



Appendix for WCDMA

1 Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	EIRP Power [dBm]	Limit [dBm]	Verdict
WCDMA1900	UMTS/TM1	LCH	23.31	24.31	33	PASS
		MCH	23.28	24.28	33	PASS
		HCH	23.16	24.16	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: SET Span=1.5*OBW

SET RBW=1%of the OBW,not to exceed 1MHz

SET VBW>= 3*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	3.77	13	PASS
		MCH	3.88	13	PASS
		HCH	3.71	13	PASS

3Appendix_C: Modulation Characteristics

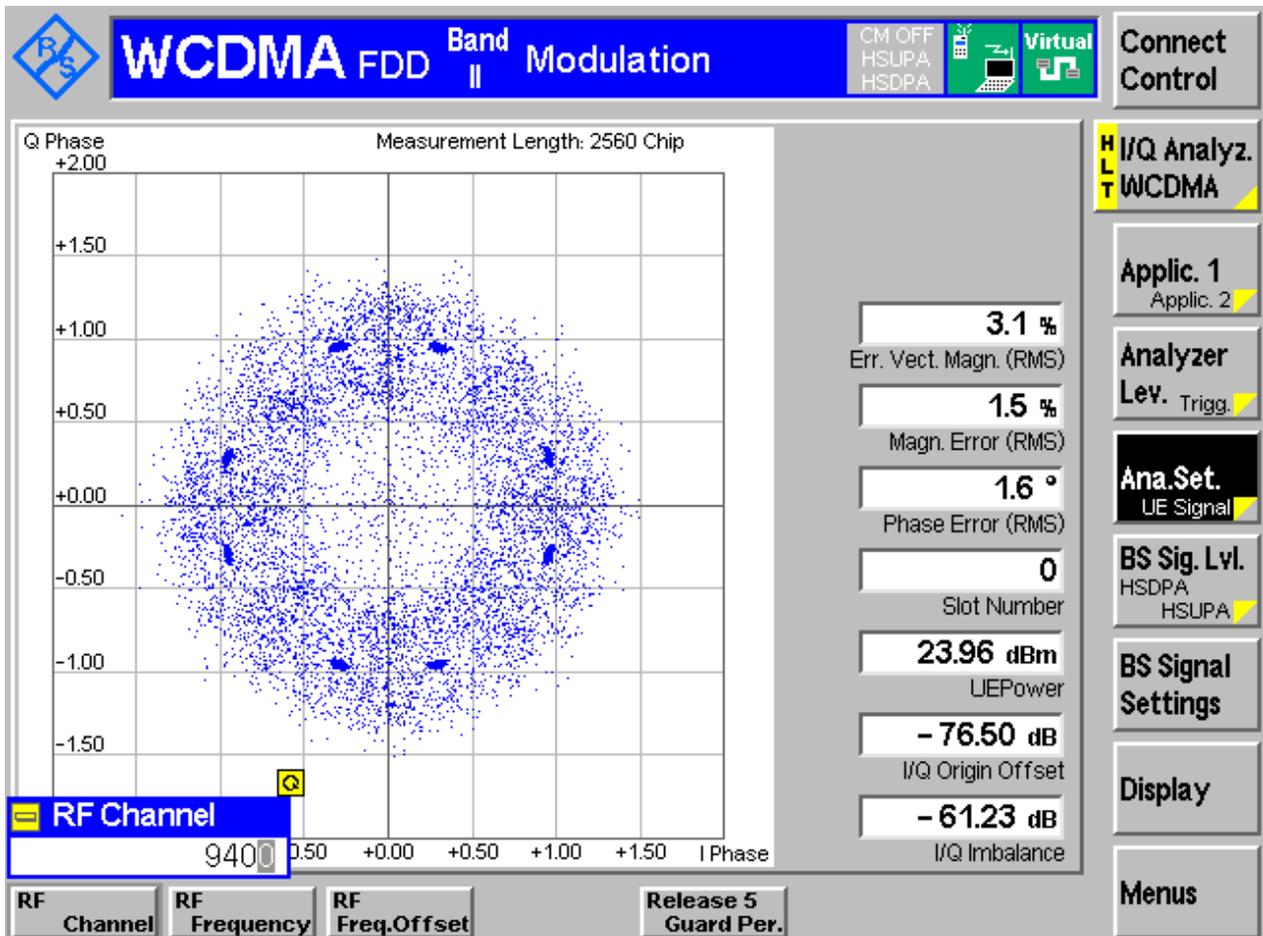
Part I - Test Plots

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	4.72	Pass
		MCH	4.14	4.70	Pass
		HCH	4.14	4.74	Pass



