

5.1.1.2.3.1.3 Test RB = RB12#6



5.1.1.2.3.1.4 Test RB = RB25#0



5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0



5.1.1.2.3.2.2 Test RB = RB1#24



5.1.1.2.3.2.3 Test RB = RB12#6



5.1.1.2.3.2.4 Test RB = RB25#0



5.1.1.2.4 Test Bandwidth = 10

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#49



5.1.1.2.4.1.3 Test RB = RB25#13



5.1.1.2.4.1.4 Test RB = RB50#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#49



5.1.1.2.4.2.3 Test RB = RB25#13



5.1.1.2.4.2.4 Test RB = RB50#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 = Band5

6.1.1.1 Test Mode = LTE/TM1

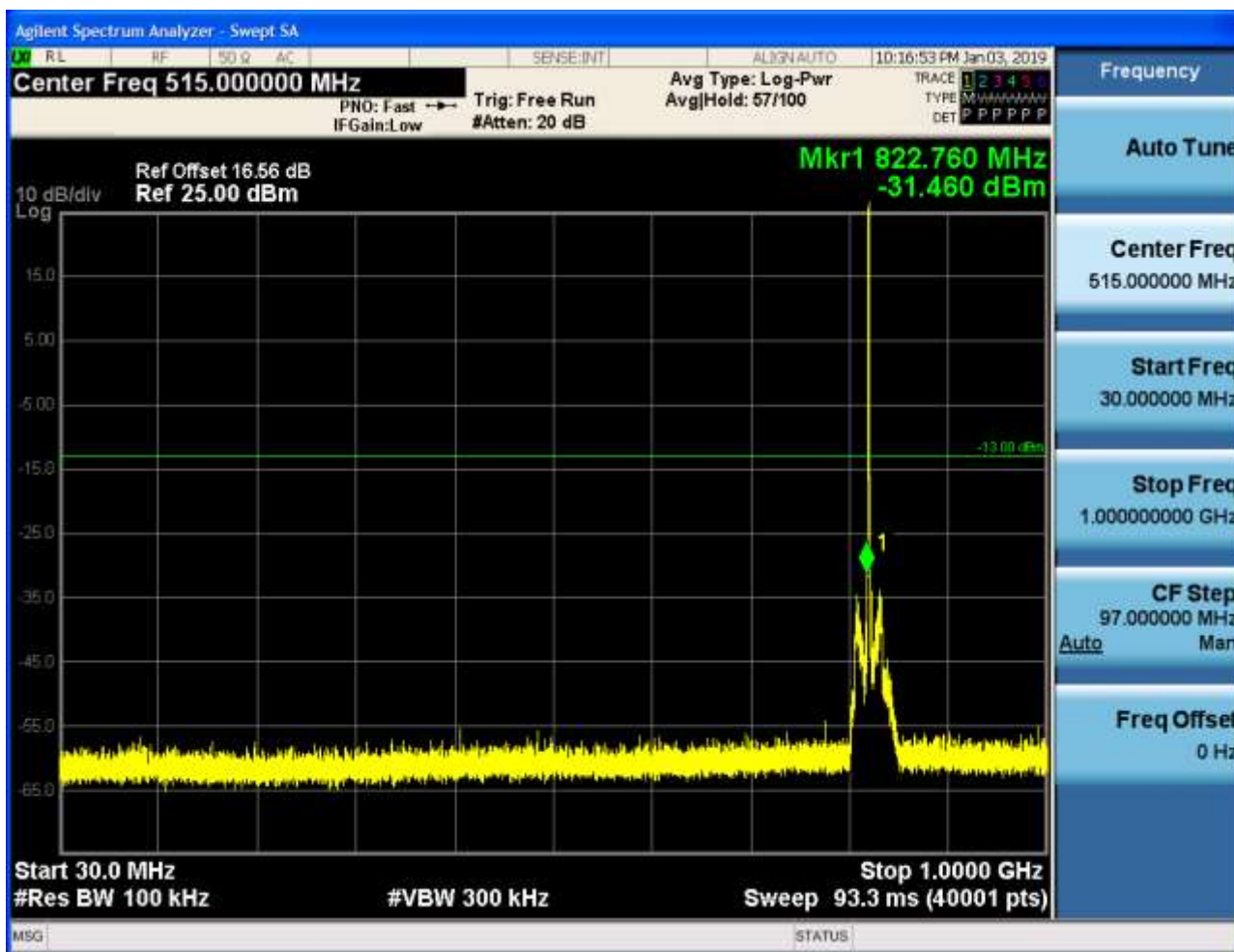
6.1.1.1.1 Test Bandwidth = 1.4

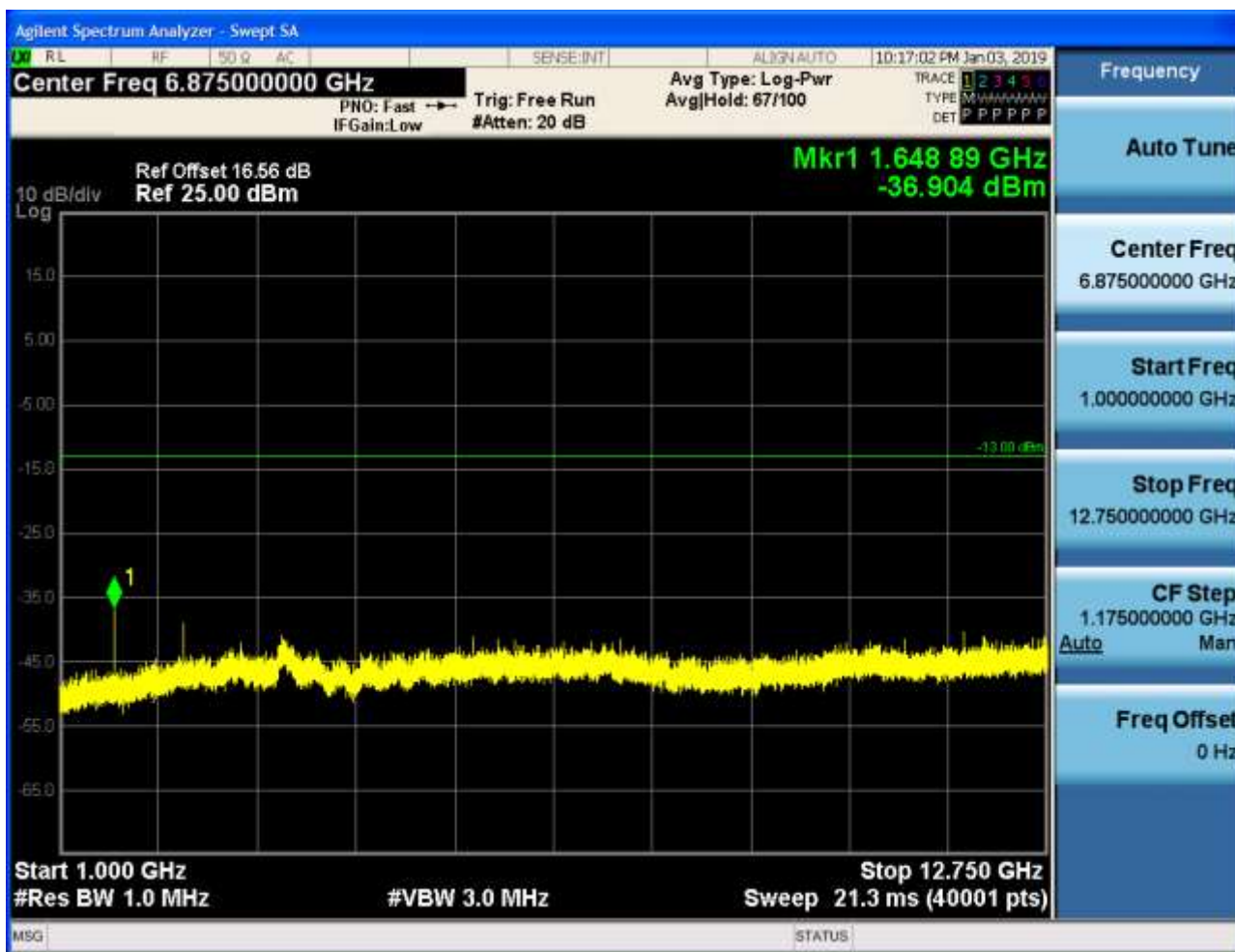
6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0







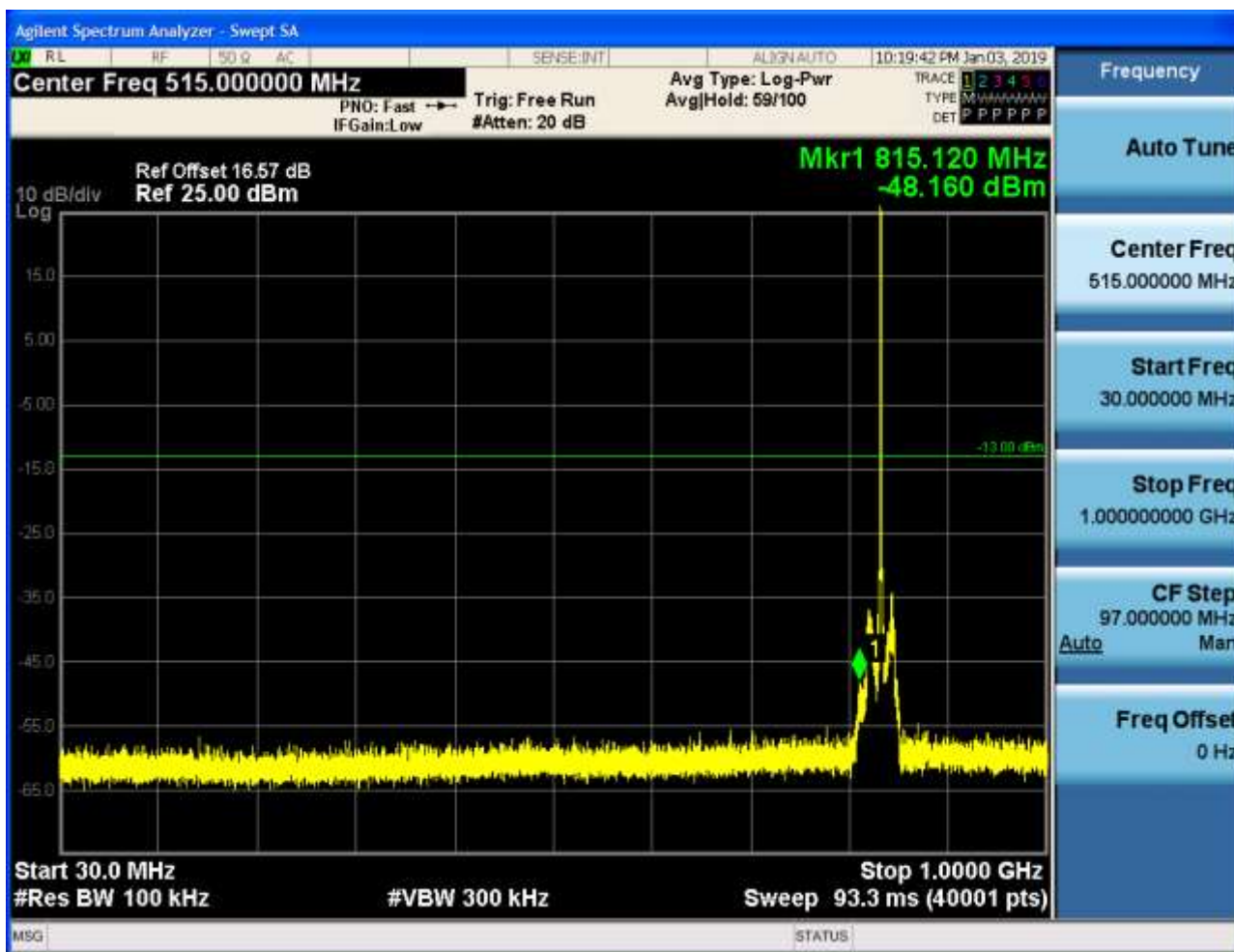


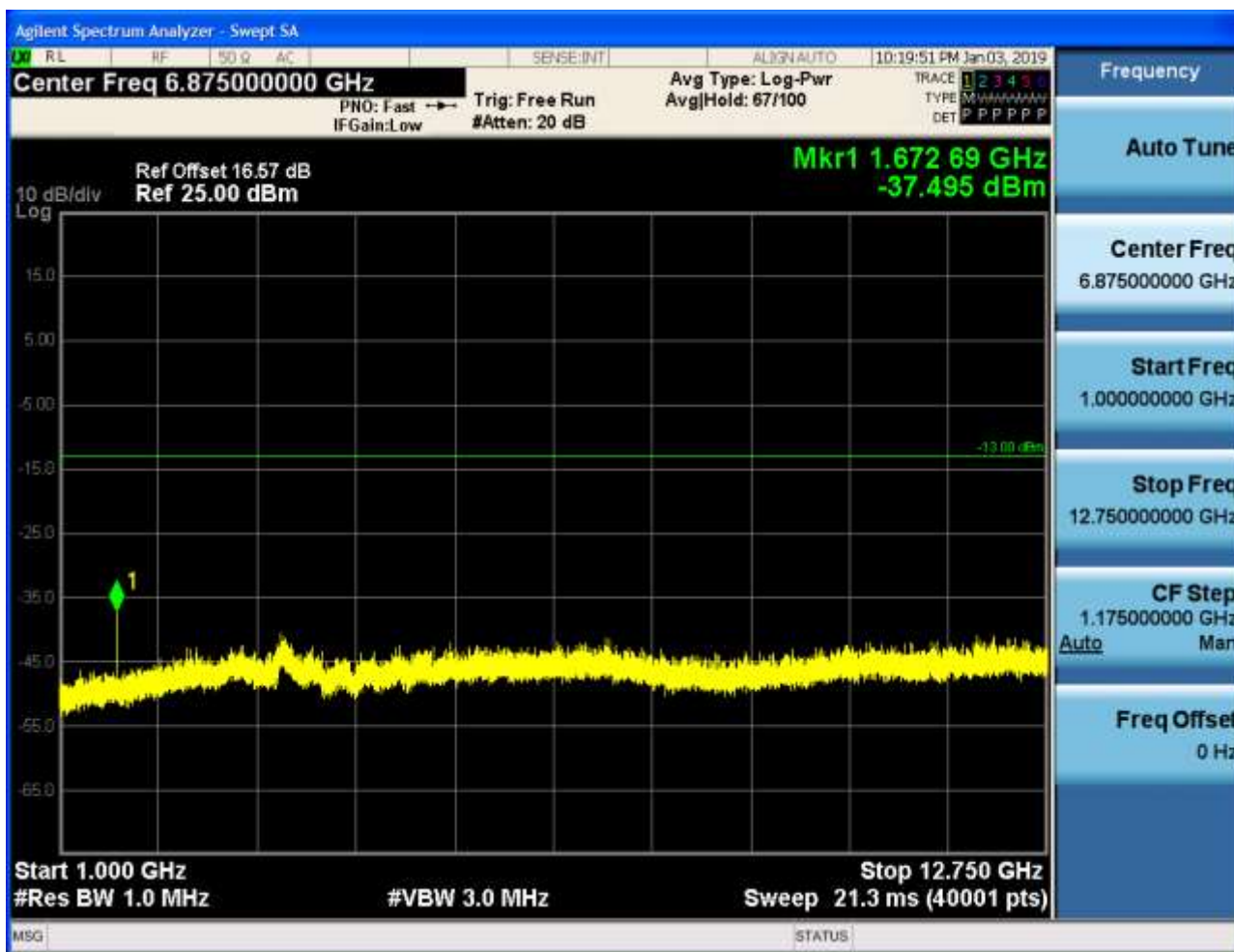
6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0







