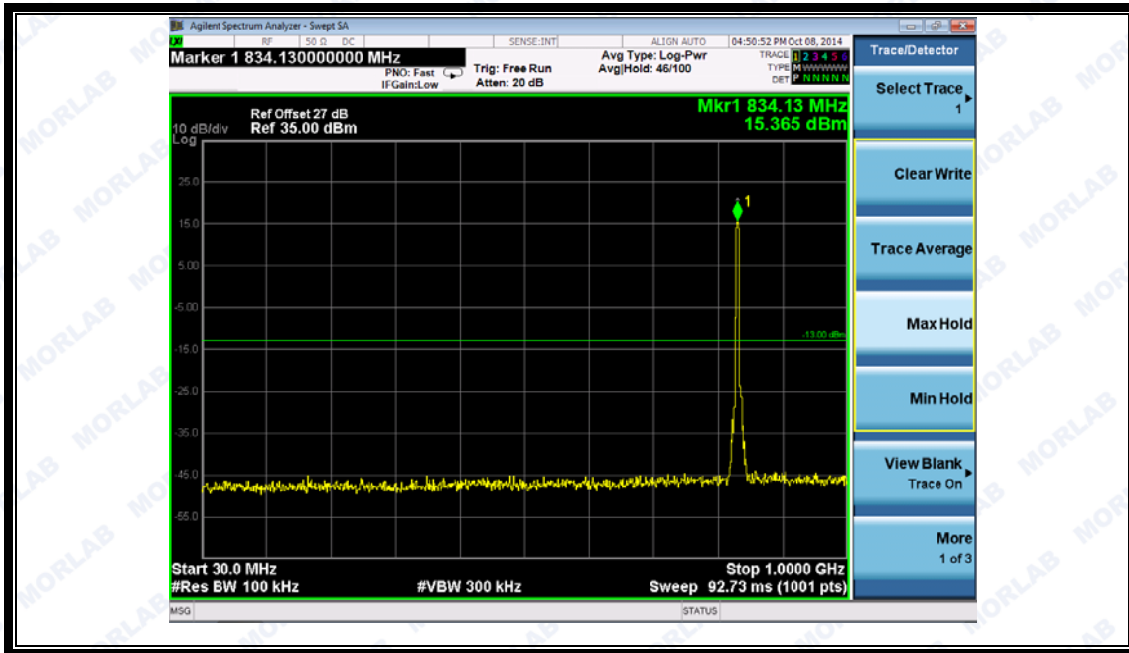


(Plot G1: HSDPA 850MHz Channel = 4132, 30MHz to 1GHz)



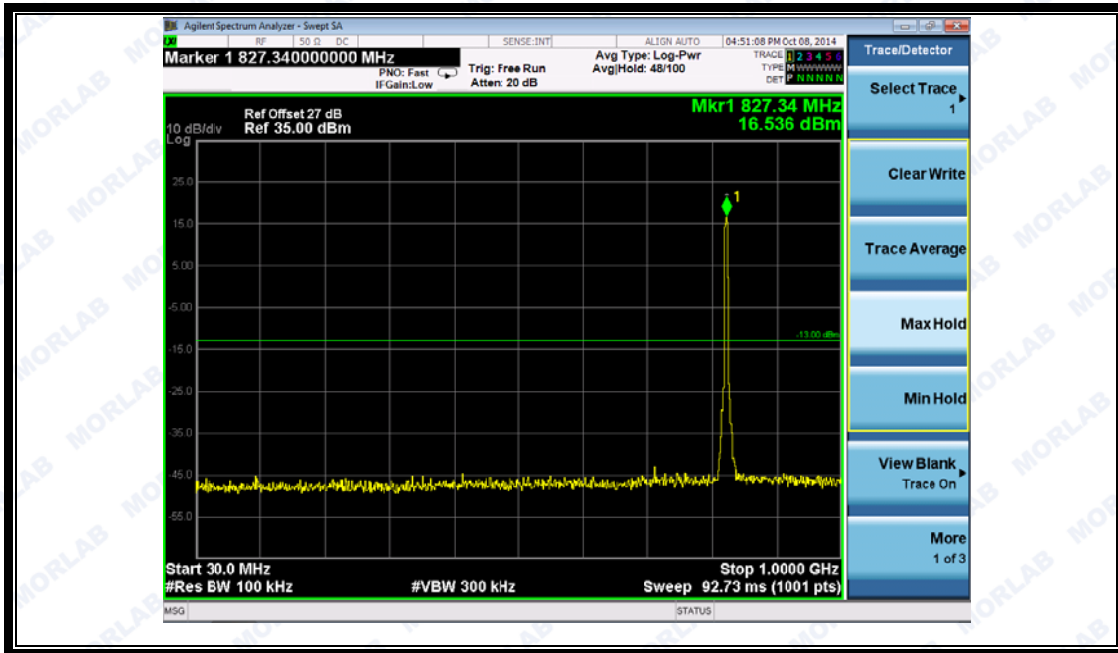
(Plot G1.1: HSDPA 850MHz Channel = 4132, 1GHz to 9GHz)



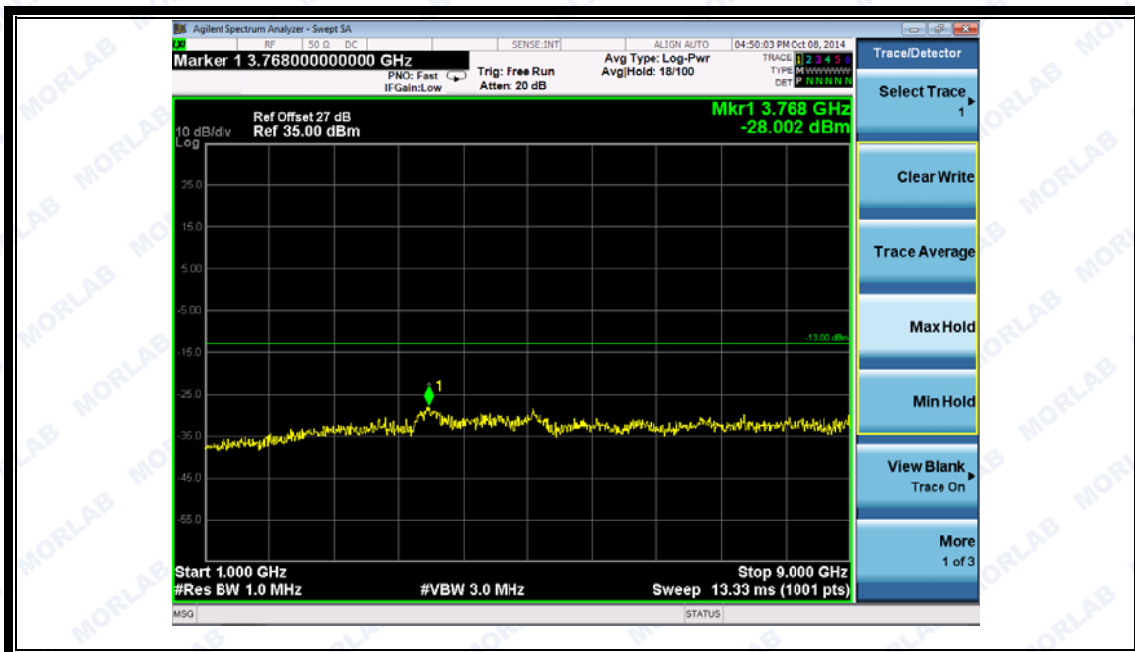
(Plot G2: HSDPA 850MHz Channel = 4175, 30MHz to 1GHz)



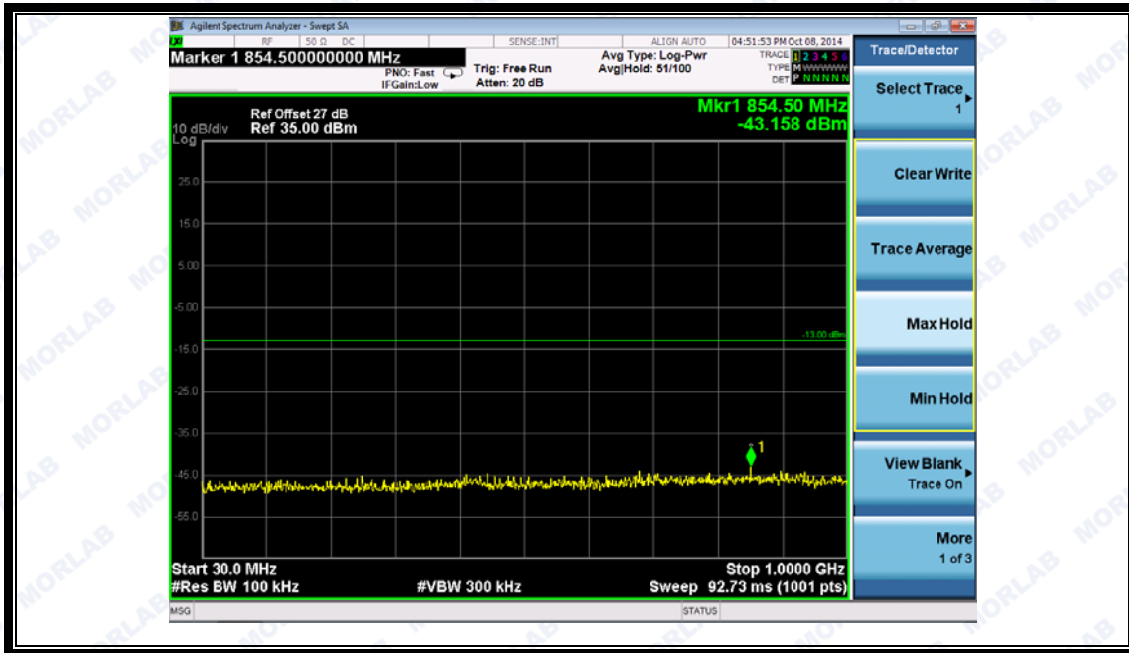
(Plot G2.1: HSDPA 850MHz Channel = 4175, 1GHz to 9GHz)



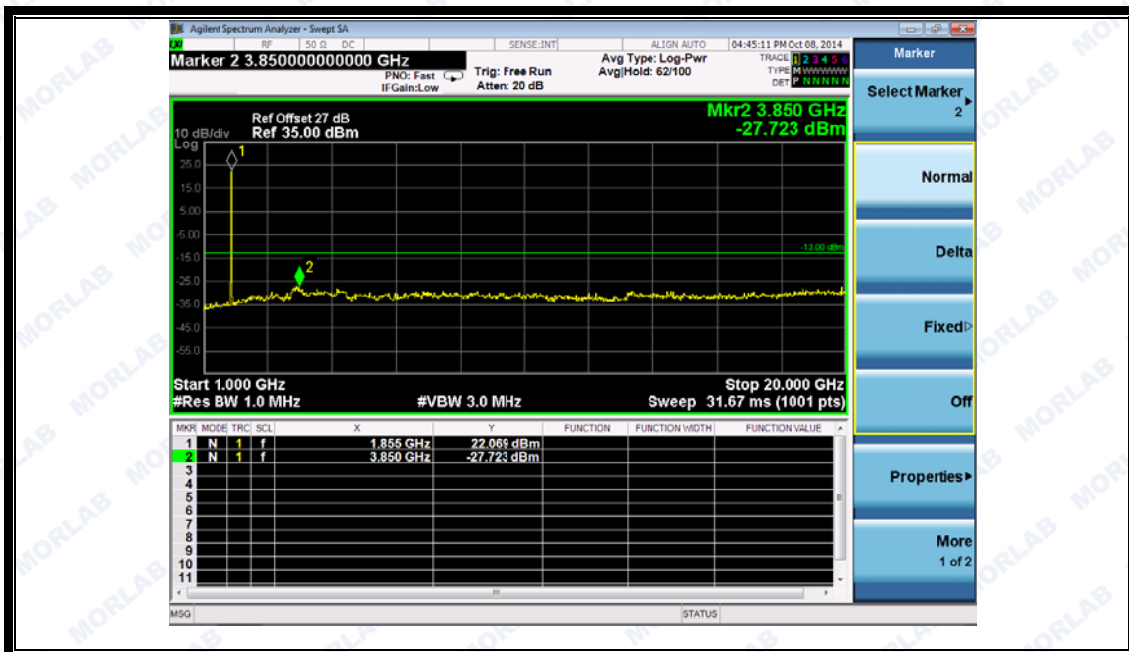
(Plot G3: HSDPA850MHz Channel = 4233, 30MHz to 1GHz)



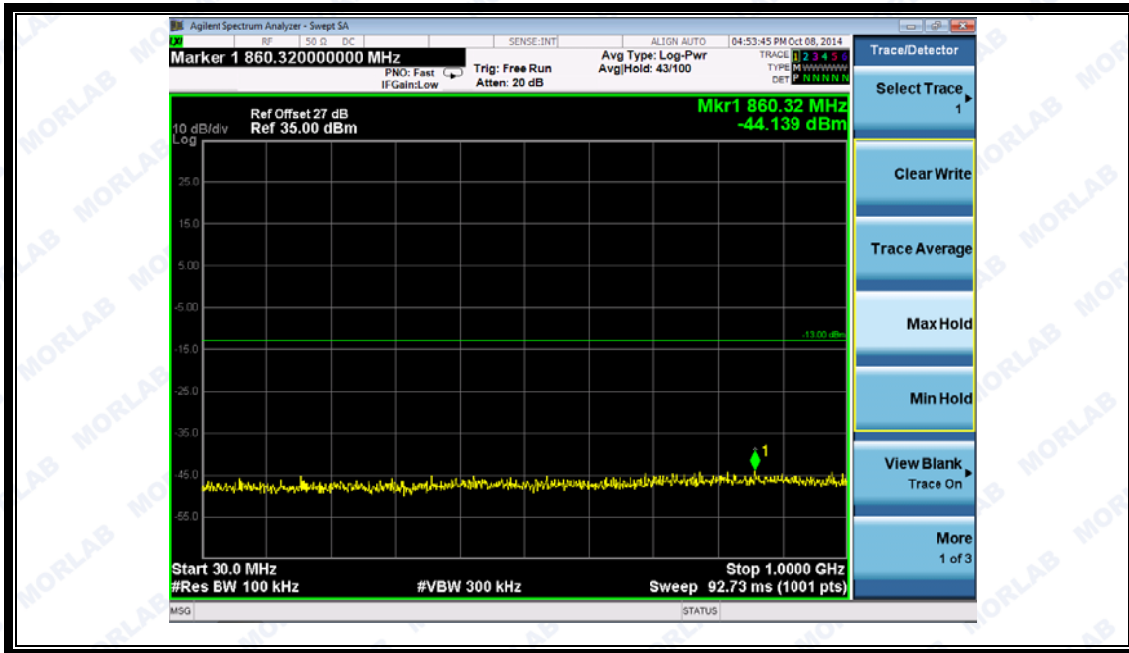
(Plot G3.1: HSDPA850MHz Channel = 4233, 1GHz to 9GHz)



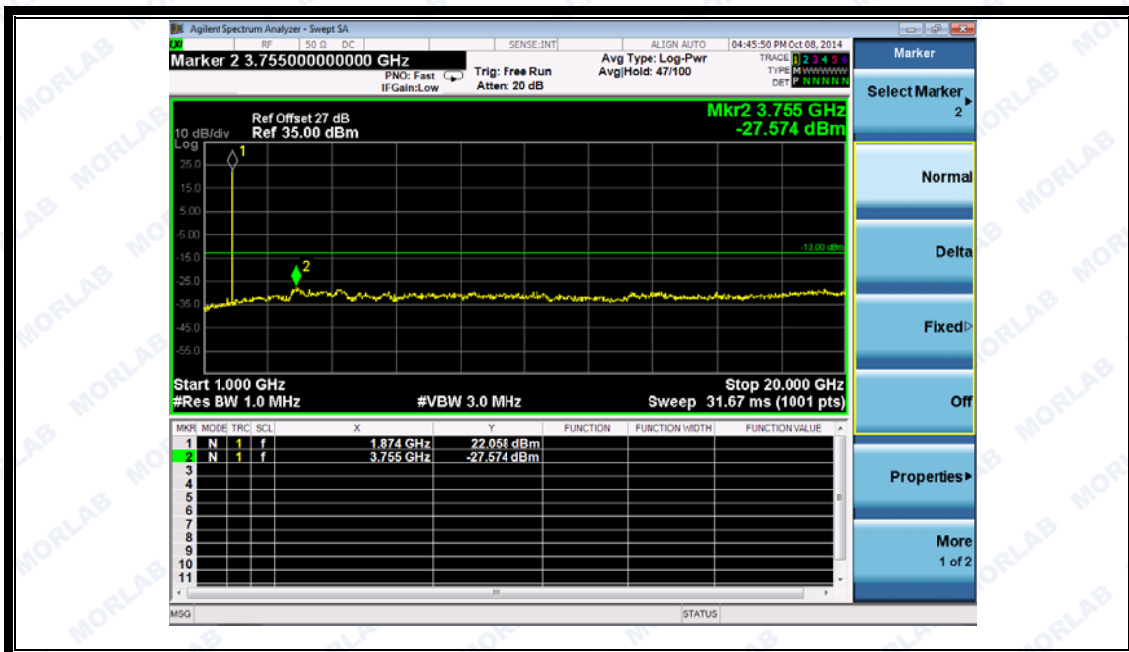
(Plot H1: HSDPA1900MHz Channel = 9262, 30MHz to 1GHz)



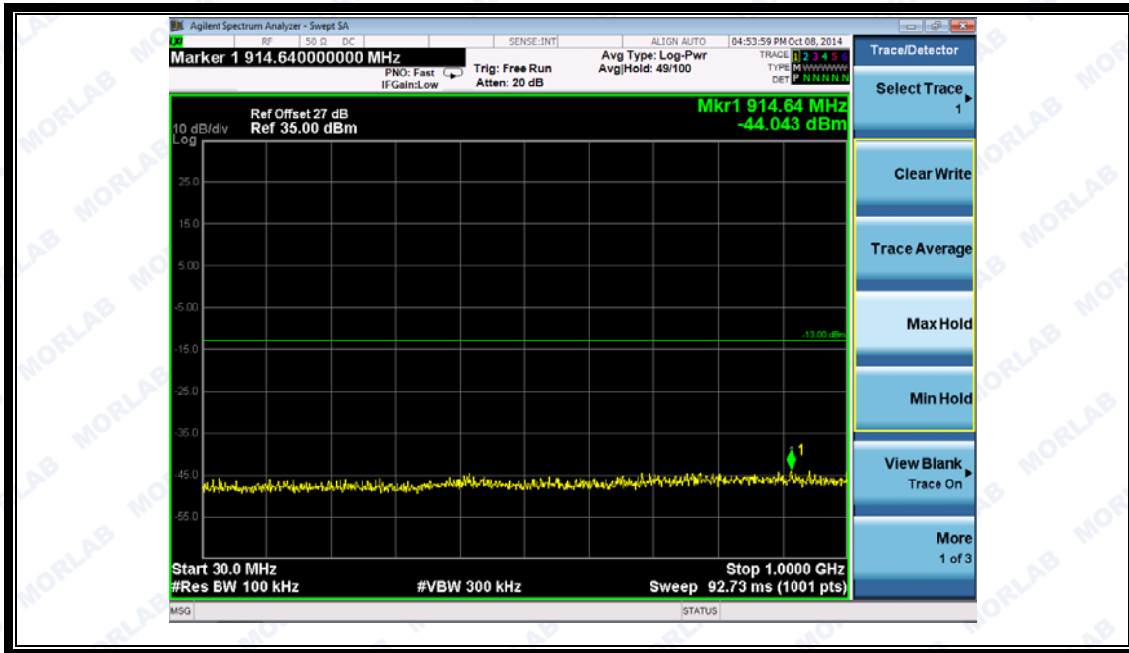
(Plot H1.1: HSDPA1900MHz Channel = 9262, 1GHz to 20GHz)



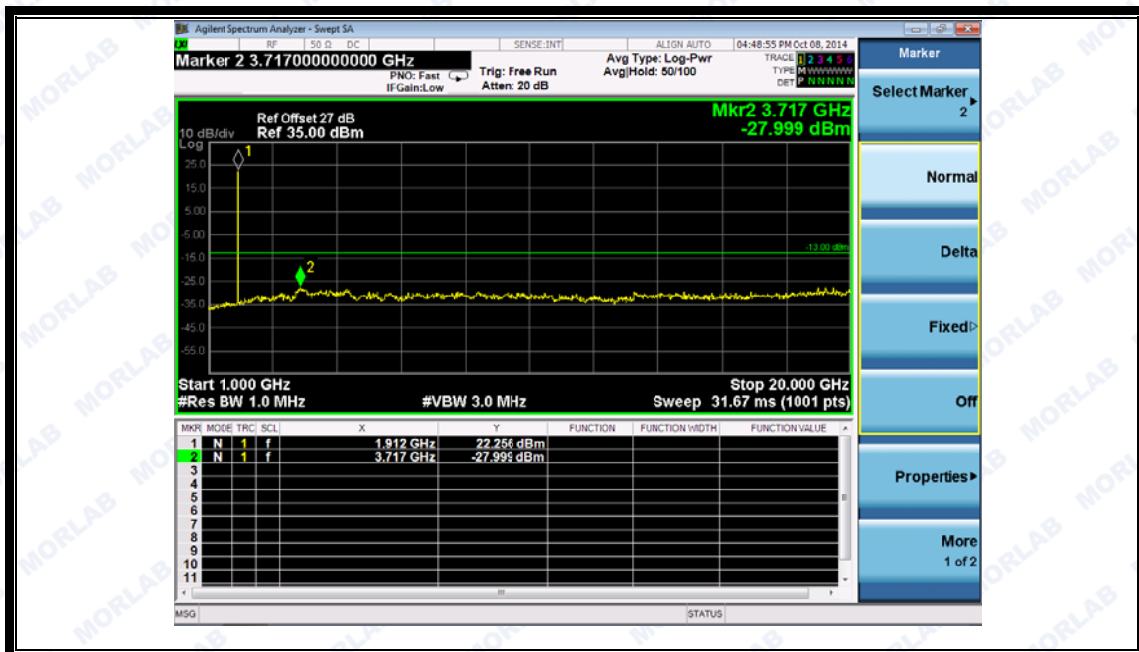
(Plot H2: HSDPA1900MHz Channel = 9400, 30MHz to 1GHz)



