



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
WCDMA1900	UMTS/TM1	LCH	22.9	21.7	33	PASS
		MCH	22.82	21.62	33	PASS
		HCH	22.73	21.53	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:

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

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

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

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
WCDMA1900	UMTS/TM1	LCH	3.27	13	PASS
		MCH	3.17	13	PASS
		HCH	3.23	13	PASS

3Appendix_C: Modulation Characteristics

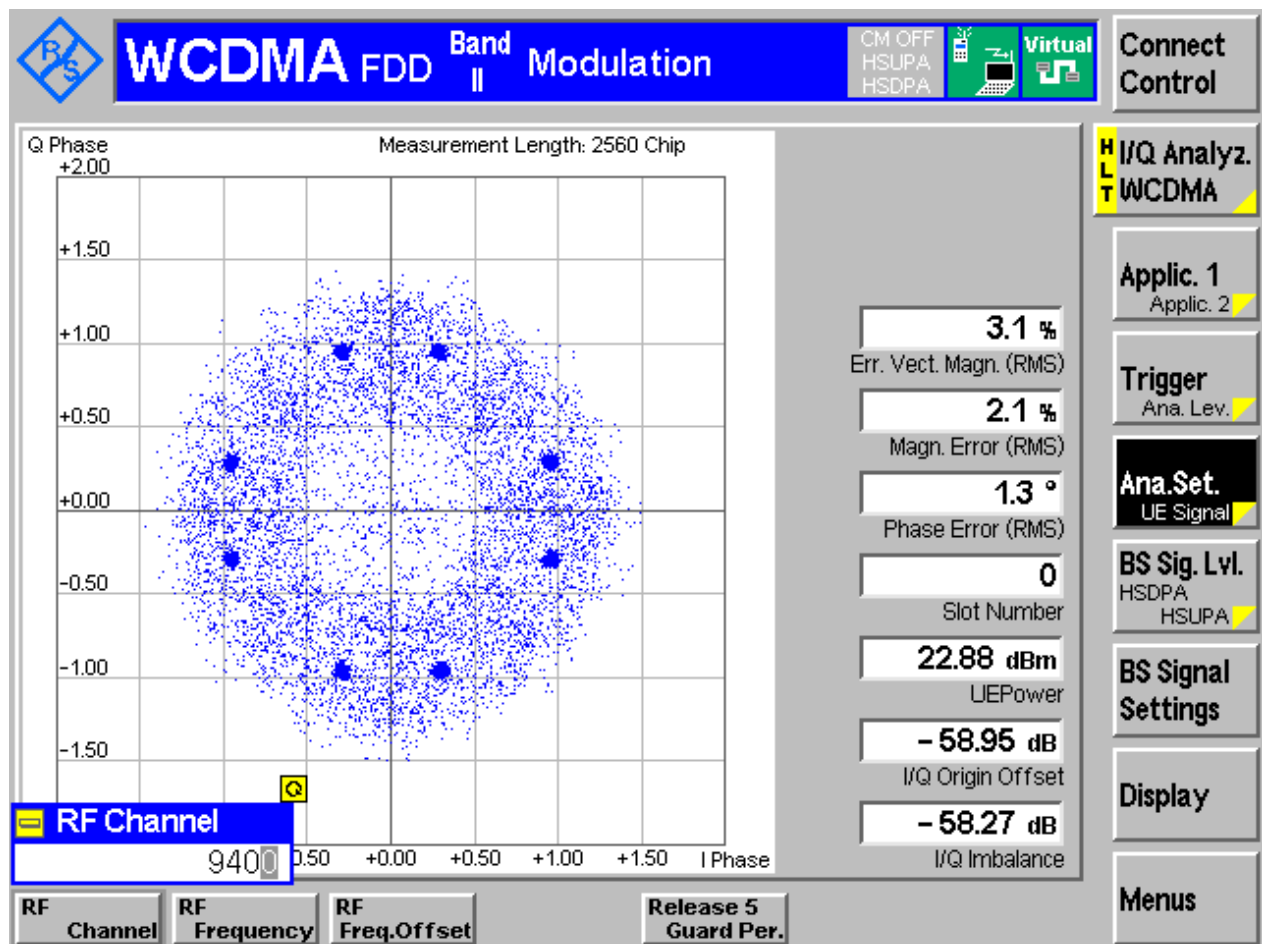
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA1900

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
WCDMA1900	UMTS/TM1	LCH	4.14	4.70	Pass
		MCH	4.13	4.69	Pass
		HCH	4.16	4.71	Pass