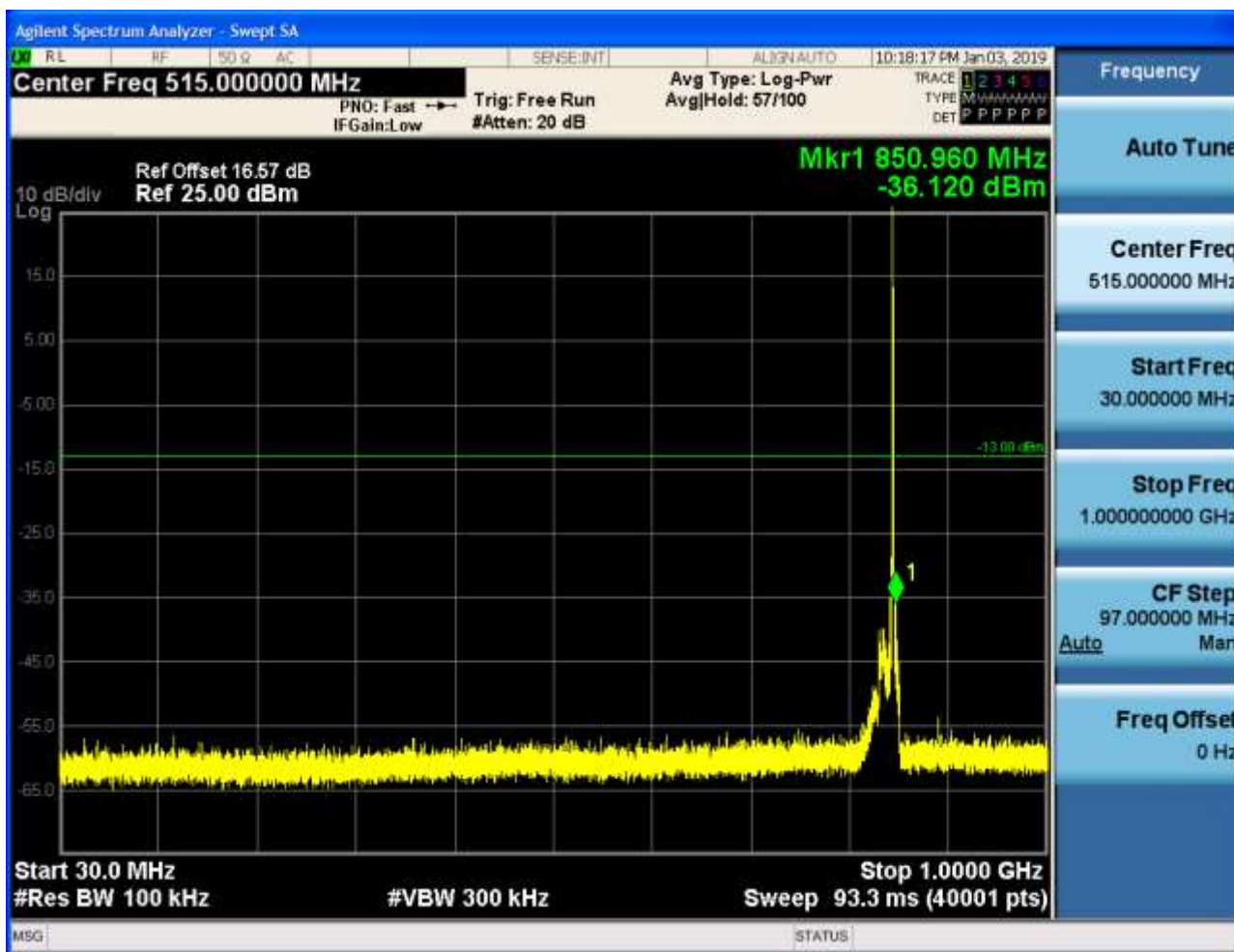


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0









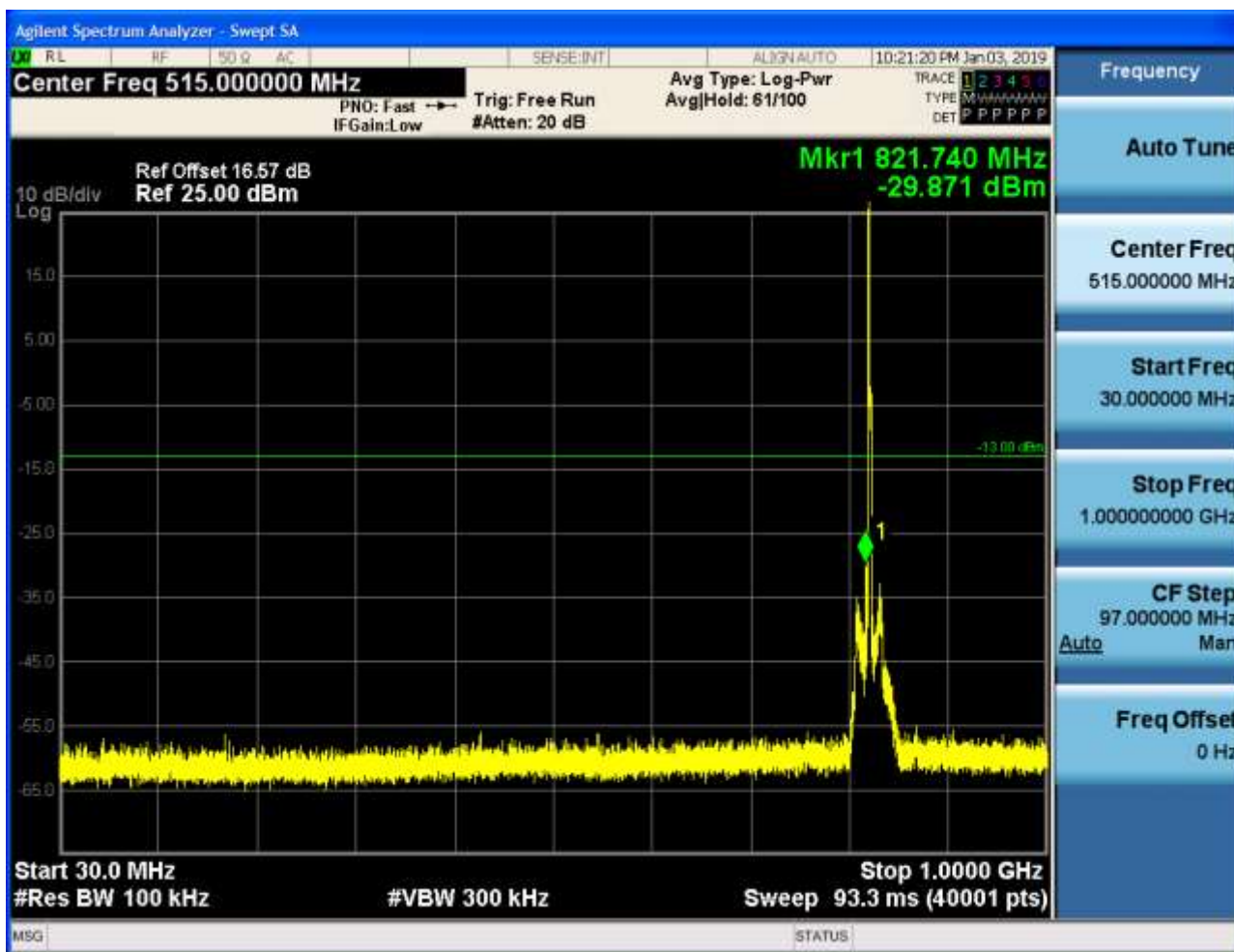
6.2.1.1.2 Test Bandwidth = 3

6.2.1.1.2.1 Test Channel = LCH

6.2.1.1.2.1.1 Test RB = RB1#0







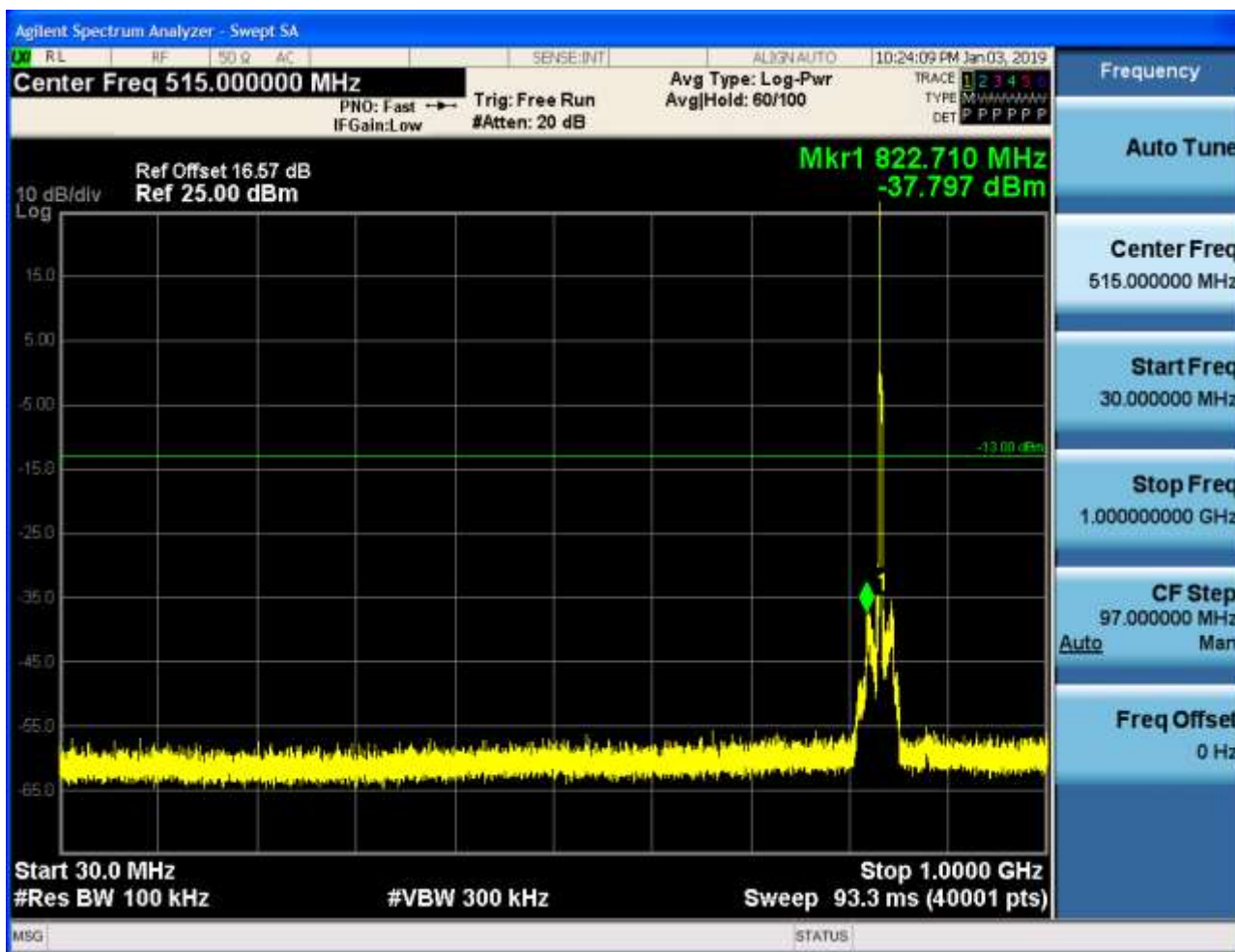


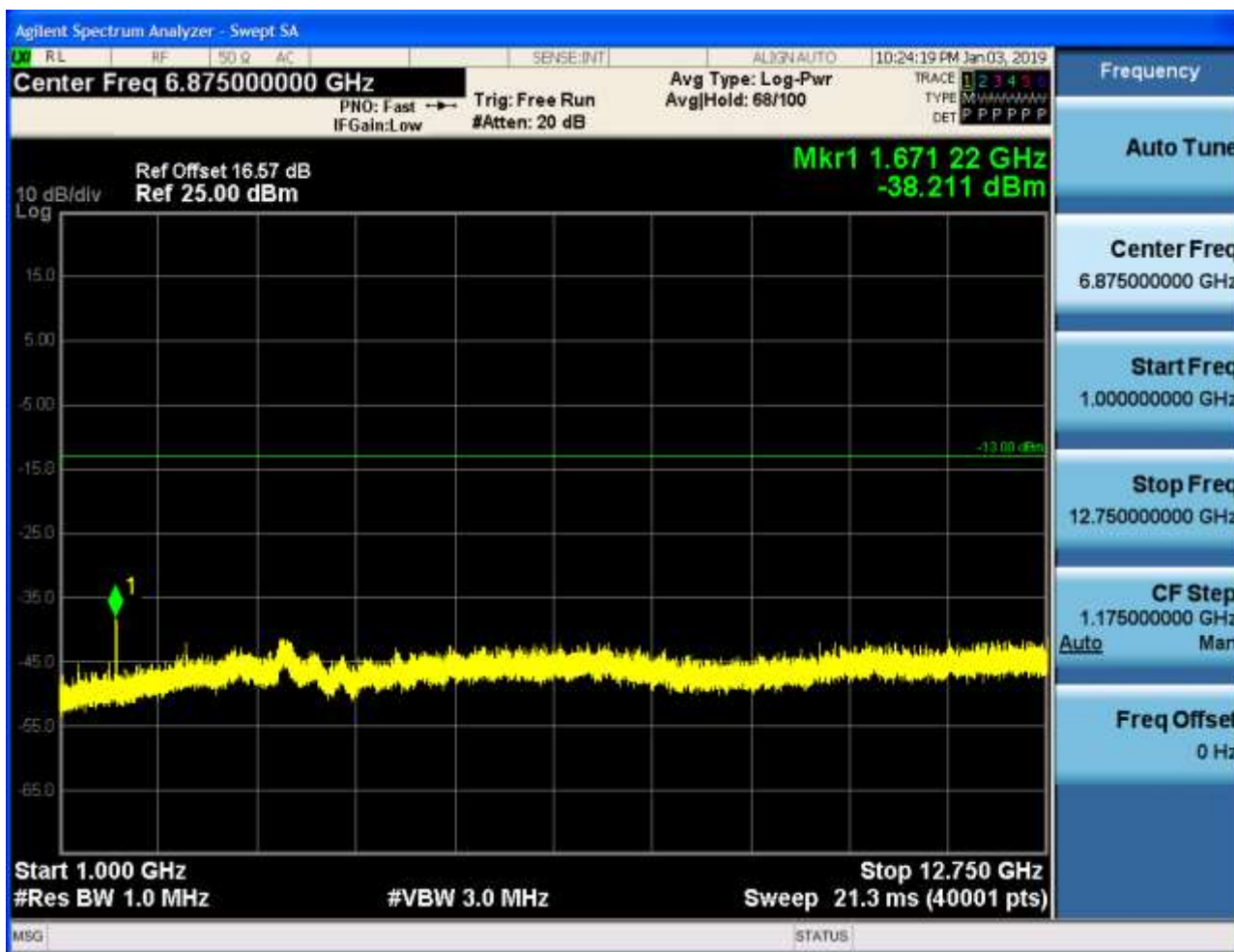
6.2.1.1.2.2 Test Channel = MCH

6.2.1.1.2.2.1 Test RB = RB1#0



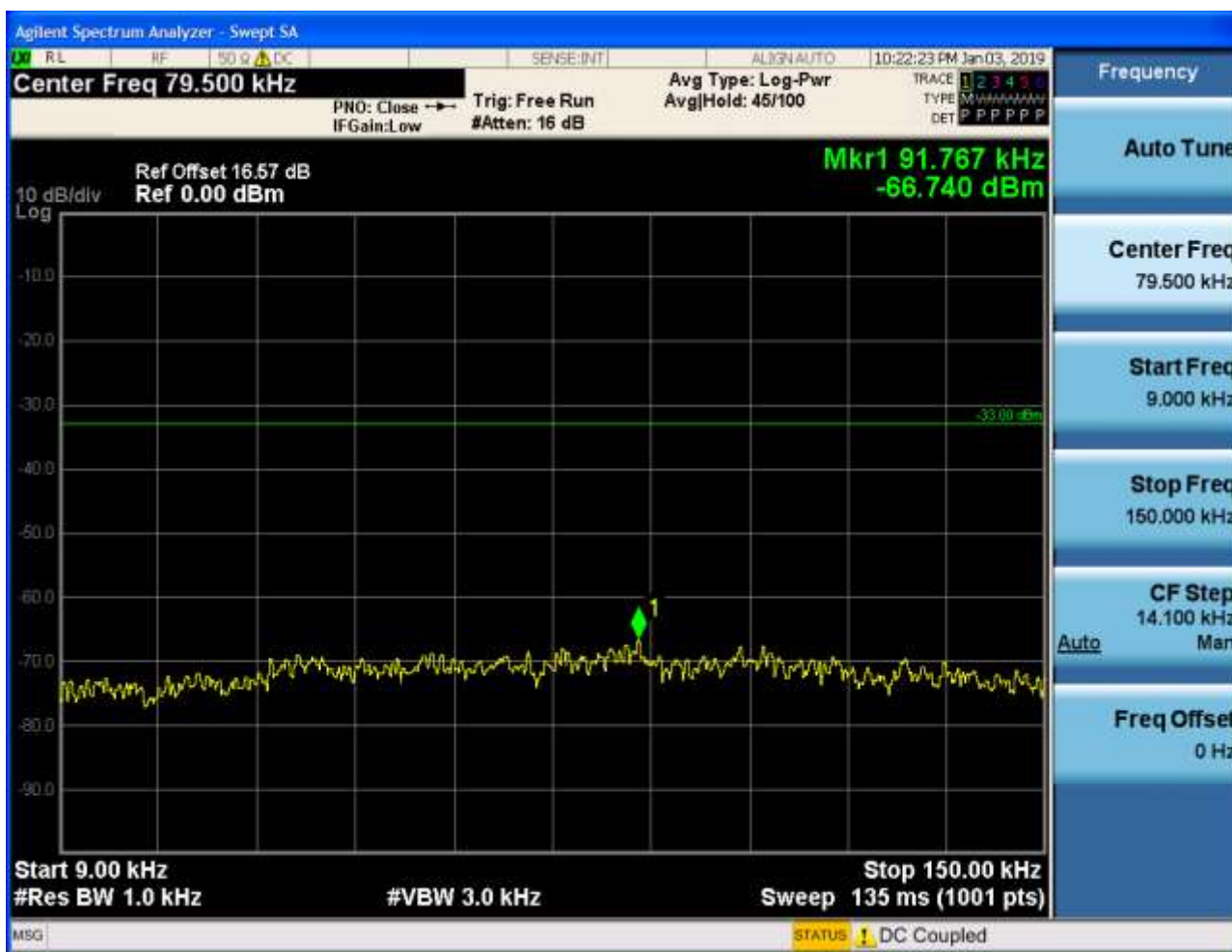




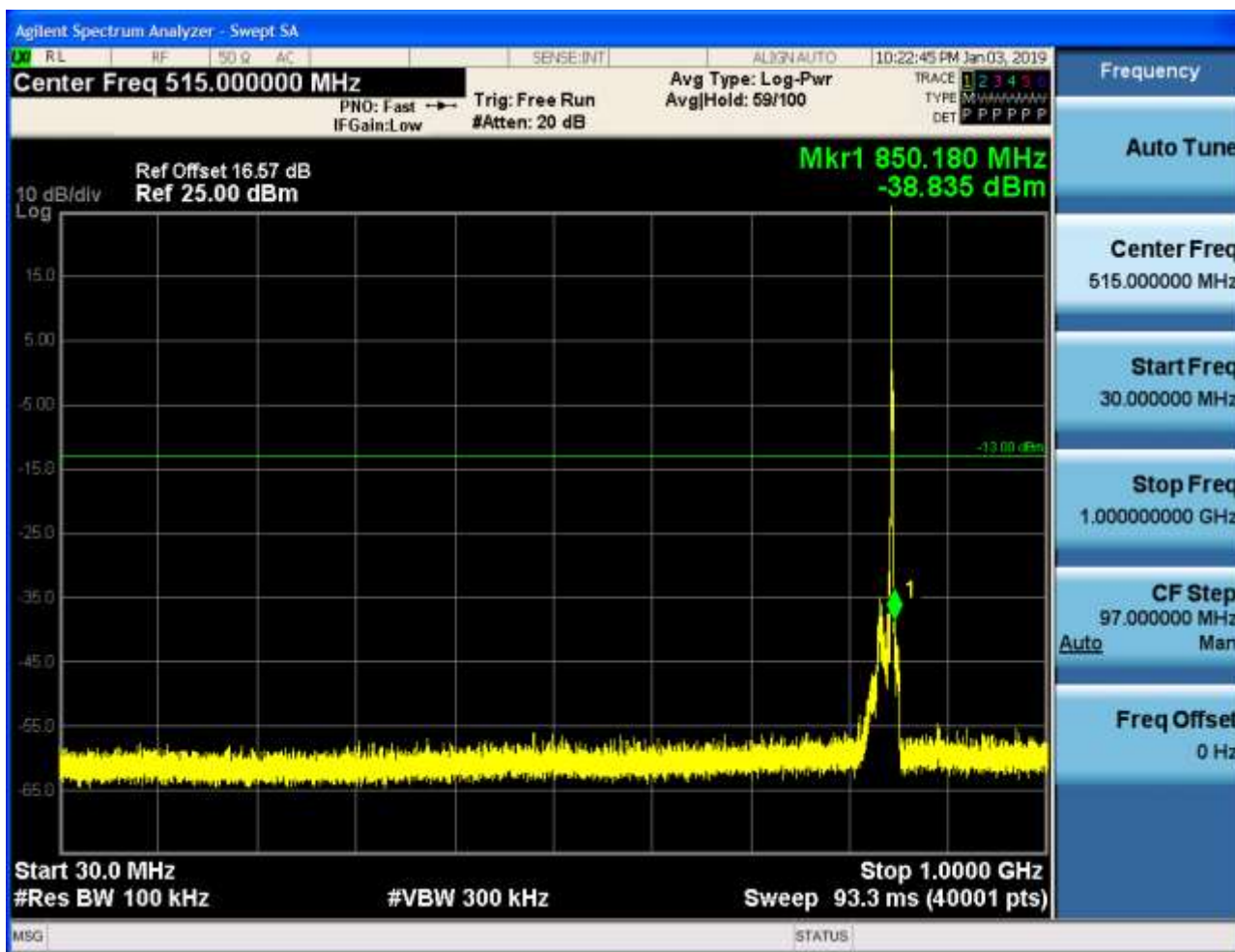


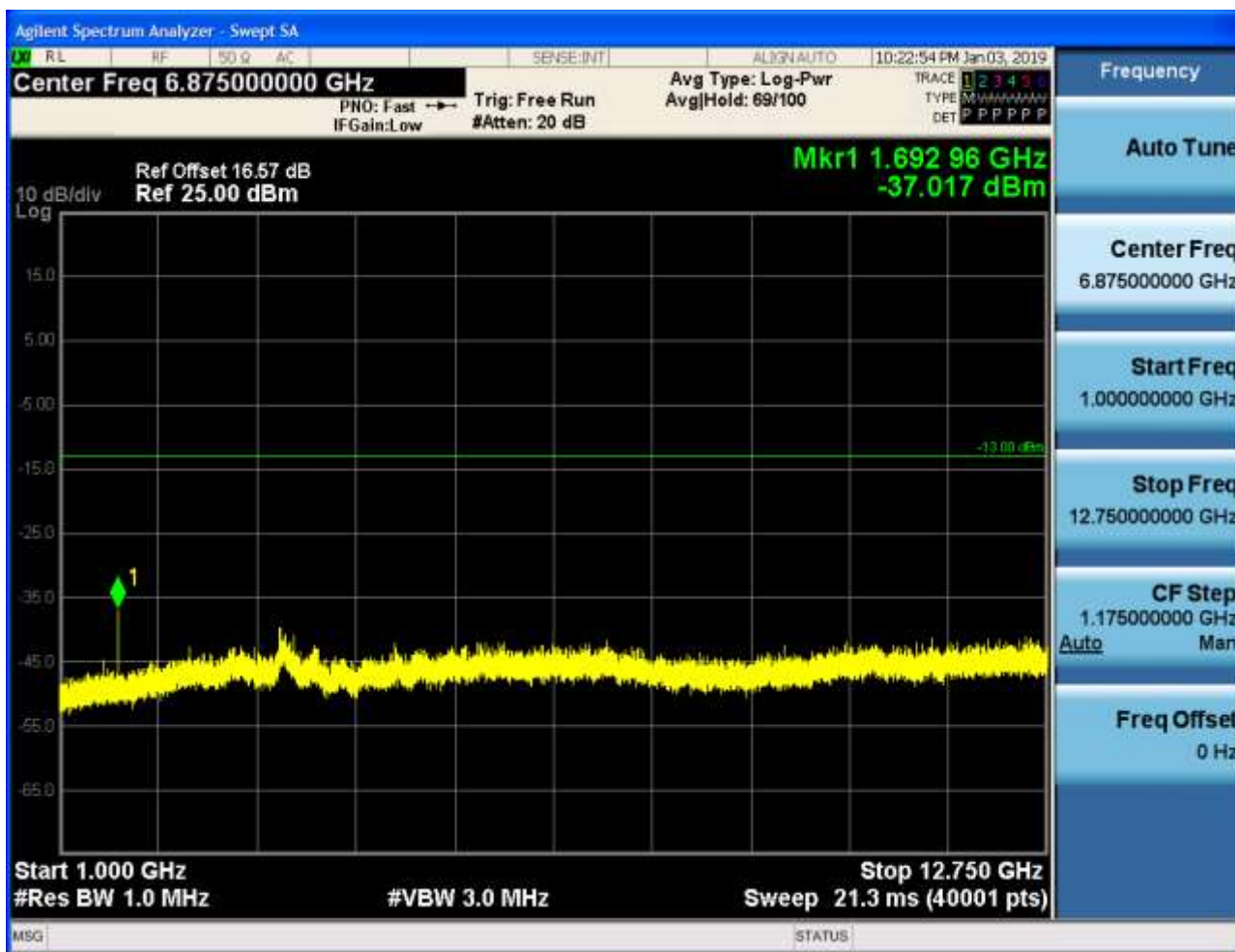
6.2.1.1.2.3 Test Channel = HCH

6.2.1.1.2.3.1 Test RB = RB1#0





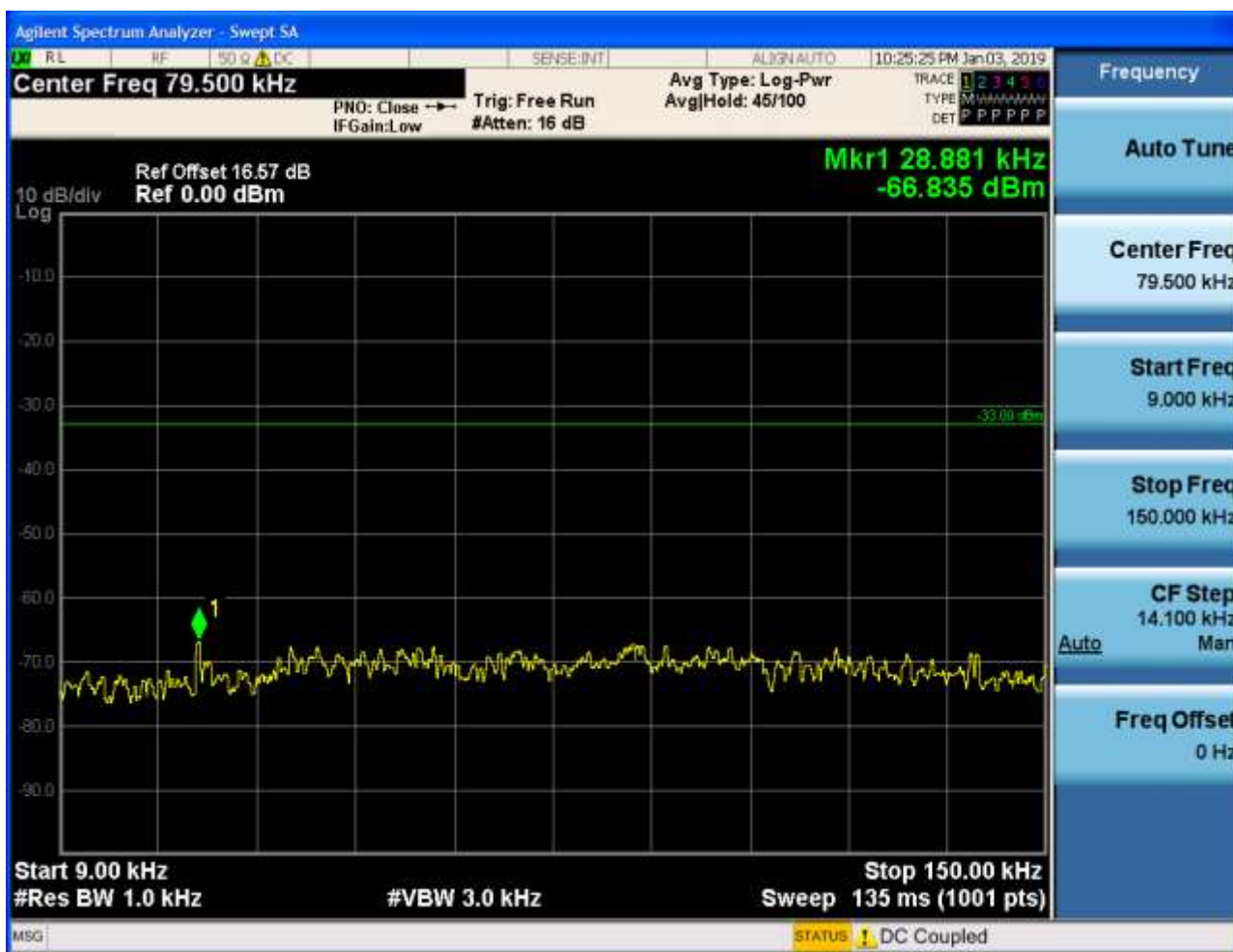




