



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
WCDMA1700	UMTS/TM1	LCH	22.96	21.56	30	PASS
		MCH	22.93	21.53	30	PASS
		HCH	23.02	21.62	30	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:

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

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

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

$$\text{SET Sweep time} = \text{auto-couple.}$$

Detector:RMS

2Appendix_B: Peak-to-Average Ratio

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
WCDMA1700	UMTS/TM1	LCH	3.36	13	PASS
		MCH	3.31	13	PASS
		HCH	3.26	13	PASS

3Appendix_C: Modulation Characteristics

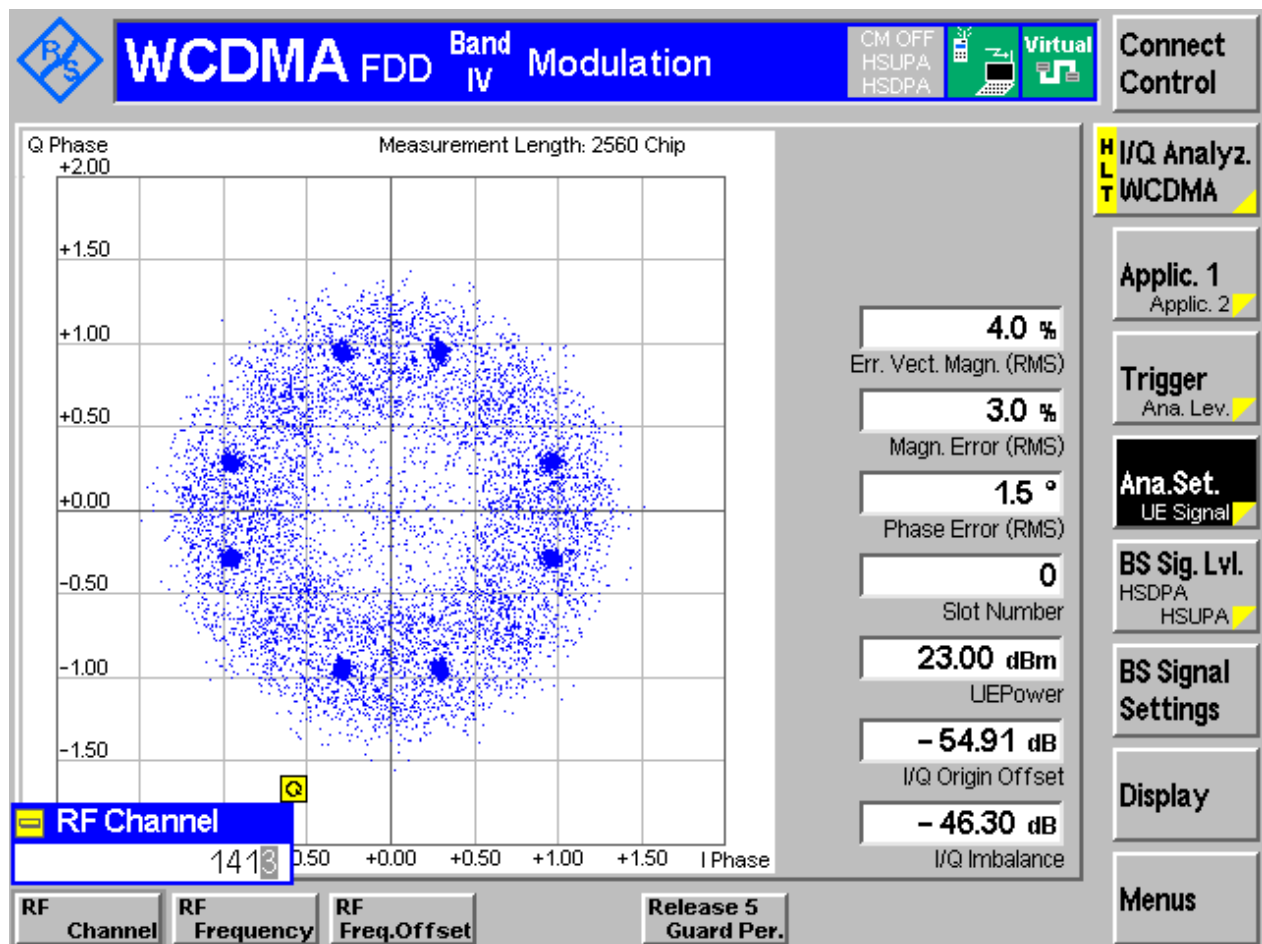
Part I - Test Plots

3.1 For UMTS

3.1.1 Test Band = WCDMA1700

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
WCDMA1700	UMTS/TM1	LCH	4.14	4.71	Pass
		MCH	4.15	4.70	Pass
		HCH	4.15	4.70	Pass

