



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]	EIRP [dBm]	Limit [dBm]	Verdict
WCDMA850	UMTS/TM1	LCH	23.52	20.92	38.5	PASS
		MCH	23.64	21.04	38.5	PASS
		HCH	23.6	21	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

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
WCDMA850	UMTS/TM1	LCH	3.33	13	PASS
		MCH	3.62	13	PASS
		HCH	3.17	13	PASS

3Appendix_C: Modulation Characteristics

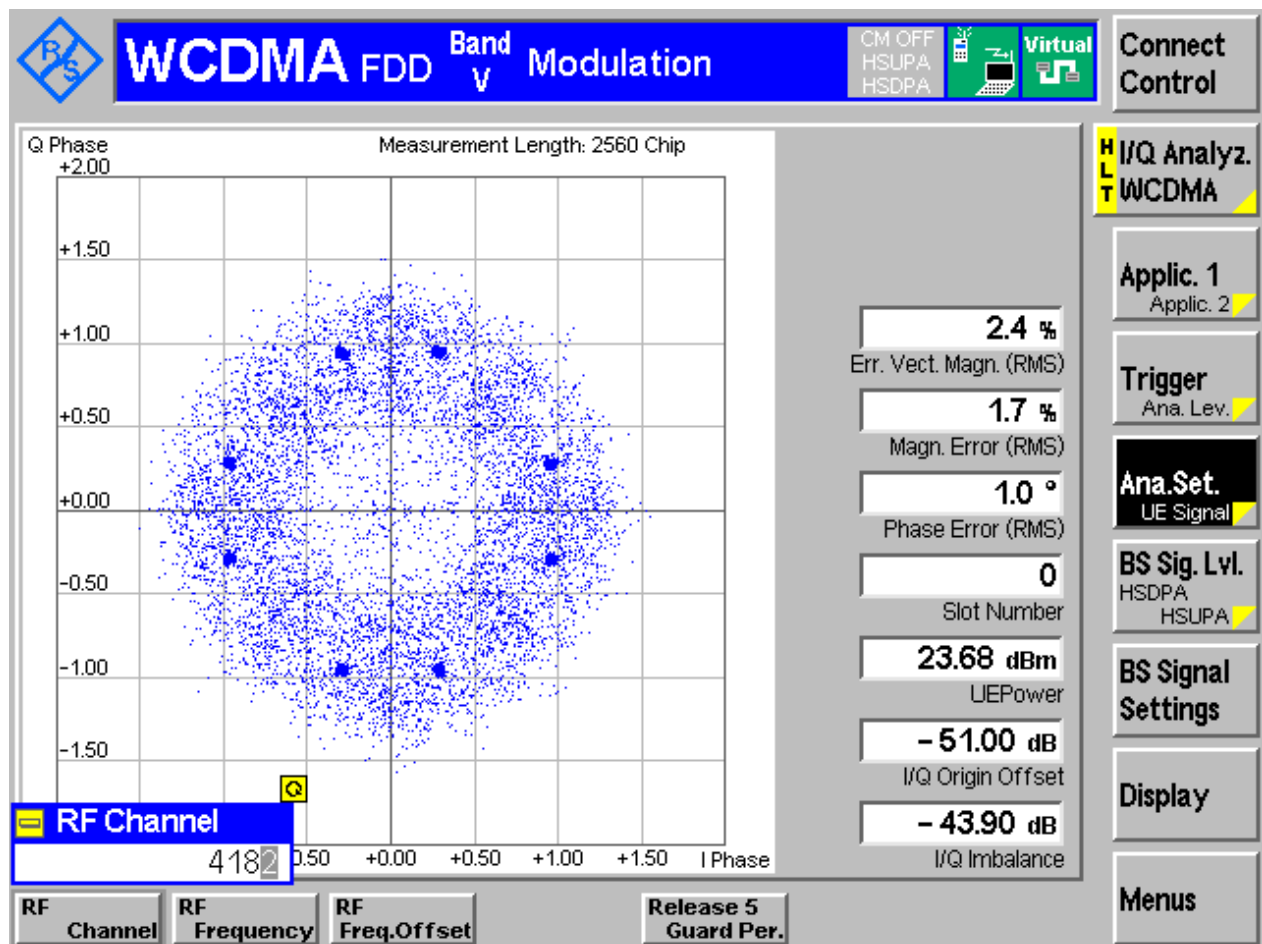
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA850

3.1.1.1 Test Mode = UMTS/TM1

3.1.1.1.1 Test Channel = MCH



4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA850	UMTS/TM1	LCH	4.14	4.69	Pass
		MCH	4.14	4.71	Pass
		HCH	4.14	4.69	Pass

