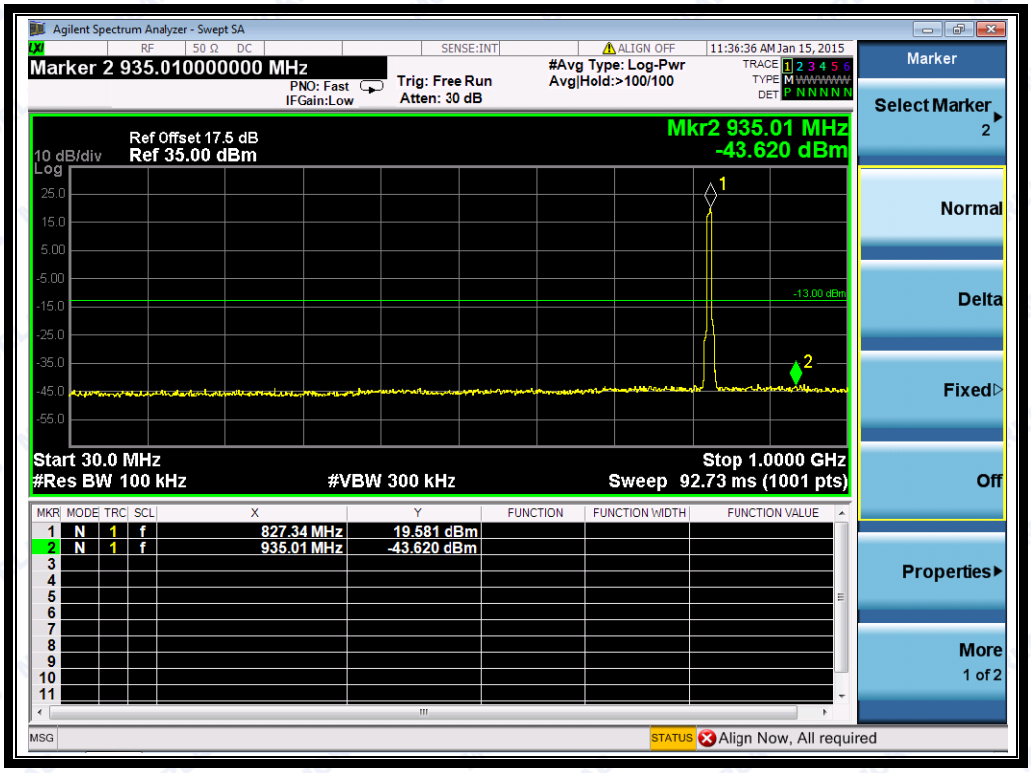
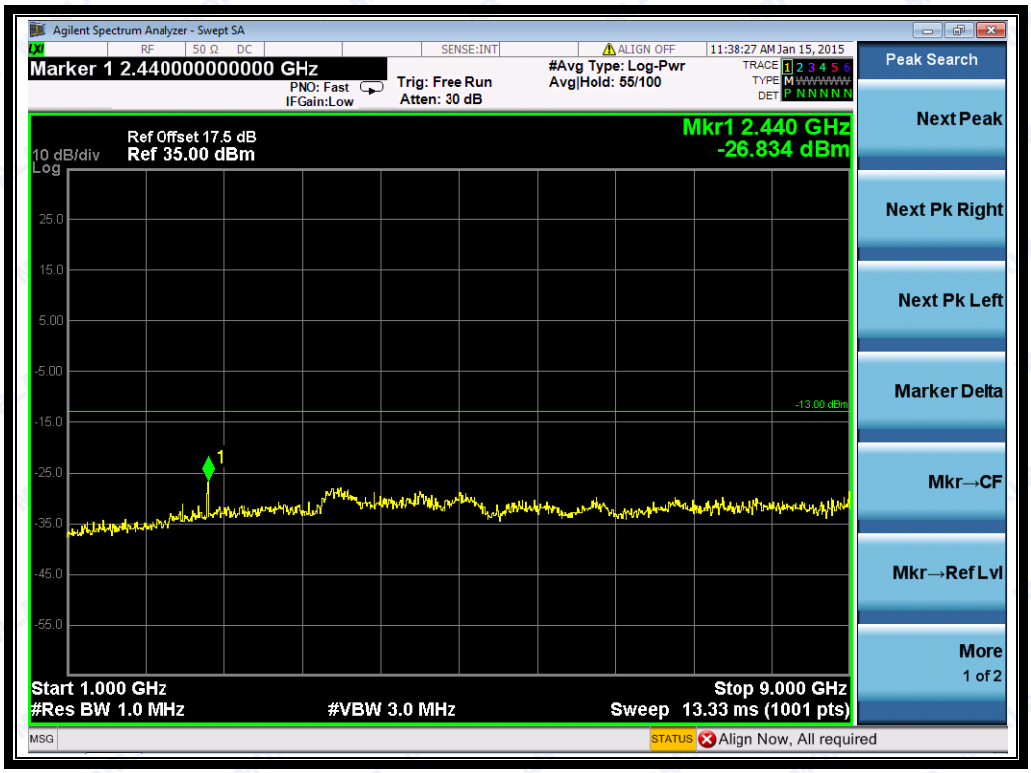
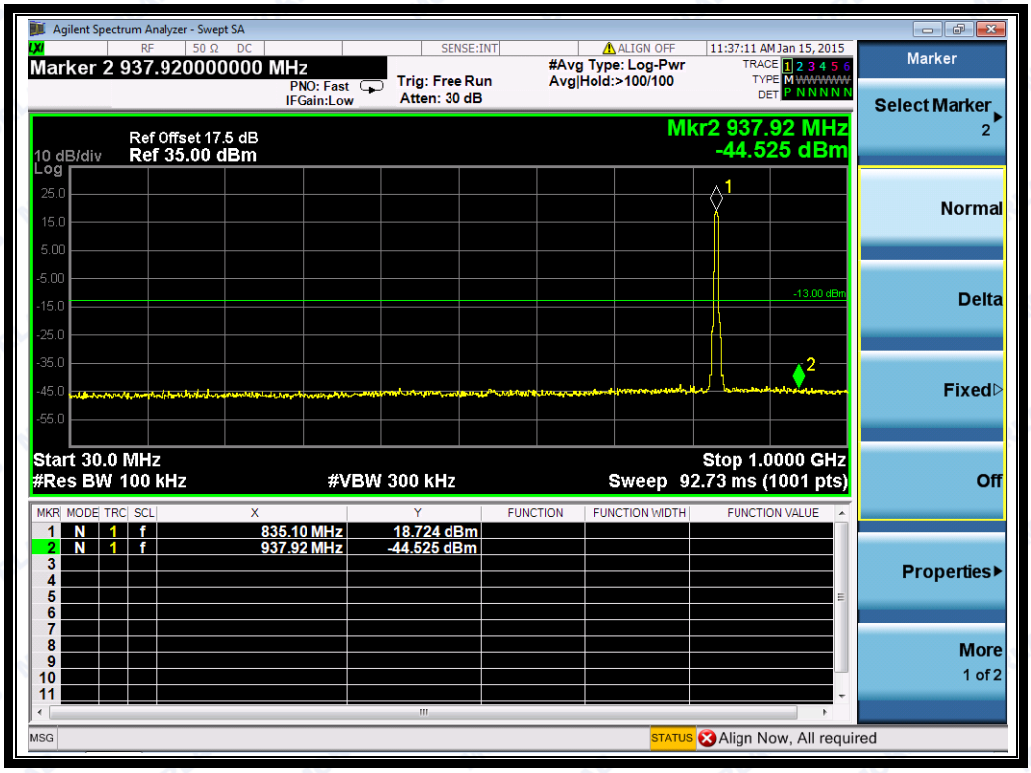


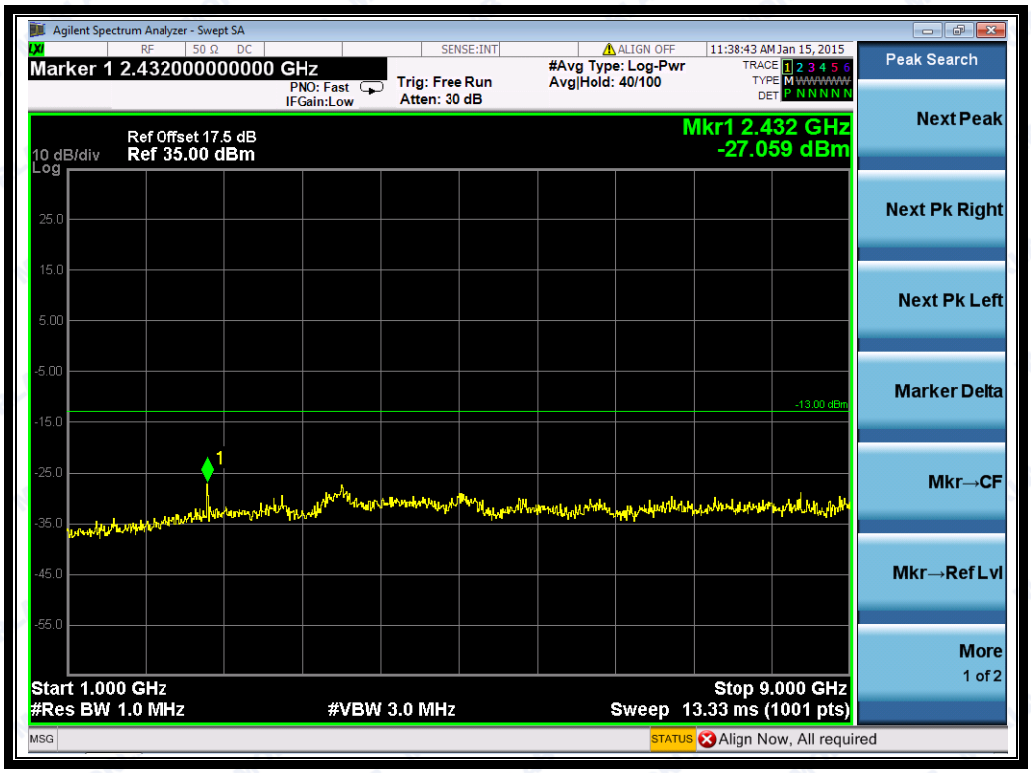
(Plot M1: HSPA+ 850MHz Channel = 4132, 30MHz to 1GHz)



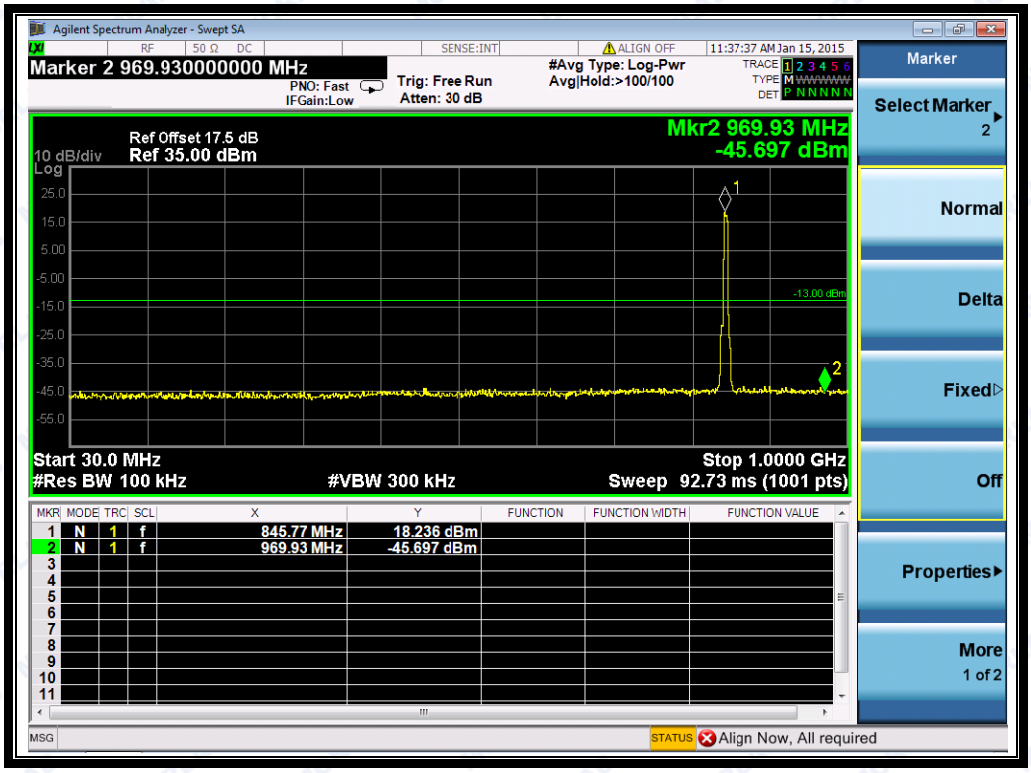
(Plot M1.1: HSPA+ 850MHz Channel = 4132, 1GHz to 9GHz)



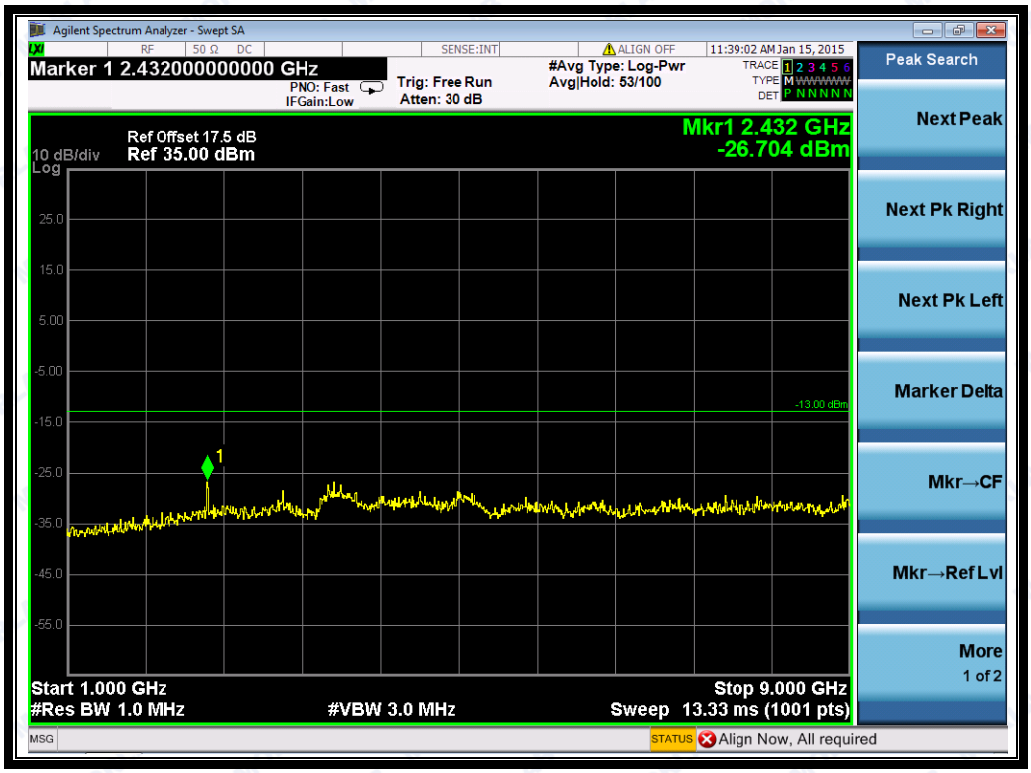
(Plot M2: HSPA+ 850MHz Channel = 4175, 30MHz to 1GHz)



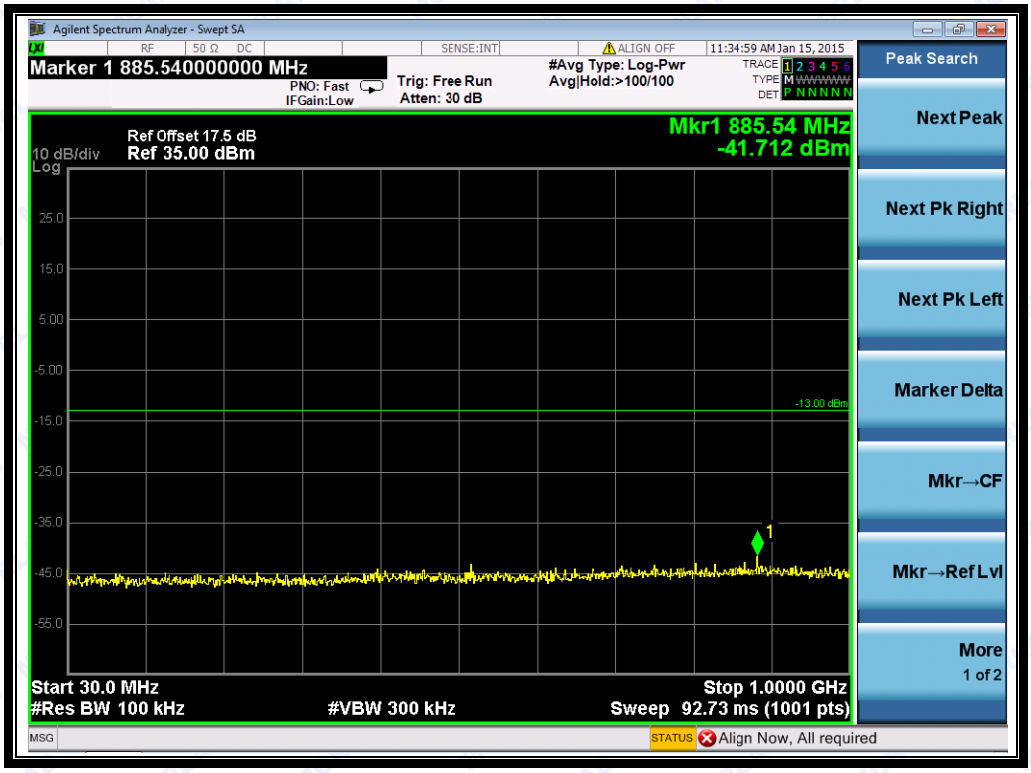
(Plot M2.1: HSPA+ 850MHz Channel = 4175, 1GHz to 9GHz)



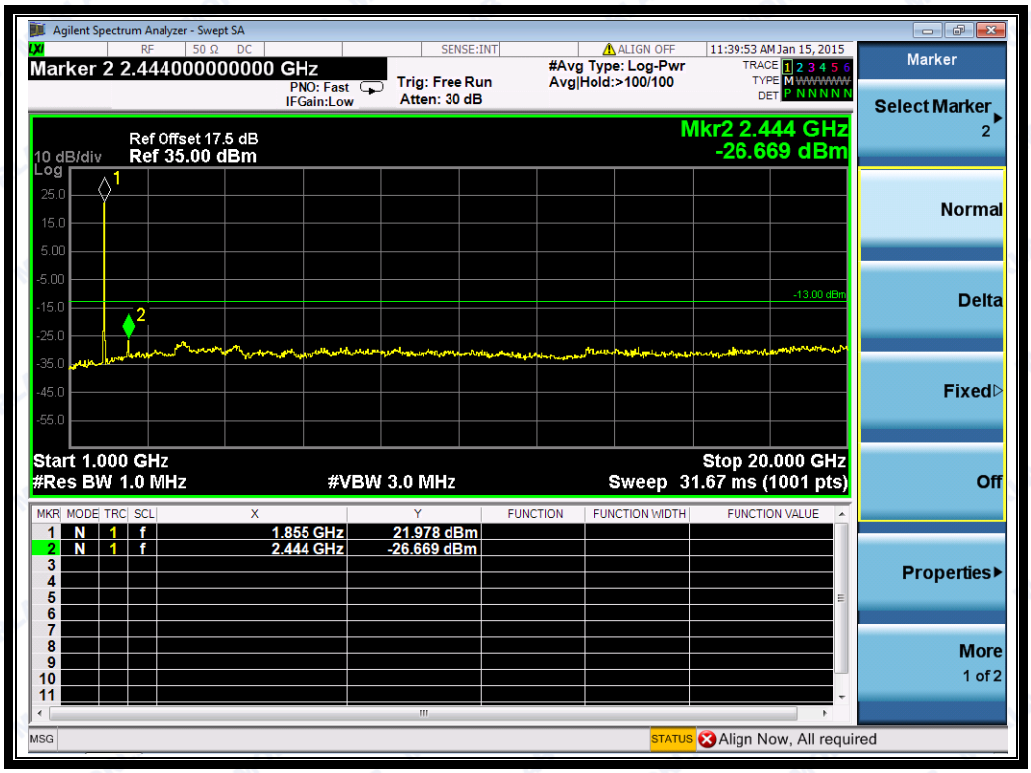
(Plot M3: HSPA+ 850MHz Channel = 4233, 30MHz to 1GHz)



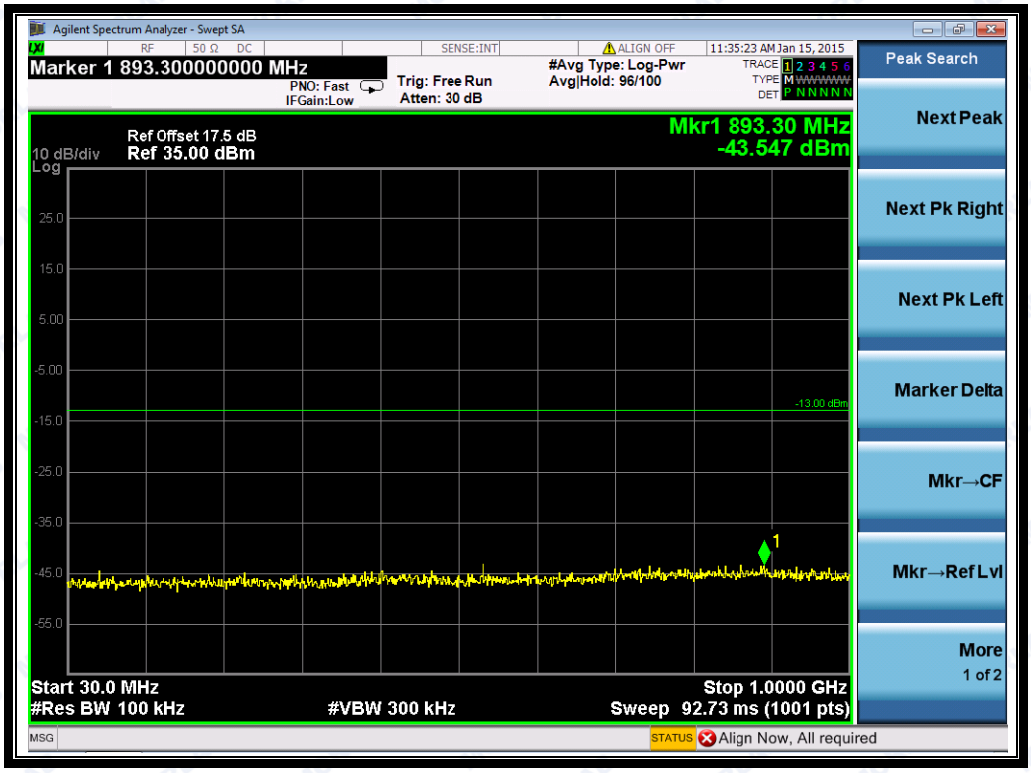
(Plot M3.1: HSPA+ 850MHz Channel = 4233, 1GHz to 9GHz)



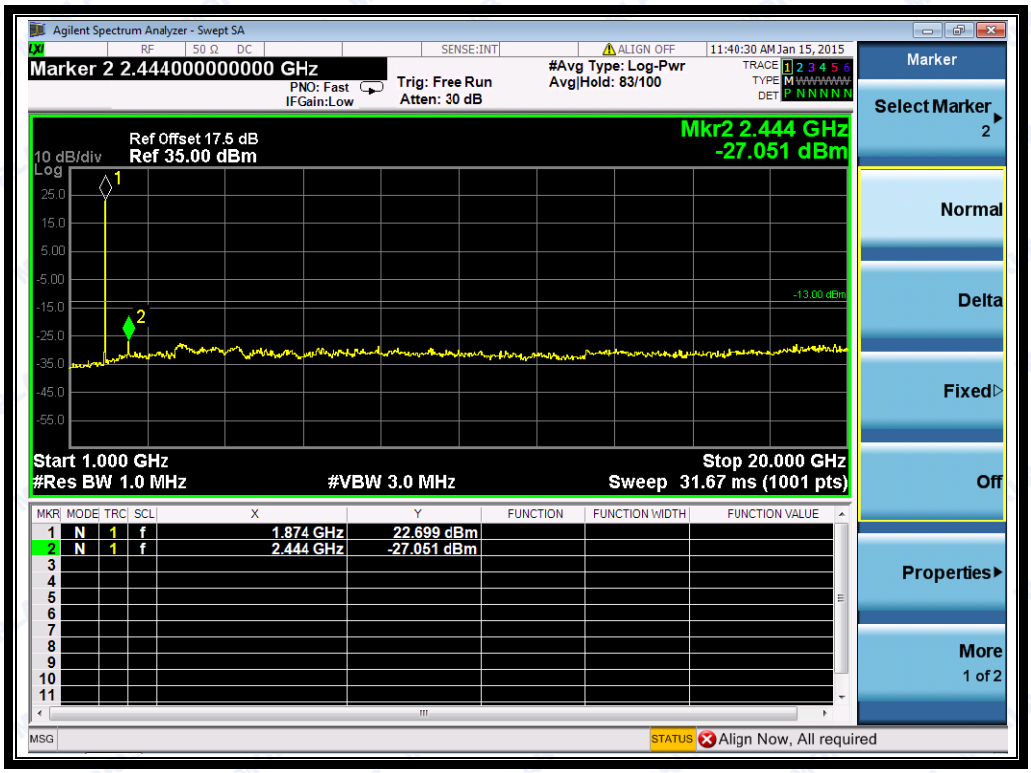
(Plot N1: HSPA+ 1900MHz Channel = 9262, 30MHz to 1GHz)



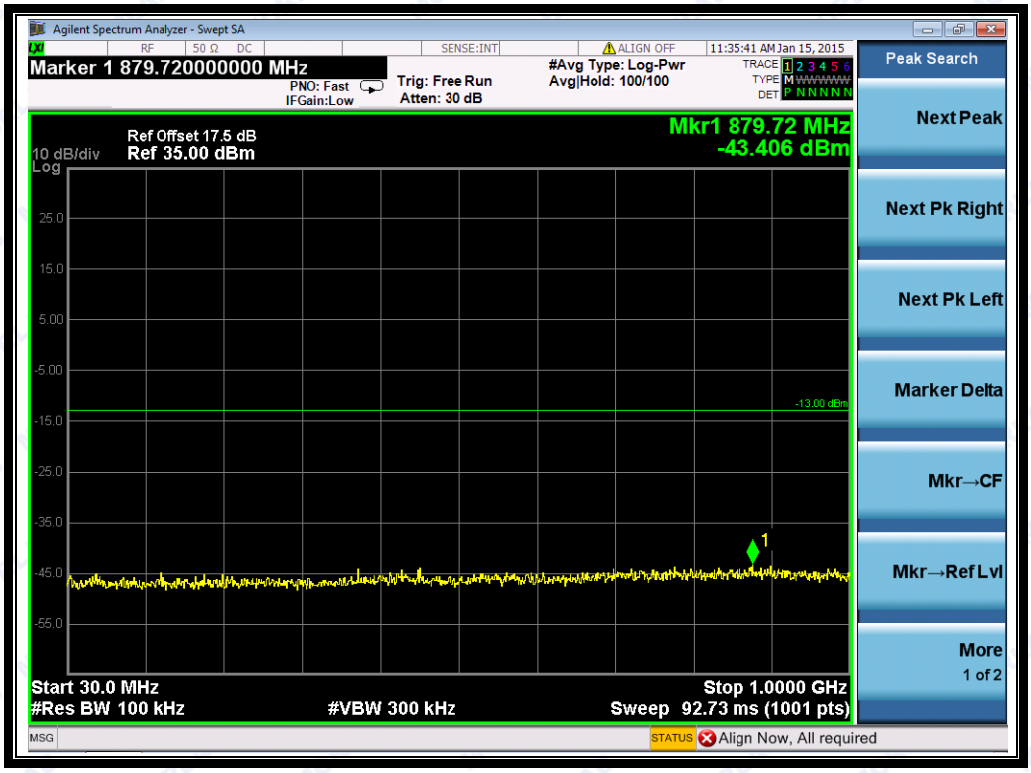
(Plot N1.1: HSPA+ 1900MHz Channel = 9262, 1GHz to 20GHz)



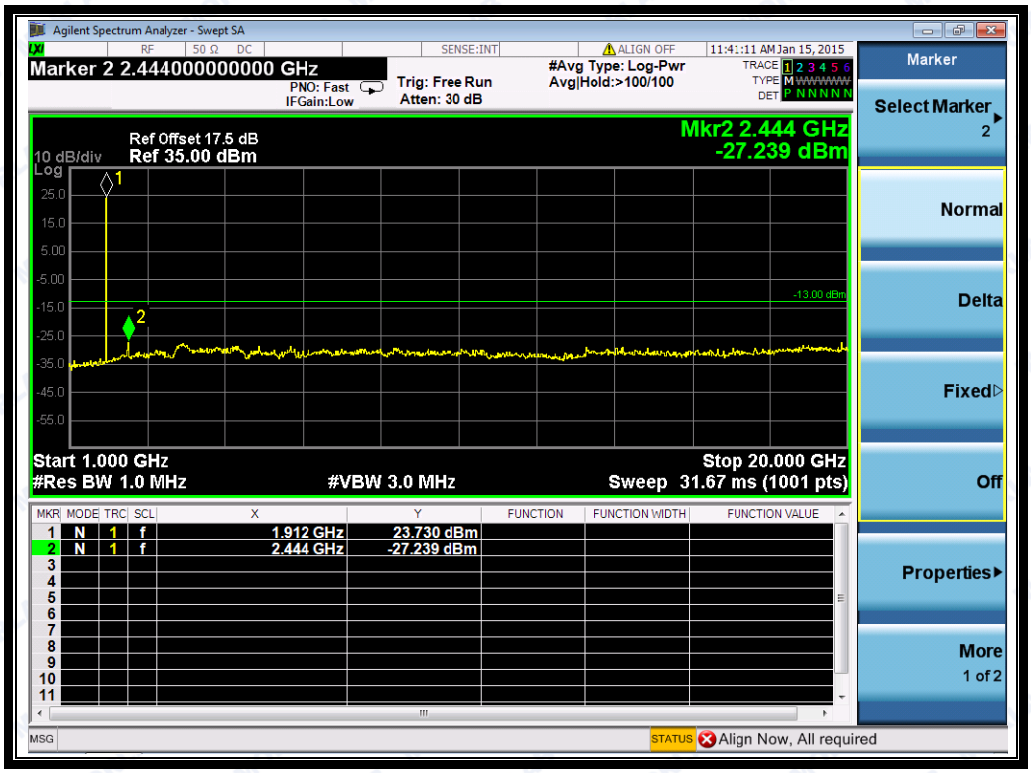
(Plot N2: HSPA+ 1900MHz Channel = 9400, 30MHz to 1GHz)



(Plot N2.1: HSPA+ 1900MHz Channel = 9400, 1GHz to 20GHz)



(Plot N3: HSPA+ 1900MHz Channel = 9538, 30MHz to 1GHz)



(Plot N3.1: 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.

