Appendix for test report

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1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	ERP [dBm]	Limit [dBm]	Verdict
WCDMA850	UMTS/TM1	LCH	22.43	18.28	38.5	PASS
		MCH	22.63	18.48	38.5	PASS
		HCH	22.53	18.38	38.5	PASS

Test Band	Test Mode	Test Channel	Conducted Power [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
WCDMA1900	UMTS/TM1	LCH	21.96	23.96	33	PASS
		MCH	21.92	23.92	33	PASS
		HCH	21.7	23.7	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,

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

EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBi]

b, SGP=Signal Generator Level

Note2: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS

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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	2.66	13	PASS
		MCH	3.25	13	PASS
		HCH	3.1	13	PASS

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3Appendix_C: Modulation Characteristics

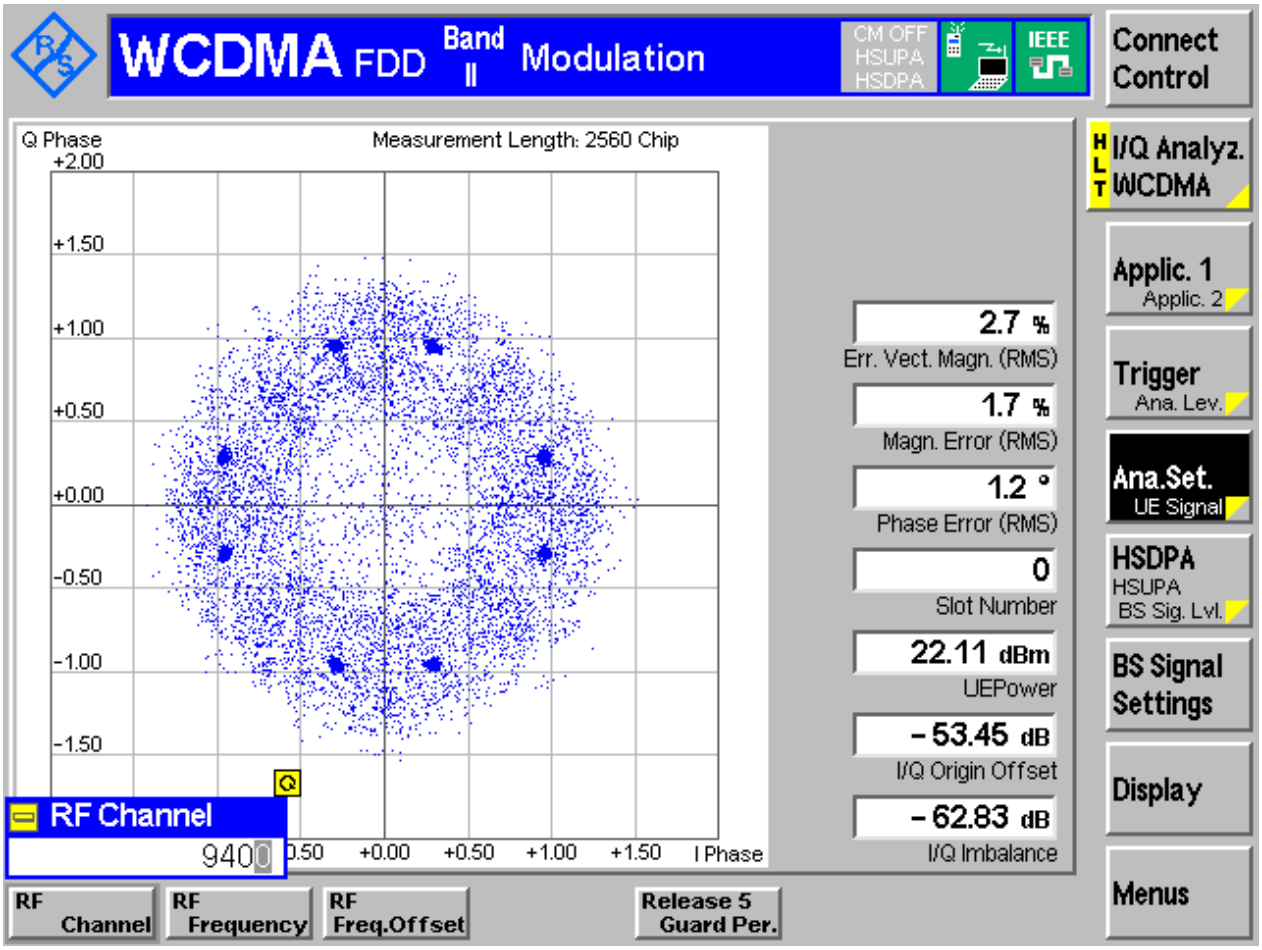
Part I - Test Plots

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



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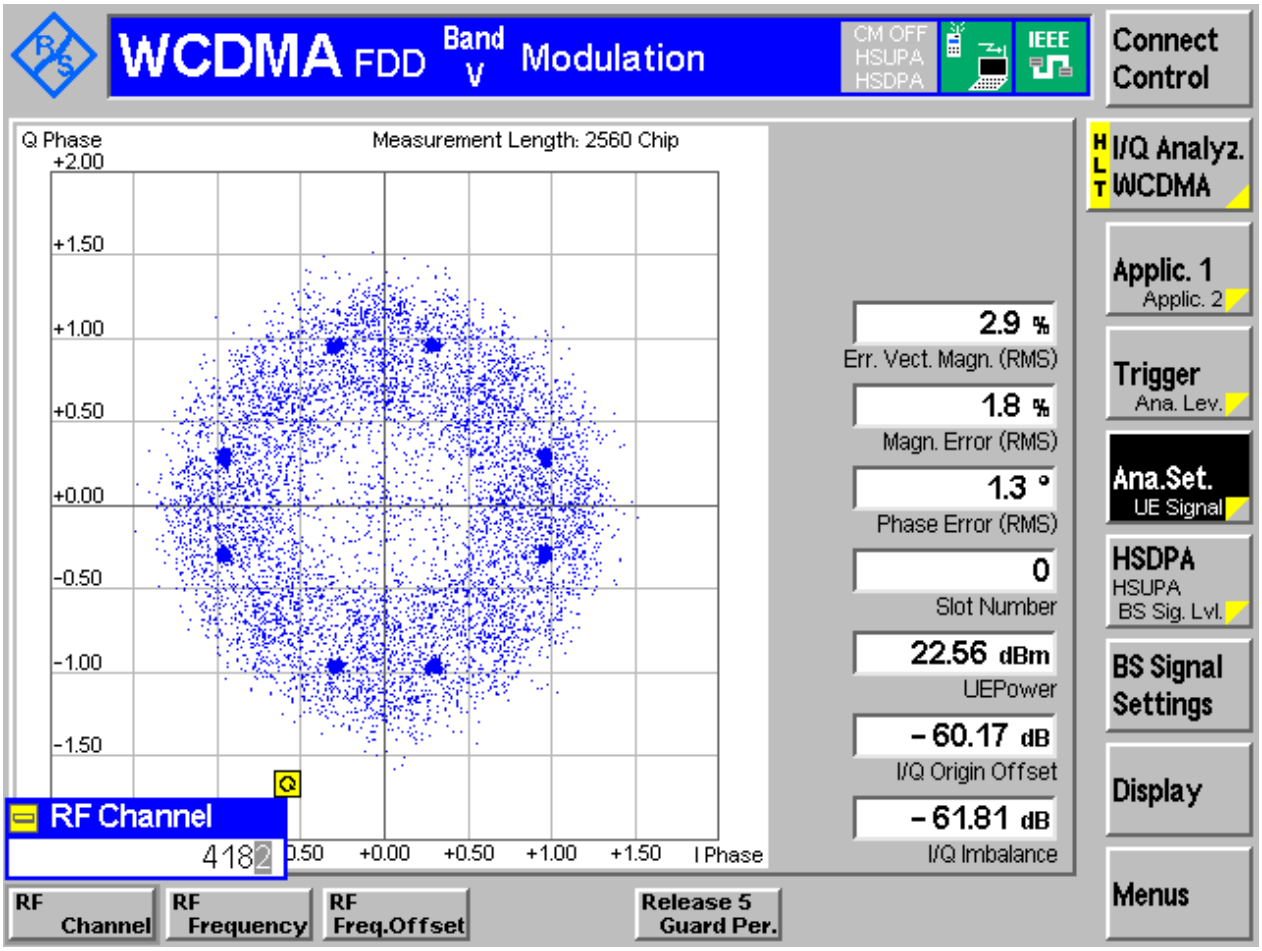
3.1.2 Test Band = WCDMA850

3.1.2.1 Test Mode = UMTS/TM1

3.1.2.1.1 Test Channel = MCH



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4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA1900	UMTS/TM1	LCH	4.18	4.69	Pass
		MCH	4.17	4.68	Pass
		HCH	4.16	4.67	Pass
WCDMA850	UMTS/TM1	LCH	4.16	4.66	Pass
		MCH	4.14	4.66	Pass
		HCH	4.12	4.64	Pass

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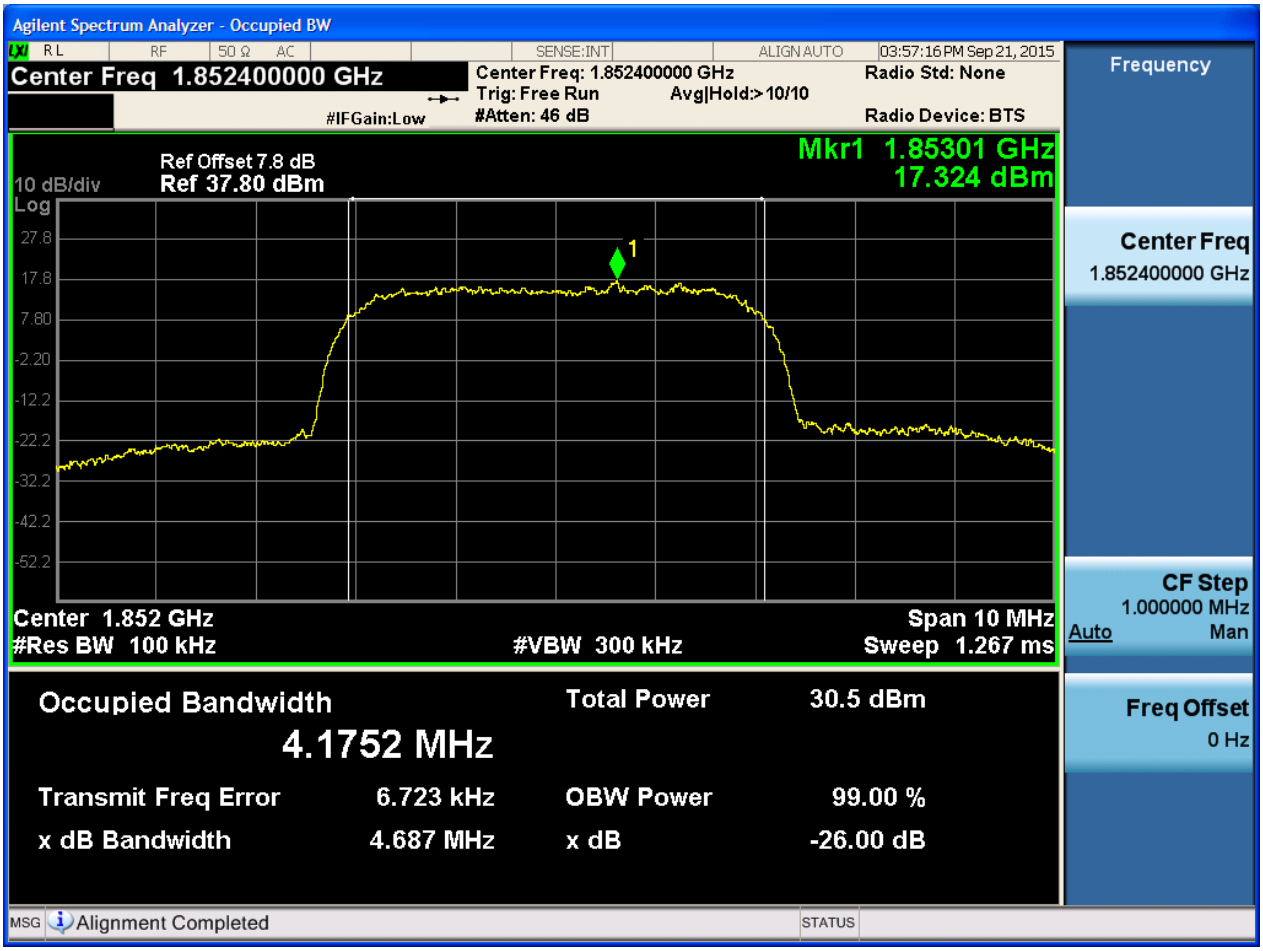
Part II - Test Plots

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



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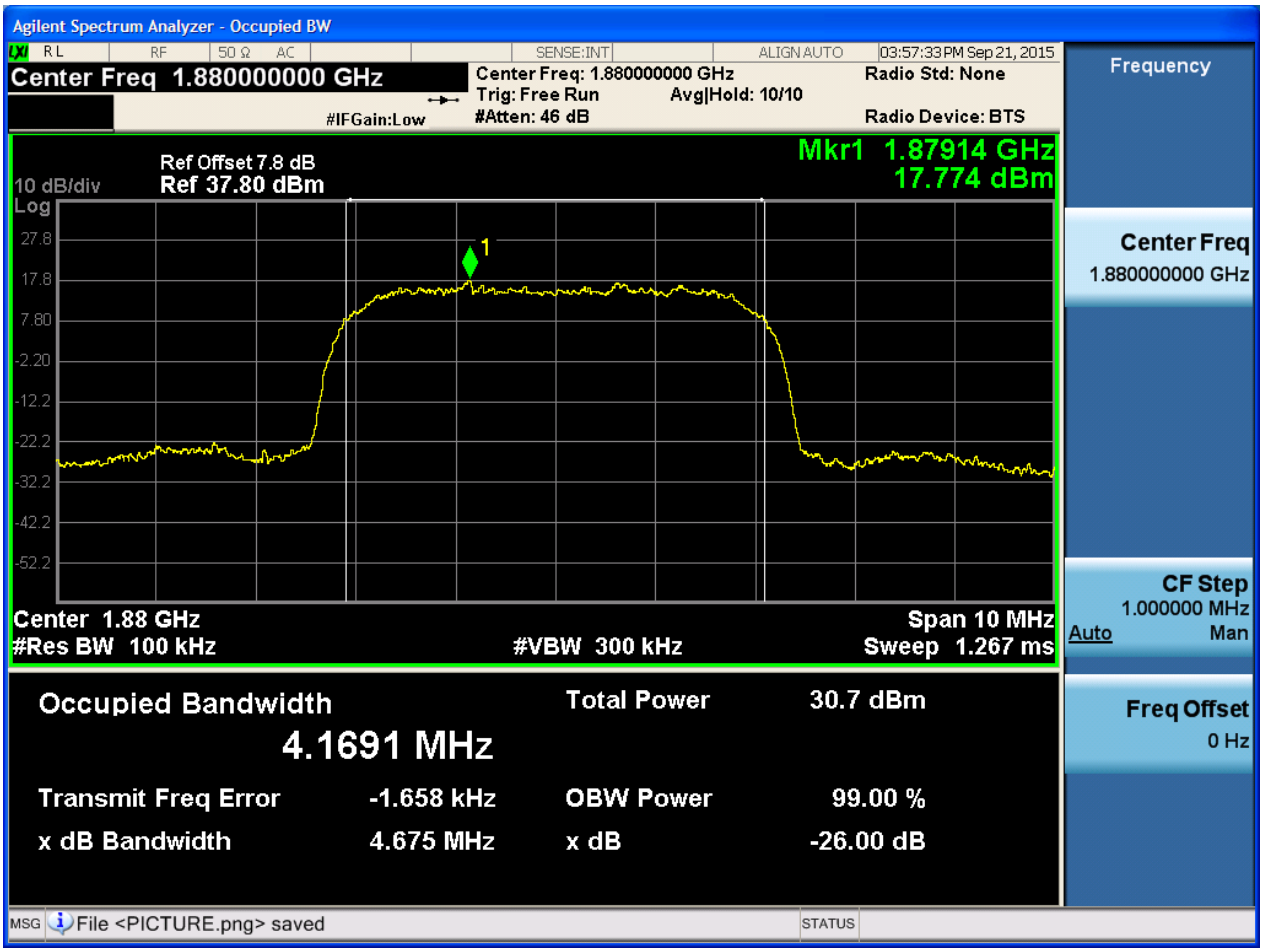
4.1.1.1.2 Test Channel = MCH



