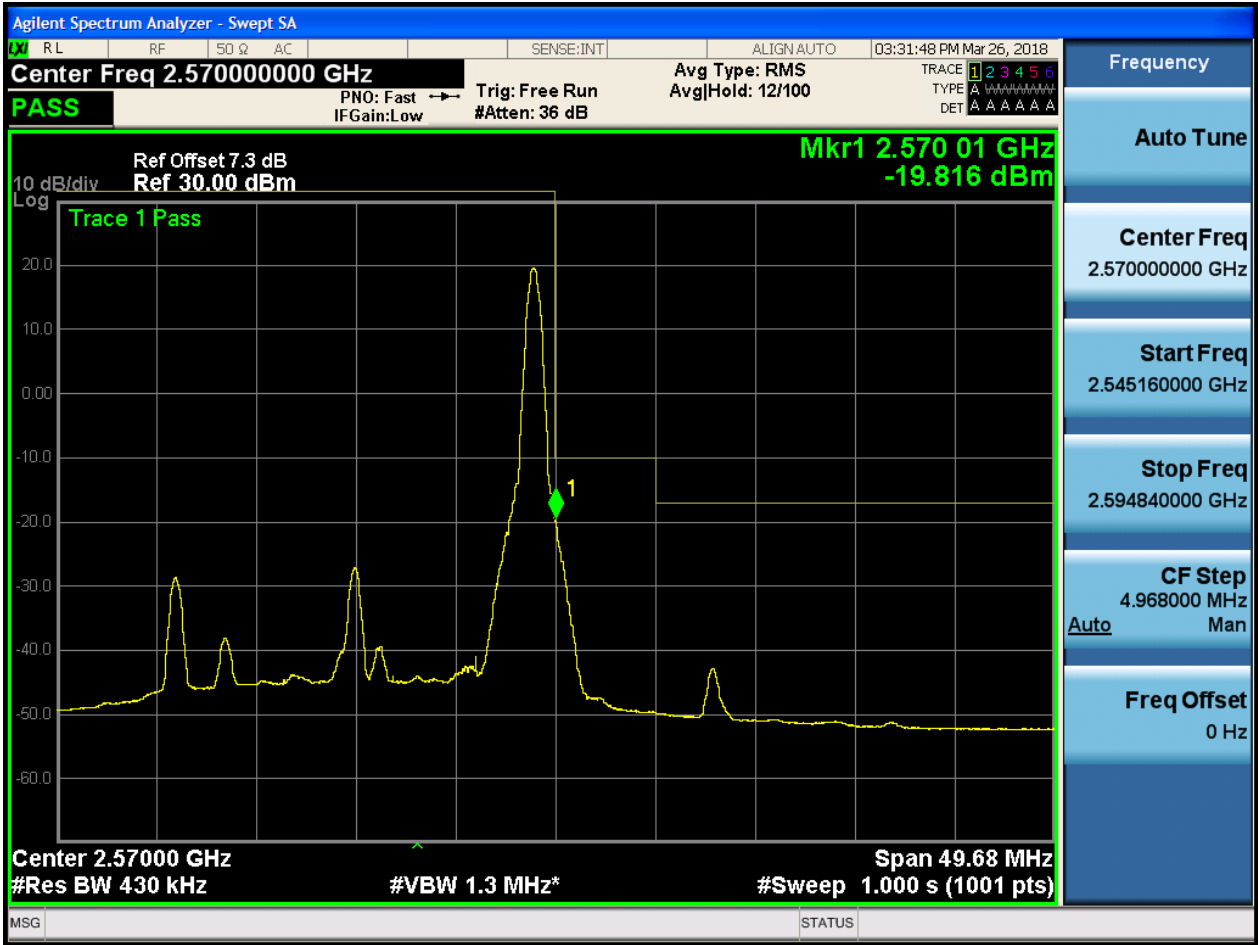




5.1.1.2.4.2.2 Test RB = RB1#99





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

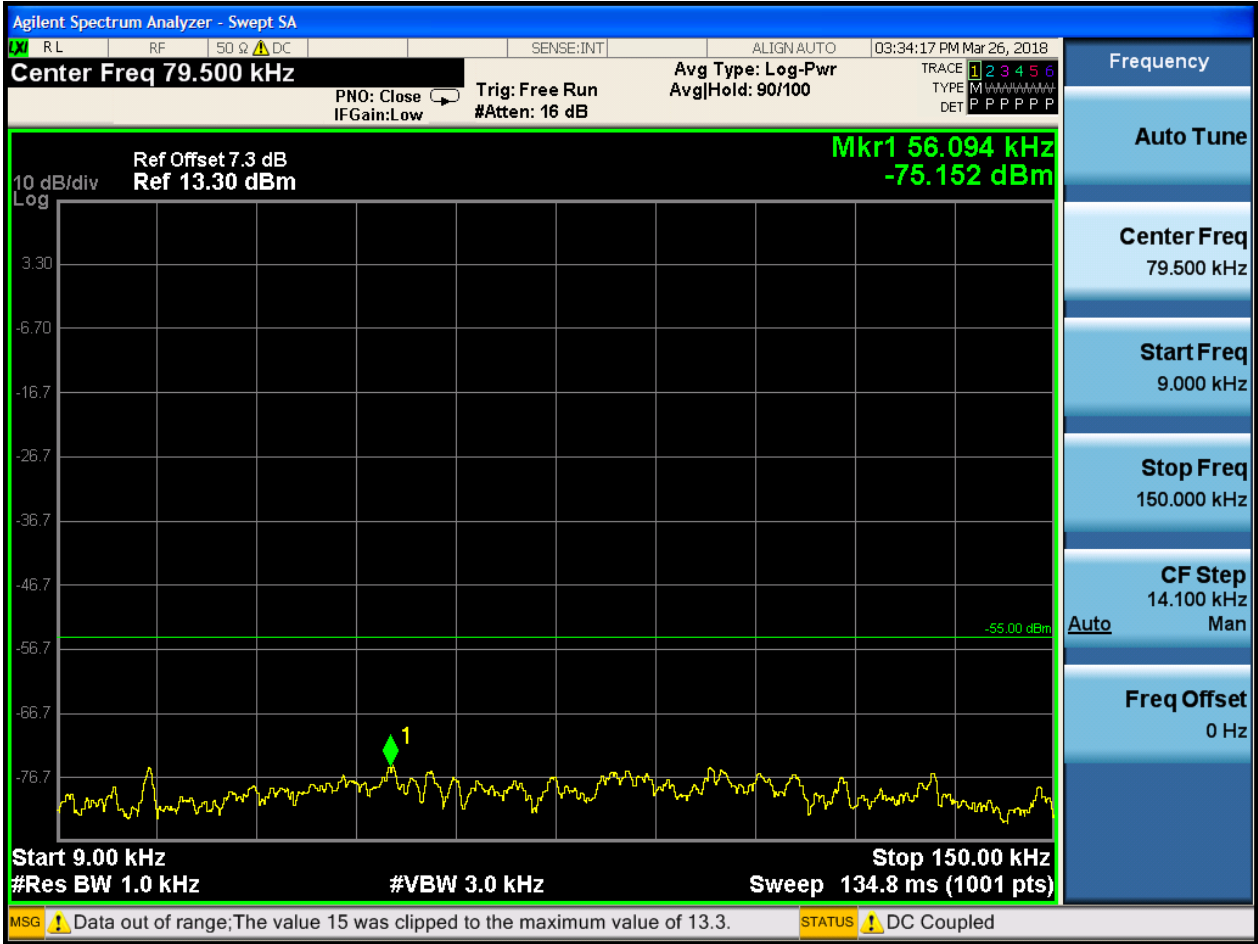
6.1.1 Test Band = BAND7

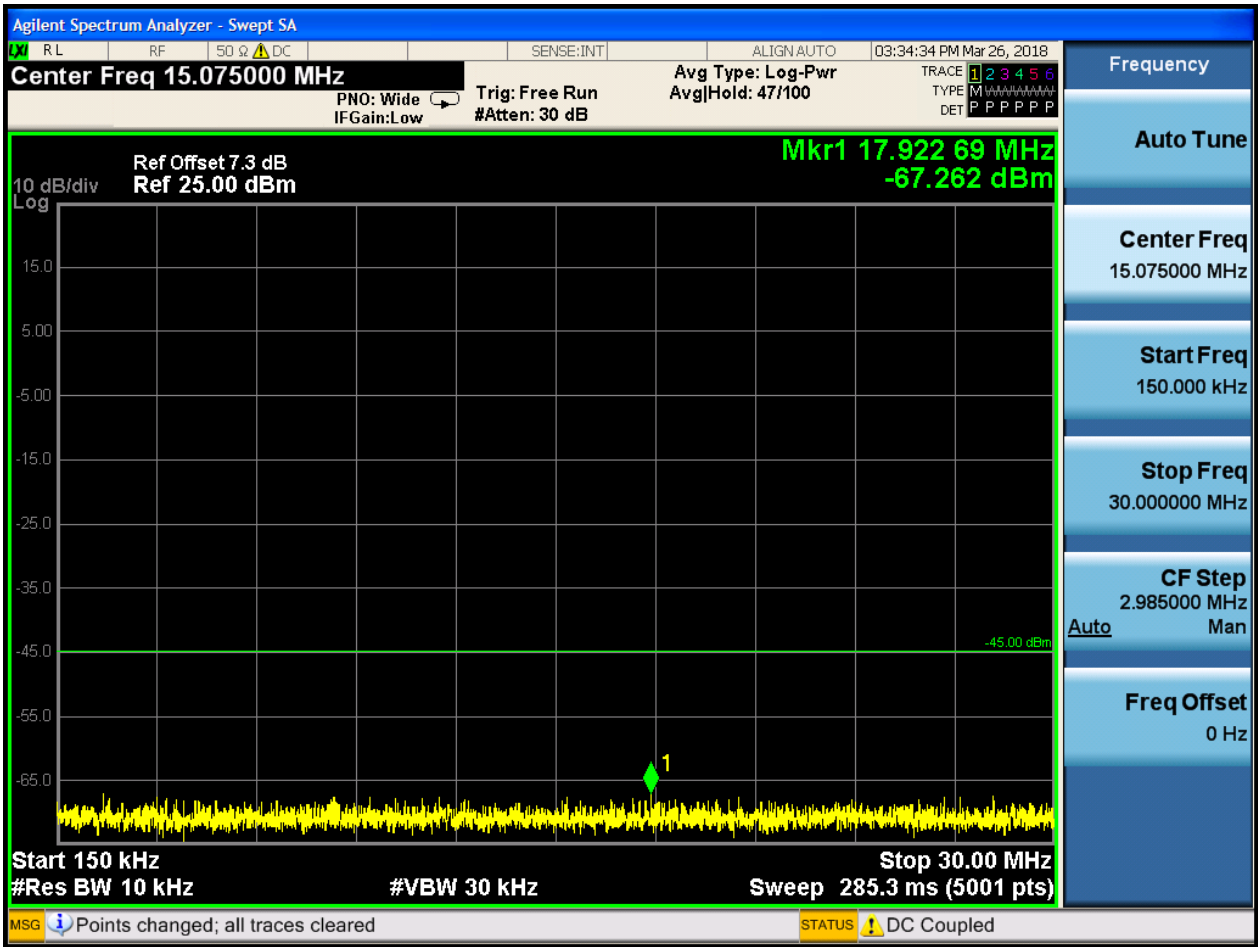
6.1.1.1 Test Mode = LTE/TM1

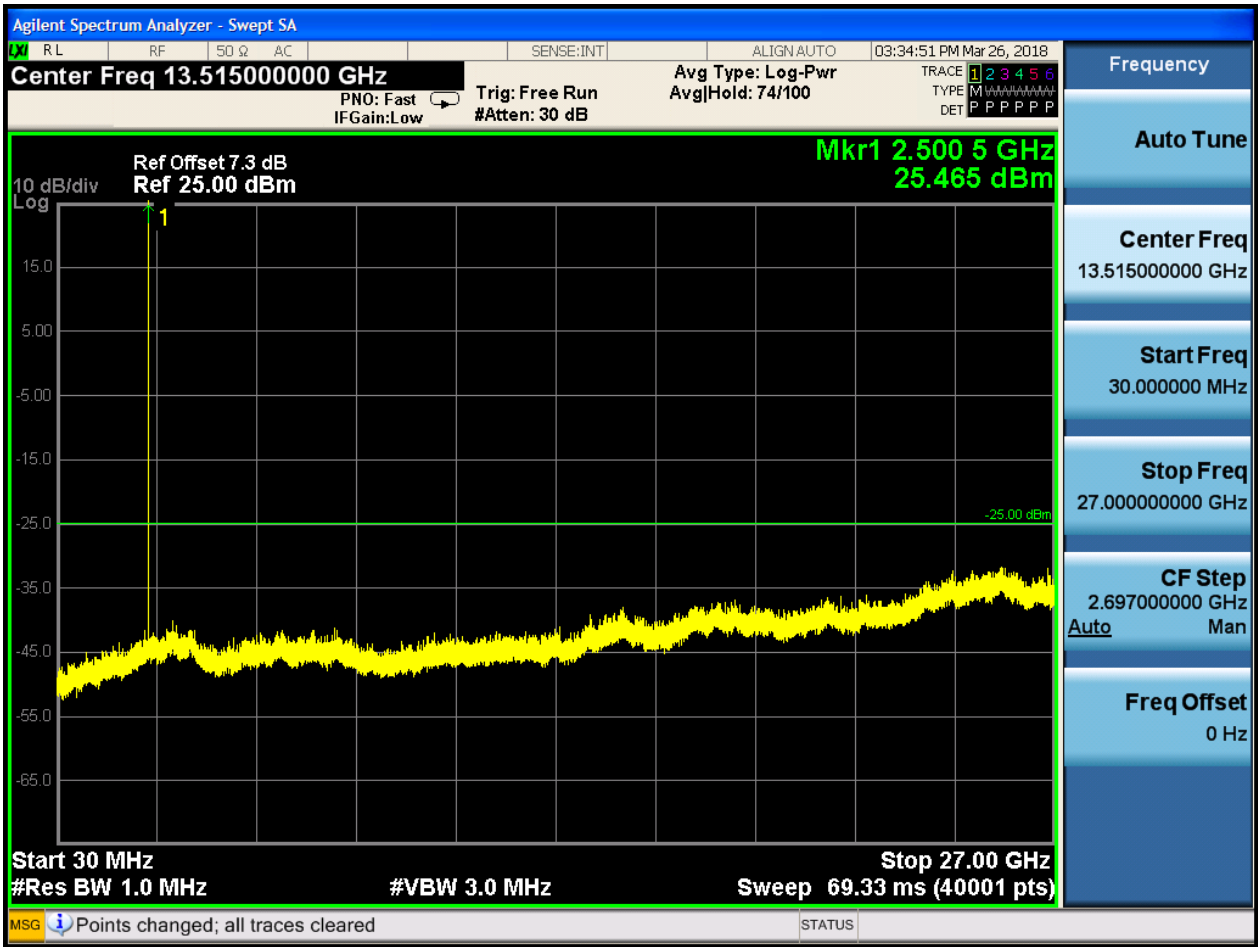
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

