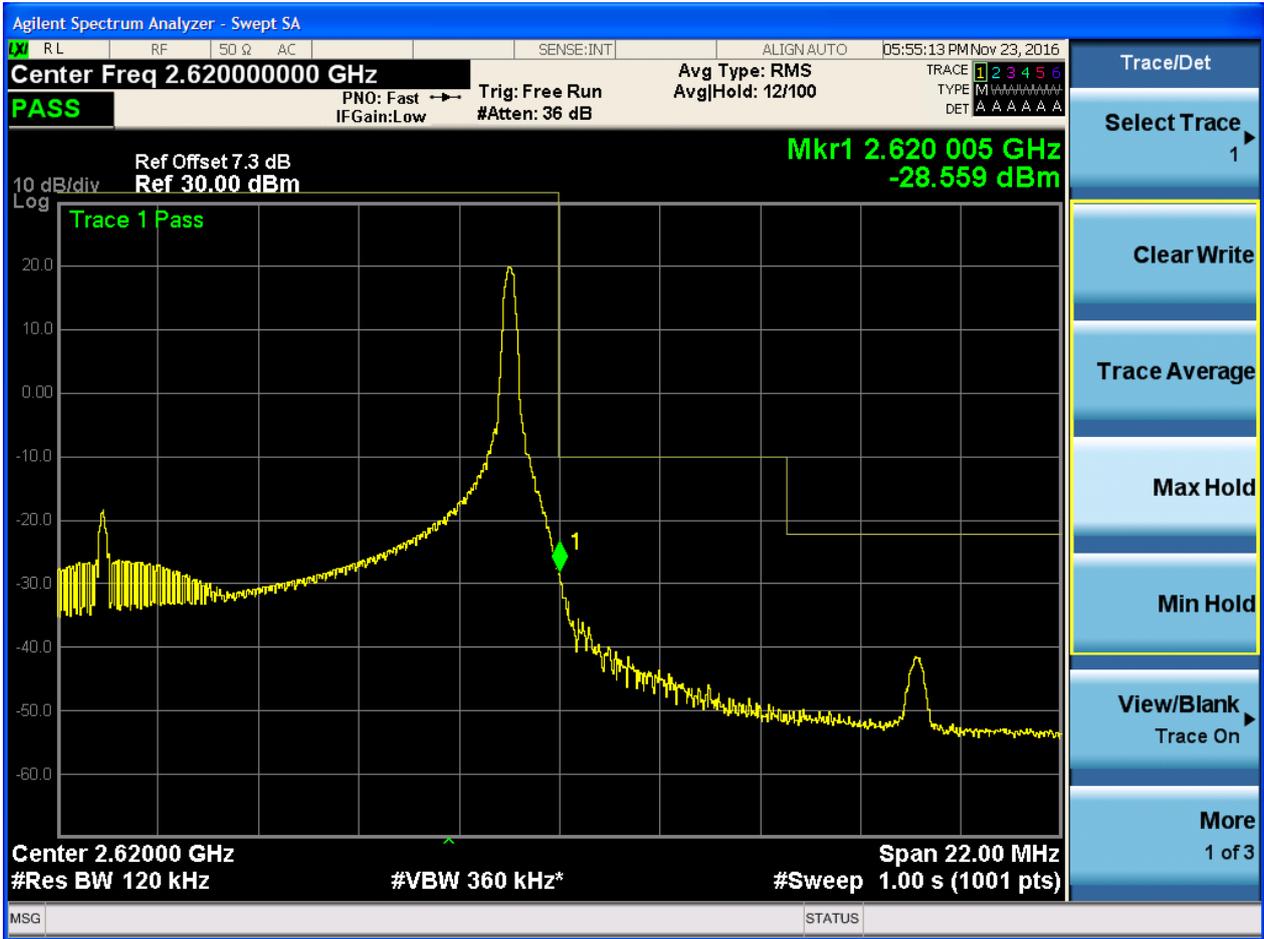




5.1.1.2.4.2.2 Test RB = RB1#99





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

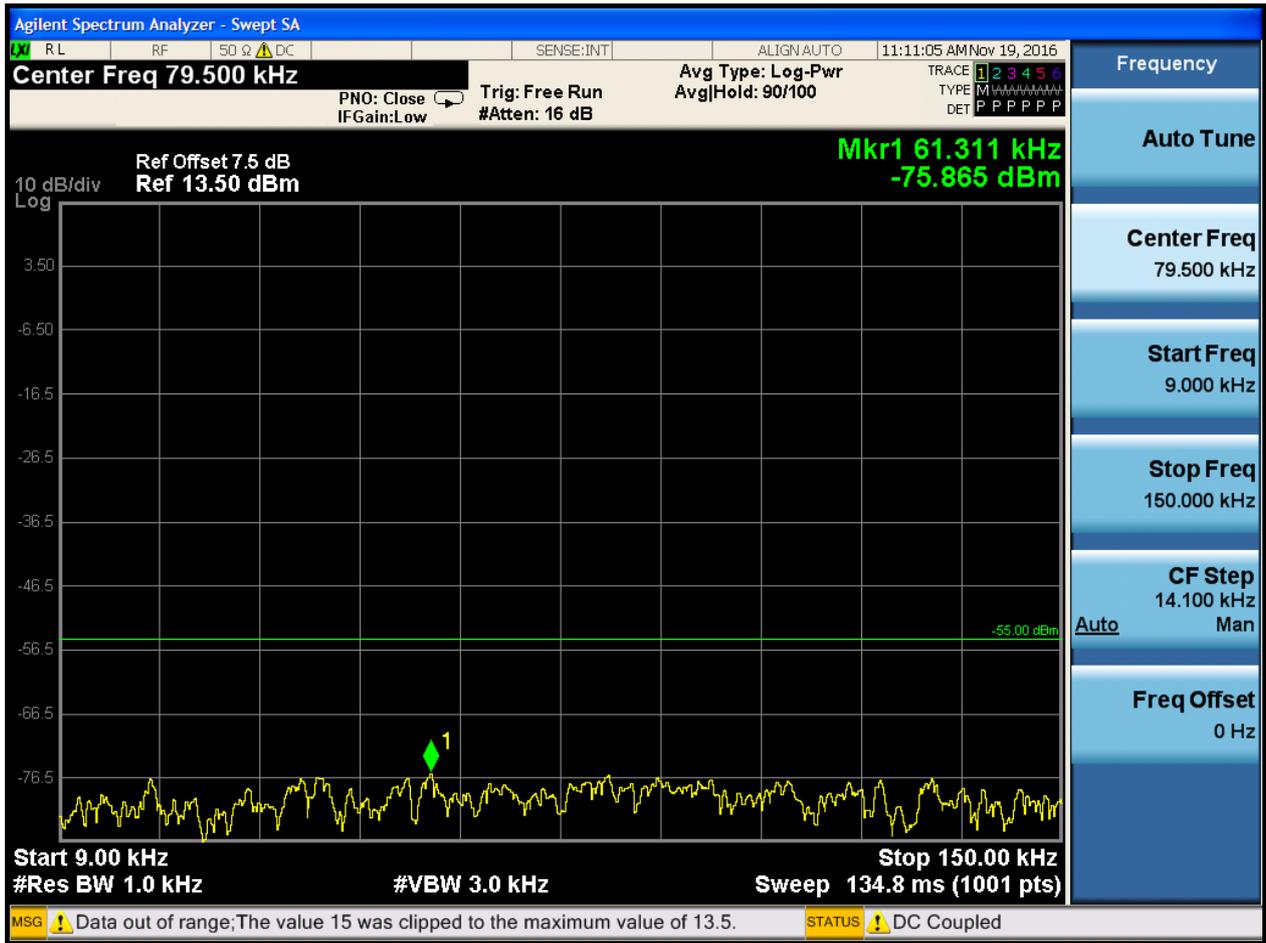
6.1.1 Test Band = BAND38

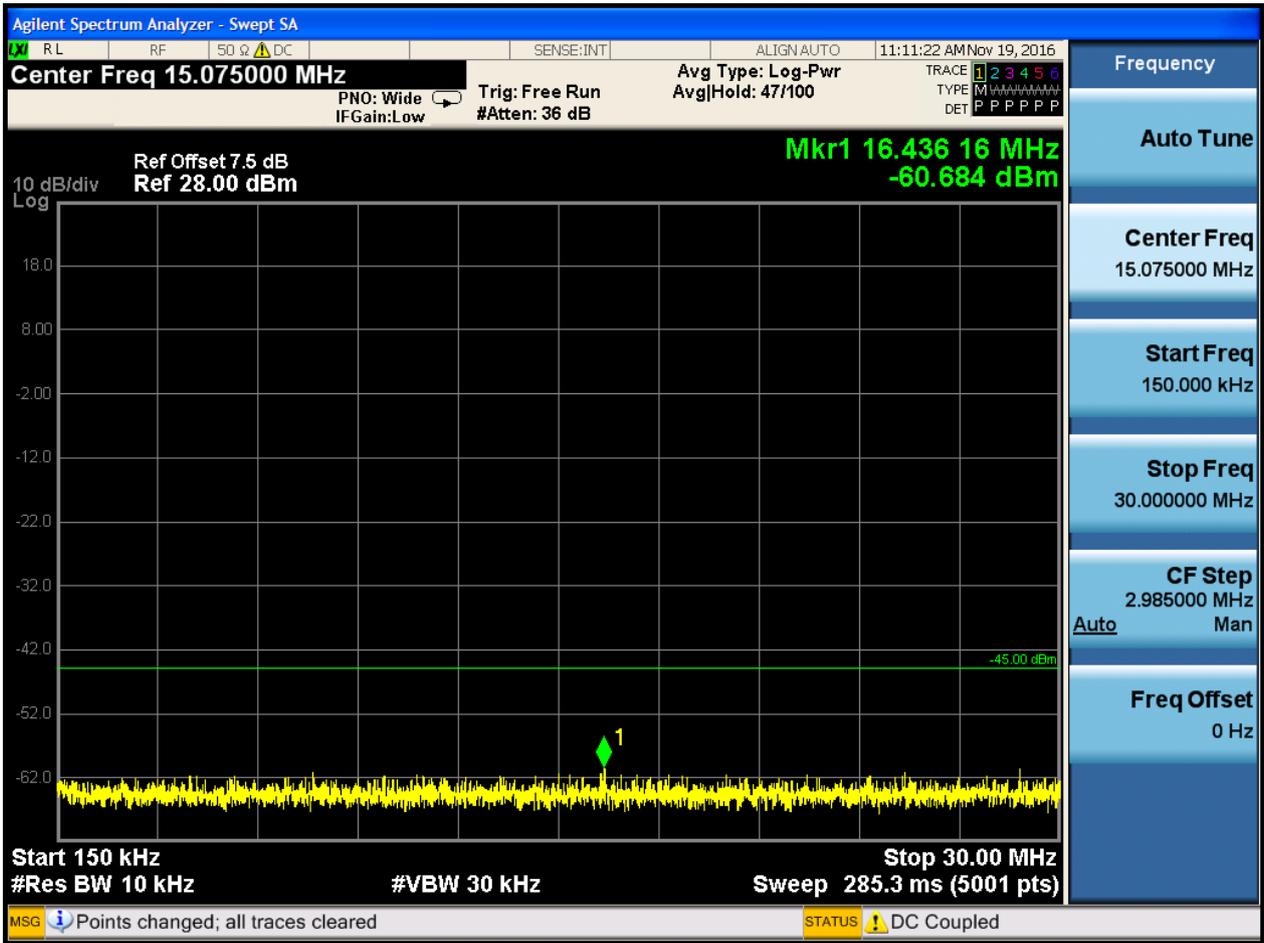
6.1.1.1 Test Mode = LTE/TM1

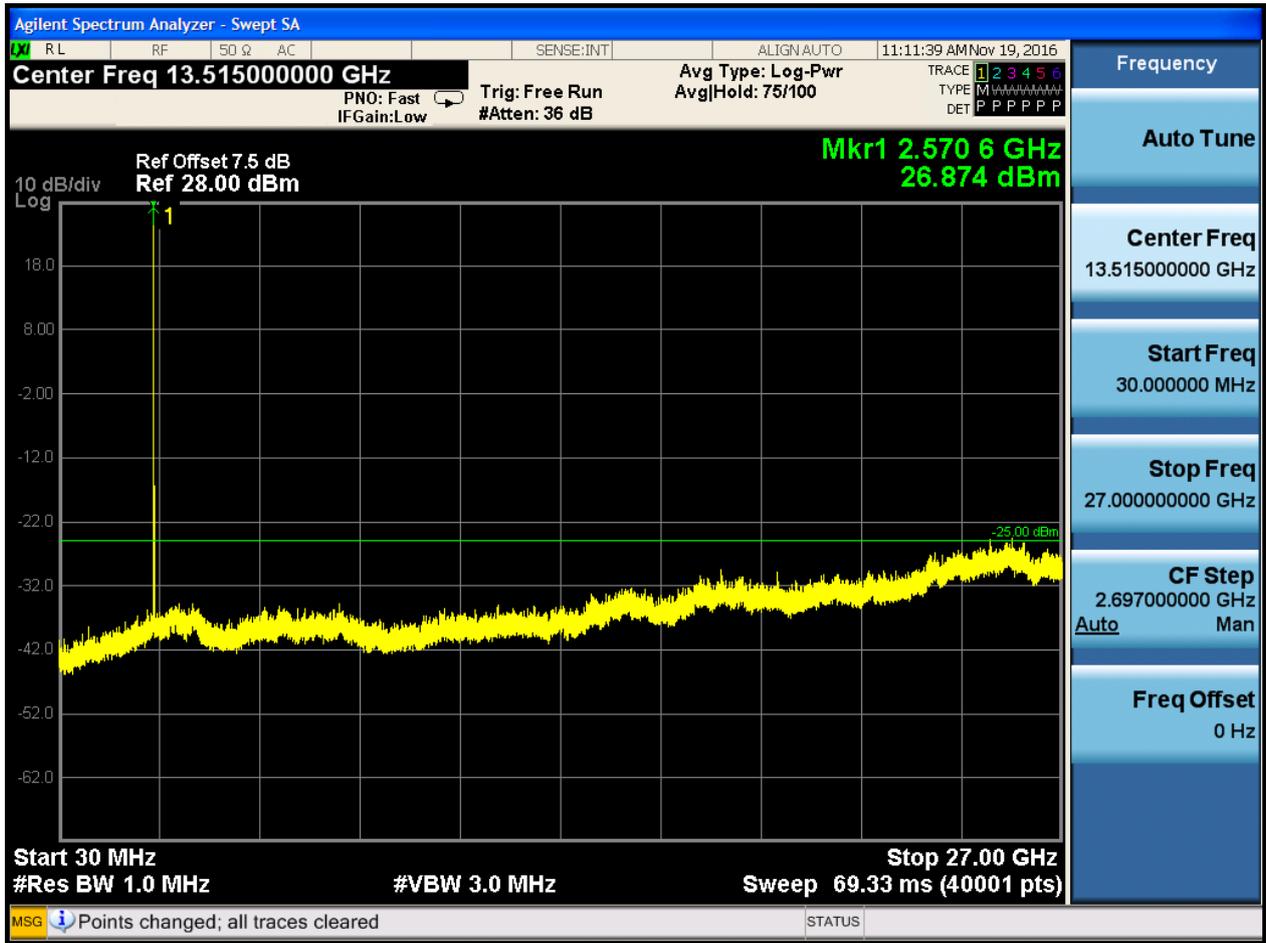
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



