



Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	ERP/EIRP [dBm]	Limit [dBm]	Verdict
GSM850	GSM/TM1	LCH	32.9	27.9	38.5	PASS
		MCH	32.88	27.88	38.5	PASS
		HCH	32.85	27.85	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:

$$\text{SET Span} = 1.5 * \text{OBW}$$

$$\text{SET RBW} = 1\% \text{ of the OBW, not to exceed 1MHz}$$

$$\text{SET VBW} \geq 3 * \text{RBW}$$

SET Sweep time=auto-couple.

Detector:RMS



2Appendix_B: Peak-to-Average Ratio

N/A

3Appendix_C: Modulation Characteristics

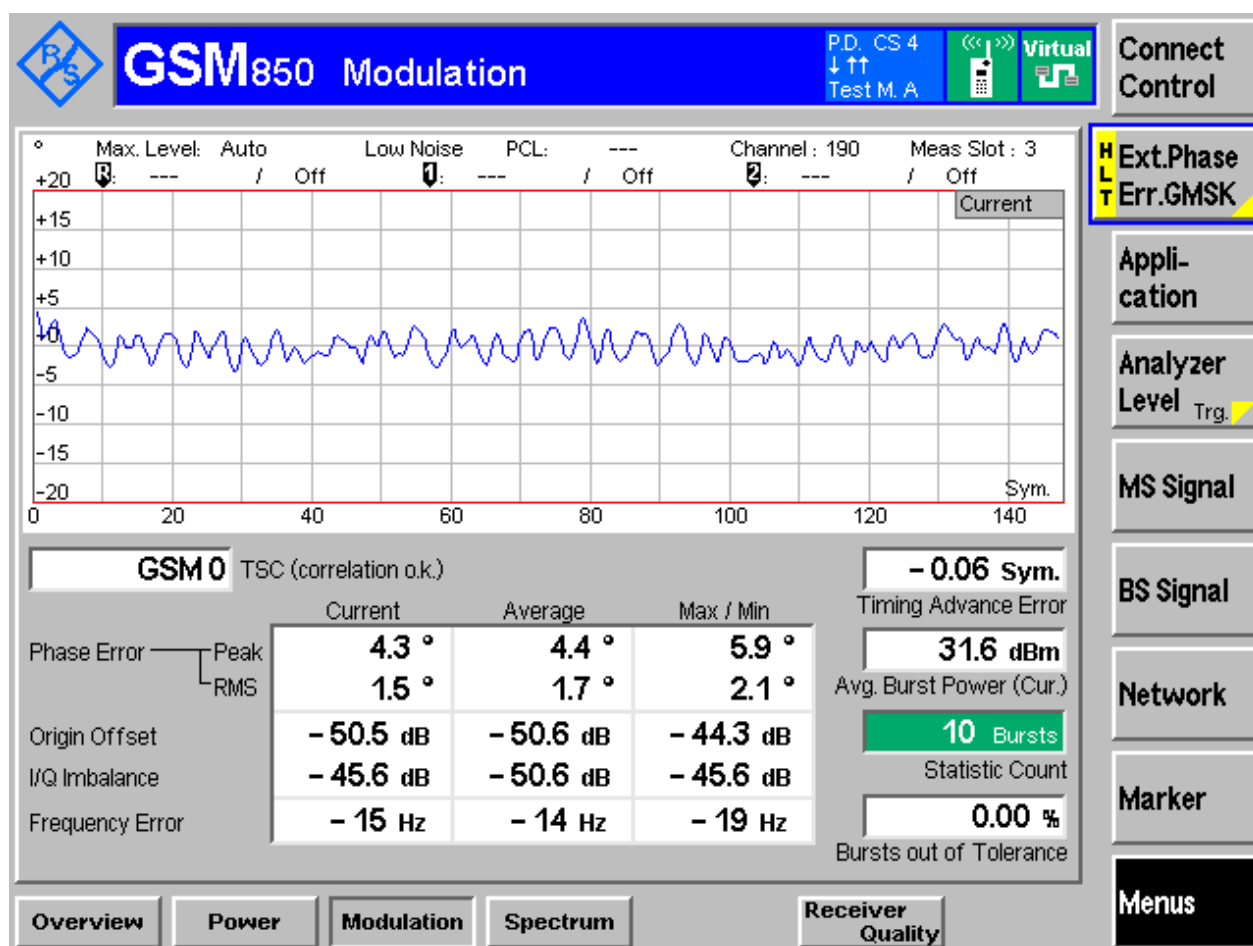
Part I - Test Plots

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



4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
GSM850	GSM/TM1	LCH	244.19	319.43	Pass
		MCH	244.09	314.37	Pass
		HCH	247.11	323.44	Pass