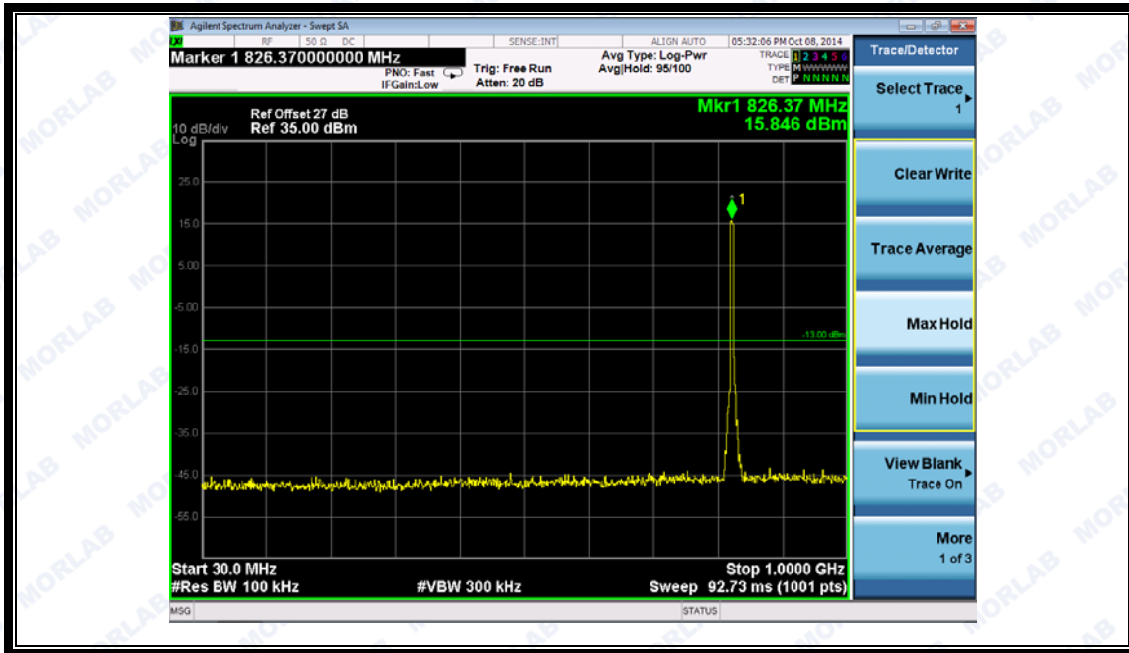
(Plot H2.1: HSDPA1900MHz Channel = 9400, 1GHz to 20GHz)



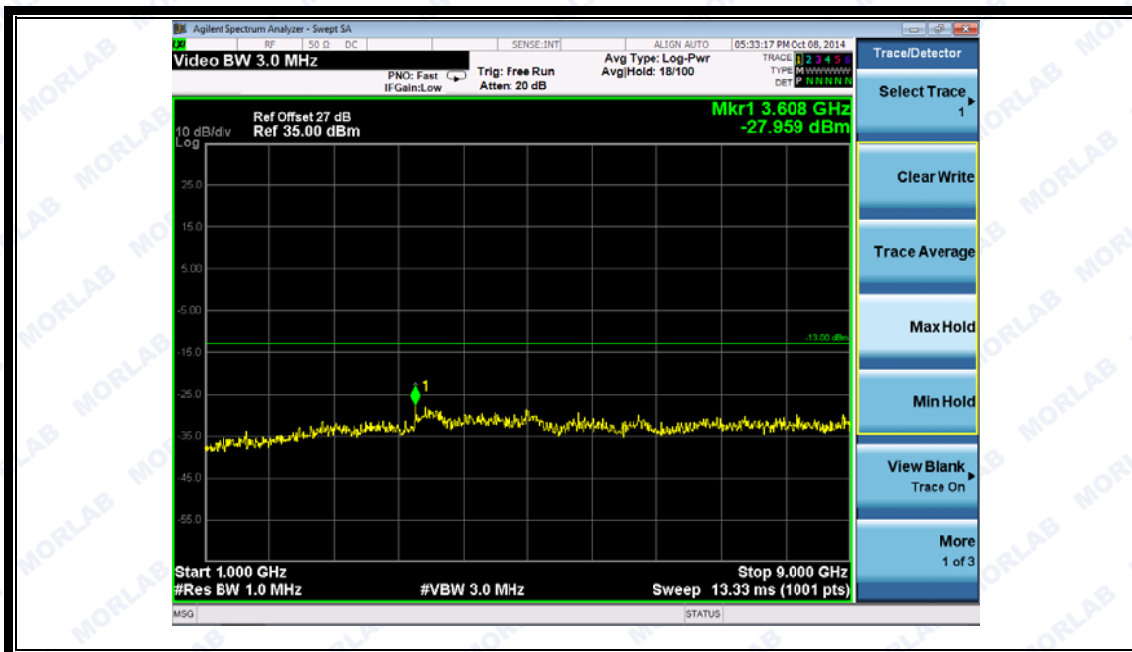
(Plot H3: HSDPA1900MHz Channel = 9538, 30MHz to 1GHz)



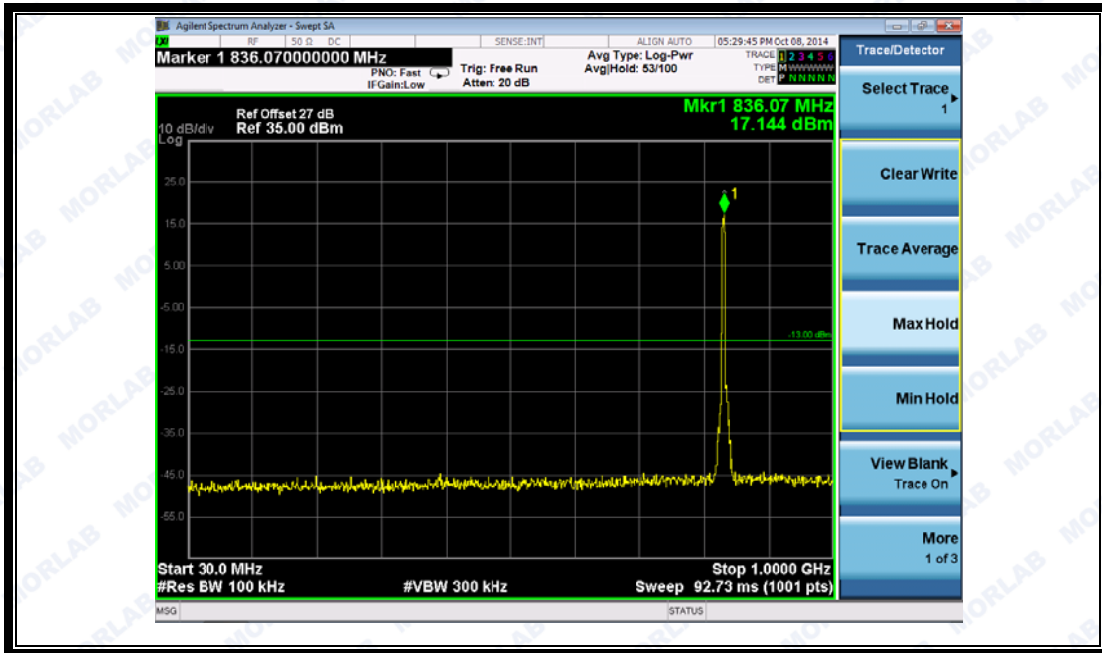
(Plot H3.1: HSDPA1900MHz Channel = 9538 1GHz to 20GHz)



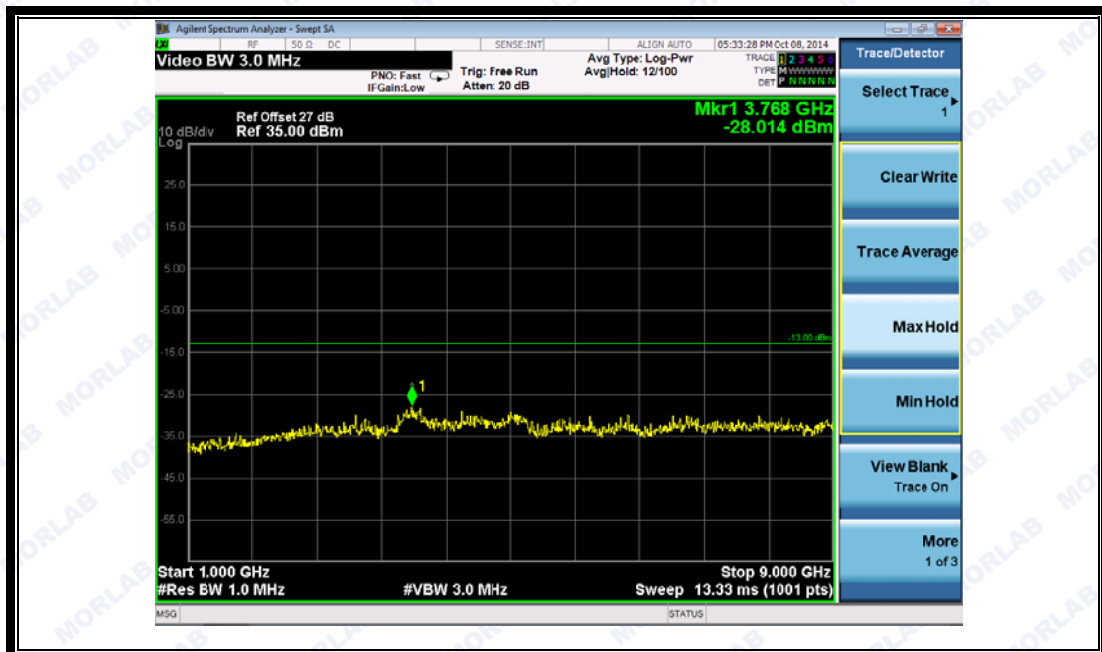
(Plot I 1: HSUPA 850MHz Channel = 4132, 30MHz to 1GHz)



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

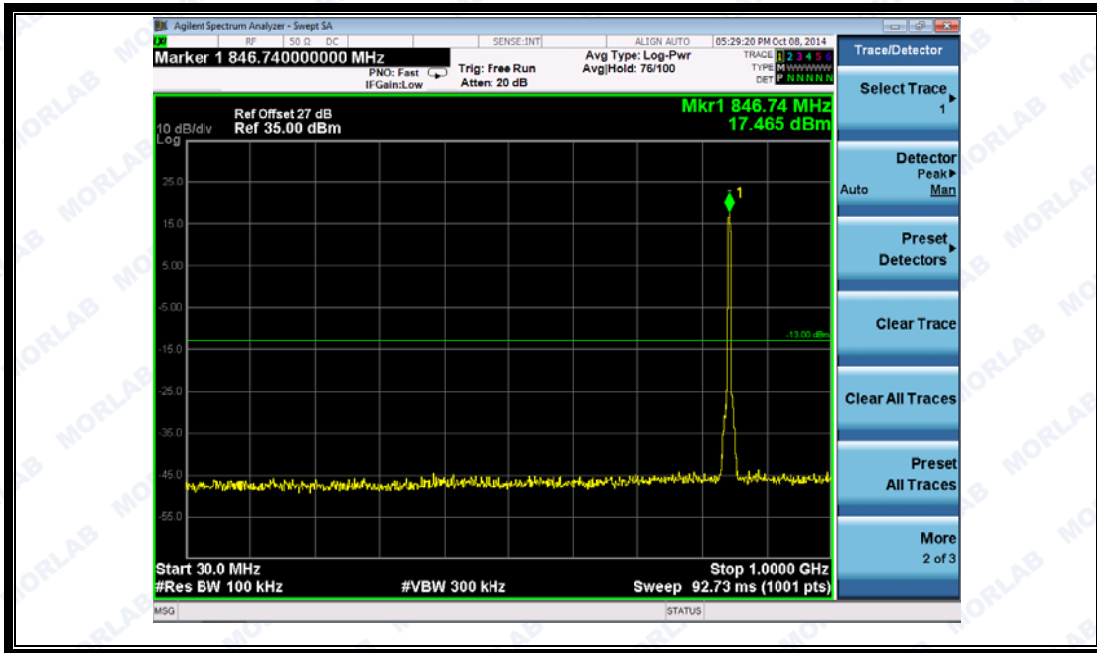


(Plot I 2: HSUPA 850MHz Channel = 4175, 30MHz to 1GHz)

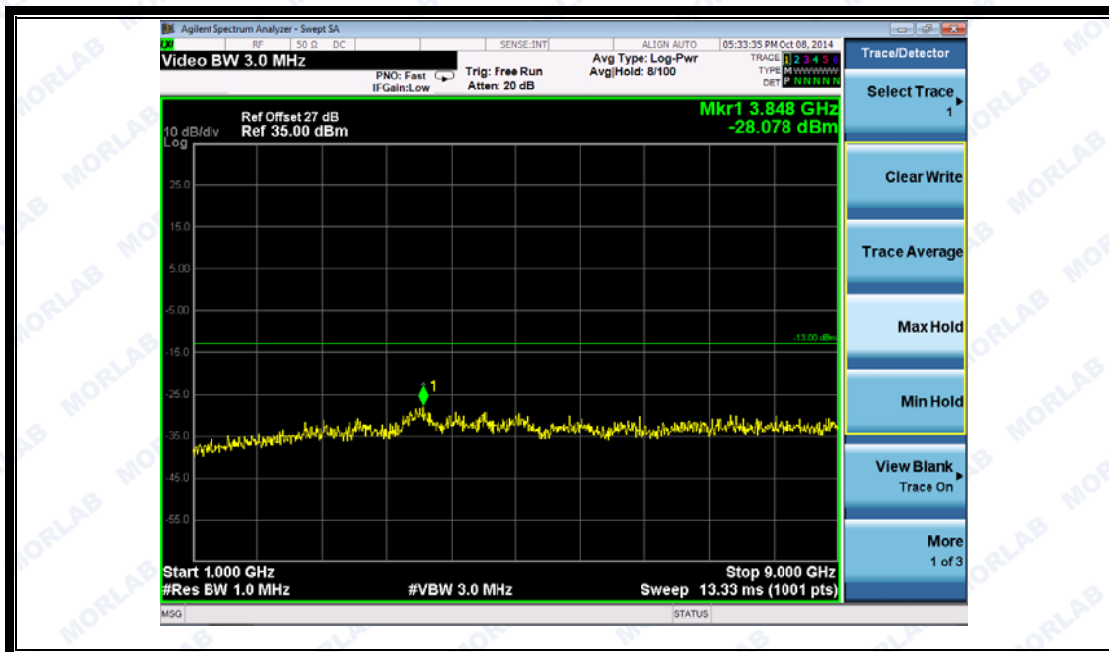


(Plot I2.1: HSUPA 850MHz Channel = 4175, 1GHz to 9GHz)

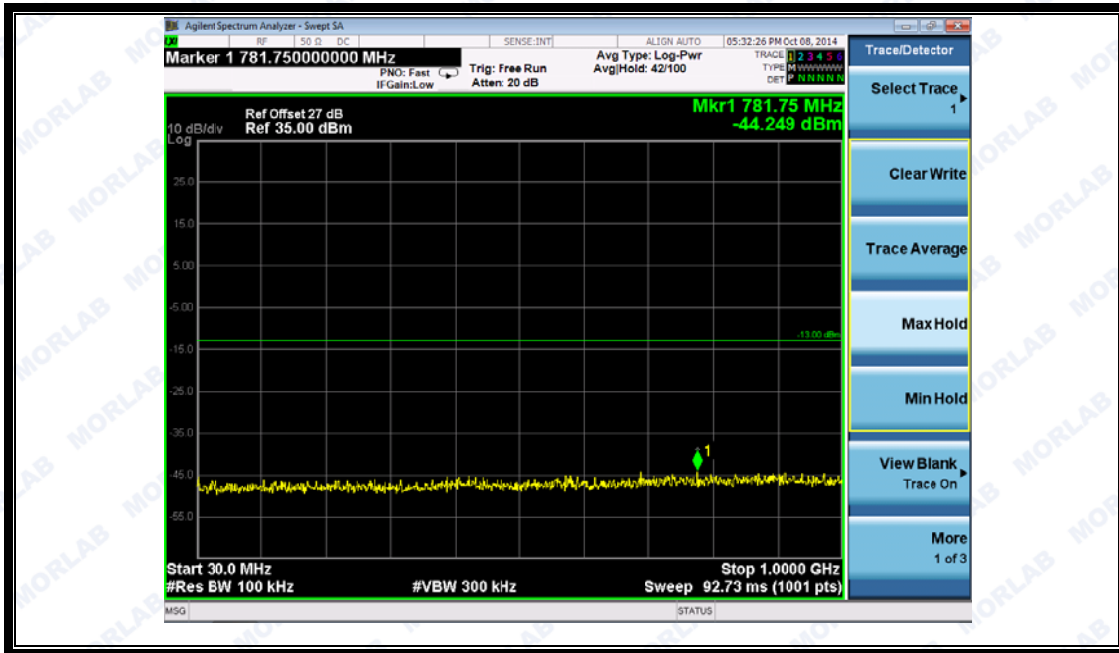




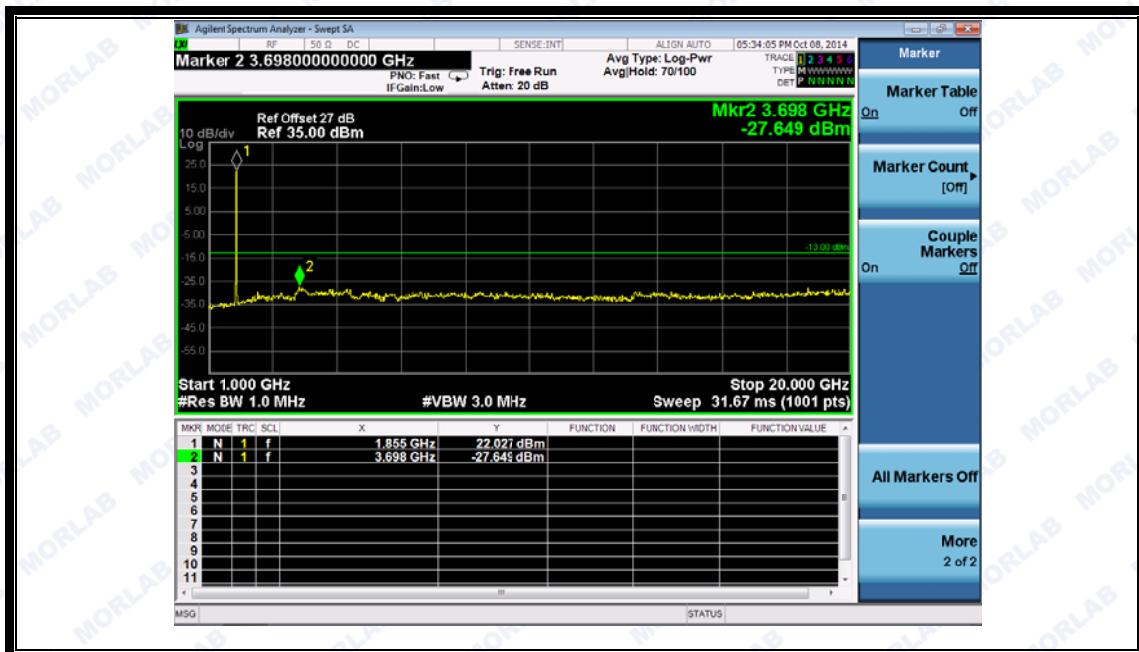
(Plot I 3: HSUPA850MHz Channel = 4233, 30MHz to 1GHz)



