Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	EIRP/ERP [dBm]	Limit [dBm]	Verdict
WCDMA1900	UMTS/TM1	LCH	22.72	23.13	33	PASS
		MCH	22.66	23.07	33	PASS
		HCH	22.52	22.93	33	PASS
WCDMA1700	UMTS/TM1	LCH	22.48	23.65	30	PASS
		MCH	22.66	23.83	30	PASS
		HCH	22.71	23.88	30	PASS
WCDMA850	UMTS/TM1	LCH	23.16	22.34	38.5	PASS
		MCH	22.7	21.88	38.5	PASS
		HCH	22.91	22.09	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,

ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]

EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + 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	2.52	13	PASS
		MCH	2.86	13	PASS
		HCH	2.75	13	PASS
Test Band	**Test Mode**	**Test Channel**	**Measured[dB]**	**Limit [dB]**	**Verdict**
WCDMA1700	UMTS/TM1	LCH	2.89	13	PASS
		MCH	2.52	13	PASS
		HCH	2.84	13	PASS
WCDMA850	UMTS/TM1	LCH	2.94	13	PASS
		MCH	3.25	13	PASS
		HCH	2.77	13	PASS

3Appendix_C: Modulation Characteristics

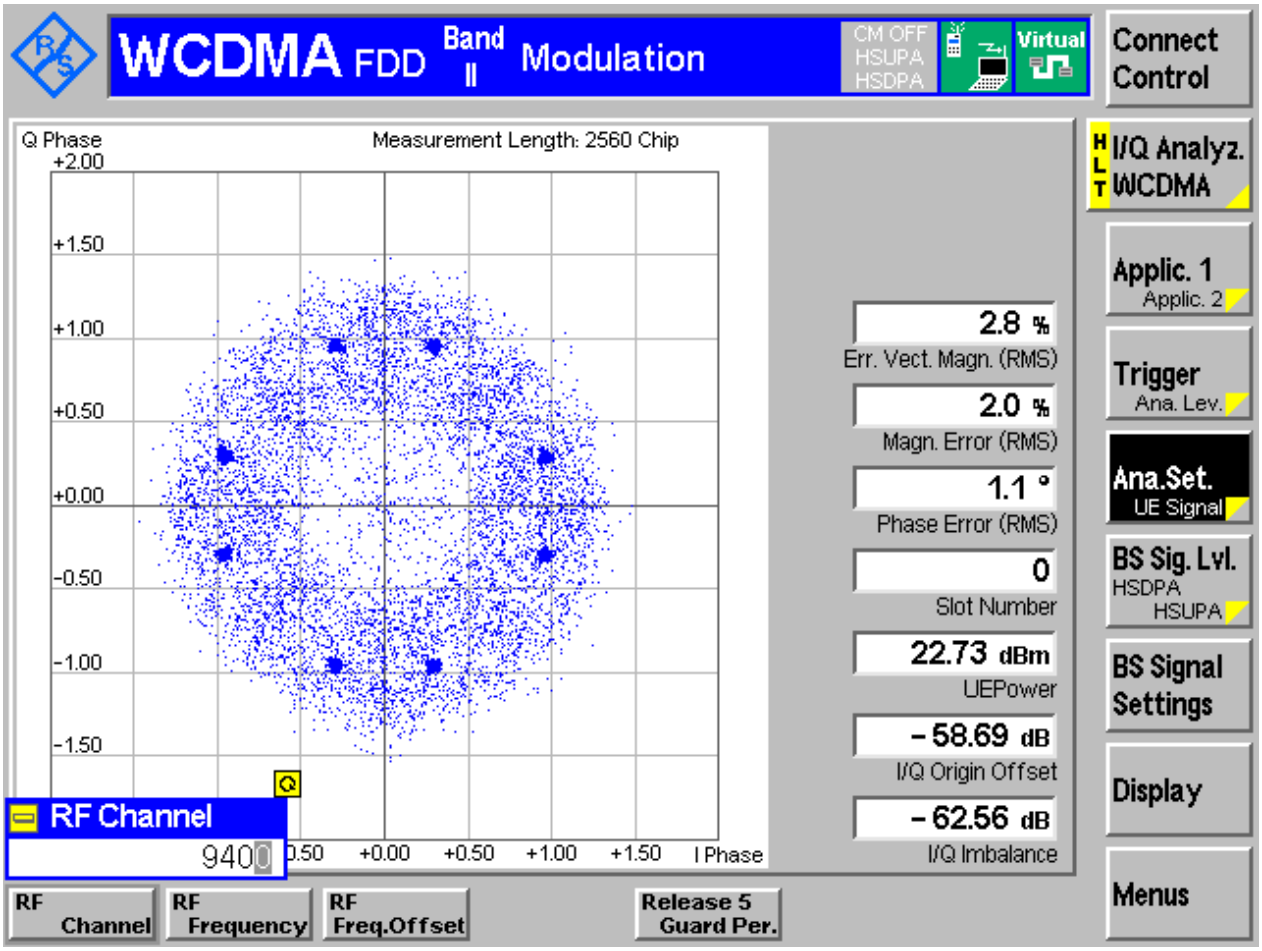
Part I - Test Plots

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

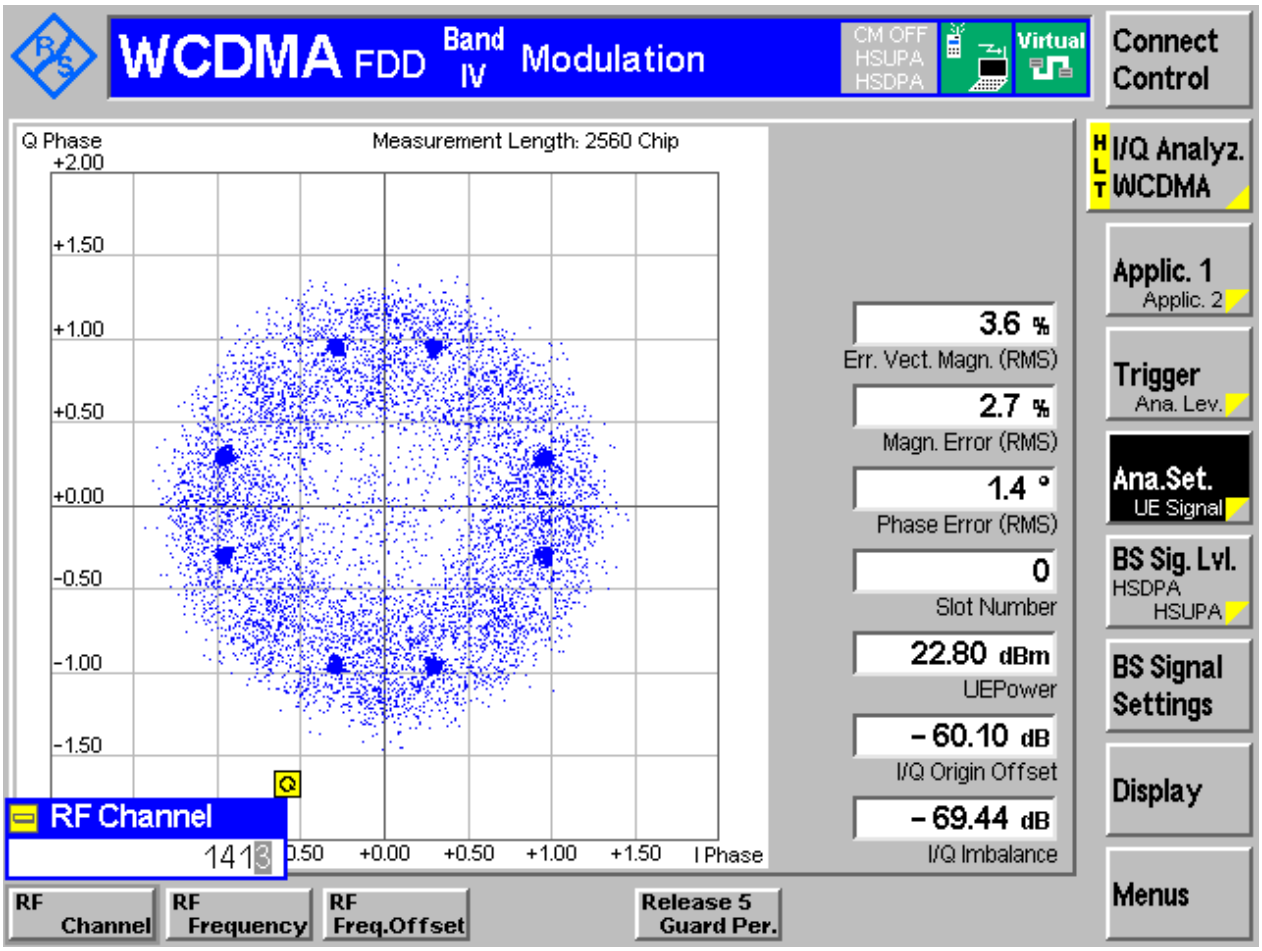


3.2 For UMTS

3.2.1 Test Band = WCDMA1700

3.2.1.1 Test Mode = UMTS/TM1

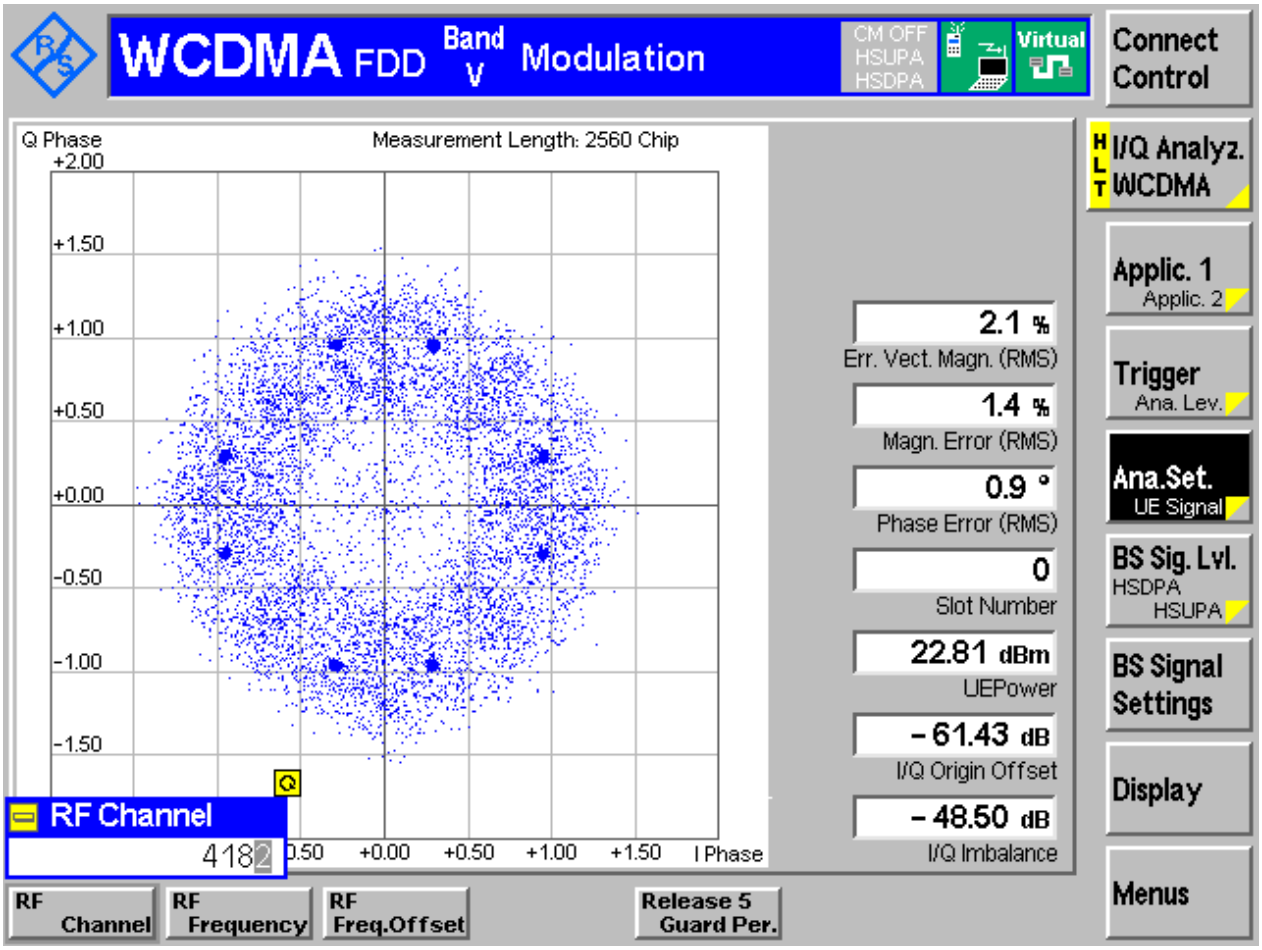
3.2.1.1.1 Test Channel = MCH



3.2.2 Test Band = WCDMA850

3.2.2.1 Test Mode = UMTS/TM1

3.2.2.1.1 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	4.22	4.89	Pass
		MCH	4.21	4.86	Pass
		HCH	4.22	4.90	Pass
WCDMA1700	UMTS/TM1	LCH	4.21	4.88	Pass
		MCH	4.22	4.90	Pass
		HCH	4.20	4.88	Pass
WCDMA850	UMTS/TM1	LCH	4.20	4.86	Pass
		MCH	4.20	4.87	Pass
		HCH	4.21	4.88	Pass