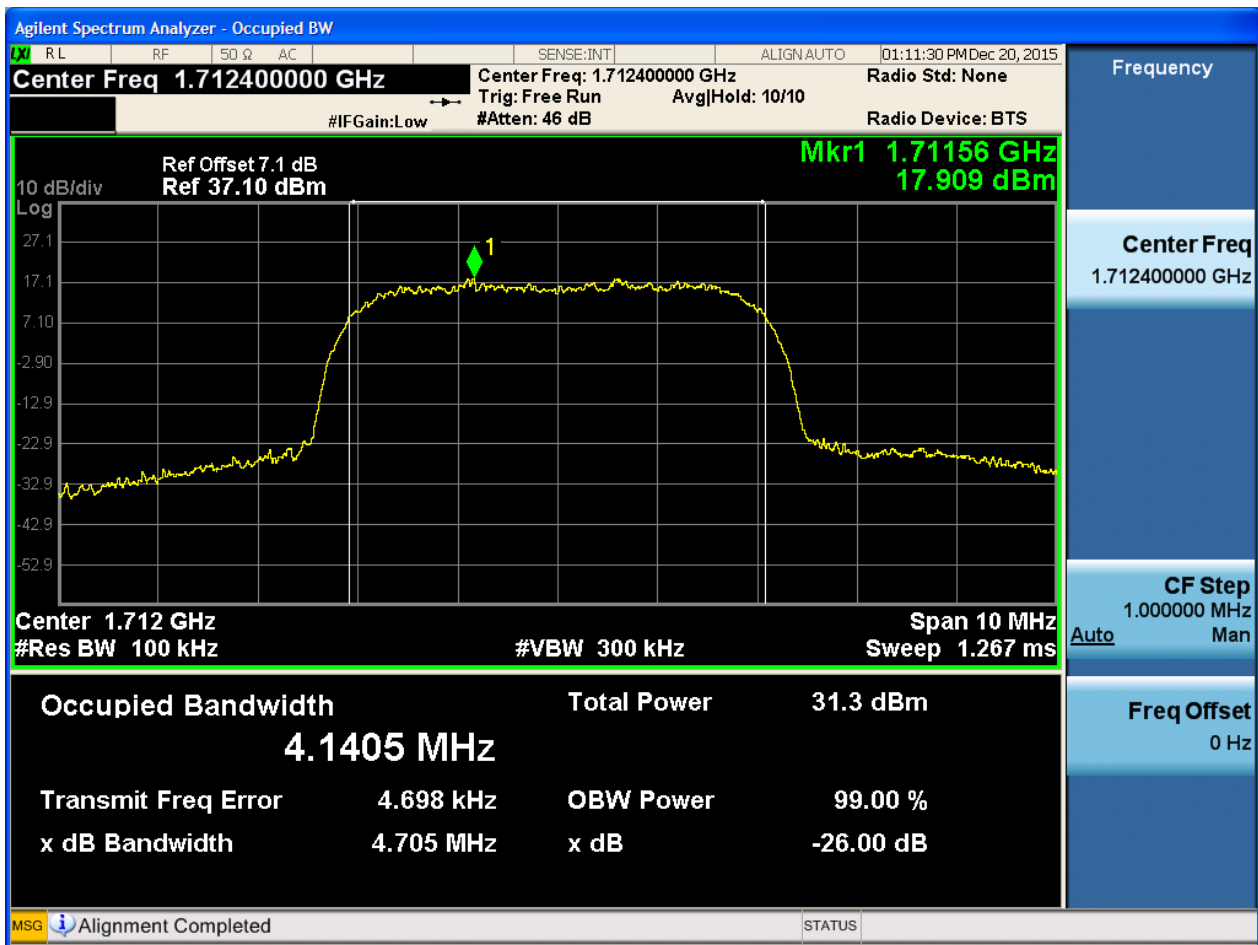
Part II - Test Plots

4.1 For UMTS

4.1.1 Test Band = WCDMA1700

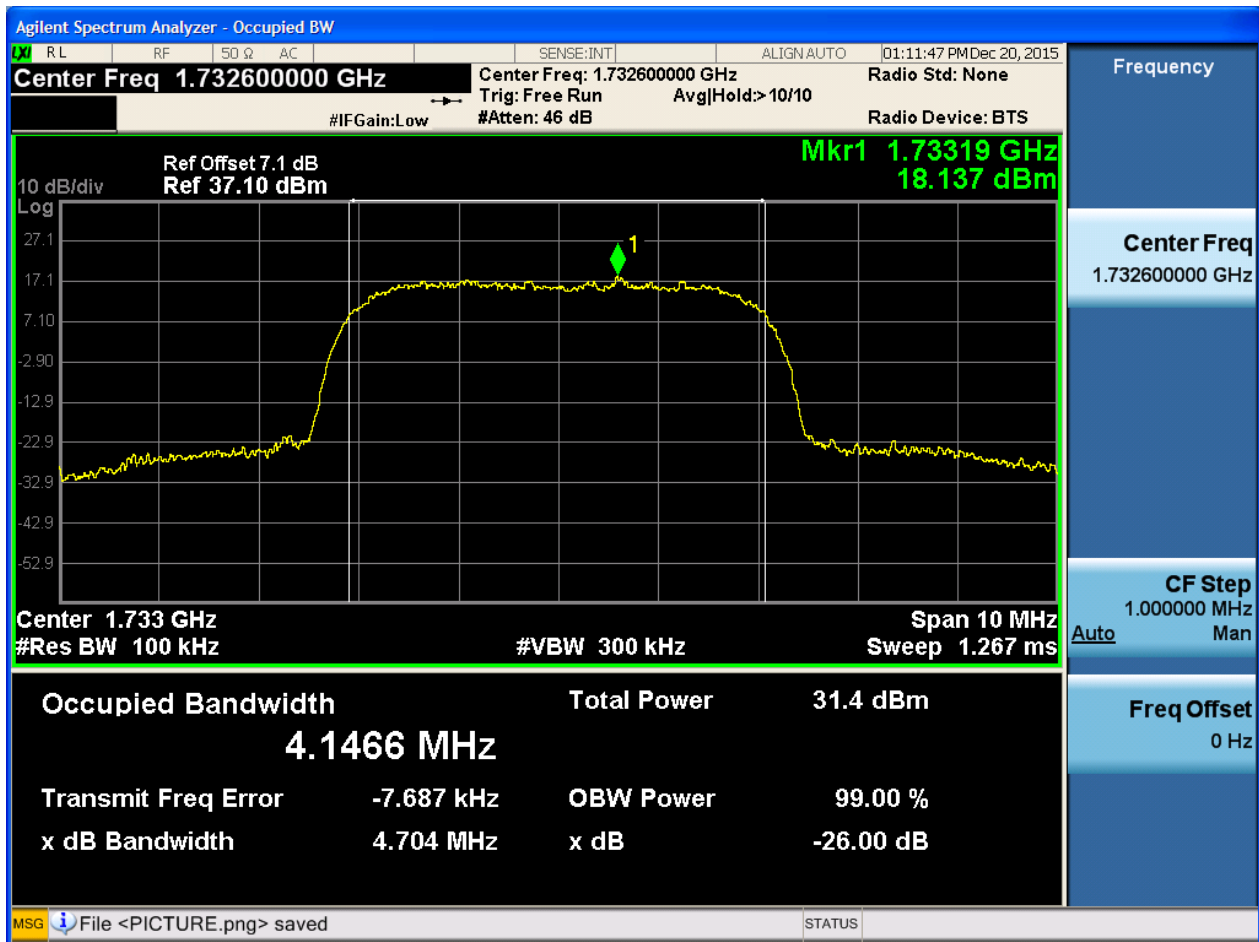
4.1.1.1 Test Mode = UMTS/TM1

4.1.1.1.1 Test Channel = LCH



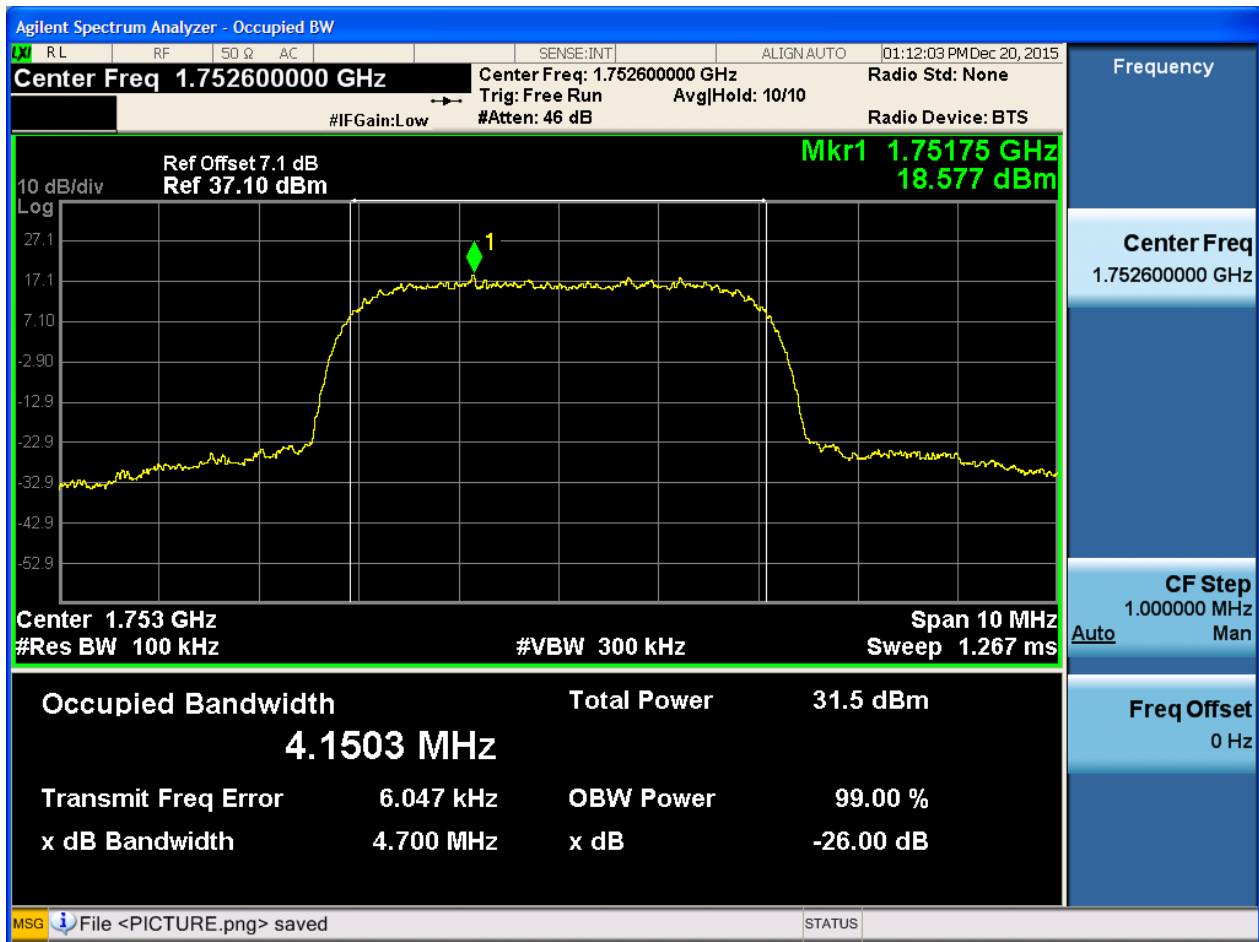


4.1.1.1.2 Test Channel = MCH





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 = WCDMA1700

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.