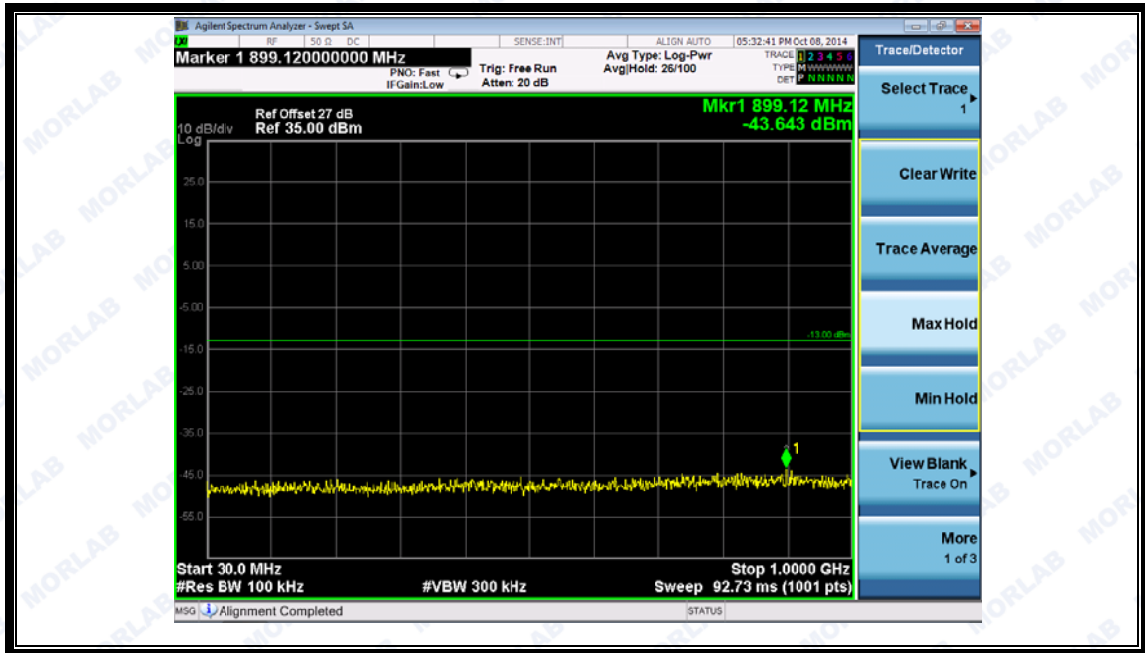
(Plot I3.1: HSUPA850MHz Channel = 4233, 1GHz to 9GHz)



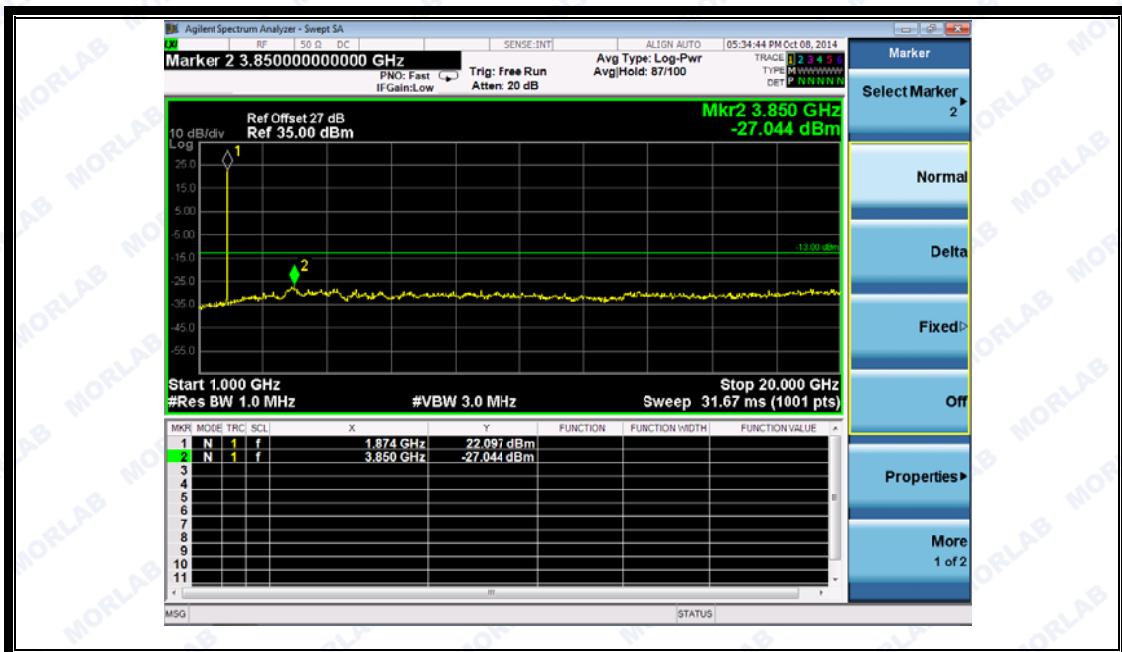
(Plot J 1: HSUPA1900MHz Channel = 9262, 30MHz to 1GHz)



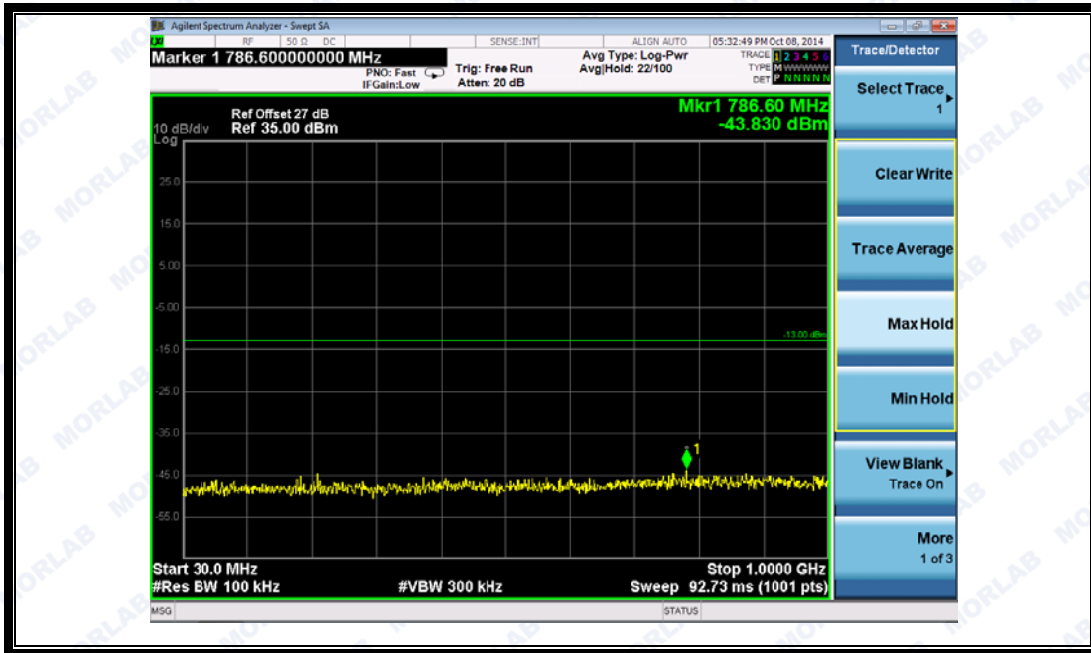
(Plot J1.1: HSUPA1900MHz Channel = 9262, 1GHz to 20GHz)



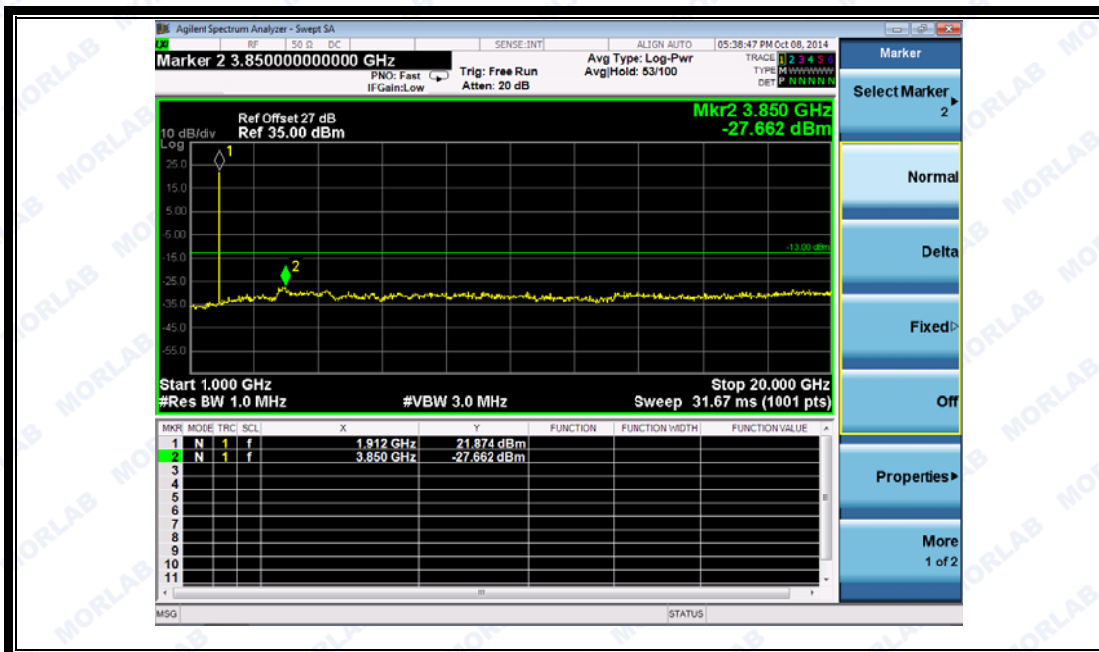
(Plot J 2: HSUPA1900MHz Channel = 9400, 30MHz to 1GHz)



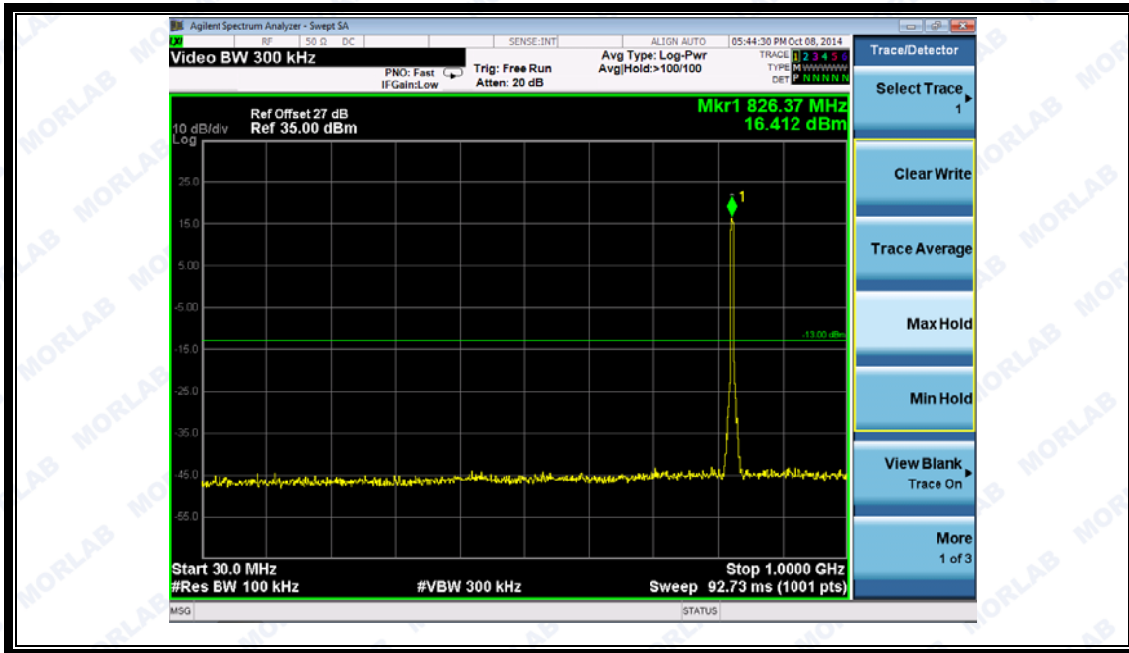
(Plot J2.1: HSUPA1900MHz Channel = 9400, 1GHz to 20GHz)



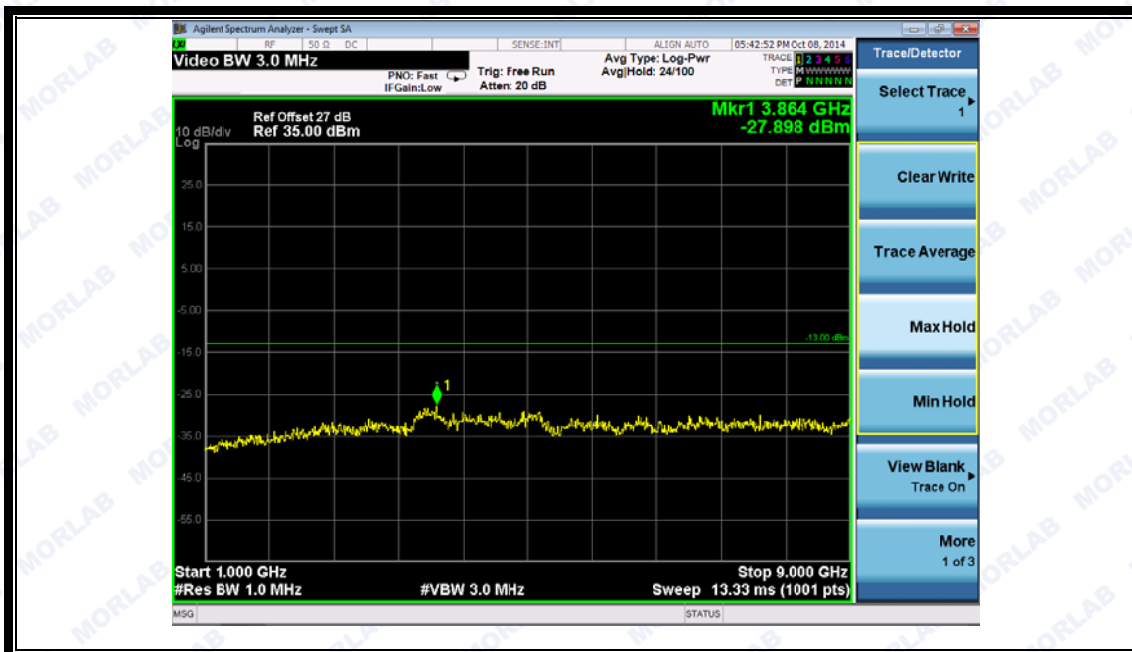
(Plot J 3: HSUPA1900MHz Channel = 9538, 30MHz to 1GHz)



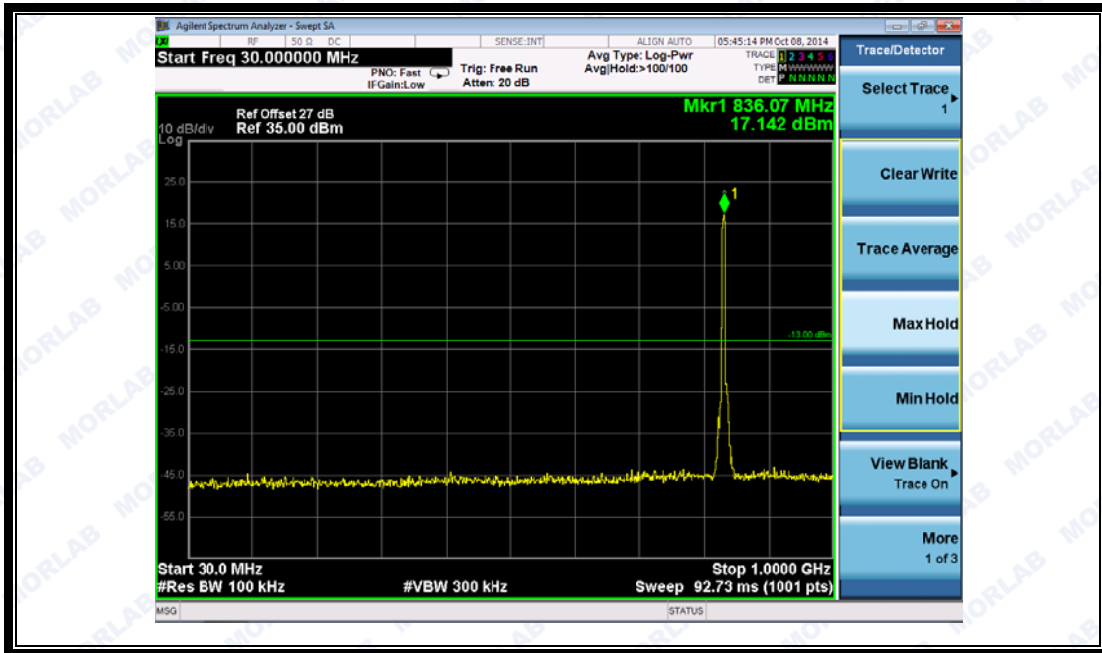
(Plot J3.1: HSUPA1900MHz Channel = 9538 1GHz to 20GHz)



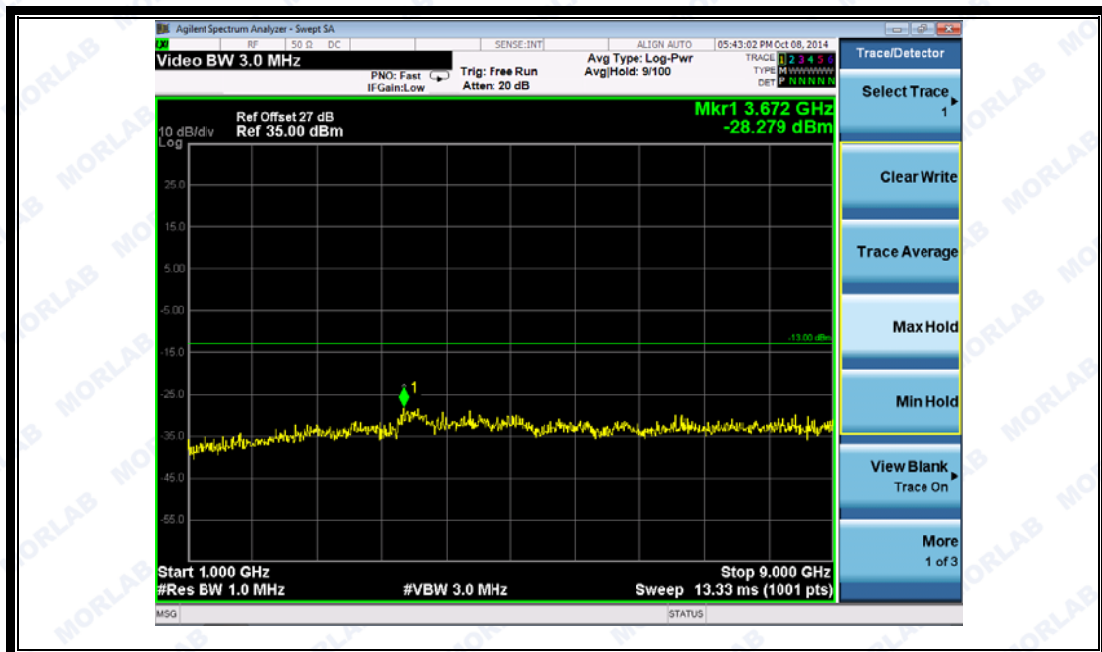
(Plot K 1: HSPA+ 850MHz Channel = 4132, 30MHz to 1GHz)



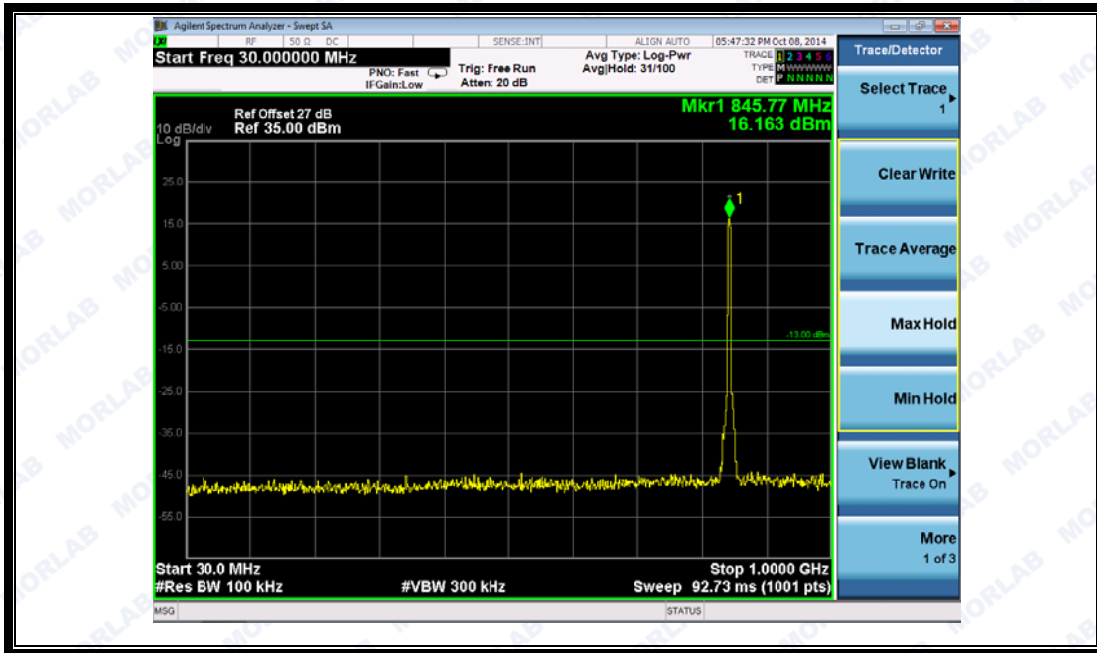
(Plot K1.1: HSPA+ 850MHz Channel = 4132, 1GHz to 9GHz)