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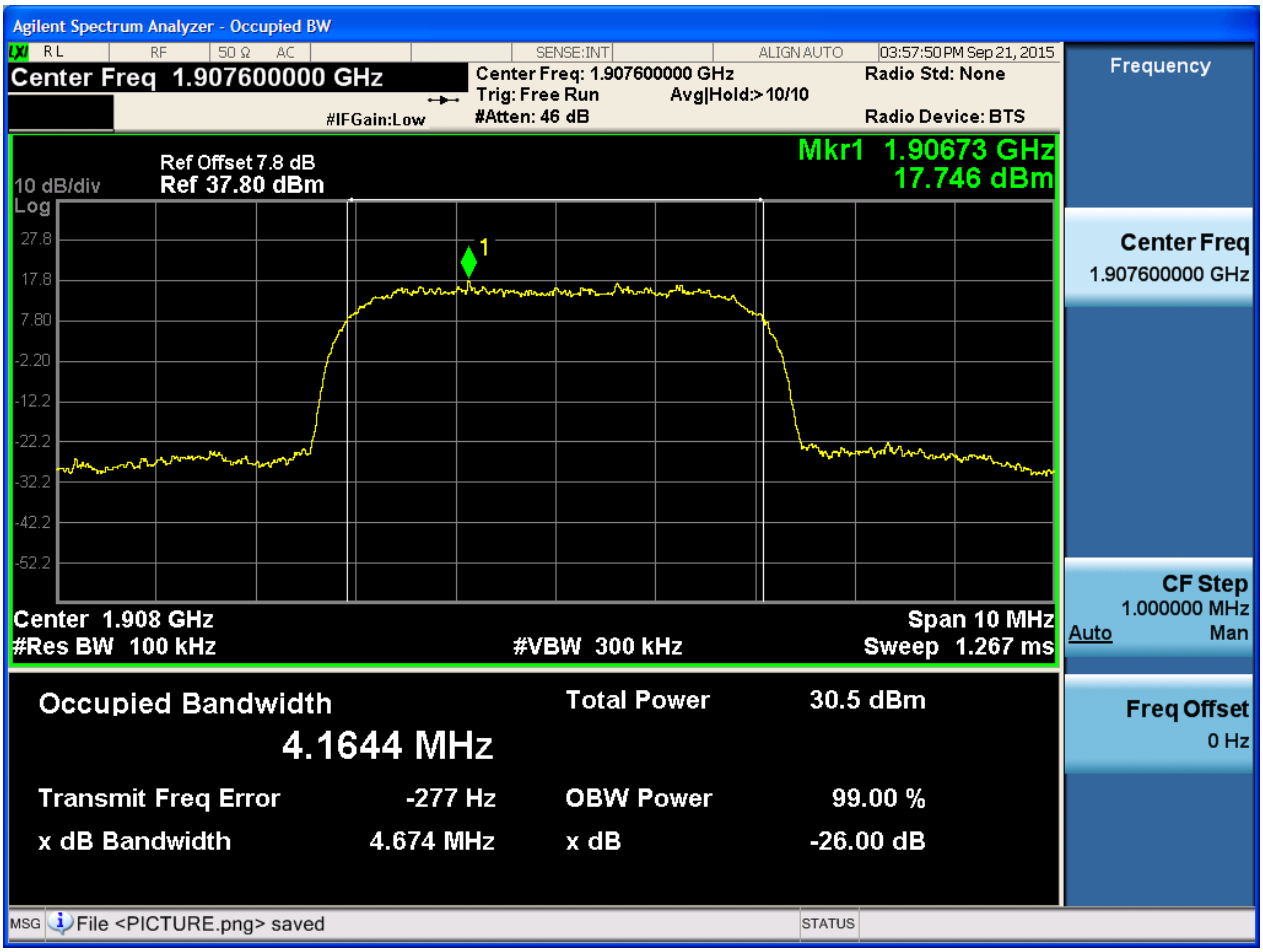
4.1.1.1.3 Test Channel = HCH



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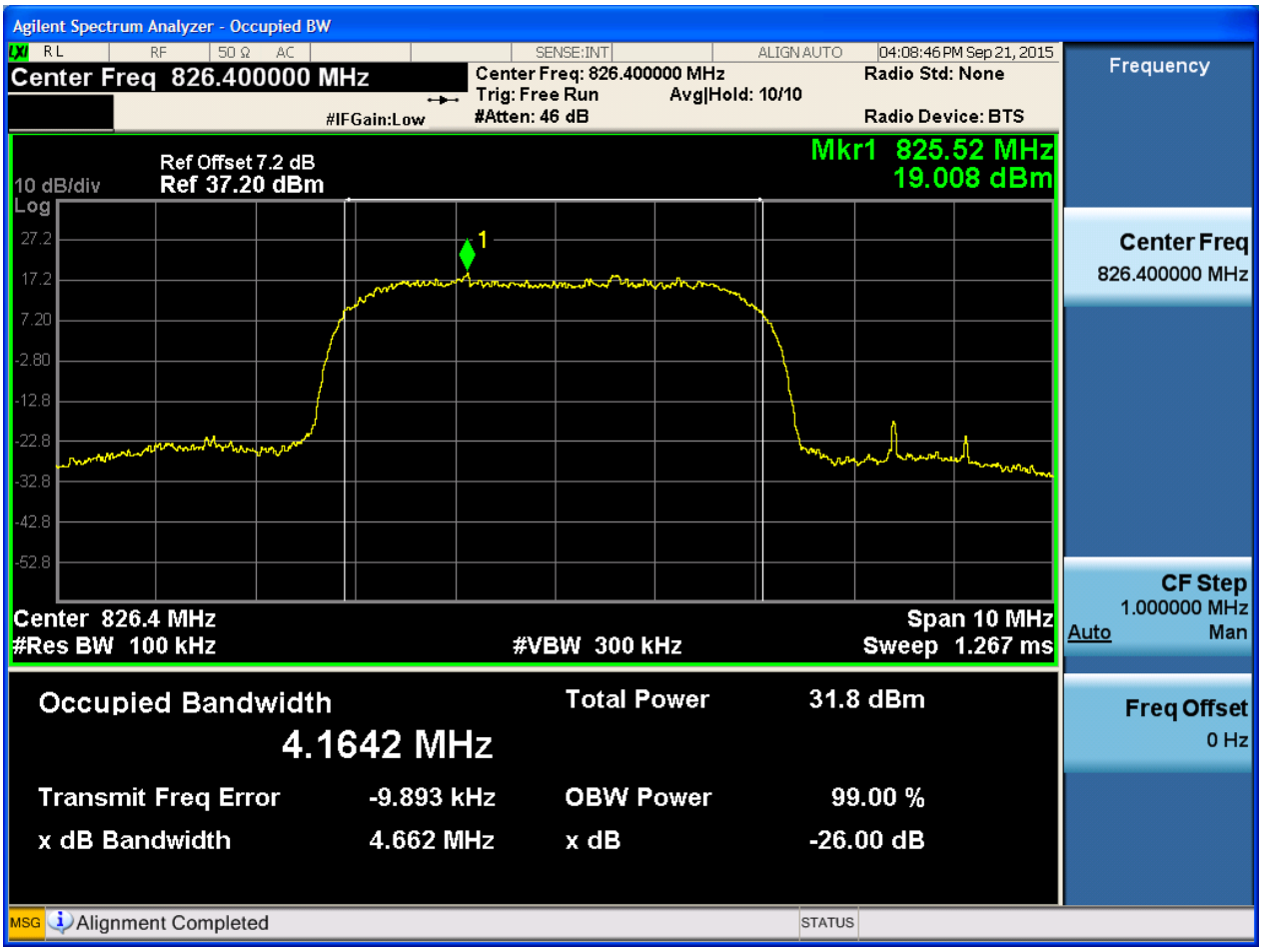
4.1.2 Test Band = WCDMA850

4.1.2.1 Test Mode = UMTS/TM1

4.1.2.1.1 Test Channel = LCH



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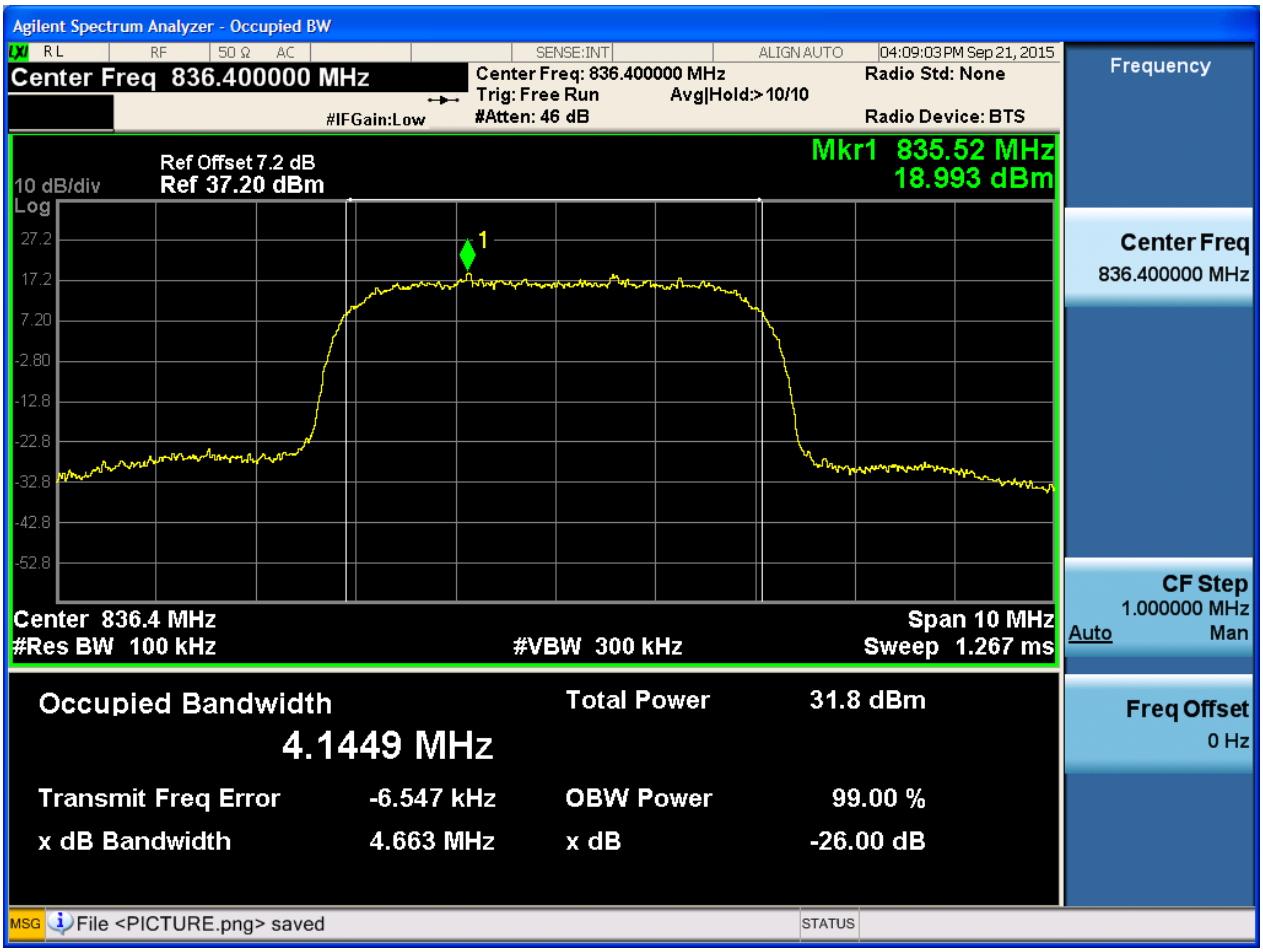
4.1.2.1.2 Test Channel = MCH



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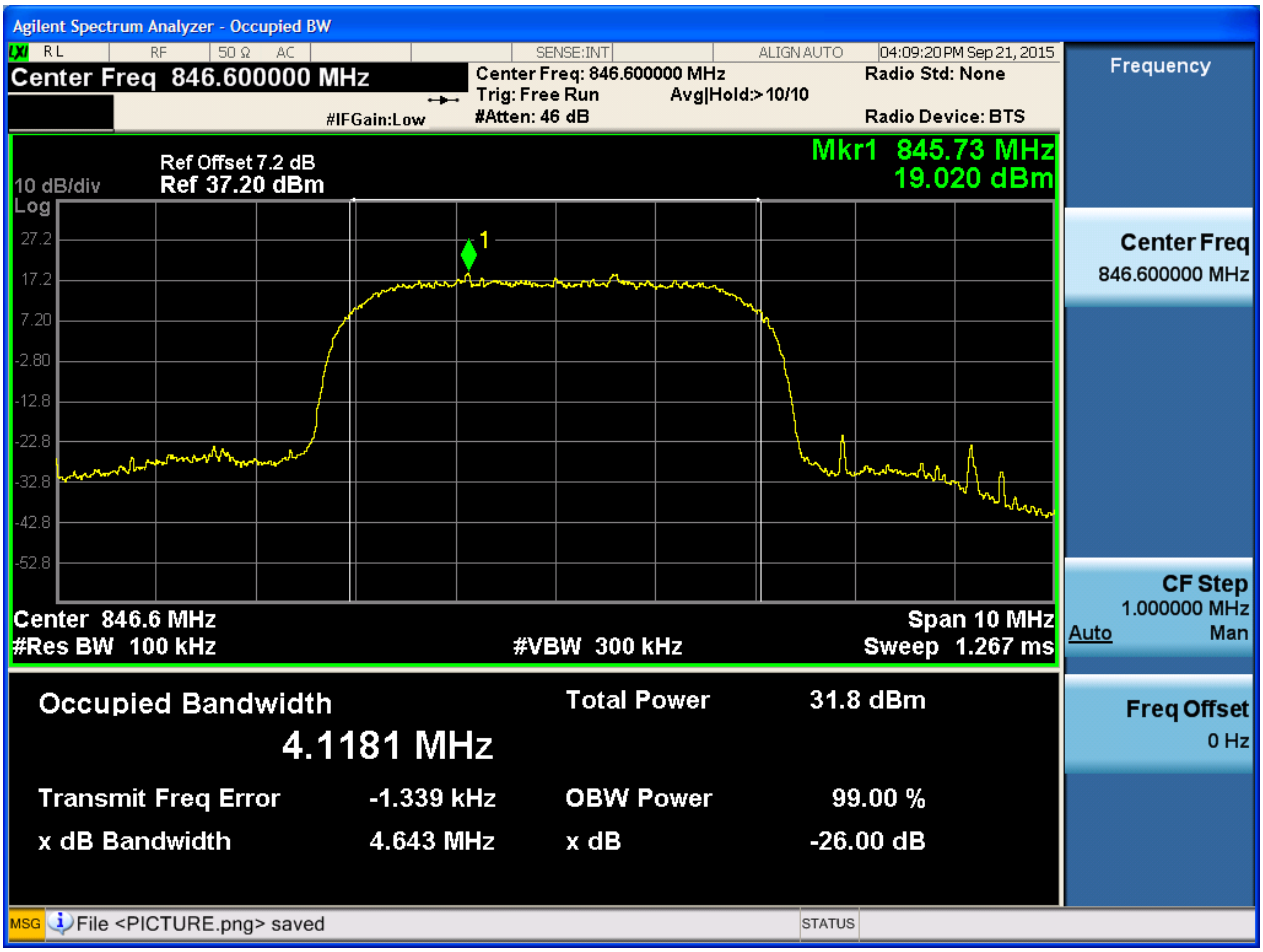
4.1.2.1.3 Test Channel = HCH



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5Appendix_E: Band Edges Compliance

Part I - Test Plots

5.1 For UMTS

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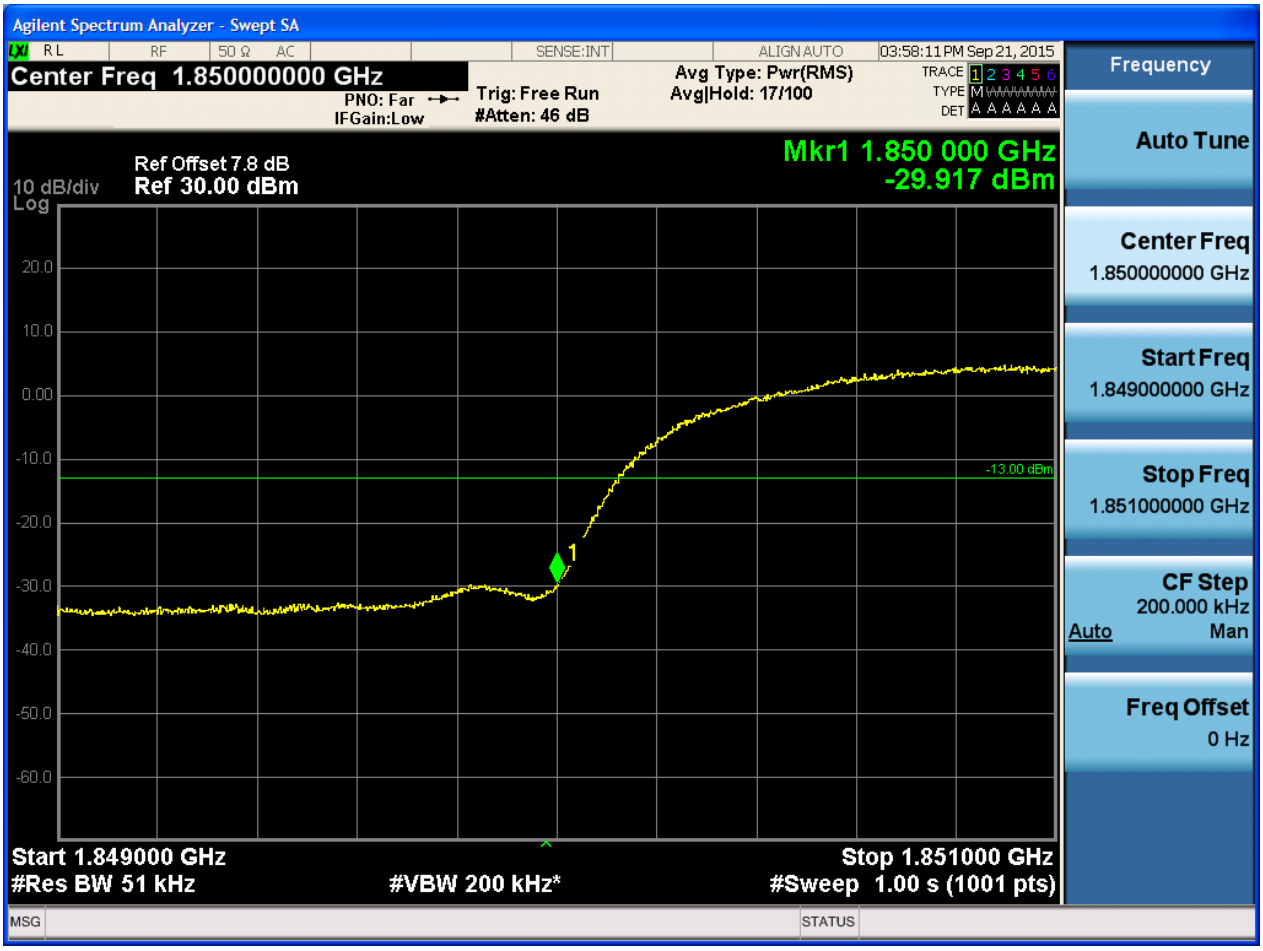
5.1.1.1 Test Mode = UMTS/TM1