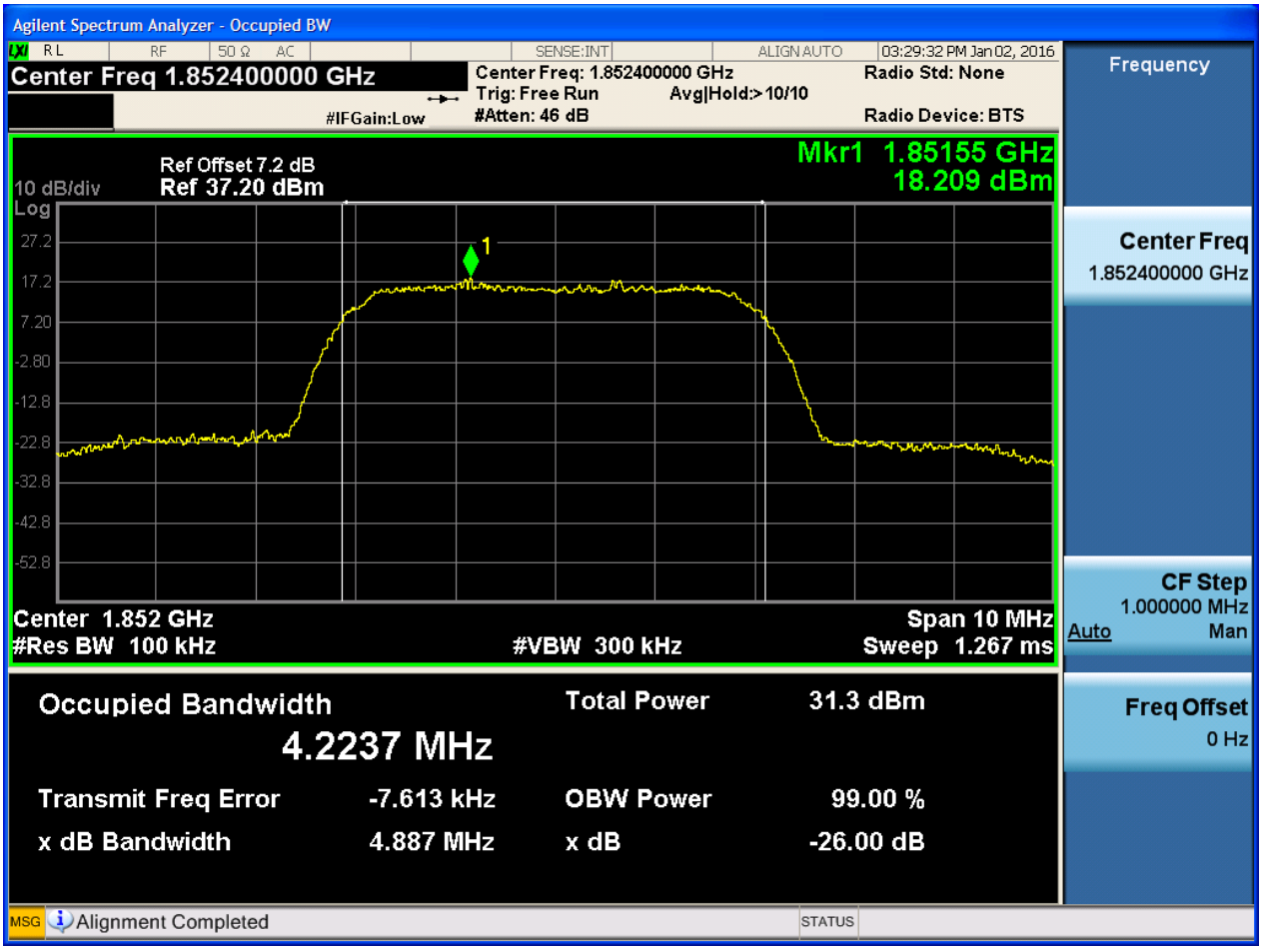
Part II - Test Plots

4.1 For UMTS

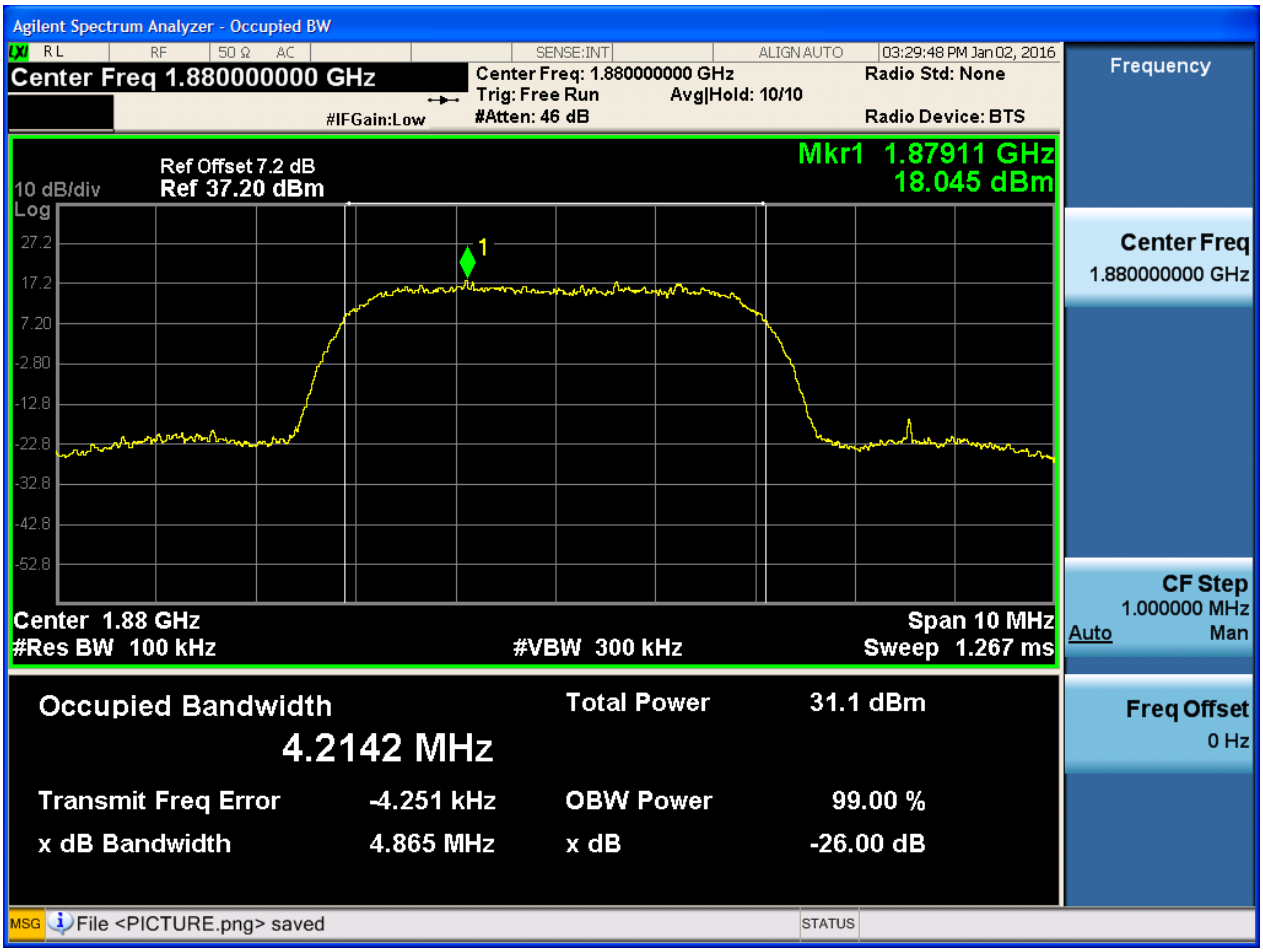
4.2.1 Test Band = WCDMA1900

4.2.1.1 Test Mode = UMTS/TM1

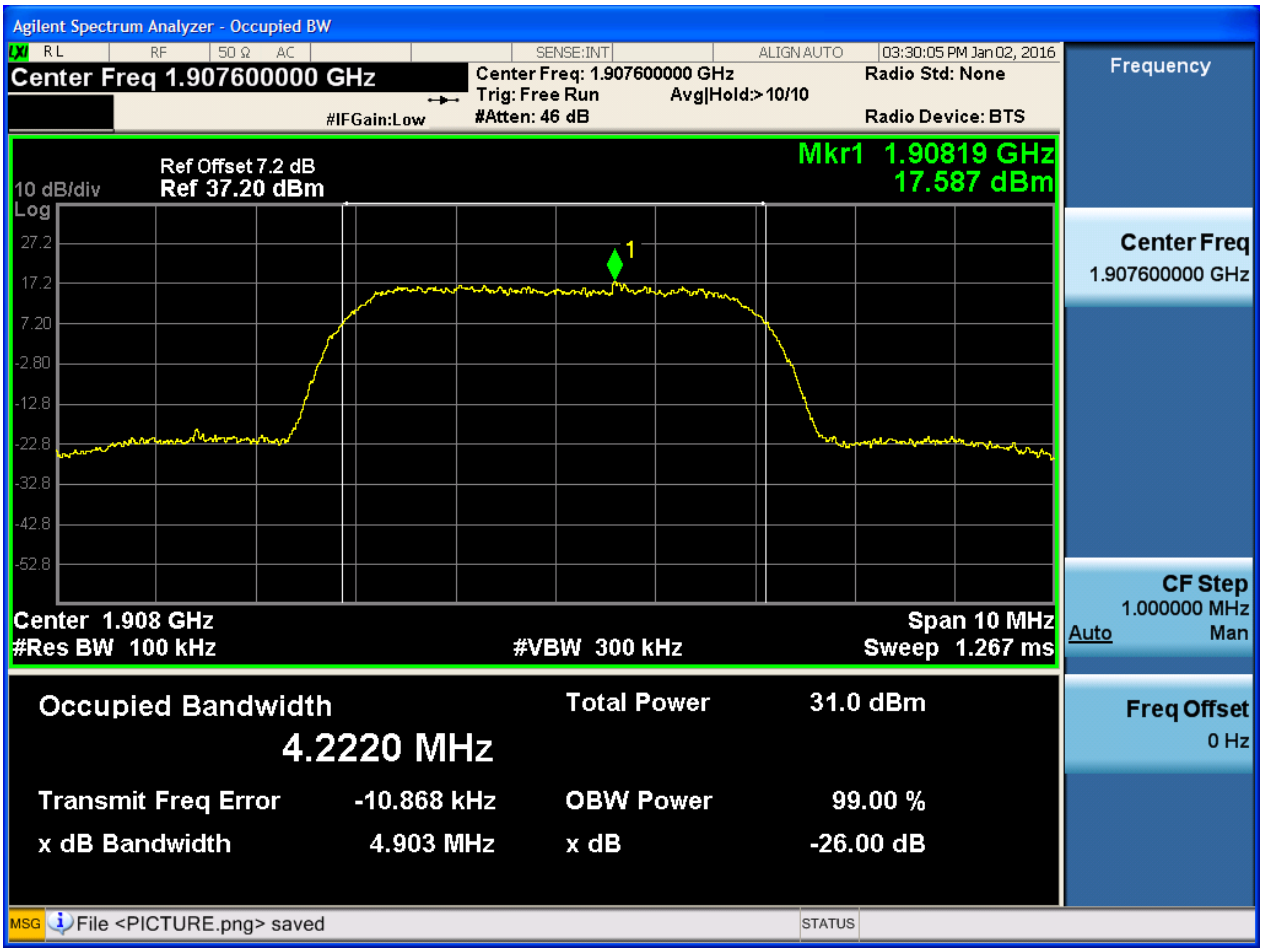
4.2.1.1.1 Test Channel = LCH



4.2.1.1.2 Test Channel = MCH



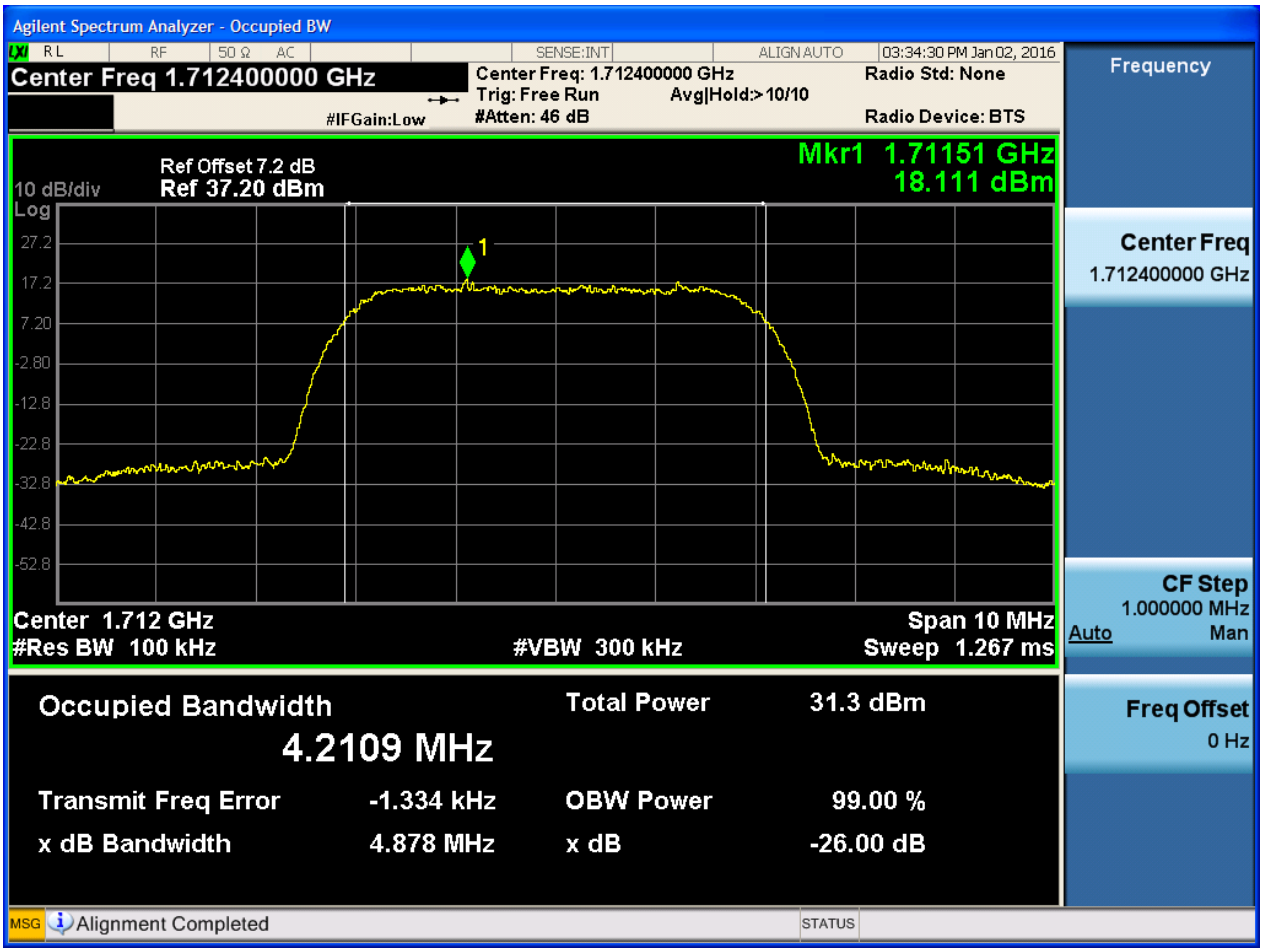
4.2.1.1.3 Test Channel = HCH



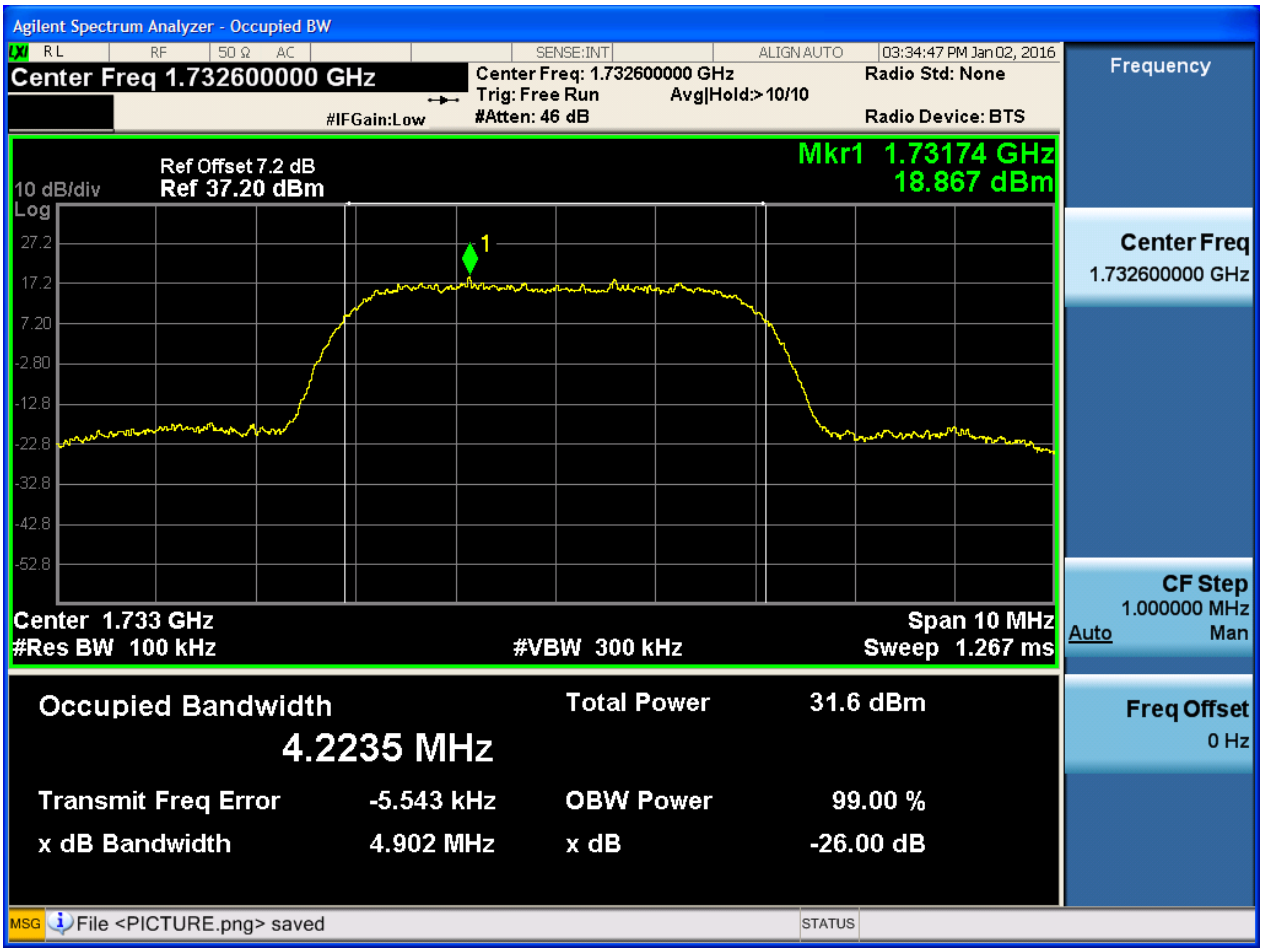
4.2.2 Test Band = WCDMA1700

4.2.2.1 Test Mode = UMTS/TM1

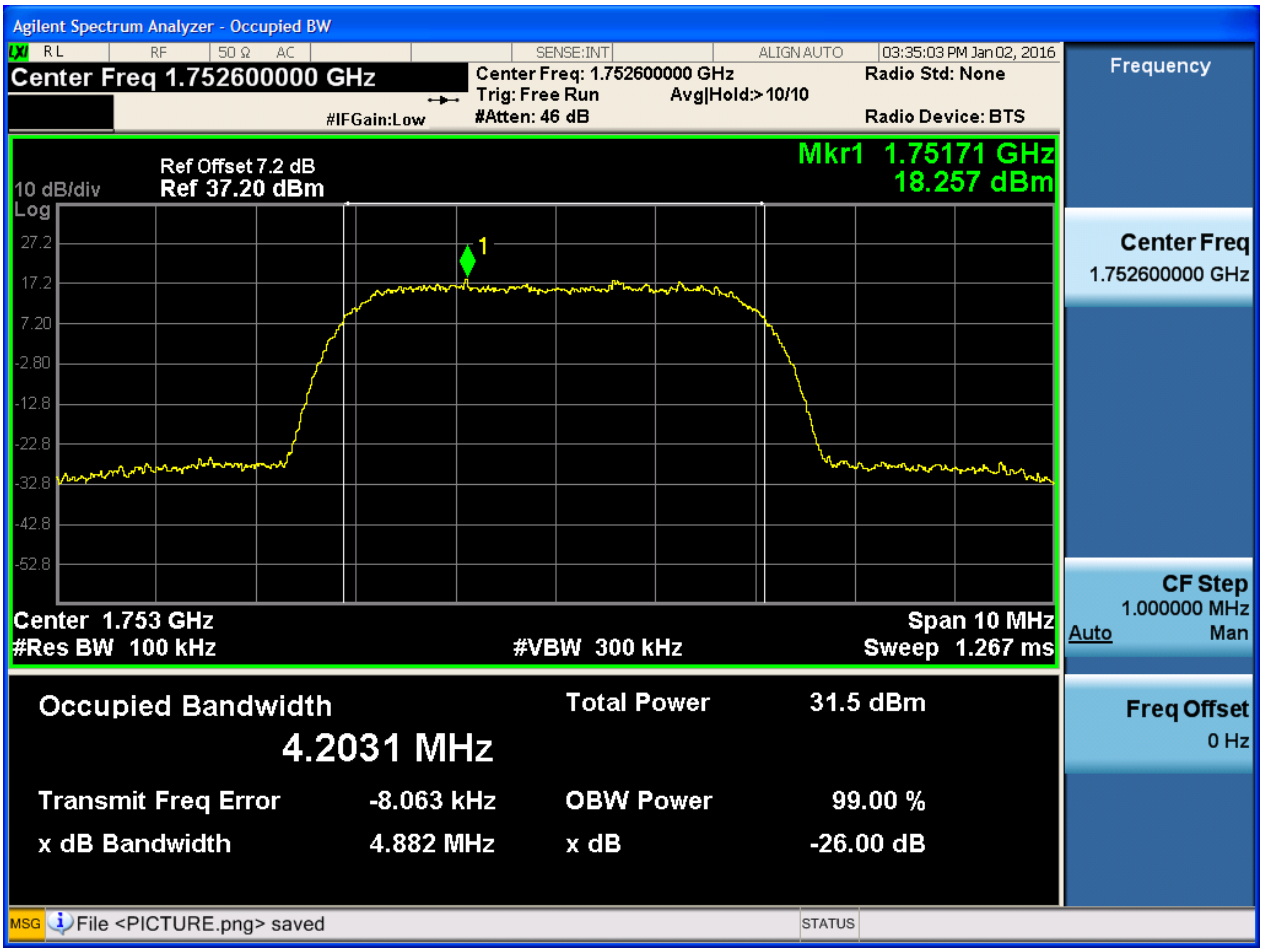
4.2.2.1.1 Test Channel = LCH



4.2.2.1.2 Test Channel = MCH



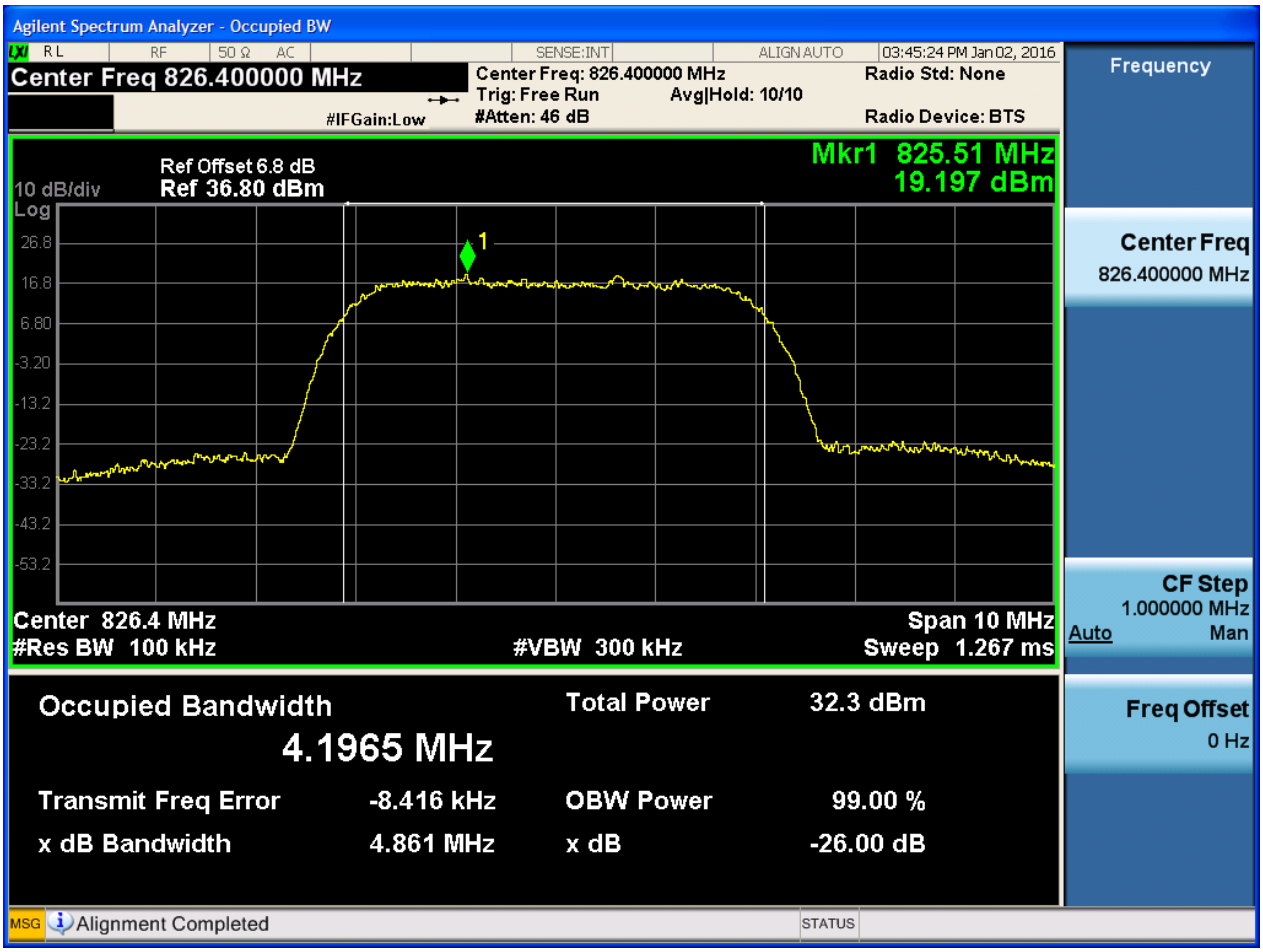
4.2.2.1.3 Test Channel = HCH



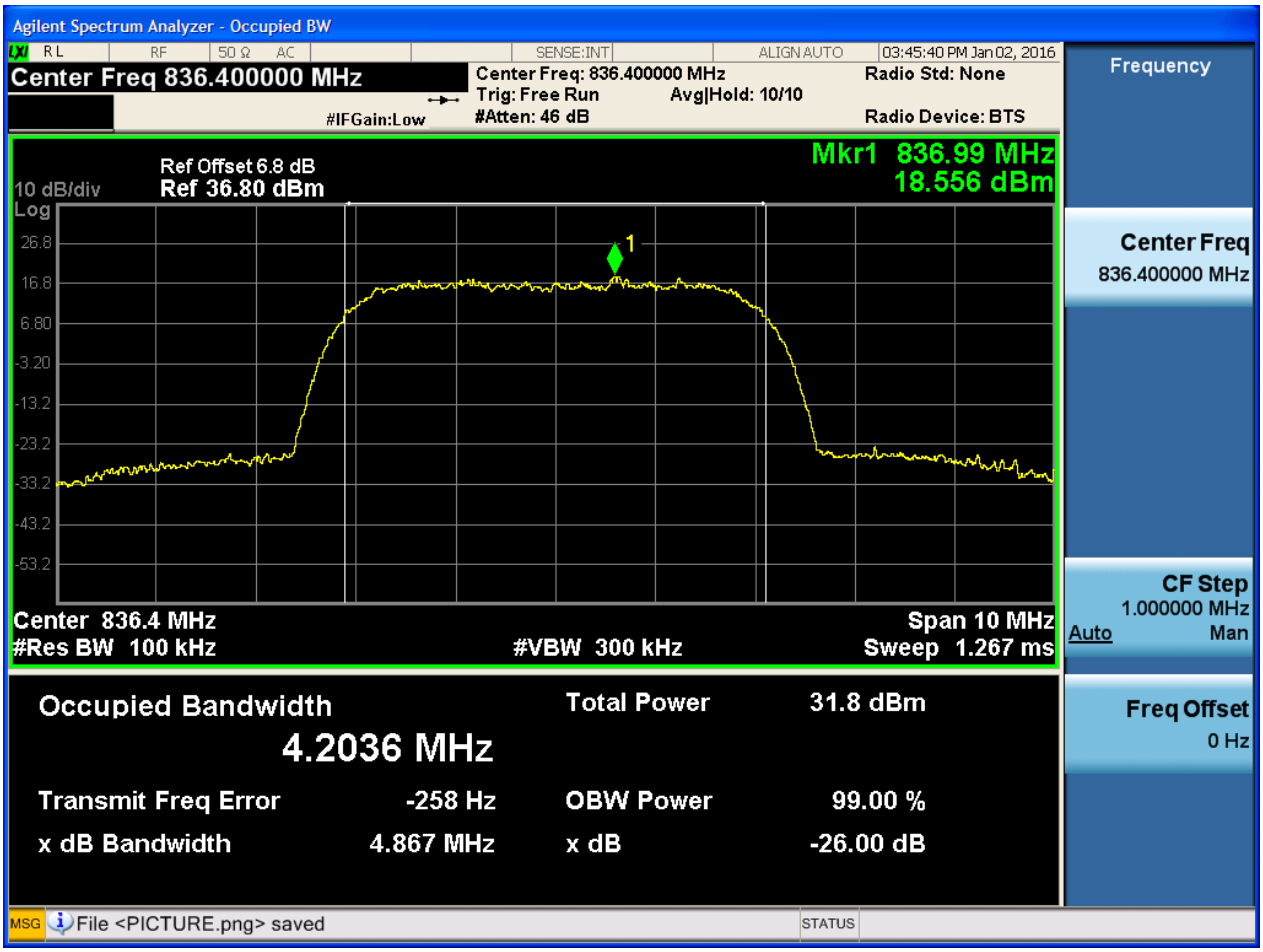
4.2.3 Test Band = WCDMA850

4.2.3.1 Test Mode = UMTS/TM1