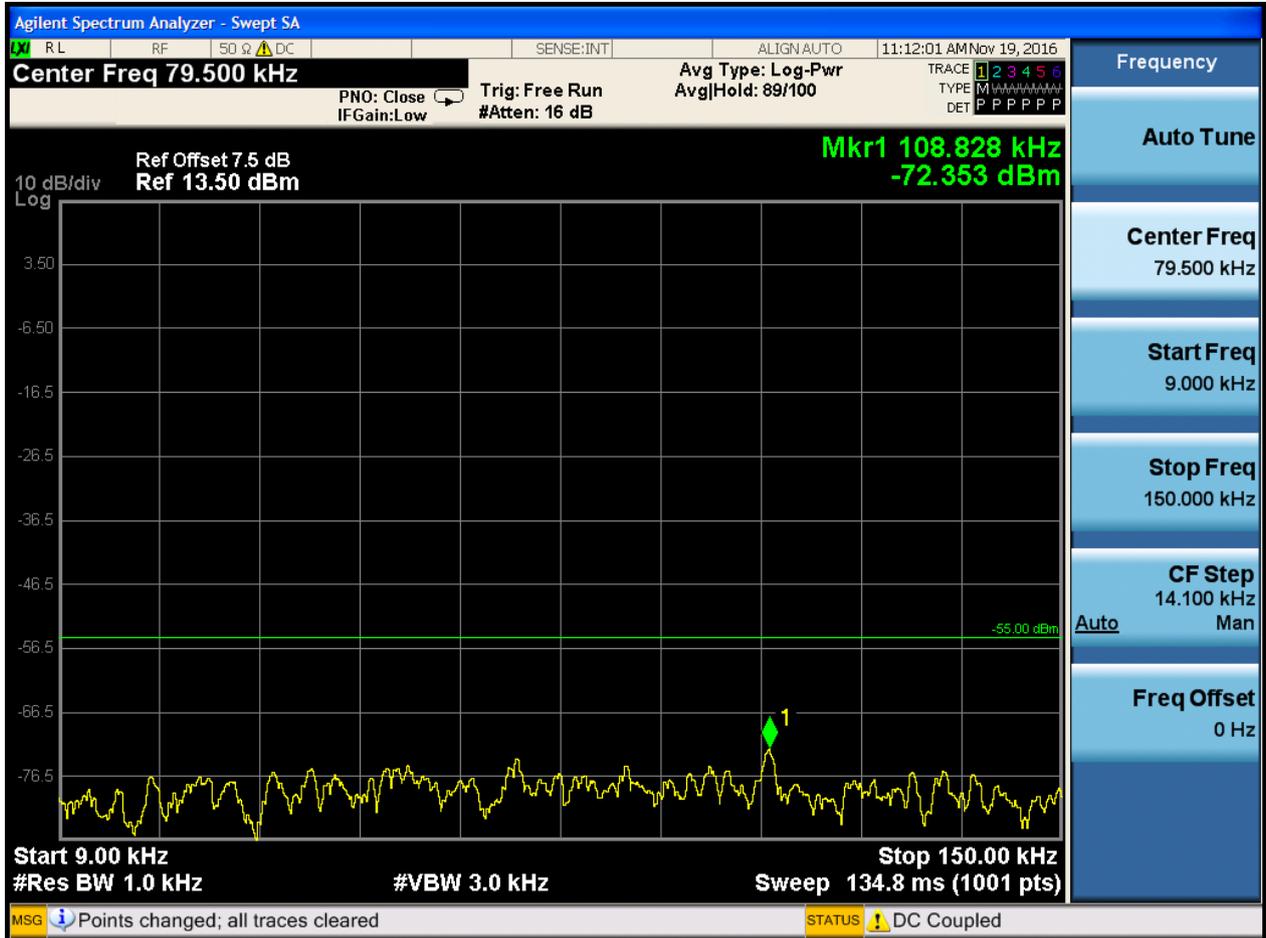


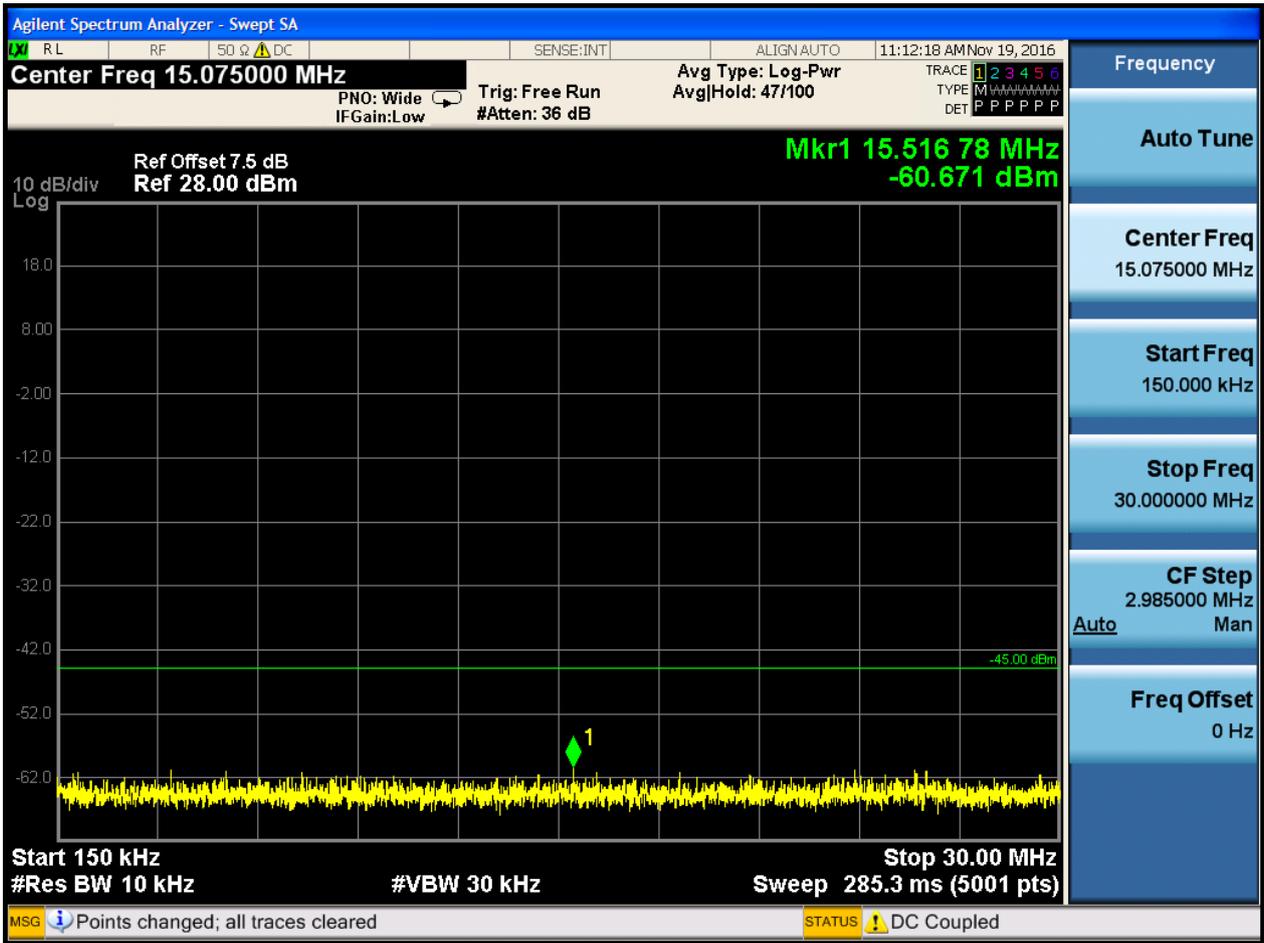




6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

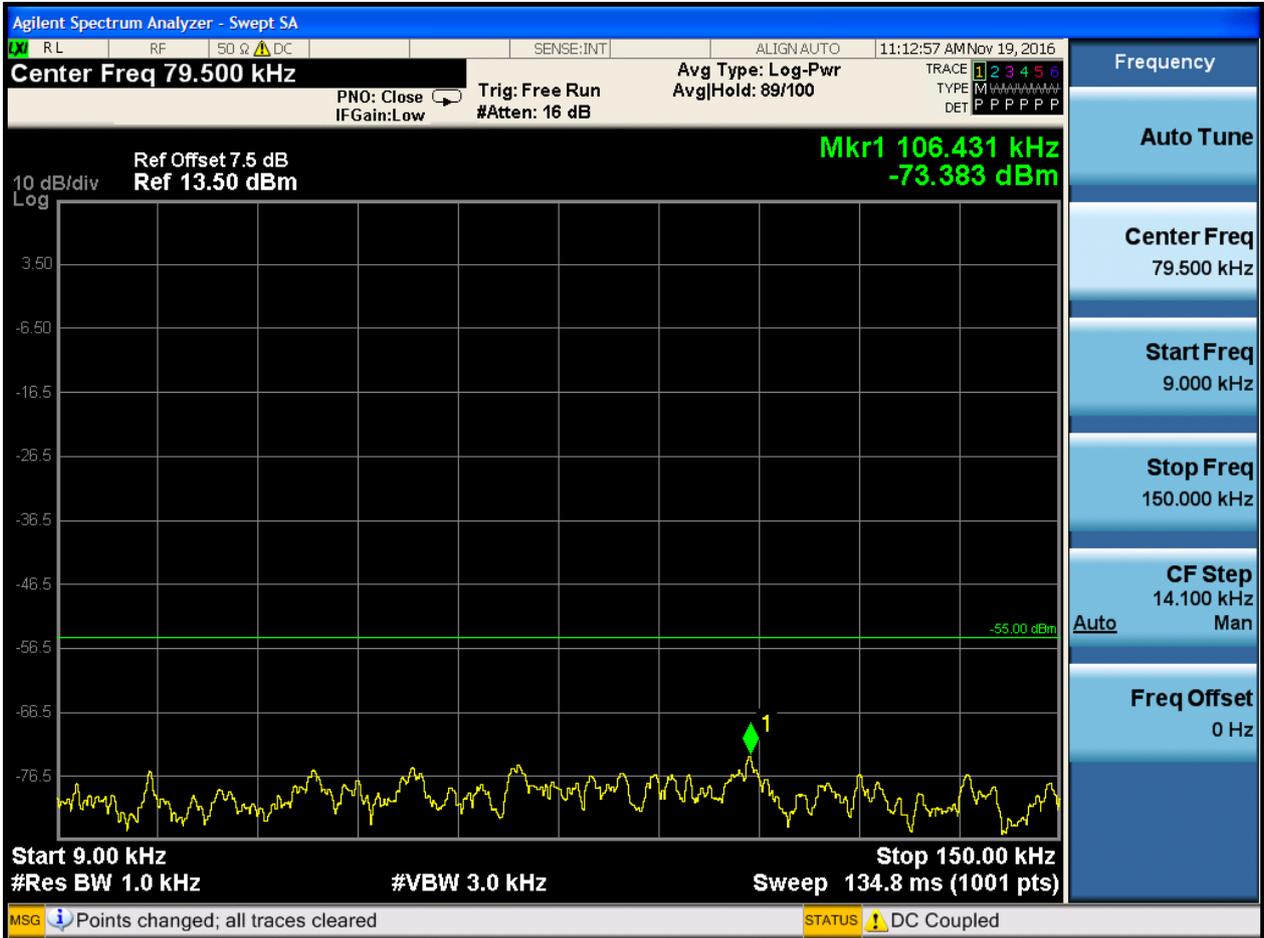


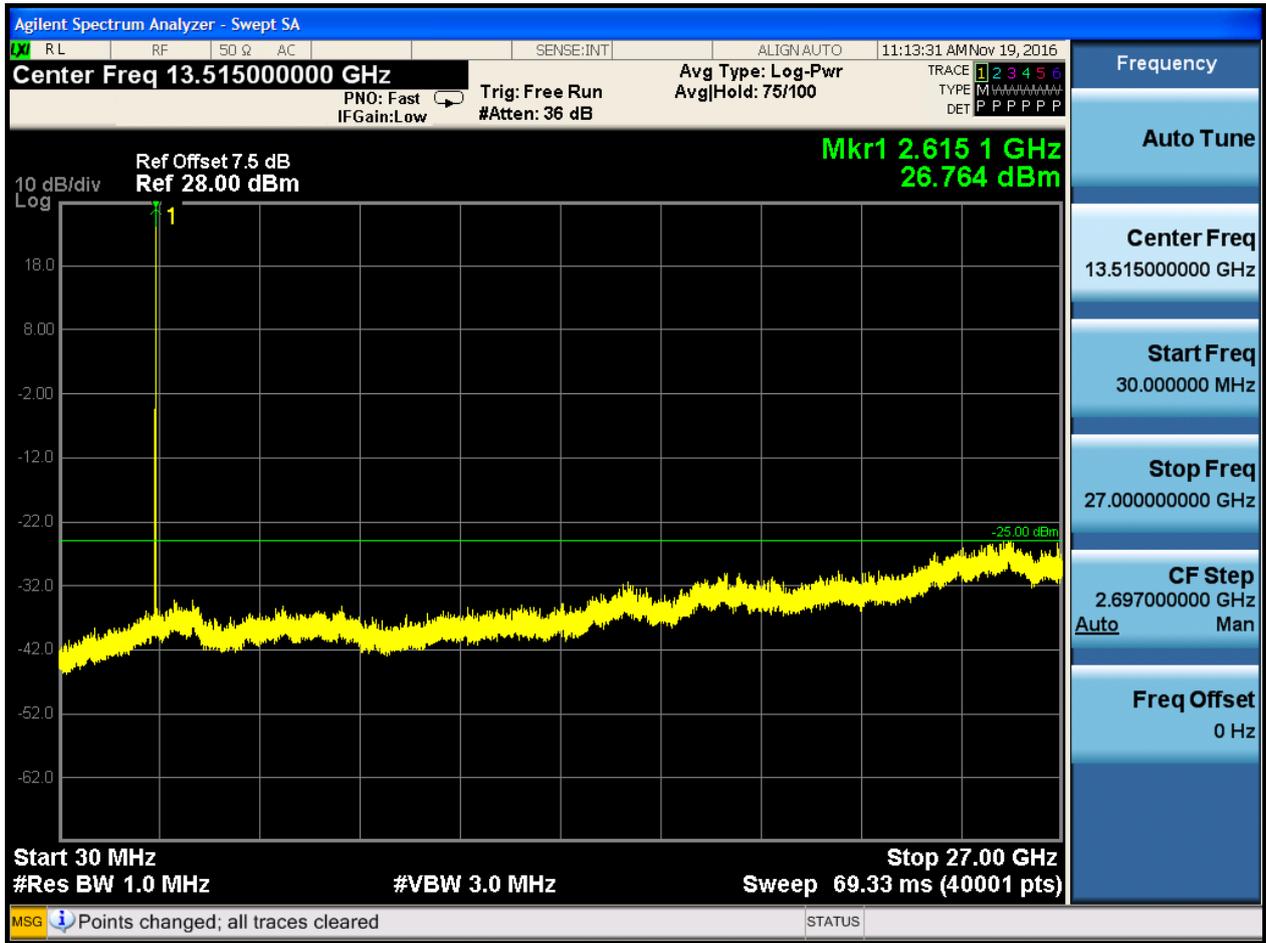




