



Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	ERP [dBm]	Limit [dBm]	Verdict
GSM850	GSM/TM1	LCH	31.57	31.92	38.5	PASS
		MCH	31.85	32.2	38.5	PASS
		HCH	31.72	32.07	38.5	PASS
	GSM/TM2	LCH	26.15	26.5	38.5	PASS
		MCH	26.35	26.7	38.5	PASS
		HCH	26.32	26.67	38.5	PASS
WCDMA850	UMTS/TM1	LCH	22.08	22.43	38..5	PASS
		MCH	22.15	22.5	38.5	PASS
		HCH	21.62	21.97	38.5	PASS
Test Band	Test Mode	Test Channel	Conducted Power [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
GSM1900	GSM/TM1	LCH	29.45	31.95	33	PASS
		MCH	29.43	31.93	33	PASS
		HCH	29.17	31.67	33	PASS

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	ERP [dBm]	Limit [dBm]	Verdict
	GSM/TM2	LCH	25.45	27.95	33	PASS
		MCH	25.53	28.03	33	PASS
		HCH	25.41	27.91	33	PASS
WCDMA1900	UMTS/TM1	LCH	21.58	24.08	33	PASS
		MCH	21.61	24.11	33	PASS
		HCH	21.61	24.11	33	PASS

Note1:

a, For getting the ERP (Efficient Radiated Power) or EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP=Signal Generator Level

Note2: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS

2Appendix_B: Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
GSM850	GSM/TM1	LCH	0.13	13	PASS
		MCH	0.11	13	PASS
		HCH	0.12	13	PASS
	GSM/TM2	LCH	3.11	13	PASS
		MCH	3.22	13	PASS
		HCH	3.1	13	PASS
GSM1900	GSM/TM1	LCH	0.27	13	PASS
		MCH	0.17	13	PASS
		HCH	0.14	13	PASS
	GSM/TM2	LCH	3.41	13	PASS
		MCH	3.26	13	PASS
		HCH	3.15	13	PASS
Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
WCDMA1900	UMTS/TM1	LCH	3.32	13	PASS
		MCH	3.46	13	PASS
		HCH	3.37	13	PASS
WCDMA850	UMTS/TM1	LCH	3.4	13	PASS
		MCH	3.41	13	PASS
		HCH	3.59	13	PASS

3Appendix_C: Modulation Characteristics

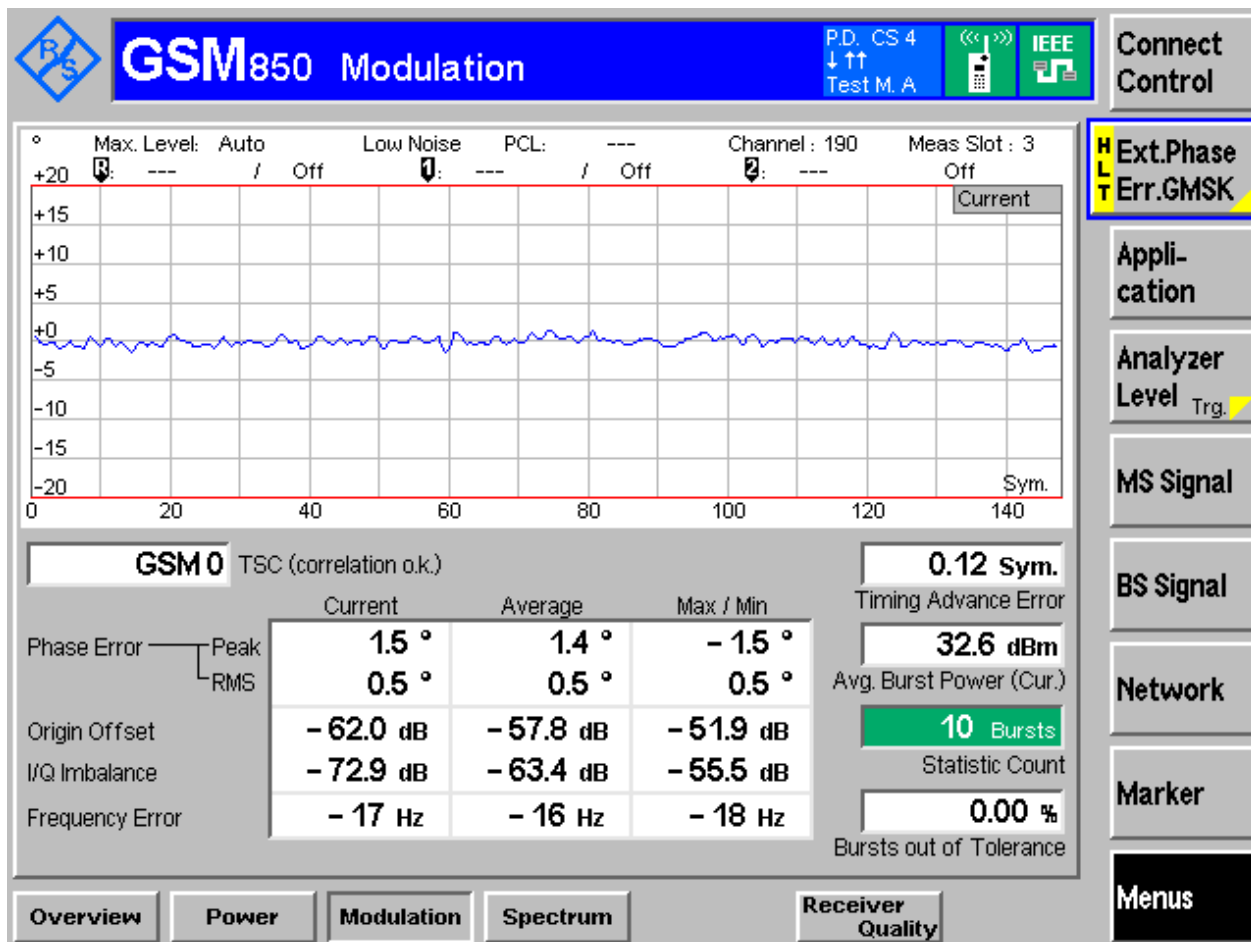
Part I - Test Plots

3.1 For GSM

3.1.1 Test Band = GSM850

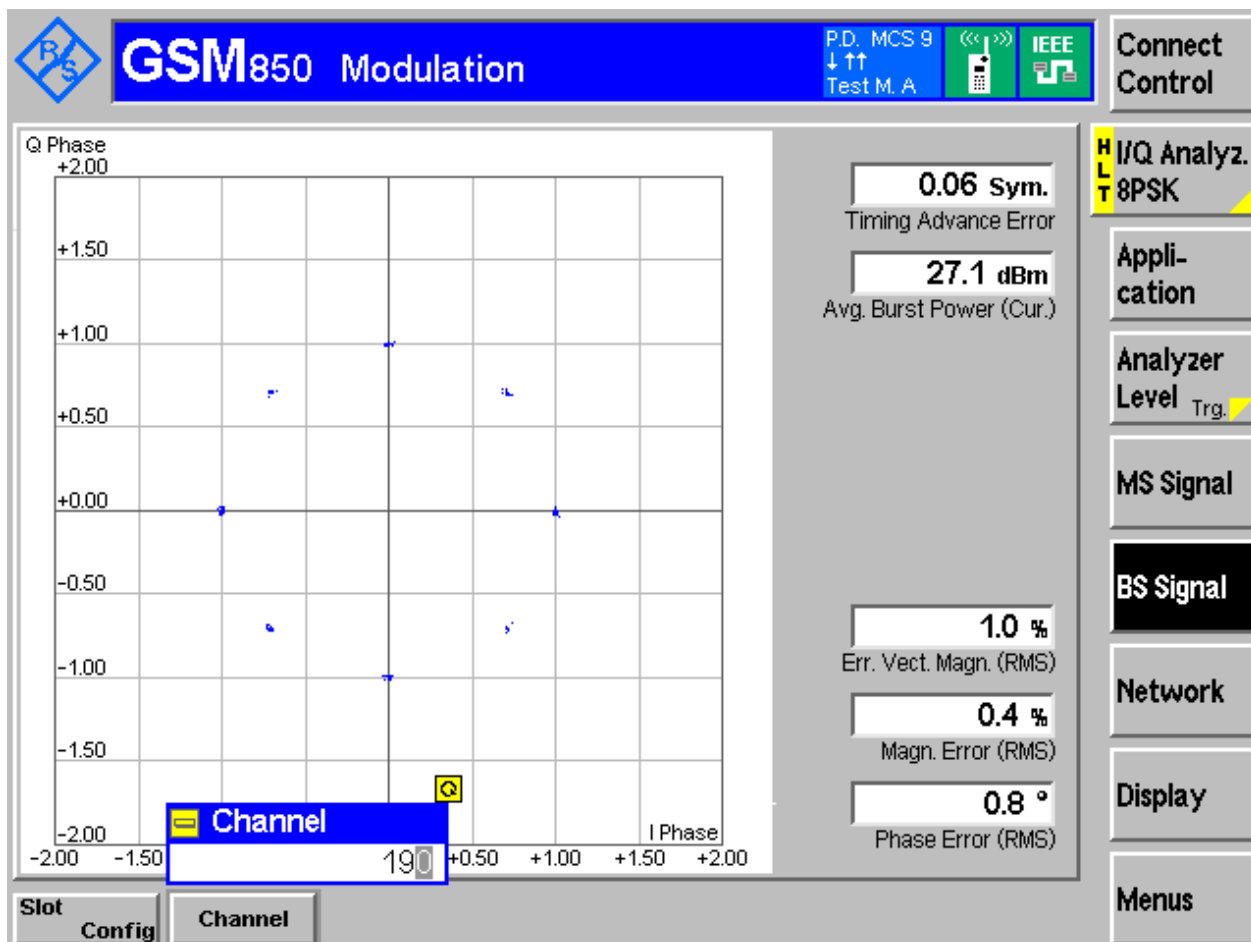
3.1.1.1 Test Mode = GSM/TM1

3.1.1.1.1 Test Channel = MCH



3.1.1.2 Test Mode = GSM/TM2

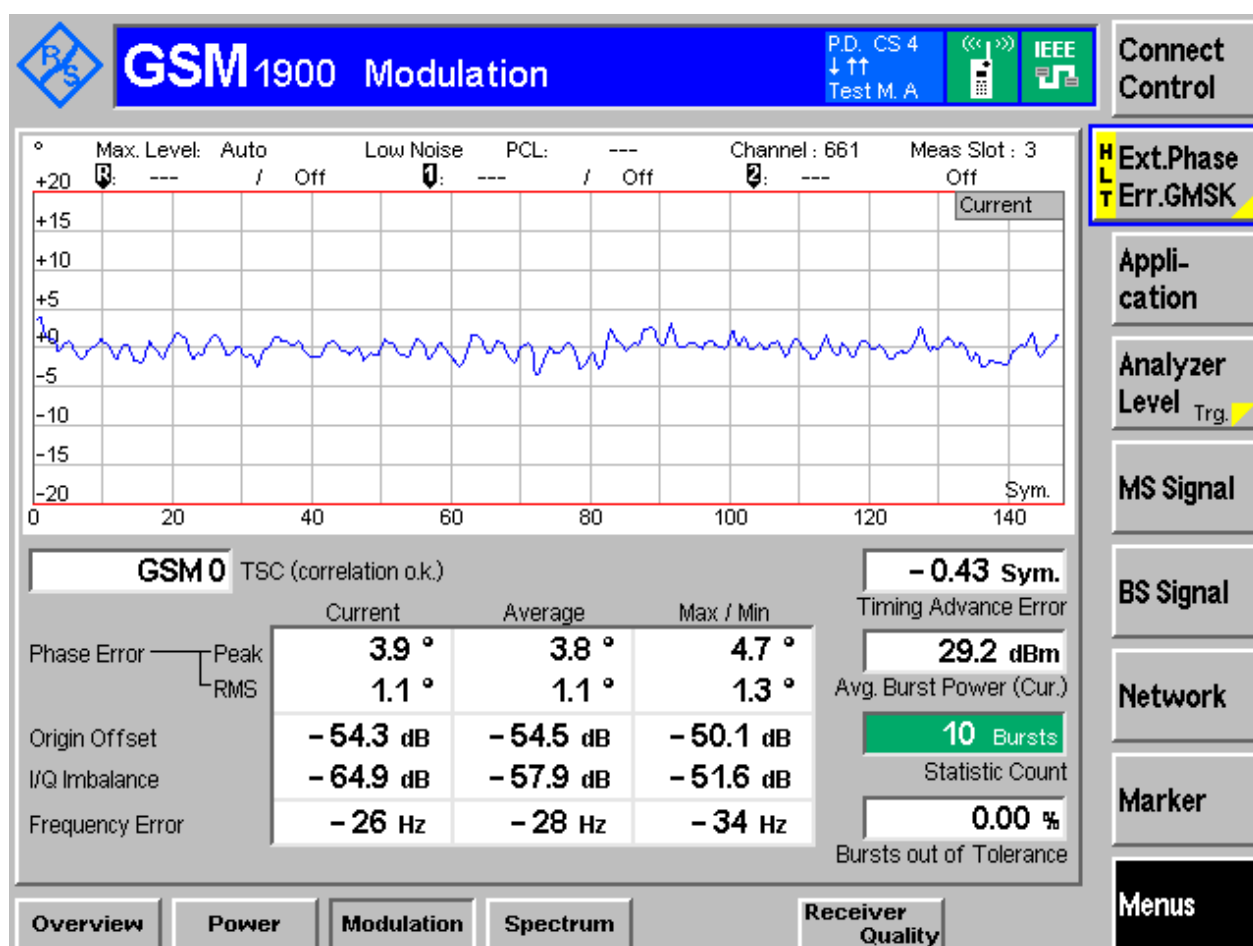
3.1.1.2.1 Test Channel = MCH



3.1.2 Test Band = GSM1900

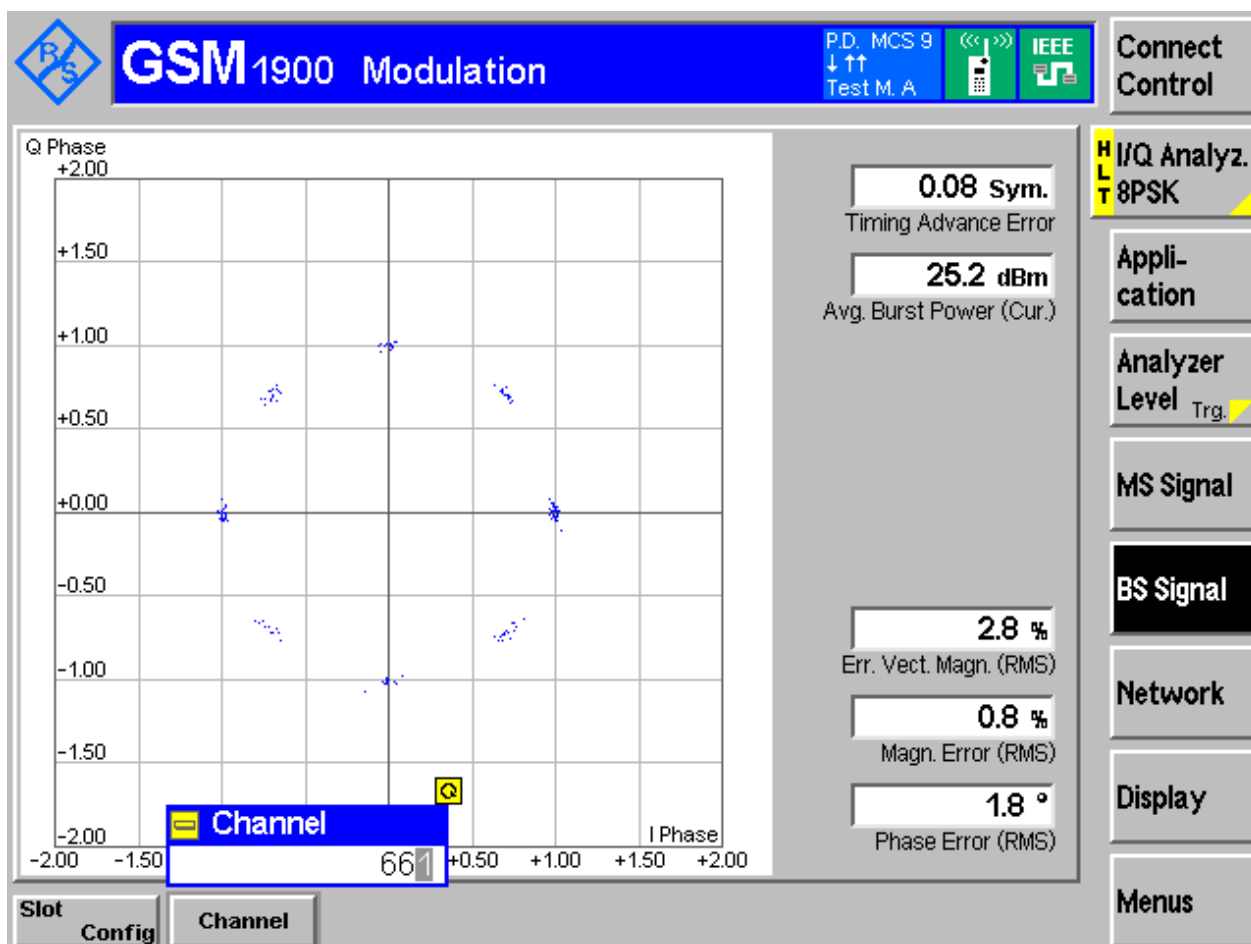
3.1.2.1 Test Mode = GSM/TM1

3.1.2.1.1 Test Channel = MCH



3.1.2.2 Test Mode = GSM/TM2

3.1.2.2.1 Test Channel = MCH

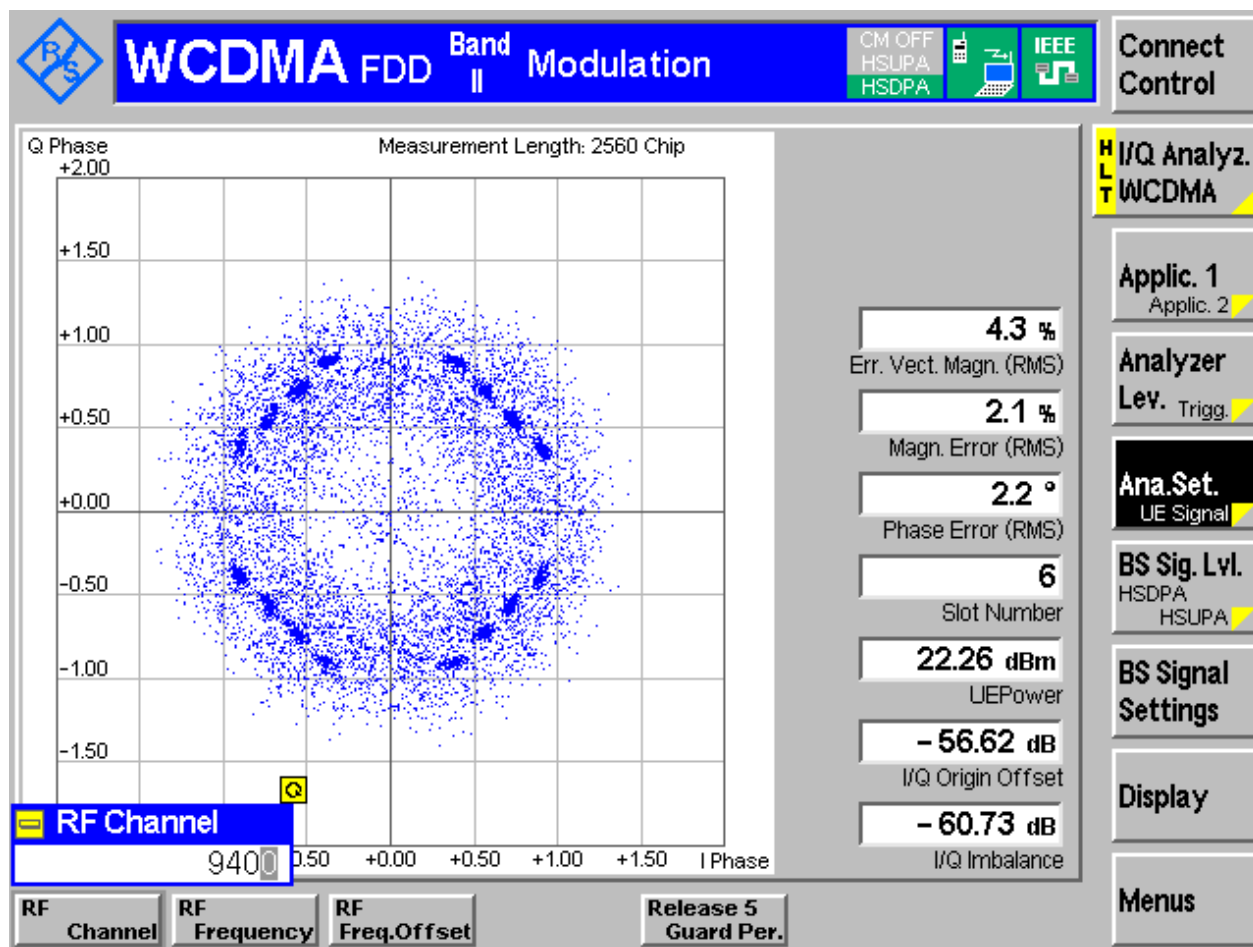


3.2 For UMTS

3.2.1 Test Band = WCDMA850

3.2.1.1 Test Mode = UMTS/TM1

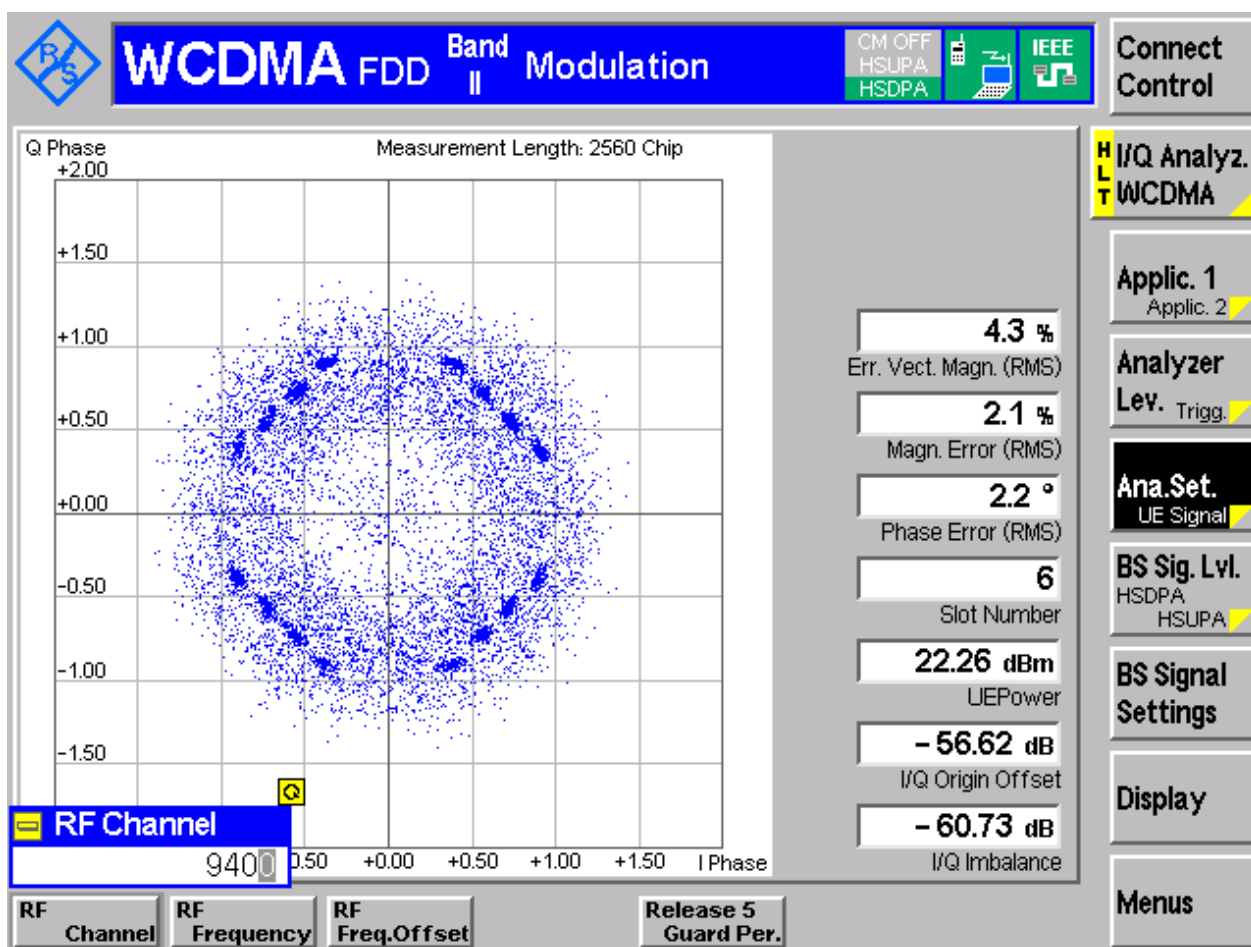
3.2.1.1.1 Test Channel = MCH



3.2.2 Test Band = WCDMA1900

3.2.2.1 Test Mode = UMTS/TM1

3.2.2.1.1 Test Channel = MCH



4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
GSM850	GSM/TM1	LCH	243.77	316.77	Pass
		MCH	246.03	320.27	Pass
		HCH	243.57	318.86	Pass
	GSM/TM2	LCH	244.46	314.65	Pass
		MCH	238.89	305.99	Pass
		HCH	241.28	311.16	Pass
GSM1900	GSM/TM1	LCH	247.27	313.38	Pass
		MCH	248.87	324.79	Pass
		HCH	245.98	317.47	Pass
	GSM/TM2	LCH	246.34	315.42	Pass
		MCH	238.65	303.86	Pass
		HCH	245.85	311.79	Pass
Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA850	UMTS/TM1	LCH	4.15	4.67	Pass
		MCH	4.15	4.67	Pass
		HCH	4.15	4.67	Pass
WCDMA1900	UMTS/TM1	LCH	4.17	4.69	Pass
		MCH	4.17	4.68	Pass
		HCH	4.17	4.68	Pass