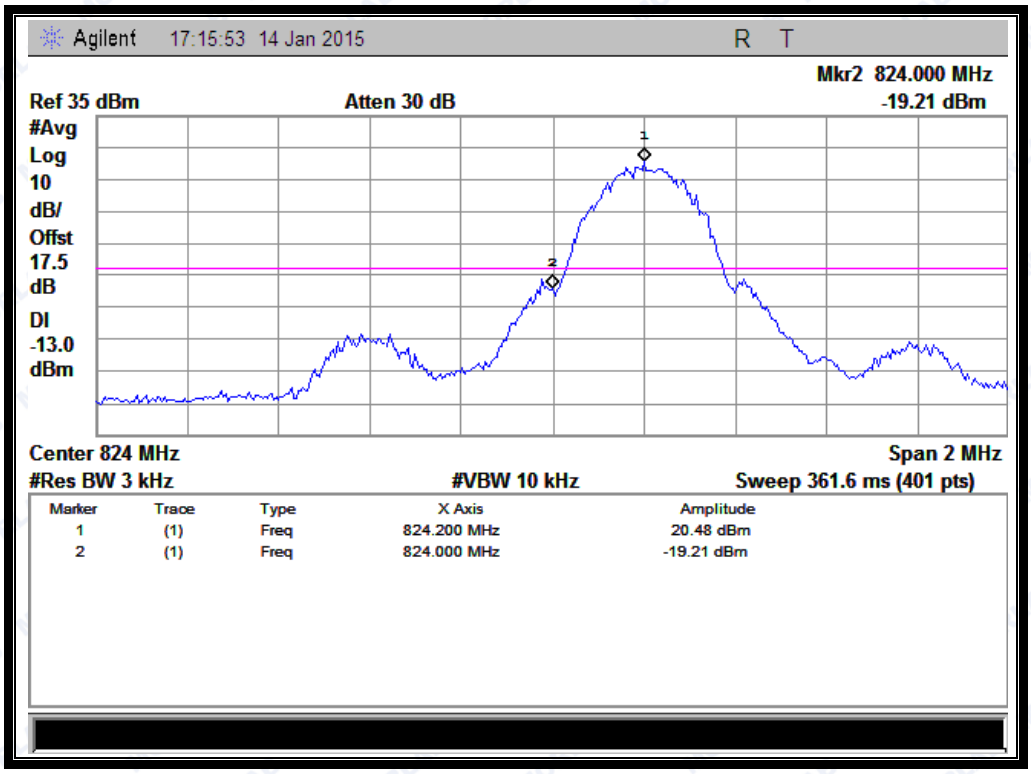
2.6.3 Test Result

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

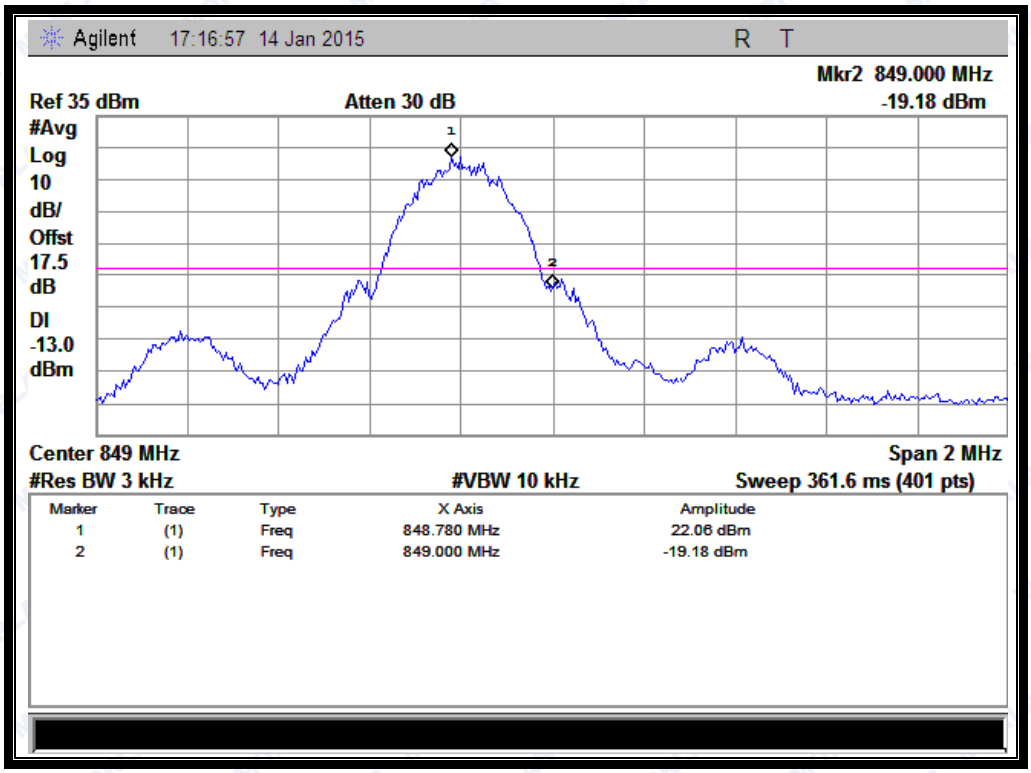
Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GPRS 850MHz	128	824.2	-19.21	Plat A1	-13	PASS
	251	848.8	-19.18	Plot A2		PASS
GPRS 1900MHz	512	1850.2	-20.64	Plat B1	-13	PASS
	810	1909.8	-21.62	Plot B2		PASS
EGPRS 850MHz	128	824.2	-16.48	Plat C1	-13	PASS
	251	848.8	-18.63	Plot C2		PASS
EGPRS 1900MHz	512	1850.2	-21.83	Plat D1	-13	PASS
	810	1909.8	-23.16	Plot D2		PASS
WCDMA 850MHz	4132	826.4	-14.62	Plat E1	-13	PASS
	4233	846.6	-14.89	Plot E2		PASS
WCDMA 1900MHz	9262	1852.4	-14.10	Plat F1	-13	PASS
	9538	1907.6	-14.93	Plot F2		PASS
HSDPA 850MHz	4132	826.4	-14.11	Plat G1	-13	PASS
	4233	846.6	-14.67	Plot G2		PASS
HSDPA 1900MHz	9262	1852.4	-16.31	Plat H1	-13	PASS
	9538	1907.6	-14.33	Plot H2		PASS
HSUPA 850MHz	4132	826.4	-13.18	Plat I1	-13	PASS
	4233	846.6	-13.91	Plot I2		PASS
HSUPA 1900MHz	9262	1852.4	-14.51	Plat J1	-13	PASS
	9538	1907.6	-15.27	Plot J2		PASS
HSPA+ 850MHz	4132	826.4	-13.10	Plat K1	-13	PASS
	4233	846.6	-13.82	Plot K2		PASS
HSPA + 1900MHz	9262	1852.4	-16.20	Plat L1	-13	PASS
	9538	1907.6	-14.40	Plot L2		PASS

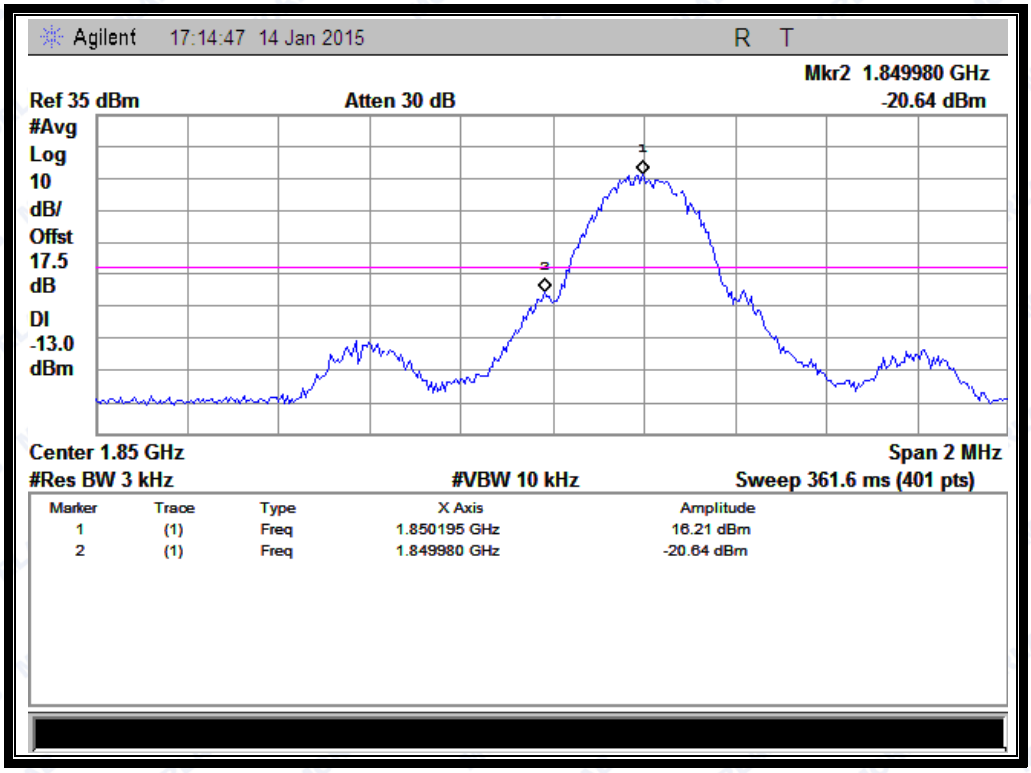
Test Plots:



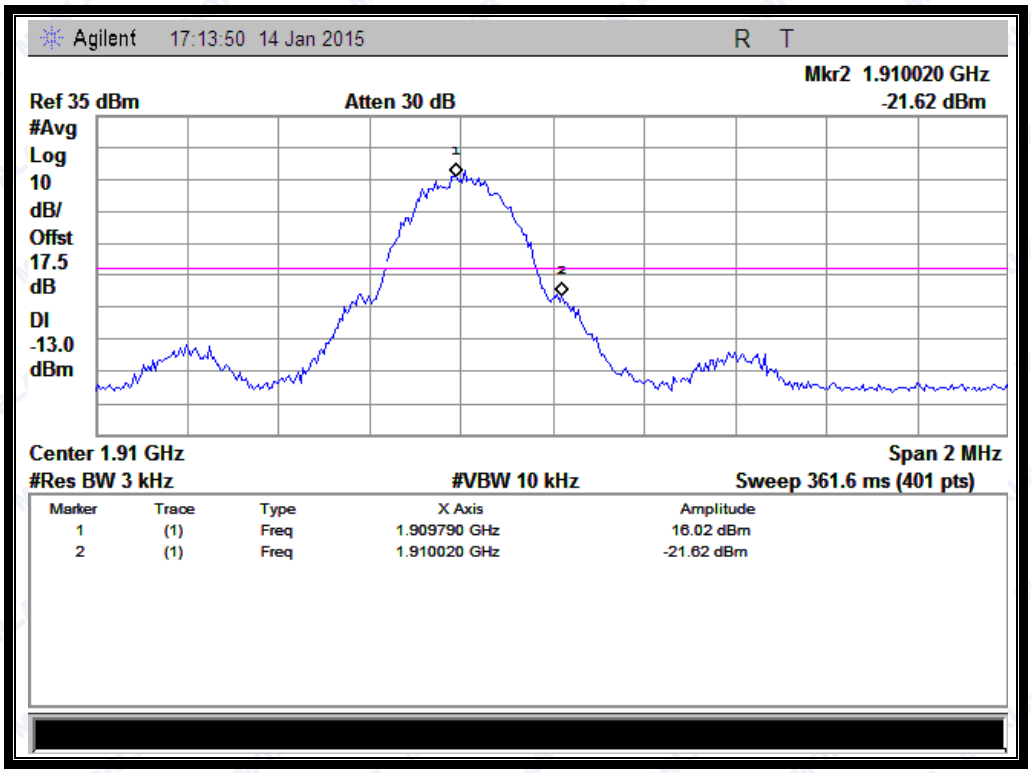
(Plot A1: GPRS 850 Channel = 128)



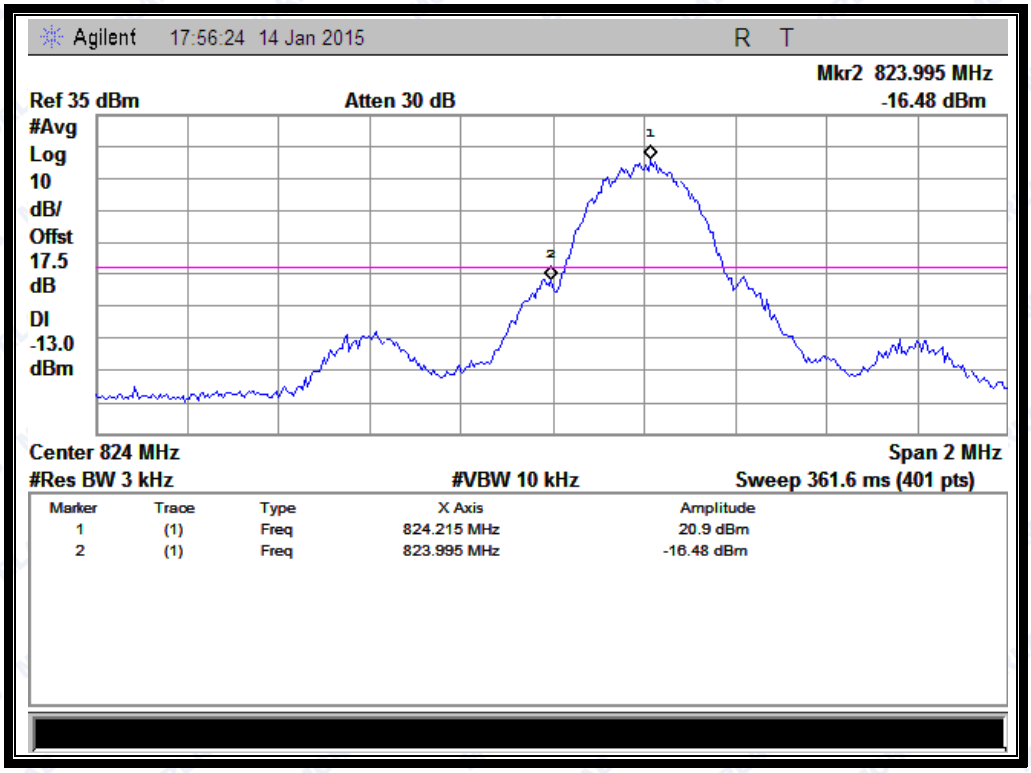
(Plot A2: GPRS 850 Channel = 251)



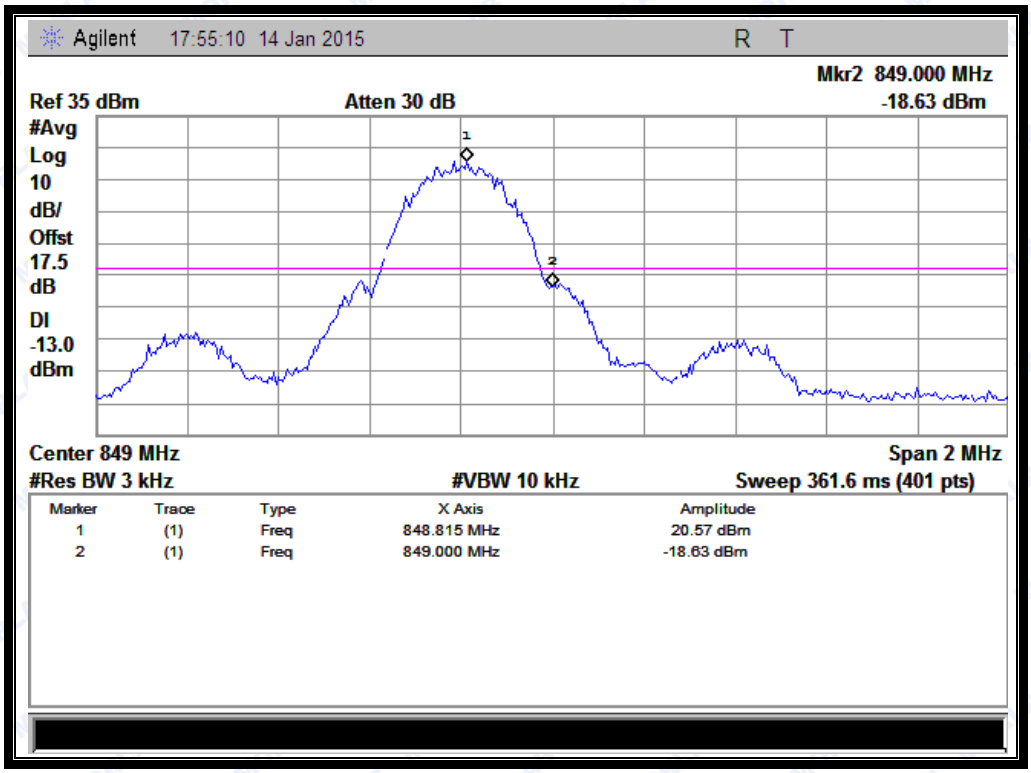
(Plot B1: GPRS 1900 Channel = 512)



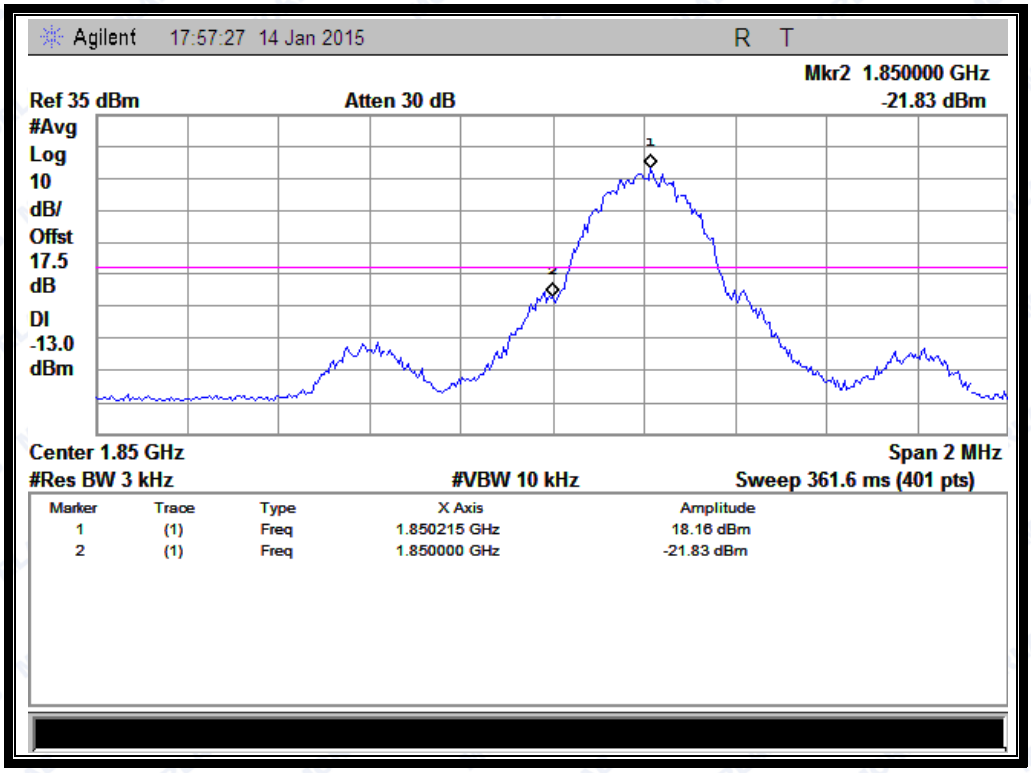
(Plot B2: GPRS 1900 Channel = 810)



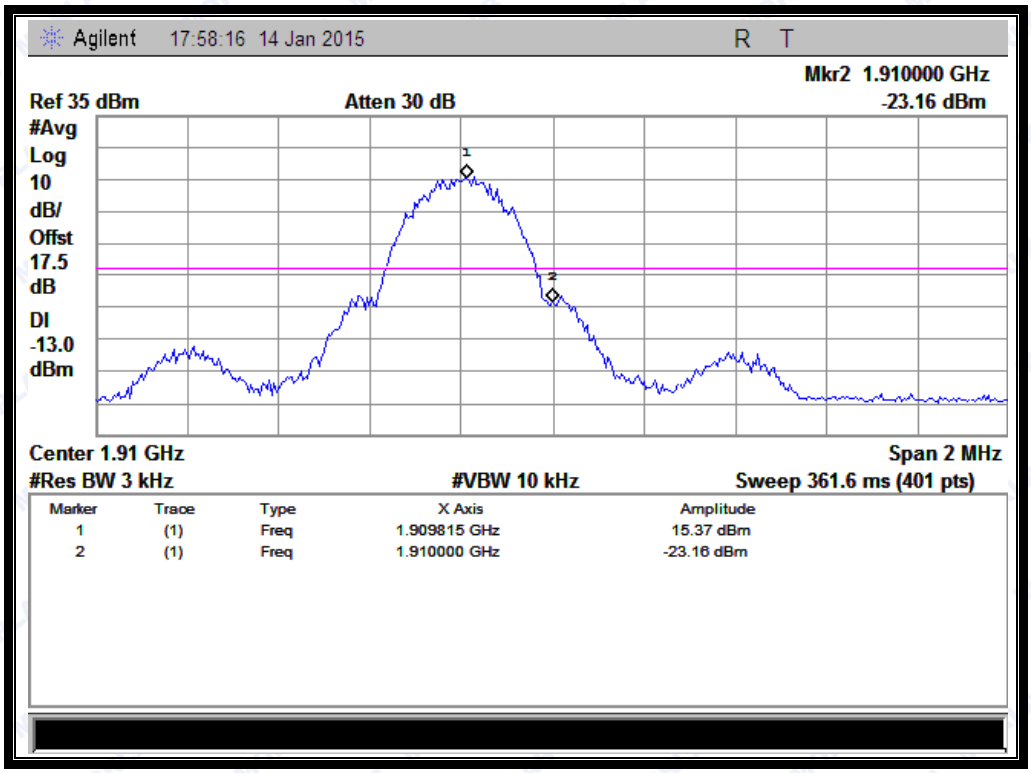
(Plot C1: EGPRS 850 Channel = 128)



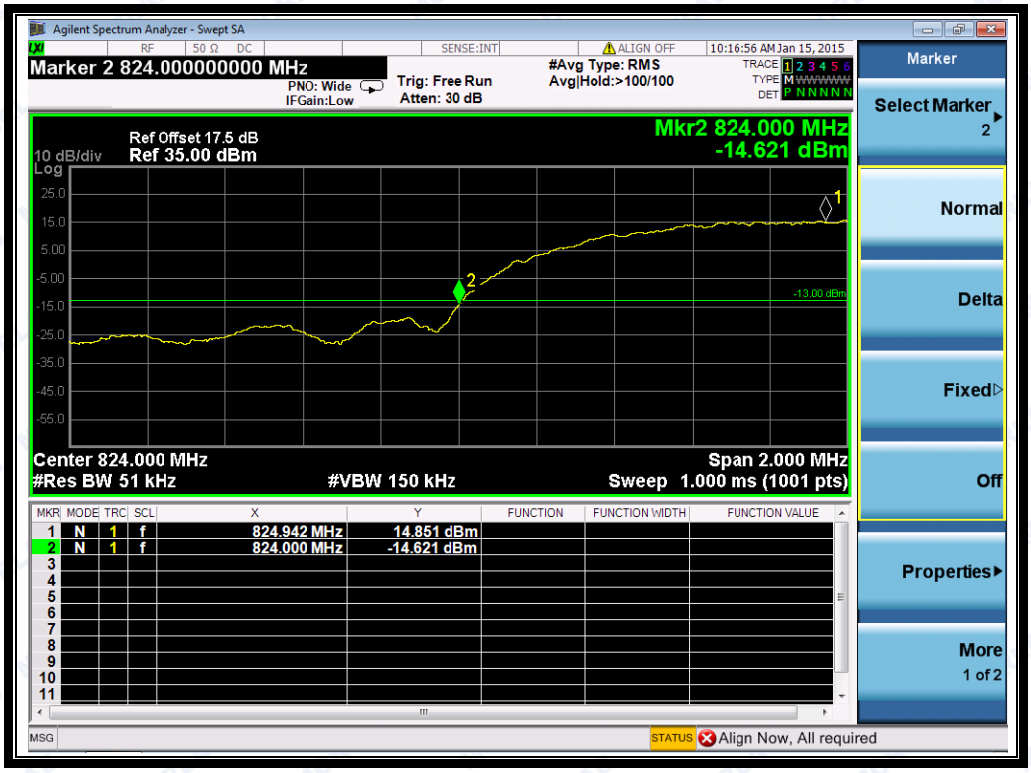
(Plot C2: EGPRS 850 Channel = 251)



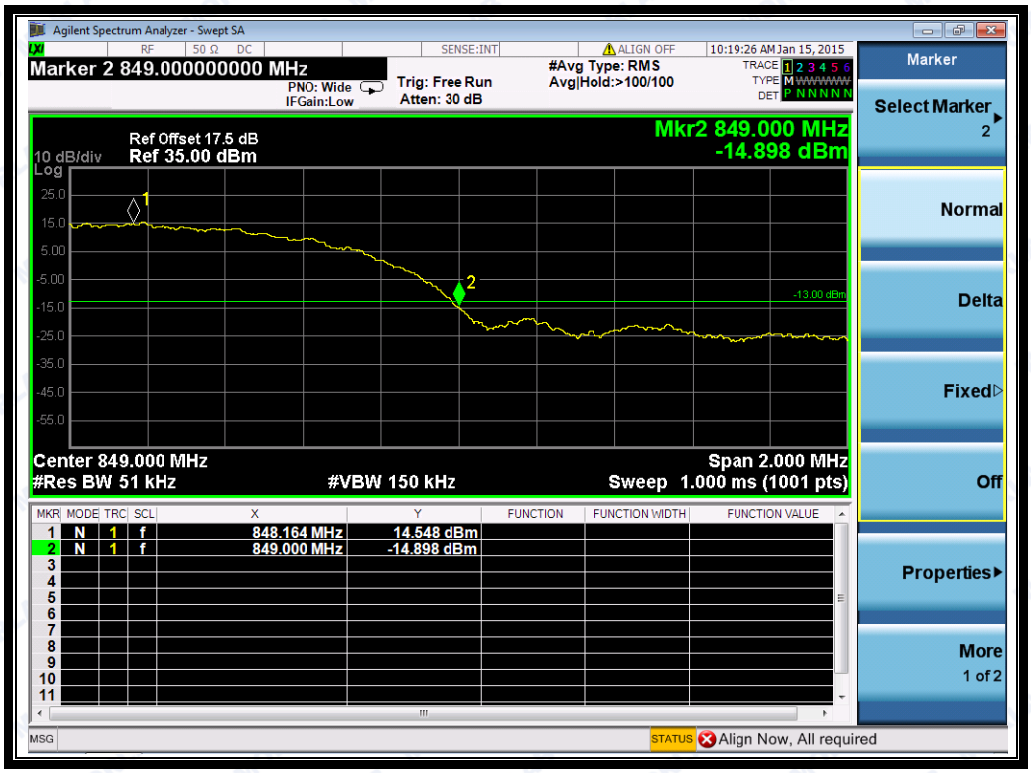
(Plot D1: EGPRS 1900 Channel = 512)



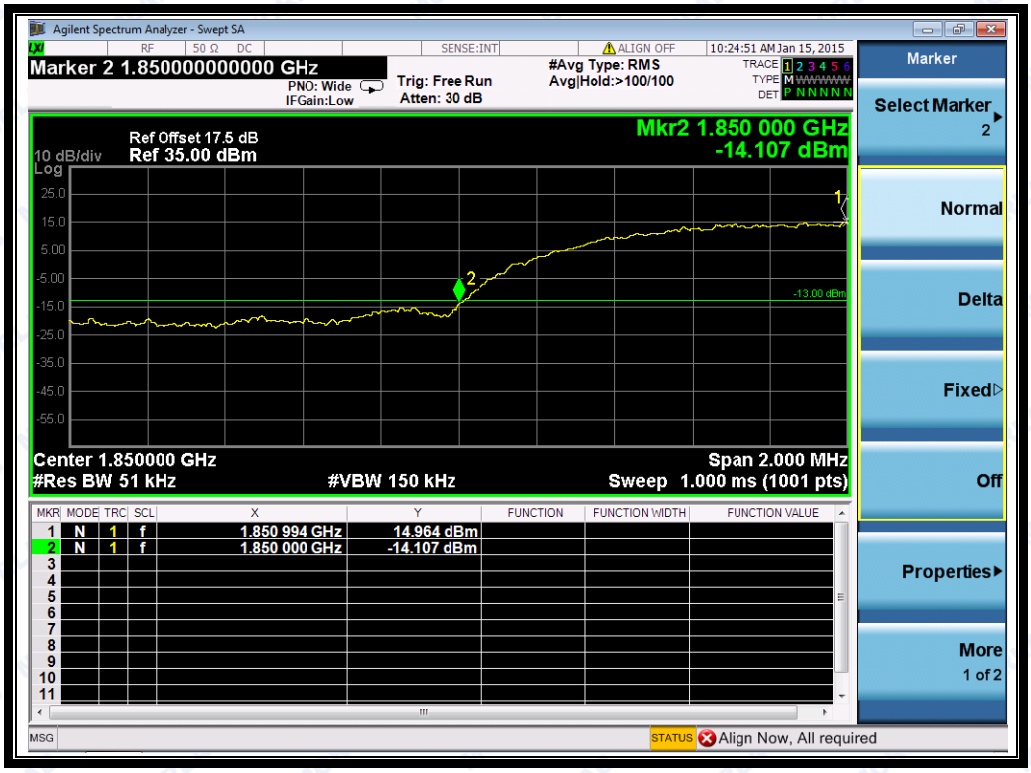
(Plot D2: EGPRS 1900 Channel = 810)



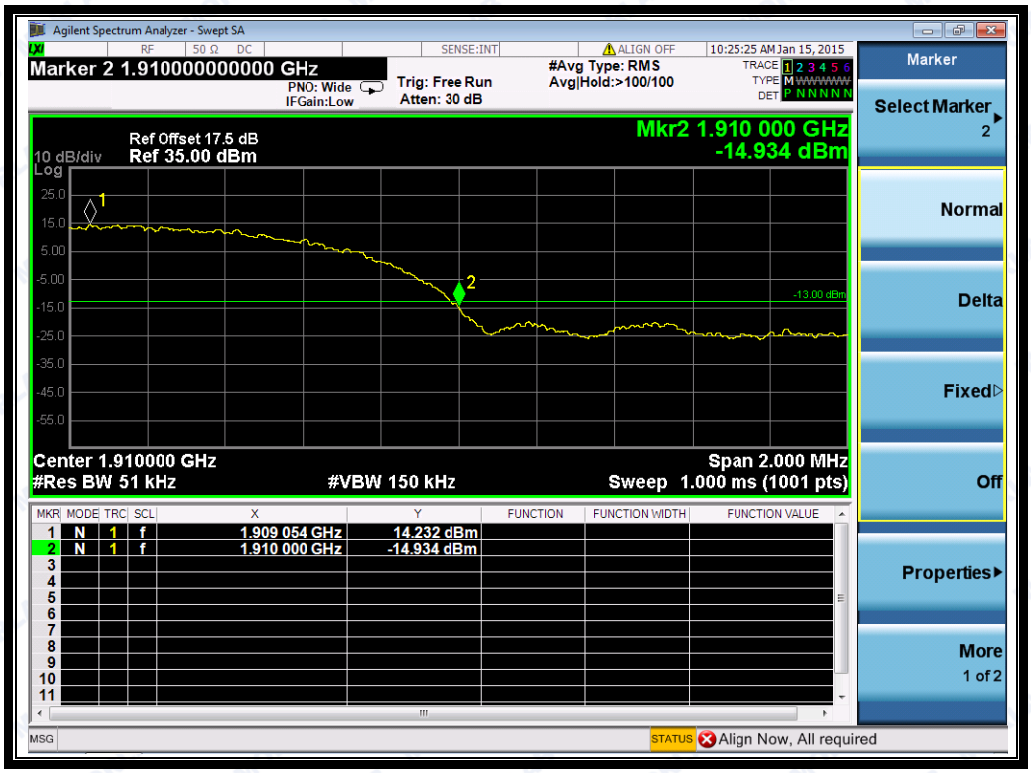
(Plot E1: WCDMA 850 Channel = 4132)



