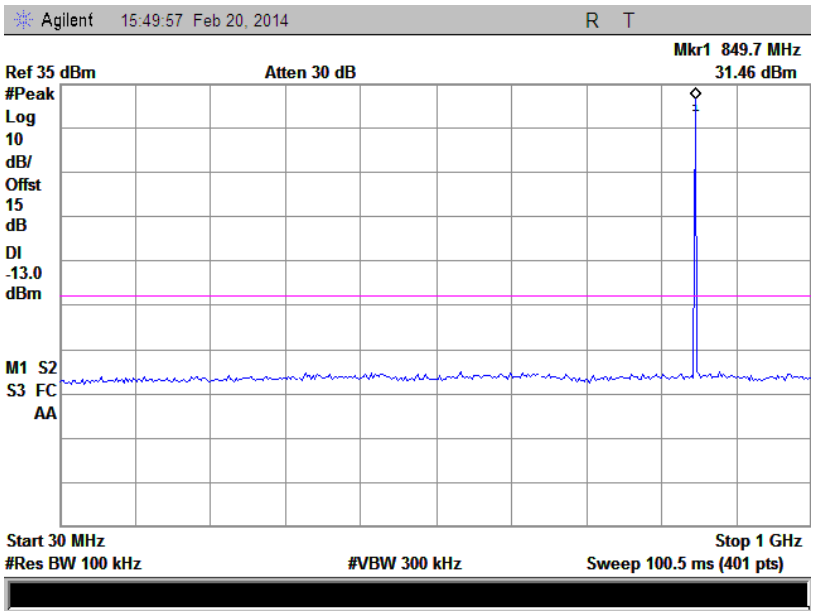
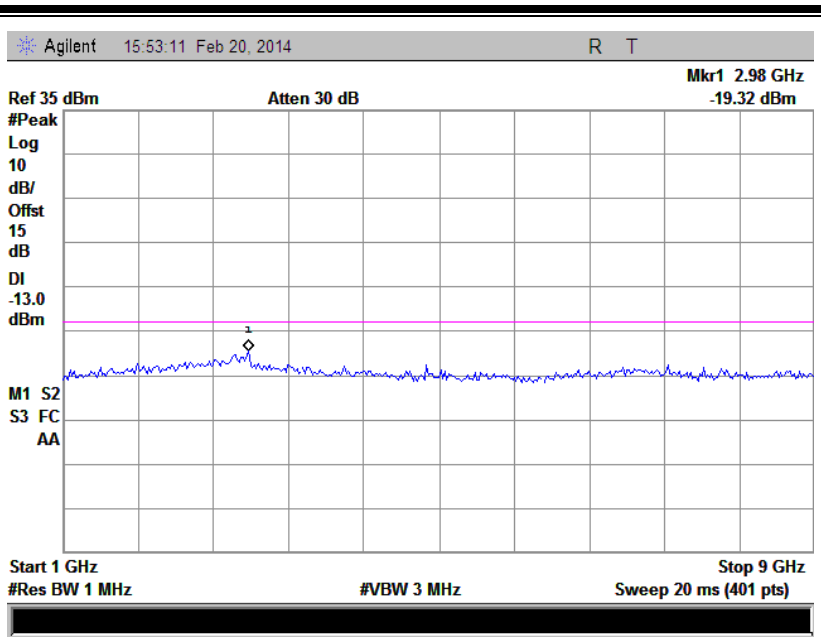
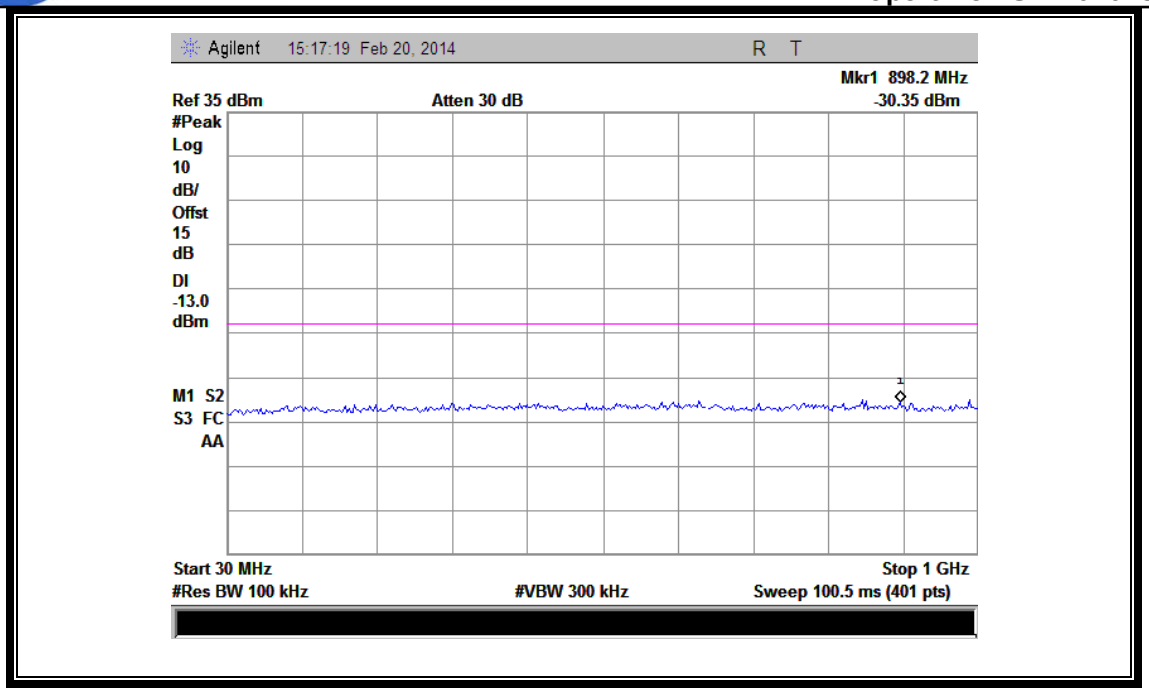


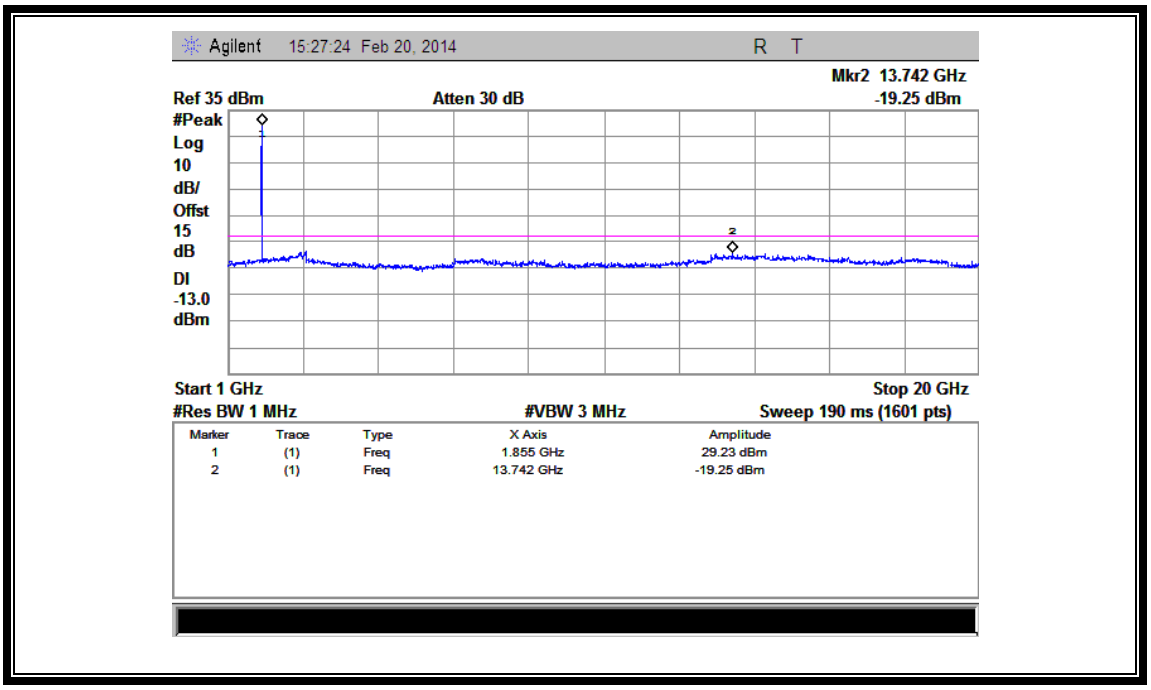
(Plot C3: EDGE 850MHz Channel = 251, 30MHz to 1GHz)



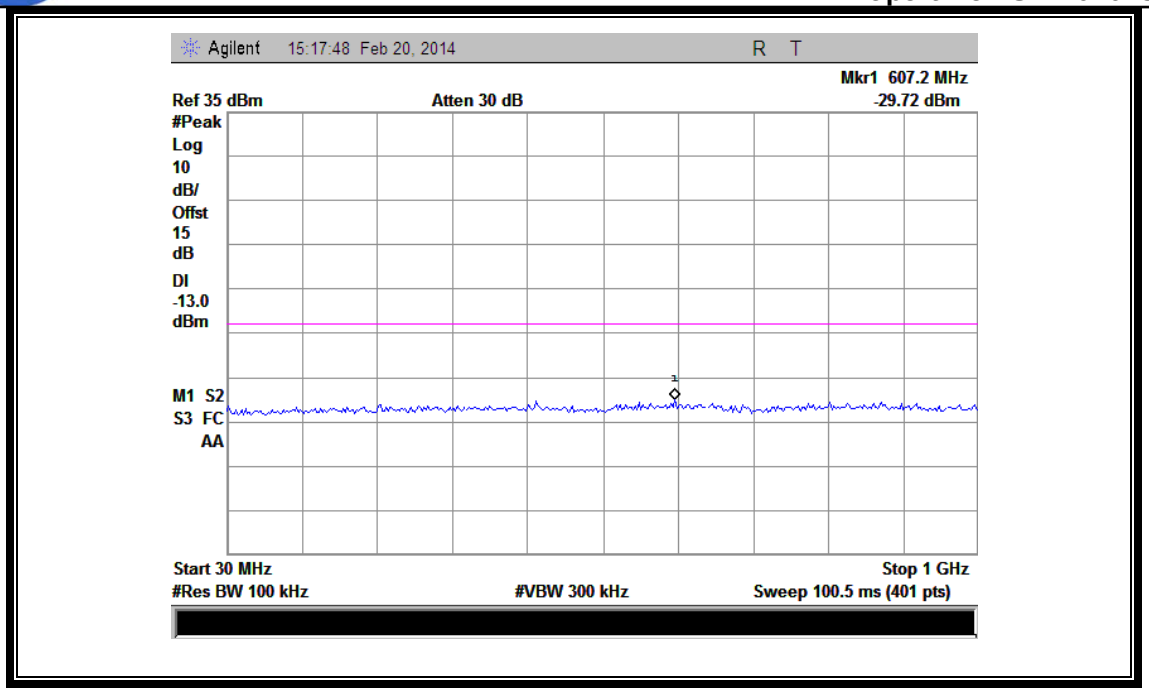
(Plot C3.1: EDGE 850MHz Channel = 251, 1GHz to 9GHz)



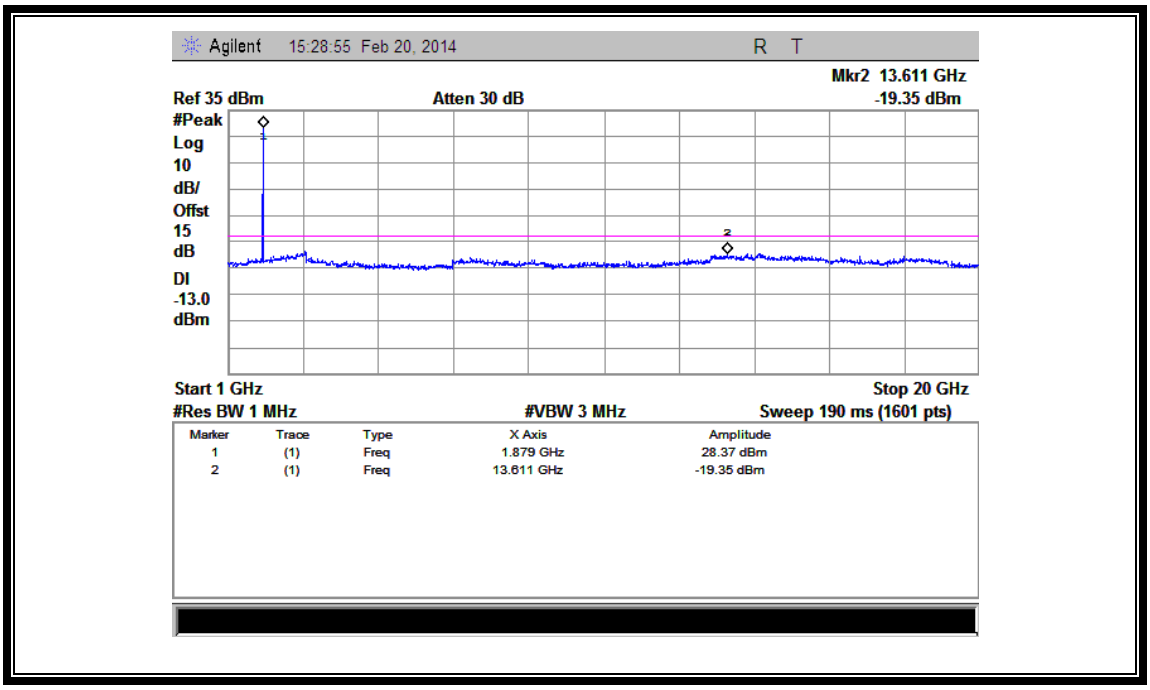
(Plot D1: EDGE 1900MHz Channel = 512, 30MHz to 1GHz)



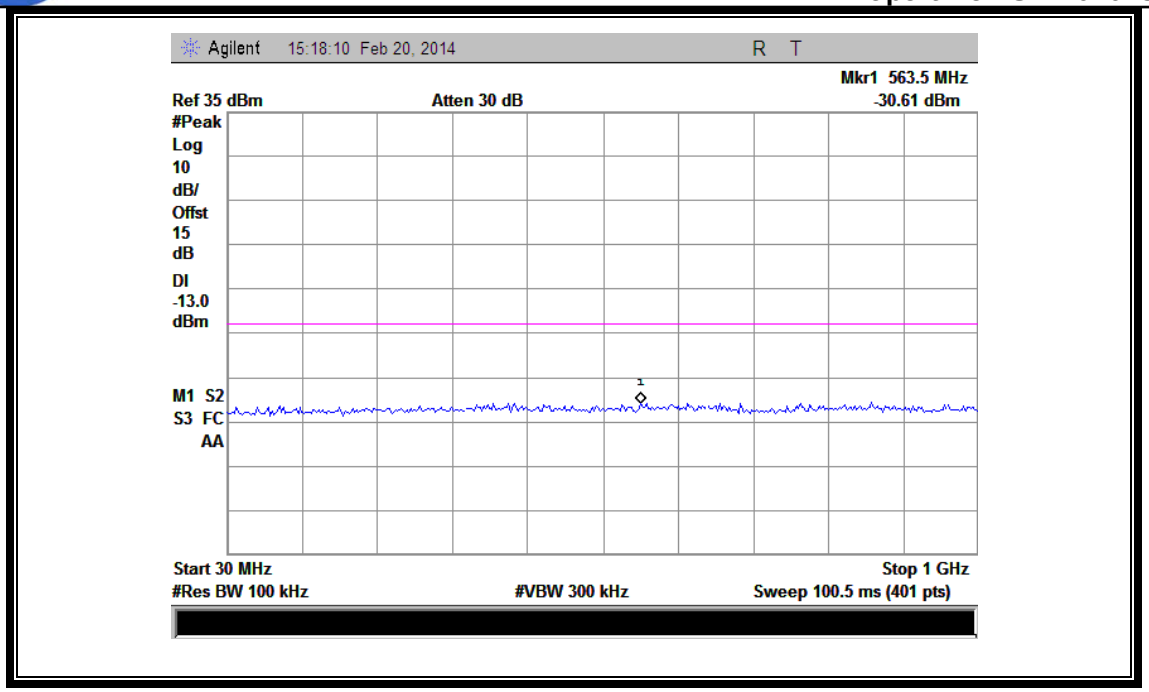
(Plot D1.1: EDGE 1900MHz Channel = 512, 1GHz to 20GHz)



