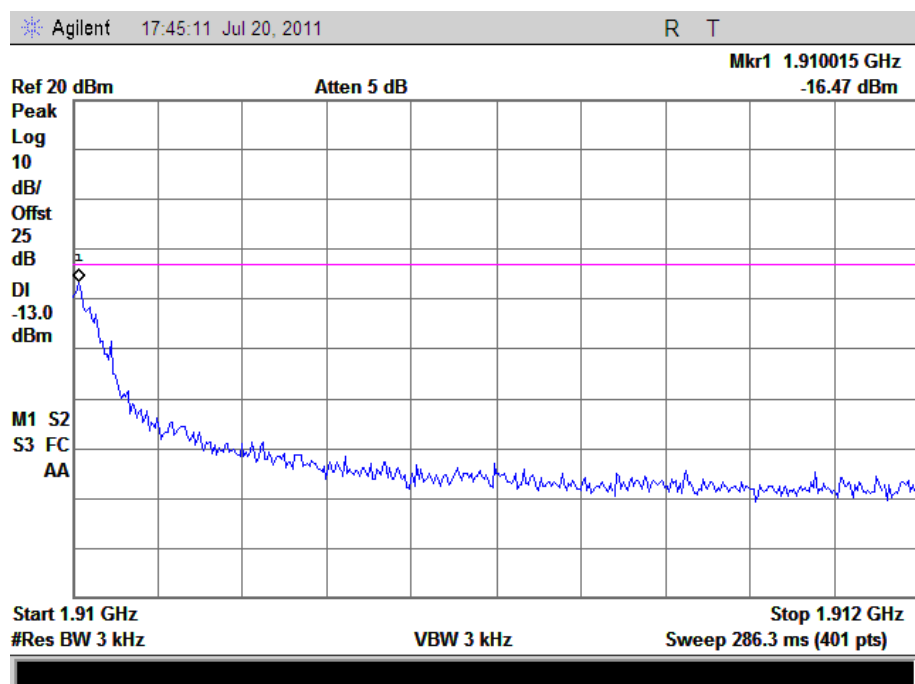
(Plot E: EDGE 850 Channel = 128)
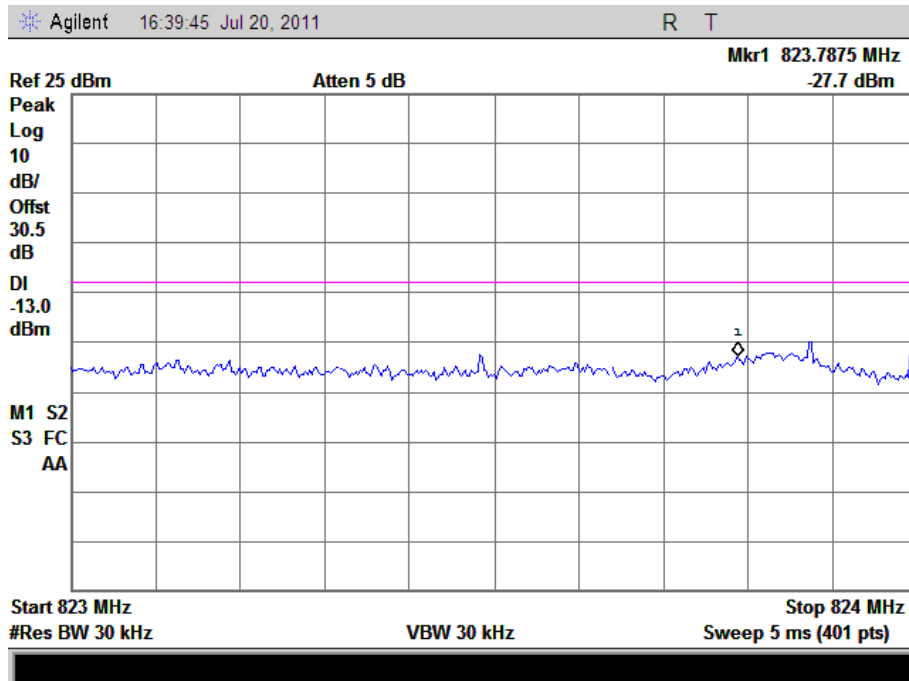

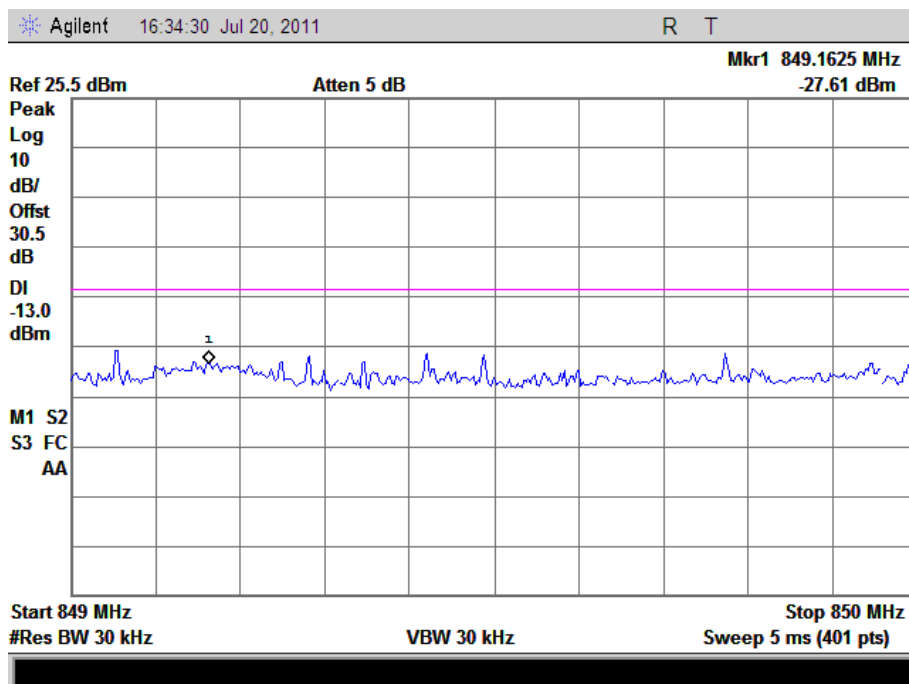(Plot F: EDGE 850 Channel = 251)

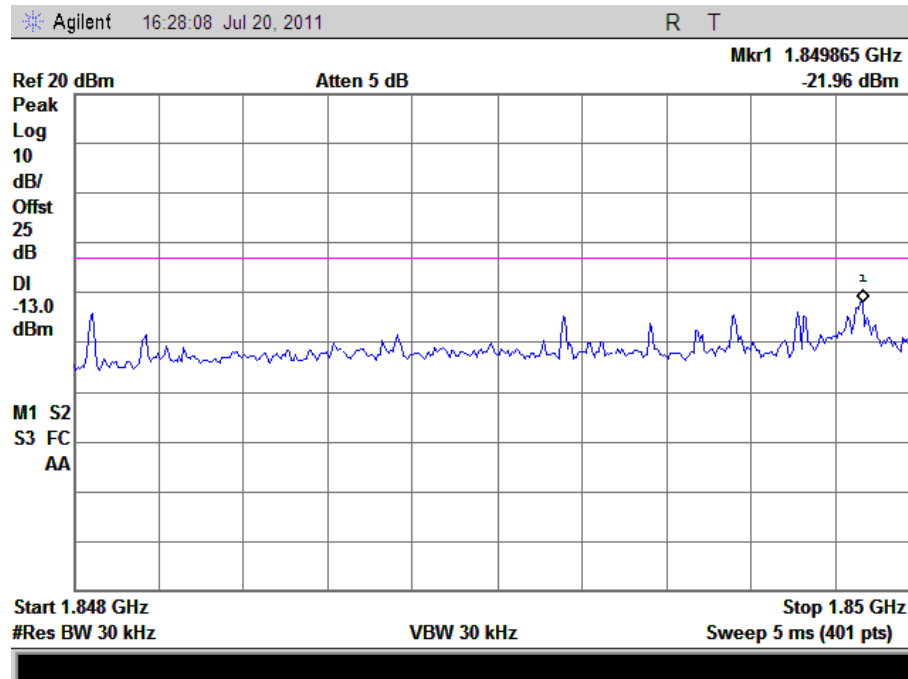(Plot G: EDGE 1900 Channel = 512)

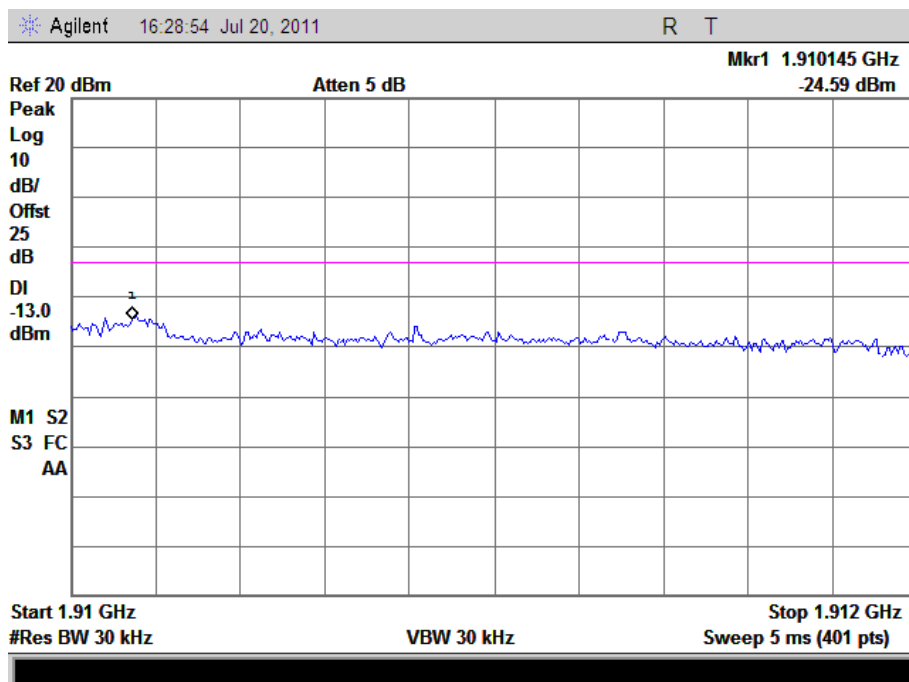(Plot H: EDGE 1900 Channel = 810)

(Plot I: WCDMA 850 Channel = 4357)

(Plot J: WCDMA 850 Channel = 4458)

(Plot K: WCDMA 1900 Channel = 9662)

(Plot L: WCDMA 1900 Channel = 9938)

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 2Watts e.i.r.p. peak power.

2.6.2 Test Description

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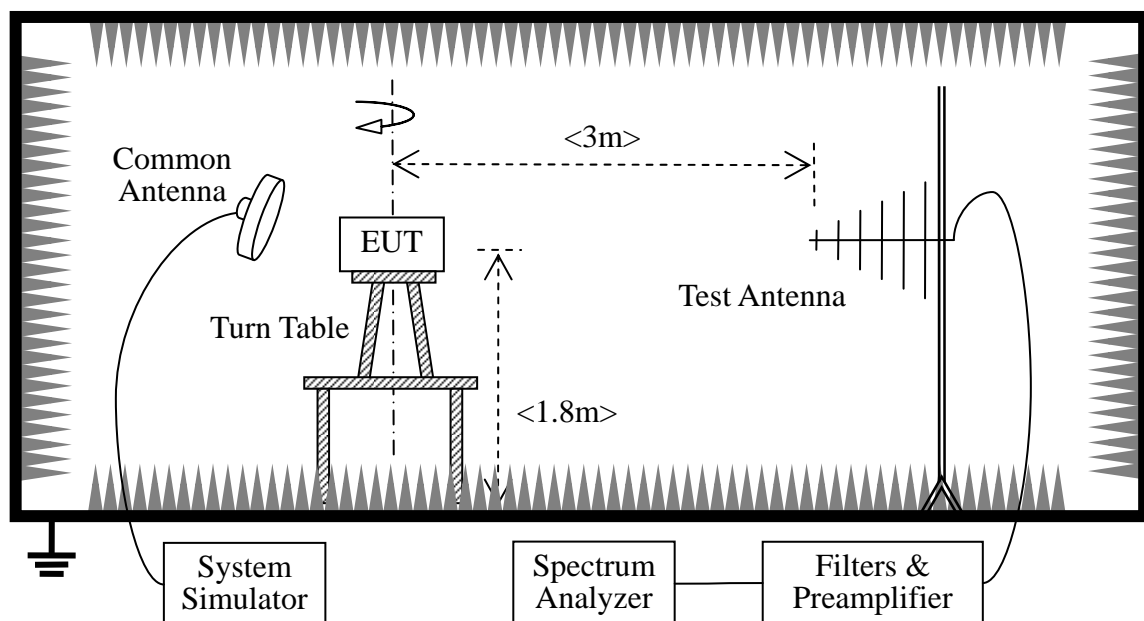
The EUT, which is powered by the Battery charged with the AC Adapter, is located in a 3m Full-Anechoic Chamber; the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.

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.

-Maximum RF output power: GSM850 33.21dBm, GSM 1900 29.13dBm, Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

- Minimum RF power: GSM850 4.0dBm, GSM 1900 0.2dBm

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	2010.09
Spectrum Analyzer	Agilent	E7405A	US44210471	2010.09
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2010.09
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2010.09
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2010.09

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:

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

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

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}.
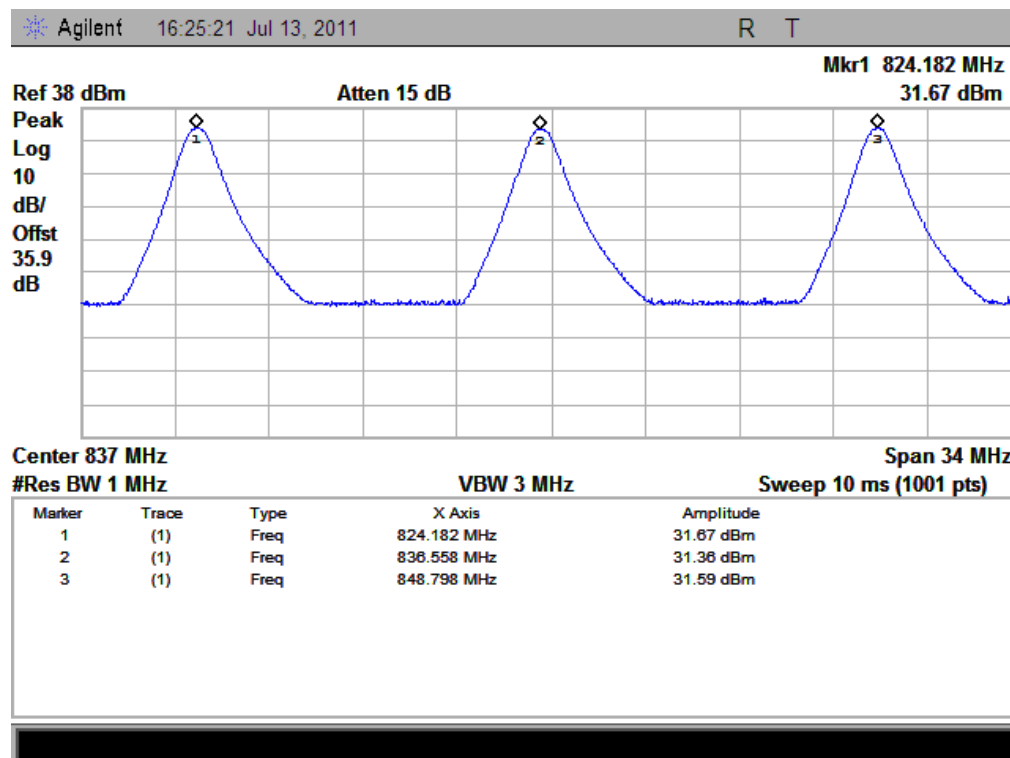
1. Test Verdict:

Band	Channel	Frequency (MHz)	PCL	Measured ERP/EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 850MHz	128	824.20	5	31.67	1.47	Plot A	38.45	7	PASS
	190	836.60	5	31.36	1.37				PASS
	251	848.80	5	31.59	1.44				PASS
GSM 1900MHz	512	1850.2	0	31.41	1.38	Plot B	33	2	PASS
	661	1880.0	0	32.27	1.69				PASS
	810	1909.8	0	31.56	1.43				PASS
GPRS 850MHz	128	824.20	5	30.19	1.04	Plot C 1down link 4up link	38.45	7	PASS
	190	836.60	5	29.74	0.94				PASS
	251	848.80	5	29.08	0.81				PASS
GPRS 1900MHz	512	1850.2	0	31.73	1.49	Plot D 1down link 4up link	33	2	PASS
	661	1880.0	0	32.01	1.59				PASS
	810	1909.8	0	30.62	1.15				PASS
GPRS 850MHz	128	824.20	5	28.56	0.72	Plot E 2down link 3up link	38.45	7	PASS
	190	836.60	5	27.87	0.61				PASS
	251	848.80	5	27.99	0.63				PASS
GPRS 1900MHz	512	1850.2	0	32.56	1.80	Plot F 2down link 3up link	33	2	PASS
	661	1880.0	0	32.24	1.67				PASS
	810	1909.8	0	31.23	1.33				PASS
GPRS 850MHz	128	824.20	5	28.92	0.78	Plot G 3down link 2up link	38.45	7	PASS
	190	836.60	5	28.29	0.67				PASS
	251	848.80	5	27.76	0.60				PASS
GPRS 1900MHz	512	1850.2	0	23.52	0.22	Plot H 3down link 2up link	33	2	PASS
	661	1880.0	0	23.66	0.23				PASS
	810	1909.8	0	21.09	0.13				PASS
GPRS 850MHz	128	824.20	5	28.99	0.79	Plot I 4down link 1up link	38.45	7	PASS
	190	836.60	5	28.49	0.71				PASS
	251	848.80	5	28.33	0.68				PASS
GPRS 1900MHz	512	1850.2	0	23.28	0.21	Plot J 4down link 1up link	33	2	PASS
	661	1880.0	0	23.06	0.20				PASS
	810	1909.8	0	19.98	0.10				PASS
EGPRS 850MHz	128	824.20	5	35.92	3.90	Plot K 1down link 4up link	38.45	7	PASS
	190	836.60	5	34.76	2.99				PASS
	251	848.80	5	35.04	3.19				PASS
EGPRS 1900MHz	512	1850.2	0	28.95	0.79	Plot L 1down link 4up link	33	2	PASS
	661	1880.0	0	29.94	0.99				PASS
	810	1909.8	0	28.33	0.68				PASS
EGPRS	128	824.20	5	35.67	3.69	Plot M	38.45	7	PASS