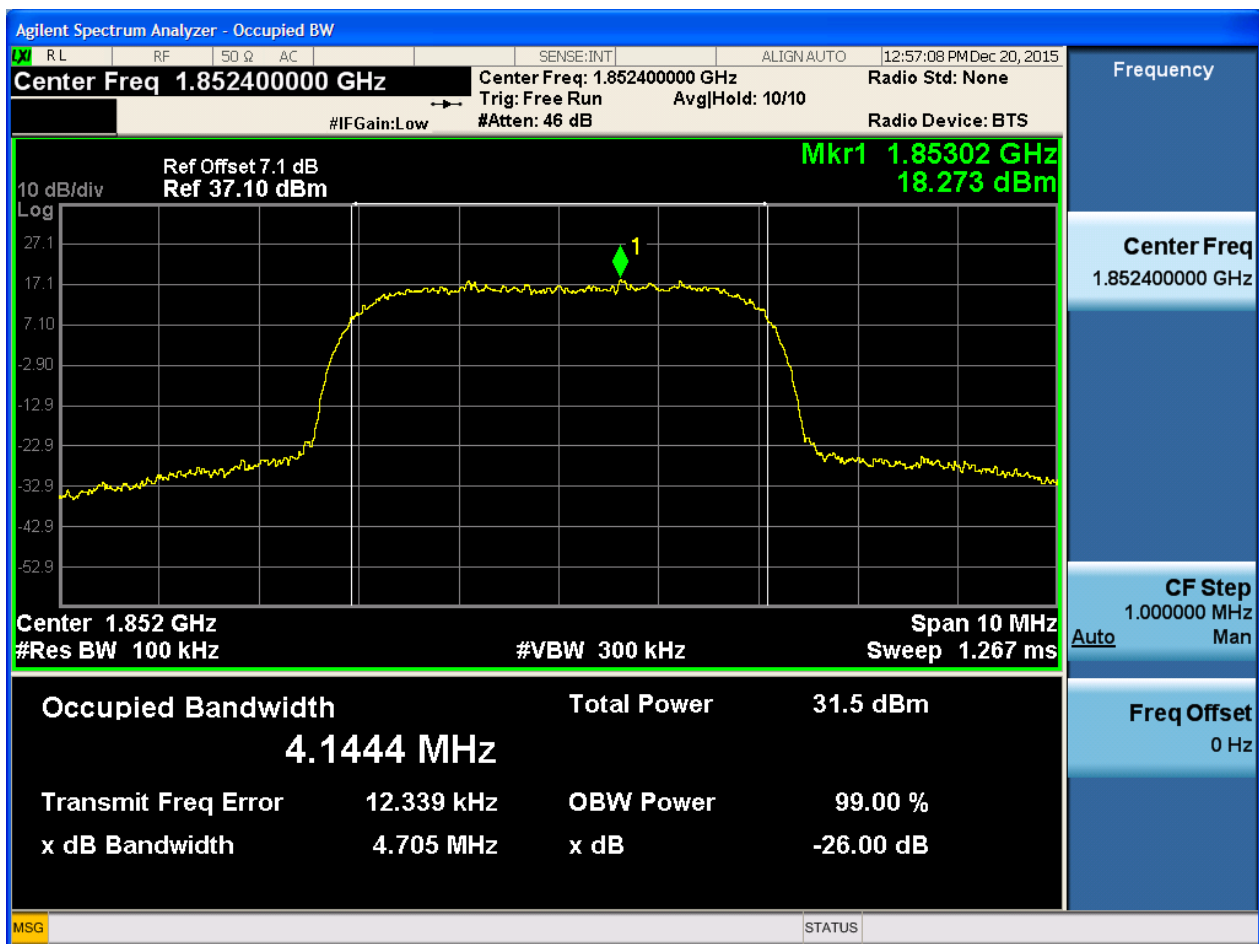
Part II - Test Plots

4.1 For UMTS

4.1.1 Test Band = WCDMA1900

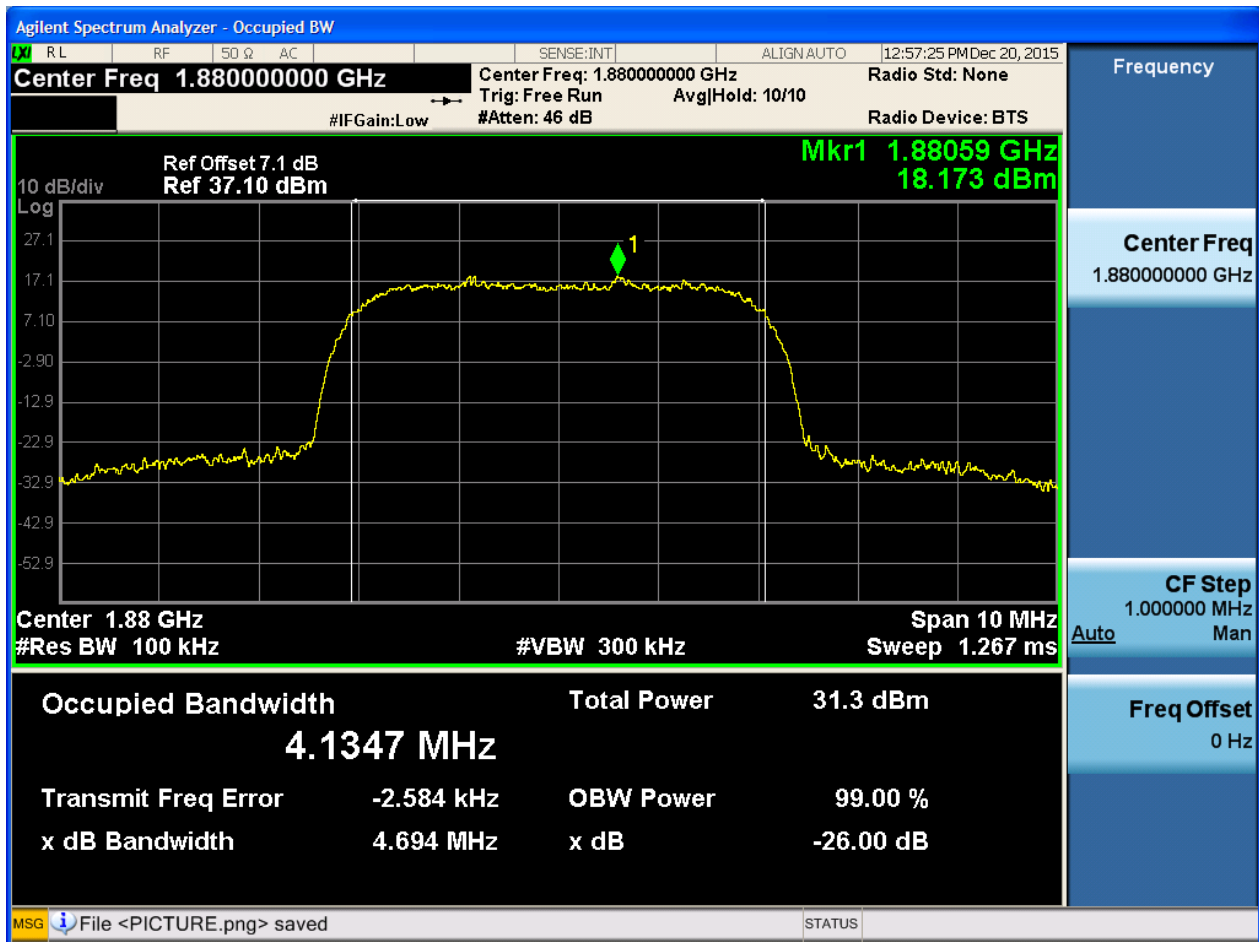
4.1.1.1 Test Mode = UMTS/TM1

4.1.1.1.1 Test Channel = LCH



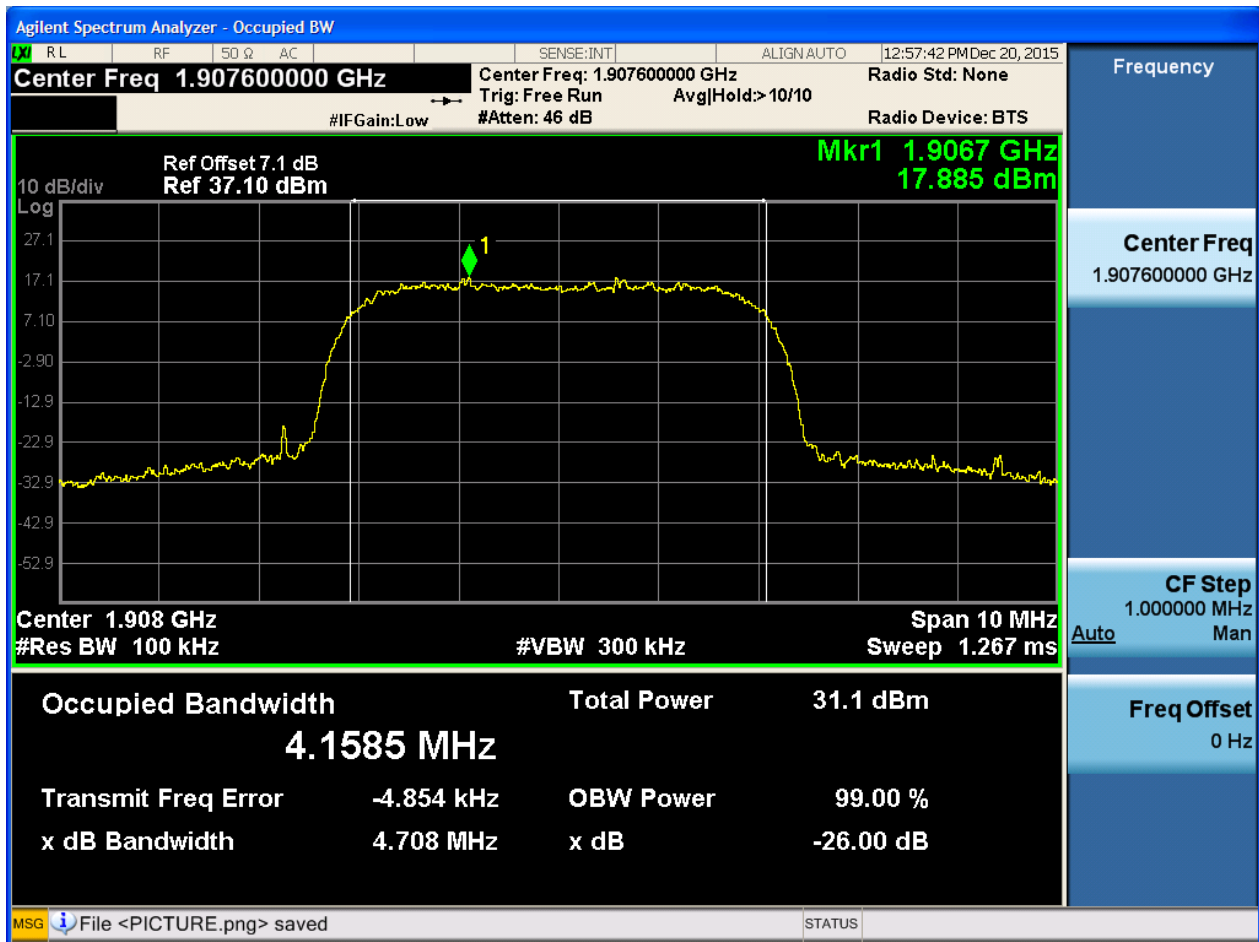


4.1.1.1.2 Test Channel = MCH





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 = WCDMA1900

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.