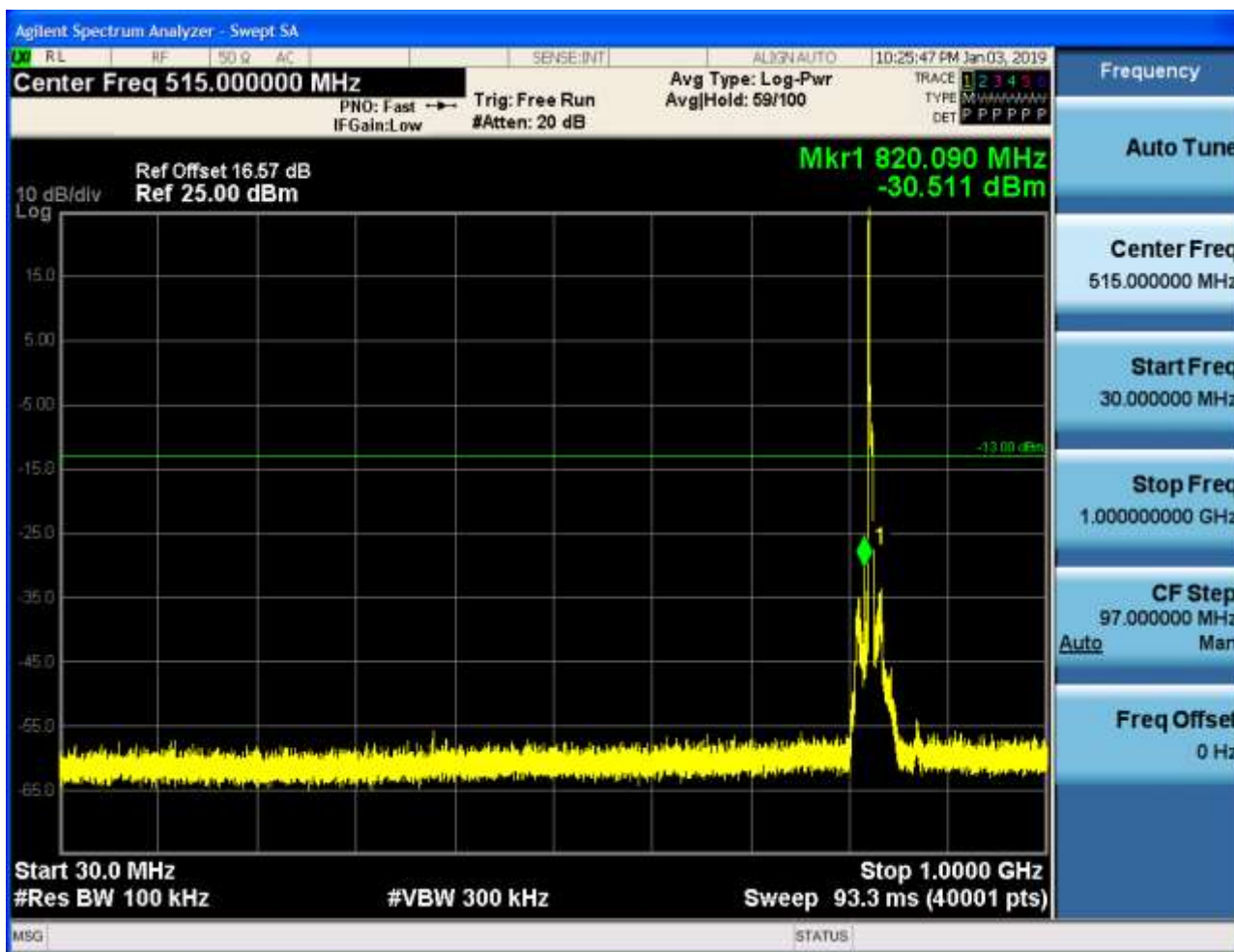
6.2.1.1.3 Test Bandwidth = 5

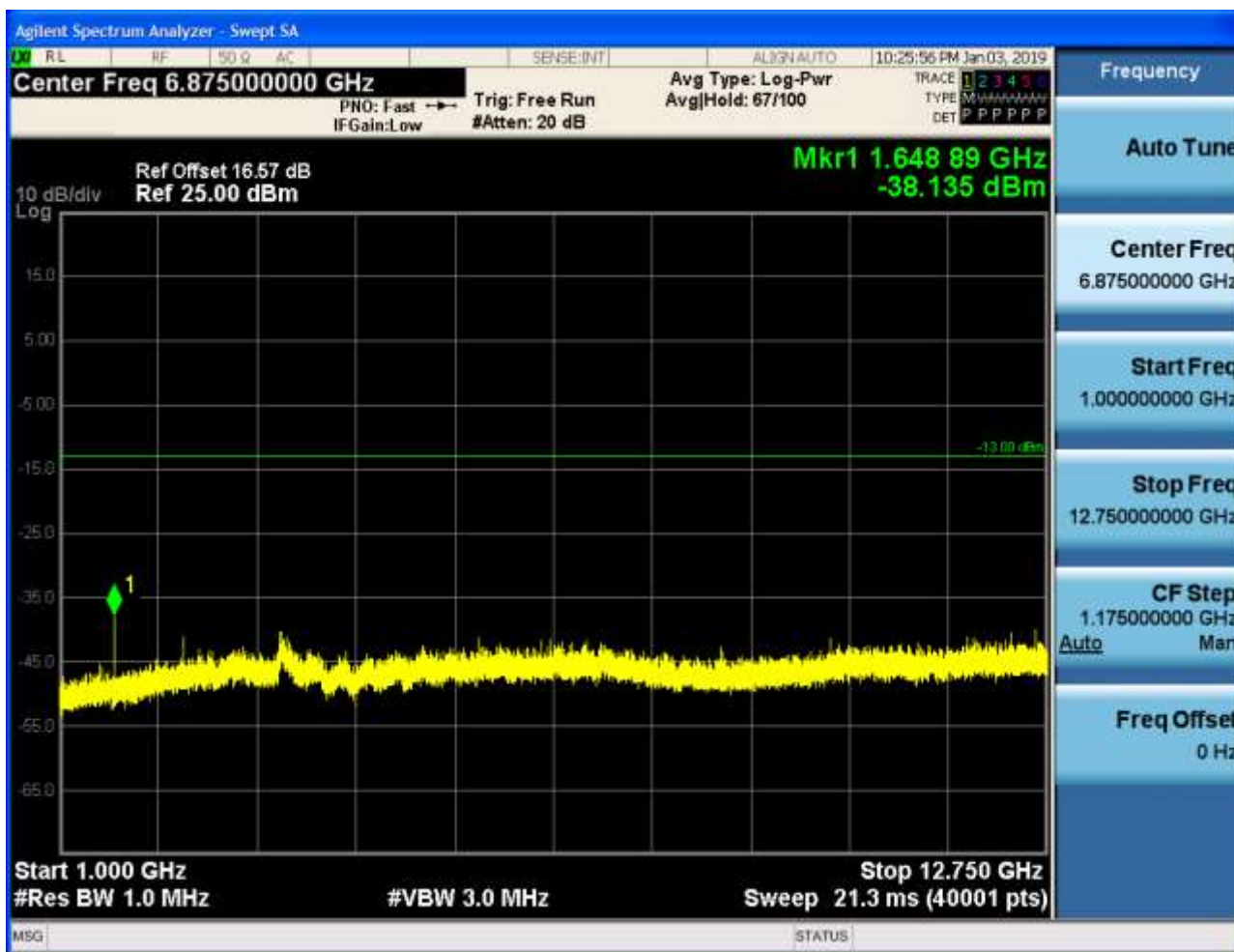
6.2.1.1.3.1 Test Channel = LCH

6.2.1.1.3.1.1 Test RB = RB1#0



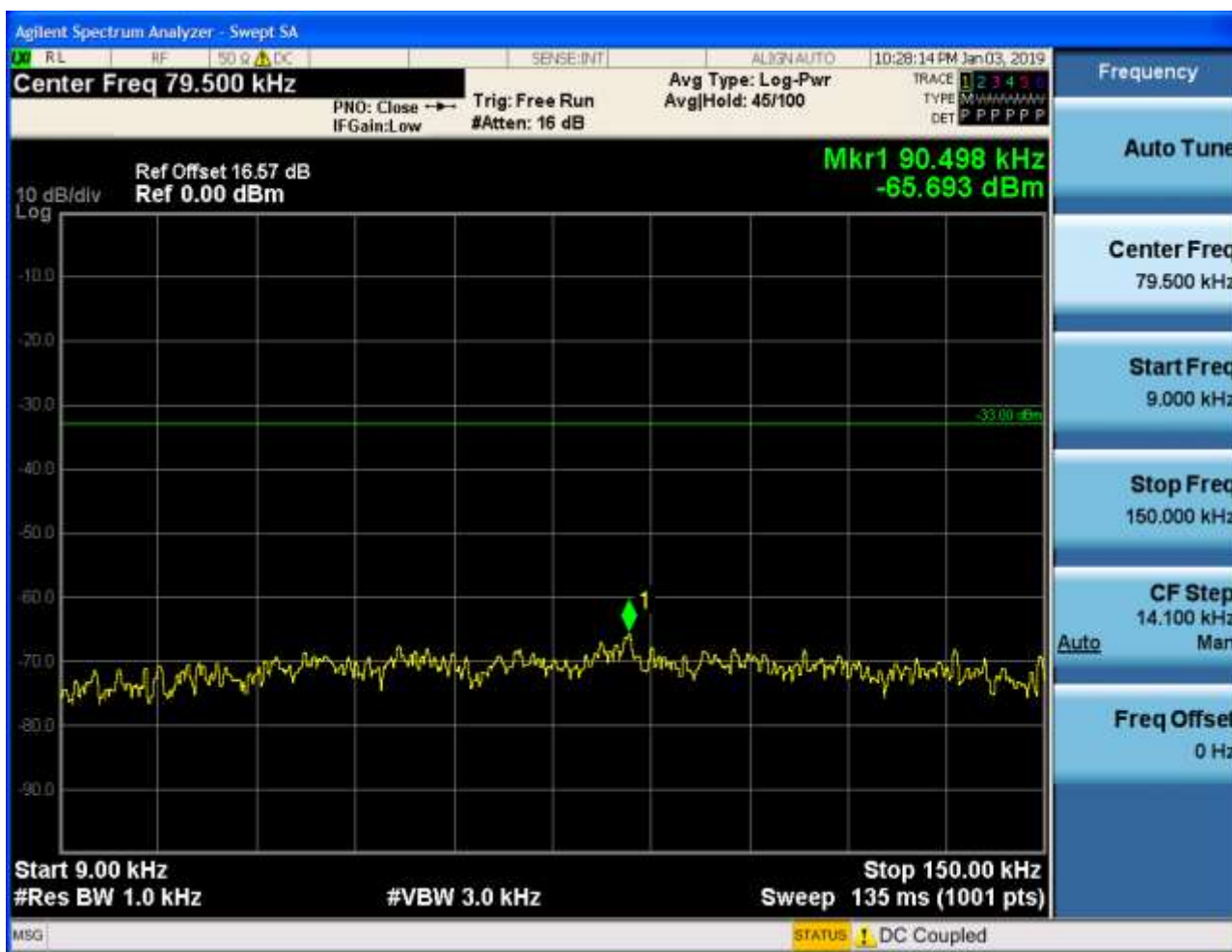




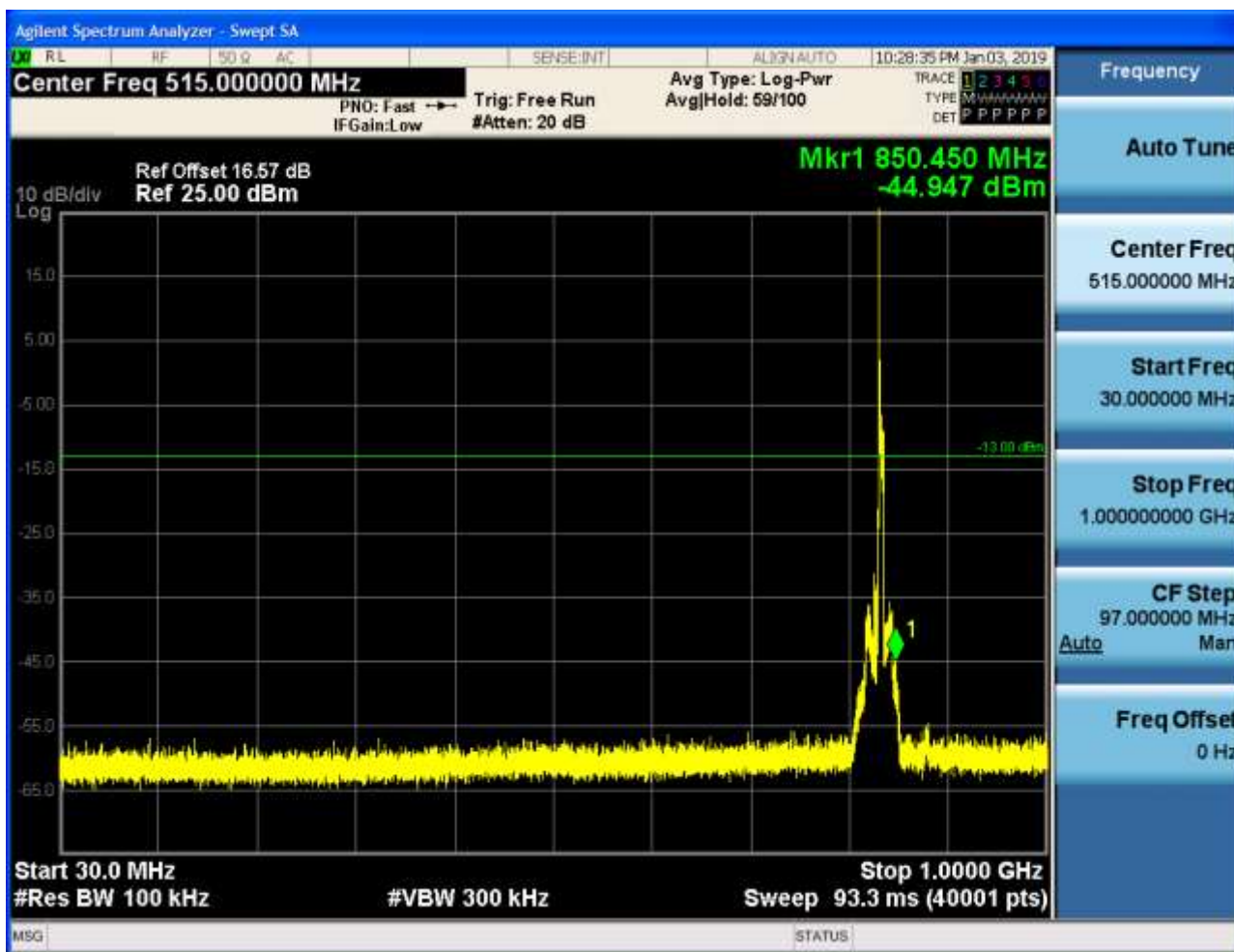


6.2.1.1.3.2 Test Channel = MCH

6.2.1.1.3.2.1 Test RB = RB1#0







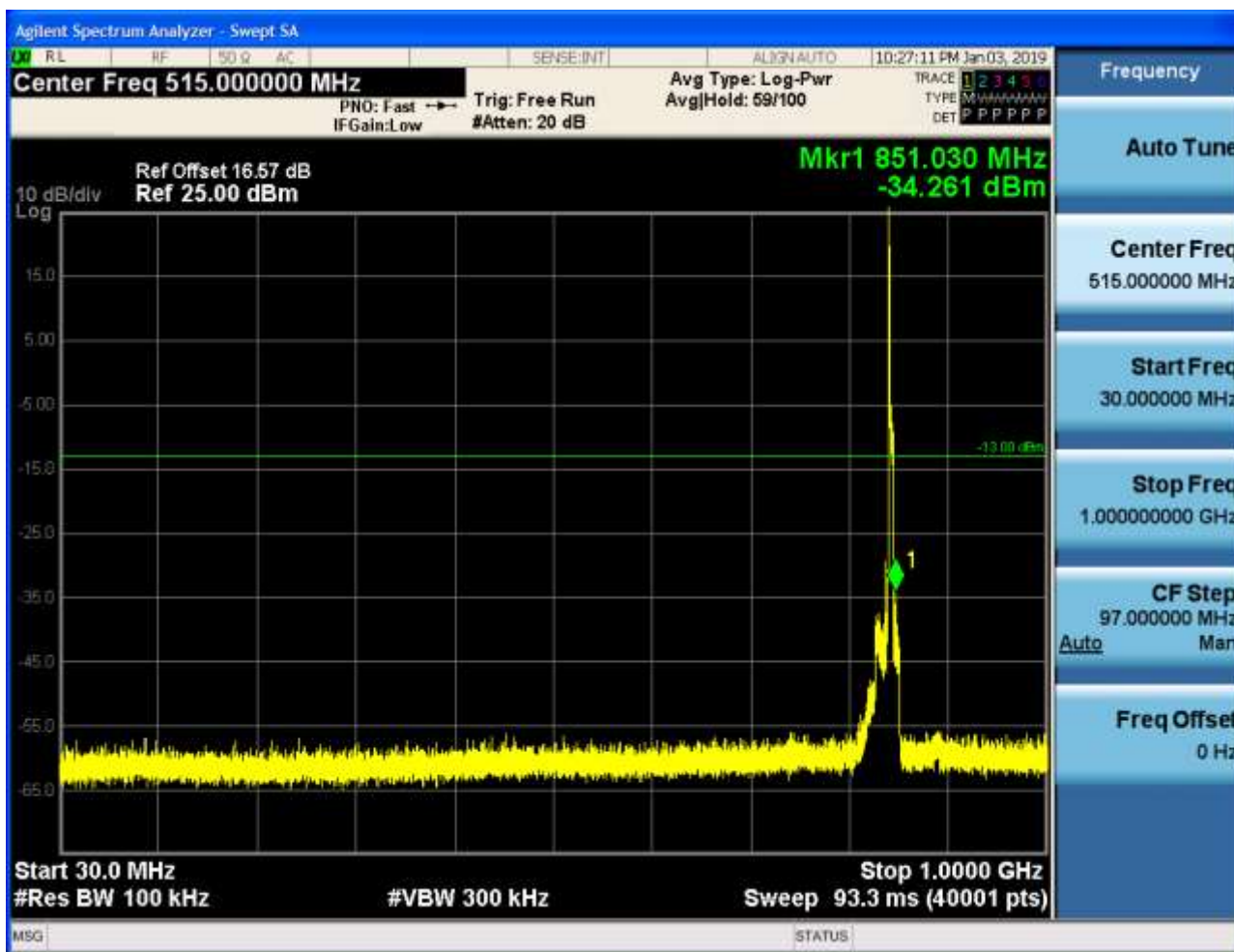


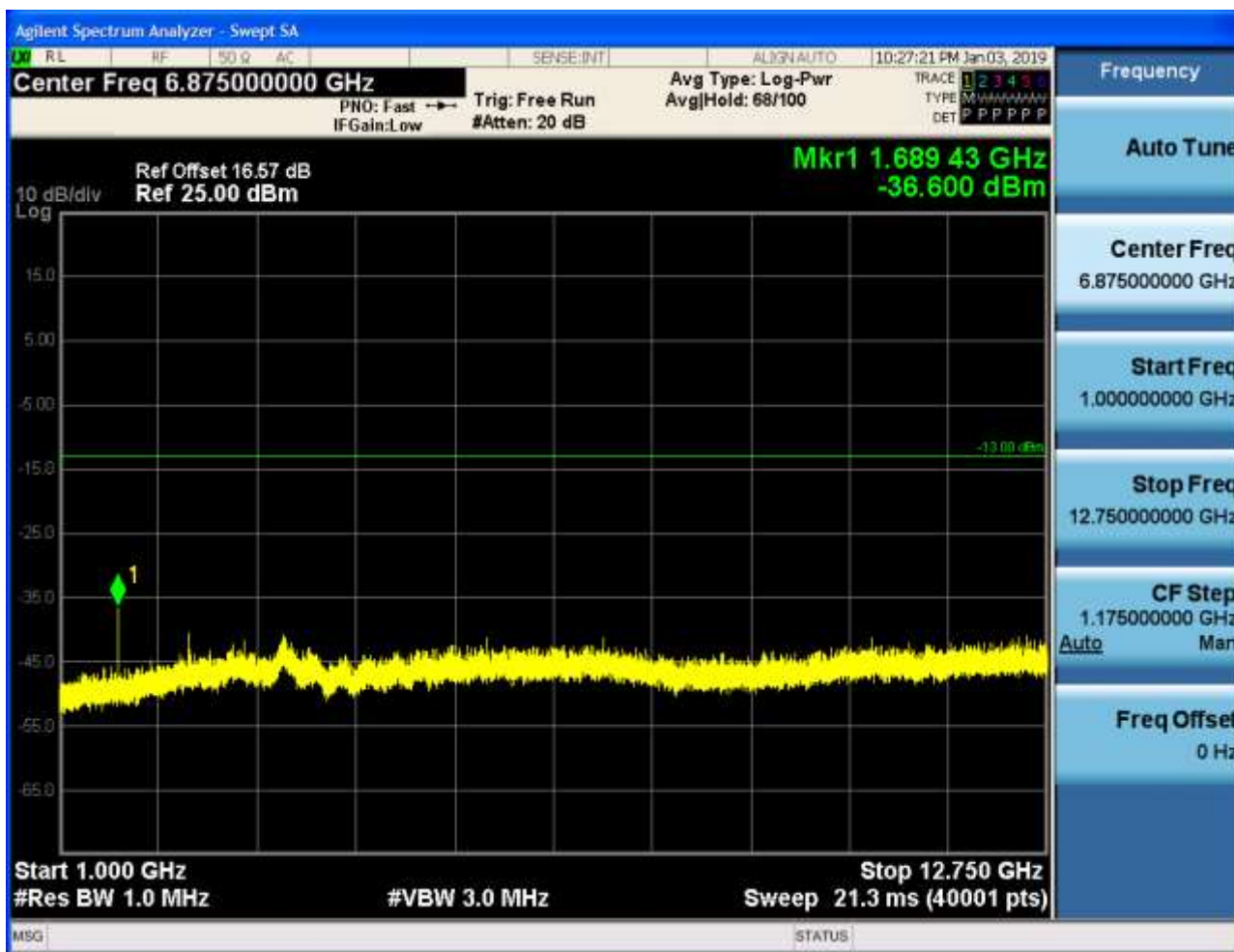
6.2.1.1.3.3 Test Channel = HCH

6.2.1.1.3.3.1 Test RB = RB1#0









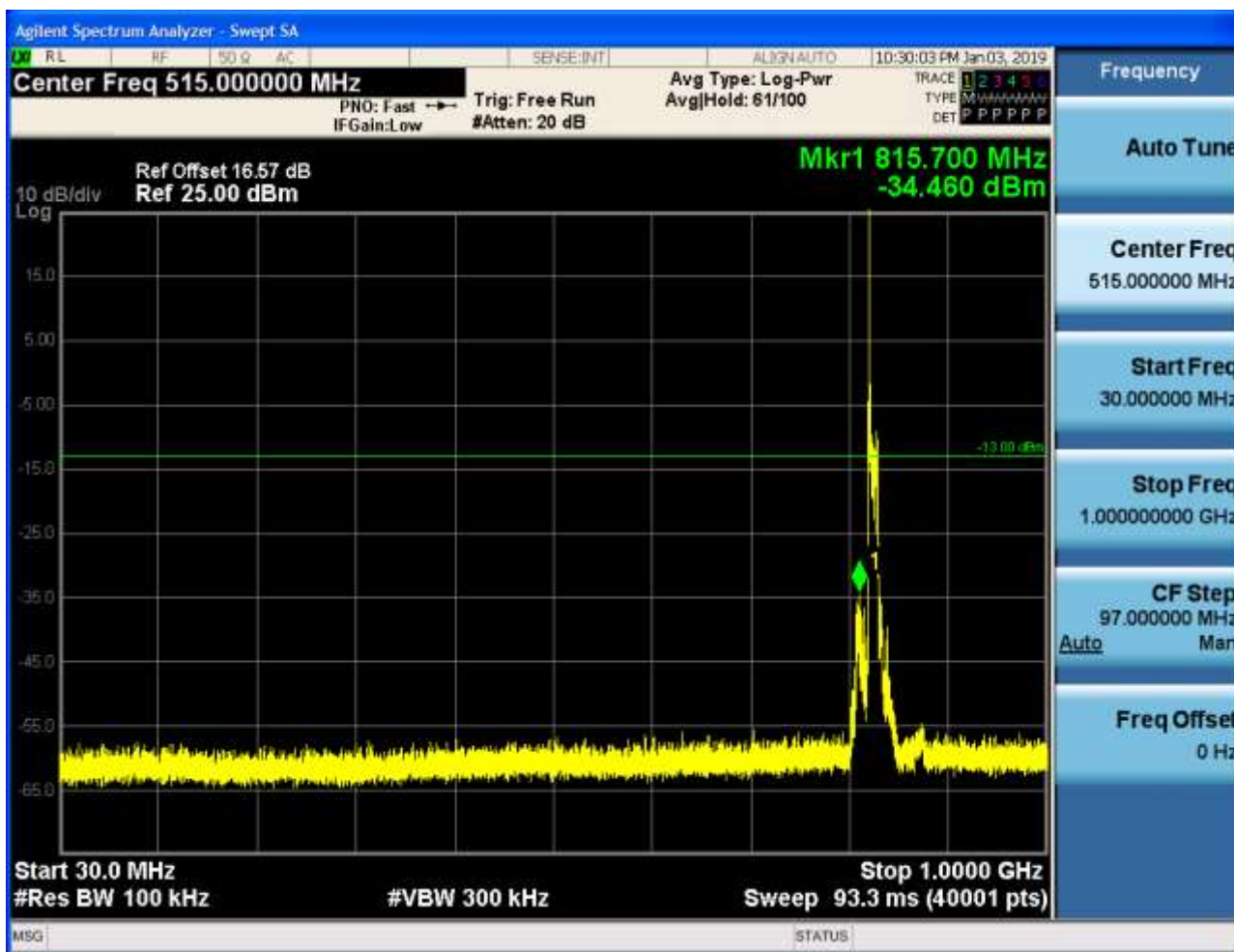
6.2.1.1.4 Test Bandwidth = 10

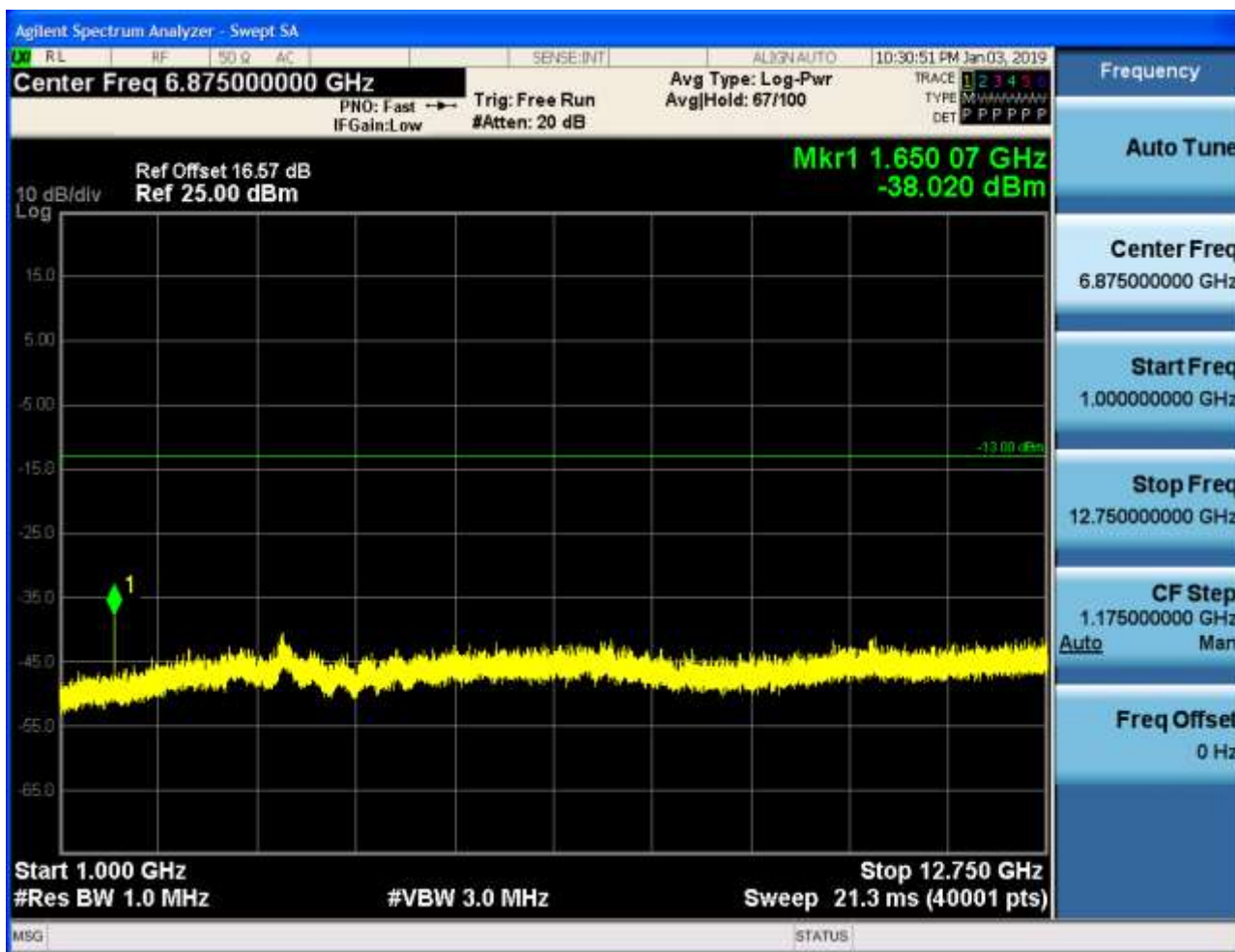
6.2.1.1.4.1 Test Channel = LCH

6.2.1.1.4.1.1 Test RB = RB1#0







