

Appendix for test report

Appendix for test report	1
1Appendix_A: Effective (Isotropic) Radiated Power Output Data.....	3
Part I - Test Results	3
2Appendix_B: Peak-to-Average Ratio.....	9
Part I - Test Results	9
3Appendix_C: Modulation Characteristics	12
Part I - Test Plots	12
3.3 For LTE.....	12
3.3.1 Test Band = BAND5	12
4Appendix_D: Bandwidth	16
Part I - Test Results	16
Part II - Test Plots.....	17
4.3 For LTE.....	17
4.3.1 Test Band = BAND5	17
5Appendix_E: Band Edges Compliance	29
Part I - Test Plots	29
5.3 For LTE.....	29
5.3.1 Test Band = BAND5	29
6Appendix_F: Spurious Emission at Antenna Terminal.....	61
Part I - Test Plots	61
6.3 For LTE.....	61
6.3.1 Test Band = BAND5	61
7Appendix_G: Field Strength of Spurious Radiation	110
Part I - Test Plots	110
7.3 For LTE.....	110
7.3.1 Test Band = BAND5	110
8Appendix_H: Frequency Stability	114
8.3.1Frequency Error vs. Voltage:.....	114
8.3.2Frequency Error vs. Voltage:.....	116

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP/EIRP [dBm]	Limit [dBm]	Verdict
BAND5	LTE/TM1	5	LCH	RB1#0	21.8	17.03	38.5	PASS
				RB1#13	22.7	17.93	38.5	PASS
				RB1#24	22.23	17.46	38.5	PASS
				RB12#0	21.3	16.53	38.5	PASS
				RB12#6	21.74	16.97	38.5	PASS
				RB12#13	21.6	16.83	38.5	PASS
			MCH	RB25#0	21.49	16.72	38.5	PASS
				RB1#0	22.08	17.31	38.5	PASS
				RB1#13	22.56	17.79	38.5	PASS
				RB1#24	22.03	17.26	38.5	PASS
				RB12#0	21.37	16.6	38.5	PASS
				RB12#6	21.54	16.77	38.5	PASS
				RB12#13	21.35	16.58	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP/EIRP [dBm]	Limit [dBm]	Verdict
				RB25#0	21.26	16.49	38.5	PASS
				RB1#0	22.11	17.34	38.5	PASS
			HCH	RB1#13	22.61	17.84	38.5	PASS
				RB1#24	21.83	17.06	38.5	PASS
				RB12#0	21.56	16.79	38.5	PASS
				RB12#6	21.67	16.9	38.5	PASS
				RB12#13	21.44	16.67	38.5	PASS
				RB25#0	21.44	16.67	38.5	PASS
		10	LCH	RB1#0	21.8	17.03	38.5	PASS
				RB1#25	22.75	17.98	38.5	PASS
				RB1#49	21.71	16.94	38.5	PASS
				RB25#0	21.3	16.53	38.5	PASS
				RB25#13	21.64	16.87	38.5	PASS
				RB25#25	21.36	16.59	38.5	PASS
				RB50#0	21.37	16.6	38.5	PASS
			MCH	RB1#0	22.06	17.29	38.5	PASS
				RB1#25	22.48	17.71	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP/EIRP [dBm]	Limit [dBm]	Verdict
				RB1#49	21.54	16.77	38.5	PASS
				RB25#0	21.1	16.33	38.5	PASS
				RB25#13	21.18	16.41	38.5	PASS
				RB25#25	21.1	16.33	38.5	PASS
				RB50#0	21.08	16.31	38.5	PASS
			HCH	RB1#0	22.01	17.24	38.5	PASS
				RB1#25	22.64	17.87	38.5	PASS
				RB1#49	21.46	16.69	38.5	PASS
				RB25#0	21.22	16.45	38.5	PASS
				RB25#13	21.5	16.73	38.5	PASS
				RB25#25	21.29	16.52	38.5	PASS
				RB50#0	21.3	16.53	38.5	PASS
	LTE/TM2	5	LCH	RB1#0	20.79	16.02	38.5	PASS
				RB1#13	21.63	16.86	38.5	PASS
				RB1#24	21.16	16.39	38.5	PASS
				RB12#0	20.29	15.52	38.5	PASS
				RB12#6	20.74	15.97	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP/EIRP [dBm]	Limit [dBm]	Verdict
				RB12#13	20.59	15.82	38.5	PASS
				RB25#0	20.49	15.72	38.5	PASS
			MCH	RB1#0	21.07	16.3	38.5	PASS
				RB1#13	21.61	16.84	38.5	PASS
				RB1#24	21.1	16.33	38.5	PASS
				RB12#0	20.37	15.6	38.5	PASS
				RB12#6	20.57	15.8	38.5	PASS
				RB12#13	20.37	15.6	38.5	PASS
				RB25#0	20.25	15.48	38.5	PASS
			HCH	RB1#0	21.33	16.56	38.5	PASS
				RB1#13	21.82	17.05	38.5	PASS
				RB1#24	21.07	16.3	38.5	PASS
				RB12#0	20.63	15.86	38.5	PASS
				RB12#6	20.74	15.97	38.5	PASS
				RB12#13	20.51	15.74	38.5	PASS
				RB25#0	20.44	15.67	38.5	PASS
		10	LCH	RB1#0	20.86	16.09	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP/EIRP [dBm]	Limit [dBm]	Verdict
				RB1#25	21.75	16.98	38.5	PASS
				RB1#49	20.74	15.97	38.5	PASS
				RB25#0	20.34	15.57	38.5	PASS
				RB25#13	20.67	15.9	38.5	PASS
				RB25#25	20.37	15.6	38.5	PASS
				RB50#0	20.4	15.63	38.5	PASS
			MCH	RB1#0	21.19	16.42	38.5	PASS
				RB1#25	21.53	16.76	38.5	PASS
				RB1#49	20.72	15.95	38.5	PASS
				RB25#0	20.17	15.4	38.5	PASS
				RB25#13	20.25	15.48	38.5	PASS
				RB25#25	20.18	15.41	38.5	PASS
				RB50#0	20.11	15.34	38.5	PASS
			HCH	RB1#0	21.05	16.28	38.5	PASS
				RB1#25	21.62	16.85	38.5	PASS
				RB1#49	20.51	15.74	38.5	PASS
				RB25#0	20.26	15.49	38.5	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	ERP/ EIRP [dBm]	Limit [dBm]	Verdict
				RB25#13	20.56	15.79	38.5	PASS
				RB25#25	20.37	15.6	38.5	PASS
				RB50#0	20.37	15.6	38.5	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(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
BAND5	LTE/TM1	5	LCH	RB1#0	4.71	13	PASS
				RB1#13	3.71	13	PASS
				RB1#24	3.95	13	PASS
				RB12#0	5.36	13	PASS
				RB12#6	4.82	13	PASS
				RB12#13	4.98	13	PASS
				RB25#0	5.59	13	PASS
			MCH	RB1#0	4.6	13	PASS
				RB1#13	4.55	13	PASS
				RB1#24	4.62	13	PASS
				RB12#0	5.52	13	PASS
				RB12#6	5.48	13	PASS
				RB12#13	5.64	13	PASS
				RB25#0	5.78	13	PASS
			HCH	RB1#0	4.08	13	PASS
				RB1#13	3.86	13	PASS
				RB1#24	4.3	13	PASS
				RB12#0	5.23	13	PASS
				RB12#6	5.01	13	PASS
				RB12#13	5.27	13	PASS
				RB25#0	5.43	13	PASS
		10	LCH	RB1#0	4.32	13	PASS
				RB1#25	3.47	13	PASS
				RB1#49	4.38	13	PASS
				RB25#0	5.35	13	PASS
				RB25#13	4.91	13	PASS
				RB25#25	5.46	13	PASS
				RB50#0	5.74	13	PASS
			MCH	RB1#0	4.18	13	PASS
				RB1#25	4.33	13	PASS
				RB1#49	4.51	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
				RB25#0	5.79	13	PASS
				RB25#13	5.71	13	PASS
				RB25#25	5.82	13	PASS
				RB50#0	6.04	13	PASS
			HCH	RB1#0	4.3	13	PASS
				RB1#25	3.64	13	PASS
				RB1#49	4.12	13	PASS
				RB25#0	5.57	13	PASS
				RB25#13	5.08	13	PASS
				RB25#25	5.34	13	PASS
				RB50#0	5.55	13	PASS
	LTE/TM2	5	LCH	RB1#0	5.64	13	PASS
				RB1#13	4.81	13	PASS
				RB1#24	5.01	13	PASS
				RB12#0	6.08	13	PASS
				RB12#6	5.58	13	PASS
				RB12#13	5.67	13	PASS
				RB25#0	6.36	13	PASS
			MCH	RB1#0	5.58	13	PASS
				RB1#13	5.56	13	PASS
				RB1#24	5.66	13	PASS
				RB12#0	6.34	13	PASS
				RB12#6	6.25	13	PASS
				RB12#13	6.38	13	PASS
				RB25#0	6.63	13	PASS
		10	HCH	RB1#0	5.13	13	PASS
				RB1#13	4.85	13	PASS
				RB1#24	5.35	13	PASS
				RB12#0	5.97	13	PASS
				RB12#6	5.83	13	PASS
				RB12#13	6.12	13	PASS
				RB25#0	6.31	13	PASS
			LCH	RB1#0	5.34	13	PASS
				RB1#25	4.43	13	PASS
				RB1#49	5.4	13	PASS
				RB25#0	6.19	13	PASS
				RB25#13	5.75	13	PASS
				RB25#25	6.27	13	PASS
				RB50#0	6.54	13	PASS

Test Band(For LTE)	Test Mode	Test Bandwidth (MHz)	Test Channel	Test RB	Measured[dB]	Limit [dB]	Verdict
			MCH	RB1#0	5.08	13	PASS
				RB1#25	5.26	13	PASS
				RB1#49	5.37	13	PASS
				RB25#0	6.54	13	PASS
				RB25#13	6.43	13	PASS
				RB25#25	6.57	13	PASS
				RB50#0	6.92	13	PASS
			HCH	RB1#0	5.27	13	PASS
				RB1#25	4.59	13	PASS
				RB1#49	5.09	13	PASS
				RB25#0	6.44	13	PASS
				RB25#13	6	13	PASS
				RB25#25	6.18	13	PASS
				RB50#0	6.41	13	PASS

3Appendix_C: Modulation Characteristics

Part I - Test Plots

3.3 For LTE

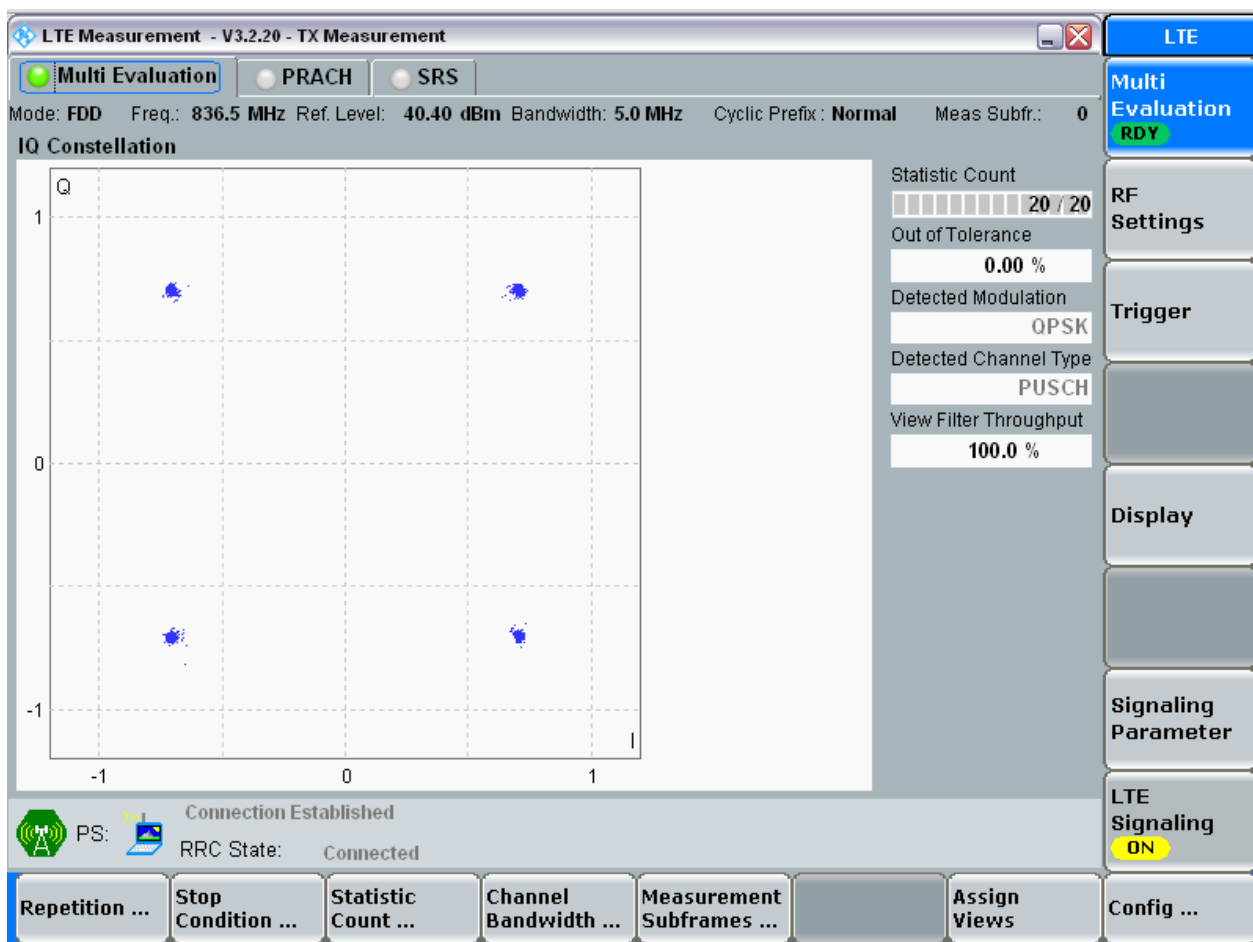
3.3.1 Test Band = BAND5

3.3.1.1 Test Mode = LTE/TM1

3.3.1.1.1 Test Bandwidth = 5

3.3.1.1.1.1 Test Channel = MCH

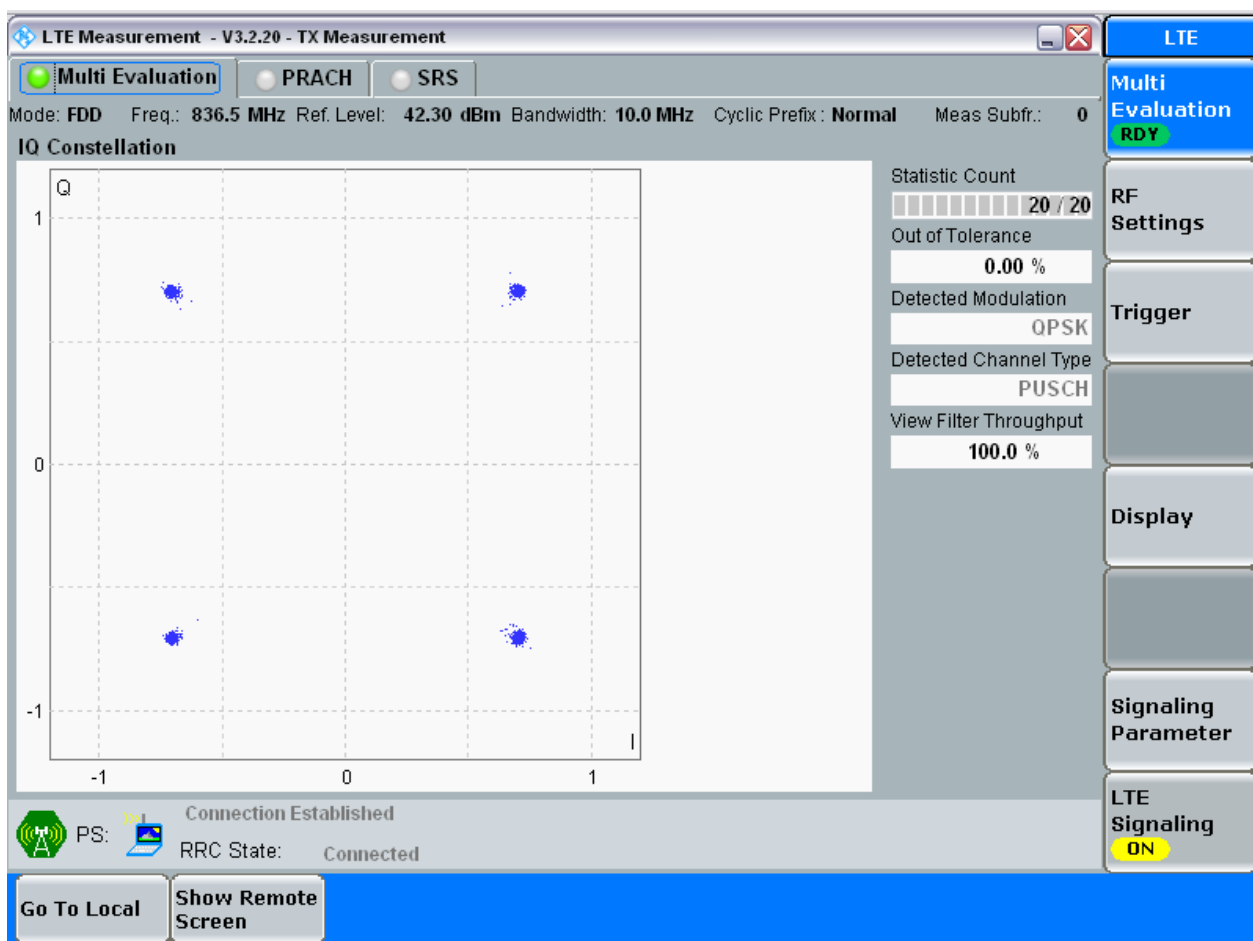
3.3.1.1.1.1.1 Test RB = RB25#0



3.3.1.1.2 Test Bandwidth = 10

3.3.1.1.2.1 Test Channel = MCH

3.3.1.1.2.1.1 Test RB = RB50#0

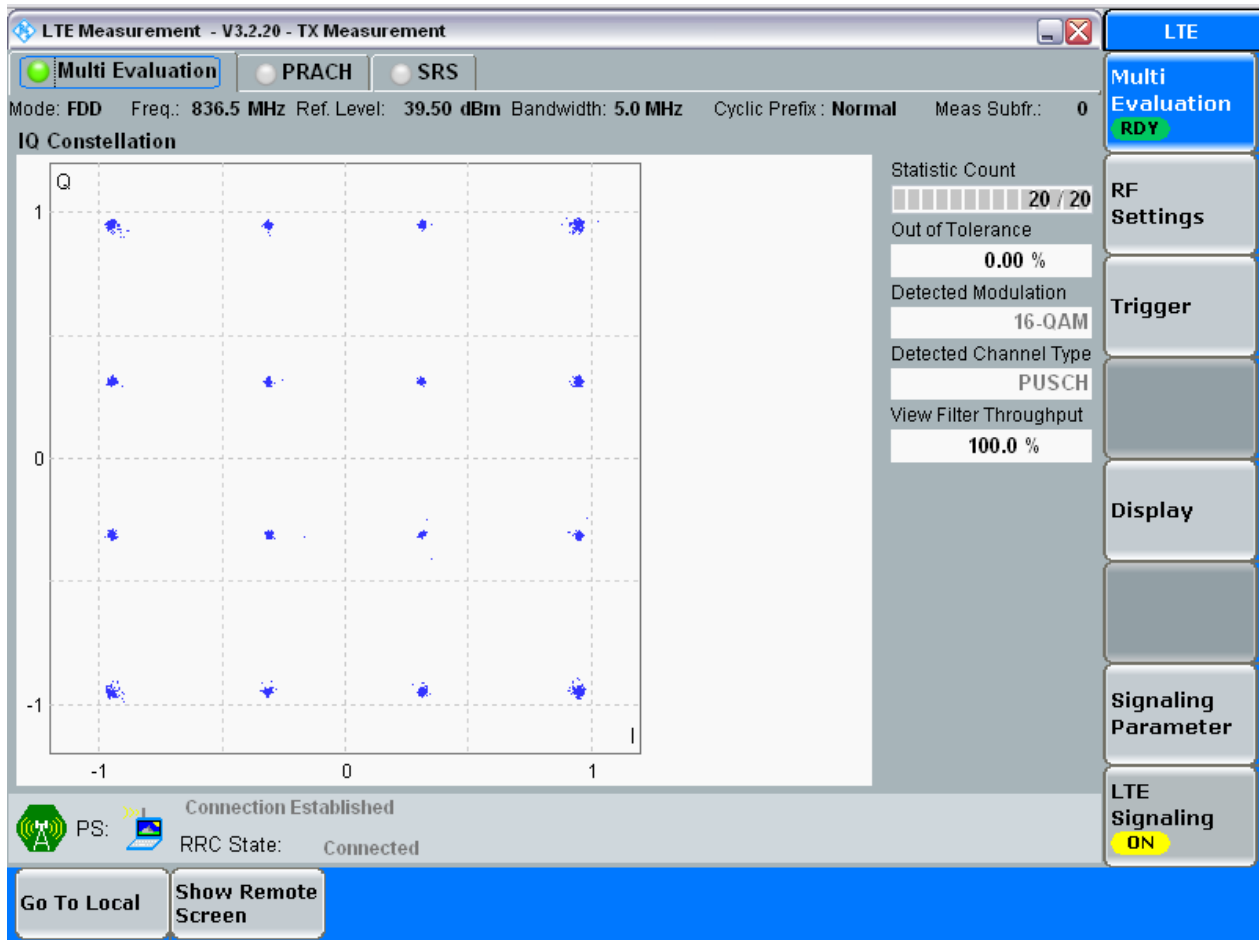


3.3.1.2 Test Mode = LTE/TM2

3.3.1.2.1 Test Bandwidth = 5

3.3.1.2.1.1 Test Channel = MCH

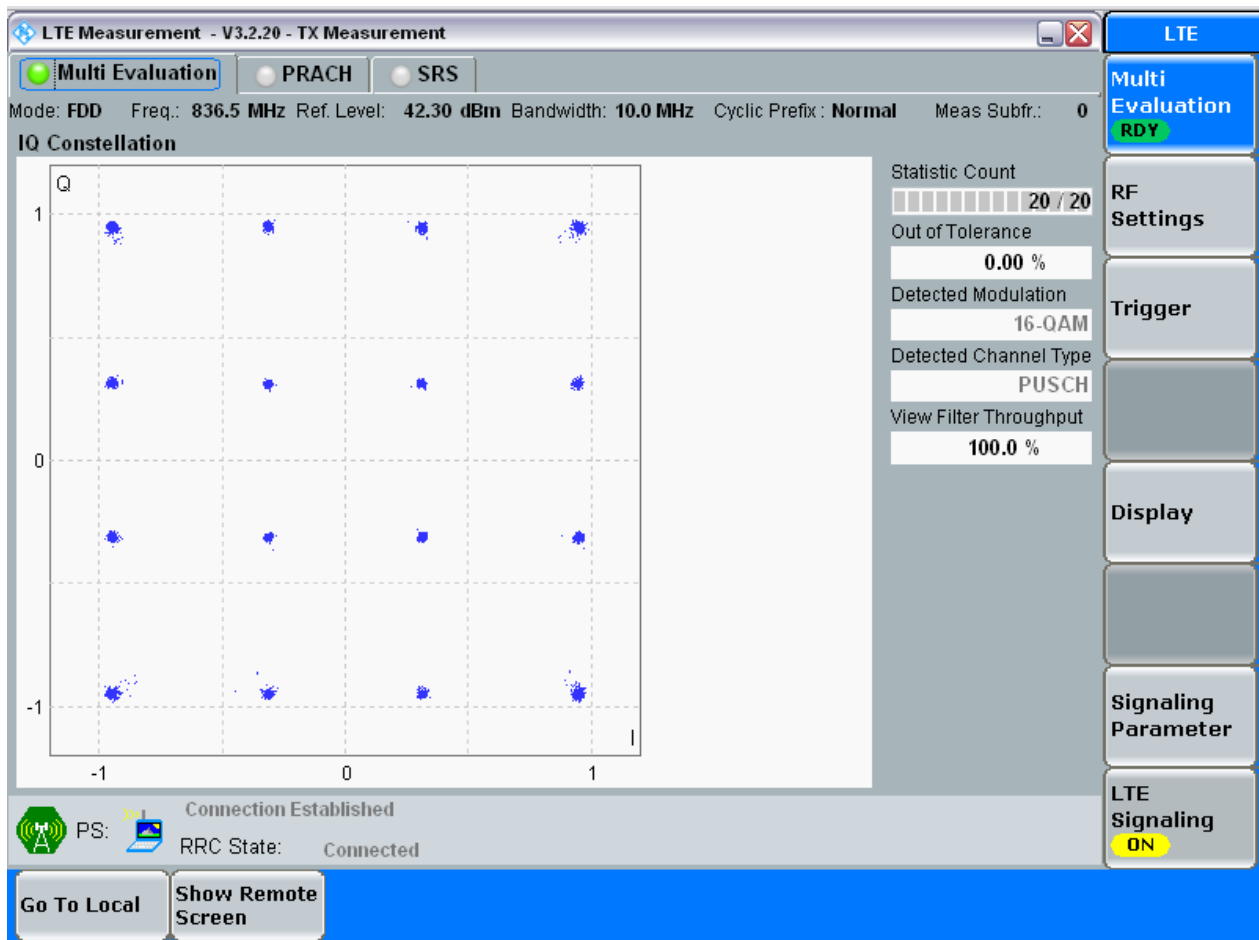
3.3.1.2.1.1.1 Test RB = RB25#0



3.3.1.2.2 Test Bandwidth = 10

3.3.1.2.2.1 Test Channel = MCH

3.3.1.2.2.1.1 Test RB = RB50#0



4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Bandwidth	Test Channel	Test RB	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
BAND5	LTE/TM1	5	LCH	RB25#0	4.50	4.92	Pass
			MCH	RB25#0	4.50	4.93	Pass
			HCH	RB25#0	4.49	4.92	Pass
		10	LCH	RB50#0	8.99	9.72	Pass
			MCH	RB50#0	8.96	9.55	Pass
			HCH	RB50#0	9.00	9.69	Pass
	LTE/TM2	5	LCH	RB25#0	4.50	5.22	Pass
			MCH	RB25#0	4.51	5.20	Pass
			HCH	RB25#0	4.51	5.23	Pass
		10	LCH	RB50#0	9.02	9.99	Pass
			MCH	RB50#0	9.01	9.34	Pass
			HCH	RB50#0	9.00	9.63	Pass