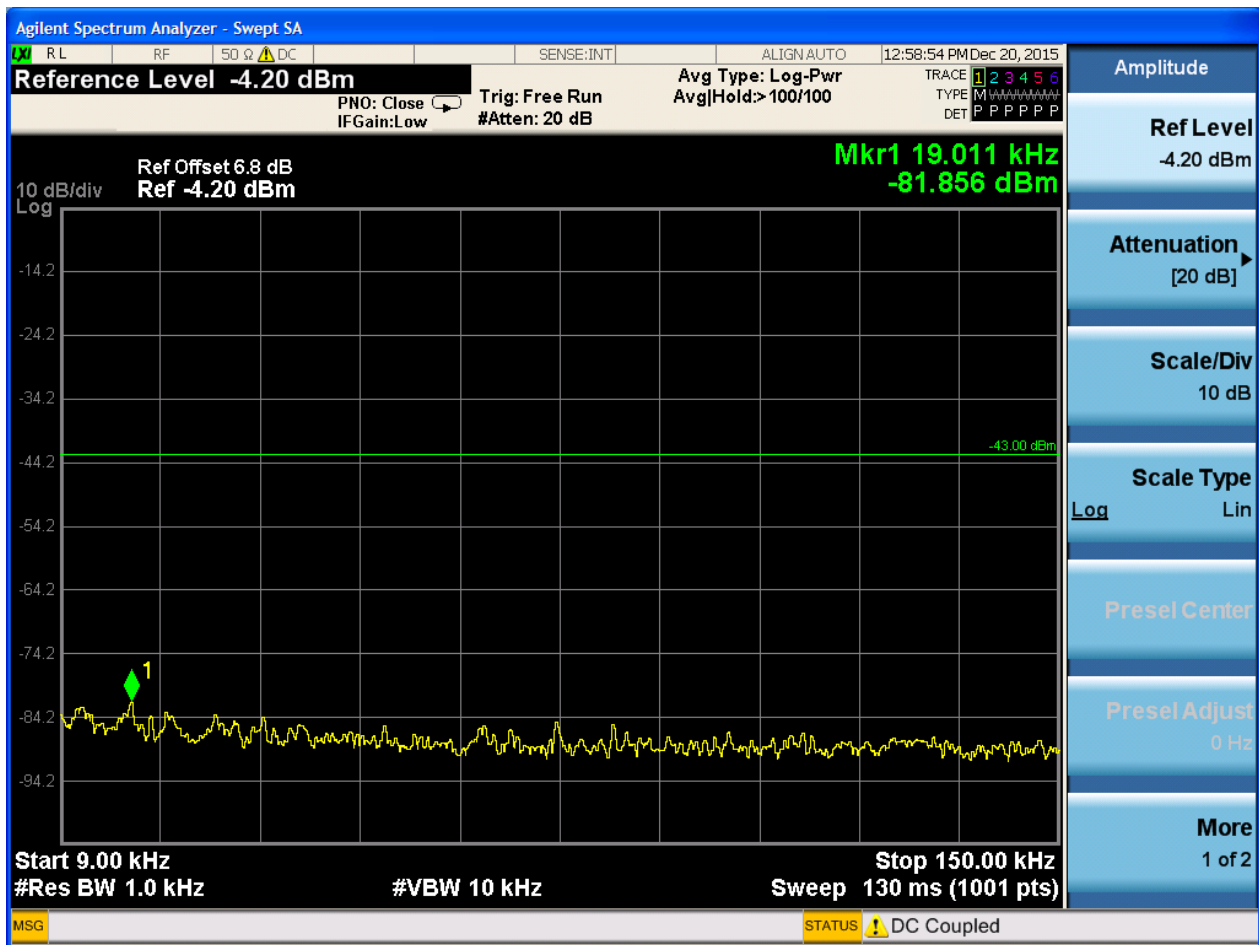
Part I - Test Plots

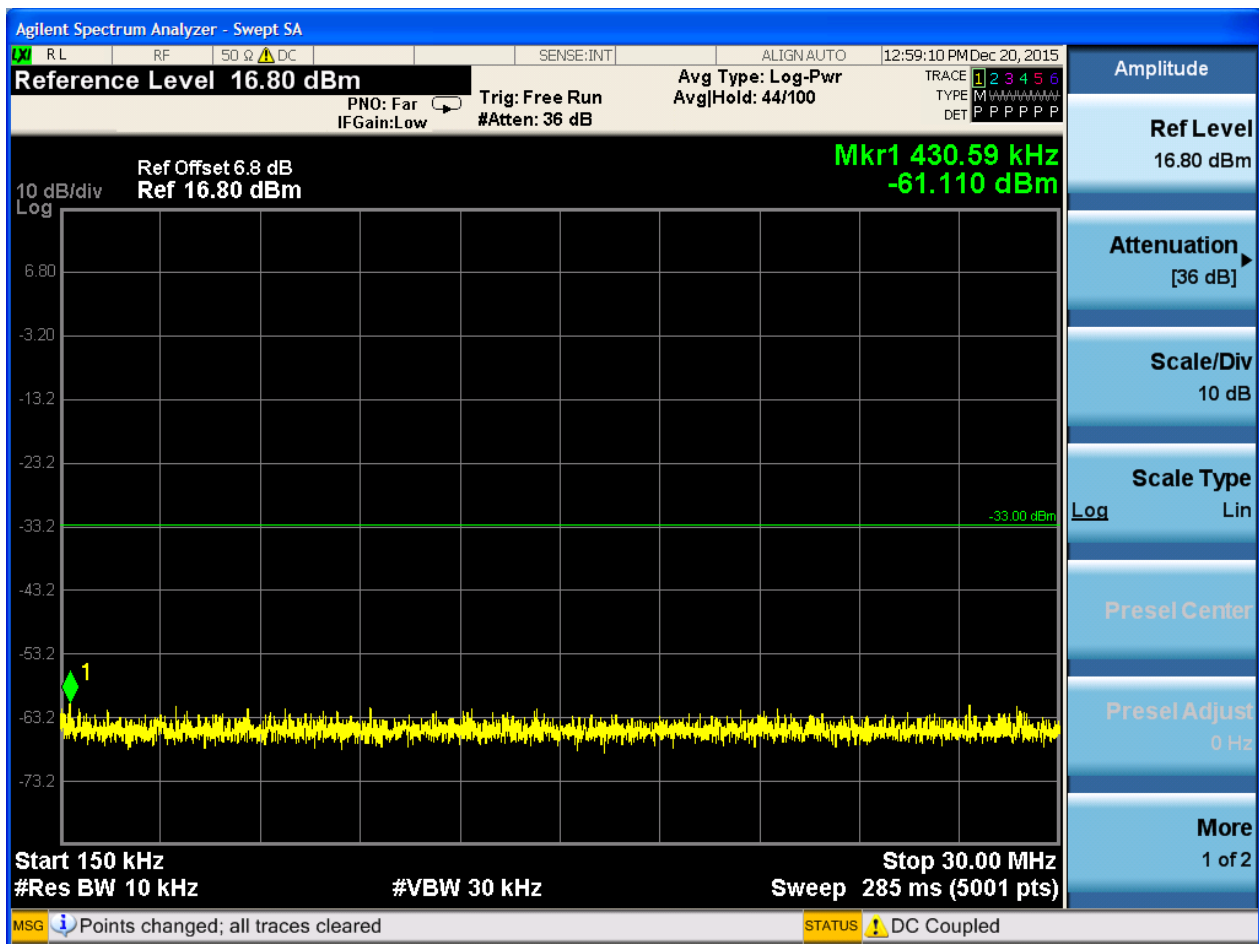
6.1 For UMTS

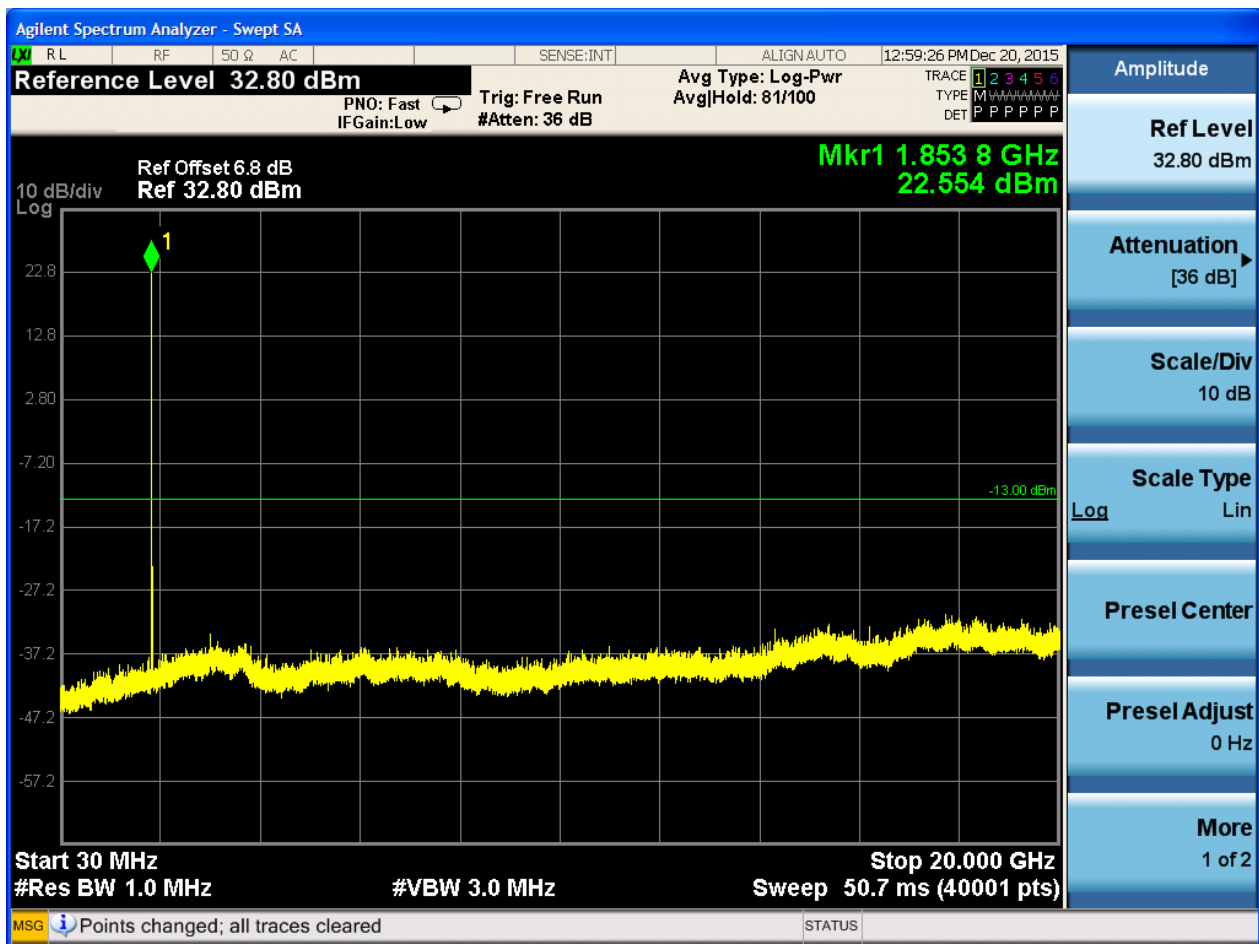