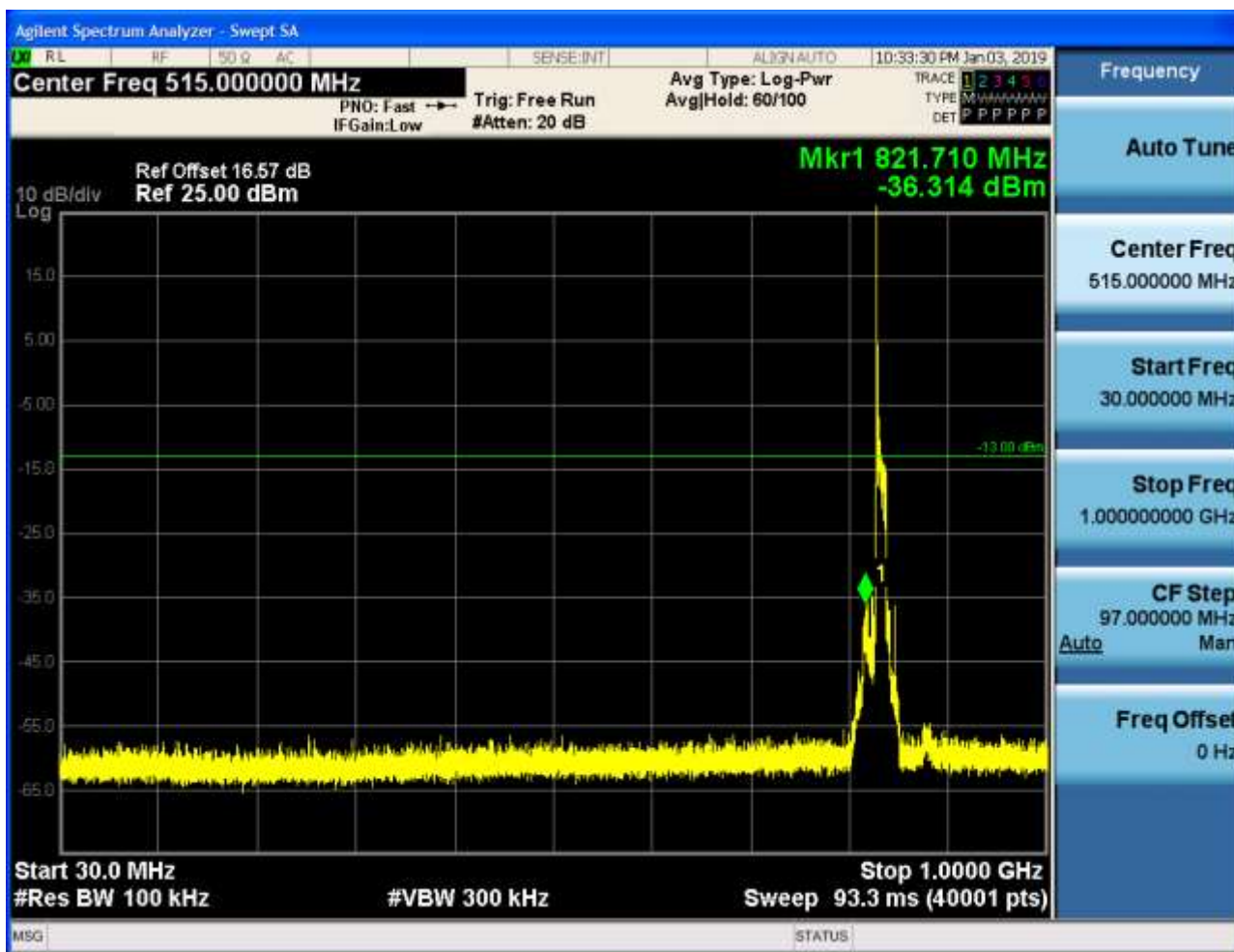


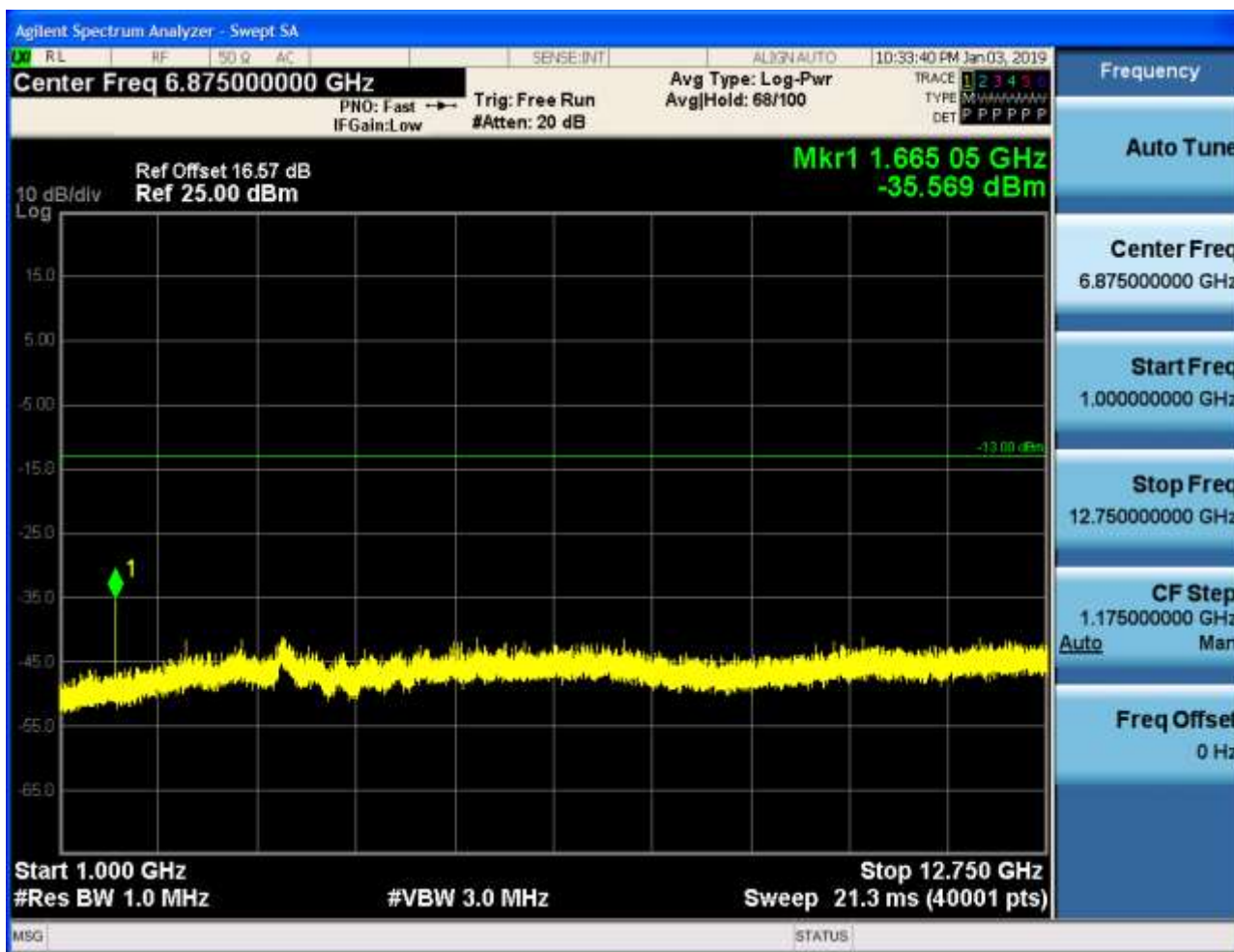
6.2.1.1.4.2 Test Channel = MCH

6.2.1.1.4.2.1 Test RB = RB1#0







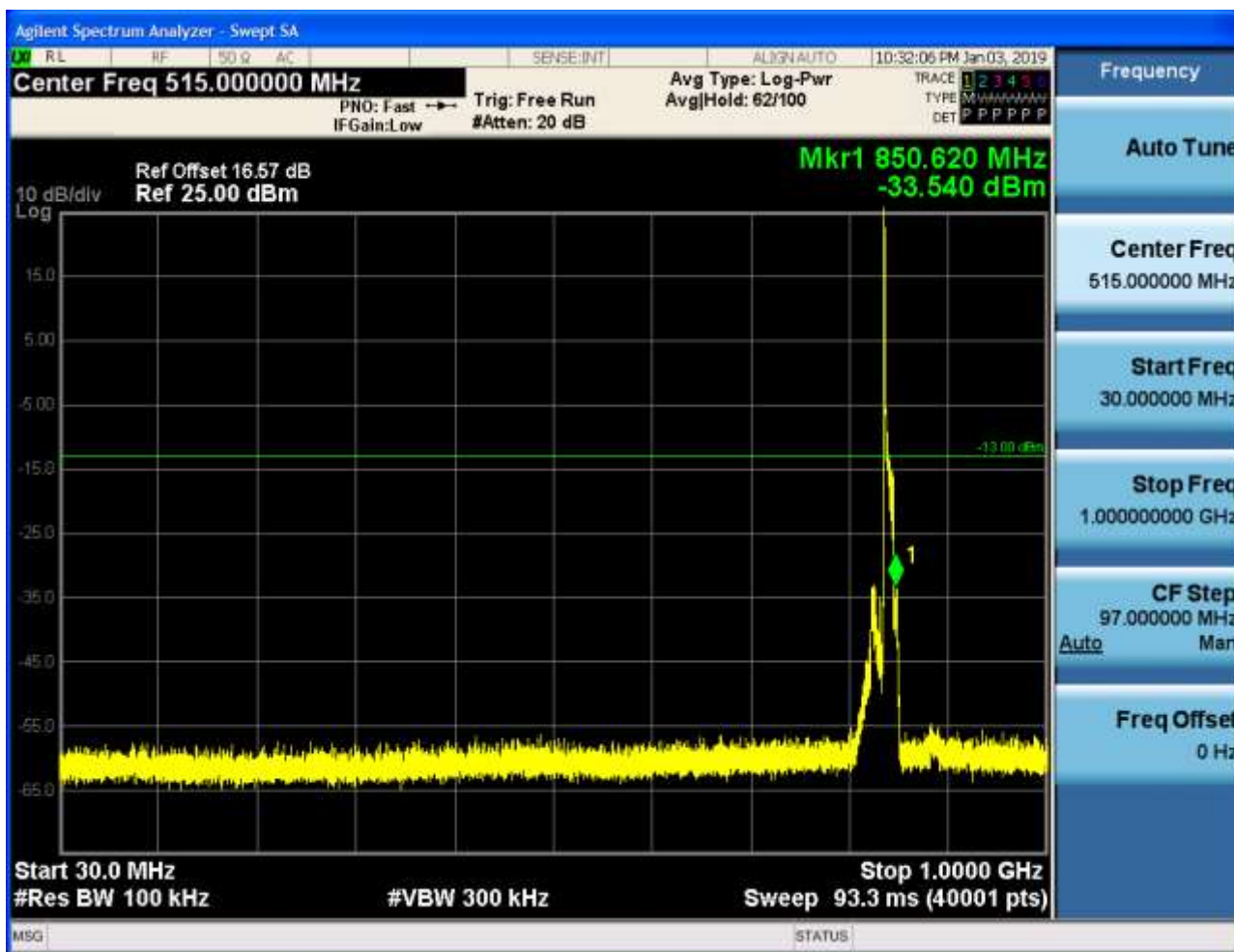


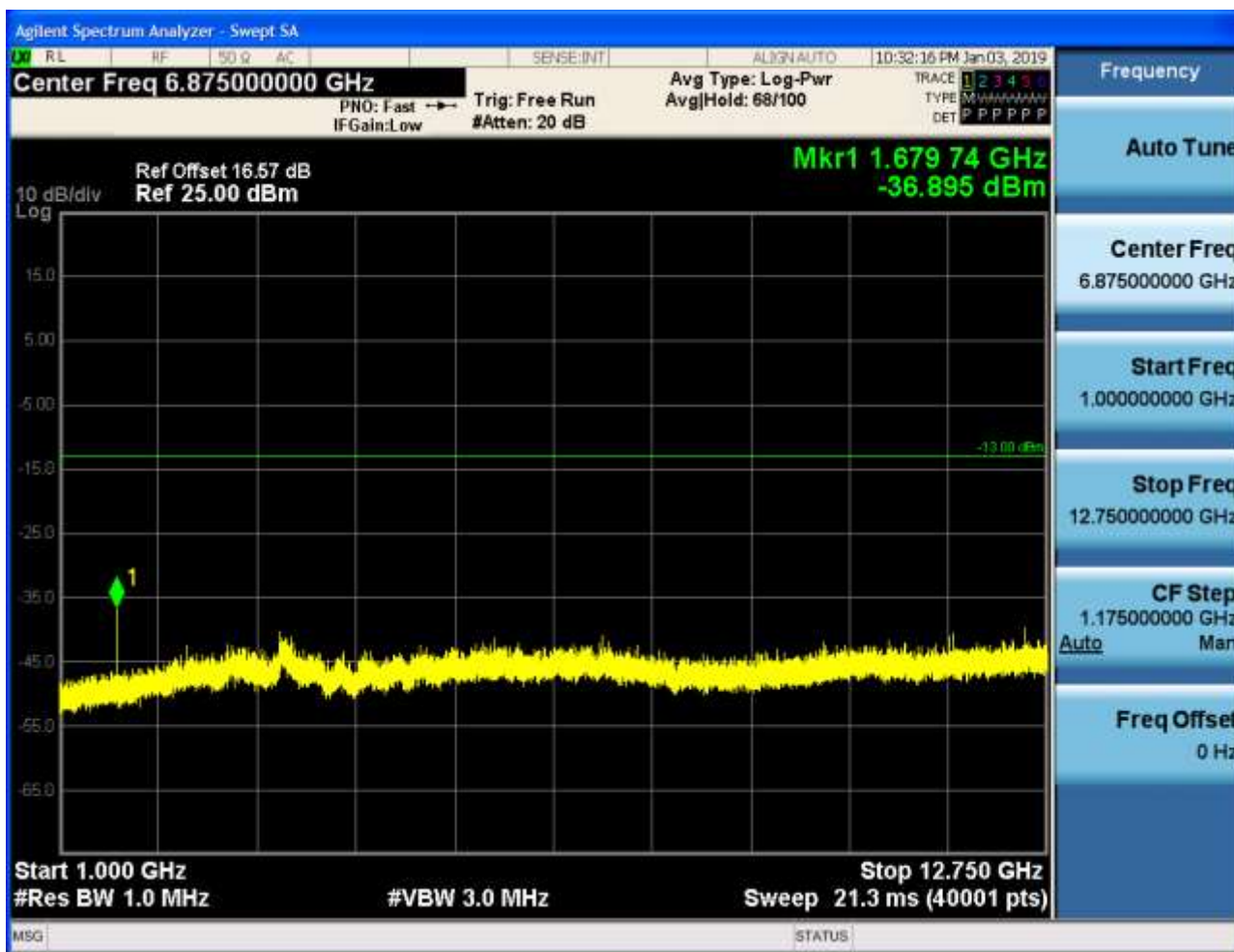
6.2.1.1.4.3 Test Channel = HCH

6.2.1.1.4.3.1 Test RB = RB1#0









6.2.1.2 Test Mode = LTE/TM2

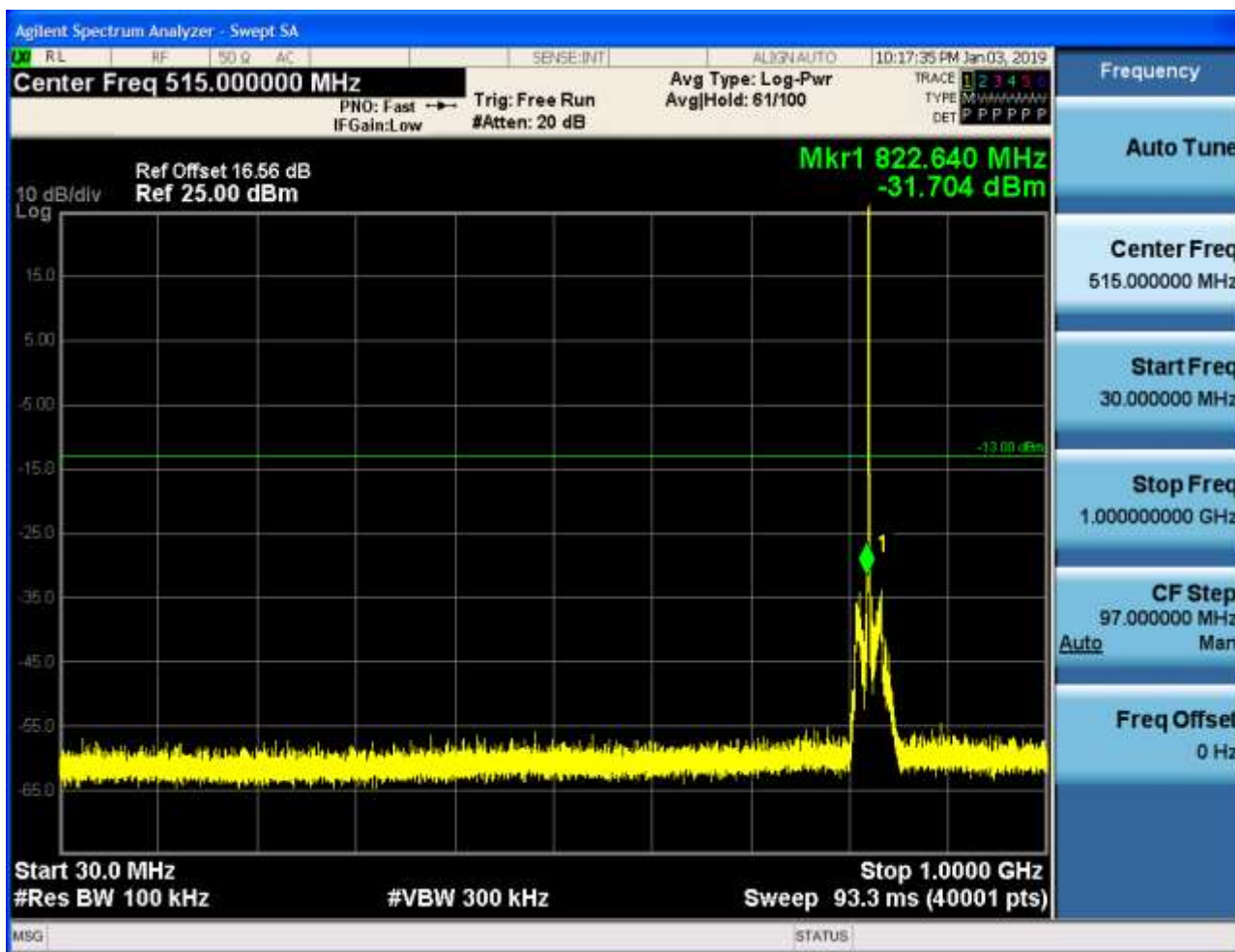
6.2.1.2.1 Test Bandwidth = 1.4

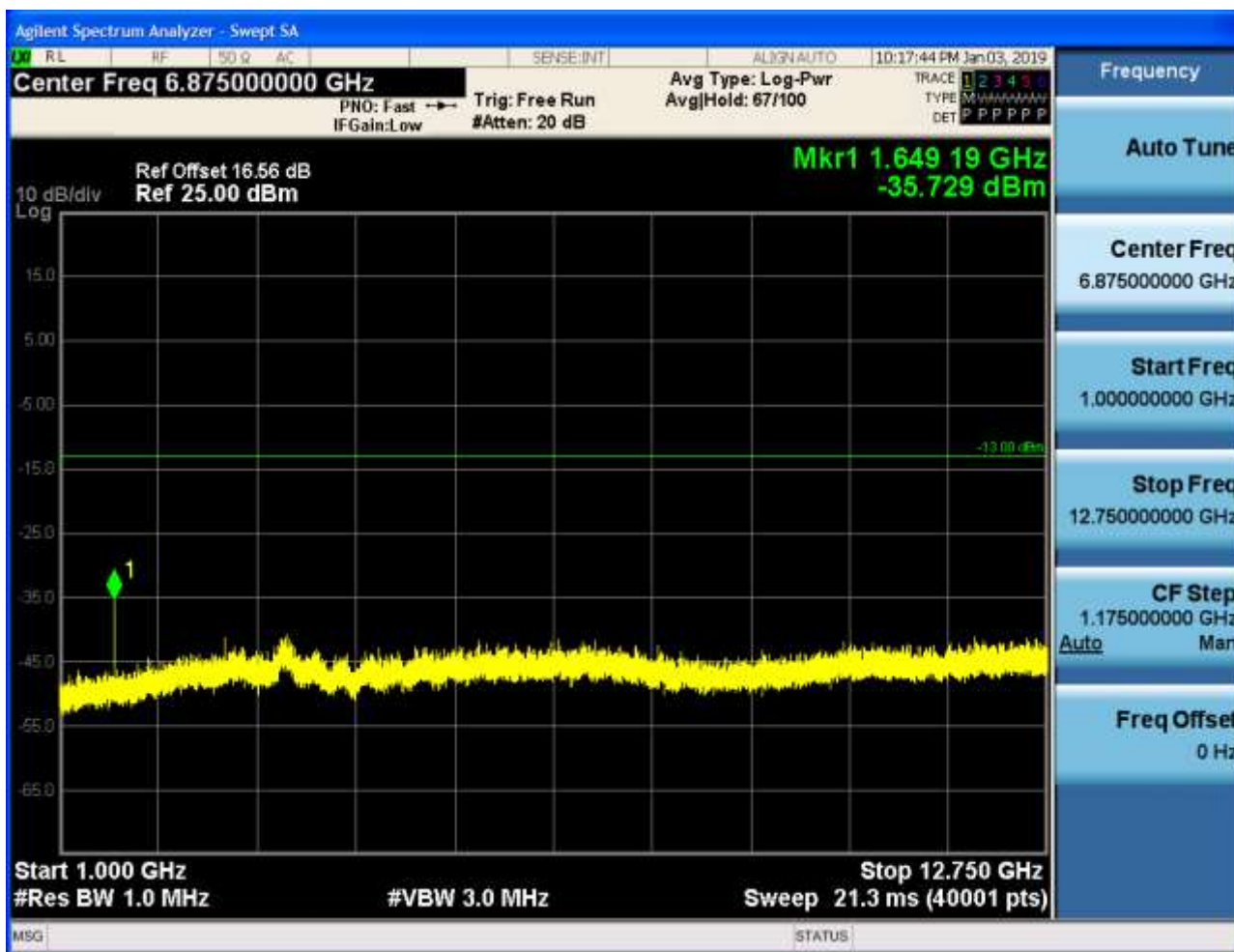
6.2.1.2.1.1 Test Channel = LCH

6.2.1.2.1.1.1 Test RB = RB1#0



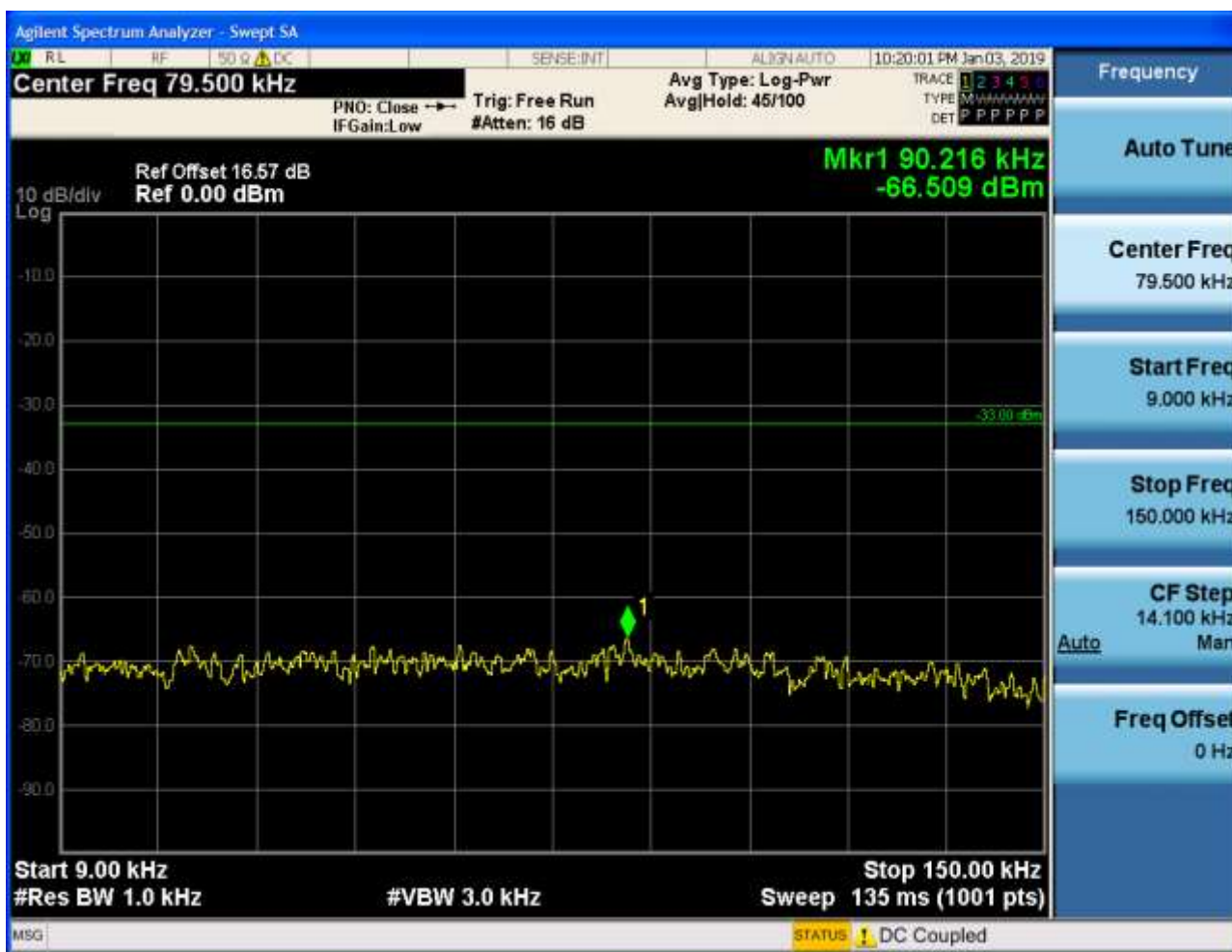




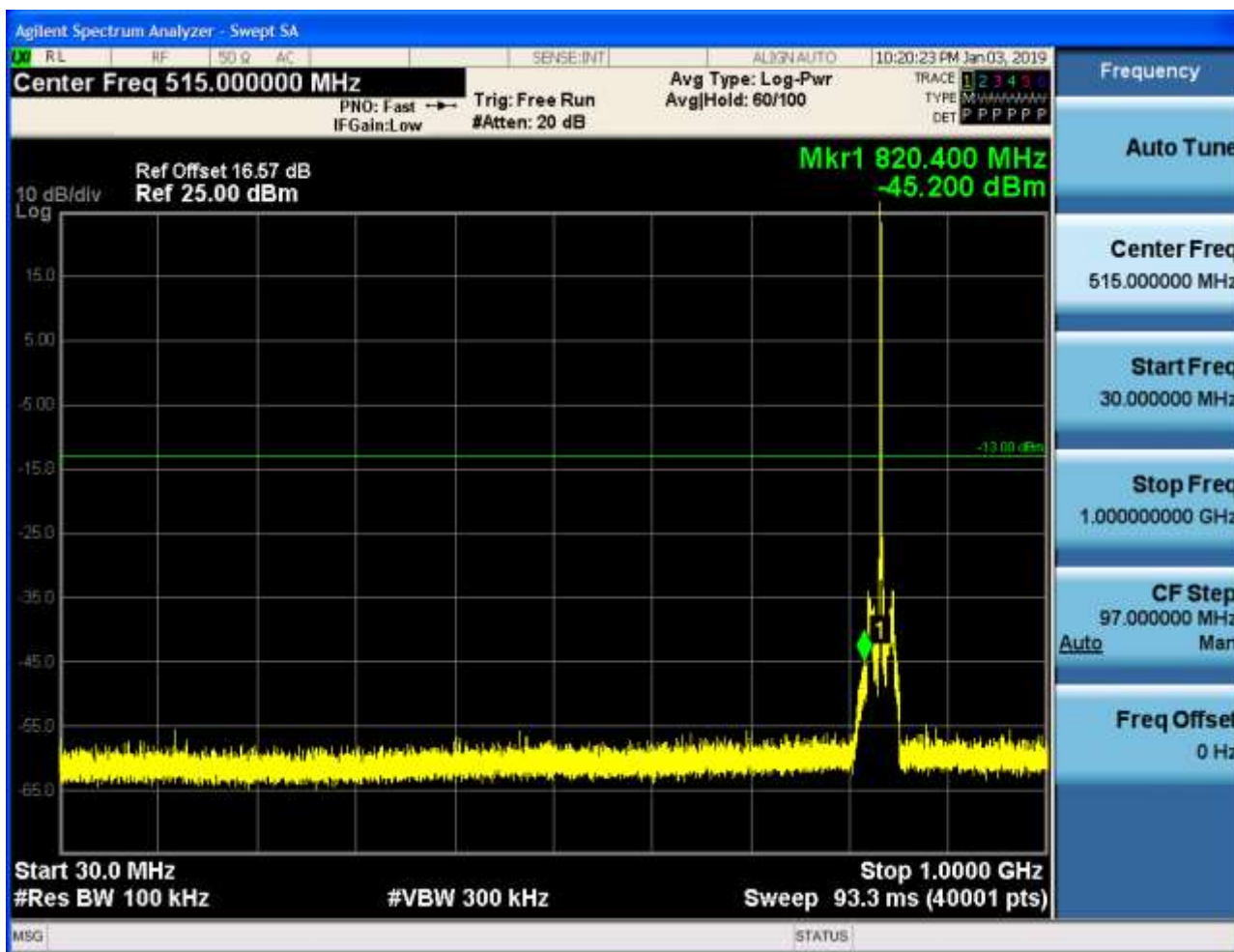


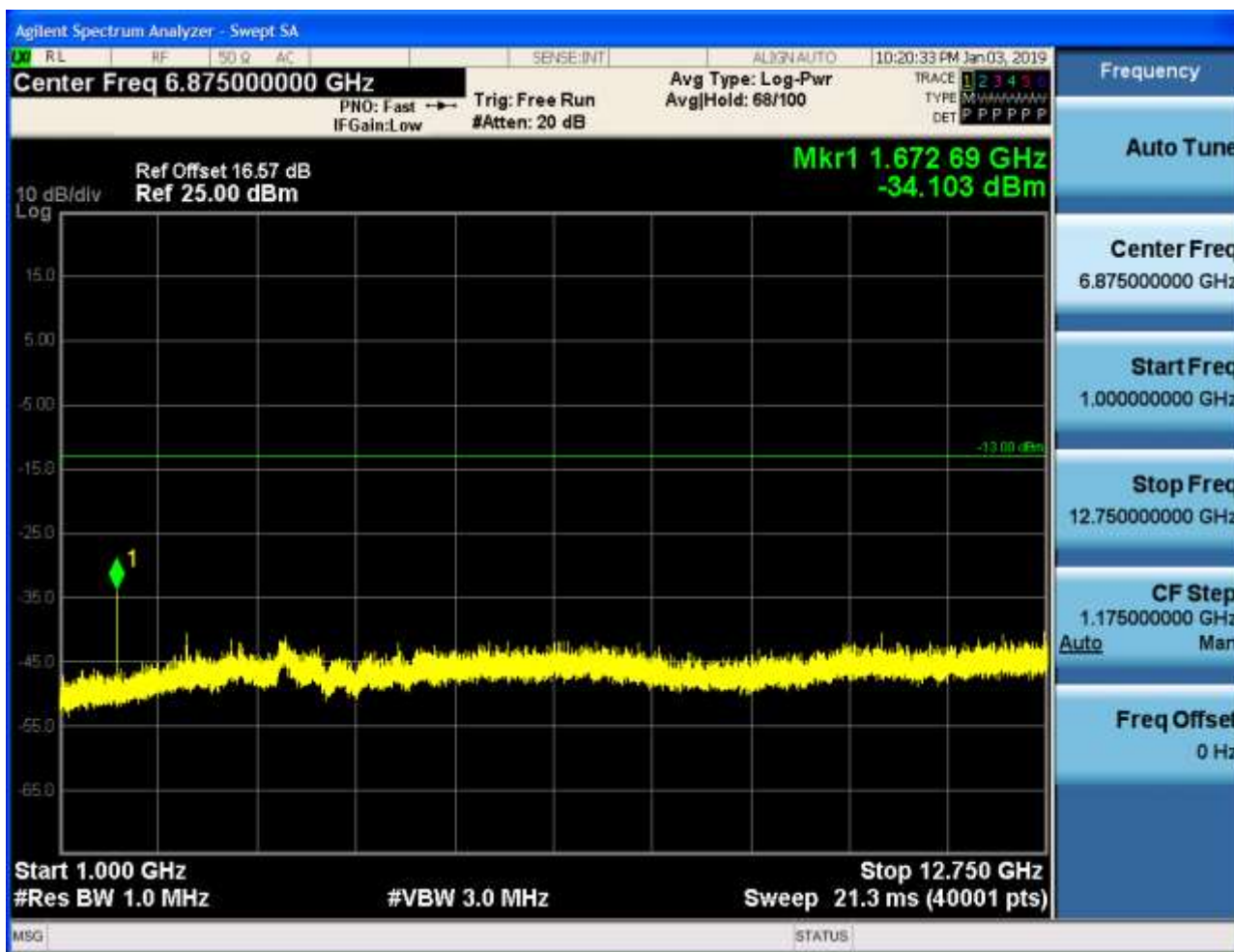