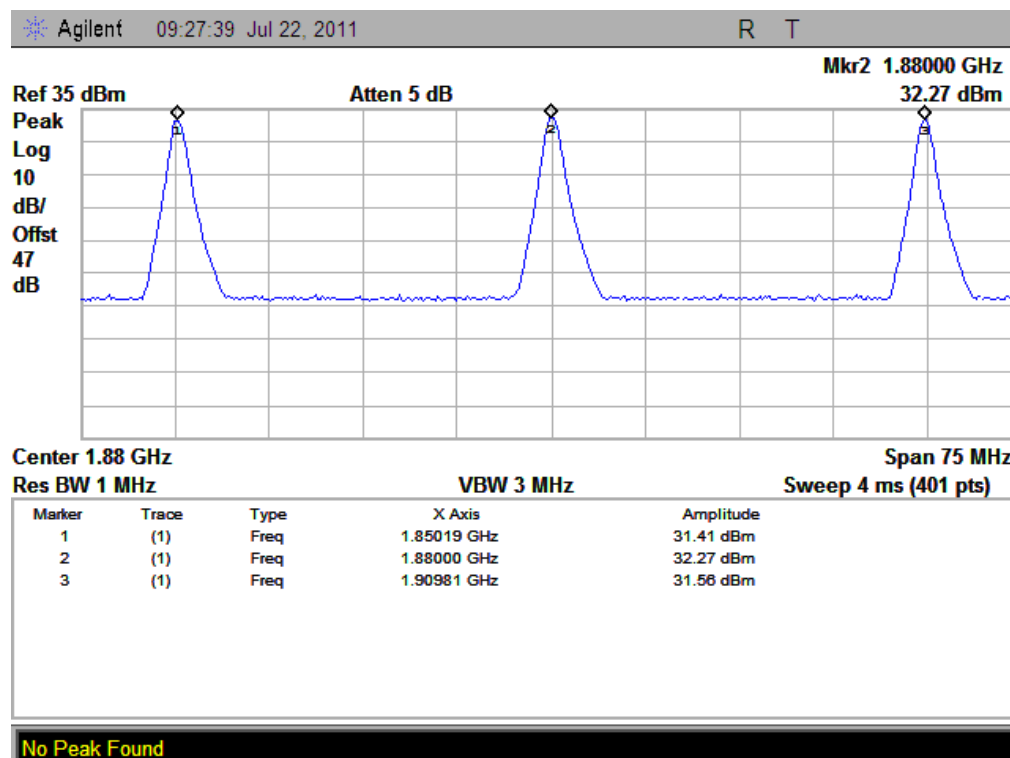| Band	Channel	Frequency (MHz)	PCL	Measured ERP/EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
850MHz	190	836.60	5	34.55	2.85	2down link			PASS
	251	848.80	5	34.92	3.10	3up link			PASS
EGPRS 1900MHz	512	1850.2	0	28.96	0.79	Plot N			PASS
	661	1880.0	0	29.62	0.92	2down link	33	2	PASS
	810	1909.8	0	28.23	0.67	3up link			PASS
EGPRS 850MHz	128	824.20	5	35.4	3.47	Plot O			PASS
	190	836.60	5	34.48	2.80	3down link	38.45	7	PASS
	251	848.80	5	34.87	3.07	2up link			PASS
EGPRS 1900MHz	512	1850.2	0	28.94	0.78	Plot P			PASS
	661	1880.0	0	29.59	0.91	3down link	33	2	PASS
	810	1909.8	0	28.23	0.67	2up link			PASS
EGPRS 850MHz	128	824.20	5	34.66	2.92	Plot Q			PASS
	190	836.60	5	33.46	2.22	4down link	38.45	7	PASS
	251	848.80	5	33.87	2.44	1up link			PASS
EGPRS 1900MHz	512	1850.2	0	27.94	0.62	Plot R			PASS
	661	1880.0	0	28.52	0.71	4down link	33	2	PASS
	810	1909.8	0	26.87	0.49	1up link			PASS

Band	Channel	Frequency (MHz)	Measured ERP		Limit		Verdict
			dBm	W	dBm	W	
WCDMA 850MHz	4132	826.4	28.68	0.74			PASS
	4175	835	27.85	0.61	38.5	7	PASS
	4233	846.6	28.88	0.77			PASS
WCDMA 1900MHz	9262	1852.4	25.7	0.37			PASS
	9400	1880	24.73	0.30	33	2	PASS
	9538	1907.6	23.5	0.22			PASS

Note: For the WCDMA and HSDPA test band, the measured output power was calculated by the reading of the Power Meter and calibration
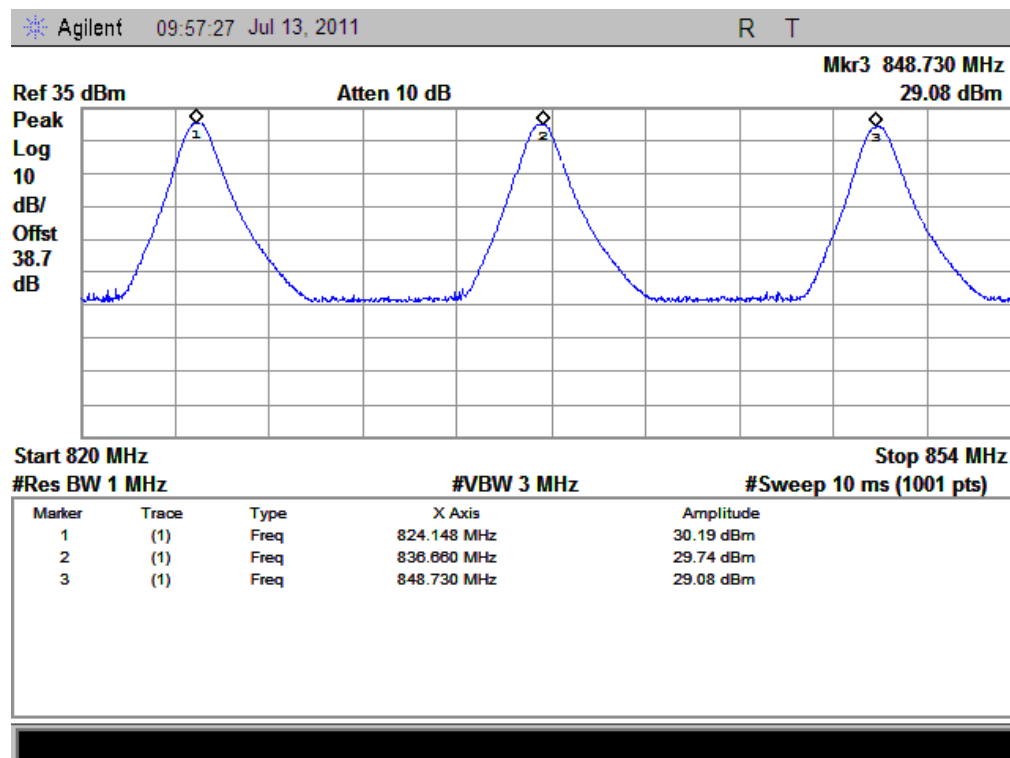
2. Test Plots:

Agilent   16:25:21 Jul 13, 2011   R   T

Mkr1 824.182 MHz
Ref 38 dBm   Atten 15 dB   31.67 dBm

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	824.182 MHz	31.67 dBm
2	(1)	Freq	836.558 MHz	31.36 dBm
3	(1)	Freq	848.798 MHz	31.59 dBm

Center 837 MHz   Span 34 MHz
#Res BW 1 MHz   VBW 3 MHz   Sweep 10 ms (1001 pts)

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

Agilent   09:27:39 Jul 22, 2011   R   T

Mkr2 1.88000 GHz
Ref 35 dBm   Atten 5 dB   32.27 dBm

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.85019 GHz	31.41 dBm
2	(1)	Freq	1.88000 GHz	32.27 dBm
3	(1)	Freq	1.90981 GHz	31.56 dBm

Center 1.88 GHz   Span 75 MHz
Res BW 1 MHz   VBW 3 MHz   Sweep 4 ms (401 pts)
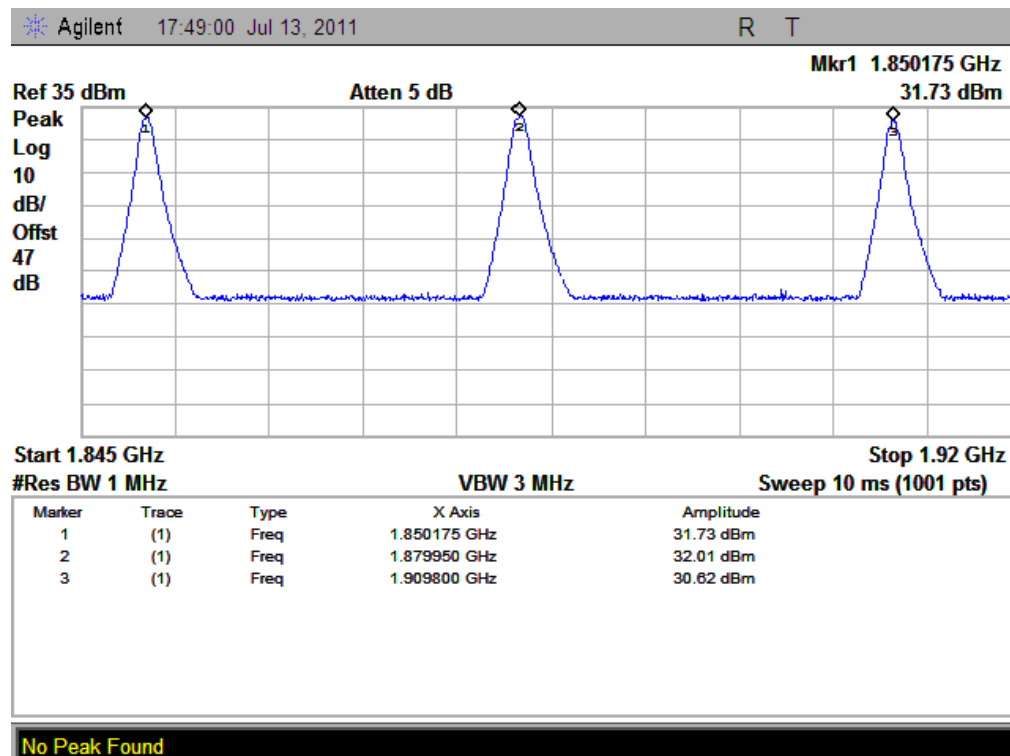
No Peak Found

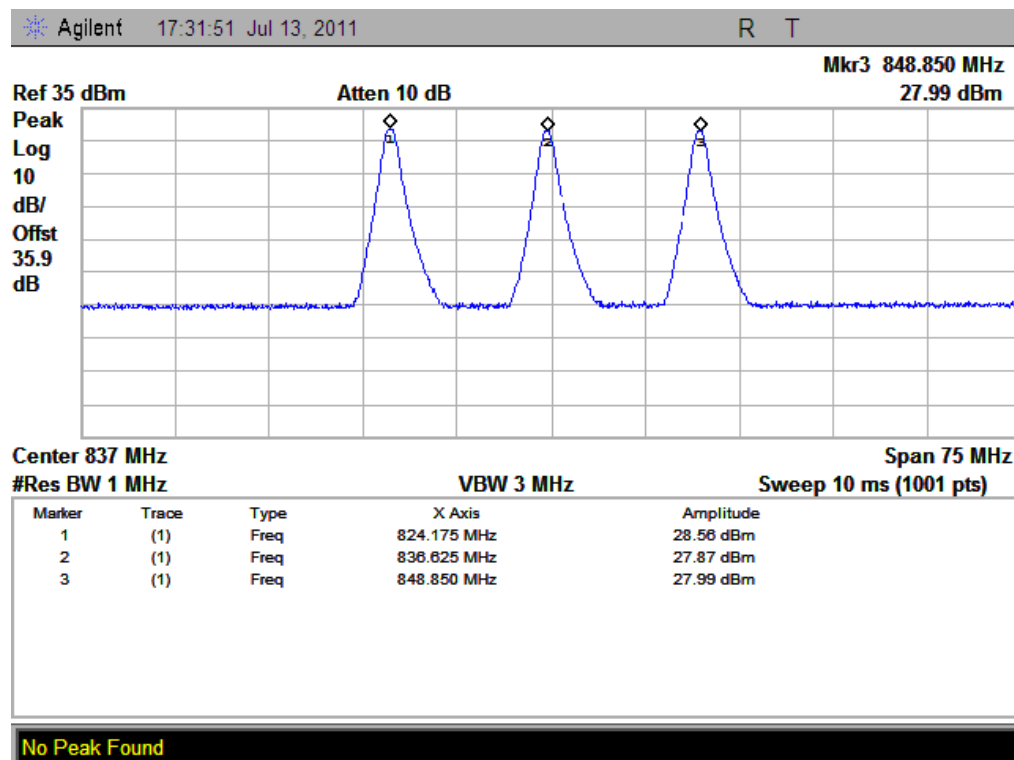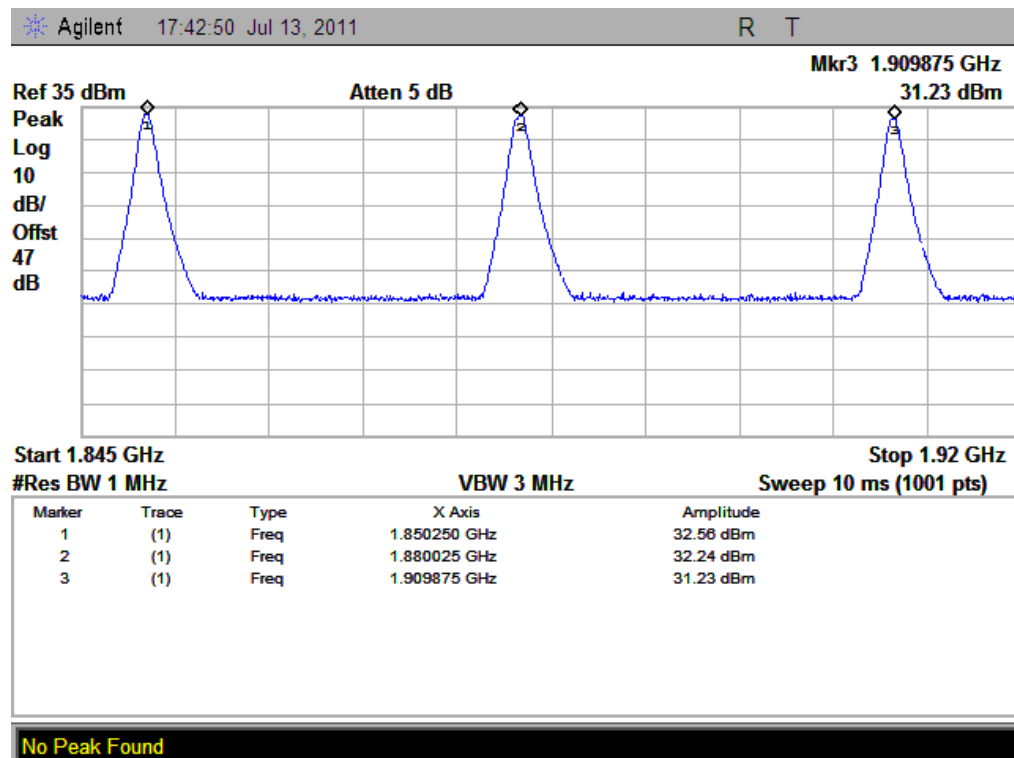(Plot B: GSM 1900MHz Channel = 512, 661, 810)
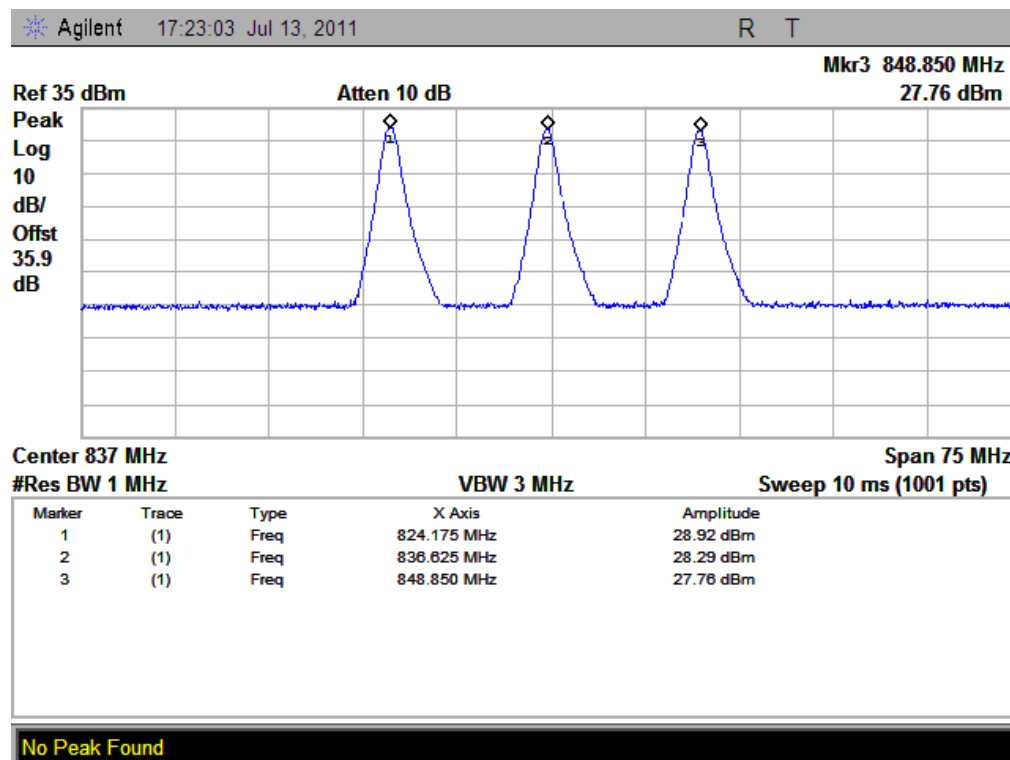
(Plot C: GPRS 850MHz Channel = 128, 190, 251)

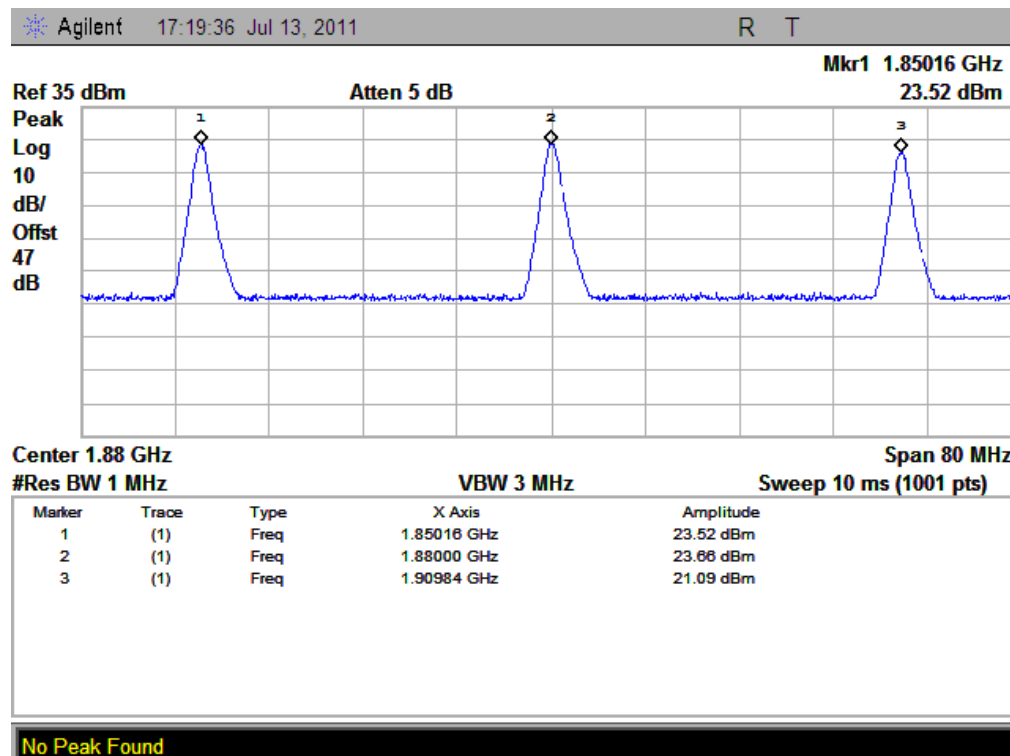(Plot D: GPRS 1900MHz Channel = 512, 661, 810)