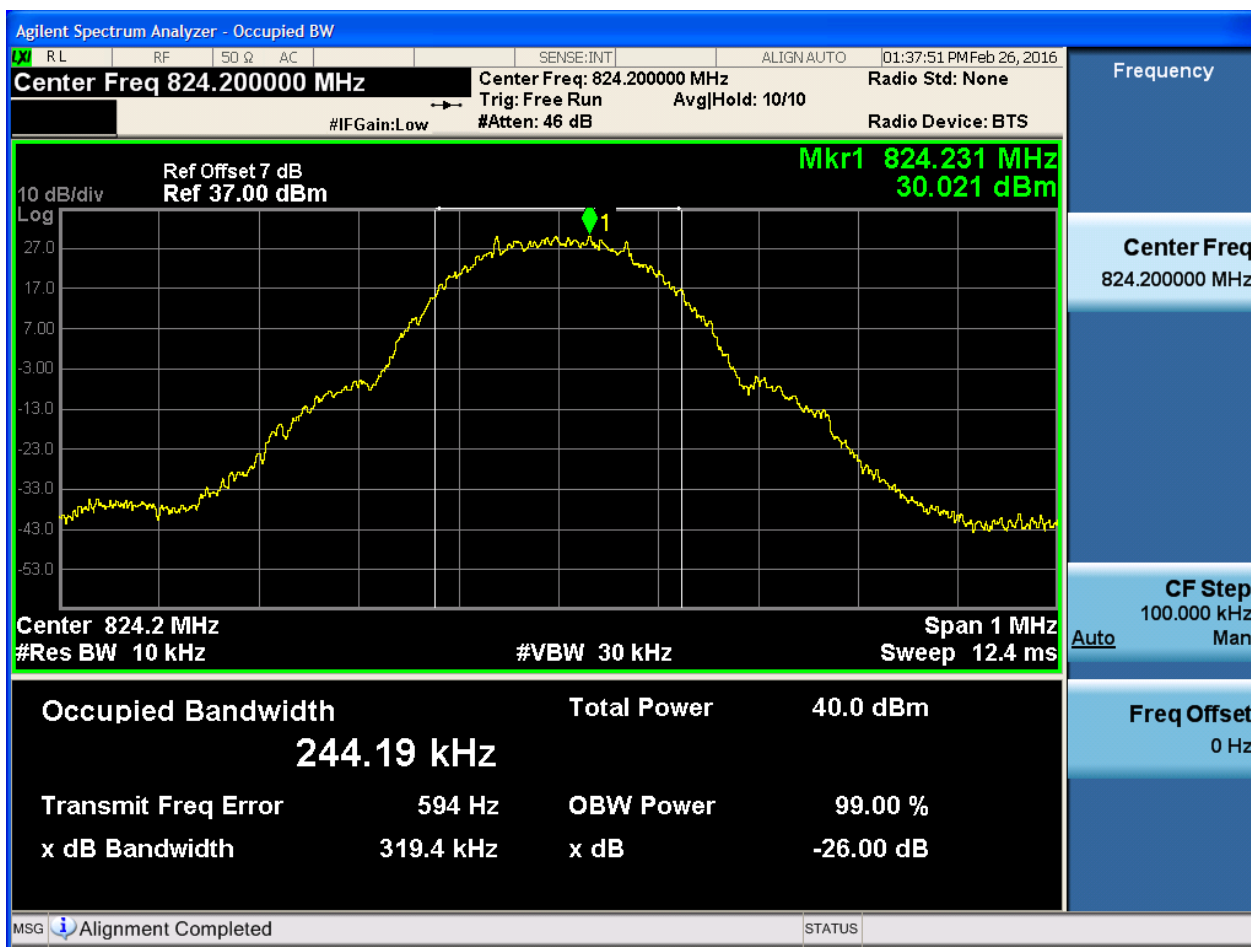
Part II - Test Plots

4.1 For GSM

4.1.1 Test Band = GSM850

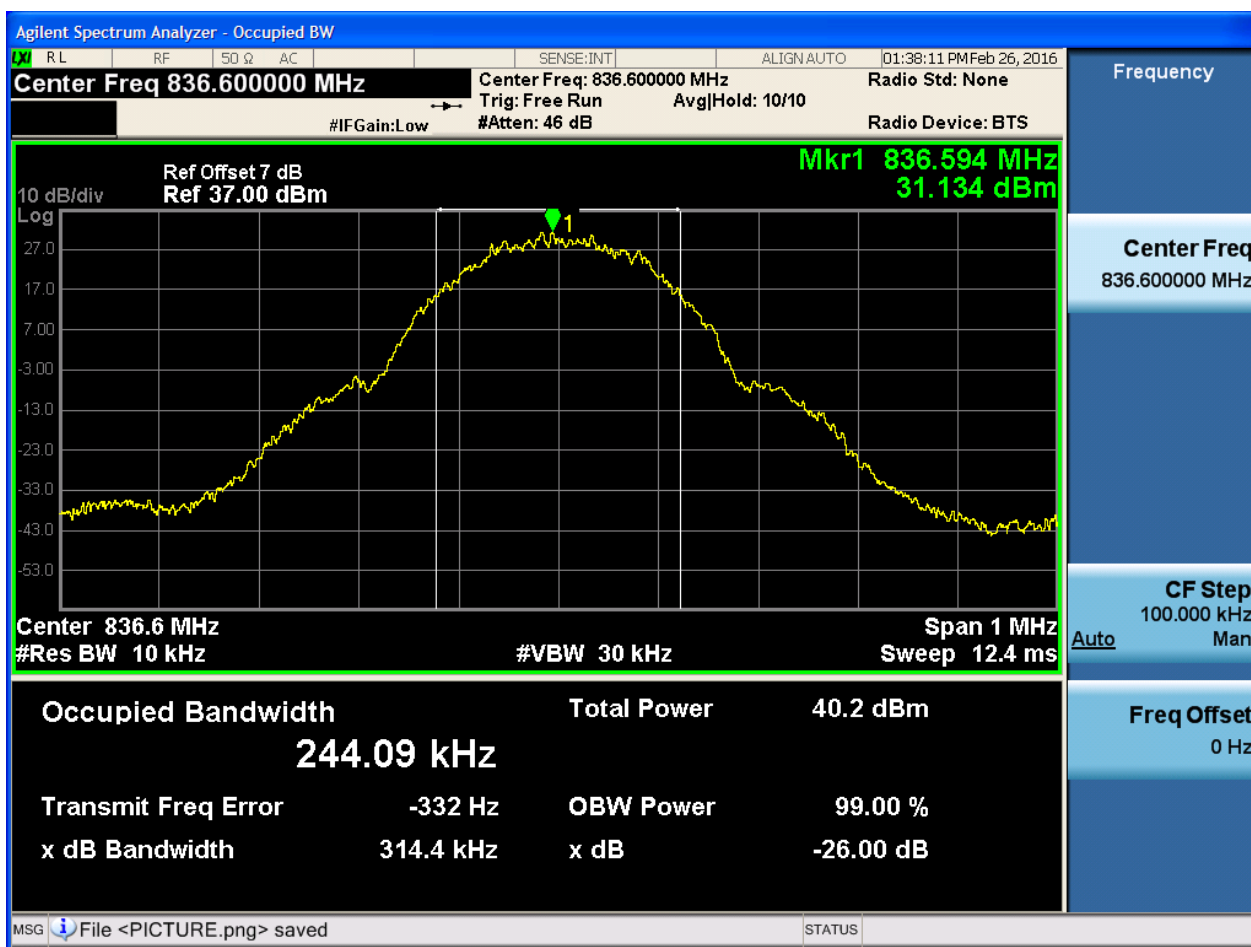
4.1.1.1 Test Mode = GSM/TM1

4.1.1.1.1 Test Channel = LCH



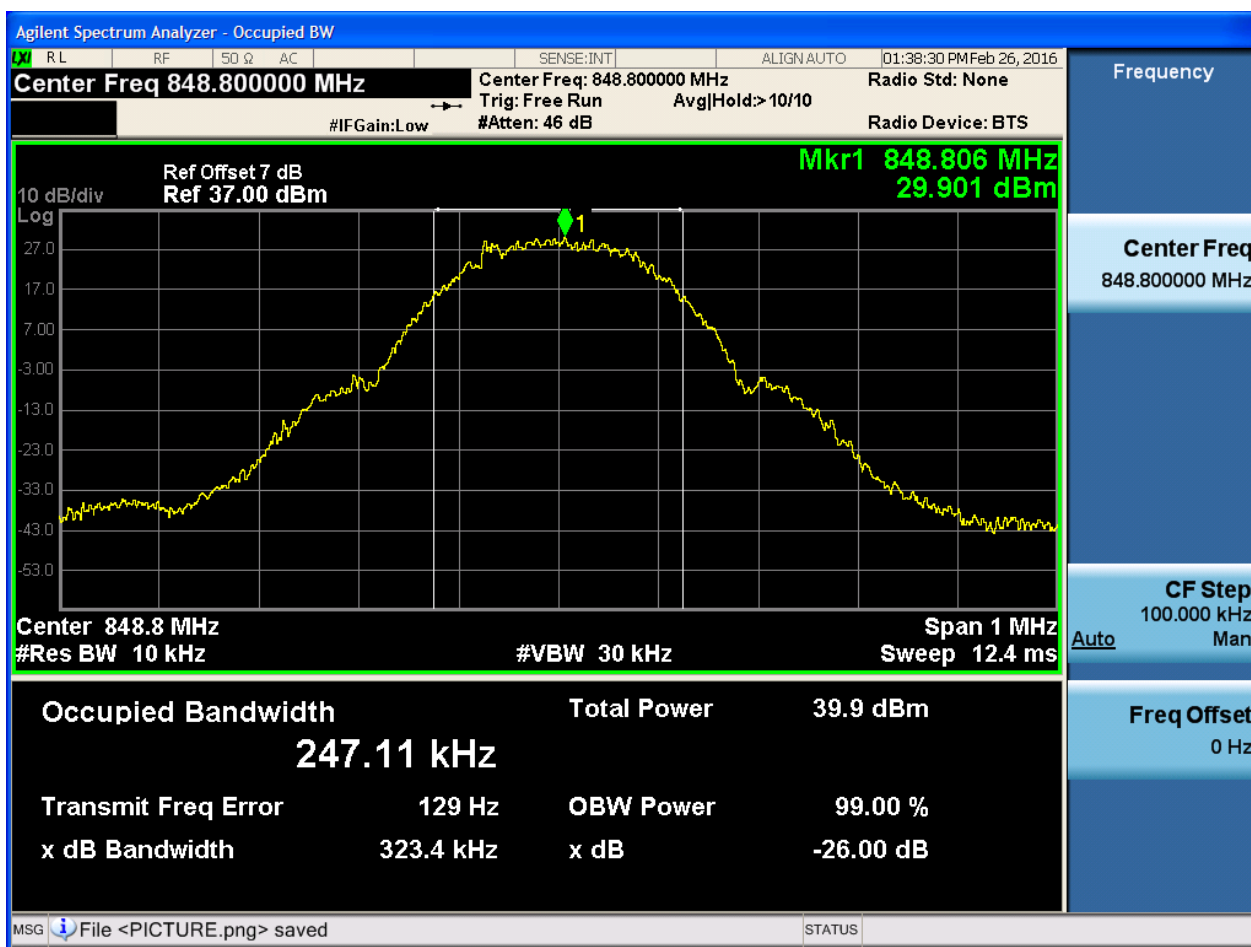


4.1.1.1.2 Test Channel = MCH





4.1.1.1.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

