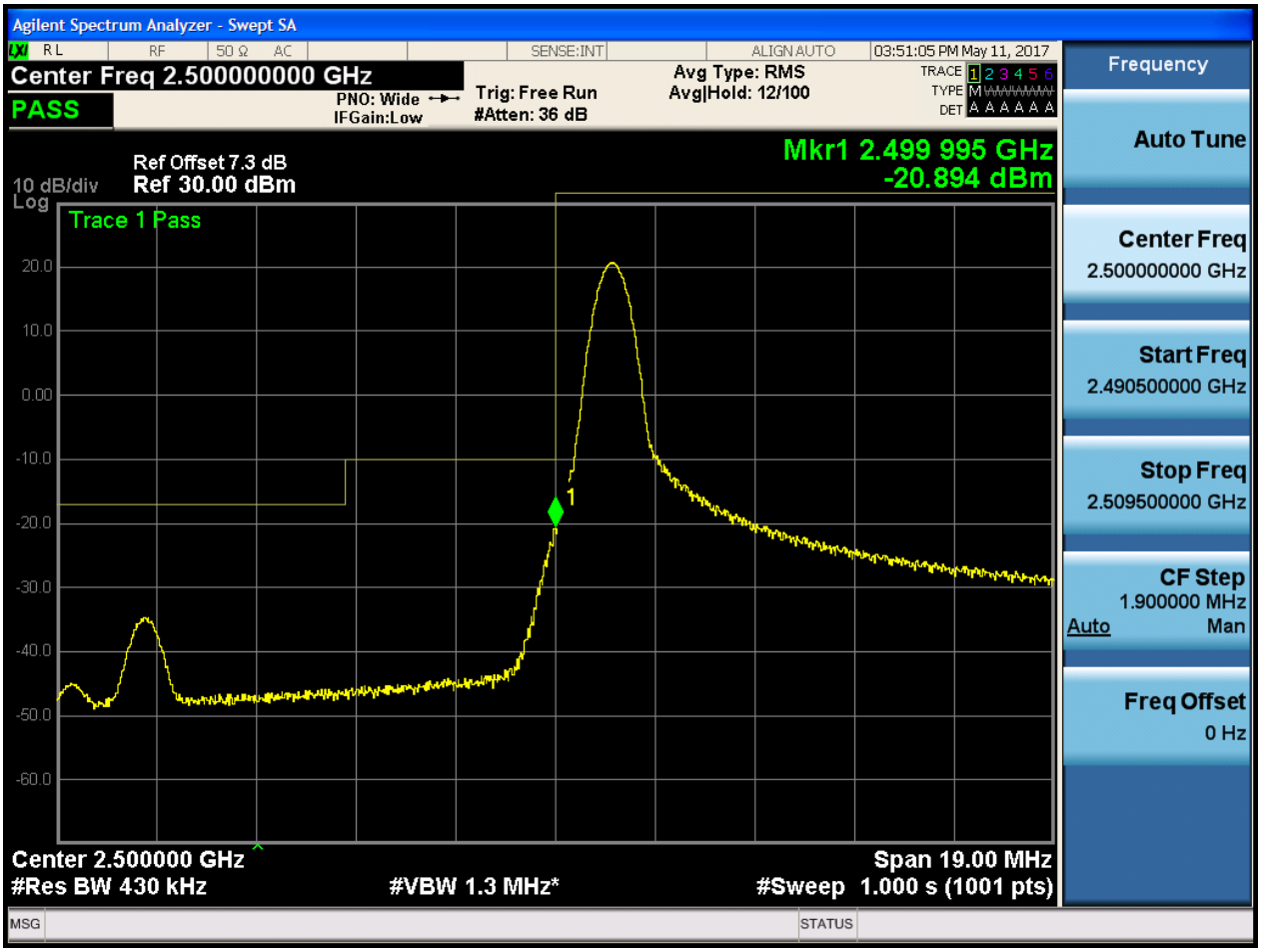
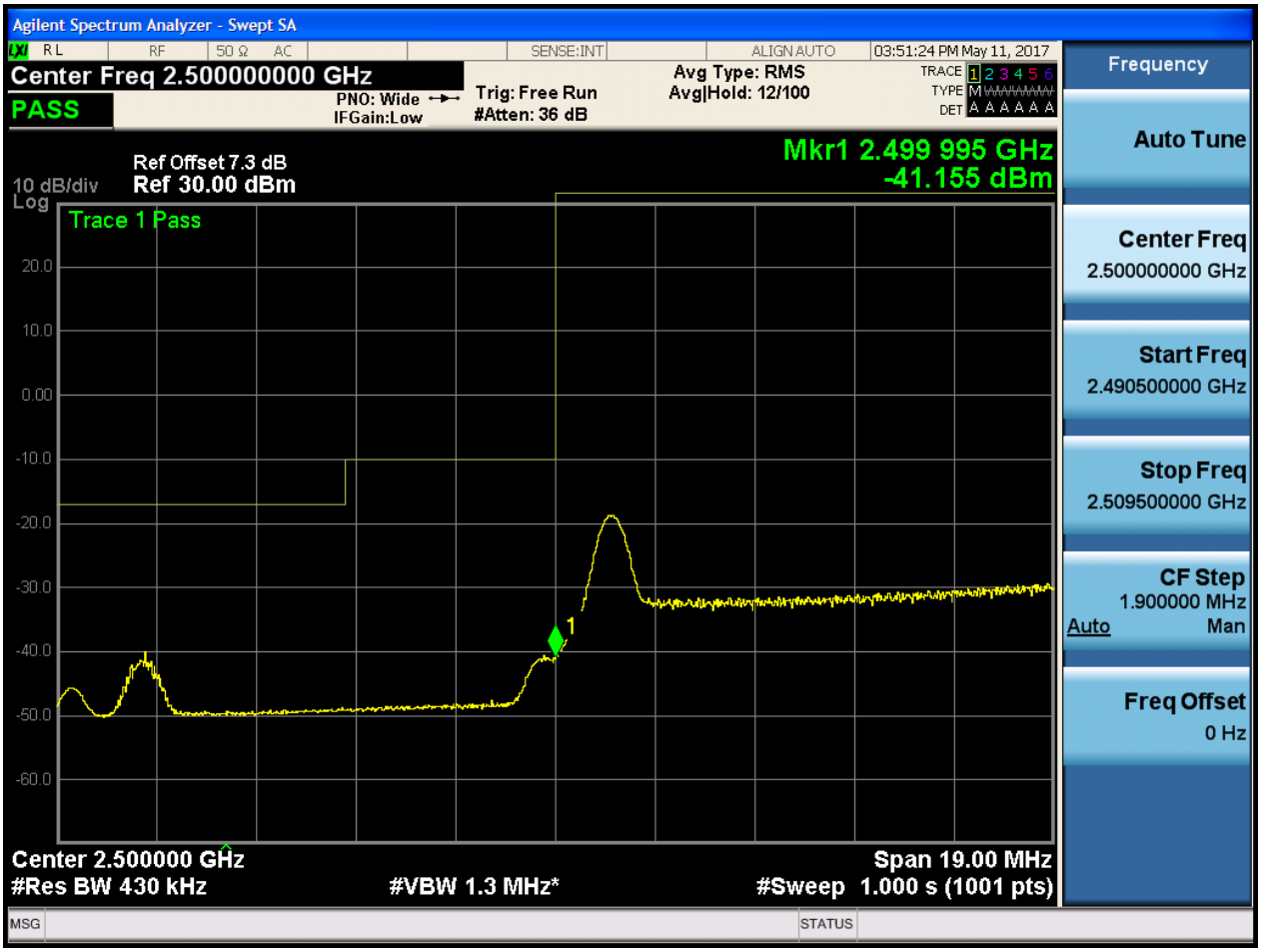
5.1.1.2.4 Test Bandwidth = 20

5.1.1.2.4.1 Test Channel = LCH

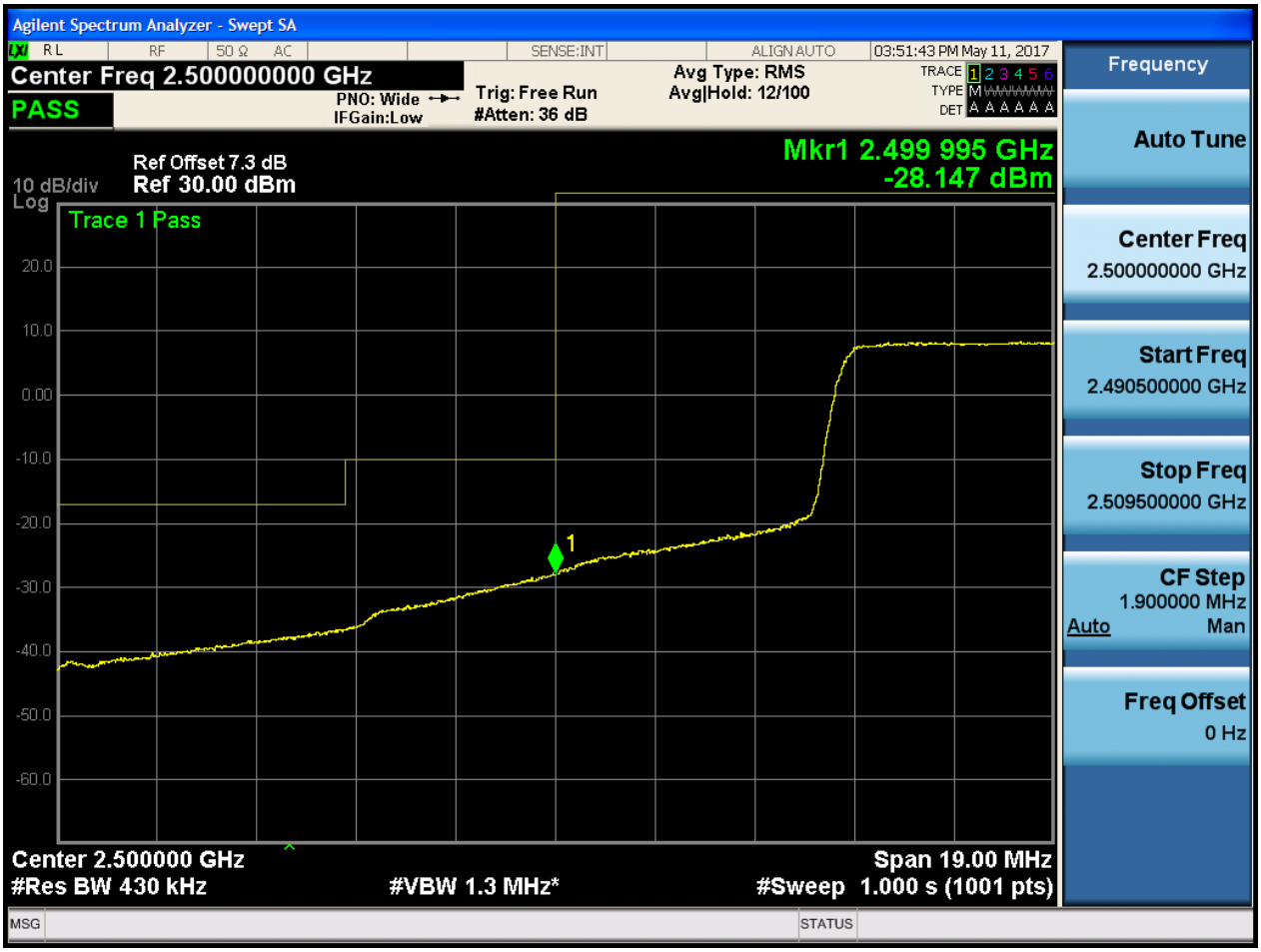
5.1.1.2.4.1.1 Test RB = RB1#0



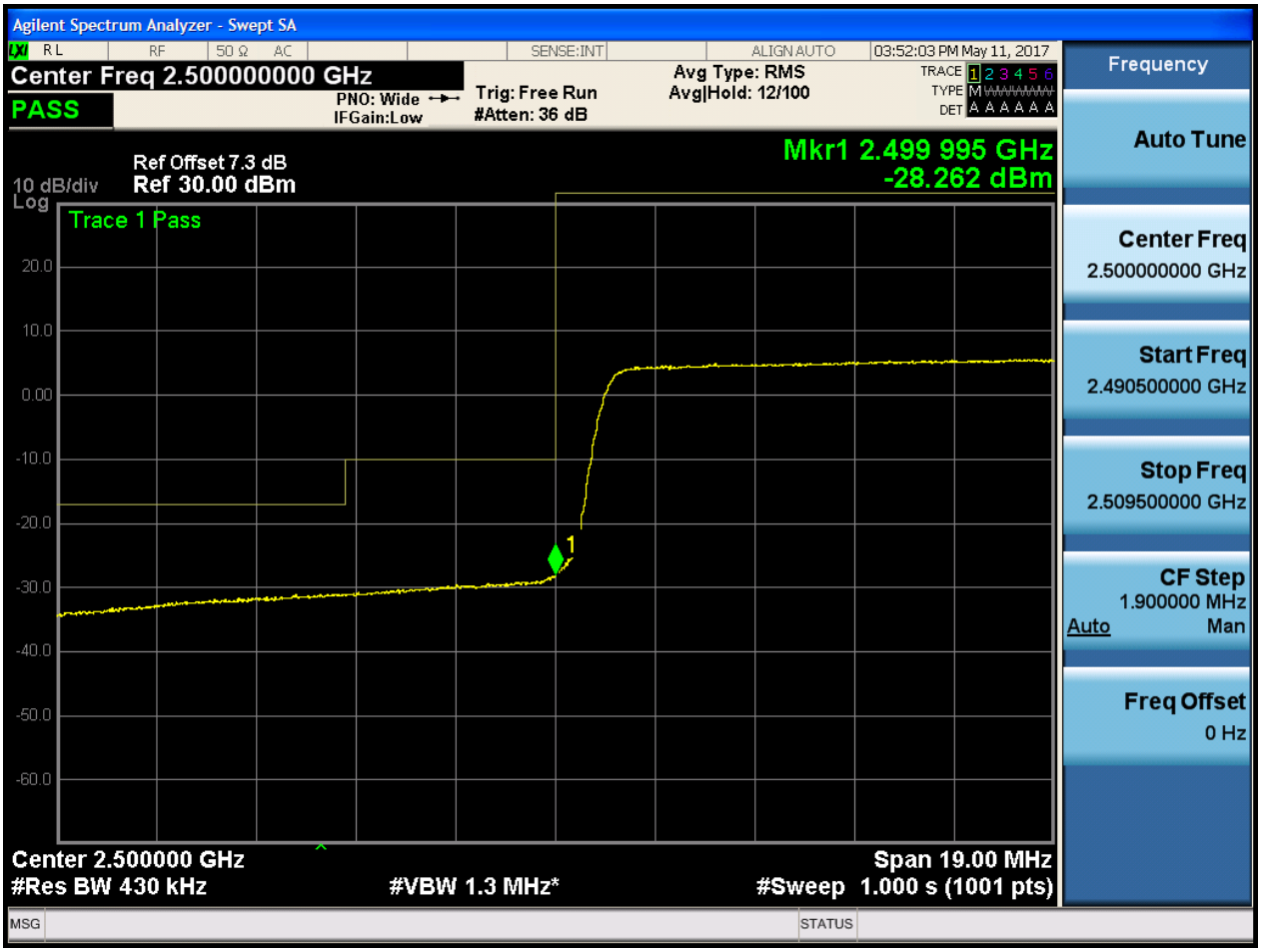
5.1.1.2.4.1.2 Test RB = RB1#99



5.1.1.2.4.1.3 Test RB = RB50#25

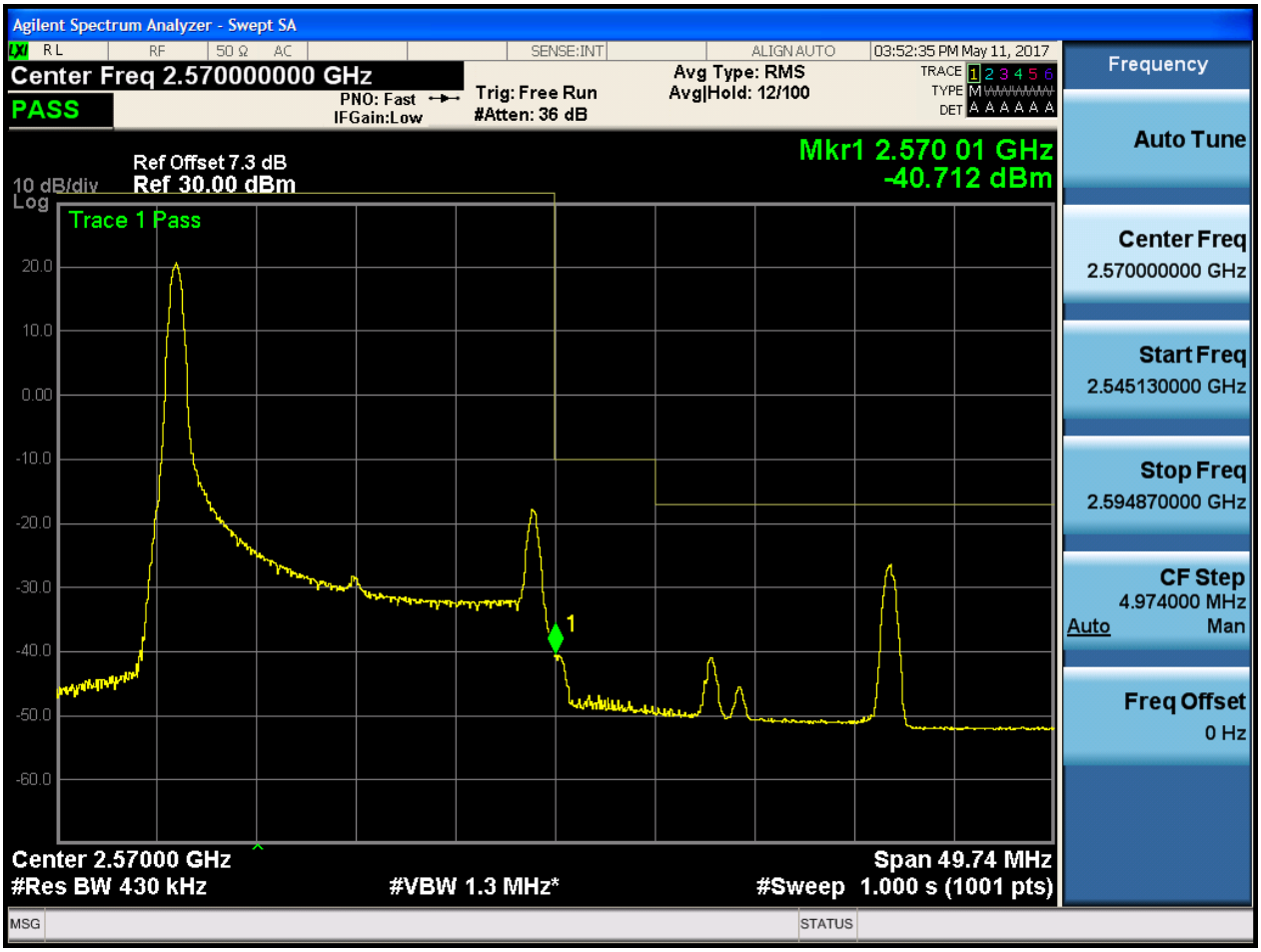


5.1.1.2.4.1.4 Test RB = RB100#0

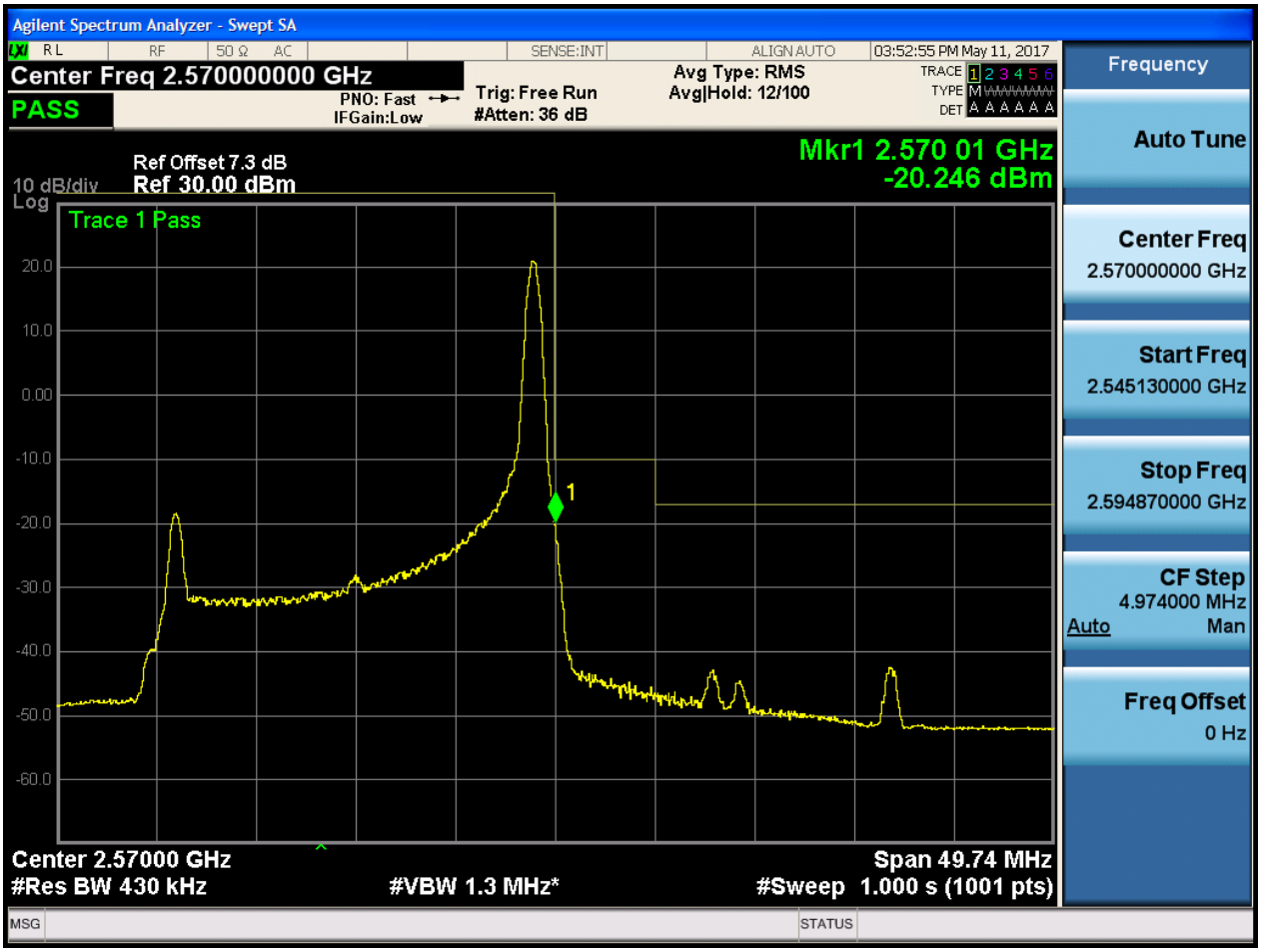


5.1.1.2.4.2 Test Channel = HCH

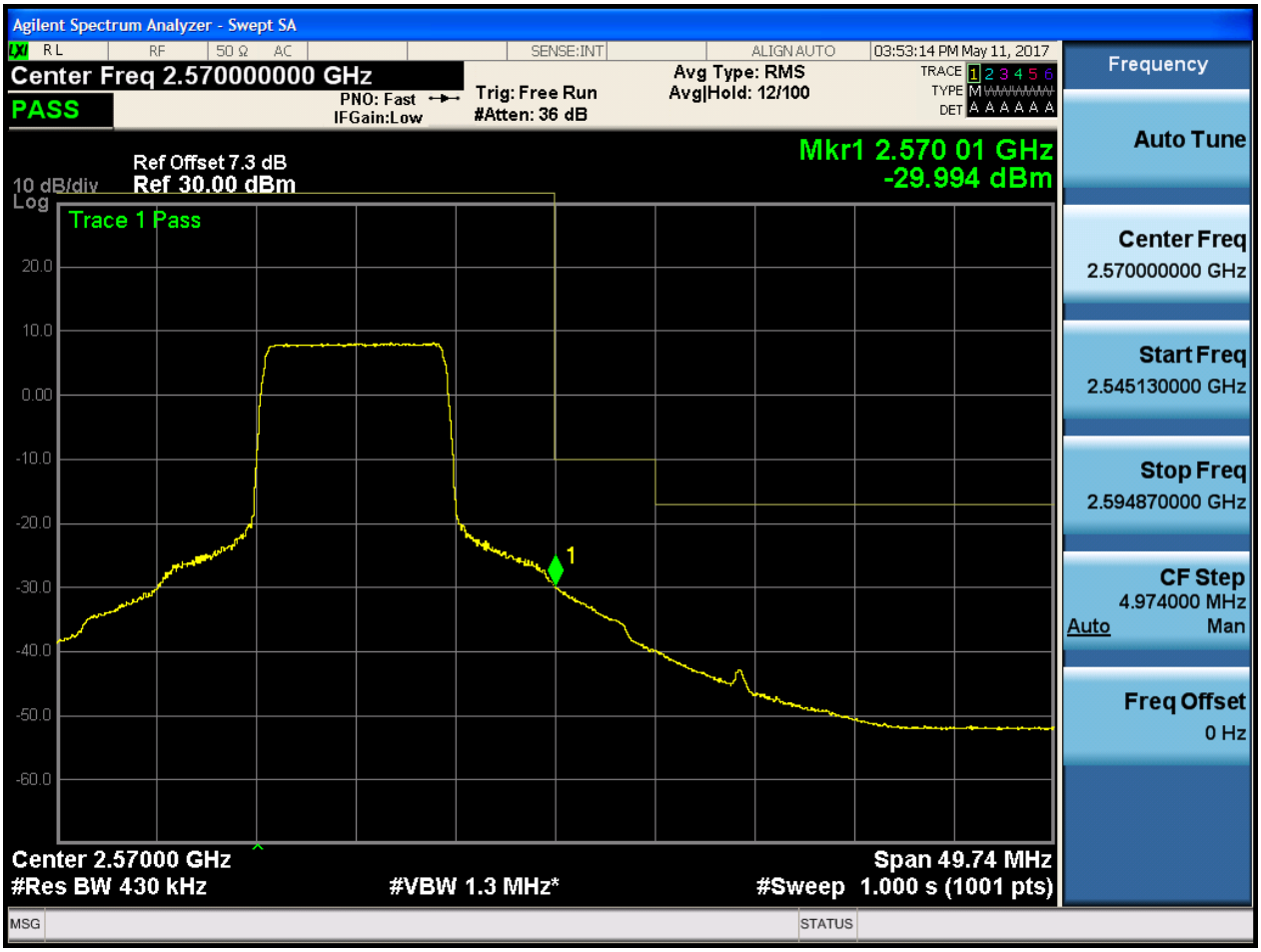
5.1.1.2.4.2.1 Test RB = RB1#0



5.1.1.2.4.2.2 Test RB = RB1#99



5.1.1.2.4.2.3 Test RB = RB50#25



5.1.1.2.4.2.4 Test RB = RB100#0

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 LTE

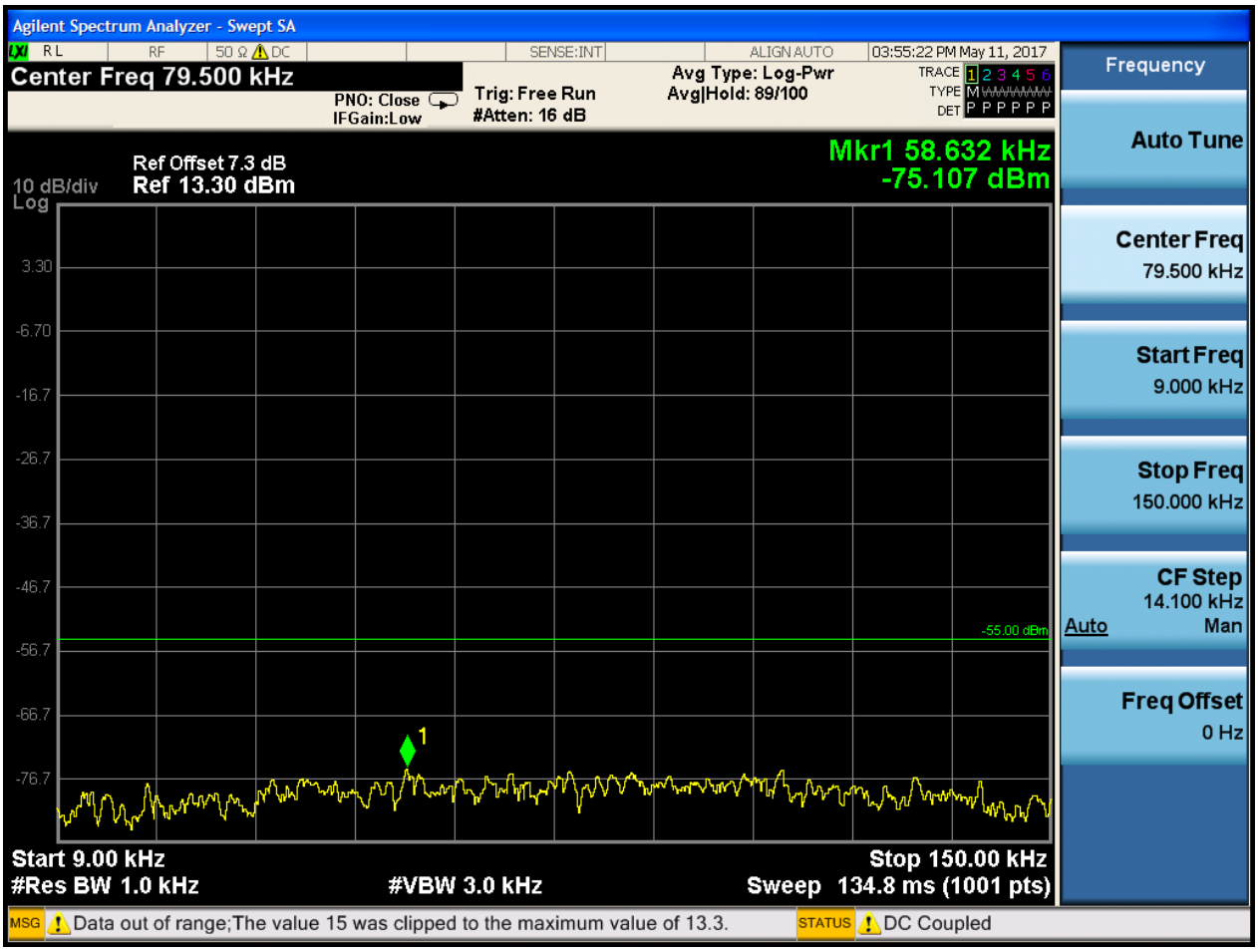
6.1.1 Test Band = BAND7

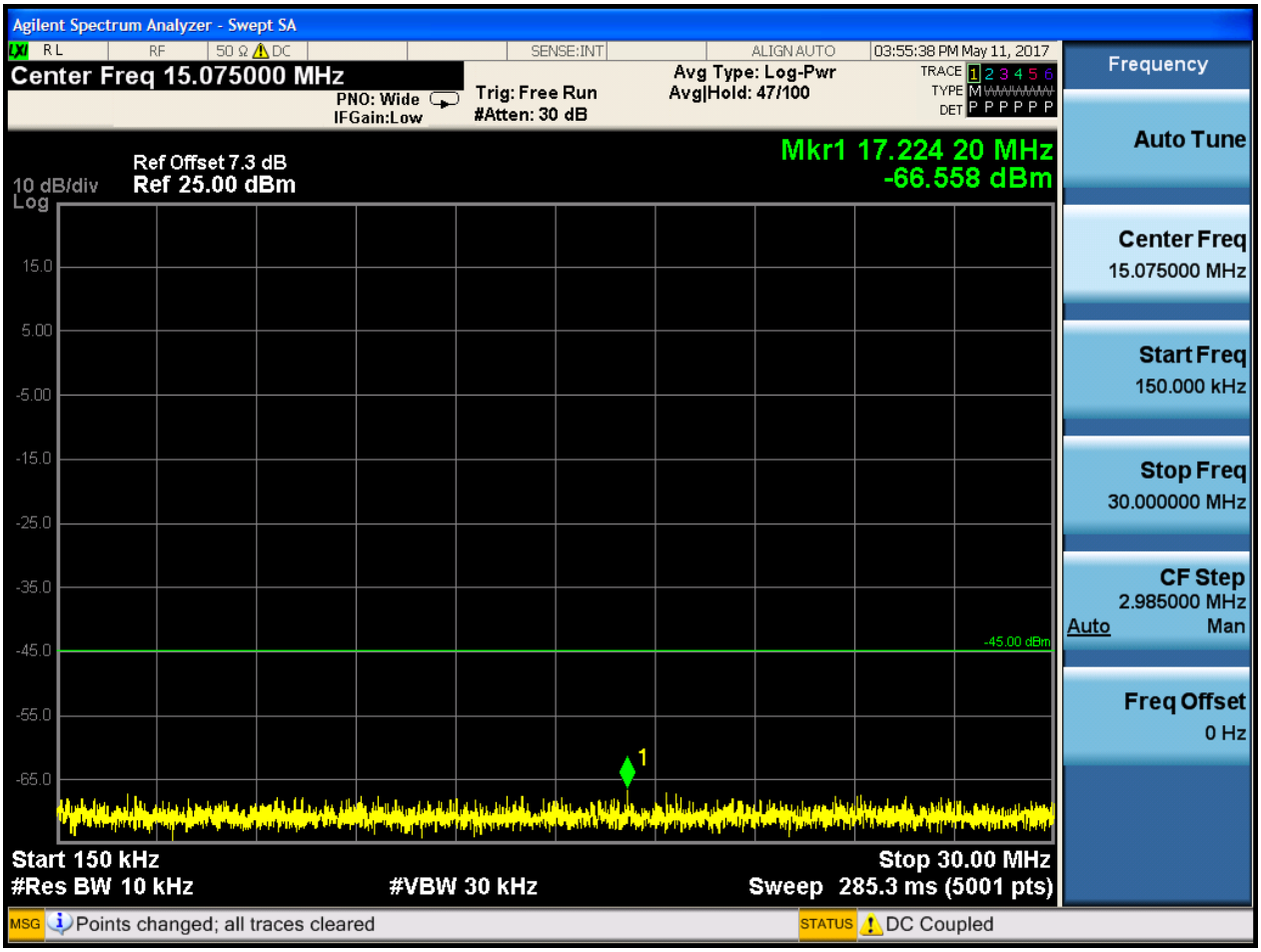
6.1.1.1 Test Mode = LTE/TM1

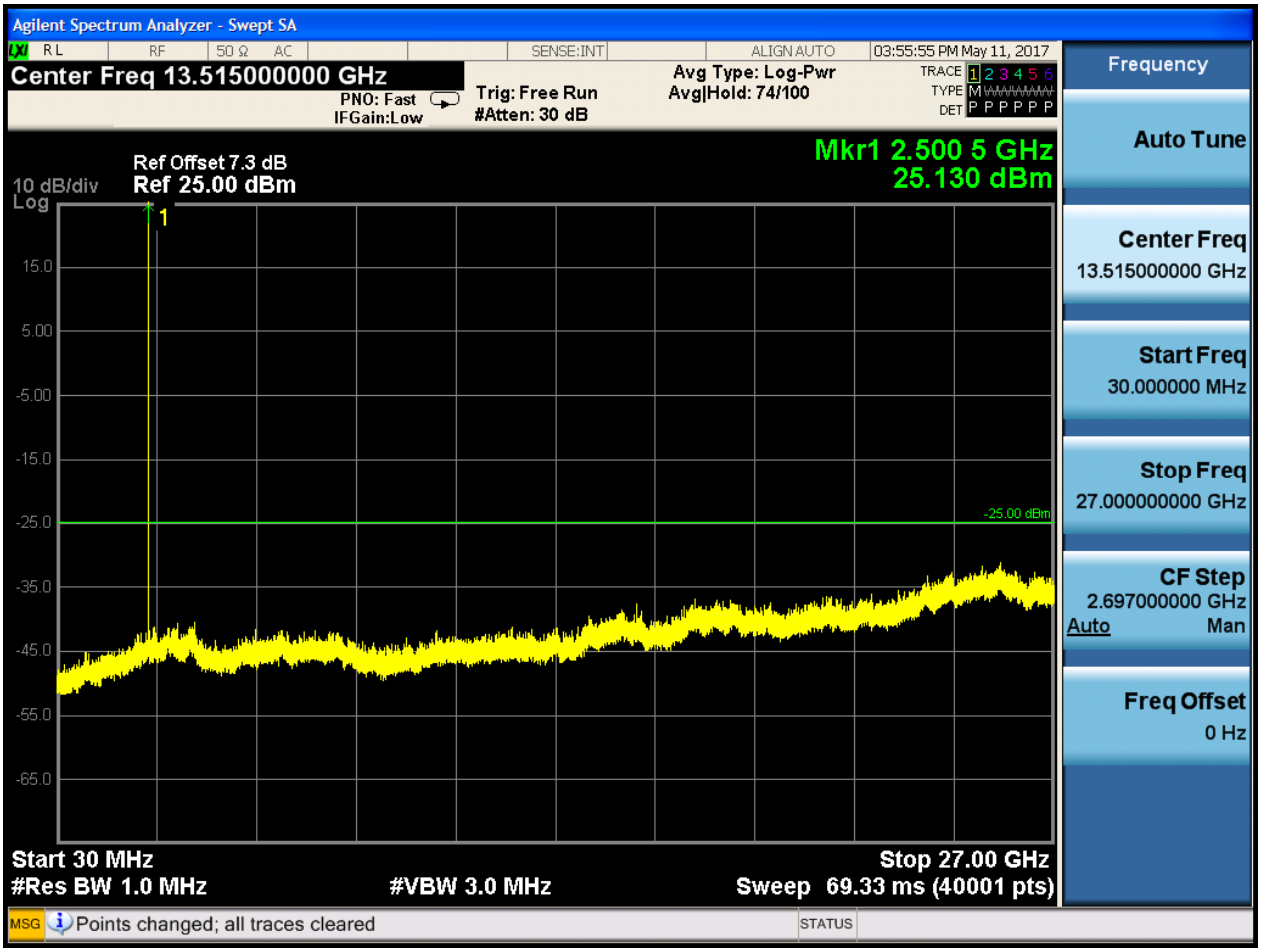
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