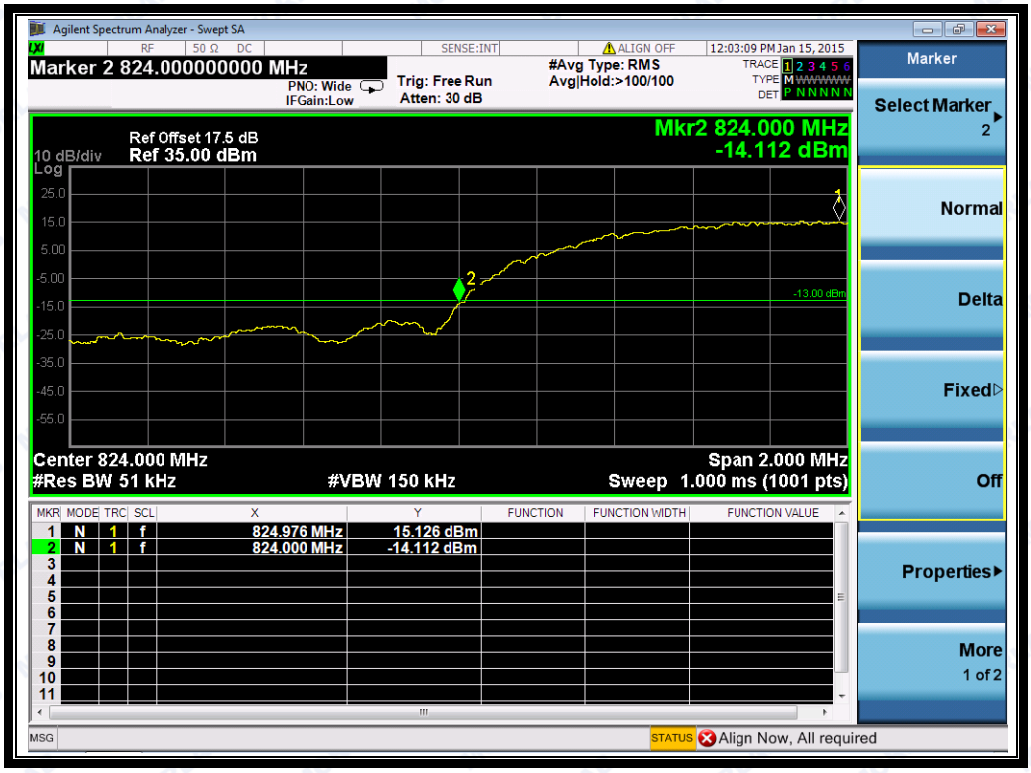
(Plot E2: WCDMA 850 Channel = 4233)



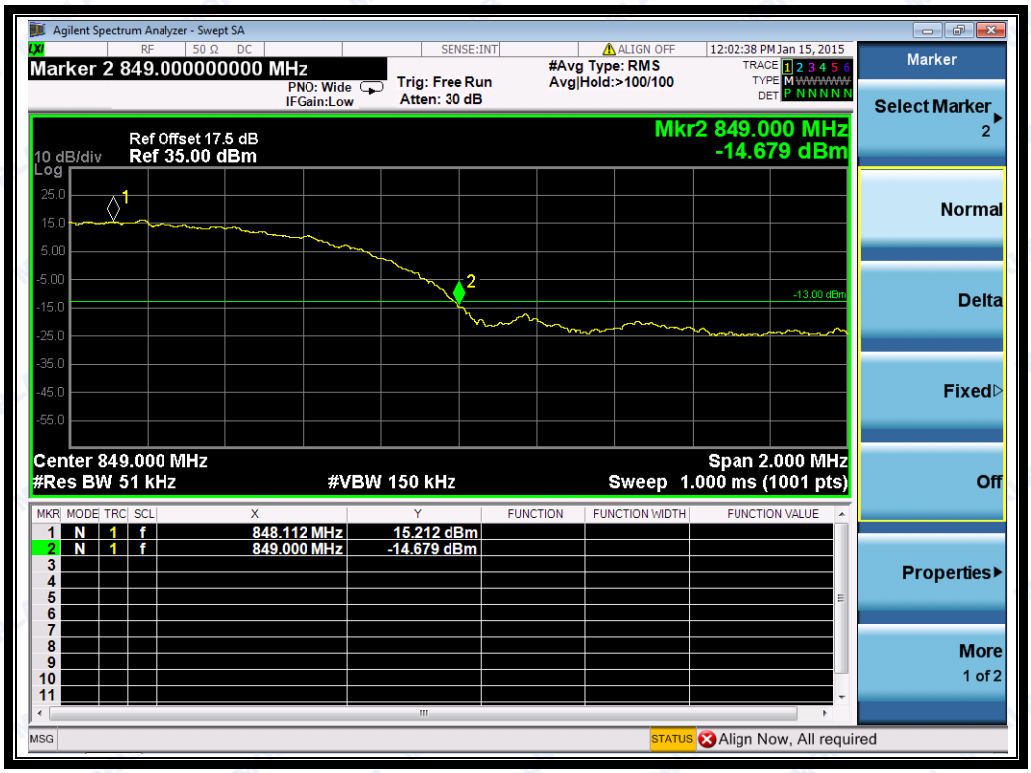
(Plot F1: WCDMA 1900 Channel = 9262)



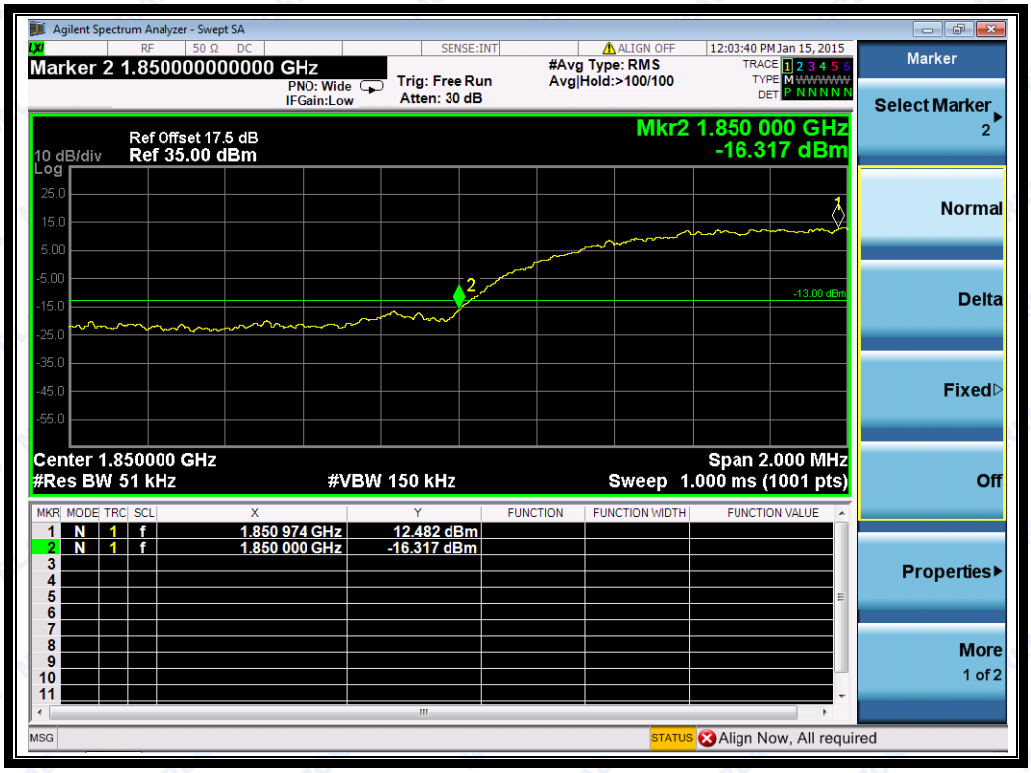
(Plot F2: WCDMA 1900 Channel = 9538)



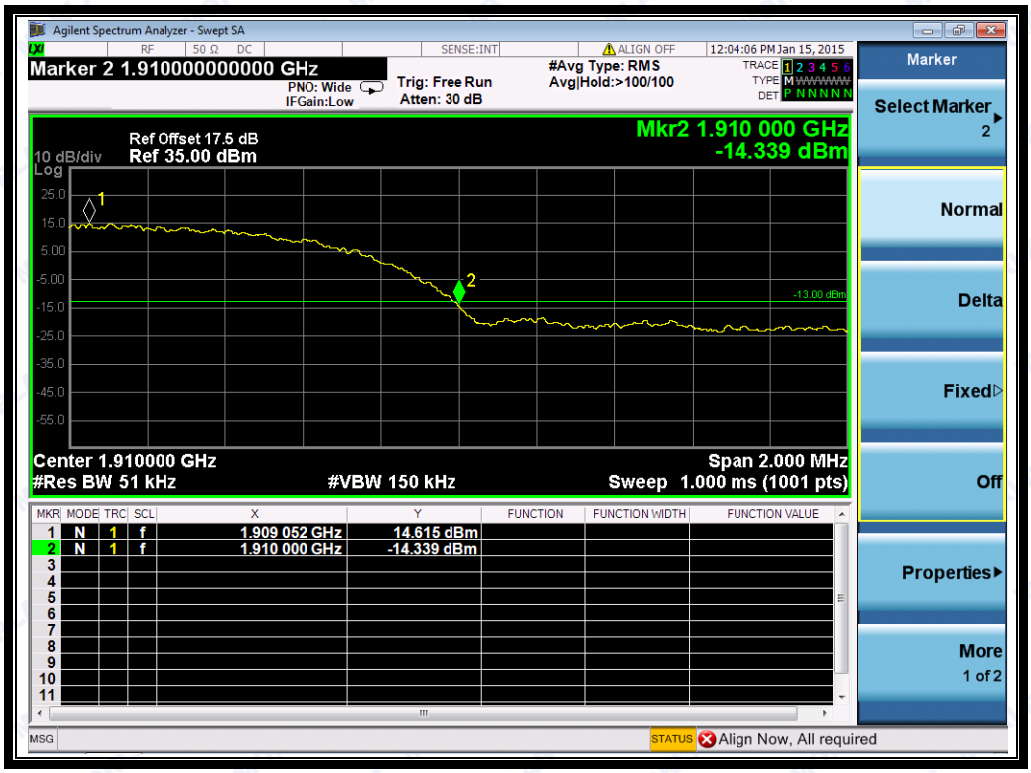
(Plot G1: HSDPA 850 Channel = 4132)



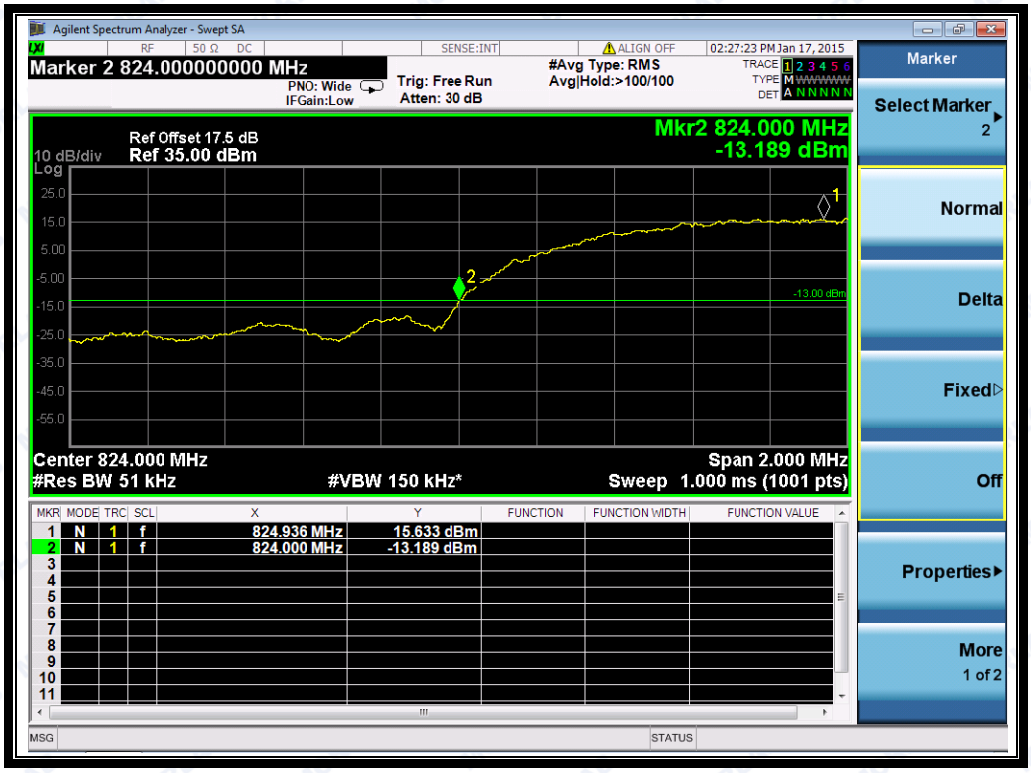
(Plot G2: HSDPA 850 Channel = 4233)



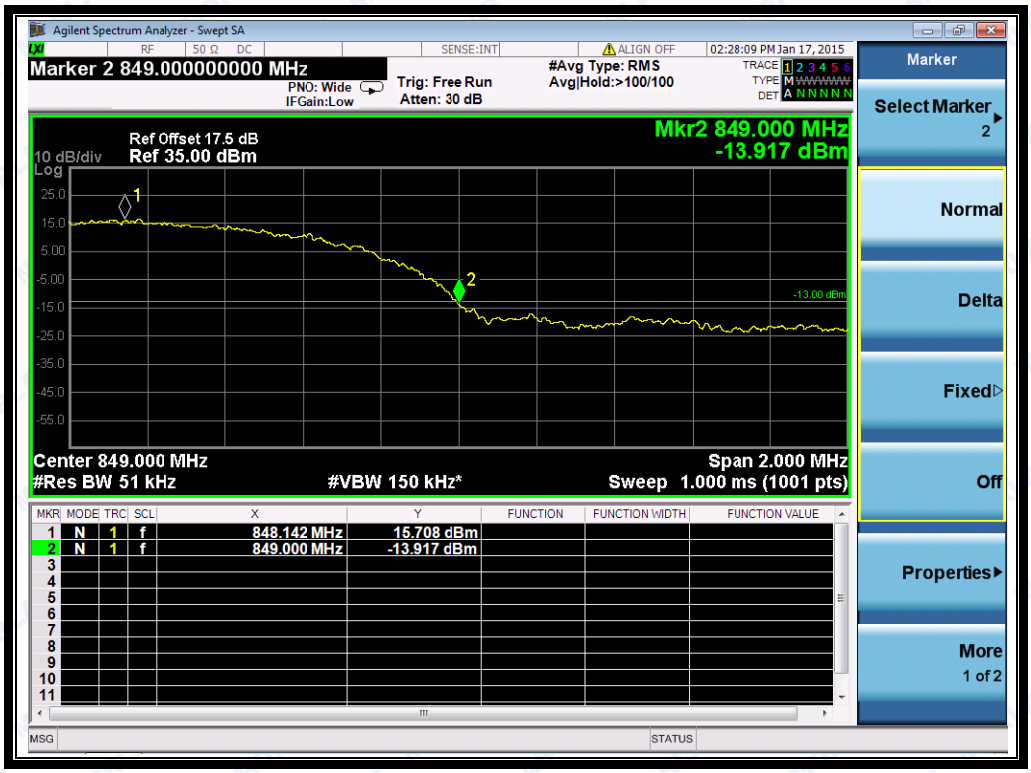
(Plot H1: HSDPA 1900 Channel = 9262)



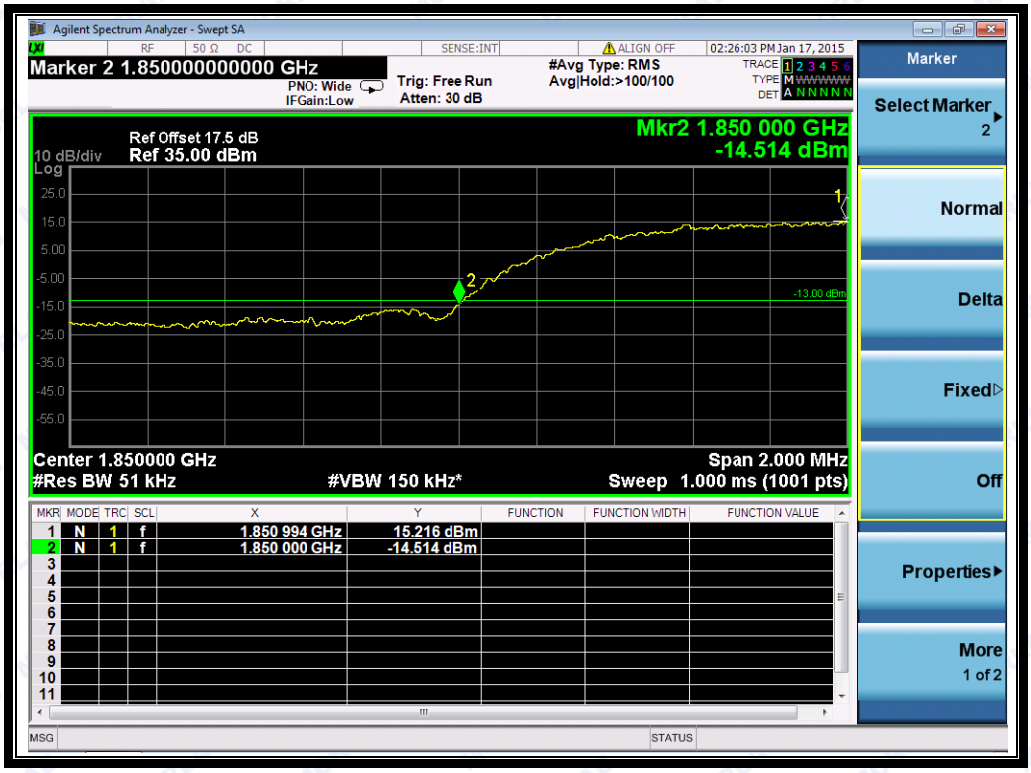
(Plot H2: HSDPA 1900 Channel = 9538)



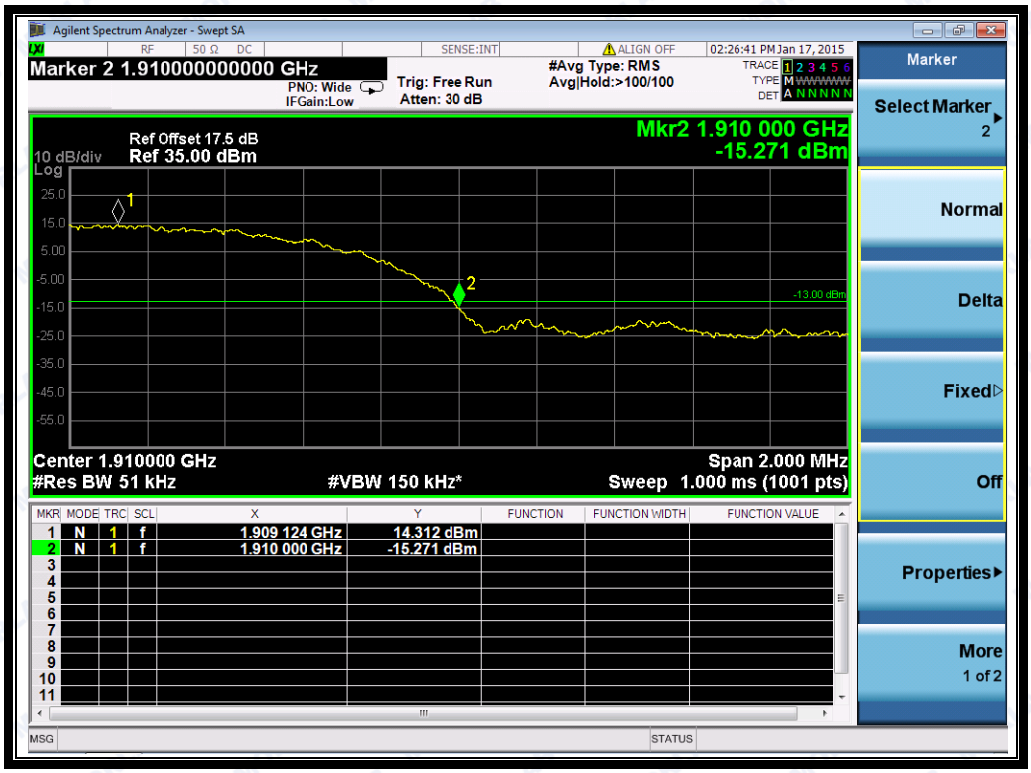
(Plot I1: HSUPA 850 Channel = 4132)



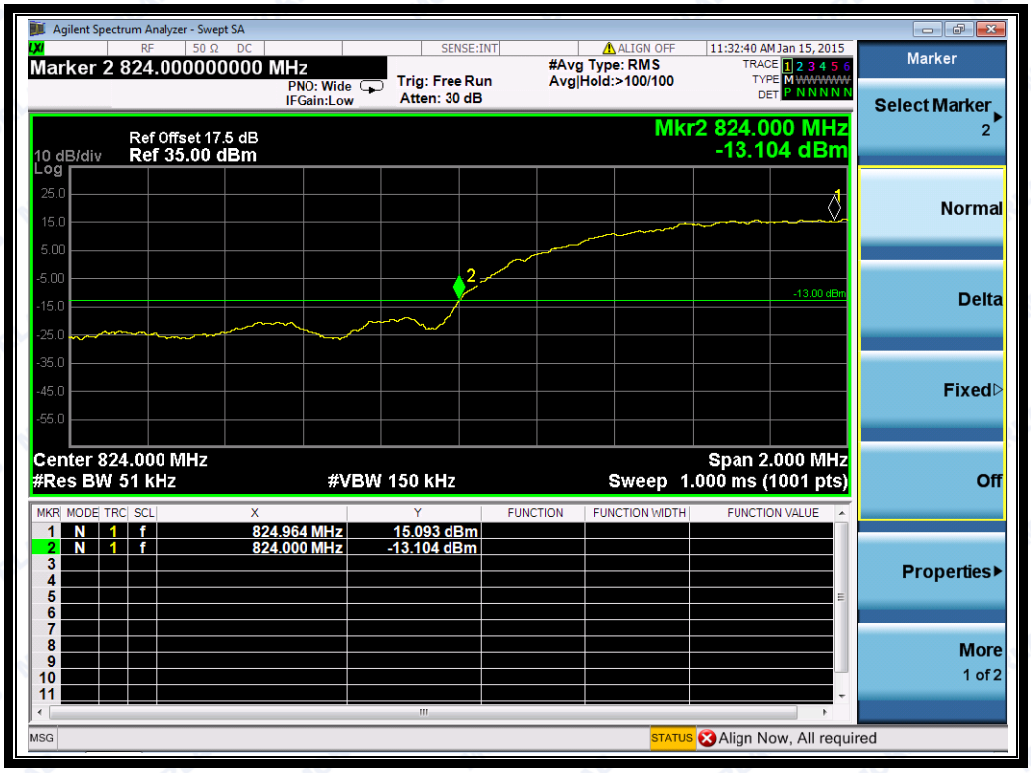
(Plot I2: HSUPA 850 Channel = 4233)



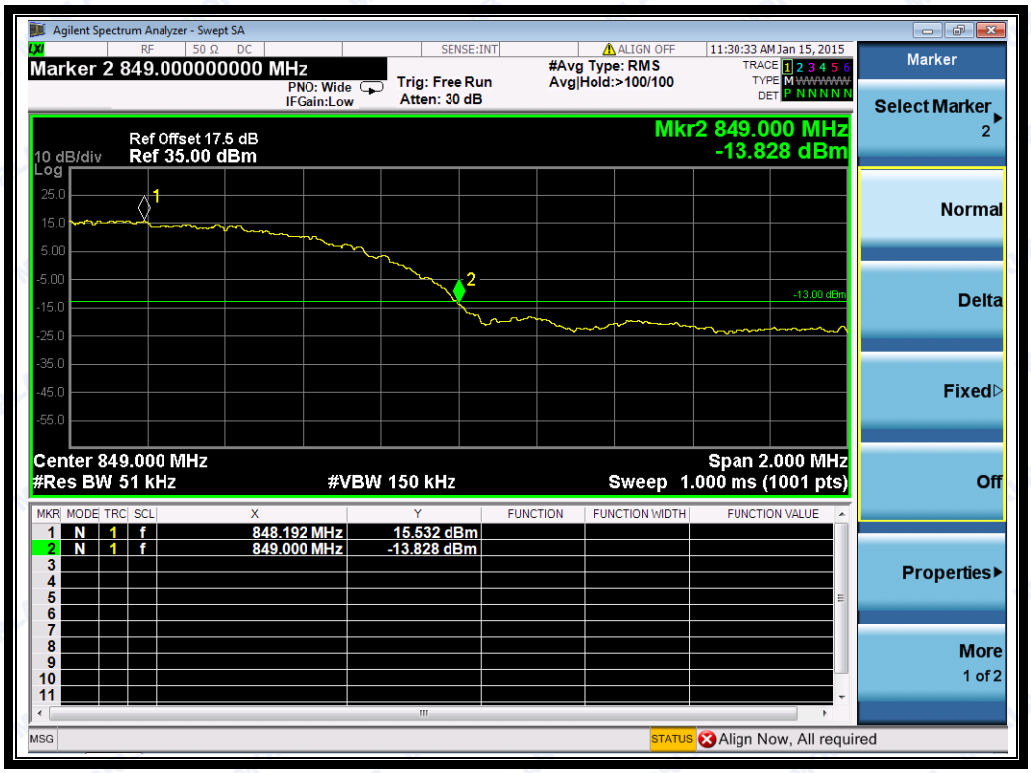
(Plot J1: HSUPA 1900 Channel = 9262)



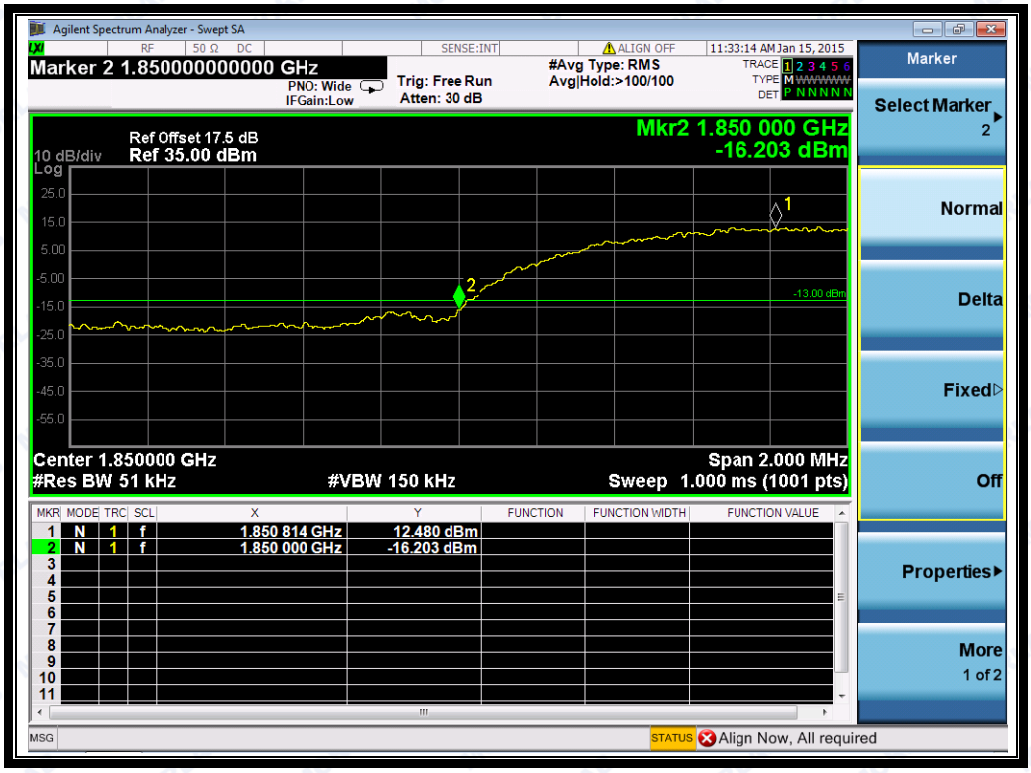
(Plot J2: HSUPA 1900 Channel = 9538)



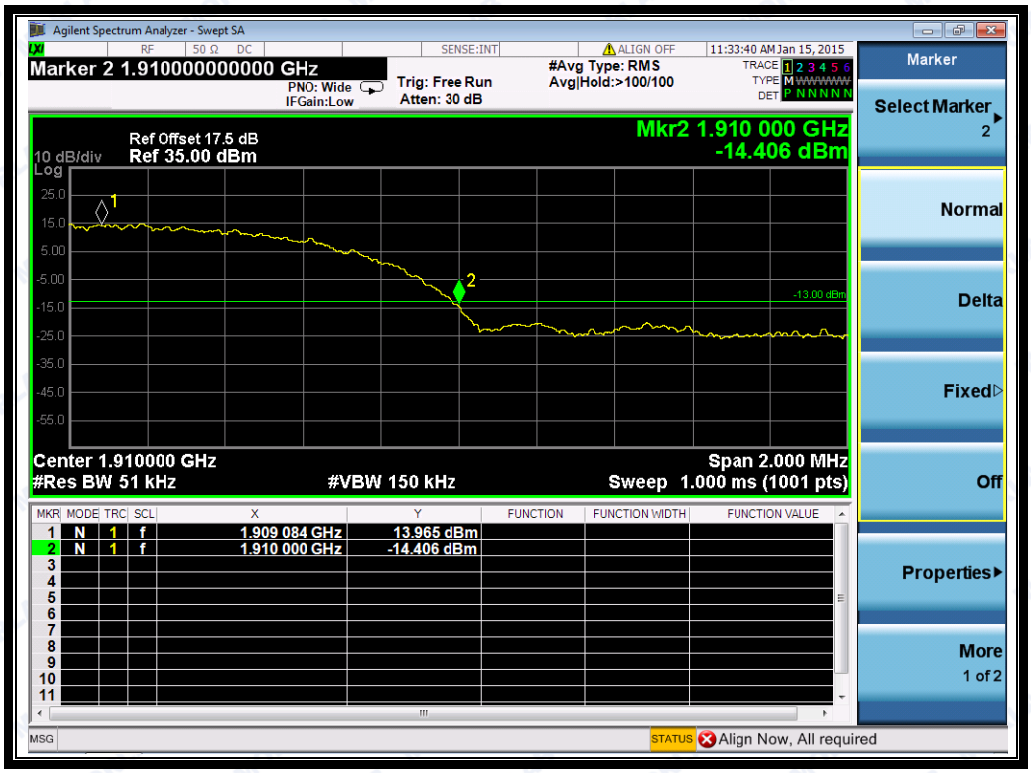
(Plot K1: HSPA+ 850 Channel = 4132)



(Plot K2: HSPA+ 850 Channel = 4233)



(Plot L1: HSPA+ 1900 Channel = 9262)



(Plot L2: HSPA+ 1900 Channel = 9538)

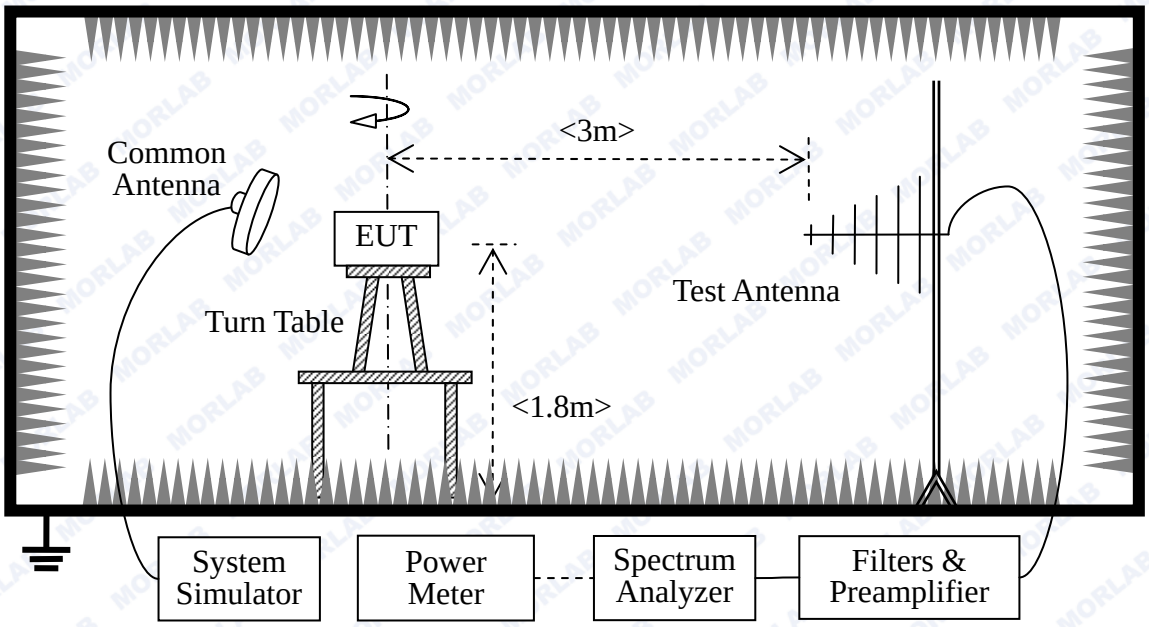
2.7 Transmitter Radiated Power (EIRP/ERP)

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

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. GPRS850MHz band Power Control Level (PCL) = 5/19 and Power Class = 4, GPRS1900MHz band Power Control Level (PCL) = 0/15 and Power Class = 1), and only the test result of the maximum output power was recorded.

