REPORT No. : SZ14100069W01

FCC TEST REPORT

APPLICANT	:	ZTE Corporation
PRODUCT NAME	:	WCDMA Digital Mobile Phone Handset
MODEL NAME	:	NX406E
TRADE NAME	:	ZTE
BRAND NAME	:	ZTE
FCC ID	:	SRQ-NX406E
STANDARD(S)	:	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E
ISSUE DATE	:	2014-11-05

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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DIRECTORY

TEST REPORT DECLARATION 3

1. GENERAL INFORMATION 4

1.1. EUT DESCRIPTION 4
1.2. TEST STANDARDS AND RESULTS 6
1.3. FACILITIES AND ACCREDITATIONS 7

2. 47 CFR PART 2, PART 22H & 24E REQUIREMENTS 8

2.1. CONDUCTED RF OUTPUT POWER 8
2.2. PEAK TO AVERAGE RADIO 20
2.3. 99% OCCUPIED BANDWIDTH 26
2.4. FREQUENCY STABILITY 44
2.5. CONDUCTED OUT OF BAND EMISSIONS 50
2.6. BAND EDGE 76
2.7. TRANSMITTER RADIATED POWER (EIRP/ERP) 85
2.8. RADIATED OUT OF BAND EMISSIONS 95

Change History		
Issue	Date	Reason for change
1.0	2014-11-05	First edition

Test Report Declaration

Applicant	ZTE Corporation
Applicant Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Manufacturer	ZTE Corporation
Manufacturer Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Product Name	WCDMA Digital Mobile Phone Handset
Model Name	NX406E
Brand Name	ZTE
HW Version	NX406J
SW Version	NX406J_VE_V1.01
Test Standards	47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E
Test Date	2014-10-20to 2014-11-05
Test Result	PASS

Tested by : Liu Zhisen

Reviewed by : Peng Huarui

Approved by : Zeng Dexin

1. GENERAL INFORMATION

1.1. EUT Description

EUT Type ..... : ZTE Corporation
Serial No. ..... : (n.a, marked #1 by test site)
Hardware Version ..... : NX406J
Software Version ..... : NX406J_VE_V1.01
Applicant ..... : ZTE Corporation
ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Manufacturer ..... : ZTE Corporation
ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China
Frequency Range ..... : GSM 850MHz:
Tx: 824.20 - 848.80MHz (at intervals of 200kHz);
Rx: 869.20 - 893.80MHz (at intervals of 200kHz)
GSM 1900MHz:
Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz);
Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz)
WCDMA 1900MHz
Tx: 1852.4 - 1907.6MHz (at intervals of 200kHz);
Rx: 1932.4 - 1987.6MHz (at intervals of 200kHz)
Modulation Type ..... : GSM,GPRS Mode with GMSK Modulation
EDGE Mode with 8PSK Modulation
WCDMA Mode with QPSK Modulation
HSDPA Mode with QPSK Modulation
HSUPA Mode with QPSK Modulation
HSPA+ Mode with QPSK Modulation
Multislot Class ..... : GPRS: Multislot Class 12,EGPRS: Multislot Class 12
Antenna Type ..... : PIFA Antenna
Emission Designators ..... : GSM 850:252KGXW,GSM 1900:247KGXW
EGPRS850:255KG7W, EGPRS1900:249KG7W,
WCDMA1900:4M17F9W

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

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

Note 3: The transmitter (Tx) frequency arrangement of the WCDMA 1900MHz band used by the EUT can be represented with the formula F(n)=1852.4+0.2*(n-9262), 9262<=n<=9538; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 9262 (1852.4MHz), 9400 (1880MHz) and 9538 (1907.6MHz).

Note 4: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.2. Test Standards and Results

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

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-13 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-13 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-13 Edition)	Personal Communications Services

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

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

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

1.3. Facilities and Accreditations

1.3.1. Facilities

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

1.3.2. Test Environment Conditions

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

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

2. 47 CFR Part 2, Part 22H & 24E Requirements

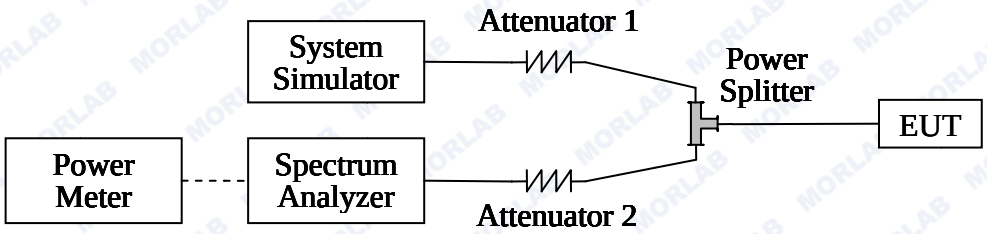
2.1. Conducted RF Output Power

2.1.1. Requirement

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

2.1.2. Test Description

1. Test Setup:



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

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

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Agilent	E5515C	GB43130131	2014.02.26	2015.02.25
Spectrum Analyzer	Agilent	E7405A	US44210471	2014.02.26	2015.02.25

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

2.1.3. Test Results

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

1. GSM Model Test Verdict:

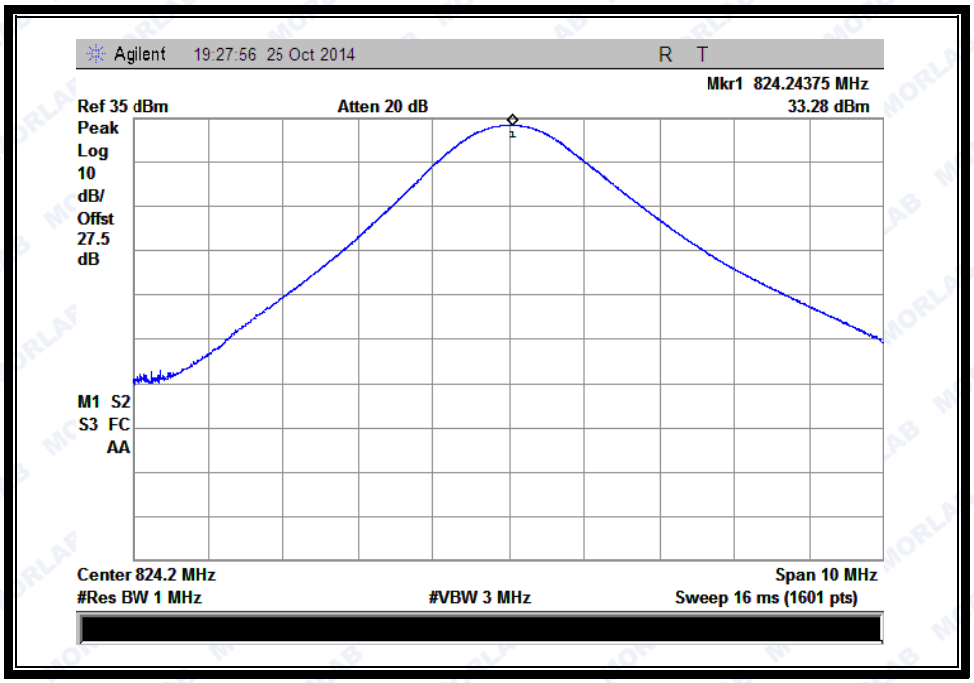
Band	Channel	Frequency (MHz)	Measured Output Power		Limit	Verdict
			dBm	Refer to Plot	dBm	
GSM 850MHz	128	824.2	33.28	Plot A1 to A3	35	PASS
	190	836.6	33.21			PASS
	251	848.8	33.10			PASS
GSM 1900MHz	512	1850.2	29.91	Plot B1 to B3	32	PASS
	661	1880.0	30.30			PASS
	810	1909.8	30.18			PASS
GPRS 850MHz	128	824.2	33.04	Plot C1 to C3 Note 1	35	PASS
	190	836.6	32.93			PASS
	251	848.8	33.05			PASS
GPRS 1900MHz	512	1850.2	29.49	Plot D1 to D3 Note 1	32	PASS
	661	1880.0	29.79			PASS
	810	1909.8	29.61			PASS
EGPRS 850MHz	128	824.2	32.94	Plot E1 to E3 Note 1	35	PASS
	190	836.6	32.88			PASS
	251	848.8	33.03			PASS
EGPRS 1900MHz	512	1850.2	29.07	Plot F1 to F3 Note 1	32	PASS
	661	1880.0	29.18			PASS
	810	1909.8	29.08			PASS

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

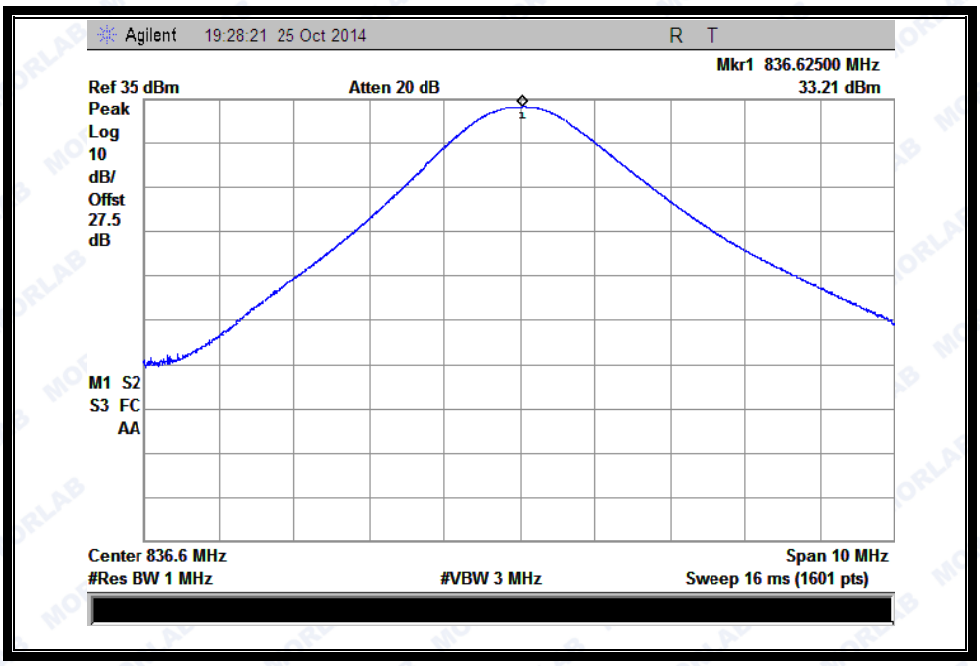
2. WCDMA Model Test Verdict:

Item	band	WCDMA 1900		
	ARFCN	9262	9400	9538
	subtest	dBm		
5.2(WCDMA)	non	23.29	23.87	23.39
HSDPA	1	23.86	22.84	22.88
	2	23.85	22.85	22.86
	3	23.36	22.33	22.37
	4	23.37	22.34	22.36
HSUPA	1	23.76	22.70	22.87
	2	21.75	20.69	20.85
	3	22.77	21.71	21.86
	4	21.76	20.70	20.87
	5	23.75	22.69	22.86
HSPA+	1	22.22	20.99	21.33
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA /HSPA+ was tested by power meter.			

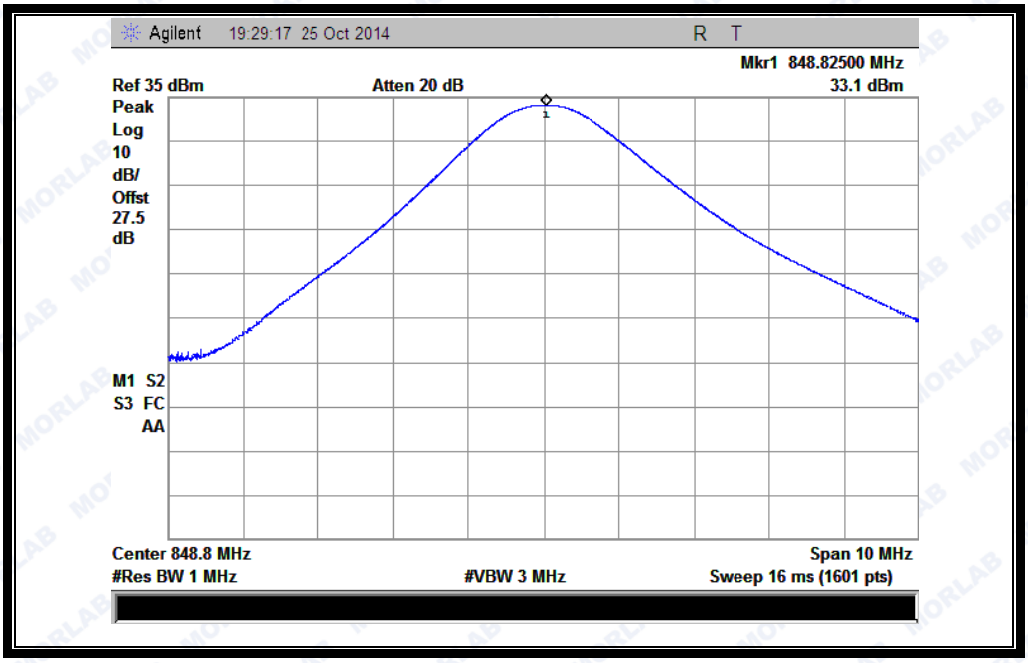
3. GSM Model Test Plots:



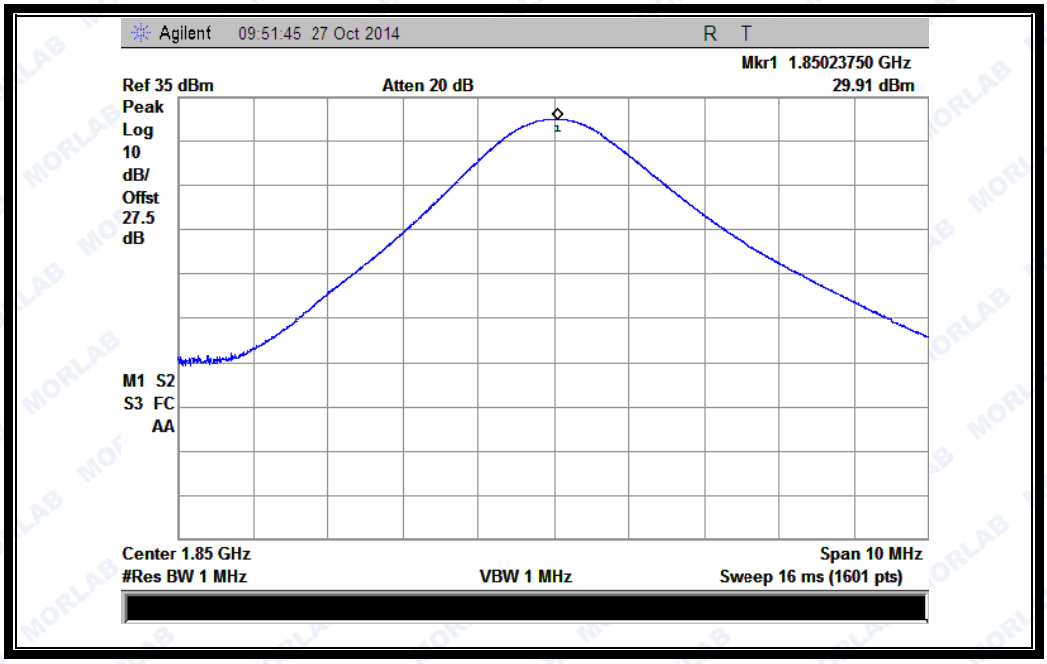
(Plot A1:GSM 850MHz Channel = 128)



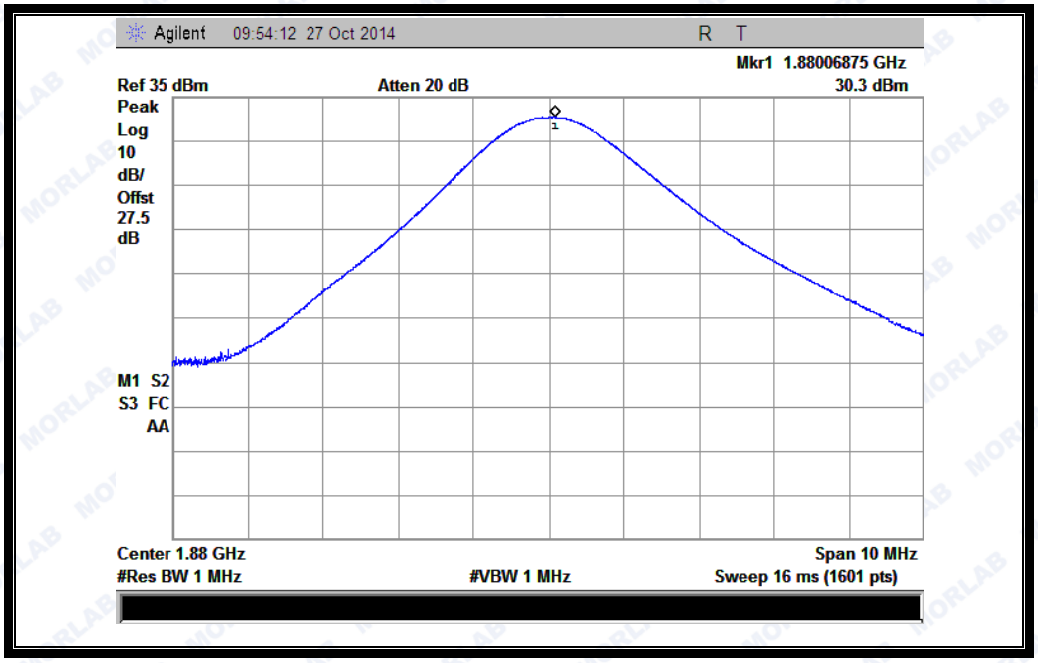
(Plot A2:GSM 850MHz Channel = 190)



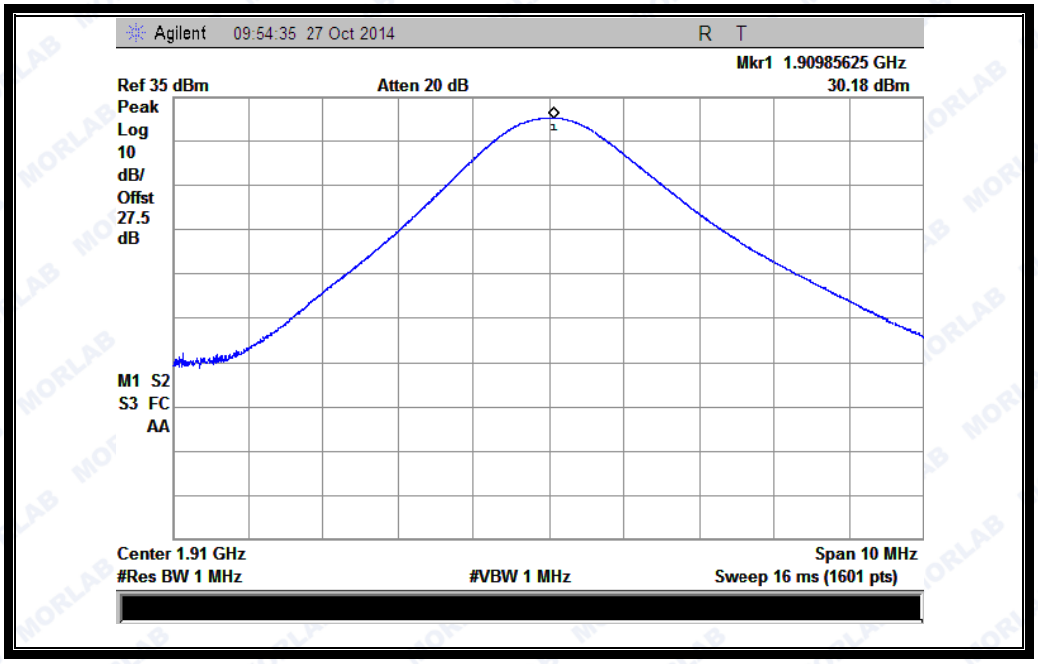
(Plot A3:GSM 850MHz Channel = 251)



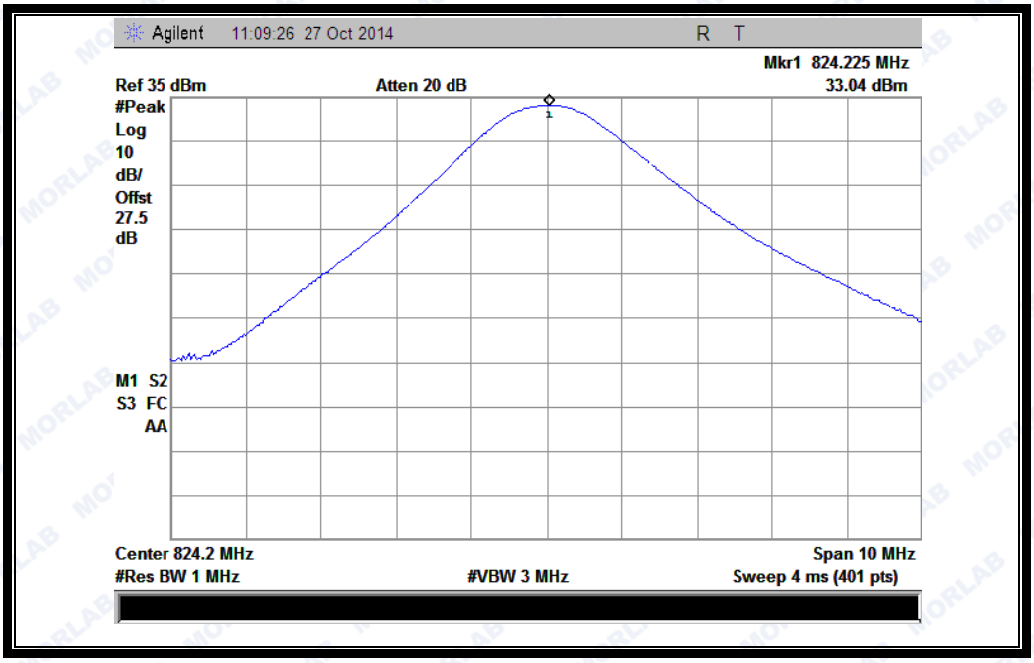
(Plot B1: GSM 1900MHz Channel = 512)



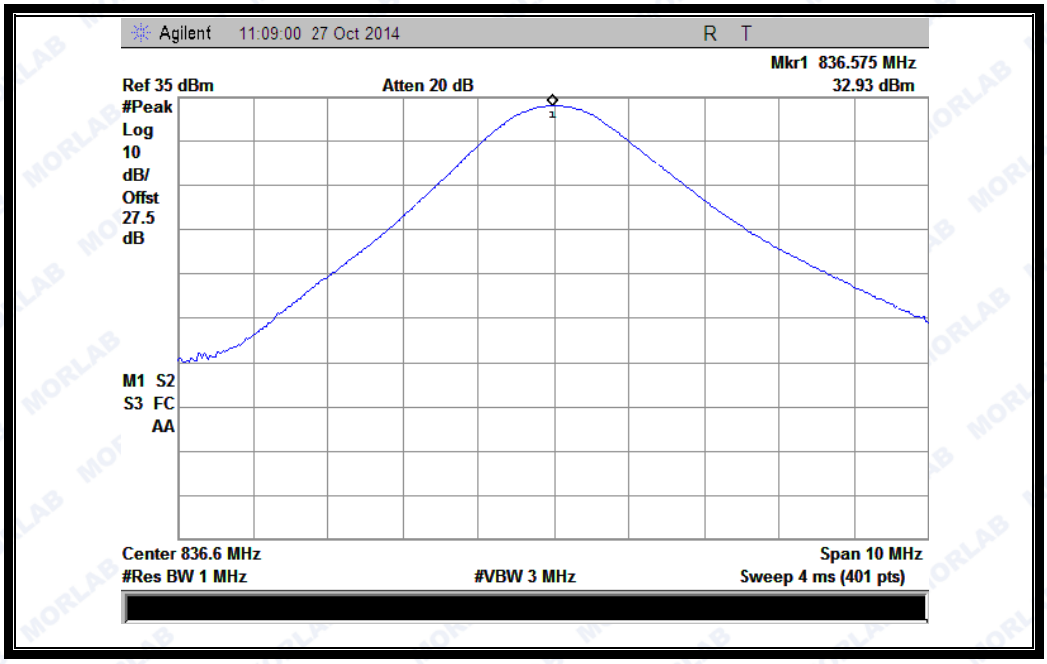
(Plot B2: GSM 1900MHz Channel = 661)



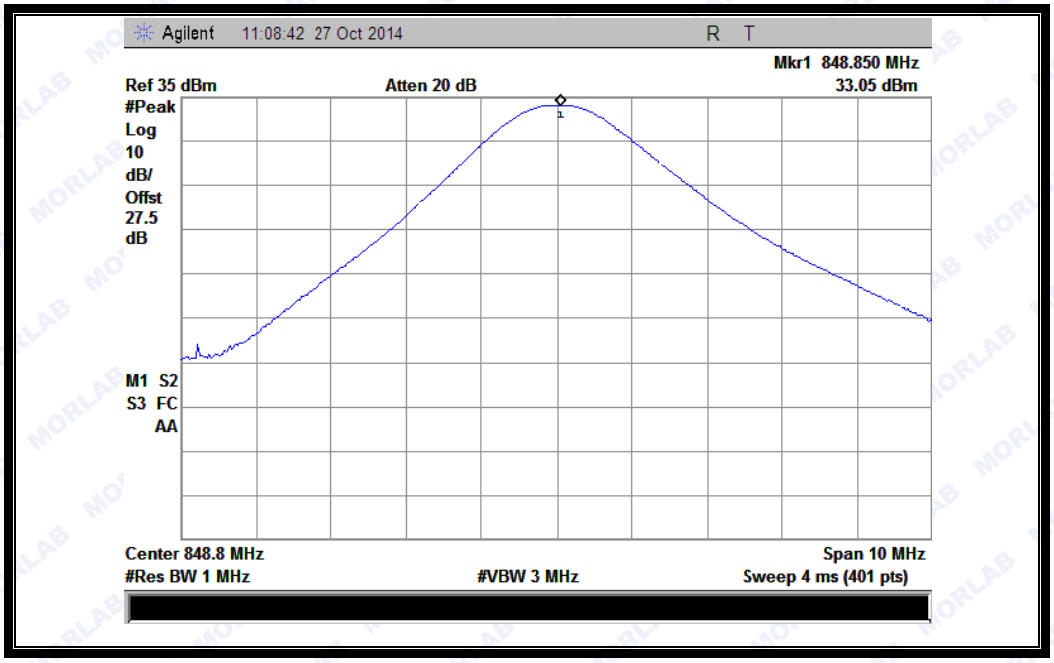
(Plot B3: GSM 1900Hz Channel = 810)



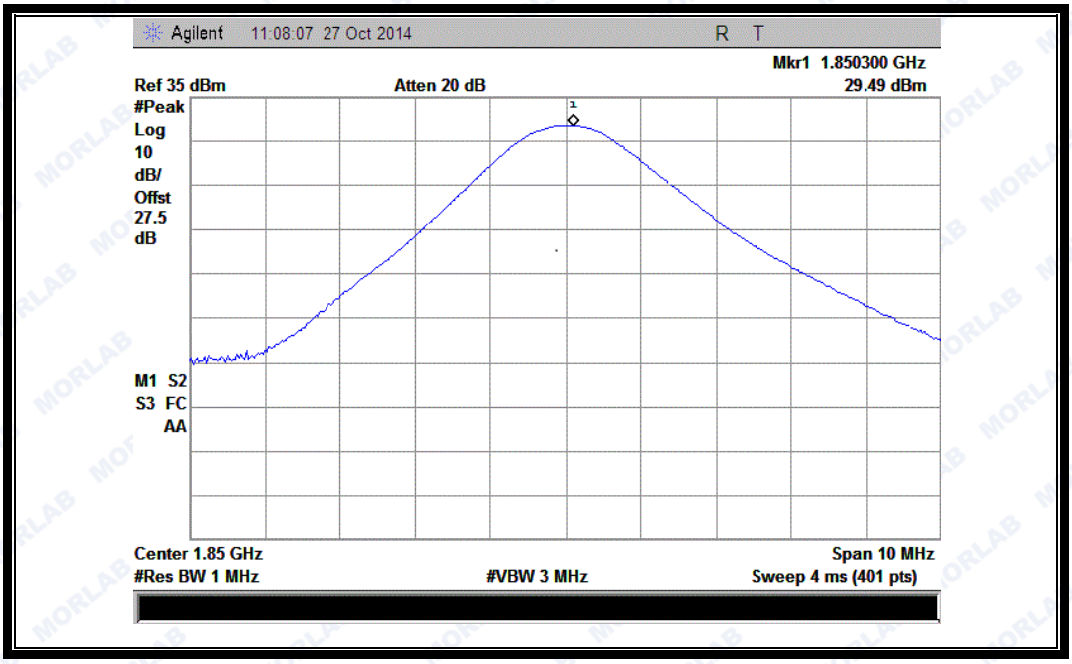
(Plot C 1: GPRS 850MHz Channel = 128)



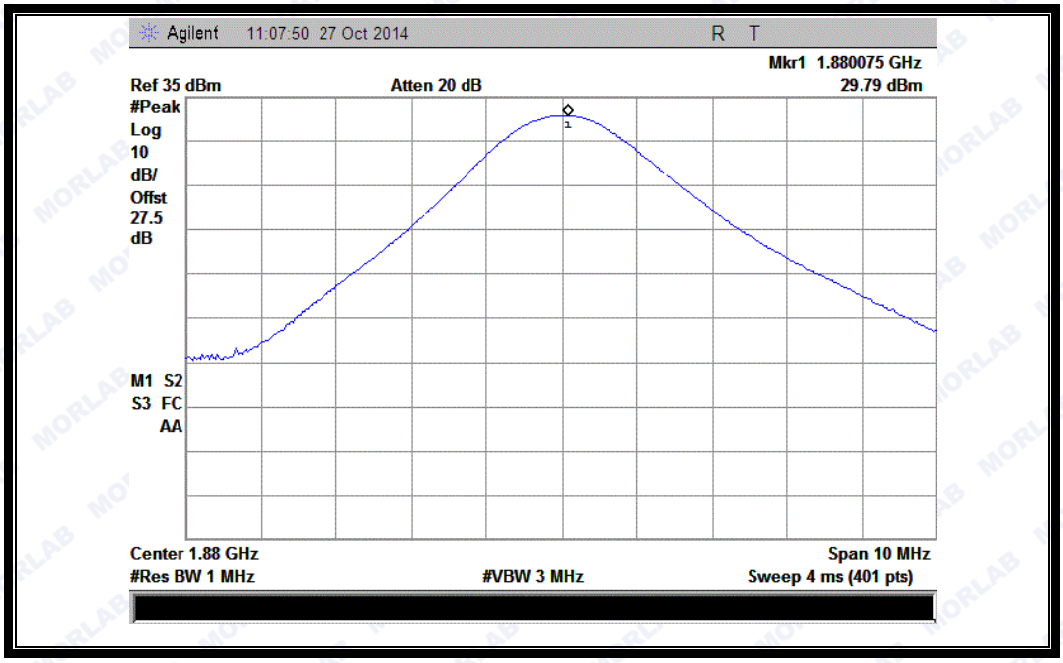
(Plot C 2: GPRS 850MHz Channel = 190)



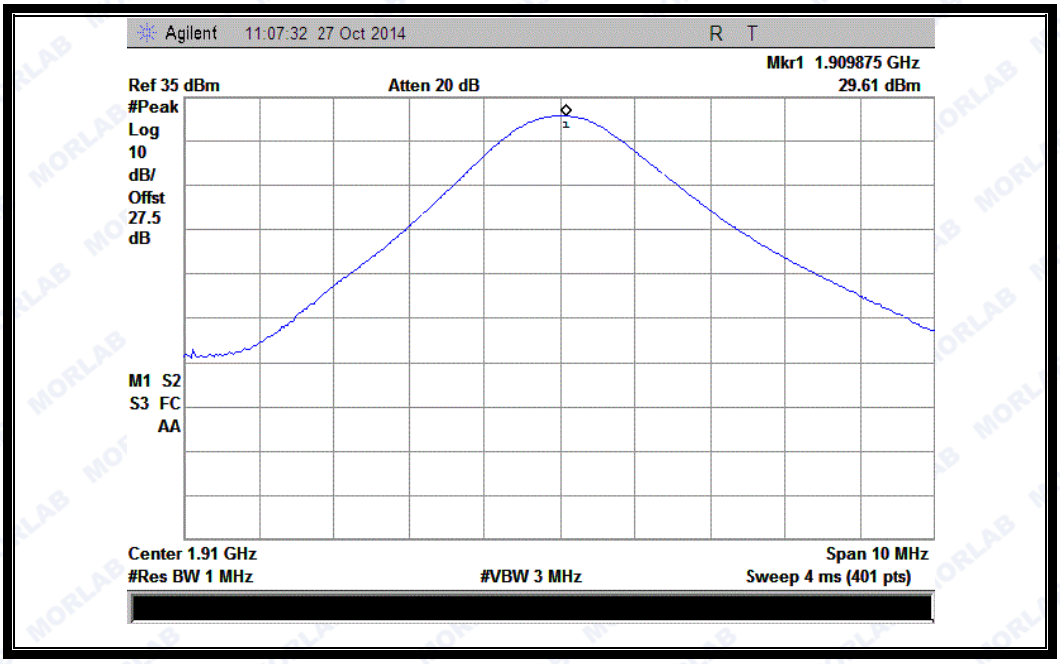
(Plot C 3: GPRS 850MHz Channel = 251)



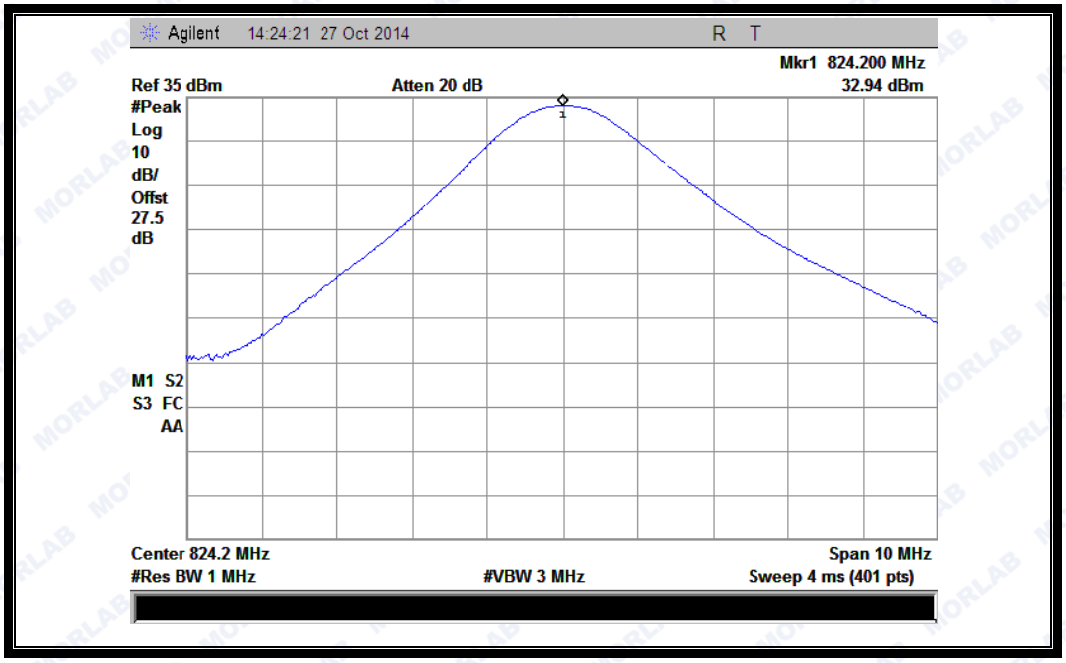
(Plot D 1: GPRS 1900MHz Channel = 512)



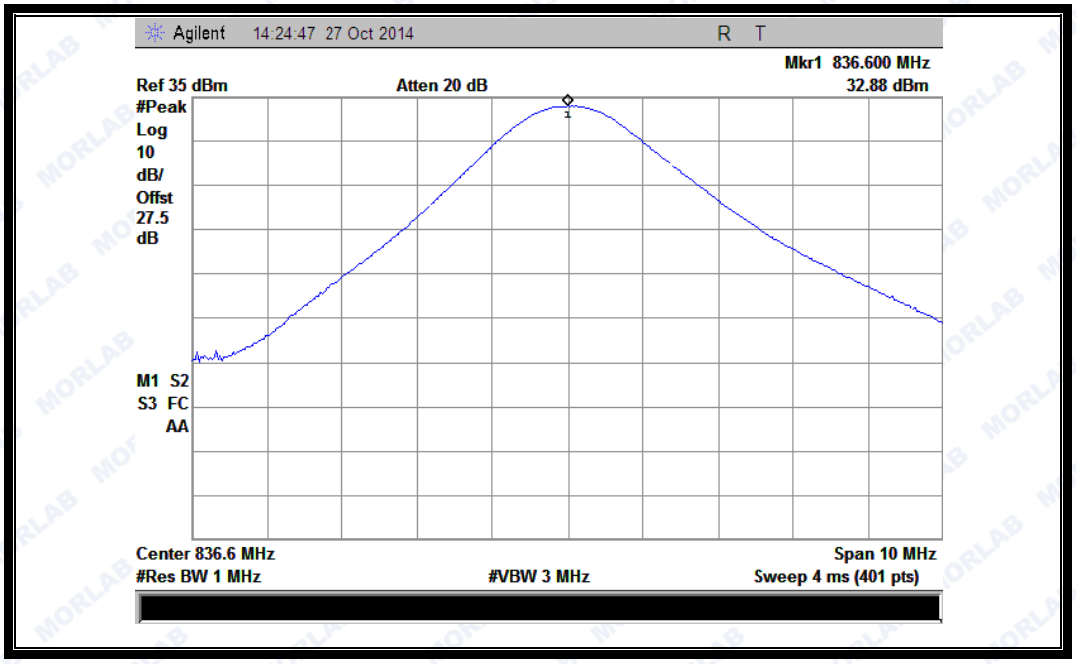
(Plot D 2: GPRS 1900MHz Channel = 661)



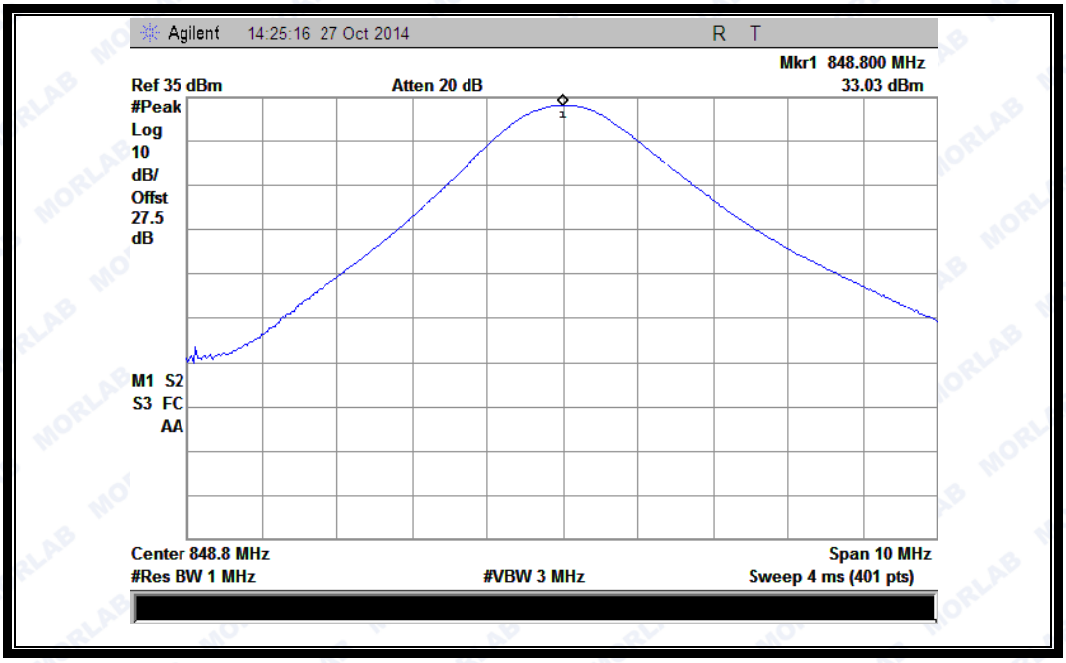
(Plot D 3: GPRS 1900MHz Channel = 810)



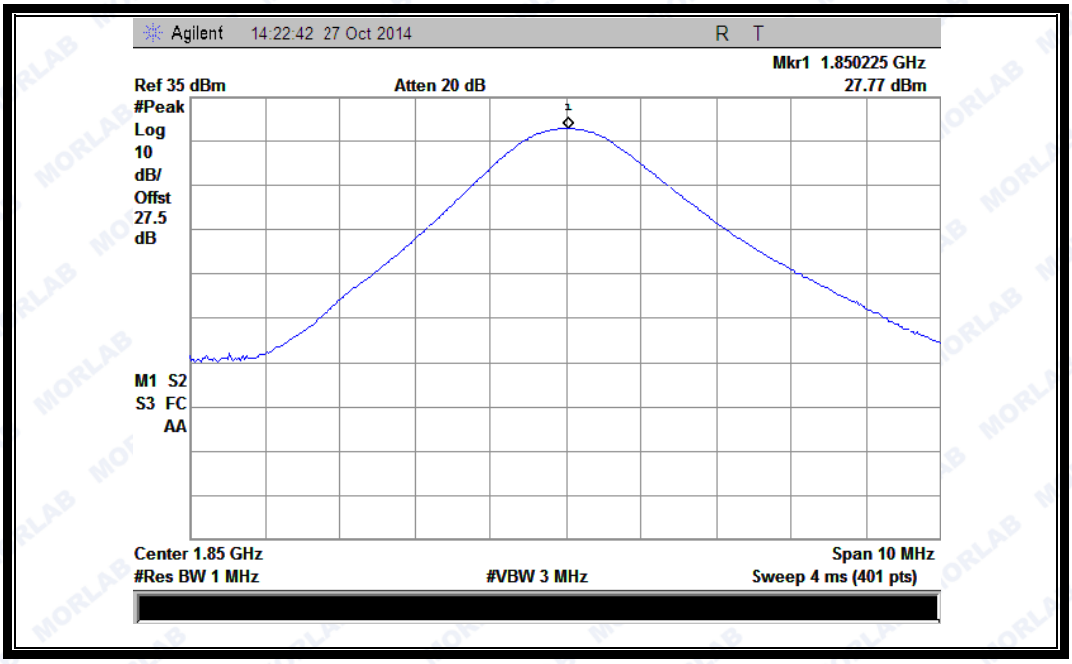
(Plot E1: EGPRS 850MHz Channel = 128)



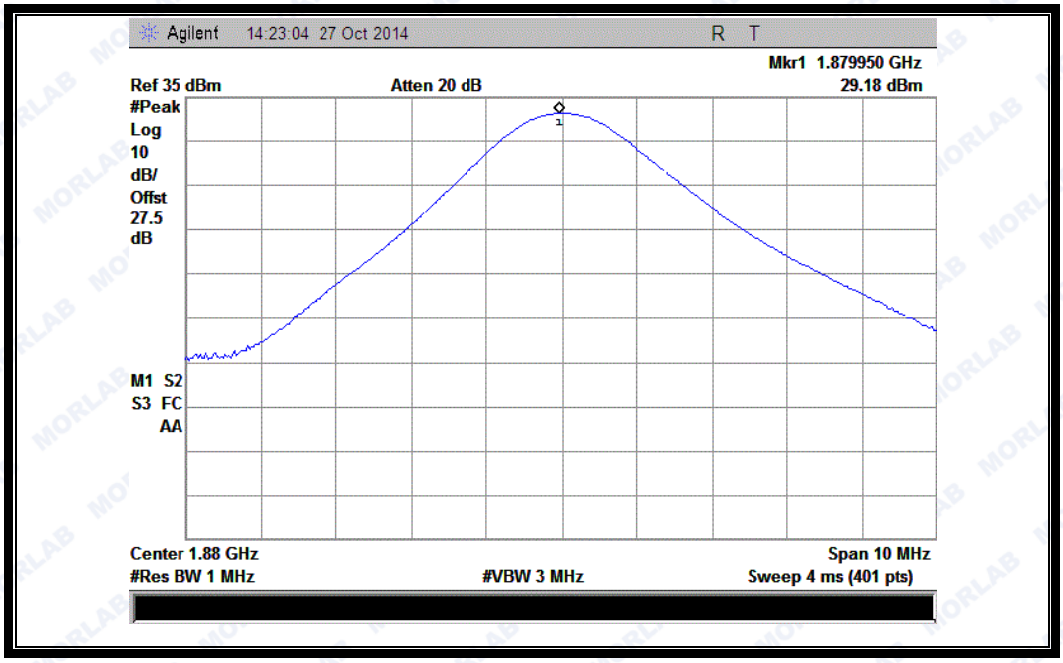
(Plot E2: EGPRS 850MHz Channel = 190)



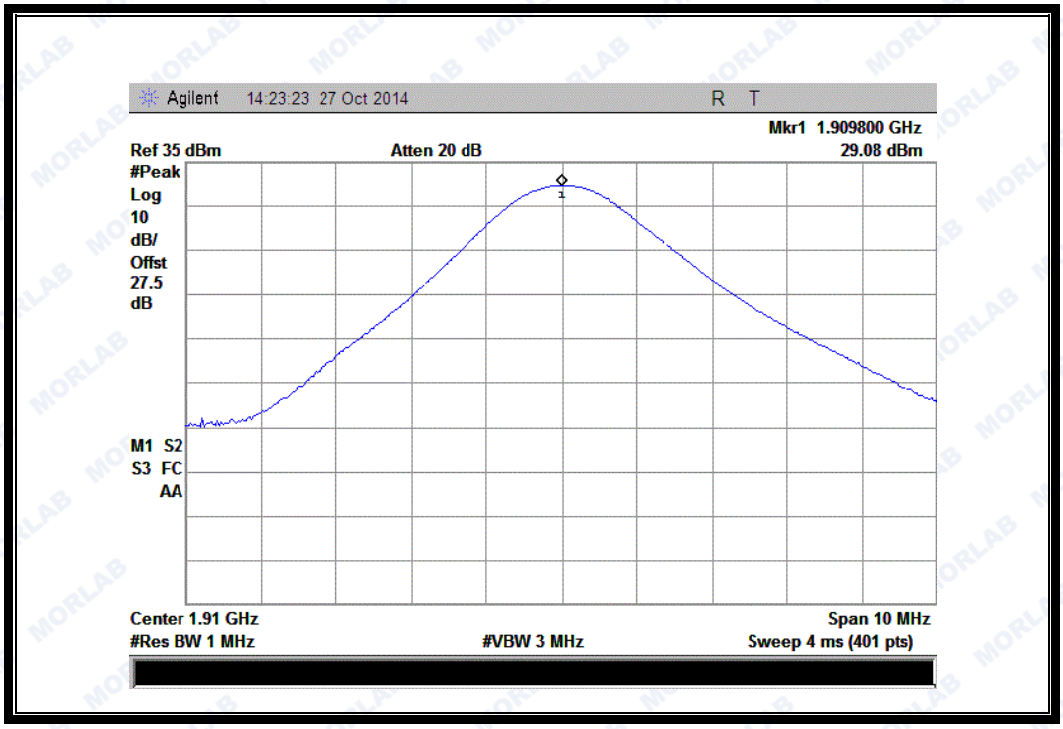
(Plot E3: EGPRS 850MHz Channel = 251)



(Plot F1:EGPRS 1900MHz Channel = 512)



(Plot F2:EGPRS 1900MHz Channel = 661)



(Plot F3:EGPRS 1900Hz Channel = 810)

2.2. Peak to Average Radio

2.2.1. Definition

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

2.2.2. Test Description

See section 2.1.2 of this report.