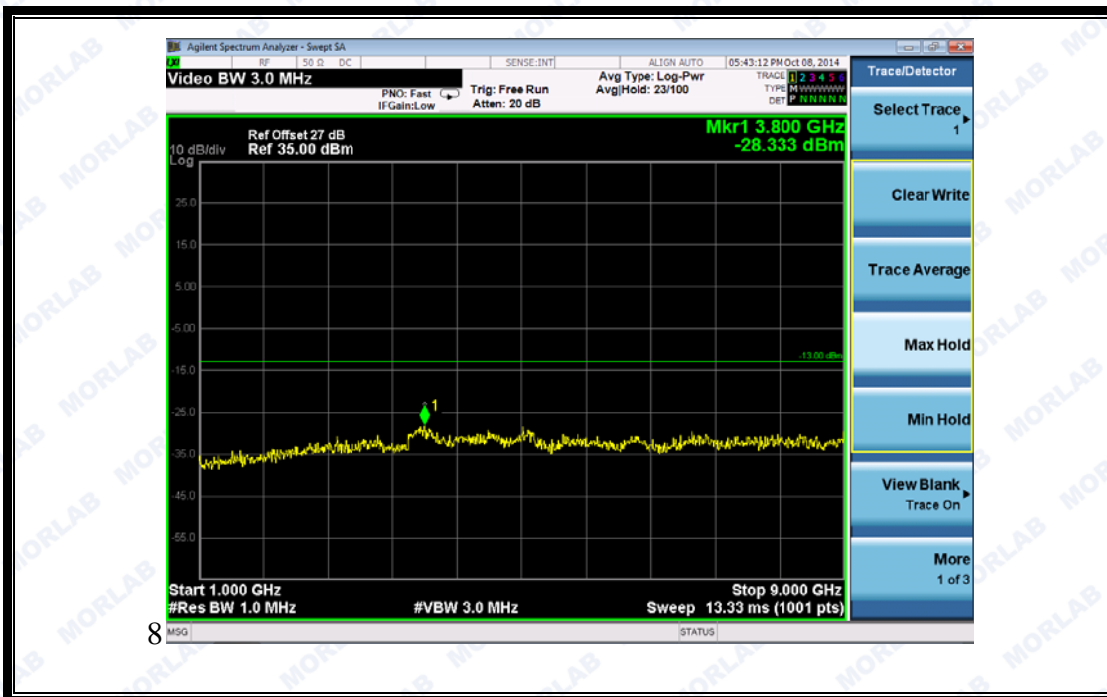
(Plot K 2: HSPA+ 850MHz Channel = 4175, 30MHz to 1GHz)



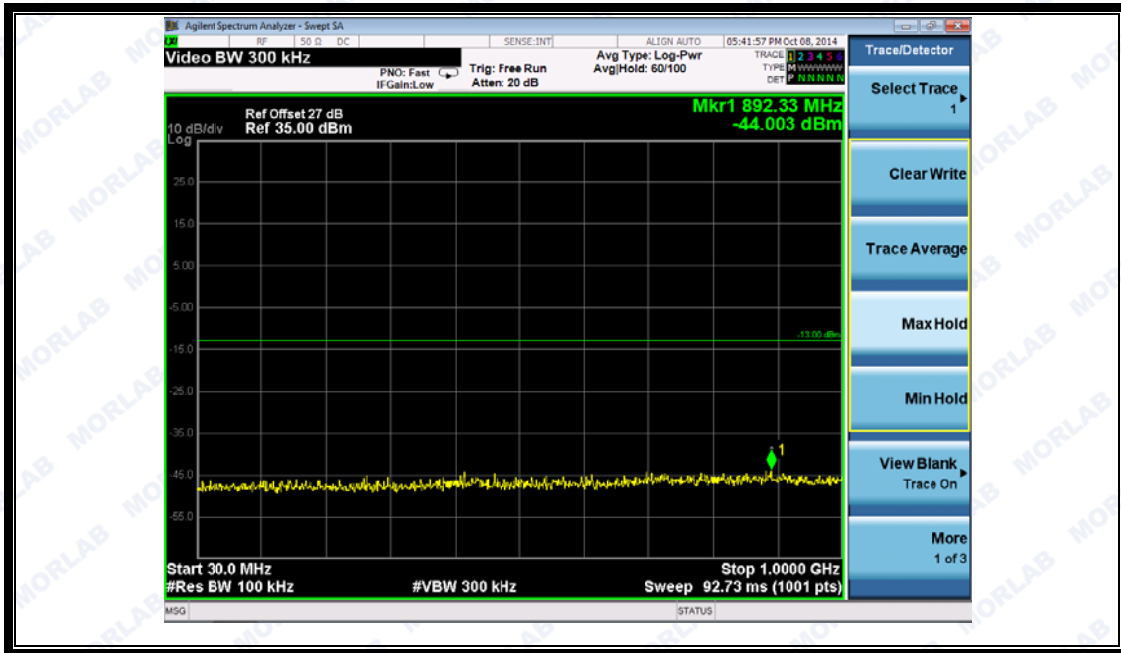
(Plot K2.1: HSPA+ 850MHz Channel = 4175, 1GHz to 9GHz)



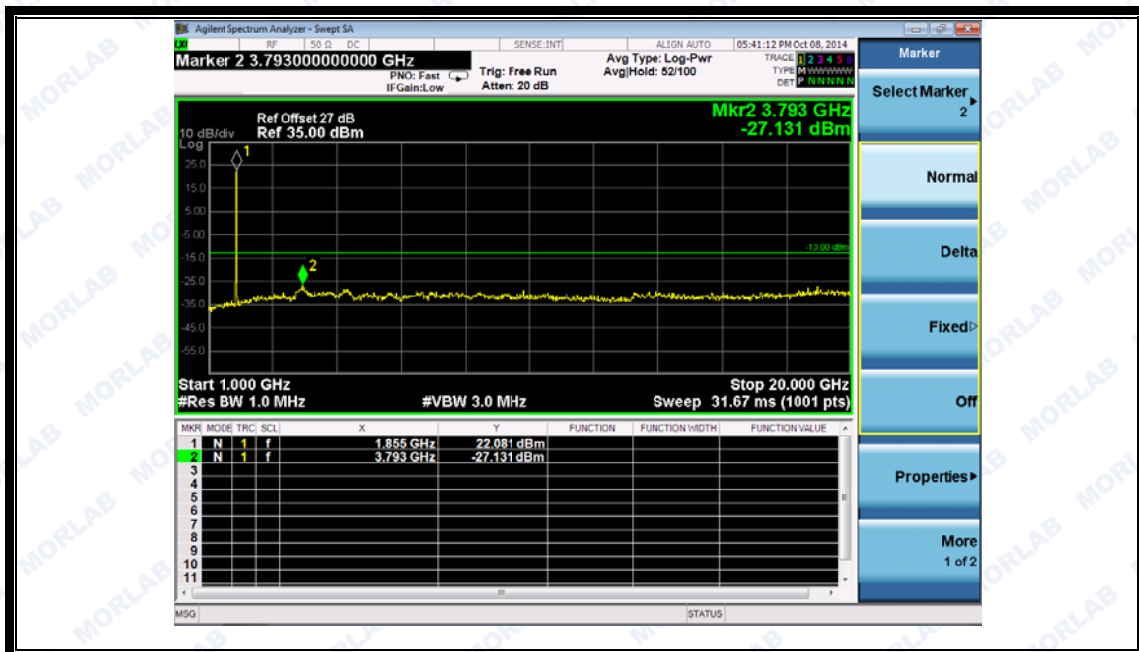
(Plot K 3: HSPA+ 850MHz Channel = 4233, 30MHz to 1GHz)



(Plot K3.1: HSPA+ 850MHz Channel = 4233, 1GHz to 9GHz)

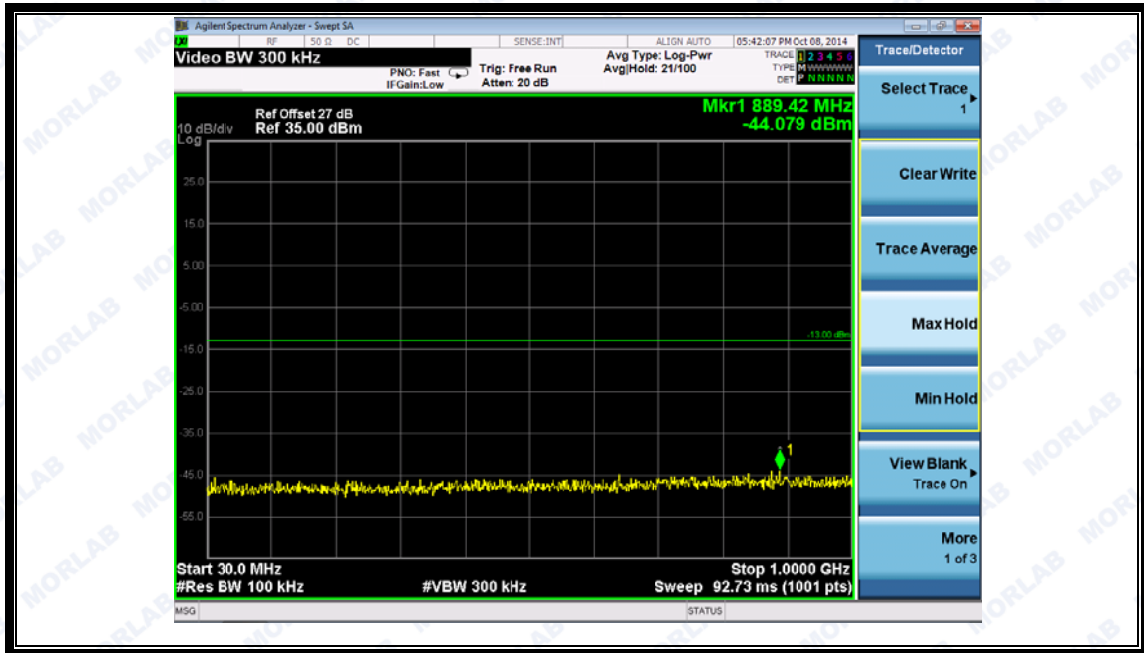


(Plot K 1: HSPA+ 1900MHz Channel = 9262, 30MHz to 1GHz)

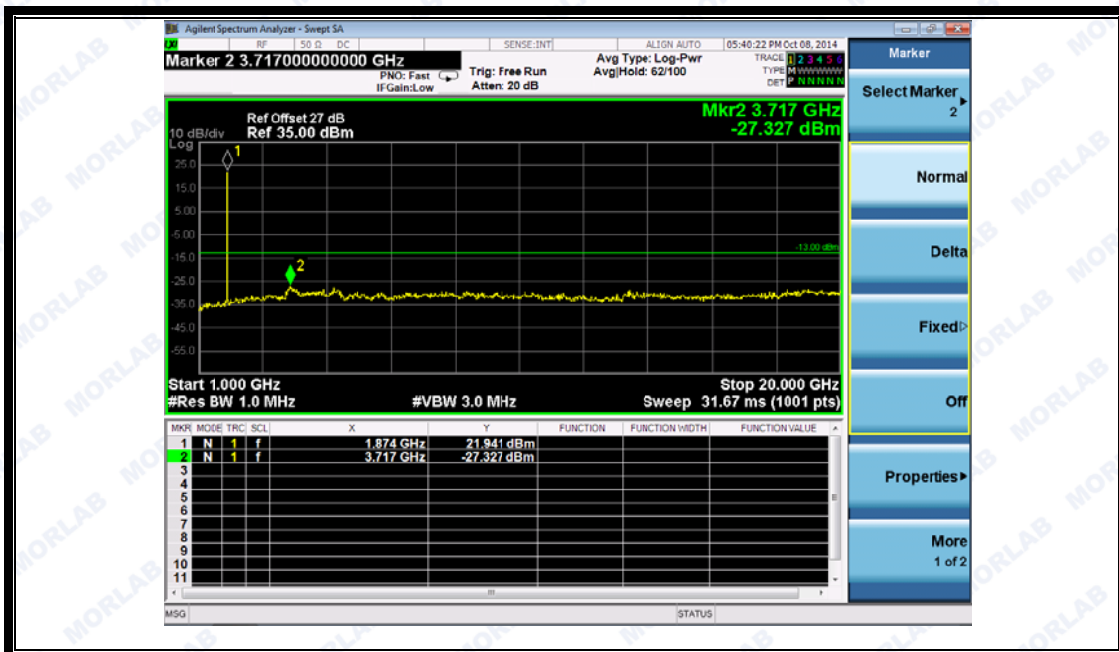


(Plot K1.1: HSPA+ 1900MHz Channel = 9262, 1GHz to 20GHz)

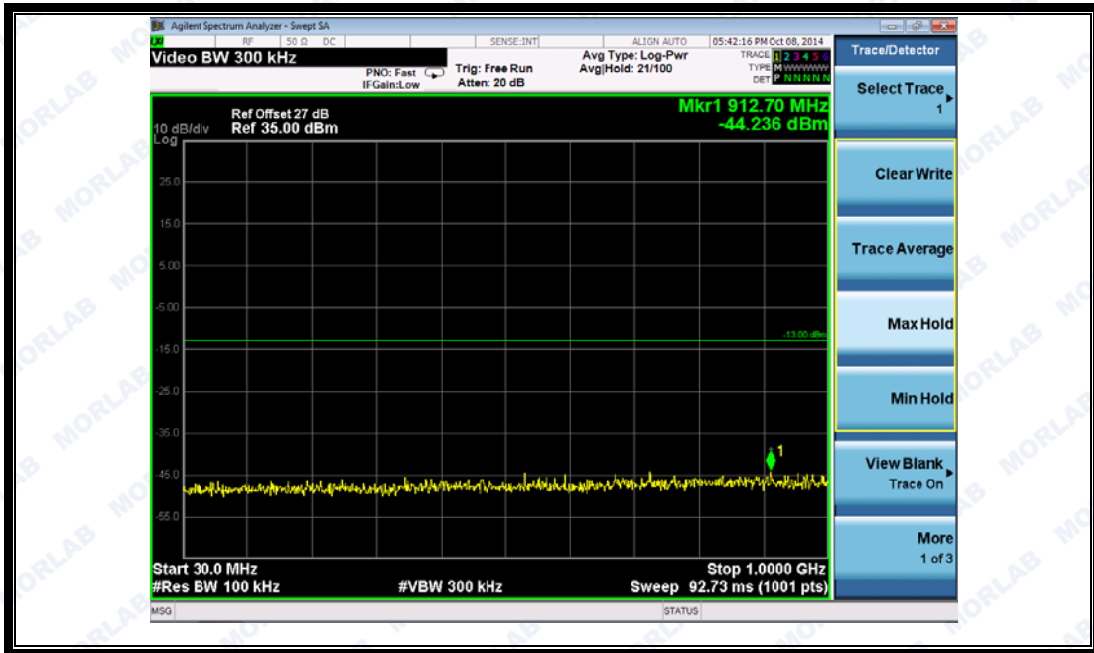




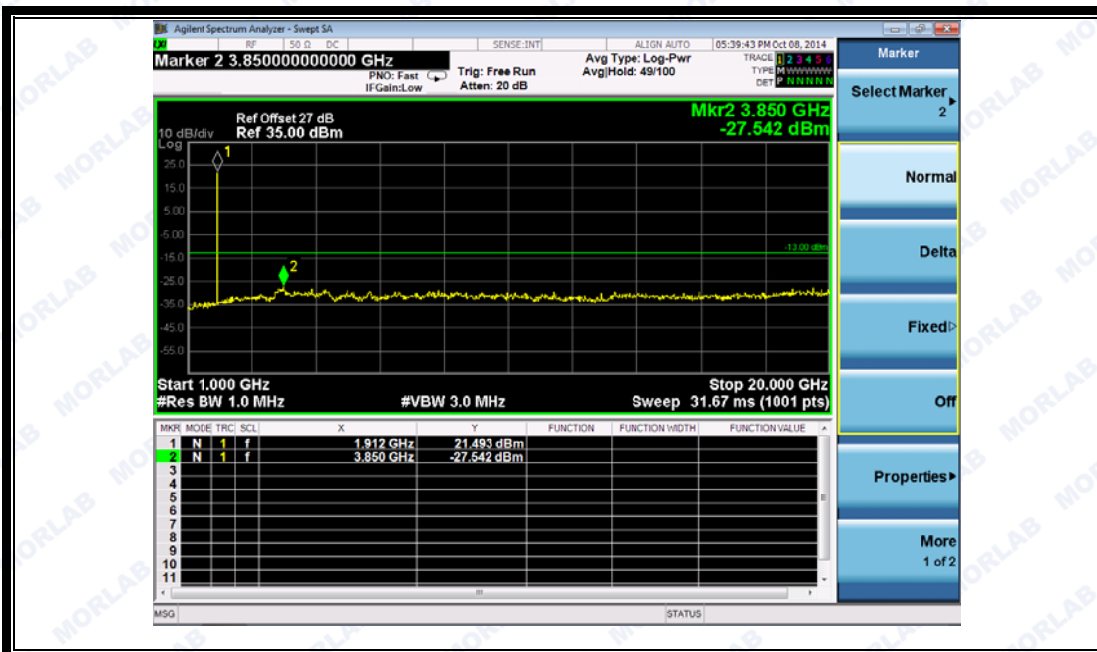
(Plot K 2: HSPA+ 1900MHz Channel = 9400, 30MHz to 1GHz)



(Plot K2.1: HSPA+ 1900MHz Channel = 9400, 1GHz to 20GHz)



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



(Plot K3.1: HSPA+ 1900MHz Channel = 9538 1GHz to 20GHz)



## 2.6. Band Edge

### 2.6.1. Requirement

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

### 2.6.2. Test Description

See section 2.1.2 of this report.

### 2.6.3. Test Result

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

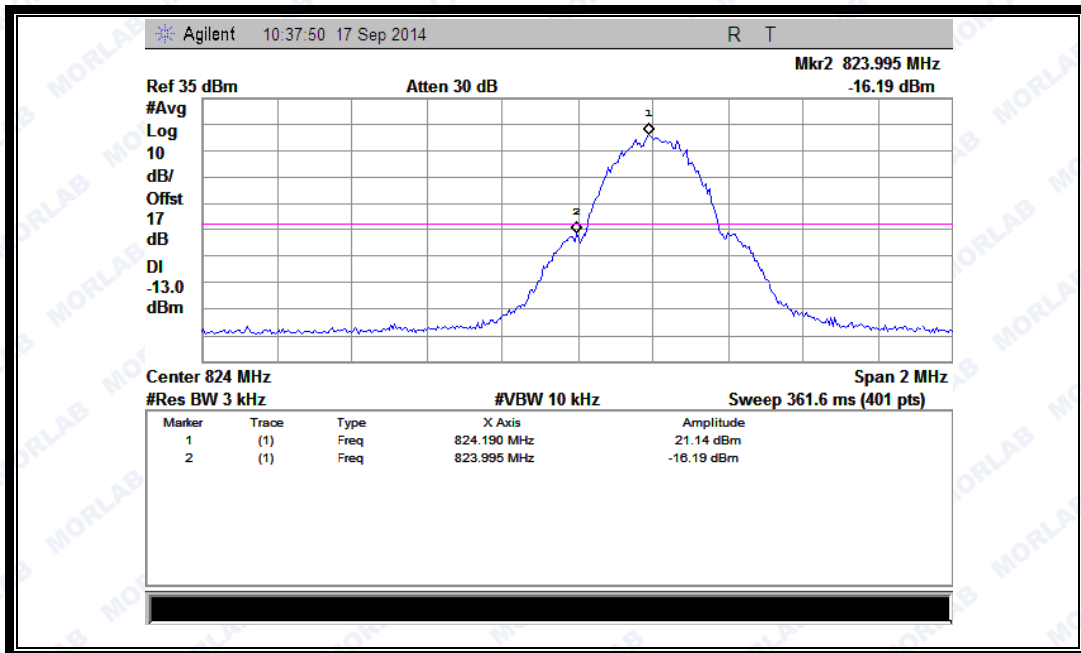
#### 1. Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Band Edge Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM 850MHz	128	824.2	-16.19	Plat A	-13	<u>PASS</u>
	251	848.8	-17.78	Plot B		<u>PASS</u>
GSM 1900MHz	512	1850.2	-21.21	Plat C	-13	<u>PASS</u>
	810	1909.8	-21.52	Plot D		<u>PASS</u>
EDGE 850MHz	128	824.2	-16.98	Plat E	-13	<u>PASS</u>
	251	848.8	-16.87	Plot F		<u>PASS</u>
EDGE 1900MHz	512	1850.2	-20.29	Plat G	-13	<u>PASS</u>
	810	1909.8	-21.26	Plot H		<u>PASS</u>
WCDMA 850MHz	4132	826.4	-23.714	Plat I	-13	<u>PASS</u>
	4233	846.6	-27.601	Plot J		<u>PASS</u>
WCDMA 1900MHz	9262	1852.4	-19.352	Plat K	-13	<u>PASS</u>
	9538	1907.6	-17.886	Plot L		<u>PASS</u>
HSDPA	4132	826.4	-25.381	Plat M	-13	<u>PASS</u>