Part II - Test Plots

4.3 For LTE

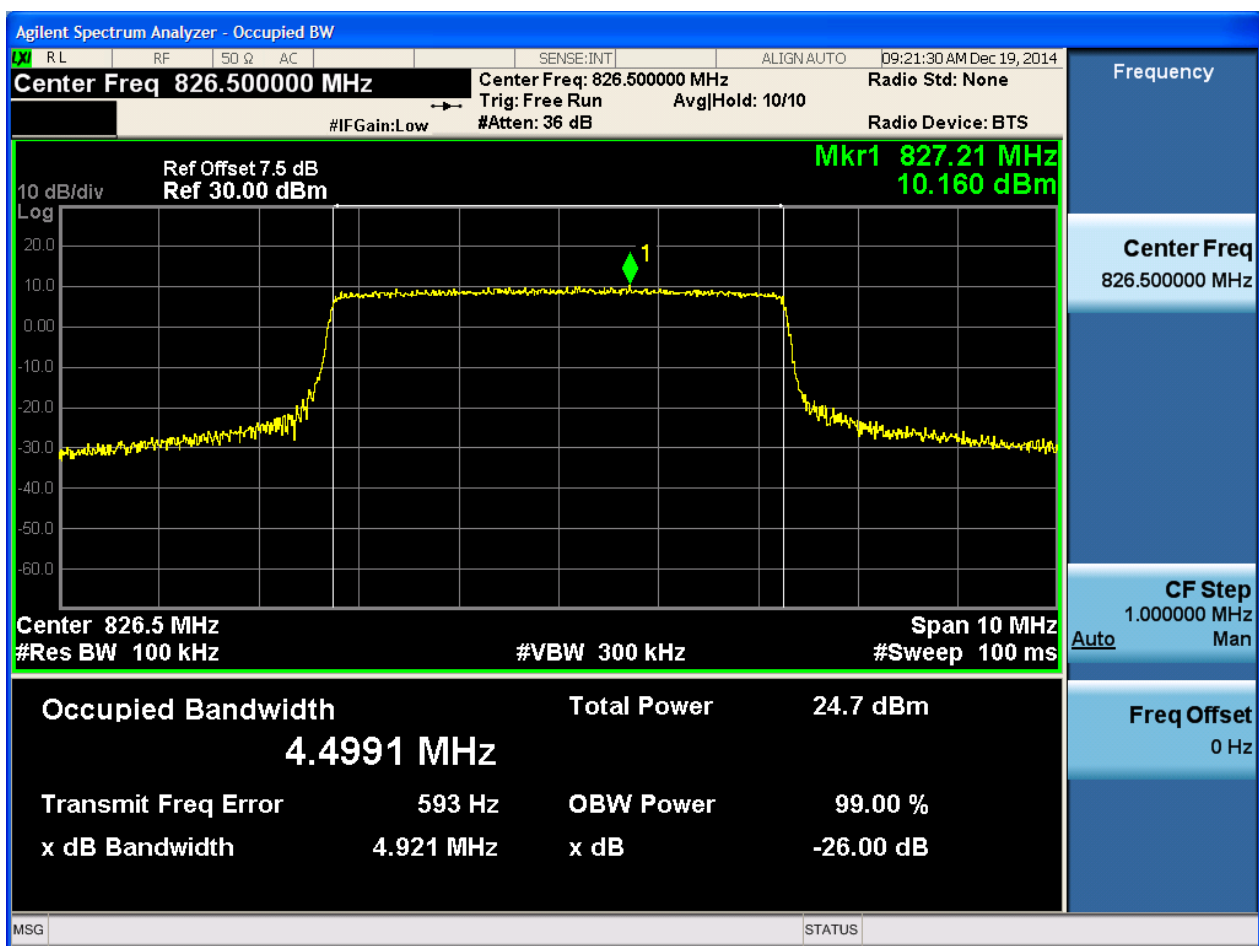
4.3.1 Test Band = BAND5

4.3.1.1 Test Mode = LTE/TM1

4.3.1.1.1 Test Bandwidth = 5

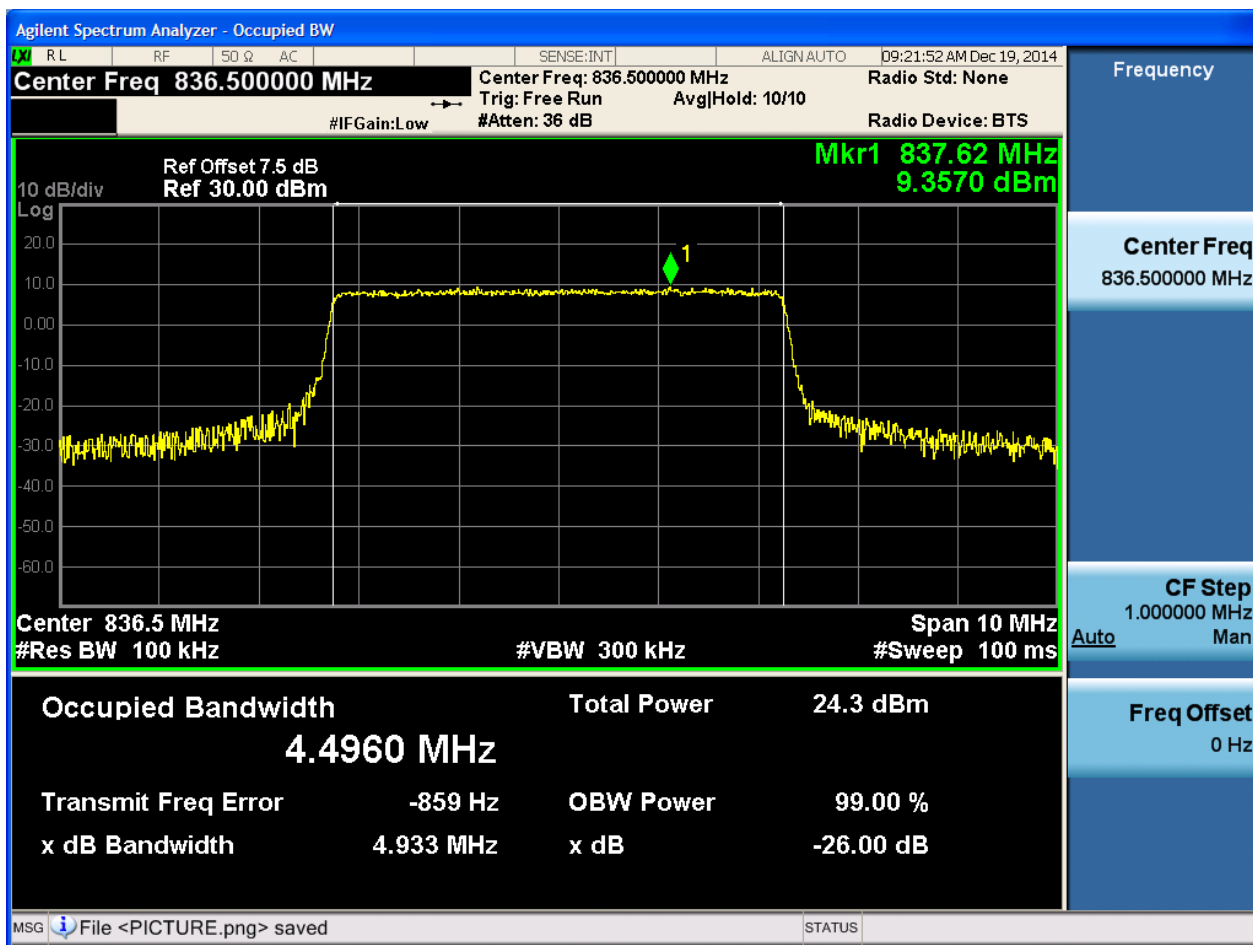
4.3.1.1.1.1 Test Channel = LCH

4.3.1.1.1.1.1 Test RB = RB25#0



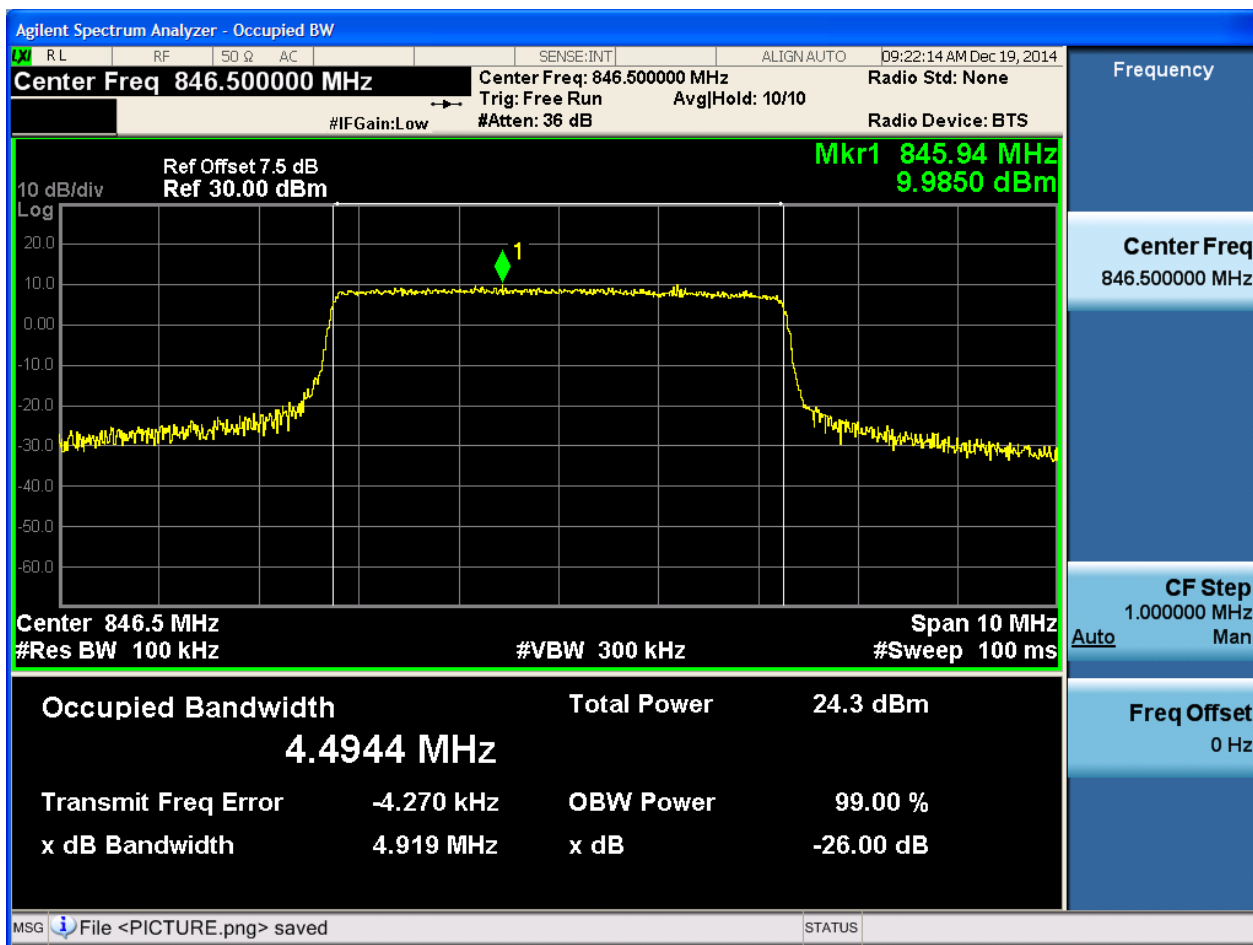
4.3.1.1.1.2 Test Channel = MCH

4.3.1.1.1.2.1 Test RB = RB25#0



4.3.1.1.1.3 Test Channel = HCH

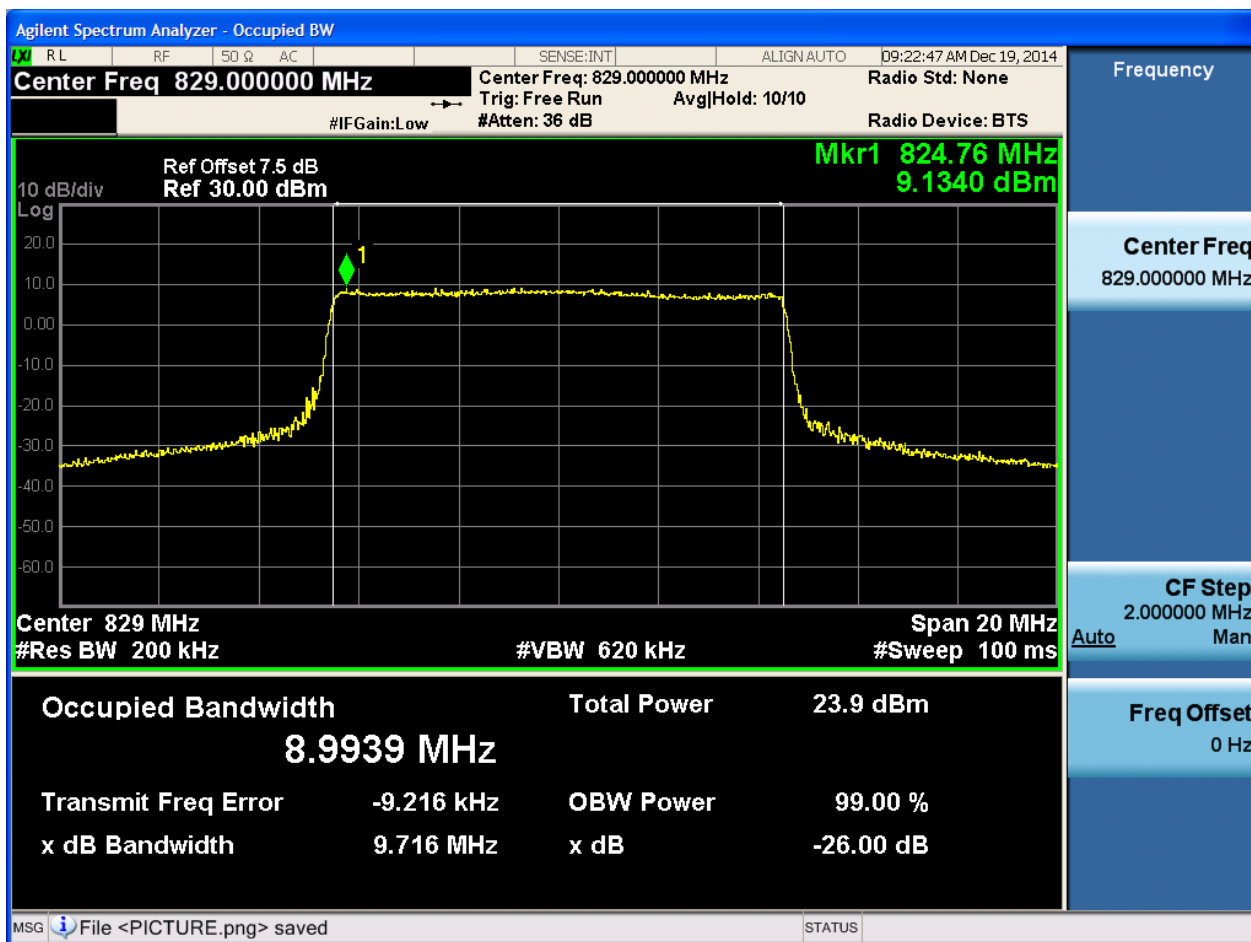
4.3.1.1.1.3.1 Test RB = RB25#0



4.3.1.1.2 Test Bandwidth = 10

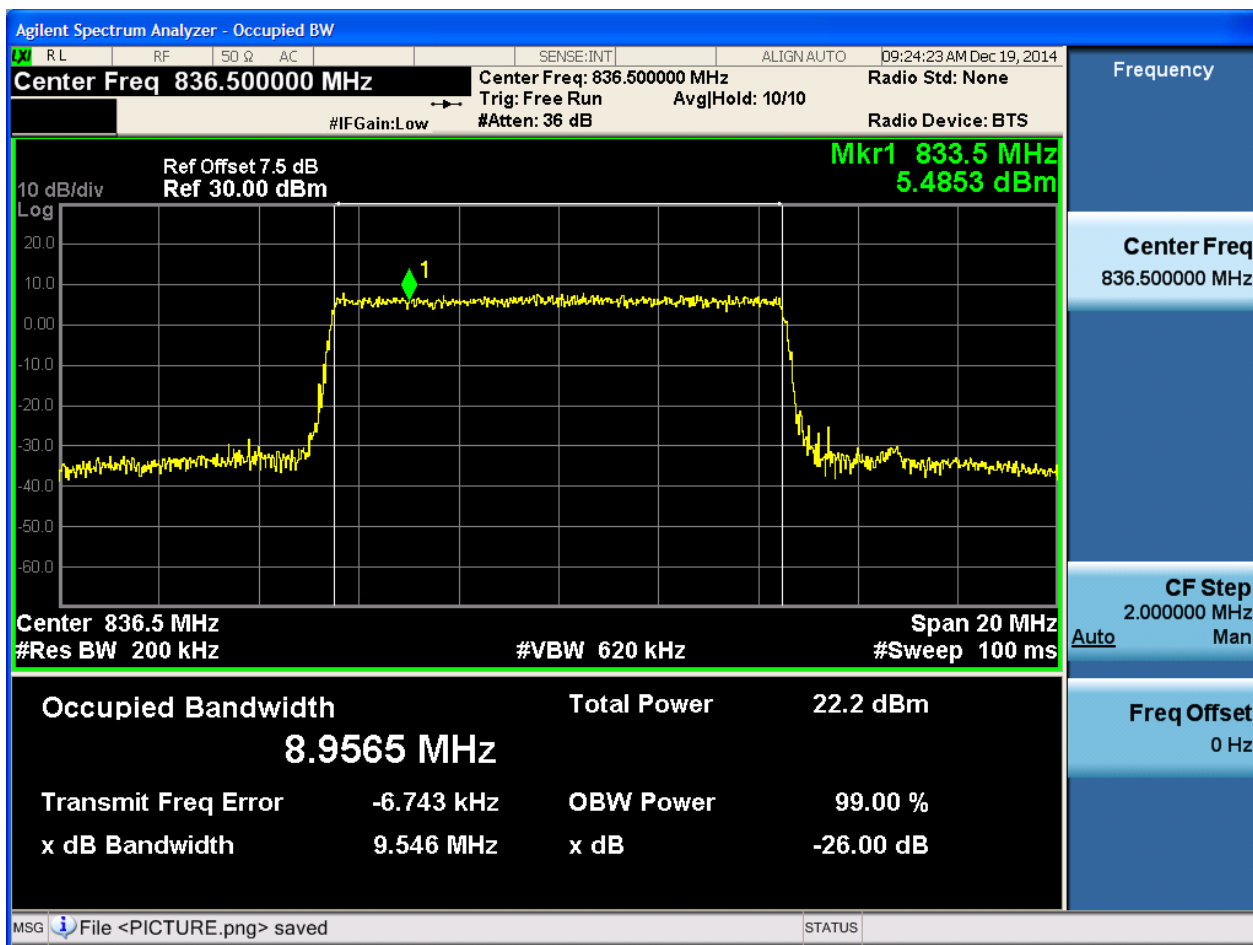
4.3.1.1.2.1 Test Channel = LCH

4.3.1.1.2.1.1 Test RB = RB50#0



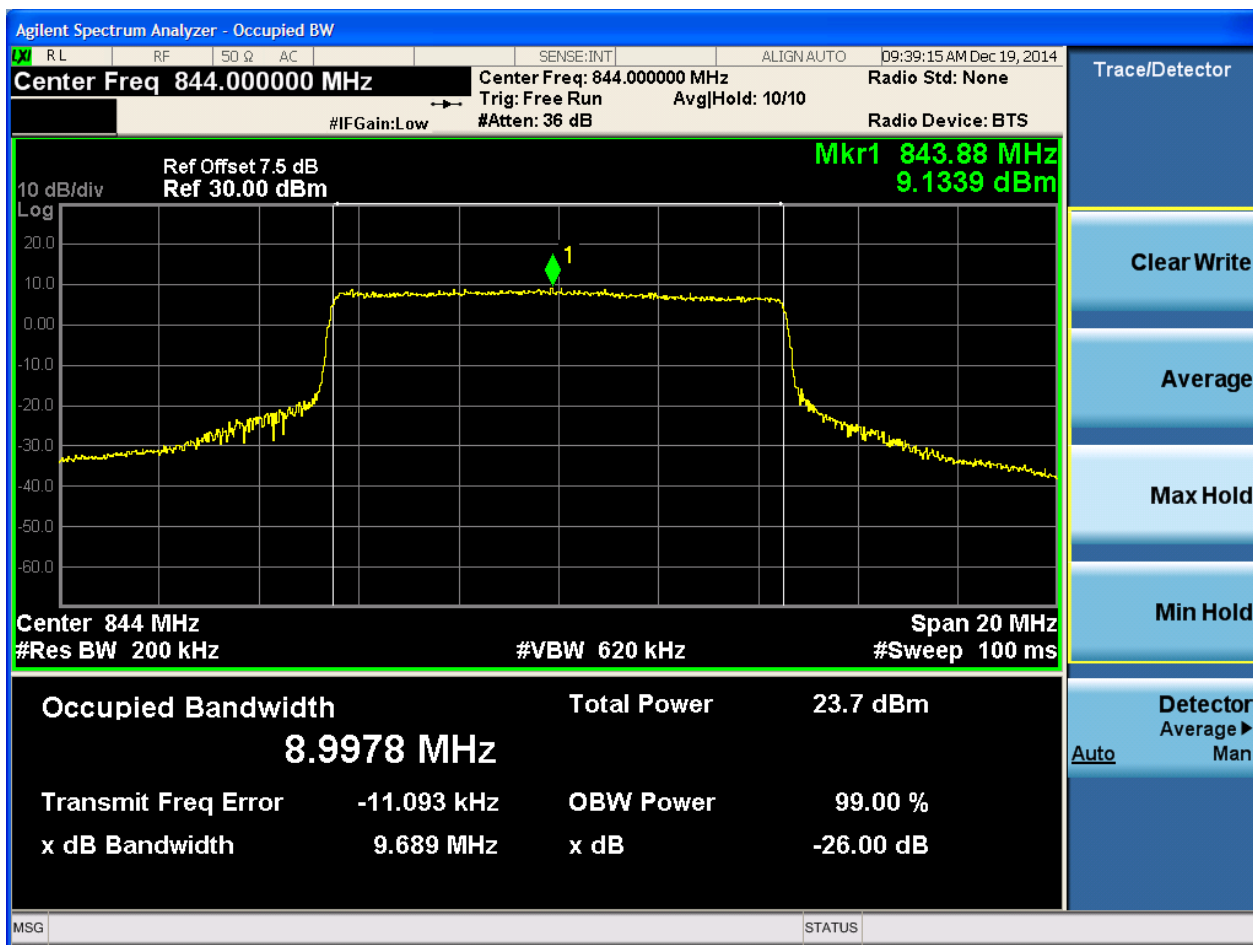
4.3.1.1.2.2 Test Channel = MCH

4.3.1.1.2.2.1 Test RB = RB50#0



4.3.1.1.2.3 Test Channel = HCH

4.3.1.1.2.3.1 Test RB = RB50#0

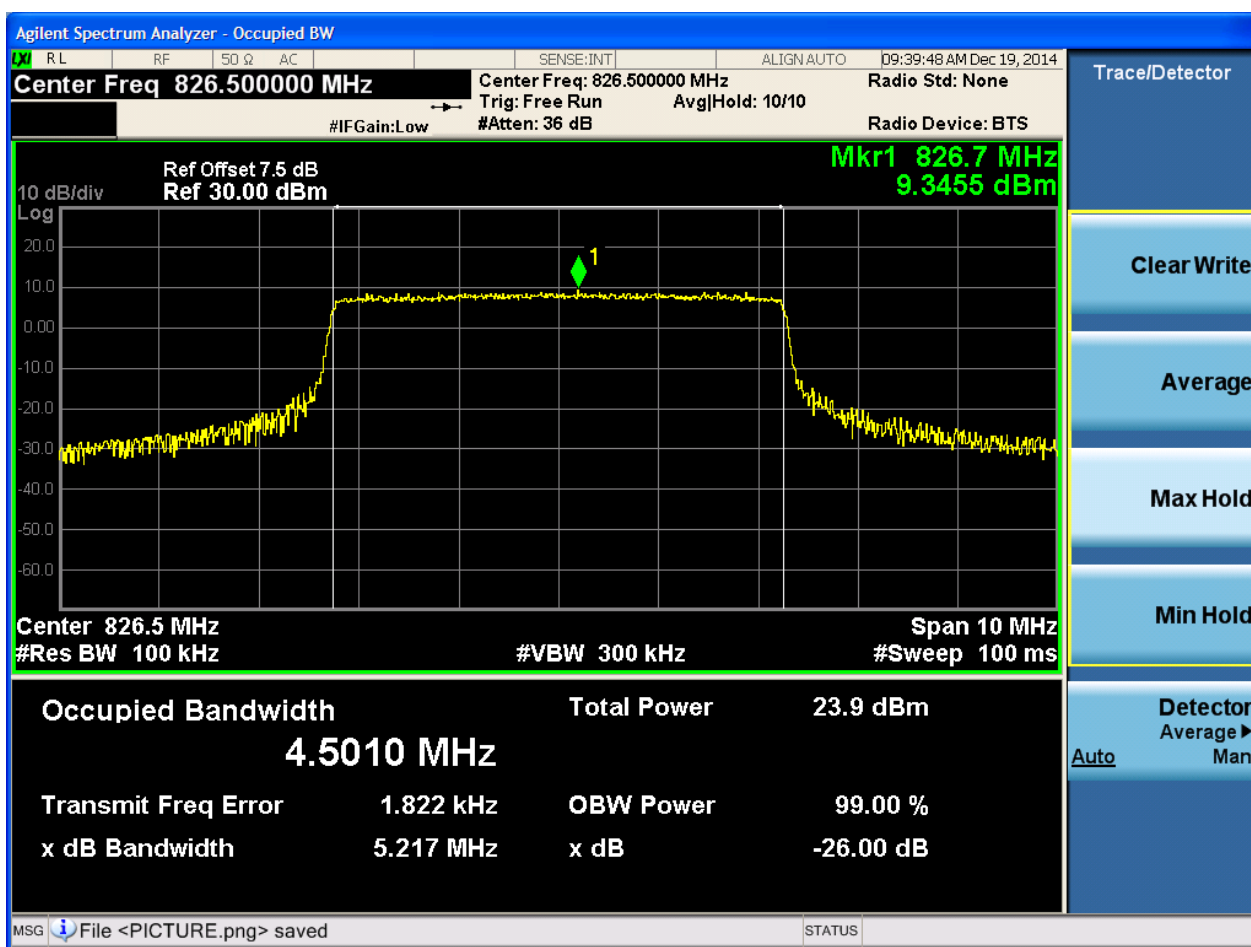


4.3.1.2 Test Mode = LTE/TM2

4.3.1.2.1 Test Bandwidth = 5

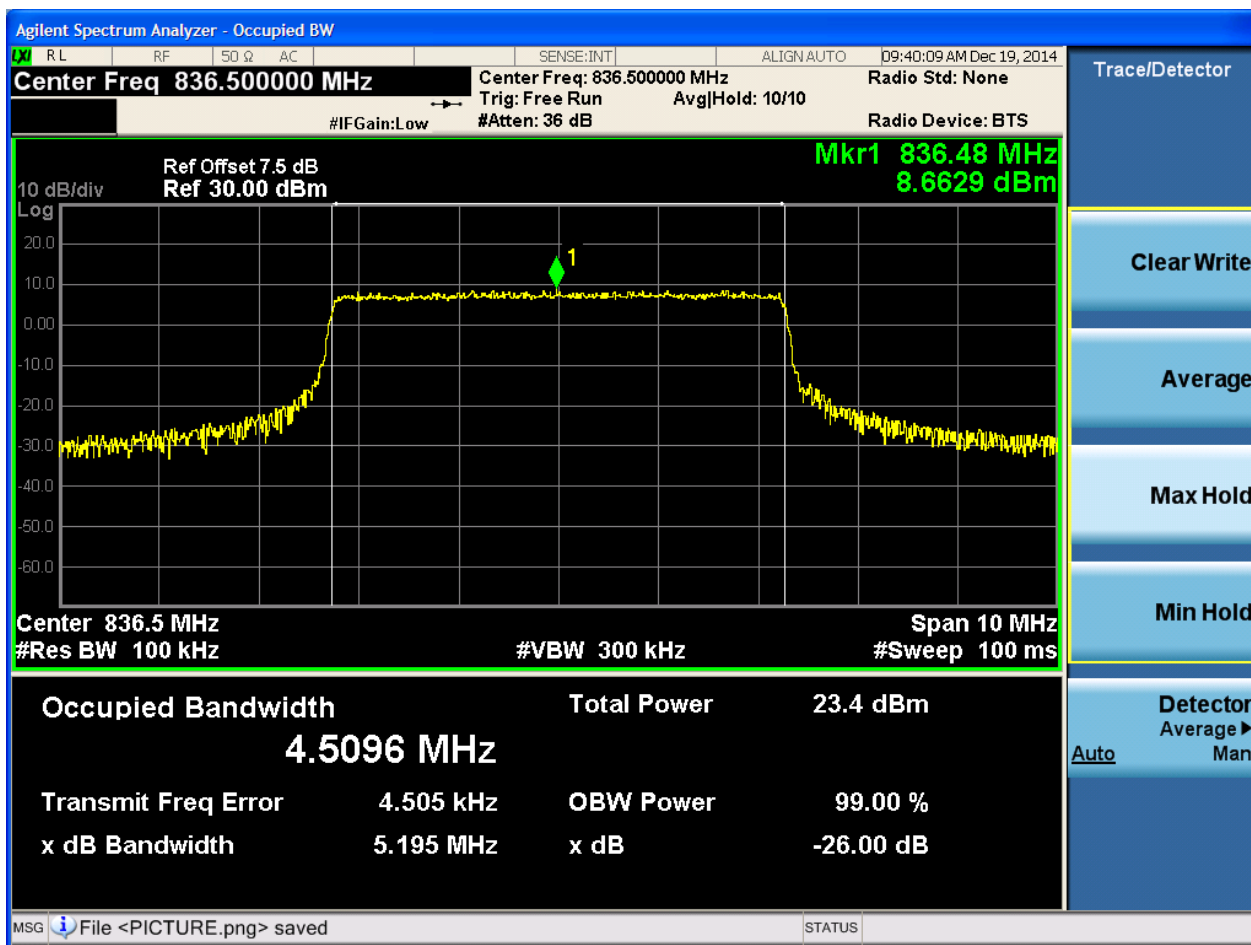
4.3.1.2.1.1 Test Channel = LCH

4.3.1.2.1.1.1 Test RB = RB25#0



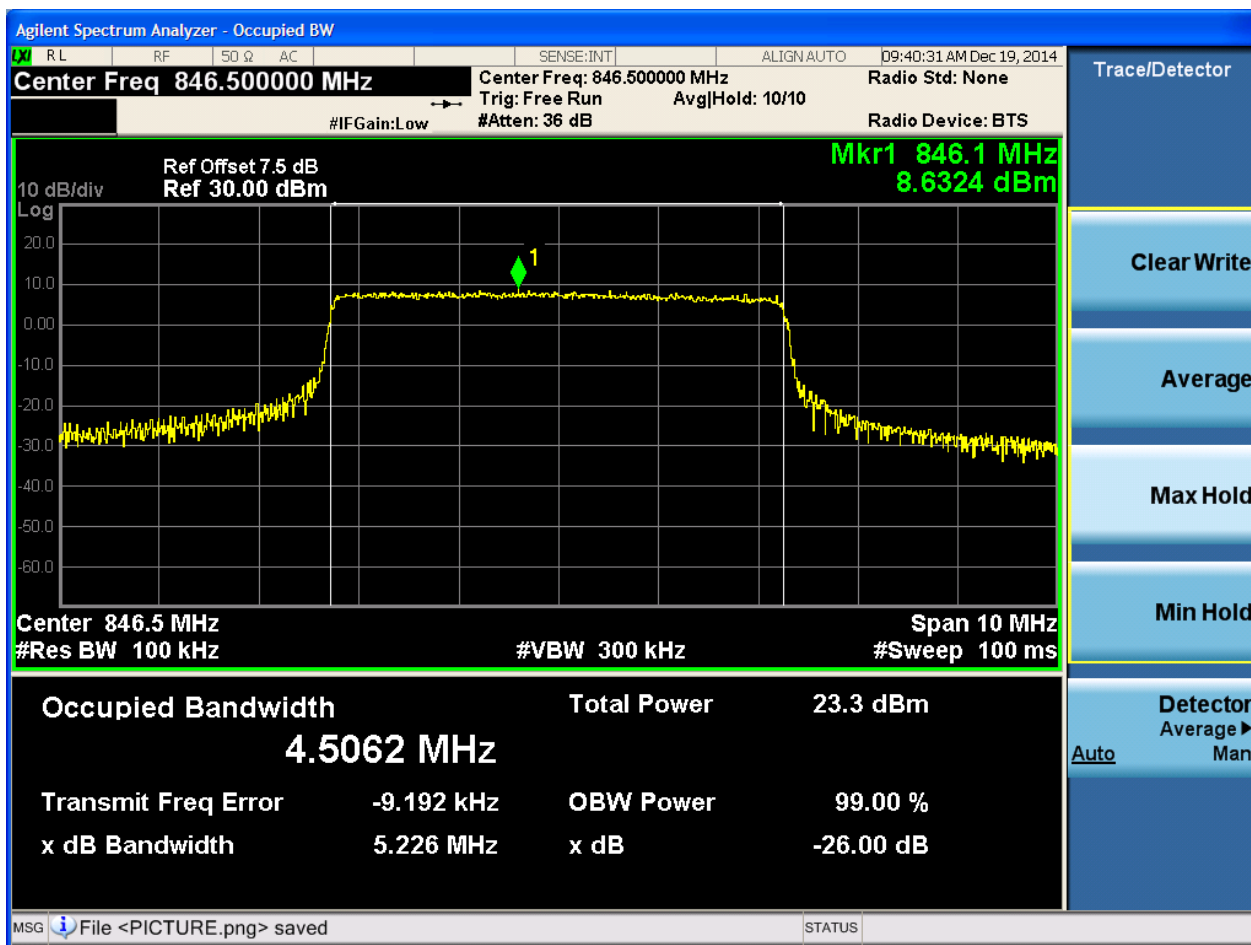
4.3.1.2.1.2 Test Channel = MCH

4.3.1.2.1.2.1 Test RB = RB25#0



4.3.1.2.1.3 Test Channel = HCH

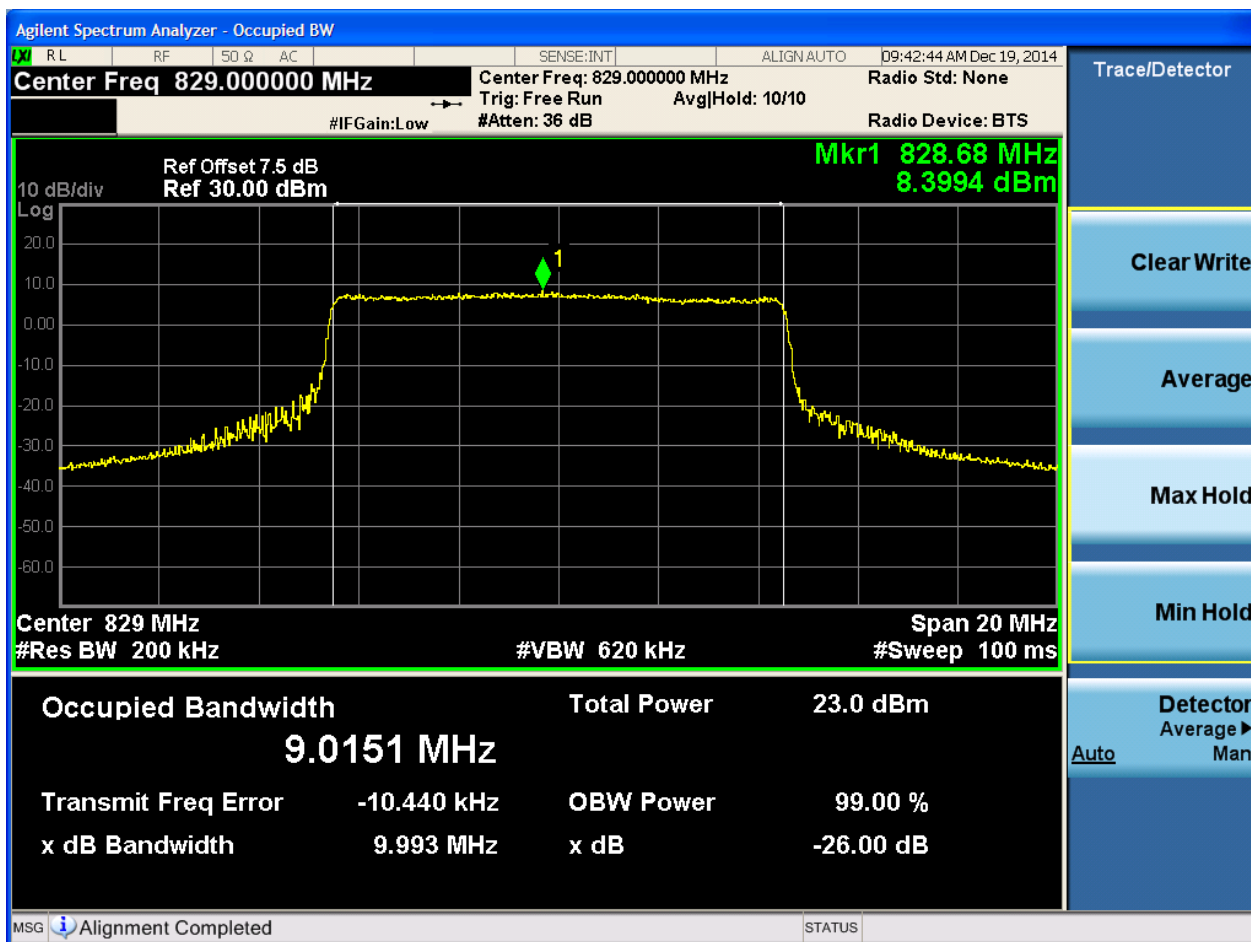
4.3.1.2.1.3.1 Test RB = RB25#0



4.3.1.2.2 Test Bandwidth = 10

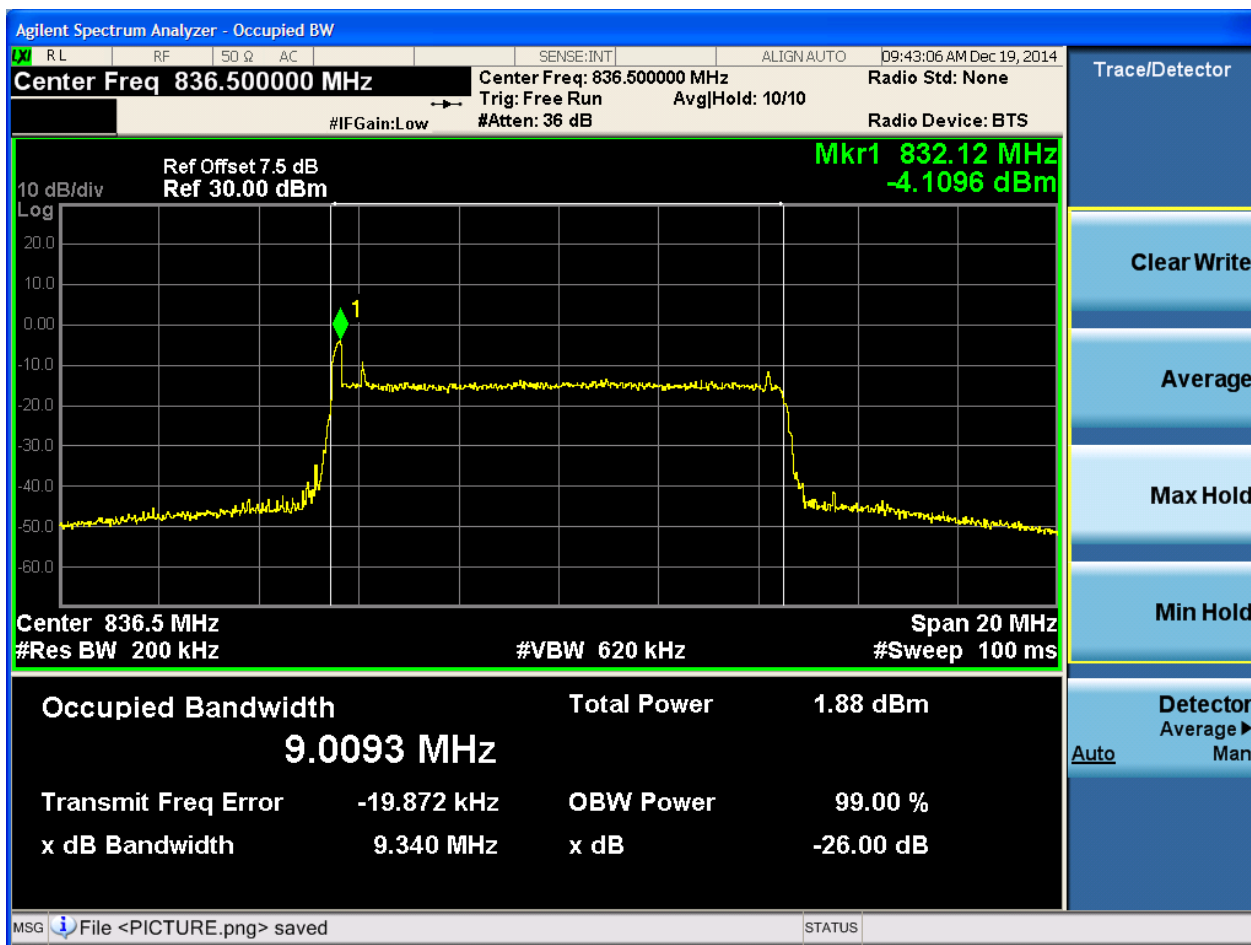
4.3.1.2.2.1 Test Channel = LCH

4.3.1.2.2.1.1 Test RB = RB50#0



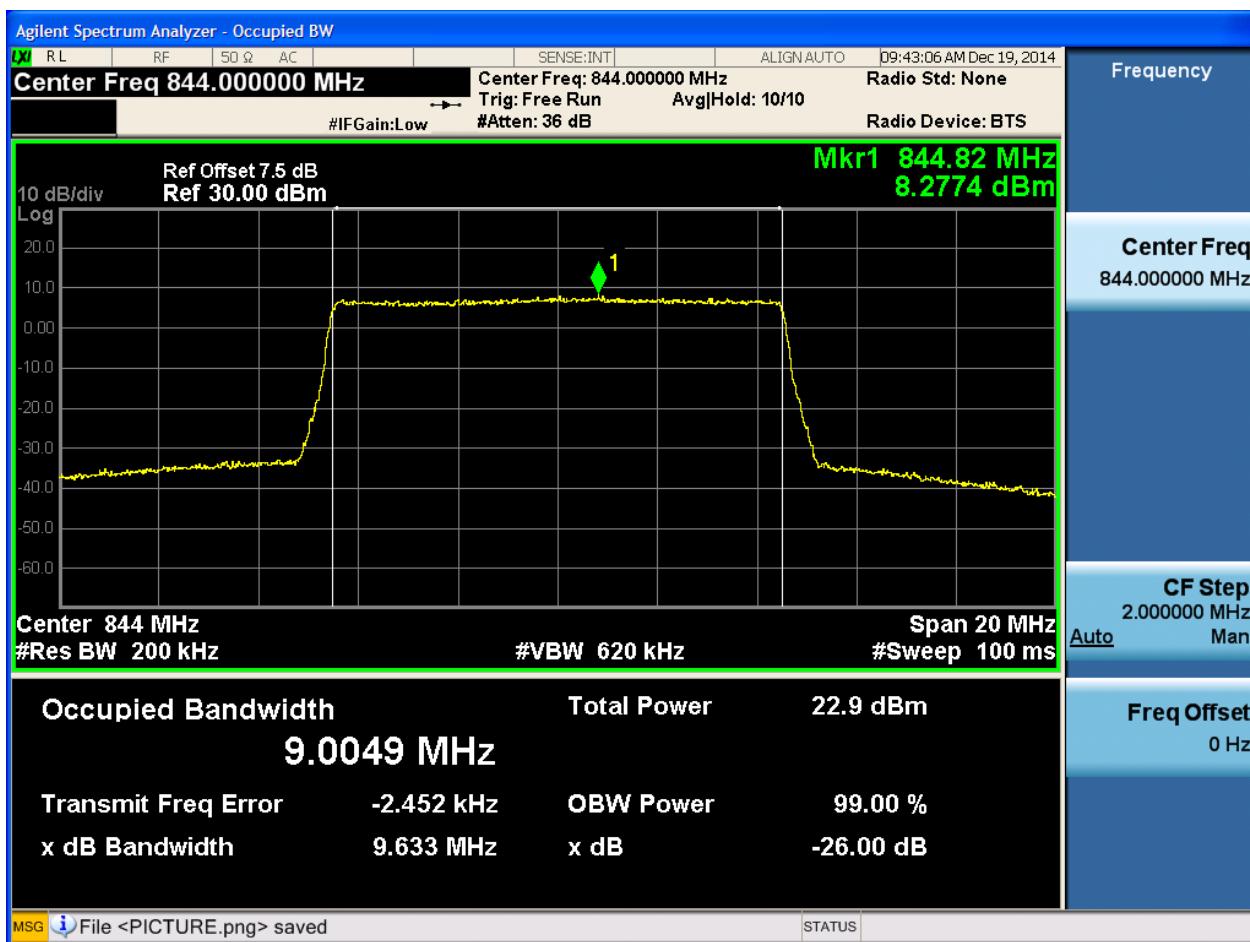
4.3.1.2.2.2 Test Channel = MCH

4.3.1.2.2.2.1 Test RB = RB50#0



4.3.1.2.2.3 Test Channel = HCH

4.3.1.2.2.3.1 Test RB = RB50#0



5Appendix_E: Band Edges Compliance

Part I - Test Plots

5.3 For LTE

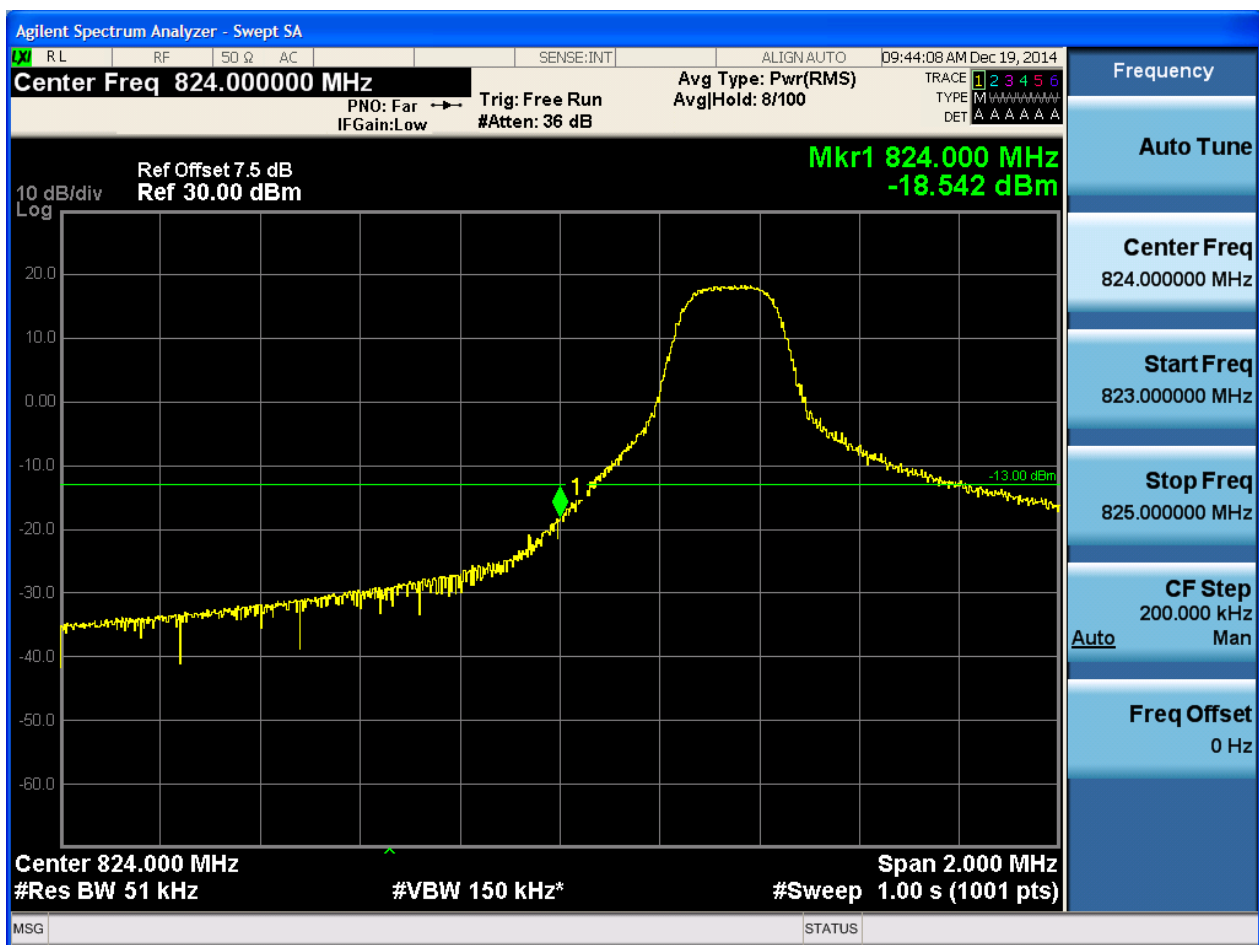
5.3.1 Test Band = BAND5

5.3.1.1 Test Mode = LTE/TM1

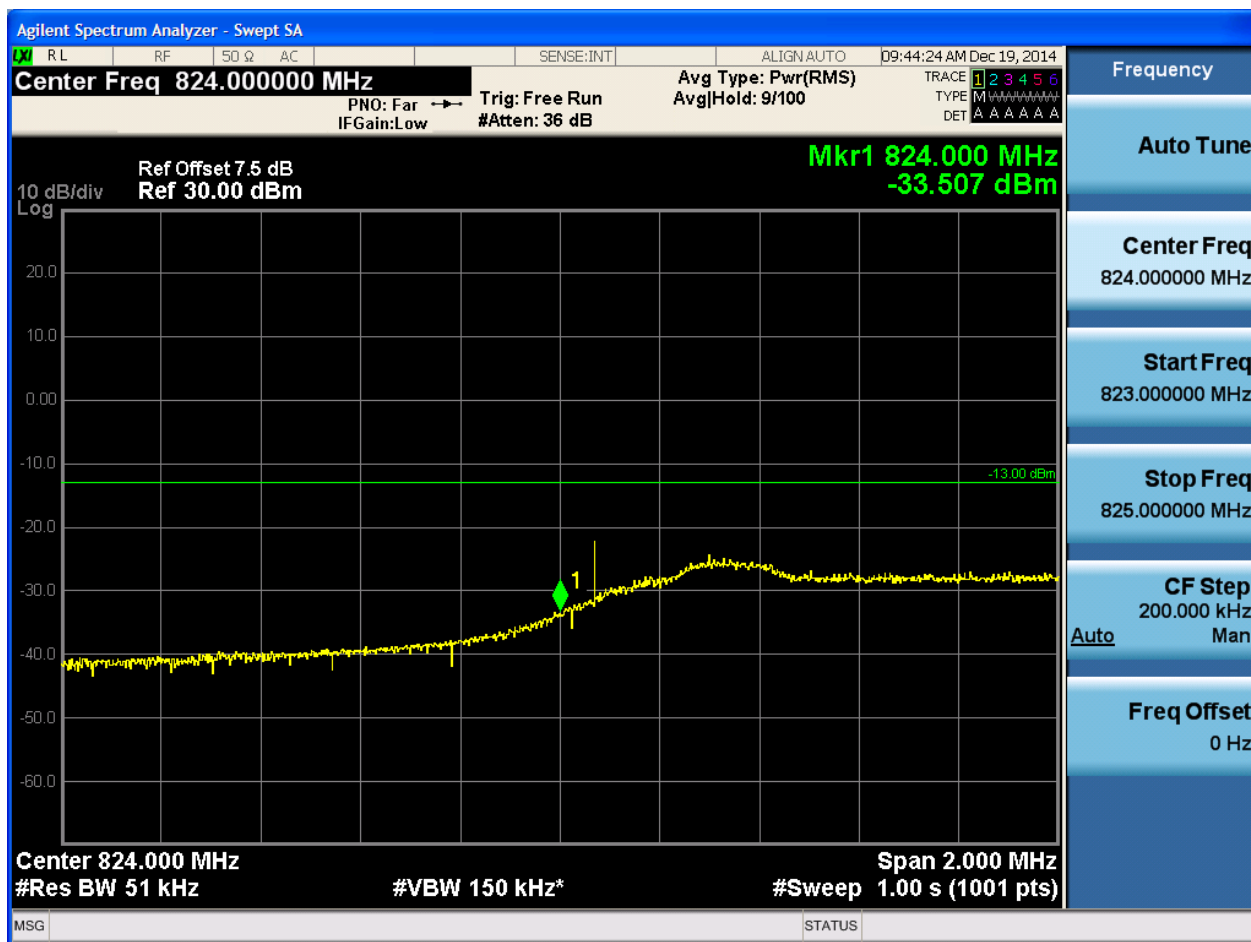
5.3.1.1.1 Test Bandwidth = 5

5.3.1.1.1.1 Test Channel = LCH