- GPRS Maximum RF output power: GPRS 850 33.91dBm, GPRS 1900 30.21dBm.WCDMA 850 24.62 dBm, WCDMA 1900 23.58 dBm .Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

- Minimum RF power: GPRS 850 3.1dBm, GPRS 1900 0.6dBm, WCDMA 850 0.3dBm, WCDMA 1900 0.7dBm.

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.

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}.

GSM Model Test Verdict:

Band	Channel	Frequency (MHz)	PCL	Measured ERP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GPRS 850MHz	128	824.20	5	28.62	0.728	Plot B Note 1	38.5	7	PASS
	190	836.60	5	29.88	0.973				PASS
	251	848.80	5	29.40	0.871				PASS
EGPRS 850MHz	128	824.20	5	28.45	0.700	Plot C Note 1	38.5	7	PASS
	190	836.60	5	29.47	0.885				PASS
	251	848.80	5	30.23	1.054				PASS

Band	Channel	Frequency (MHz)	PCL	Measured EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GPRS 1900MHz	512	1850.2	0	27.77	0.598	Plot E Note 1	33	2	PASS
	661	1880.0	0	27.41	0.551				PASS
	810	1909.8	0	27.07	0.509				PASS
EGPRS 1900MHz	512	1850.2	0	27.51	0.564	Plot F Note 1	33	2	PASS
	661	1880.0	0	27.40	0.550				PASS
	810	1909.8	0	27.13	0.516				PASS

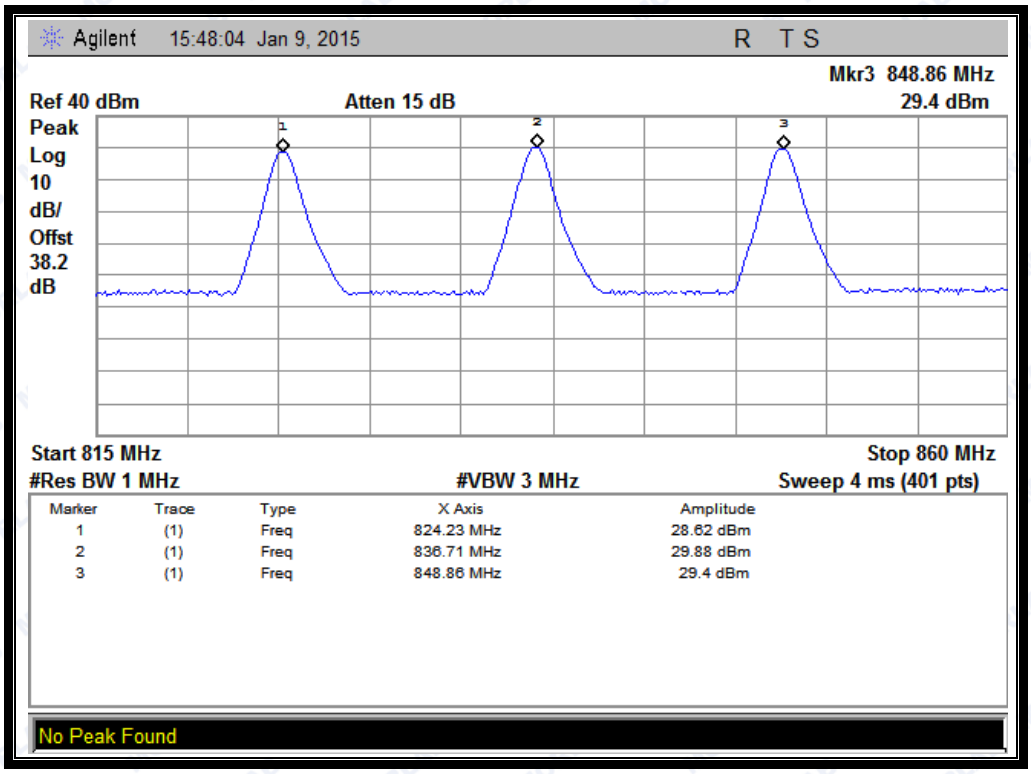
Note 1: For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.

WCDMA Model Test Verdict:

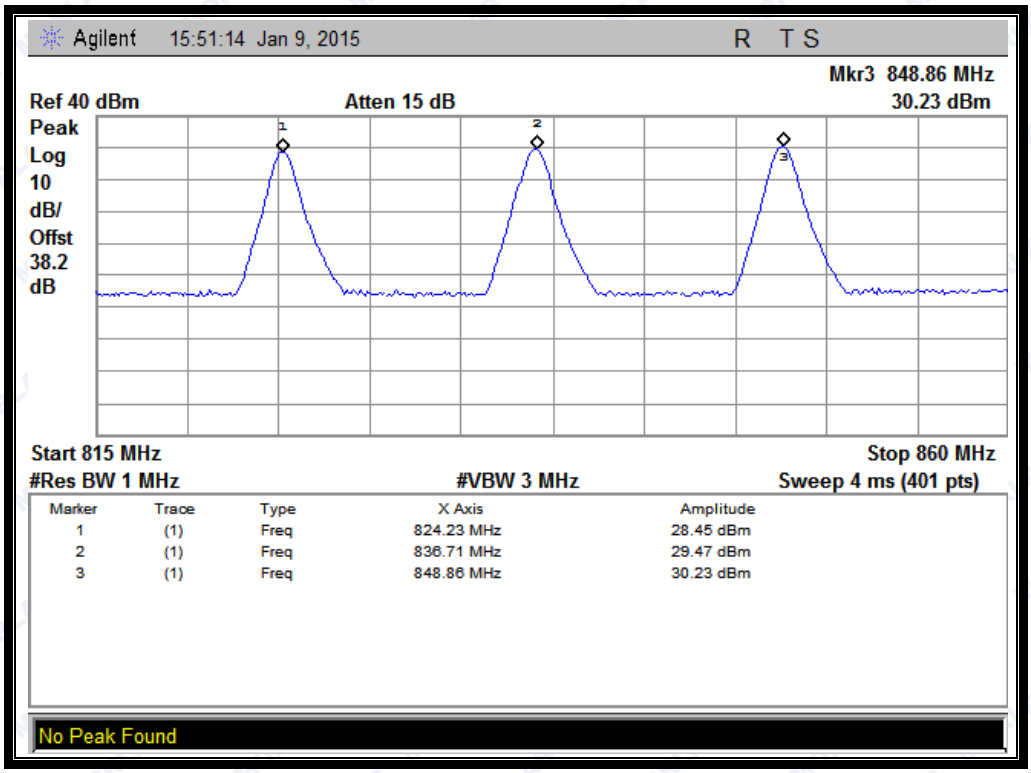
Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
WCDMA 850MHz	4132	826.4	19.88	0.097	Plot G	38.5	7	PASS
	4175	835.0	19.66	0.092				PASS
	4233	846.6	20.69	0.117				PASS
HSDPA 850MHz	4132	826.4	19.95	0.099	Plot H	38.5	7	PASS
	4175	835.0	20.25	0.106				PASS
	4233	846.6	21.07	0.128				PASS
HSUPA 850MHz	4132	826.4	19.62	0.092	Plot I	38.5	7	PASS
	4175	835.0	18.91	0.078				PASS
	4233	846.6	20.12	0.103				PASS
HSPA+ 850MHz	4132	826.4	19.51	0.089	Plot J	38.5	7	PASS
	4175	835.0	19.46	0.088				PASS
	4233	846.6	19.32	0.086				PASS

Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
WCDMA 1900MHz	9262	1852.4	28.52	0.711	Plot K	33	2	PASS
	9400	1880.0	28.62	0.728				PASS
	9538	1907.6	28.58	0.721				PASS
HSDPA 1900MHz	9262	1852.4	28.65	0.733	Plot L	33	2	PASS
	9400	1880.0	29.33	0.857				PASS
	9538	1907.6	28.59	0.723				PASS
HSUPA 1900MHz	9262	1852.4	28.38	0.689	Plot M	33	2	PASS
	9400	1880.0	28.71	0.743				PASS
	9538	1907.6	28.52	0.711				PASS
HSPA+ 1900MHz	9262	1852.4	28.75	0.750	Plot N	33	2	PASS
	9400	1880.0	28.70	0.741				PASS
	9538	1907.6	28.48	0.705				PASS

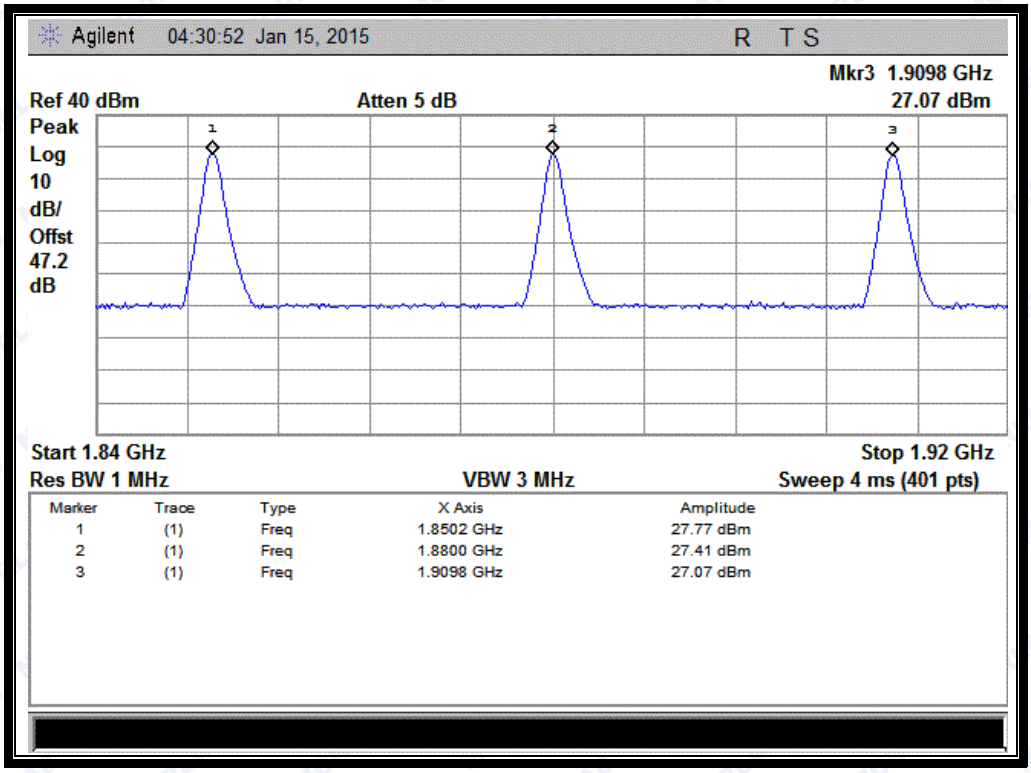
Test Plots:



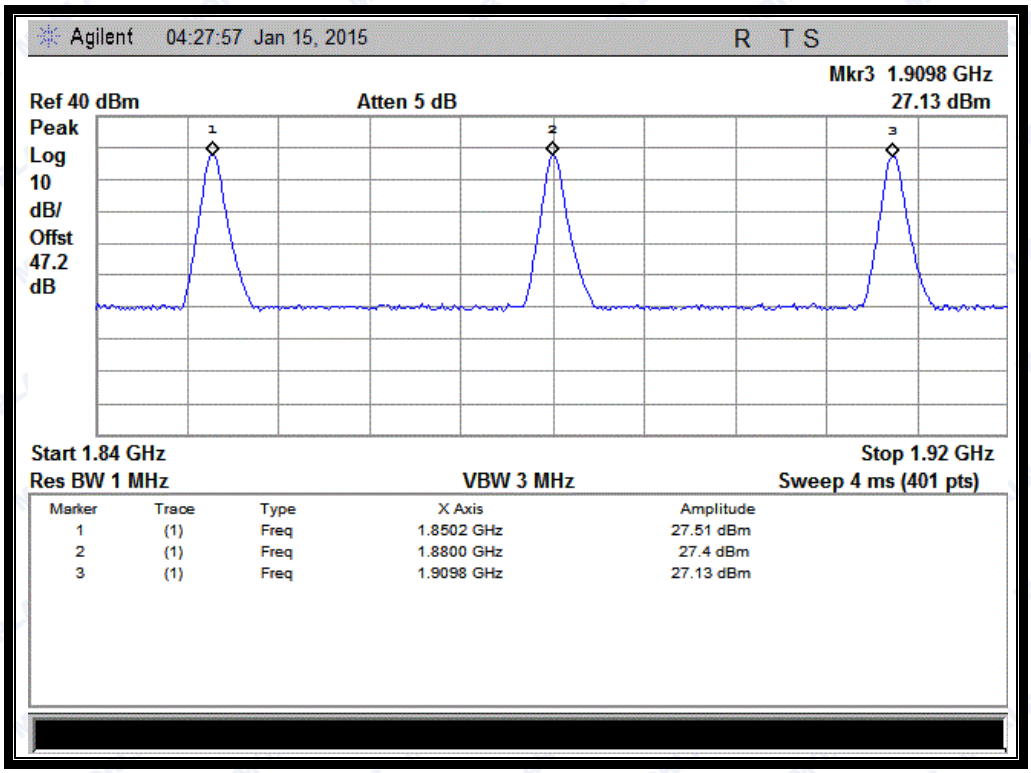
(Plot B:GPRS 850MHz Channel = 128, 190, 251)



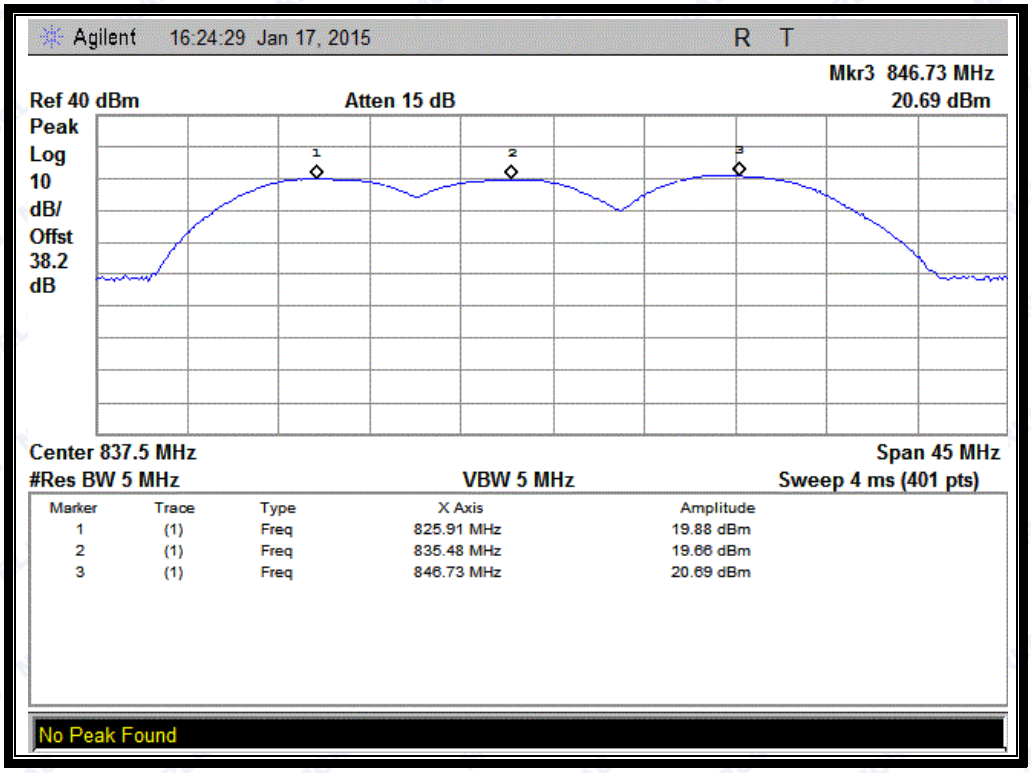
(Plot C: EGPRS 850MHz Channel = 128, 190, 251)



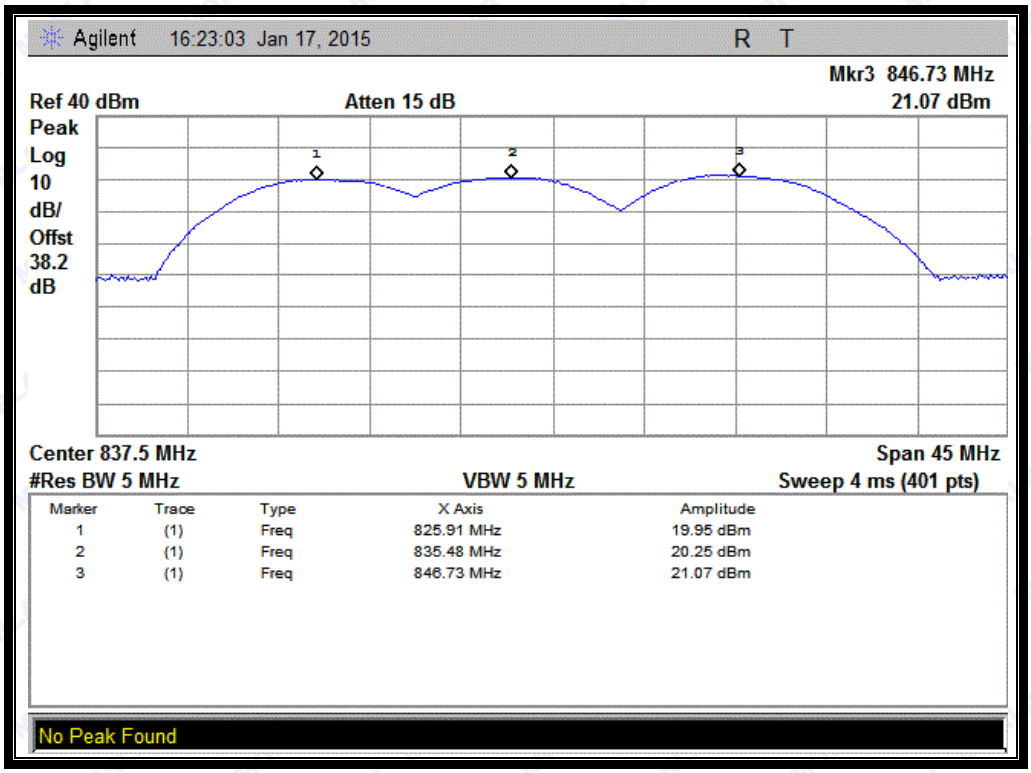
(Plot E: GPRS 1900MHz Channel = 512, 661, 810)



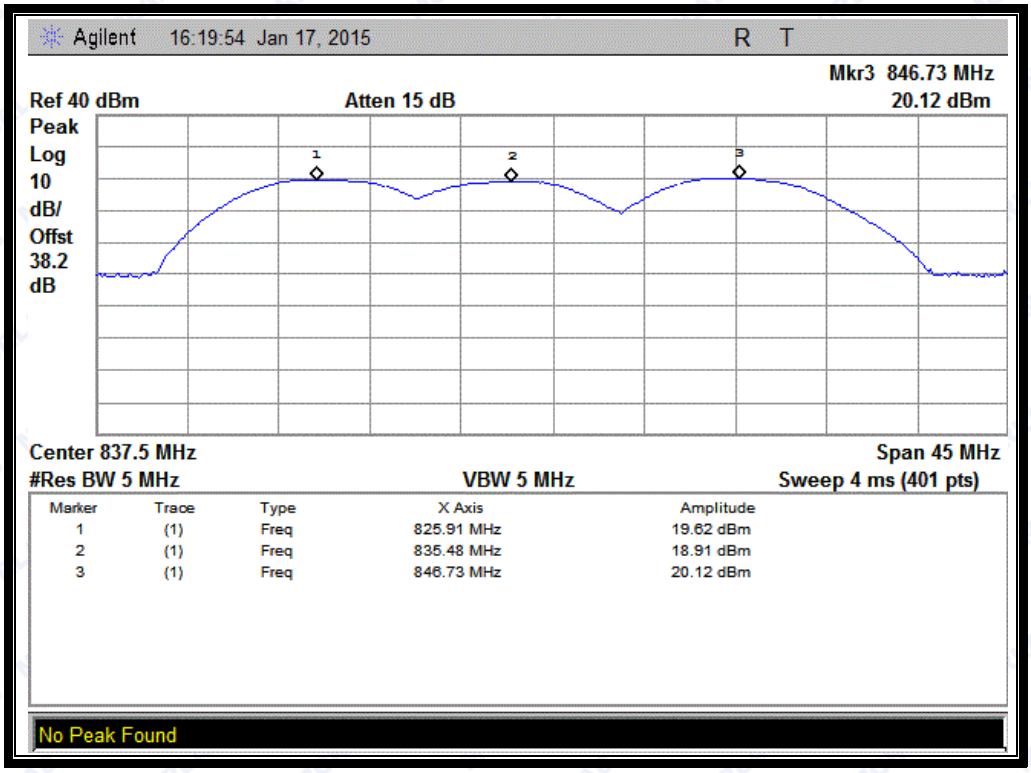
(Plot F: EGPRS 1900MHz Channel = 512, 661, 810)



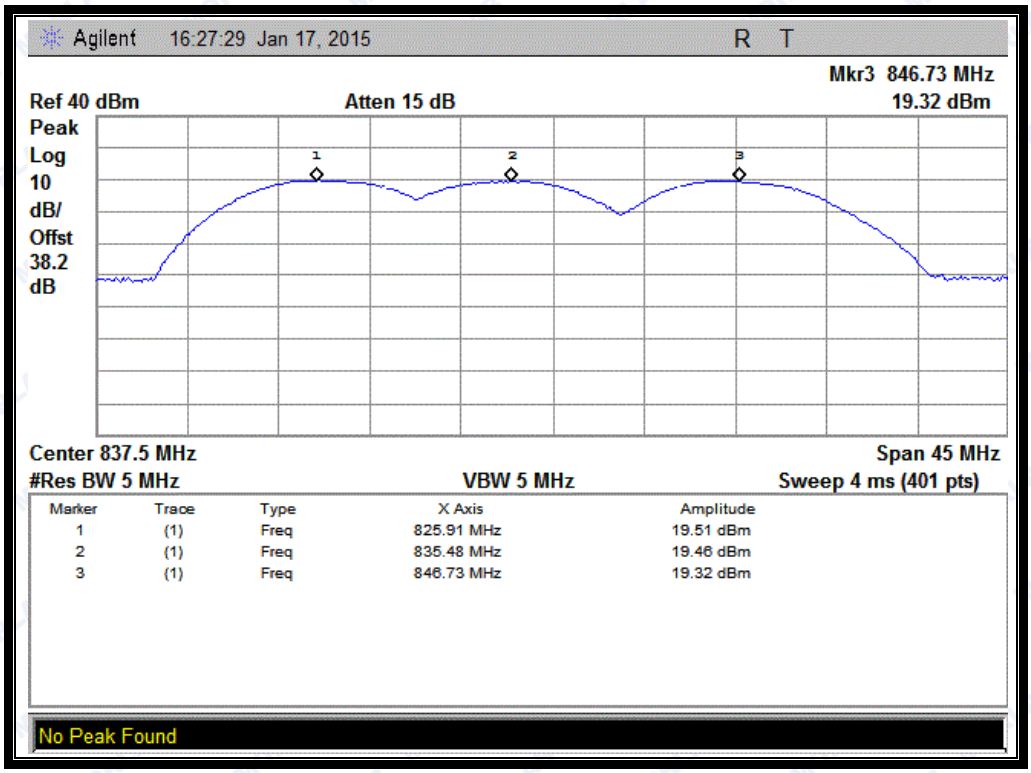
(Plot G: WCDMA 850 MHz Channel = 4132, 4175, 4233)



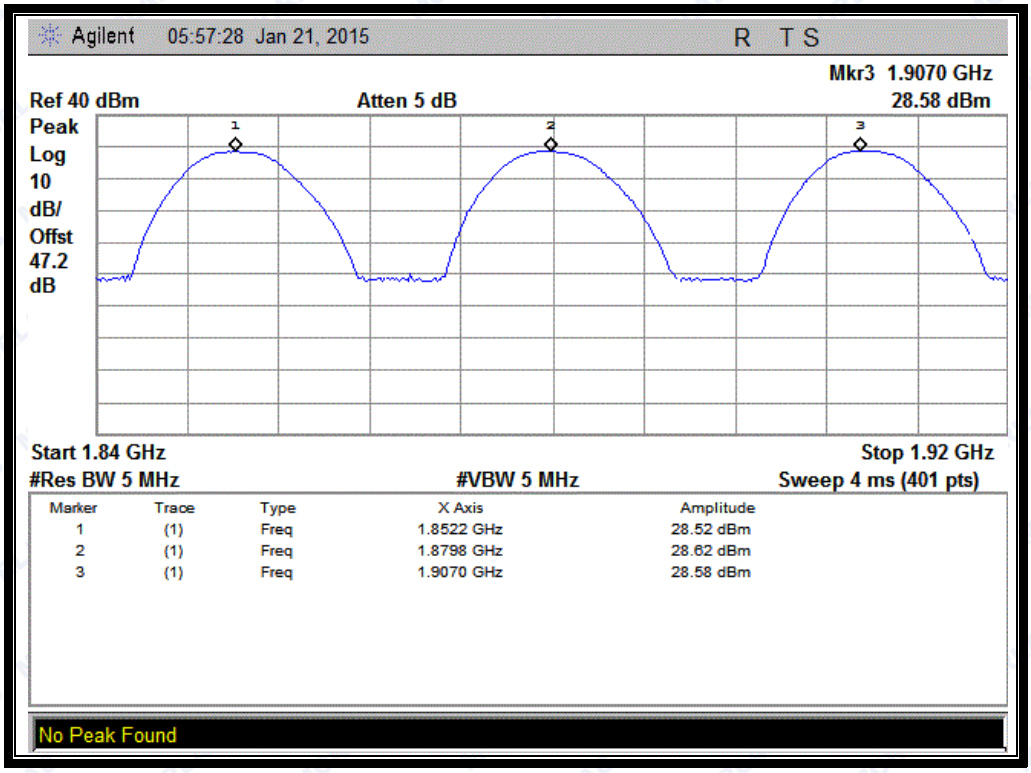
(Plot H: HSDPA 850 MHz Channel = 4132, 4175, 4233)



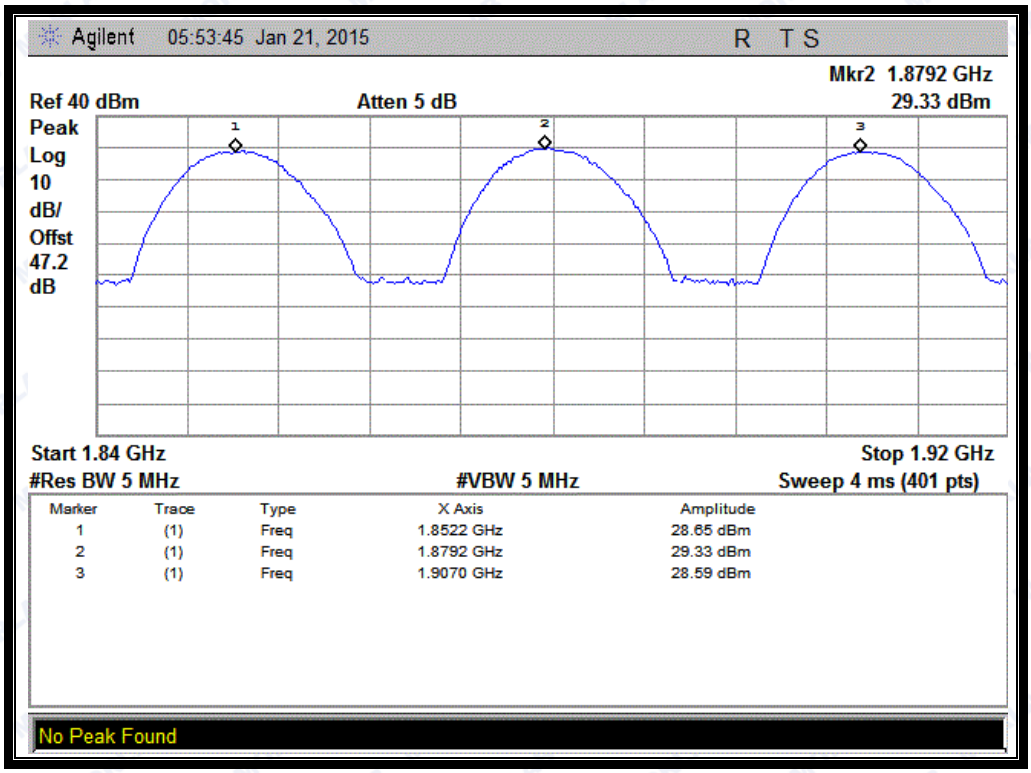
(Plot I: HSUPA 850 MHz Channel = 4132, 4175, 4233)



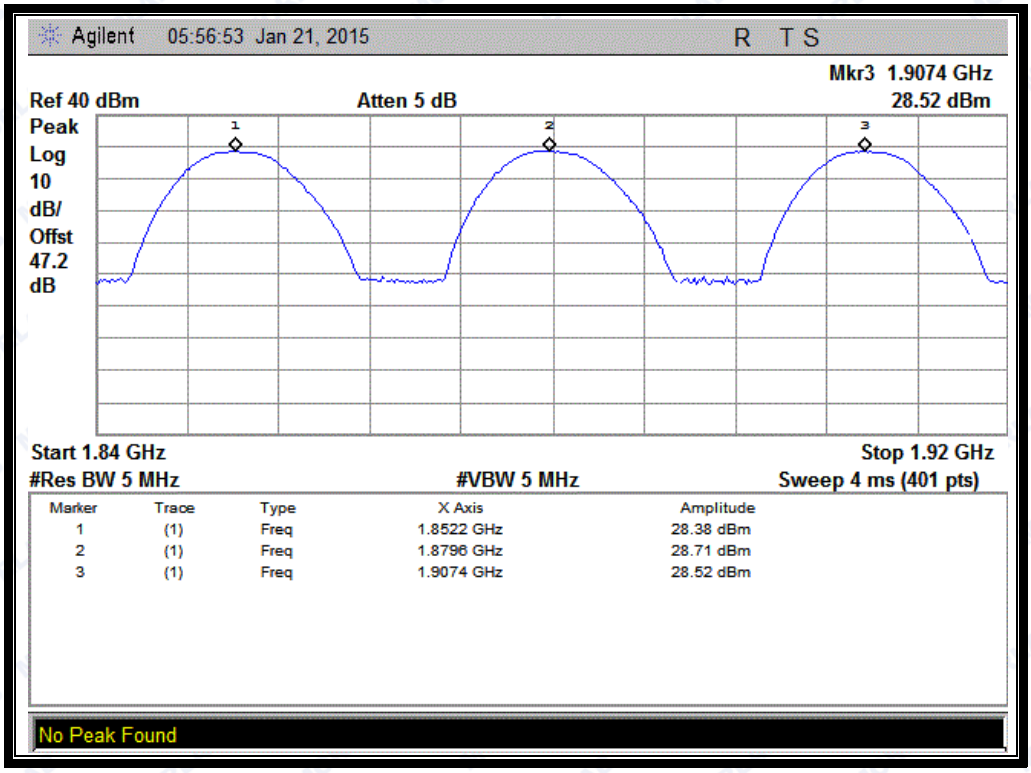
(Plot J: HSPA+ 850 MHz Channel = 4132, 4175, 4233)



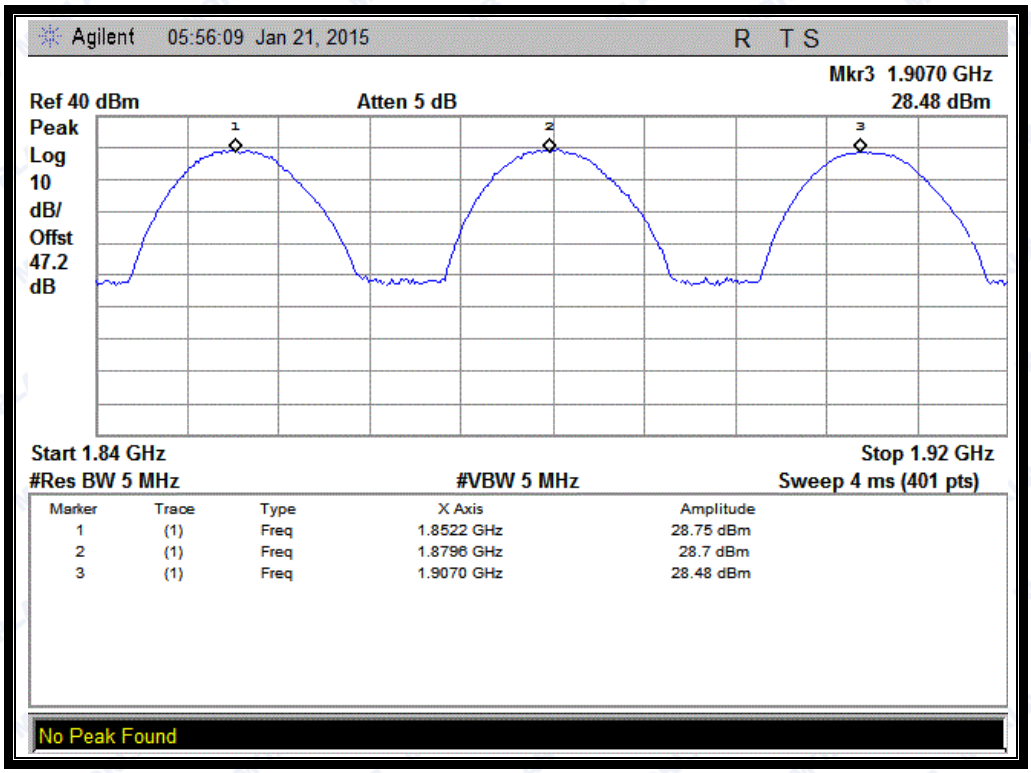
(Plot K: WCDMA 1900 MHz Channel = 9262, 9400, 9538)



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



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



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

2.8 Radiated Out of Band Emissions

2.8.1 Requirement

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

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

2.8.2 Test Description

See section 2.7.2 of this report.