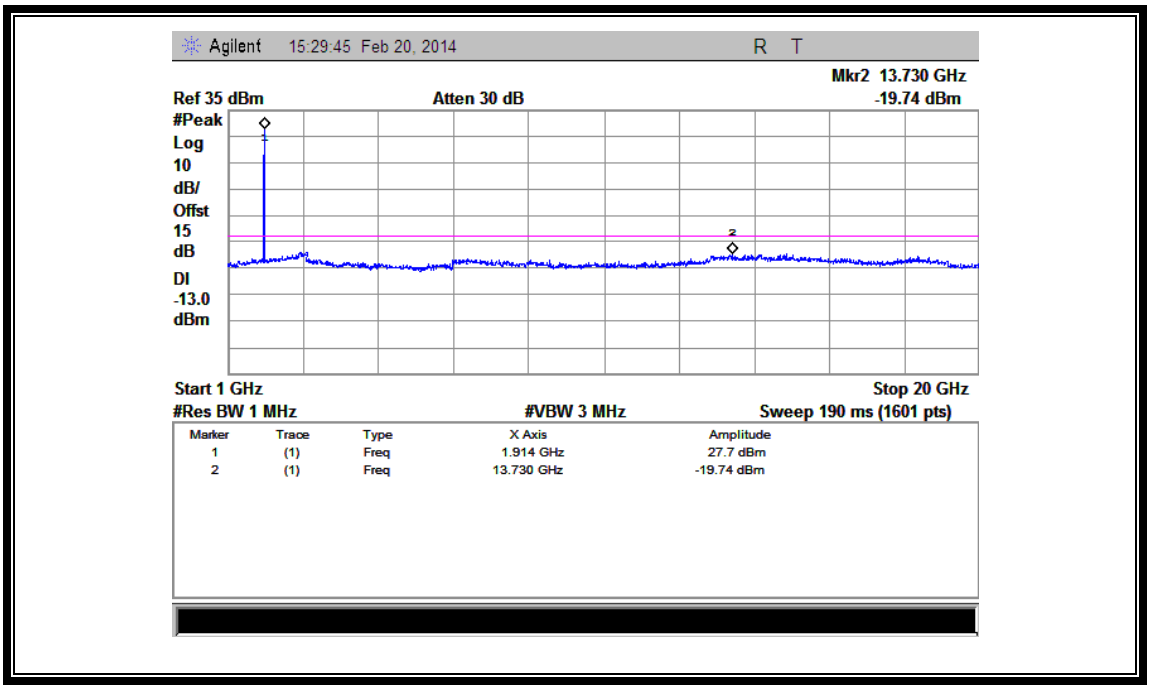
(Plot D2: EDGE 1900MHz Channel = 661, 30MHz to 1GHz)



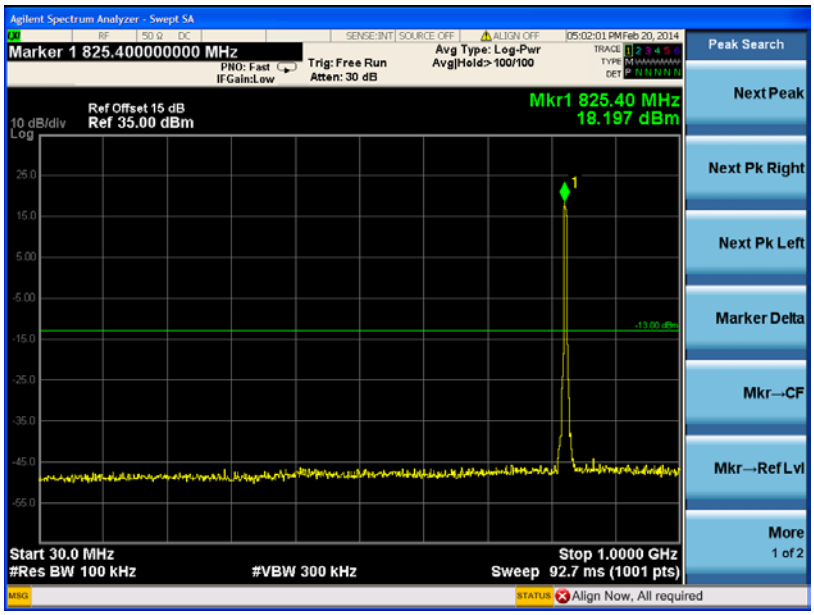
(Plot D2.1: EDGE 1900MHz Channel = 661,1GHz to 20GHz)



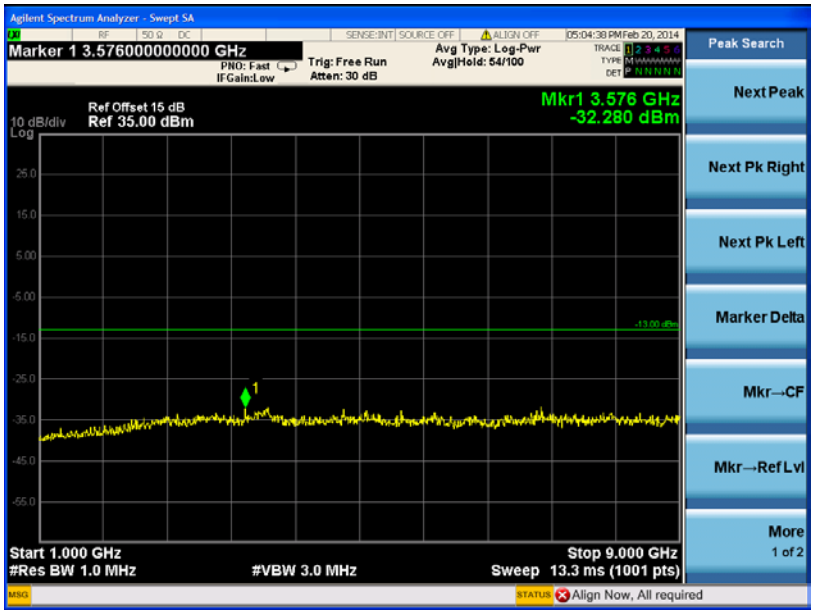
(Plot D3: EDGE 1900MHz Channel = 810, 30MHz to 1GHz)



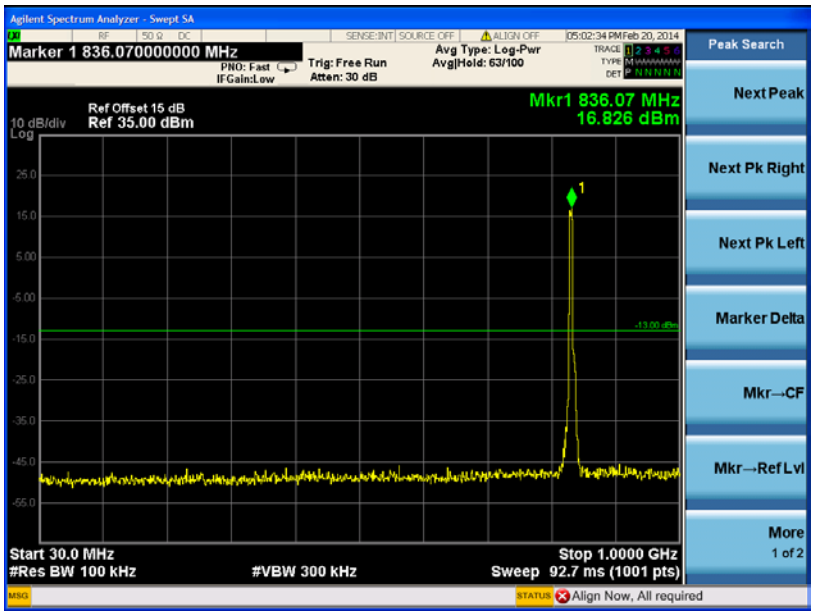
(Plot D3.1: EDGE 1900MHz Channel = 810, 1GHz to 20GHz)



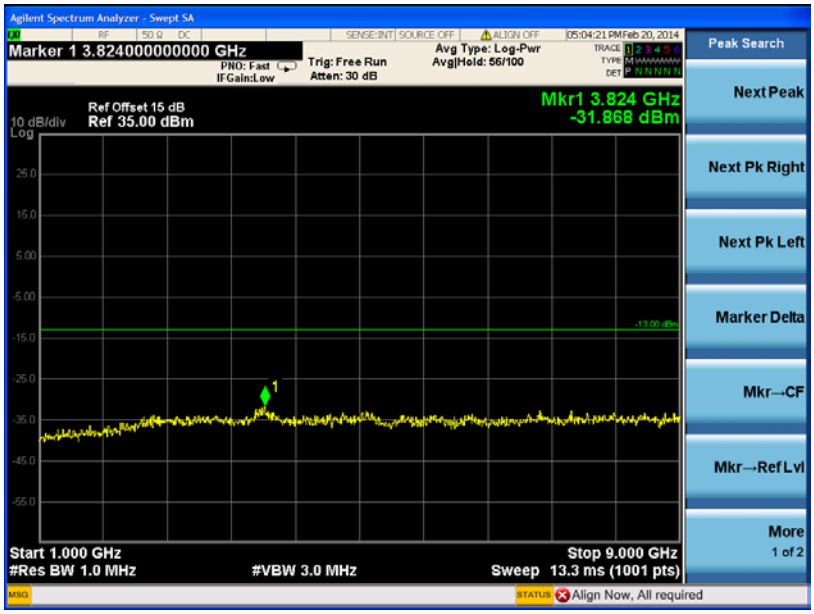
(Plot E1: WCDMA850MHz Channel = 4132, 30MHz to 1GHz)



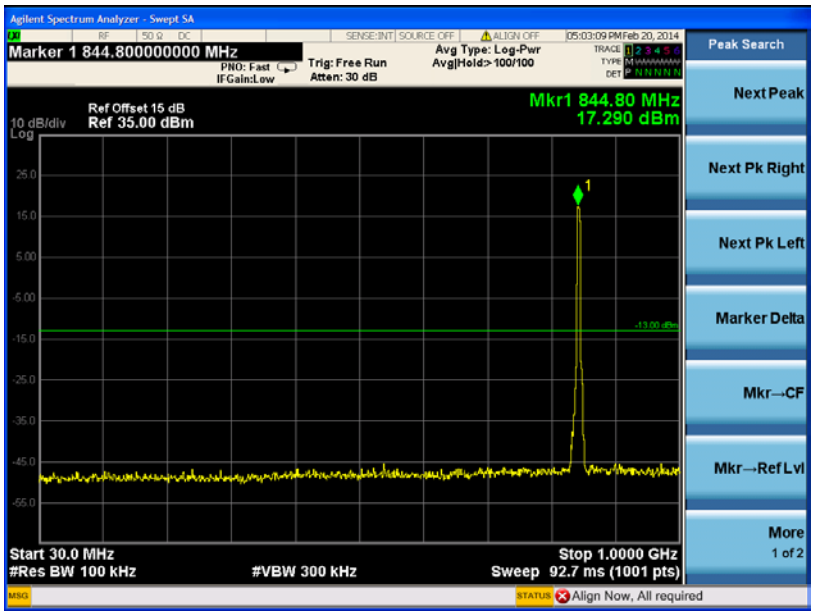
(Plot E1.1: WCDMA850MHz Channel = 4132, 1GHz to 9GHz)



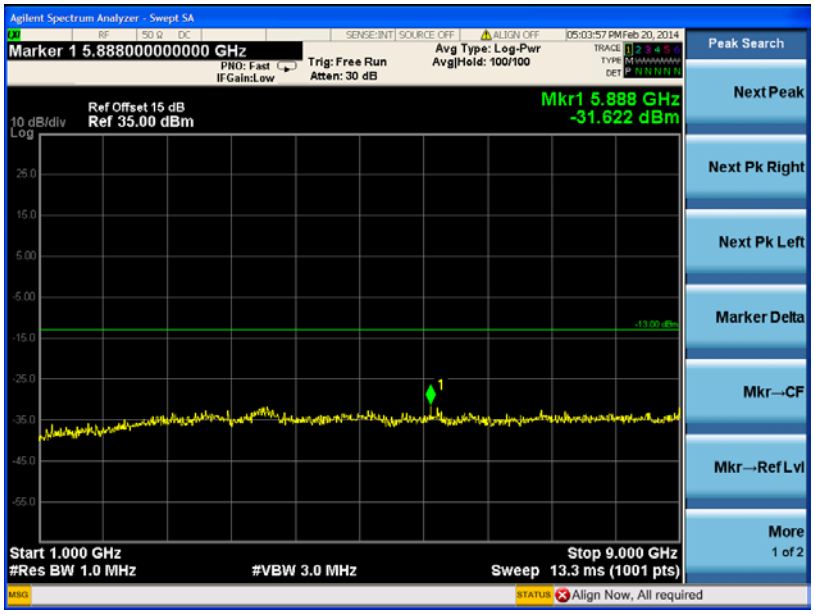
(Plot E2: WCDMA850MHz Channel = 4175, 30MHz to 1GHz)



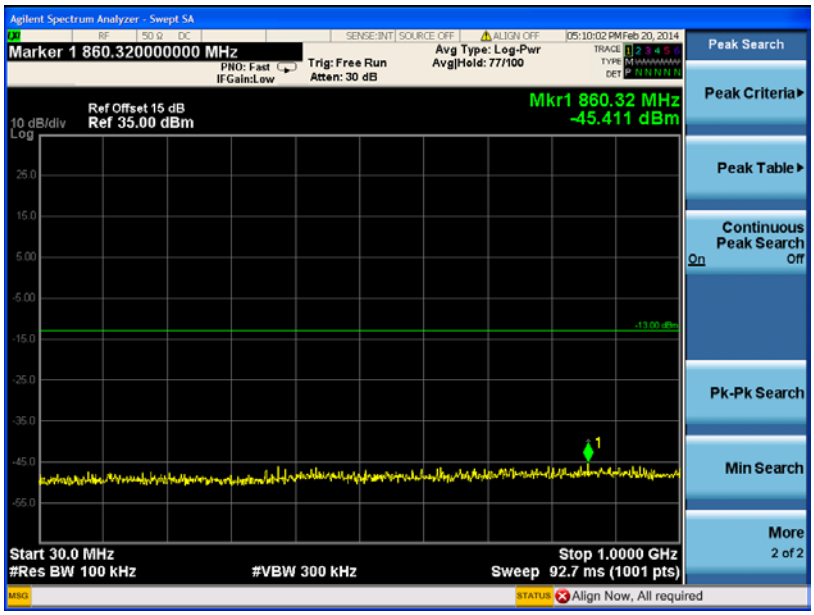
(Plot E2.1: WCDMA850MHz Channel = 4175, 1GHz to 9GHz)



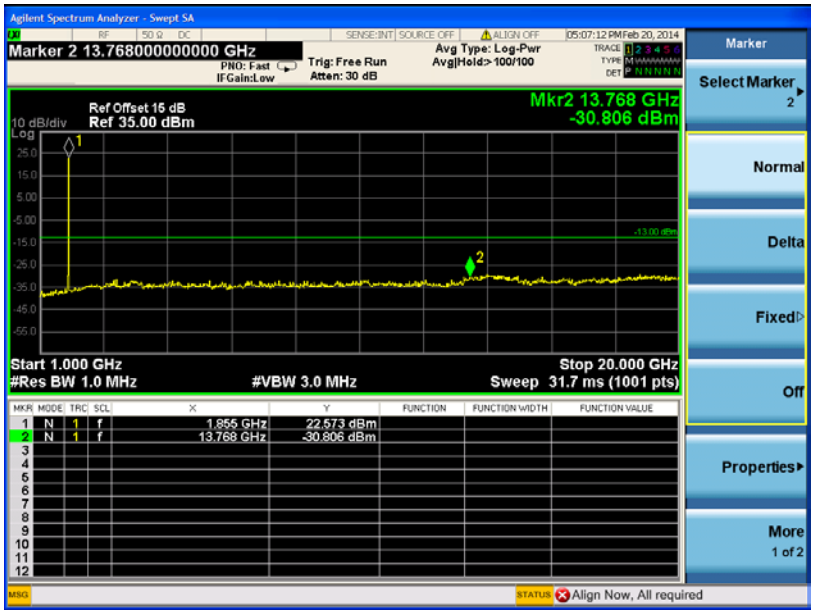
(Plot E3: WCDMA850MHz Channel = 4233, 30MHz to 1GHz)



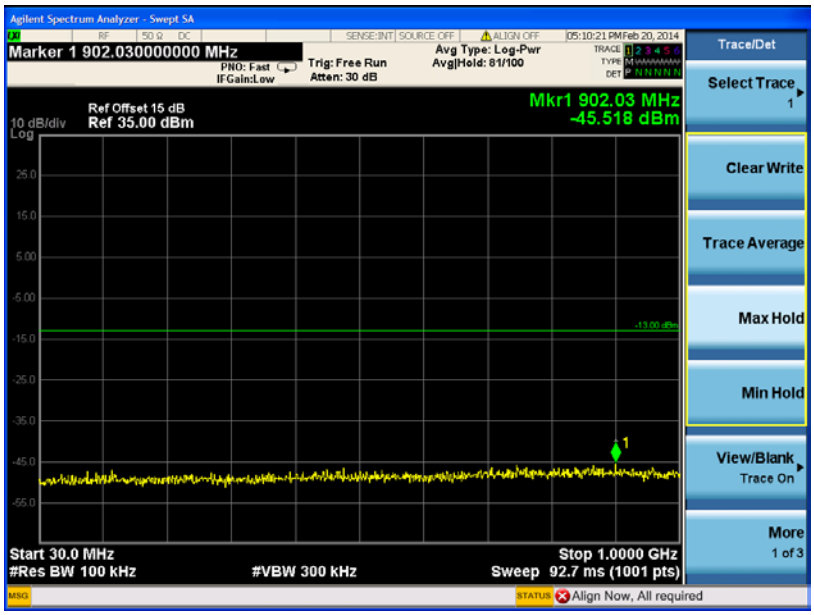
(Plot E3.1: WCDMA850MHz Channel = 4233, 1GHz to 9GHz)