6.2.1.2.1.2 Test Channel = MCH

6.2.1.2.1.2.1 Test RB = RB1#0







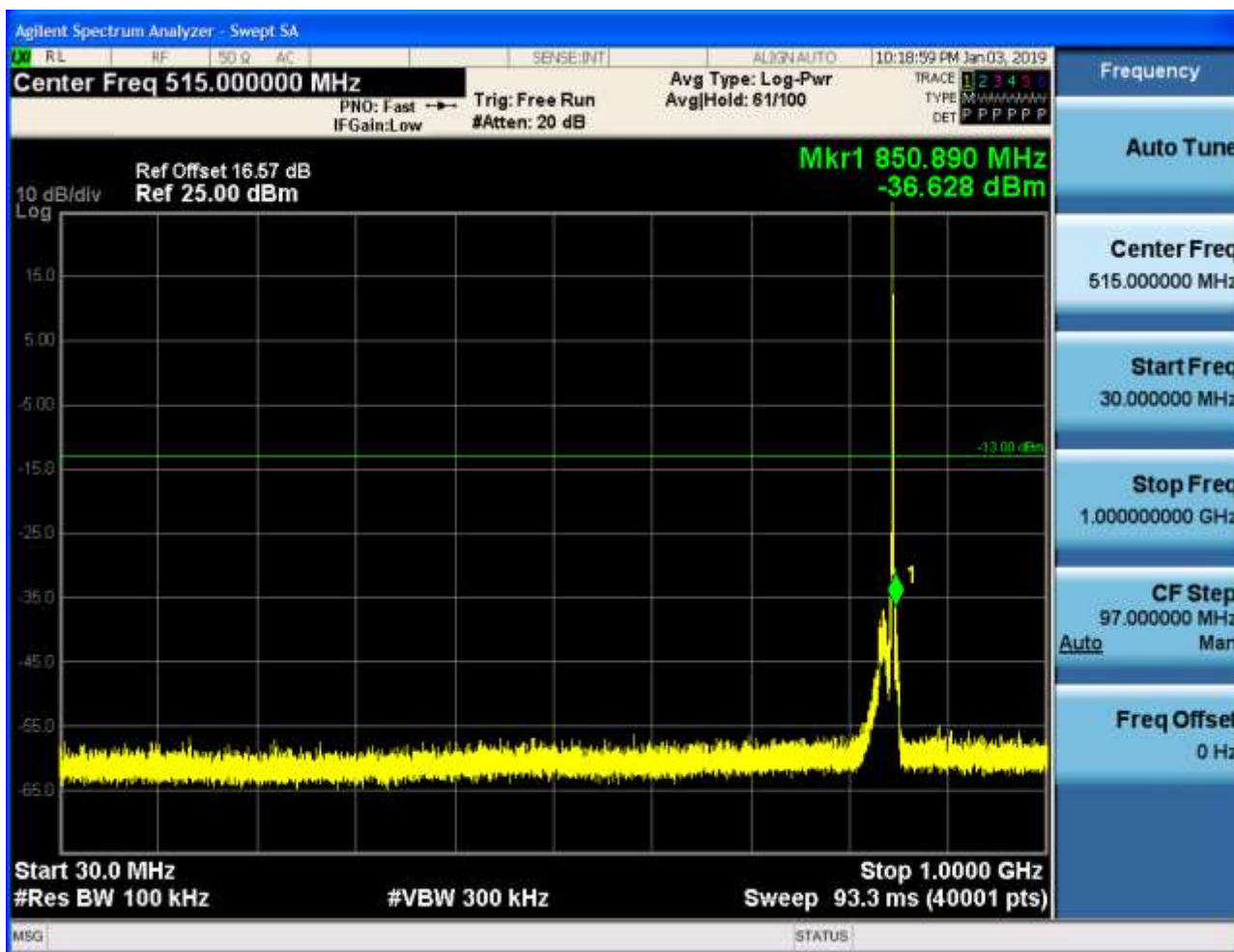


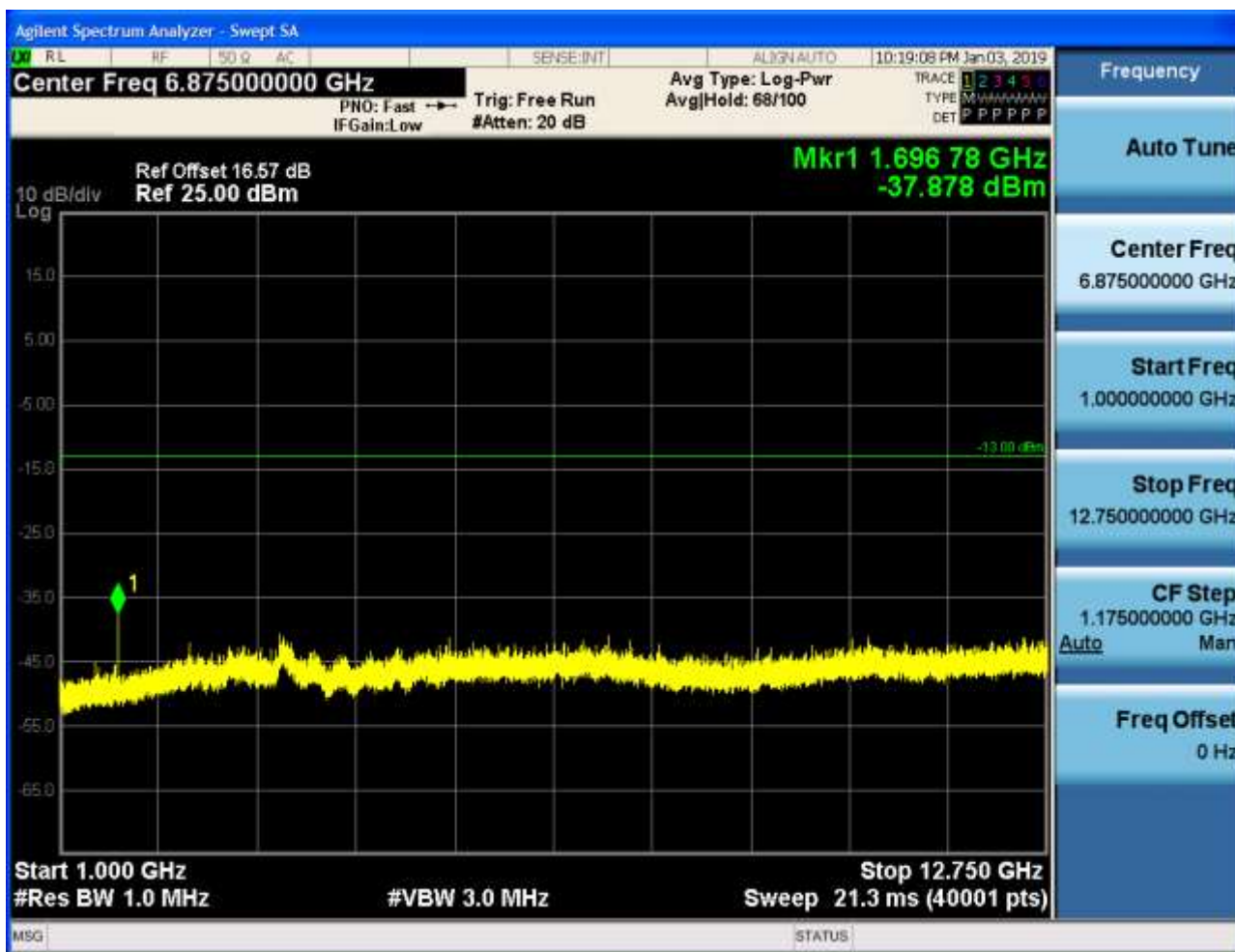
6.2.1.2.1.3 Test Channel = HCH

6.2.1.2.1.3.1 Test RB = RB1#0









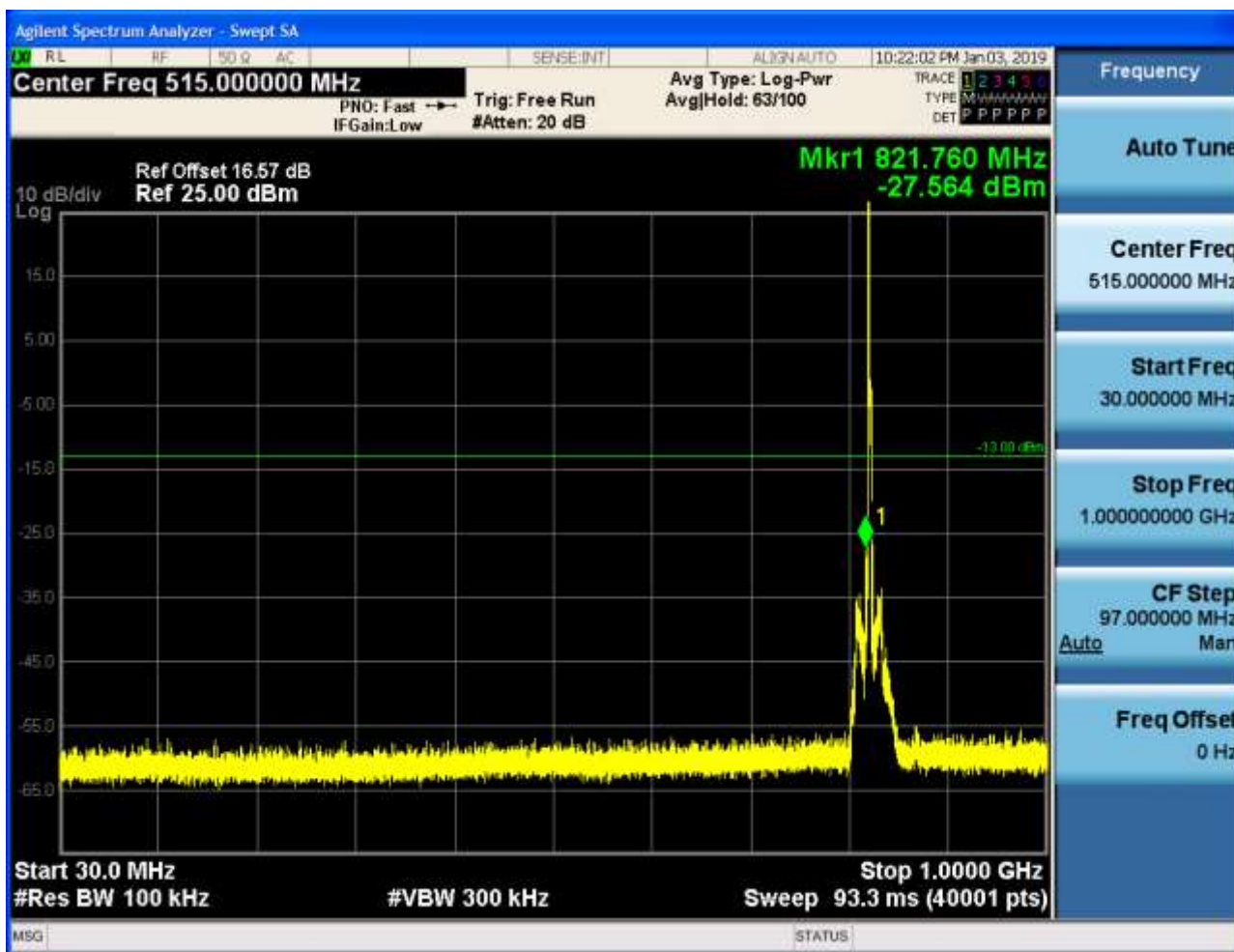
6.2.1.2.2 Test Bandwidth = 3

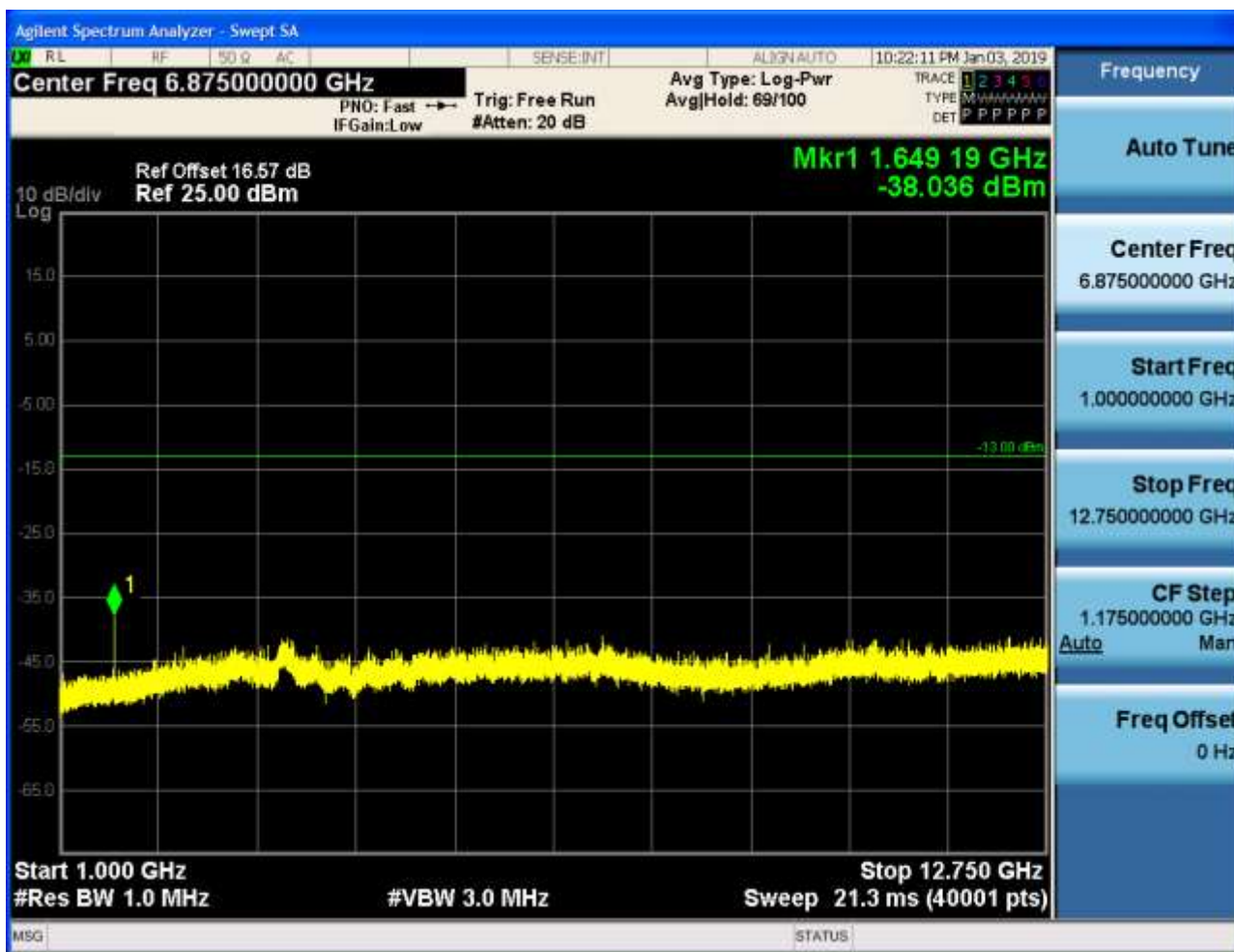
6.2.1.2.2.1 Test Channel = LCH

6.2.1.2.2.1.1 Test RB = RB1#0







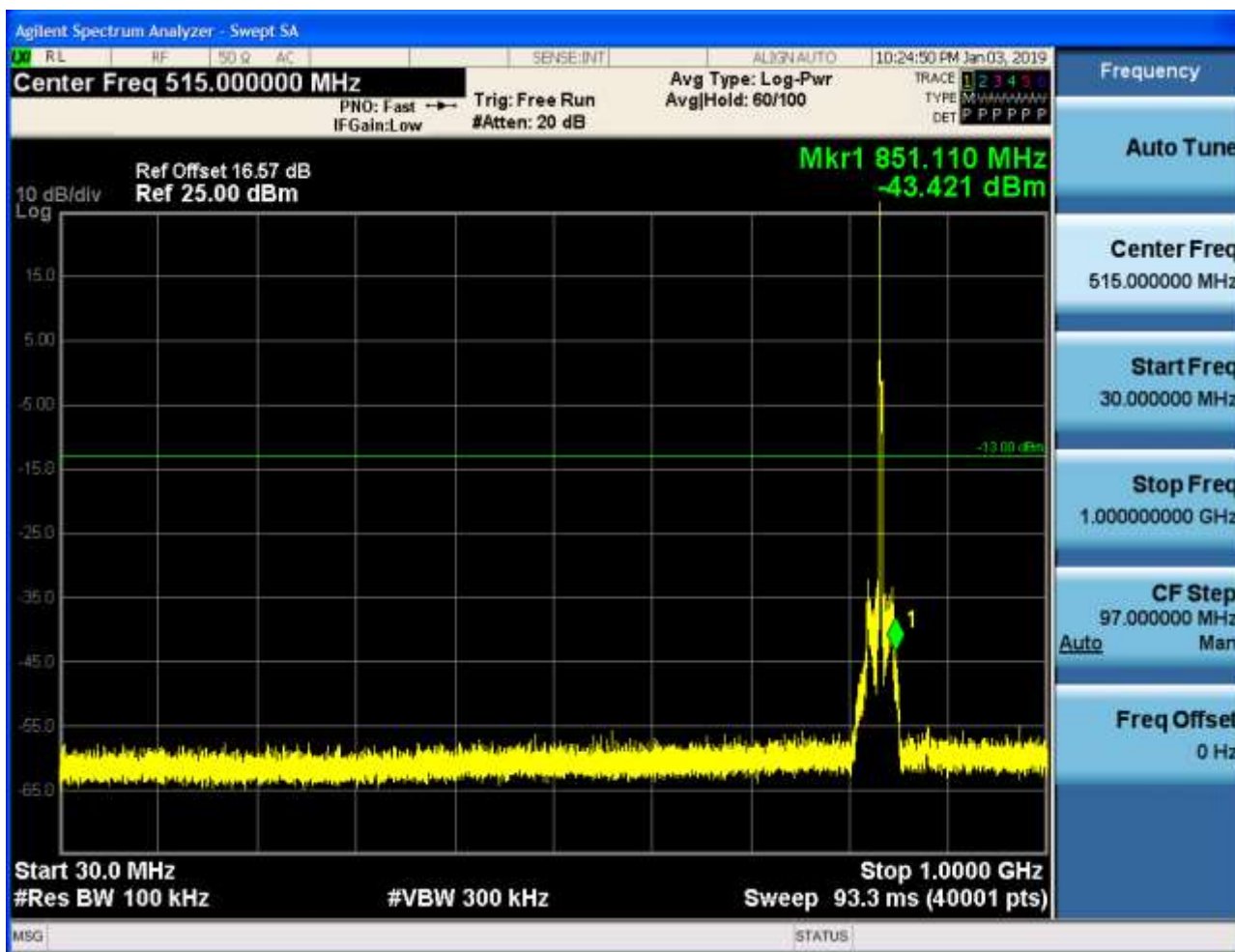


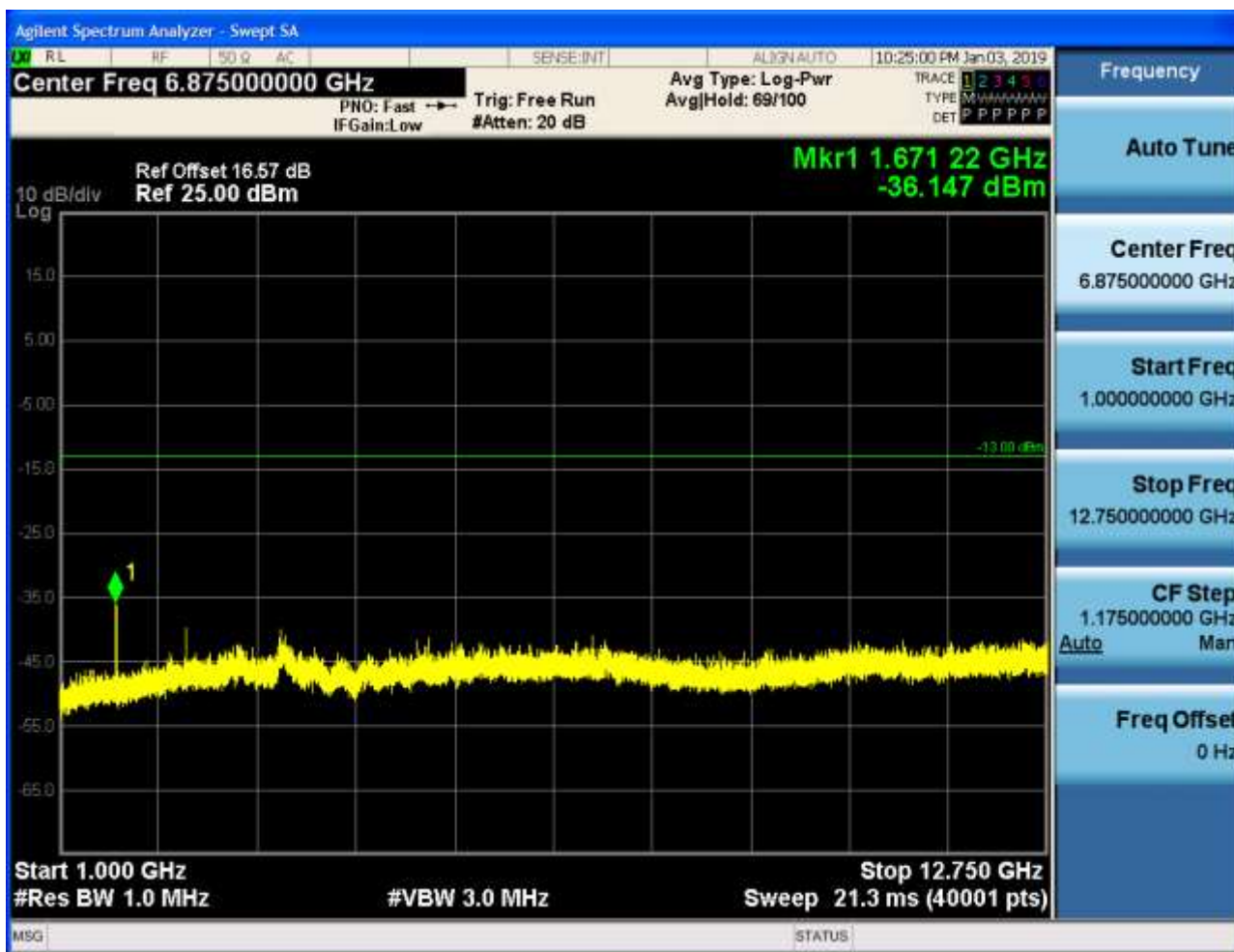
6.2.1.2.2.2 Test Channel = MCH

6.2.1.2.2.2.1 Test RB = RB1#0







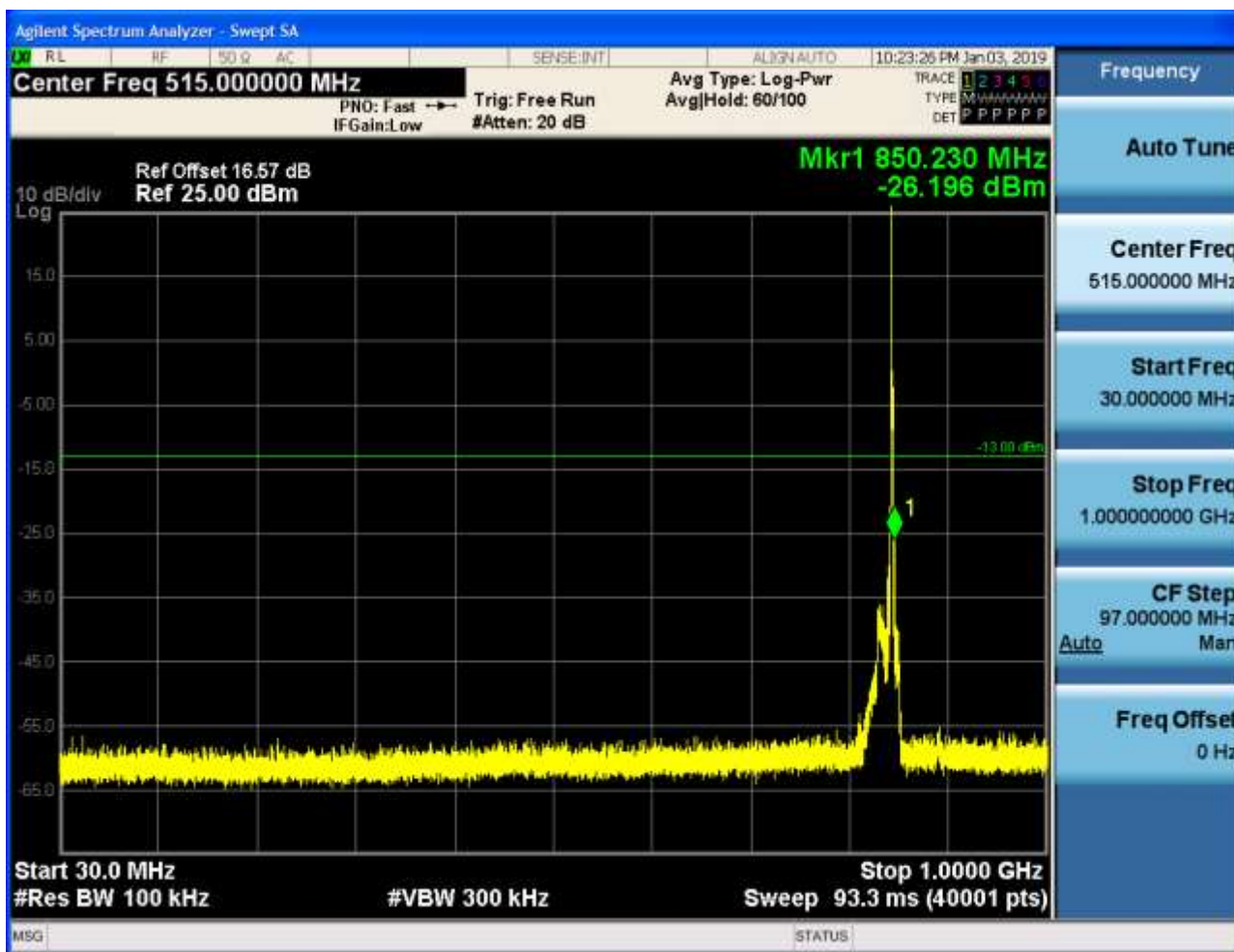


6.2.1.2.2.3 Test Channel = HCH

6.2.1.2.2.3.1 Test RB = RB1#0