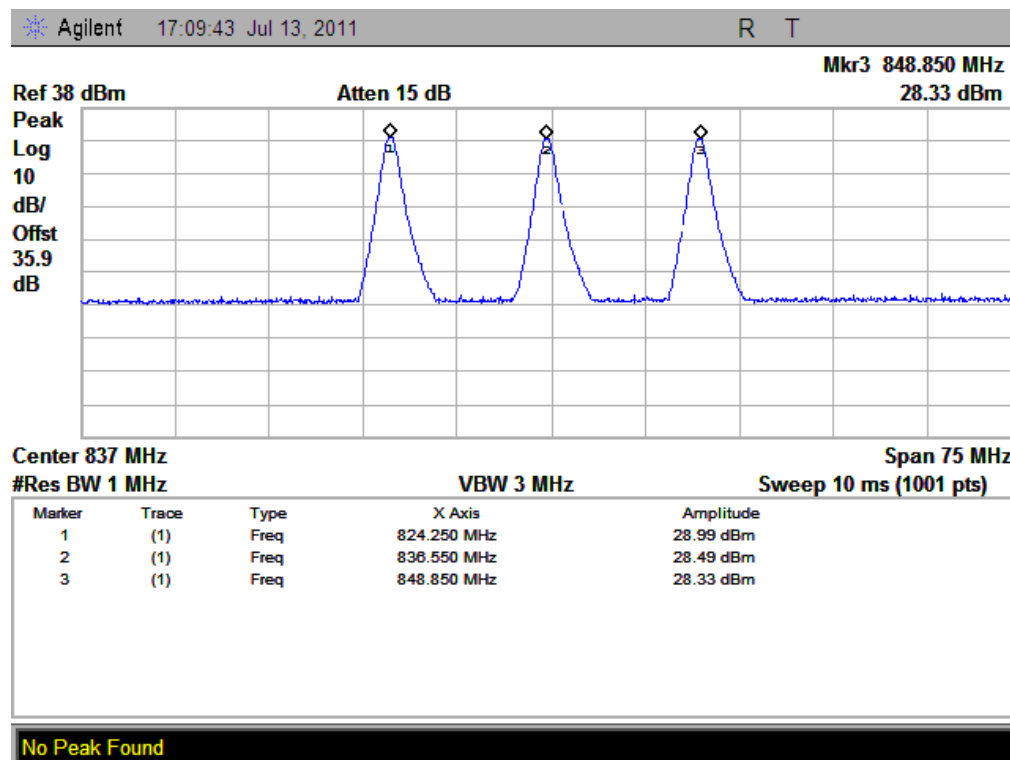(Plot E: GPRS 850MHz Channel = 128, 190, 251)

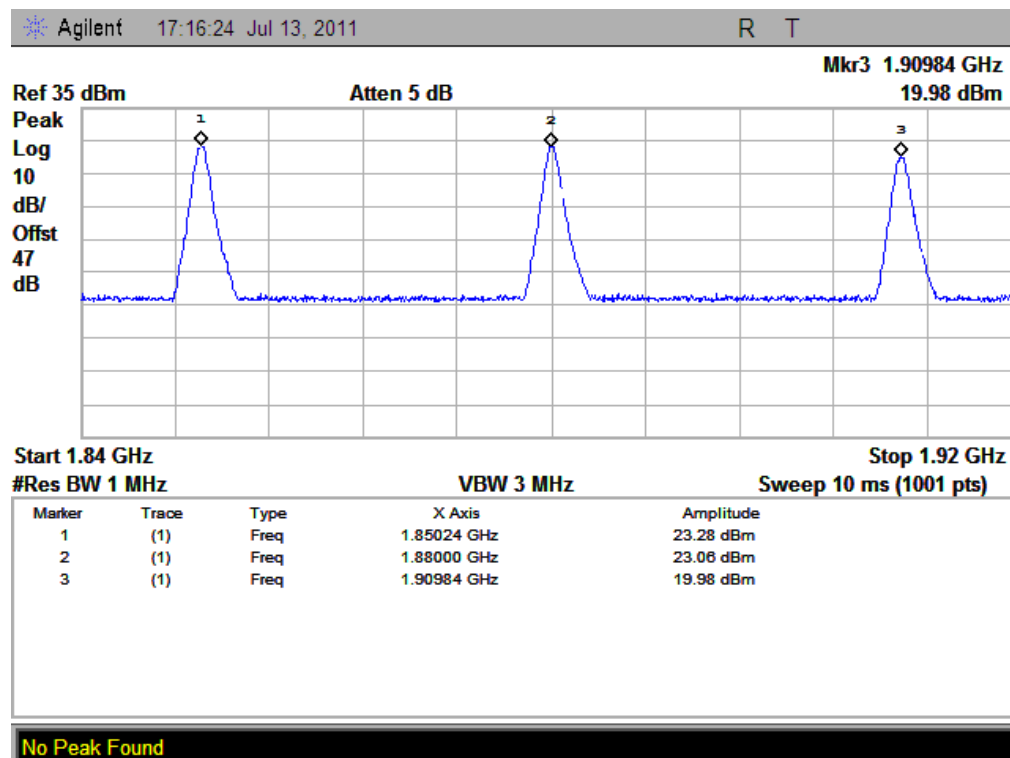(Plot F: GPRS 1900MHz Channel = 512, 661, 810)

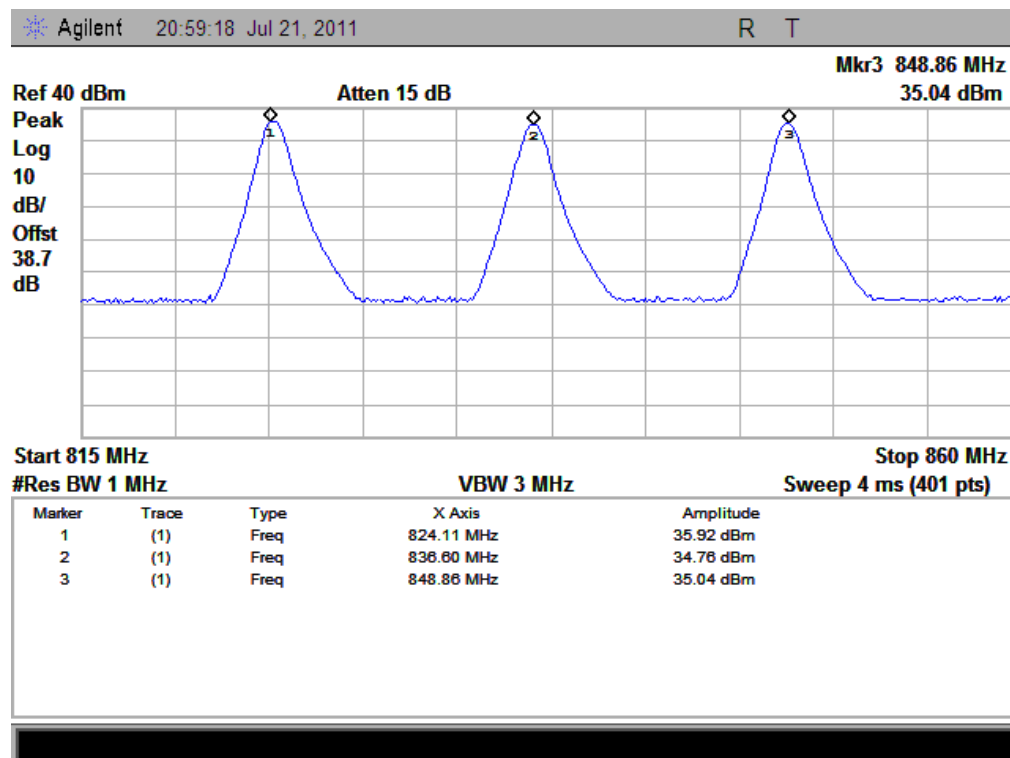(Plot G: GPRS 850MHz Channel = 128, 190, 251)

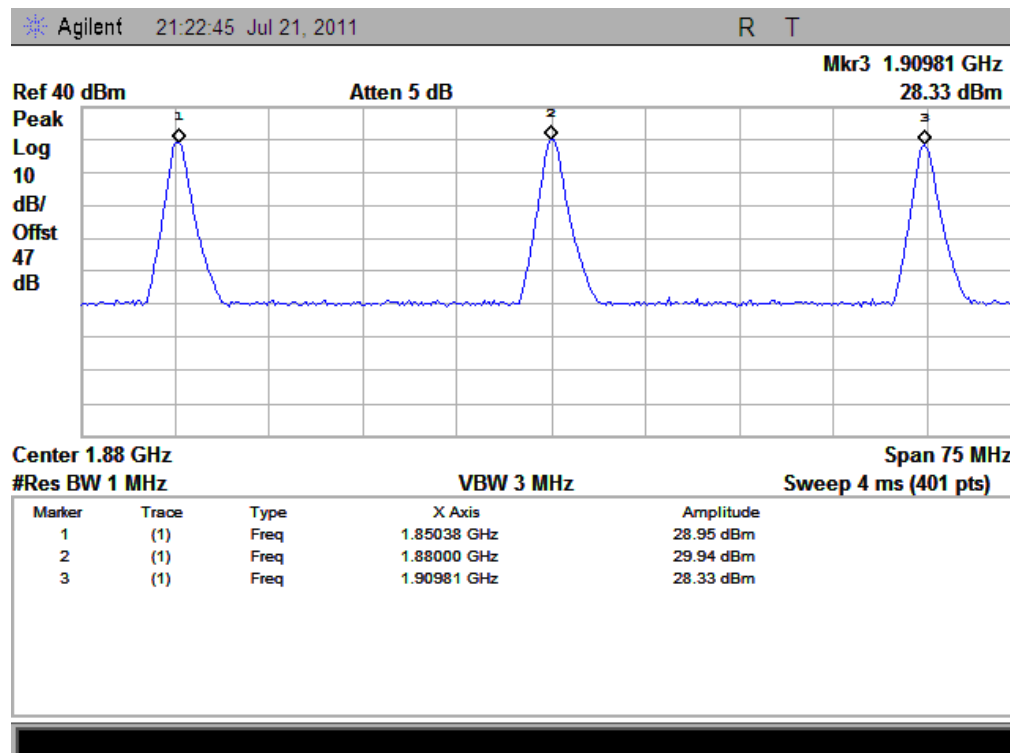(Plot H: GPRS 1900MHz Channel = 512, 661, 810)

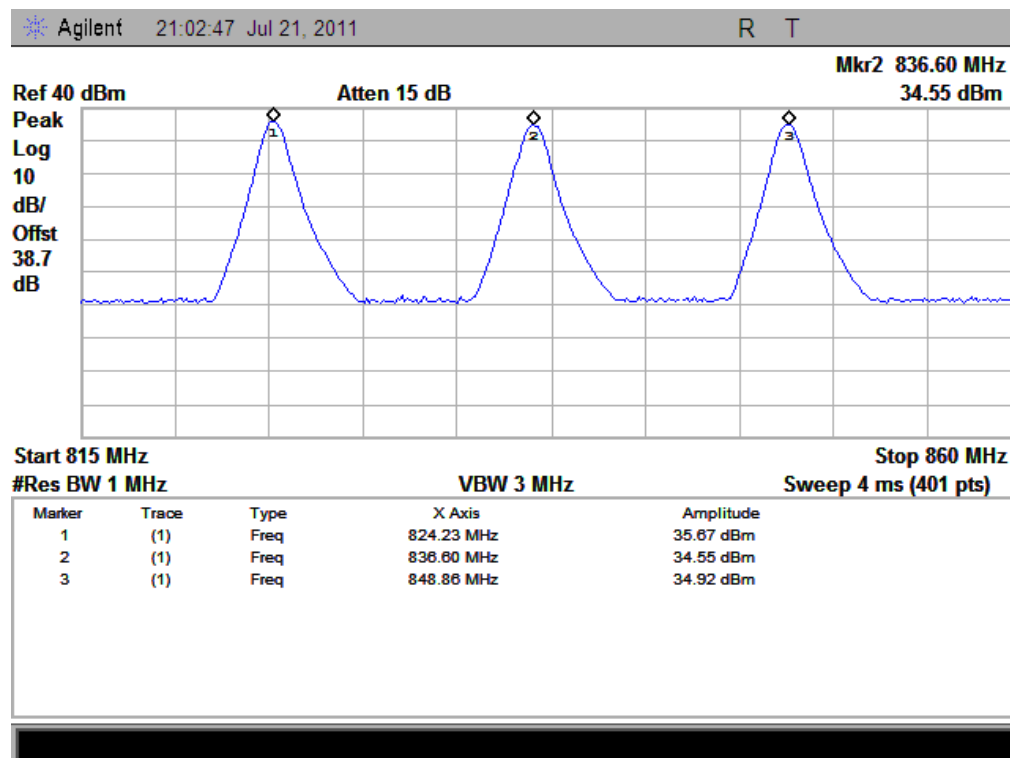(Plot I: GPRS 850MHz Channel = 128, 190, 251)

(Plot J: GPRS 1900MHz Channel = 512, 661, 810)
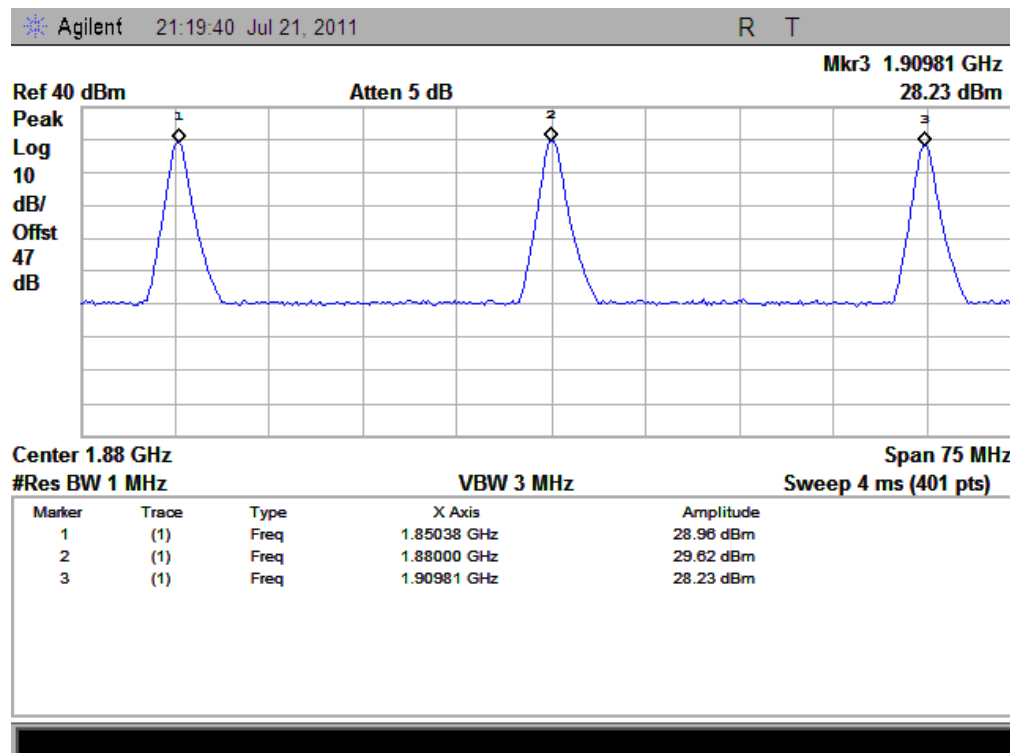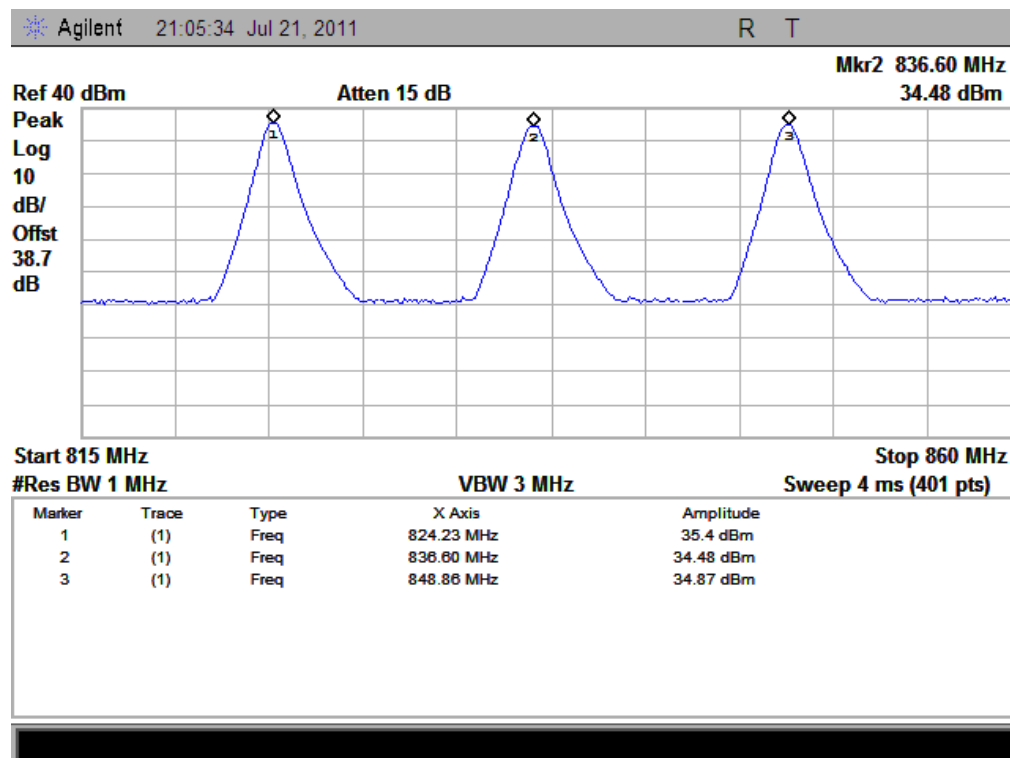
(Plot K: EDGE 850MHz Channel = 128, 190, 251)