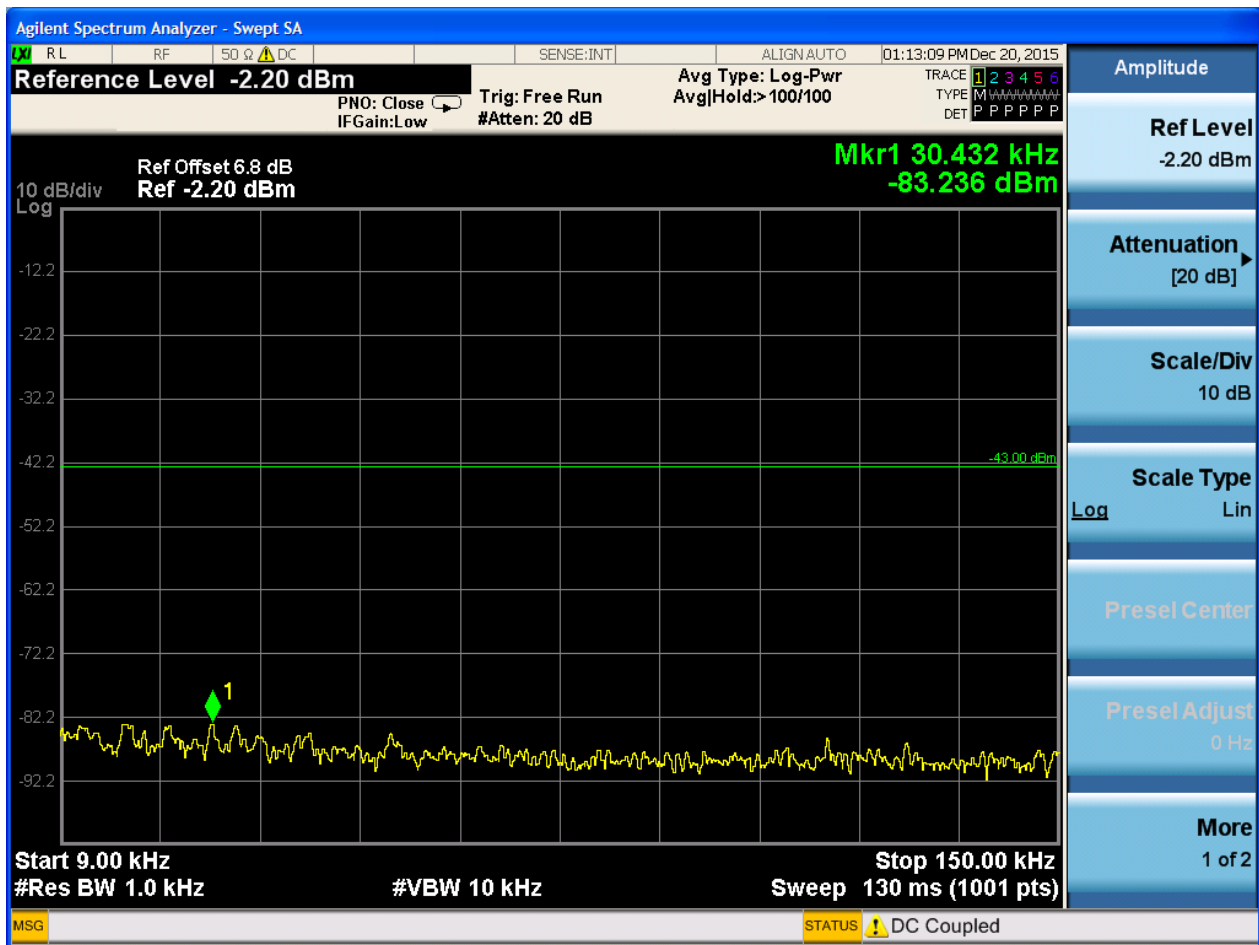
Part I - Test Plots

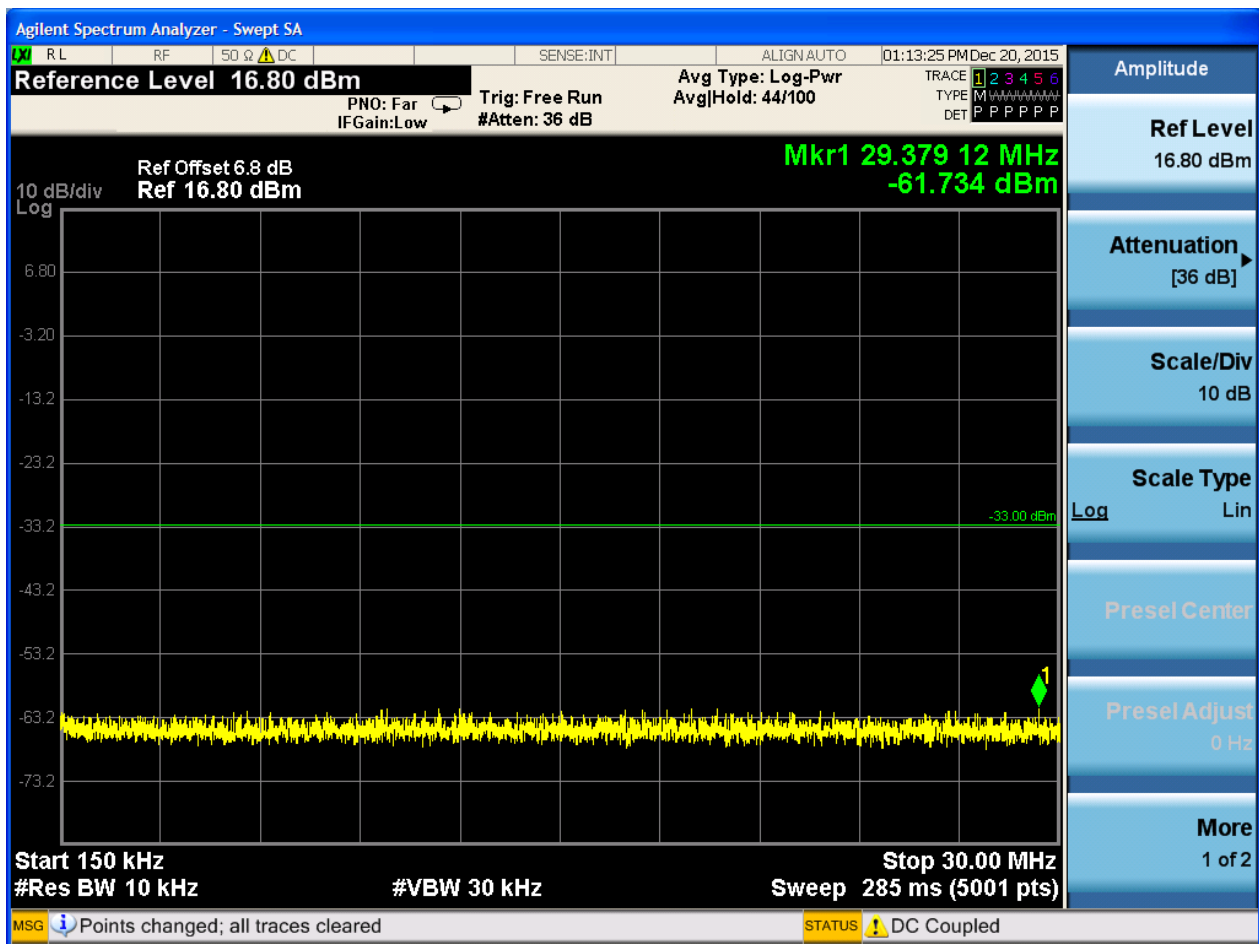
6.1 For UMTS

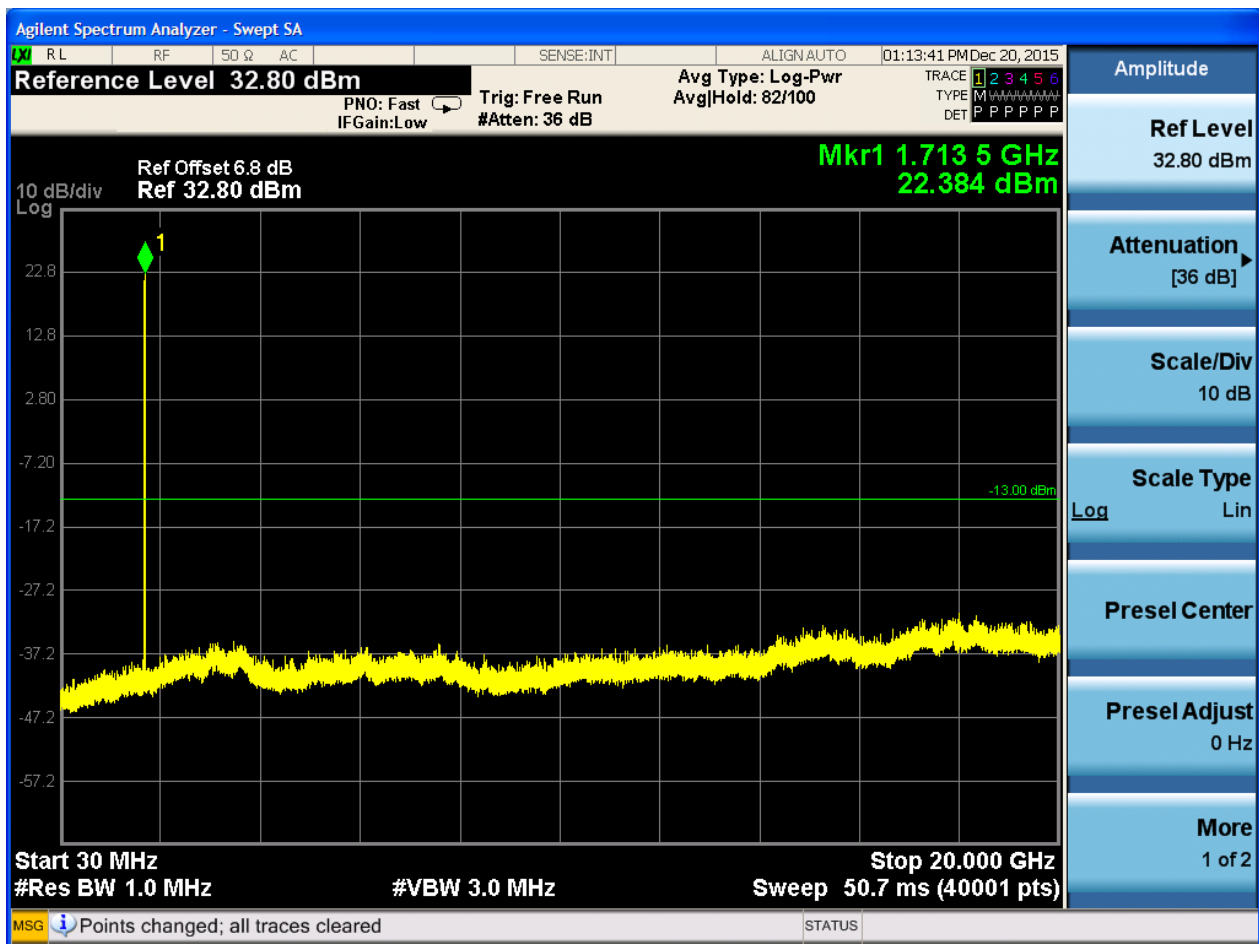