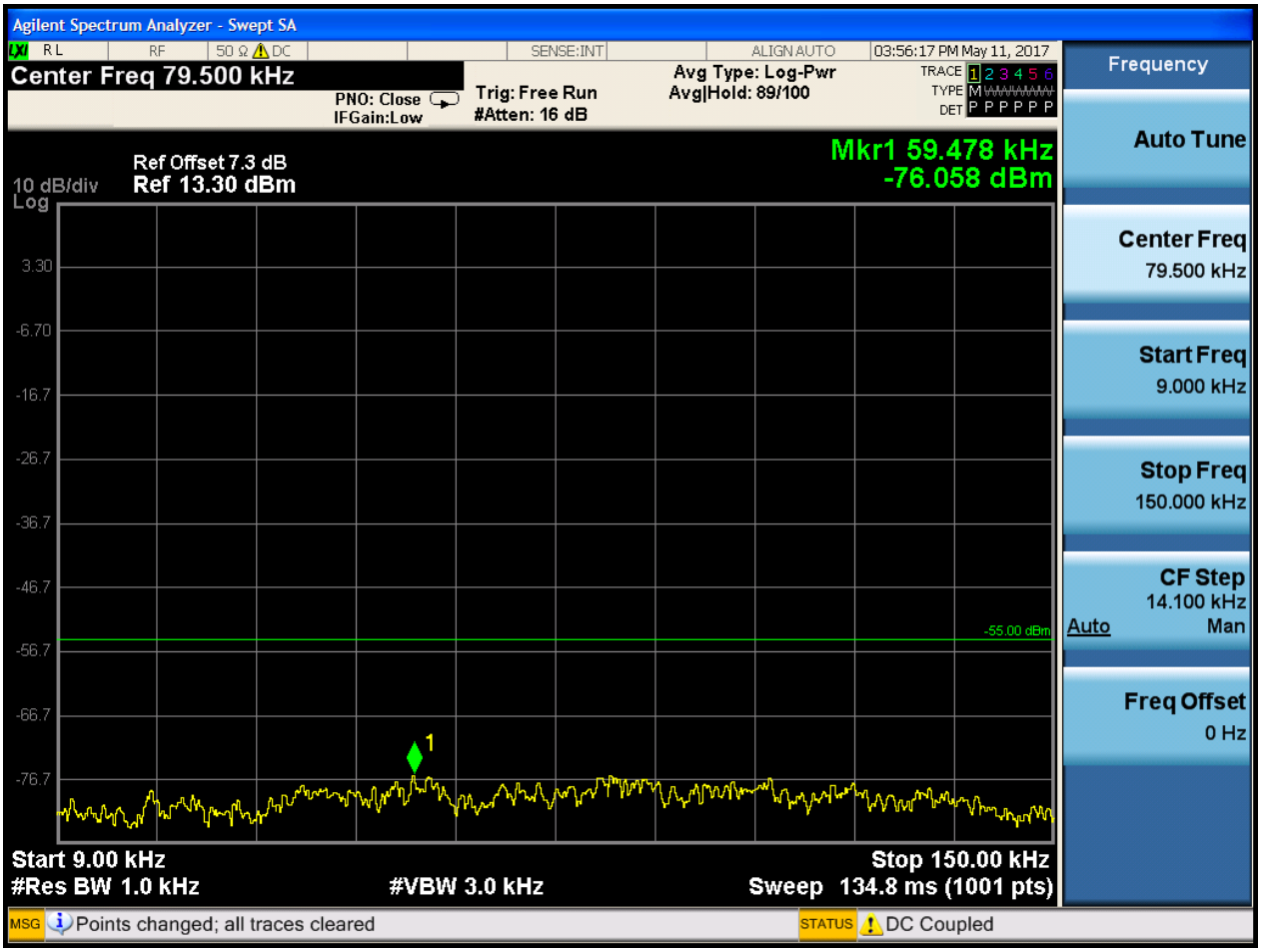


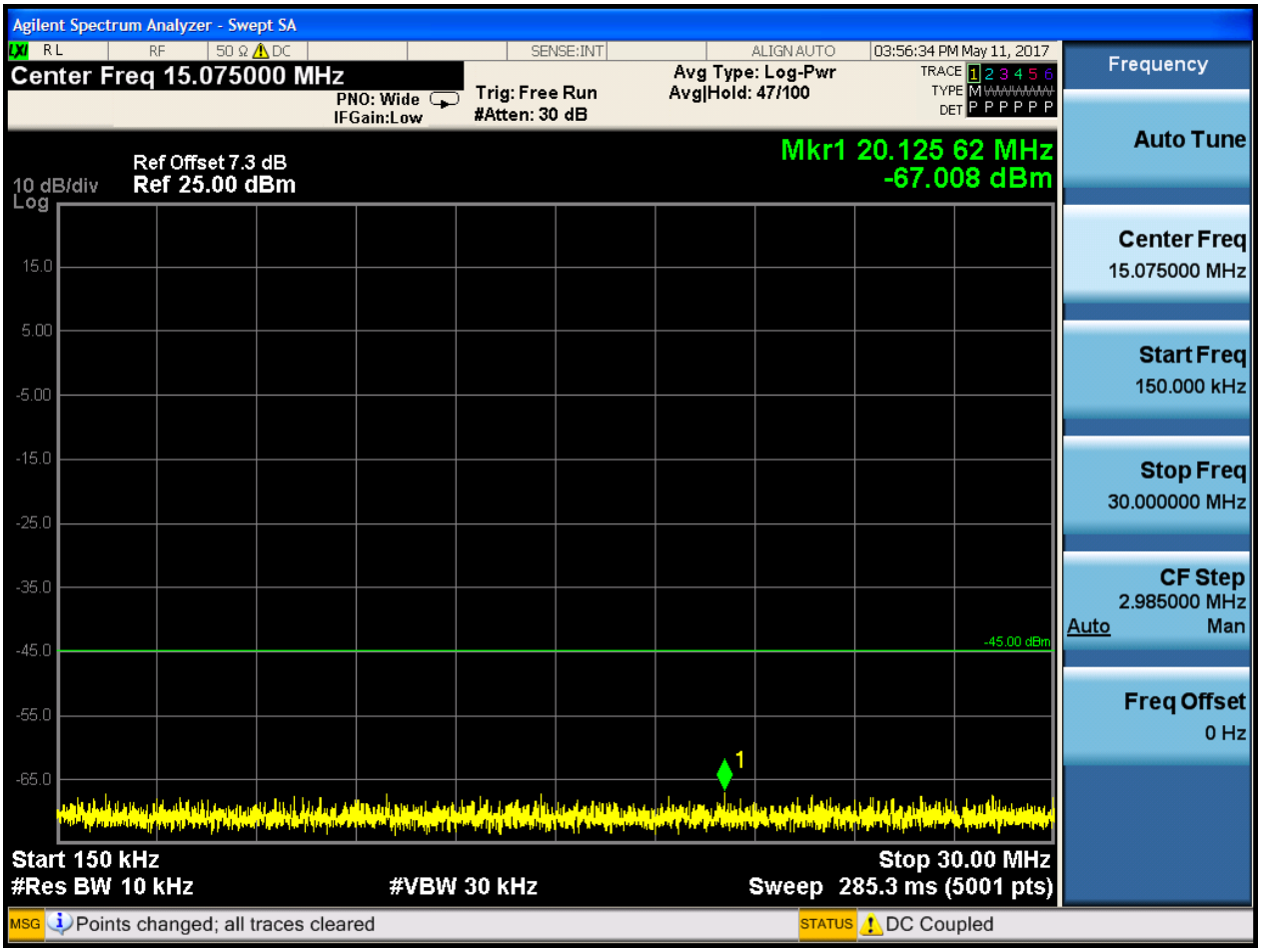


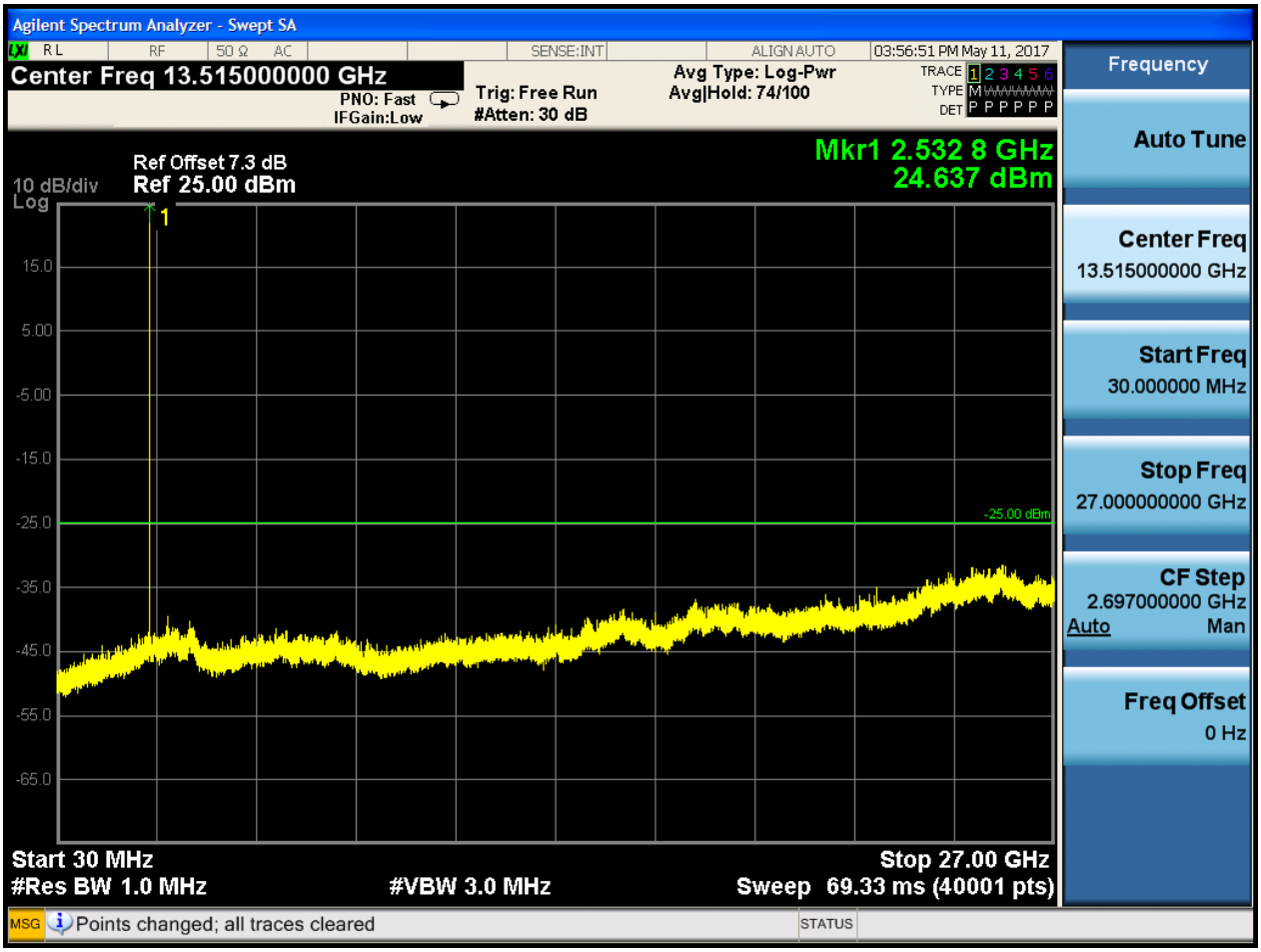


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

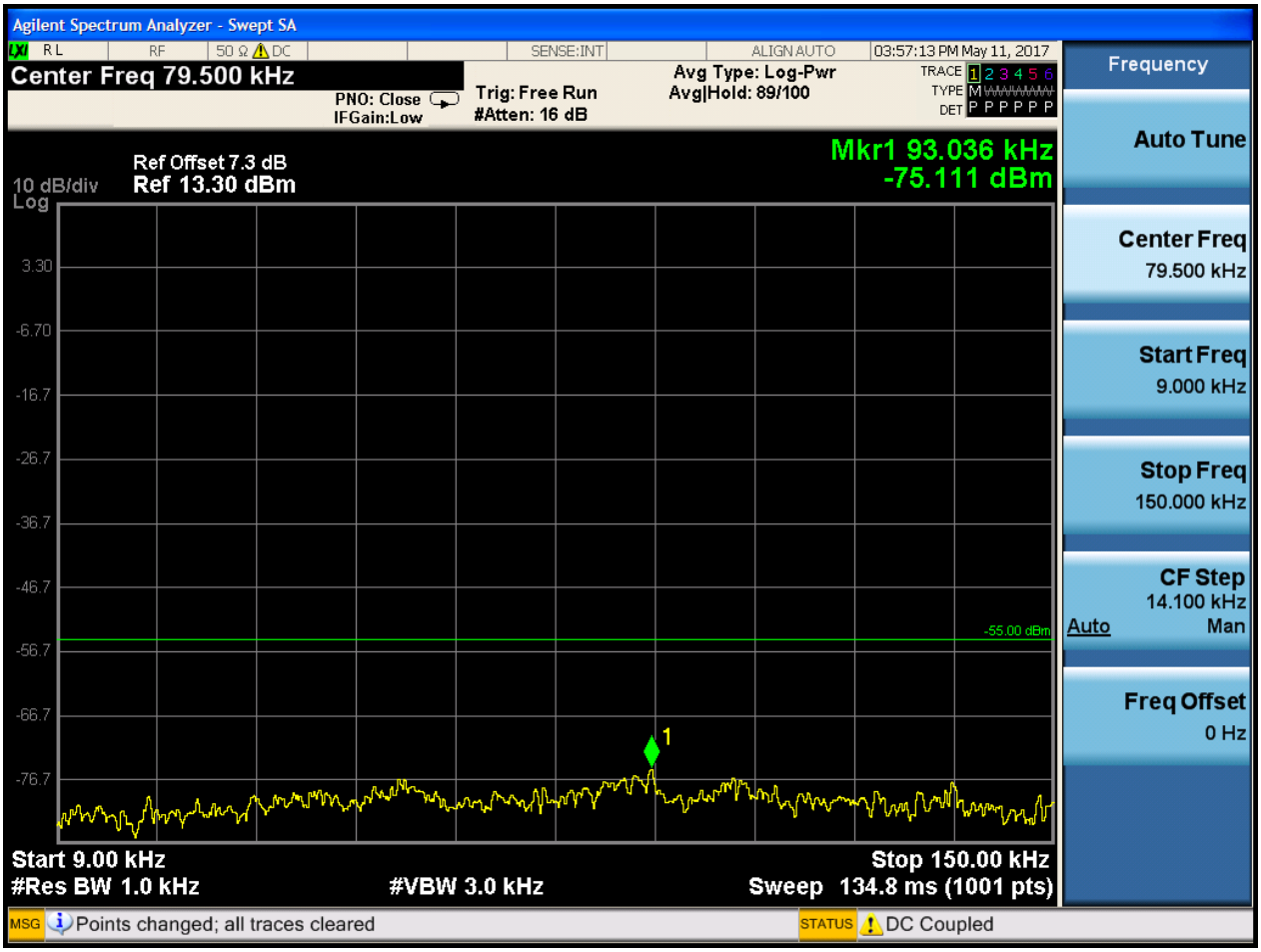


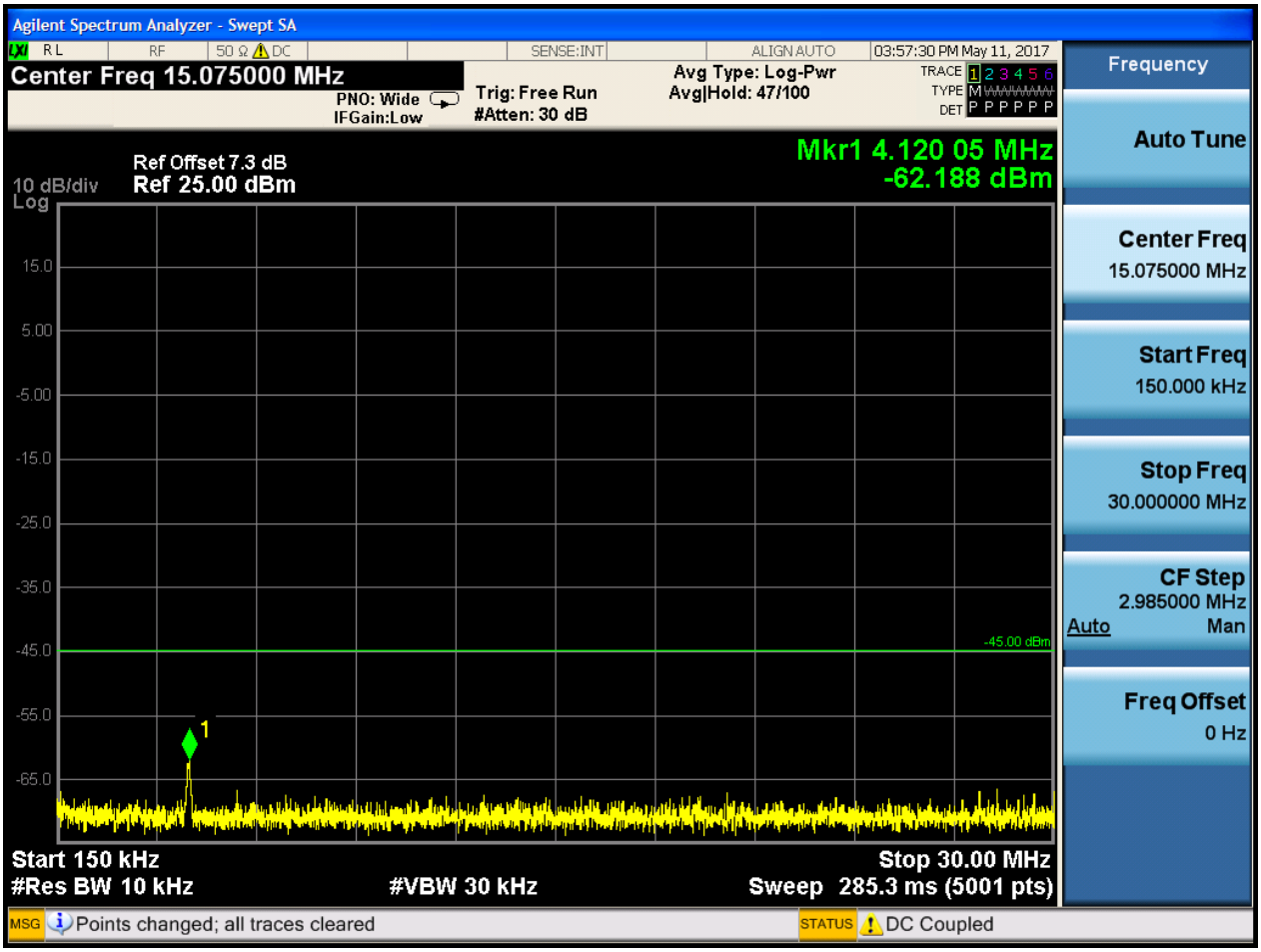


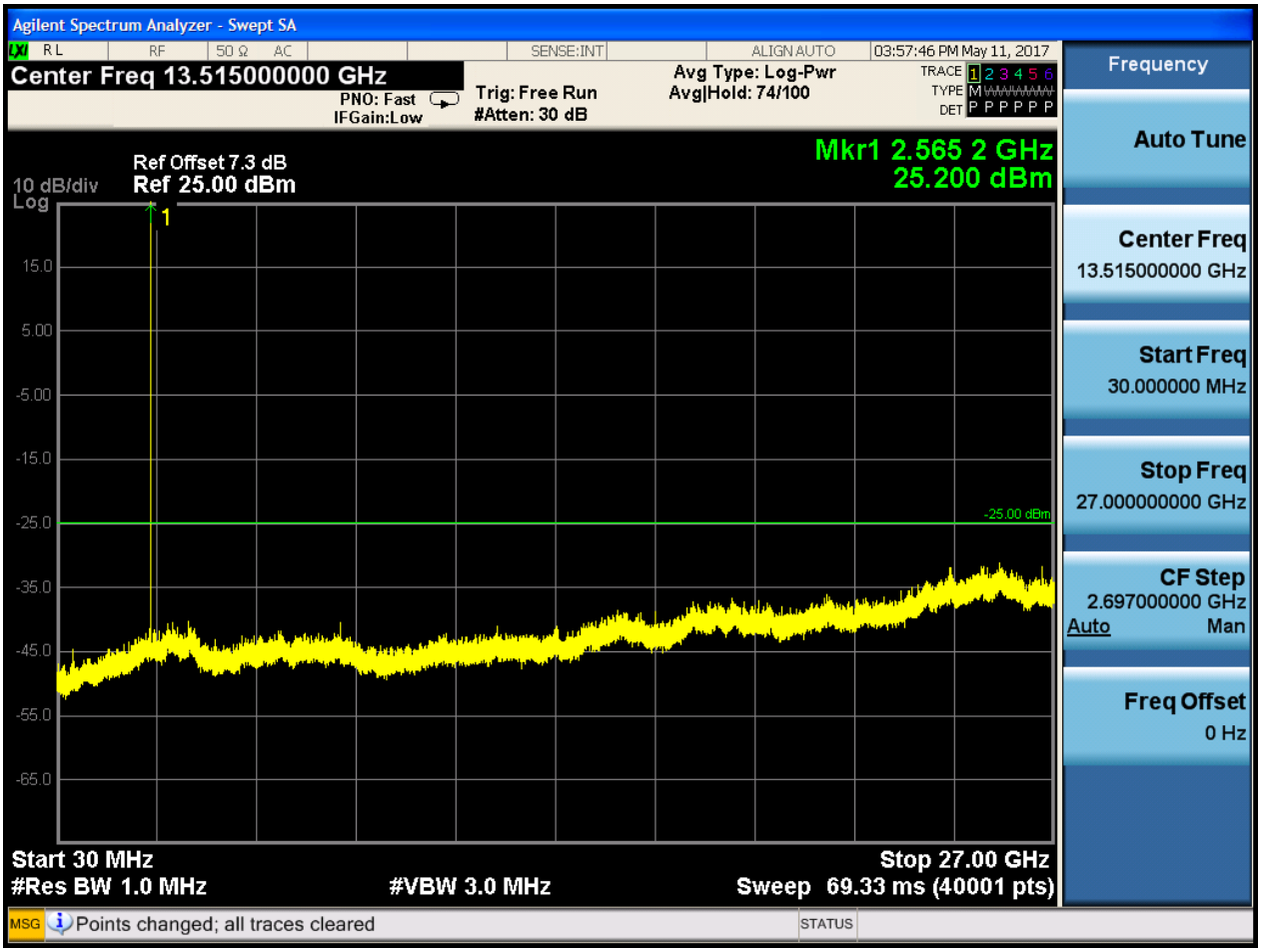


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0



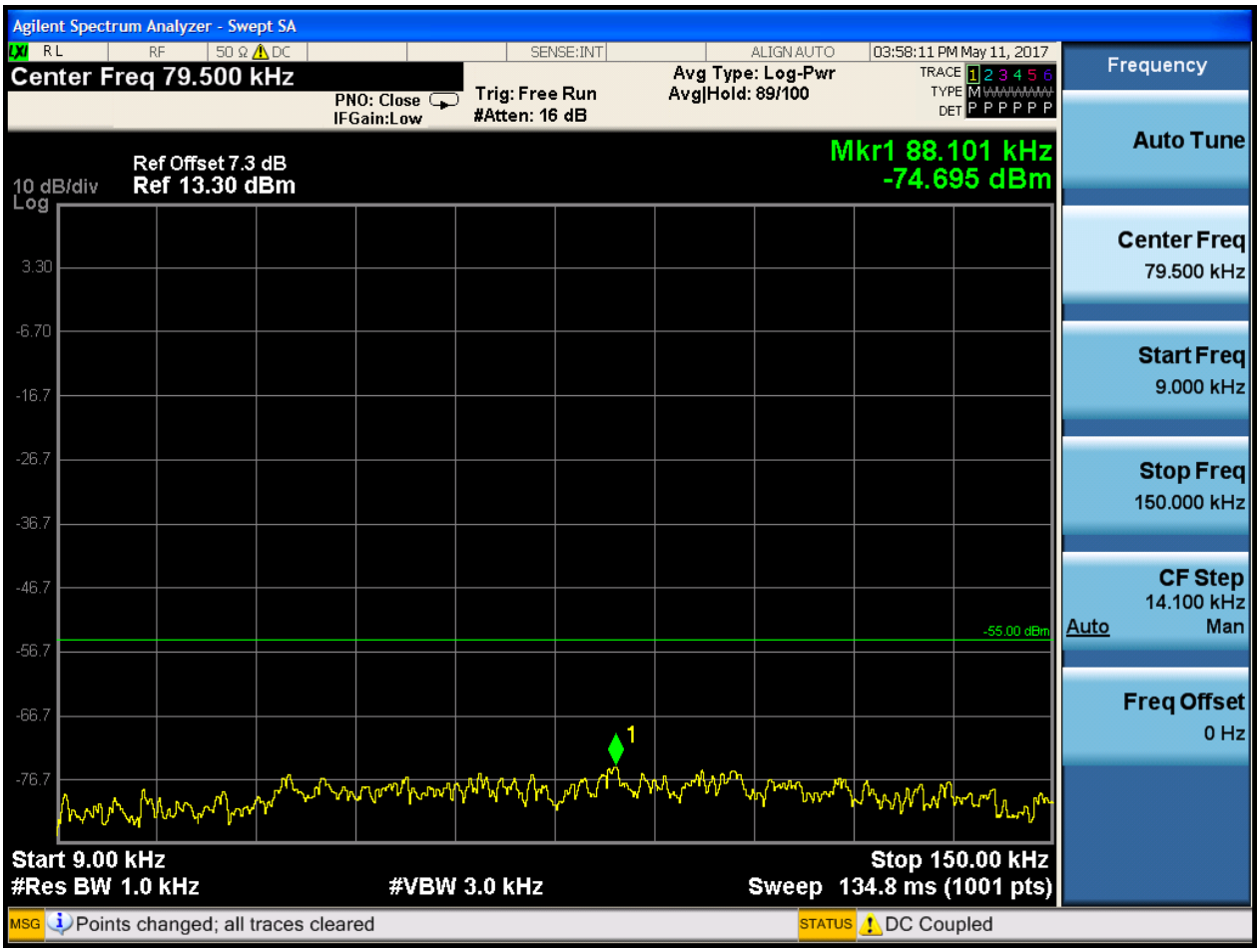


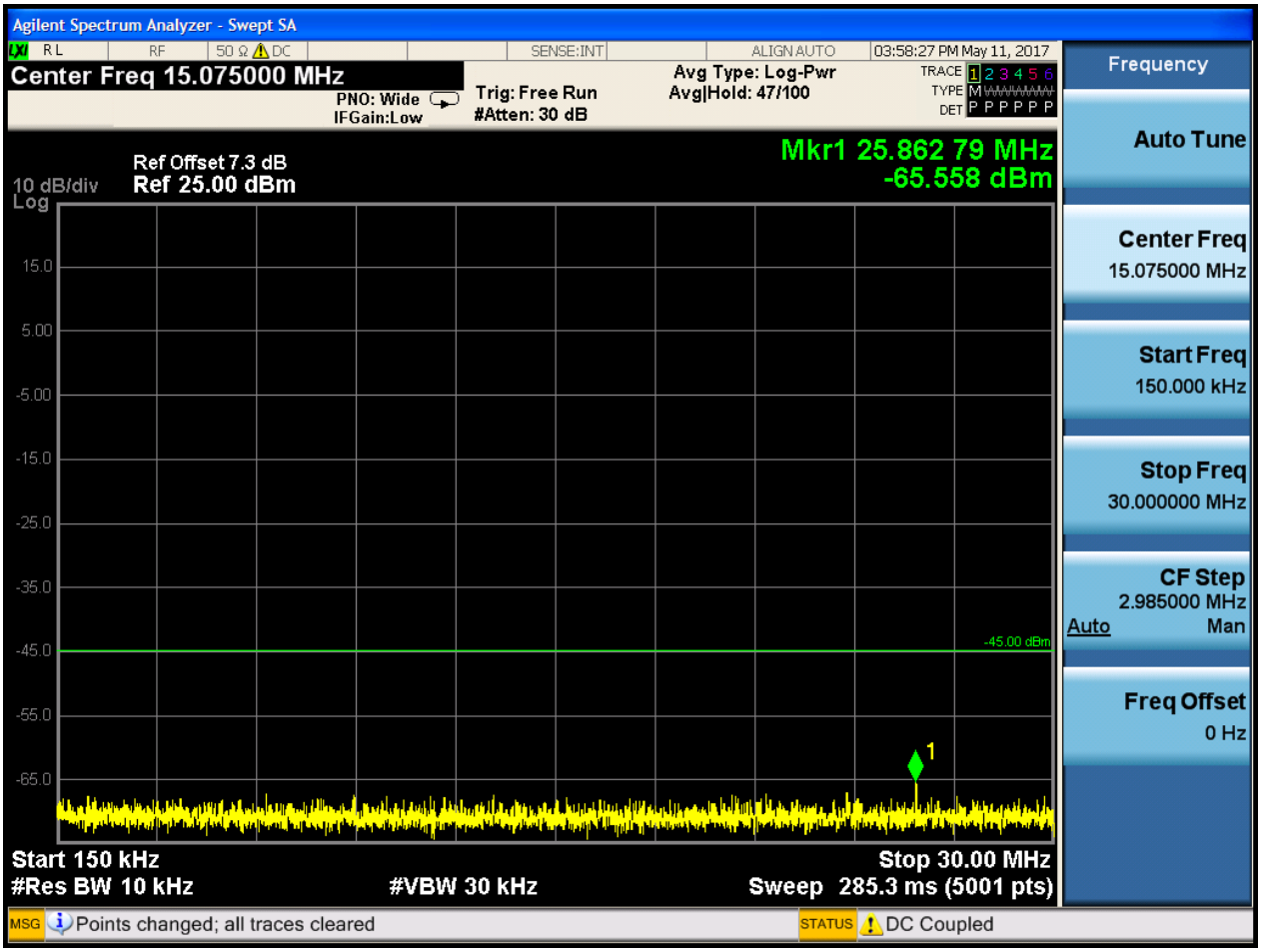


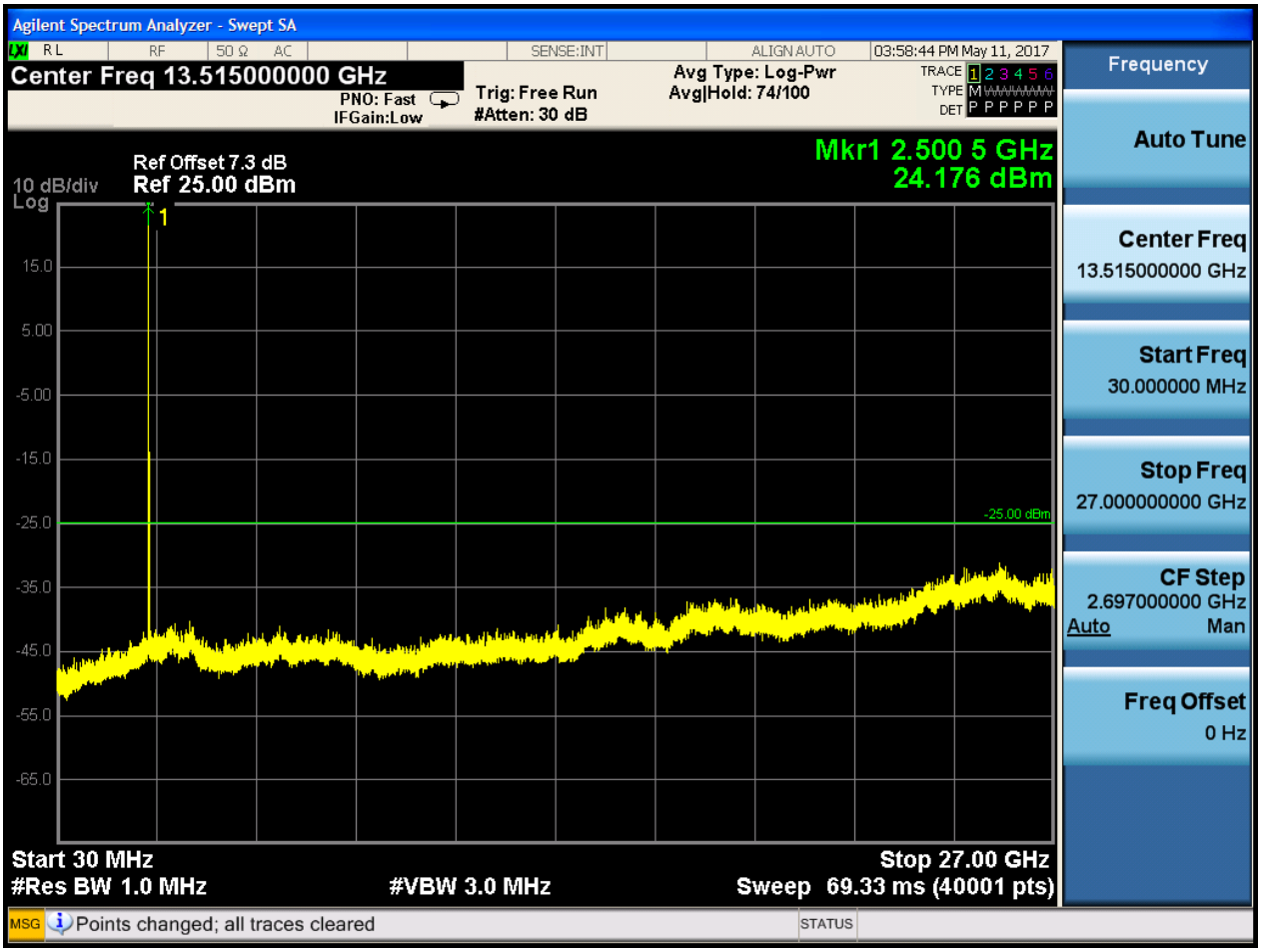
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