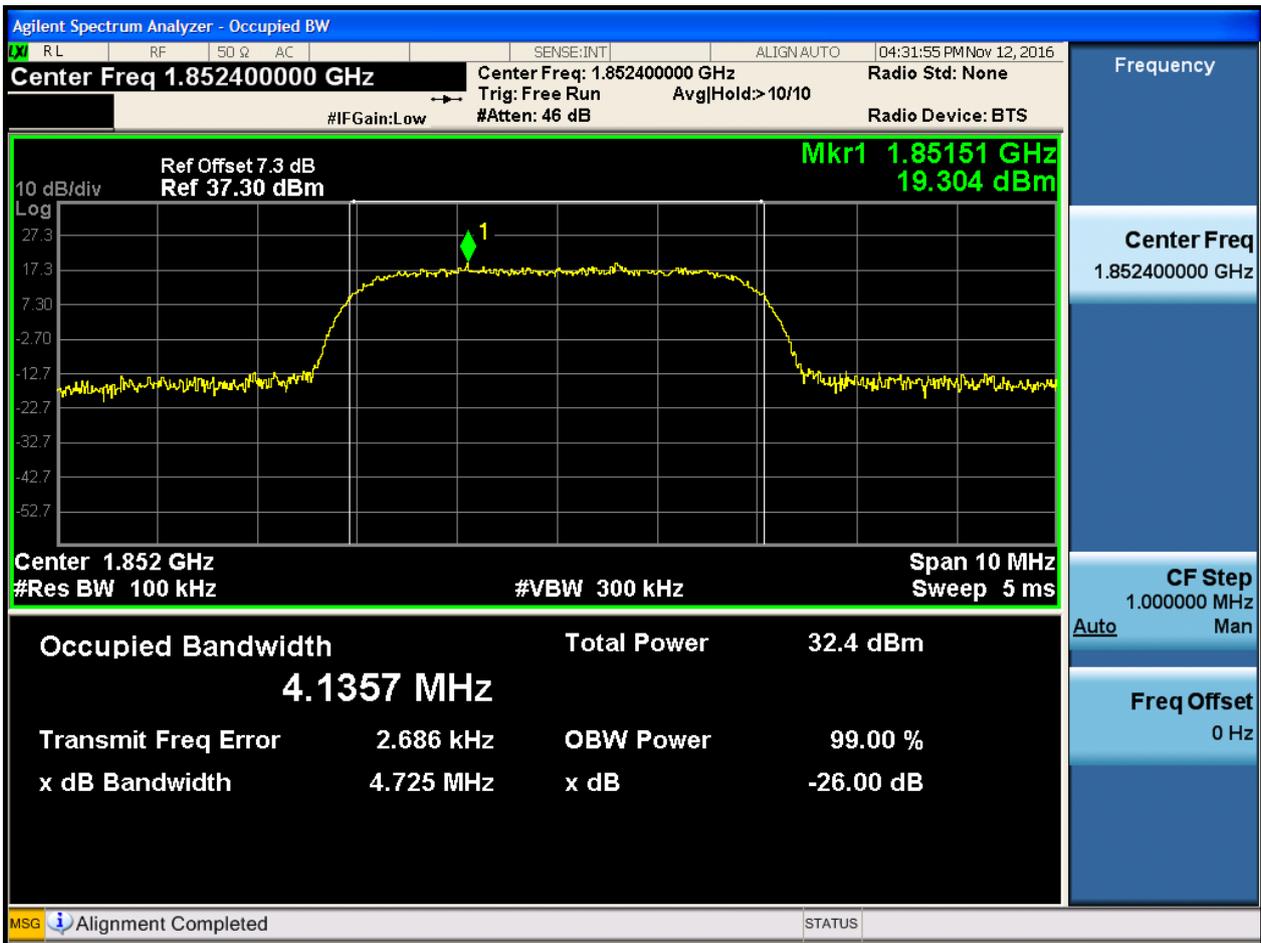
Part II - Test Plots

4.1 For UMTS

4.1.1 Test Band = WCDMA1900

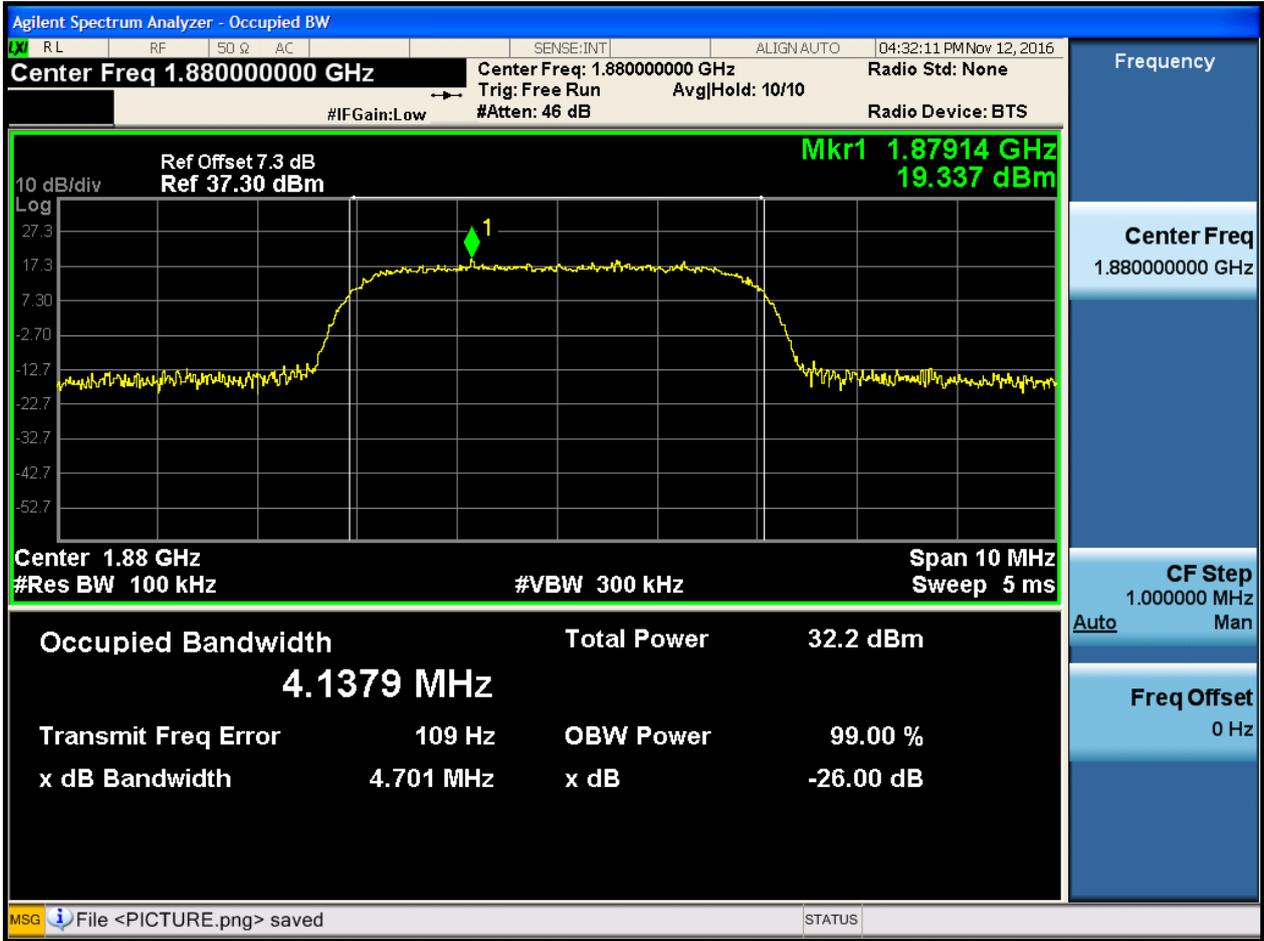
4.1.1.1 Test Mode = UMTS/TM1

