Appendix for test report

1Appendix_A: Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	ERP[dBm]	Limit [dBm]	Verdict
GSM850	GSM/TM1	LCH	32.53	27.78	38.5	PASS
		MCH	32.69	27.94	38.5	PASS
		HCH	32.69	27.94	38.5	PASS
	GSM/TM2	LCH	25.89	21.14	38.5	PASS
		MCH	25.89	21.14	38.5	PASS
		HCH	25.84	21.09	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
GSM850	GSM/TM1	LCH	0.34	13	PASS
		MCH	0.38	13	PASS
		HCH	0.35	13	PASS
	GSM/TM2	LCH	2.82	13	PASS
		MCH	2.88	13	PASS
		HCH	3.02	13	PASS

3Appendix_C: Modulation Characteristics

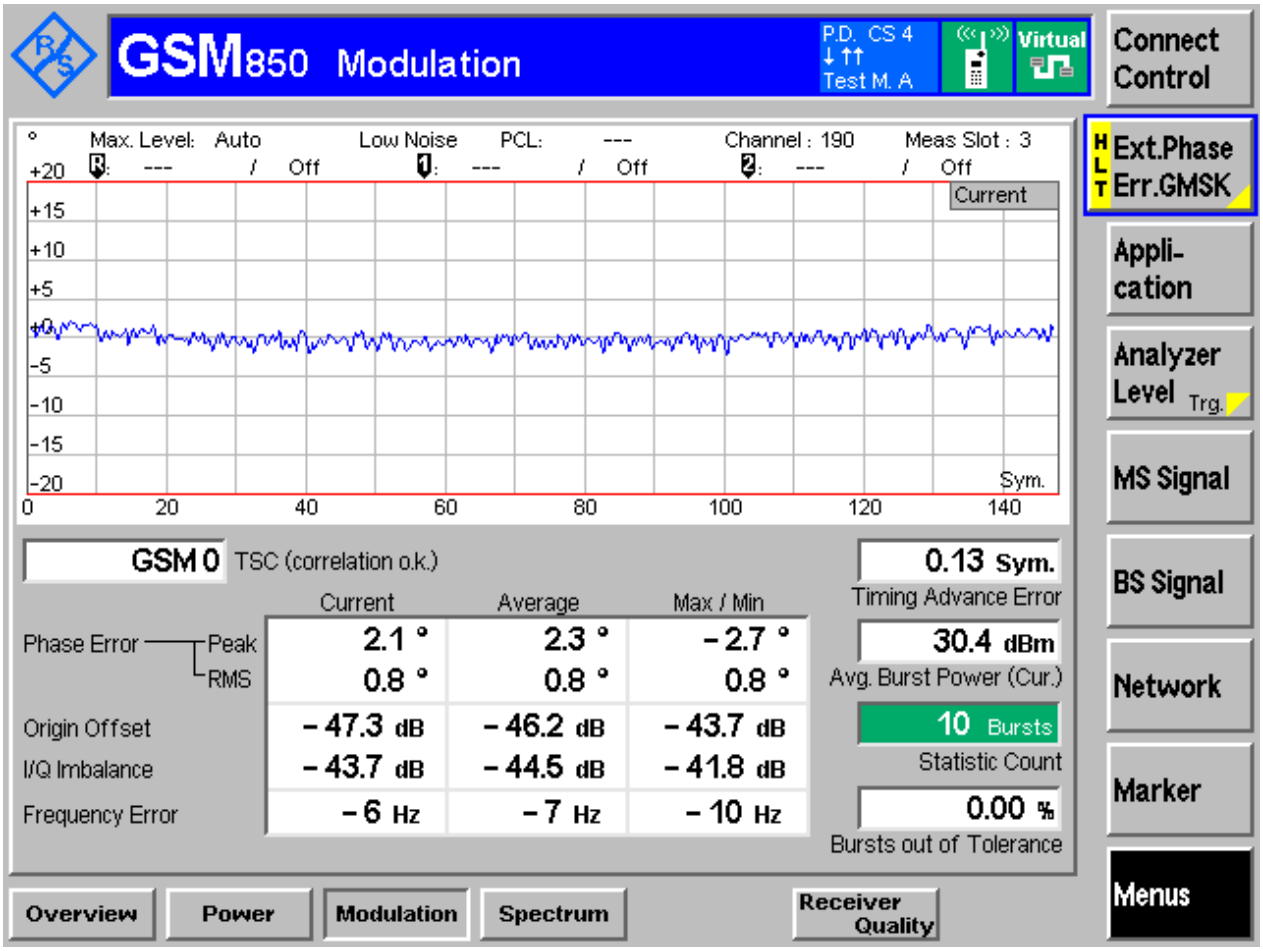
Part I - Test Plots

3.1 For GSM

3.1.1 Test Band = GSM850

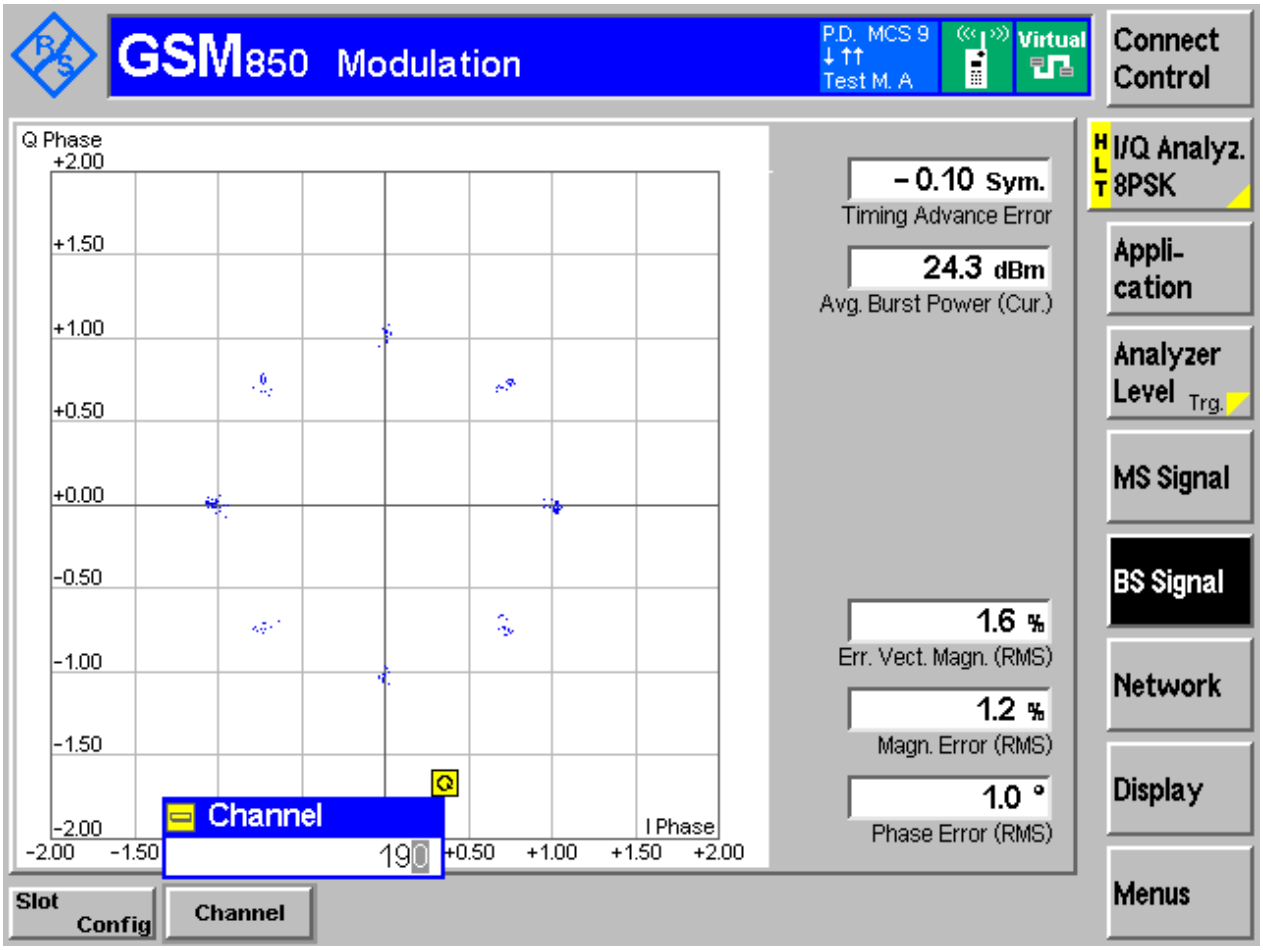
3.1.1.1 Test Mode = GSM/TM1

3.1.1.1.1 Test Channel = MCH



3.1.1.2 Test Mode = GSM/TM2

3.1.1.2.1 Test Channel = MCH



4Appendix_D: Bandwidth

Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [kHz]	Verdict
GSM850	GSM/TM1	LCH	246.87	313.81	Pass
		MCH	242.47	315.34	Pass
		HCH	245.65	312.19	Pass
	GSM/TM2	LCH	250.35	321.47	Pass
		MCH	248.21	311.79	Pass
		HCH	250.05	318.82	Pass