Equipment List:

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

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

2.8.3 Test Result

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

1. Test Verdict:

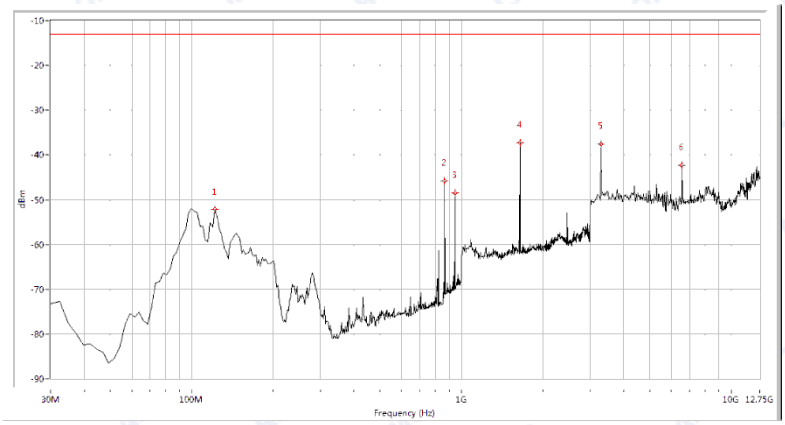
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
GPRS 850MHz	128	824.2	< -25	< -25	Plot A1/A2	-13	PASS
	190	836.6	< -25	< -25	Plot A3/A4		PASS
	251	848.8	< -25	< -25	Plot A5/A6		PASS
GPRS 1900MHz	512	1850.2	< -25	< -25	Plot B1/B2	-13	PASS
	661	1880.0	< -25	< -25	Plot B3/B4		PASS
	810	1909.8	< -25	< -25	Plot B5/B6		PASS
EGPRS 850MHz	128	824.2	< -25	< -25	Plot C1/C2	-13	PASS
	190	836.6	< -25	< -25	Plot C3/C4		PASS
	251	848.8	< -25	< -25	Plot C5/C6		PASS
EGPRS 1900MHz	512	1850.2	< -25	< -25	Plot D1/D2	-13	PASS
	661	1880.0	< -25	< -25	Plot D3/D4		PASS
	810	1909.8	< -25	< -25	Plot D5/D6		PASS
WCDMA 850MHz	4132	826.4	< -25	< -25	Plot E1/E2	-13	PASS
	4175	835.0	< -25	< -25	Plot E3/E4		PASS
	4233	846.6	< -25	< -25	Plot E5/E6		PASS
WCDMA 1900MHz	9262	1852.4	< -25	< -25	Plot F1/F2	-13	PASS
	9400	1880.0	< -25	< -25	Plot F3/F4		PASS
	9538	1907.6	< -25	< -25	Plot F5/F6		PASS
HSDPA 850MHz	4132	826.4	< -25	< -25	Plot G1/G2	-13	PASS
	4175	835.0	< -25	< -25	Plot G3/G4		PASS
	4233	846.6	< -25	< -25	Plot G5/G6		PASS
HSDPA 1900MHz	9262	1852.4	< -25	< -25	Plot H1/H2	-13	PASS
	9400	1880.0	< -25	< -25	Plot H3/H4		PASS
	9538	1907.6	< -25	< -25	Plot H5/H6		PASS
HSUPA 850MHz	4132	826.4	< -25	< -25	Plot I1/I2	-13	PASS
	4175	835.0	< -25	< -25	Plot I3/I4		PASS
	4233	846.6	< -25	< -25	Plot I5/I6		PASS
HSUPA 1900MHz	9262	1852.4	< -25	< -25	Plot J1/J2	-13	PASS
	9400	1880.0	< -25	< -25	Plot H3/J4		PASS
	9538	1907.6	< -25	< -25	Plot J5/J6		PASS
HSPA+ 850MHz	4132	826.4	< -25	< -25	Plot K1/K2	-13	PASS
	4175	835.0	< -25	< -25	Plot K3/K4		PASS

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
	4233	846.6	< -25	< -25	Plot K5/K6	-13	PASS
HSPA+ 1900MHz	9262	1852.4	< -25	< -25	Plot L1/L2	-13	PASS
	9400	1880.0	< -25	< -25	Plot L3/L4		PASS
	9538	1907.6	< -25	< -25	Plot L5/L6		PASS

2. Test Plots for the Whole Measurement Frequency Range:

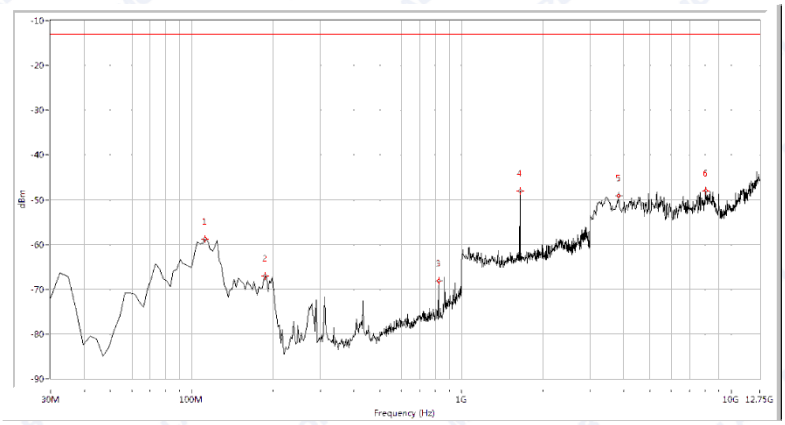
Note1: the power of the EUT transmitting frequency should be ignored.

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.



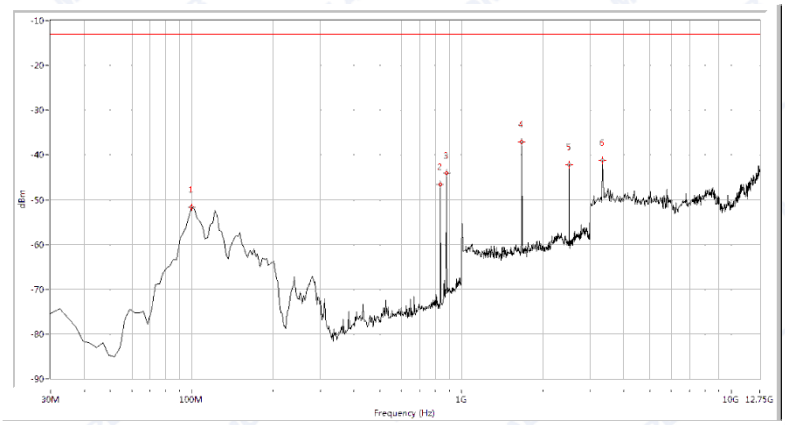
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
121.920	-52.14	-13.0	39.1	89.6	Horizontal	PASS
866.958	-45.81	-13.0	32.8	29.1	Horizontal	N.A
946.783	-48.56	-13.0	35.6	283.0	Horizontal	N.A
1648.379	-37.17	-13.0	24.2	300.7	Horizontal	PASS
3291.771	-37.58	-13.0	24.6	298.5	Horizontal	PASS
6574.190	-42.36	-13.0	29.4	320.0	Horizontal	PASS

(Plot A1: GPRS 850MHz Channel = 128, Test Antenna Horizontal)



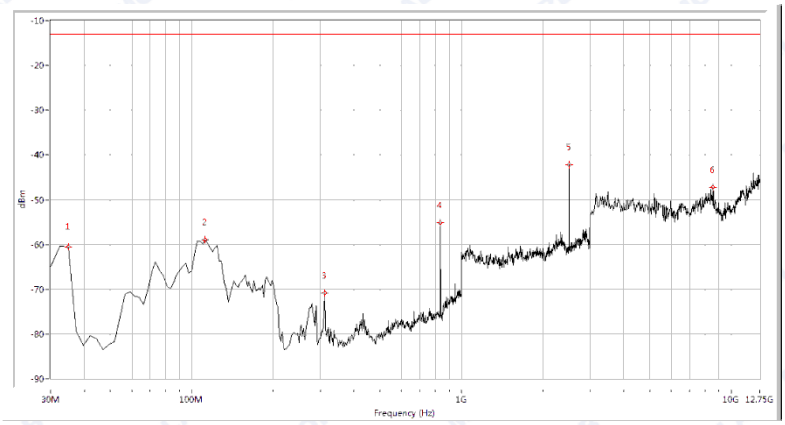
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
112.244	-58.76	-13.0	45.8	10.3	Vertical	PASS
187.232	-67.06	-13.0	54.1	356.8	Vertical	PASS
823.416	-68.11	-13.0	55.1	259.8	Vertical	N.A
1648.379	-48.01	-13.0	35.0	53.2	Vertical	PASS
3826.683	-49.15	-13.0	36.2	207.0	Vertical	PASS
8033.042	-48.04	-13.0	35.0	353.4	Vertical	PASS

(Plot A2: GPRS 850MHz Channel = 128, Test Antenna Vertical)



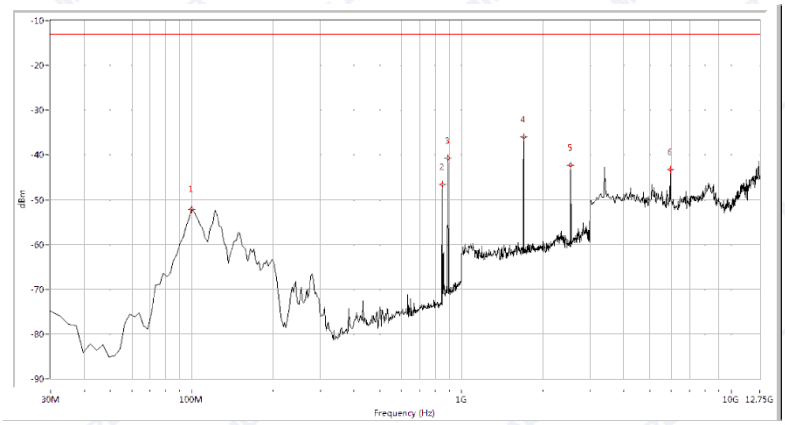
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.60	-13.0	38.6	12.6	Horizontal	PASS
835.511	-46.65	-13.0	33.6	271.6	Horizontal	N.A
879.052	-44.00	-13.0	31.0	257.5	Horizontal	N.A
1673.317	-37.15	-13.0	24.1	307.2	Horizontal	PASS
2506.234	-42.21	-13.0	29.2	359.0	Horizontal	PASS
3340.399	-41.22	-13.0	28.2	260.0	Horizontal	PASS

(Plot A3: GPRS850MHz Channel = 190, Test Antenna Horizontal)



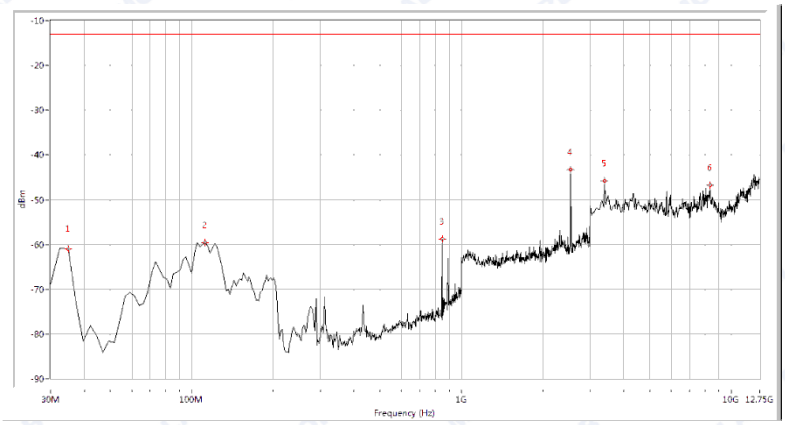
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-60.50	-13.0	47.5	359.4	Vertical	PASS
112.244	-58.92	-13.0	45.9	360.0	Vertical	PASS
310.599	-70.85	-13.0	57.9	360.0	Vertical	PASS
835.511	-55.20	-13.0	42.2	114.4	Vertical	N.A
2506.234	-42.13	-13.0	29.1	198.0	Vertical	PASS
8567.955	-47.23	-13.0	34.2	203.9	Vertical	PASS

(Plot A4: GPRS 850MHz Channel = 190, Test Antenna Vertical)



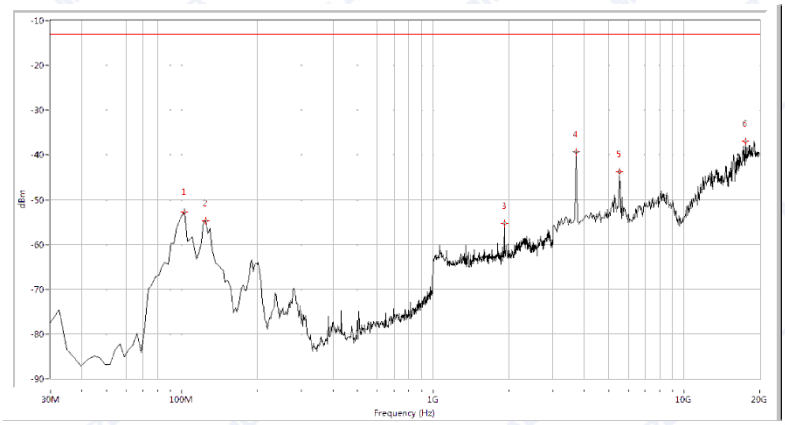
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-52.19	-13.0	39.2	359.4	Horizontal	PASS
847.606	-46.61	-13.0	33.6	284.6	Horizontal	N.A
891.147	-40.79	-13.0	27.8	322.1	Horizontal	N.A
1698.254	-36.05	-13.0	23.0	160.2	Horizontal	PASS
2541.147	-42.36	-13.0	29.4	360.0	Horizontal	PASS
5942.020	-43.25	-13.0	30.2	320.6	Horizontal	PASS

(Plot A5: GPRS 850MHz Channel = 251, Test Antenna Horizontal)



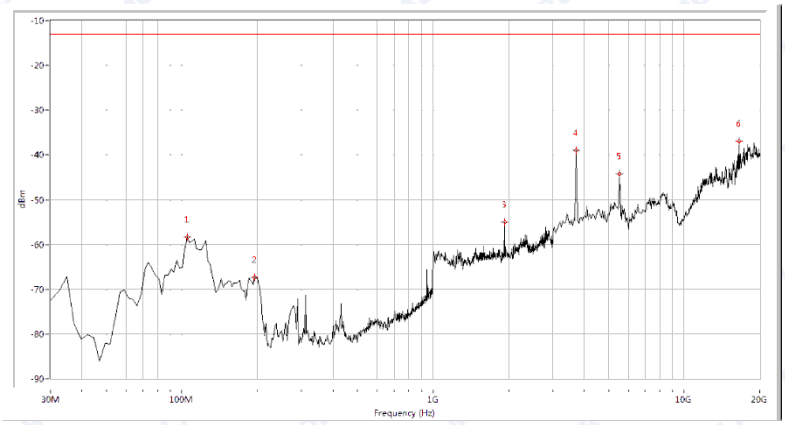
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-61.00	-13.0	48.0	340.6	Vertical	PASS
112.244	-59.59	-13.0	46.6	3.2	Vertical	PASS
847.606	-58.80	-13.0	45.8	125.2	Vertical	N.A
2541.147	-43.26	-13.0	30.3	82.3	Vertical	PASS
3389.027	-45.73	-13.0	32.7	194.3	Vertical	PASS
8349.127	-46.82	-13.0	33.8	129.5	Vertical	PASS

(Plot A6: GPRS 850MHz Channel = 251, Test Antenna Vertical)



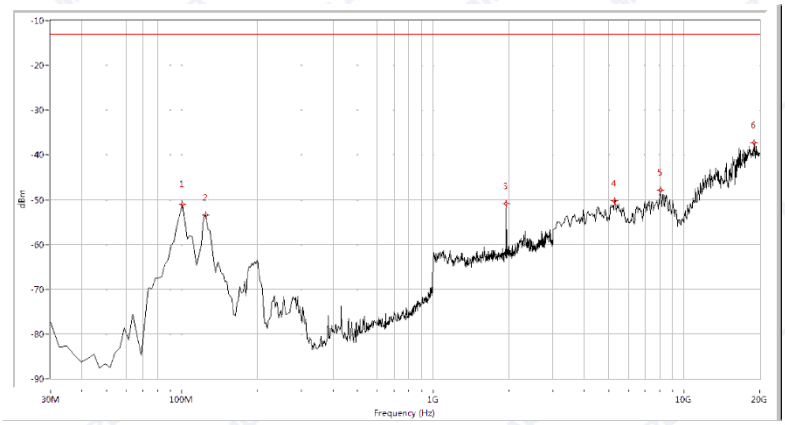
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
102.569	-52.82	-13.0	39.8	220.5	Horizontal	PASS
124.339	-54.62	-13.0	41.6	148.2	Horizontal	PASS
1927.681	-55.23	-13.0	42.2	310.9	Horizontal	N.A
3720.698	-39.30	-13.0	26.3	93.3	Horizontal	PASS
5543.641	-43.73	-13.0	30.7	360.0	Horizontal	PASS
17583.541	-36.87	-13.0	23.9	71.8	Horizontal	PASS

(Plot B1: GPRS 1900MHz Channel = 512, Test Antenna Horizontal)



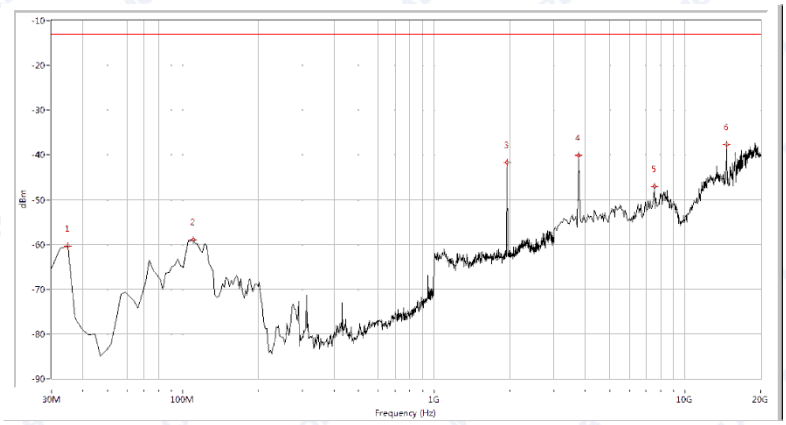
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
104.988	-58.33	-13.0	45.3	163.2	Vertical	PASS
194.489	-67.38	-13.0	54.4	0.8	Vertical	PASS
1927.681	-54.96	-13.0	42.0	134.3	Vertical	N.A
3720.698	-39.07	-13.0	26.1	92.5	Vertical	PASS
5543.641	-44.26	-13.0	31.3	-0.0	Vertical	PASS
16523.691	-36.99	-13.0	24.0	315.5	Vertical	PASS

(Plot B2: GPRS 1900MHz Channel = 512, Test Antenna Vertical)



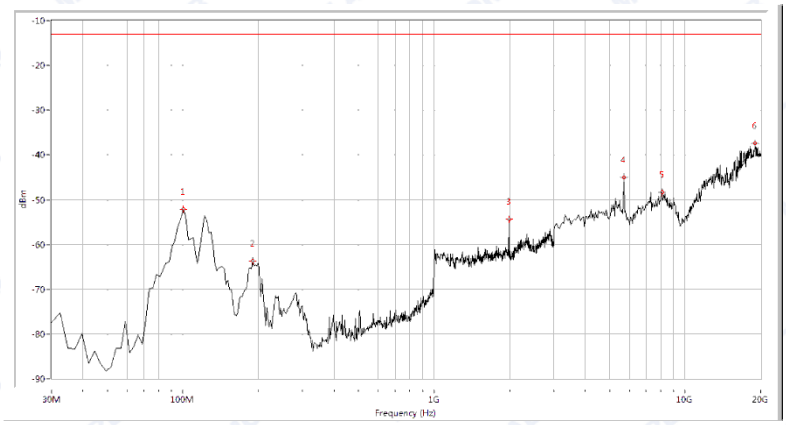
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.02	-13.0	38.0	150.4	Horizontal	PASS
124.339	-53.48	-13.0	40.5	0.1	Horizontal	PASS
1957.606	-50.81	-13.0	37.8	297.1	Horizontal	N.A
5289.277	-50.26	-13.0	37.3	359.3	Horizontal	PASS
8044.888	-47.84	-13.0	34.8	93.0	Horizontal	PASS
19024.938	-37.27	-13.0	24.3	0.5	Horizontal	PASS

(Plot B3: GPRS 1900MHz Channel = 661, Test Antenna Horizontal)



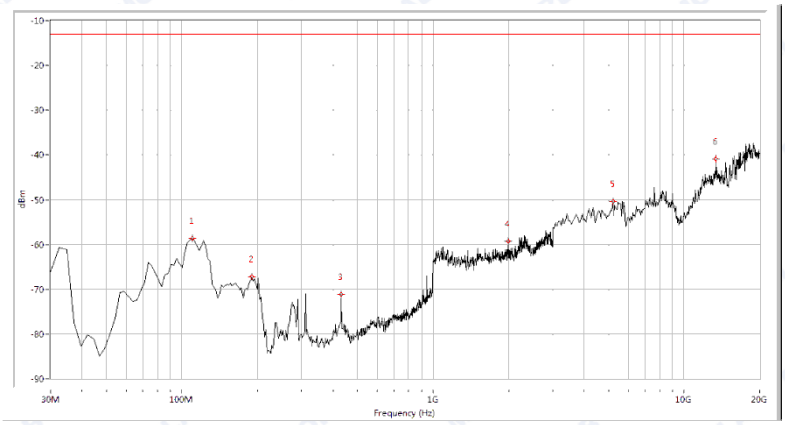
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-60.34	-13.0	47.3	-0.0	Vertical	PASS
109.825	-58.99	-13.0	46.0	-0.0	Vertical	PASS
1957.606	-41.73	-13.0	28.7	117.7	Vertical	N.A
3763.092	-40.06	-13.0	27.1	89.8	Vertical	PASS
7536.160	-47.06	-13.0	34.1	1.3	Vertical	PASS
14615.960	-37.74	-13.0	24.7	35.5	Vertical	PASS

(Plot B4: GPRS 1900MHz Channel = 661, Test Antenna Vertical)



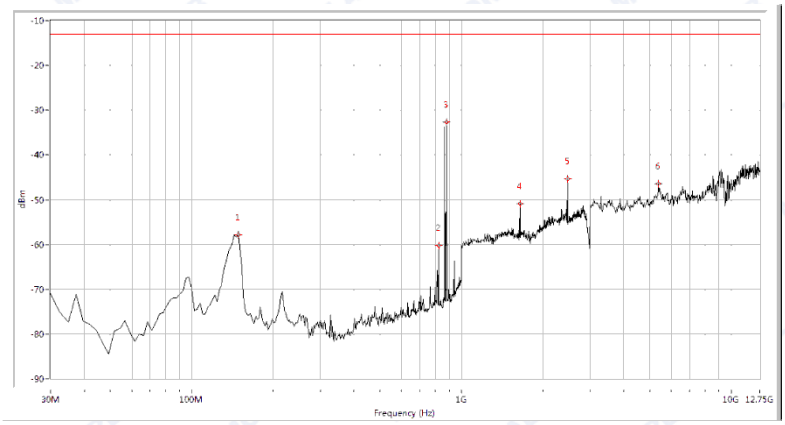
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-52.20	-13.0	39.2	27.4	Horizontal	PASS
189.651	-63.65	-13.0	50.6	268.6	Horizontal	PASS
1987.531	-54.31	-13.0	41.3	118.7	Horizontal	N.A
5713.217	-45.05	-13.0	32.1	89.3	Horizontal	PASS
8087.282	-48.31	-13.0	35.3	360.0	Horizontal	PASS
19024.938	-37.37	-13.0	24.4	121.9	Horizontal	PASS

(Plot B5: GPRS 1900MHz Channel = 810, Test Antenna Horizontal)



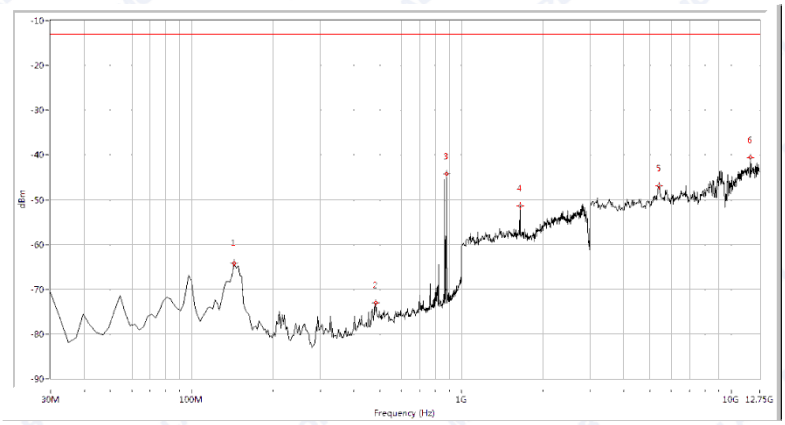
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
109.825	-58.60	-13.0	45.6	6.6	Vertical	PASS
189.651	-67.24	-13.0	54.2	59.2	Vertical	PASS
431.546	-71.18	-13.0	58.2	84.4	Vertical	PASS
1992.519	-59.34	-13.0	46.3	93.2	Vertical	N.A
5204.489	-50.35	-13.0	37.4	22.7	Vertical	PASS
13386.534	-40.95	-13.0	28.0	360.0	Vertical	PASS

(Plot B6: GPRS 1900MHz Channel = 810, Test Antenna Vertical)



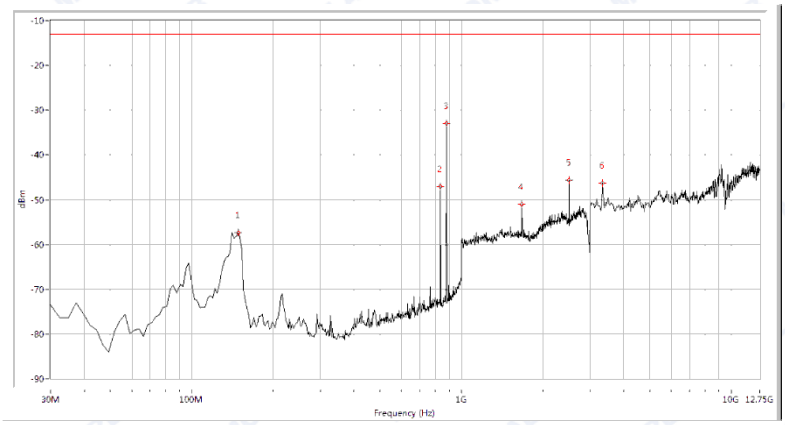
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
148.529	-57.80	-13.0	44.8	131.6	Horizontal	PASS
823.416	-60.17	-13.0	47.2	136.8	Horizontal	N.A
879.052	-32.66	-13.0	19.7	34.5	Horizontal	N.A
1648.379	-50.88	-13.0	37.9	60.7	Horizontal	PASS
2471.322	-45.29	-13.0	32.3	149.2	Horizontal	PASS
5382.793	-46.41	-13.0	33.4	288.5	Horizontal	PASS

(Plot C1: EGPRS 850MHz Channel = 128, Test Antenna Horizontal)



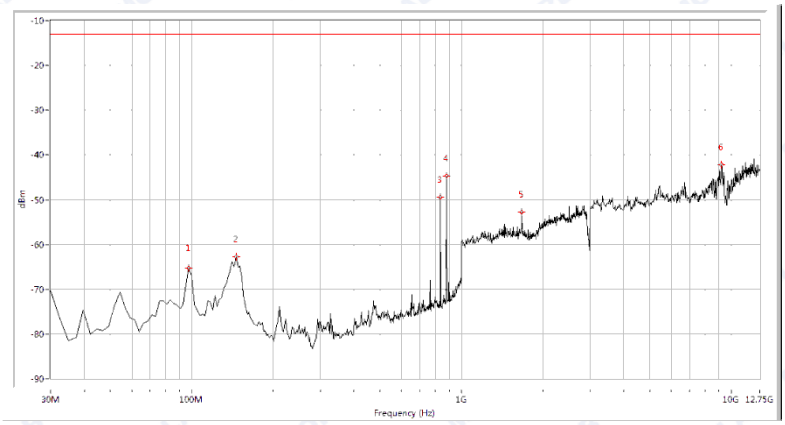
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
143.691	-64.11	-13.0	51.1	236.8	Vertical	PASS
482.344	-73.04	-13.0	60.0	317.9	Vertical	PASS
879.052	-44.16	-13.0	31.2	141.7	Vertical	N.A
1648.379	-51.40	-13.0	38.4	240.8	Vertical	PASS
5407.107	-46.85	-13.0	33.9	313.8	Vertical	PASS
11801.746	-40.55	-13.0	27.6	-0.0	Vertical	PASS