4.1.1.1.1 Test Channel = LCH



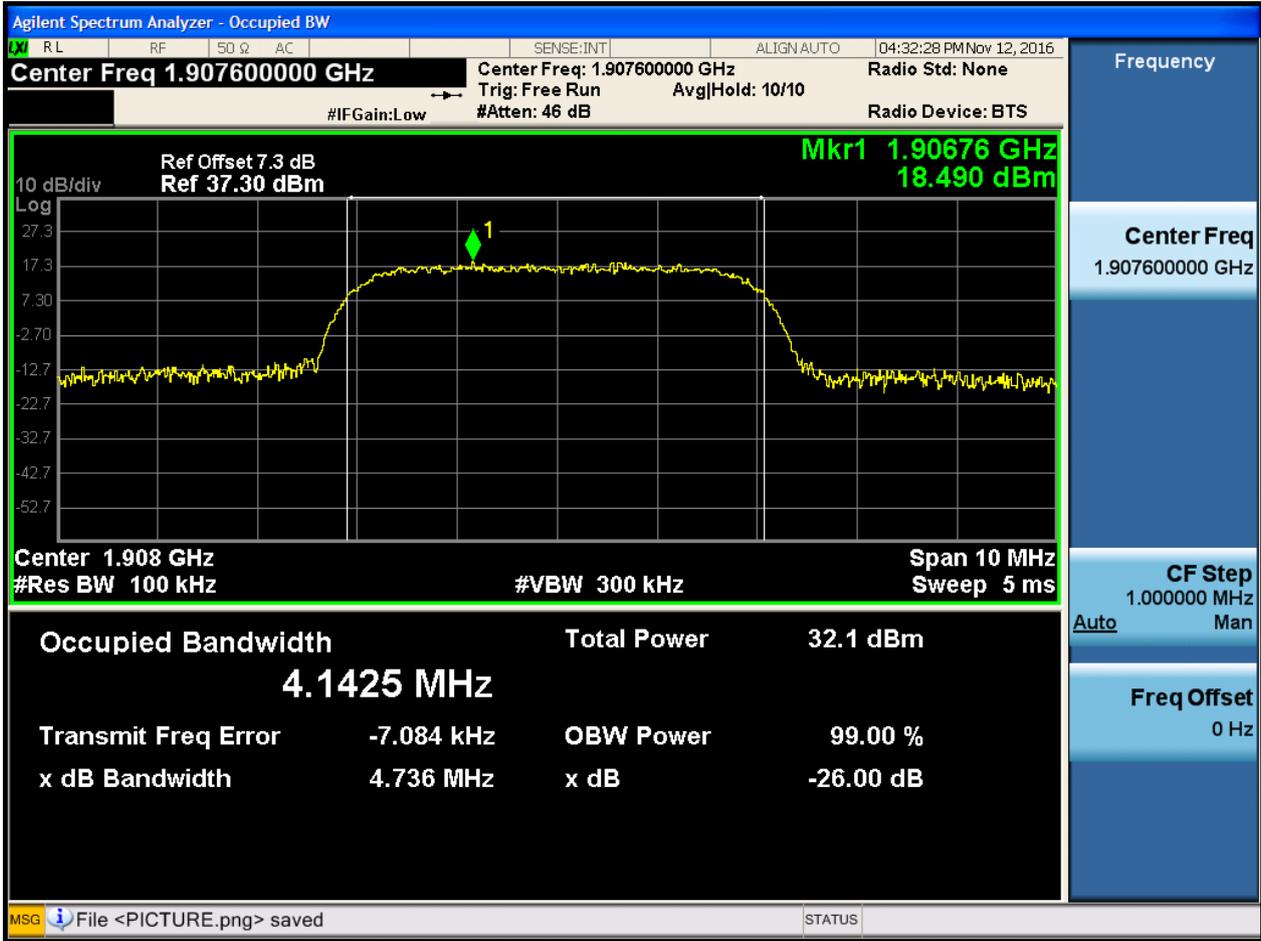


4.1.1.1.2 Test Channel = MCH





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.