5.1.1.1.1 Test Channel = LCH



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5.1.1.1.2 Test Channel = HCH

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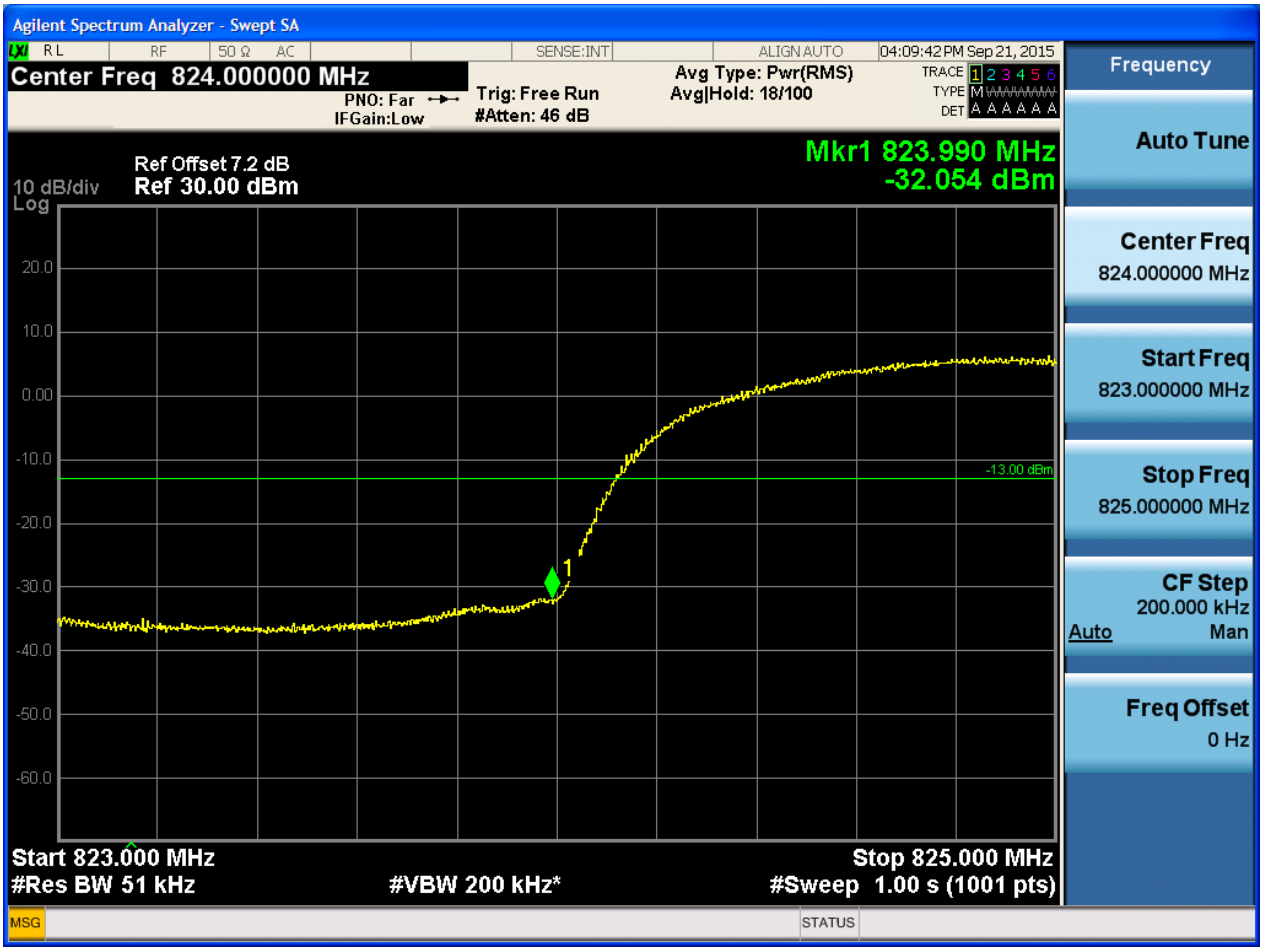
5.1.2 Test Band = WCDMA850

5.1.2.1 Test Mode = UMTS/TM1

5.1.2.1.1 Test Channel = LCH



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5.1.2.1.2 Test Channel = HCH

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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

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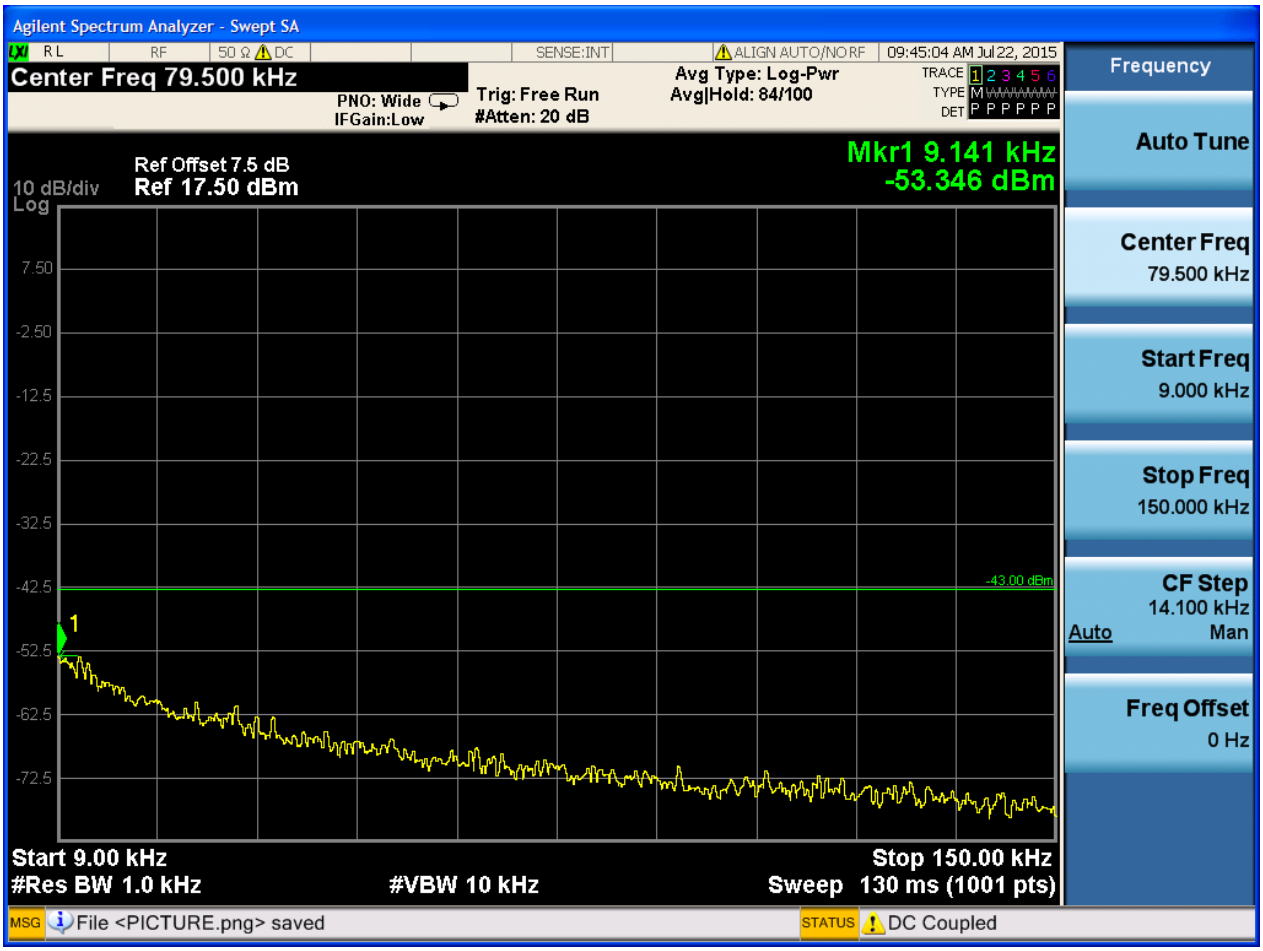

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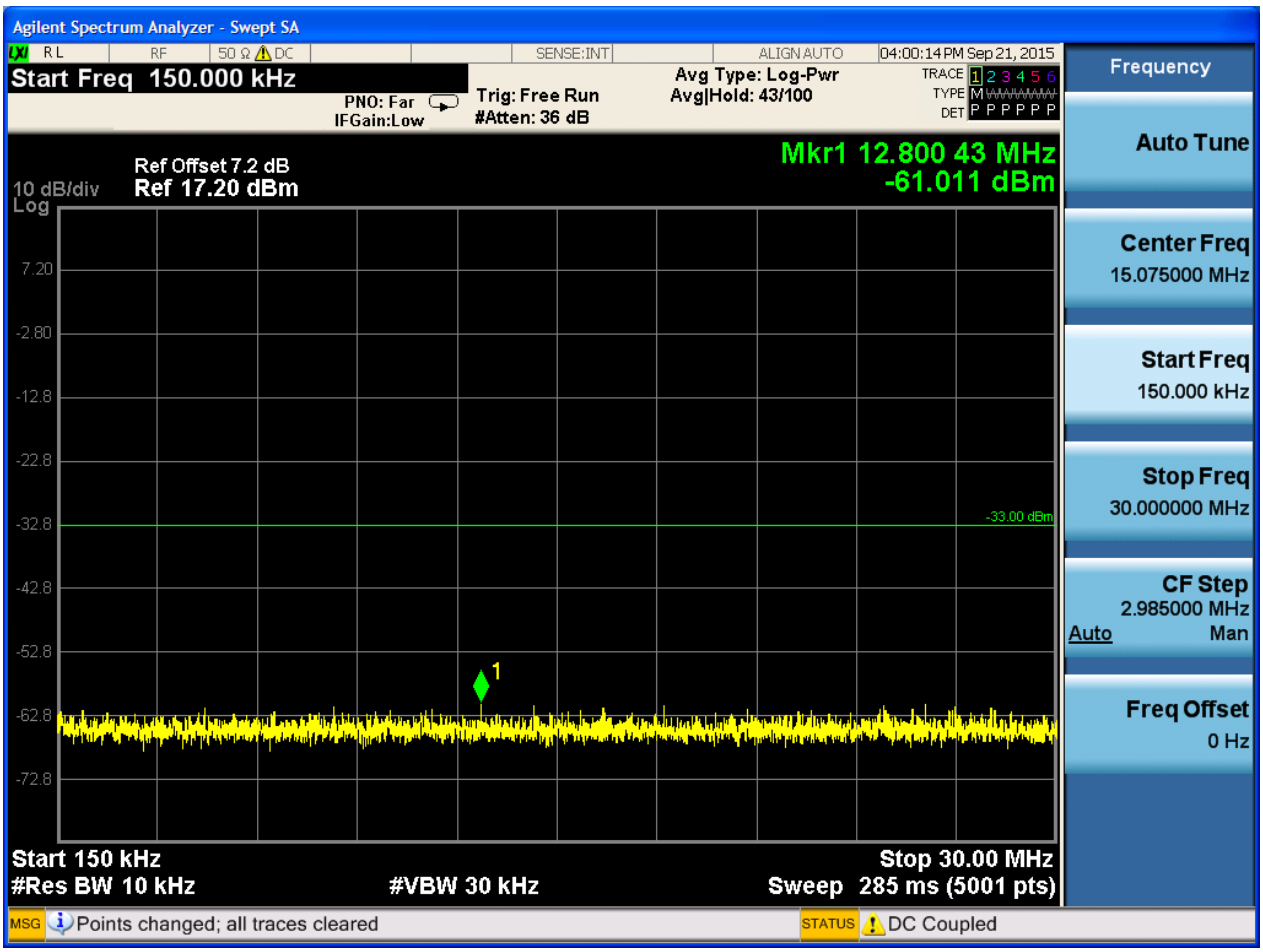

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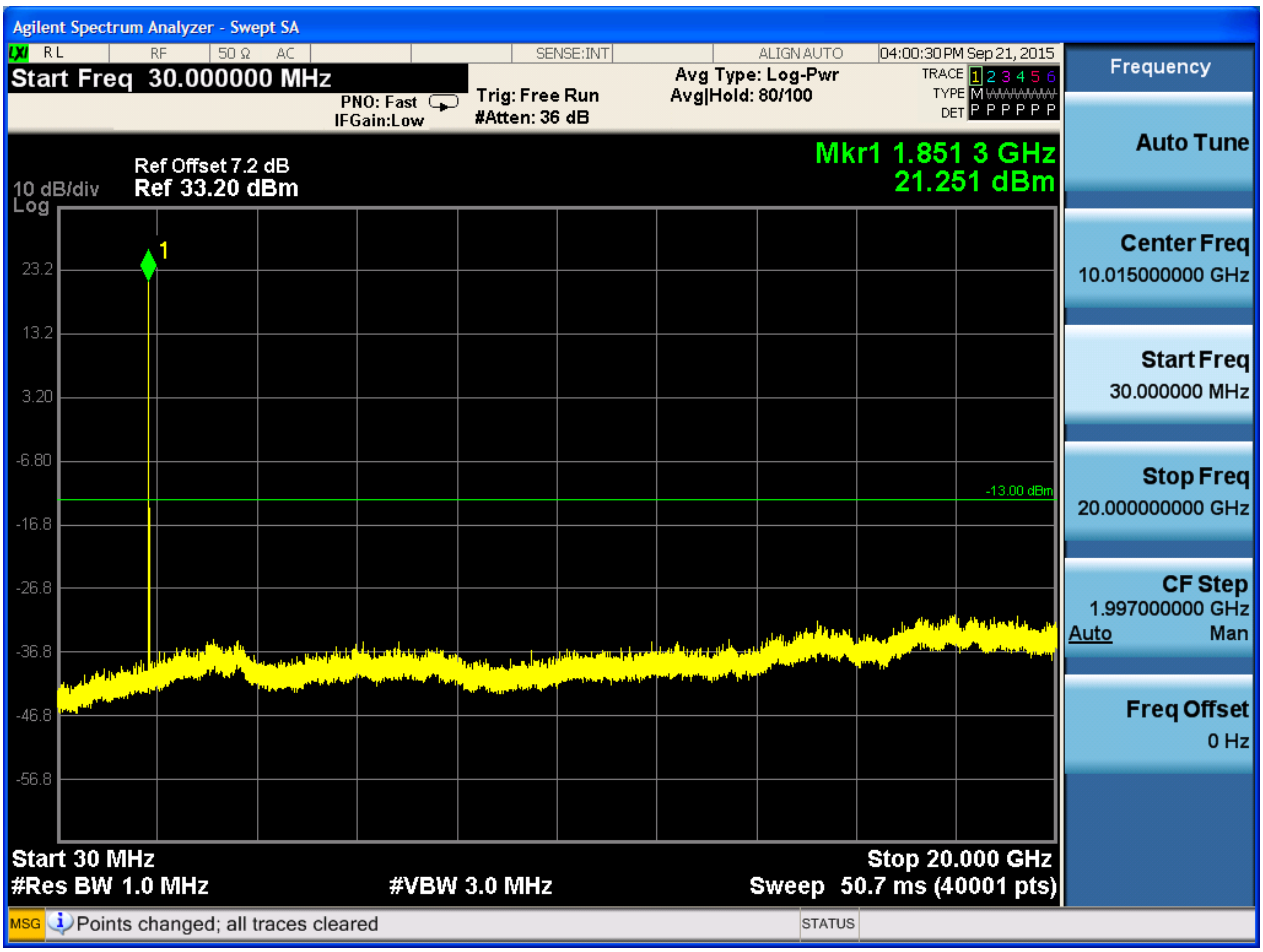