5.3.1.1.1.1.1 Test RB = RB1#0



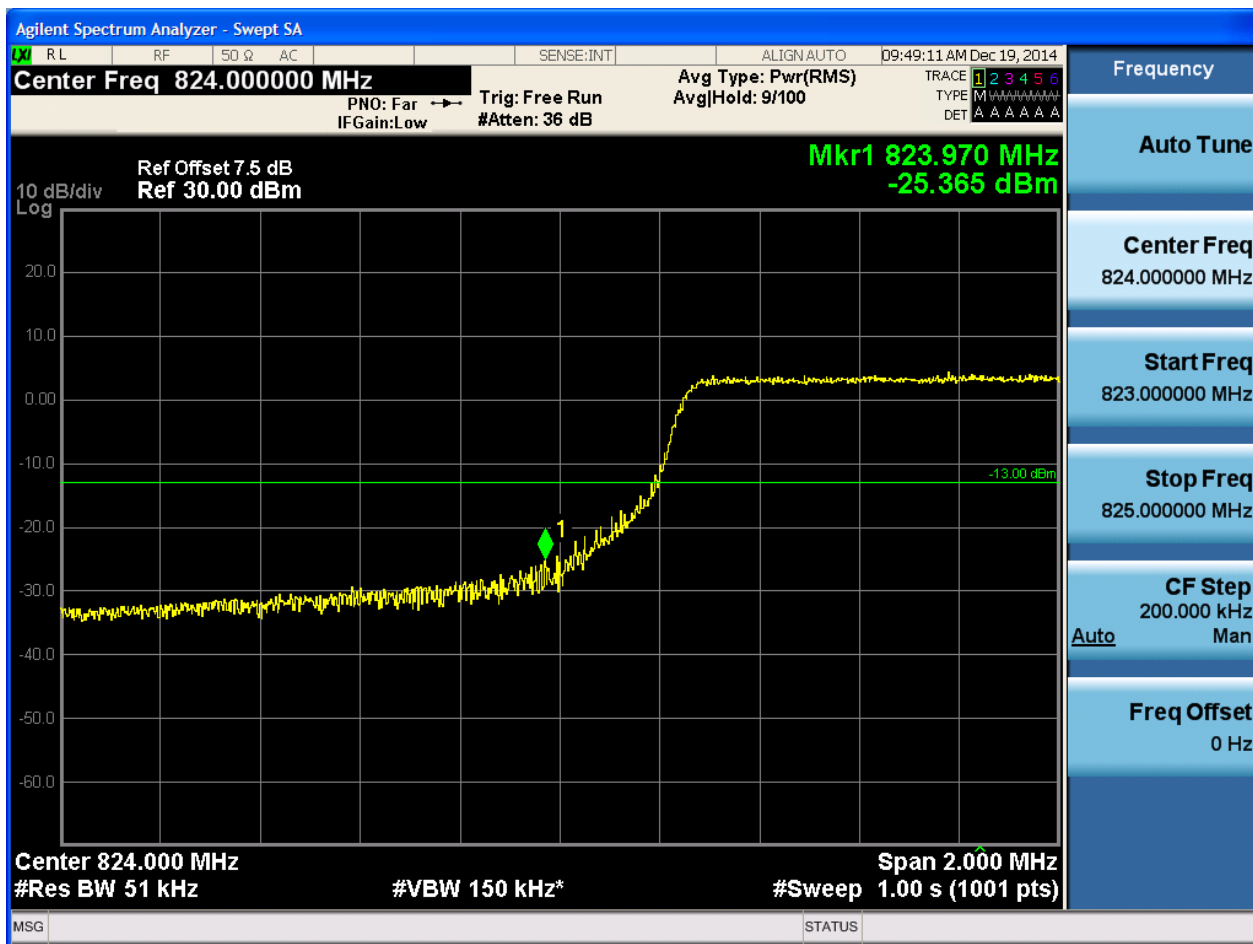
5.3.1.1.1.2 Test RB = RB1#24



5.3.1.1.1.3 Test RB = RB12#6



5.3.1.1.1.4 Test RB = RB25#0

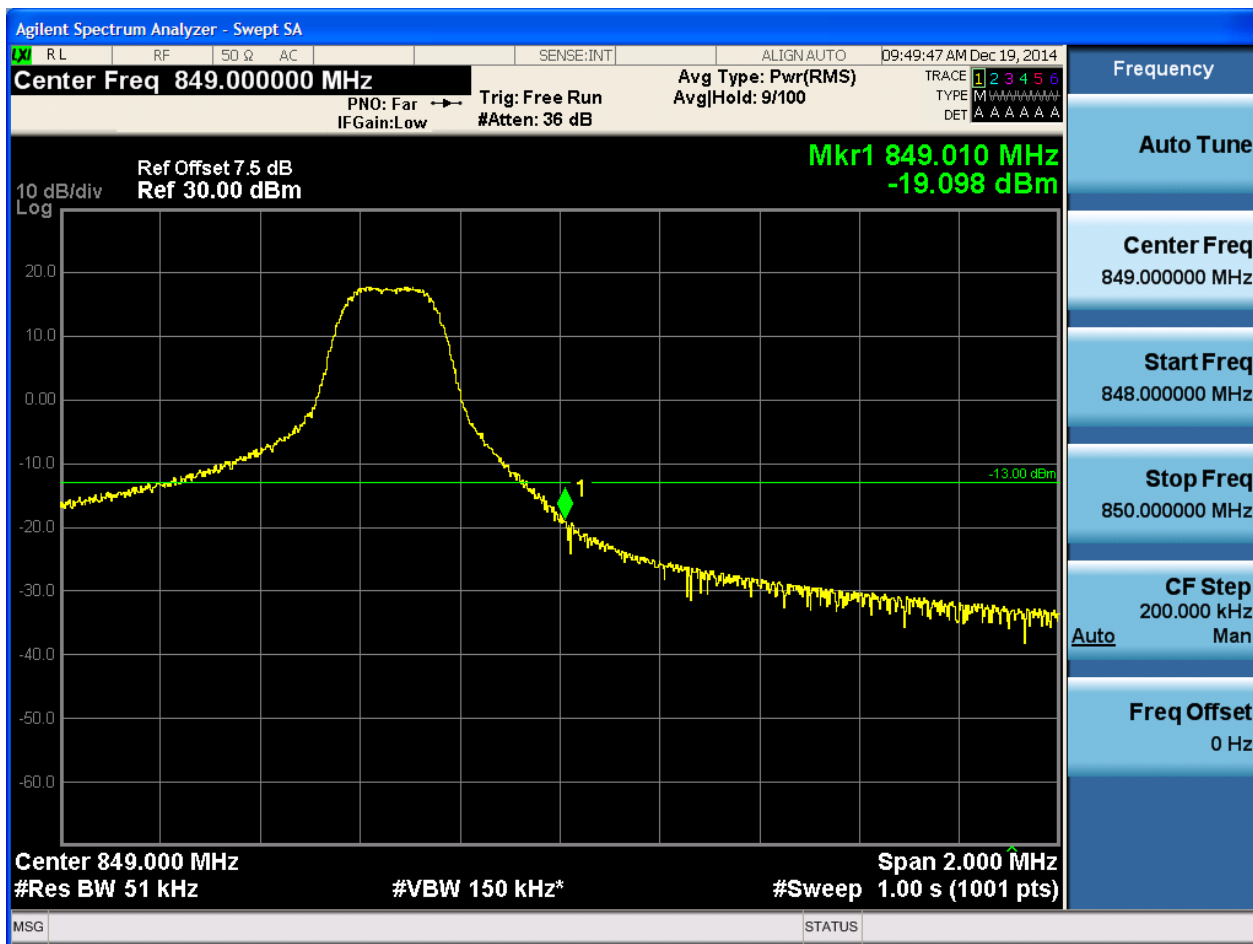


5.3.1.1.1.2 Test Channel = HCH

5.3.1.1.1.2.1 Test RB = RB1#0



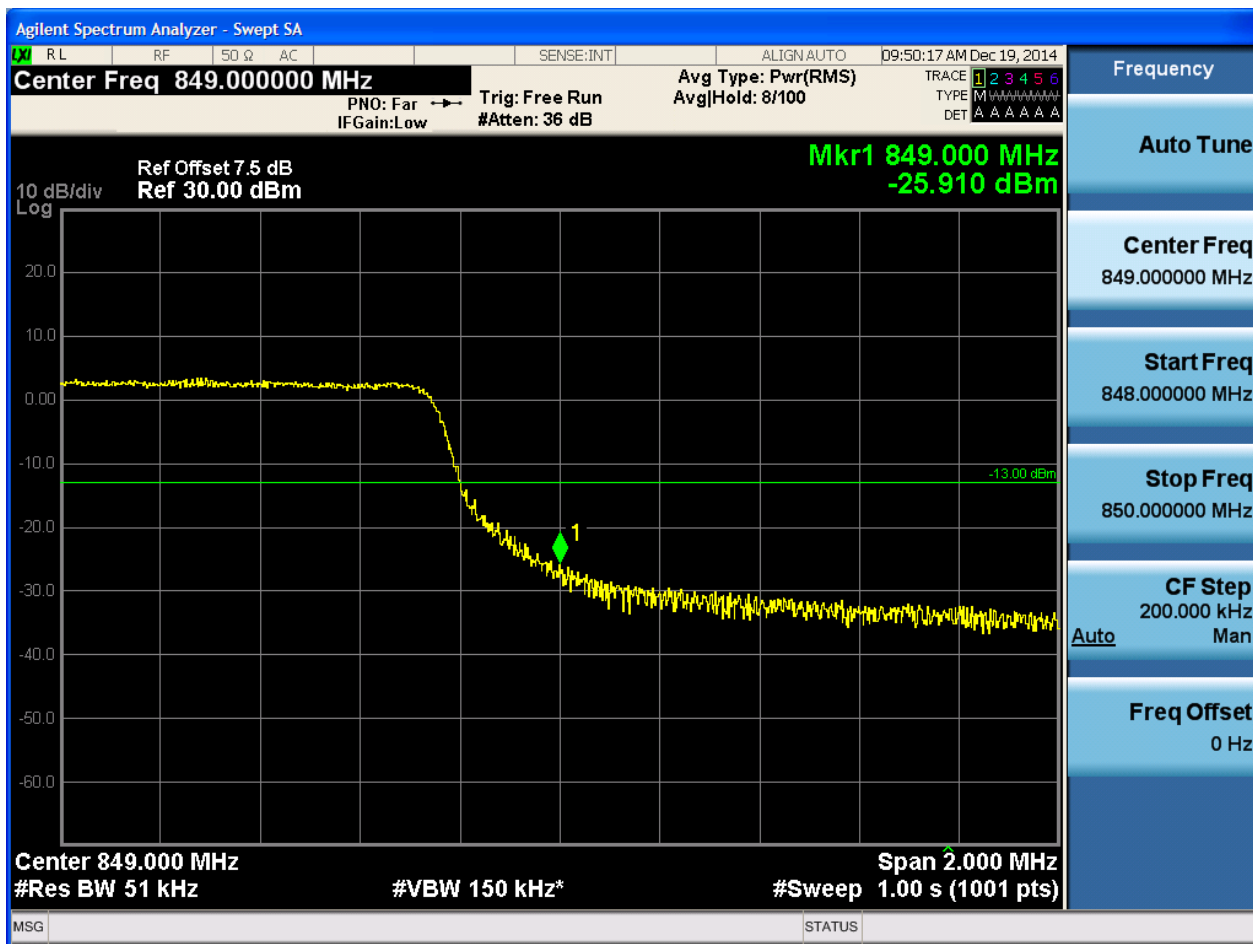
5.3.1.1.1.2.2 Test RB = RB1#24



5.3.1.1.1.2.3 Test RB = RB12#6



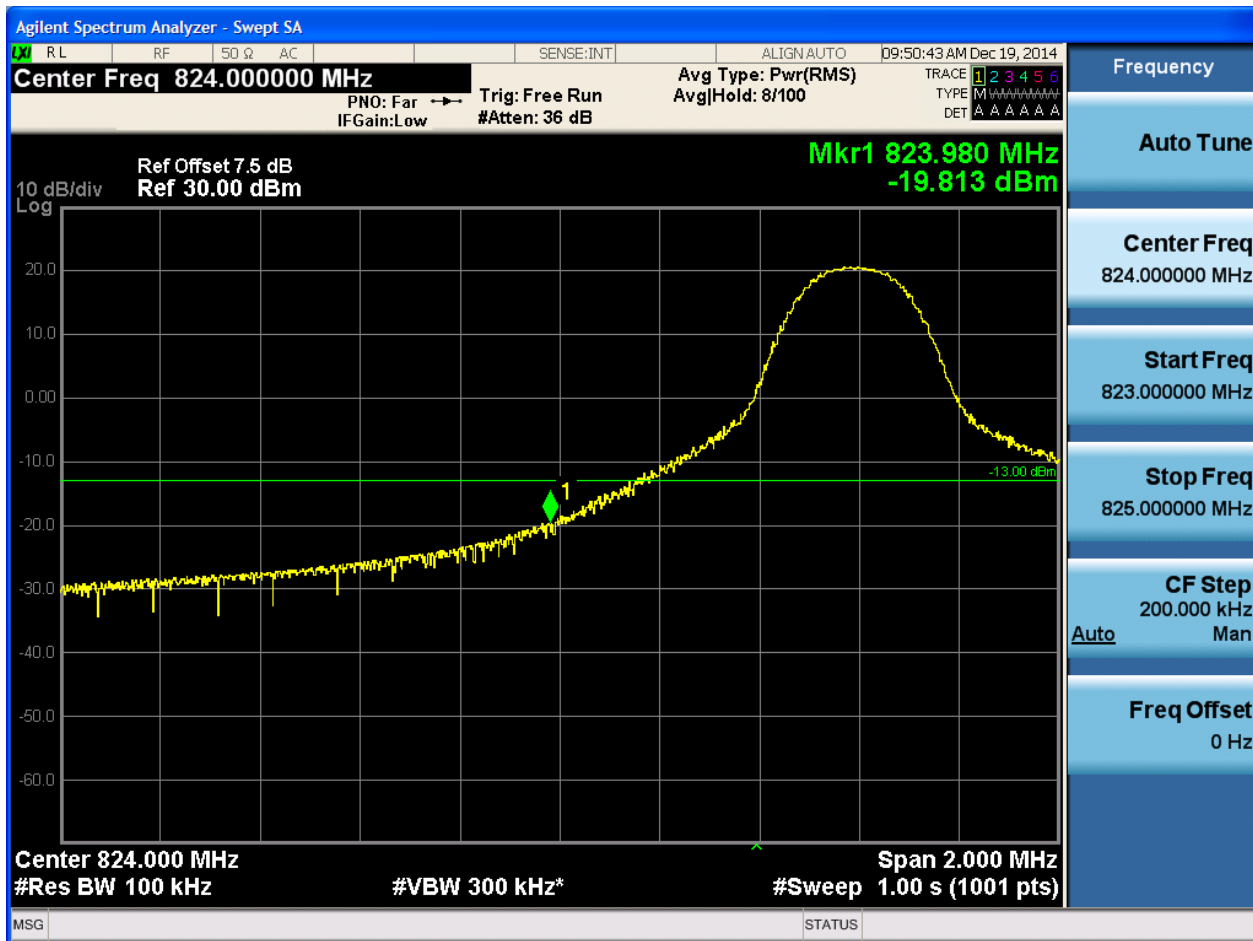
5.3.1.1.2.4 Test RB = RB25#0



5.3.1.1.2 Test Bandwidth = 10

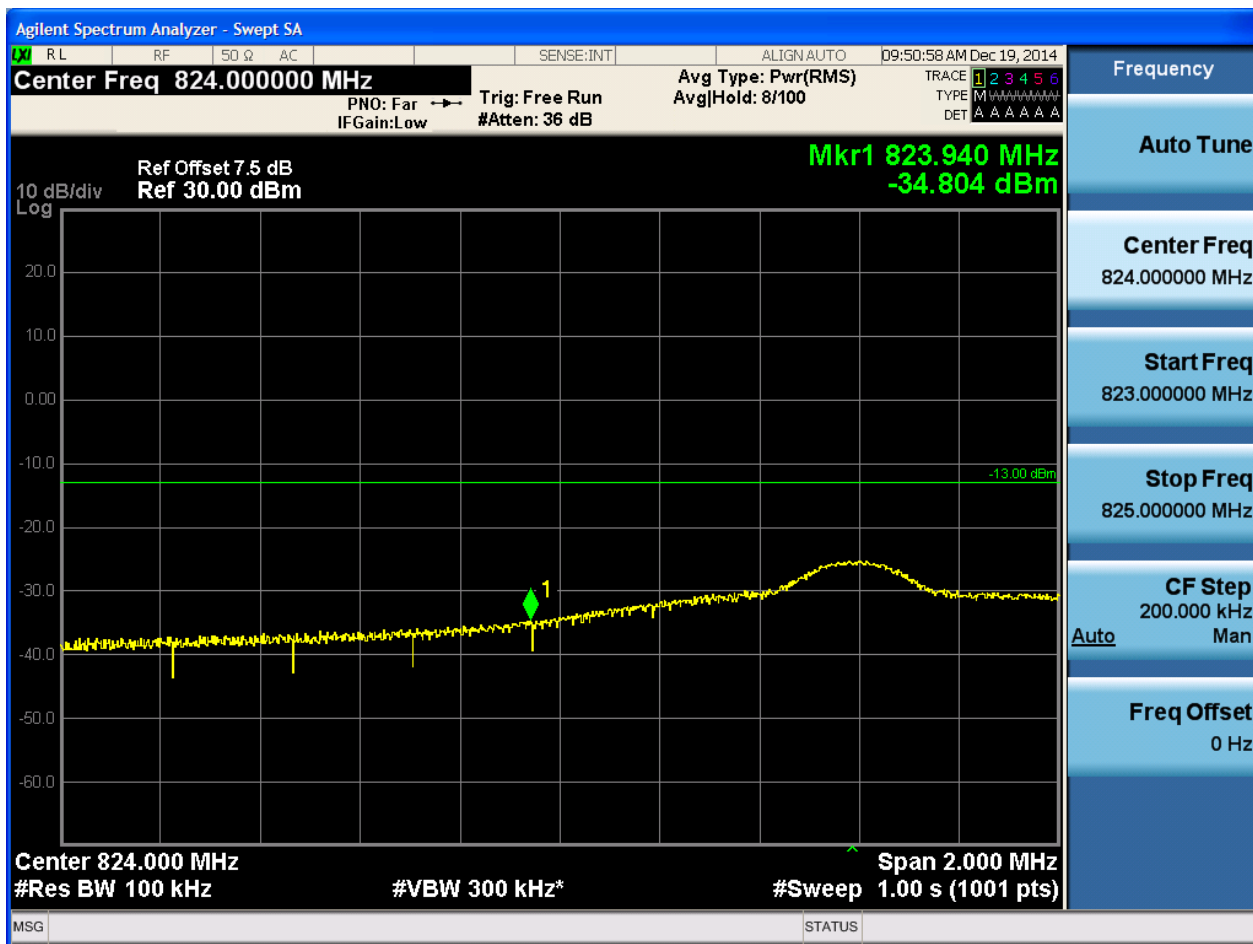
5.3.1.1.2.1 Test Channel = LCH

5.3.1.1.2.1.1 Test RB = RB1#0



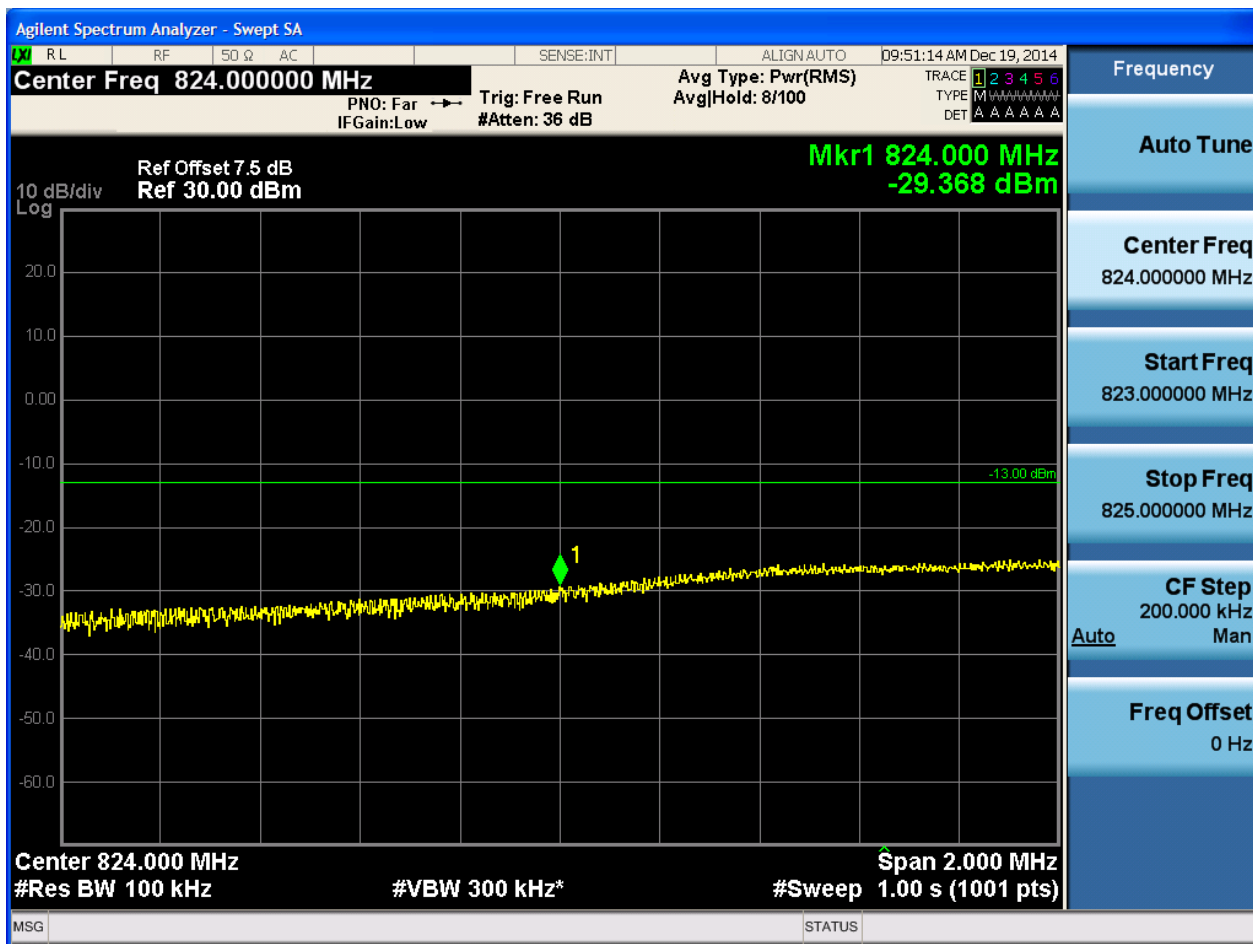


5.3.1.1.2.1.2 Test RB = RB1#49

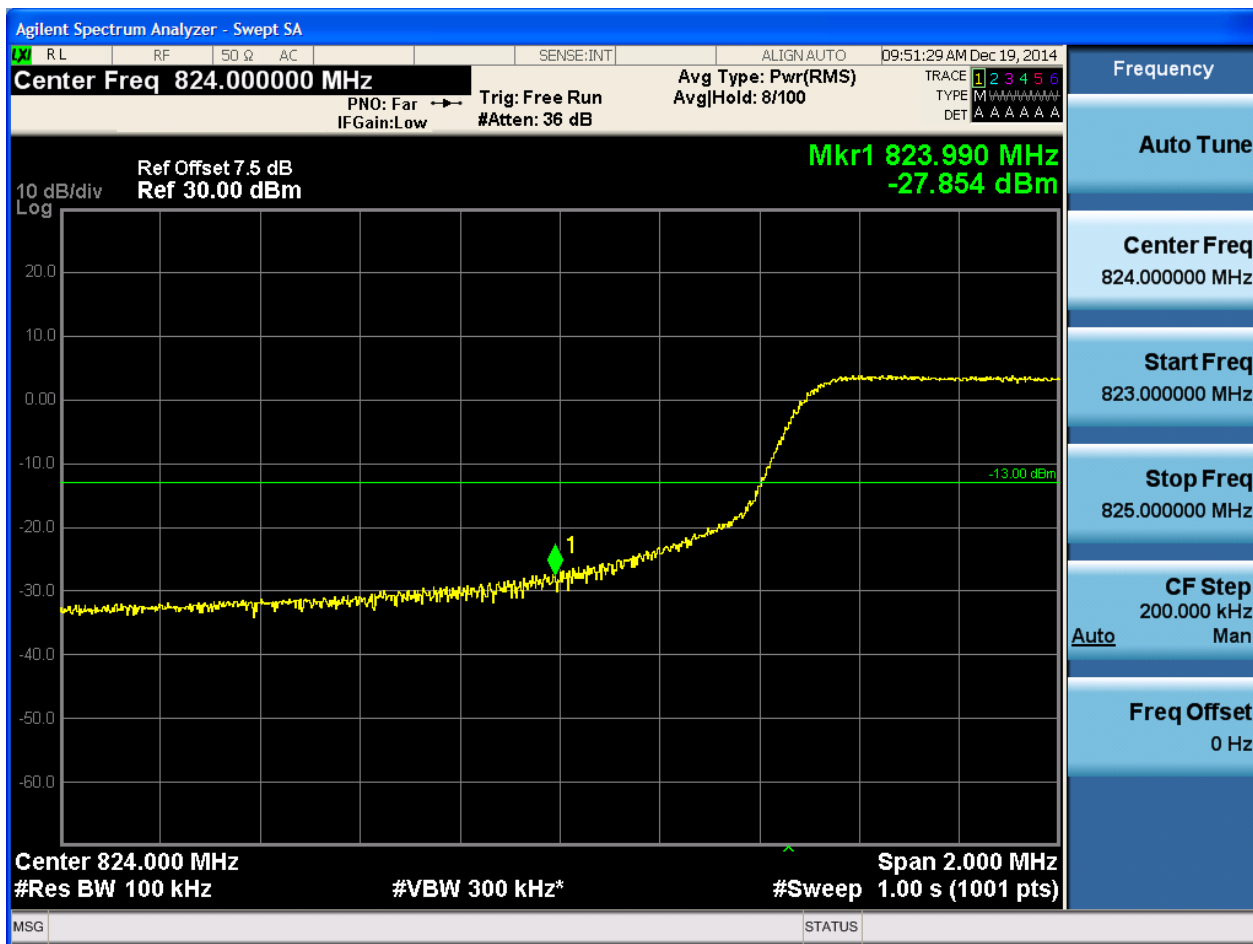




5.3.1.1.2.1.3 Test RB = RB25#13



5.3.1.1.2.1.4 Test RB = RB50#0

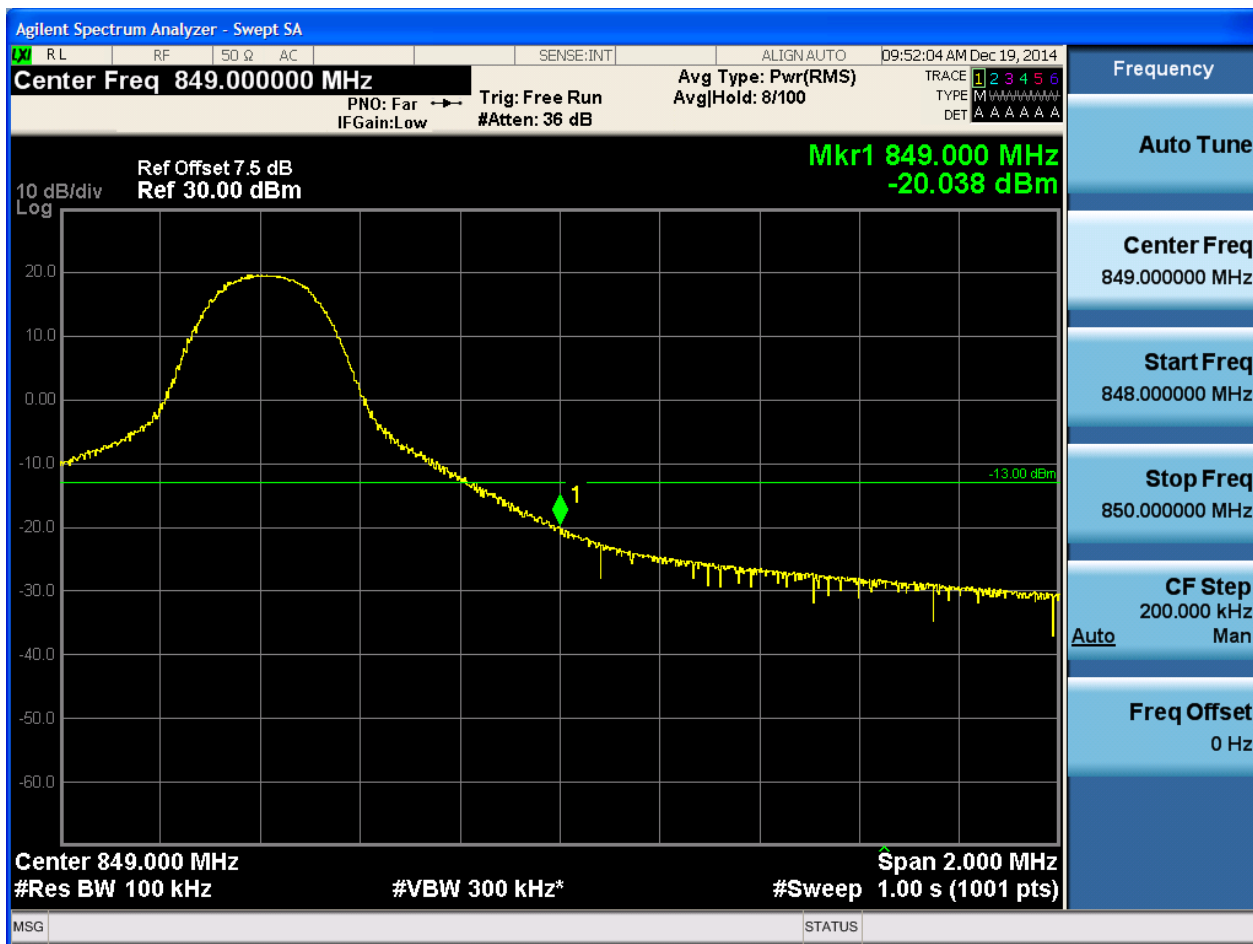


5.3.1.1.2.2 Test Channel = HCH

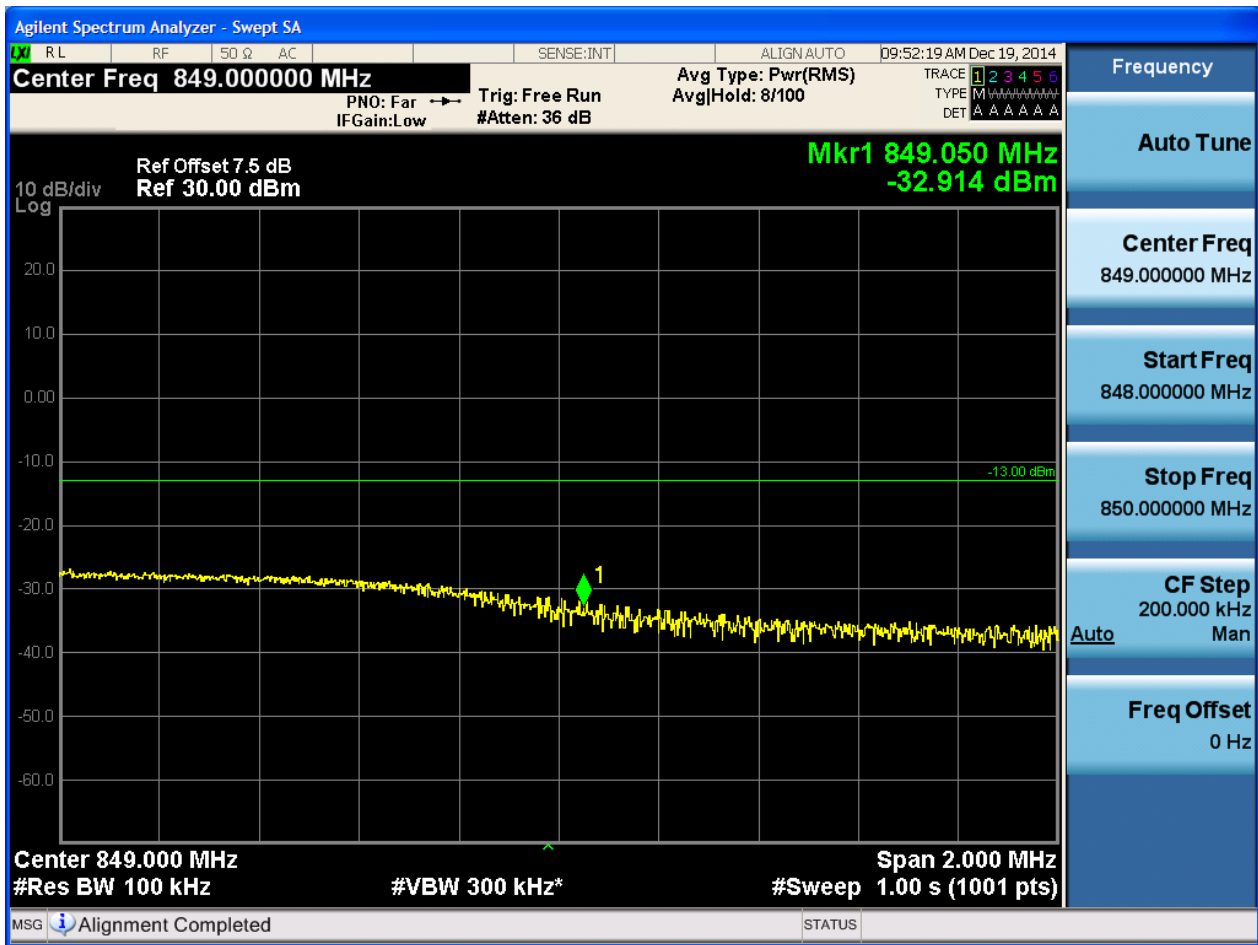
5.3.1.1.2.2.1 Test RB = RB1#0



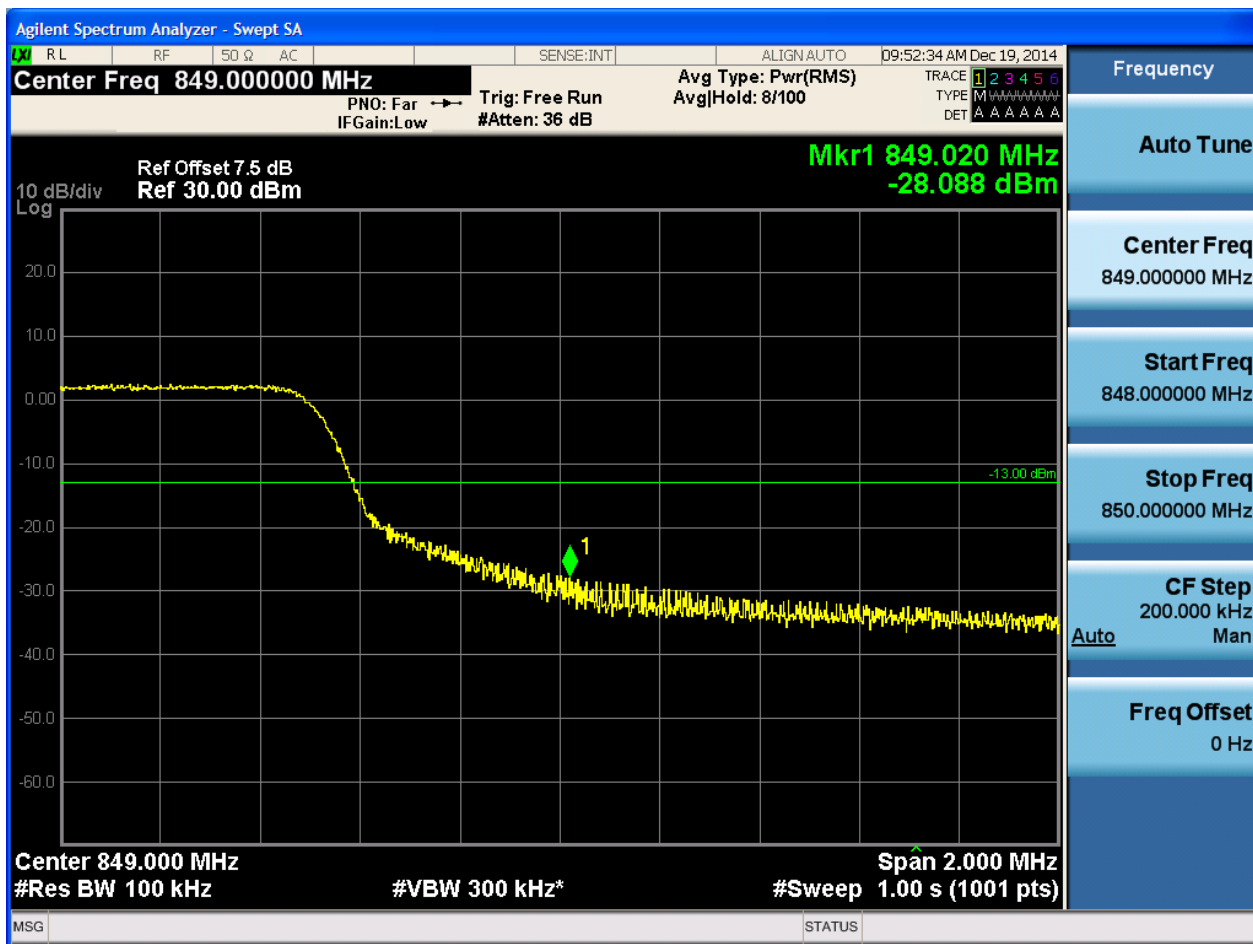
5.3.1.1.2.2.2 Test RB = RB1#49



5.3.1.1.2.2.3 Test RB = RB25#13



5.3.1.1.2.2.4 Test RB = RB50#0

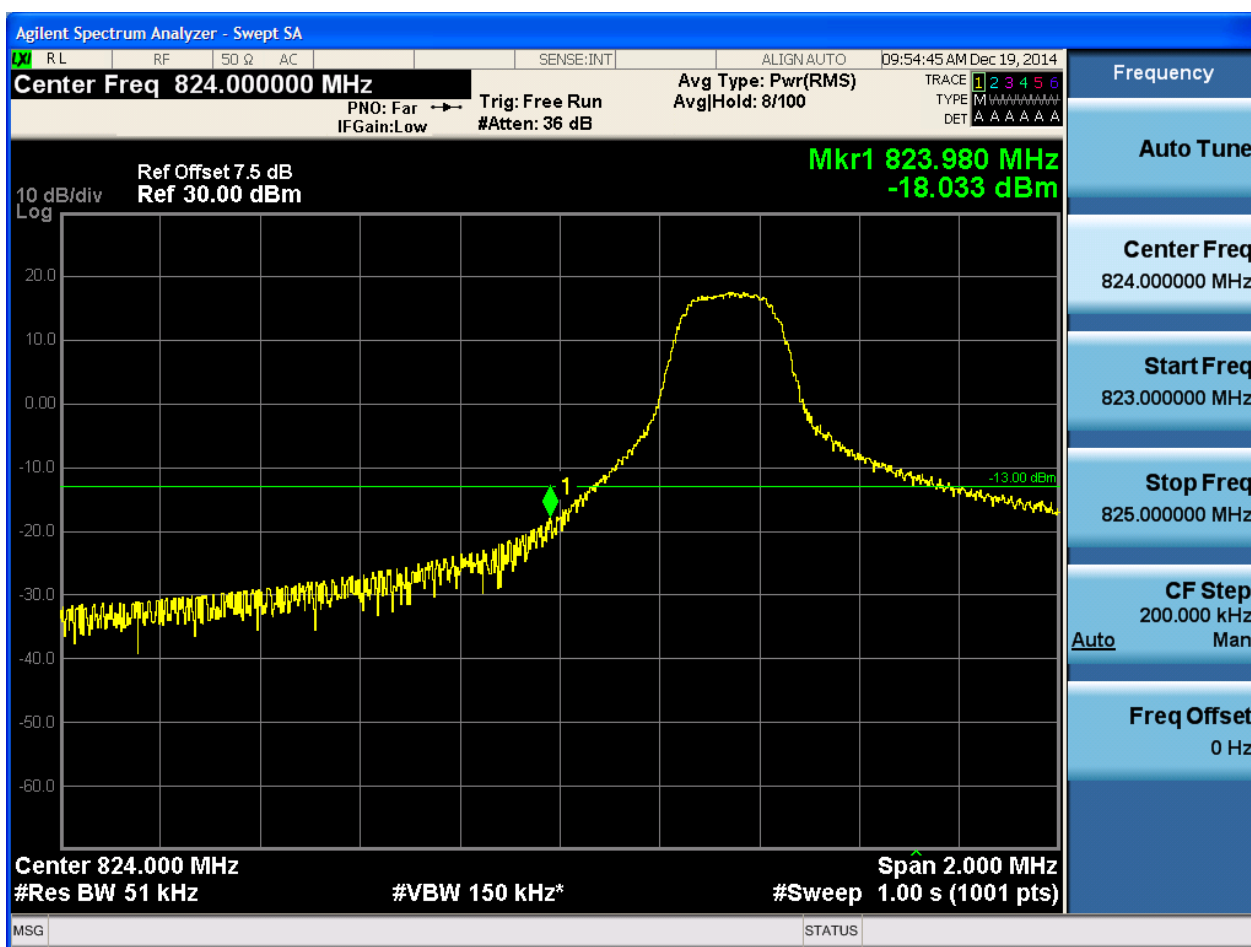


5.3.1.2 Test Mode = LTE/TM2

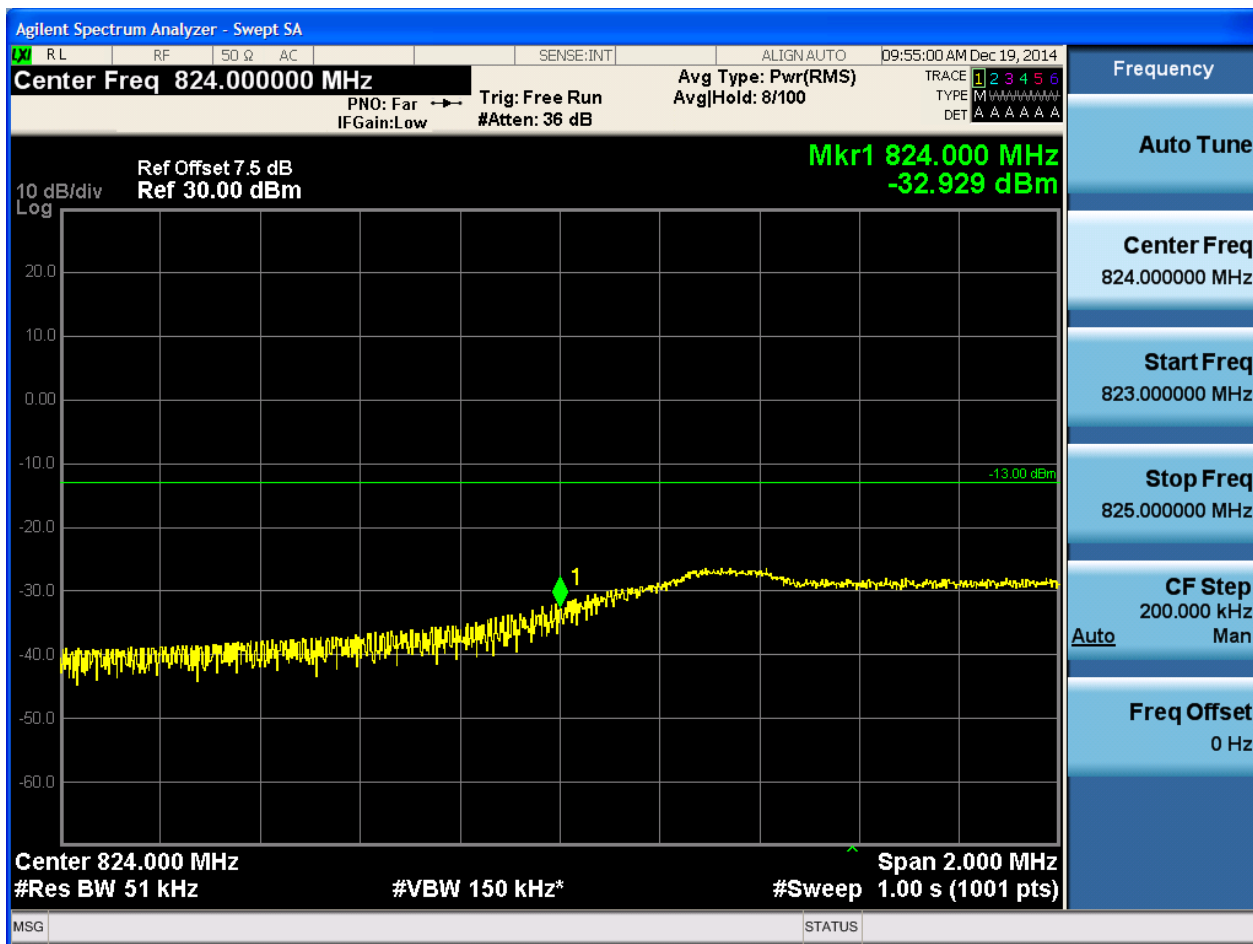
5.3.1.2.1 Test Bandwidth = 5

5.3.1.2.1.1 Test Channel = LCH

5.3.1.2.1.1.1 Test RB = RB1#0



5.3.1.2.1.1.2 Test RB = RB1#24

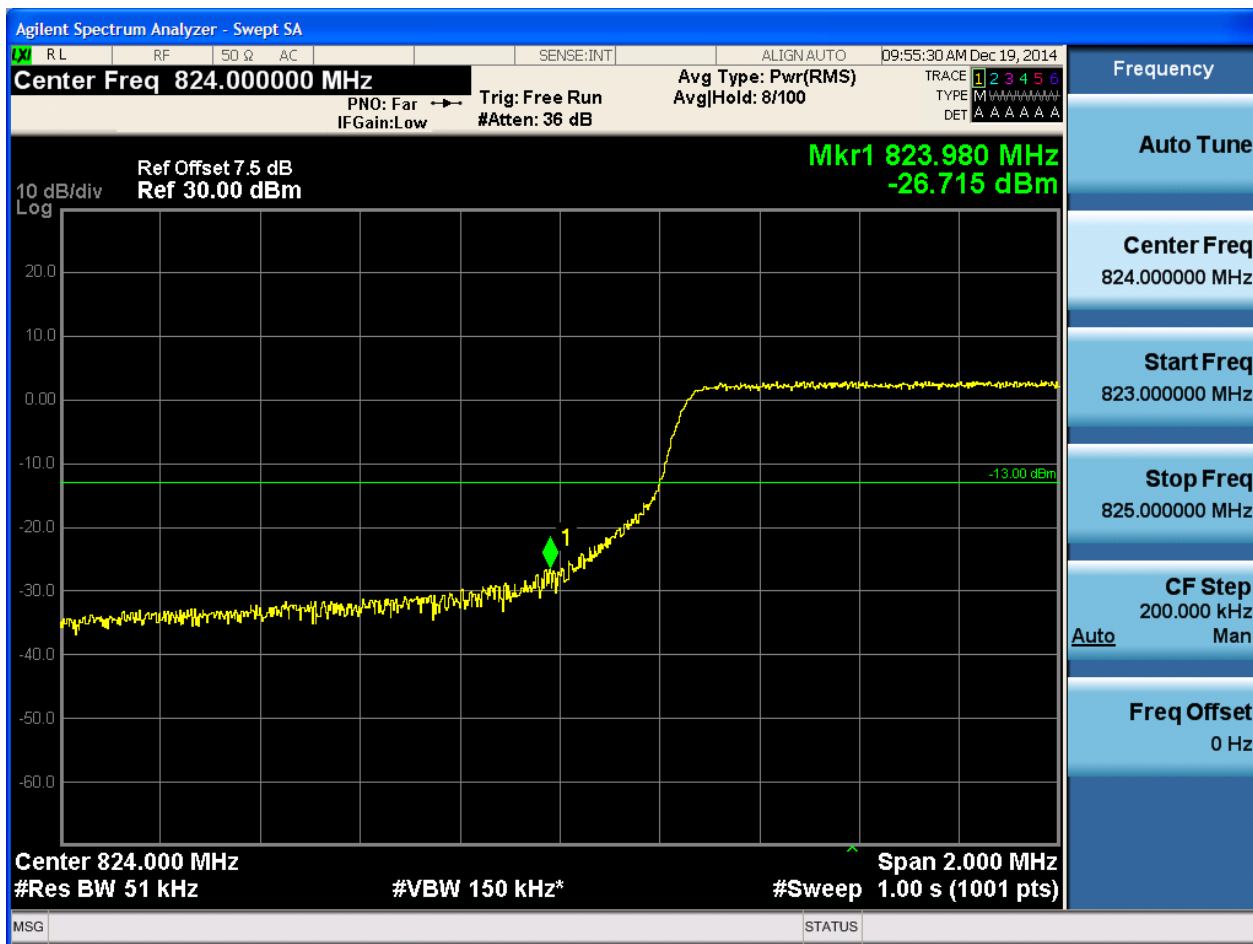




5.3.1.2.1.1.3 Test RB = RB12#6



5.3.1.2.1.1.4 Test RB = RB25#0

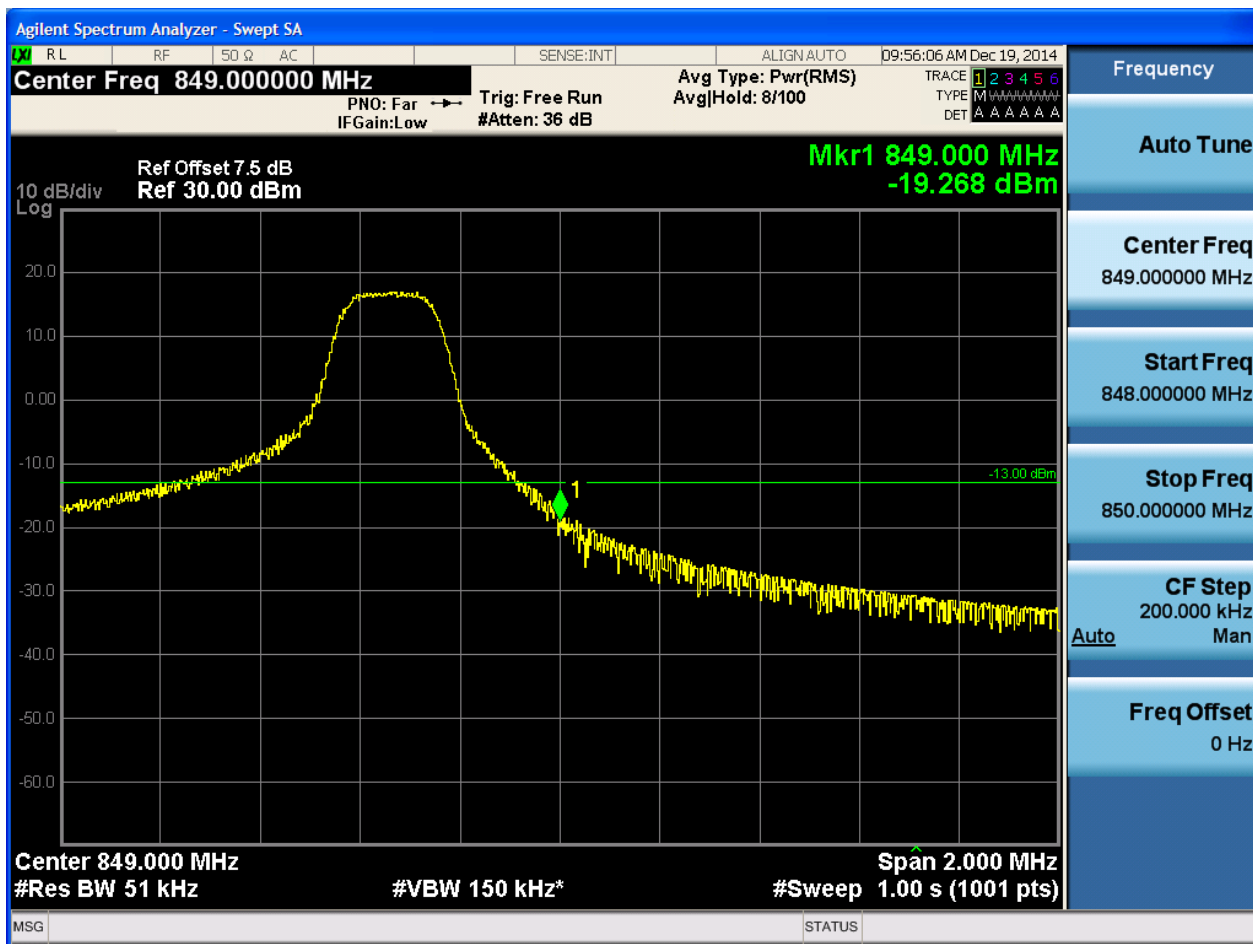


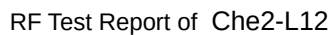
5.3.1.2.1.2 Test Channel = HCH

5.3.1.2.1.2.1 Test RB = RB1#0



5.3.1.2.1.2.2 Test RB = RB1#24





Agilent Spectrum Analyzer - Swept SA

R.L RF 50 Ω AC SENSE:INT ALIGN:AUTO D9:56:21 AM Dec 19, 2014

Center Freq 849.000000 MHz Avg Type: Pwr(RMS) Trg: Free Run
IFGain:Low #Atten: 36 dB