(Plot C2: EGPRS 850MHz Channel = 128, Test Antenna Vertical)



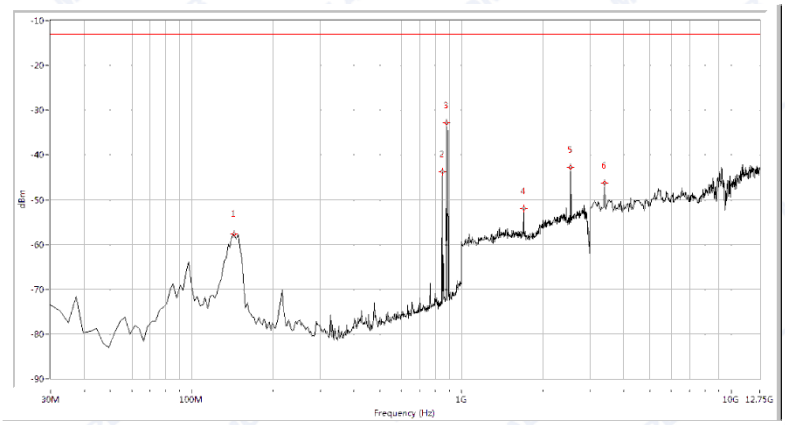
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
148.529	-57.41	-13.0	44.4	142.2	Horizontal	PASS
835.511	-47.08	-13.0	34.1	206.6	Horizontal	N.A
879.052	-33.01	-13.0	20.0	30.6	Horizontal	N.A
1673.317	-51.00	-13.0	38.0	251.7	Horizontal	PASS
2506.234	-45.59	-13.0	32.6	163.1	Horizontal	PASS
3340.399	-46.27	-13.0	33.3	160.4	Horizontal	PASS

(Plot C3: EGPRS 850MHz Channel = 190, Test Antenna Horizontal)



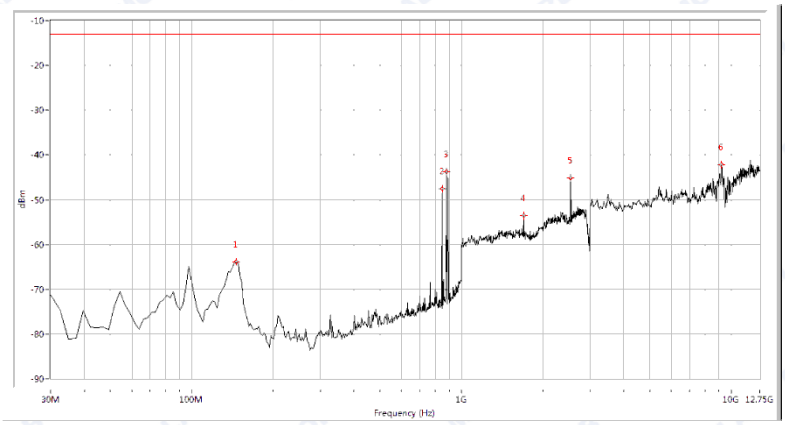
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
97.731	-65.21	-13.0	52.2	199.7	Vertical	PASS
146.110	-62.74	-13.0	49.7	182.4	Vertical	PASS
835.511	-49.42	-13.0	36.4	212.6	Vertical	N.A
879.052	-44.62	-13.0	31.6	165.4	Vertical	N.A
1673.317	-52.73	-13.0	39.7	219.1	Vertical	PASS
9224.439	-42.23	-13.0	29.2	39.7	Vertical	PASS

(Plot C4: EGPRS 850MHz Channel = 190, Test Antenna Vertical)



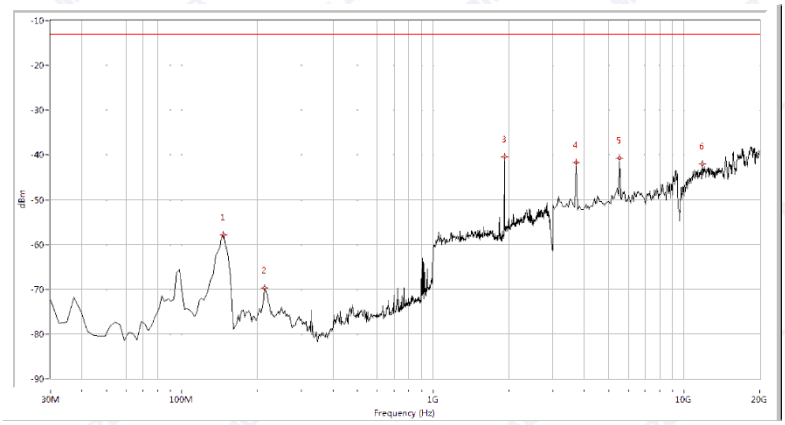
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
143.691	-57.75	-13.0	44.8	149.0	Horizontal	PASS
847.606	-43.77	-13.0	30.8	195.5	Horizontal	N.A
879.052	-32.78	-13.0	19.8	35.9	Horizontal	N.A
1698.254	-51.92	-13.0	38.9	50.3	Horizontal	PASS
2541.147	-42.82	-13.0	29.8	124.7	Horizontal	PASS
3389.027	-46.30	-13.0	33.3	22.2	Horizontal	PASS

(Plot C5: EGPRS 850MHz Channel = 251, Test Antenna Horizontal)



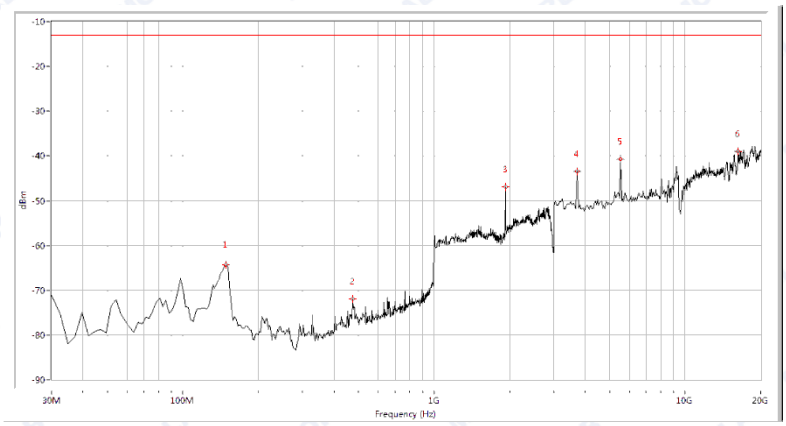
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
146.110	-63.82	-13.0	50.8	186.0	Vertical	PASS
847.606	-47.48	-13.0	34.5	202.4	Vertical	N.A
879.052	-43.76	-13.0	30.8	144.4	Vertical	N.A
1698.254	-53.64	-13.0	40.6	34.5	Vertical	PASS
2541.147	-45.23	-13.0	32.2	271.4	Vertical	PASS
9224.439	-42.17	-13.0	29.2	49.5	Vertical	PASS

(Plot C6: EGPRS 850MHz Channel = 251, Test Antenna Vertical)



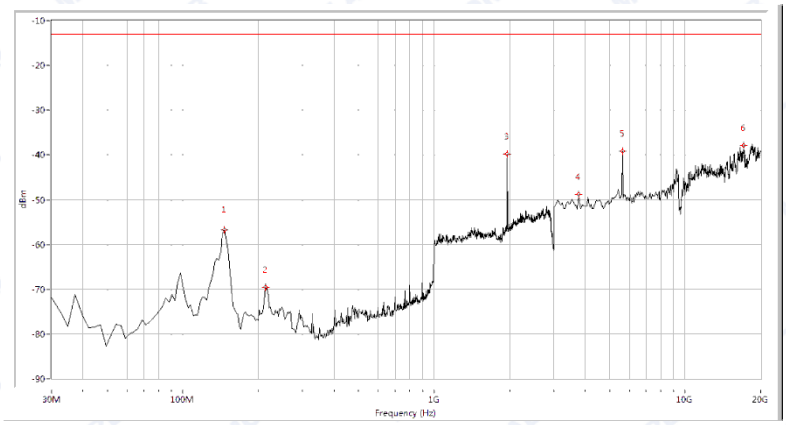
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
146.110	-57.78	-13.0	44.8	126.2	Horizontal	PASS
213.840	-69.73	-13.0	56.7	3.2	Horizontal	PASS
1927.681	-40.35	-13.0	27.4	153.5	Horizontal	N.A
3720.698	-41.65	-13.0	28.7	24.2	Horizontal	PASS
5543.641	-40.71	-13.0	27.7	283.3	Horizontal	PASS
11817.955	-41.95	-13.0	29.0	100.1	Horizontal	PASS

(Plot D1: EGPRS 1900MHz Channel = 512, Test Antenna Horizontal)



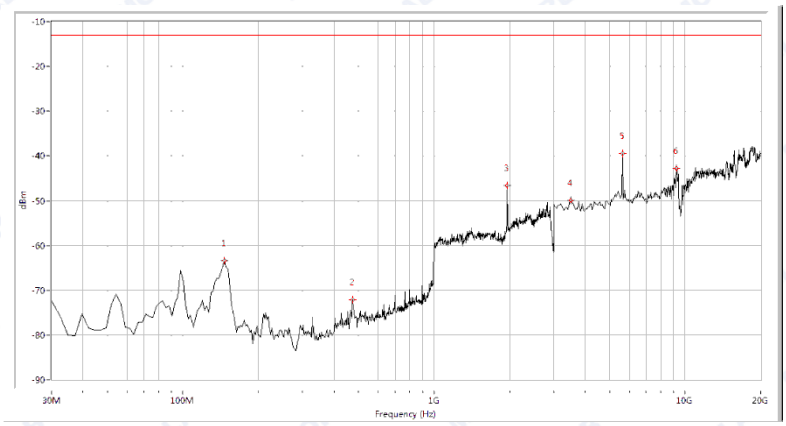
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
148.529	-64.36	-13.0	51.4	198.5	Vertical	PASS
475.087	-71.90	-13.0	58.9	344.7	Vertical	PASS
1927.681	-46.83	-13.0	33.8	219.5	Vertical	N.A
3720.698	-43.43	-13.0	30.4	136.8	Vertical	PASS
5543.641	-40.73	-13.0	27.7	349.1	Vertical	PASS
16269.327	-38.98	-13.0	26.0	95.5	Vertical	PASS

(Plot D2: EGPRS 1900MHz Channel = 512, Test Antenna Vertical)



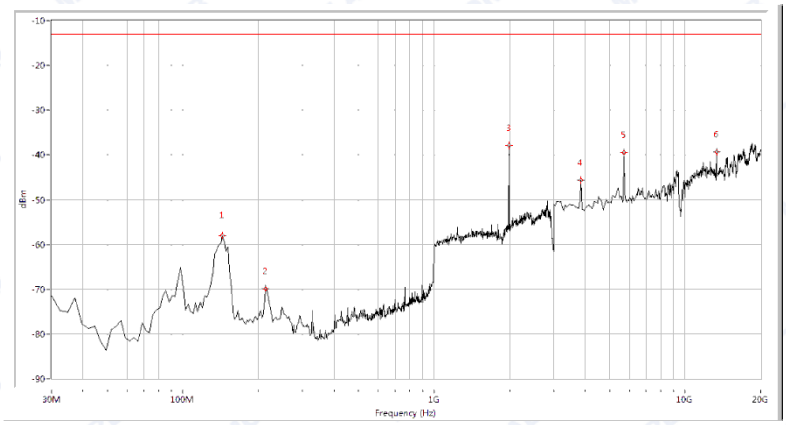
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
146.110	-56.80	-13.0	43.8	133.4	Horizontal	PASS
213.840	-69.59	-13.0	56.6	-0.0	Horizontal	PASS
1957.606	-39.86	-13.0	26.9	193.2	Horizontal	N.A
3763.092	-48.88	-13.0	35.9	127.5	Horizontal	PASS
5628.429	-39.07	-13.0	26.1	299.3	Horizontal	PASS
17159.601	-37.84	-13.0	24.8	255.8	Horizontal	PASS

(Plot D3: EGPRS 1900MHz Channel = 661, Test Antenna Horizontal)



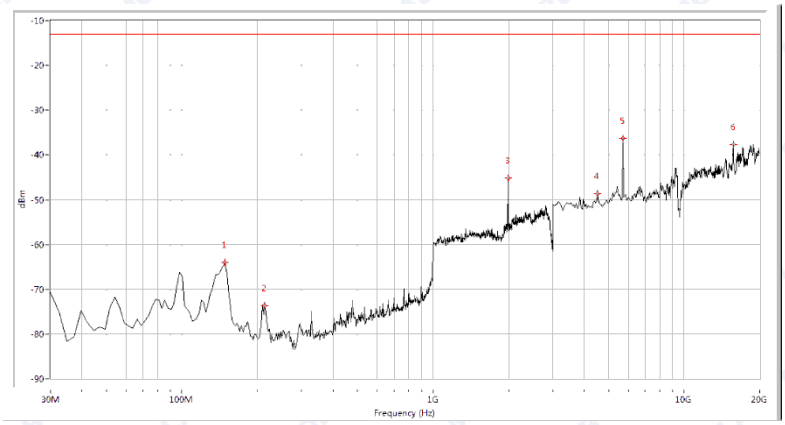
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
146.110	-63.38	-13.0	50.4	152.9	Vertical	PASS
475.087	-72.12	-13.0	59.1	325.5	Vertical	PASS
1957.606	-46.62	-13.0	33.6	209.7	Vertical	N.A
3508.728	-49.91	-13.0	36.9	-0.0	Vertical	PASS
5628.429	-39.52	-13.0	26.5	17.2	Vertical	PASS
9231.920	-42.87	-13.0	29.9	360.0	Vertical	PASS

(Plot D4: EGPRS 1900MHz Channel = 661, Test Antenna Vertical)



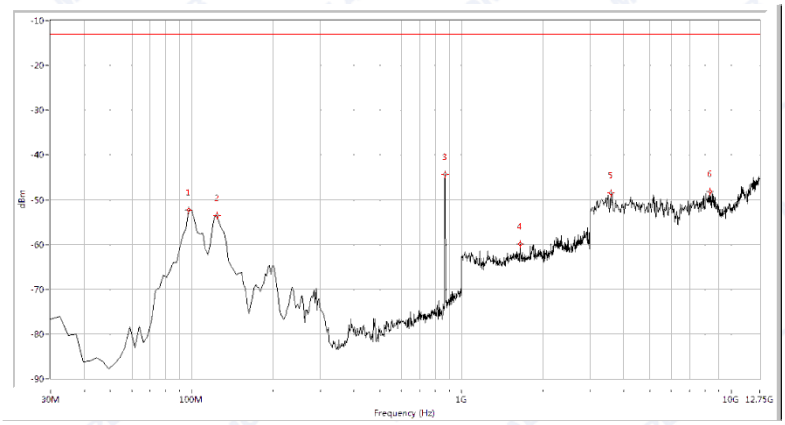
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
143.691	-58.08	-13.0	45.1	128.4	Horizontal	PASS
213.840	-69.91	-13.0	56.9	360.0	Horizontal	PASS
1987.531	-37.95	-13.0	25.0	155.7	Horizontal	N.A
3847.880	-45.70	-13.0	32.7	206.5	Horizontal	PASS
5713.217	-39.48	-13.0	26.5	124.4	Horizontal	PASS
13344.140	-39.34	-13.0	26.3	250.0	Horizontal	PASS

(Plot D5: EGPRS 1900MHz Channel = 810, Test Antenna Horizontal)



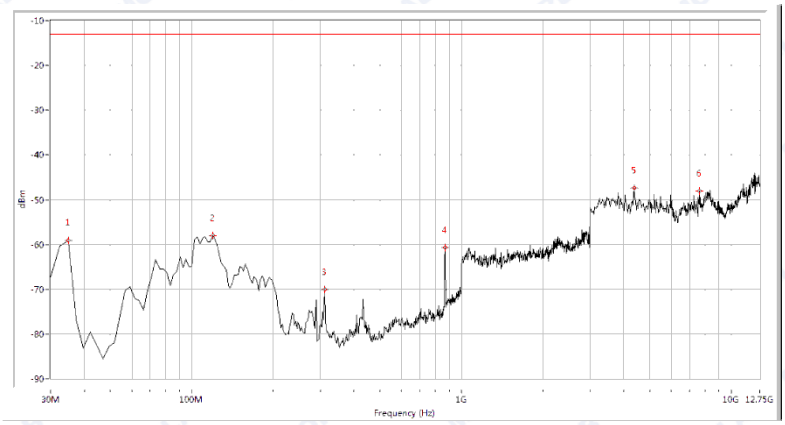
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
148.529	-64.08	-13.0	51.1	182.1	Vertical	PASS
213.840	-73.73	-13.0	60.7	307.8	Vertical	PASS
1987.531	-45.15	-13.0	32.1	335.5	Vertical	N.A
4526.185	-48.61	-13.0	35.6	152.0	Vertical	PASS
5713.217	-36.31	-13.0	23.3	349.9	Vertical	PASS
15718.204	-37.68	-13.0	24.7	342.1	Vertical	PASS

(Plot D6: EGPRS 1900MHz Channel = 810, Test Antenna Vertical)



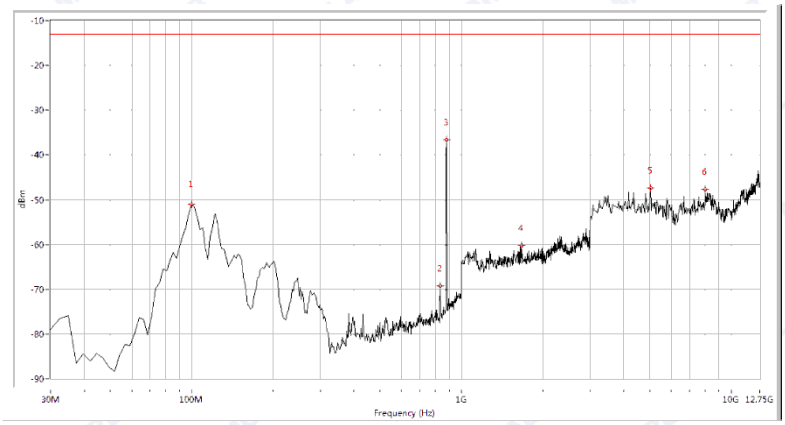
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
97.731	-52.33	-13.0	39.3	347.6	Horizontal	PASS
124.339	-53.54	-13.0	40.5	161.1	Horizontal	PASS
871.796	-44.39	-13.0	31.4	102.5	Horizontal	N.A
1648.379	-59.87	-13.0	46.9	301.4	Horizontal	PASS
3583.541	-48.44	-13.0	35.4	124.7	Horizontal	PASS
8349.127	-48.14	-13.0	35.1	0.0	Horizontal	PASS

(Plot E1: WCDMA 850MHz Channel = 4132, Test Antenna Horizontal)



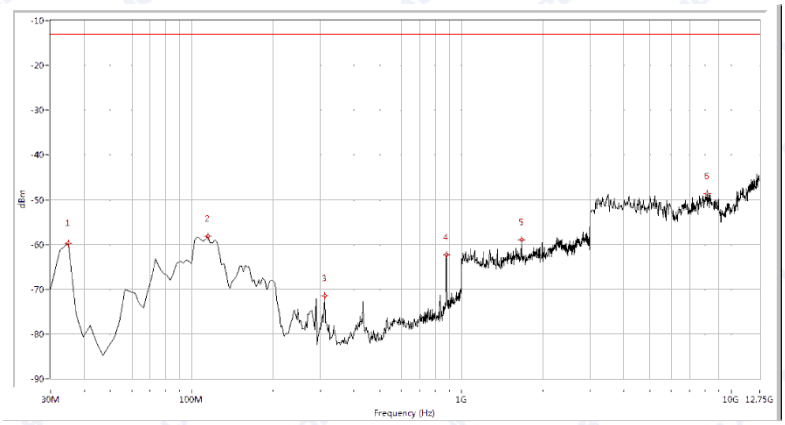
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-59.07	-13.0	46.1	193.6	Vertical	PASS
119.501	-58.00	-13.0	45.0	123.0	Vertical	PASS
310.599	-70.09	-13.0	57.1	305.5	Vertical	PASS
869.377	-60.72	-13.0	47.7	343.7	Vertical	N.A
4361.596	-47.41	-13.0	34.4	115.6	Vertical	PASS
7644.015	-47.98	-13.0	35.0	105.7	Vertical	PASS

(Plot E2: WCDMA 850MHz Channel = 4132, Test Antenna Vertical)



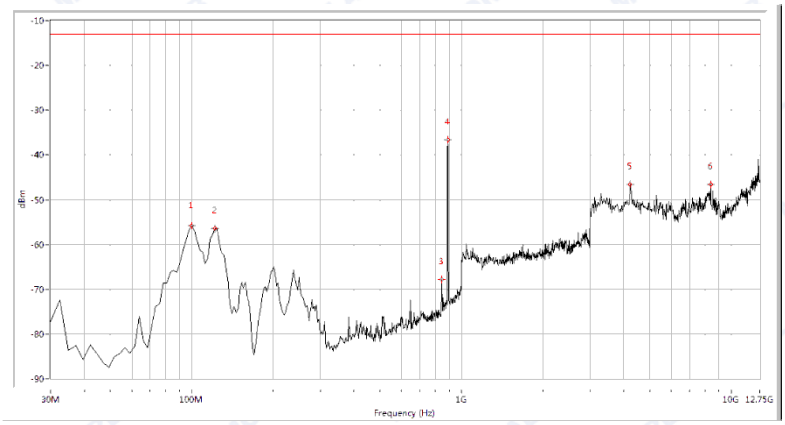
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.01	-13.0	38.0	121.0	Horizontal	PASS
833.092	-69.30	-13.0	56.3	152.6	Horizontal	PASS
879.052	-36.55	-13.0	23.6	189.1	Horizontal	PASS
1668.329	-60.22	-13.0	47.2	45.7	Horizontal	PASS
5018.080	-47.39	-13.0	34.4	350.5	Horizontal	PASS
8008.728	-47.72	-13.0	34.7	223.3	Horizontal	PASS

(Plot E3: WCDMA 850MHz Channel = 4175, Test Antenna Horizontal)



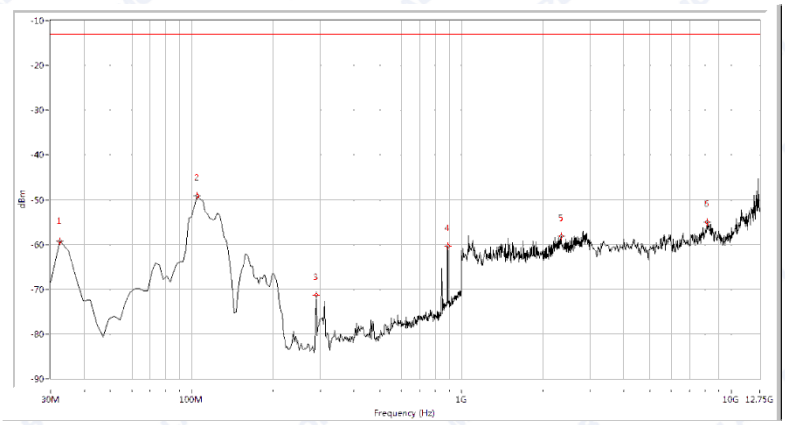
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-59.81	-13.0	46.8	212.3	Vertical	PASS
114.663	-58.20	-13.0	45.2	0.1	Vertical	PASS
310.599	-71.50	-13.0	58.5	320.2	Vertical	PASS
879.052	-62.28	-13.0	49.3	111.6	Vertical	PASS
1668.329	-58.90	-13.0	45.9	214.5	Vertical	PASS
8130.299	-48.70	-13.0	35.7	-0.0	Vertical	PASS

(Plot E4: WCDMA 850MHz Channel = 4175, Test Antenna Vertical)



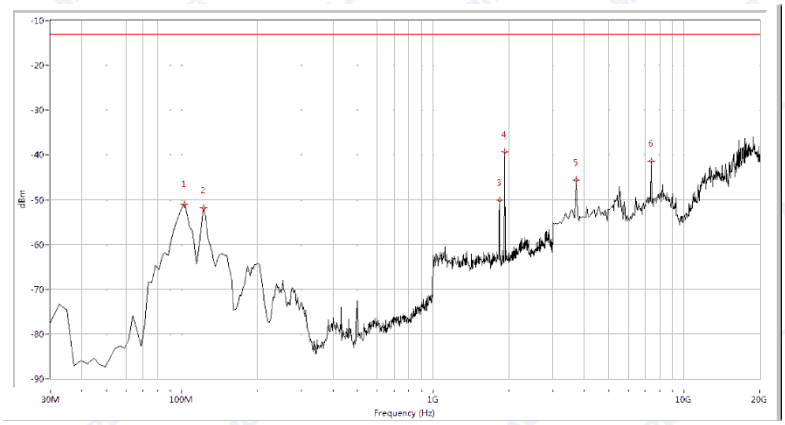
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-55.82	-13.0	42.8	155.2	Horizontal	PASS
121.920	-56.35	-13.0	43.4	138.5	Horizontal	PASS
845.187	-67.85	-13.0	54.9	331.5	Horizontal	PASS
891.147	-36.59	-13.0	23.6	9.3	Horizontal	N.A
4215.711	-46.59	-13.0	33.6	248.5	Horizontal	PASS
8397.756	-46.57	-13.0	33.6	1.4	Horizontal	PASS

(Plot E5: WCDMA 850MHz Channel = 4233, Test Antenna Horizontal)



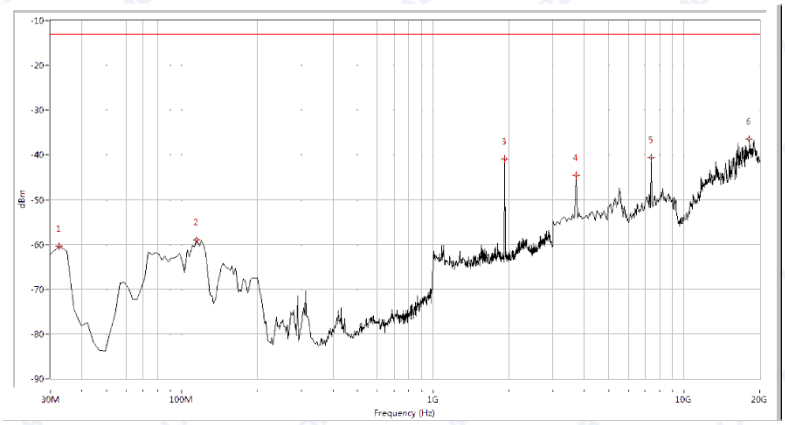
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
32.419	-59.24	-13.0	46.2	182.0	Vertical	PASS
104.988	-49.08	-13.0	36.1	94.3	Vertical	PASS
288.828	-71.29	-13.0	58.3	266.6	Vertical	PASS
891.147	-60.40	-13.0	47.4	56.6	Vertical	N.A
2341.646	-58.16	-13.0	45.2	7.0	Vertical	PASS
8130.299	-55.03	-13.0	42.0	235.7	Vertical	PASS

(Plot E6: WCDMA 850MHz Channel = 4233, Test Antenna Vertical)



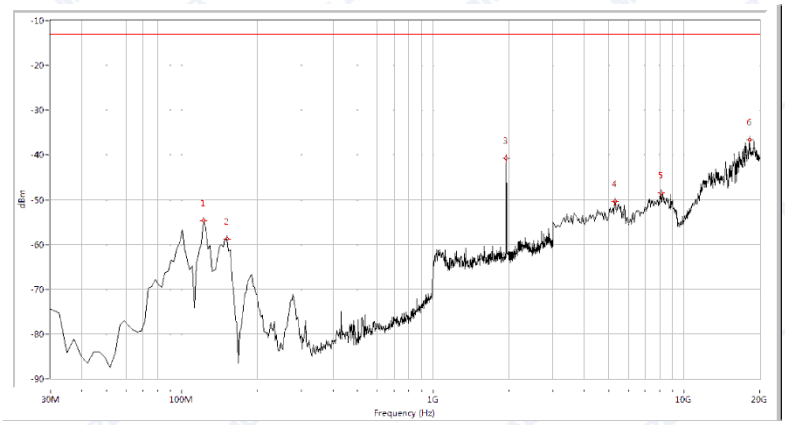
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
102.569	-51.08	-13.0	38.1	128.1	Horizontal	PASS
121.920	-51.82	-13.0	38.8	323.0	Horizontal	PASS
1837.905	-50.09	-13.0	37.1	186.8	Horizontal	N.A
1932.668	-39.24	-13.0	26.2	68.9	Horizontal	N.A
3720.698	-45.58	-13.0	32.6	163.4	Horizontal	PASS
7408.978	-41.30	-13.0	28.3	292.2	Horizontal	PASS

(Plot F1: WCDMA 1900MHz Channel = 9262, Test Antenna Horizontal)



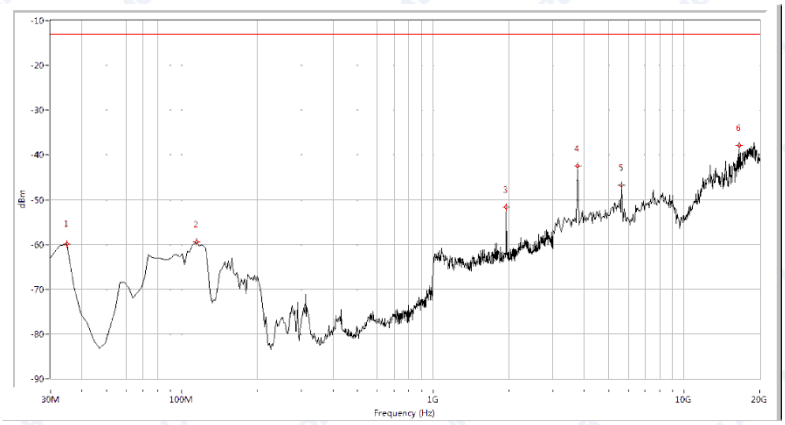
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
32.419	-60.40	-13.0	47.4	52.1	Vertical	PASS
114.663	-58.99	-13.0	46.0	268.7	Vertical	PASS
1932.668	-40.97	-13.0	28.0	130.0	Vertical	N.A
3720.698	-44.46	-13.0	31.5	0.3	Vertical	PASS
7408.978	-40.61	-13.0	27.6	0.8	Vertical	PASS
18134.663	-36.40	-13.0	23.4	205.4	Vertical	PASS

(Plot F2: WCDMA 1900MHz Channel = 9262, Test Antenna Vertical)



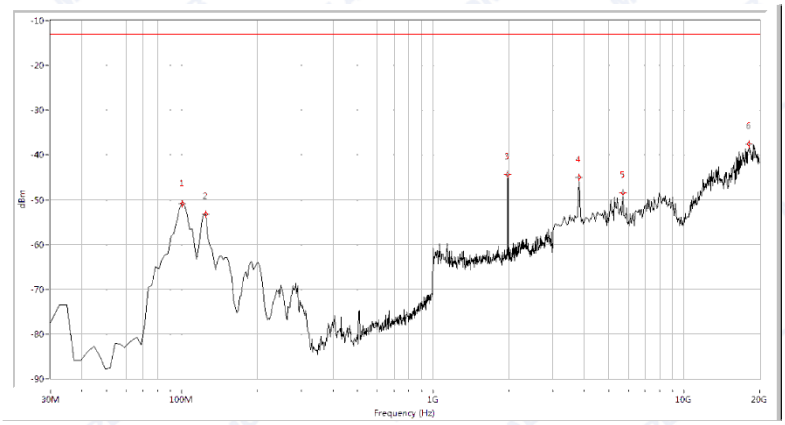
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
121.920	-54.60	-13.0	41.6	102.0	Horizontal	PASS
150.948	-58.77	-13.0	45.8	107.5	Horizontal	PASS
1957.606	-40.76	-13.0	27.8	171.2	Horizontal	N.A
5331.671	-50.35	-13.0	37.4	163.8	Horizontal	PASS
8129.676	-48.45	-13.0	35.4	334.6	Horizontal	PASS
18219.451	-36.60	-13.0	23.6	284.0	Horizontal	PASS