6.1.1 Test Band = WCDMA1900

6.1.1.1 Test Mode = UMTS/TM1

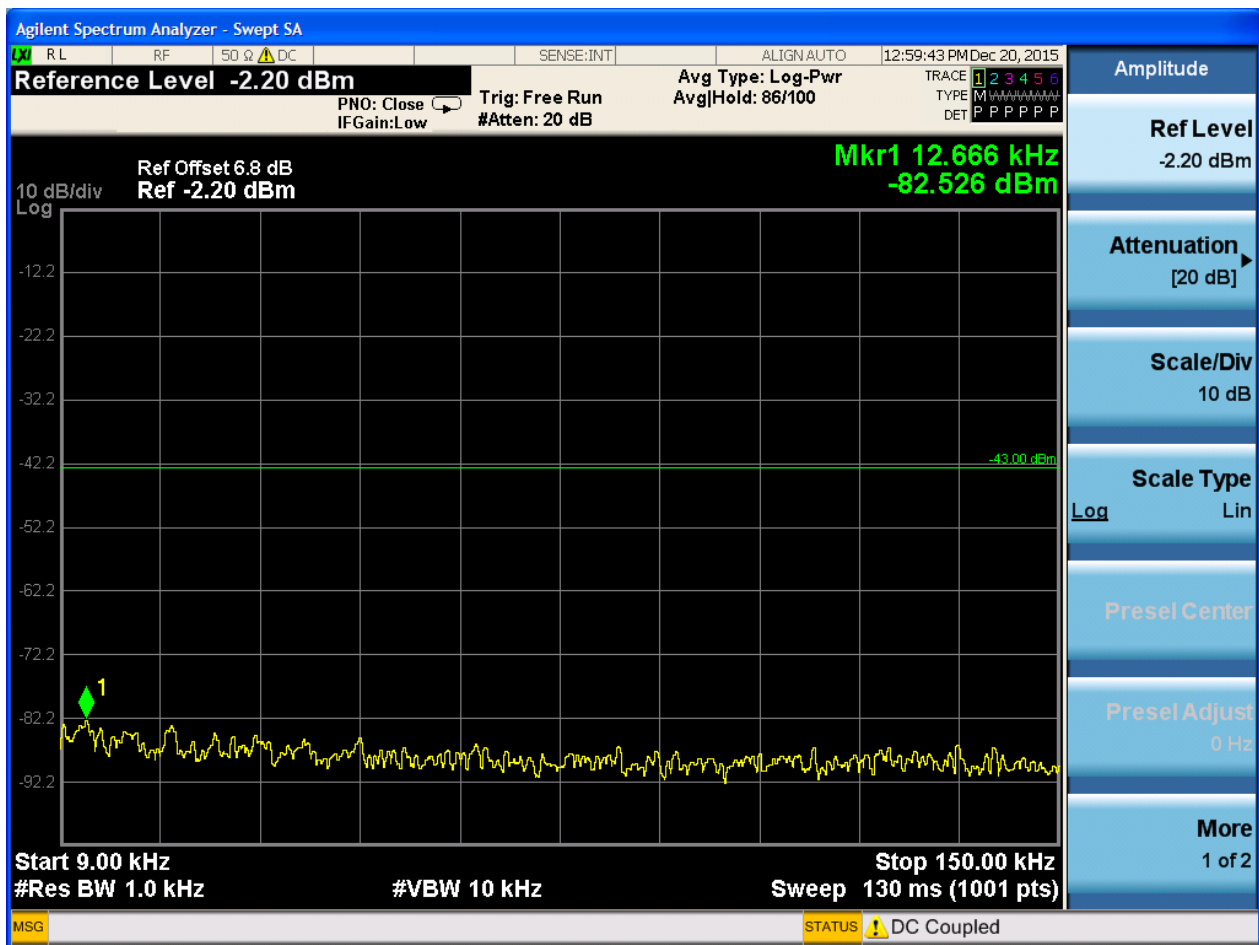
6.1.1.1.1 Test Channel = LCH