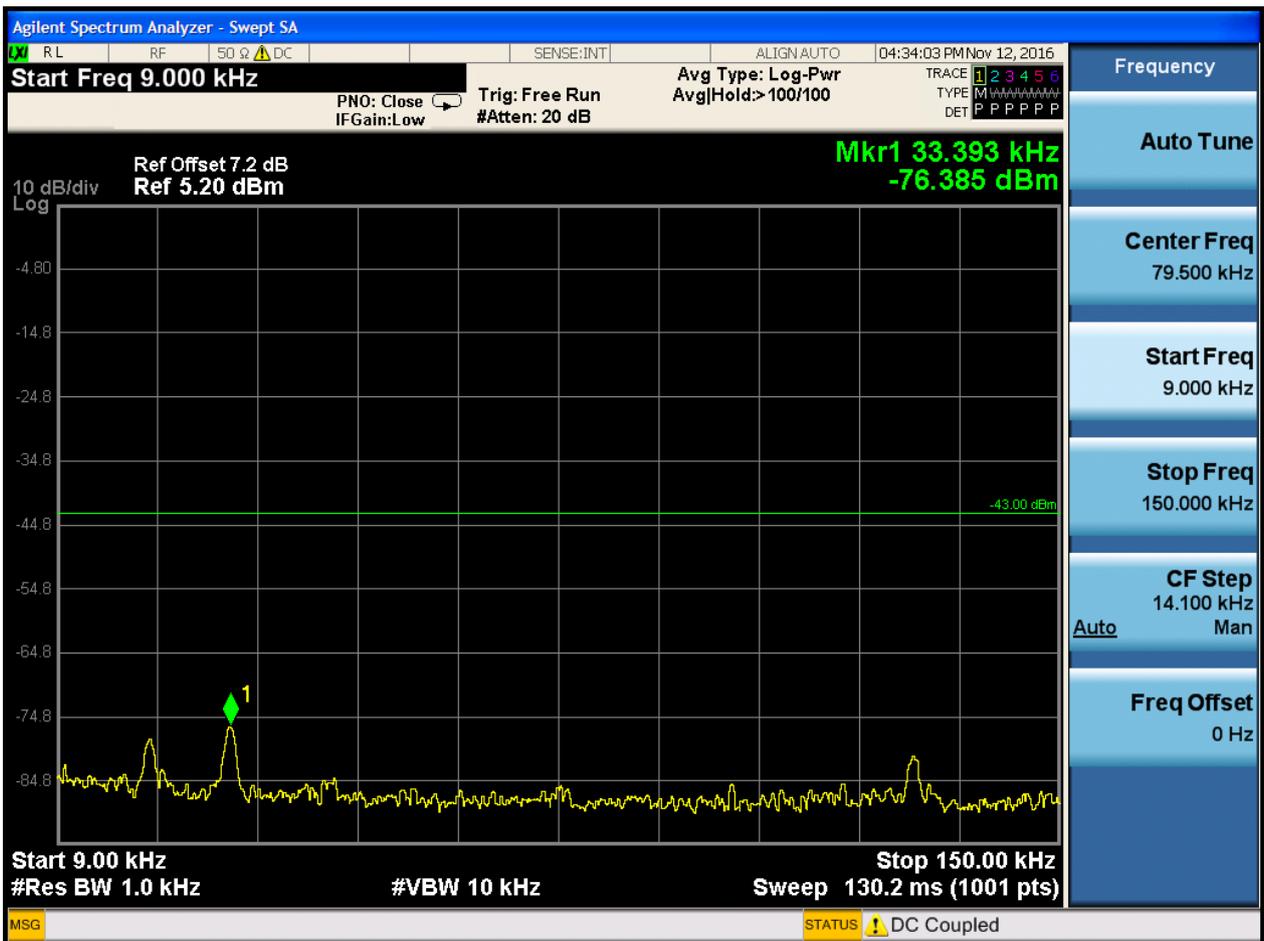
Part I - Test Plots

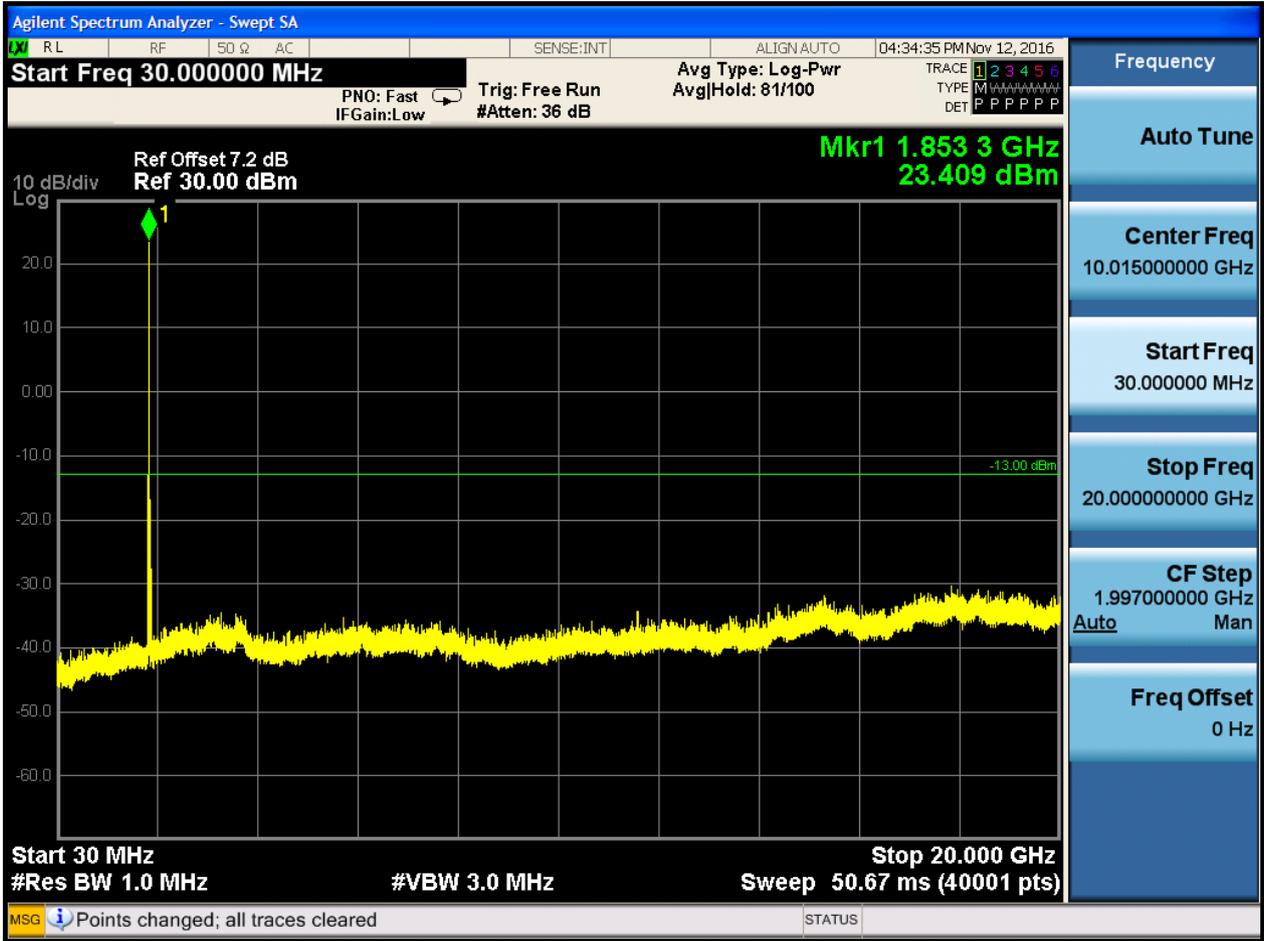
6.1 For UMTS

6.1.1 Test Band = WCDMA1900