(Plot L: EDGE 1900MHz Channel = 512, 661, 810)
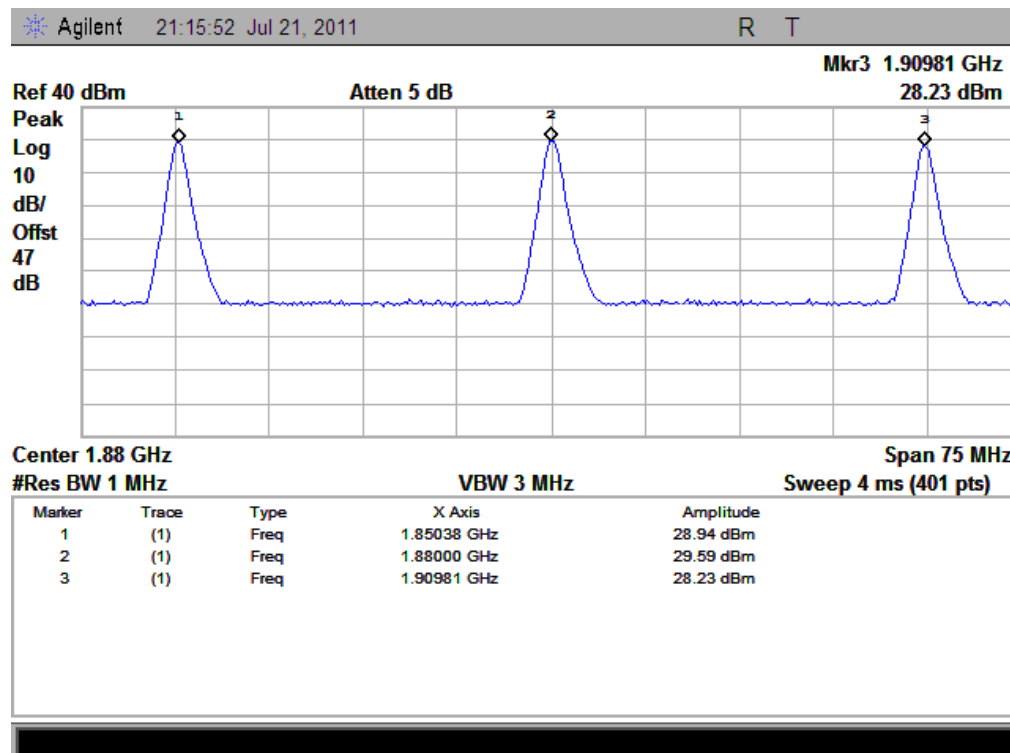
❄ Agilent   21:02:47 Jul 21, 2011   R   T

                                                    Mkr2 836.60 MHz
Ref 40 dBm   Atten 15 dB   34.55 dBm
Peak
Log
10
dB/
Offst
38.7
dB

Start 815 MHz   Stop 860 MHz
#Res BW 1 MHz   VBW 3 MHz   Sweep 4 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	824.23 MHz	35.67 dBm
2	(1)	Freq	836.60 MHz	34.55 dBm
3	(1)	Freq	848.86 MHz	34.92 dBm

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

❄ Agilent   21:19:40 Jul 21, 2011   R   T

                                                    Mkr3 1.90981 GHz
Ref 40 dBm   Atten 5 dB   28.23 dBm
Peak
Log
10
dB/
Offst
47
dB

Center 1.88 GHz   Span 75 MHz
#Res BW 1 MHz   VBW 3 MHz   Sweep 4 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.85038 GHz	28.96 dBm
2	(1)	Freq	1.88000 GHz	29.62 dBm
3	(1)	Freq	1.90981 GHz	28.23 dBm

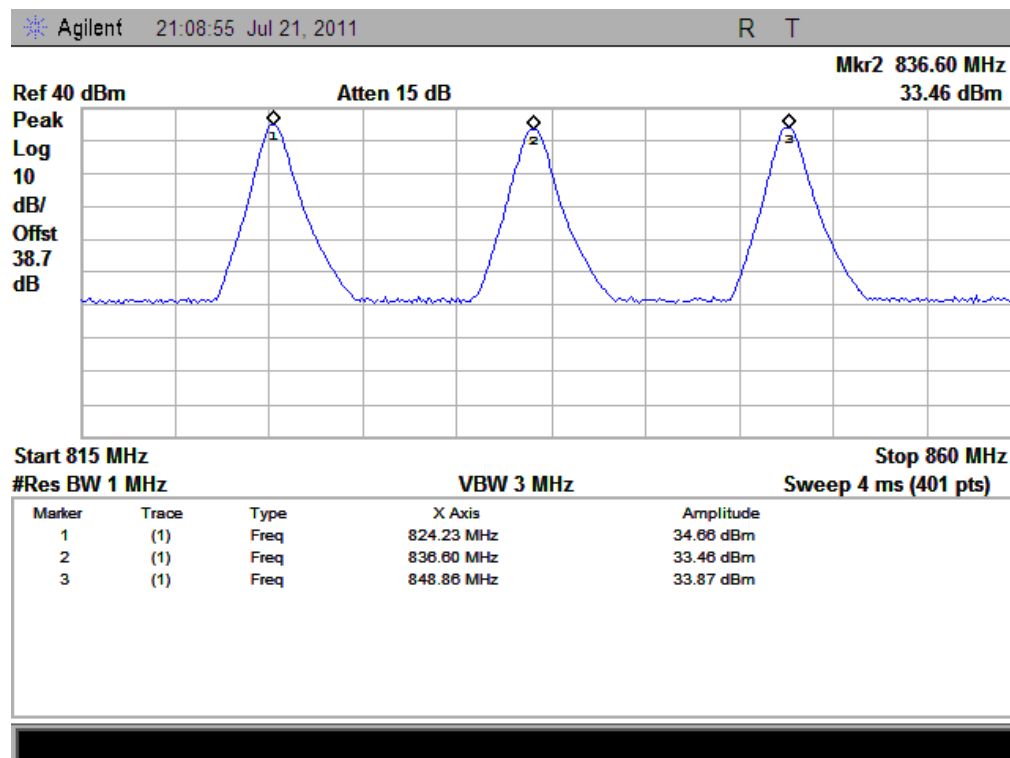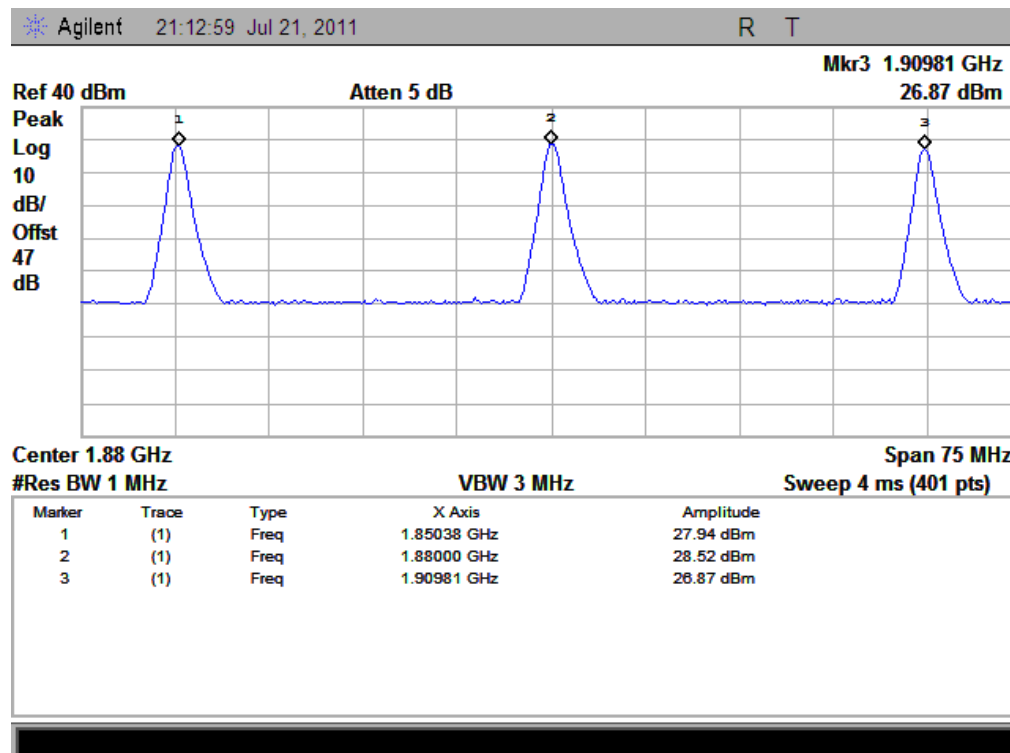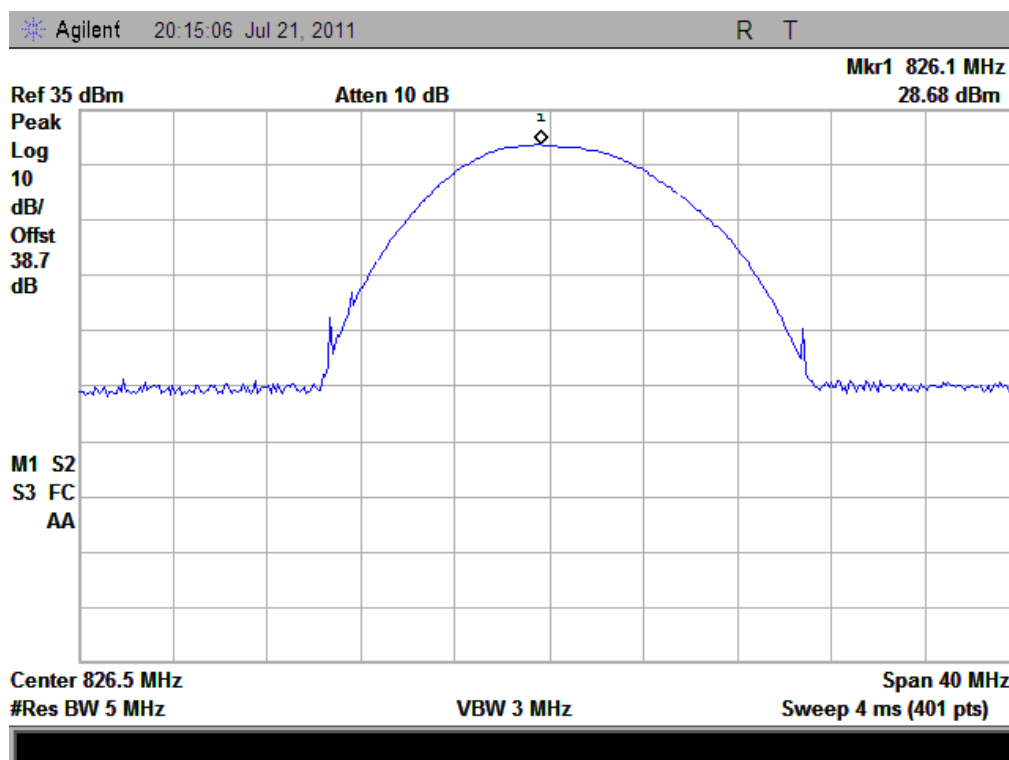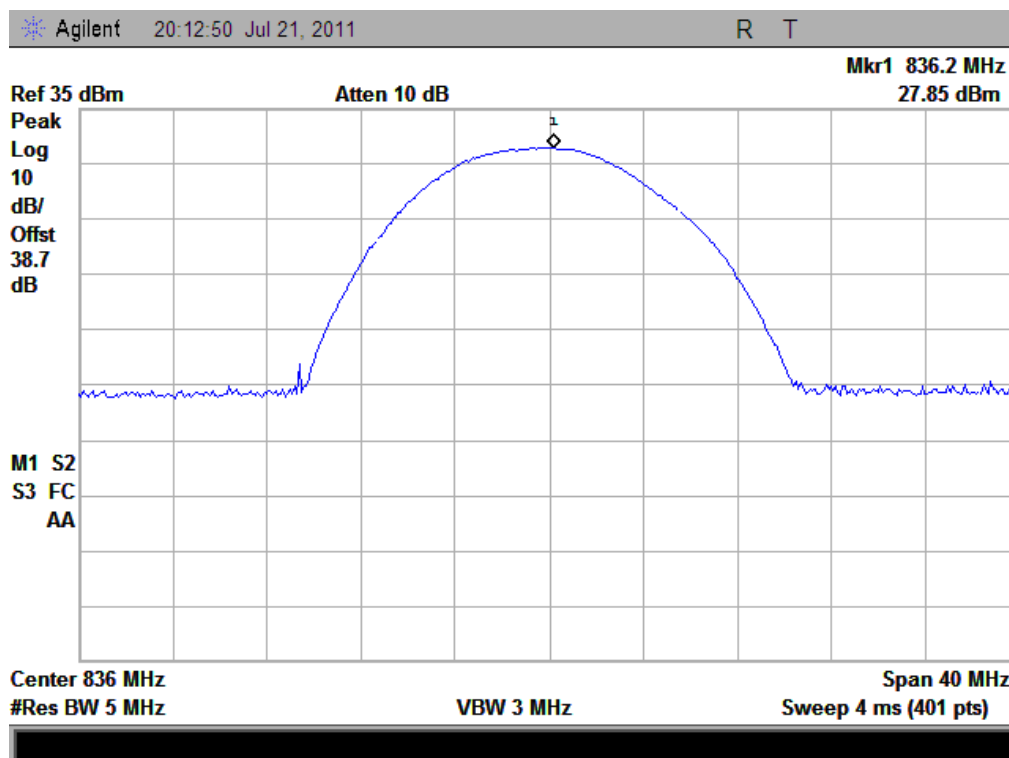(Plot N: EDGE 1900MHz Channel = 512, 661, 810)

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

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

Agilent   21:08:55 Jul 21, 2011   R T

Mkr2 836.60 MHz
Ref 40 dBm   Atten 15 dB   33.46 dBm
Peak
Log
10
dB/
Offst
38.7
dB

Start 815 MHz   Stop 860 MHz
#Res BW 1 MHz   VBW 3 MHz   Sweep 4 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	824.23 MHz	34.66 dBm
2	(1)	Freq	836.60 MHz	33.46 dBm
3	(1)	Freq	848.86 MHz	33.87 dBm

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

Agilent   21:12:59 Jul 21, 2011   R T

Mkr3 1.90981 GHz
Ref 40 dBm   Atten 5 dB   26.87 dBm
Peak
Log
10
dB/
Offst
47
dB

Center 1.88 GHz   Span 75 MHz
#Res BW 1 MHz   VBW 3 MHz   Sweep 4 ms (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	1.85038 GHz	27.94 dBm
2	(1)	Freq	1.88000 GHz	28.52 dBm
3	(1)	Freq	1.90981 GHz	26.87 dBm

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

(WCDMA 850MHz Channel = 4132)

(WCDMA 850MHz Channel = 4175)
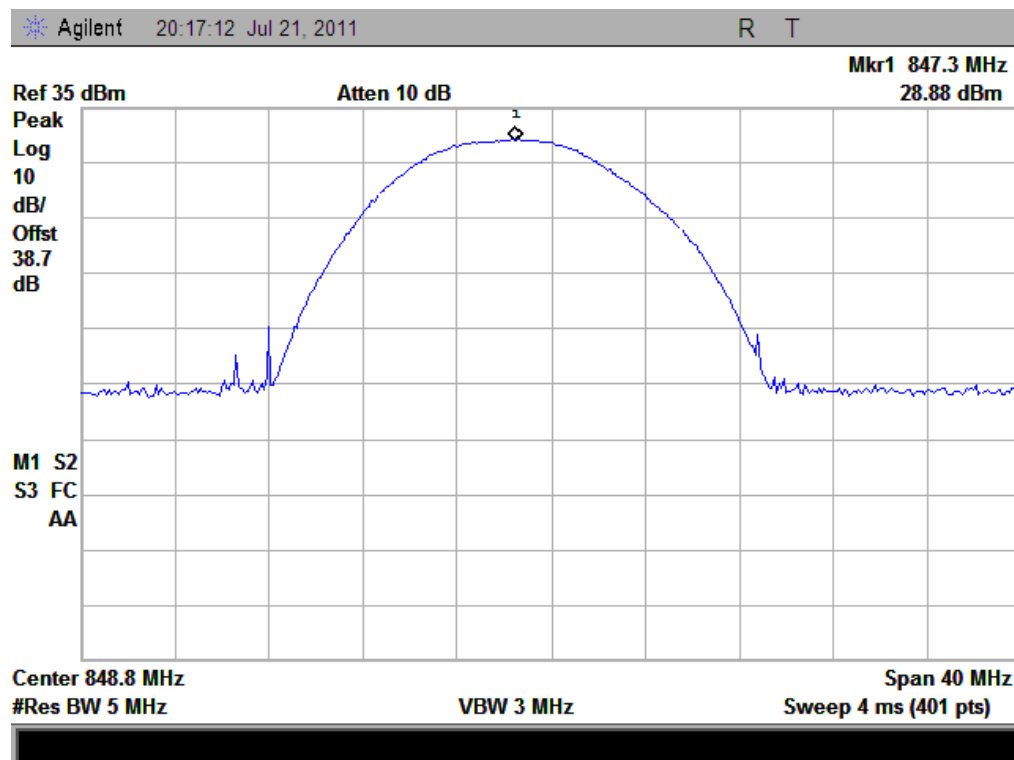
(WCDMA 850MHz Channel = 4458)
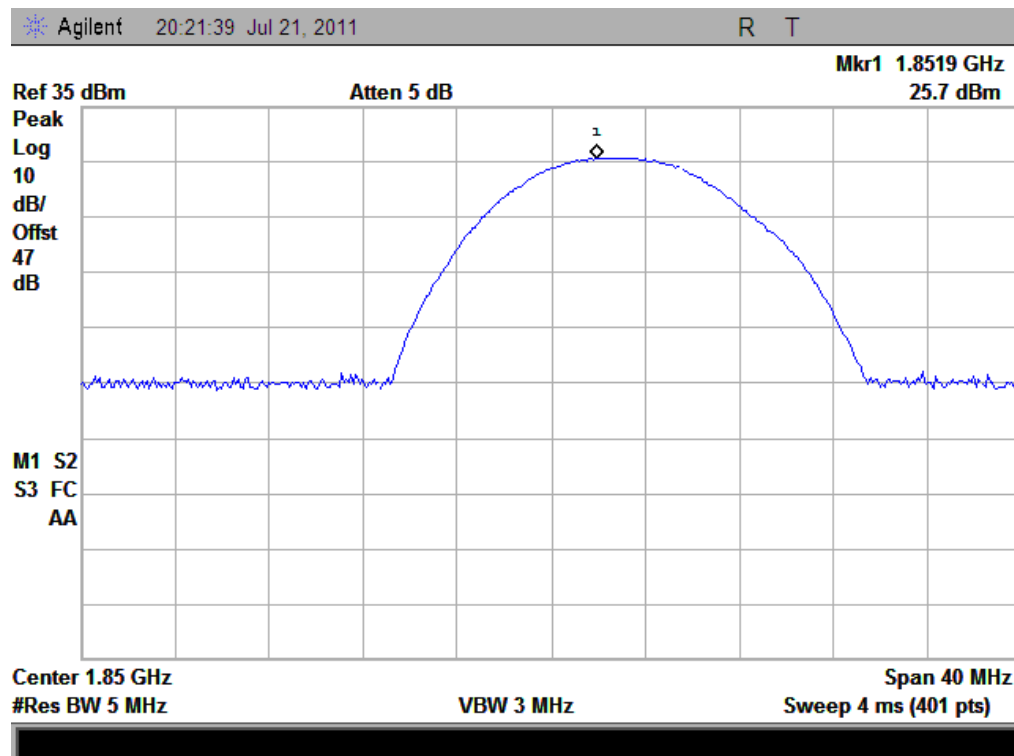
(WCDMA 1900MHz Channel = 9262)
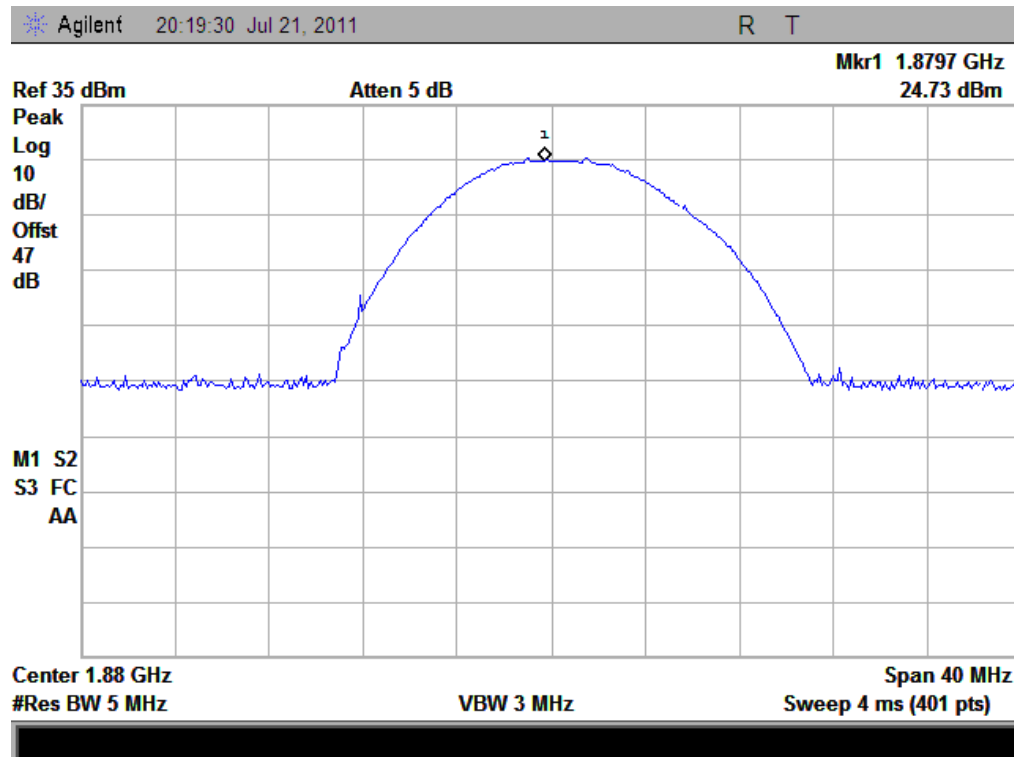
(WCDMA 1900MHz Channel = 9400)
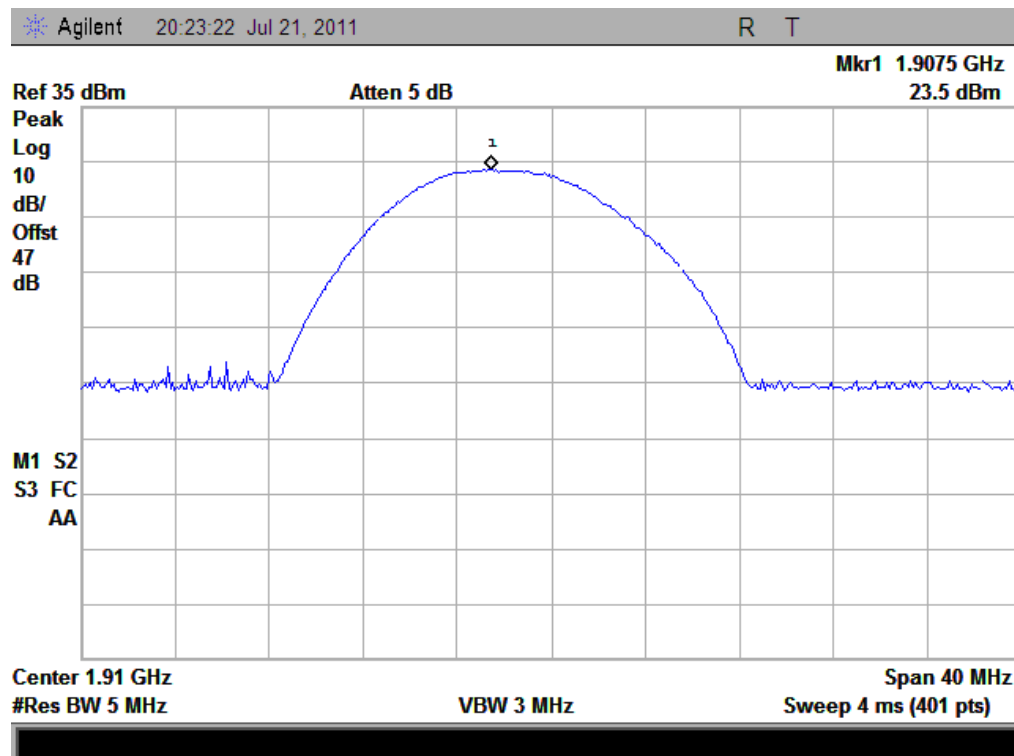
(WCDMA 1900MHz Channel = 9538)