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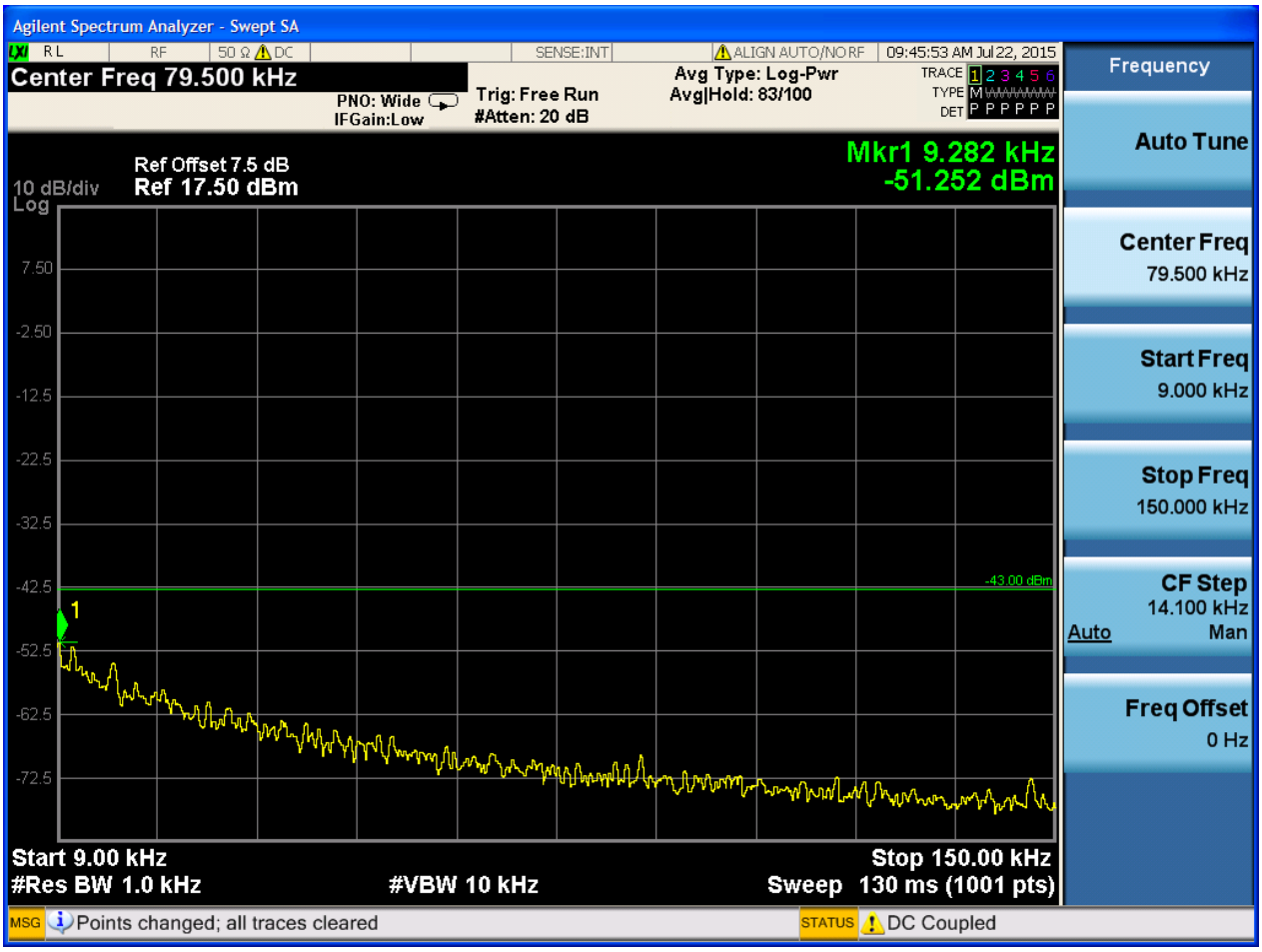
6.1.1.1.2 Test Channel = MCH



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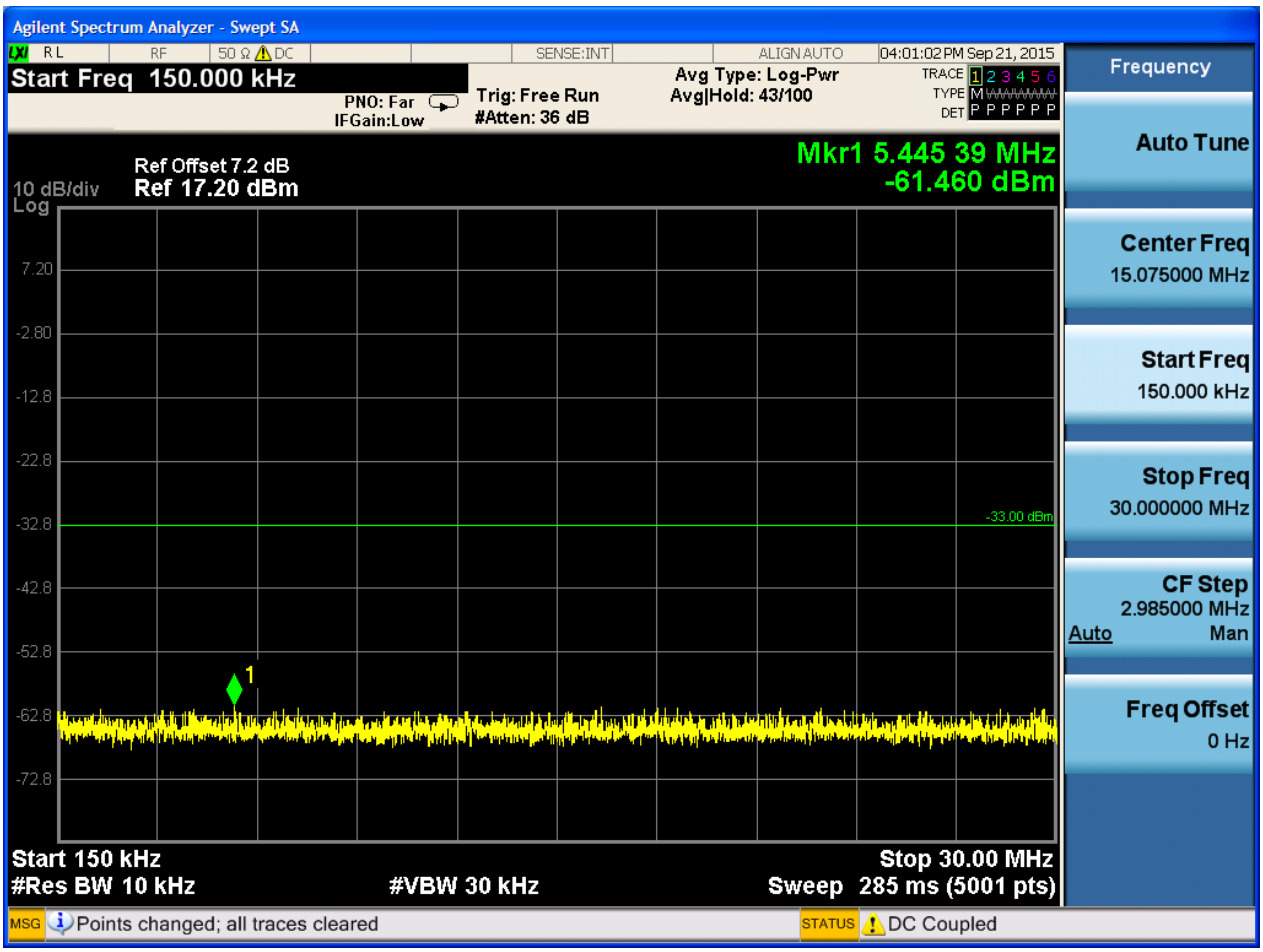

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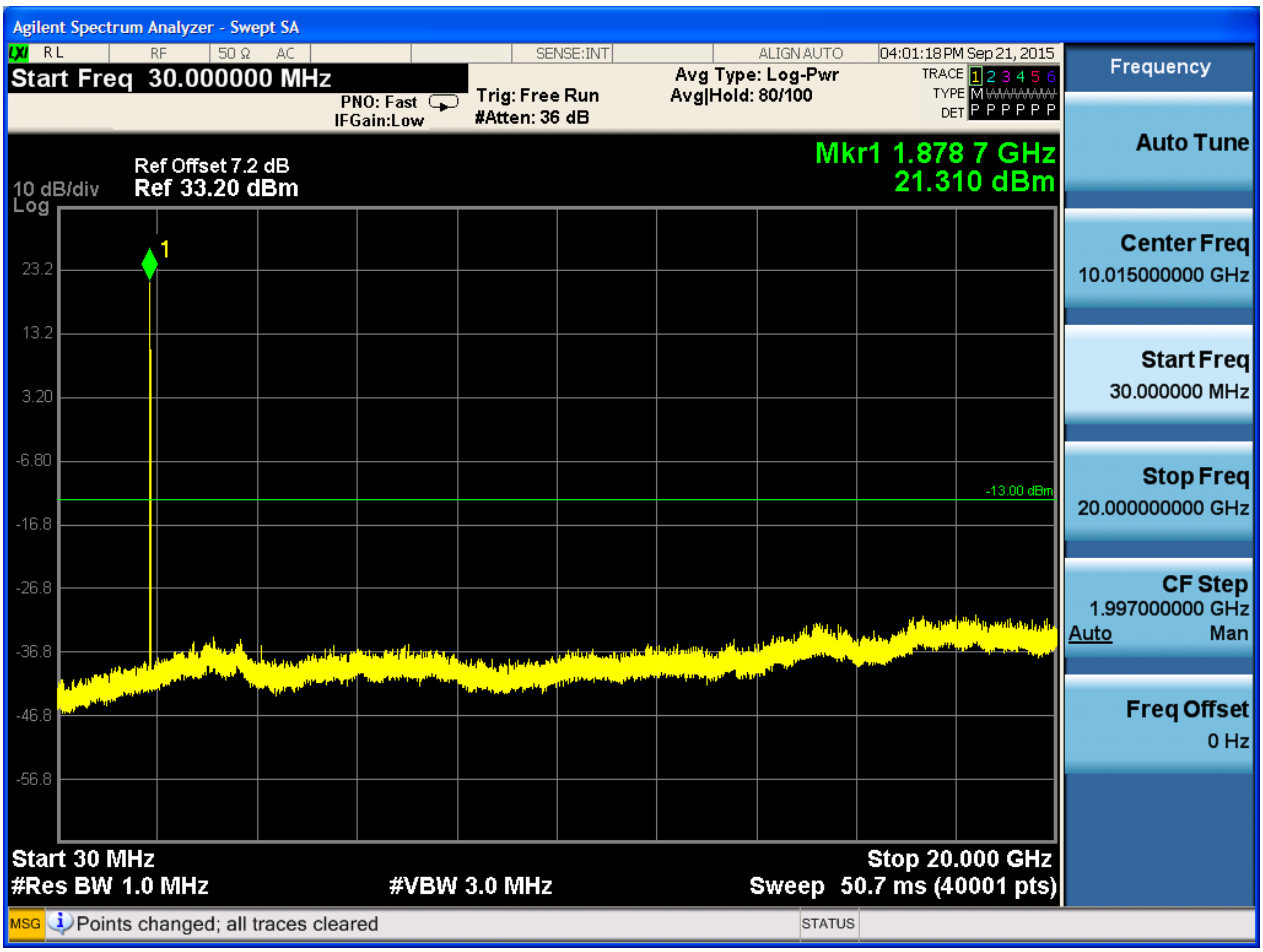

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6.1.1.1.3 Test Channel = HCH

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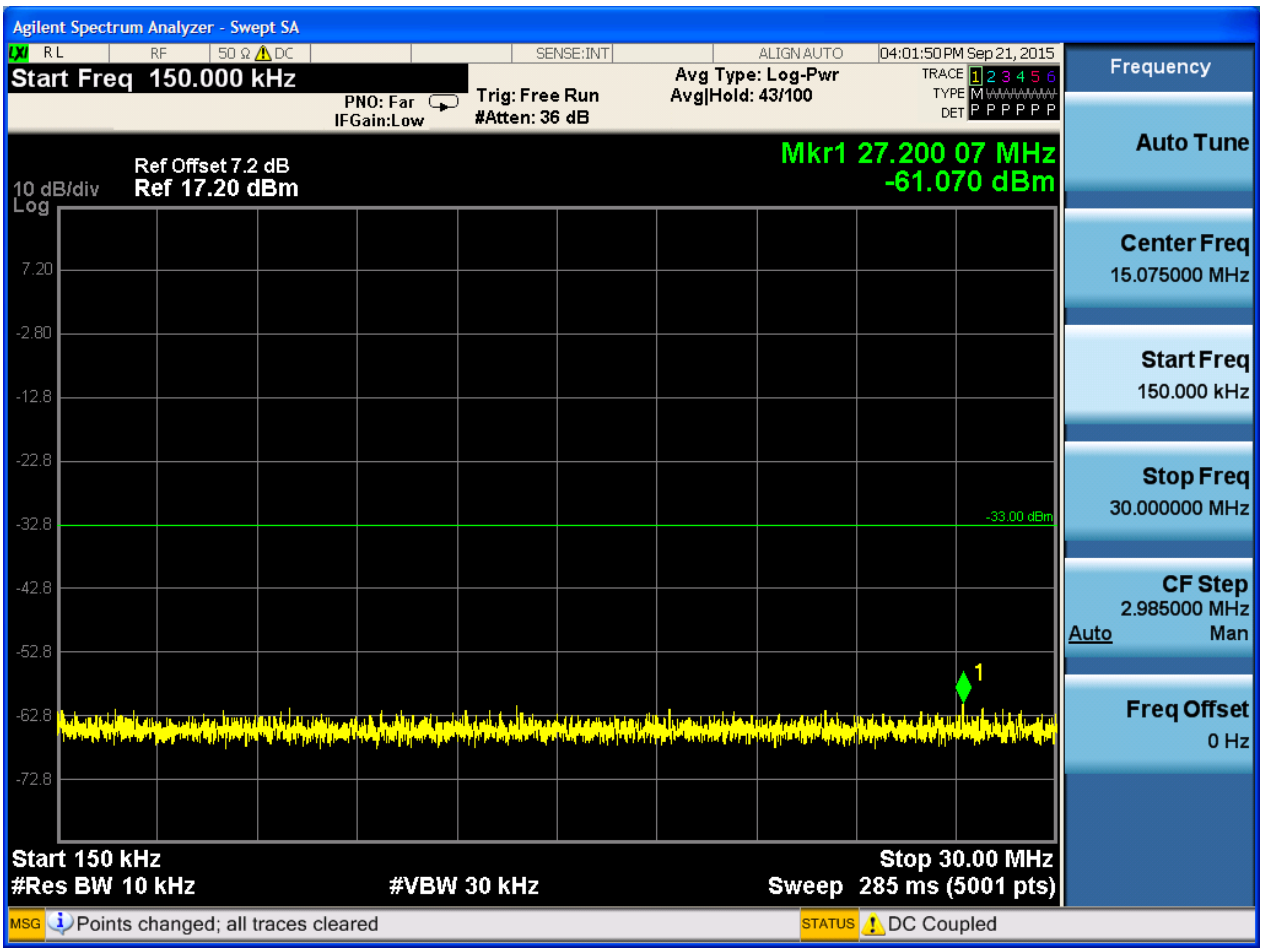

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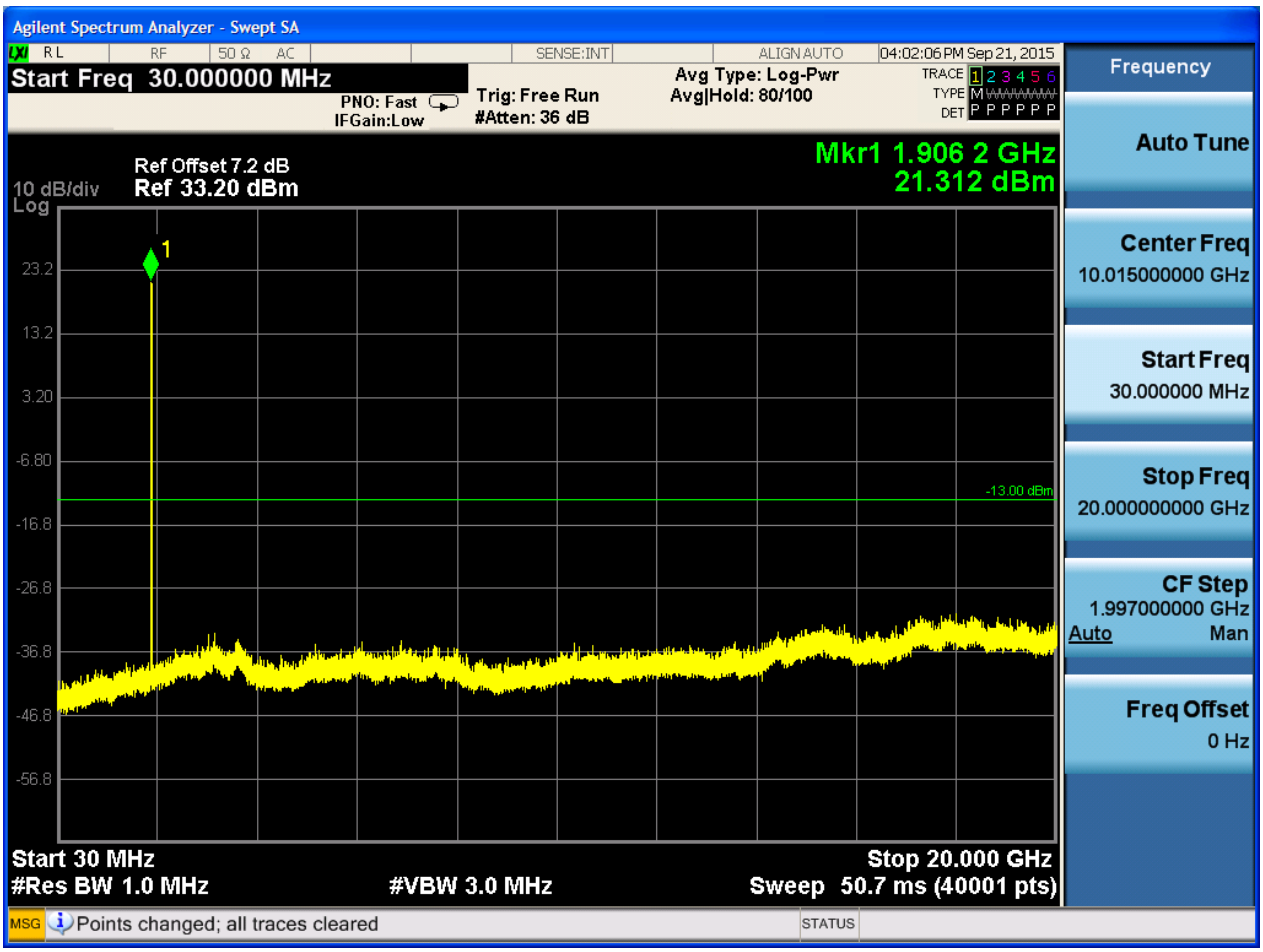