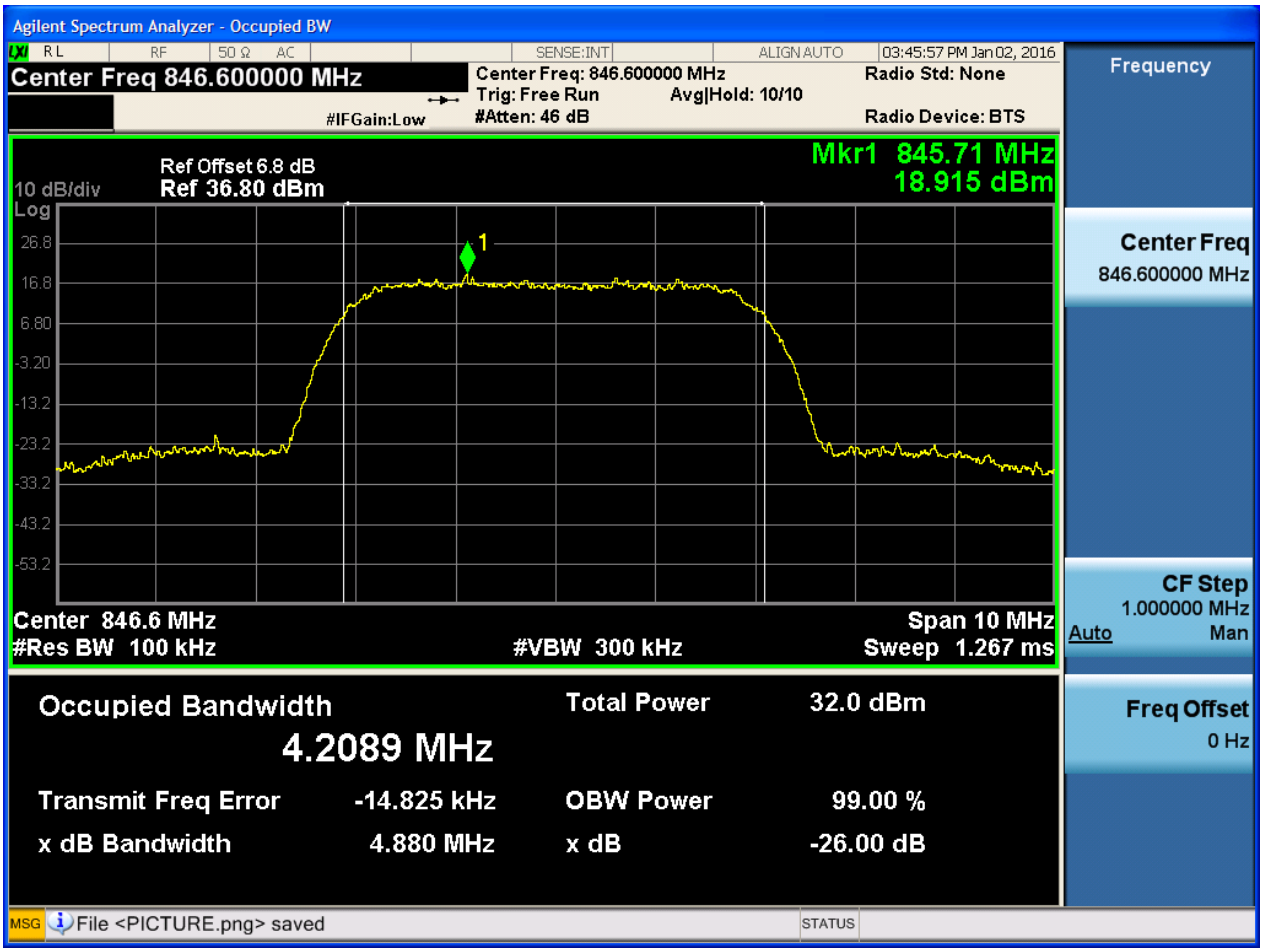
4.2.3.1.1 Test Channel = LCH



4.2.3.1.2 Test Channel = MCH



4.2.3.1.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

Part I - Test Plots

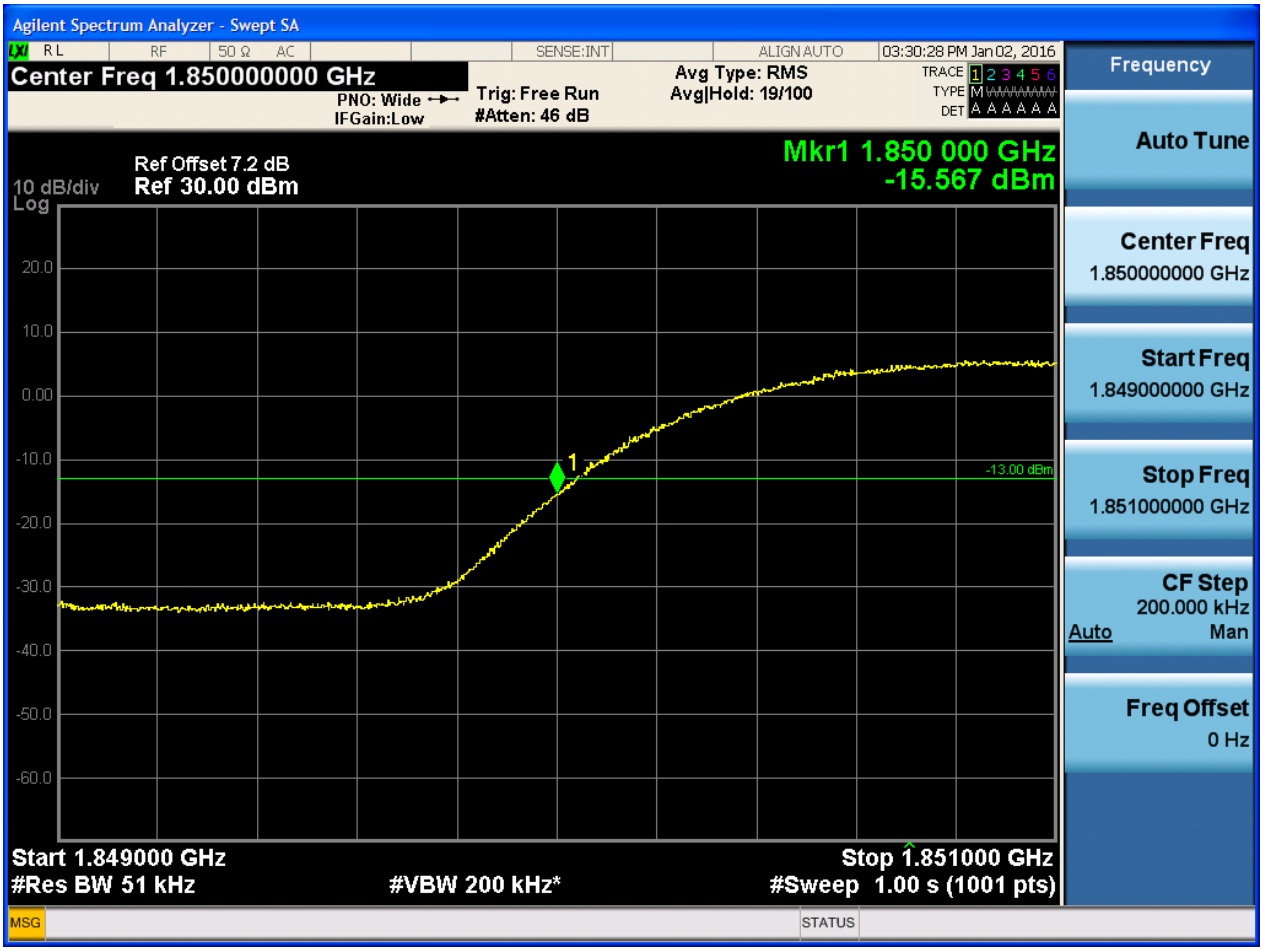
5.1 For UMTS

5.2 For UMTS

5.2.1 Test Band = WCDMA1900

5.2.1.1 Test Mode = UMTS/TM1

5.2.1.1.1 Test Channel = LCH

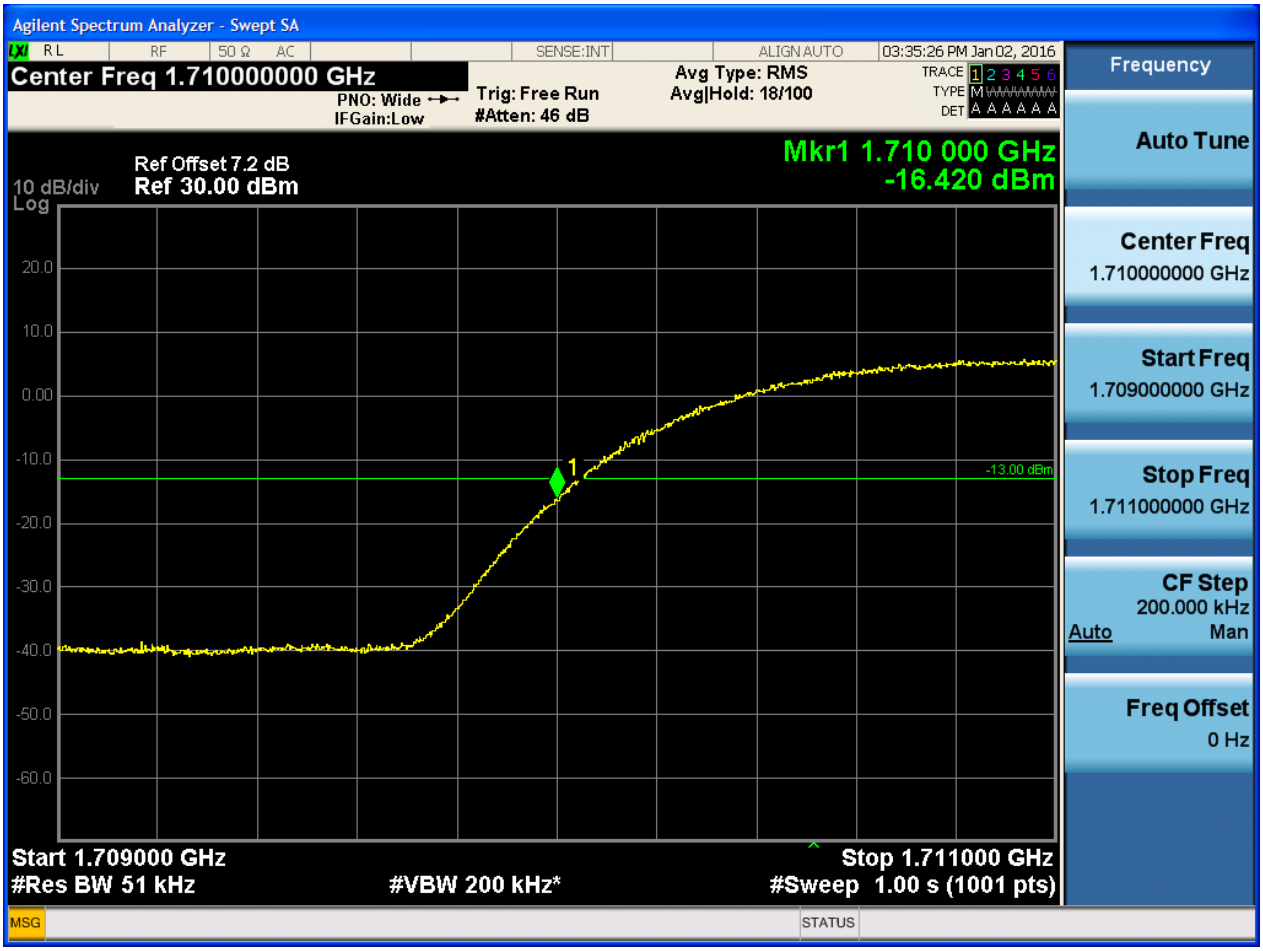


5.2.1.1.2 Test Channel = HCH

5.2.2 Test Band = WCDMA1700

5.2.2.1 Test Mode = UMTS/TM1

5.2.2.1.1 Test Channel = LCH

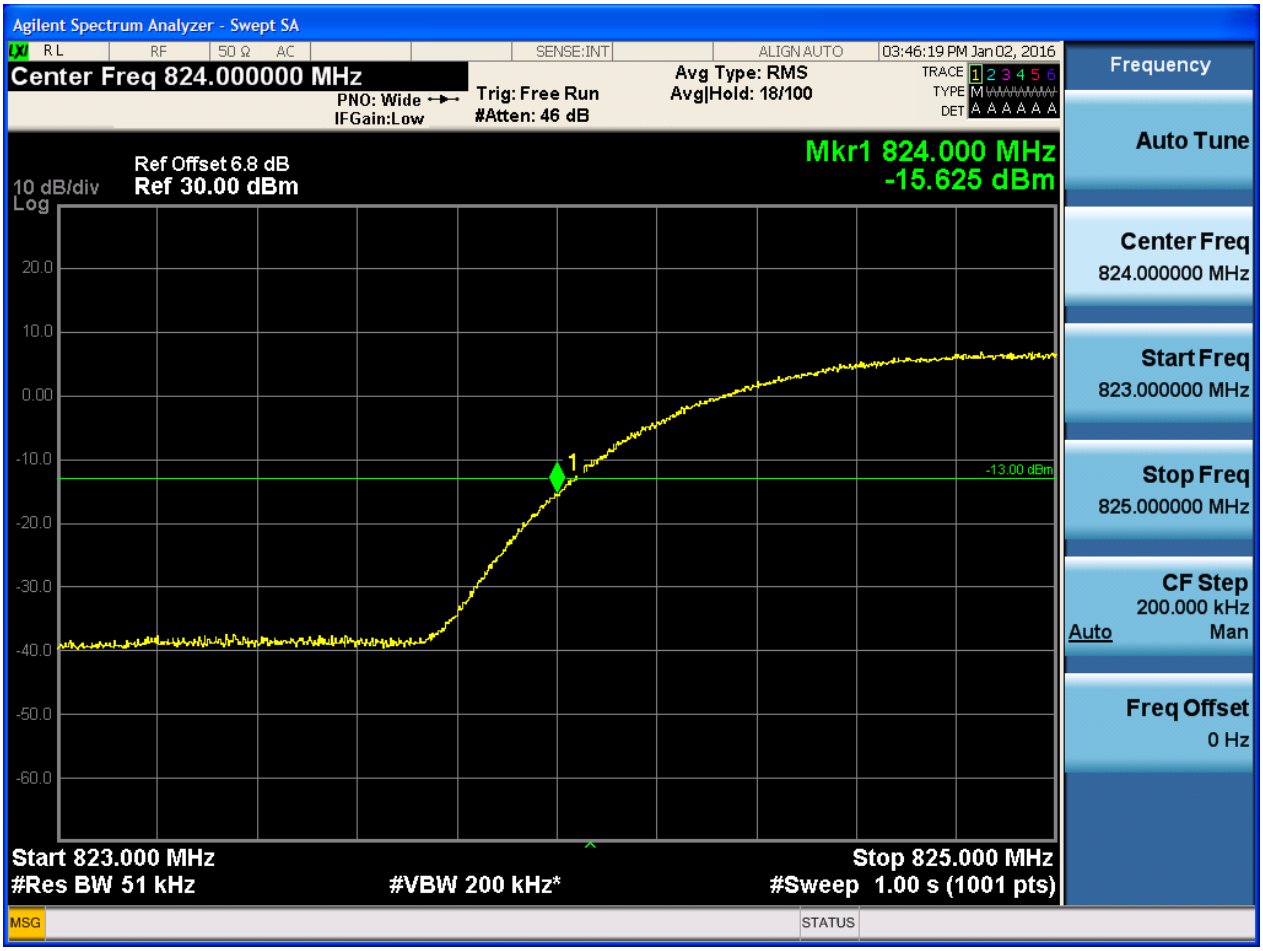


5.2.2.1.2 Test Channel = HCH

5.2.3 Test Band = WCDMA850

5.2.3.1 Test Mode = UMTS/TM1

5.2.3.1.1 Test Channel = LCH



5.2.3.1.2 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.