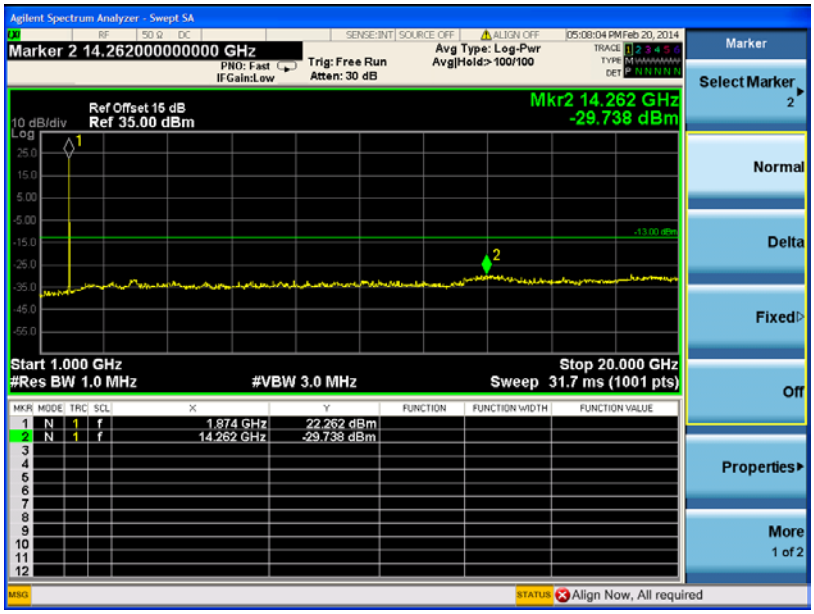
(Plot F1:WCDMA1900MHz Channel = 9262, 30MHz to 1GHz)



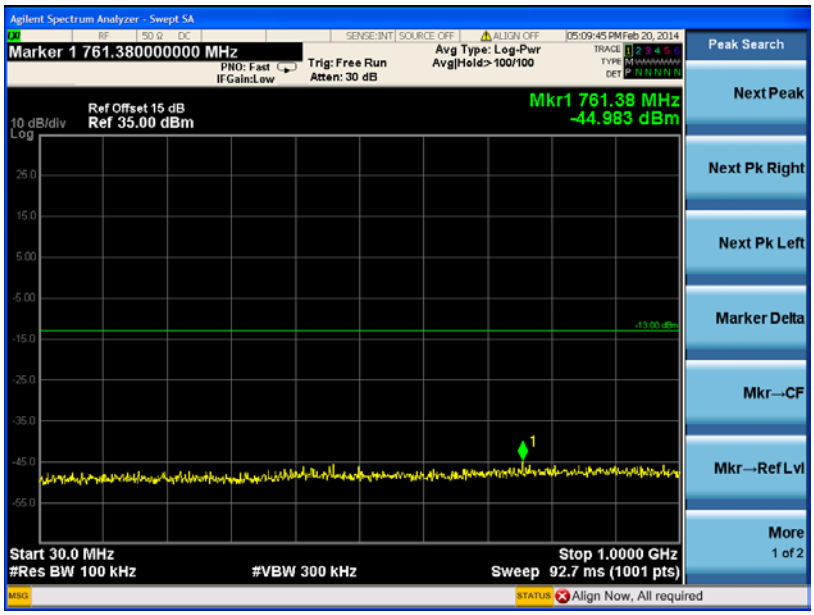
(Plot F1.1: WCDMA1900MHz Channel = 9262, 1GHz to 20GHz)



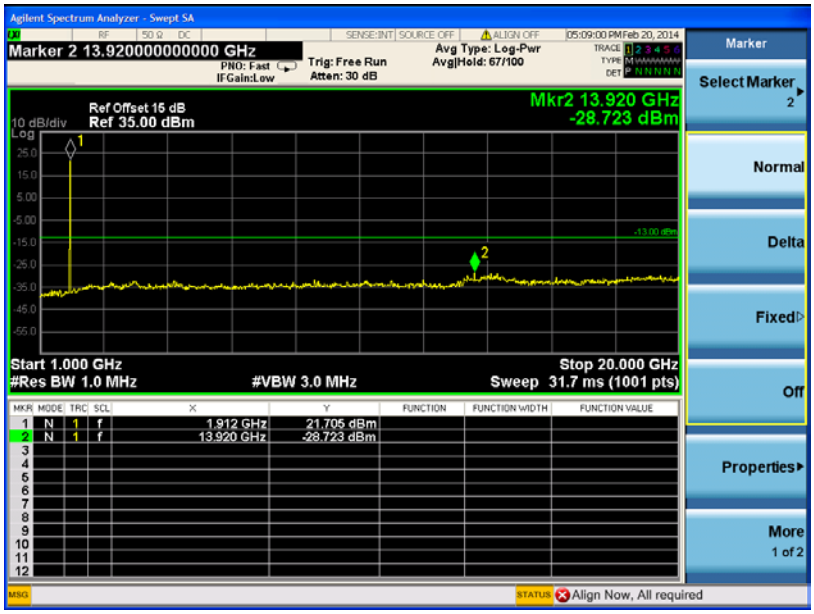
(Plot F2:WCDMA1900MHz Channel = 9400, 30MHz to 1GHz)



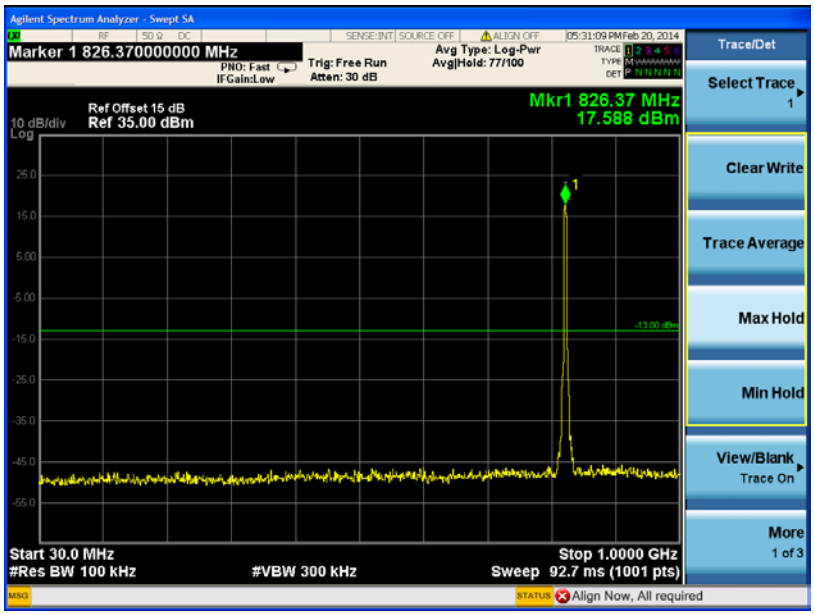
(Plot F2.1: WCDMA1900MHz Channel = 9400, 1GHz to 20GHz)



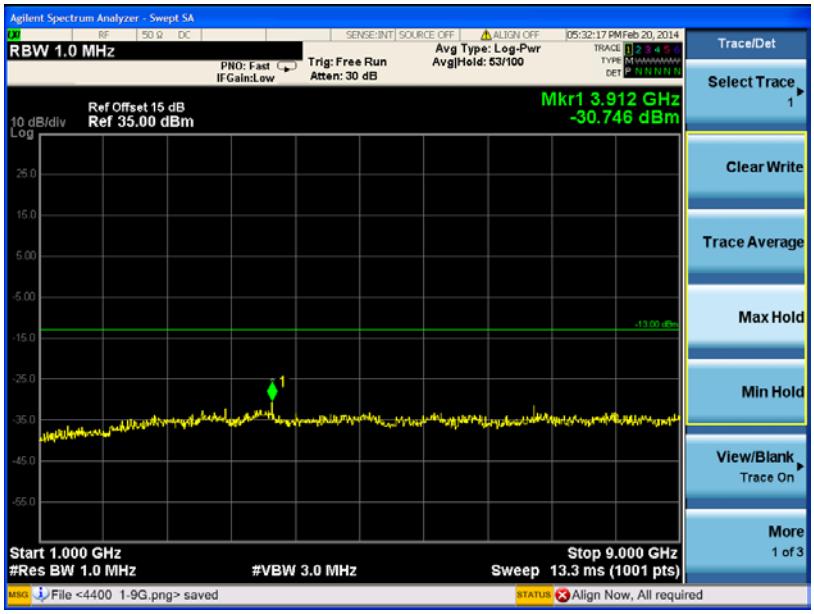
(Plot F3:WCDMA1900MHz Channel = 9538, 30MHz to 1GHz)



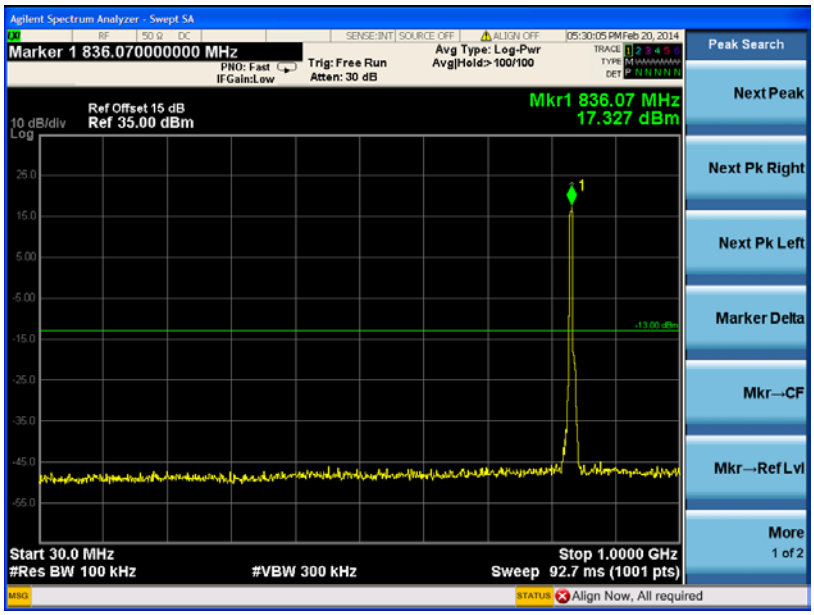
(Plot F3.1: WCDMA1900MHz Channel = 9538 1GHz to 20GHz)



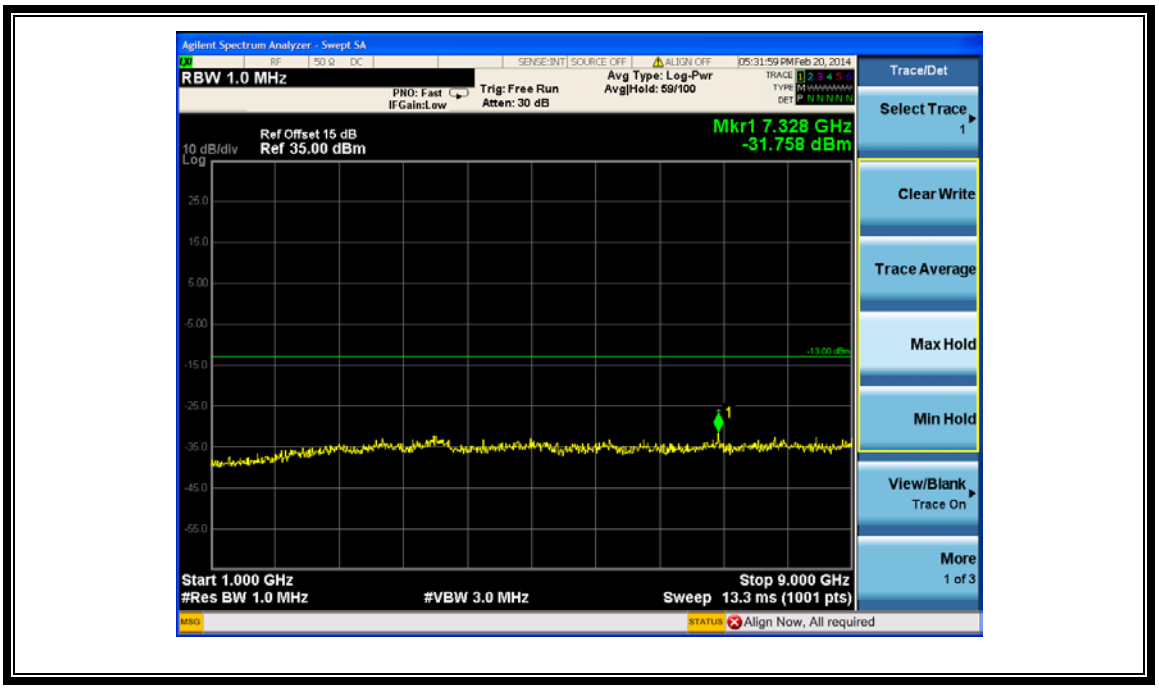
(Plot G1: HSDPA 850MHz Channel = 4132, 30MHz to 1GHz)



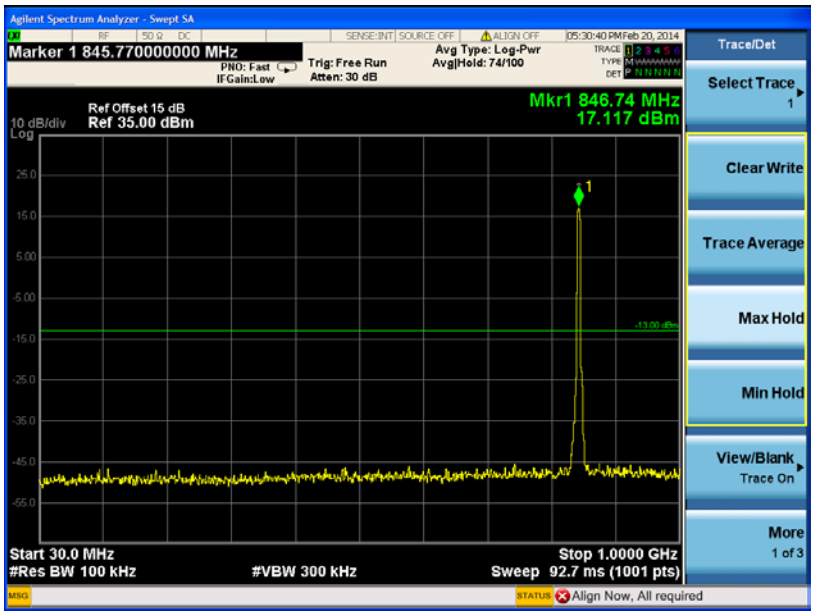
(Plot G1.1: HSDPA 850MHz Channel = 4132, 1GHz to 9GHz)



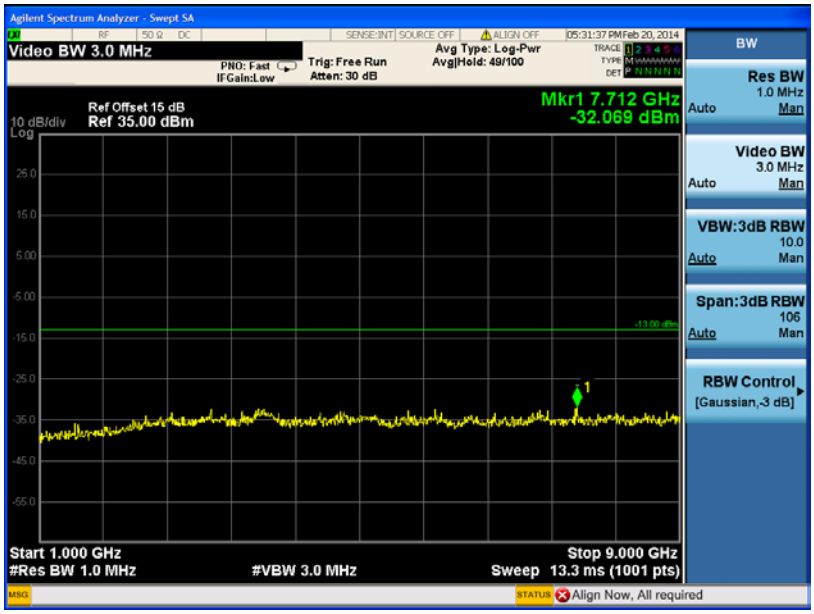
(Plot G2: HSDPA 850MHz Channel = 4175, 30MHz to 1GHz)