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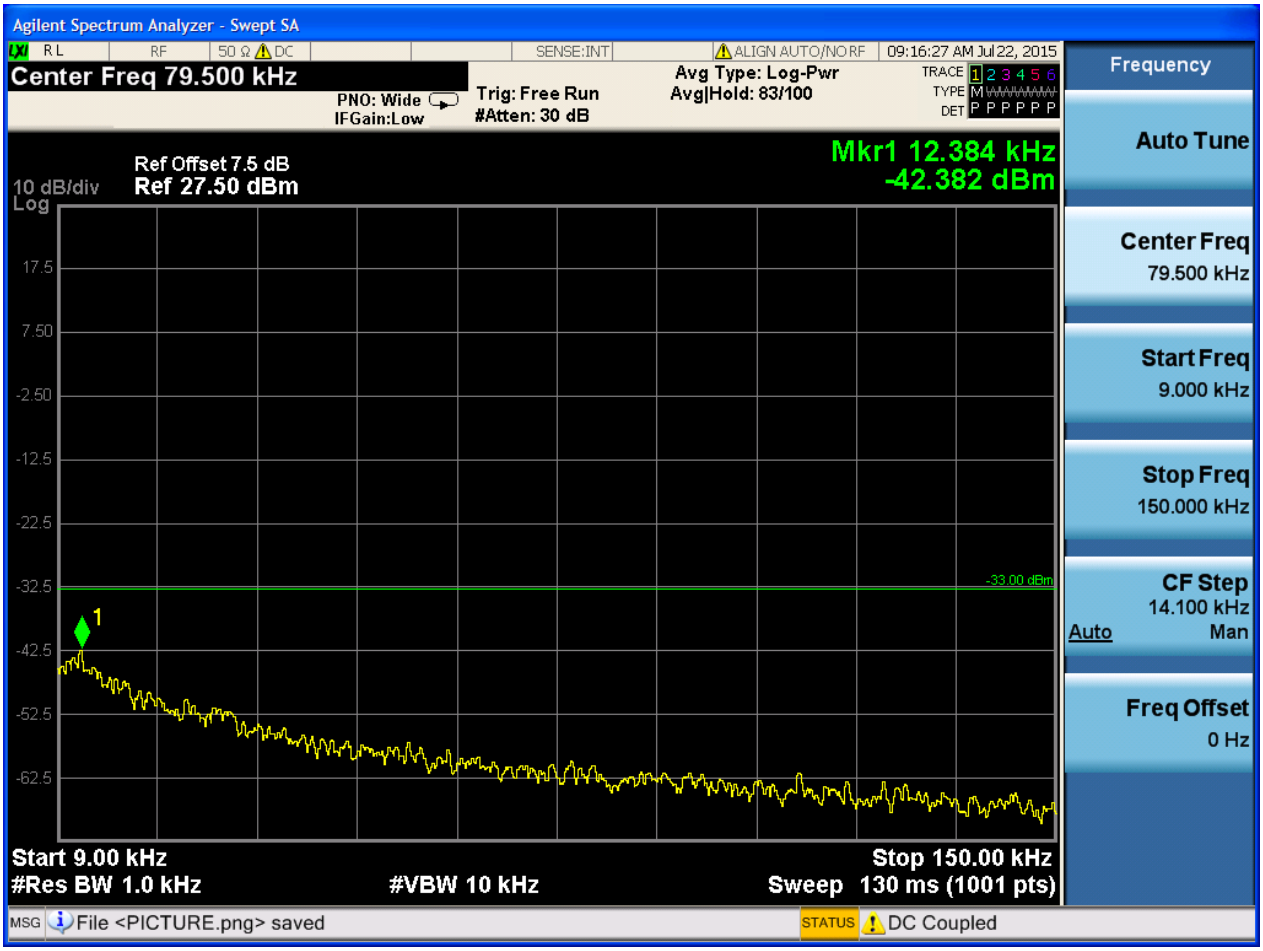
6.1.2 Test Band = WCDMA850

6.1.2.1 Test Mode = UMTS/TM1

6.1.2.1.1 Test Channel = LCH



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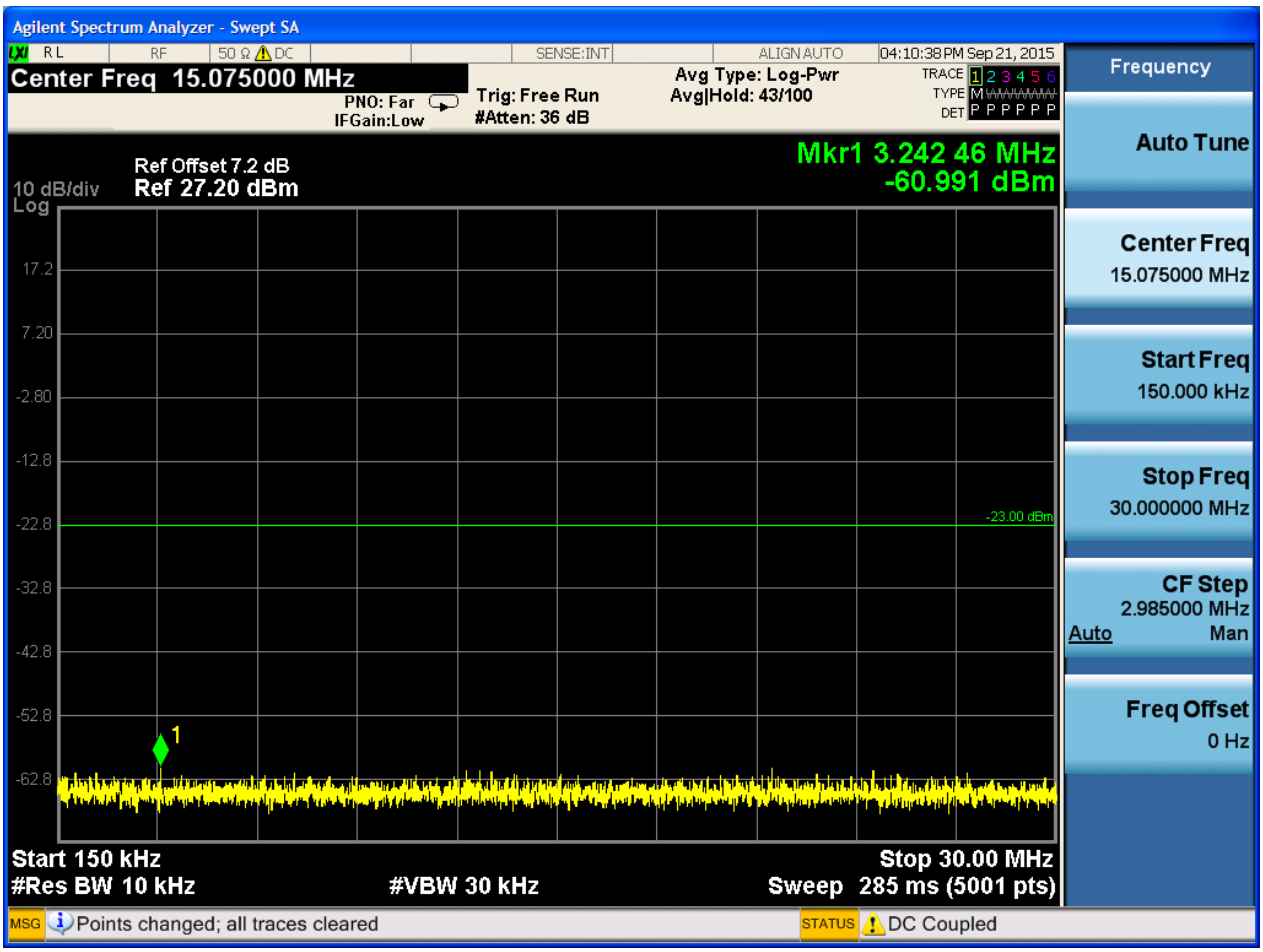

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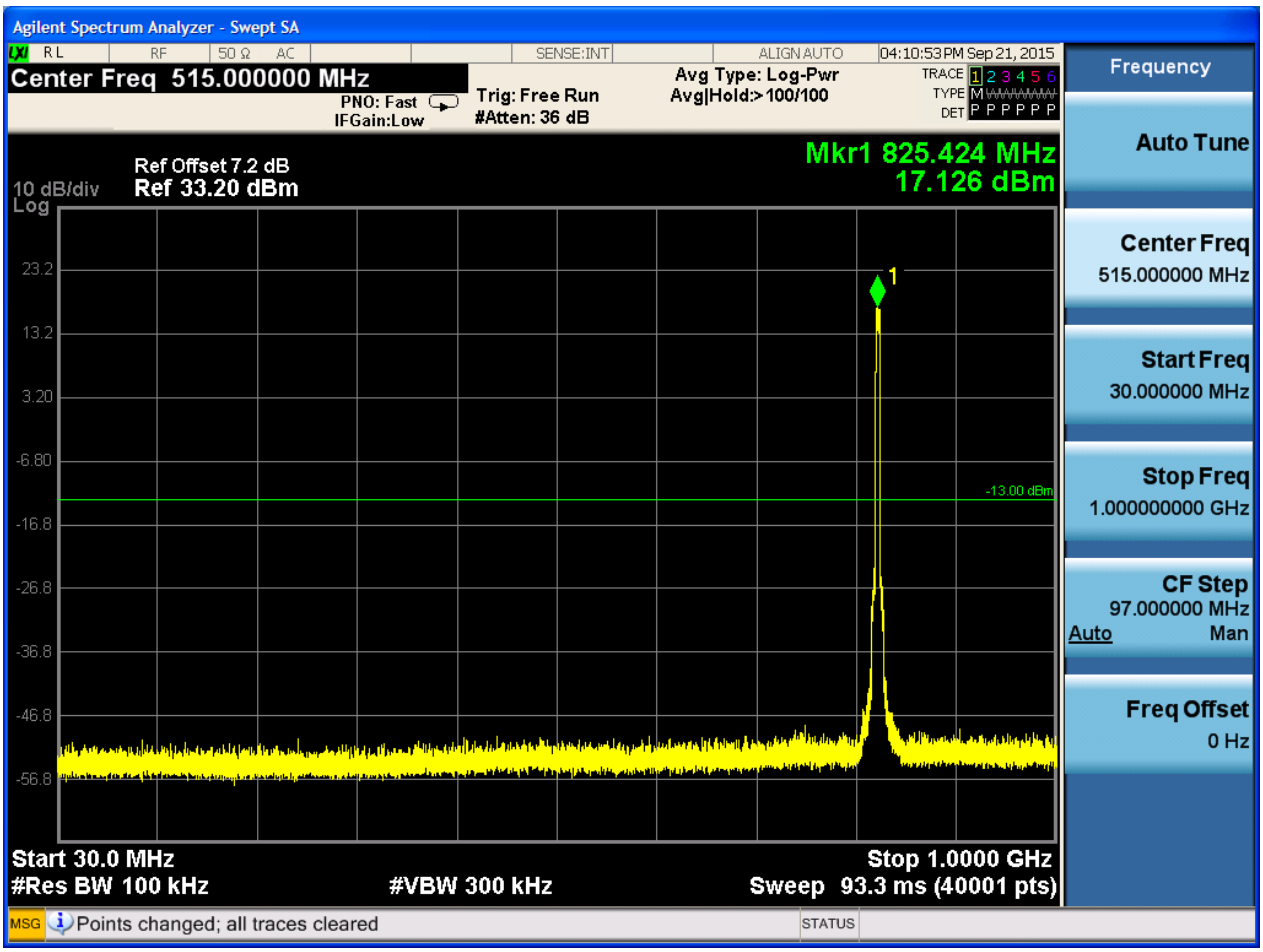

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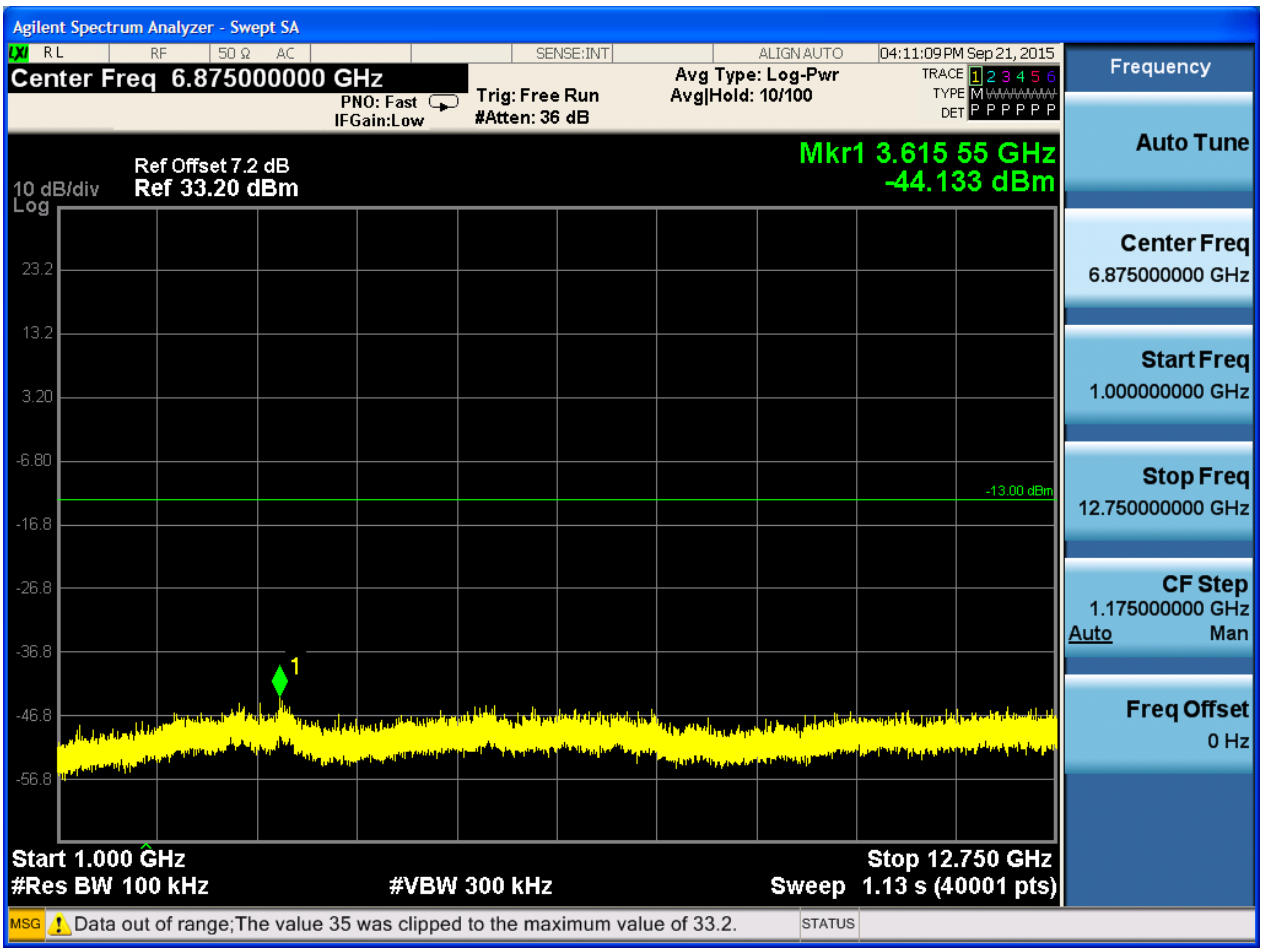