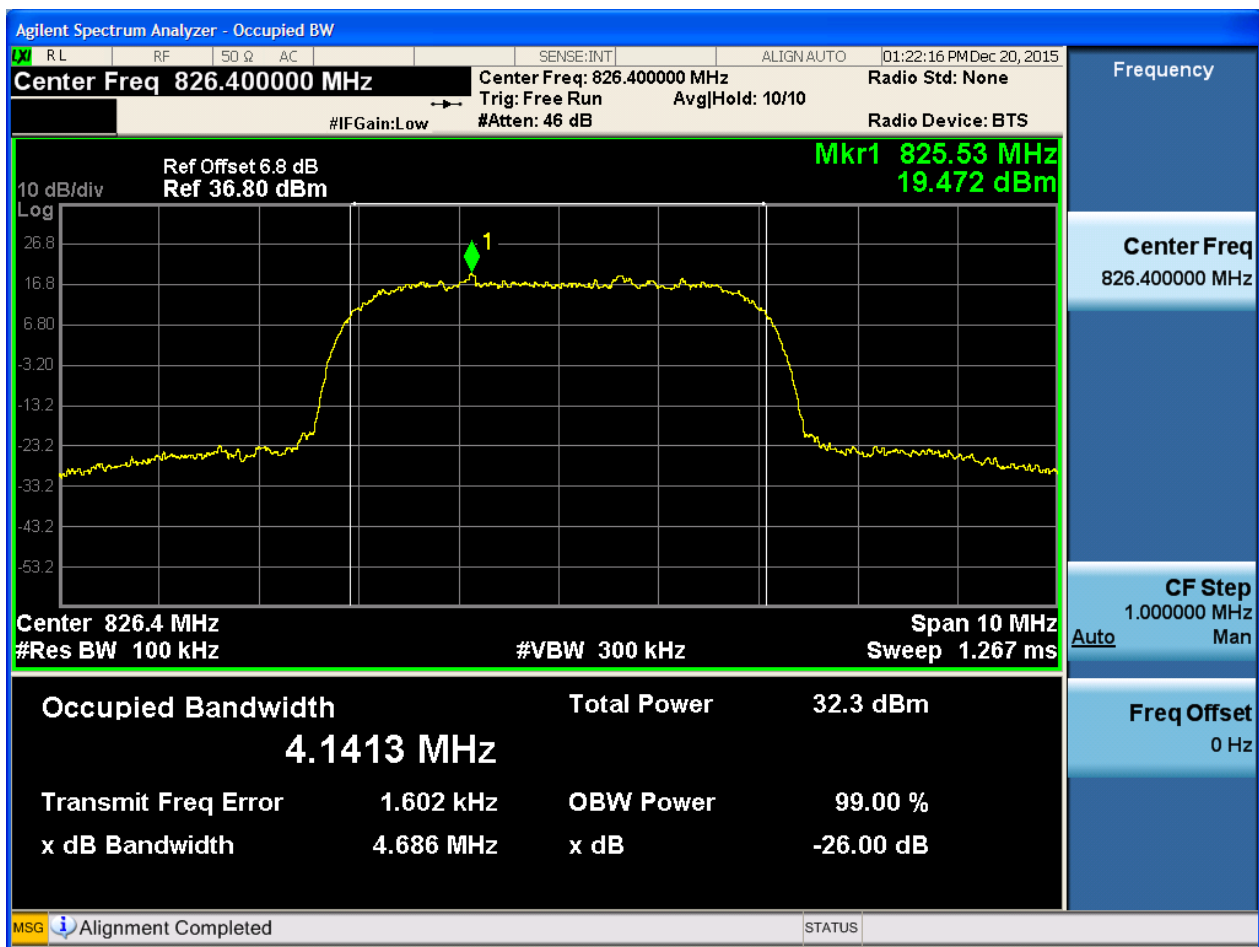
Part II - Test Plots

4.1 For UMTS

4.1.1 Test Band = WCDMA850

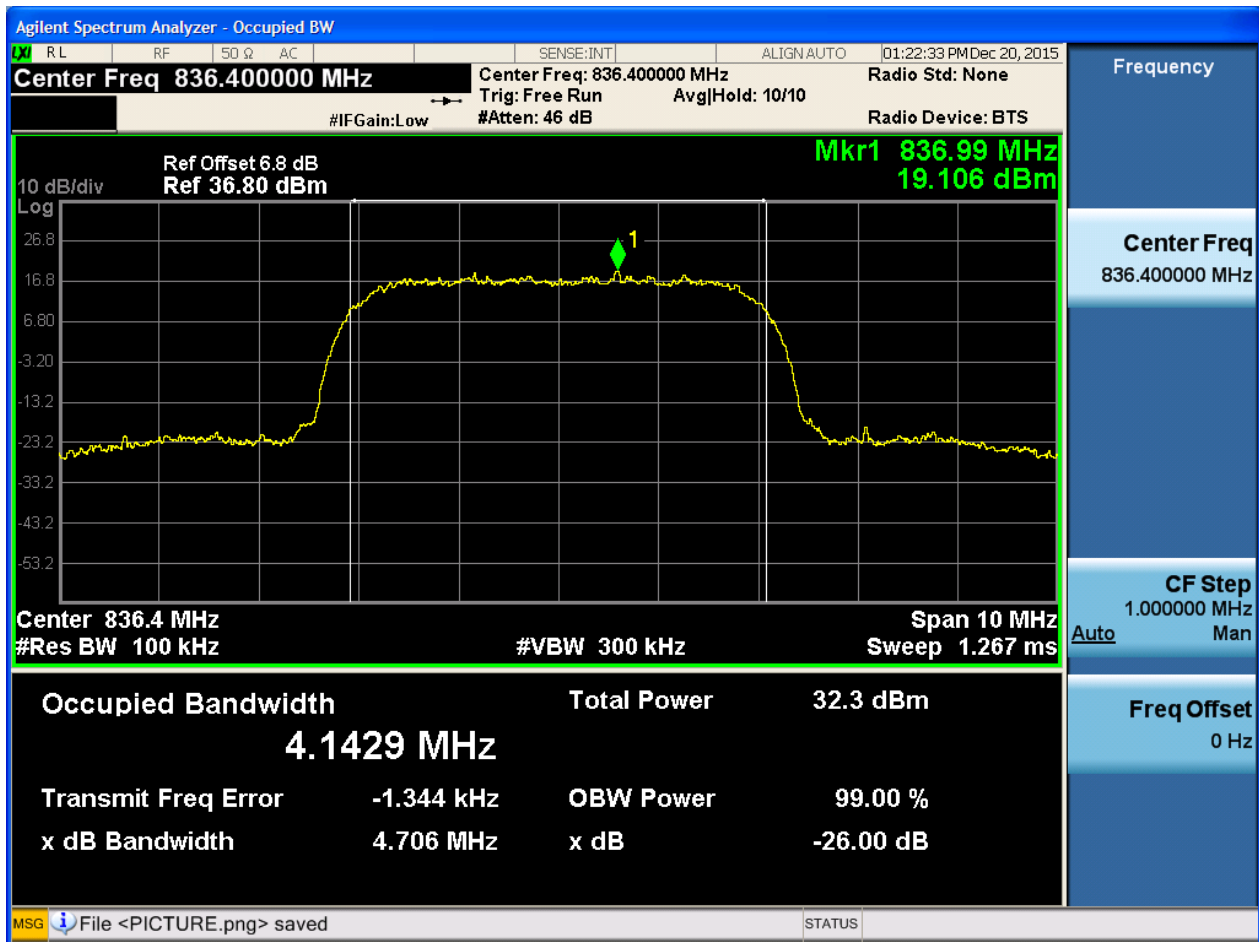
4.1.1.1 Test Mode = UMTS/TM1

4.1.1.1.1 Test Channel = LCH