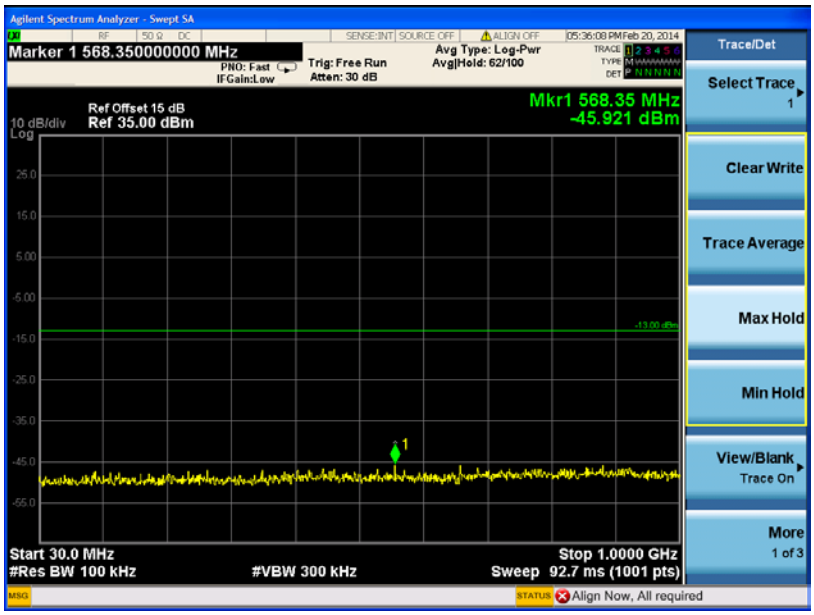
(Plot G2.1: HSDPA 850MHz Channel = 4175, 1GHz to 9GHz)



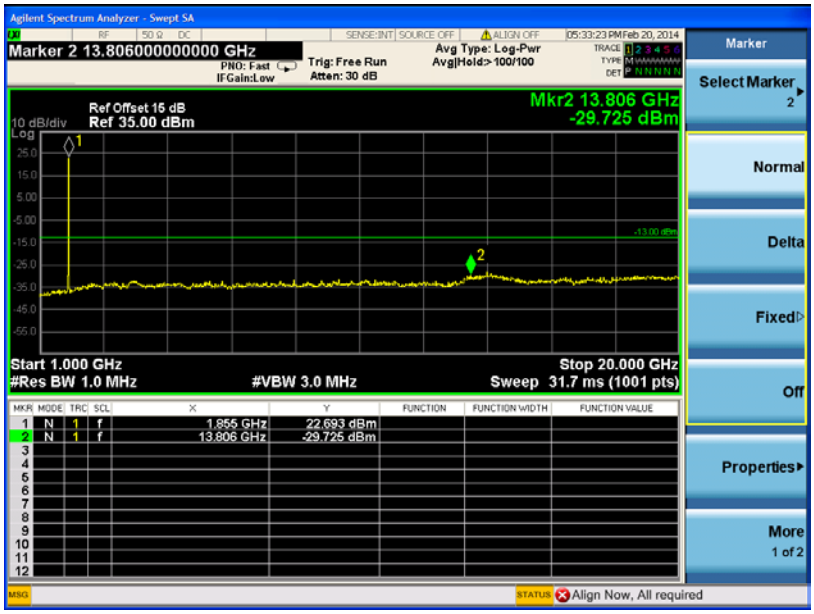
(Plot G3: HSDPA850MHz Channel = 4233, 30MHz to 1GHz)



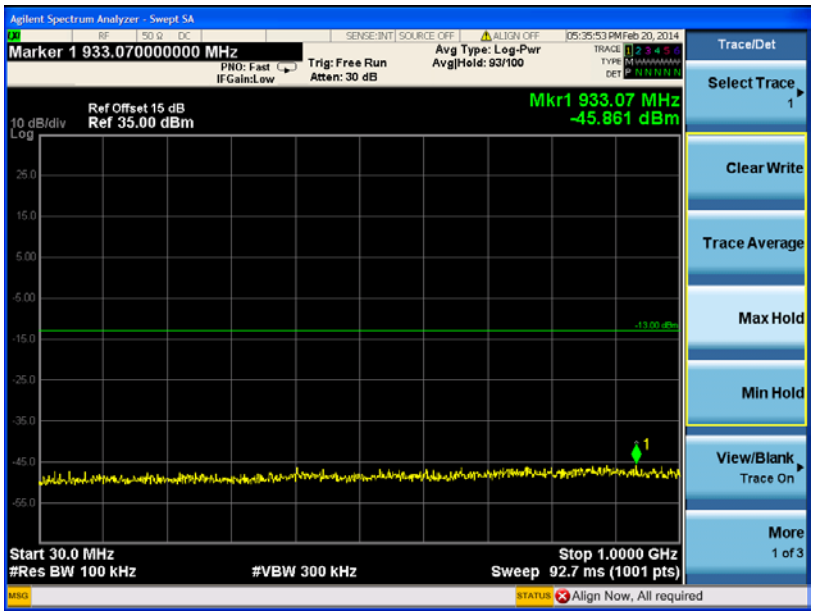
(Plot G3.1: HSDPA850MHz Channel = 4233, 1GHz to 9GHz)



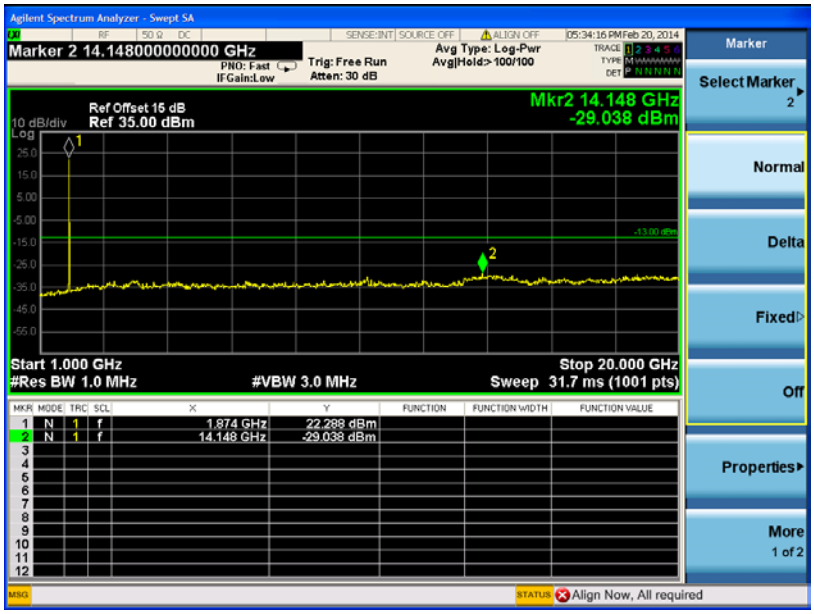
(Plot H1: HSDPA1900MHz Channel = 9262, 30MHz to 1GHz)



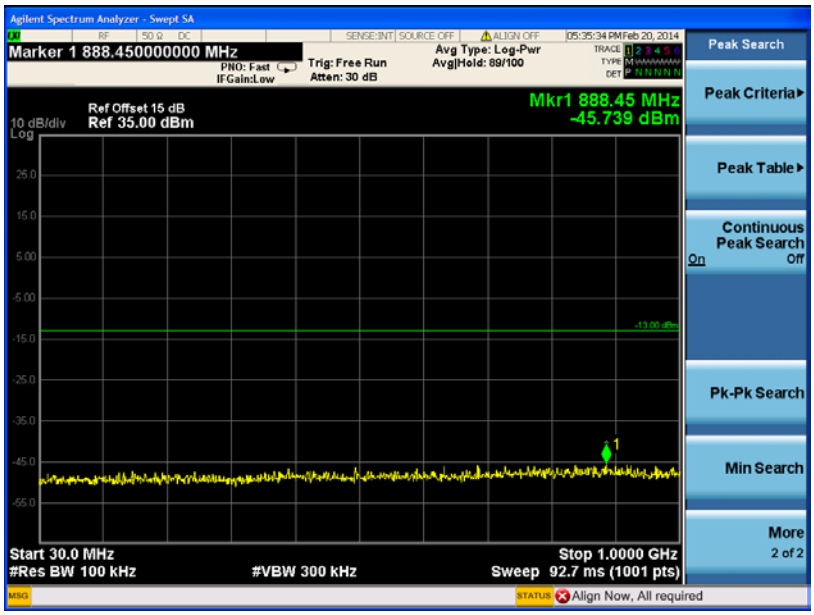
(Plot H1.1: HSDPA1900MHz Channel = 9262, 1GHz to 20GHz)



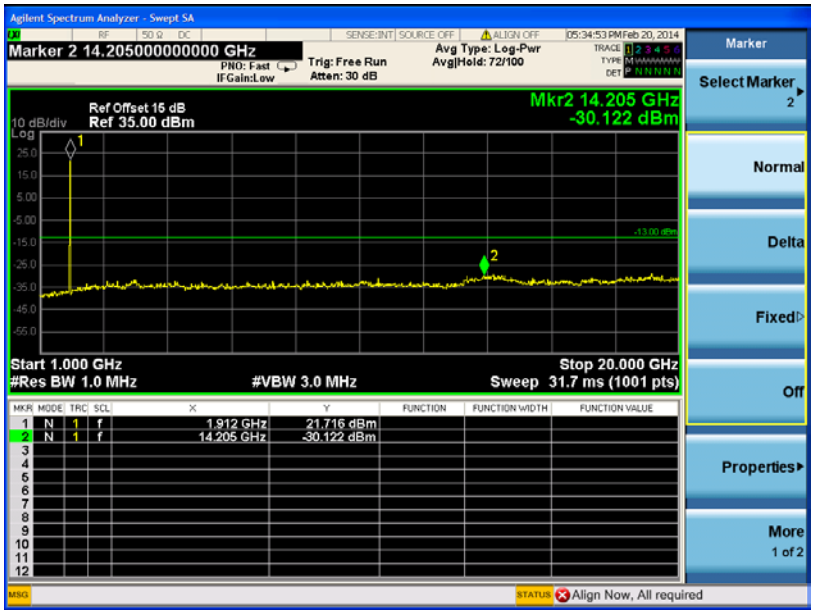
(Plot H2: HSDPA1900MHz Channel = 9400, 30MHz to 1GHz)



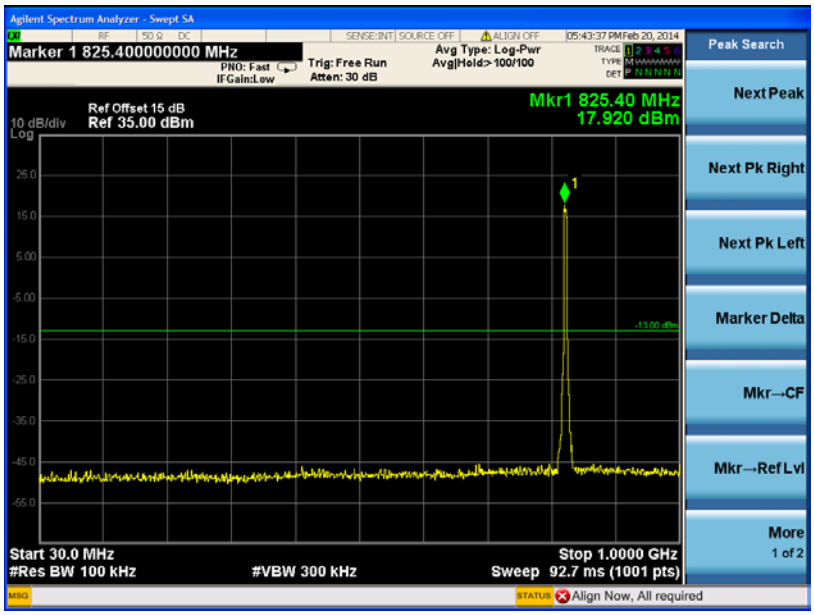
(Plot H2.1: HSDPA1900MHz Channel = 9400, 1GHz to 20GHz)



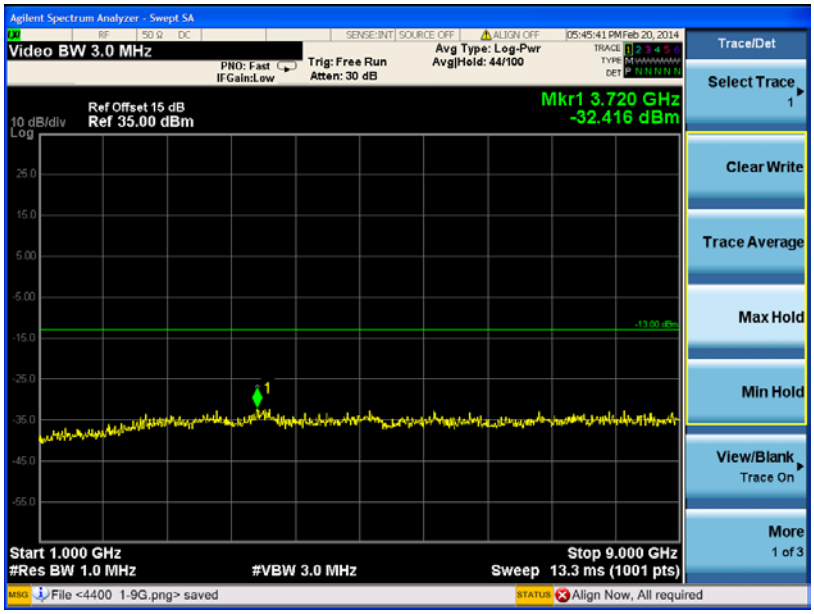
(Plot H3: HSDPA1900MHz Channel = 9538, 30MHz to 1GHz)



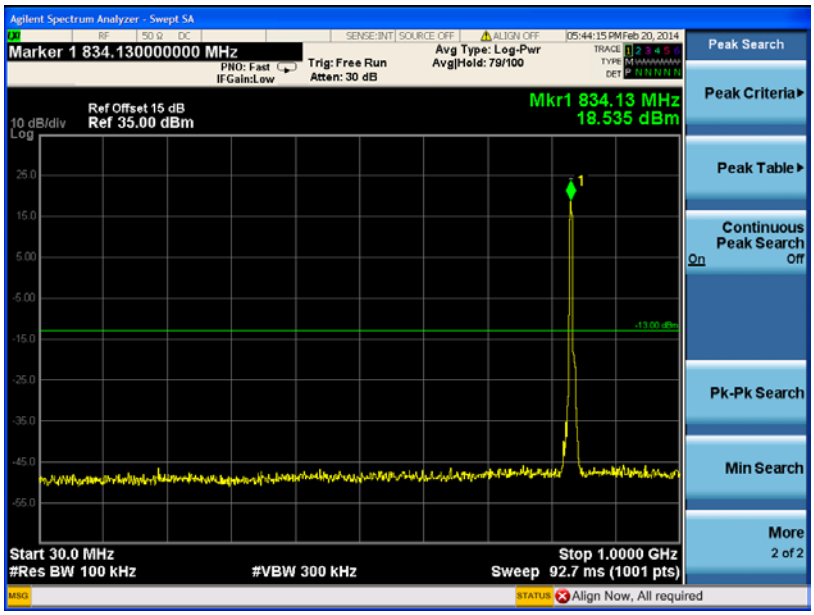
(Plot H3.1: HSDPA1900MHz Channel = 9538 1GHz to 20GHz)



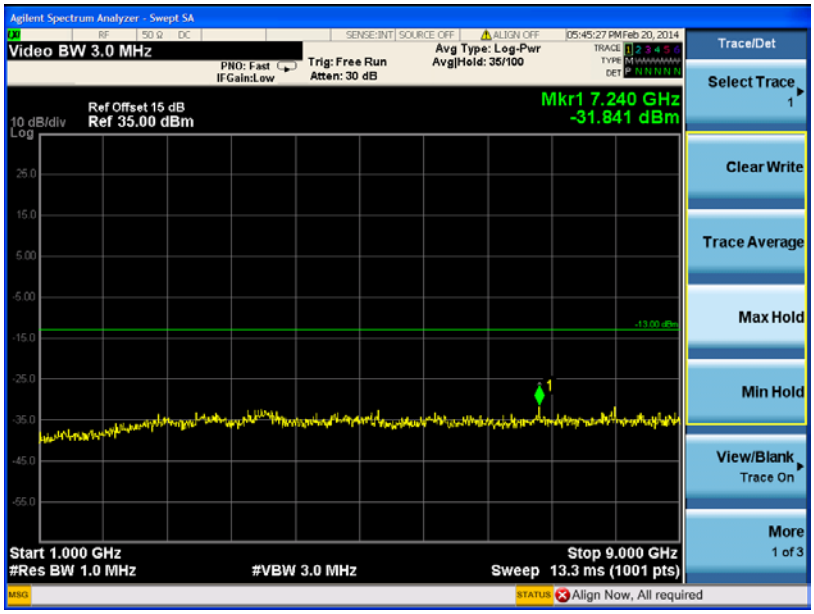
(Plot I 1: HSUPA 850MHz Channel = 4132, 30MHz to 1GHz)