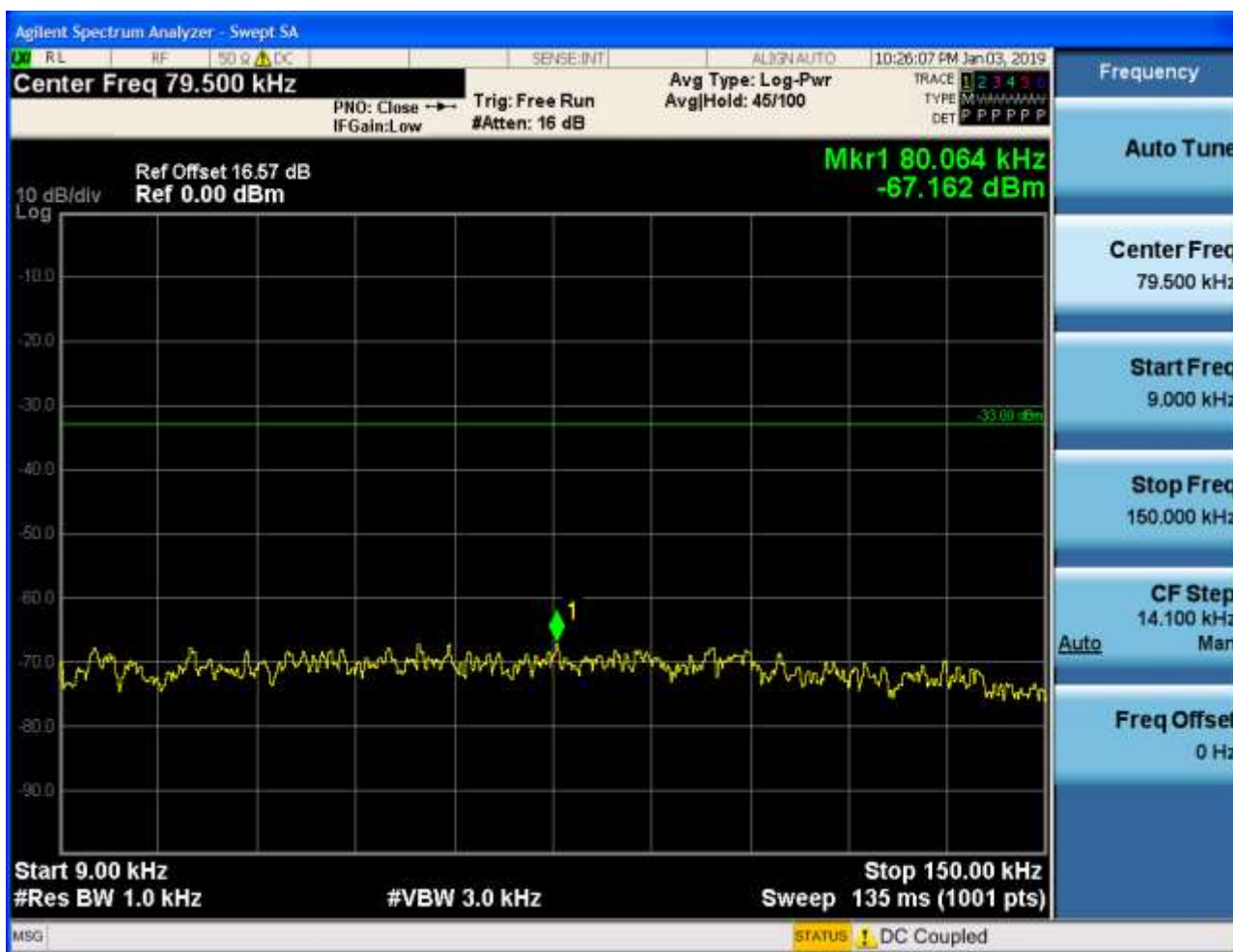




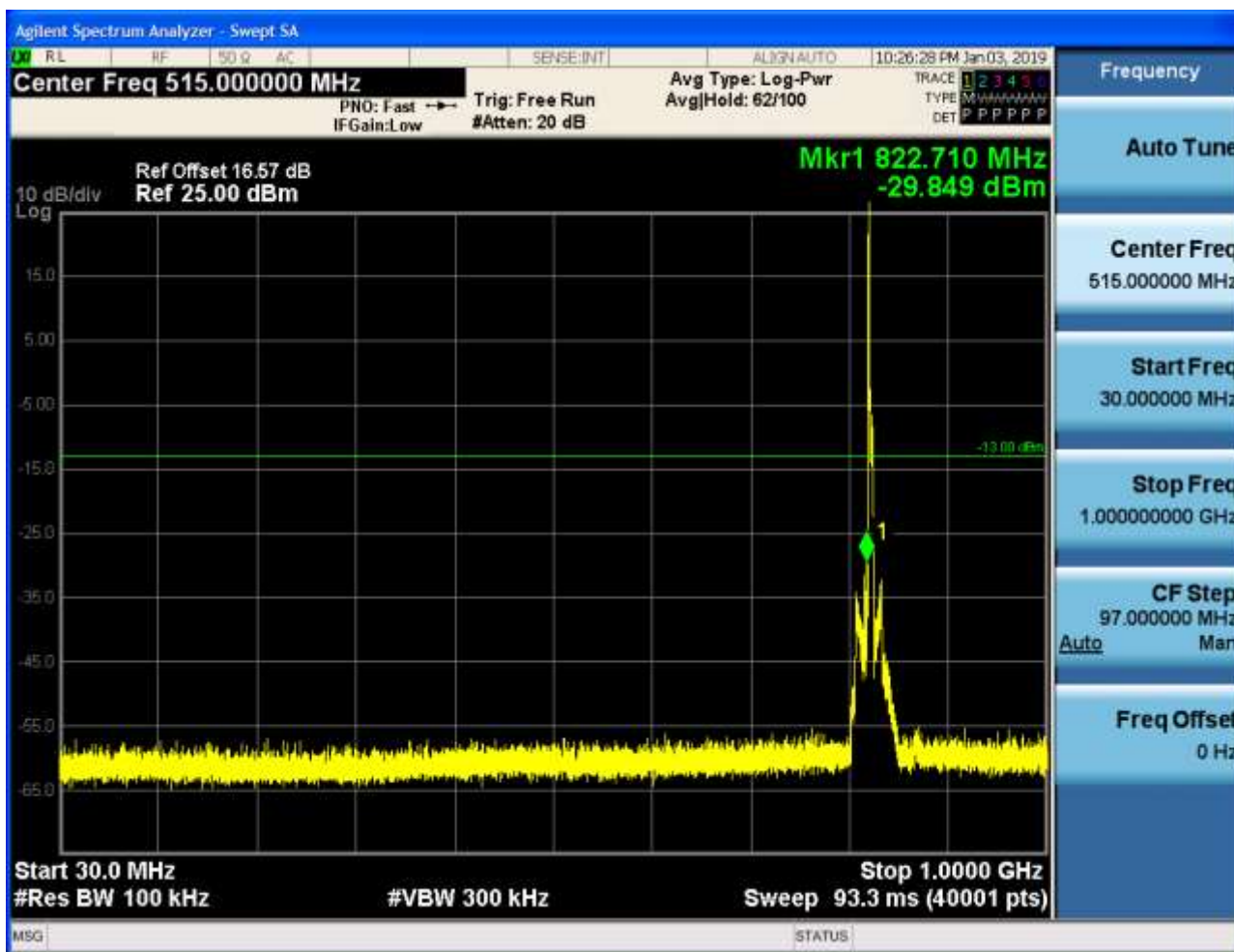
6.2.1.2.3 Test Bandwidth = 5

6.2.1.2.3.1 Test Channel = LCH

6.2.1.2.3.1.1 Test RB = RB1#0







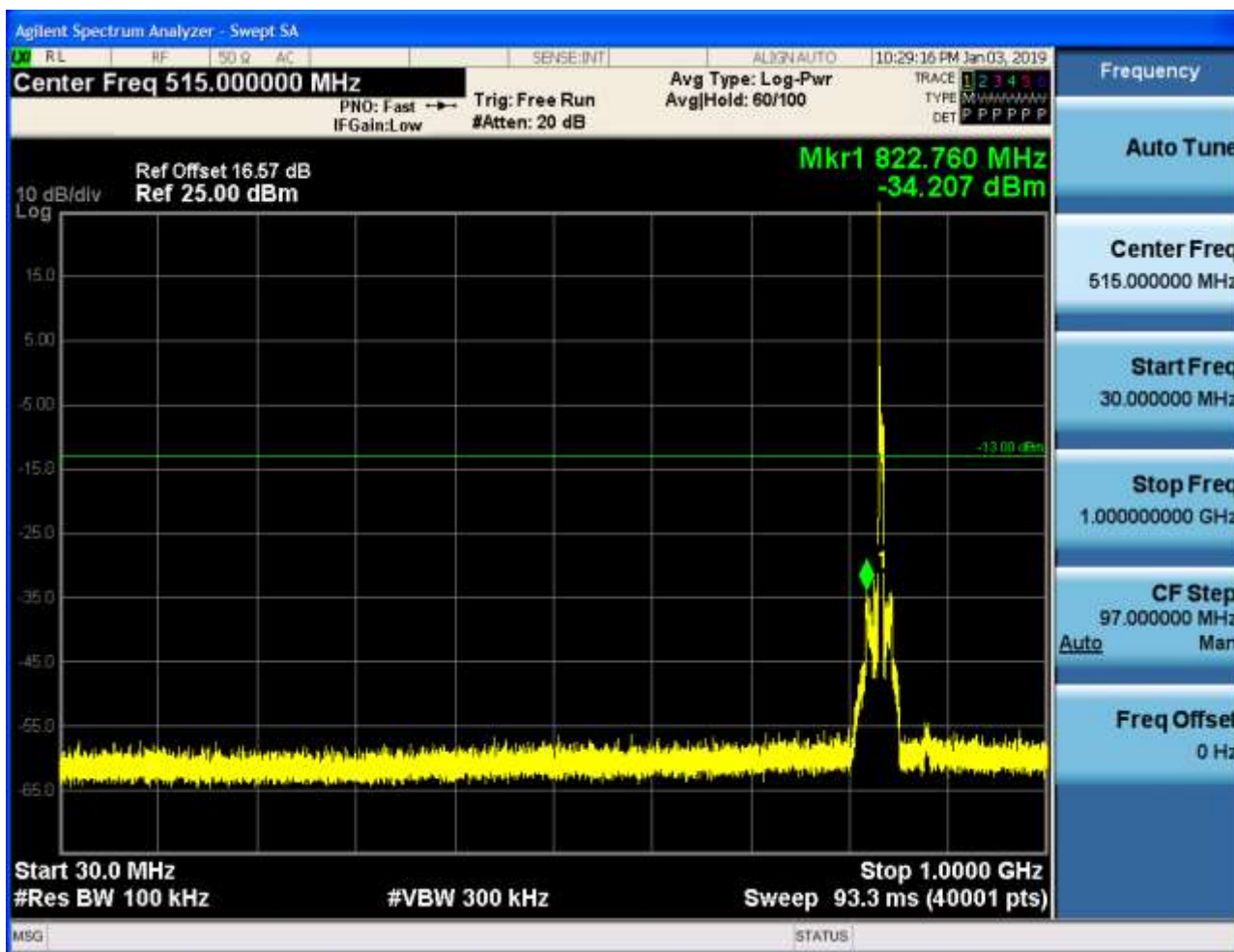


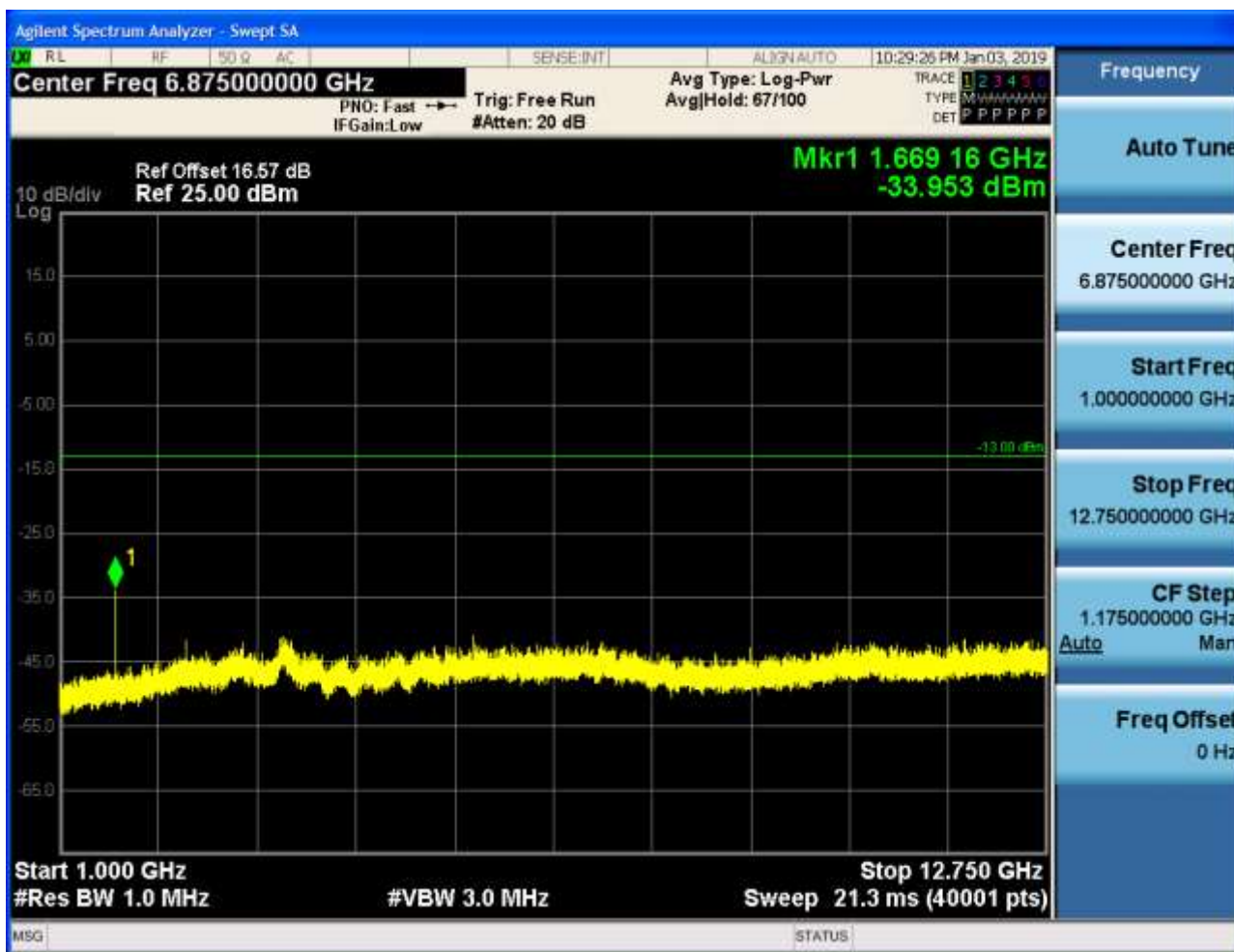
6.2.1.2.3.2 Test Channel = MCH

6.2.1.2.3.2.1 Test RB = RB1#0



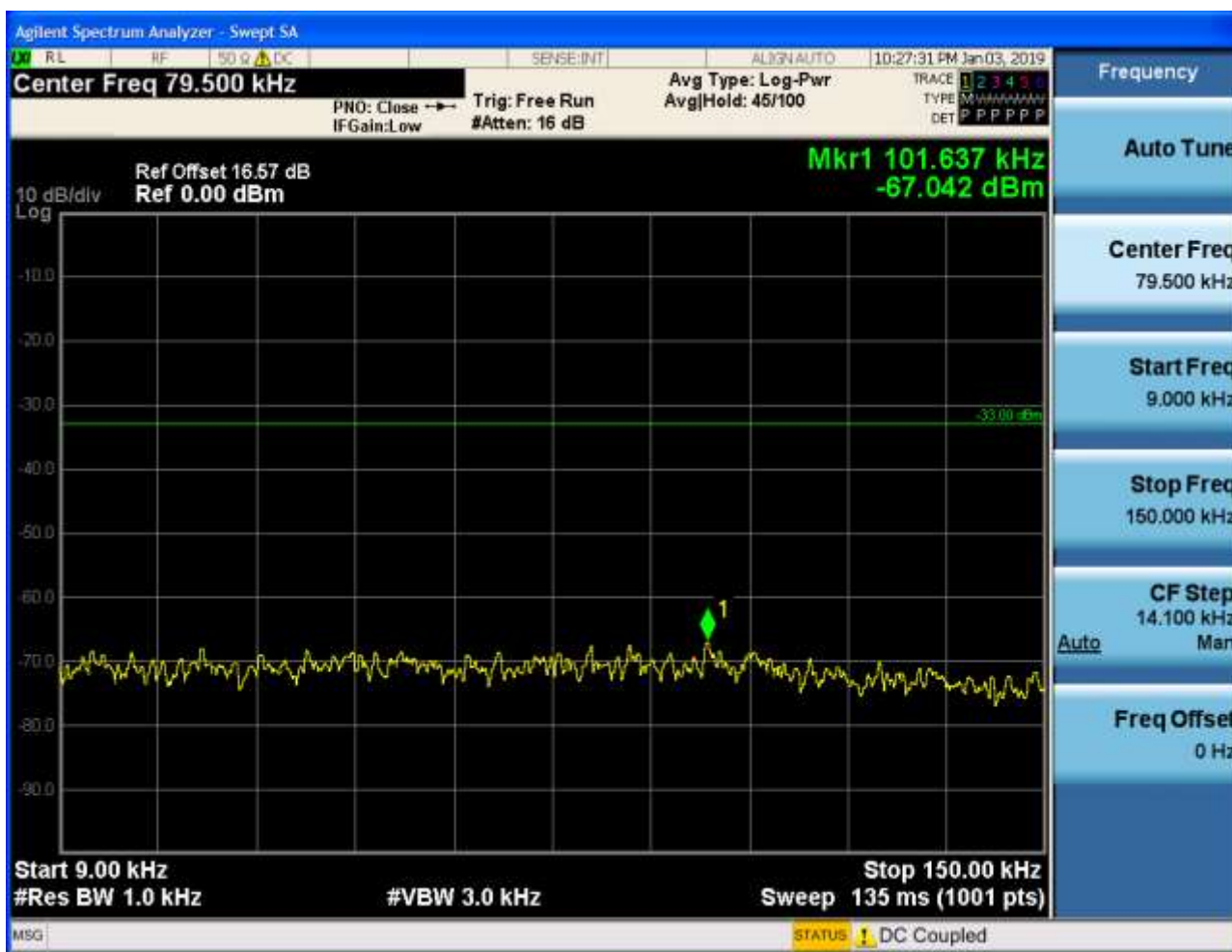




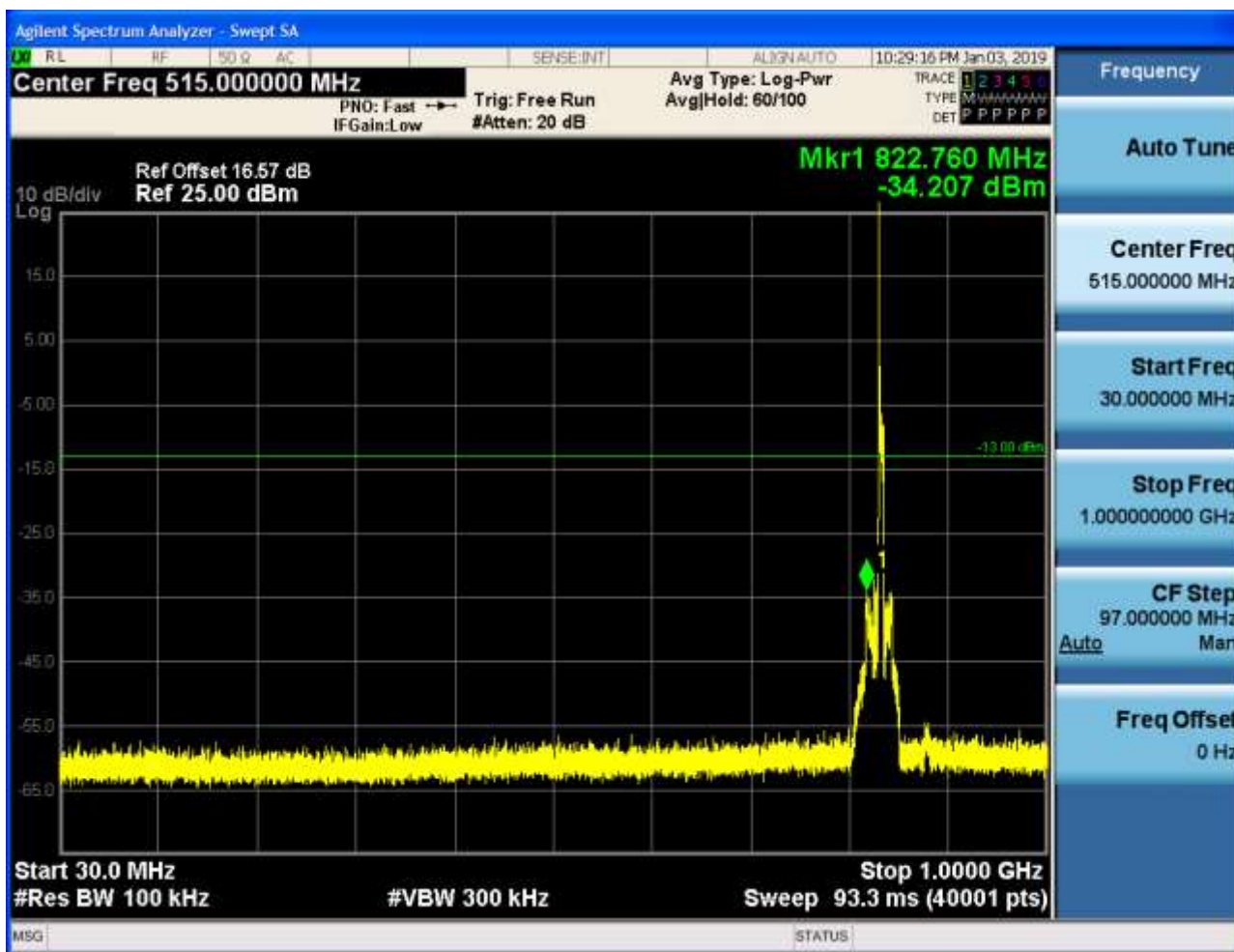


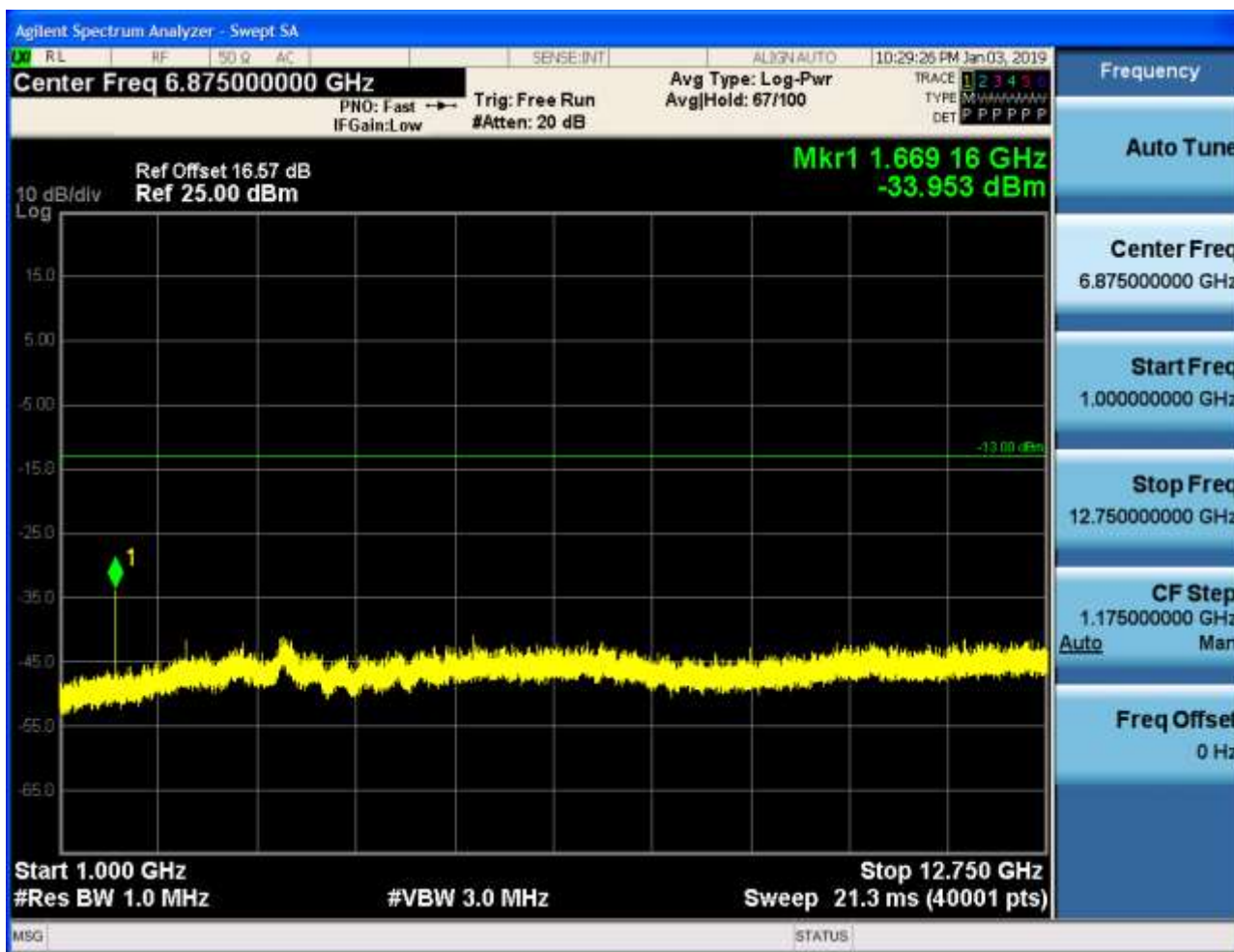
6.2.1.2.3.3 Test Channel = HCH

6.2.1.2.3.3.1 Test RB = RB1#0









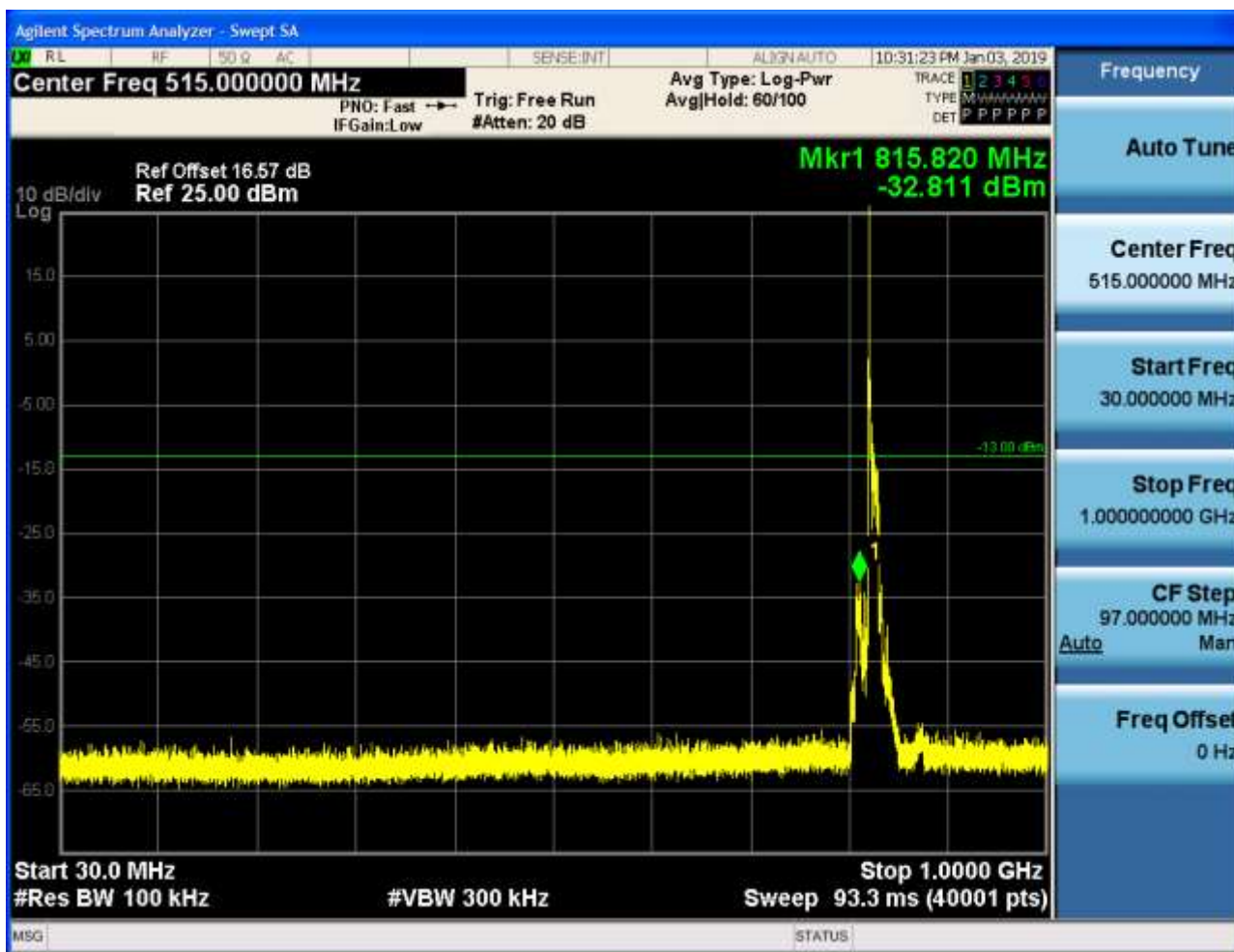
6.2.1.2.4 Test Bandwidth = 10

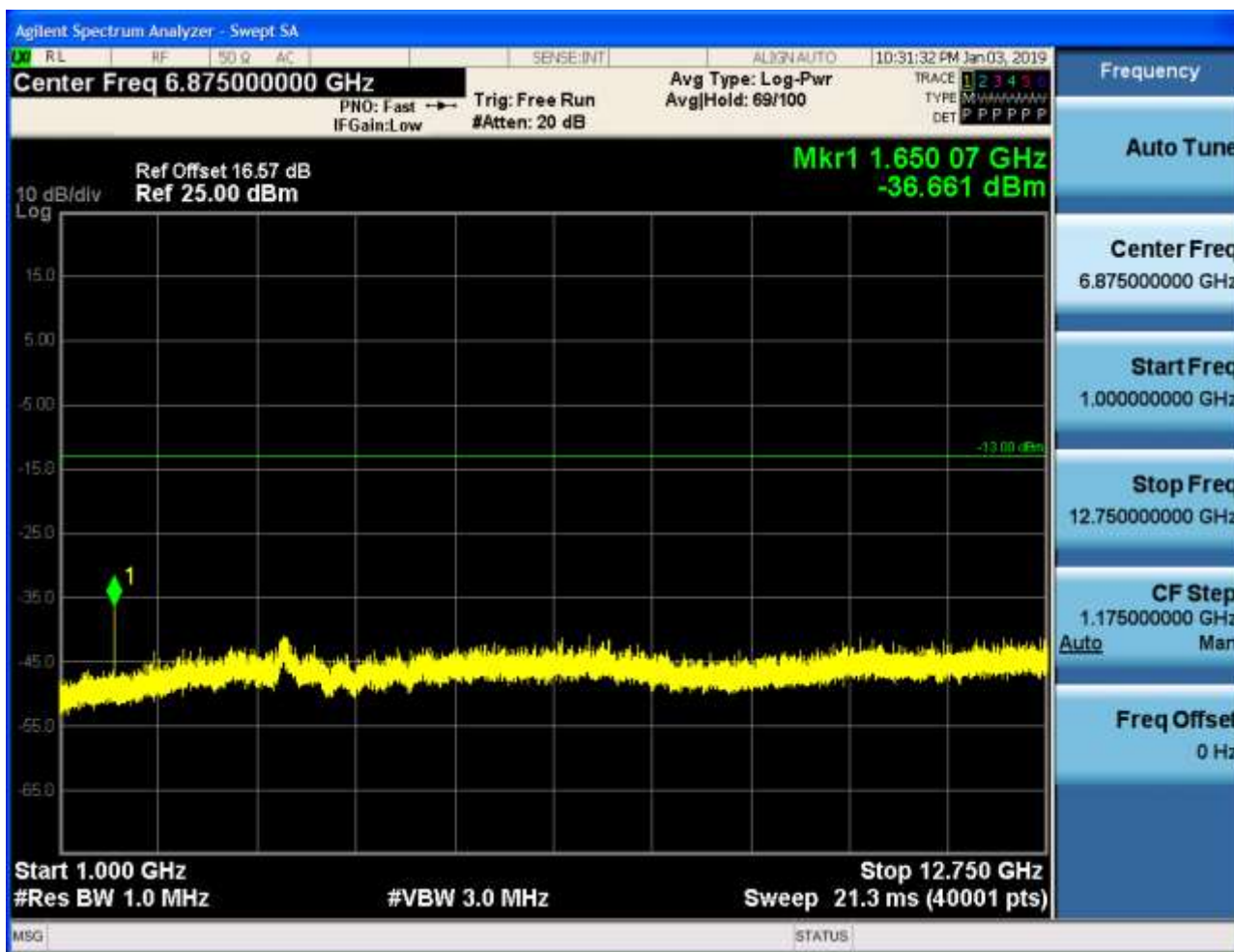