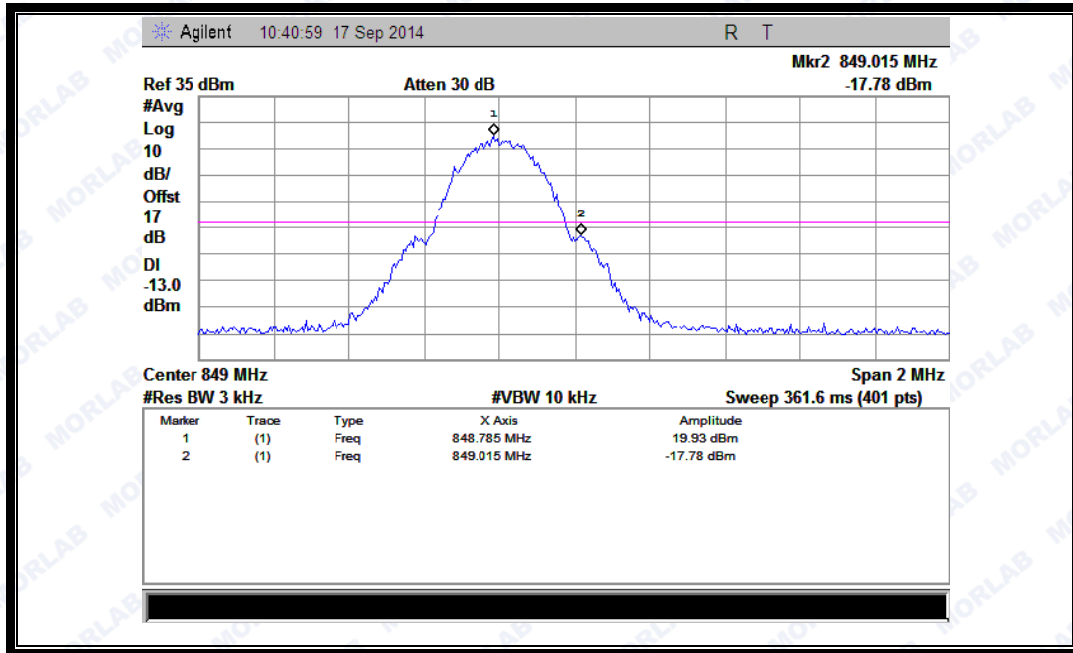


850MHz	4233	846.6	-27.989	Plot N		<u>PASS</u>
HSDPA	9262	1852.4	-20.697	Plat O	-13	<u>PASS</u>
1900MHz	9538	1907.6	-20.069	Plot P		<u>PASS</u>
HSUPA	4132	826.4	-25.335	Plat Q	-13	<u>PASS</u>
850MHz	4233	846.6	-26.747	Plot R		<u>PASS</u>
HSUPA	9262	1852.4	-20.673	Plat S	-13	<u>PASS</u>
1900MHz	9538	1907.6	-18.942	Plot T		<u>PASS</u>
HSPA+	4132	826.4	-23.662	Plat U	-13	<u>PASS</u>
850MHz	4233	846.6	-26.259	Plot V		<u>PASS</u>
HSPA+	9262	1852.4	-21.733	Plat W	-13	<u>PASS</u>
1900MHz	9538	1907.6	-18.242	Plot X		<u>PASS</u>

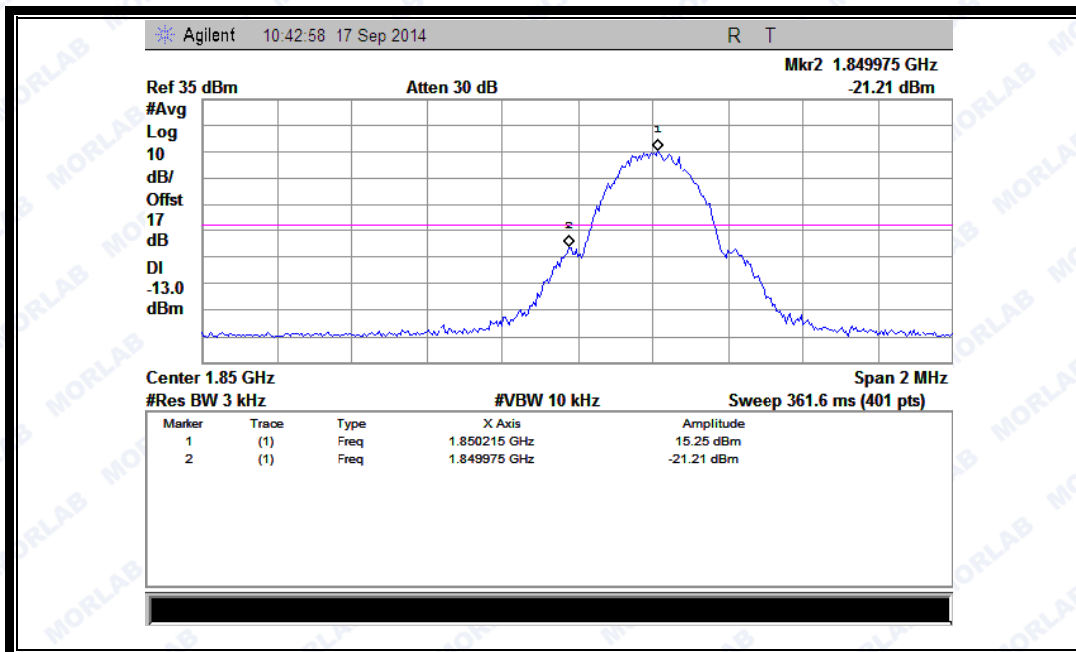
2. Test Plots:



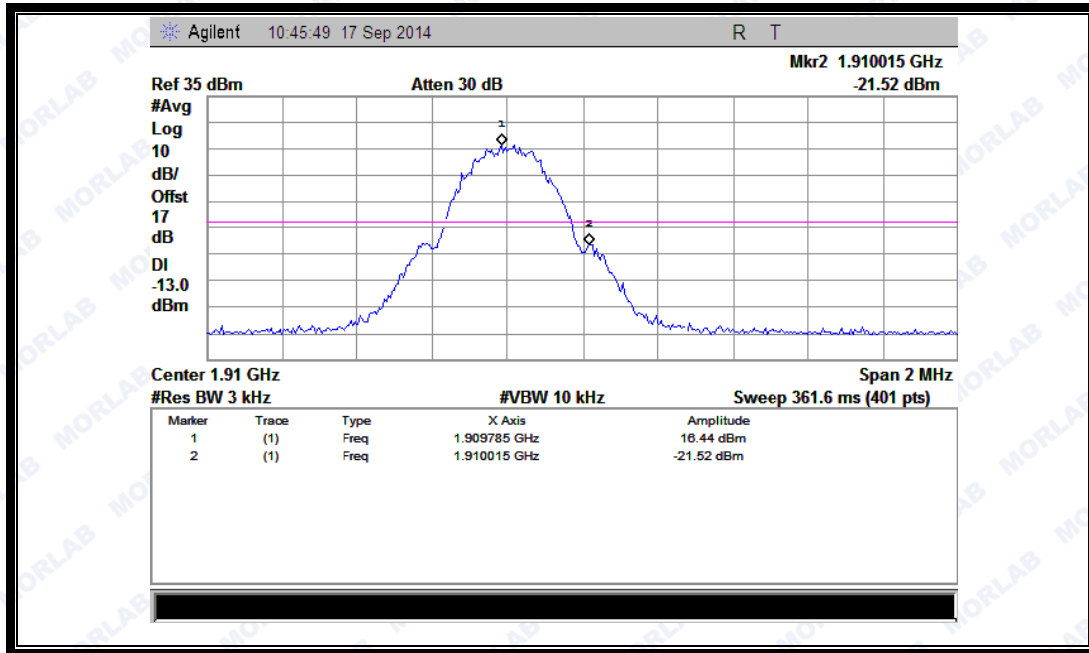
(Plot A: GSM 850 Channel = 128)



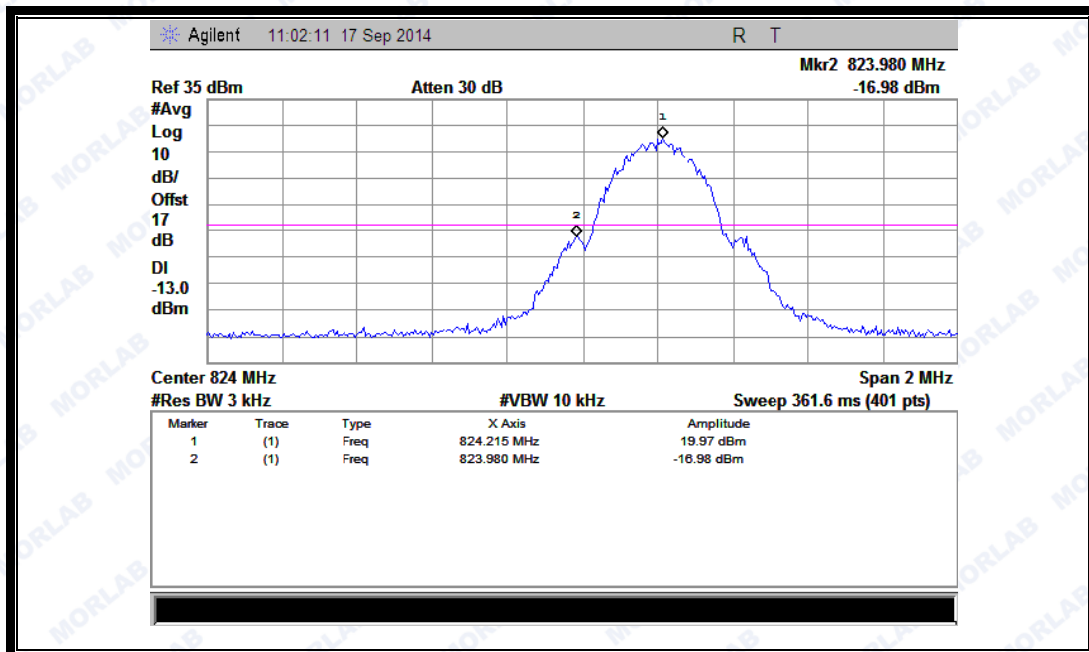
(Plot B: GSM 850 Channel = 251)



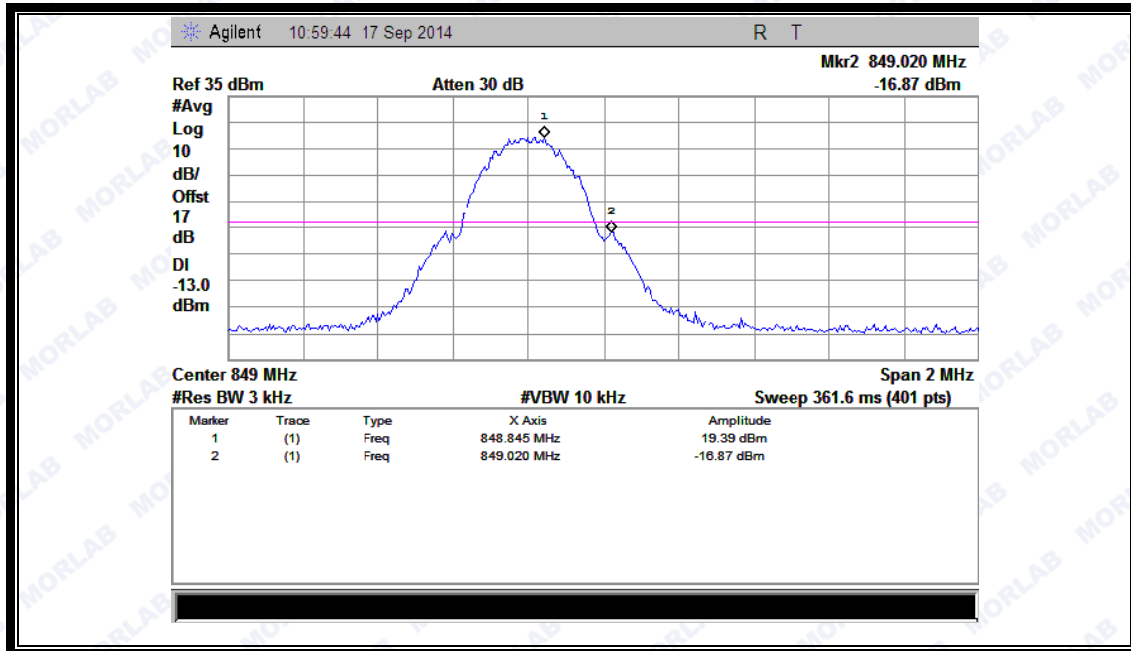
(Plot C: GSM 1900 Channel = 512)



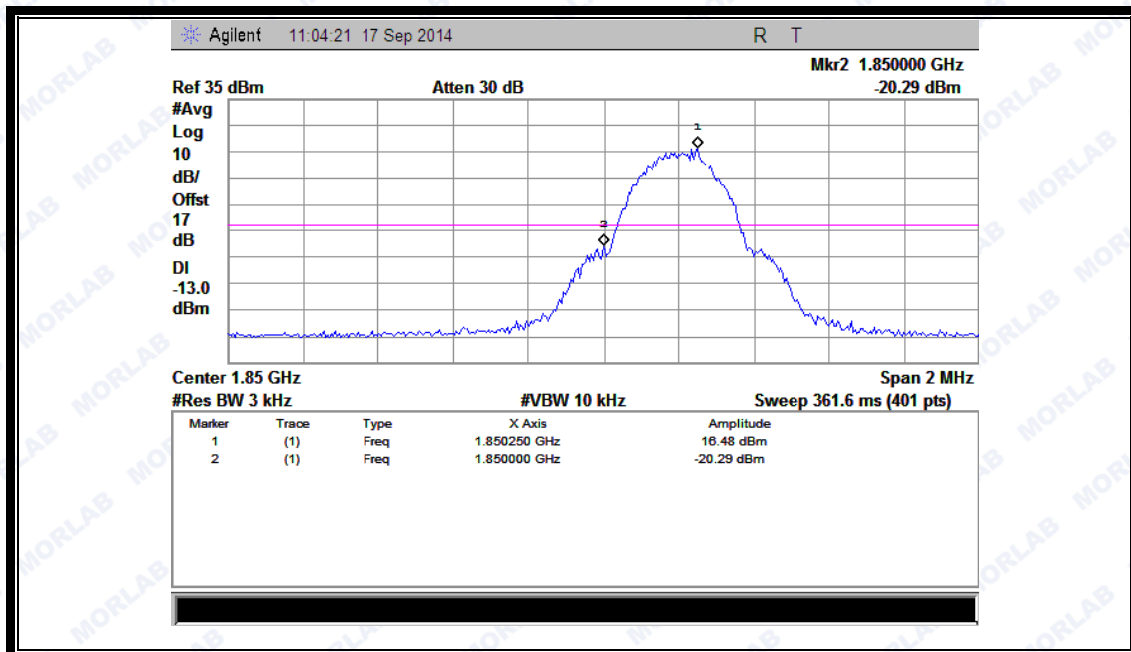
(Plot D: GSM 1900 Channel = 810)



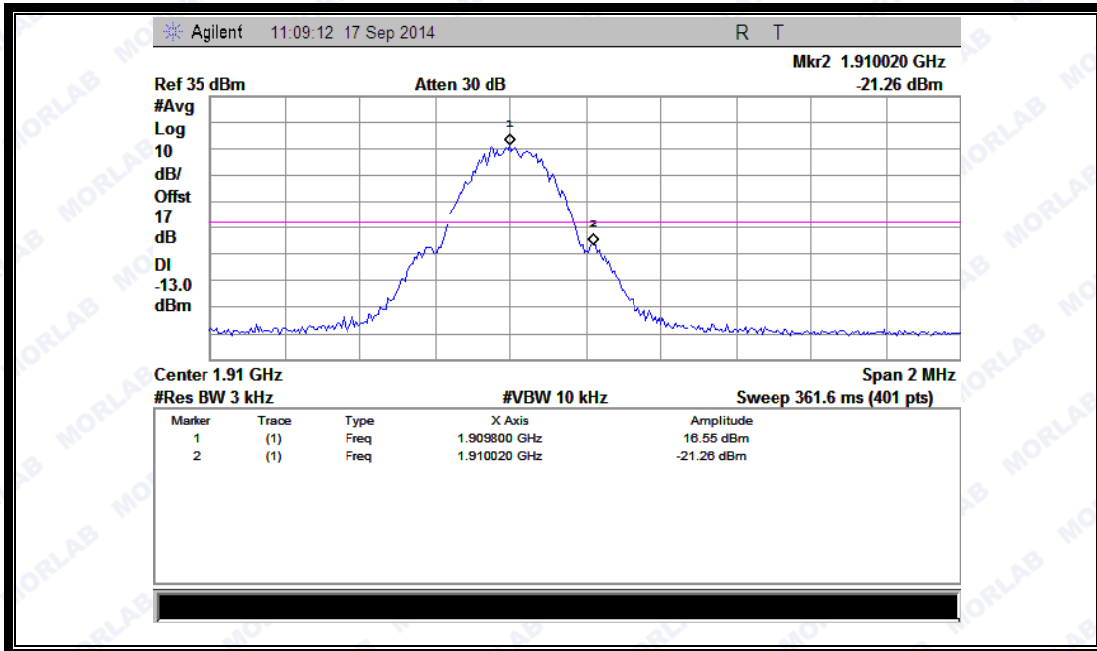
(Plot E: EGPRS 850 Channel = 128)



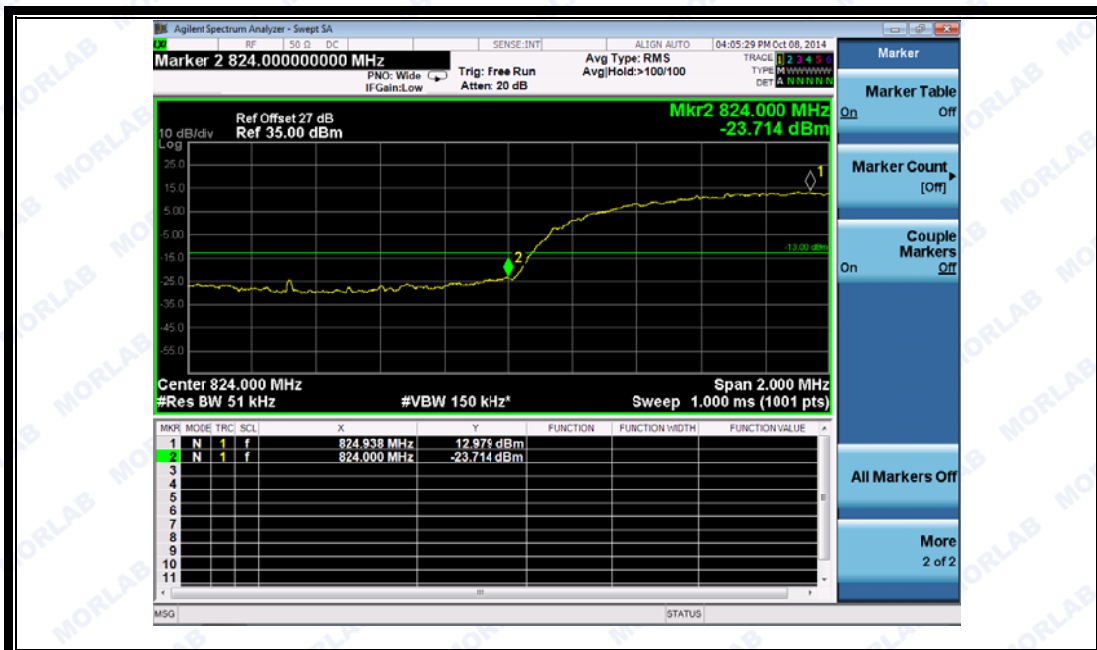
(Plot F: EGPRS 850 Channel = 251)



(Plot G: EGPRS 1900 Channel = 512)

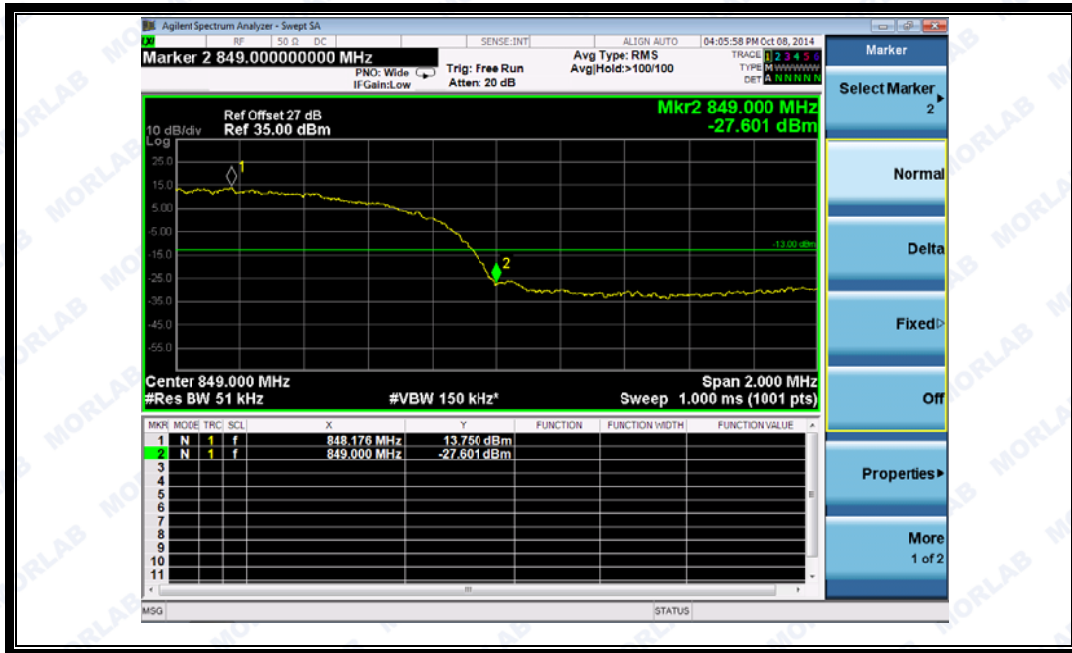


(Plot H: EGPRS 1900 Channel = 810)