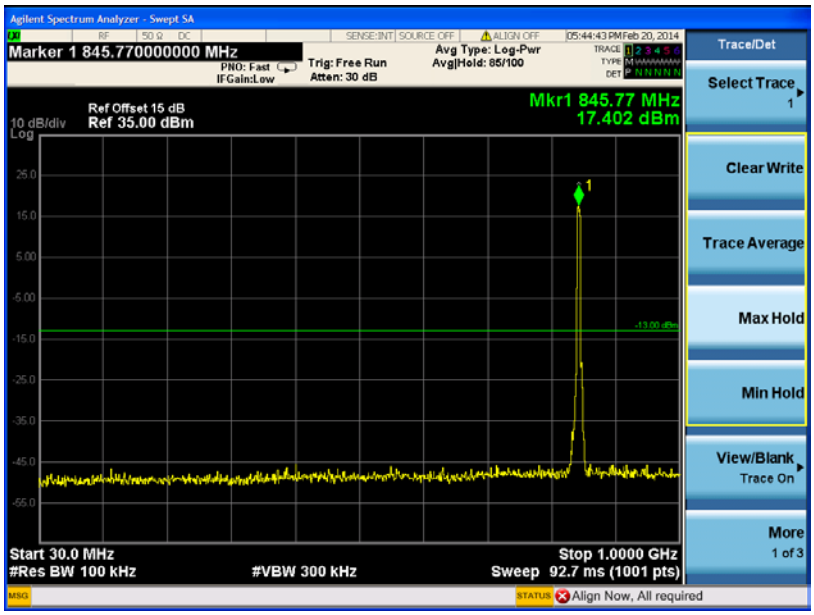
(Plot I1.1: HSUPA 850MHz Channel = 4132, 1GHz to 9GHz)



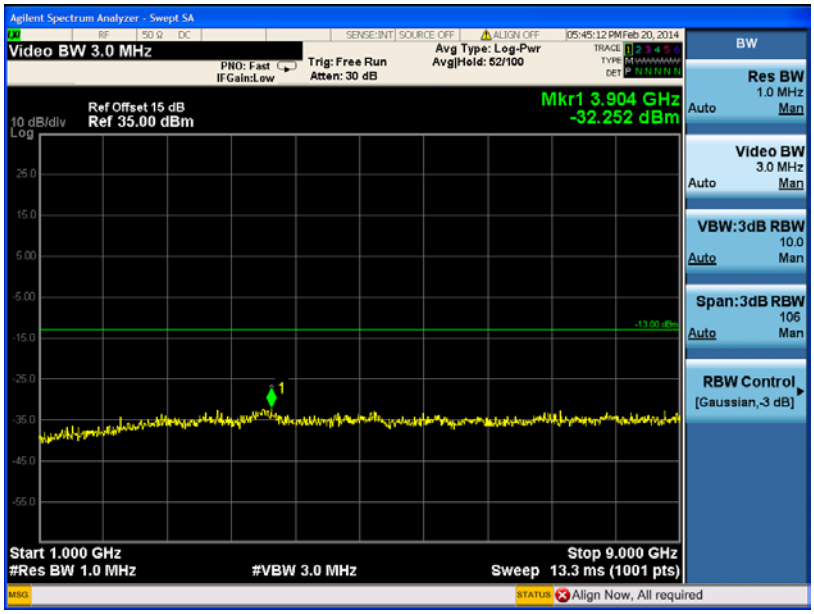
(Plot I 2: HSUPA 850MHz Channel = 4175, 30MHz to 1GHz)



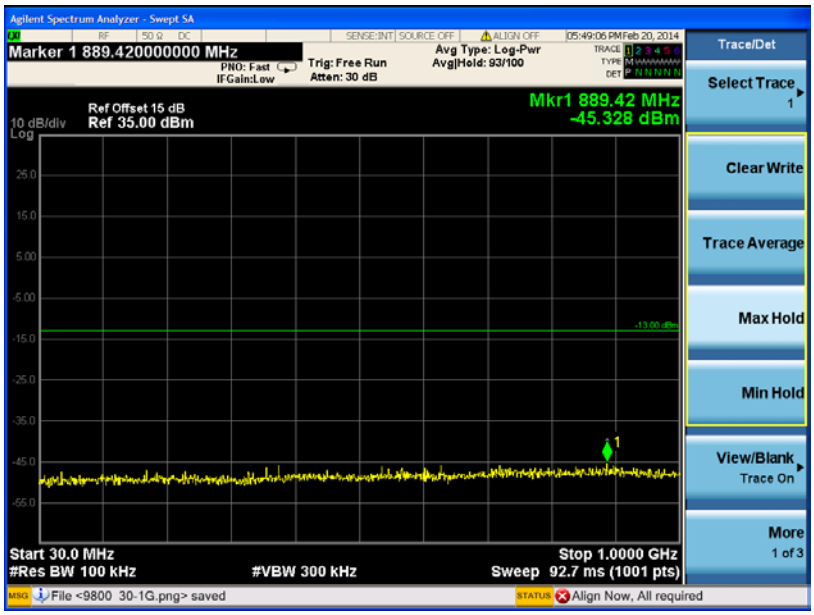
(Plot I2.1: HSUPA 850MHz Channel = 4175, 1GHz to 9GHz)



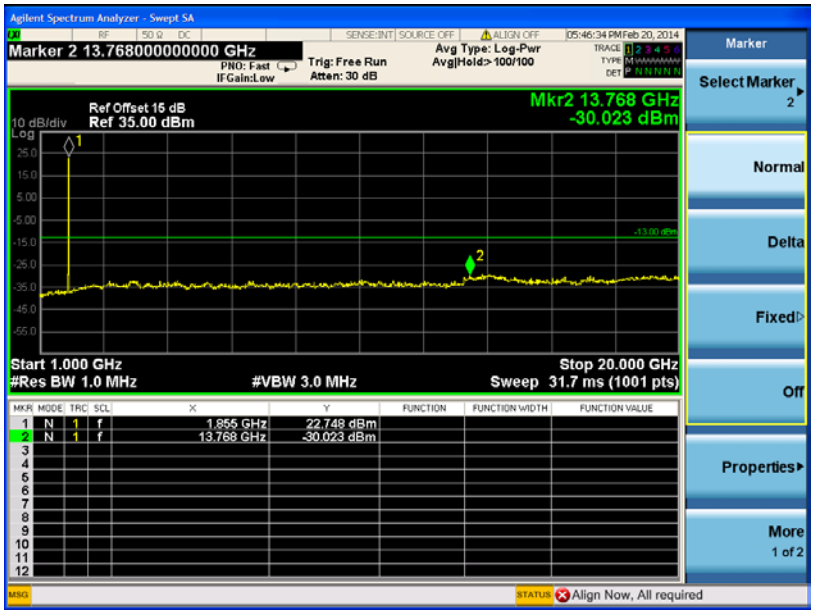
(Plot I 3: HSUPA850MHz Channel = 4233, 30MHz to 1GHz)



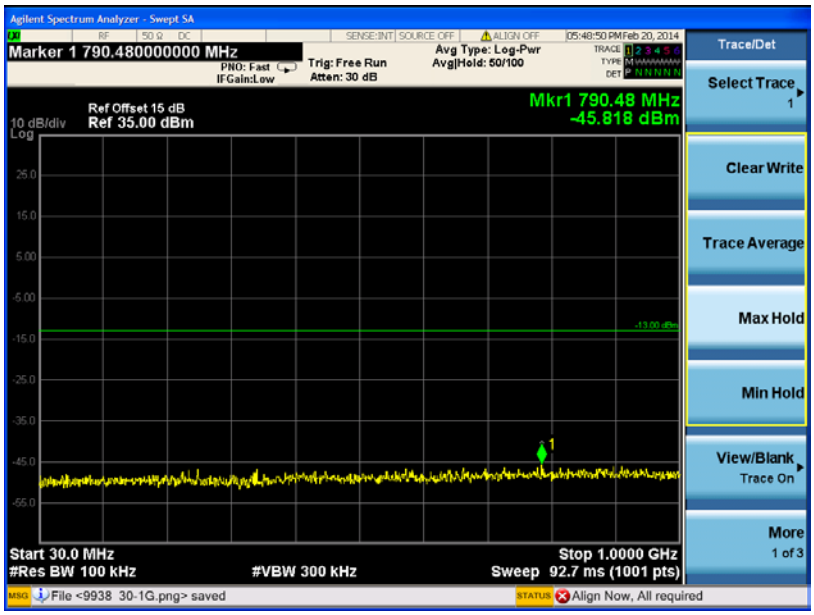
(Plot l3.1: HSUPA850MHz Channel = 4233, 1GHz to 9GHz)



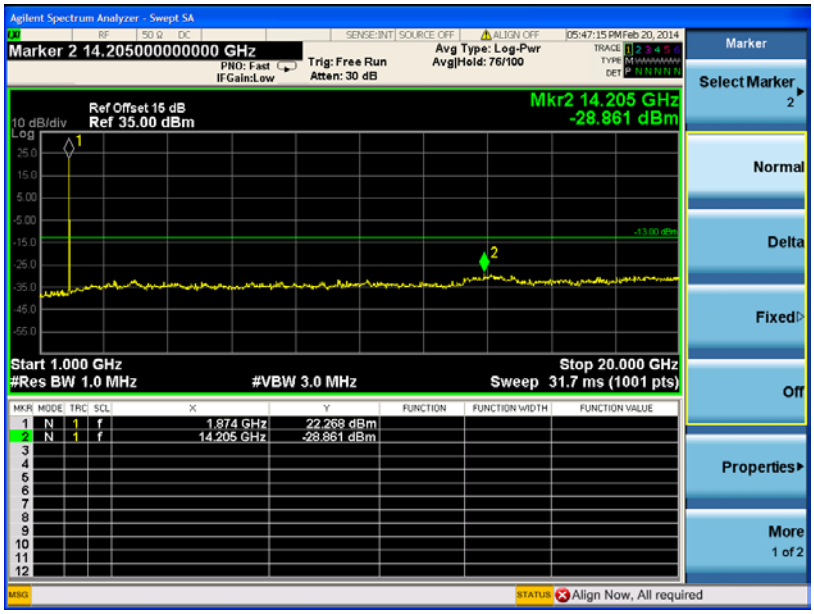
(Plot J 1: HSUPA1900MHz Channel = 9262, 30MHz to 1GHz)



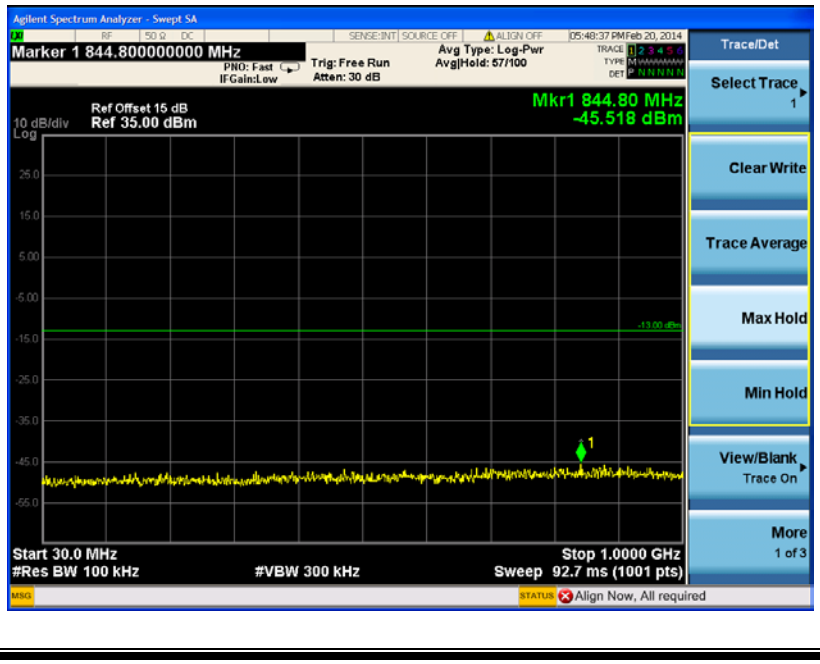
(Plot J1.1: HSUPA1900MHz Channel = 9262, 1GHz to 20GHz)



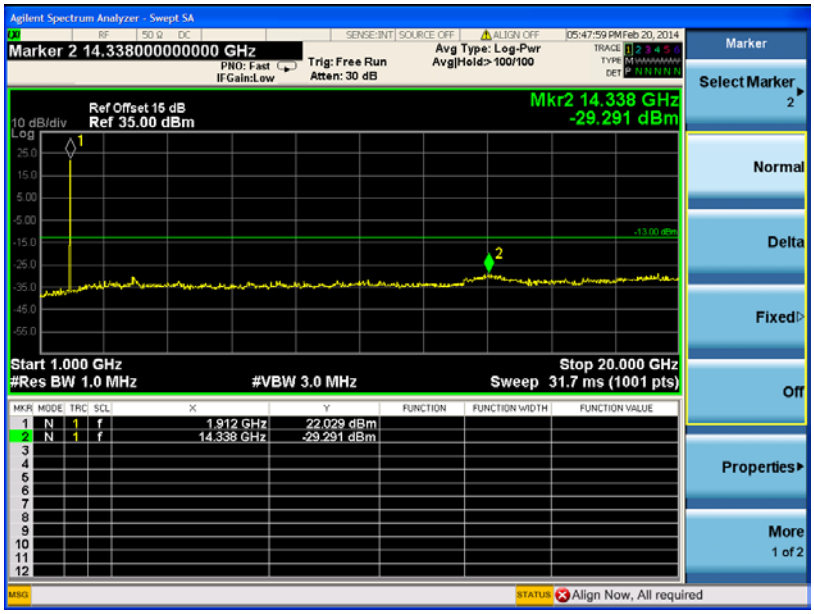
(Plot J 2: HSUPA1900MHz Channel = 9400, 30MHz to 1GHz)



(Plot J2.1: HSUPA1900MHz Channel = 9400, 1GHz to 20GHz)



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



(Plot J3.1: HSUPA1900MHz 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), 27.53(g)(h) in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth (26dB emission bandwidth) of the fundamental emission of the transmitter may be employed.

2.6.2 Test Description

See section 2.1.2 of this report.