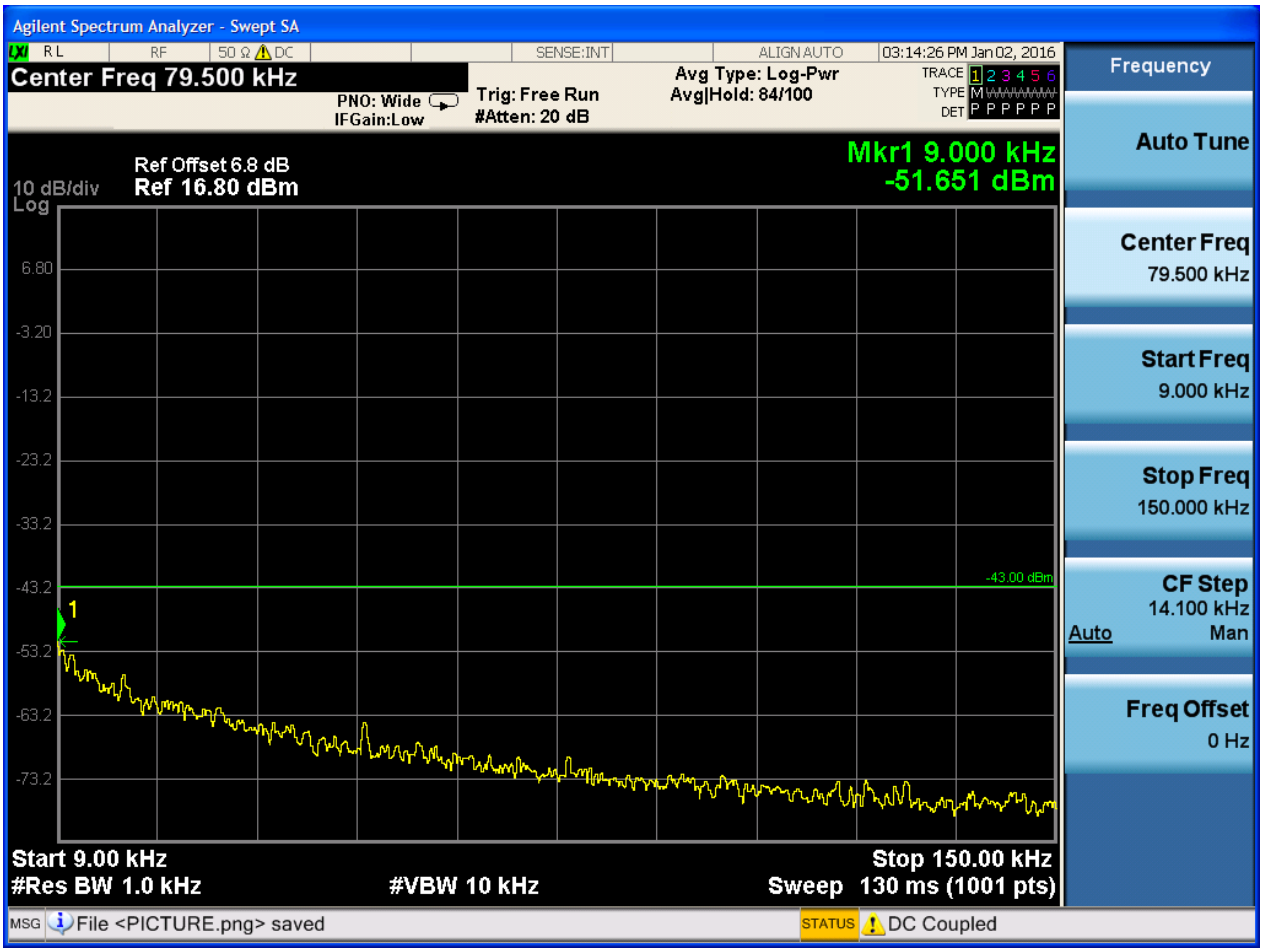
Part I - Test Plots

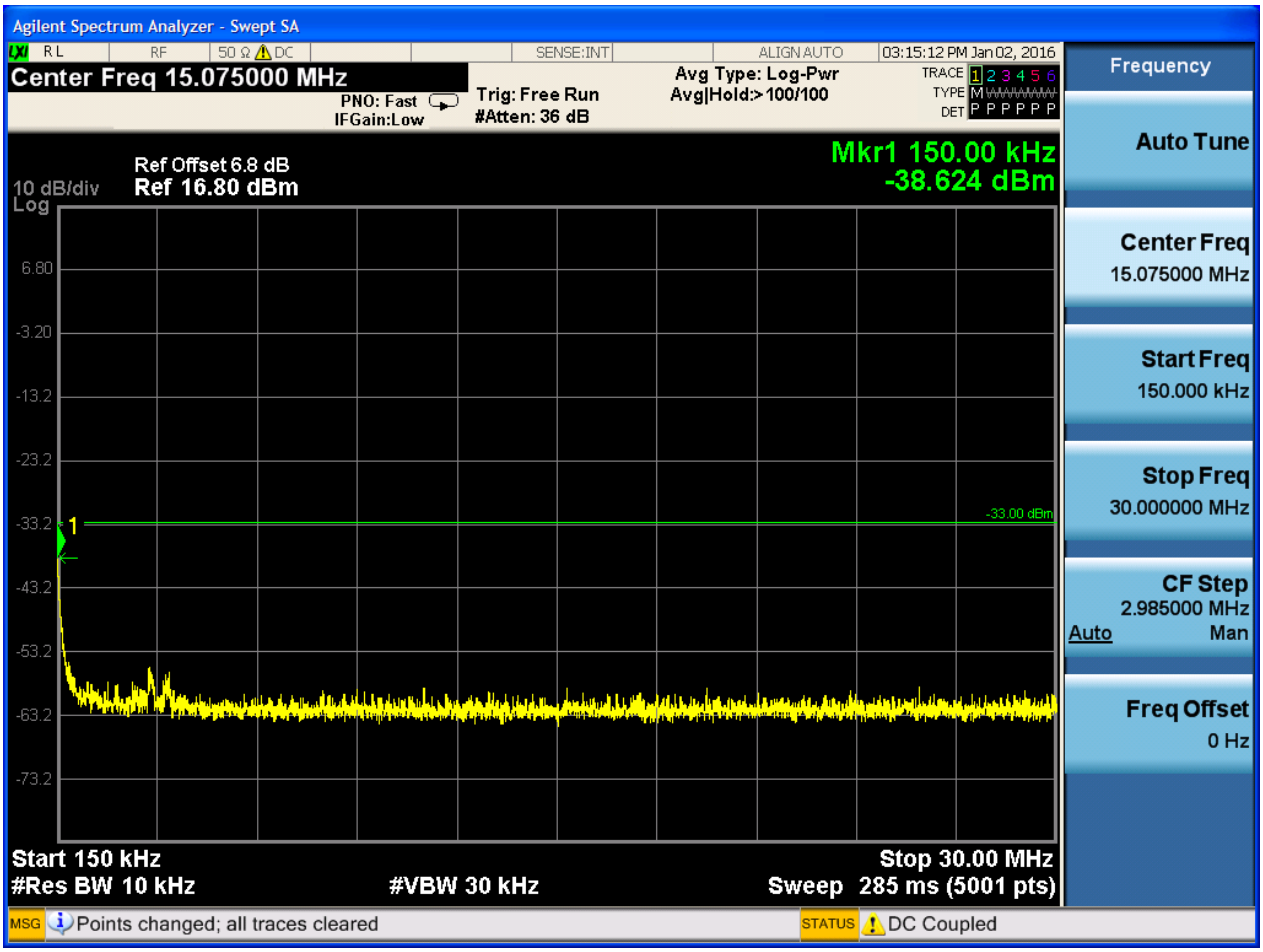
6.1 For UMTS

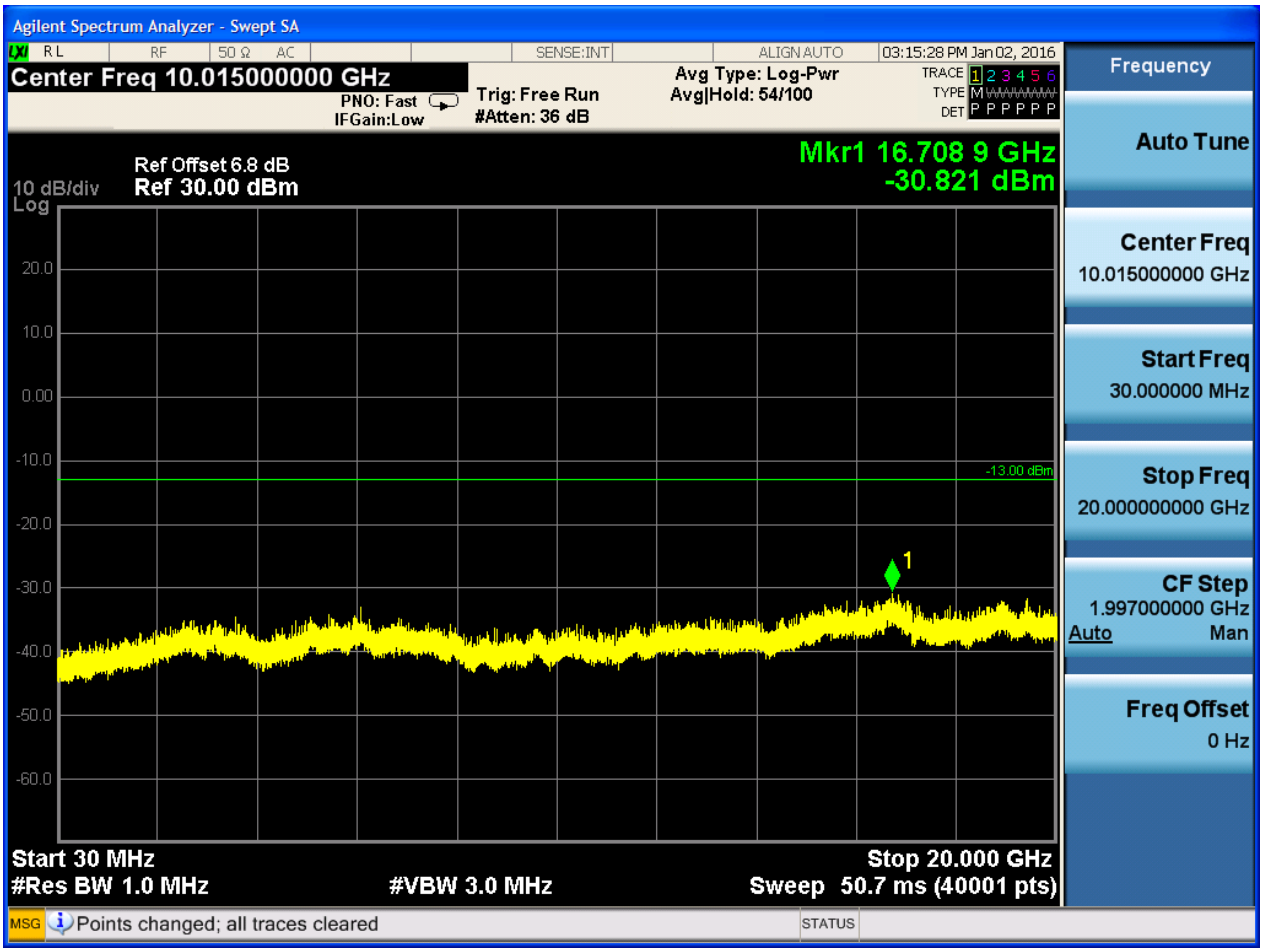
6.1.1 Test Band = WCDMA1900

6.1.1.1 Test Mode = UMTS/TM1

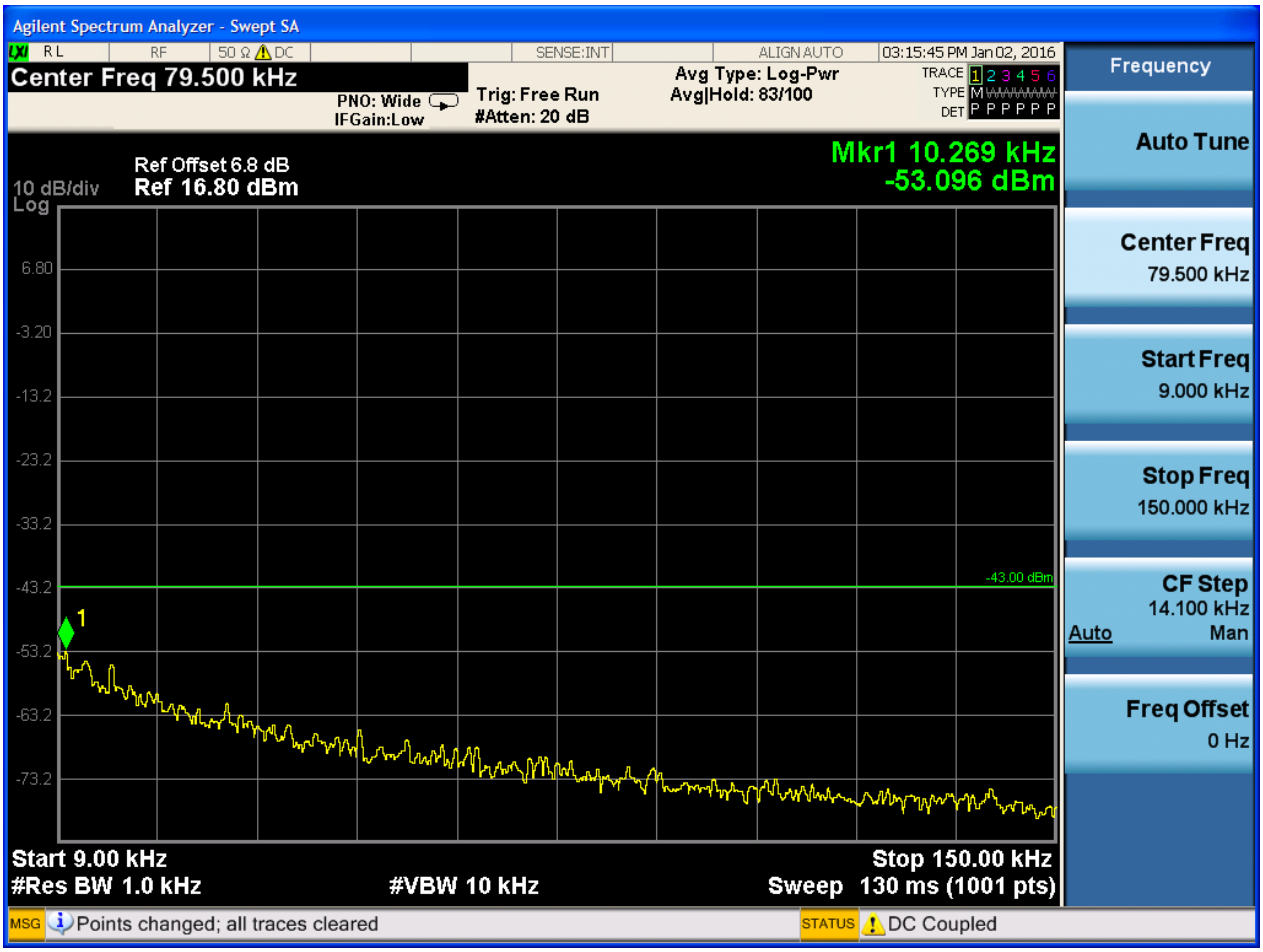
6.1.1.1.1 Test Channel = LCH

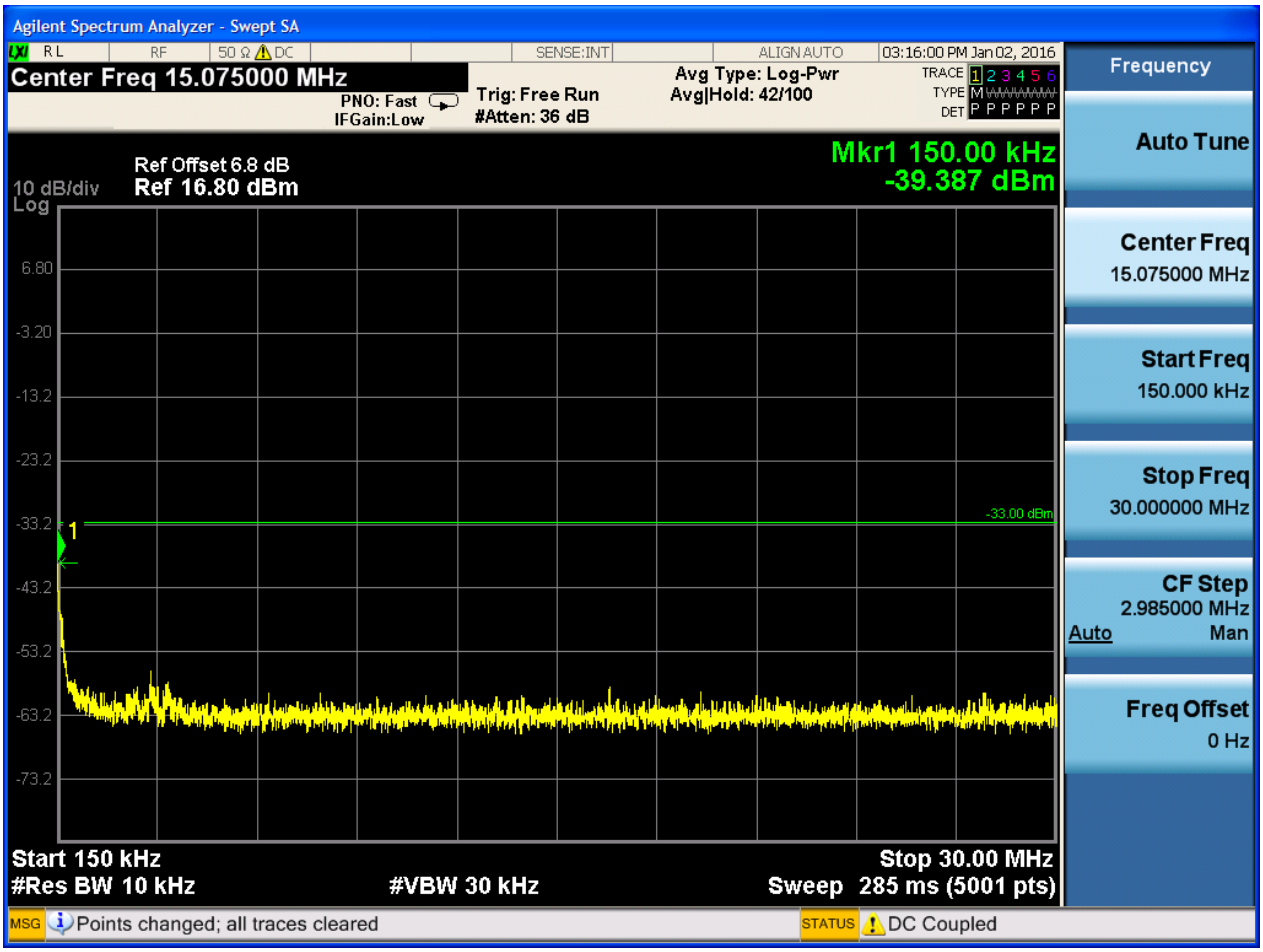


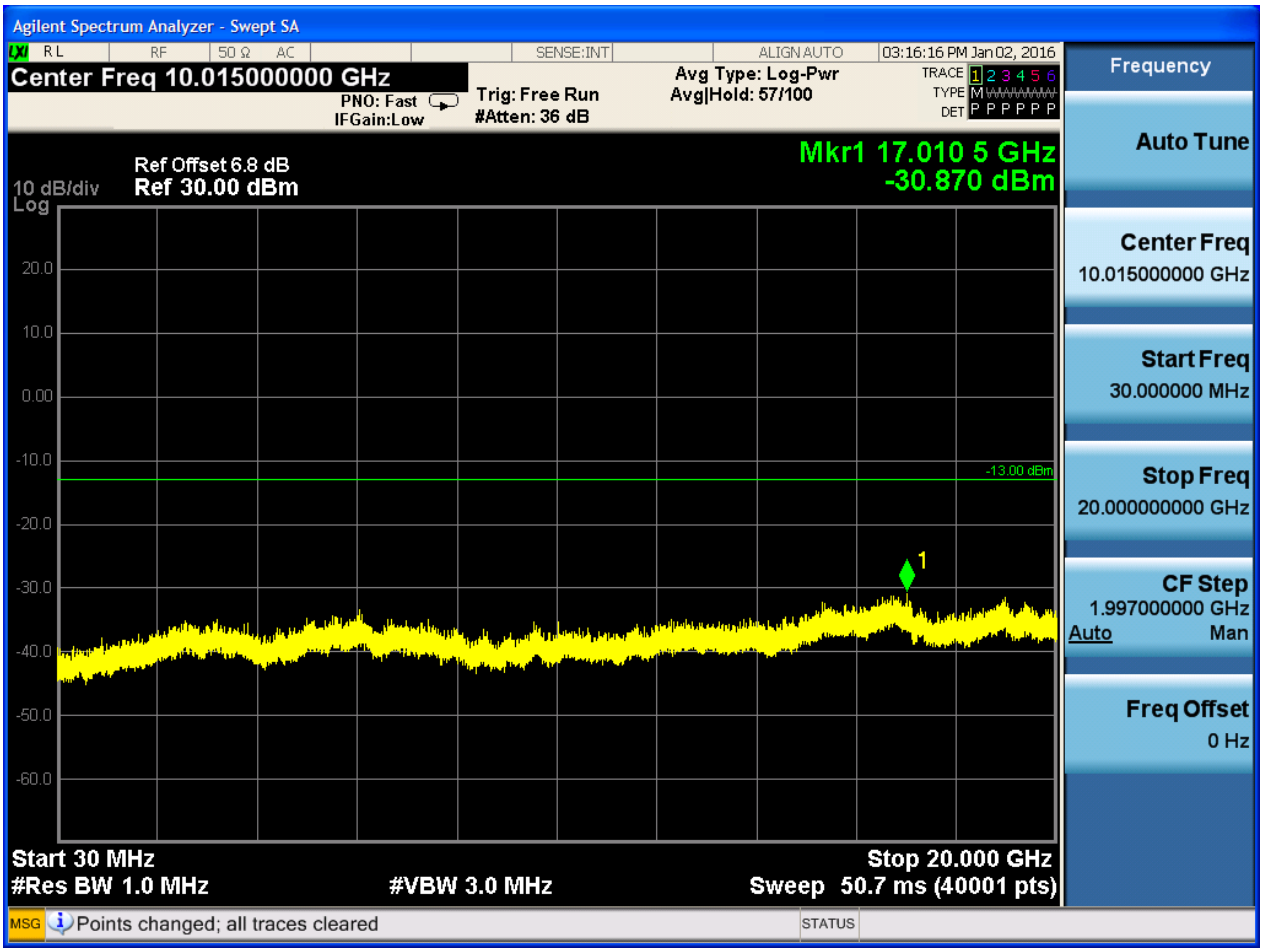




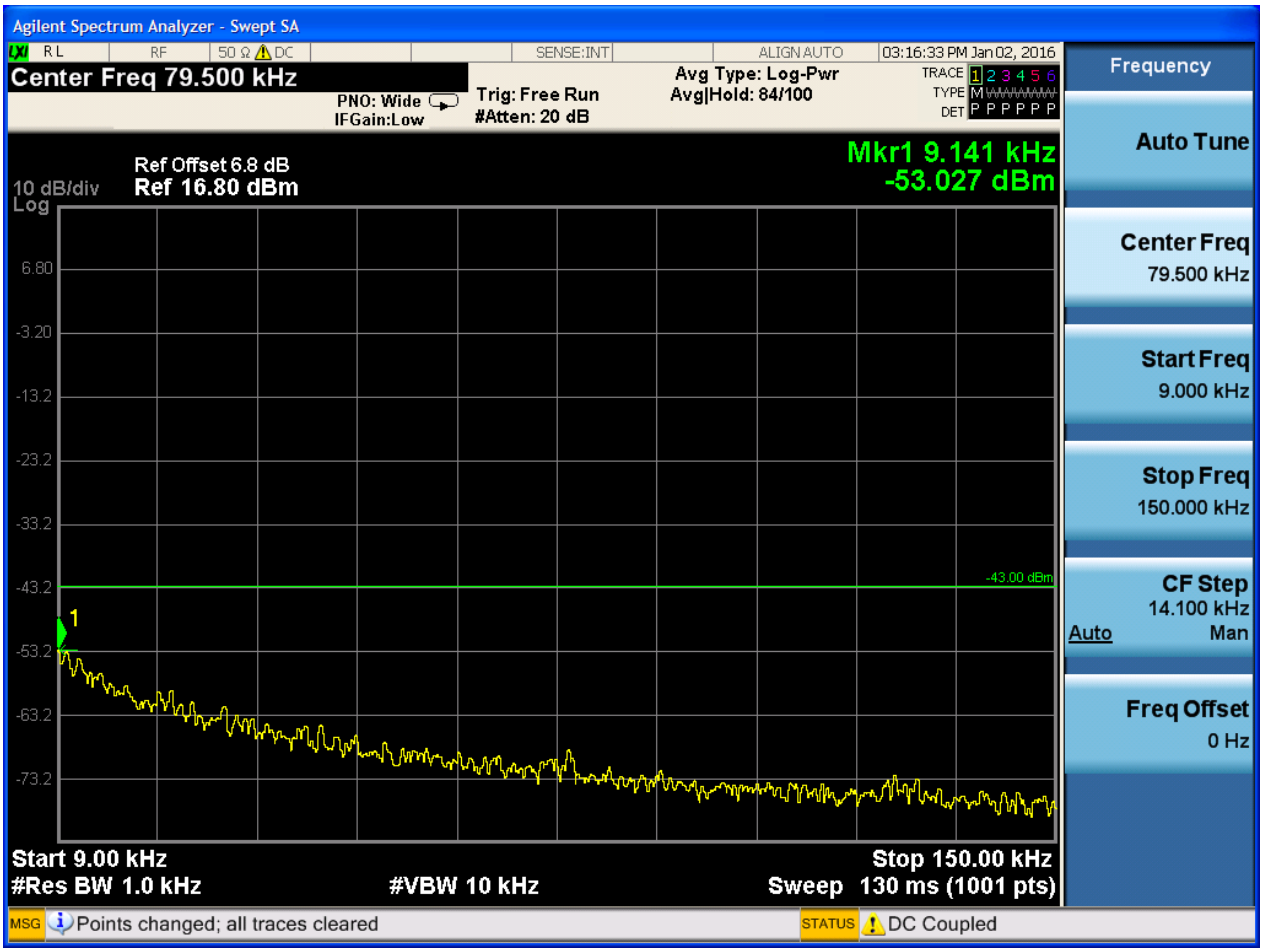
6.1.1.1.2 Test Channel = MCH

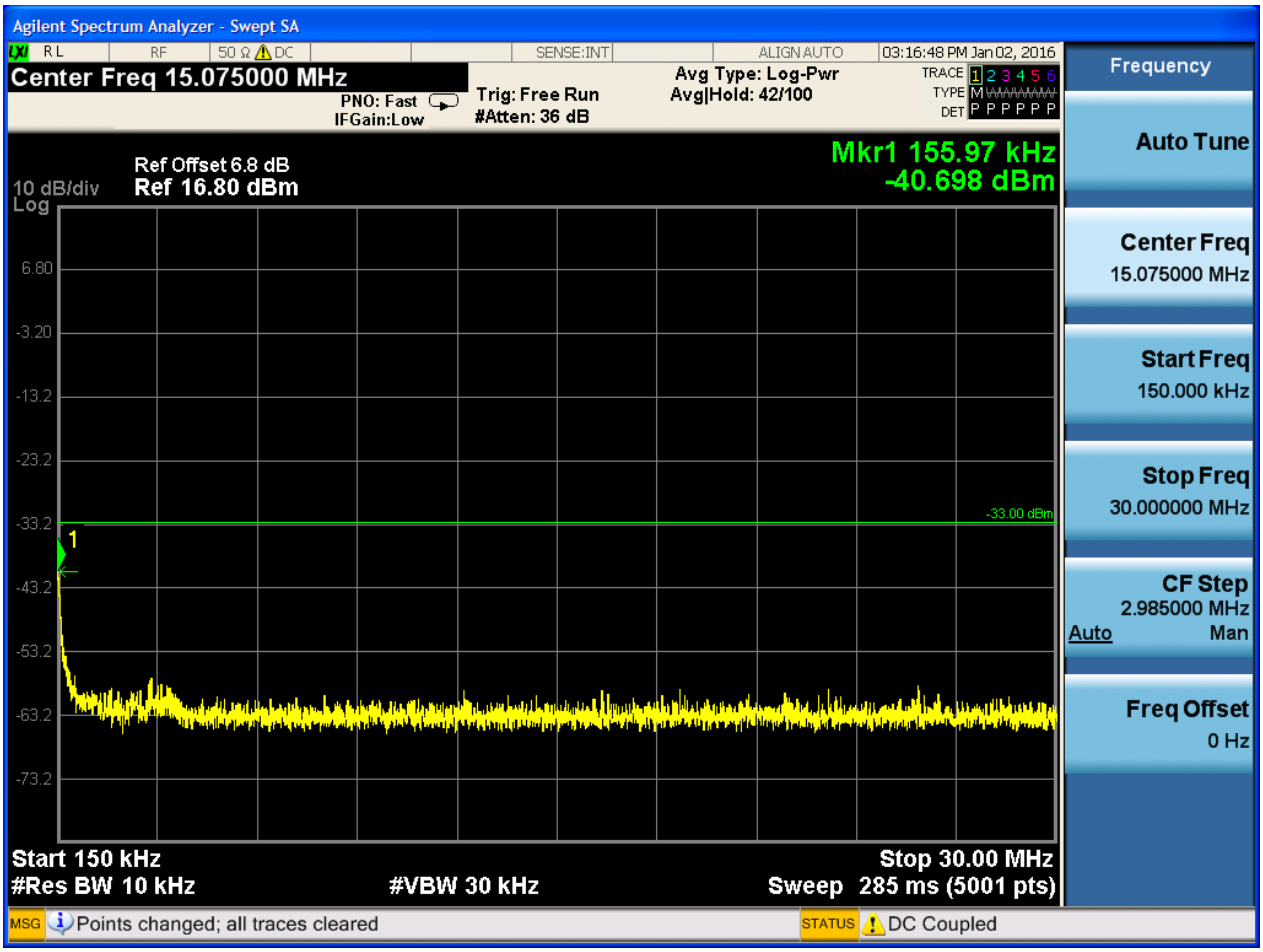