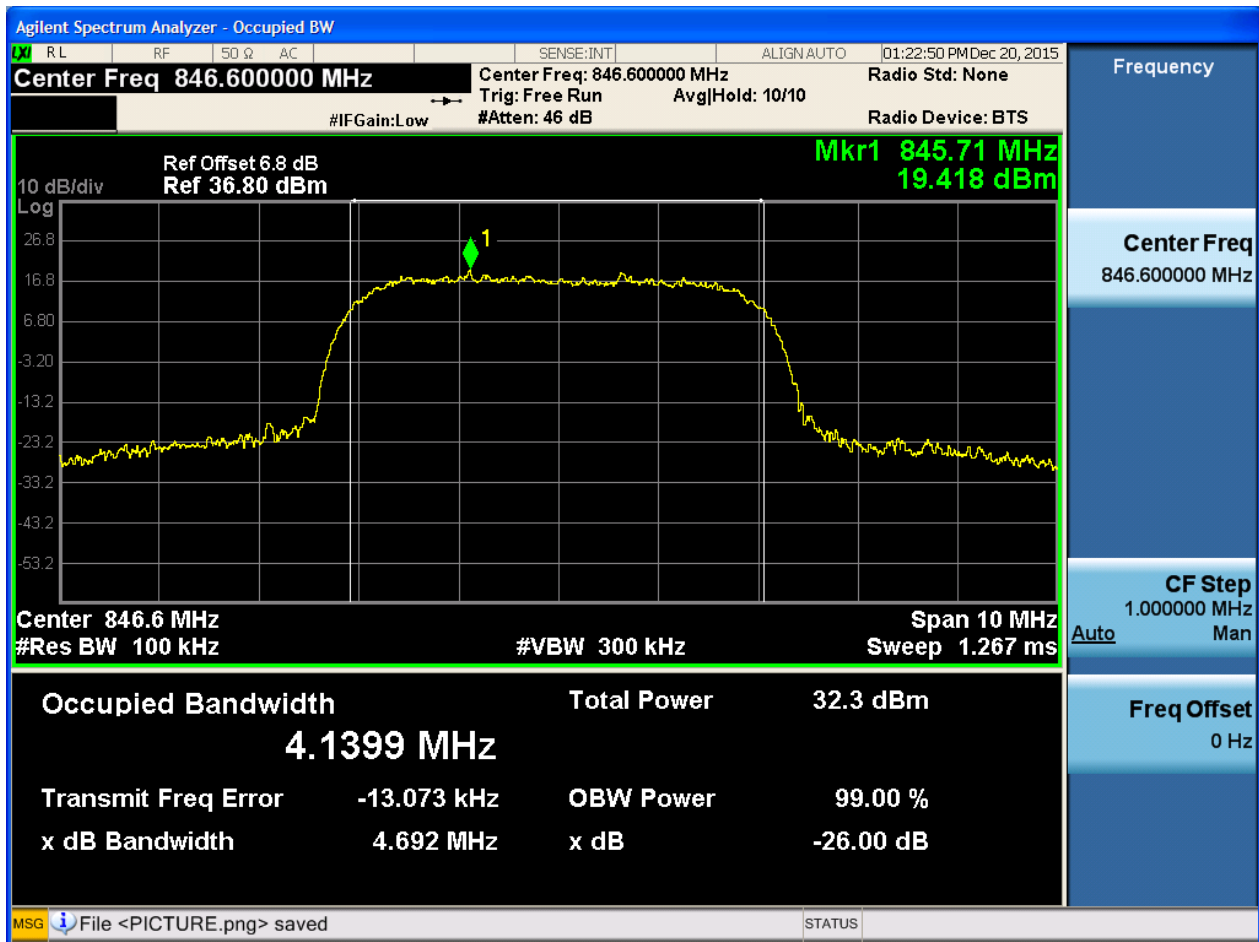


4.1.1.1.2 Test Channel = MCH





4.1.1.1.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

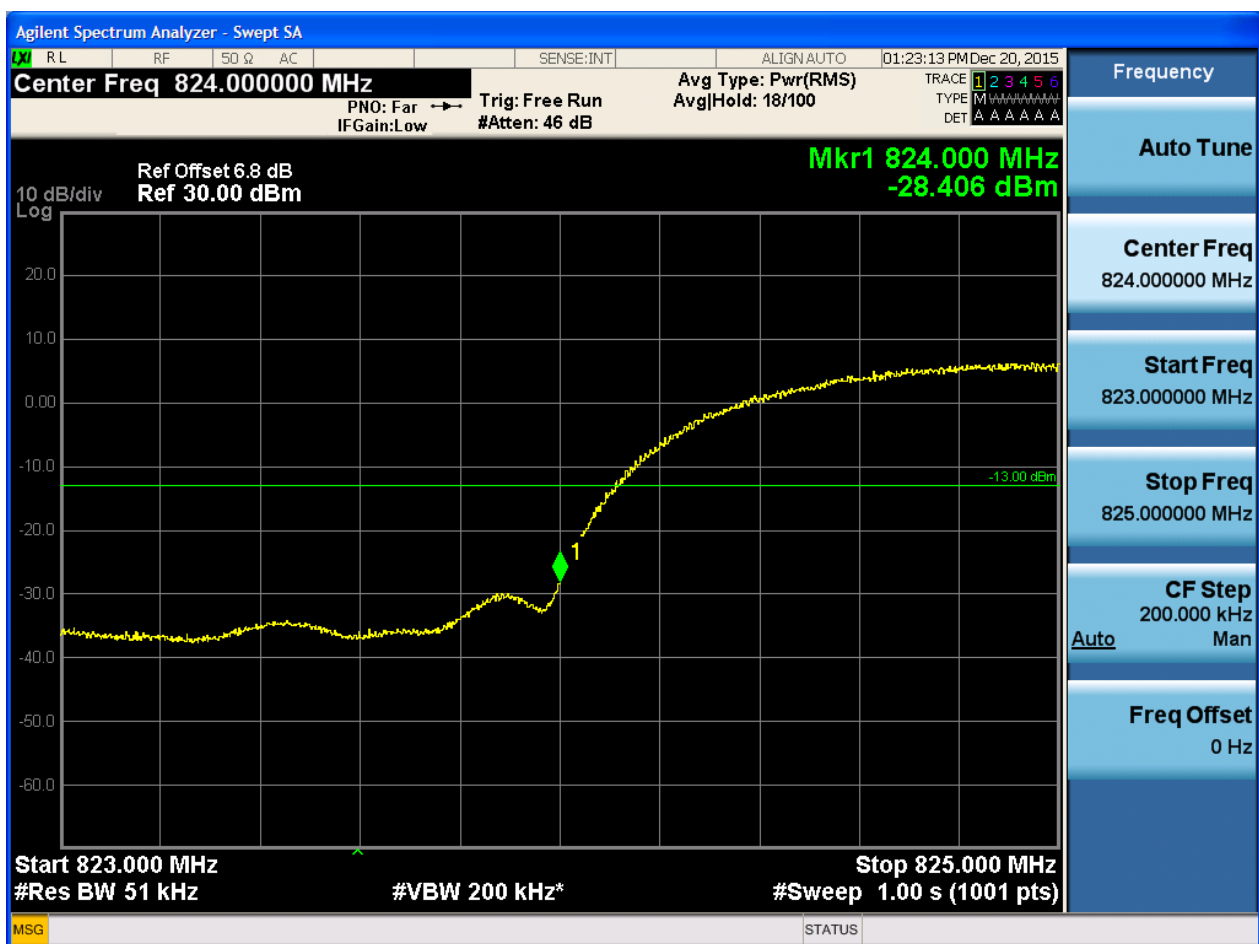
Part I - Test Plots

5.1 For UMTS

5.1.1 Test Band = WCDMA850