6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0



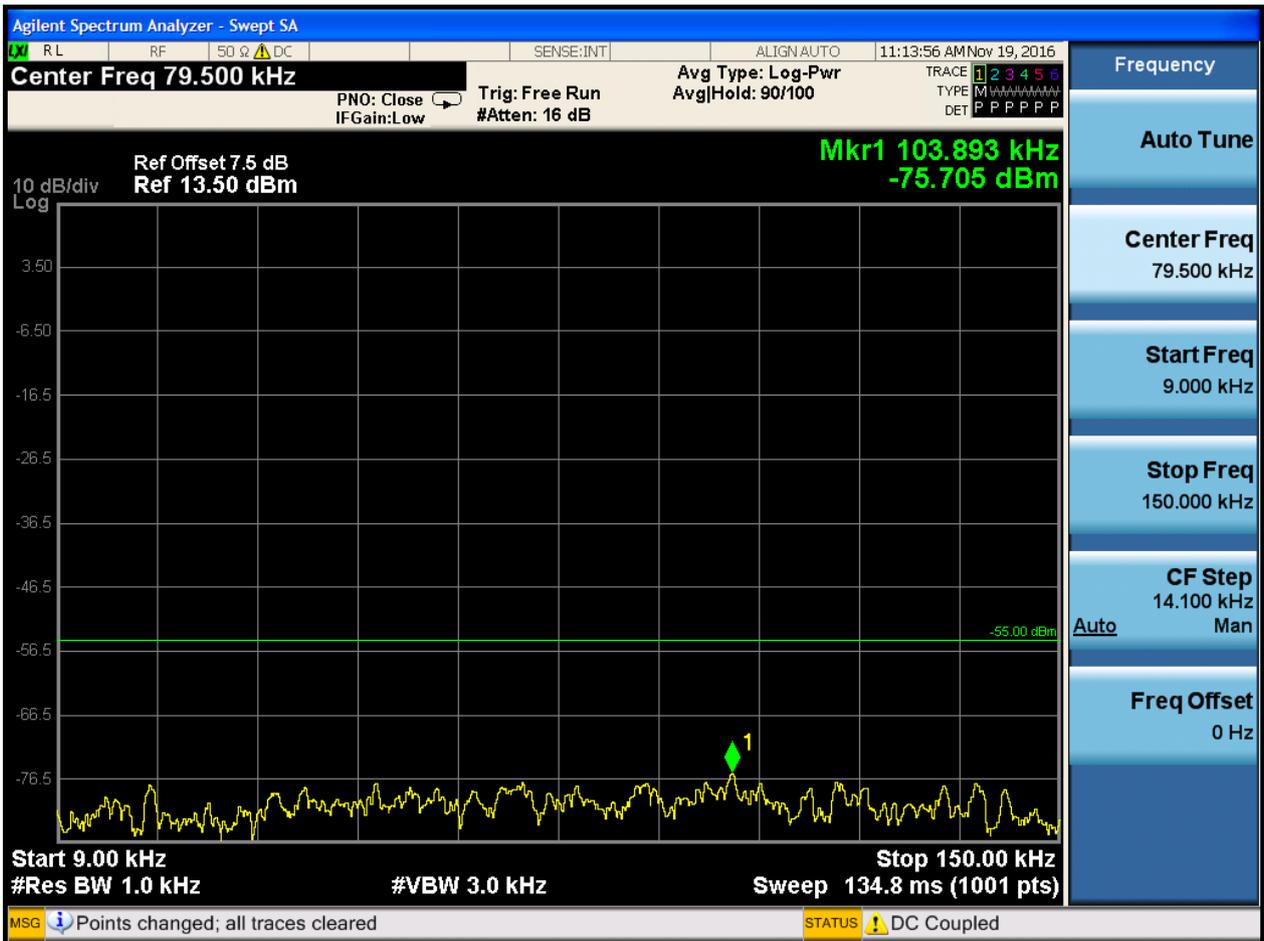


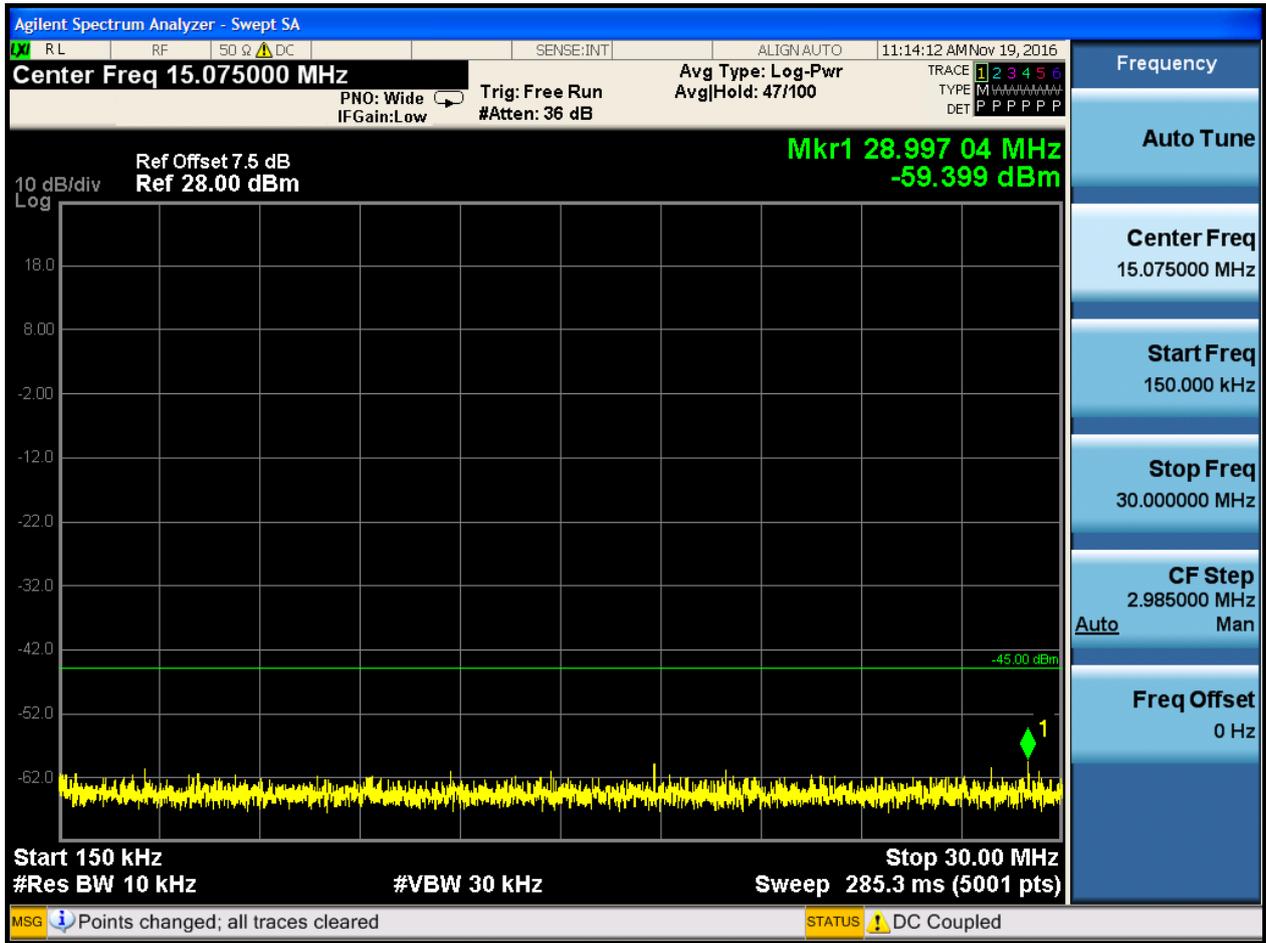


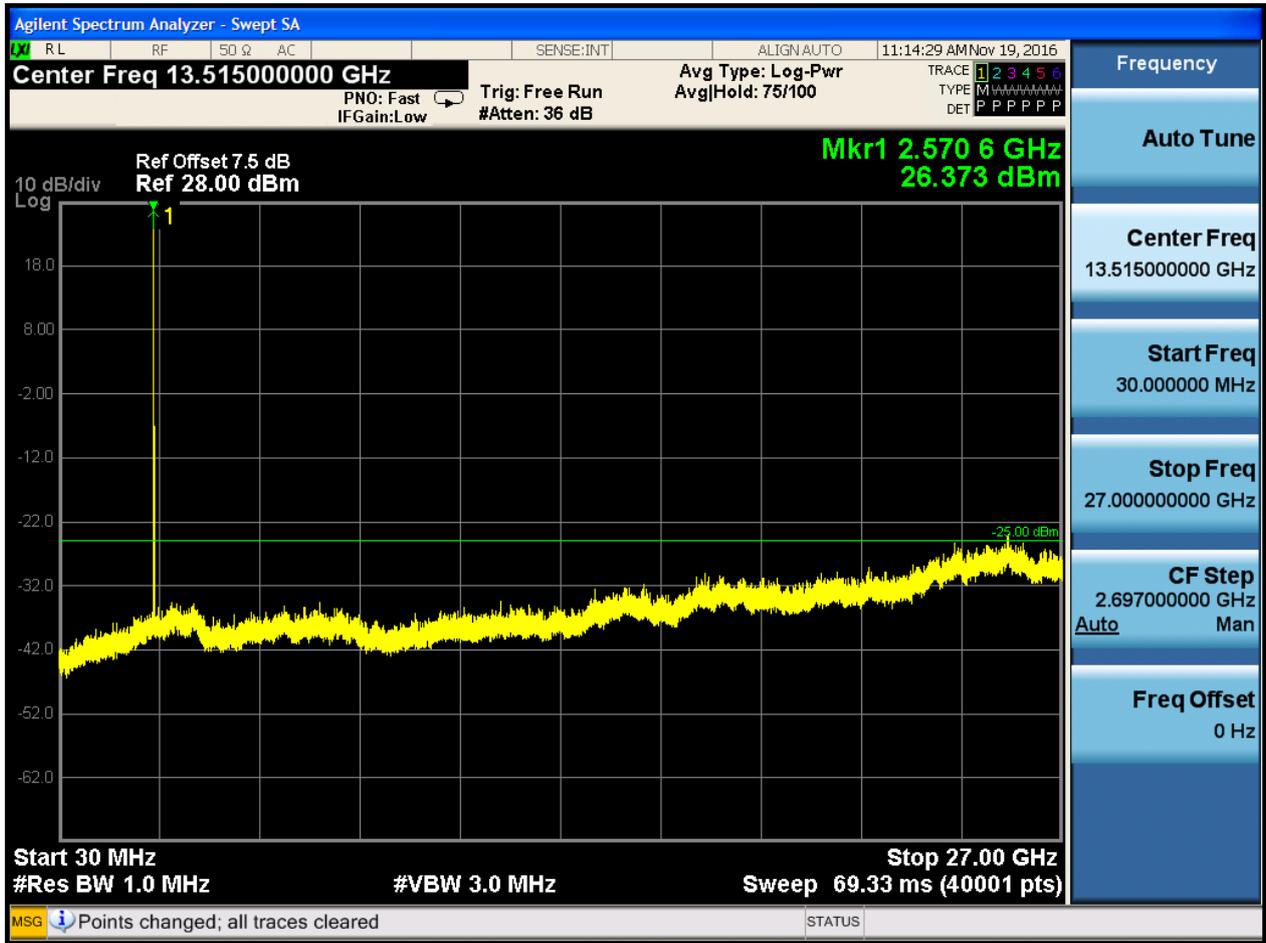
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