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			
GSM 850MHz	128	824.2	-35.39	-48.76	Plot A.1/A.2	-13	PASS
	190	836.6	-35.02	-49.12	Plot A.3/A.4		PASS
	251	848.8	-34.71	-46.19	Plot A.5/A.6		PASS
GSM 1900MHz	512	1850.2	-24.98	< -25	Plot B.1/B.2	-13	PASS
	661	1880.0	-26.02	-25.52	Plot B.3/B.4		PASS
	810	1909.8	-25.68	-25.92	Plot B.5/B.6		PASS
EDGE 850MHz	128	824.2	-36.41	-38.79	Plot C.1/C.2	-13	PASS
	190	836.6	-36.24	-36.09	Plot C.3/C.4		PASS
	251	848.8	-36.41	-35.97	Plot C.5/C.6		PASS
EDGE 1900MHz	512	1850.2	-26.17	-25.23	Plot D.1/D.2	-13	PASS
	661	1880.0	-27.09	-26.17	Plot D.3/D.4		PASS
	810	1909.8	-26.24	-36.30	Plot D.5/D.6		PASS
WCDMA	4357	826.4	-24.19	-56.65	Plot E.1/E.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	4400	835	-52.05	-51.15	Plot E.3/E.4		PASS
	4458	846.6	-47.70	-36.96	Plot E.5/E.6		PASS

2. Test Plots for the Whole Measurement Frequency Range:

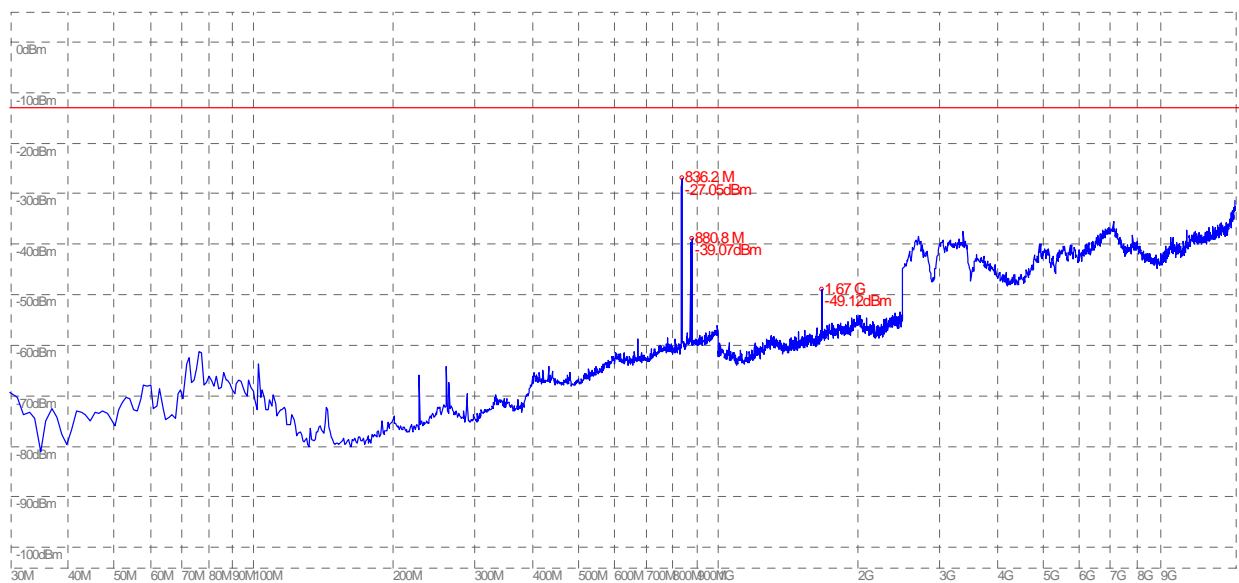Note: the power of the EUT transmitting frequency should be ignored.
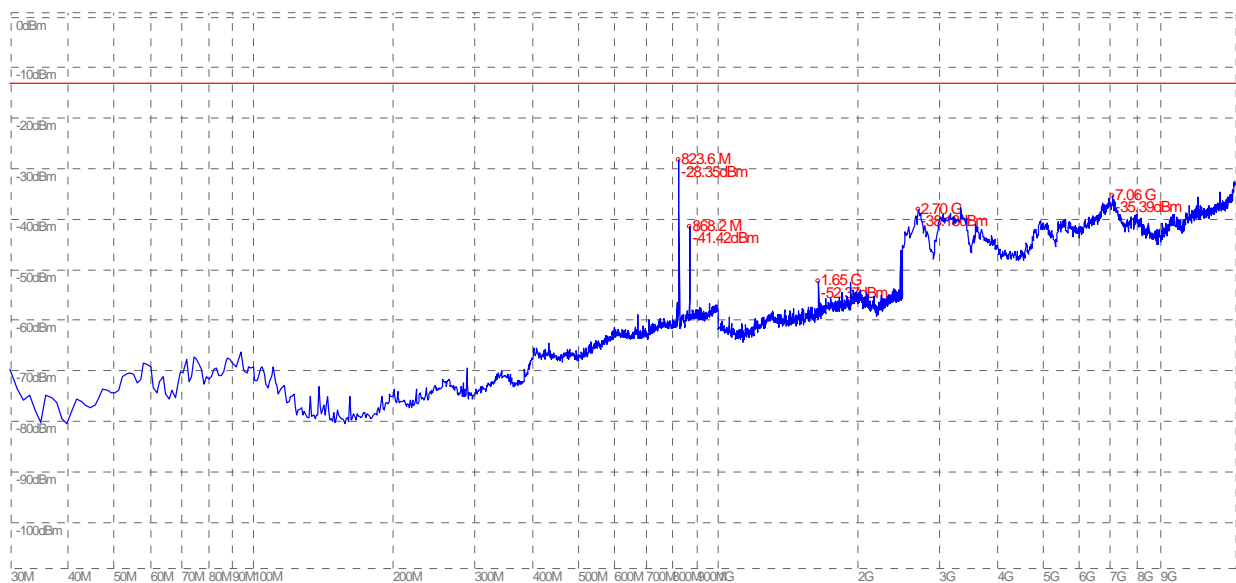
(Plot A.1:   GSM 850MHz Channel = 128, Test Antenna Horizontal)
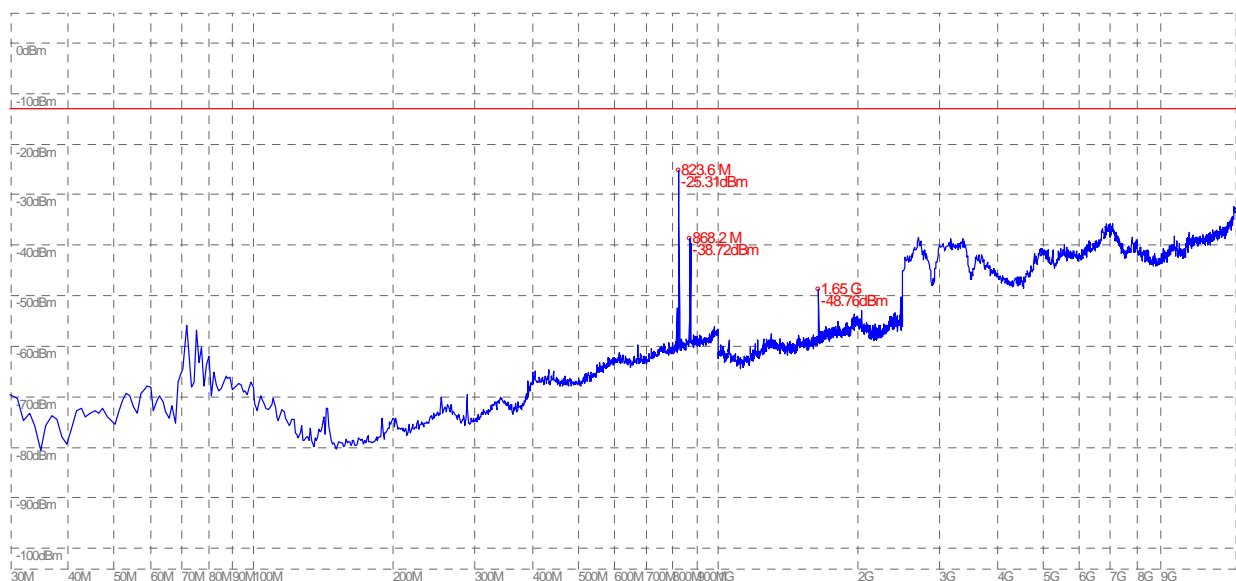
(Plot A.2:   GSM 850MHz Channel = 128, Test Antenna Vertical)
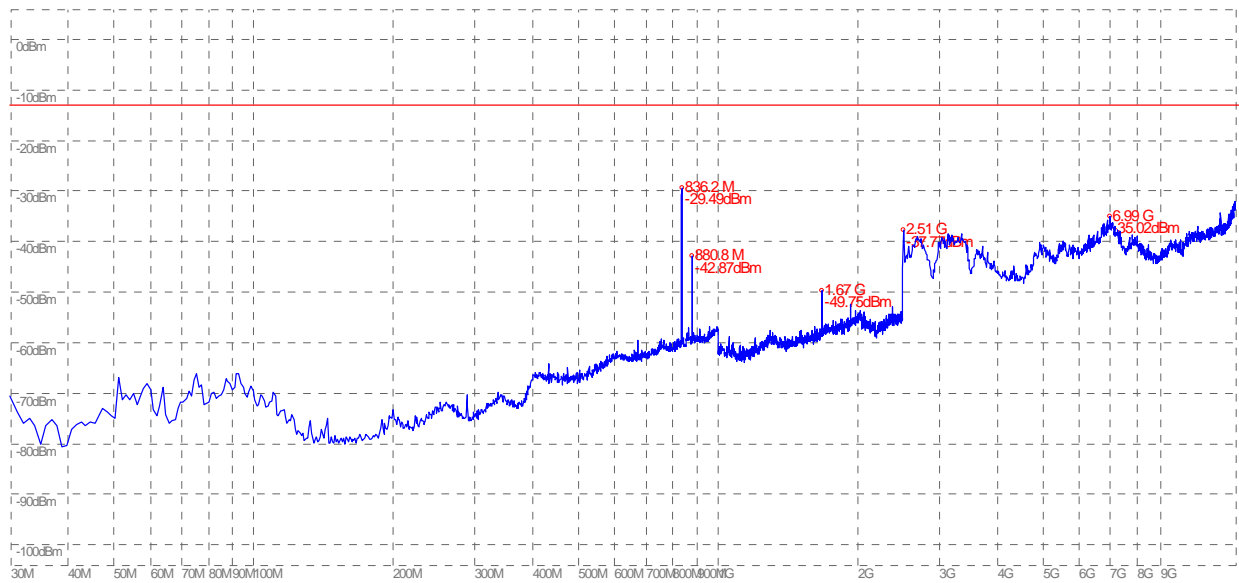
(Plot A.3:   GSM 850MHz Channel = 190, Test Antenna Horizontal)