5.1.1.1 Test Mode = UMTS/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.

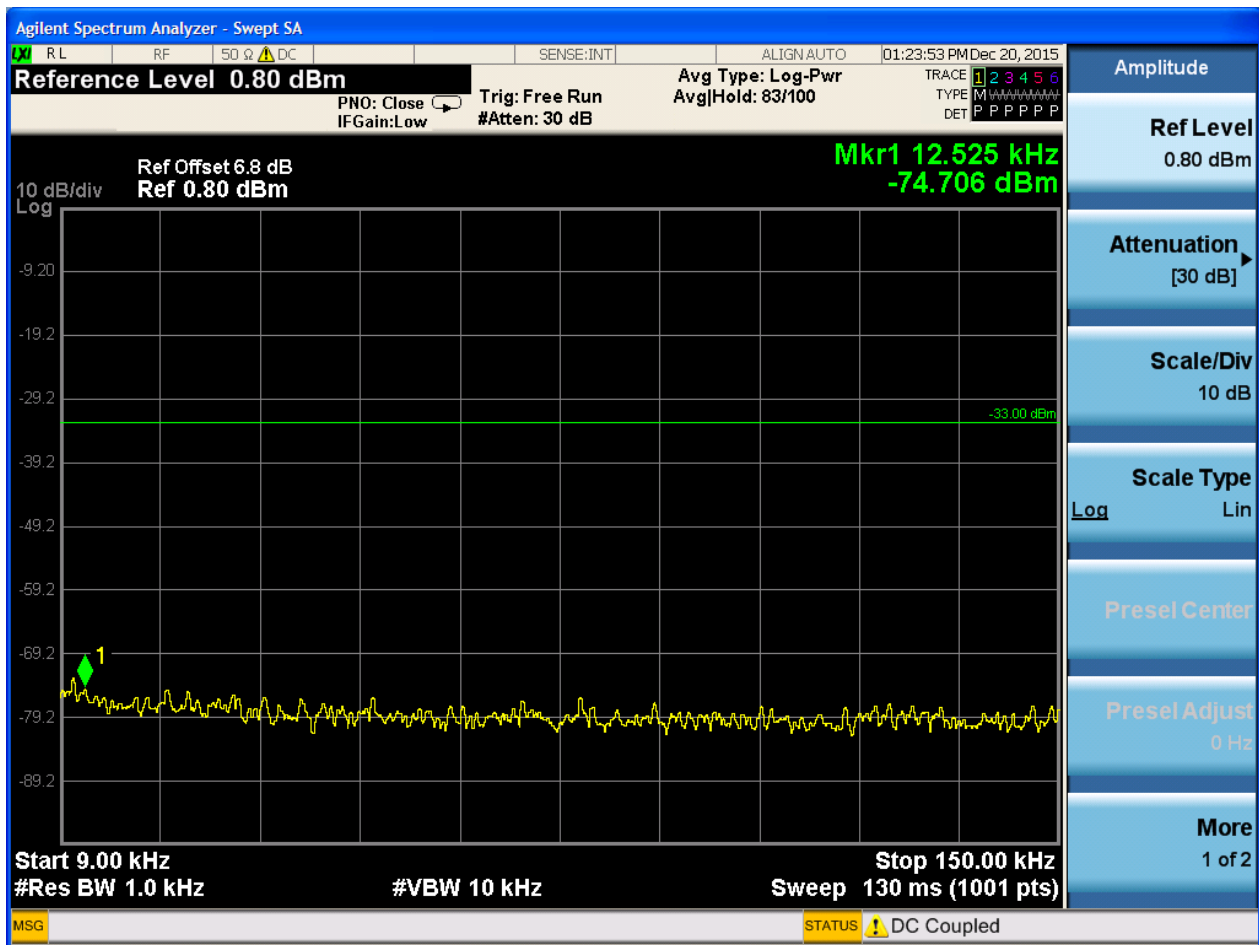
Part I - Test Plots

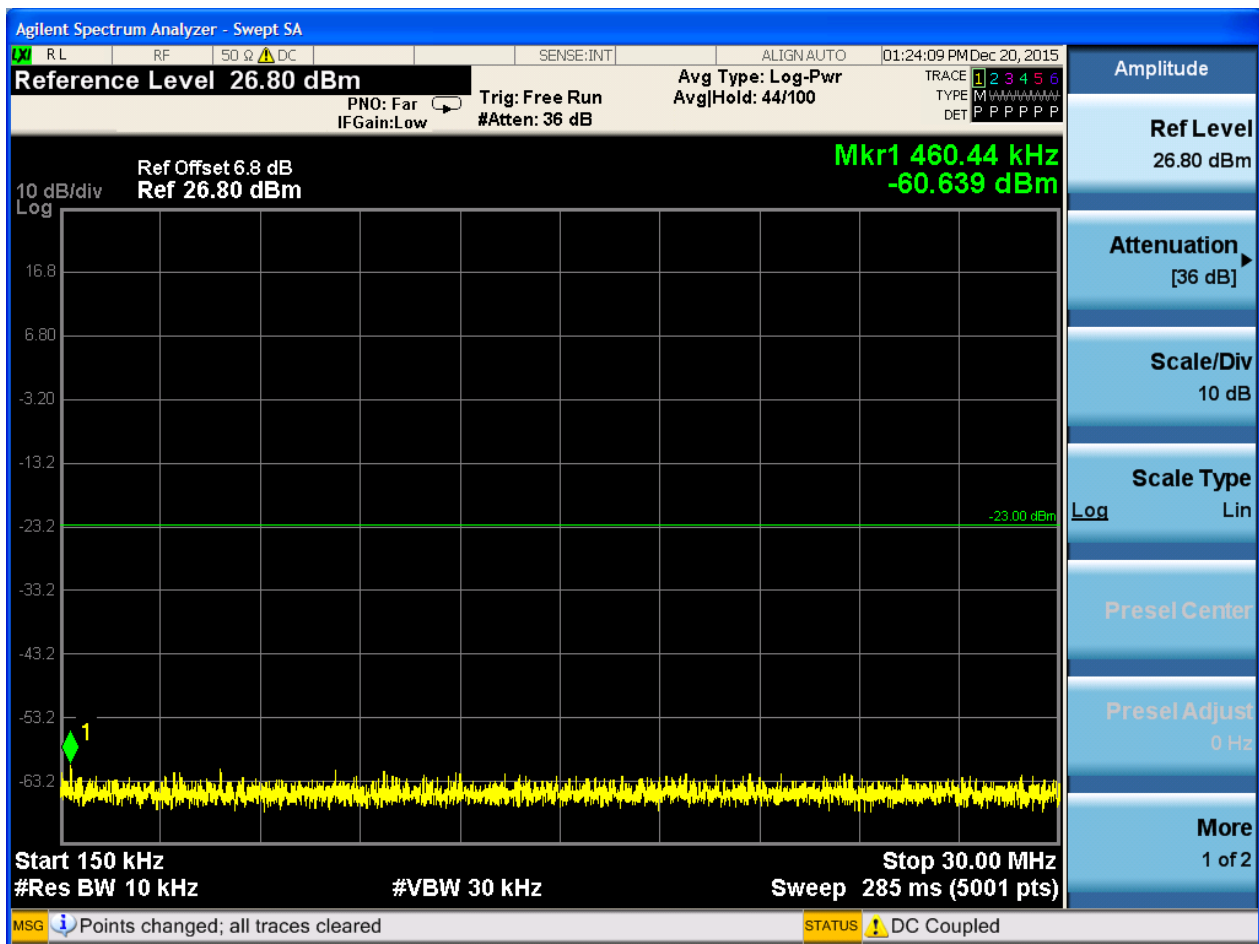
6.1 For UMTS

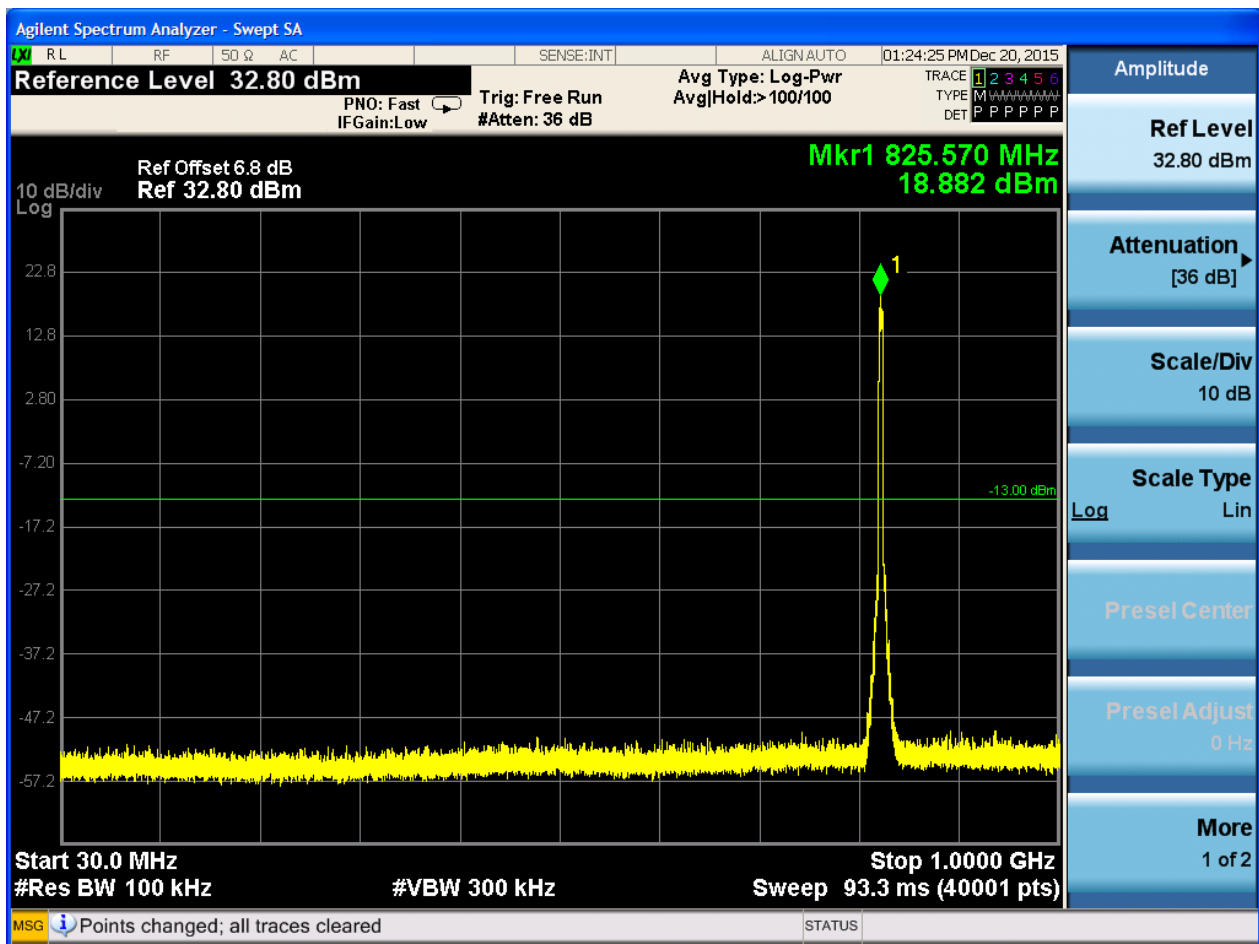