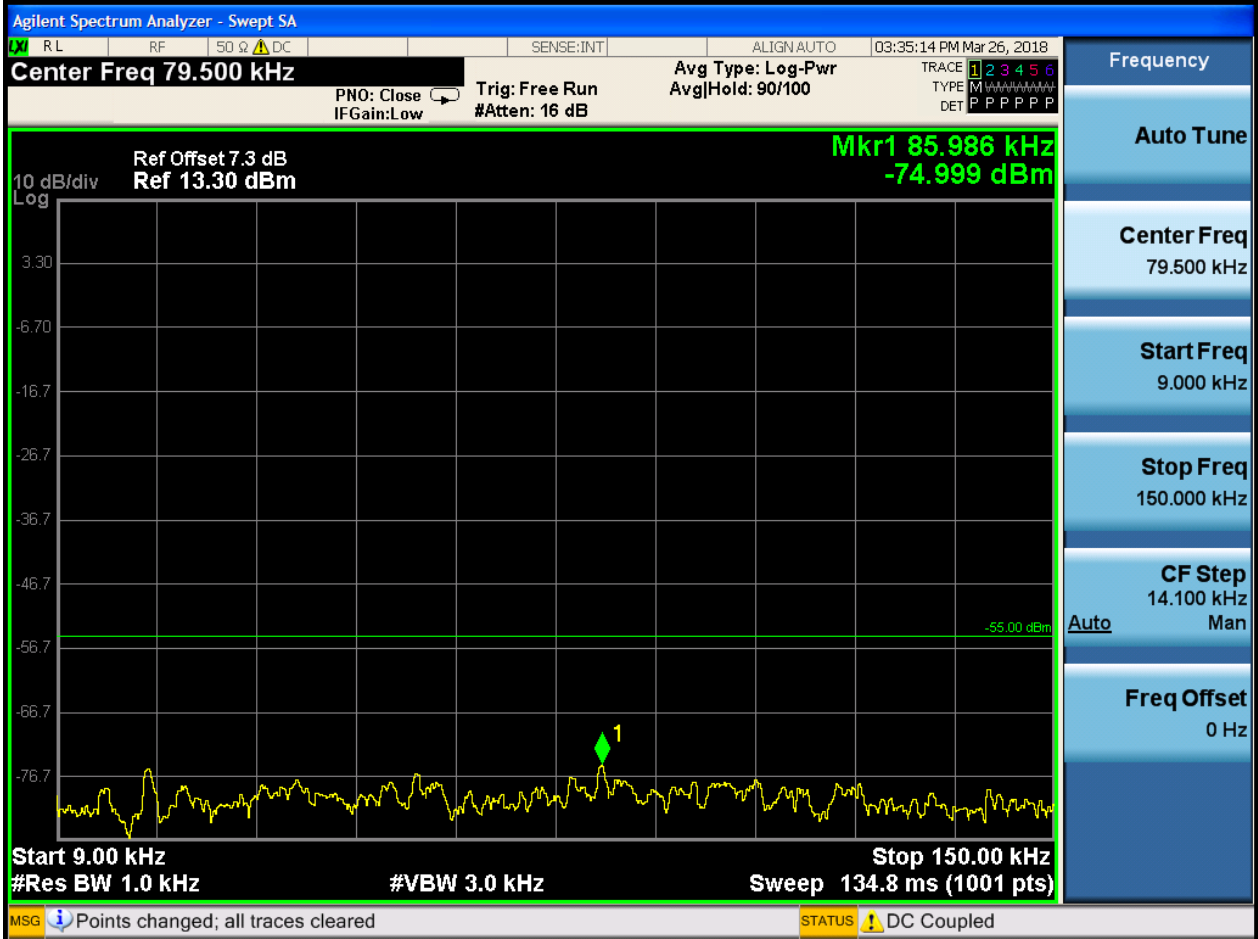


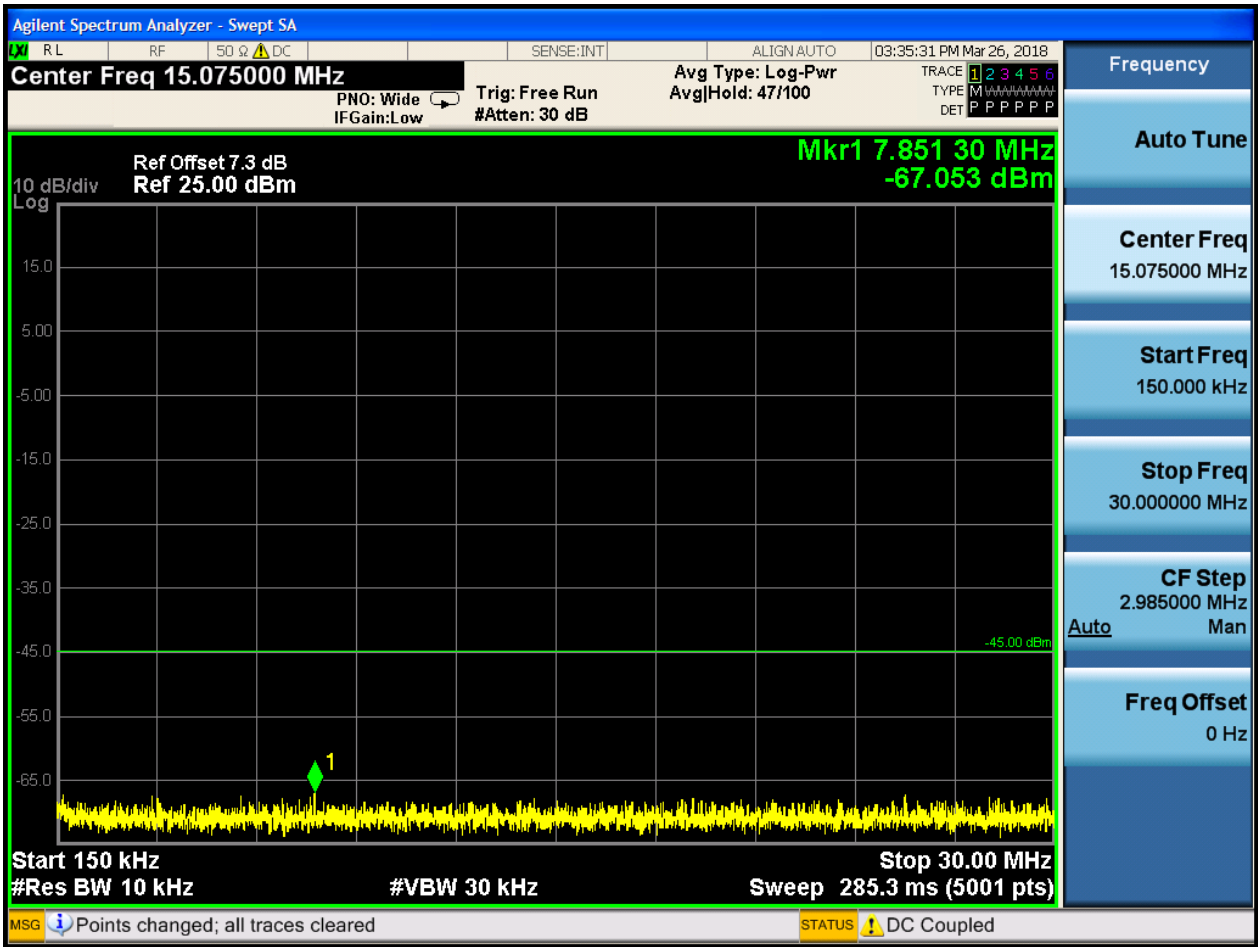




6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



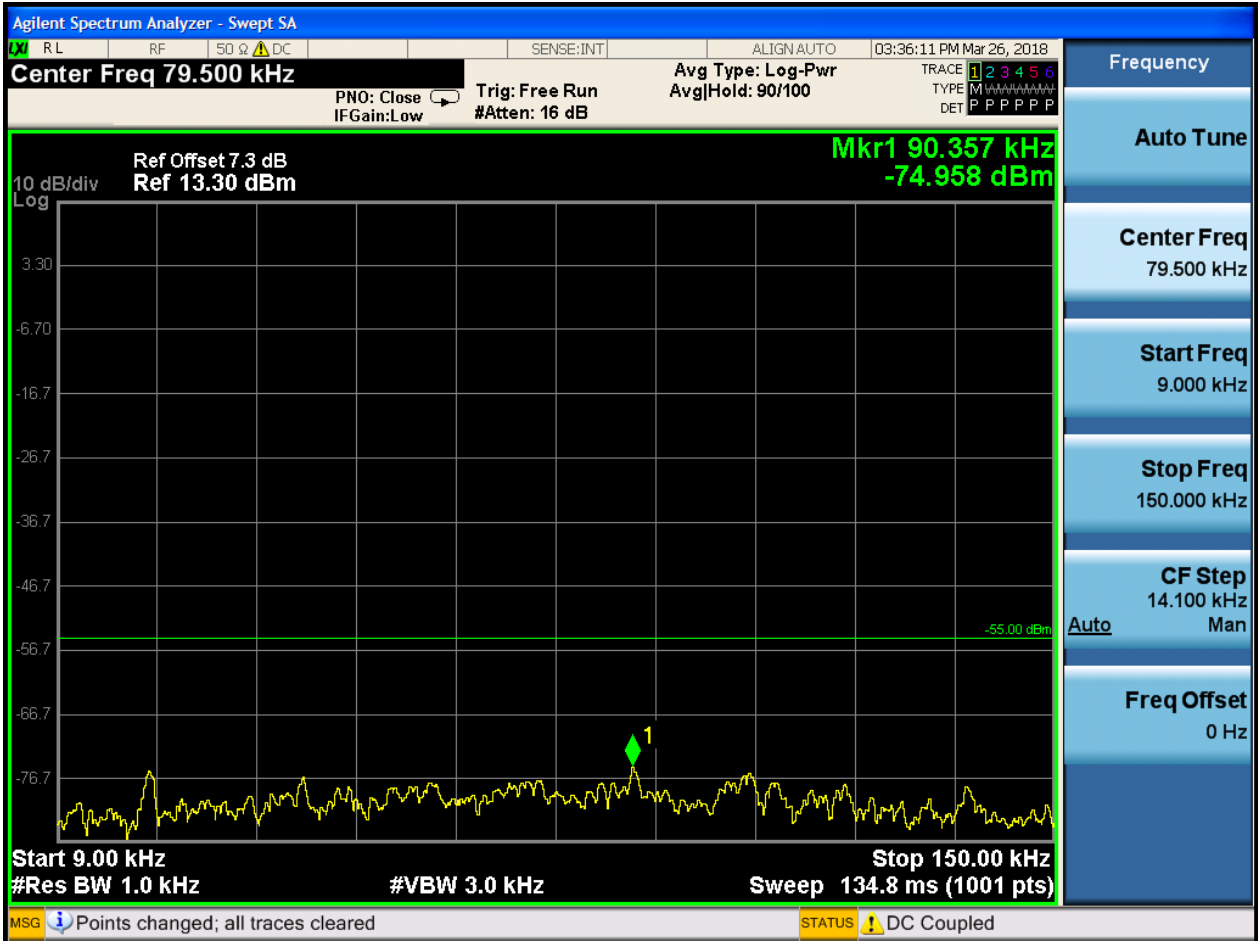


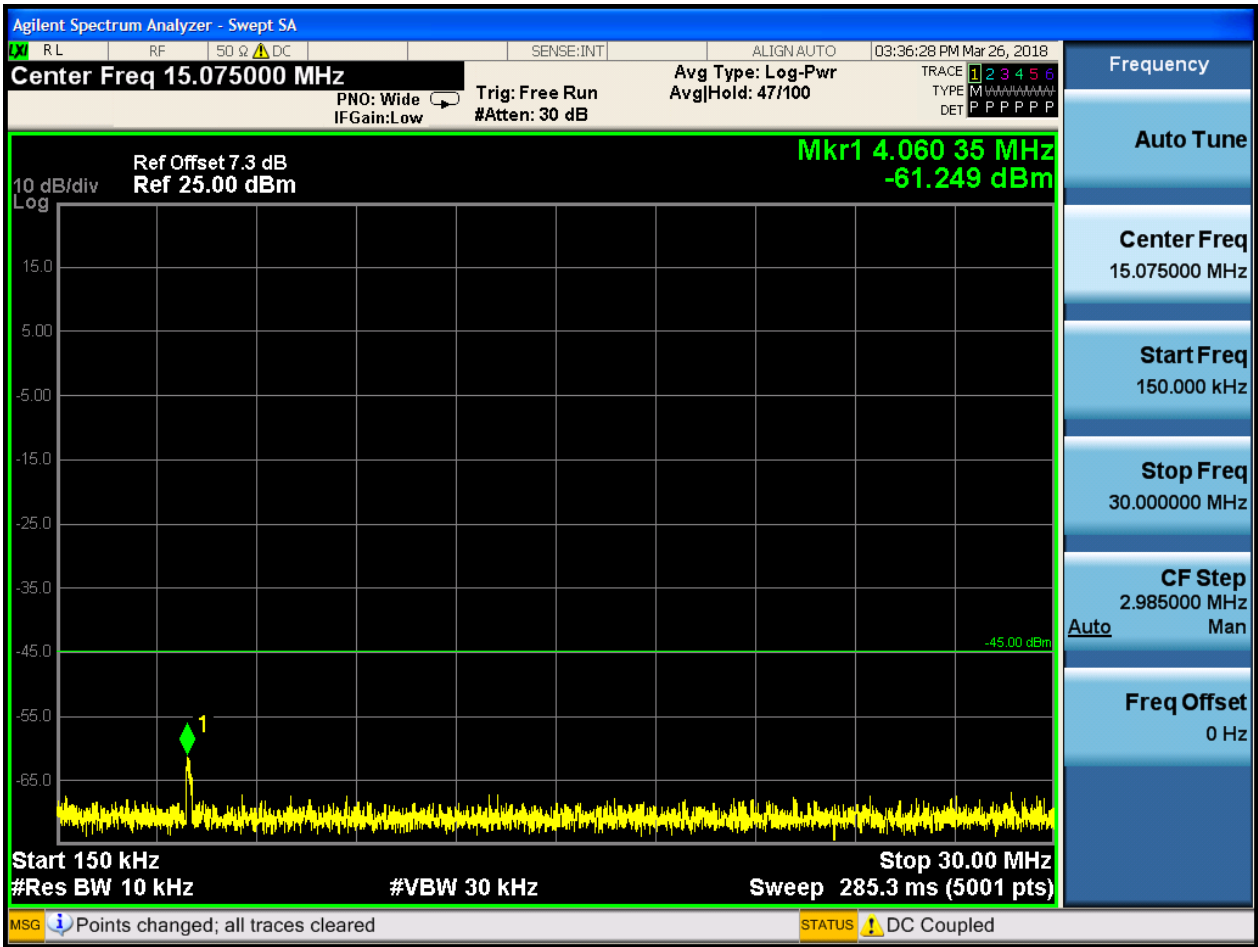


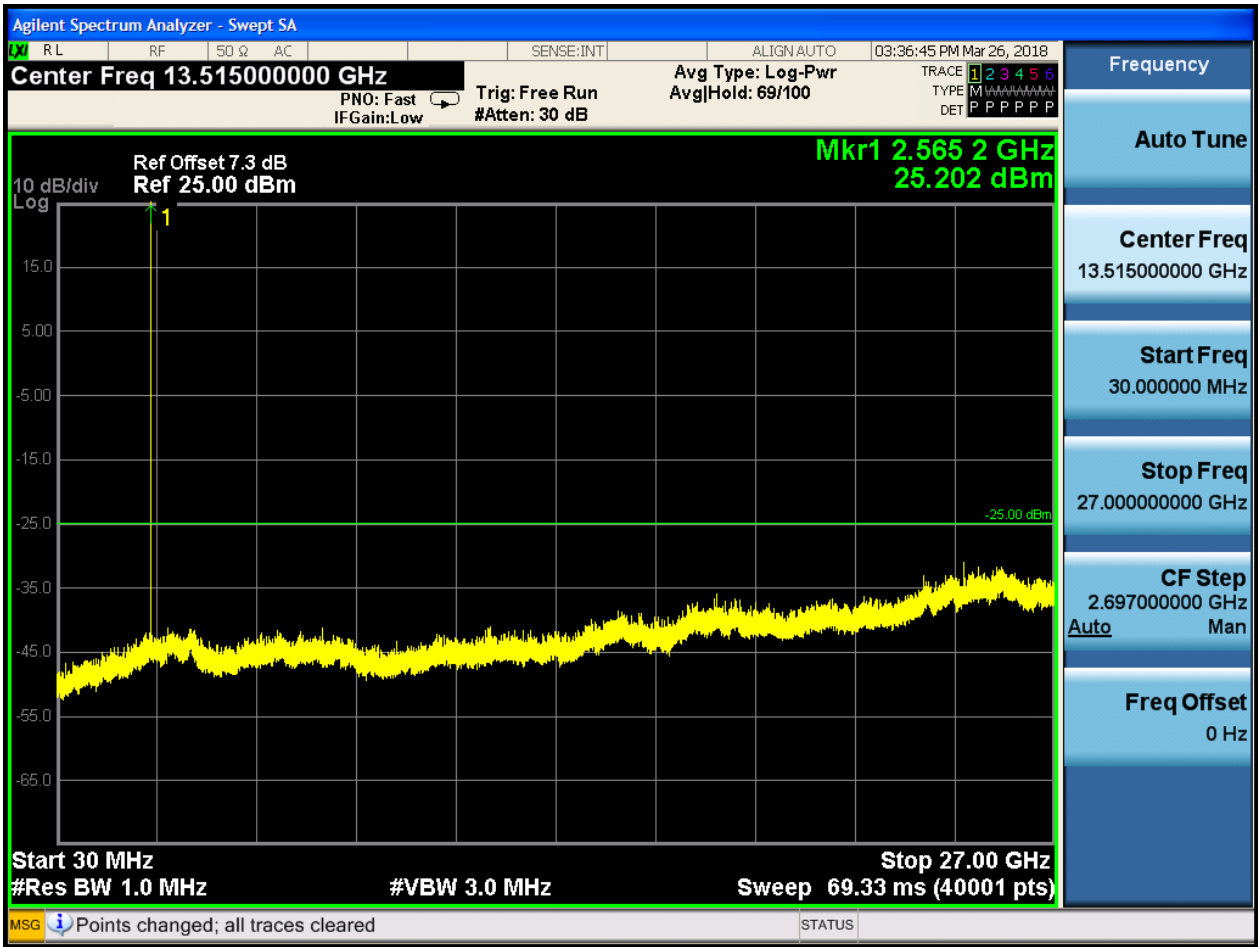


6.1.1.1.3 Test Channel = HCH

6.1.1.1.3.1 Test RB = RB1#0





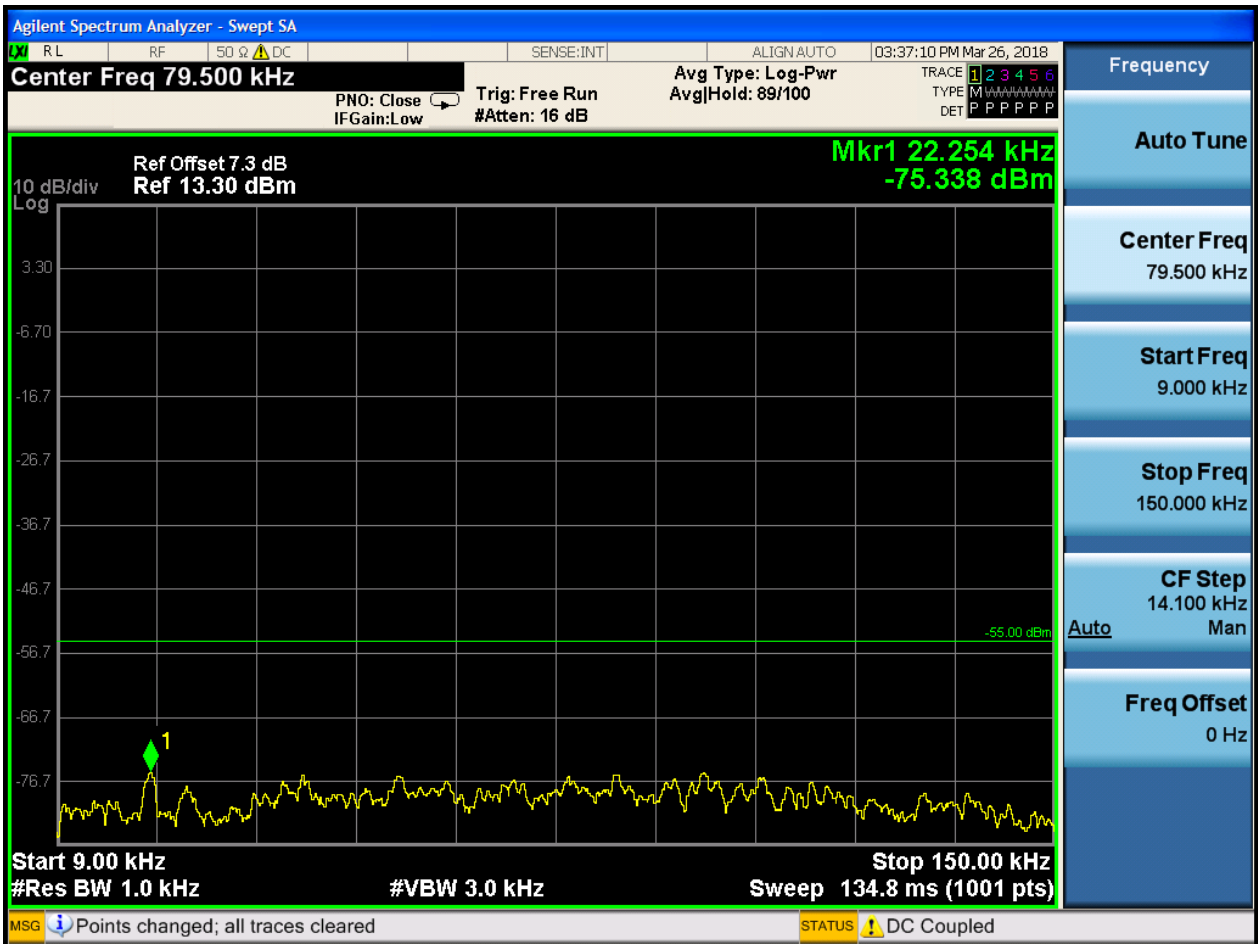


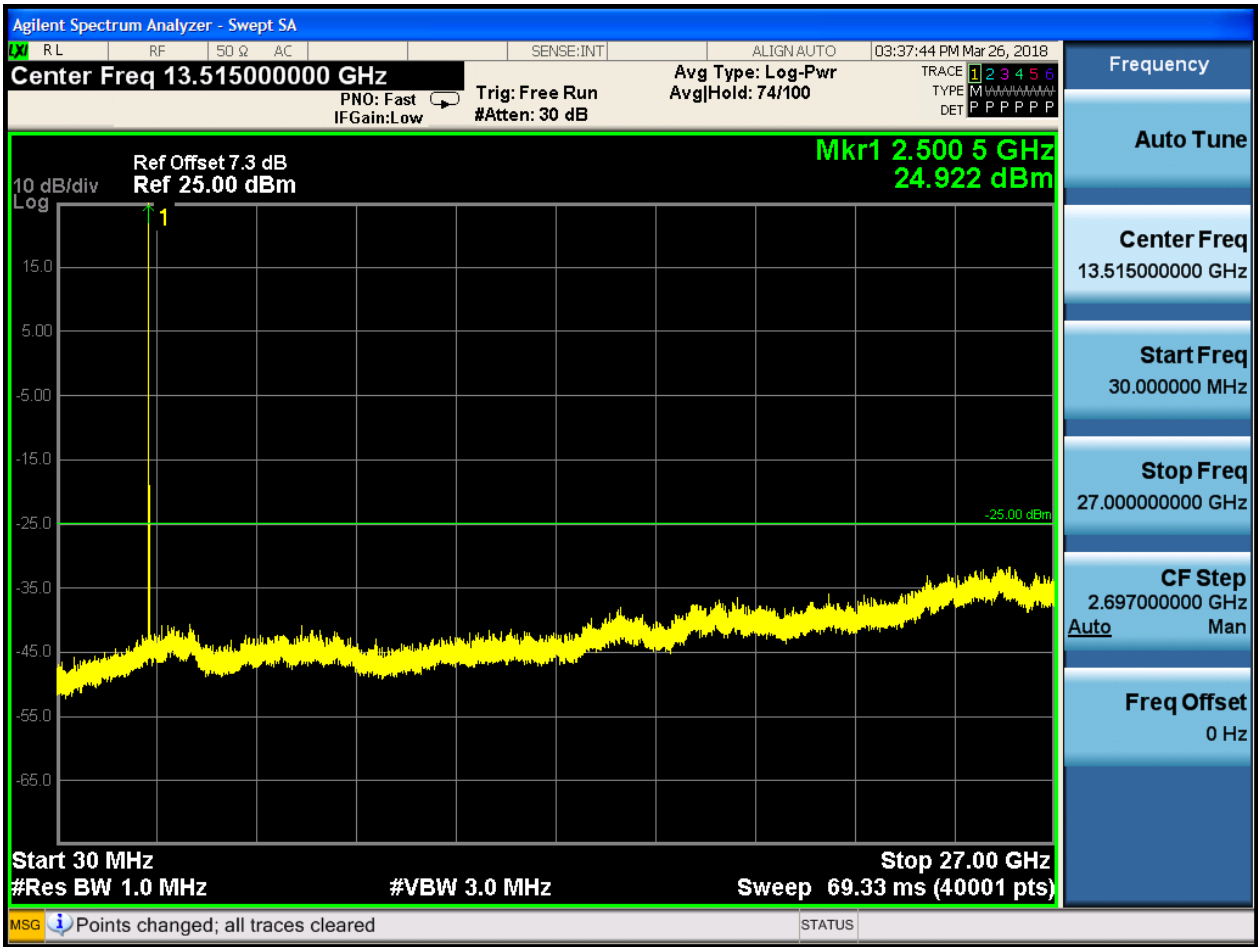


6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

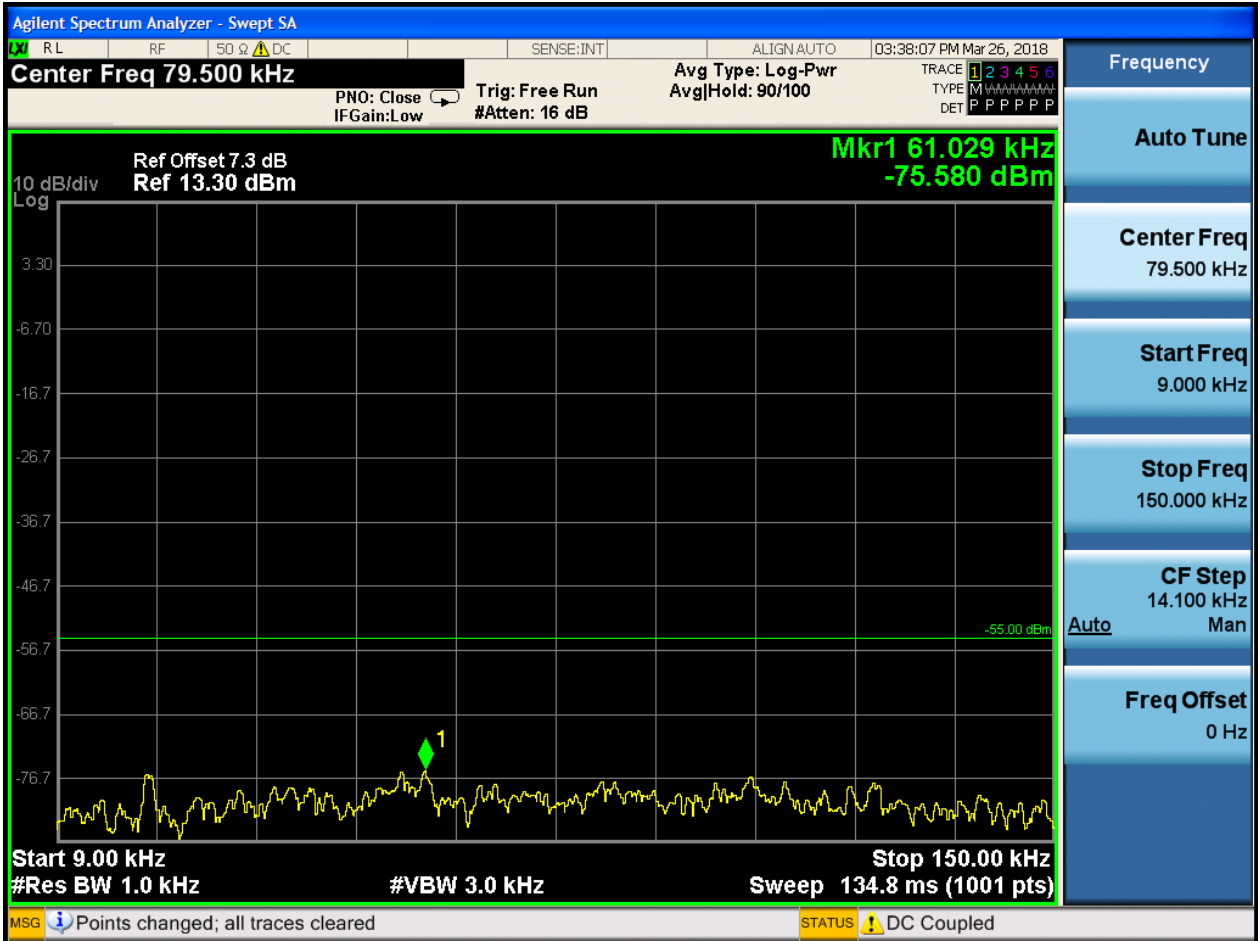


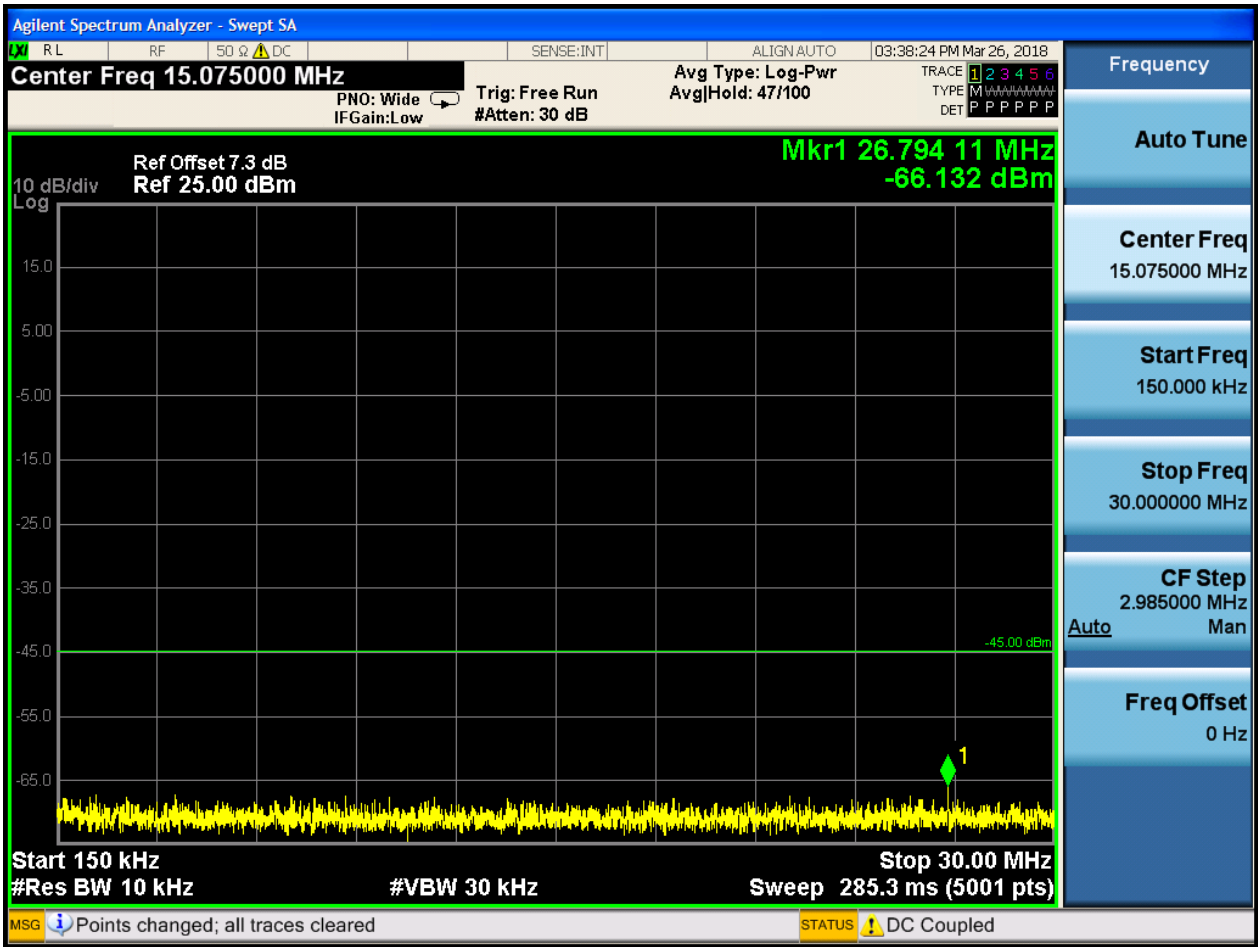


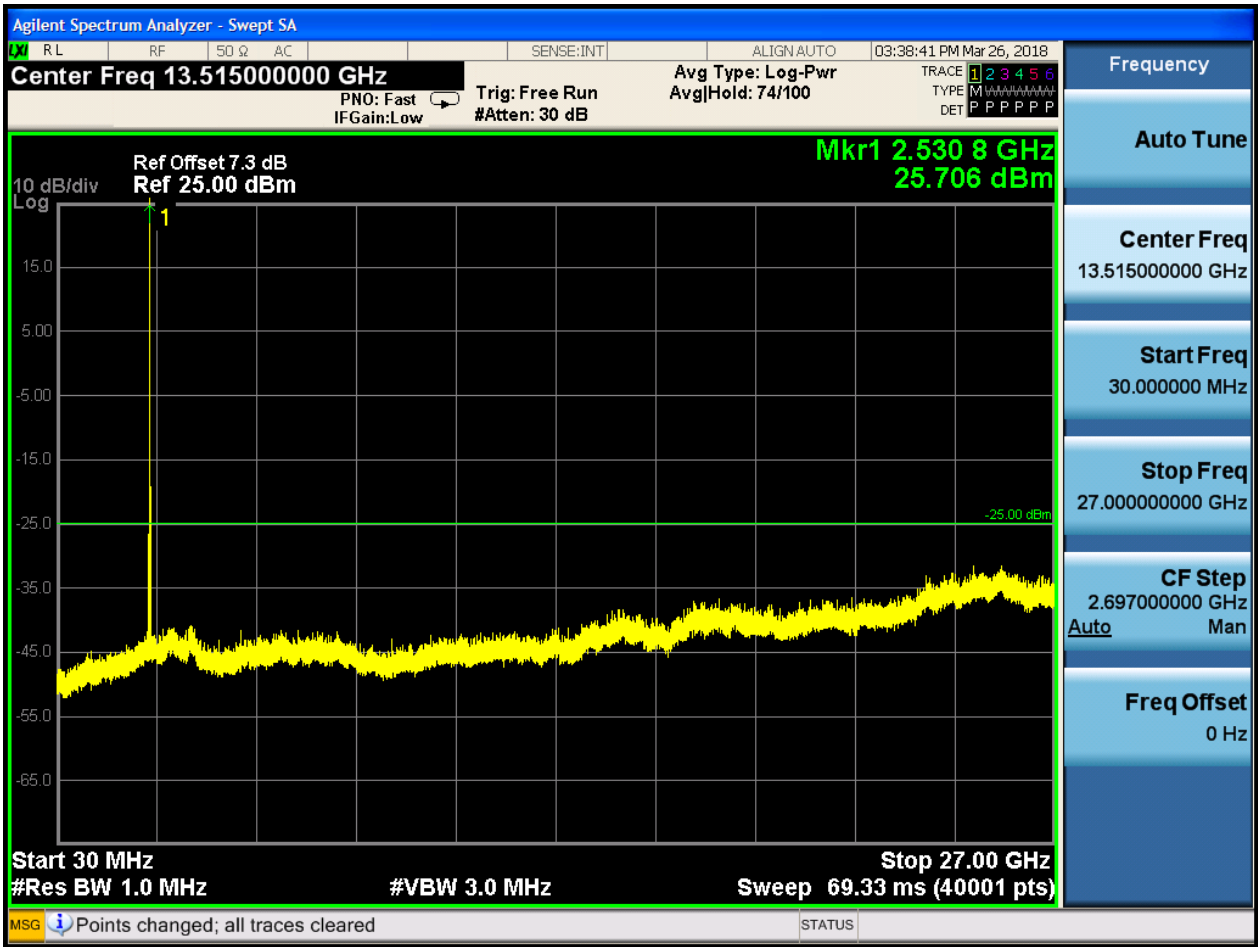


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0

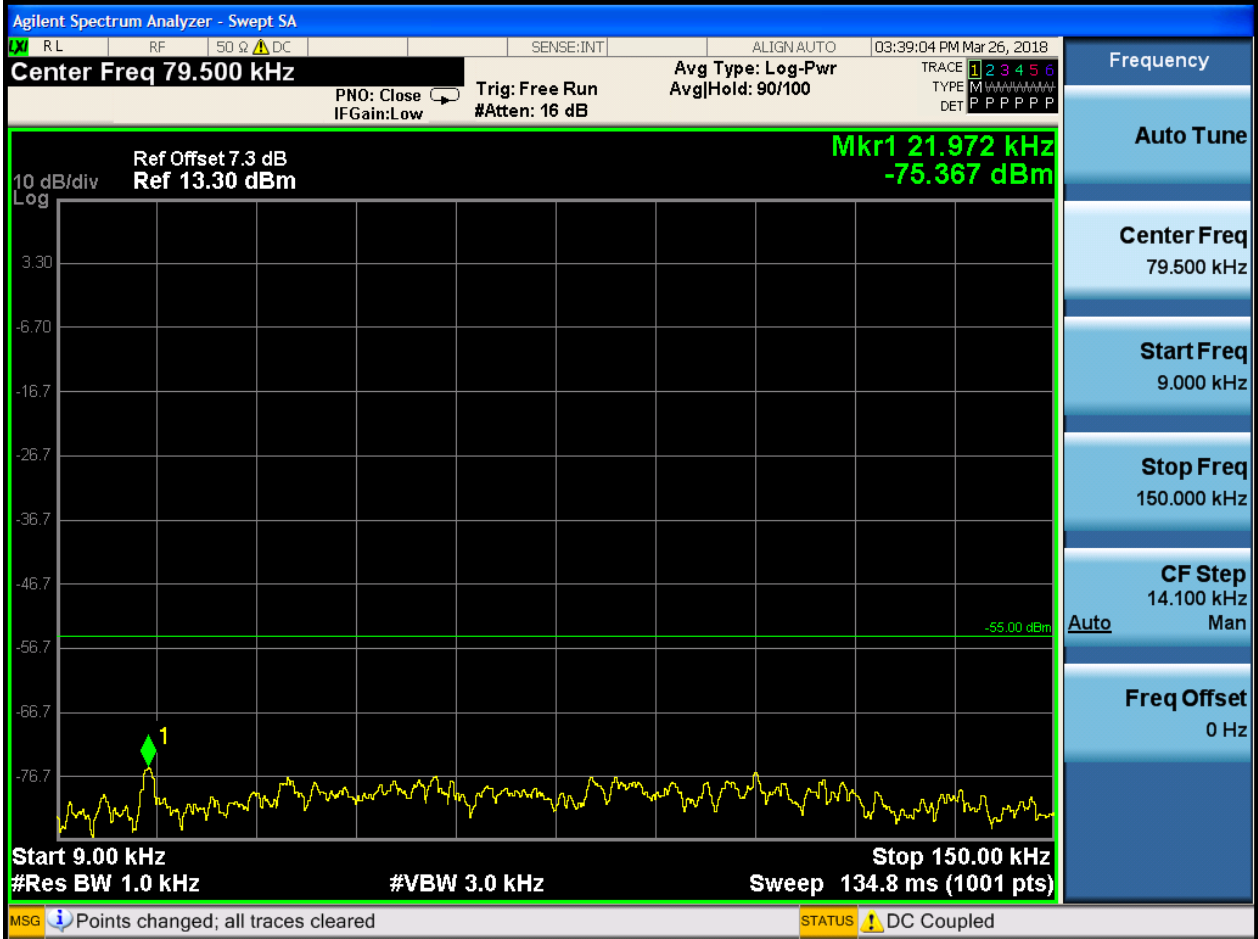