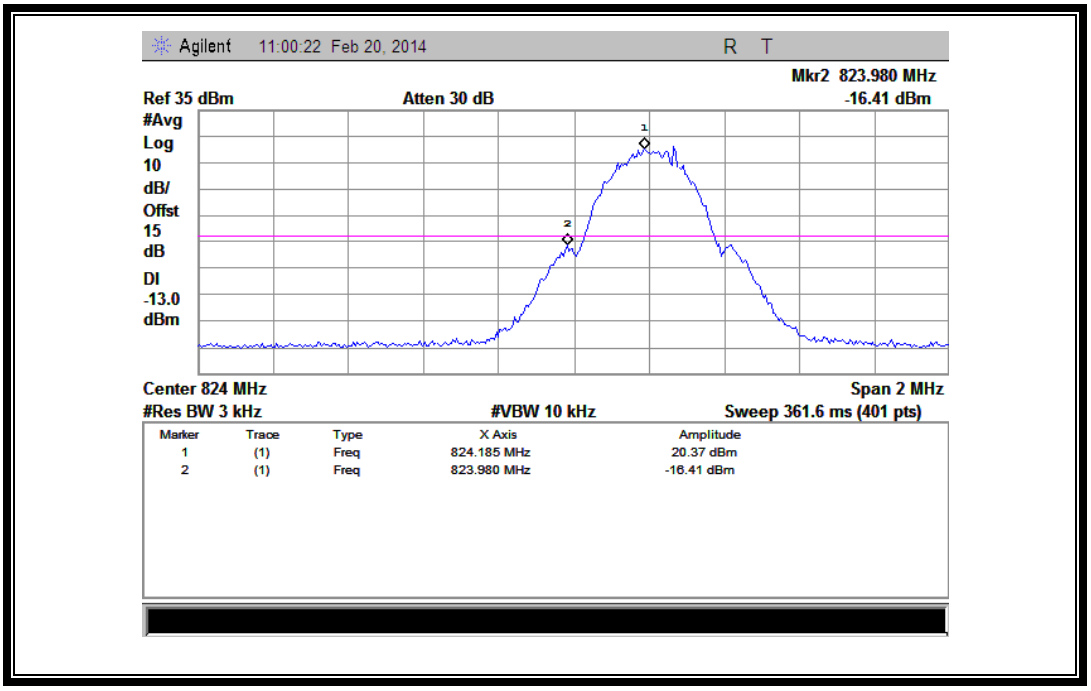
2.6.3 Test Result

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

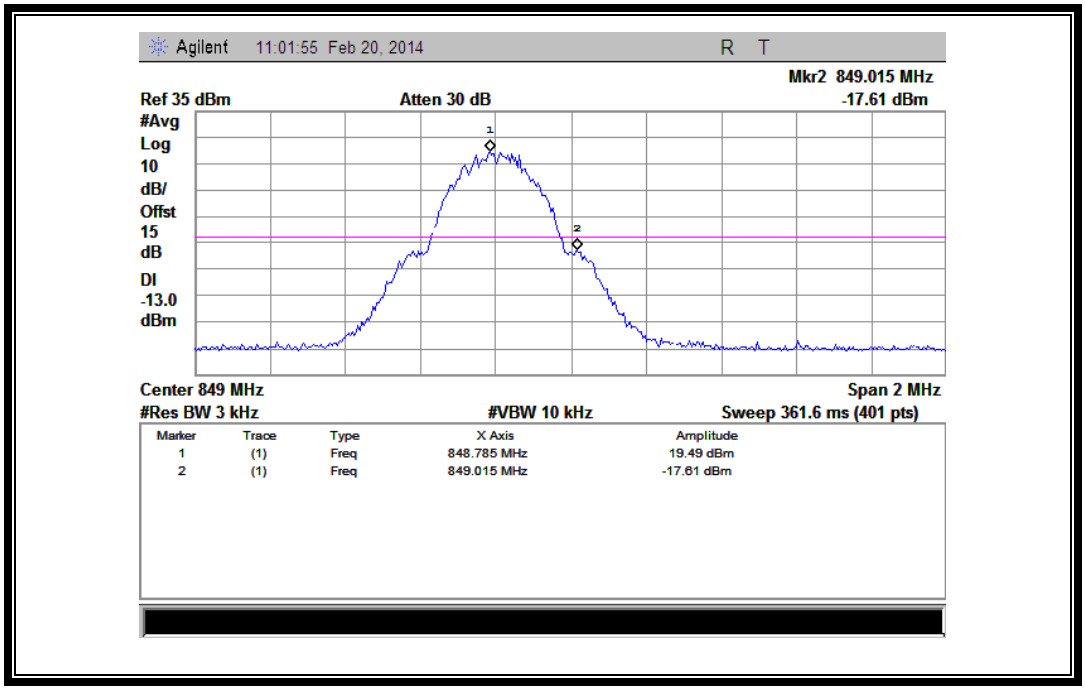
1. Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	-16.41	Plat A	-13	PASS
	251	848.8	-17.61	Plot B		PASS
GSM 1900MHz	512	1850.2	-21.70	Plat C	-13	PASS
	810	1909.8	-23.47	Plot D		PASS
EDGE 850MHz	128	824.2	-22.66	Plat E	-13	PASS
	251	848.8	-23.34	Plot F		PASS
EDGE 1900MHz	512	1850.2	-23.17	Plat G	-13	PASS
	810	1909.8	-27.32	Plot H		PASS
WCDMA 850MHz	4132	826.4	-20.74	Plat I	-13	PASS
	4233	846.6	-21.68	Plot J		PASS
WCDMA 1900MHz	9262	1852.4	-25.40	Plat K	-13	PASS
	9538	1907.6	-26.18	Plot L		PASS
HSDPA 850MHz	4132	826.4	-21.09	Plat M	-13	PASS
	4233	846.6	-22.21	Plot N		PASS
HSDPA 1900MHz	9262	1852.4	-24.19	Plat O	-13	PASS
	9538	1907.6	-23.95	Plot P		PASS
HSUPA 850MHz	4132	826.4	-20.40	Plat Q	-13	PASS
	4233	846.6	-22.58	Plot R		PASS
HSUPA 1900MHz	9262	1852.4	-24.87	Plat S	-13	PASS
	9538	1907.6	-23.73	Plot T		PASS

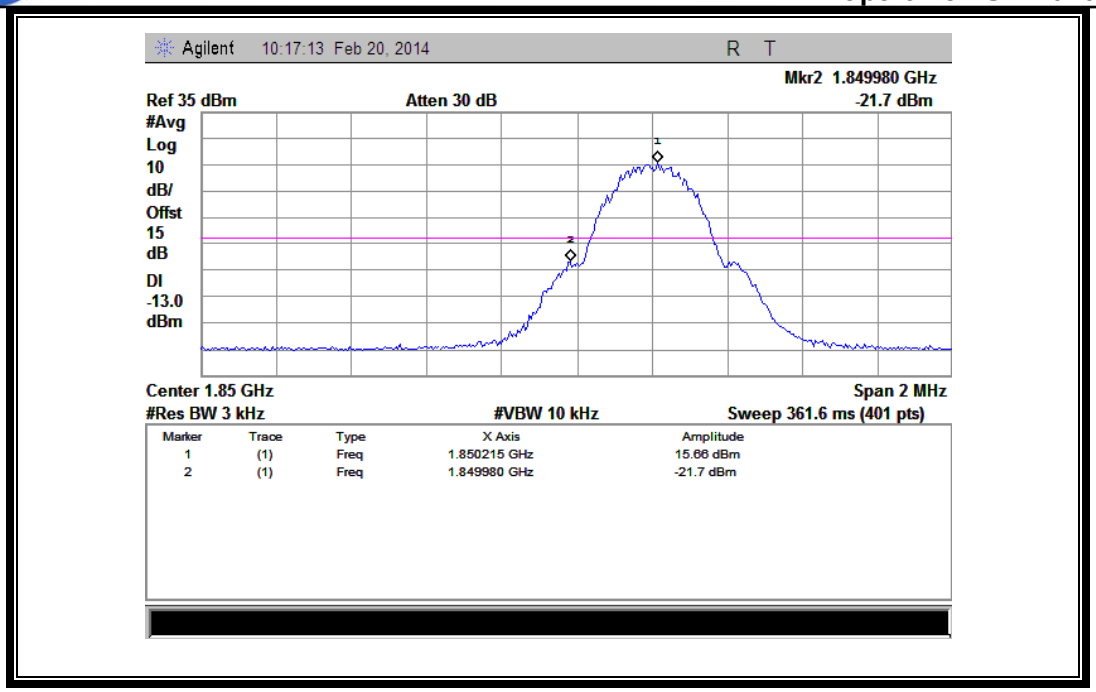
2. Test Plots:



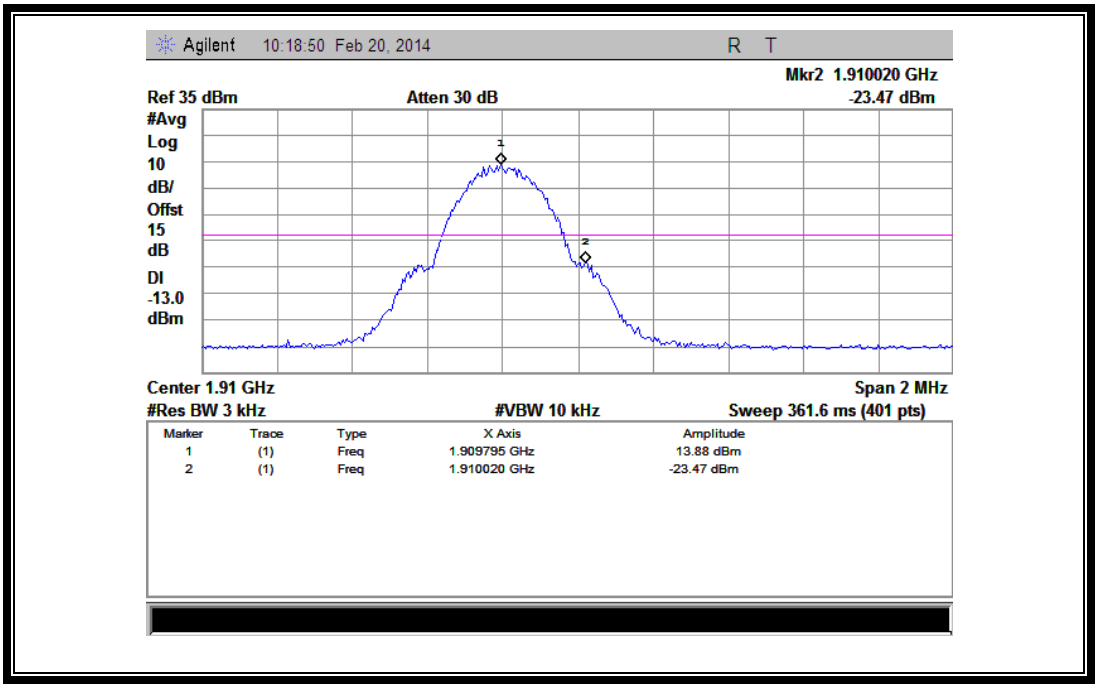
(Plot A: GSM 850 Channel = 128)



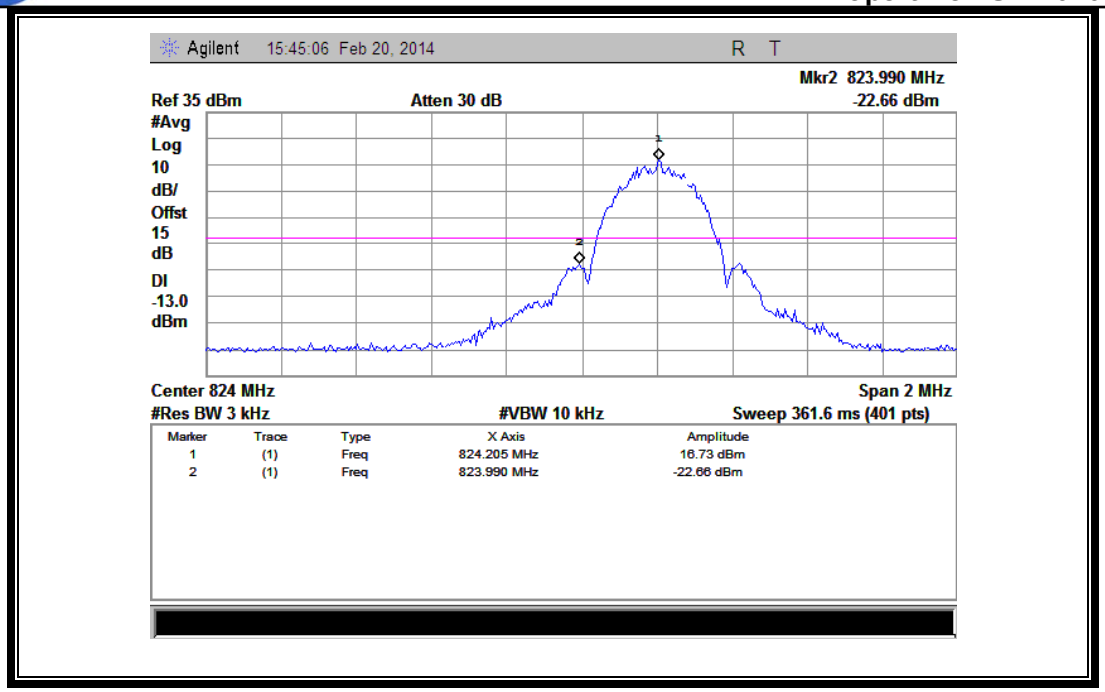
(Plot B: GSM 850 Channel = 251)



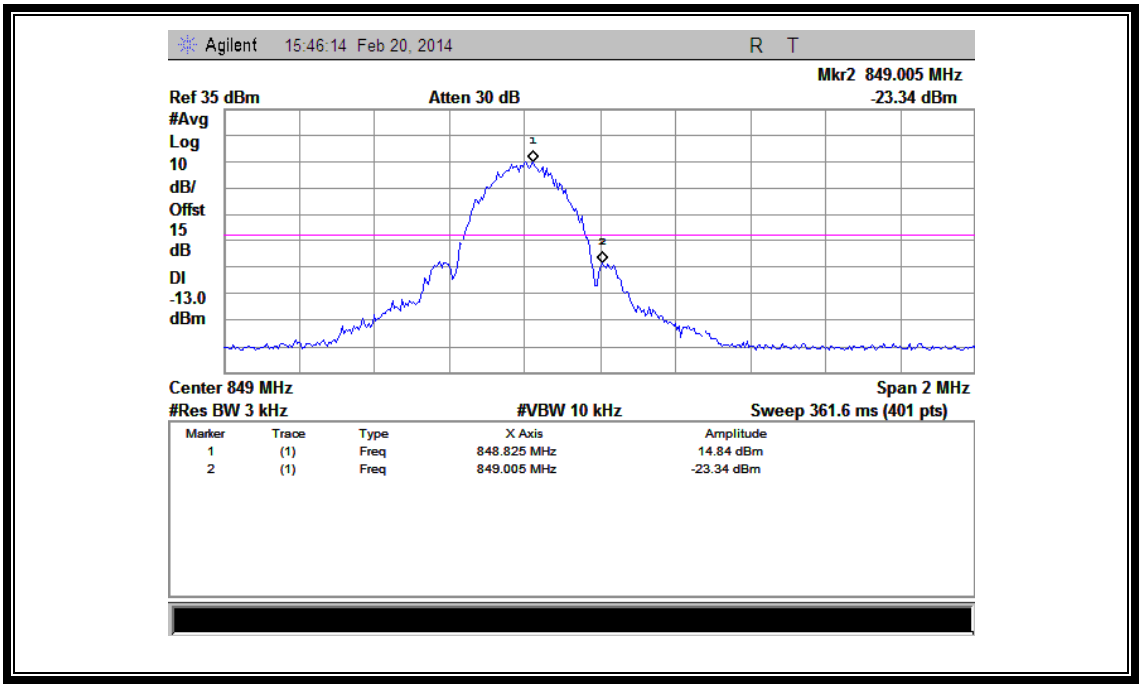
(Plot C: GSM 1900 Channel = 512)



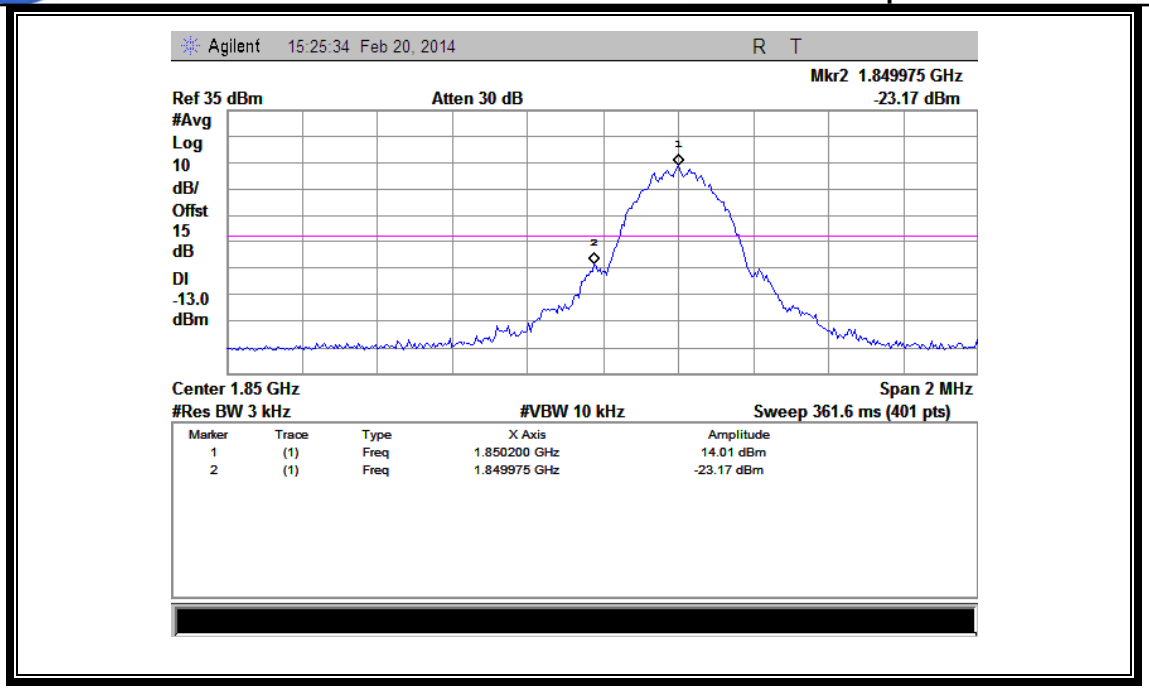
(Plot D: GSM 1900 Channel = 810)