6.1.1 Test Band = WCDMA850

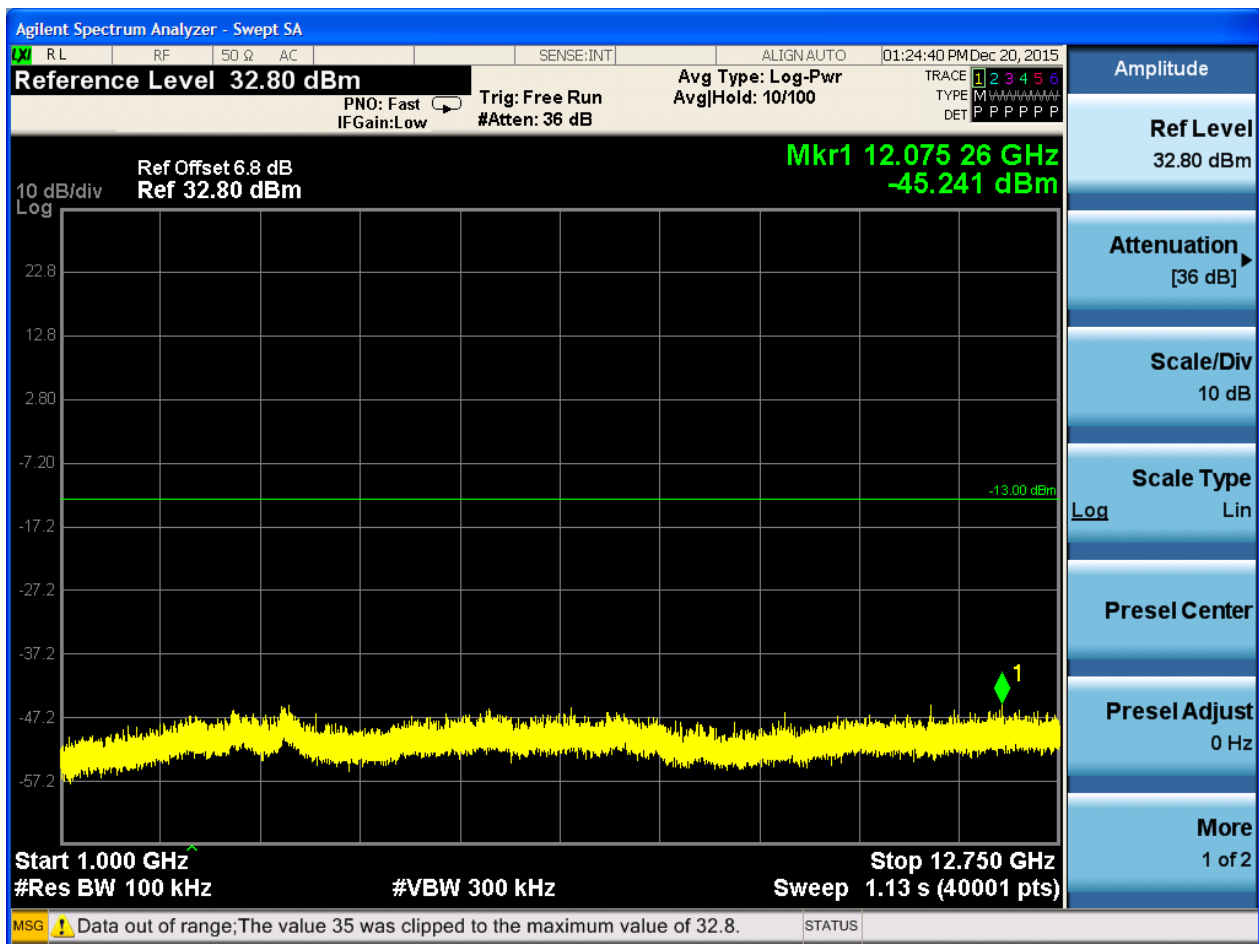
6.1.1.1 Test Mode = UMTS/TM1

6.1.1.1.1 Test Channel = LCH

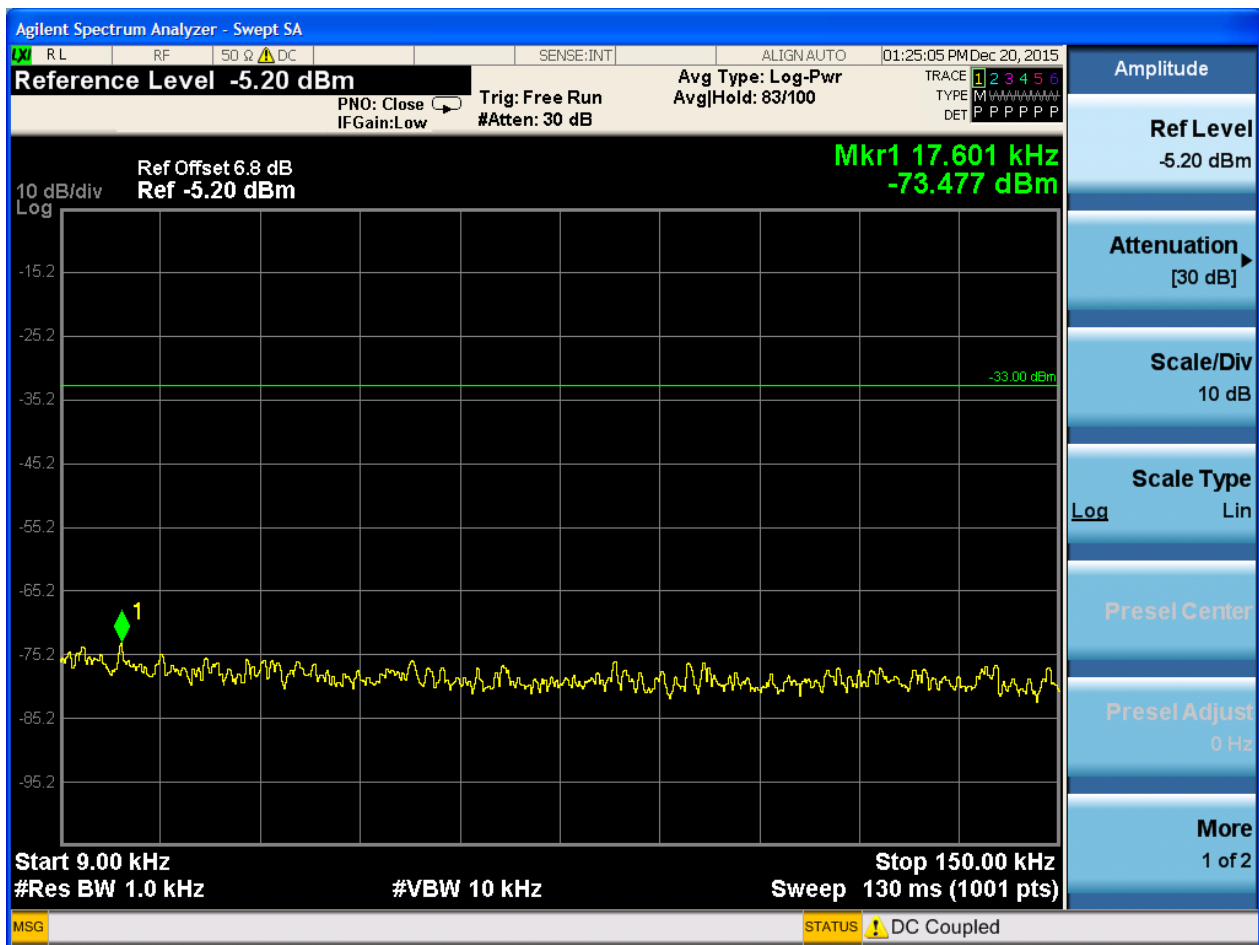


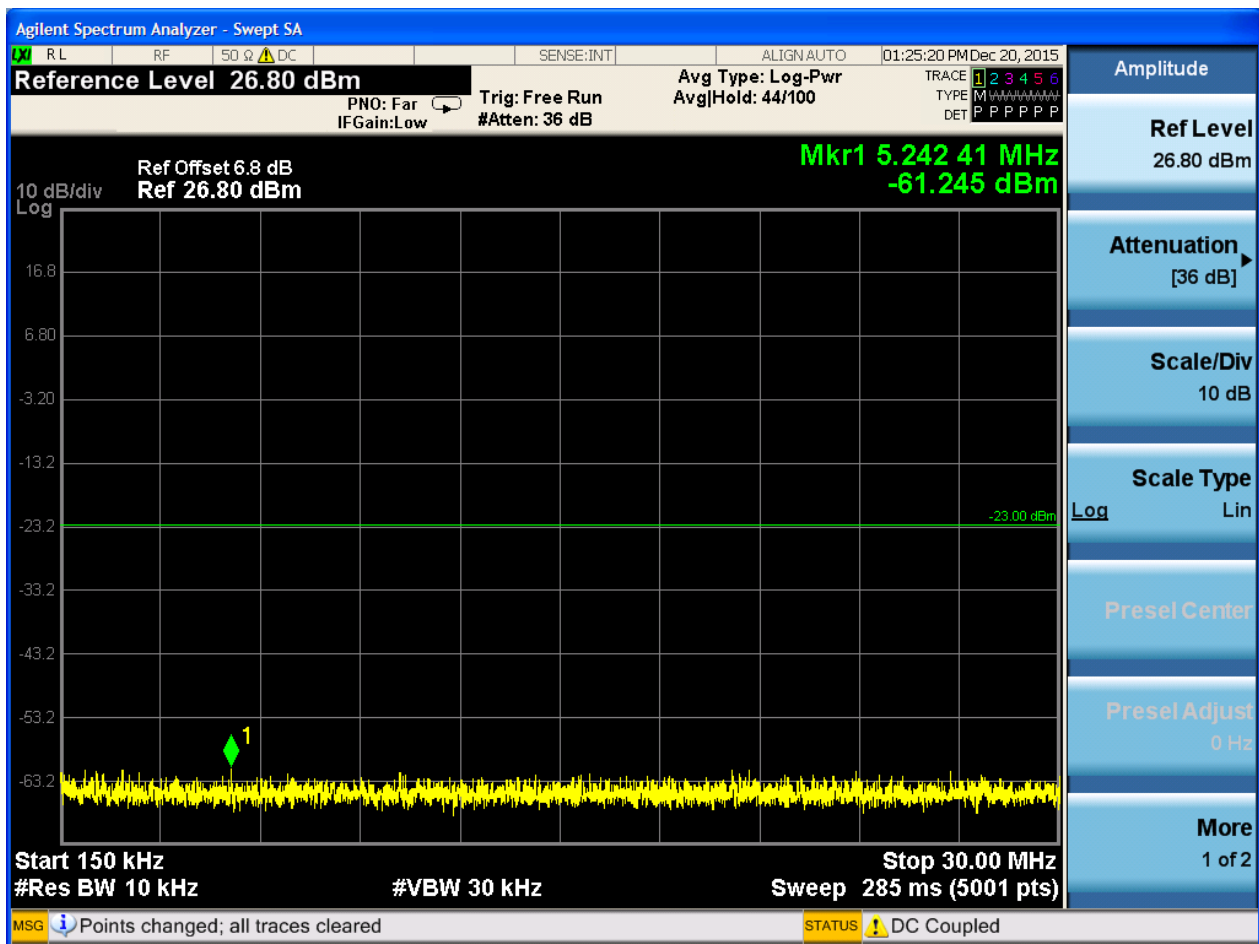