6.2.1.2.4.1 Test Channel = LCH

6.2.1.2.4.1.1 Test RB = RB1#0







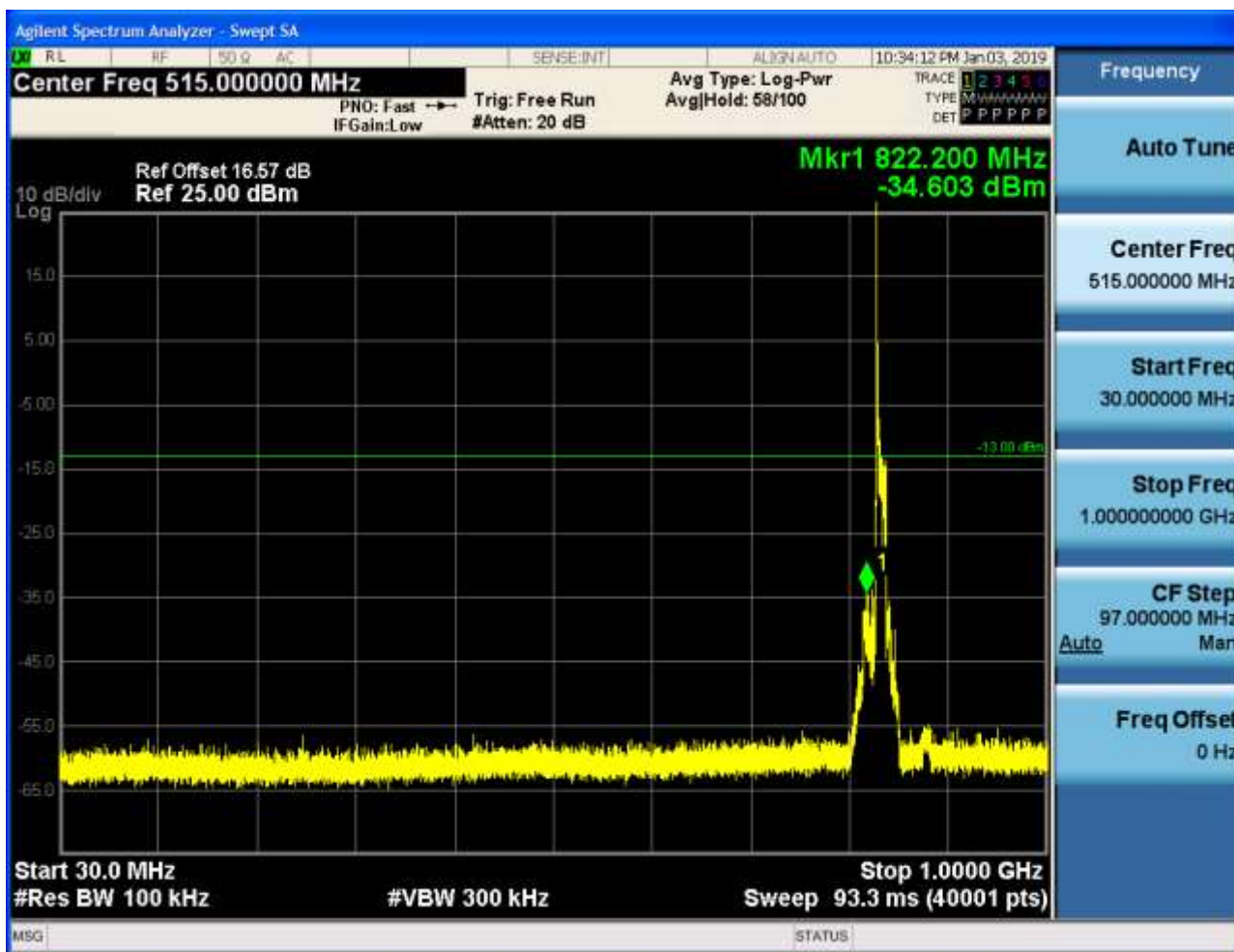


6.2.1.2.4.2 Test Channel = MCH

6.2.1.2.4.2.1 Test RB = RB1#0



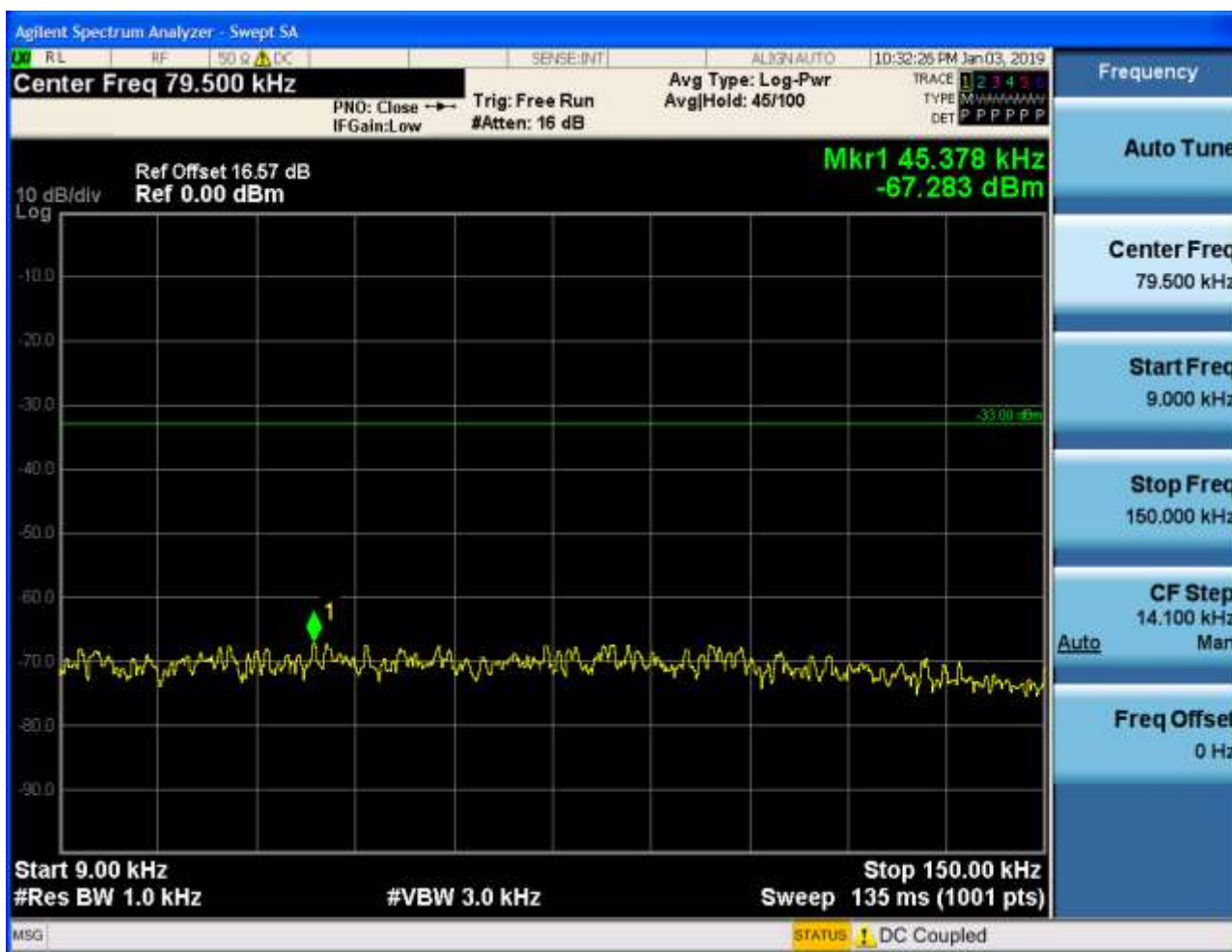




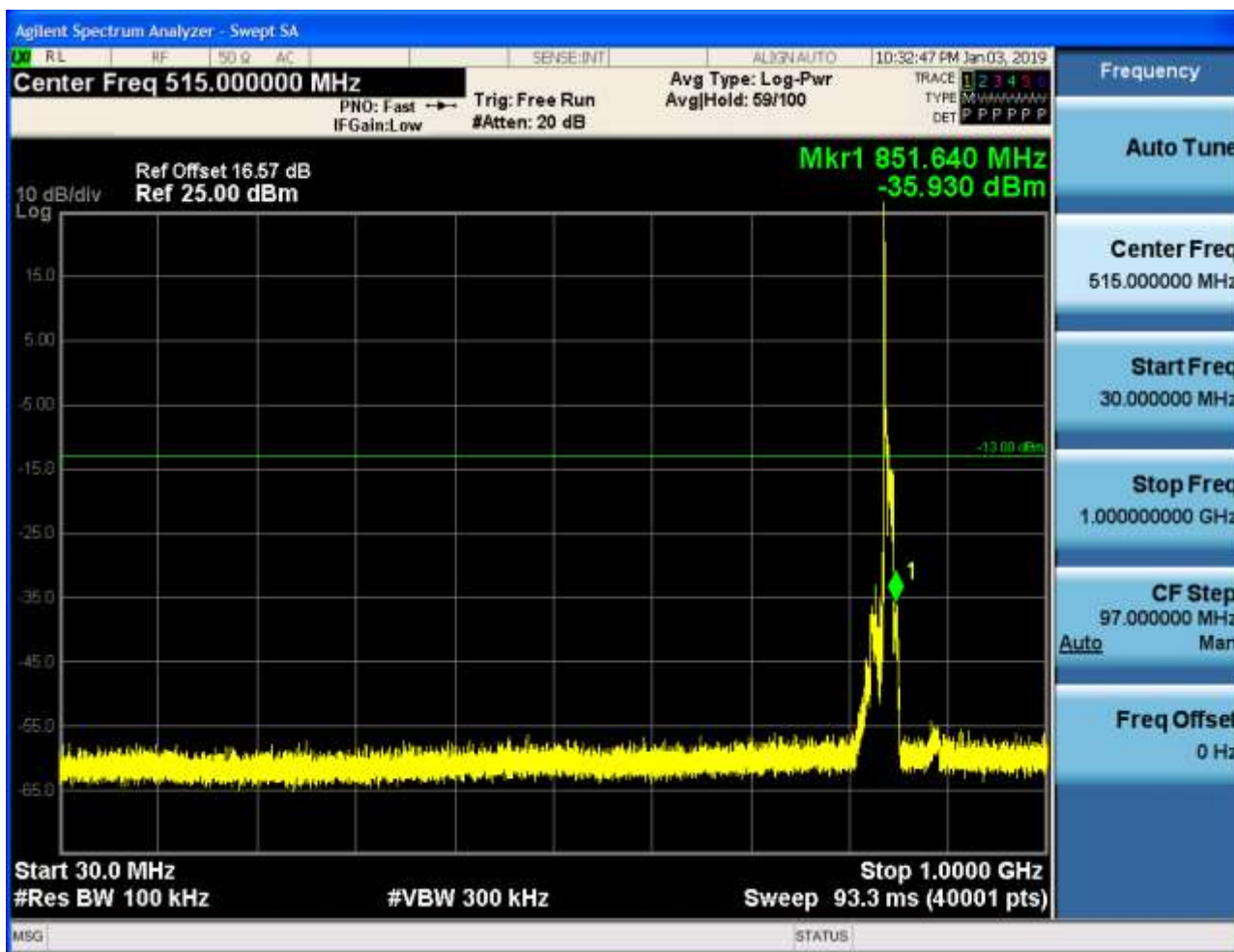


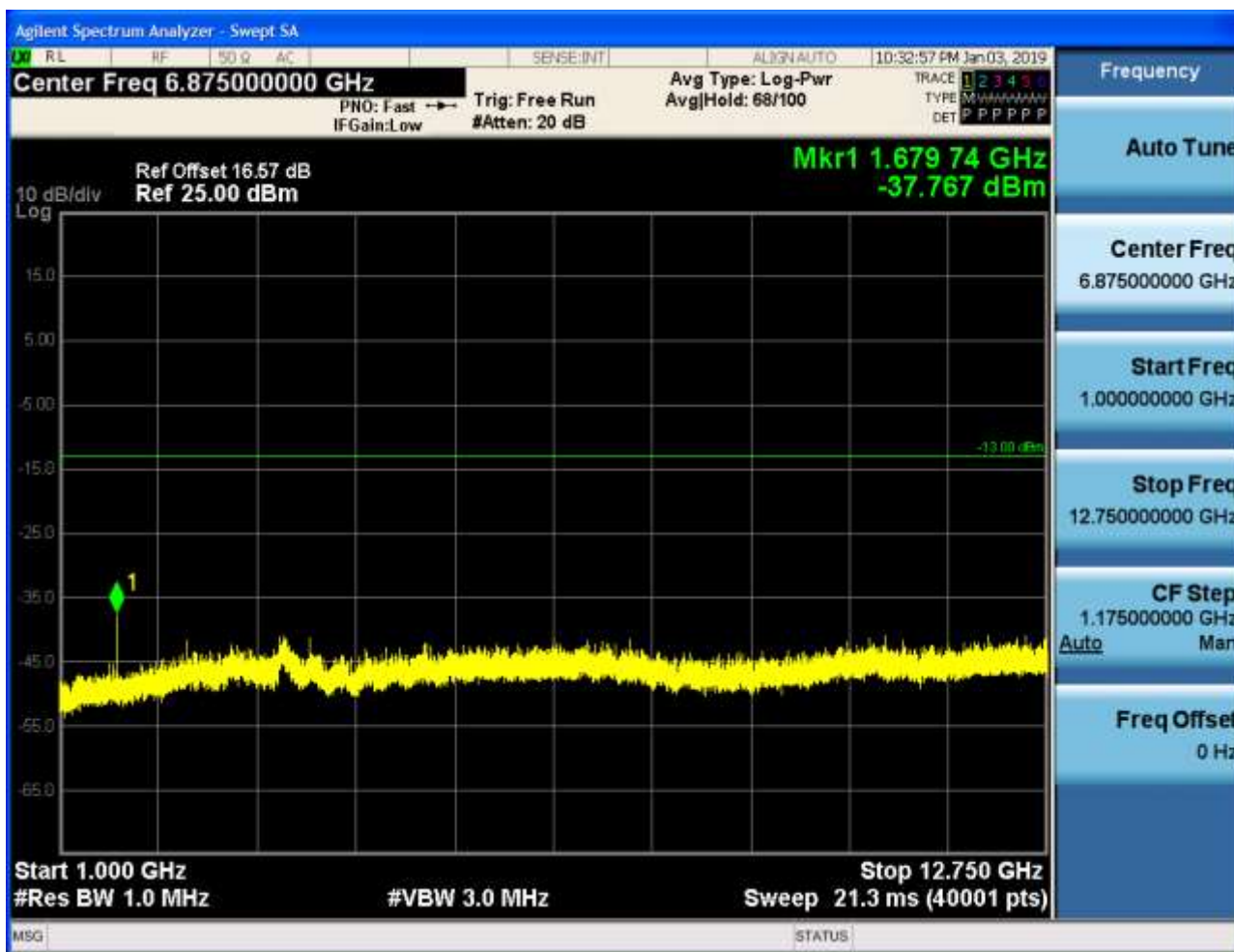
6.2.1.2.4.3 Test Channel = HCH

6.2.1.2.4.3.1 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, RBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, RBW = 9kHz, VBW = 30k Hz, Detector: PK

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

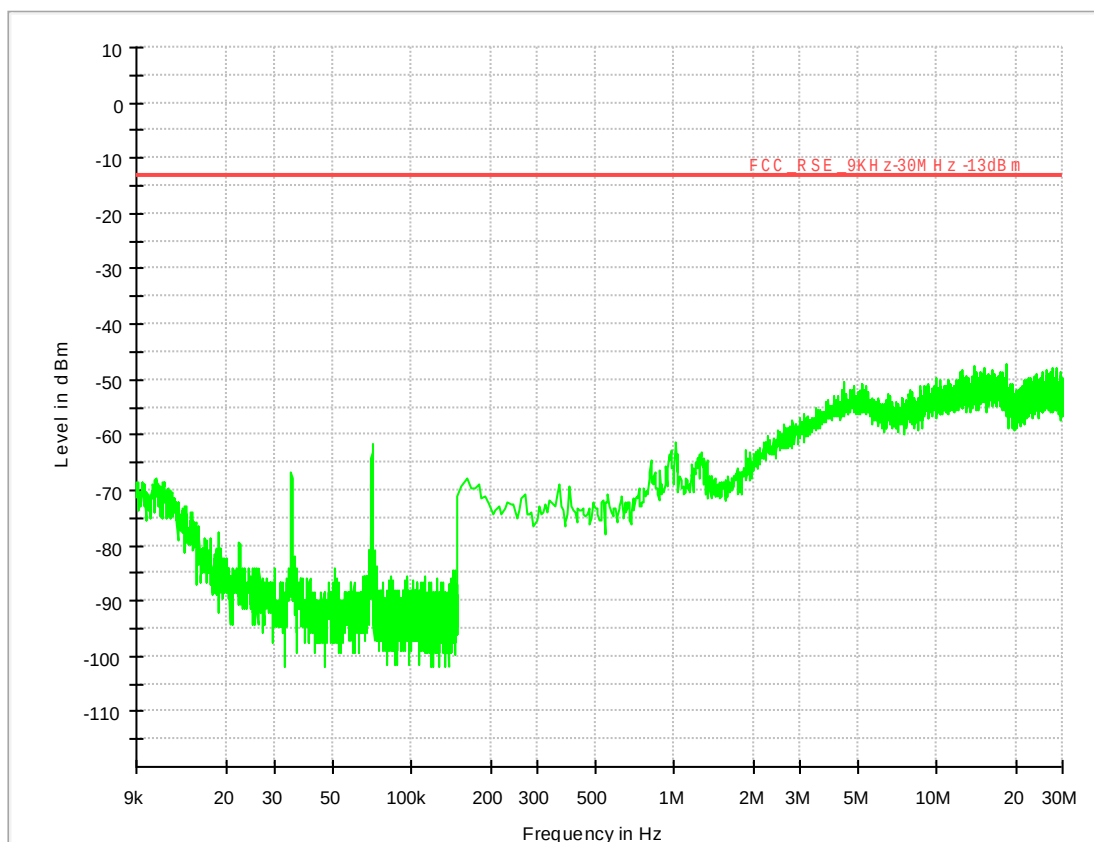
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz Detector: PK