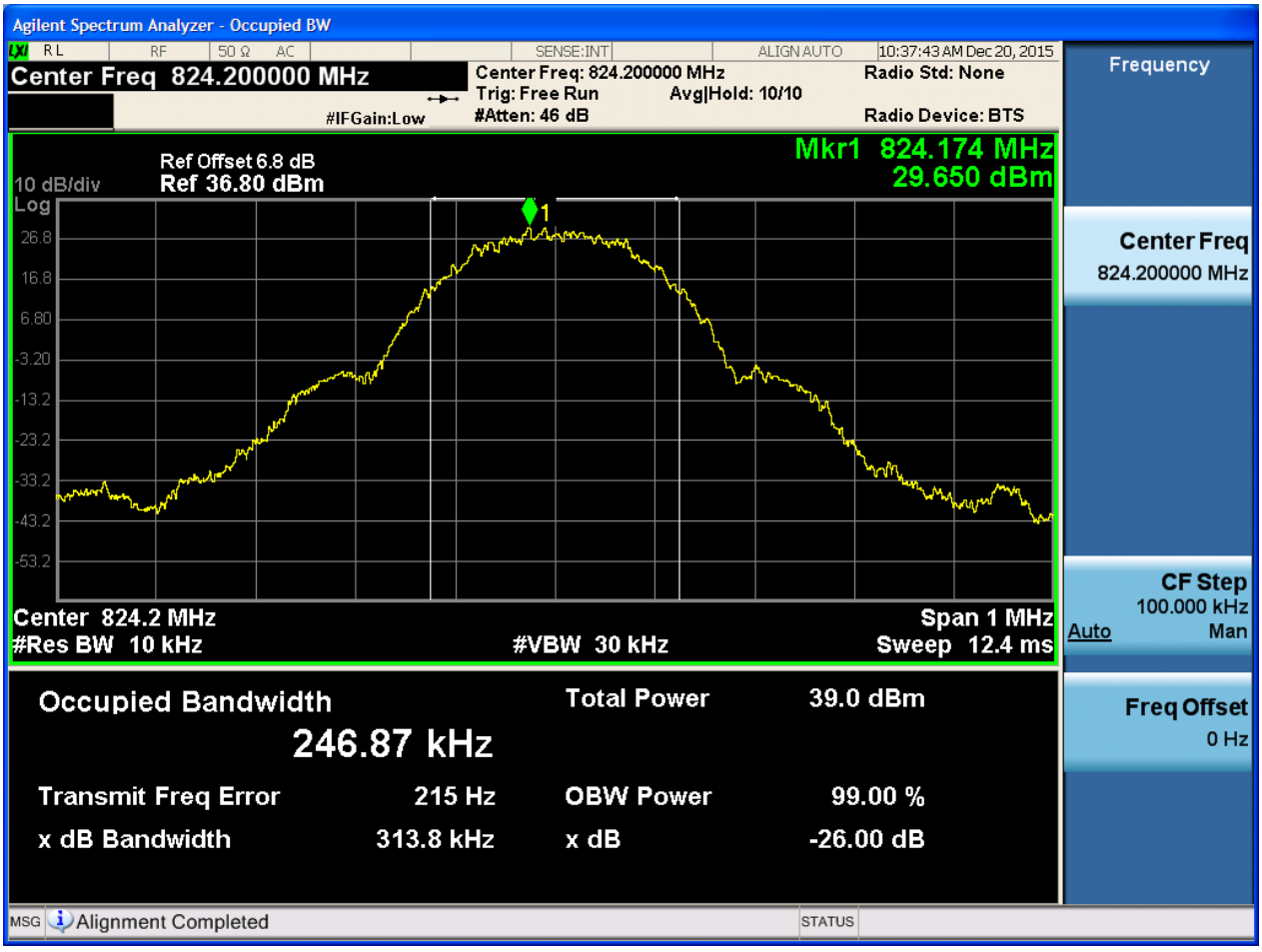
Part II - Test Plots

4.1 For GSM

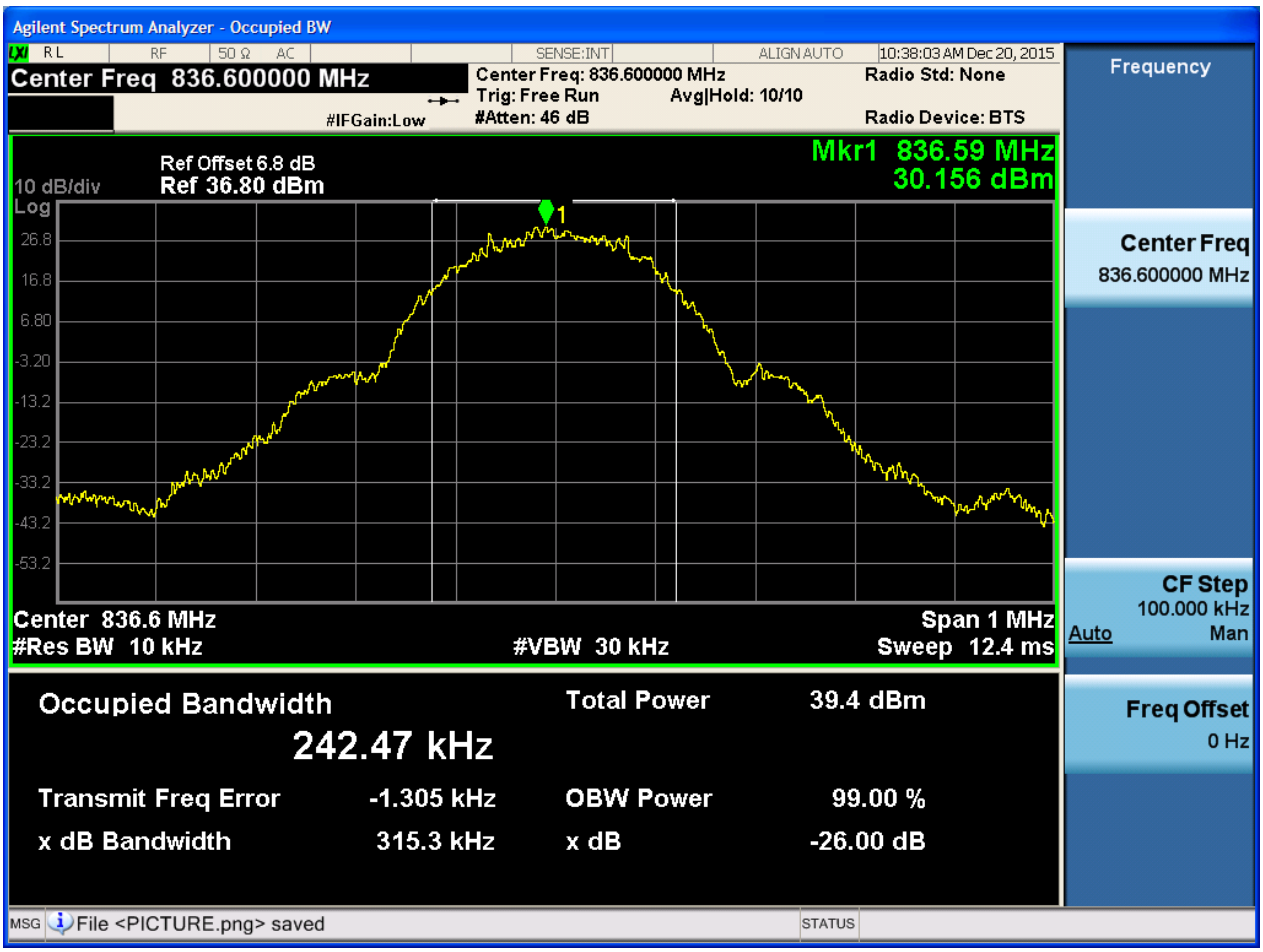
4.1.1 Test Band = GSM850

4.1.1.1 Test Mode = GSM/TM1

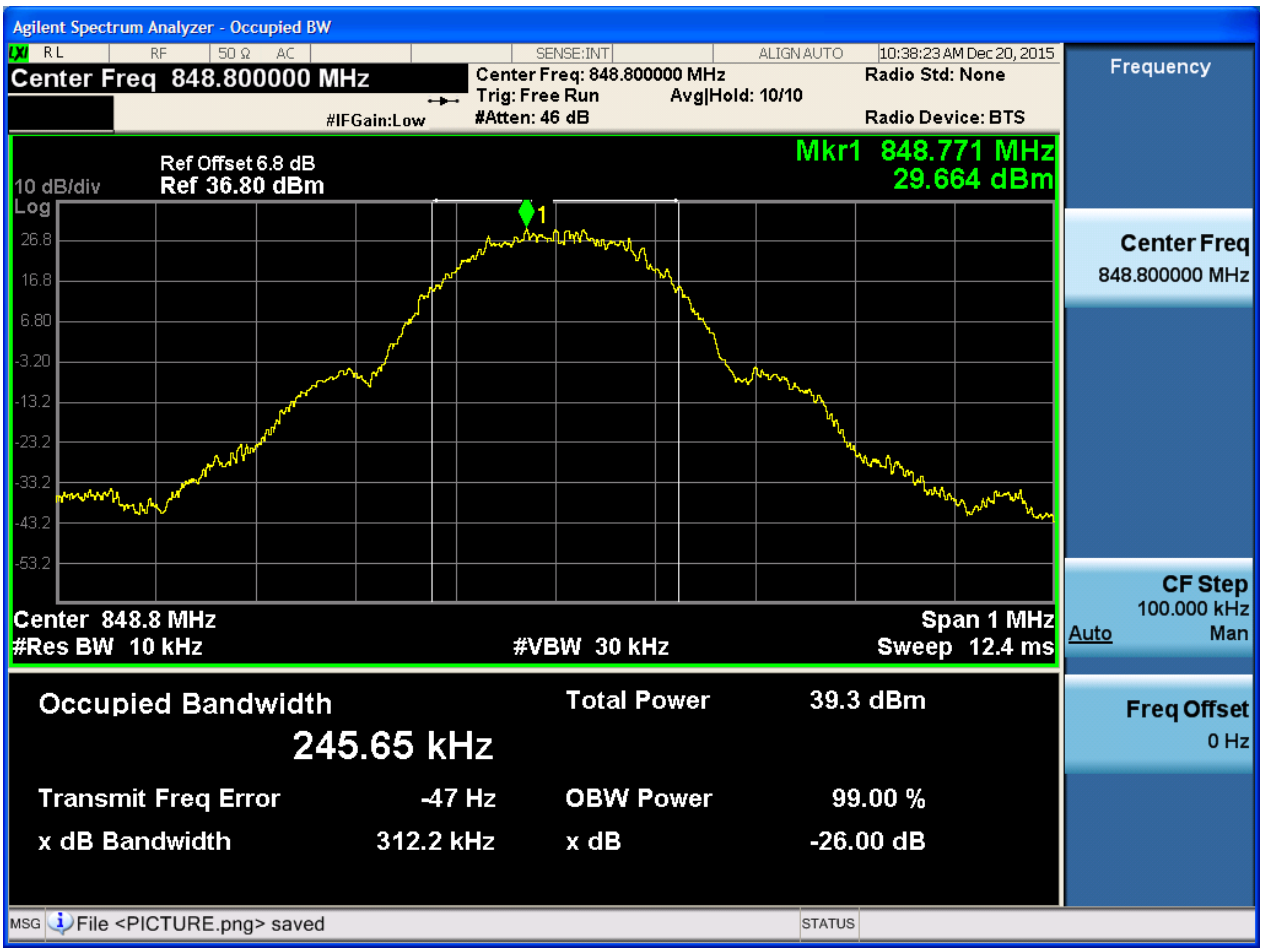
4.1.1.1.1 Test Channel = LCH



4.1.1.1.2 Test Channel = MCH

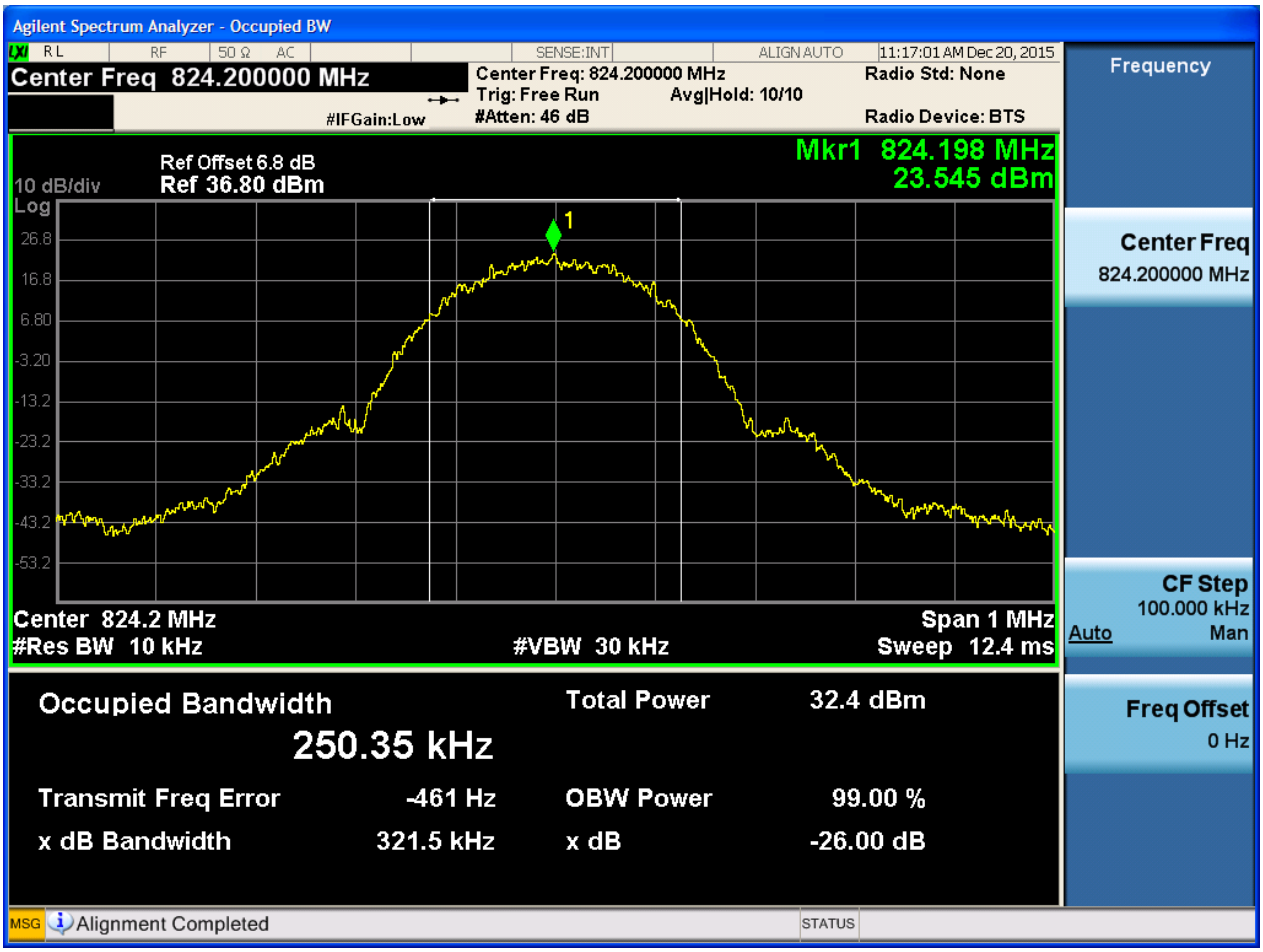


4.1.1.1.3 Test Channel = HCH

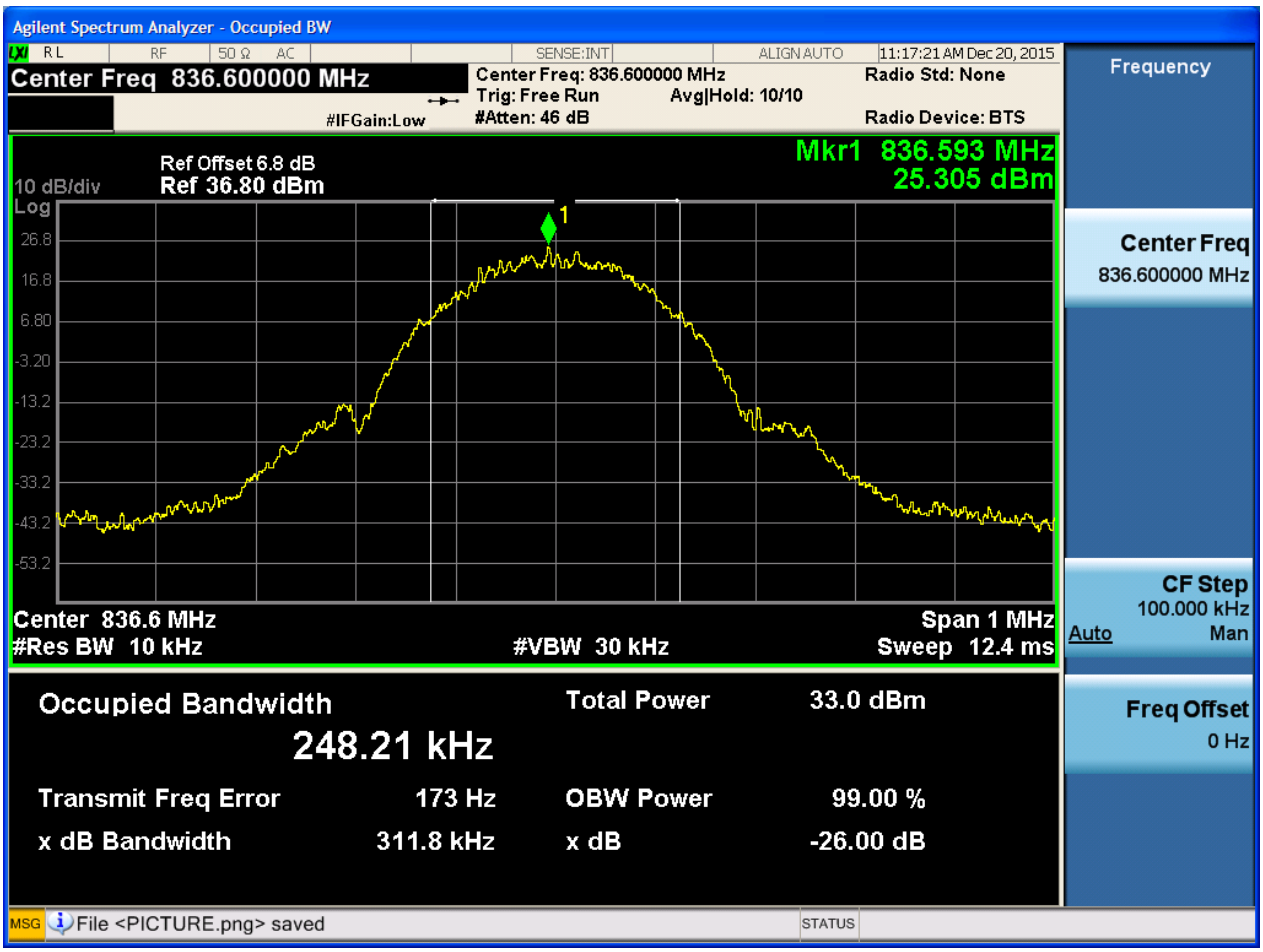


4.1.1.2 Test Mode = GSM/TM2

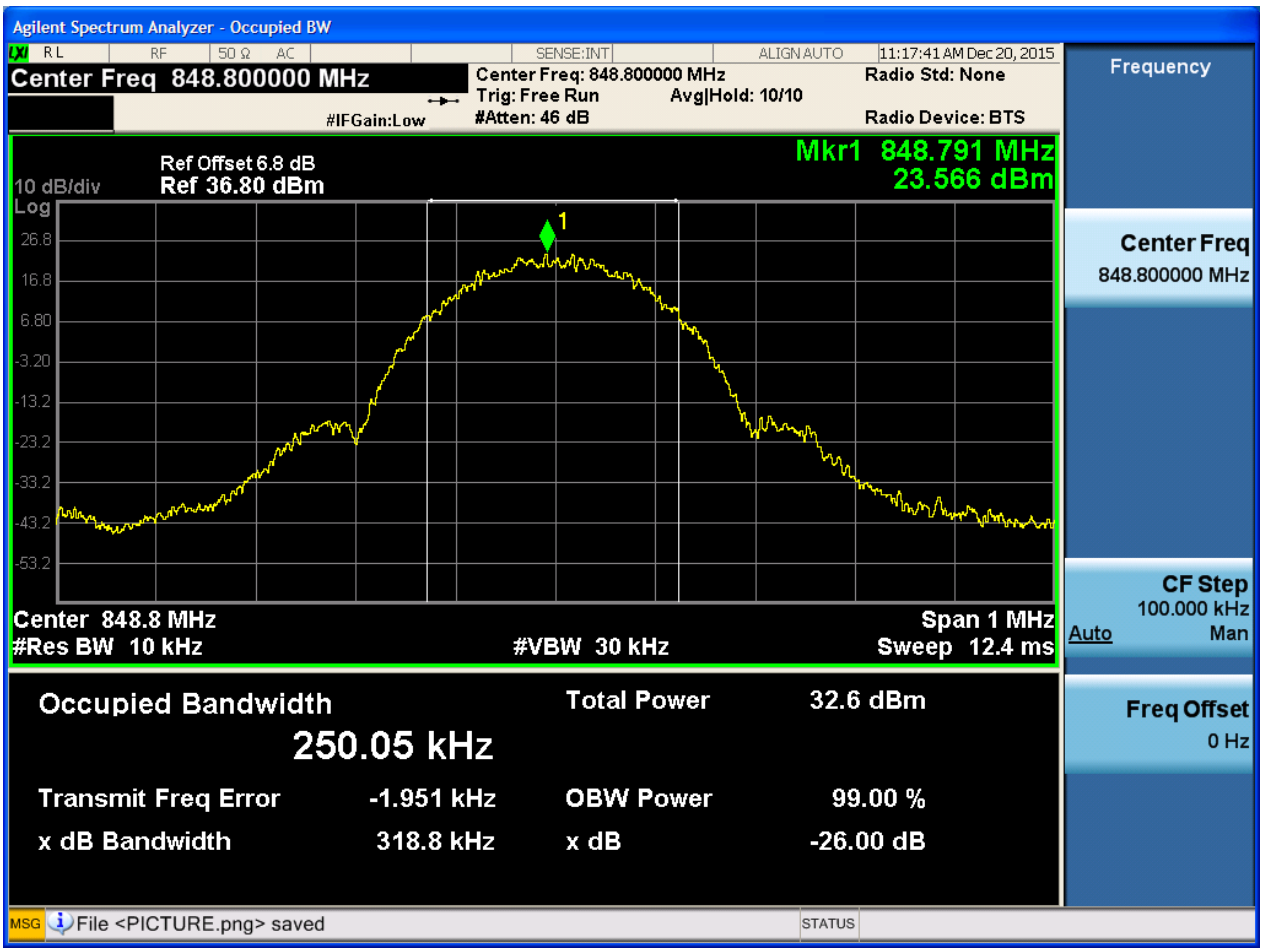
4.1.1.2.1 Test Channel = LCH



4.1.1.2.2 Test Channel = MCH