2.2.3. Test Verdict

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

Test procedures:

A .For GSM/EGPRS operating mode:

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

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

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

B. For UMTS operating mode:

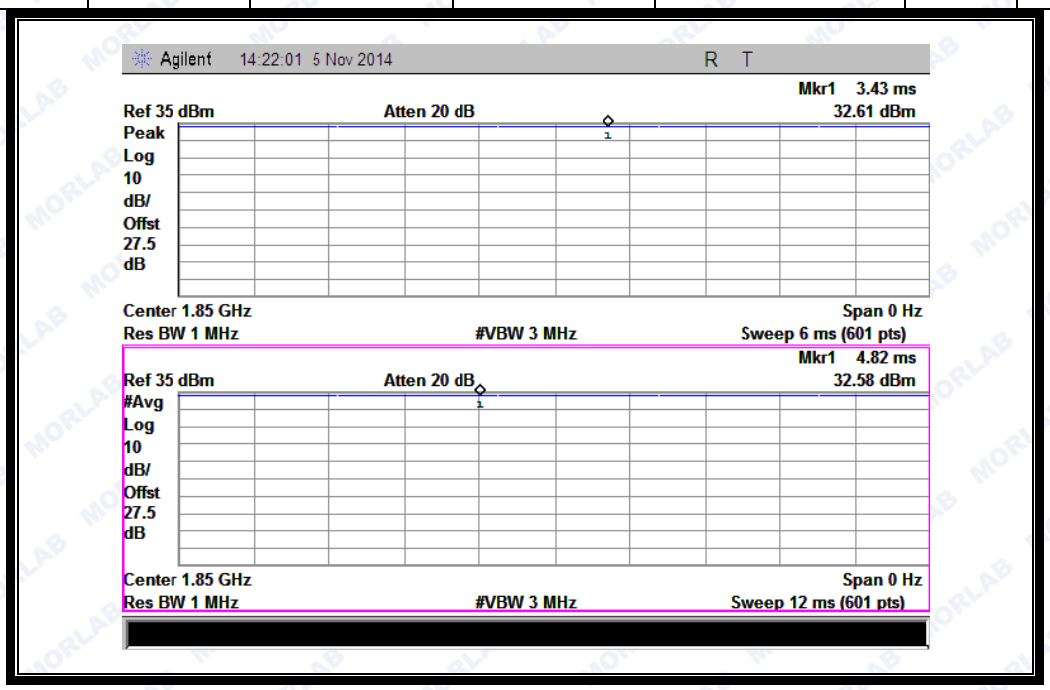
a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

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

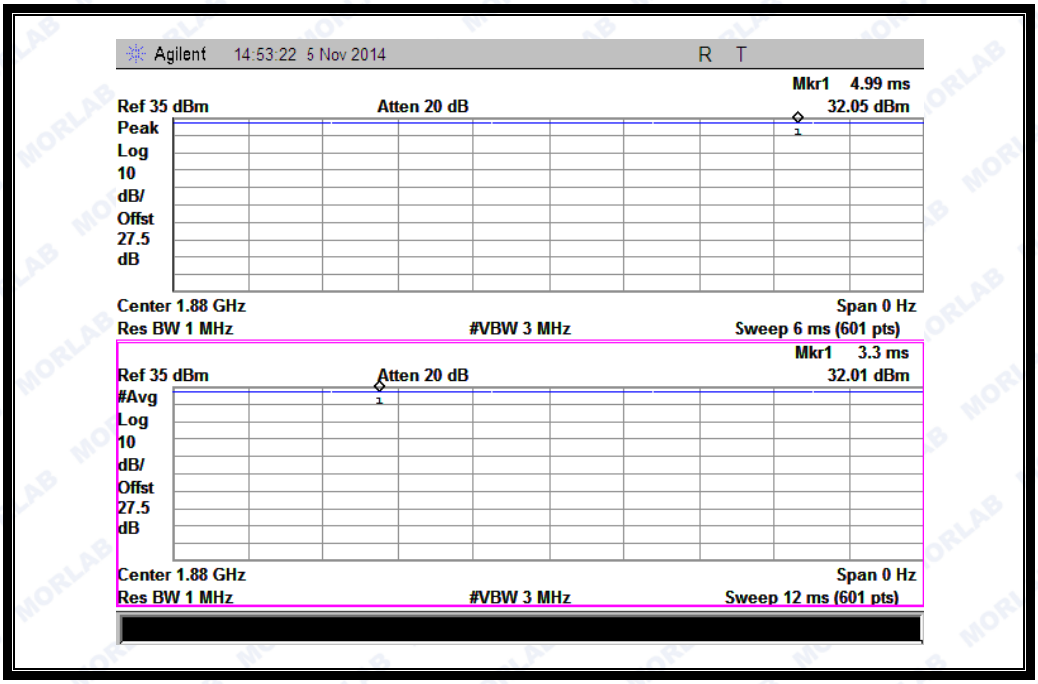
Test Verdict:

Band	Channel	Frequency (MHz)	Peak to Average radio		Limit	Verdict
			dBm	Refer to Plot	dBm	
GSM 1900MHz	512	1850.2	0.03	Plot A1 to A3	13	PASS
	661	1880.0	0.04			PASS
	810	1909.8	0.13			PASS
EGPRS 1900MHz	512	1850.2	0.01	Plot B1 to B3	13	PASS
	661	1880.0	0.02			PASS
	810	1909.8	0.02			PASS

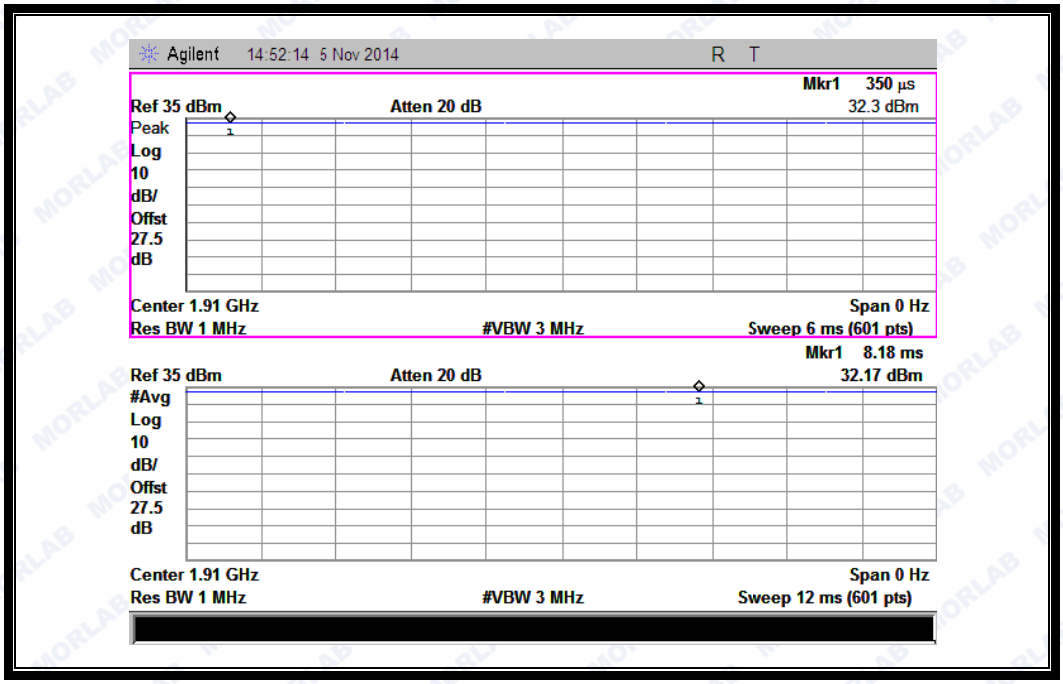
Band	Channel	Frequency (MHz)	Peak to Average radio		Limit	Verdict
			dBm	Refer to Plot	dBm	
WCDMA 1900MHz	9262	1852.4	3.19	Plot C1 toC3	13	PASS
	9400	1880	3.34			PASS
	9538	1907.6	3.16			PASS



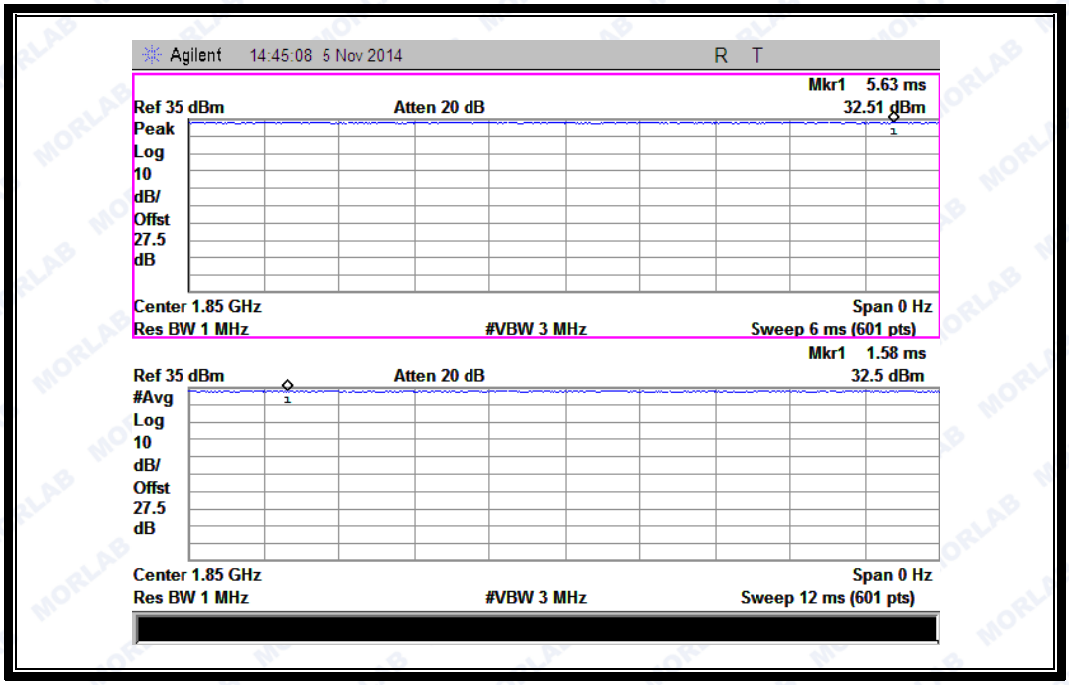
(Plot A1:GSM 1900 MHz Channel = 512)



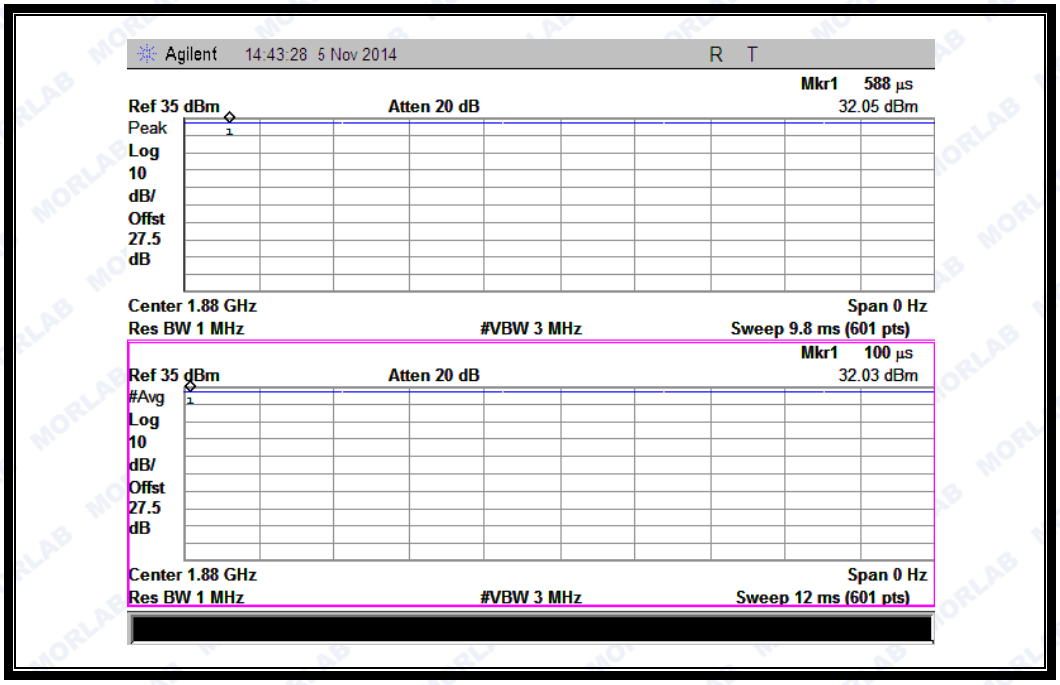
(Plot A2:GSM 1900 MHz Channel = 661)



(Plot A3:GSM 1900MHz Channel = 810)

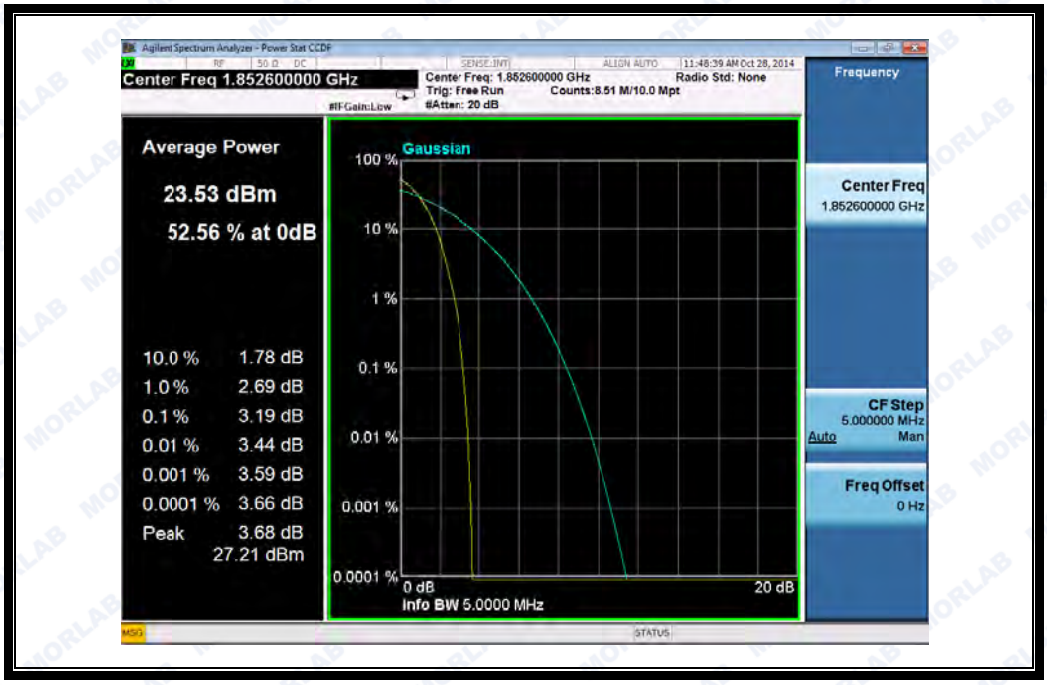


(Plot B1: EGPRS 1900MHz Channel = 512)

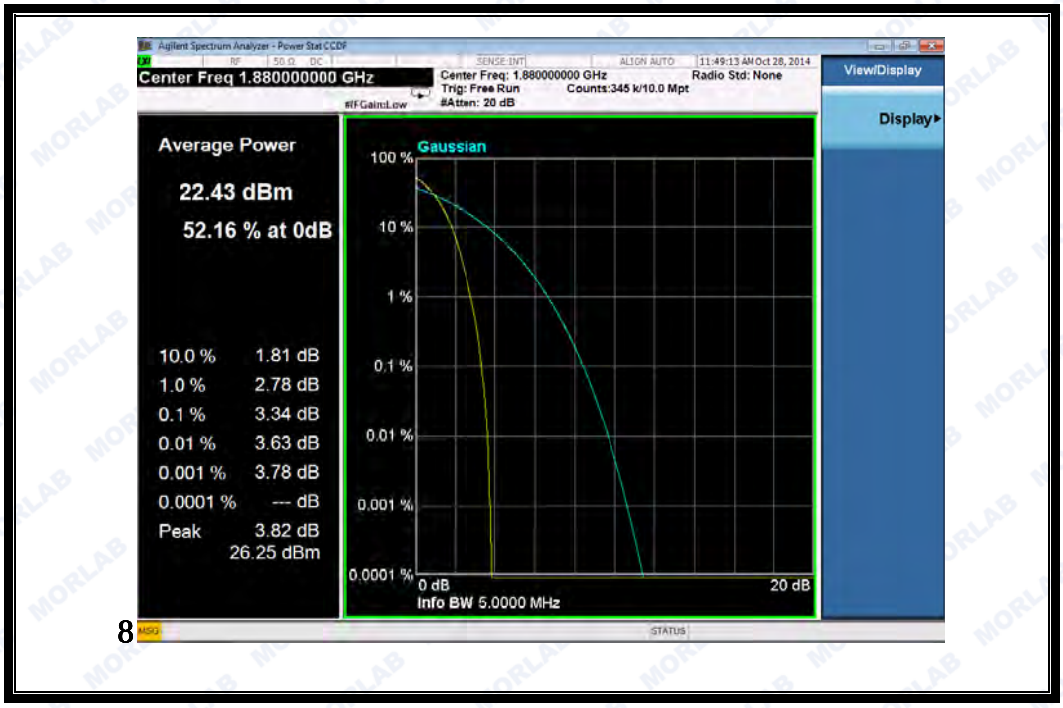


(Plot B2: EGPRS 1900MHz Channel = 661)

(Plot B3: EGPRS 1900MHz Channel = 810)

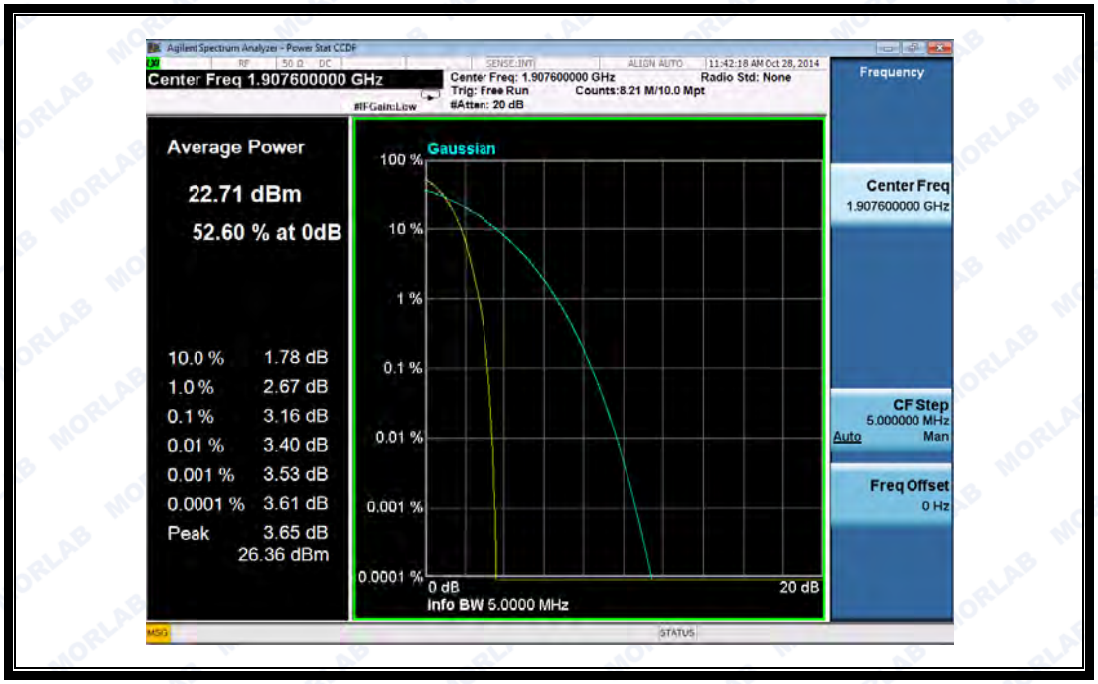


(Plot C1: WCDMA 1900MHz Channel = 9262)



8

(Plot C2: WCDMA 1900MHz Channel = 9400)



(Plot C3: WCDMA 1900MHz Channel = 9538)

2.3. 99% Occupied Bandwidth

2.3.1. Definition

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

Occupied bandwidth is also known as the 99% emission bandwidth,

2.3.2. Test Description

See section 2.1.2 of this report.

2.3.3. Test Verdict

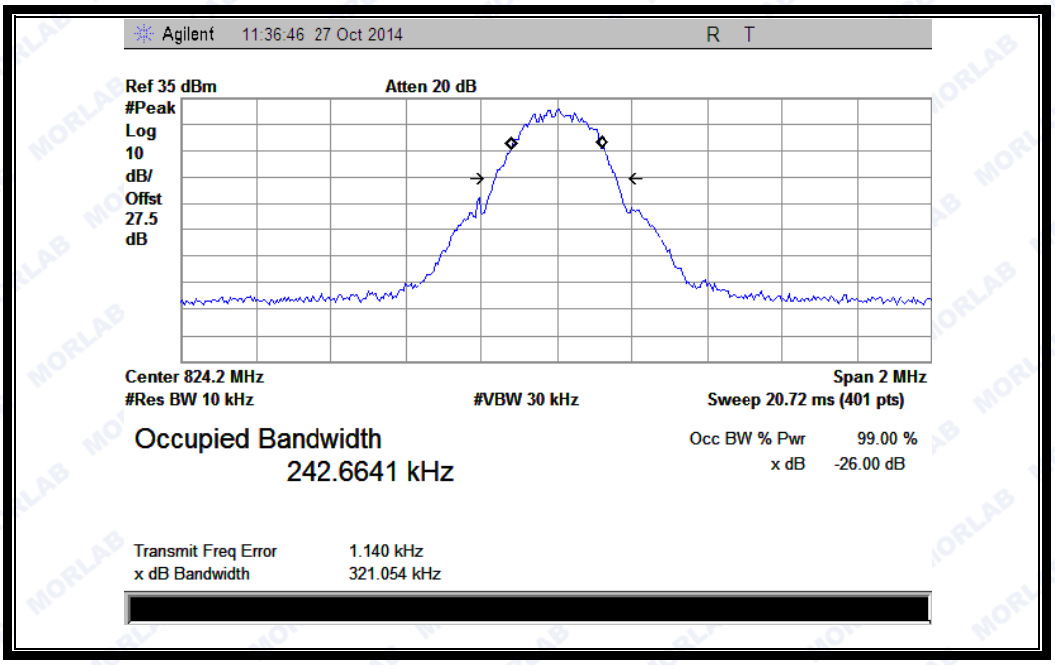
Here the lowest, middle and highest channels are selected to perform testing to verify the 99% occupied bandwidth.

Test Verdict:

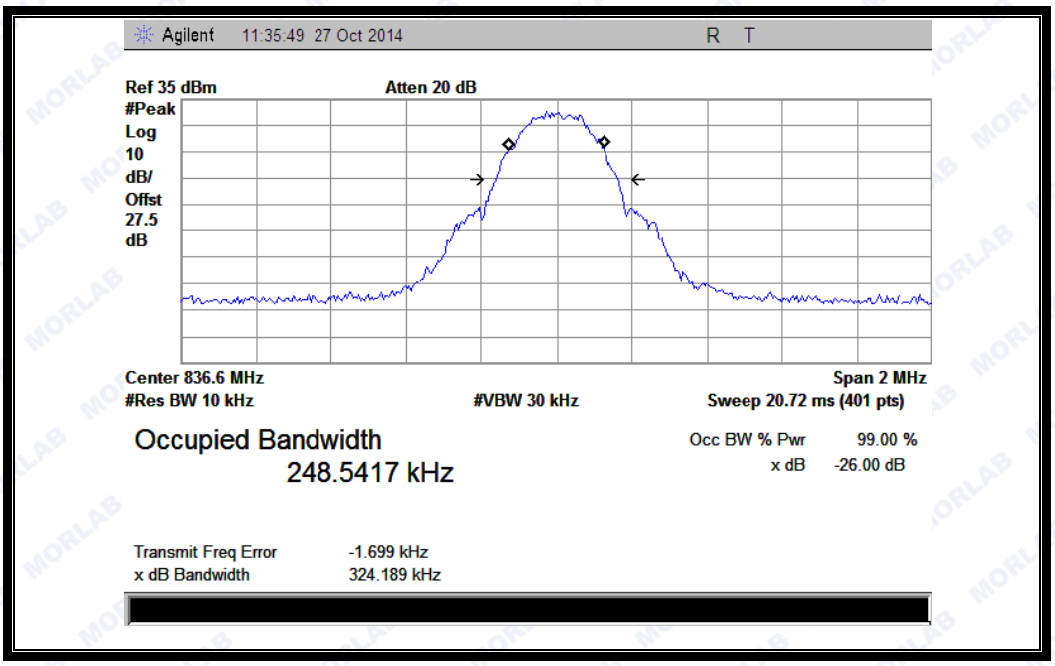
Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
EDGE 850MHz	128	824.2	321.054 KHz	242.6641 KHz	Plot A
	190	836.6	324.189 KHz	248.5417 KHz	Plot B
	251	848.8	320.277 KHz	244.6672 KHz	Plot C
EDGE 1900MHz	512	1850.2	325.318 KHz	247.8860 KHz	Plot D
	661	1880.0	321.173 KHz	242.5363 KHz	Plot E
	810	1909.8	323.881 KHz	246.6112 KHz	Plot F
WCDMA 1900MHz	9262	1852.4	4.626 MHz	4.1631 MHz	Plot G
	9400	1880	4.618 MHz	4.1565 MHz	Plot H
	9538	1907.6	4.625 MHz	4.1626 MHz	Plot I
HSDPA 1900MHz	9262	1852.4	4.622 MHz	4.1642 MHz	Plot J
	9400	1880	4.623 MHz	4.1614 MHz	Plot K
	9538	1907.6	4.620 MHz	4.1651 MHz	Plot L
HSUPA 1900MHz	9262	1852.4	4.620 MHz	4.1615 MHz	Plot M
	9400	1880	4.613 MHz	4.1636 MHz	Plot N

Band	Channel	Frequency (MHz)	26dB bandwidth	99% Occupied Bandwidth	Refer to Plot
	9538	1907.6	4.618 MHz	4.1793 MHz	Plot O
HSPA+ 1900MHz	9262	1852.4	4.609 MHz	4.1605 MHz	Plot P
	9400	1880	4.611 MHz	4.1705 MHz	Plot Q
	9538	1907.6	4.627 MHz	4.1686 MHz	Plot R
GSM 850MHz	128	824.2	317.012 KHz	240.9370 KHz	Plot S
	190	836.6	309.950 KHz	251.8061 KHz	Plot T
	251	848.8	316.922 KHz	251.1715 KHz	Plot U
GSM 1900MHz	512	1850.2	319.312 KHz	247.1563 KHz	Plot V
	661	1880.0	319.444 KHz	246.0418 KHz	Plot W
	810	1909.8	315.655 KHz	245.0224 KHz	Plot X
GPRS 850MHz	128	824.2	319.781 KHz	244.1848 KHz	Plot Y
	190	836.6	318.026 KHz	240.2363 KHz	Plot Z
	251	848.8	322.909 KHz	255.3274 KHz	Plot A1
GPRS 1900MHz	512	1850.2	321.499 KHz	249.3366 KHz	Plot BA
	661	1880.0	312.505 KHz	241.6752 KHz	Plot C1
	810	1909.8	320.308 KHz	247.1889 KHz	Plot D1

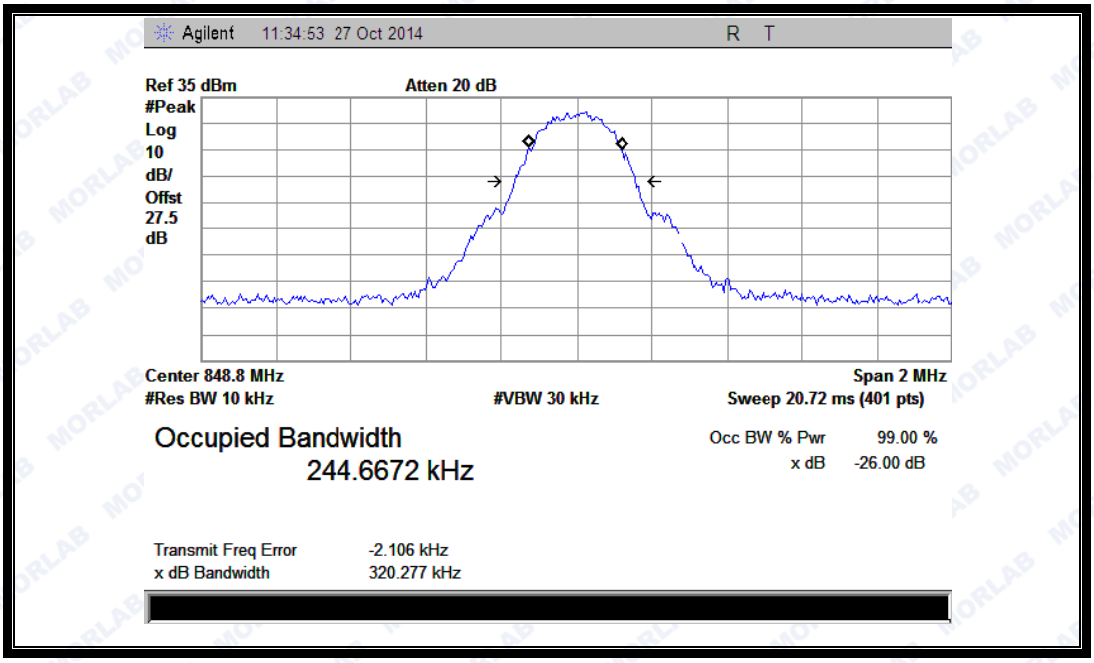
Test Plots:



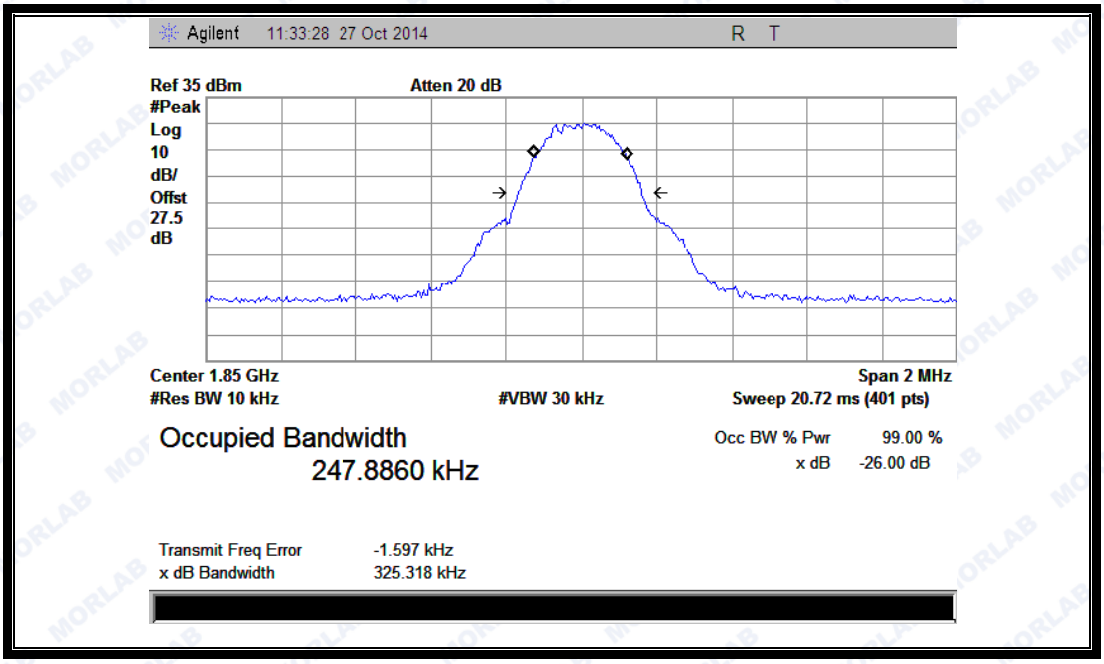
(Plot A: EGPRS 850MHz Channel = 128)



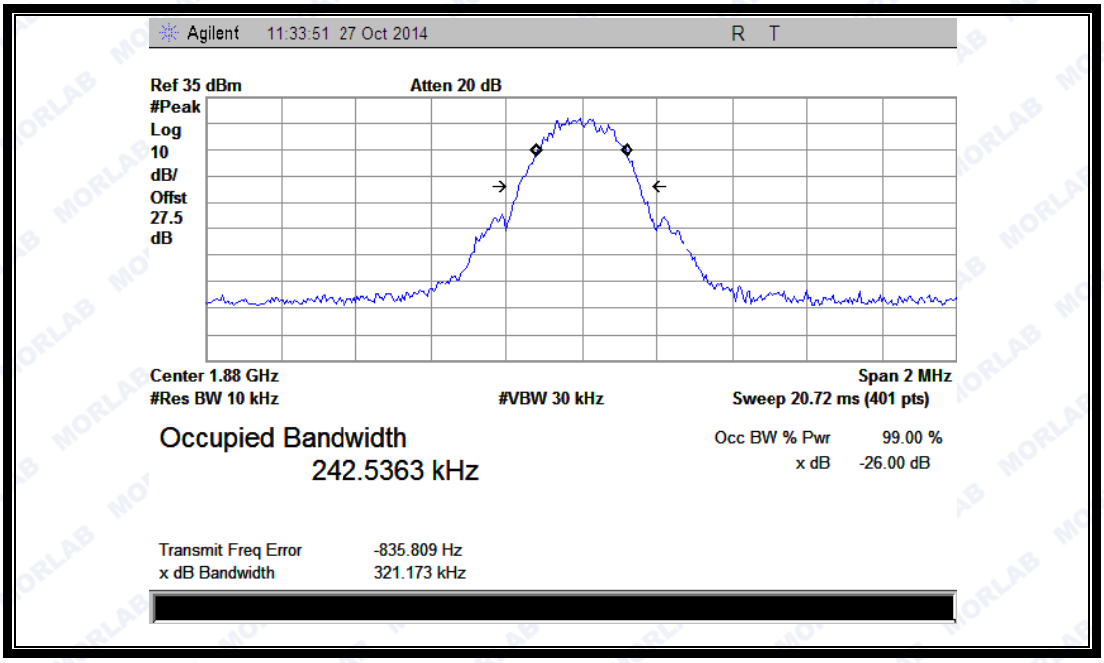
(Plot B: EGPRS 850MHz Channel = 190)



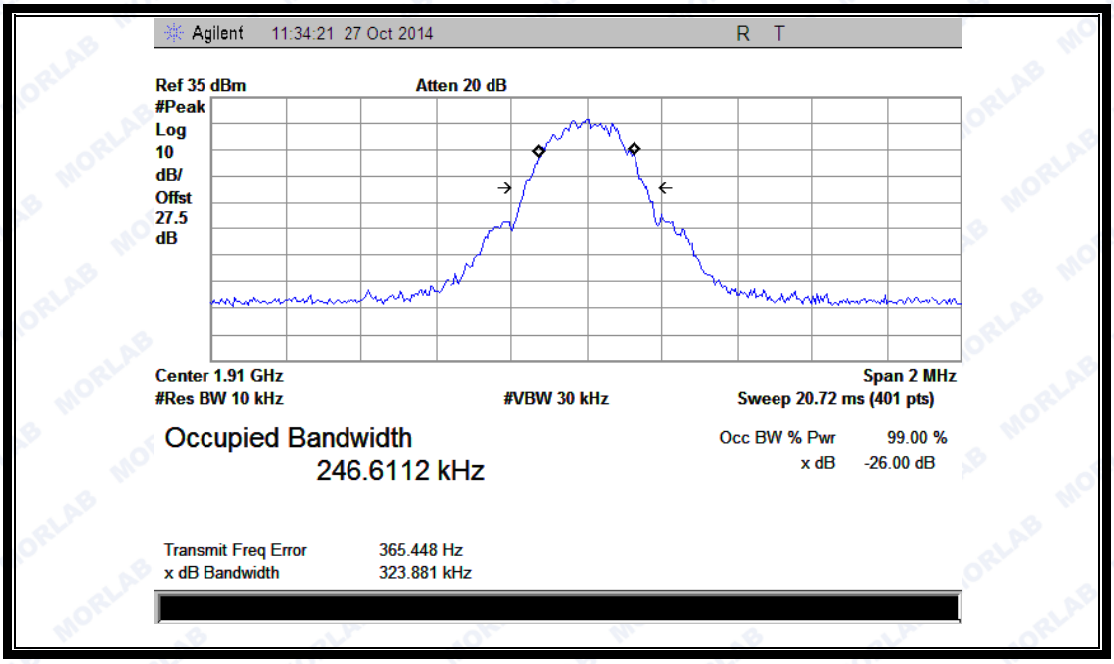
(Plot C: EGPRS 850MHz Channel = 251)



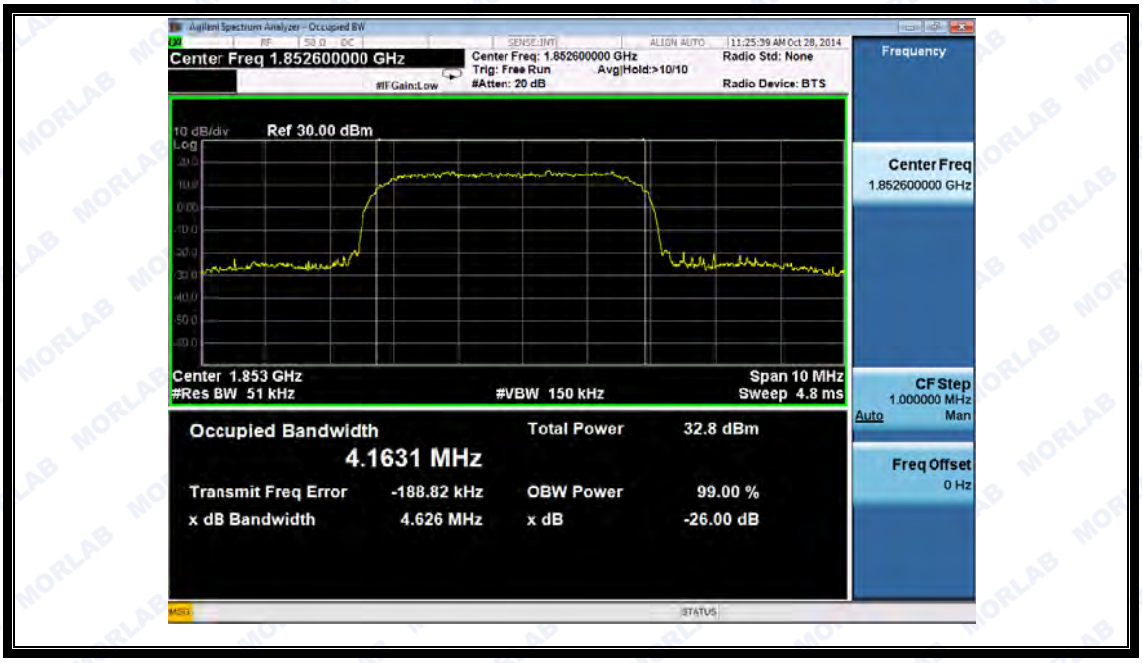
(Plot D: EGPRS1900MHz Channel = 512)



(Plot E: EGPRS1900MHz Channel = 661)



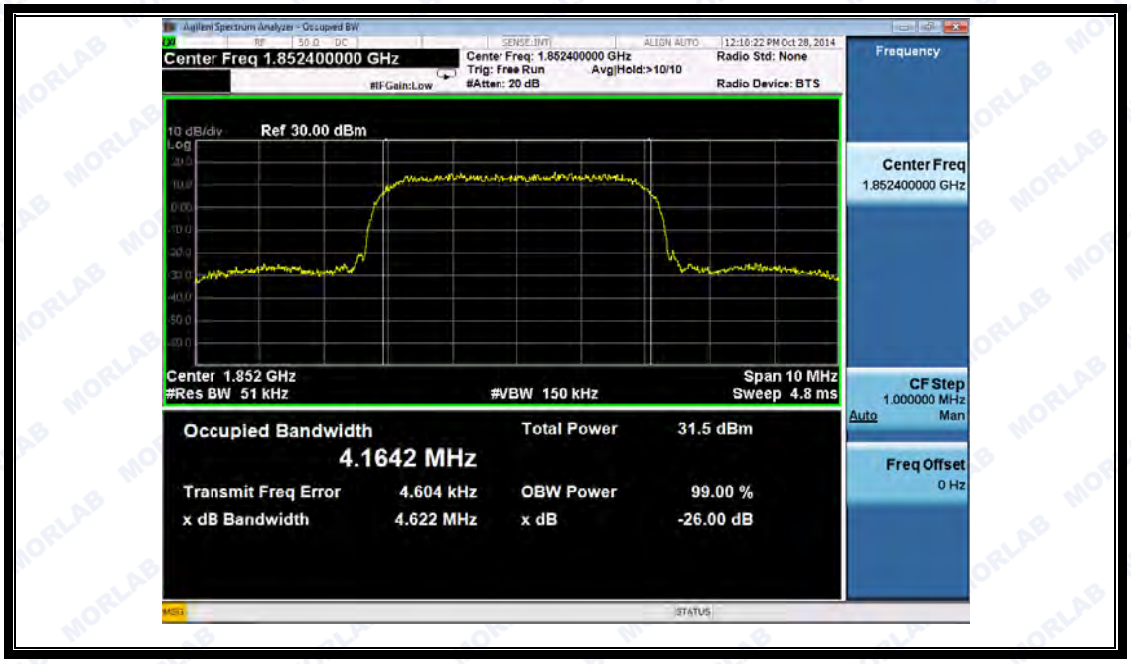
(Plot F: EGPRS 1900MHz Channel = 810)



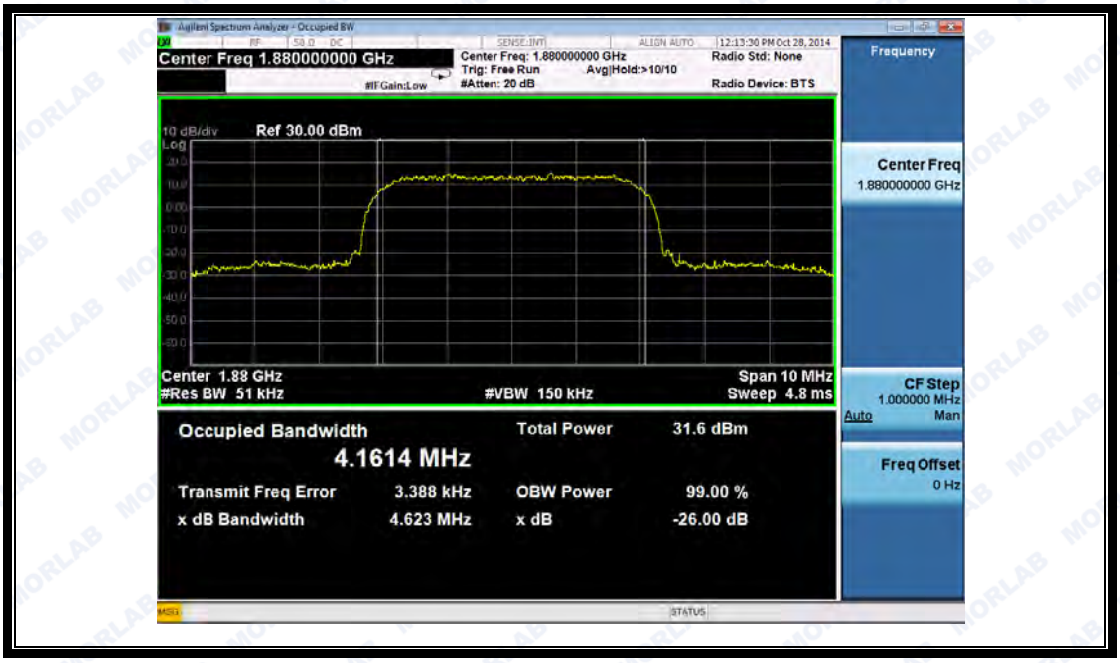
(Plot G: WCDMA 1900MHz Channel = 9262)

(Plot H: WCDMA 1900 MHz Channel = 9400)

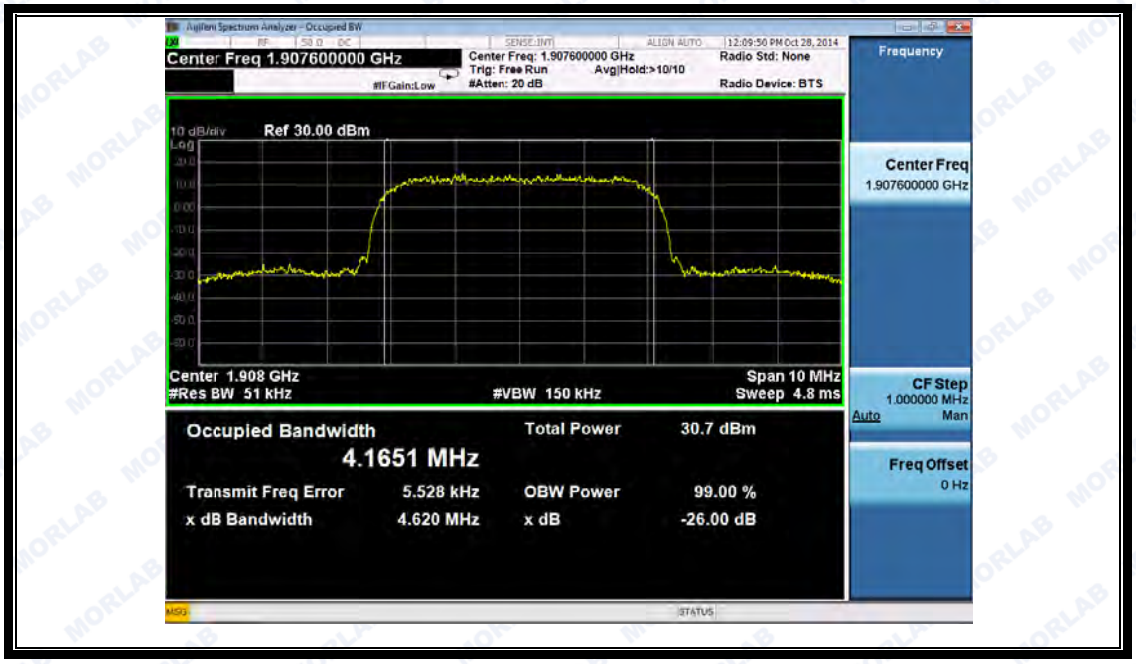
(Plot I: WCDMA1900MHz Channel = 9538)