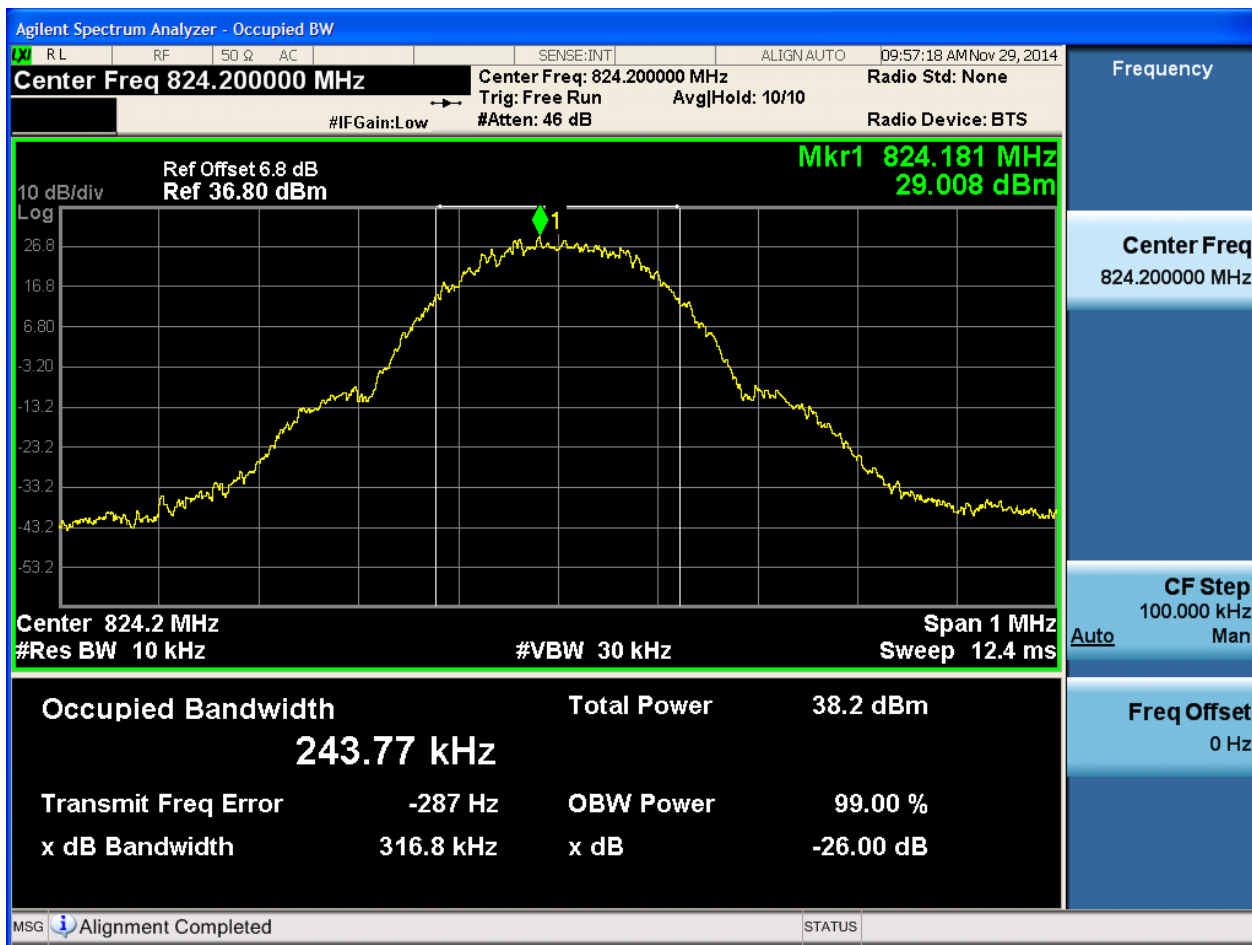
Part II - Test Plots

4.1 For GSM

4.1.1 Test Band = GSM850

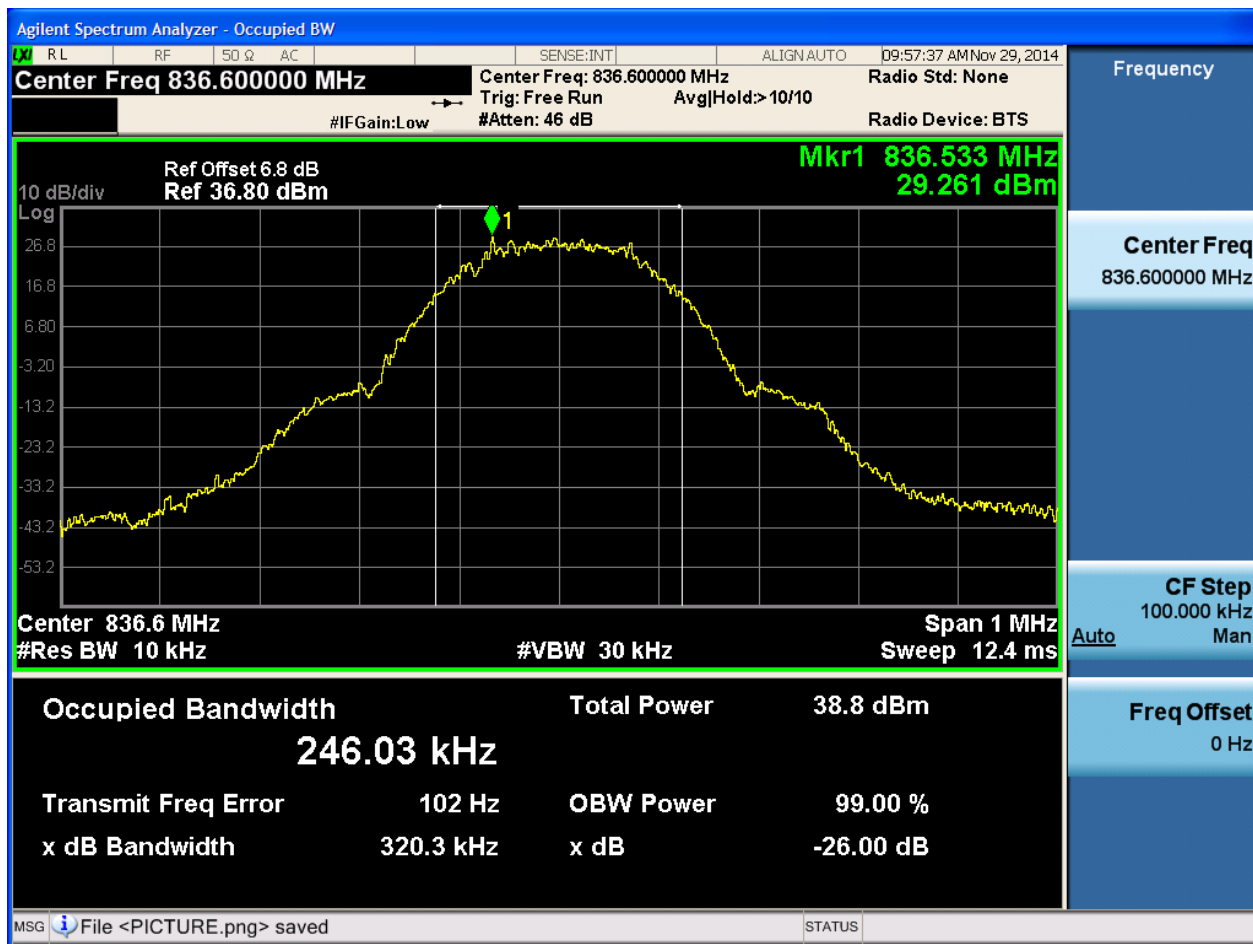
4.1.1.1 Test Mode = GSM/TM1

4.1.1.1.1 Test Channel = LCH



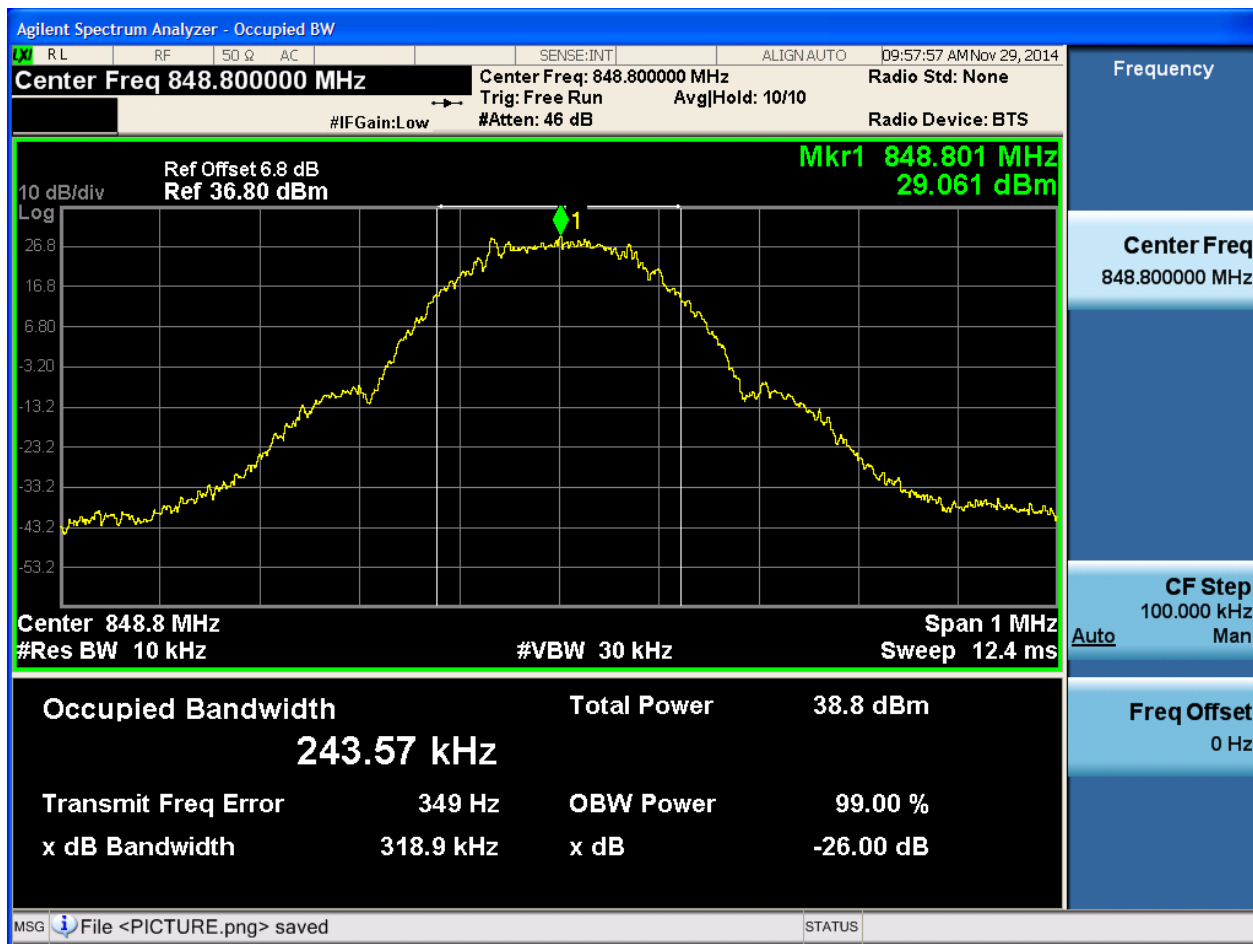


4.1.1.1.2 Test Channel = MCH





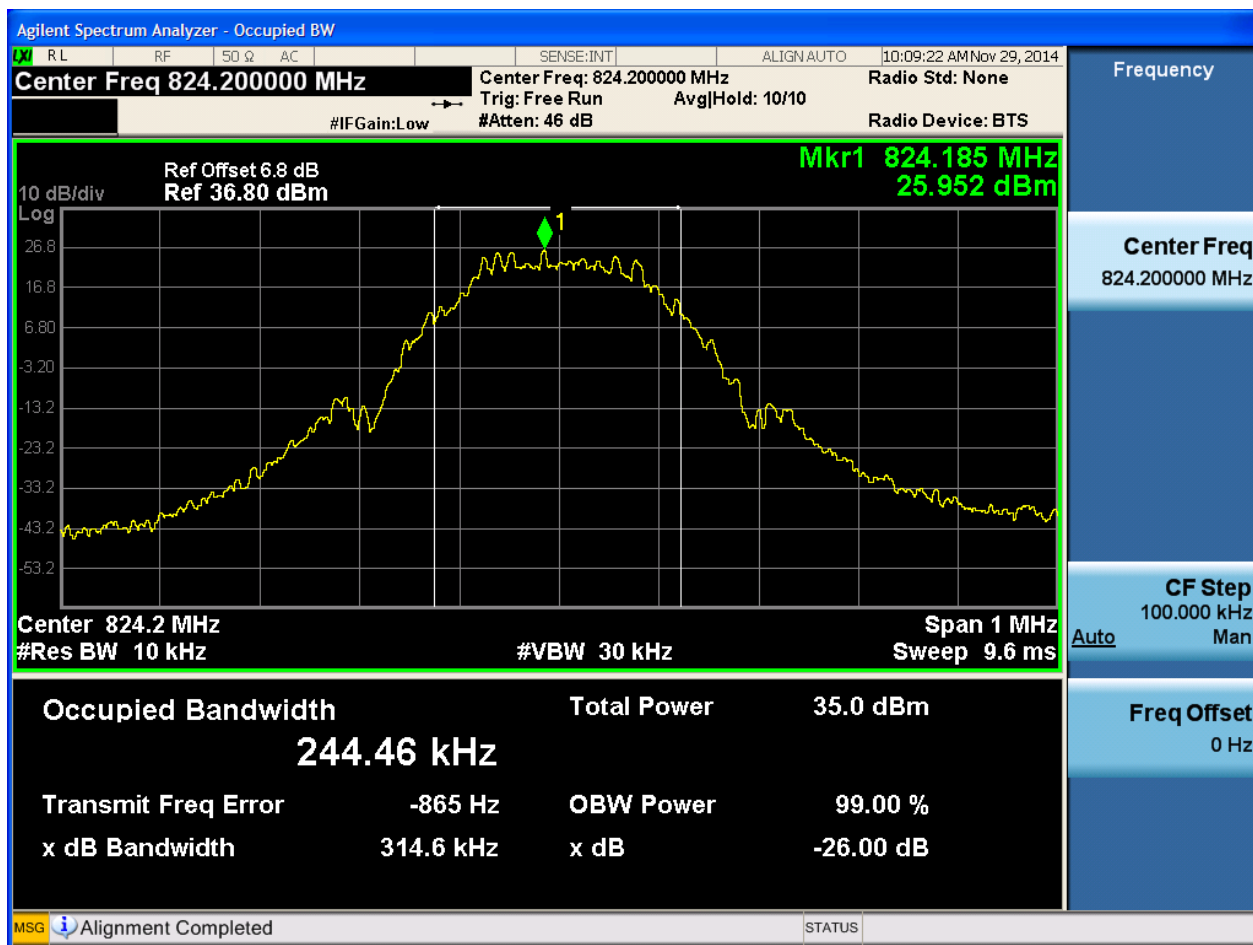
4.1.1.1.3 Test Channel = HCH





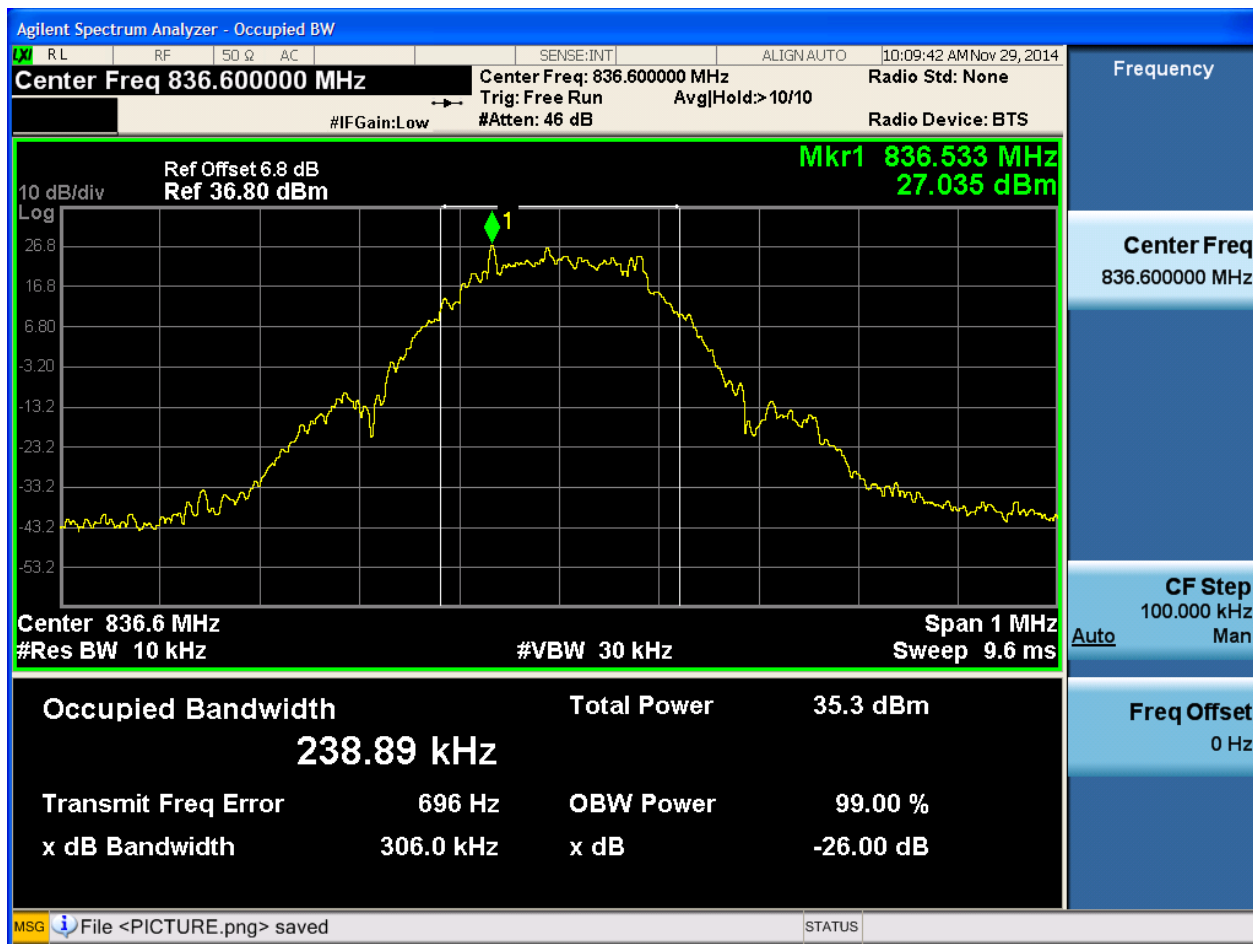
4.1.1.2 Test Mode = GSM/TM2

4.1.1.2.1 Test Channel = LCH



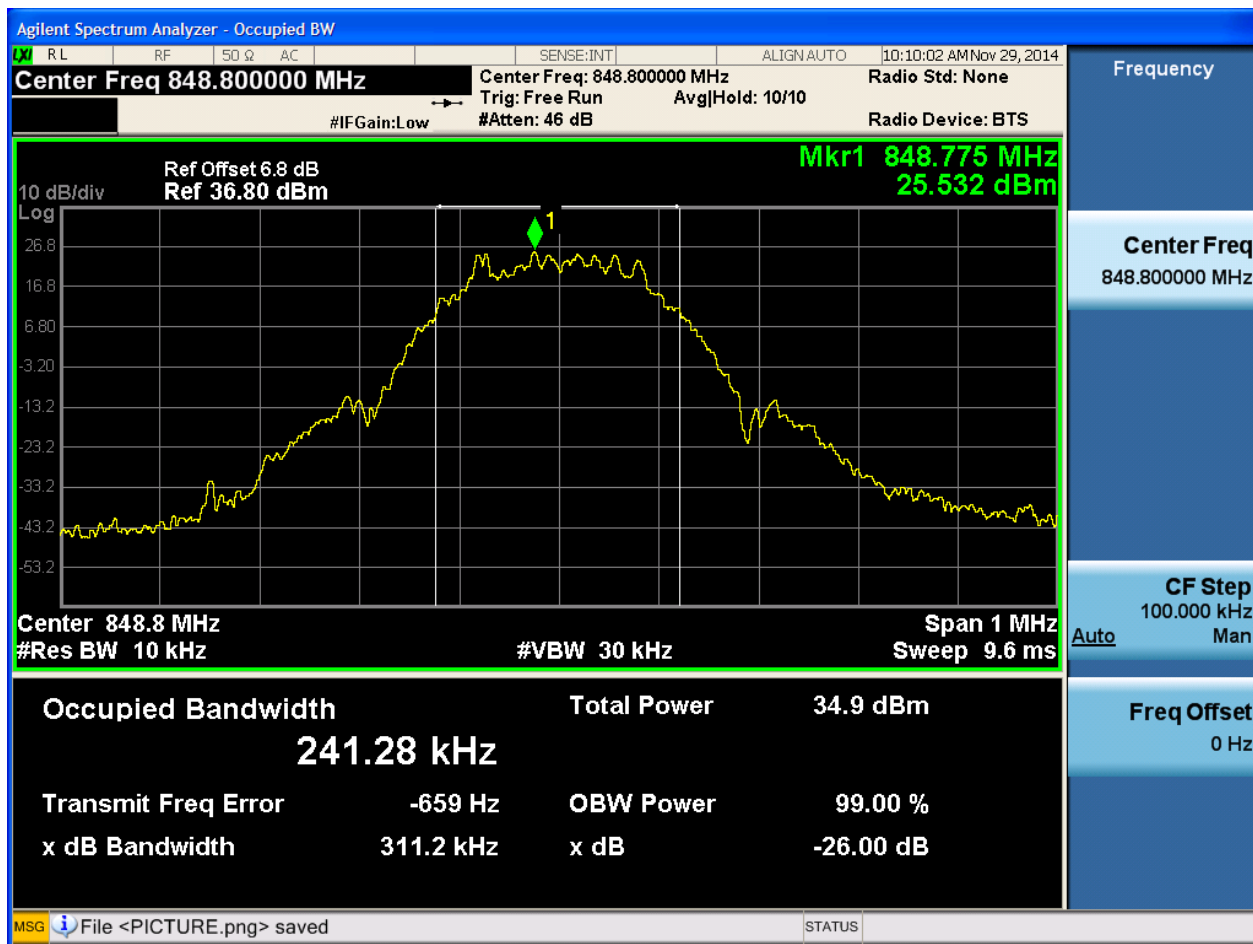


4.1.1.2.2 Test Channel = MCH





4.1.1.2.3 Test Channel = HCH

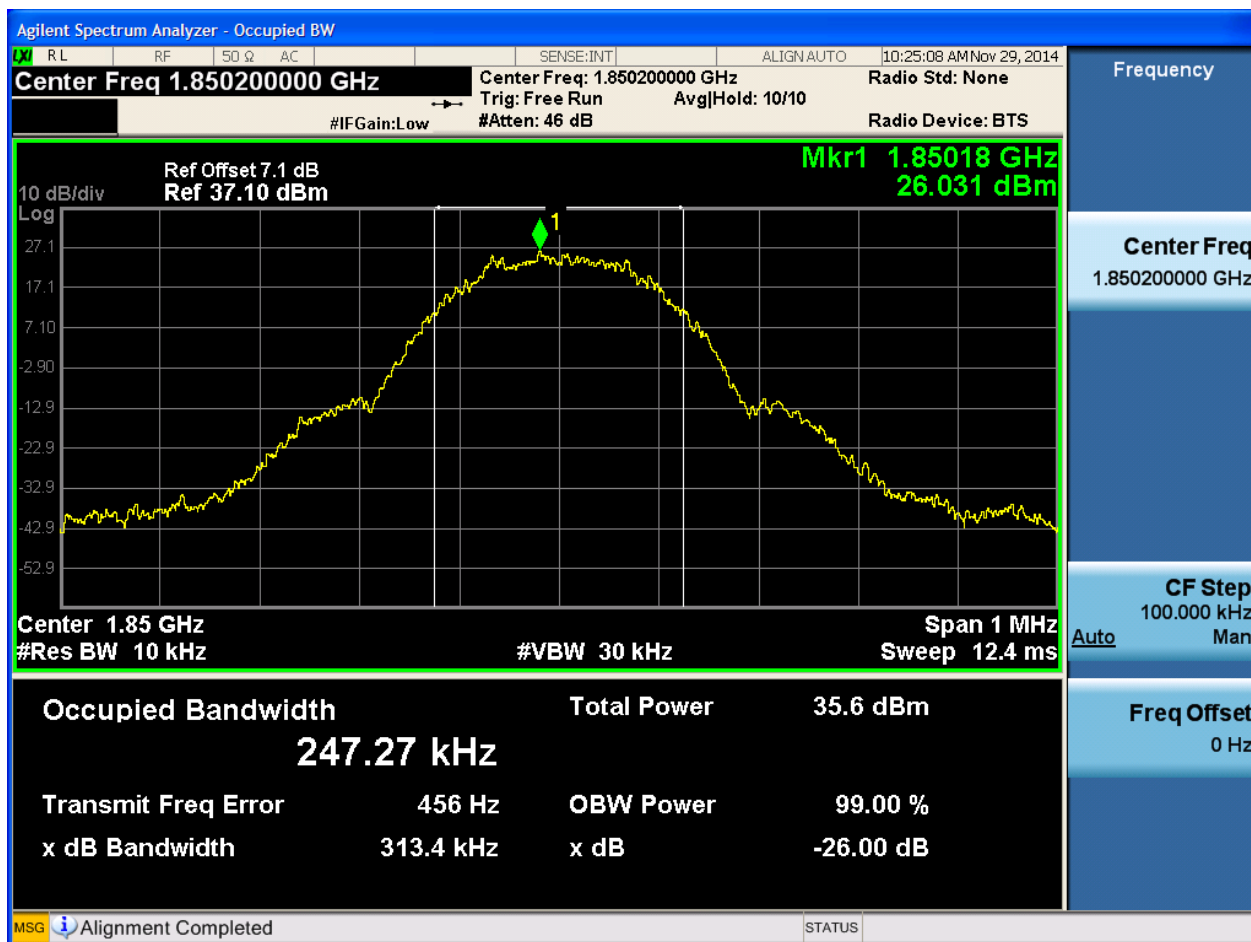




4.1.2 Test Band = GSM1900

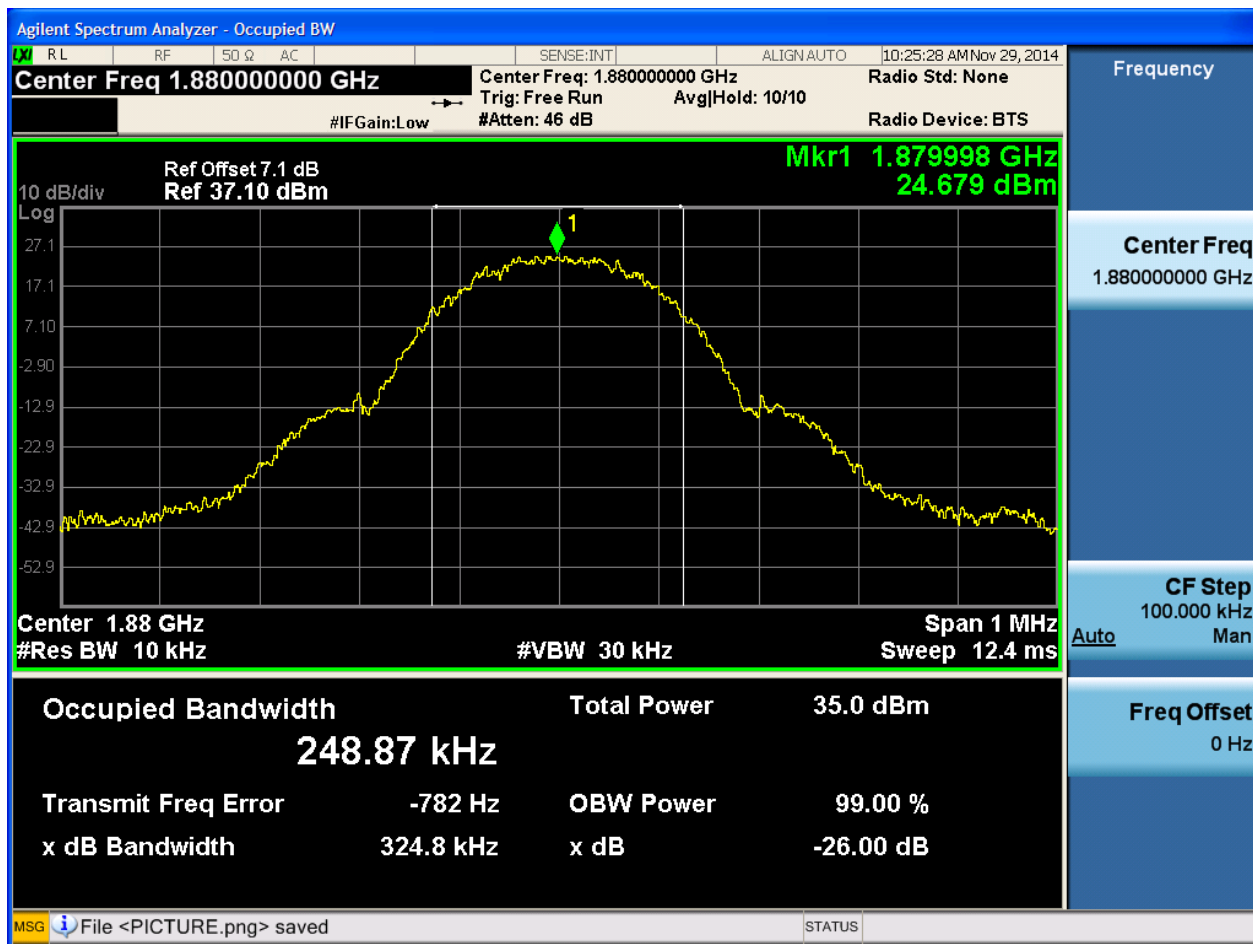
4.1.2.1 Test Mode = GSM/TM1

4.1.2.1.1 Test Channel = LCH



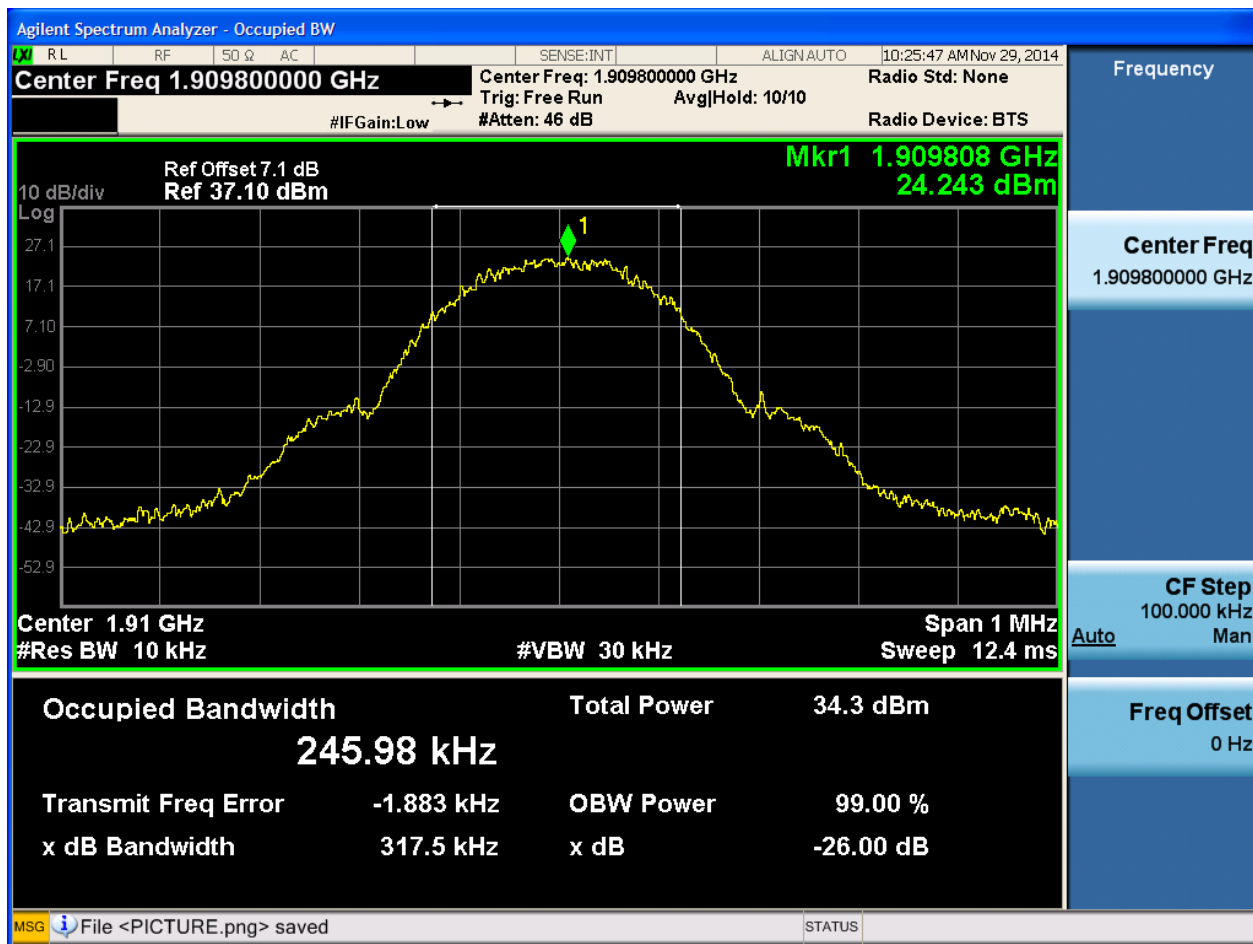