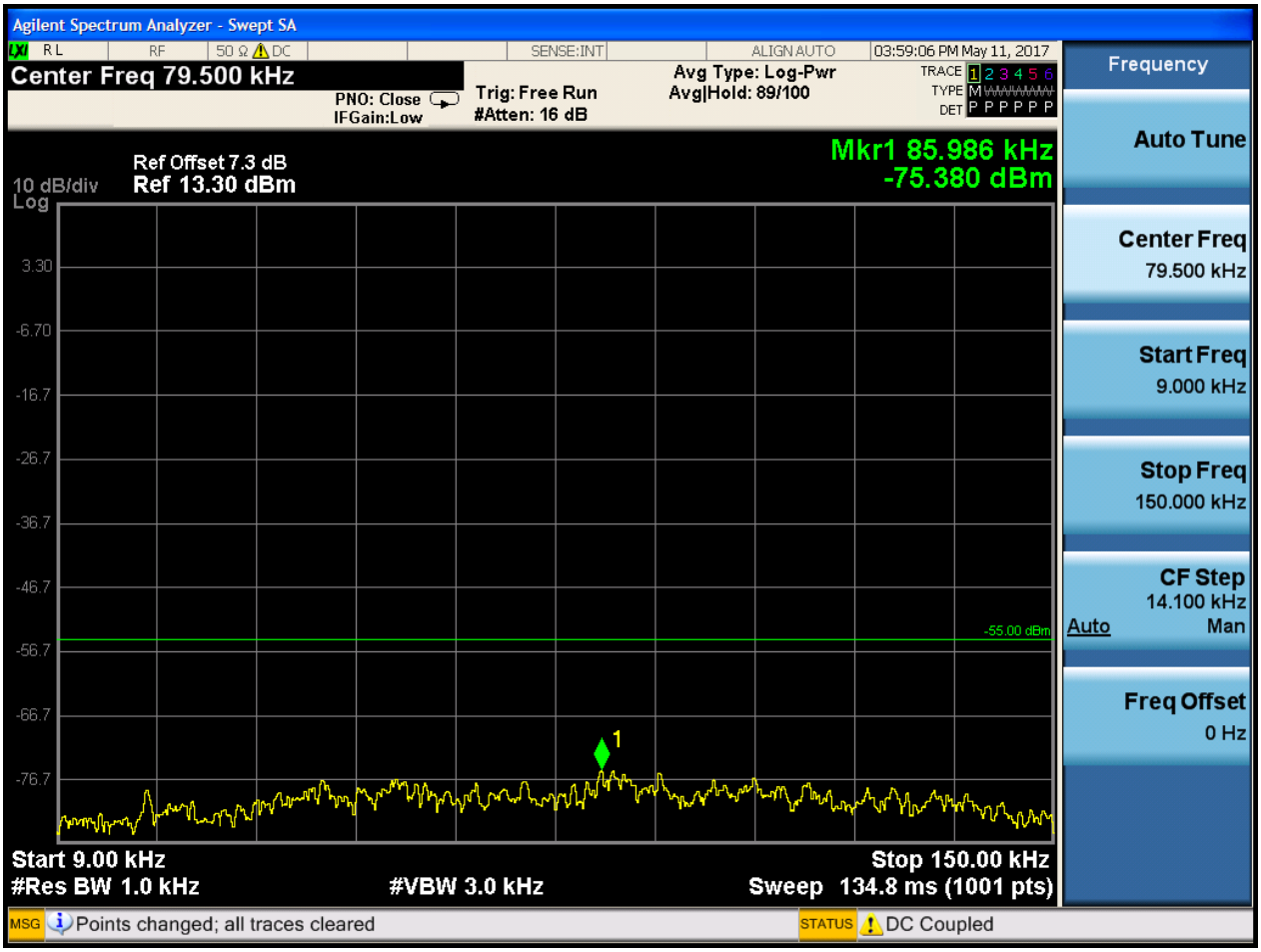


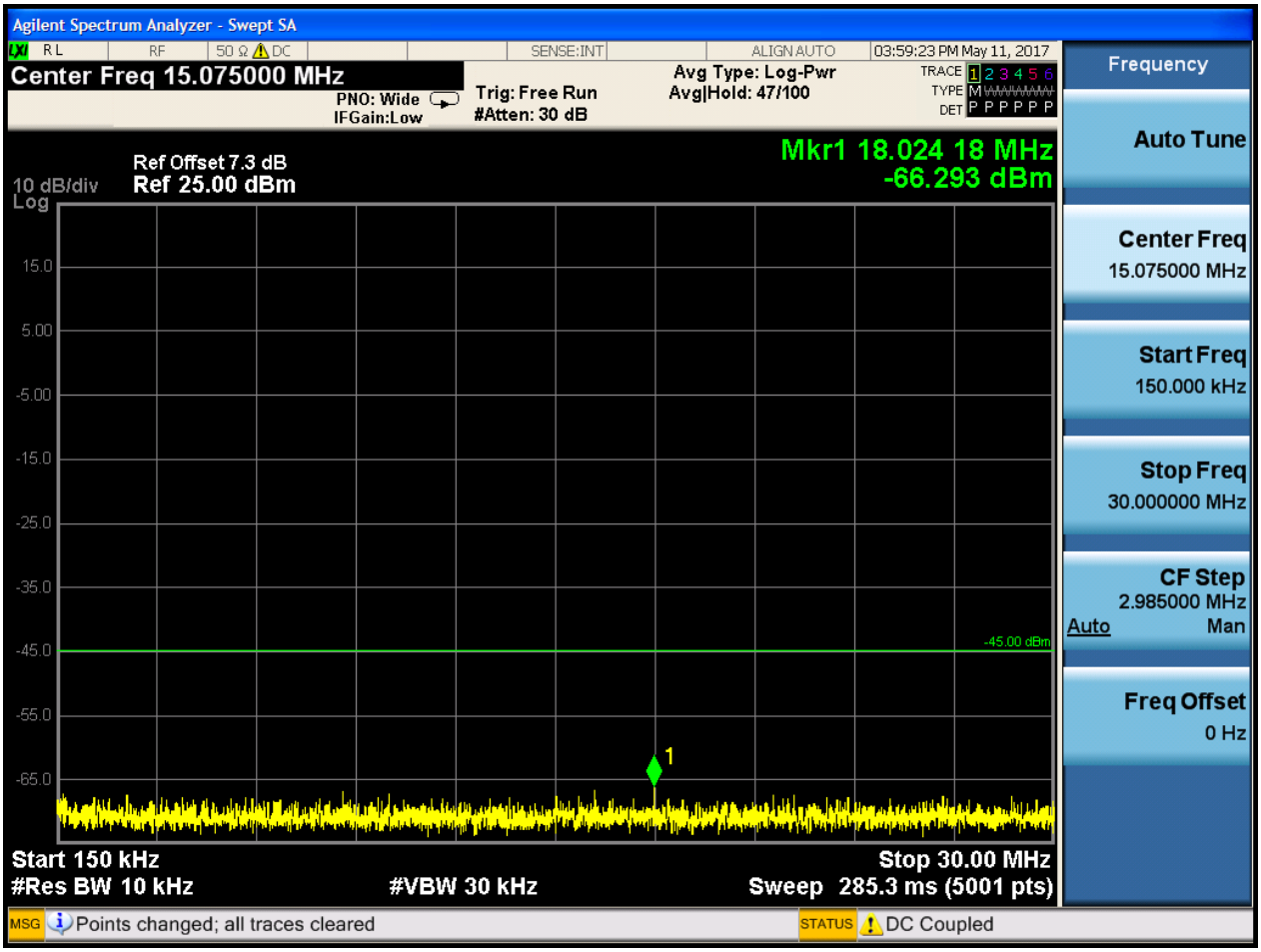


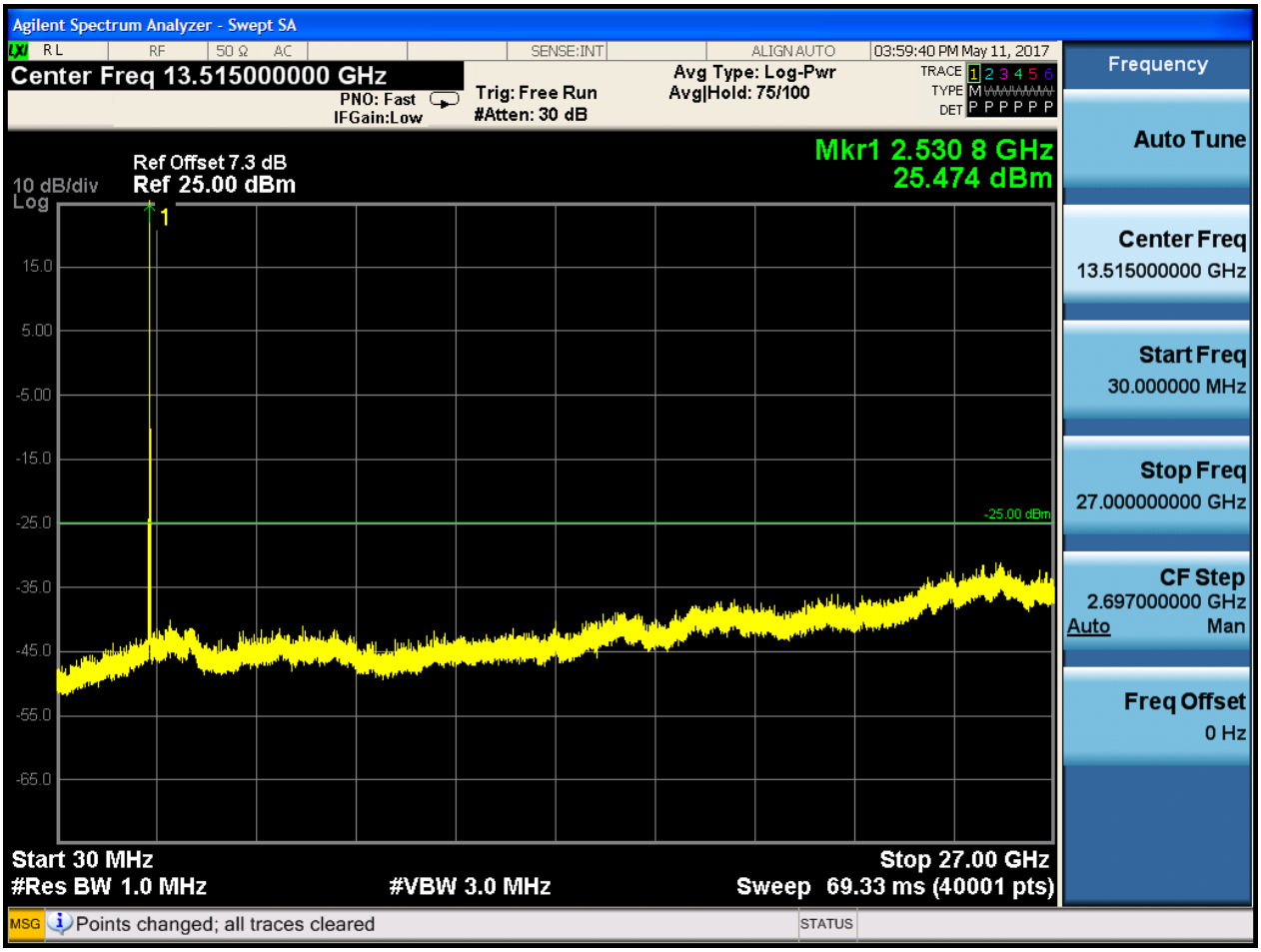


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0

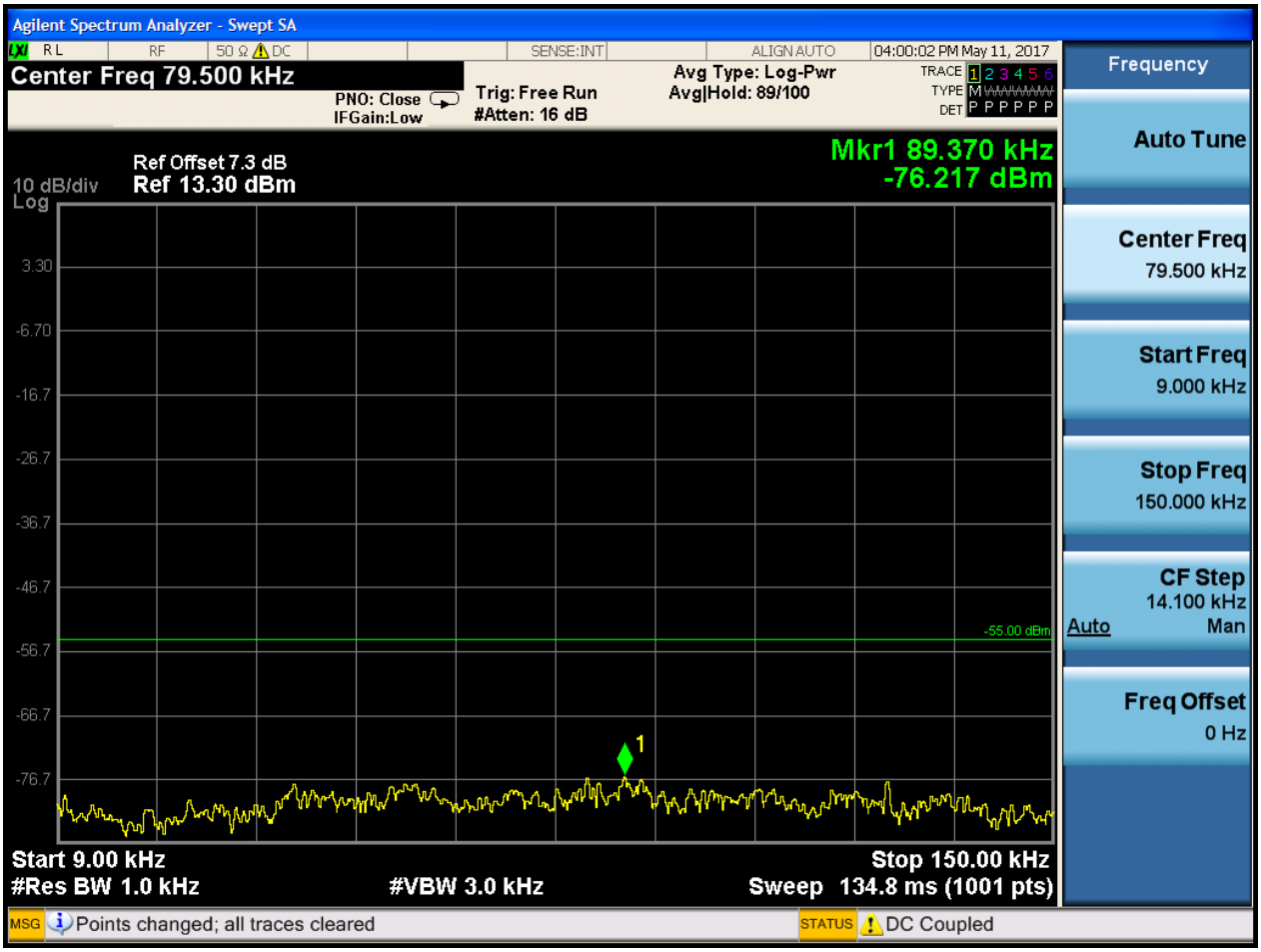


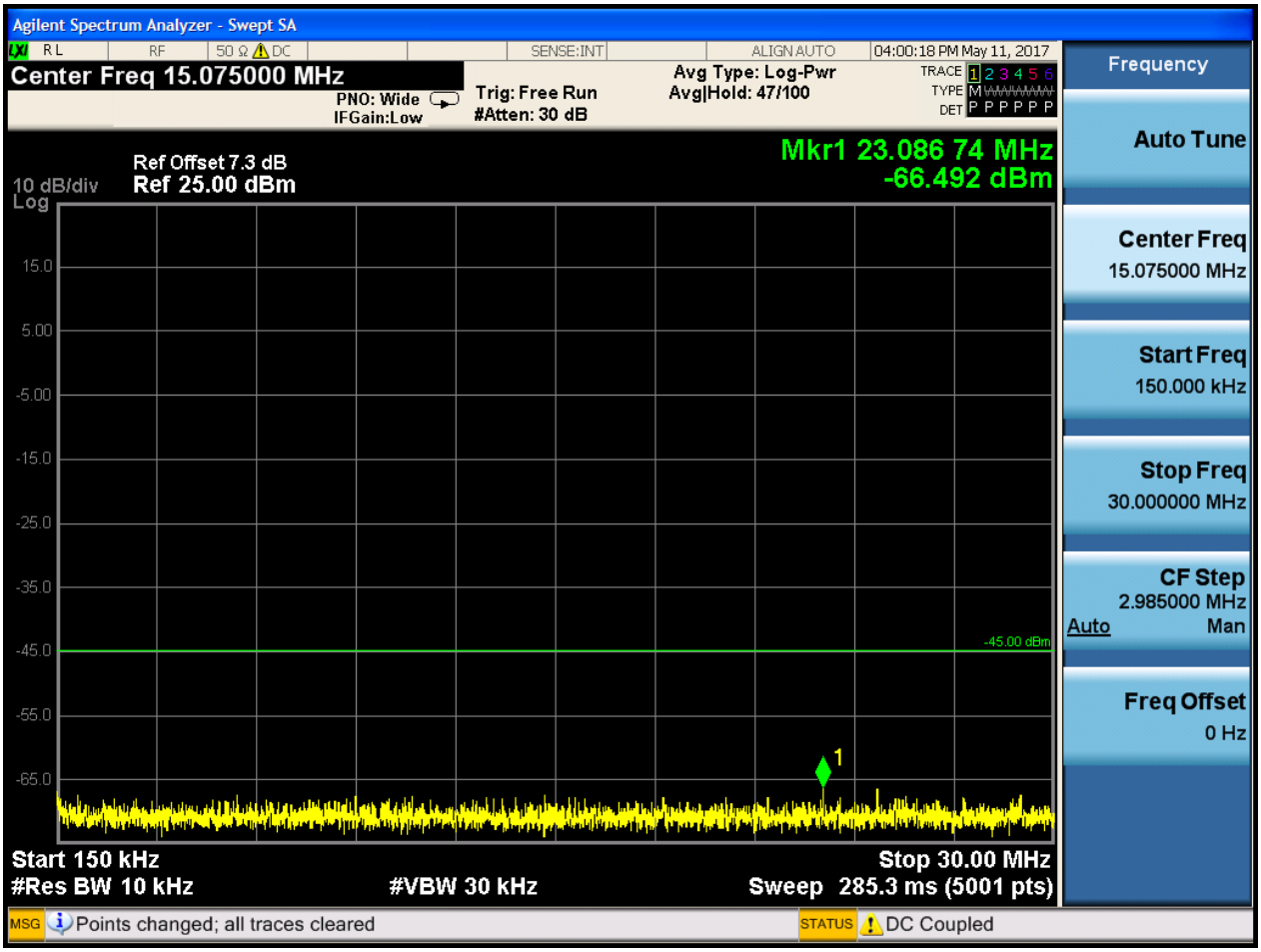


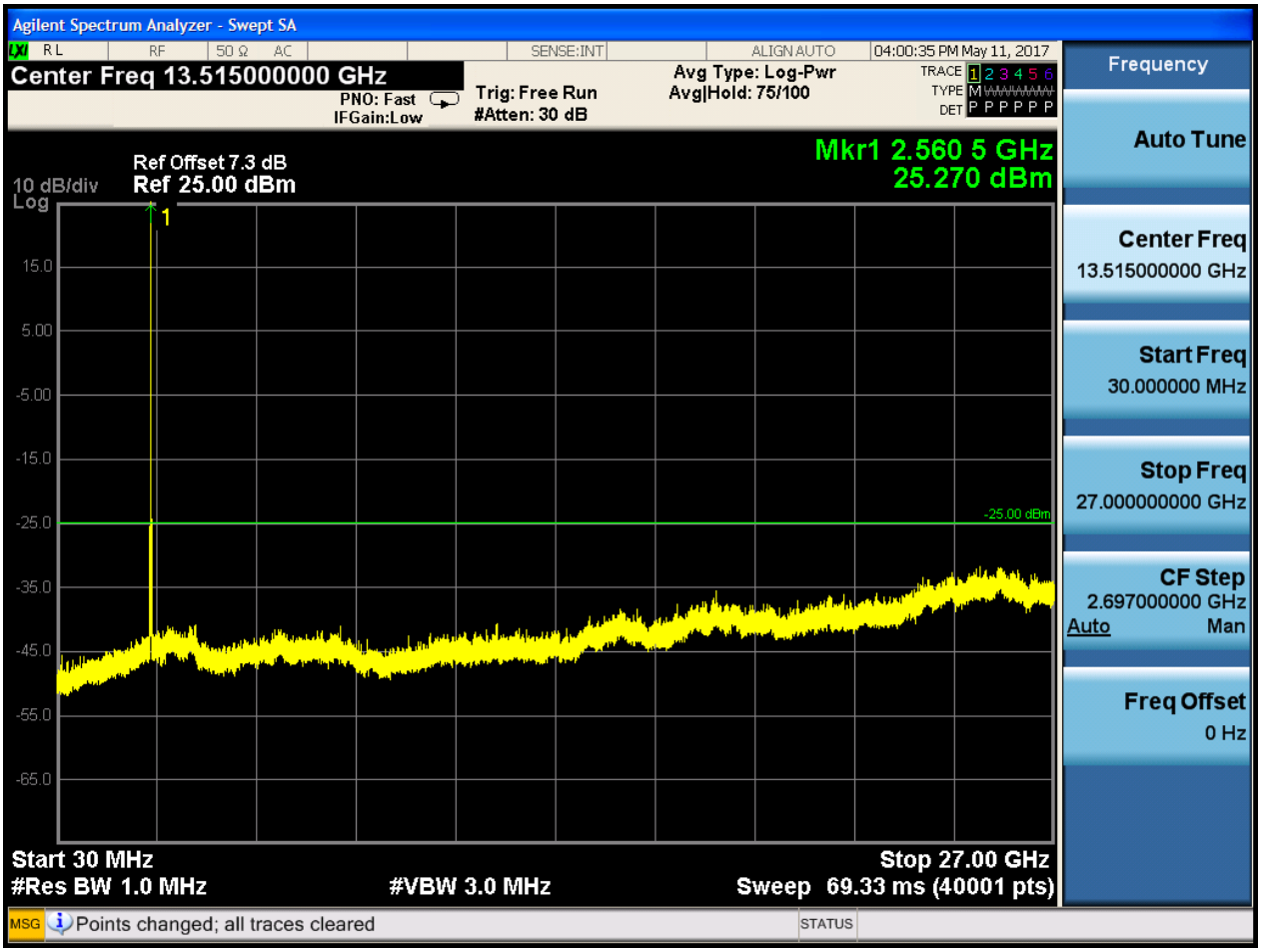


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0



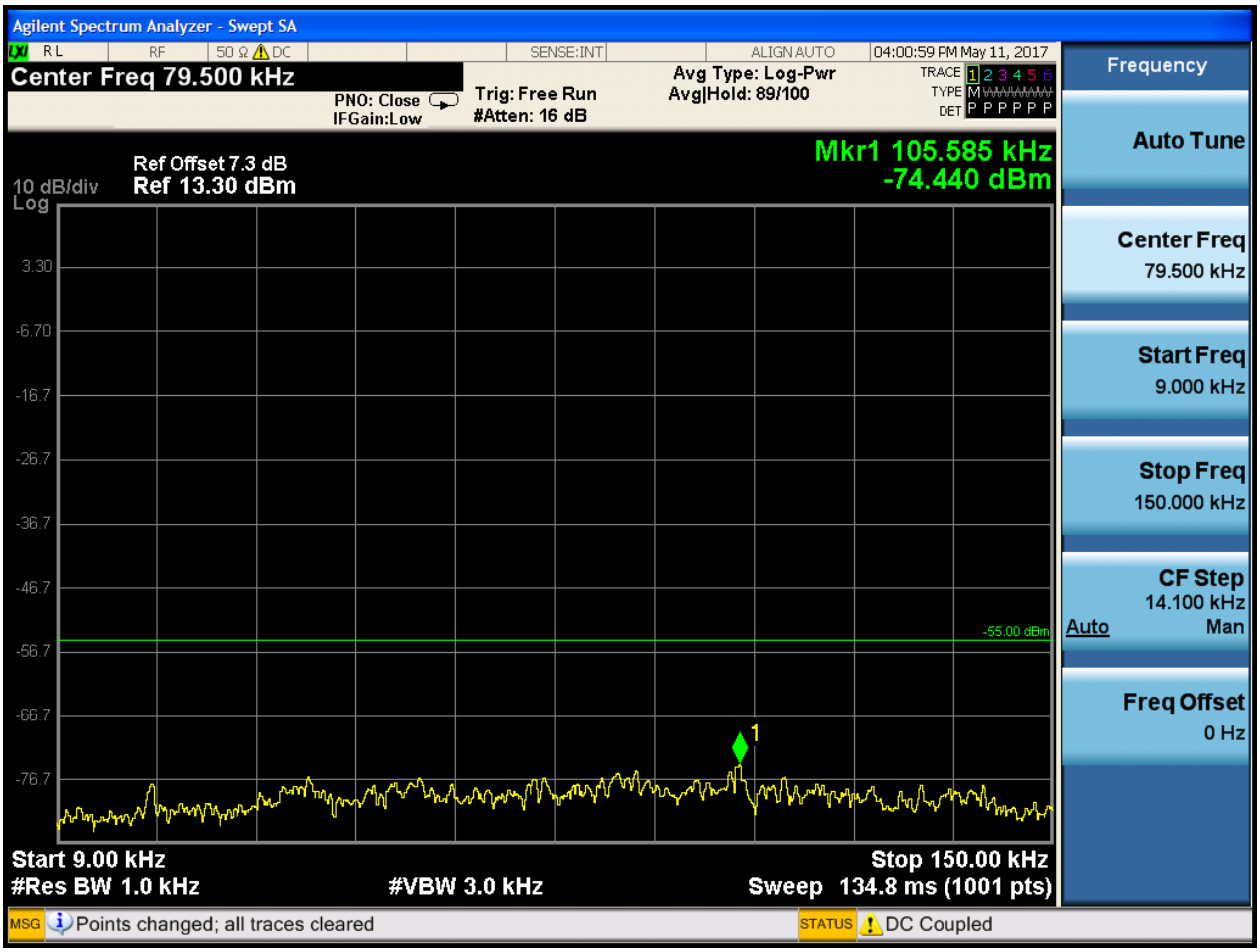


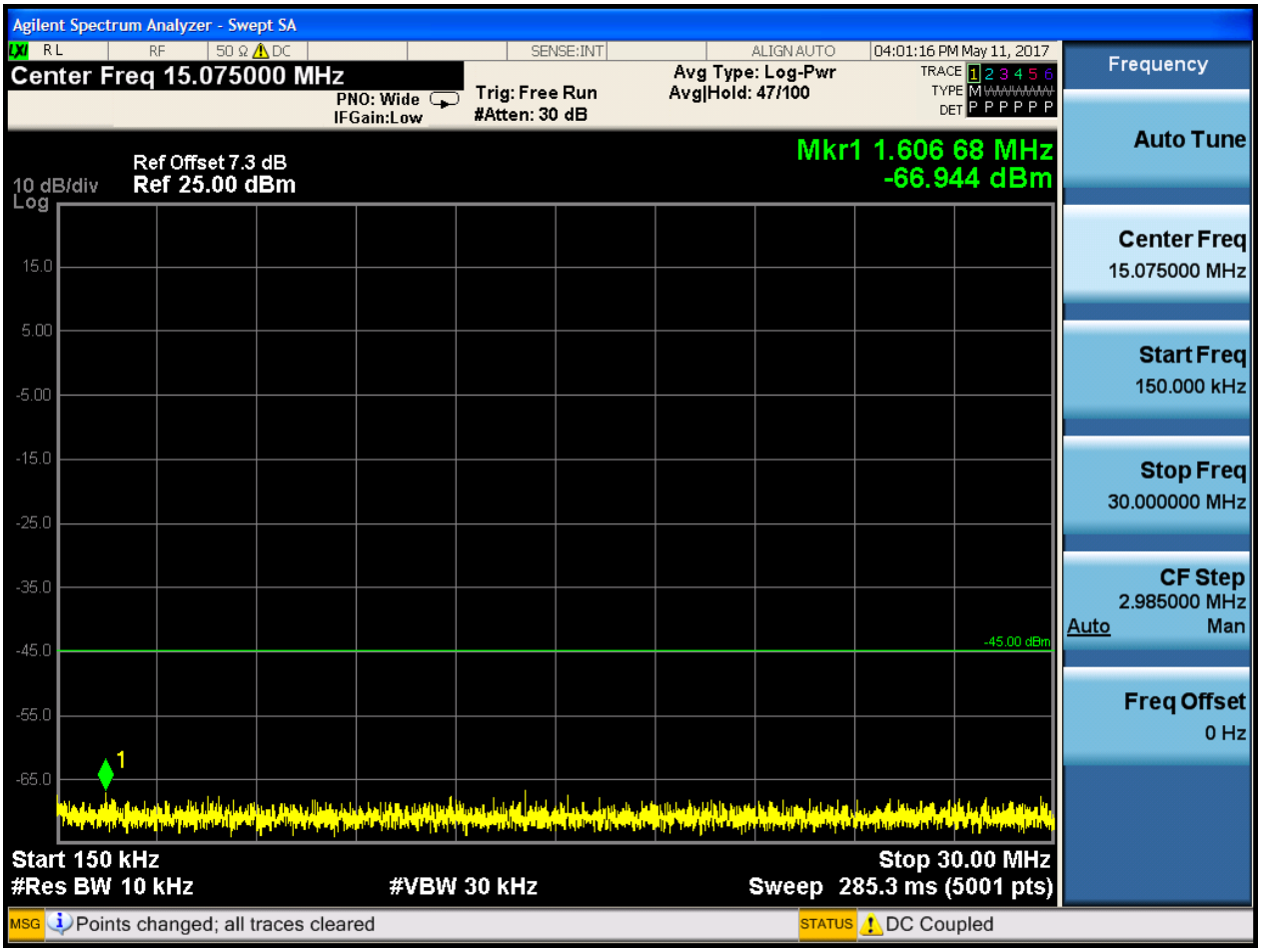


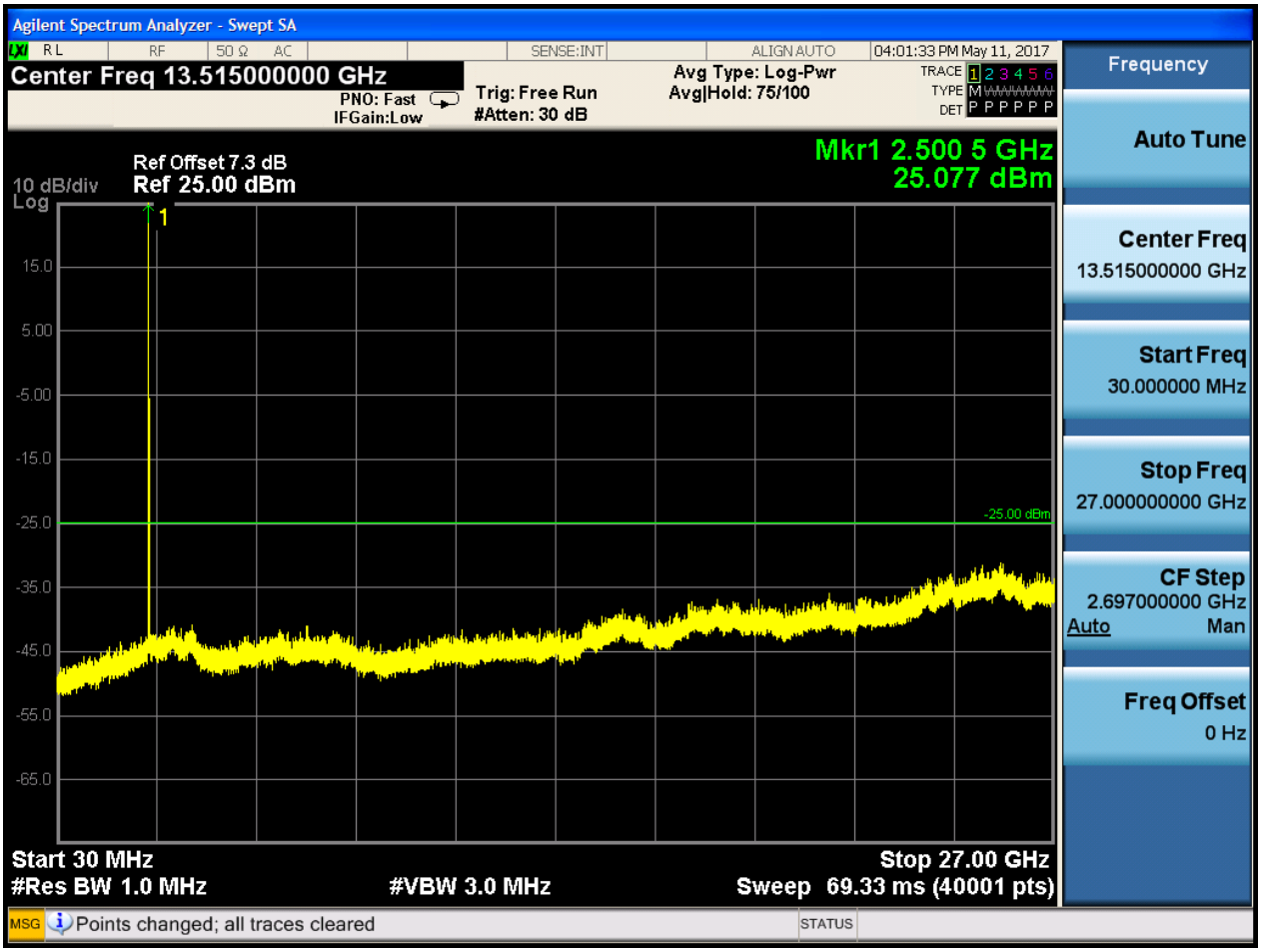
6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0