Ref Offset 7.5 dB Mkr1 849.060 MHz
Ref 30.00 dBm -31.958 dBm

10 dB/div Log

Center 849.000 MHz Span 2.000 MHz
#Res BW 51 kHz #VBW 150 kHz* #Sweep 1.00 s (1001 pts)

MSG STATUS

Frequency
Auto Tune
Center Freq 849.000000 MHz
Start Freq 848.000000 MHz
Stop Freq 850.000000 MHz
CF Step 200.000 kHz
Auto Man
Freq Offset 0 Hz

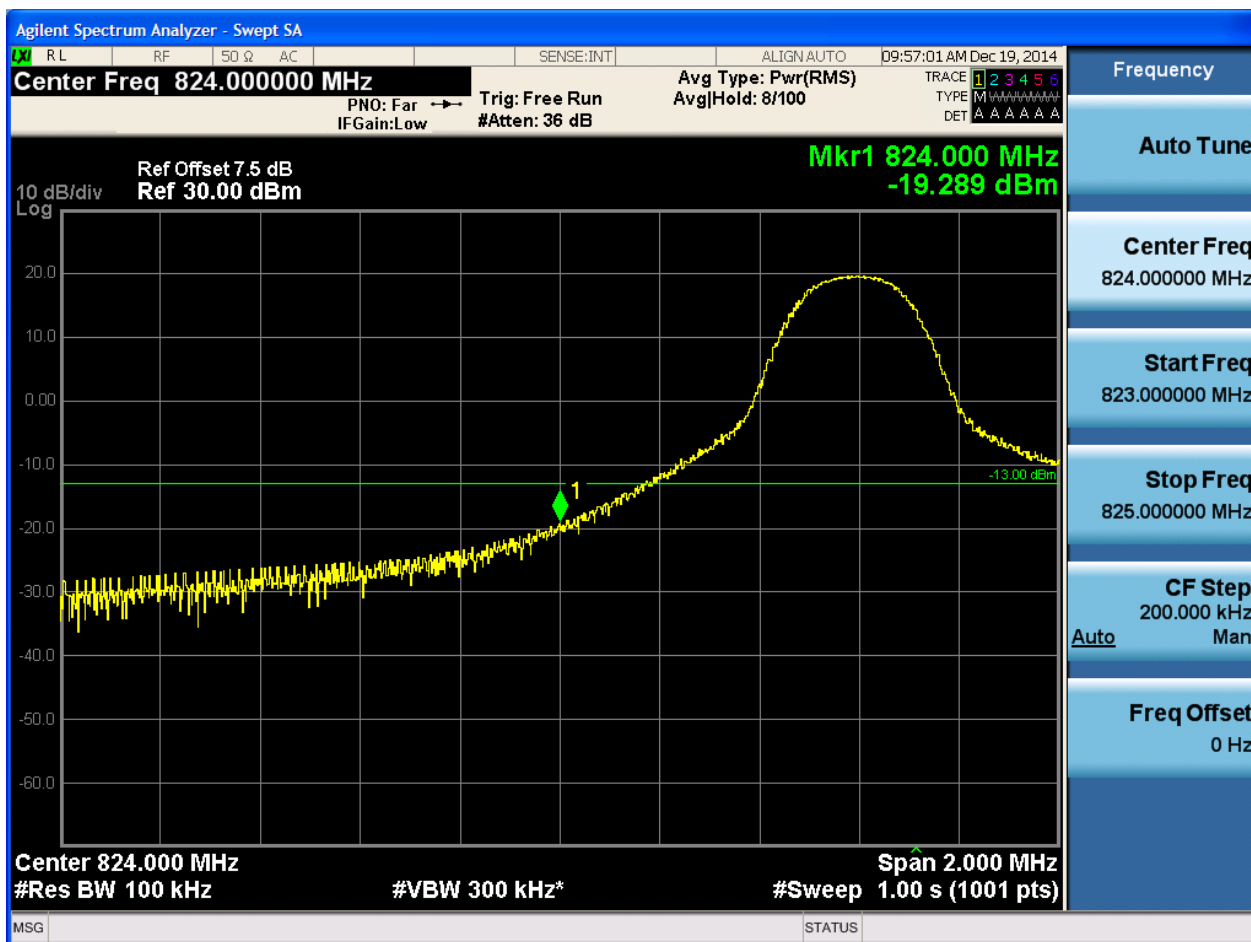
5.3.1.2.1.2.4 Test RB = RB25#0



5.3.1.2.2 Test Bandwidth = 10

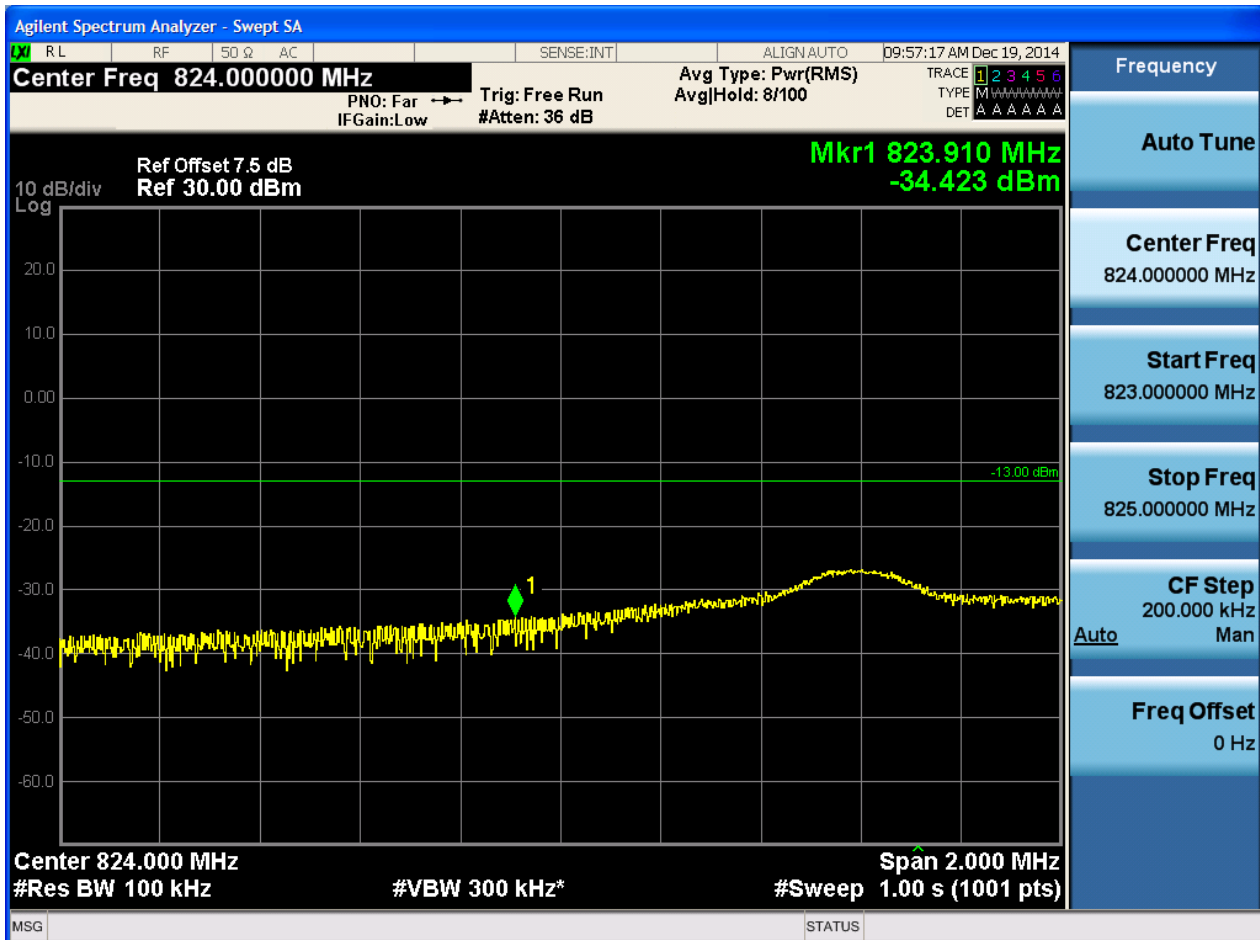
5.3.1.2.2.1 Test Channel = LCH

5.3.1.2.2.1.1 Test RB = RB1#0

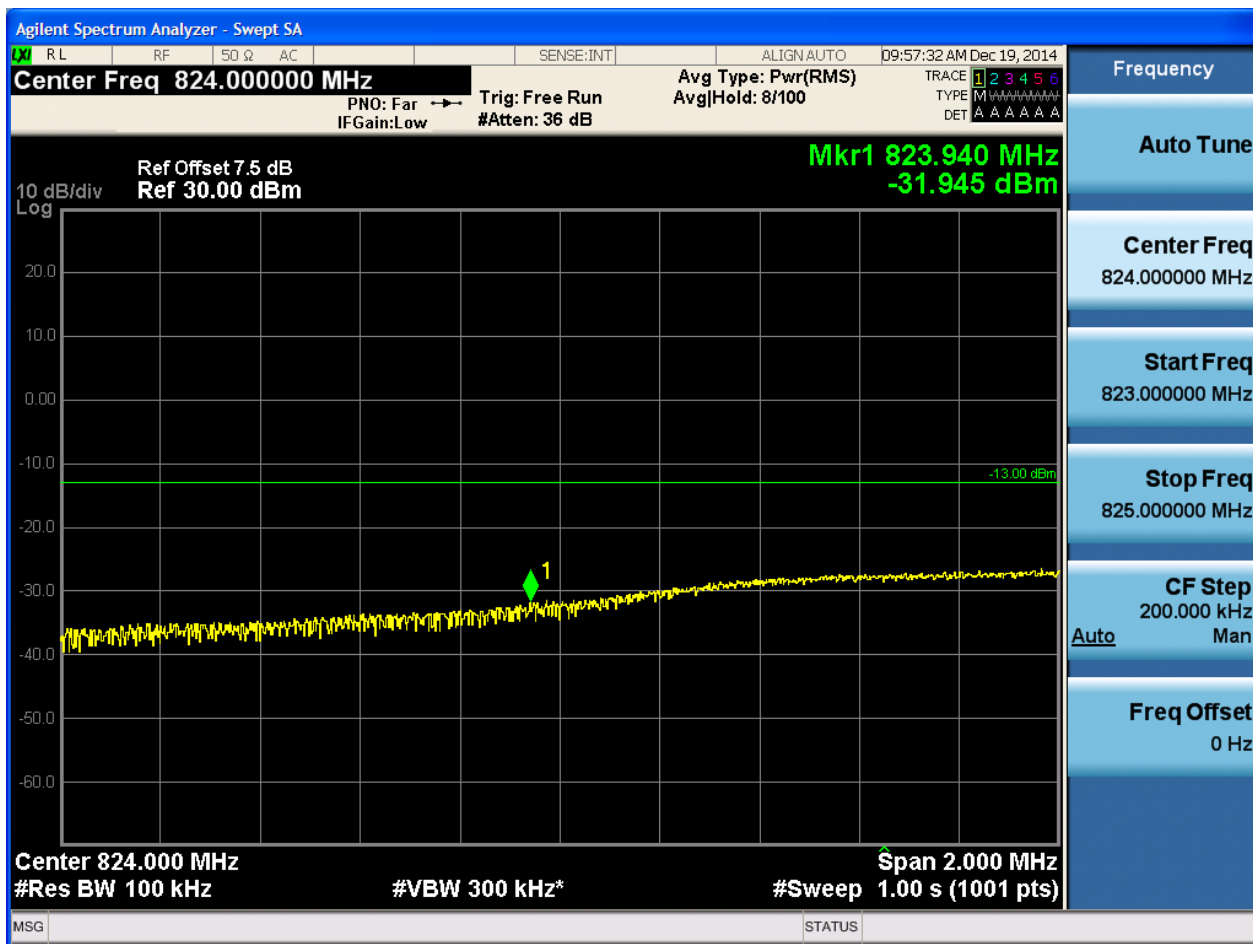




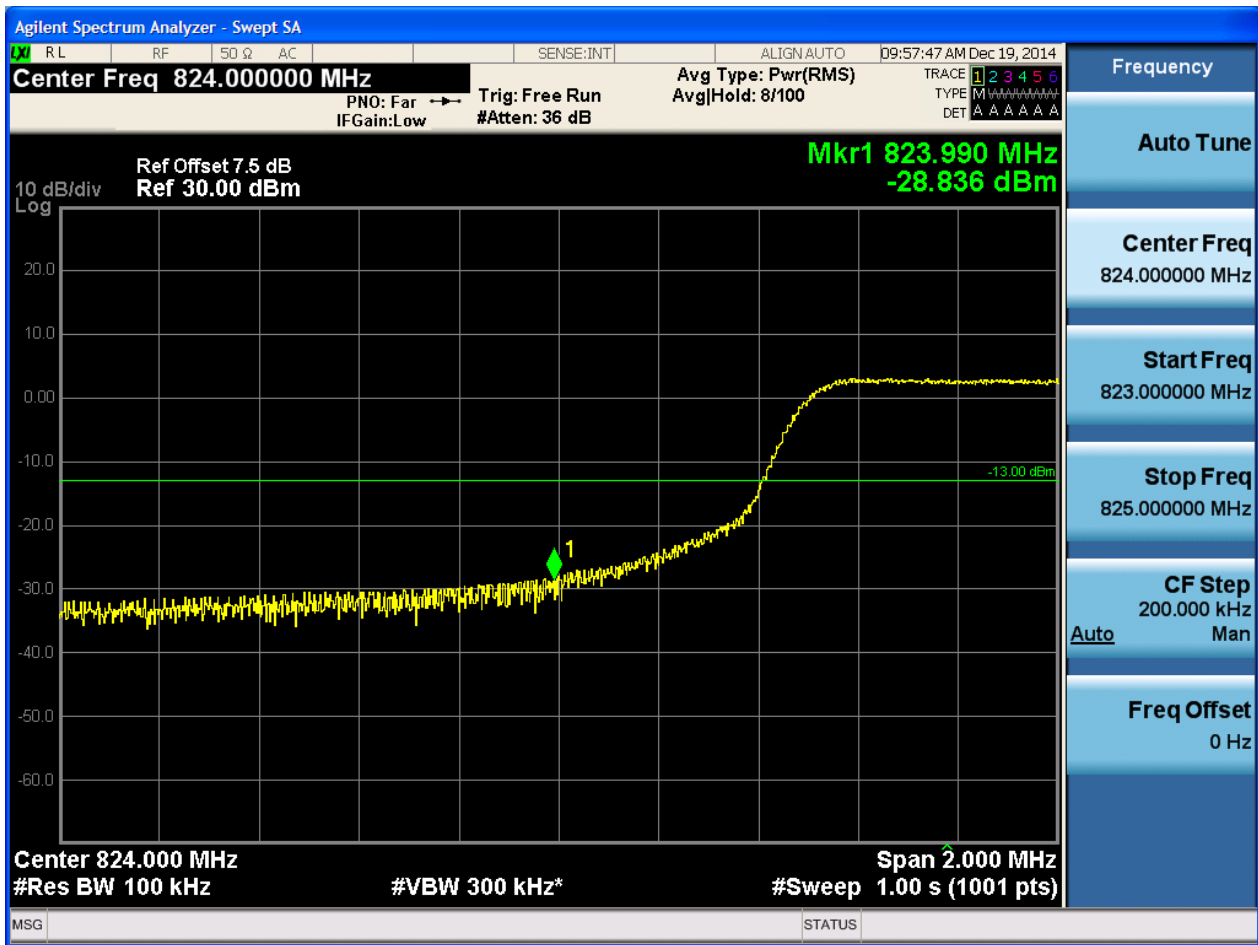
5.3.1.2.2.1.2 Test RB = RB1#49



5.3.1.2.2.1.3 Test RB = RB25#13



5.3.1.2.2.1.4 Test RB = RB50#0

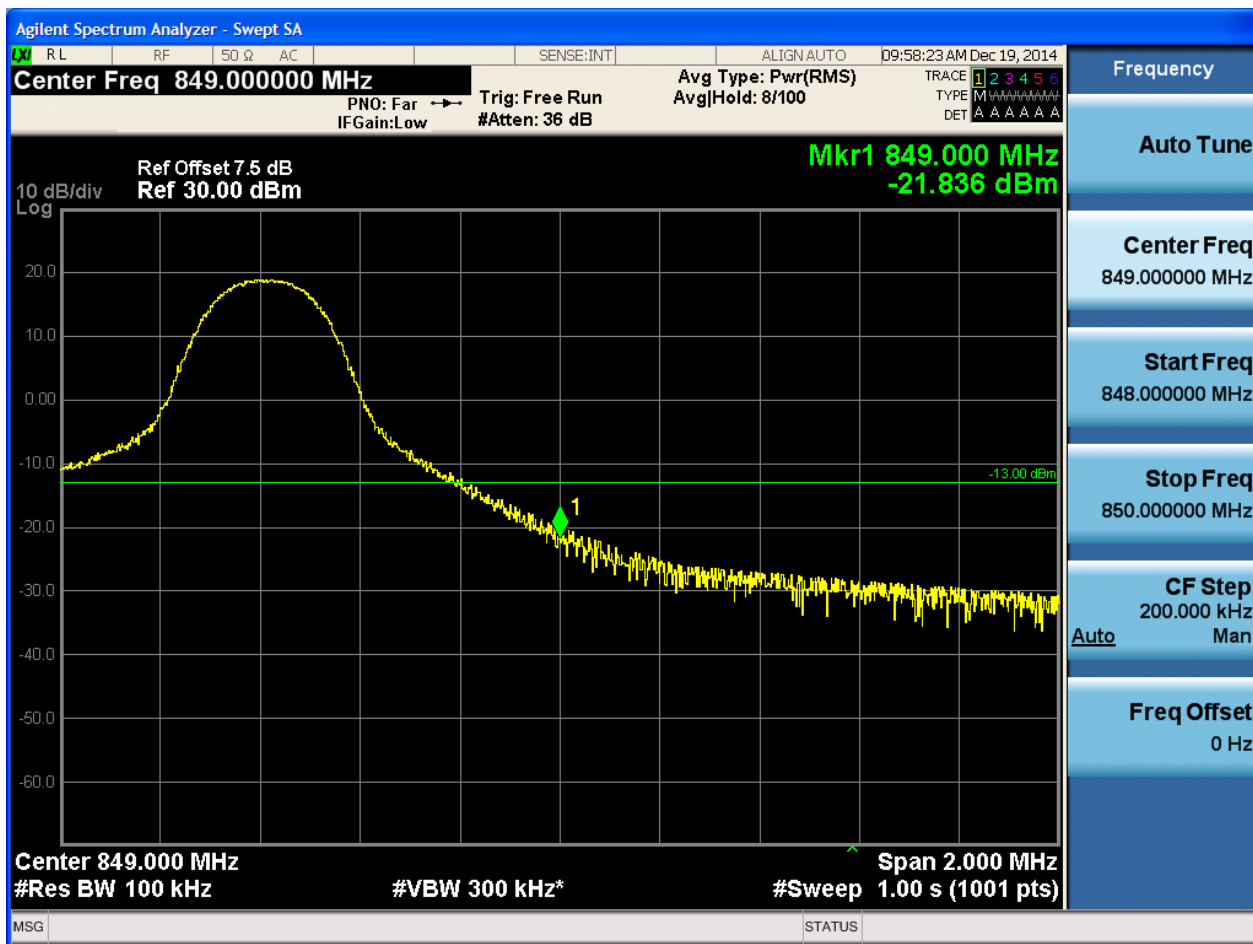


5.3.1.2.2.2 Test Channel = HCH

5.3.1.2.2.2.1 Test RB = RB1#0



5.3.1.2.2.2 Test RB = RB1#49

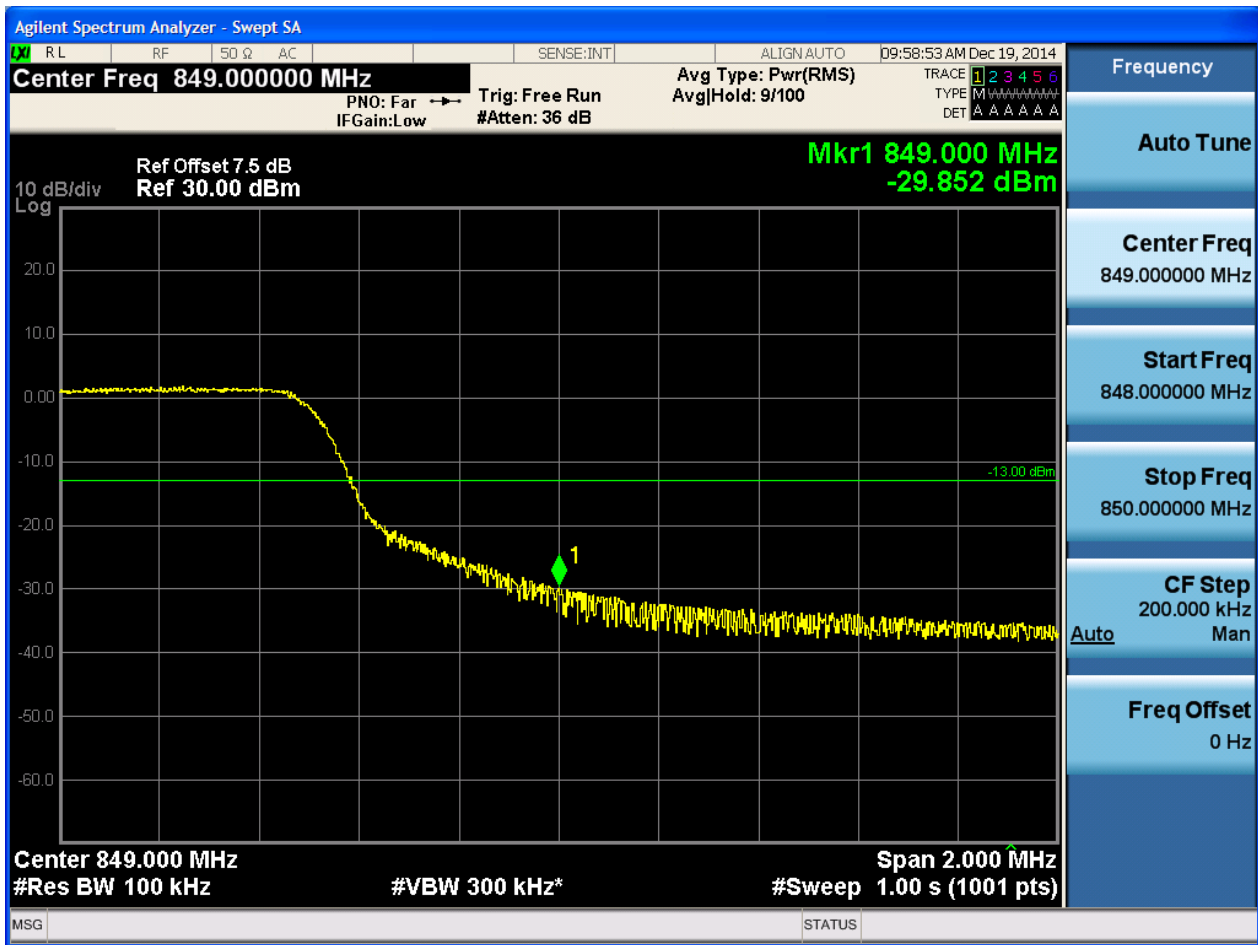




5.3.1.2.2.3 Test RB = RB25#13



5.3.1.2.2.2.4 Test RB = RB50#0