4.1.2.1.2 Test Channel = MCH





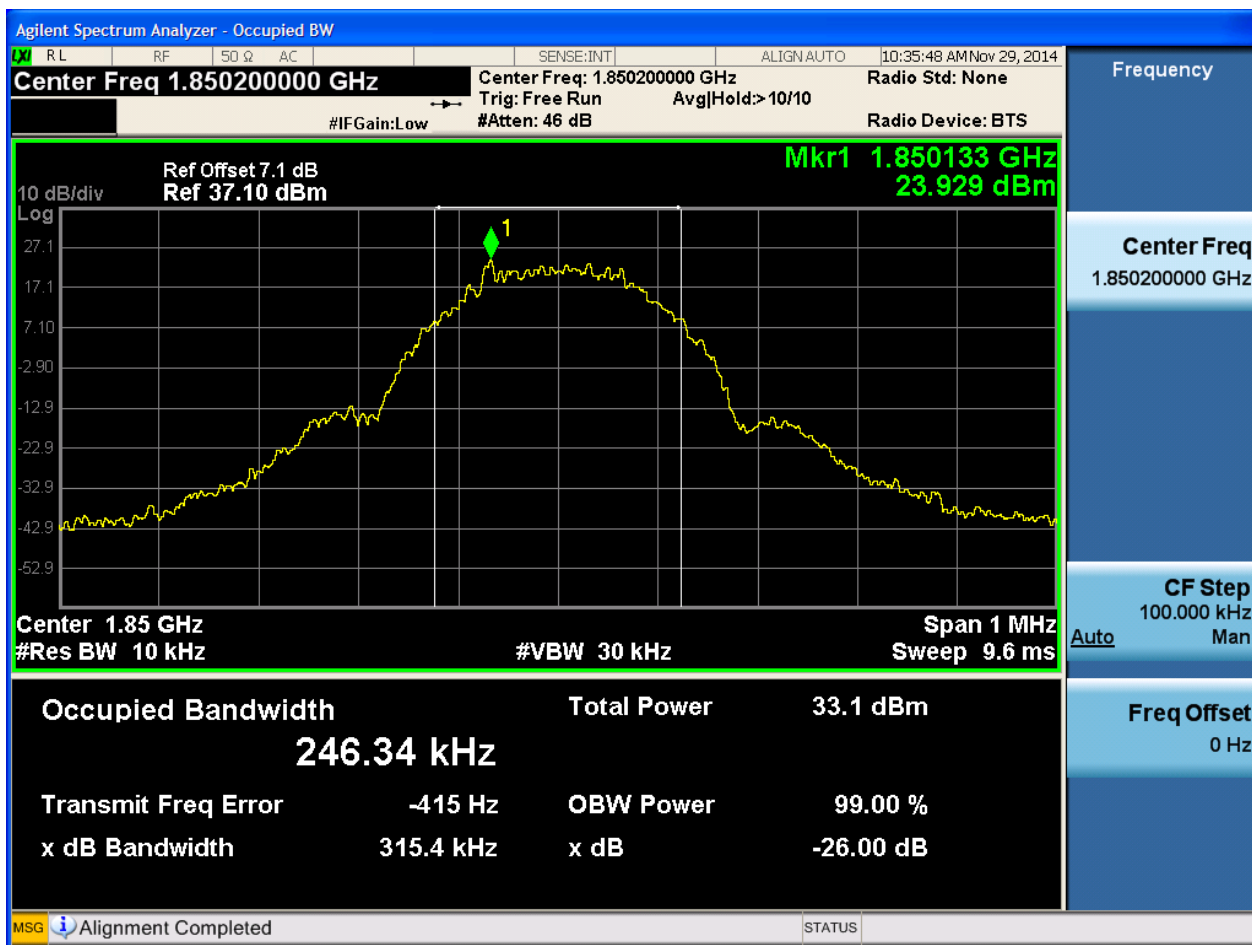
4.1.2.1.3 Test Channel = HCH





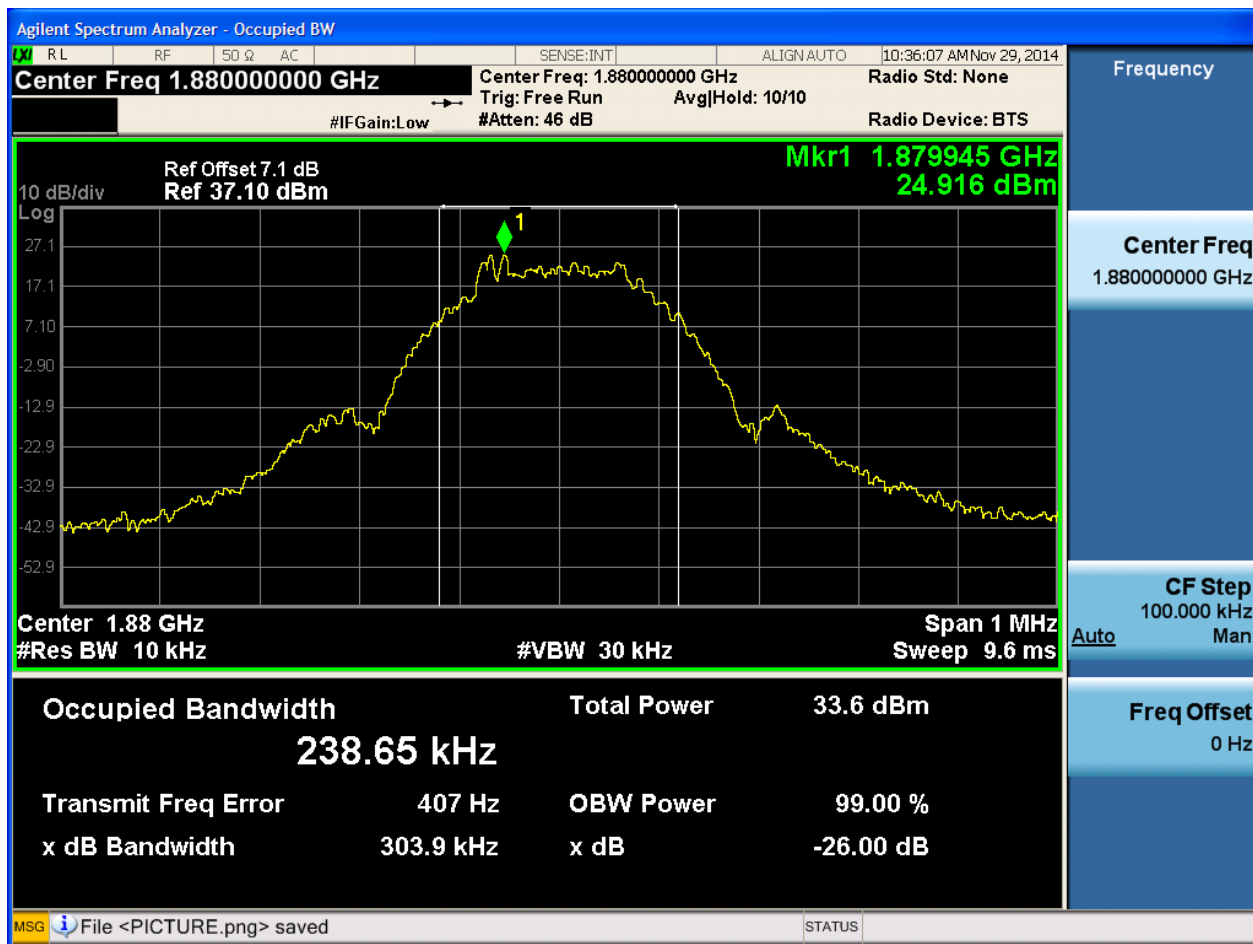
4.1.2.2 Test Mode = GSM/TM2

4.1.2.2.1 Test Channel = LCH



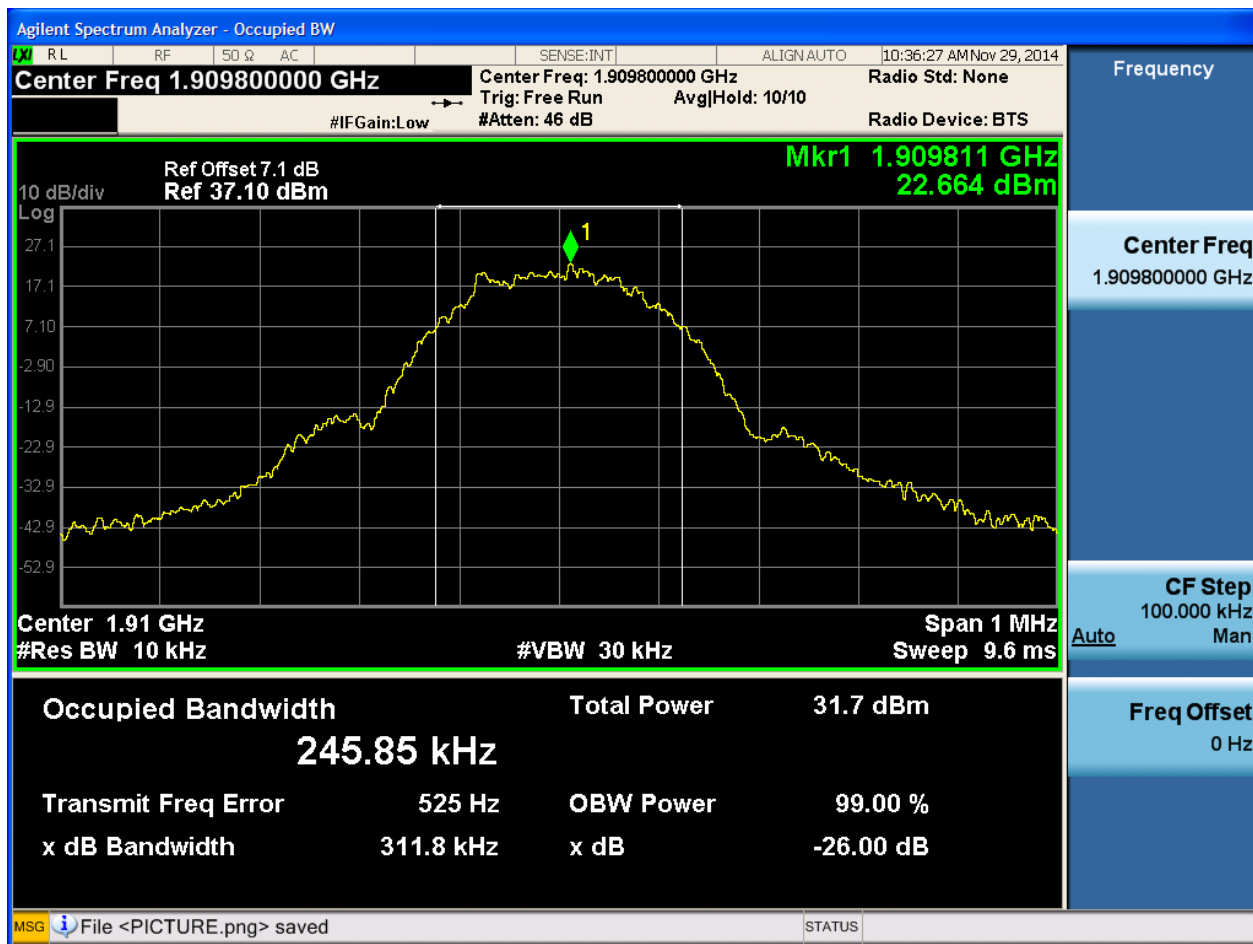


4.1.2.2.2 Test Channel = MCH





4.1.2.2.3 Test Channel = HCH

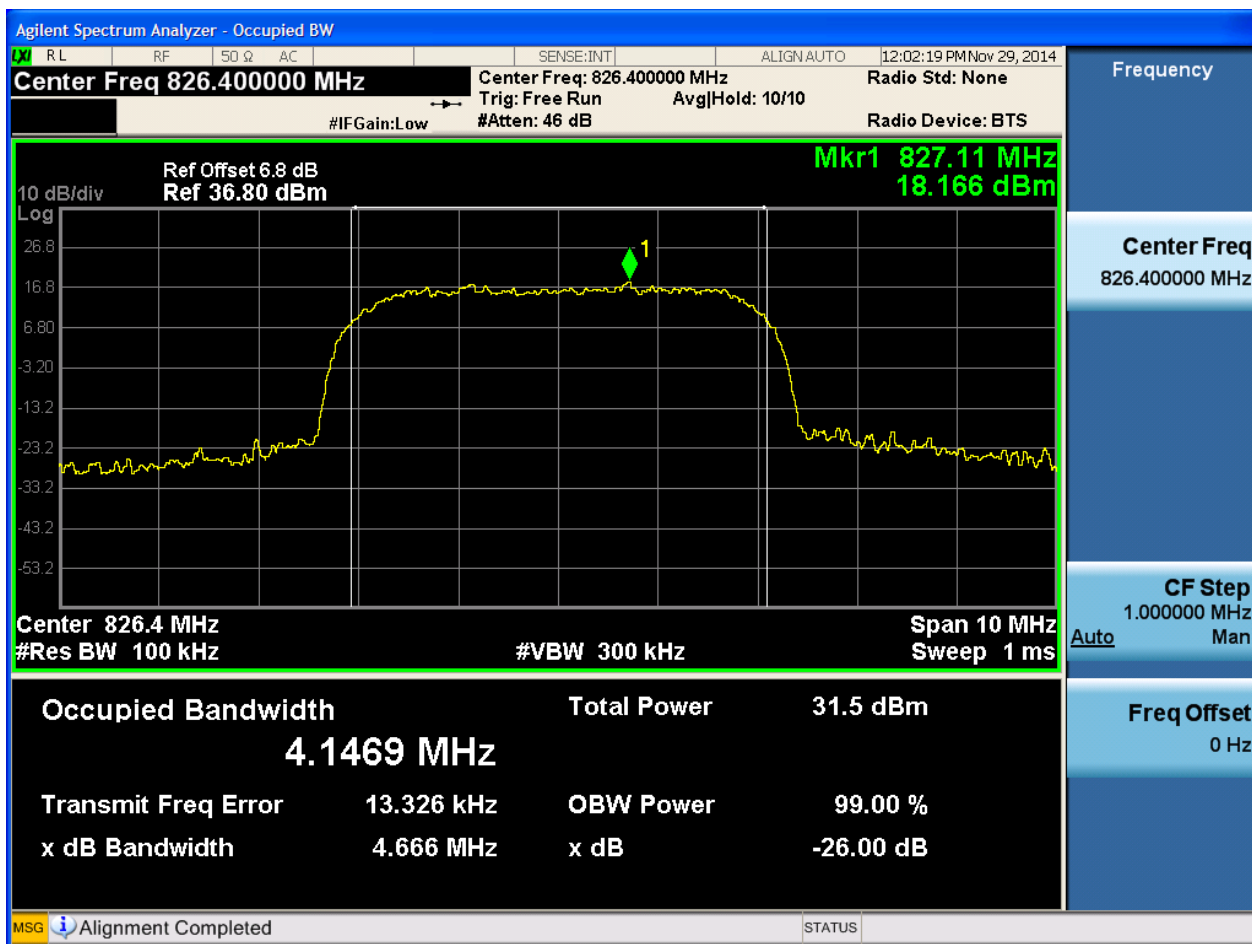


4.2 For UMTS

4.2.1 Test Band = WCDMA850

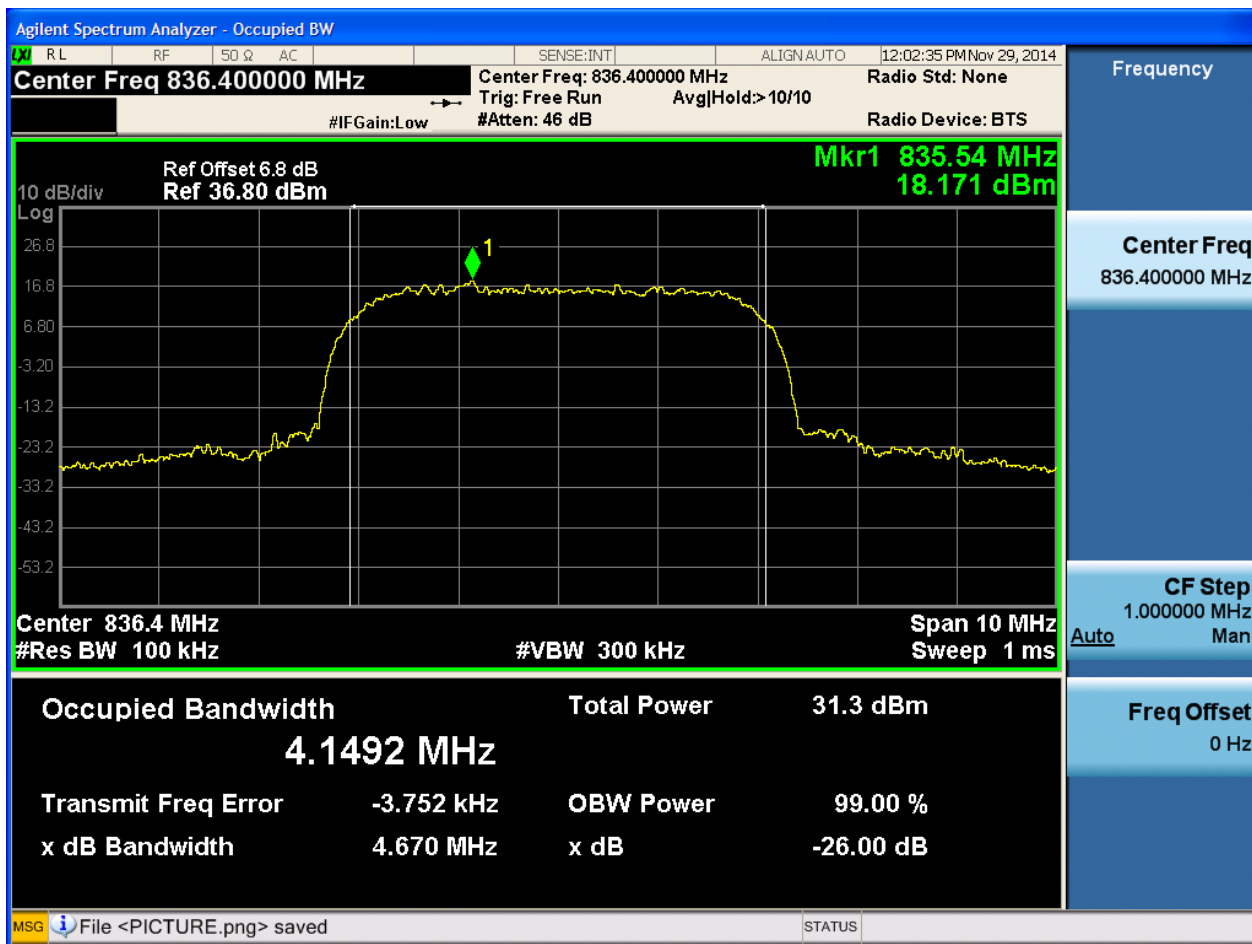
4.2.1.1 Test Mode = UMTS/TM1

4.2.1.1.1 Test Channel = LCH



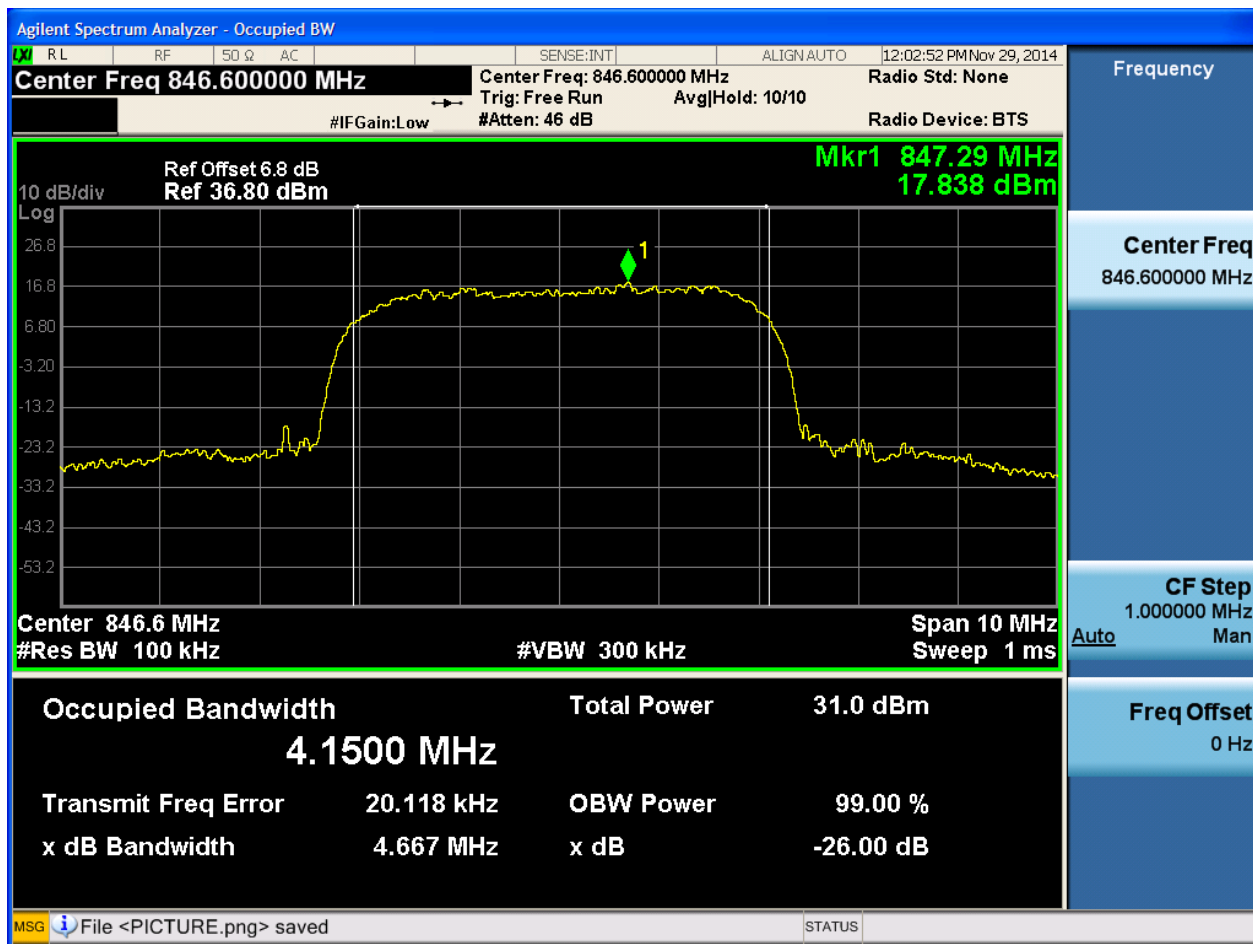


4.2.1.1.2 Test Channel = MCH





4.2.1.1.3 Test Channel = HCH

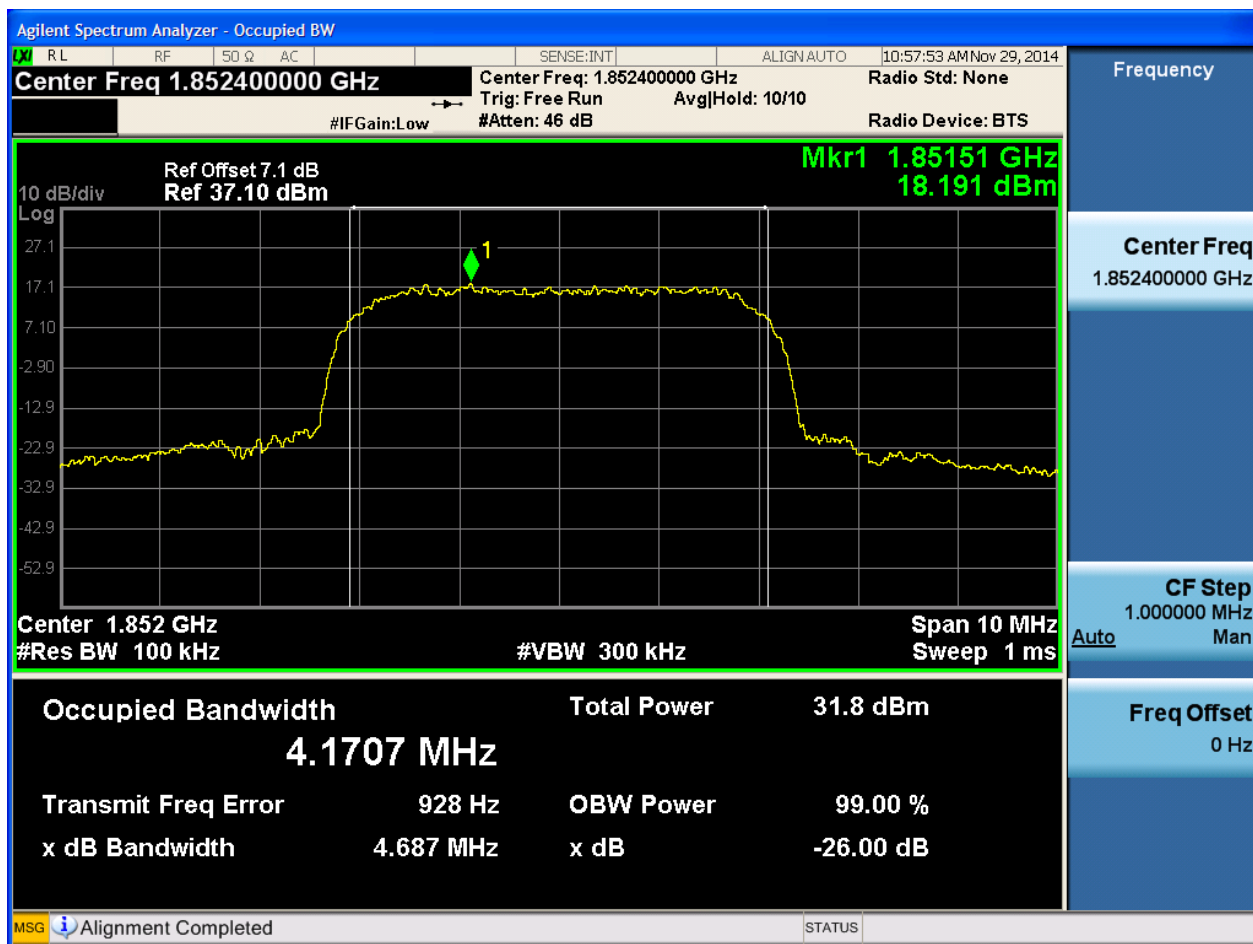




4.2.2 Test Band = WCDMA1900

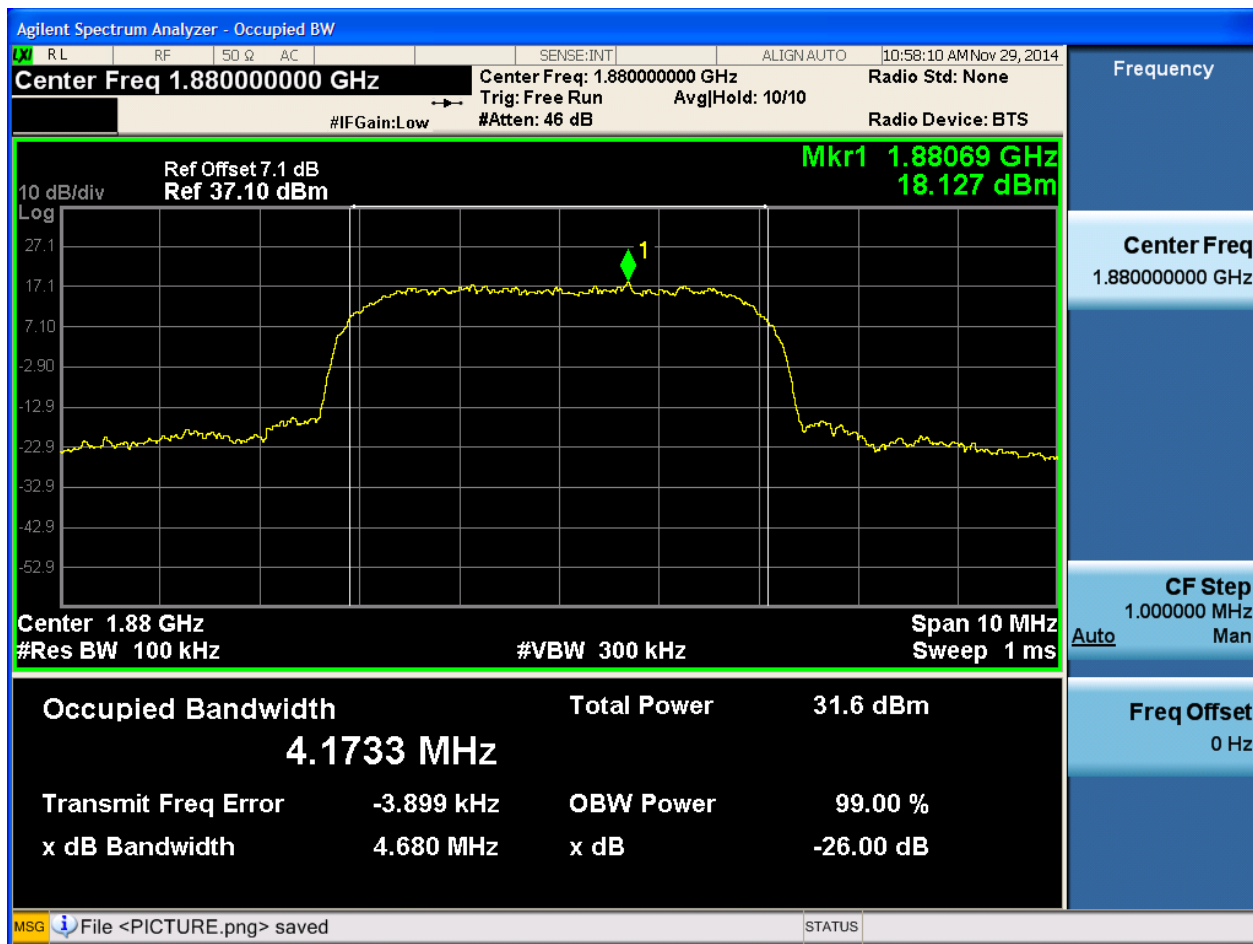
4.2.2.1 Test Mode = UMTS/TM1

4.2.2.1.1 Test Channel = LCH