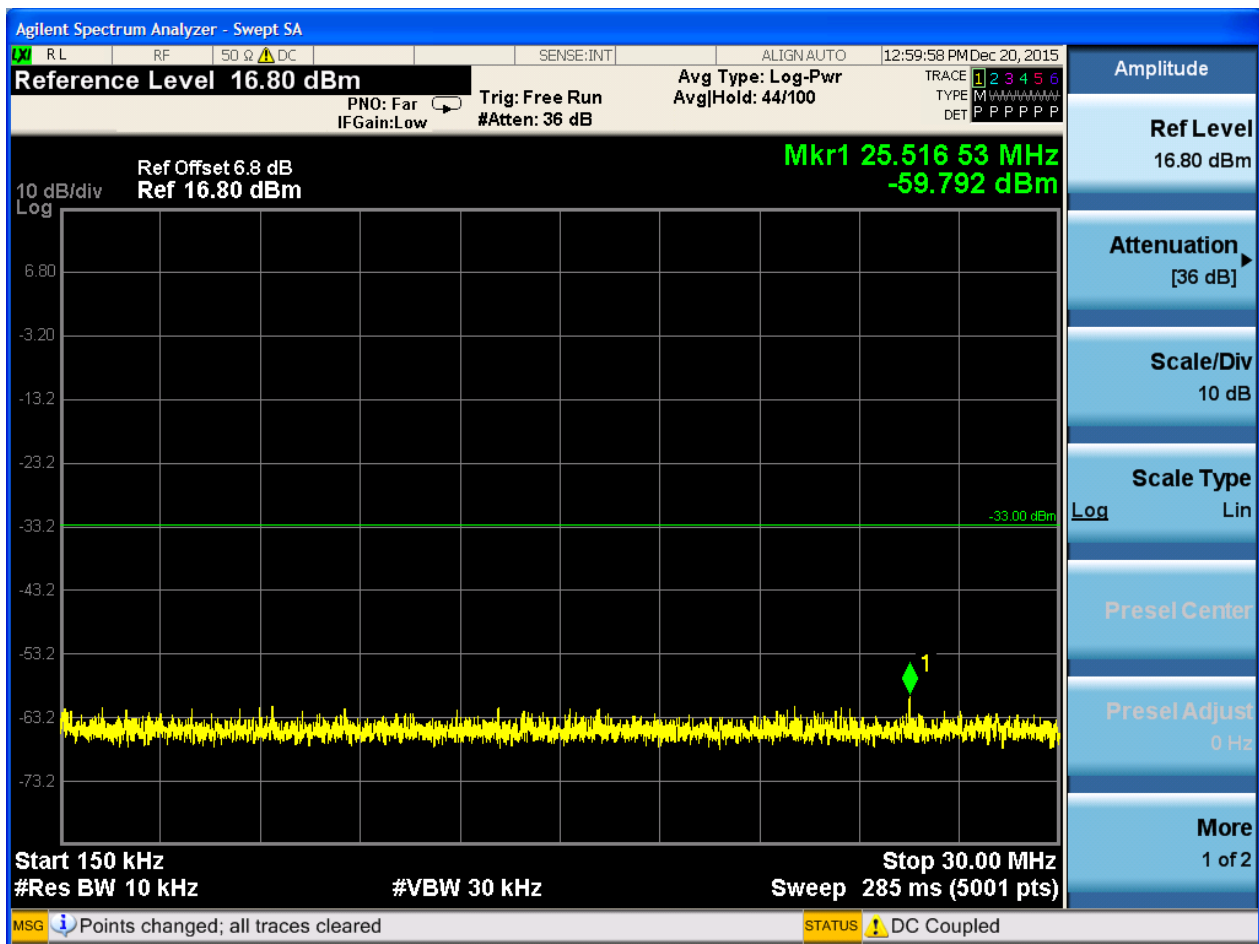


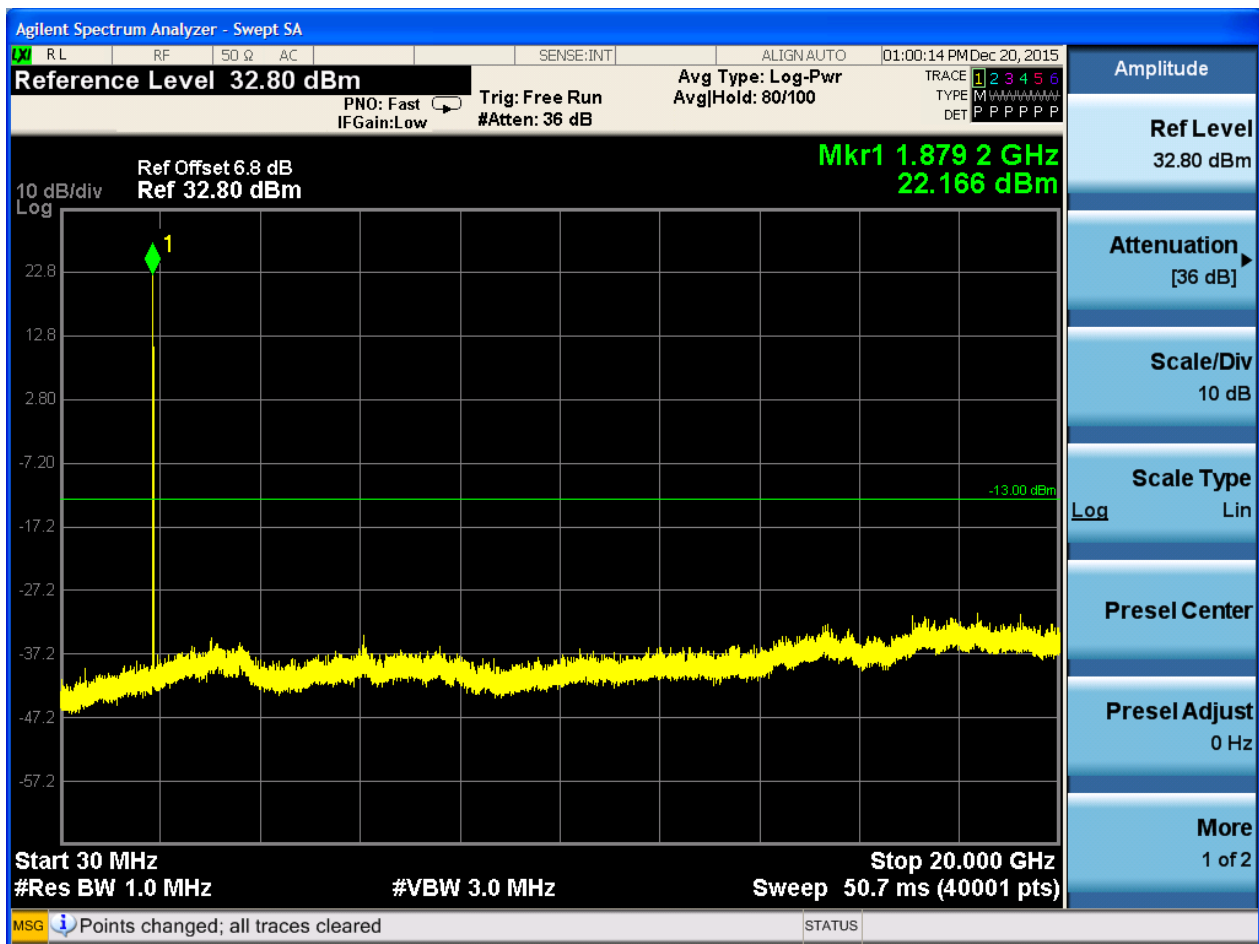




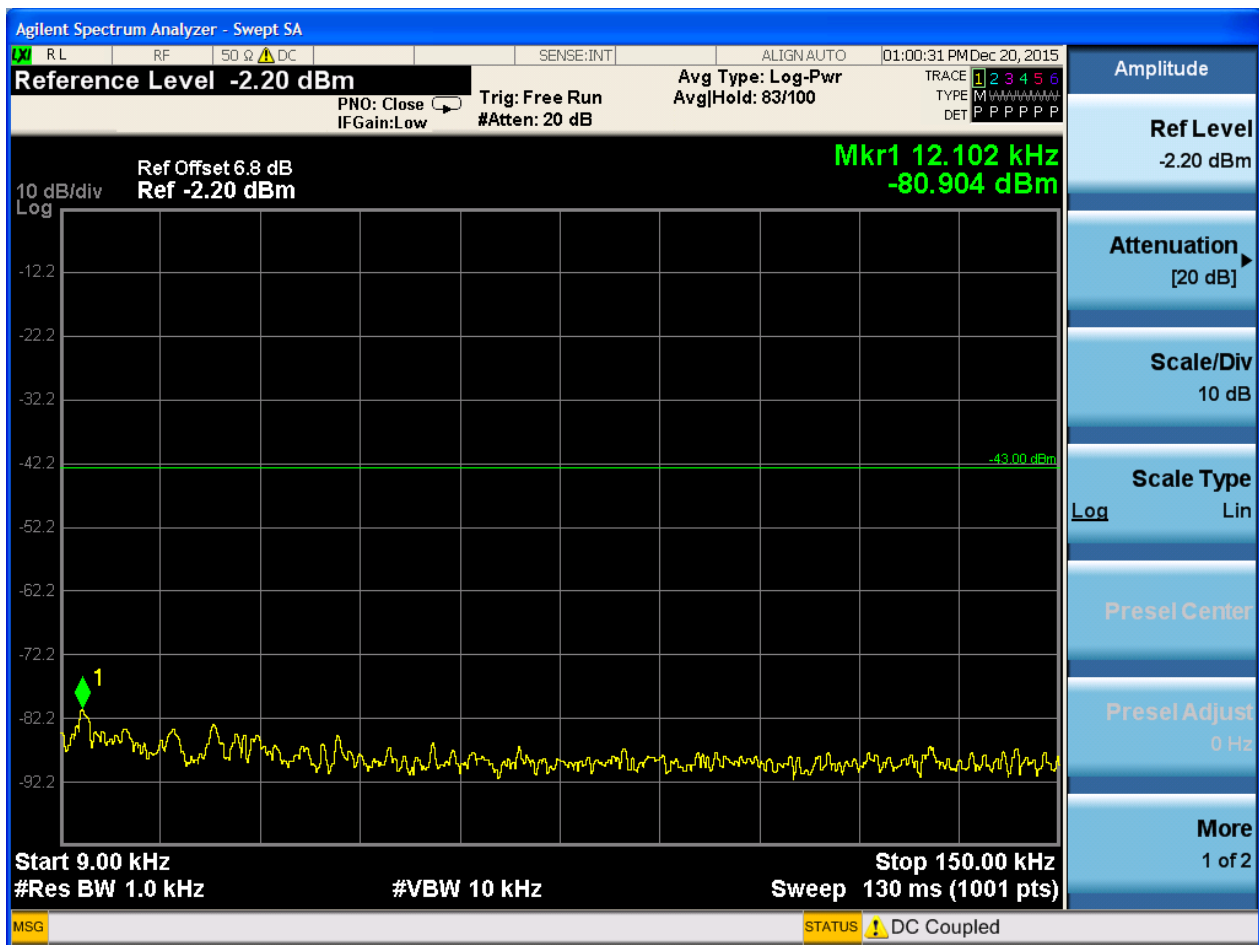
6.1.1.1.2 Test Channel = MCH