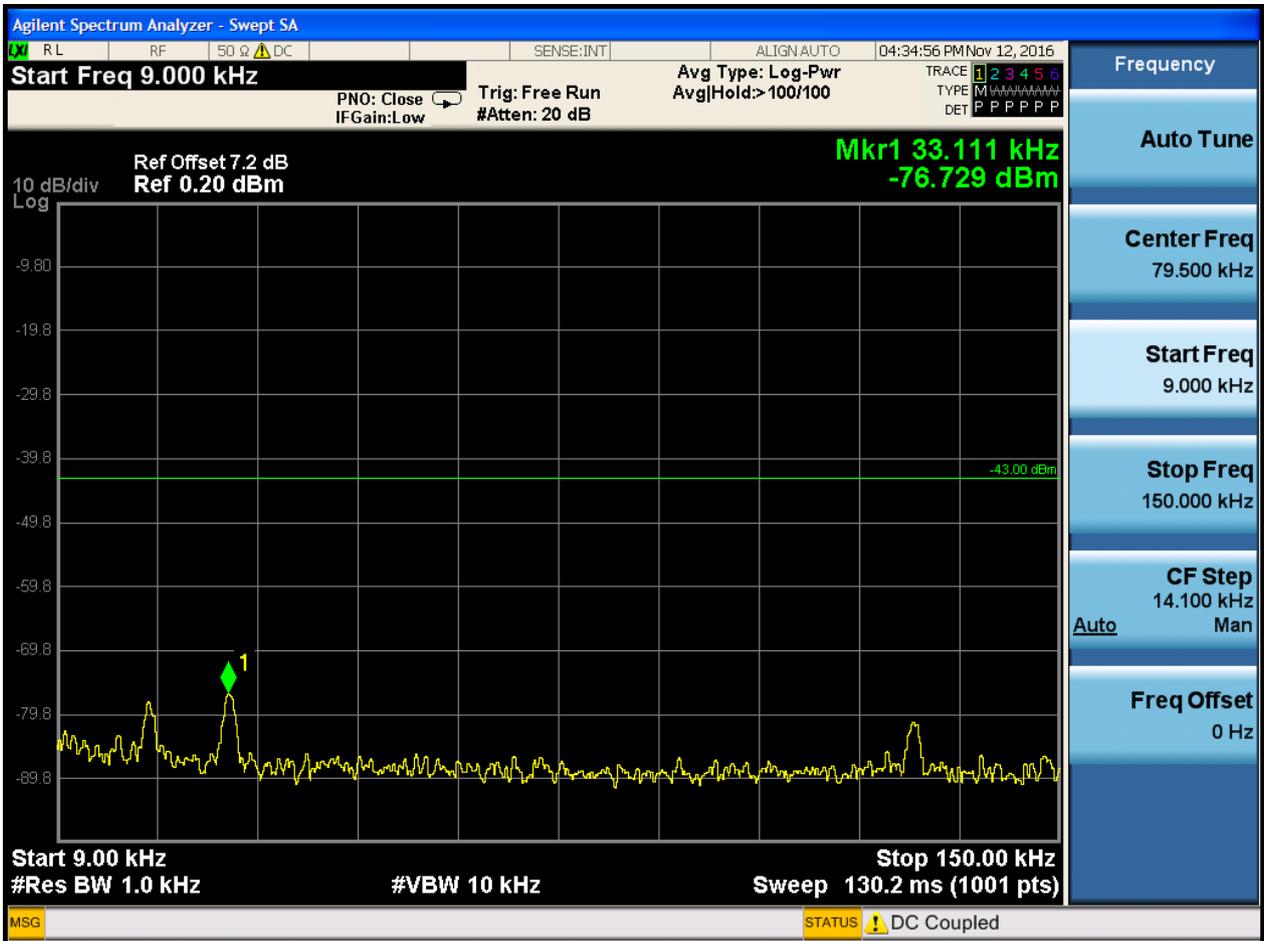
6.1.1.1 Test Mode = UMTS/TM1

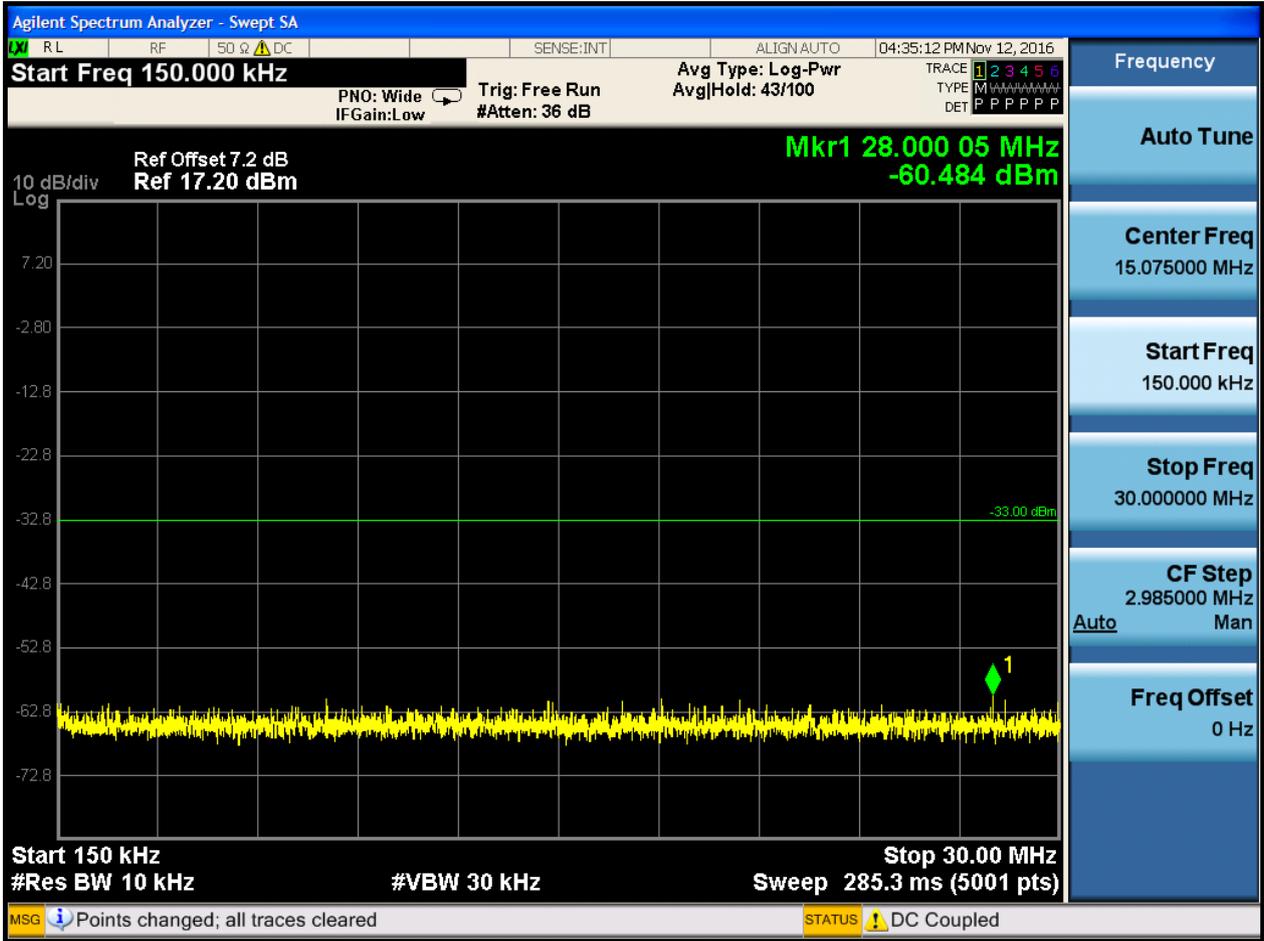
6.1.1.1.1 Test Channel = LCH





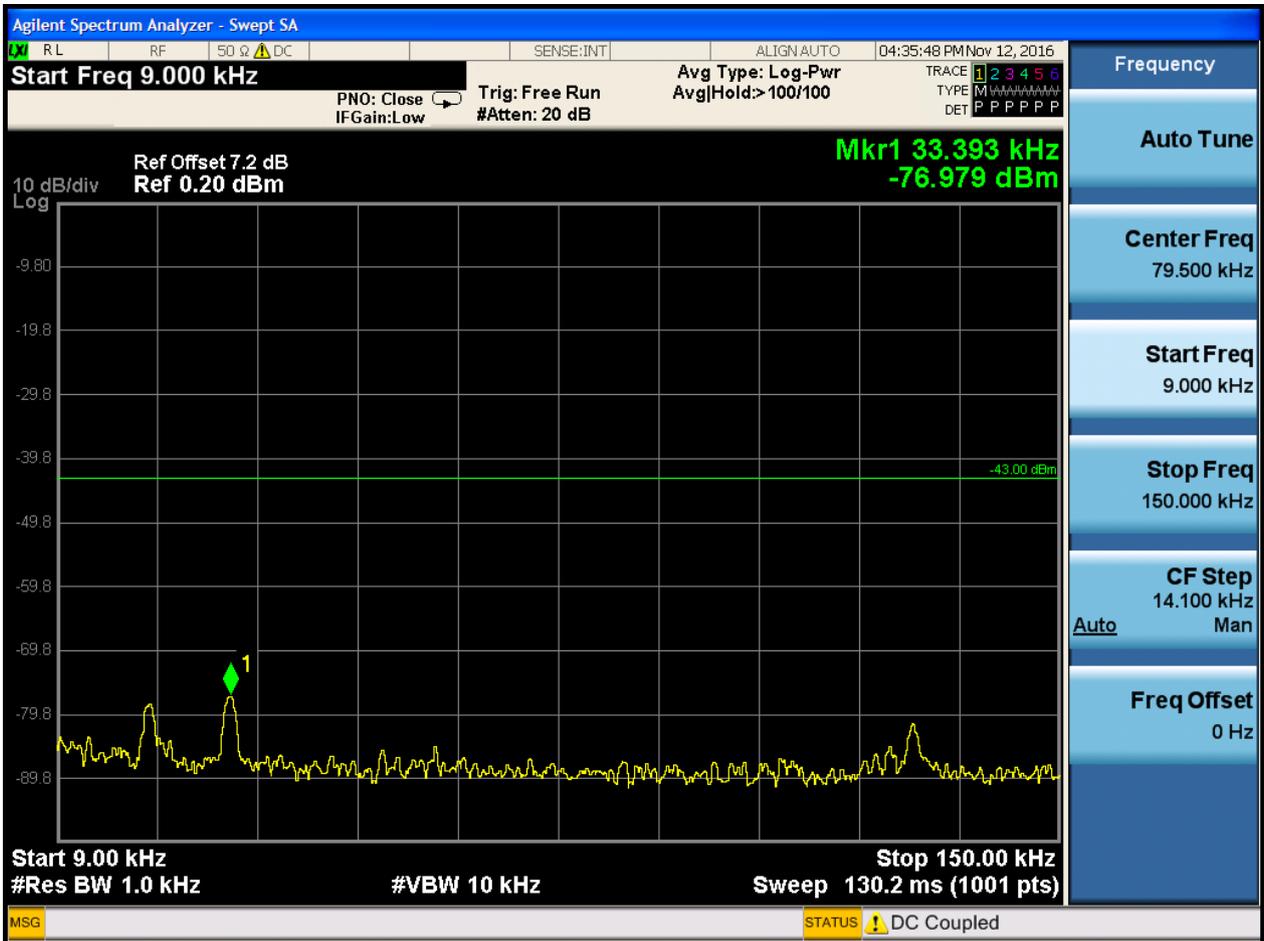