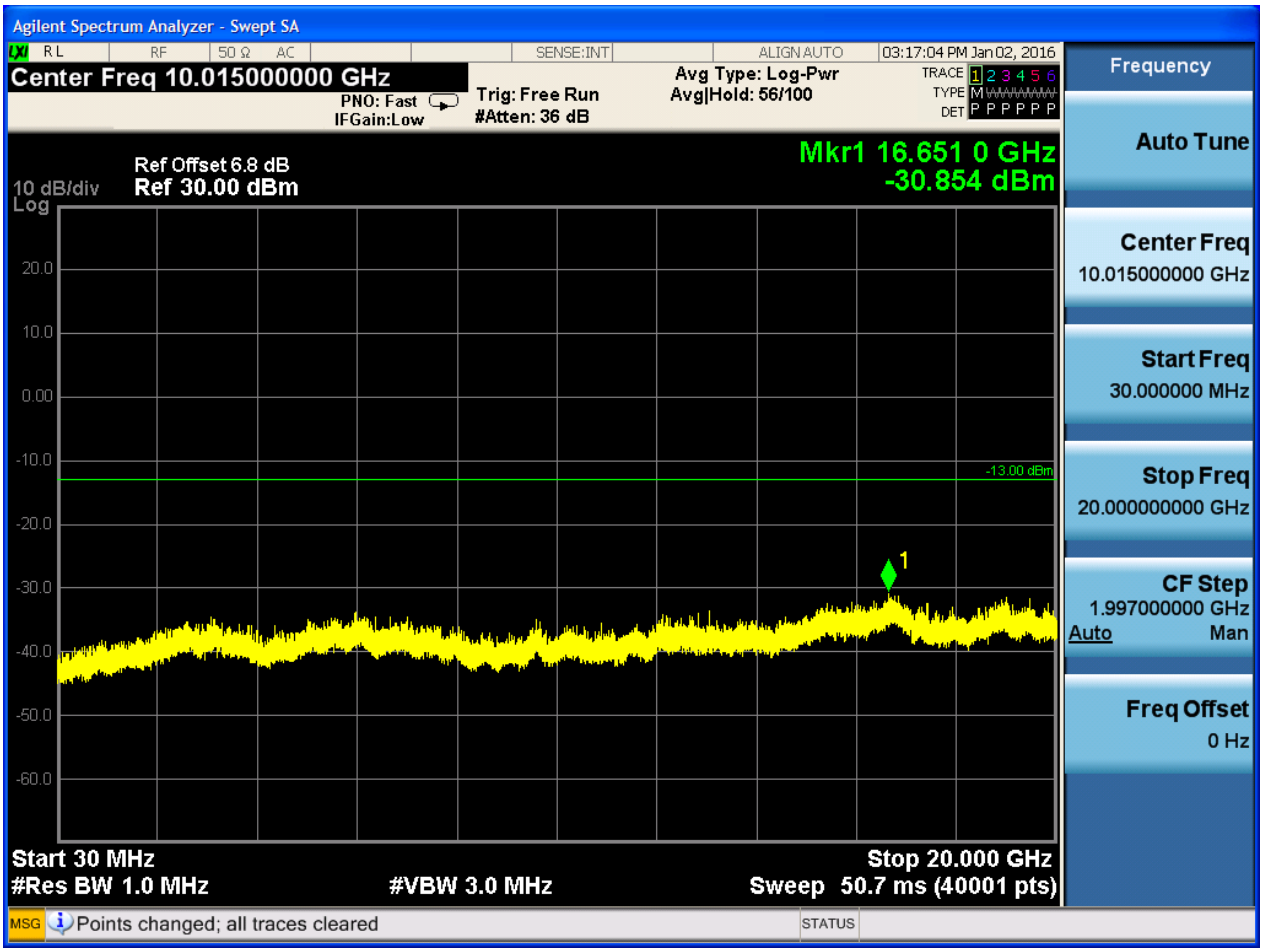




6.1.1.1.3 Test Channel = HCH





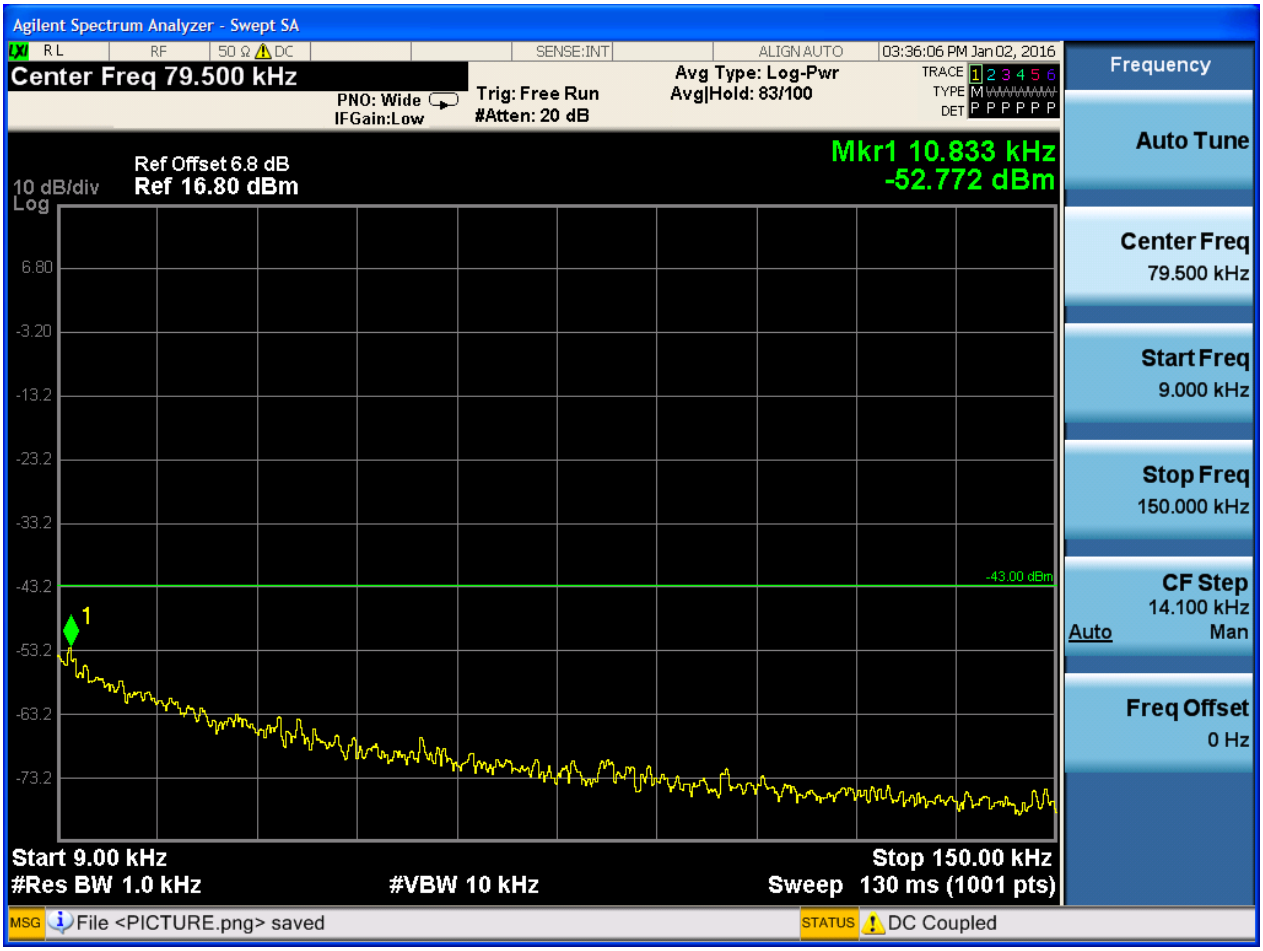


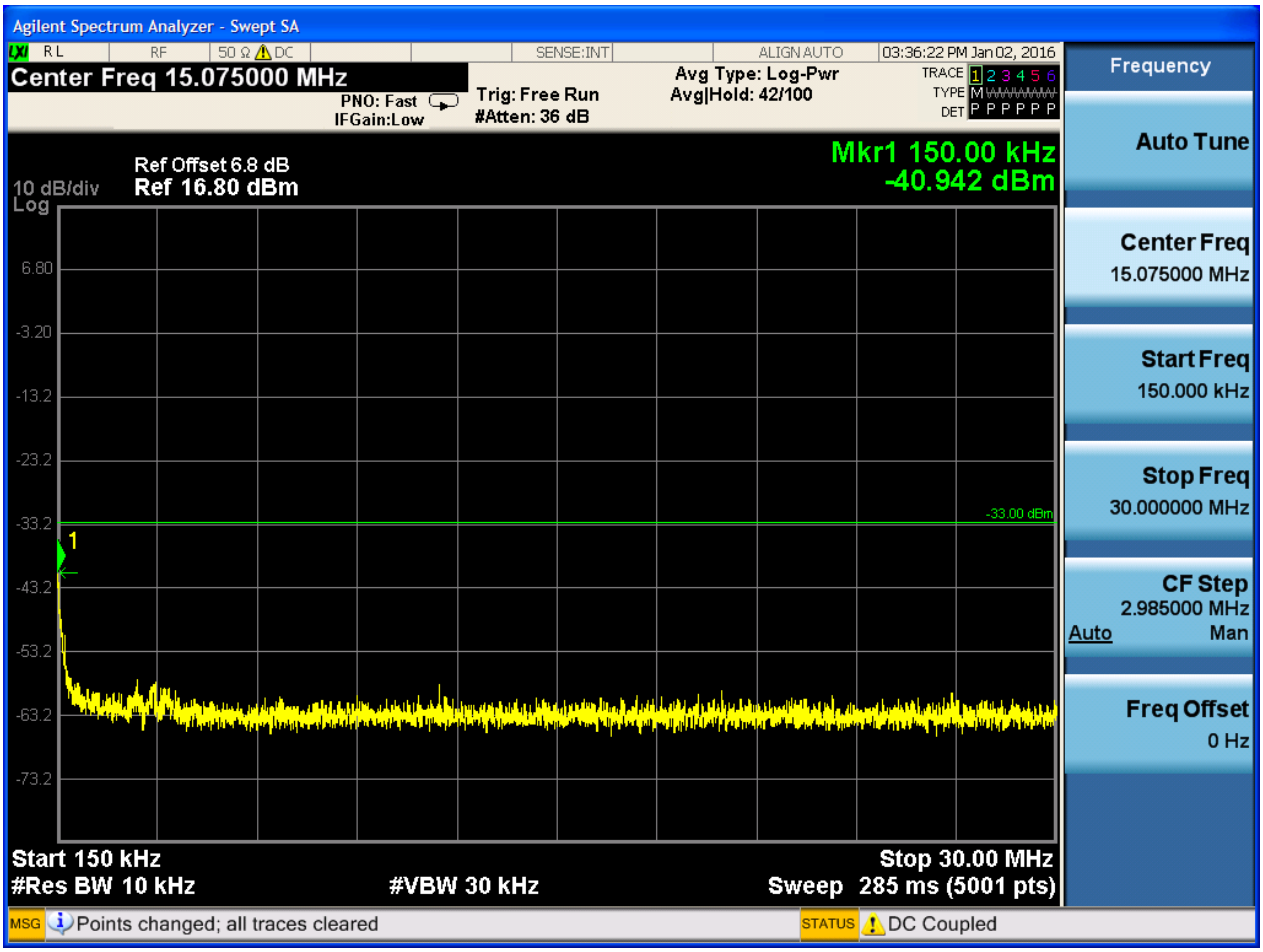
6.2 For UMTS

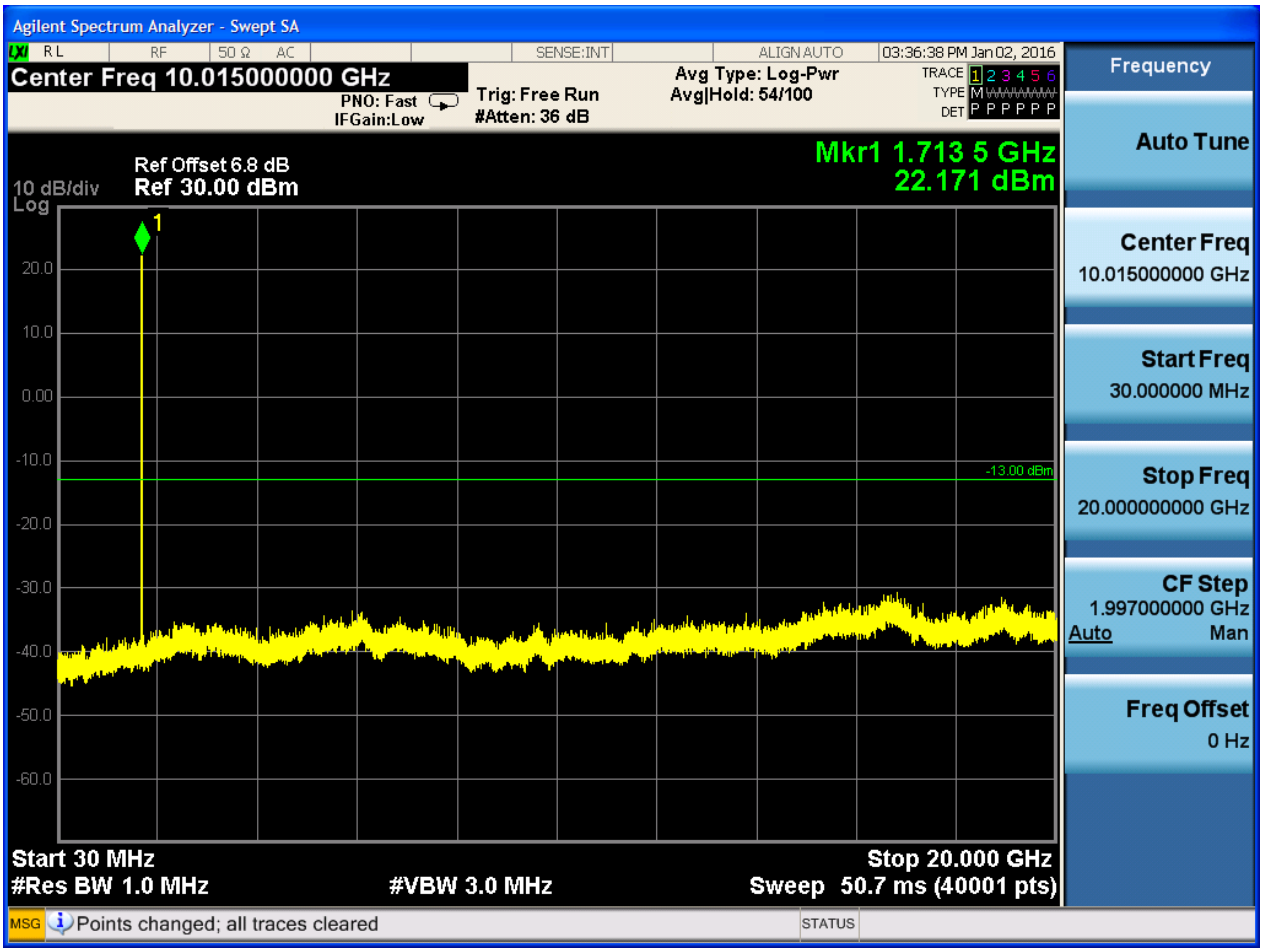
6.2.1 Test Band = WCDMA1700

6.2.1.1 Test Mode = UMTS/TM1

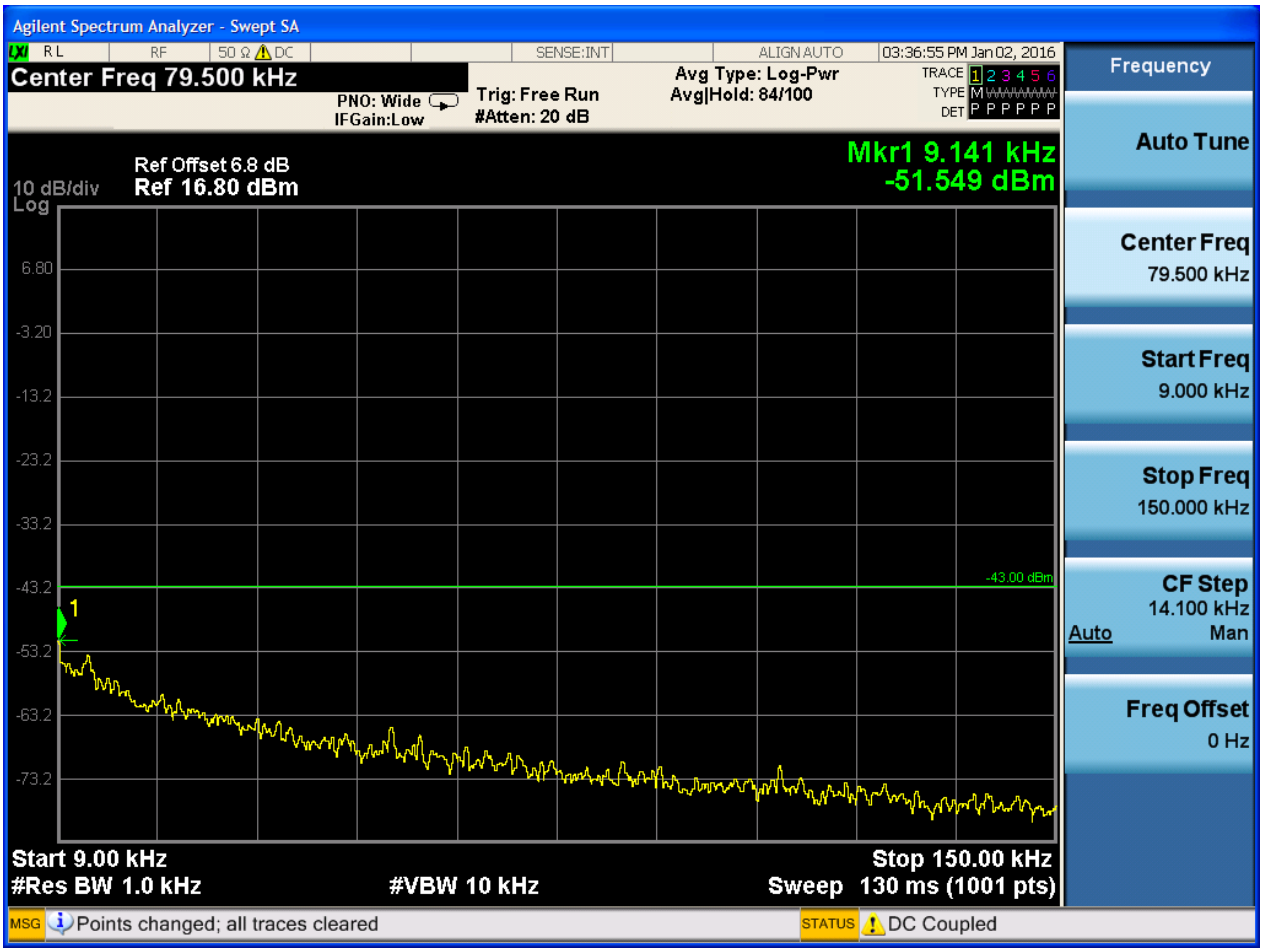
6.2.1.1.1 Test Channel = LCH

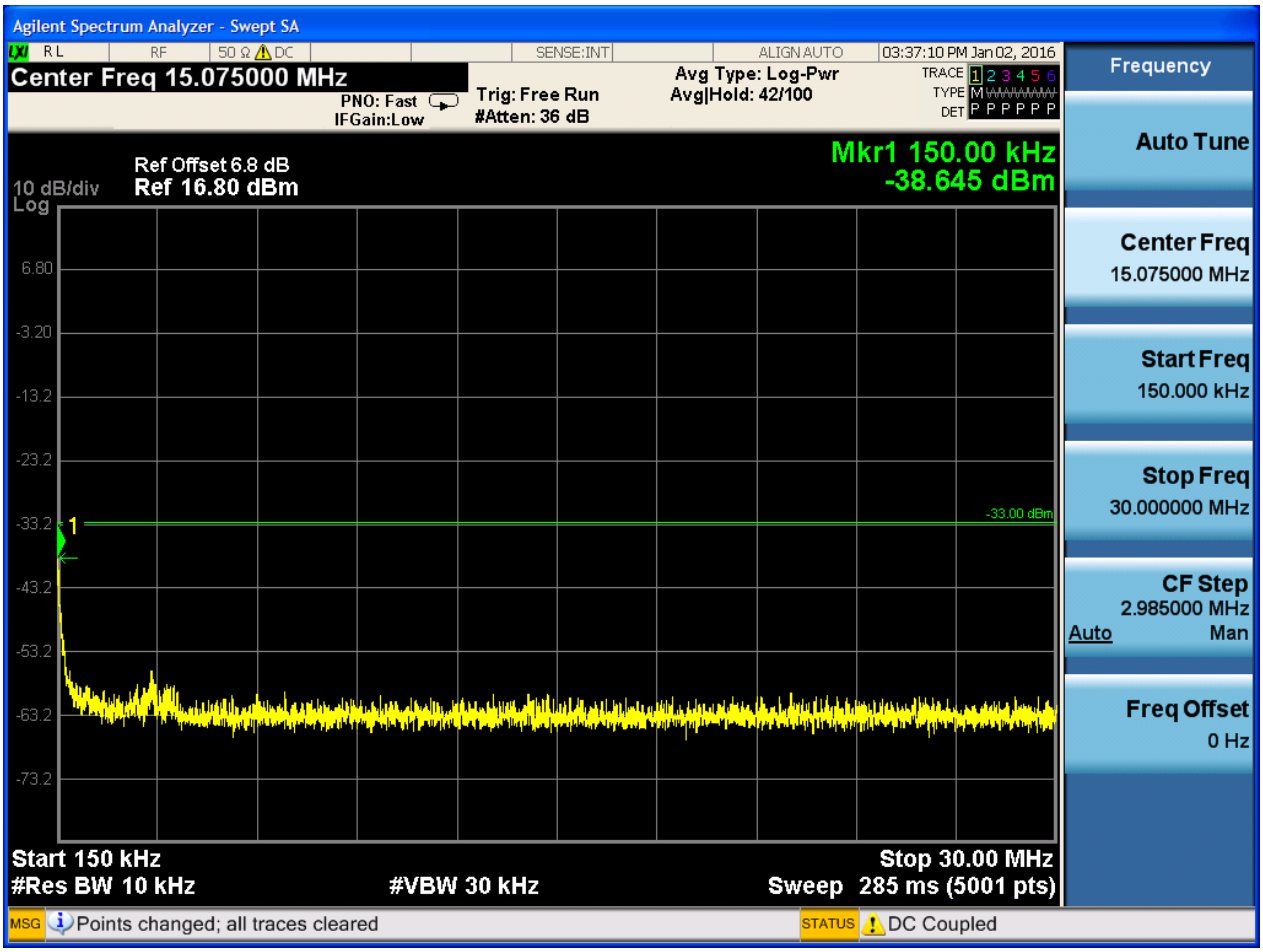


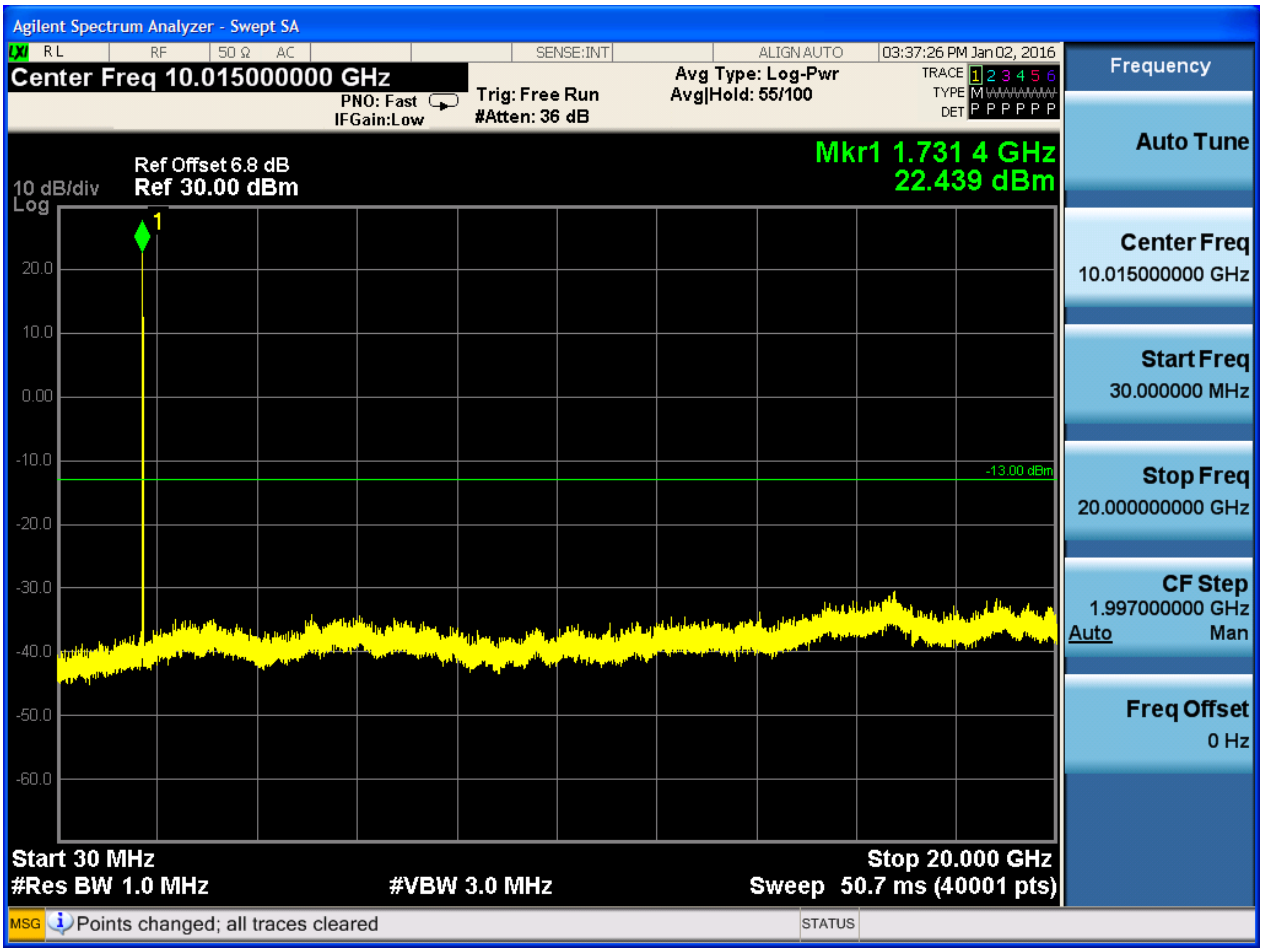




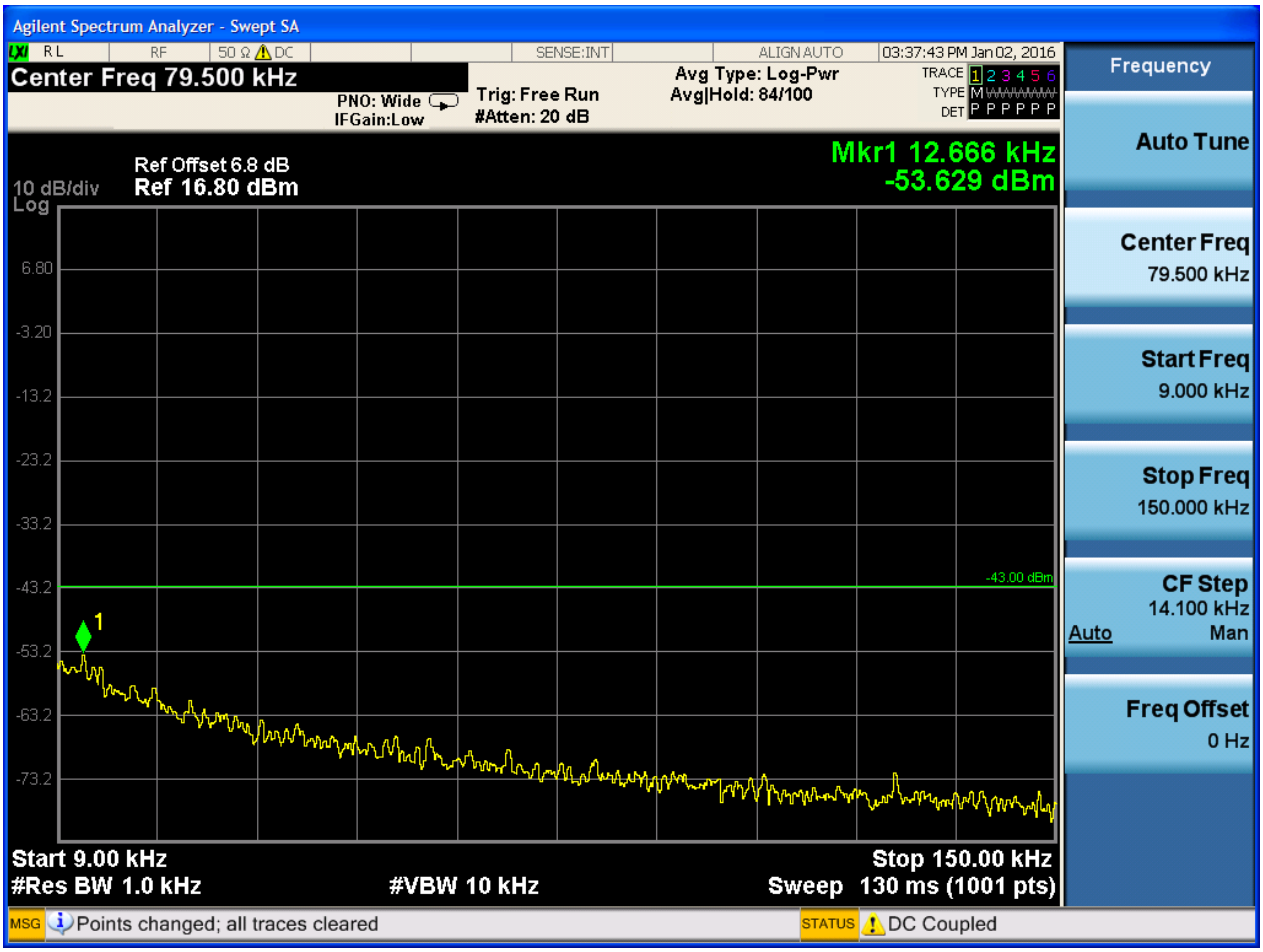