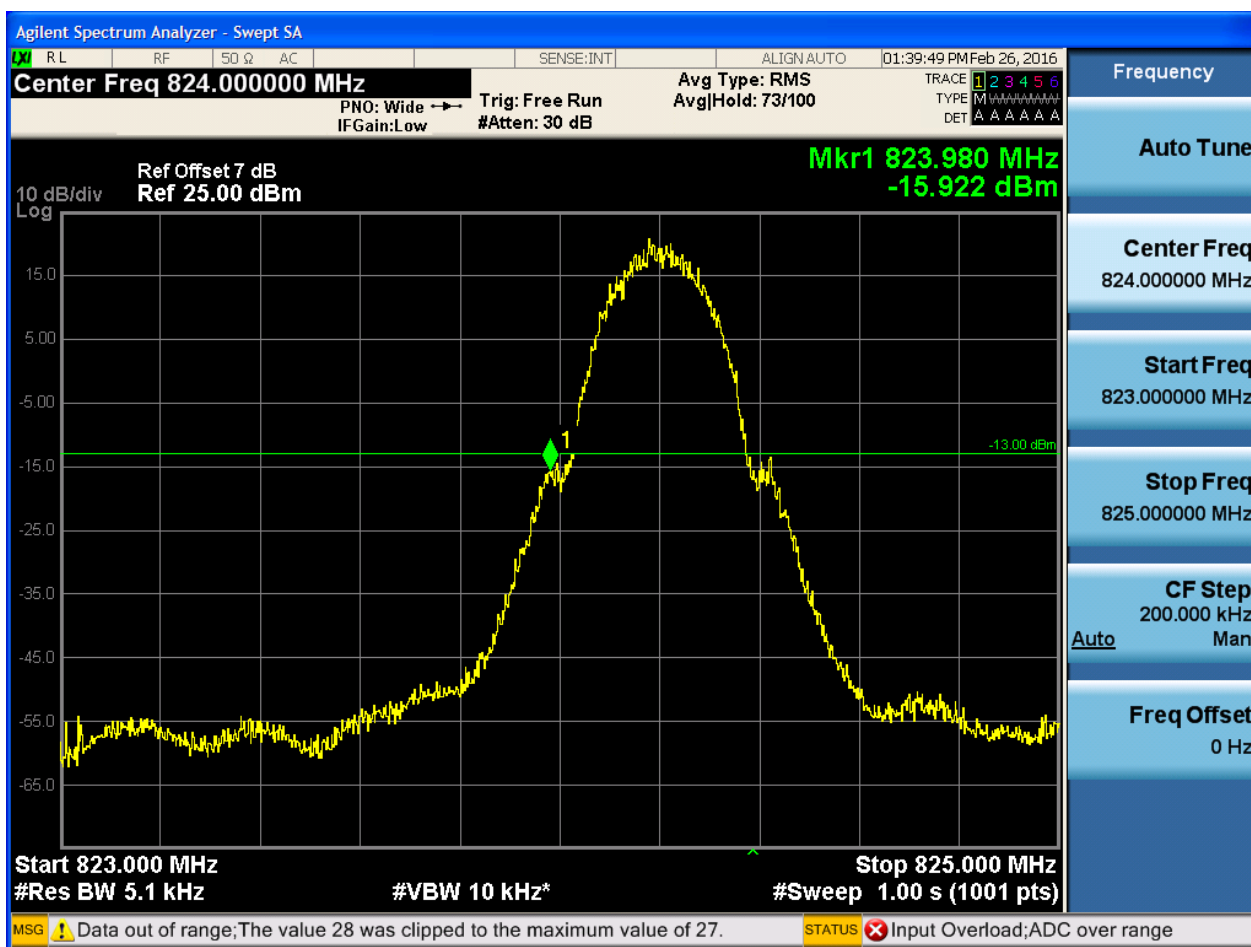
Part I - Test Plots

5.1 For GSM

5.1.1 Test Band = GSM850

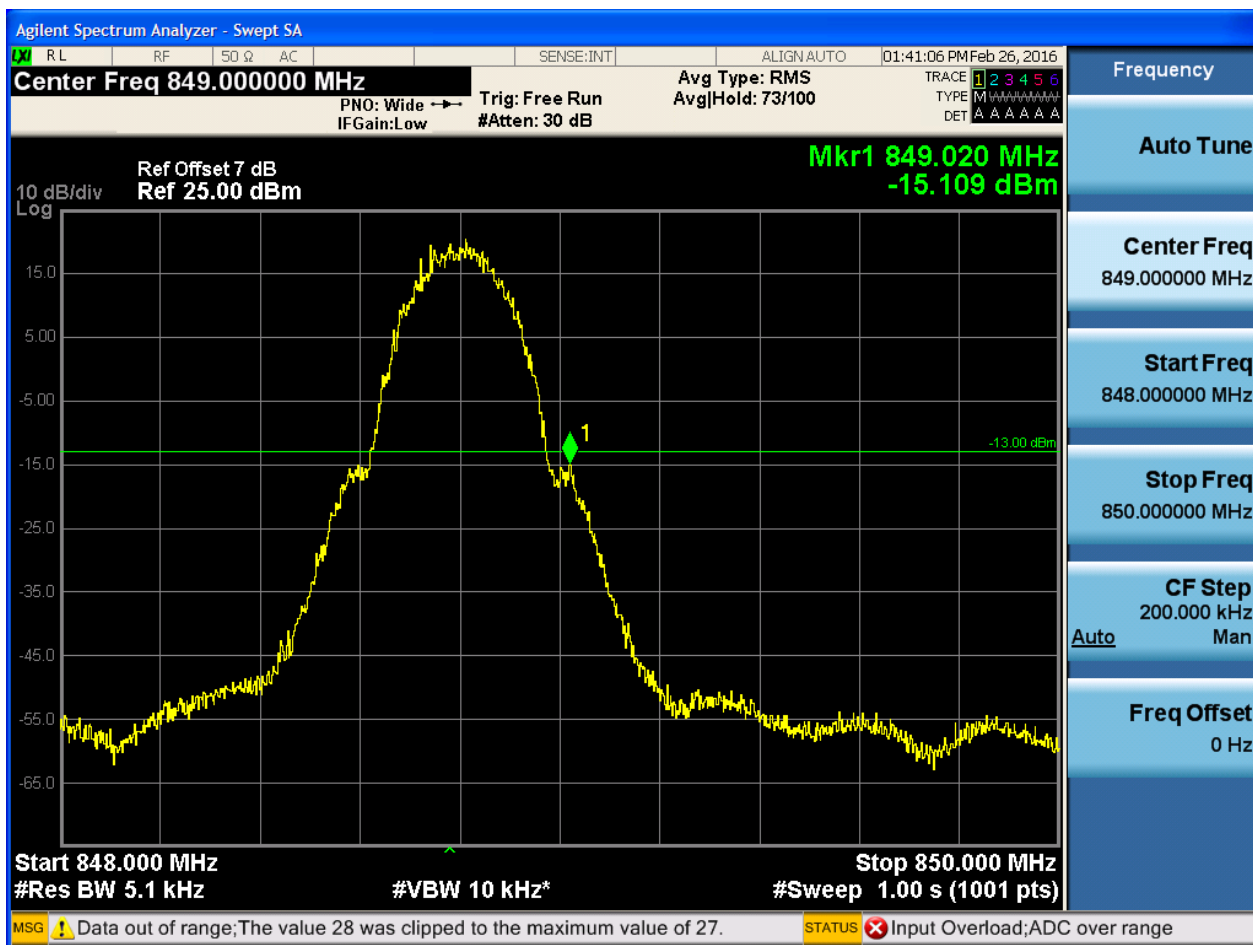
5.1.1.1 Test Mode = GSM/TM1

5.1.1.1.1 Test Channel = LCH





5.1.1.1.2 Test Channel = HCH



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.