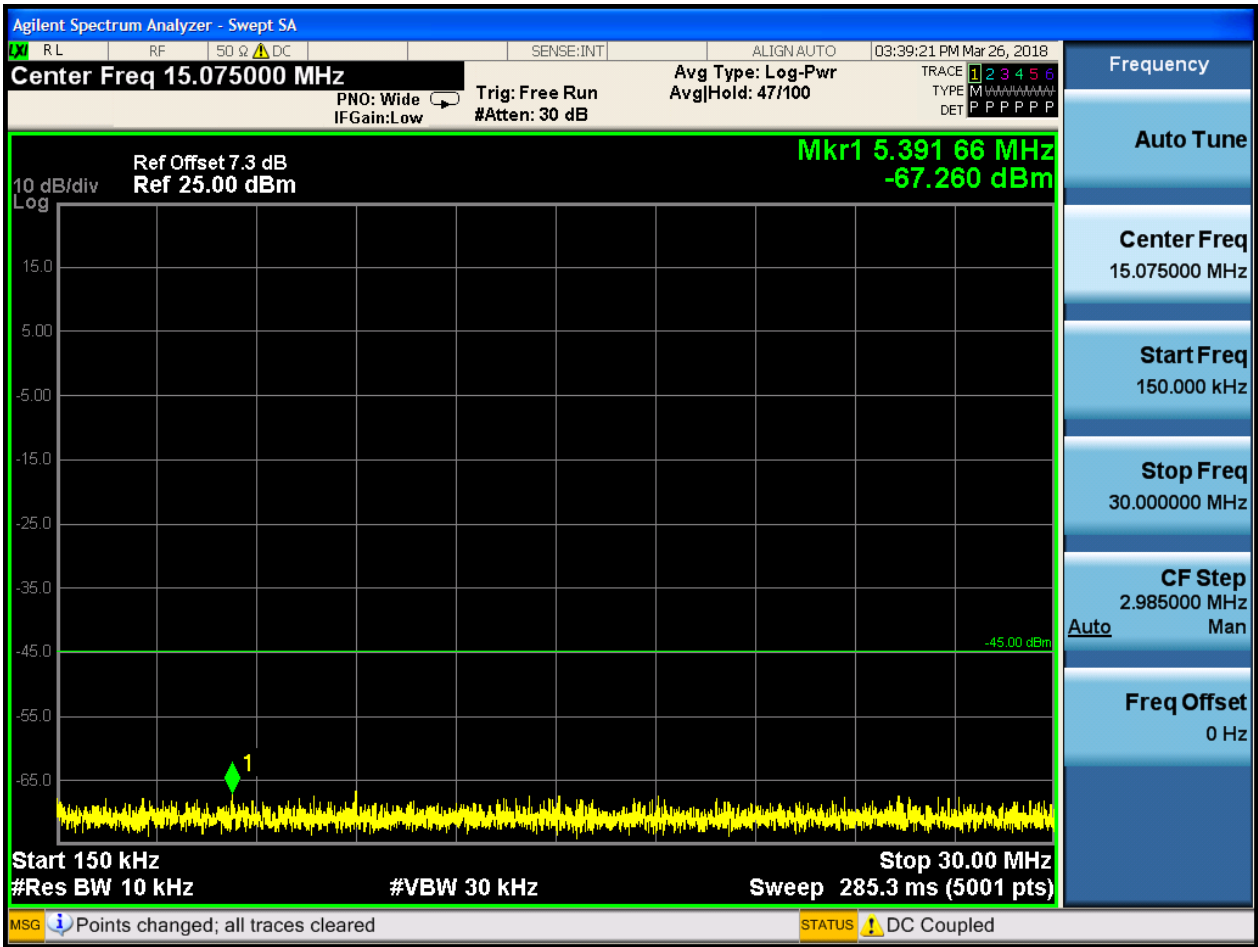




6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





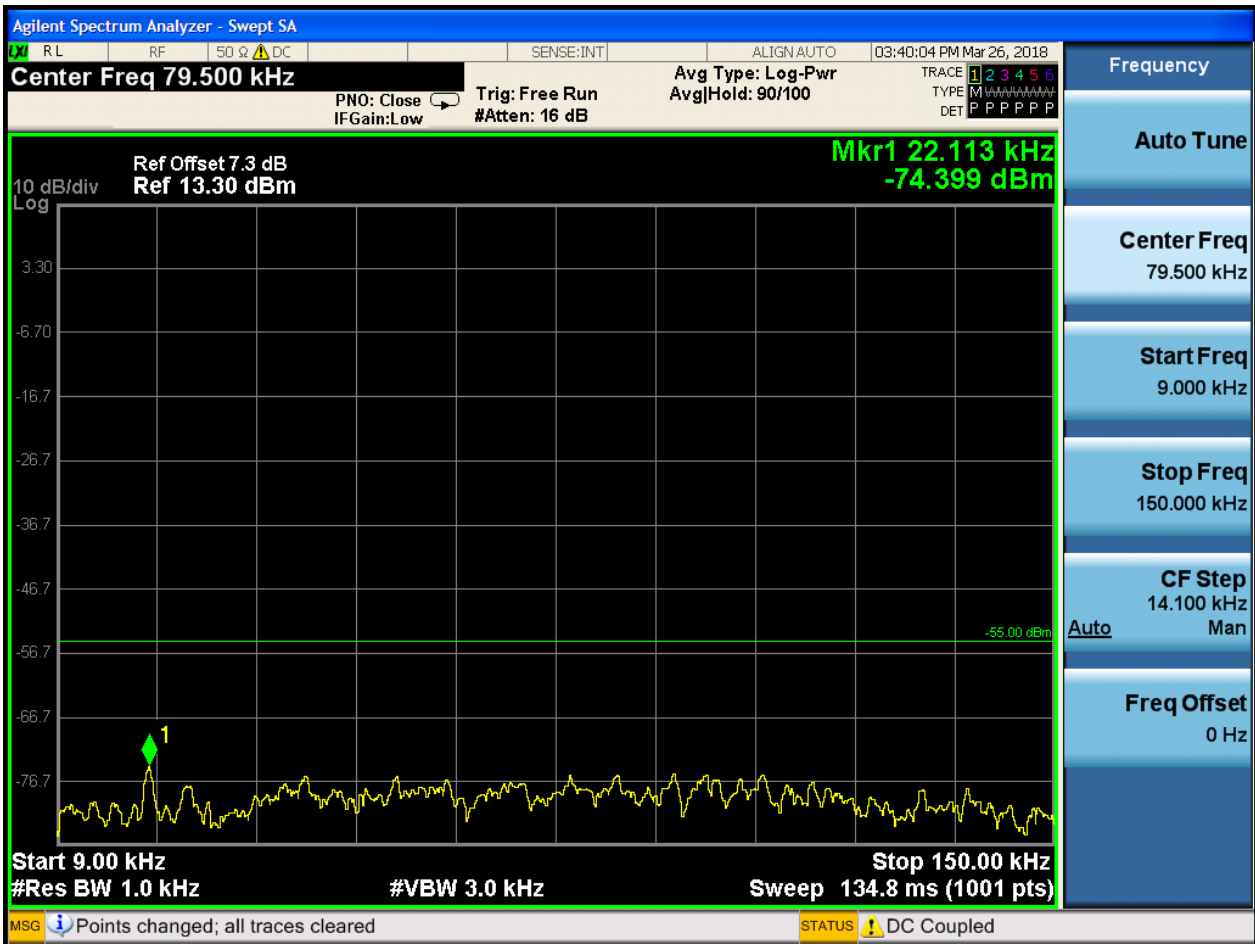


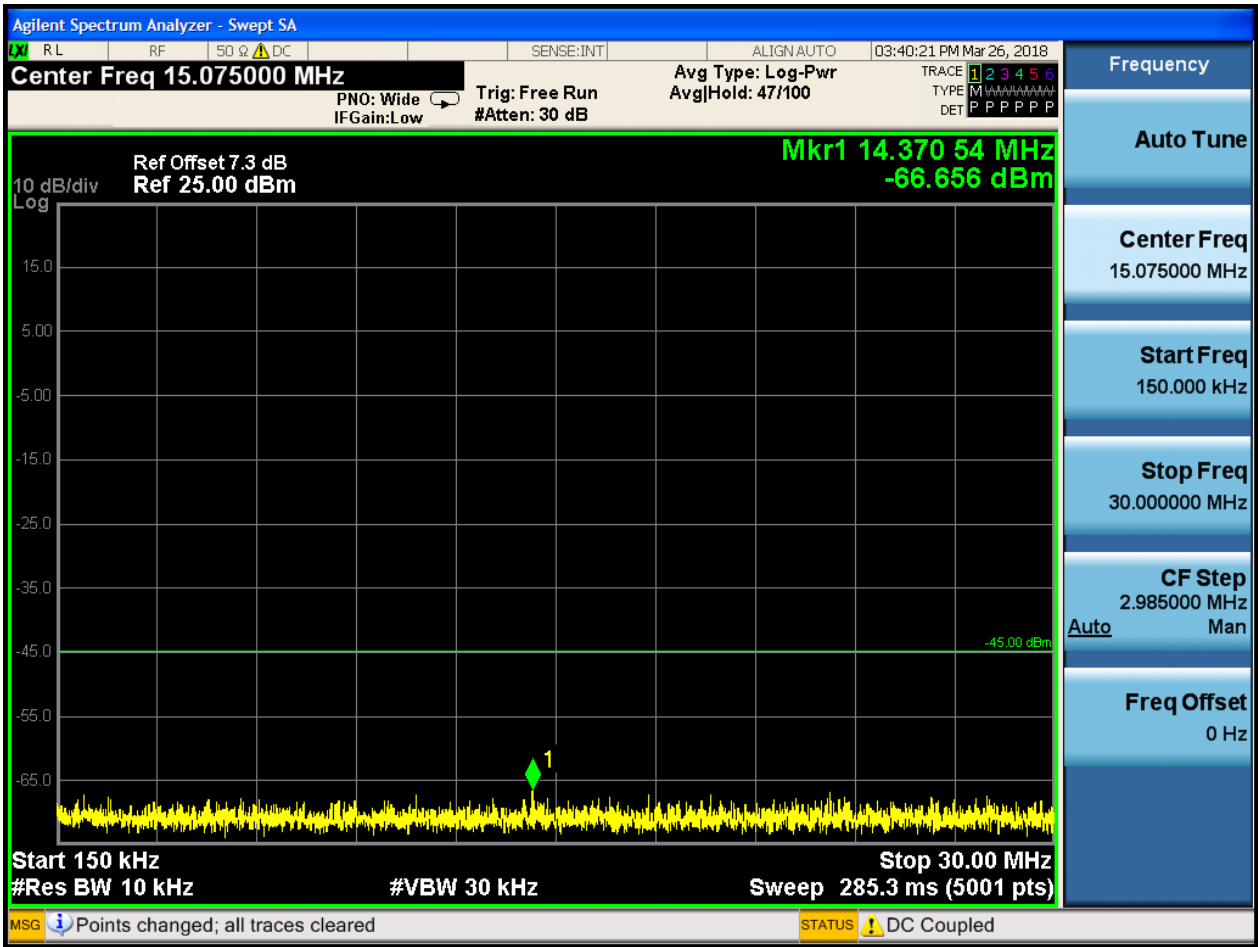


6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

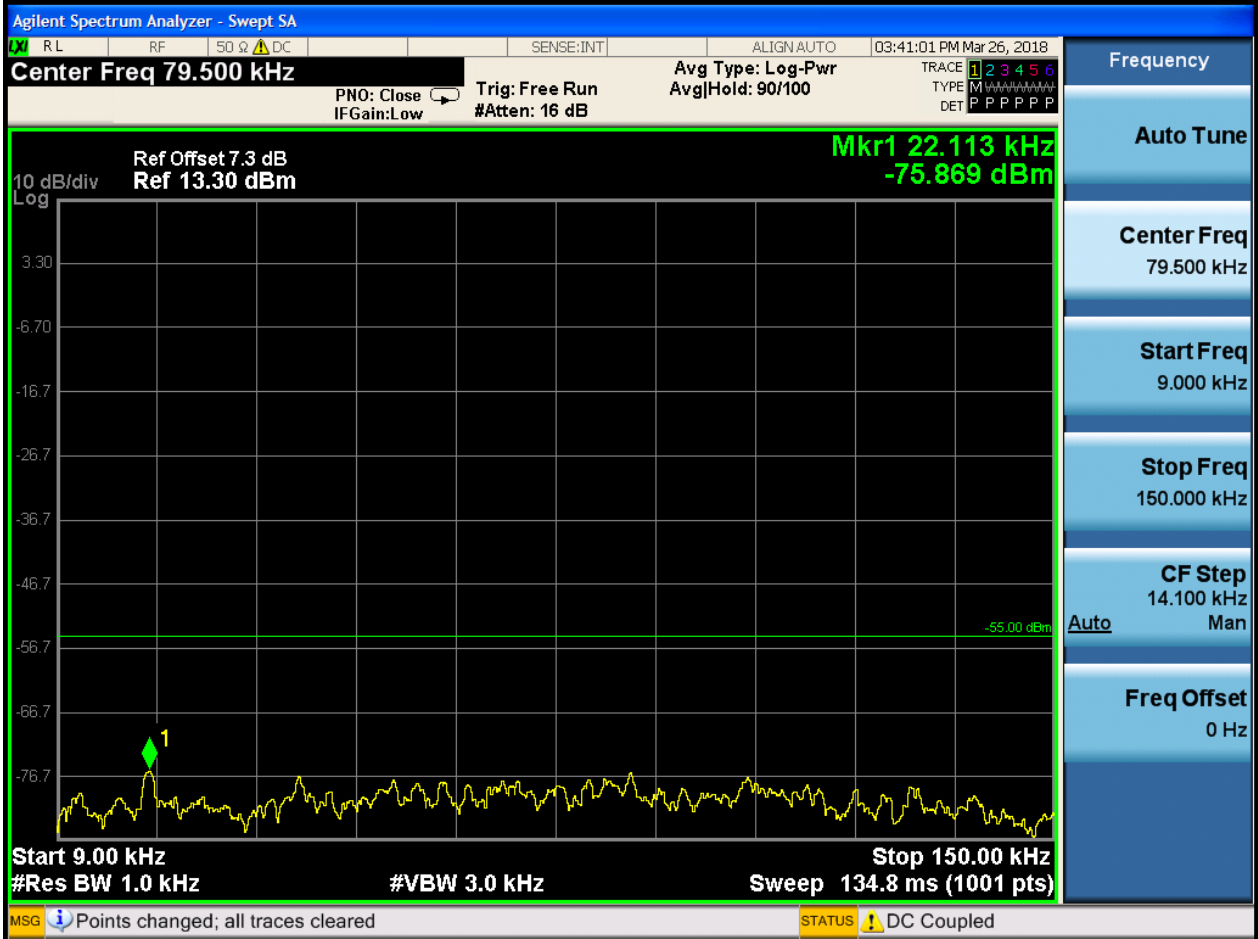
6.1.1.1.3.1.1 Test RB = RB1#0





6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0

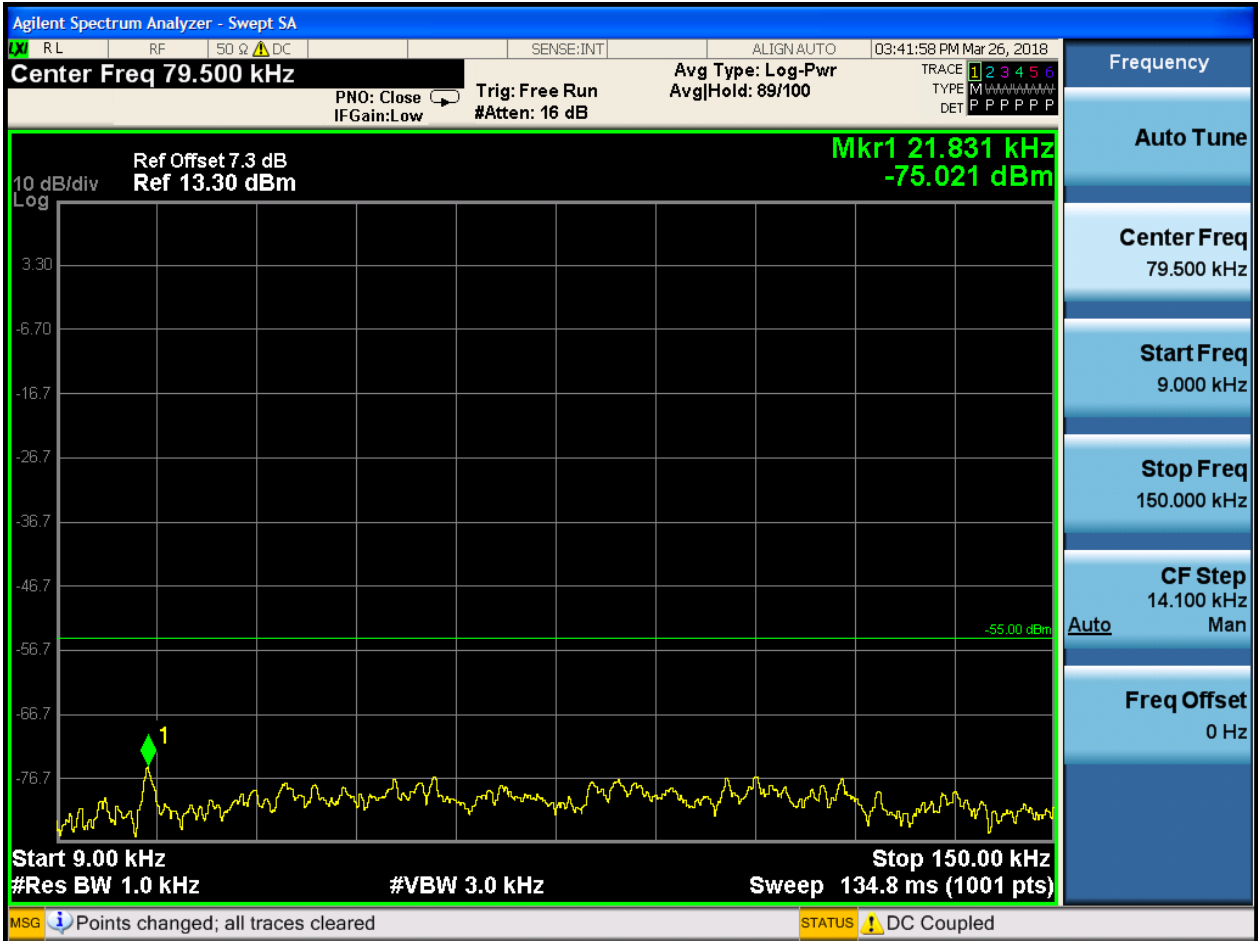


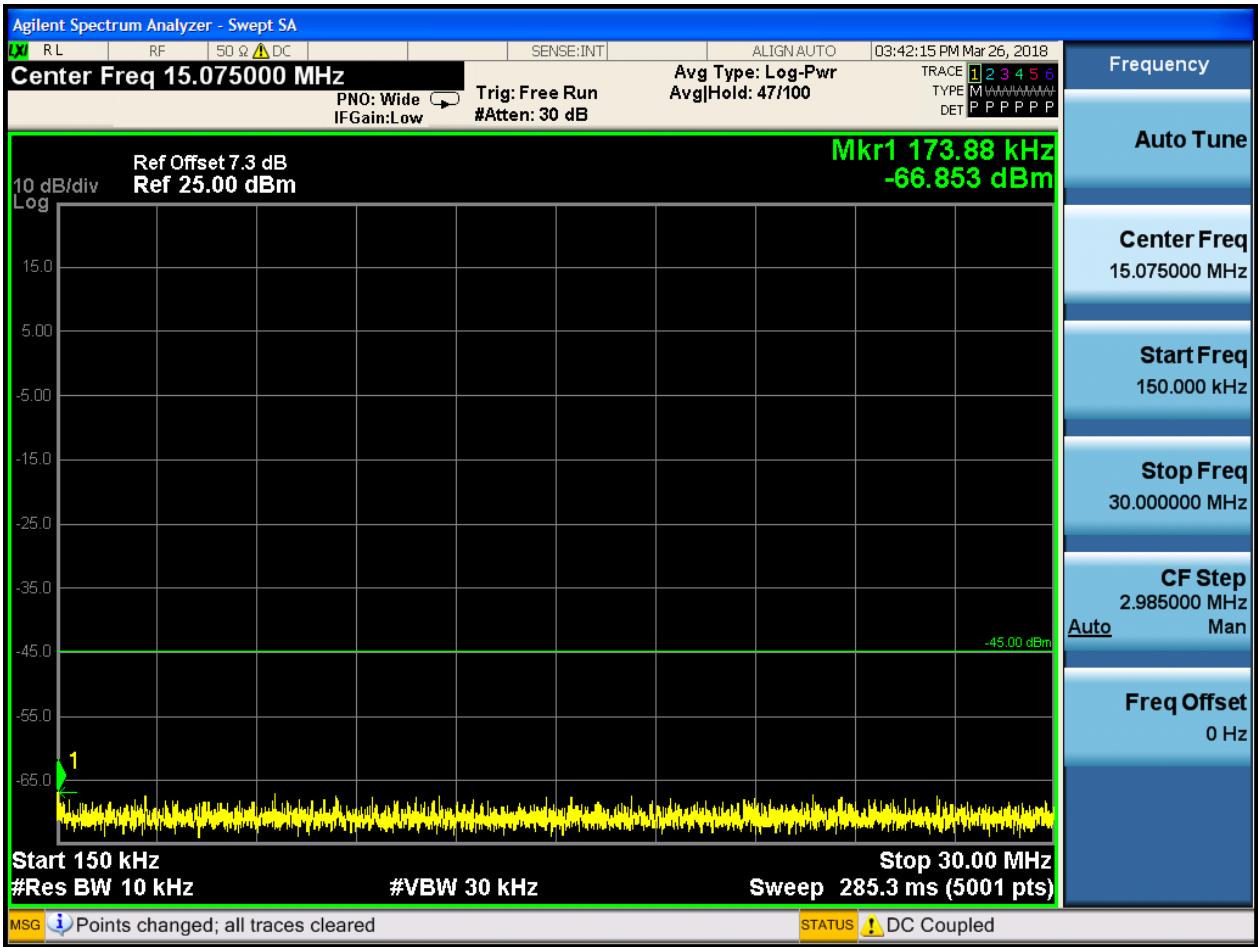


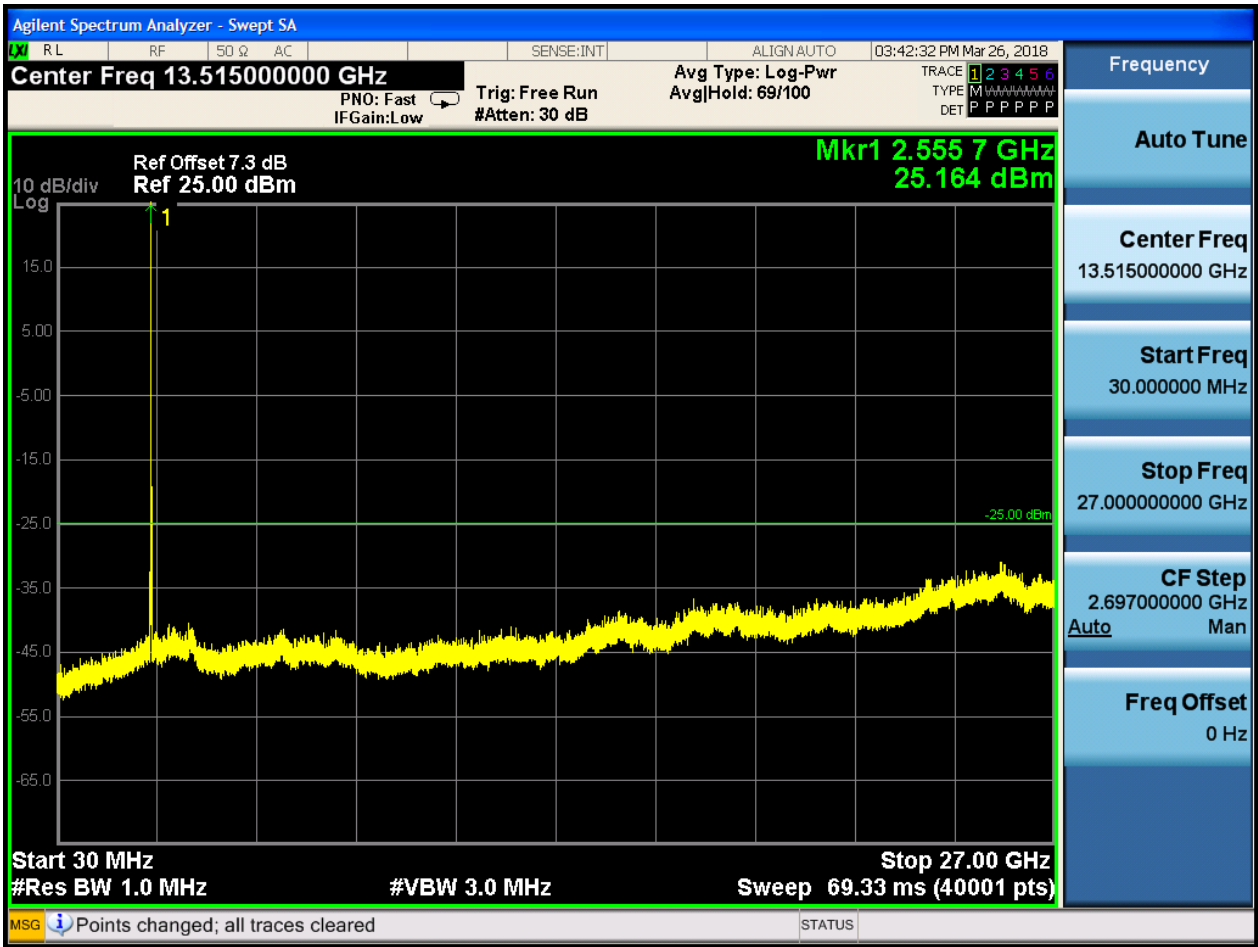


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





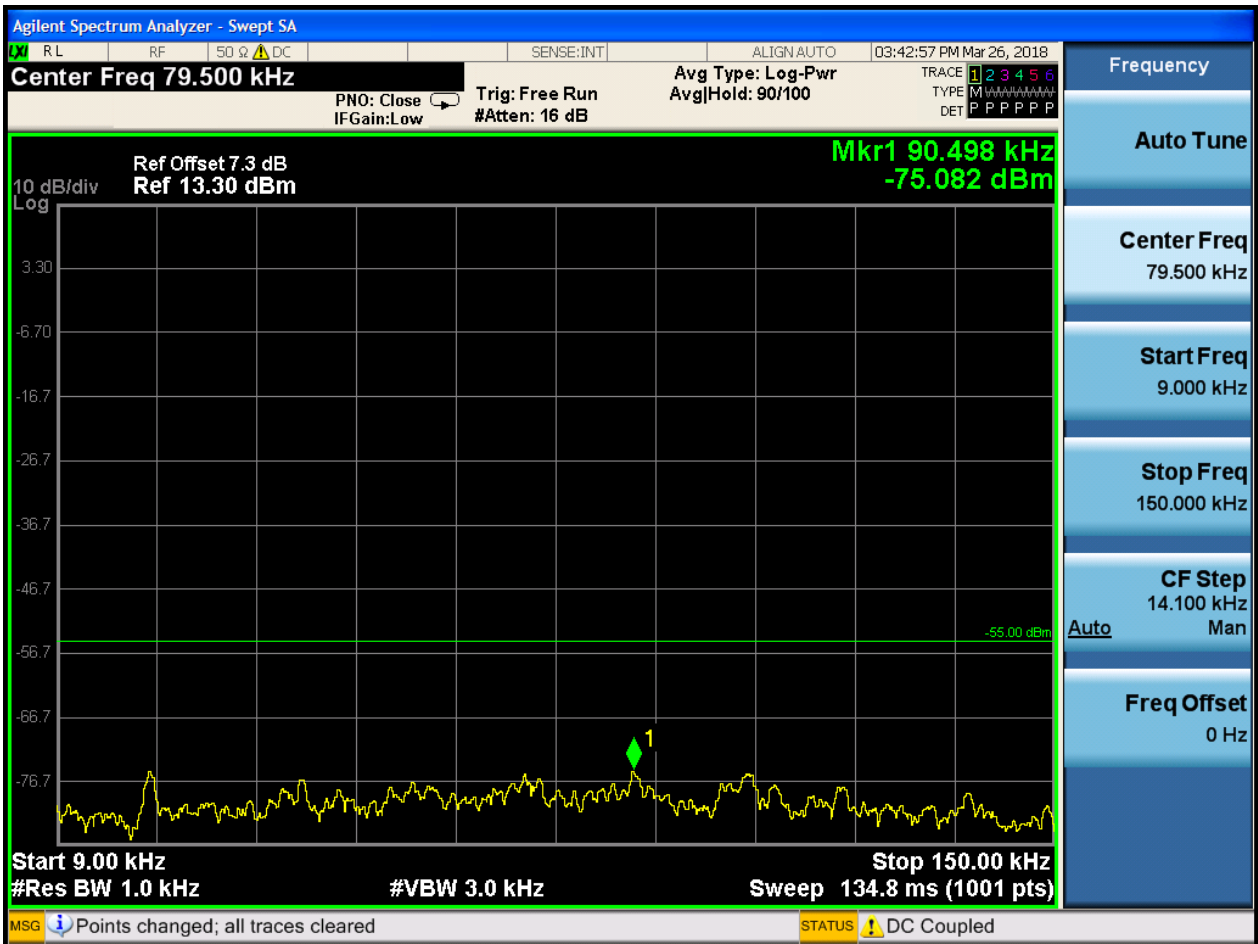


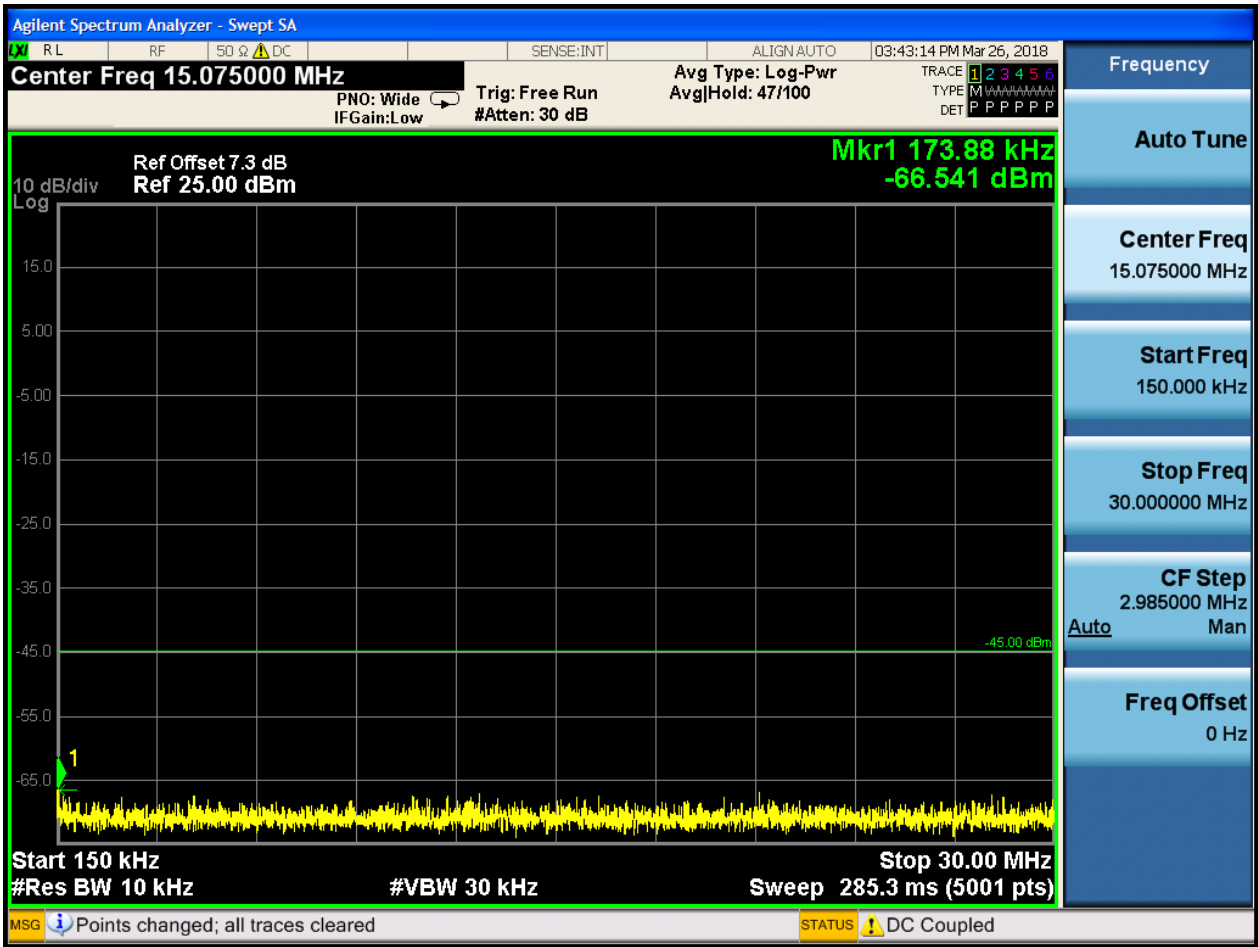


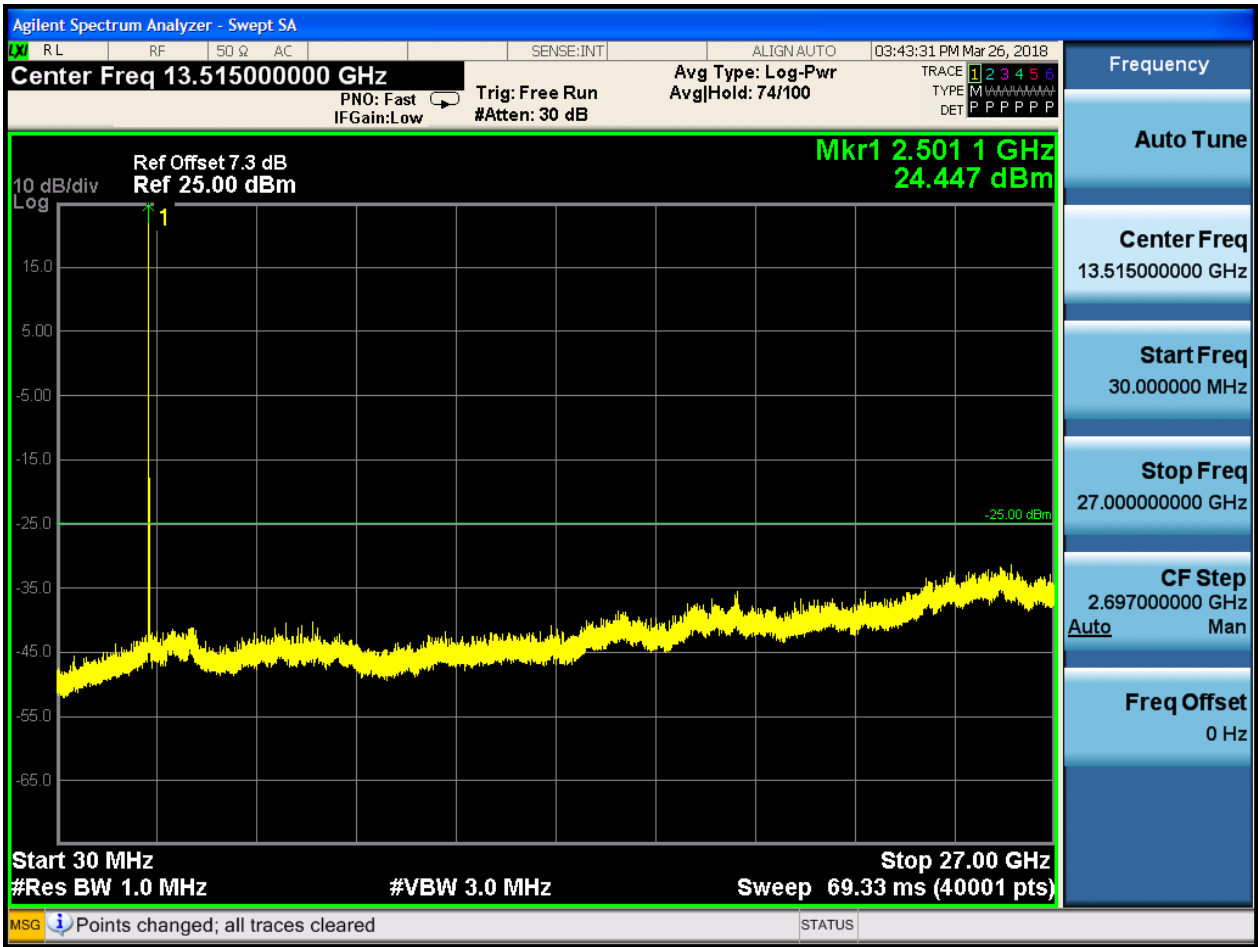
6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