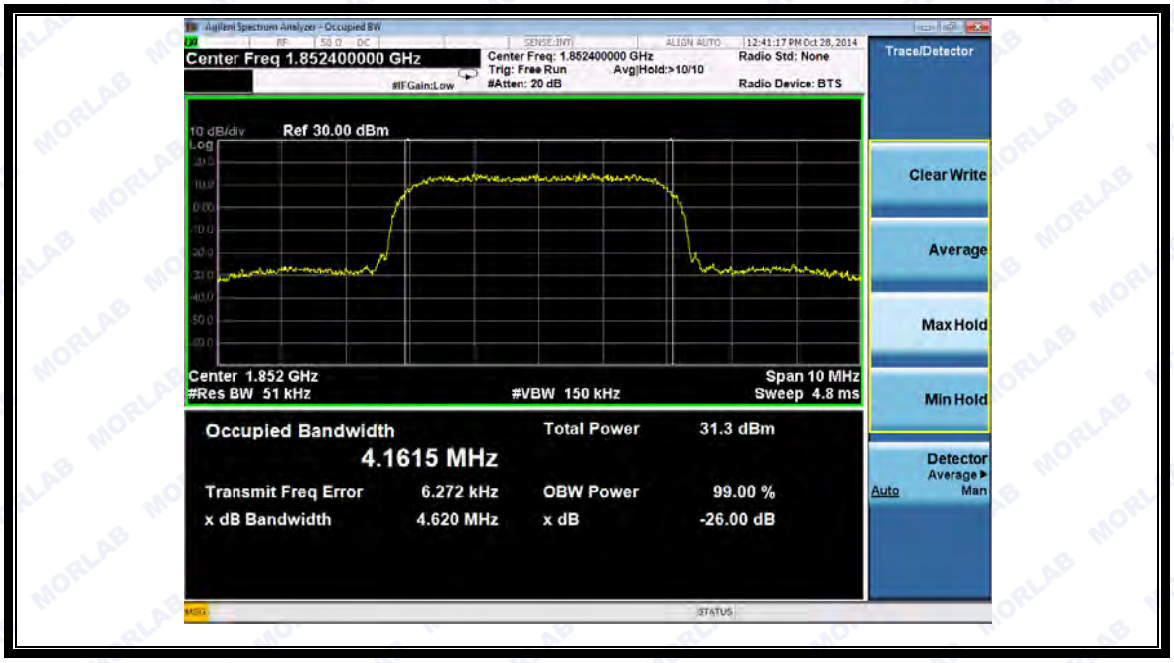
(Plot J: HSDPA1900 MHz Channel = 9262)



(Plot K: HSDPA1900 MHz Channel = 9400)

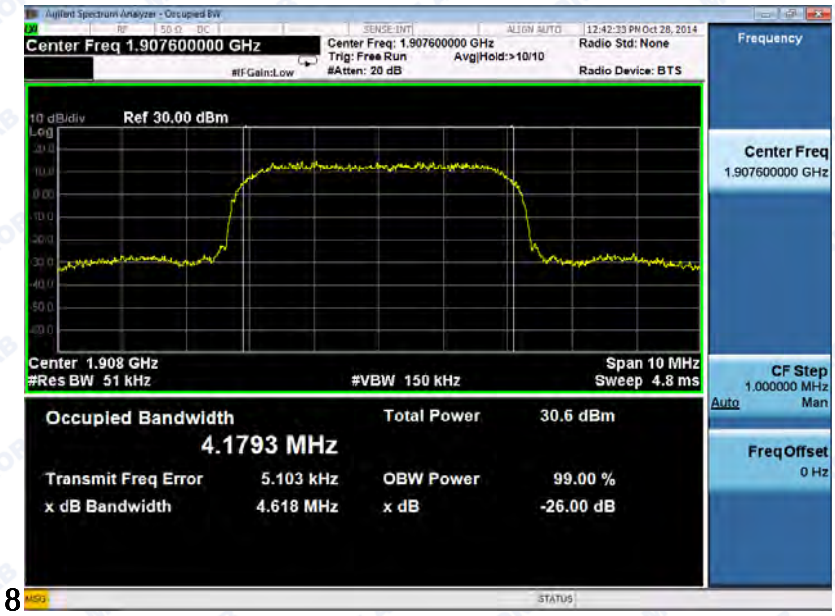


(Plot L: HSDPA 1900 MHz Channel = 9538)



(Plot M: HSUPA1900 MHz Channel = 9262)

(Plot N: HSUPA1900 MHz Channel = 9400)



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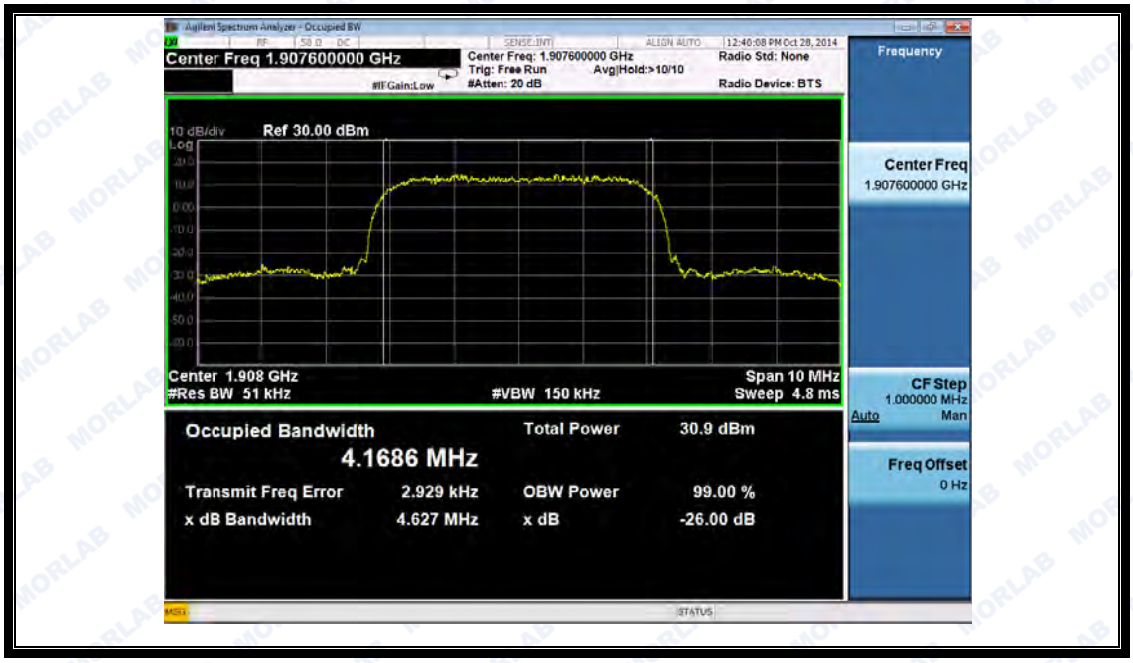
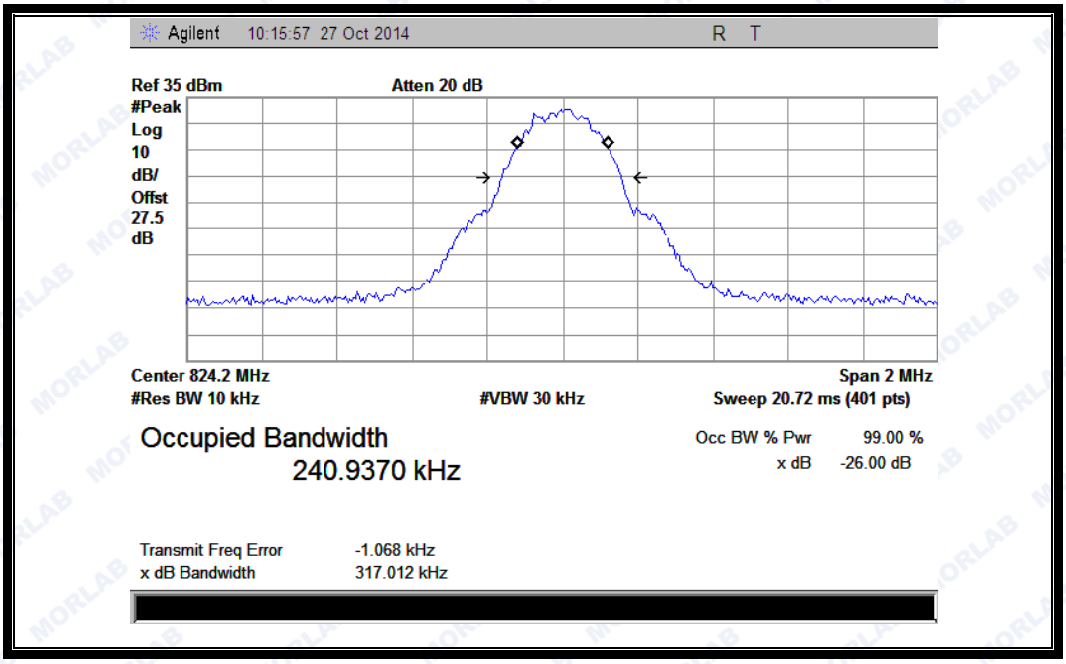
(Plot O: HSUPA1900 MHz Channel = 9538)

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

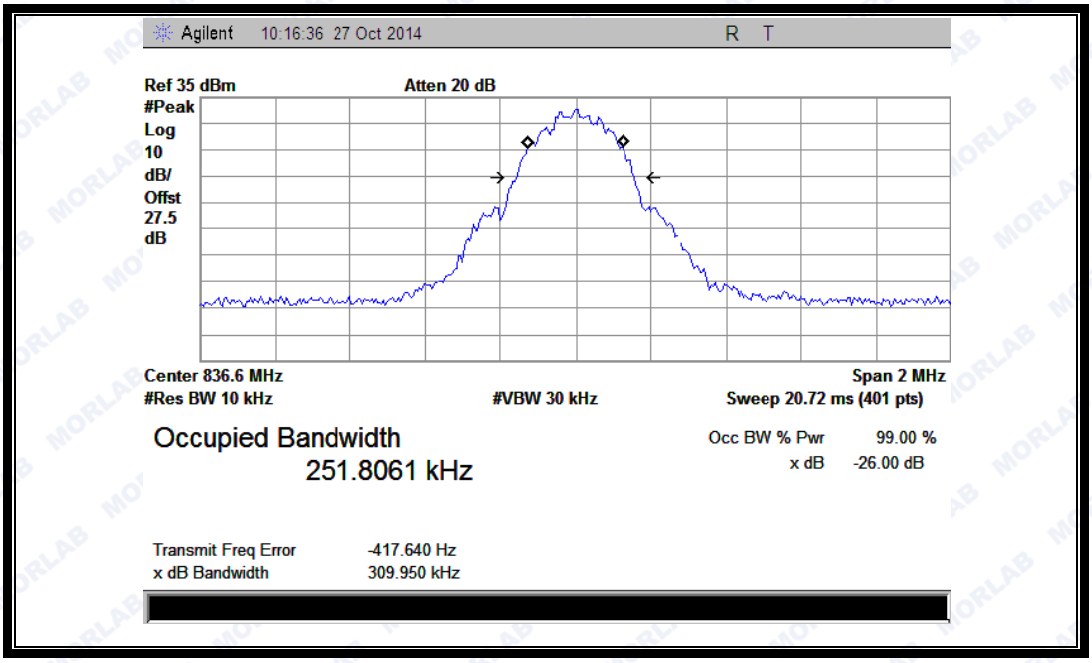
(Plot Q: HSPA+1900 MHz Channel = 9400)



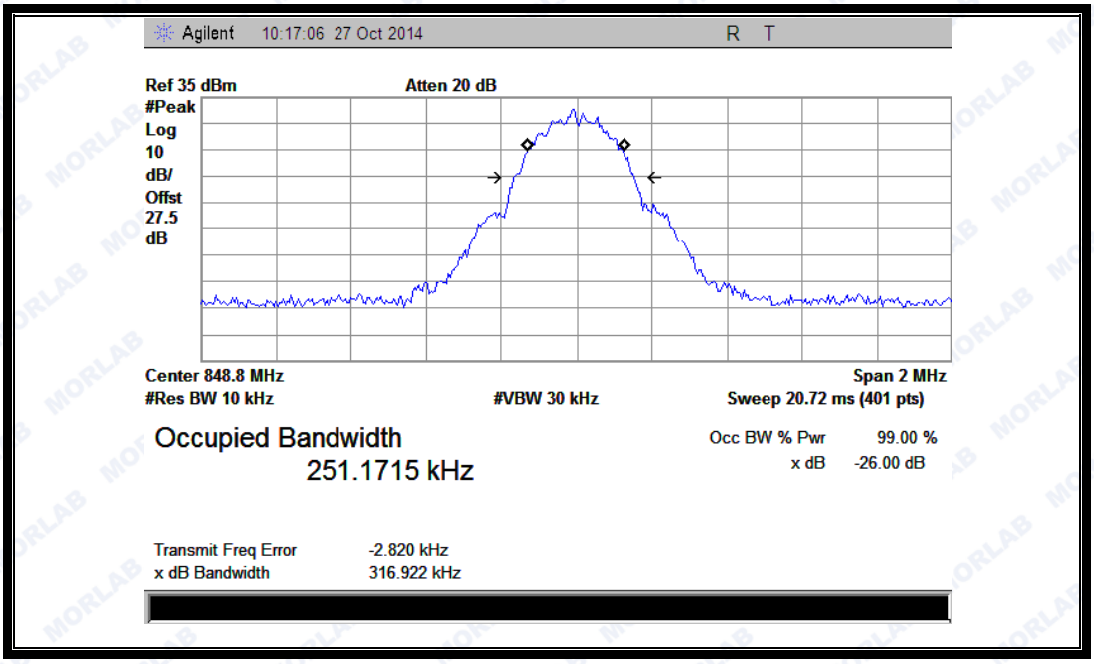
(Plot R: HSPA+1900 MHz Channel = 9538)



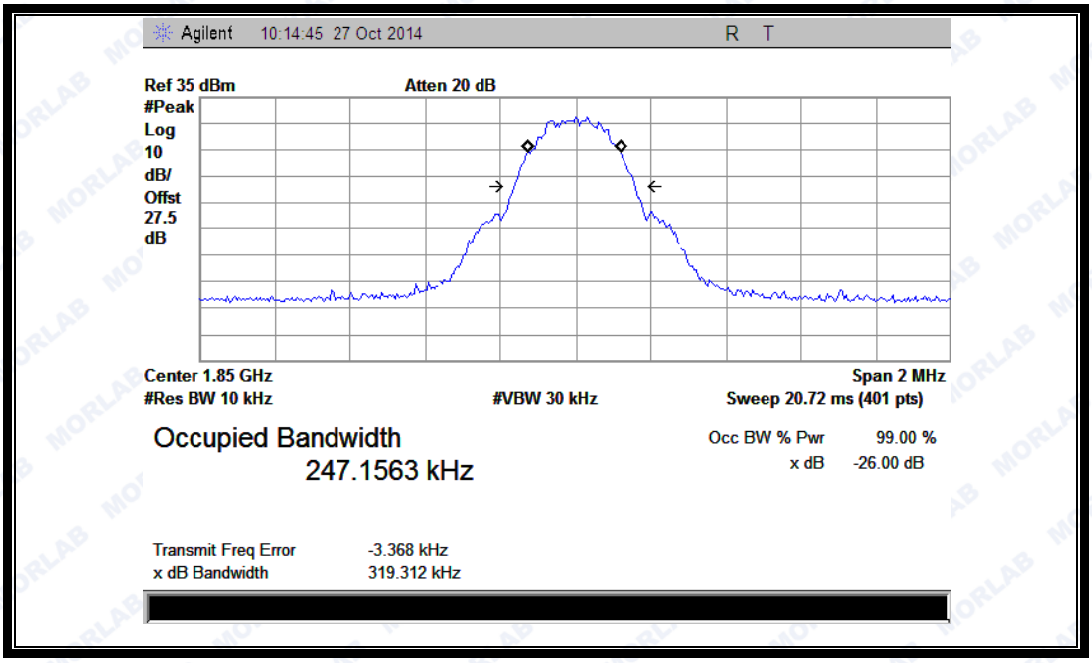
(Plot S: GSM 850MHz Channel = 128)



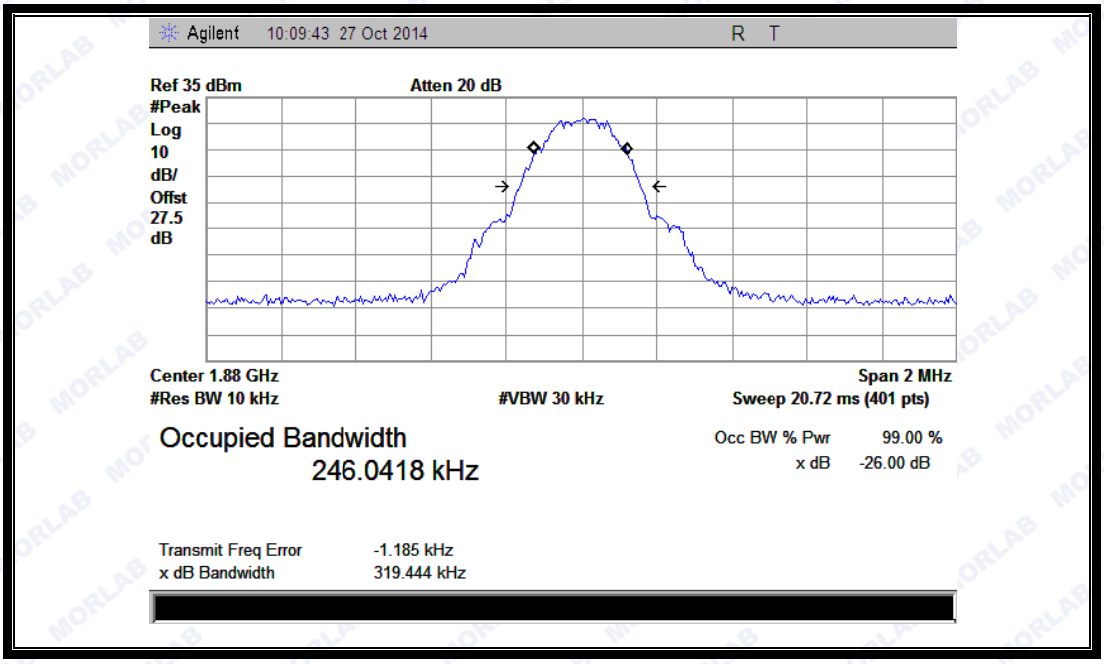
(Plot T: GSM 850MHz Channel = 190)



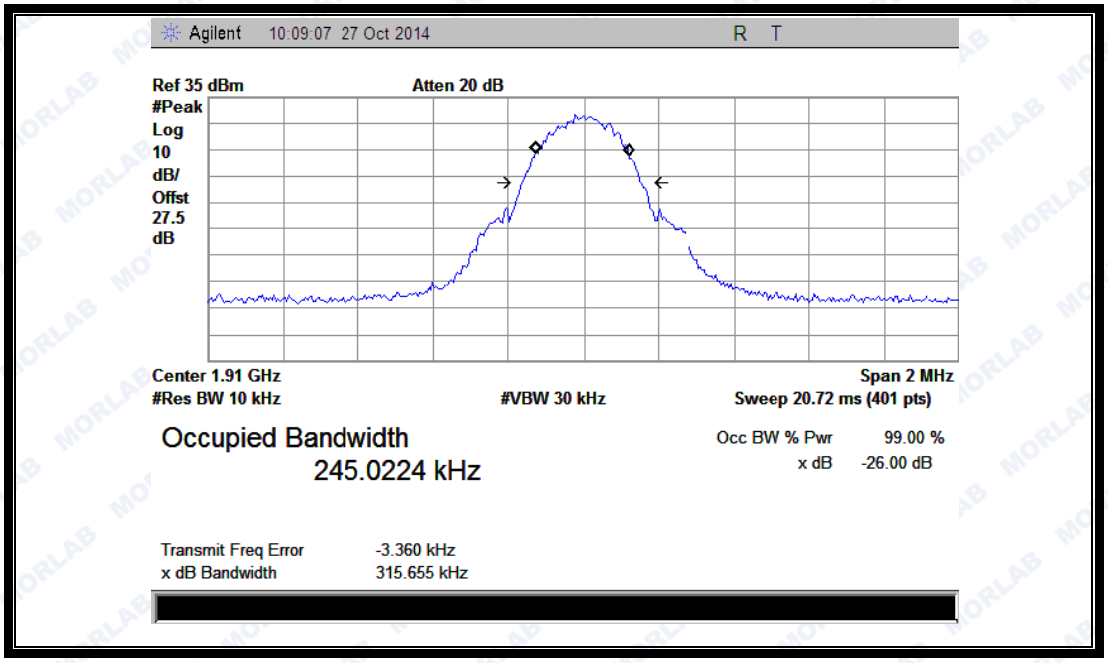
(Plot U: GSM 850MHz Channel = 251)



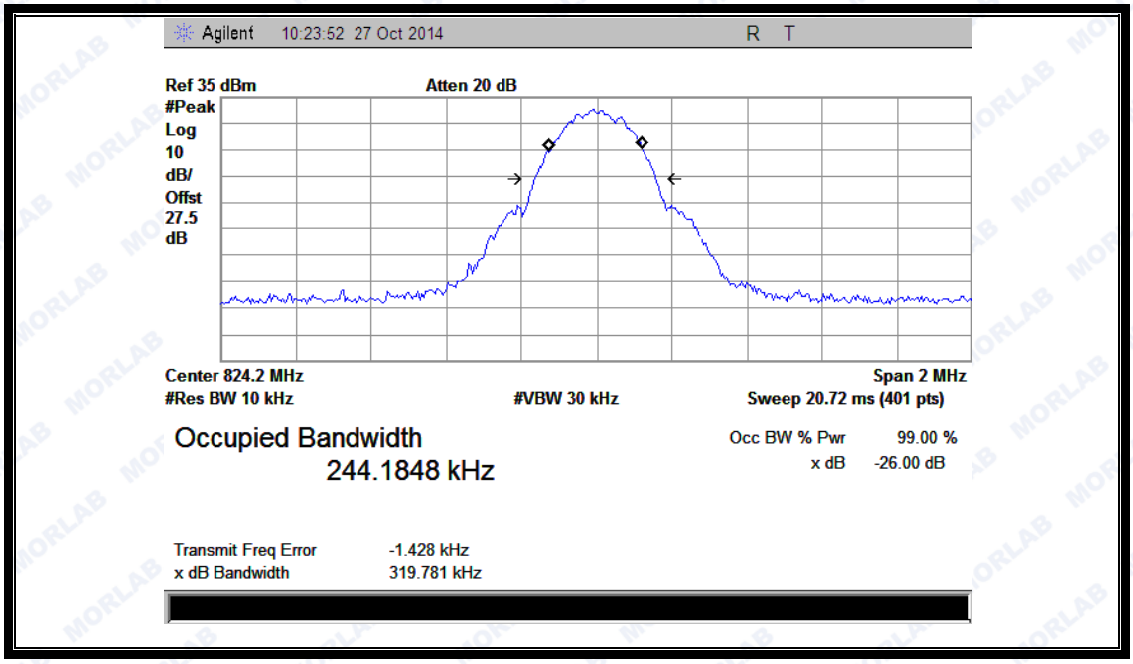
(Plot V: GSM 1900MHz Channel = 512)



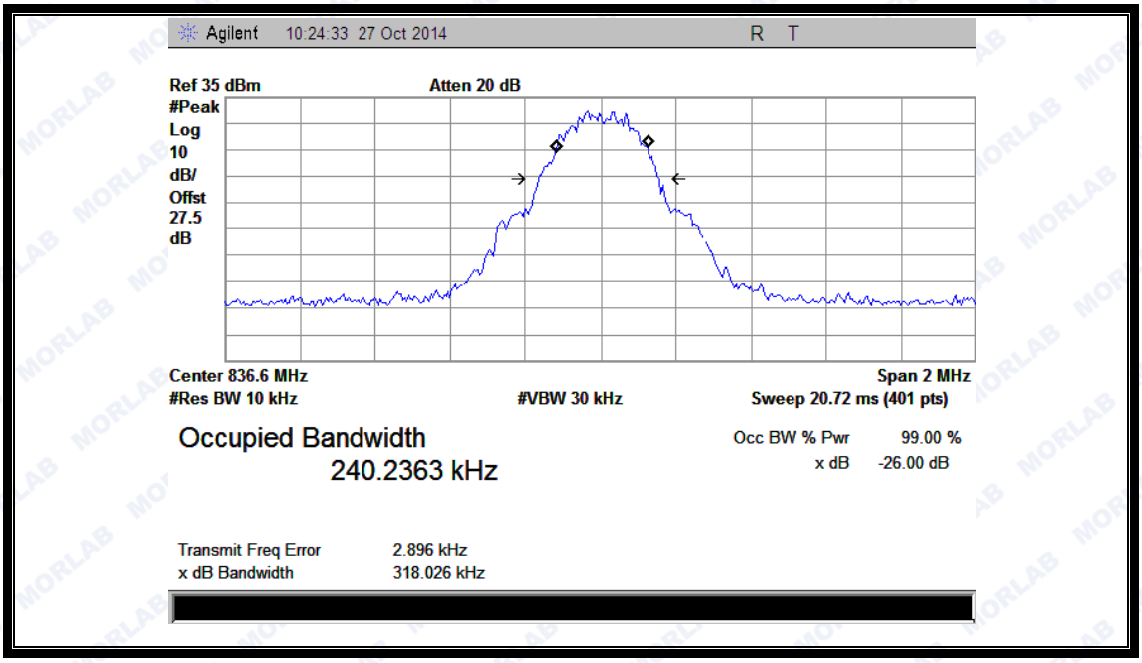
(Plot W: GSM 1900MHz Channel = 661)



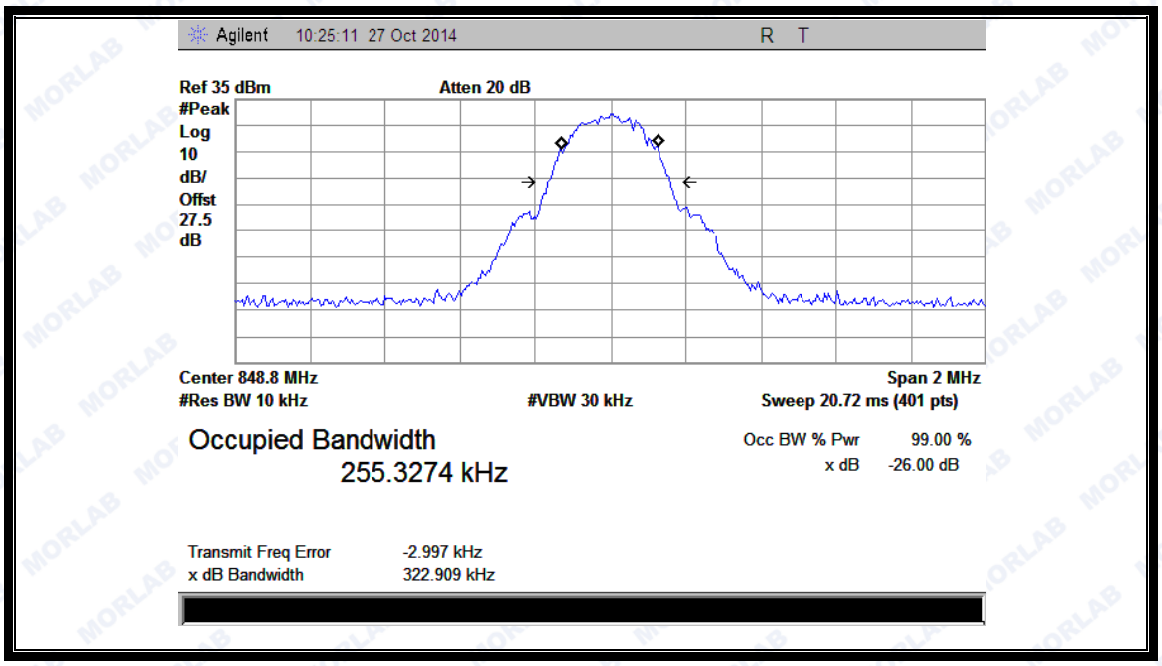
(Plot X: GSM 1900MHz Channel = 810)



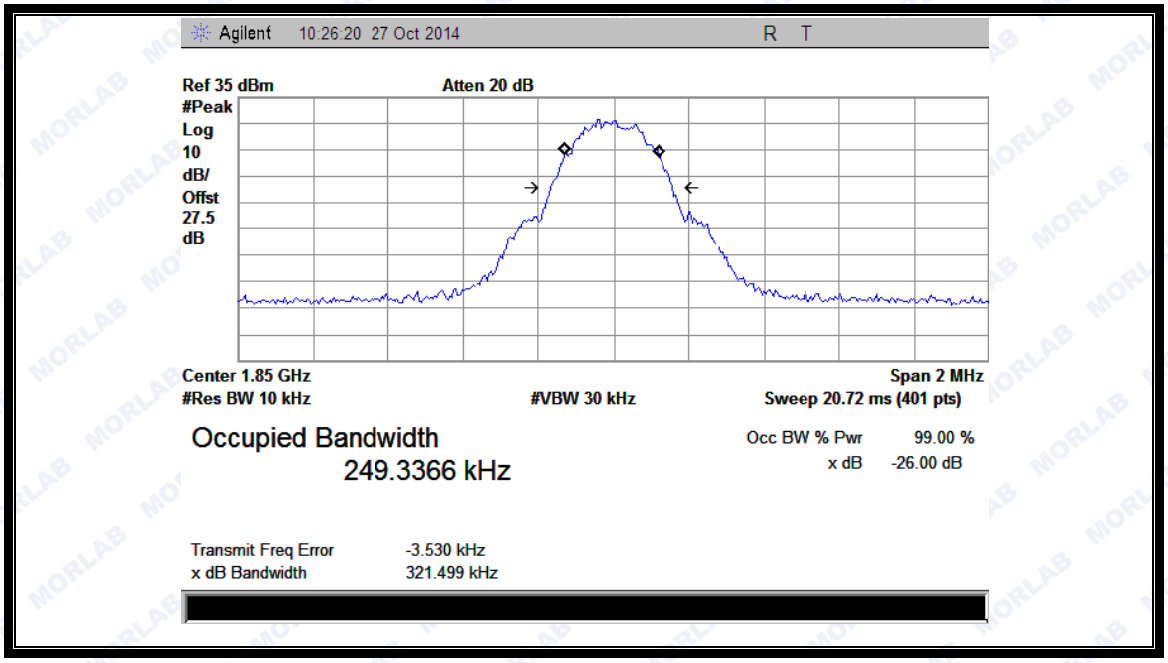
(Plot Y: GPRS 850MHz Channel = 128)



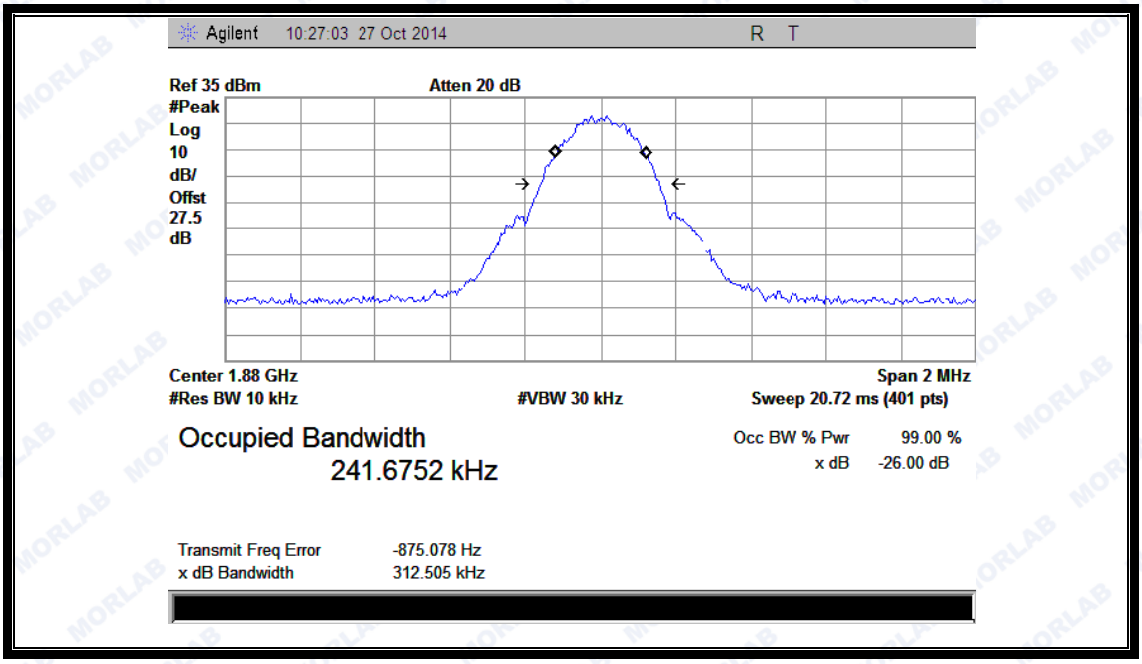
(Plot Z: GPRS 850MHz Channel = 190)



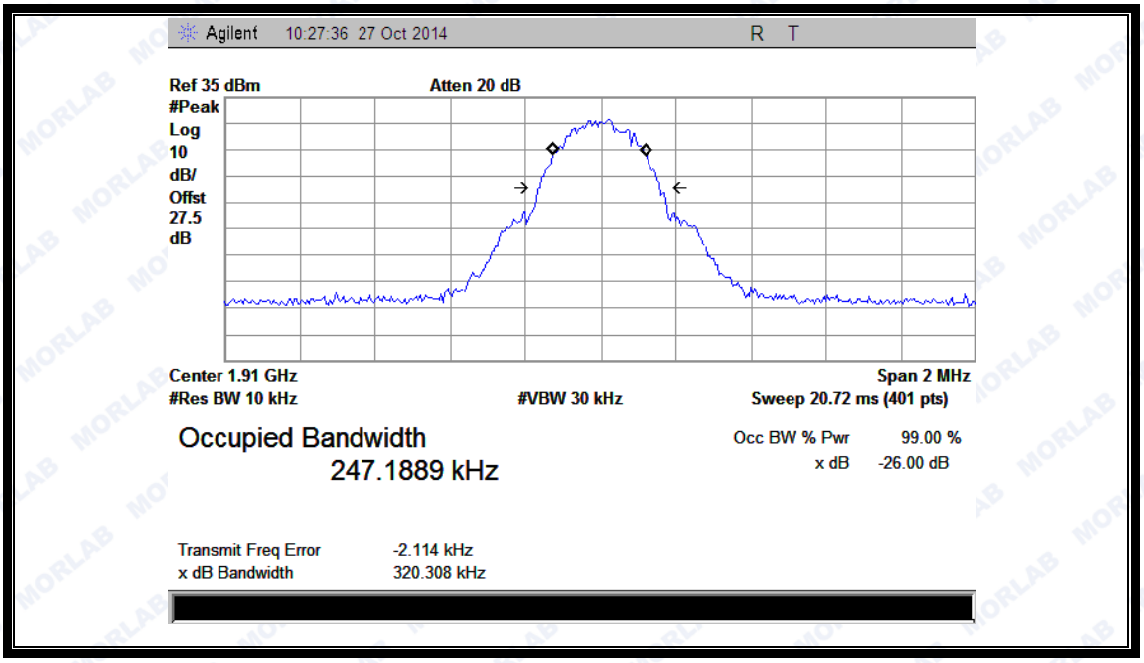
(Plot A1:GPRS850MHz Channel = 251)



(Plot B1: GPRS 1900MHz Channel = 512)



(Plot C1: GPRS 1900MHz Channel = 661)



(Plot D1: GPRS 1900MHz Channel = 810)

2.4. Frequency Stability

2.4.1. Requirement

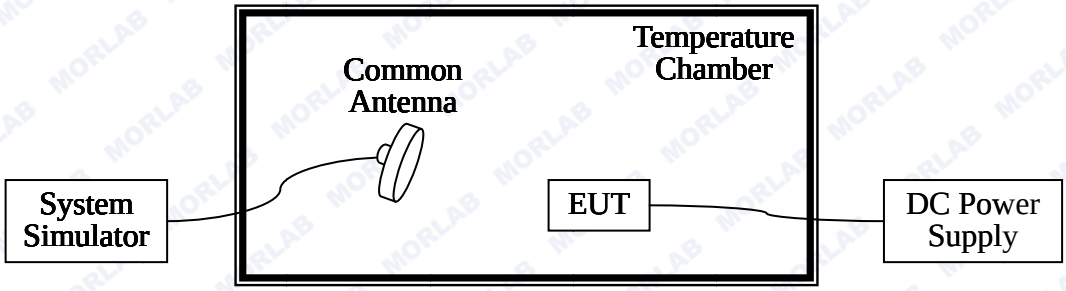
According to FCC section 22.355 and FCC section 24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

(a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.

(b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

2.4.2. Test Description

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.

3. Equipments List:

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

2.4.3. Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.8VDC, 4.2VDC and 3.45VDC, which are specified by the applicant; the normal temperature here used is 25°C. The frequency deviation limit of 850MHz band is ±2.5ppm, and 1900MHz is ±1ppm.

GSM 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 128 (824.2MHz)		Channel = 190 (836.6MHz)		Channel = 251 (848.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	-24.45	±2060.5	22.12	±2091.5	18.17	±2122	PASS
	-20	27.11		12.43		-15.02		
	-10	-2.25		-17.46		15.11		
	0	31.26		31.14		5.05		
	+10	21.79		-24.93		3.02		
	+20	-19.56		-17.19		10.76		
	+30	34.36		19.36		-16.53		
	+40	44.63		19.64		-2.13		
	+55	35.28		23.27		-12.89		
4.2	+25	-15.73		29.05		-7.55		
3.45	+25	-17.65		36.13		7.78		

GSM 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 512 (1850.2MHz)		Channel = 661 (1880.0MHz)		Channel = 810 (1909.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	18.21	±1850.2	21.18	±1880.0	32.15	±1909.8	PASS
	-20	37.18		-21.48		-18.88		
	-10	-2.05		-13.76		-16.88		
	0	40.06		-18.38		19.32		
	+10	1.98		-21.61		25.31		
	+20	-19.76		15.52		31.26		
	+30	39.76		-0.78		-29.21		
	+40	44.56		34.37		19.33		
	+55	39.88		24.02		-19.37		

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	
4.2	+25	37.88		23.72		27.09		
3.45	+25	-5.69		15.22		19.89		

EDGE 850MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 128 (824.2MHz)		Channel = 190 (836.6MHz)		Channel = 251 (848.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	-31.22	±2060.5	26.29	±2091.5	6.22	±2122	PASS
	-20	36.98		13.73		-13.8		
	-10	-3.25		-18.35		11.16		
	0	41.06		38.10		5.05		
	+10	1.99		-22.06		3.02		
	+20	-19.86		-16.11		10.76		
	+30	39.56		17.76		-16.5		
	+40	46.62		15.54		-2.11		
	+55	39.98		3.57		-12.89		
4.2	+25	-15.71		14.05		-7.83		
3.45	+25	-15.01		7.93		6.88		

EDGE 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 512 (1850.2MHz)		Channel = 661 (1880.0MHz)		Channel = 810 (1909.8MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	-12.87	±1850.2	25.22	±1880.0	1.77	±1909.8	PASS
	-20	2.72		7.63		-13.76		
	-10	1.25		-25.18		-13.21		
	0	2.57		-1.36		13.23		
	+10	-10.78		-17.98		5.23		
	+20	-2.11		-21.61		36.16		
	+30	14.03		14.58		-26.88		
	+40	5.43		-0.78		19.34		
	+55	-2.46		38.07		-16.77		

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	
4.2	+25	19.02		4.08		26.59		
3.45	+25	-7.19		14.13		19.03		

WCDMA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	-4.12	±1852.4	-11.67	±1880.0	-1.29	±1907.6	PASS
	-20	19.15		12.28		25.60		
	-10	5.35		-14.36		15.11		
	0	18.92		18.59		-3.17		
	+10	31.40		21.39		18.12		
	+20	13.55		38.27		-10.39		
	+30	2.31		2.37		17.47		
	+40	-12.52		-13.47		28.84		
	+55	-13.65		-5.81		-2.53		
4.2	+25	24.23		14.68		21.05		
3.45	+25	23.12		25.37		-25.11		

HSDPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	11.57	±1852.4	-3.54	±1880	2.50	± 1907.6	PASS
	-20	-16.05		22.71		-8.48		
	-10	20.42		15.37		-14.02		
	0	-3.11		-12.21		-9.01		
	+10	21.71		10.60		5.64		
	+20	20.12		-4.81		-3.85		

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	11.57	±1852.4	-3.54	±1880	2.50	±	PASS
	+30	-15.01		35.11		9.57		
	+40	23.71		8.46		28.32		
	+55	16.42		-24.88		-12.42		
4.2	+25	-11.25		29.53		-2.83		
3.45	+25	11.53		-2.17		14.32		

HSUPA 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	33.54	±1852.4	-11.69	±1880	7.17	±1907.6	PASS
	-20	28.13		-0.74		2.12		
	-10	7.82		0.11		-4.85		
	0	2.41		14.82		17.08		
	+10	-4.73		-15.25		-1.86		
	+20	16.22		-11.79		23.52		
	+30	-1.55		-0.44		-0.48		
	+40	24.16		1.25		-12.05		
	+55	14.79		-7.84		-5.81		
4.2	+25	-8.08		6.72		26.38		
3.45	+25	22.78		-1.72		-15.45		

HSPA+ 1900MHz Band

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	Channel = 9262 (1852.4MHz)		Channel = 9400 (1880.0MHz)		Channel = 9538 (1907.6MHz)		
		Hz	Limits	Hz	Limits	Hz	Limits	
3.8	-30	31.77	±1852.4	-12.19	±1880	7.29	±1907.6	PASS
	-20	28.27		-0.82		2.12		
	-10	7.82		0.21		-4.85		
	0	2.41		15.82		17.08		
	+10	-4.73		-15.25		-1.86		
	+20	16.22		-11.79		23.52		
	+30	-1.55		-0.44		-0.48		
	+40	24.16		1.25		-12.05		
	+55	14.79		-7.84		-5.81		
4.2	+25	-8.08		6.71		27.38		
3.45	+25	22.38		-1.22		-16.38		

2.5. Conducted Out of Band Emissions

2.5.1. Requirement

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

2.5.2. Test Description

See section 2.1.2 of this report.

2.5.3. Test Result

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

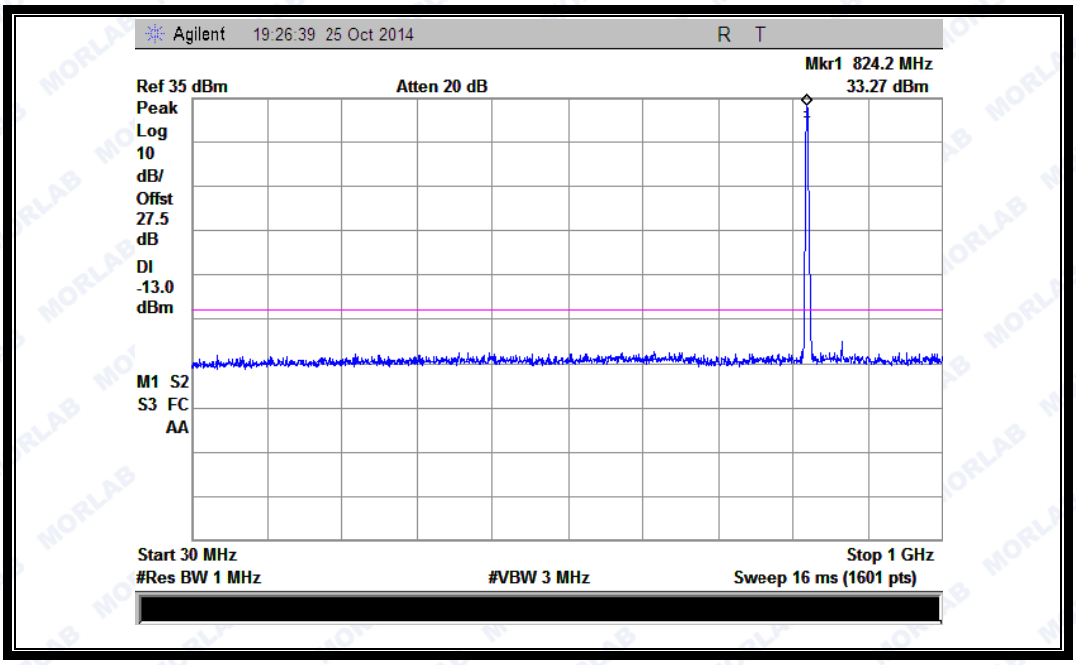
1. Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	-19.5	Plot A1toA1.1	-13	PASS
	190	836.6	-19.4	Plot A2toA2.1		PASS
	251	848.8	-20.09	Plot A3toA3.1		PASS
GSM 1900MHz	512	1850.2	-18.89	Plot B1toB1.1	-13	PASS
	661	1880.0	-19.28	Plot B2toB2.1		PASS
	810	1909.8	-20.49	Plot B3toB3.1		PASS
EDGE 850MHz	128	824.2	-18.61	Plot C1toC1.1	-13	PASS
	190	836.6	-19.53	Plot C2toC2.1		PASS
	251	848.8	-19.51	Plot C3toC3.1		PASS
EDGE 1900MHz	512	1850.2	<-25	Plot D1toD1.1	-13	PASS
	661	1880.0	-19.79	Plot D2toD2.1		PASS
	810	1909.8	-20	Plot D3toD3.1		PASS
WCDMA	9262	1852.4	<-25	Plot E1toE1.1	-13	PASS

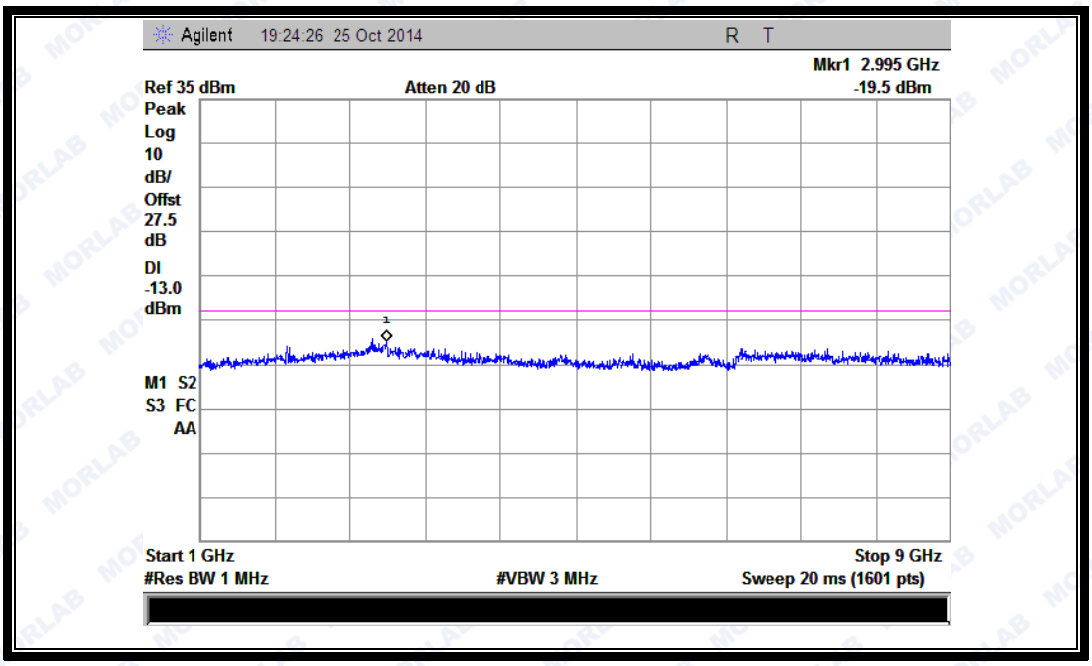
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
1900MHz	9400	1880	<-25	Plot E2toE2.1		PASS
	9538	1907.6	<-25	Plot E3toE3.1		PASS
HSDPA 1900MHz	9262	1852.4	<-25	Plot F1toF1.1	-13	PASS
	9400	1880	<-25	Plot F2toF2.1		PASS
	9538	1907.6	<-25	Plot F3toF3.1		PASS
HSUPA 1900MHz	9262	1852.4	<-25	Plot G1toG1.1	-13	PASS
	9400	1880	<-25	Plot G2toG2.1		PASS
	9538	1907.6	<-25	Plot G3toG3.1		PASS
HSPA+ 1900MHz	9262	1852.4	<-25	Plot H1toH1.1	-13	PASS
	9400	1880	<-25	Plot H2toH2.1		PASS
	9538	1907.6	<-25	Plot H3toH3.1		PASS

2. Test Plots for the Whole Measurement Frequency Range:

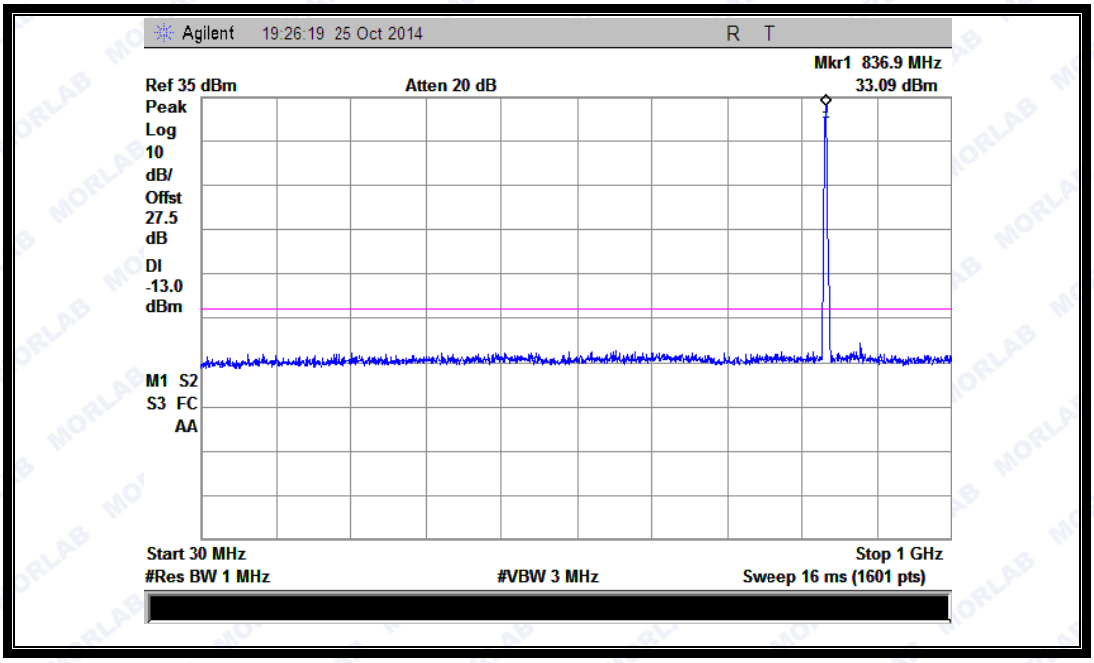
Note: the power of the EUT transmitting frequency should be ignored.