6.1.1.1.2 Test Channel = MCH

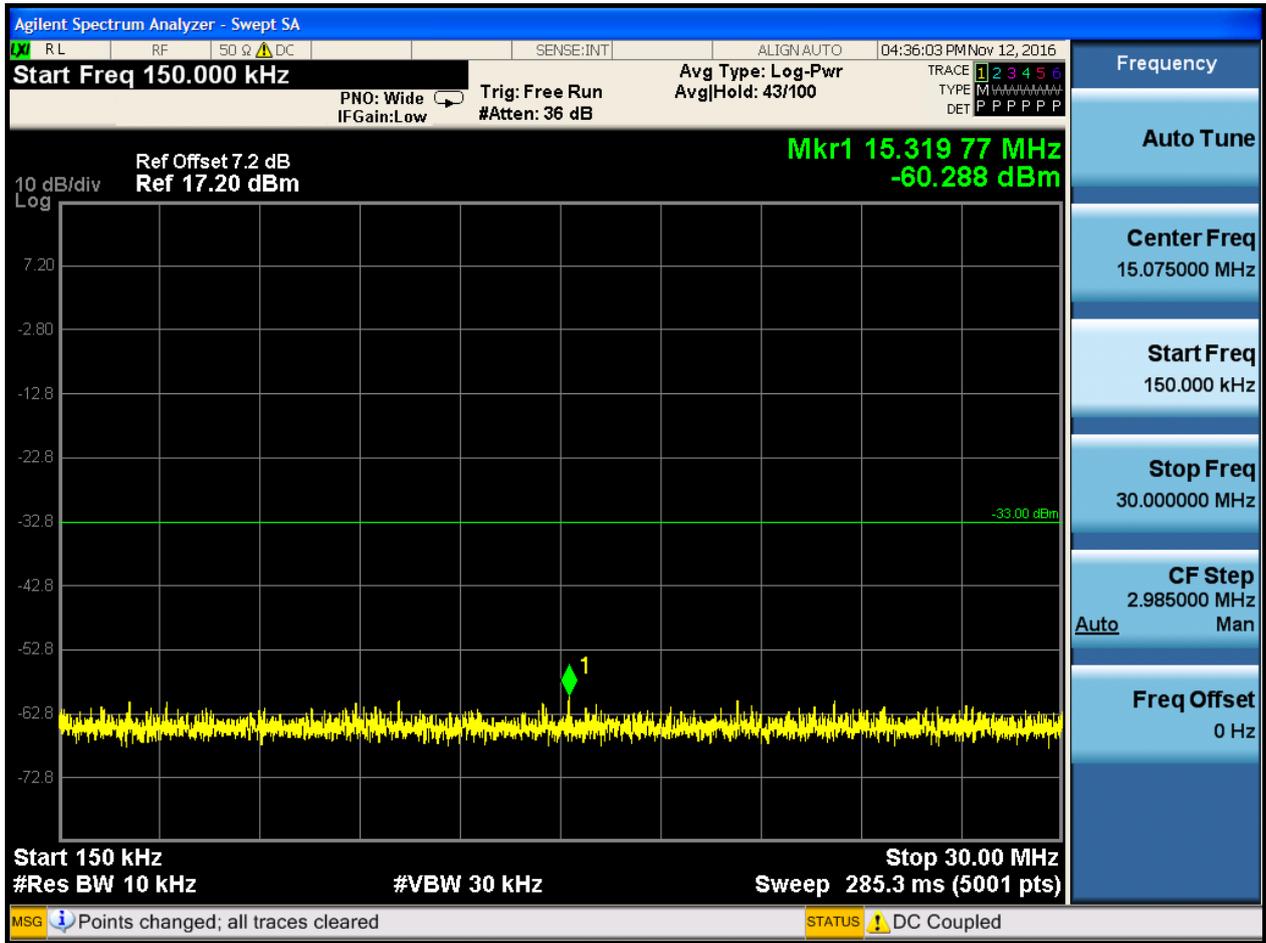


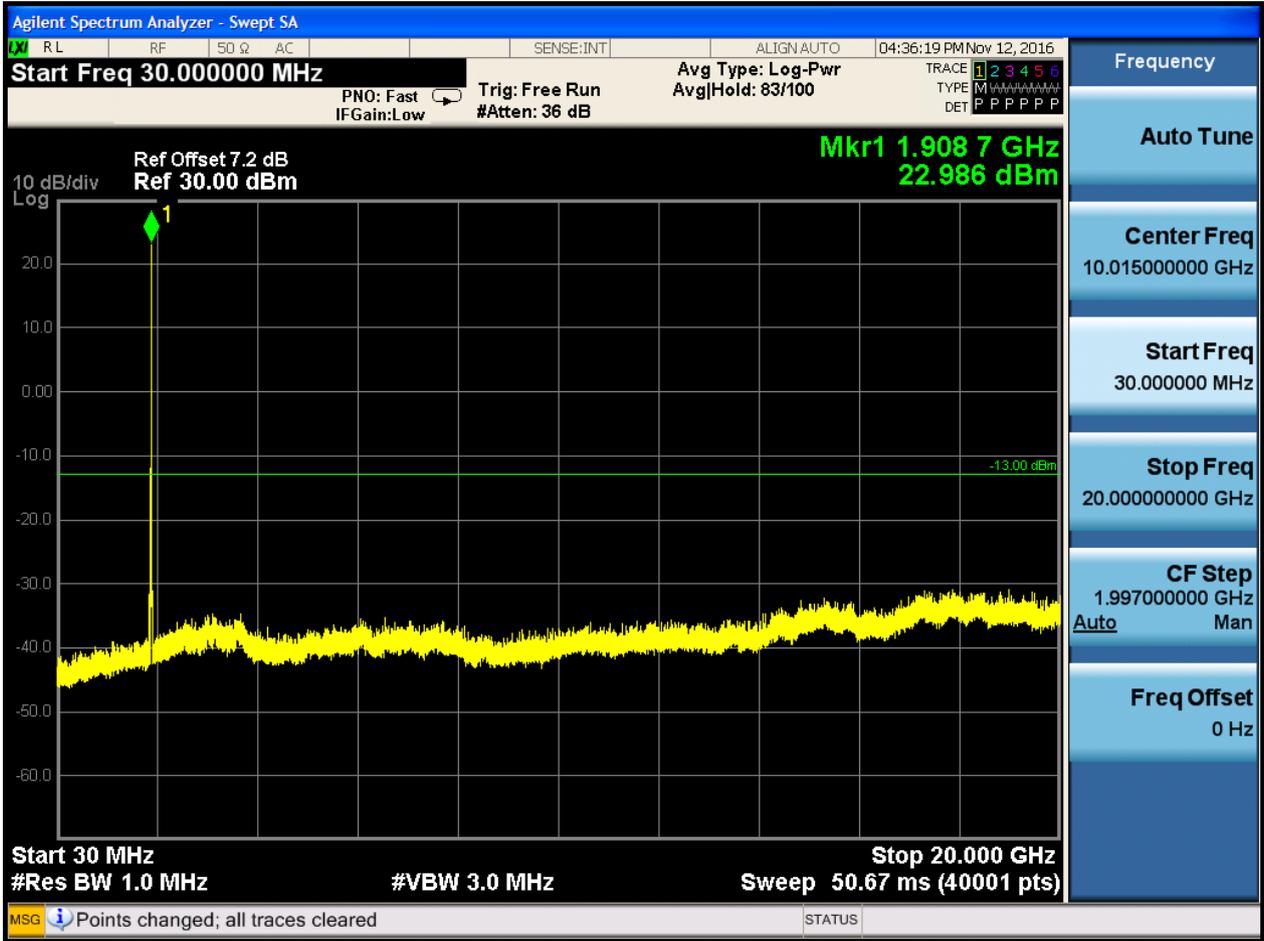




6.1.1.1.3 Test Channel = HCH