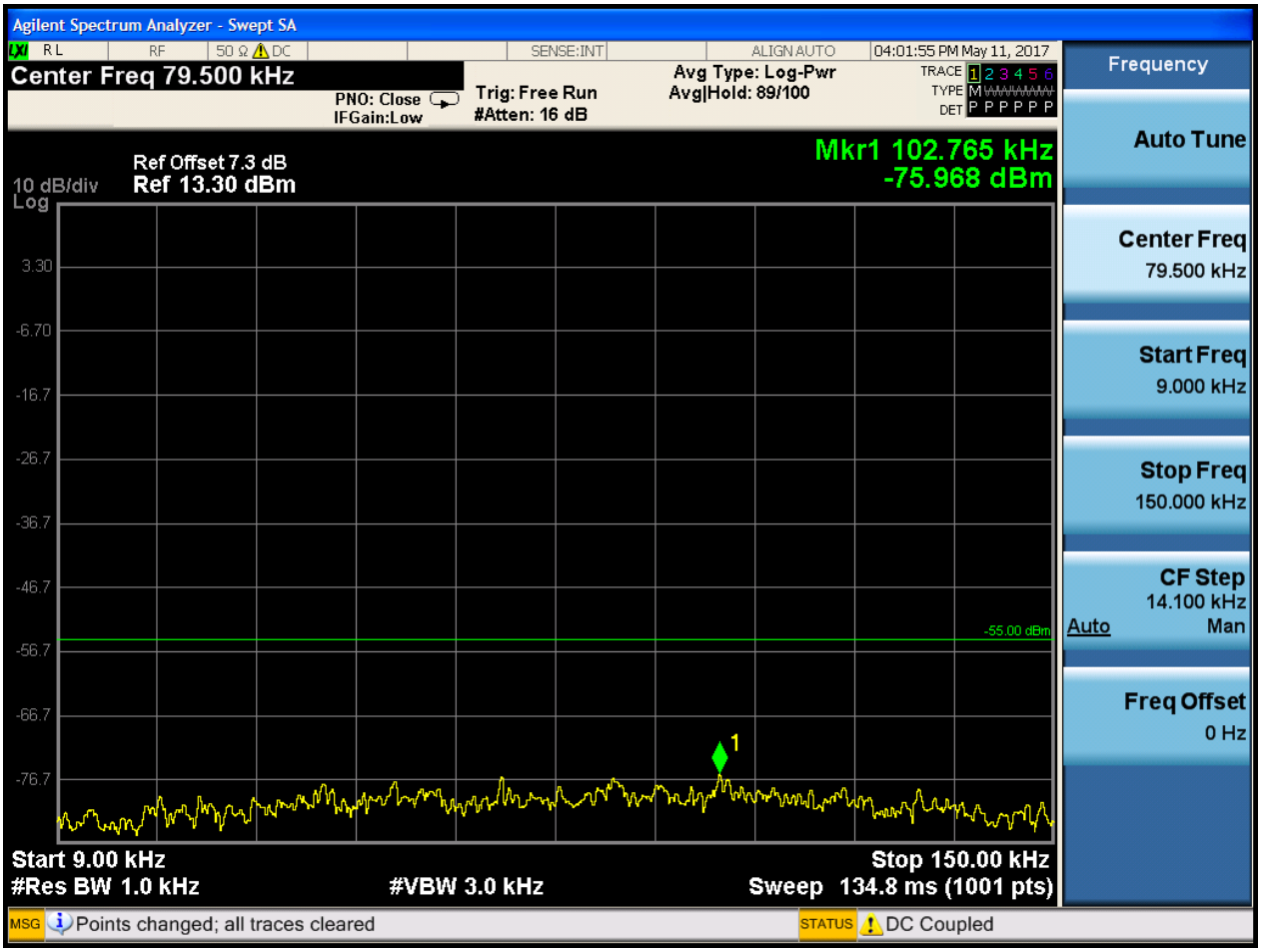


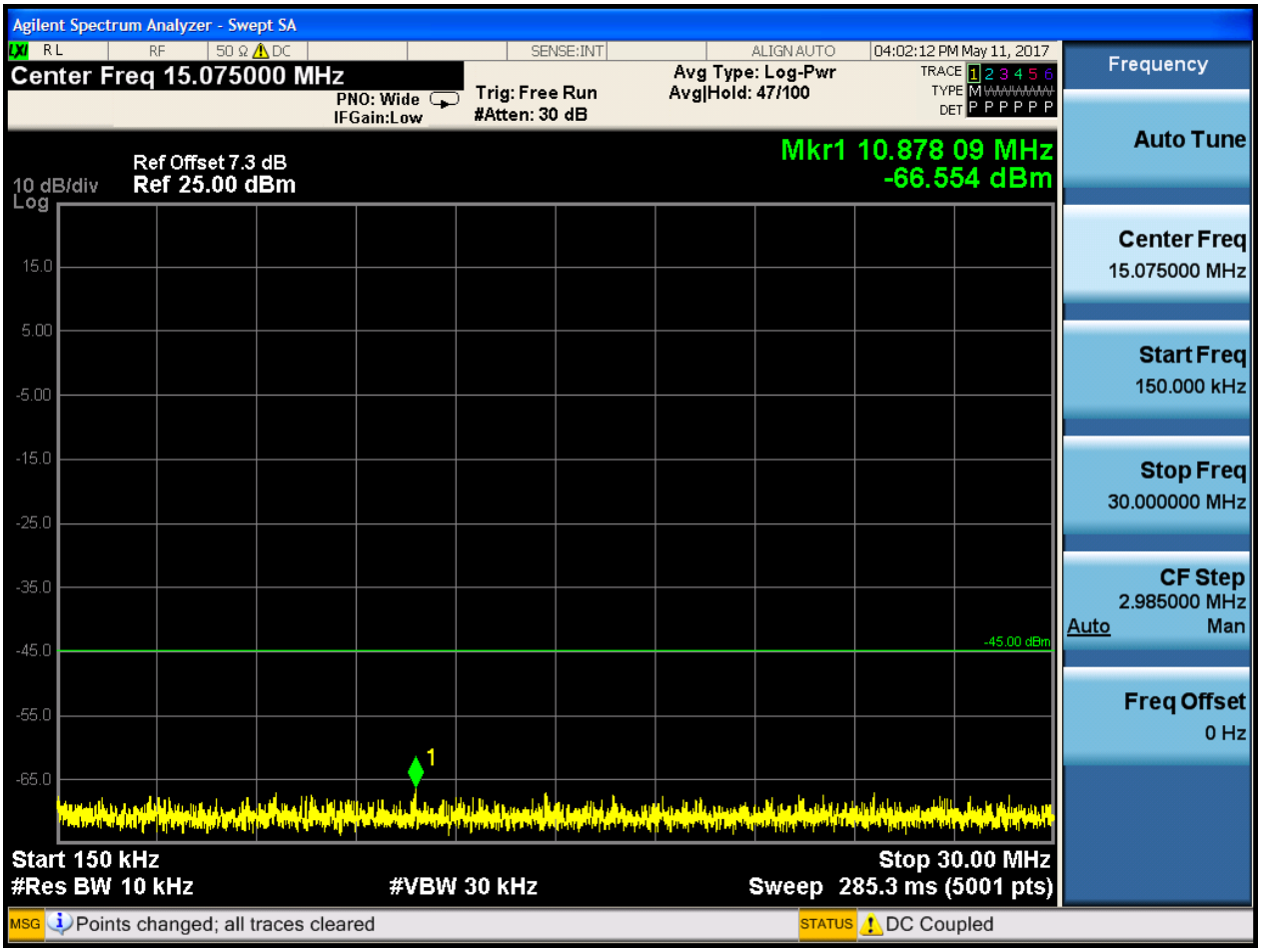


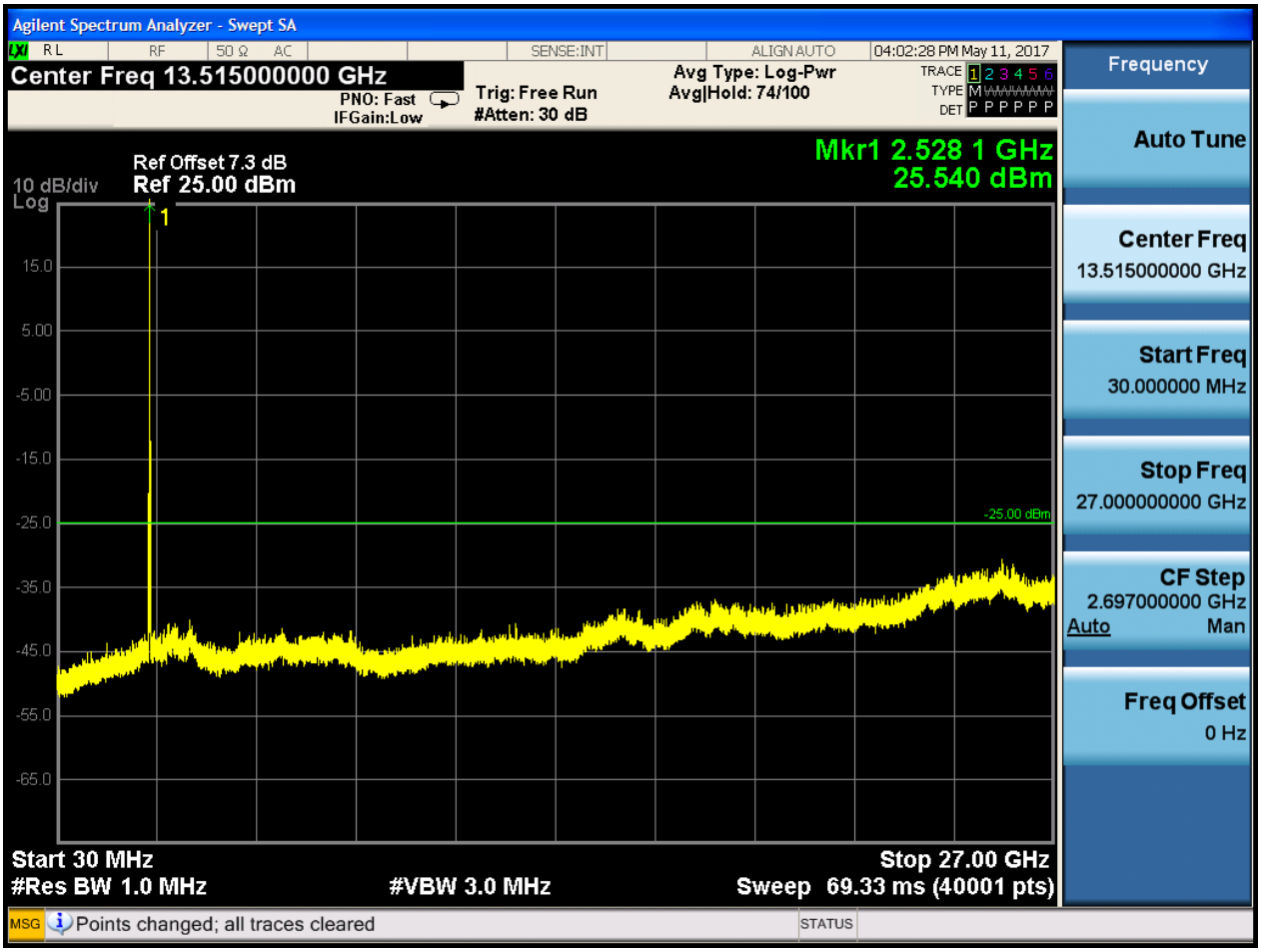


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0

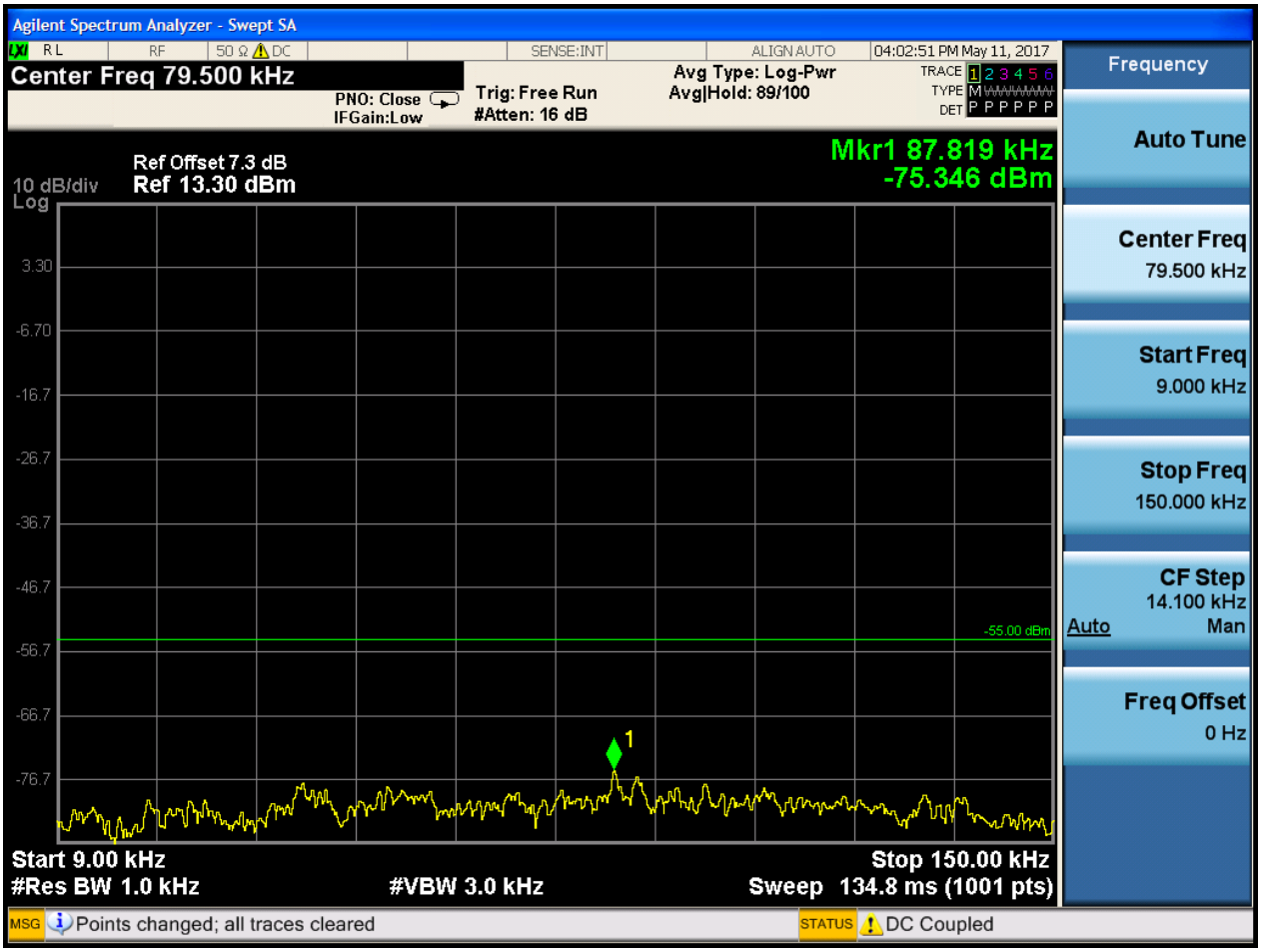


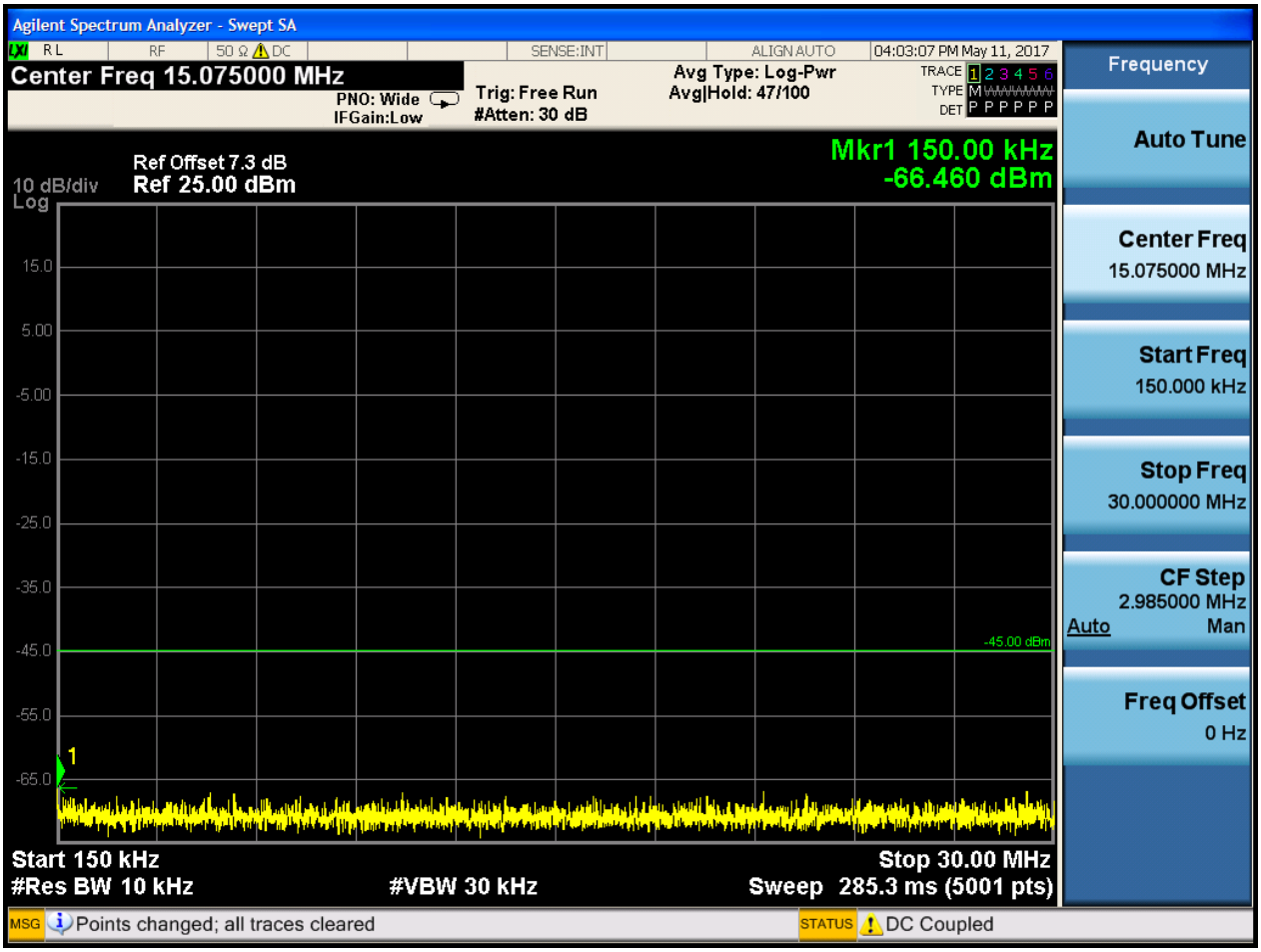


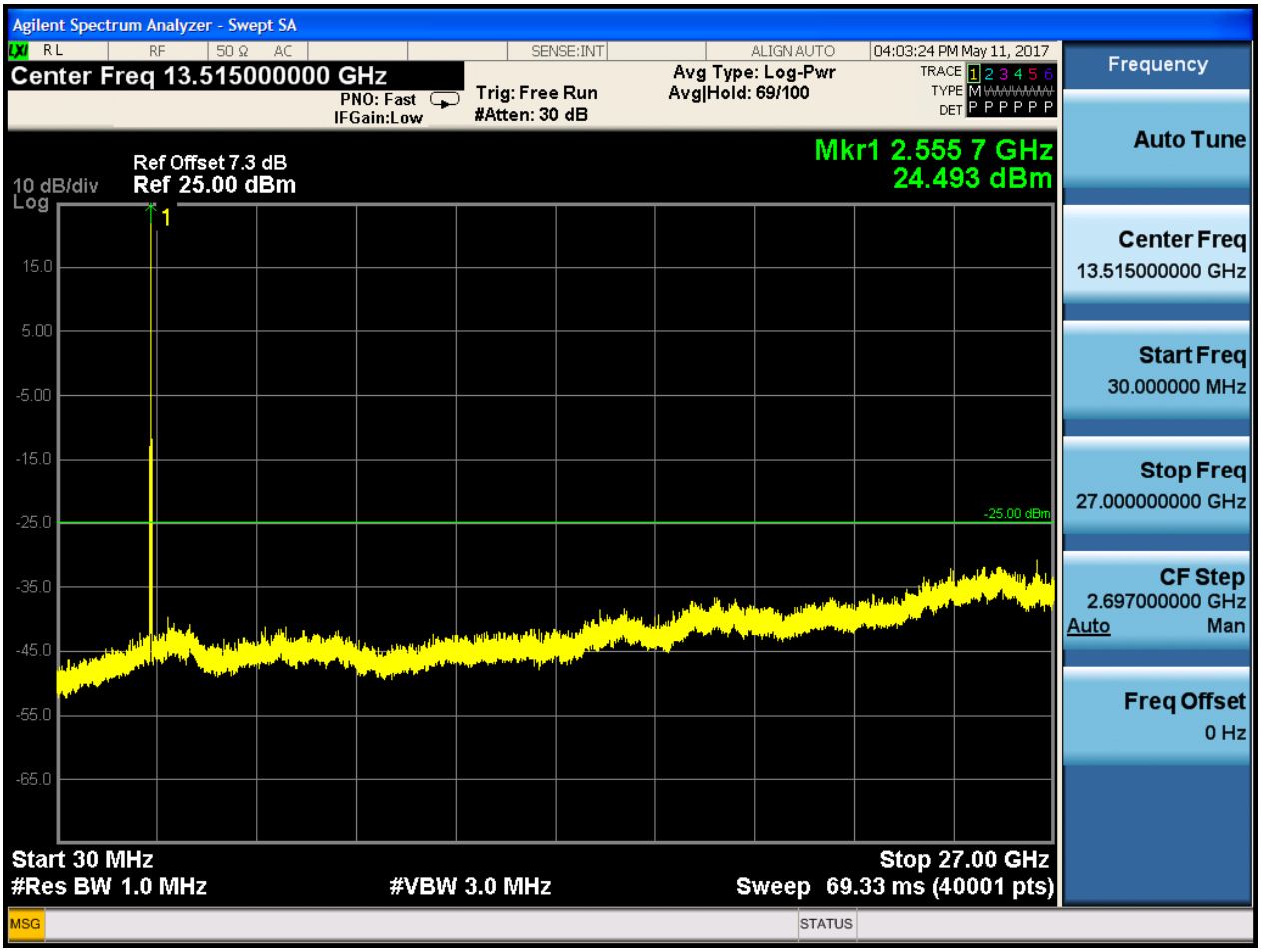


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0



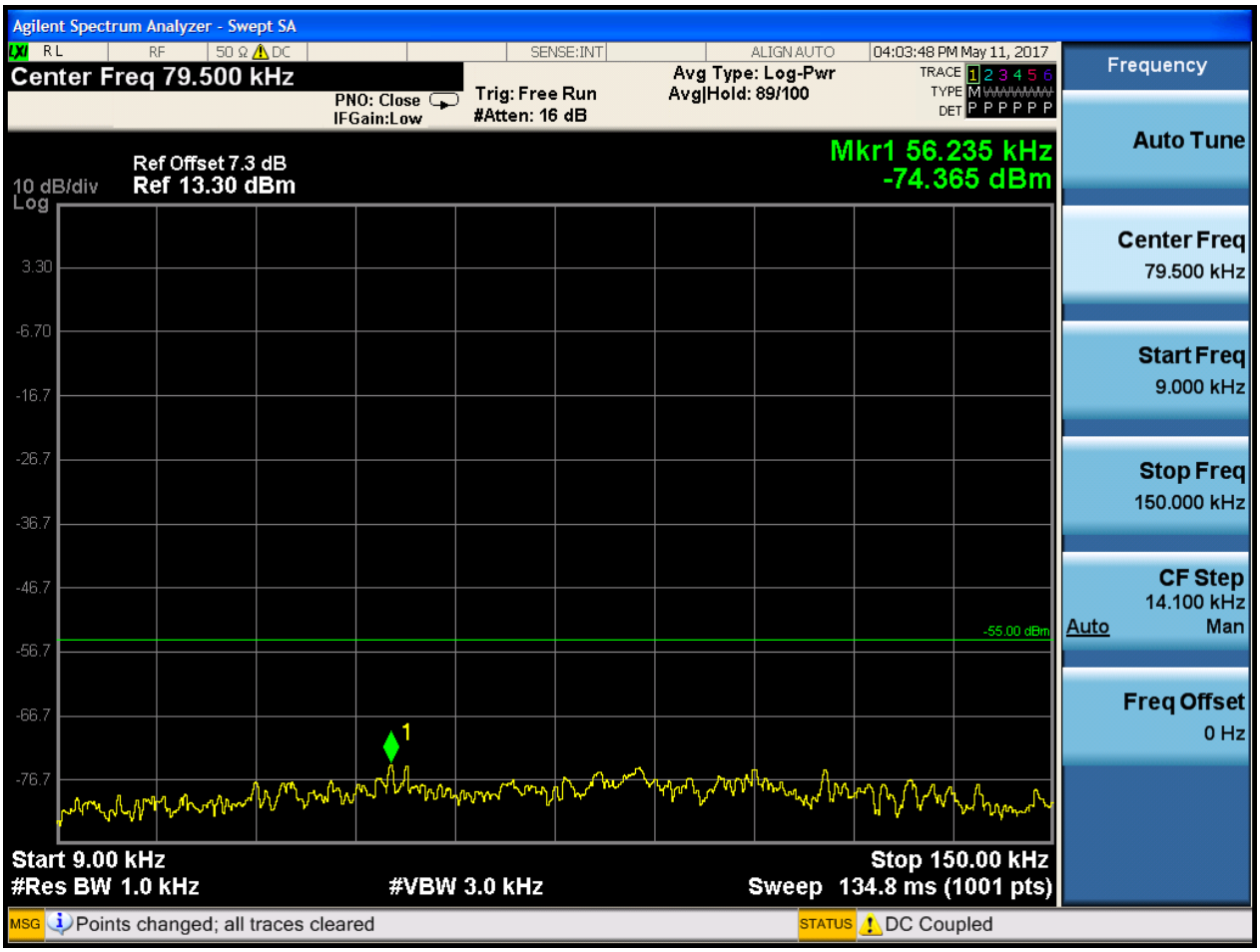


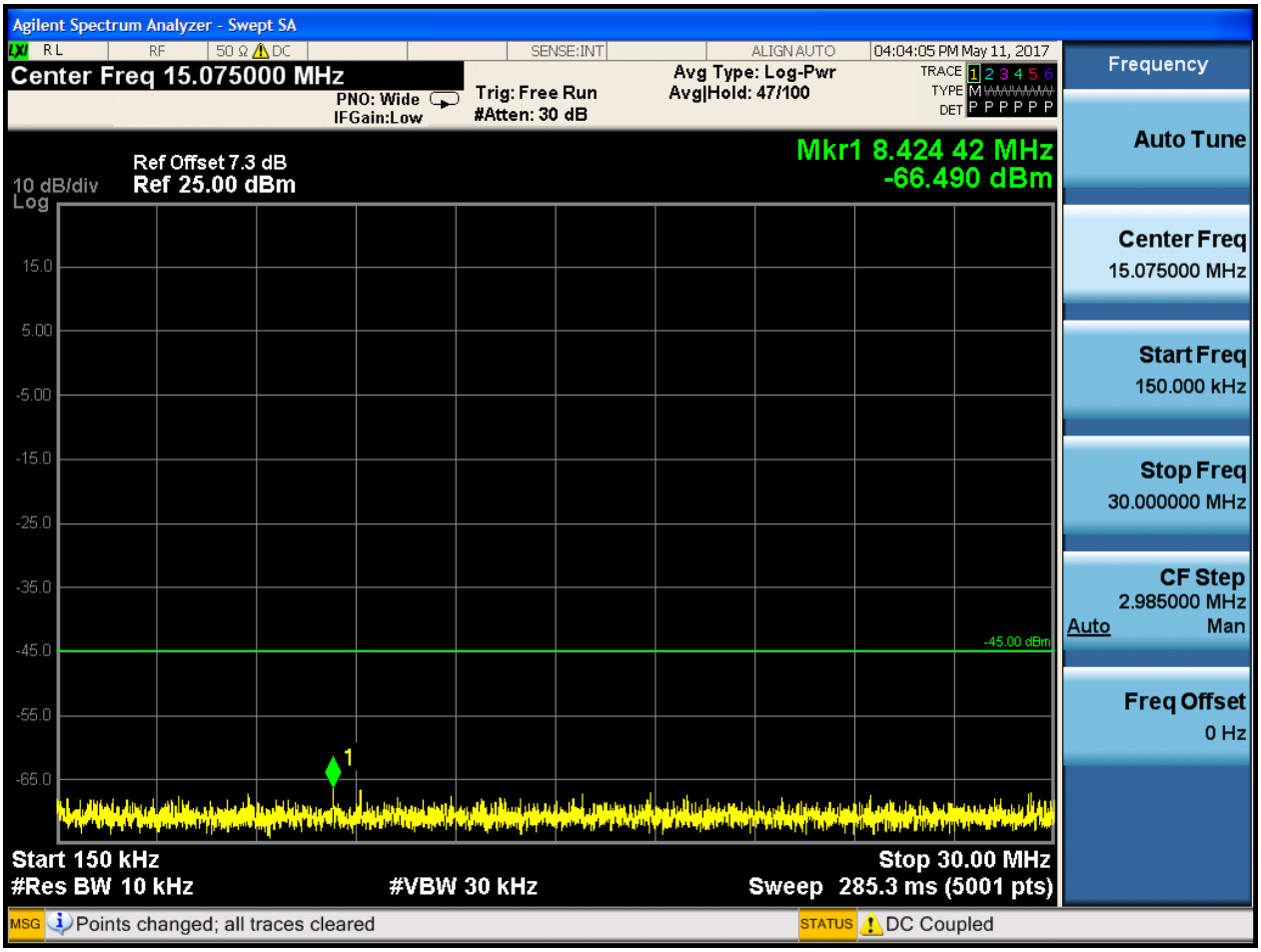


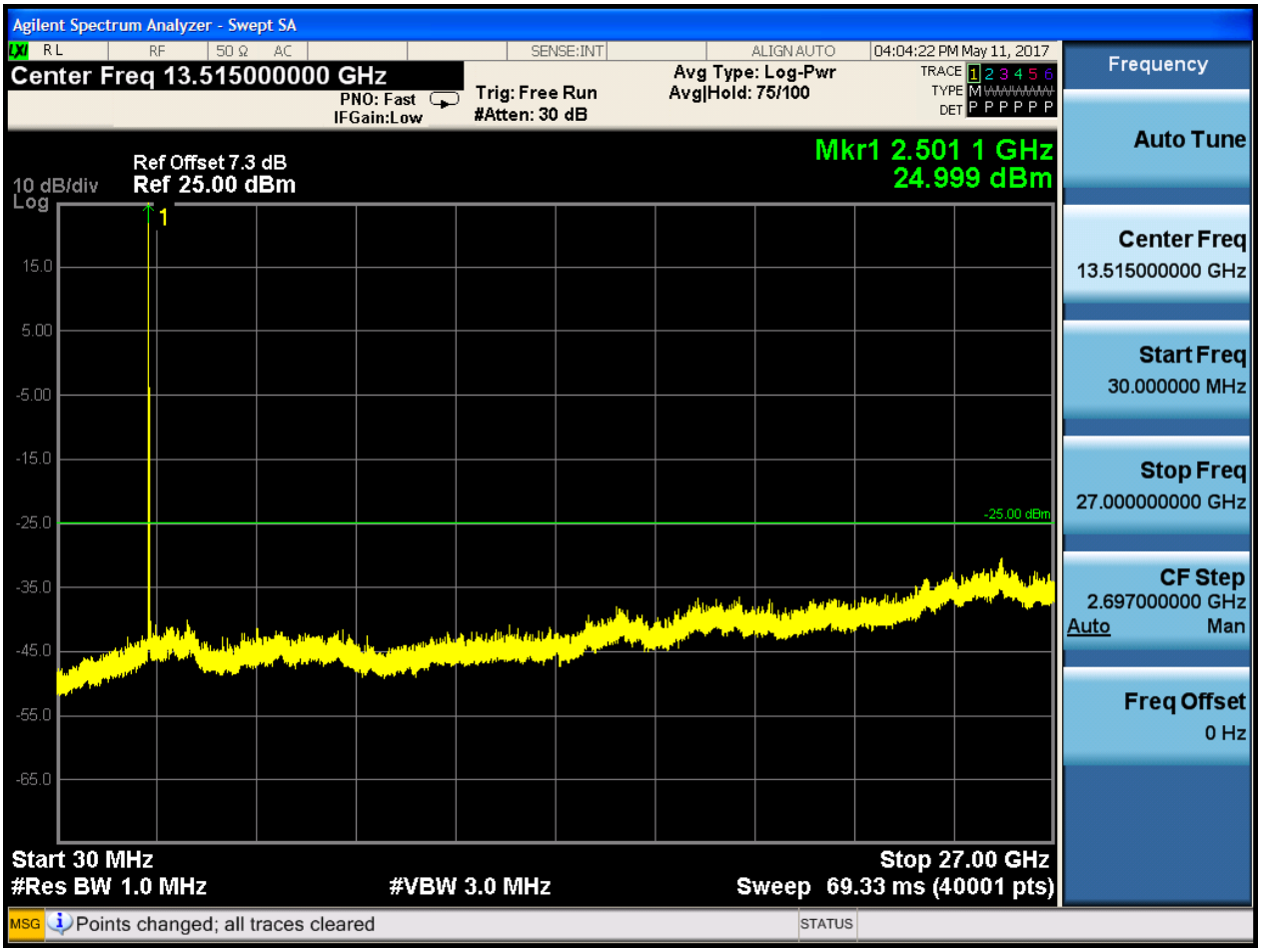
6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0

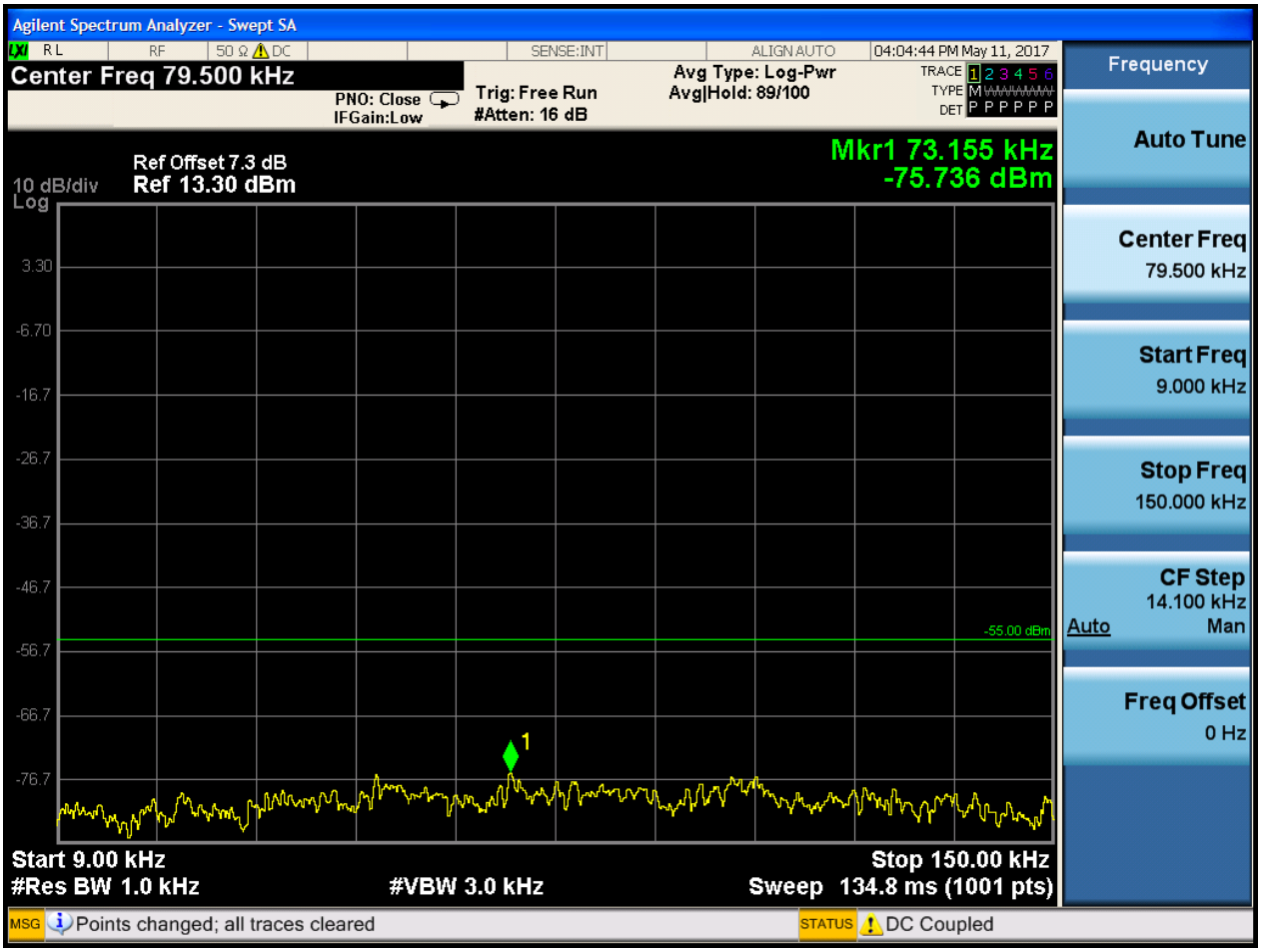


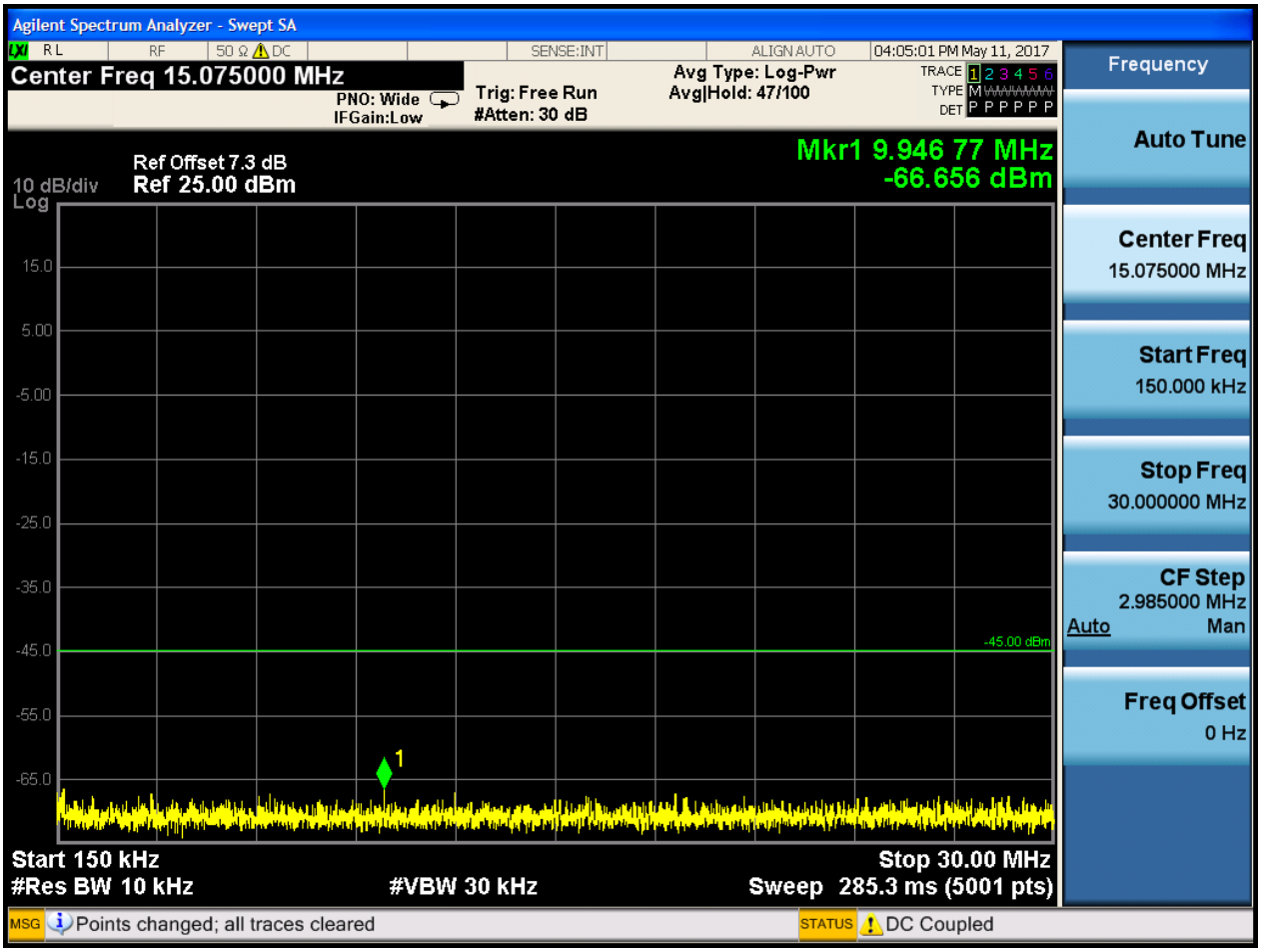


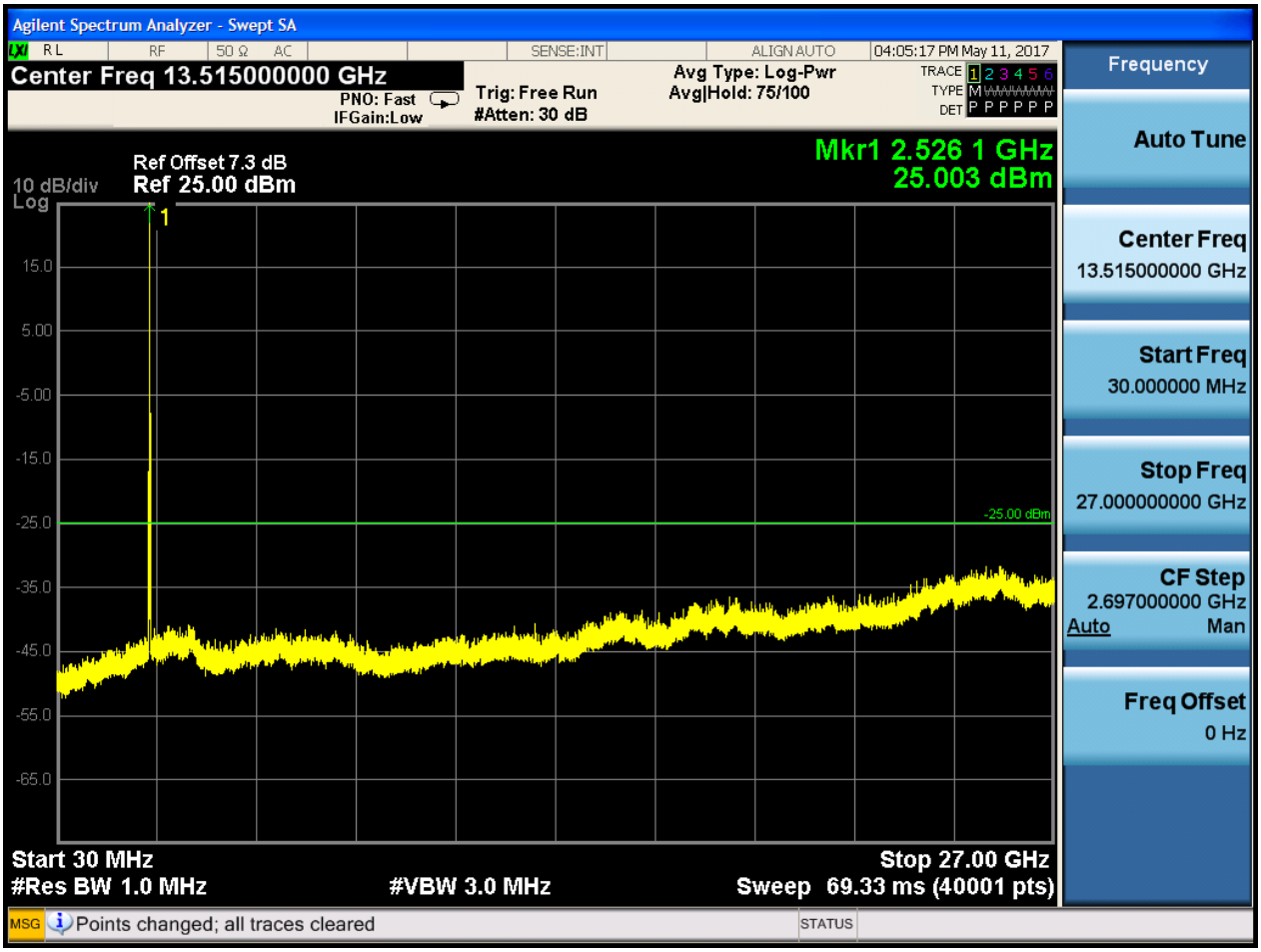


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0

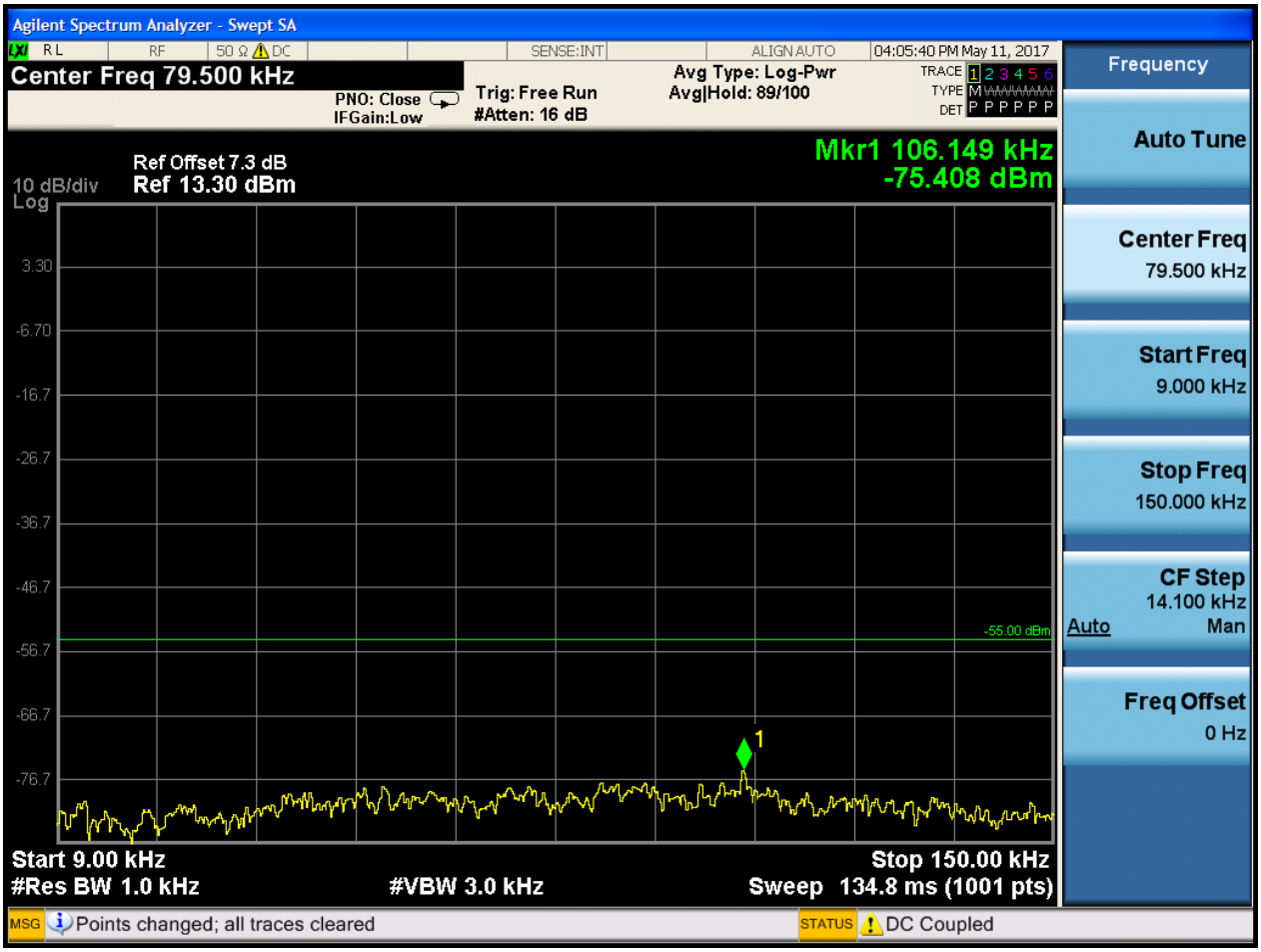


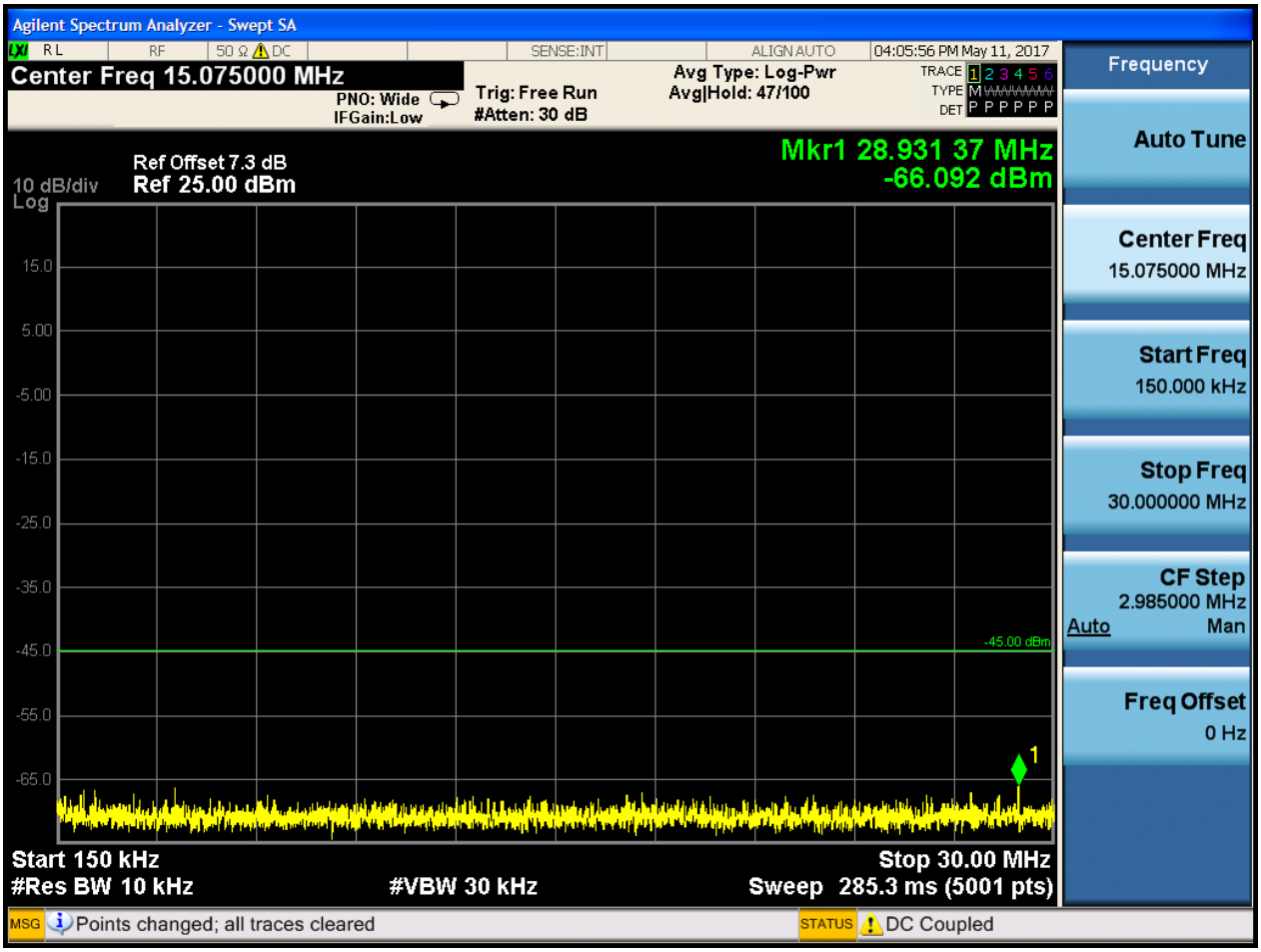


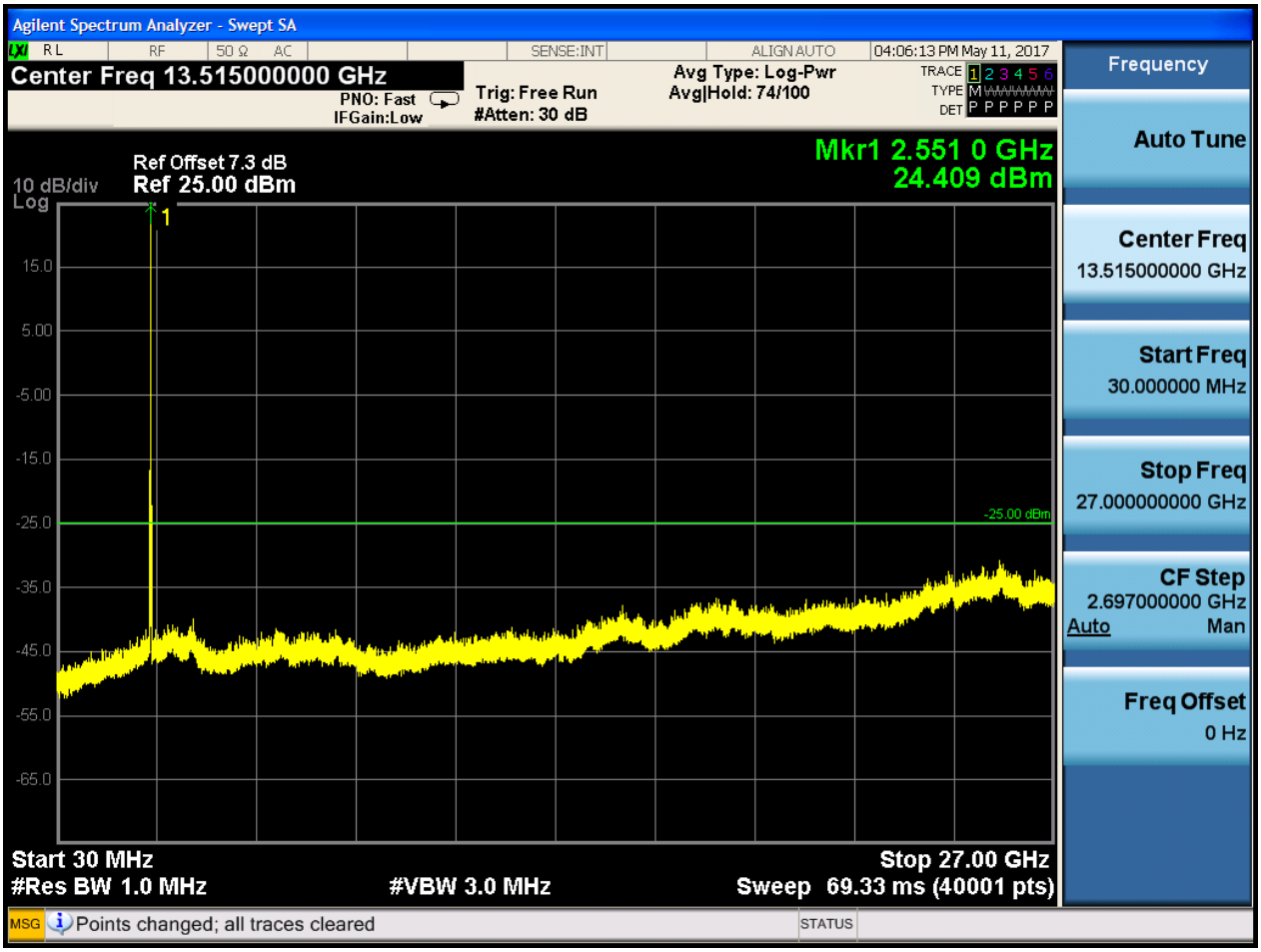


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0





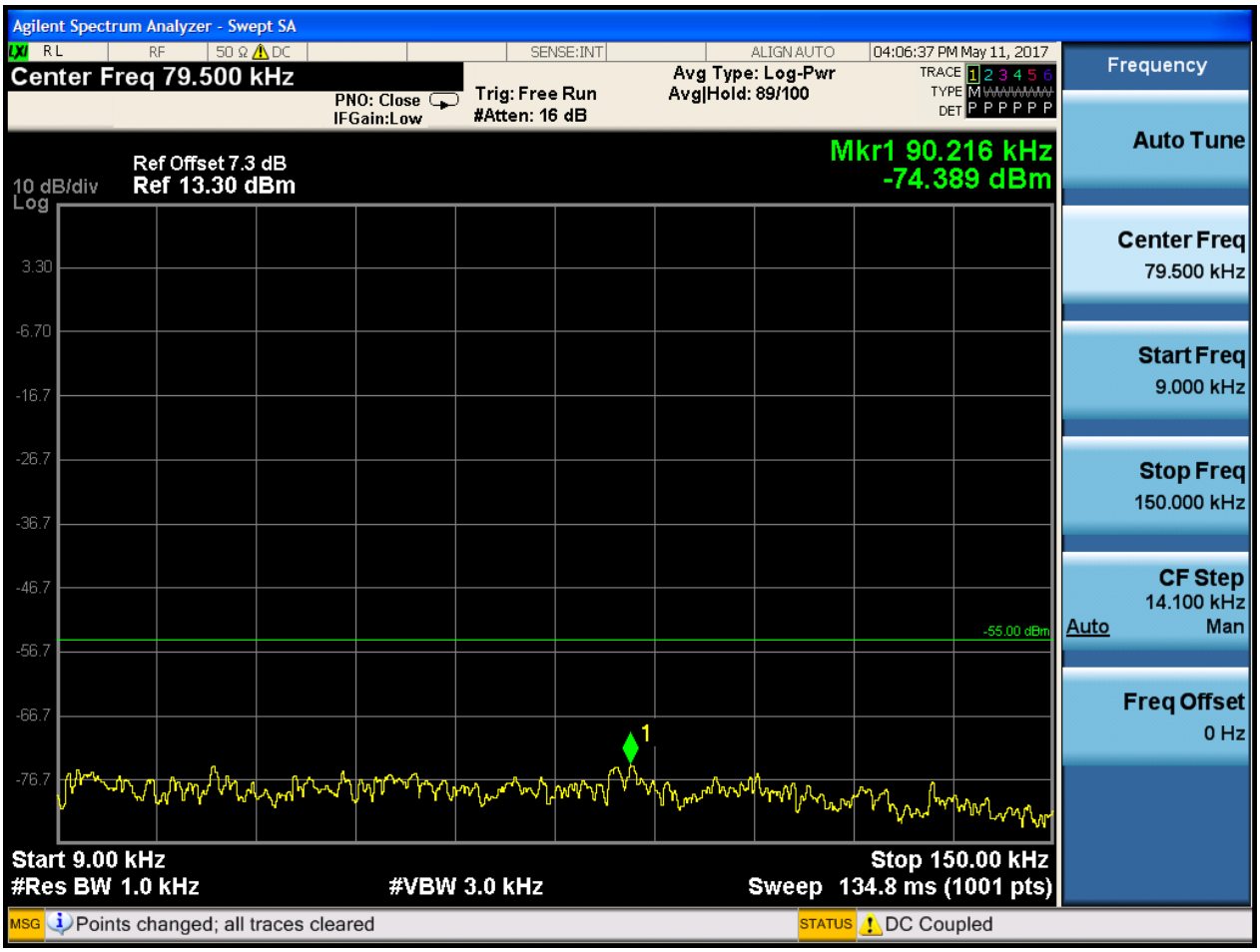


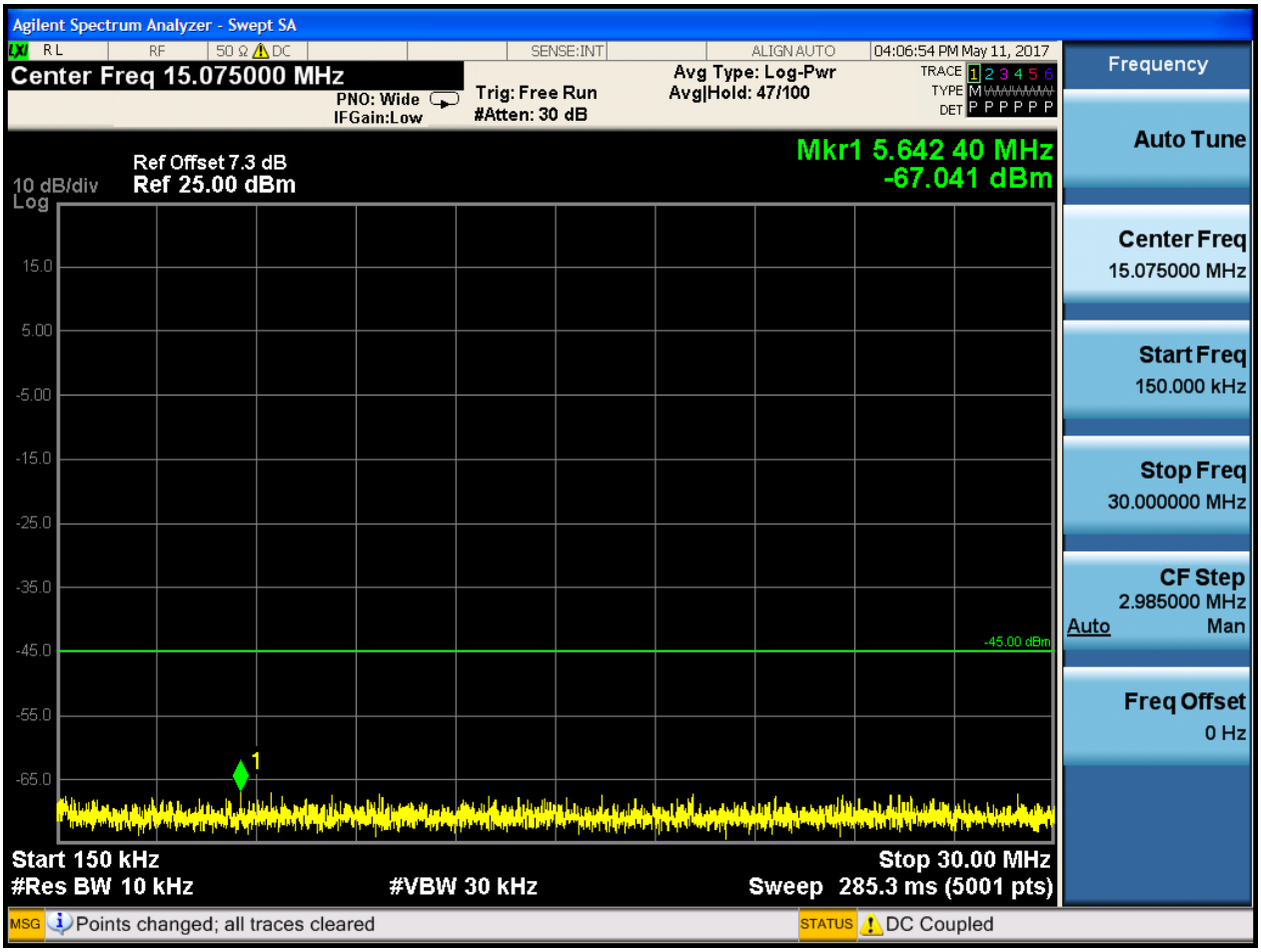
6.1.1.2 Test Mode = LTE/TM2

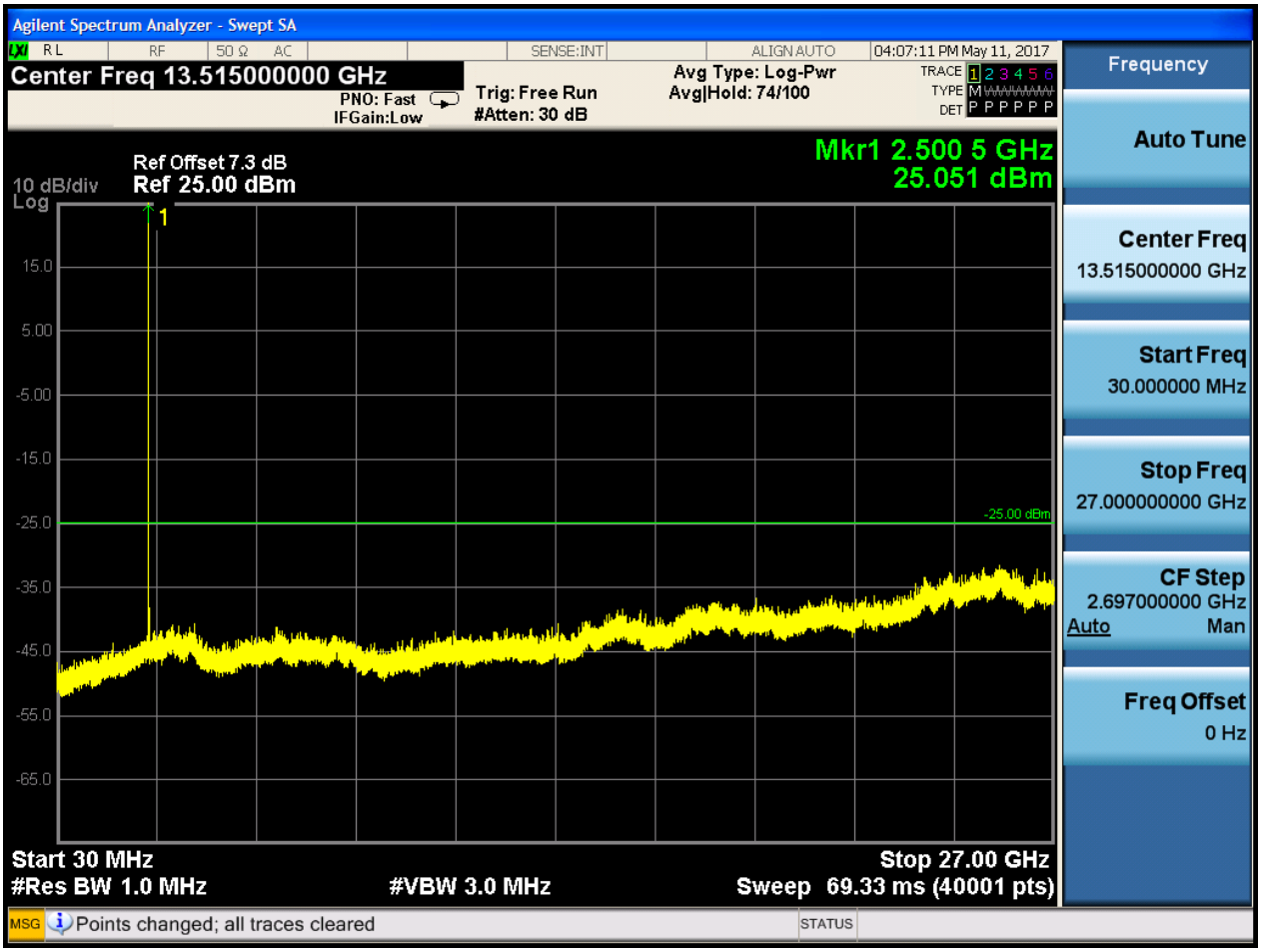
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0