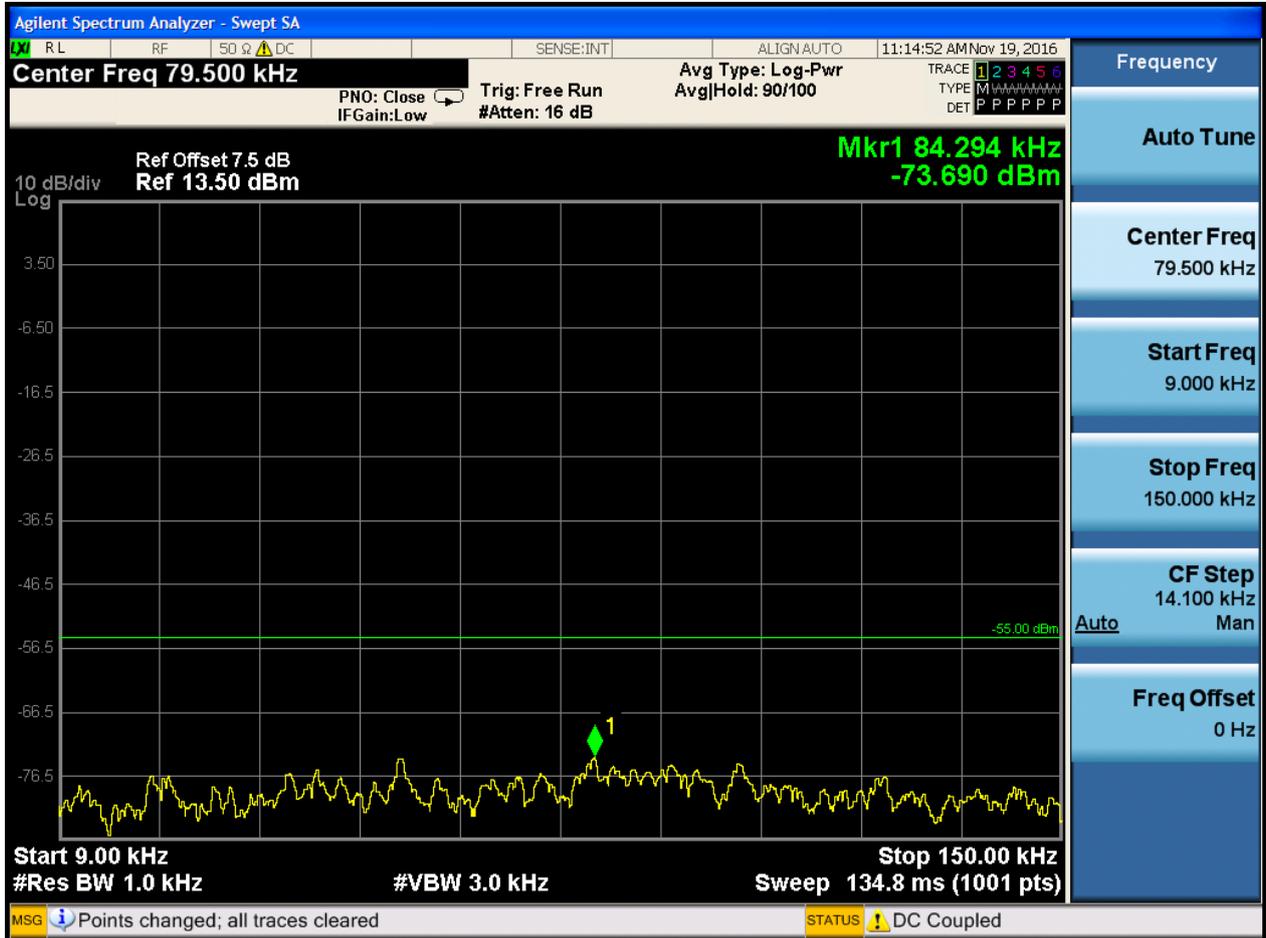


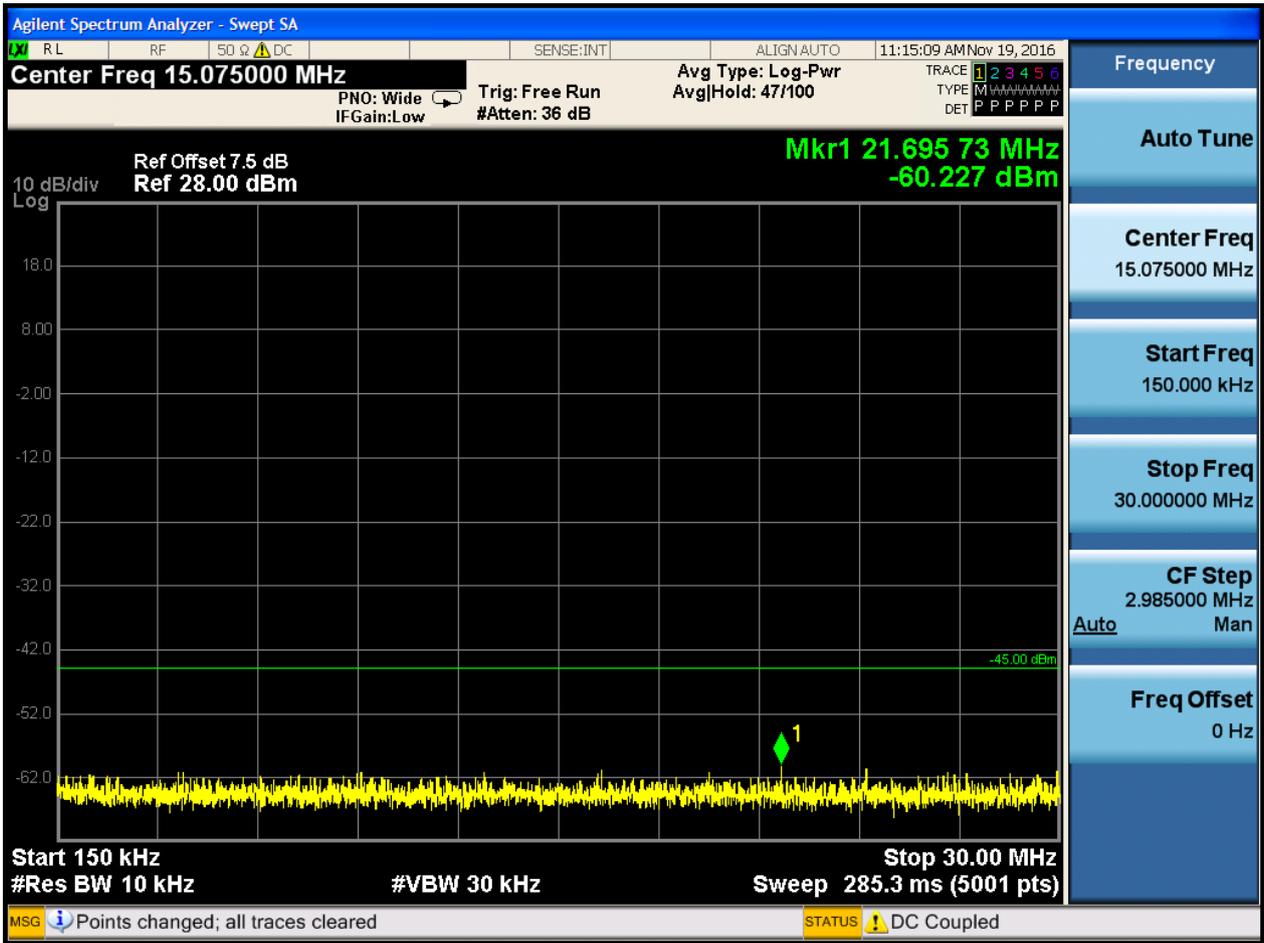


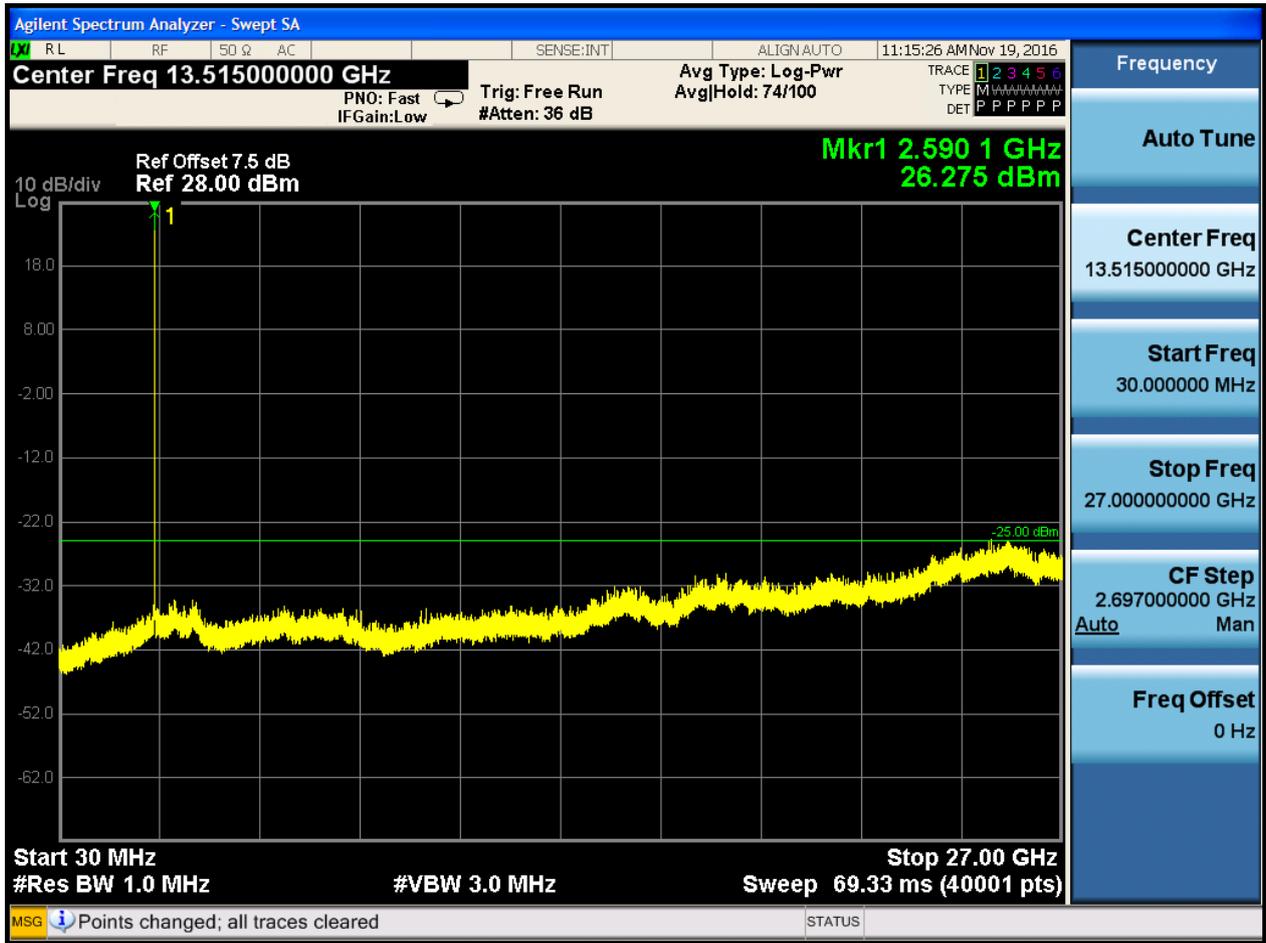


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



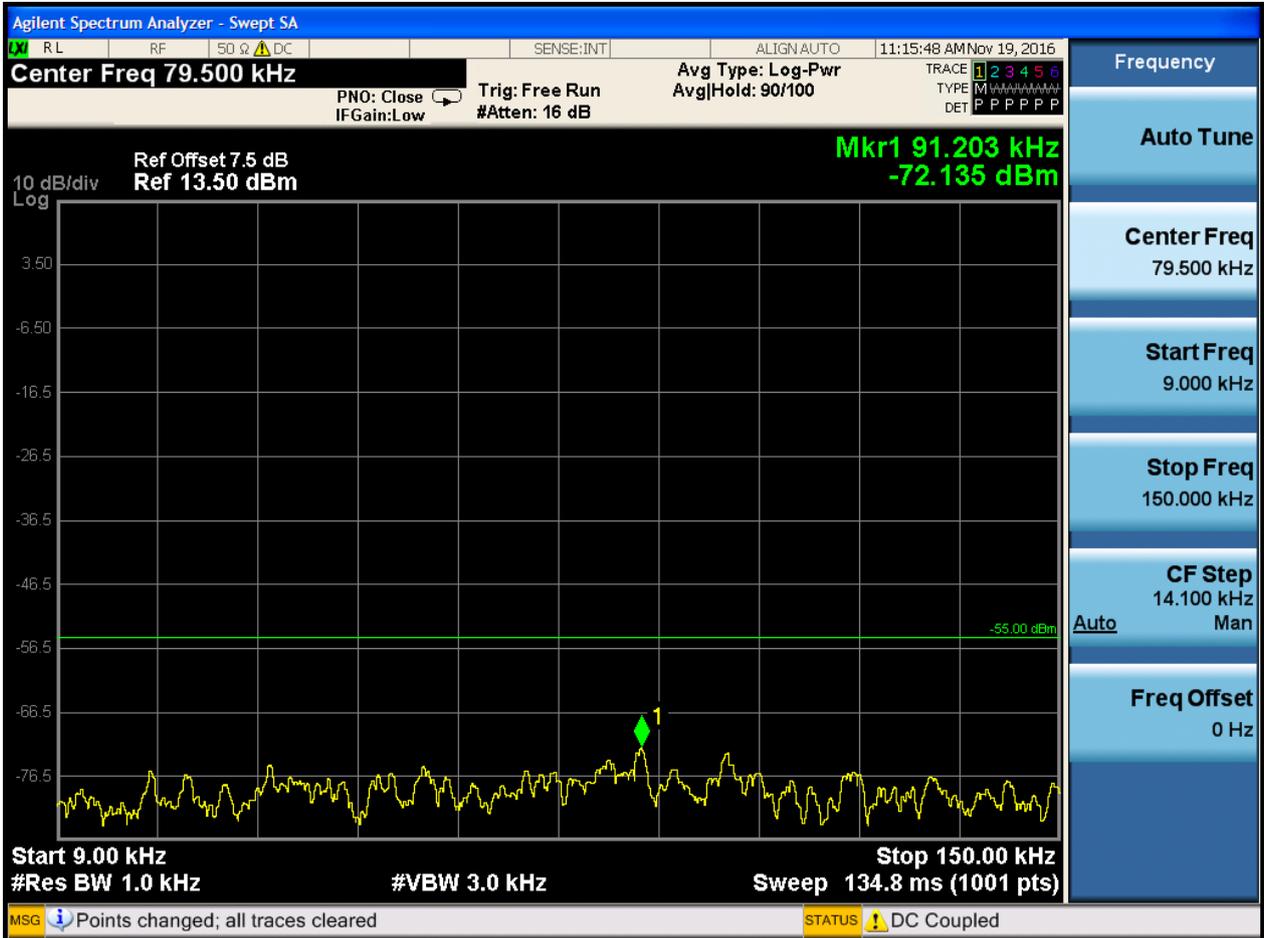