(Plot F3: WCDMA 1900MHz Channel = 9400, Test Antenna Horizontal)



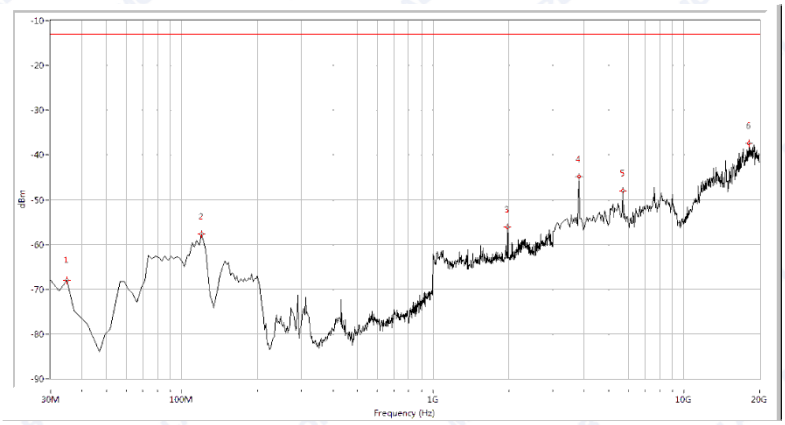
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-59.96	-13.0	47.0	124.3	Vertical	PASS
114.663	-59.46	-13.0	46.5	124.3	Vertical	PASS
1957.606	-51.74	-13.0	38.7	191.3	Vertical	N.A
3763.092	-42.49	-13.0	29.5	161.2	Vertical	PASS
5628.429	-46.79	-13.0	33.8	342.1	Vertical	PASS
16523.691	-37.90	-13.0	24.9	300.8	Vertical	PASS

(Plot F4: WCDMA 1900MHz Channel = 9400, Test Antenna Vertical)



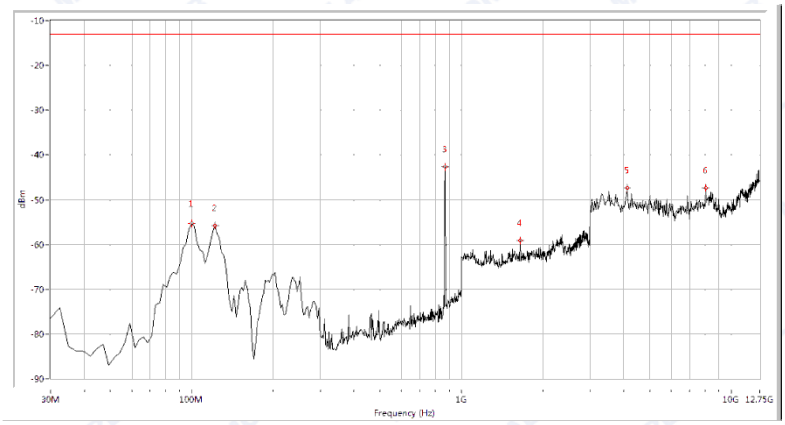
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-50.92	-13.0	37.9	306.7	Horizontal	PASS
124.339	-53.28	-13.0	40.3	349.1	Horizontal	PASS
1982.544	-44.40	-13.0	31.4	223.7	Horizontal	N.A
3805.486	-45.04	-13.0	32.0	341.3	Horizontal	PASS
5713.217	-48.44	-13.0	35.4	306.0	Horizontal	PASS
18177.057	-37.60	-13.0	24.6	108.3	Horizontal	PASS

(Plot F5: WCDMA 1900MHz Channel = 9538, Test Antenna Horizontal)



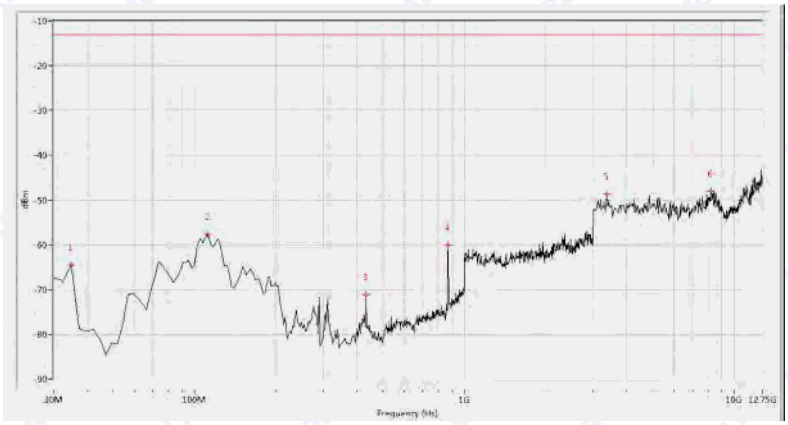
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-67.91	-13.0	54.9	58.0	Vertical	PASS
119.501	-57.72	-13.0	44.7	53.2	Vertical	PASS
1982.544	-56.05	-13.0	43.0	215.5	Vertical	N.A
3805.486	-44.89	-13.0	31.9	22.8	Vertical	PASS
5713.217	-48.03	-13.0	35.0	-0.0	Vertical	PASS
18177.057	-37.47	-13.0	24.5	196.9	Vertical	PASS

(Plot F6: WCDMA 1900MHz Channel = 9538, Test Antenna Vertical)



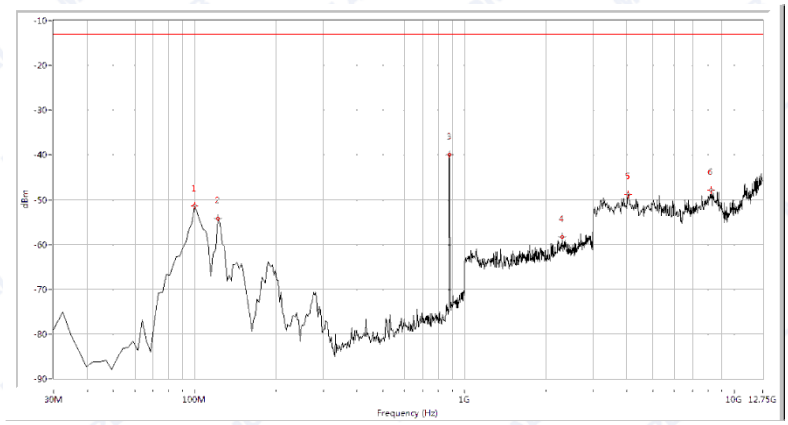
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-55.25	-13.0	42.3	41.5	Horizontal	PASS
121.920	-55.75	-13.0	42.7	159.1	Horizontal	PASS
871.796	-42.59	-13.0	29.6	217.8	Horizontal	N.A
1653.367	-59.13	-13.0	46.1	38.6	Horizontal	PASS
4118.454	-47.44	-13.0	34.4	40.7	Horizontal	PASS
8057.357	-47.35	-13.0	34.3	302.5	Horizontal	PASS

(Plot G1: HSDPA 850MHz Channel = 4132, Test Antenna Horizontal)



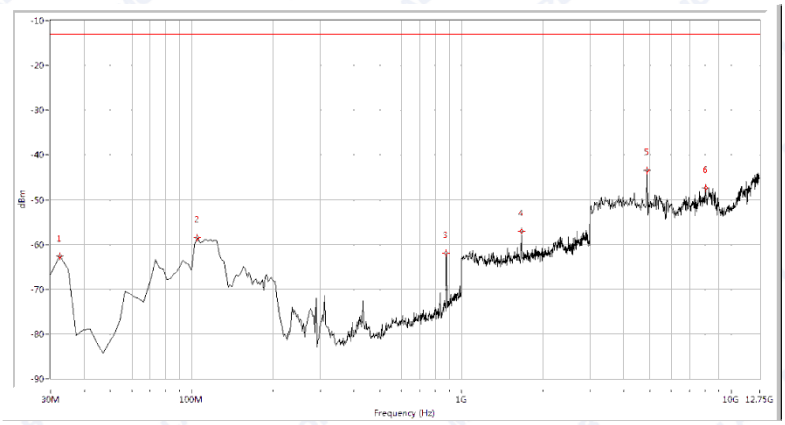
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-64.48	-13.0	51.5	128.7	Vertical	PASS
112.244	-57.71	-13.0	44.7	328.3	Vertical	PASS
431.546	-71.18	-13.0	58.2	2.6	Vertical	PASS
869.377	-60.11	-13.0	47.1	50.4	Vertical	N.A
3364.713	-48.73	-13.0	35.7	28.6	Vertical	PASS
8178.928	-47.97	-13.0	35.0	184.7	Vertical	PASS

(Plot G2: HSDPA 850MHz Channel = 4132, Test Antenna Vertical)



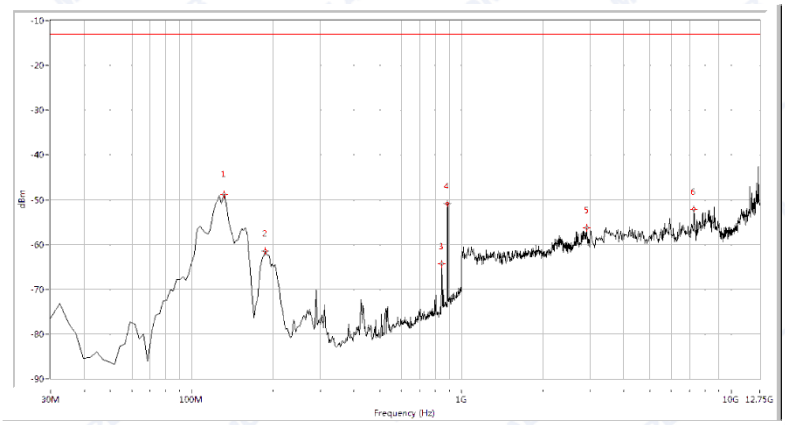
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.41	-13.0	38.4	353.1	Horizontal	PASS
121.920	-54.17	-13.0	41.2	117.3	Horizontal	PASS
879.052	-39.87	-13.0	26.9	247.9	Horizontal	N.A
2296.758	-58.29	-13.0	45.3	8.2	Horizontal	PASS
4045.511	-48.73	-13.0	35.7	132.5	Horizontal	PASS
8178.928	-47.78	-13.0	34.8	360.0	Horizontal	PASS

(Plot G3: HSDPA 850MHz Channel = 4175, Test Antenna Horizontal)



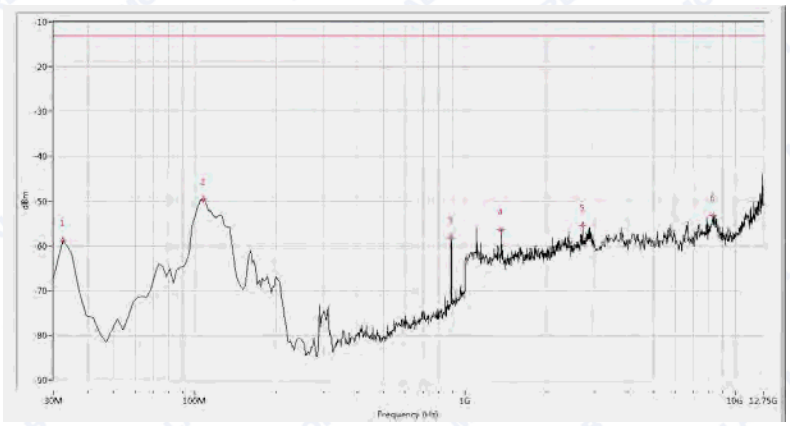
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
32.419	-62.56	-13.0	49.6	241.0	Vertical	PASS
104.988	-58.53	-13.0	45.5	317.0	Vertical	PASS
876.633	-61.90	-13.0	48.9	44.5	Vertical	N.A
1668.329	-57.11	-13.0	44.1	329.0	Vertical	PASS
4872.195	-43.37	-13.0	30.4	128.4	Vertical	PASS
8033.042	-47.37	-13.0	34.4	275.3	Vertical	PASS

(Plot G4: HSDPA 850MHz Channel = 4175, Test Antenna Vertical)



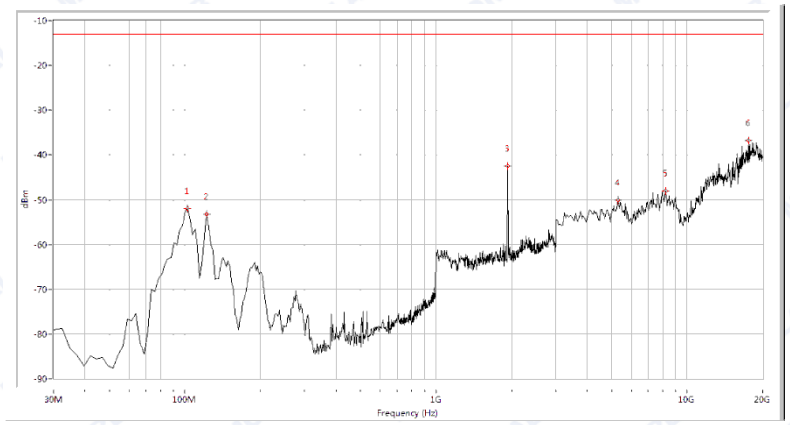
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
131.596	-48.80	-13.0	35.8	-0.0	Horizontal	PASS
187.232	-61.53	-13.0	48.5	291.9	Horizontal	PASS
845.187	-64.37	-13.0	51.4	258.9	Horizontal	N.A
888.728	-50.90	-13.0	37.9	305.2	Horizontal	N.A
2915.212	-56.28	-13.0	43.3	313.2	Horizontal	PASS
7279.302	-52.12	-13.0	39.1	266.9	Horizontal	PASS

(Plot G5: HSDPA 850MHz Channel = 4233, Test Antenna Horizontal)



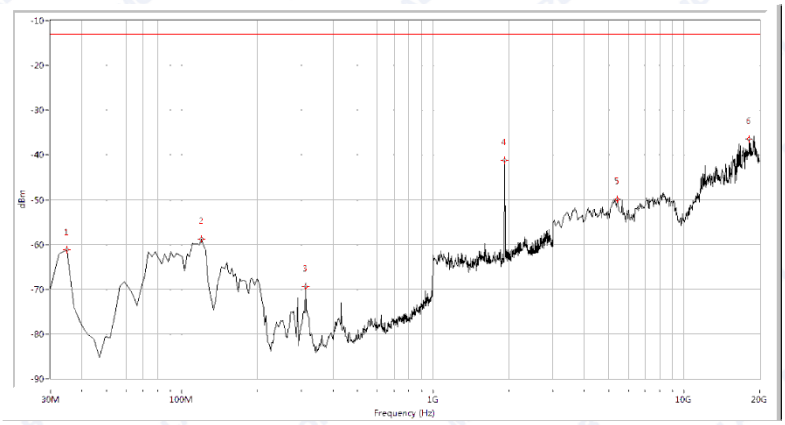
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
32.419	-58.83	-13.0	45.8	48.8	Vertical	PASS
107.406	-49.59	-13.0	36.6	151.6	Vertical	PASS
888.728	-58.18	-13.0	45.2	256.5	Vertical	N.A
1364.090	-56.44	-13.0	43.4	324.6	Vertical	PASS
2725.686	-55.54	-13.0	42.5	320.2	Vertical	PASS
8324.813	-53.32	-13.0	40.3	13.5	Vertical	PASS

(Plot G6: HSDPA 850MHz Channel = 4233, Test Antenna Vertical)



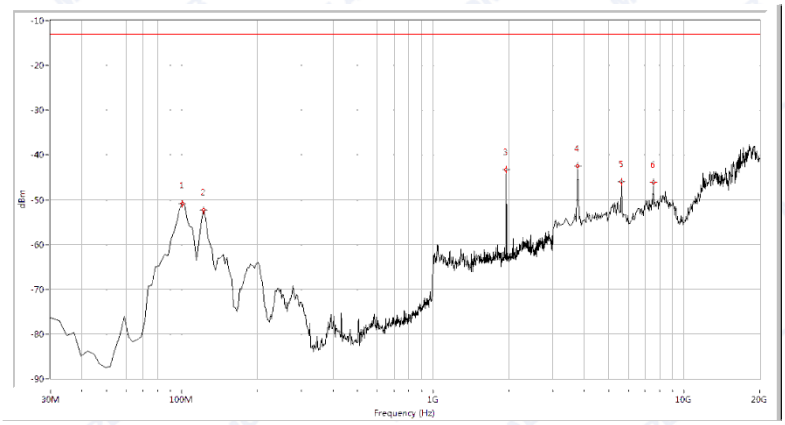
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
102.569	-51.94	-13.0	38.9	78.3	Horizontal	PASS
121.920	-53.18	-13.0	40.2	225.4	Horizontal	PASS
1932.668	-42.48	-13.0	29.5	159.4	Horizontal	N.A
5331.671	-50.07	-13.0	37.1	326.7	Horizontal	PASS
8214.464	-48.09	-13.0	35.1	37.8	Horizontal	PASS
17583.541	-36.82	-13.0	23.8	115.8	Horizontal	PASS

(Plot H1: HSDPA 1900MHz Channel = 9262, Test Antenna Horizontal)



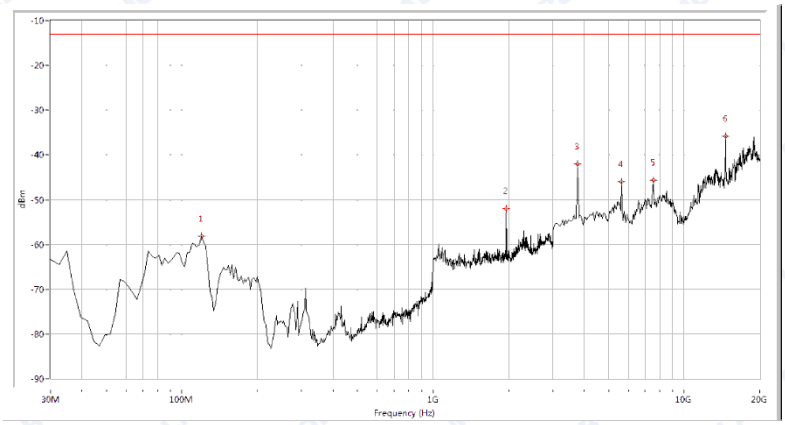
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-61.20	-13.0	48.2	10.1	Vertical	PASS
119.501	-58.87	-13.0	45.9	47.0	Vertical	PASS
310.599	-69.38	-13.0	56.4	6.7	Vertical	PASS
1932.668	-41.19	-13.0	28.2	6.7	Vertical	N.A
5416.459	-49.95	-13.0	36.9	51.8	Vertical	PASS
18177.057	-36.43	-13.0	23.4	187.6	Vertical	PASS

(Plot H2: HSDPA 1900MHz Channel = 9262, Test Antenna Vertical)



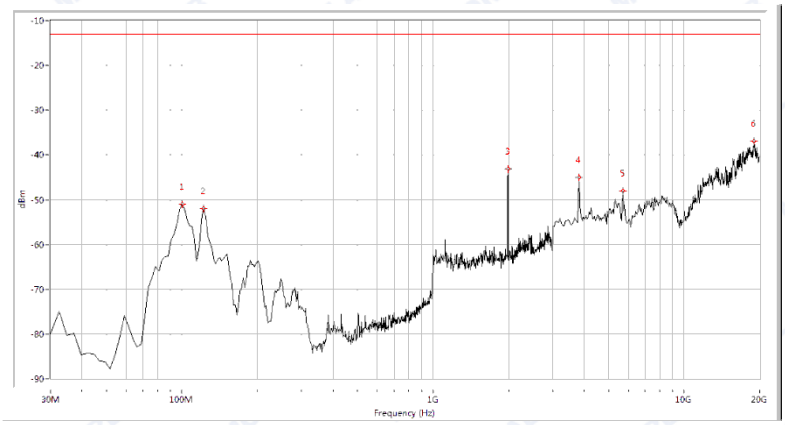
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-50.83	-13.0	37.8	293.7	Horizontal	PASS
121.920	-52.34	-13.0	39.3	9.1	Horizontal	PASS
1957.606	-43.29	-13.0	30.3	147.0	Horizontal	N.A
3763.092	-42.50	-13.0	29.5	167.6	Horizontal	PASS
5628.429	-46.01	-13.0	33.0	293.3	Horizontal	PASS
7536.160	-46.11	-13.0	33.1	167.6	Horizontal	PASS

(Plot H3: HSDPA 1900MHz Channel = 9400, Test Antenna Horizontal)



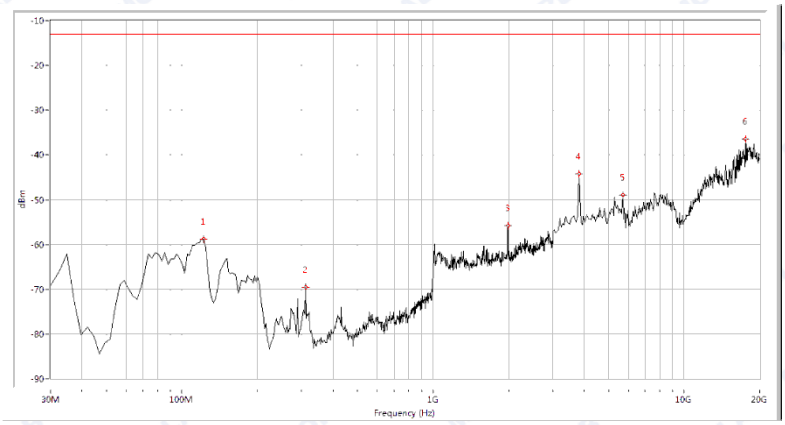
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
119.501	-58.10	-13.0	45.1	293.7	Vertical	PASS
1957.606	-51.97	-13.0	39.0	9.1	Vertical	N.A
3763.092	-42.05	-13.0	29.0	147.0	Vertical	PASS
5628.429	-46.02	-13.0	33.0	167.6	Vertical	PASS
7536.160	-45.72	-13.0	32.7	293.3	Vertical	PASS
14615.960	-35.83	-13.0	22.8	167.6	Vertical	PASS

(Plot H4: HSDPA 1900MHz Channel = 9400, Test Antenna Vertical)



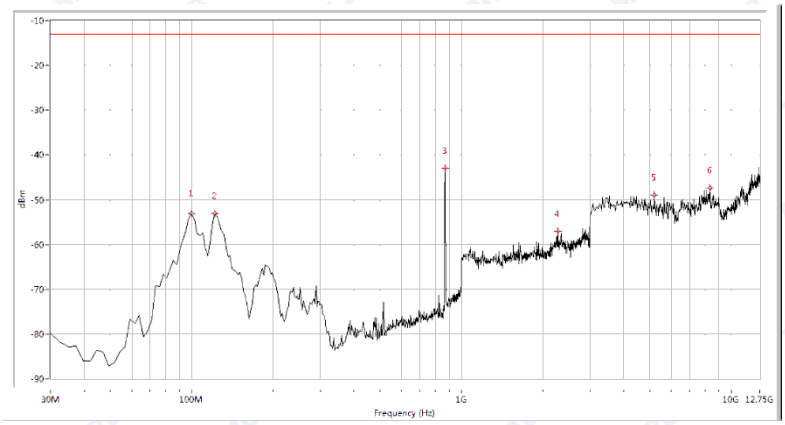
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-50.99	-13.0	38.0	293.7	Horizontal	PASS
121.920	-51.98	-13.0	39.0	9.1	Horizontal	PASS
1987.531	-43.13	-13.0	30.1	147.0	Horizontal	N.A
3805.486	-45.06	-13.0	32.1	167.6	Horizontal	PASS
5713.217	-47.97	-13.0	35.0	293.3	Horizontal	PASS
19024.938	-36.92	-13.0	23.9	167.6	Horizontal	PASS

(Plot H5: HSDPA 1900MHz Channel = 9538, Test Antenna Horizontal)



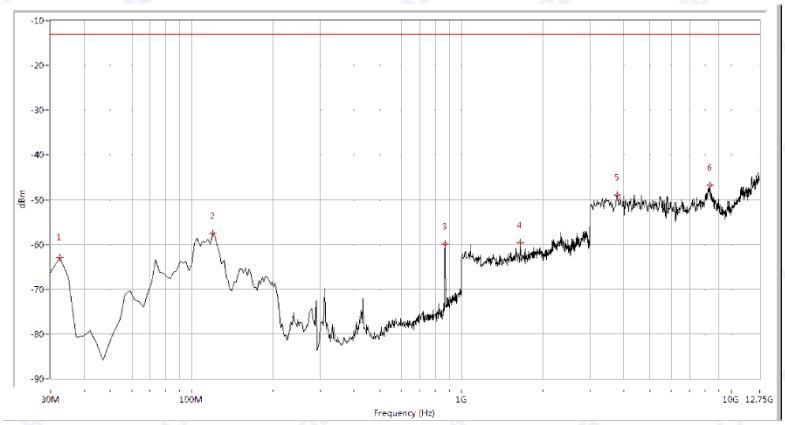
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
121.920	-58.81	-13.0	45.8	62.3	Vertical	PASS
310.599	-69.56	-13.0	56.6	72.7	Vertical	PASS
1987.531	-55.84	-13.0	42.8	217.4	Vertical	N.A
3805.486	-44.29	-13.0	31.3	266.9	Vertical	PASS
5713.217	-49.01	-13.0	36.0	171.2	Vertical	PASS
17583.541	-36.48	-13.0	23.5	196.9	Vertical	PASS

(Plot H6: HSDPA 1900MHz Channel = 9538, Test Antenna Vertical)



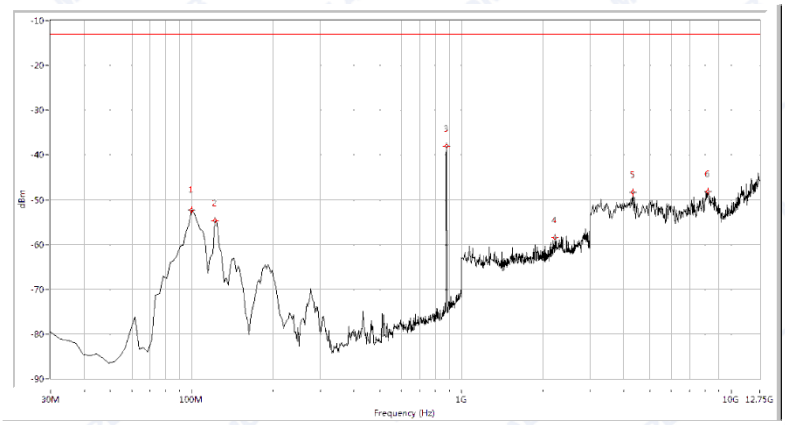
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-53.01	-13.0	40.0	246.0	Horizontal	PASS
121.920	-53.02	-13.0	40.0	360.0	Horizontal	PASS
869.377	-43.03	-13.0	30.0	46.0	Horizontal	N.A
2271.820	-57.13	-13.0	44.1	196.2	Horizontal	PASS
5188.279	-48.96	-13.0	36.0	97.8	Horizontal	PASS
8349.127	-47.36	-13.0	34.4	273.3	Horizontal	PASS

(Plot I1: HSUPA 850MHz Channel = 4132, Test Antenna Horizontal)



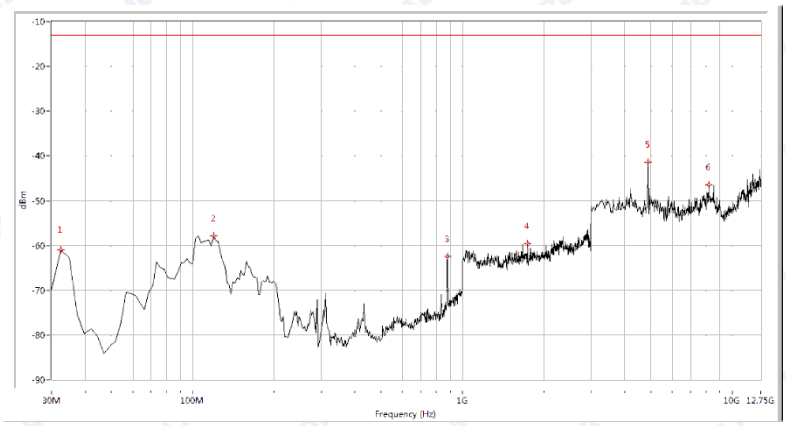
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
32.419	-62.95	-13.0	49.9	268.4	Vertical	PASS
119.501	-57.56	-13.0	44.6	127.3	Vertical	PASS
869.377	-59.84	-13.0	46.8	324.6	Vertical	N.A
1653.367	-59.62	-13.0	46.6	318.6	Vertical	PASS
3778.055	-48.95	-13.0	36.0	226.3	Vertical	PASS
8349.127	-46.81	-13.0	33.8	90.1	Vertical	PASS

(Plot I2: HSUPA 850MHz Channel = 4132, Test Antenna Vertical)



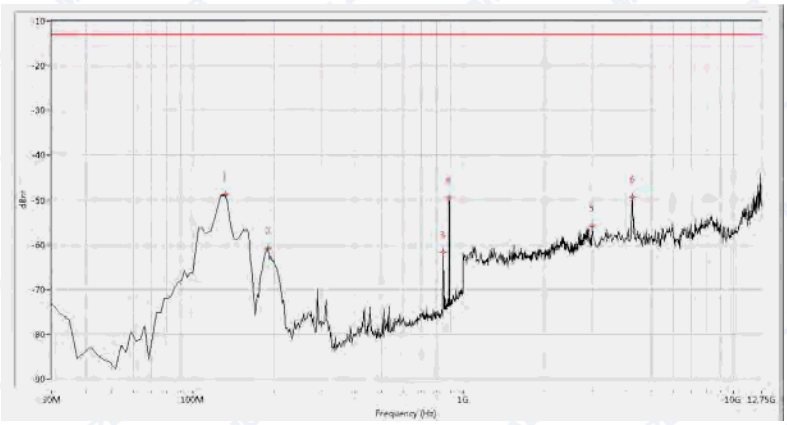
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-52.32	-13.0	39.3	137.4	Horizontal	PASS
121.920	-54.65	-13.0	41.6	221.5	Horizontal	PASS
879.052	-38.08	-13.0	25.1	44.3	Horizontal	N.A
2216.958	-58.40	-13.0	45.4	1.7	Horizontal	PASS
4312.968	-48.31	-13.0	35.3	155.4	Horizontal	PASS
8203.242	-48.19	-13.0	35.2	311.6	Horizontal	PASS

(Plot I3: HSUPA 850MHz Channel = 4175, Test Antenna Horizontal)



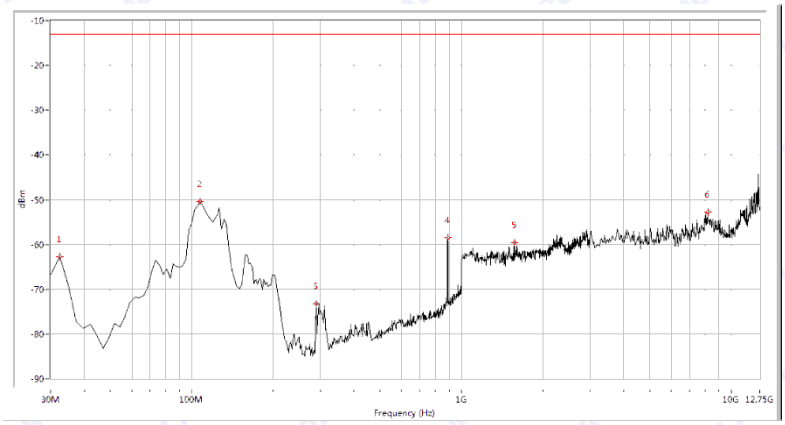
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
32.419	-61.01	-13.0	48.0	110.9	Vertical	PASS
119.501	-57.89	-13.0	44.9	69.1	Vertical	PASS
879.052	-62.48	-13.0	49.5	59.2	Vertical	N.A
1743.142	-59.59	-13.0	46.6	328.6	Vertical	PASS
4872.195	-41.30	-13.0	28.3	276.9	Vertical	PASS
8178.928	-46.47	-13.0	33.5	168.7	Vertical	PASS