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

6.3 For LTE

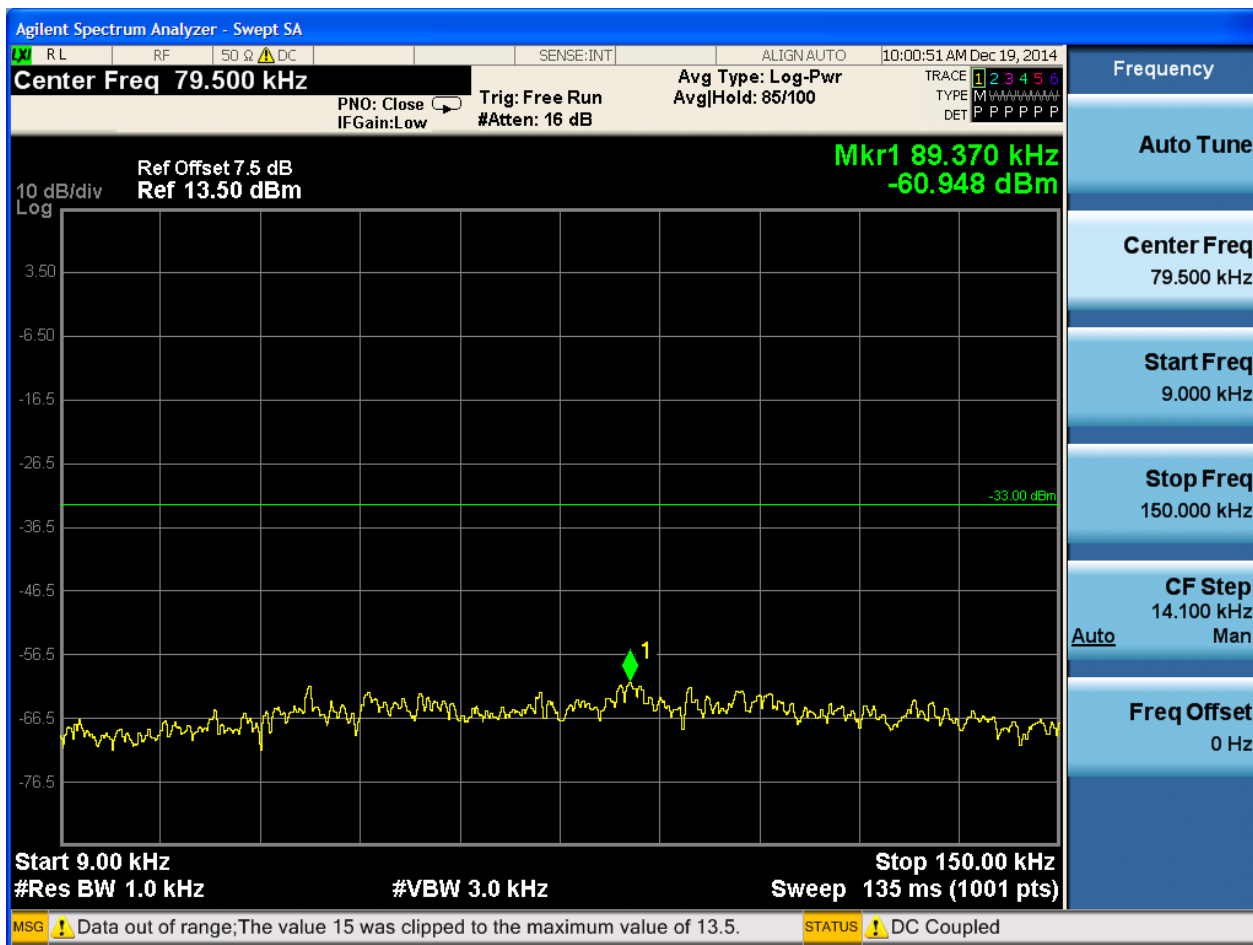
6.3.1 Test Band = BAND5

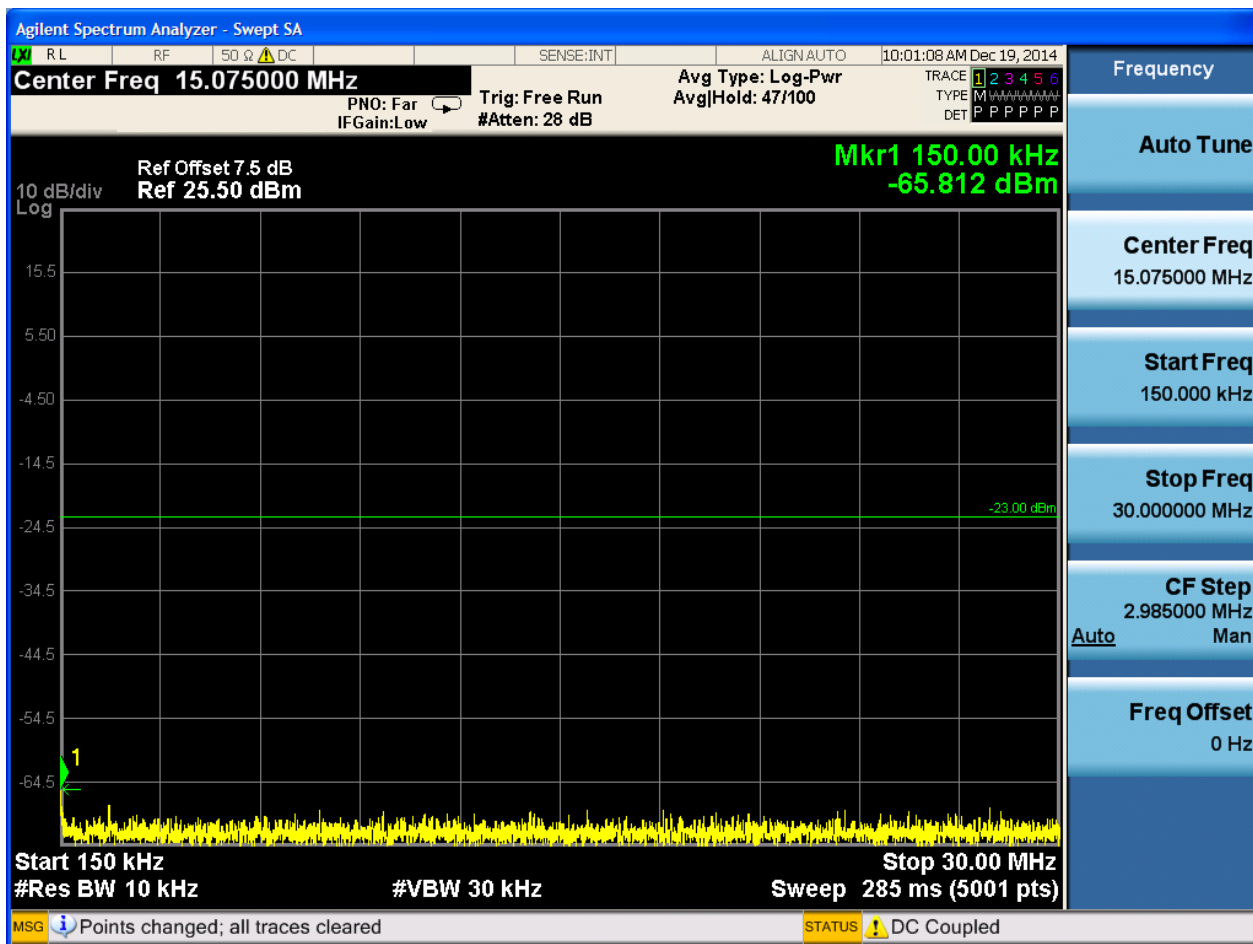
6.3.1.1 Test Mode = LTE/TM1

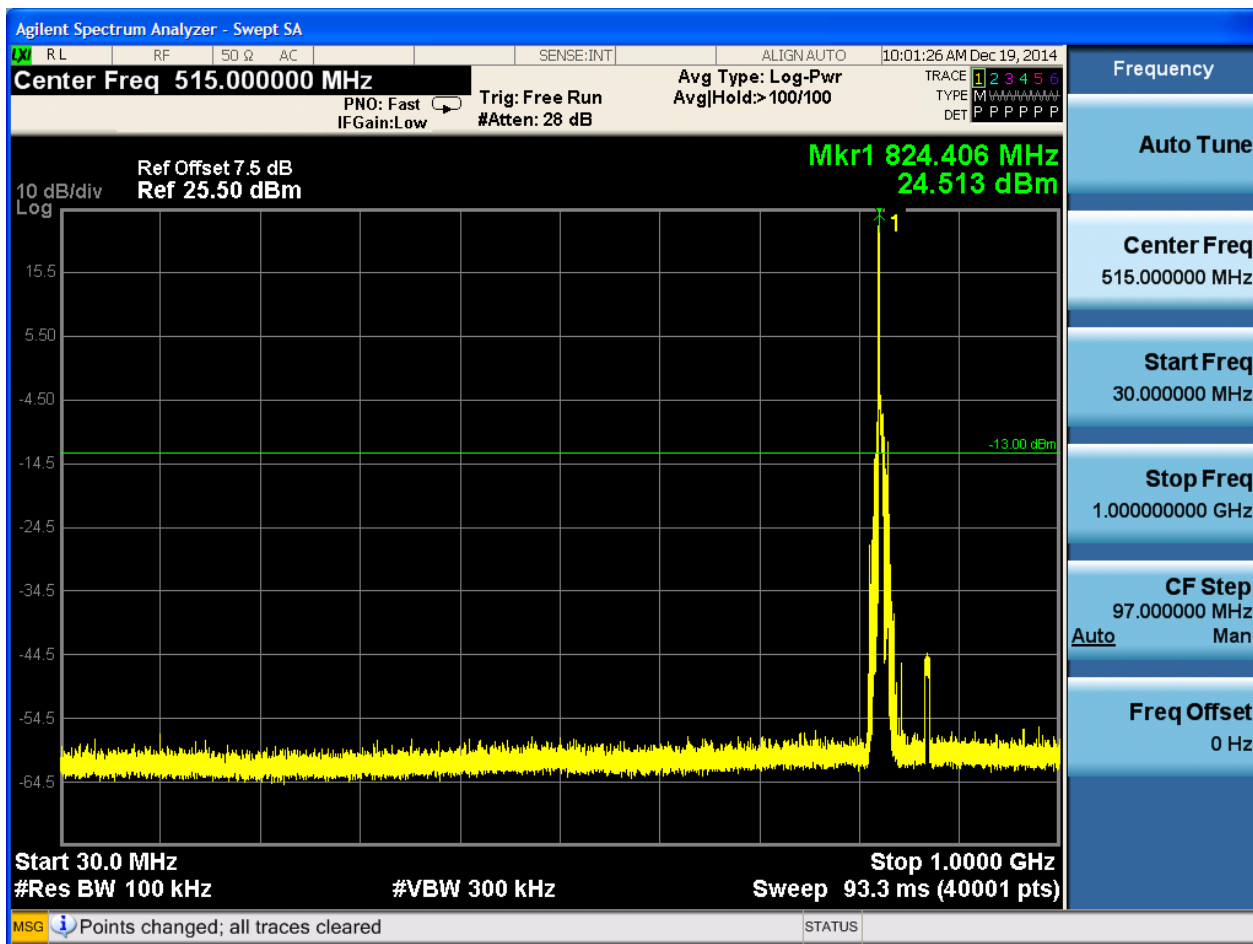
6.3.1.1.1 Test Bandwidth = 5

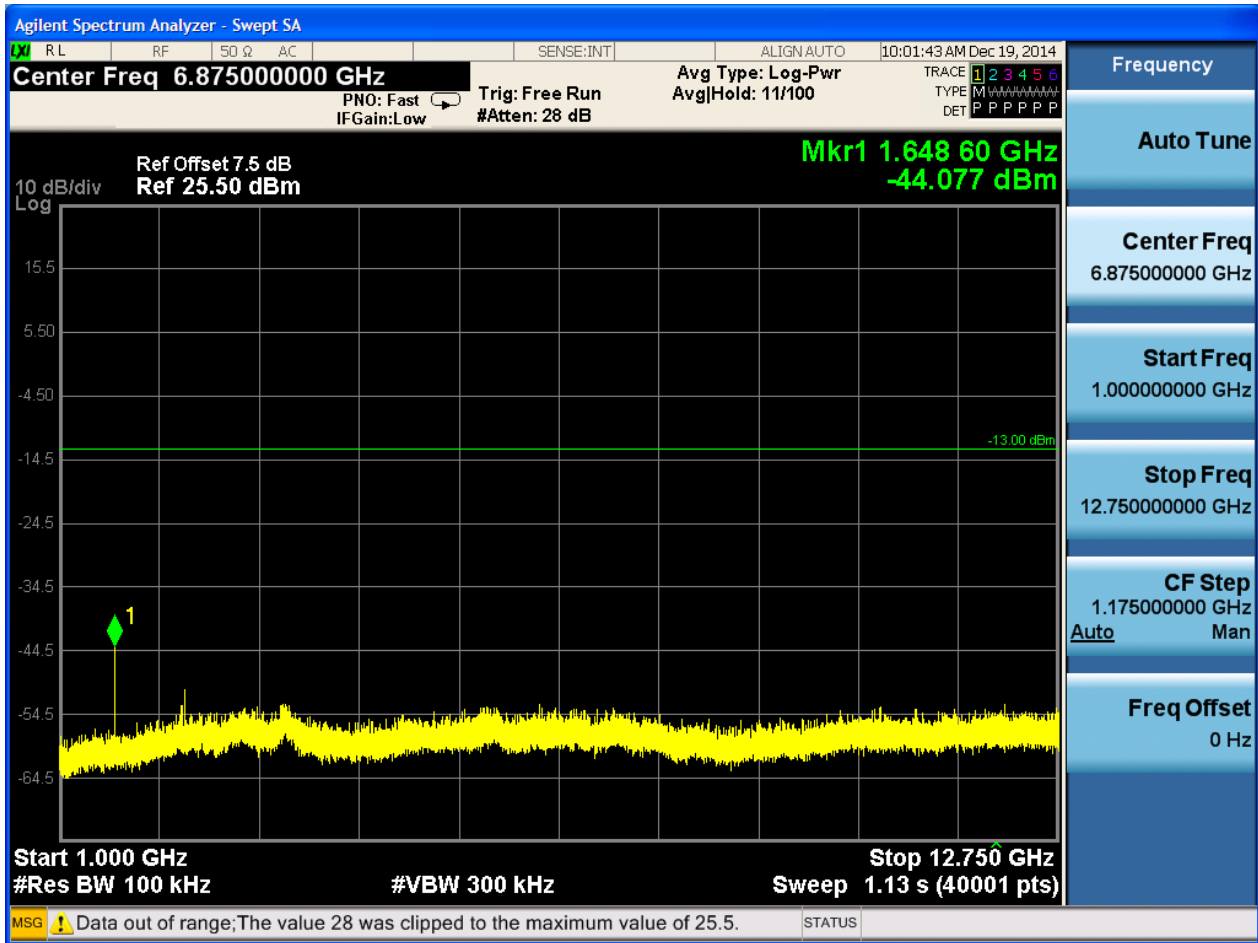
6.3.1.1.1.1 Test Channel = LCH

6.3.1.1.1.1.1 Test RB = RB1#0



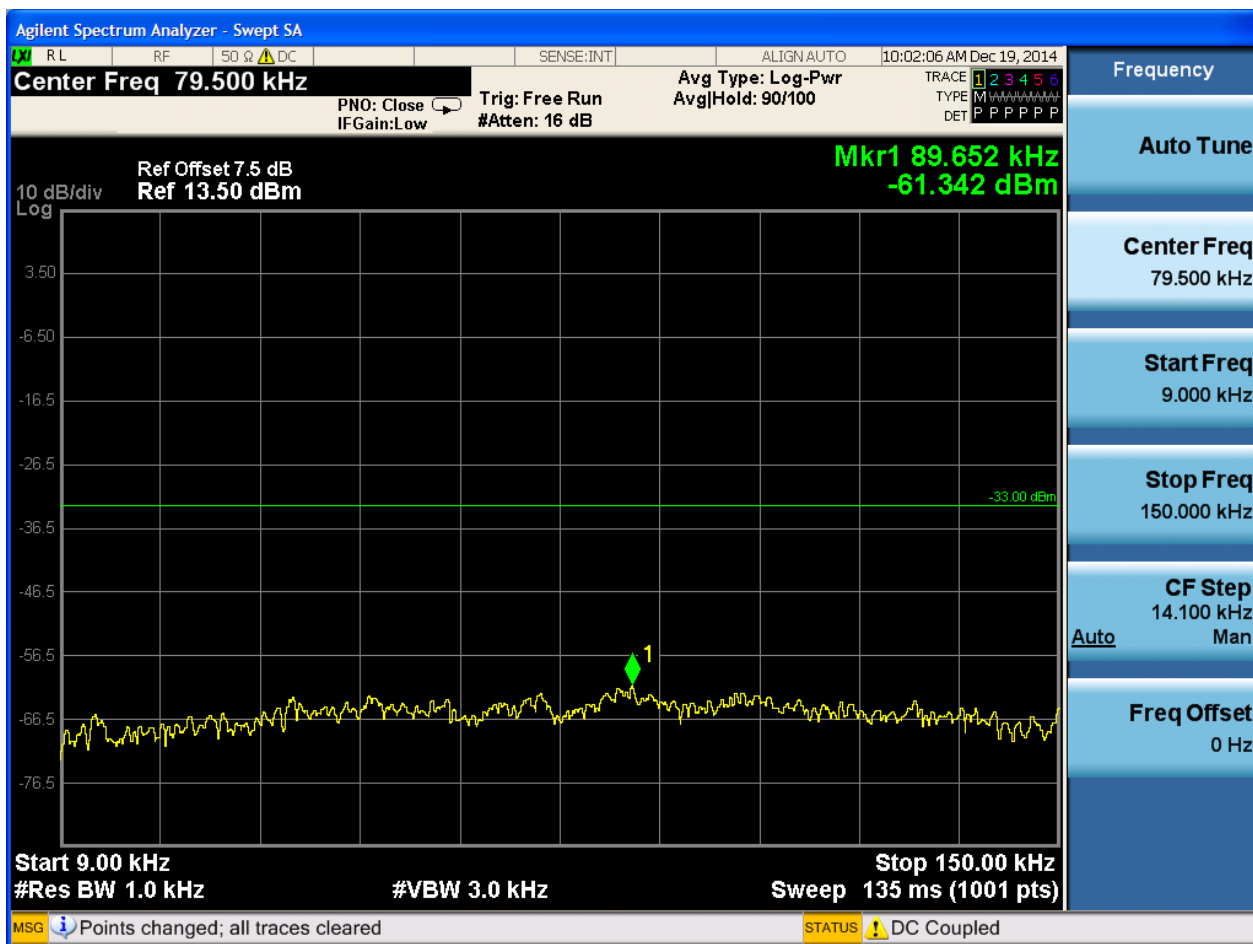


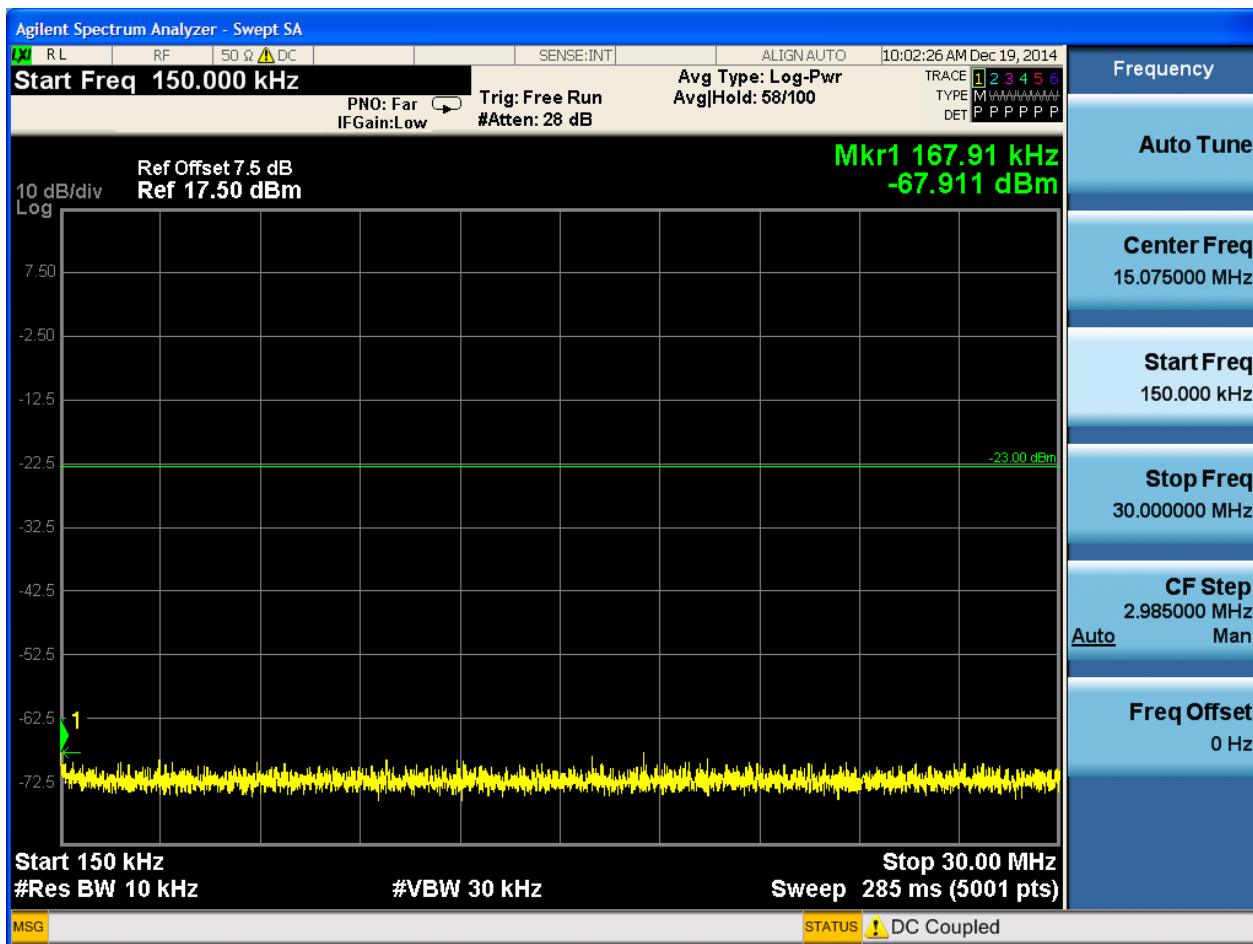


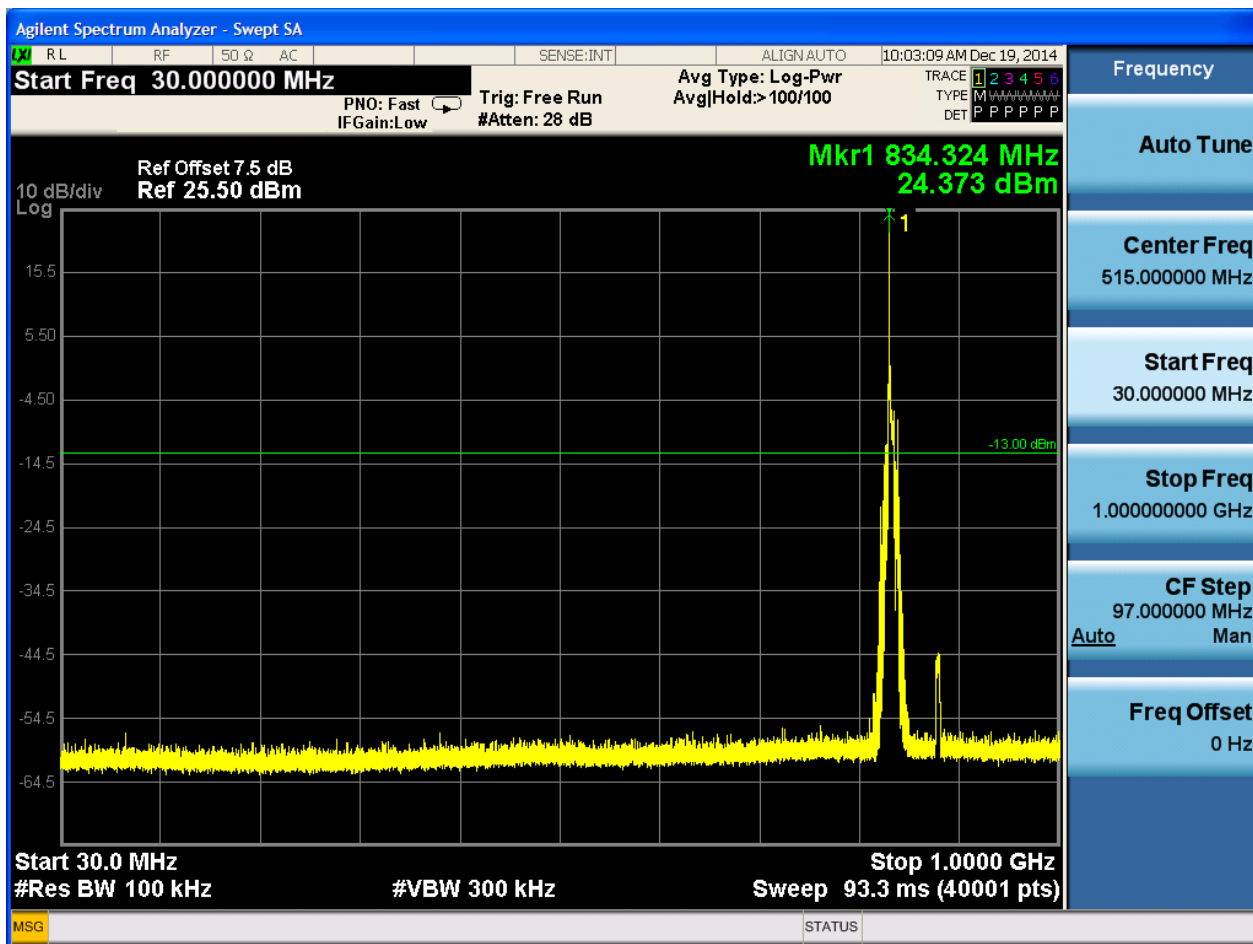


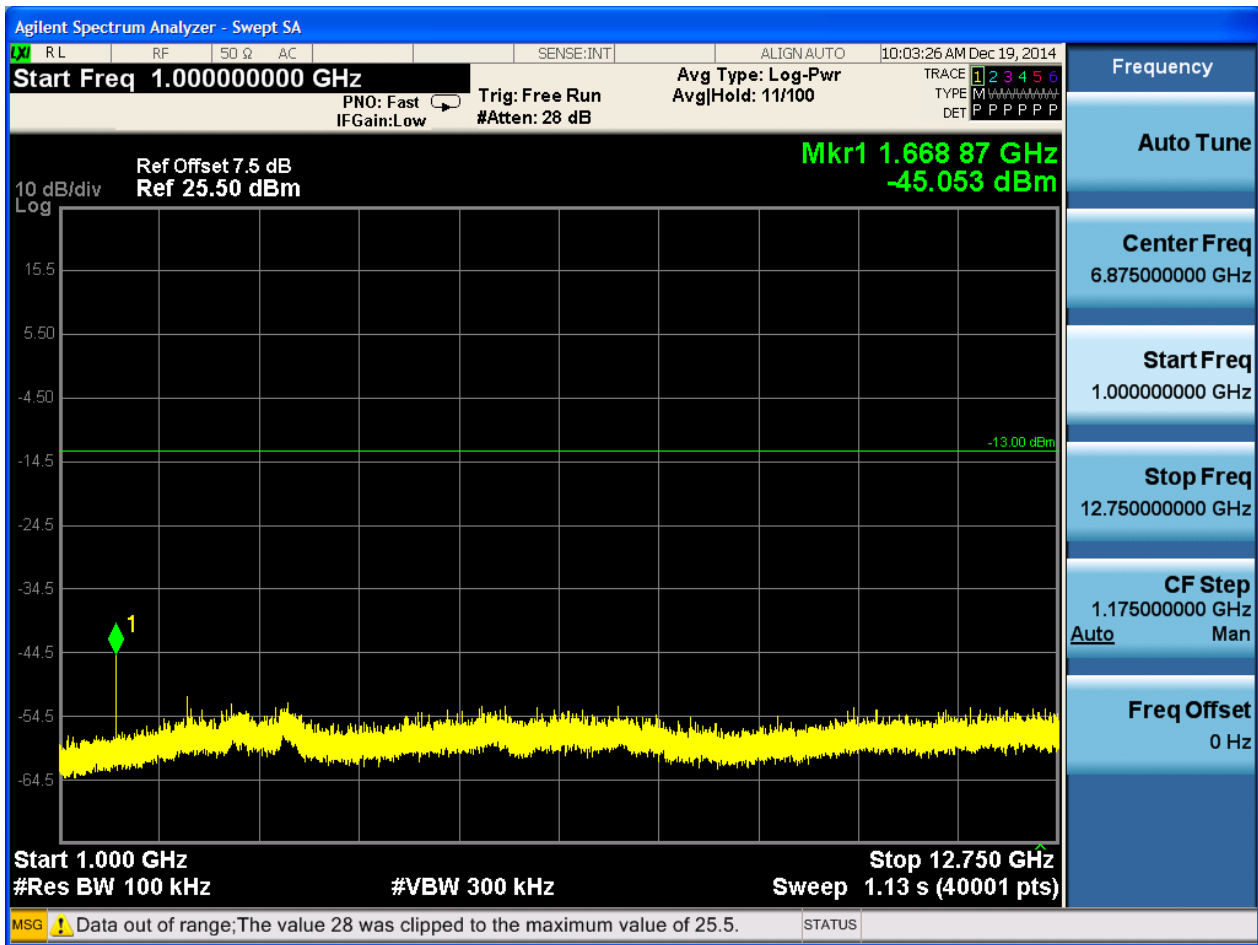
6.3.1.1.1.2 Test Channel = MCH

6.3.1.1.1.2.1 Test RB = RB1#0



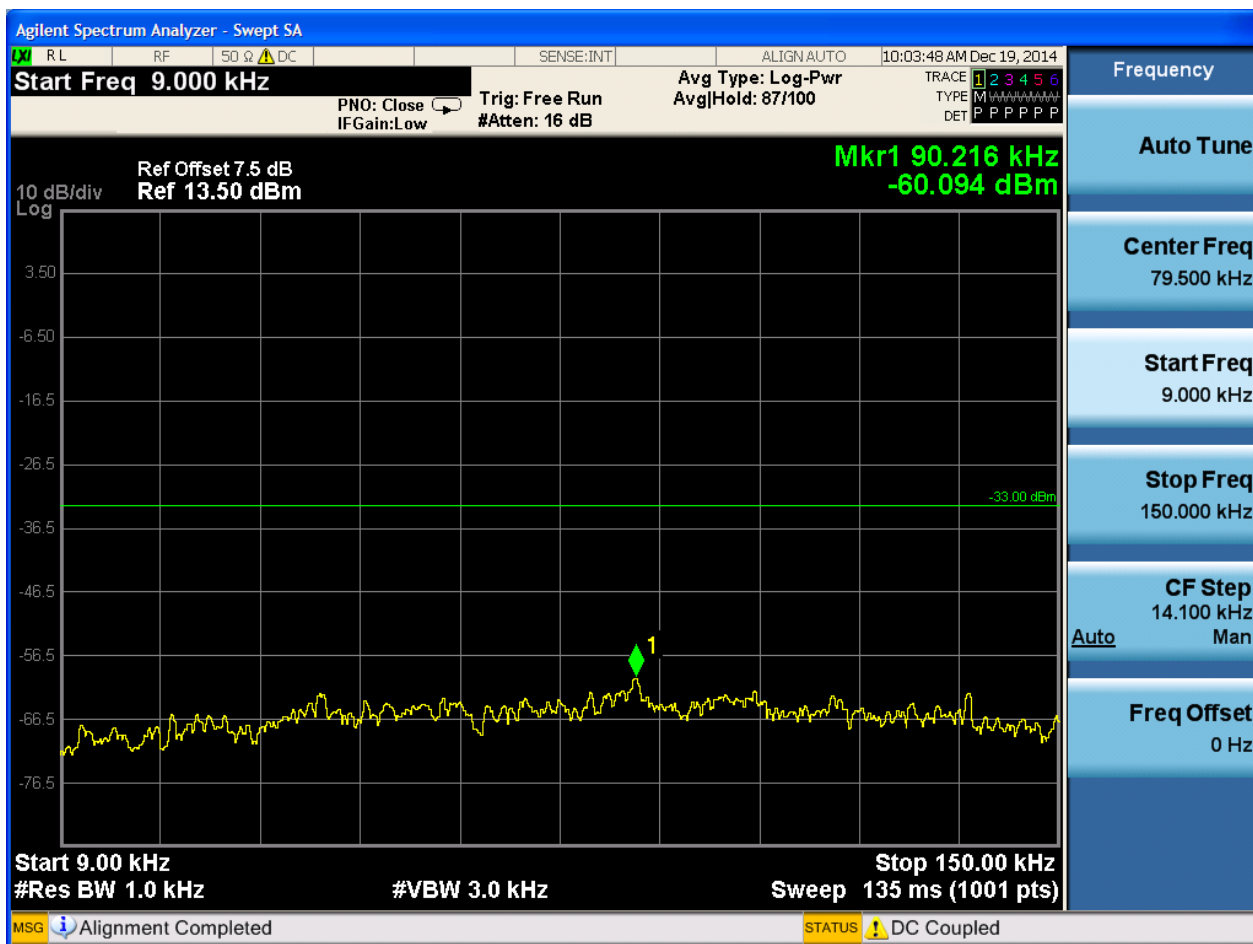


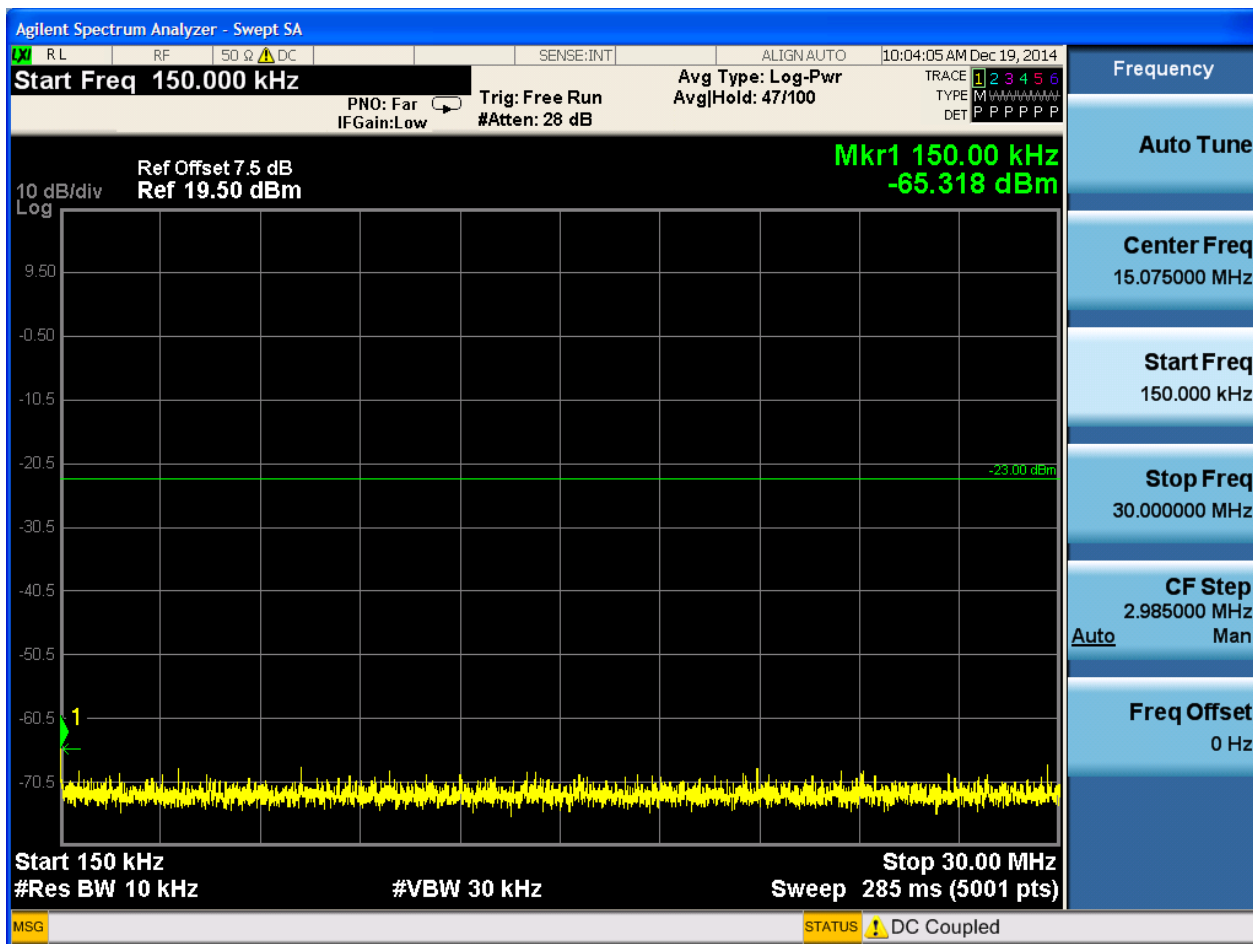


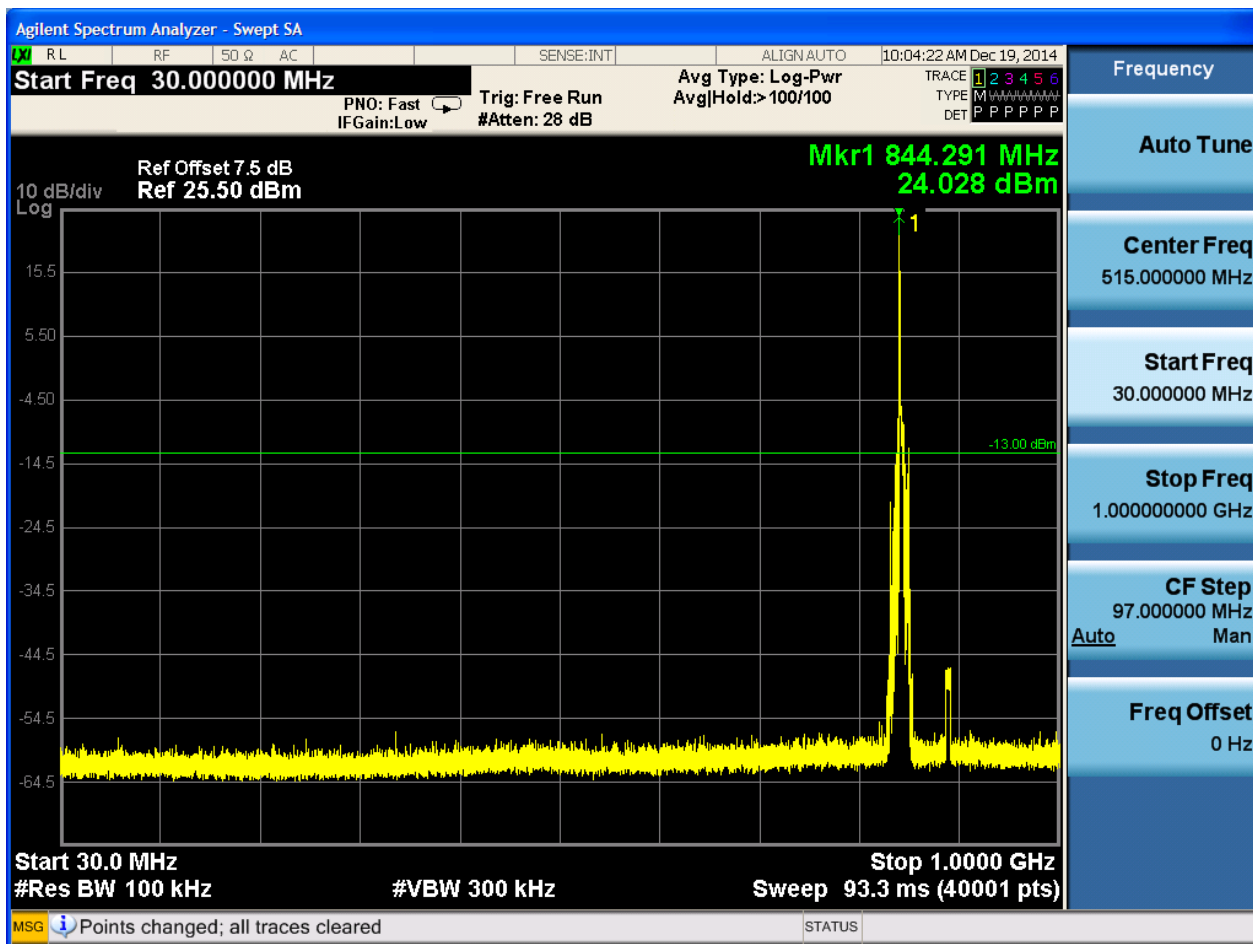


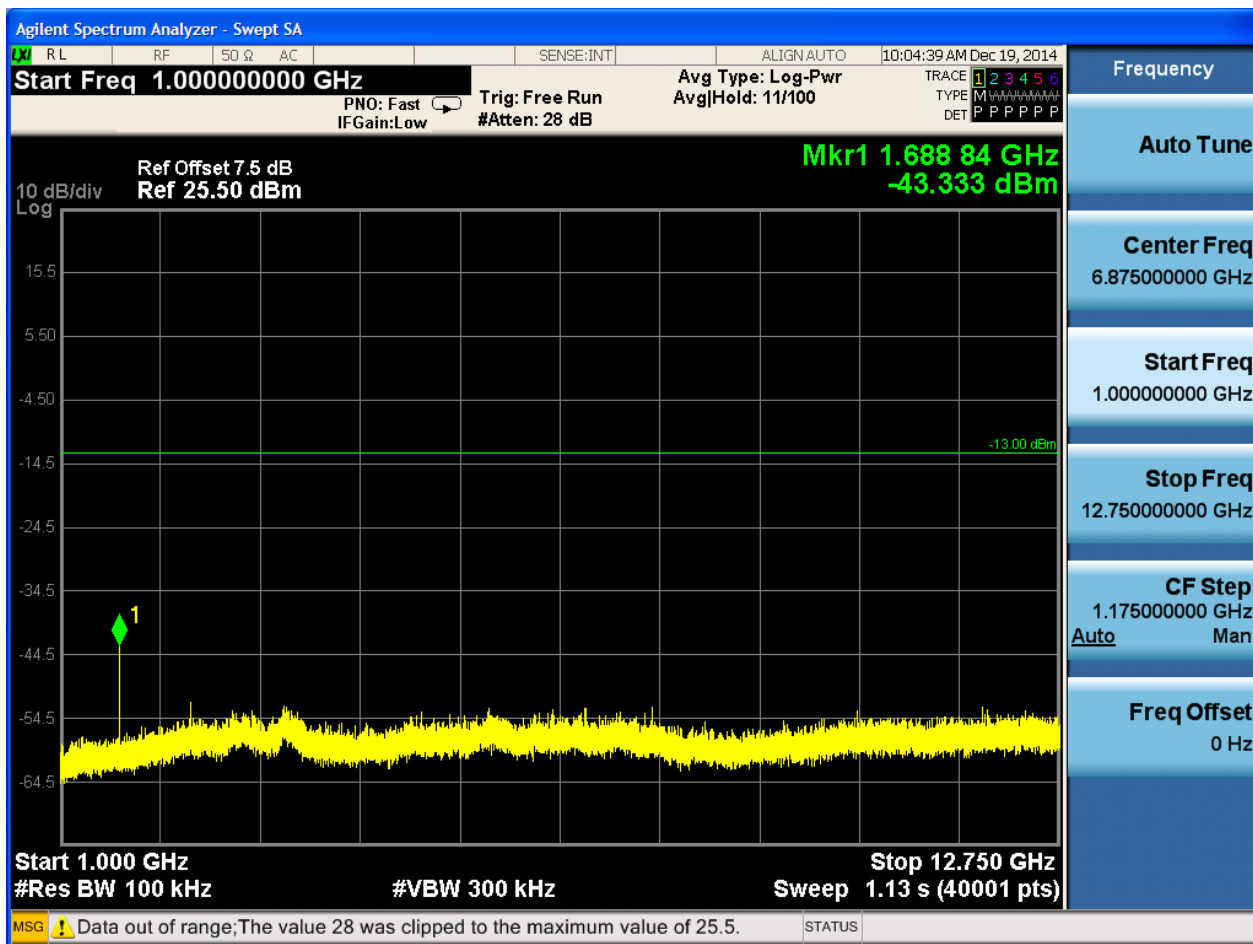
6.3.1.1.1.3 Test Channel = HCH

6.3.1.1.1.3.1 Test RB = RB1#0





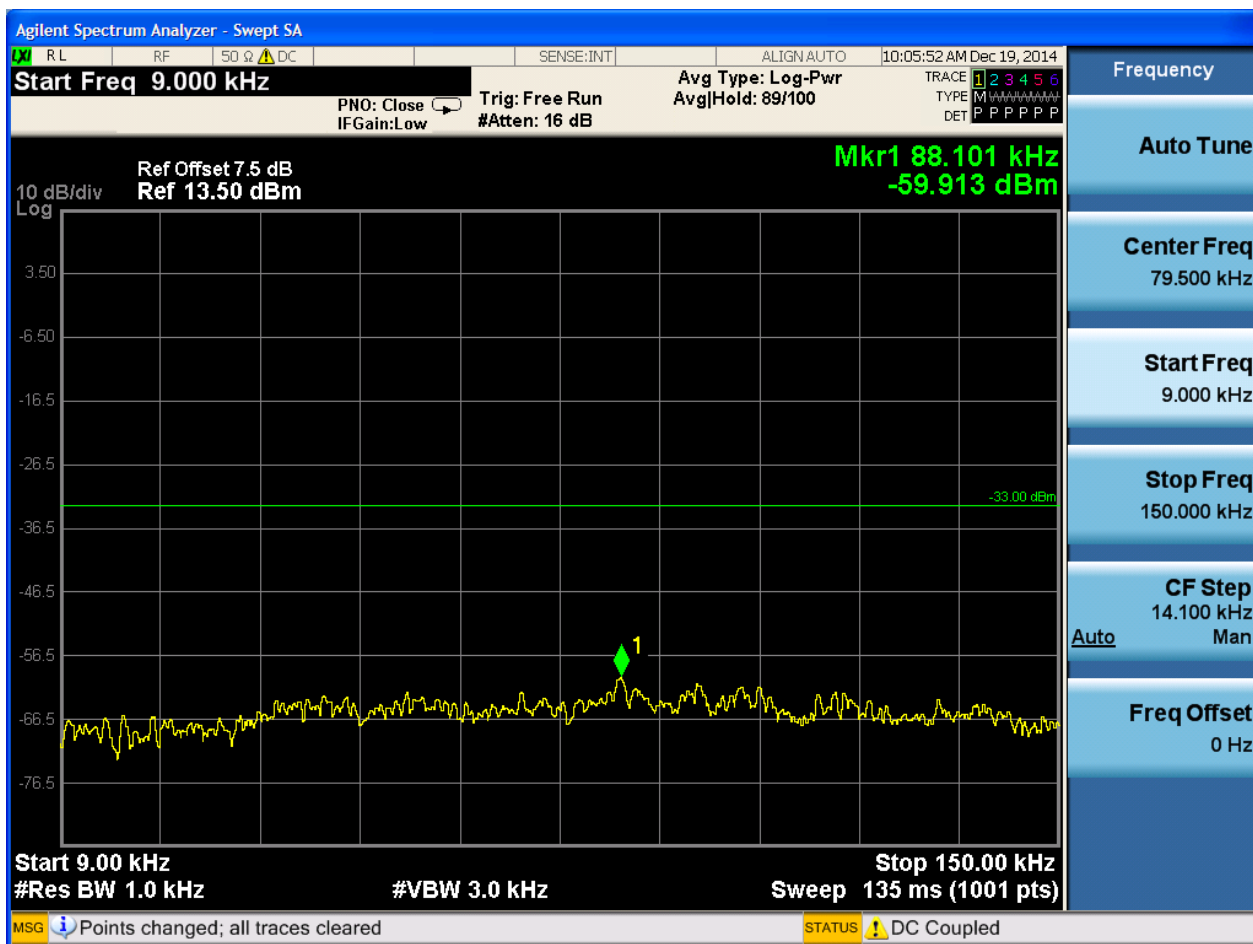


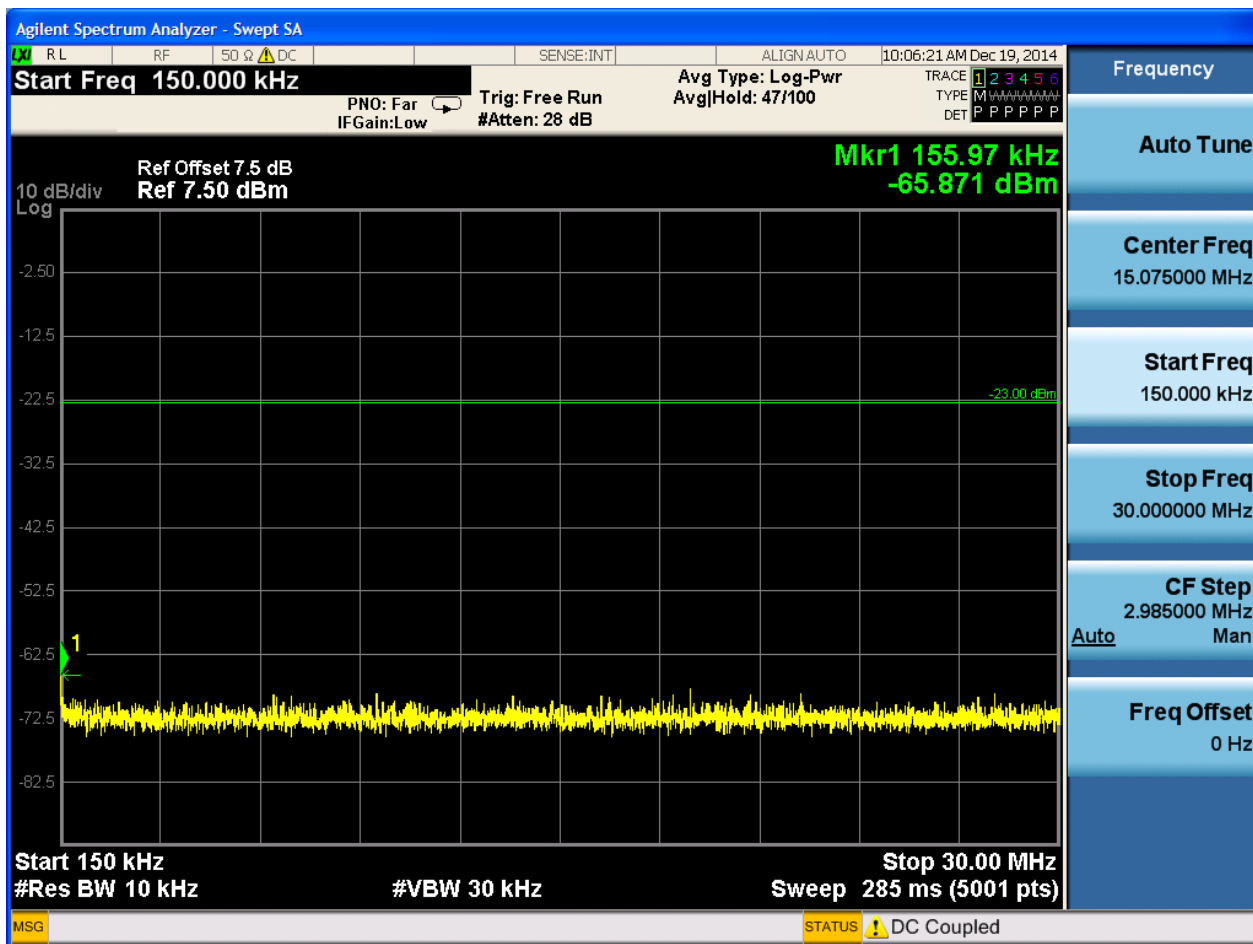


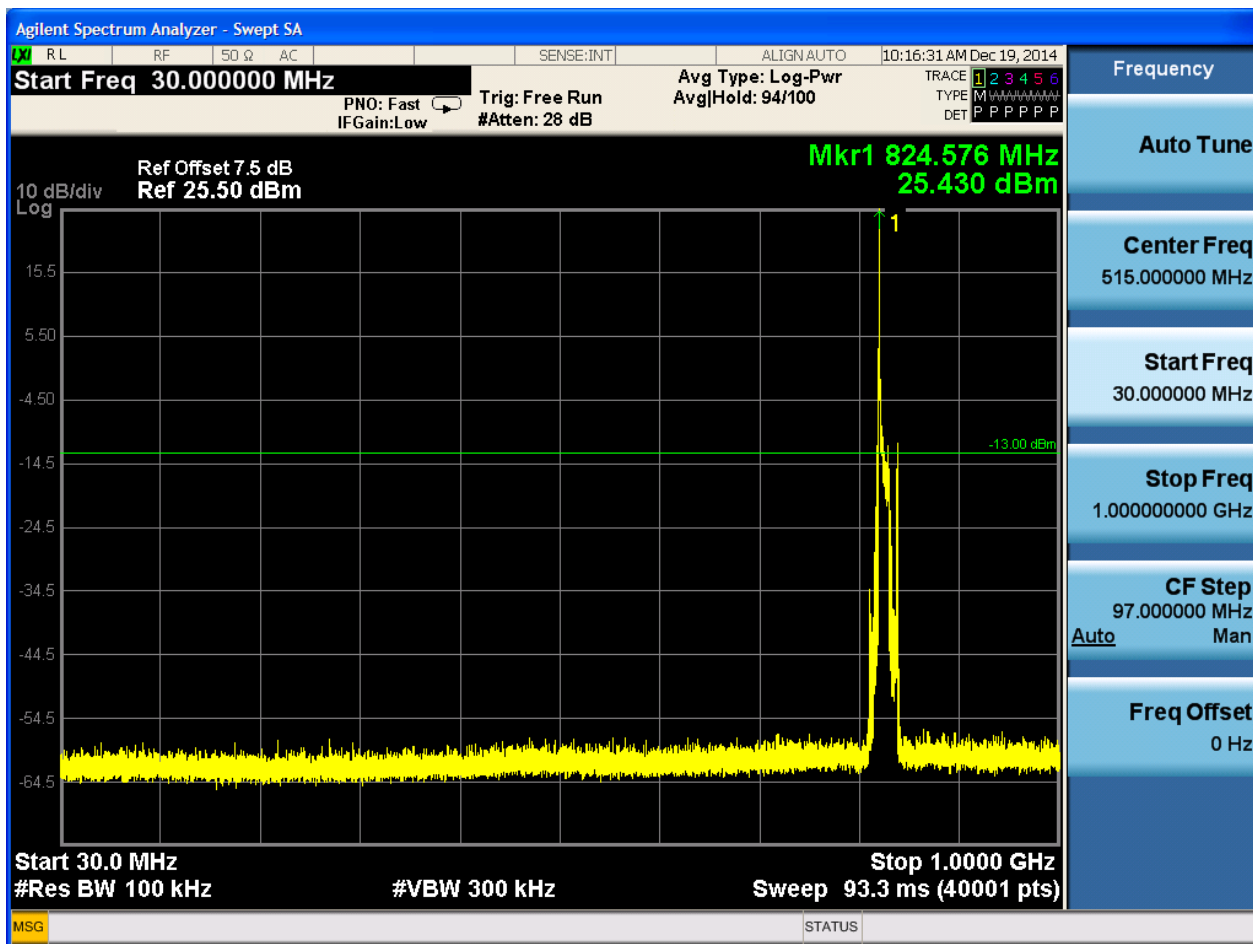
6.3.1.1.2 Test Bandwidth = 10