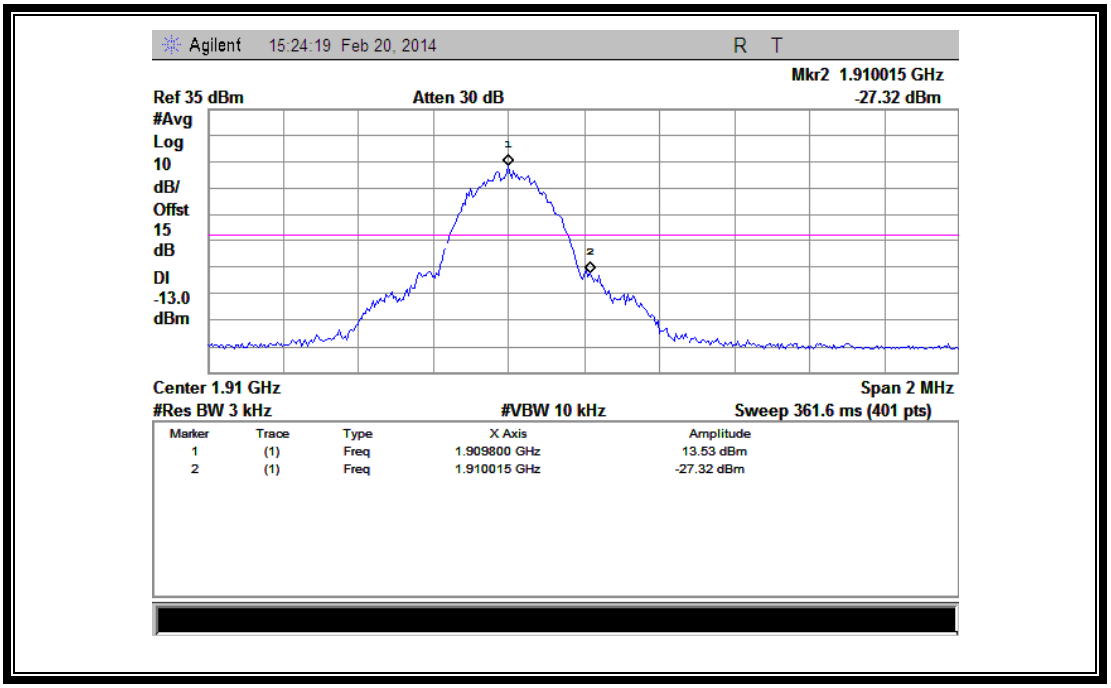
(Plot E: EGPRS 850 Channel = 128)



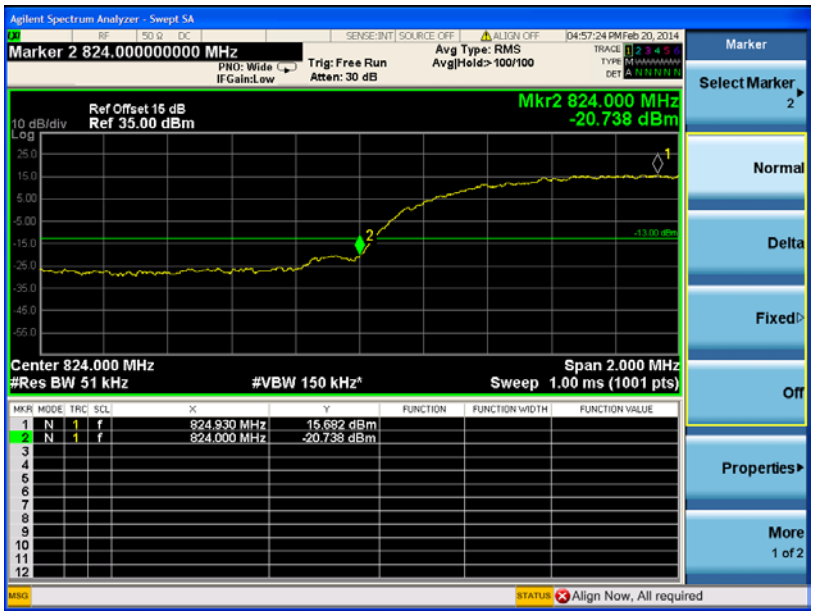
(Plot F: EGPRS 850 Channel = 251)



(Plot G: EGPRS 1900 Channel = 512)

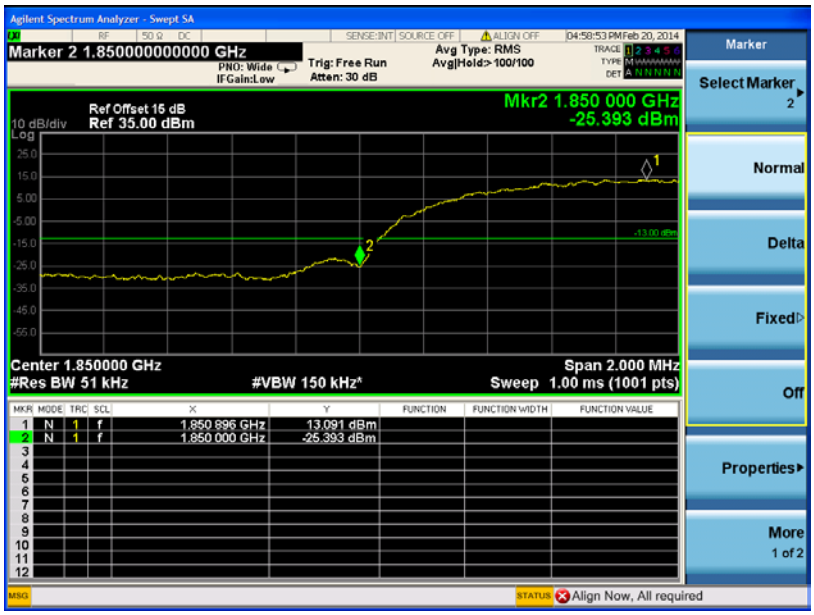


(Plot H: EGPRS 1900 Channel = 810)



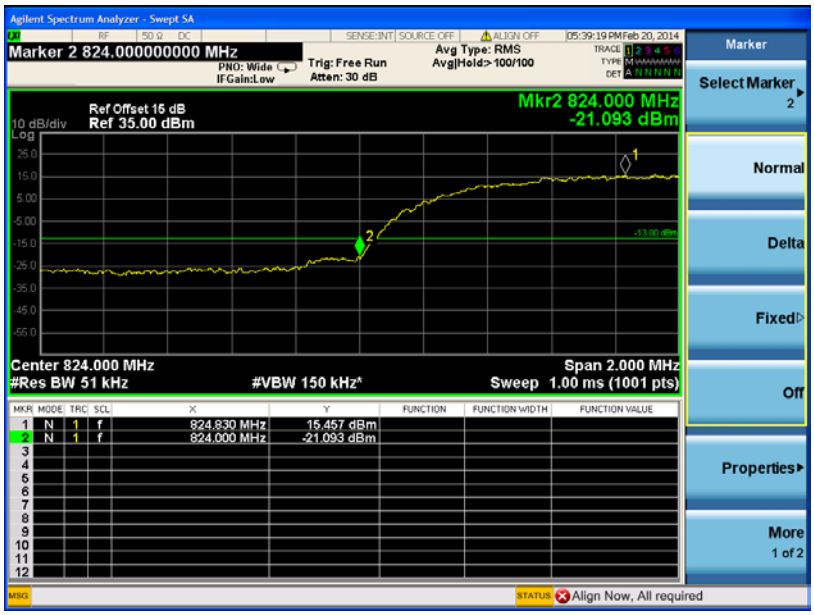
(Plot I: WCDMA 850 Channel = 4132)

(Plot J: WCDMA 850 Channel = 4233)



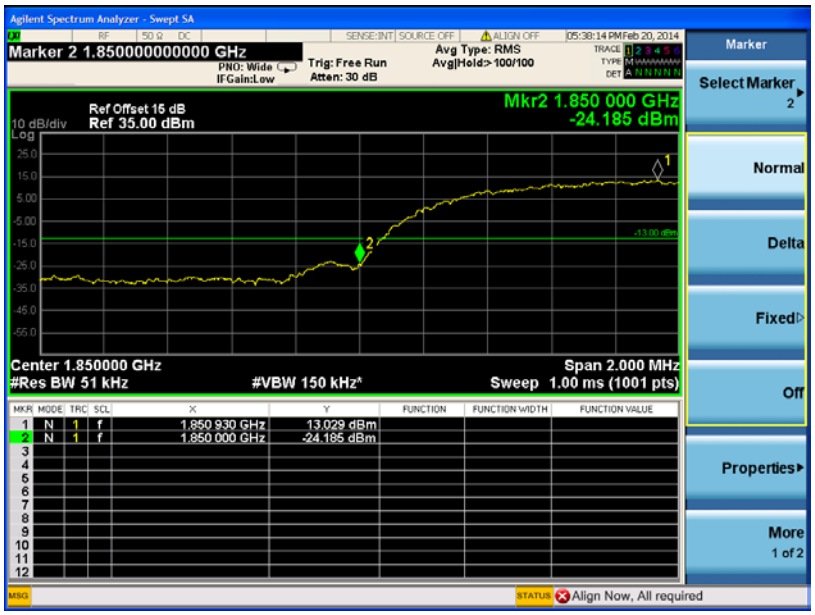
(Plot K: WCDMA 1900 Channel = 9262)

(Plot L: WCDMA 1900 Channel = 9538)

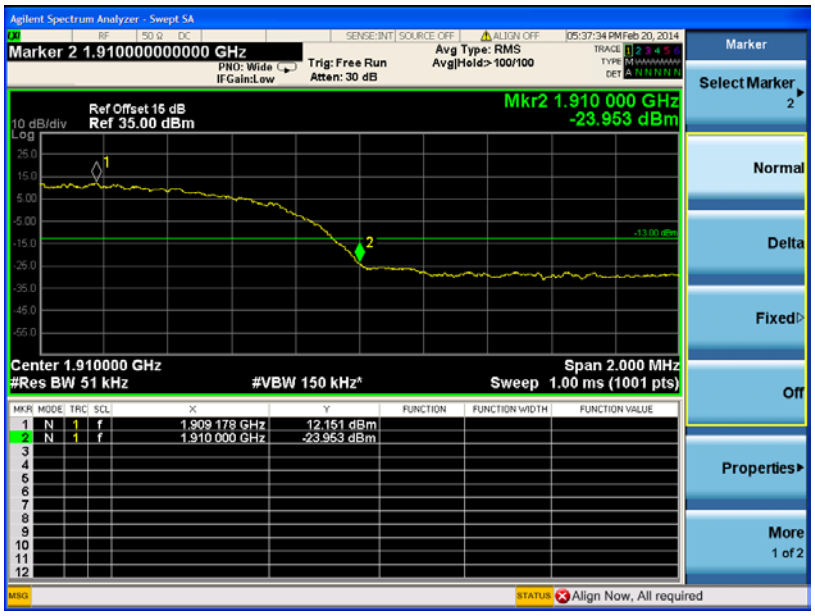


(Plot M: HSDPA 850 Channel = 4132)

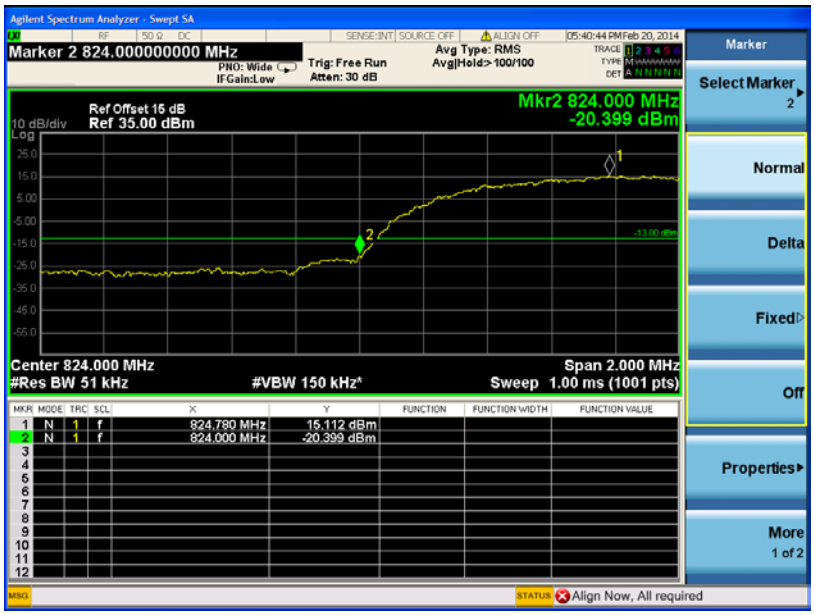
(Plot N: HSDPA850 Channel = 4233)



(Plot O: HSDPA 1900 Channel = 9262)

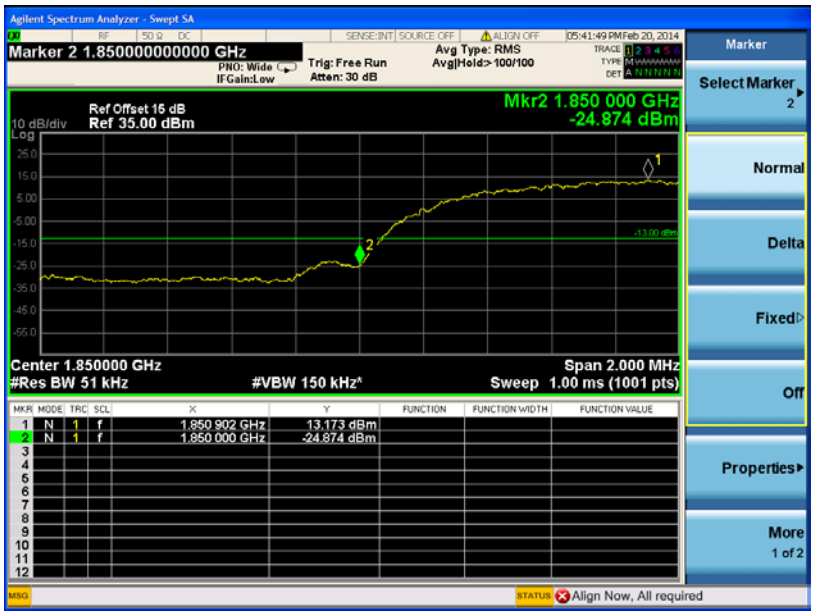


(Plot P: HSDPA 1900 Channel = 9538)

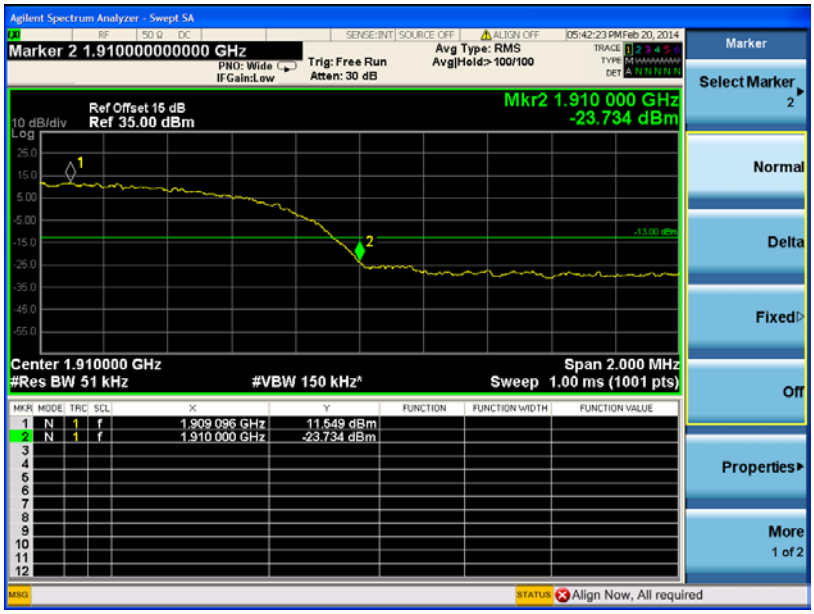


(Plot Q: HSUPA 850 Channel = 4132)

(Plot R: HSUPA850 Channel = 4233)



(Plot S: HSUPA 1900 Channel = 9262)



(Plot T: HSUPA 1900 Channel = 9538)

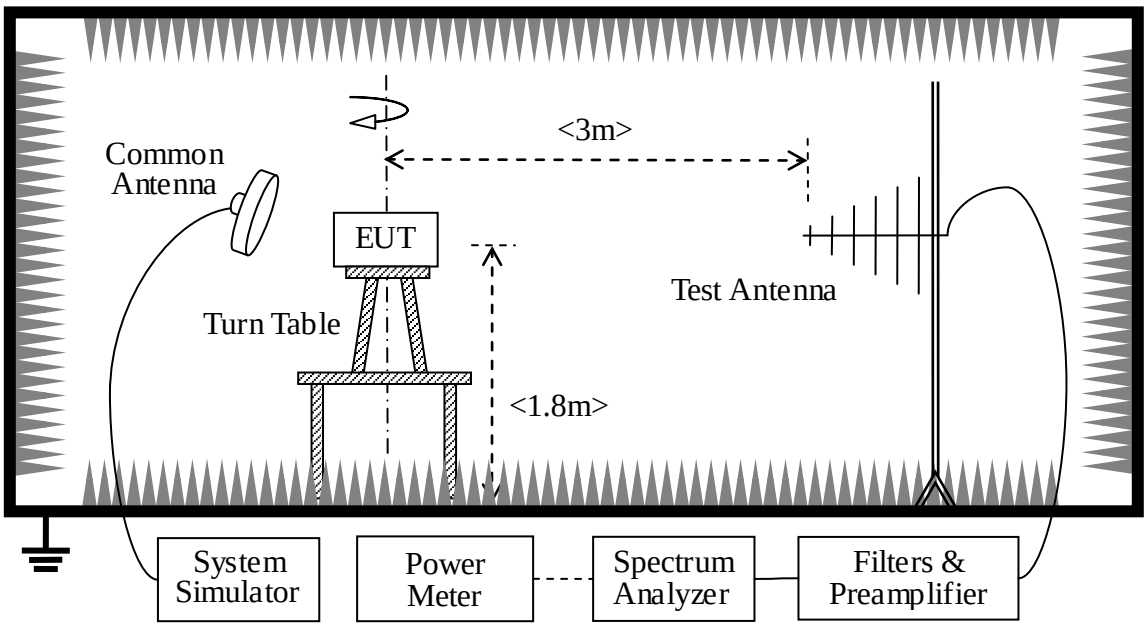
2.7 Transmitter Radiated Power (EIRP/ERP)

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 33.08dBm, GSM 1900 29.51dBm, EGPRS 850 31.82dBm，EGPRS 29.88.WCDMA 850 24.48dBm, WCDMA 1900 23.49 dBm, 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	2012.05	2014.05
Spectrum Analyzer	Agilent	E7405A	US44210471	2012.05	2014.05
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2012.05	2014.05
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2012.05	2014.05
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2012.05	2014.05
Substitution Antenna	Schwarzbeck	BBHA 9120C	9120C-384	2012.05	2014.05
Pre-AMPs	lucix	S10M100L3802	S020180L3203	2012.05	2014.05
Notch Filter	COM-MW	ZBSF-C836.5-25-X	NA	2012.05	2014.05
Notch Filter	COM-MW	ZBSF-C1747.5-75-X2	NA	2012.05	2014.05
Notch Filter	COM-MW	ZBSF-C1880-60-X2	NA	2012.05	2014.05

2.7.3 Test Result

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

The substitution corrections are obtained as described below:

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

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

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

P_{SUBST_TX} is signal generator level,

P_{SUBST_RX} is receiver level,

L_{SUBST_CABLES} is cable losses including TX cable,

$G_{SUBST\_TX\_ANT}$ is substitution antenna gain.