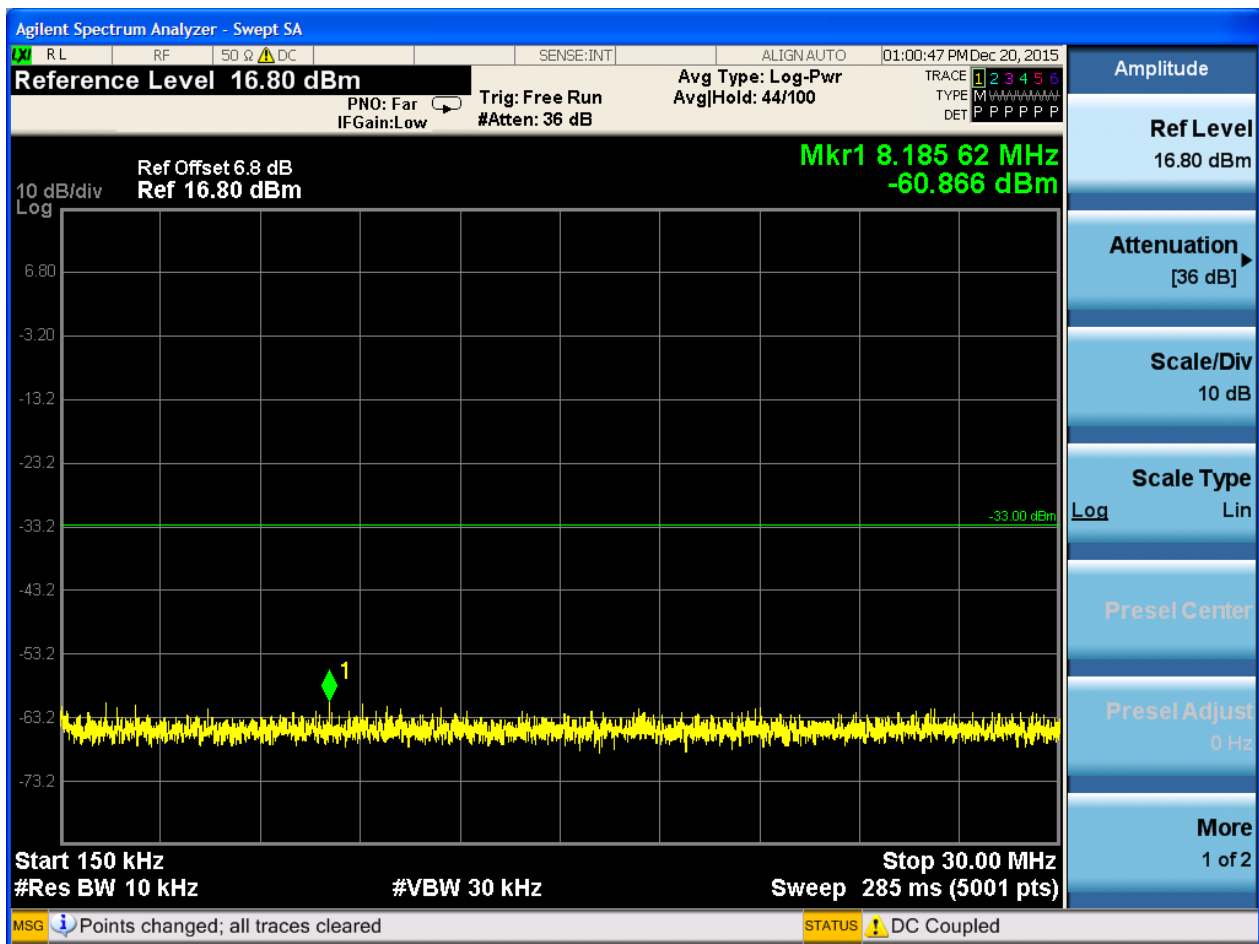


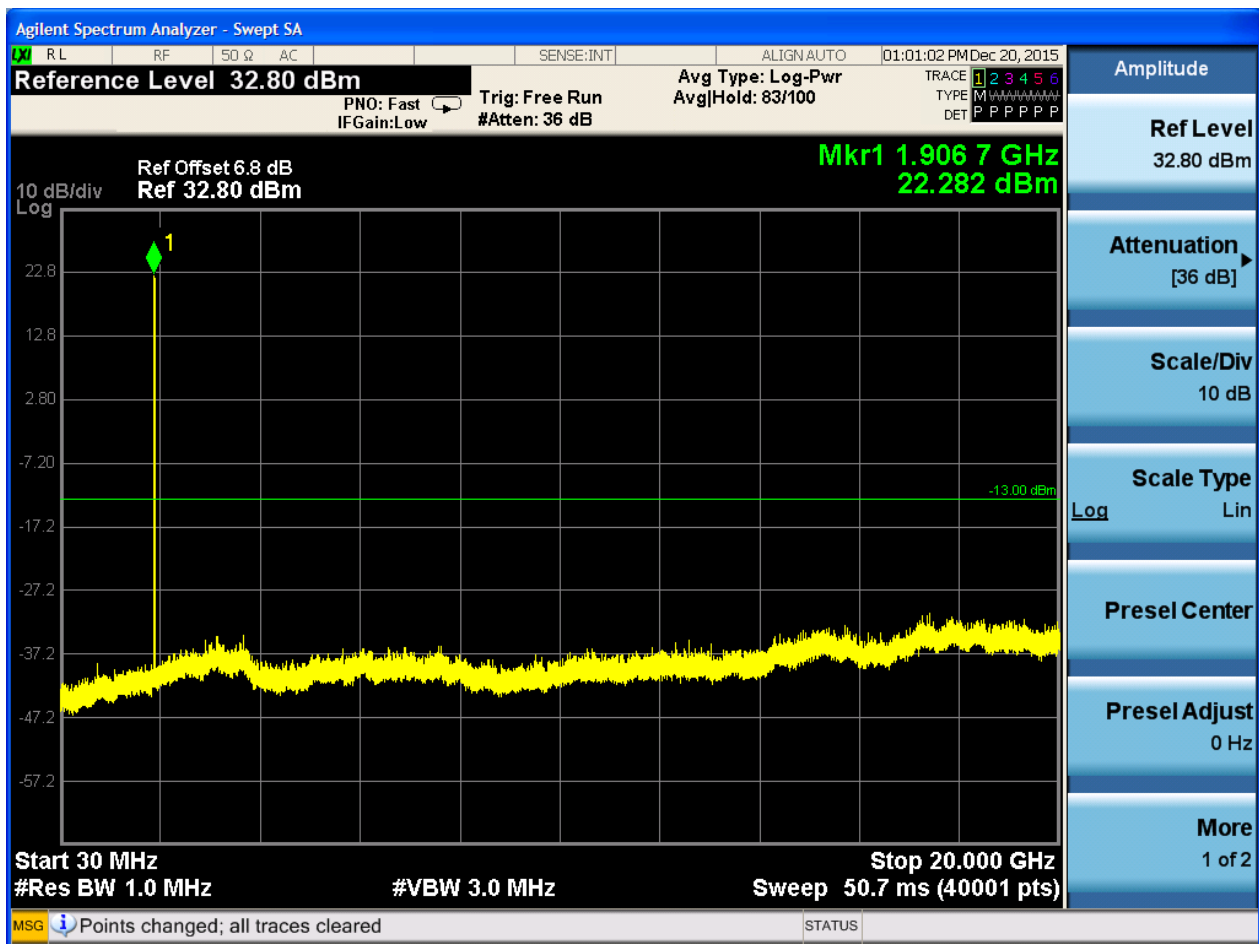




6.1.1.1.3 Test Channel = HCH