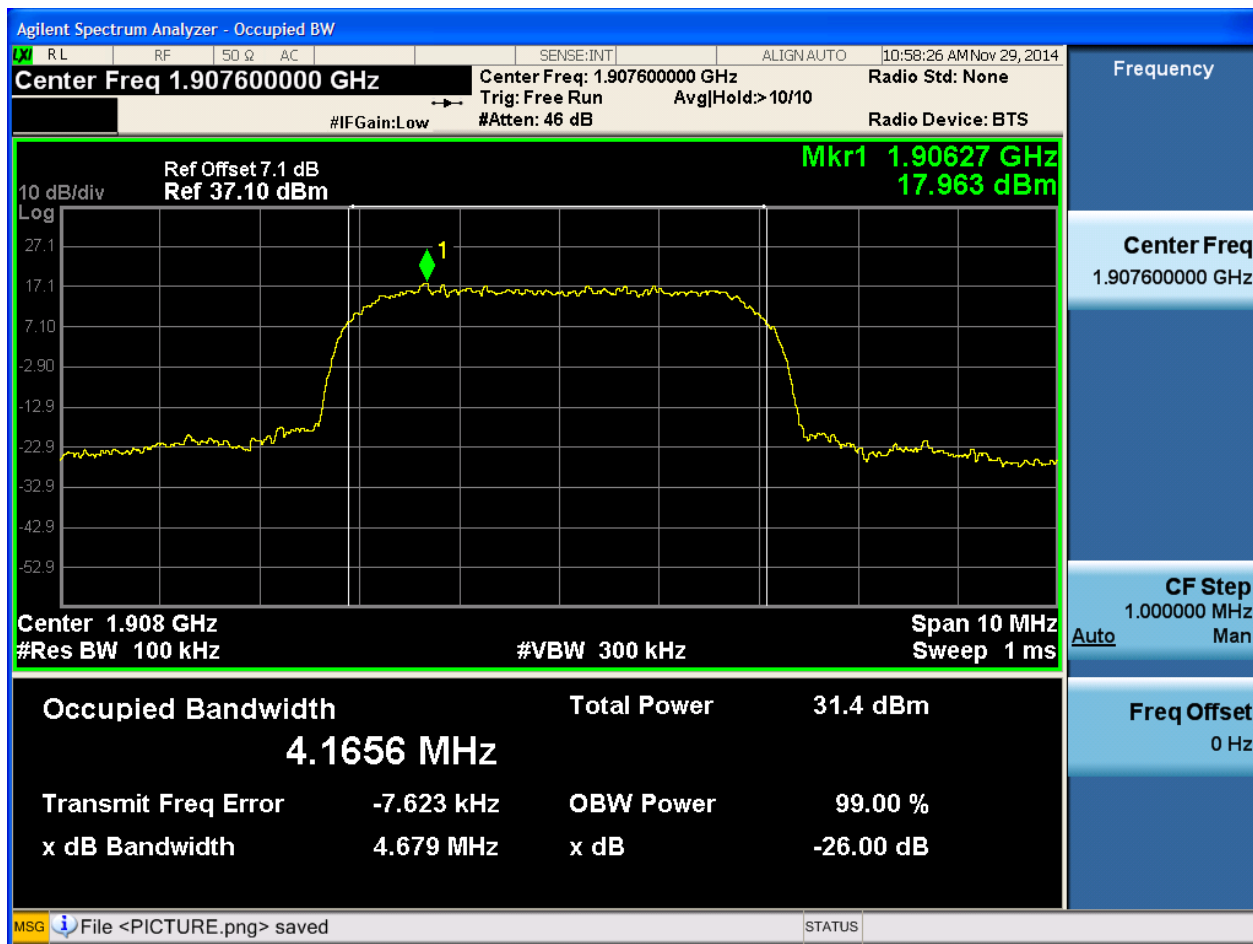


4.2.2.1.2 Test Channel = MCH





4.2.2.1.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

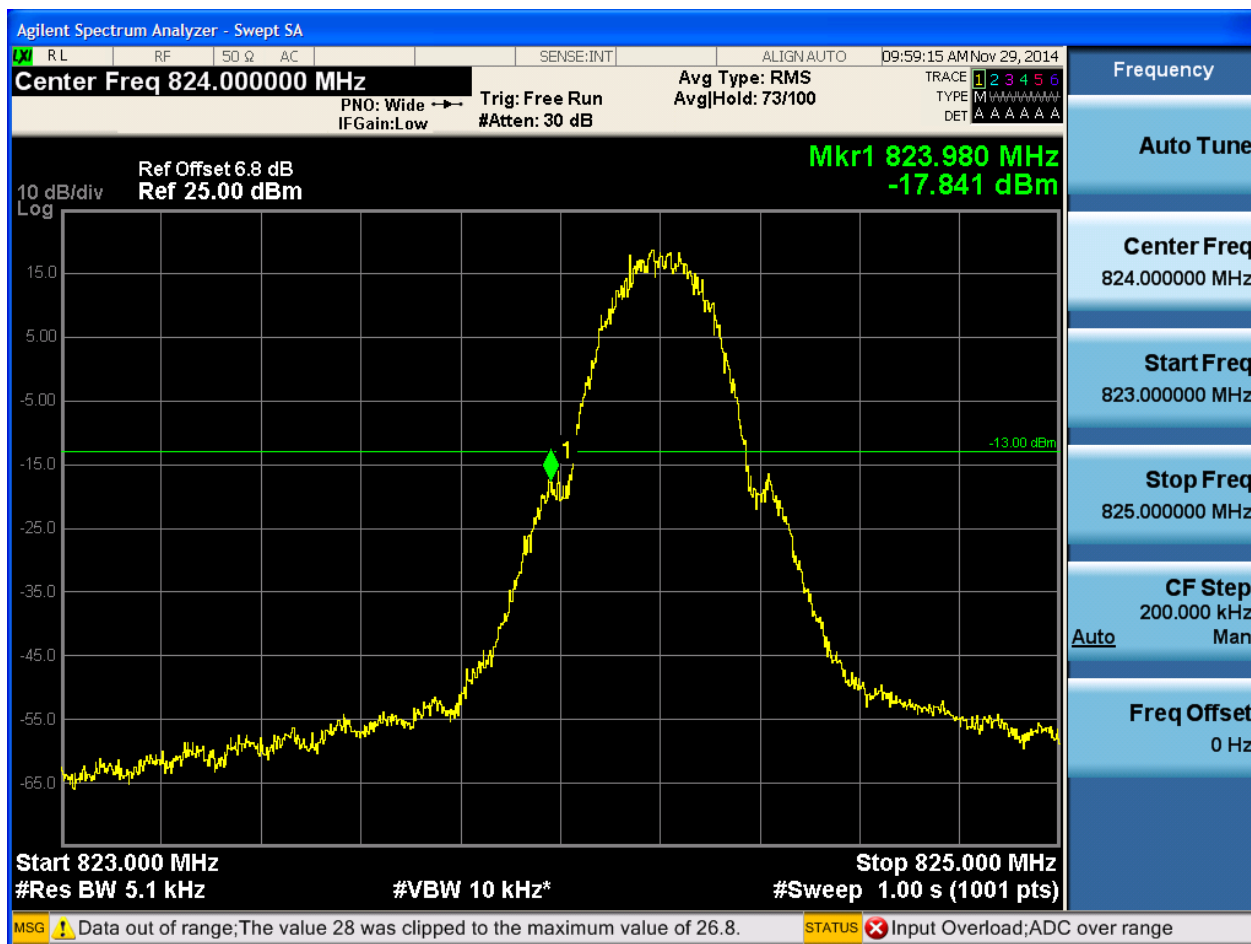
Part I - Test Plots

5.1 For GSM

5.1.1 Test Band = GSM850

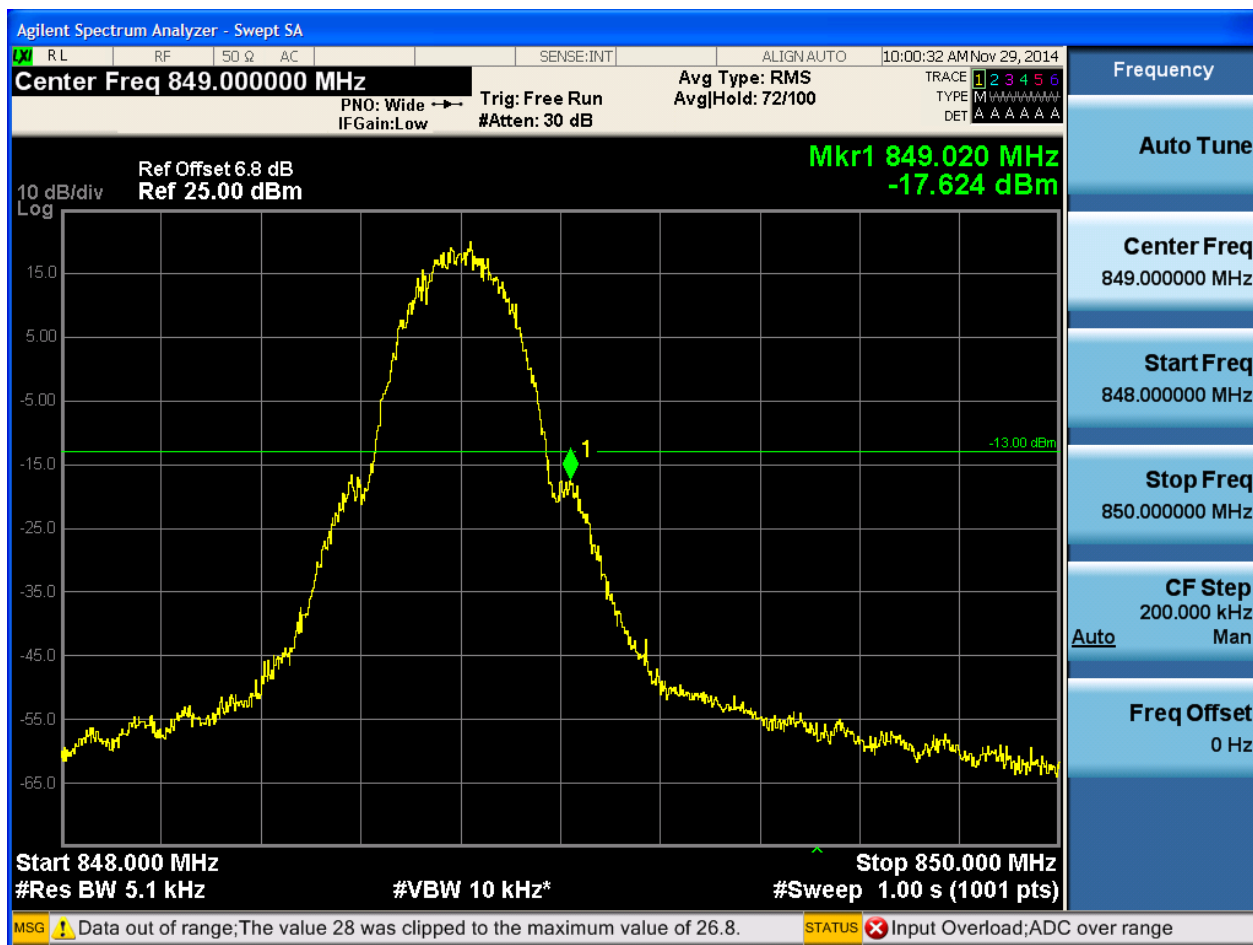
5.1.1.1 Test Mode = GSM/TM1

5.1.1.1.1 Test Channel = LCH



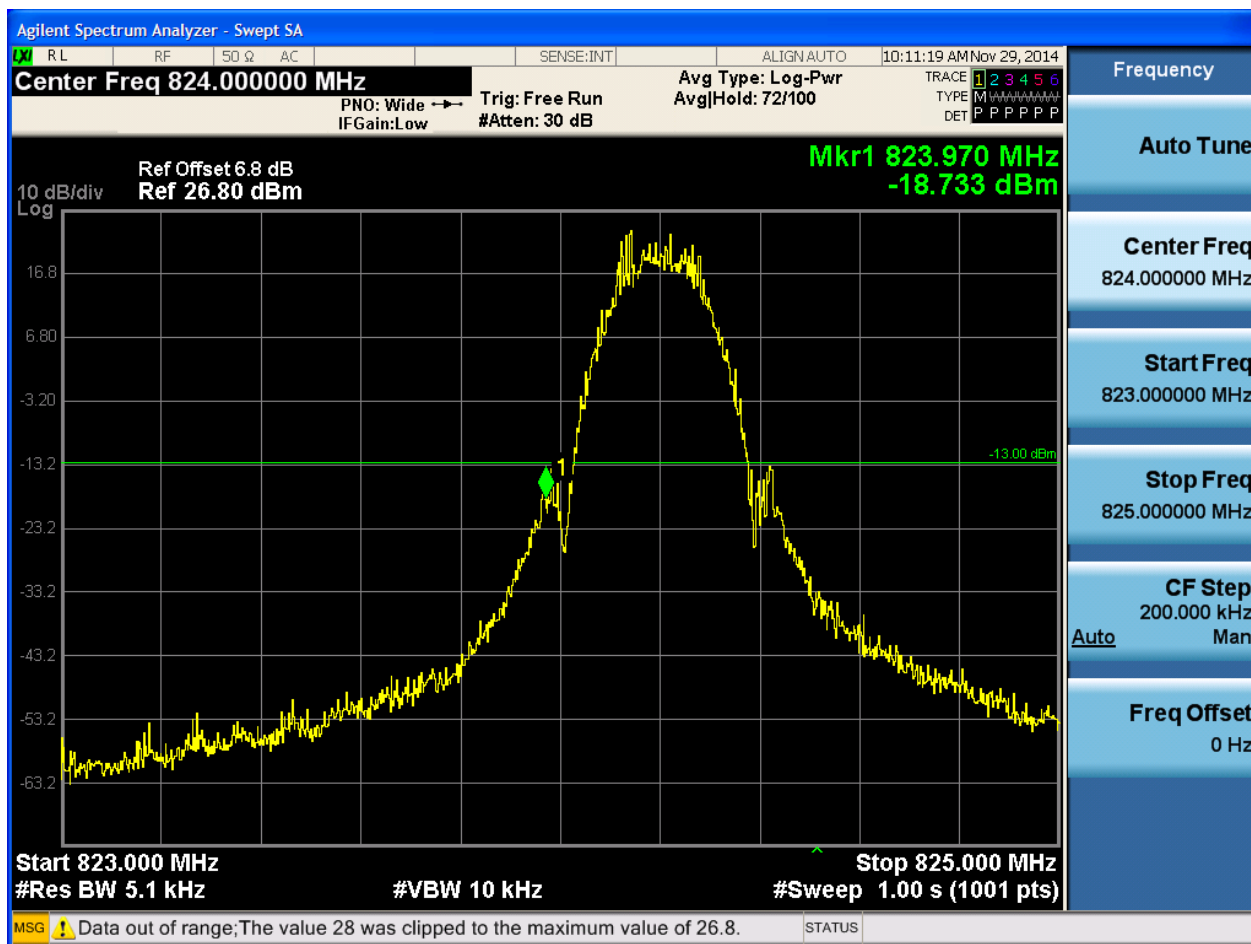


5.1.1.1.2 Test Channel = HCH



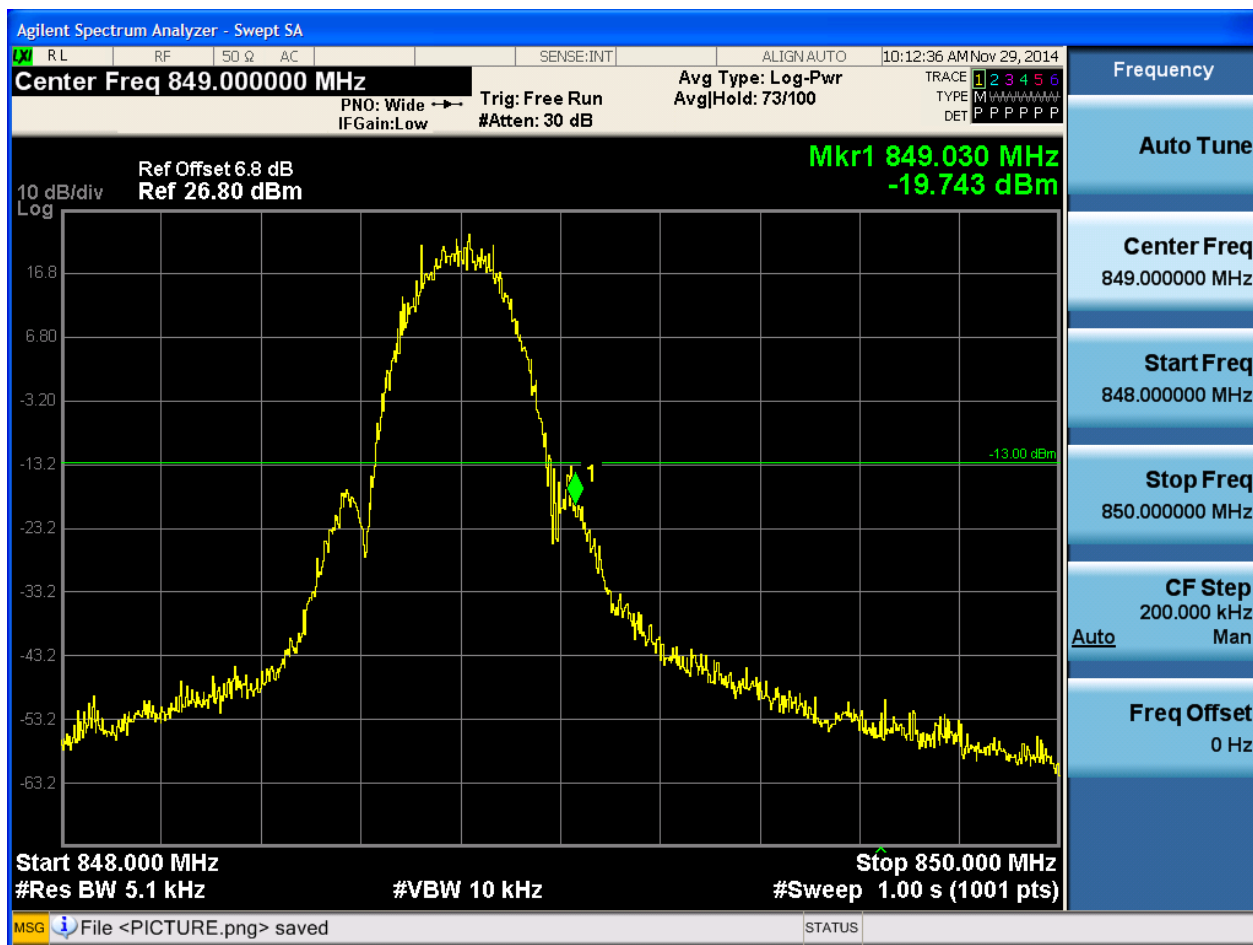
5.1.1.2 Test Mode = GSM/TM2

5.1.1.2.1 Test Channel = LCH





5.1.1.2.2 Test Channel = HCH





5.1.2 Test Band = GSM1900

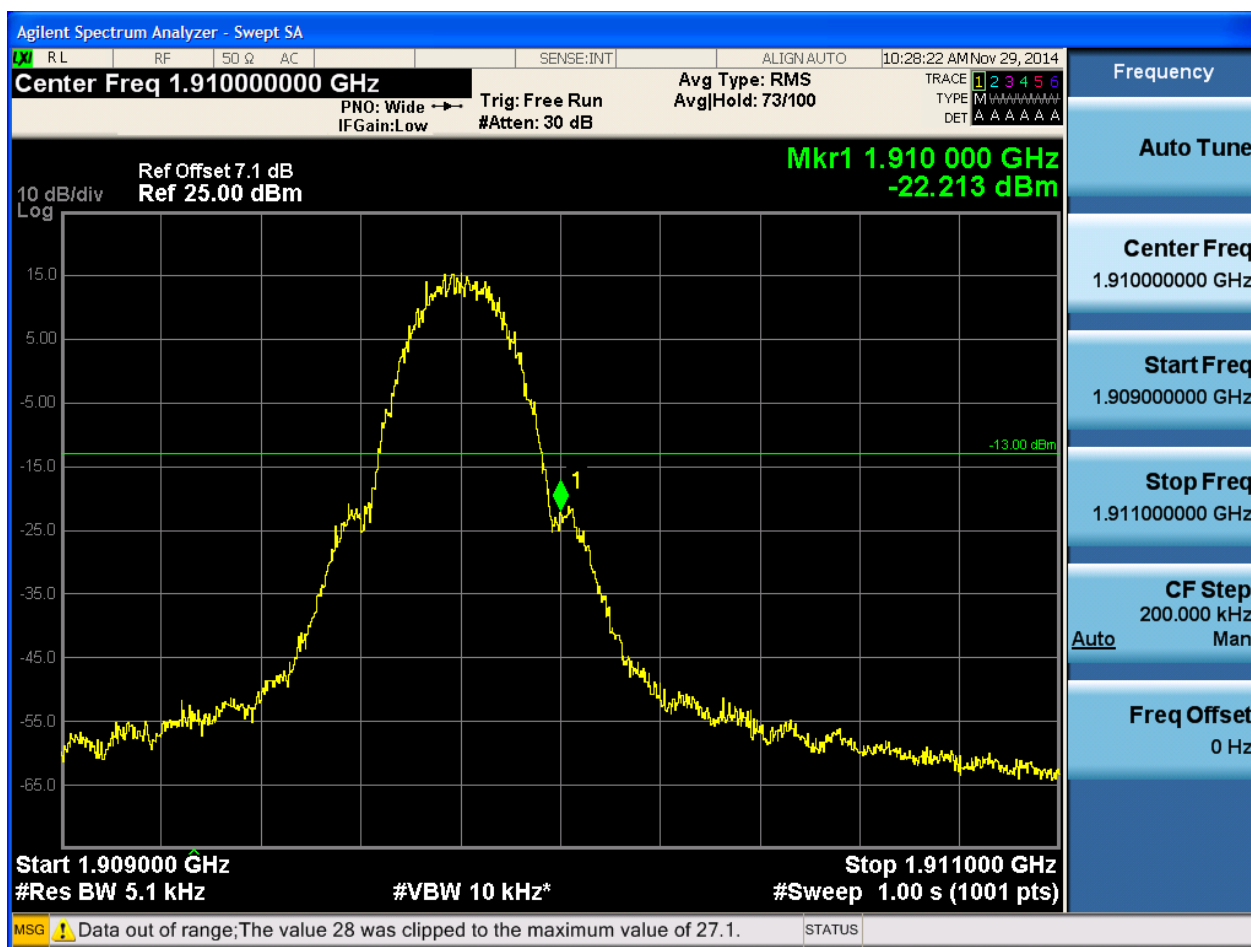
5.1.2.1 Test Mode = GSM/TM1

5.1.2.1.1 Test Channel = LCH





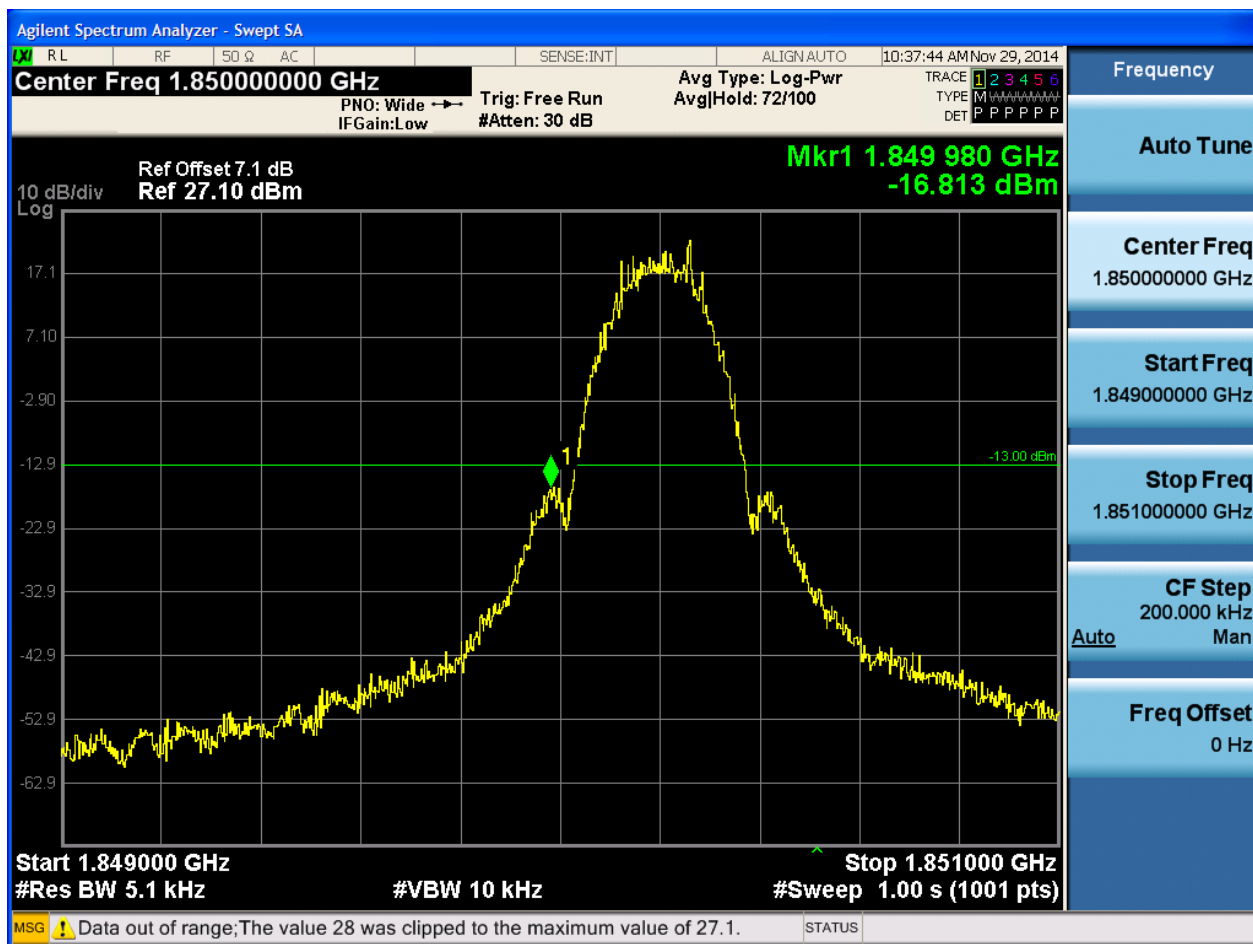
5.1.2.1.2 Test Channel = HCH





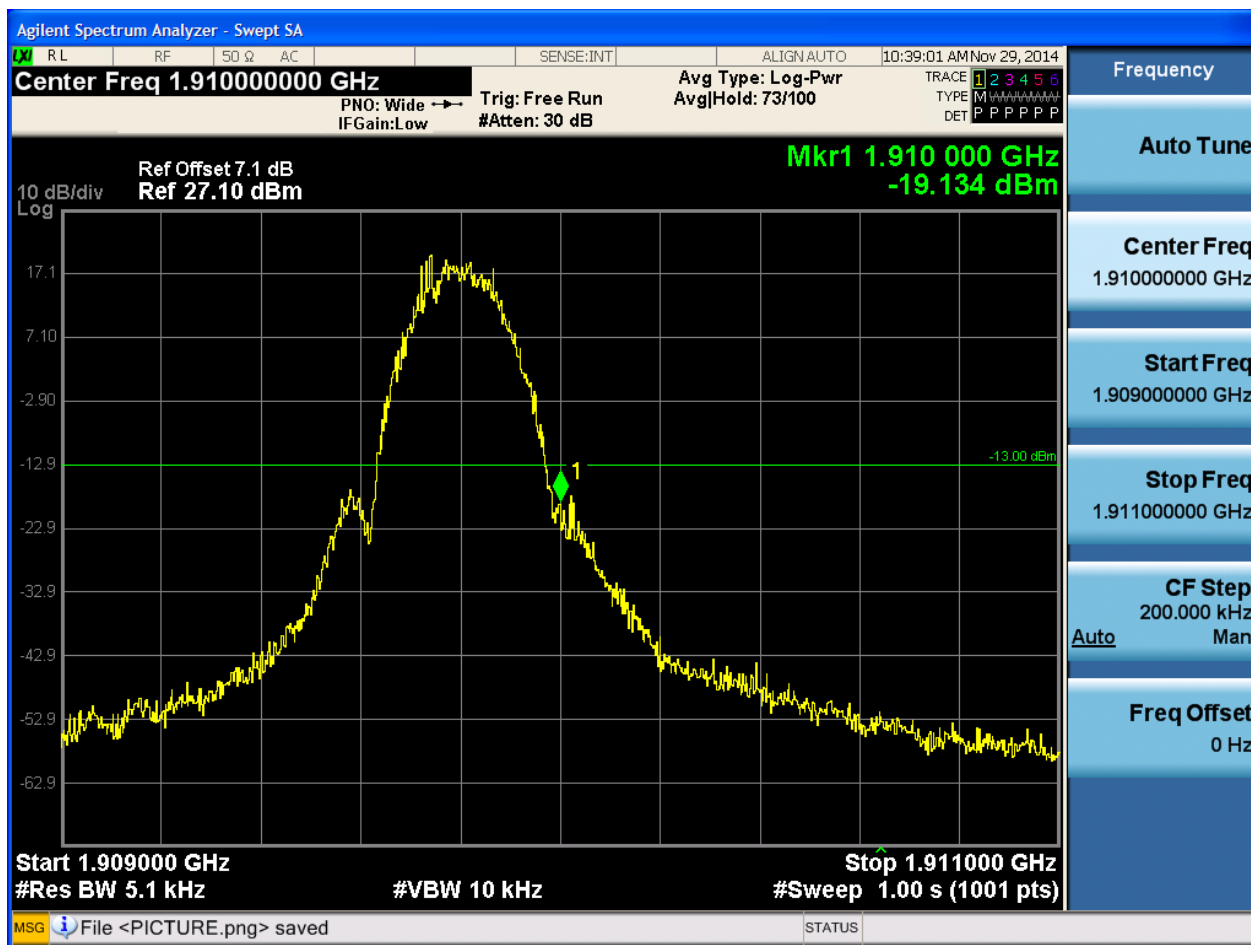