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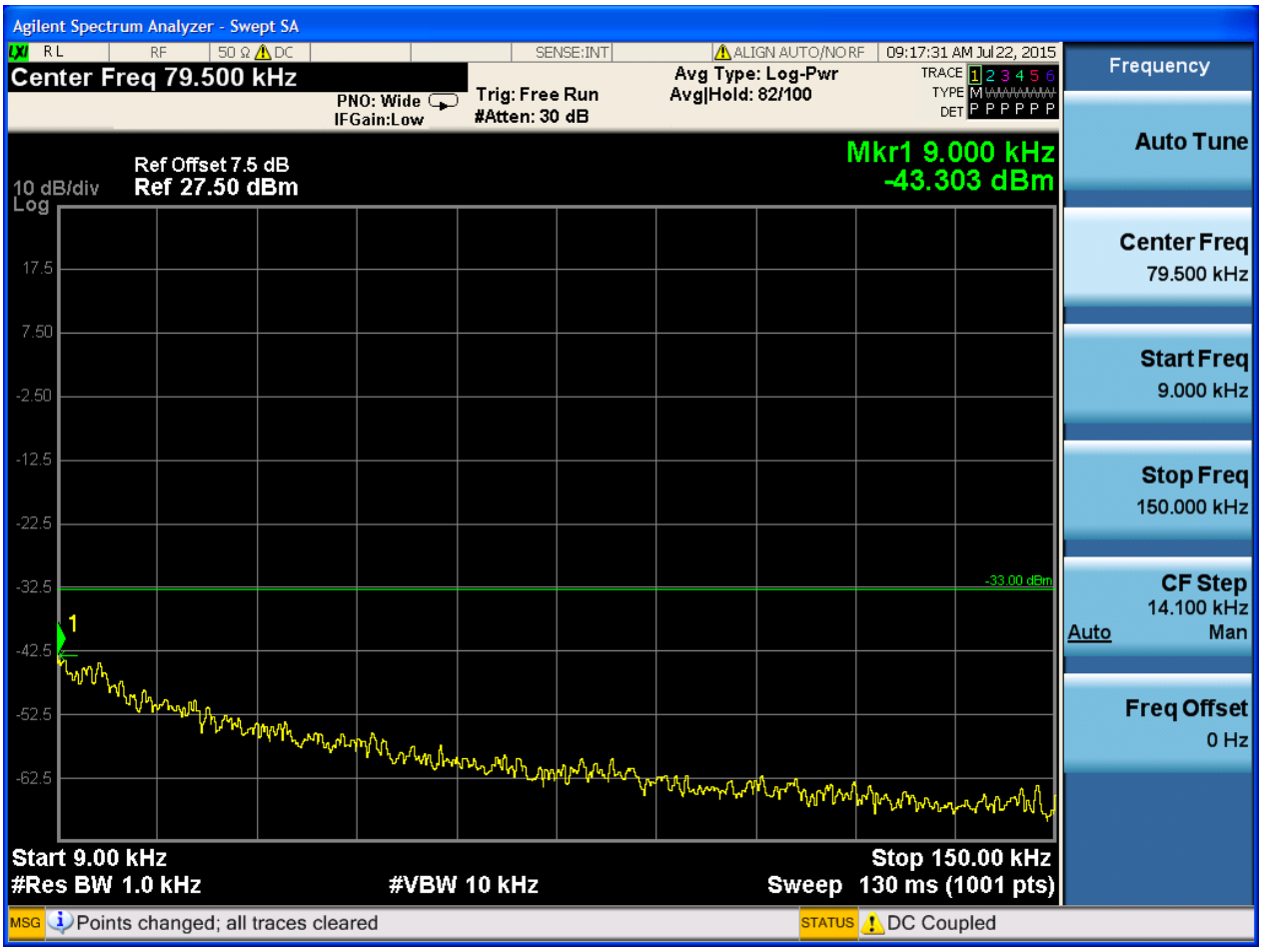
6.1.2.1.2 Test Channel = MCH



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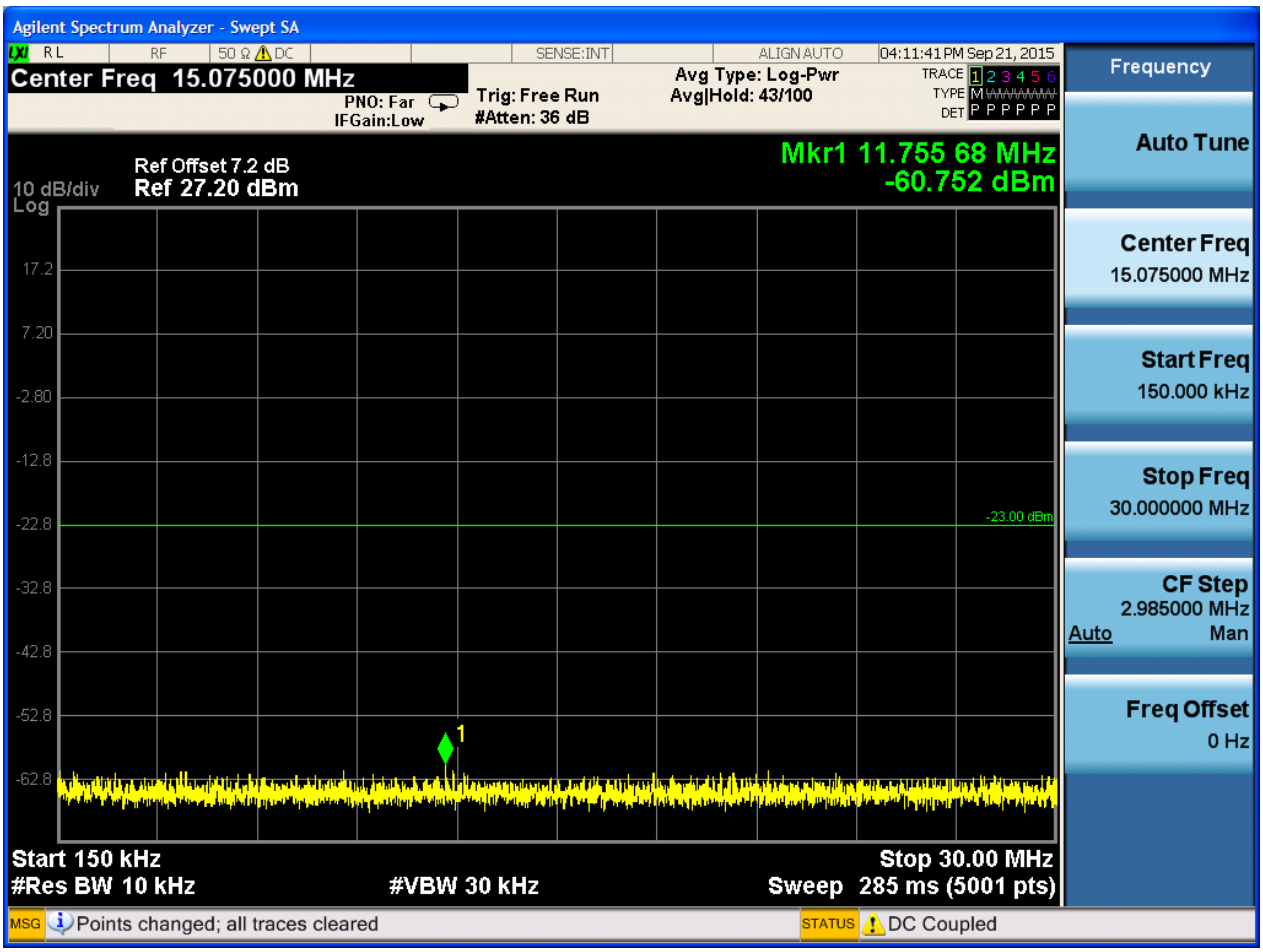

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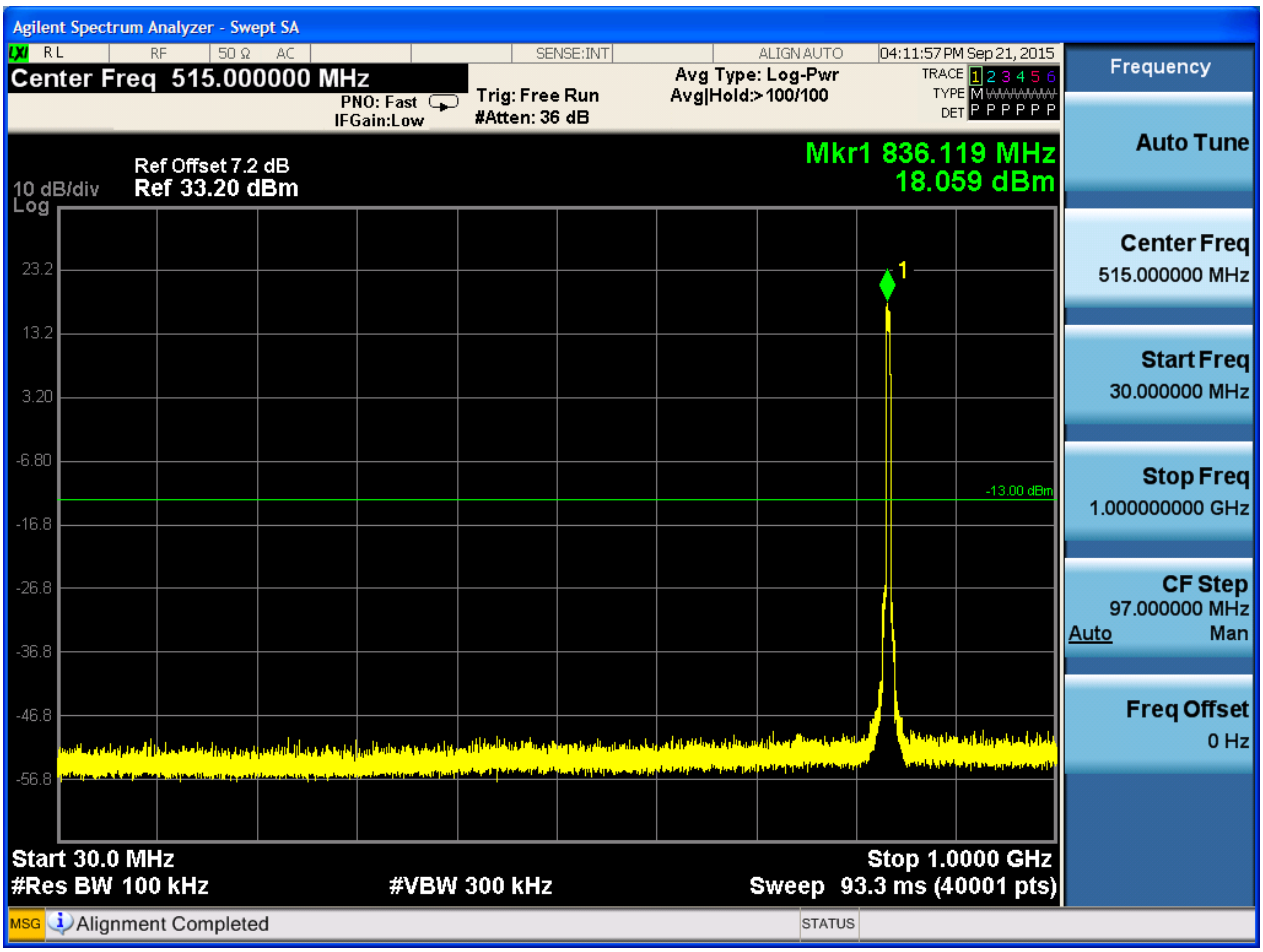

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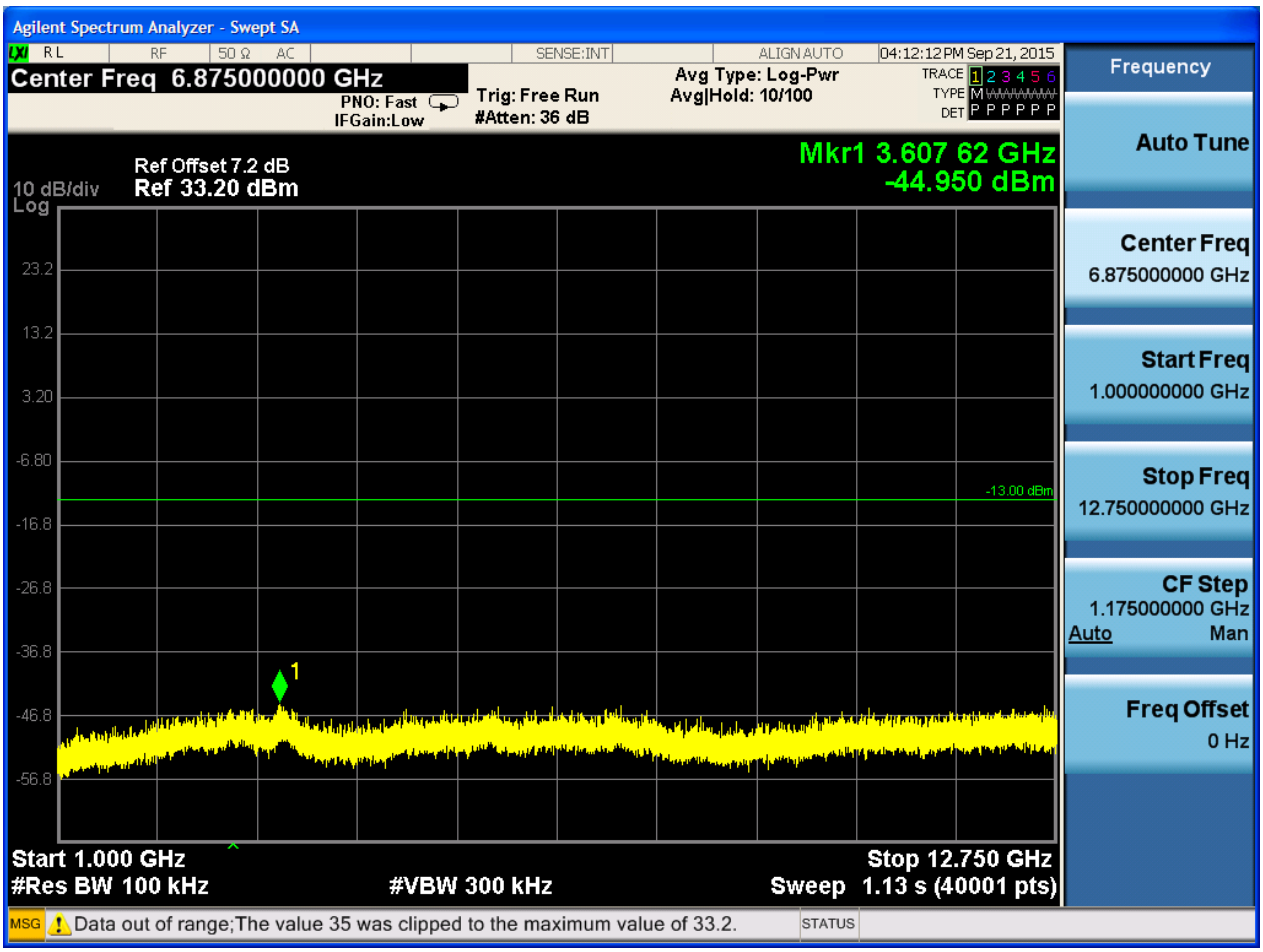

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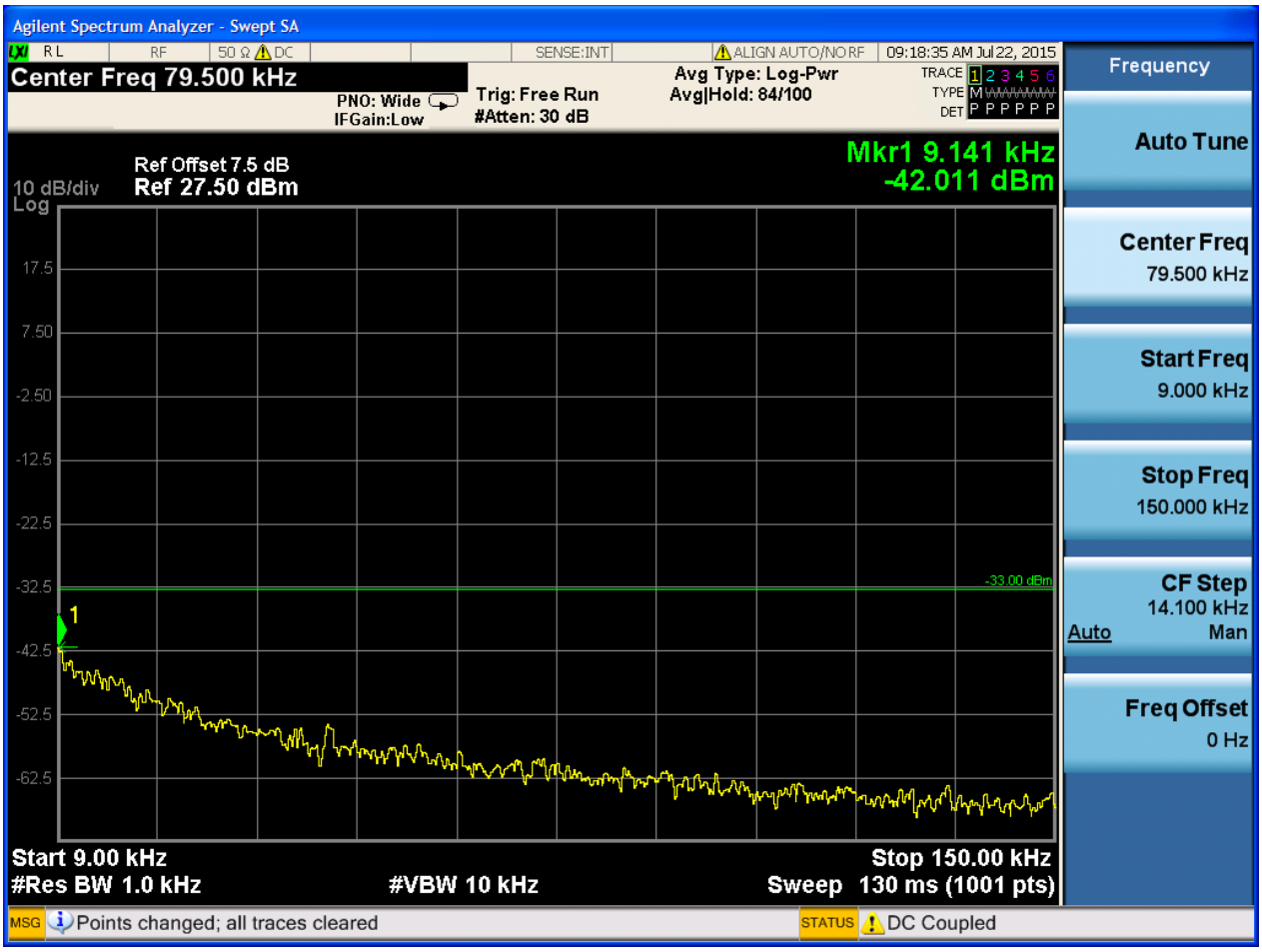
6.1.2.1.3 Test Channel = HCH