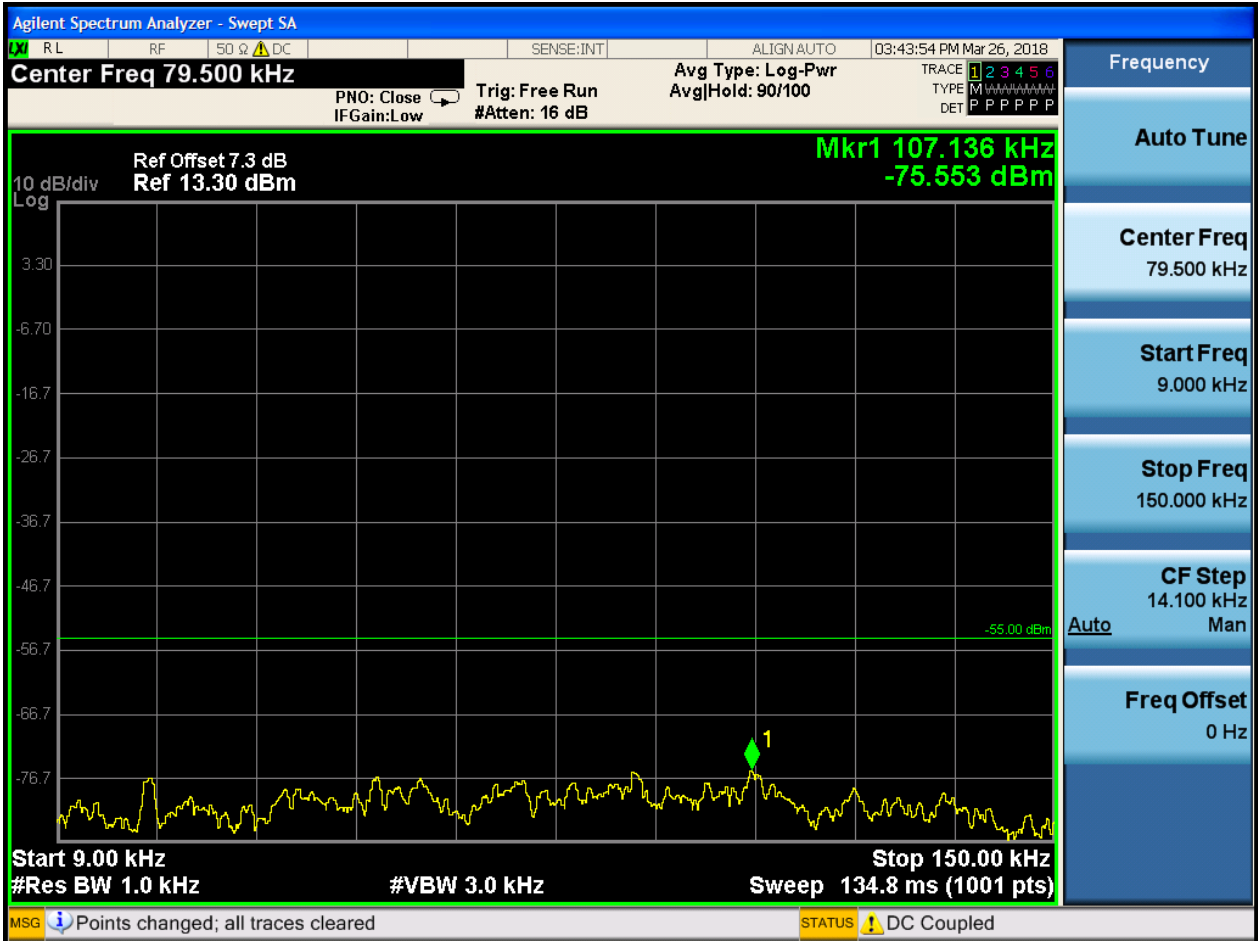


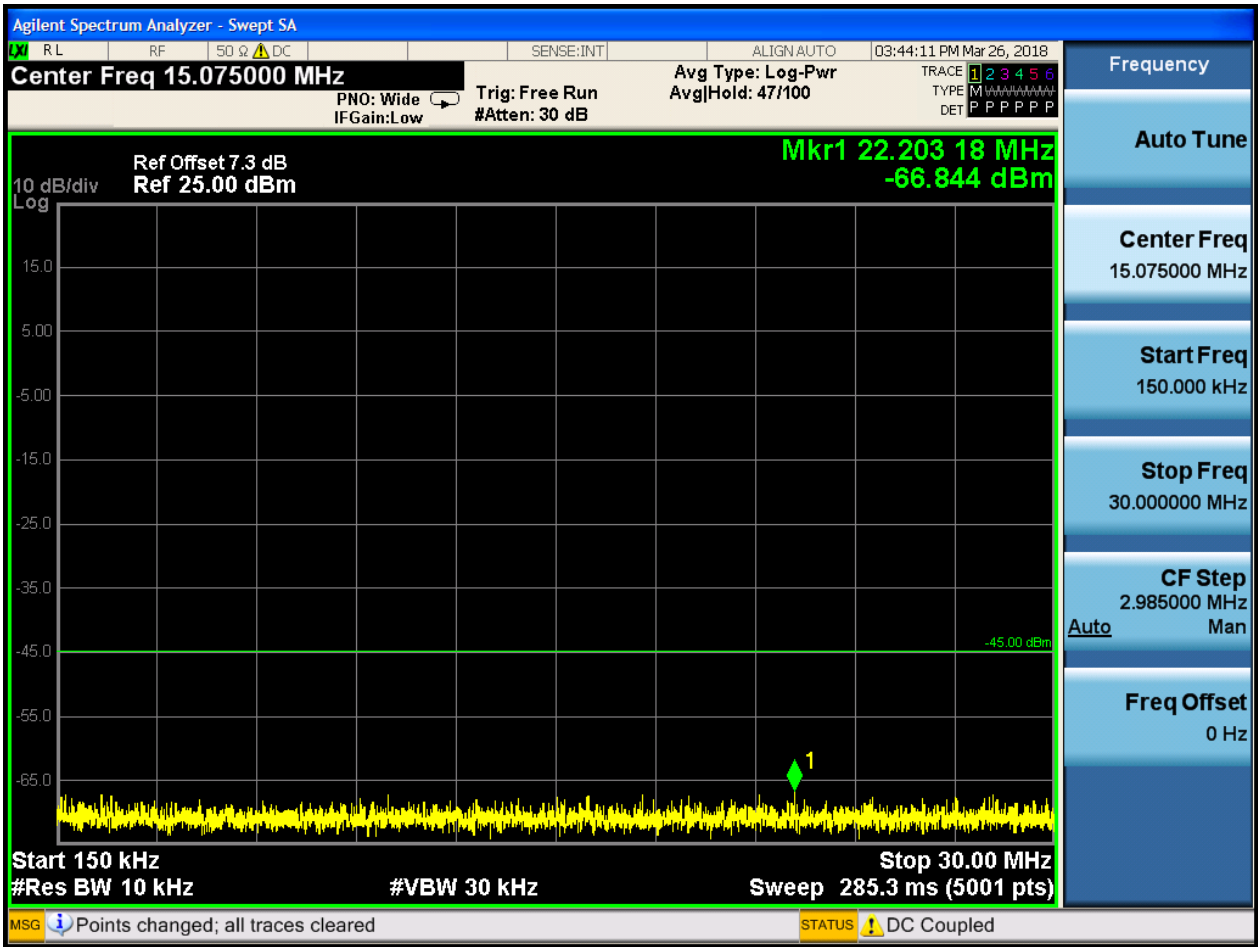




6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



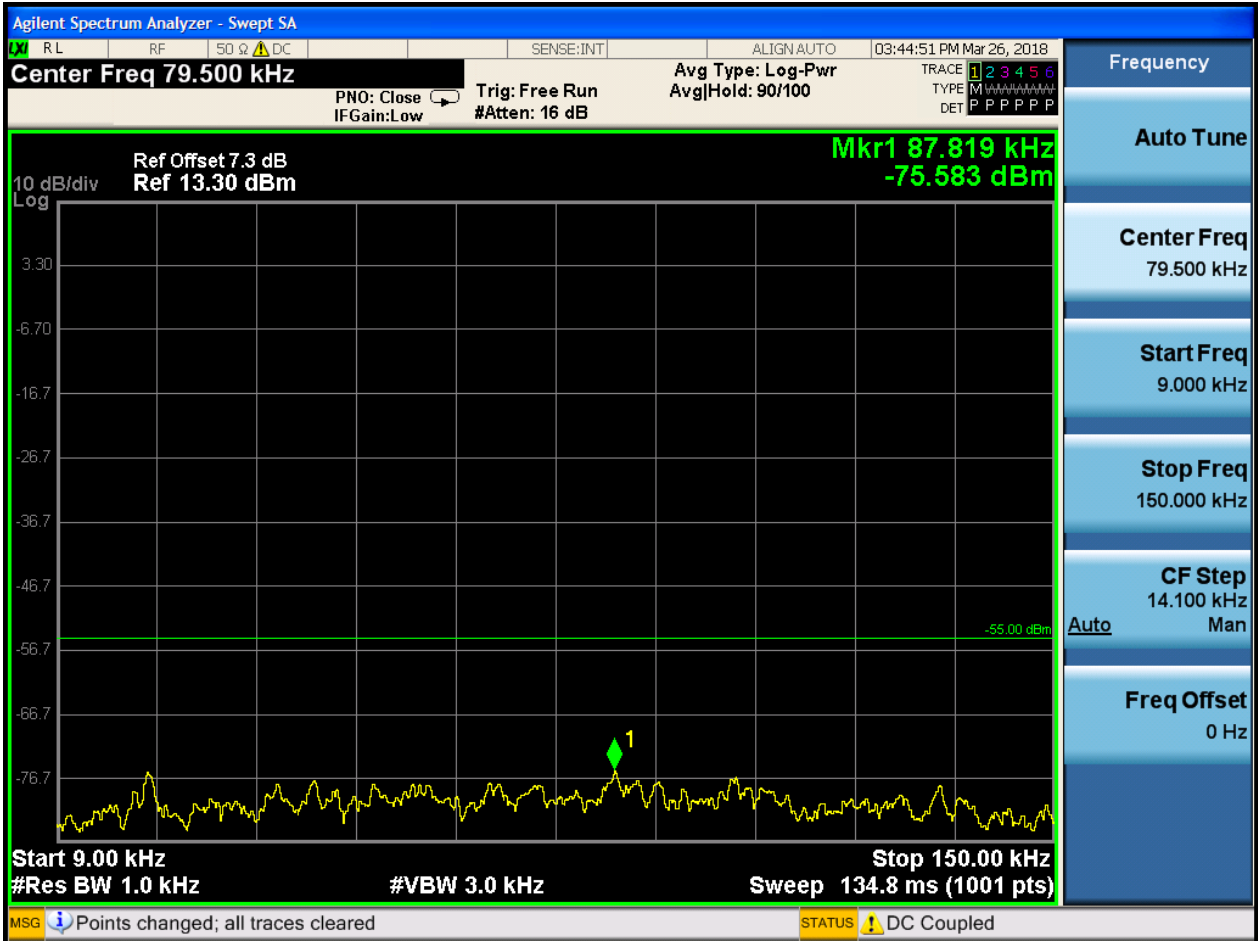


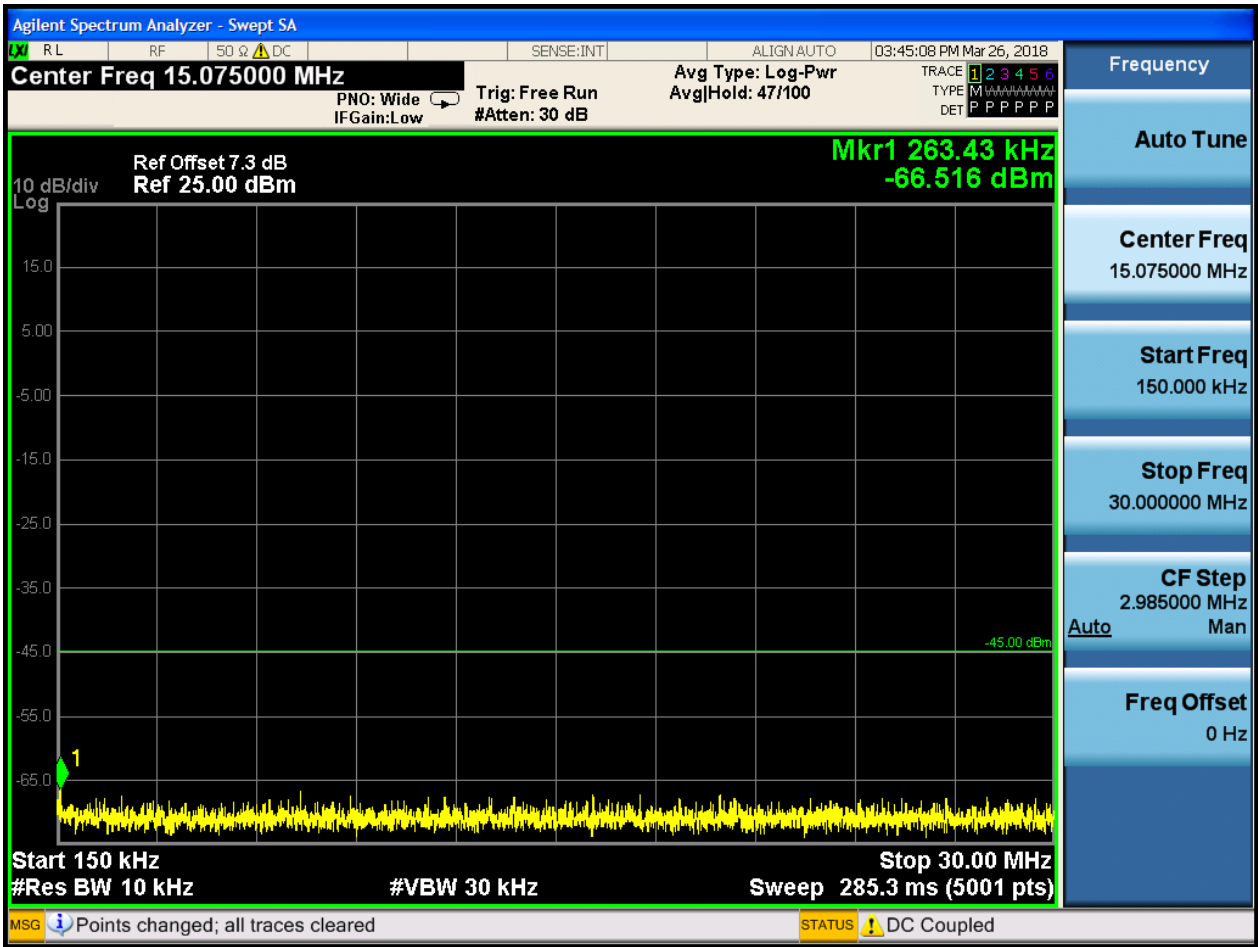




6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







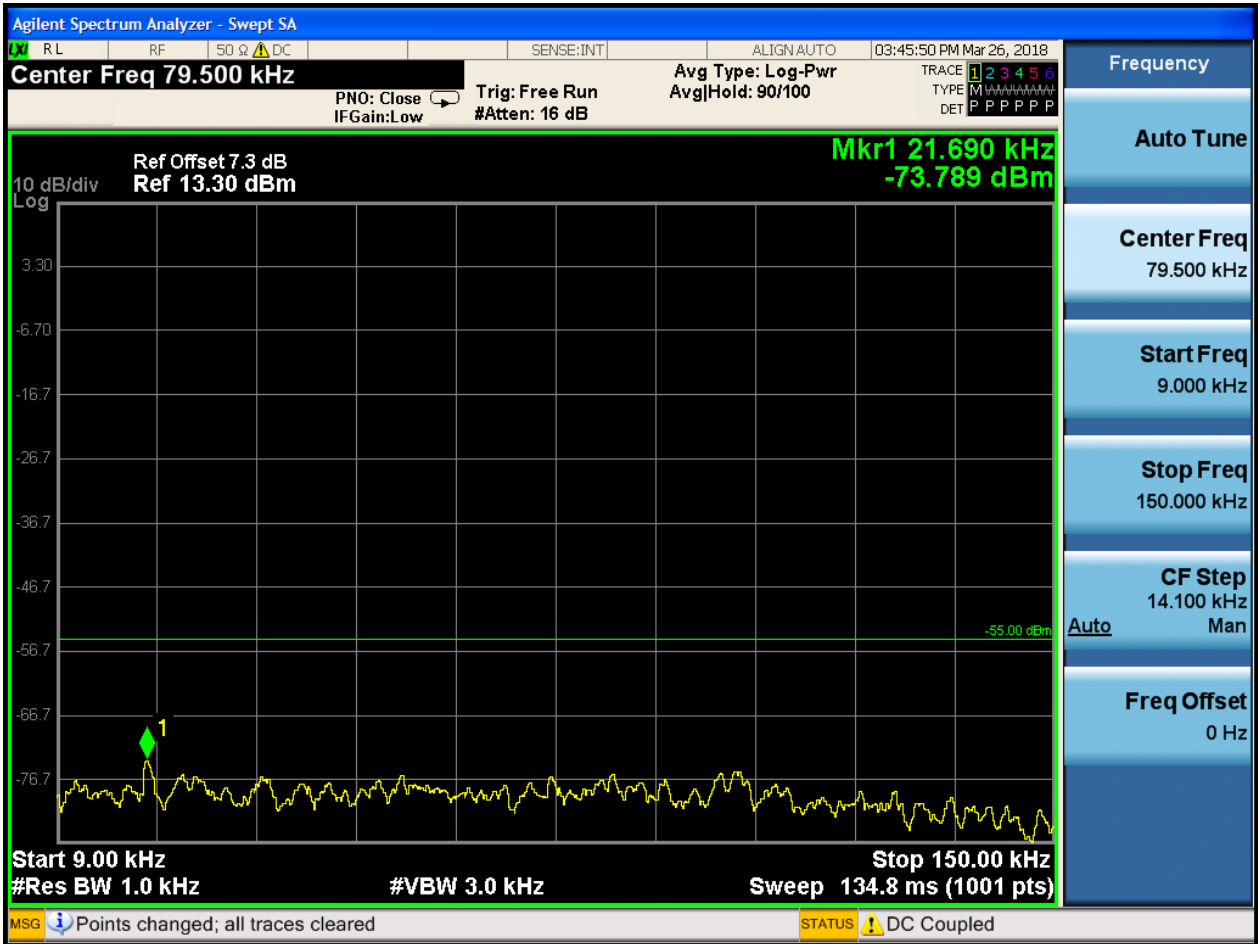


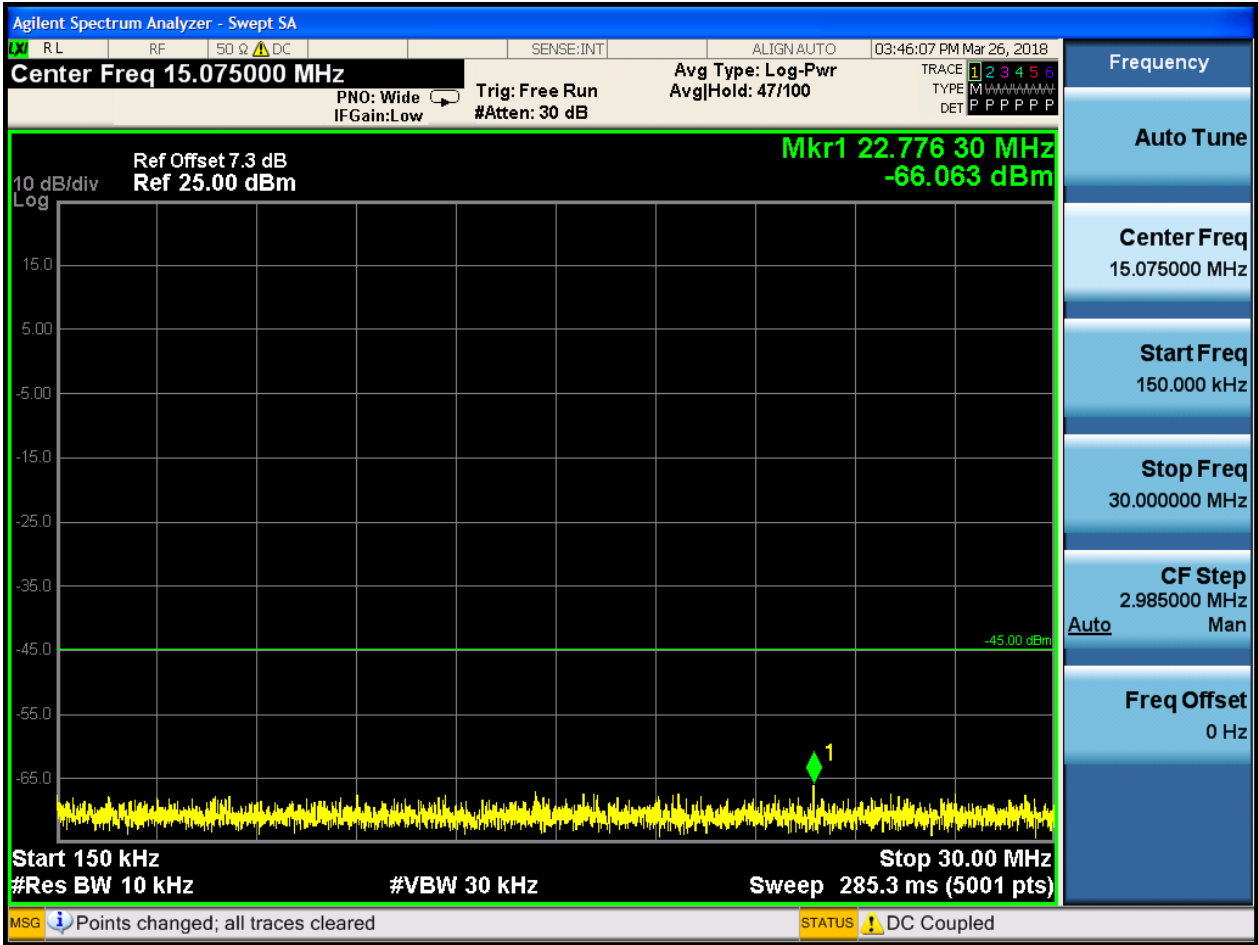
6.1.1.2 Test Mode = LTE/TM2

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



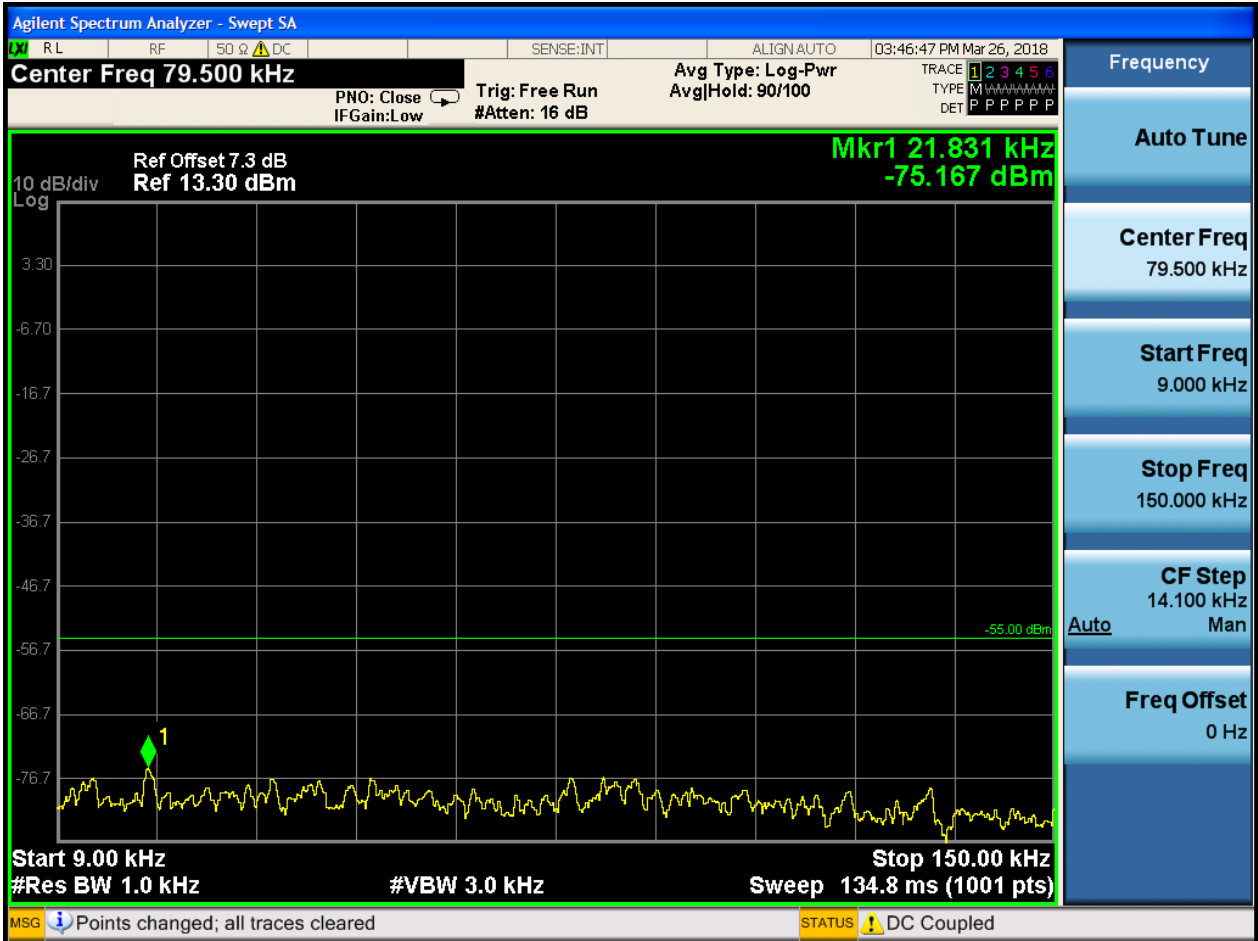