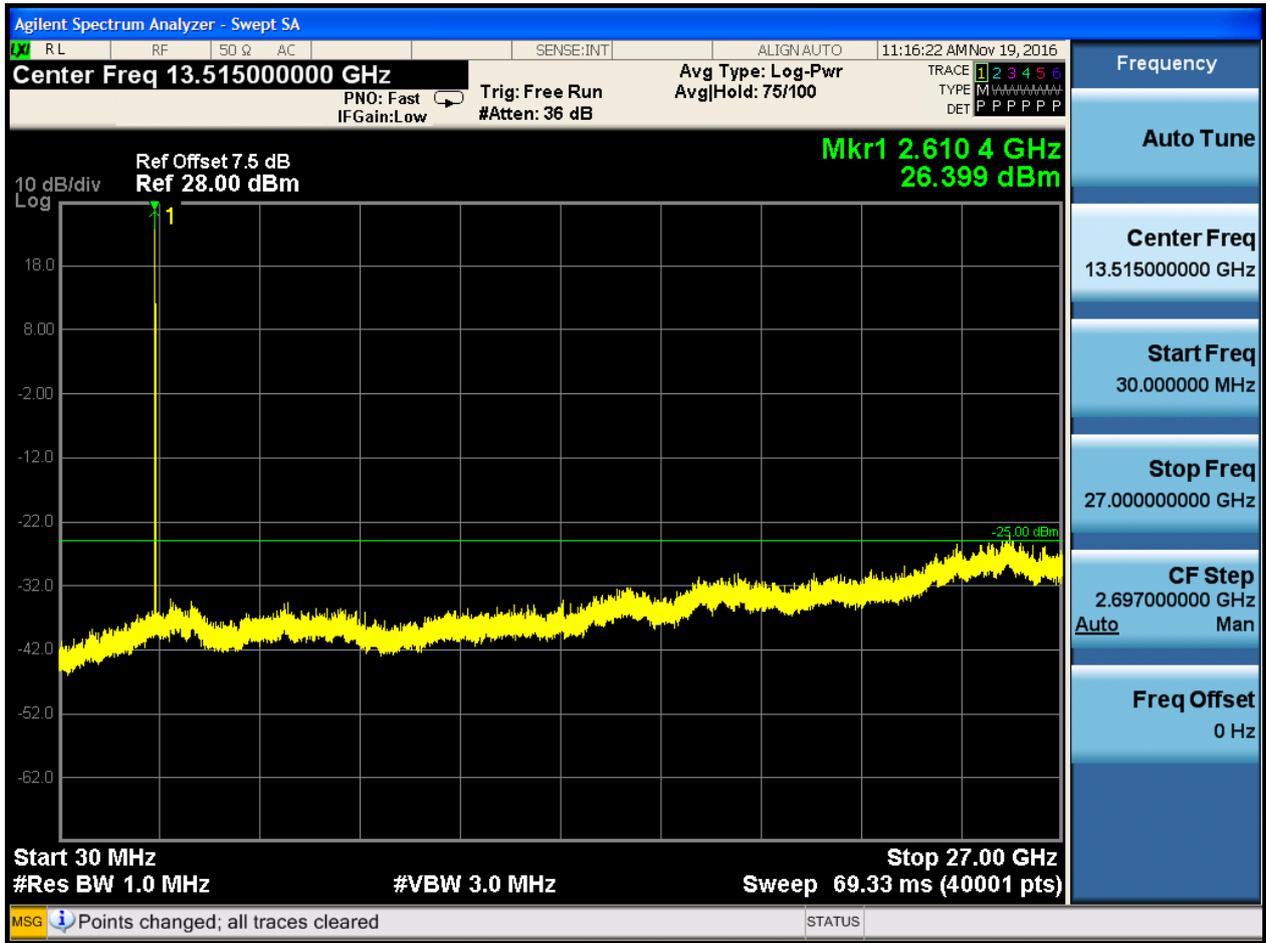




6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0



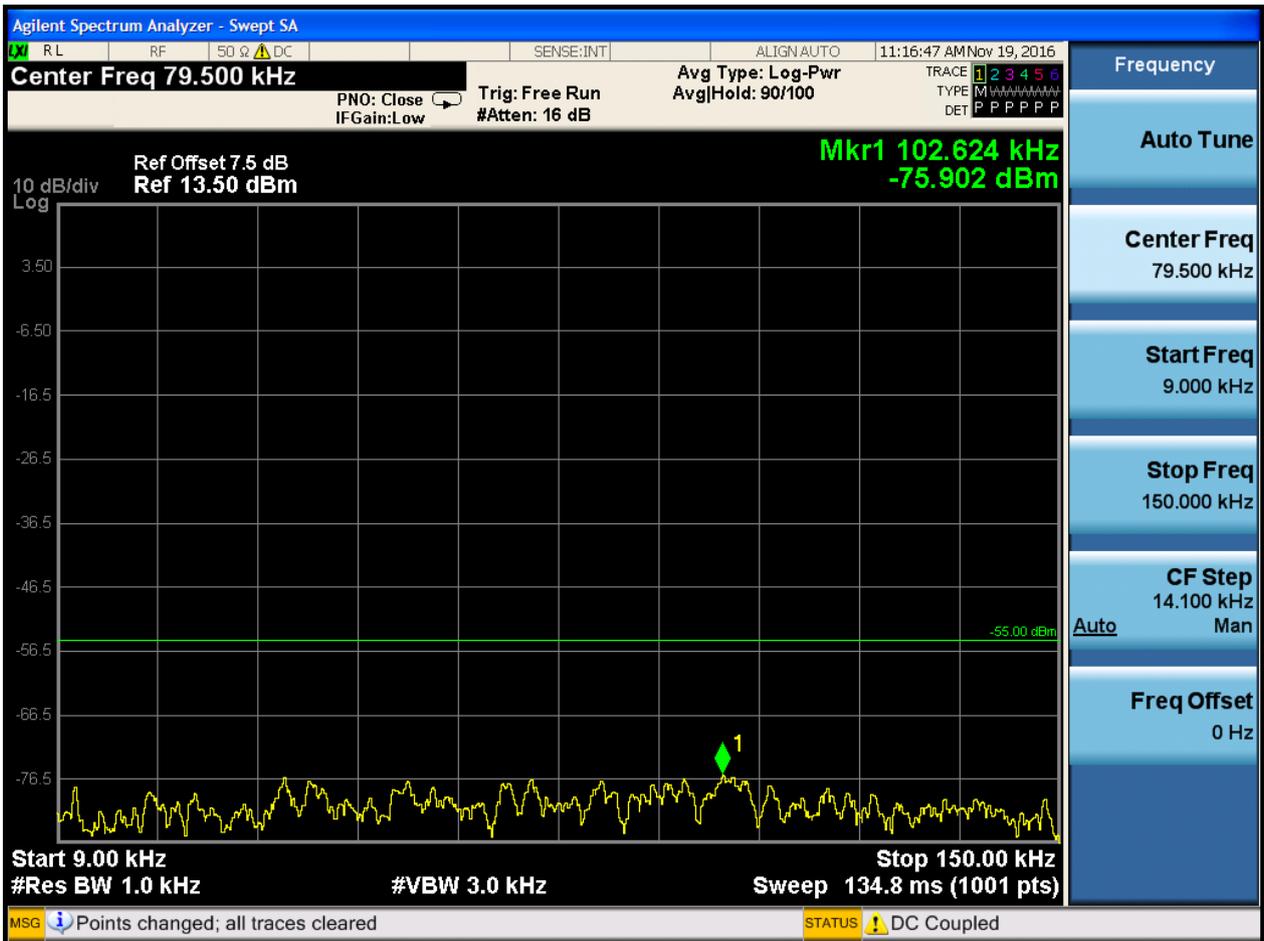


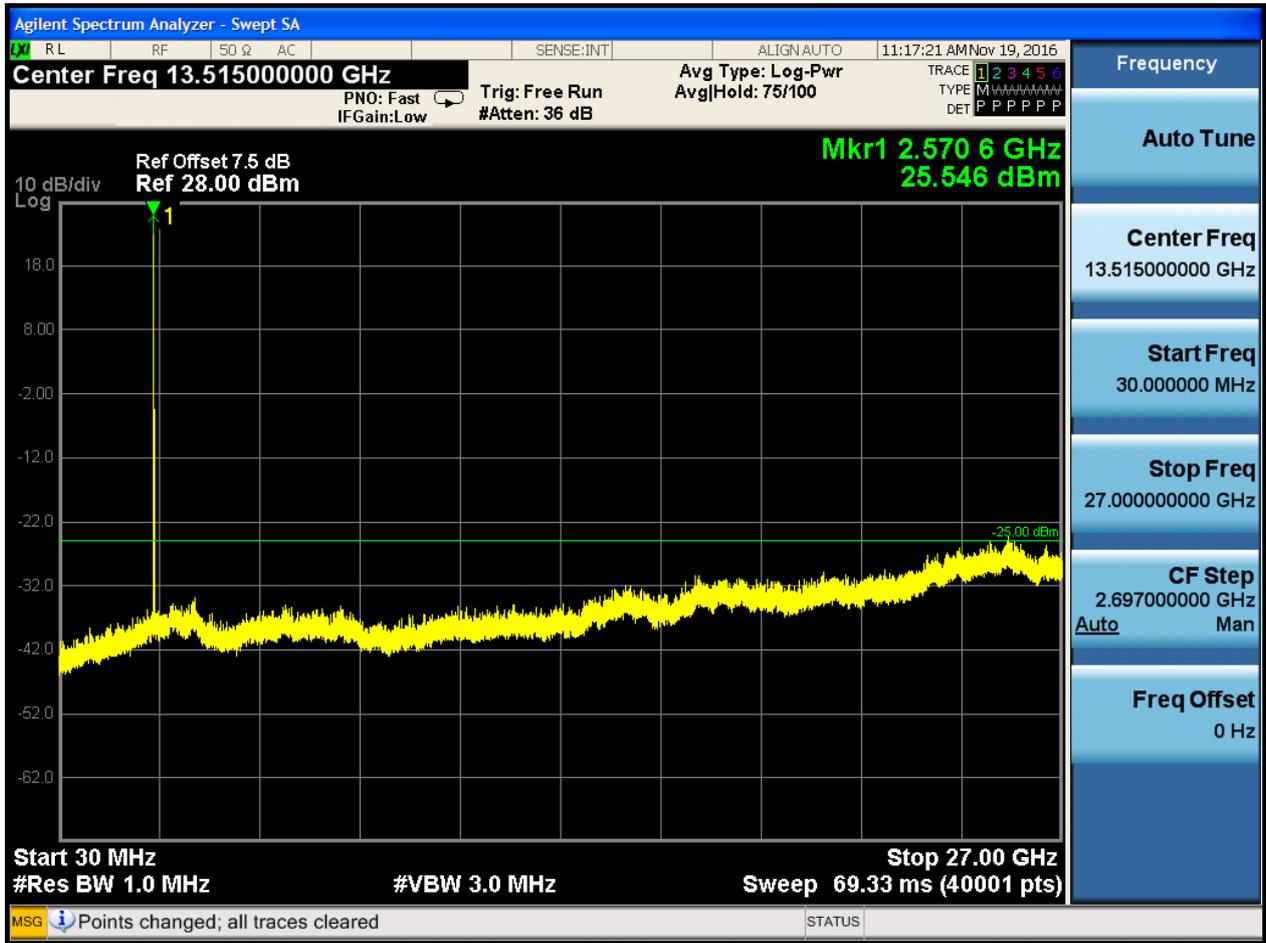