4.1.1.2.3 Test Channel = HCH



5Appendix_E: Band Edges Compliance

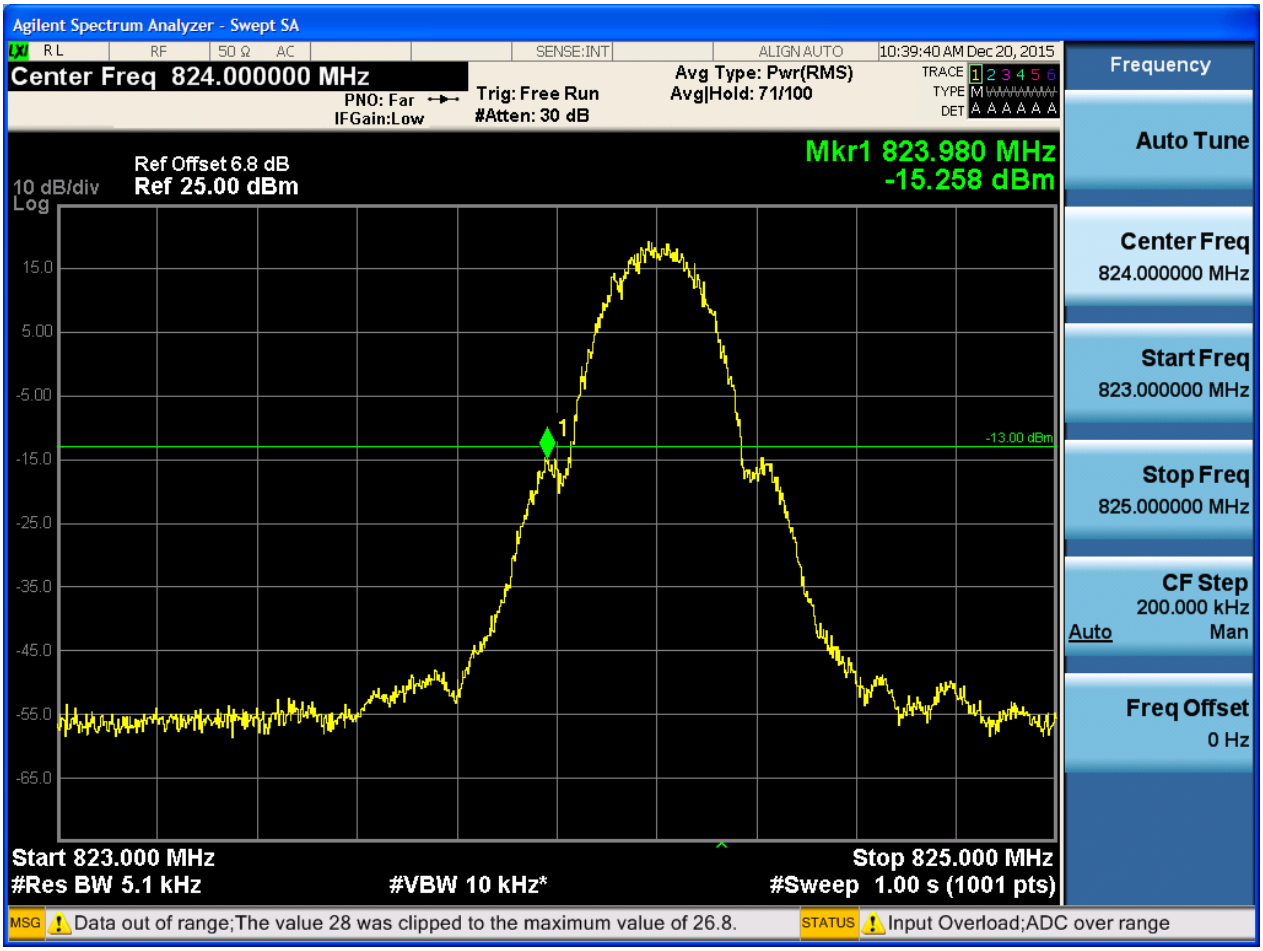
Part I - Test Plots

5.1 For GSM

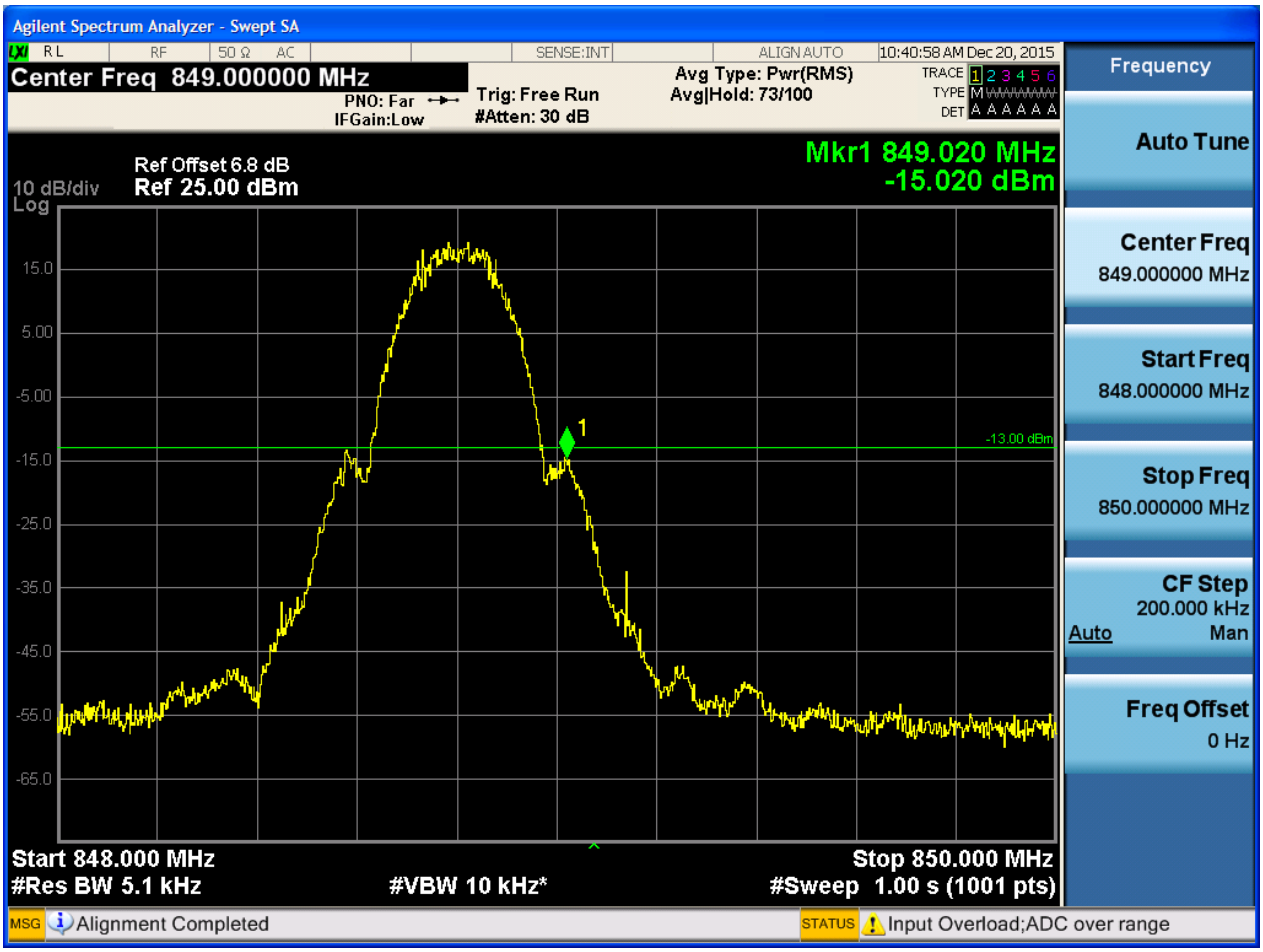
5.1.1 Test Band = GSM850

5.1.1.1 Test Mode = GSM/TM1

5.1.1.1.1 Test Channel = LCH

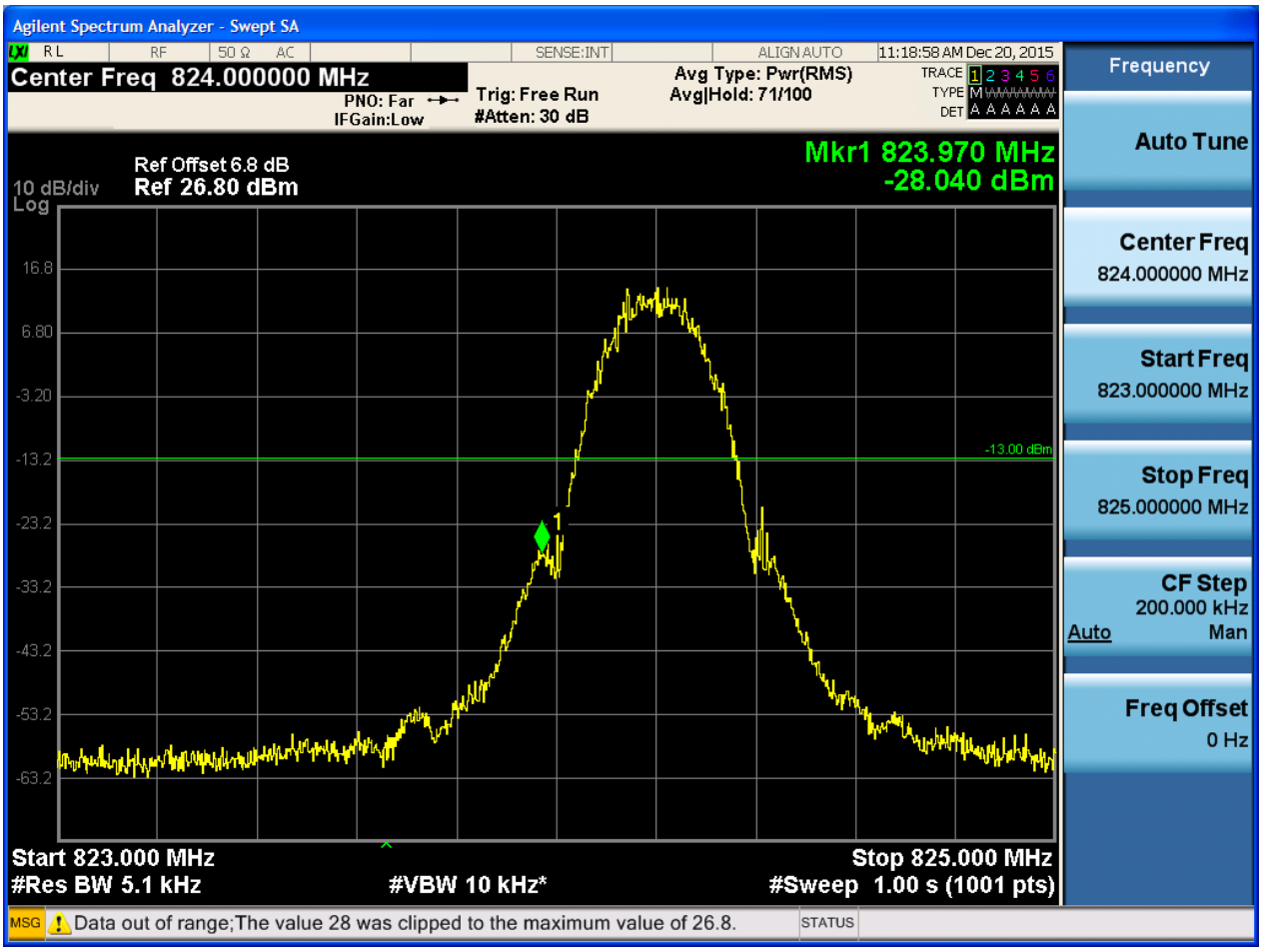


5.1.1.1.2 Test Channel = HCH

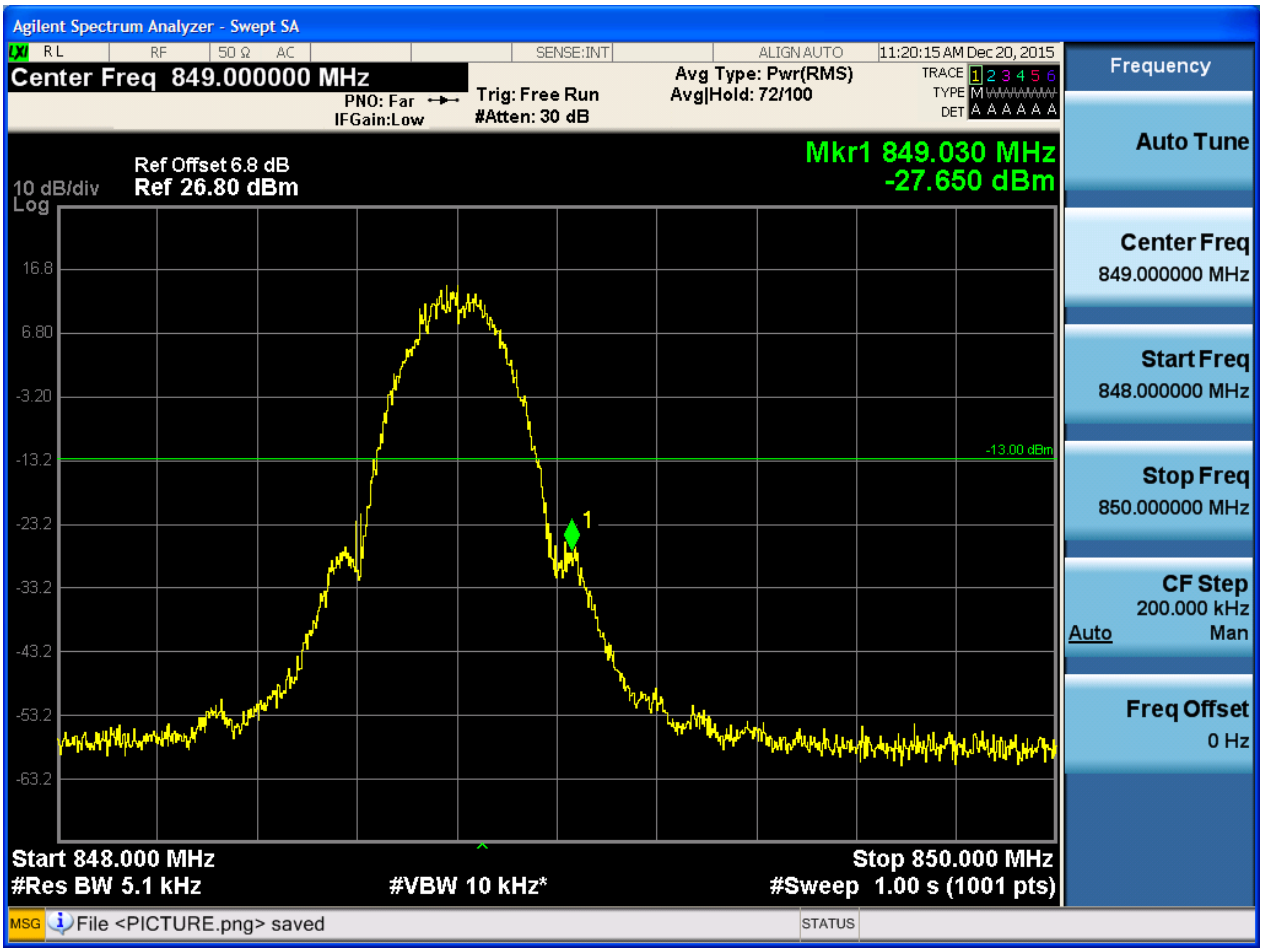


5.1.1.2 Test Mode = GSM/TM2

5.1.1.2.1 Test Channel = LCH



5.1.1.2.2 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.