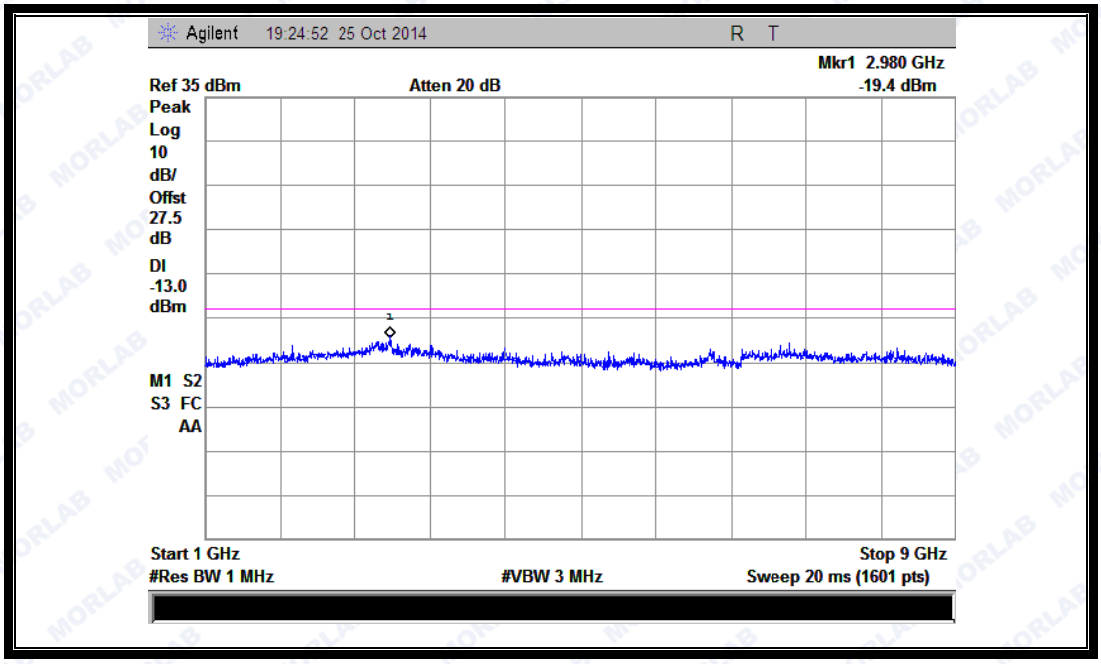
(Plot A1:GSM 850MHz Channel = 128, 30MHz to 1GHz)



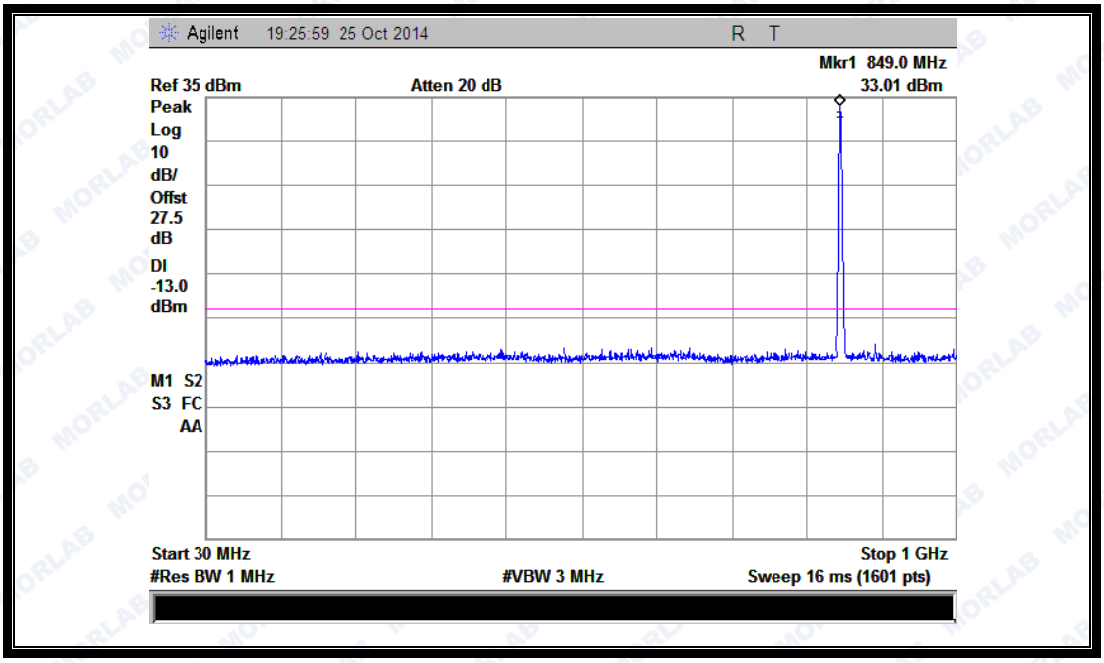
(Plot A1.1: GSM 850MHz Channel = 128, 1GHz to 9GHz)



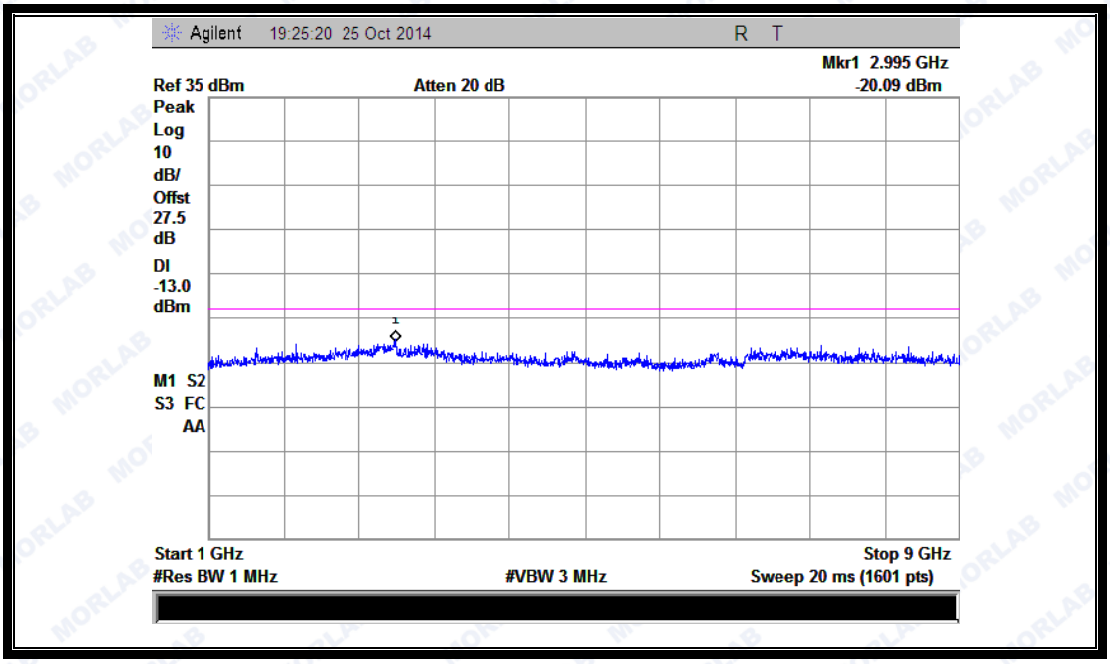
(Plot A2:GSM 850MHz Channel = 190, 30MHz to 1GHz)



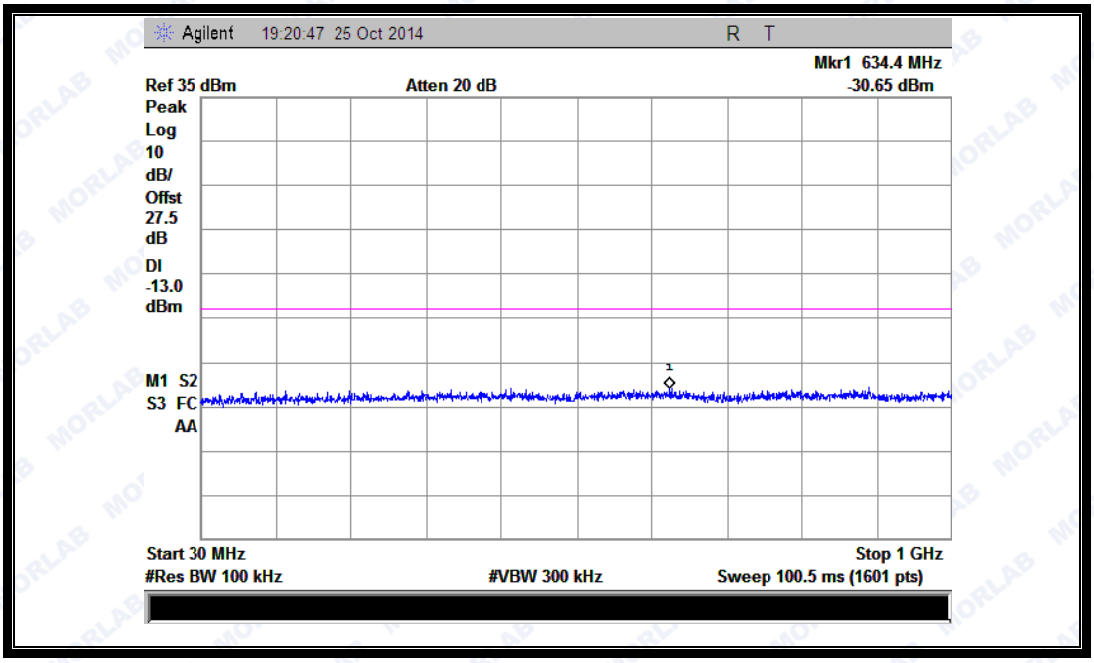
(Plot A2.1: GSM 850MHz Channel = 190, 1GHz to 9GHz)



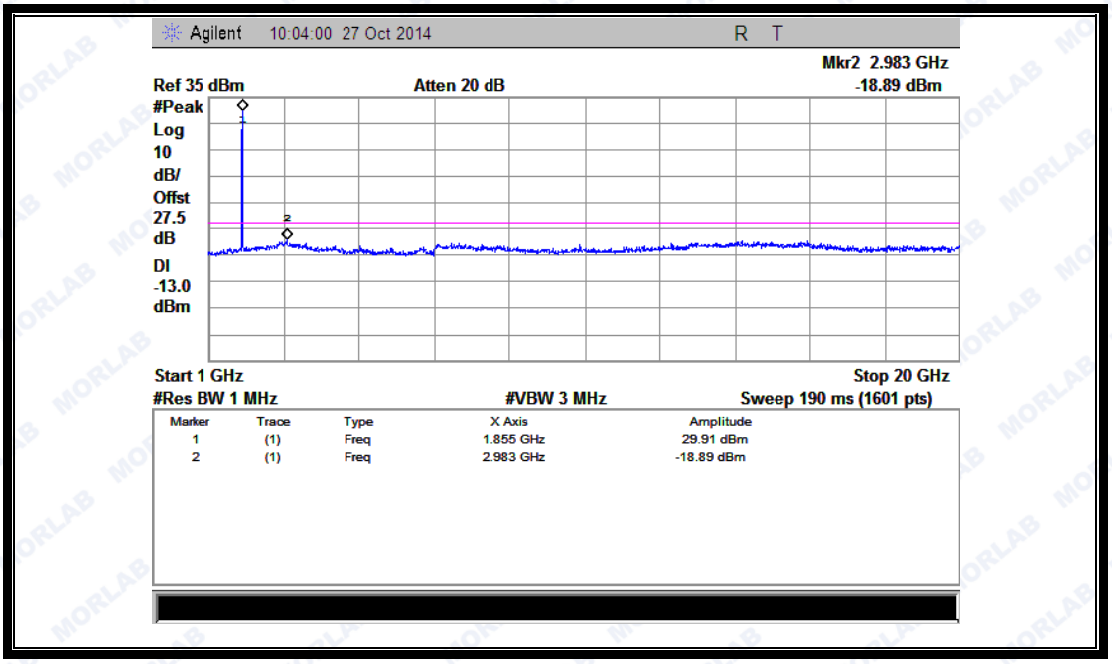
(Plot A3:GSM 850MHz Channel = 251, 30MHz to 1GHz)



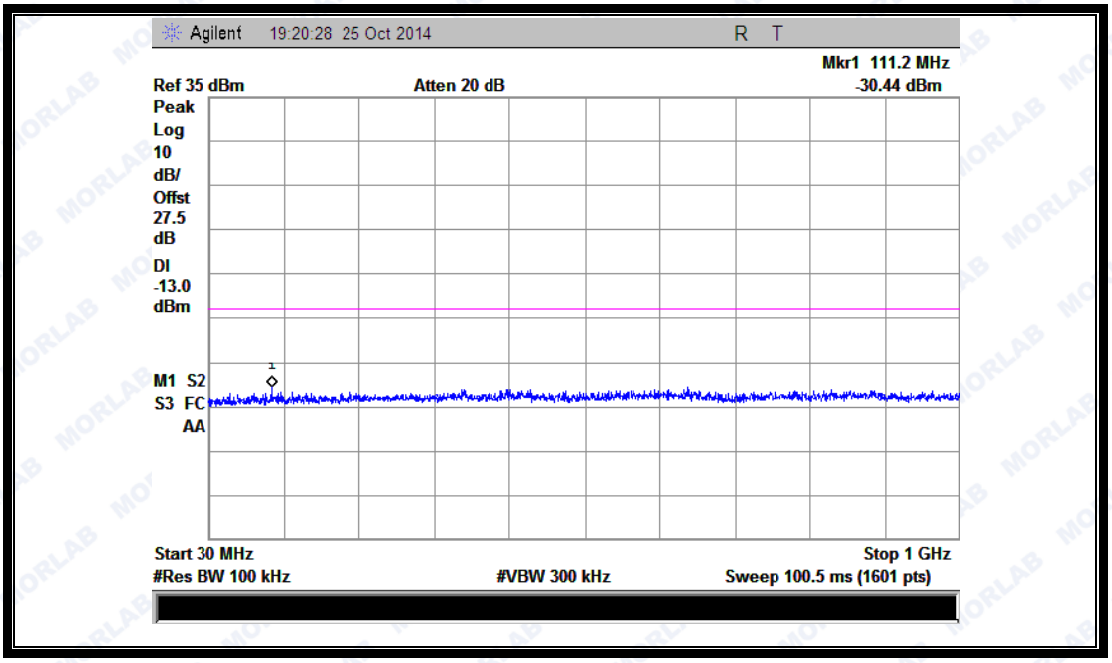
(Plot A3.1: GSM 850MHz Channel = 251, 1GHz to 9GHz)



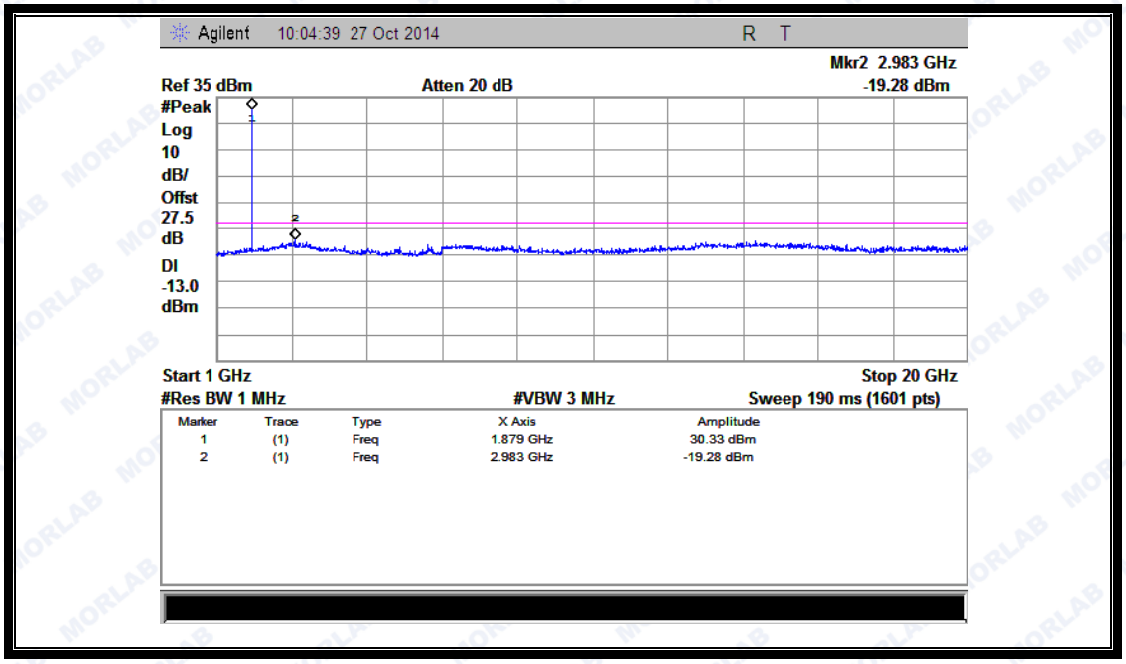
(Plot B1: GSM 1900MHz Channel = 512, 30MHz to 1GHz)



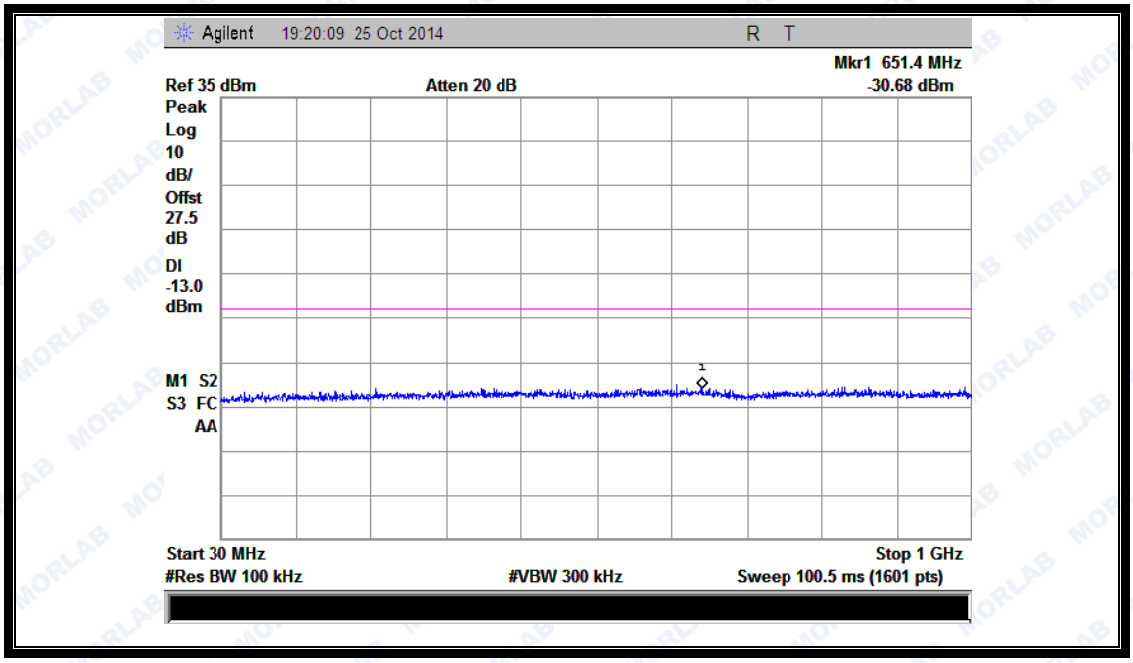
(Plot B1.1: GSM 1900MHz Channel = 512, 1GHz to 20GHz)



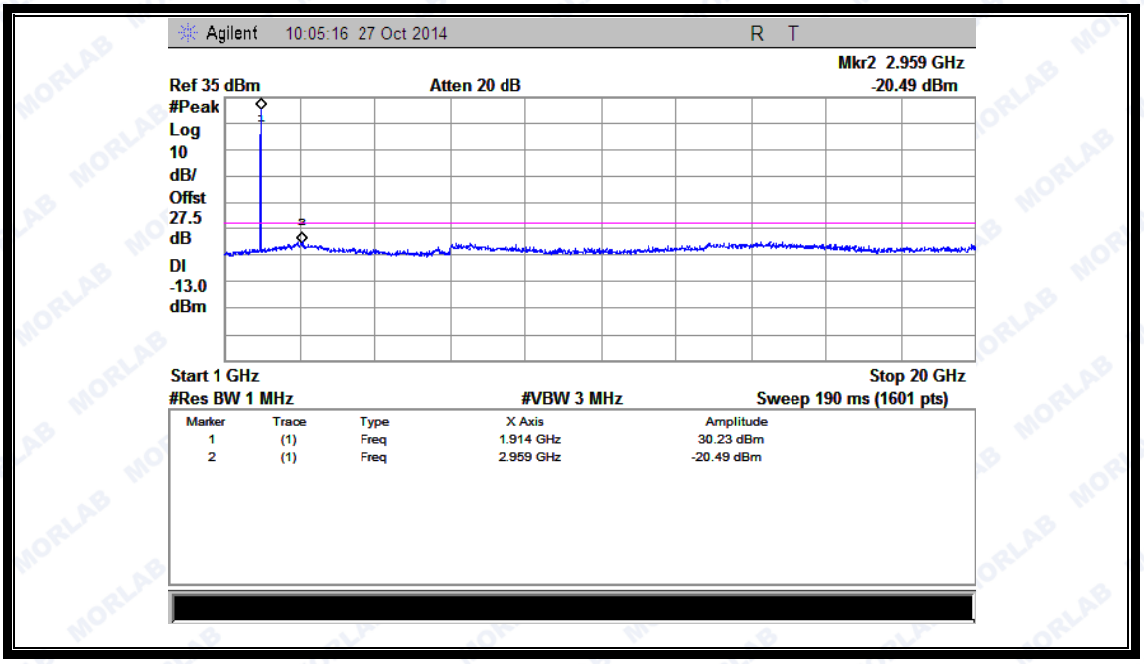
(Plot B2: GSM 1900MHz Channel = 661, 30MHz to 1GHz)



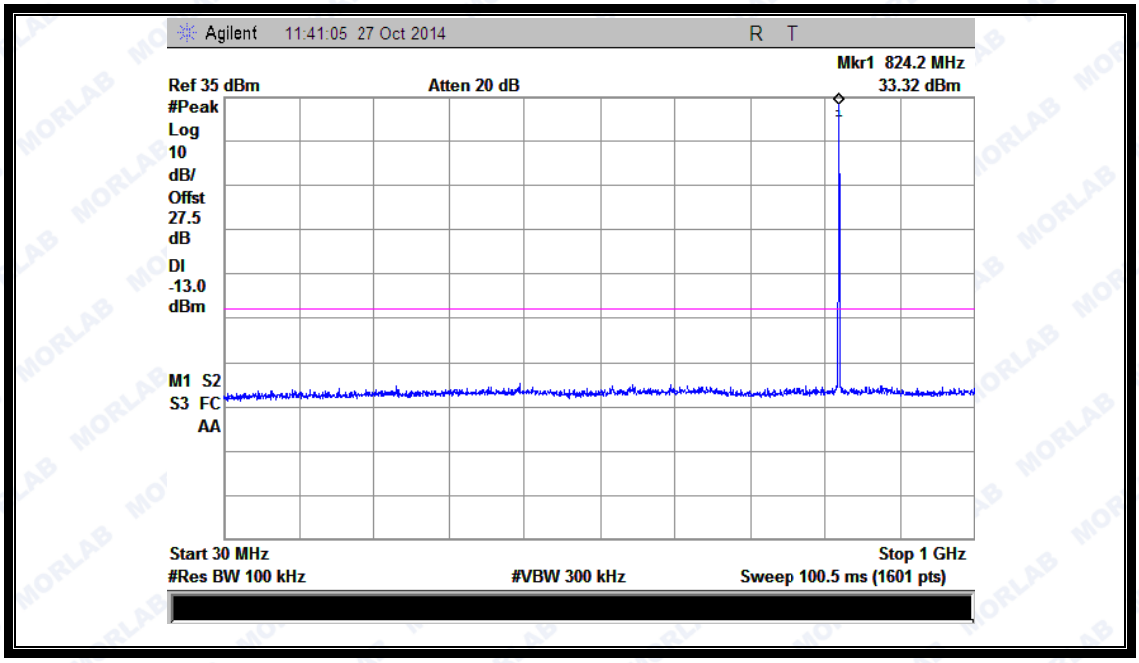
(Plot B2.1: GSM 1900MHz Channel = 661, 1GHz to 20GHz)



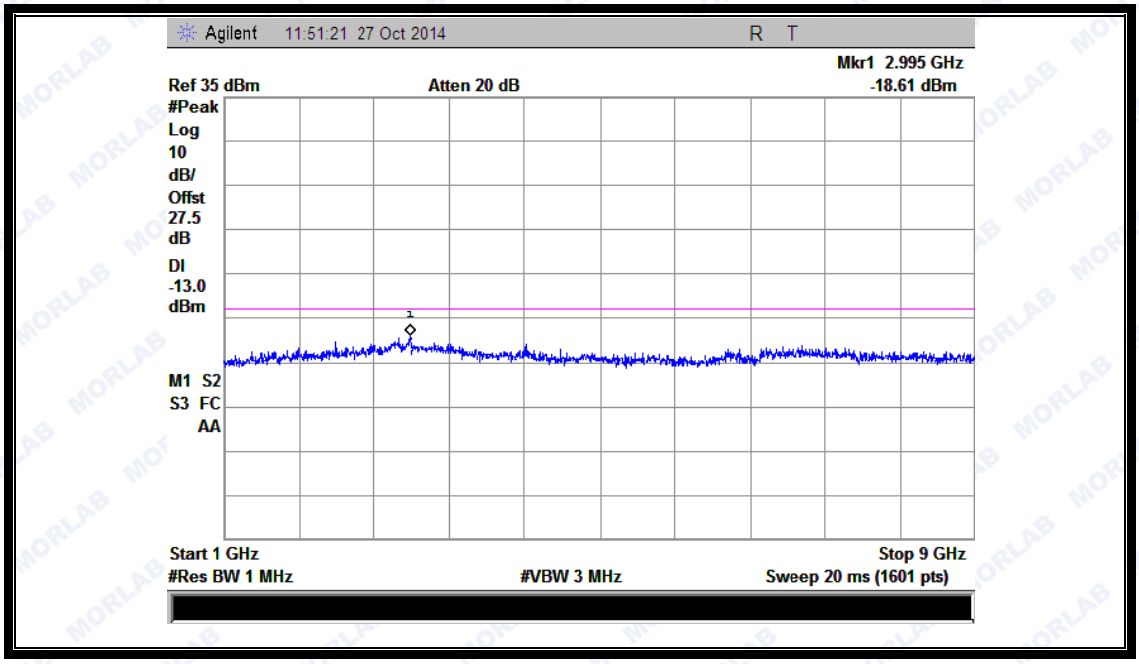
(Plot B3: GSM 1900MHz Channel = 810, 30MHz to 1GHz)



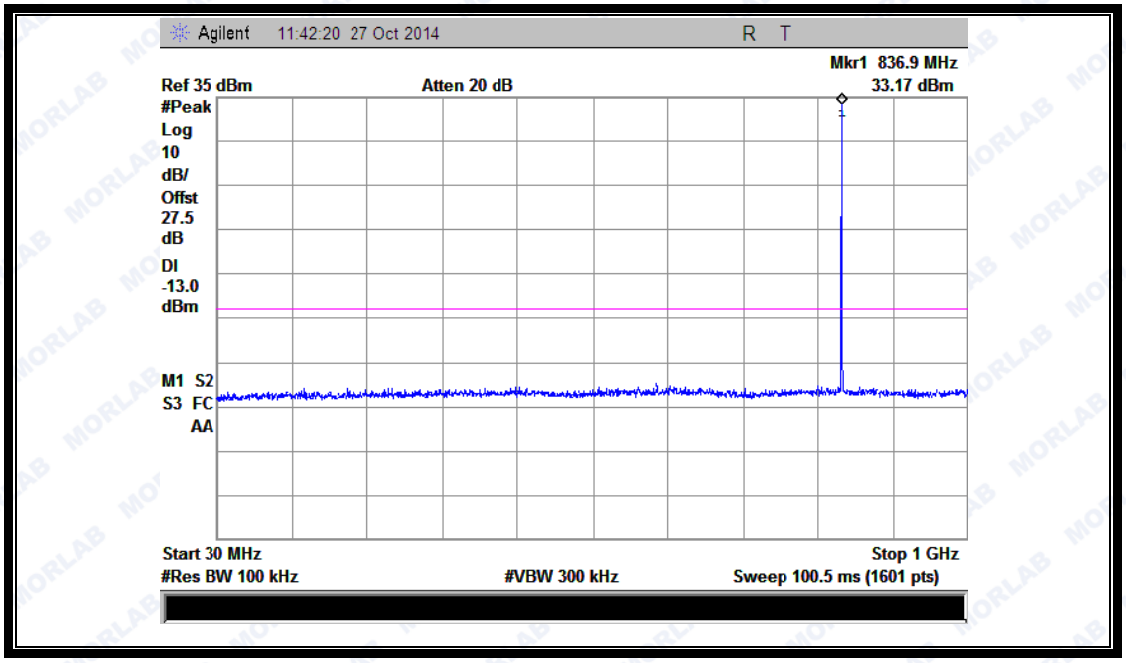
(Plot B3.1: GSM 1900MHz Channel = 810, 1GHz to 20GHz)



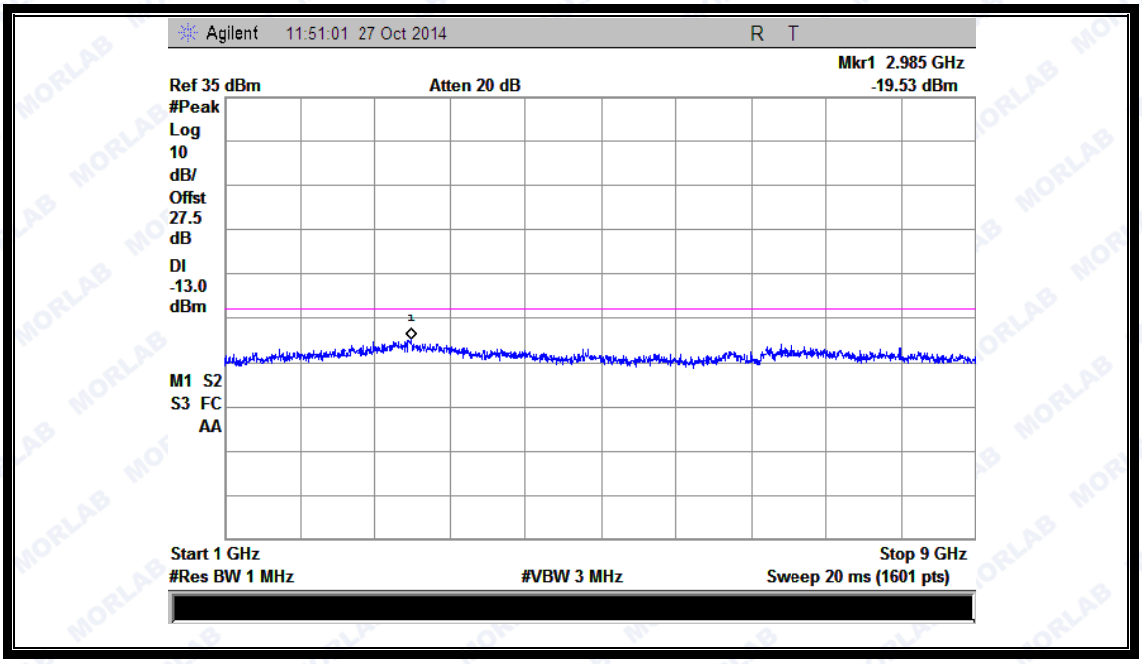
(Plot C1: EDGE 850MHz Channel = 128, 30MHz to 1GHz)



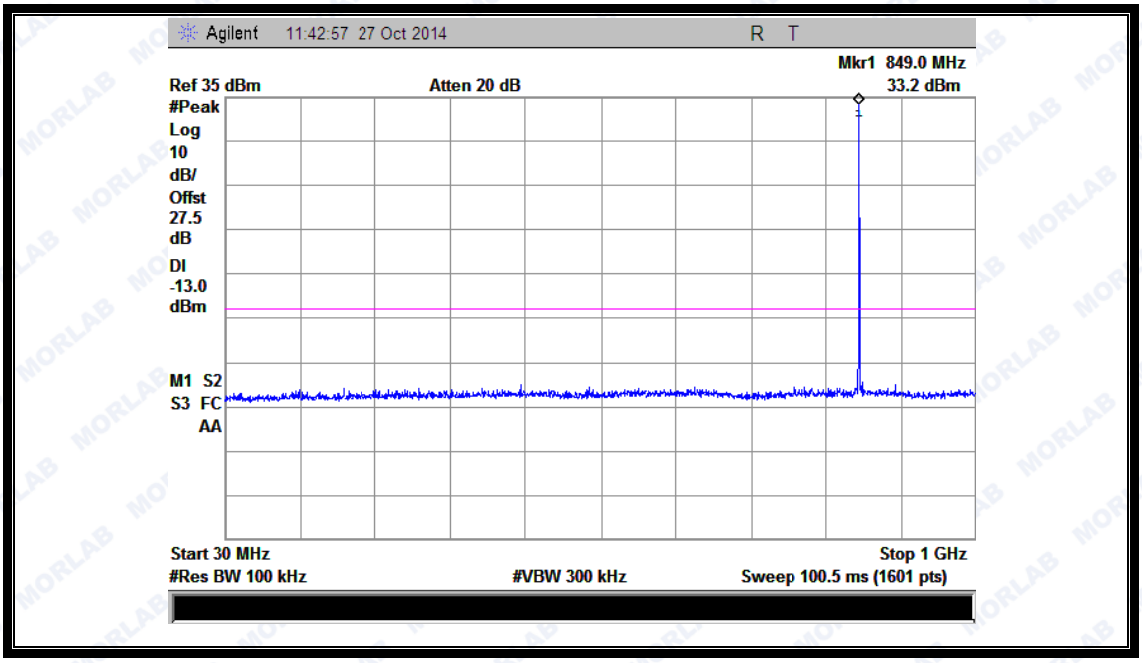
(Plot C1.1: EDGE 850MHz Channel = 128, 1GHz to 9GHz)



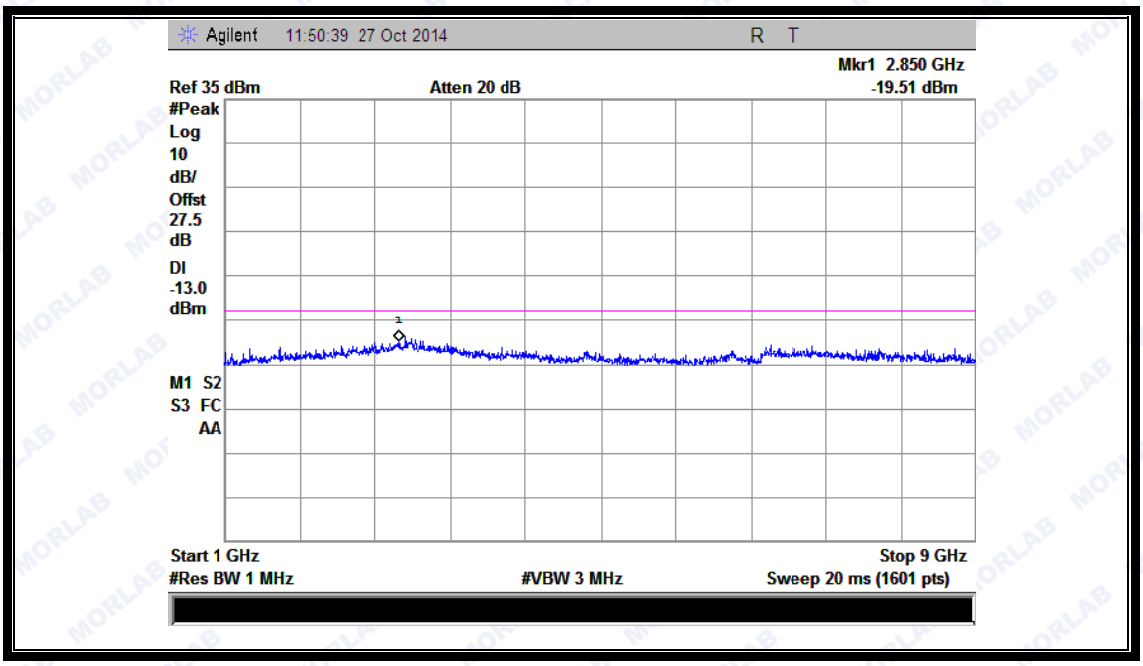
(Plot C2: EDGE 850MHz Channel = 190, 30MHz to 1GHz)



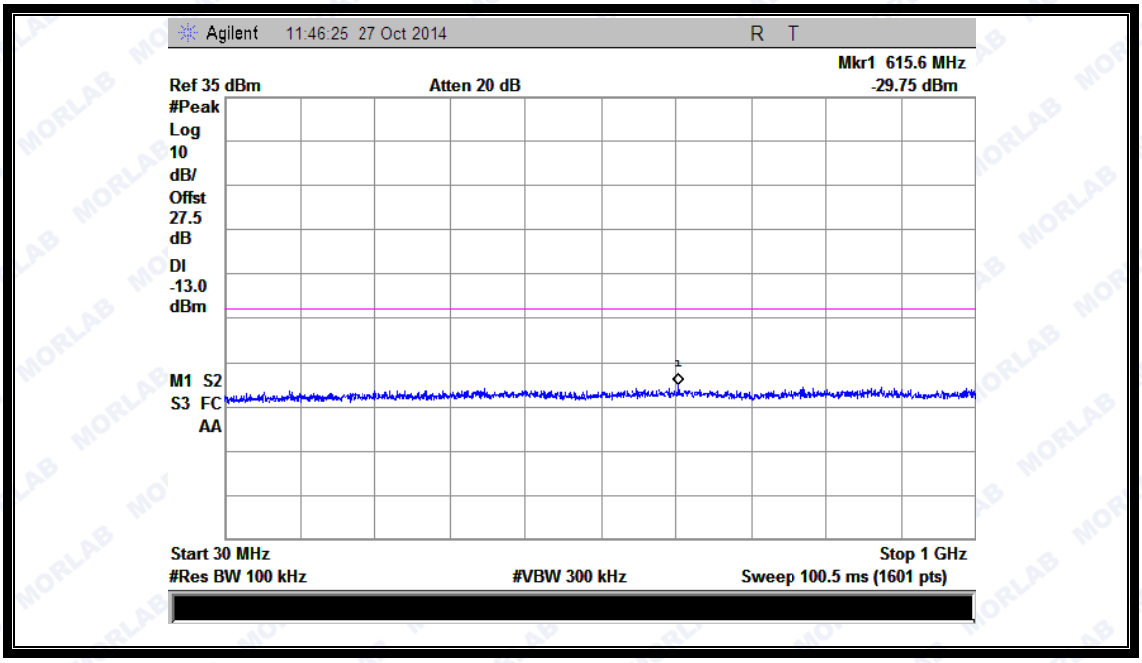
(Plot C2.1: EDGE 850MHz Channel = 190, 1GHz to 9GHz)



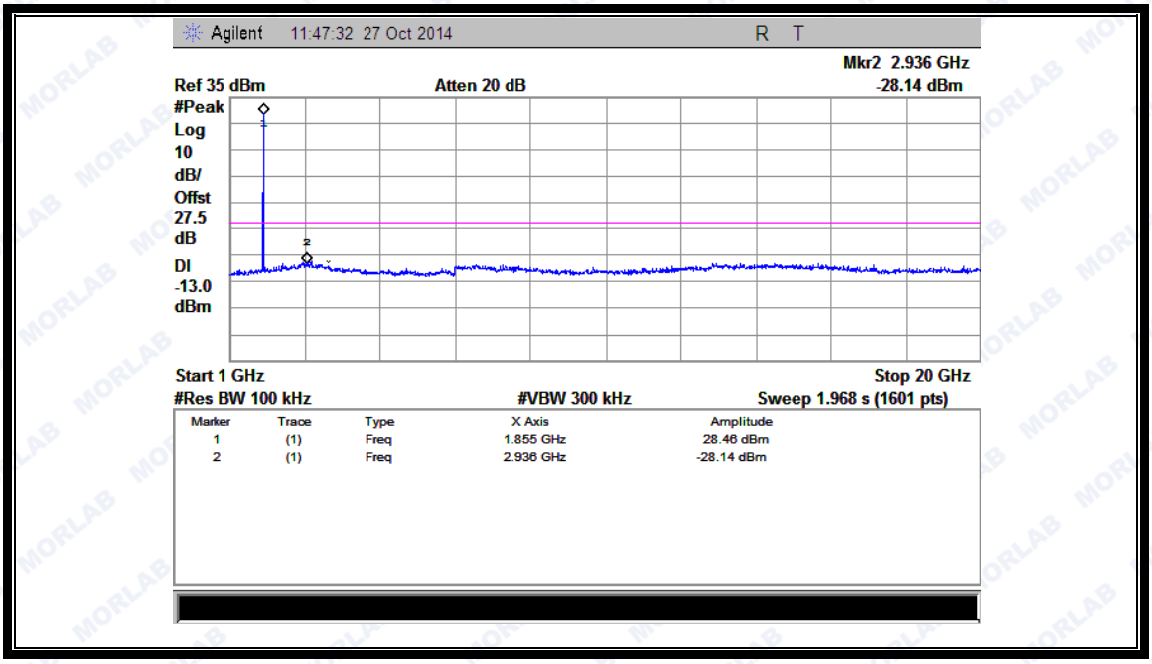
(Plot C3: EDGE 850MHz Channel = 251, 30MHz to 1GHz)



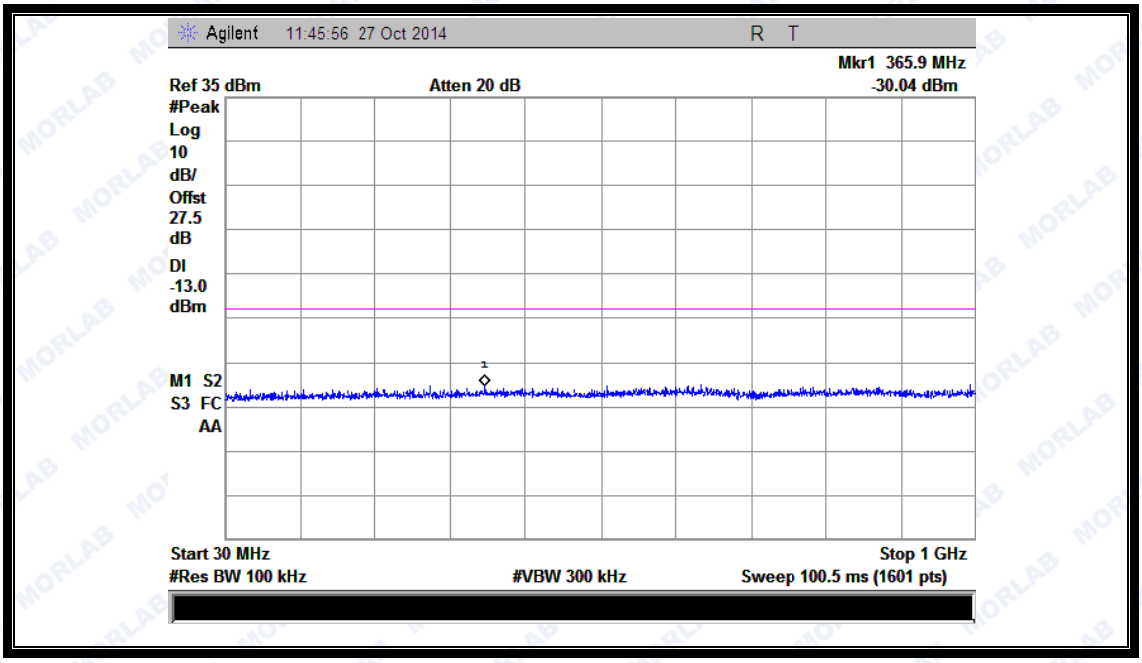
(Plot C3.1: EDGE 850MHz Channel = 251, 1GHz to 9GHz)