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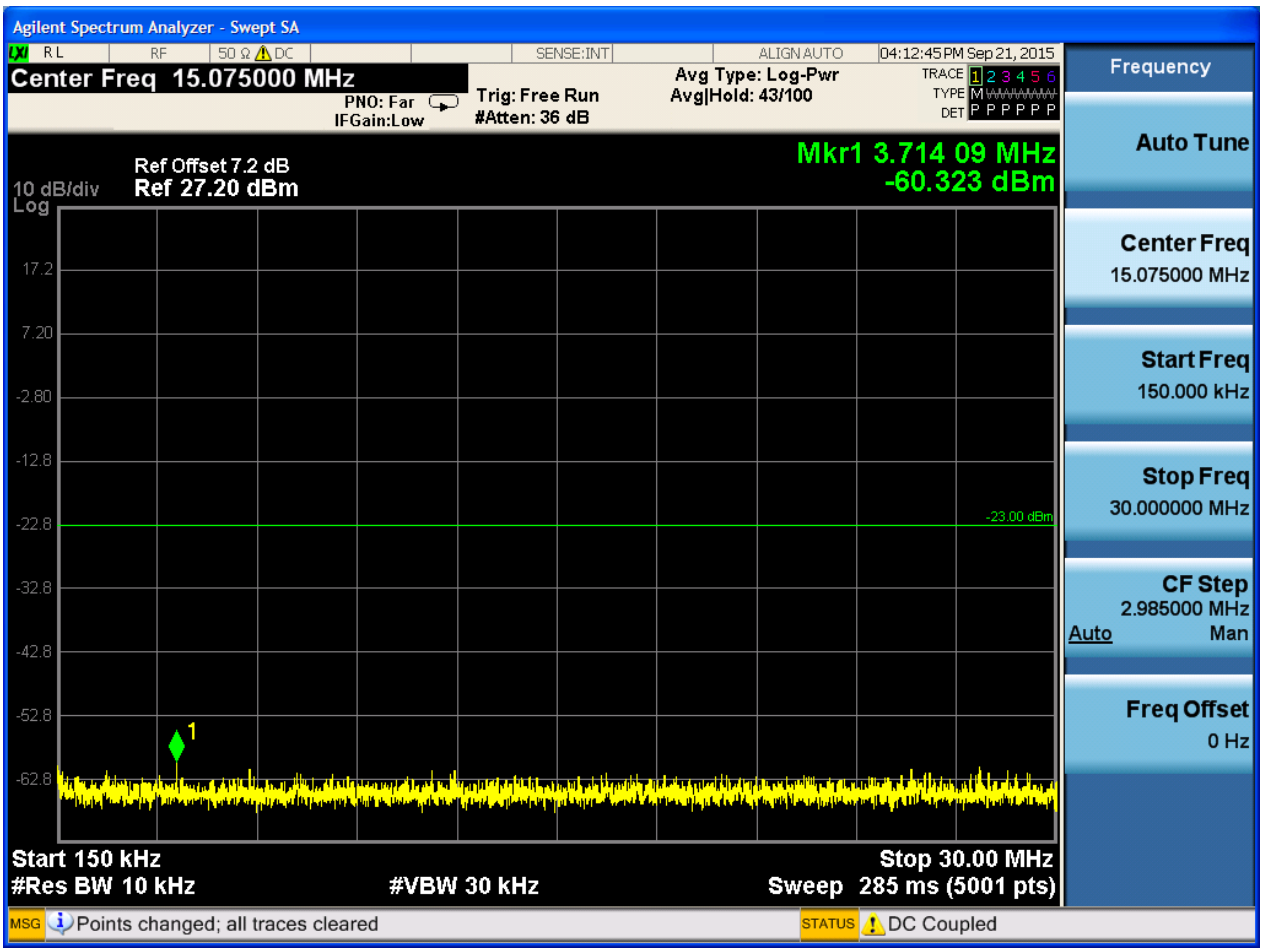

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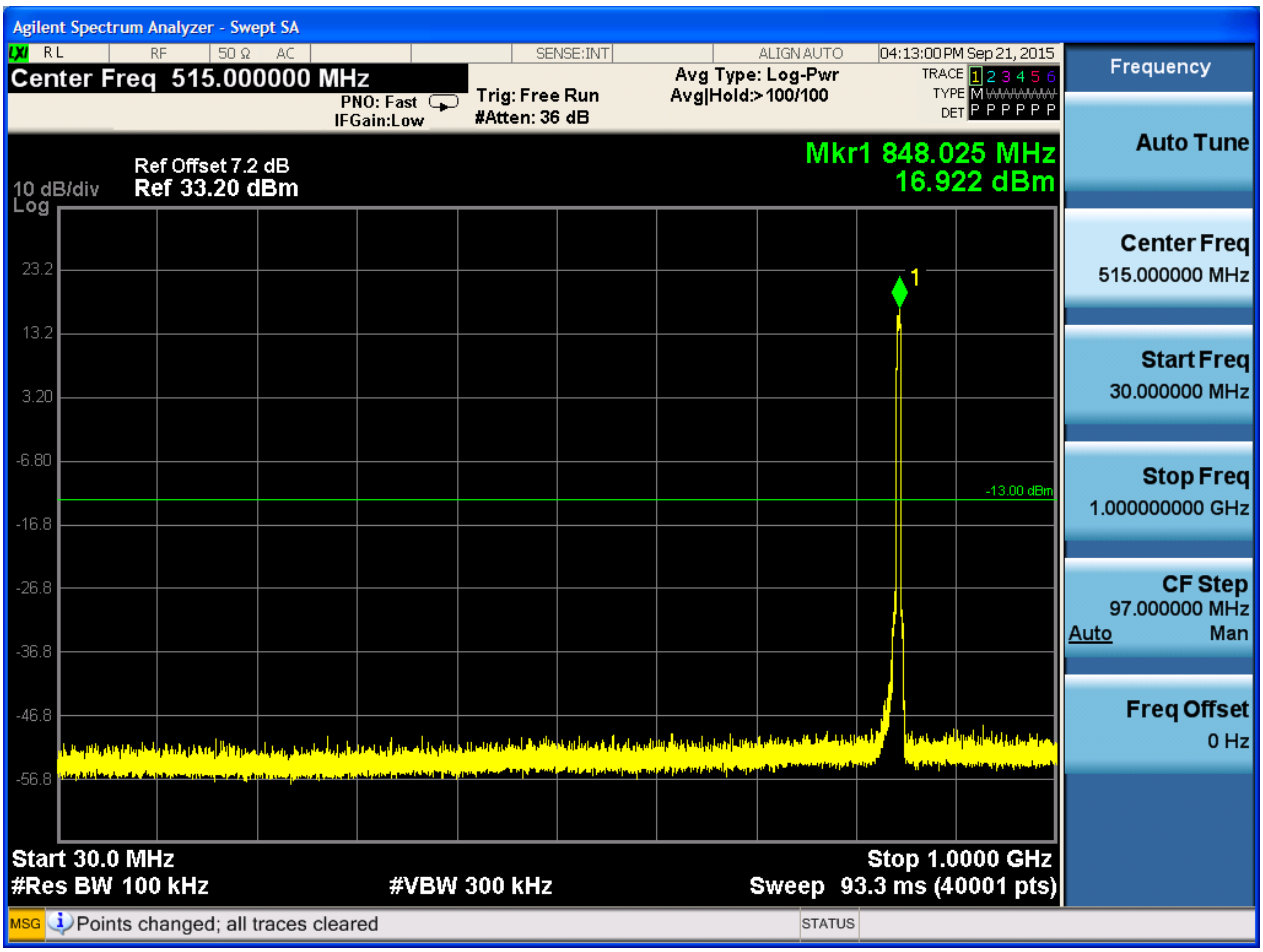

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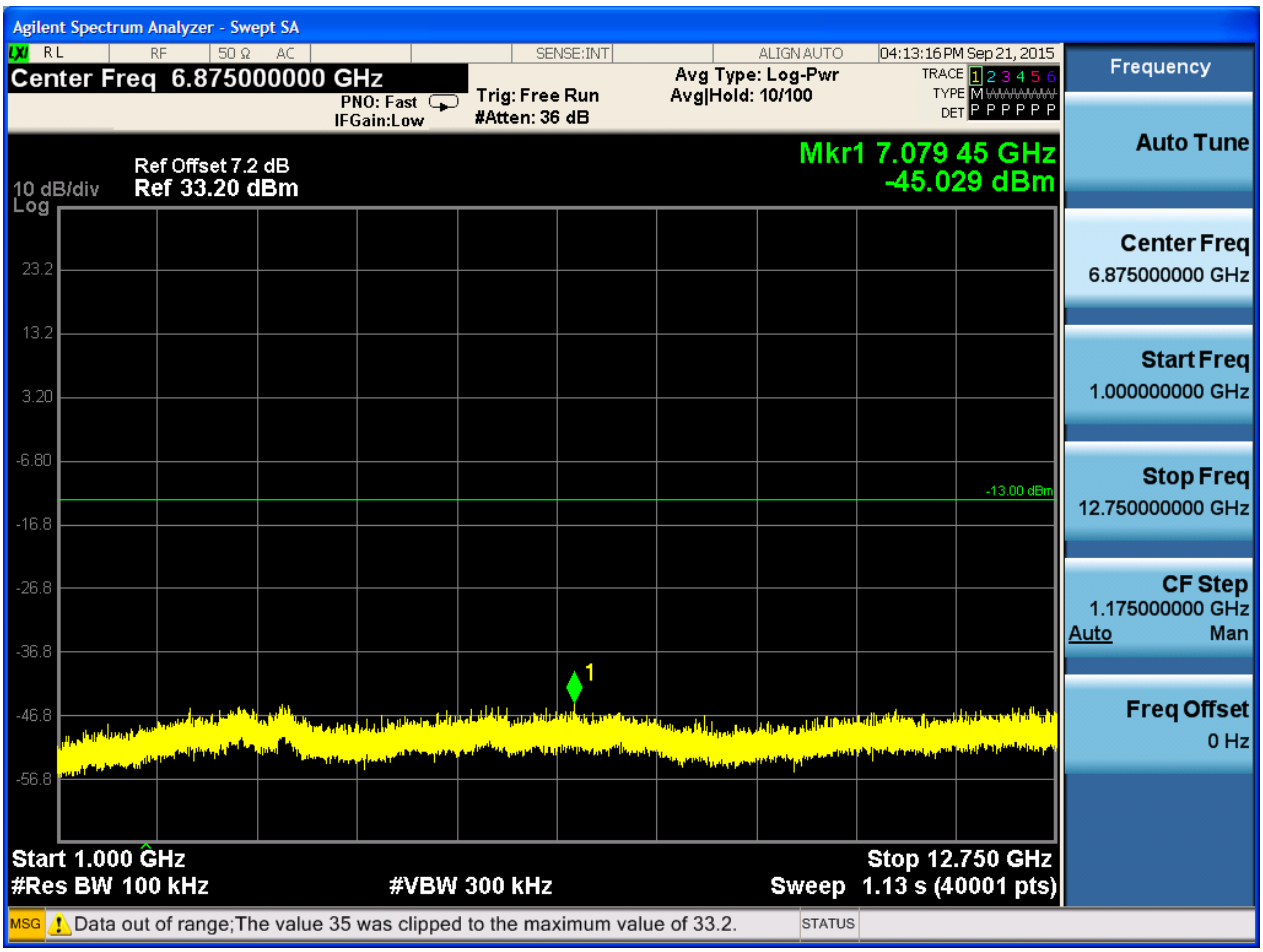

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7Appendix_G: Field Strength of Spurious Radiation

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

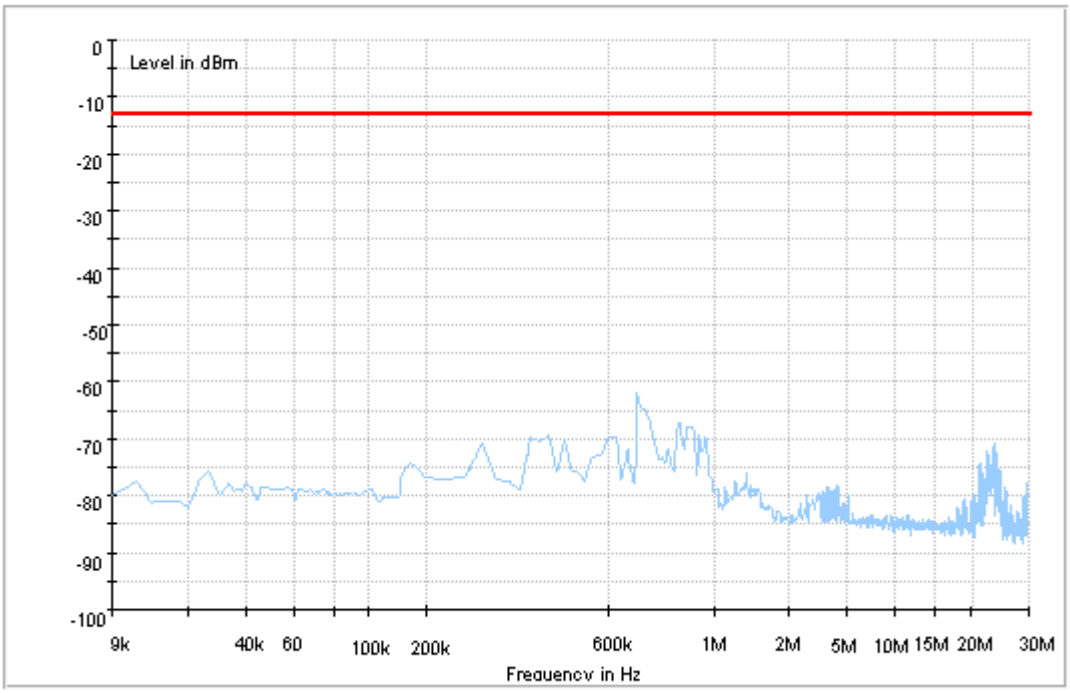
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

7.1 For UMTS

7.1.1 Test Band = WCDMA1900

7.1.1.1 Test Mode = UMTS/TM1



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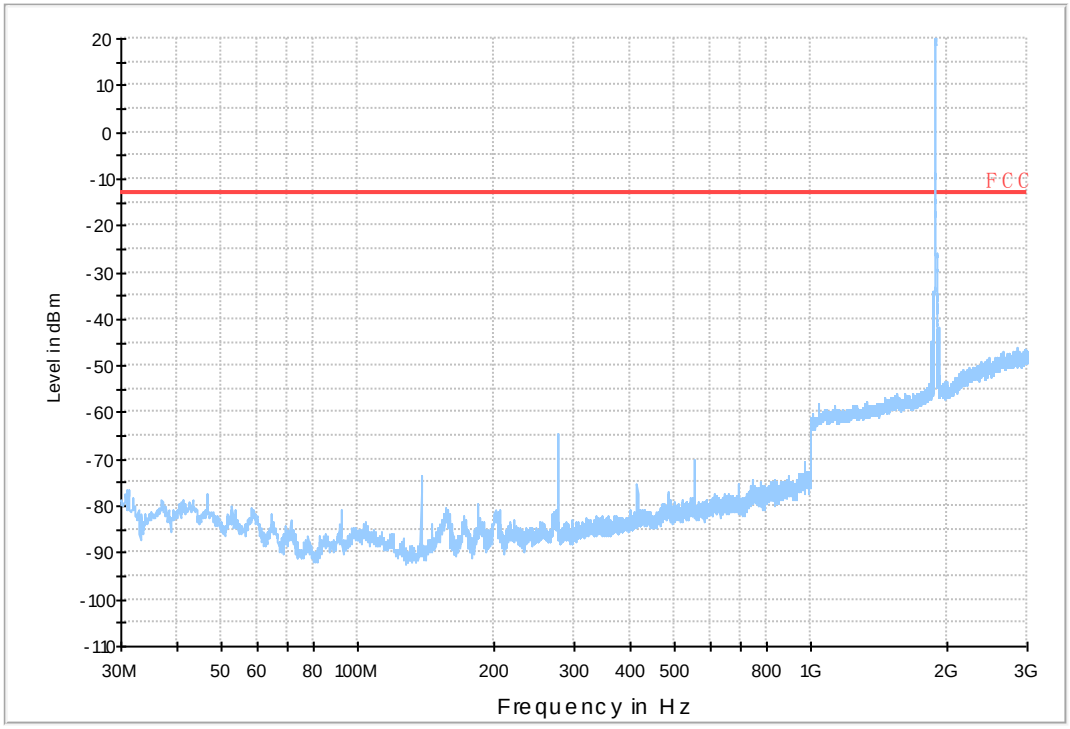
Copy of FCC PART24 WCDMA1900_L