(Plot A.4:   GSM 850MHz Channel = 190, Test Antenna Vertical)
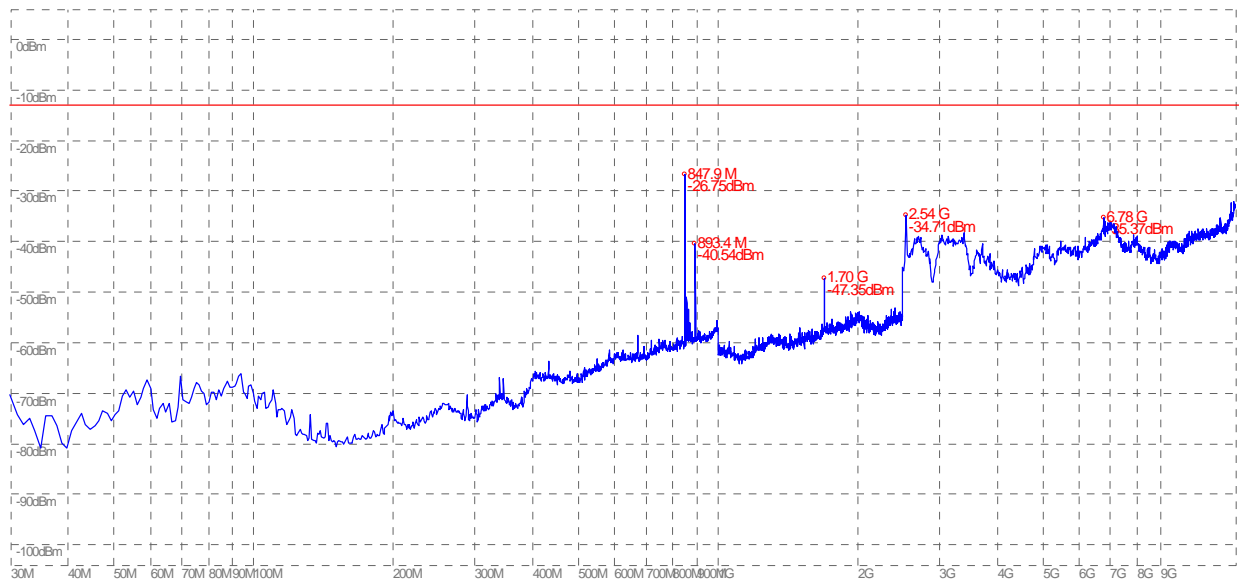
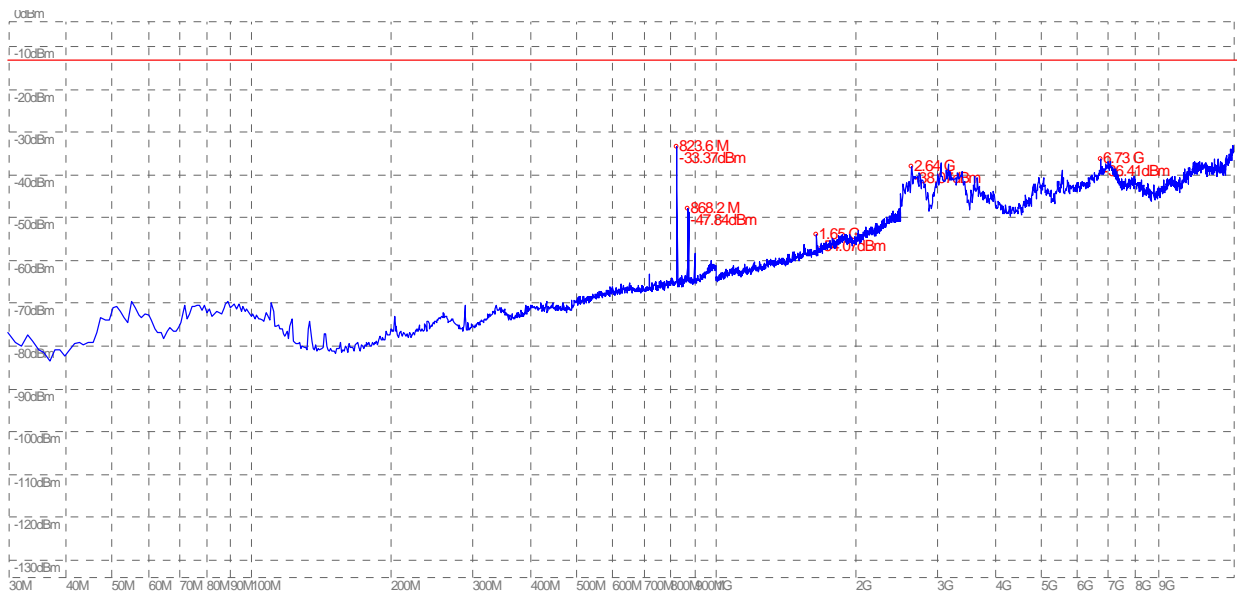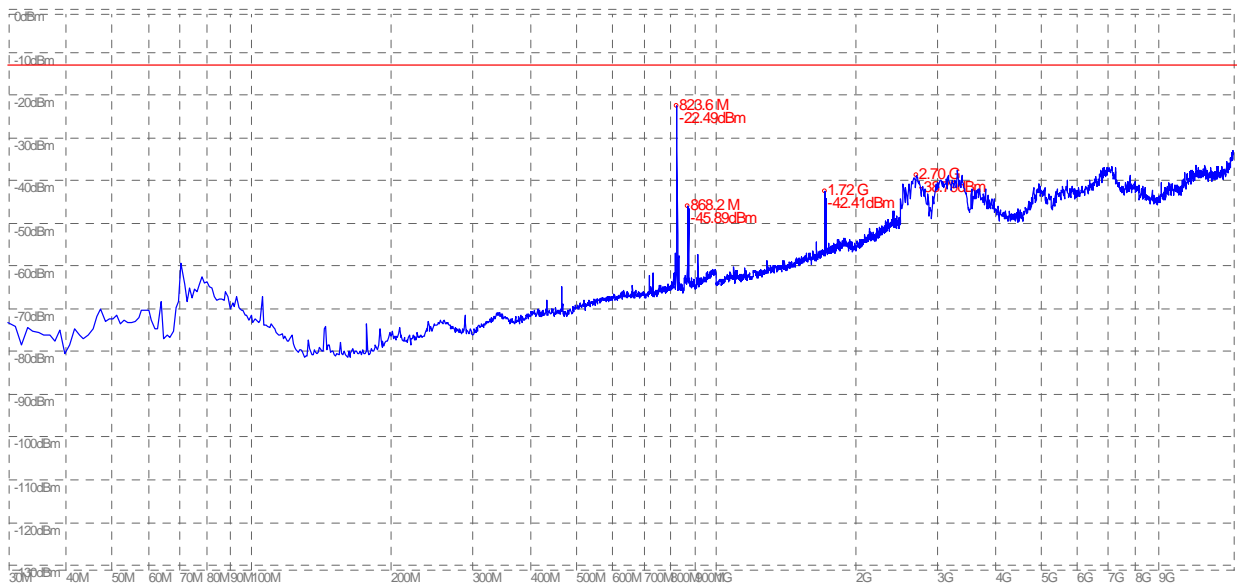(Plot A.5:   GSM 850MHz Channel = 251, Test Antenna Horizontal)
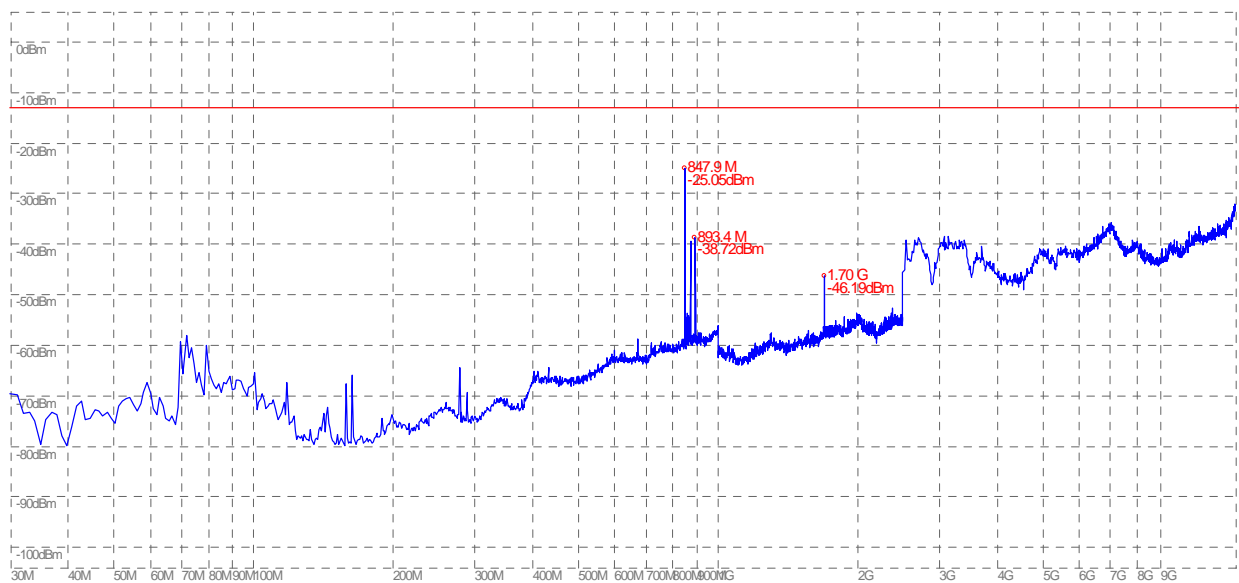
(Plot A.6:   GSM 850MHz Channel = 251, Test Antenna Vertical)
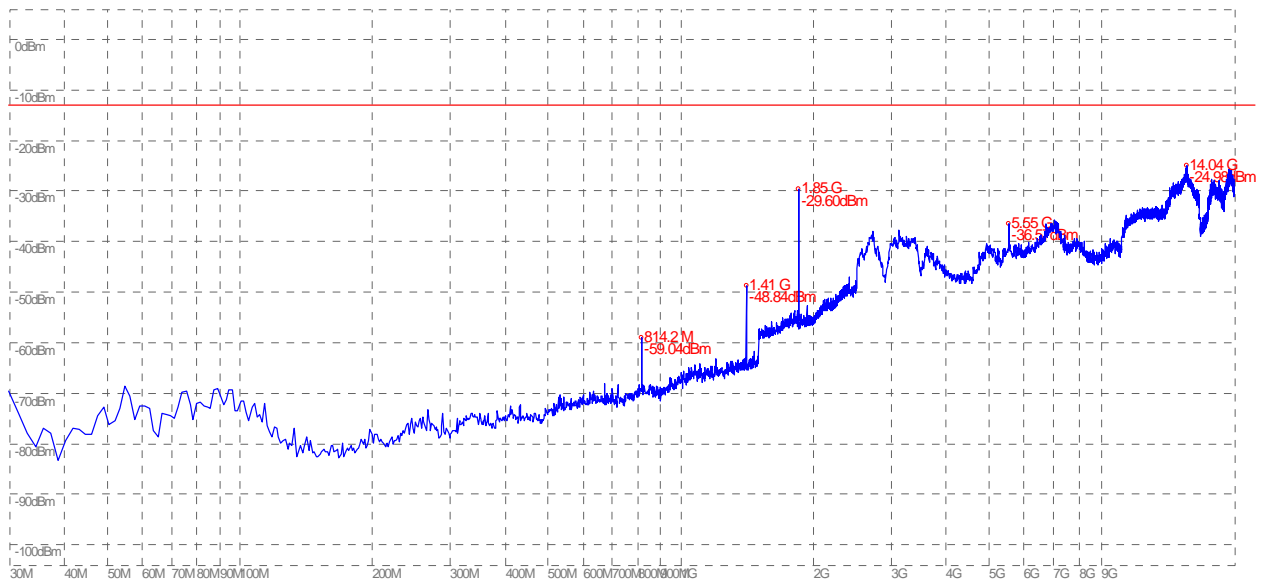
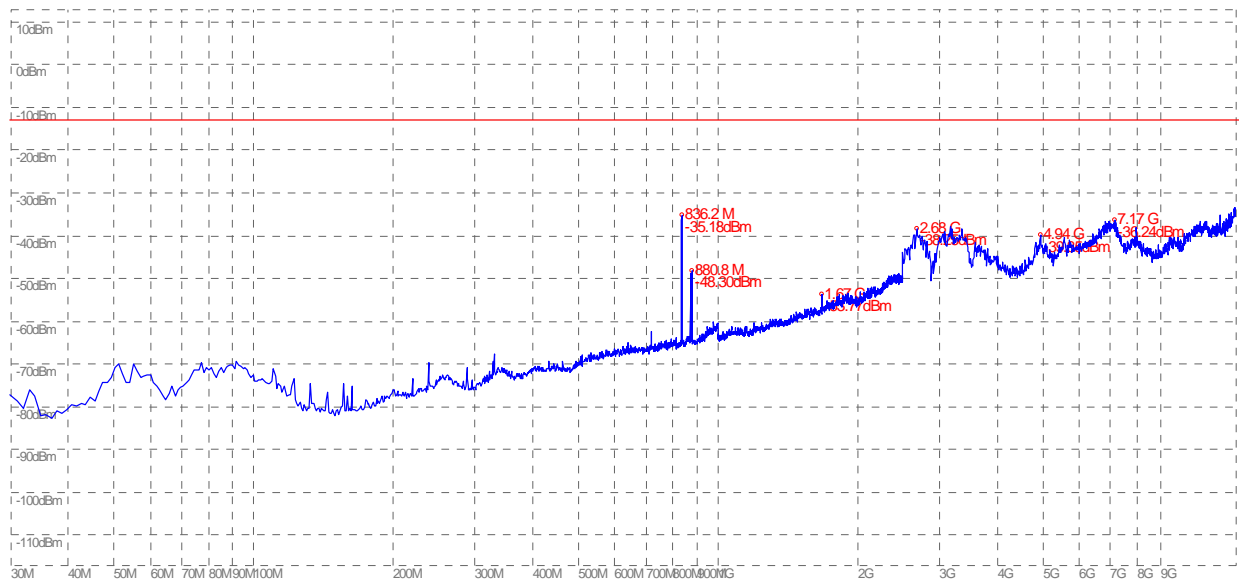(Plot B.1:   GSM 1900MHz Channel = 512, Test Antenna Horizontal)
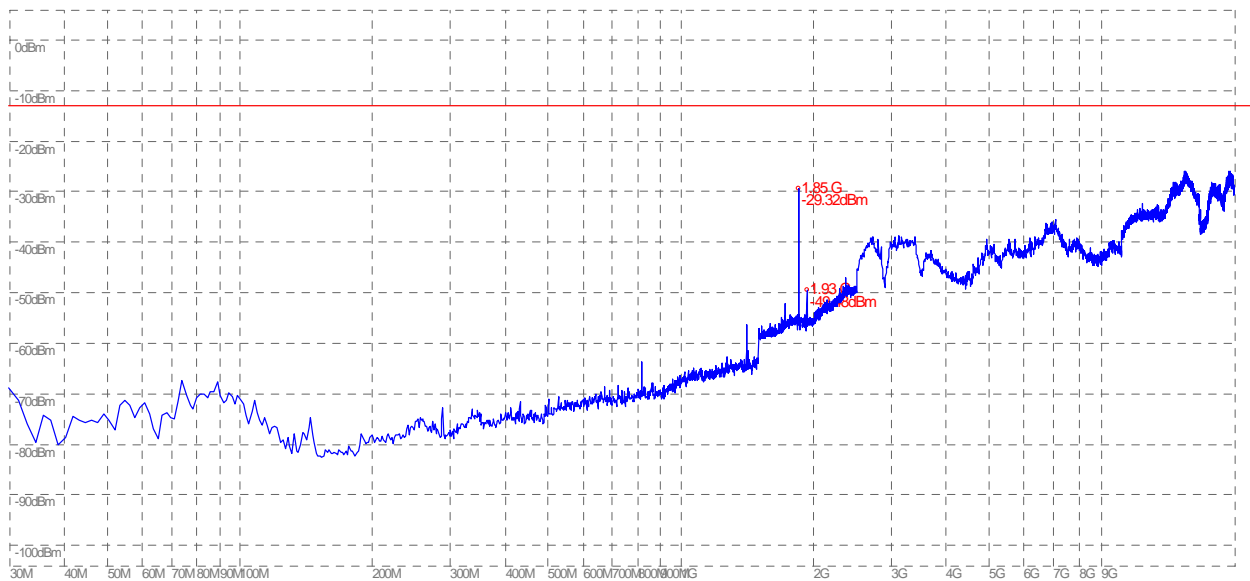
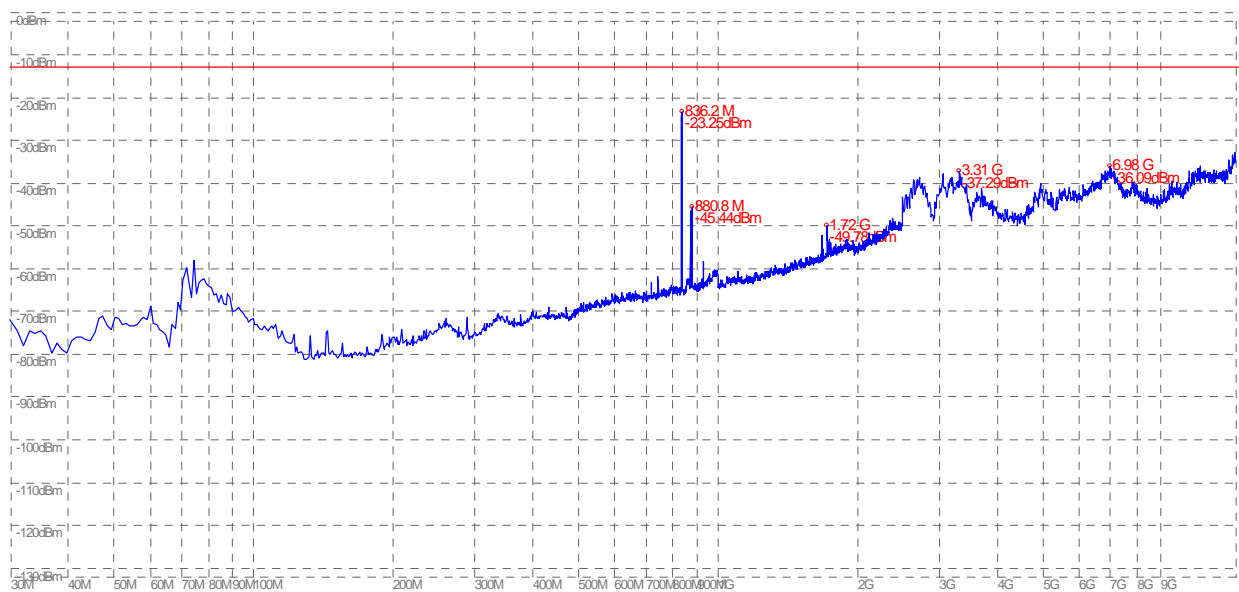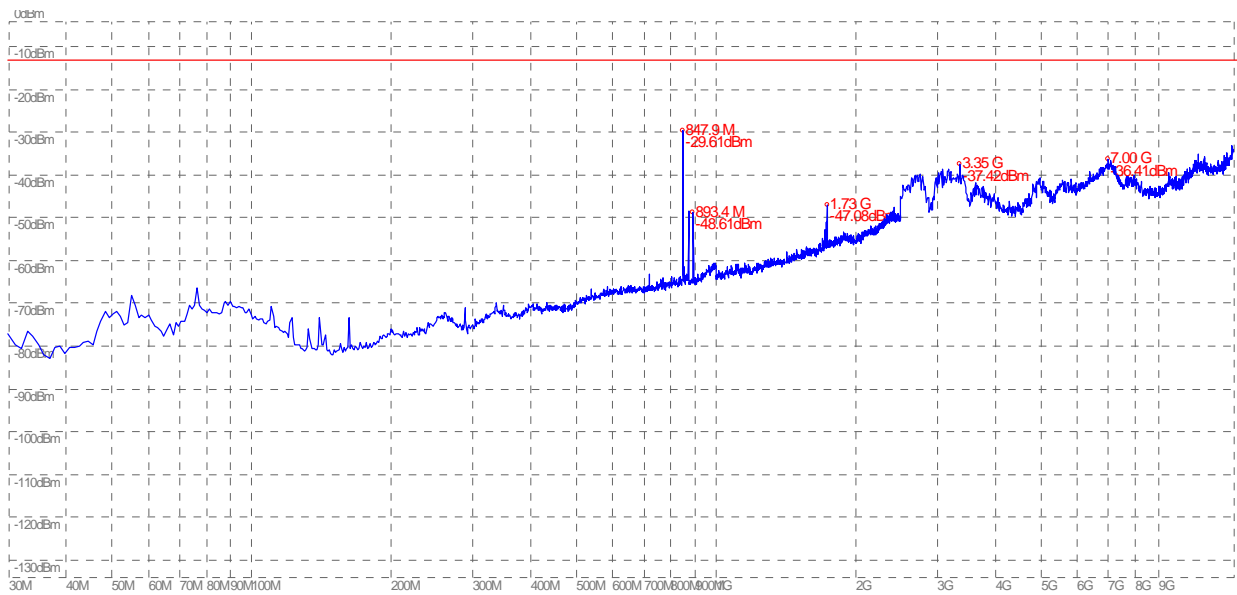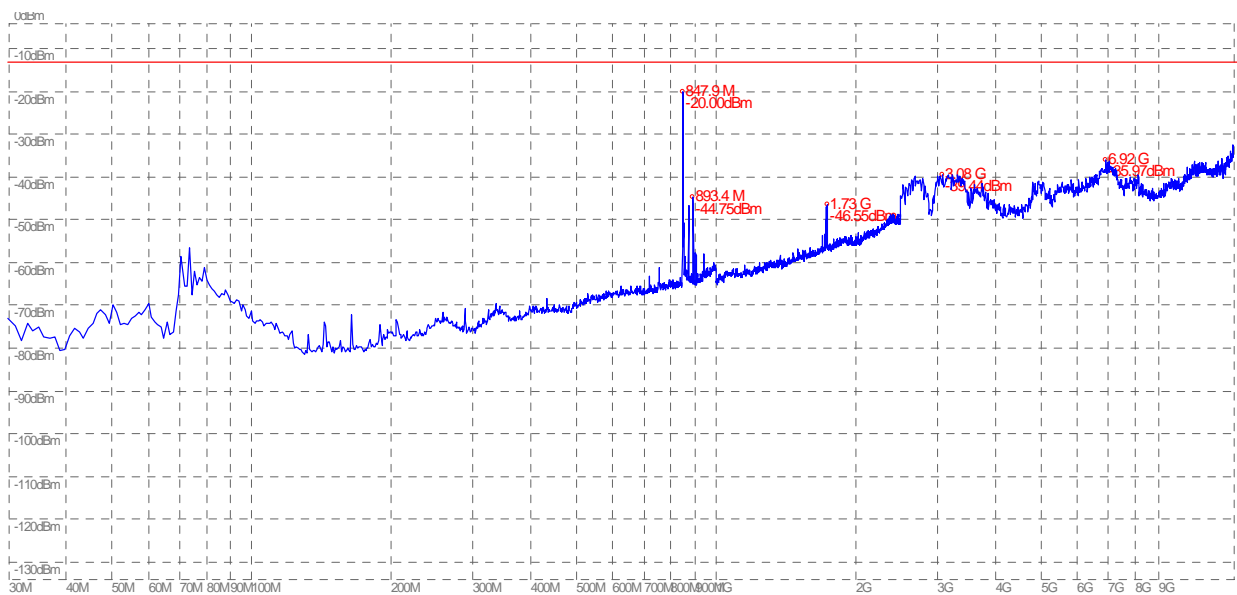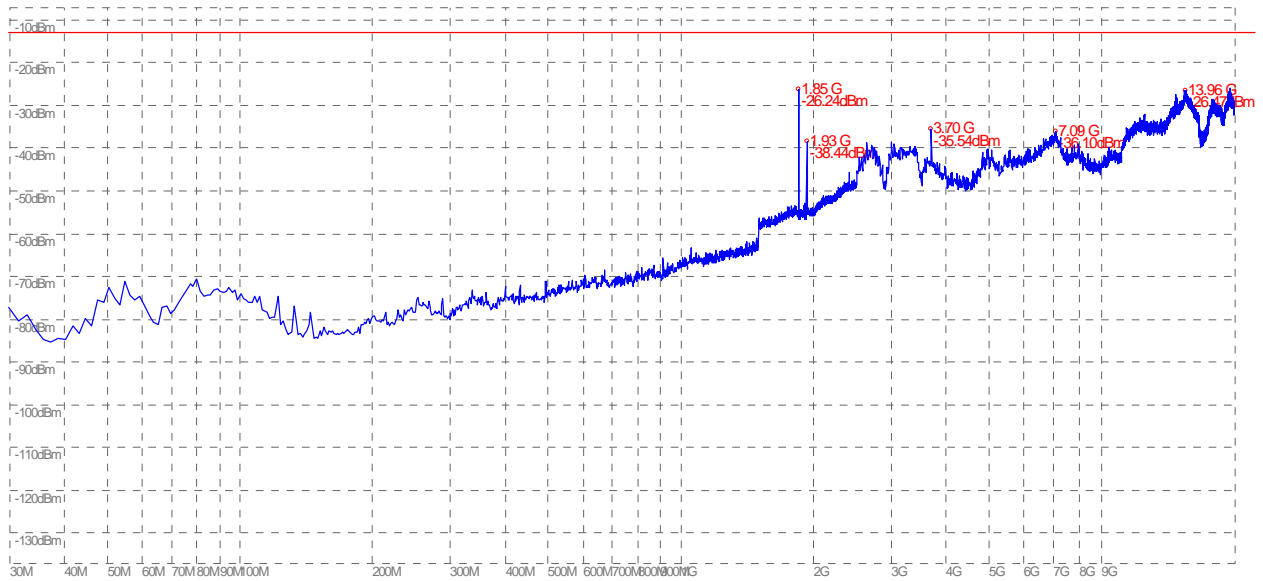(Plot B.2:   GSM 1900MHz Channel = 512, Test Antenna Vertical)
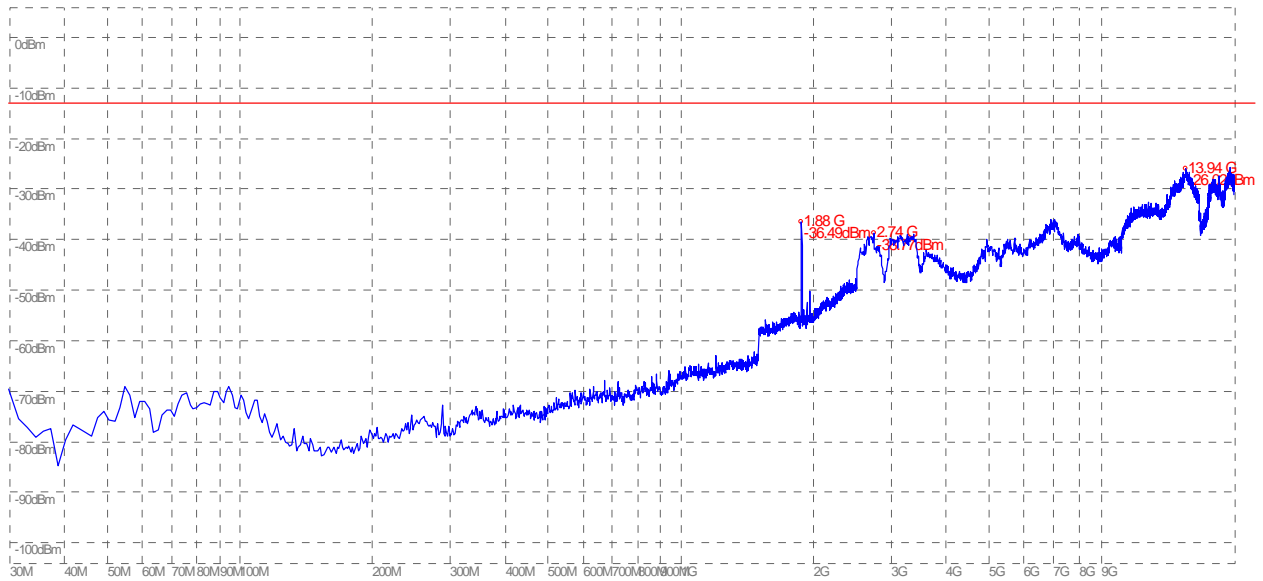
(Plot B.3:   GSM 1900MHz Channel = 661, Test Antenna Horizontal)
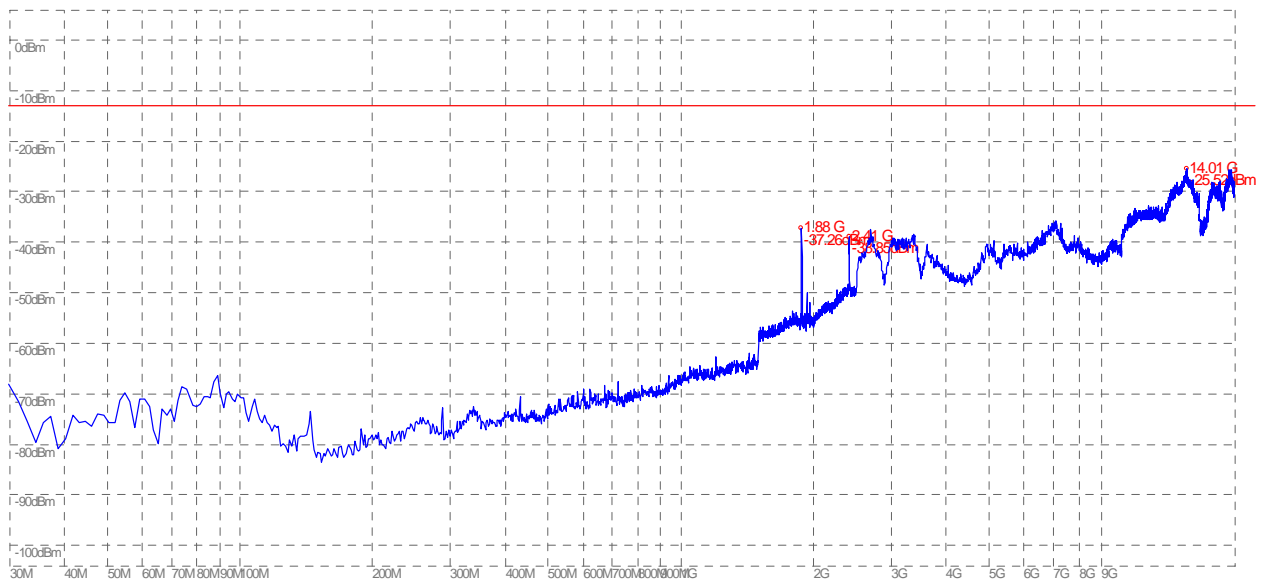
(Plot B.4:   GSM 1900MHz Channel = 661, Test Antenna Vertical)
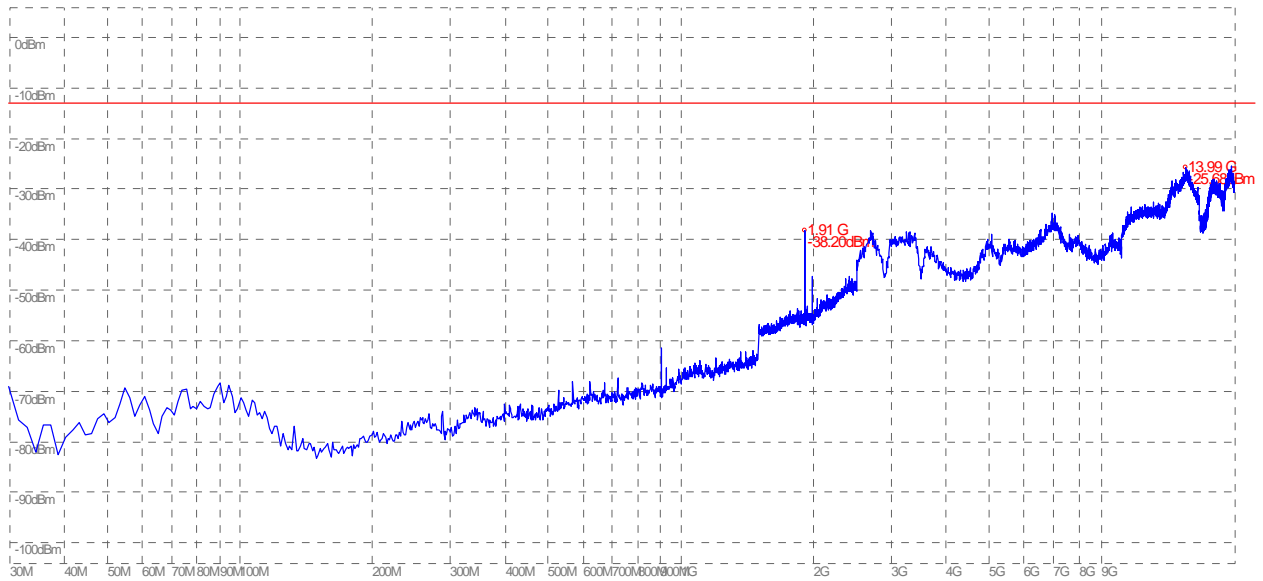
(Plot B.5:   GSM 1900MHz Channel = 810, Test Antenna Horizontal)
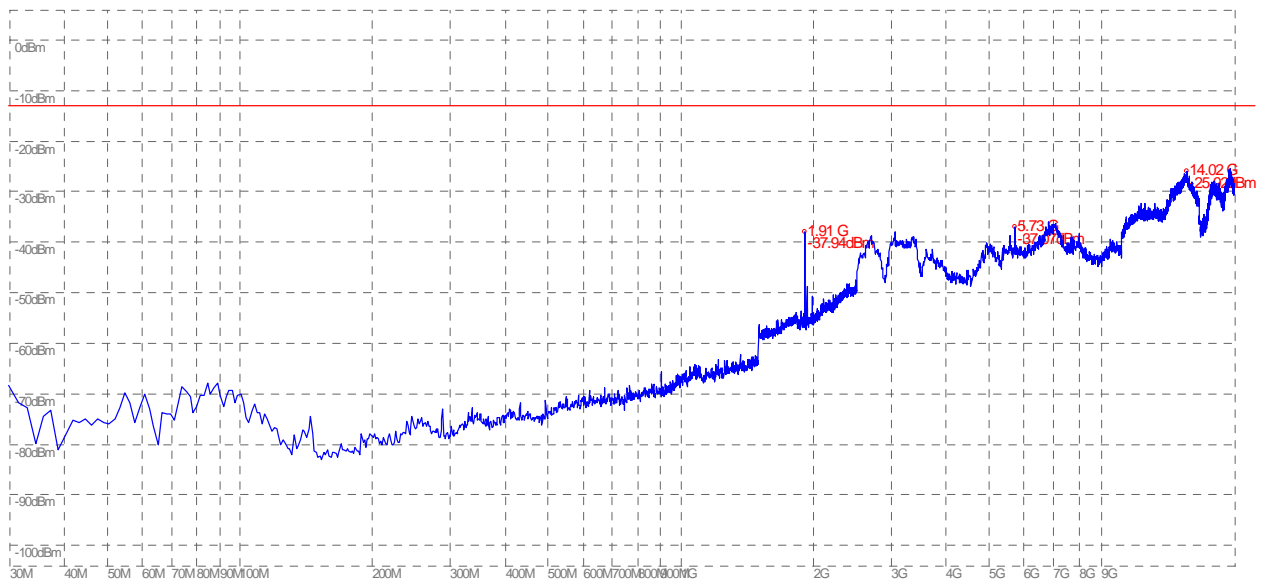
(PlotB.6:   GSM 1900MHz Channel = 810, Test Antenna Vertical)