5.1.2.2 Test Mode = GSM/TM2

5.1.2.2.1 Test Channel = LCH





5.1.2.2.2 Test Channel = HCH



5.2 For UMTS

5.2.1 Test Band = WCDMA1900

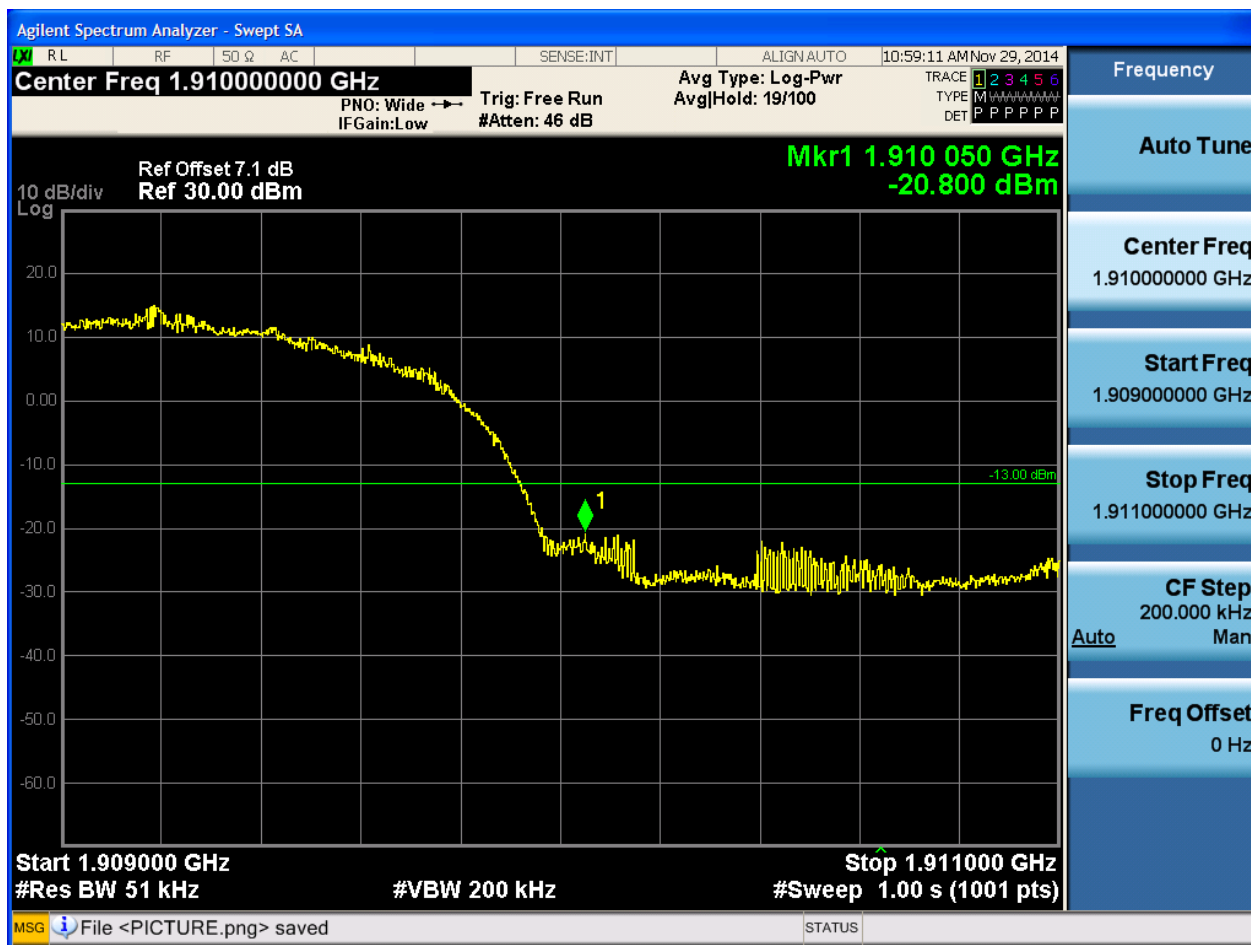
5.2.1.1 Test Mode = UMTS/TM1

5.2.1.1.1 Test Channel = LCH





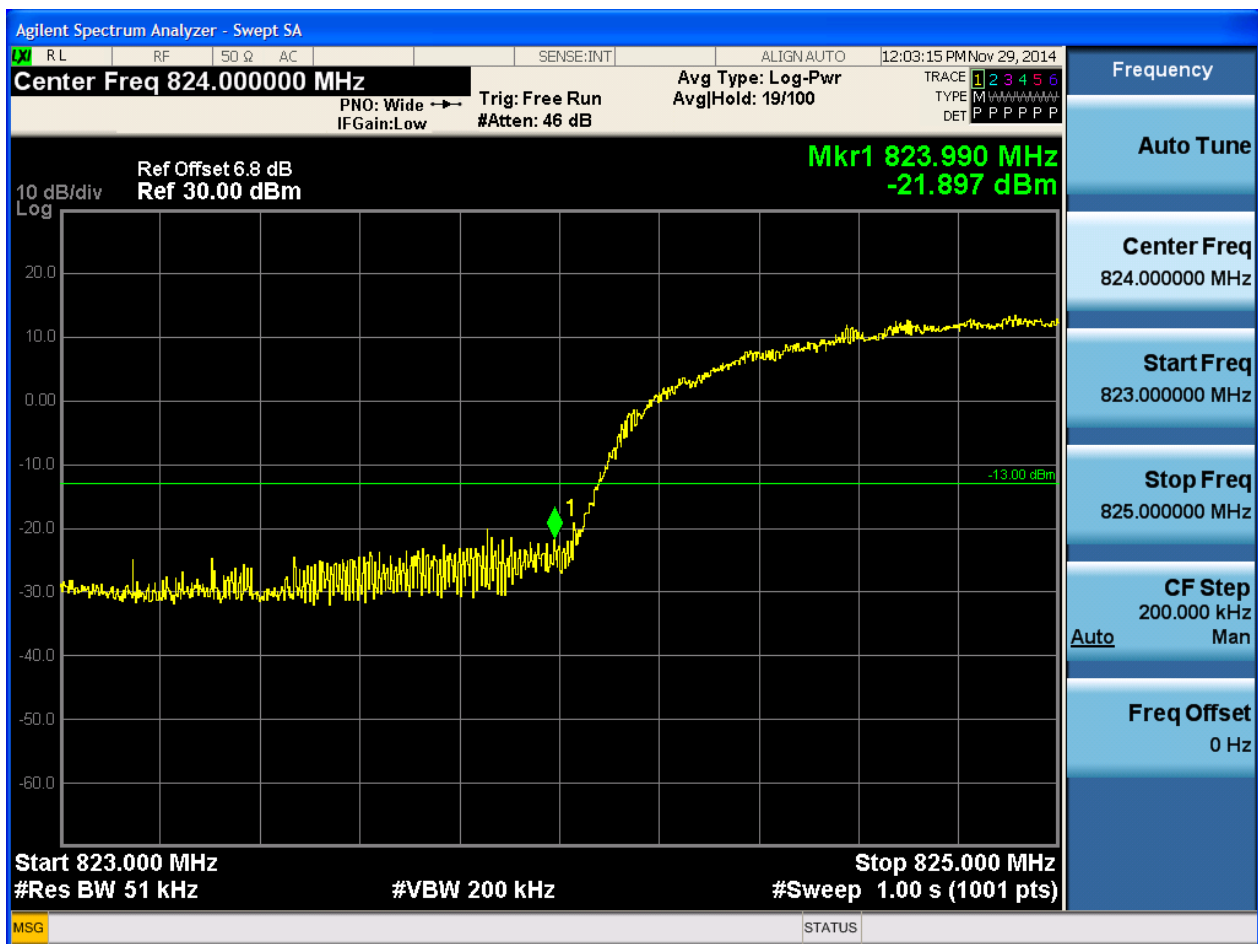
5.2.1.1.2 Test Channel = HCH



5.2.2 Test Band = WCDMA850

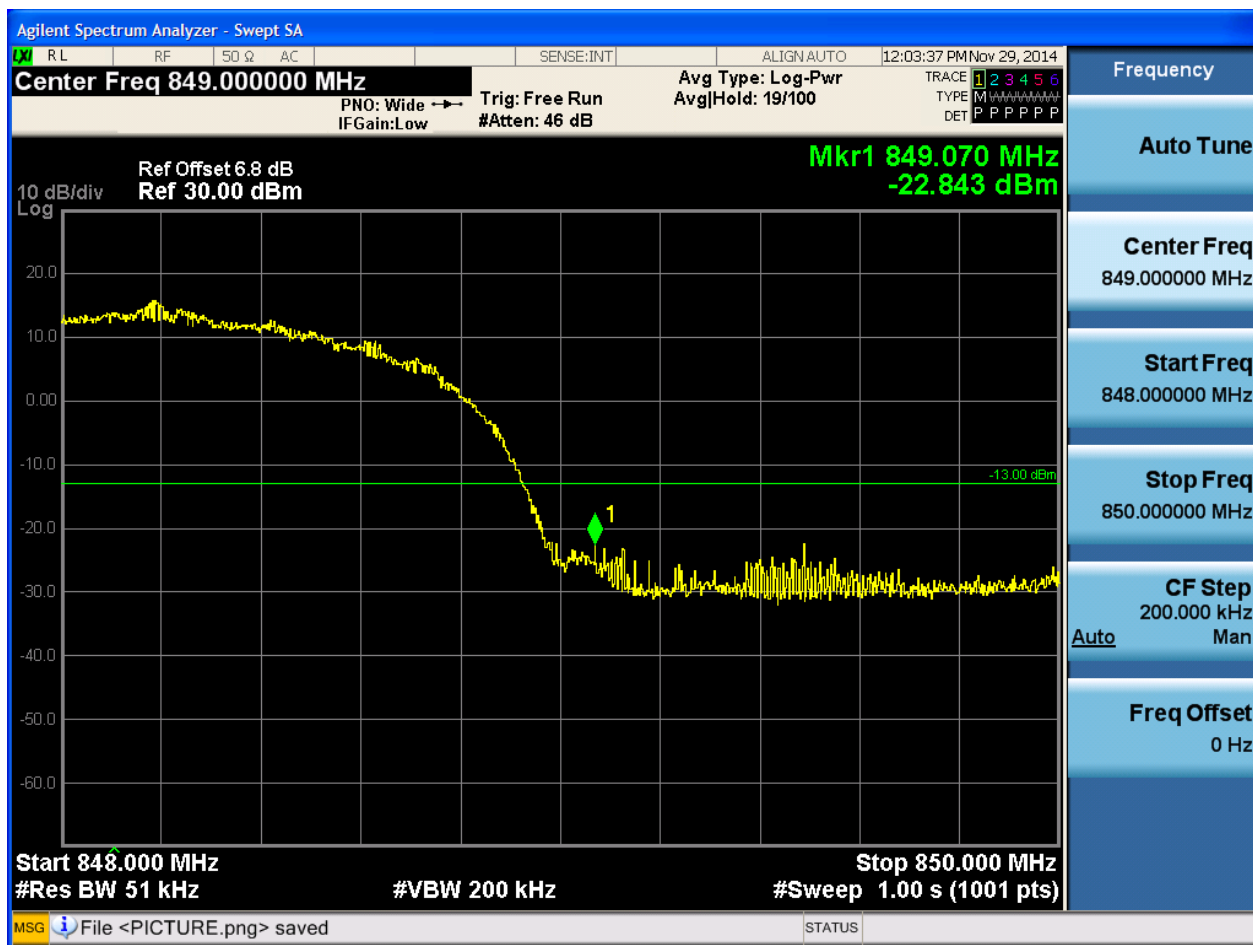
5.2.2.1 Test Mode = UMTS/TM1

5.2.2.1.1 Test Channel = LCH





5.2.2.1.2 Test Channel = HCH



6Appendix_F: Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

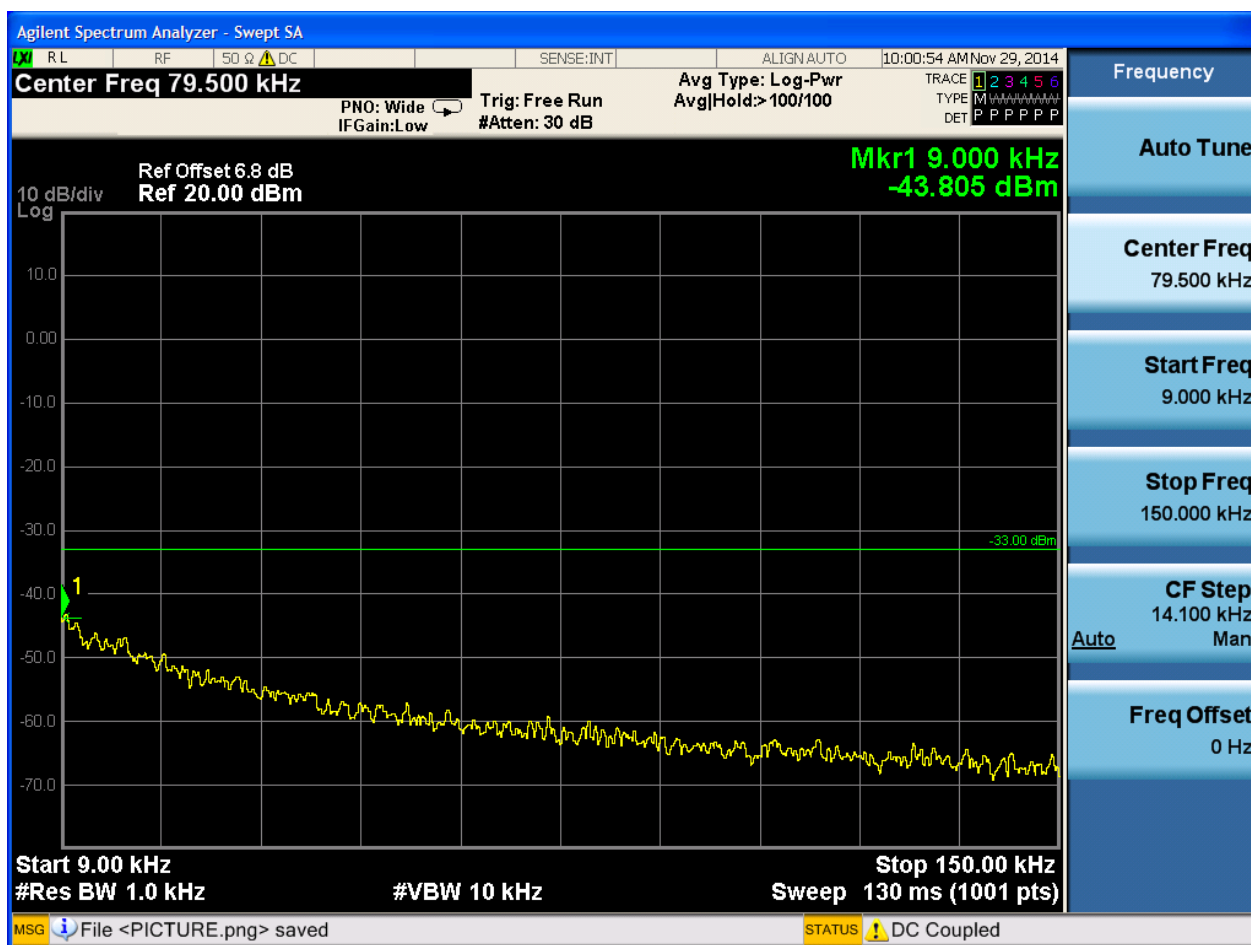
Part I - Test Plots

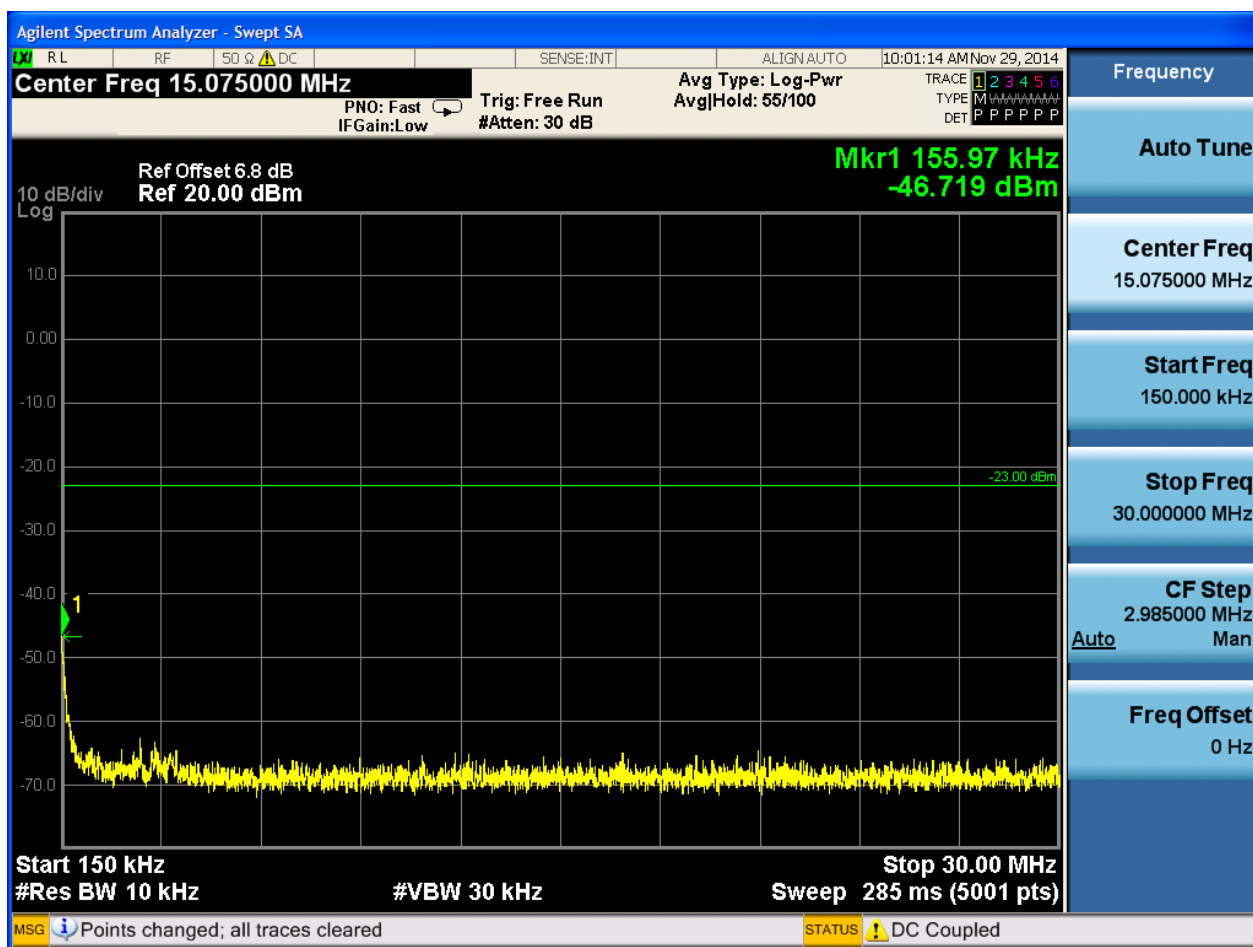
6.1 For GSM

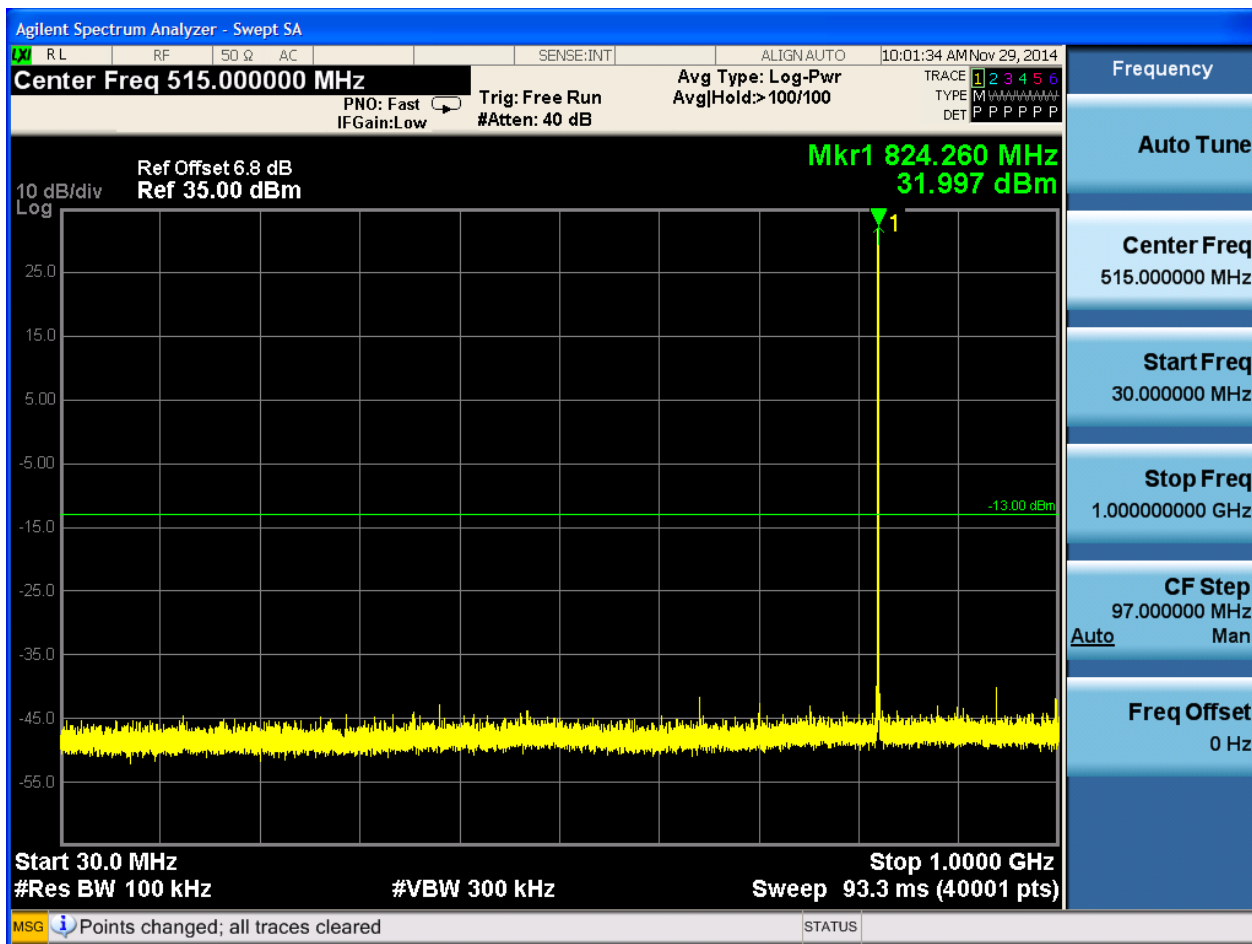
6.1.1 Test Band = GSM850

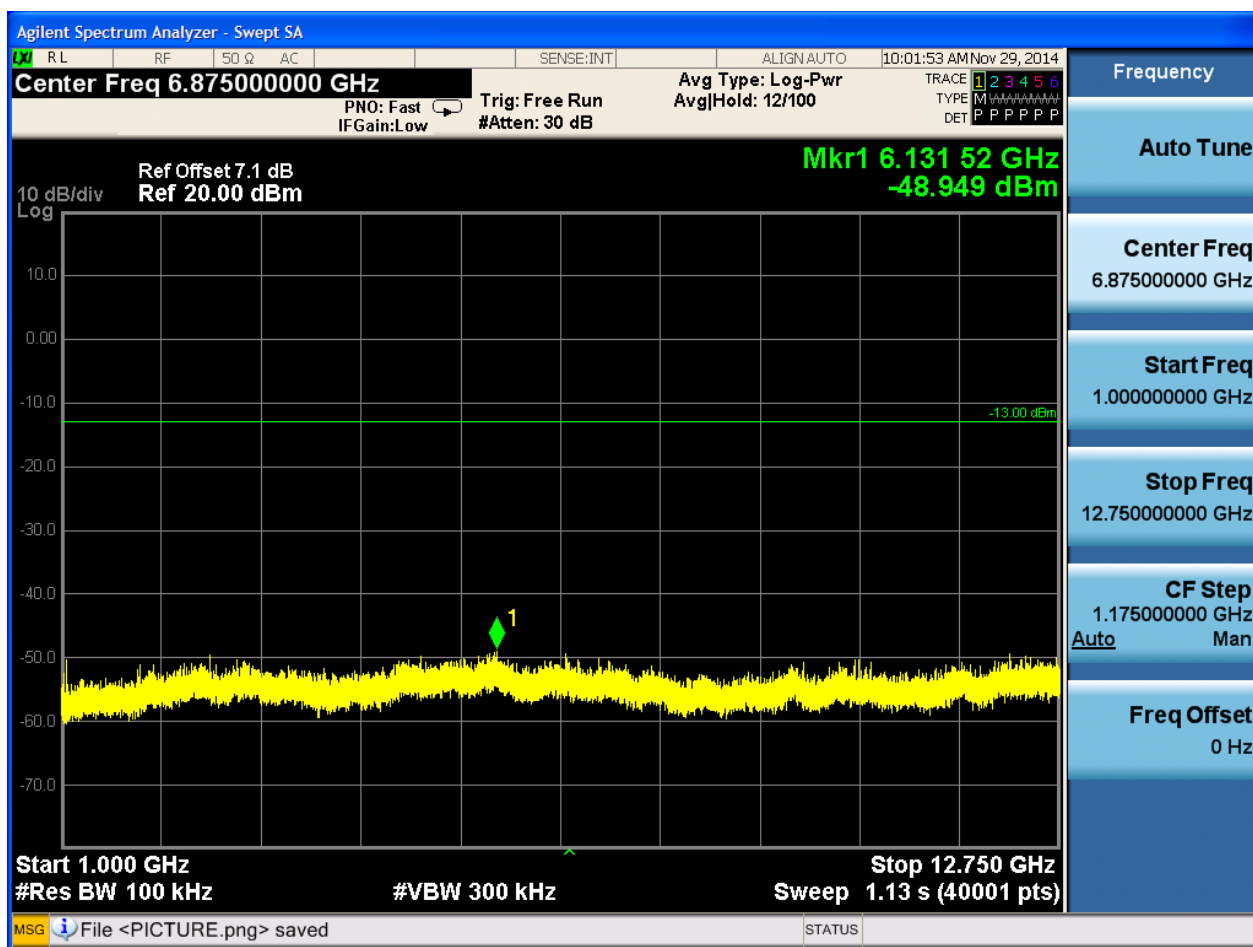