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

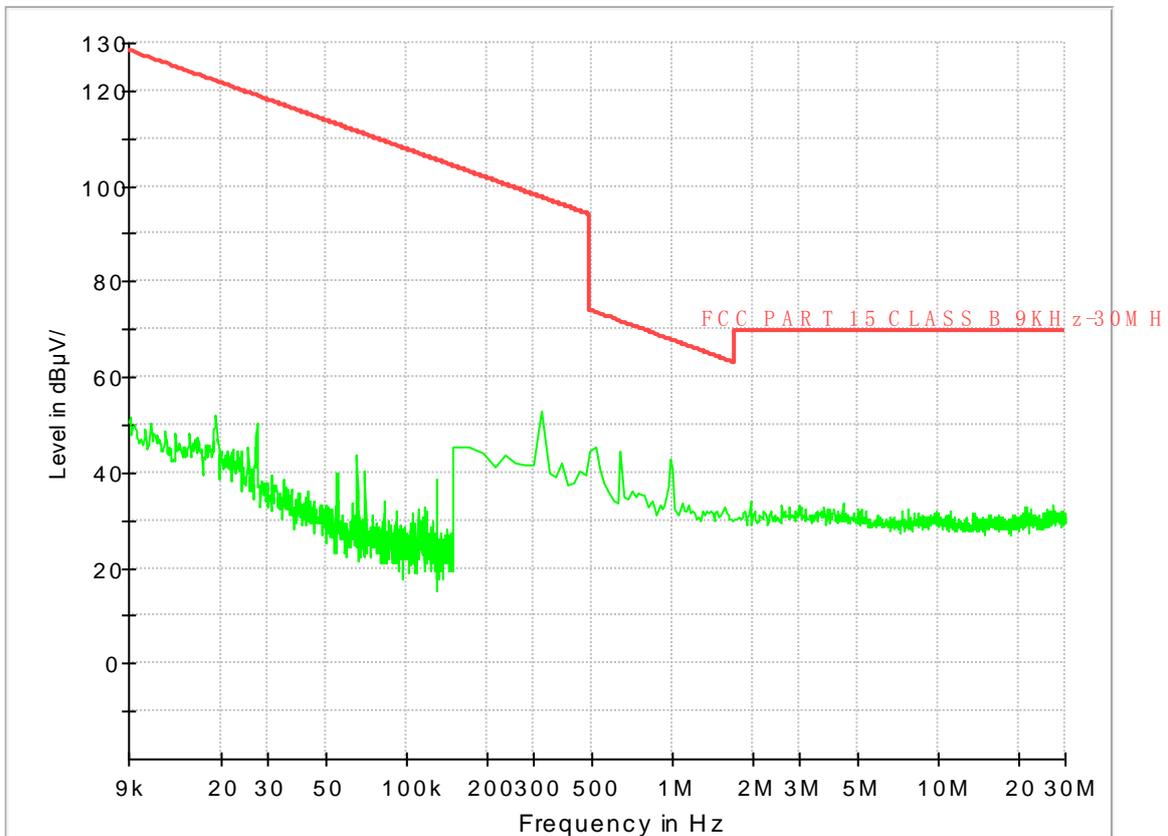
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