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

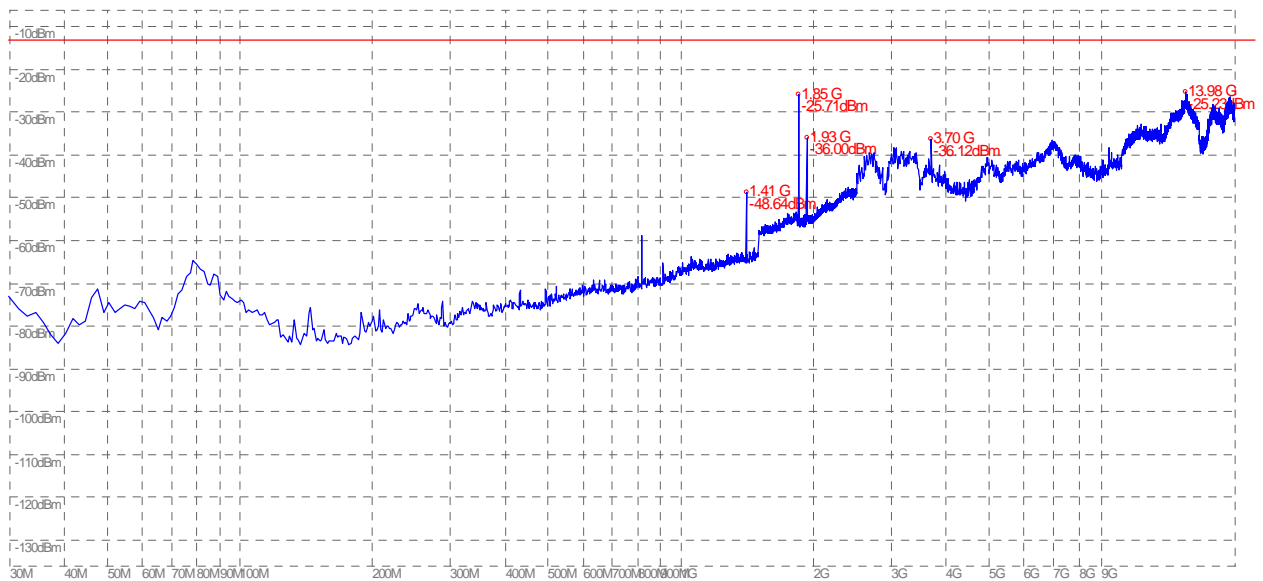(Plot C.2:   EGPRS 850MHz Channel = 128, Test Antenna Vertical)

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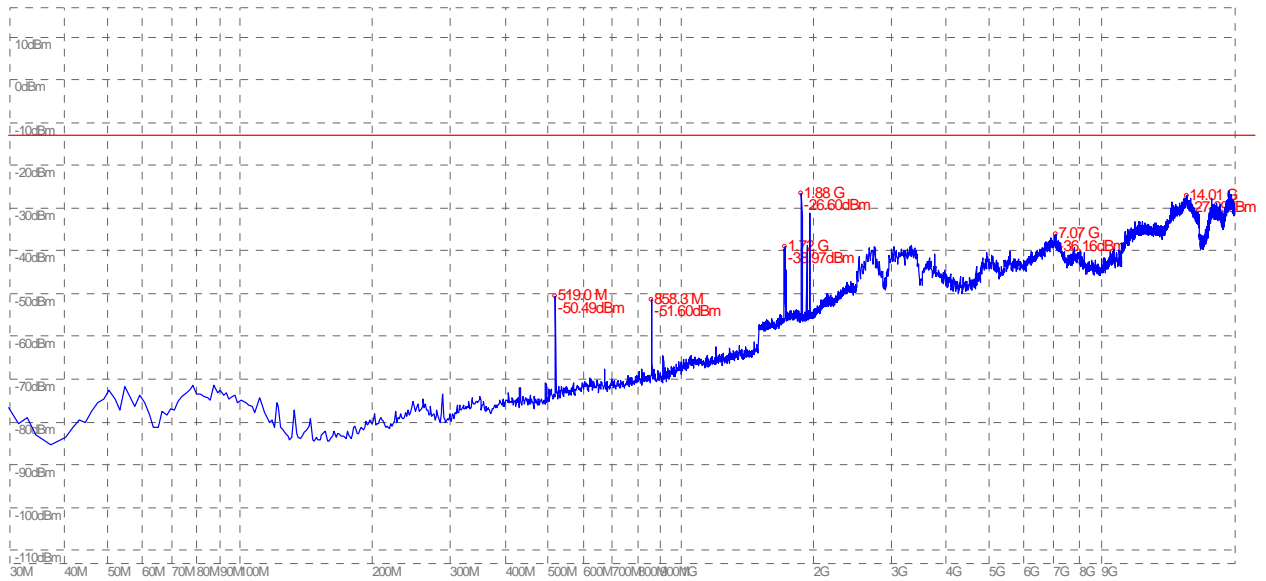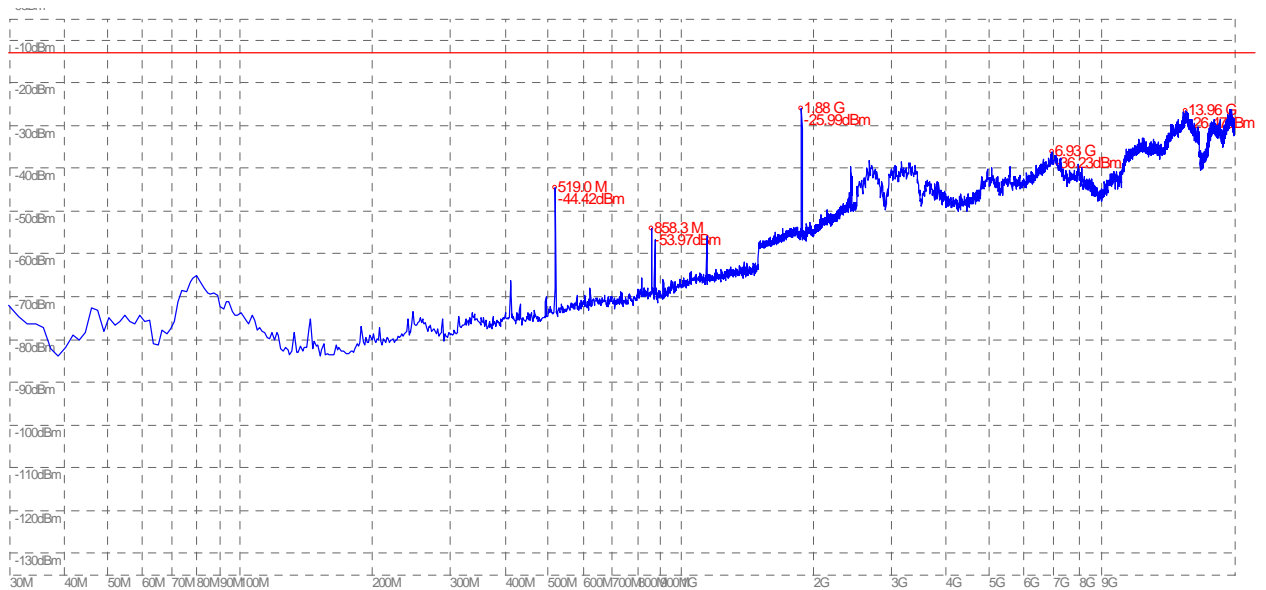

(Plot C.4:   EGPRS 850MHz Channel = 190, Test Antenna Vertical)