(Plot I4: HSUPA 850MHz Channel = 4175, Test Antenna Vertical)



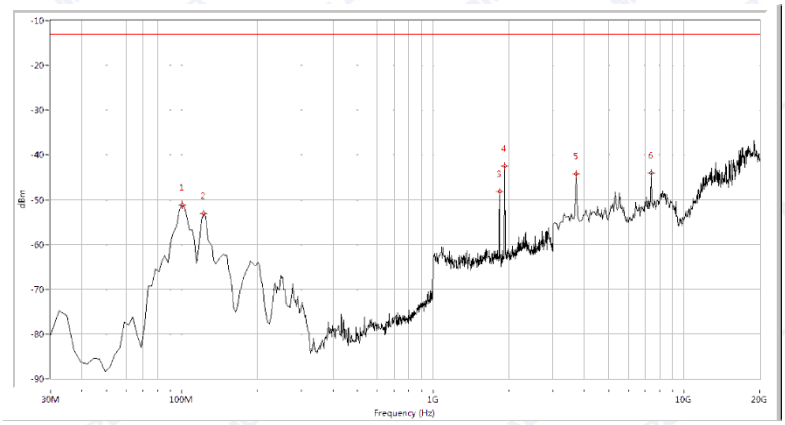
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
131.596	-48.87	-13.0	35.9	360.0	Horizontal	PASS
189.651	-60.88	-13.0	47.9	35.1	Horizontal	PASS
845.187	-61.72	-13.0	48.7	92.8	Horizontal	N.A
888.728	-49.50	-13.0	36.5	254.3	Horizontal	N.A
3000.000	-55.86	-13.0	42.9	241.6	Horizontal	PASS
4240.025	-49.29	-13.0	36.3	360.0	Horizontal	PASS

(Plot I5: HSUPA 850MHz Channel = 4233, Test Antenna Horizontal)



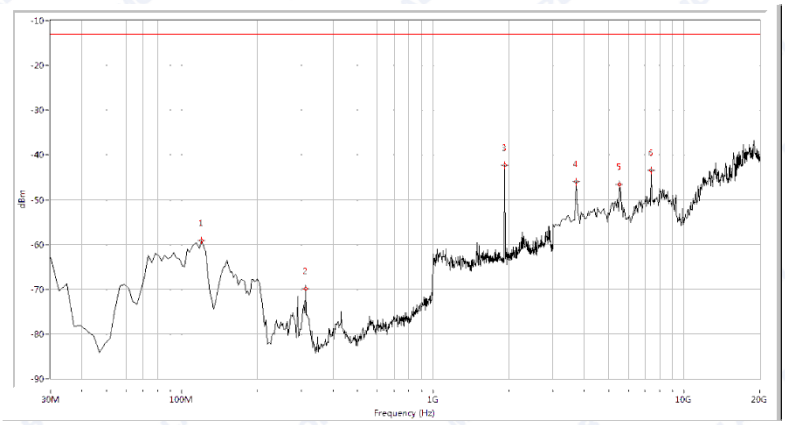
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
32.419	-62.80	-13.0	49.8	48.8	Vertical	PASS
107.406	-50.37	-13.0	37.4	151.6	Vertical	PASS
288.828	-73.19	-13.0	60.2	256.5	Vertical	PASS
891.147	-58.43	-13.0	45.4	324.6	Vertical	N.A
1573.566	-59.66	-13.0	46.7	320.2	Vertical	PASS
8178.928	-52.74	-13.0	39.7	13.5	Vertical	PASS

(Plot I6: HSUPA 850MHz Channel = 4233, Test Antenna Vertical)



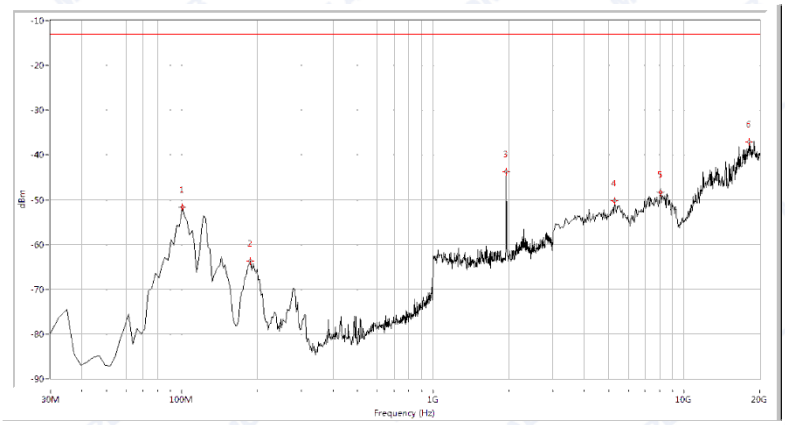
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.19	-13.0	38.2	103.1	Horizontal	PASS
121.920	-53.01	-13.0	40.0	316.4	Horizontal	PASS
1837.905	-48.22	-13.0	35.2	181.6	Horizontal	N.A
1932.668	-42.44	-13.0	29.4	156.4	Horizontal	N.A
3720.698	-44.24	-13.0	31.2	222.9	Horizontal	PASS
7408.978	-44.07	-13.0	31.1	301.1	Horizontal	PASS

(Plot J1: HSUPA 1900MHz Channel = 9262, Test Antenna Horizontal)



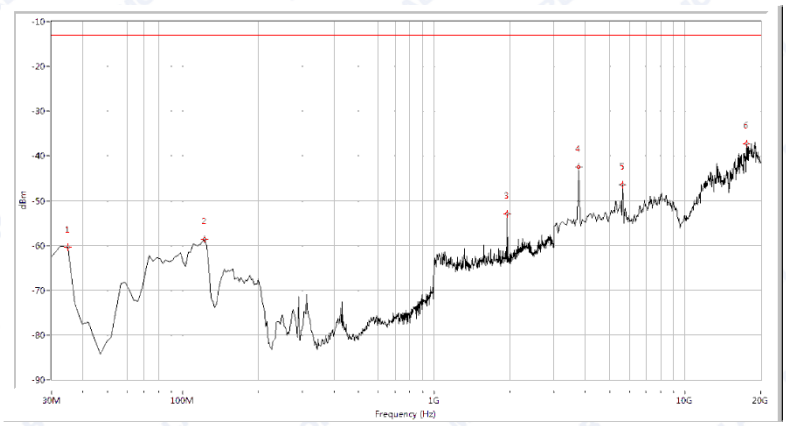
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
119.501	-59.19	-13.0	46.2	42.9	Vertical	PASS
310.599	-69.81	-13.0	56.8	354.9	Vertical	PASS
1927.681	-42.30	-13.0	29.3	132.1	Vertical	N.A
3720.698	-45.93	-13.0	32.9	166.4	Vertical	PASS
5543.641	-46.65	-13.0	33.7	354.0	Vertical	PASS
7408.978	-43.36	-13.0	30.4	9.5	Vertical	PASS

(Plot J2: HSUPA 1900MHz Channel = 9262, Test Antenna Vertical)



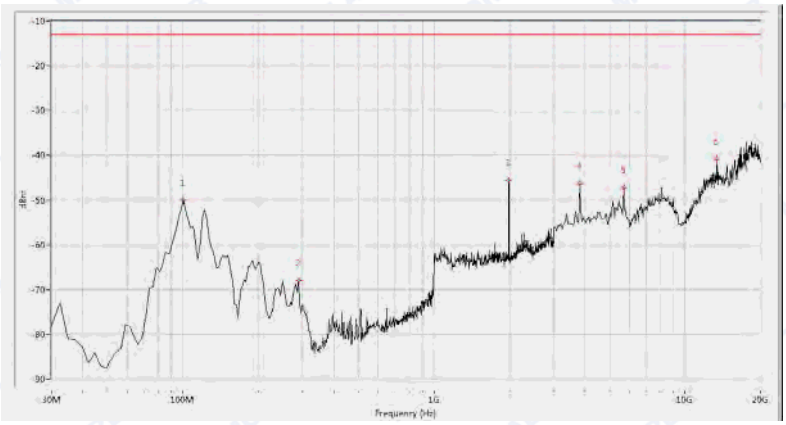
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.59	-13.0	38.6	116.1	Horizontal	PASS
187.232	-63.65	-13.0	50.6	-0.0	Horizontal	PASS
1957.606	-43.73	-13.0	30.7	23.9	Horizontal	N.A
5289.277	-50.21	-13.0	37.2	164.5	Horizontal	PASS
8044.888	-48.33	-13.0	35.3	300.8	Horizontal	PASS
18177.057	-37.12	-13.0	24.1	140.7	Horizontal	PASS

(Plot J3: HSUPA 1900MHz Channel = 9400, Test Antenna Horizontal)



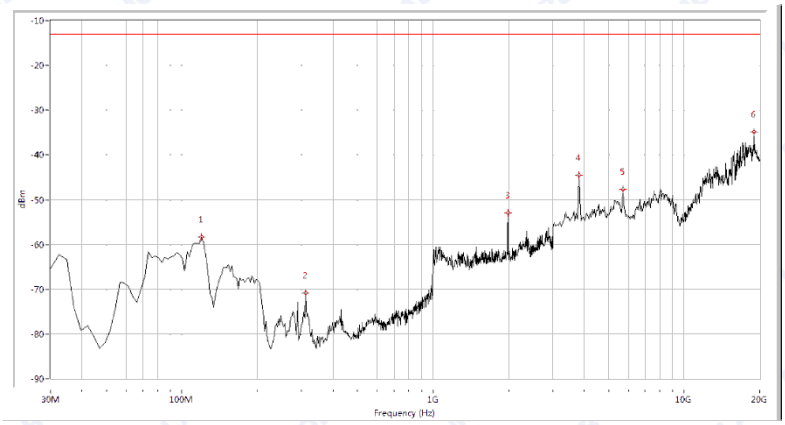
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-60.38	-13.0	47.4	-0.0	Vertical	PASS
121.920	-58.57	-13.0	45.6	42.9	Vertical	PASS
1957.606	-53.00	-13.0	40.0	141.0	Vertical	N.A
3763.092	-42.52	-13.0	29.5	8.0	Vertical	PASS
5628.429	-46.44	-13.0	33.4	1.4	Vertical	PASS
17583.541	-37.22	-13.0	24.2	360.0	Vertical	PASS

(Plot J4: HSUPA 1900MHz Channel = 9400, Test Antenna Vertical)



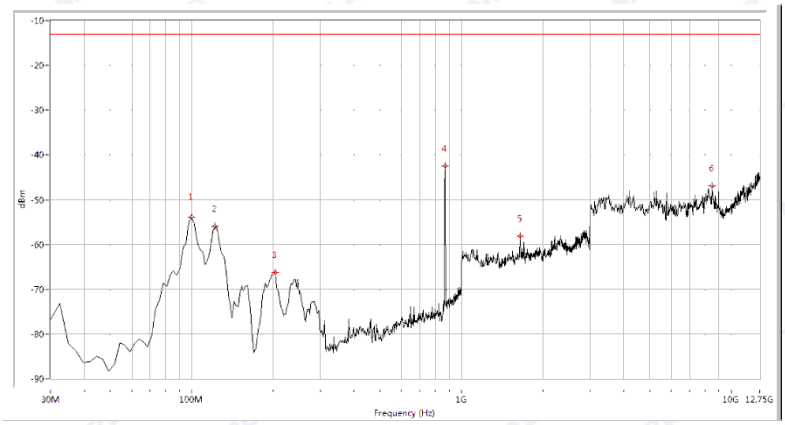
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-50.12	-13.0	37.1	303.0	Horizontal	PASS
288.828	-68.03	-13.0	55.0	359.3	Horizontal	PASS
1982.544	-45.58	-13.0	32.6	38.0	Horizontal	N.A
3805.486	-46.33	-13.0	33.3	333.9	Horizontal	PASS
5713.217	-47.23	-13.0	34.2	281.0	Horizontal	PASS
13386.534	-40.88	-13.0	27.9	72.6	Horizontal	PASS

(Plot J5: HSUPA 1900MHz Channel = 9538, Test Antenna Horizontal)



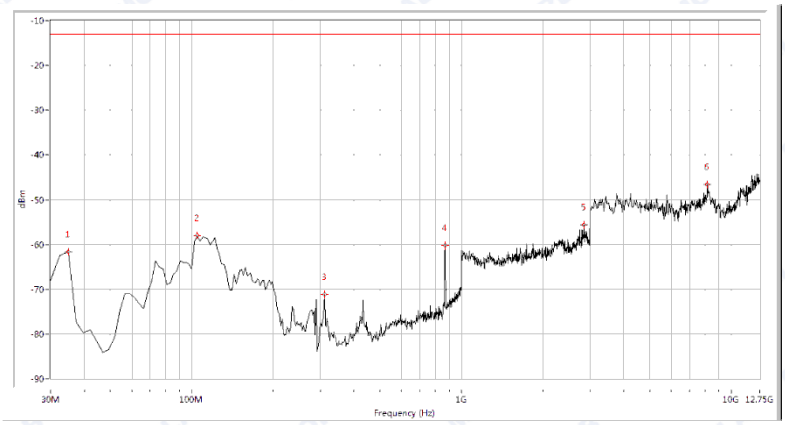
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
119.501	-58.24	-13.0	45.2	106.1	Vertical	PASS
310.599	-70.81	-13.0	57.8	68.1	Vertical	PASS
1987.531	-52.97	-13.0	40.0	333.0	Vertical	N.A
3805.486	-44.50	-13.0	31.5	281.3	Vertical	PASS
5713.217	-47.72	-13.0	34.7	62.5	Vertical	PASS
18982.544	-34.90	-13.0	21.9	30.9	Vertical	PASS

(Plot J6: HSUPA 1900MHz Channel = 9538, Test Antenna Vertical)



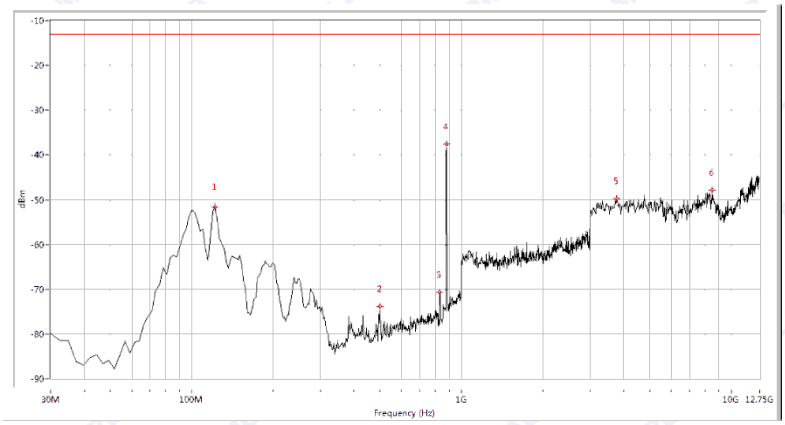
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-53.80	-13.0	40.8	-0.0	Horizontal	PASS
121.920	-56.01	-13.0	43.0	302.0	Horizontal	PASS
204.165	-66.26	-13.0	53.3	25.4	Horizontal	PASS
869.377	-42.47	-13.0	29.5	95.1	Horizontal	N.A
1648.379	-58.23	-13.0	45.2	266.8	Horizontal	PASS
8519.327	-46.96	-13.0	34.0	0.0	Horizontal	PASS

(Plot K1: HSPA+ 850MHz Channel = 4132, Test Antenna Horizontal)



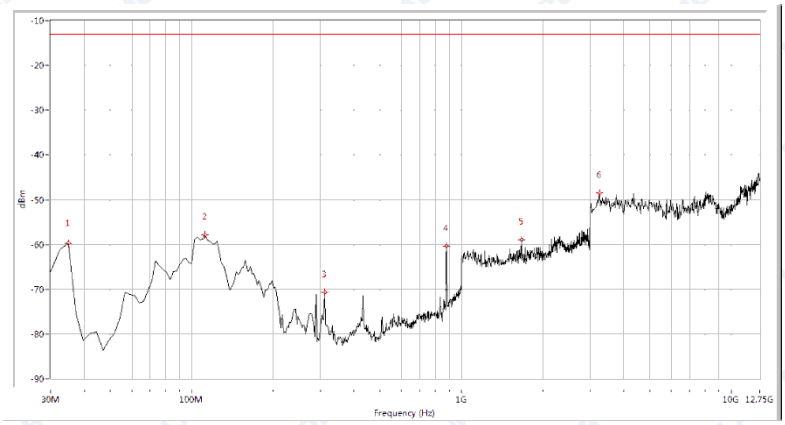
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-61.62	-13.0	48.6	35.6	Vertical	PASS
104.988	-57.95	-13.0	44.9	247.3	Vertical	PASS
310.599	-71.15	-13.0	58.1	240.1	Vertical	PASS
869.377	-60.15	-13.0	47.1	80.0	Vertical	N.A
2845.387	-55.58	-13.0	42.6	241.8	Vertical	PASS
8154.613	-46.52	-13.0	33.5	145.5	Vertical	PASS

(Plot K2: HSPA+ 850MHz Channel = 4132, Test Antenna Vertical)



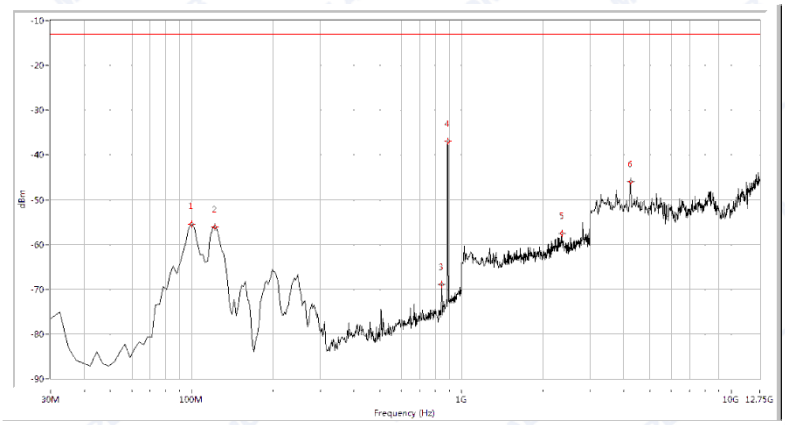
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
121.920	-51.71	-13.0	38.7	1.7	Horizontal	PASS
499.277	-73.86	-13.0	60.9	358.2	Horizontal	PASS
830.673	-70.63	-13.0	57.6	230.7	Horizontal	N.A
879.052	-37.51	-13.0	24.5	139.8	Horizontal	N.A
3753.741	-49.81	-13.0	36.8	38.8	Horizontal	PASS
8519.327	-47.87	-13.0	34.9	137.4	Horizontal	PASS

(Plot K3: HSPA+ 850MHz Channel = 4175, Test Antenna Horizontal)



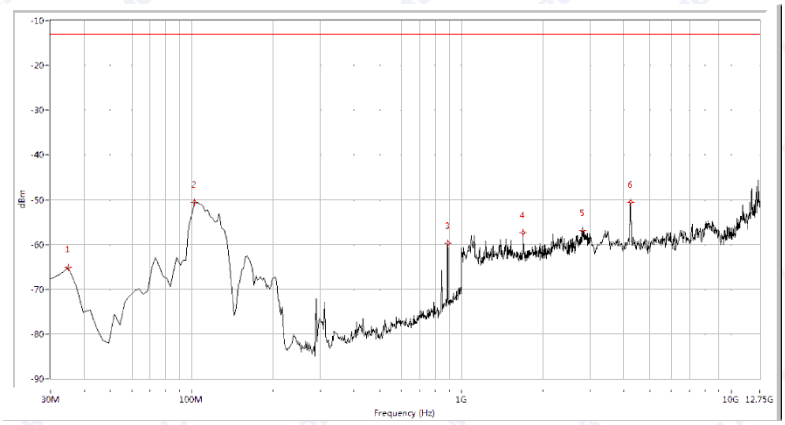
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-59.71	-13.0	46.7	112.1	Vertical	PASS
112.244	-57.92	-13.0	44.9	262.1	Vertical	PASS
310.599	-70.65	-13.0	57.7	24.2	Vertical	PASS
879.052	-60.40	-13.0	47.4	21.9	Vertical	N.A
1668.329	-59.02	-13.0	46.0	239.2	Vertical	PASS
3243.142	-48.45	-13.0	35.5	127.5	Vertical	PASS

(Plot K4: HSPA+ 850MHz Channel = 4175, Test Antenna Vertical)



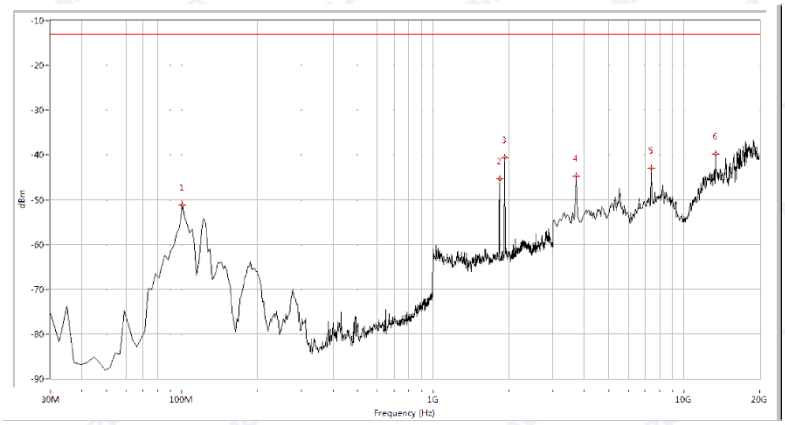
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-55.47	-13.0	42.5	338.4	Horizontal	PASS
121.920	-56.07	-13.0	43.1	209.9	Horizontal	PASS
845.187	-69.00	-13.0	56.0	249.0	Horizontal	N.A
891.147	-36.97	-13.0	24.0	23.1	Horizontal	N.A
2356.608	-57.48	-13.0	44.5	7.9	Horizontal	PASS
4240.025	-45.91	-13.0	32.9	348.7	Horizontal	PASS

(Plot K5: HSPA+ 850MHz Channel = 4233, Test Antenna Horizontal)



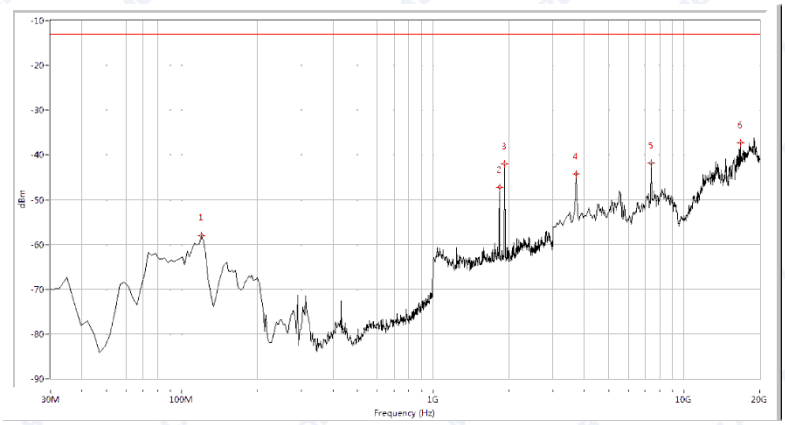
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
34.838	-65.17	-13.0	52.2	341.6	Vertical	PASS
102.569	-50.52	-13.0	37.5	39.4	Vertical	PASS
891.147	-59.75	-13.0	46.7	207.9	Vertical	N.A
1693.267	-57.32	-13.0	44.3	224.5	Vertical	PASS
2820.449	-56.83	-13.0	43.8	183.5	Vertical	PASS
4240.025	-50.58	-13.0	37.6	265.3	Vertical	PASS

(Plot K6: HSPA+ 850MHz Channel = 4233, Test Antenna Vertical)



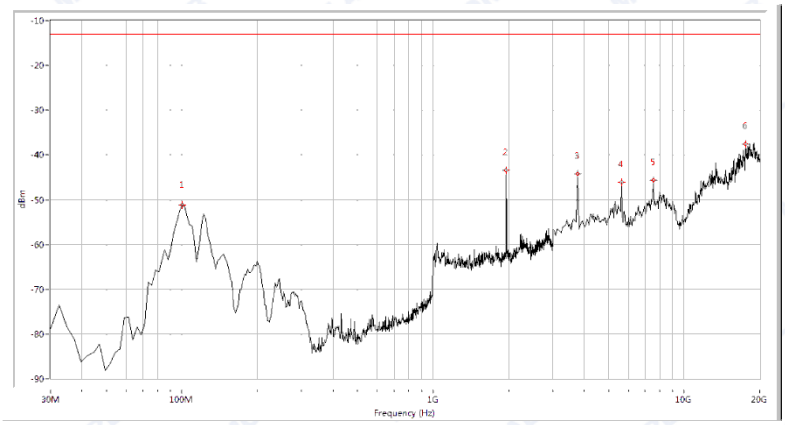
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.17	-13.0	38.2	300.3	Horizontal	PASS
1837.905	-45.38	-13.0	32.4	89.0	Horizontal	N.A
1927.681	-40.64	-13.0	27.6	87.4	Horizontal	N.A
3720.698	-44.73	-13.0	31.7	66.2	Horizontal	PASS
7408.978	-42.99	-13.0	30.0	160.4	Horizontal	PASS
13344.140	-39.77	-13.0	26.8	288.8	Horizontal	PASS

(Plot L1: HSPA+ 1900MHz Channel = 9262, Test Antenna Horizontal)



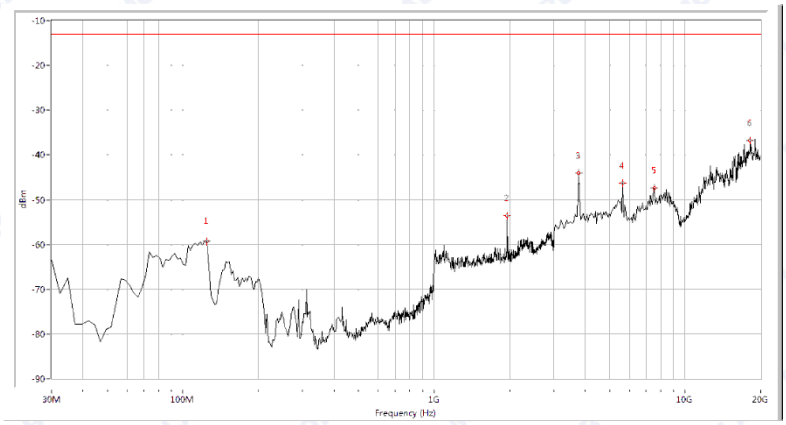
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
119.501	-58.03	-13.0	45.0	68.5	Vertical	PASS
1837.905	-47.17	-13.0	34.2	359.3	Vertical	N.A
1927.681	-41.92	-13.0	28.9	134.4	Vertical	N.A
3720.698	-44.28	-13.0	31.3	6.1	Vertical	PASS
7408.978	-41.85	-13.0	28.9	-0.0	Vertical	PASS
16735.661	-37.23	-13.0	24.2	199.5	Vertical	PASS

(Plot L2: HSPA+ 1900MHz Channel = 9262, Test Antenna Vertical)



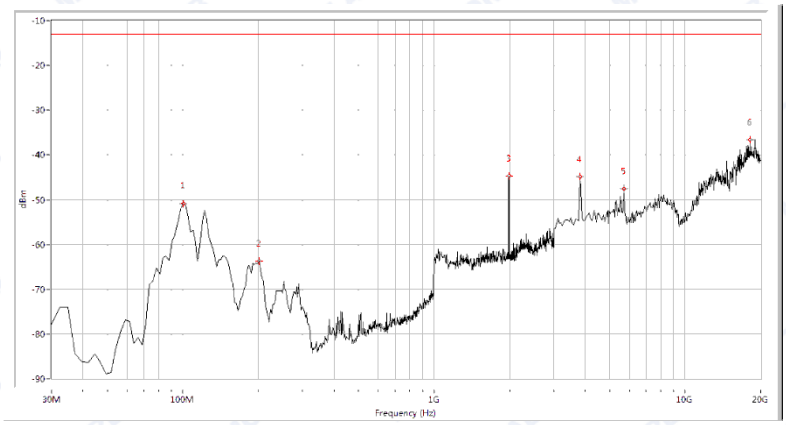
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-51.12	-13.0	38.1	116.9	Horizontal	PASS
1957.606	-43.37	-13.0	30.4	167.5	Horizontal	N.A
3763.092	-44.29	-13.0	31.3	191.3	Horizontal	PASS
5628.429	-46.09	-13.0	33.1	164.9	Horizontal	PASS
7536.160	-45.58	-13.0	32.6	162.3	Horizontal	PASS
17583.541	-37.61	-13.0	24.6	170.4	Horizontal	PASS

(Plot L3: HSPA+ 1900MHz Channel = 9400, Test Antenna Horizontal)



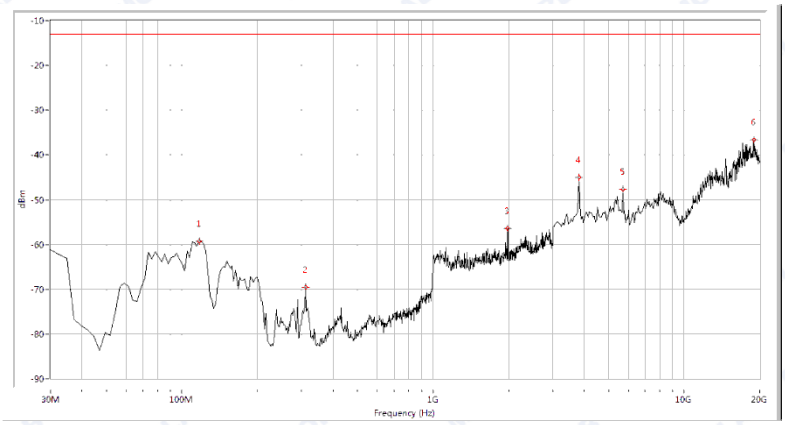
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
124.339	-59.34	-13.0	46.3	53.9	Vertical	PASS
1957.606	-53.61	-13.0	40.6	327.9	Vertical	N.A
3763.092	-44.13	-13.0	31.1	5.1	Vertical	PASS
5628.429	-46.31	-13.0	33.3	172.3	Vertical	PASS
7536.160	-47.38	-13.0	34.4	-0.0	Vertical	PASS
18177.057	-36.74	-13.0	23.7	172.3	Vertical	PASS

(Plot L4: HSPA+ 1900MHz Channel = 9400, Test Antenna Vertical)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
100.150	-50.88	-13.0	37.9	118.4	Horizontal	PASS
201.746	-63.70	-13.0	50.7	250.9	Horizontal	PASS
1987.531	-44.74	-13.0	31.7	164.1	Horizontal	N.A
3805.486	-44.84	-13.0	31.8	340.5	Horizontal	PASS
5713.217	-47.60	-13.0	34.6	282.9	Horizontal	PASS
18134.663	-36.66	-13.0	23.7	307.0	Horizontal	PASS

(Plot L5: HSPA+ 1900MHz Channel = 9538, Test Antenna Horizontal)



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
117.082	-59.30	-13.0	46.3	0.7	Vertical	PASS
310.599	-69.62	-13.0	56.6	1.7	Vertical	PASS
1982.544	-56.48	-13.0	43.5	22.4	Vertical	N.A
3805.486	-45.02	-13.0	32.0	214.4	Vertical	PASS
5713.217	-47.69	-13.0	34.7	52.2	Vertical	PASS
18982.544	-36.56	-13.0	23.6	10.9	Vertical	PASS

(Plot L6: HSPA+ 1900MHz Channel = 9538, Test Antenna Vertical)

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