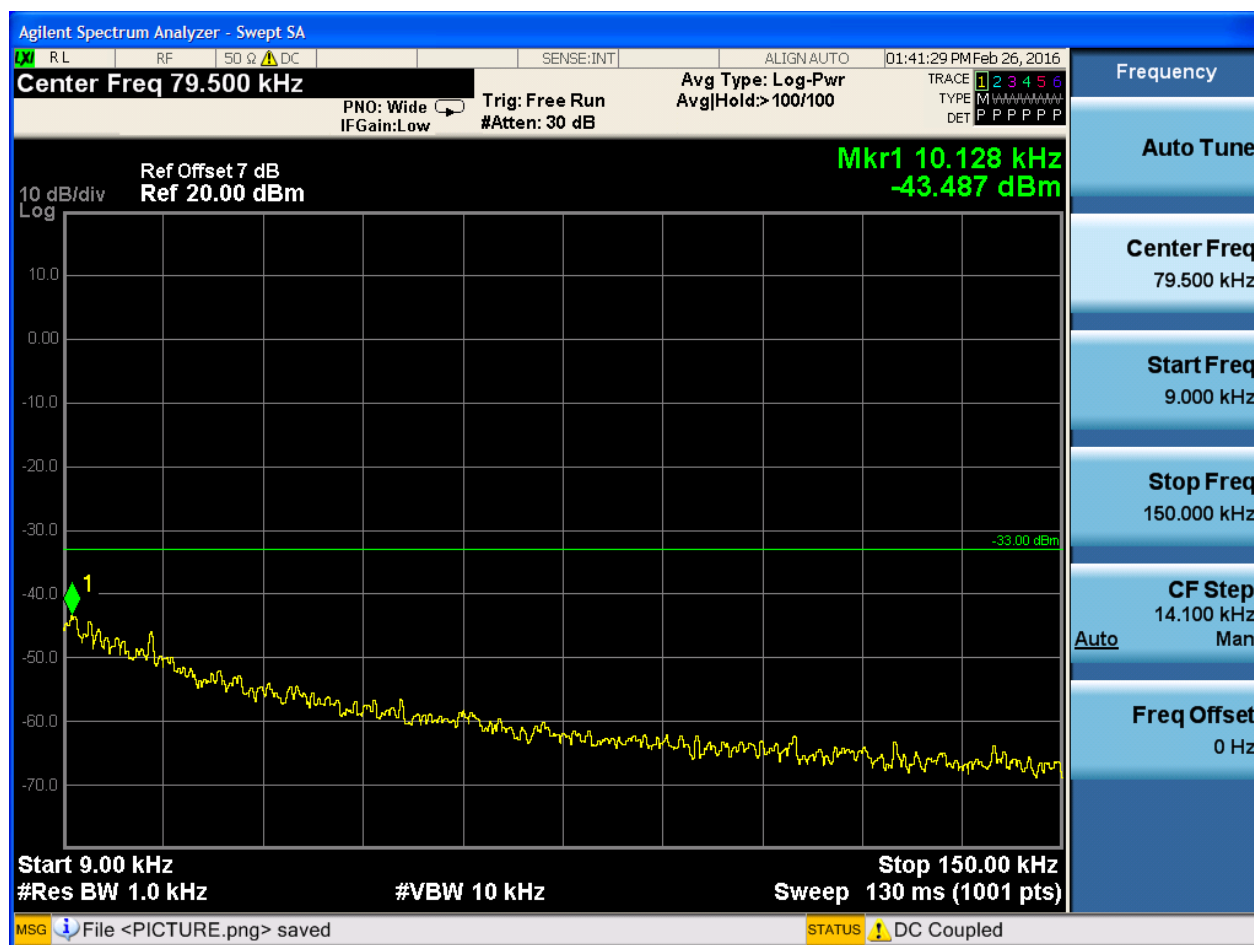
Part I - Test Plots

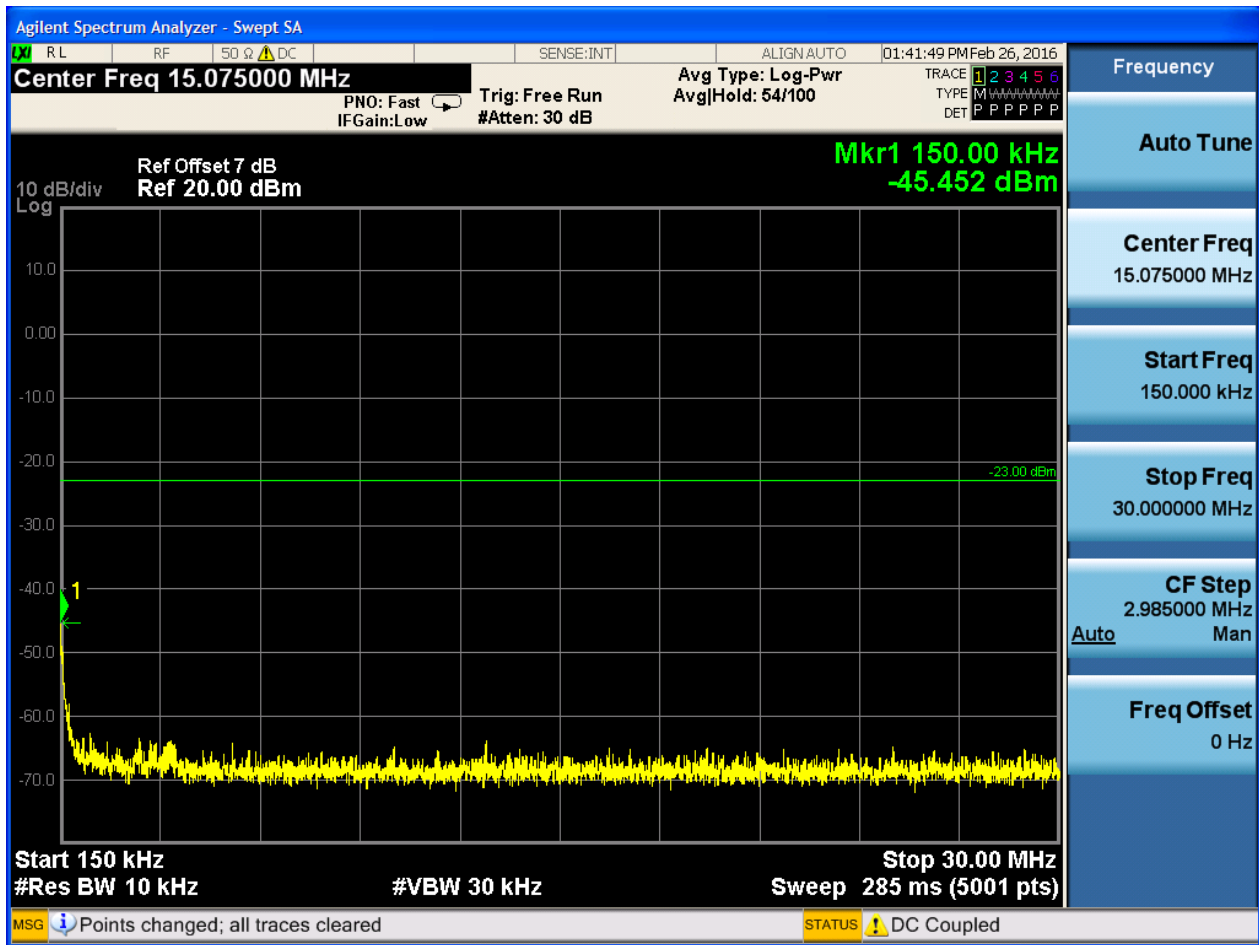
6.1 For GSM

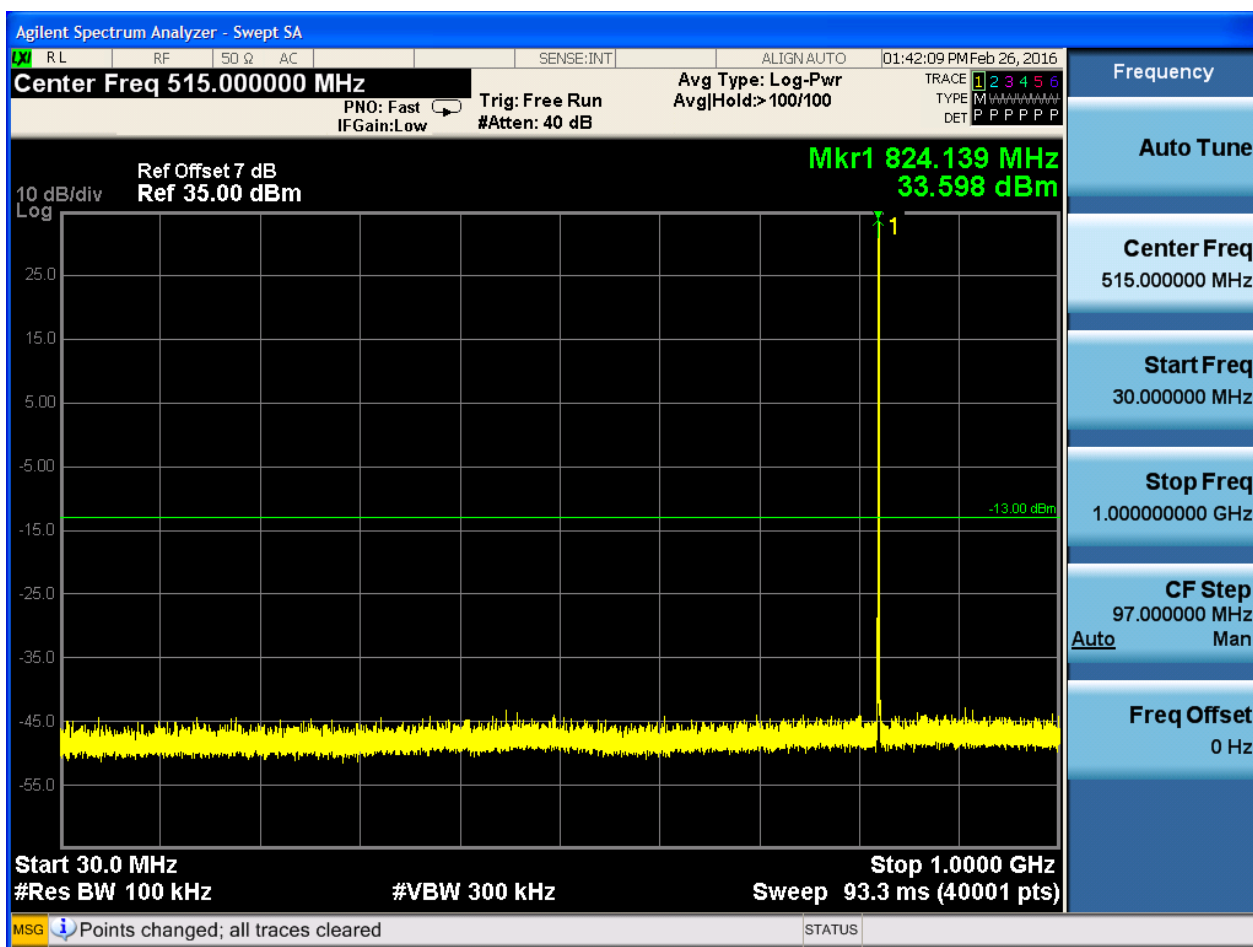
6.1.1 Test Band = GSM850

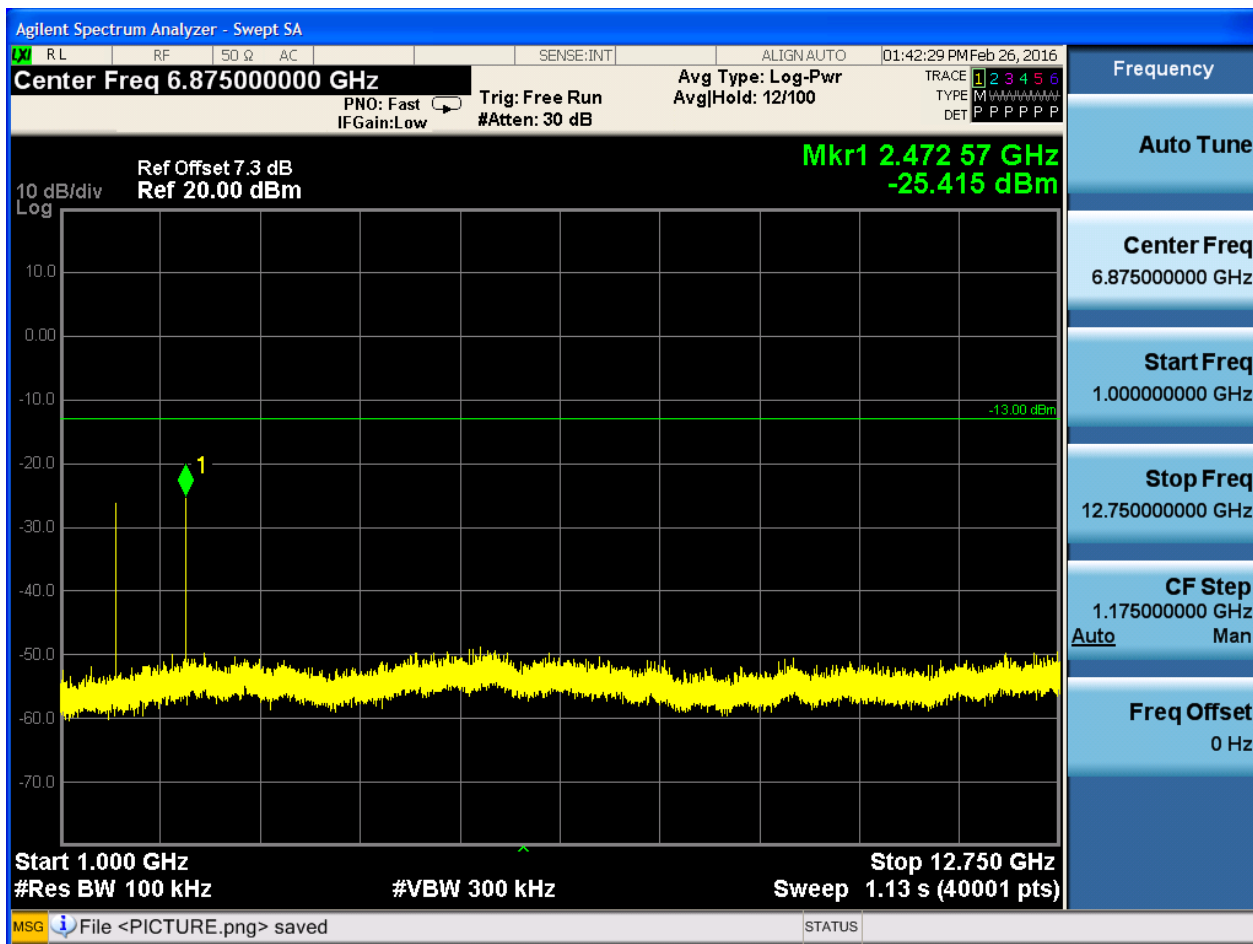
6.1.1.1 Test Mode = GSM/TM1

6.1.1.1.1 Test Channel = LCH

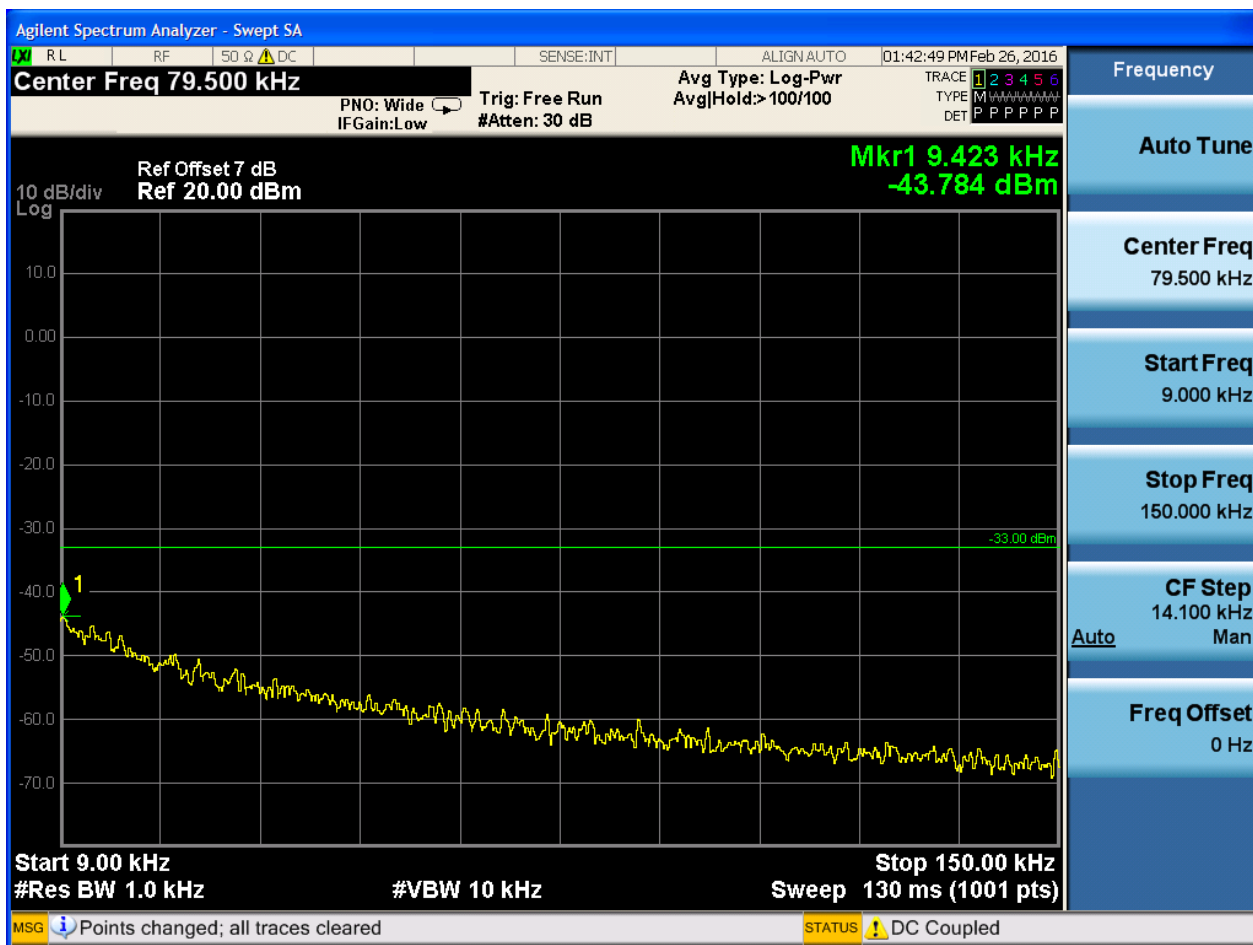


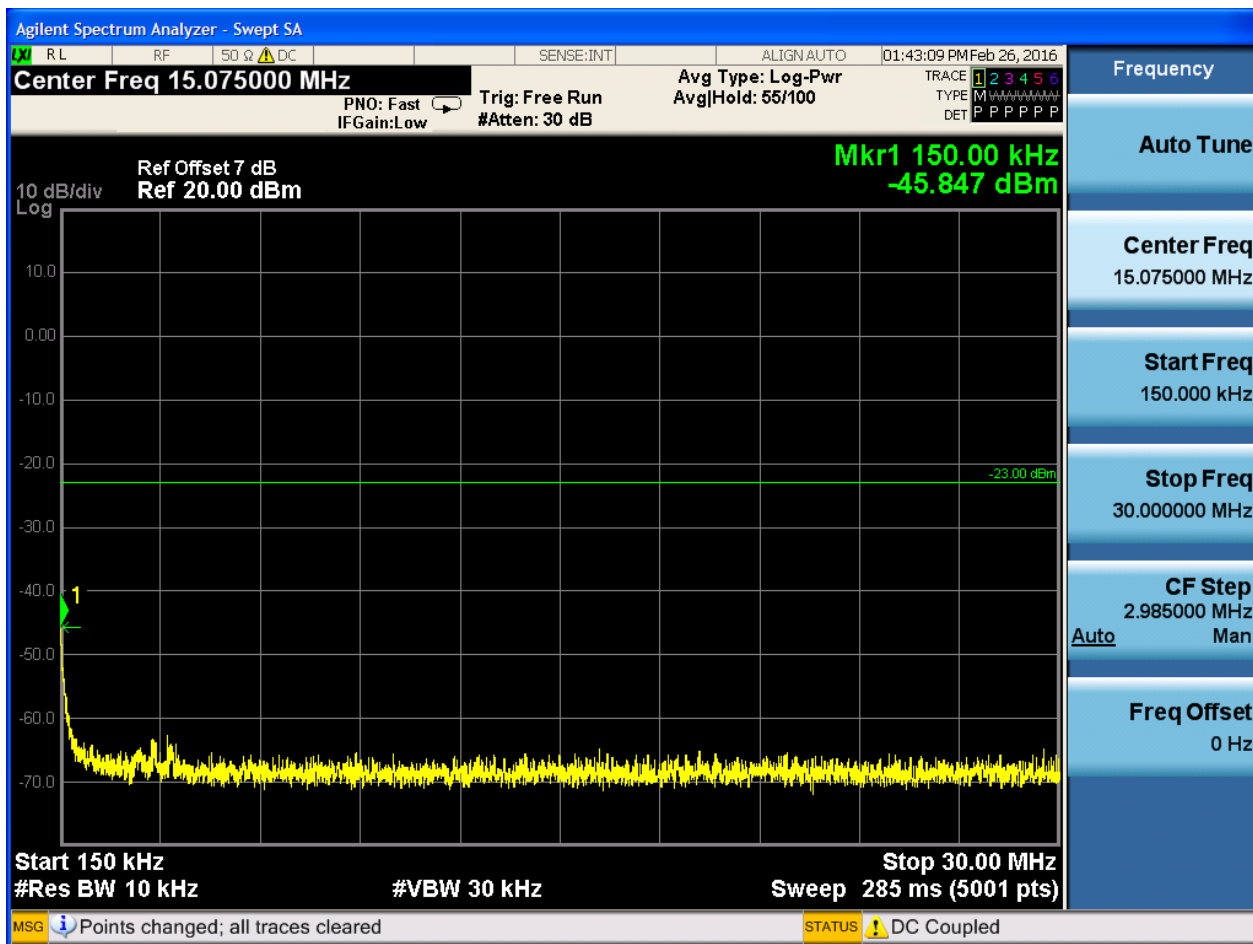


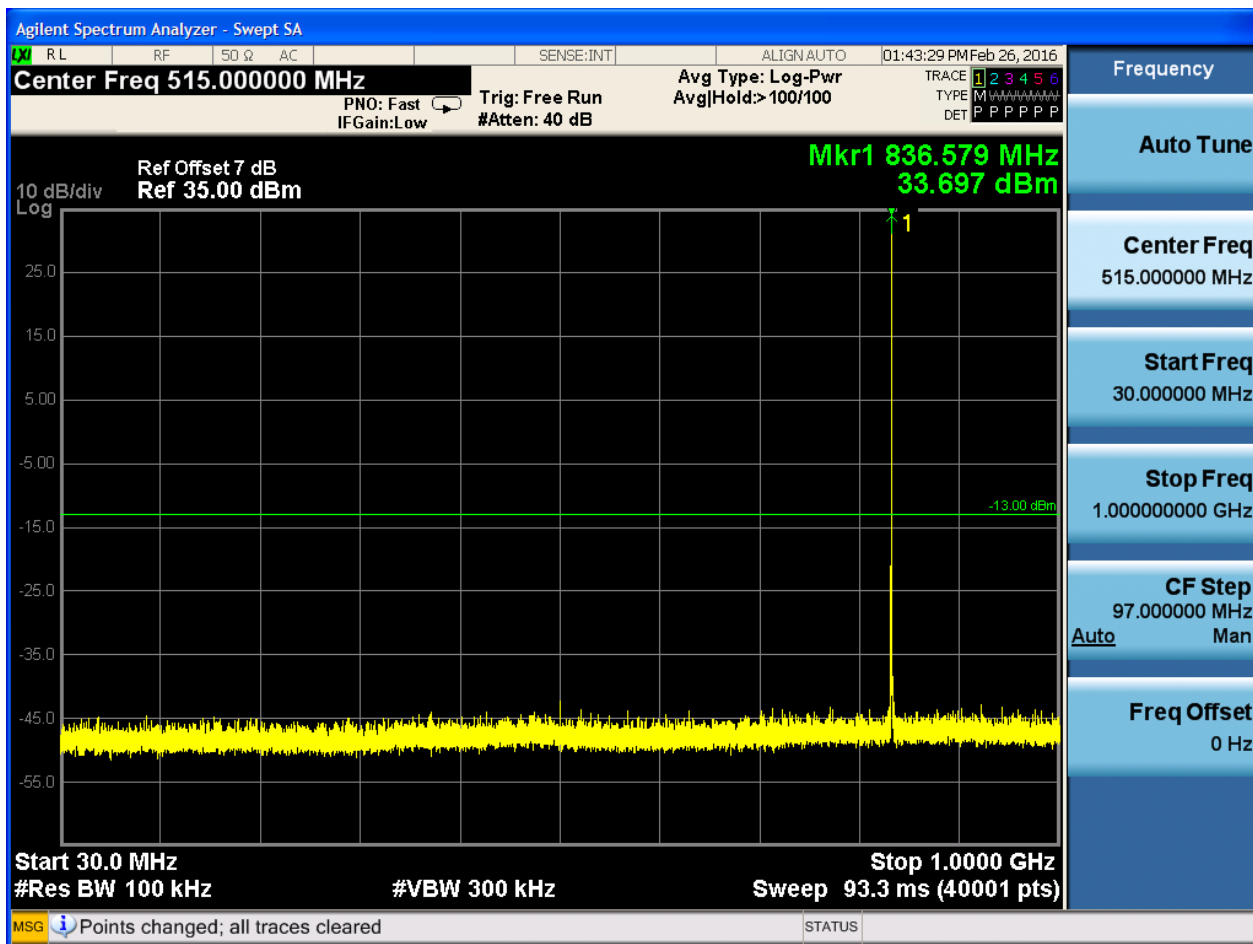


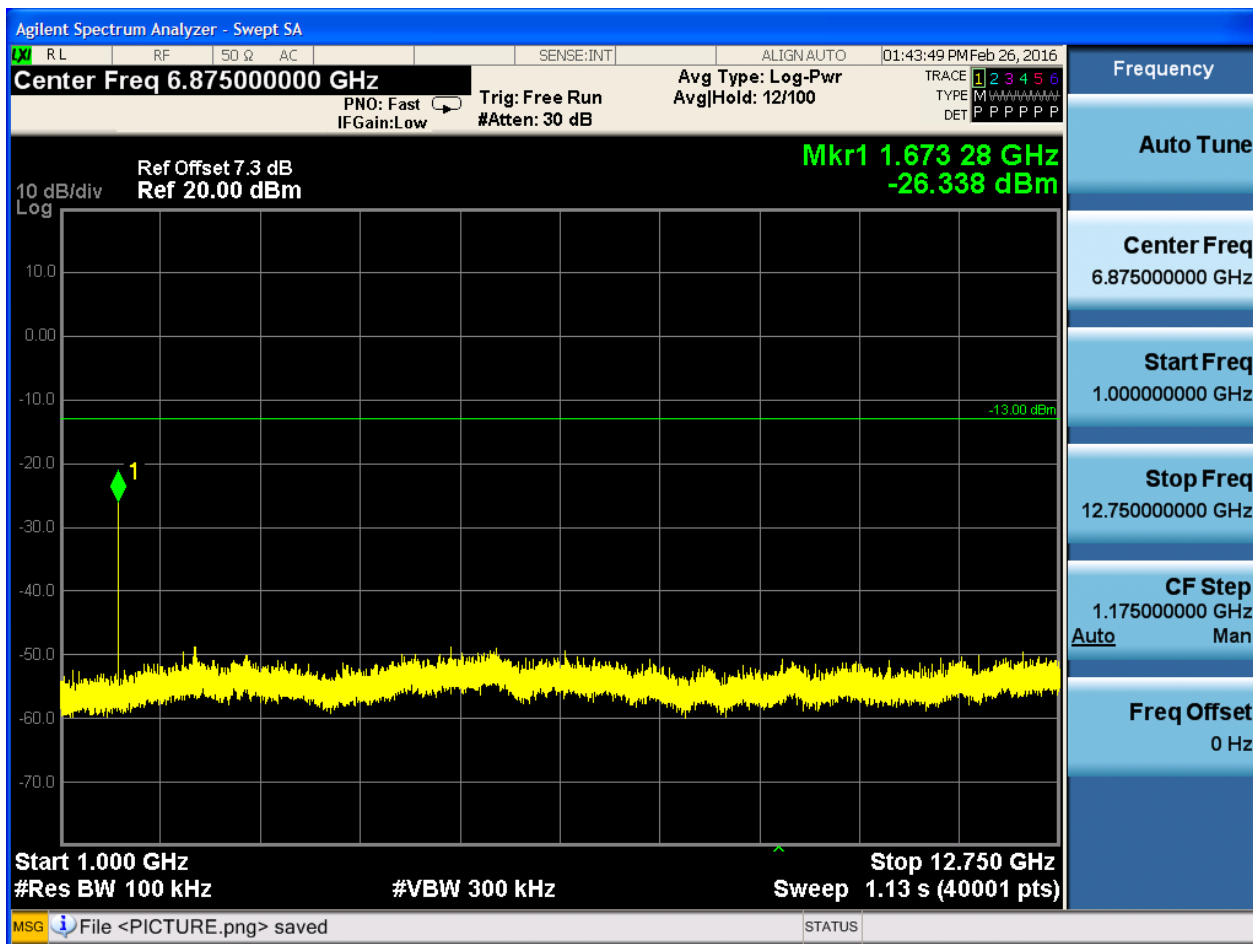


6.1.1.1.2 Test Channel = MCH