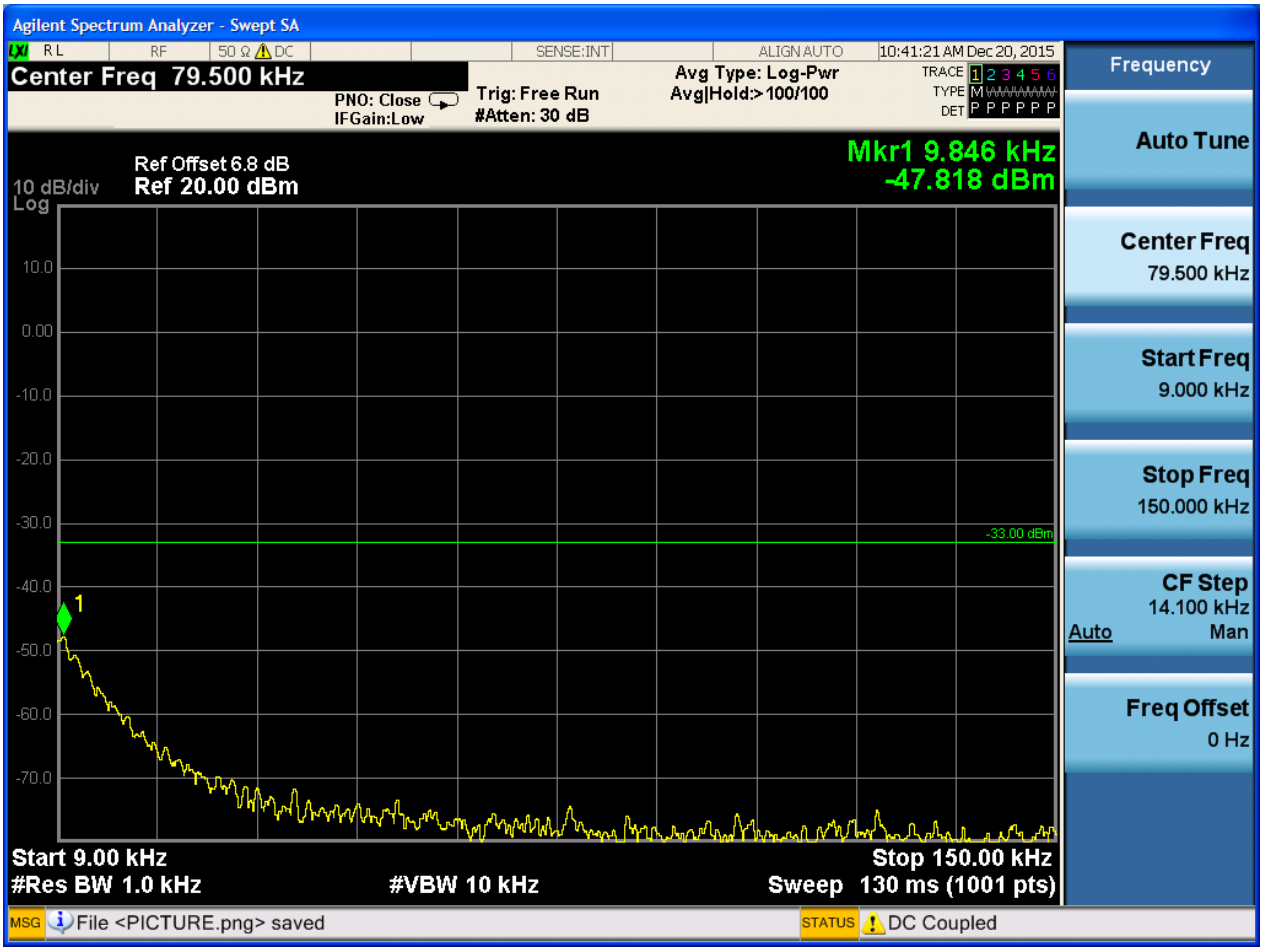
Part I - Test Plots

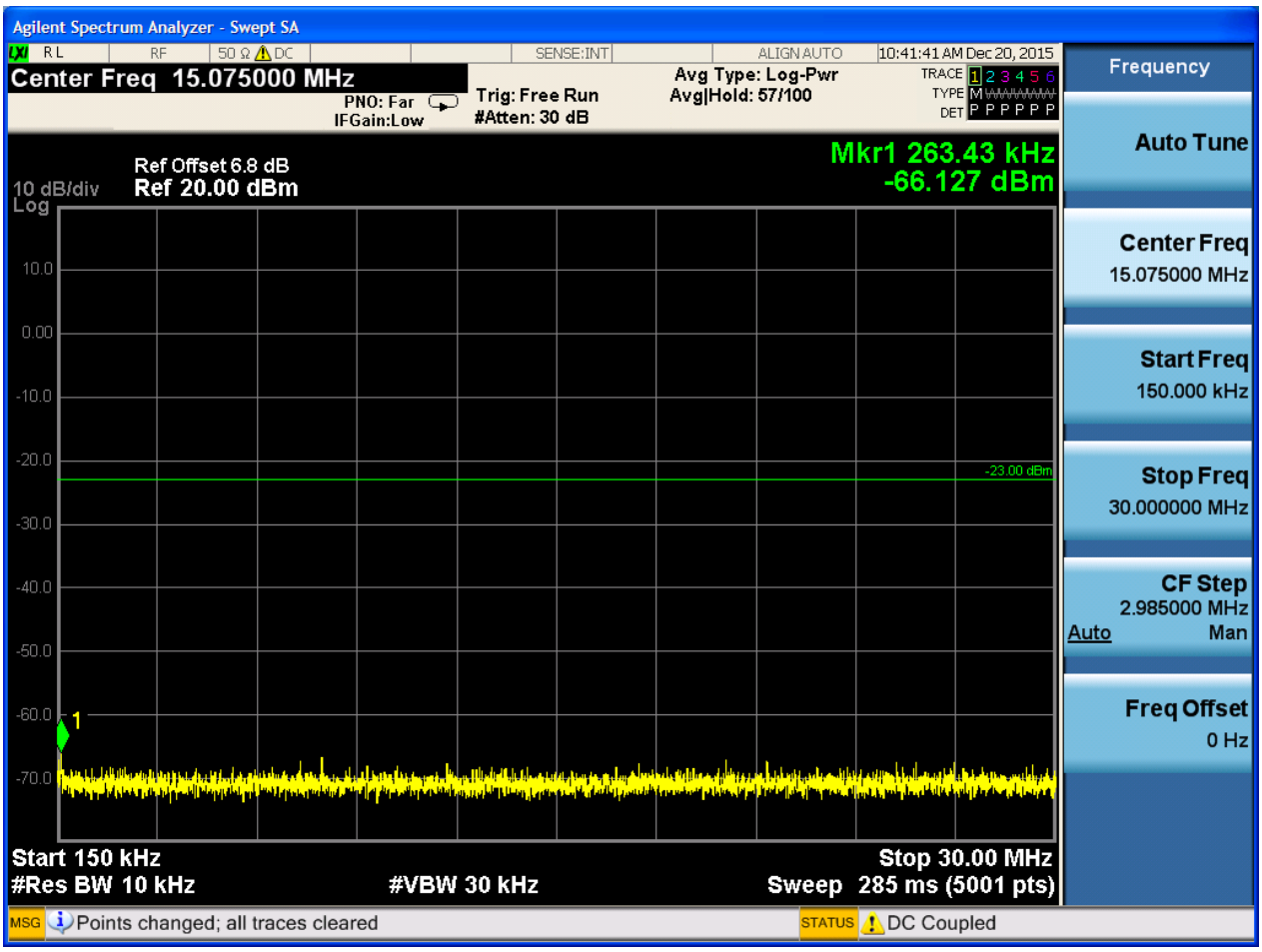
6.1 For GSM

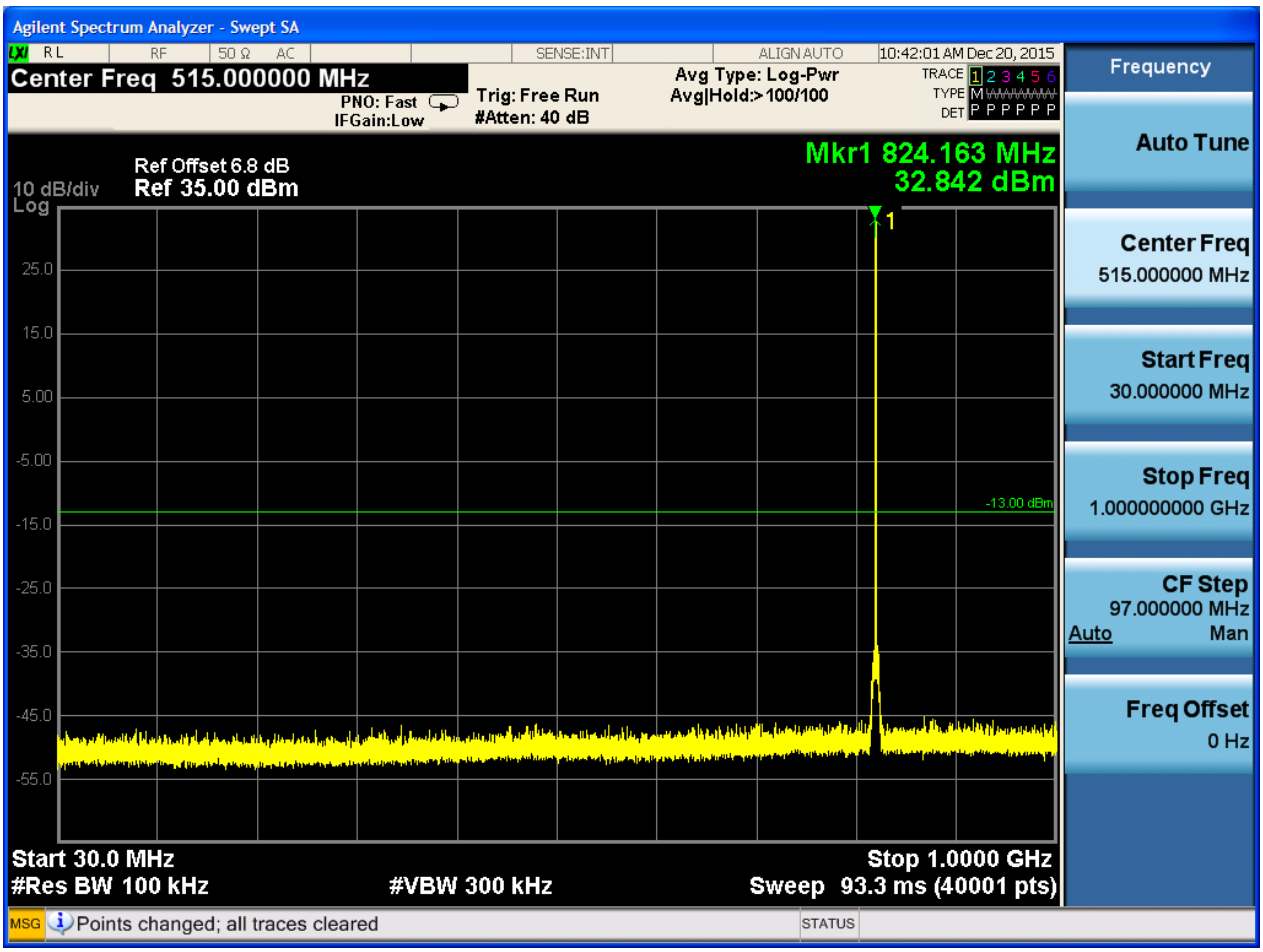
6.1.1 Test Band = GSM850

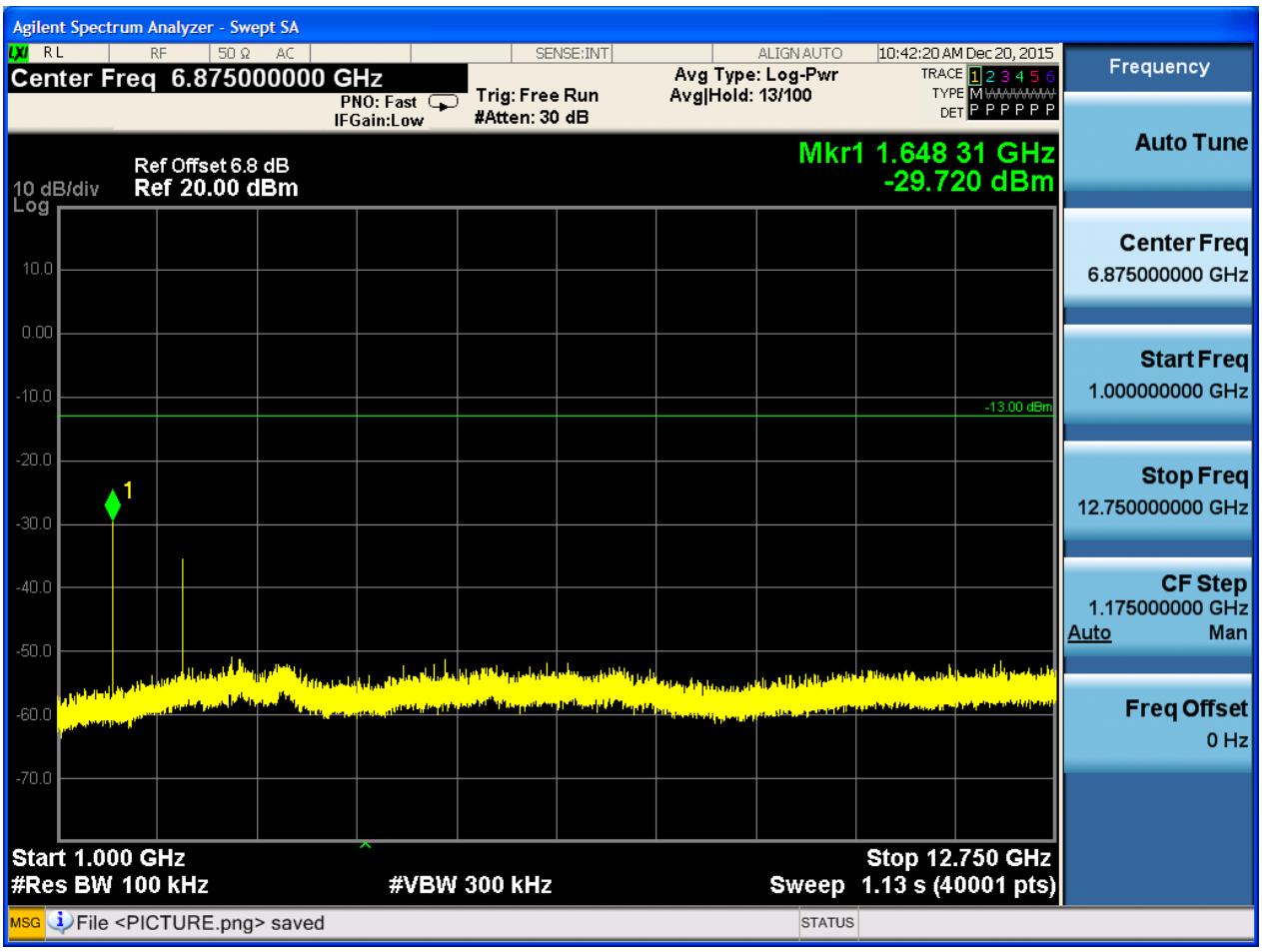
6.1.1.1 Test Mode = GSM/TM1

6.1.1.1.1 Test Channel = LCH

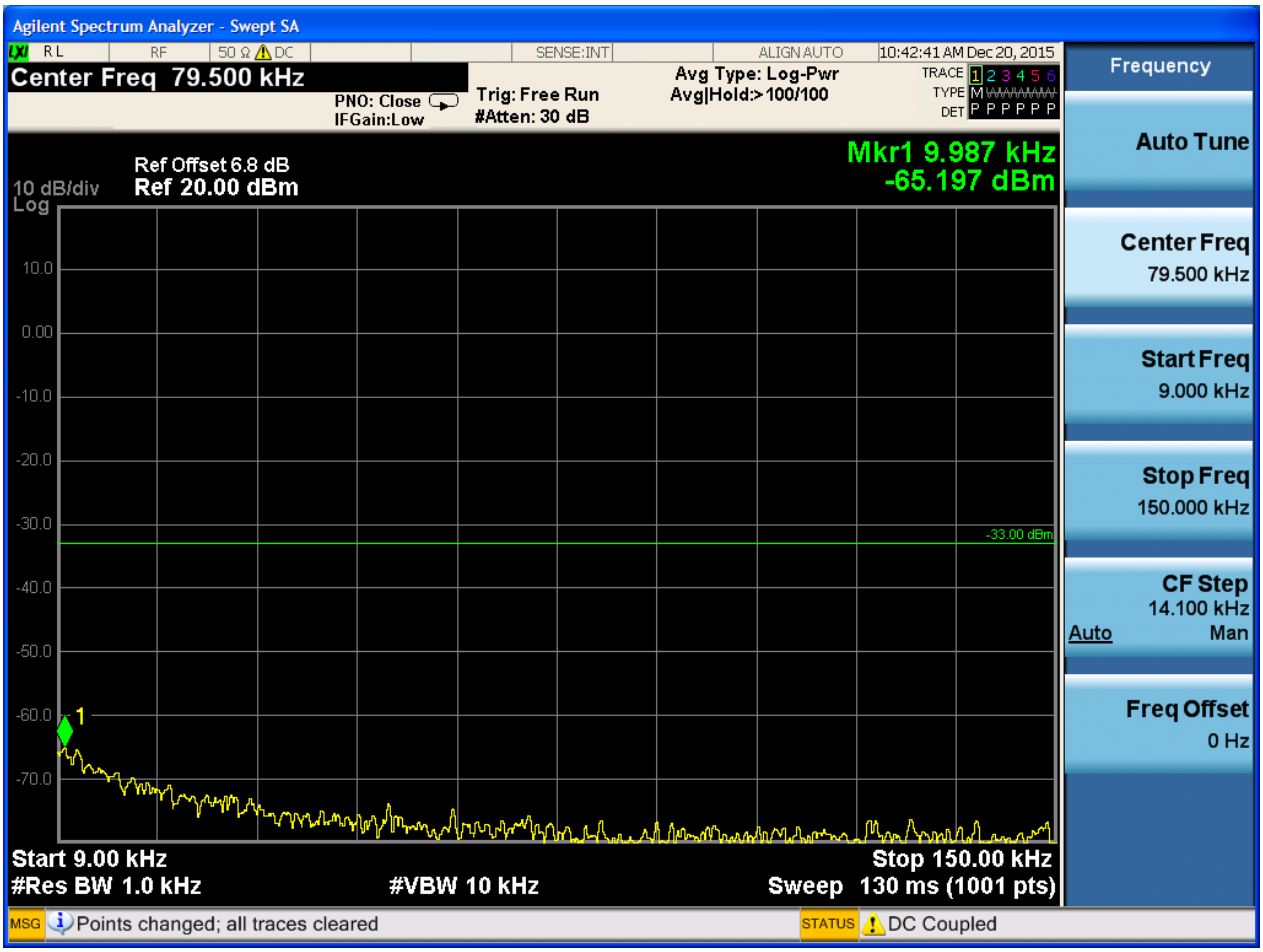


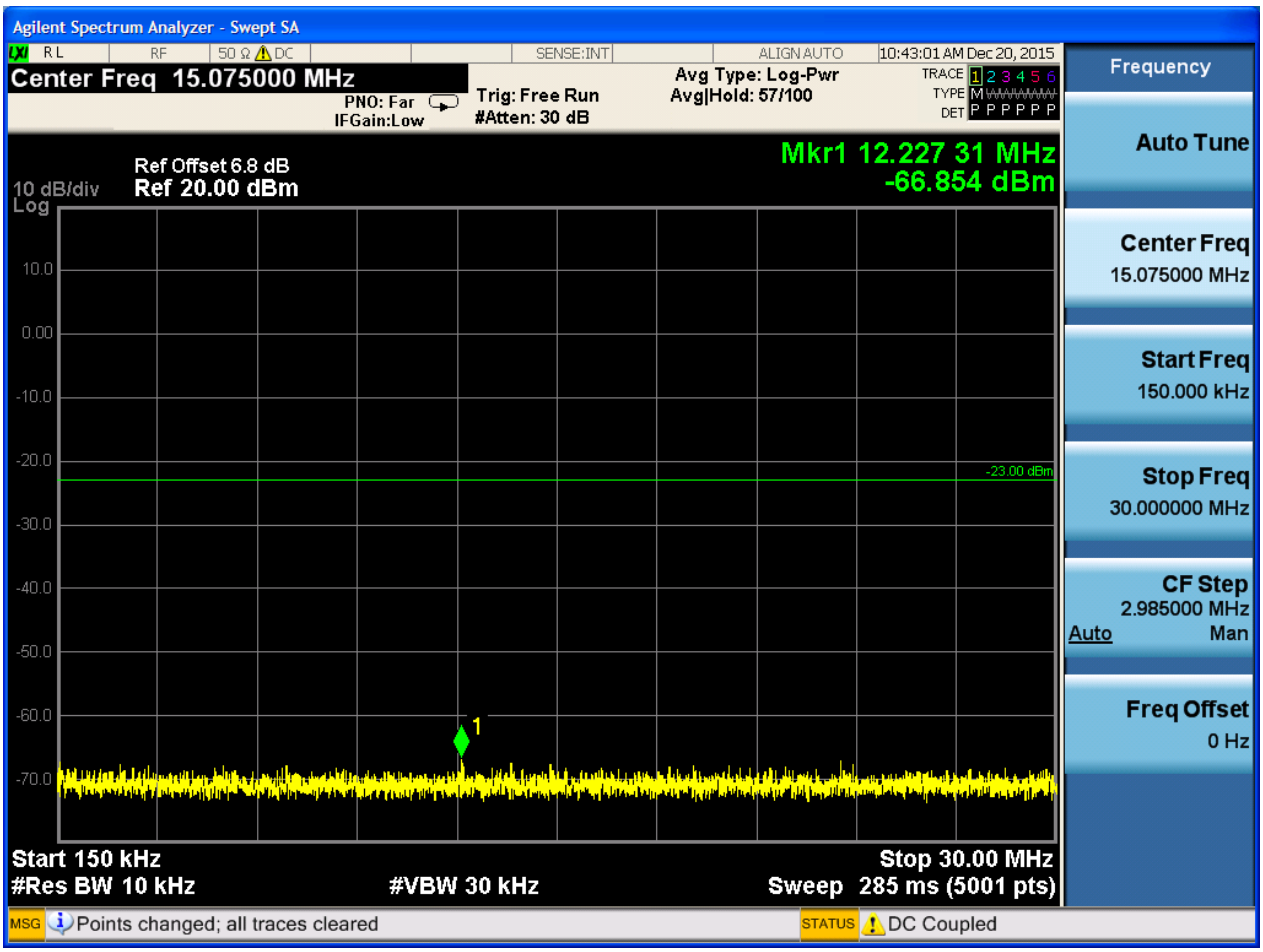


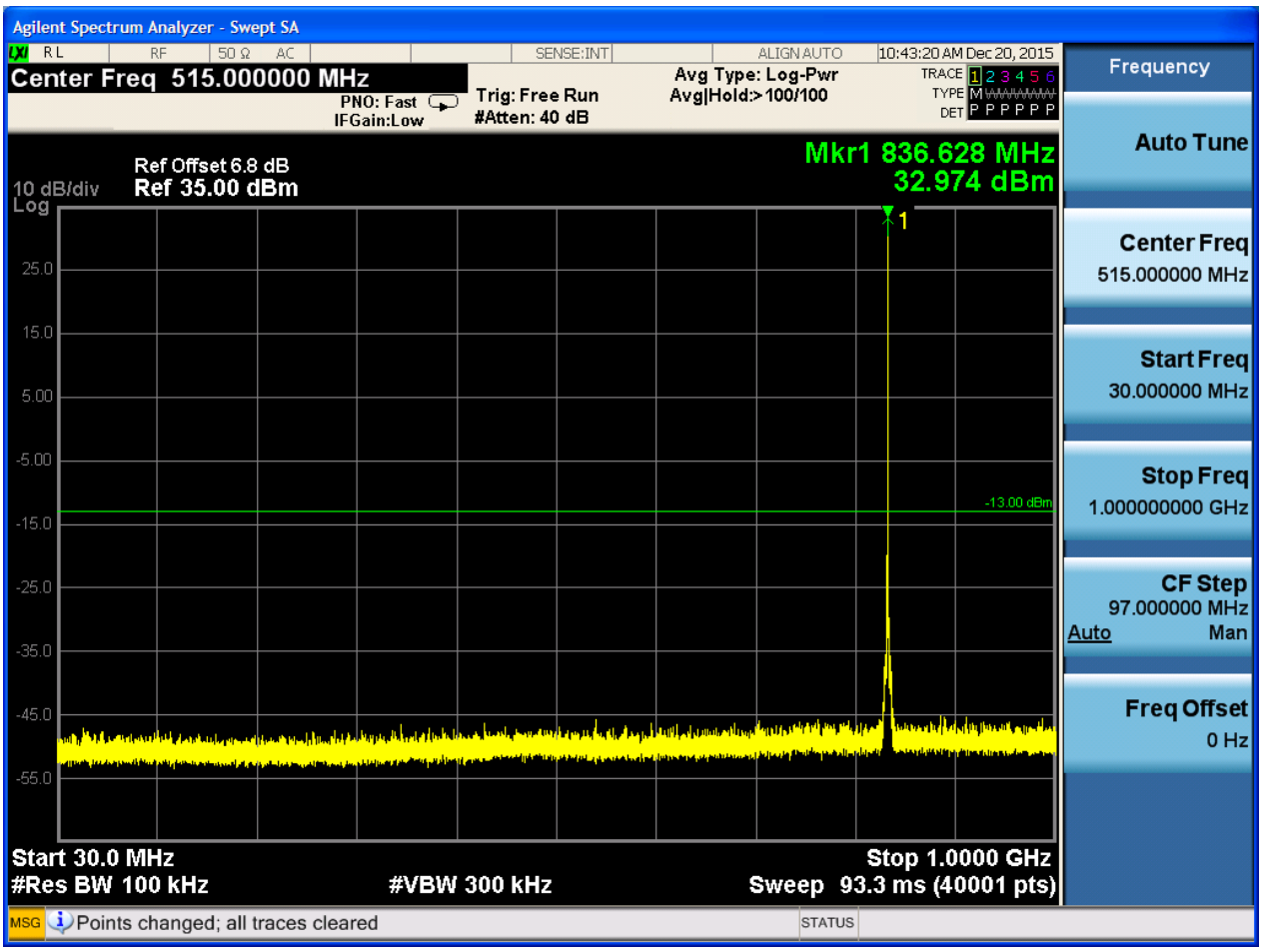


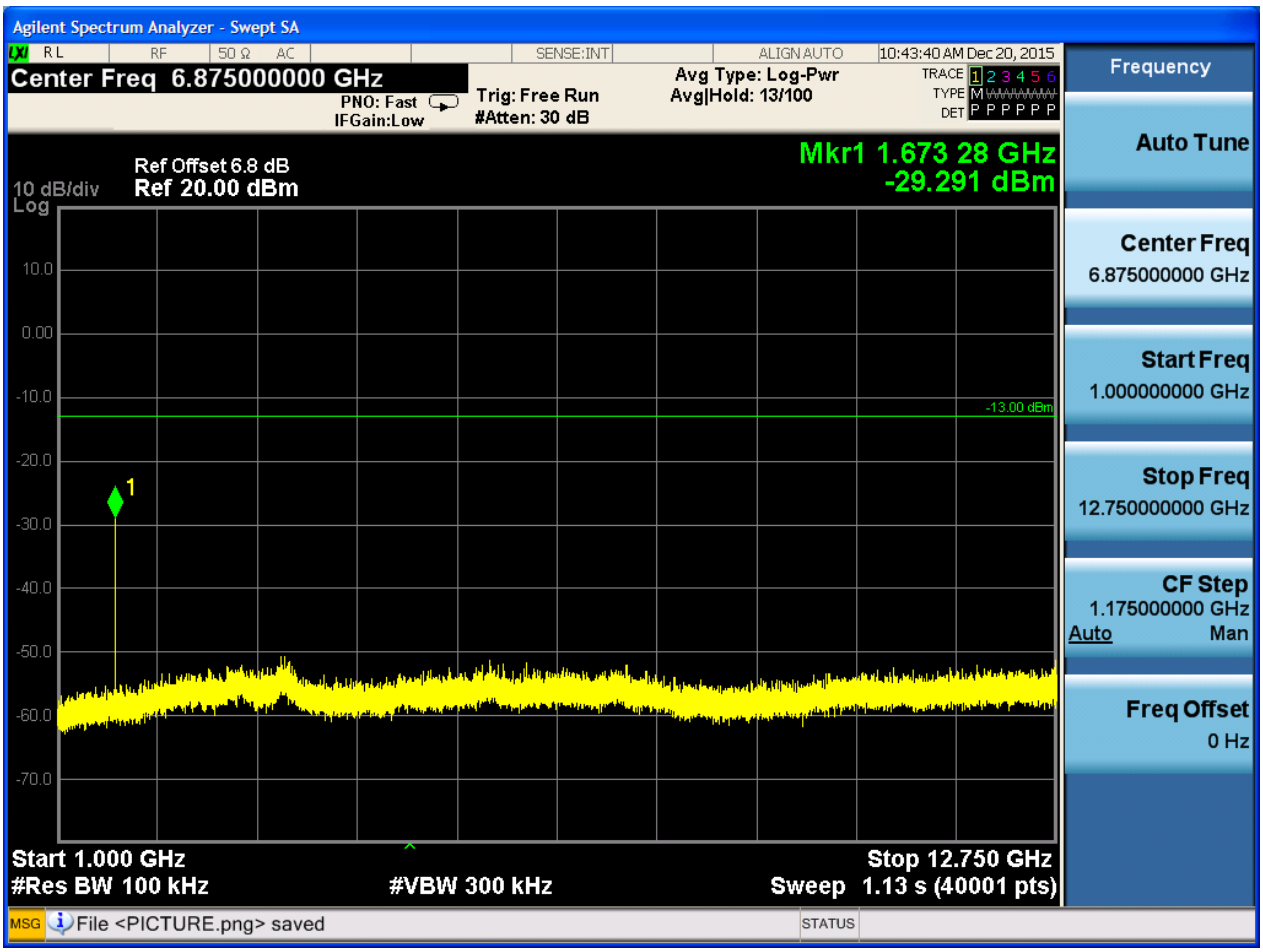


6.1.1.1.2 Test Channel = MCH

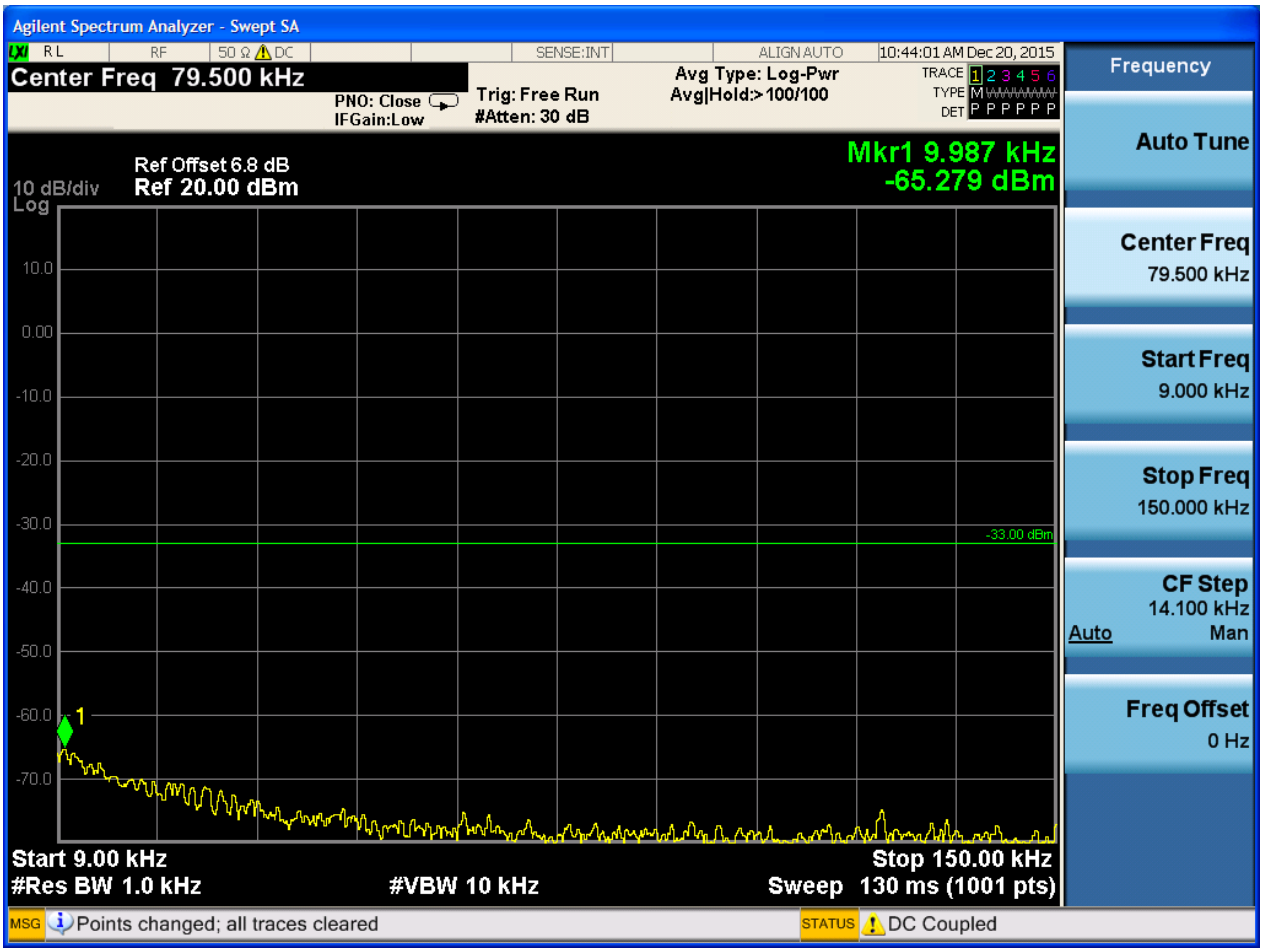


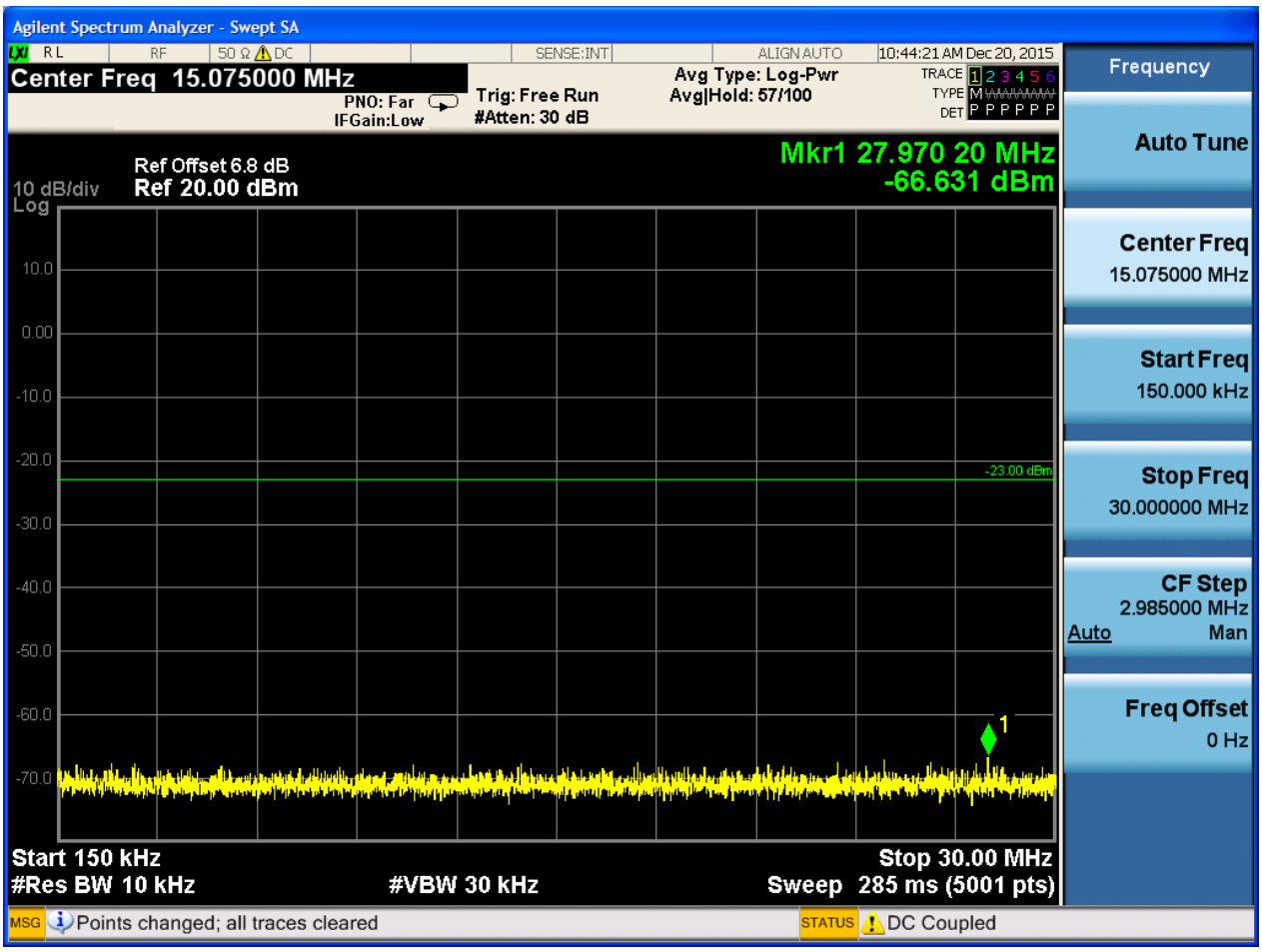


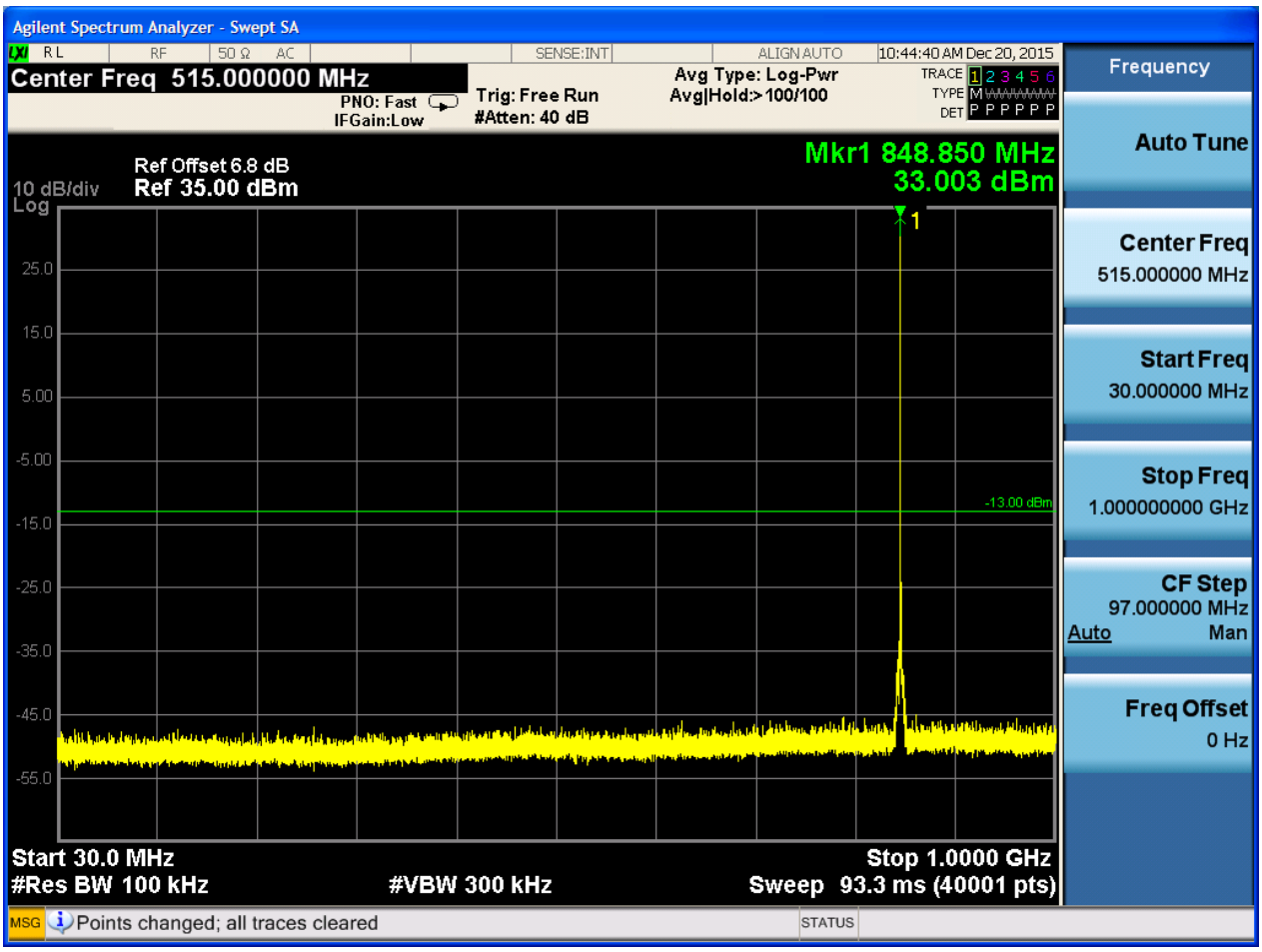


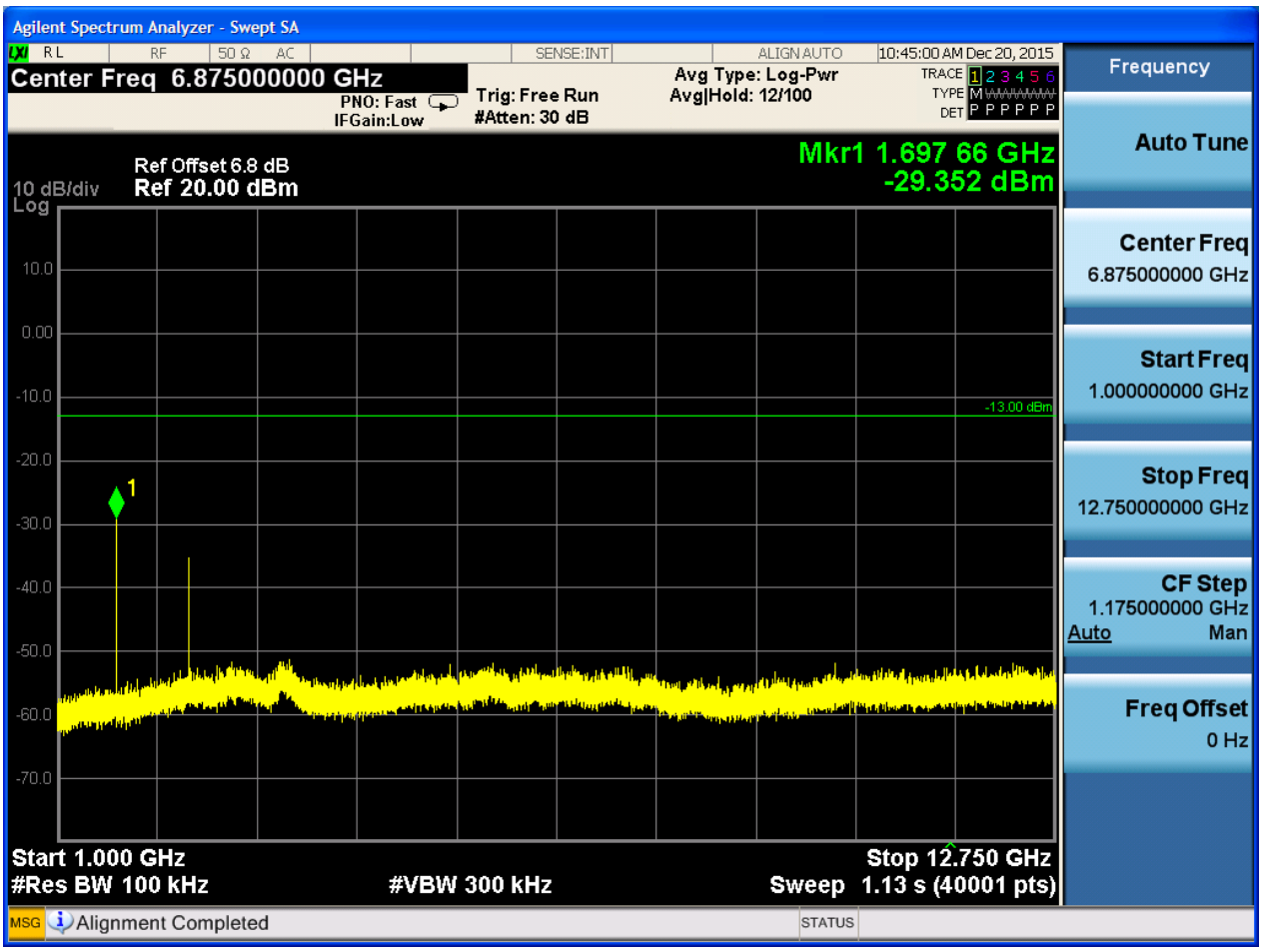


6.1.1.1.3 Test Channel = HCH



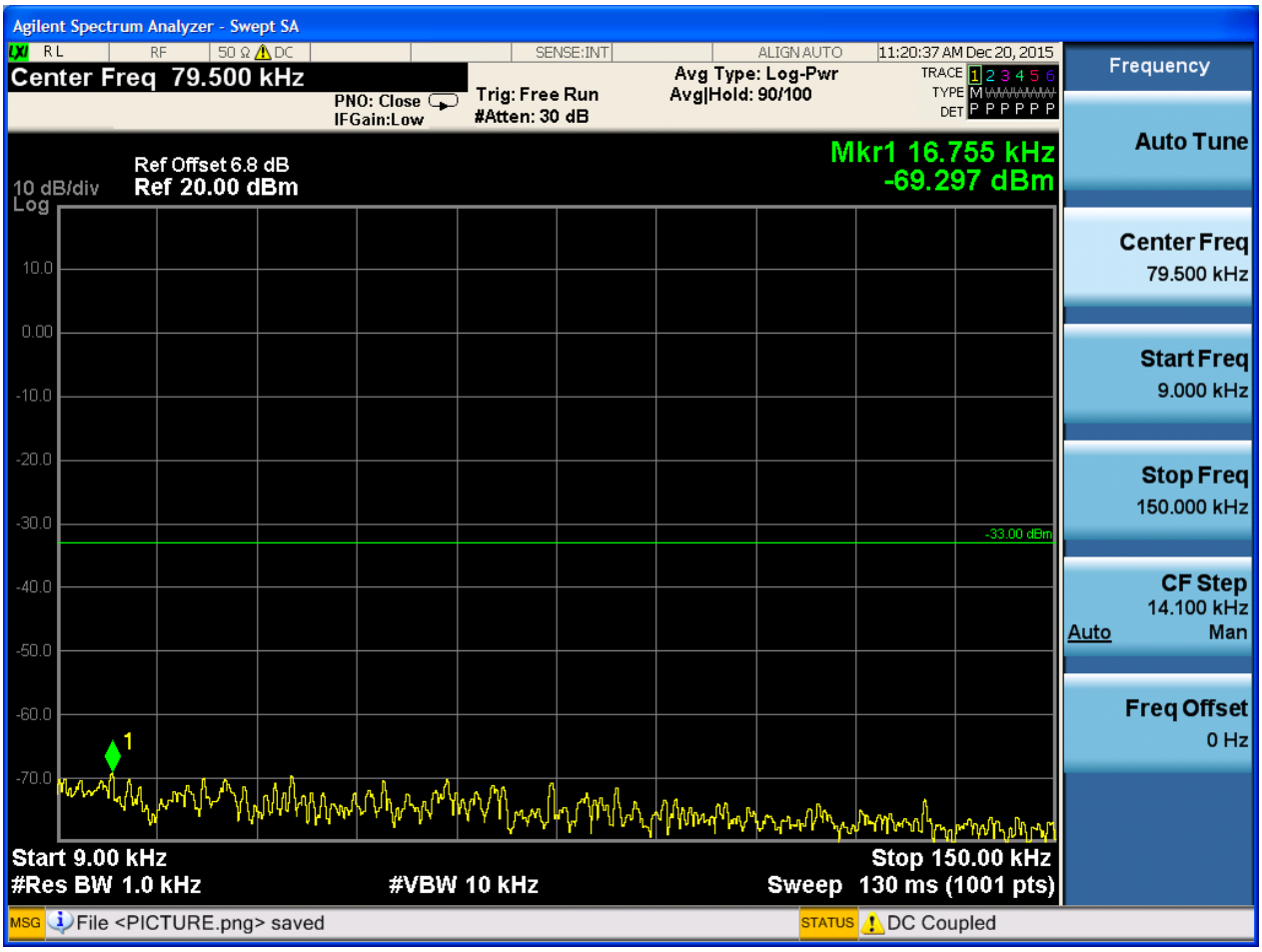


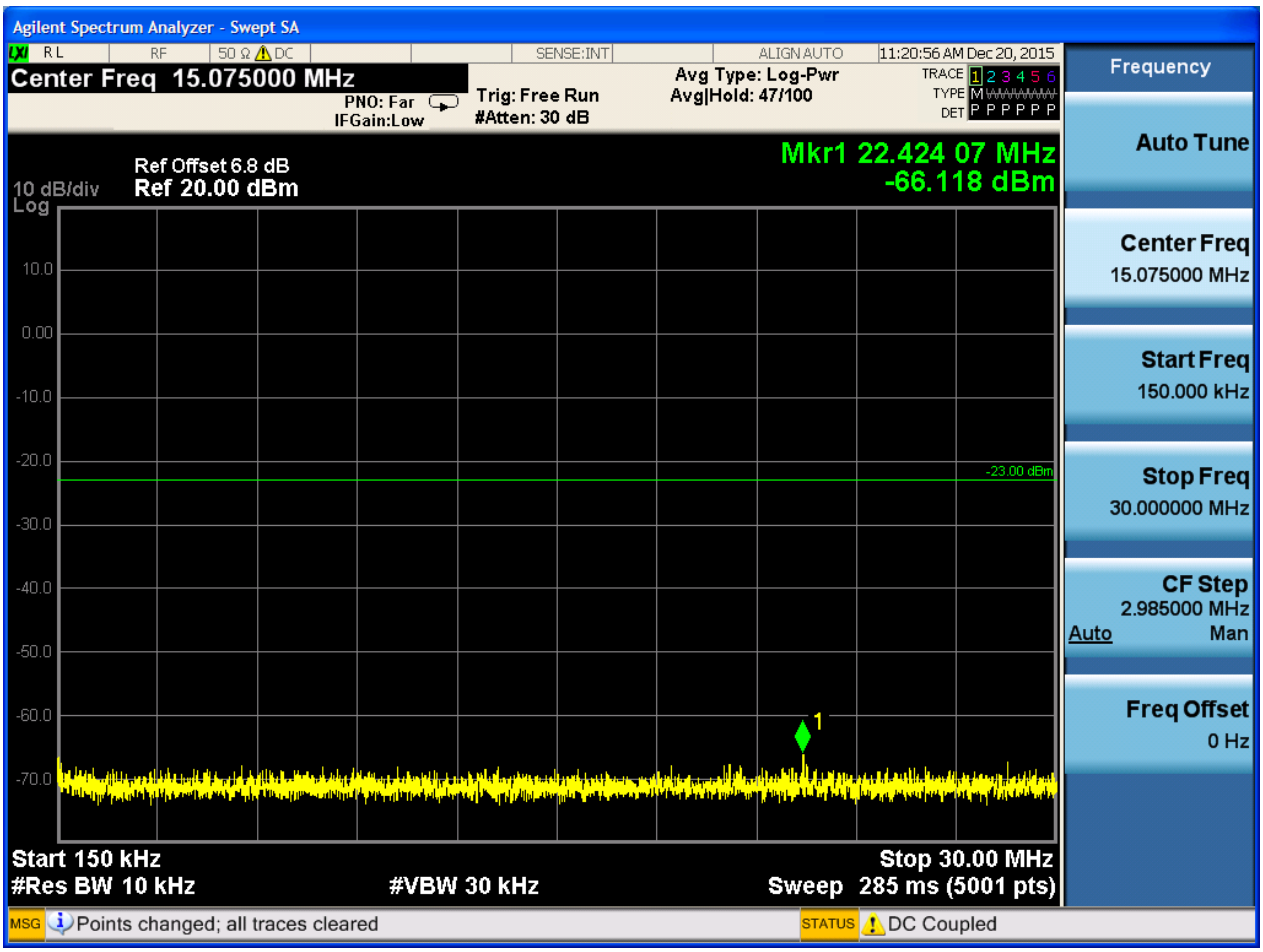


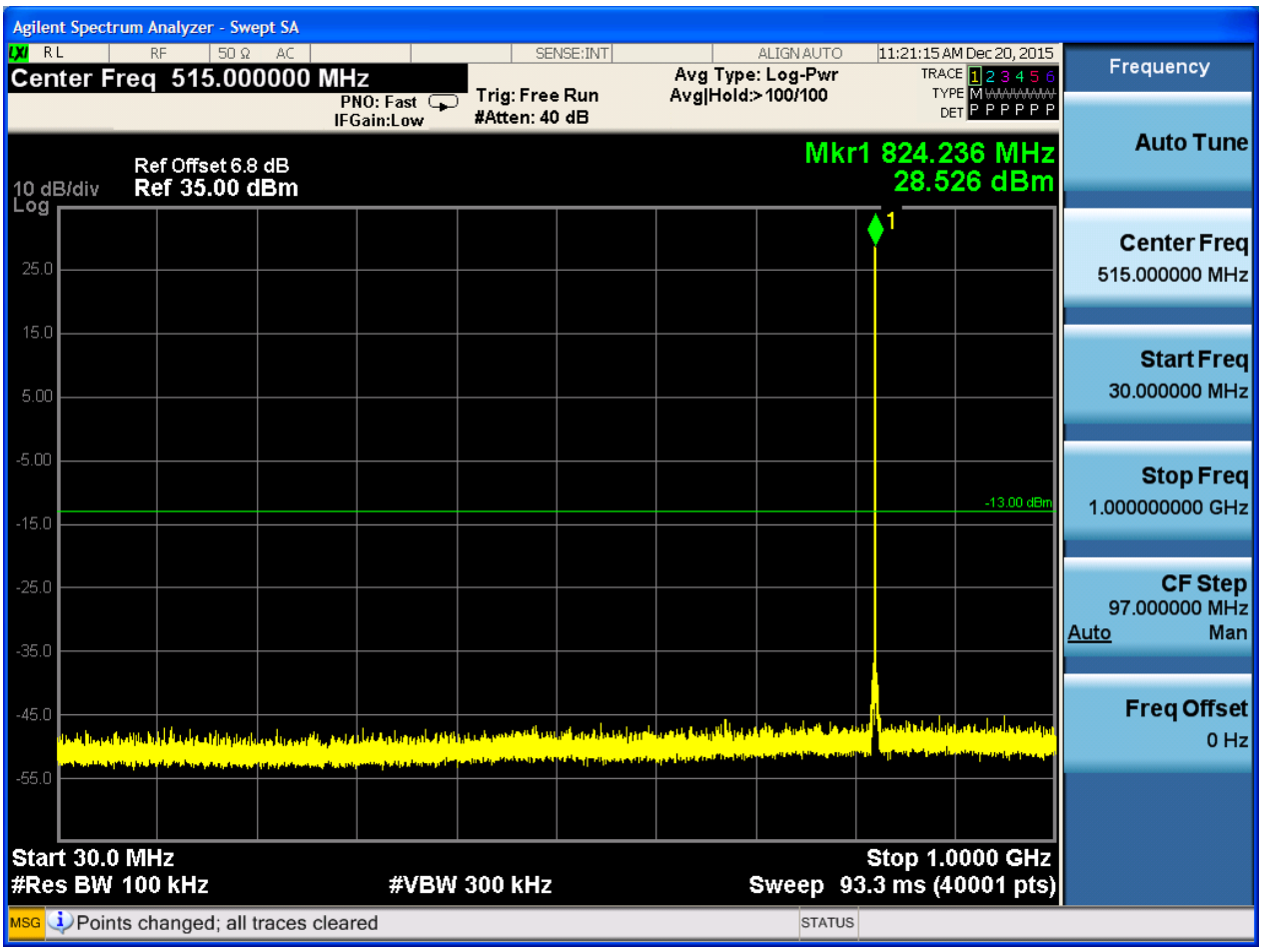