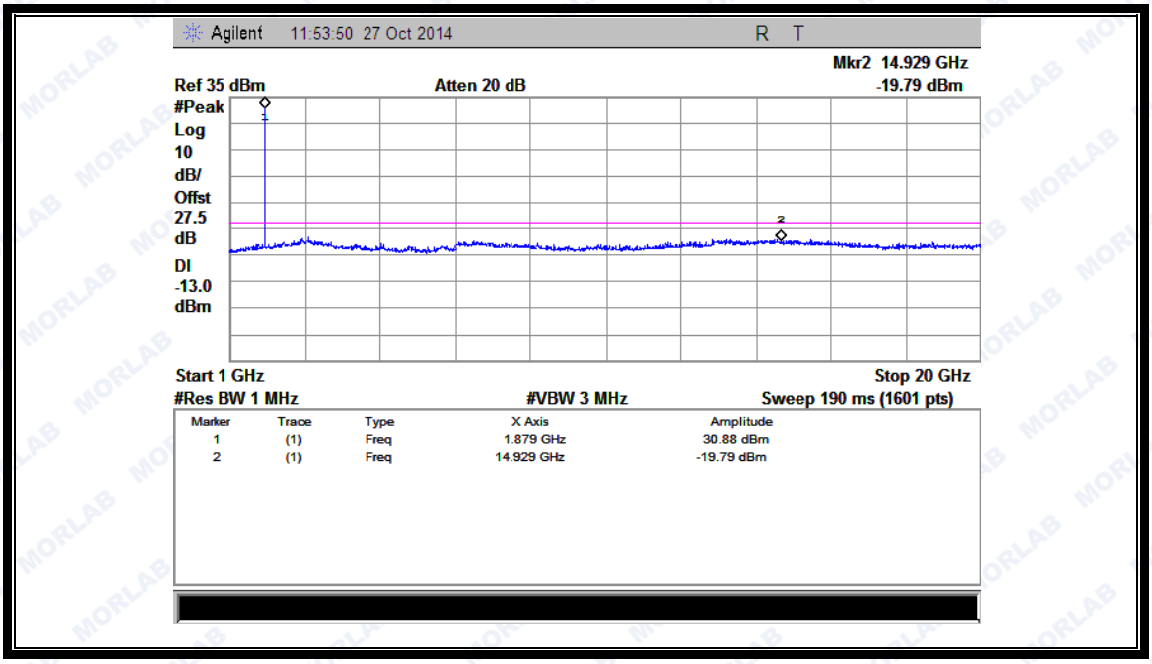
(Plot D1: EDGE 1900MHz Channel = 512, 30MHz to 1GHz)



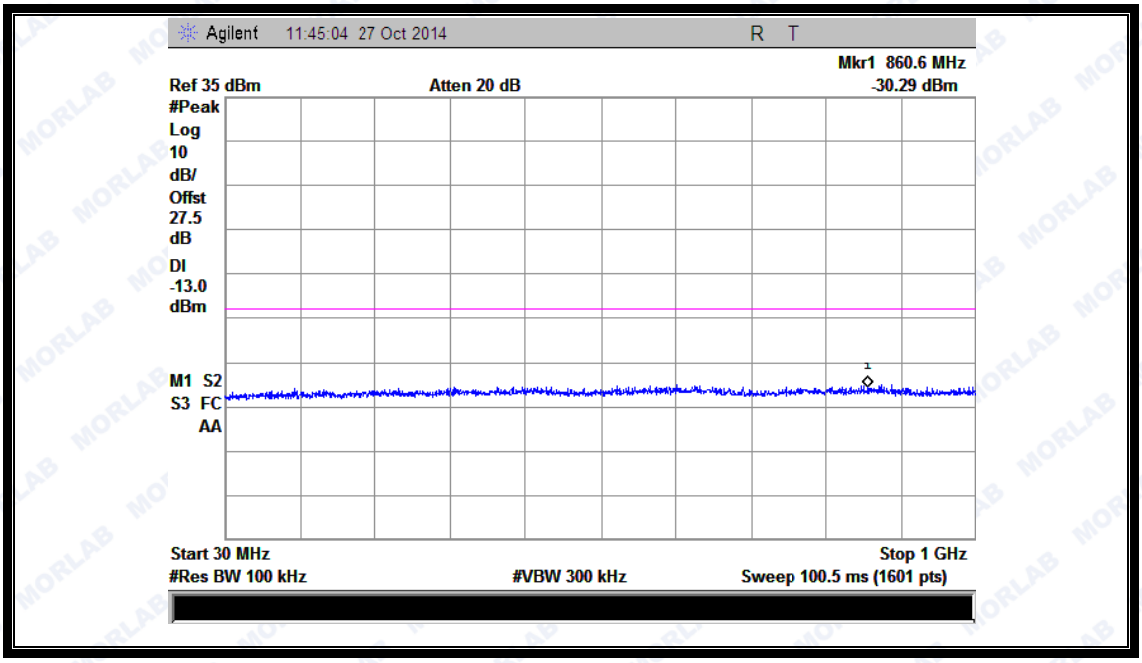
(Plot D1.1: EDGE 1900MHz Channel = 512, 1GHz to 20GHz)



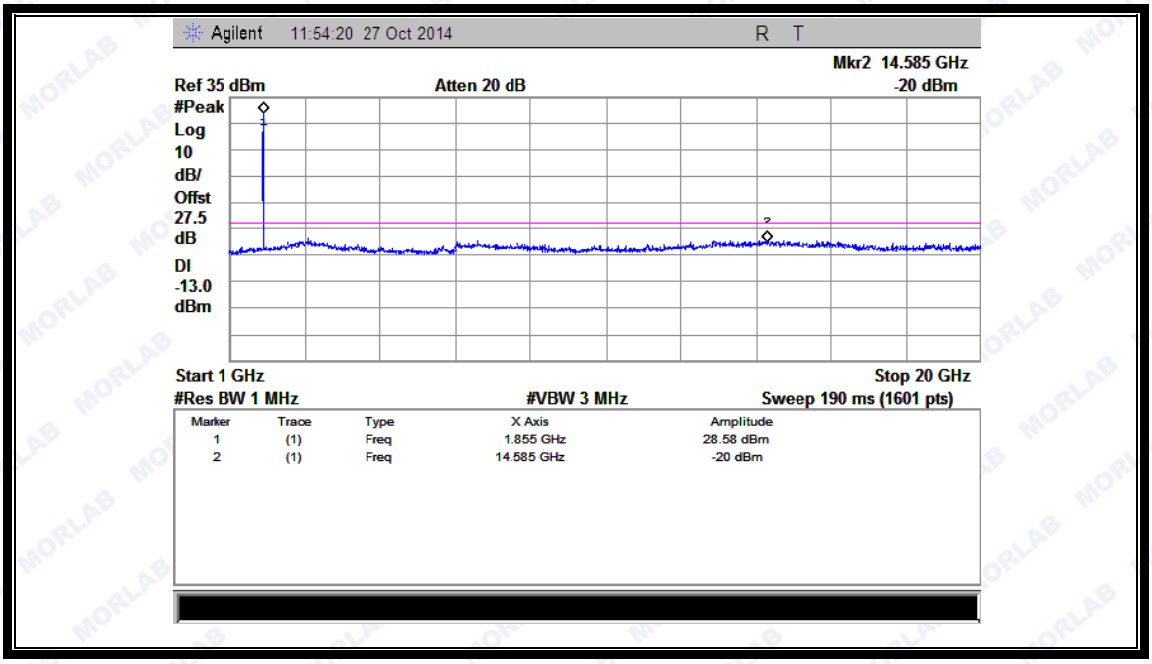
(Plot D2: EDGE 1900MHz Channel = 661, 30MHz to 1GHz)



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



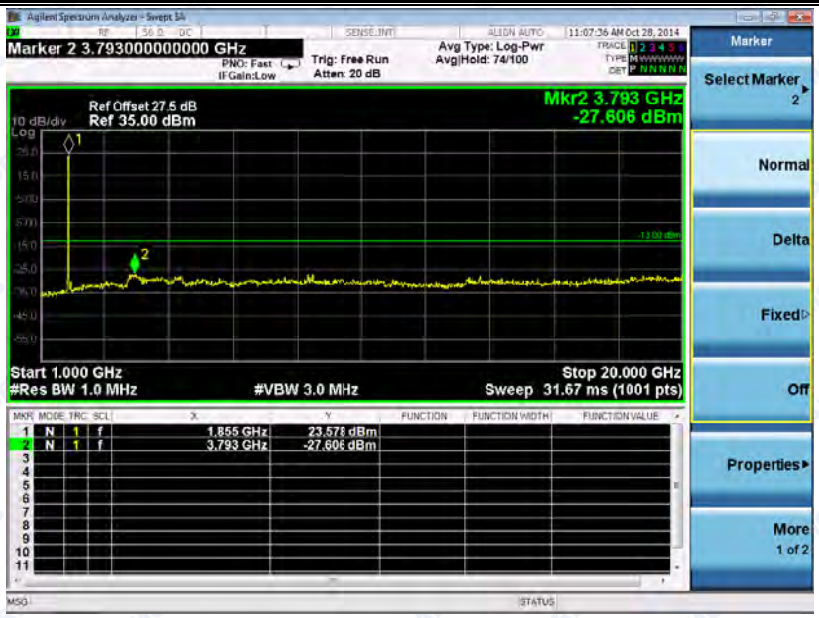
(Plot D3: EDGE 1900MHz Channel = 810, 30MHz to 1GHz)



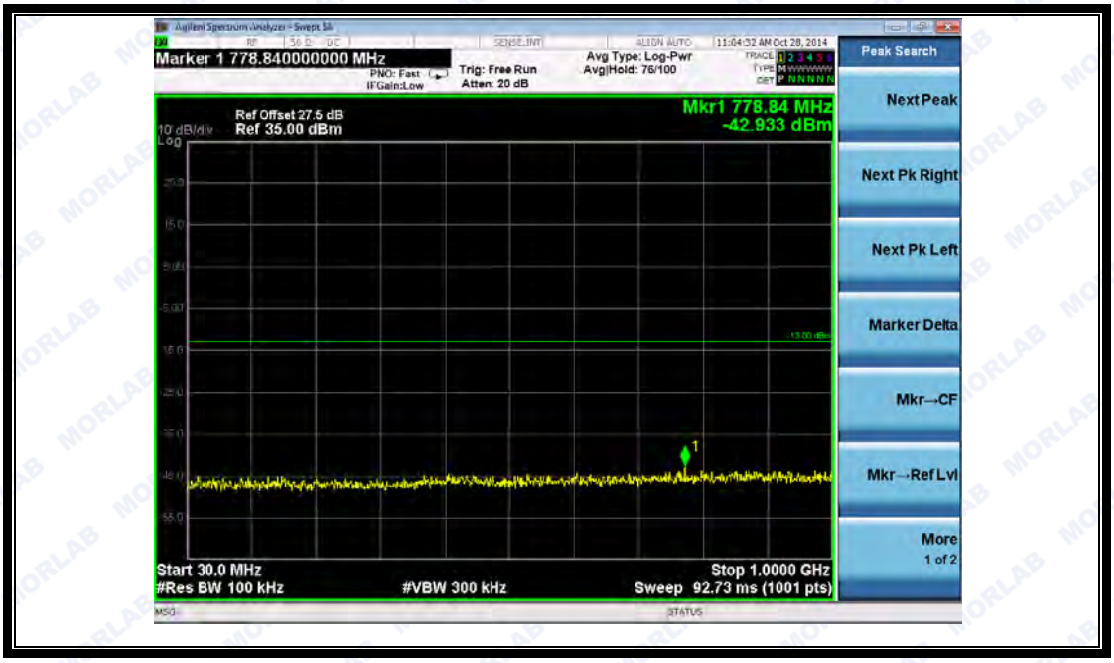
(Plot D3.1: EDGE 1900MHz Channel = 810, 1GHz to 20GHz)

8

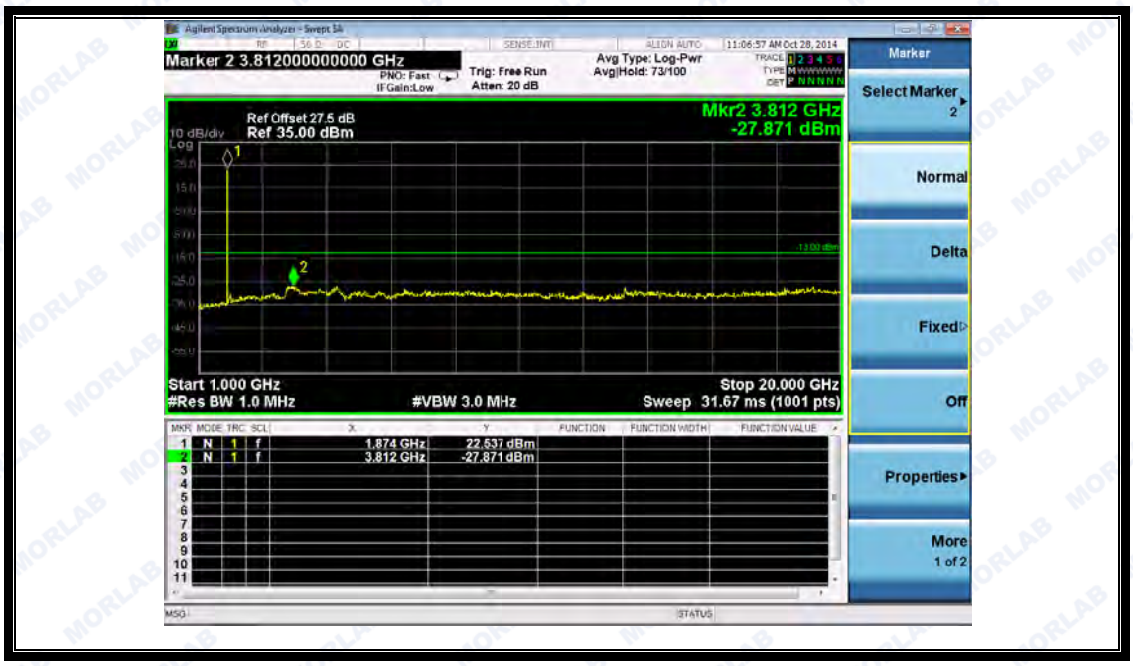
(Plot E1: WCDMA1900MHz Channel = 9262, 30MHz to 1GHz)



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

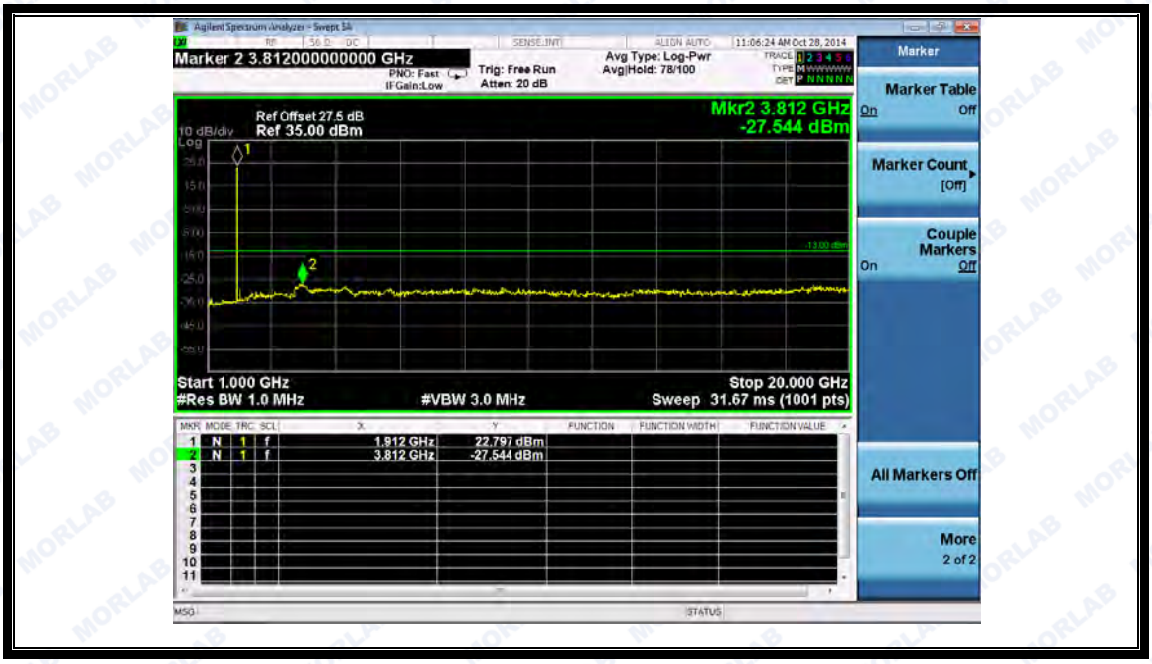


(Plot E2: WCDMA1900MHz Channel = 9400, 30MHz to 1GHz)



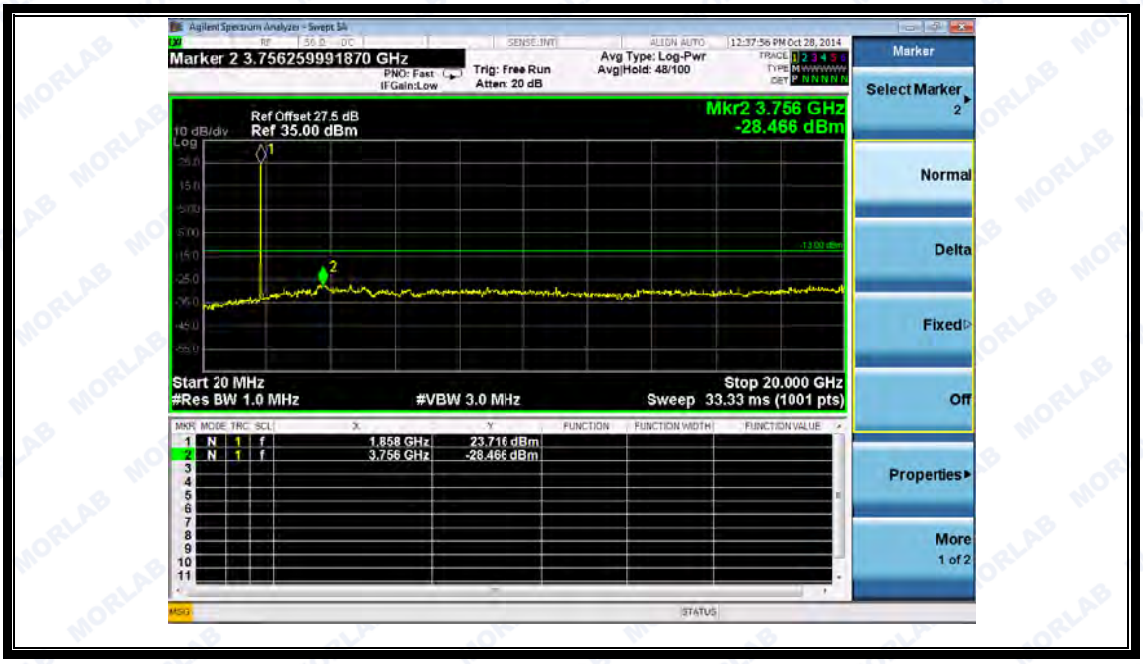
(Plot E2.1: WCDMA1900MHz Channel = 9400, 1GHz to 20GHz)

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



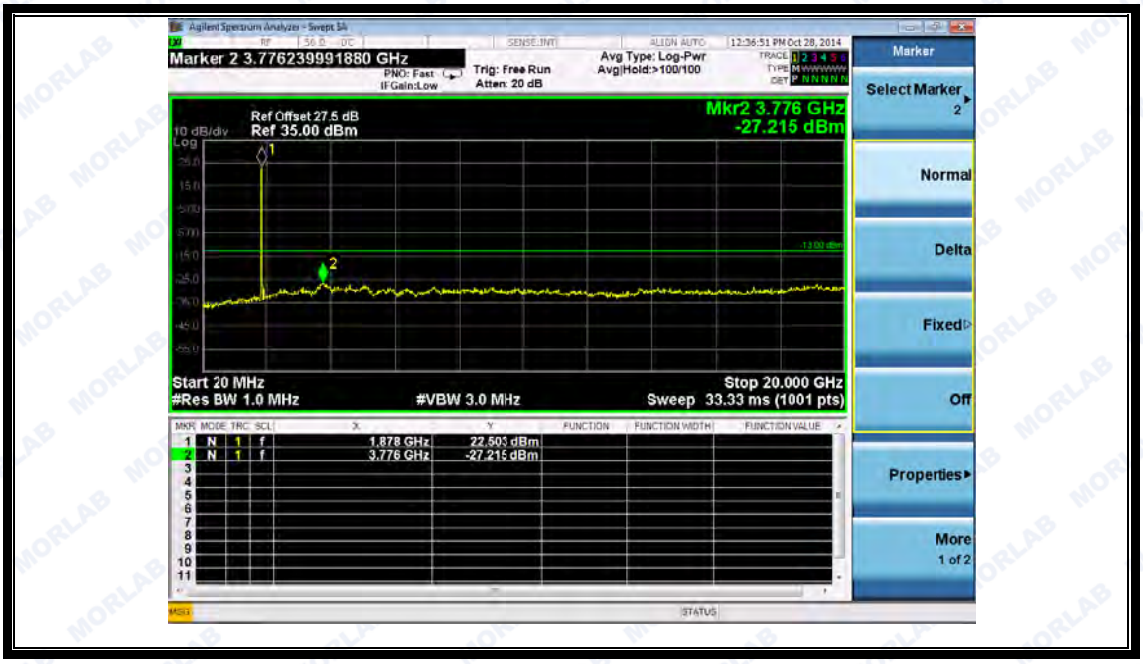
(Plot E3.1: WCDMA1900MHz Channel = 9538 1GHz to 20GHz)

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

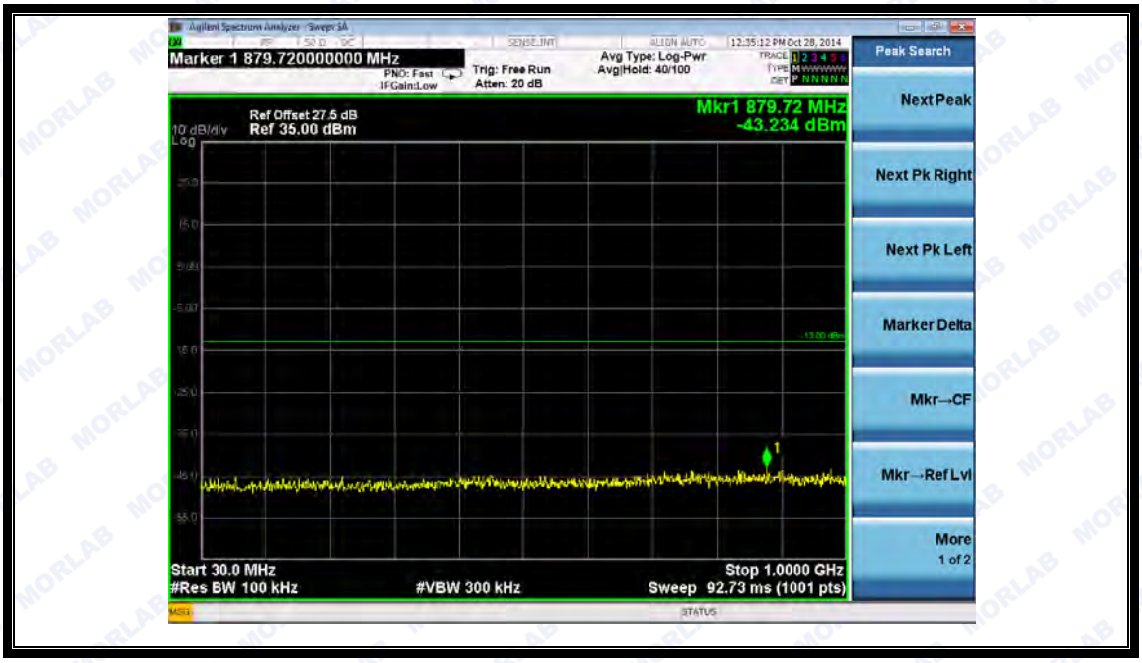


(Plot F1.1: HSDPA1900MHz Channel = 9262, 1GHz to 20GHz)

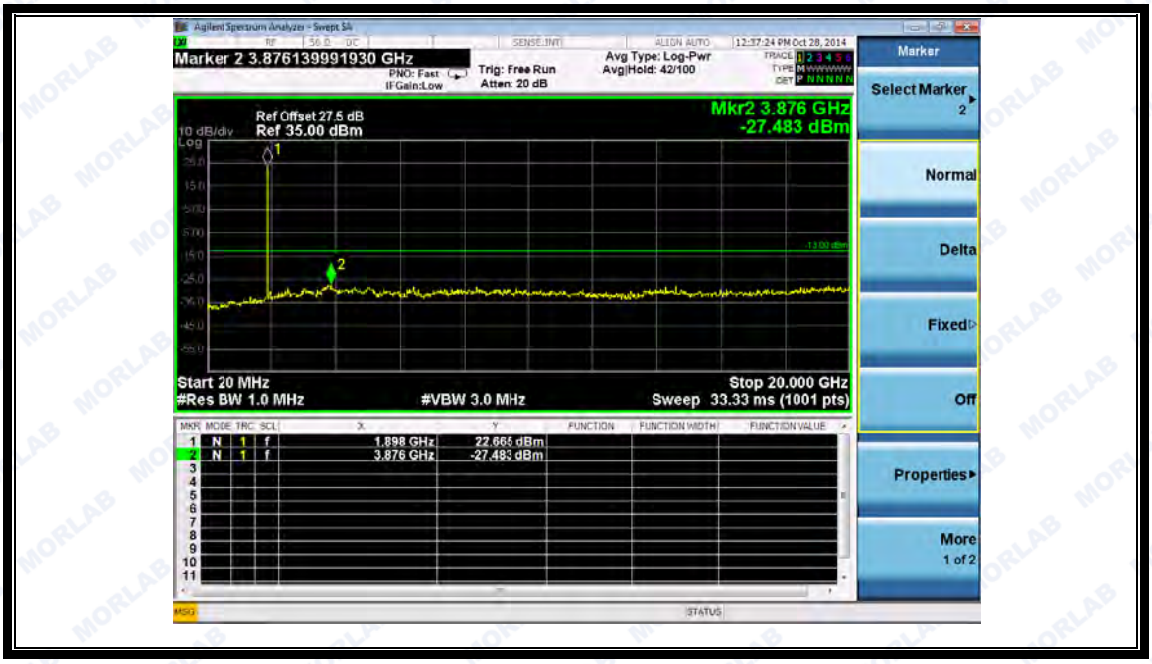
(Plot F2:HSDPA1900MHz Channel = 9400, 30MHz to 1GHz)



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

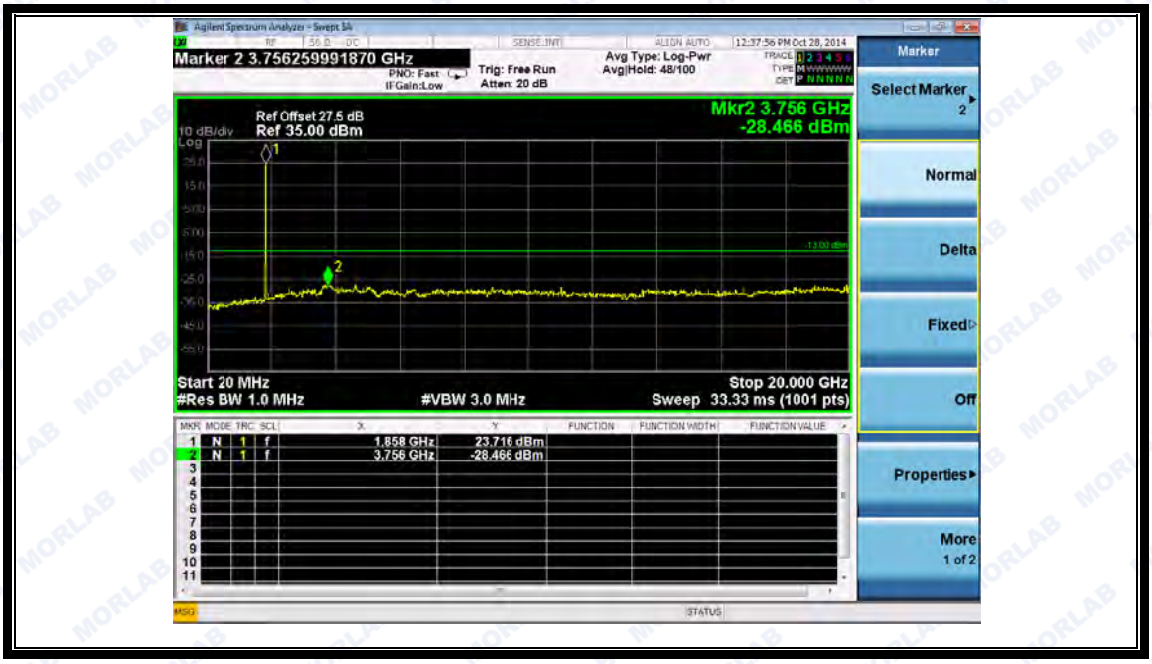


(Plot F3:HSDPA1900MHz Channel = 9538, 30MHz to 1GHz)



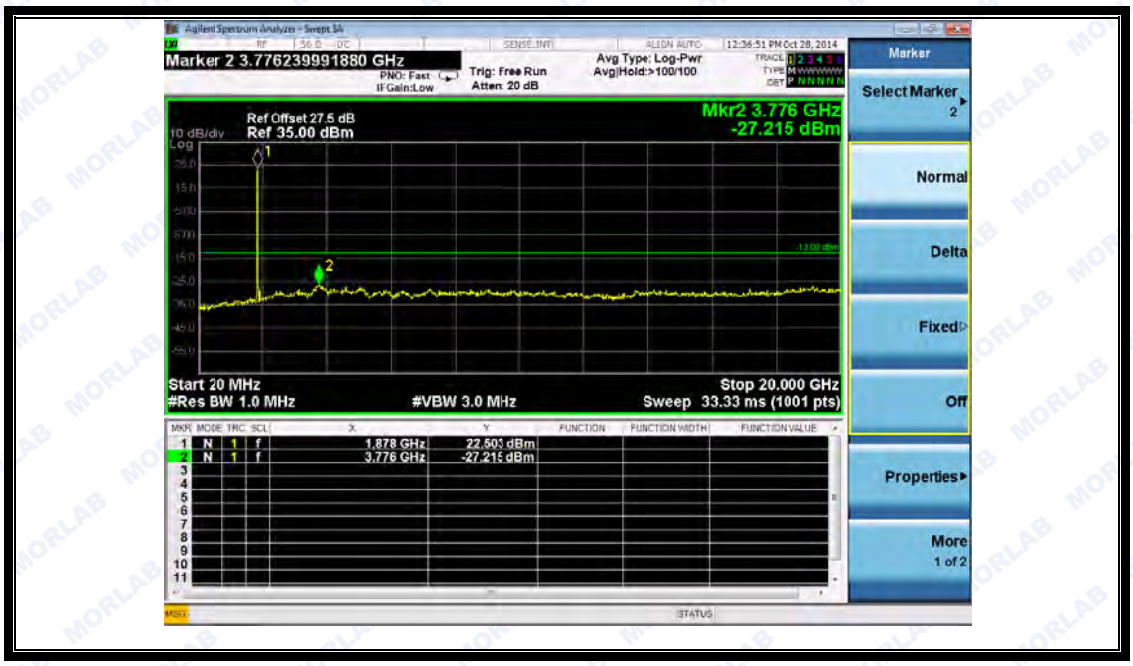
(Plot F3.1: HSDPA1900MHz Channel = 9538 1GHz to 20GHz)

(Plot G1: HSUPA1900MHz Channel = 9262, 30MHz to 1GHz)

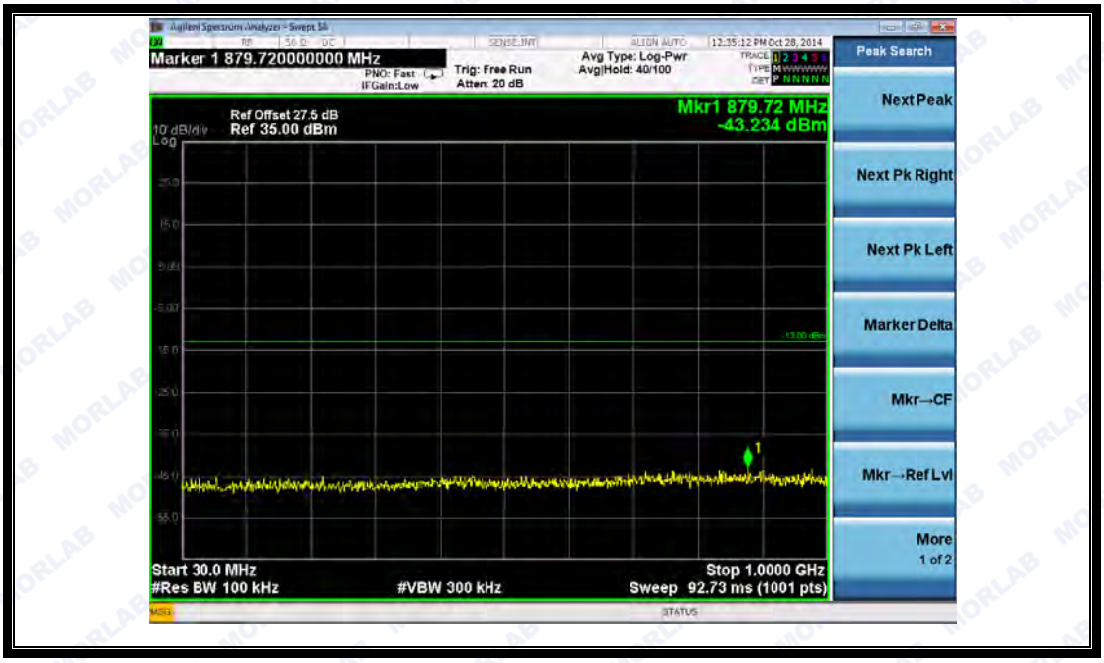


(Plot G1.1: HSUPA1900MHz Channel = 9262, 1GHz to 20GHz)

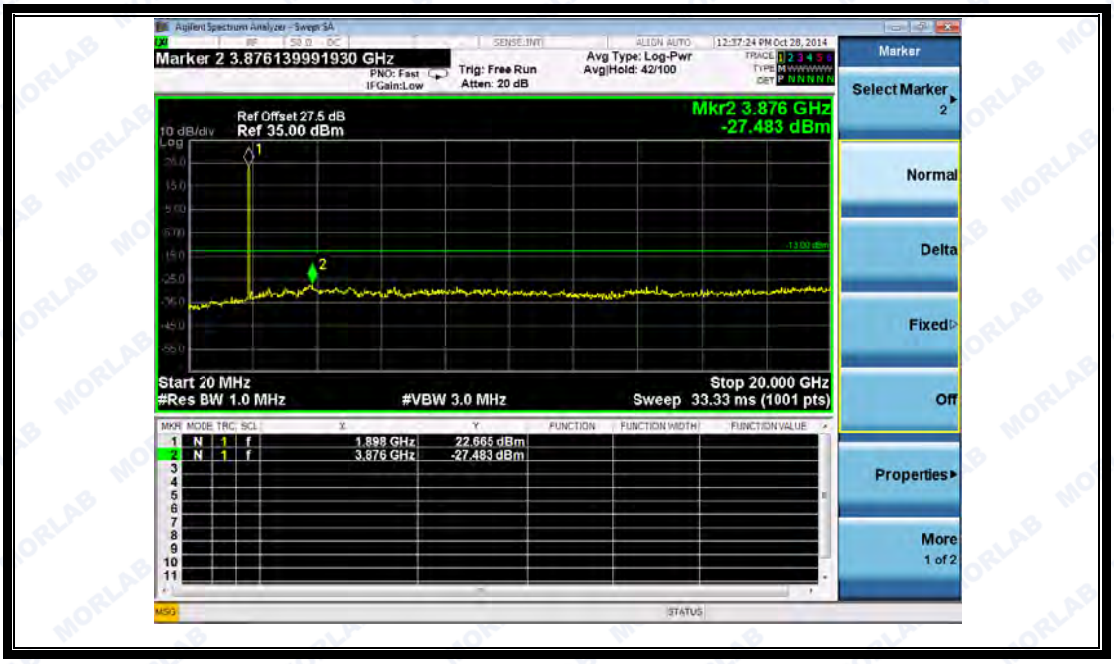
(Plot G2: HSUPA1900MHz Channel = 9400, 30MHz to 1GHz)



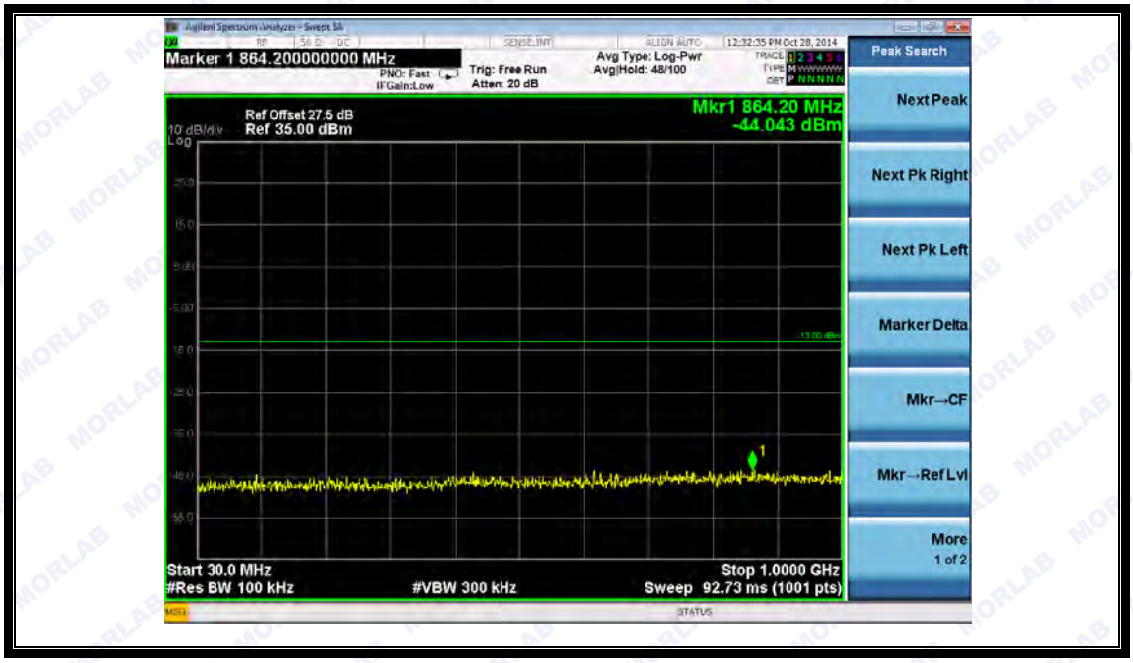
(Plot G2.1: HSUPA1900MHz Channel = 9400, 1GHz to 20GHz)



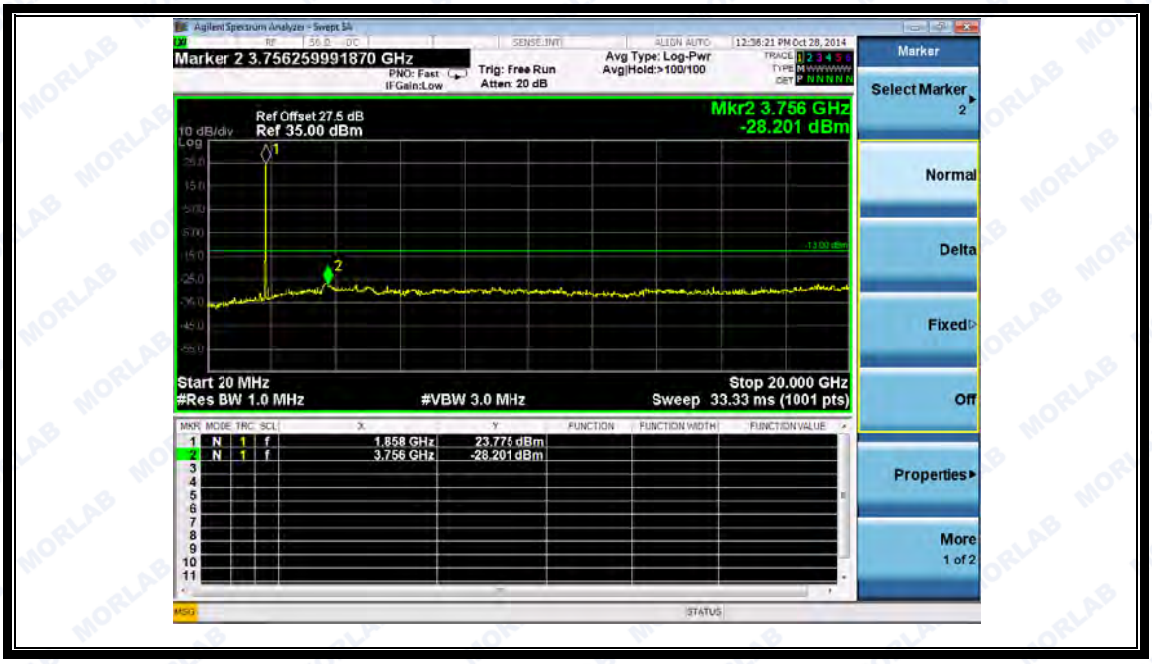
(Plot G 3: HSUPA1900MHz Channel = 9538, 30MHz to 1GHz)



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

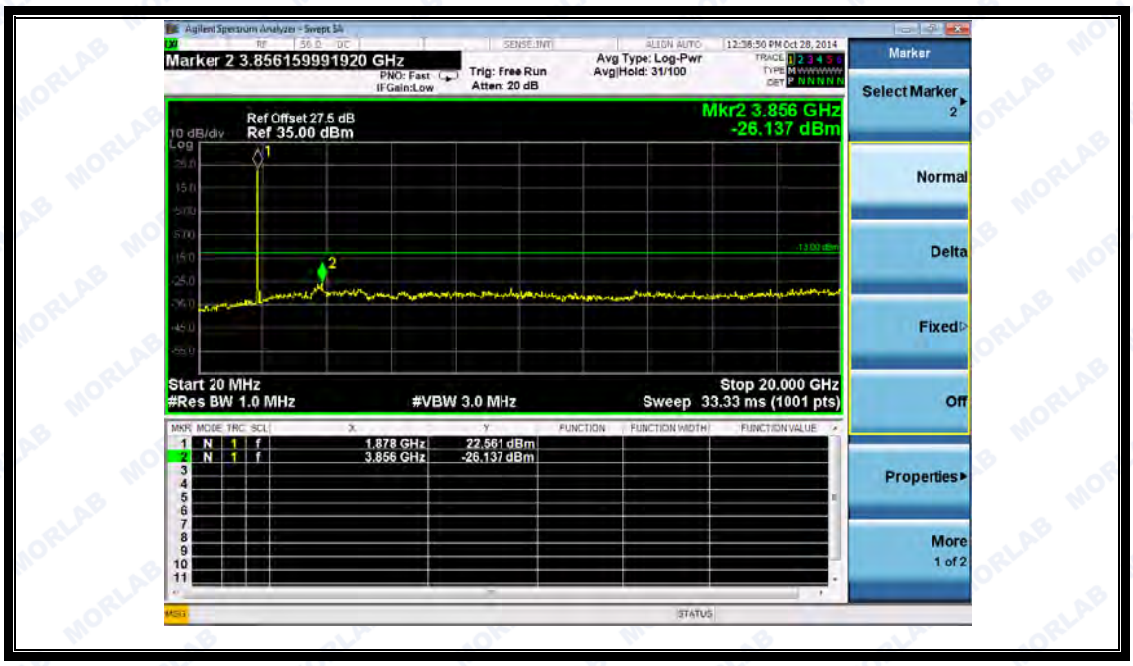


(Plot H 1: HSPA+ 1900MHz Channel = 9262, 30MHz to 1GHz)

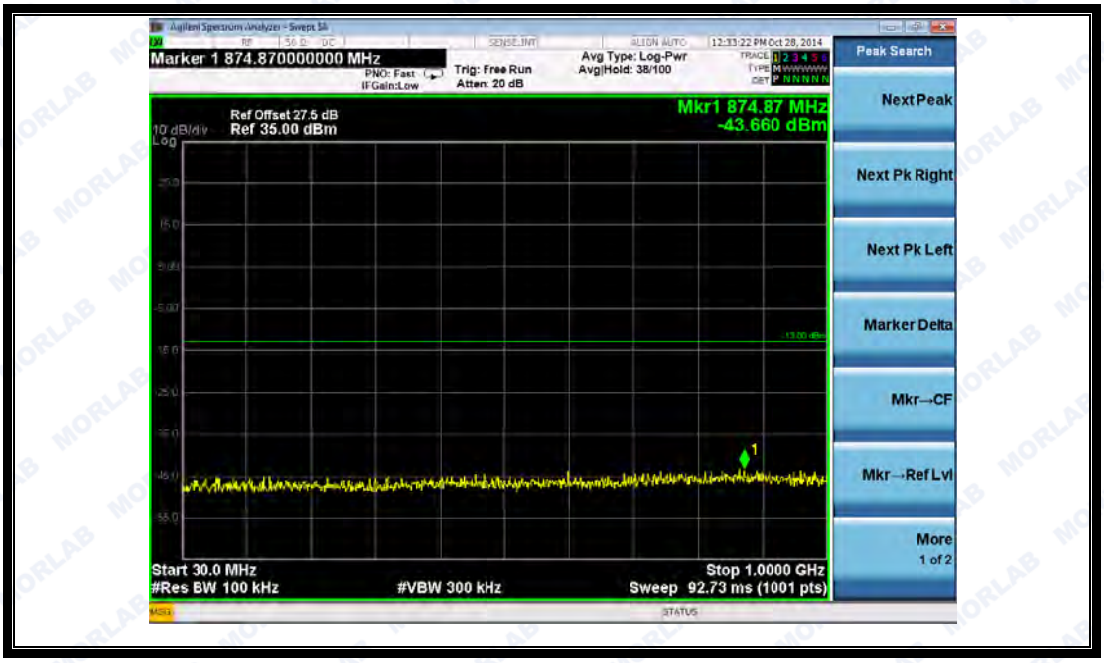


(Plot H1.1: HSPA+ 1900MHz Channel = 9262, 1GHz to 20GHz)

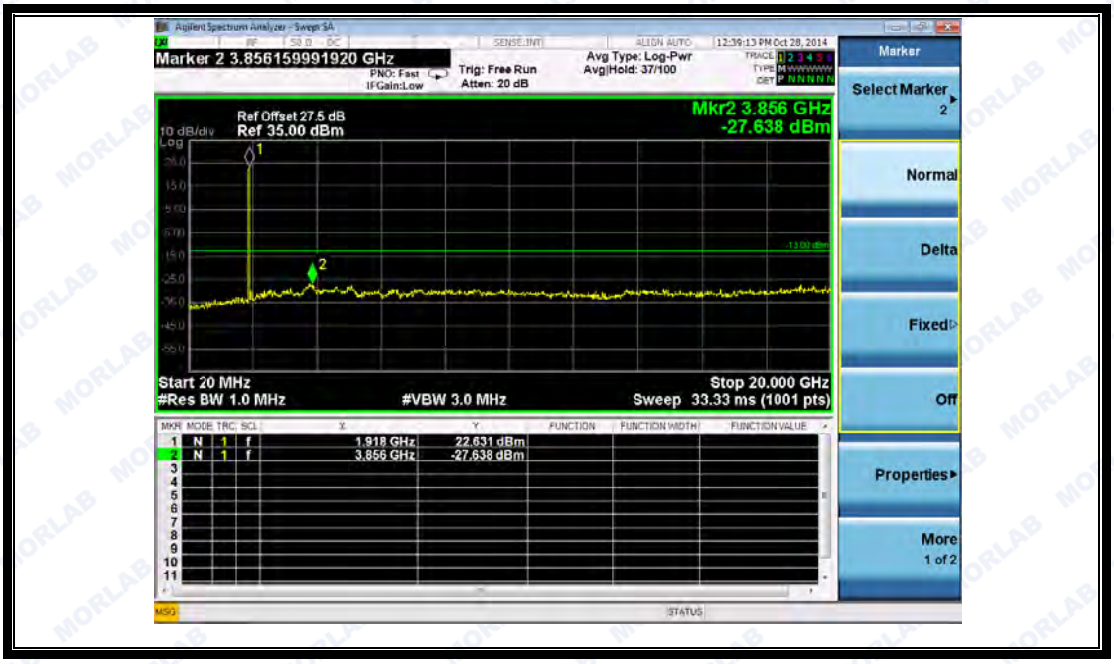
(Plot H 2: HSPA+ 1900MHz Channel = 9400, 30MHz to 1GHz)



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



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



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

2.6. Band Edge

2.6.1. Requirement

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

2.6.2. Test Description

See section 2.1.2 of this report.