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

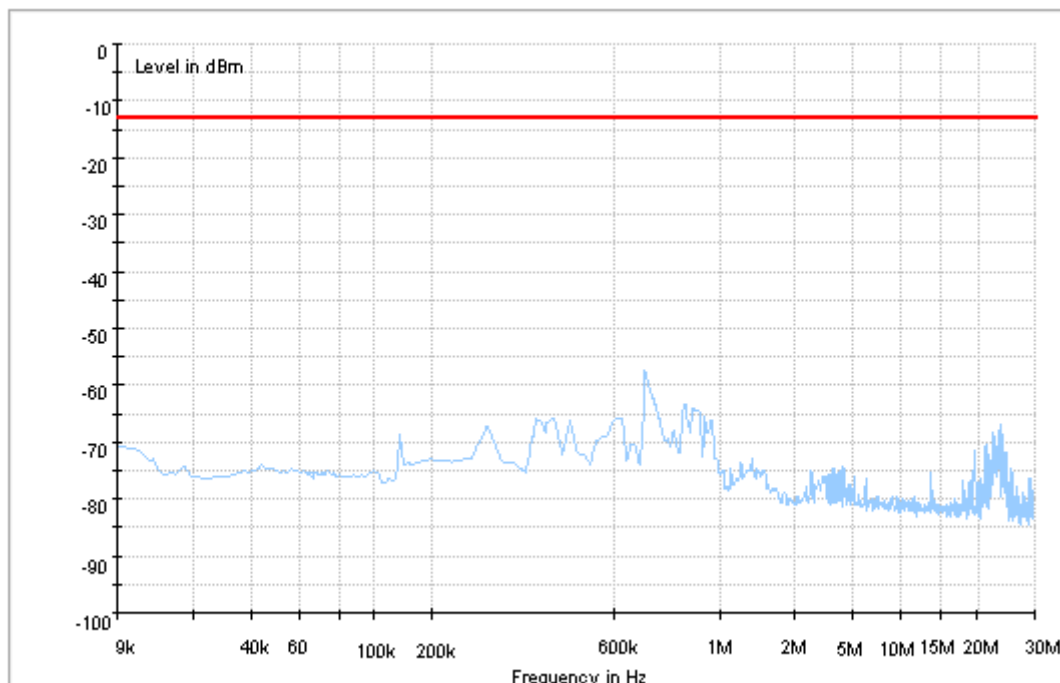
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