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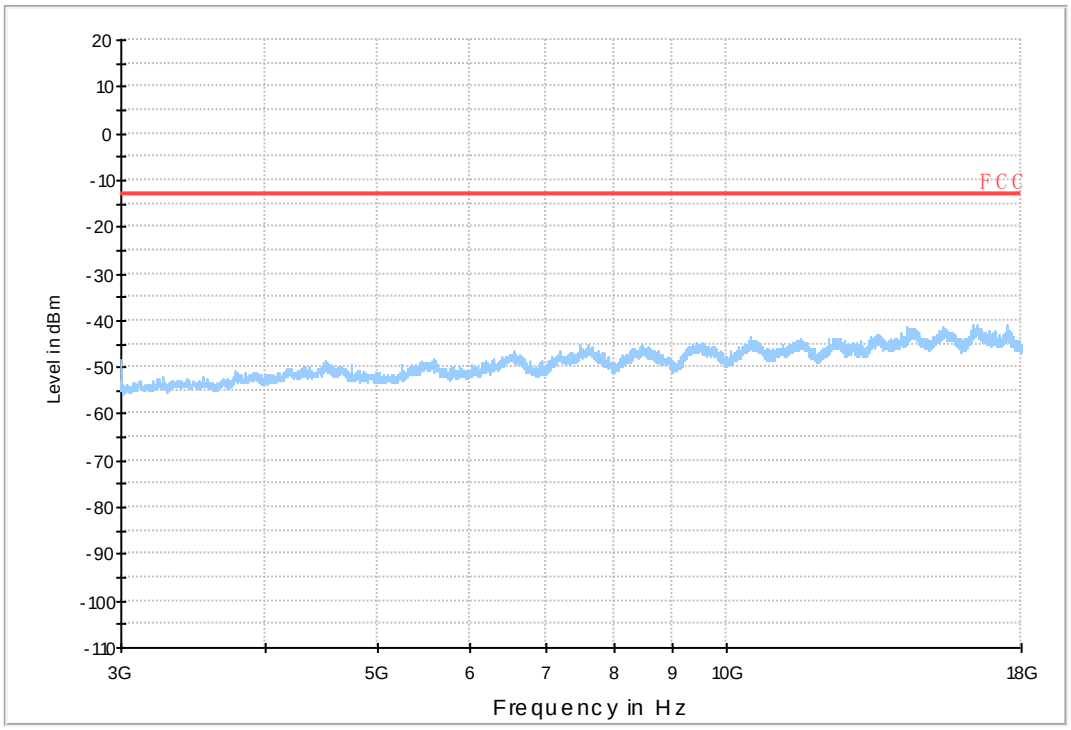

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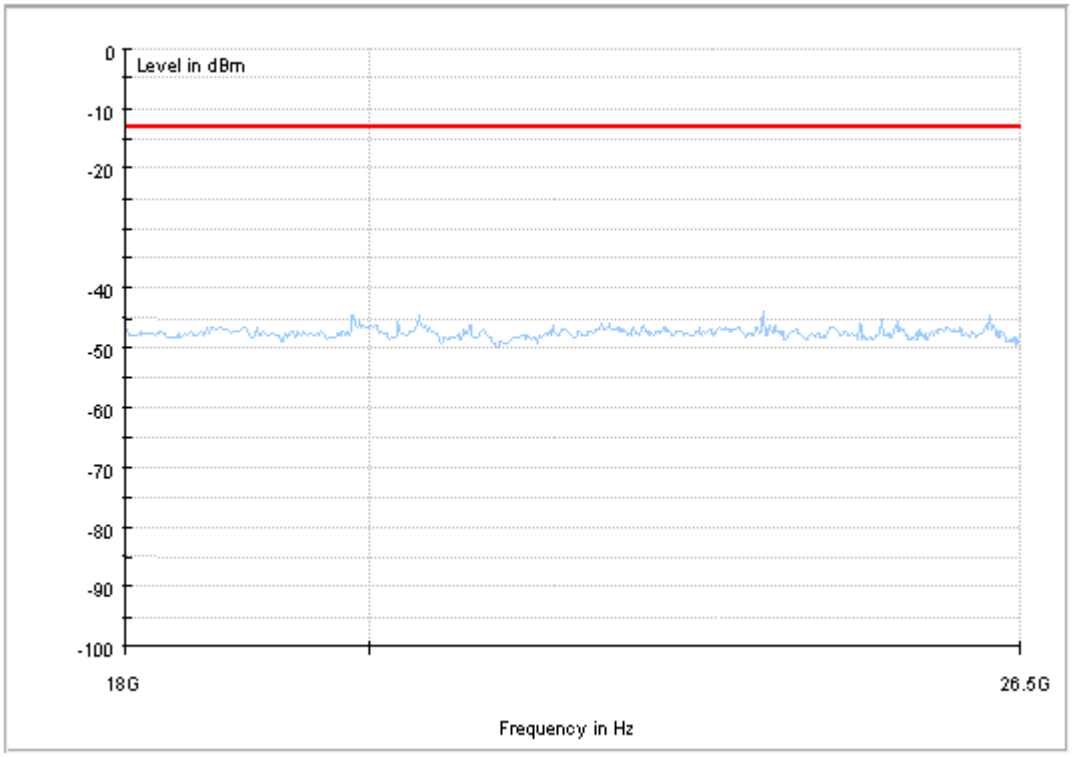

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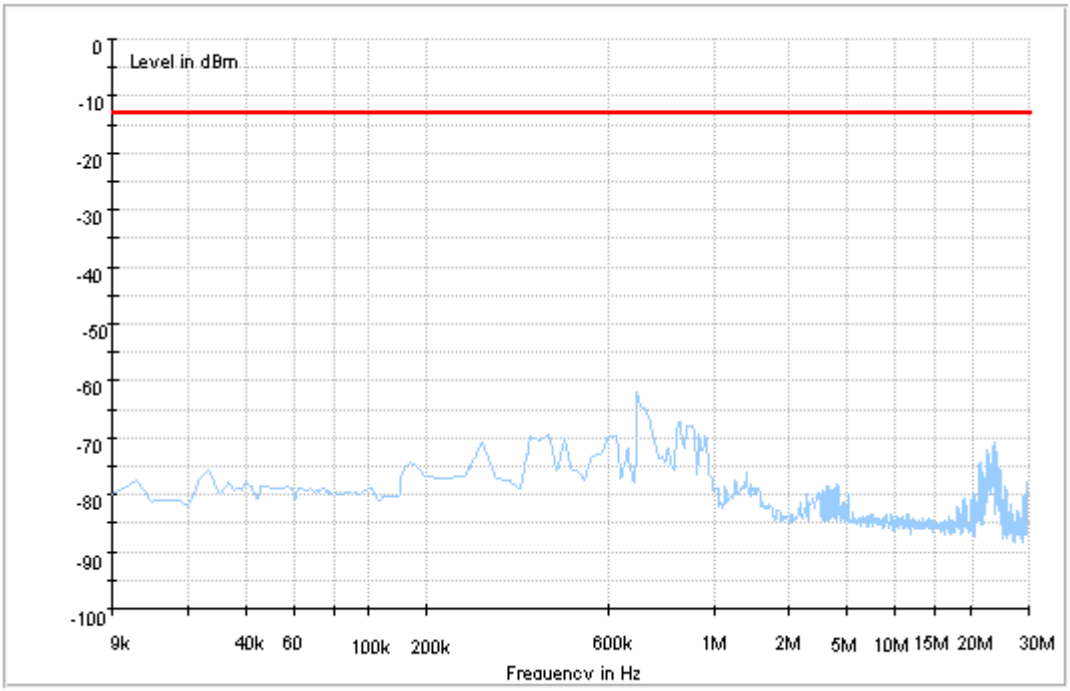
7.1.2 Test Band = WCDMA850

7.1.2.1 Test Mode = UMTS/TM1



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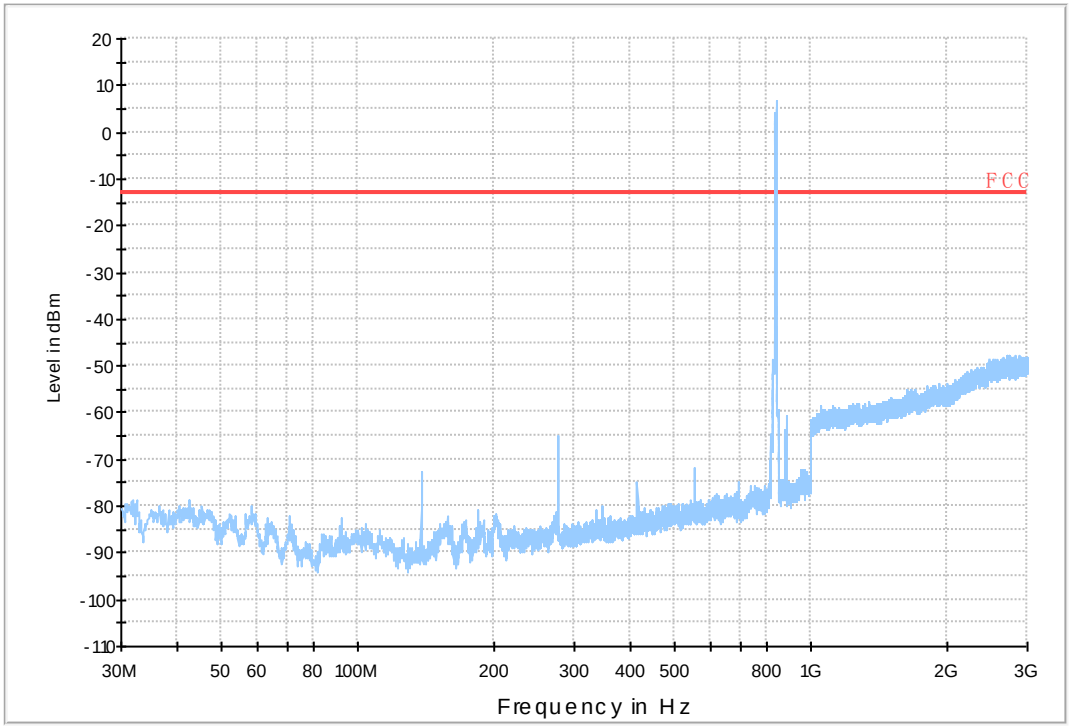

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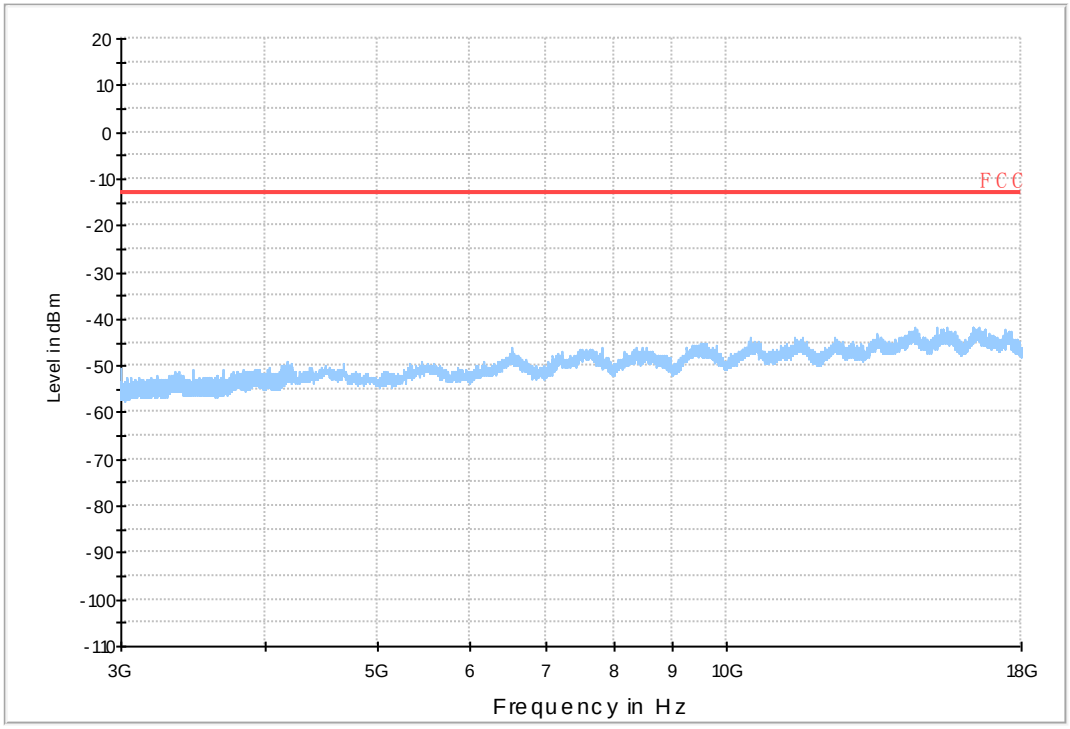
Copy of FCC PART22 WCDMA850_H



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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	3.10	0.00167	PASS
				VN	-0.99	-0.00053	PASS
				VH	1.46	0.00079	PASS
		MCH	TN	VL	-0.40	-0.00021	PASS
				VN	-1.28	-0.00068	PASS
				VH	-3.28	-0.00174	PASS
		HCH	TN	VL	-4.38	-0.0023	PASS
				VN	-4.00	-0.0021	PASS
				VH	-1.60	-0.00084	PASS
WCDMA850	UMTS/TM1	LCH	TN	VL	-0.03	-0.00004	PASS
				VN	0.20	0.00024	PASS
				VH	1.02	0.00123	PASS
		MCH	TN	VL	-0.09	-0.00011	PASS
				VN	-0.44	-0.00053	PASS
				VH	-1.82	-0.00218	PASS
		HCH	TN	VL	-3.62	-0.00428	PASS
				VN	-2.43	-0.00287	PASS
				VH	-0.92	-0.00109	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	4.85	0.00262	PASS
				-20	-1.30	-0.0007	PASS
				-10	-0.52	-0.00028	PASS
				0	0.49	0.00026	PASS
				10	0.34	0.00018	PASS
				20	4.61	0.00249	PASS
				30	0.44	0.00024	PASS

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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				40	1.01	0.00055	PASS
				50	2.23	0.0012	PASS
		MCH	VN	-30	1.19	0.00063	PASS
				-20	-1.43	-0.00076	PASS
				-10	1.02	0.00054	PASS
				0	-3.66	-0.00195	PASS
				10	-1.42	-0.00076	PASS
				20	-2.03	-0.00108	PASS
				30	0.53	0.00028	PASS
				40	-2.94	-0.00156	PASS
				50	0.61	0.00032	PASS
		HCH	VN	-30	-4.04	-0.00212	PASS
				-20	-2.73	-0.00143	PASS
				-10	-3.59	-0.00188	PASS
				0	-2.11	-0.00111	PASS
				10	-3.25	-0.0017	PASS
				20	-2.32	-0.00122	PASS
				30	-4.68	-0.00245	PASS
				40	-6.24	-0.00327	PASS
				50	-4.35	-0.00228	PASS
WCDMA850	UMTS/TM1	LCH	VN	-30	1.25	0.00151	PASS
				-20	-0.03	-0.00004	PASS
				-10	-0.31	-0.00038	PASS
				0	-0.53	-0.00064	PASS
				10	1.43	0.00173	PASS
				20	3.60	0.00436	PASS
				30	0.35	0.00042	PASS
				40	-1.16	-0.0014	PASS
				50	1.56	0.00189	PASS
		MCH	VN	-30	-1.10	-0.00132	PASS
				-20	-1.22	-0.00146	PASS
				-10	-0.44	-0.00053	PASS
				0	-2.79	-0.00334	PASS
				10	0.23	0.00027	PASS
				20	-1.77	-0.00212	PASS
				30	1.11	0.00133	PASS
				40	0.14	0.00017	PASS
				50	-1.82	-0.00218	PASS
		HCH	VN	-30	-2.06	-0.00243	PASS
				-20	0.00	0	PASS

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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-10	-0.18	-0.00021	PASS
				0	-0.79	-0.00093	PASS
				10	-2.59	-0.00306	PASS
				20	-2.08	-0.00246	PASS
				30	1.37	0.00162	PASS
				40	-1.01	-0.00119	PASS
				50	-1.22	-0.00144	PASS

END

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