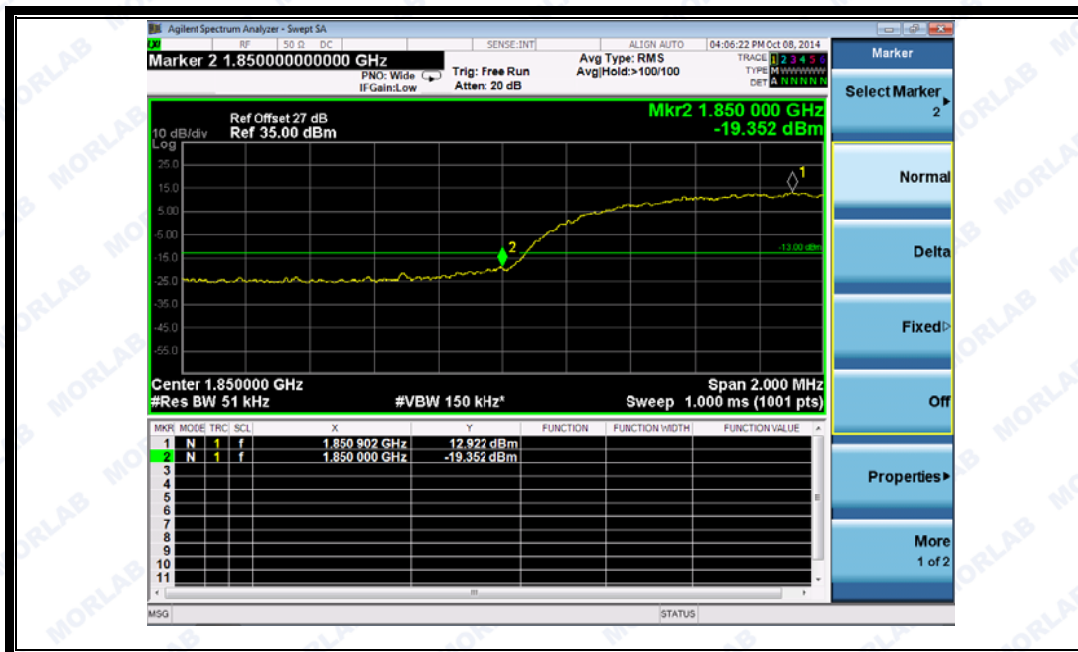


(Plot I: WCDMA 850 Channel = 4132)





(Plot J: WCDMA 850 Channel = 4233)



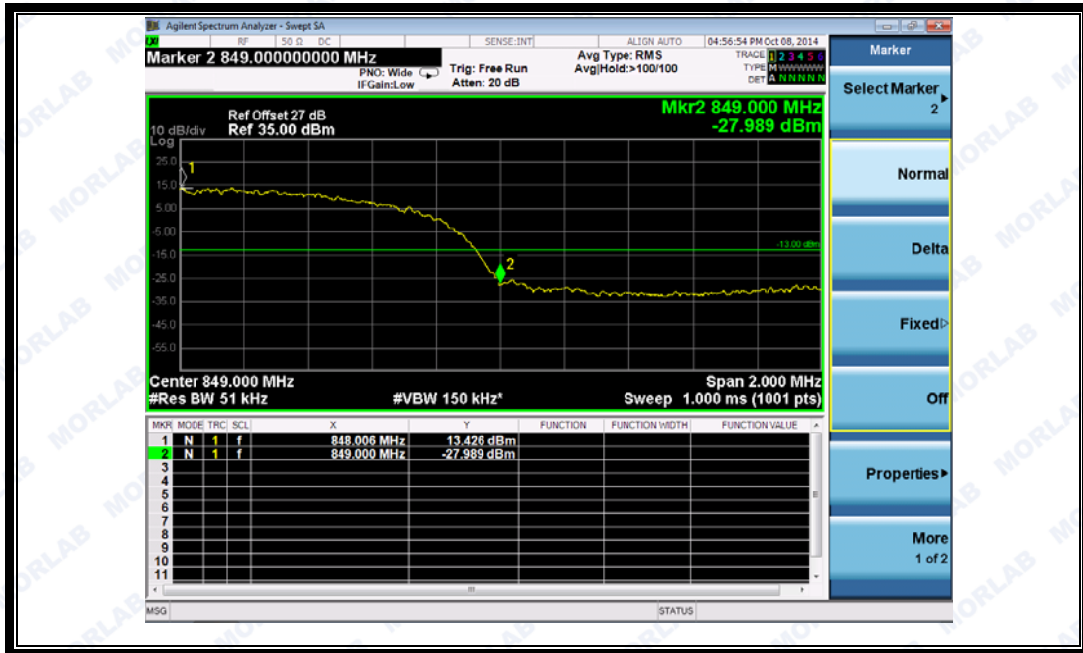
(Plot K: WCDMA 1900 Channel = 9262)



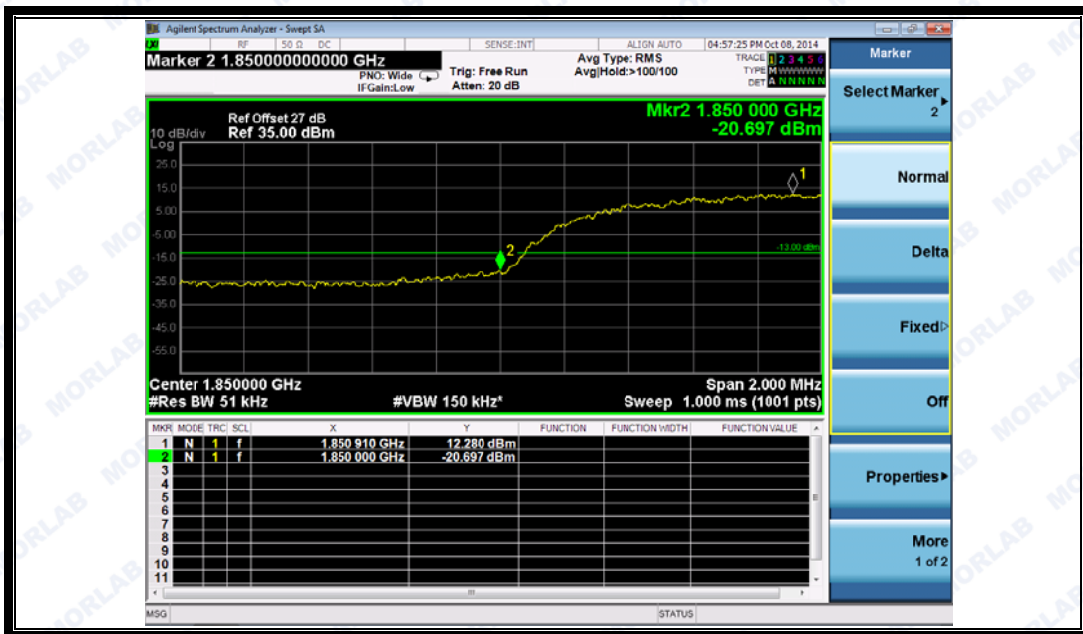
(Plot L: WCDMA 1900 Channel = 9538)



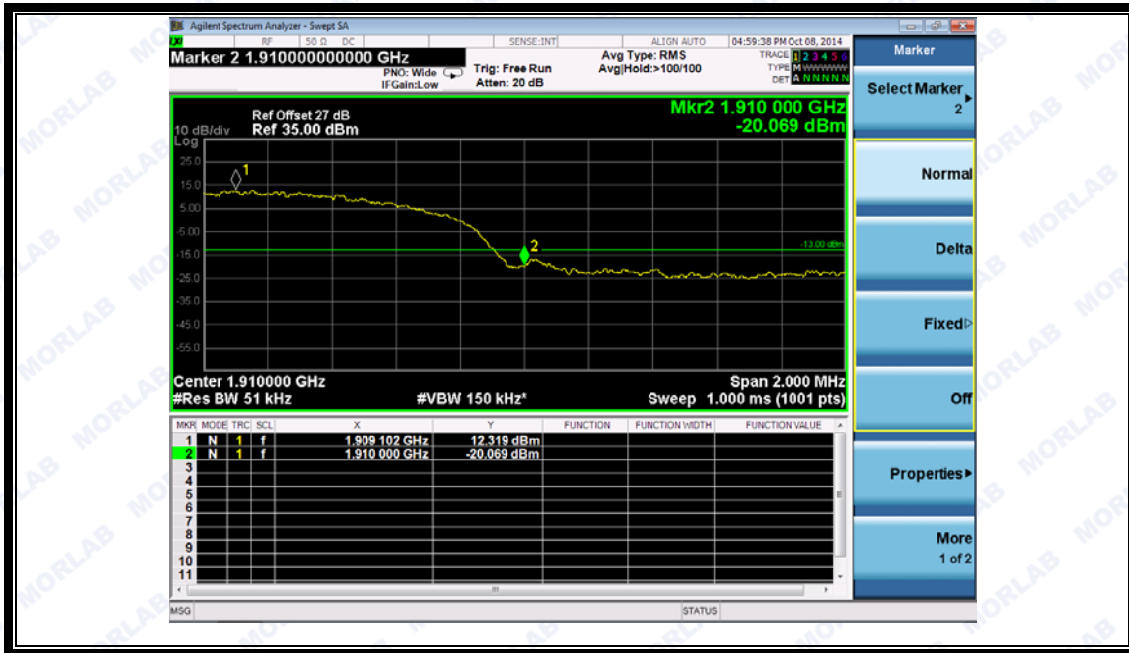
(Plot M: HSDPA 850 Channel = 4132)



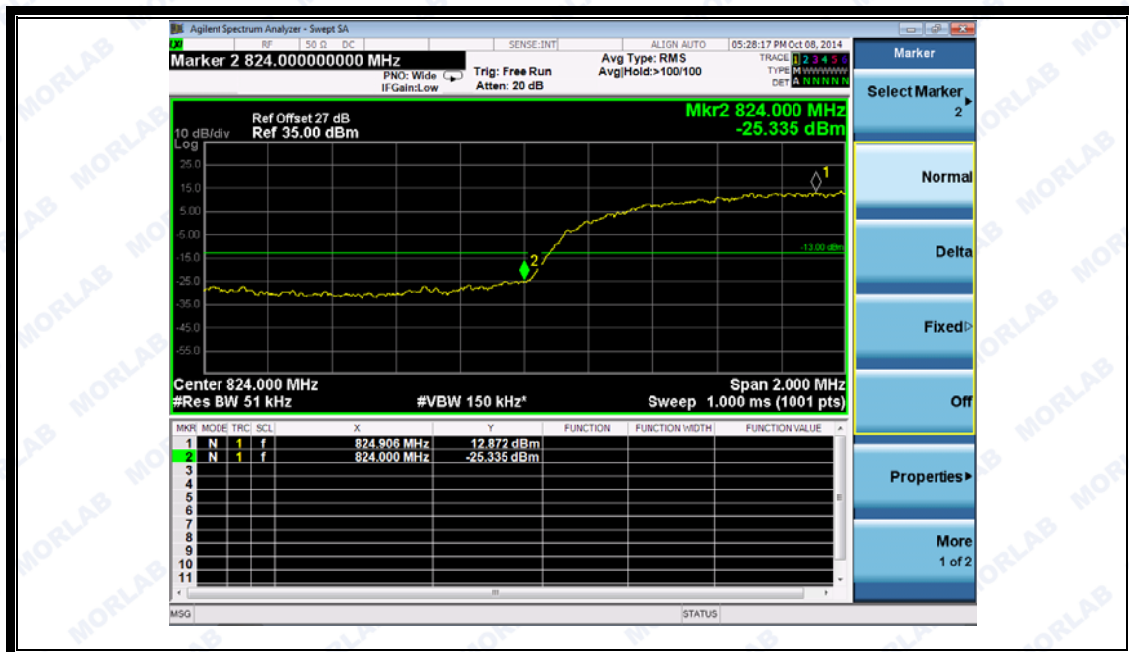
(Plot N: HSDPA850 Channel = 4233)



(Plot O: HSDPA 1900 Channel = 9262)



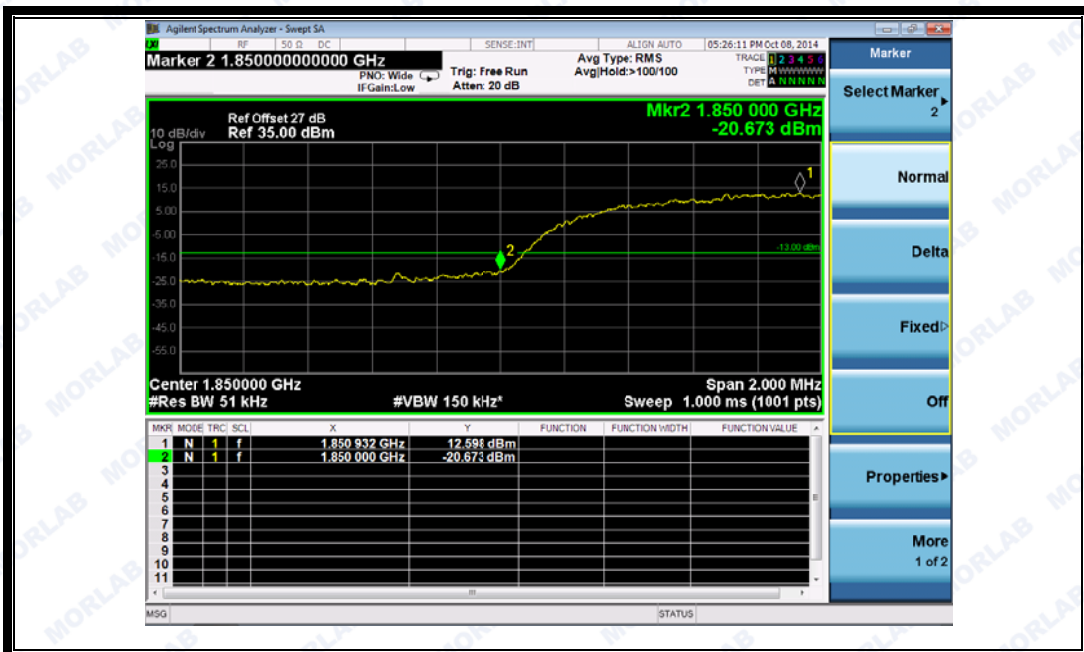
(Plot P: HSDPA 1900 Channel = 9538)



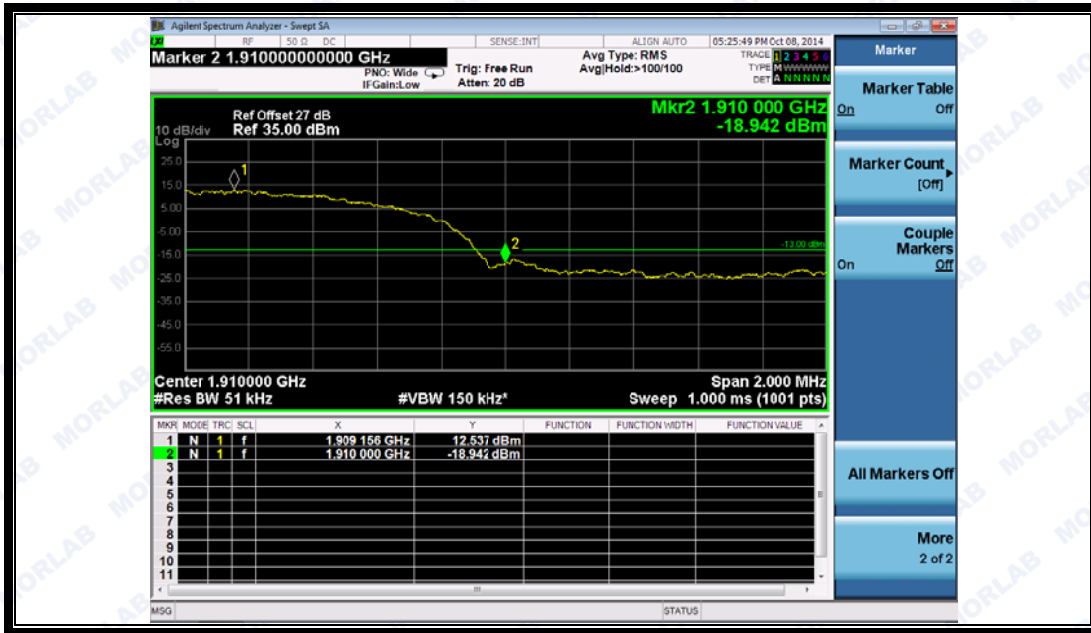
(Plot Q: HSUPA 850 Channel = 4132)



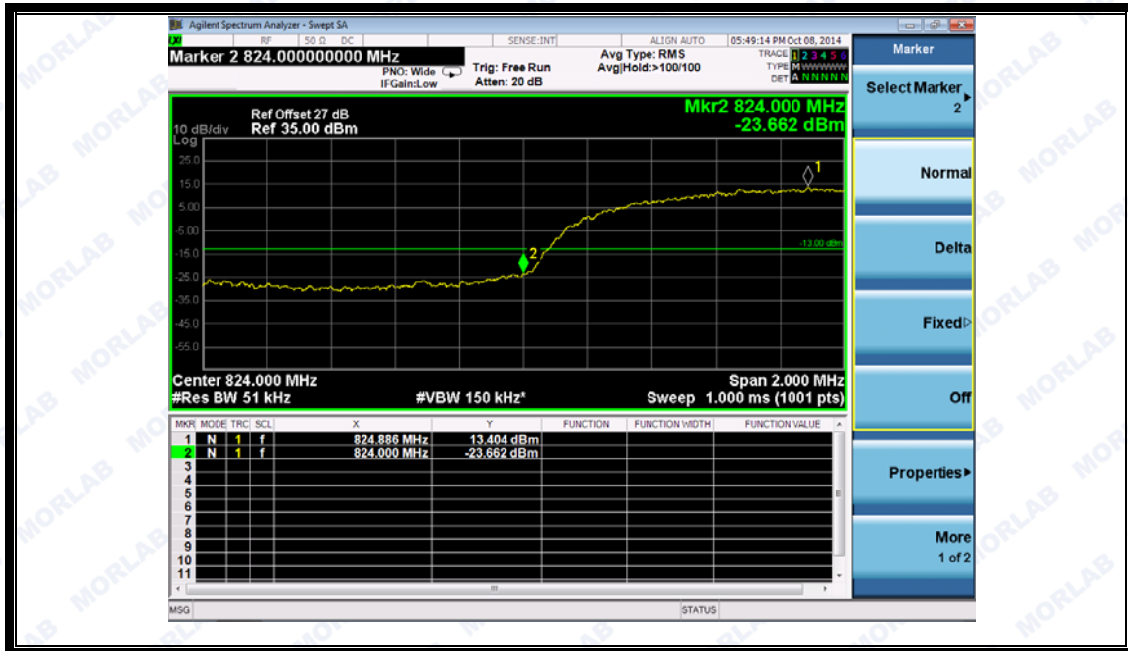
(Plot R: HSUPA850 Channel = 4233)



(Plot S: HSUPA 1900 Channel = 9262)



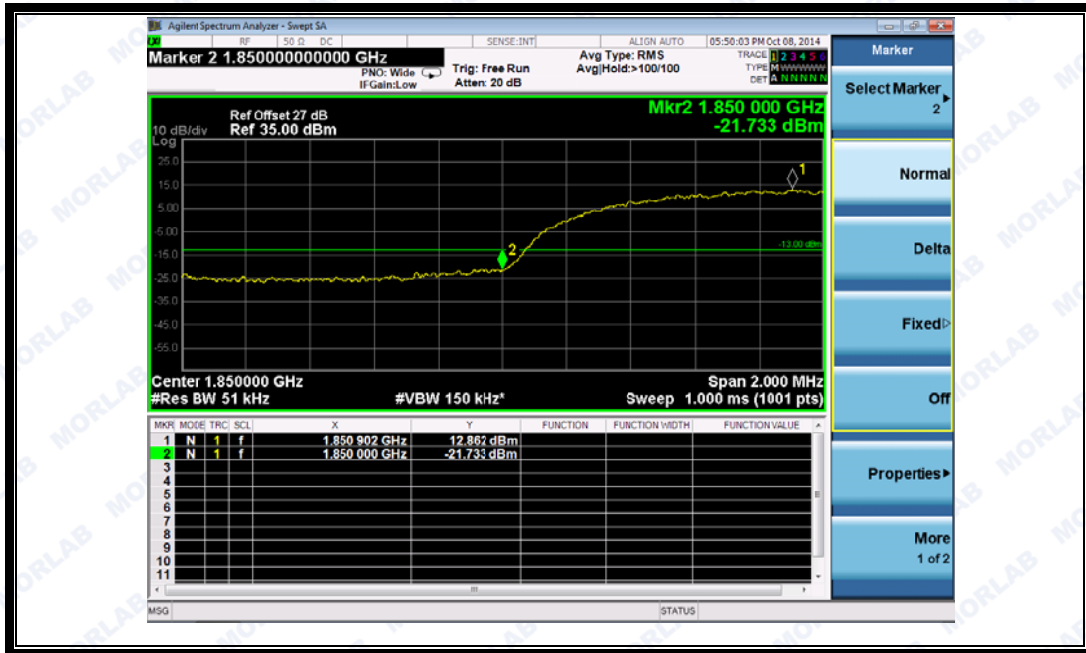
(Plot T: HSUPA 1900 Channel = 9538)