6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0

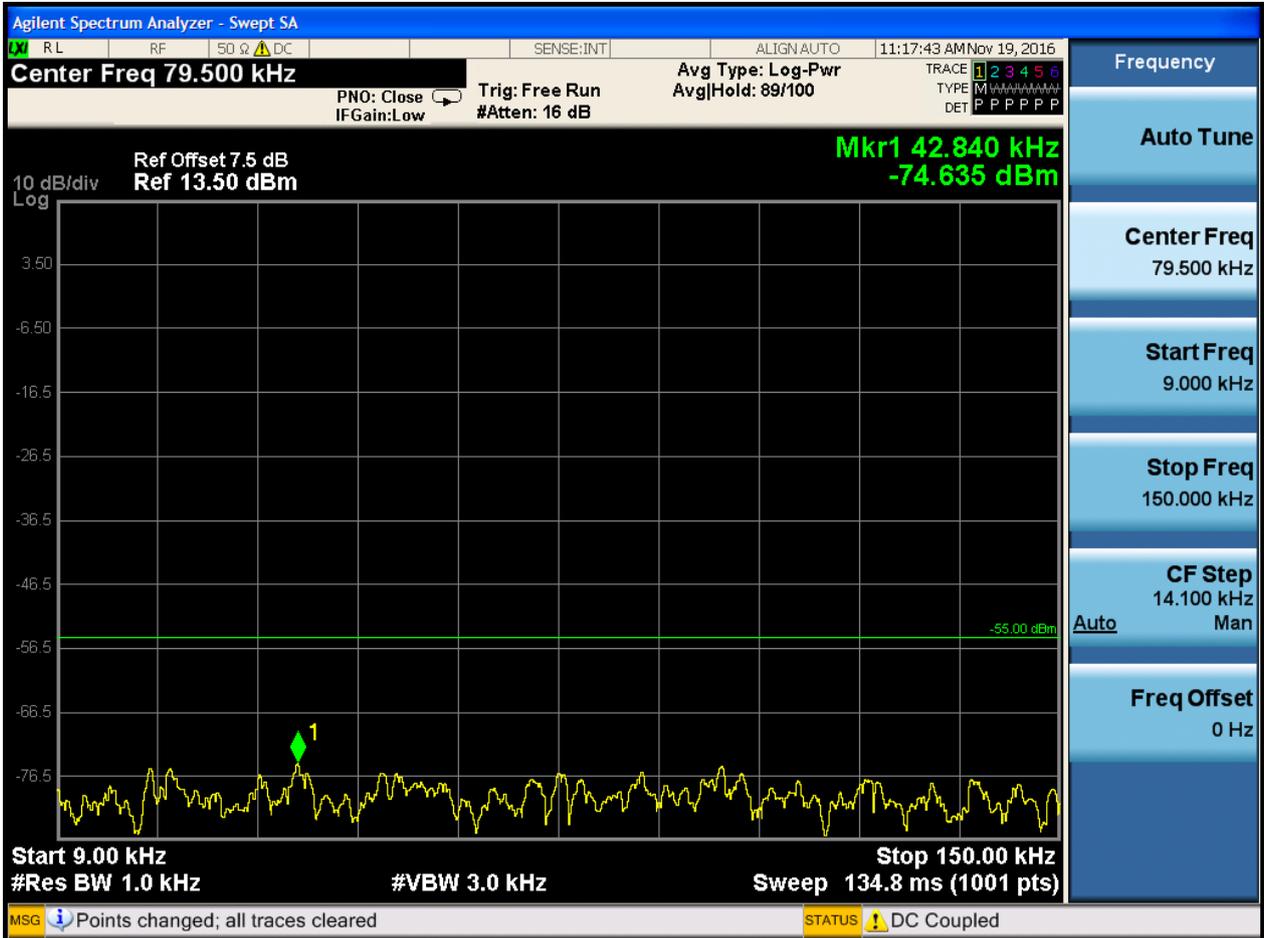


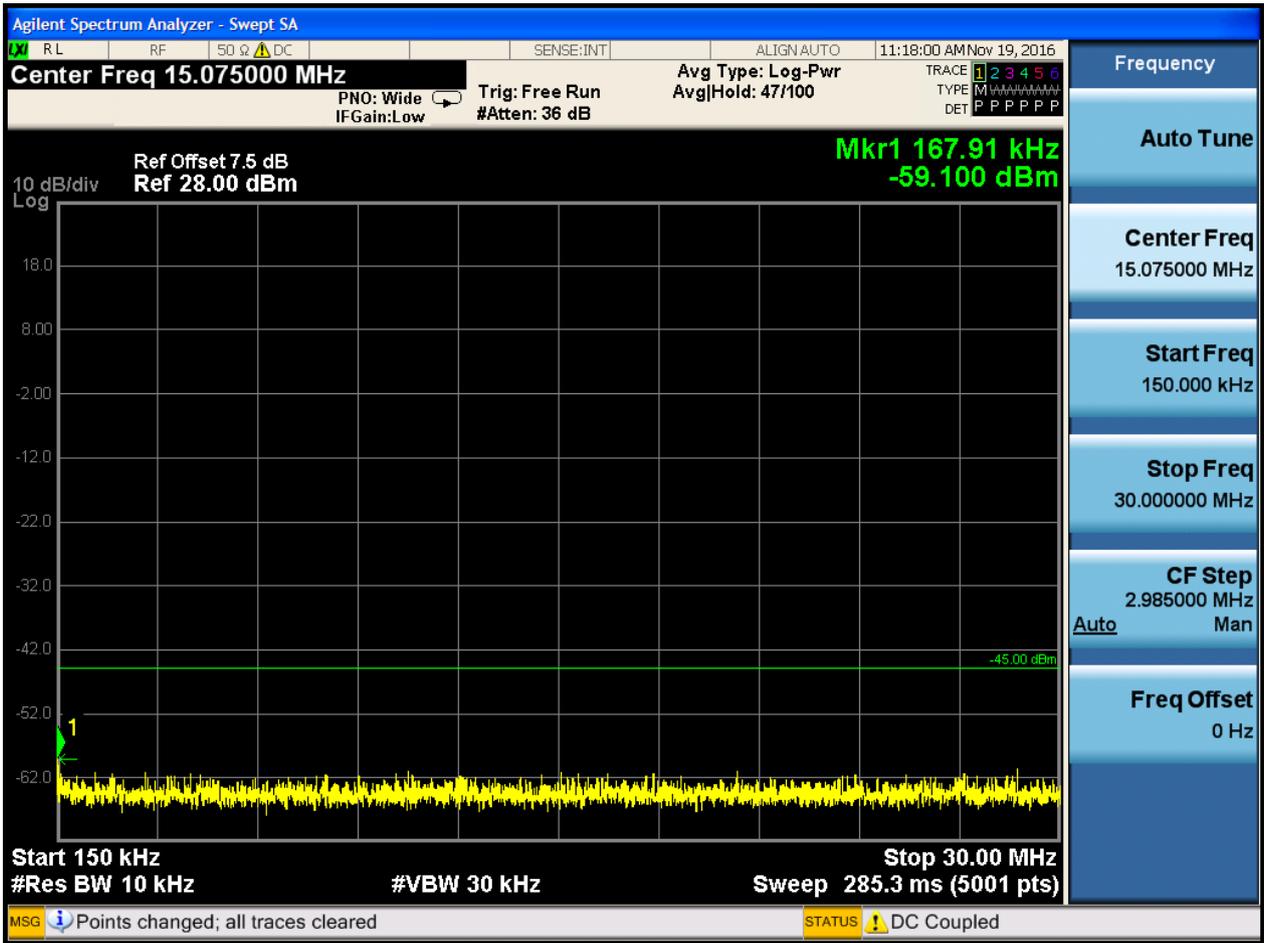




6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0