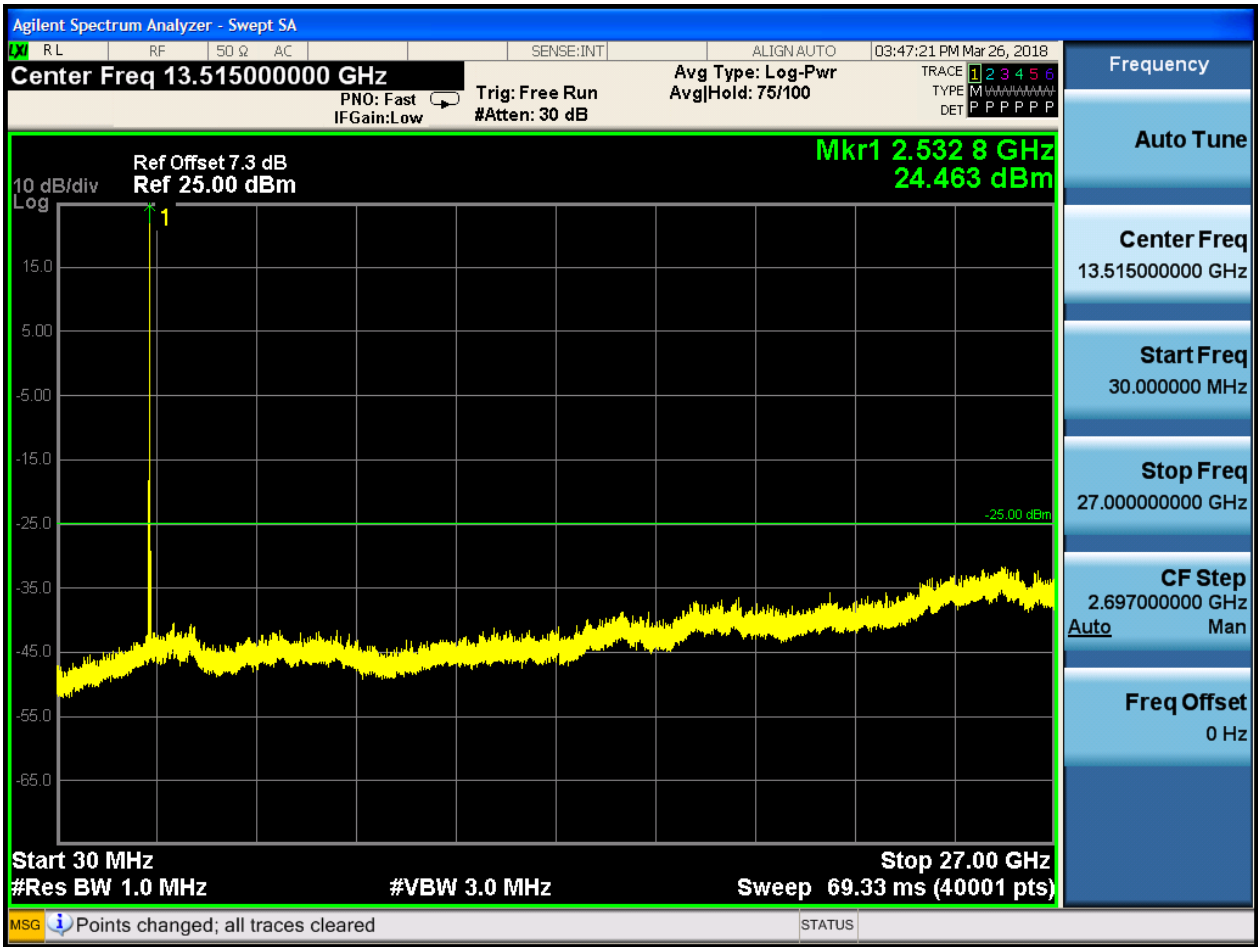




6.1.1.2.1.2 Test Channel = MCH

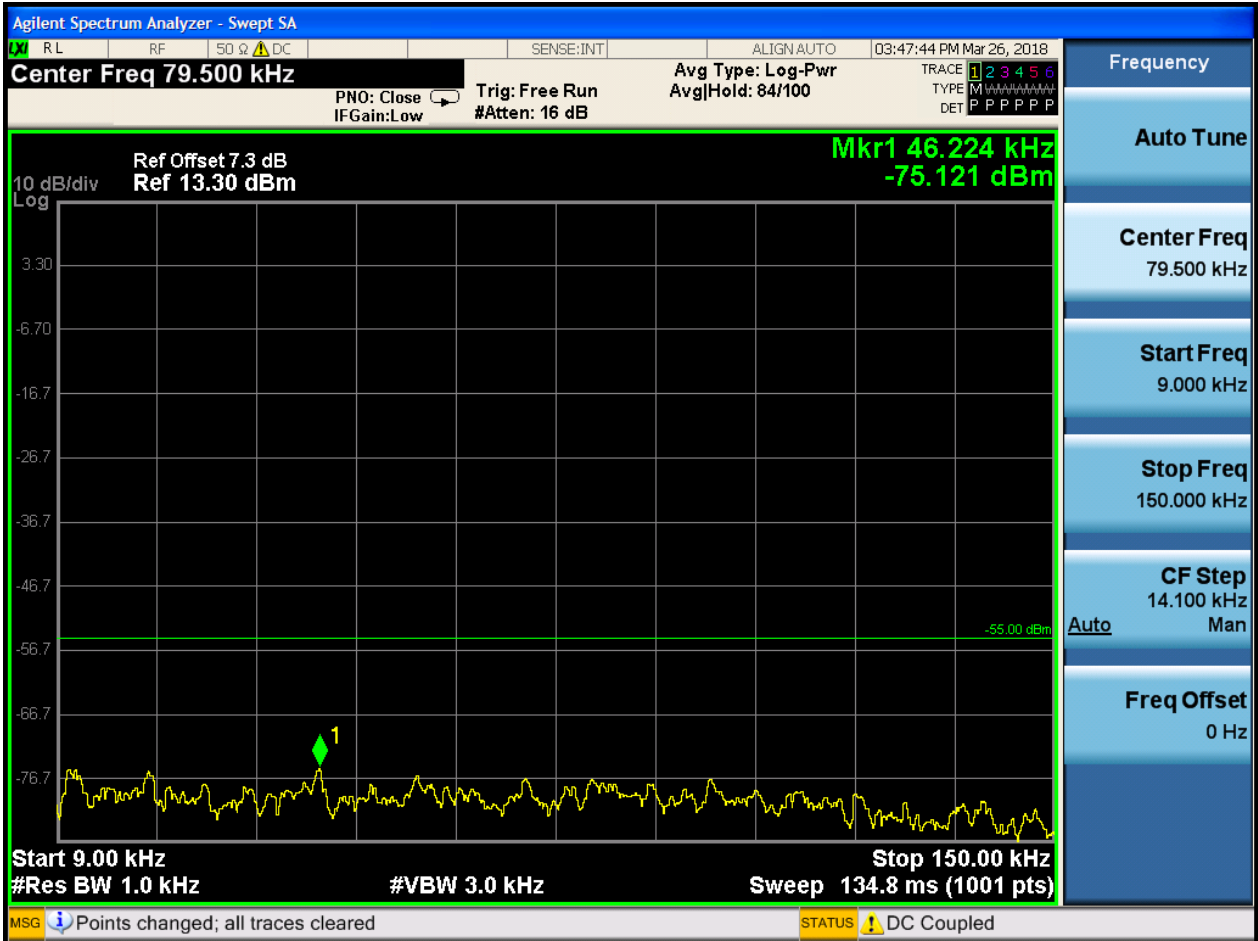
6.1.1.2.1.2.1 Test RB = RB1#0

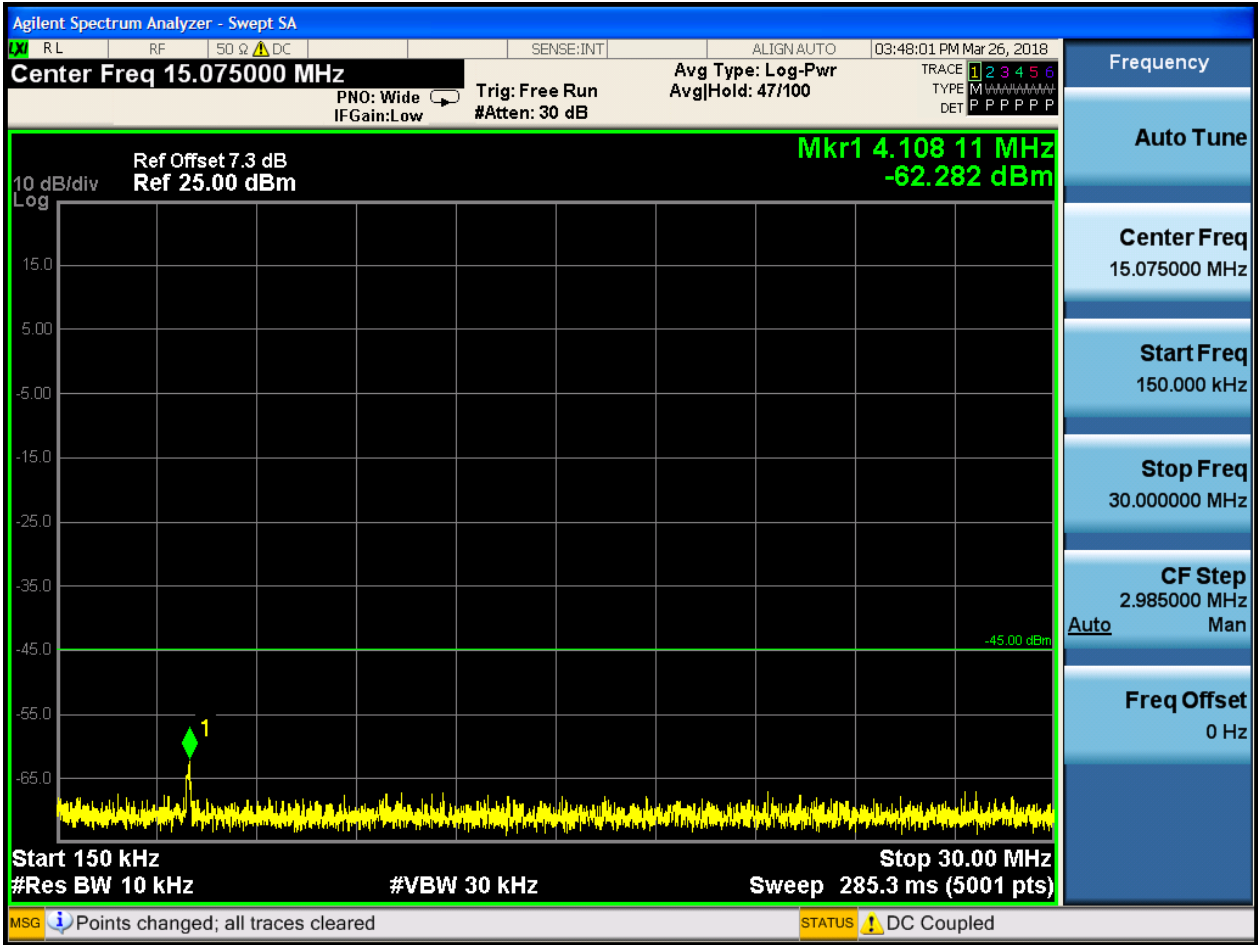


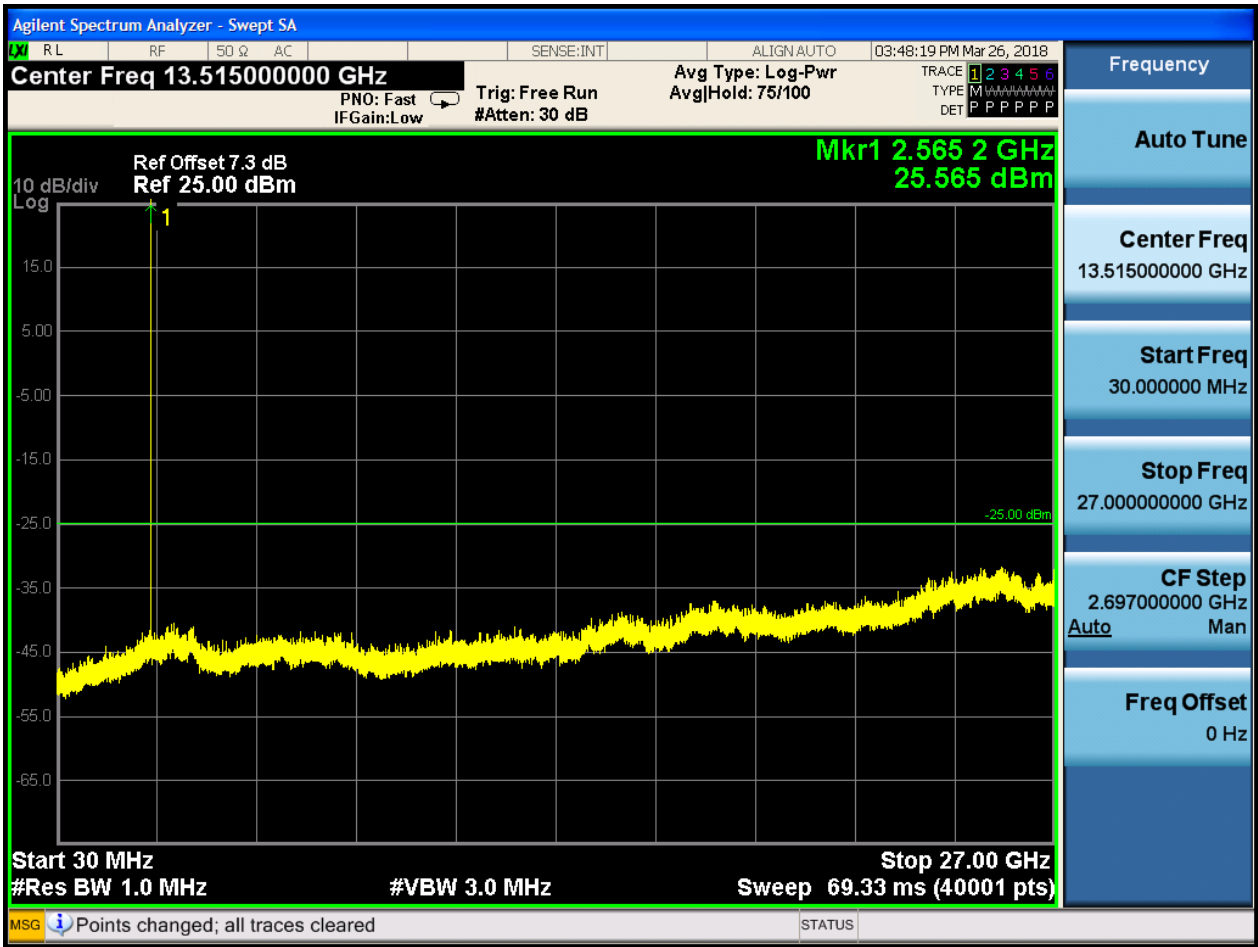


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





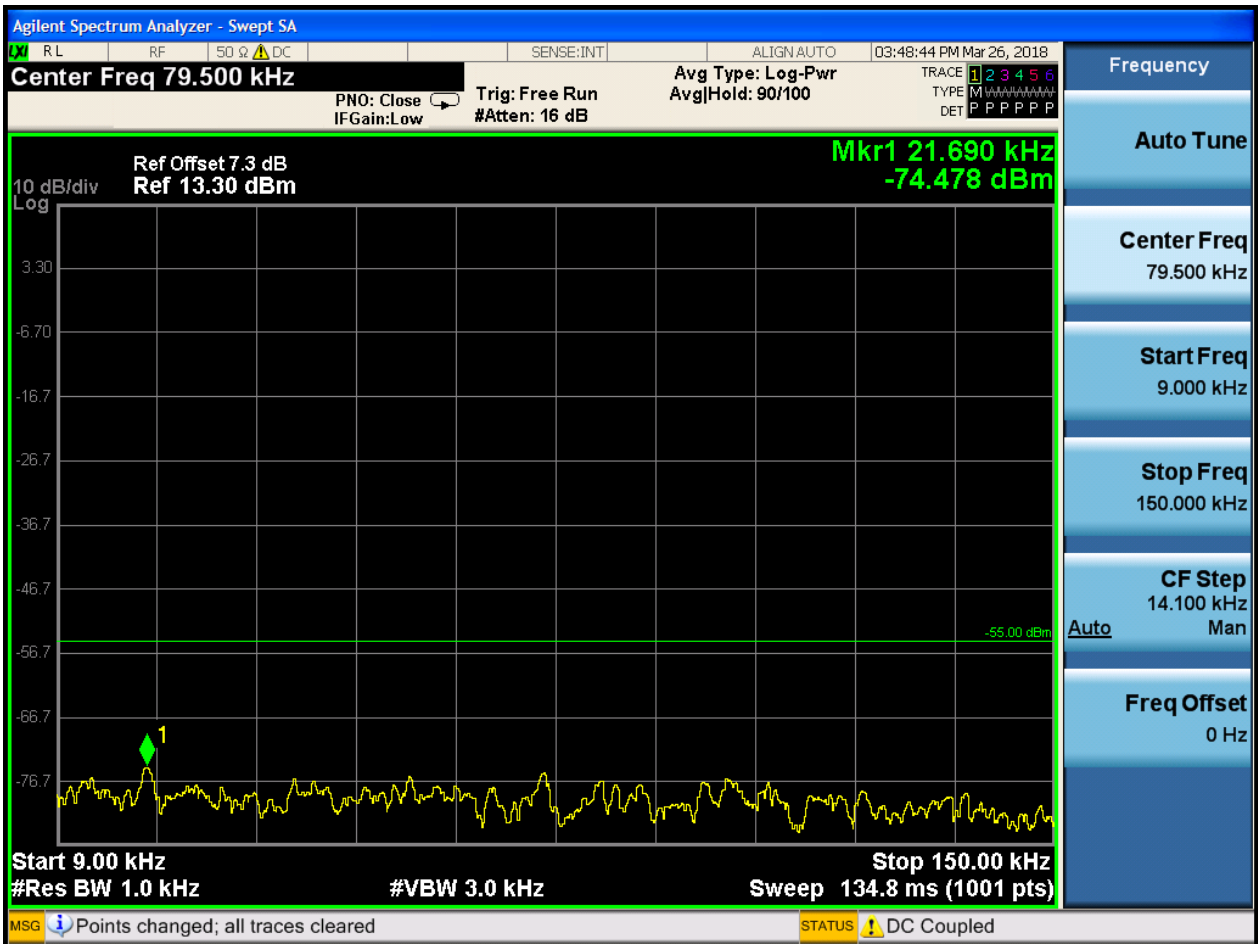


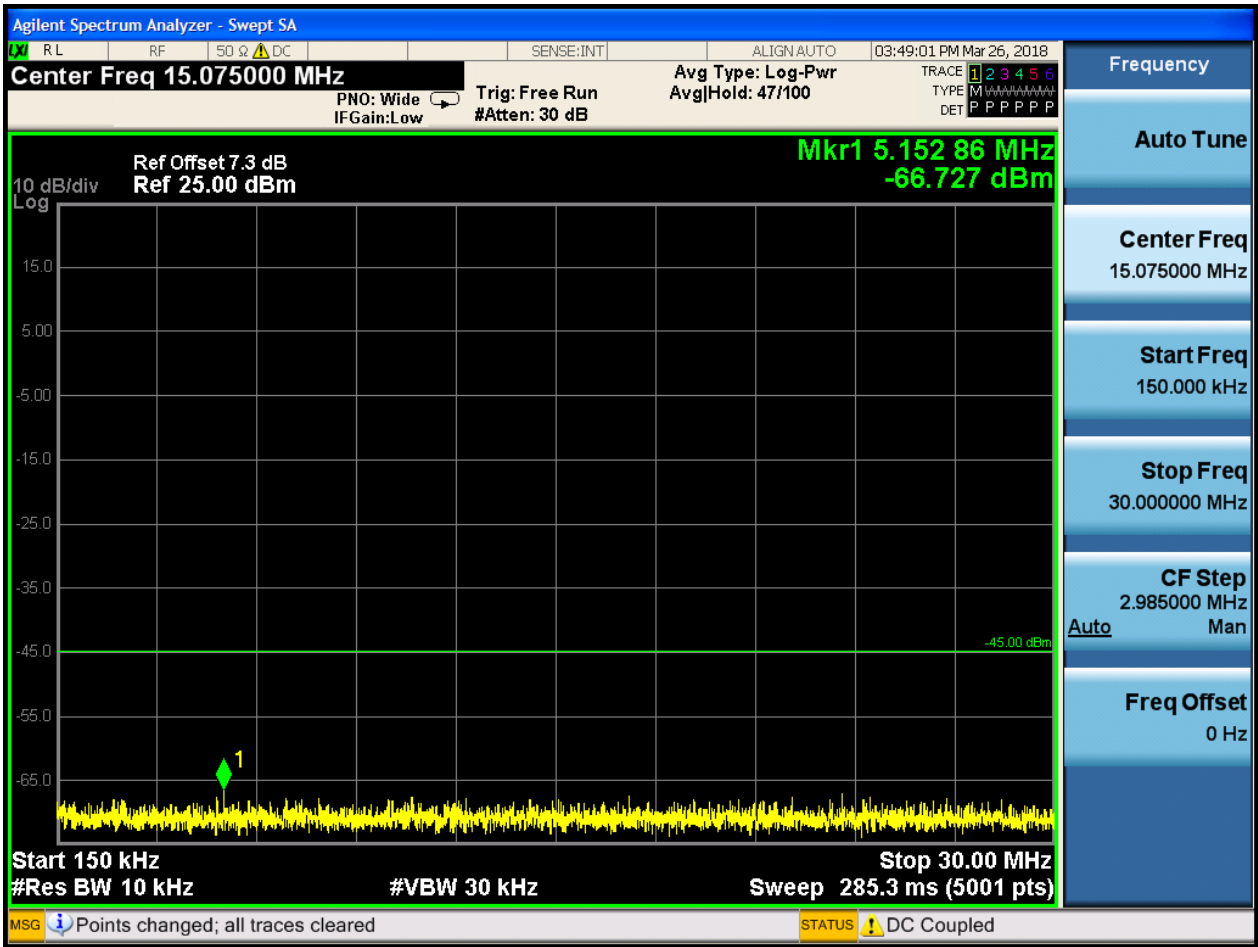


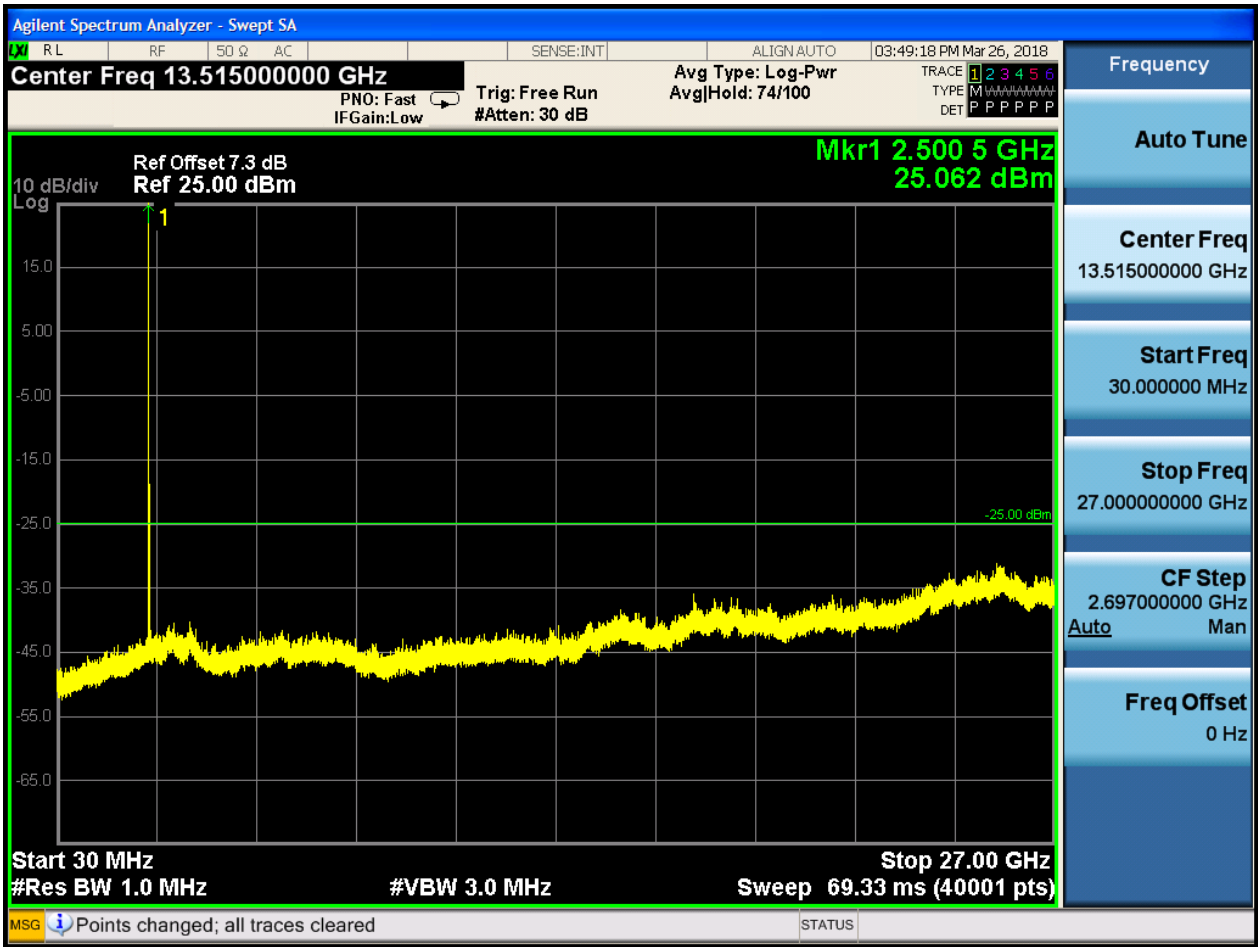
6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0