6.2.1.1.2 Test Channel = MCH

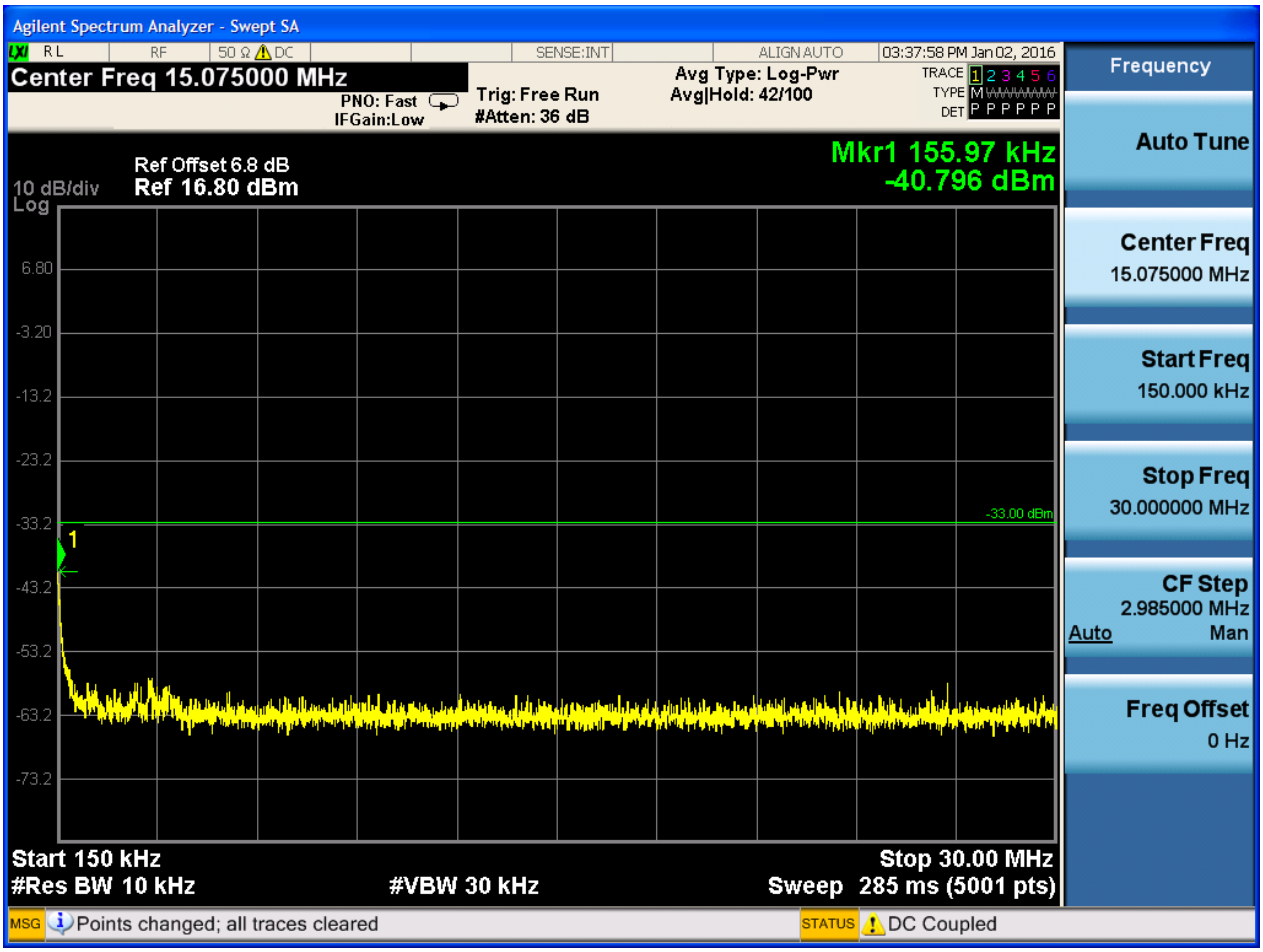


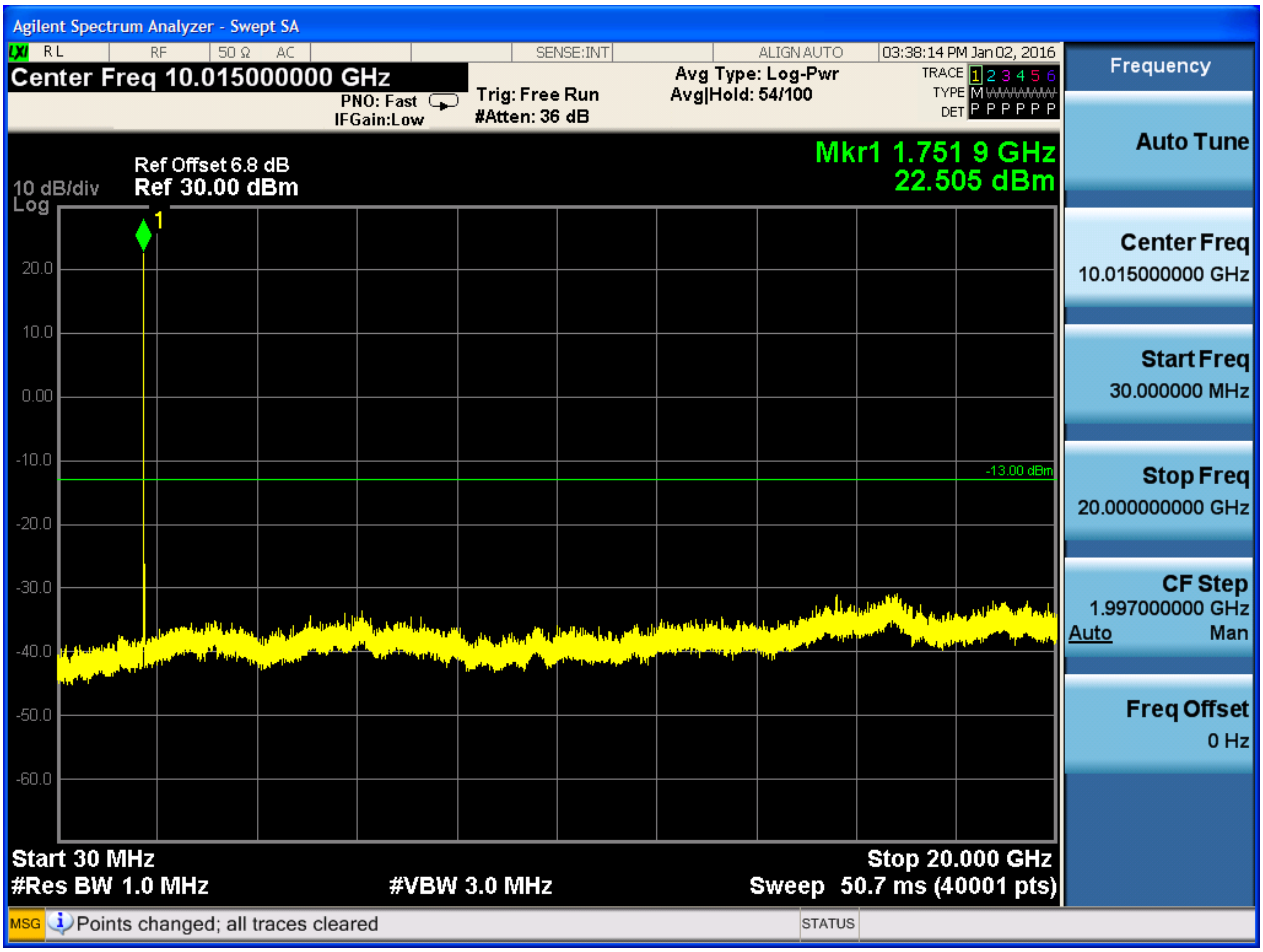




6.2.1.1.3 Test Channel = HCH



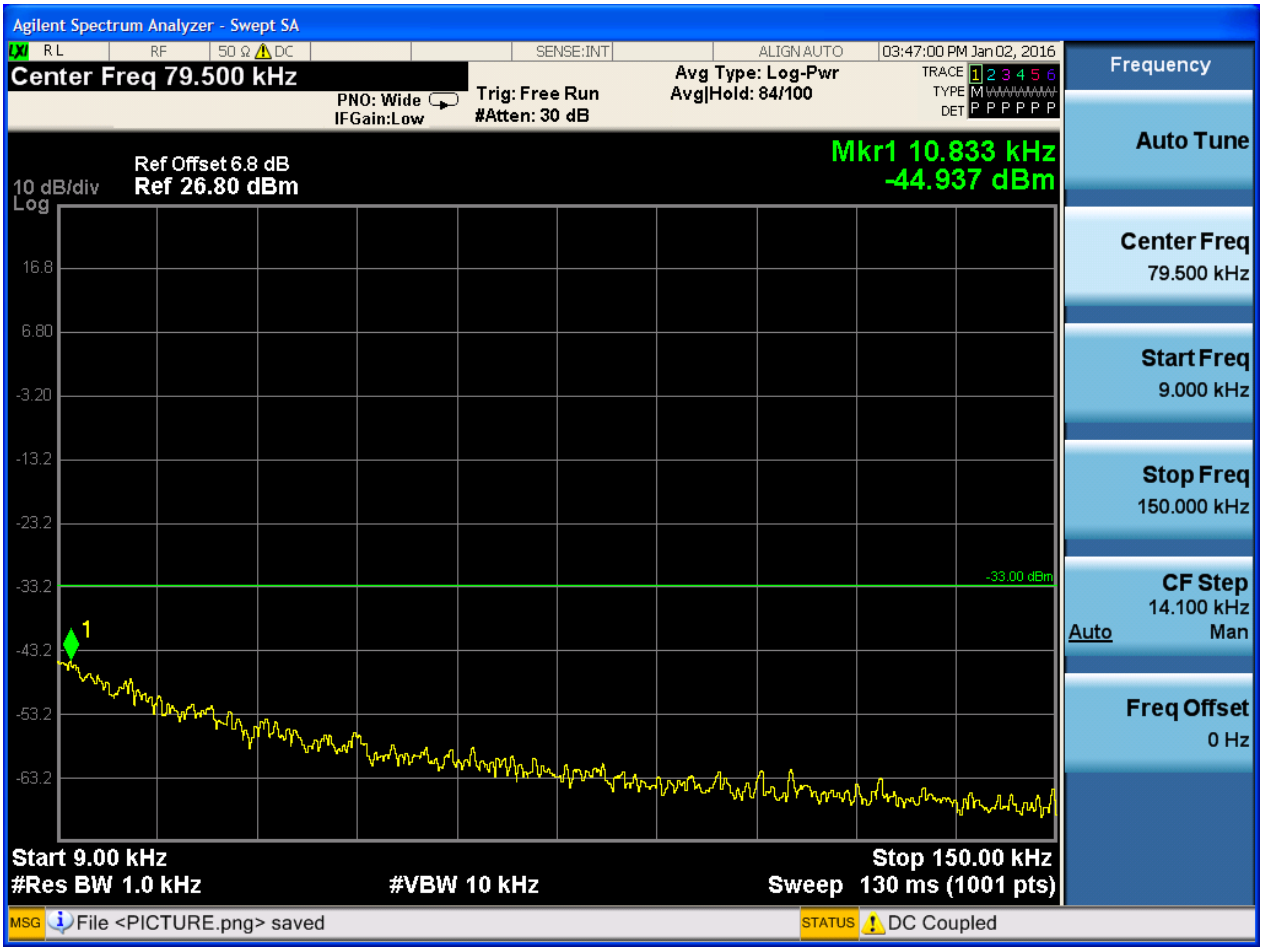


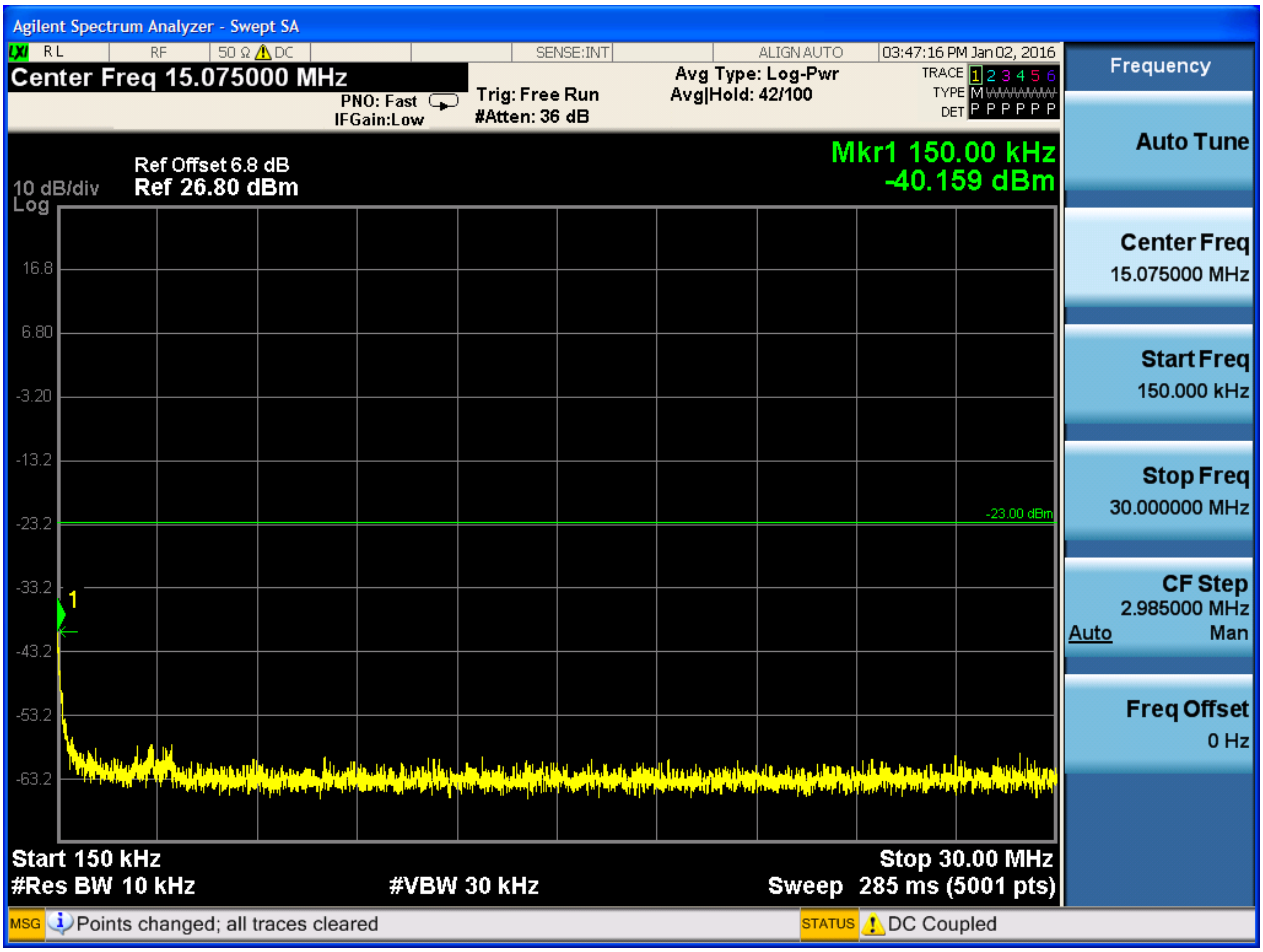


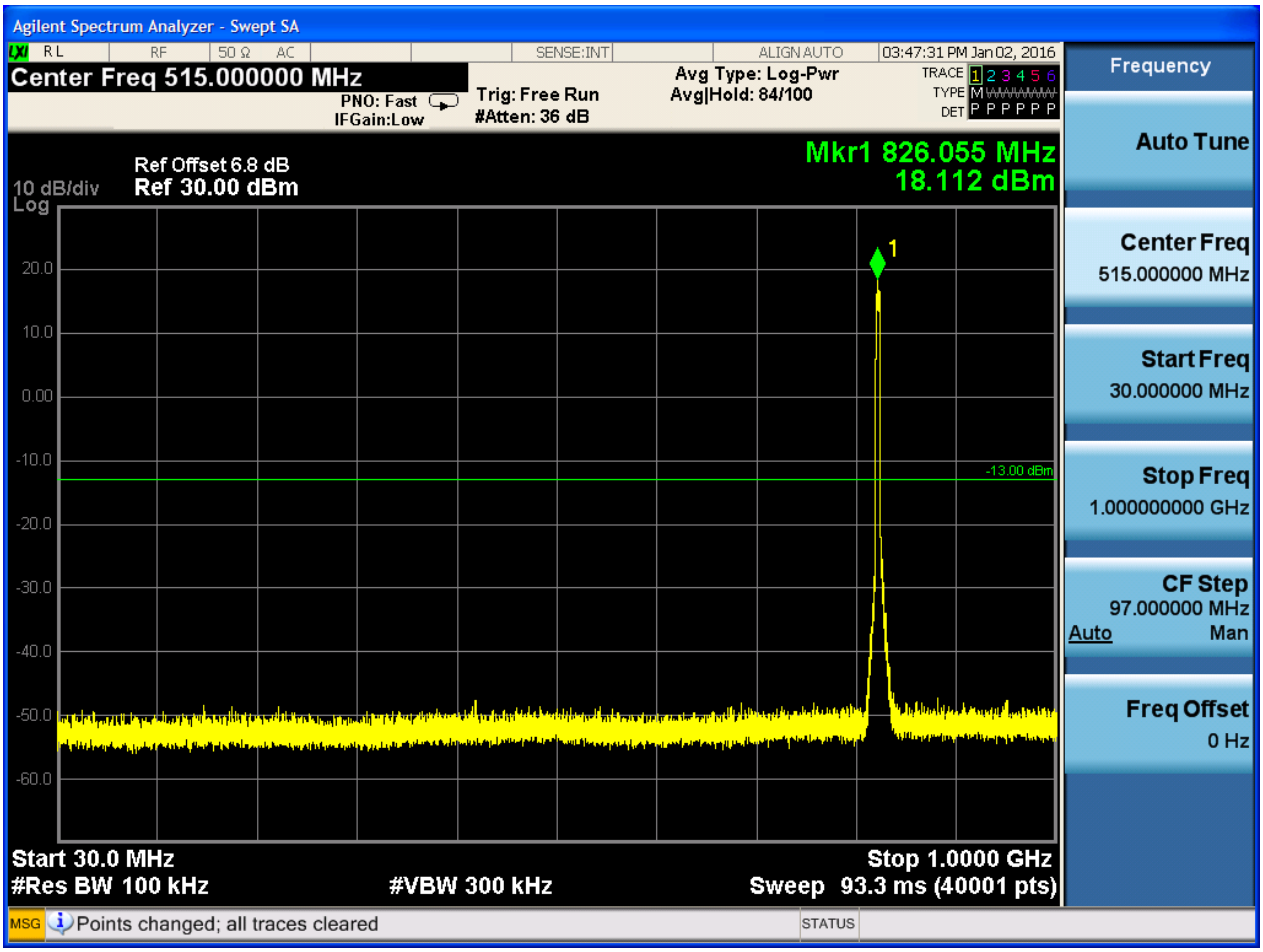
6.2.2 Test Band = WCDMA850

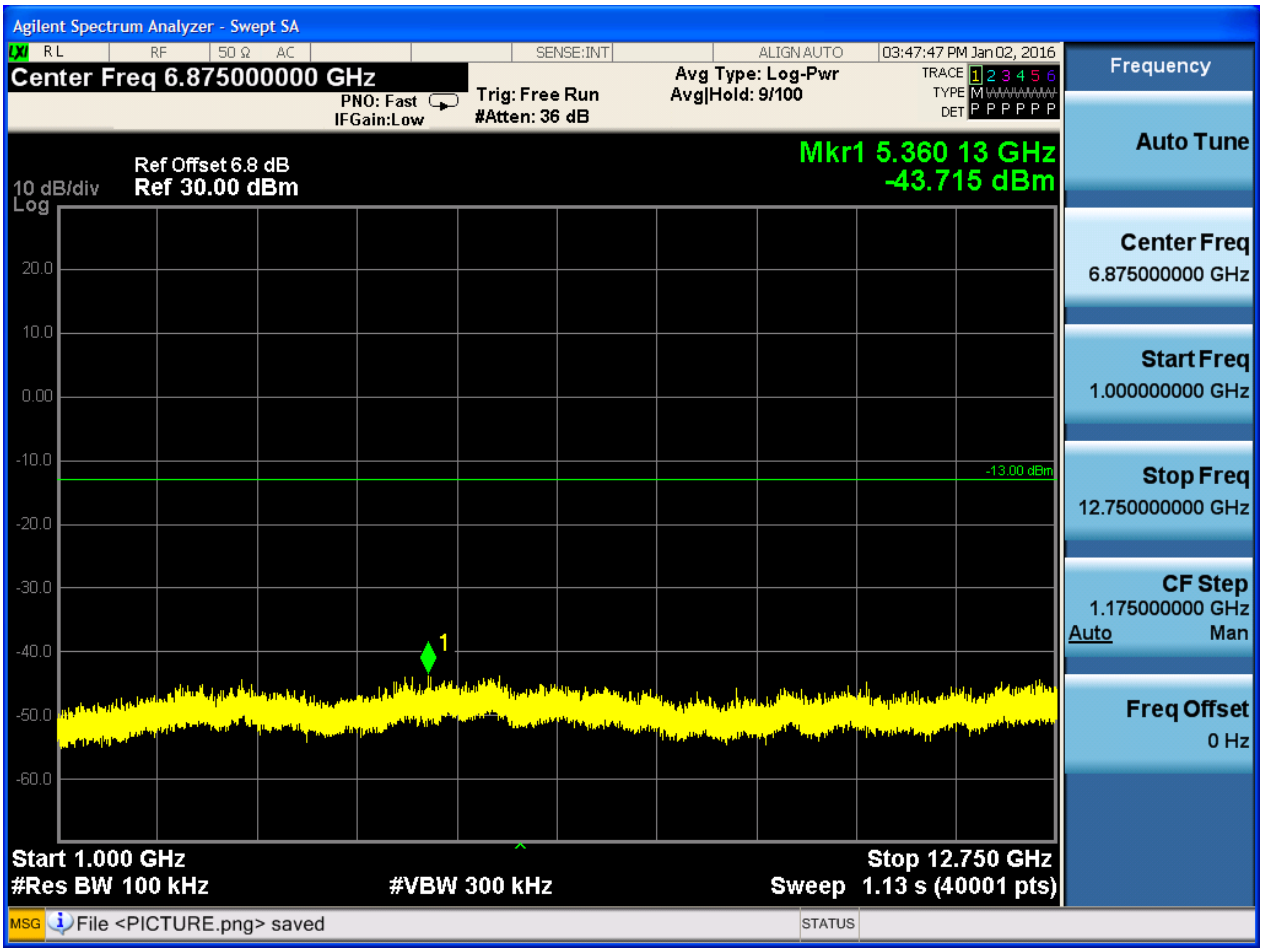
6.2.2.1 Test Mode = UMTS/TM1

6.2.2.1.1 Test Channel = LCH

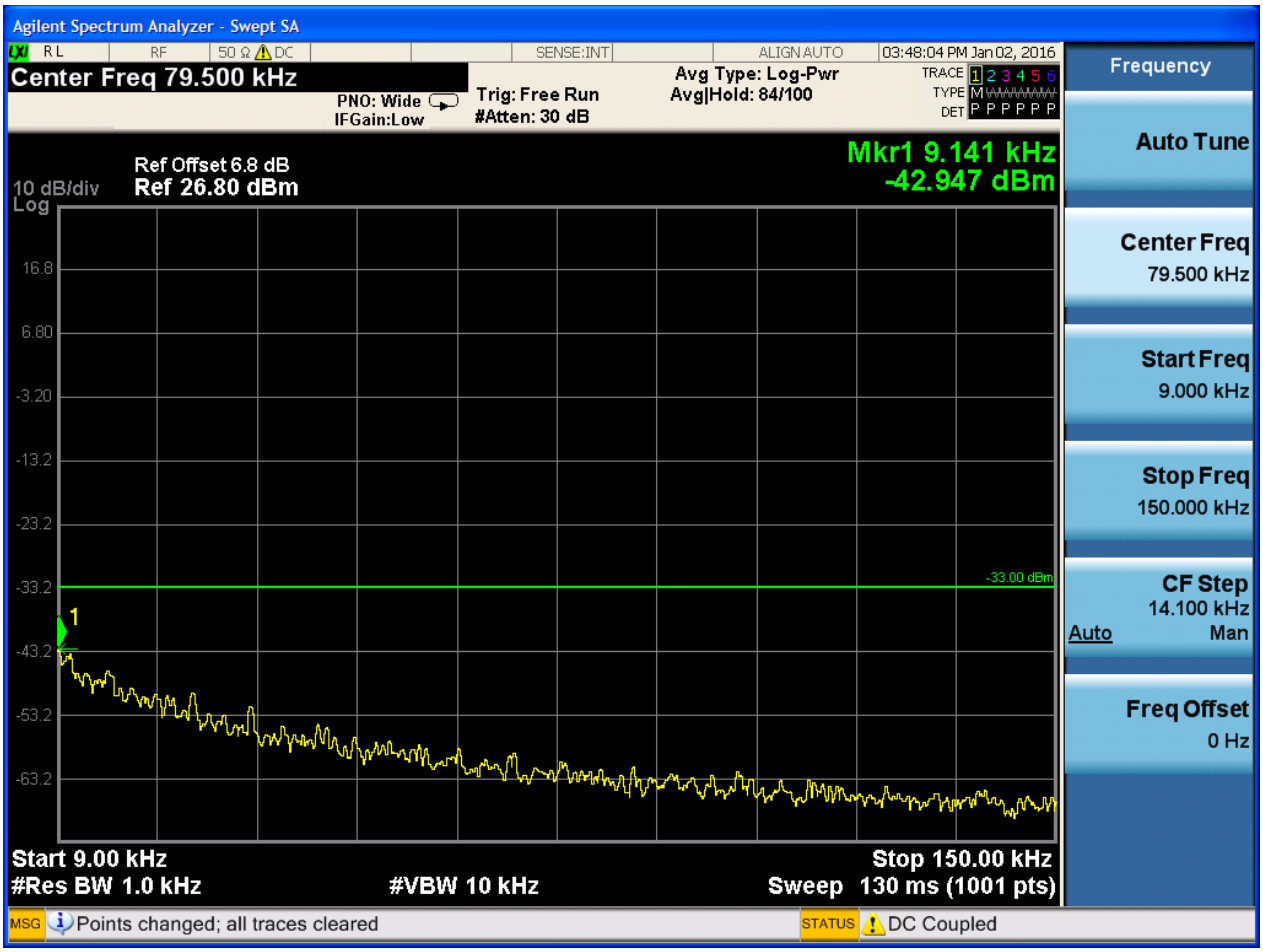


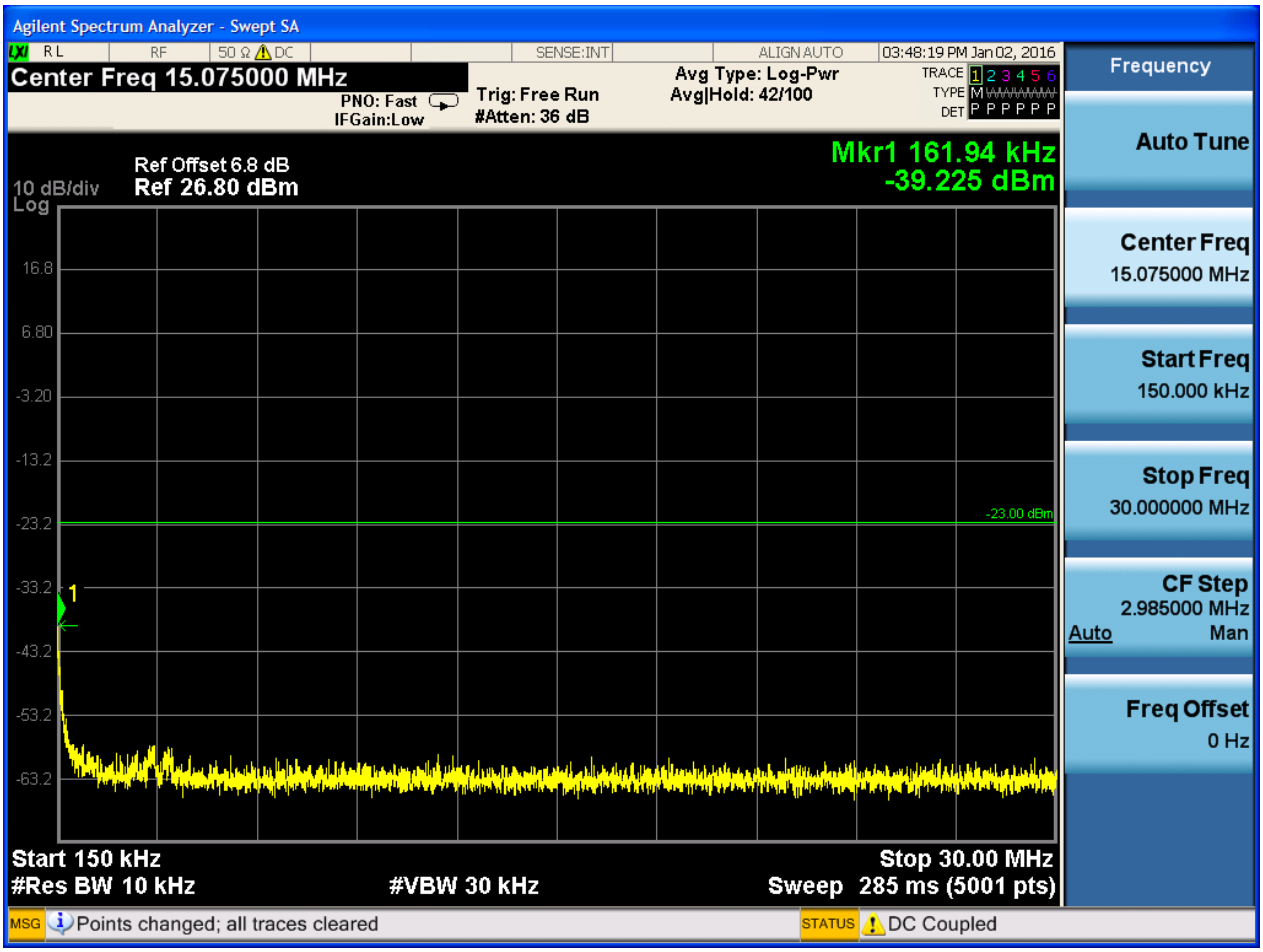