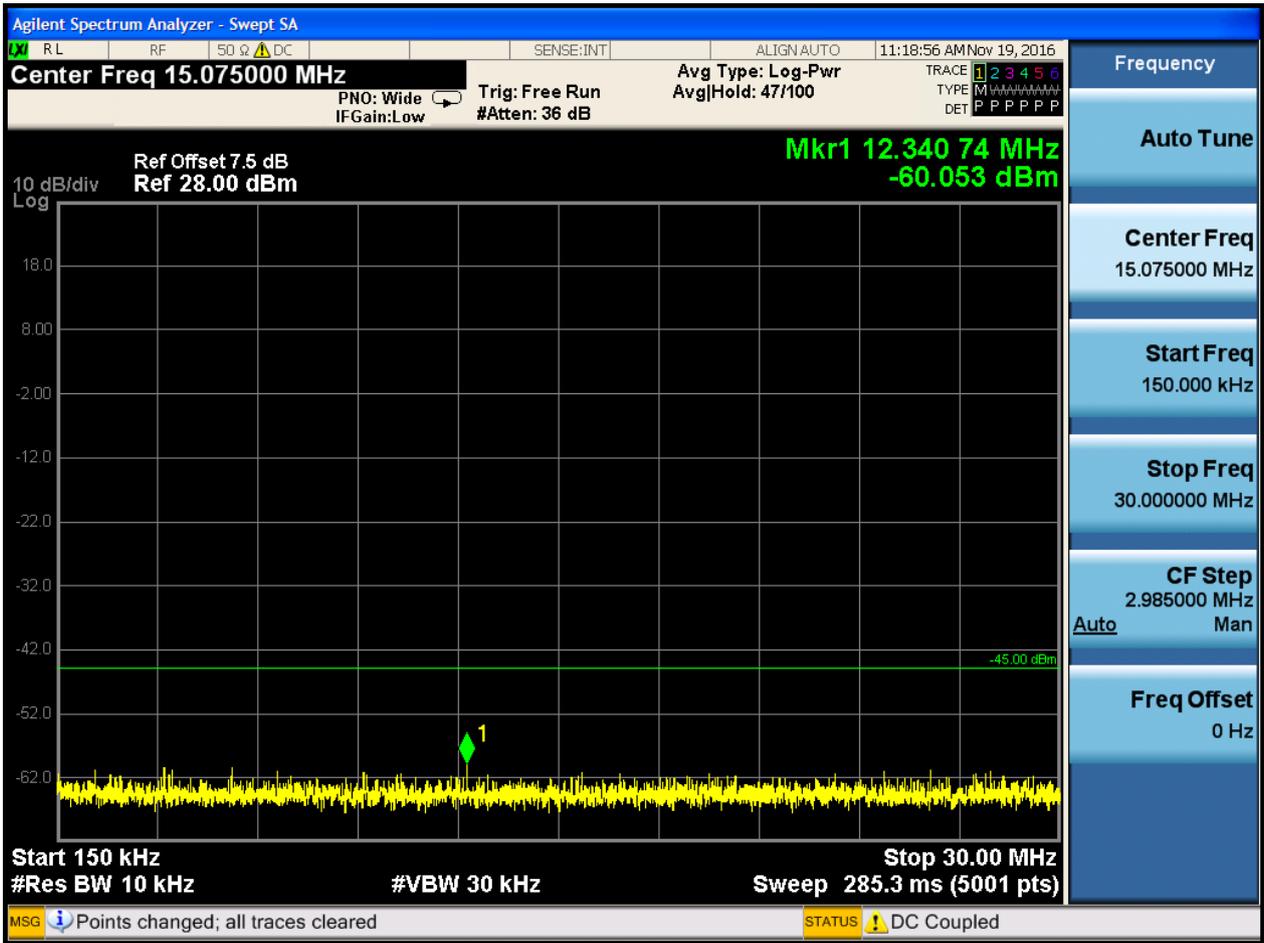


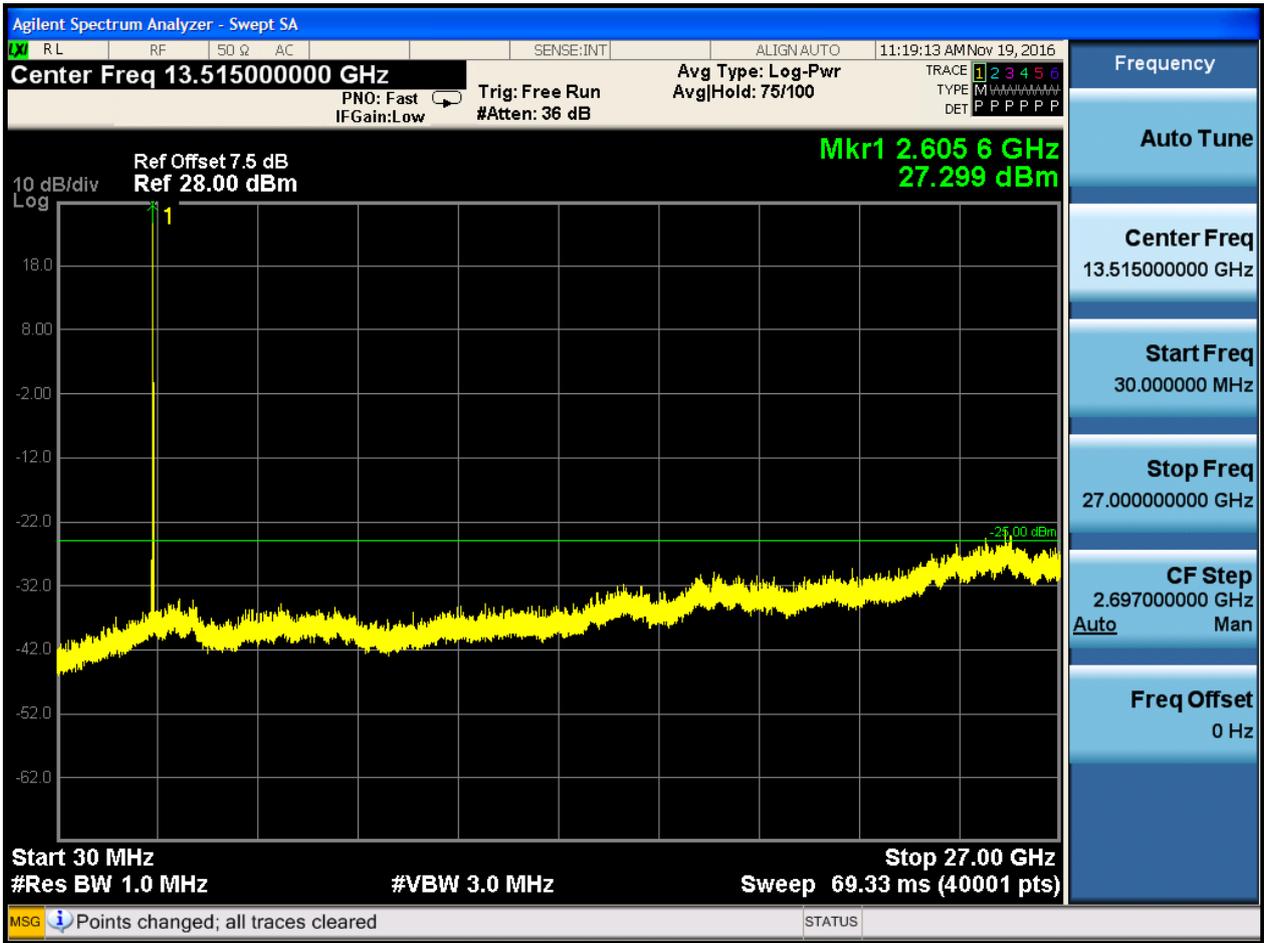


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





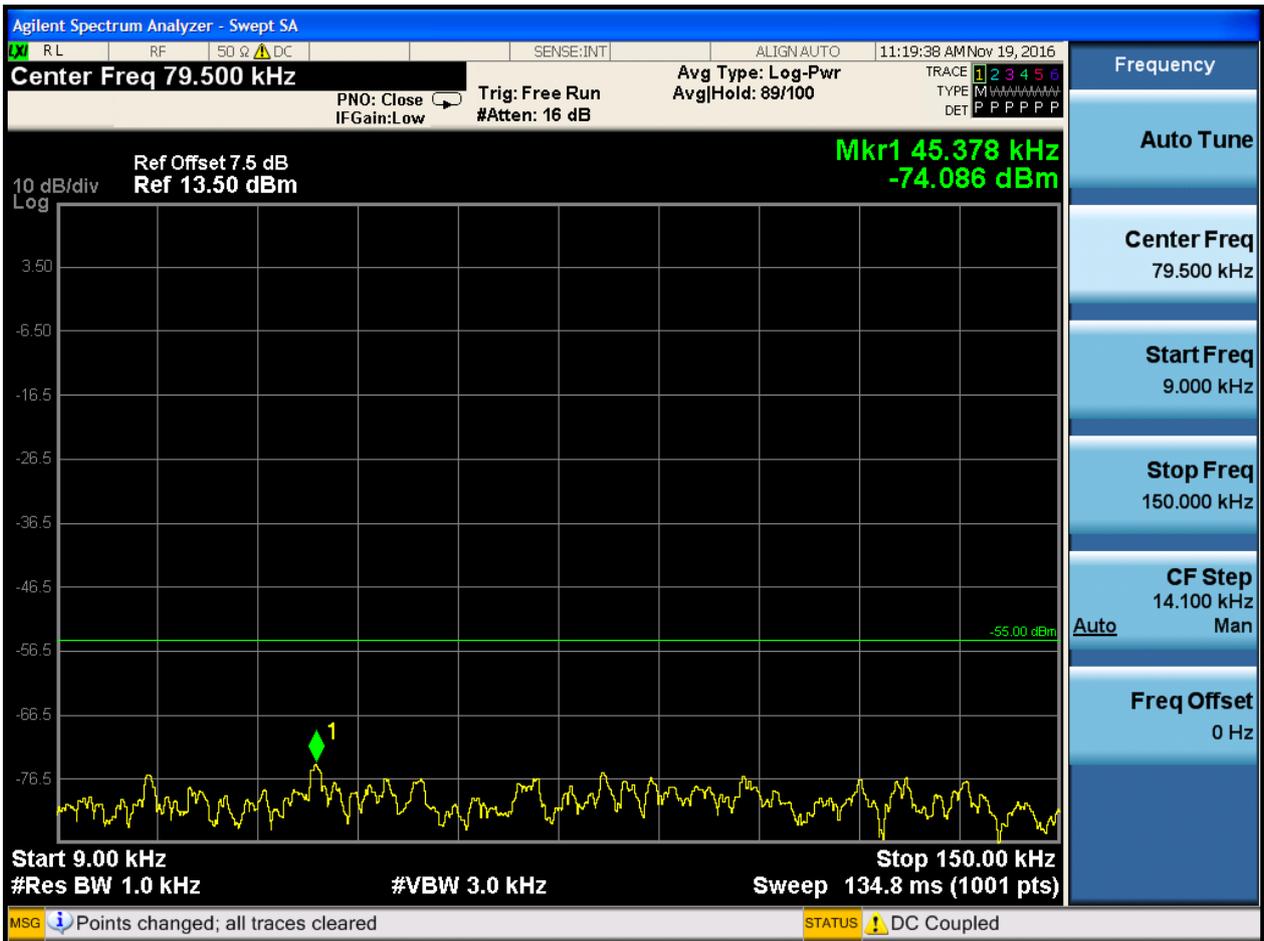