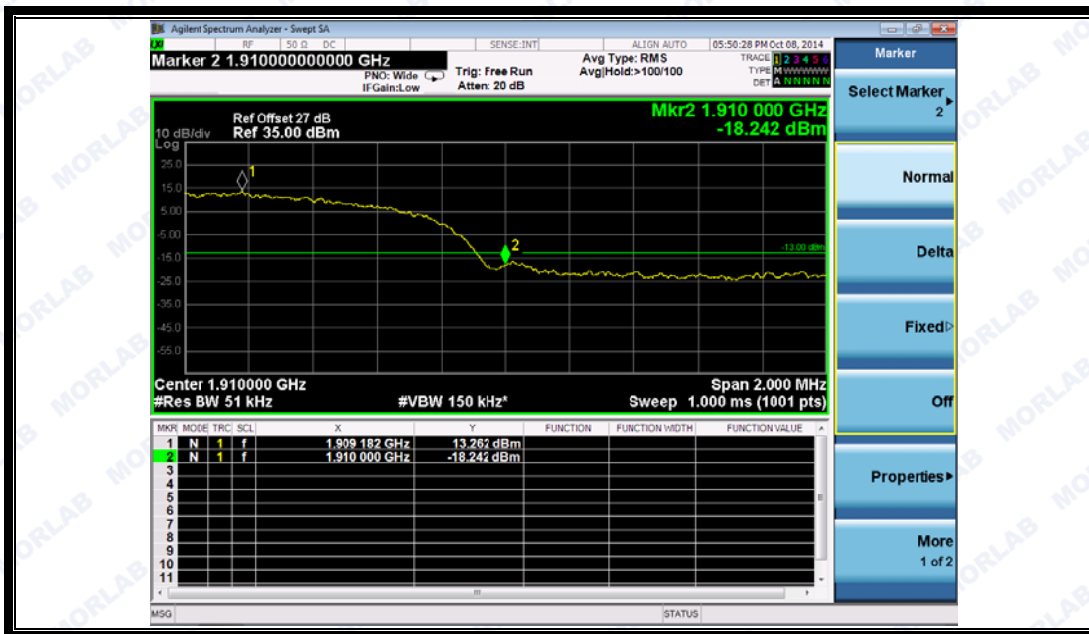
(Plot U: HSPA+ 850 Channel = 4132)



(Plot V: HSPA+ 850 Channel = 4233)



(Plot W: HSPA+ 1900 Channel = 9262)



(Plot X: HSPA+ 1900 Channel = 9538)



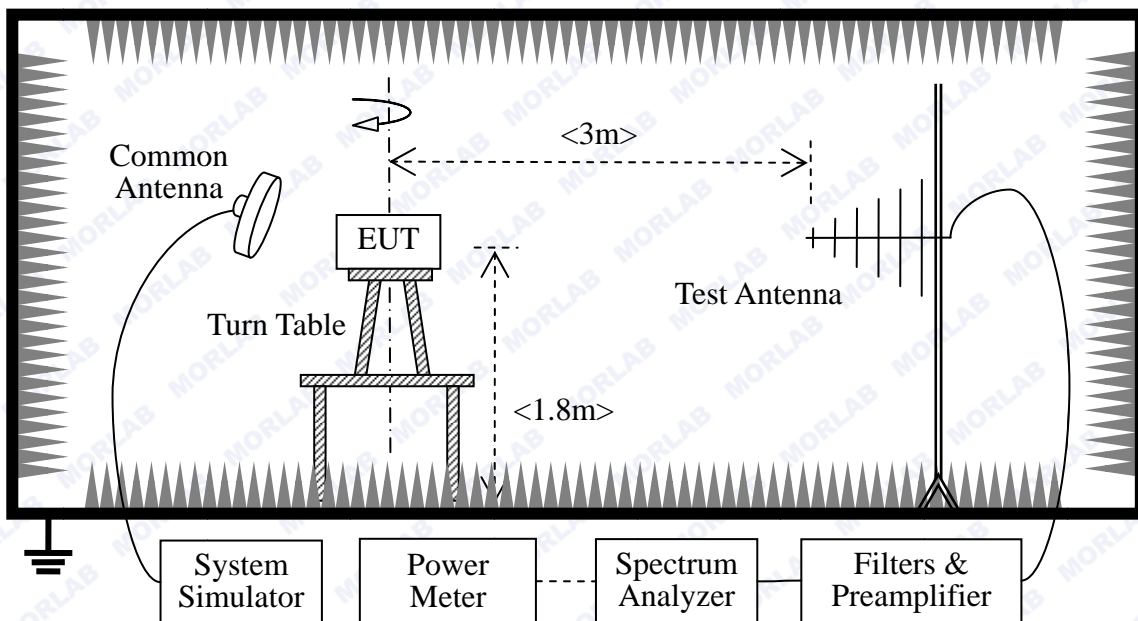
## 2.7. Transmitter Radiated Power (EIRP/ERP)

### 2.7.1. Requirement

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

### 2.7.2. Test Description

#### 1. Test Setup:



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

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



- GSM Maximum RF output power: GSM 850 32.64dBm, GSM 1900 29.18dBm, EGPRS 850 32.20dBm, EGPRS 1900 28.79dBm, WCDMA 850 24.19dBm, WCDMA 1900 23.57dBm, Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

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

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

## 2. Equipments List:

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

### 2.7.3. Test Result

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

The substitution corrections are obtained as described below:

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



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

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	29.17	0.826	Plot A	38.5	7	PASS
	190	836.60	5	28.05	0.638				PASS
	251	848.80	5	28.18	0.658				PASS
GPRS 850MHz	128	824.20	5	28.28	0.673	Plot B <sup>Note 1</sup>	38.5	7	PASS
	190	836.60	5	27.57	0.571				PASS
	251	848.80	5	27.52	0.565				PASS
EGPRS 850MHz	128	824.20	5	27.27	0.533	Plot C <sup>Note 1</sup>	38.5	7	PASS
	190	836.60	5	27.56	0.570				PASS
	251	848.80	5	26.94	0.494				PASS

Band	Channel	Frequency (MHz)	PCL	Measured EIRP			Limit		Verdict
				dBm	W	Refer to Plot	dBm	W	
GSM 1900M Hz	512	1850.2	0	32.3	1.698	Plot D	33	2	PASS
	661	1880.0	0	31.78	1.507				PASS
	810	1909.8	0	32.76	1.888				PASS
GPRS 1900M Hz	512	1850.2	0	30.54	1.132	Plot E <sup>Note 1</sup>	33	2	PASS
	661	1880.0	0	29.28	0.847				PASS
	810	1909.8	0	30.31	1.074				PASS
EGPRS 1900M Hz	512	1850.2	0	30.84	1.213	Plot F <sup>Note 1</sup>	33	2	PASS
	661	1880.0	0	29.75	0.944				PASS
	810	1909.8	0	29.99	0.998				PASS

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



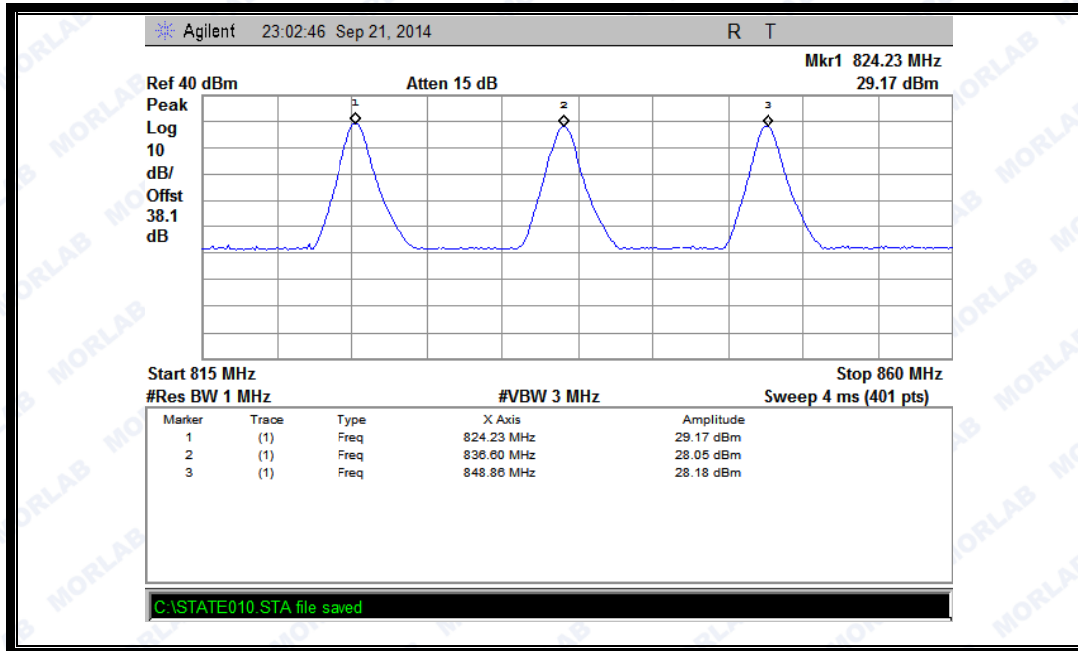
2. WCDMA Model Test Verdict:

Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
WCDMA 850MHz	4132	826.4	22.58	0.181	Plot G	38.5	7	PASS
	4175	835	21.96	0.157				PASS
	4233	846.6	22.48	0.177				PASS
HSDPA 850MHz	4132	826.4	22.32	0.171	Plot H	38.5	7	PASS
	4175	835	21.62	0.145				PASS
	4233	846.6	22.21	0.166				PASS
HSUPA 850MHz	4132	826.4	22.34	0.171	Plot I	38.5	7	PASS
	4175	835	21.77	0.150				PASS
	4233	846.6	22.06	0.161				PASS
HSPA+ 850MHz	4132	826.4	22.31	0.170	Plot J	38.5	7	PASS
	4175	835	21.66	0.147				PASS
	4233	846.6	22.4	0.174				PASS

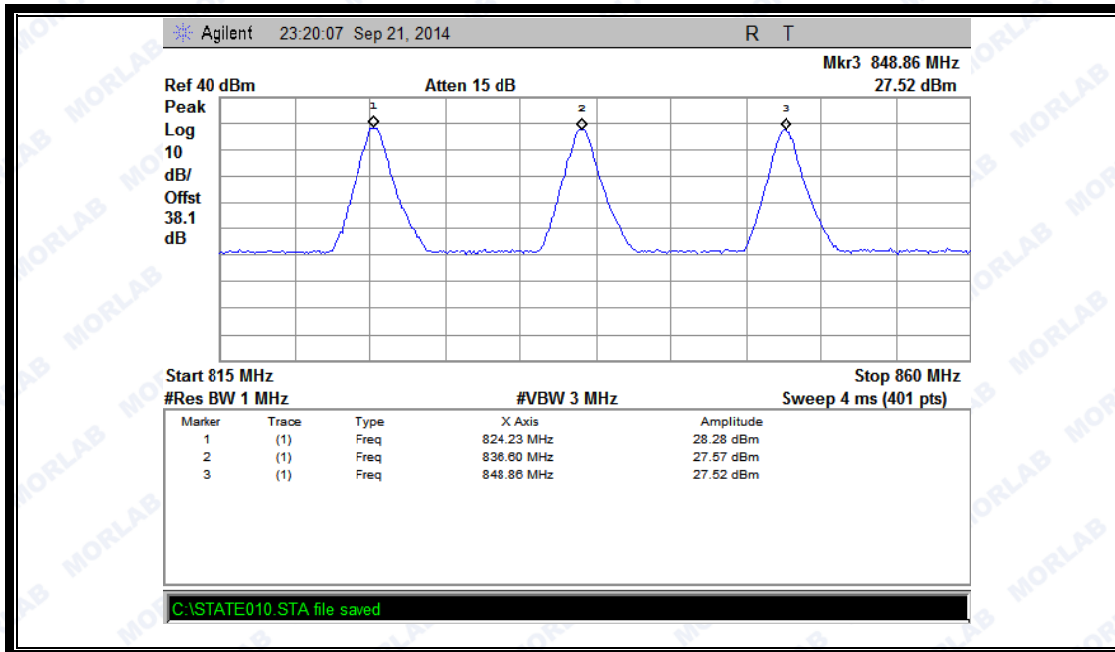
Band	Channel	Frequency (MHz)	Measured EIRP			Limit		Verdict
			dBm	W		dBm	W	
WCDMA 1900MHz	9262	1852.4	26.63	0.460	Plot K	33	2	PASS
	9400	1880	25.31	0.339				PASS
	9538	1907.6	26.11	0.408				PASS
HSDPA 1900MHz	9262	1852.4	26.21	0.418	Plot L	33	2	PASS
	9400	1880	25.22	0.332				PASS
	9538	1907.6	26.05	0.403				PASS
HSUPA 1900MHz	9262	1852.4	26.24	0.421	Plot M	33	2	PASS
	9400	1880	25.25	0.335				PASS
	9538	1907.6	25.73	0.374				PASS
HSPA+ 1900MHz	9262	1852.4	25.89	0.388	Plot N	33	2	PASS
	9400	1880	25.39	0.346				PASS
	9538	1907.6	25.7	0.372				PASS



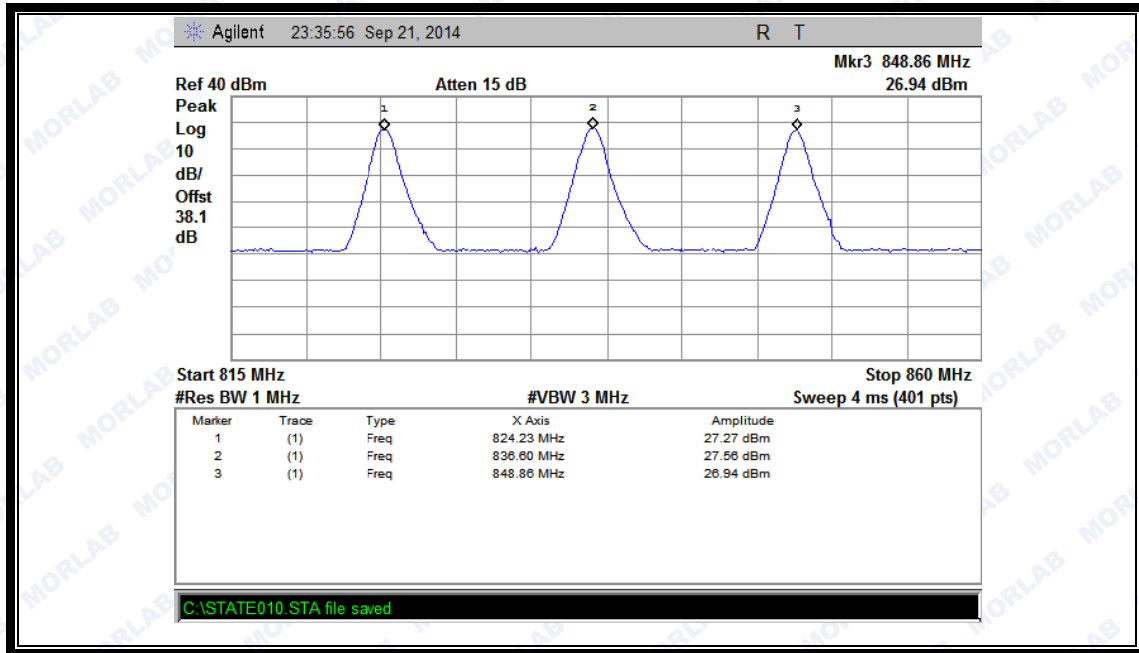
3. Test Plots:



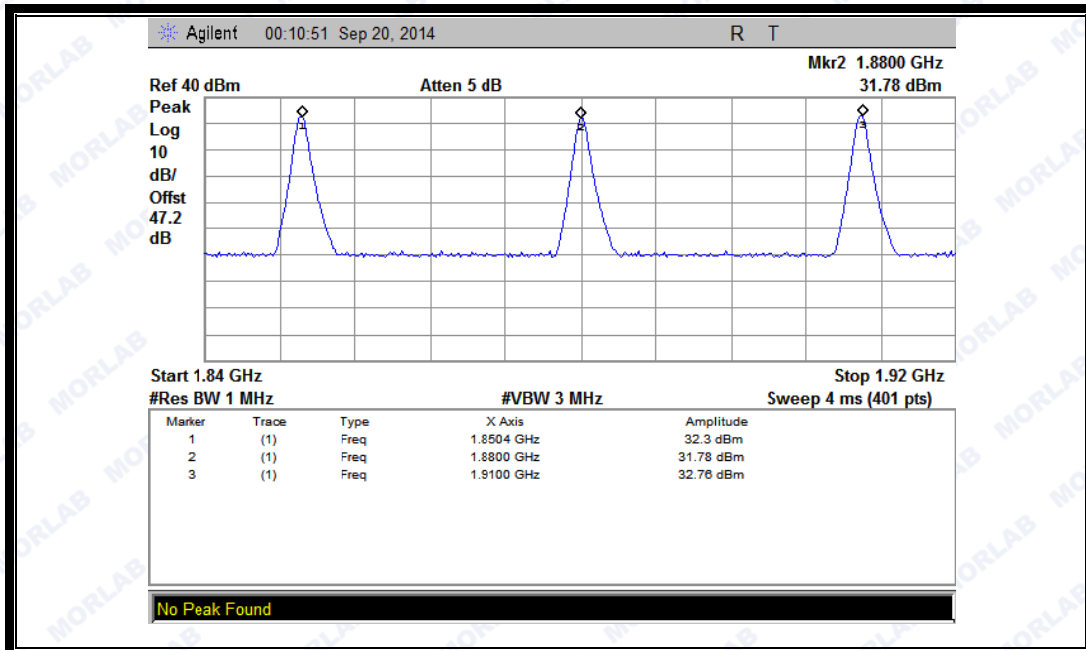
(Plot A: GSM 850MHz Channel = 128, 190, 251)



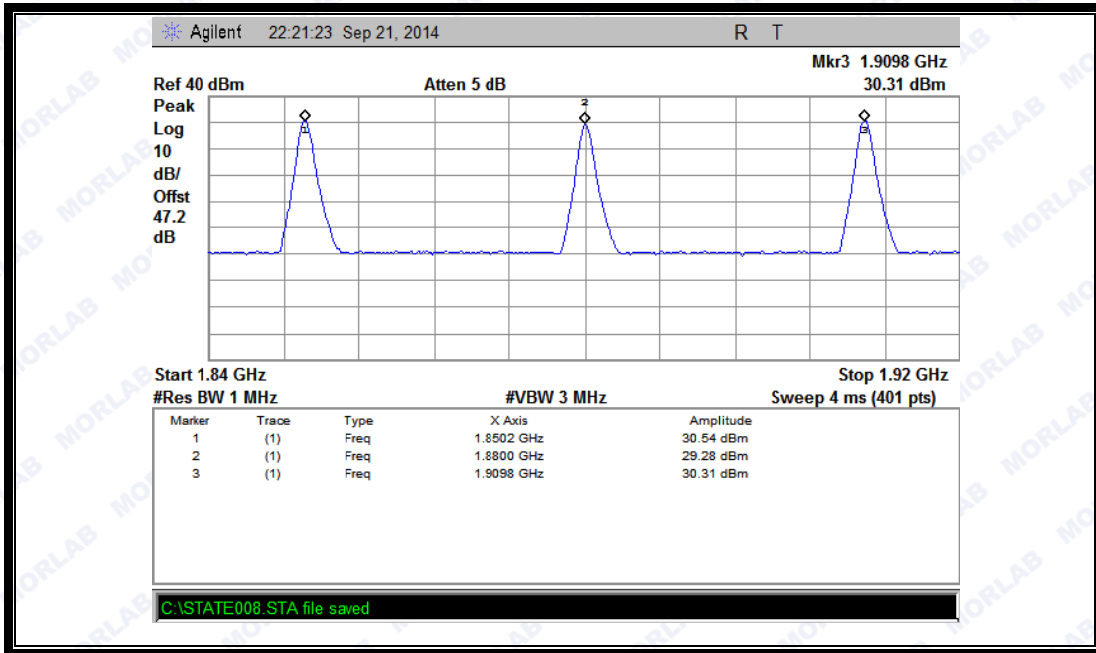
(Plot B: GPRS 850MHz Channel = 128, 190, 251)