6.1.1.1 Test Mode = GSM/TM1

6.1.1.1.1 Test Channel = LCH

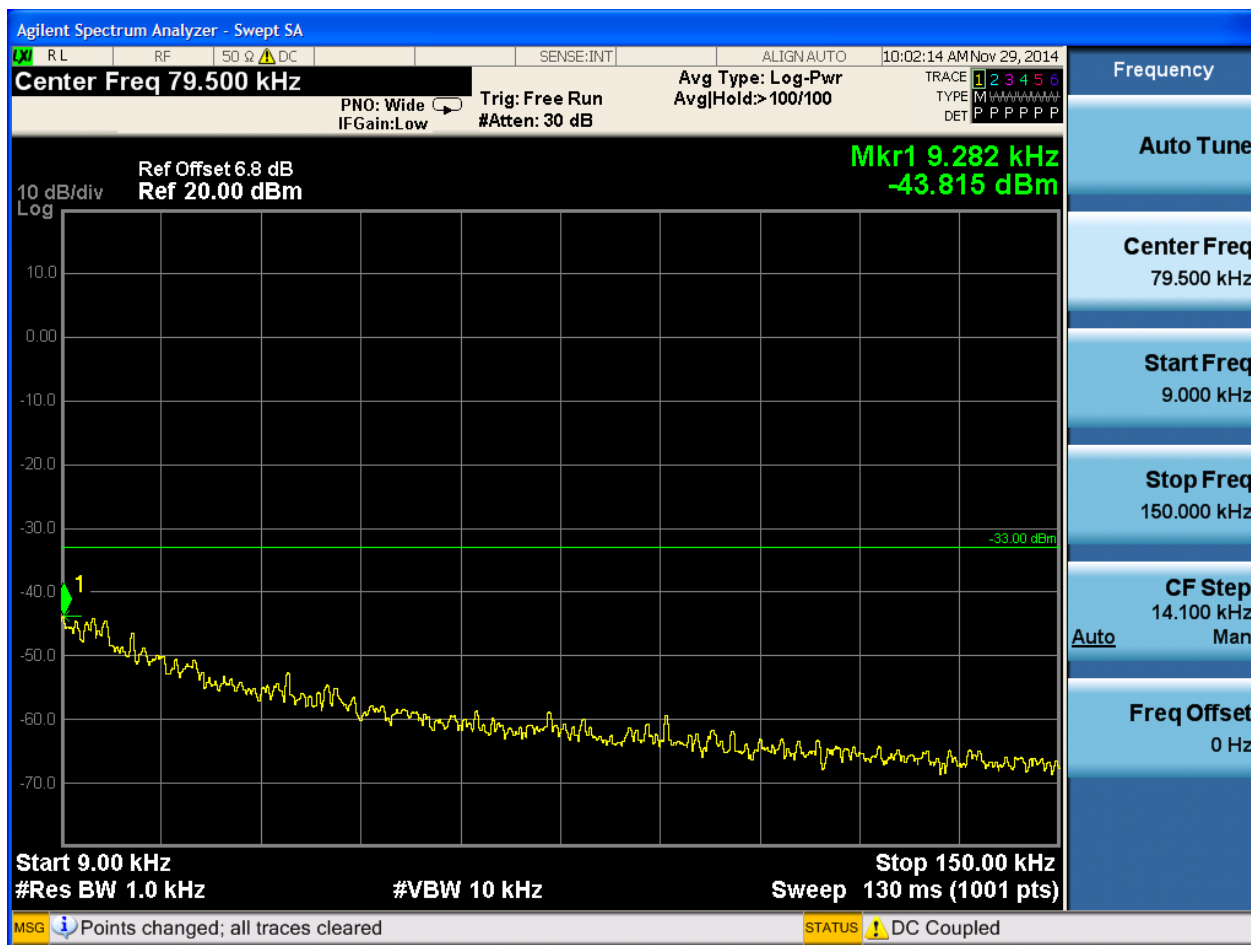


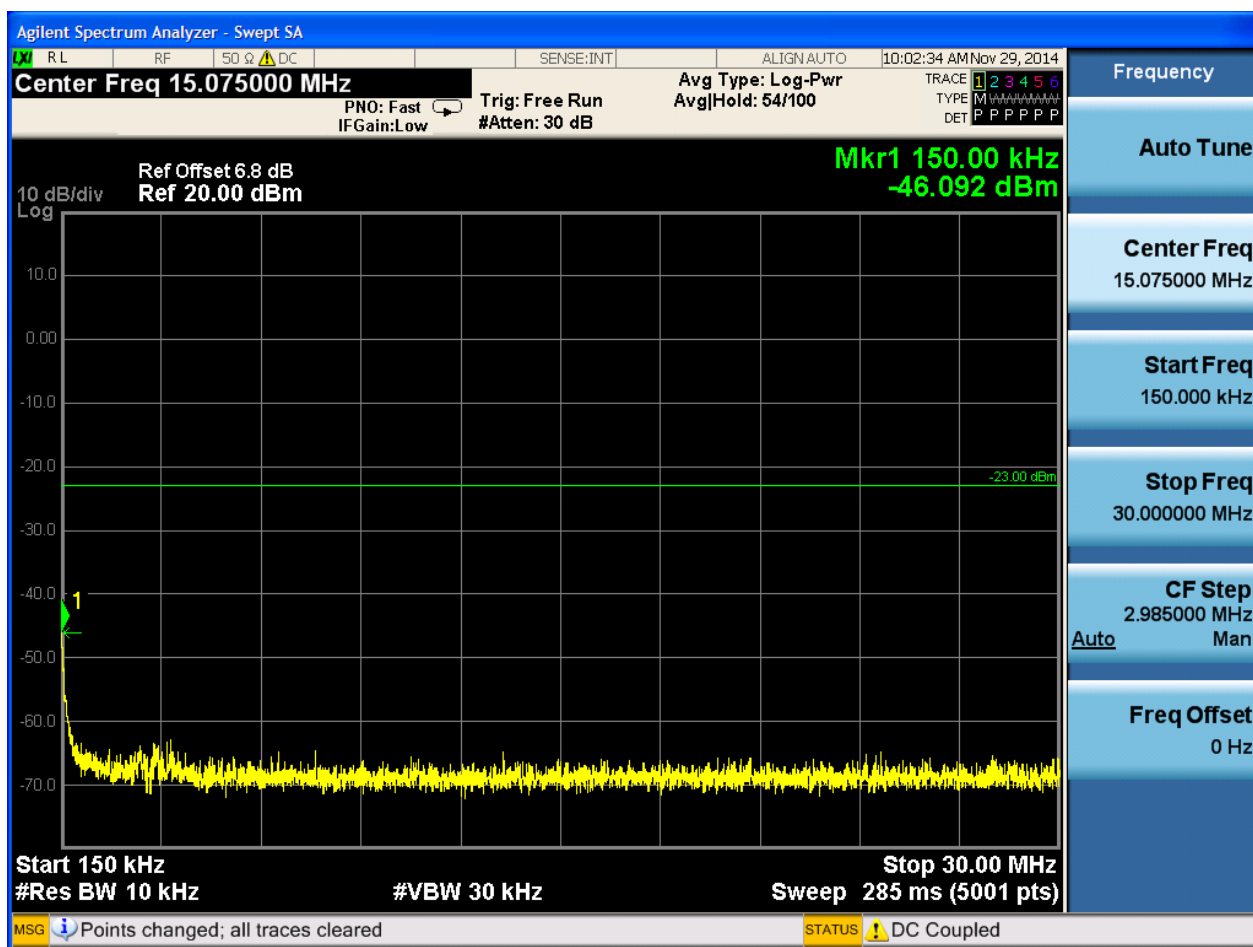


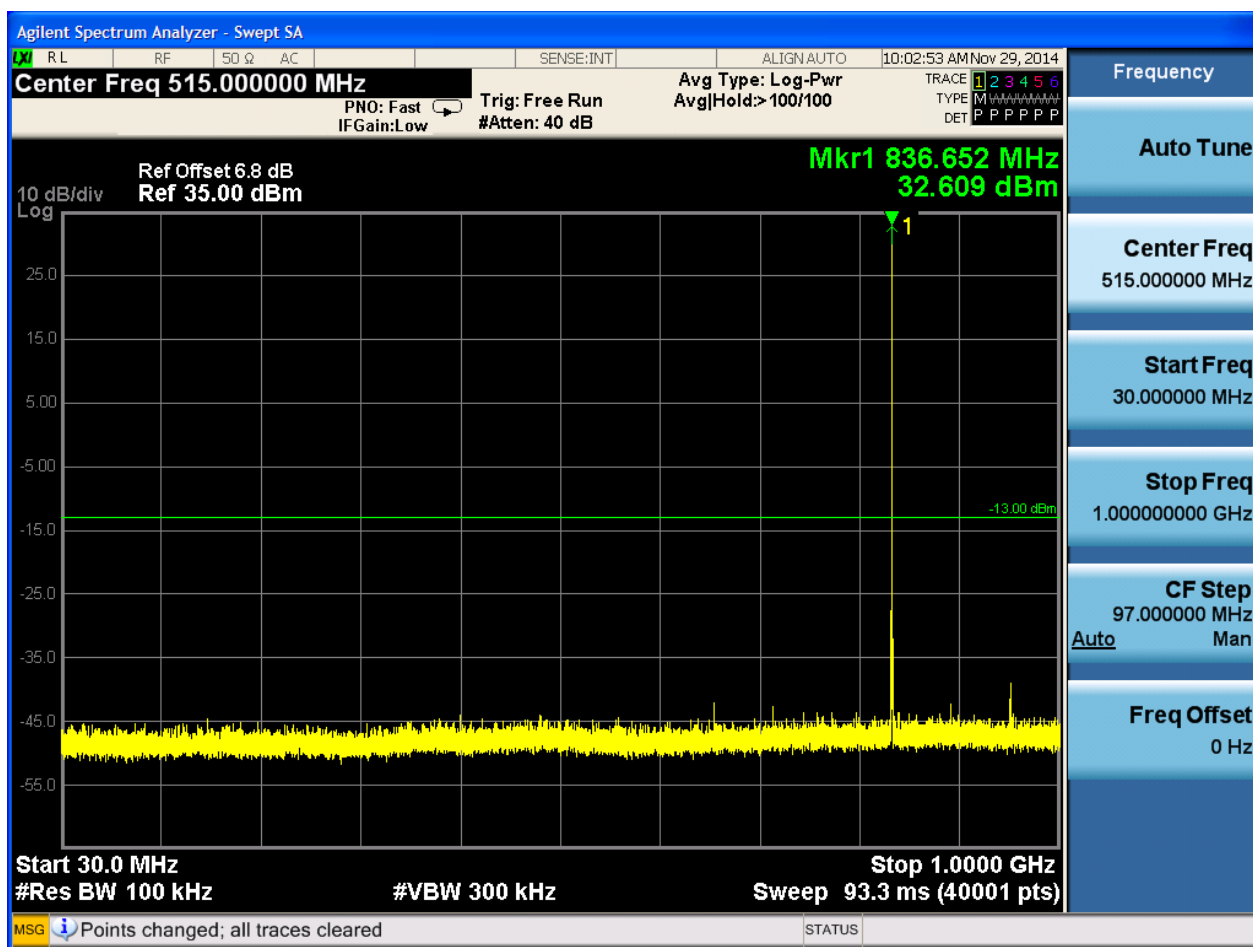


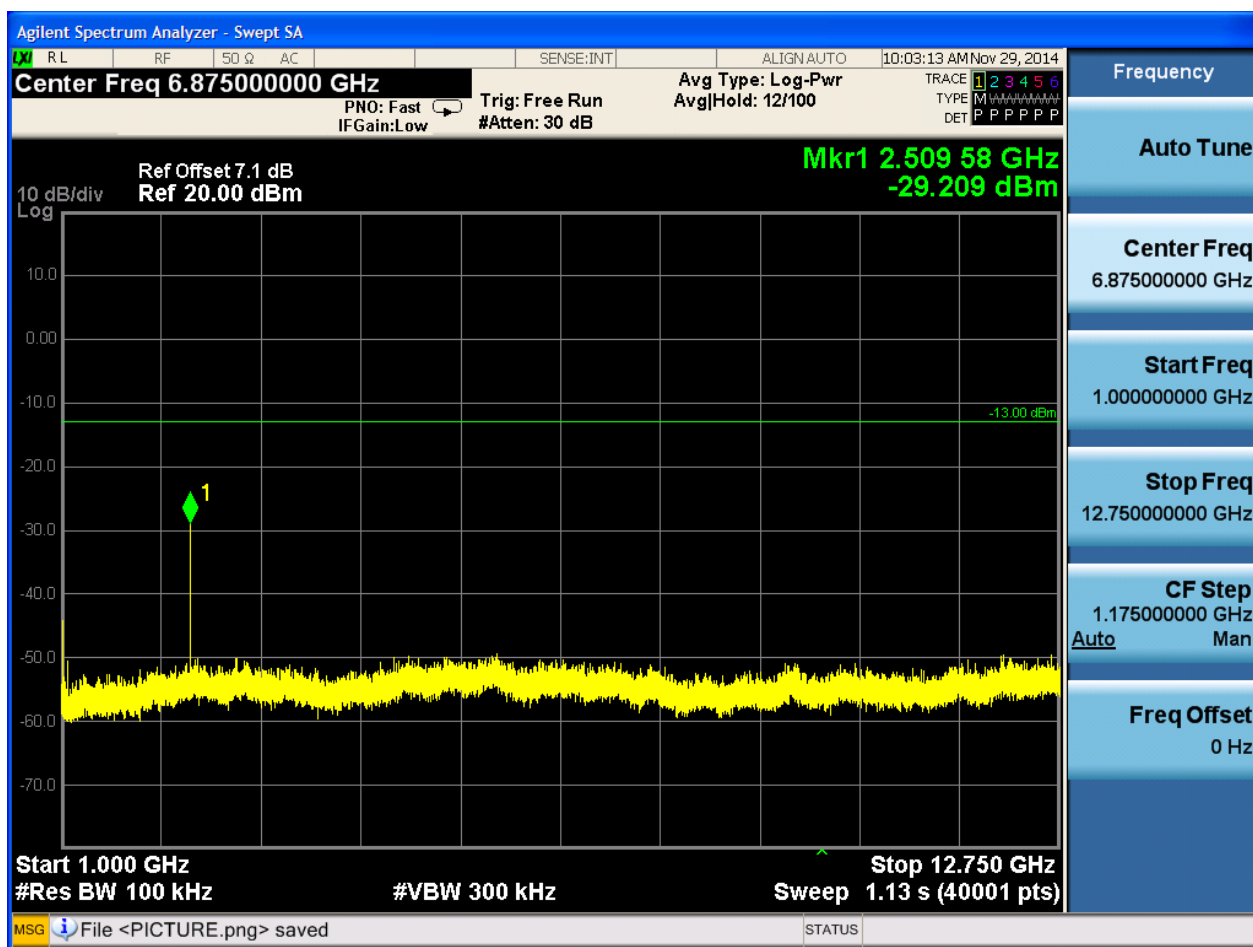


6.1.1.1.2 Test Channel = MCH



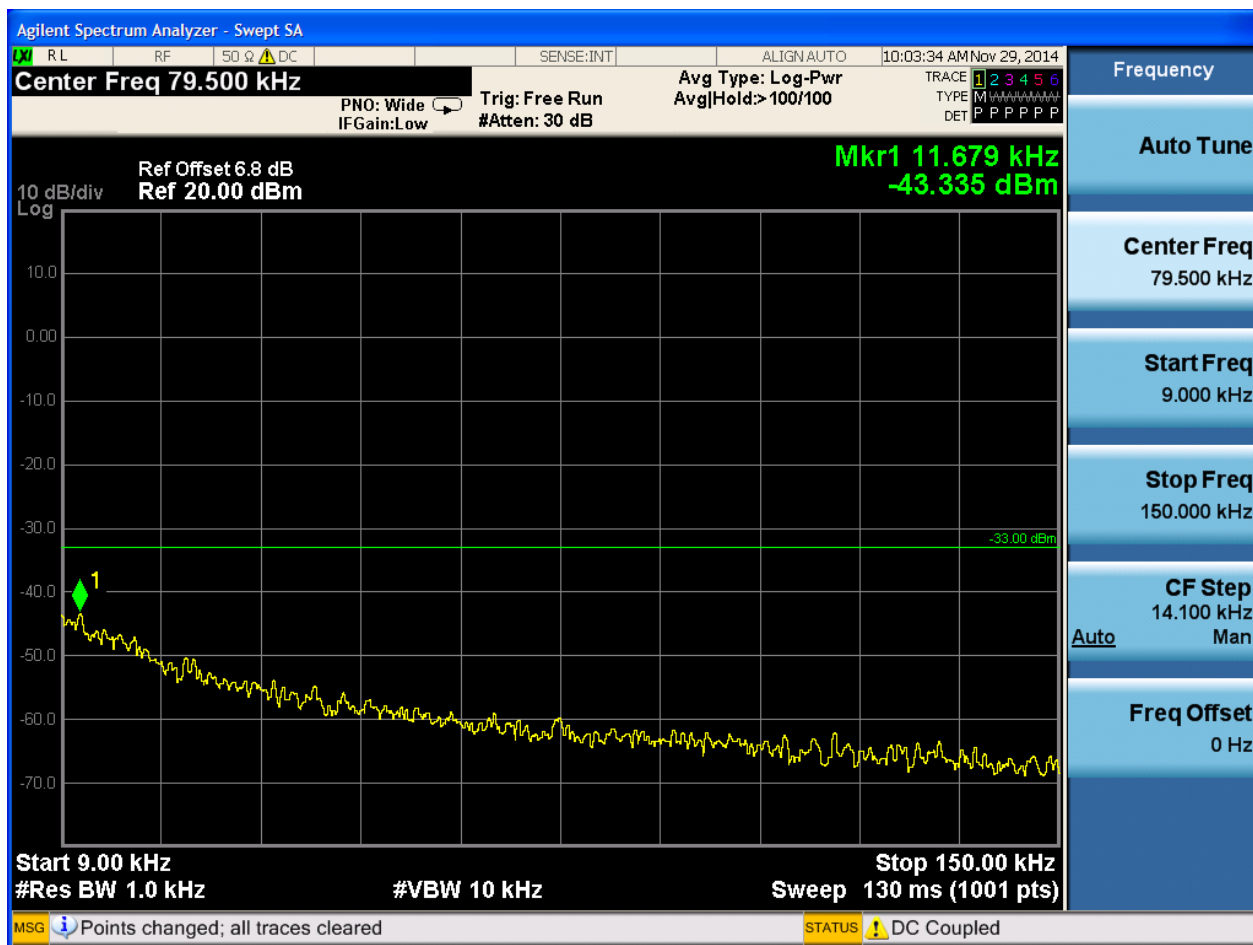


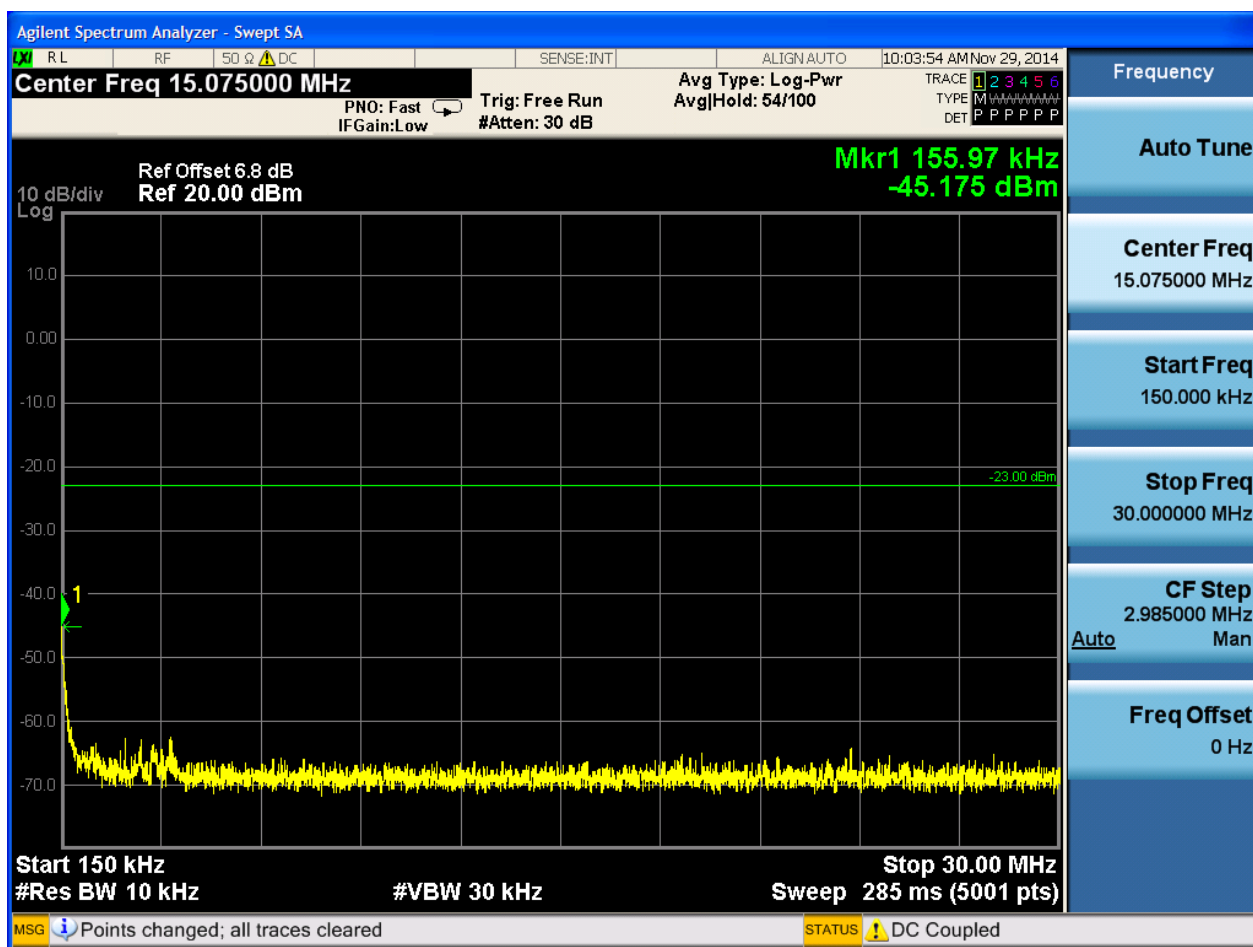


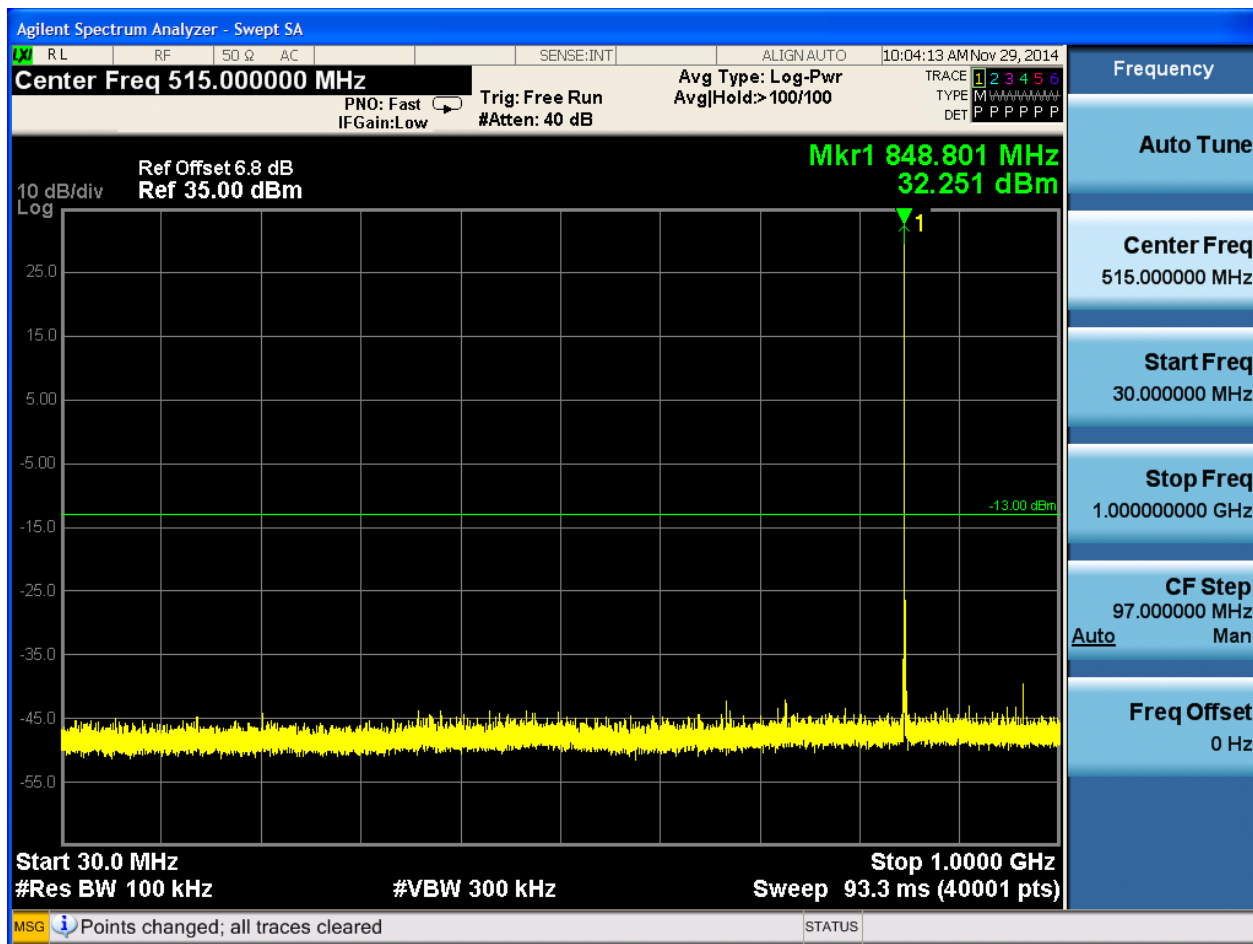


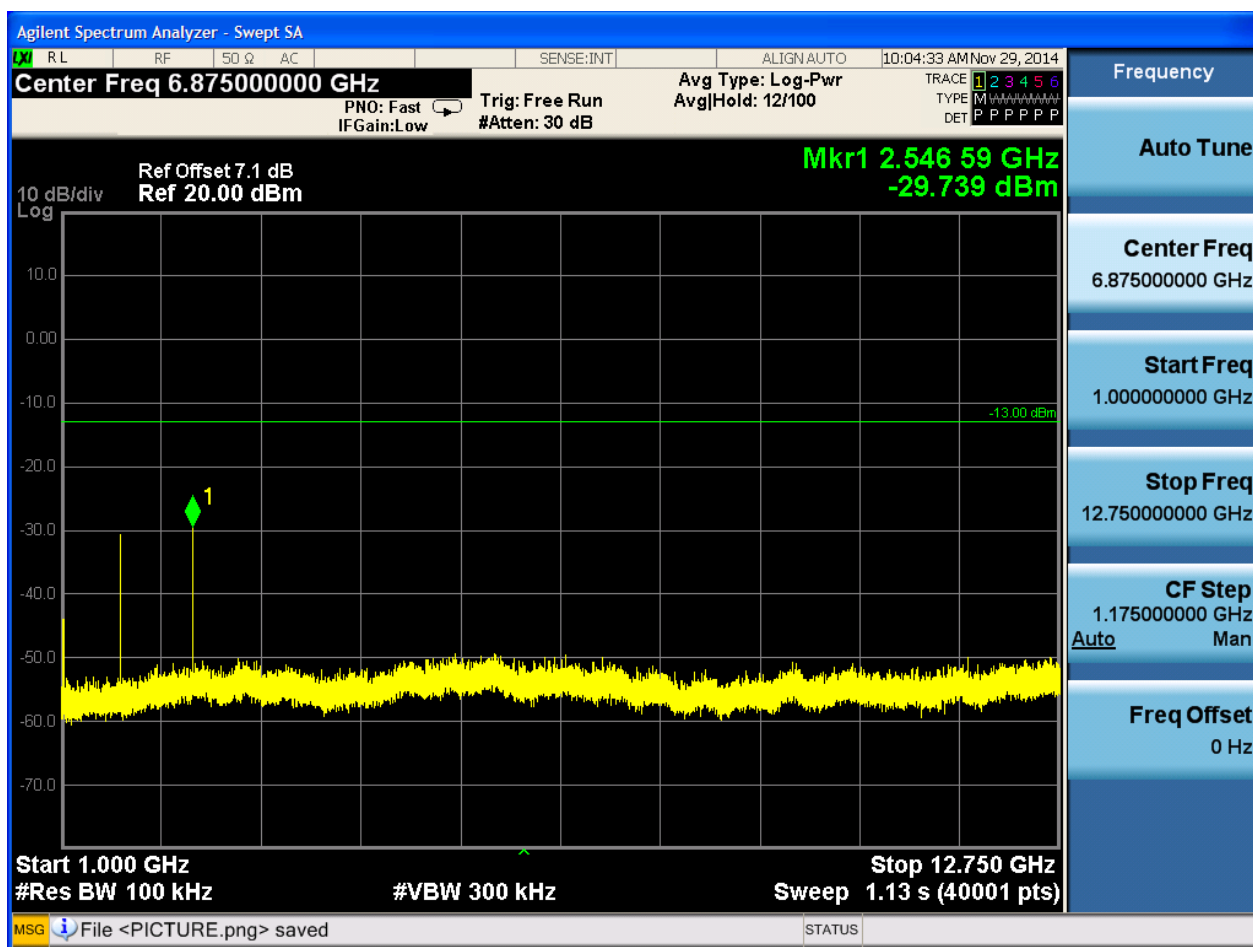


6.1.1.1.3 Test Channel = HCH





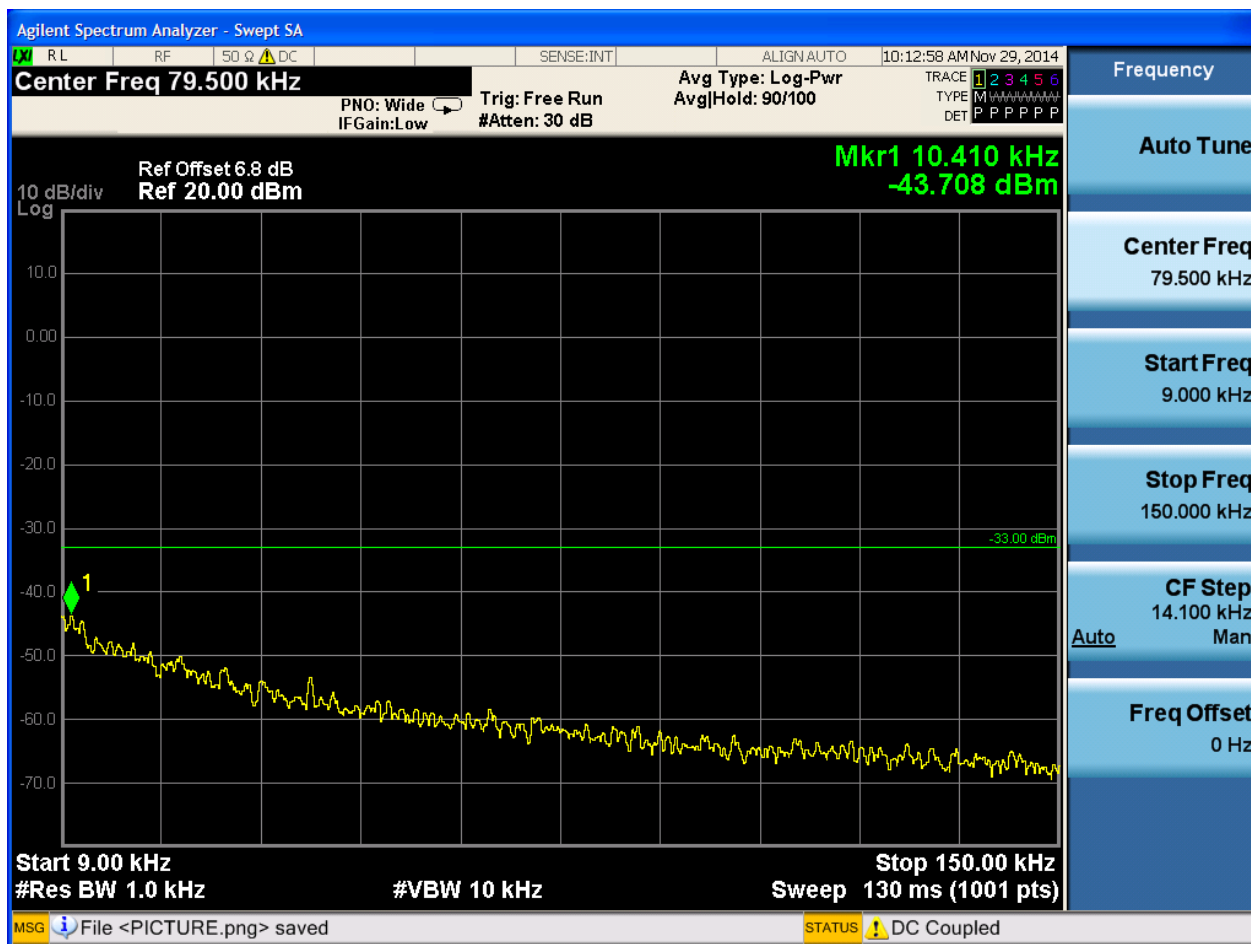


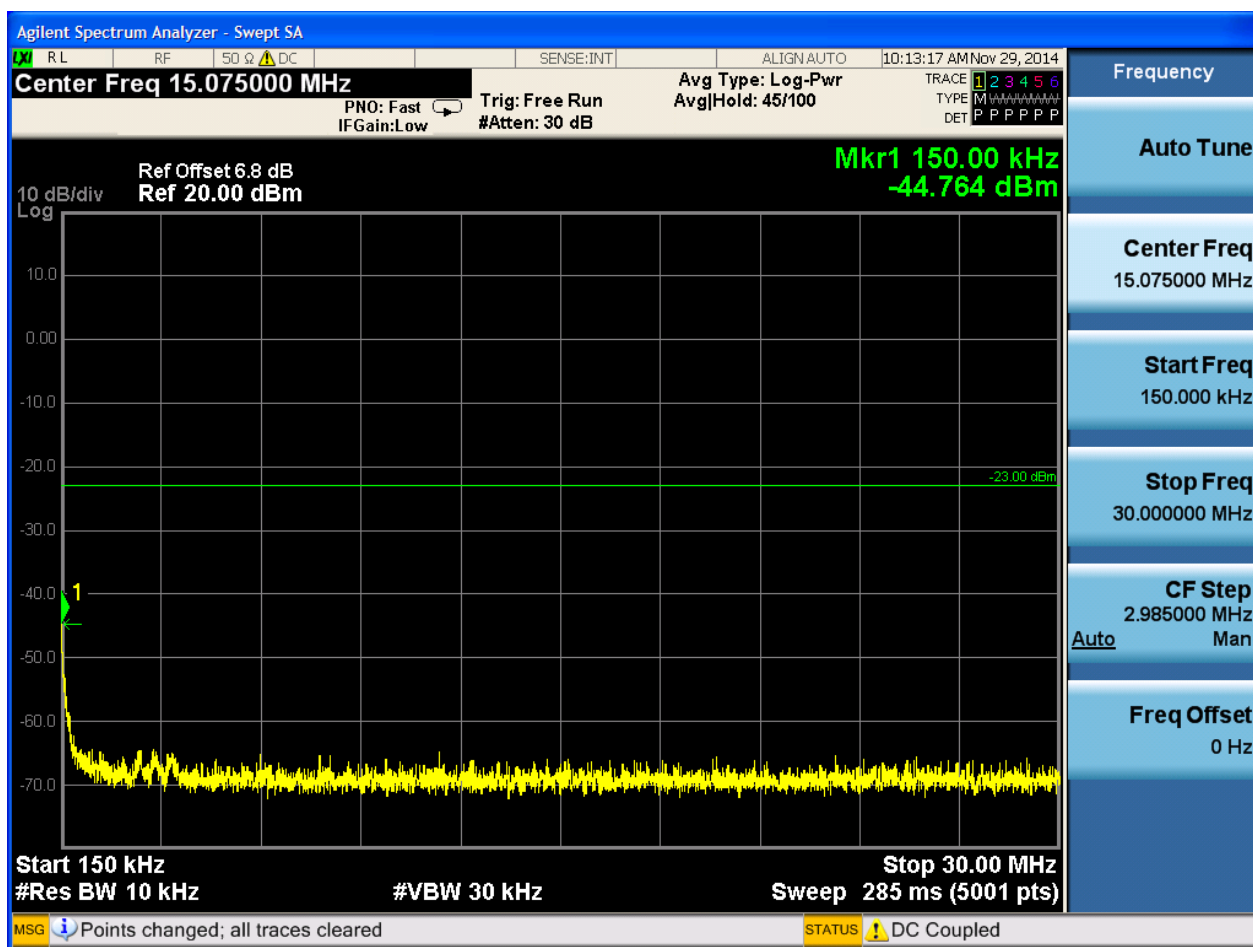


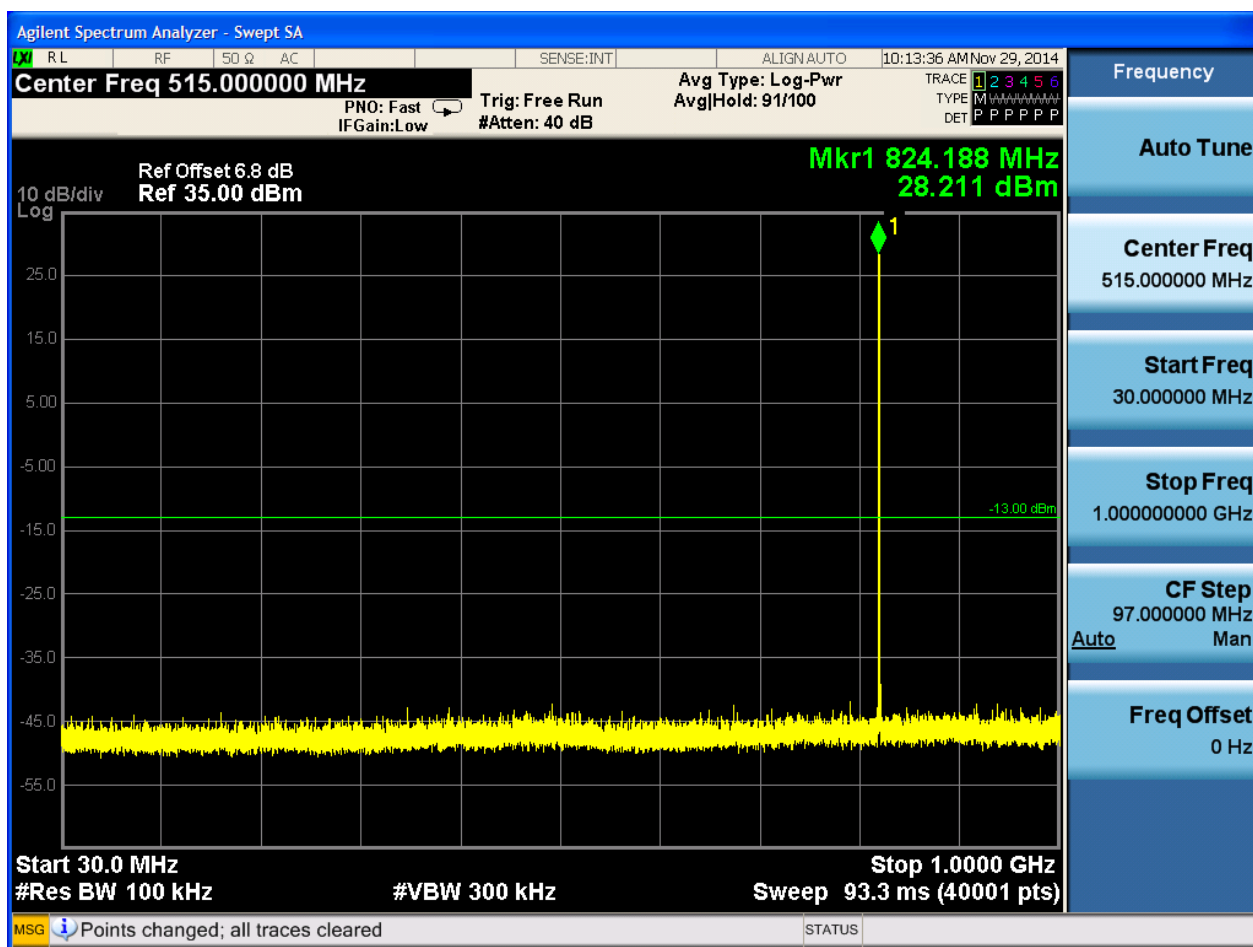


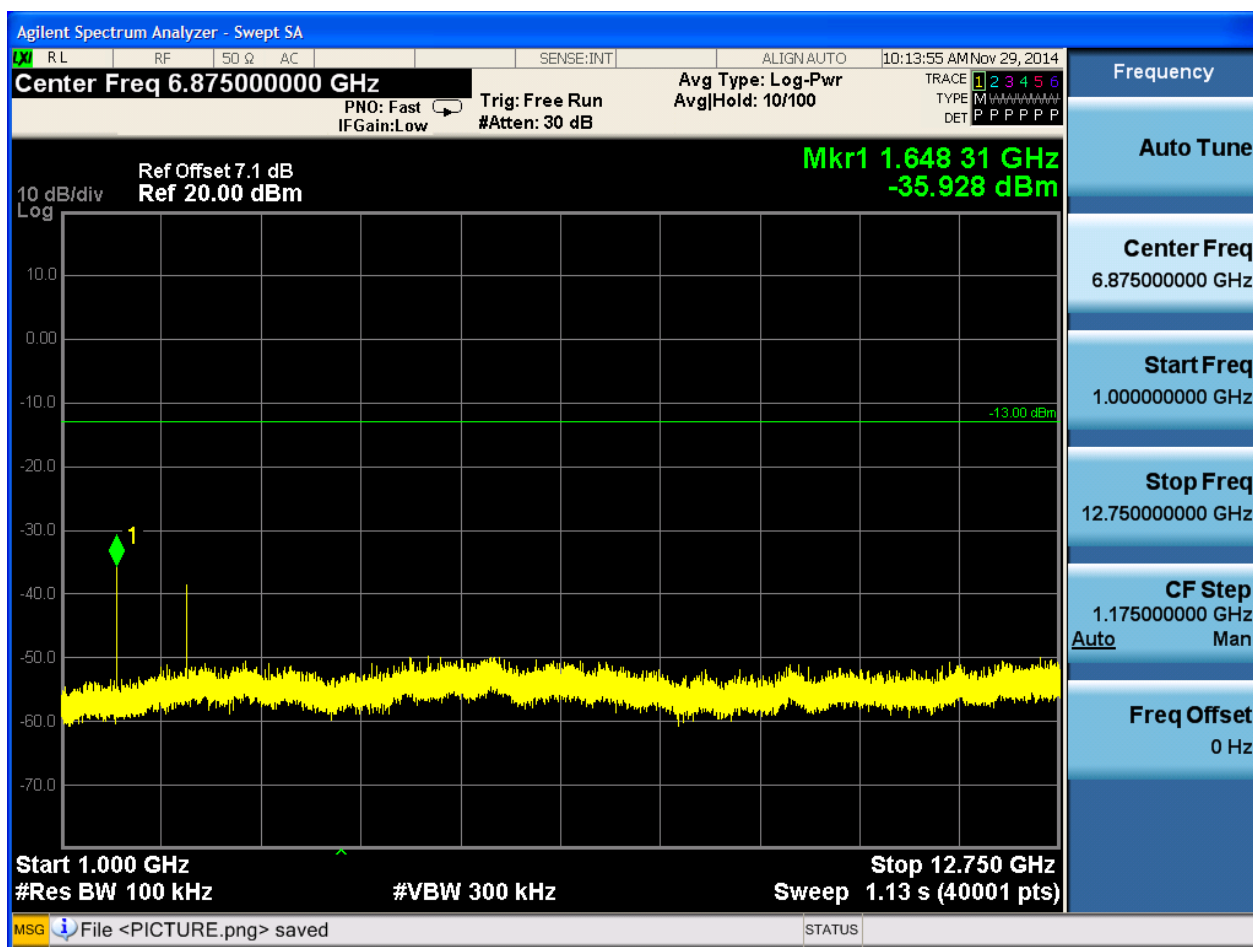
6.1.1.2 Test Mode = GSM/TM2

6.1.1.2.1 Test Channel = LCH



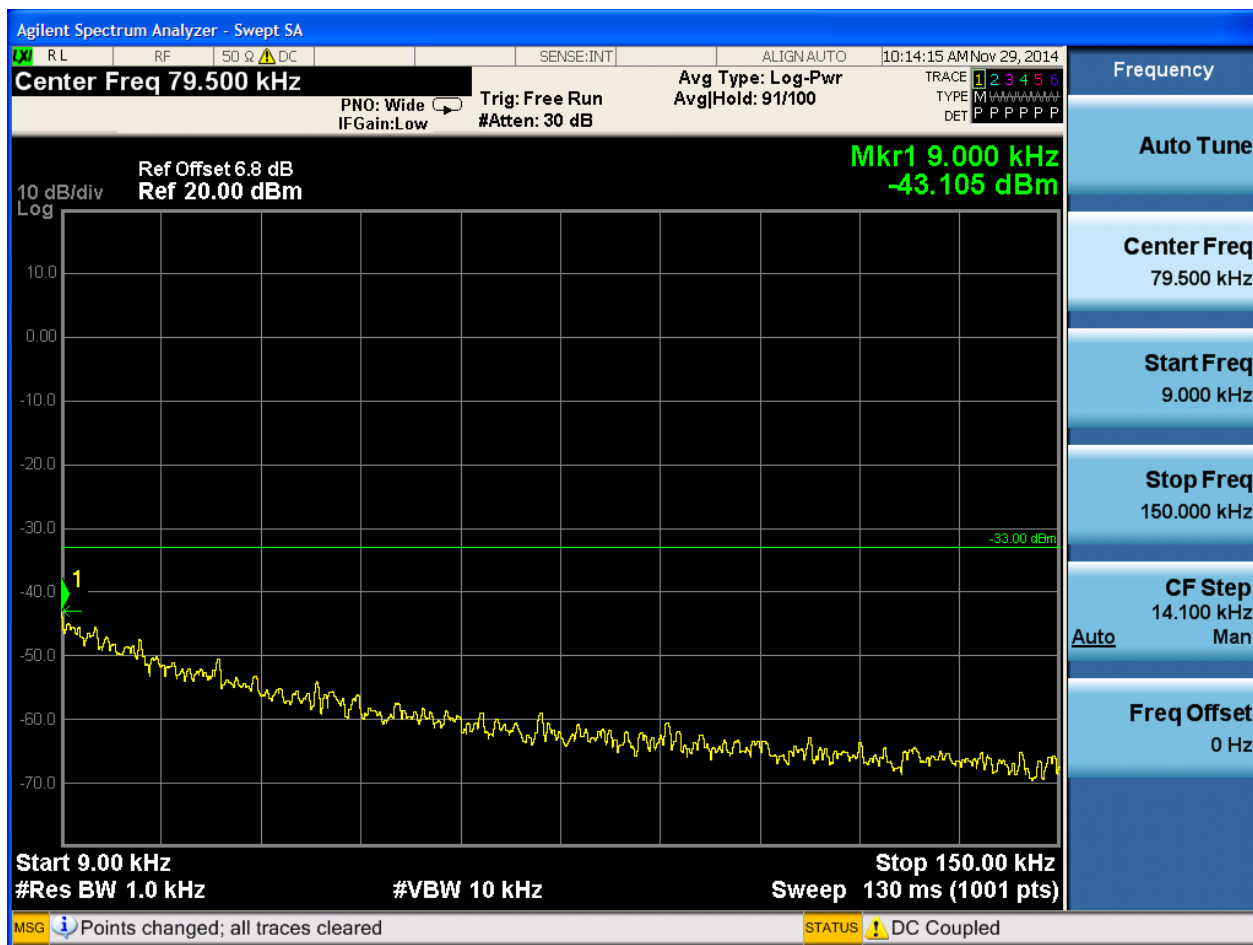


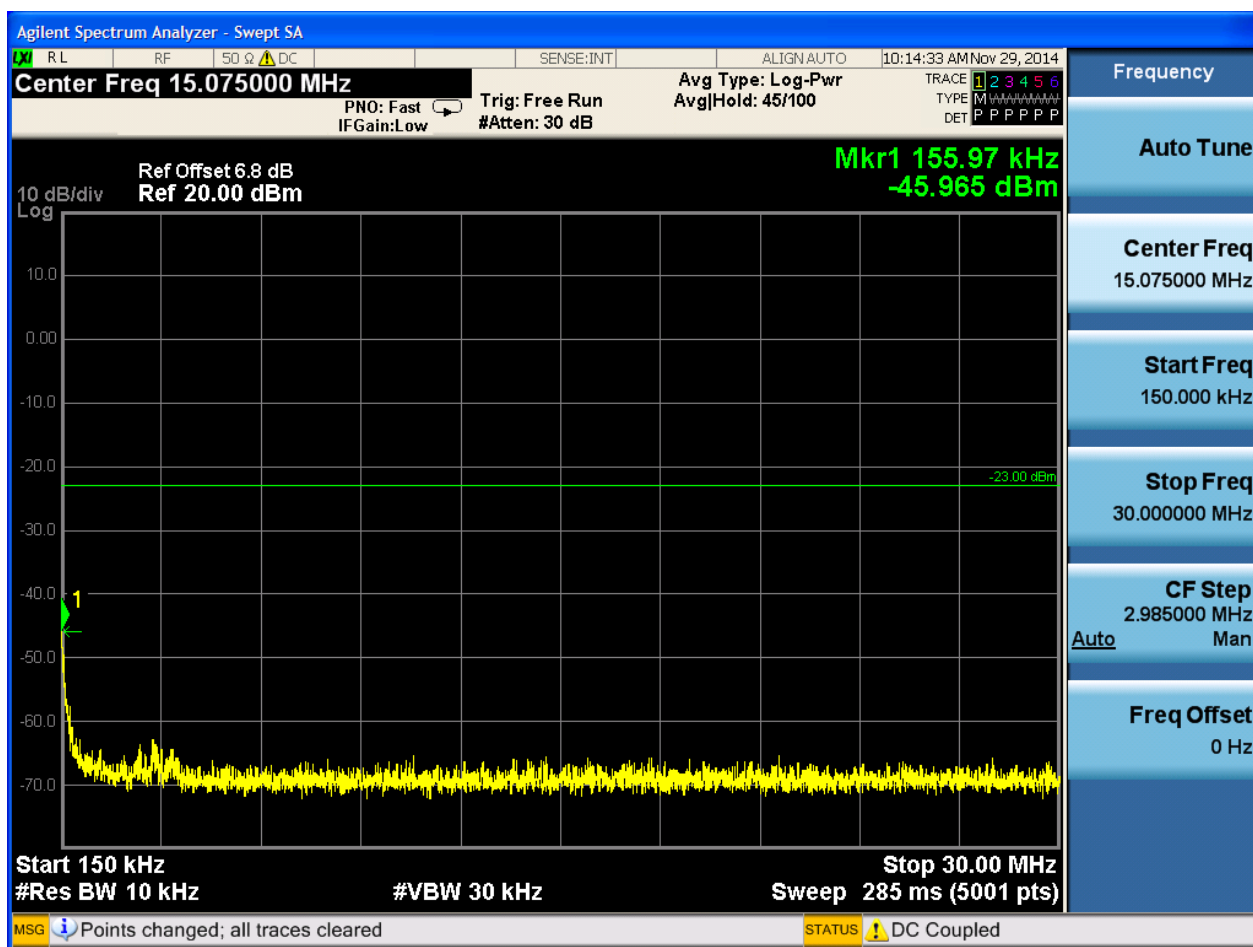