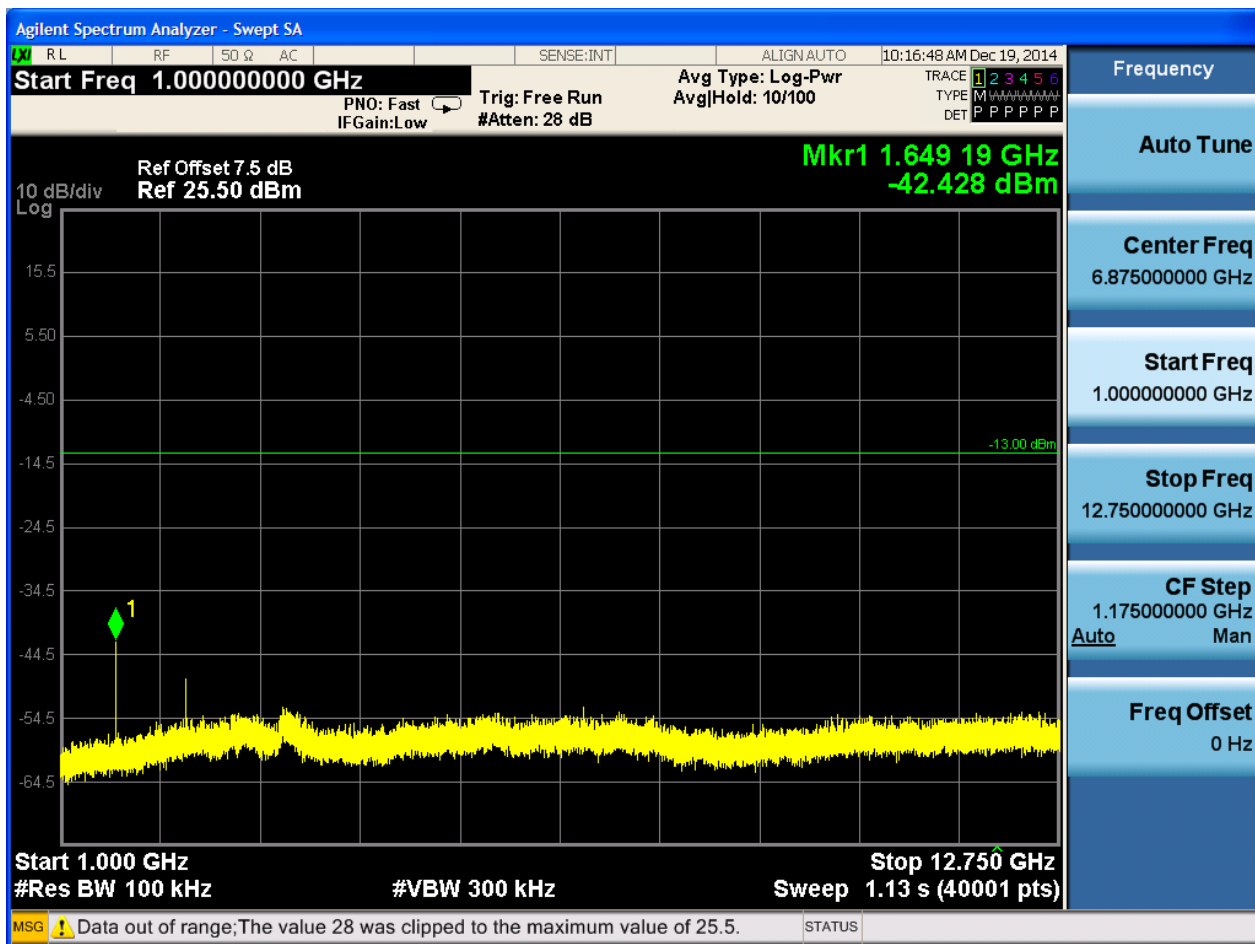
6.3.1.1.2.1 Test Channel = LCH

6.3.1.1.2.1.1 Test RB = RB1#0



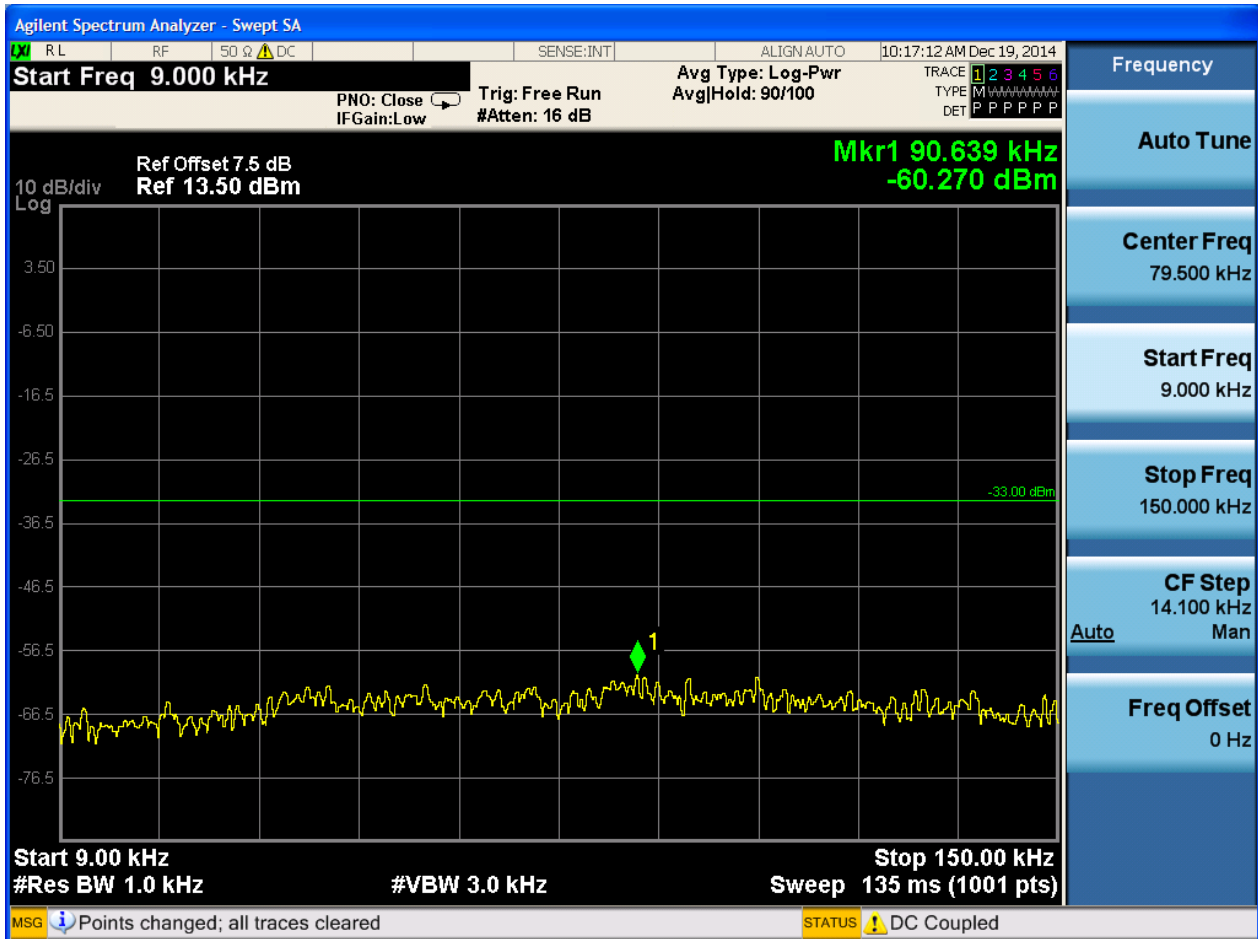


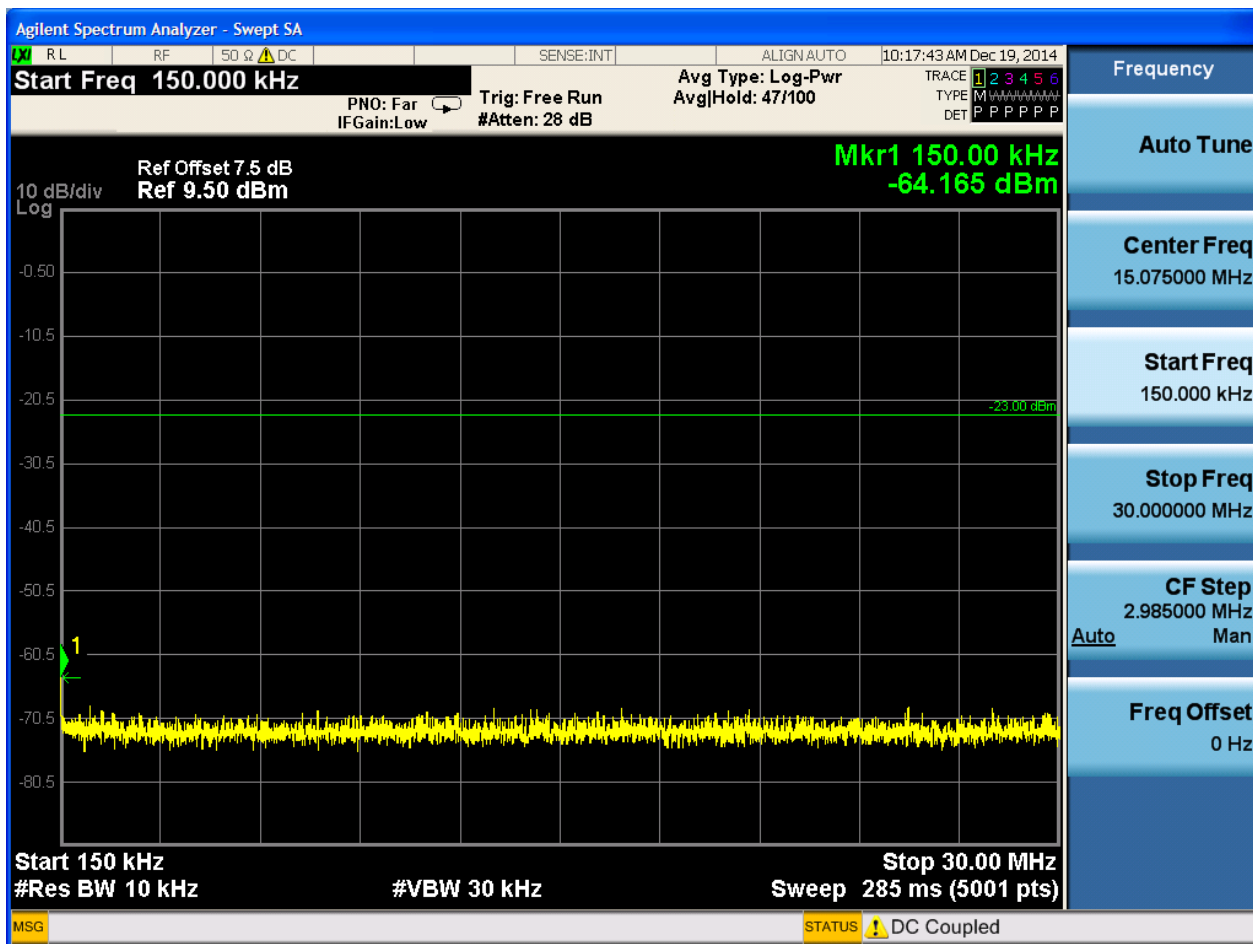


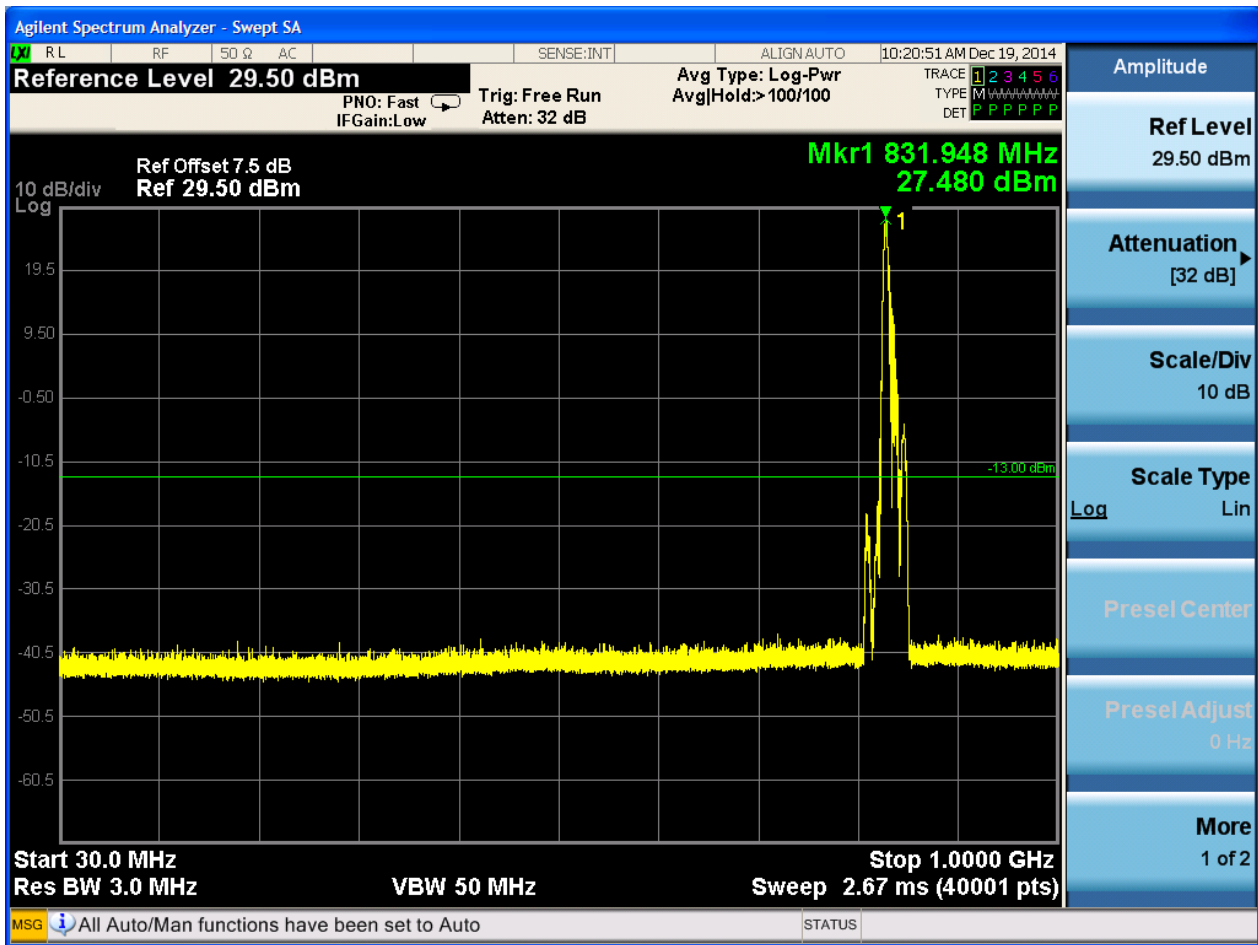


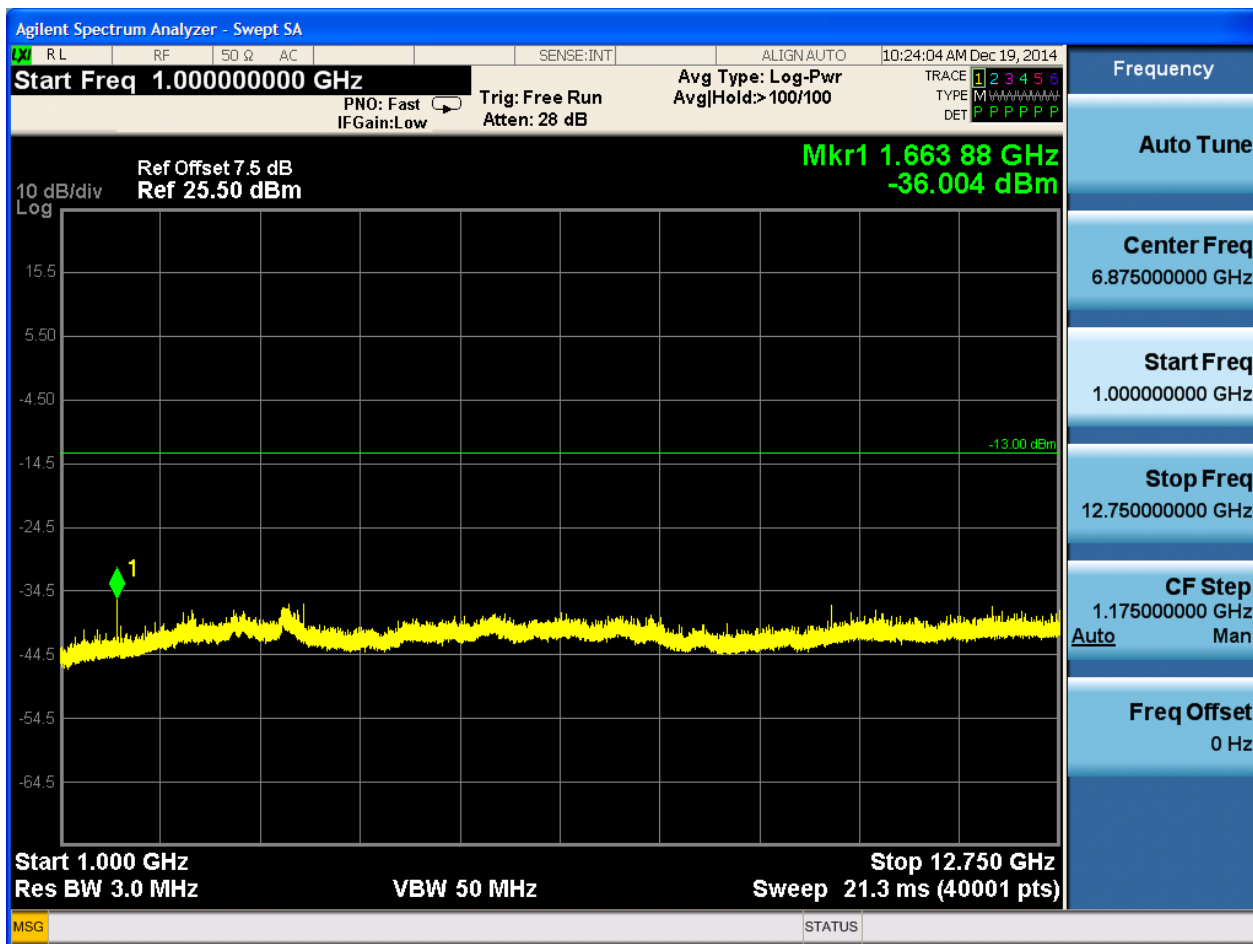
6.3.1.1.2.2 Test Channel = MCH

6.3.1.1.2.2.1 Test RB = RB1#0



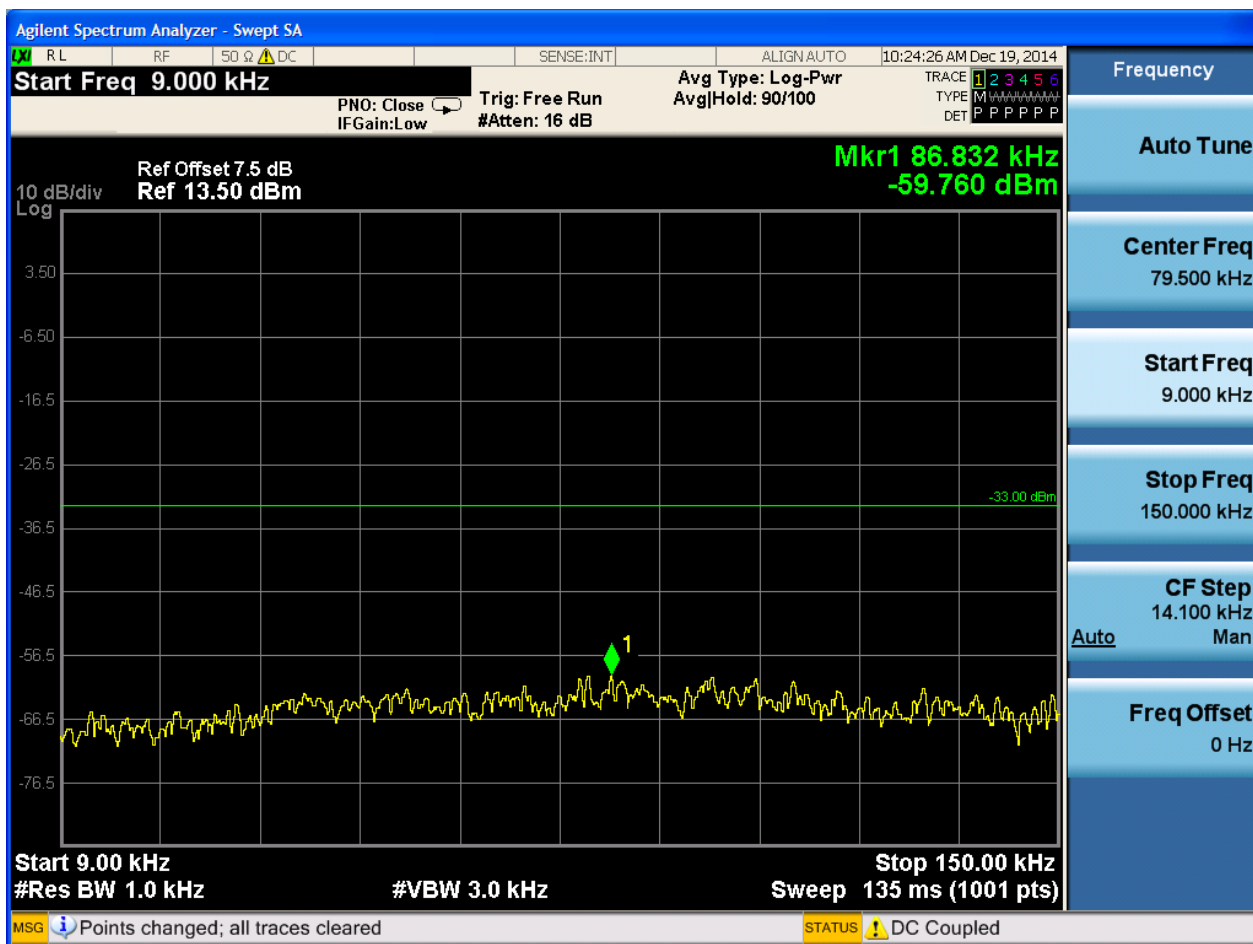


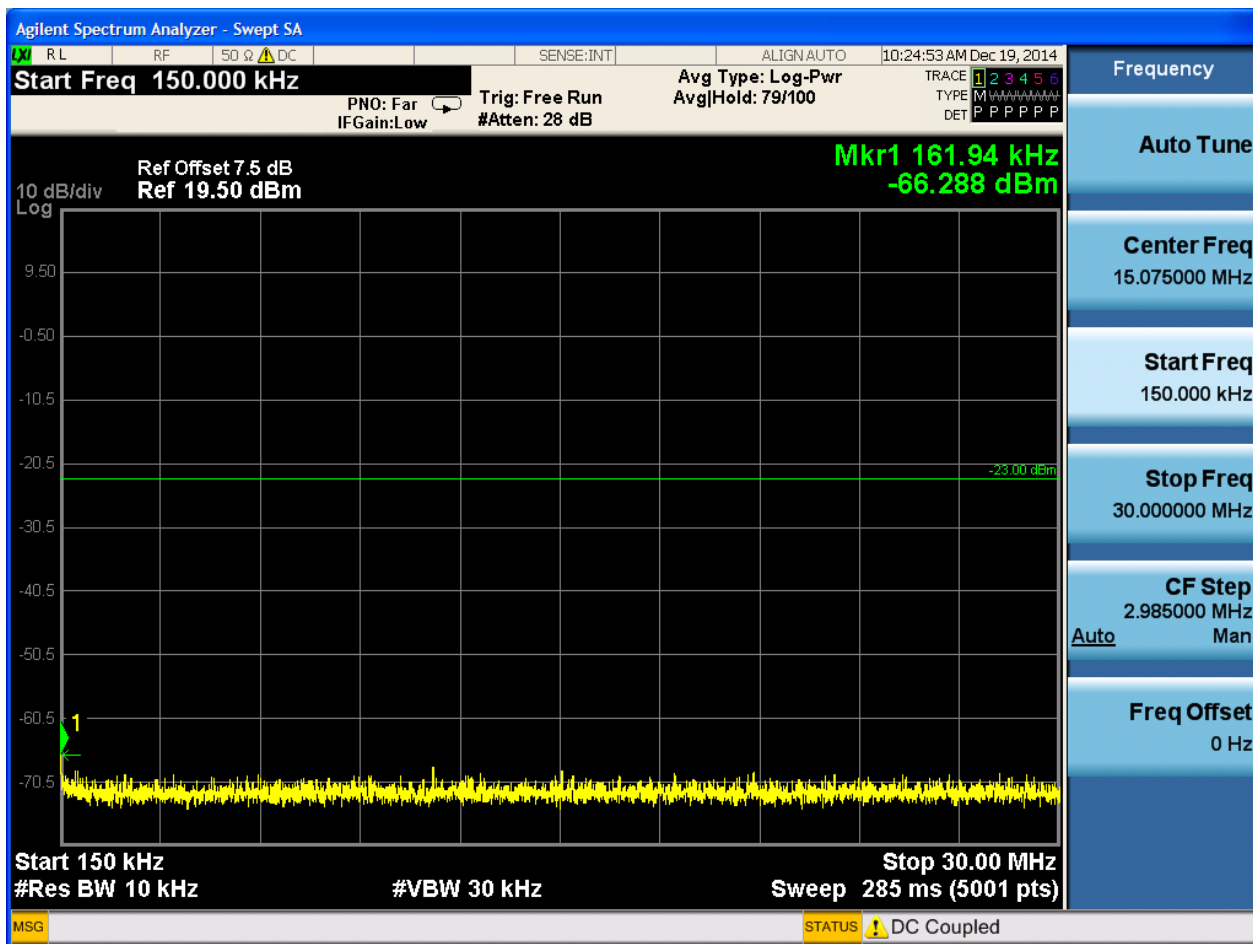


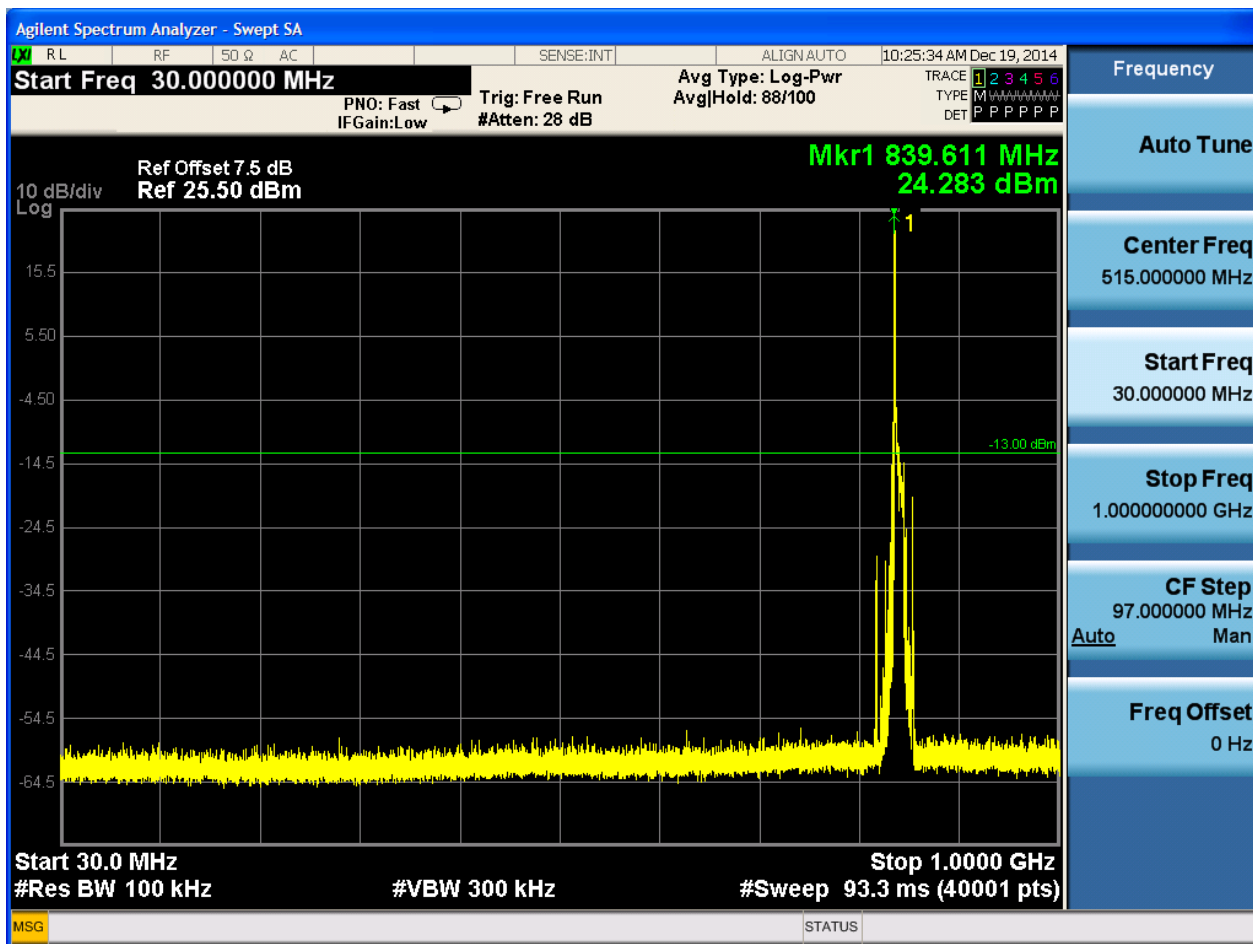


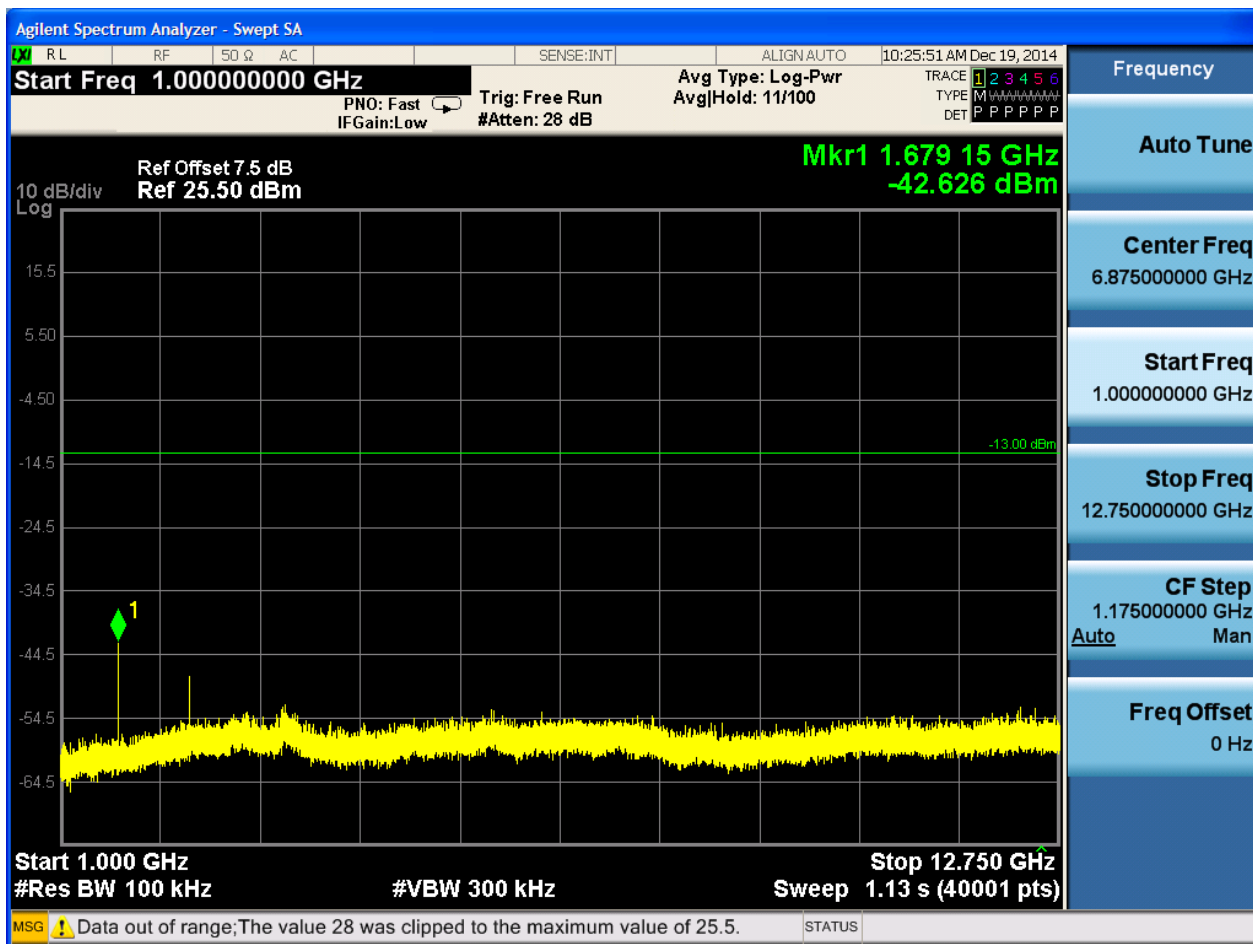
6.3.1.1.2.3 Test Channel = HCH

6.3.1.1.2.3.1 Test RB = RB1#0







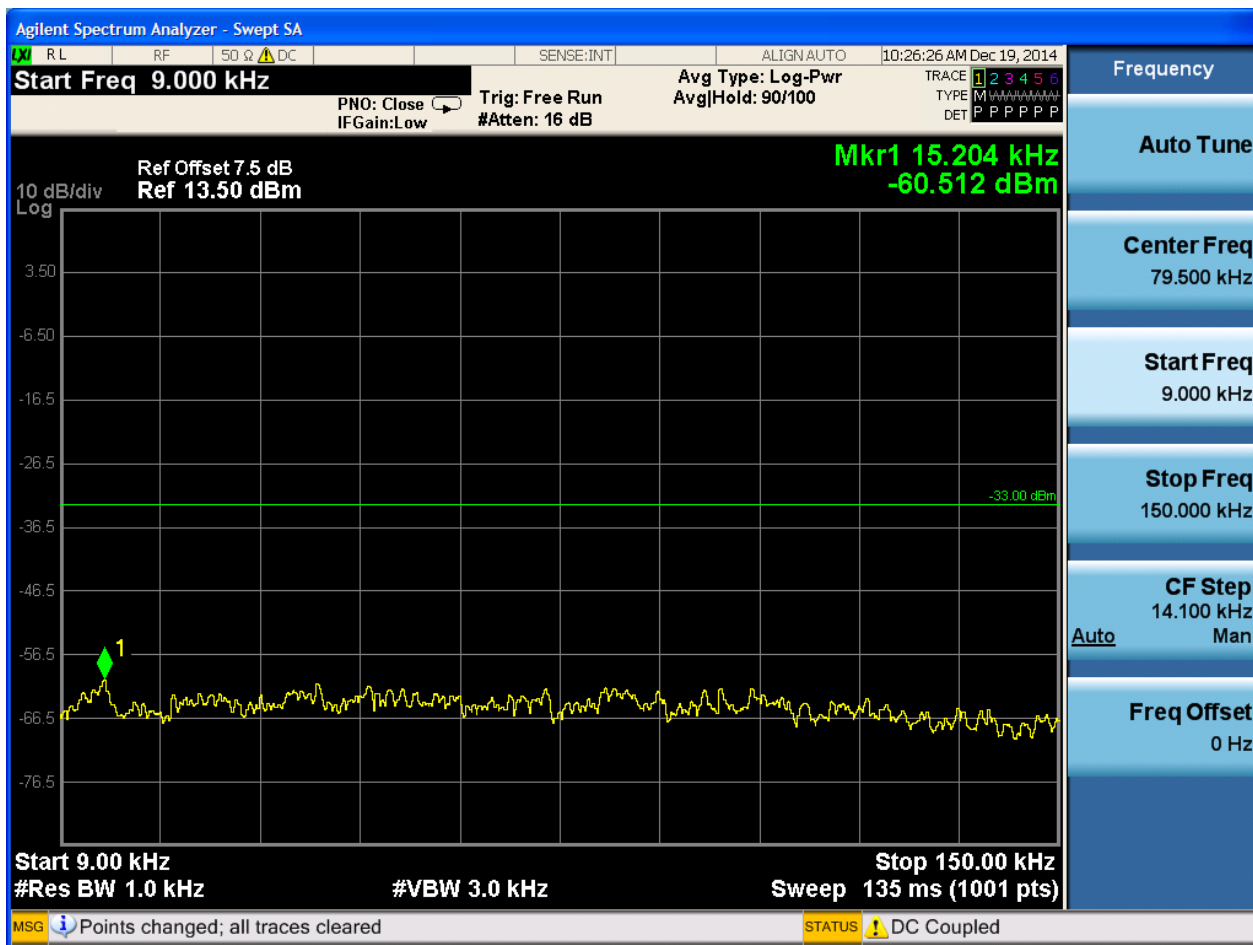


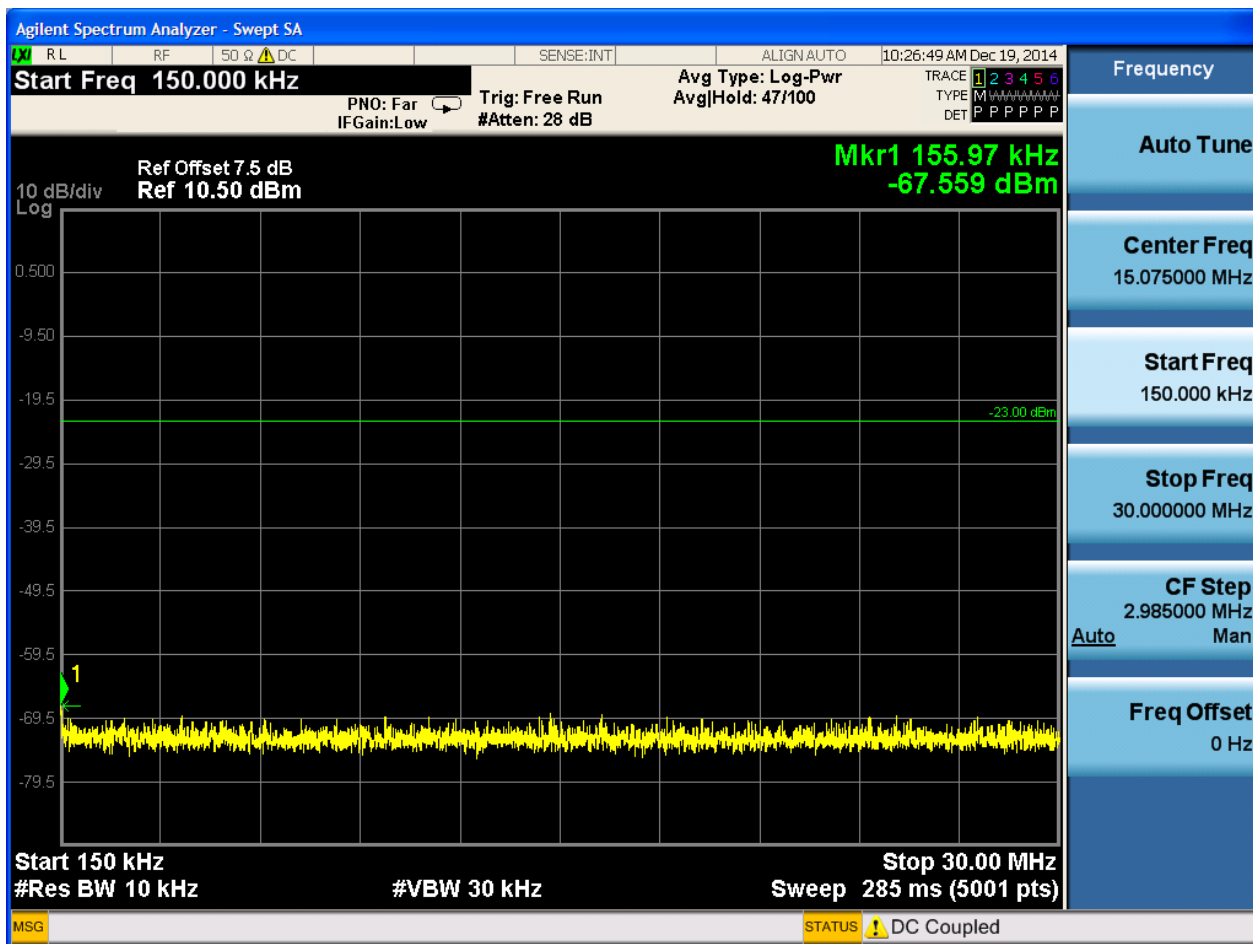
6.3.1.2 Test Mode = LTE/TM2

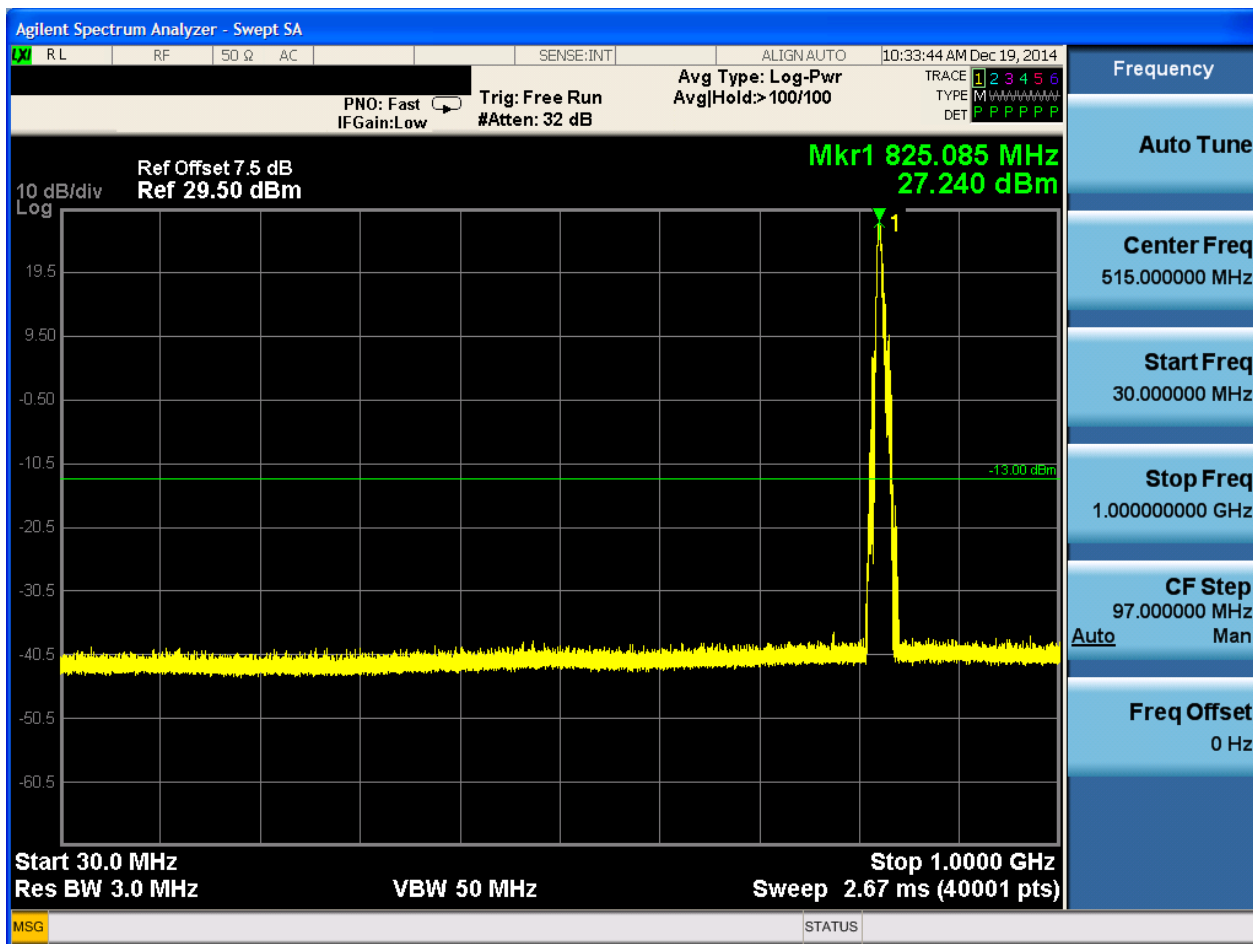
6.3.1.2.1 Test Bandwidth = 5

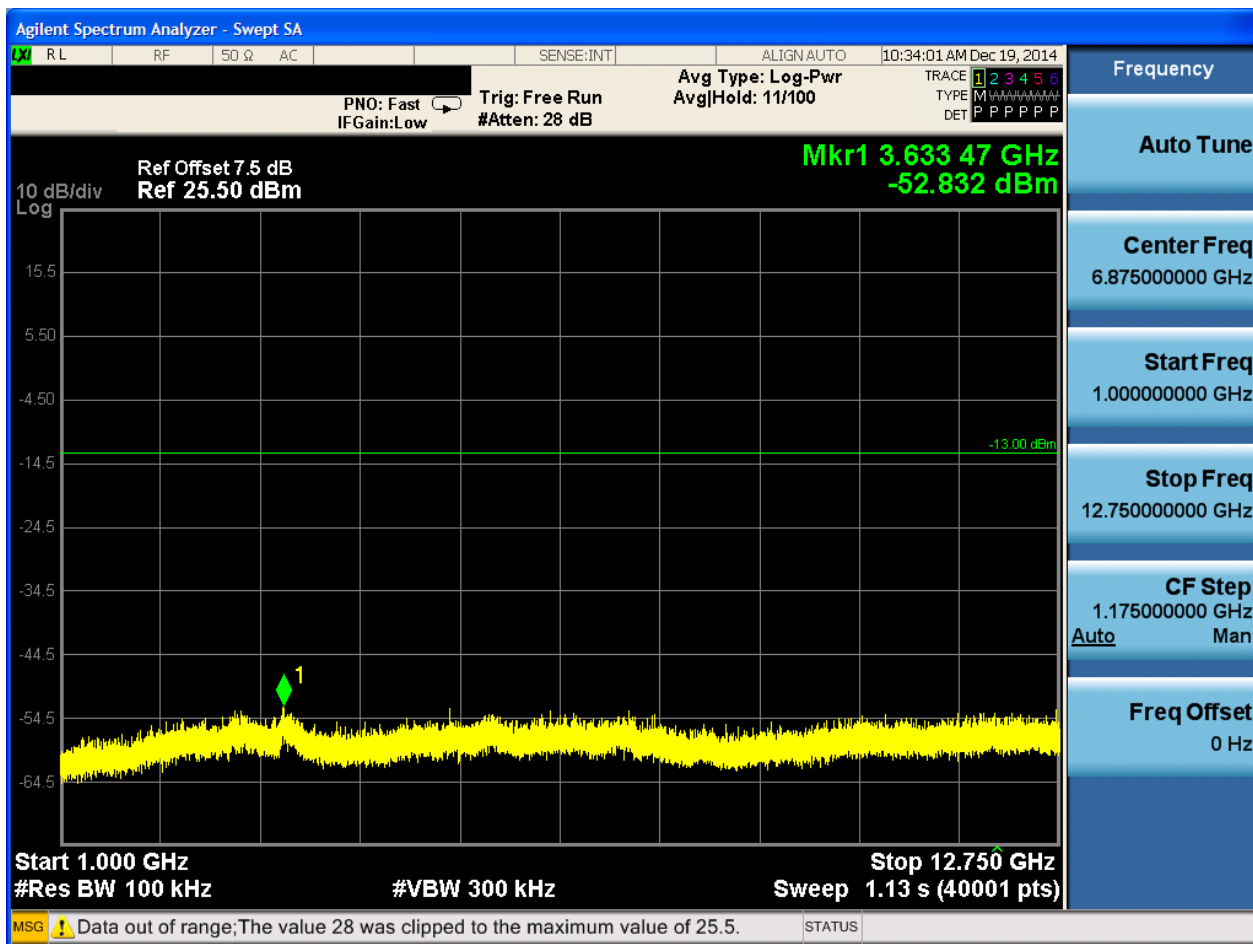
6.3.1.2.1.1 Test Channel = LCH

6.3.1.2.1.1.1 Test RB = RB1#0



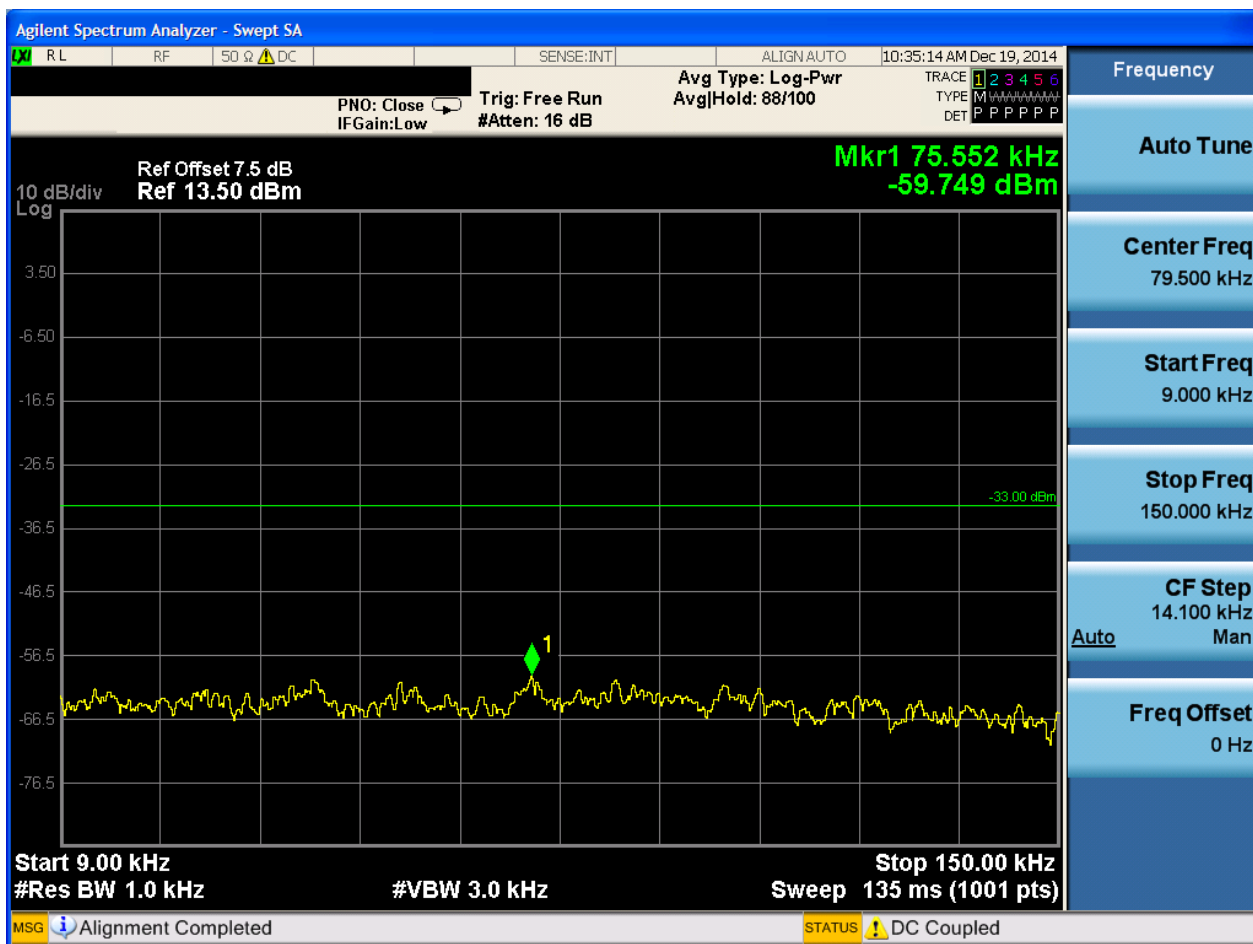




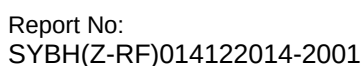
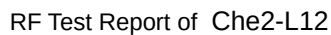