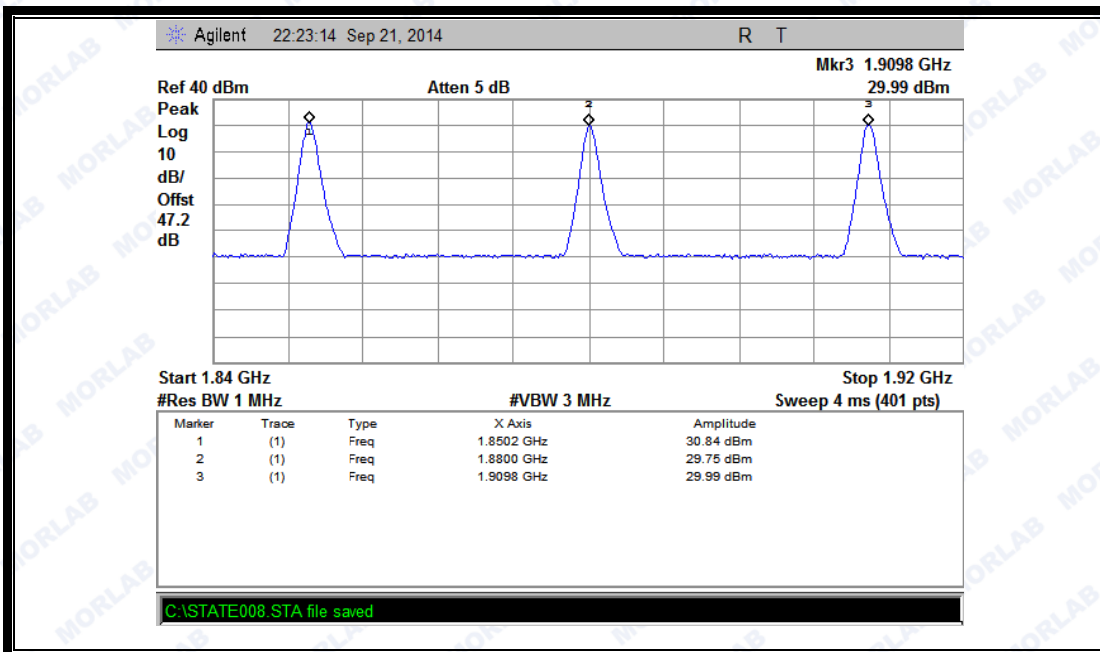
(Plot C: EGPRS 850MHz Channel = 128, 190, 251)



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

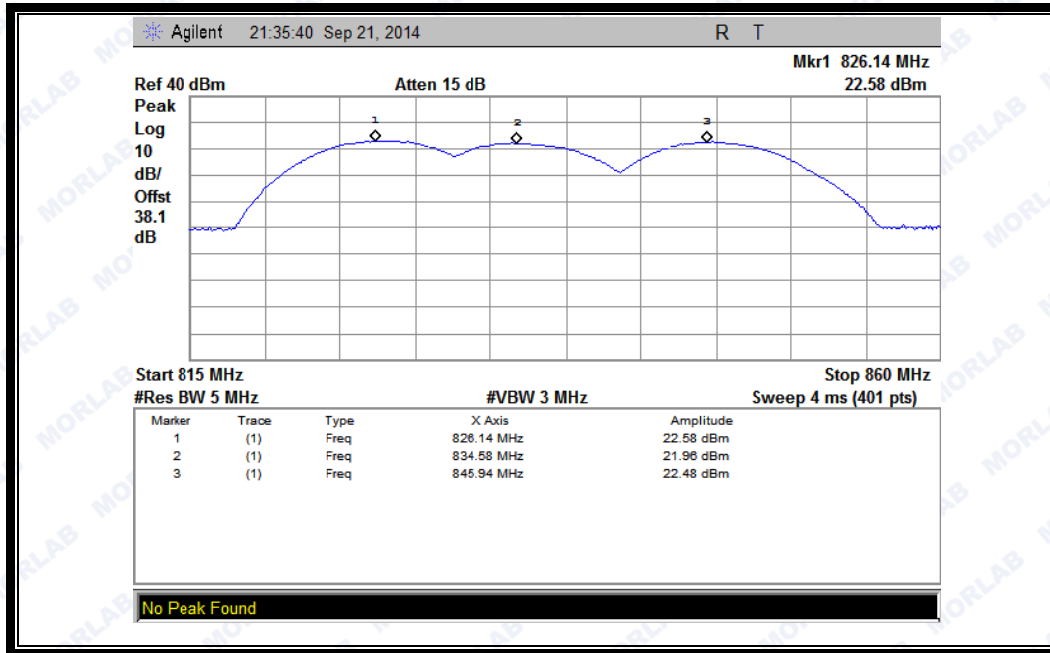


(Plot E: GPRS 1900MHz Channel = 512, 661, 810)

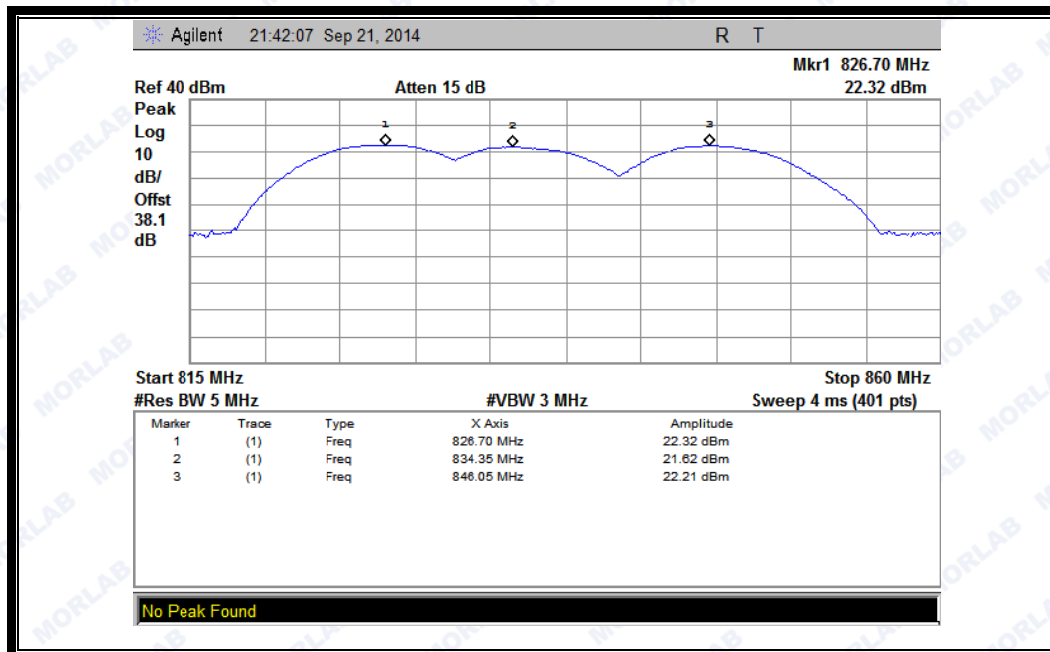


(Plot F: EGPRS 1900MHz Channel = 512, 661, 810)

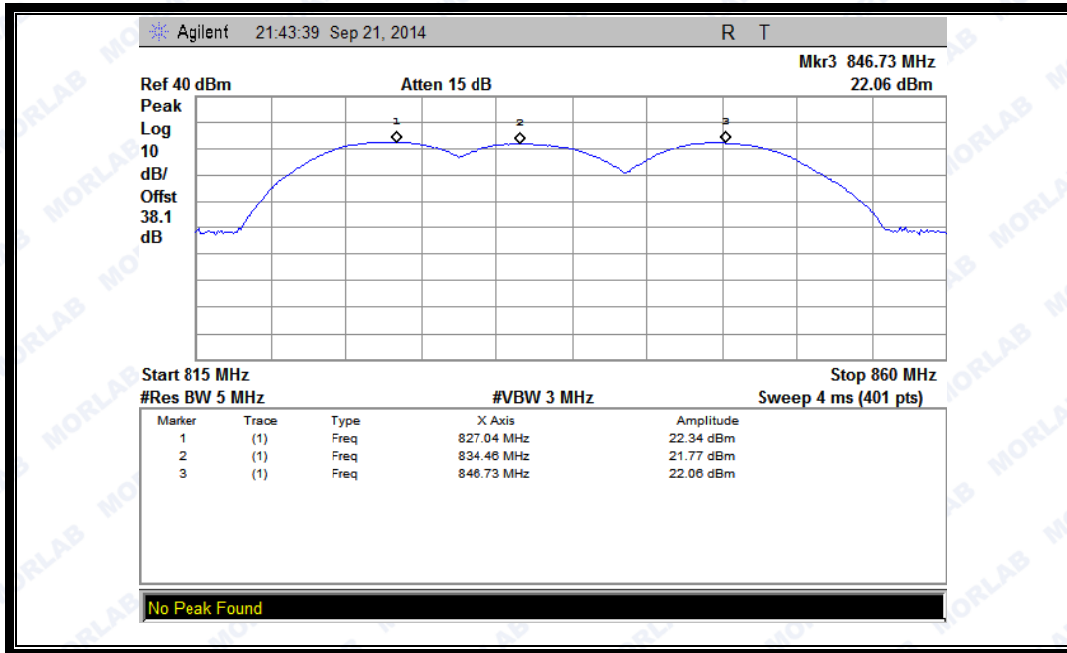




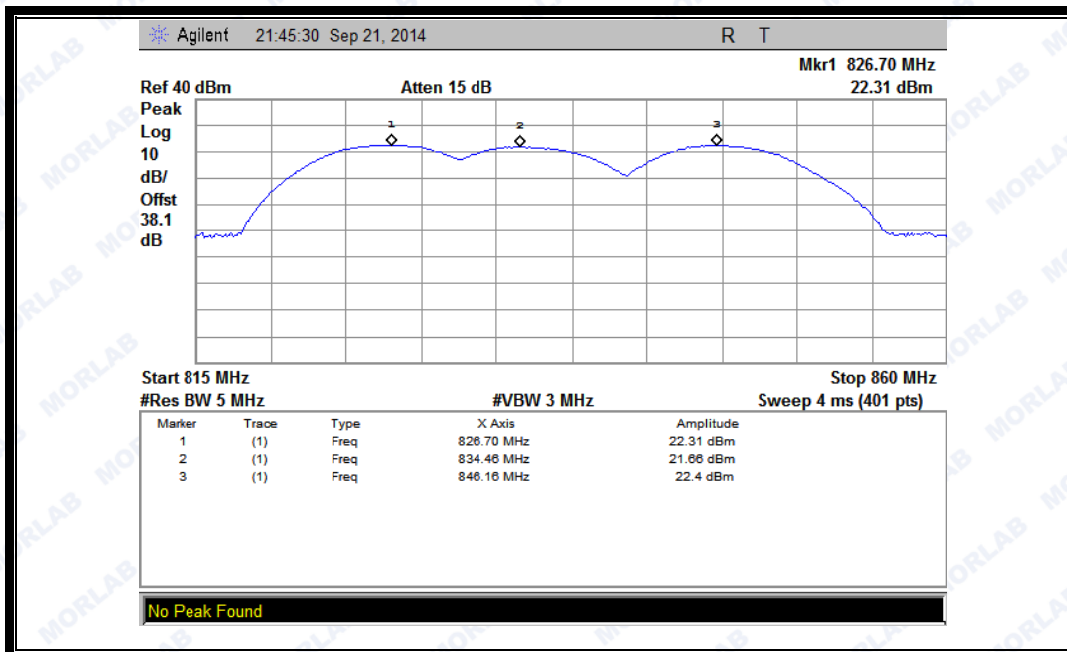
(Plot G: WCDMA 850 MHz Channel = 4132, 4175, 4233)



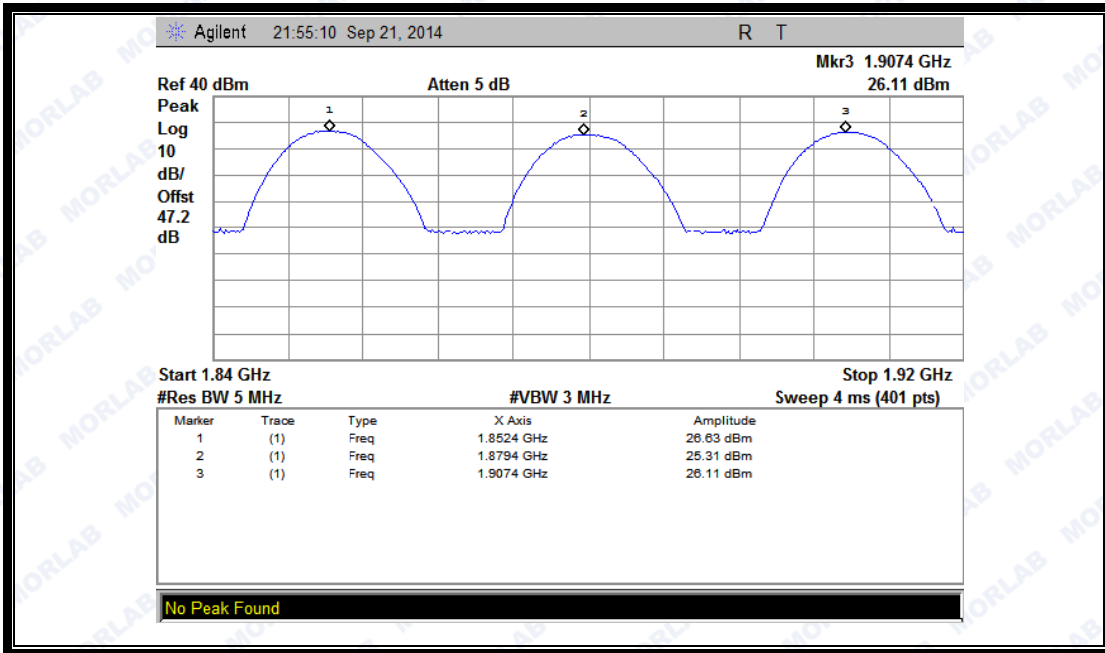
(Plot H: HSDPA 850 MHz Channel = 4132, 4175, 4233)



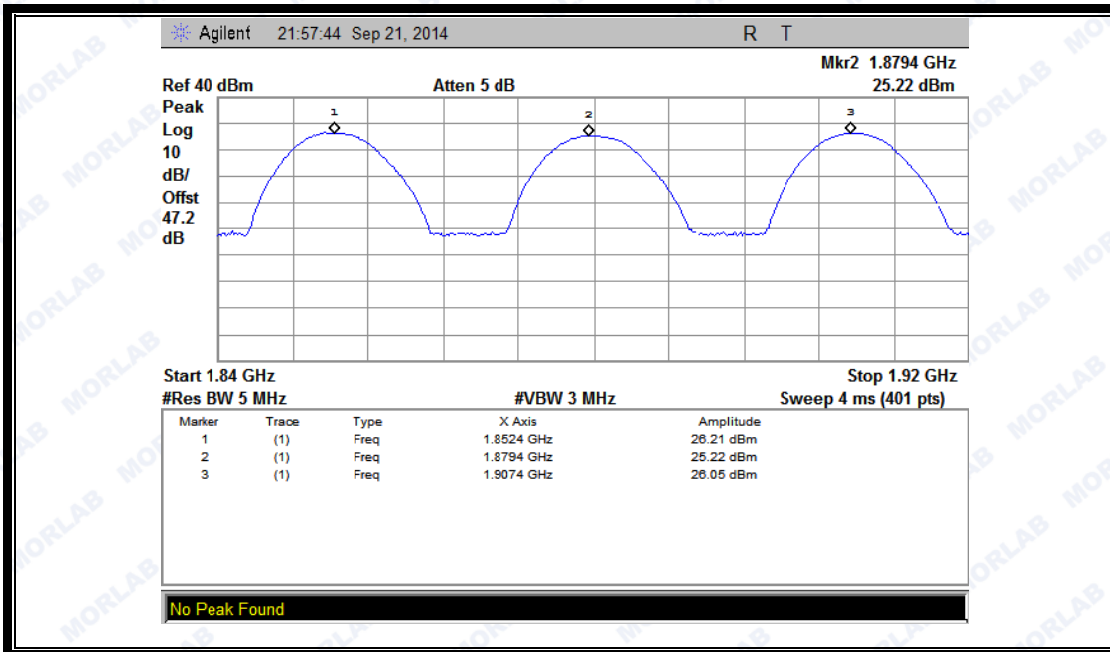
(Plot I: HSUPA 850 MHz Channel = 4132, 4175, 4233)



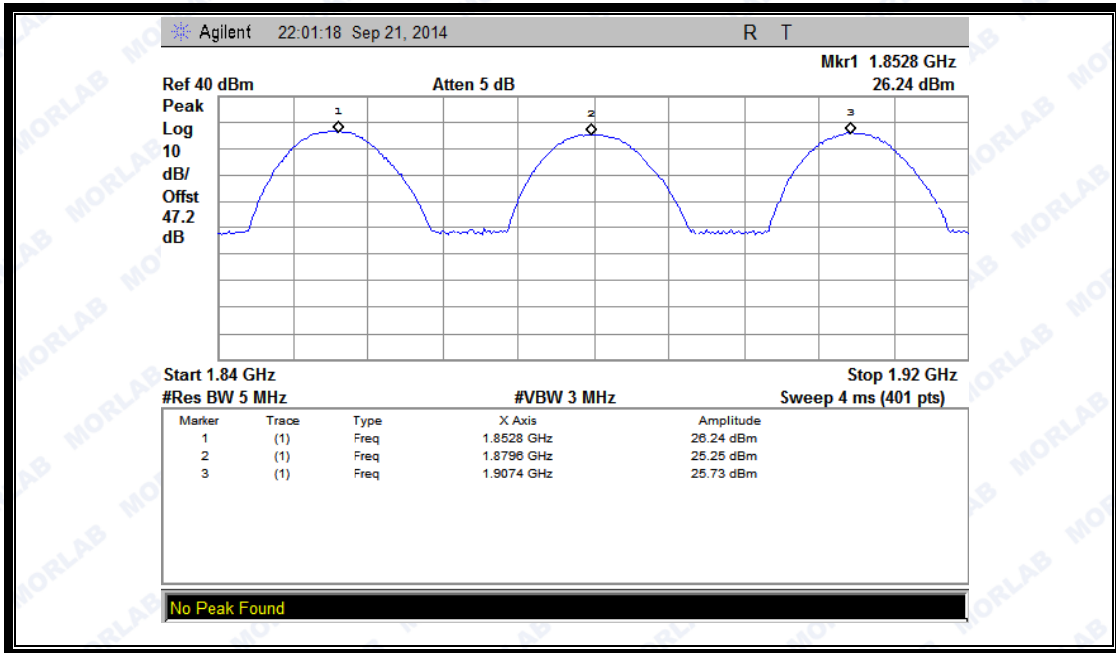
(Plot J: HSPA+ 850 MHz Channel = 4132, 4175, 4233)



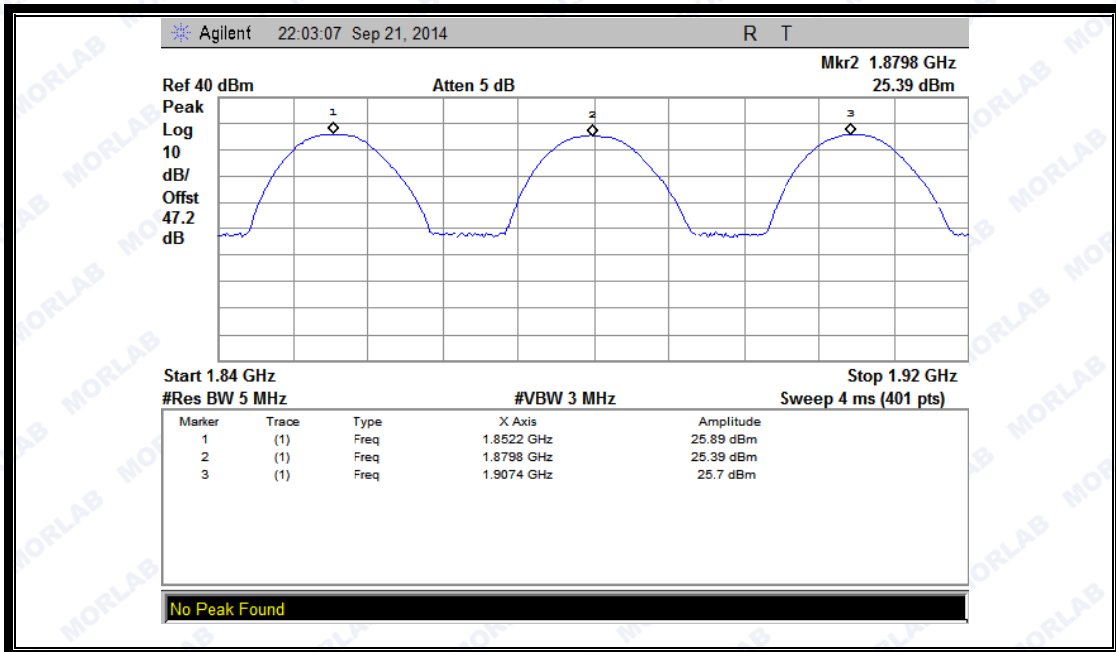
(Plot K: WCDMA 1900 MHz Channel = 9262, 9400, 9538)



(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)