2.6.3. Test Result

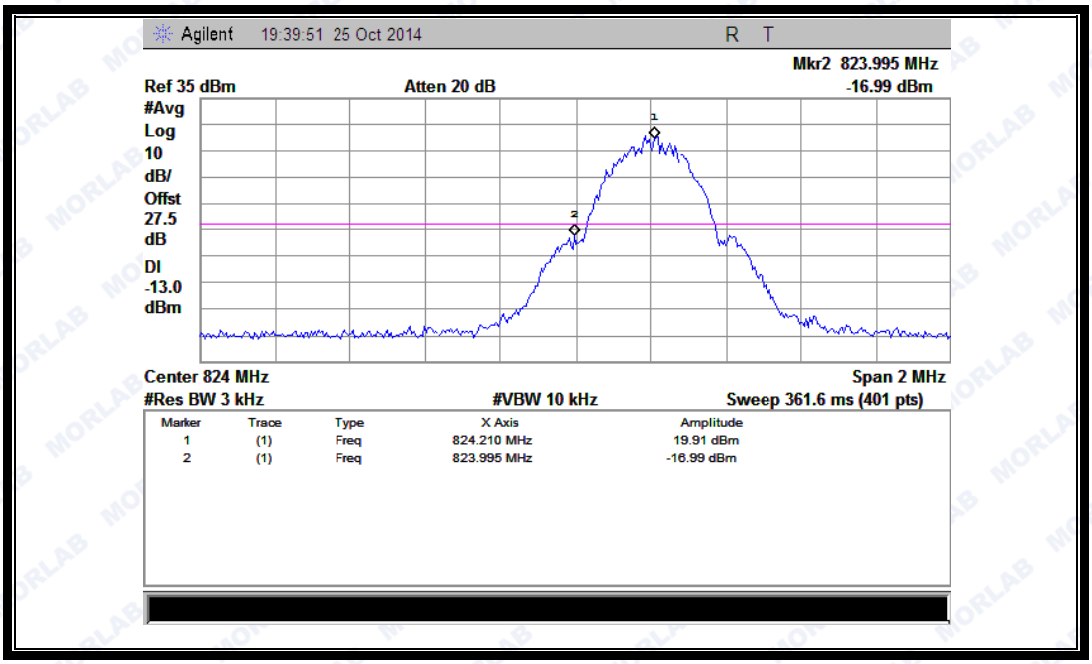
The lowest and highest channels are tested to verify the band edge emissions.

1. Test Verdict:

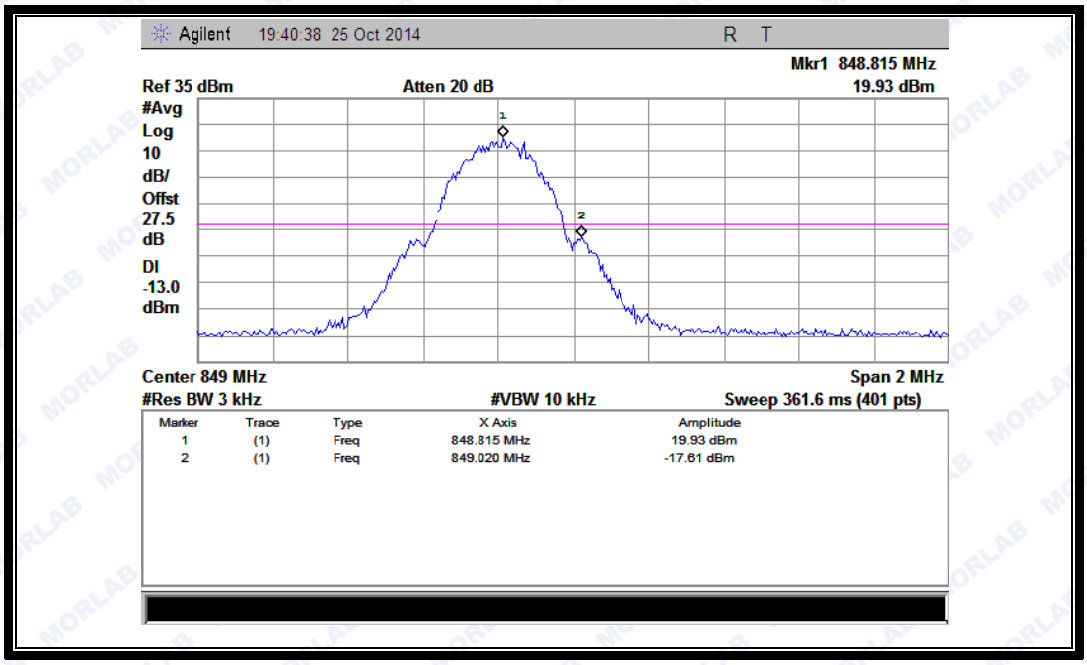
Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	-16.99	Plat A	-13	PASS
	251	848.8	-17.61	Plot B		PASS
GSM 1900MHz	512	1850.2	-21.43	Plat C	-13	PASS
	810	1909.8	-20.17	Plot D		PASS
EDGE 850MHz	128	824.2	-17.83	Plat E	-13	PASS
	251	848.8	-18.61	Plot F		PASS
EDGE 1900MHz	512	1850.2	-20.69	Plat G	-13	PASS
	810	1909.8	-20.25	Plot H		PASS
WCDMA 1900MHz	9262	1852.4	-21.094	Plat I	-13	PASS
	9538	1907.6	-21.956	Plot J		PASS
HSDPA 1900MHz	9262	1852.4	-20.357	Plat K	-13	PASS
	9538	1907.6	-23.190	Plot L		PASS
HSUPA	9262	1852.4	-21.713	Plat M	-13	PASS

1900MHz	9538	1907.6	-22.422	Plot N		PASS
HSPA+	9262	1852.4	-21.723	Plat O	-13	PASS
1900MHz	9538	1907.6	-21.665	Plot P		PASS

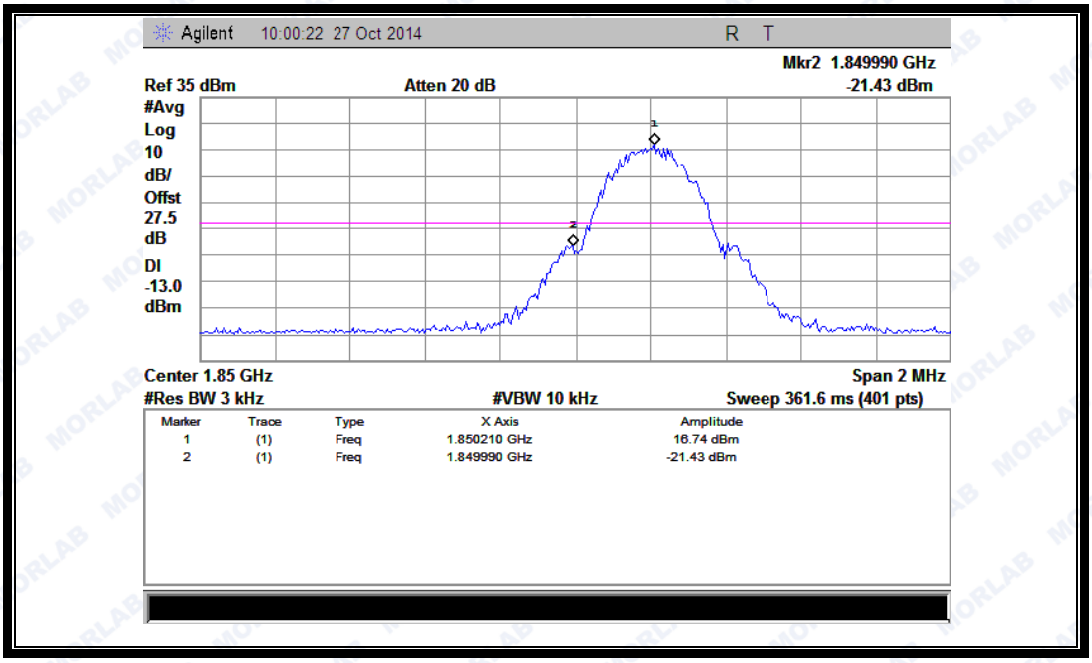
2. Test Plots:



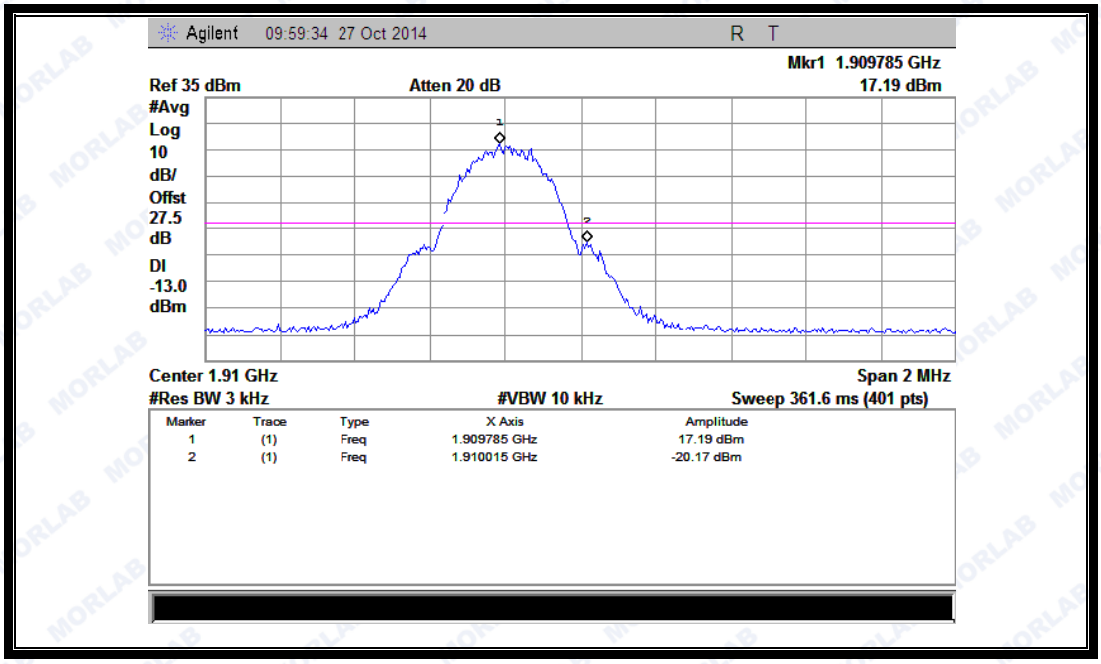
(Plot A: GSM 850 Channel = 128)



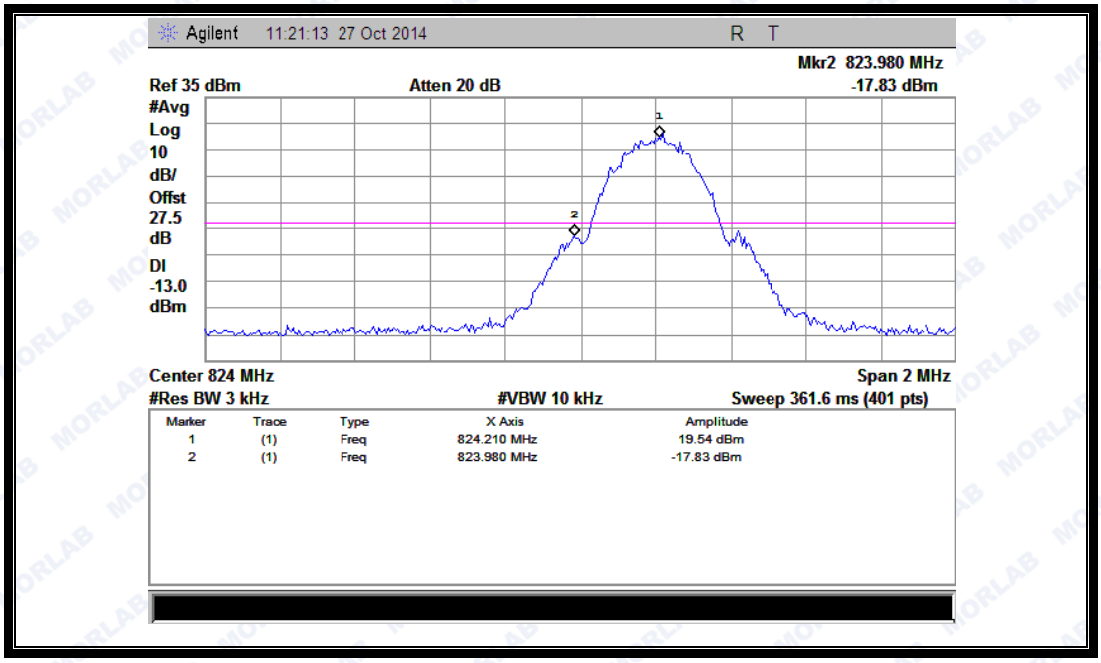
(Plot B: GSM 850 Channel = 251)



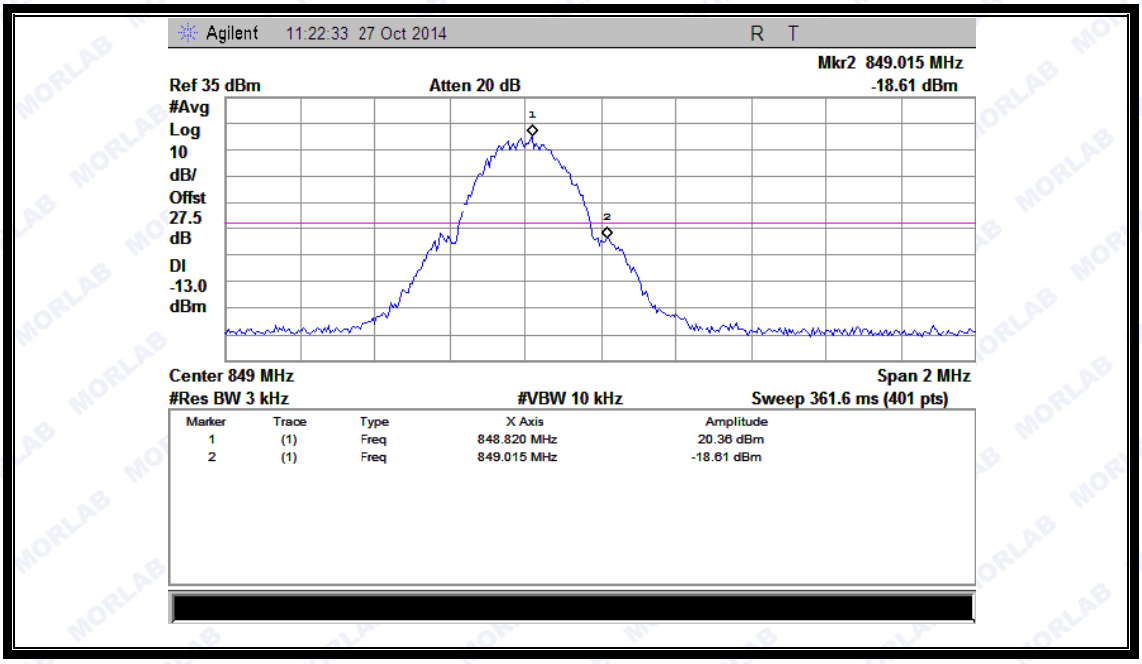
(Plot C: GSM 1900 Channel = 512)



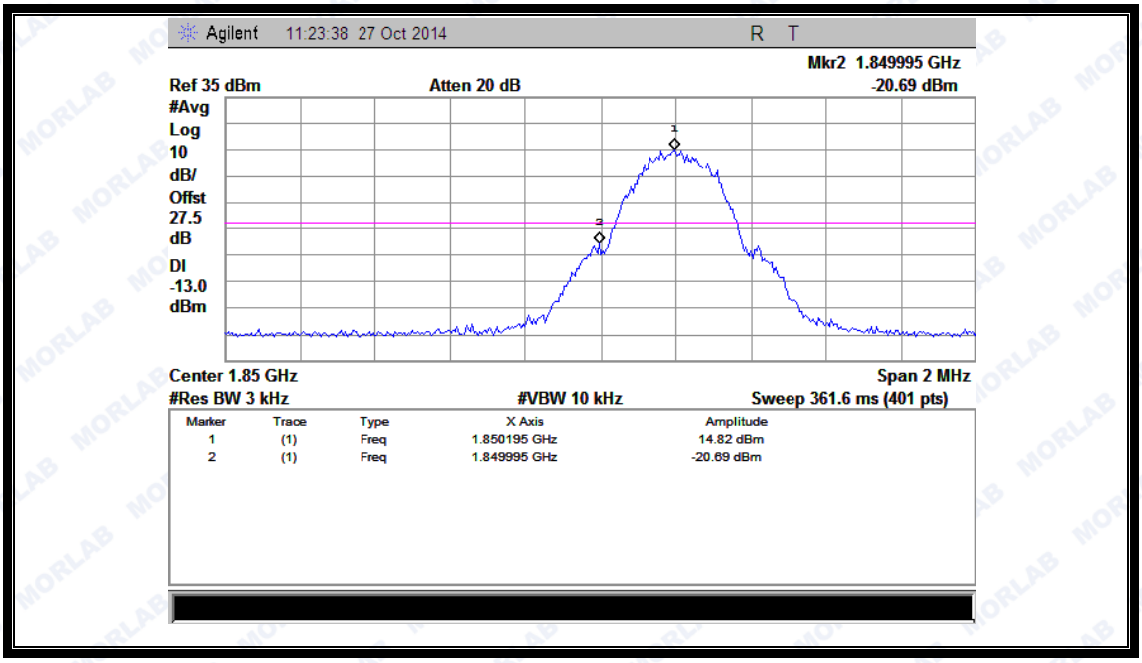
(Plot D: GSM 1900 Channel = 810)



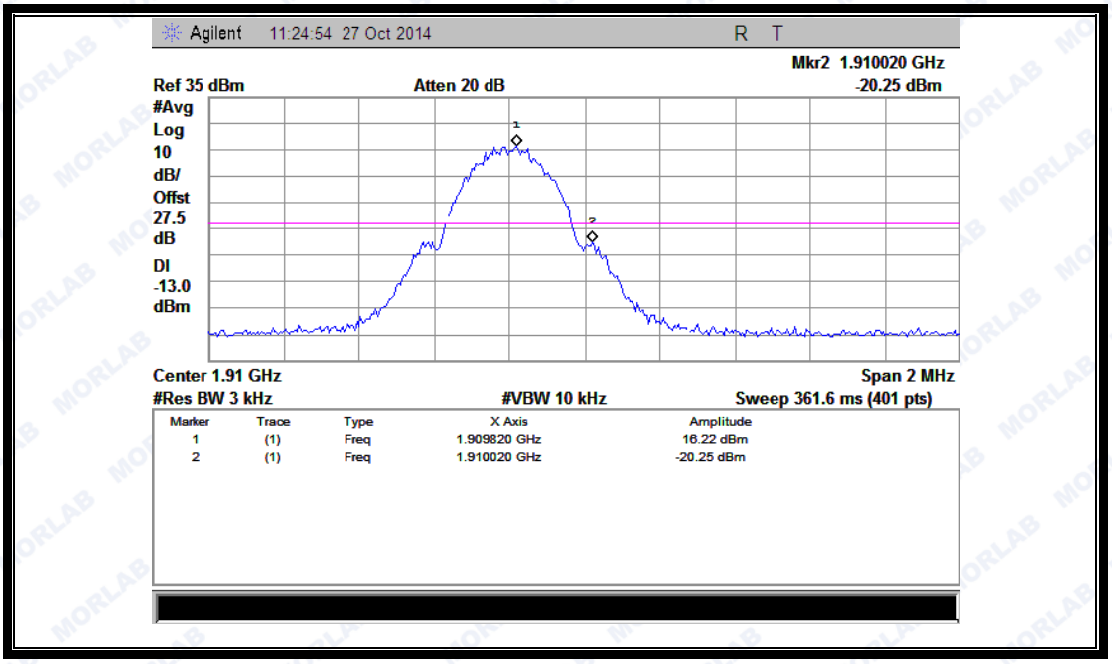
(Plot E: EGPRS 850 Channel = 128)



(Plot F: EGPRS 850 Channel = 251)



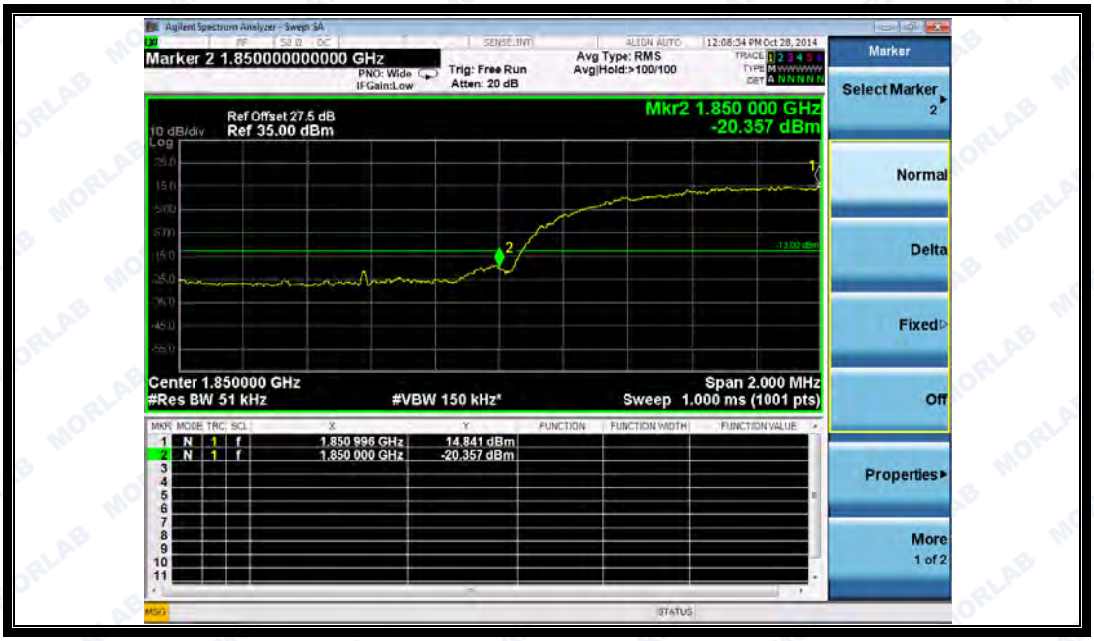
(Plot G: EGPRS 1900 Channel = 512)



(Plot H: EGPRS 1900 Channel = 810)

(Plot I WCDMA 1900 Channel = 9262)

(Plot J: WCDMA 1900 Channel = 9538)



(Plot K: HSDPA 1900 Channel = 9262)

(Plot L: HSDPA 1900 Channel = 9538)

(Plot M: HSUPA 1900 Channel = 9262)

(Plot N: HSUPA 1900 Channel = 9538)

(Plot O: HSPA+ 1900 Channel = 9262)

(Plot P: HSPA+ 1900 Channel = 9538)

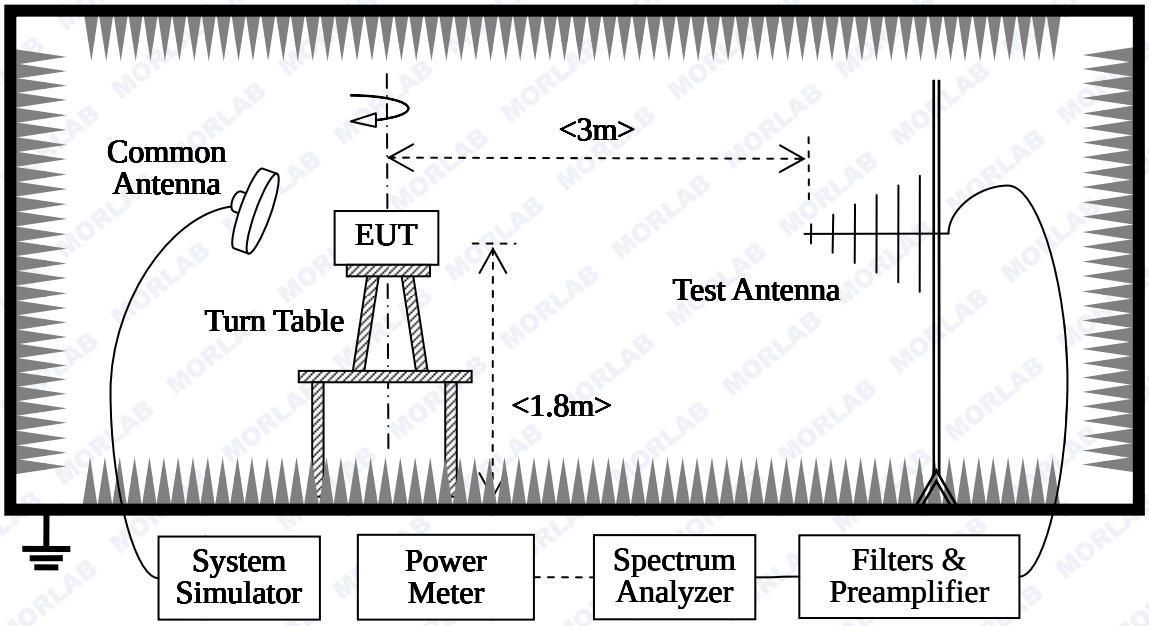
2.7. Transmitter Radiated Power (EIRP/ERP)

2.7.1. Requirement

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

2.7.2. Test Description

1. Test Setup:



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

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

- GSM Maximum RF output power: GSM 850 33.28dBm, GSM 1900 30.30dBm, EGPRS 850 33.04dBm，EGPRS 1900 29.79dBm, WCDMA 1900 23.87dBm, Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

- Minimum RF power: GSM 850 3.1dBm, GSM 1900 0.3dBm，EGPRS 850 3.1dBm, EGPRS 1900 0.21dBm ,WCDMA 850 0.39dBm ,WCDMA 1900 0.5dBm.

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

2. Equipments List:

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

2.7.3. Test Result

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

The substitution corrections are obtained as described below:

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

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

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

P_{SUBST_TX} is signal generator level,

P_{SUBST_RX} is receiver level,

L_{SUBST_CABLES} is cable losses including TX cable,

$G_{SUBST_TX_ANT}$ is substitution antenna gain.

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

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

1. GSM Model Test Verdict:

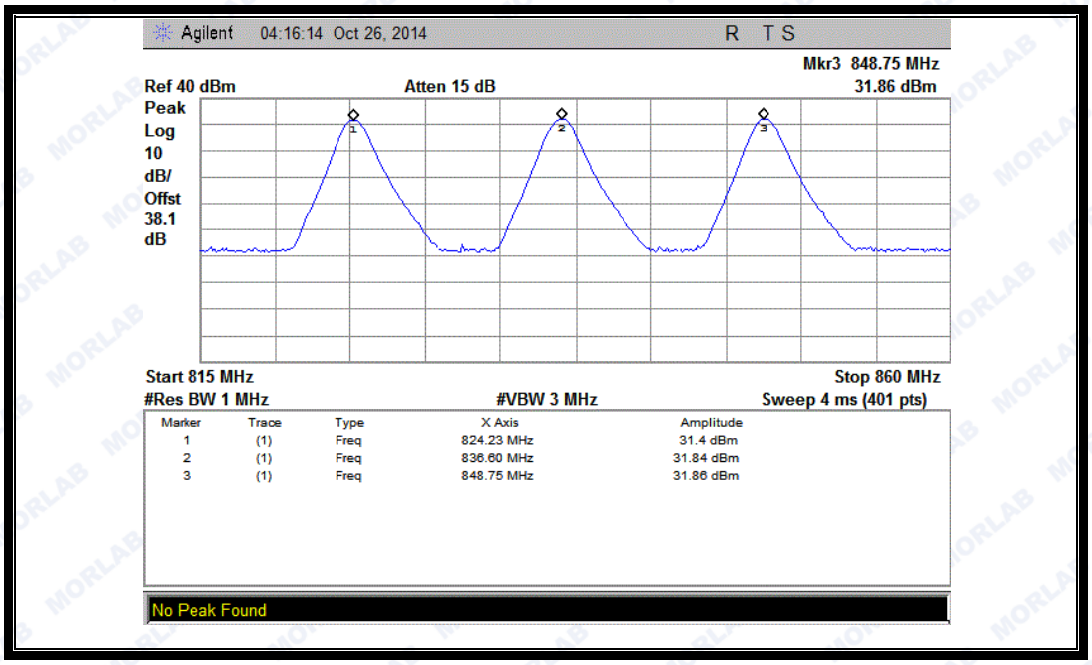
Band	Channel	Frequency (MHz)	PCL	Measured ERP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 850MHz	128	824.20	5	31.4	1.380	Plot A	38.5	7	PASS
	190	836.60	5	31.84	1.528				PASS
	251	848.80	5	31.86	1.535				PASS
GPRS 850MHz	128	824.20	5	28.02	0.634	Plot B Note 1	38.5	7	PASS
	190	836.60	5	28.02	0.634				PASS
	251	848.80	5	28.07	0.641				PASS
EGPRS 850MHz	128	824.20	5	27.85	0.610	Plot C Note 1	38.5	7	PASS
	190	836.60	5	27.62	0.578				PASS
	251	848.80	5	27.77	0.598				PASS

Band	Channel	Frequency (MHz)	PCL	Measured EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 1900MHz	512	1850.2	0	29.15	0.822	Plot D	33	2	PASS
	661	1880.0	0	29.02	0.798				PASS
	810	1909.8	0	29.16	0.824				PASS
GPRS 1900MHz	512	1850.2	0	26.09	0.406	Plot E Note 1	33	2	PASS
	661	1880.0	0	26.05	0.403				PASS
	810	1909.8	0	26.06	0.404				PASS
EGPRS 1900MHz	512	1850.2	0	25.38	0.345	Plot F Note 1	33	2	PASS
	661	1880.0	0	25.66	0.368				PASS
	810	1909.8	0	25.57	0.361				PASS
Note 1:	For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.								

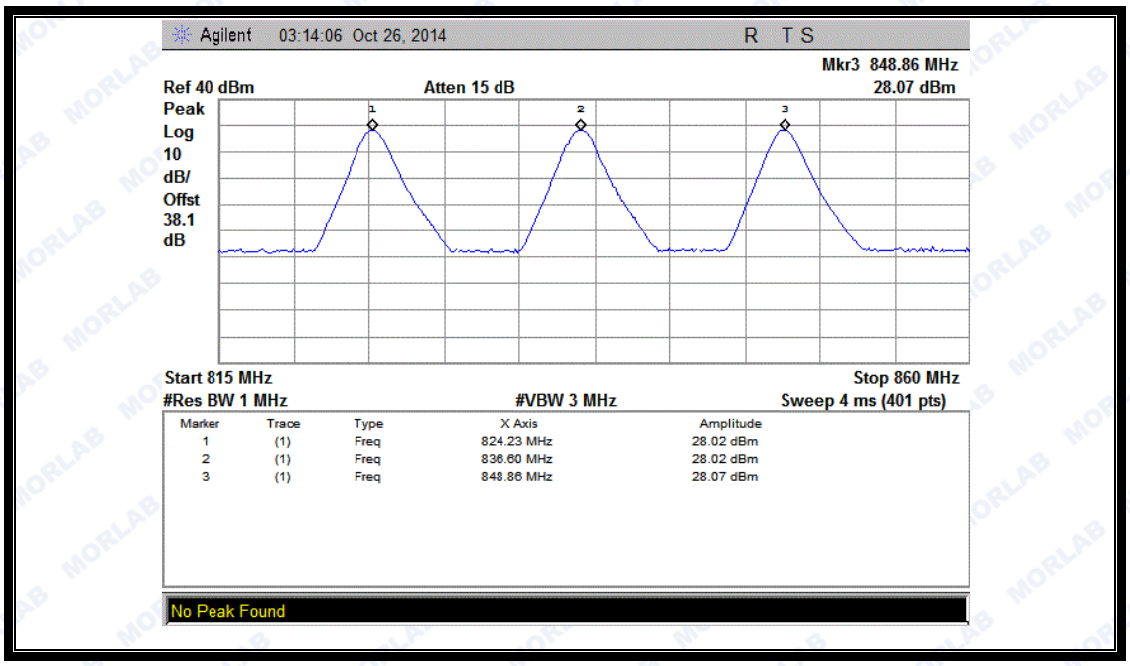
2. WCDMA Model Test Verdict:

Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W		dBm	W	
WCDMA 1900MHz	9262	1852.4	24.14	0.259	Plot G	33	2	PASS
	9400	1880	23.88	0.244				PASS
	9538	1907.6	23.68	0.233				PASS
HSDPA 1900MHz	9262	1852.4	23.93	0.247	Plot H	33	2	PASS
	9400	1880	23.52	0.225				PASS
	9538	1907.6	23.65	0.232				PASS
HSUPA 1900MHz	9262	1852.4	24.19	0.262	Plot I	33	2	PASS
	9400	1880	23.41	0.219				PASS
	9538	1907.6	23.57	0.228				PASS
HSPA+ 1900MHz	9262	1852.4	23.93	0.247	Plot J	33	2	PASS
	9400	1880	23.57	0.228				PASS
	9538	1907.6	23.57	0.228				PASS

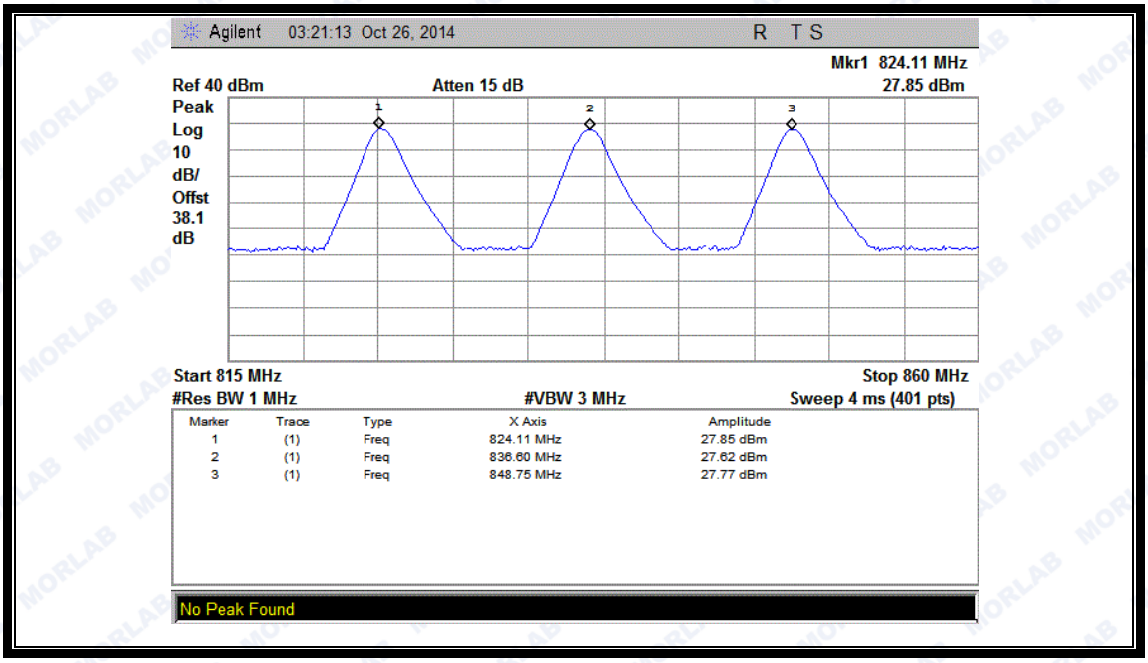
3. Test Plots:



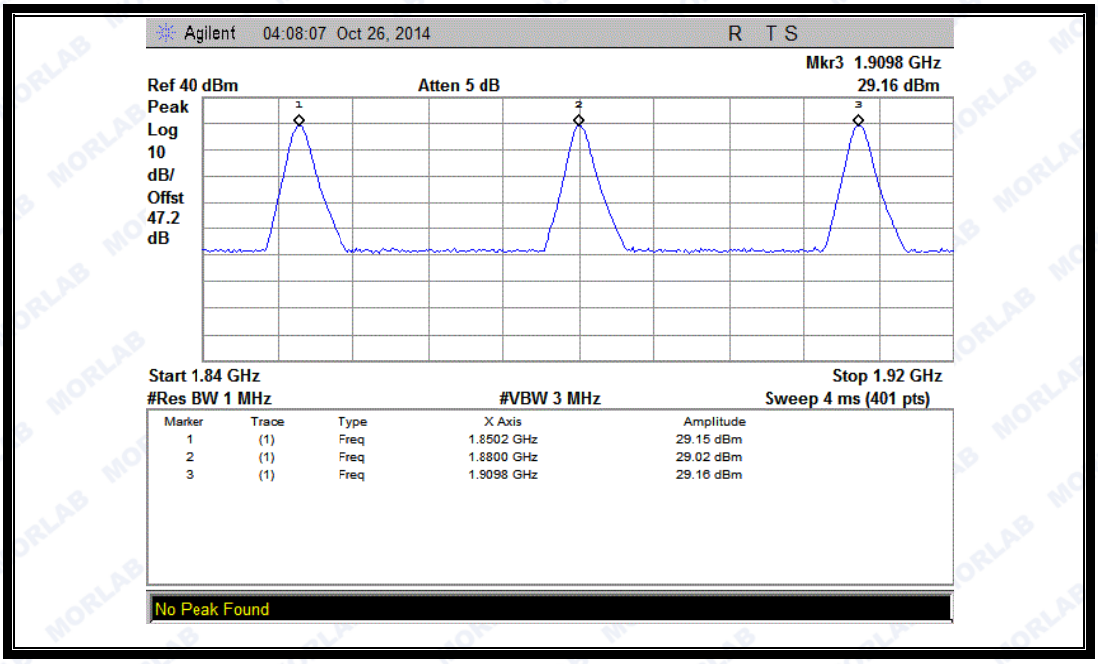
(Plot A: GSM 850MHz Channel = 128, 190, 251)



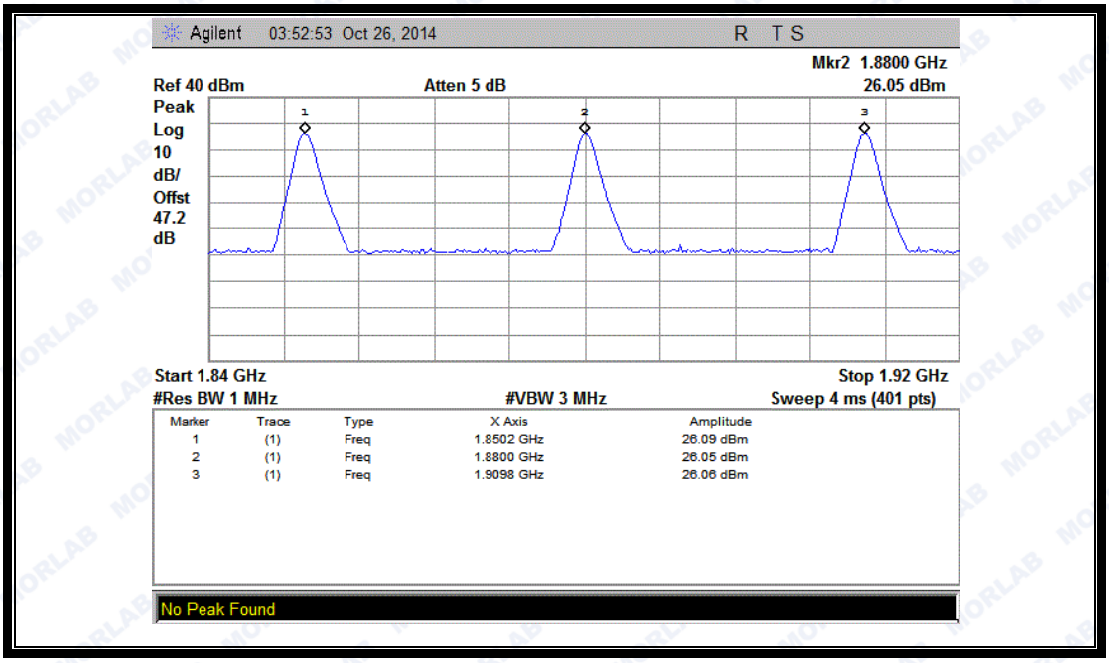
(Plot B: GPRS 850MHz Channel = 128, 190, 251)



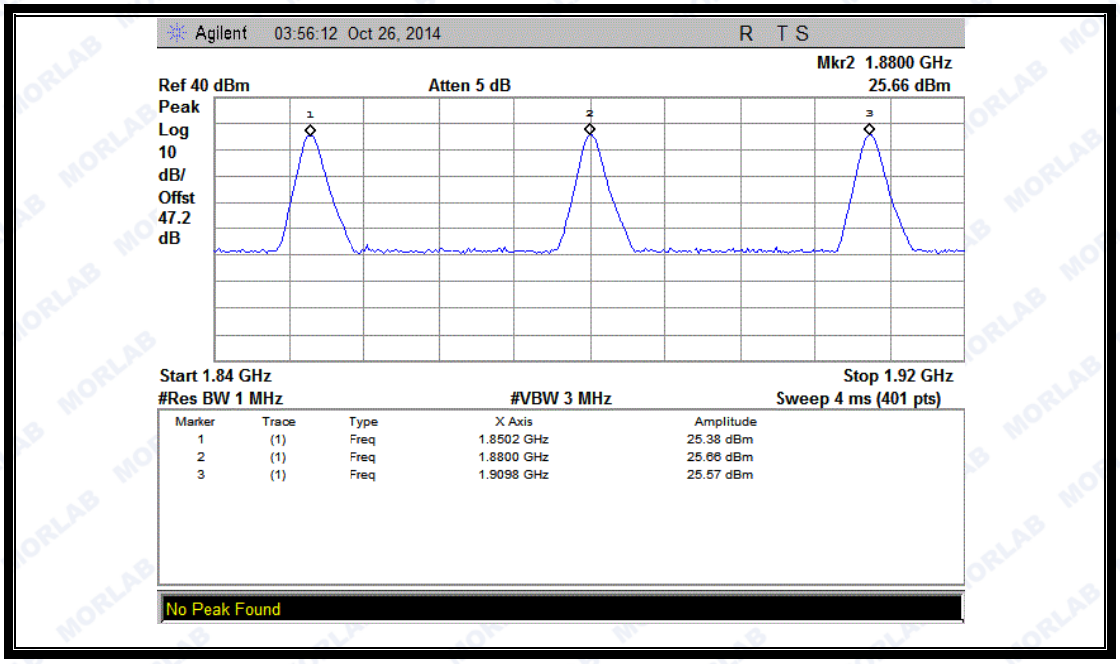
(Plot C: EGPRS 850MHz Channel = 128, 190, 251)



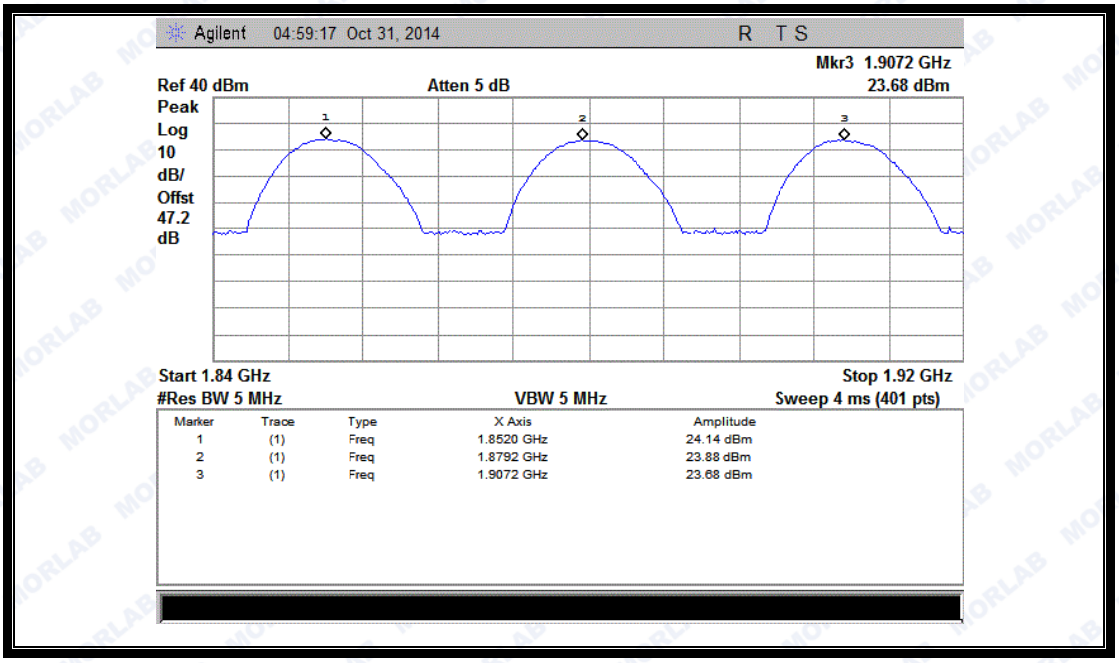
(Plot D: GSM 1900MHz Channel = 512, 661, 810)