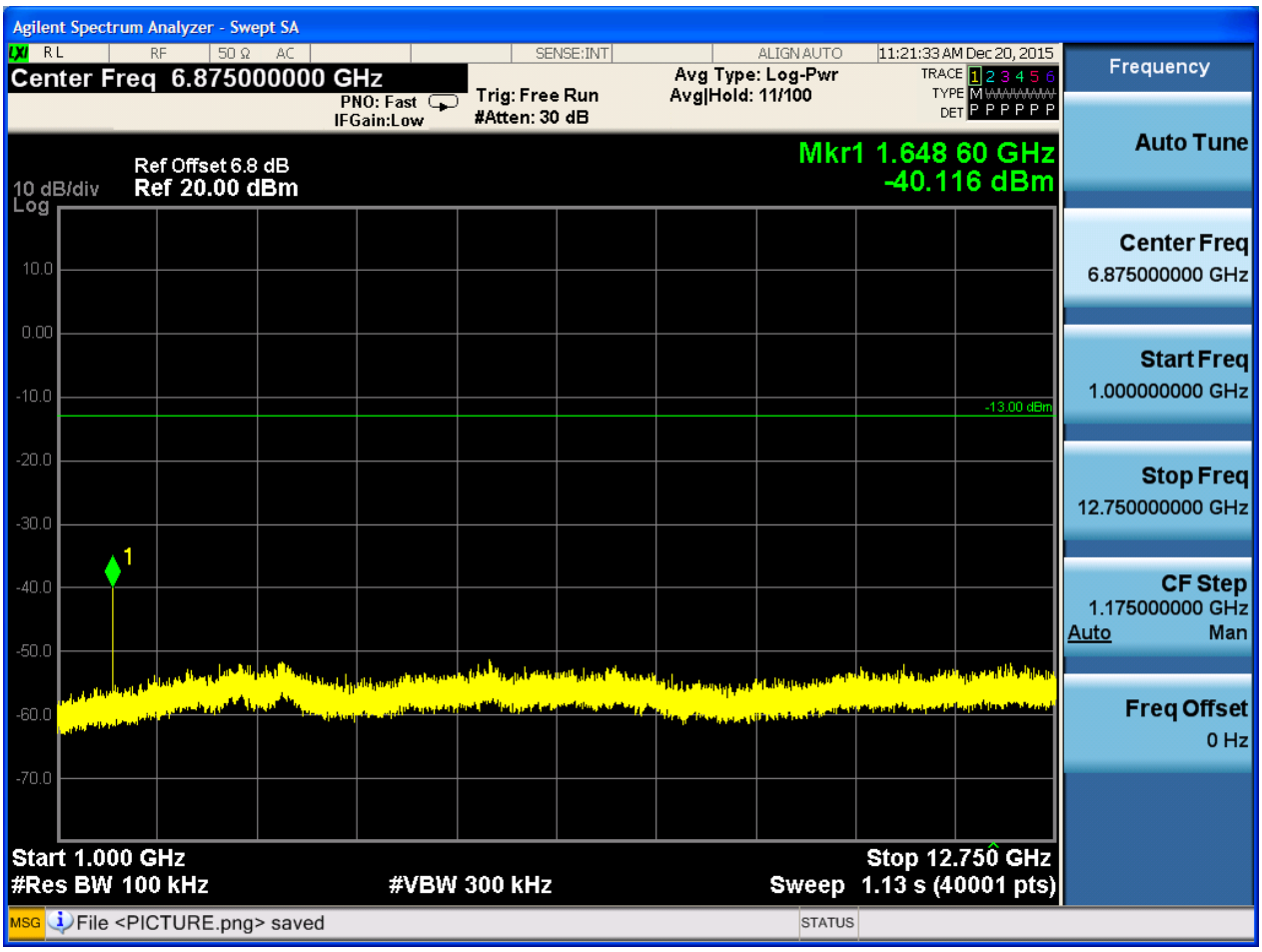
6.1.1.2 Test Mode = GSM/TM2

6.1.1.2.1 Test Channel = LCH

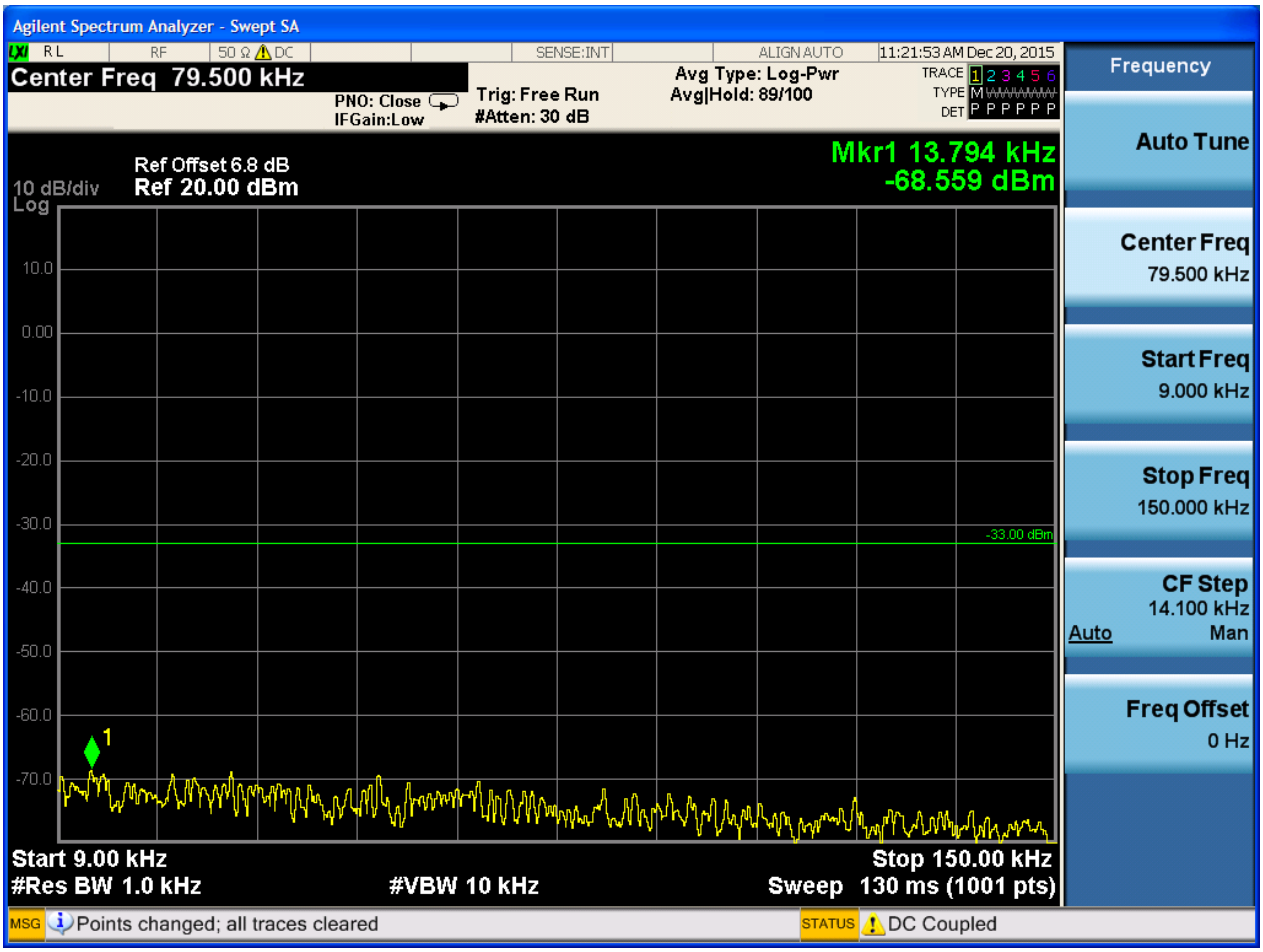


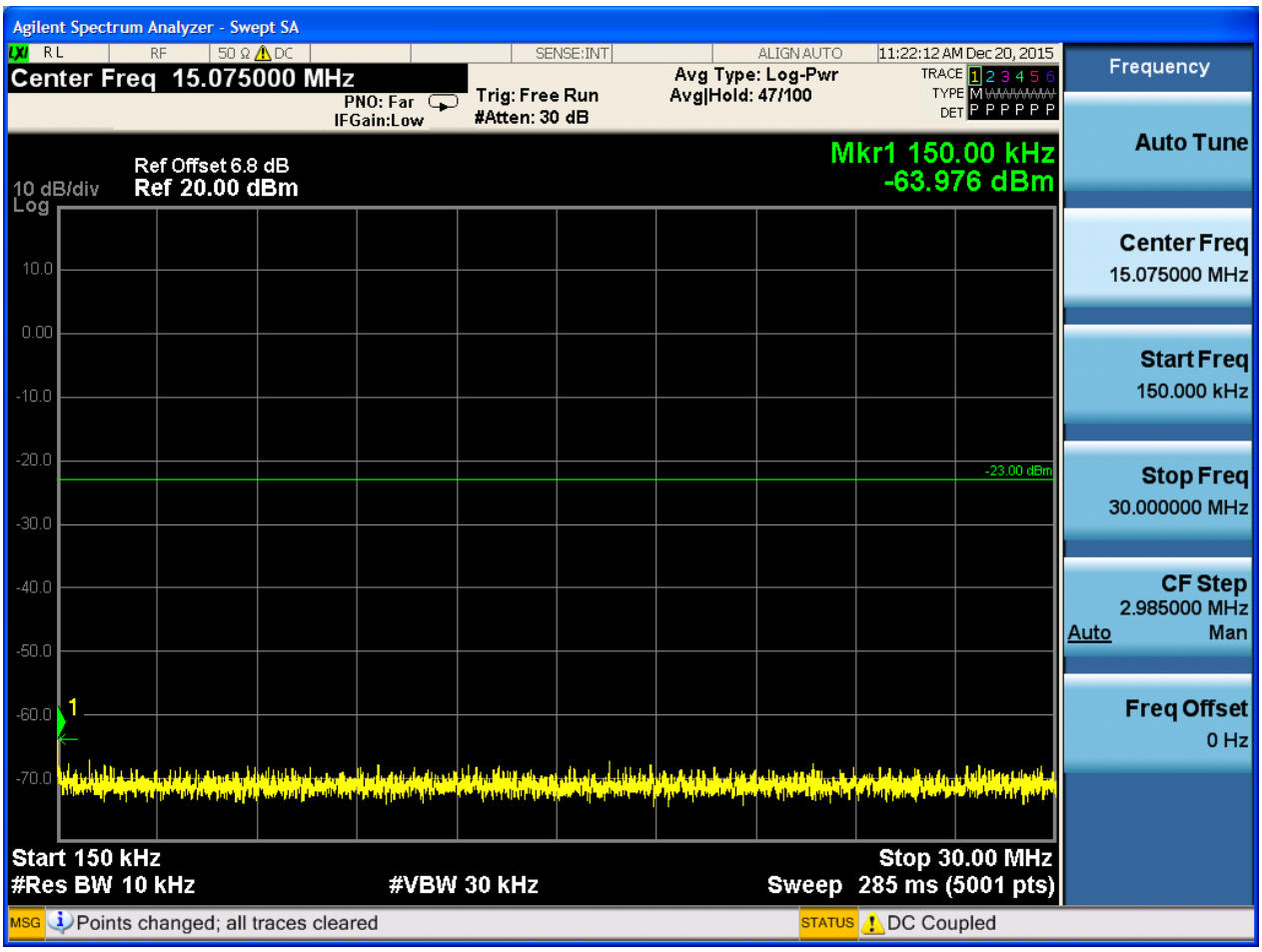


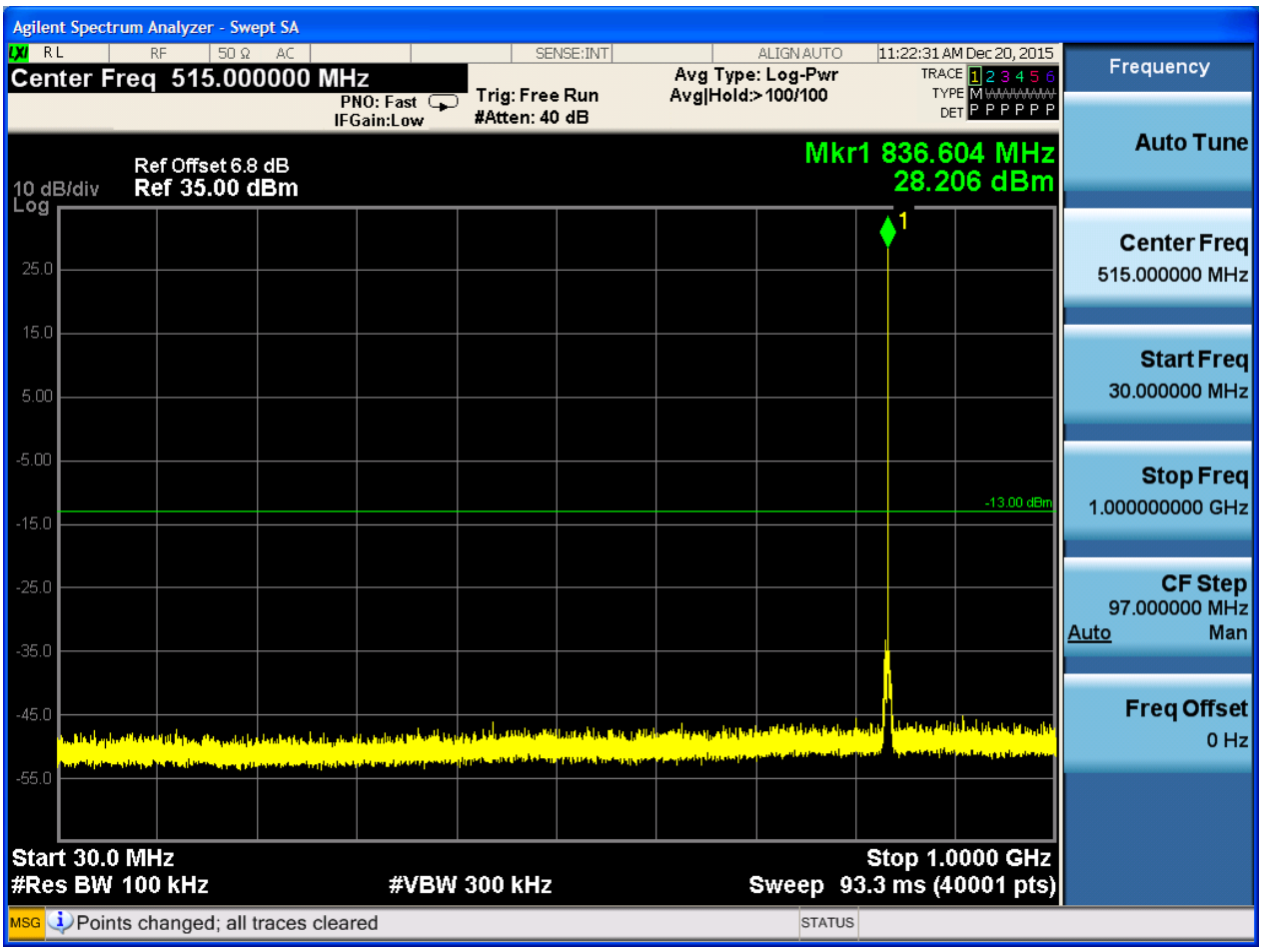


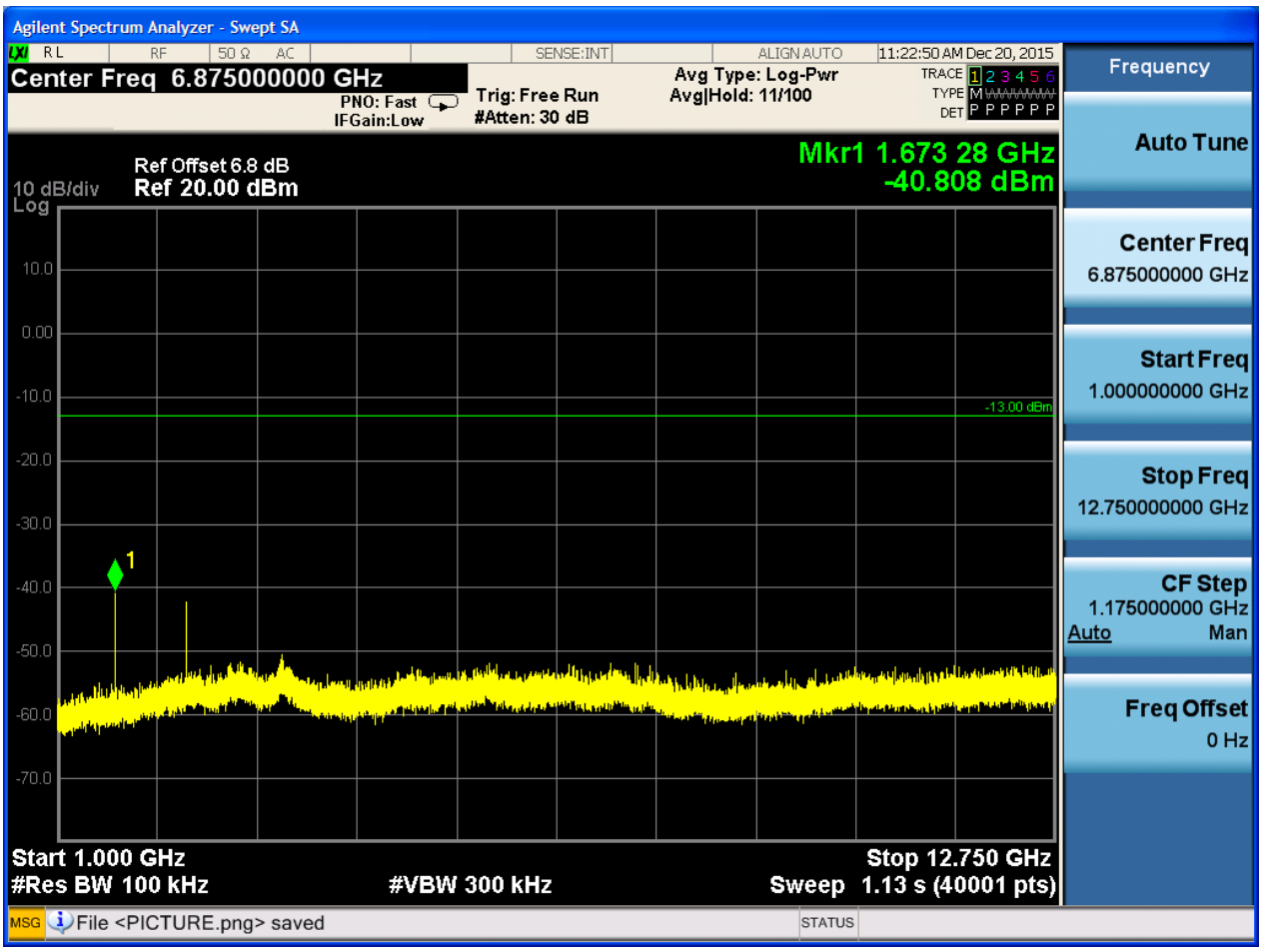


6.1.1.2.2 Test Channel = MCH

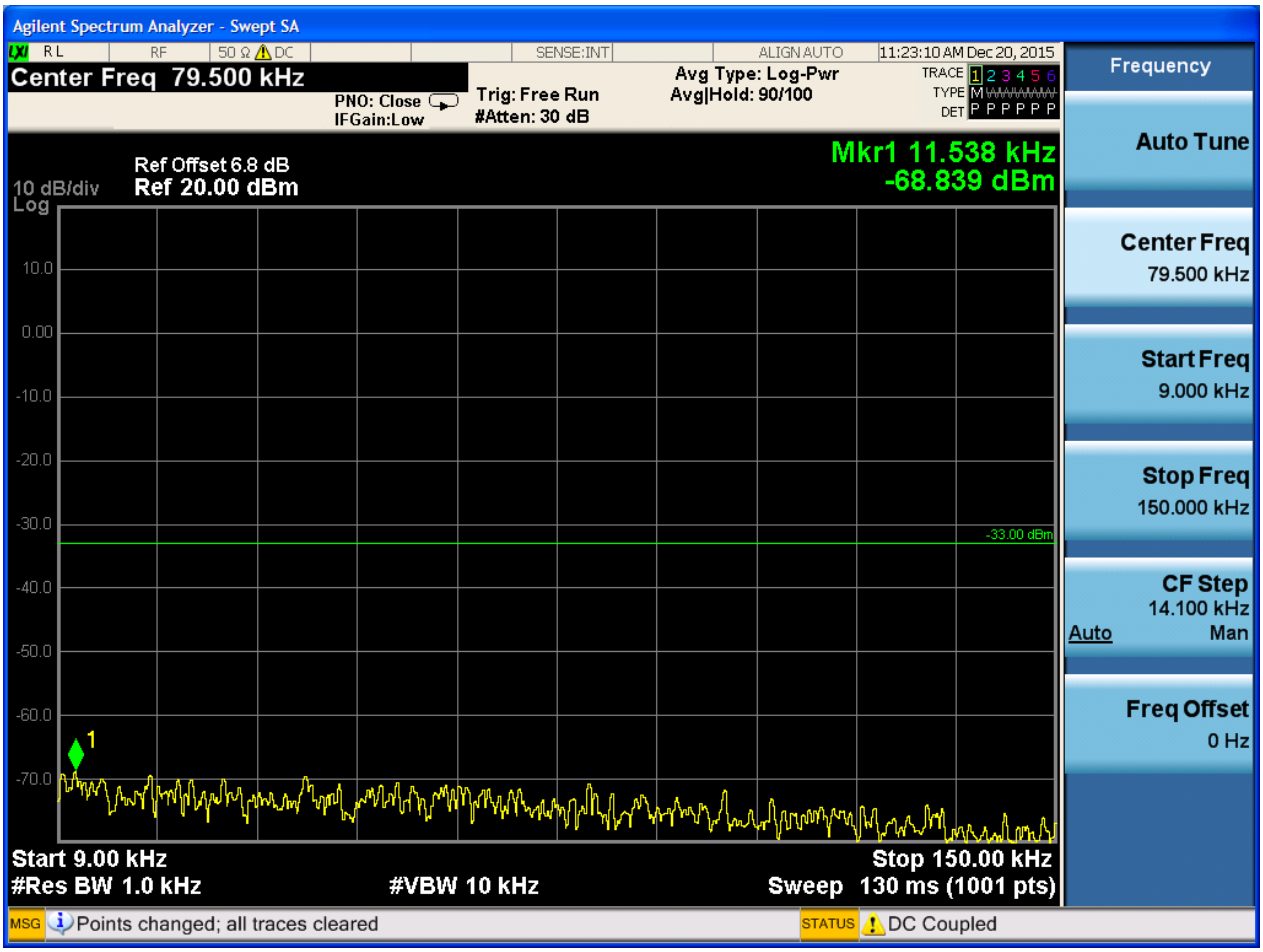


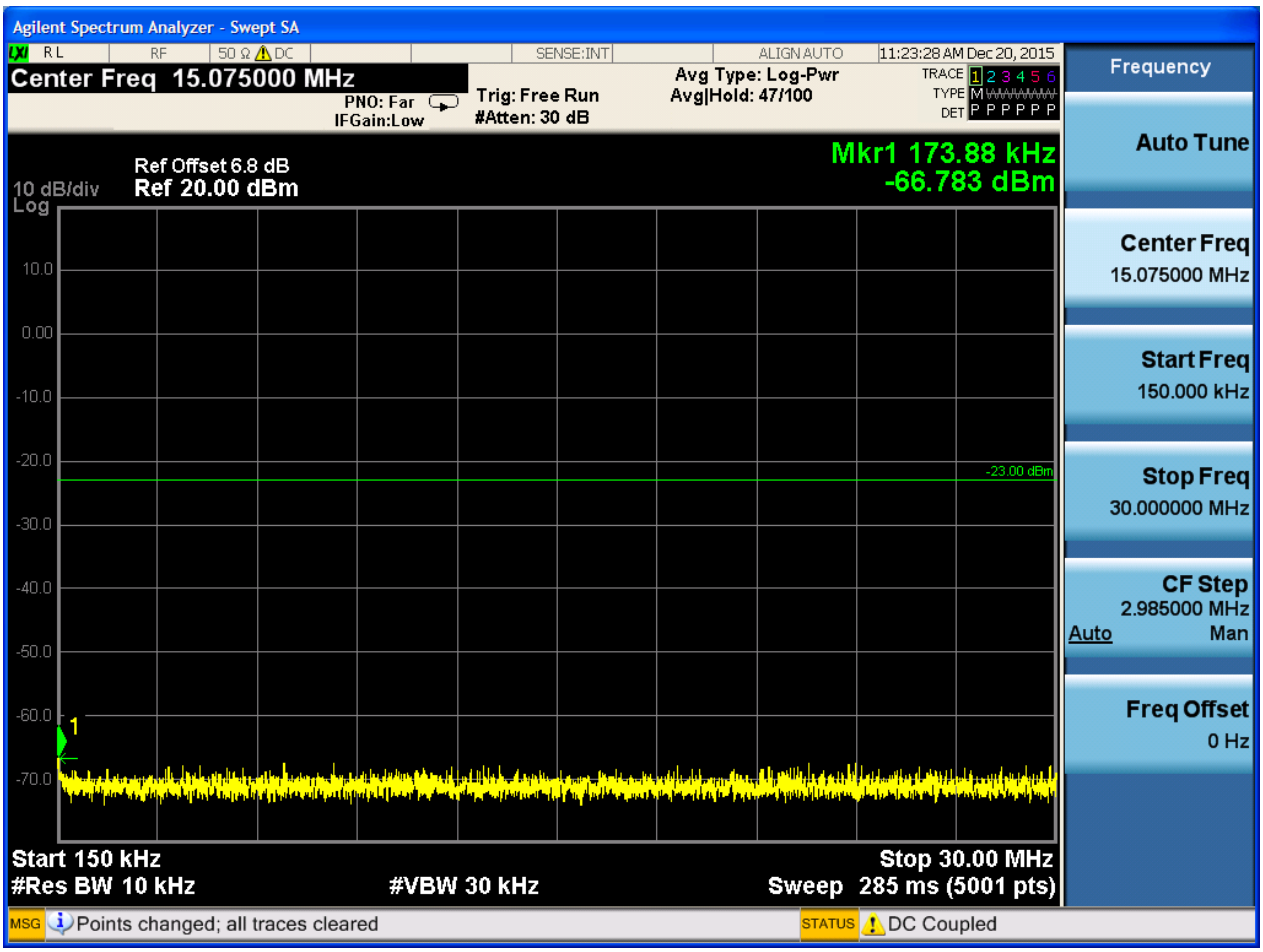


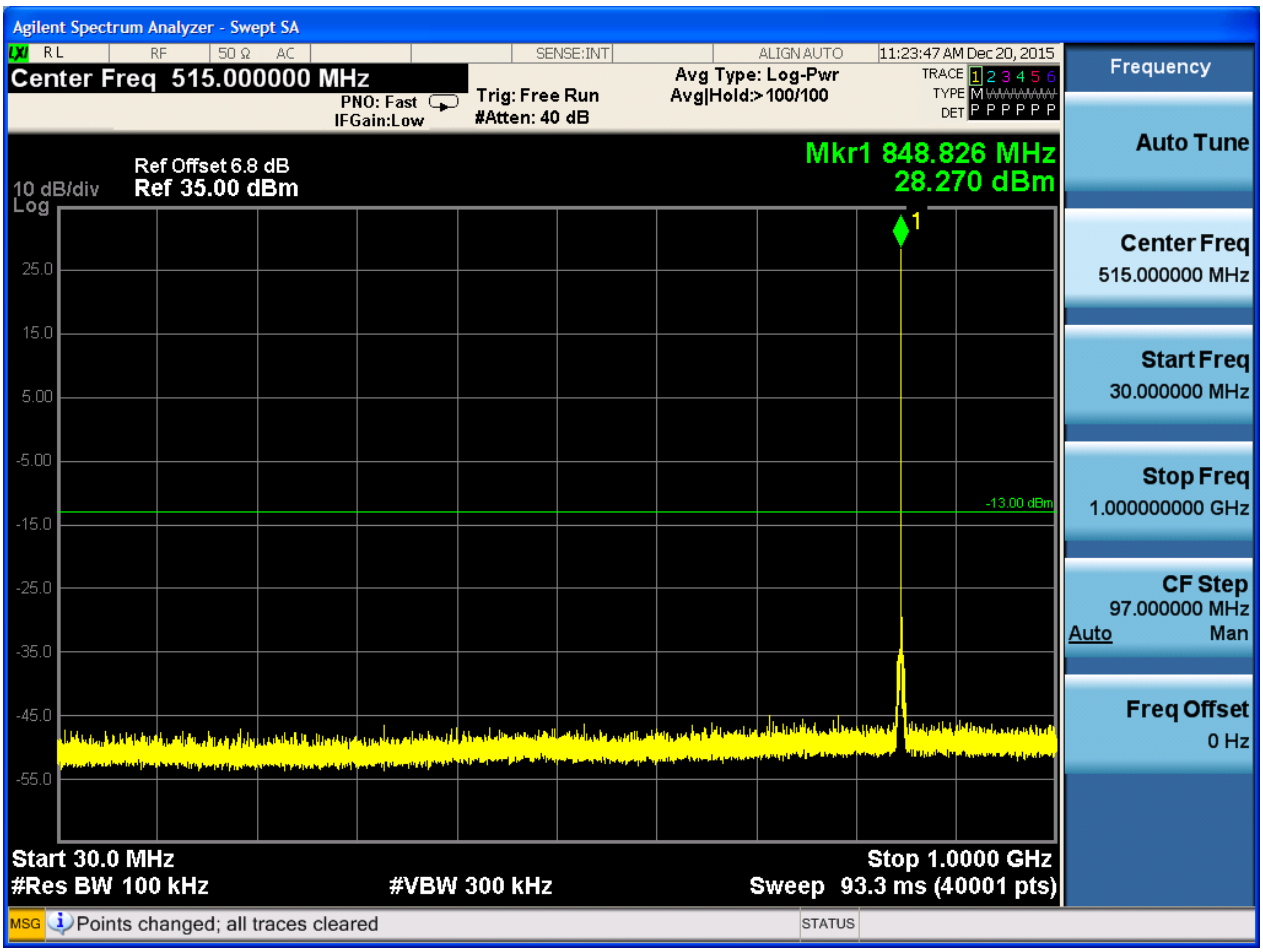


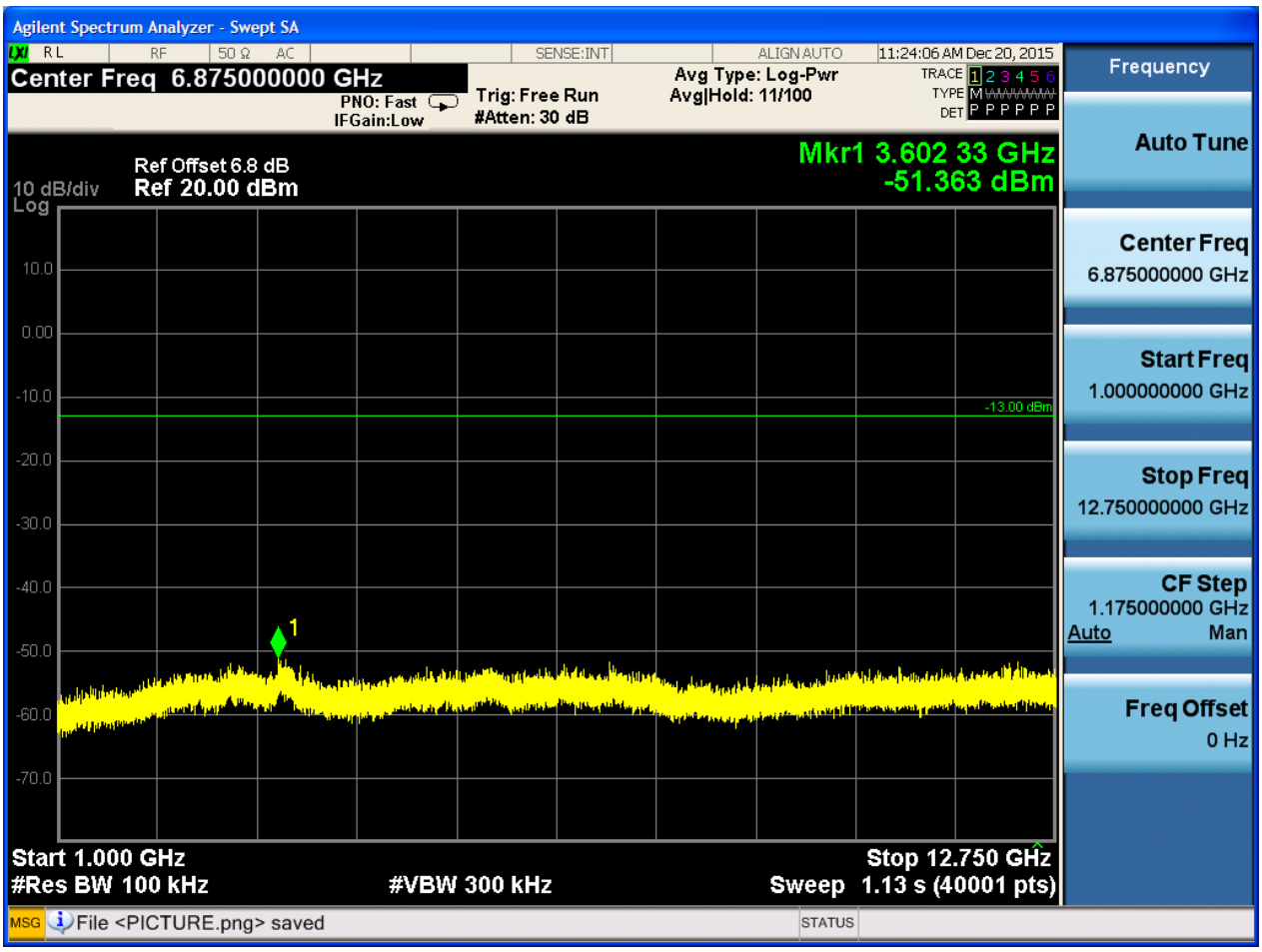


6.1.1.2.3 Test Channel = HCH









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

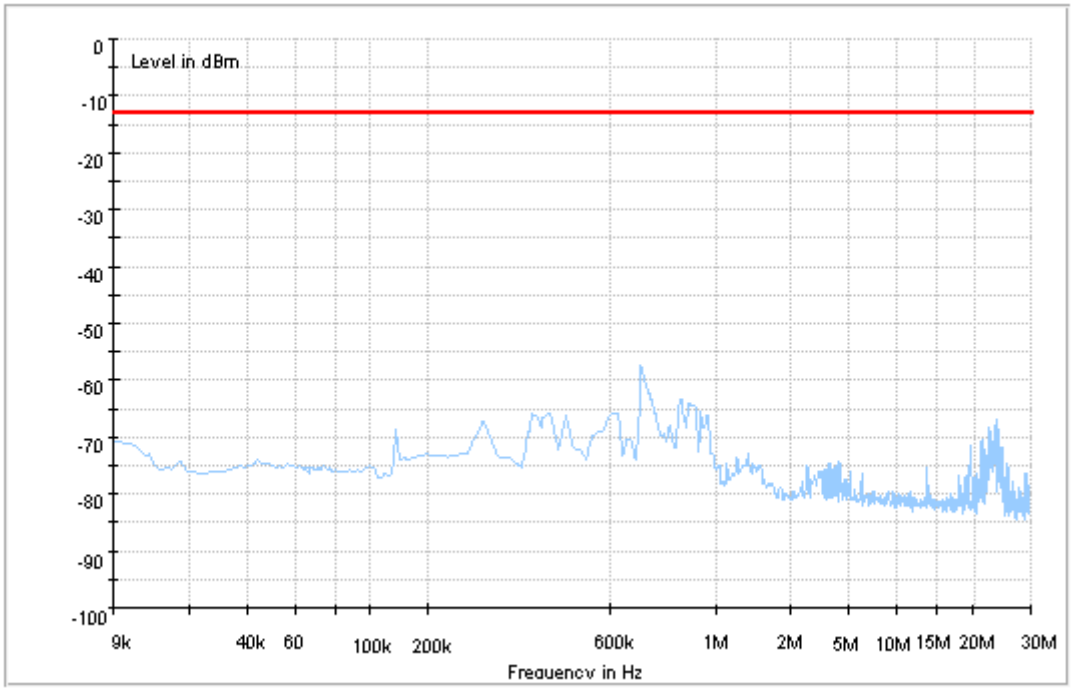
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

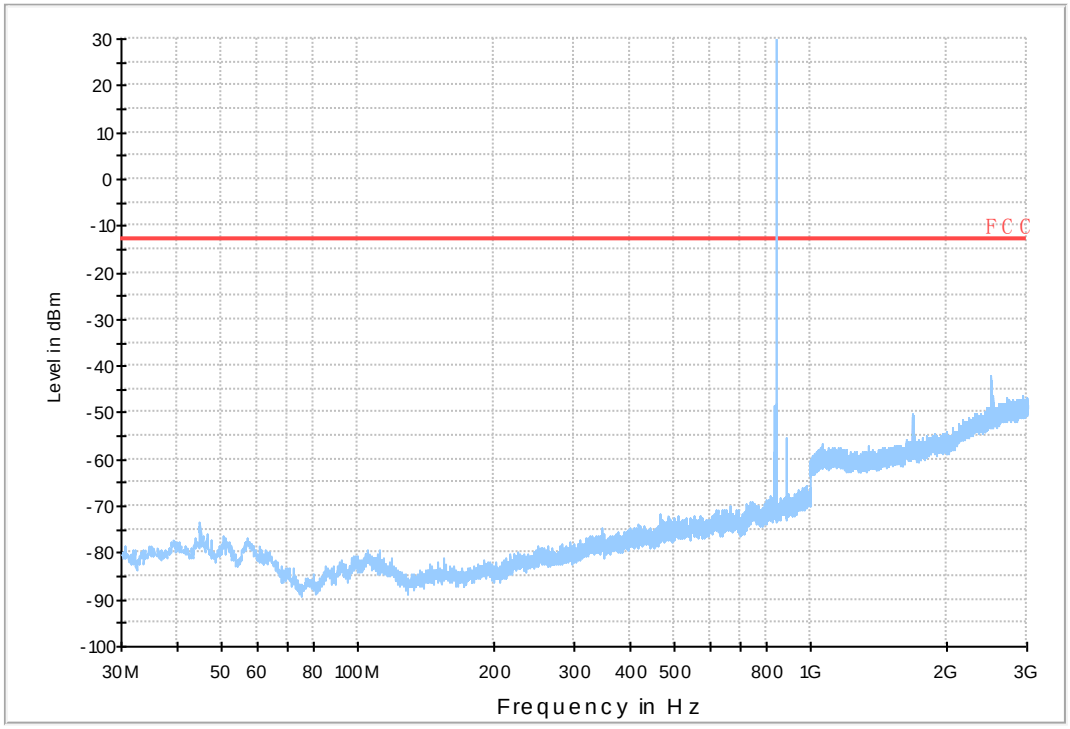
7.1 For GSM

7.1.1 Test Band = GSM850

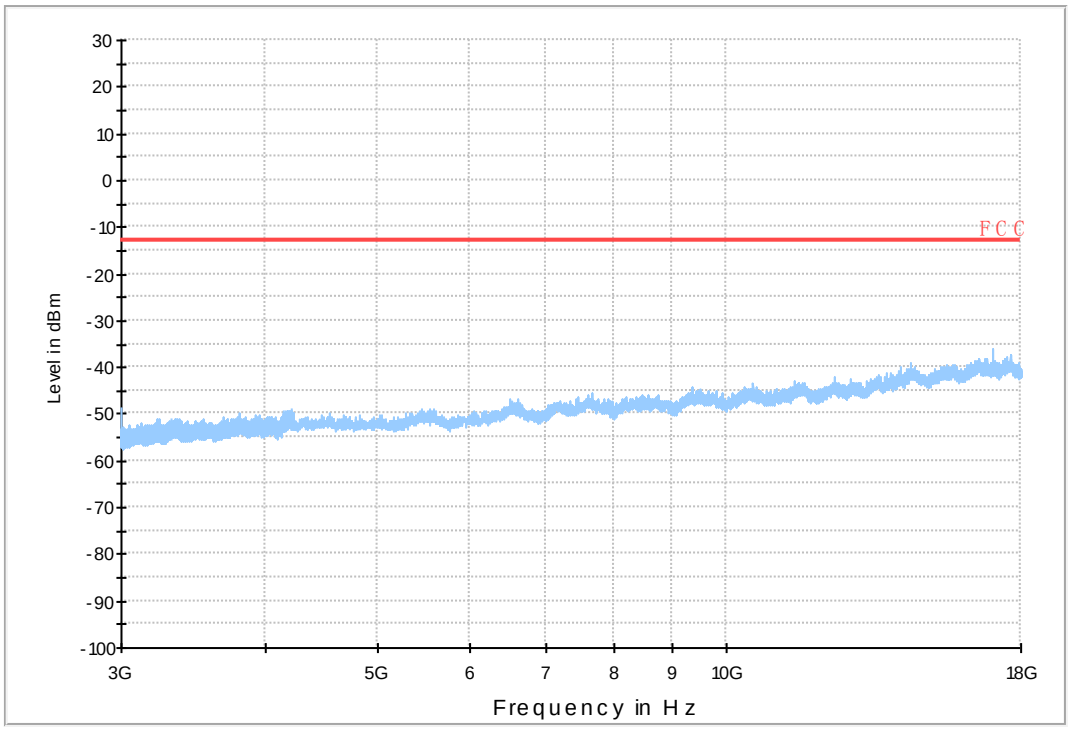