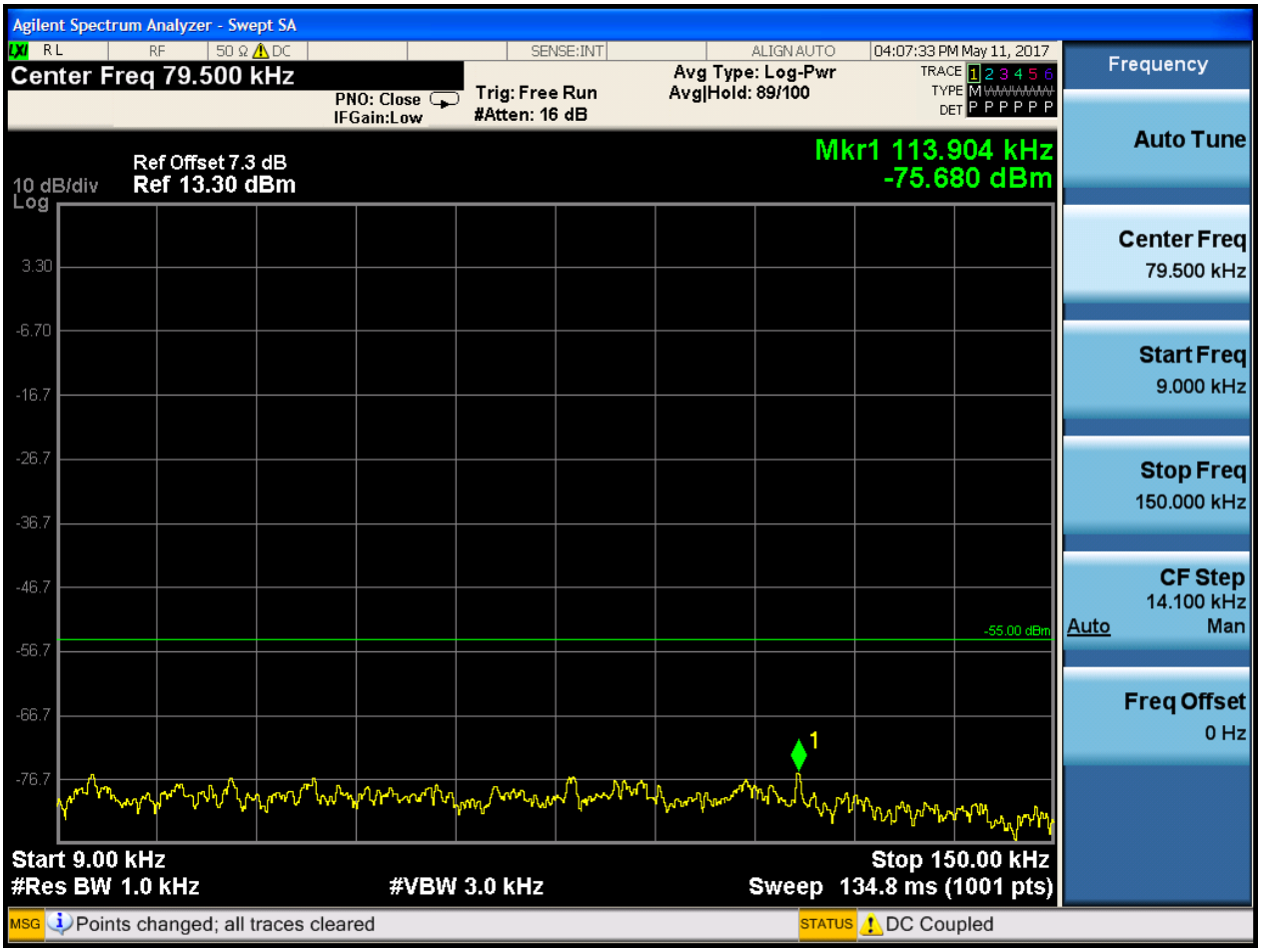


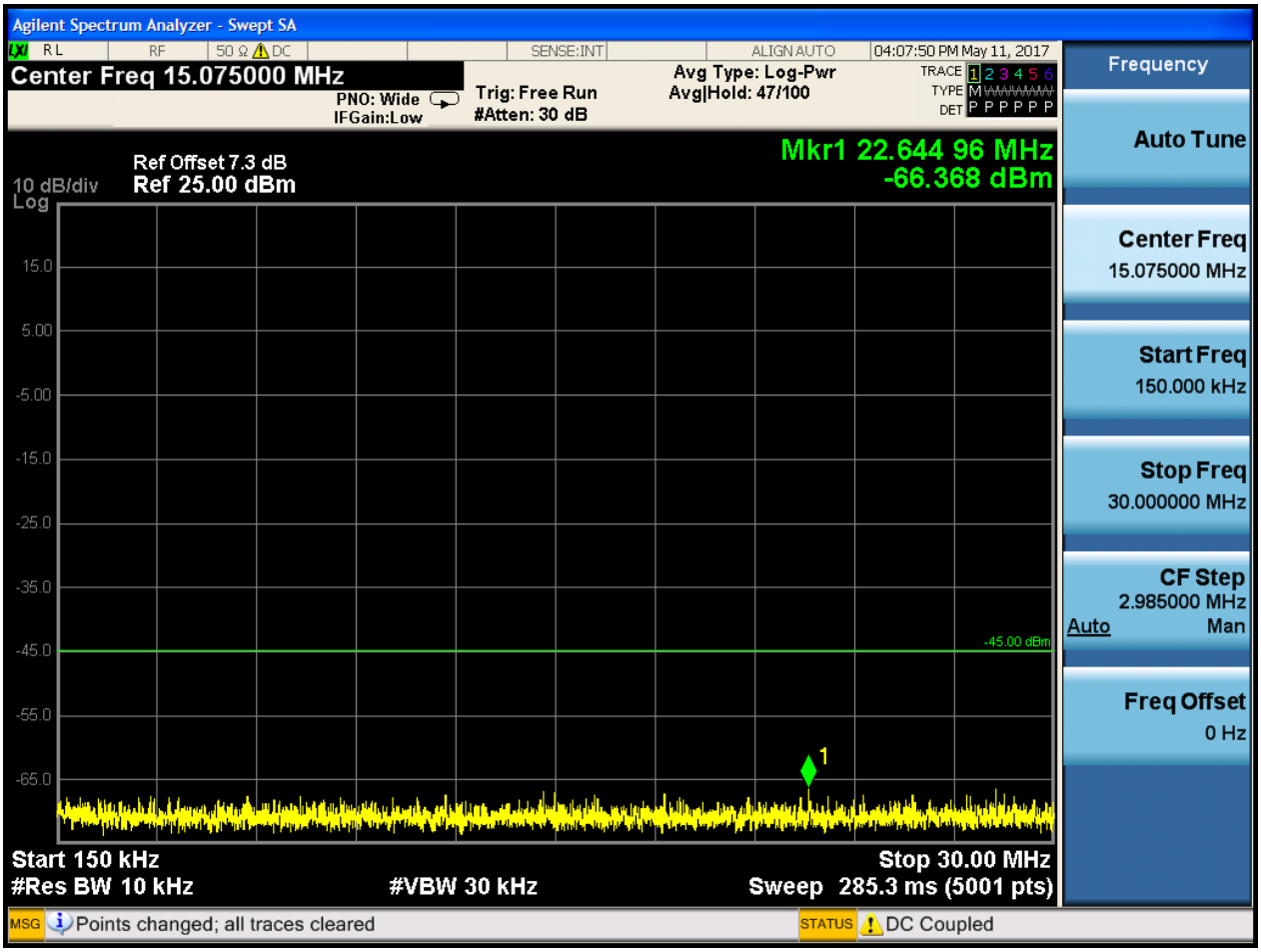


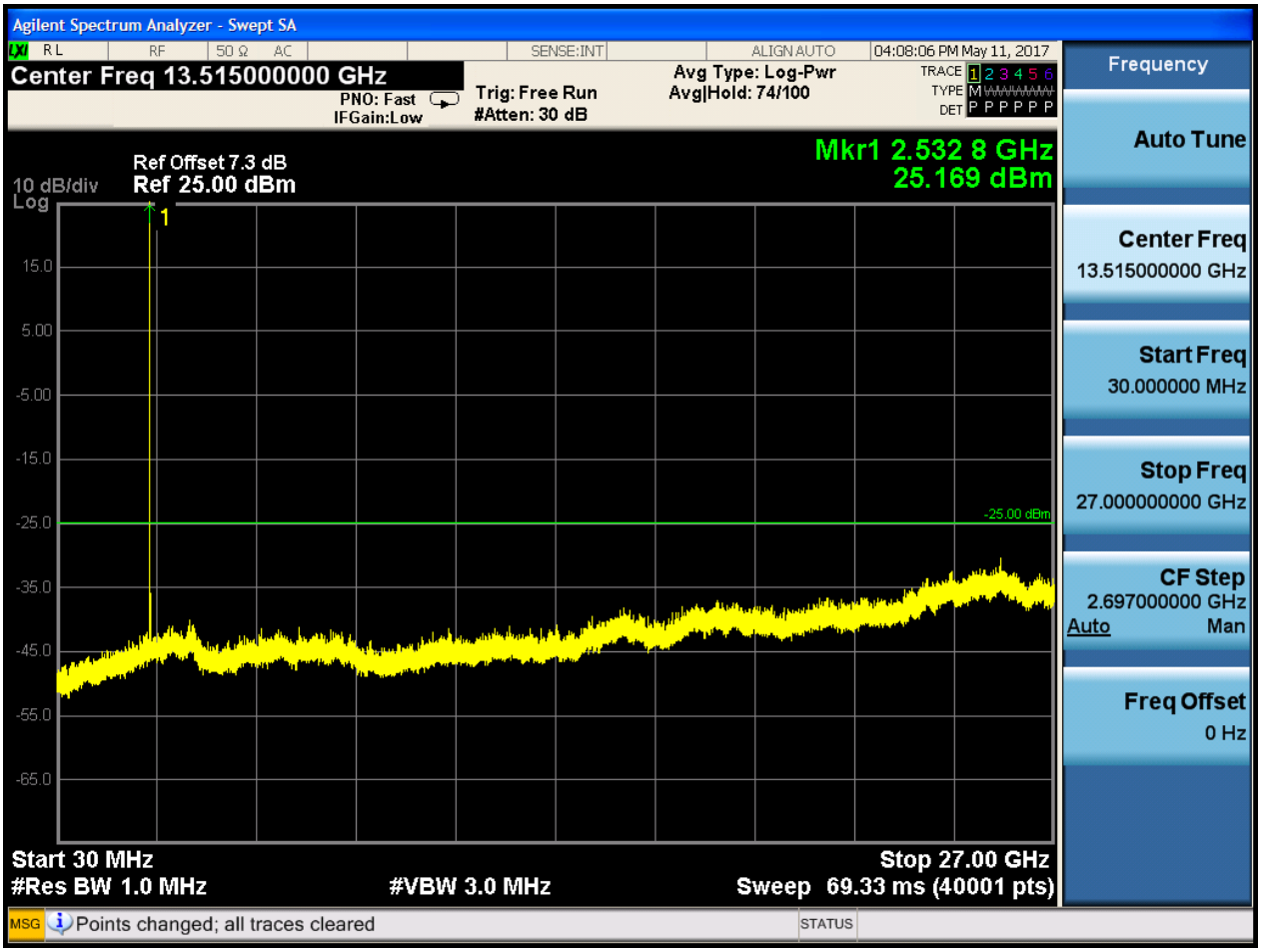


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

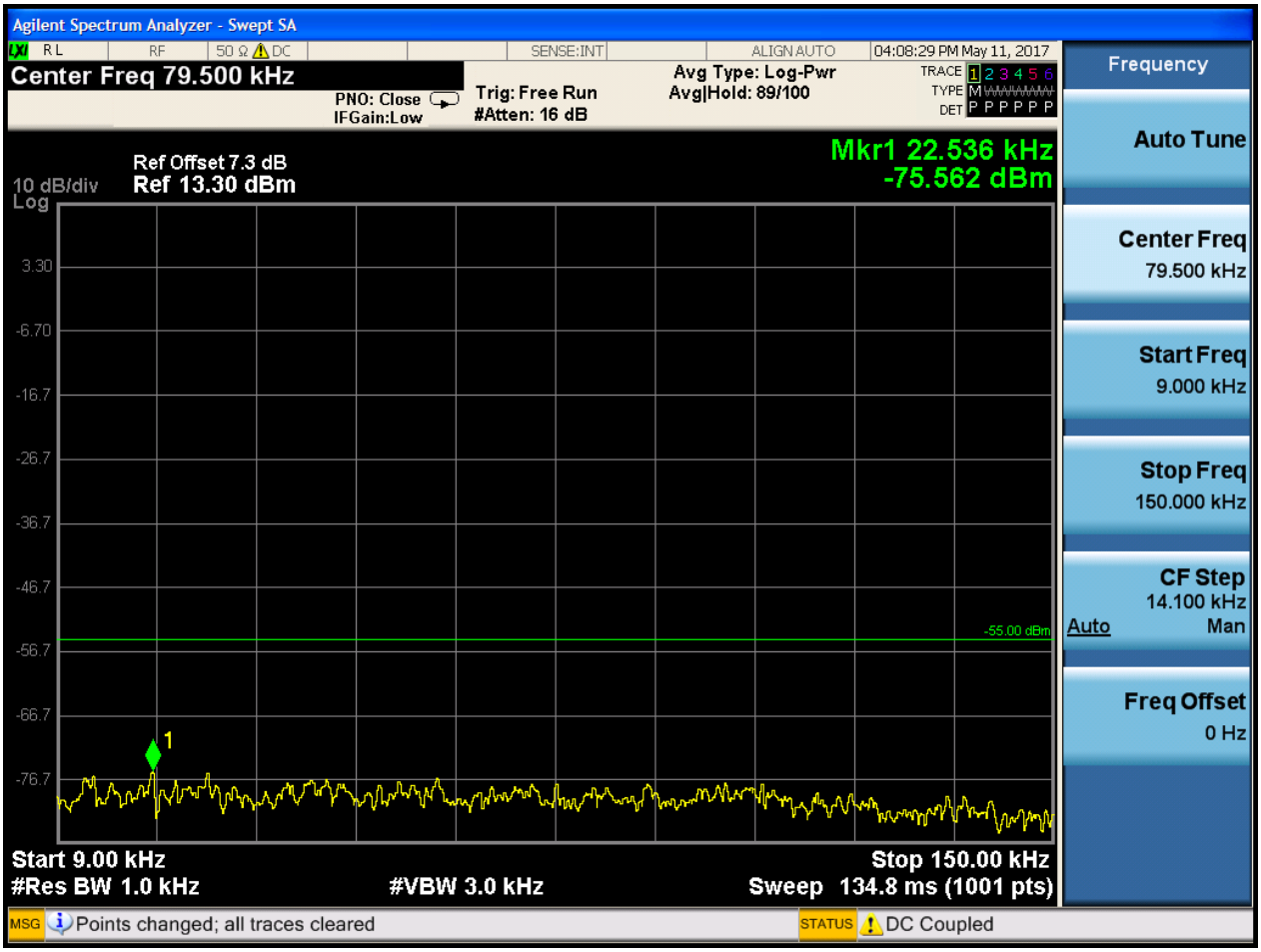


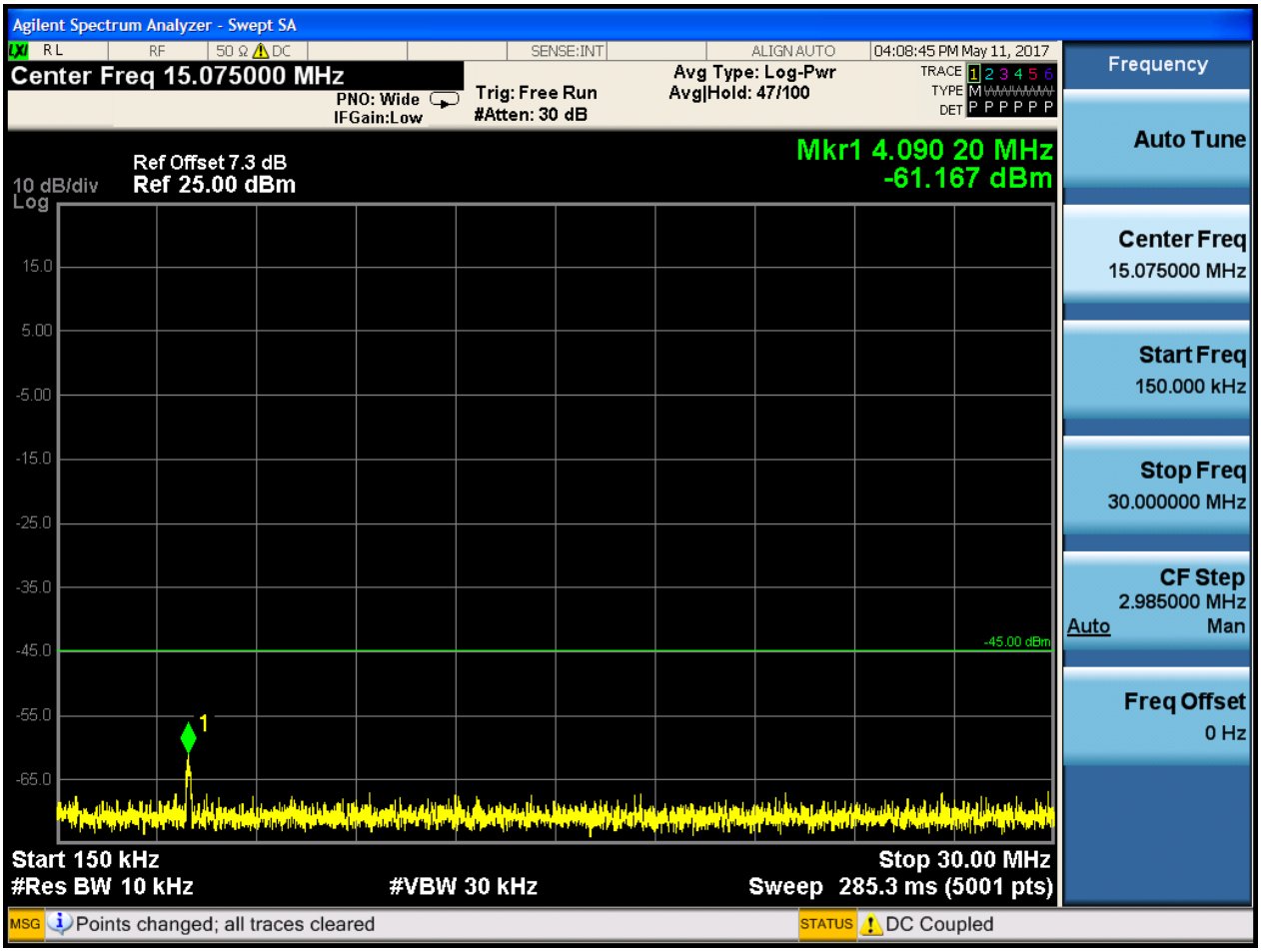


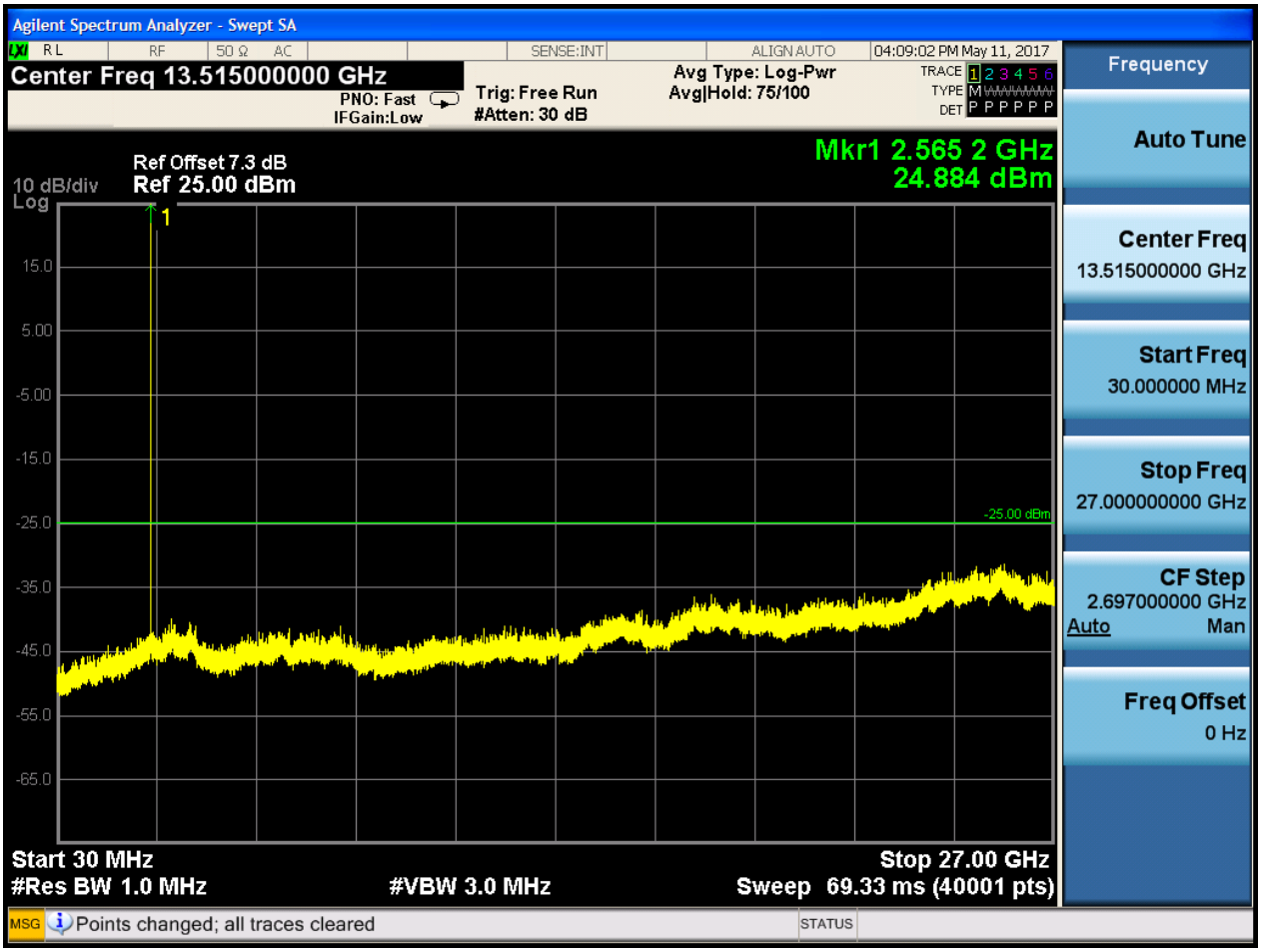


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0



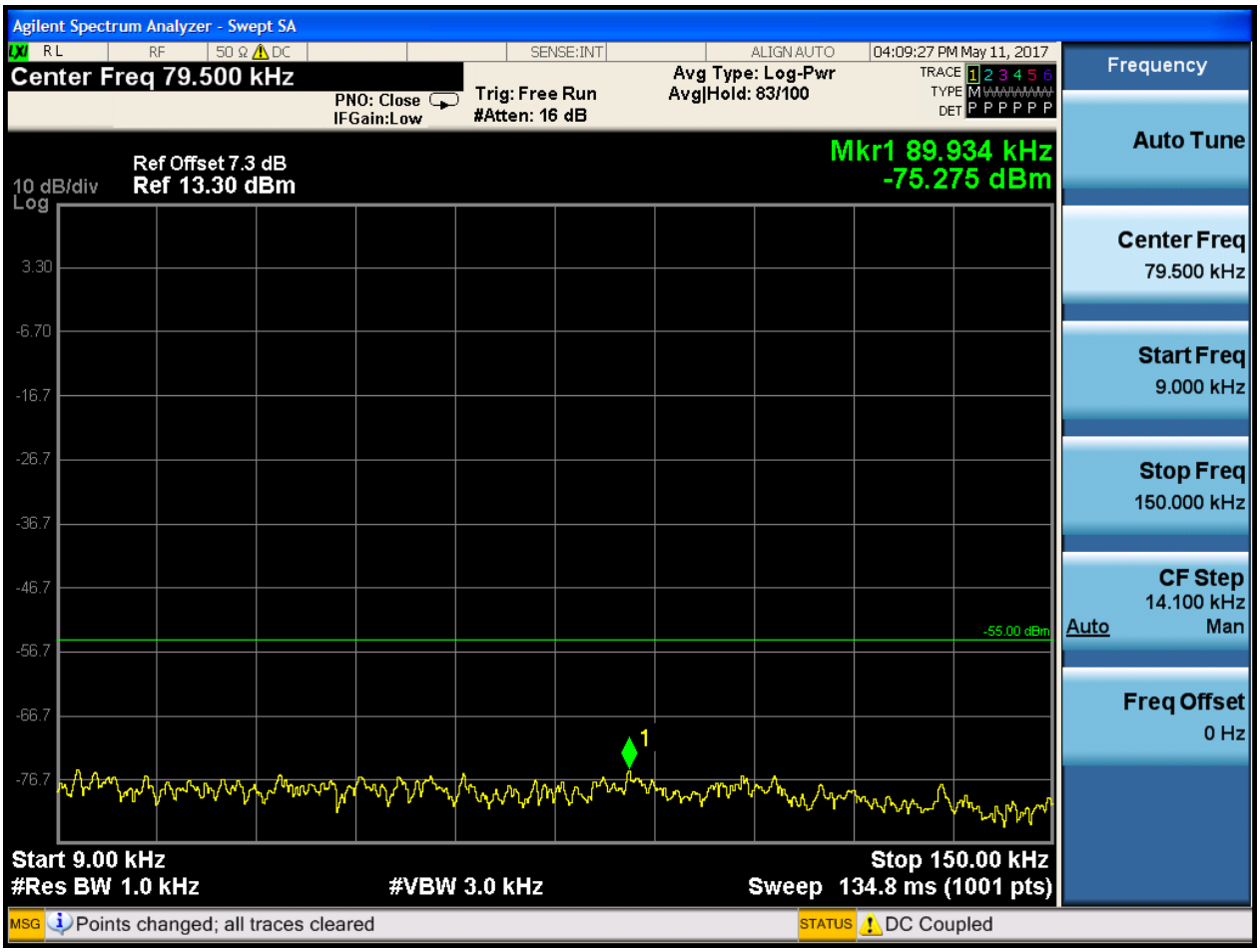


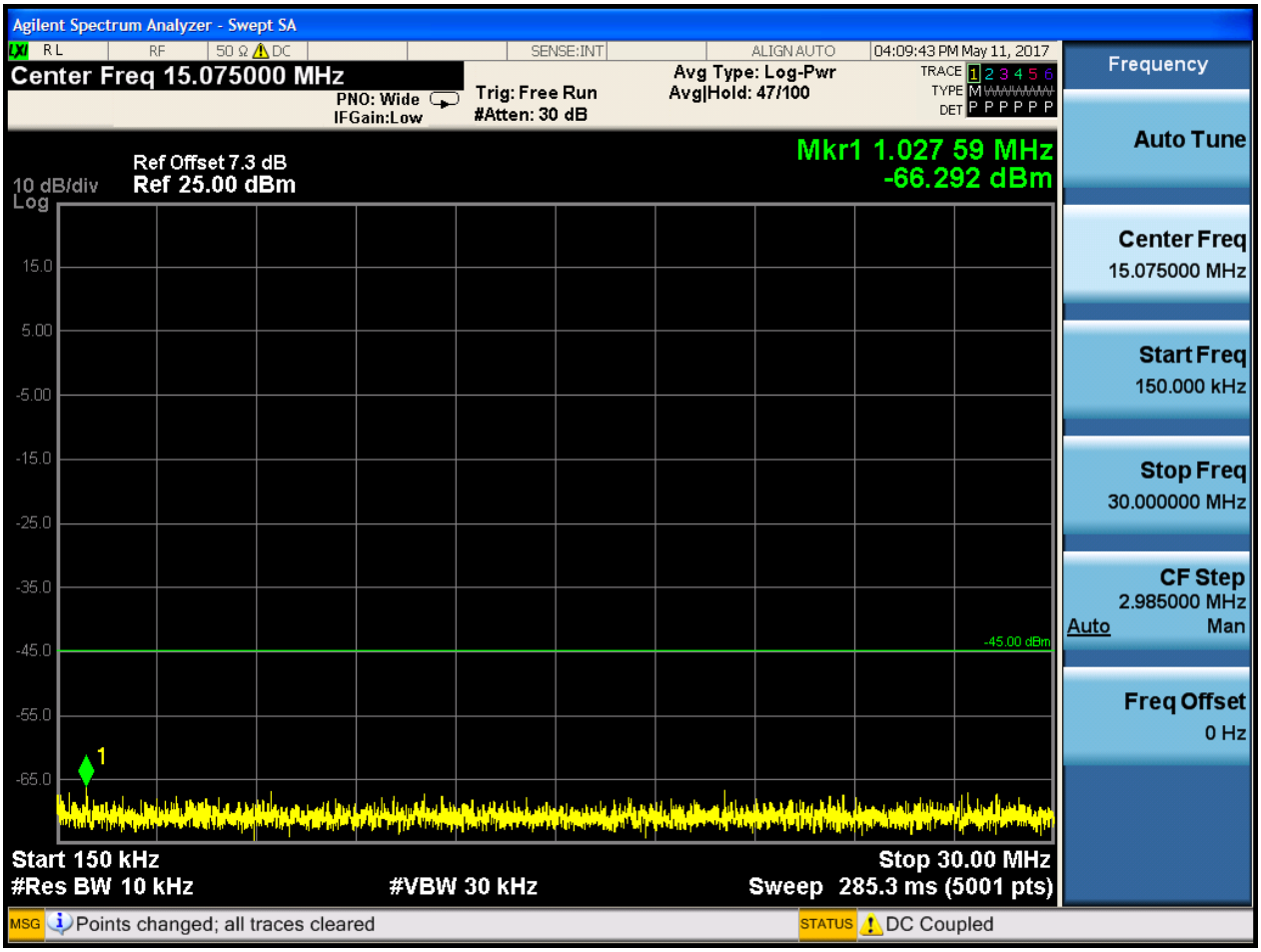


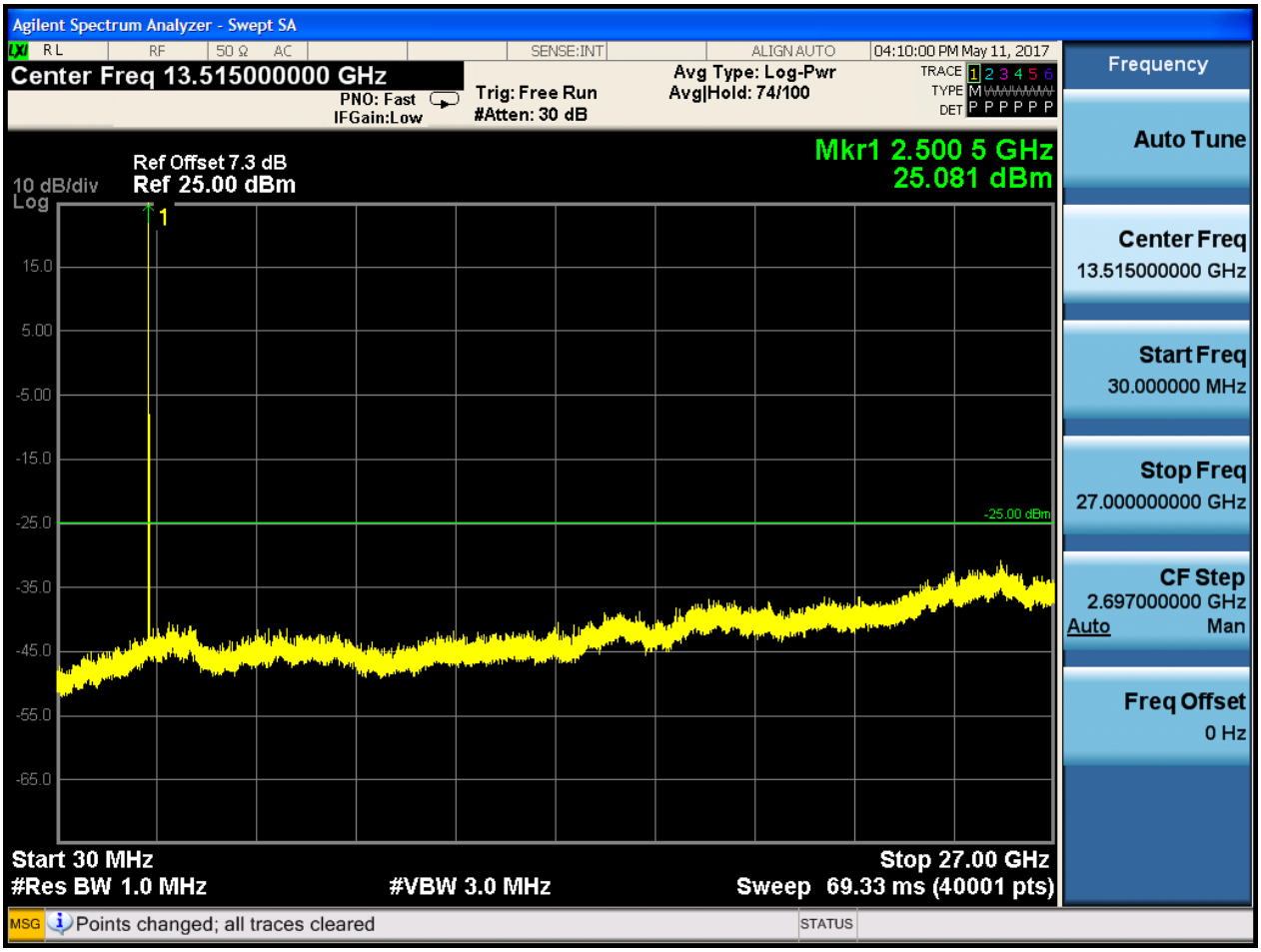
6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