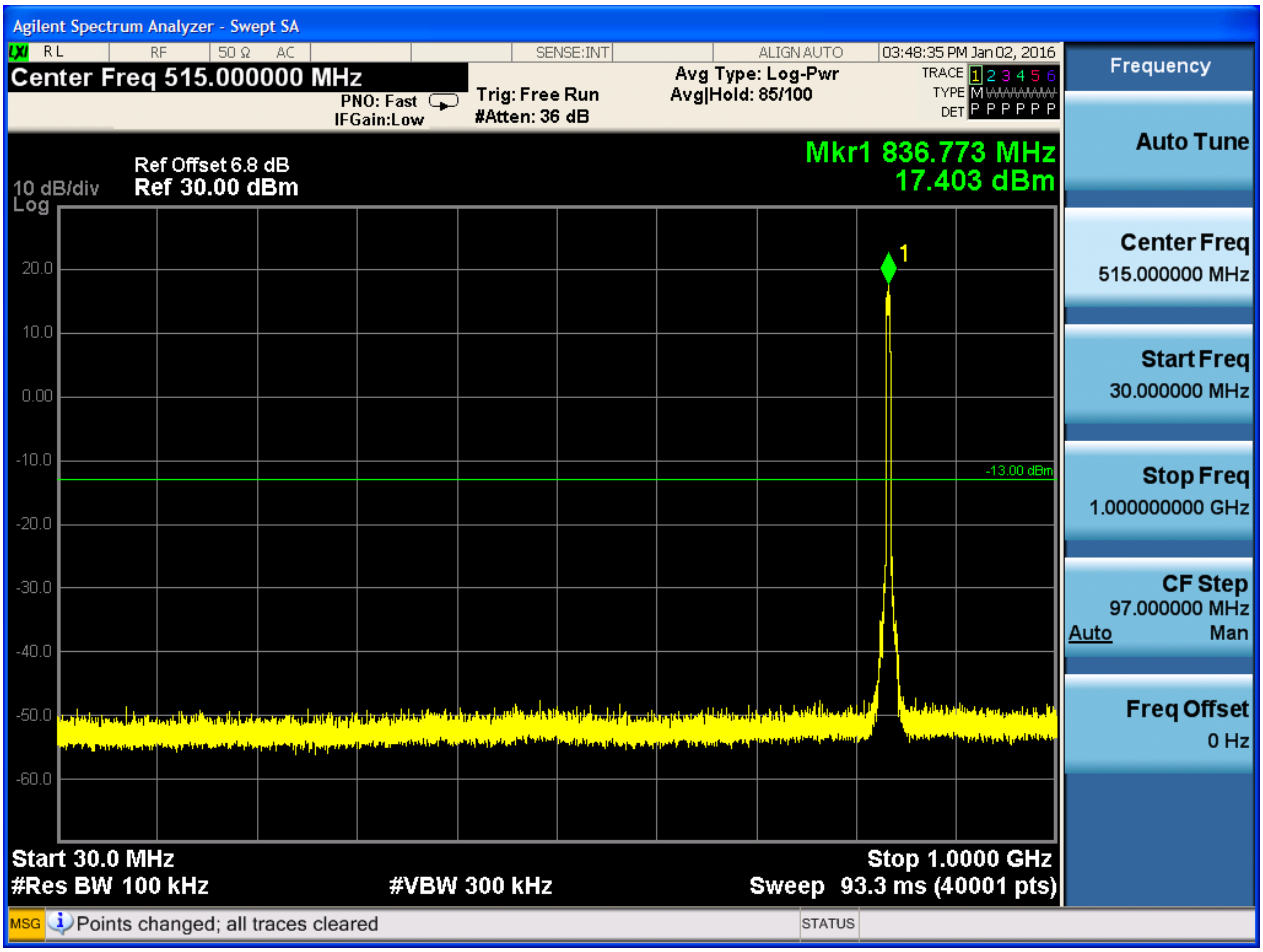


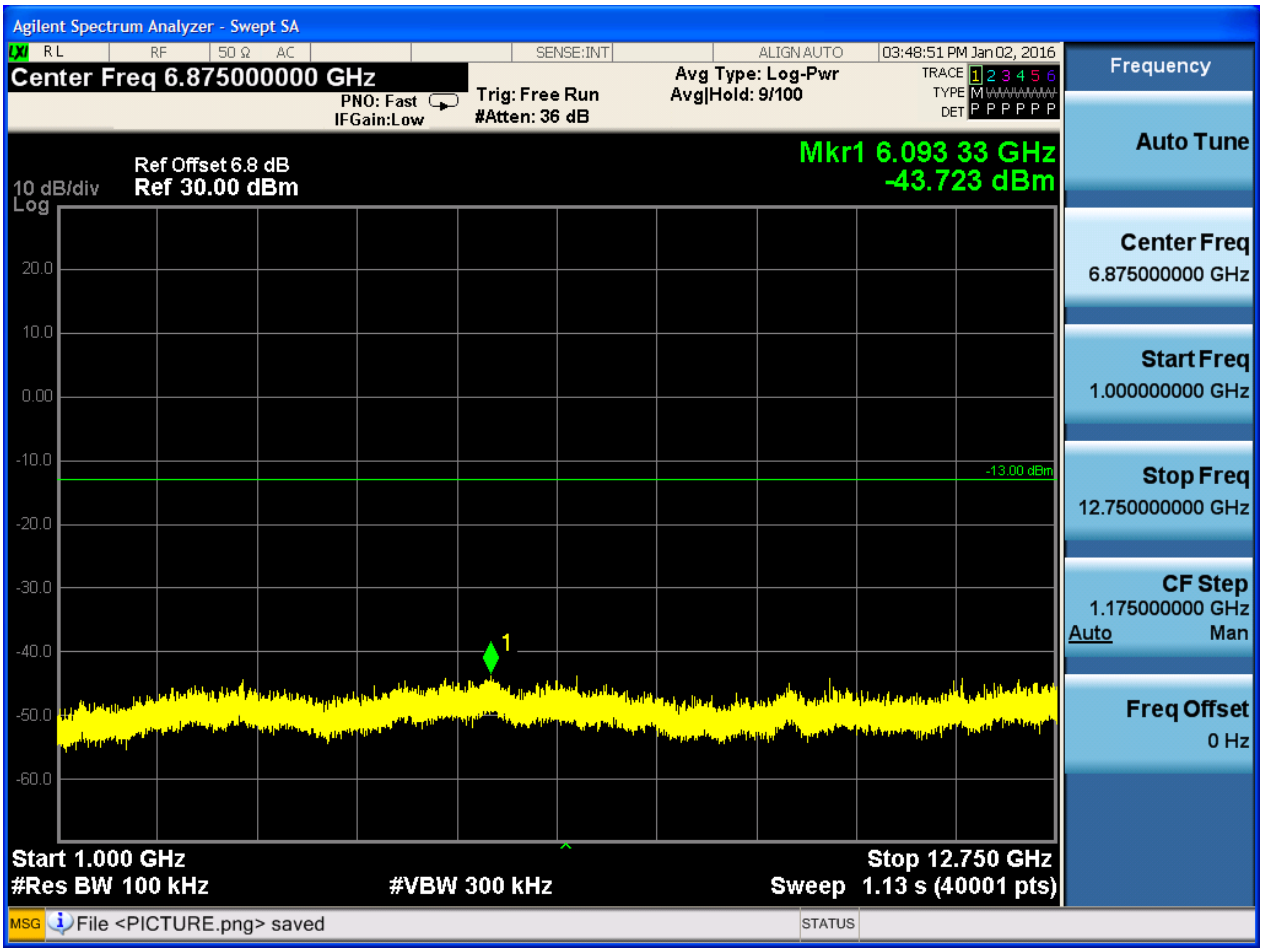


6.2.2.1.2 Test Channel = MCH

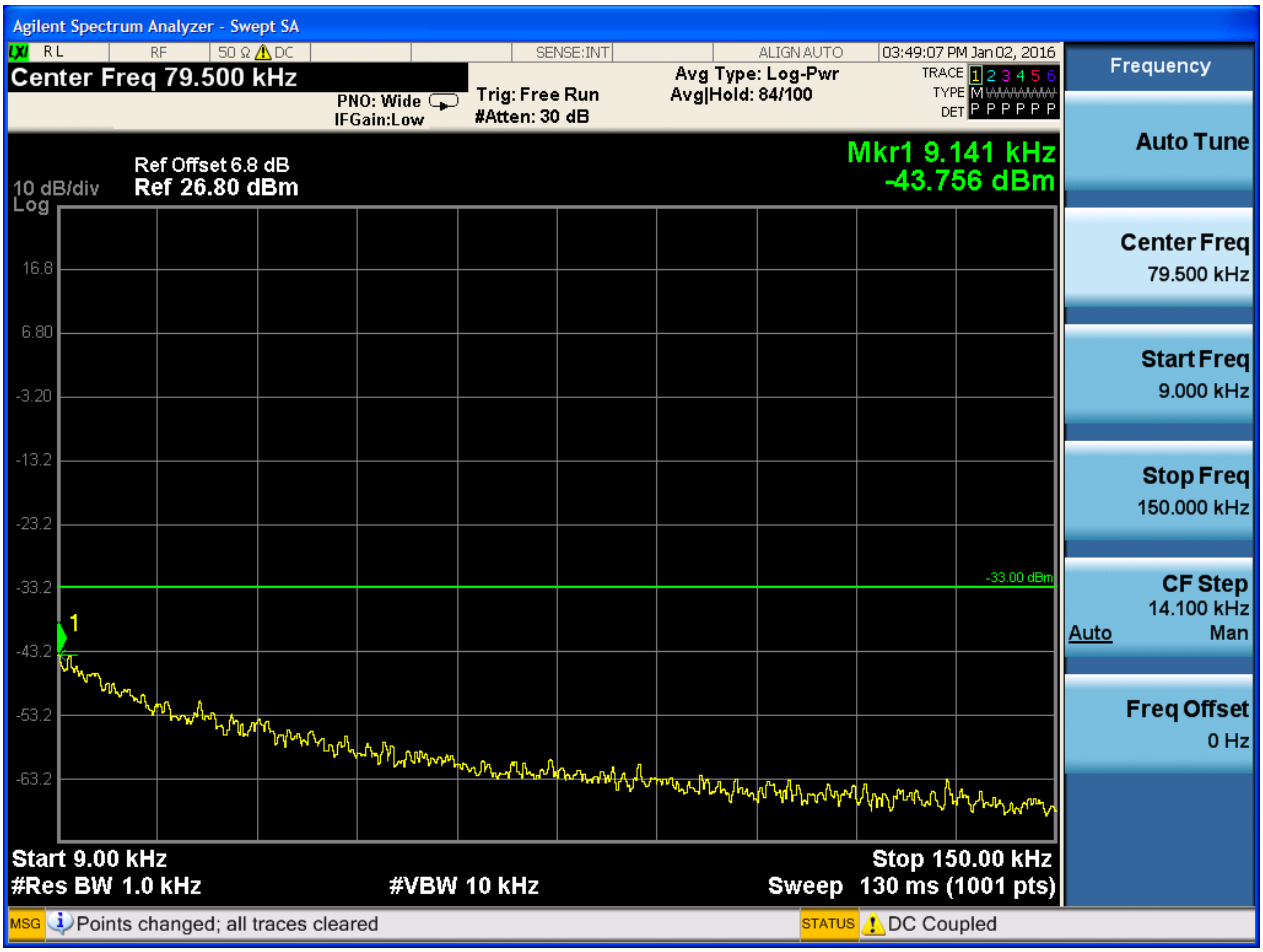


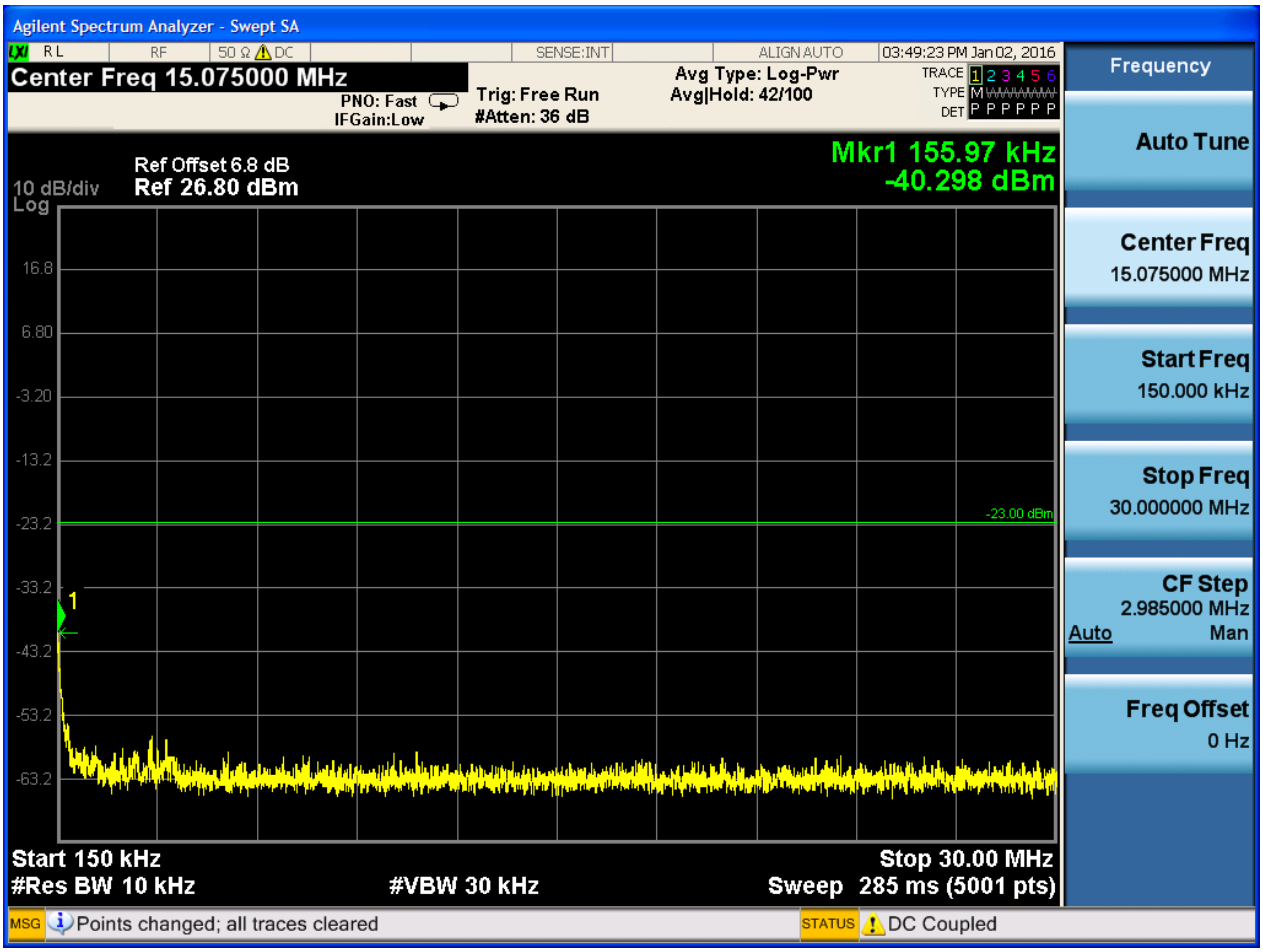


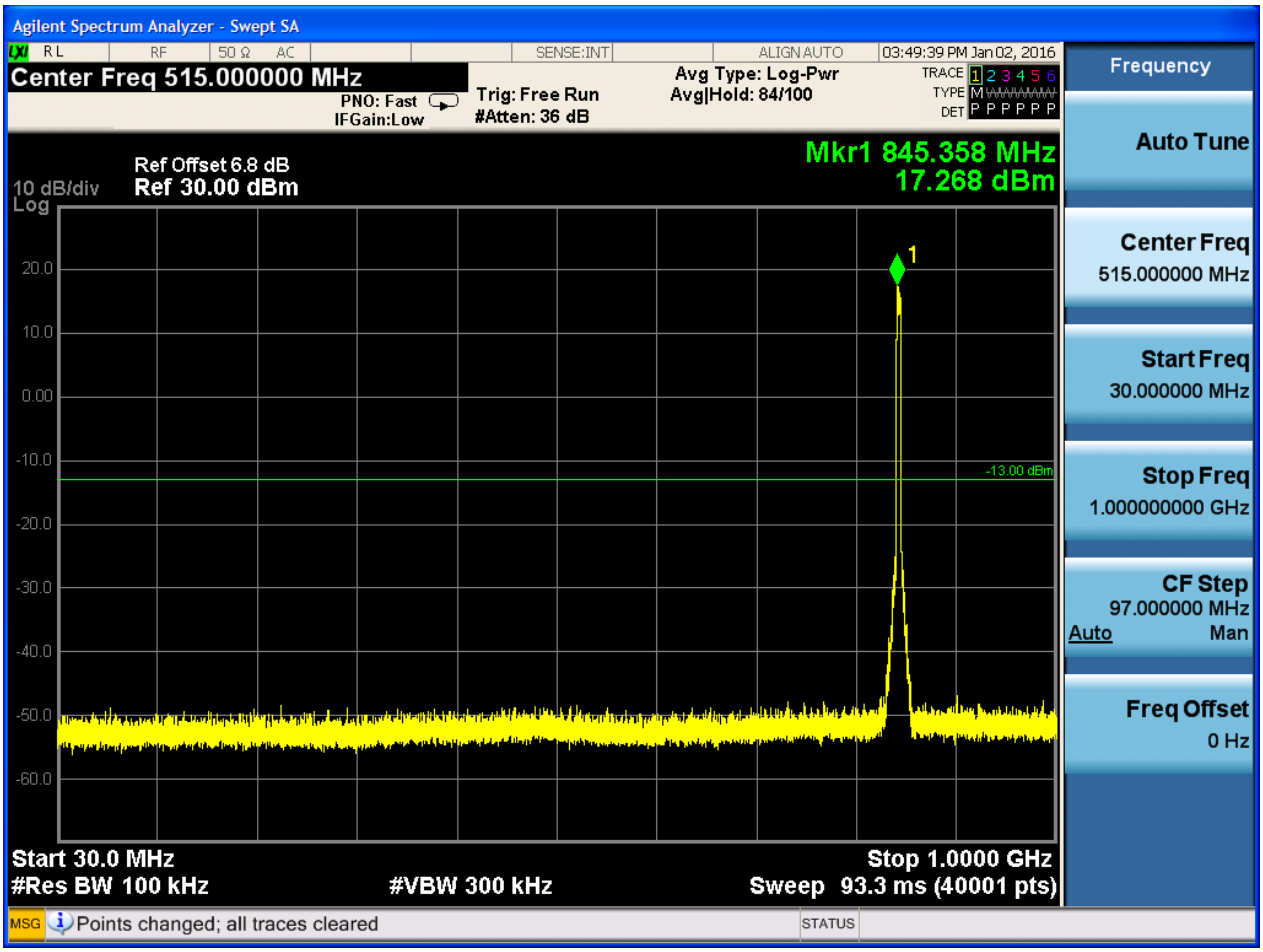


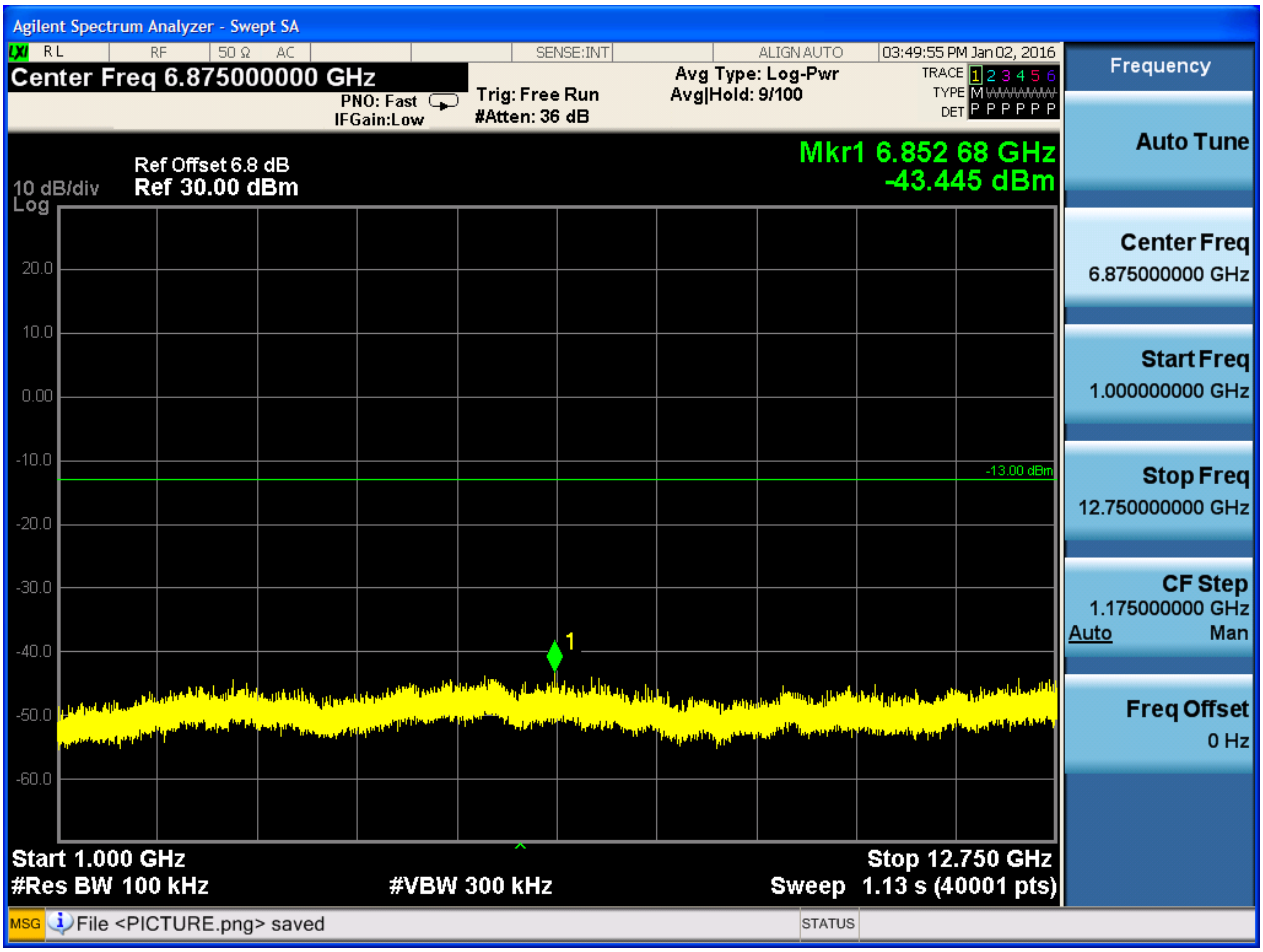


6.2.2.1.3 Test Channel = HCH









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

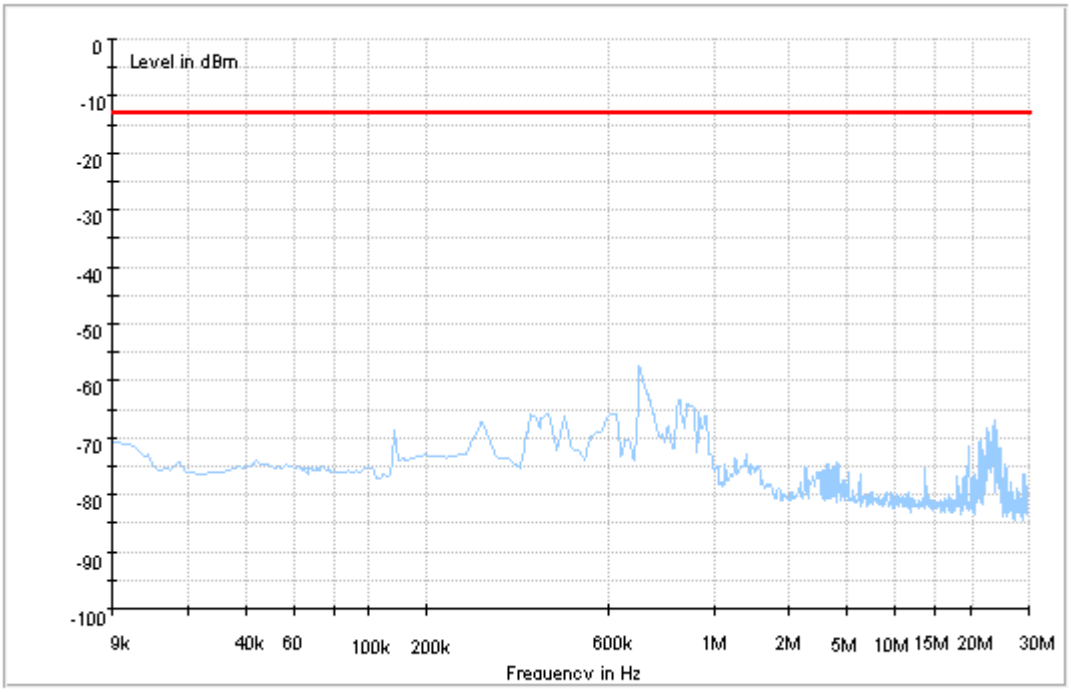
30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: PK