6.1.1 Test Band = WCDMA1700

6.1.1.1 Test Mode = UMTS/TM1

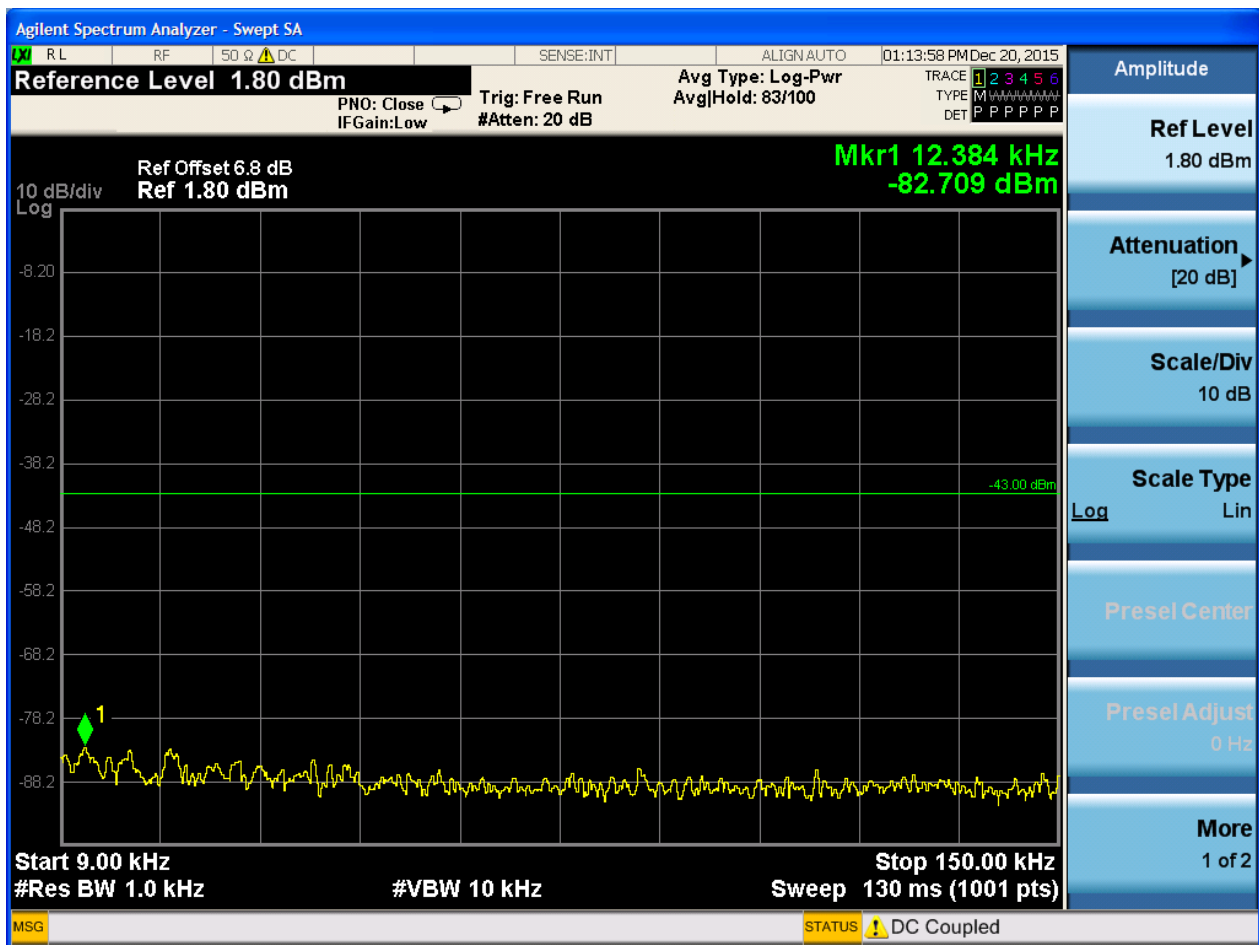
6.1.1.1.1 Test Channel = LCH