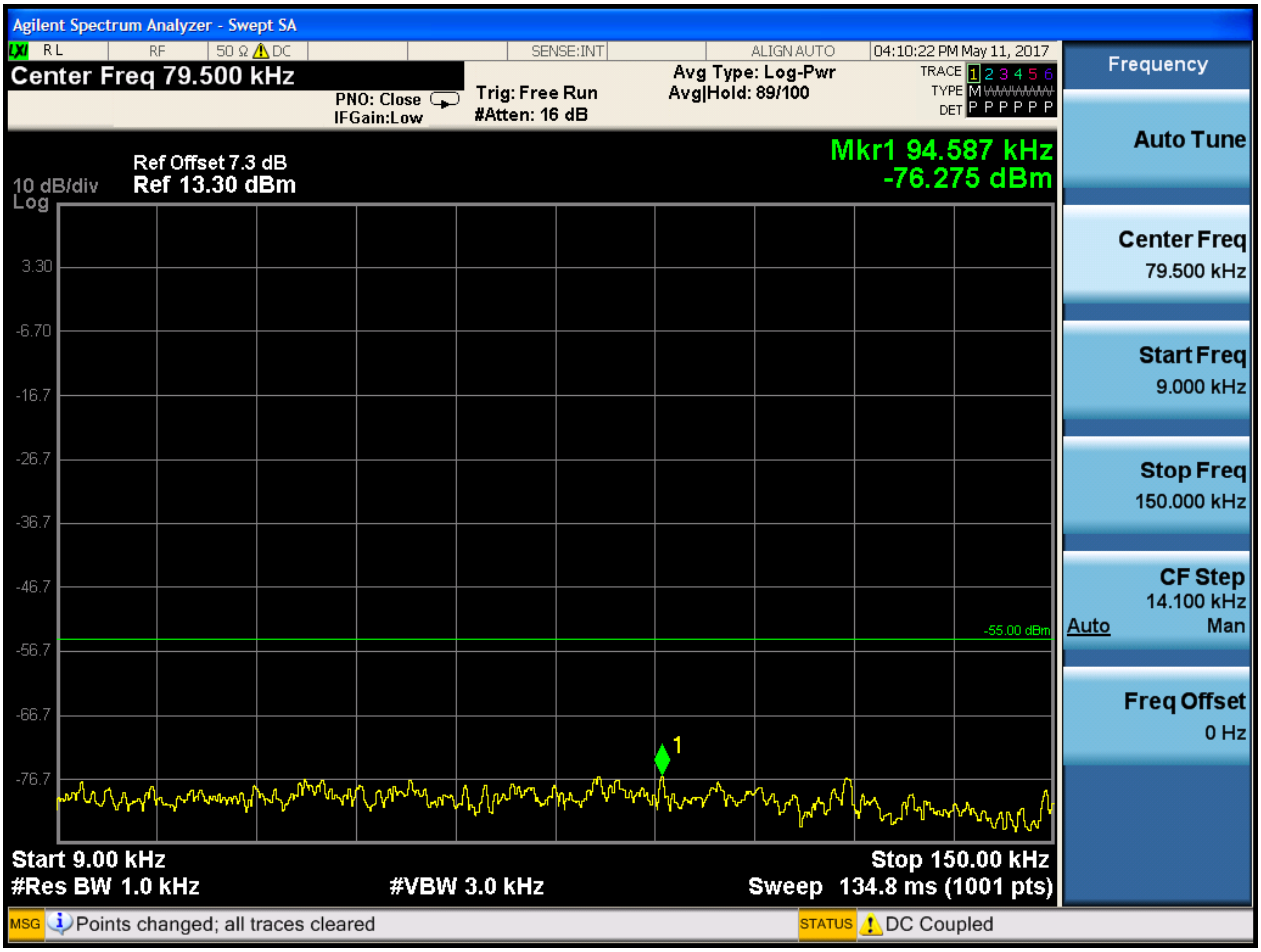


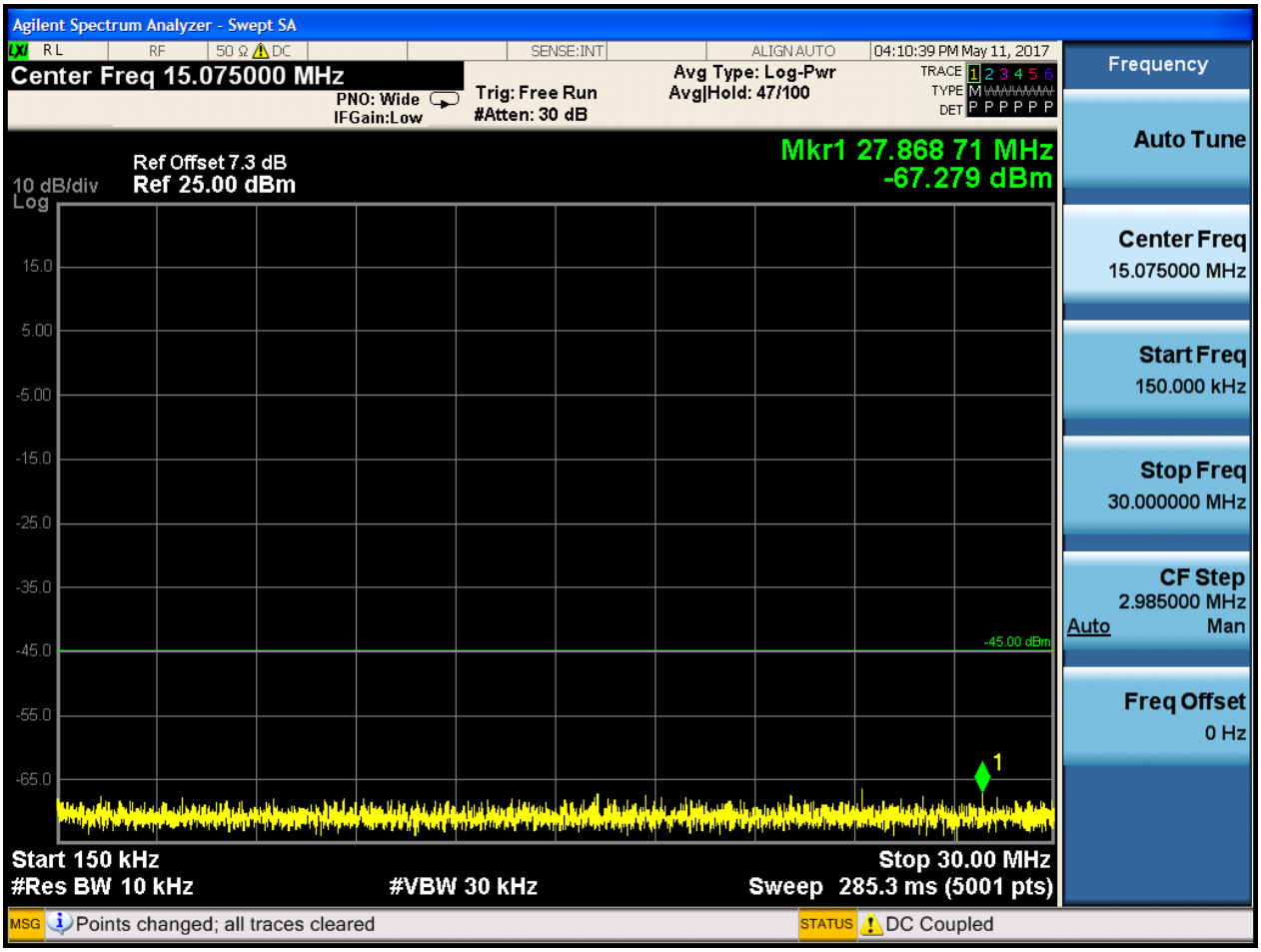


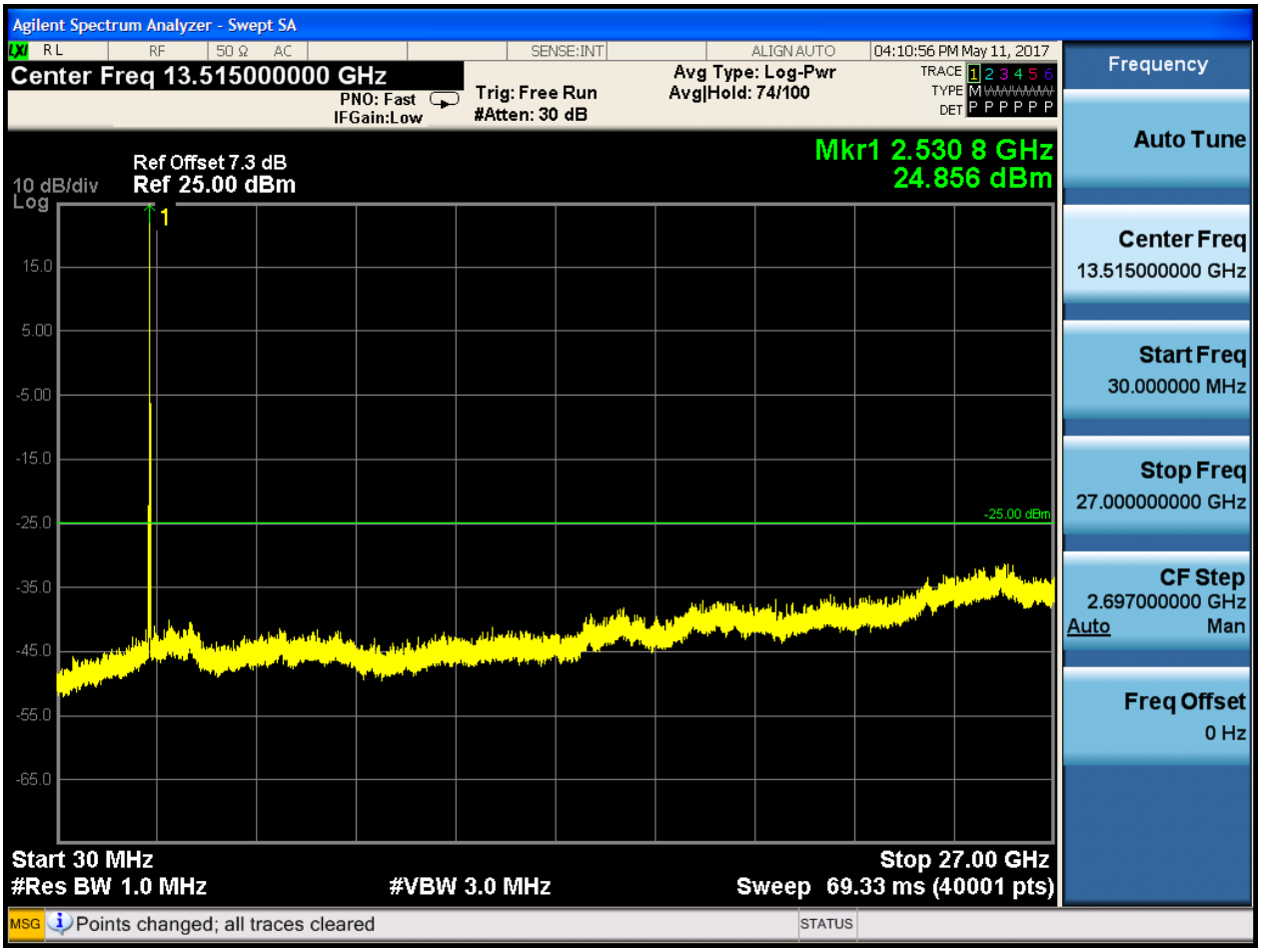


6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0

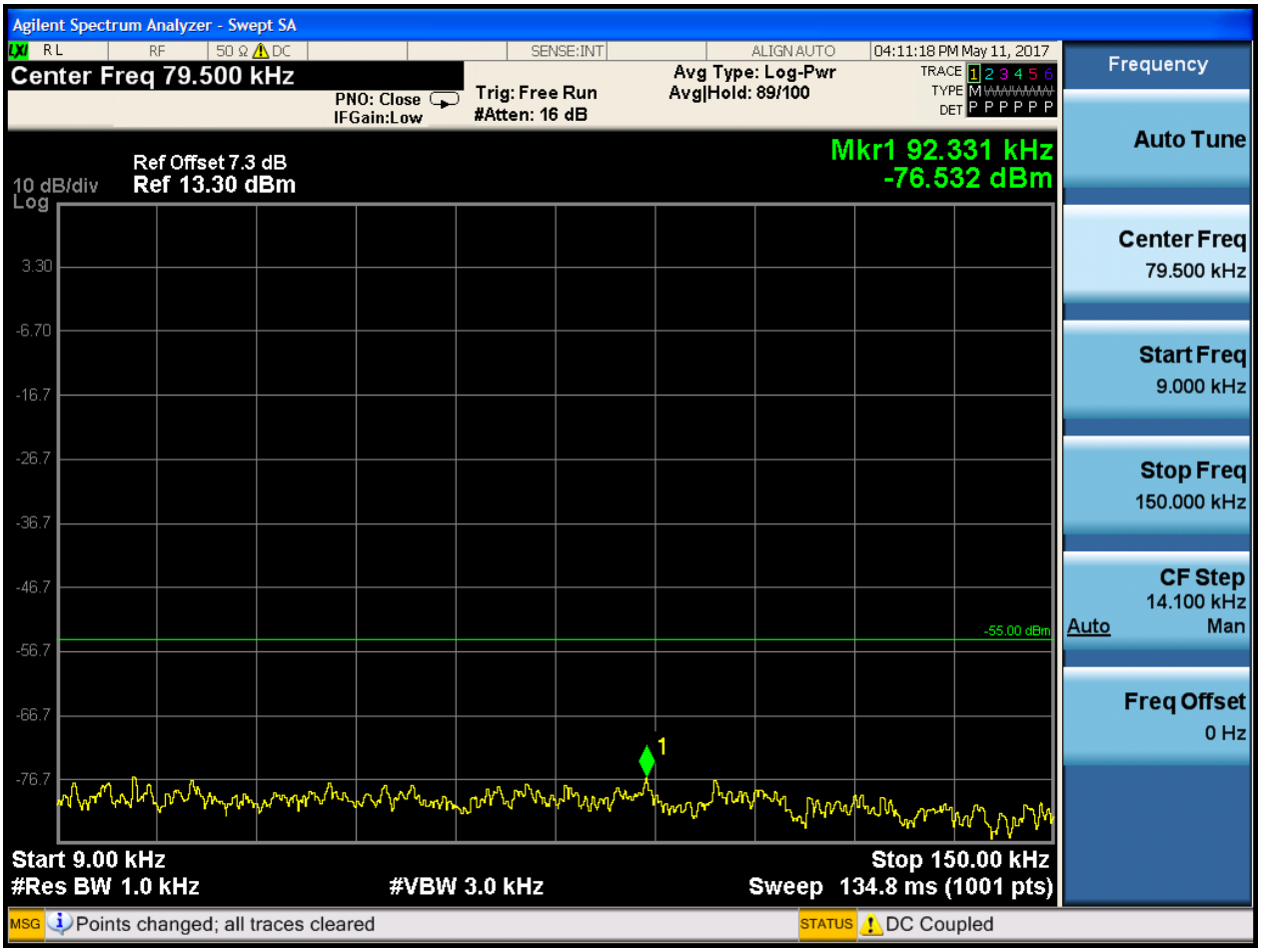


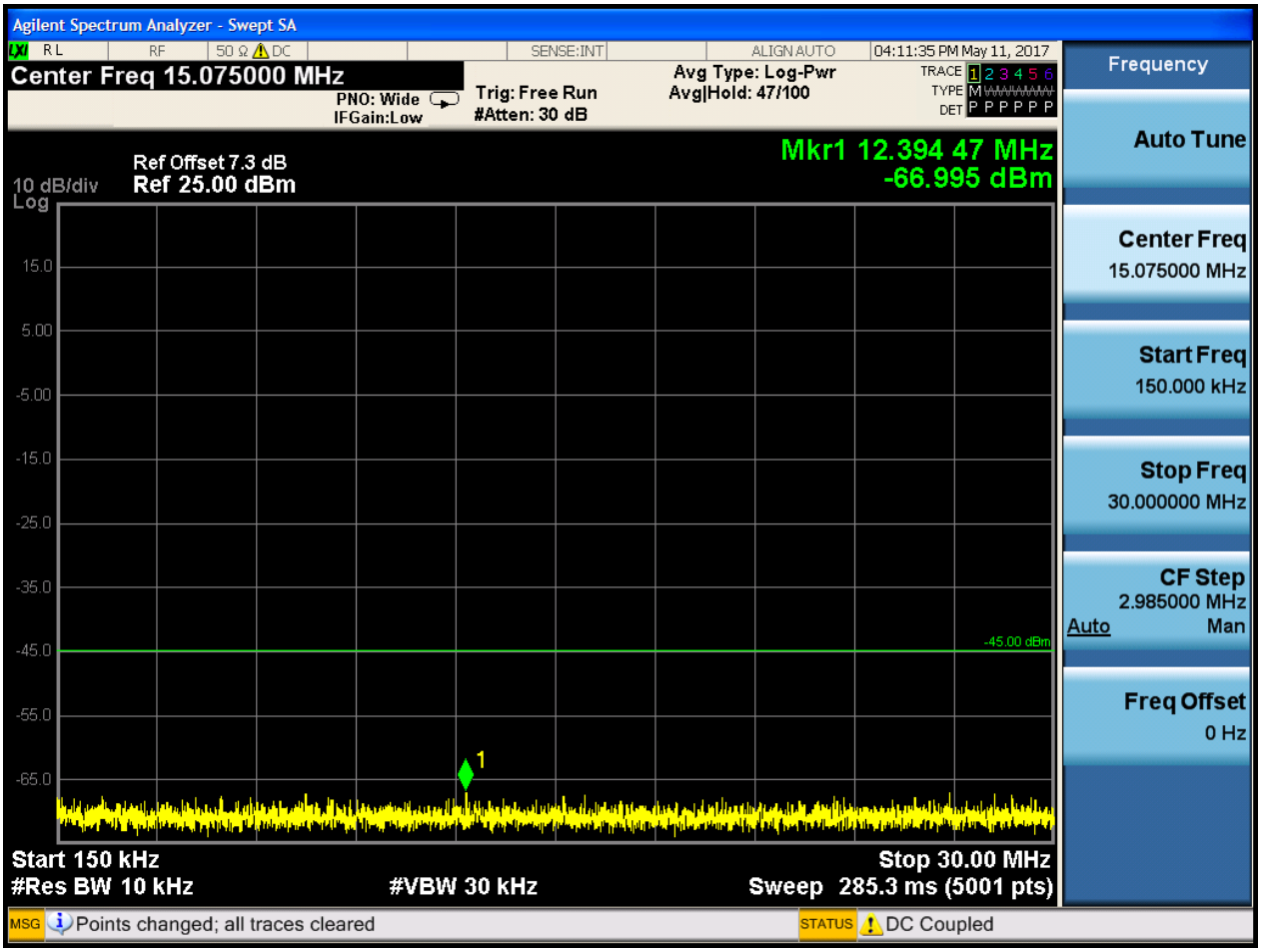


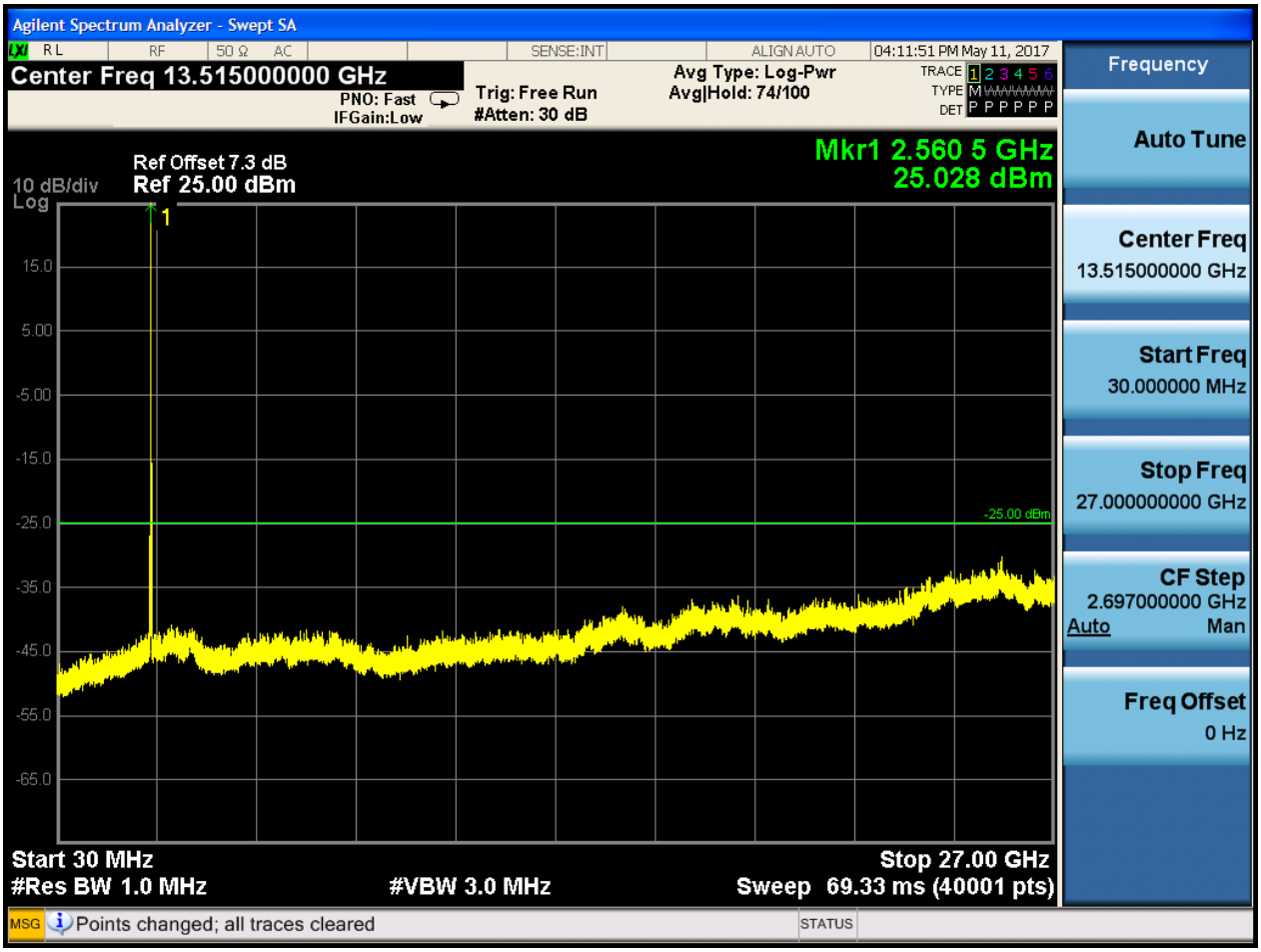


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0



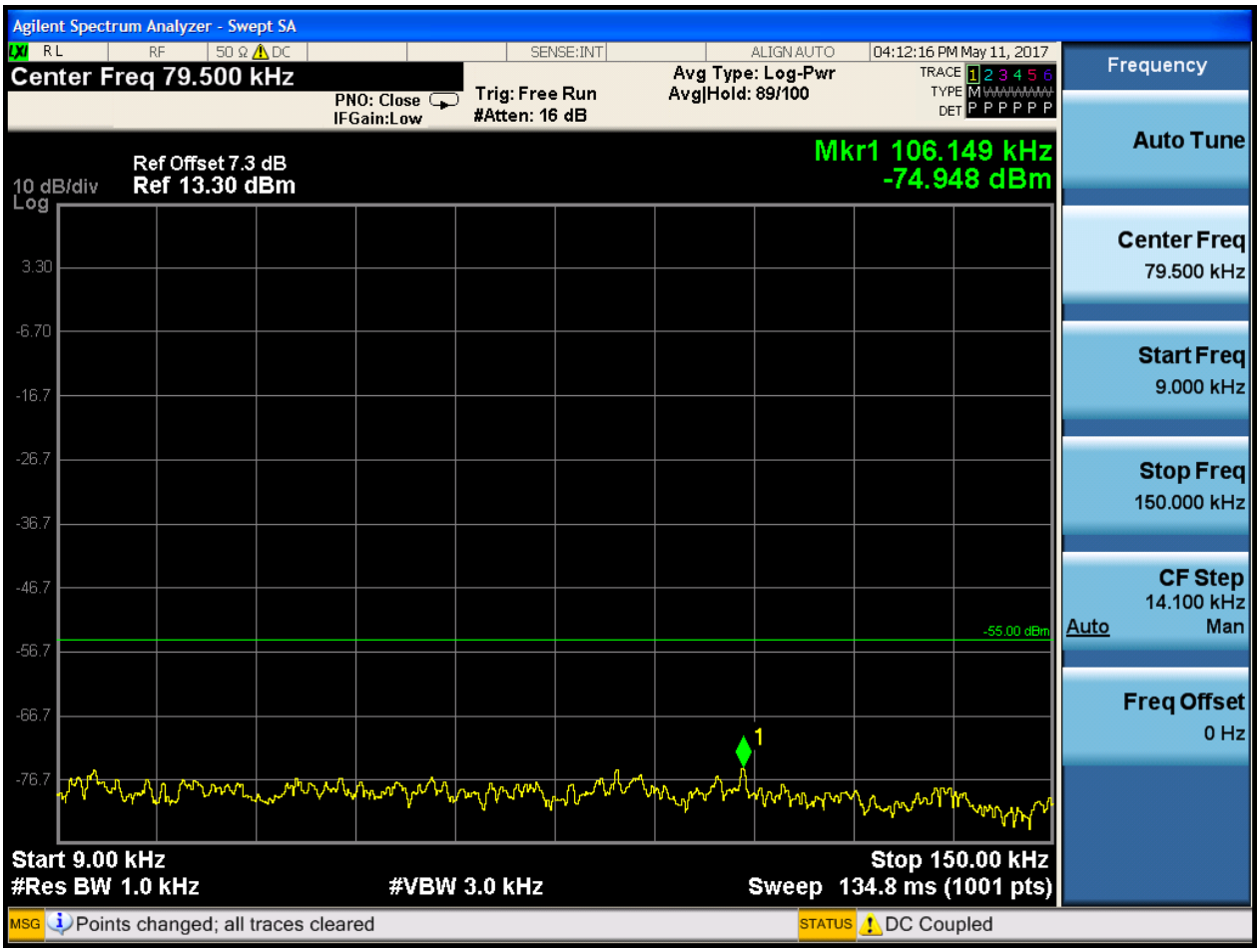


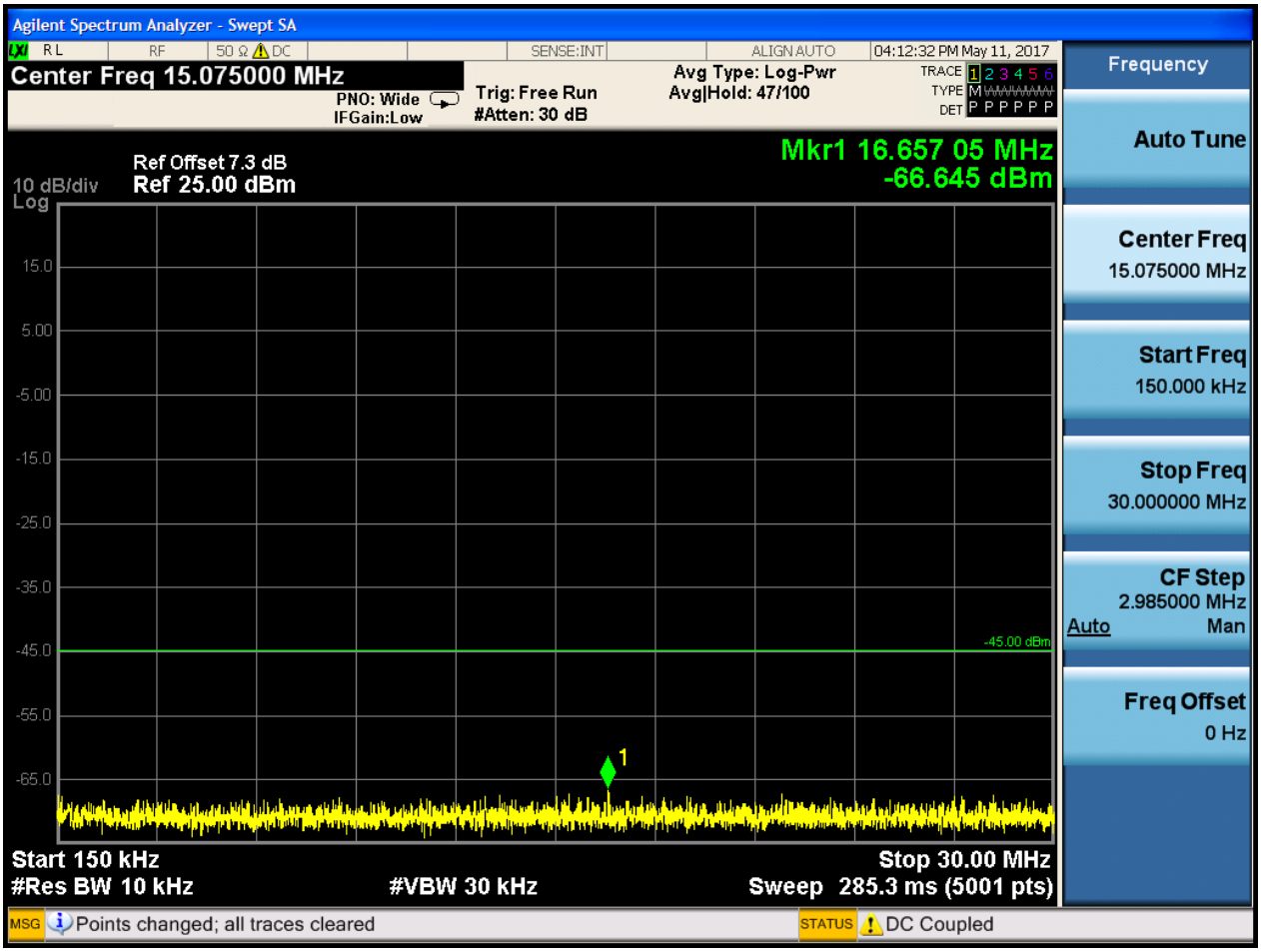


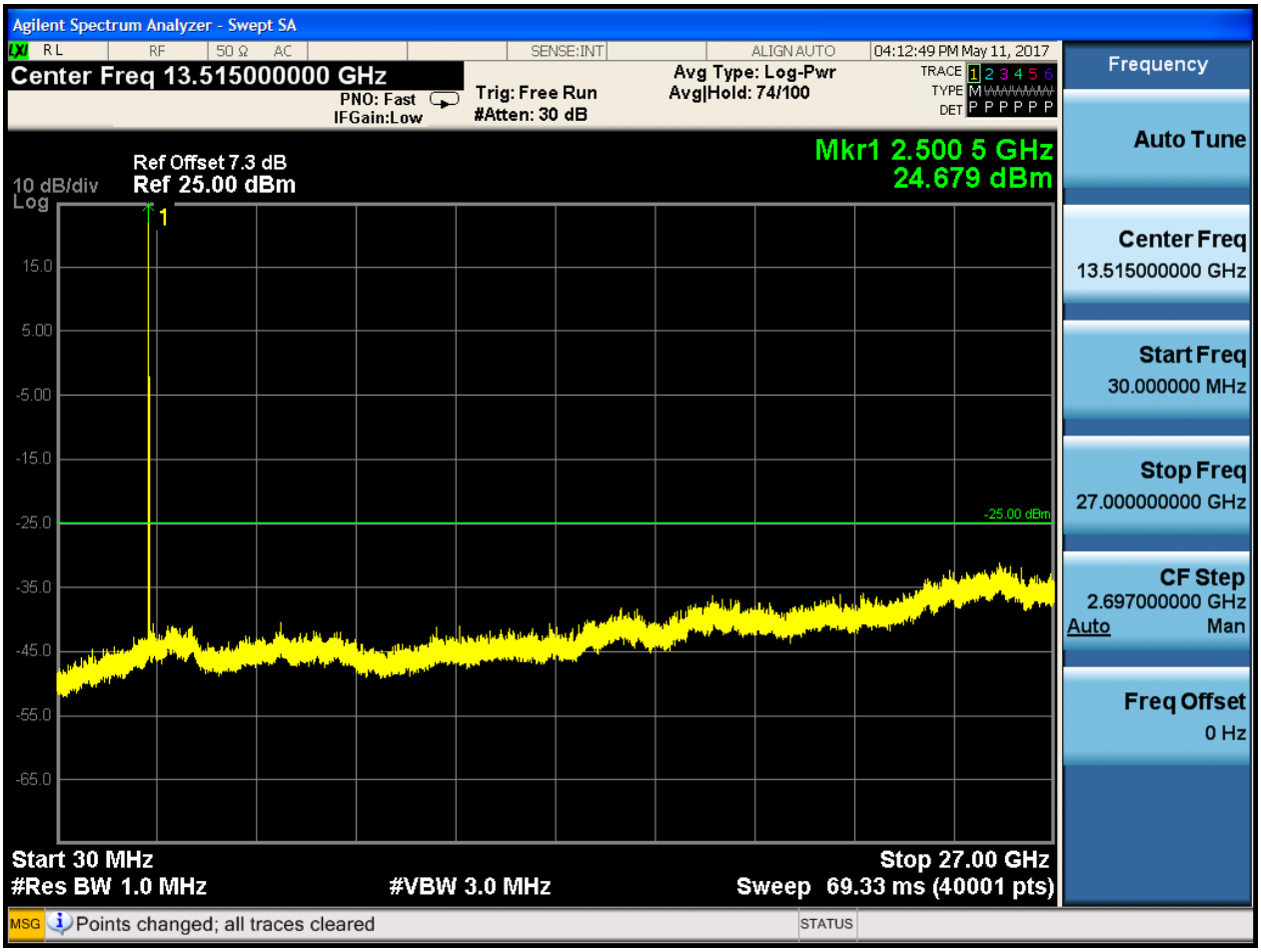
6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0