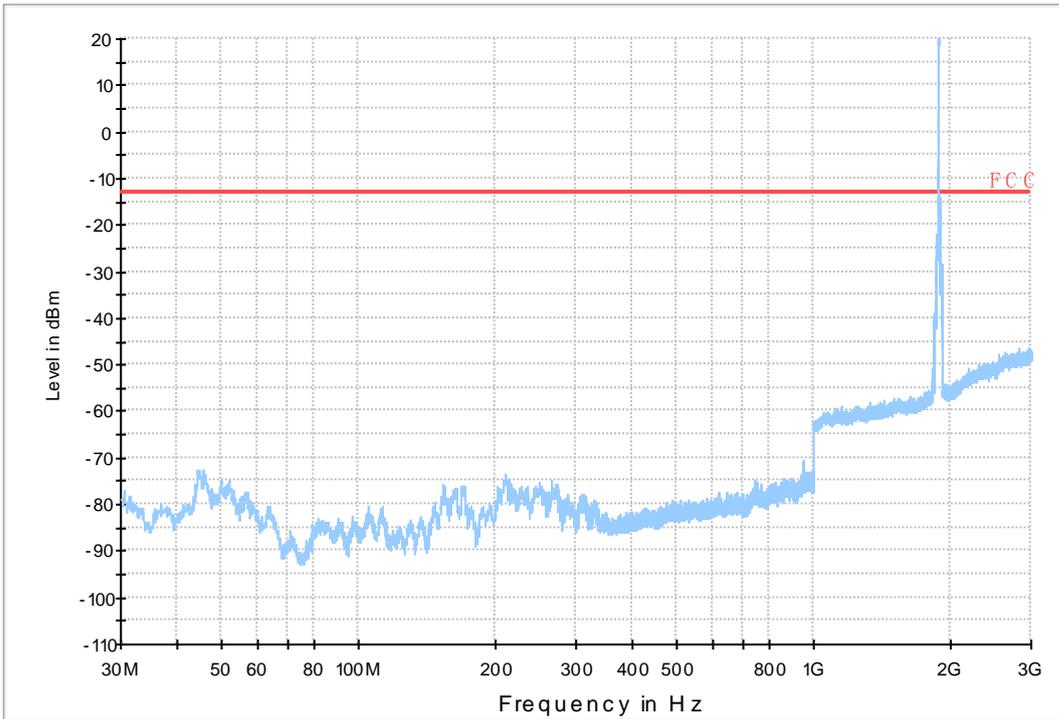
7.1 For UMTS

7.1.1 Test Band = WCDMA1900

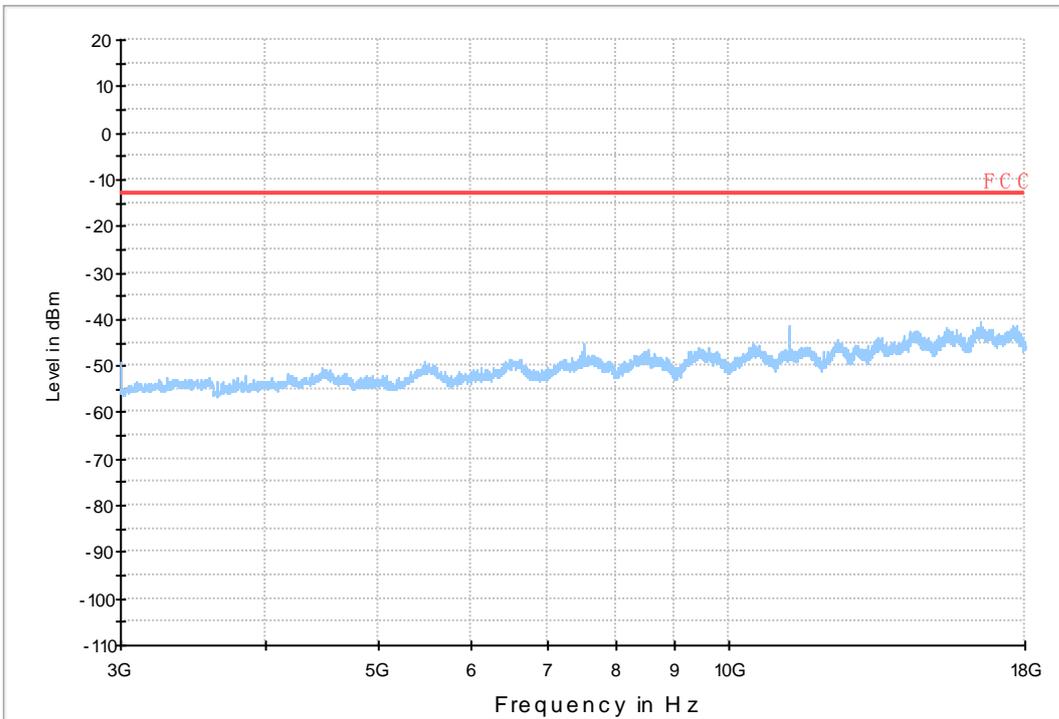
7.1.1.1 Test Mode = UMTS/TM1

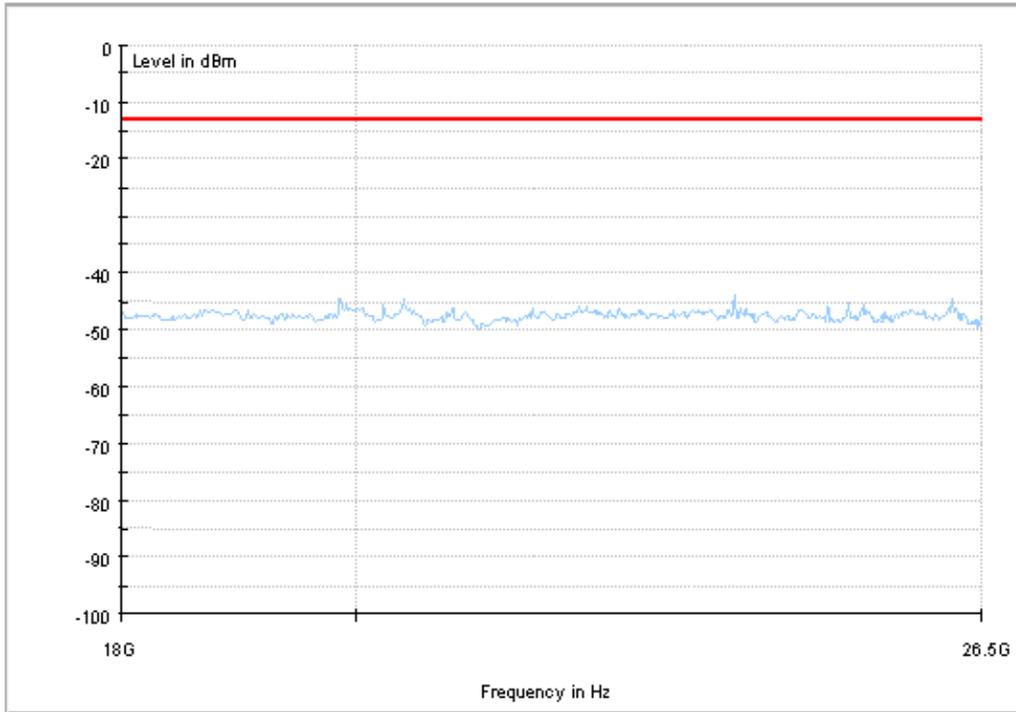


Copy of FCC PART24 W CDMA1900_L



Copy of FCC PART24 W CDMA1900_H





8Appendix_H: Frequency Stability

8.1 For UMTS

8.1.1 Frequency 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	10.70	0.00578	PASS
				VN	9.52	0.00514	PASS
				VH	9.49	0.00512	PASS
		MCH	TN	VL	10.88	0.00579	PASS
				VN	11.55	0.00614	PASS
				VH	14.80	0.00787	PASS
		HCH	TN	VL	12.05	0.00632	PASS
				VN	8.26	0.00433	PASS
				VH	12.10	0.00634	PASS

8.1.2 Frequency 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	13.06	0.00705	PASS
				-20	8.36	0.00451	PASS
				-10	11.61	0.00627	PASS
				0	11.23	0.00606	PASS
				10	14.59	0.00788	PASS
				20	11.43	0.00617	PASS
				30	9.41	0.00508	PASS
				40	11.96	0.00646	PASS
				50	10.93	0.0059	PASS
		MCH	VN	-30	11.00	0.00585	PASS
				-20	13.41	0.00713	PASS
				-10	12.57	0.00669	PASS
				0	12.15	0.00646	PASS
				10	10.03	0.00534	PASS
				20	11.22	0.00597	PASS
				30	14.16	0.00753	PASS
				40	12.05	0.00641	PASS
				50	12.86	0.00684	PASS



Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
		HCH	VN	-30	12.18	0.00638	PASS
				-20	8.51	0.00446	PASS
				-10	8.88	0.00466	PASS
				0	15.63	0.00819	PASS
				10	12.25	0.00642	PASS
				20	8.93	0.00468	PASS
				30	9.67	0.00507	PASS
				40	8.91	0.00467	PASS
				50	12.33	0.00646	PASS

END