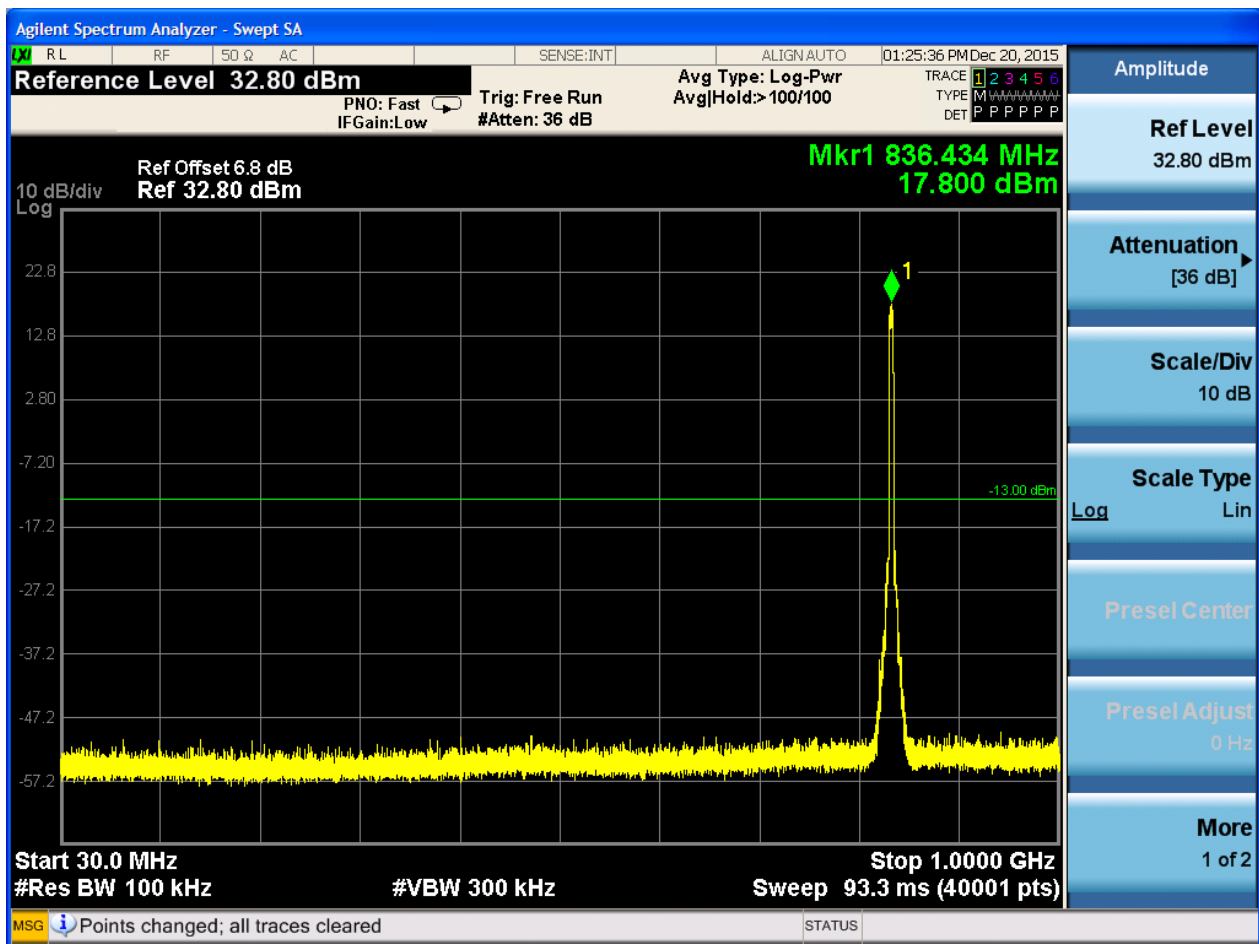


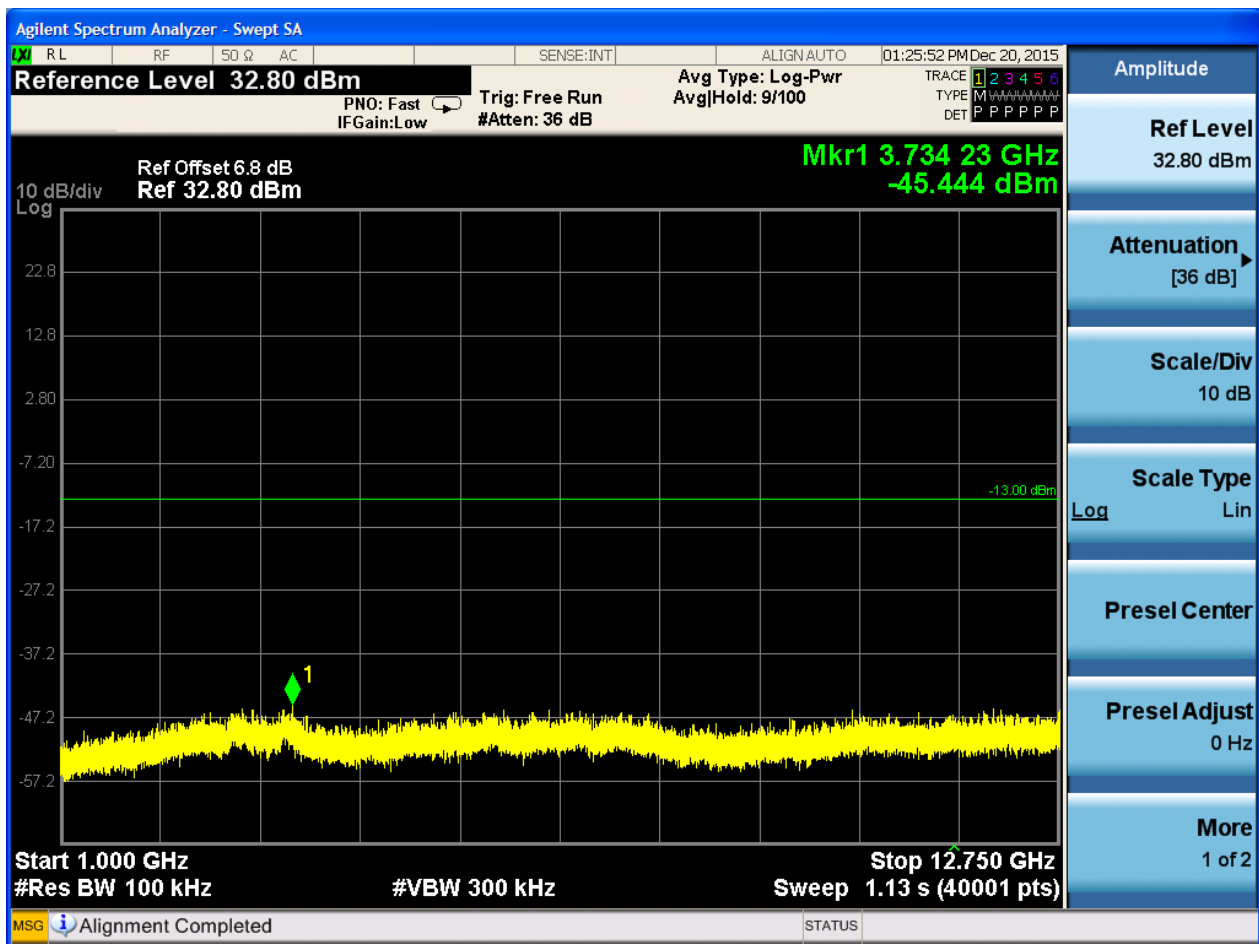


6.1.1.1.2 Test Channel = MCH

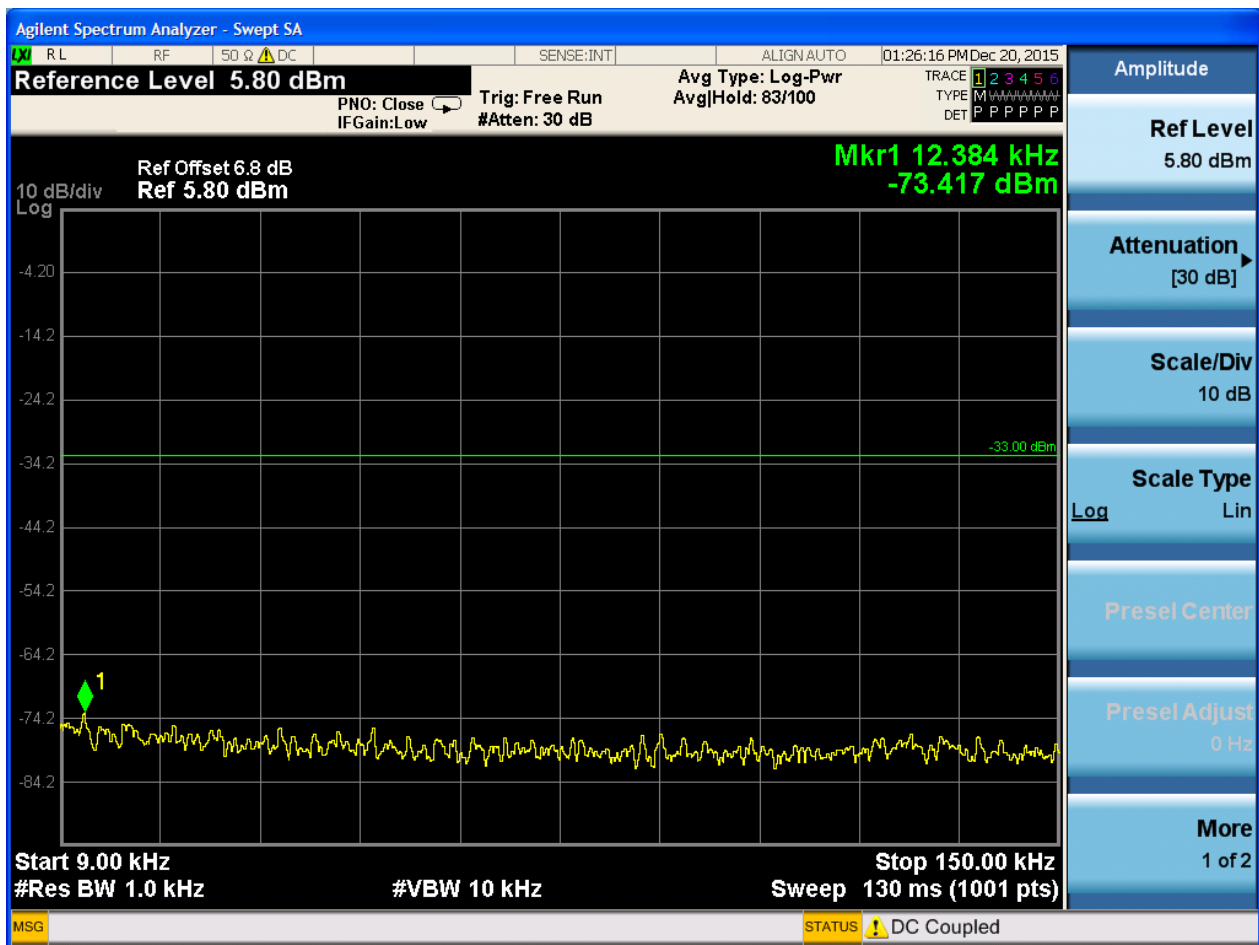


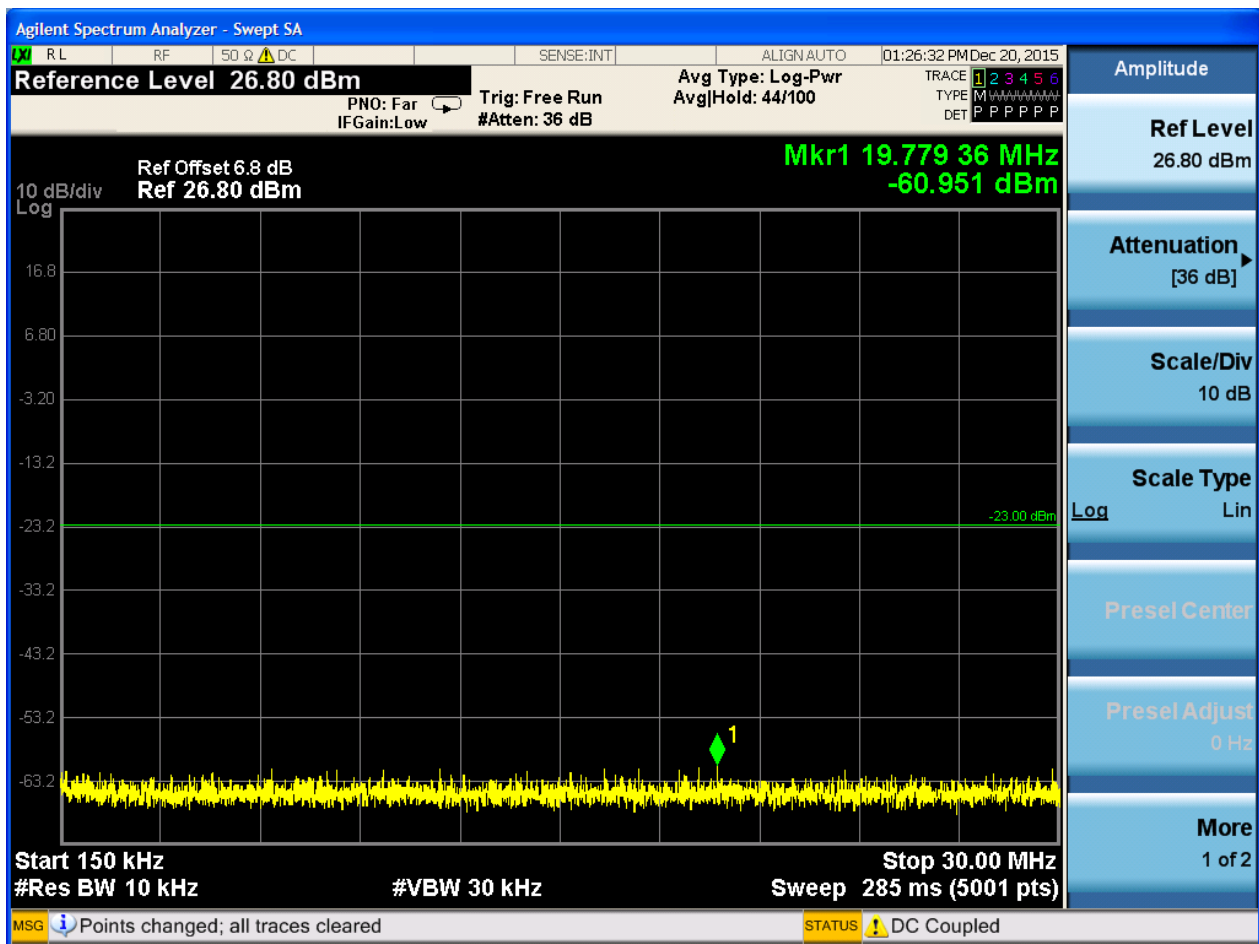


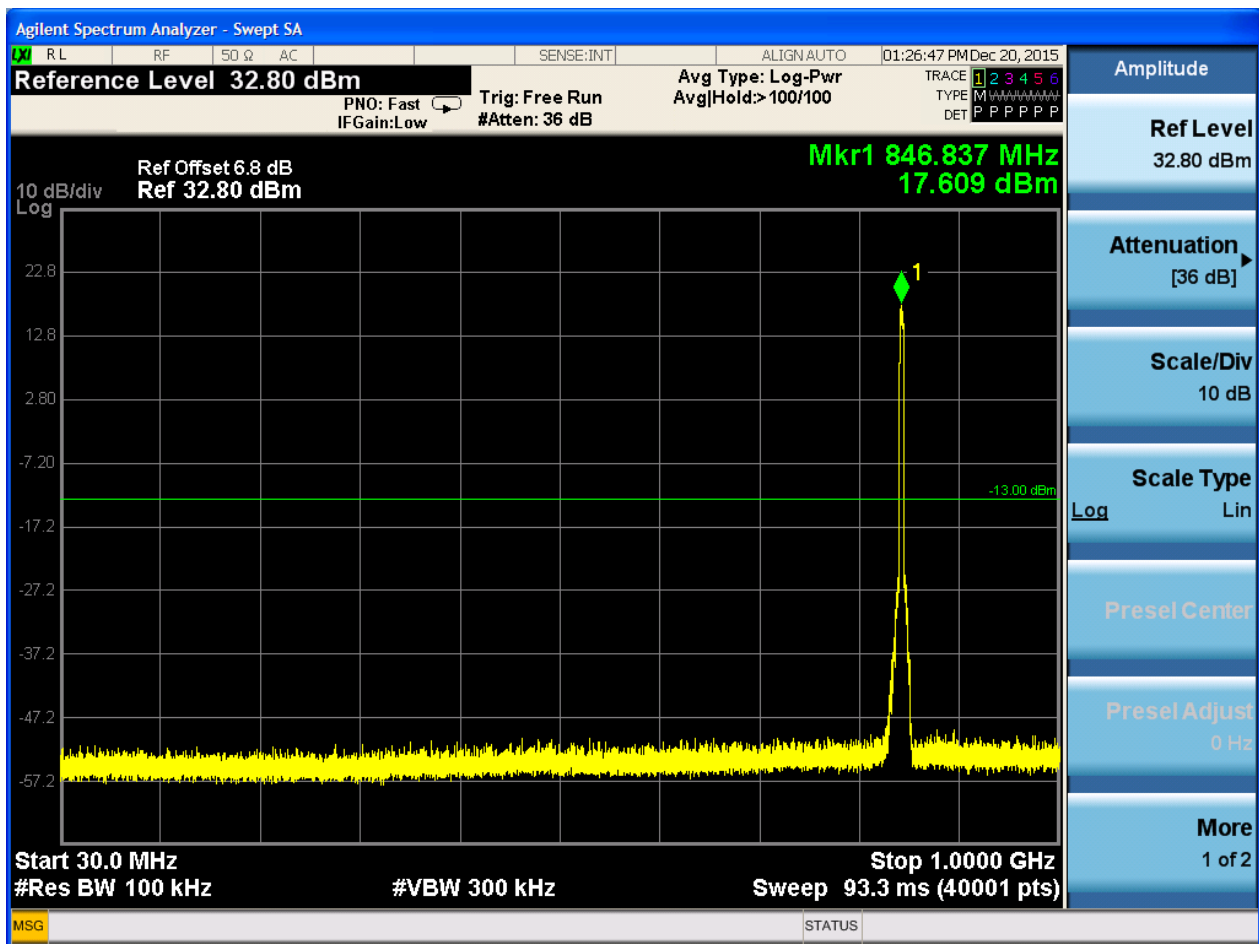