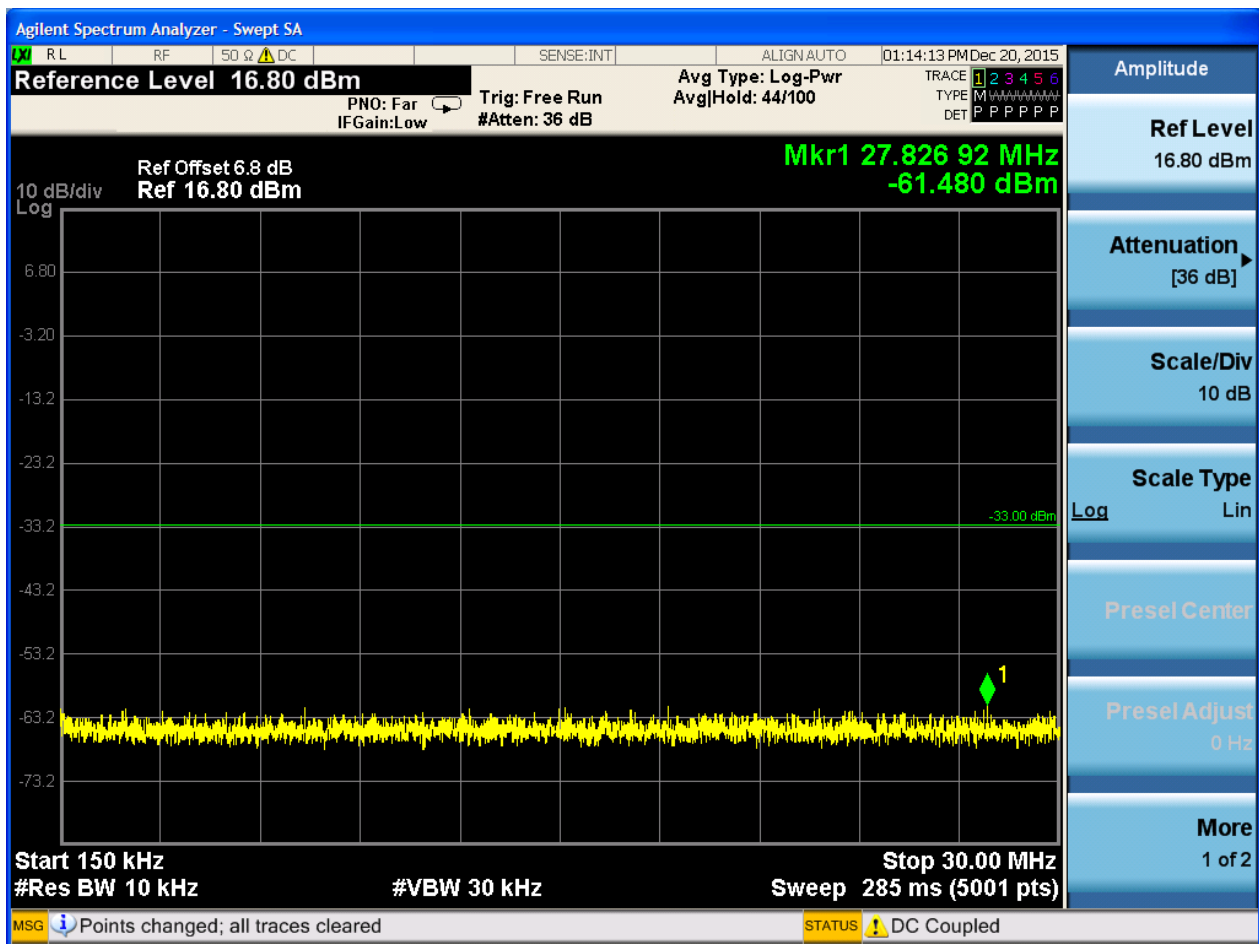


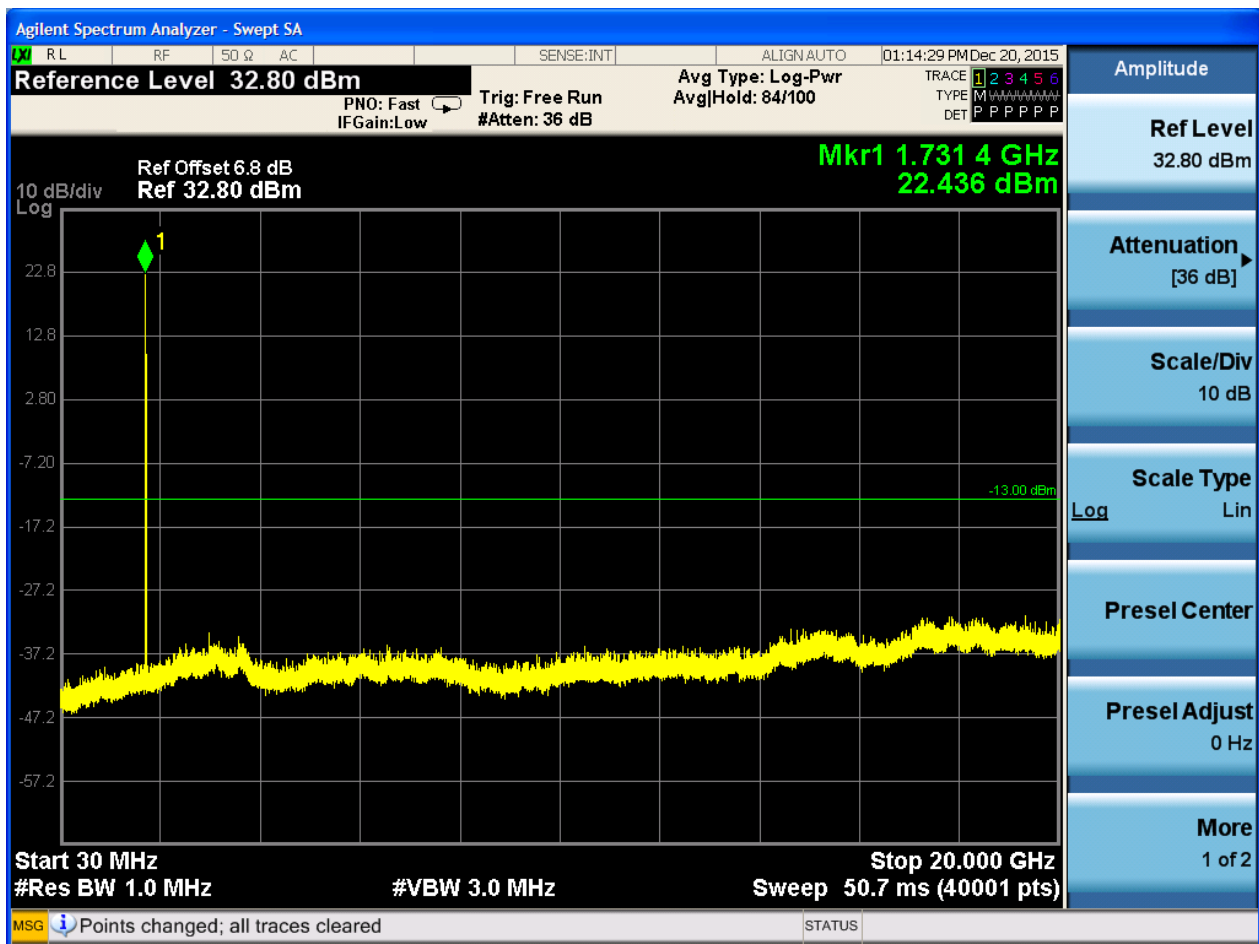




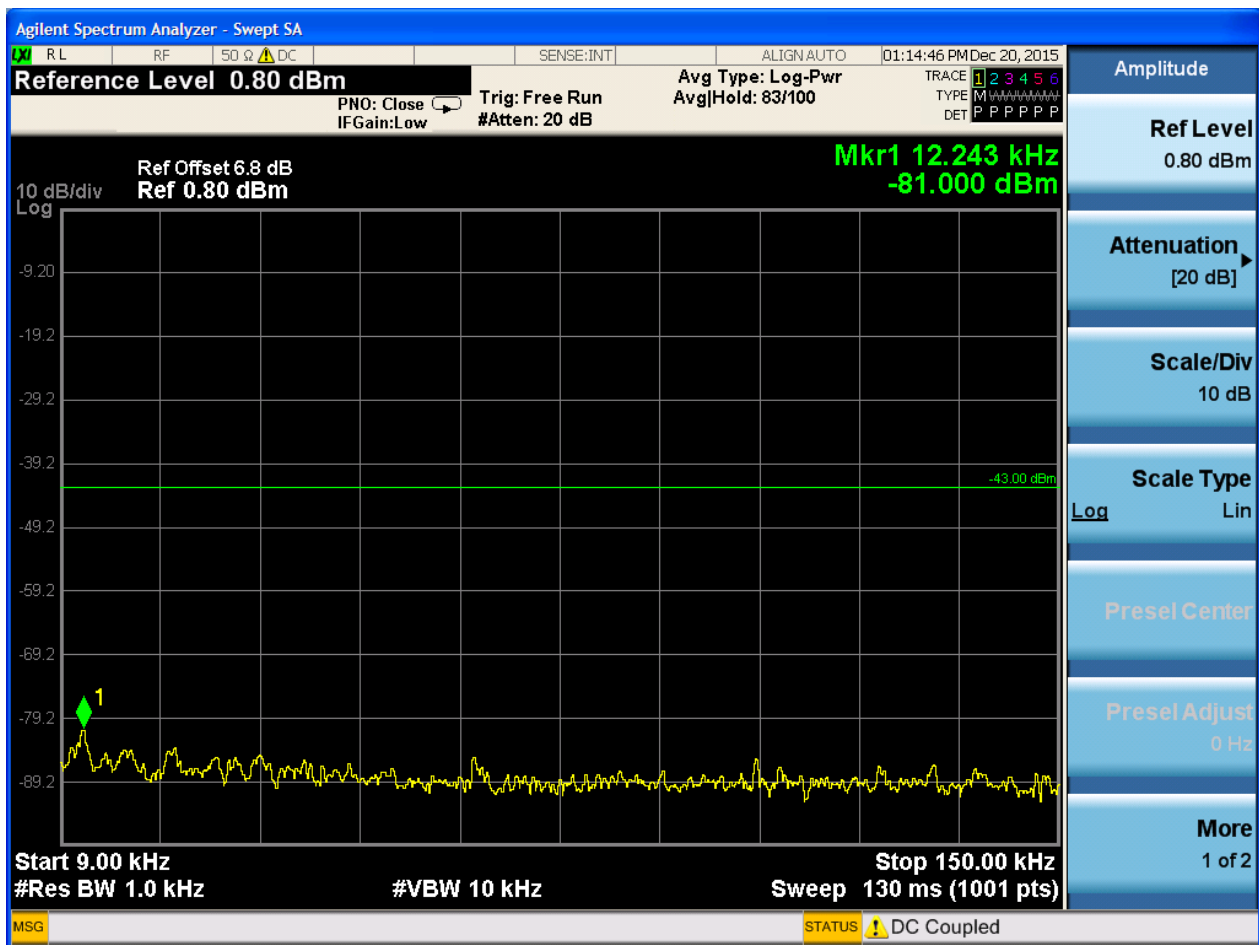
6.1.1.1.2 Test Channel = MCH