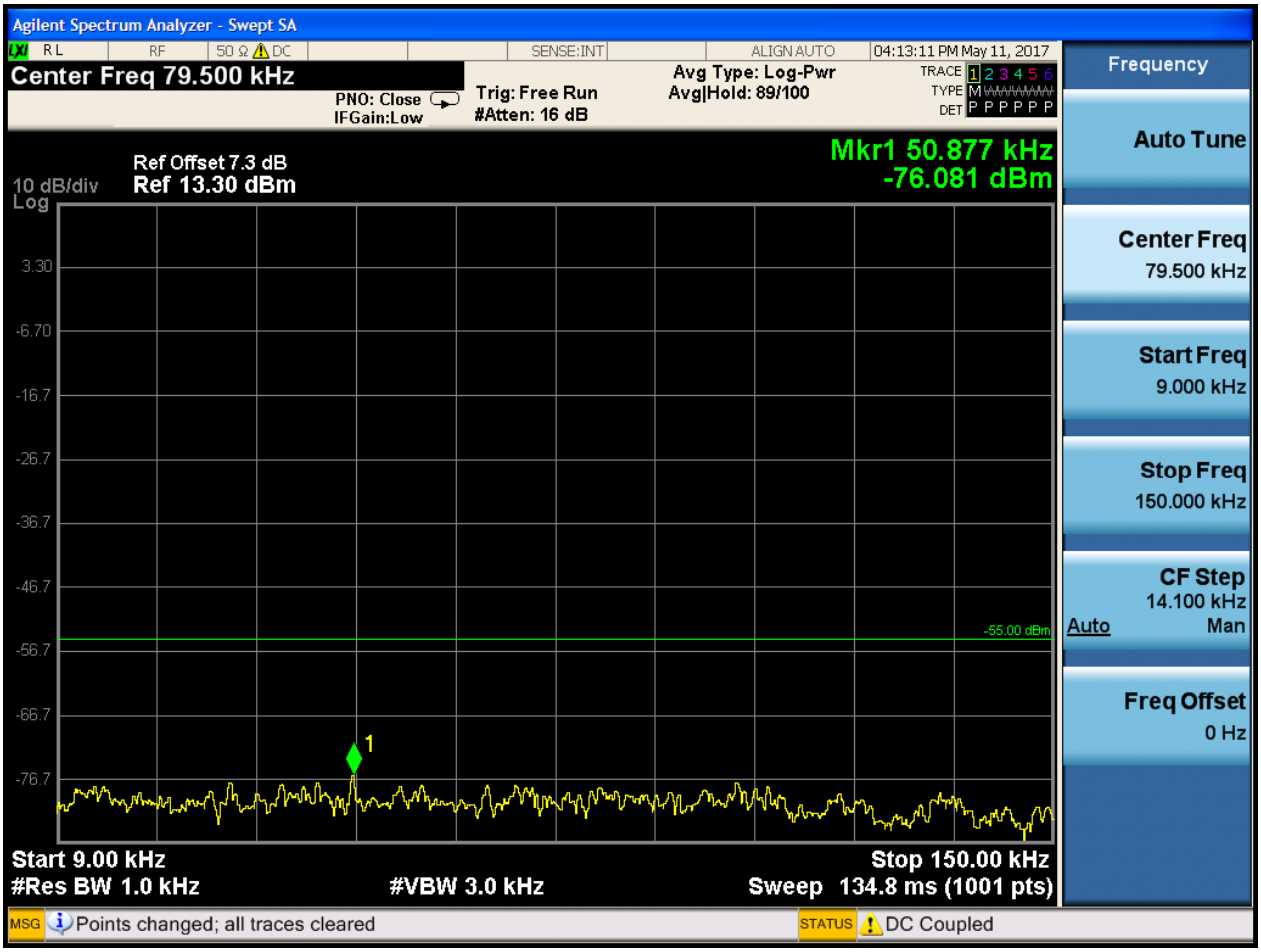


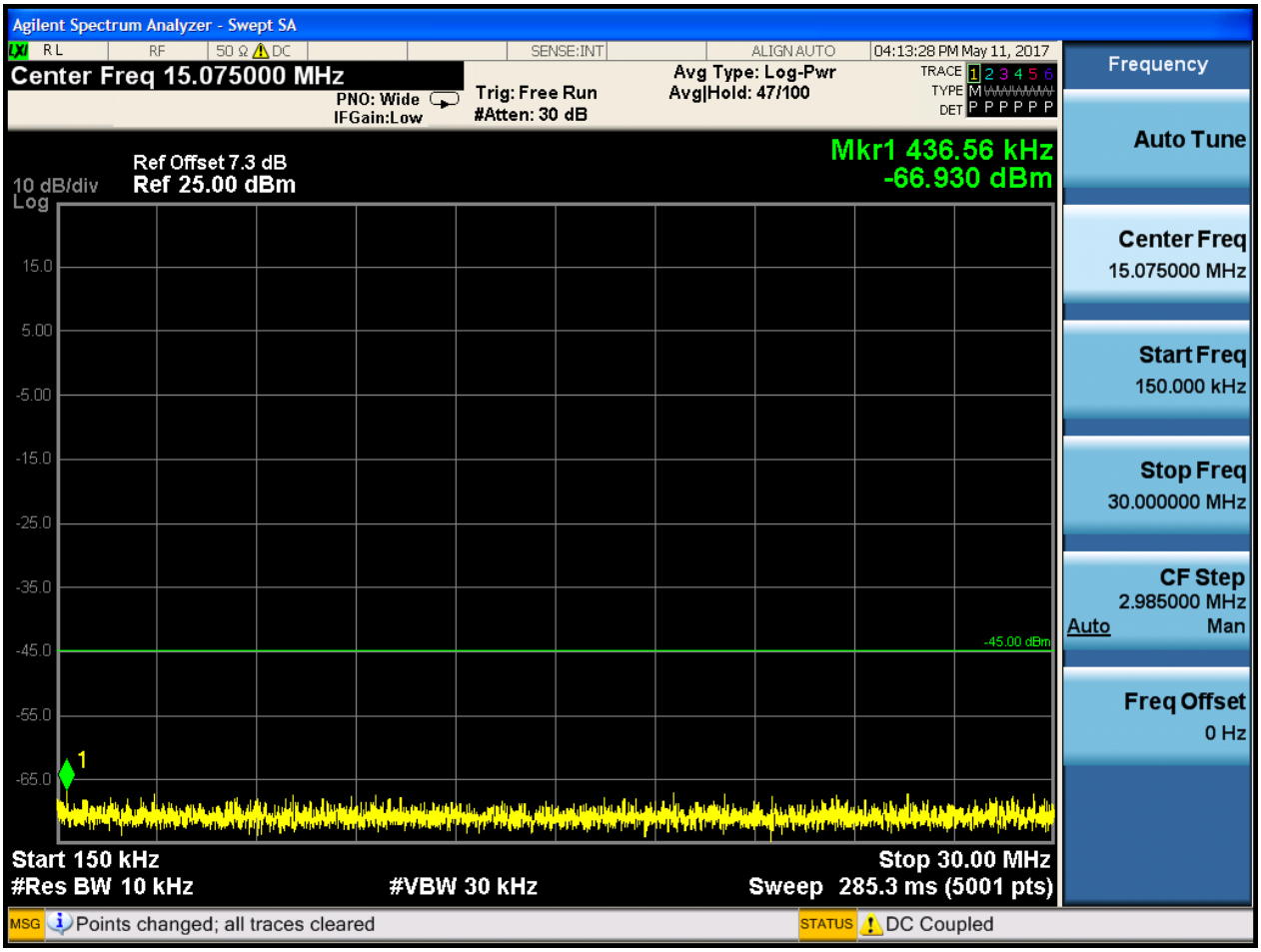




6.1.1.2.3.2 Test Channel = MCH

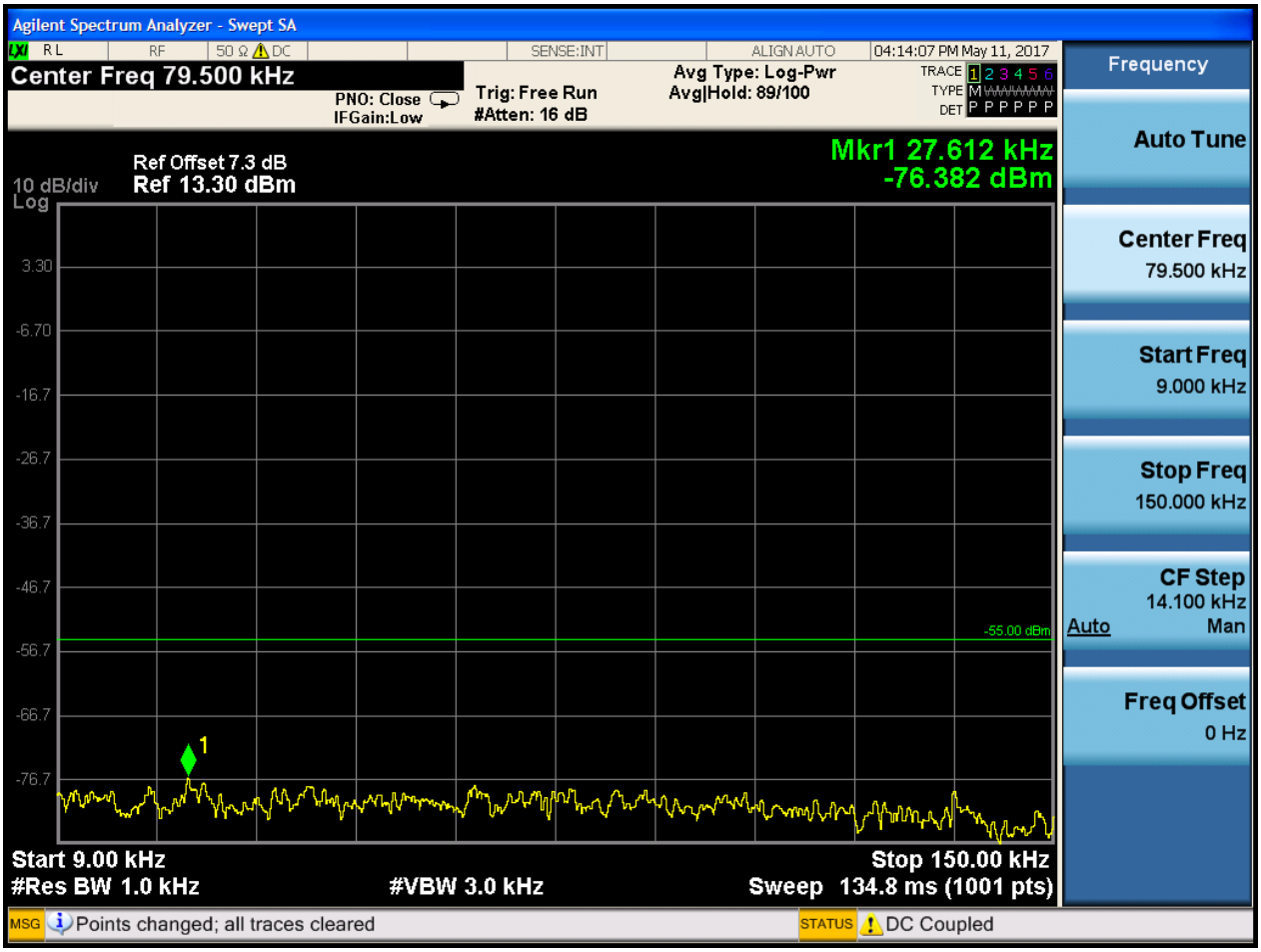
6.1.1.2.3.2.1 Test RB = RB1#0

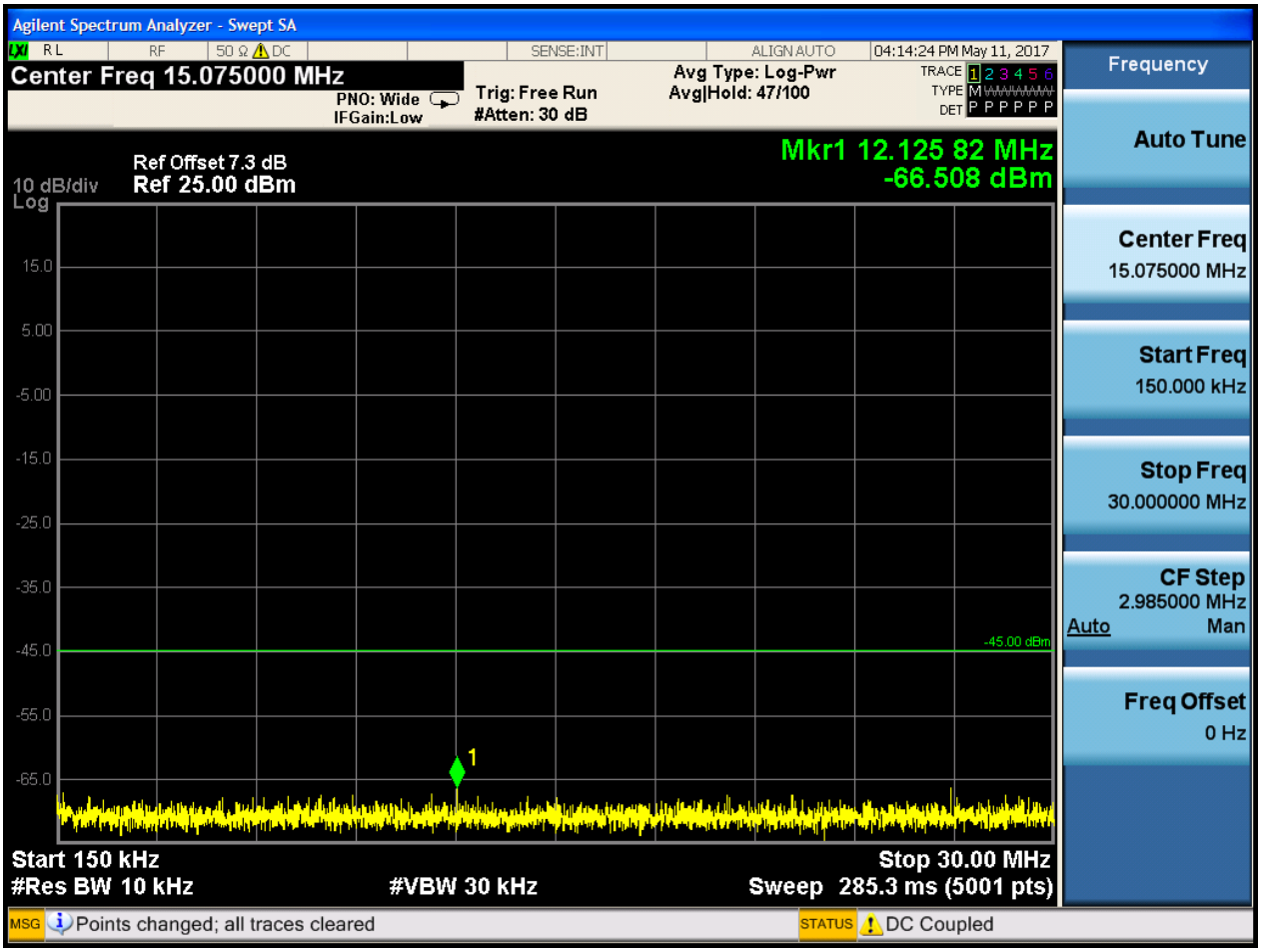


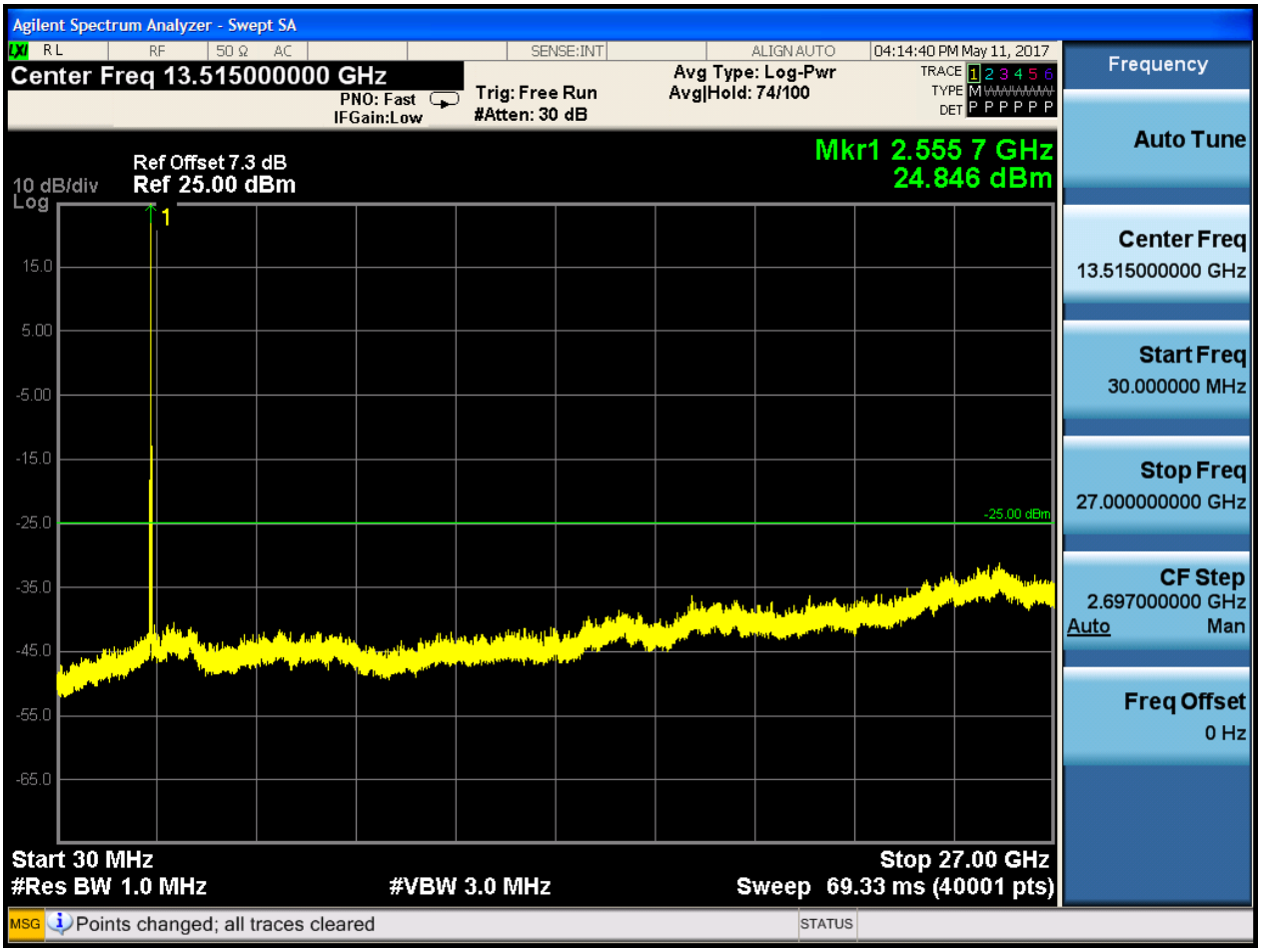


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0



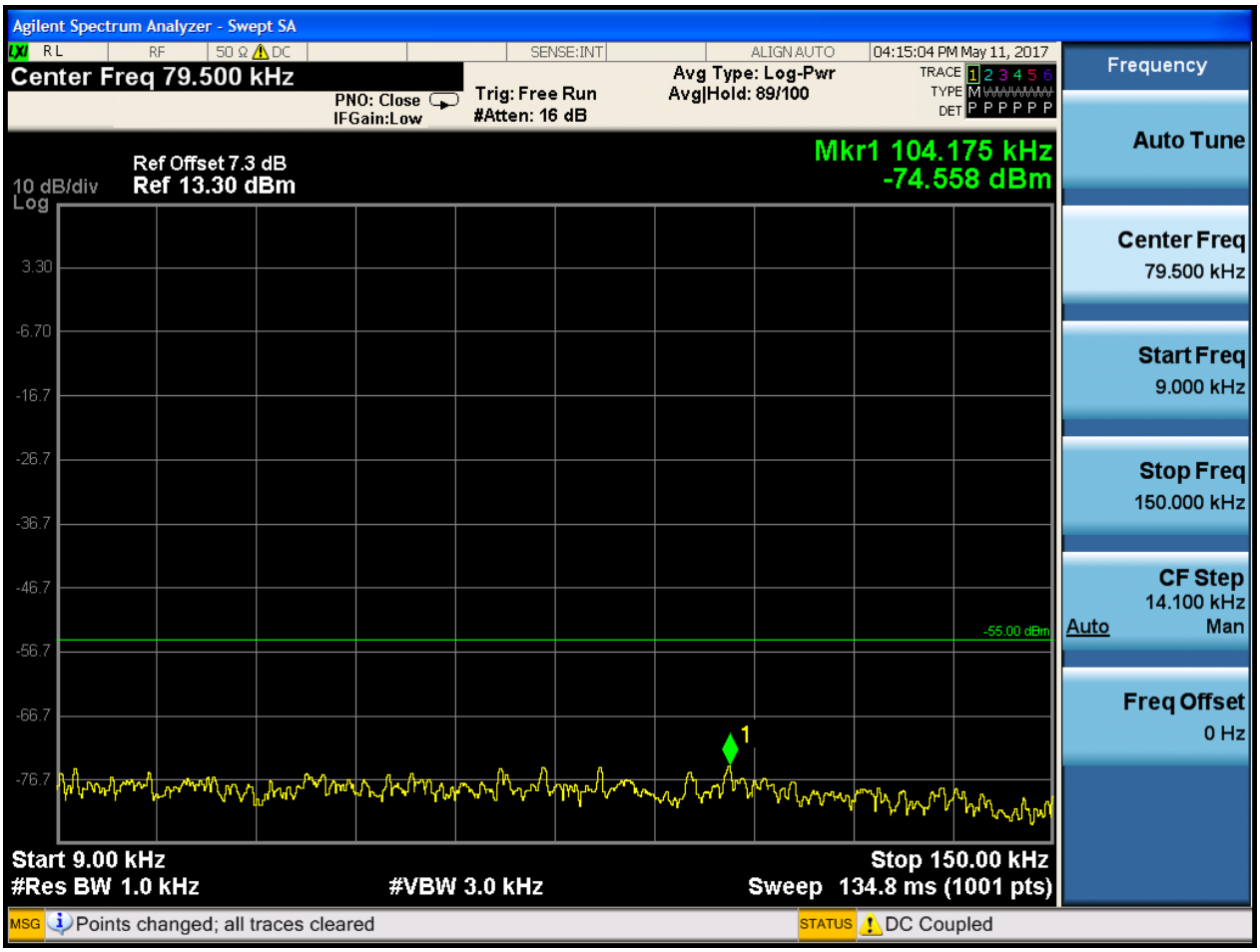


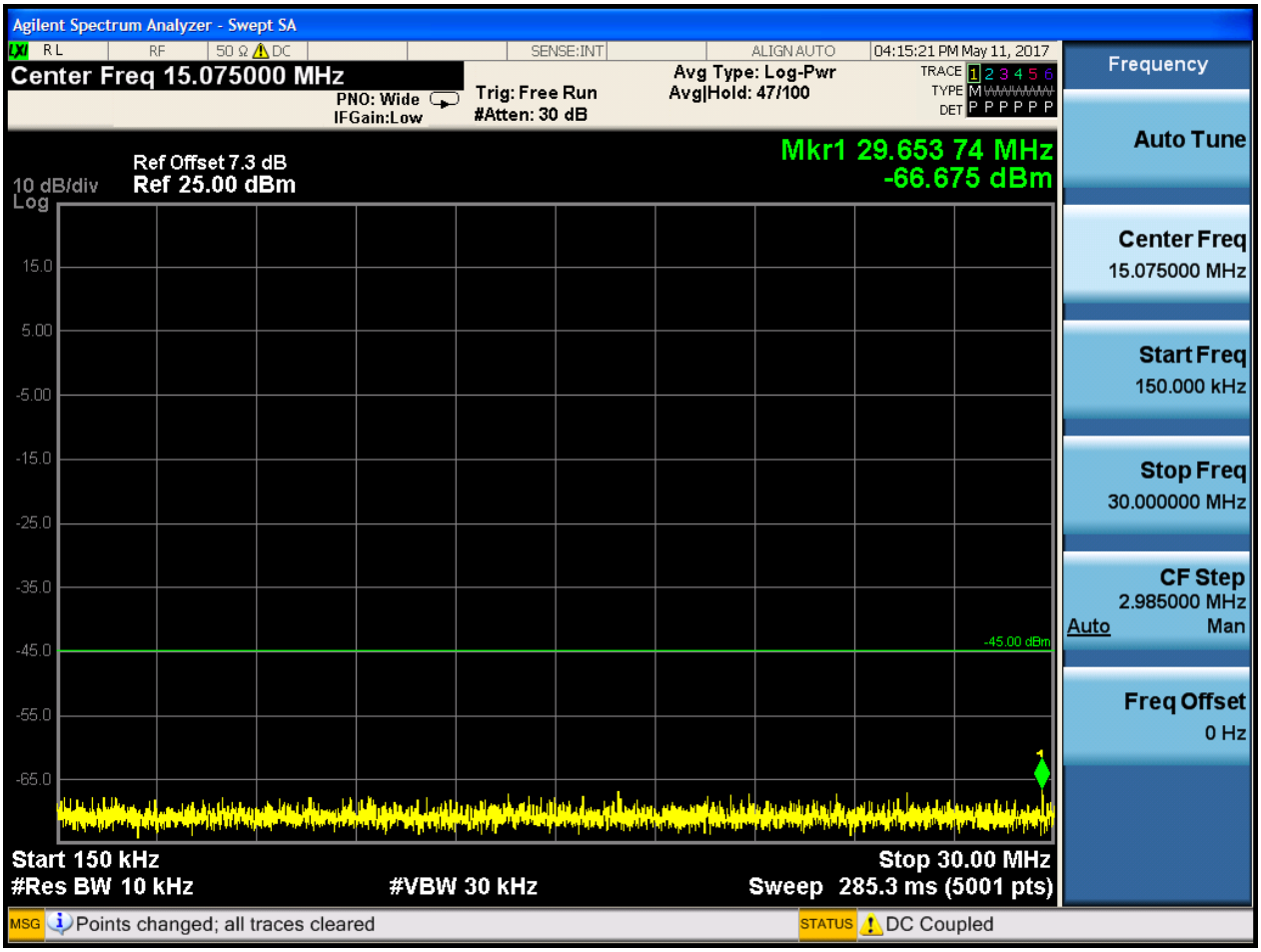


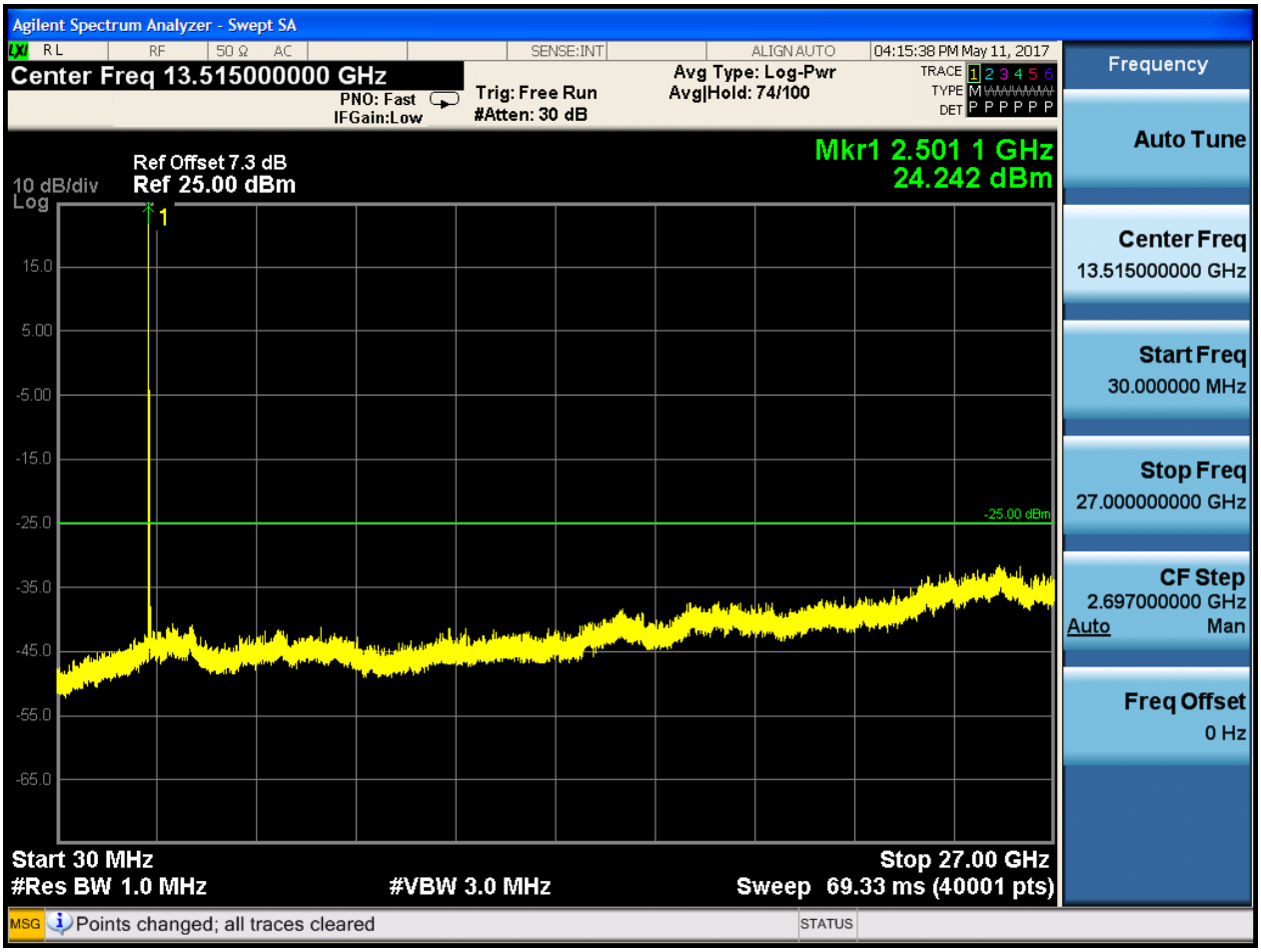
6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

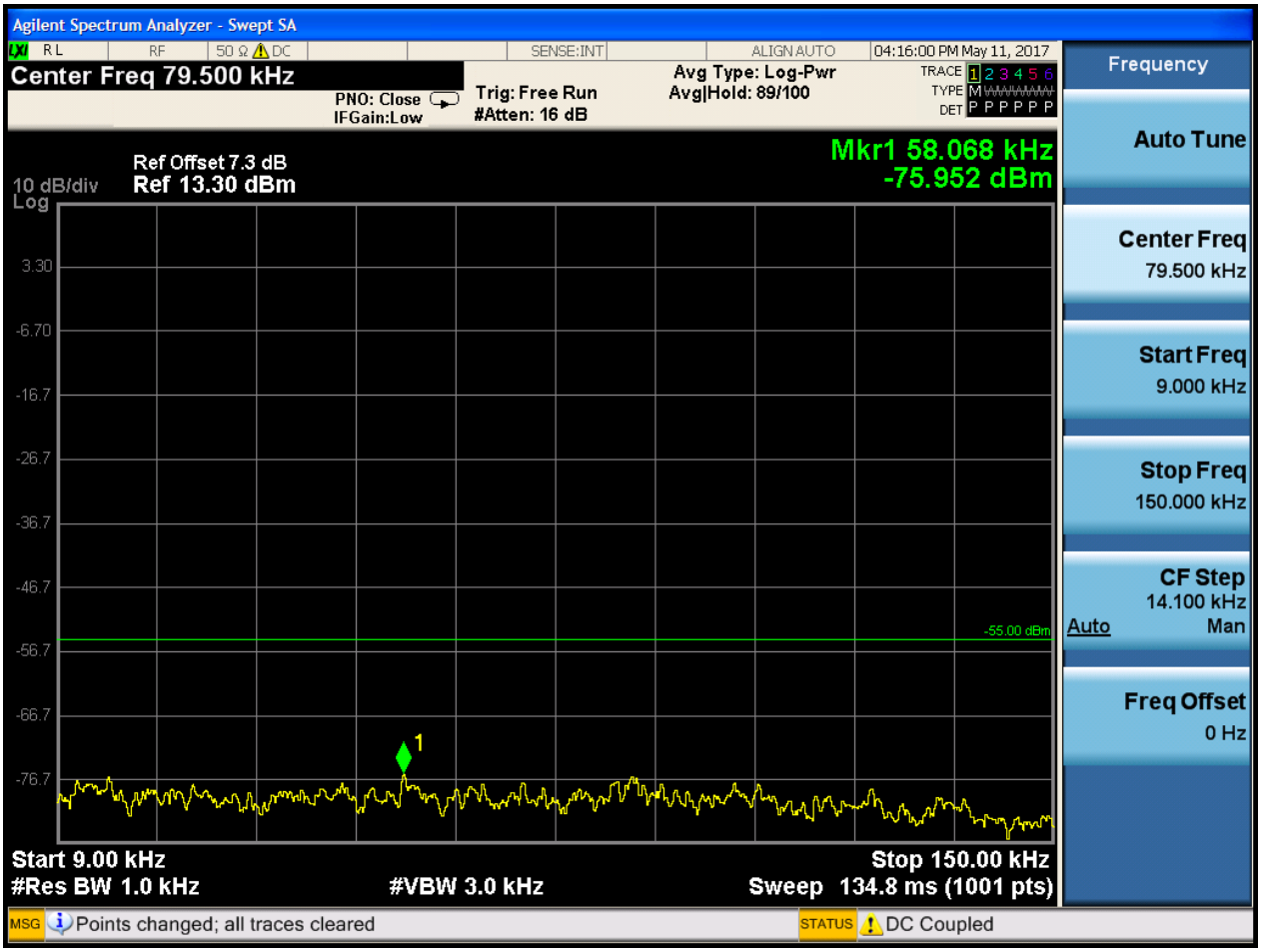


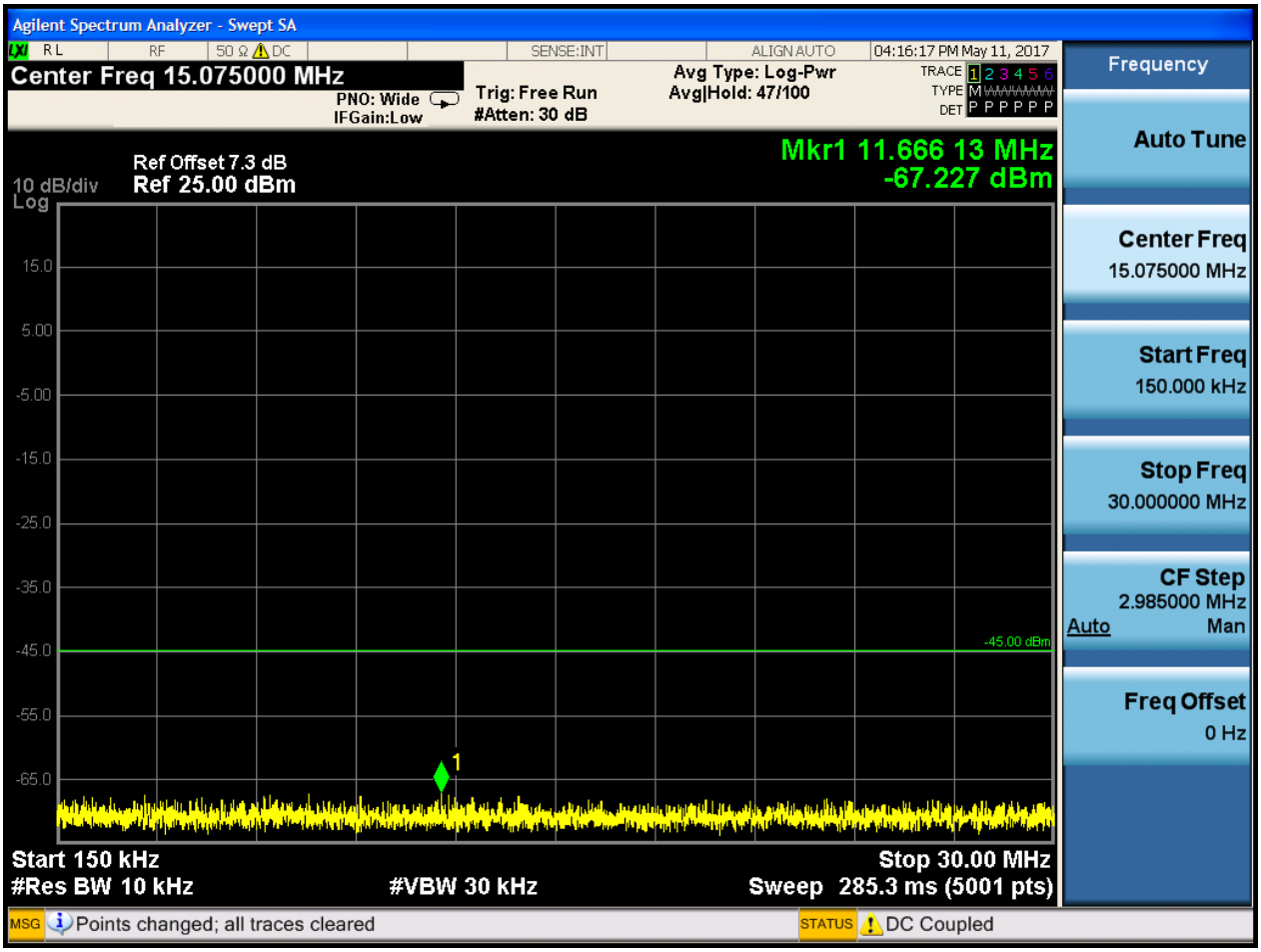


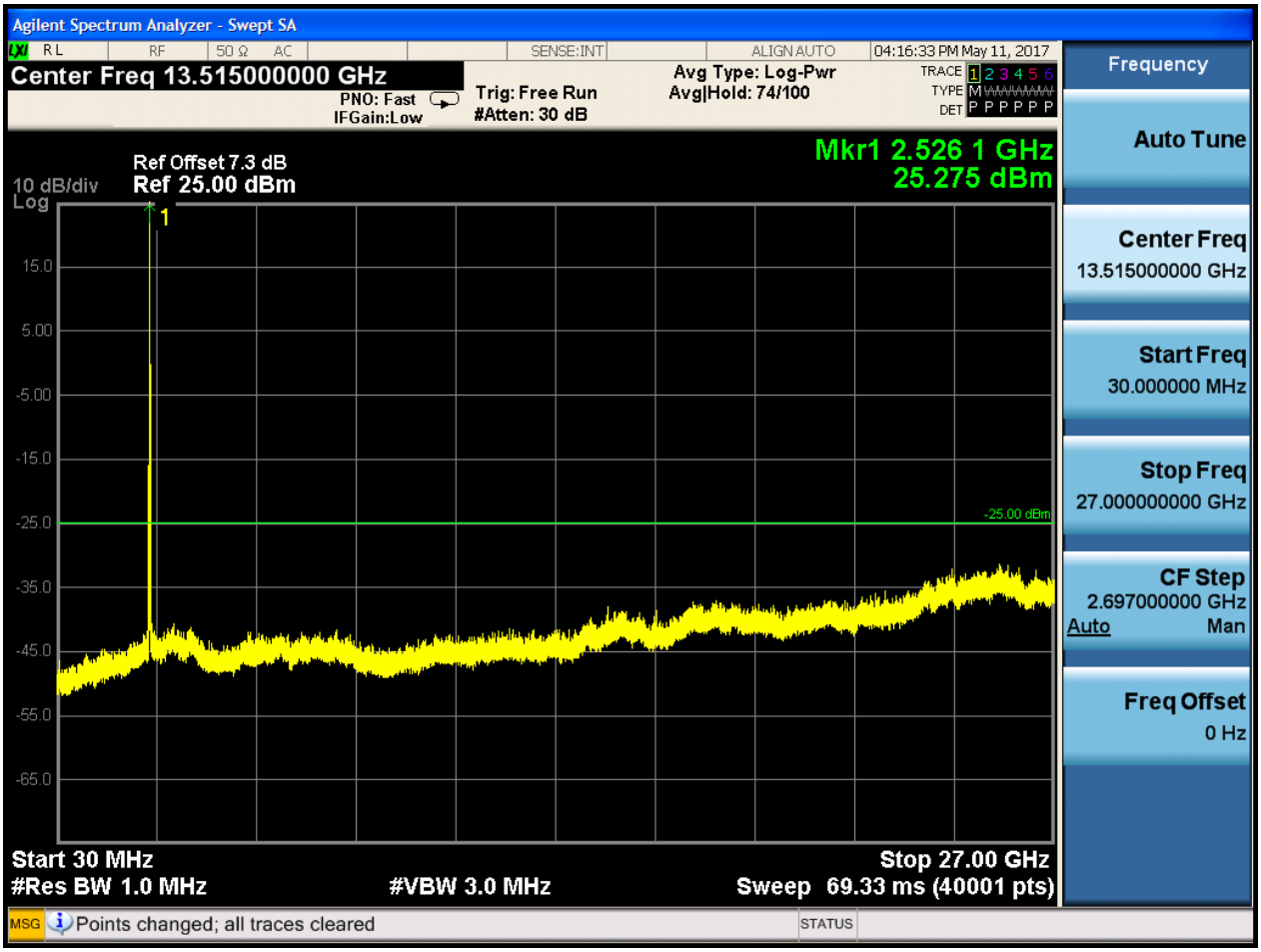


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0

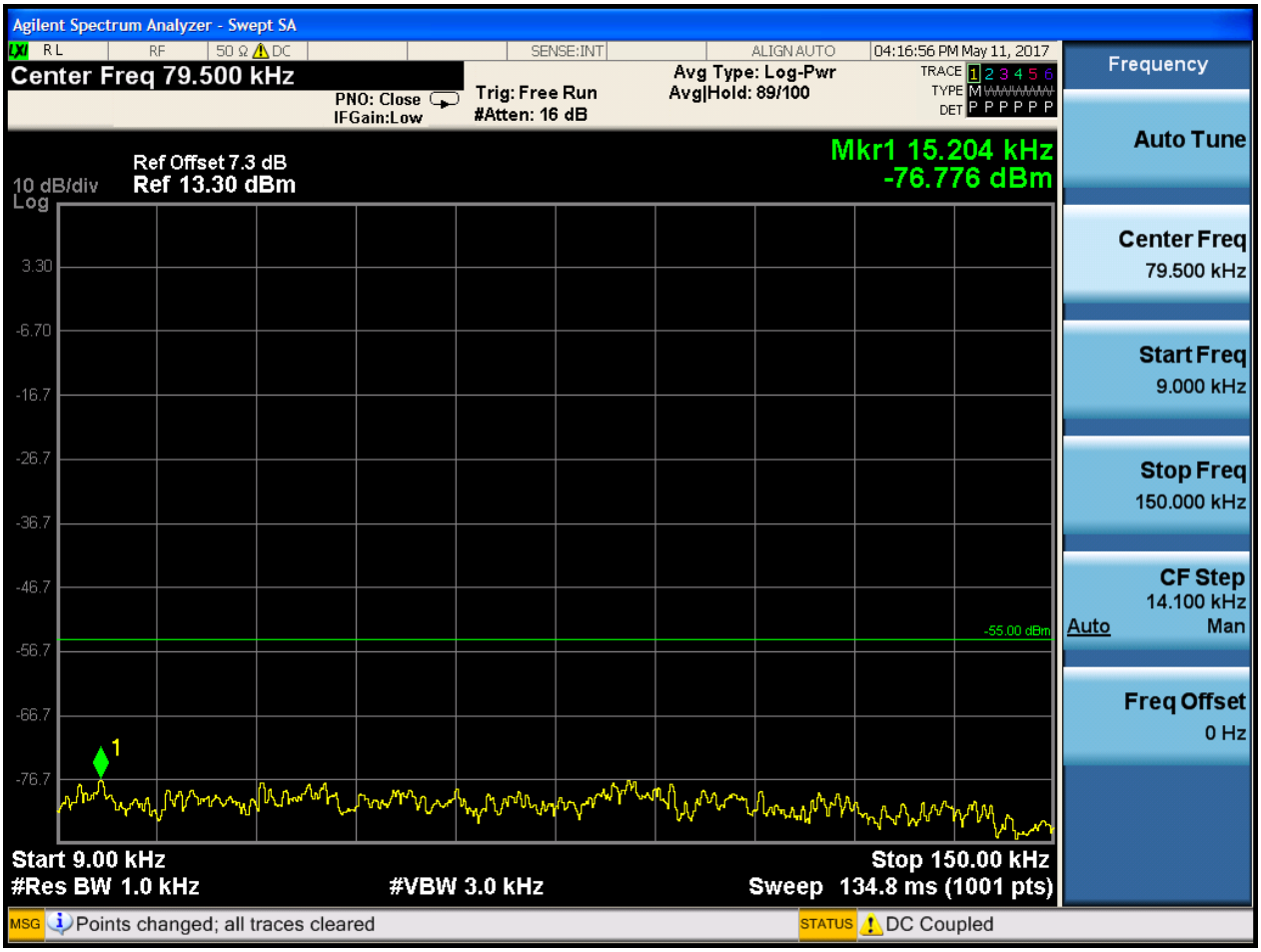


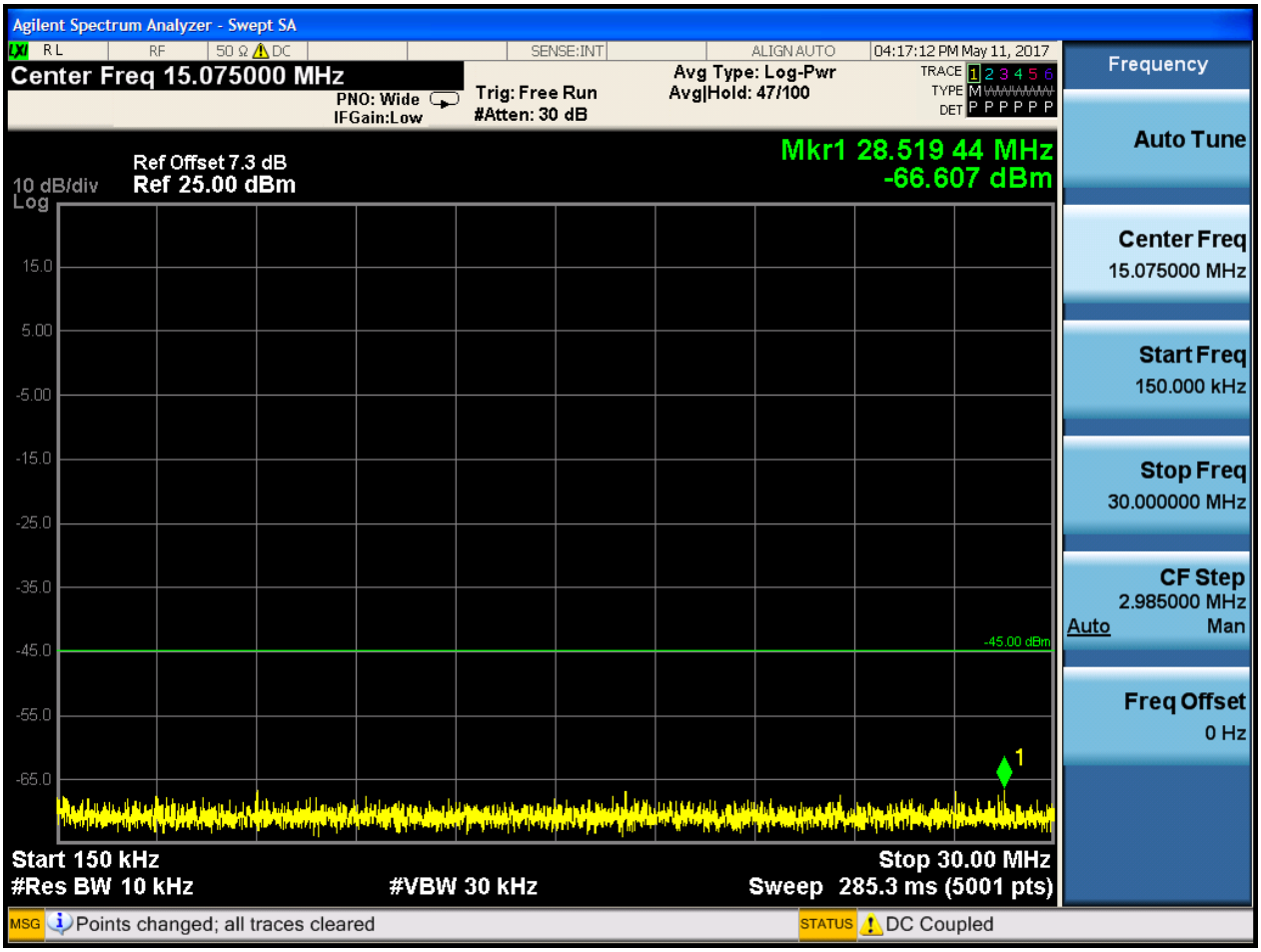


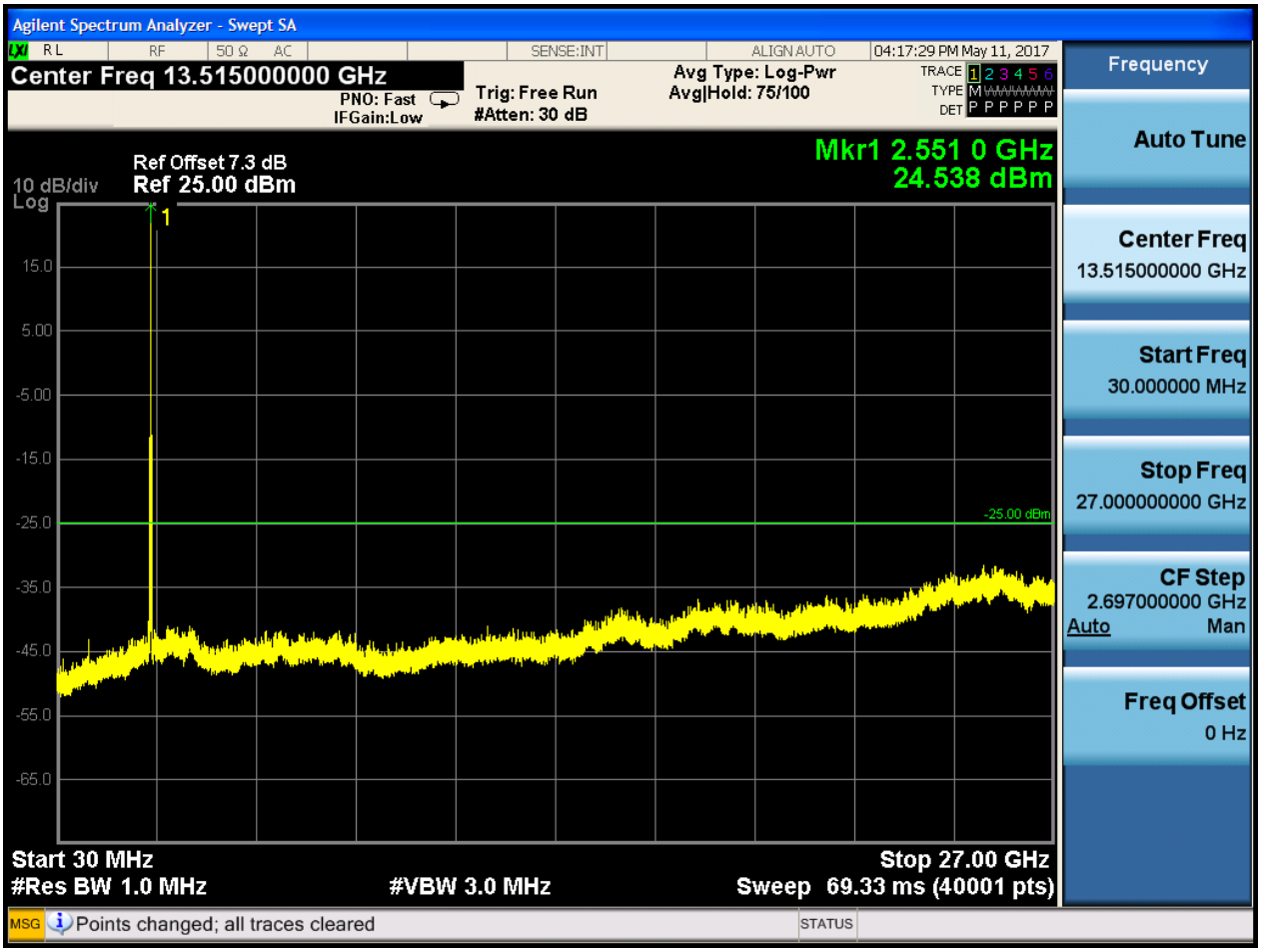


6.1.1.2.4.3 Test Channel = HCH

6.1.1.2.4.3.1 Test RB = RB1#0







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

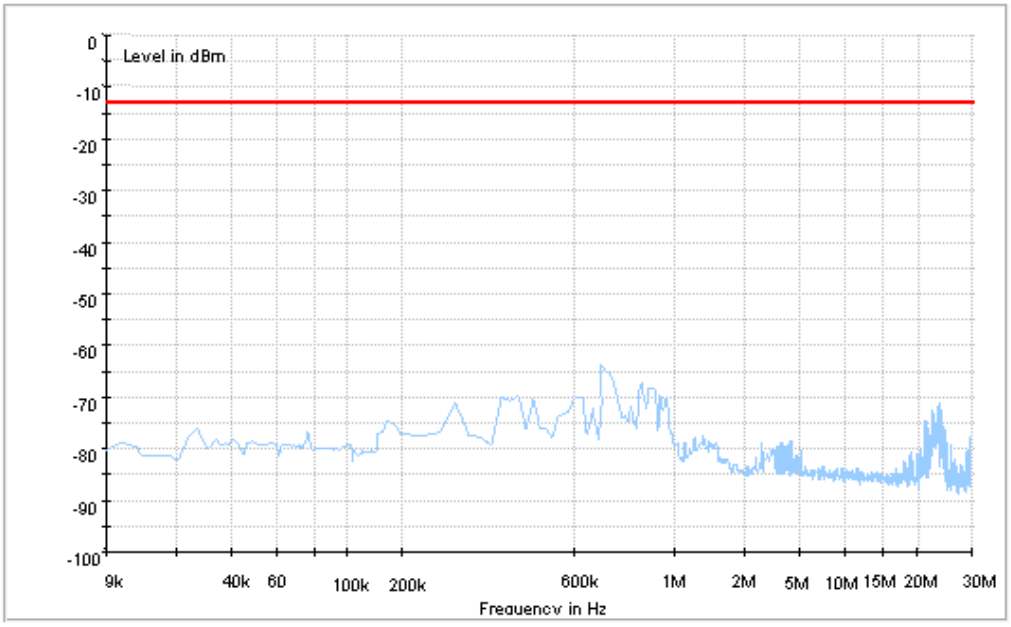
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