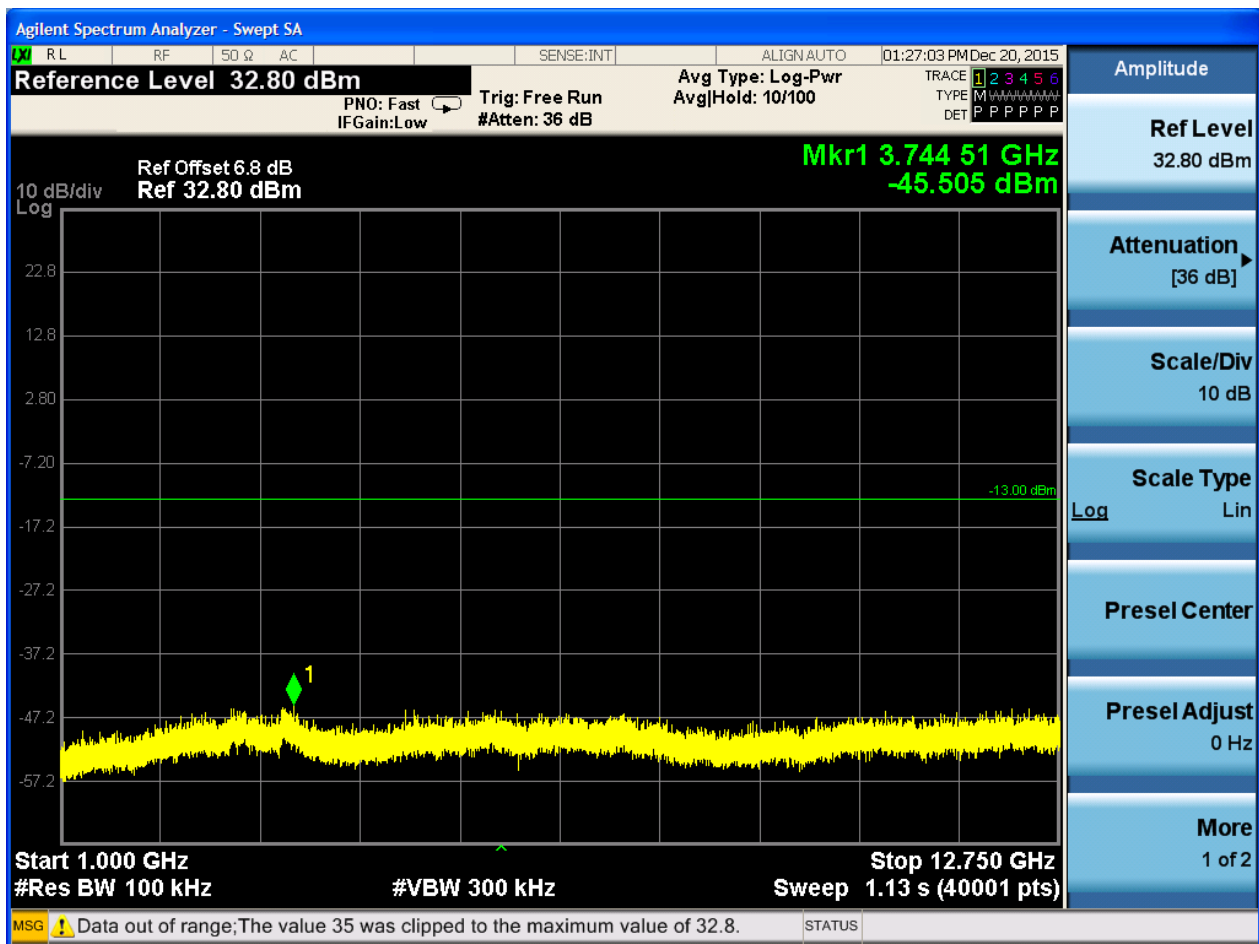


6.1.1.1.3 Test Channel = HCH









7Appendix_G: Field Strength of Spurious Radiation

Note: We tested all modes, but the data presented below is the worst case.