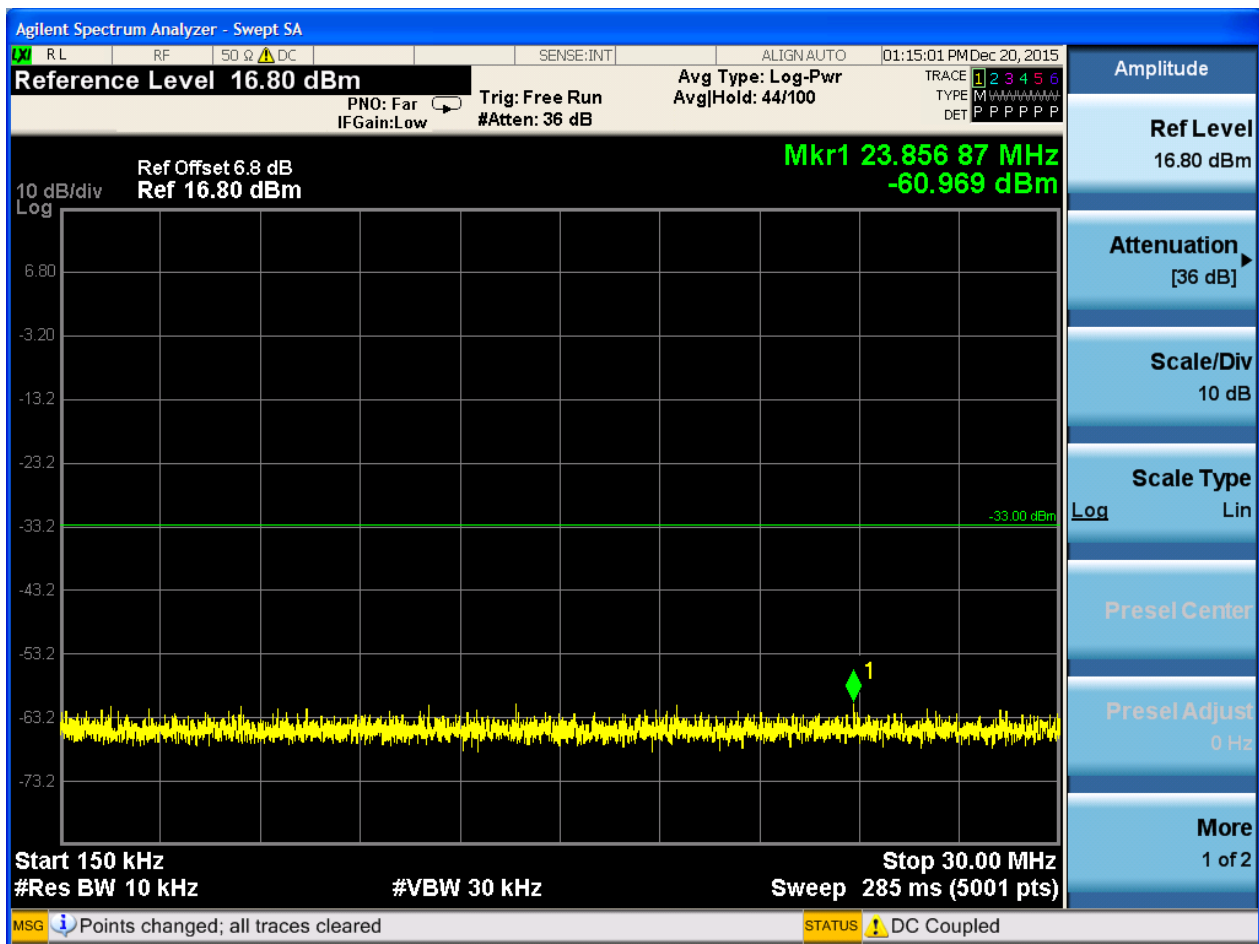


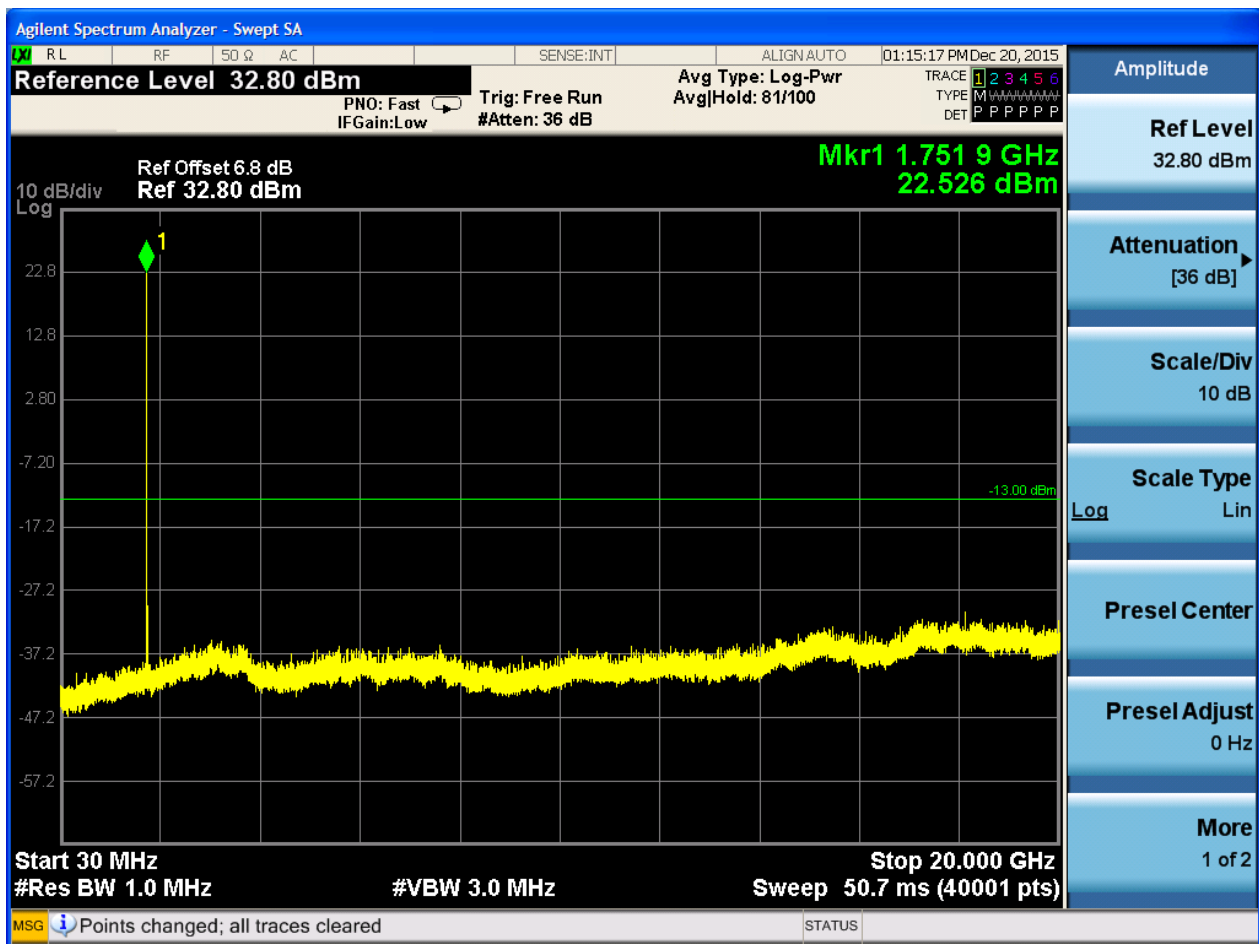




6.1.1.1.3 Test Channel = HCH