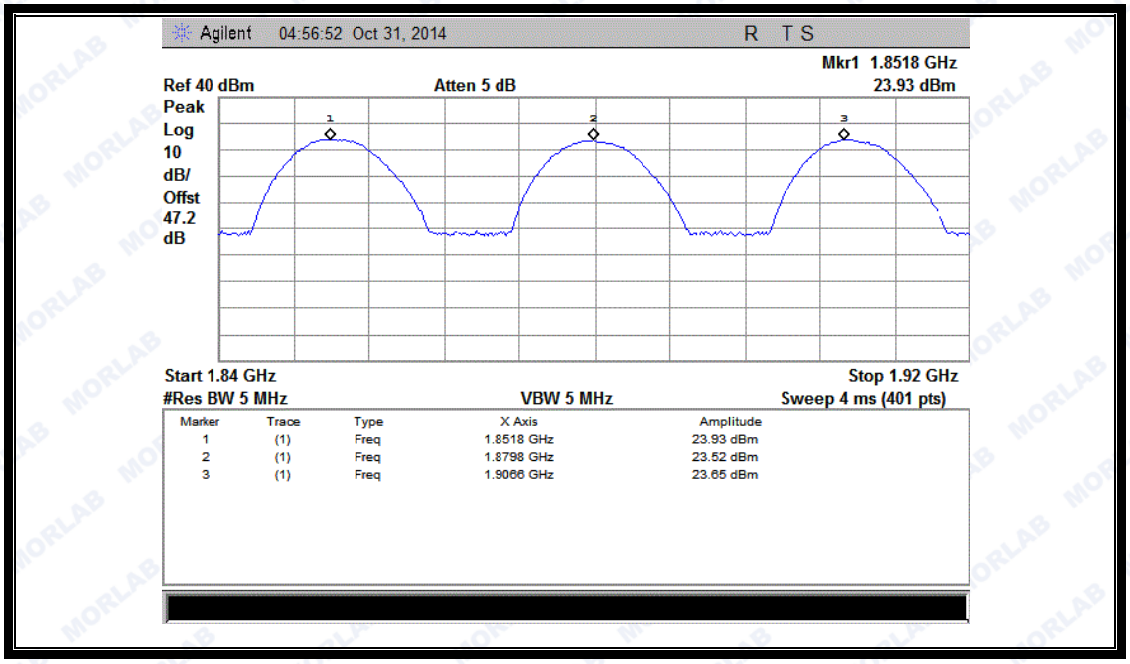
(Plot E: GPRS 1900MHz Channel = 512, 661, 810)



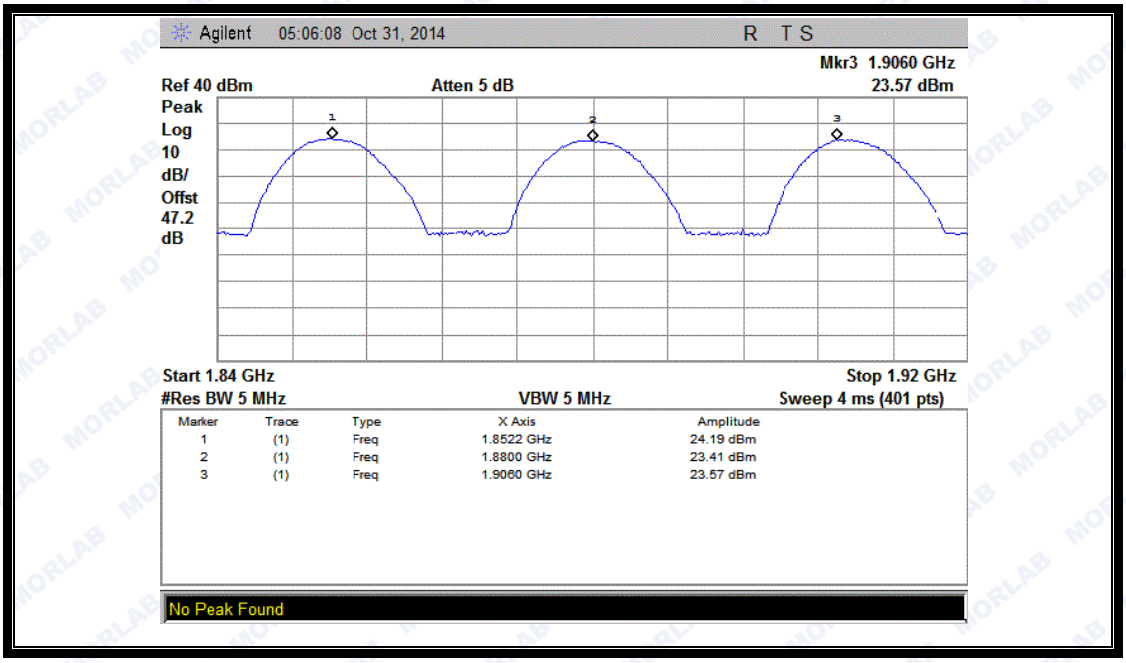
(Plot F: EGPRS 1900MHz Channel = 512, 661, 810)



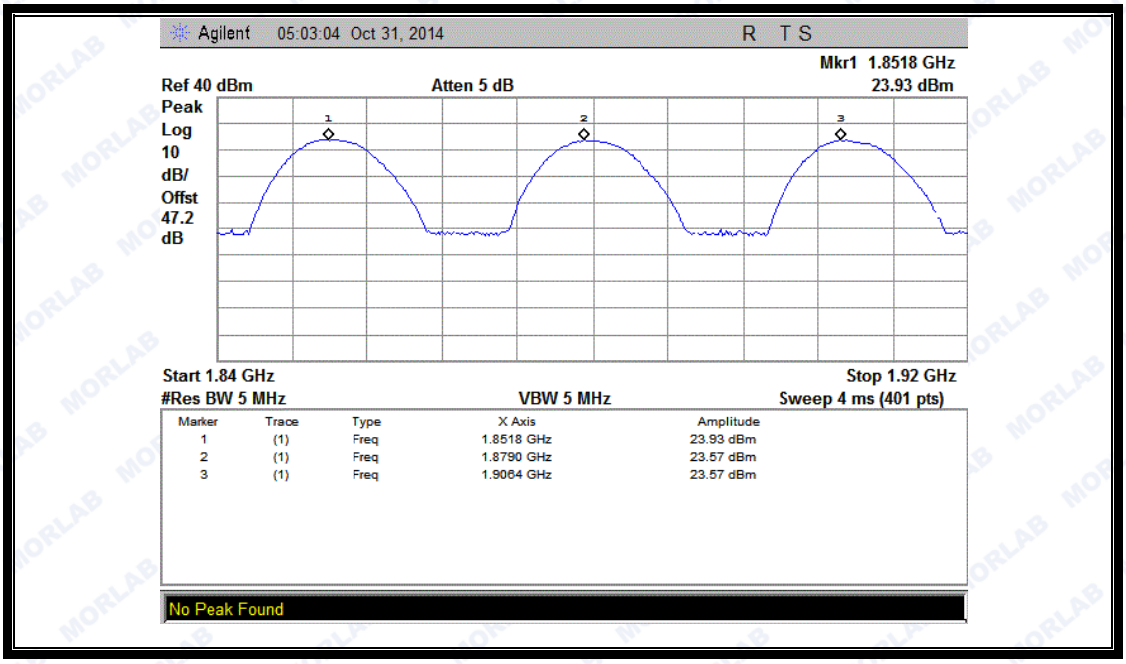
(Plot G: WCDMA 1900 MHz Channel = 9262, 9400, 9538)



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



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



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

2.8. Radiated Out of Band Emissions

2.8.1. Requirement

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

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

2.8.2. Test Description

See section 2.7.2 of this report.

1. Equipment List：

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

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

2.8.3. Test Result

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

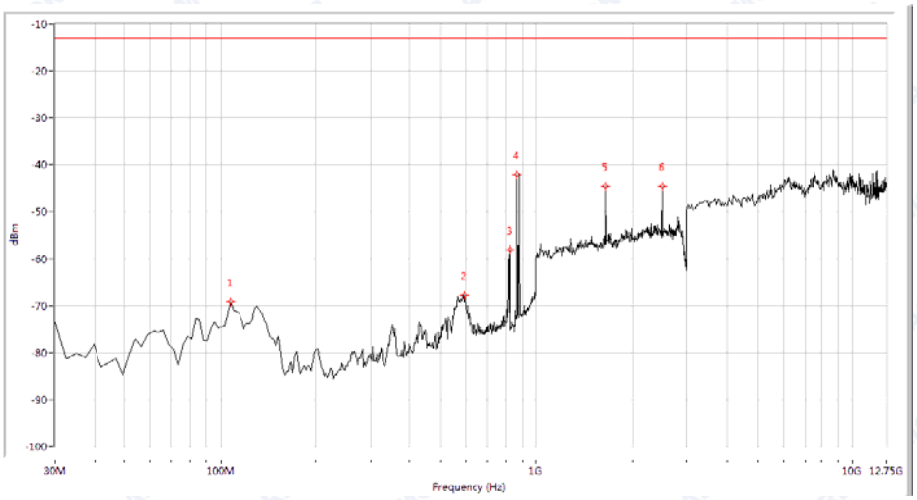
1. Test Verdict:

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

2. Test Plots for the Whole Measurement Frequency Range:

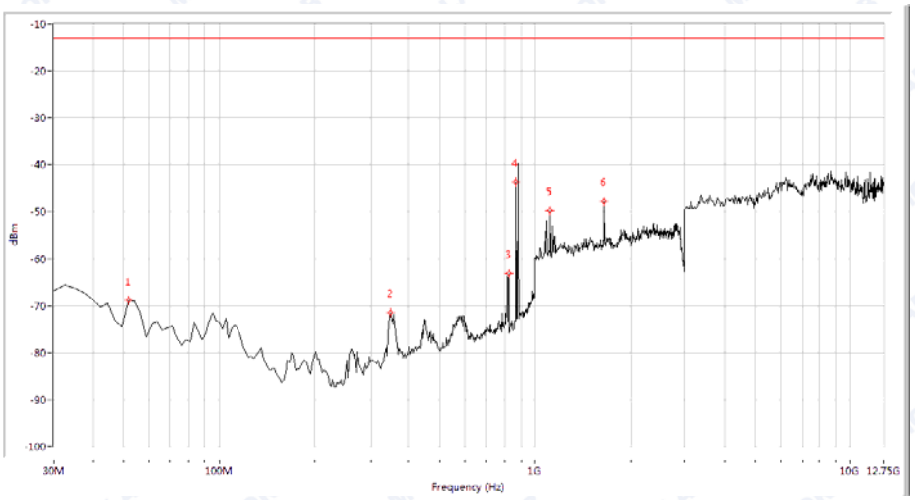
Note1: the power of the EUT transmitting frequency should be ignored.

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
107.406	-69.09	-13.0	56.1	145.9	Horizontal	PASS
593.616	-67.72	-13.0	54.7	359.2	Horizontal	PASS
823.416	-58.05	-13.0	45.0	102.7	Horizontal	PASS
866.958	-42.02	-13.0	29.0	222.6	Horizontal	PASS
1648.379	-44.53	-13.0	31.5	86.7	Horizontal	PASS
2471.322	-44.57	-13.0	31.6	317.8	Horizontal	PASS

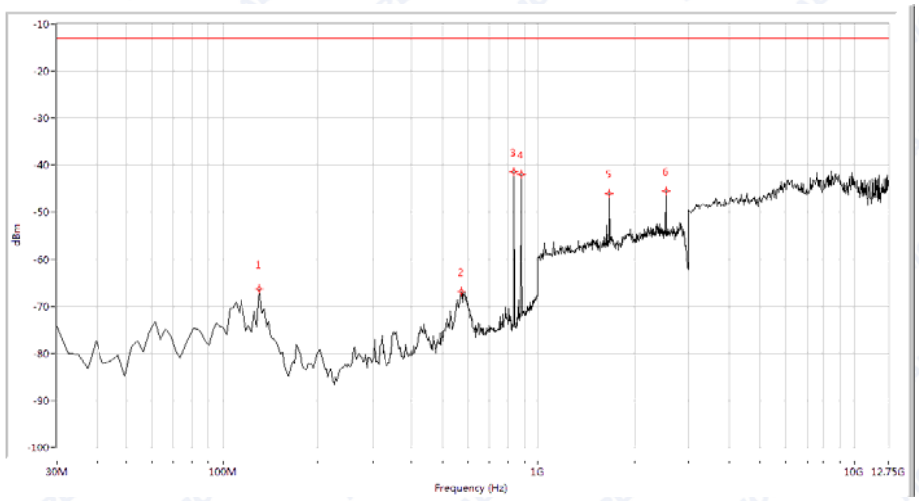
(Plot A.1: GSM 850MHz Channel = 128, Test Antenna Horizontal)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
51.771	-68.83	-13.0	55.8	262.0	Vertical	PASS
351.721	-71.56	-13.0	58.6	235.6	Vertical	PASS
823.416	-63.06	-13.0	50.1	193.9	Vertical	N.A
866.958	-43.61	-13.0	30.6	26.9	Vertical	N.A

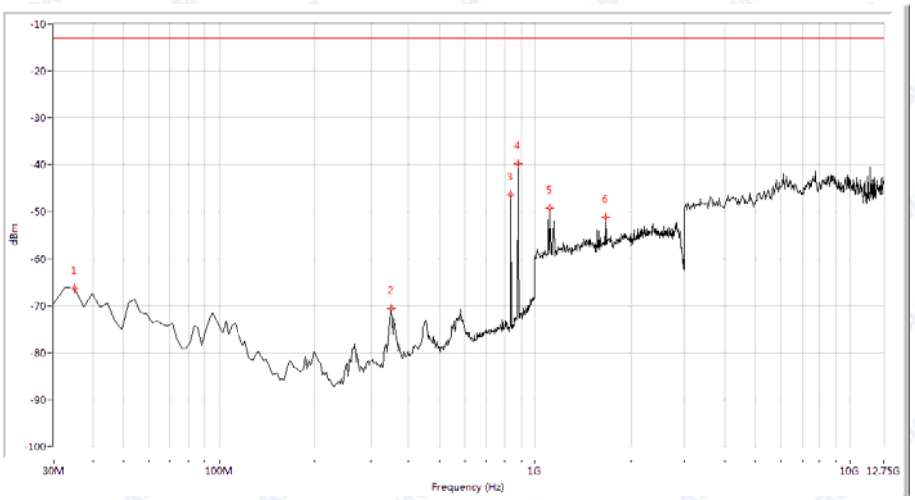
1119.701	-49.75	-13.0	36.7	174.2	Vertical	PASS
1648.379	-47.78	-13.0	34.8	216.6	Vertical	PASS

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



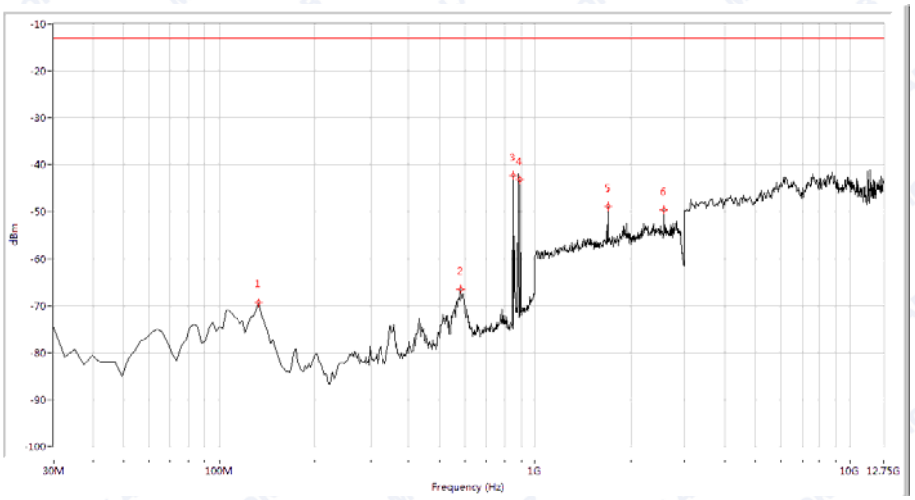
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
131.596	-66.29	-13.0	53.3	308.1	Horizontal	PASS
571.845	-66.86	-13.0	53.9	360.0	Horizontal	PASS
835.511	-41.43	-13.0	28.4	223.0	Horizontal	N.A
879.052	-41.98	-13.0	29.0	323.4	Horizontal	N.A
1673.317	-45.97	-13.0	33.0	326.4	Horizontal	PASS
2506.234	-45.43	-13.0	32.4	281.3	Horizontal	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-66.39	-13.0	53.4	172.3	Vertical	PASS
354.140	-70.59	-13.0	57.6	233.7	Vertical	PASS
835.511	-46.36	-13.0	33.4	273.5	Vertical	N.A
879.052	-39.79	-13.0	26.8	233.7	Vertical	N.A
1114.713	-49.28	-13.0	36.3	17.1	Vertical	PASS
1673.317	-51.15	-13.0	38.1	209.5	Vertical	PASS

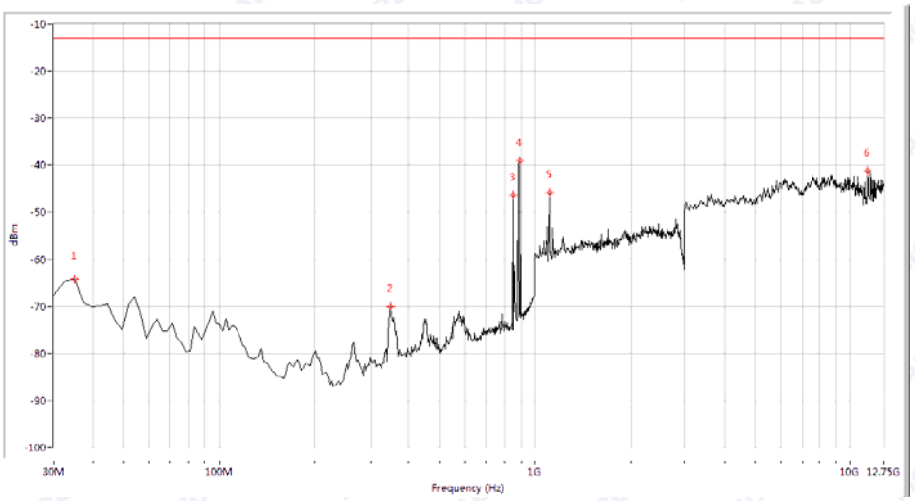
(Plot A.4: GSM 850MHz Channel = 190, Test Antenna Vertical)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
134.015	-69.33	-13.0	56.3	329.4	Horizontal	PASS
581.521	-66.45	-13.0	53.4	345.3	Horizontal	PASS
847.606	-42.20	-13.0	29.2	214.7	Horizontal	N.A
891.147	-43.12	-13.0	30.1	182.4	Horizontal	N.A

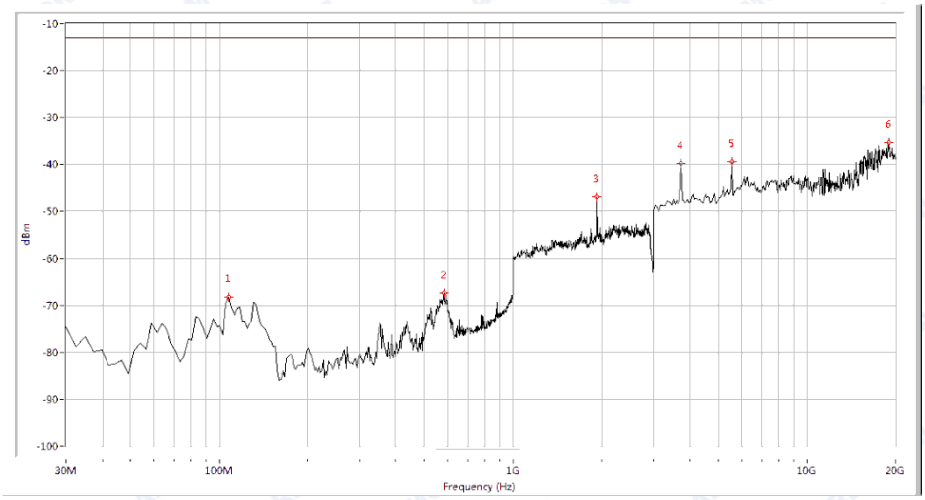
1698.254	-48.80	-13.0	35.8	246.4	Horizontal	PASS
2541.147	-49.57	-13.0	36.6	319.0	Horizontal	PASS

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



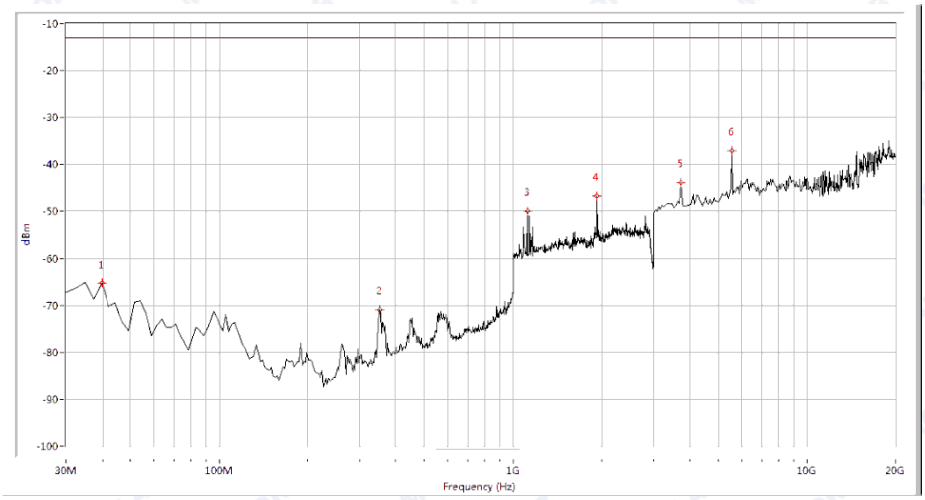
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-64.11	-13.0	51.1	138.8	Vertical	PASS
351.721	-70.09	-13.0	57.1	214.0	Vertical	PASS
847.606	-46.37	-13.0	33.4	256.1	Vertical	N.A
891.147	-39.05	-13.0	26.1	203.6	Vertical	N.A
1114.713	-45.75	-13.0	32.8	160.4	Vertical	PASS
11388.404	-41.18	-13.0	28.2	66.2	Vertical	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
107.406	-68.36	-13.0	55.4	40.3	Horizontal	PASS
583.940	-67.42	-13.0	54.4	351.2	Horizontal	PASS
1927.681	-46.96	-13.0	34.0	293.7	Horizontal	N.A
3720.698	-39.83	-13.0	26.8	230.0	Horizontal	PASS
5543.641	-39.34	-13.0	26.3	237.4	Horizontal	PASS
18940.150	-35.40	-13.0	22.4	128.4	Horizontal	PASS

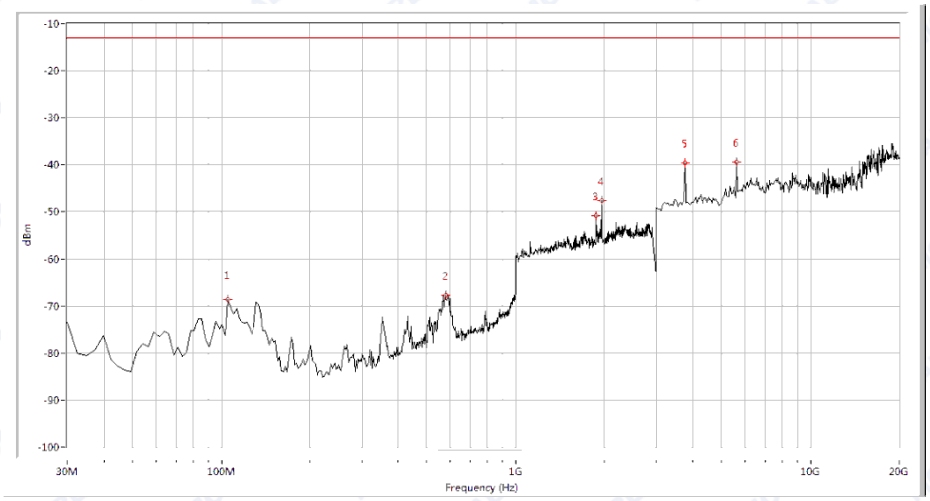
(Plot B.1: GSM 1900MHz Channel = 512, Test Antenna Horizontal)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
39.676	-65.19	-13.0	52.2	155.6	Vertical	PASS
351.721	-71.04	-13.0	58.0	212.5	Vertical	PASS
1114.713	-50.00	-13.0	37.0	244.5	Vertical	PASS
1927.681	-46.66	-13.0	33.7	1.1	Vertical	N.A

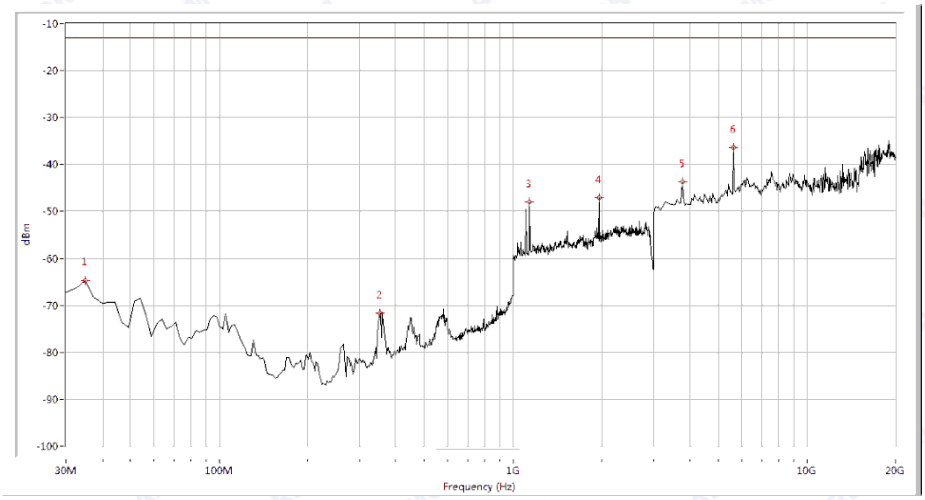
3720.698	-43.87	-13.0	30.9	320.0	Vertical	PASS
5543.641	-37.14	-13.0	24.1	328.9	Vertical	PASS

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



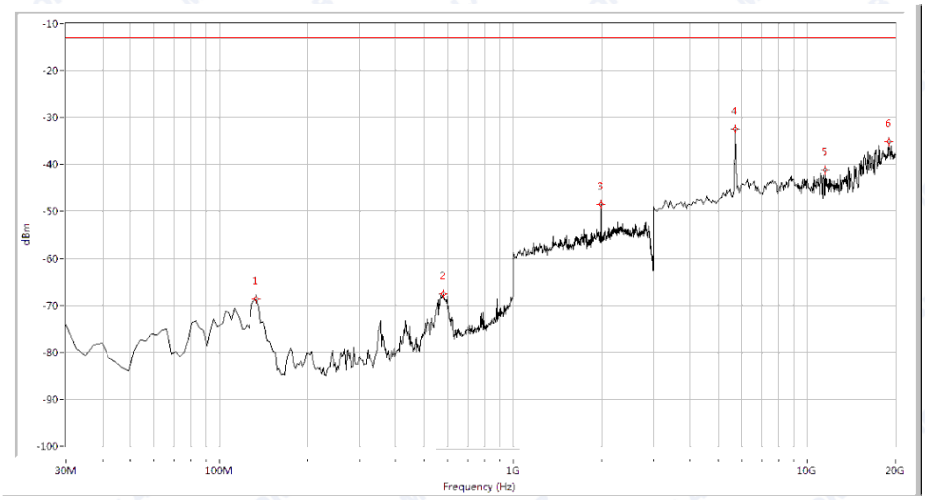
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
104.988	-68.69	-13.0	55.7	360.0	Horizontal	PASS
579.102	-67.80	-13.0	54.8	360.0	Horizontal	PASS
1877.805	-50.74	-13.0	37.7	260.9	Horizontal	N.A
1957.606	-47.55	-13.0	34.6	272.4	Horizontal	N.A
3763.092	-39.61	-13.0	26.6	230.8	Horizontal	PASS
5628.429	-39.46	-13.0	26.5	296.7	Horizontal	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-64.76	-13.0	51.8	193.2	Vertical	PASS
351.721	-71.69	-13.0	58.7	246.0	Vertical	PASS
1134.663	-48.01	-13.0	35.0	272.9	Vertical	PASS
1957.606	-47.15	-13.0	34.1	234.9	Vertical	N.A
3763.092	-43.69	-13.0	30.7	-0.0	Vertical	PASS
5628.429	-36.41	-13.0	23.4	293.7	Vertical	PASS

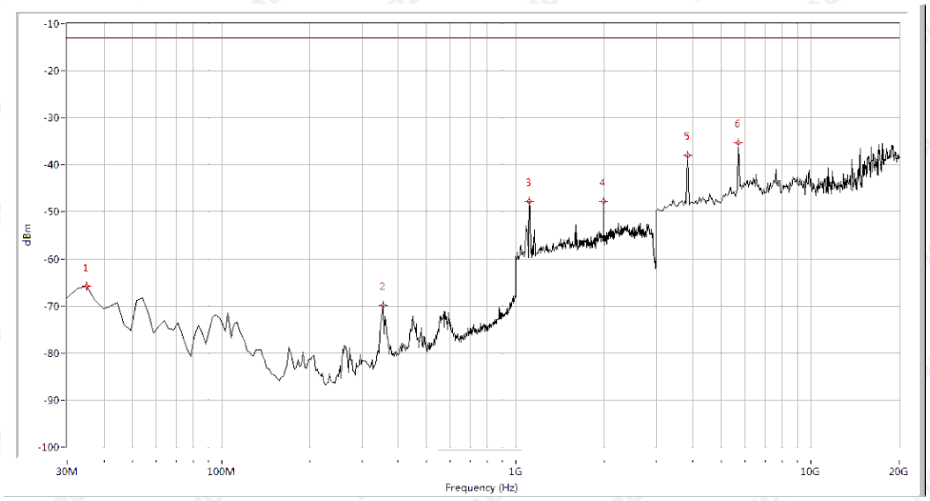
(Plot B.4: GSM 1900MHz Channel = 661, Test Antenna Vertical)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
134.015	-68.63	-13.0	55.6	219.9	Horizontal	PASS
579.102	-67.64	-13.0	54.6	2.6	Horizontal	PASS
1987.531	-48.41	-13.0	35.4	224.8	Horizontal	N.A
5713.217	-32.41	-13.0	19.4	128.4	Horizontal	PASS

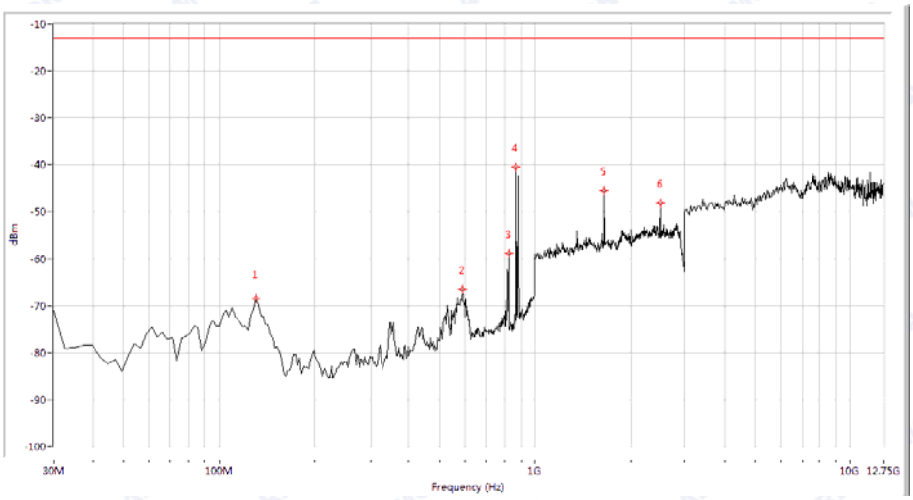
11563.591	-41.13	-13.0	28.1	-0.0	Horizontal	PASS
18982.544	-35.14	-13.0	22.1	272.4	Horizontal	PASS

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



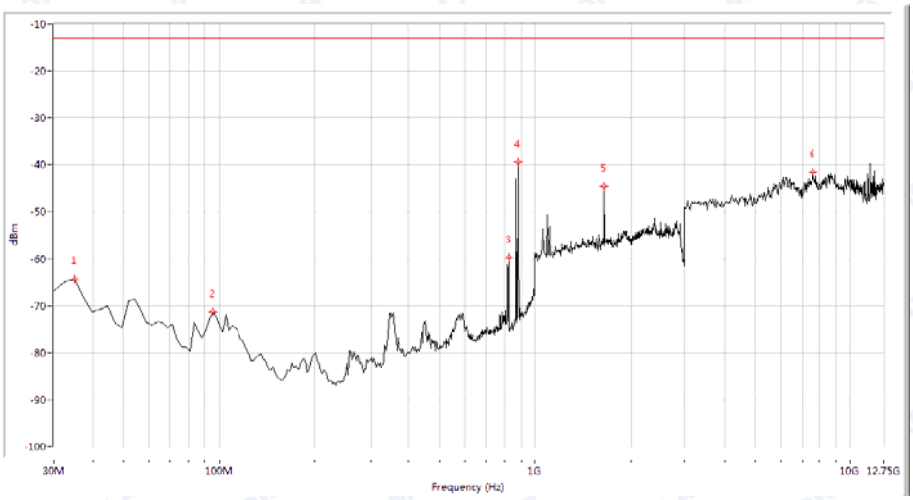
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-65.86	-13.0	52.9	-0.0	Vertical	PASS
354.140	-69.96	-13.0	57.0	242.7	Vertical	PASS
1109.726	-47.76	-13.0	34.8	187.6	Vertical	PASS
1987.531	-47.77	-13.0	34.8	123.6	Vertical	N.A
3847.880	-37.95	-13.0	24.9	340.9	Vertical	PASS
5713.217	-35.33	-13.0	22.3	360.0	Vertical	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
131.596	-68.37	-13.0	55.4	360.0	Horizontal	PASS
588.778	-66.45	-13.0	53.4	359.4	Horizontal	PASS
823.416	-58.89	-13.0	45.9	204.7	Horizontal	N.A
866.958	-40.56	-13.0	27.6	317.8	Horizontal	N.A
1648.379	-45.55	-13.0	32.5	109.1	Horizontal	PASS
2471.322	-48.13	-13.0	35.1	281.4	Horizontal	PASS

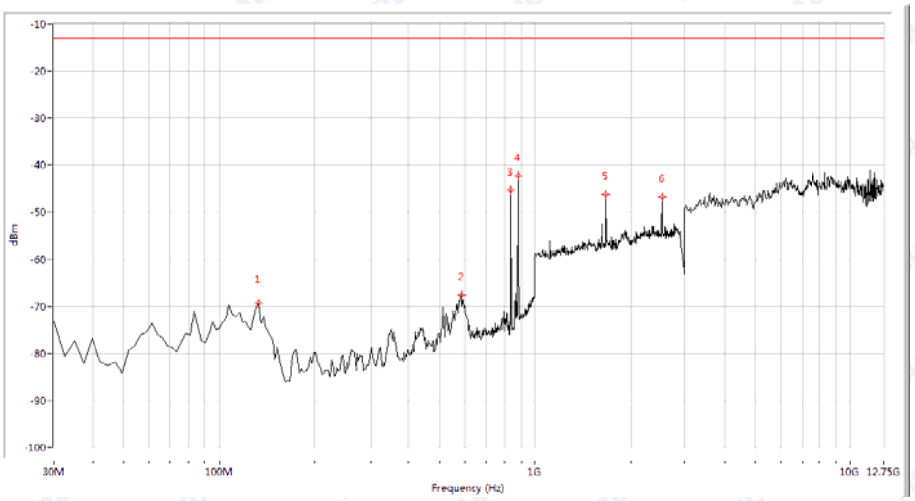
(Plot C.1: EGPRS 850MHz Channel = 128, Test Antenna Horizontal)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-64.35	-13.0	51.4	356.6	Vertical	PASS
95.312	-71.23	-13.0	58.2	124.3	Vertical	PASS
823.416	-59.66	-13.0	46.7	218.1	Vertical	N.A
879.052	-39.39	-13.0	26.4	196.9	Vertical	N.A

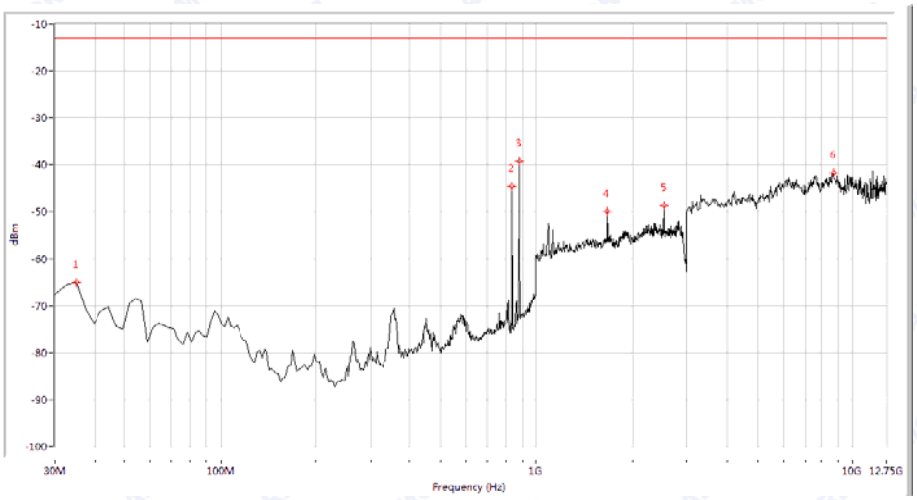
1648.379	-44.62	-13.0	31.6	219.2	Vertical	PASS
7619.701	-41.48	-13.0	28.5	31.7	Vertical	PASS

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



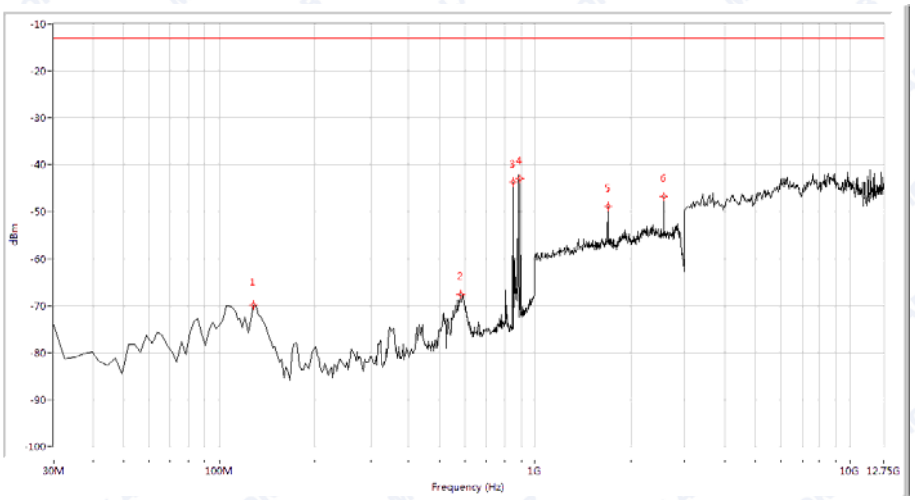
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
134.015	-69.39	-13.0	56.4	66.2	Horizontal	PASS
583.940	-67.55	-13.0	54.6	358.4	Horizontal	PASS
835.511	-45.28	-13.0	32.3	34.2	Horizontal	N.A
879.052	-42.19	-13.0	29.2	117.6	Horizontal	N.A
1673.317	-46.09	-13.0	33.1	323.0	Horizontal	PASS
2506.234	-46.71	-13.0	33.7	292.1	Horizontal	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-65.07	-13.0	52.1	109.5	Vertical	PASS
835.511	-44.62	-13.0	31.6	213.6	Vertical	N.A
879.052	-39.24	-13.0	26.2	239.0	Vertical	N.A
1673.317	-49.98	-13.0	37.0	330.9	Vertical	PASS
2506.234	-48.70	-13.0	35.7	269.5	Vertical	PASS
8738.155	-41.79	-13.0	28.8	115.0	Vertical	PASS

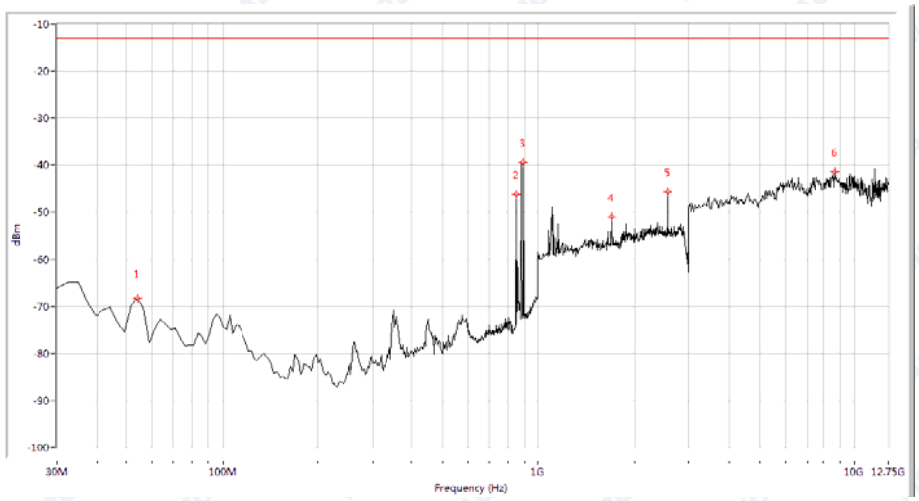
(Plot C.4: EGPRS 850MHz Channel = 190, Test Antenna Vertical)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
129.177	-69.96	-13.0	57.0	276.2	Horizontal	PASS
581.521	-67.49	-13.0	54.5	358.2	Horizontal	PASS
847.606	-43.61	-13.0	30.6	228.2	Horizontal	N.A
891.147	-42.95	-13.0	30.0	333.9	Horizontal	N.A

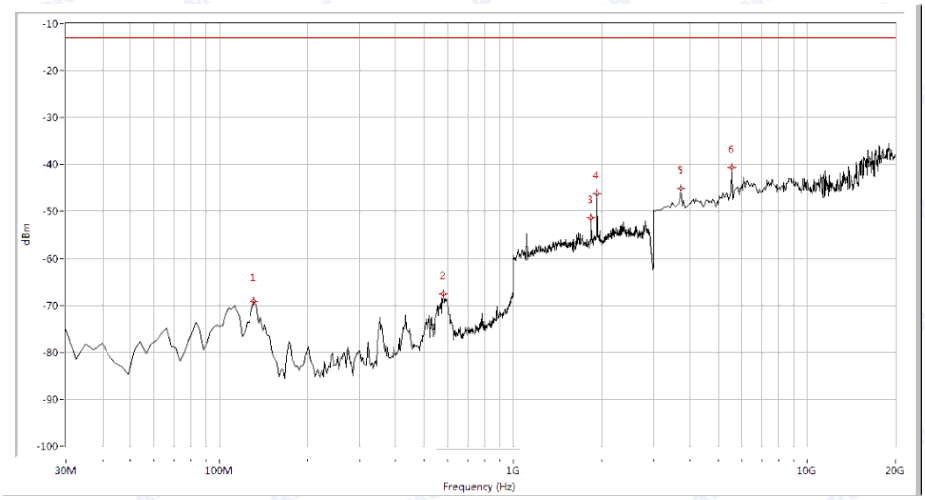
1698.254	-48.88	-13.0	35.9	311.5	Horizontal	PASS
2541.147	-46.63	-13.0	33.6	326.4	Horizontal	PASS

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



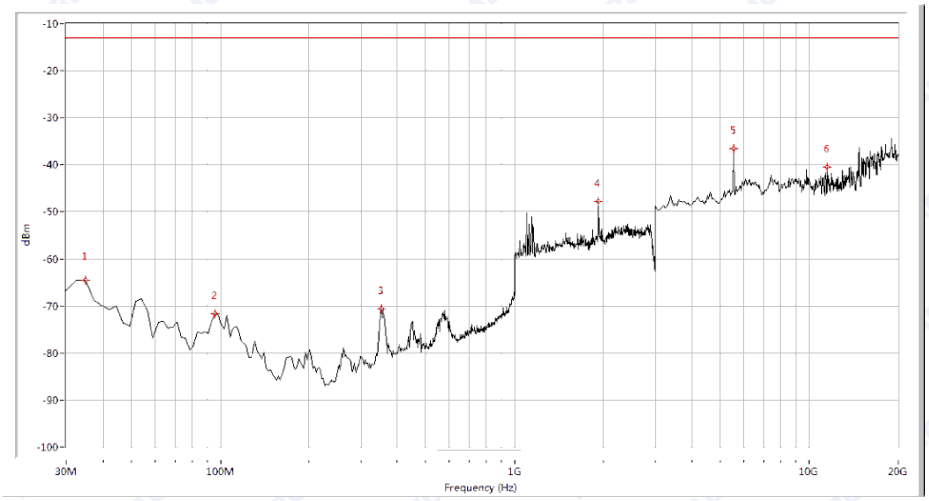
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
54.190	-68.27	-13.0	55.3	10.1	Vertical	PASS
847.606	-46.13	-13.0	33.1	248.1	Vertical	N.A
891.147	-39.36	-13.0	26.4	190.5	Vertical	N.A
1698.254	-50.90	-13.0	37.9	333.1	Vertical	PASS
2541.147	-45.65	-13.0	32.6	124.3	Vertical	PASS
8689.526	-41.41	-13.0	28.4	176.0	Vertical	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
131.596	-69.24	-13.0	56.2	360.0	Horizontal	PASS
579.102	-67.53	-13.0	54.5	356.6	Horizontal	PASS
1837.905	-51.35	-13.0	38.3	283.2	Horizontal	N.A
1927.681	-46.20	-13.0	33.2	237.1	Horizontal	N.A
3720.698	-45.03	-13.0	32.0	141.1	Horizontal	PASS
5543.641	-40.58	-13.0	27.6	322.3	Horizontal	PASS