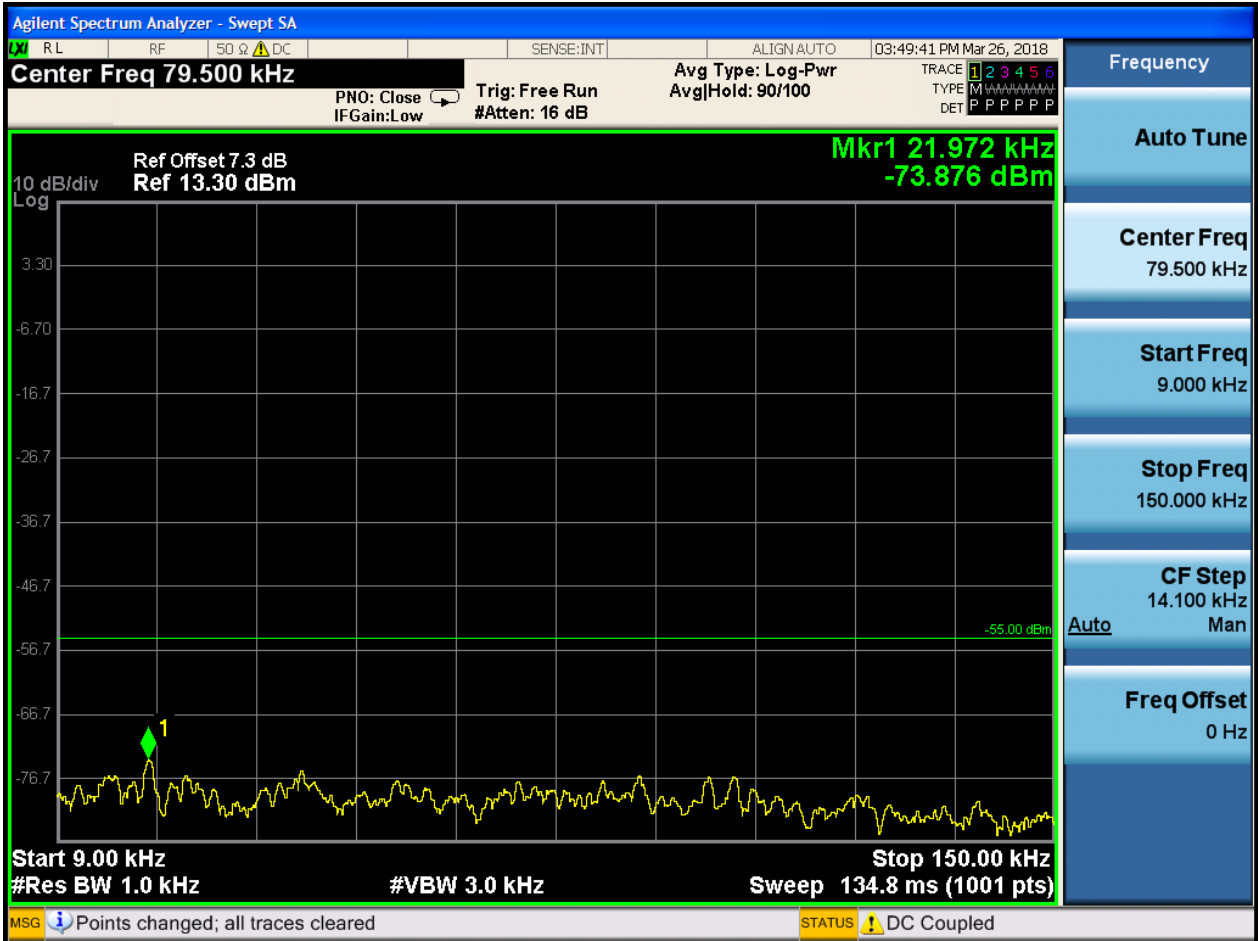


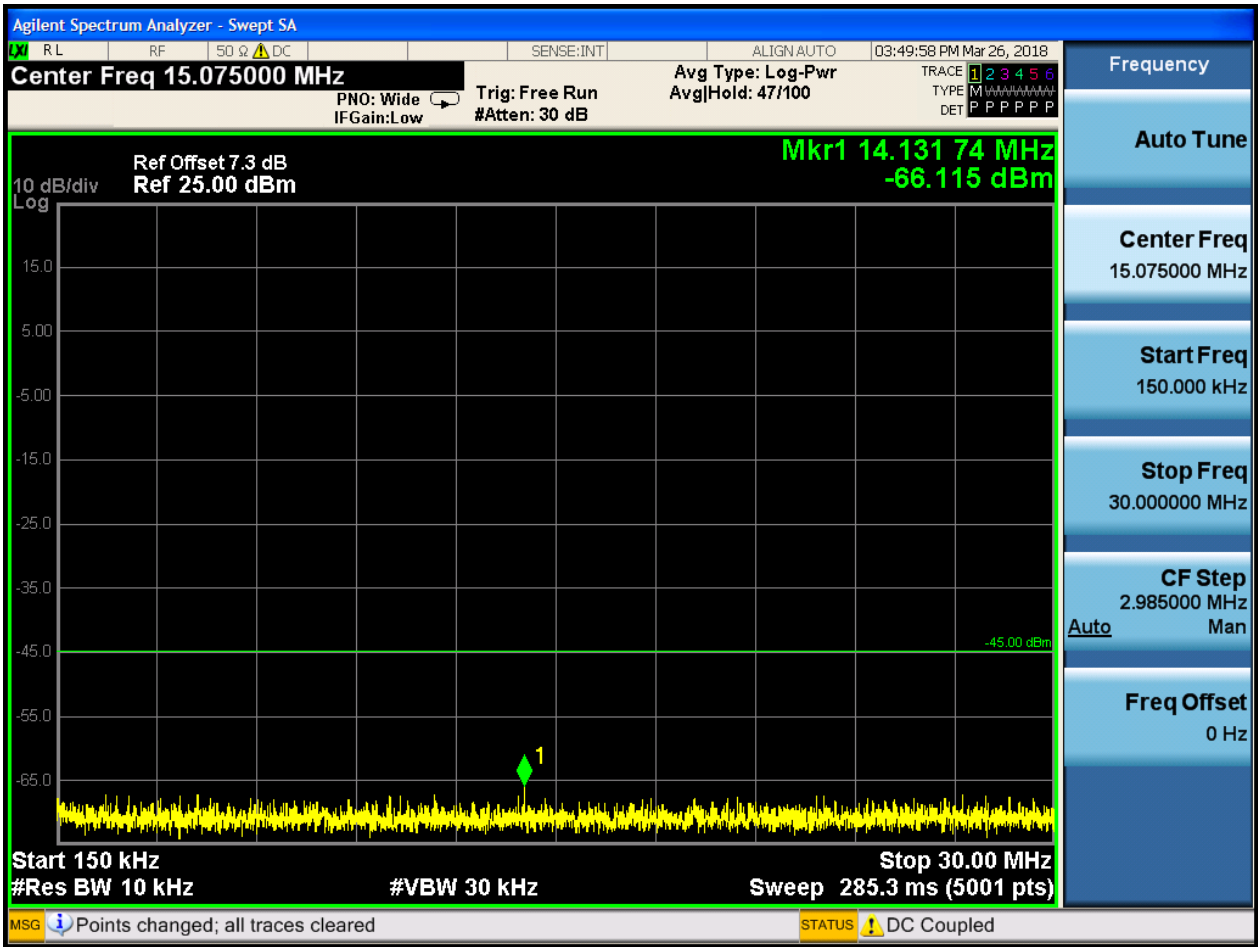




6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0

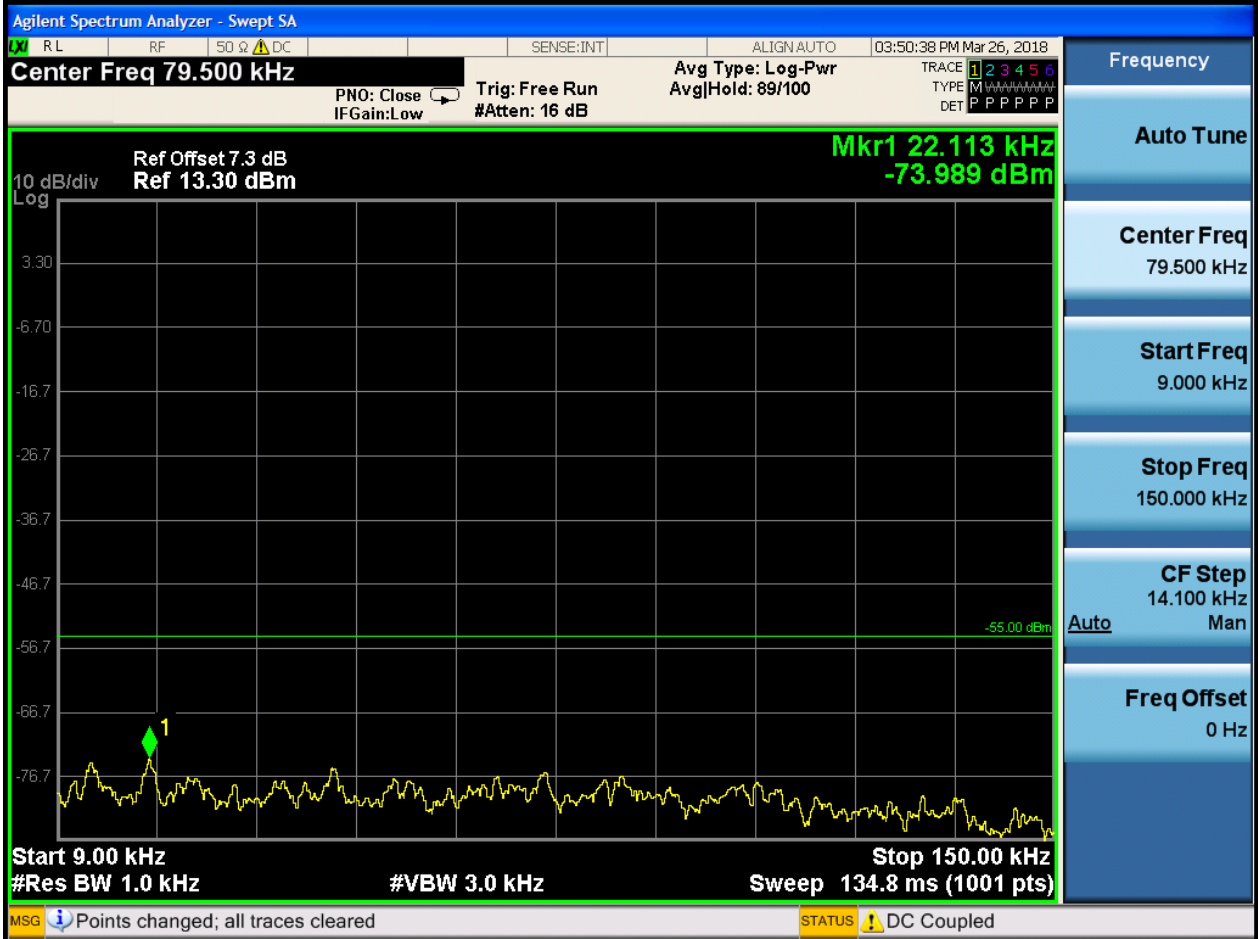


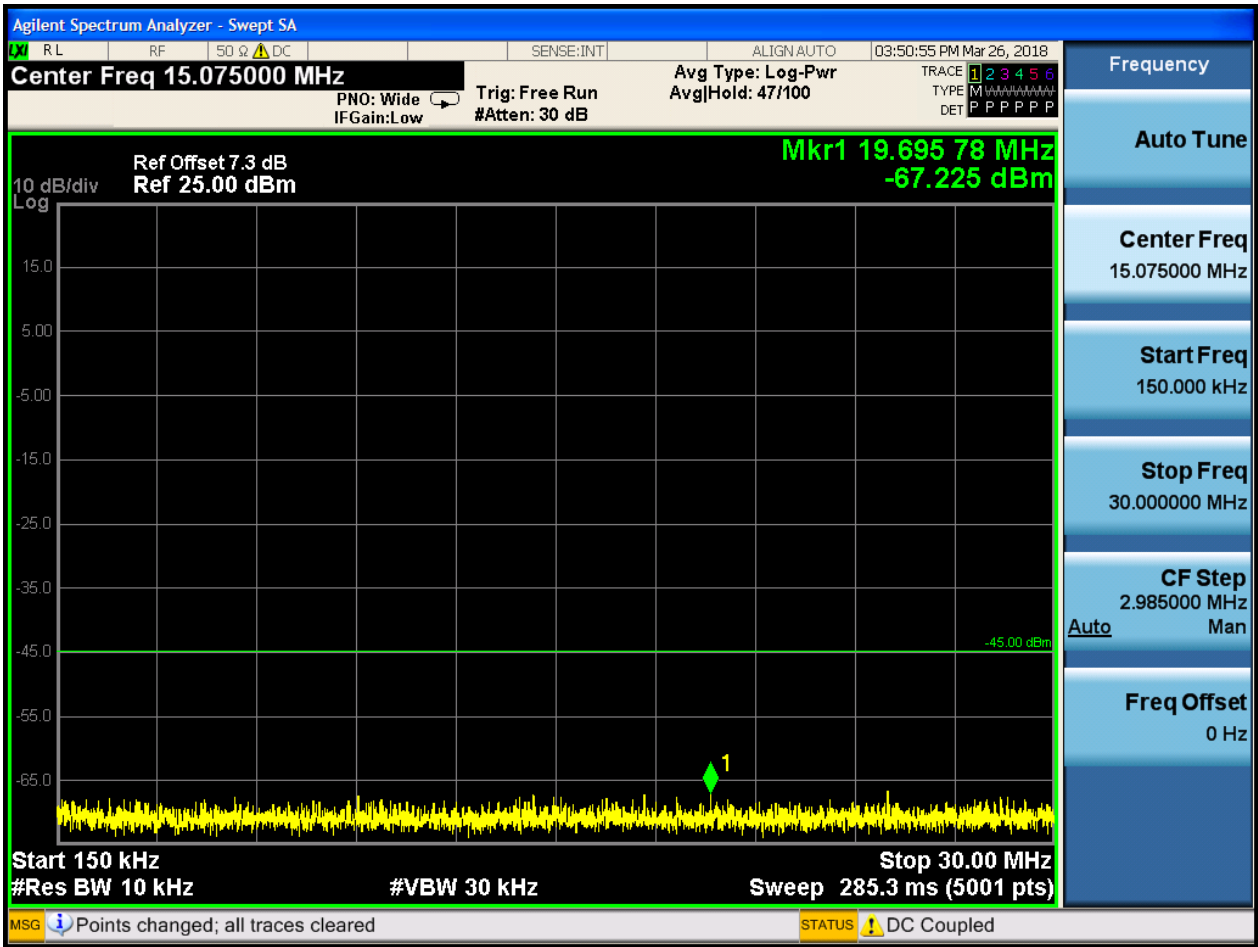


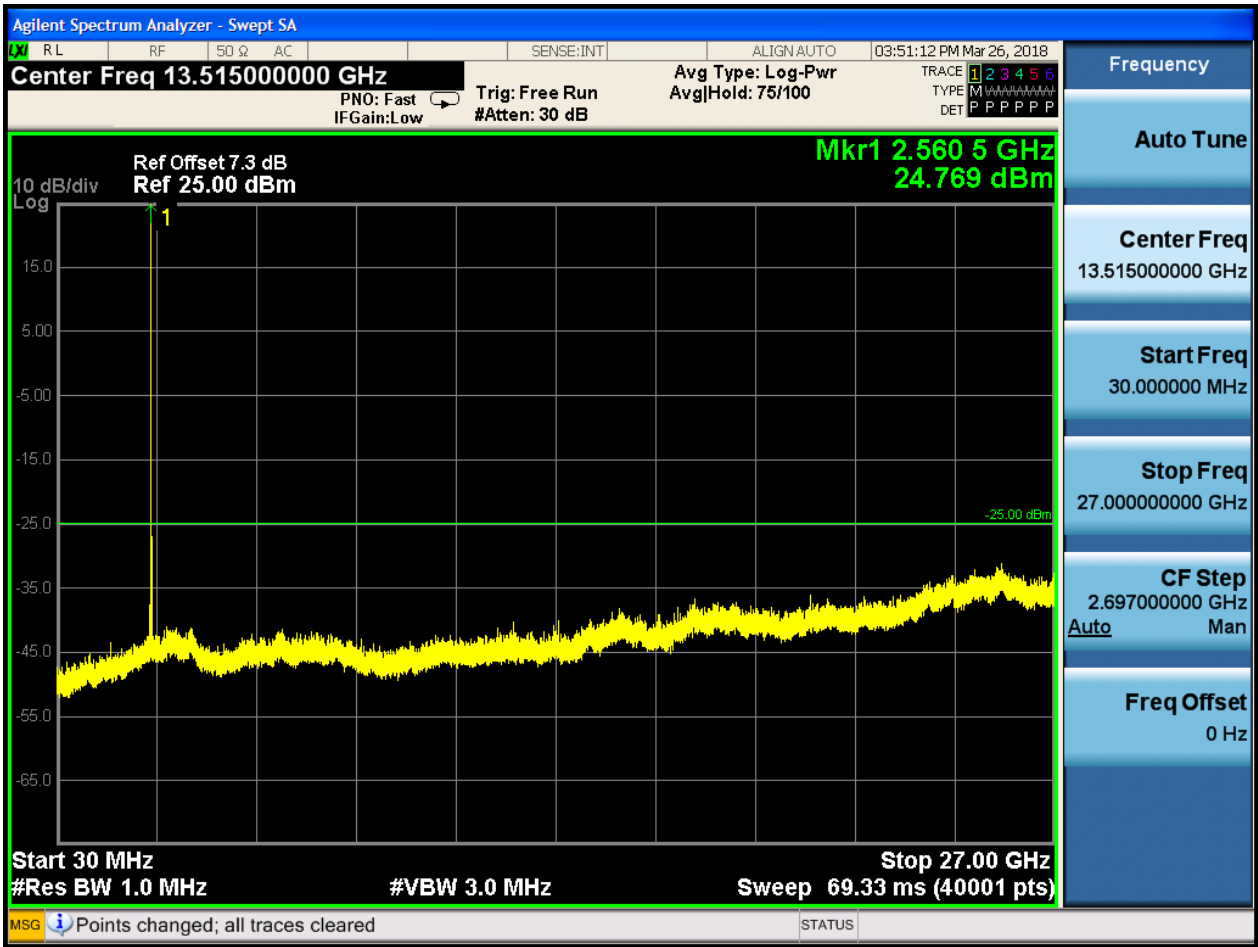


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0





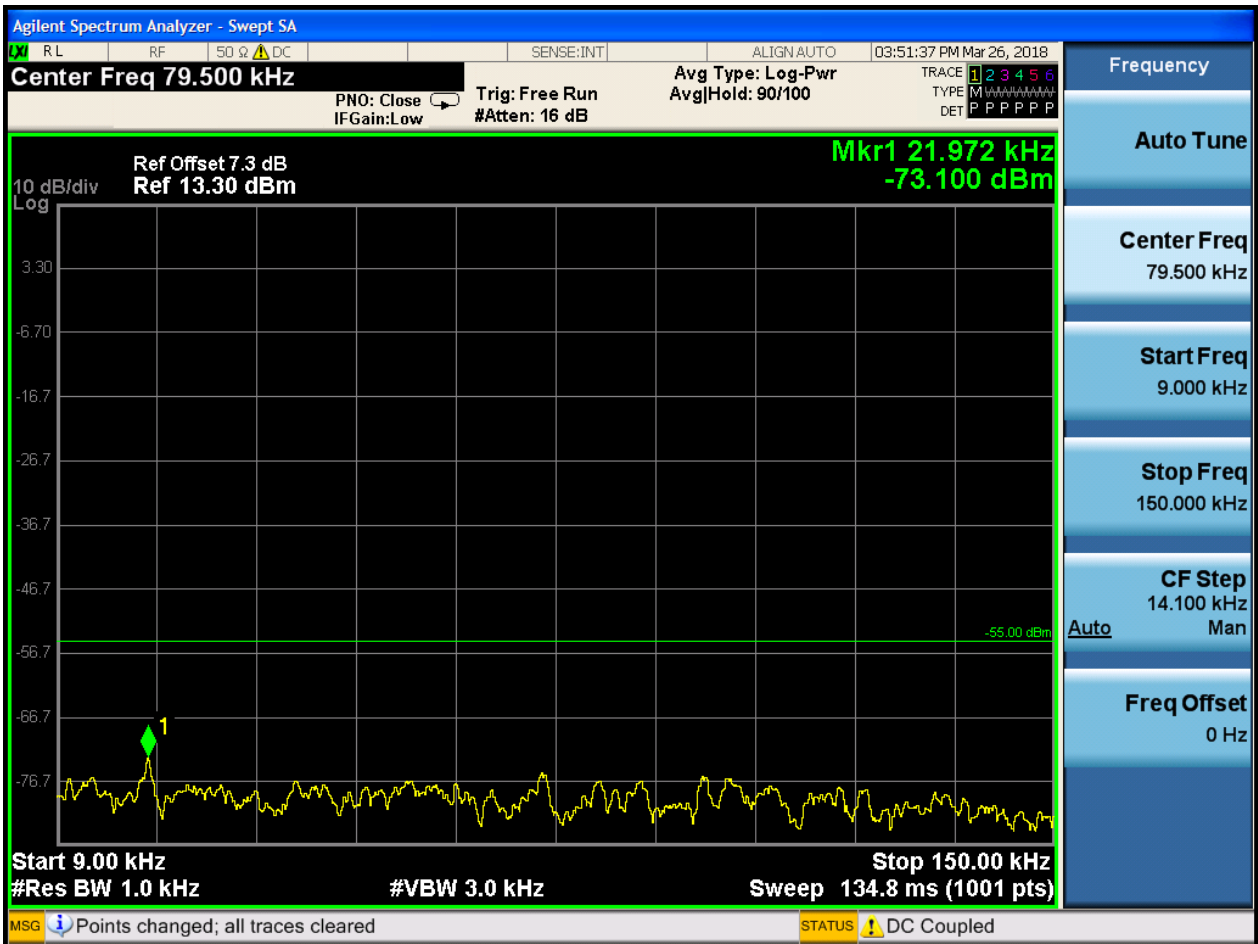


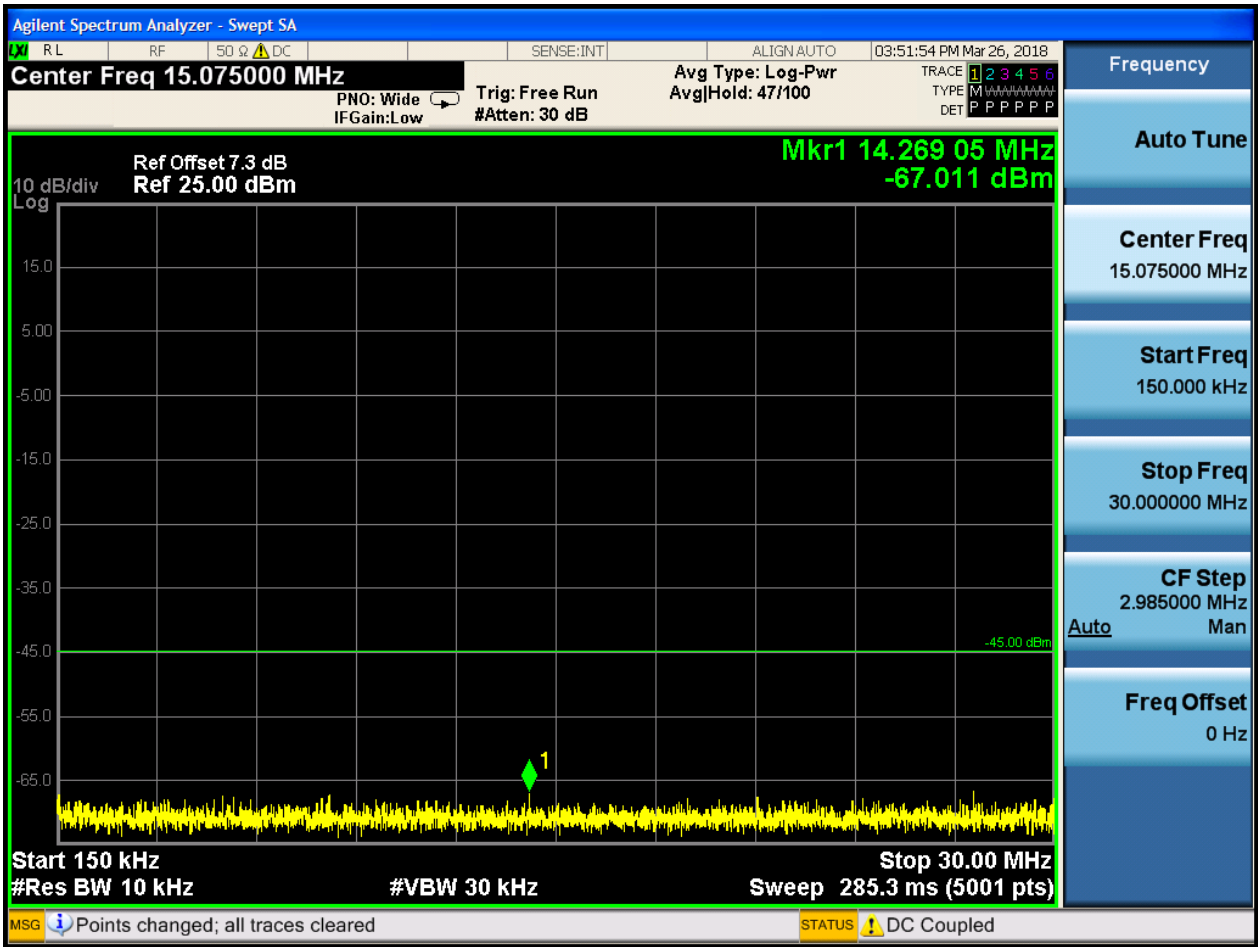


6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0

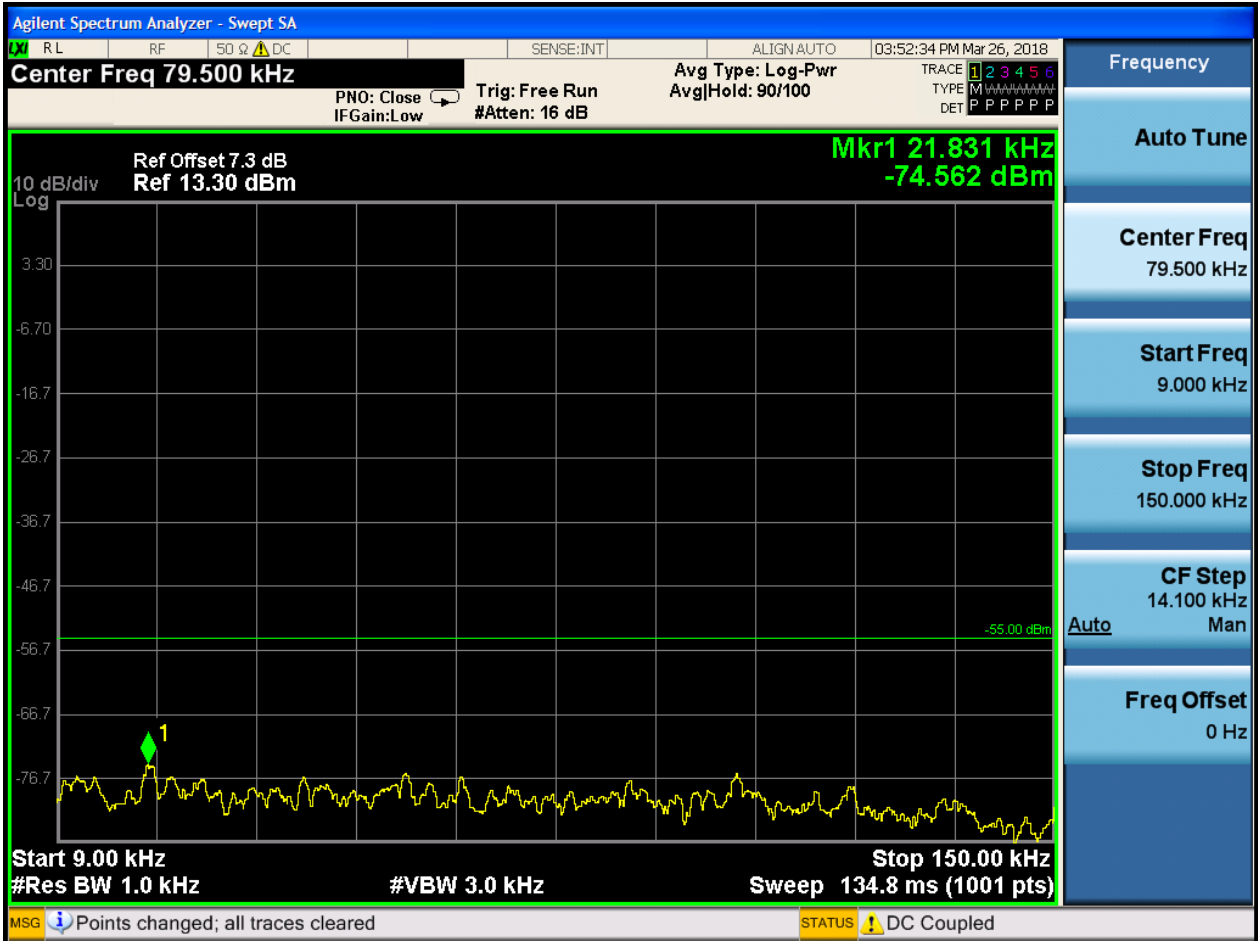


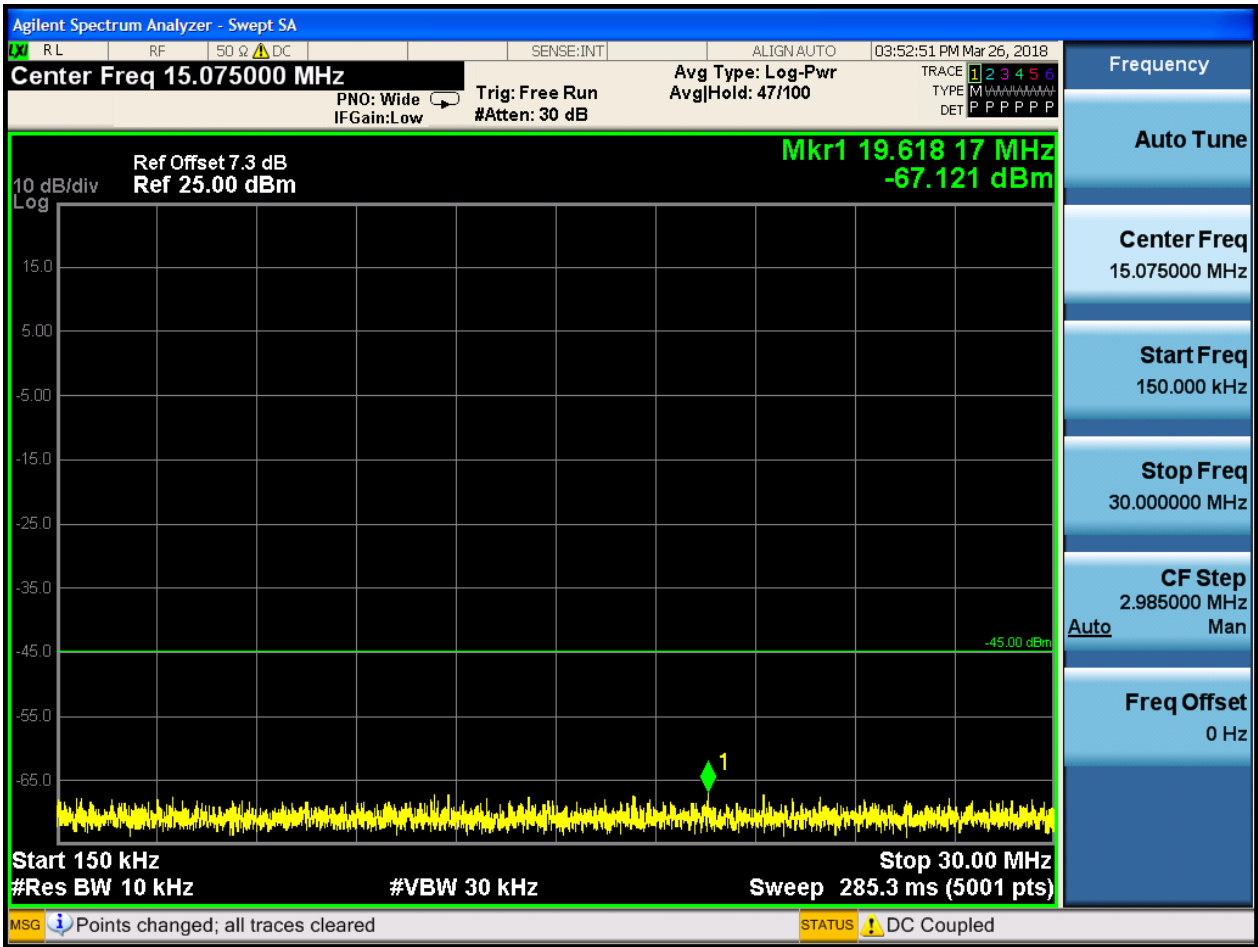




6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0

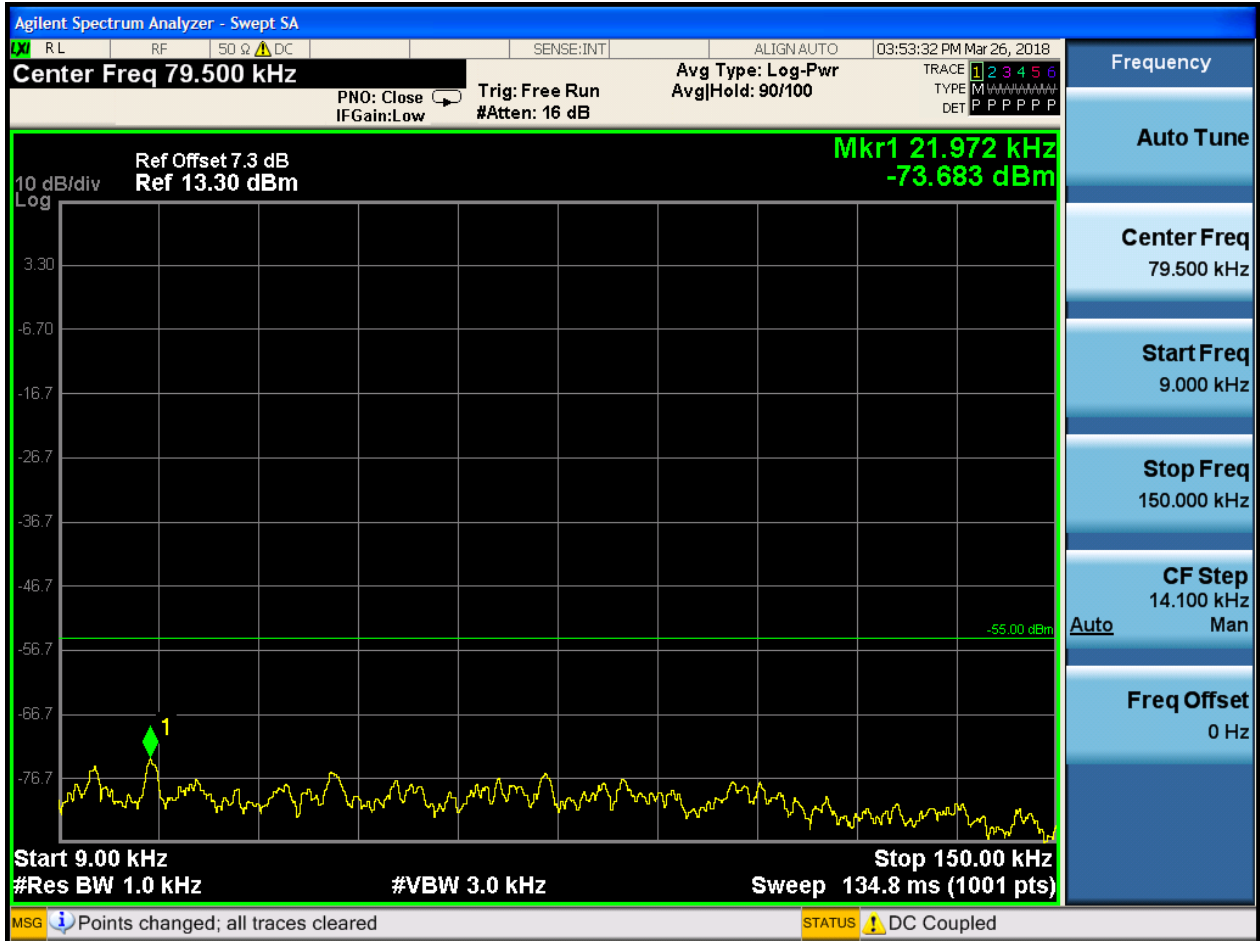


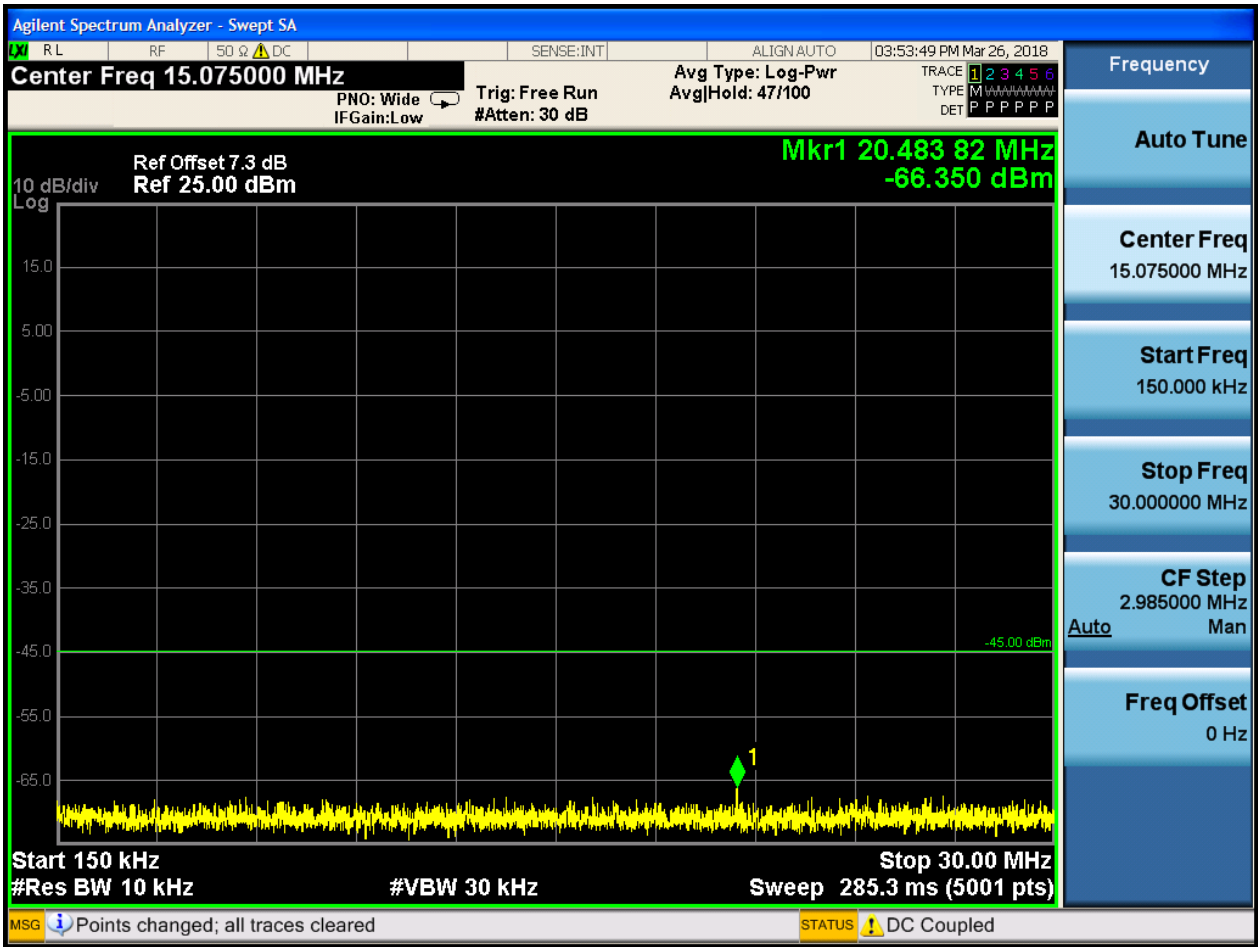


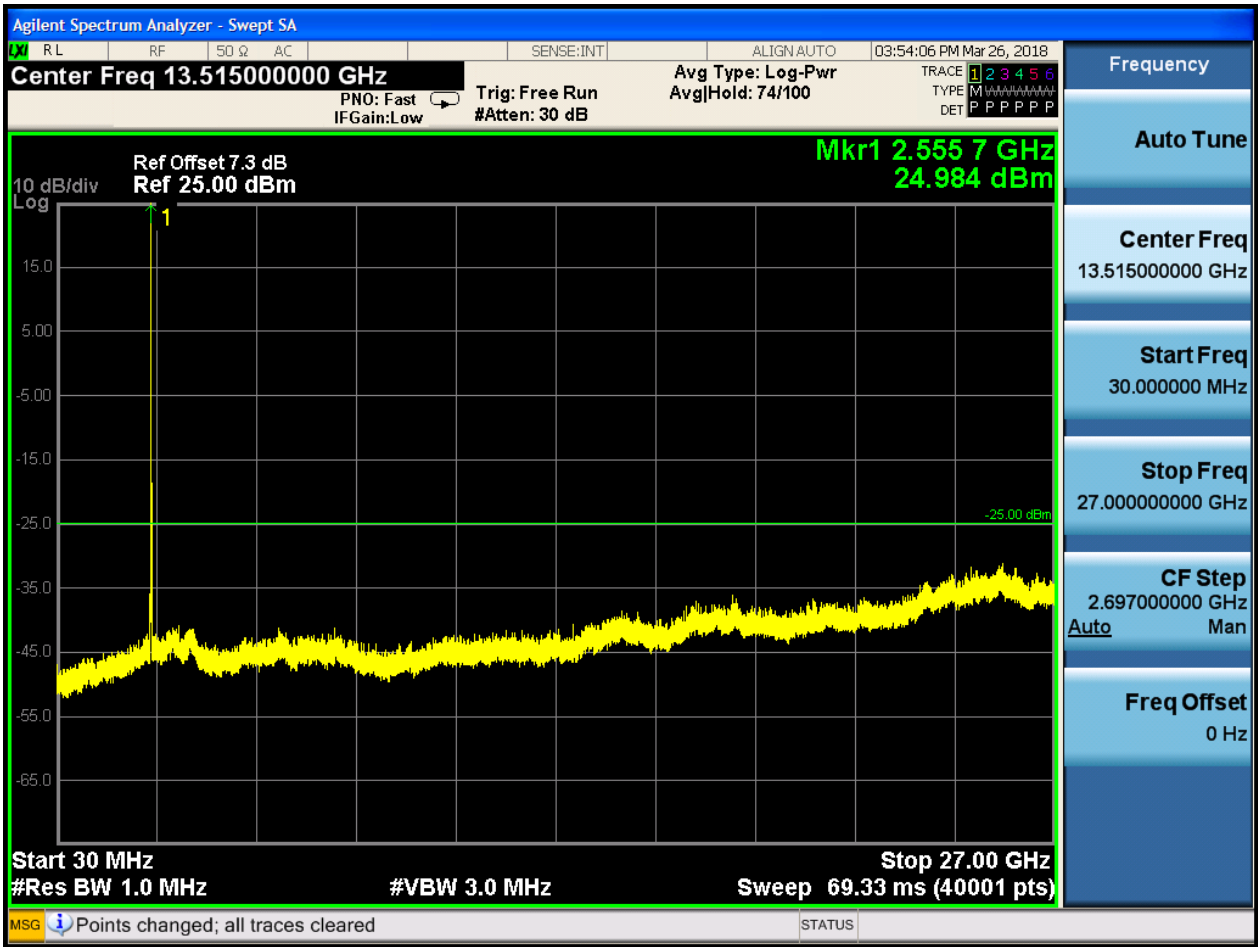