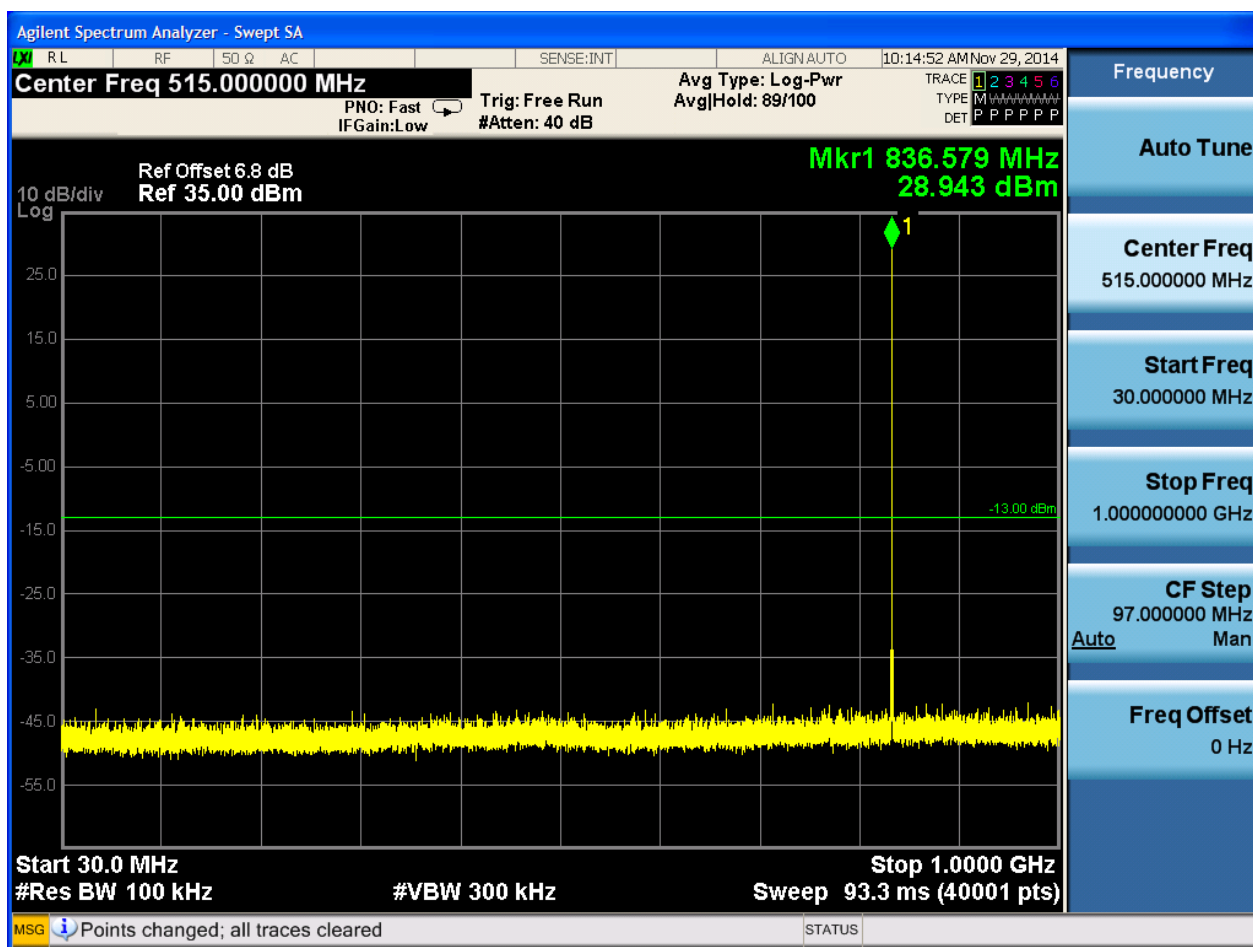


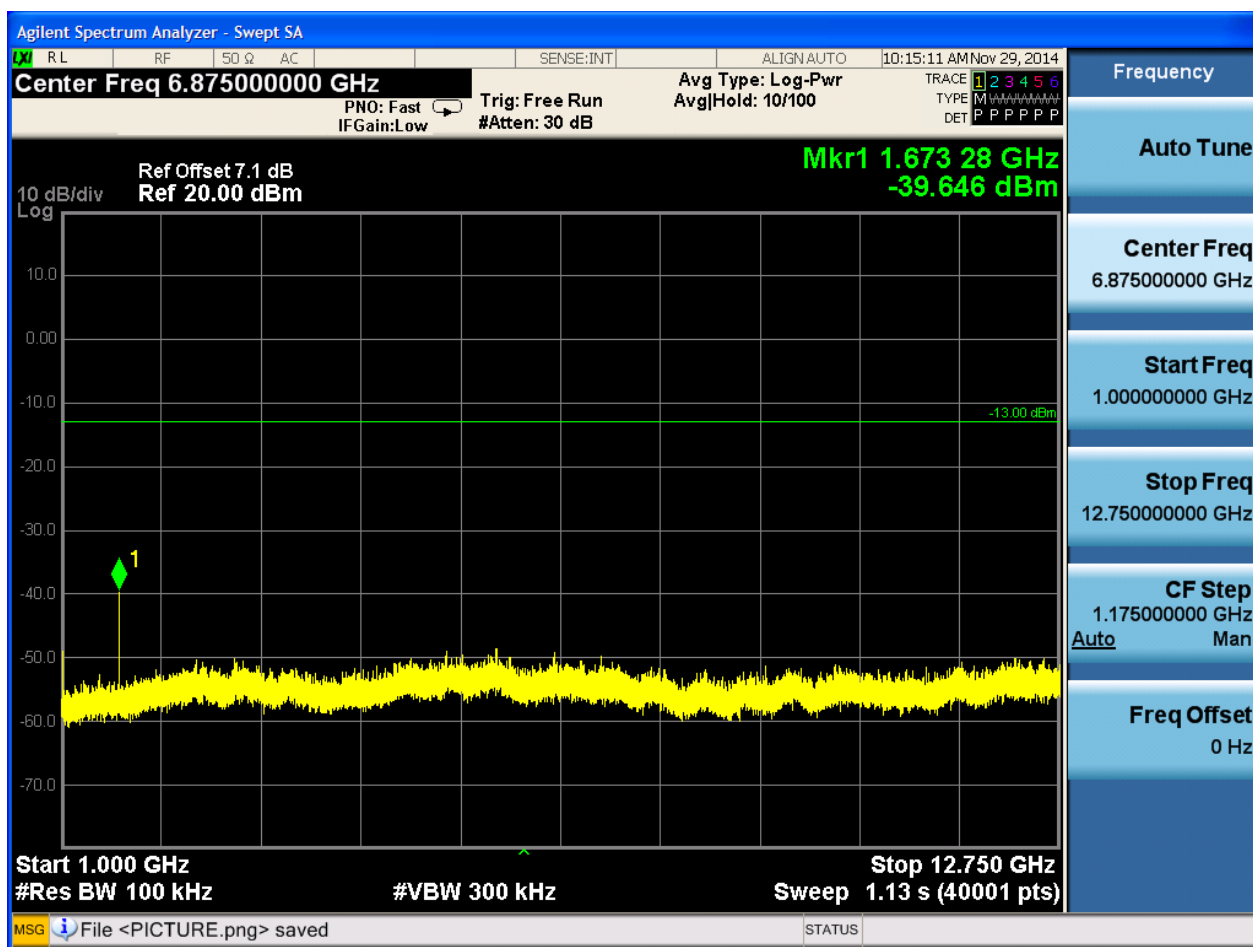


6.1.1.2.2 Test Channel = MCH

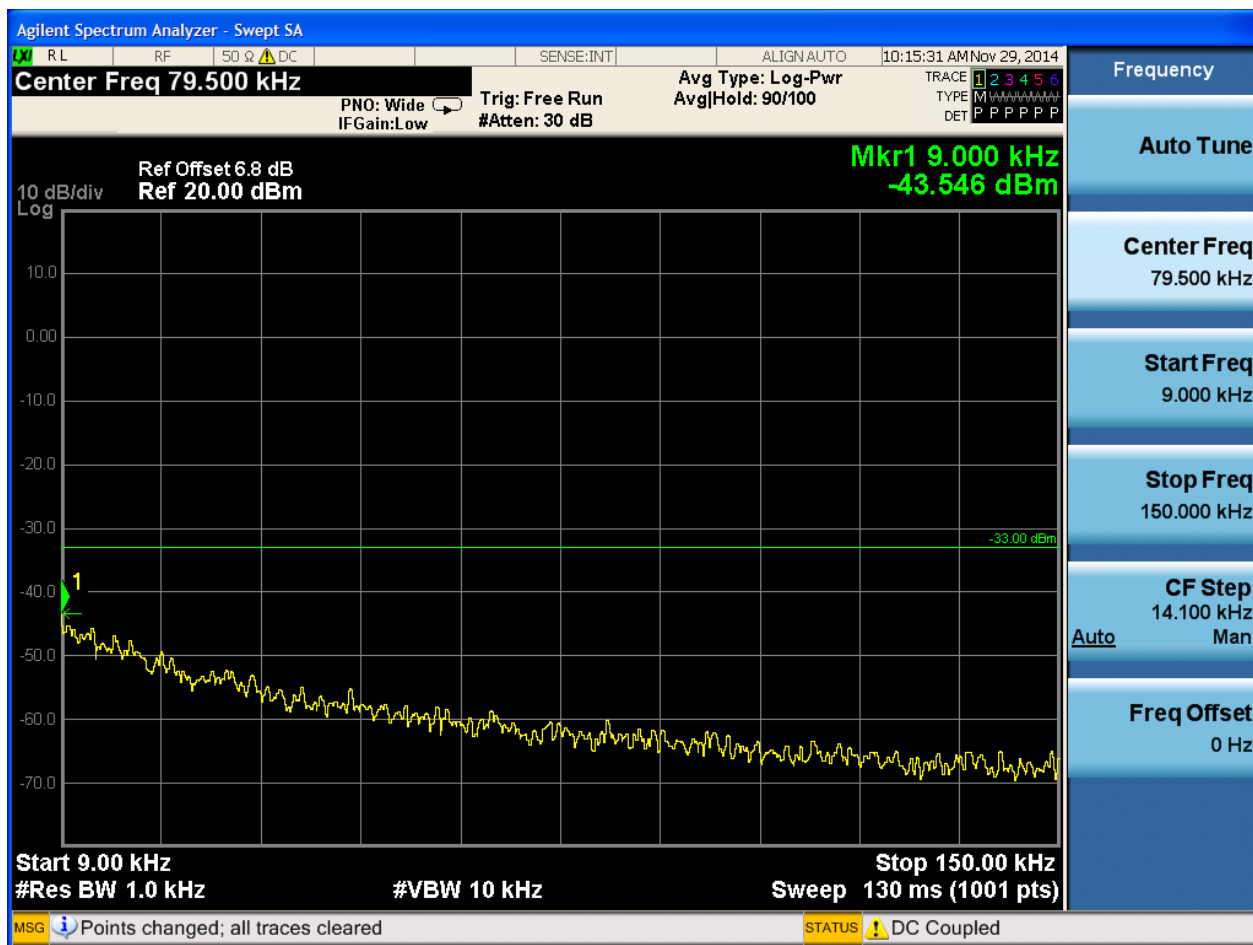


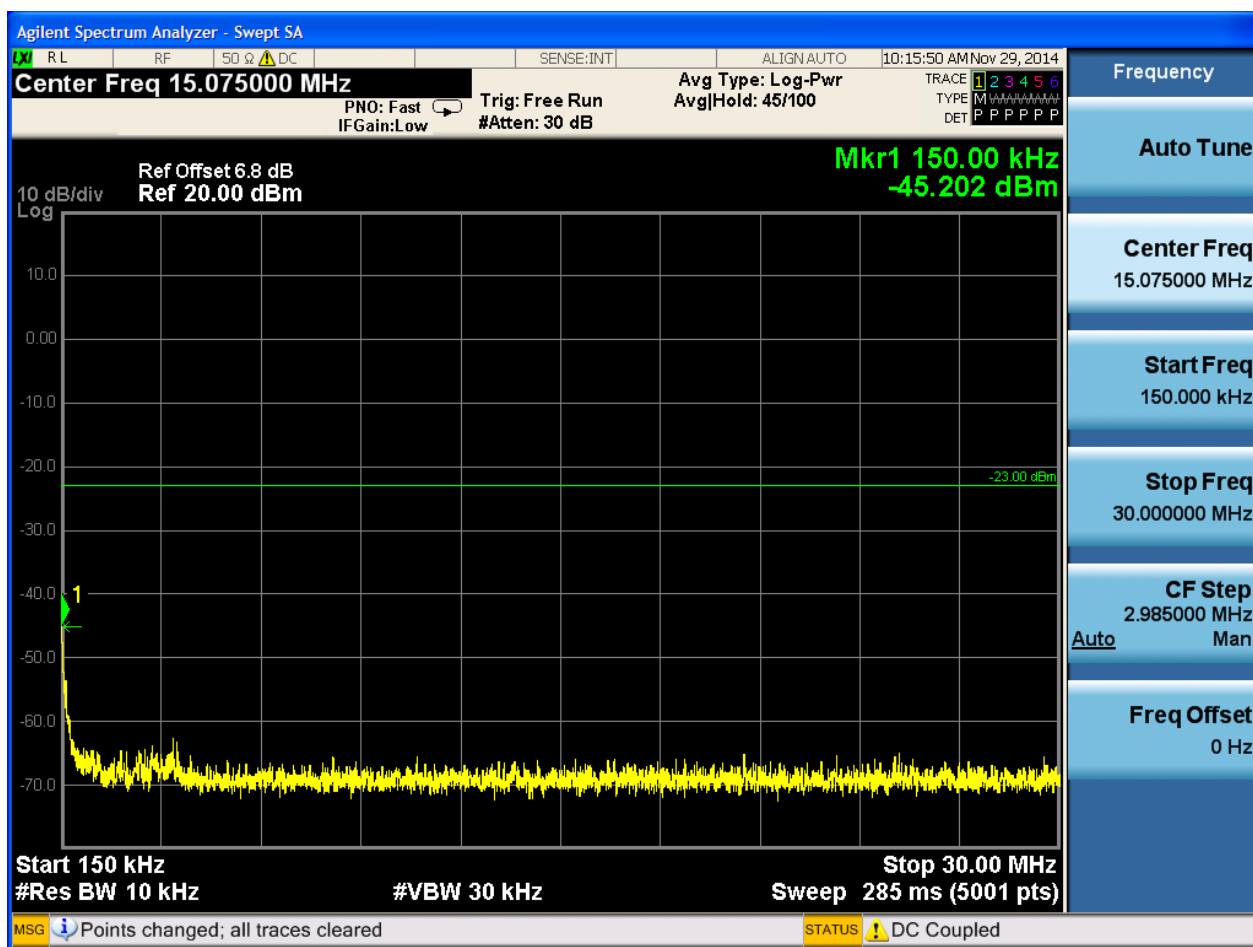


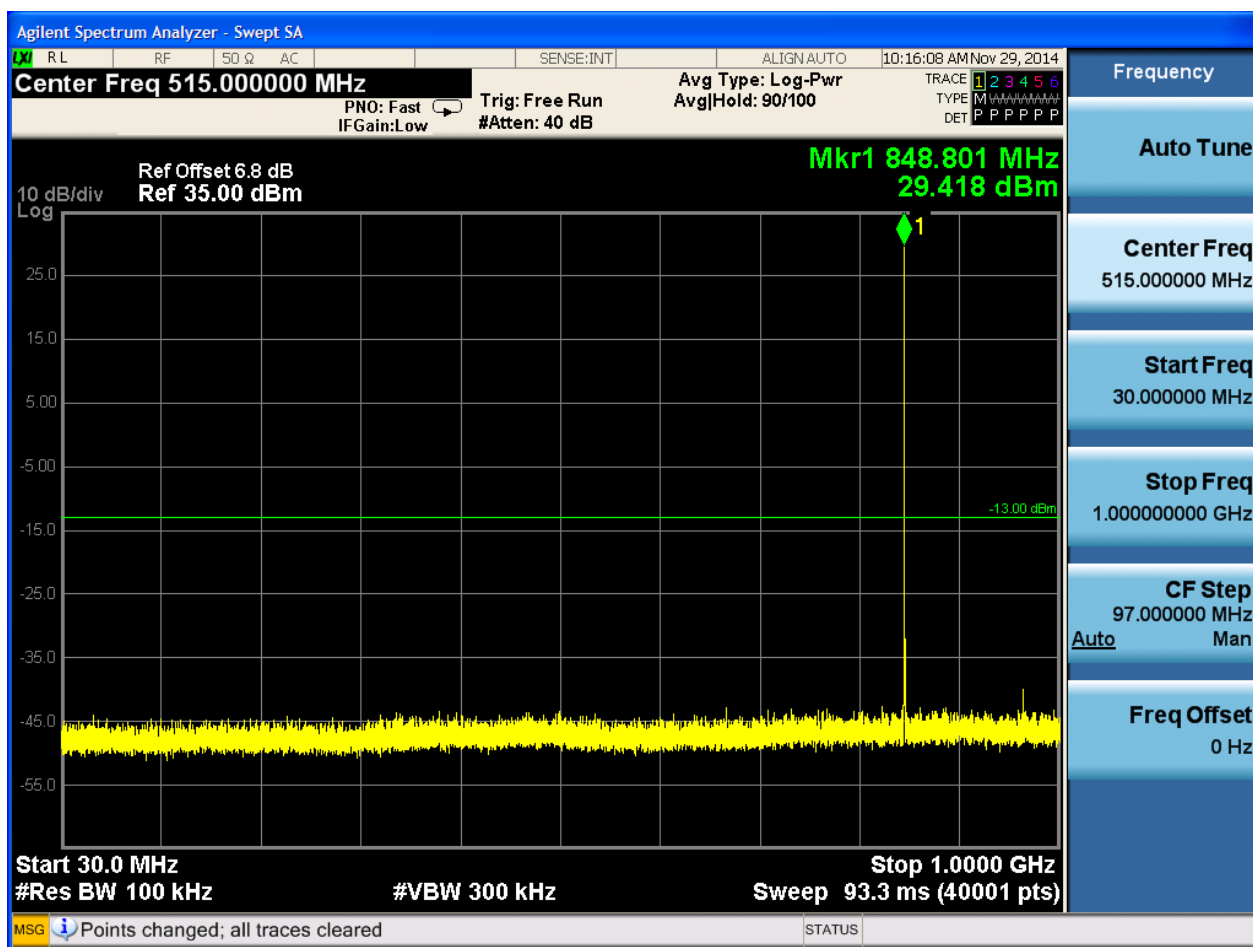


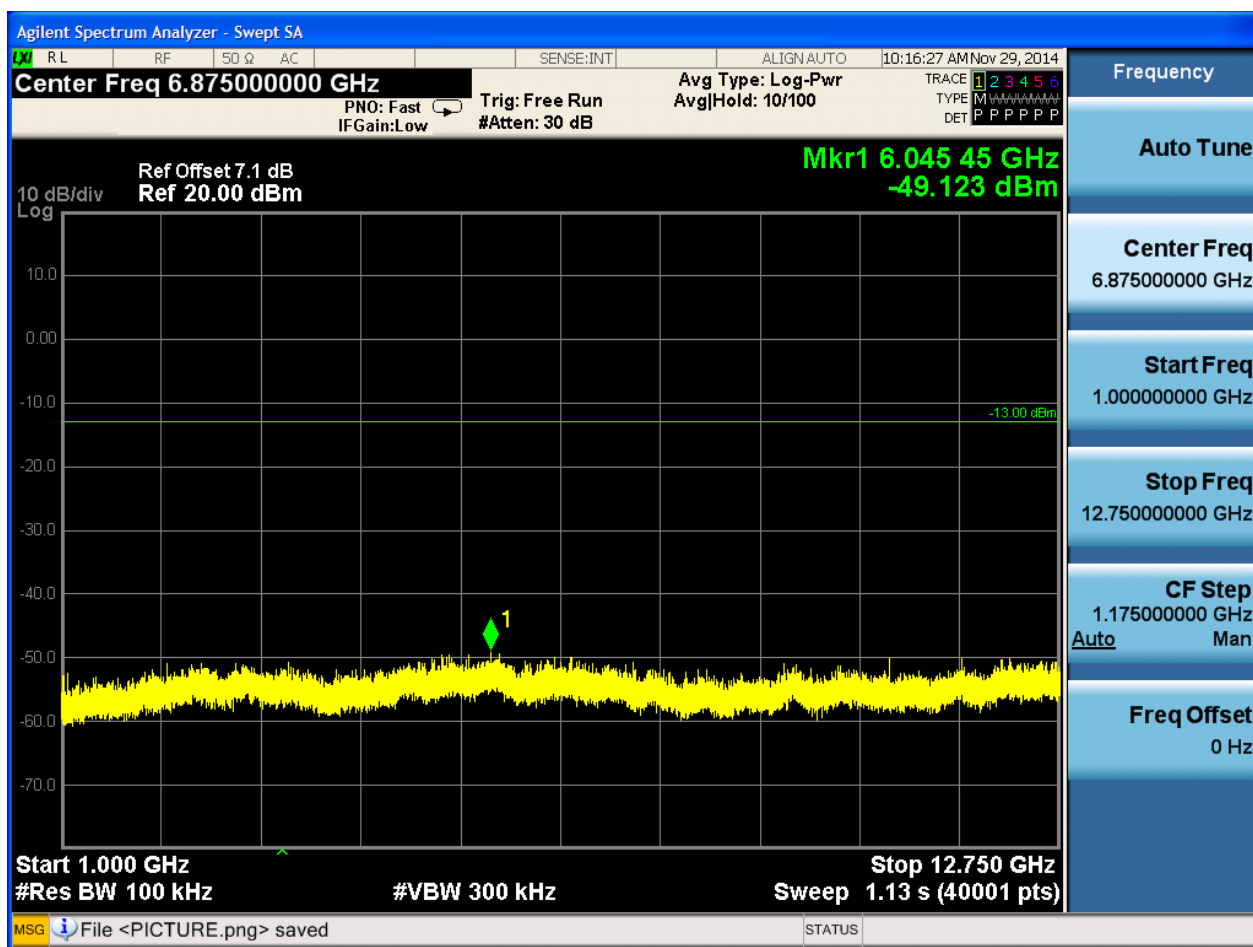


6.1.1.2.3 Test Channel = HCH







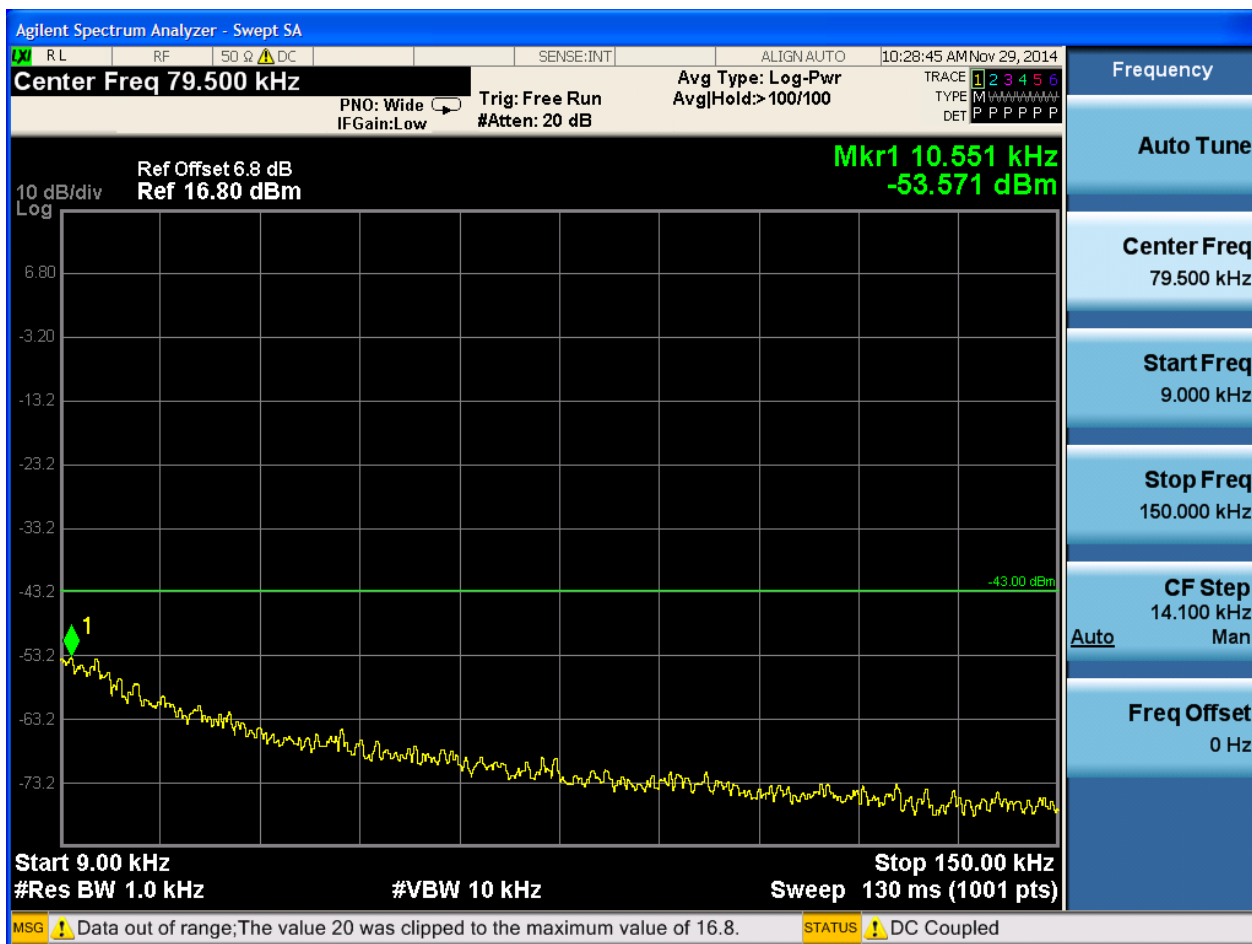


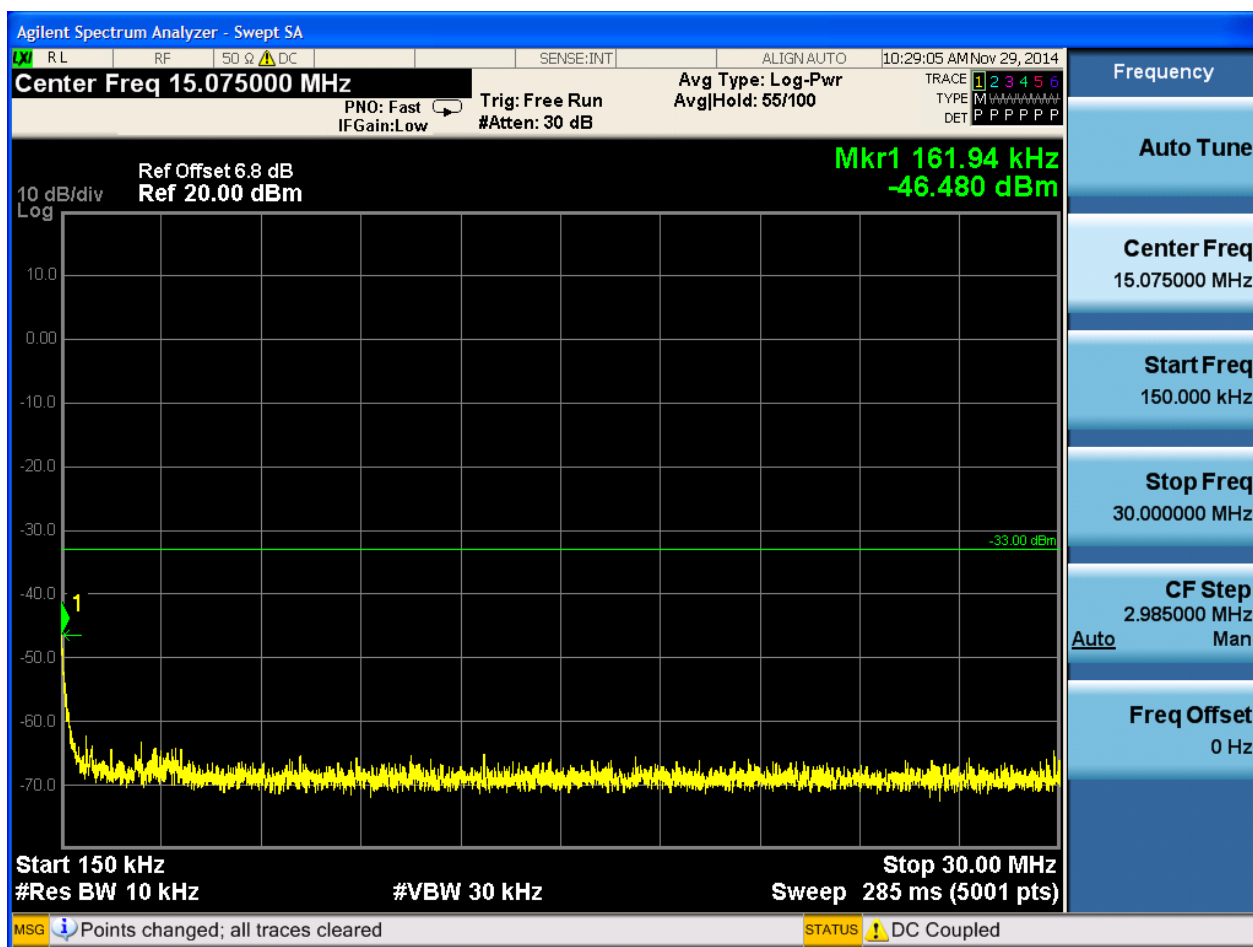


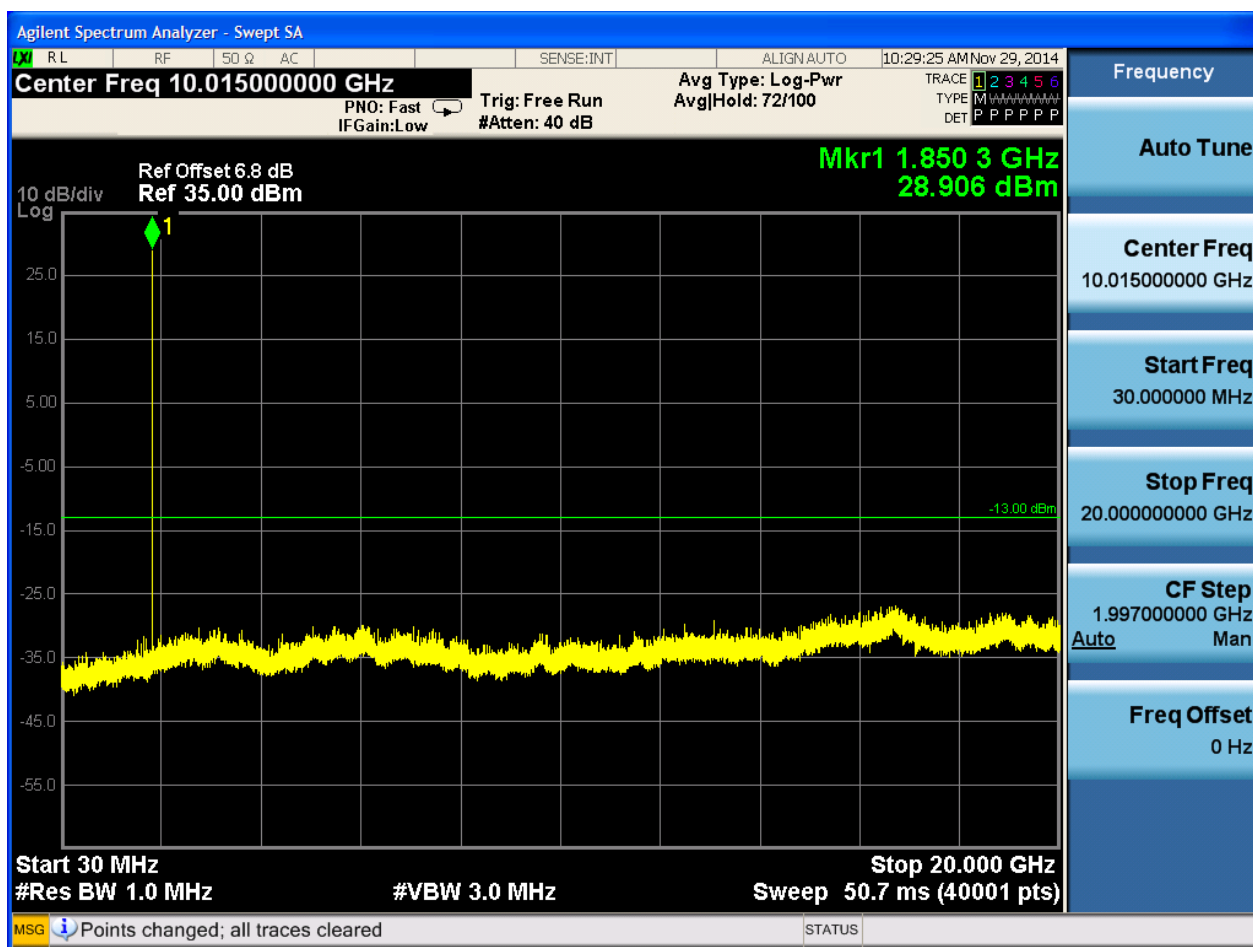
6.1.2 Test Band = GSM1900

6.1.2.1 Test Mode = GSM/TM1

6.1.2.1.1 Test Channel = LCH

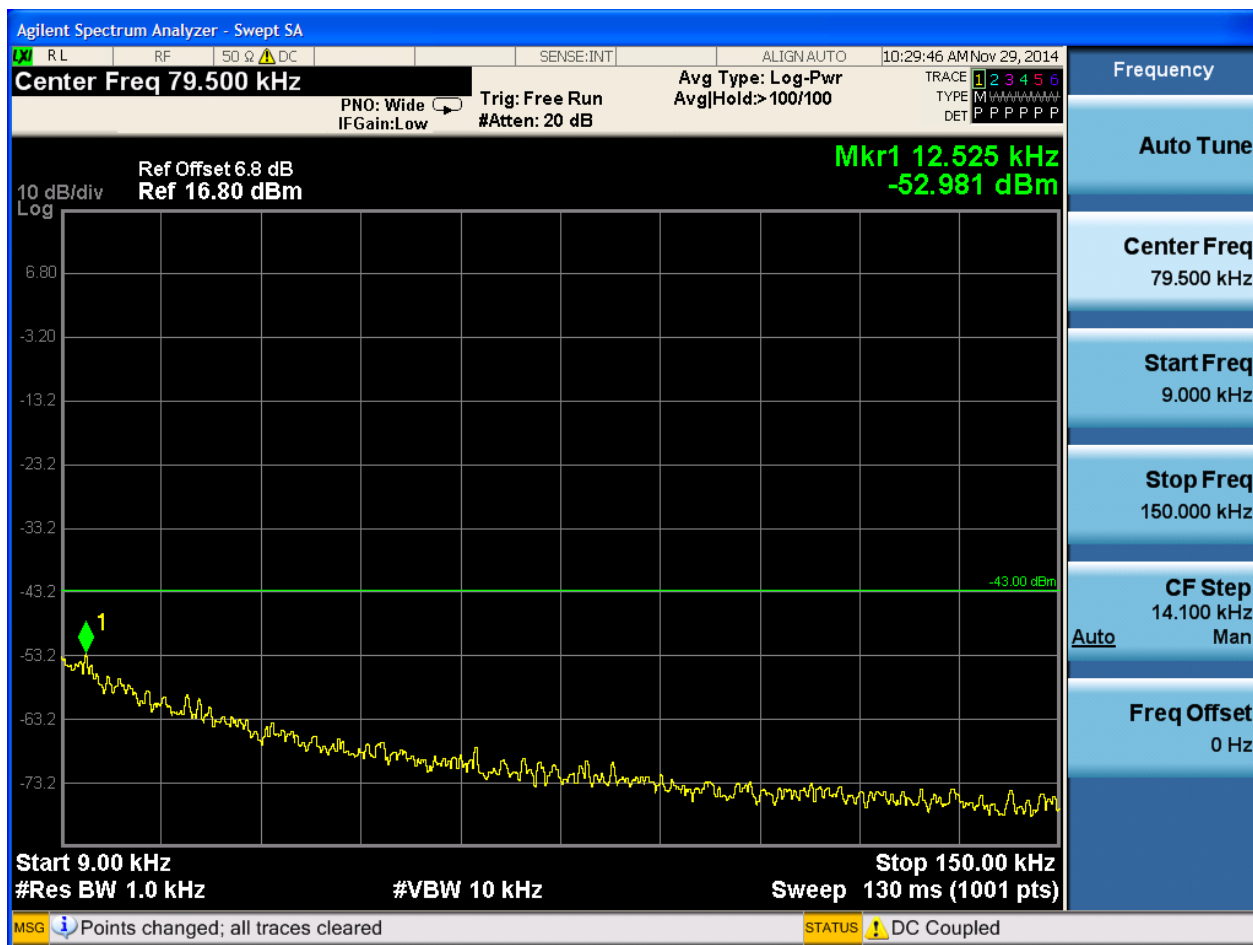


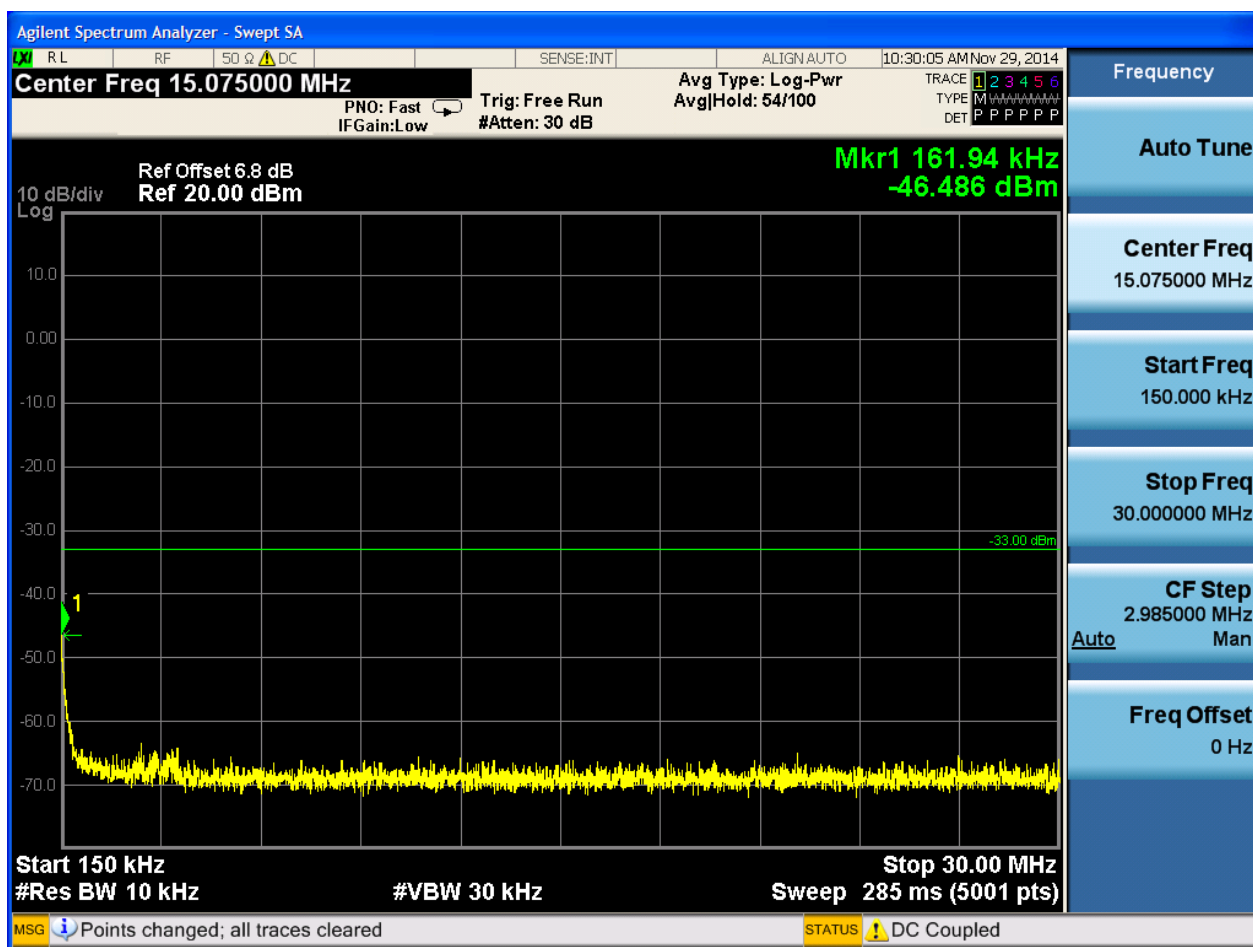


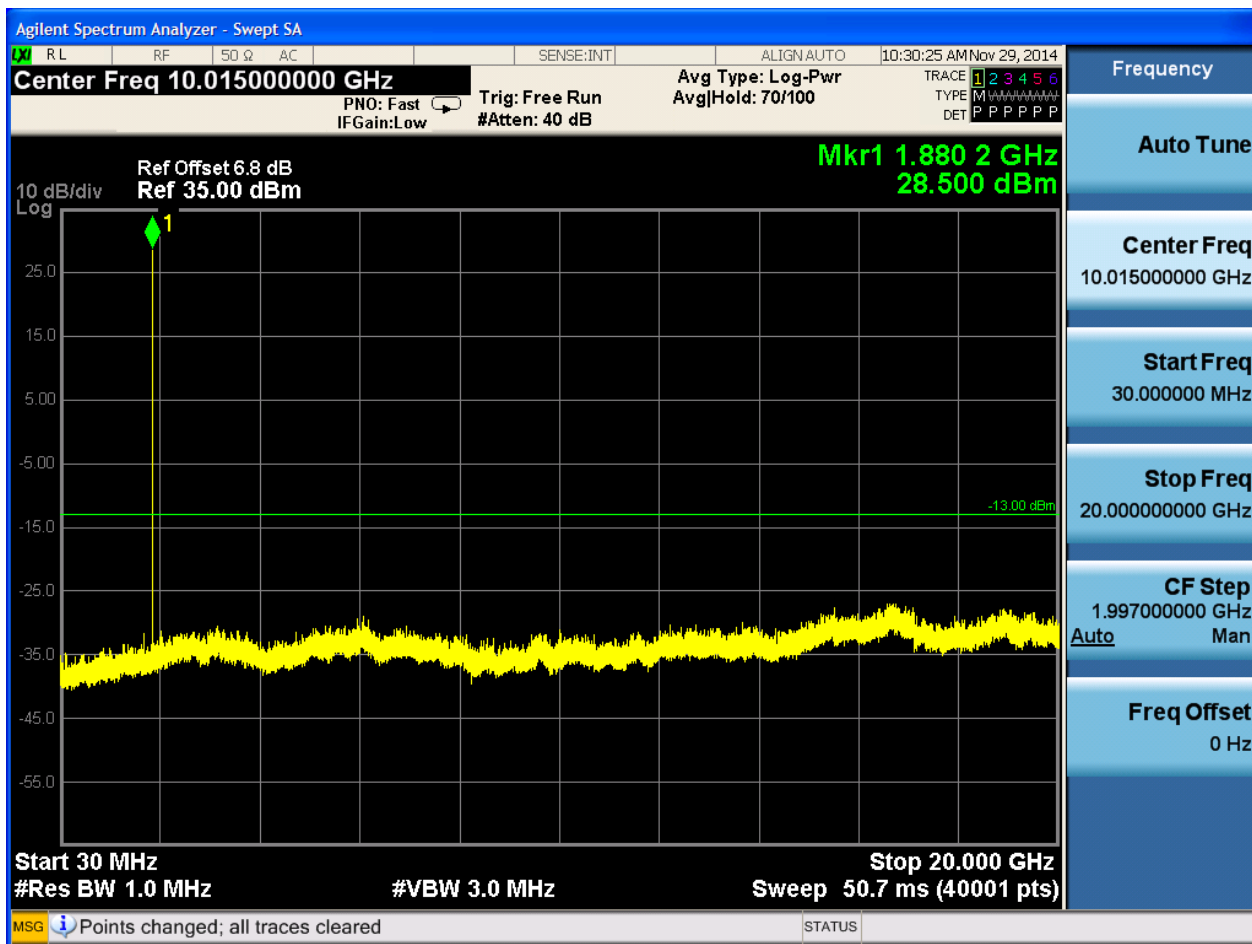




6.1.2.1.2 Test Channel = MCH

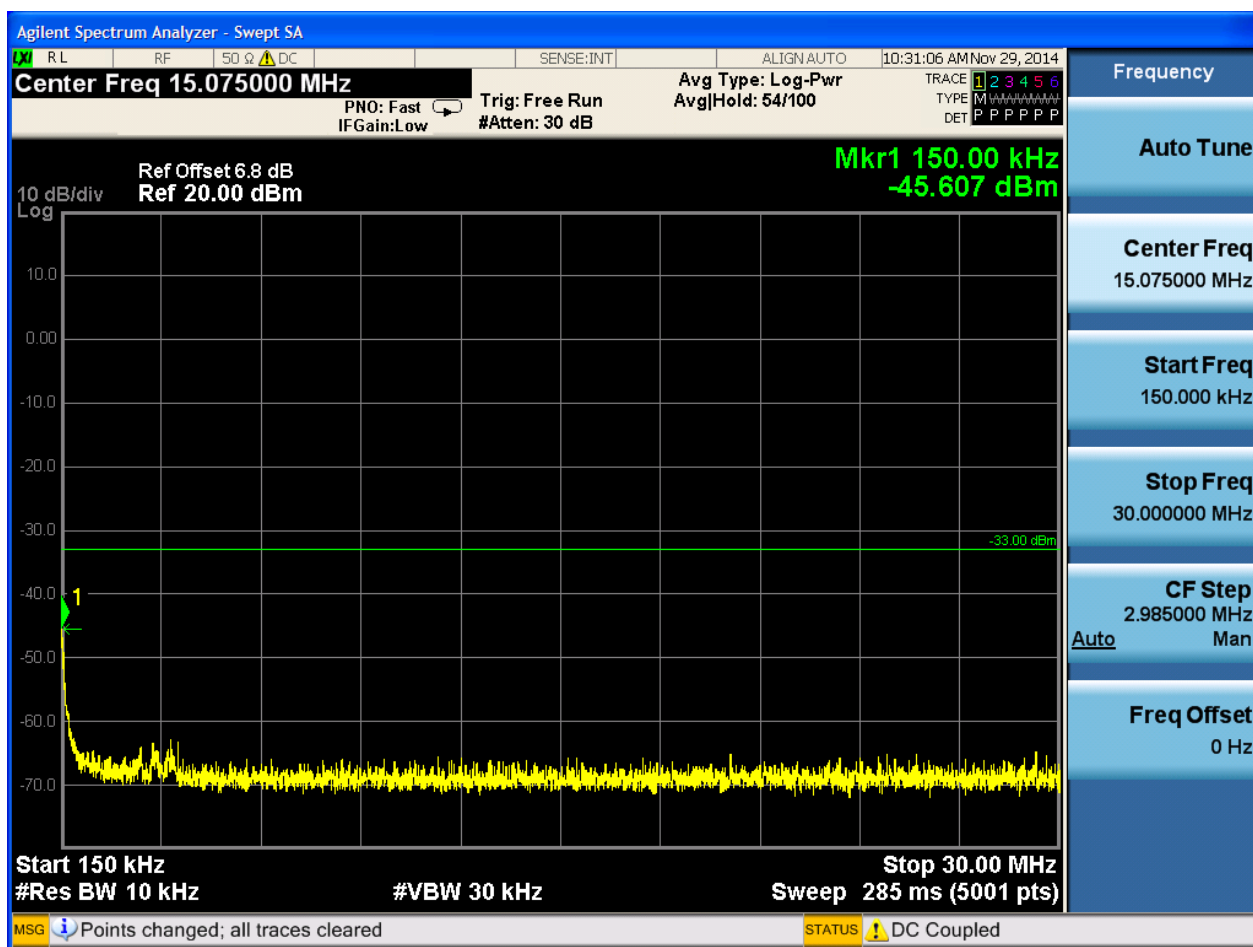


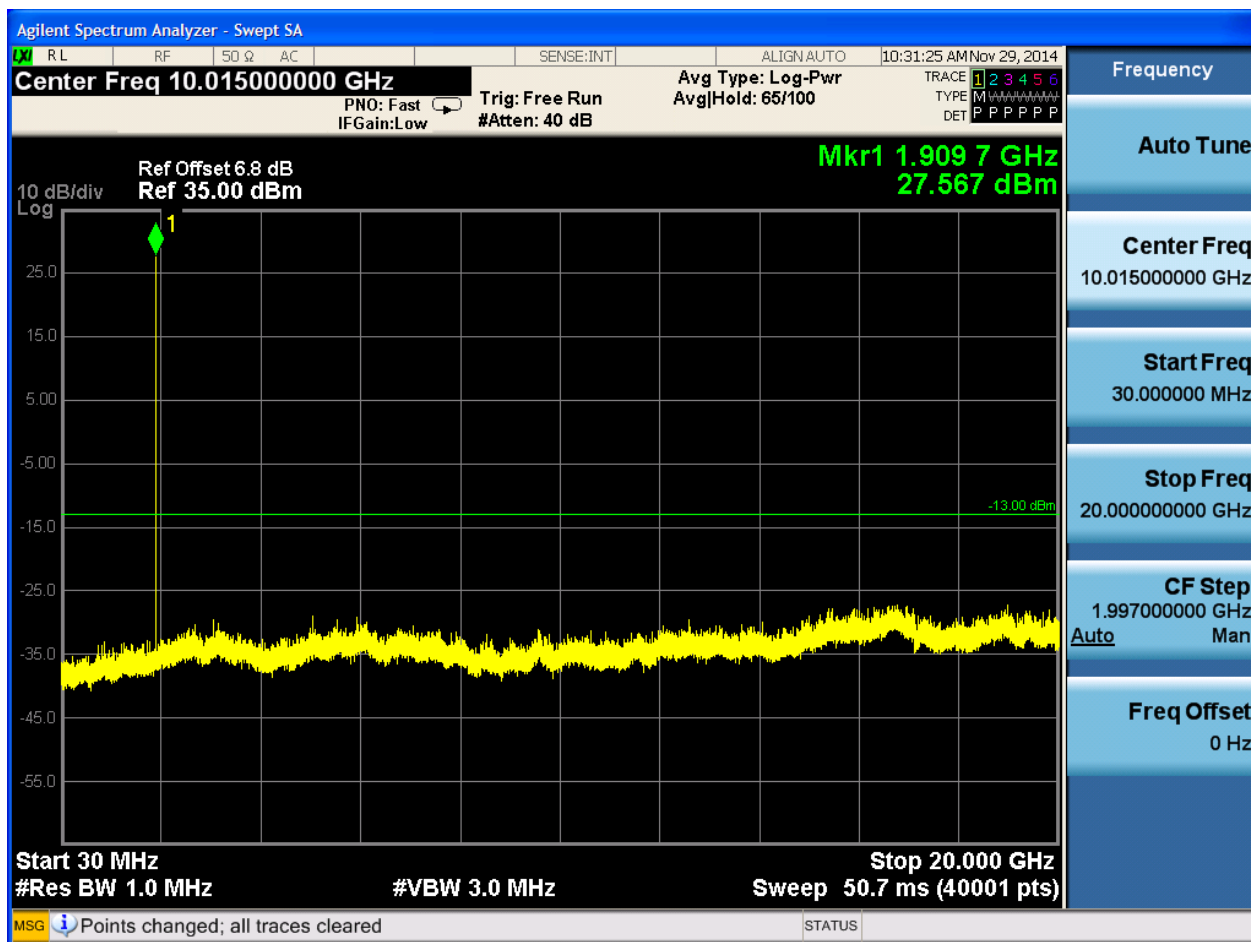




6.1.2.1.3 Test Channel = HCH