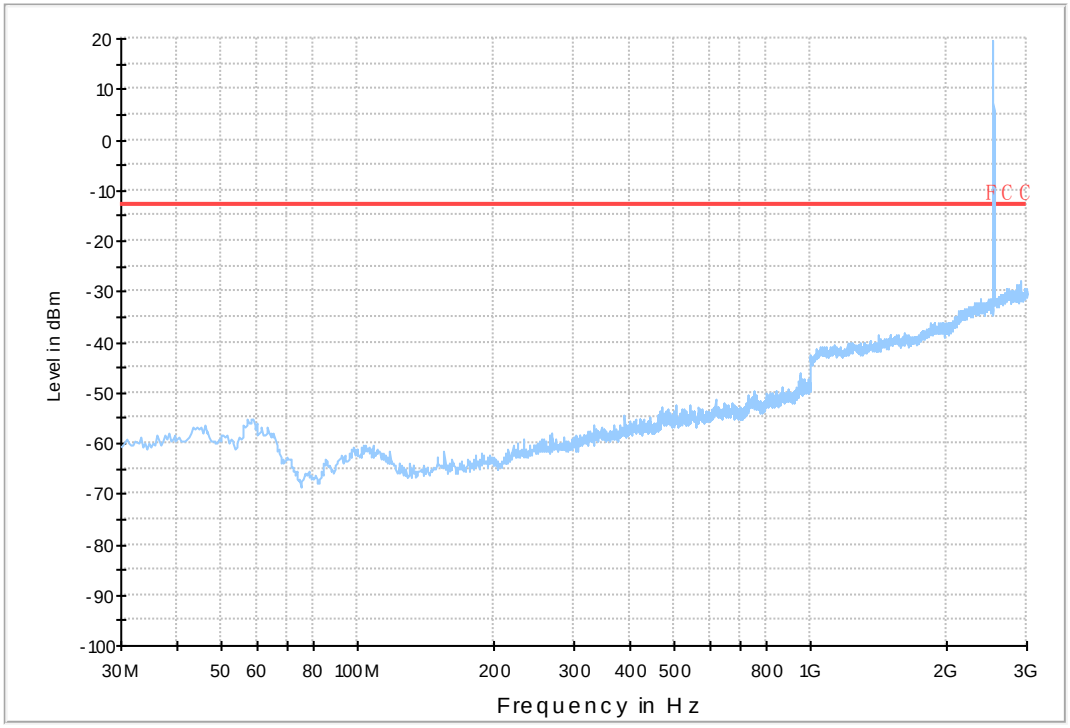
7.1 For LTE

7.1.1 Test Band = BAND7_ANT1

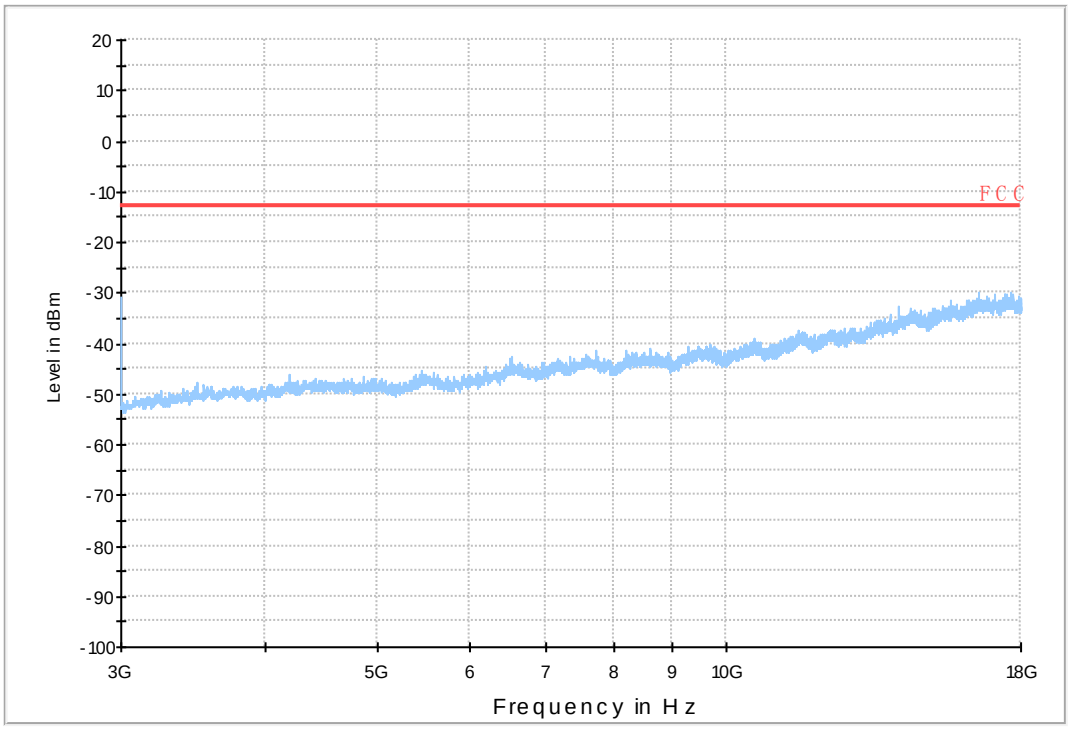
7.1.1.1 Test Bandwidth = 5

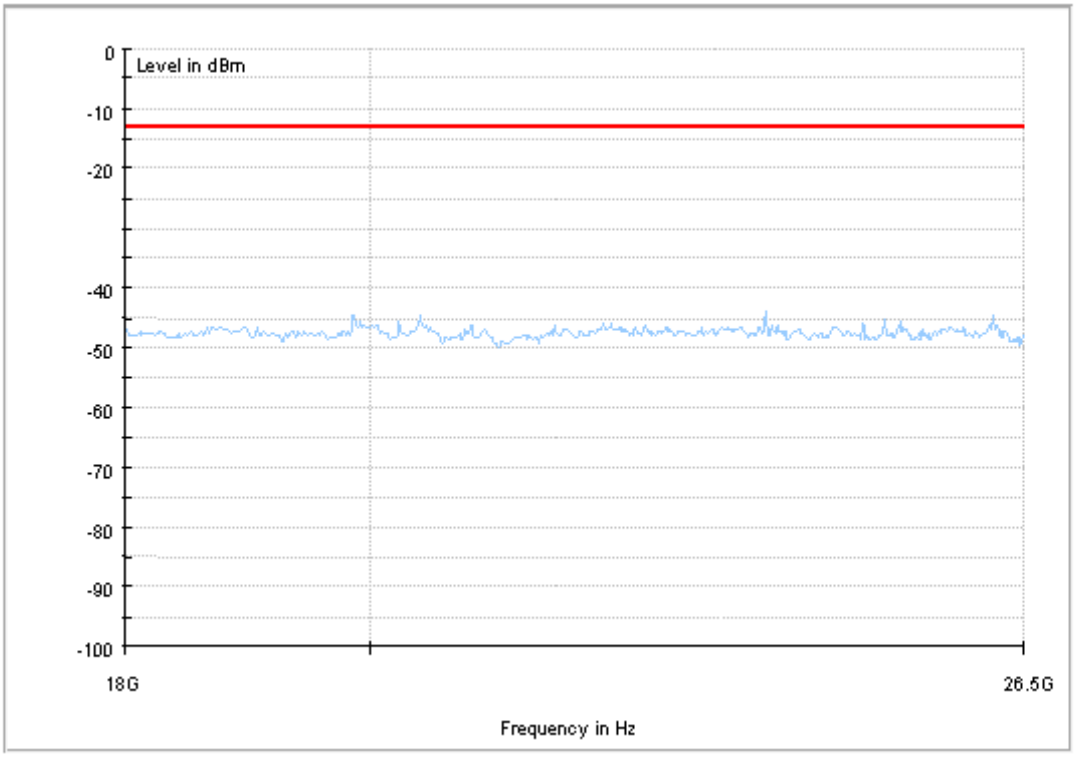


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L

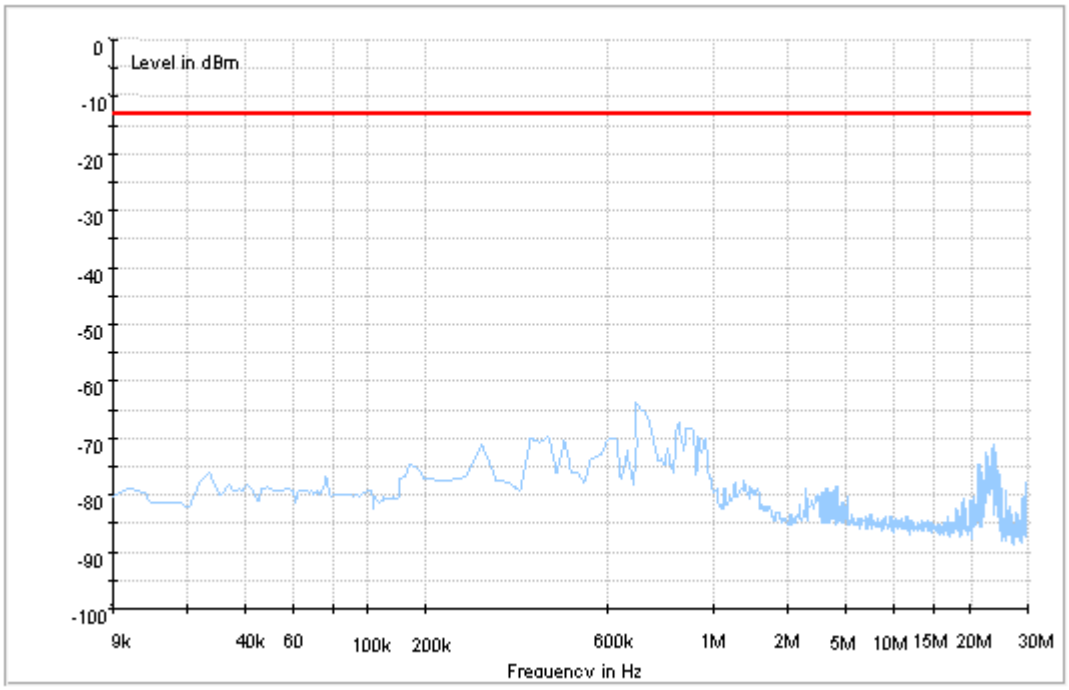


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H

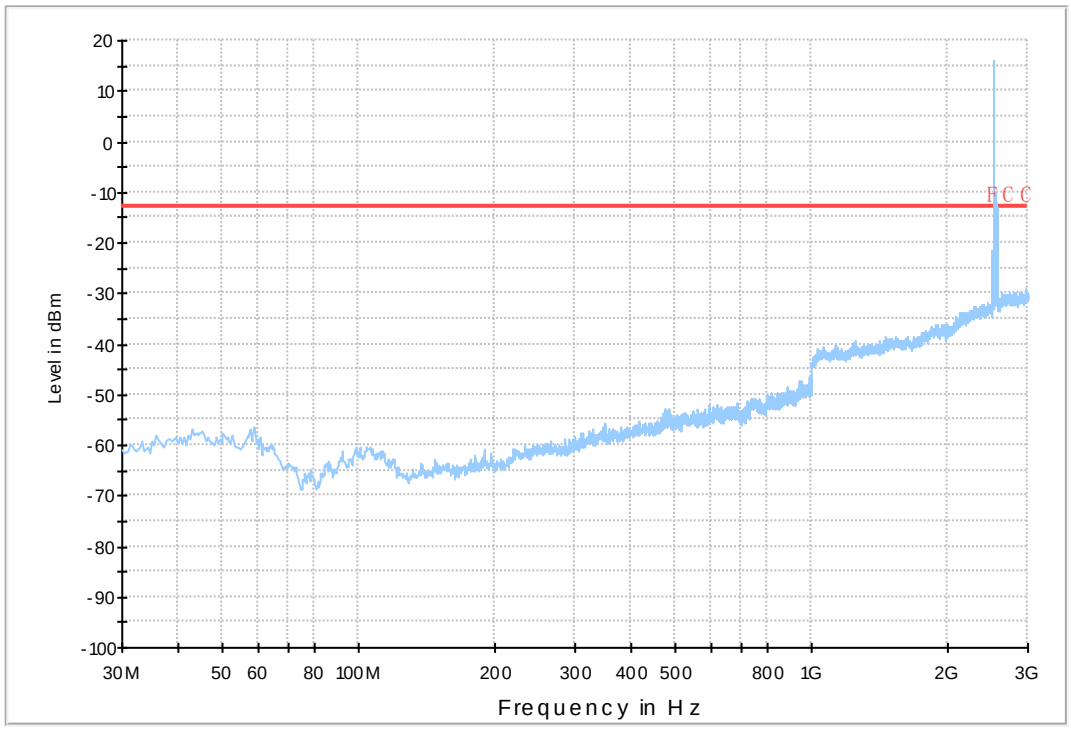




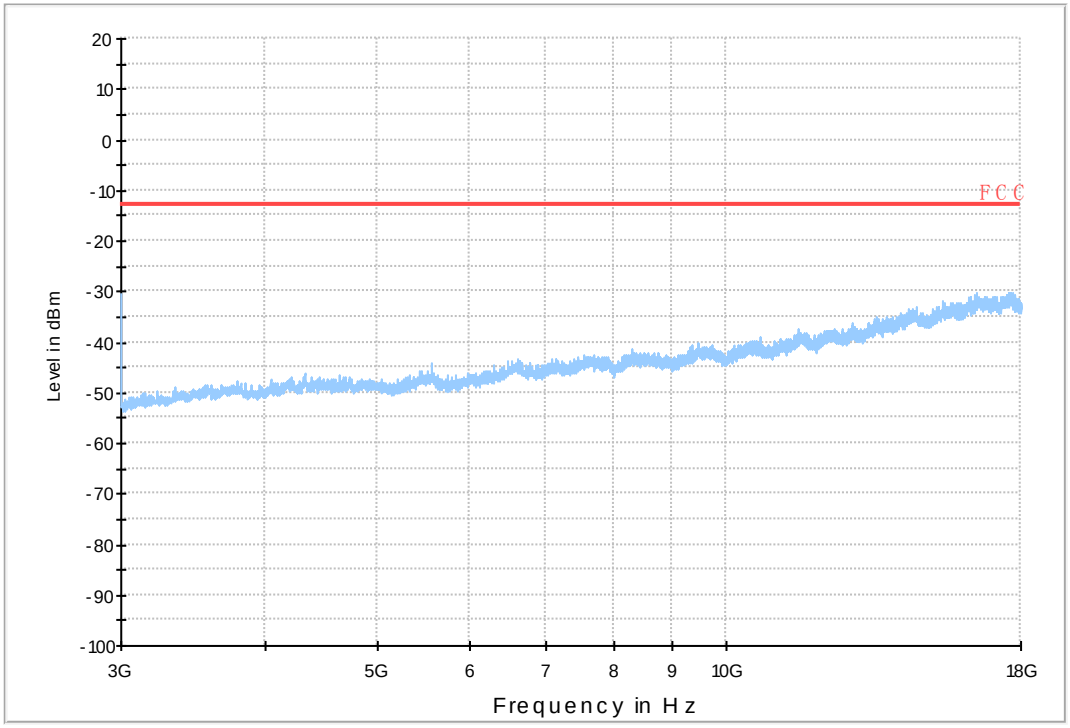
7.1.1.2 Test Bandwidth = 20

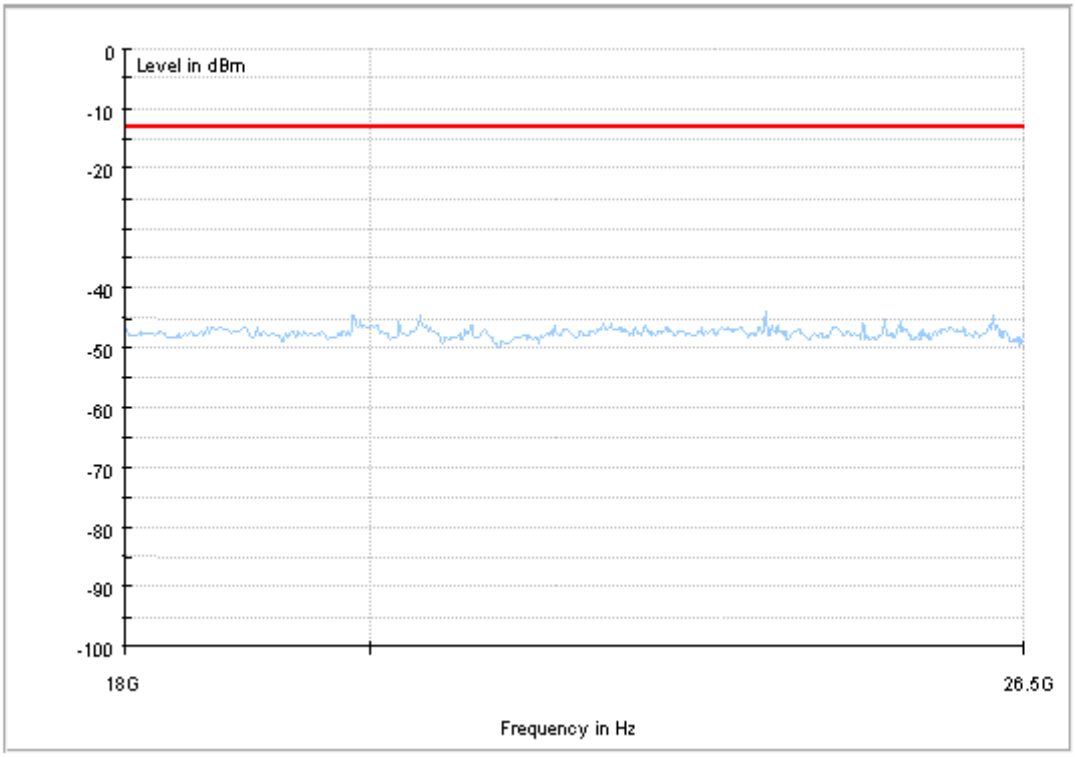


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L



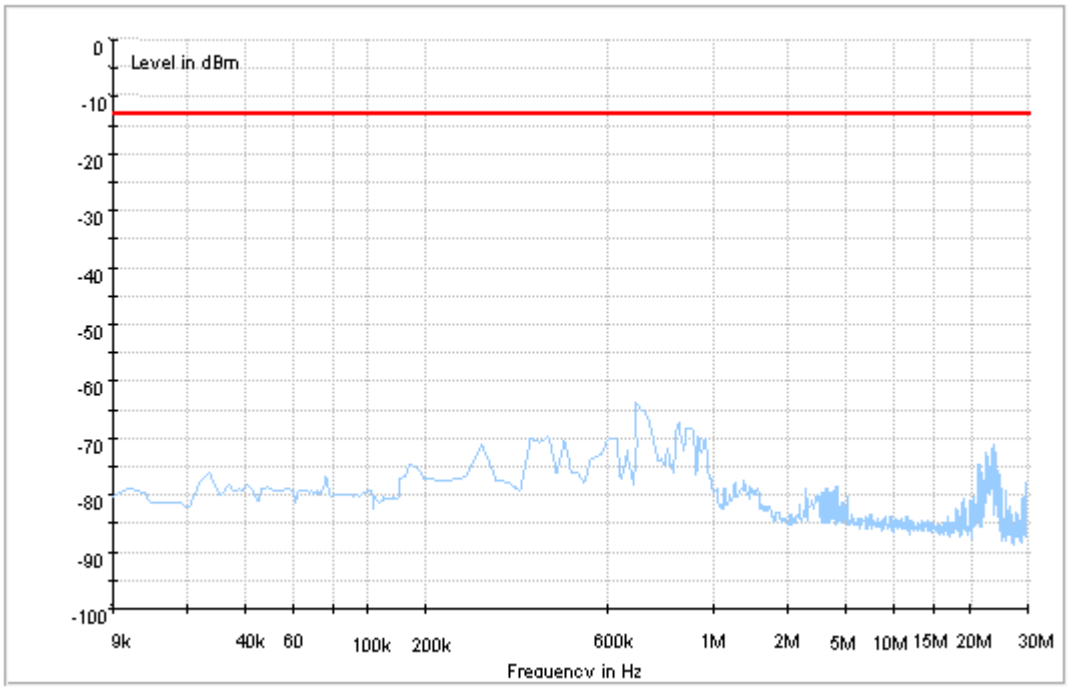
Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H



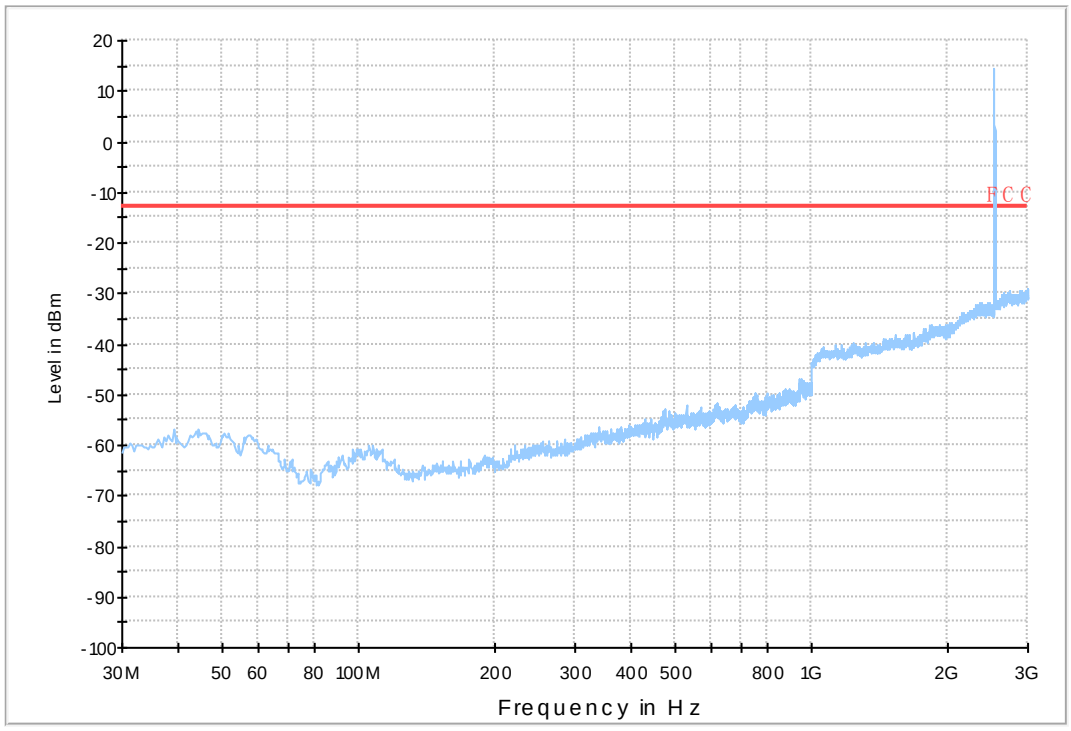


7.2.1 Test Band = BAND7_ANT2

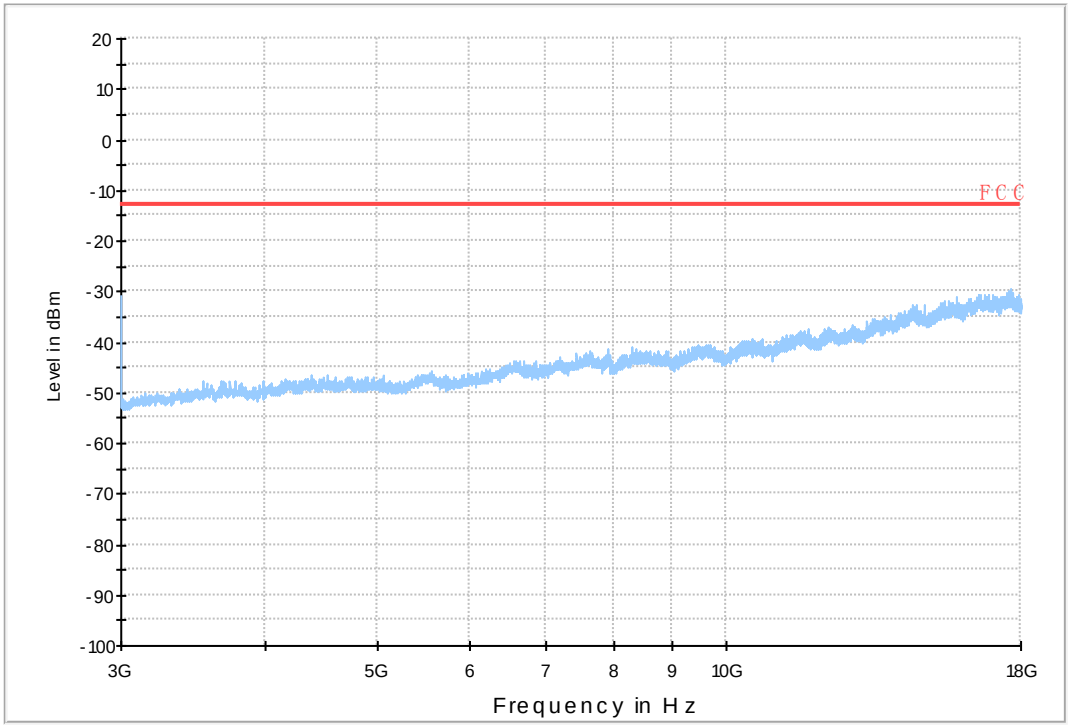
7.2.1.1 Test Bandwidth = 5

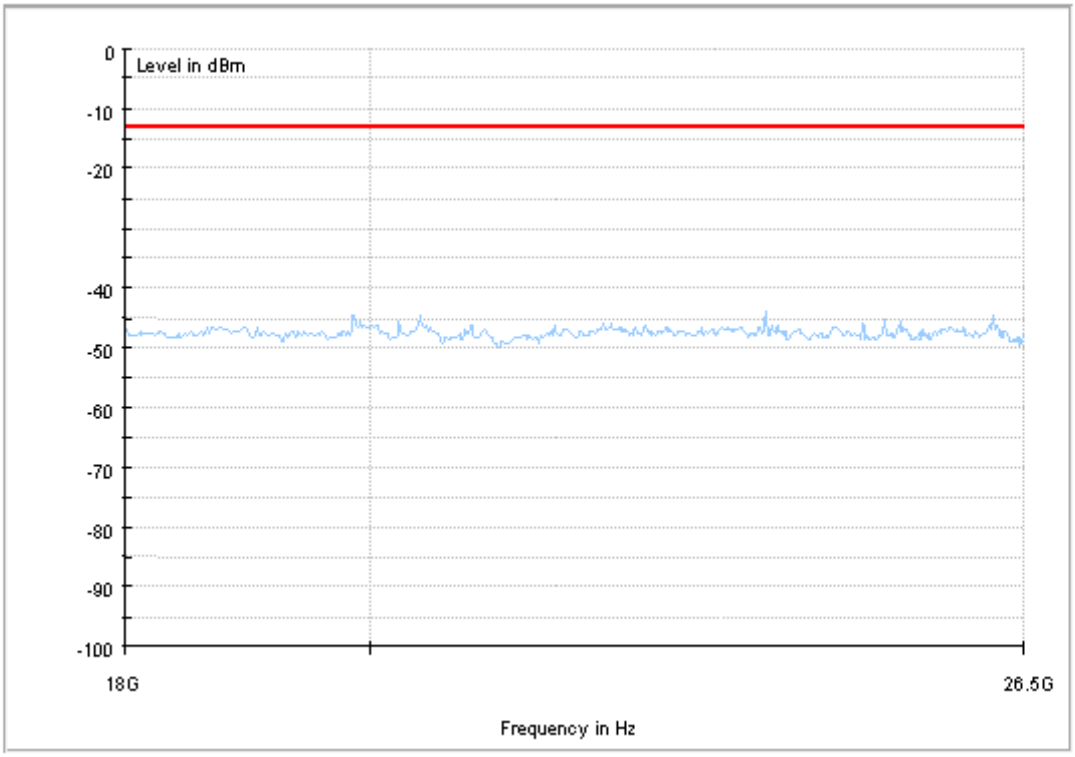


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L

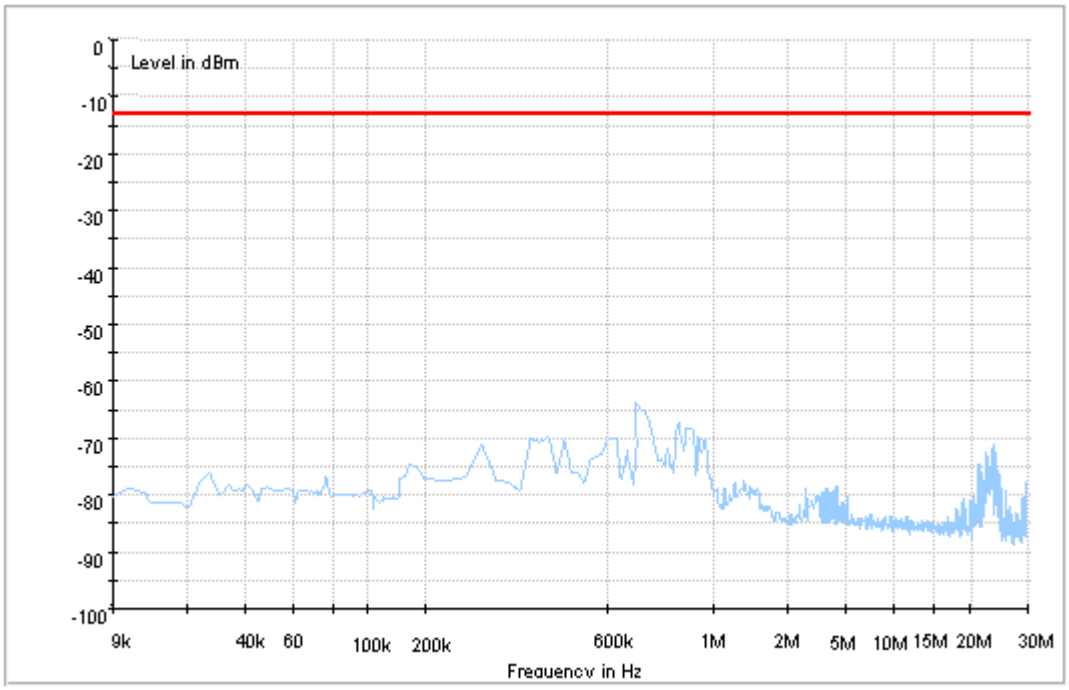


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H

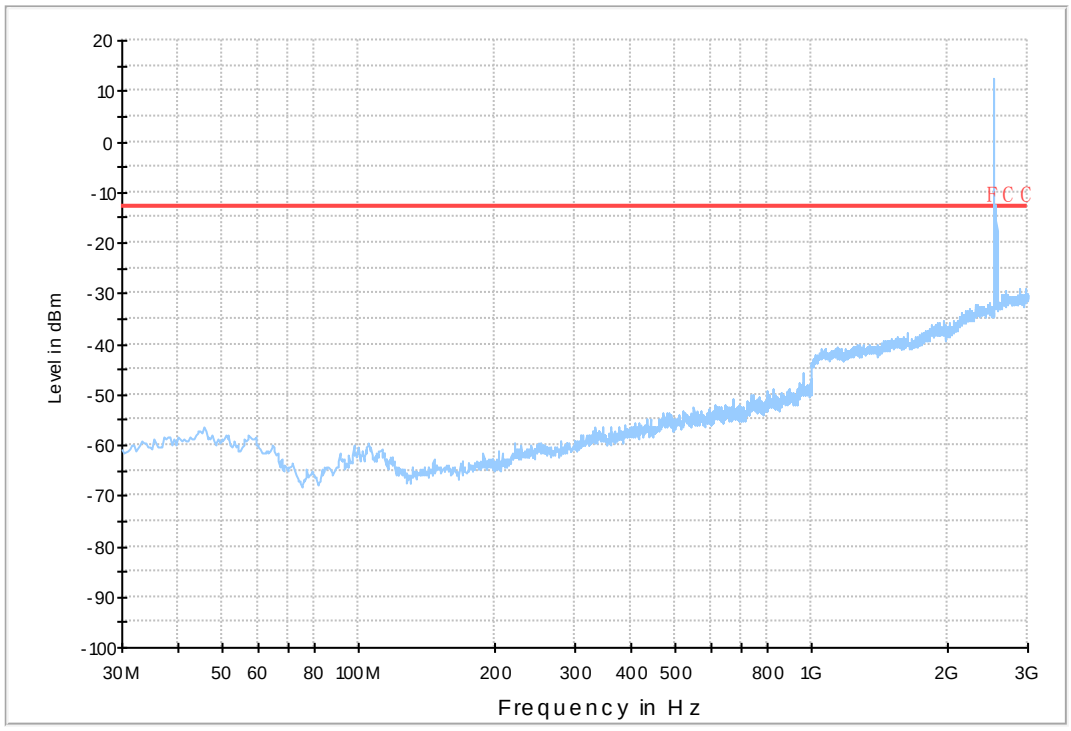




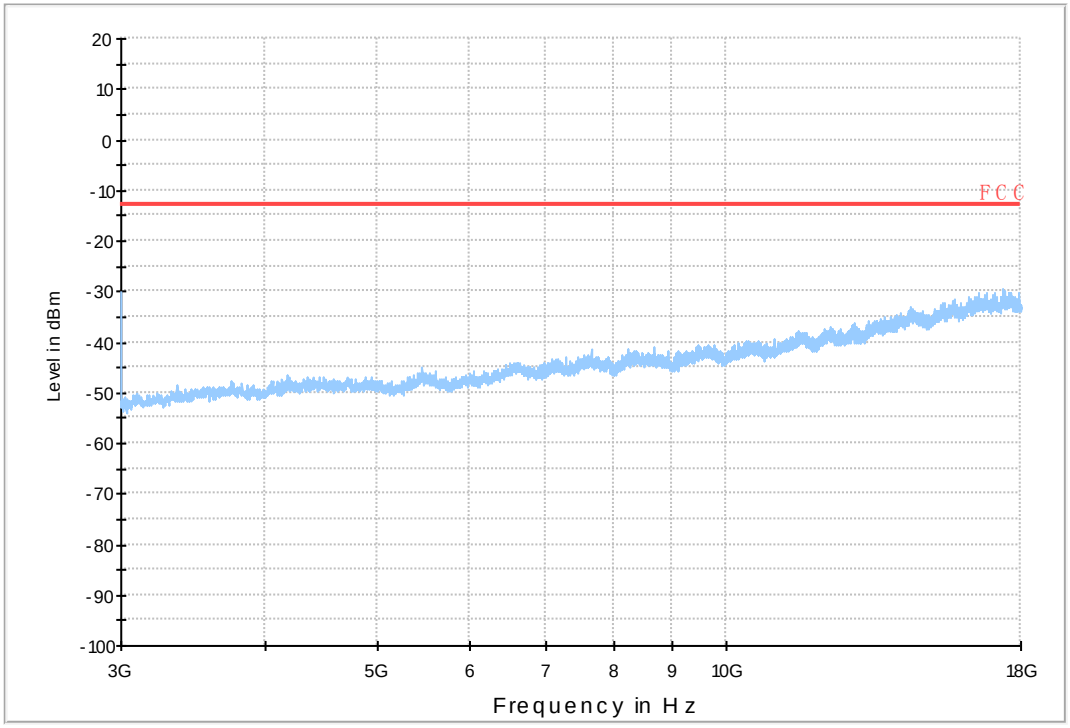
7.2.1.2 Test Bandwidth = 20

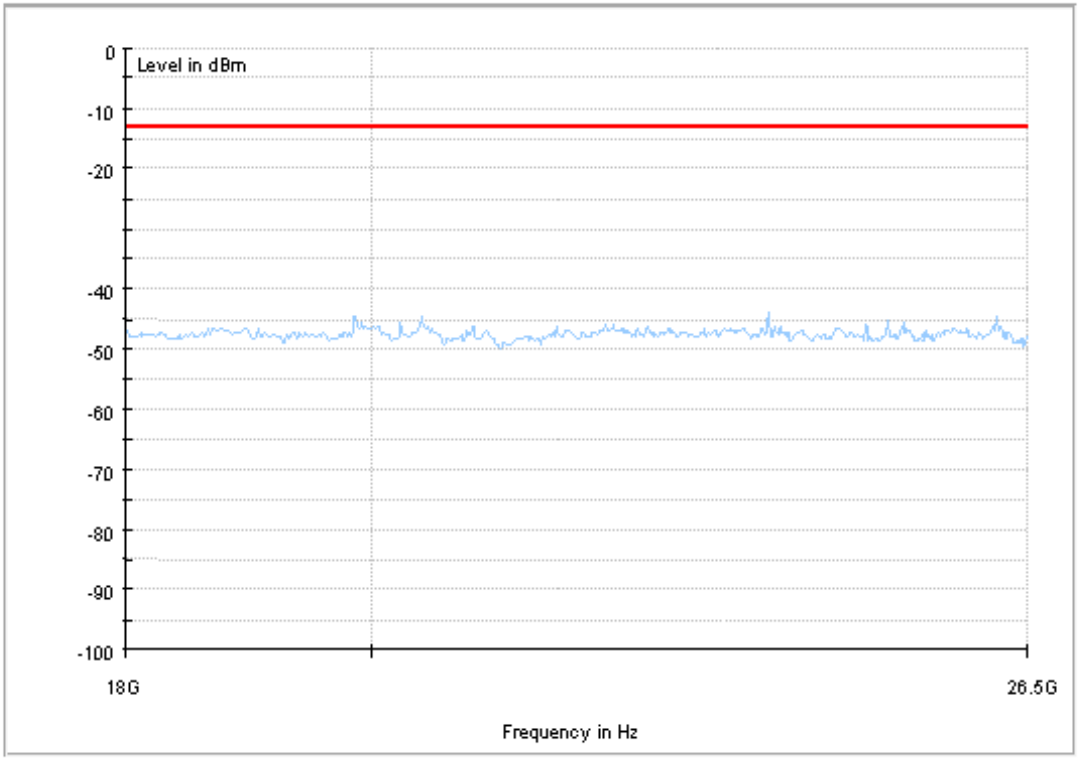


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L



Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H





8Appendix_H: Frequency Stability

8.1 For LTE

8.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND7	LTE/TM1	5	LCH	TN	VL	2.09	0.00084	PASS
					VN	1.83	0.00073	PASS
					VH	2.96	0.00118	PASS
			MCH	TN	VL	2.45	0.00097	PASS
					VN	-1.95	-0.00077	PASS
					VH	-1.73	-0.00068	PASS
			HCH	TN	VL	0.79	0.00031	PASS
					VN	-0.26	-0.0001	PASS
					VH	-6.14	-0.00239	PASS
		10	LCH	TN	VL	-3.89	-0.00155	PASS
					VN	-2.66	-0.00106	PASS
					VH	0.44	0.00018	PASS
			MCH	TN	VL	-1.03	-0.00041	PASS
					VN	-1.00	-0.00039	PASS
					VH	-0.16	-0.00006	PASS
			HCH	TN	VL	1.79	0.0007	PASS
					VN	-4.89	-0.00191	PASS
					VH	-0.31	-0.00012	PASS
		15	LCH	TN	VL	-1.83	-0.00073	PASS
					VN	-0.80	-0.00032	PASS
					VH	-0.66	-0.00026	PASS
			MCH	TN	VL	0.21	0.00008	PASS
					VN	1.24	0.00049	PASS
					VH	1.50	0.00059	PASS
			HCH	TN	VL	-2.40	-0.00094	PASS
					VN	3.12	0.00122	PASS
					VH	-2.83	-0.0011	PASS
		20	LCH	TN	VL	-2.73	-0.00109	PASS
					VN	-1.59	-0.00063	PASS
					VH	-1.12	-0.00045	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			MCH	TN	VL	-2.55	-0.00101	PASS
					VN	0.10	0.00004	PASS
					VH	-1.09	-0.00043	PASS
			HCH	TN	VL	-0.83	-0.00032	PASS
					VN	-0.10	-0.00004	PASS
					VH	-0.34	-0.00013	PASS
	LTE/TM2	5	LCH	TN	VL	-15.31	-0.00612	PASS
					VN	-2.90	-0.00116	PASS
					VH	-1.60	-0.00064	PASS
			MCH	TN	VL	-5.81	-0.00229	PASS
					VN	-1.32	-0.00052	PASS
					VH	2.26	0.00089	PASS
			HCH	TN	VL	-0.80	-0.00031	PASS
					VN	-2.33	-0.00091	PASS
					VH	-3.59	-0.0014	PASS
		10	LCH	TN	VL	-2.46	-0.00098	PASS
					VN	0.41	0.00016	PASS
					VH	-4.05	-0.00162	PASS
			MCH	TN	VL	-3.25	-0.00128	PASS
					VN	-1.14	-0.00045	PASS
					VH	-4.56	-0.0018	PASS
			HCH	TN	VL	0.72	0.00028	PASS
					VN	-0.79	-0.00031	PASS
					VH	-1.07	-0.00042	PASS
		15	LCH	TN	VL	0.20	0.00008	PASS
					VN	-1.22	-0.00049	PASS
					VH	-1.80	-0.00072	PASS
			MCH	TN	VL	2.99	0.00118	PASS
					VN	-1.06	-0.00042	PASS
					VH	-1.62	-0.00064	PASS
			HCH	TN	VL	-0.82	-0.00032	PASS
					VN	-2.80	-0.00109	PASS
					VH	-0.66	-0.00026	PASS
		20	LCH	TN	VL	-1.89	-0.00075	PASS
					VN	0.56	0.00022	PASS
					VH	0.50	0.0002	PASS
			MCH	TN	VL	-0.09	-0.00004	PASS
					VN	1.70	0.00067	PASS
					VH	0.64	0.00025	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			HCH	TN	VL	-0.74	-0.00029	PASS
					VN	-0.89	-0.00035	PASS
					VH	-0.09	-0.00004	PASS

8.1.2Frequency Error vs. Temperature:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND7	LTE/TM1	5	LCH	VN	-30	-5.08	-0.00203	PASS
					-20	2.39	0.00096	PASS
					-10	2.09	0.00084	PASS
					0	1.34	0.00054	PASS
					10	-2.92	-0.00117	PASS
					20	0.93	0.00037	PASS
					30	-1.12	-0.00045	PASS
					40	-2.56	-0.00102	PASS
					50	1.56	0.00062	PASS
			MCH	VN	-30	-0.20	-0.00008	PASS
					-20	-3.10	-0.00122	PASS
					-10	0.46	0.00018	PASS
					0	-0.17	-0.00007	PASS
					10	-4.63	-0.00183	PASS
					20	0.13	0.00005	PASS
					30	-0.79	-0.00031	PASS
					40	-0.27	-0.00011	PASS
					50	-1.34	-0.00053	PASS
			HCH	VN	-30	-3.03	-0.00118	PASS
					-20	-1.85	-0.00072	PASS
					-10	-5.92	-0.00231	PASS
					0	0.00	0	PASS
					10	-5.12	-0.00199	PASS
					20	-0.76	-0.0003	PASS
					30	0.29	0.00011	PASS
					40	-3.02	-0.00118	PASS
					50	-0.43	-0.00017	PASS
		10	LCH	VN	-30	-0.36	-0.00014	PASS
					-20	1.37	0.00055	PASS
					-10	1.52	0.00061	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					0	-2.40	-0.00096	PASS
					10	0.70	0.00028	PASS
					20	-6.02	-0.0024	PASS
					30	0.63	0.00025	PASS
					40	0.13	0.00005	PASS
					50	-2.03	-0.00081	PASS
			MCH	VN	-30	-2.52	-0.00099	PASS
					-20	-2.26	-0.00089	PASS
					-10	-0.53	-0.00021	PASS
					0	-1.60	-0.00063	PASS
					10	0.70	0.00028	PASS
					20	-2.42	-0.00095	PASS
					30	-2.98	-0.00118	PASS
					40	-0.79	-0.00031	PASS
					50	0.09	0.00004	PASS
			HCH	VN	-30	-1.14	-0.00044	PASS
					-20	-1.02	-0.0004	PASS
					-10	-0.84	-0.00033	PASS
					0	0.29	0.00011	PASS
					10	-2.20	-0.00086	PASS
					20	-3.66	-0.00143	PASS
					30	-2.49	-0.00097	PASS
					40	-1.44	-0.00056	PASS
					50	-1.92	-0.00075	PASS
		15	LCH	VN	-30	-3.62	-0.00144	PASS
					-20	-1.72	-0.00069	PASS
					-10	-3.83	-0.00153	PASS
					0	-2.80	-0.00112	PASS
					10	-0.73	-0.00029	PASS
					20	0.09	0.00004	PASS
					30	-0.01	0	PASS
					40	-2.02	-0.00081	PASS
					50	-0.83	-0.00033	PASS
			MCH	VN	-30	2.43	0.00096	PASS
					-20	-0.90	-0.00036	PASS
					-10	0.93	0.00037	PASS
					0	-1.86	-0.00073	PASS
					10	-3.16	-0.00125	PASS
					20	-1.93	-0.00076	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					30	1.20	0.00047	PASS
					40	-0.39	-0.00015	PASS
					50	-0.62	-0.00024	PASS
			HCH	VN	-30	-1.39	-0.00054	PASS
					-20	-3.33	-0.0013	PASS
					-10	0.19	0.00007	PASS
					0	0.59	0.00023	PASS
					10	-1.85	-0.00072	PASS
					20	-2.17	-0.00085	PASS
					30	-1.67	-0.00065	PASS
					40	-1.77	-0.00069	PASS
					50	-1.65	-0.00064	PASS
		20	LCH	VN	-30	-1.07	-0.00043	PASS
					-20	-1.87	-0.00075	PASS
					-10	-2.45	-0.00098	PASS
					0	-0.36	-0.00014	PASS
					10	-1.22	-0.00049	PASS
					20	-2.12	-0.00084	PASS
					30	-0.57	-0.00023	PASS
					40	-1.43	-0.00057	PASS
					50	-1.76	-0.0007	PASS
			MCH	VN	-30	-0.33	-0.00013	PASS
					-20	-1.17	-0.00046	PASS
					-10	-0.57	-0.00022	PASS
					0	-1.75	-0.00069	PASS
					10	0.64	0.00025	PASS
					20	-0.80	-0.00032	PASS
					30	-0.51	-0.0002	PASS
					40	-1.56	-0.00062	PASS
					50	-0.77	-0.0003	PASS
			HCH	VN	-30	-1.27	-0.0005	PASS
					-20	0.69	0.00027	PASS
					-10	-0.09	-0.00004	PASS
					0	-2.73	-0.00107	PASS
					10	1.67	0.00065	PASS
					20	-1.19	-0.00046	PASS
					30	-0.54	-0.00021	PASS
					40	1.52	0.00059	PASS
					50	-0.67	-0.00026	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM2	5	LCH	VN	-30	0.46	0.00018	PASS
					-20	-4.49	-0.00179	PASS
					-10	-4.92	-0.00197	PASS
					0	-5.82	-0.00233	PASS
					10	-1.17	-0.00047	PASS
					20	-0.21	-0.00008	PASS
					30	2.92	0.00117	PASS
					40	-2.68	-0.00107	PASS
					50	-4.43	-0.00177	PASS
			MCH	VN	-30	2.39	0.00094	PASS
					-20	4.63	0.00183	PASS
					-10	2.85	0.00112	PASS
					0	4.95	0.00195	PASS
					10	-0.01	0	PASS
					20	-5.62	-0.00222	PASS
					30	-5.14	-0.00203	PASS
					40	1.32	0.00052	PASS
					50	-0.03	-0.00001	PASS
			HCH	VN	-30	-0.53	-0.00021	PASS
					-20	2.22	0.00086	PASS
					-10	0.21	0.00008	PASS
					0	0.06	0.00002	PASS
					10	-7.50	-0.00292	PASS
					20	-2.55	-0.00099	PASS
					30	-3.92	-0.00153	PASS
					40	0.29	0.00011	PASS
					50	-0.37	-0.00014	PASS
		10	LCH	VN	-30	-1.56	-0.00062	PASS
					-20	2.03	0.00081	PASS
					-10	0.06	0.00002	PASS
					0	2.23	0.00089	PASS
					10	-3.56	-0.00142	PASS
					20	1.37	0.00055	PASS
					30	-0.29	-0.00012	PASS
					40	1.44	0.00057	PASS
					50	-0.49	-0.0002	PASS
			MCH	VN	-30	-1.75	-0.00069	PASS
					-20	-2.85	-0.00112	PASS
					-10	-0.70	-0.00028	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					0	2.20	0.00087	PASS
					10	-1.67	-0.00066	PASS
					20	2.10	0.00083	PASS
					30	-0.60	-0.00024	PASS
					40	0.70	0.00028	PASS
					50	2.06	0.00081	PASS
			HCH	VN	-30	-1.19	-0.00046	PASS
					-20	-2.76	-0.00108	PASS
					-10	0.92	0.00036	PASS
					0	1.46	0.00057	PASS
					10	-2.43	-0.00095	PASS
					20	1.54	0.0006	PASS
					30	-0.64	-0.00025	PASS
					40	1.10	0.00043	PASS
					50	-2.10	-0.00082	PASS
		15	LCH	VN	-30	-2.72	-0.00108	PASS
					-20	-1.59	-0.00063	PASS
					-10	-1.02	-0.00041	PASS
					0	-2.12	-0.00085	PASS
					10	-2.13	-0.00085	PASS
					20	-4.73	-0.00189	PASS
					30	-3.25	-0.0013	PASS
					40	-2.30	-0.00092	PASS
					50	-1.09	-0.00043	PASS
			MCH	VN	-30	-1.52	-0.0006	PASS
					-20	0.46	0.00018	PASS
					-10	1.77	0.0007	PASS
					0	-1.22	-0.00048	PASS
					10	-1.86	-0.00073	PASS
					20	-0.37	-0.00015	PASS
					30	0.83	0.00033	PASS
					40	0.00	0	PASS
					50	0.72	0.00028	PASS
			HCH	VN	-30	0.46	0.00018	PASS
					-20	-2.50	-0.00098	PASS
					-10	-3.42	-0.00133	PASS
					0	0.67	0.00026	PASS
					10	-1.46	-0.00057	PASS
					20	-1.92	-0.00075	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					30	-0.46	-0.00018	PASS
					40	-1.03	-0.0004	PASS
					50	-1.69	-0.00066	PASS
		20	LCH	VN	-30	-0.07	-0.00003	PASS
					-20	-0.37	-0.00015	PASS
					-10	-2.09	-0.00083	PASS
					0	-0.13	-0.00005	PASS
					10	1.12	0.00045	PASS
					20	-0.79	-0.00031	PASS
					30	-1.16	-0.00046	PASS
					40	-2.36	-0.00094	PASS
					50	-0.70	-0.00028	PASS
			MCH	VN	-30	-1.63	-0.00064	PASS
					-20	-1.96	-0.00077	PASS
					-10	-1.33	-0.00052	PASS
					0	2.20	0.00087	PASS
					10	-0.31	-0.00012	PASS
					20	1.52	0.0006	PASS
					30	-1.07	-0.00042	PASS
					40	-2.25	-0.00089	PASS
					50	-1.32	-0.00052	PASS
			HCH	VN	-30	-0.64	-0.00025	PASS
					-20	-0.92	-0.00036	PASS
					-10	-0.57	-0.00022	PASS
					0	1.04	0.00041	PASS
					10	-0.37	-0.00014	PASS
					20	-2.63	-0.00103	PASS
					30	-1.12	-0.00044	PASS
					40	0.93	0.00036	PASS
					50	1.09	0.00043	PASS

END