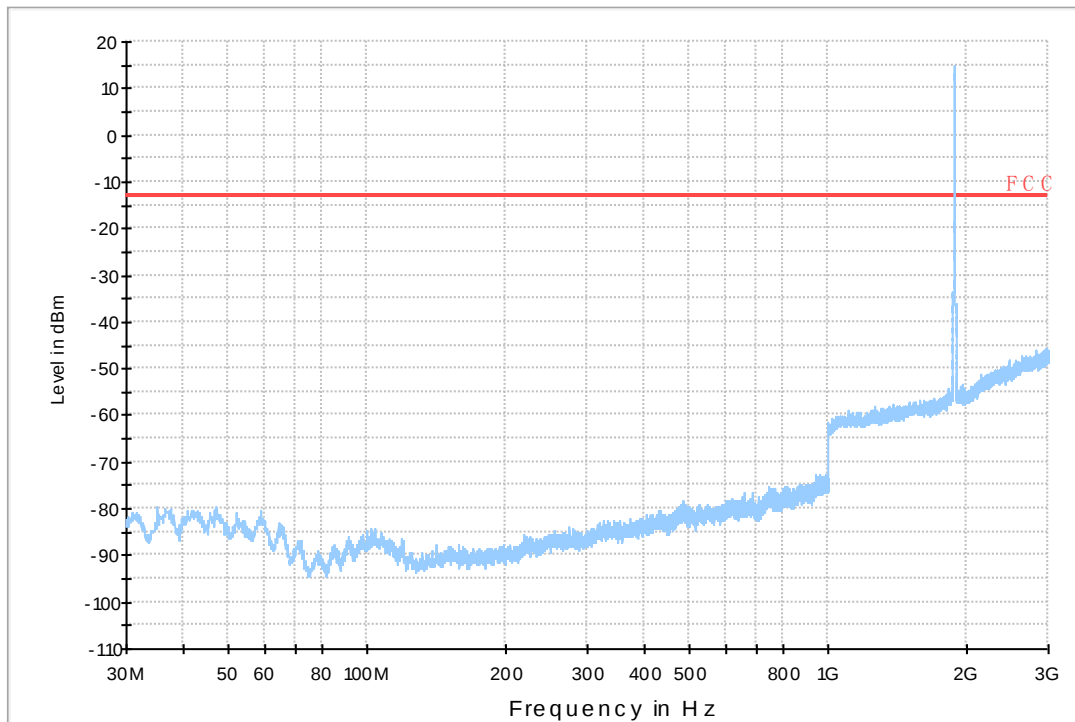
7.1 For UMTS

7.1.1 Test Band = WCDMA1900

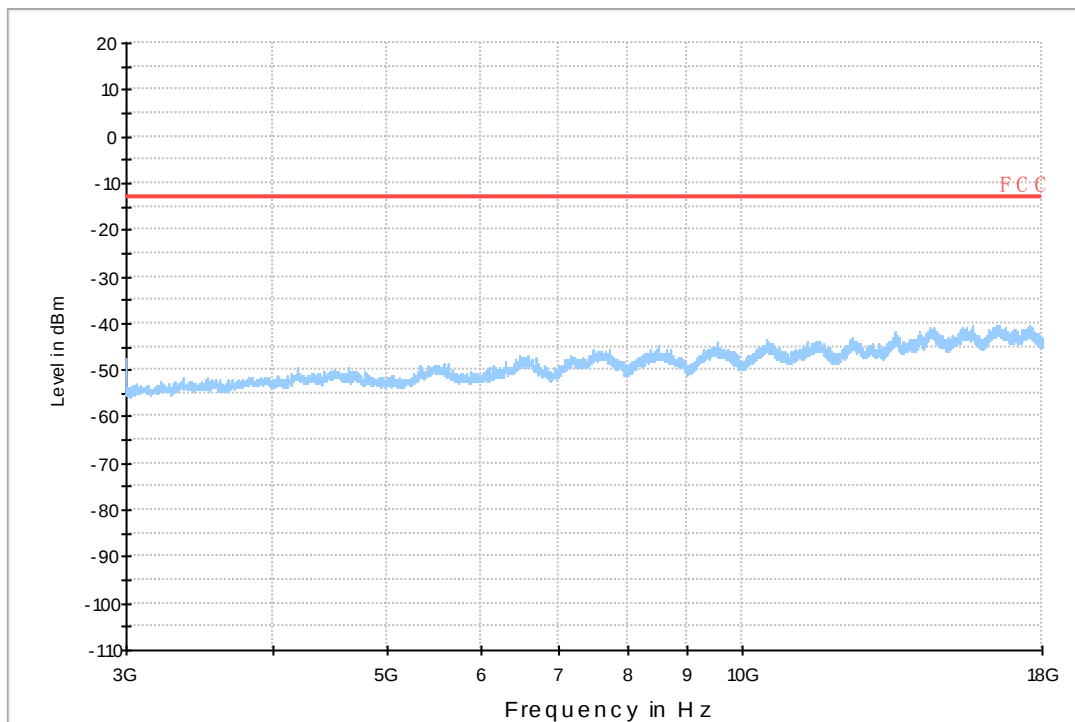
7.1.1.1 Test Mode = UMTS/TM1

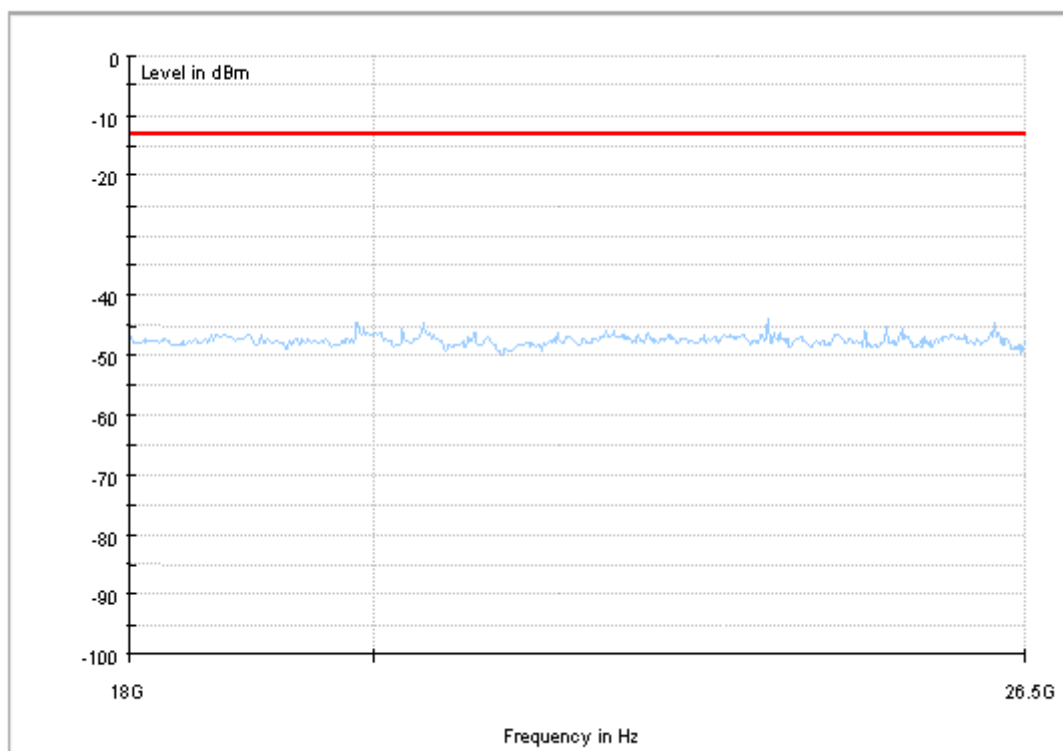


Copy of FCC PART24 W CDMA1900_L



Copy of FCC PART24 W CDMA1900_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
WCDMA1900	UMTS/TM1	LCH	TN	VL	-3.17	-0.00171	PASS
				VN	1.16	0.00063	PASS
				VH	-7.32	-0.00395	PASS
		MCH	TN	VL	-4.47	-0.00238	PASS
				VN	9.52	0.00506	PASS
				VH	2.08	0.00111	PASS
		HCH	TN	VL	-9.03	-0.00473	PASS
				VN	-3.37	-0.00177	PASS
				VH	11.32	0.00593	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
WCDMA1900	UMTS/TM1	LCH	VN	-30	5.22	0.00282	PASS
				-20	0.96	0.00052	PASS
				-10	7.02	0.00379	PASS
				0	1.14	0.00062	PASS
				10	0.15	0.00008	PASS
				20	3.08	0.00166	PASS
				30	-3.17	-0.00171	PASS
				40	2.78	0.0015	PASS
				50	1.94	0.00105	PASS
		MCH	VN	-30	6.59	0.00351	PASS
				-20	-0.09	-0.00005	PASS
				-10	3.14	0.00167	PASS
				0	16.45	0.00875	PASS
				10	-6.55	-0.00348	PASS
				20	12.25	0.00652	PASS
				30	6.12	0.00326	PASS
				40	-0.66	-0.00035	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				50	3.98	0.00212	PASS
		HCH	VN	-30	-5.49	-0.00288	PASS
				-20	2.55	0.00134	PASS
				-10	3.27	0.00171	PASS
				0	-5.98	-0.00313	PASS
				10	0.38	0.0002	PASS
				20	-16.69	-0.00875	PASS
				30	-3.52	-0.00185	PASS
				40	-1.74	-0.00091	PASS
				50	-6.97	-0.00365	PASS

END