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

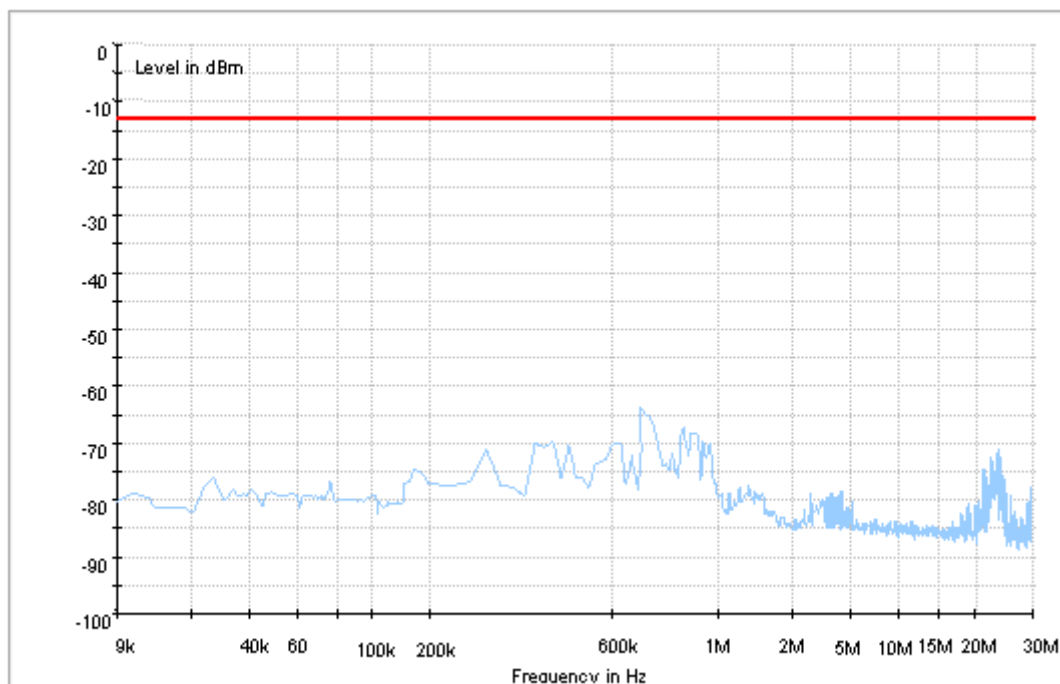
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

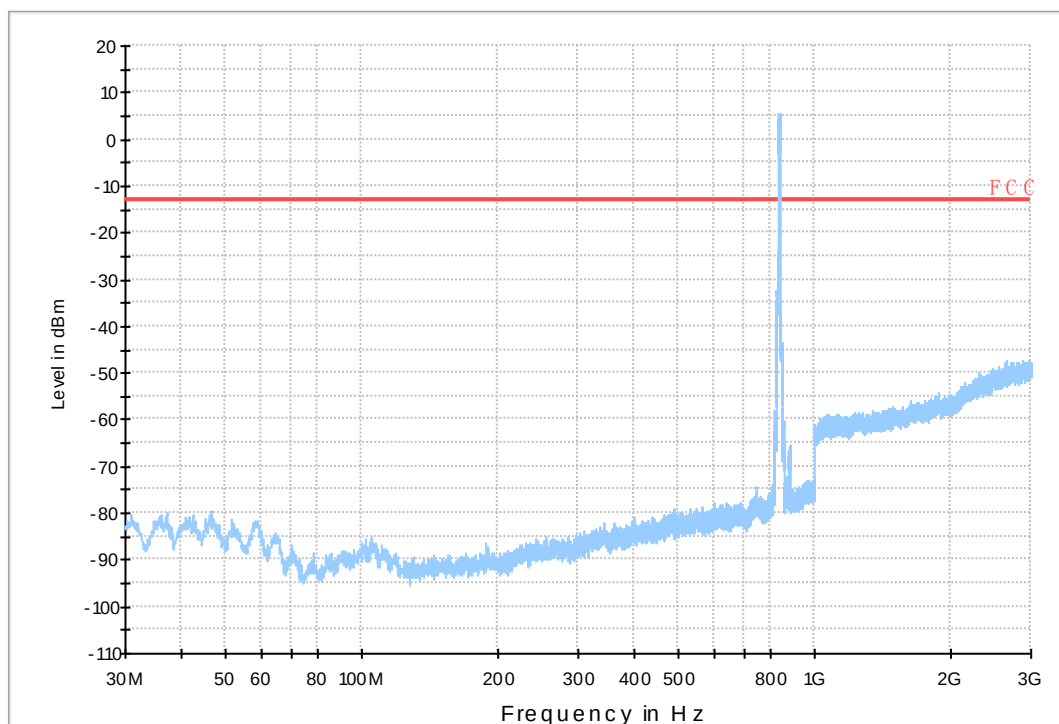
7.1 For UMTS

7.1.1 Test Band = WCDMA850

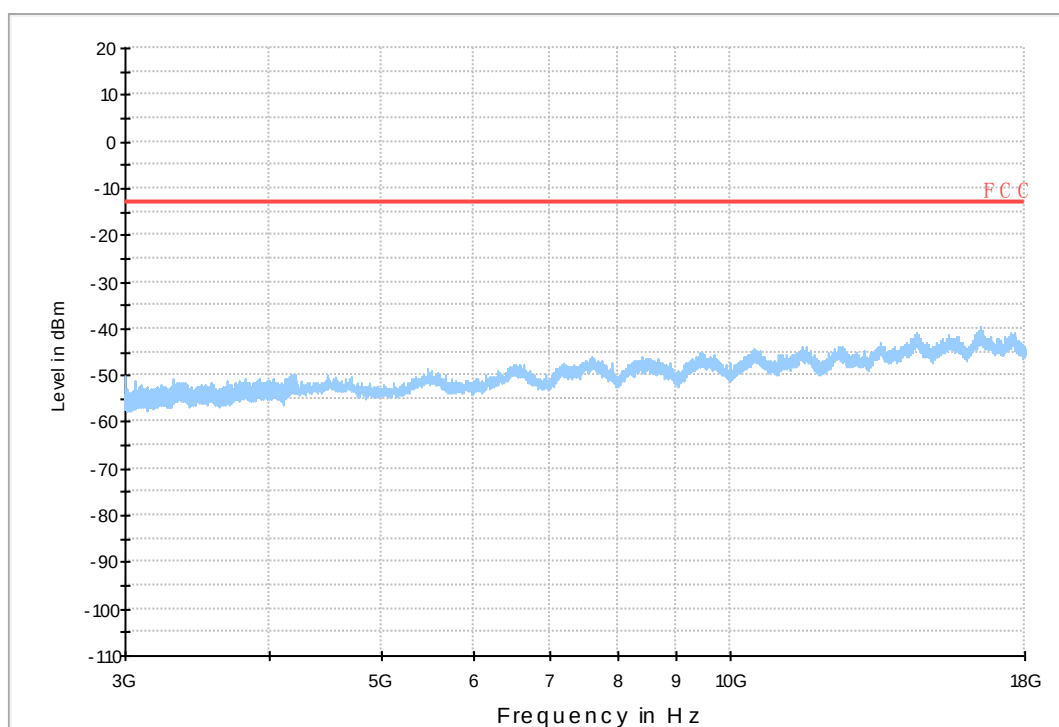
7.1.1.1 Test Mode = UMTS/TM1



Copy of FCC PART22 W CDMA850_L



Copy of FCC PART22 W CDMA850_H



8Appendix_H: Frequency Stability

8.1 For UMTS

8.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA850	UMTS/TM1	LCH	TN	VL	3.85	0.00466	PASS
				VN	0.27	0.00033	PASS
				VH	-4.04	-0.00489	PASS
		MCH	TN	VL	-3.30	-0.00395	PASS
				VN	-1.66	-0.00198	PASS
				VH	-6.09	-0.00728	PASS
		HCH	TN	VL	-1.16	-0.00137	PASS
				VN	1.16	0.00137	PASS
				VH	-1.13	-0.00133	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
WCDMA850	UMTS/TM1	LCH	VN	-30	0.67	0.00081	PASS
				-20	-2.17	-0.00263	PASS
				-10	-1.65	-0.002	PASS
				0	0.02	0.00002	PASS
				10	-2.94	-0.00356	PASS
				20	-1.62	-0.00196	PASS
				30	0.12	0.00015	PASS
				40	0.56	0.00068	PASS
				50	1.88	0.00227	PASS
		MCH	VN	-30	-0.84	-0.001	PASS
				-20	2.82	0.00337	PASS
				-10	3.19	0.00381	PASS
				0	-1.69	-0.00202	PASS
				10	3.95	0.00472	PASS
				20	4.47	0.00534	PASS
				30	-4.58	-0.00548	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				40	3.80	0.00454	PASS
				50	2.15	0.00257	PASS
		HCH	VN	-30	7.51	0.00887	PASS
				-20	3.83	0.00452	PASS
				-10	2.15	0.00254	PASS
				0	-0.29	-0.00034	PASS
				10	-6.97	-0.00823	PASS
				20	8.73	0.01031	PASS
				30	-1.05	-0.00124	PASS
				40	1.43	0.00169	PASS
				50	3.07	0.00363	PASS

END