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

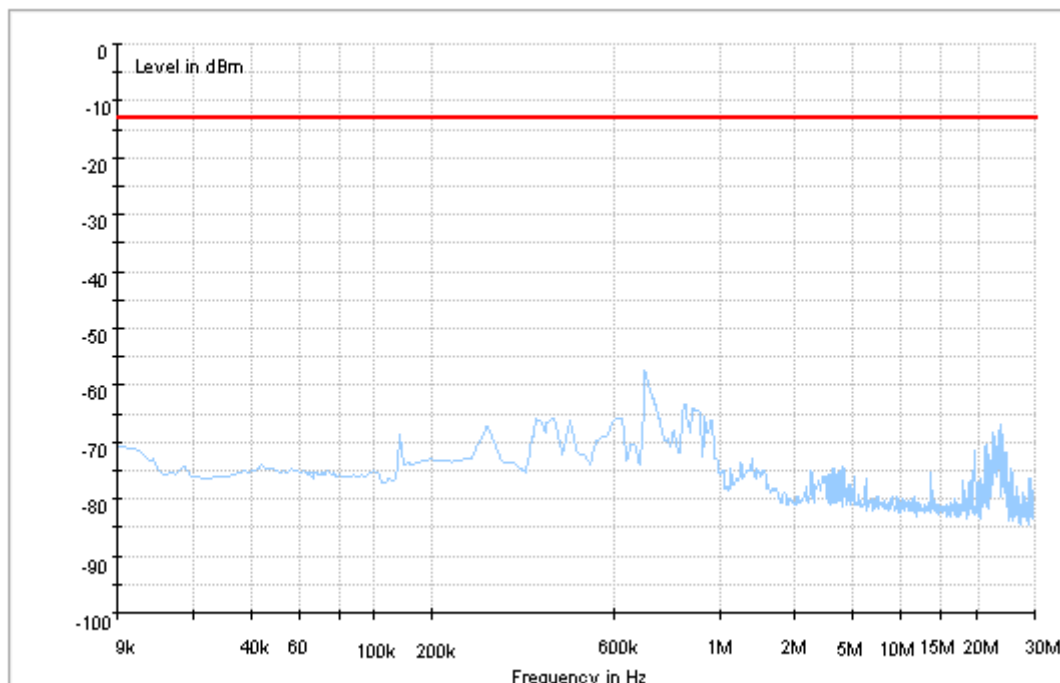
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