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0





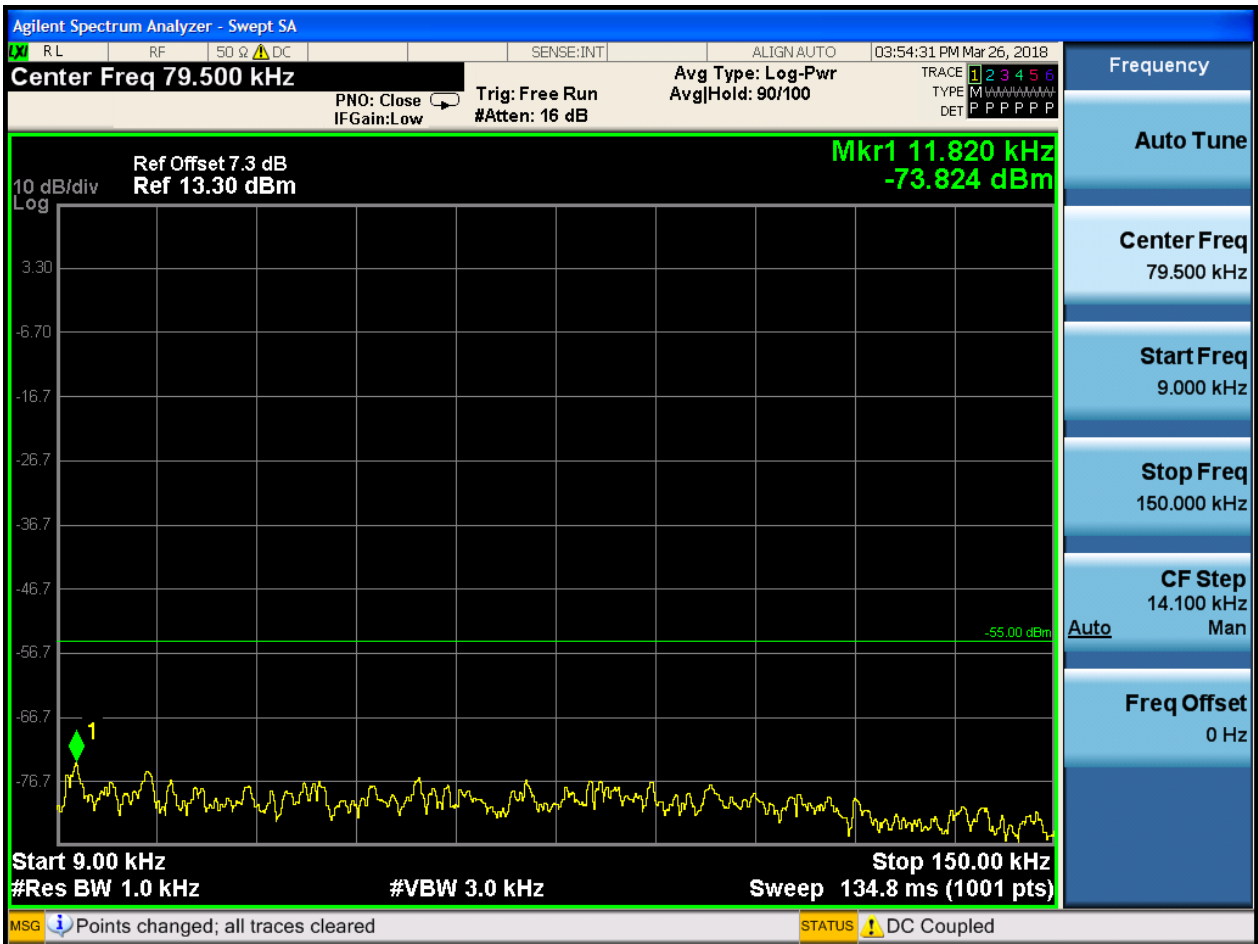


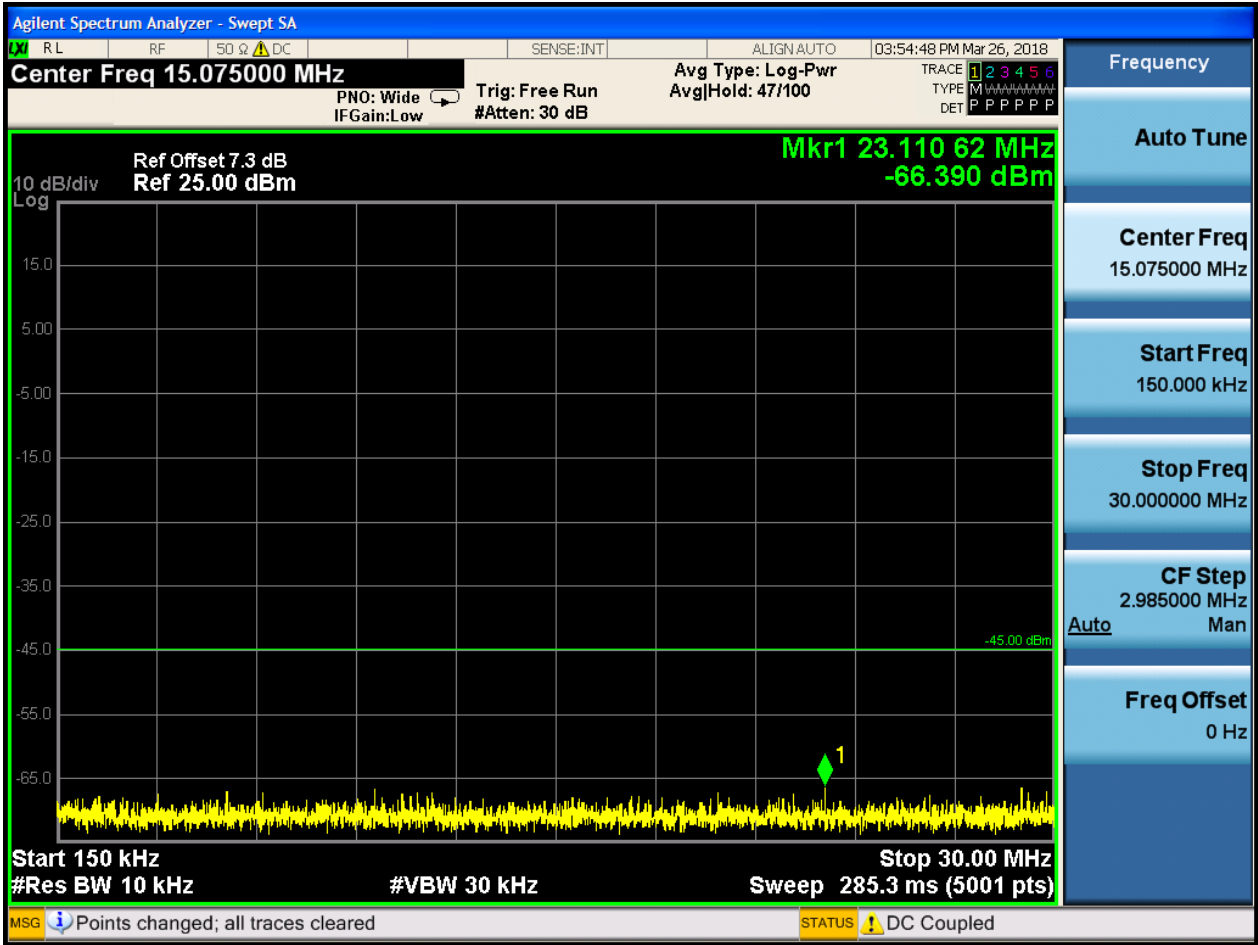


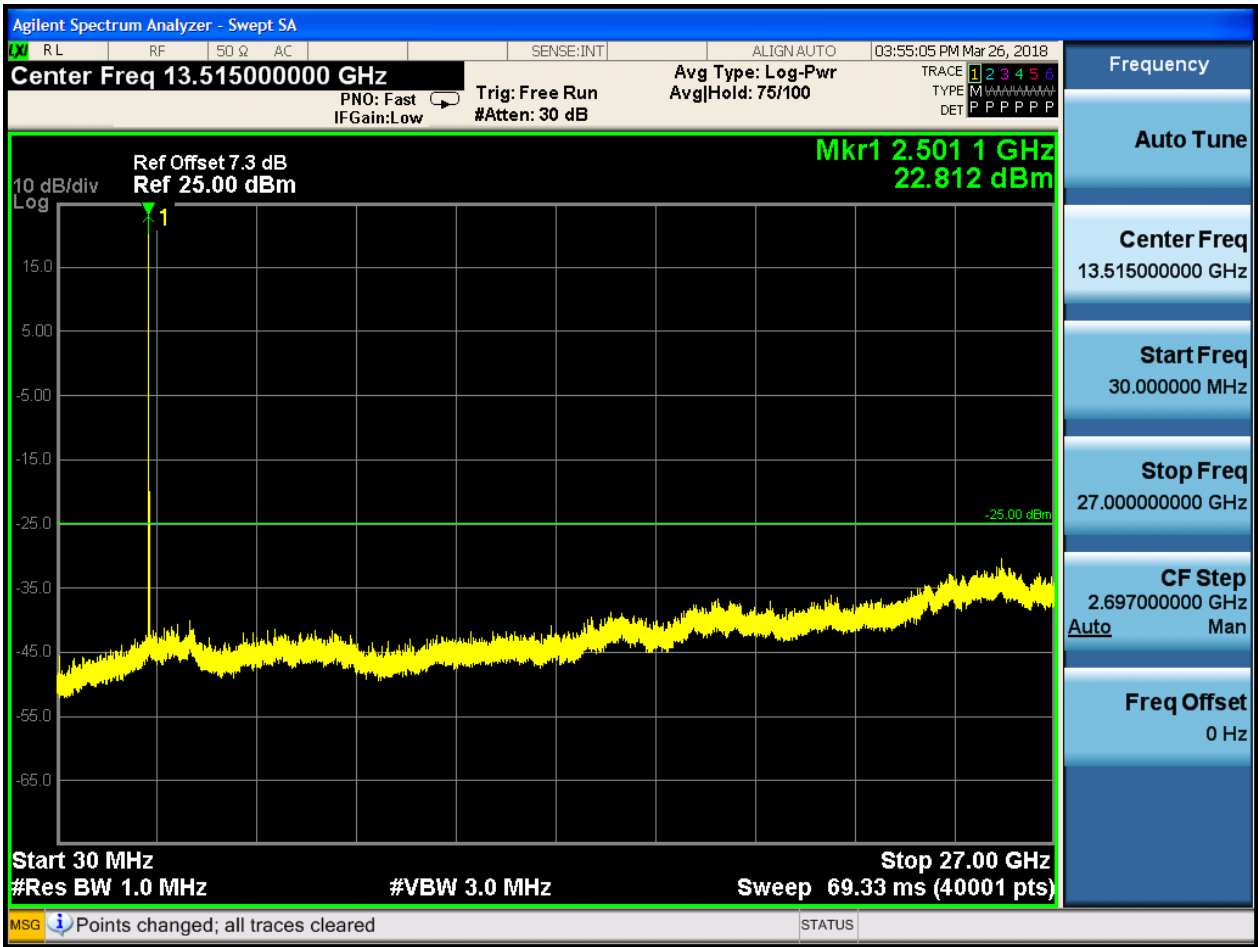
6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

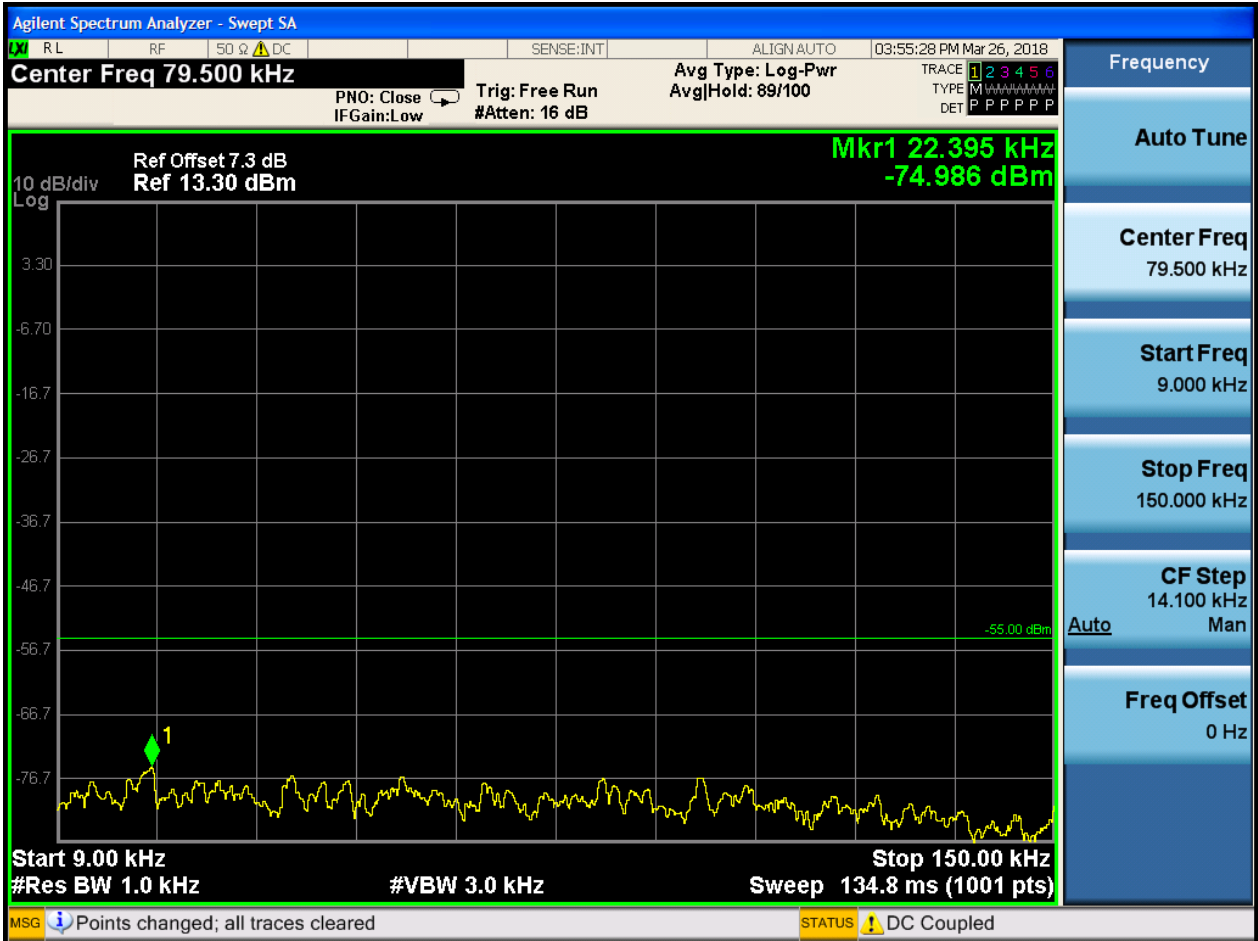


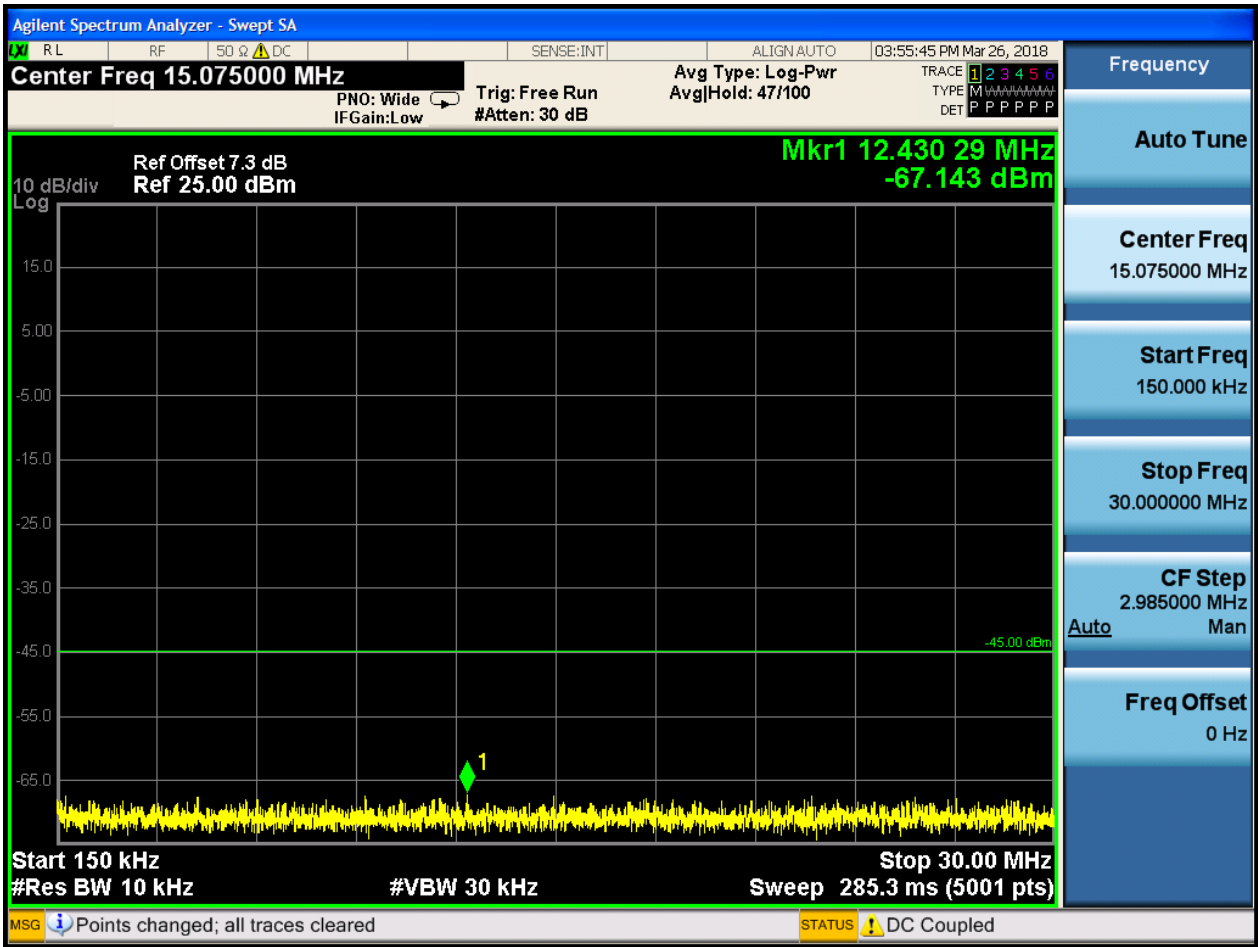




6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0



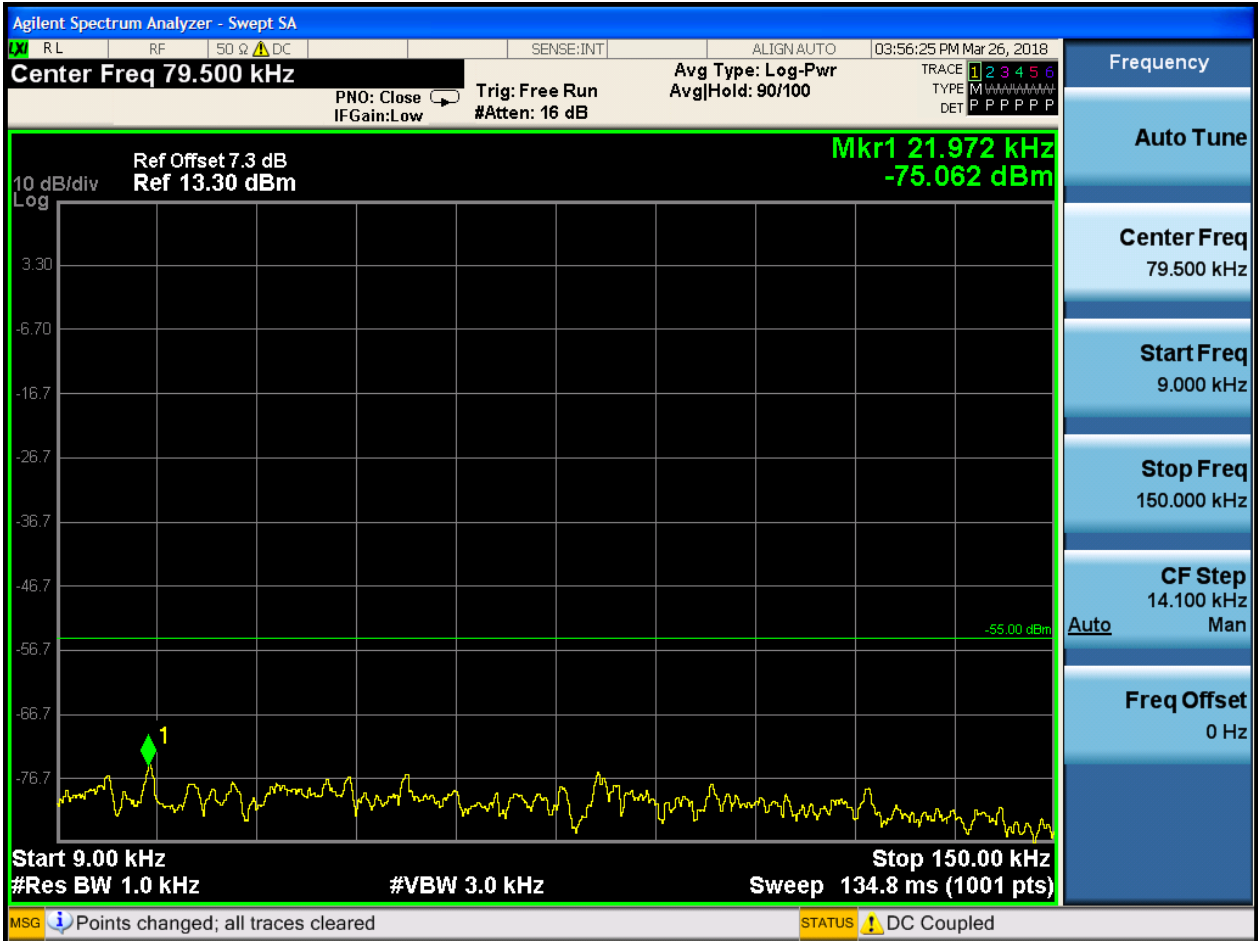


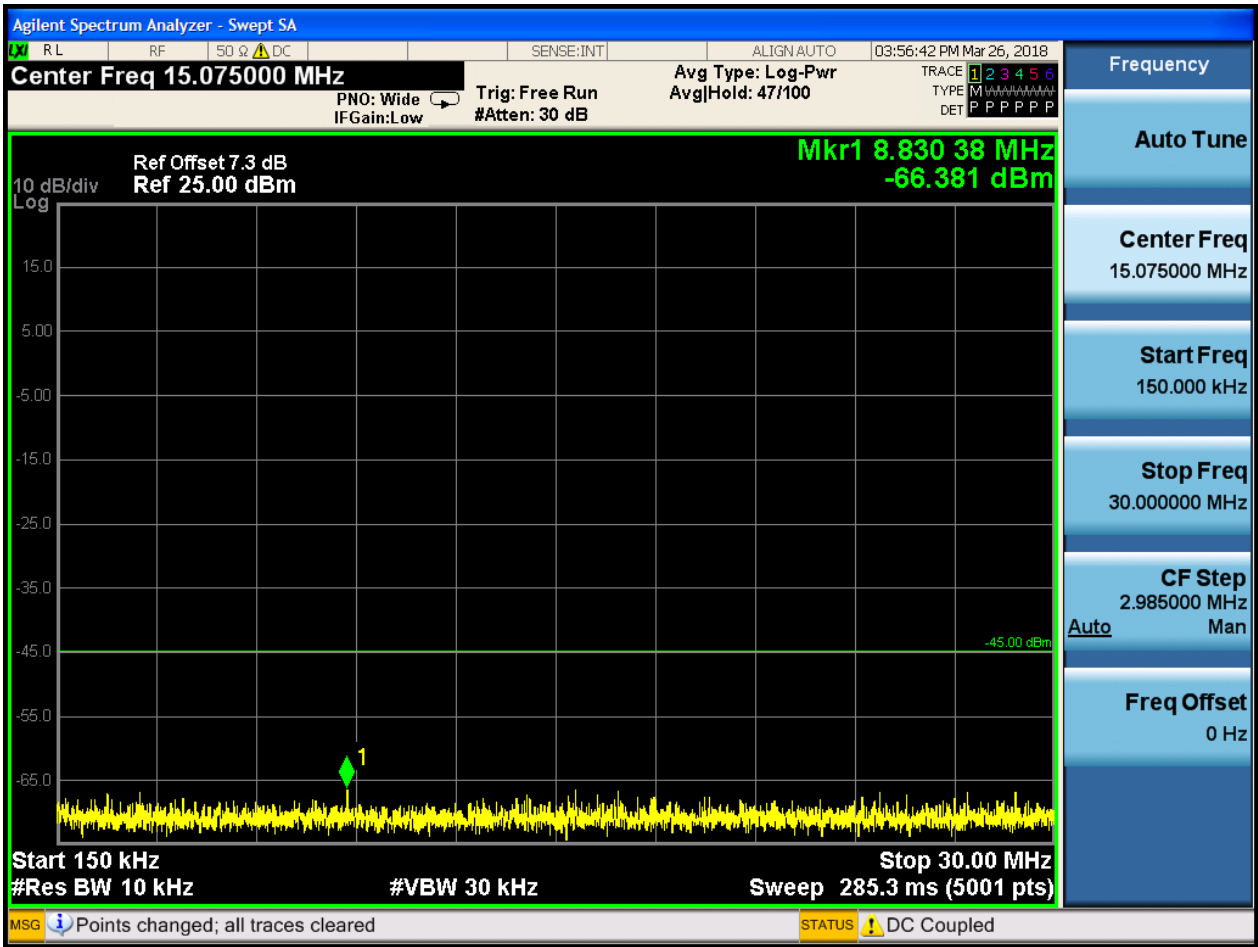


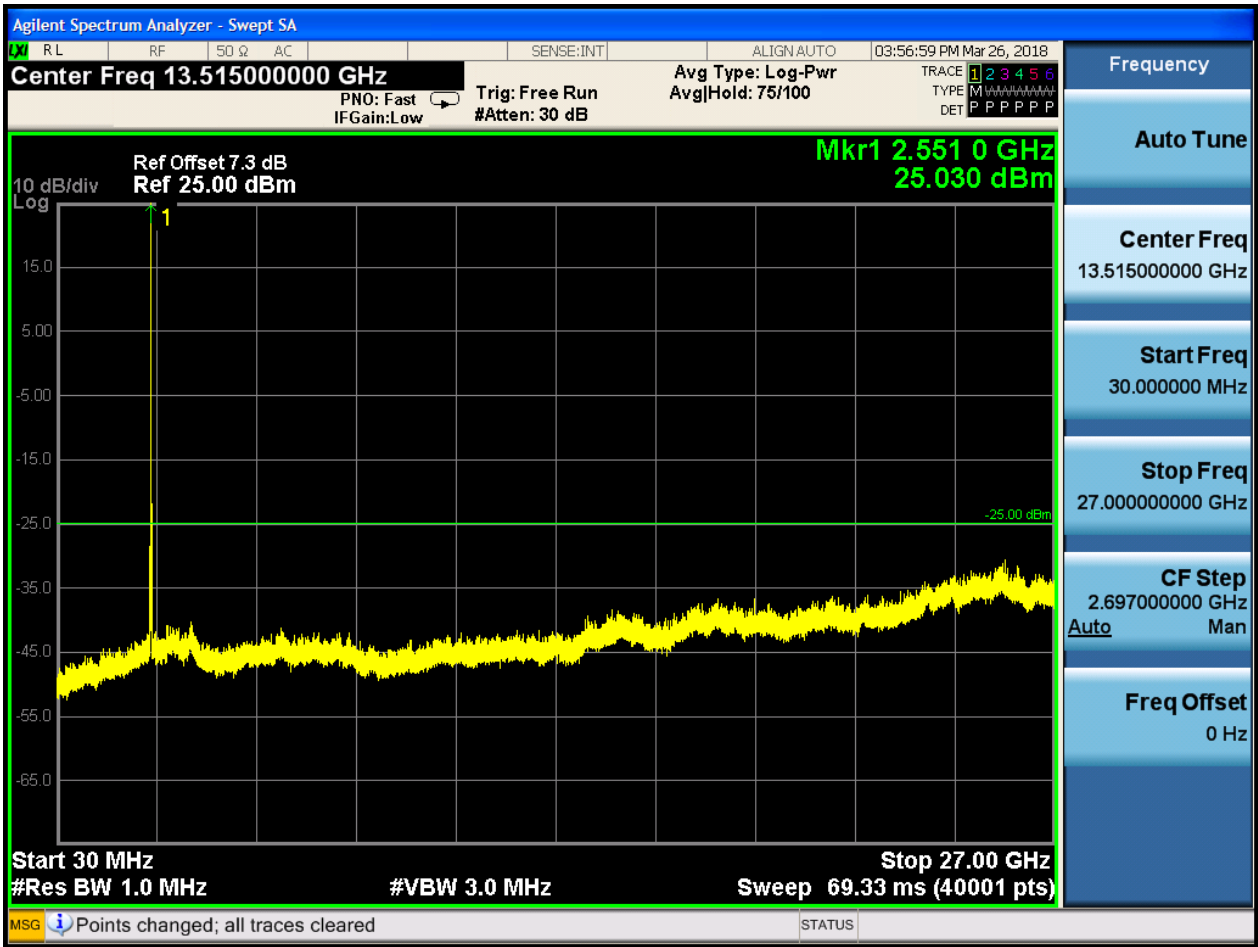


6.1.1.2.4.3 Test Channel = HCH

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, 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

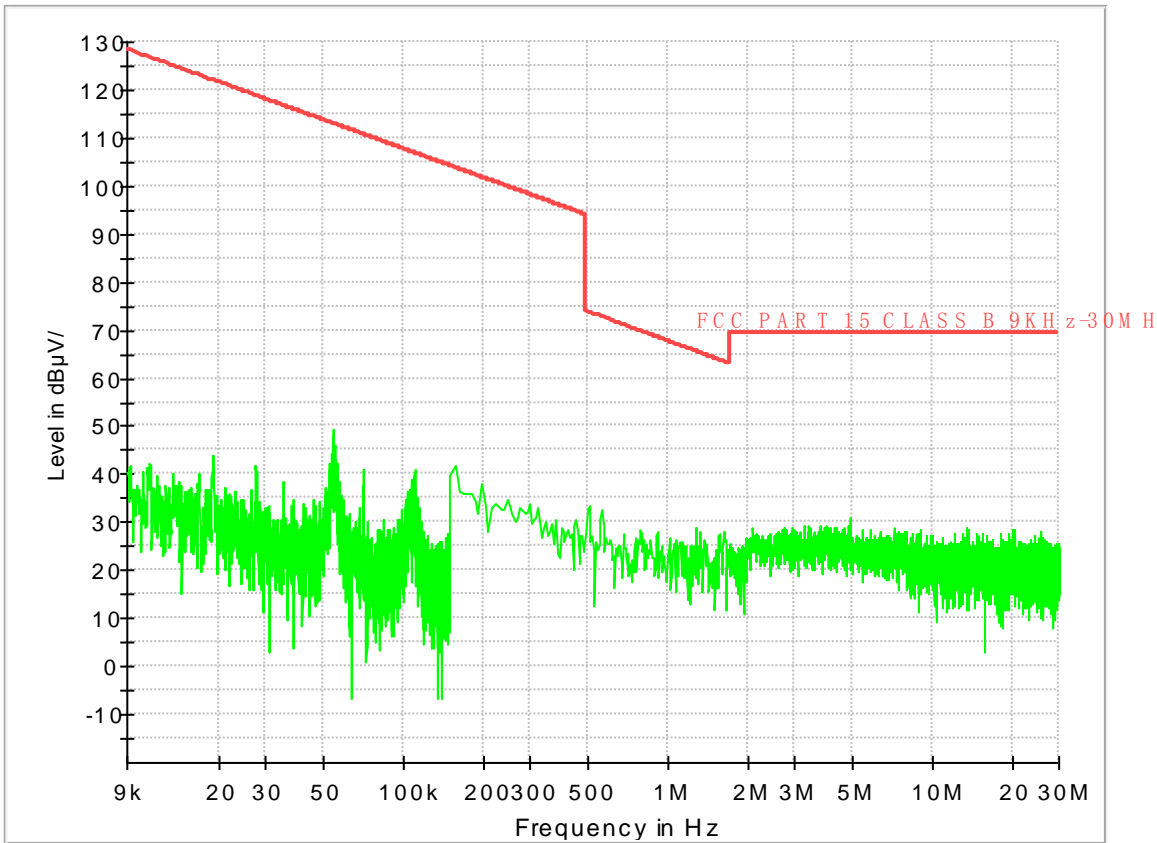
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