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

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

1. GSM Model Test Verdict:

Band	Channel	Frequency (MHz)	PCL	Measured ERP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 850MHz	128	824.20	5	33.39	1.104	Plot A	38.5	7	PASS
	190	836.60	5	33.21	1.033				PASS
	251	848.80	5	33.00	0.935				PASS
GPRS 850MHz	128	824.20	5	33.48	1.081	Plot B Note 1	38.5	7	PASS
	190	836.60	5	33.45	1.014				PASS
	251	848.80	5	33.47	0.951				PASS
EGPRS 850MHz	128	824.20	5	33.55	1.062	Plot C Note 1	38.5	7	PASS
	190	836.60	5	33.62	0.923				PASS
	251	848.80	5	33.25	0.940				PASS

Band	Channel	Frequency (MHz)	PCL	Measured EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 1900MHz	512	1850.2	0	30.58	0.665	Plot D	33	2	PASS
	661	1880.0	0	30.48	0.665				PASS
	810	1909.8	0	30.41	0.729				PASS
GPRS 1900MHz	512	1850.2	0	30.62	0.807	Plot E Note 1	33	2	PASS
	661	1880.0	0	30.48	0.650				PASS
	810	1909.8	0	30.27	0.719				PASS
EGPRS 1900MHz	512	1850.2	0	30.04	0.798	Plot F Note 1	33	2	PASS
	661	1880.0	0	30.29	0.753				PASS
	810	1909.8	0	30.61	0.721				PASS

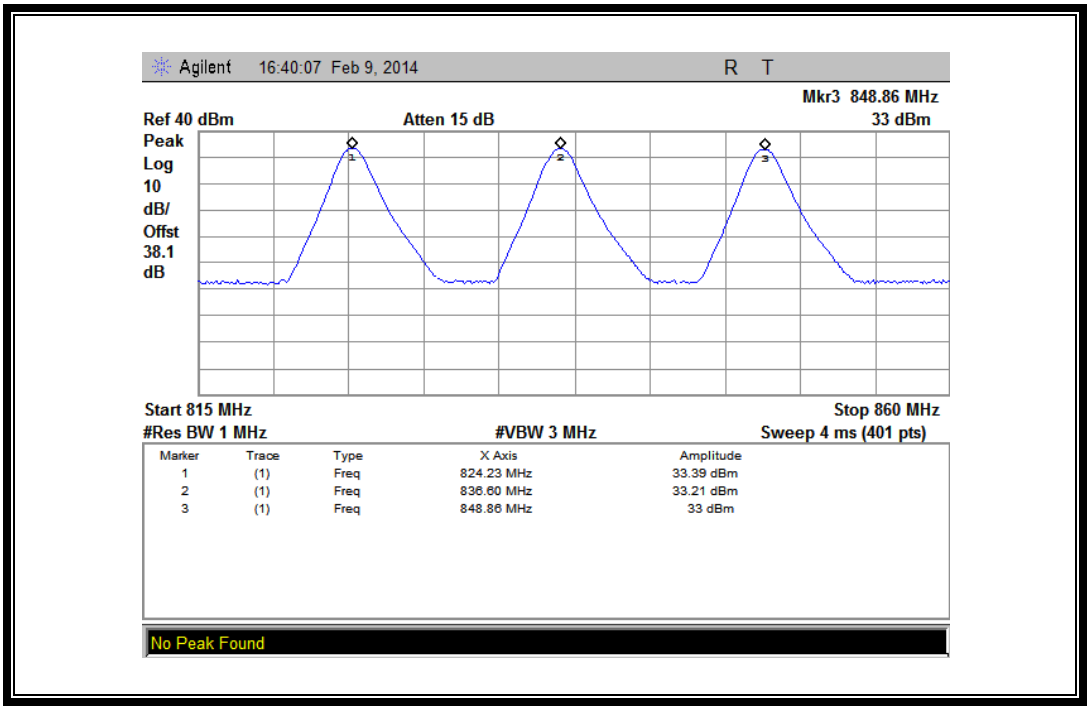
Note 1:	For the GPRS and EGPRS model, all the slots were tested and just the worst data was record in this report.

2. WCDMA Model Test Verdict:

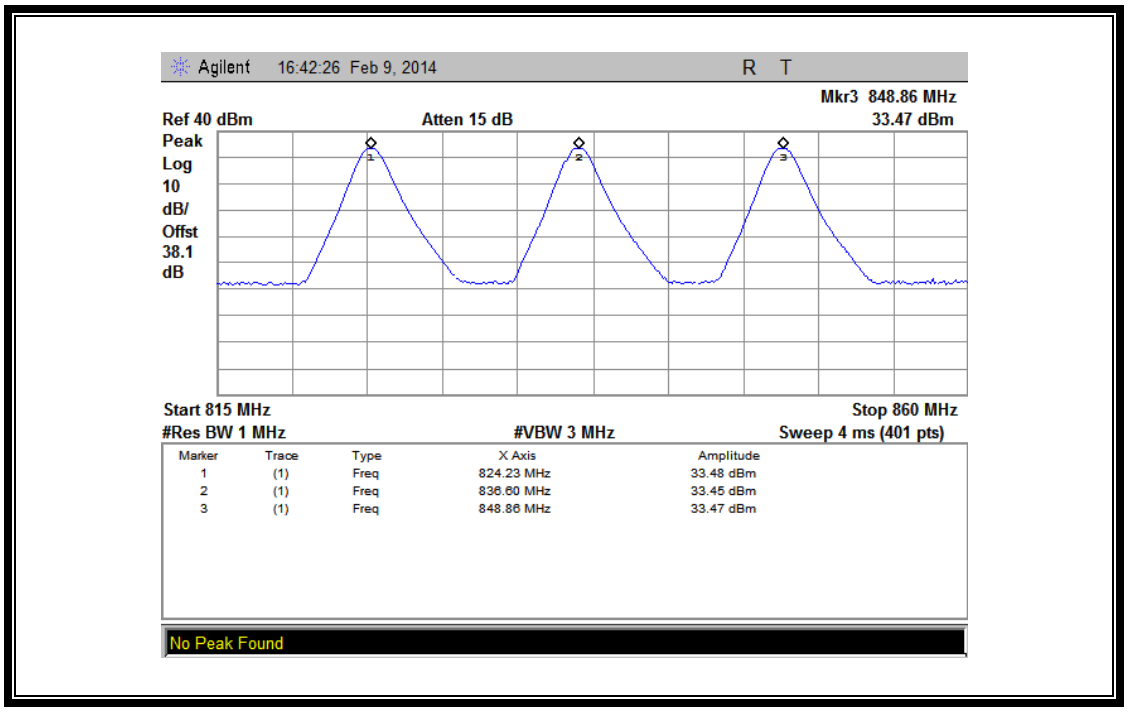
Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
WCDMA 850MHz	4132	826.4	27.87	0.527	Plot G	38.5	7	PASS
	4175	835	27.90	0.442				PASS
	4233	846.6	28.44	0.445				PASS
HSDPA 850MHz	4132	826.4	27.92	0.519	Plot H	38.5	7	PASS
	4175	835	27.65	0.409				PASS
	4233	846.6	28.30	0.440				PASS
HSUPA 850MHz	4132	826.4	27.97	0.444	Plot I	38.5	7	PASS
	4175	835	27.81	0.362				PASS
	4233	846.6	28.45	0.373				PASS

Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W		dBm	W	
WCDMA 1900MHz	9262	1852.4	25.28	0.294	Plot J	33	2	PASS
	9400	1880	25.69	0.331				PASS
	9538	1907.6	25.49	0.330				PASS
HSDPA 1900MHz	9262	1852.4	25.43	0.303	Plot K	33	2	PASS
	9400	1880	25.54	0.352				PASS
	9538	1907.6	25.65	0.344				PASS
HSUPA 1900MHz	9262	1852.4	25.30	0.306	Plot L	33	2	PASS
	9400	1880	25.23	0.354				PASS
	9538	1907.6	25.52	0.319				PASS

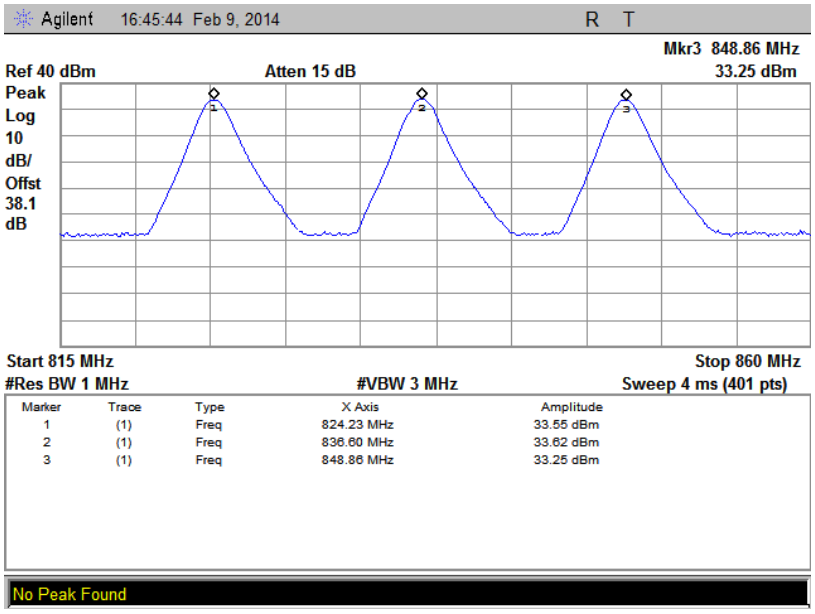
3. Test Plots:



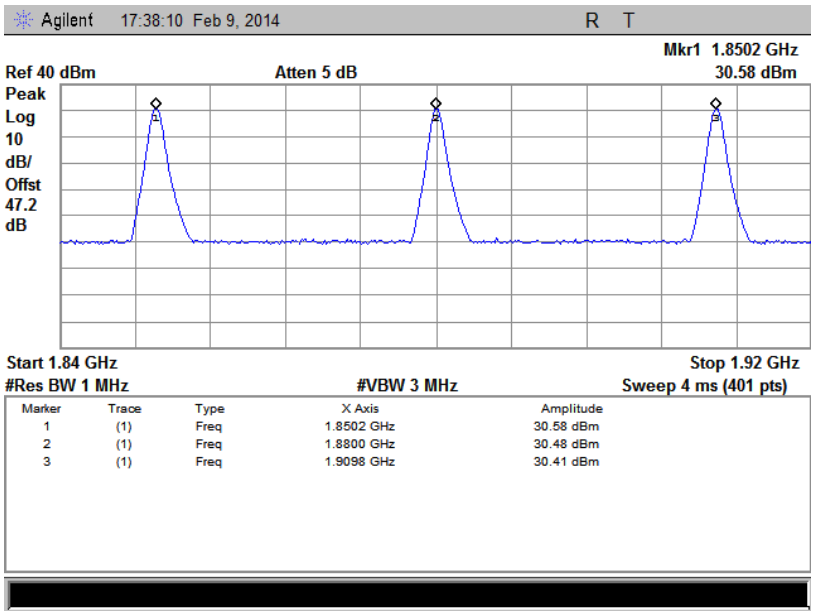
(Plot A: GSM 850MHz Channel = 128, 190, 251)



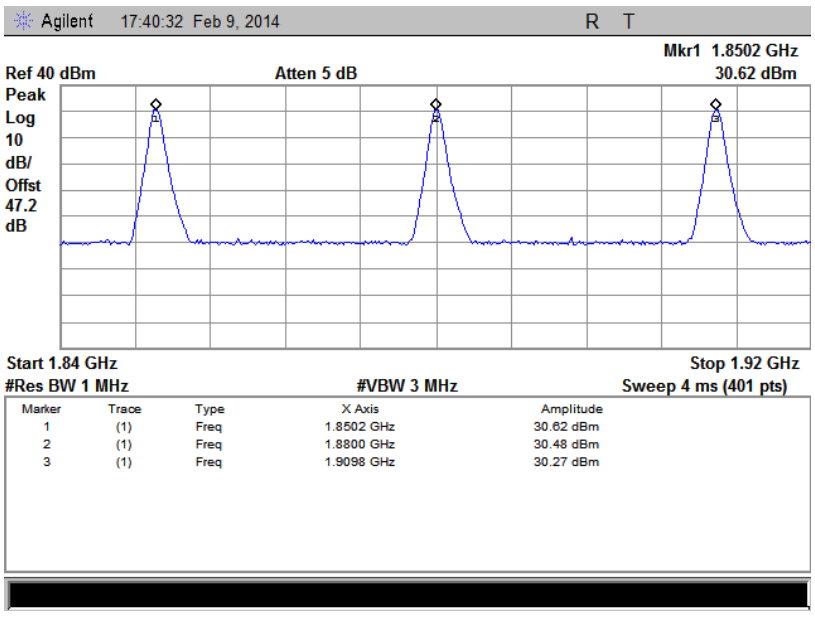
(Plot B: GPRS 850MHz Channel = 128, 190, 251)



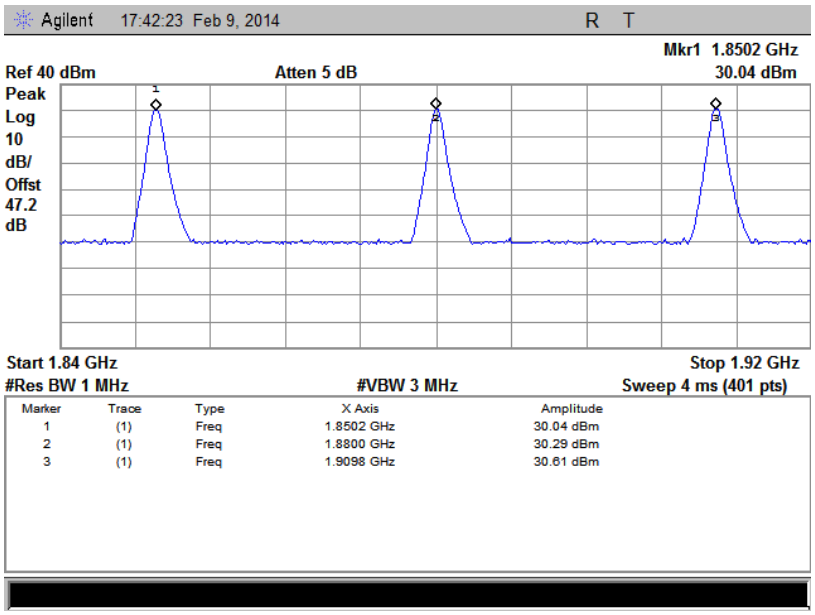
(Plot C: EGPRS 850MHz Channel = 128, 190, 251)



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



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



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