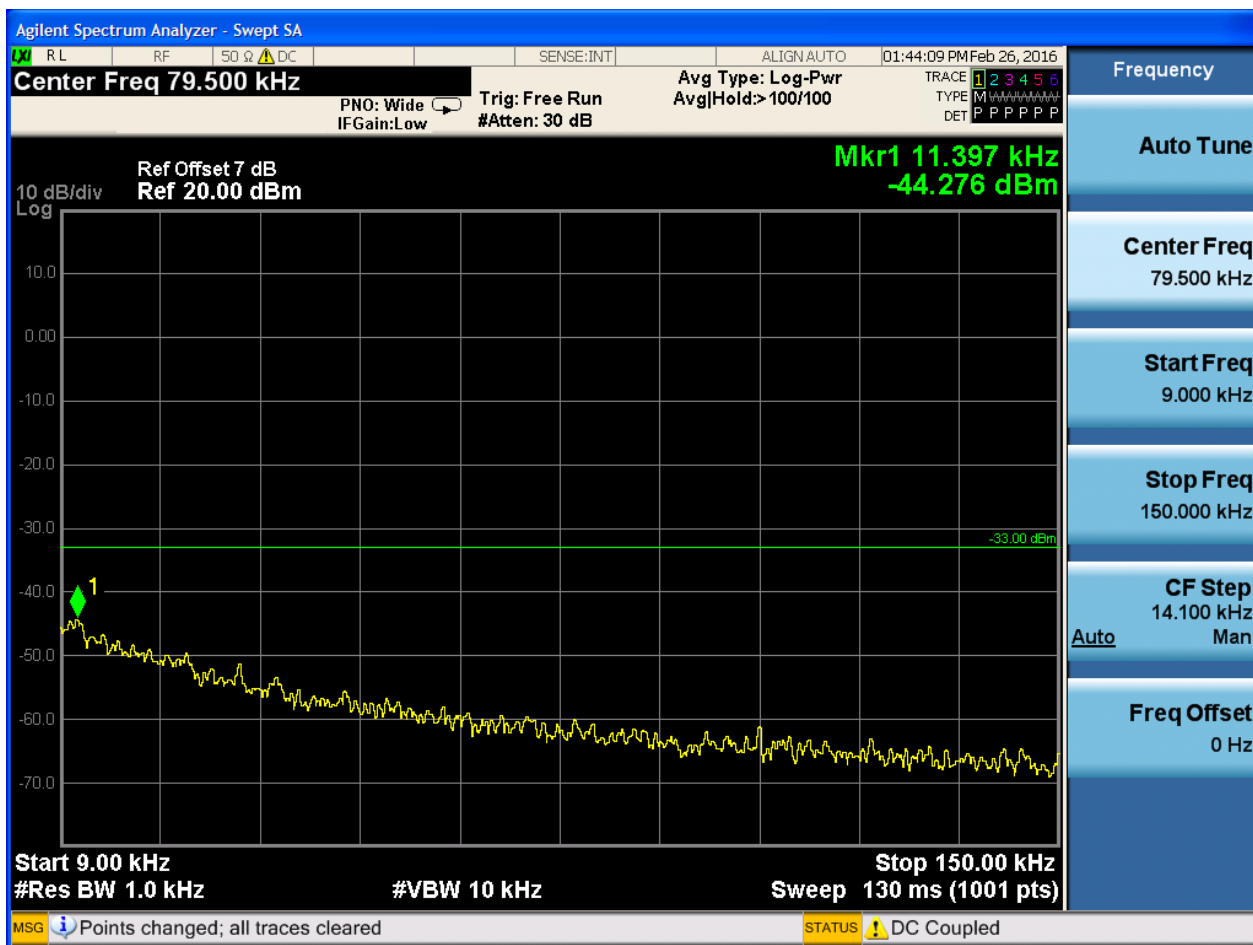


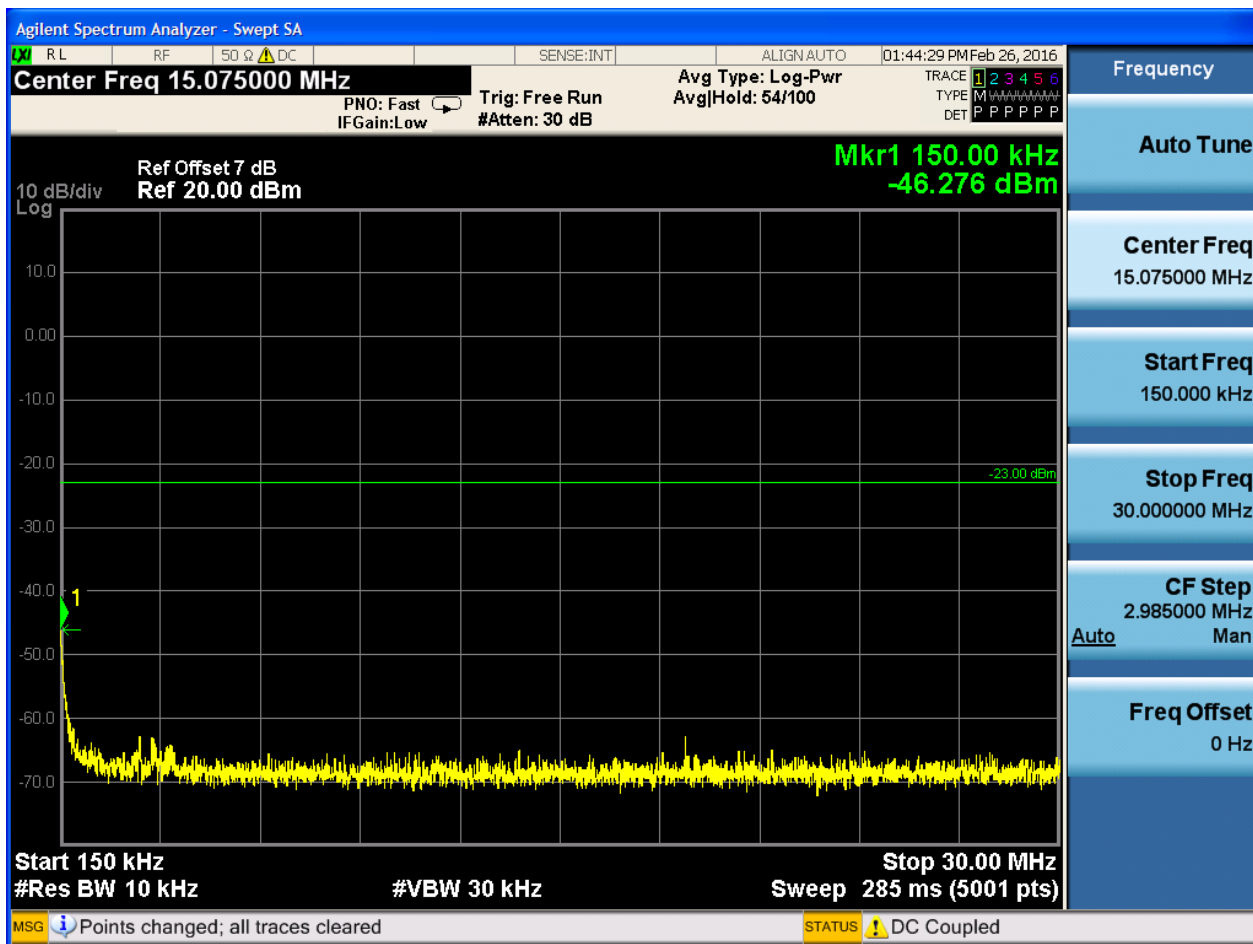


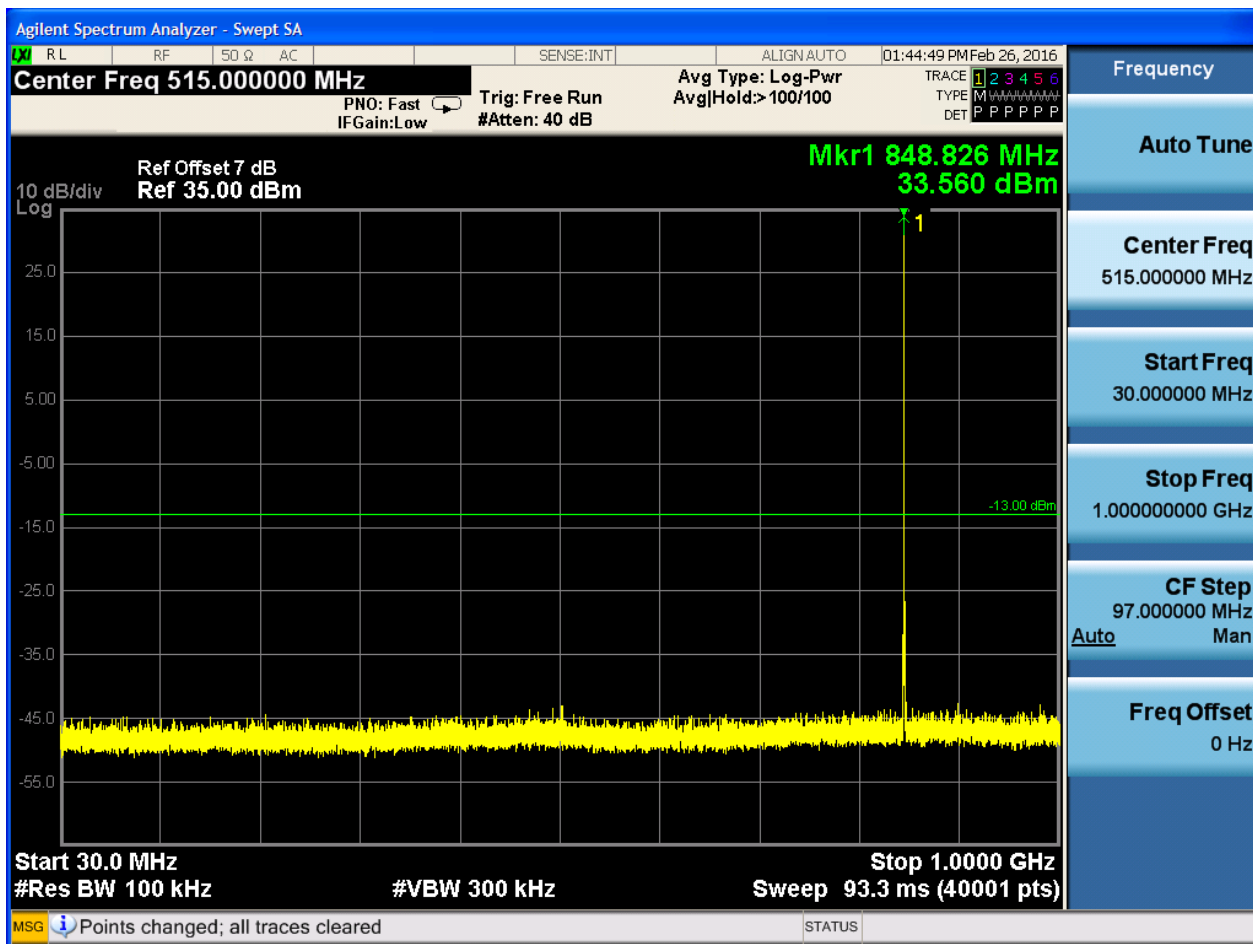


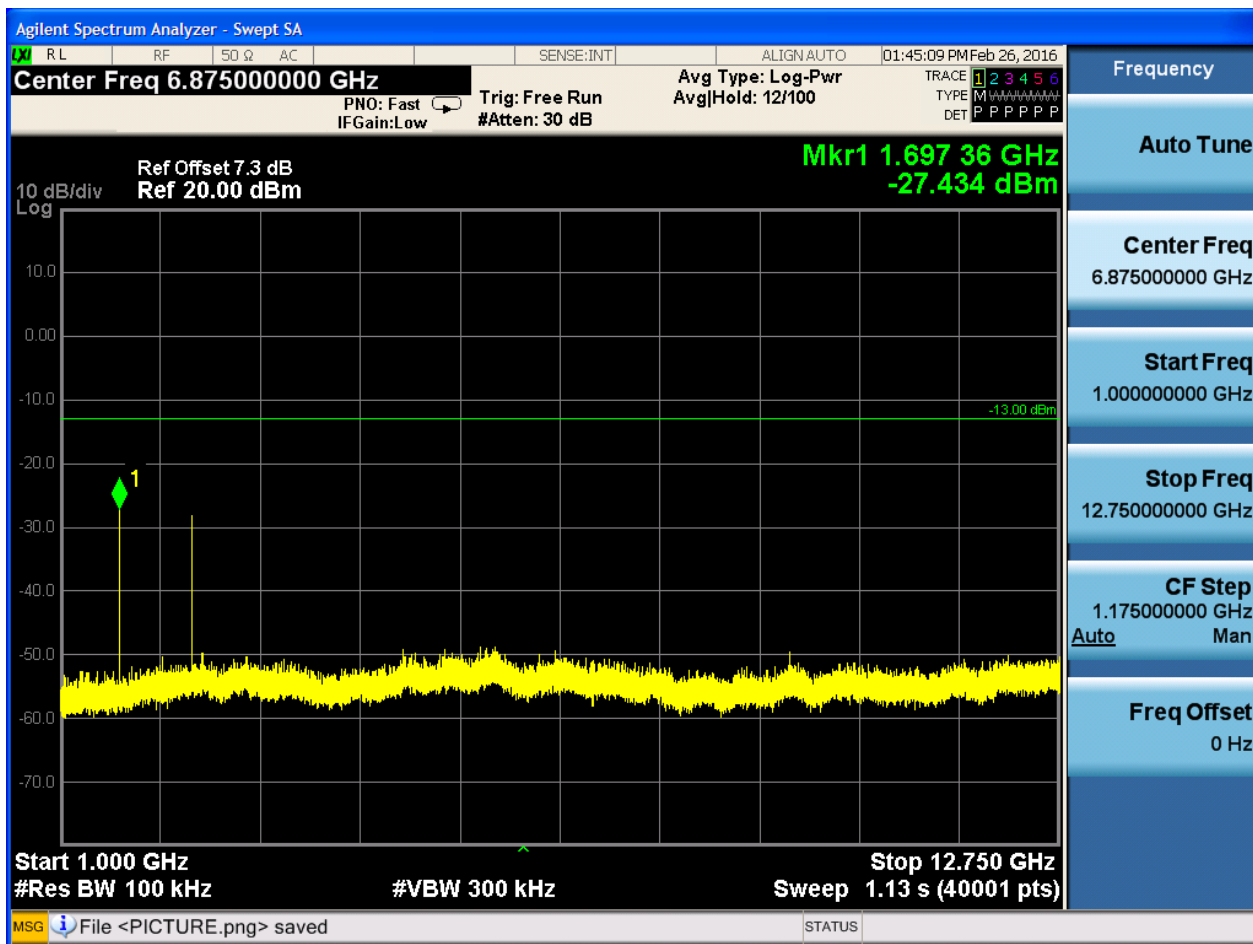


6.1.1.1.3 Test Channel = HCH









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

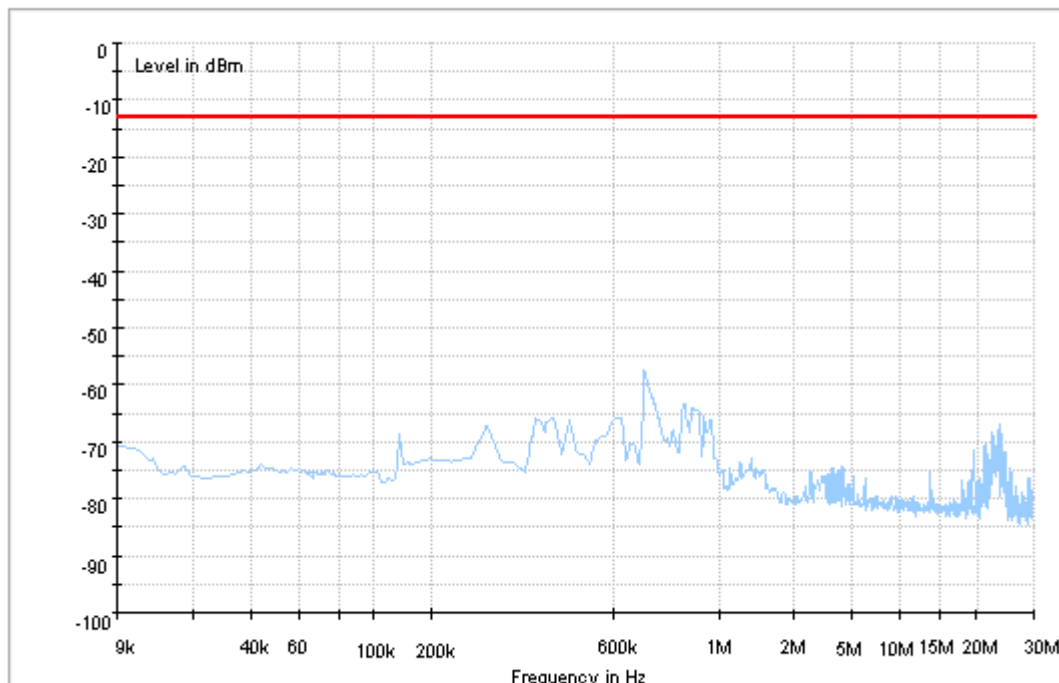
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

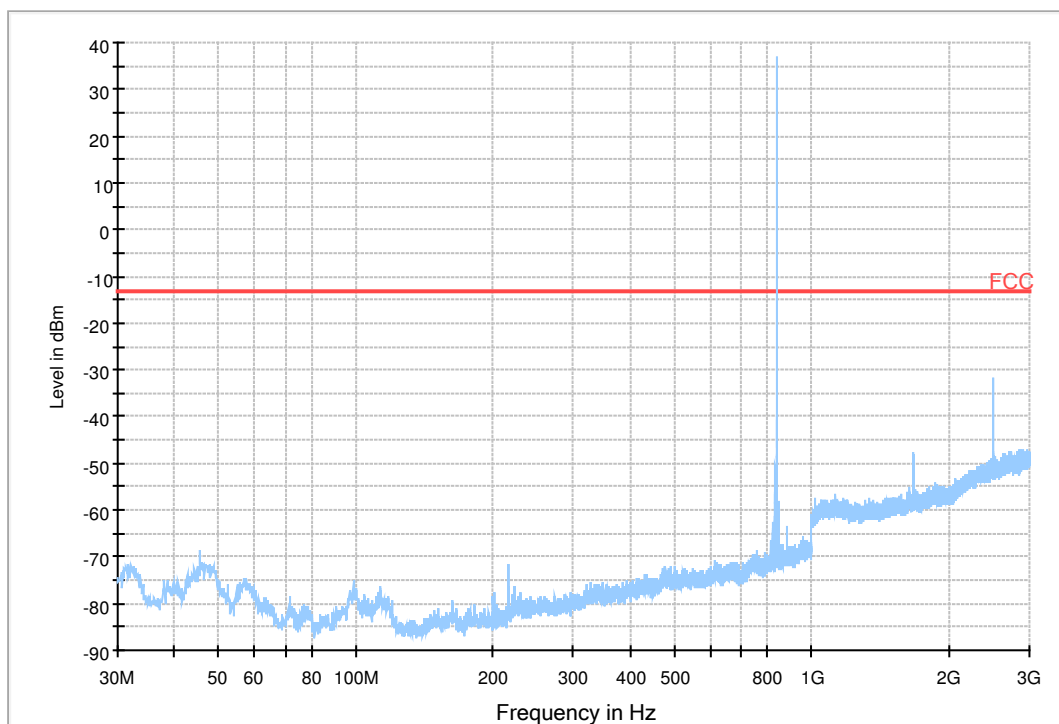
7.1 For GSM

7.1.1 Test Band = GSM850

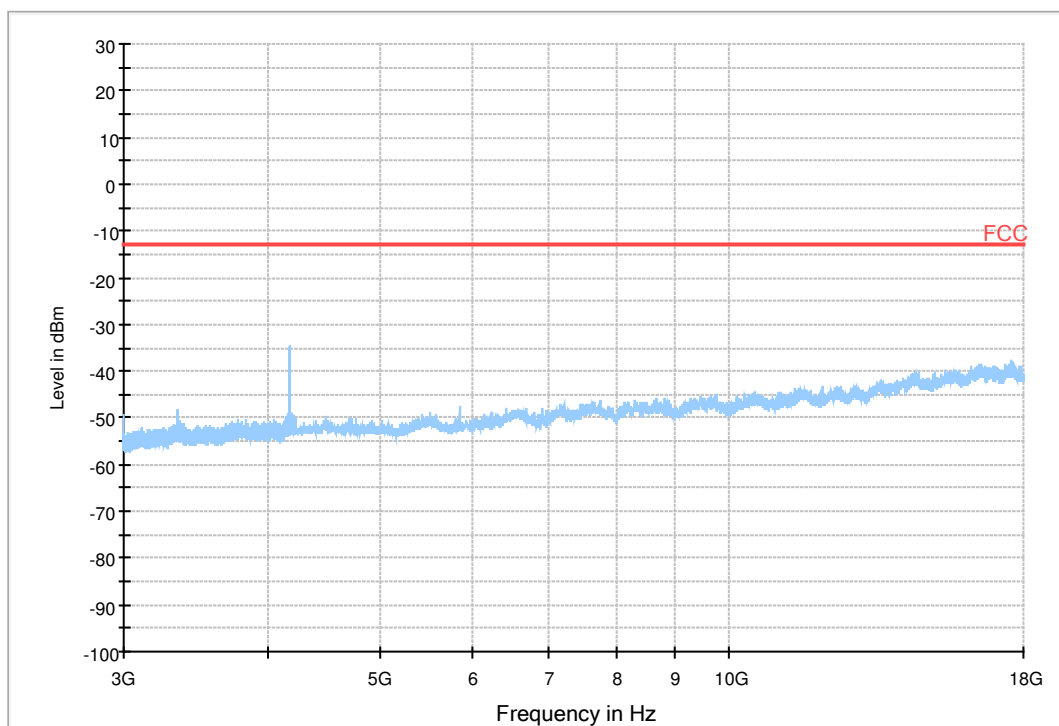