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

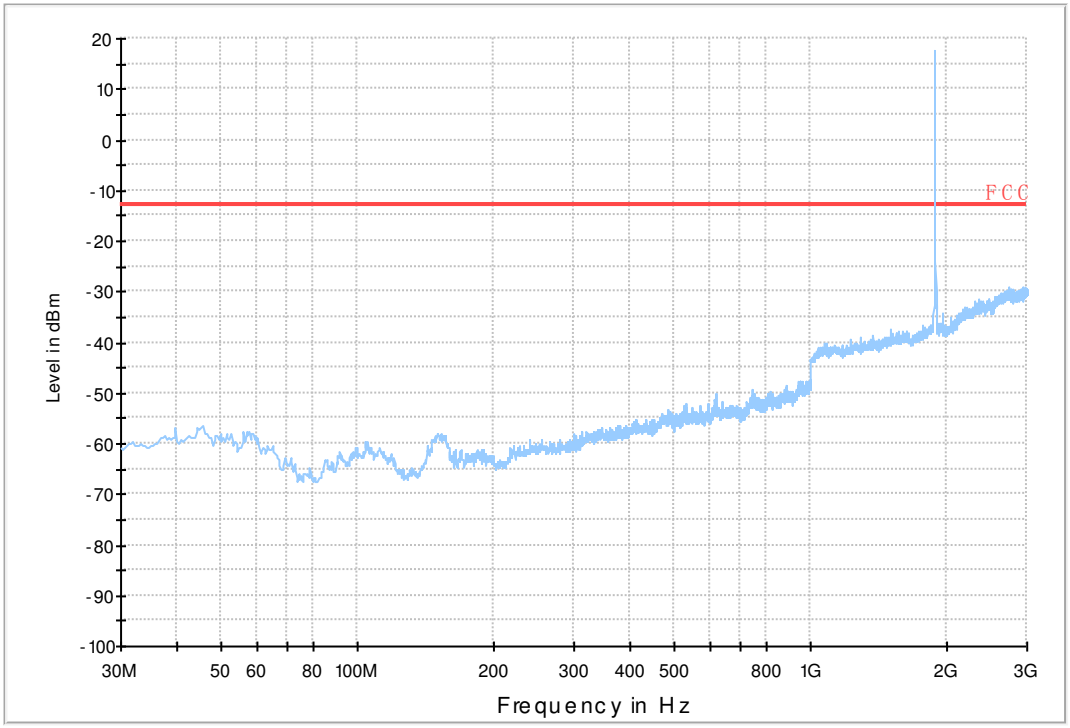
Part I - Test Plots

7.1 For UMTS

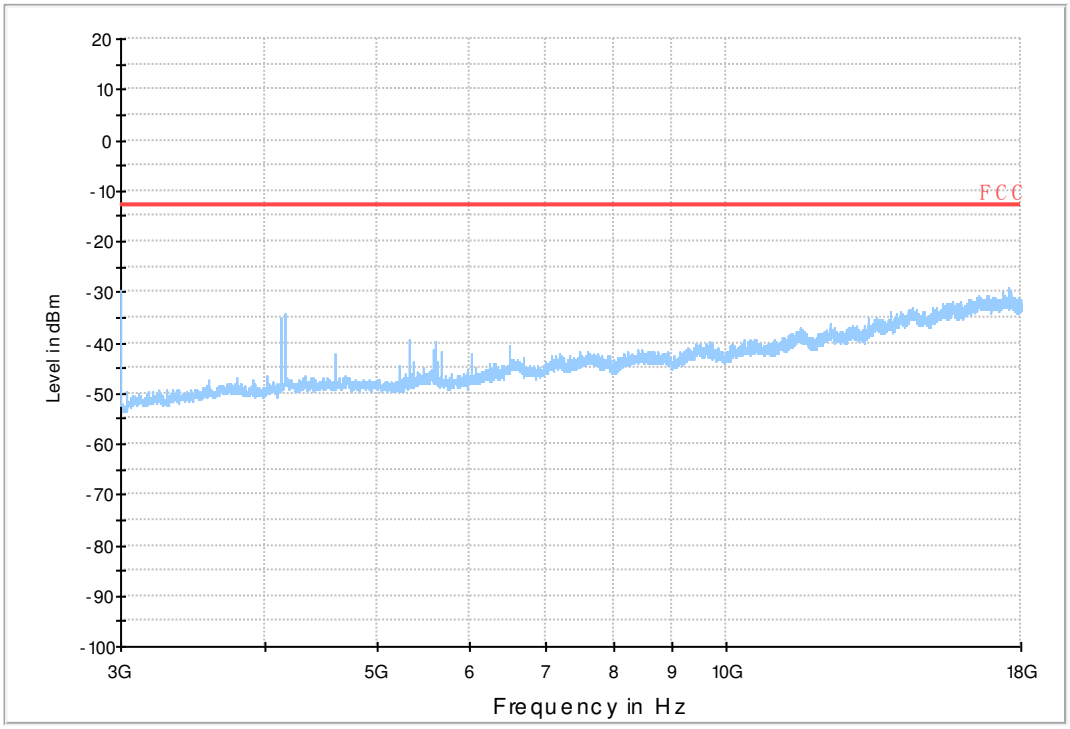
7.1.1 Test Band = WCDMA1900

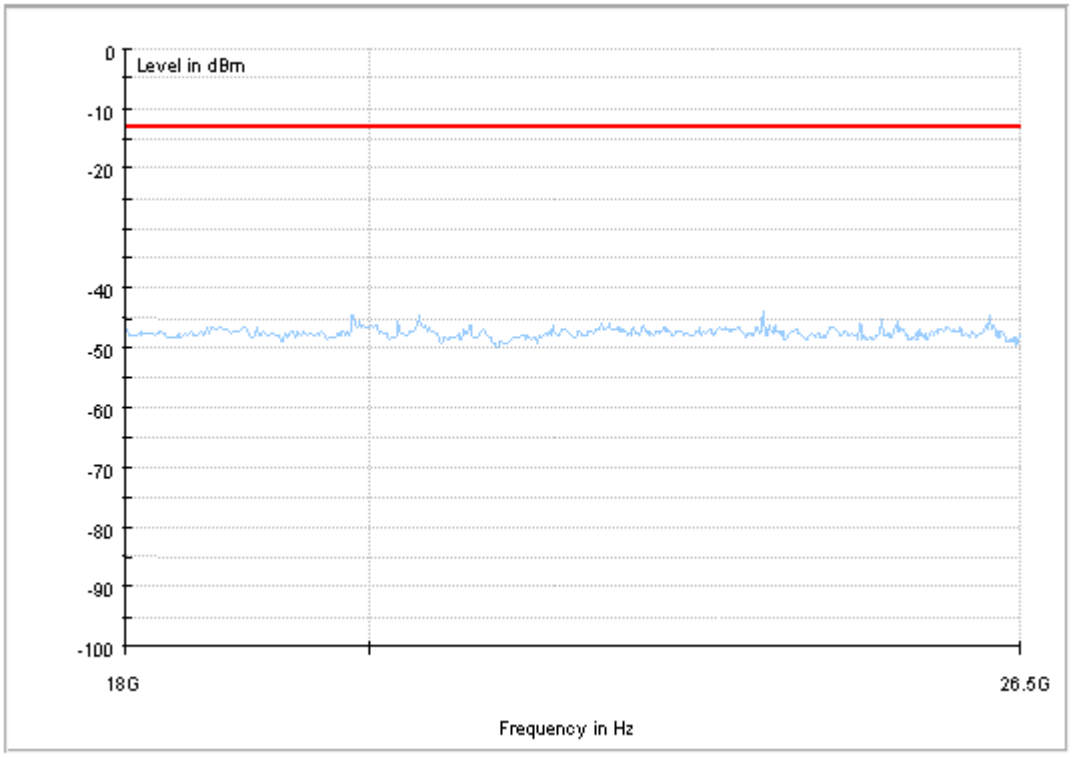


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L



Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H

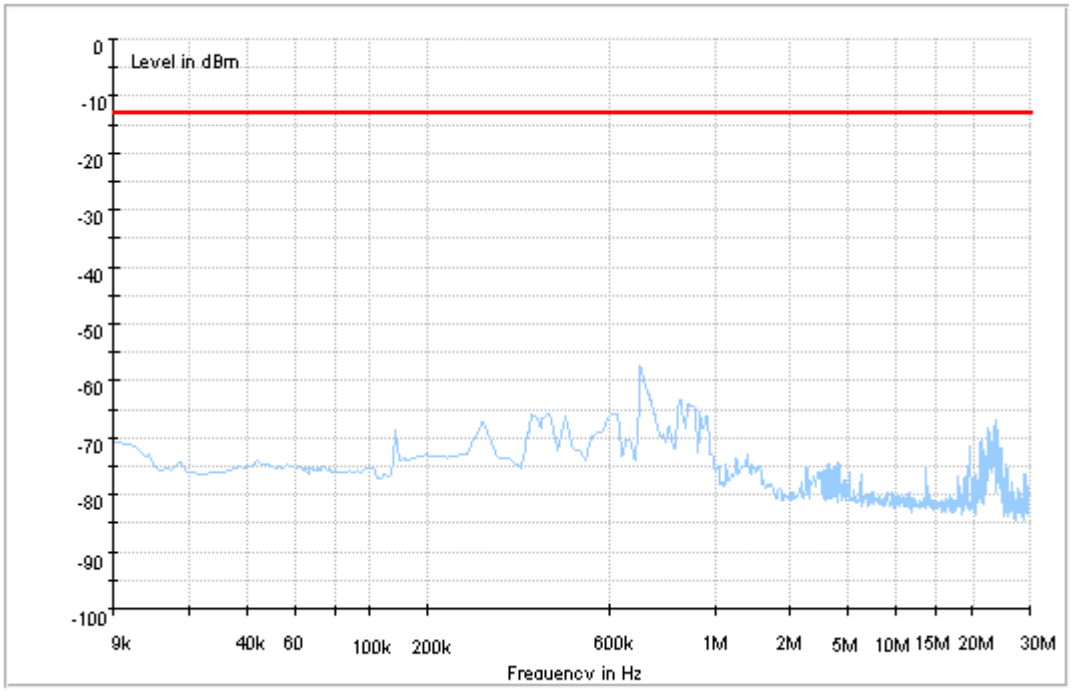




7.2 For UMTS

7.2.1 Test Band = WCDMA1700

7.2.1.1 Test Mode = UMTS/TM1



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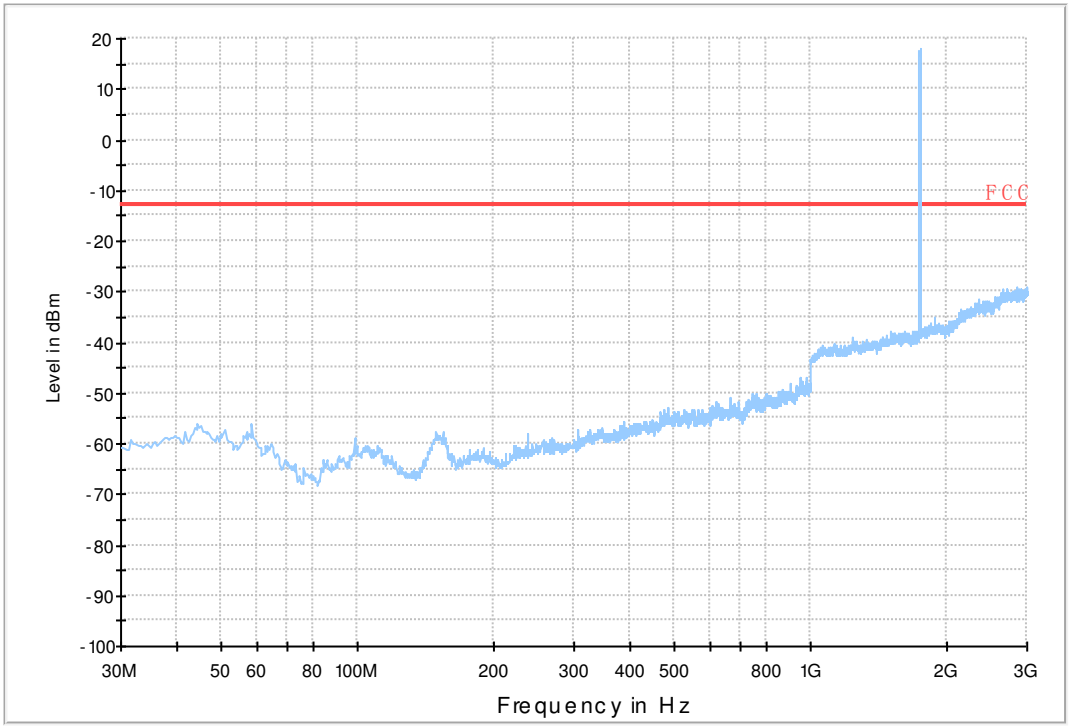
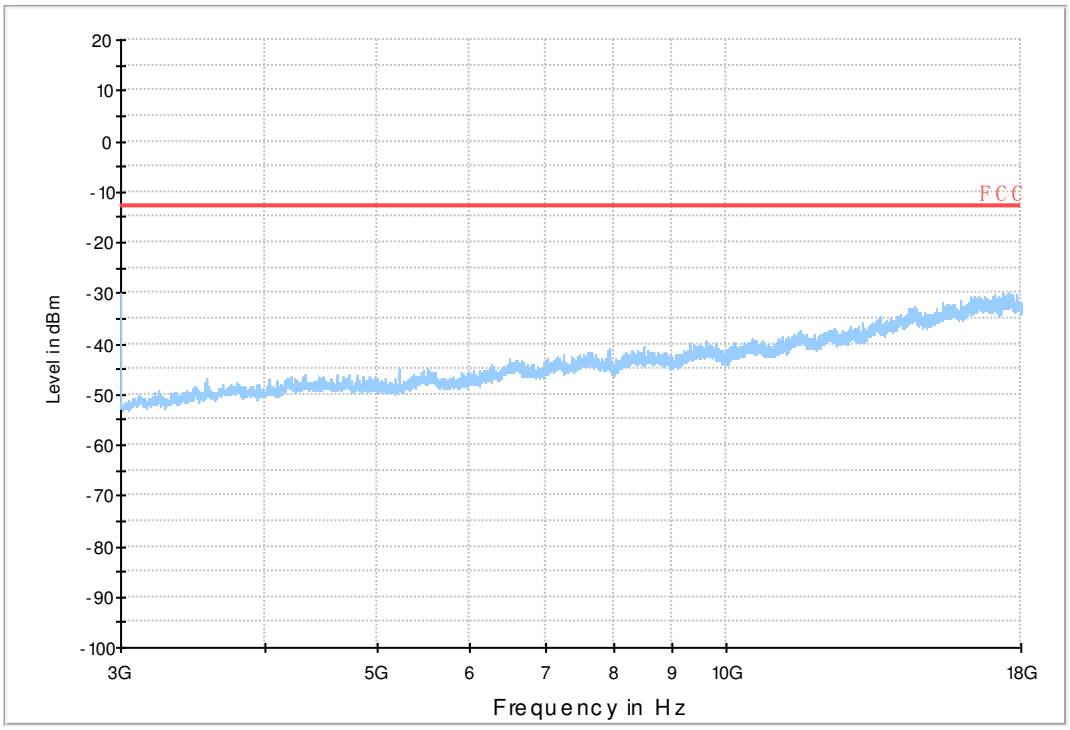
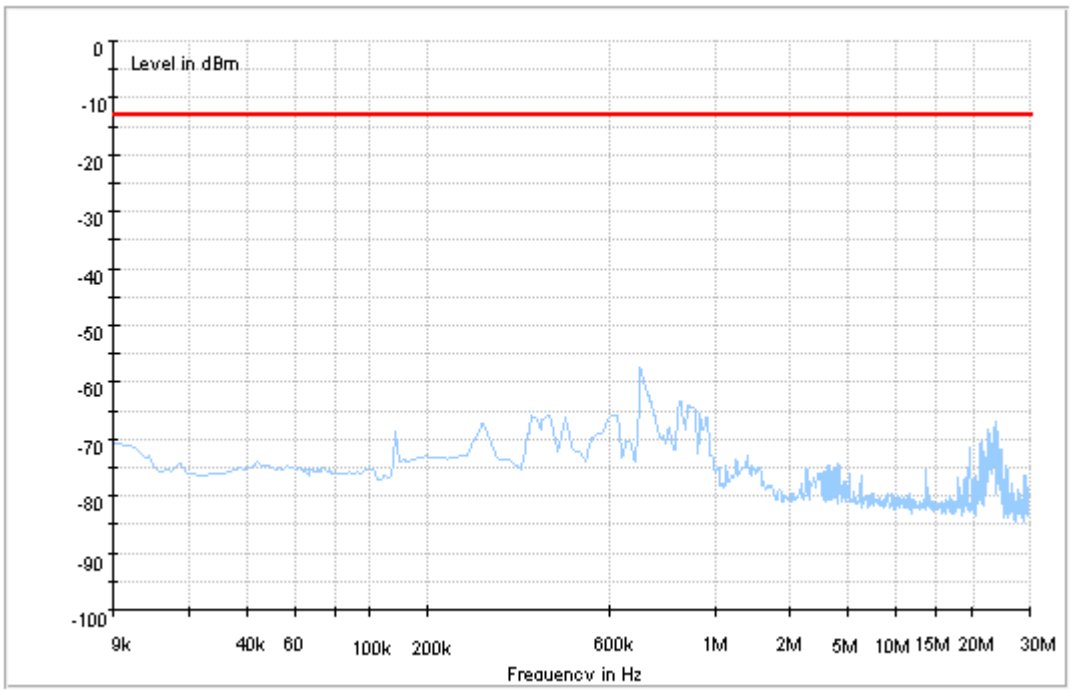


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H

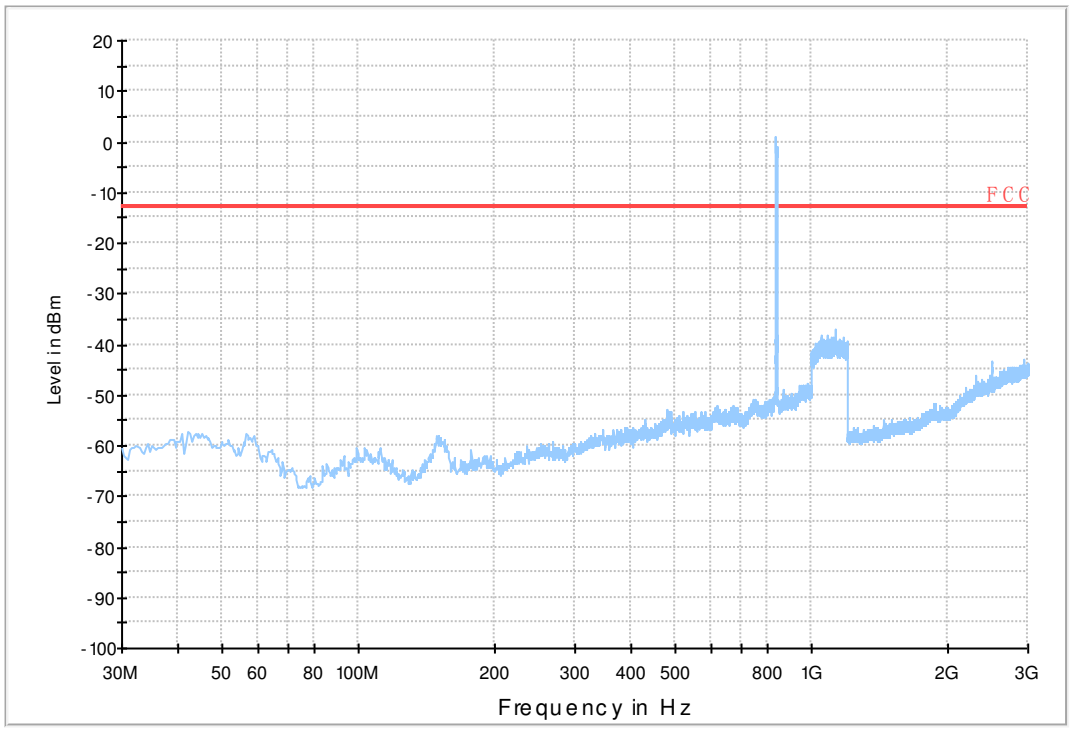


7.2.2 Test Band = WCDMA850

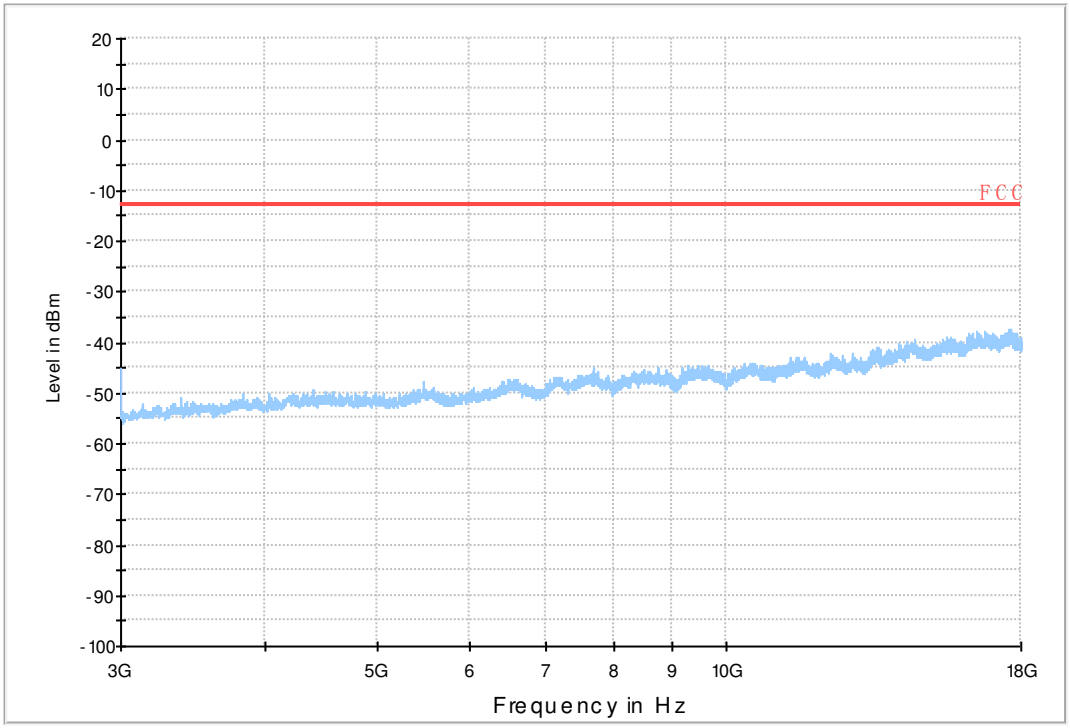
7.2.2.1 Test Mode = UMTS/TM1



Copy of RSE-TX-DIRECTOR BELOW 1G_L



Copy of RSE-TX-DIRECTOR BELOW 1G_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	-3.78	-0.00204	PASS
				VN	0.63	0.00034	PASS
				VH	2.11	0.00114	PASS
		MCH	TN	VL	-1.82	-0.00097	PASS
				VN	-1.22	-0.00065	PASS
				VH	-2.04	-0.00109	PASS
		HCH	TN	VL	-7.05	-0.0037	PASS
				VN	1.56	0.00082	PASS
				VH	3.68	0.00193	PASS
Test Band	**Test Mode**	**Test Channel**	**Test Temp.**	**Test Volt.**	**Freq. Error [Hz]**	**Freq. vs. rated [ppm]**	**Verdict**
WCDMA850	UMTS/TM1	LCH	TN	VL	4	0.00484	PASS
				VN	0.23	0.00028	PASS
				VH	-4.12	-0.00499	PASS
		MCH	TN	VL	1.24	0.00148	PASS
				VN	0.67	0.0008	PASS
				VH	2.64	0.00316	PASS
		HCH	TN	VL	3.62	0.00428	PASS
				VN	3.13	0.0037	PASS
				VH	5.4	0.00638	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA1700	UMTS/TM1	LCH	TN	VL	2.87	0.0036	PASS
				VN	-0.9	-0.00096	PASS
				VH	-5.25	-0.00623	PASS
		MCH	TN	VL	0.11	0.00024	PASS
				VN	-0.46	-0.00044	PASS
				VH	1.51	0.00192	PASS
		HCH	TN	VL	2.49	0.00304	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				VN	2	0.00246	PASS
				VH	4.27	0.00514	PASS

8.2.2Frequency 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	-7.83	-0.00423	PASS
				-20	-0.09	-0.00005	PASS
				-10	-1.21	-0.00065	PASS
				0	-3.45	-0.00186	PASS
				10	5.43	0.00293	PASS
				20	2.81	0.00152	PASS
				30	-2.91	-0.00157	PASS
				40	-1.82	-0.00098	PASS
				50	3.71	0.002	PASS
		MCH	VN	-30	-1.89	-0.00101	PASS
				-20	1.36	0.00072	PASS
				-10	2.55	0.00136	PASS
				0	1.16	0.00062	PASS
				10	4.53	0.00241	PASS
				20	0.15	0.00008	PASS
				30	-1.33	-0.00071	PASS
				40	-3.07	-0.00163	PASS
				50	0.24	0.00013	PASS
		HCH	VN	-30	-3.08	-0.00161	PASS
				-20	-1.75	-0.00092	PASS
				-10	-0.47	-0.00025	PASS
				0	-1.42	-0.00074	PASS
				10	2.75	0.00144	PASS
				20	2.62	0.00137	PASS
				30	5.45	0.00286	PASS
				40	1.53	0.0008	PASS
				50	3.56	0.00187	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA1700	UMTS/TM1	LCH	VN	-30	-6.65	-0.00388	PASS
				-20	-3.77	-0.0022	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-10	0.98	0.00057	PASS
				0	-3.01	-0.00176	PASS
				10	-4.41	-0.00258	PASS
				20	0.84	0.00049	PASS
				30	-0.09	-0.00005	PASS
				40	-4.64	-0.00271	PASS
				50	-5.39	-0.00315	PASS
		MCH	VN	-30	-4.91	-0.00283	PASS
				-20	-1.50	-0.00087	PASS
				-10	-1.28	-0.00074	PASS
				0	-2.50	-0.00144	PASS
				10	2.17	0.00125	PASS
				20	-6.41	-0.0037	PASS
				30	2.67	0.00154	PASS
				40	0.70	0.0004	PASS
				50	3.36	0.00194	PASS
		HCH	VN	-30	-9.28	-0.00529	PASS
				-20	-5.16	-0.00294	PASS
				-10	-1.08	-0.00062	PASS
				0	-2.00	-0.00114	PASS
				10	-3.75	-0.00214	PASS
				20	-0.93	-0.00053	PASS
				30	-4.06	-0.00232	PASS
				40	-1.30	-0.00074	PASS
				50	-1.75	-0.001	PASS
WCDMA850	UMTS/TM1	LCH	VN	-30	-4.99	-0.00604	PASS
				-20	-3.56	-0.00431	PASS
				-10	-1.62	-0.00196	PASS
				0	-1.22	-0.00148	PASS
				10	-1.74	-0.00211	PASS
				20	-2.27	-0.00275	PASS
				30	1.01	0.00122	PASS
				40	3.52	0.00426	PASS
				50	-1.54	-0.00186	PASS
		MCH	VN	-30	-3.89	-0.00465	PASS
				-20	-3.07	-0.00367	PASS
				-10	1.50	0.00179	PASS
				0	-2.64	-0.00316	PASS
				10	0.99	0.00118	PASS
				20	0.00	0	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				30	0.23	0.00027	PASS
				40	0.67	0.0008	PASS
				50	-1.98	-0.00237	PASS
		HCH	VN	-30	-3.68	-0.00435	PASS
				-20	-1.37	-0.00162	PASS
				-10	0.03	0.00004	PASS
				0	0.21	0.00025	PASS
				10	1.92	0.00227	PASS
				20	3.13	0.0037	PASS
				30	0.27	0.00032	PASS
				40	0.66	0.00078	PASS
				50	-0.06	-0.00007	PASS

END