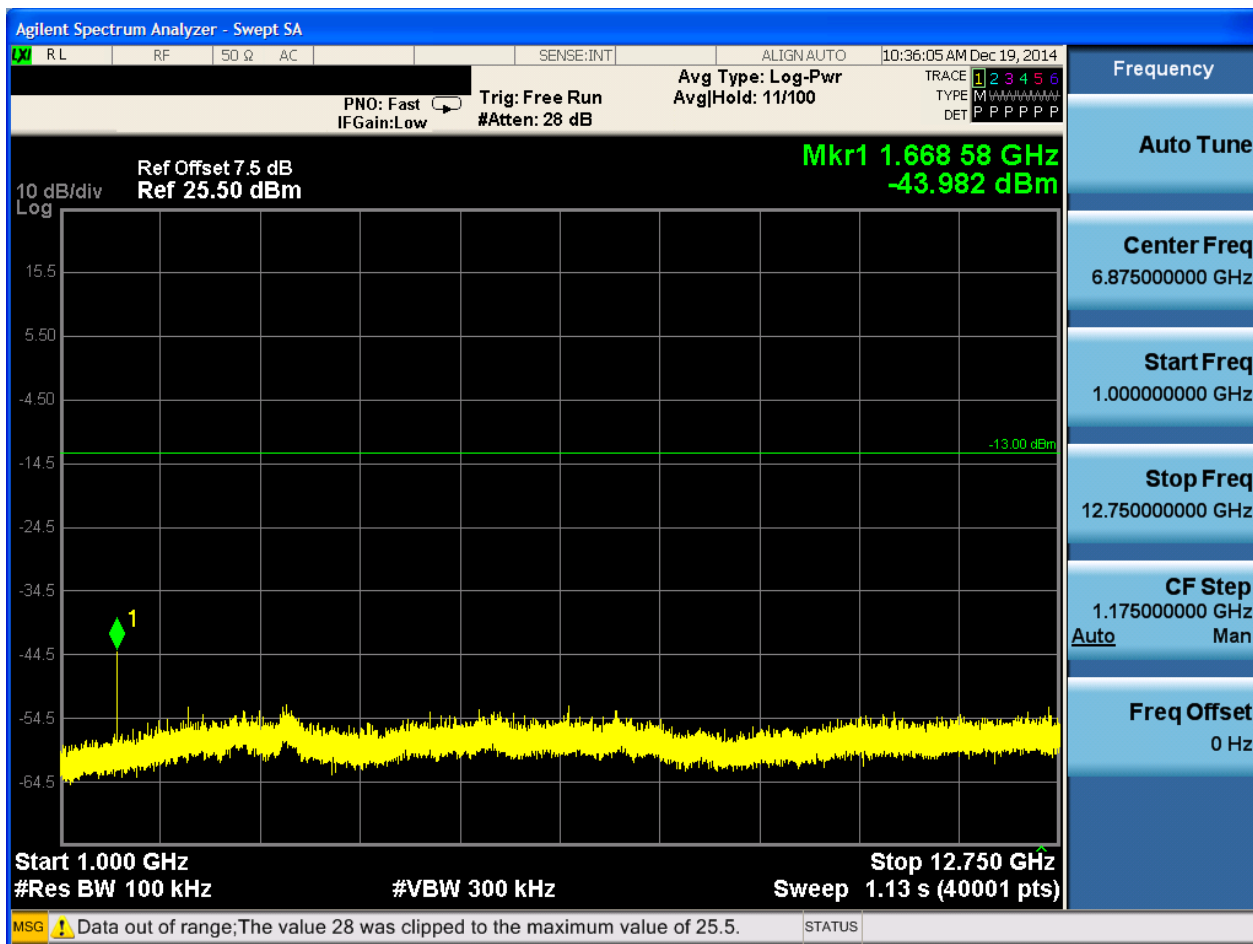
6.3.1.2.1.2 Test Channel = MCH

6.3.1.2.1.2.1 Test RB = RB1#0



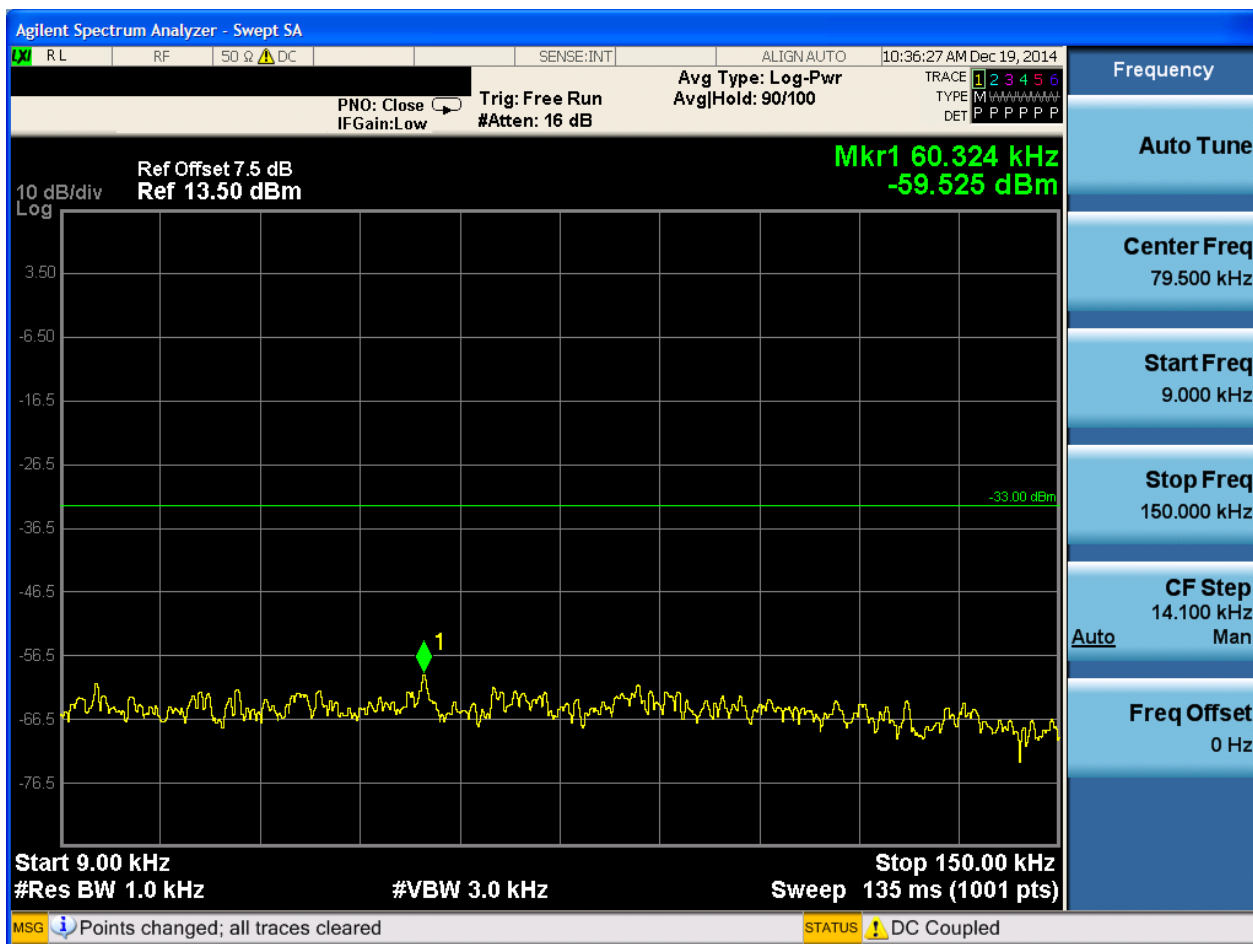




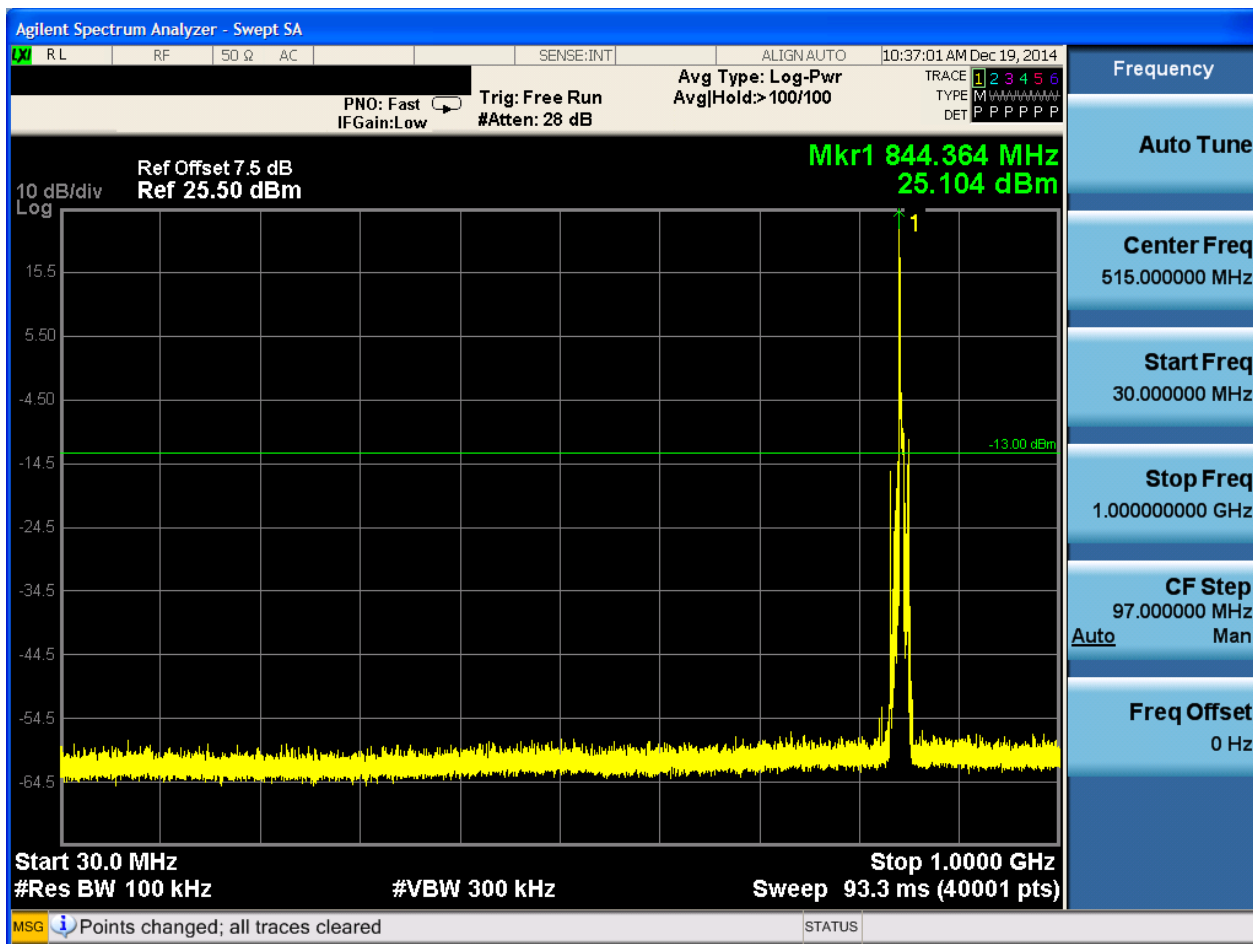


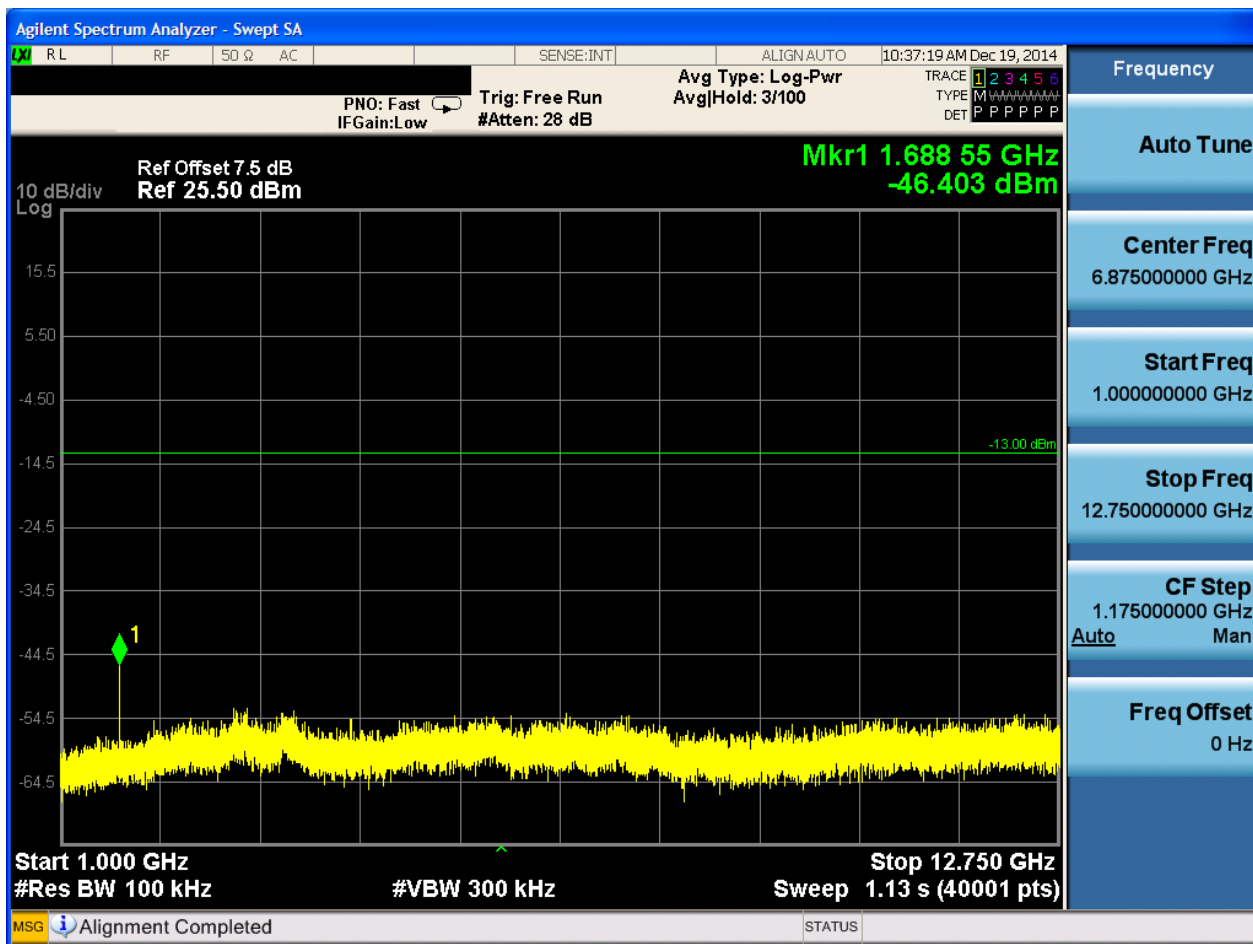
6.3.1.2.1.3 Test Channel = HCH

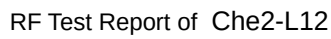
6.3.1.2.1.3.1 Test RB = RB1#0



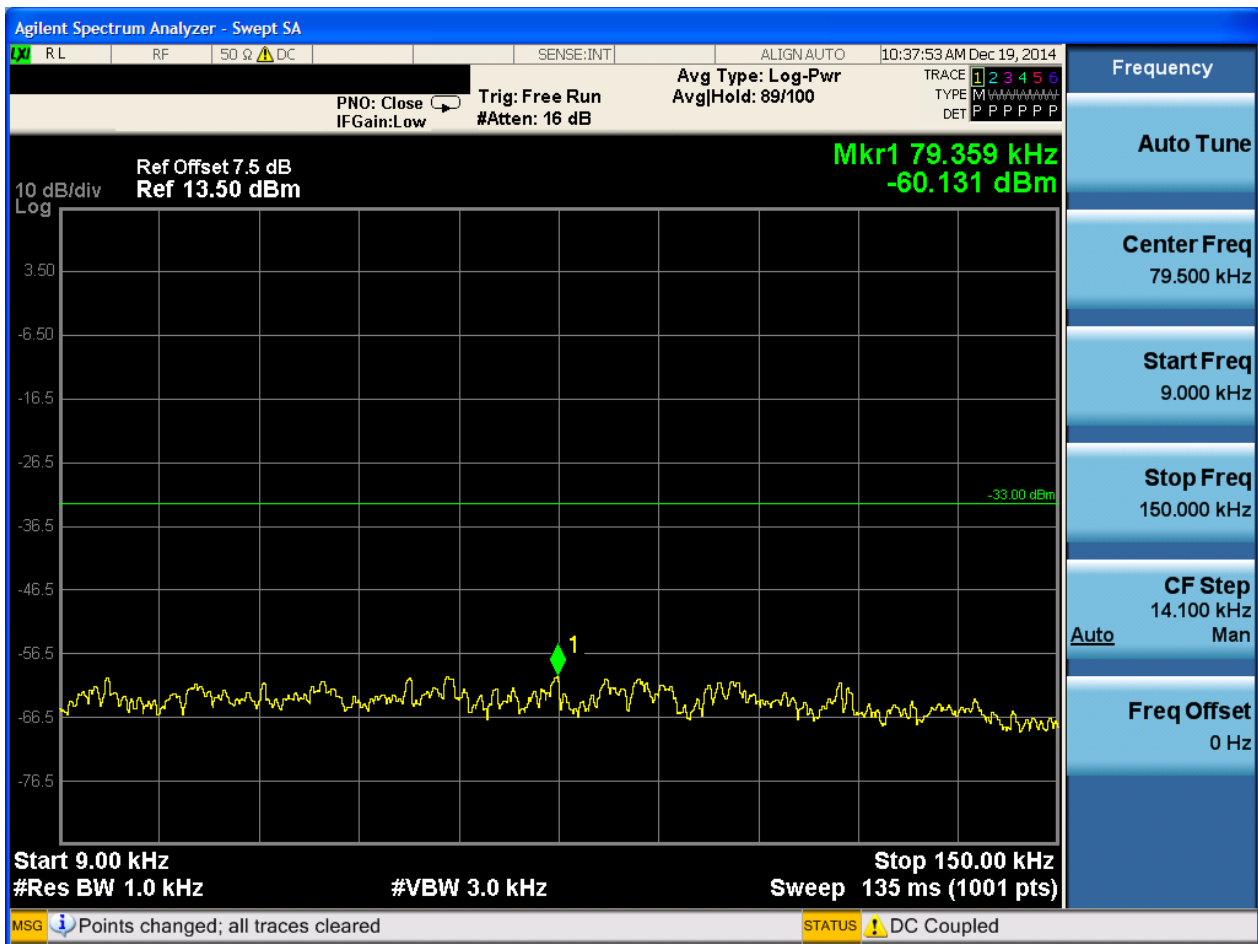




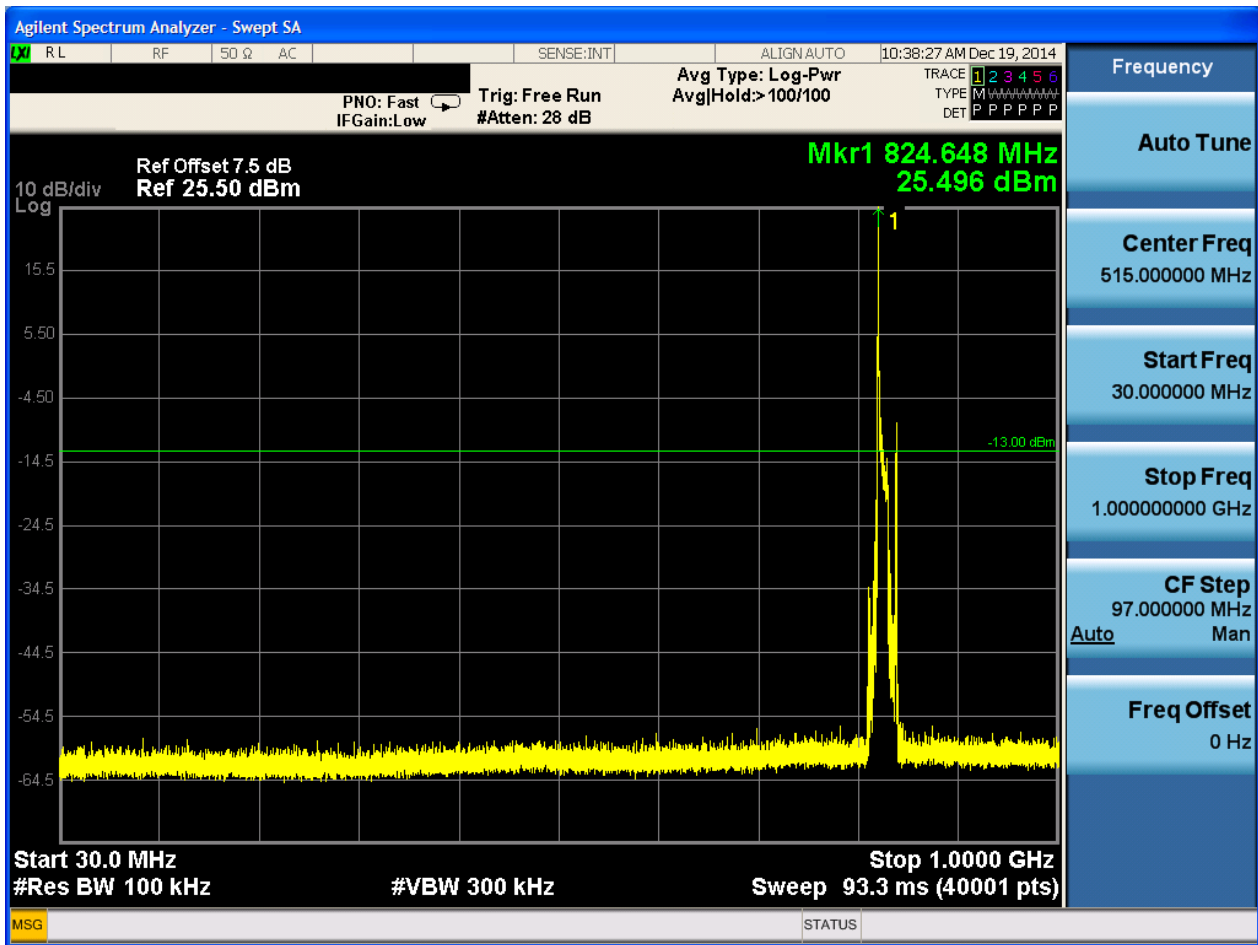


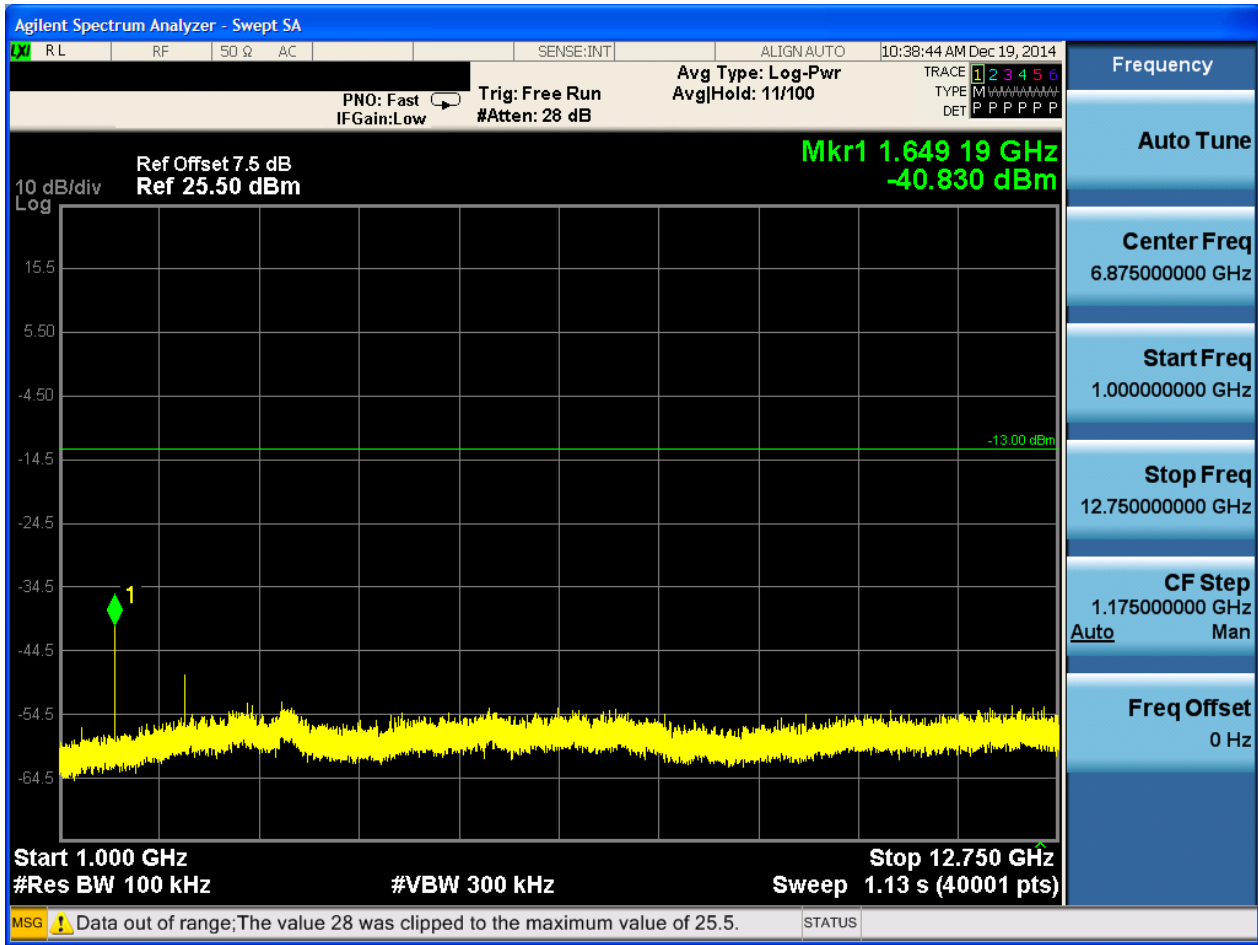


6.3.1.2.2.1.1 Test RB = RB1#0



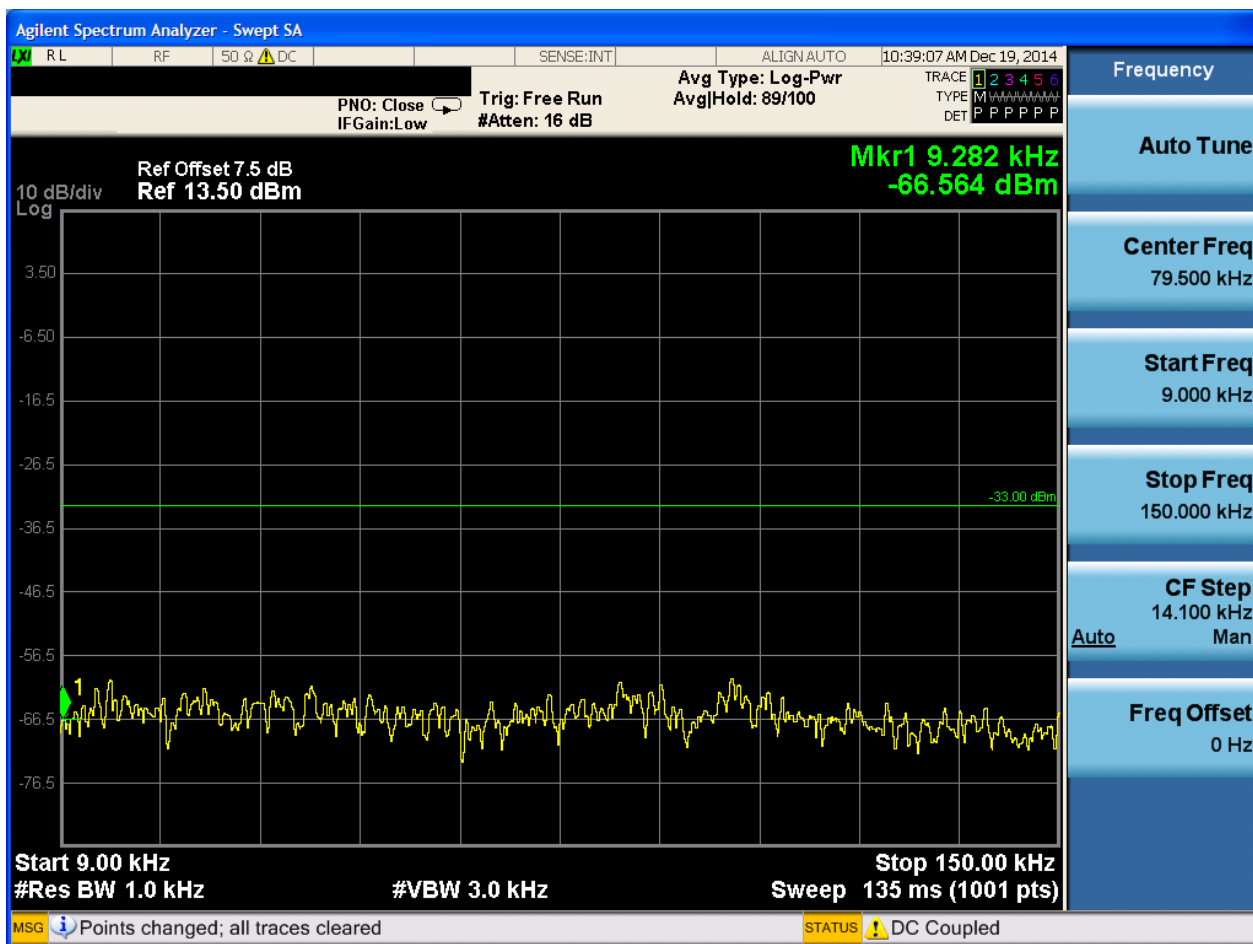


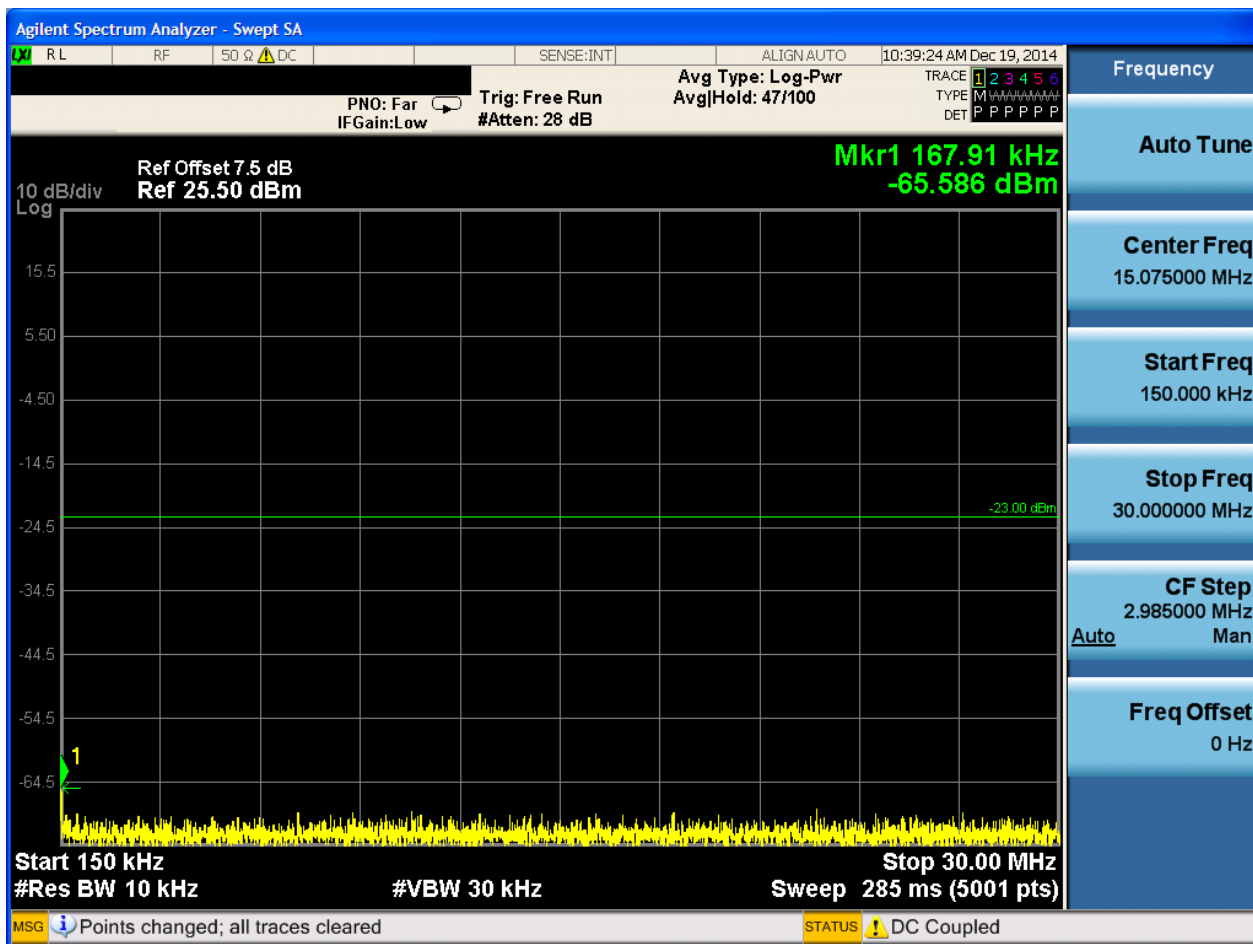


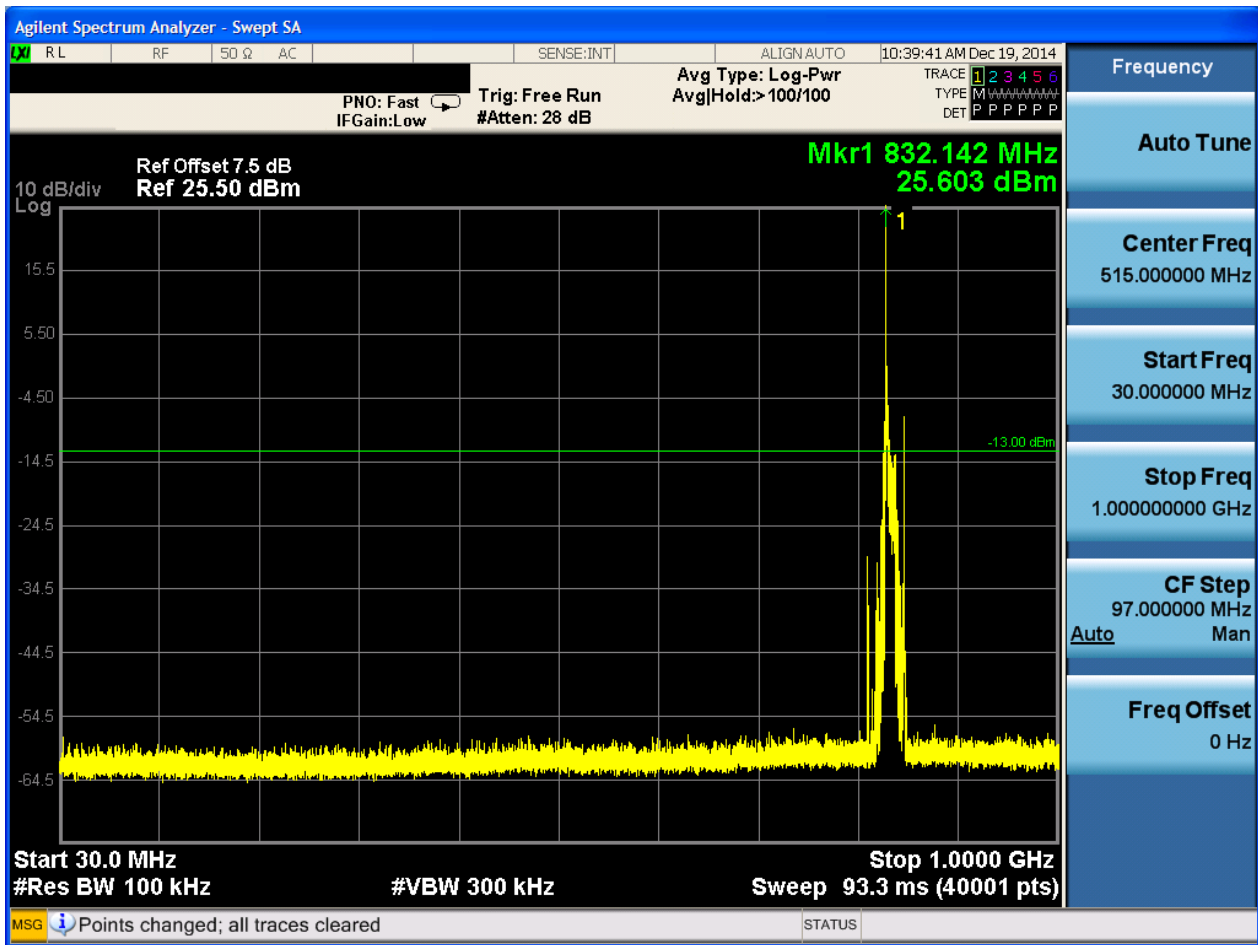


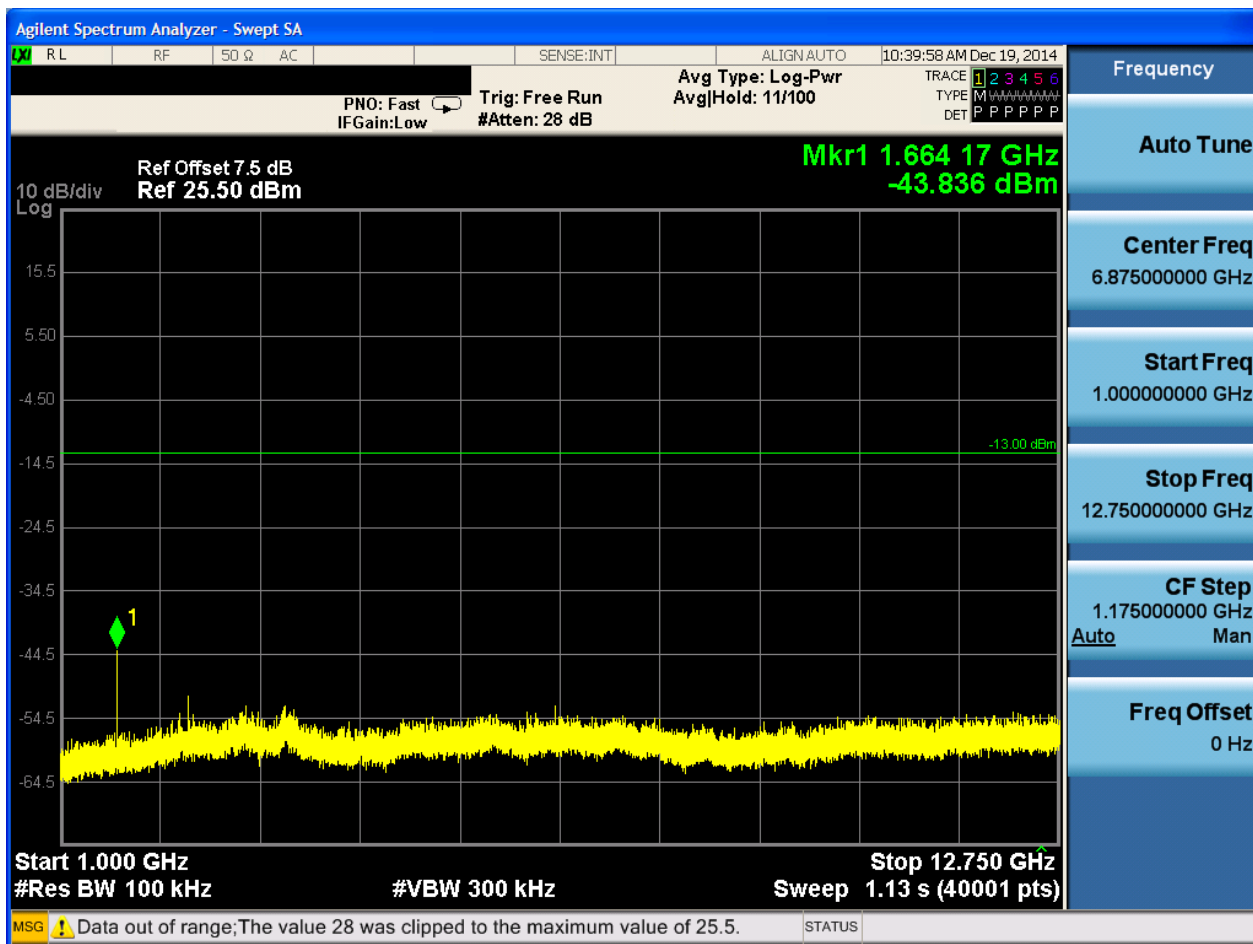
6.3.1.2.2.2 Test Channel = MCH

6.3.1.2.2.2.1 Test RB = RB1#0



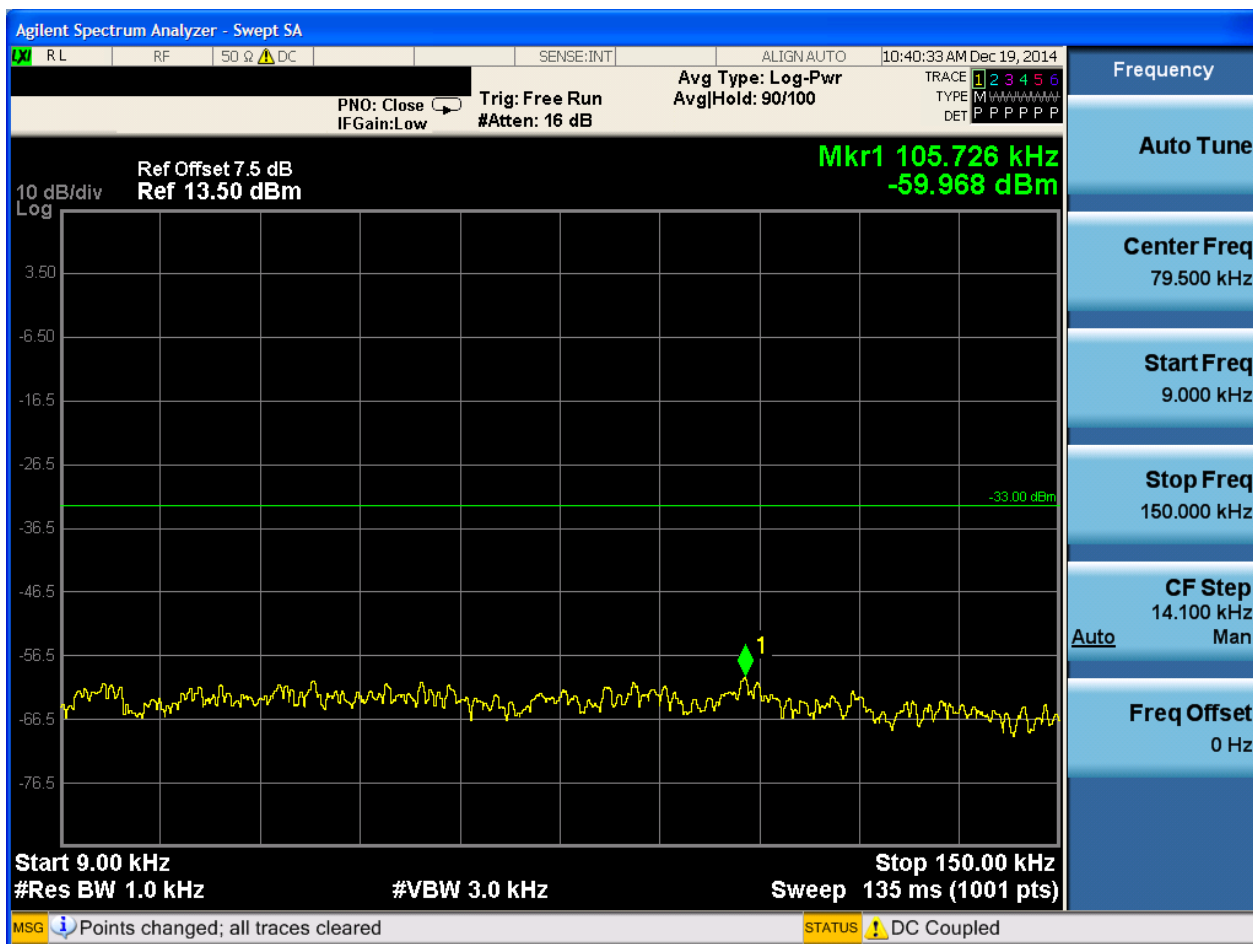


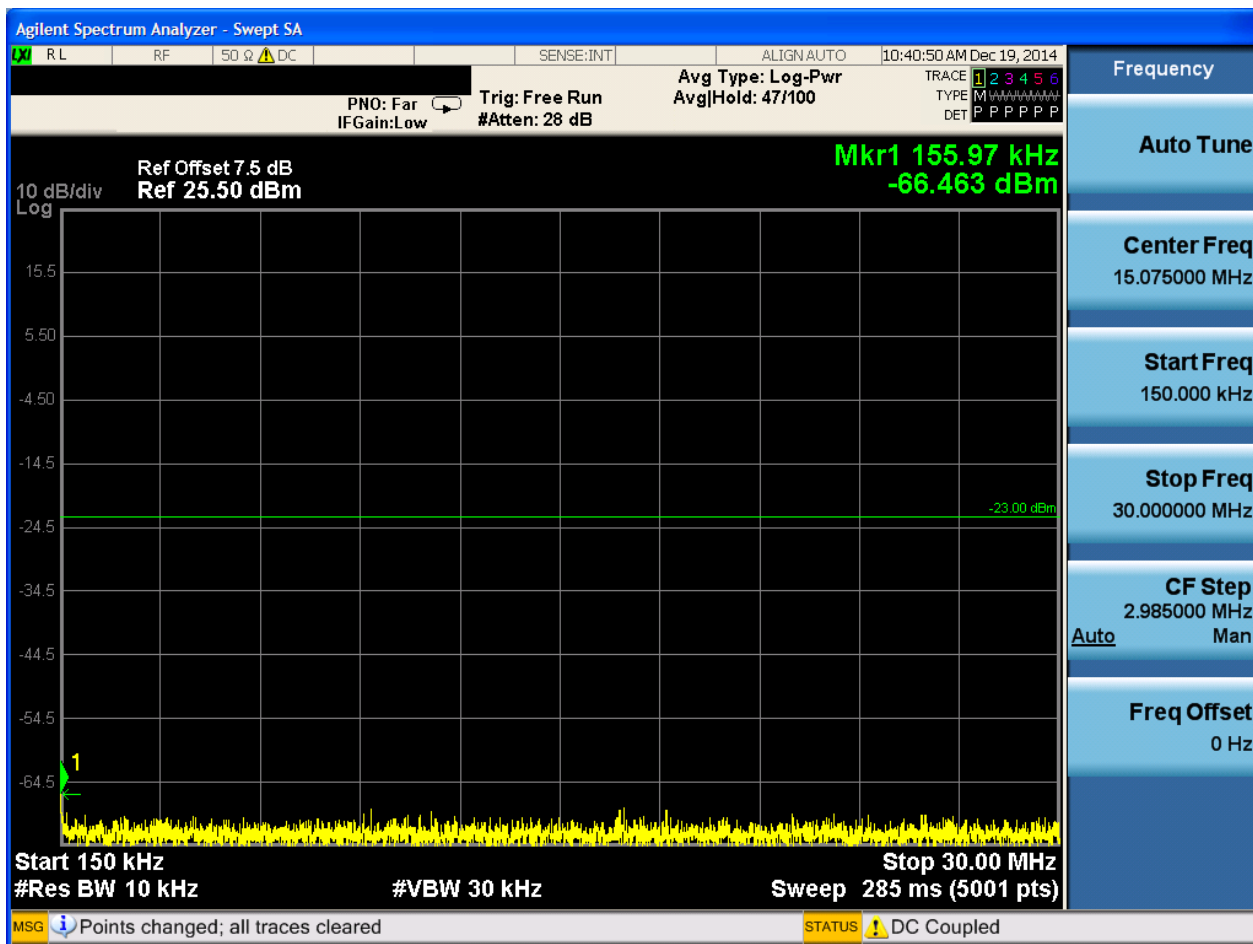


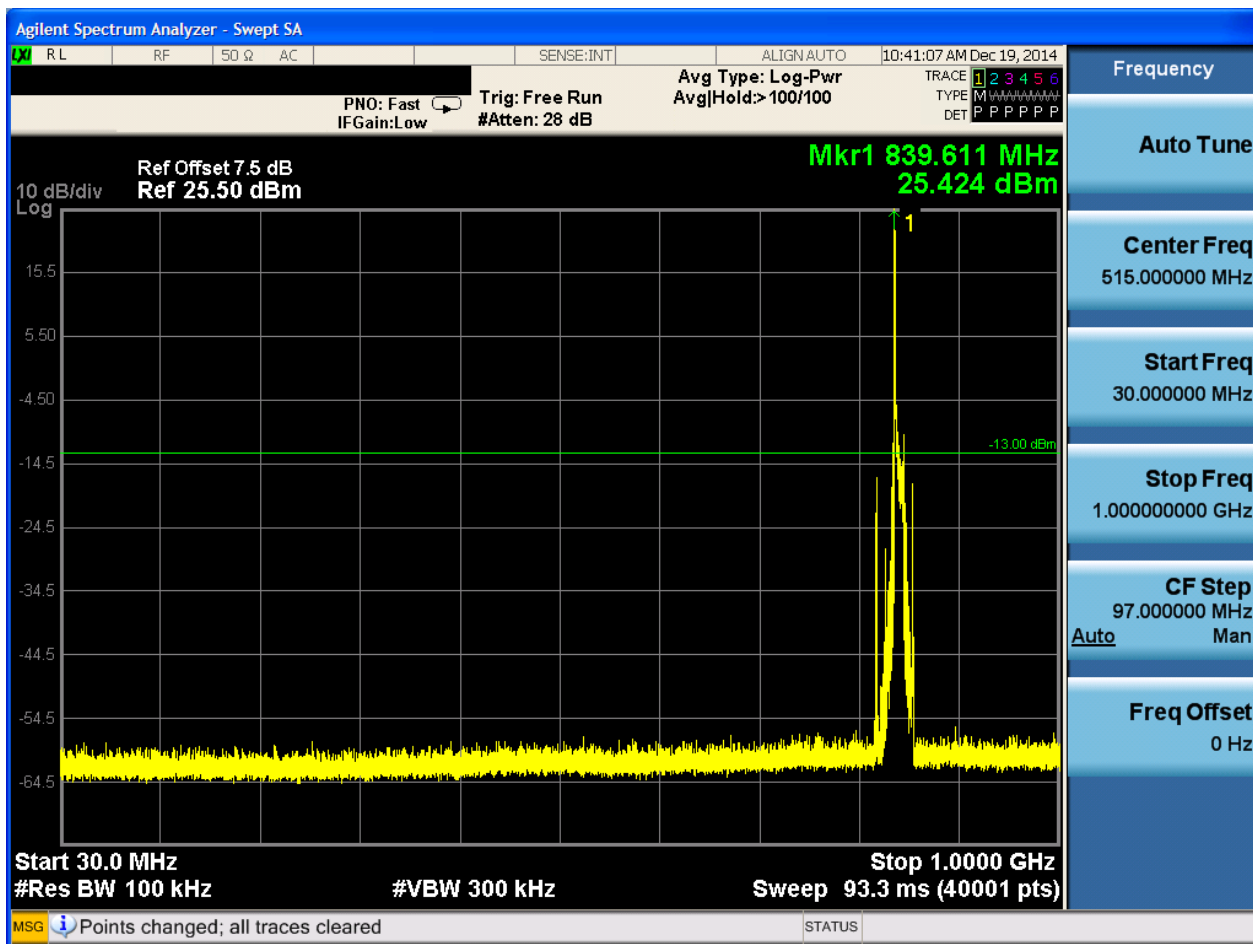


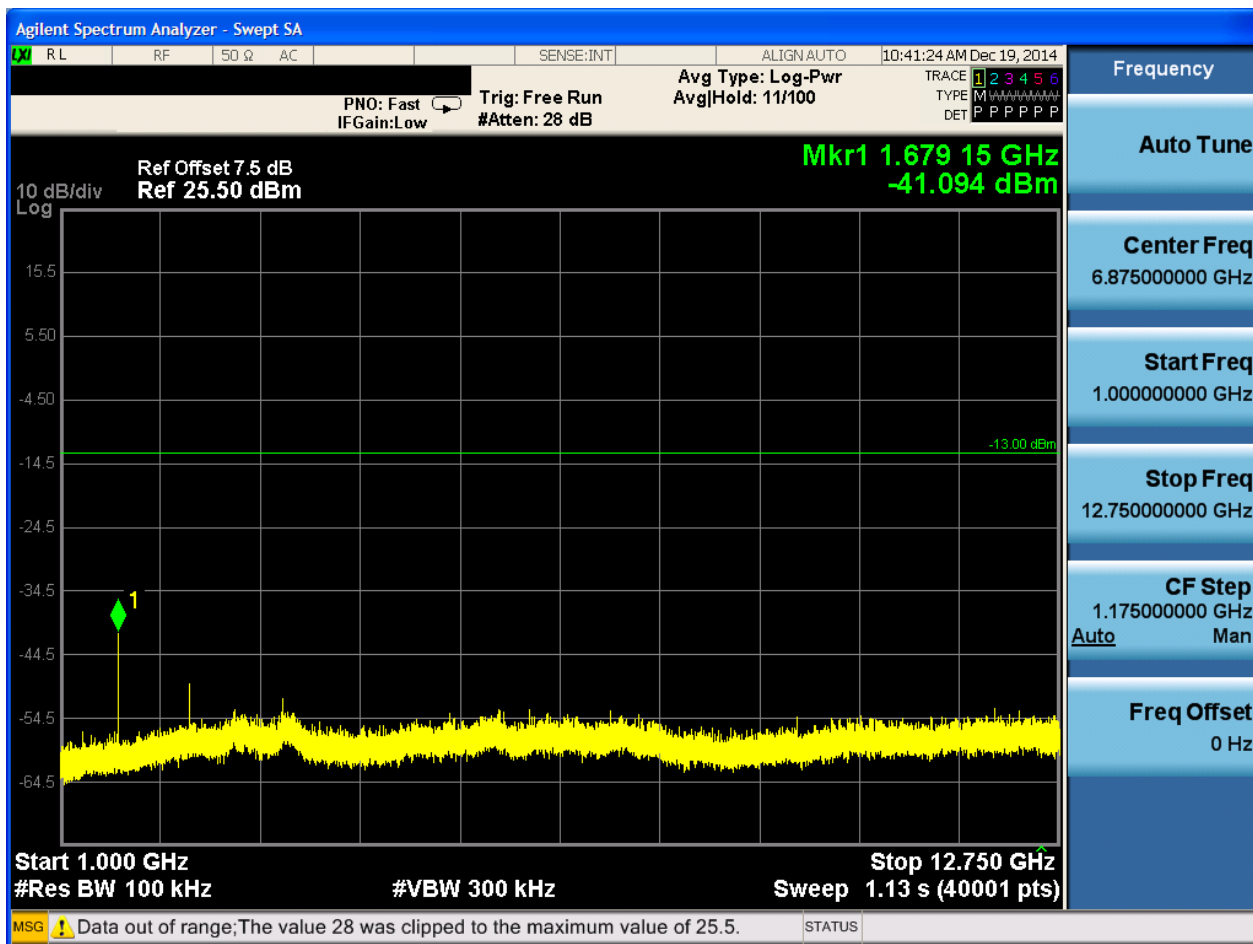
6.3.1.2.2.3 Test Channel = HCH

6.3.1.2.2.3.1 Test RB = RB1#0









7Appendix_G: Field Strength of Spurious Radiation

Note:

9kHz~150kHz, VBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, VBW = 9kHz, VBW = 30k Hz, Detector: PK

30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: PK

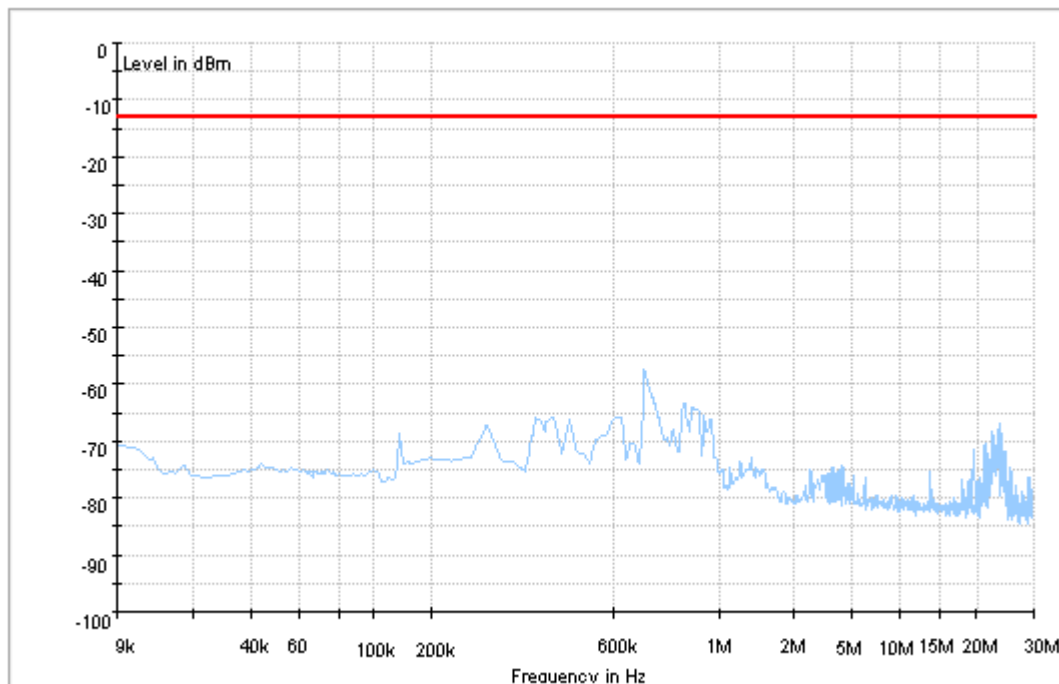
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

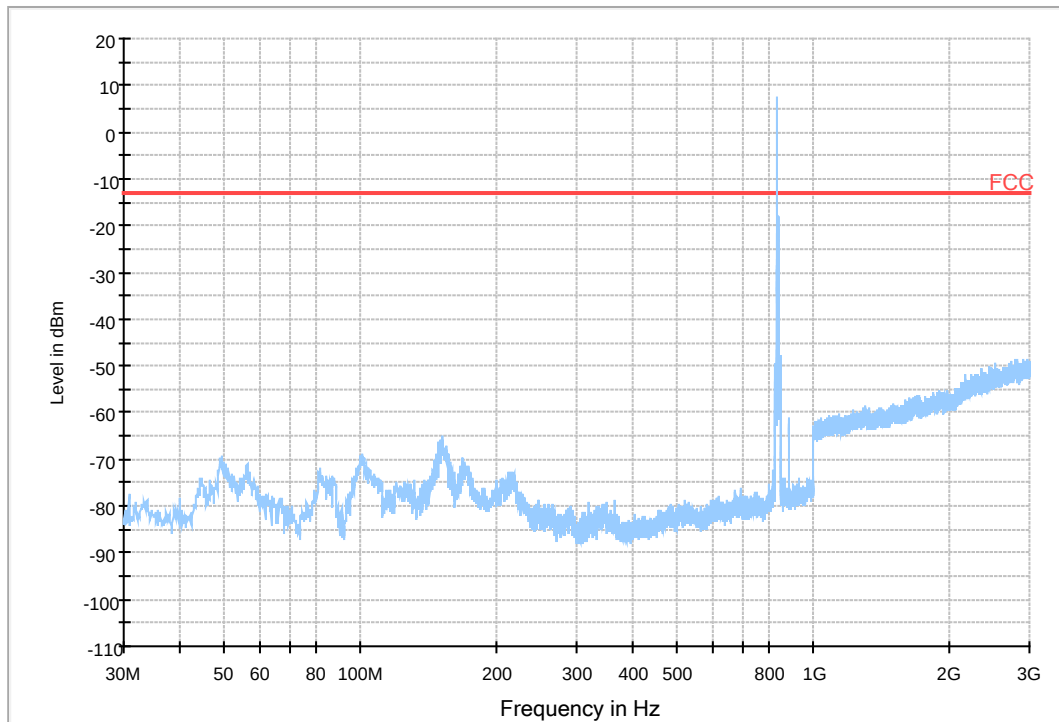
7.3 For LTE

7.3.1 Test Band = BAND5

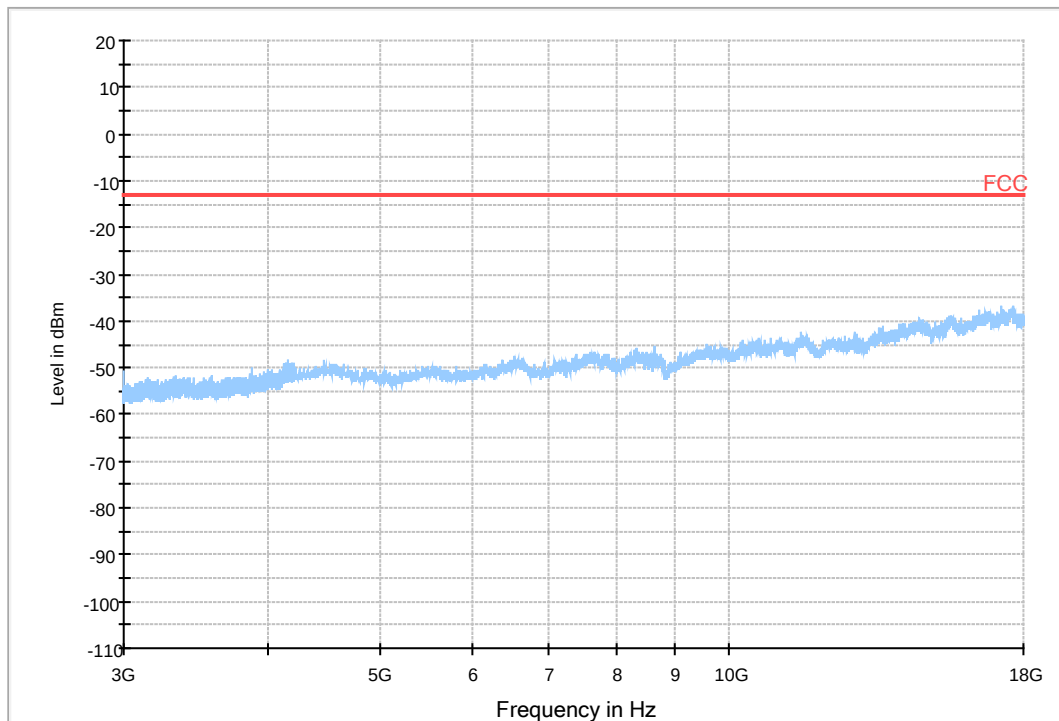
7.3.1.1 Test Bandwidth = 5



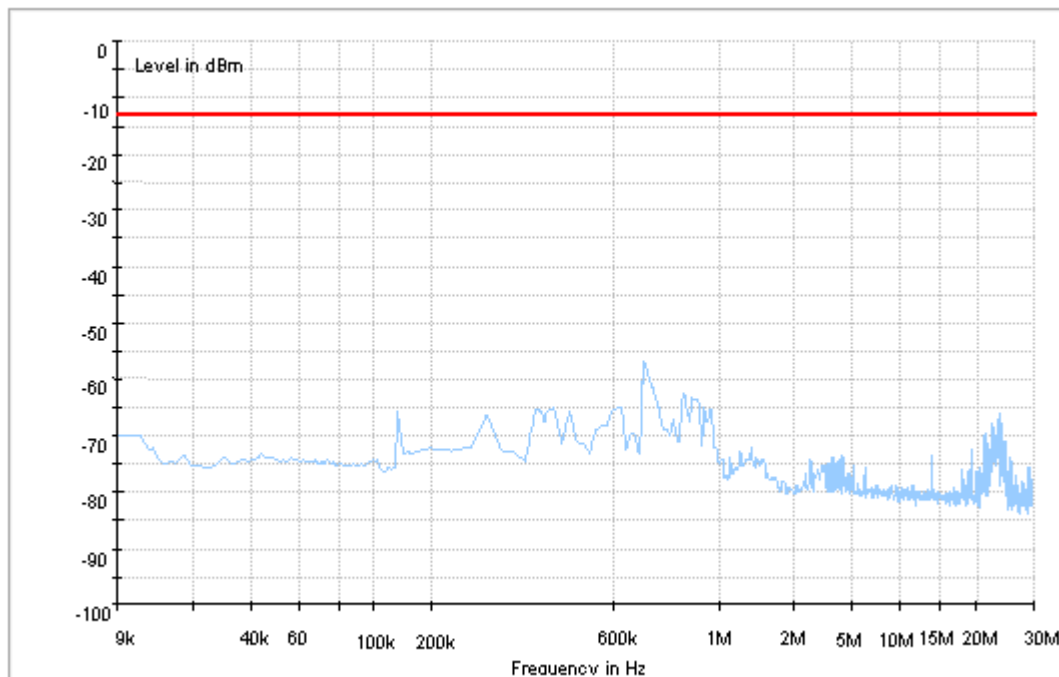
Copy of FCC PART22 LTE Band 5_L



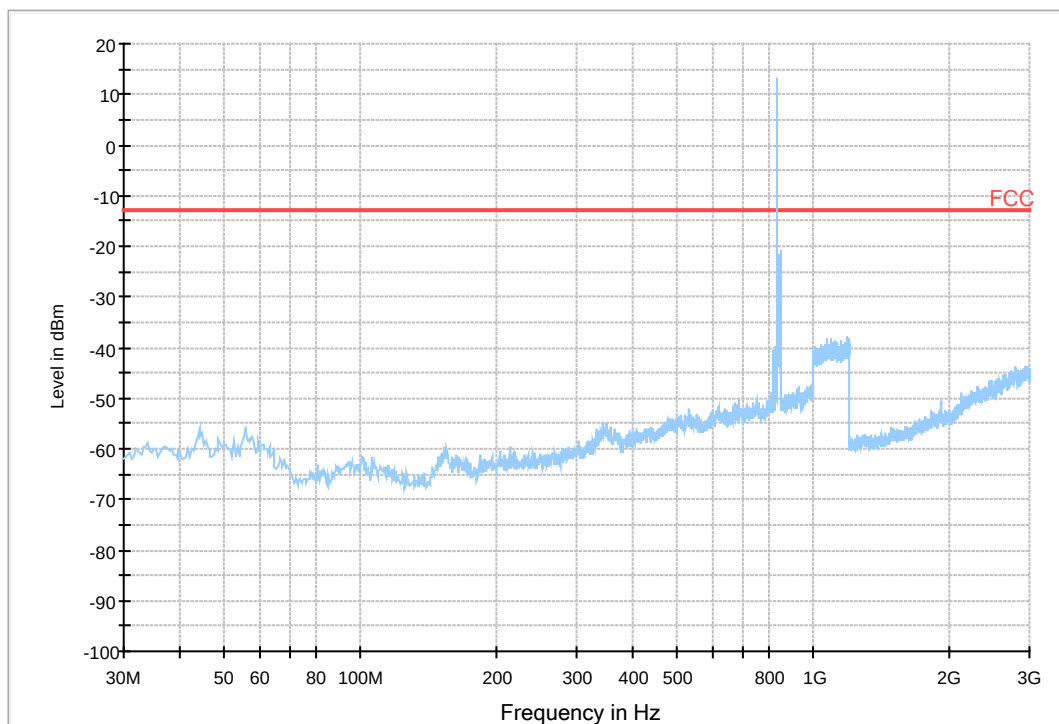
Copy of FCC PART22 LTE Band 5_H



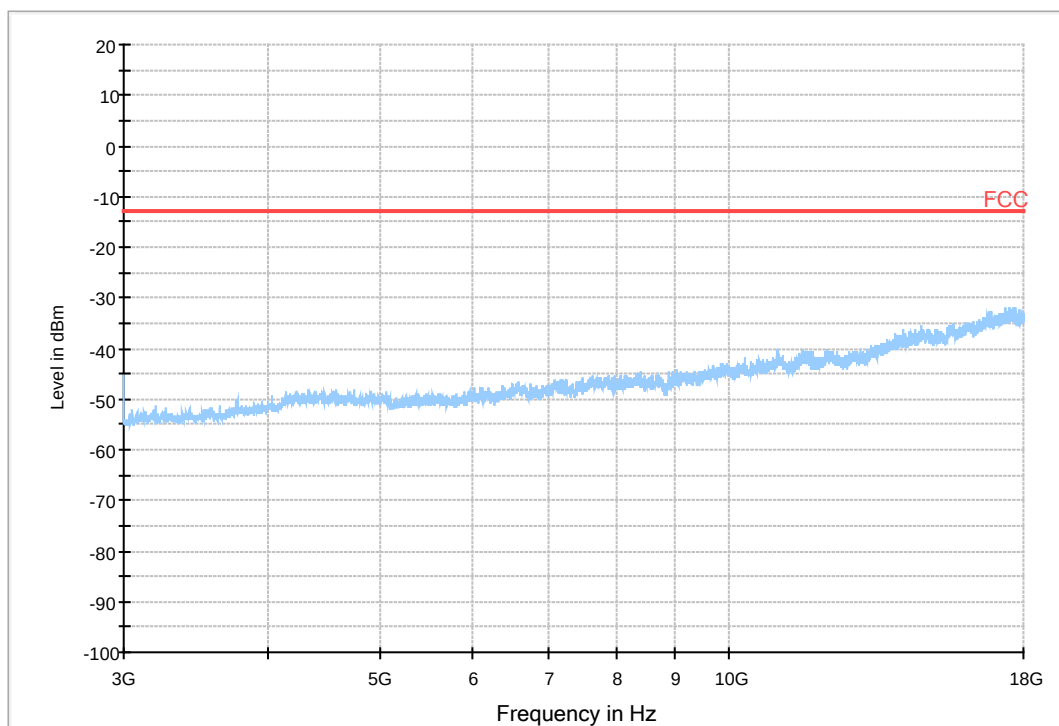
7.3.1.2 Test Bandwidth = 10



Copy of RSE-TX-DIRECTOR BELOW 1G_L



Copy of RSE-TX-DIRECTOR BELOW 1G_H



8Appendix_H: Frequency Stability

8.3 For LTE

8.3.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND5	LTE/TM1	5	LCH	TN	VL	-5.48	-0.00663	PASS
					VN	-6.44	-0.00779	PASS
					VH	-12.35	-0.01494	PASS
			MCH	TN	VL	0.67	0.0008	PASS
					VN	3.05	0.00365	PASS
					VH	1.65	0.00197	PASS
			HCH	TN	VL	1.3	0.00154	PASS
					VN	3.68	0.00435	PASS
					VH	0.83	0.00098	PASS
		10	LCH	TN	VL	-57.69	-0.06959	PASS
					VN	-55.73	-0.06723	PASS
					VH	6.77	0.00817	PASS
			MCH	TN	VL	-0.09	-0.00011	PASS
					VN	0.8	0.00032	PASS
					VH	1.82	0.00105	PASS
			HCH	TN	VL	4.23	0.00242	PASS
					VN	2.83	0.00162	PASS
					VH	2.19	0.00125	PASS
	LTE/TM2	5	LCH	TN	VL	-5.29	-0.00309	PASS
					VN	-5.08	-0.00297	PASS
					VH	-4.59	-0.00268	PASS
			MCH	TN	VL	-2.17	-0.00125	PASS
					VN	1.93	0.00111	PASS
					VH	0.79	0.00046	PASS
			HCH	TN	VL	-4.06	-0.00232	PASS
					VN	-5.08	-0.0029	PASS
					VH	-2.85	-0.00163	PASS
		10	LCH	TN	VL	3.02	0.00176	PASS
					VN	2.16	0.00126	PASS
					VH	3.68	0.00215	PASS
			MCH	TN	VL	0.99	0.00057	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VN	0.76	0.00044	PASS
					VH	1.66	0.00096	PASS
			HCH	TN	VL	2.57	0.00147	PASS
					VN	5.11	0.00292	PASS
					VH	5.06	0.00289	PASS

8.3.2 Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND5	LTE/TM1	5	LCH	VN	-30	-7.11	-0.00416	PASS