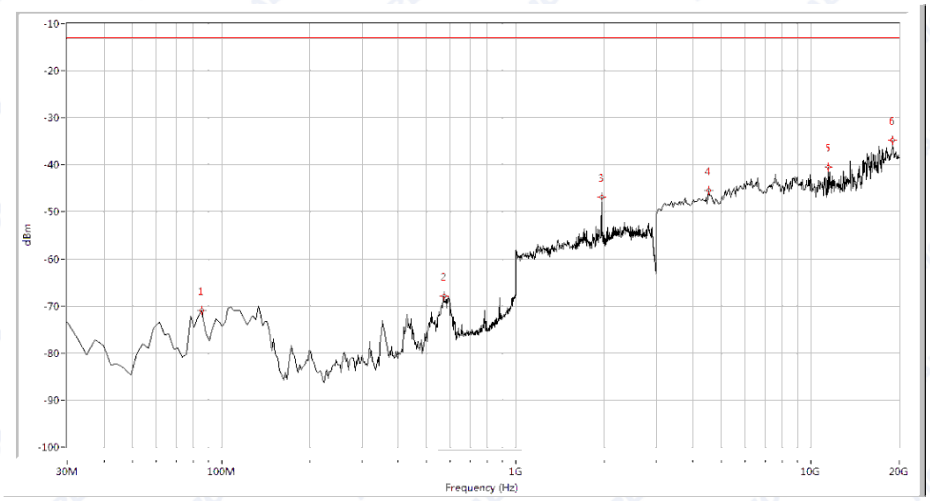
(Plot D.1: EGPRS 1900MHz Channel = 512, Test Antenna Horizontal)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-64.47	-13.0	51.5	33.4	Vertical	PASS
95.312	-71.75	-13.0	58.7	105.3	Vertical	PASS
351.721	-70.56	-13.0	57.6	198.3	Vertical	PASS
1927.681	-47.78	-13.0	34.8	229.3	Vertical	N.A

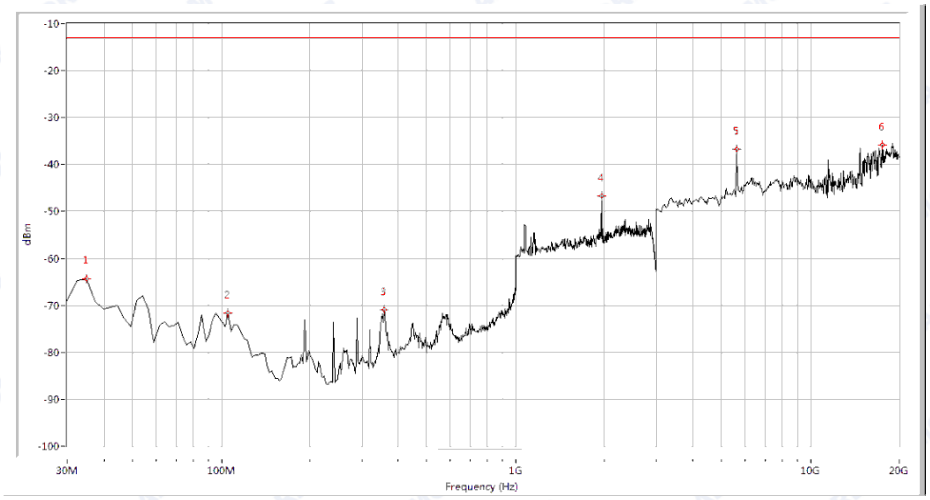
5543.641	-36.57	-13.0	23.6	294.8	Vertical	PASS
11563.591	-40.50	-13.0	27.5	1.8	Vertical	PASS

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



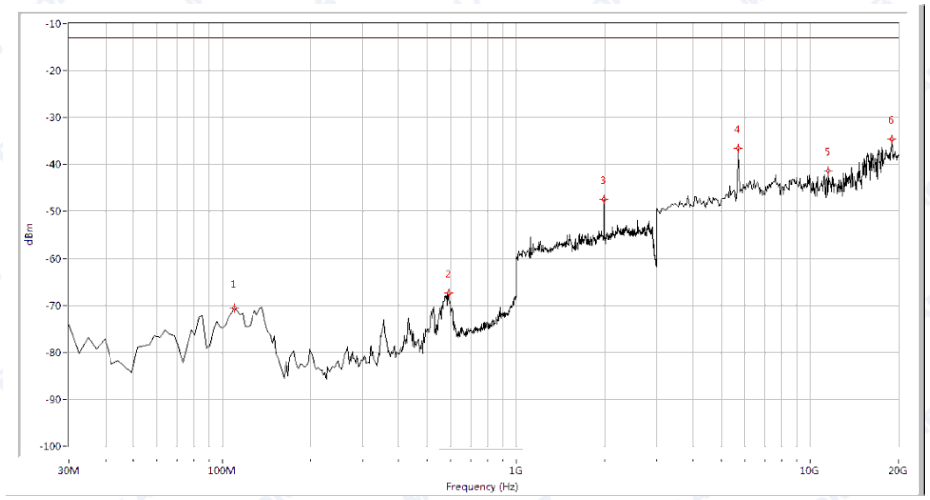
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
85.636	-71.03	-13.0	58.0	128.8	Horizontal	PASS
571.845	-67.92	-13.0	54.9	358.9	Horizontal	PASS
1957.606	-46.89	-13.0	33.9	268.3	Horizontal	N.A
4526.185	-45.48	-13.0	32.5	360.0	Horizontal	PASS
11563.591	-40.56	-13.0	27.6	77.0	Horizontal	PASS
18982.544	-34.74	-13.0	21.7	42.8	Horizontal	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-64.39	-13.0	51.4	302.2	Vertical	PASS
104.988	-71.74	-13.0	58.7	98.2	Vertical	PASS
356.559	-70.96	-13.0	58.0	229.7	Vertical	PASS
1957.606	-46.74	-13.0	33.7	52.9	Vertical	N.A
5628.429	-36.65	-13.0	23.7	280.0	Vertical	PASS
17583.541	-35.92	-13.0	22.9	117.7	Vertical	PASS

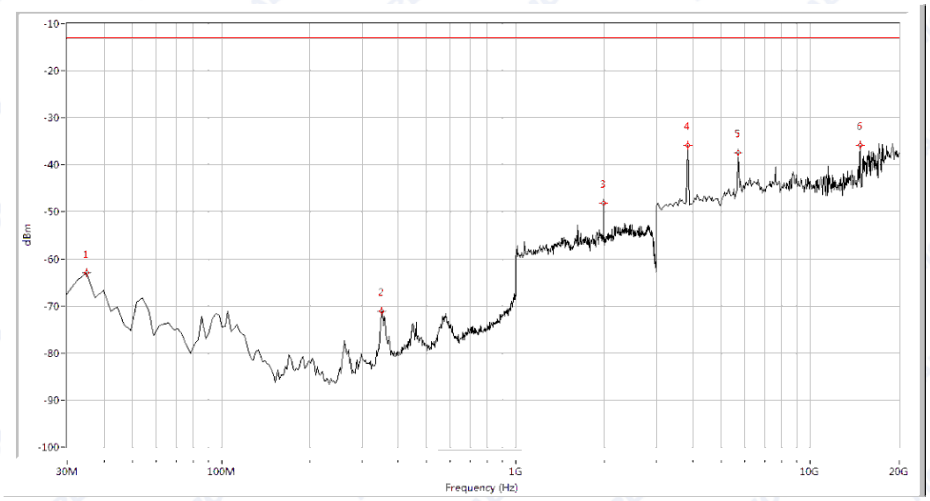
(Plot D.4: EGPRS 1900MHz Channel = 661, Test Antenna Vertical)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-70.55	-13.0	57.5	360.0	Horizontal	PASS
591.197	-67.38	-13.0	54.4	356.6	Horizontal	PASS
1987.531	-47.37	-13.0	34.4	336.8	Horizontal	N.A
5713.217	-36.56	-13.0	23.6	235.6	Horizontal	PASS

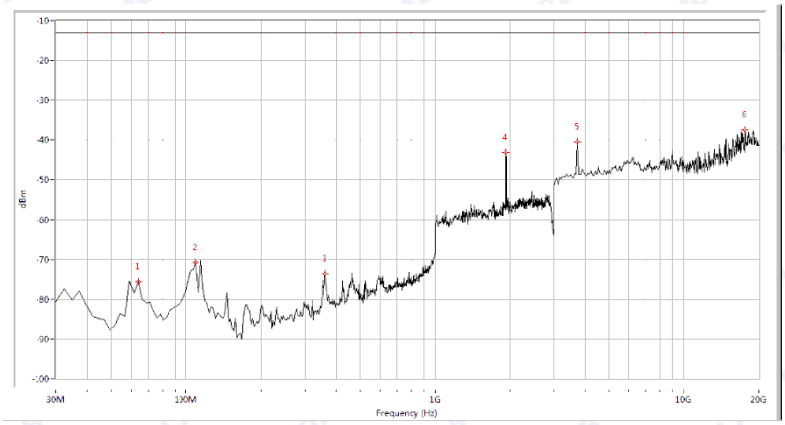
11563.591	-41.37	-13.0	28.4	268.7	Horizontal	PASS
19024.938	-34.55	-13.0	21.5	268.7	Horizontal	PASS

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



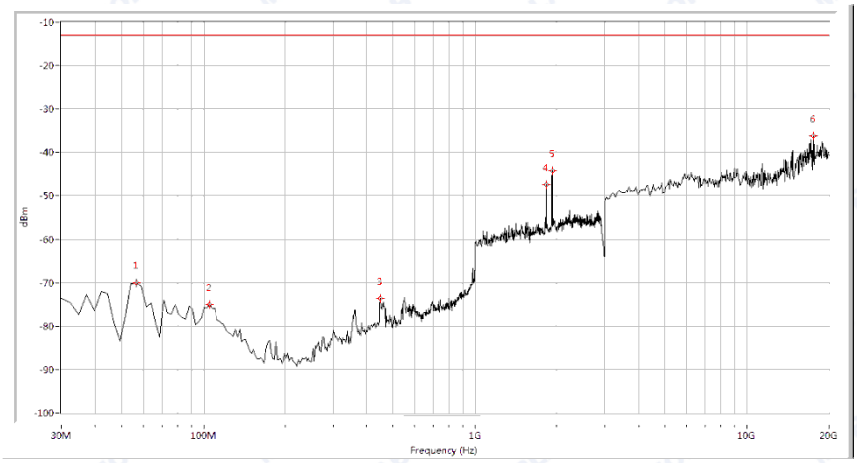
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-62.96	-13.0	50.0	126.6	Vertical	PASS
349.302	-71.21	-13.0	58.2	203.6	Vertical	PASS
1987.531	-48.07	-13.0	35.1	80.8	Vertical	N.A
3847.880	-35.87	-13.0	22.9	41.7	Vertical	PASS
5713.217	-37.53	-13.0	24.5	1.2	Vertical	PASS
14785.536	-35.84	-13.0	22.8	360.0	Vertical	PASS

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



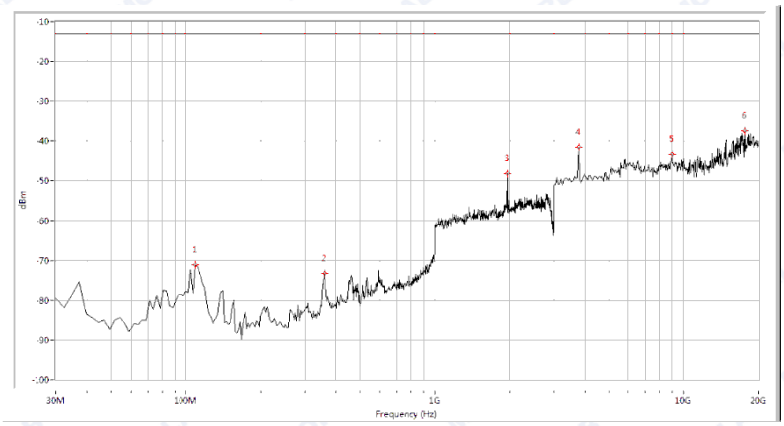
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
63.865	-75.60	-13.0	62.6	133.2	Horizontal	PASS
109.825	-70.78	-13.0	57.8	97.6	Horizontal	PASS
361.397	-73.55	-13.0	60.5	233.5	Horizontal	PASS
1927.681	-43.14	-13.0	30.1	75.1	Horizontal	N.A
3720.698	-40.56	-13.0	27.6	44.9	Horizontal	PASS
17583.541	-37.49	-13.0	24.5	164.2	Horizontal	PASS

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



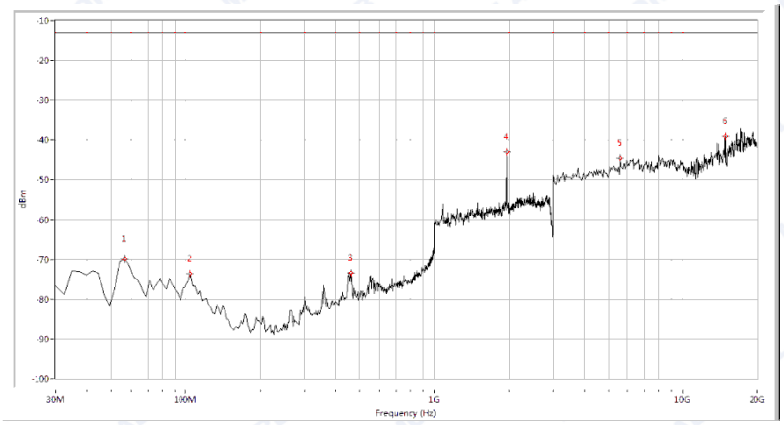
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-70.08	-13.0	57.1	214.3	Vertical	PASS
104.988	-75.05	-13.0	62.0	77.9	Vertical	PASS
450.898	-73.54	-13.0	60.5	152.4	Vertical	PASS
1837.905	-47.40	-13.0	34.4	211.6	Vertical	N.A
1932.668	-44.24	-13.0	31.2	99.5	Vertical	N.A
17583.541	-36.28	-13.0	23.3	322.1	Vertical	PASS

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



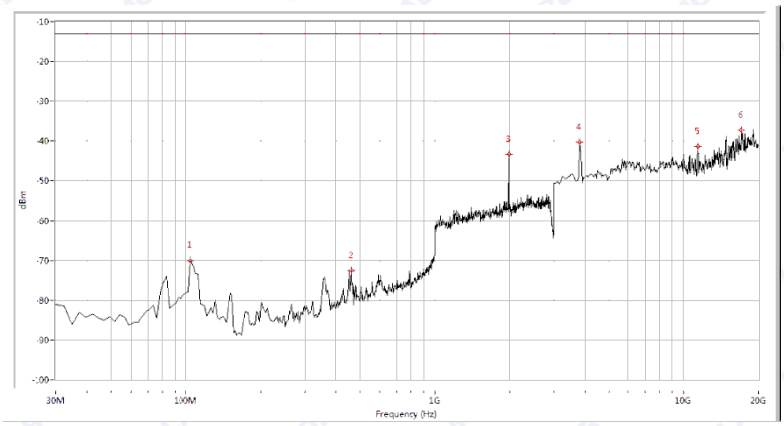
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-71.14	-13.0	58.1	233.7	Horizontal	PASS
361.397	-73.21	-13.0	60.2	124.1	Horizontal	PASS
1957.606	-48.20	-13.0	35.2	232.7	Horizontal	N.A
3763.092	-41.48	-13.0	28.5	0.0	Horizontal	PASS
8977.556	-43.25	-13.0	30.2	95.4	Horizontal	PASS
17583.541	-37.47	-13.0	24.5	112.5	Horizontal	PASS

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



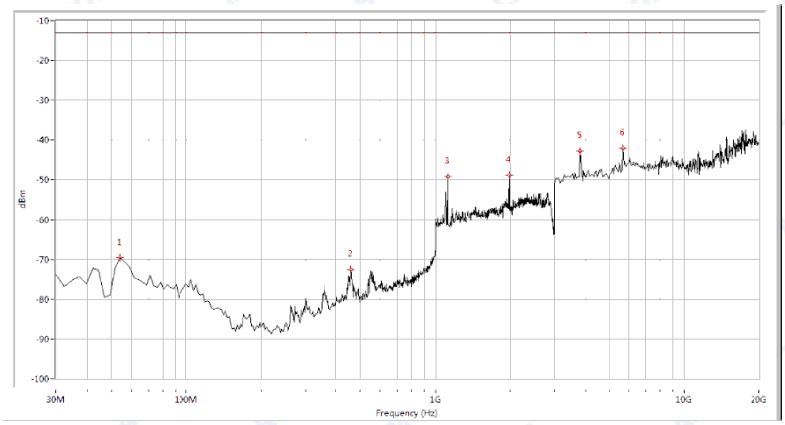
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-69.81	-13.0	56.8	117.4	Vertical	PASS
104.988	-73.65	-13.0	60.7	231.8	Vertical	PASS
460.574	-73.39	-13.0	60.4	44.5	Vertical	PASS
1957.606	-42.98	-13.0	30.0	177.1	Vertical	N.A
5628.429	-44.53	-13.0	31.5	0.0	Vertical	PASS
14785.536	-39.11	-13.0	26.1	45.2	Vertical	PASS

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



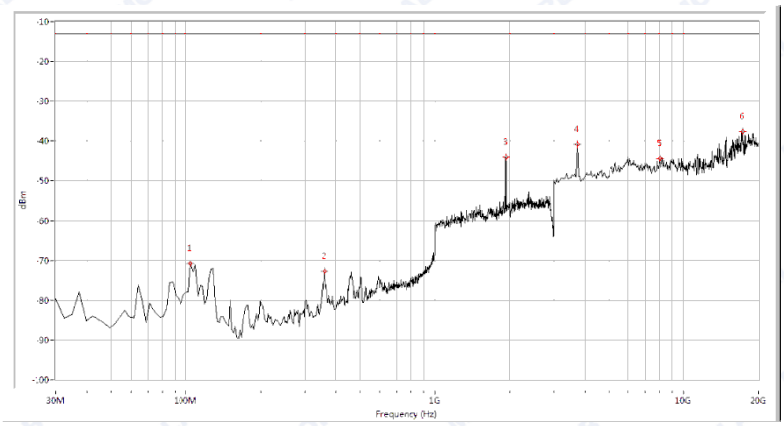
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
104.988	-70.12	-13.0	57.1	213.7	Horizontal	PASS
460.574	-72.58	-13.0	59.6	52.3	Horizontal	PASS
1982.544	-43.29	-13.0	30.3	155.4	Horizontal	N.A
3805.486	-40.34	-13.0	27.3	233.1	Horizontal	PASS
11394.015	-41.30	-13.0	28.3	114.5	Horizontal	PASS
16990.025	-37.20	-13.0	24.2	332.6	Horizontal	PASS

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



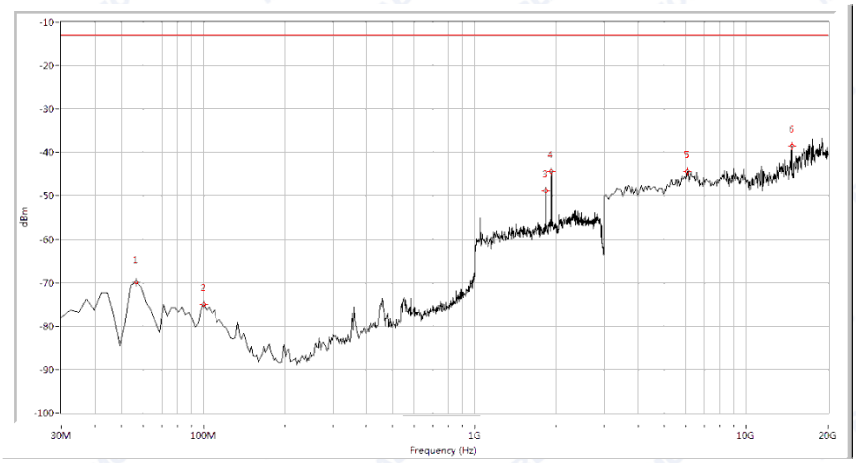
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
54.190	-69.46	-13.0	56.5	224.1	Vertical	PASS
458.155	-72.47	-13.0	59.5	33.9	Vertical	PASS
1114.713	-49.24	-13.0	36.2	146.5	Vertical	PASS
1987.531	-48.84	-13.0	35.8	77.8	Vertical	N.A
3805.486	-42.80	-13.0	29.8	12.4	Vertical	PASS
5713.217	-42.00	-13.0	29.0	255.6	Vertical	PASS

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



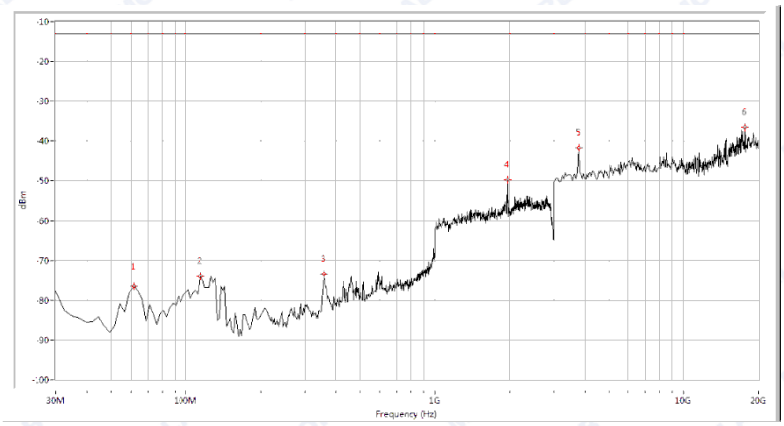
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
104.988	-70.79	-13.0	57.8	322.7	Horizontal	PASS
361.397	-72.77	-13.0	59.8	115.2	Horizontal	PASS
1932.668	-44.02	-13.0	31.0	95.1	Horizontal	N.A
3720.698	-40.86	-13.0	27.9	144.3	Horizontal	PASS
8044.888	-44.47	-13.0	31.5	96.5	Horizontal	PASS
17159.601	-37.67	-13.0	24.7	211.5	Horizontal	PASS

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



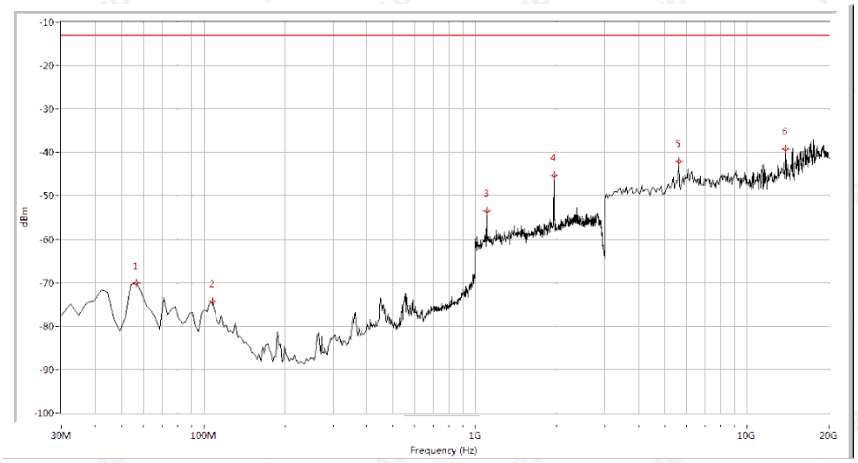
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-69.93	-13.0	56.9	114.2	Vertical	PASS
100.150	-74.99	-13.0	62.0	251.4	Vertical	PASS
1837.905	-48.91	-13.0	35.9	0.0	Vertical	N.A
1927.681	-44.40	-13.0	31.4	117.2	Vertical	N.A
6094.763	-44.32	-13.0	31.3	52.1	Vertical	PASS
14785.536	-38.50	-13.0	25.5	64.7	Vertical	PASS

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



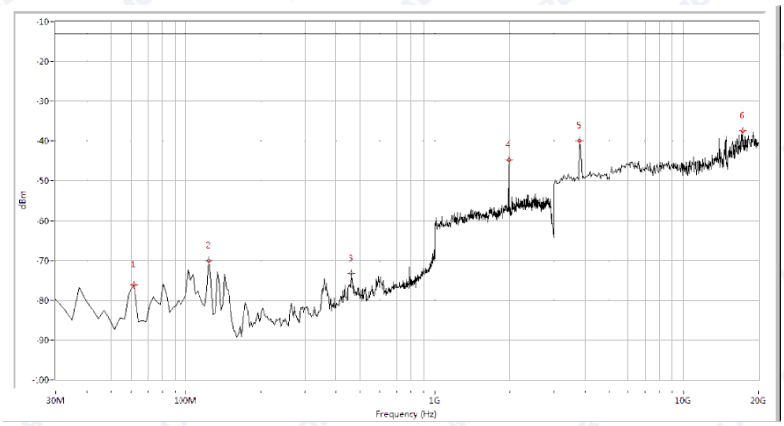
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
61.446	-76.56	-13.0	63.6	112.7	Horizontal	PASS
114.663	-74.07	-13.0	61.1	45.3	Horizontal	PASS
358.978	-73.41	-13.0	60.4	244.1	Horizontal	PASS
1957.606	-49.76	-13.0	36.8	159.4	Horizontal	N.A
3763.092	-41.76	-13.0	28.8	33.2	Horizontal	PASS
17583.541	-36.60	-13.0	23.6	255.6	Horizontal	PASS

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



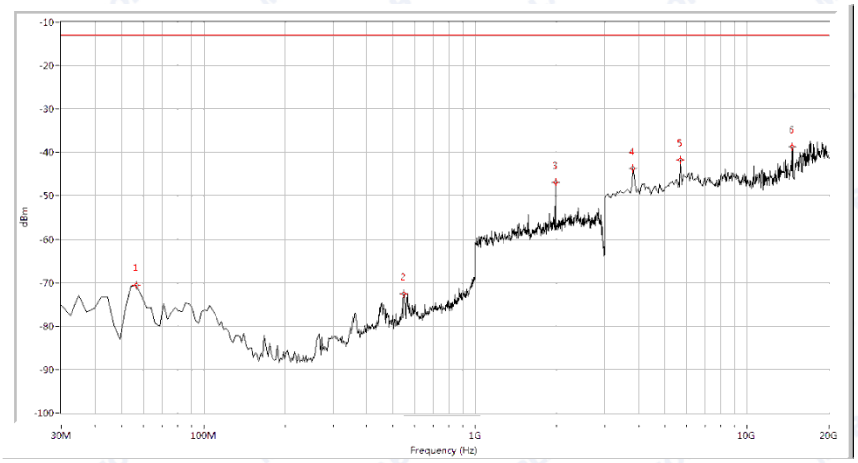
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-70.11	-13.0	57.1	215.4	Vertical	PASS
107.406	-74.38	-13.0	61.4	77.9	Vertical	PASS
1099.751	-53.45	-13.0	40.4	127.3	Vertical	PASS
1957.606	-45.22	-13.0	32.2	115.2	Vertical	N.A
5628.429	-42.16	-13.0	29.2	99.1	Vertical	PASS
13895.262	-39.18	-13.0	26.2	0.0	Vertical	PASS

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



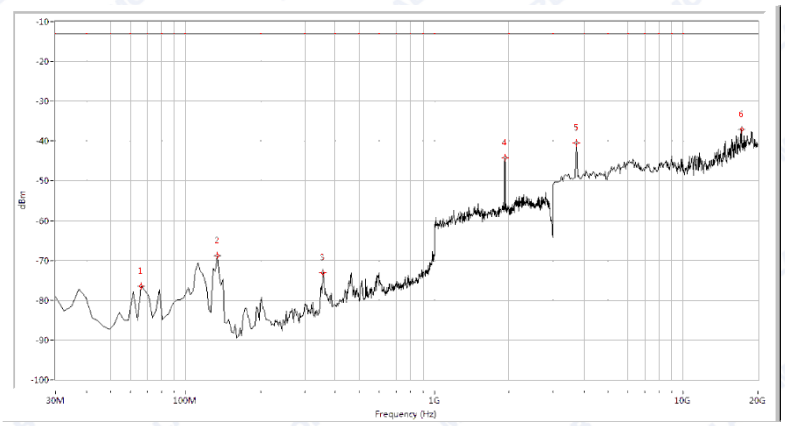
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
61.446	-76.16	-13.0	63.2	36.7	Horizontal	PASS
124.339	-70.08	-13.0	57.1	117.2	Horizontal	PASS
460.574	-73.31	-13.0	60.3	155.8	Horizontal	PASS
1987.531	-44.69	-13.0	31.7	254.1	Horizontal	N.A
3805.486	-39.95	-13.0	27.0	266.3	Horizontal	PASS
17201.995	-37.40	-13.0	24.4	154.2	Horizontal	PASS

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



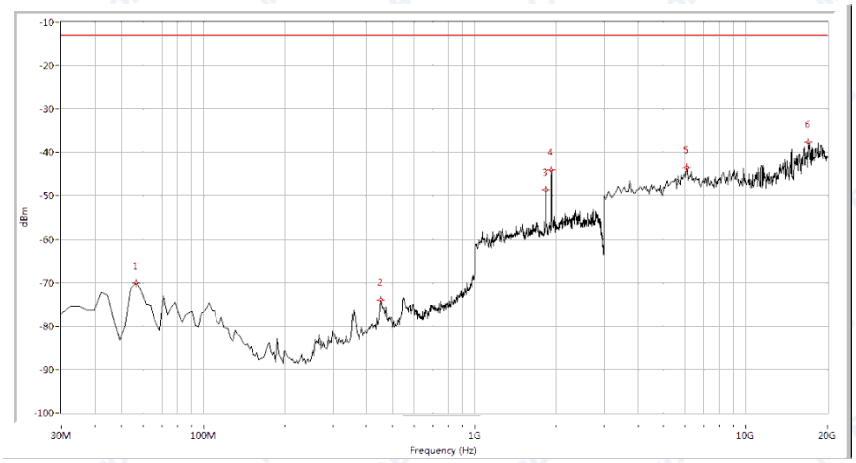
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-70.57	-13.0	57.6	237.4	Vertical	PASS
547.656	-72.51	-13.0	59.5	155.7	Vertical	PASS
1982.544	-46.80	-13.0	33.8	99.3	Vertical	N.A
3805.486	-43.73	-13.0	30.7	257.1	Vertical	PASS
5713.217	-41.78	-13.0	28.8	163.2	Vertical	PASS
14743.142	-38.66	-13.0	25.7	77.5	Vertical	PASS

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



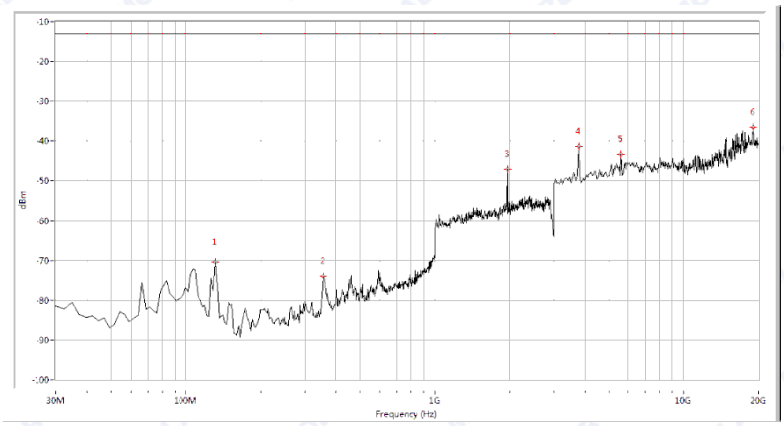
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
66.284	-76.44	-13.0	63.4	251.4	Horizontal	PASS
134.015	-68.78	-13.0	55.8	72.3	Horizontal	PASS
358.978	-73.05	-13.0	60.1	119.5	Horizontal	PASS
1932.668	-44.22	-13.0	31.2	90.1	Horizontal	N.A
3720.698	-40.56	-13.0	27.6	312.9	Horizontal	PASS
17159.601	-37.14	-13.0	24.1	45.7	Horizontal	PASS

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



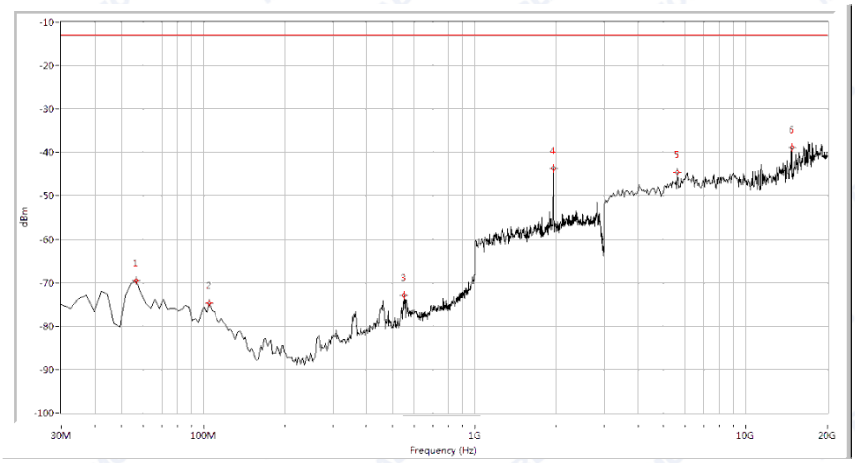
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-70.07	-13.0	57.1	11.6	Vertical	PASS
453.317	-74.00	-13.0	61.0	327.4	Vertical	PASS
1837.905	-48.65	-13.0	35.7	155.2	Vertical	N.A
1927.681	-43.95	-13.0	31.0	73.1	Vertical	N.A
6094.763	-43.51	-13.0	30.5	95.7	Vertical	PASS
16990.025	-37.54	-13.0	24.5	40.5	Vertical	PASS

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



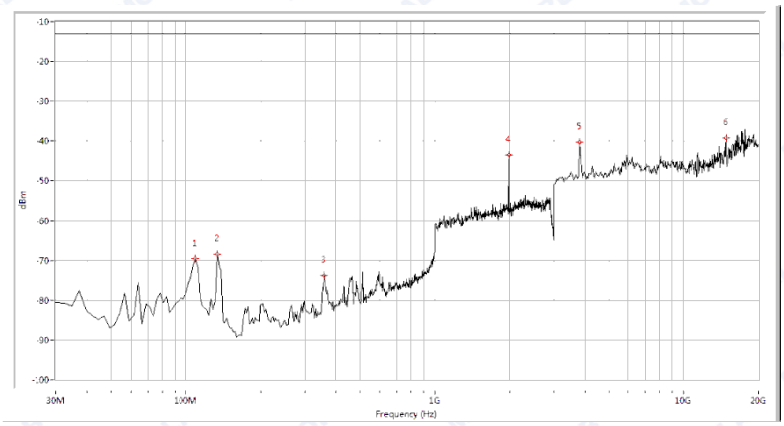
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
131.596	-70.35	-13.0	57.3	152.4	Horizontal	PASS
356.559	-73.96	-13.0	61.0	37.1	Horizontal	PASS
1957.606	-47.02	-13.0	34.0	128.9	Horizontal	N.A
3763.092	-41.36	-13.0	28.4	264.2	Horizontal	PASS
5628.429	-43.30	-13.0	30.3	78.9	Horizontal	PASS
18940.150	-36.58	-13.0	23.6	311.7	Horizontal	PASS

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



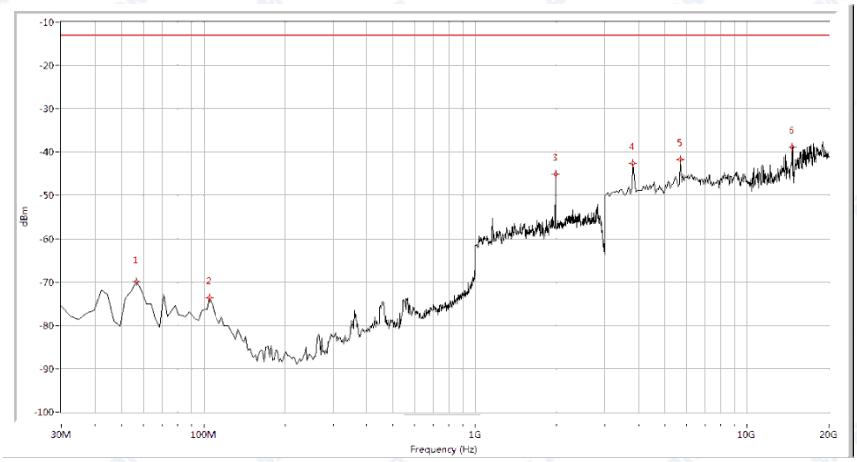
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-69.57	-13.0	56.6	165.8	Vertical	PASS
104.988	-74.72	-13.0	61.7	247.1	Vertical	PASS
550.075	-72.92	-13.0	59.9	135.9	Vertical	PASS
1957.606	-43.62	-13.0	30.6	117.2	Vertical	N.A
5628.429	-44.65	-13.0	31.6	45.9	Vertical	PASS
14785.536	-38.93	-13.0	25.9	107.3	Vertical	PASS

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



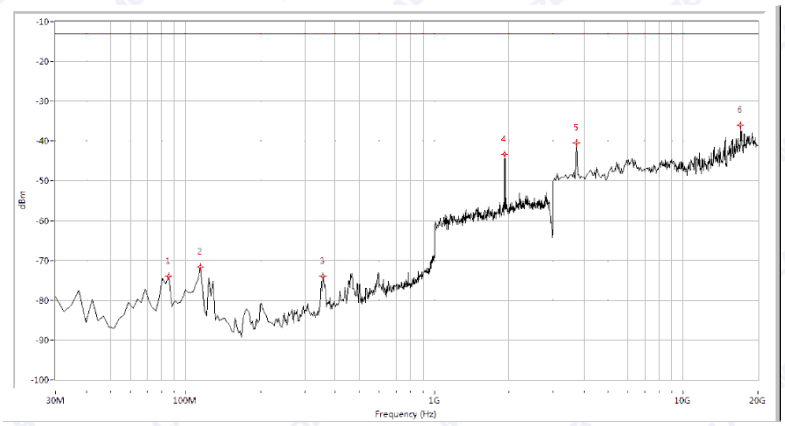
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-69.46	-13.0	56.5	251.4	Horizontal	PASS
134.015	-68.46	-13.0	55.5	44.7	Horizontal	PASS
358.978	-73.89	-13.0	60.9	152.6	Horizontal	PASS
1987.531	-43.54	-13.0	30.5	99.3	Horizontal	N.A
3805.486	-40.34	-13.0	27.3	47.9	Horizontal	PASS
14785.536	-39.28	-13.0	26.3	177.1	Horizontal	PASS

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



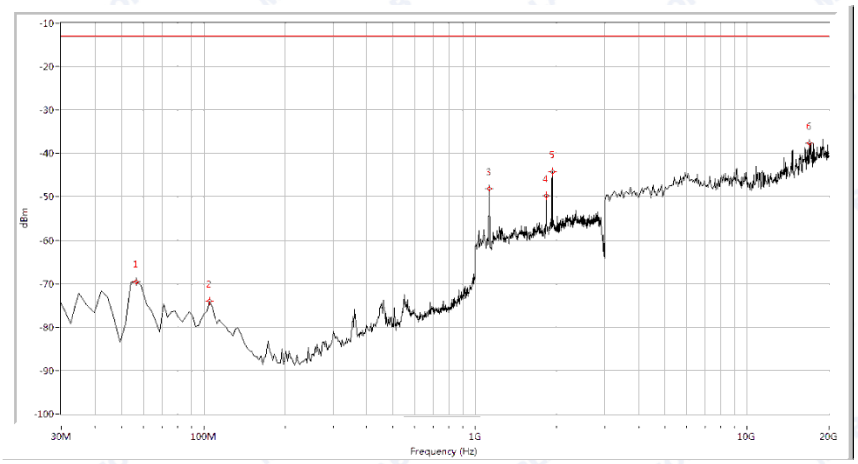
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-69.80	-13.0	56.8	233.1	Vertical	PASS
104.988	-73.59	-13.0	60.6	45.9	Vertical	PASS
1987.531	-45.04	-13.0	32.0	133.5	Vertical	N.A
3805.486	-42.56	-13.0	29.6	241.7	Vertical	PASS
5713.217	-41.76	-13.0	28.8	119.6	Vertical	PASS
14743.142	-38.95	-13.0	26.0	88.2	Vertical	PASS

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



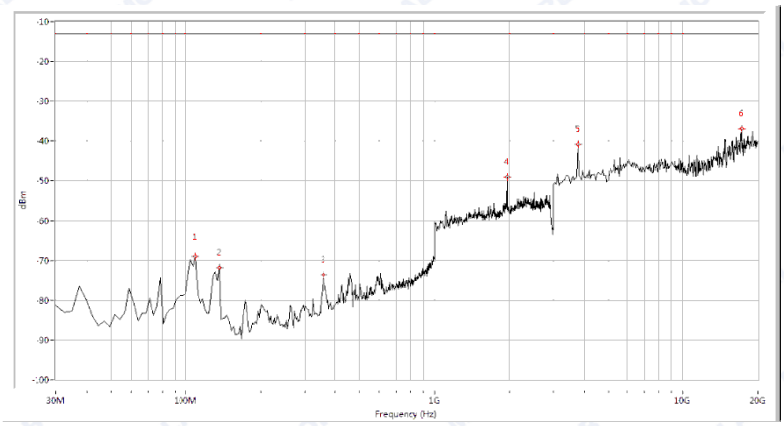
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
85.636	-74.02	-13.0	61.0	233.4	Horizontal	PASS
114.663	-71.61	-13.0	58.6	75.3	Horizontal	PASS
358.978	-74.06	-13.0	61.1	115.6	Horizontal	PASS
1927.681	-43.27	-13.0	30.3	257.1	Horizontal	N.A
3720.698	-40.55	-13.0	27.5	32.8	Horizontal	PASS
16990.025	-35.94	-13.0	22.9	44.9	Horizontal	PASS

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



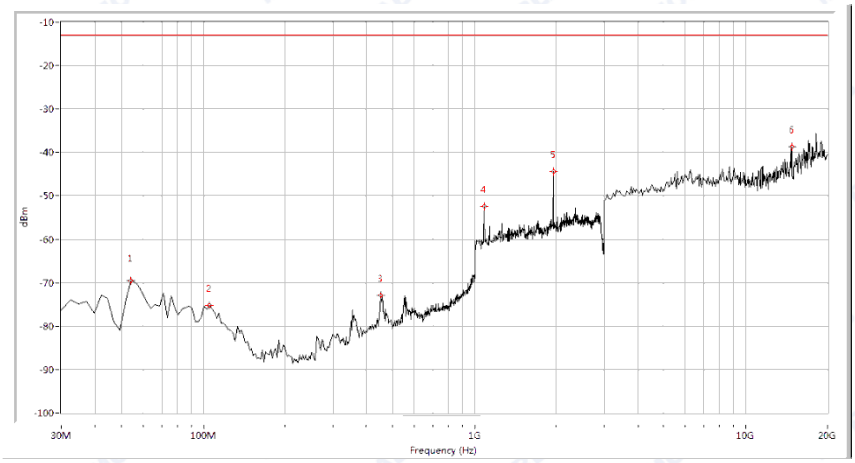
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-69.58	-13.0	56.6	35.4	Vertical	PASS
104.988	-73.90	-13.0	60.9	118.1	Vertical	PASS
1124.688	-48.18	-13.0	35.2	254.3	Vertical	PASS
1837.905	-49.80	-13.0	36.8	191.7	Vertical	N.A
1932.668	-44.23	-13.0	31.2	0.0	Vertical	N.A
16990.025	-37.61	-13.0	24.6	77.4	Vertical	PASS

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



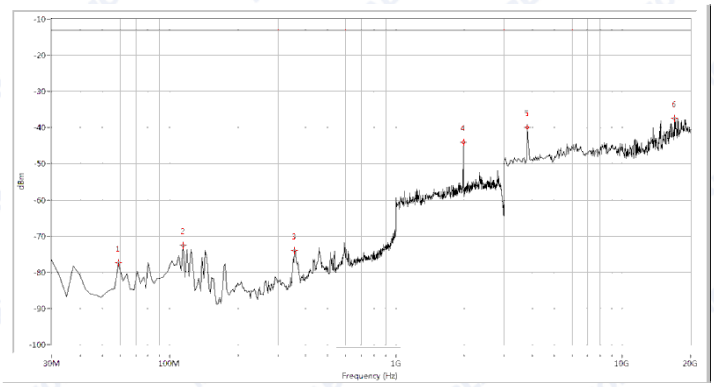
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-68.93	-13.0	55.9	211.7	Horizontal	PASS
136.434	-71.85	-13.0	58.9	45.6	Horizontal	PASS
358.978	-73.56	-13.0	60.6	118.2	Horizontal	PASS
1957.606	-48.97	-13.0	36.0	90.3	Horizontal	N.A
3763.092	-40.90	-13.0	27.9	177.4	Horizontal	PASS
17159.601	-36.85	-13.0	23.9	312.5	Horizontal	PASS

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



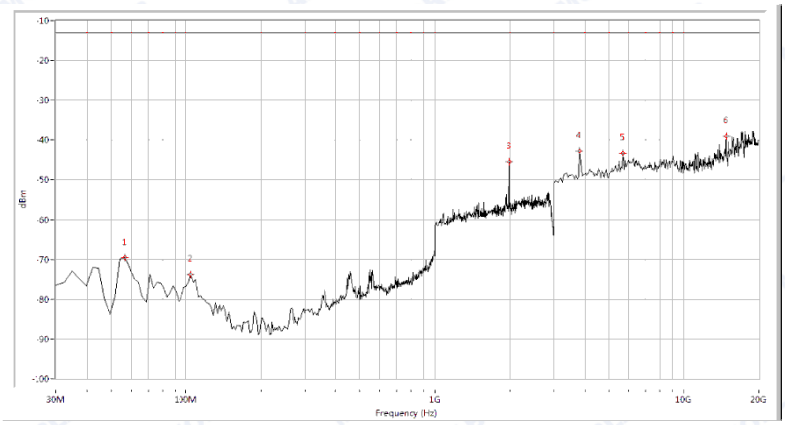
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
54.190	-69.55	-13.0	56.5	45.3	Vertical	PASS
104.988	-75.23	-13.0	62.2	162.7	Vertical	PASS
453.317	-72.89	-13.0	59.9	33.9	Vertical	PASS
1079.800	-52.48	-13.0	39.5	155.4	Vertical	PASS
1957.606	-44.32	-13.0	31.3	331.2	Vertical	N.A
14785.536	-38.76	-13.0	25.8	198.7	Vertical	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
59.027	-77.32	-13.0	64.3	122.7	Horizontal	PASS
114.663	-72.51	-13.0	59.5	154.6	Horizontal	PASS
358.978	-74.04	-13.0	61.0	77.1	Horizontal	PASS
1987.531	-44.01	-13.0	31.0	224.5	Horizontal	N.A
3805.486	-39.94	-13.0	26.9	178.3	Horizontal	PASS
16990.025	-37.45	-13.0	24.5	33.8	Horizontal	PASS

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



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
56.608	-69.61	-13.0	56.6	173.2	Vertical	PASS
104.988	-73.73	-13.0	60.7	65.7	Vertical	PASS
1982.544	-45.44	-13.0	32.4	115.4	Vertical	N.A
3805.486	-42.85	-13.0	29.9	331.6	Vertical	PASS
5713.217	-43.29	-13.0	30.3	177.1	Vertical	PASS
14785.536	-38.98	-13.0	26.0	94.5	Vertical	PASS

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

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