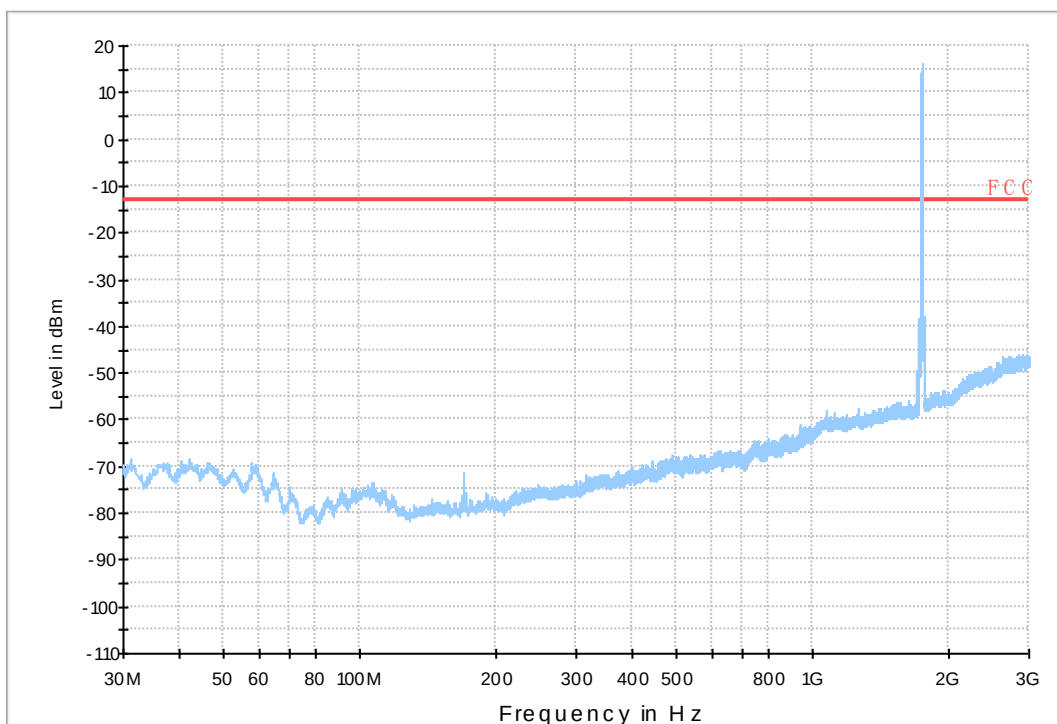
7.1 For UMTS

7.1.1 Test Band = WCDMA1700

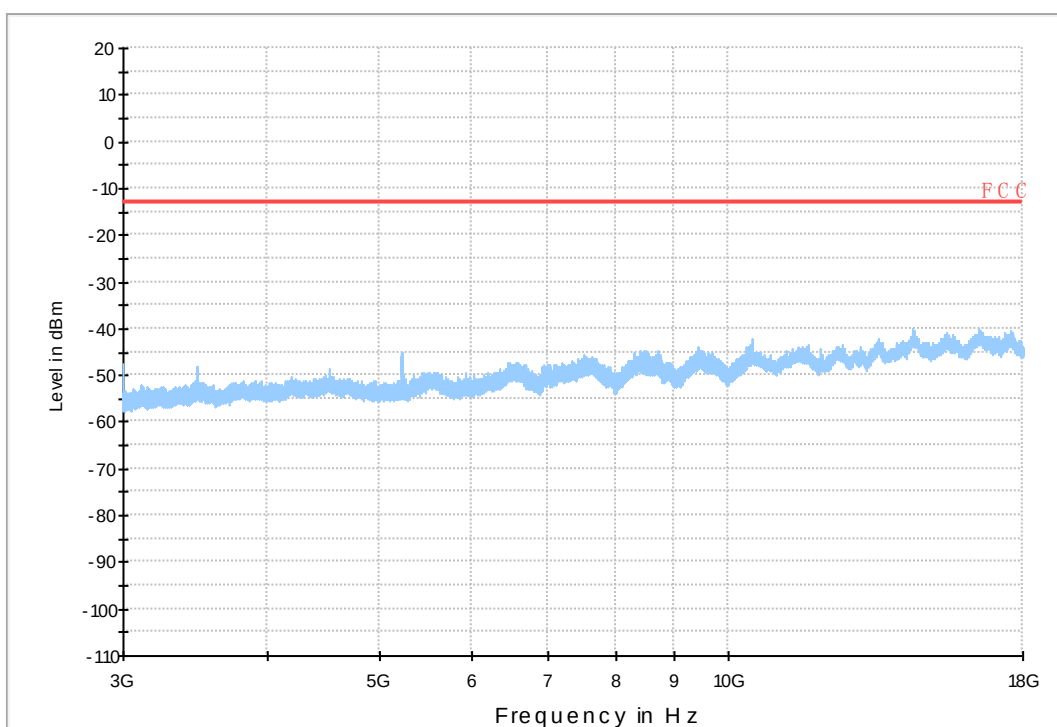
7.1.1.1 Test Mode = UMTS/TM1



Copy of FCC PART27 W CDMA1700_L



Copy of FCC PART27 W CDMA1700_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
WCDMA1700	UMTS/TM1	LCH	TN	VL	4.03	0.00235	PASS
				VN	-3.23	-0.00189	PASS
				VH	5.23	0.00305	PASS
		MCH	TN	VL	-1.36	-0.00078	PASS
				VN	-2.33	-0.00134	PASS
				VH	8.18	0.00472	PASS
		HCH	TN	VL	-1.28	-0.00073	PASS
				VN	-2.40	-0.00137	PASS
				VH	2.40	0.00137	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
WCDMA1700	UMTS/TM1	LCH	VN	-30	5.20	0.00304	PASS
				-20	3.75	0.00219	PASS
				-10	-4.07	-0.00238	PASS
				0	-6.12	-0.00357	PASS
				10	2.98	0.00174	PASS
				20	-3.39	-0.00198	PASS
				30	-4.14	-0.00242	PASS
				40	1.91	0.00112	PASS
				50	-1.82	-0.00106	PASS
		MCH	VN	-30	-5.36	-0.00309	PASS
				-20	7.02	0.00405	PASS
				-10	0.76	0.00044	PASS
				0	5.40	0.00312	PASS
				10	-0.95	-0.00055	PASS
				20	2.76	0.00159	PASS
				30	0.41	0.00024	PASS



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				40	5.68	0.00328	PASS
				50	6.18	0.00357	PASS
		HCH	VN	-30	-9.90	-0.00565	PASS
				-20	3.01	0.00172	PASS
				-10	8.70	0.00496	PASS
				0	1.80	0.00103	PASS
				10	6.27	0.00358	PASS
				20	2.26	0.00129	PASS
				30	3.36	0.00192	PASS
				40	-3.45	-0.00197	PASS
				50	5.65	0.00322	PASS

END