					-20	0.11	0.00013	PASS
					-10	3.35	0.00405	PASS
					0	-0.59	-0.00071	PASS
					10	2.68	0.00324	PASS
					20	2.9	0.00351	PASS
					30	4.99	0.00604	PASS
					40	-1.19	-0.00144	PASS
					50	2.1	0.00254	PASS
			MCH	VN	-30	4.51	0.00539	PASS
					-20	6.61	0.0079	PASS
					-10	0.92	0.0011	PASS
					0	-5.55	-0.0032	PASS
					10	-5.61	-0.00324	PASS
					20	-4.09	-0.00236	PASS
					30	-6.39	-0.00369	PASS
					40	-27.31	-0.01576	PASS
					50	-10.09	-0.00582	PASS
			HCH	VN	-30	7.6	0.00433	PASS
					-20	2.03	0.00116	PASS
					-10	3.63	0.00207	PASS
					0	-9.34	-0.00532	PASS
					10	12.33	0.00703	PASS
					20	-6.09	-0.00347	PASS
					30	-5.88	-0.00335	PASS
					40	12.92	0.00736	PASS
					50	9.11	0.00519	PASS
		10	LCH	VN	-30	-10.26	-0.00599	PASS
					-20	-8.97	-0.00524	PASS
					-10	9.04	0.00528	PASS
					0	1.49	0.00087	PASS
					10	20.1	0.01174	PASS
					20	8.14	0.00476	PASS
					30	-0.26	-0.00015	PASS
					40	-0.37	-0.00022	PASS
					50	-2.99	-0.00175	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			MCH	VN	-30	-7.41	-0.00428	PASS
					-20	-9.03	-0.00521	PASS
					-10	-2.33	-0.00134	PASS
					0	1.09	0.00063	PASS
					10	-16.95	-0.00978	PASS
					20	-9.74	-0.00562	PASS
					30	2.03	0.00117	PASS
					40	-0.17	-0.0001	PASS
					50	-2.27	-0.00131	PASS
			HCH	VN	-30	4.11	0.00234	PASS
					-20	6.34	0.00362	PASS
					-10	-12.12	-0.00691	PASS
					0	-8.33	-0.00475	PASS
					10	8.75	0.00499	PASS
					20	-16.14	-0.0092	PASS
					30	11.39	0.0065	PASS
					40	1.66	0.00095	PASS
					50	-1.06	-0.0006	PASS
	LTE/TM2	5	LCH	VN	-30	-2.5	-0.00146	PASS
					-20	-0.83	-0.00049	PASS
					-10	-4.28	-0.0025	PASS
					0	3.72	0.0045	PASS
					10	3.13	0.00379	PASS
					20	-0.94	-0.00114	PASS
					30	4.71	0.0057	PASS
					40	1.99	0.00241	PASS
					50	5.19	0.00628	PASS
			MCH	VN	-30	3.85	0.0046	PASS
					-20	-3.3	-0.00395	PASS
					-10	-0.93	-0.00111	PASS
					0	-2.06	-0.00246	PASS
					10	4.53	0.00542	PASS
					20	5.92	0.00708	PASS
					30	3.96	0.00473	PASS
					40	2.39	0.00286	PASS
					50	0.03	0.00004	PASS
			HCH	VN	-30	6.15	0.00727	PASS
					-20	1.89	0.00223	PASS
					-10	7.44	0.00879	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					0	1.79	0.00211	PASS
					10	3.65	0.00431	PASS
					20	-3.72	-0.00439	PASS
					30	-0.66	-0.00078	PASS
					40	2.47	0.00292	PASS
					50	11.32	0.01337	PASS
		10	LCH	VN	-30	1.54	0.00186	PASS
					-20	-0.4	-0.00048	PASS
					-10	-1.09	-0.00131	PASS
					0	6.35	0.00766	PASS
					10	-0.84	-0.00048	PASS
					20	-1.2	-0.00069	PASS
					30	-2.16	-0.00123	PASS
					40	-1.6	-0.00091	PASS
					50	1.04	0.00059	PASS
			MCH	VN	-30	-1.06	-0.00062	PASS
					-20	0.14	0.00008	PASS
					-10	-0.23	-0.00013	PASS
					0	-0.2	-0.00012	PASS
					10	-0.21	-0.00012	PASS
					20	0.64	0.00037	PASS
					30	1.66	0.00095	PASS
					40	2.07	0.00118	PASS
					50	1.42	0.00081	PASS
			HCH	VN	-30	-1.12	-0.00065	PASS
					-20	-2.86	-0.00166	PASS
					-10	-1.76	-0.00102	PASS
					0	-1.75	-0.00101	PASS
					10	-1.4	-0.00081	PASS
					20	3.42	0.00197	PASS
					30	1.4	0.0008	PASS
					40	6.22	0.00356	PASS
					50	-1.49	-0.00085	PASS

END