7.1.1.1 Test Mode = GSM/TM1



Copy of FCC PART22 GSM850_L



Copy of FCC PART22 GSM850_H



8Appendix_H: Frequency Stability

8.1 For GSM

8.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
GSM850	GSM/TM1	LCH	TN	VL	-14.21	-0.01724	PASS
				VN	-29.70	-0.03603	PASS
				VH	-12.91	-0.01566	PASS
		MCH	TN	VL	-14.53	-0.01737	PASS
				VN	-14.01	-0.01675	PASS
				VH	-15.69	-0.01875	PASS
		HCH	TN	VL	-2.91	-0.00343	PASS
				VN	-4.58	-0.0054	PASS
				VH	-14.72	-0.01734	PASS

8.1.2Frequency Error vs. Temperature:

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
GSM850	GSM/TM1	LCH	VN	-30	-10.27	-0.01246	PASS
				-20	-18.85	-0.02287	PASS
				-10	-18.02	-0.02186	PASS
				0	-16.34	-0.01983	PASS
				10	-22.60	-0.02742	PASS
				20	-16.27	-0.01974	PASS
				30	-20.66	-0.02507	PASS
				40	-29.06	-0.03526	PASS
				50	-12.20	-0.0148	PASS
		MCH	VN	-30	-8.46	-0.01011	PASS
				-20	-23.44	-0.02802	PASS
				-10	-10.85	-0.01297	PASS
				0	-6.78	-0.0081	PASS
				10	-10.33	-0.01235	PASS
				20	-12.33	-0.01474	PASS
				30	-16.92	-0.02022	PASS
				40	-10.14	-0.01212	PASS
				50	-11.43	-0.01366	PASS



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
		HCH	VN	-30	-15.69	-0.01848	PASS
				-20	-12.40	-0.01461	PASS
				-10	-10.65	-0.01255	PASS
				0	-14.66	-0.01727	PASS
				10	-10.85	-0.01278	PASS
				20	-17.50	-0.02062	PASS
				30	-11.75	-0.01384	PASS
				40	-15.30	-0.01803	PASS
				50	-11.43	-0.01347	PASS

END