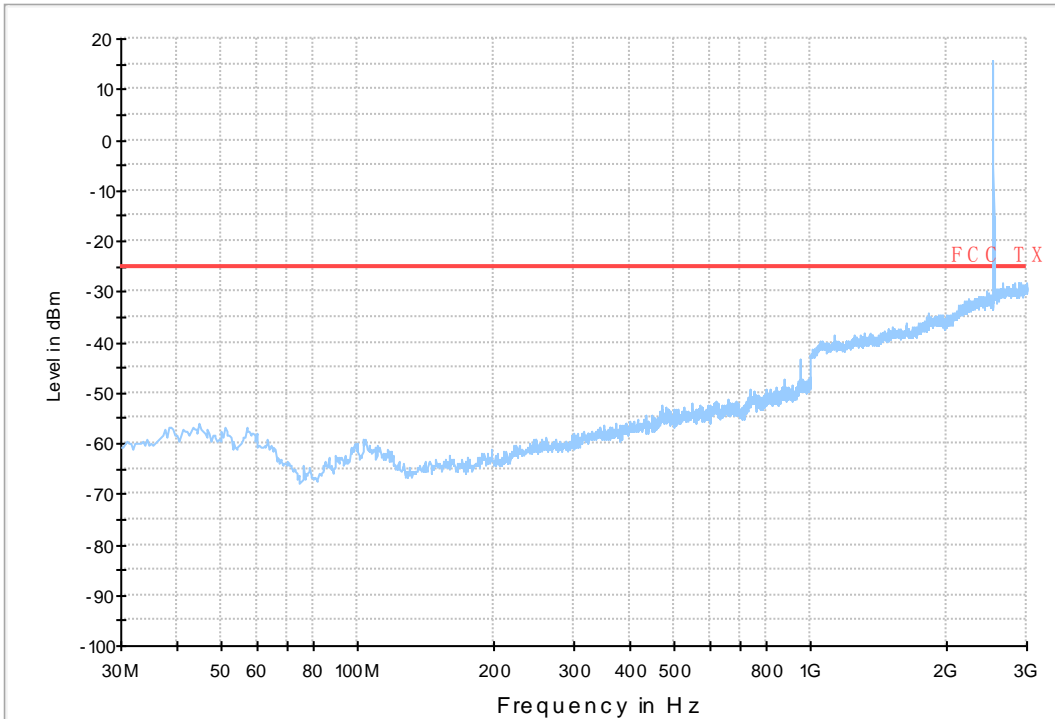
7.1 For LTE

7.1.1 Test Band = BAND7

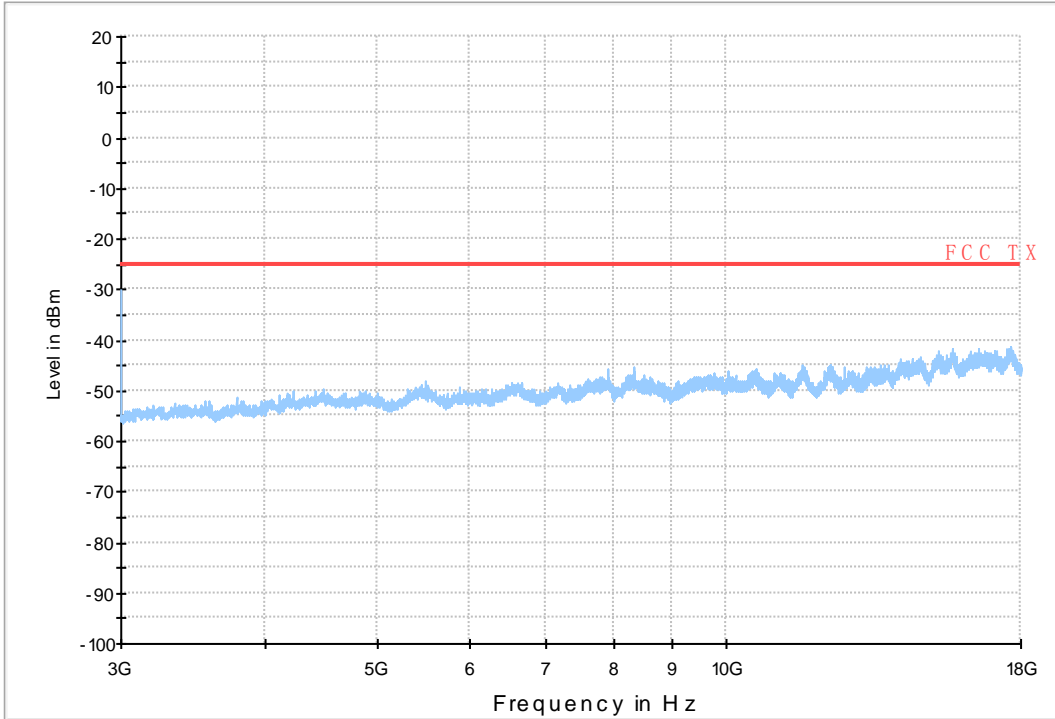
7.1.1.1 Test Bandwidth = 5



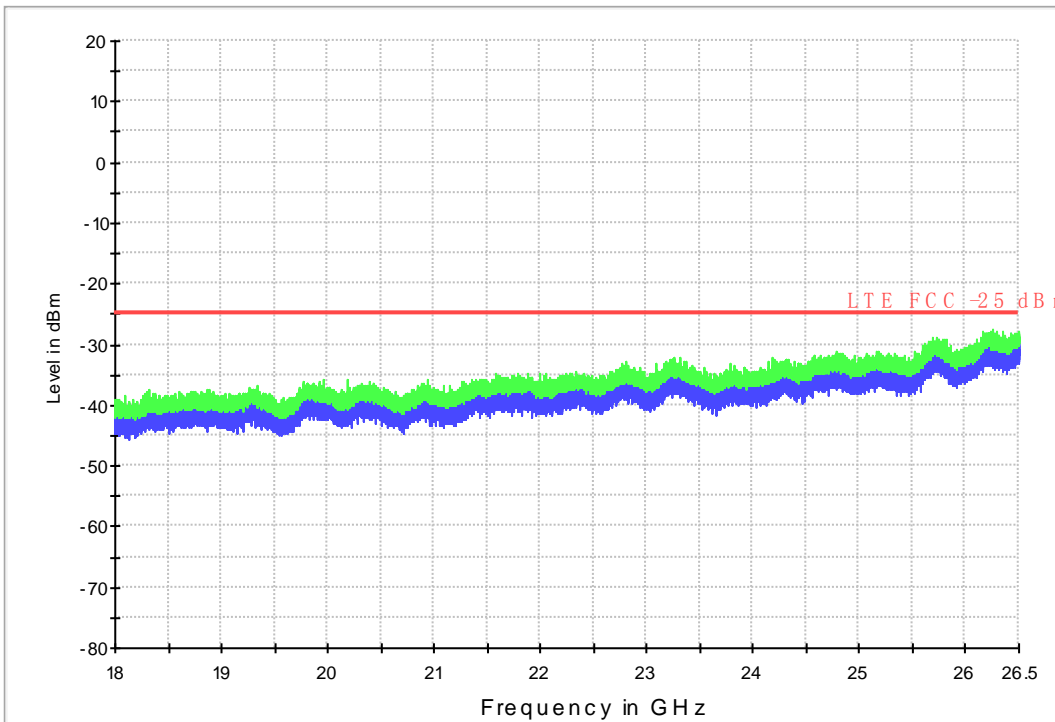
Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L



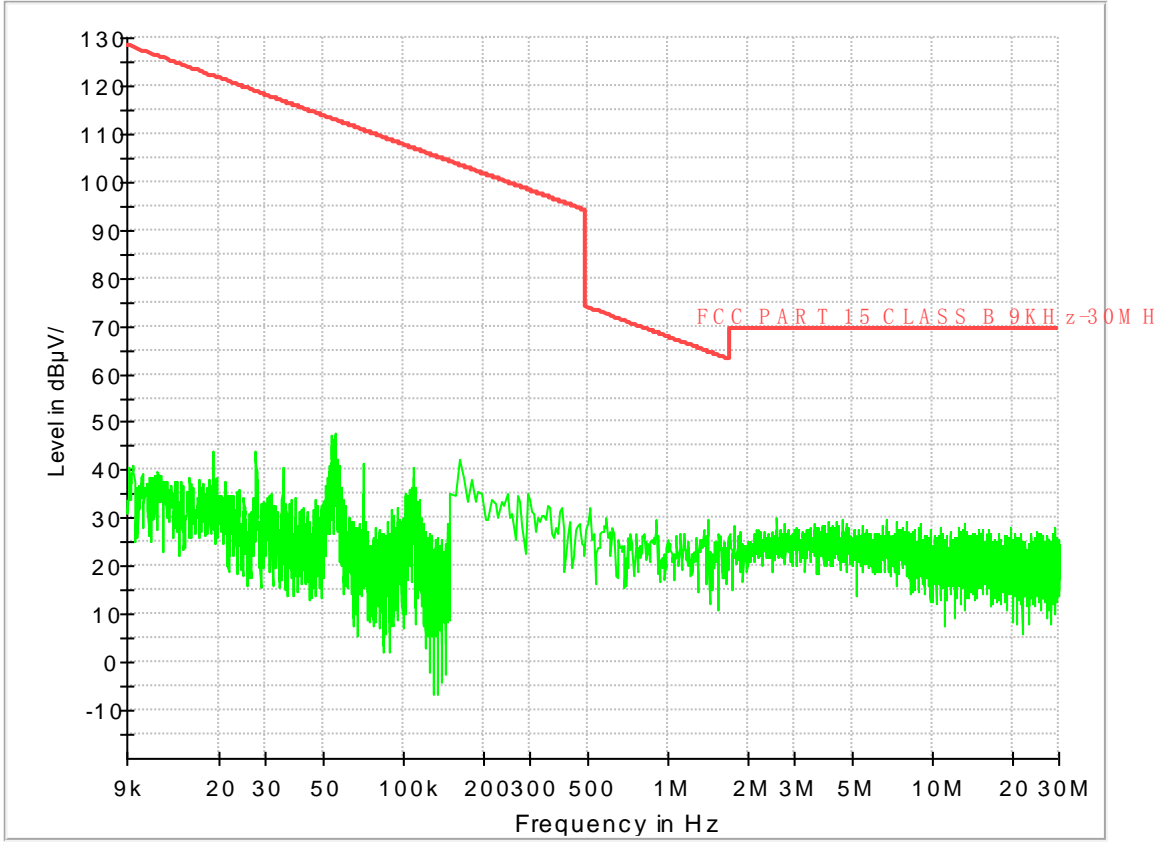
Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H



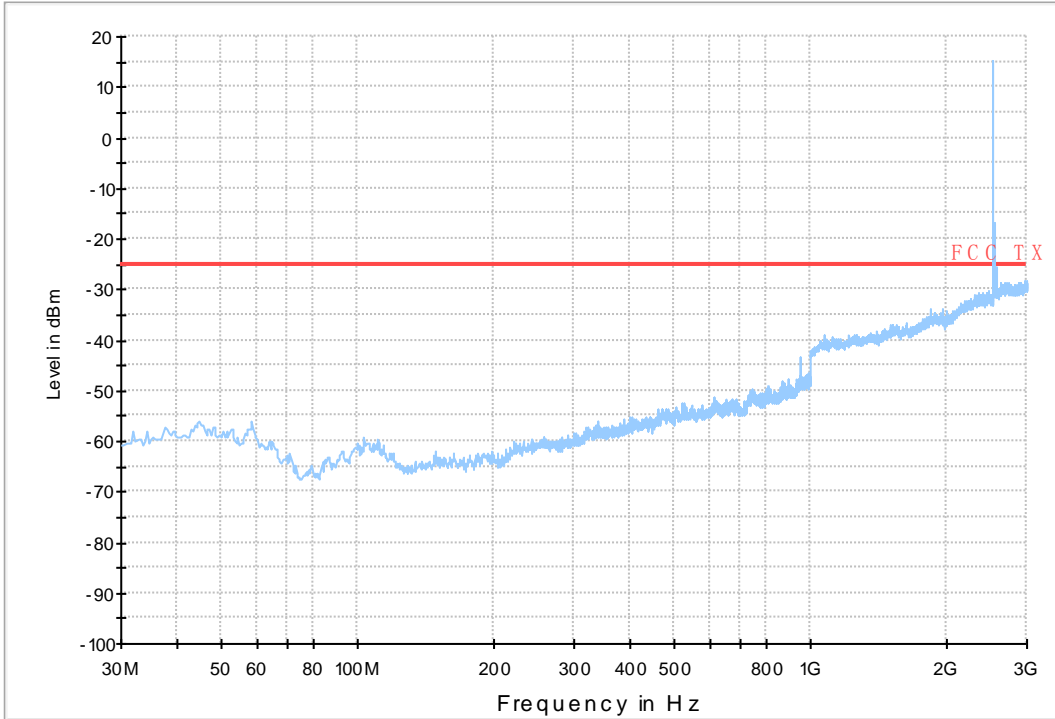
18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK



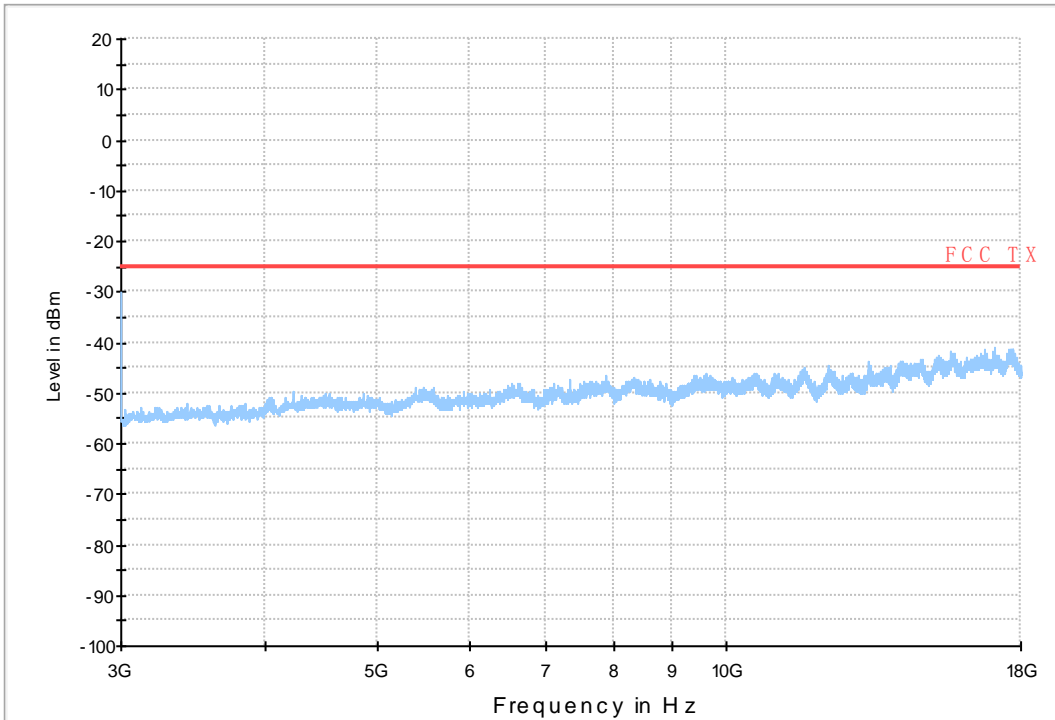
7.1.1.2 Test Bandwidth = 20



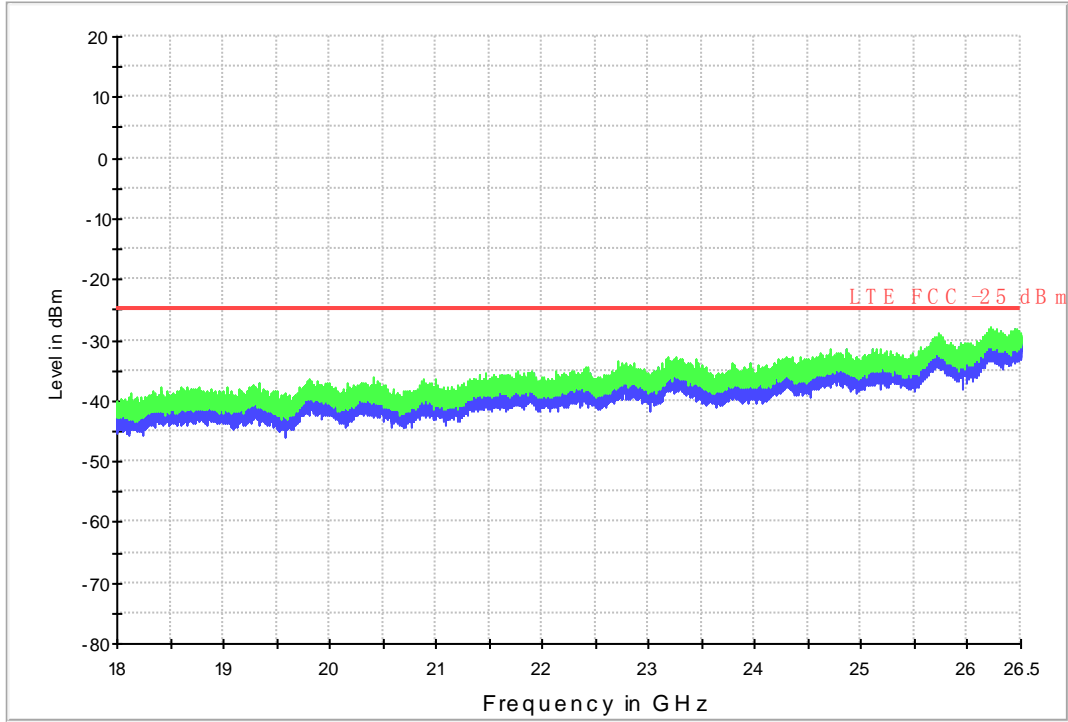
Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L



Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H



18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK



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	-10.26	-0.0041	PASS
					VN	-4.18	-0.00167	PASS
					VH	-14.62	-0.00584	PASS
			MCH	TN	VL	-2.59	-0.00102	PASS
					VN	-3.68	-0.00145	PASS
					VH	6.27	0.00247	PASS
			HCH	TN	VL	-3.71	-0.00144	PASS
					VN	-12.67	-0.00493	PASS
					VH	-5.19	-0.00202	PASS
		10	LCH	TN	VL	-2.47	-0.00099	PASS
					VN	-3.82	-0.00152	PASS
					VH	-2.02	-0.00081	PASS
			MCH	TN	VL	-4.09	-0.00161	PASS
					VN	-6.75	-0.00266	PASS
					VH	-4.68	-0.00185	PASS
			HCH	TN	VL	-3.25	-0.00127	PASS
					VN	-3.50	-0.00136	PASS
					VH	-7.71	-0.00301	PASS
		15	LCH	TN	VL	2.02	0.00081	PASS
					VN	4.91	0.00196	PASS
					VH	1.80	0.00072	PASS
			MCH	TN	VL	-0.90	-0.00036	PASS
					VN	-13.46	-0.00531	PASS
					VH	-2.86	-0.00113	PASS
			HCH	TN	VL	-7.60	-0.00297	PASS
					VN	-3.38	-0.00132	PASS
					VH	-4.89	-0.00191	PASS
		20	LCH	TN	VL	-14.89	-0.00593	PASS
					VN	-1.40	-0.00056	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM2	5	MCH	TN	VH	2.42	0.00096	PASS
					VL	-9.11	-0.00359	PASS
					VN	-2.12	-0.00084	PASS
					VH	-12.03	-0.00475	PASS
					VL	-9.00	-0.00352	PASS
					VN	-10.44	-0.00408	PASS
			VH	-8.31	-0.00325	PASS		
			HCH	TN	VL	-12.09	-0.00483	PASS
					VN	-18.57	-0.00742	PASS
					VH	-3.82	-0.00153	PASS
					VL	-9.71	-0.00383	PASS
					VN	-2.57	-0.00101	PASS
		VH			0.39	0.00015	PASS	
		HCH	TN	VL	-2.70	-0.00105	PASS	
				VN	-21.90	-0.00853	PASS	
				VH	-9.93	-0.00387	PASS	
				VL	-0.37	-0.00015	PASS	
				VN	-5.55	-0.00222	PASS	
				VH	-7.74	-0.00309	PASS	
		10	MCH	TN	VL	-2.09	-0.00082	PASS
					VN	-9.96	-0.00393	PASS
					VH	-7.20	-0.00284	PASS
					VL	-9.38	-0.00366	PASS
					VN	-5.59	-0.00218	PASS
					VH	-12.79	-0.00499	PASS
		15	LCH	TN	VL	-3.26	-0.0013	PASS
					VN	-6.59	-0.00263	PASS
					VH	-6.87	-0.00274	PASS
					VL	0.44	0.00017	PASS
					VN	-5.49	-0.00217	PASS
					VH	-6.39	-0.00252	PASS
		HCH	TN	VL	-10.39	-0.00405	PASS	
				VN	-10.64	-0.00415	PASS	
				VH	-9.86	-0.00385	PASS	
				VL	-2.33	-0.00093	PASS	
				VN	1.93	0.00077	PASS	
				VH	-5.59	-0.00223	PASS	
		20	MCH	TN	VL	-6.75	-0.00266	PASS
					VN	-0.19	-0.00007	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VH	-1.86	-0.00073	PASS
			HCH	TN	VL	-12.33	-0.00482	PASS
					VN	1.53	0.0006	PASS
					VH	-2.15	-0.00084	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	
BAND7	LTE/TM1	5	LCH	VN	-30	-13.52	-0.0054	PASS	
					-20	-9.11	-0.00364	PASS	
					-10	-5.29	-0.00211	PASS	
					0	-9.07	-0.00362	PASS	
					10	-2.15	-0.00086	PASS	
					20	7.21	0.00288	PASS	
					30	0.29	0.00012	PASS	
					40	0.03	0.00001	PASS	
			50	3.25	0.0013	PASS			
			50	MCH	VN	-30	0.21	0.00008	PASS
			-20			12.62	0.00498	PASS	
			-10			-7.57	-0.00299	PASS	
			0			3.62	0.00143	PASS	
			10			11.56	0.00456	PASS	
			20			0.03	0.00001	PASS	
			30			-3.81	-0.0015	PASS	
			40			3.30	0.0013	PASS	
			50	-0.17	-0.00007	PASS			
			50	HCH	VN	-30	-3.49	-0.00136	PASS
			-20			-14.78	-0.00576	PASS	
			-10			5.05	0.00197	PASS	
			0			-9.00	-0.00351	PASS	
			10			-8.40	-0.00327	PASS	
			20			-3.95	-0.00154	PASS	
		30	-3.62			-0.00141	PASS		
		40	-11.70			-0.00456	PASS		
		50	-5.65	-0.0022	PASS				
		10	LCH	VN	-30	-11.73	-0.00468	PASS	
		-20			-12.15	-0.00485	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
		15			-10	-5.68	-0.00227	PASS
					0	-8.57	-0.00342	PASS
					10	-5.31	-0.00212	PASS
					20	-7.90	-0.00315	PASS
					30	-4.11	-0.00164	PASS
					40	-3.25	-0.0013	PASS
					50	-6.78	-0.00271	PASS
			MCH	VN	-30	-7.12	-0.00281	PASS
					-20	0.90	0.00036	PASS
					-10	-11.14	-0.00439	PASS
					0	-7.78	-0.00307	PASS
					10	-5.81	-0.00229	PASS
					20	-4.46	-0.00176	PASS
					30	-7.55	-0.00298	PASS
					40	-8.00	-0.00316	PASS
			HCH	VN	-30	-0.51	-0.0002	PASS
					-20	-8.38	-0.00327	PASS
					-10	-0.33	-0.00013	PASS
					0	-4.96	-0.00193	PASS
					10	-2.62	-0.00102	PASS
					20	-3.28	-0.00128	PASS
					30	-4.61	-0.0018	PASS
					40	-0.66	-0.00026	PASS
			LCH	VN	-30	-9.26	-0.00369	PASS
					-20	-3.63	-0.00145	PASS
					-10	-5.28	-0.00211	PASS
					0	-4.39	-0.00175	PASS
					10	-8.71	-0.00347	PASS
					20	1.59	0.00063	PASS
					30	-5.08	-0.00203	PASS
					40	1.86	0.00074	PASS
					50	-4.73	-0.00189	PASS
			MCH	VN	-30	5.28	0.00208	PASS
					-20	1.20	0.00047	PASS
					-10	0.49	0.00019	PASS
					0	-4.72	-0.00186	PASS
					10	-2.33	-0.00092	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					20	-5.85	-0.00231	PASS		
					30	-1.43	-0.00056	PASS		
					40	-5.36	-0.00211	PASS		
					50	-5.65	-0.00223	PASS		
			HCH	VN	-30	-2.89	-0.00113	PASS		
					-20	-8.44	-0.00329	PASS		
					-10	-8.33	-0.00325	PASS		
					0	-4.65	-0.00181	PASS		
					10	-3.86	-0.00151	PASS		
					20	-2.93	-0.00114	PASS		
					30	-15.03	-0.00587	PASS		
					40	-5.58	-0.00218	PASS		
			LCH	VN	50	-5.62	-0.00219	PASS		
					-30	6.41	0.00255	PASS		
					-20	-6.32	-0.00252	PASS		
					-10	3.53	0.00141	PASS		
		0			-6.45	-0.00257	PASS			
		10			-0.57	-0.00023	PASS			
		20			-0.20	-0.00008	PASS			
		30			1.07	0.00043	PASS			
		MCH	VN	40	5.16	0.00206	PASS			
				50	-1.49	-0.00059	PASS			
				-30	-7.47	-0.00295	PASS			
				-20	0.46	0.00018	PASS			
				-10	-1.14	-0.00045	PASS			
				0	-5.84	-0.0023	PASS			
				10	-3.78	-0.00149	PASS			
				20	-0.60	-0.00024	PASS			
		HCH	VN	30	-4.39	-0.00173	PASS			
				40	-5.91	-0.00233	PASS			
				50	-4.73	-0.00187	PASS			
				-30	-5.14	-0.00201	PASS			
				-20	-1.19	-0.00046	PASS			
				-10	-1.70	-0.00066	PASS			
				0	-1.32	-0.00052	PASS			
				10	-7.32	-0.00286	PASS			
							20	-8.31	-0.00325	PASS
							30	-4.66	-0.00182	PASS
							40	-5.88	-0.0023	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	50	-0.74	-0.00029	PASS
					-30	-0.03	-0.00001	PASS
					-20	-8.15	-0.00326	PASS
					-10	-0.92	-0.00037	PASS
					0	-0.77	-0.00031	PASS
					10	1.52	0.00061	PASS
					20	-3.16	-0.00126	PASS
					30	-1.47	-0.00059	PASS
					40	-4.45	-0.00178	PASS
			50	-5.39	-0.00215	PASS		
			MCH	VN	-30	-5.09	-0.00201	PASS
					-20	-1.54	-0.00061	PASS
					-10	-0.94	-0.00037	PASS
					0	-7.81	-0.00308	PASS
					10	-6.55	-0.00258	PASS
					20	1.17	0.00046	PASS
					30	5.69	0.00224	PASS
					40	-2.96	-0.00117	PASS
					50	1.54	0.00061	PASS
			HCH	VN	-30	-8.61	-0.00335	PASS
					-20	10.34	0.00403	PASS
					-10	-1.62	-0.00063	PASS
					0	-7.37	-0.00287	PASS
					10	2.09	0.00081	PASS
		20			-3.78	-0.00147	PASS	
		30			-5.35	-0.00208	PASS	
		40			-6.04	-0.00235	PASS	
		50			-7.10	-0.00277	PASS	
		10	LCH	VN	-30	1.69	0.00067	PASS
					-20	-2.27	-0.00091	PASS
					-10	-8.34	-0.00333	PASS
					0	-3.96	-0.00158	PASS
					10	-0.39	-0.00016	PASS
					20	-0.93	-0.00037	PASS
					30	1.77	0.00071	PASS
					40	3.33	0.00133	PASS
					50	-0.14	-0.00006	PASS
			MCH	VN	-30	-8.80	-0.00347	PASS
		-20	-4.12		-0.00163	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
					-10	0.99	0.00039	PASS	
					0	-5.45	-0.00215	PASS	
					10	-3.65	-0.00144	PASS	
					20	-4.52	-0.00178	PASS	
					30	-2.70	-0.00107	PASS	
					40	-5.36	-0.00211	PASS	
					50	-9.31	-0.00367	PASS	
			HCH	VN	-30	-6.51	-0.00254	PASS	
					-20	-5.16	-0.00201	PASS	
					-10	-0.99	-0.00039	PASS	
					0	-0.34	-0.00013	PASS	
					10	0.41	0.00016	PASS	
					20	-3.19	-0.00124	PASS	
					30	-1.54	-0.00006	PASS	
					40	-7.04	-0.00274	PASS	
		LCH	VN	-30	-3.26	-0.0013	PASS		
				-20	-6.19	-0.00247	PASS		
				-10	-1.22	-0.00049	PASS		
				0	-2.06	-0.00082	PASS		
				10	-3.75	-0.0015	PASS		
				20	-3.71	-0.00148	PASS		
				30	-2.85	-0.00114	PASS		
				40	0.63	0.00025	PASS		
				50	1.62	0.00065	PASS		
				MCH	VN	-30	-1.72	-0.00068	PASS
						-20	-9.08	-0.00358	PASS
						-10	0.49	0.00019	PASS
		0	-5.14			-0.00203	PASS		
		10	-1.39			-0.00055	PASS		
		20	-5.65			-0.00223	PASS		
		30	-2.06			-0.00081	PASS		
		40	-0.92			-0.00036	PASS		
		HCH	VN	50	0.73	0.00029	PASS		
				-30	-2.70	-0.00105	PASS		
				-20	-8.08	-0.00315	PASS		
				-10	-4.85	-0.00189	PASS		
				0	-10.86	-0.00424	PASS		
		10	-1.40	-0.00055	PASS				



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict				
					20	-3.02	-0.00118	PASS				
					30	-7.35	-0.00287	PASS				
					40	-4.36	-0.0017	PASS				
					50	-7.84	-0.00306	PASS				
				20	LCH	VN	-30	-3.09	-0.00123	PASS		
							-20	-0.27	-0.00011	PASS		
							-10	-7.28	-0.0029	PASS		
							0	-0.93	-0.00037	PASS		
							10	-3.20	-0.00127	PASS		
							20	-9.87	-0.00393	PASS		
							30	-5.97	-0.00238	PASS		
							40	-0.84	-0.00033	PASS		
							50	2.76	0.0011	PASS		
							MCH	VN	-30	-6.02	-0.00237	PASS
									-20	-3.96	-0.00156	PASS
									-10	-1.03	-0.00041	PASS
					0	-6.18			-0.00244	PASS		
					10	-7.52			-0.00297	PASS		
					20	-3.33			-0.00131	PASS		
					30	-4.95			-0.00195	PASS		
					40	-4.59			-0.00181	PASS		
					HCH	VN	50	-9.77	-0.00385	PASS		
							-30	-10.96	-0.00428	PASS		
							-20	-12.32	-0.00481	PASS		
							-10	-10.76	-0.0042	PASS		
							0	-6.52	-0.00255	PASS		
							10	-5.74	-0.00224	PASS		
							20	-11.13	-0.00435	PASS		
30	-3.91						-0.00153	PASS				
40	-10.24				-0.004	PASS						
50	-6.62				-0.00259	PASS						

END