7.1.1.1 Test Mode = GSM/TM1



Copy of FCC PART22 GSM850_L



Copy of FCC PART22 GSM850_H



8Appendix_H: Frequency Stability

8.1 For GSM

8.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
GSM850	GSM/TM1	LCH	TN	VL	-12.46	-0.01512	PASS
				VN	-13.37	-0.01622	PASS
				VH	-14.08	-0.01708	PASS
		MCH	TN	VL	-10.14	-0.01212	PASS
				VN	-11.43	-0.01366	PASS
				VH	-1.87	-0.00224	PASS
		HCH	TN	VL	-12.79	-0.01507	PASS
				VN	-13.43	-0.01582	PASS
				VH	-8.59	-0.01012	PASS
	GSM/TM2	LCH	TN	VL	-11.27	-0.01367	PASS
				VN	-17.37	-0.02107	PASS
				VH	-16.37	-0.01986	PASS
		MCH	TN	VL	-16.27	-0.01945	PASS
				VN	-14.63	-0.01749	PASS
				VH	-16.50	-0.01972	PASS
		HCH	TN	VL	-17.53	-0.02065	PASS
				VN	-18.21	-0.02145	PASS
				VH	-13.04	-0.01536	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
GSM850	GSM/TM1	LCH	VN	-30	-13.30	-0.01614	PASS
				-20	-11.62	-0.0141	PASS
				-10	-19.05	-0.02311	PASS
				0	-7.43	-0.00901	PASS
				10	-11.17	-0.01355	PASS
				20	-13.95	-0.01693	PASS
				30	-12.07	-0.01464	PASS
				40	-16.72	-0.02029	PASS
				50	-13.11	-0.01591	PASS
		MCH	VN	-30	-10.91	-0.01304	PASS
				-20	-3.62	-0.00433	PASS
				-10	-10.91	-0.01304	PASS
				0	-14.79	-0.01768	PASS
				10	-9.69	-0.01158	PASS
				20	-8.59	-0.01027	PASS
				30	-10.20	-0.01219	PASS
				40	-7.36	-0.0088	PASS
				50	-11.43	-0.01366	PASS
		HCH	VN	-30	-10.40	-0.01225	PASS
				-20	-9.69	-0.01142	PASS
				-10	-13.95	-0.01643	PASS
				0	-15.24	-0.01795	PASS
				10	-9.30	-0.01096	PASS
				20	-1.36	-0.0016	PASS
				30	-16.08	-0.01894	PASS
				40	-12.20	-0.01437	PASS
				50	-10.65	-0.01255	PASS
	GSM/TM2	LCH	VN	-30	-20.02	-0.02429	PASS
				-20	-15.85	-0.01923	PASS
				-10	-22.18	-0.02691	PASS
				0	-11.33	-0.01375	PASS
				10	-13.37	-0.01622	PASS
				20	-17.01	-0.02064	PASS
				30	-10.20	-0.01238	PASS
				40	-13.46	-0.01633	PASS
				50	-16.30	-0.01978	PASS
		MCH	VN	-30	-12.79	-0.01529	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-20	-8.52	-0.01018	PASS
				-10	-21.60	-0.02582	PASS
				0	-17.14	-0.02049	PASS
				10	-14.72	-0.0176	PASS
				20	-11.82	-0.01413	PASS
				30	-14.21	-0.01699	PASS
				40	-15.14	-0.0181	PASS
				50	-12.59	-0.01505	PASS
		HCH	VN	-30	-14.98	-0.01765	PASS
				-20	-17.34	-0.02043	PASS
				-10	-11.04	-0.01301	PASS
				0	-28.64	-0.03374	PASS
				10	-17.24	-0.02031	PASS
				20	-21.21	-0.02499	PASS
				30	-12.40	-0.01461	PASS
				40	-16.69	-0.01966	PASS
				50	-15.34	-0.01807	PASS

END