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

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

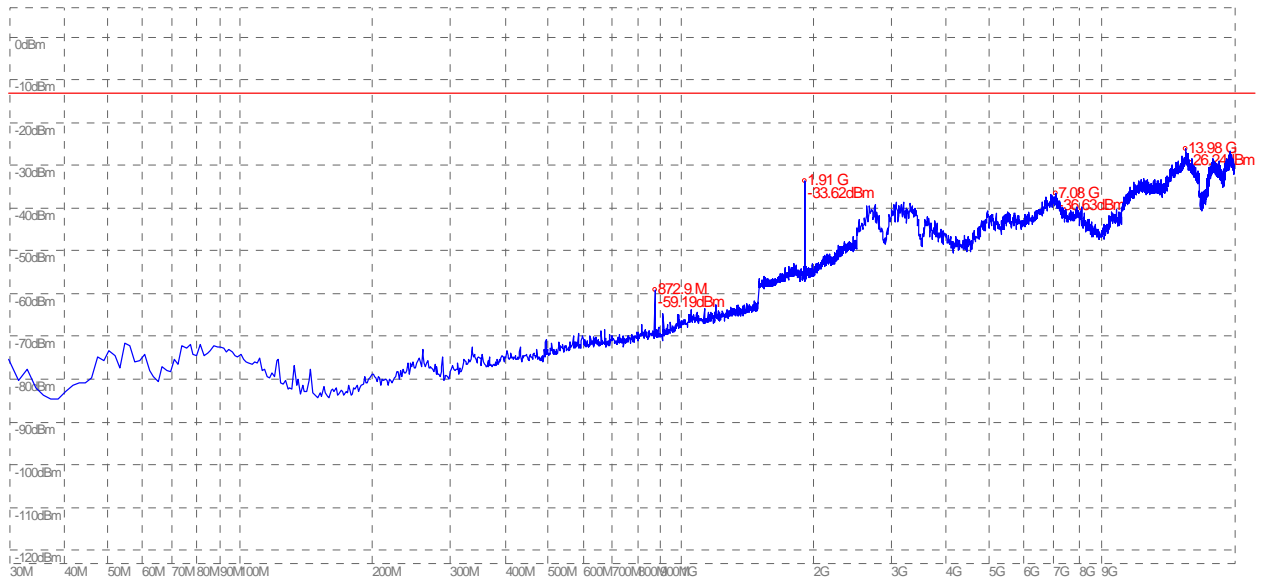(Plot D.1:   EGPRS 1900MHz Channel = 512, Test Antenna Horizontal)

(Plot D.2:   EGPRS 1900MHz Channel = 512, Test Antenna Vertical)
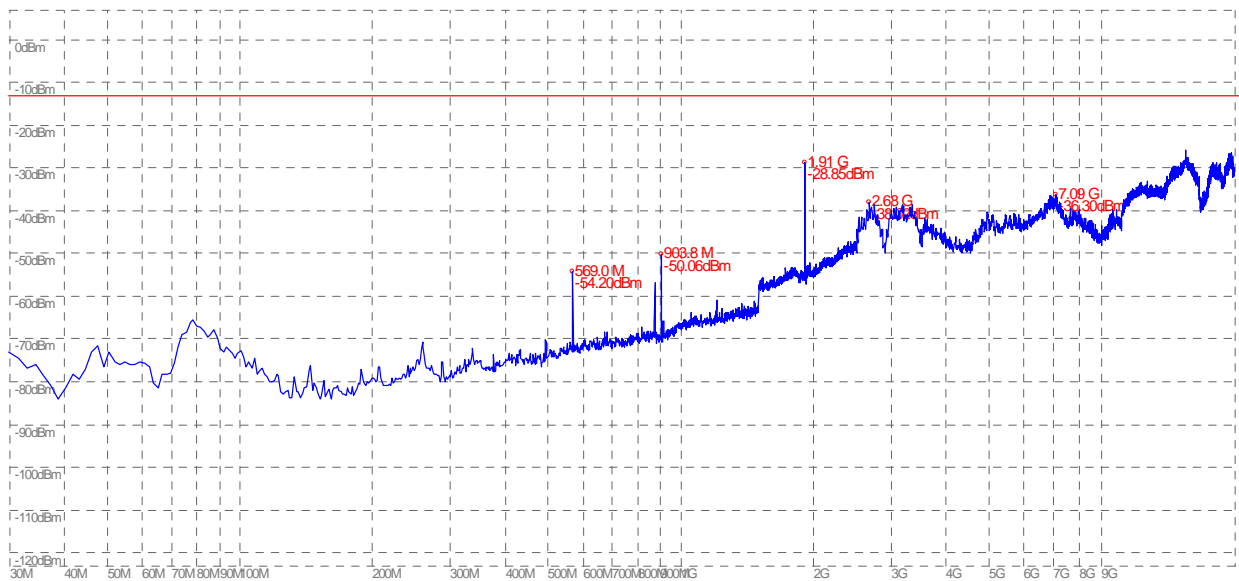
(Plot D.3:   EGPRS 1900MHz Channel = 661, Test Antenna Horizontal)

(Plot D.4:   EGPRS 1900MHz Channel = 661, Test Antenna Vertical)
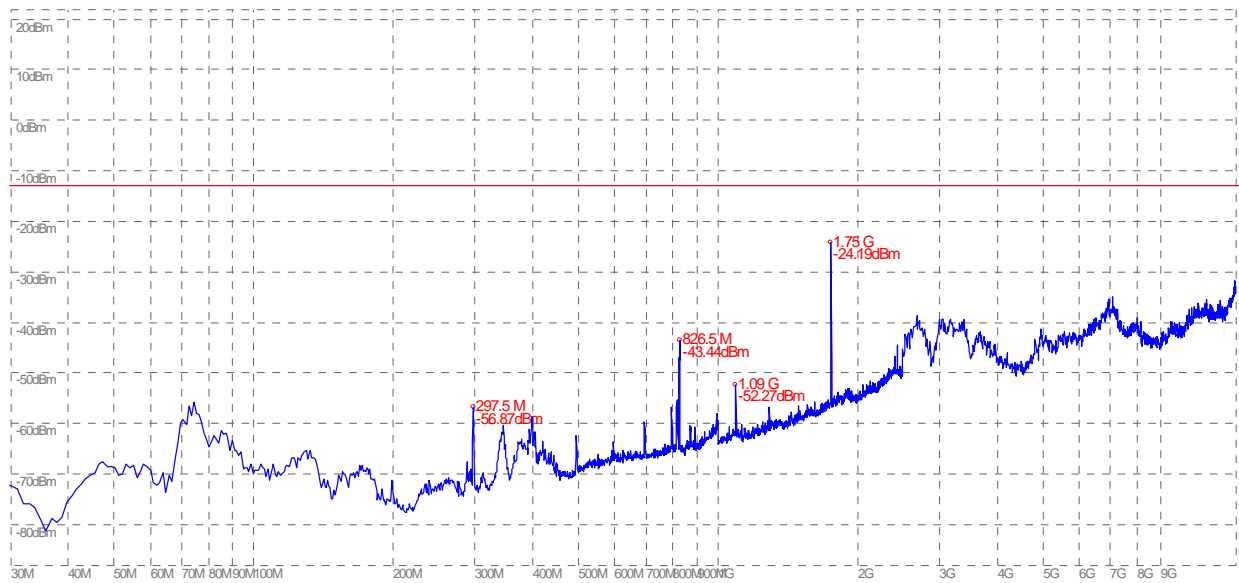
(Plot D.5:   EGPRS 1900MHz Channel = 810, Test Antenna Horizontal)
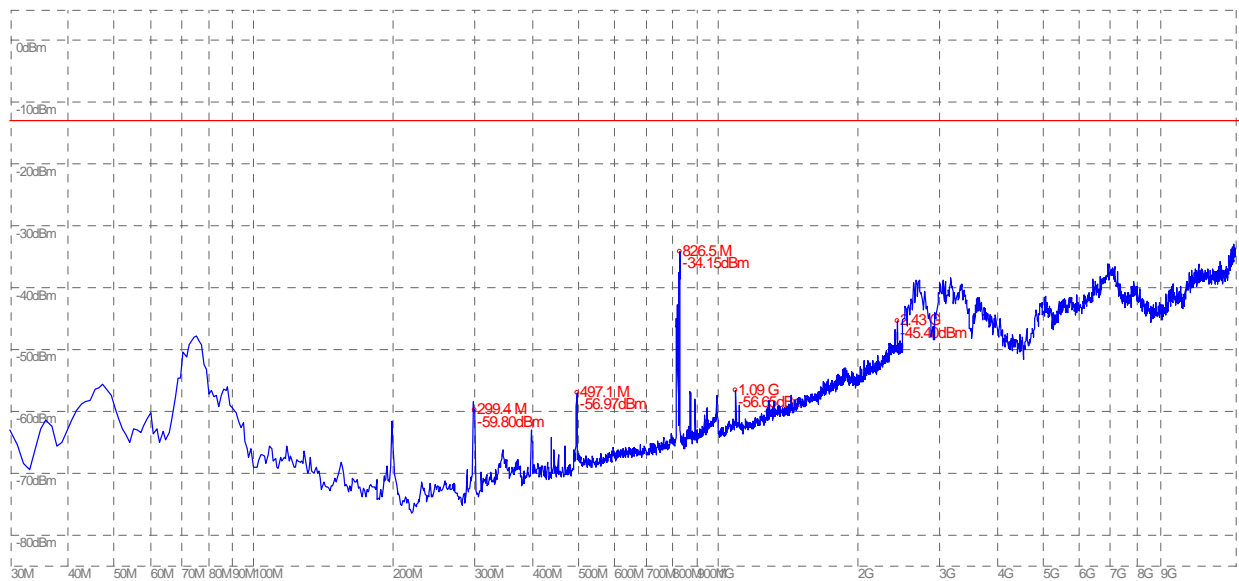

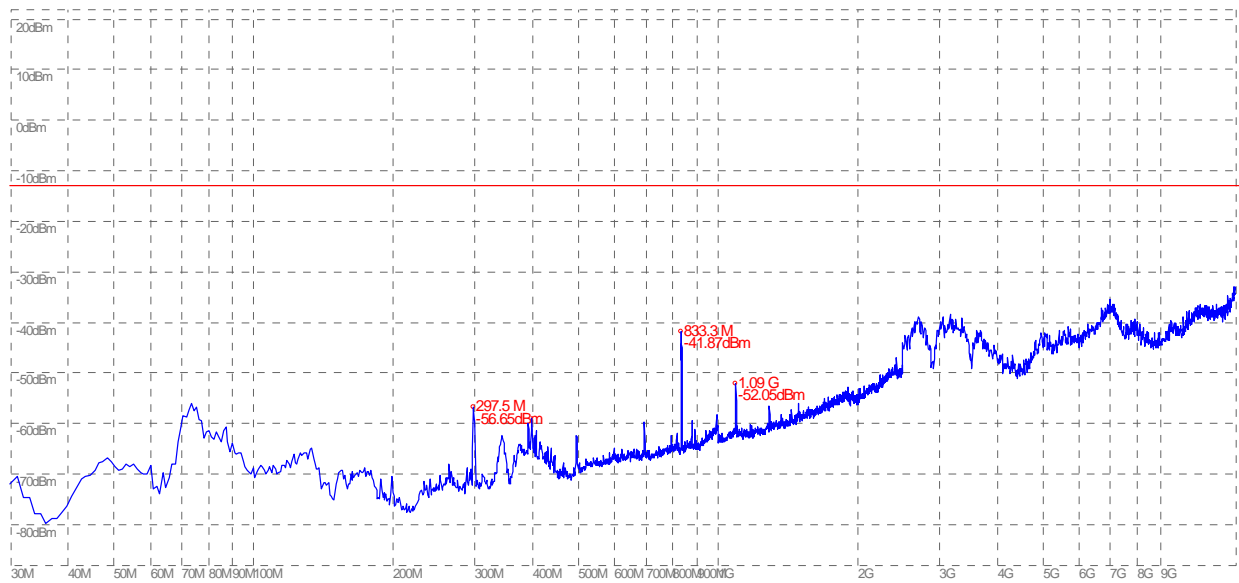(Plot D.6:   EGPRS 1900MHz Channel = 810, Test Antenna Vertical)
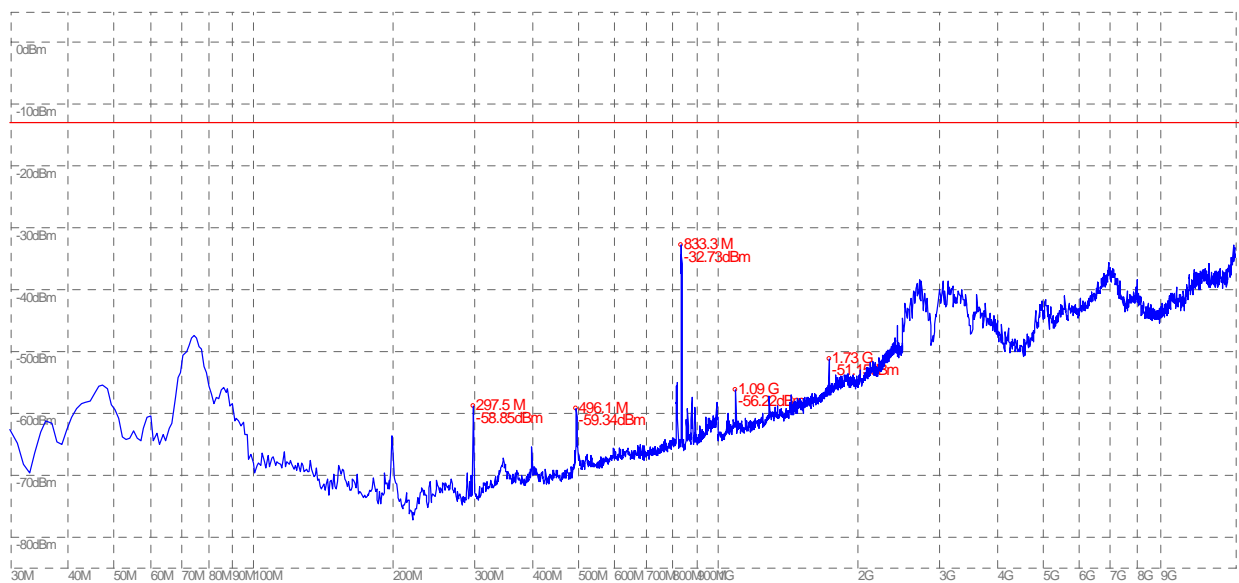
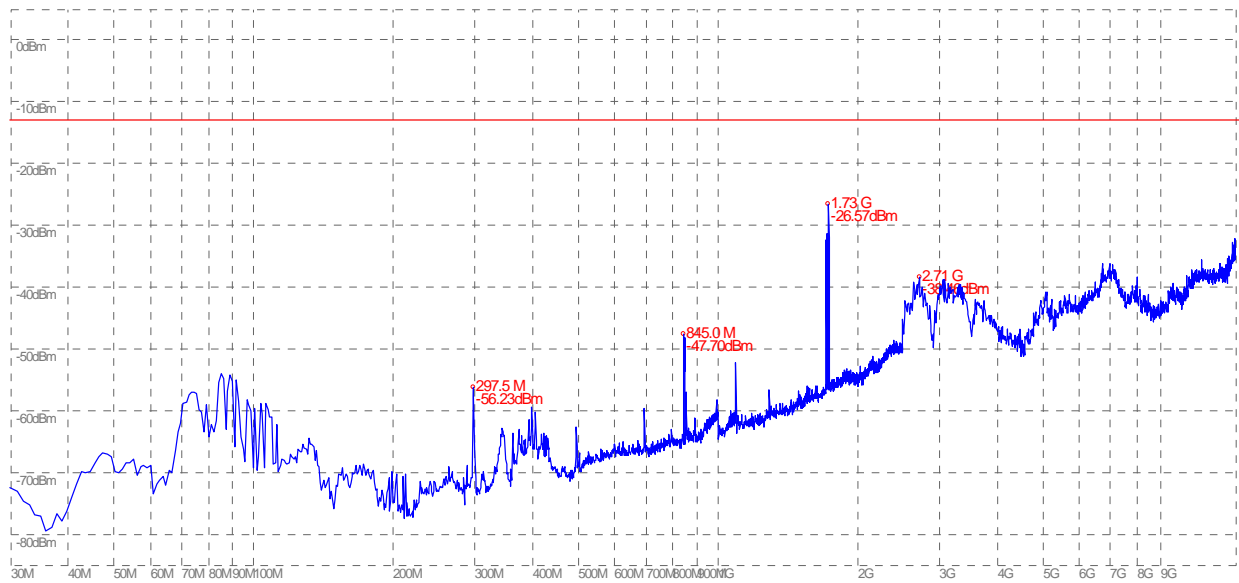(Plot E.1:   WCDMA 850MHz Channel = 4357, Test Antenna Horizontal)

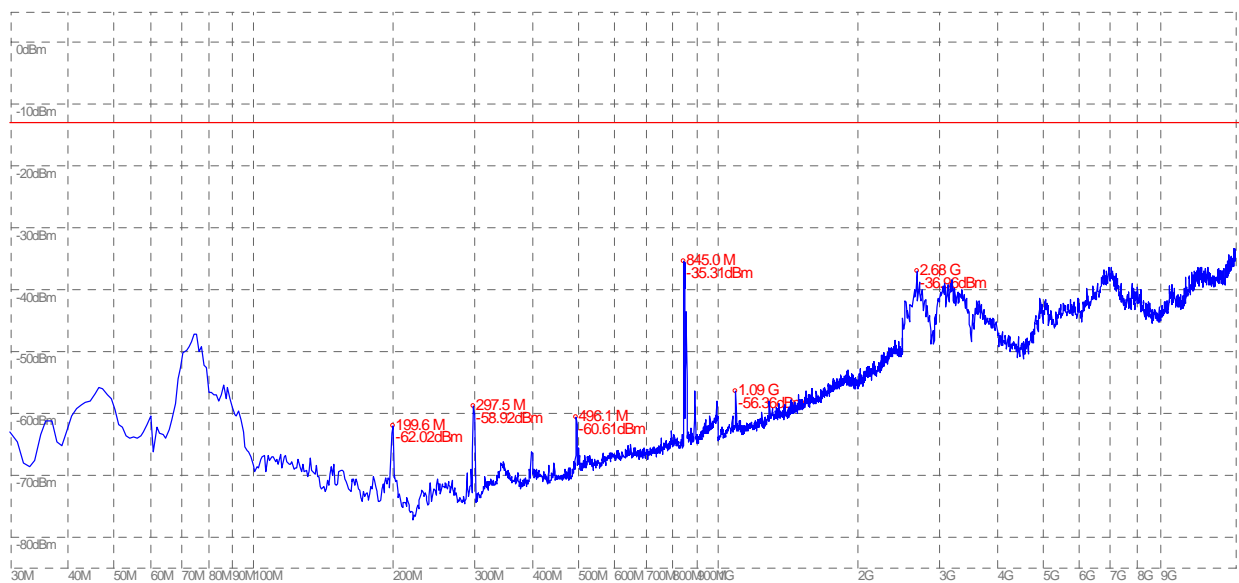(Plot E.2:   WCDMA 850MHz Channel = 4357, Test Antenna Vertical)

(Plot E.3:　　WCDMA 850MHz Channel = 4400, Test Antenna Horizontal)

(Plot E.4:　WCDMA 850MHz Channel = 4400, Test Antenna Vertical)

(Plot E.5:   WCDMA 850MHz Channel = 4458, Test Antenna Horizontal)

(Plot E.6:   WCDMA 850MHz Channel = 4458, Test Antenna Vertical)

** END OF REPORT **