Part I - Test Plots

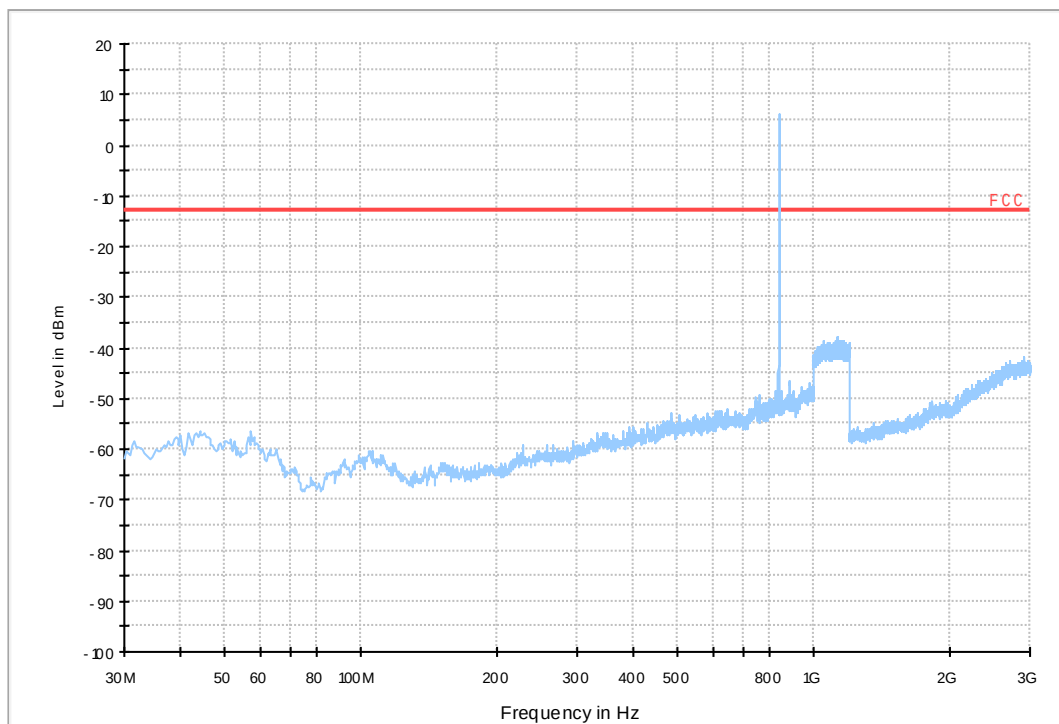
7.1 For LTE

7.1.1 Test Band = Band5_ANT1

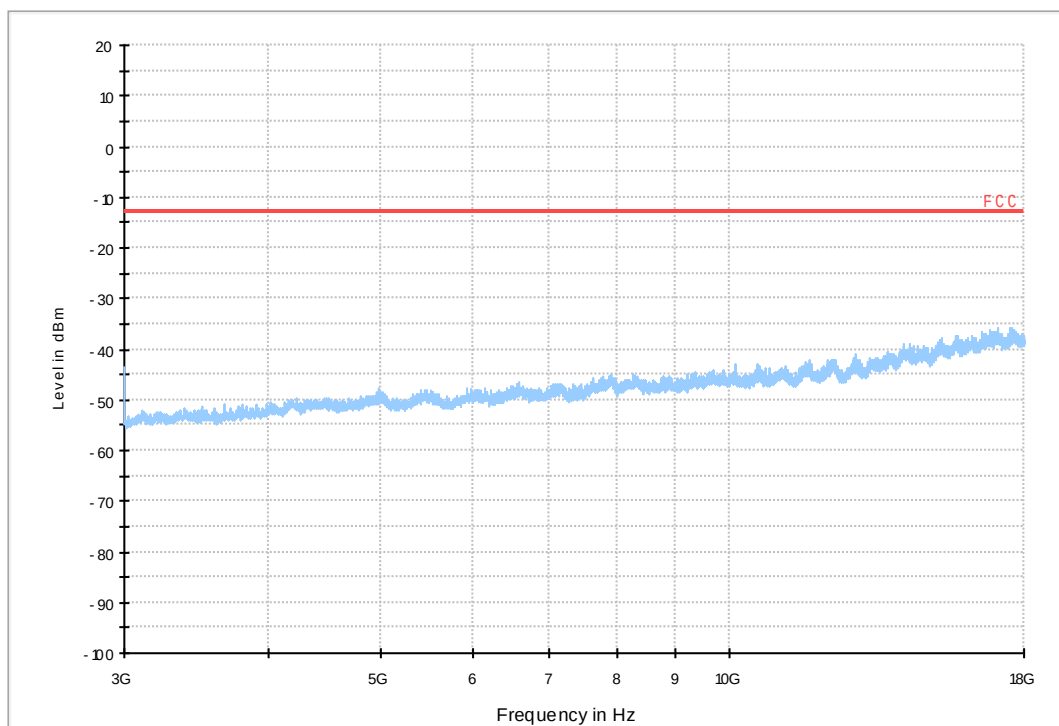
7.1.1.1 Test Bandwidth = 1.4



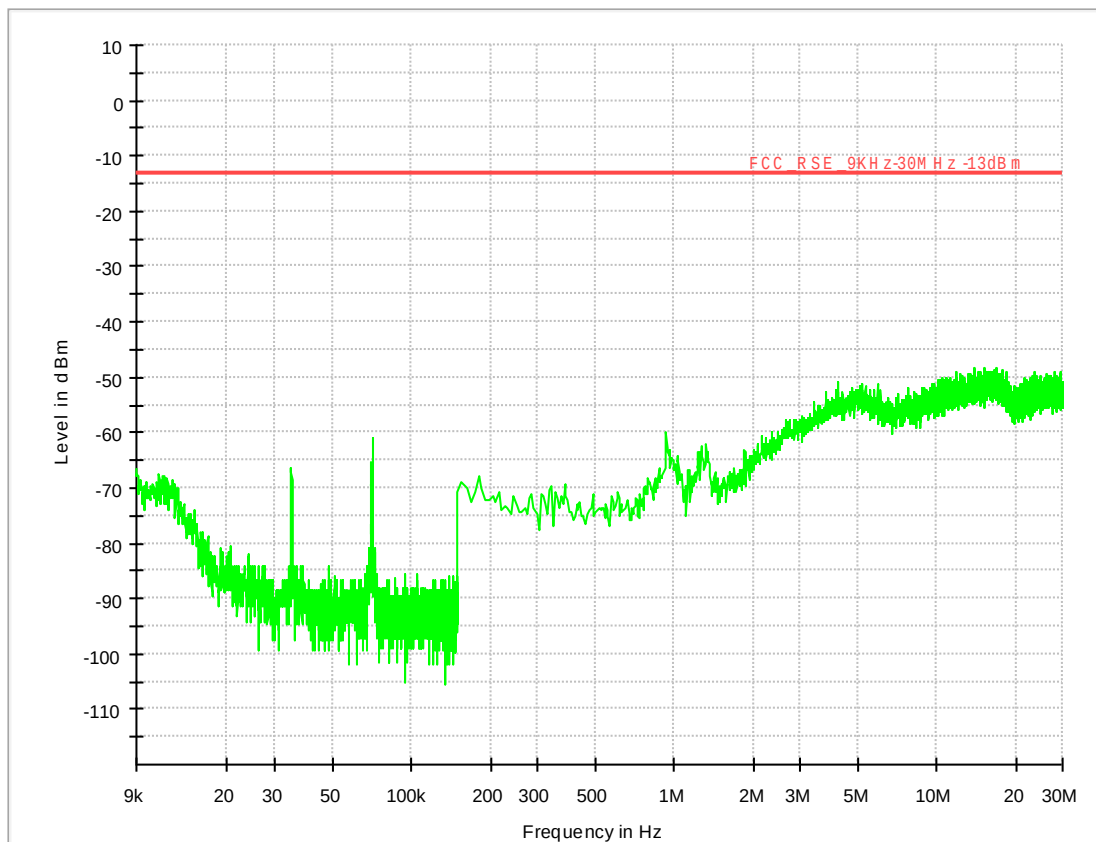
LTE FDD RSE-TX-DIRECTOR BELOW 1G_L



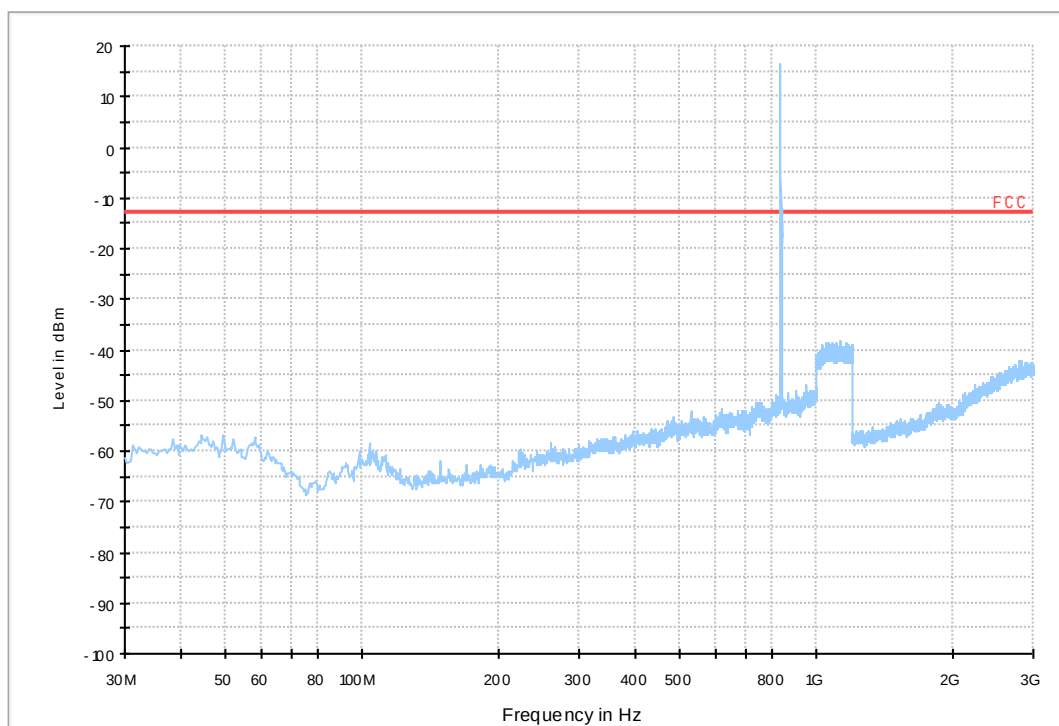
LTE FDD RSE-TX-DIRECTOR BELOW 1G_H



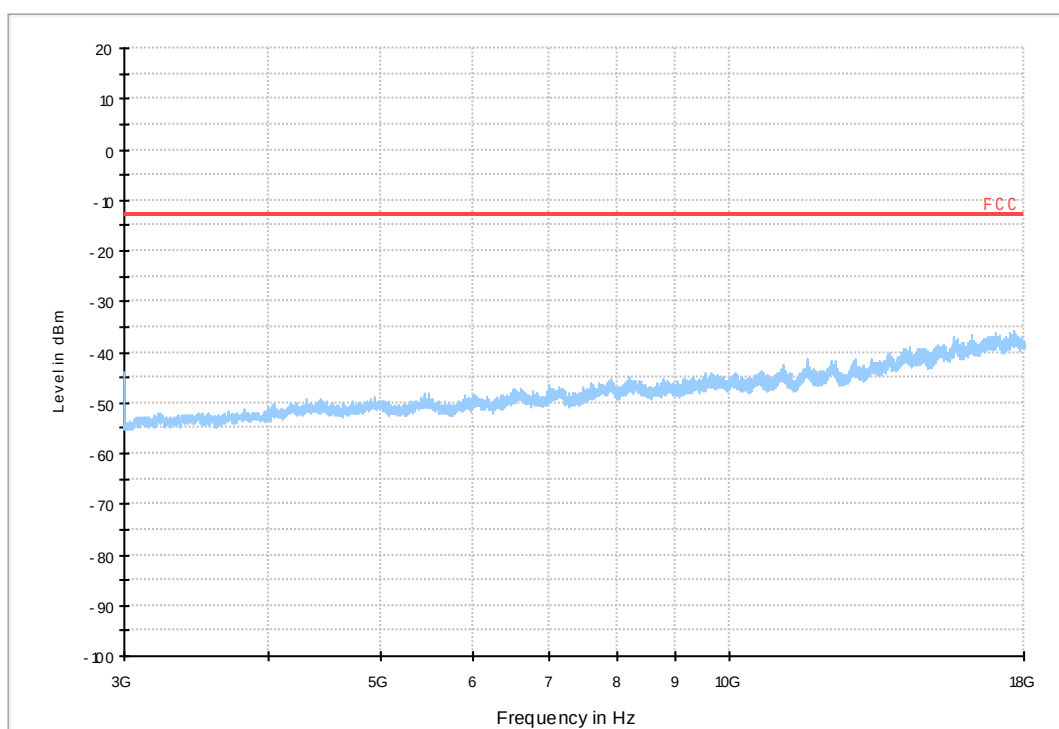
7.1.1.2 Test Bandwidth = 10



LTE FDD RSE-TX-DIRECTOR BELOW 1G_L

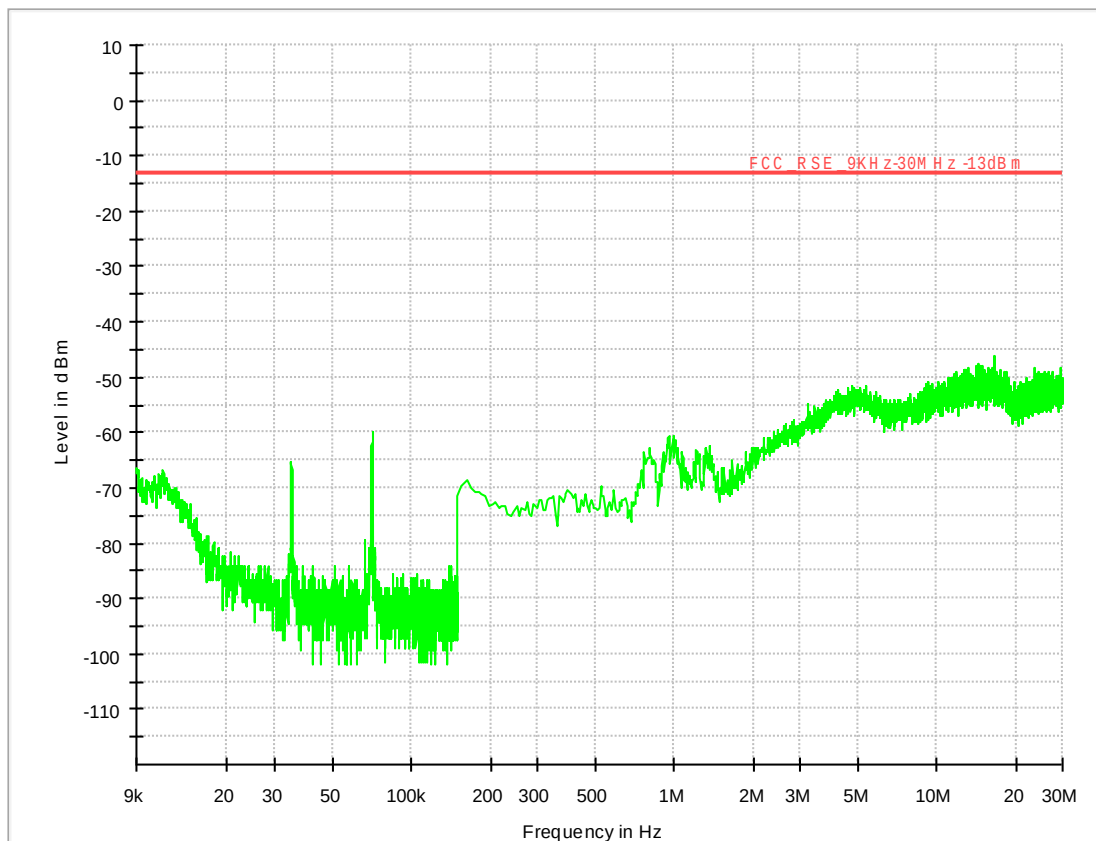


LTE FDD RSE-TX-DIRECTOR BELOW 1G_H

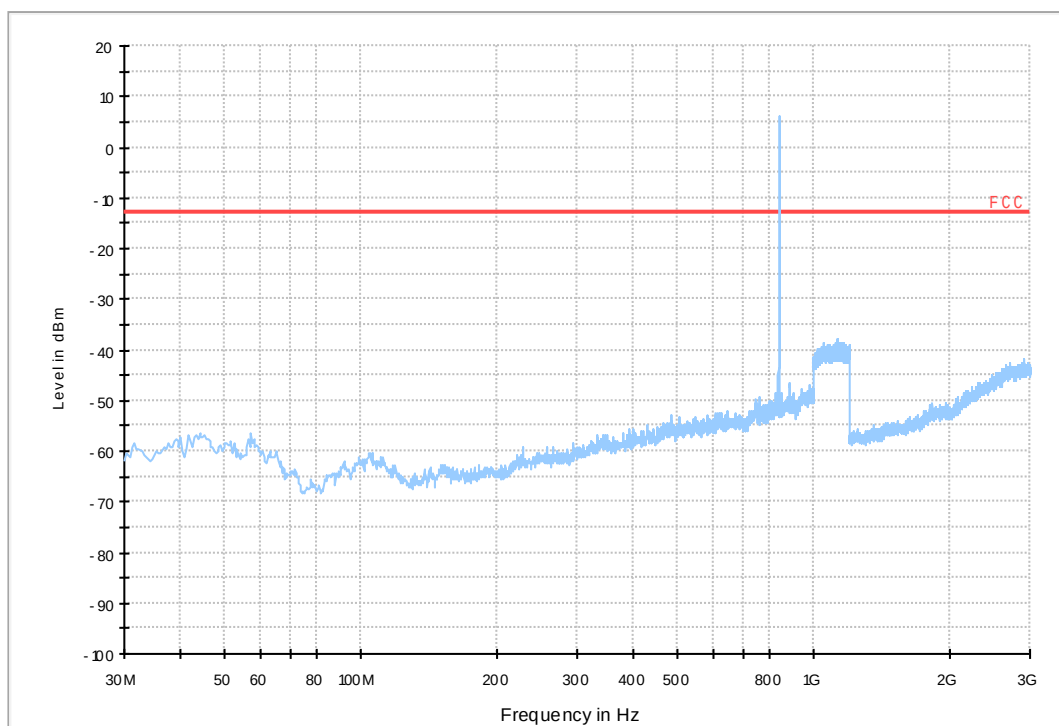


7.1.2 Test Band = Band5_ANT2

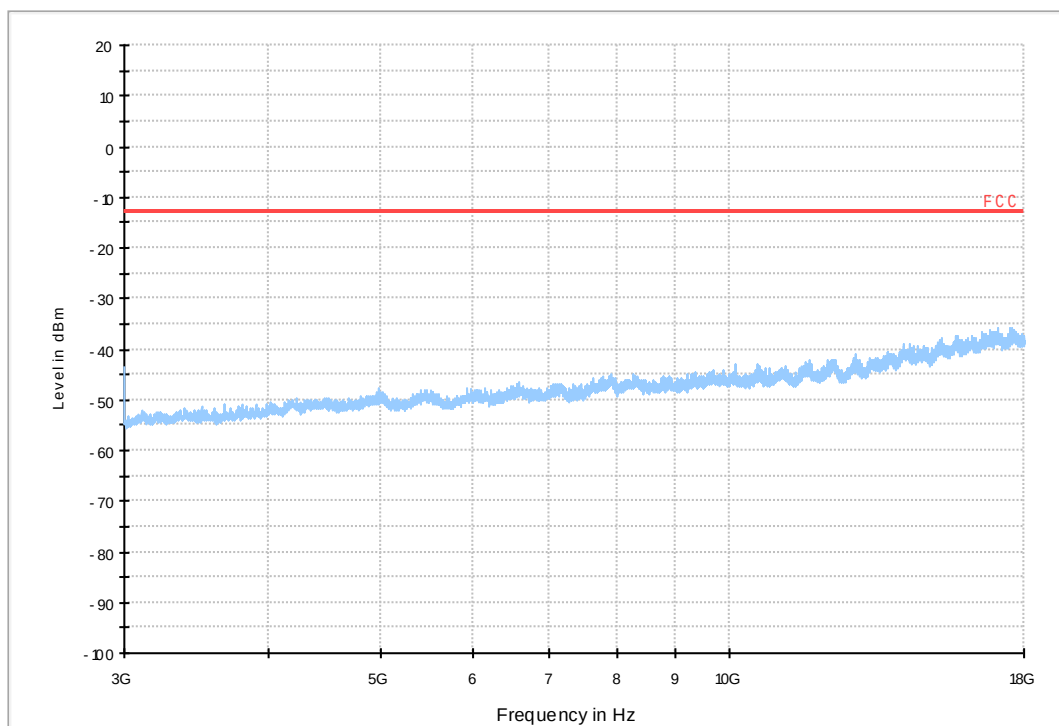
7.1.2.1 Test Bandwidth = 1.4



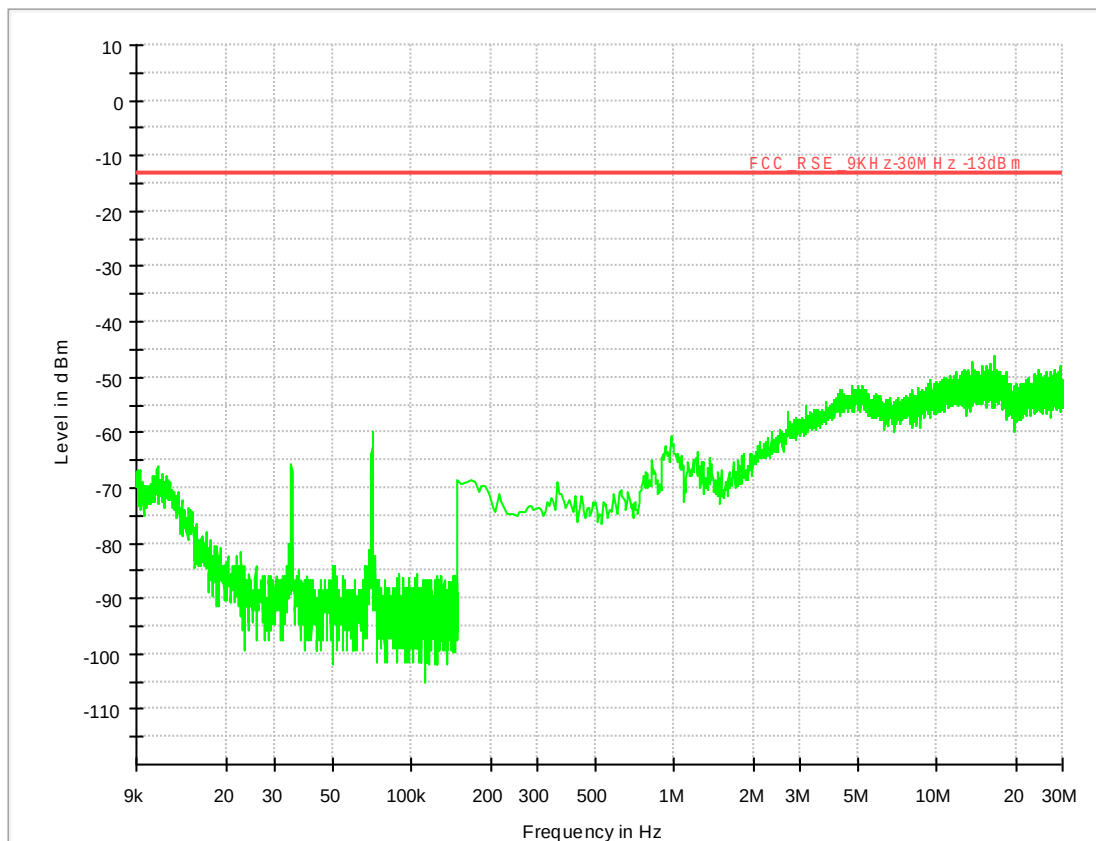
LTE FDD RSE-TX-DIRECTOR BELOW 1G_L



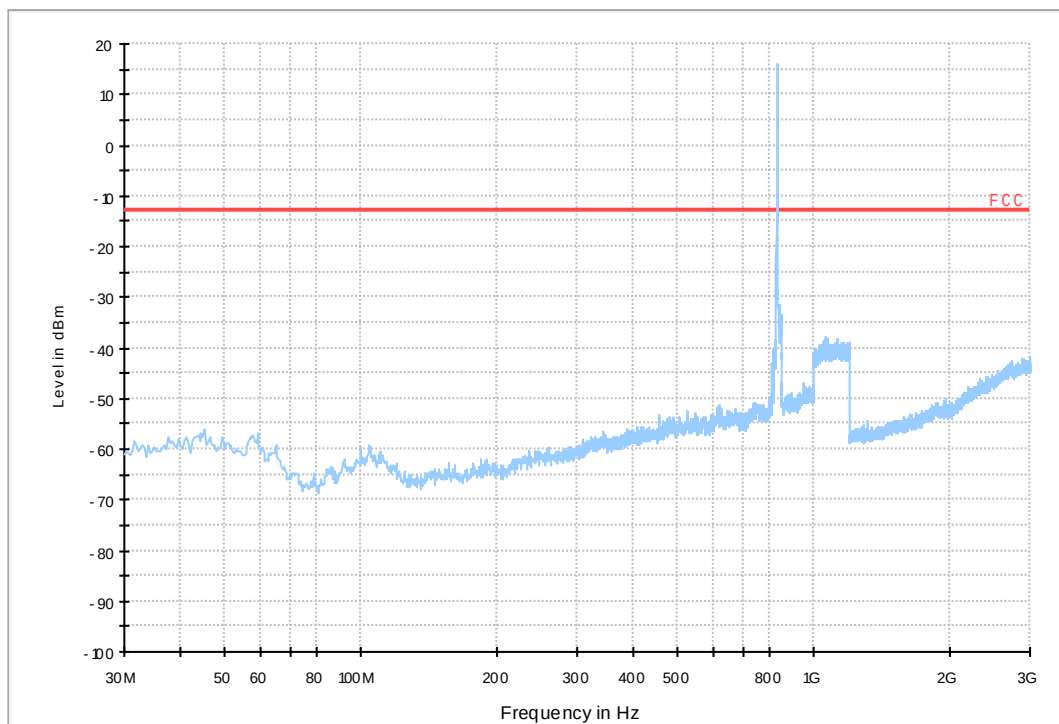
LTE FDD RSE-TX-DIRECTOR BELOW 1G_H



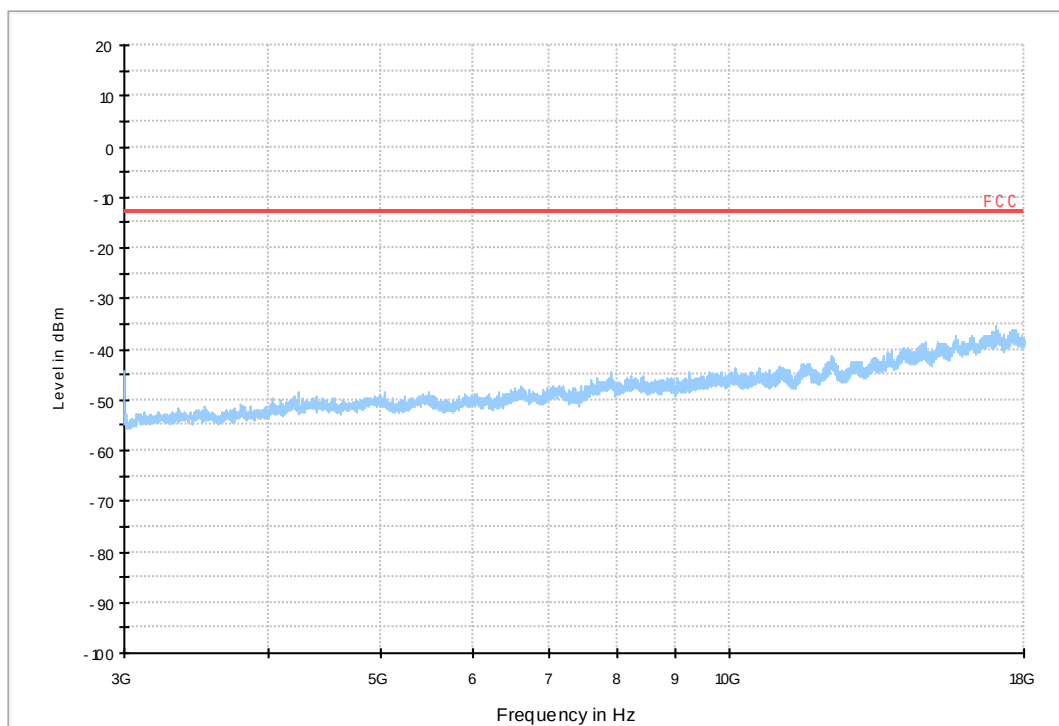
7.1.2.2 Test Bandwidth = 10



LTE FDD RSE-TX-DIRECTOR BELOW 1G_L



LTE FDD RSE-TX-DIRECTOR BELOW 1G_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
Band5	LTE/TM1	1.4	LCH	TN	VL	0.12875	0.00016	PASS
					VN	-5.85079	-0.00709	PASS
					VH	0.92983	0.00113	PASS
			MCH	TN	VL	-6.13689	-0.00734	PASS
					VN	0.20027	0.00024	PASS
					VH	-6.03676	-0.00722	PASS
			HCH	TN	VL	9.74178	0.01148	PASS
					VN	19.99855	0.02357	PASS
					VH	2.24590	0.00265	PASS
		3	LCH	TN	VL	-12.57420	-0.01523	PASS
					VN	-6.89506	-0.00835	PASS
					VH	-1.17302	-0.00142	PASS
			MCH	TN	VL	-0.80109	-0.00096	PASS
					VN	2.05994	0.00246	PASS
					VH	-3.01838	-0.00361	PASS
			HCH	TN	VL	-2.41756	-0.00285	PASS
					VN	-3.47614	-0.00410	PASS
					VH	0.60081	0.00071	PASS
		5	LCH	TN	VL	-15.10620	-0.01828	PASS
					VN	-4.33445	-0.00524	PASS
					VH	-2.76089	-0.00334	PASS
			MCH	TN	VL	35.69126	0.04267	PASS
					VN	-24.81937	-0.02967	PASS
					VH	-5.95093	-0.00711	PASS
			HCH	TN	VL	-0.62943	-0.00074	PASS
					VN	7.30991	0.00864	PASS
					VH	-3.08990	-0.00365	PASS
		10	LCH	TN	VL	1.04427	0.00126	PASS
					VN	-1.45912	-0.00176	PASS
					VH	3.90530	0.00471	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM2		MCH	TN	VL	1.20163	0.00144	PASS
					VN	4.07696	0.00487	PASS
					VH	-0.14305	-0.00017	PASS
			HCH	TN	VL	-3.70503	-0.00439	PASS
					VN	-5.33581	-0.00632	PASS
					VH	-3.97682	-0.00471	PASS
		1.4	LCH	TN	VL	8.44002	0.01023	PASS
					VN	-13.41820	-0.01627	PASS
					VH	2.70367	0.00328	PASS
			MCH	TN	VL	-2.96116	-0.00354	PASS
					VN	-0.84400	-0.00101	PASS
					VH	5.42164	0.00648	PASS
			HCH	TN	VL	10.74314	0.01266	PASS
					VN	8.76904	0.01034	PASS
					VH	-14.20498	-0.01675	PASS
		3	LCH	TN	VL	7.10964	0.00861	PASS
					VN	-3.34740	-0.00405	PASS
					VH	-2.26021	-0.00274	PASS
			MCH	TN	VL	7.71046	0.00922	PASS
					VN	-2.31743	-0.00277	PASS
					VH	1.71661	0.00205	PASS
			HCH	TN	VL	-2.43187	-0.00287	PASS
					VN	-1.70231	-0.00201	PASS
					VH	2.81811	0.00333	PASS
		5	LCH	TN	VL	-1.53065	-0.00185	PASS
					VN	-8.65459	-0.01047	PASS
					VH	-6.23703	-0.00755	PASS
			MCH	TN	VL	17.63821	0.02109	PASS
					VN	1.43051	0.00171	PASS
					VH	-12.13074	-0.01450	PASS
			HCH	TN	VL	2.98977	0.00353	PASS
					VN	0.17166	0.00020	PASS
					VH	-5.49316	-0.00649	PASS
		10	LCH	TN	VL	1.14441	0.00138	PASS
					VN	1.65939	0.00200	PASS
					VH	0.82970	0.00100	PASS
			MCH	TN	VL	-2.88963	-0.00345	PASS
					VN	-3.91960	-0.00469	PASS
					VH	-3.91960	-0.00469	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			HCH	TN	VH	4.03404	0.00482	PASS
					VL	-4.49181	-0.00532	PASS
					VN	-4.83513	-0.00573	PASS
					VH	-5.67913	-0.00673	PASS

8.1.2 Frequency Error vs. Temperature:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
Band5	LTE/TM1	1.4	LCH	VN	-30	-0.41485	-0.00050	PASS
					-20	-6.29425	-0.00763	PASS
					-10	5.43594	0.00659	PASS
					0	2.87533	0.00349	PASS
					10	-8.39710	-0.01018	PASS
					20	-5.85079	-0.00709	PASS
					30	-3.87669	-0.00470	PASS
					40	2.28882	0.00278	PASS
					50	8.45432	0.01025	PASS
			MCH	VN	-30	-2.16007	-0.00258	PASS
					-20	1.45912	0.00174	PASS
					-10	1.04427	0.00125	PASS
					0	-6.26564	-0.00749	PASS
					10	0.14305	0.00017	PASS
					20	0.20027	0.00024	PASS
					30	-3.87669	-0.00463	PASS
					40	-4.09126	-0.00489	PASS
					50	-6.80924	-0.00814	PASS
			HCH	VN	-30	4.83513	0.00570	PASS
					-20	4.56333	0.00538	PASS
					-10	5.36442	0.00632	PASS
					0	-1.58787	-0.00187	PASS
					10	-1.02997	-0.00121	PASS
					20	19.99855	0.02357	PASS
					30	-2.60353	-0.00307	PASS
					40	0.47207	0.00056	PASS
					50	0.17166	0.00020	PASS
		3	LCH	VN	-30	8.03947	0.00974	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					-20	1.04427	0.00127	PASS
					-10	-12.35962	-0.01497	PASS
					0	-5.95093	-0.00721	PASS
					10	0.52929	0.00064	PASS
					20	-6.89506	-0.00835	PASS
					30	-3.46184	-0.00419	PASS
					40	-6.12259	-0.00742	PASS
					50	-6.83784	-0.00828	PASS
			MCH	VN	-30	6.89506	0.00824	PASS
					-20	3.99113	0.00477	PASS
					-10	0.44346	0.00053	PASS
					0	-3.06129	-0.00366	PASS
					10	-0.48637	-0.00058	PASS
					20	2.05994	0.00246	PASS
					30	-1.94550	-0.00233	PASS
					40	0.10014	0.00012	PASS
					50	-3.41892	-0.00409	PASS
			HCH	VN	-30	4.22001	0.00498	PASS
					-20	2.40326	0.00284	PASS
					-10	-0.87261	-0.00103	PASS
					0	0.32902	0.00039	PASS
					10	-3.24726	-0.00383	PASS
					20	-3.47614	-0.00410	PASS
					30	-2.21729	-0.00262	PASS
					40	-5.23567	-0.00618	PASS
					50	-1.78814	-0.00211	PASS
		5	LCH	VN	-30	-1.27316	-0.00154	PASS
					-20	-3.64780	-0.00441	PASS
					-10	-6.82354	-0.00826	PASS
					0	-4.01974	-0.00486	PASS
					10	-1.81675	-0.00220	PASS
					20	-4.33445	-0.00524	PASS
					30	0.94414	0.00114	PASS
					40	-3.20435	-0.00388	PASS
					50	-3.60489	-0.00436	PASS
			MCH	VN	-30	4.24862	0.00508	PASS
					-20	-33.48827	-0.04003	PASS
					-10	-2.56062	-0.00306	PASS
					0	-9.79900	-0.01171	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					10	-11.40118	-0.01363	PASS
					20	-24.81937	-0.02967	PASS
					30	2.14577	0.00257	PASS
					40	-3.57628	-0.00428	PASS
					50	-32.15790	-0.03844	PASS
			HCH	VN	-30	1.73092	0.00204	PASS
					-20	0.72956	0.00086	PASS
					-10	6.89506	0.00815	PASS
					0	0.92983	0.00110	PASS
					10	2.41756	0.00286	PASS
					20	7.30991	0.00864	PASS
					30	-8.01086	-0.00946	PASS
					40	1.23024	0.00145	PASS
					50	-6.78062	-0.00801	PASS
		10	LCH	VN	-30	-5.04971	-0.00609	PASS
					-20	-4.17709	-0.00504	PASS
					-10	-2.00272	-0.00242	PASS
					0	-1.75953	-0.00212	PASS
					10	3.84808	0.00464	PASS
					20	-1.45912	-0.00176	PASS
					30	1.23024	0.00148	PASS
					40	1.54495	0.00186	PASS
					50	0.67234	0.00081	PASS
			MCH	VN	-30	-12.90321	-0.01543	PASS
					-20	7.22408	0.00864	PASS
					-10	-2.26021	-0.00270	PASS
					0	-0.15736	-0.00019	PASS
					10	-0.68665	-0.00082	PASS
					20	4.07696	0.00487	PASS
					30	-8.31127	-0.00994	PASS
					40	9.75609	0.01166	PASS
					50	2.23160	0.00267	PASS
			HCH	VN	-30	-2.31743	-0.00275	PASS
					-20	-1.74522	-0.00207	PASS
					-10	-4.33445	-0.00514	PASS
					0	-5.79357	-0.00686	PASS
					10	-4.67777	-0.00554	PASS
					20	-5.33581	-0.00632	PASS
					30	-3.81947	-0.00453	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM2	1.4			40	-3.41892	-0.00405	PASS
					50	-6.46591	-0.00766	PASS
			LCH	VN	-30	3.54767	0.00430	PASS
					-20	-11.22952	-0.01362	PASS
					-10	-0.30041	-0.00036	PASS
					0	-8.09670	-0.00982	PASS
					10	-1.65939	-0.00201	PASS
					20	-13.41820	-0.01627	PASS
					30	-3.33309	-0.00404	PASS
					40	-5.35011	-0.00649	PASS
					50	-3.50475	-0.00425	PASS
			MCH	VN	-30	9.97067	0.01192	PASS
					-20	-17.75265	-0.02122	PASS
					-10	-7.92503	-0.00947	PASS
					0	-8.38280	-0.01002	PASS
					10	8.44002	0.01009	PASS
					20	-0.84400	-0.00101	PASS
					30	0.34332	0.00041	PASS
					40	-4.07696	-0.00487	PASS
					50	-1.21593	-0.00145	PASS
			HCH	VN	-30	14.77718	0.01742	PASS
					-20	-21.04282	-0.02481	PASS
					-10	3.21865	0.00379	PASS
					0	19.86980	0.02342	PASS
					10	-7.72476	-0.00911	PASS
					20	8.76904	0.01034	PASS
					30	-1.13010	-0.00133	PASS
					40	0.62943	0.00074	PASS
					50	-2.46048	-0.00290	PASS
		3	LCH	VN	-30	-5.23567	-0.00634	PASS
					-20	2.74658	0.00333	PASS
					-10	-9.39846	-0.01139	PASS
					0	-10.44273	-0.01265	PASS
					10	5.36442	0.00650	PASS
					20	-3.34740	-0.00405	PASS
					30	74.95880	0.09080	PASS
					40	5.80788	0.00704	PASS
					50	8.64029	0.01047	PASS
			MCH	VN	-30	-1.28746	-0.00154	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					-20	2.66075	0.00318	PASS
					-10	5.95093	0.00711	PASS
					0	-5.57899	-0.00667	PASS
					10	0.55790	0.00067	PASS
					20	-2.31743	-0.00277	PASS
					30	3.29018	0.00393	PASS
					40	-4.24862	-0.00508	PASS
					50	-2.77519	-0.00332	PASS
			HCH	VN	-30	-2.74658	-0.00324	PASS
					-20	-8.88348	-0.01048	PASS
					-10	3.74794	0.00442	PASS
					0	1.28746	0.00152	PASS
					10	2.96116	0.00349	PASS
					20	-1.70231	-0.00201	PASS
					30	-2.04563	-0.00241	PASS
					40	11.02924	0.01301	PASS
					50	-6.15120	-0.00726	PASS
		5	LCH	VN	-30	-7.00951	-0.00848	PASS
					-20	-5.02109	-0.00608	PASS
					-10	1.43051	0.00173	PASS
					0	27.50874	0.03328	PASS
					10	-0.41485	-0.00050	PASS
					20	-8.65459	-0.01047	PASS
					30	-2.51770	-0.00305	PASS
					40	6.80924	0.00824	PASS
					50	-1.90258	-0.00230	PASS
			MCH	VN	-30	29.11091	0.03480	PASS
					-20	9.32694	0.01115	PASS
					-10	1.70231	0.00204	PASS
					0	4.83513	0.00578	PASS
					10	30.06935	0.03595	PASS
					20	1.43051	0.00171	PASS
					30	-7.88212	-0.00942	PASS
					40	9.09805	0.01088	PASS
					50	25.33436	0.03029	PASS
			HCH	VN	-30	1.05858	0.00125	PASS
					-20	-0.31471	-0.00037	PASS
					-10	-1.75953	-0.00208	PASS
					0	-8.12531	-0.00960	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					10	1.11580	0.00132	PASS
					20	0.17166	0.00020	PASS
					30	-0.42915	-0.00051	PASS
					40	-0.88692	-0.00105	PASS
					50	-2.71797	-0.00321	PASS
		10	LCH	VN	-30	-1.13010	-0.00136	PASS
					-20	-0.58651	-0.00071	PASS
					-10	1.74522	0.00211	PASS
					0	-0.08583	-0.00010	PASS
					10	4.67777	0.00564	PASS
					20	1.65939	0.00200	PASS
					30	-4.26292	-0.00514	PASS
					40	0.61512	0.00074	PASS
					50	1.38760	0.00167	PASS
			MCH	VN	-30	3.21865	0.00385	PASS
					-20	-0.40054	-0.00048	PASS
					-10	-0.50068	-0.00060	PASS
					0	-4.64916	-0.00556	PASS
					10	-4.73499	-0.00566	PASS
					20	-3.91960	-0.00469	PASS
					30	1.95980	0.00234	PASS
					40	1.57356	0.00188	PASS
					50	2.04563	0.00245	PASS
			HCH	VN	-30	-1.54495	-0.00183	PASS
					-20	-4.76360	-0.00564	PASS
					-10	-7.89642	-0.00936	PASS
					0	0.02861	0.00003	PASS
					10	-0.92983	-0.00110	PASS
					20	-4.83513	-0.00573	PASS
					30	-0.92983	-0.00110	PASS
					40	-2.28882	-0.00271	PASS
					50	-4.92096	-0.00583	PASS

END