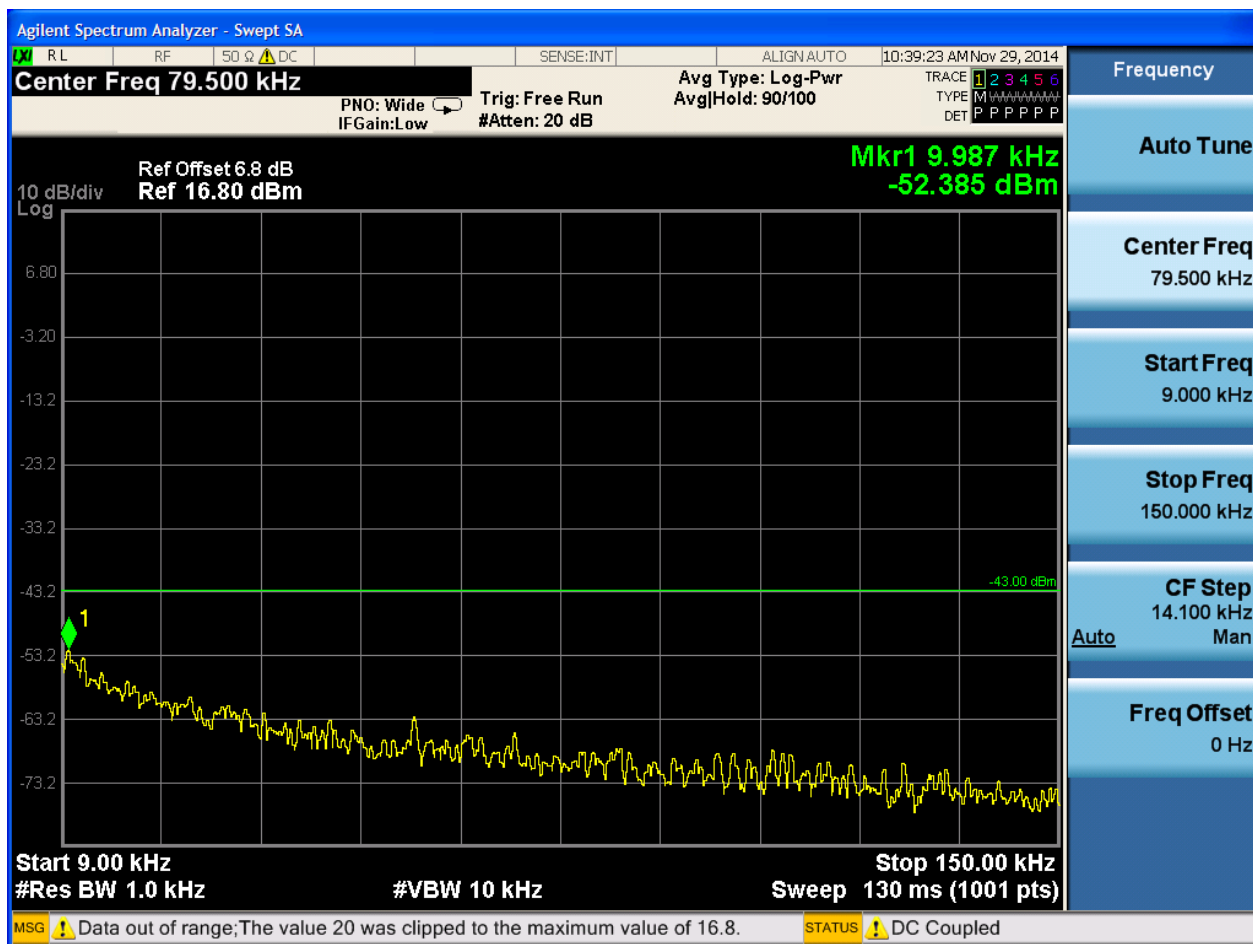


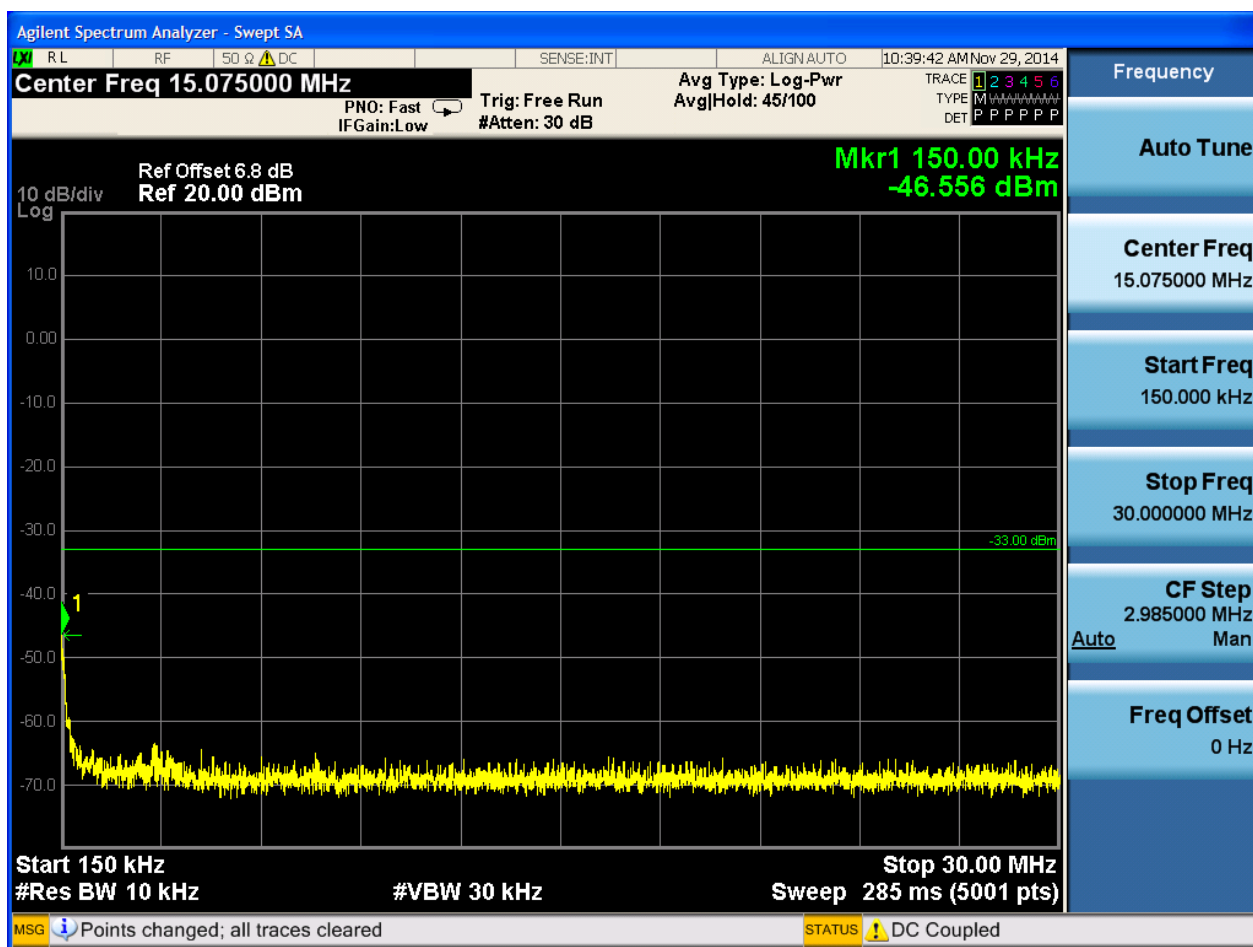


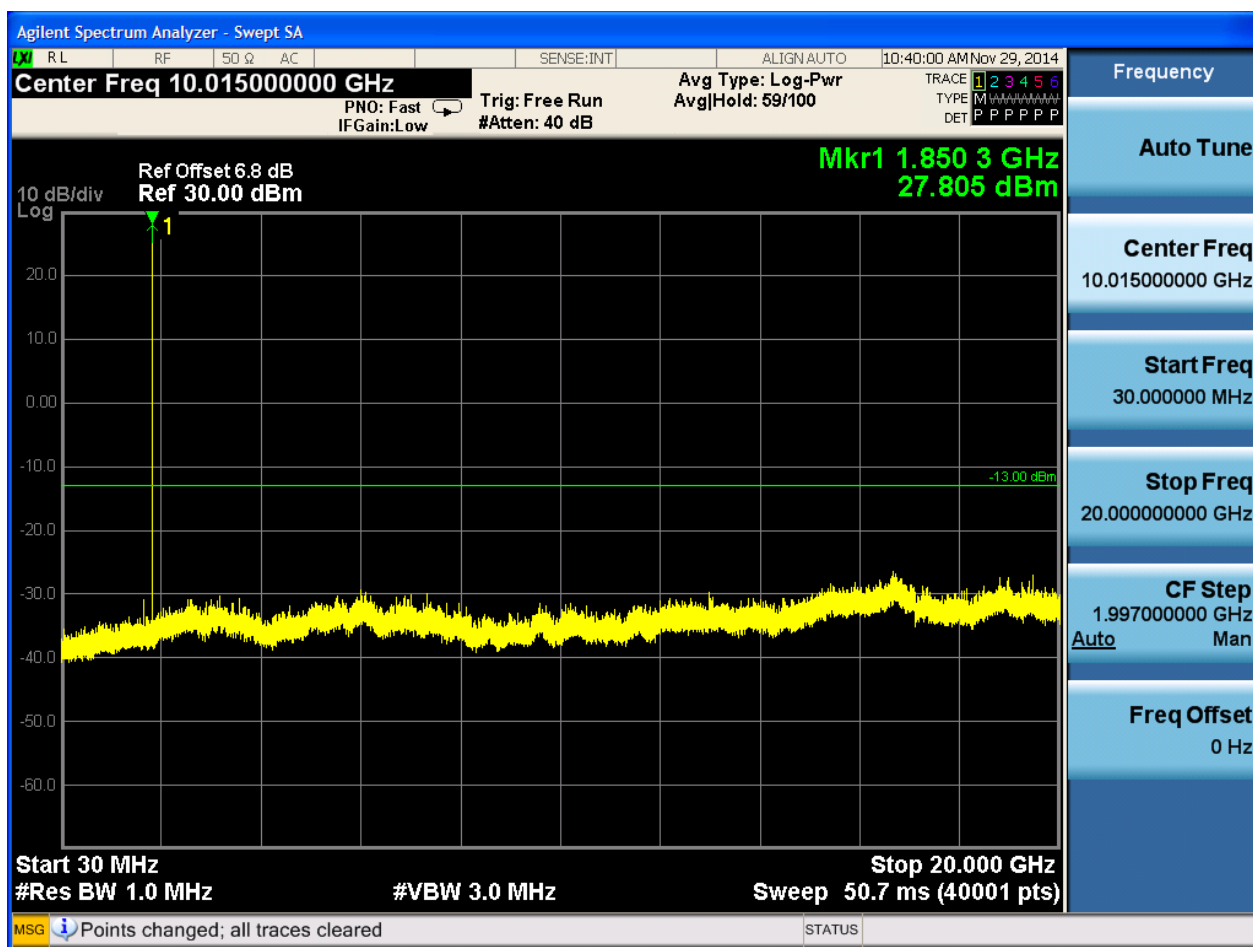


6.1.2.2 Test Mode = GSM/TM2

6.1.2.2.1 Test Channel = LCH

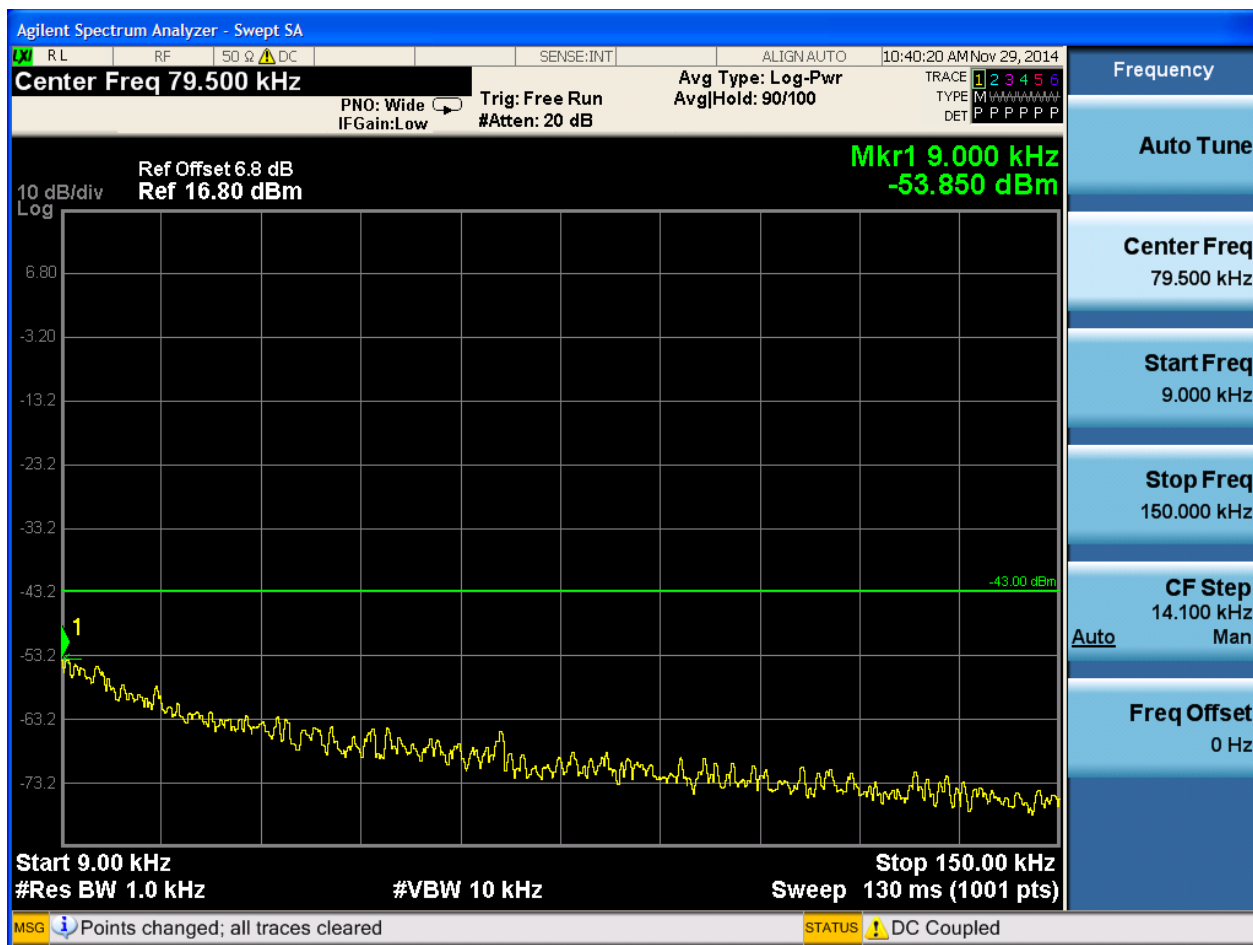


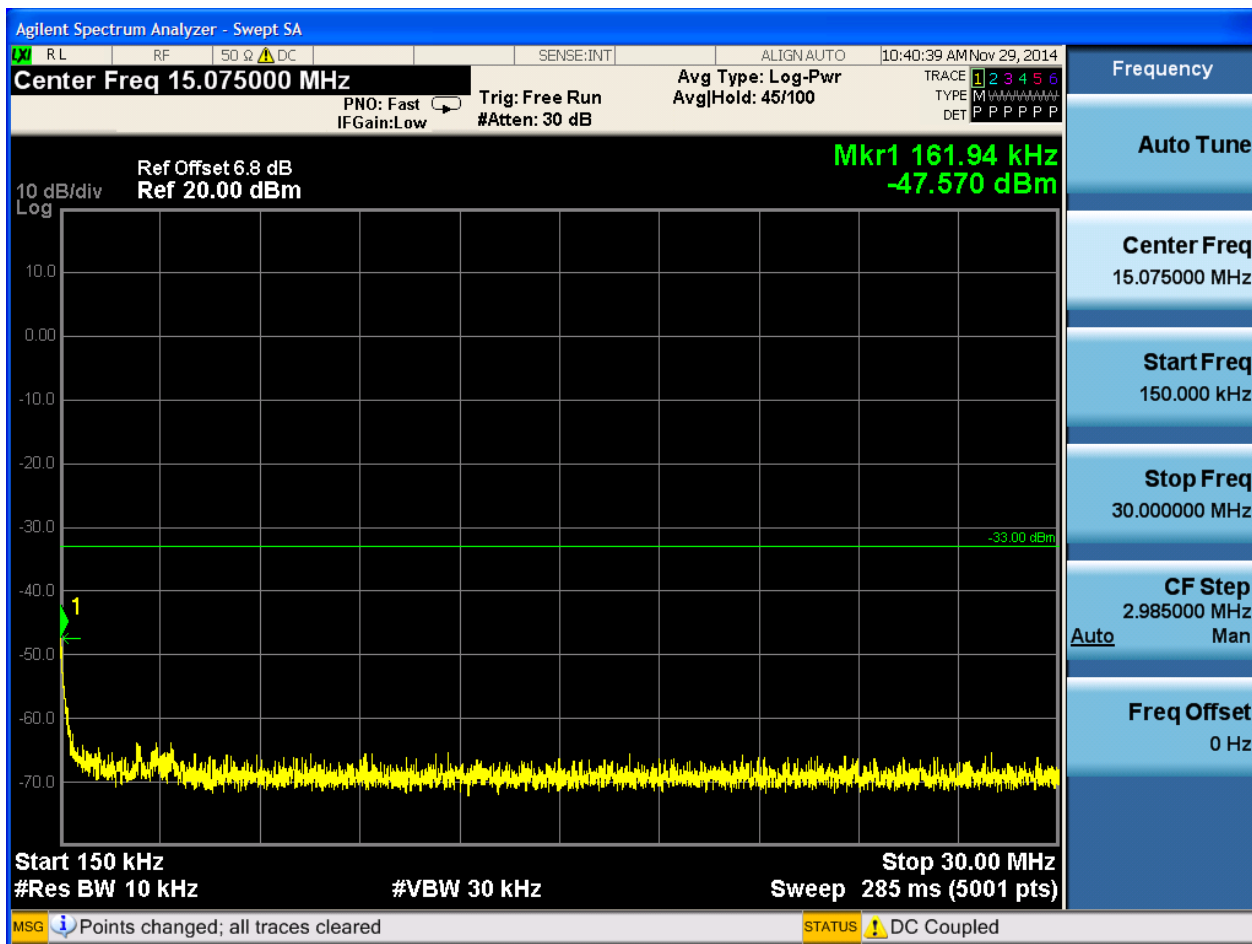


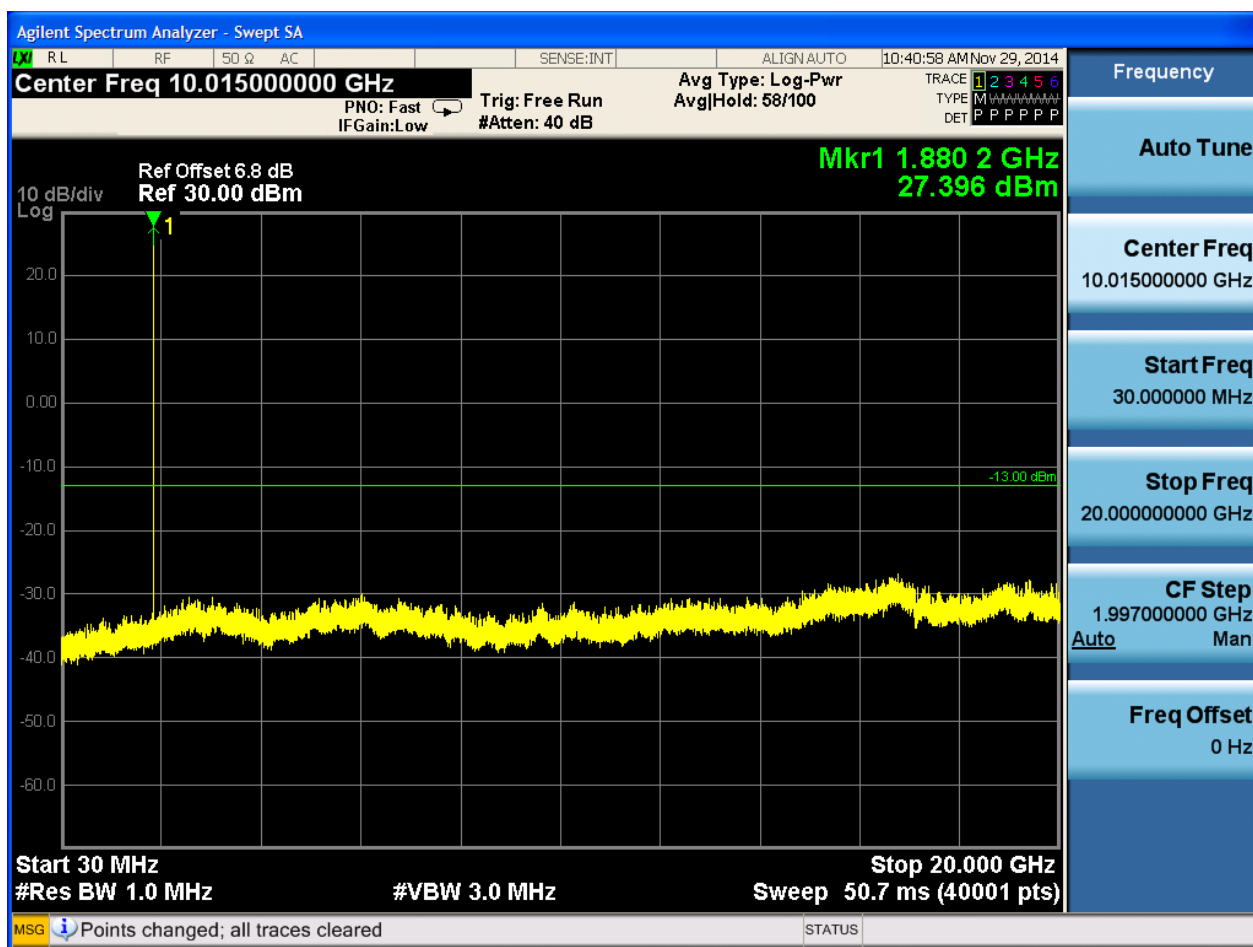




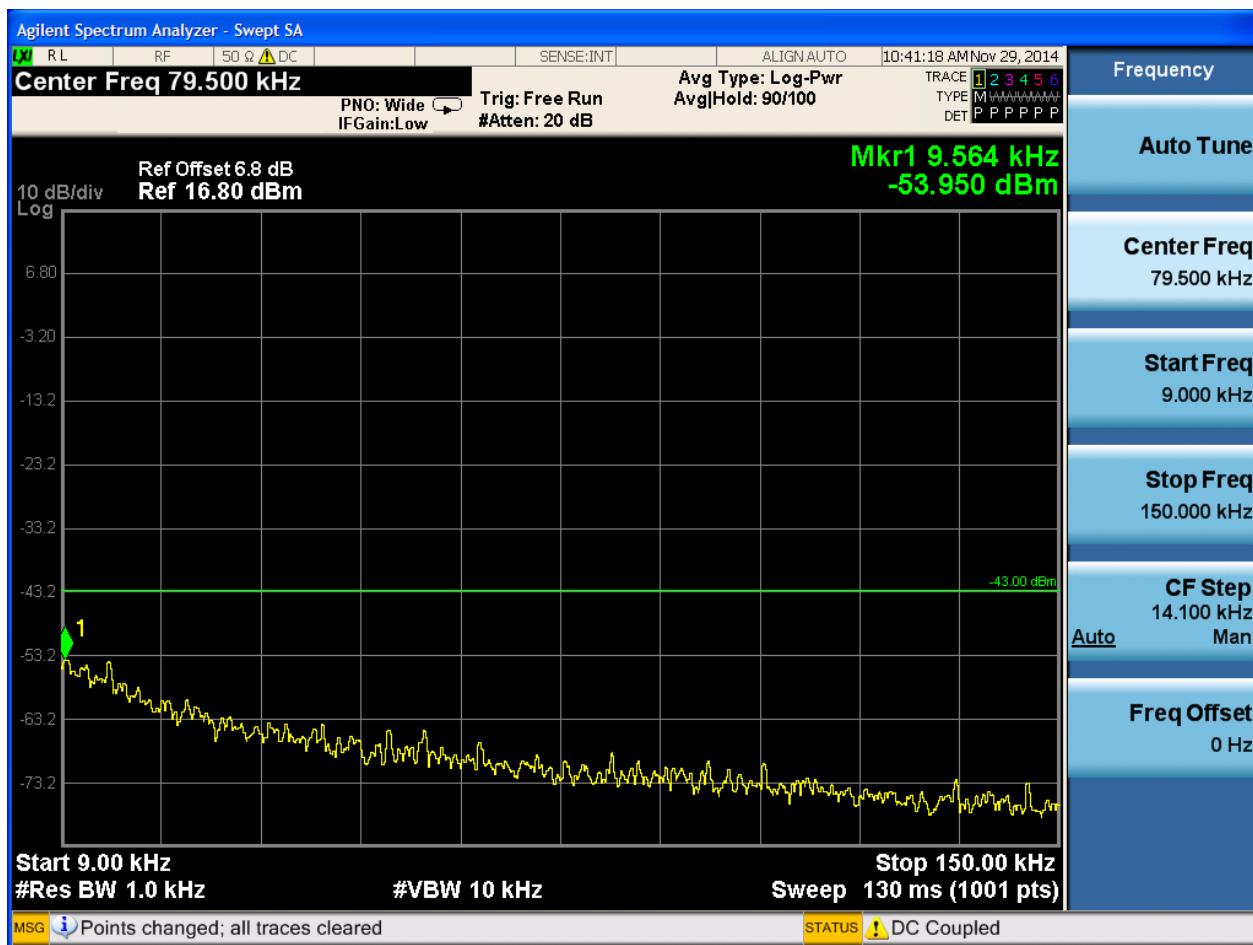
6.1.2.2.2 Test Channel = MCH

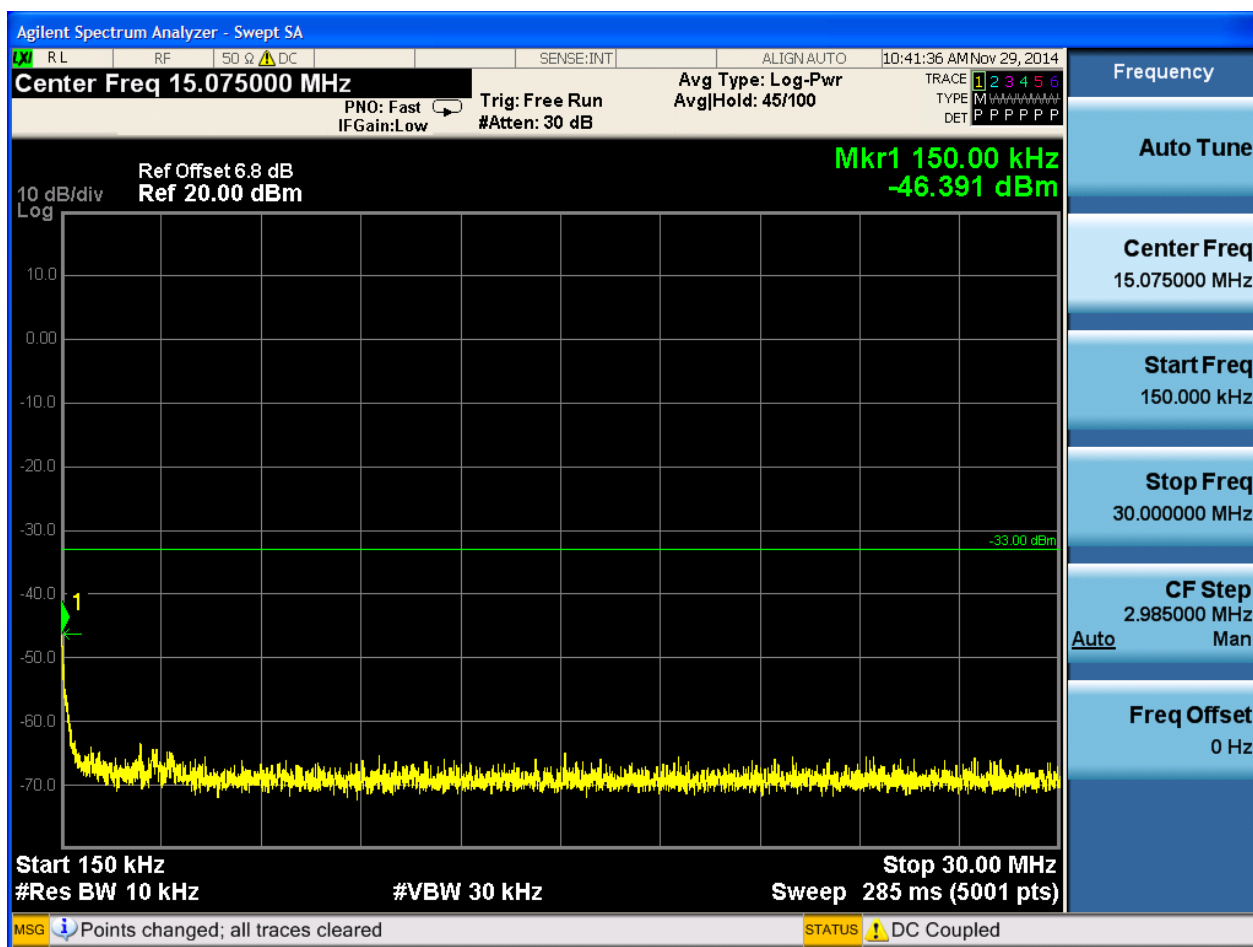


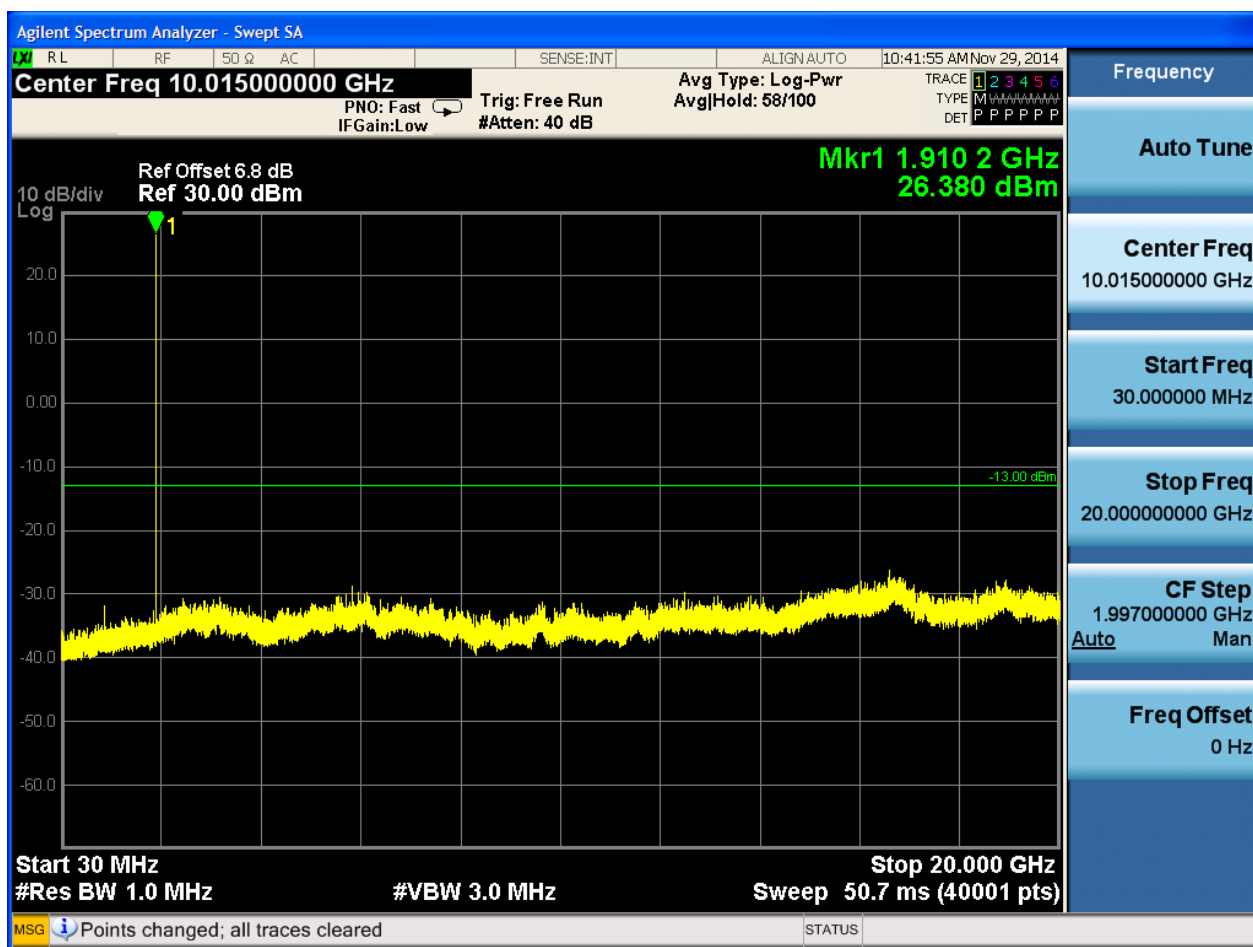




6.1.2.2.3 Test Channel = HCH





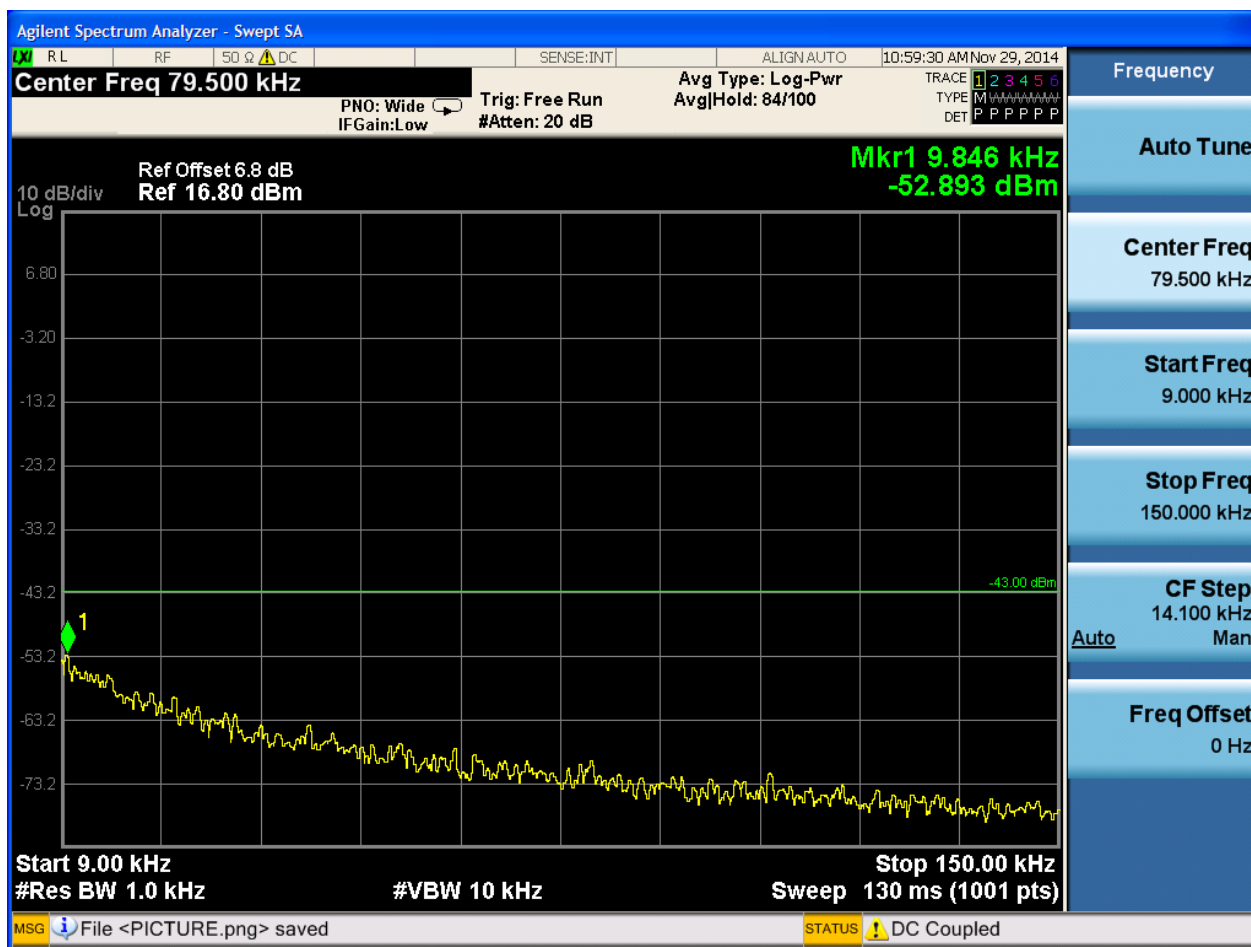


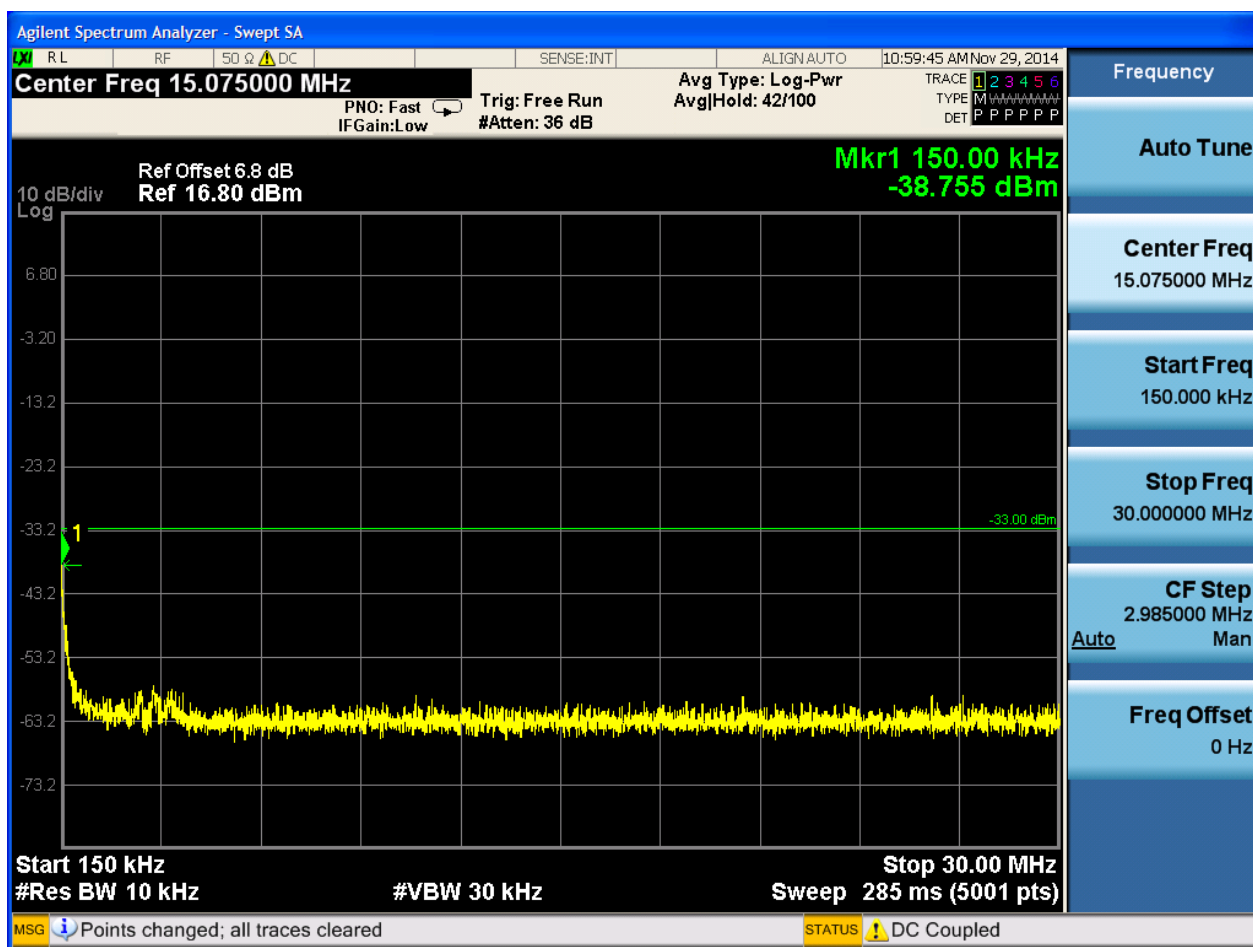
6.2 For UMTS

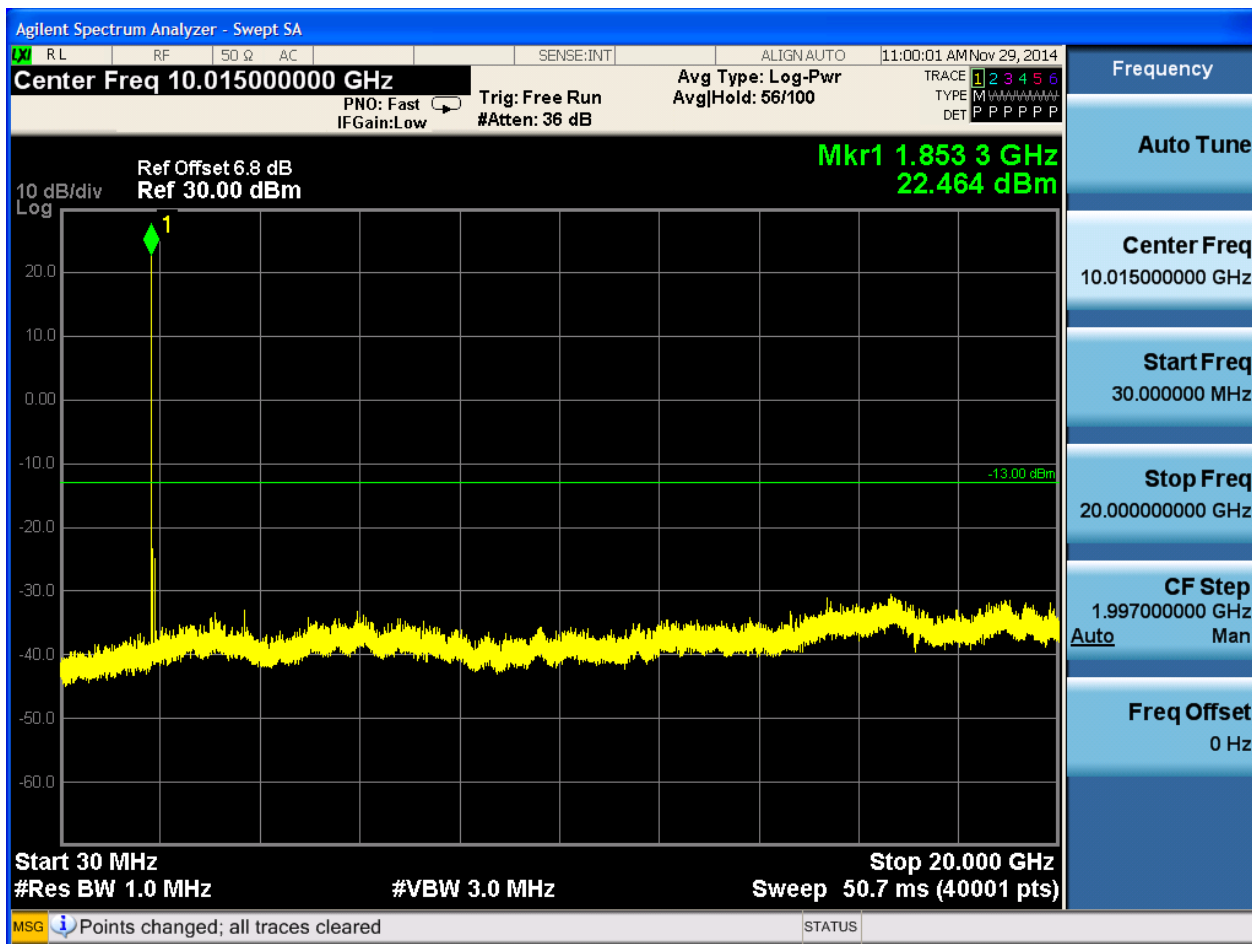
6.2.1 Test Band = WCDMA1900

6.2.1.1 Test Mode = UMTS/TM1

6.2.1.1.1 Test Channel = LCH









6.2.1.1.2 Test Channel = MCH