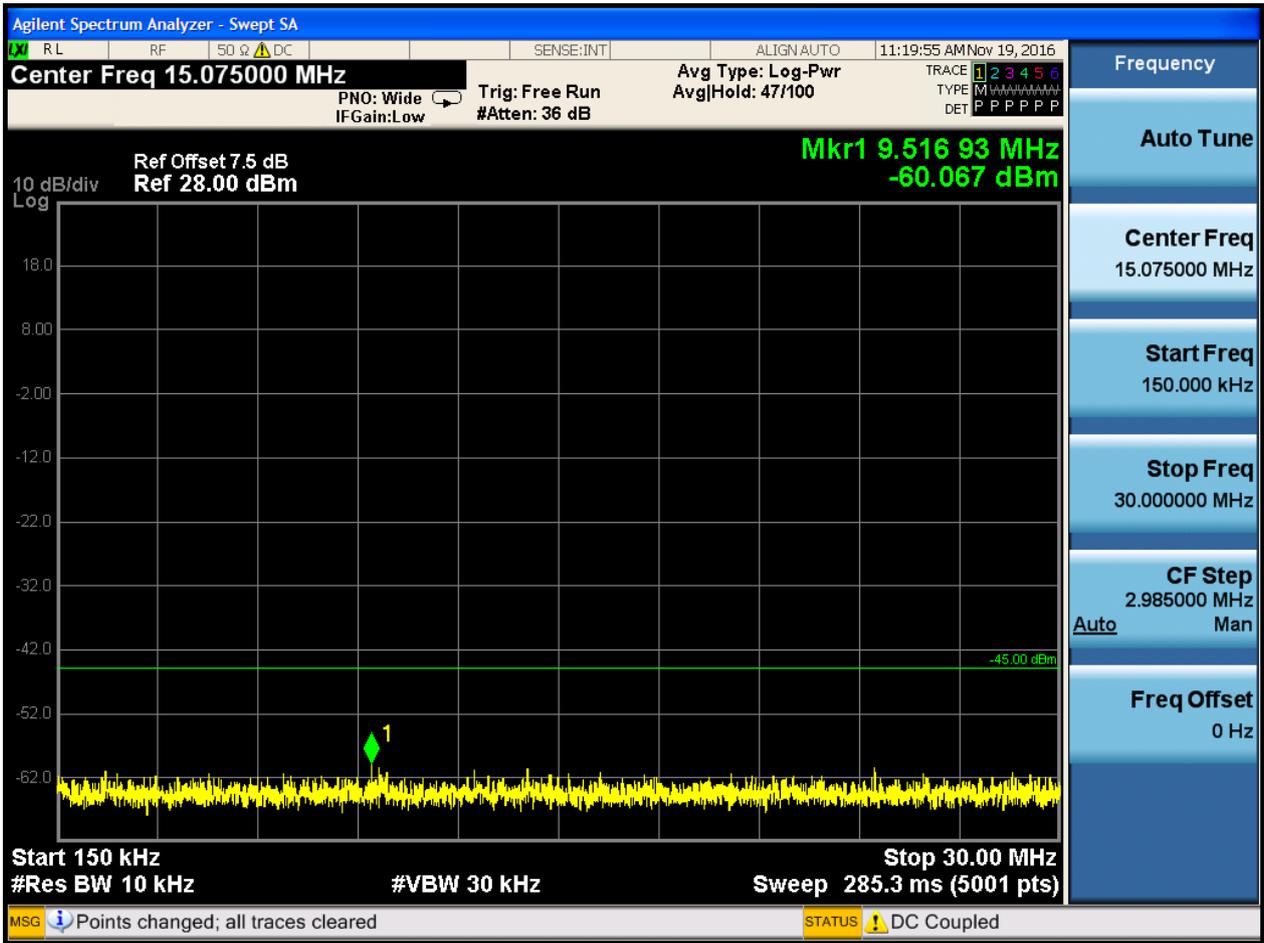


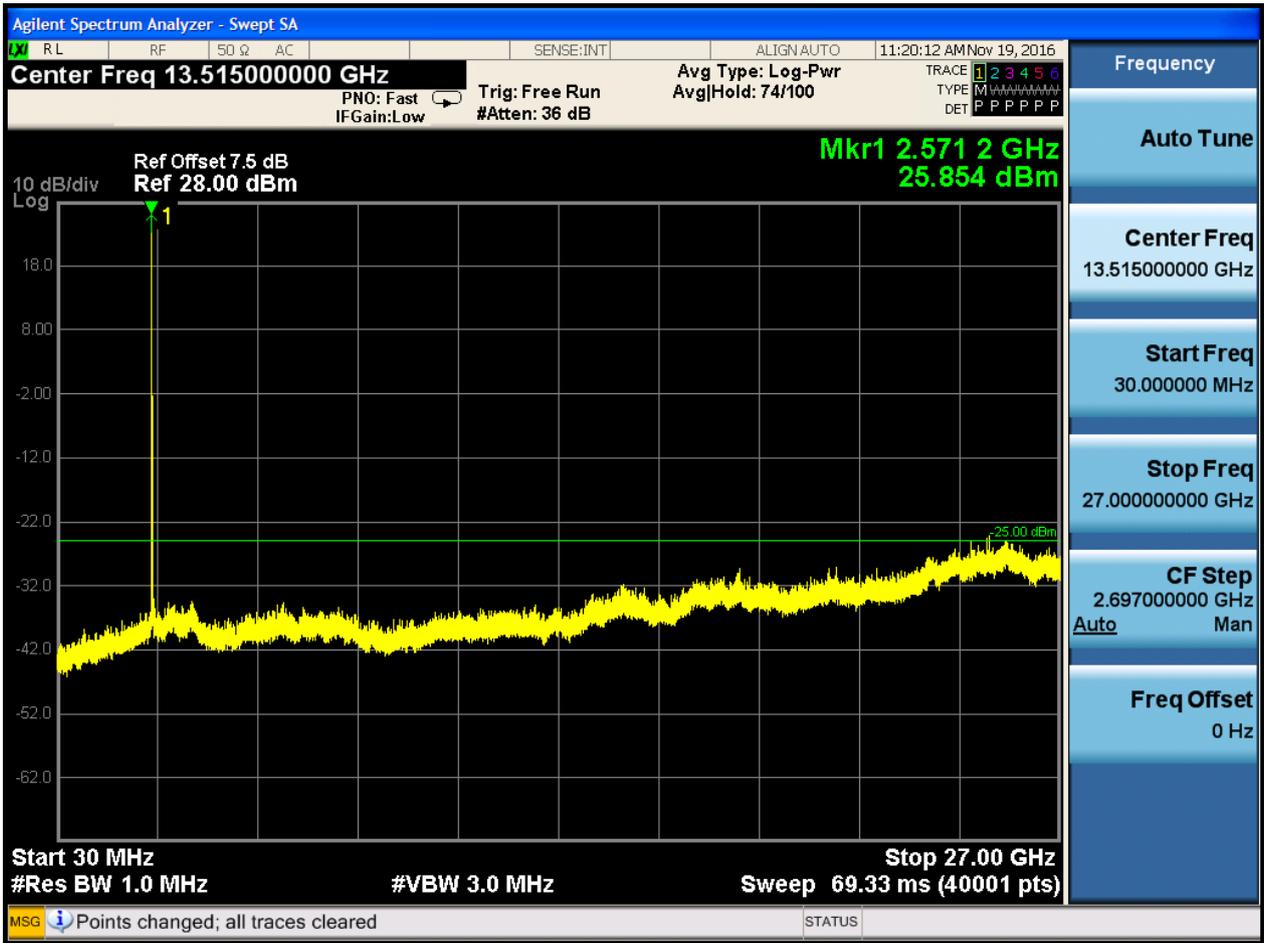
6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



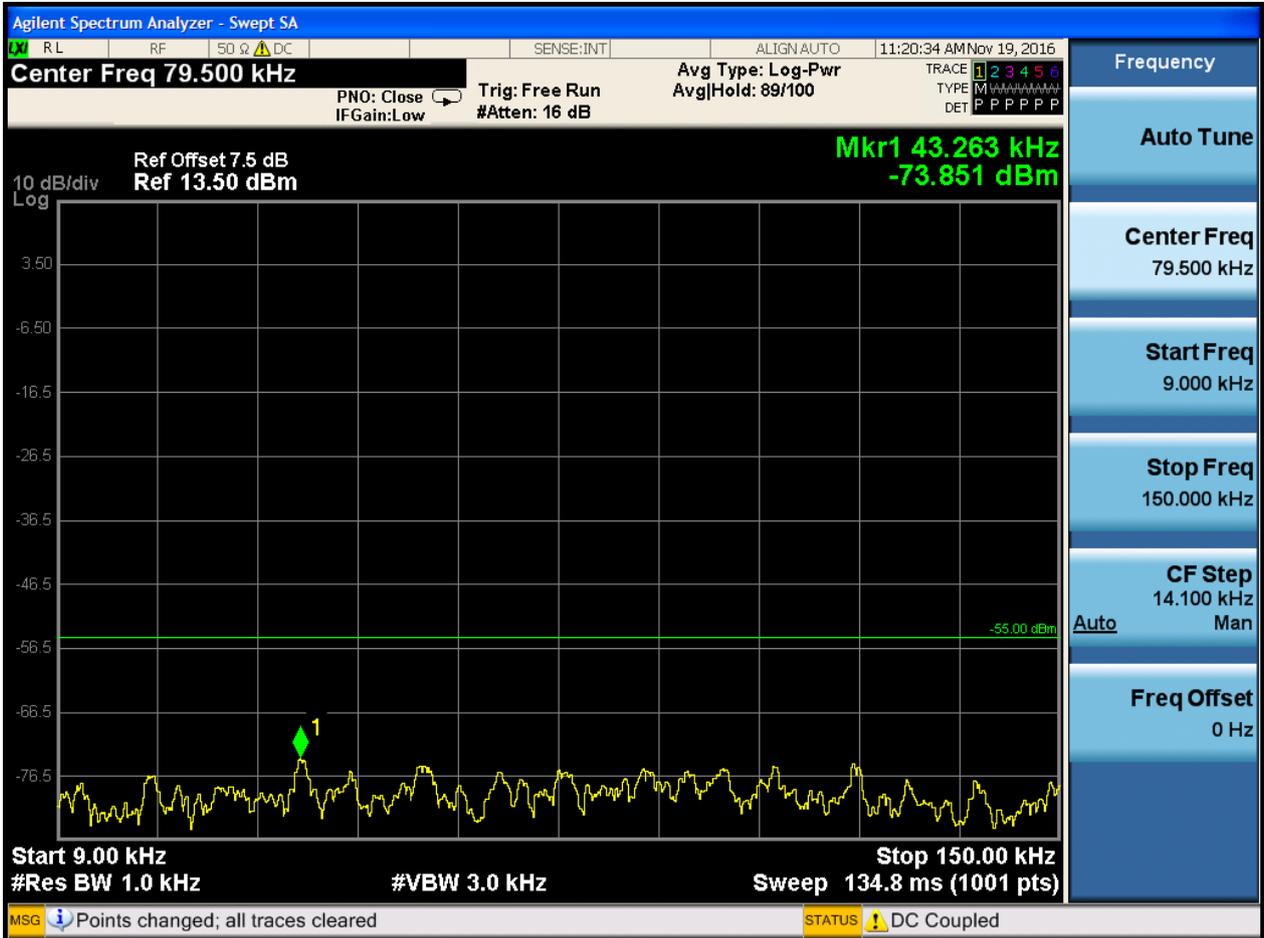


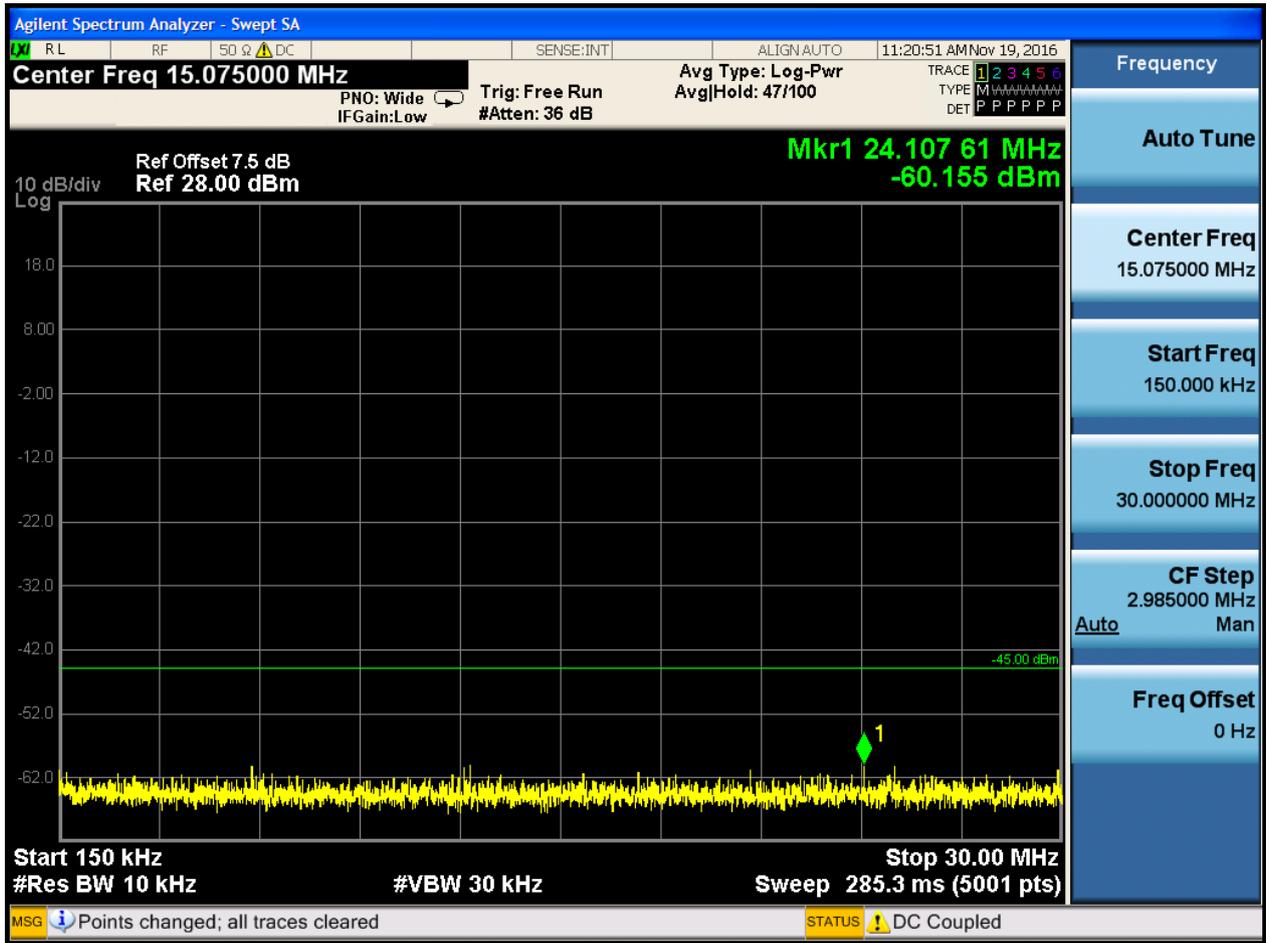


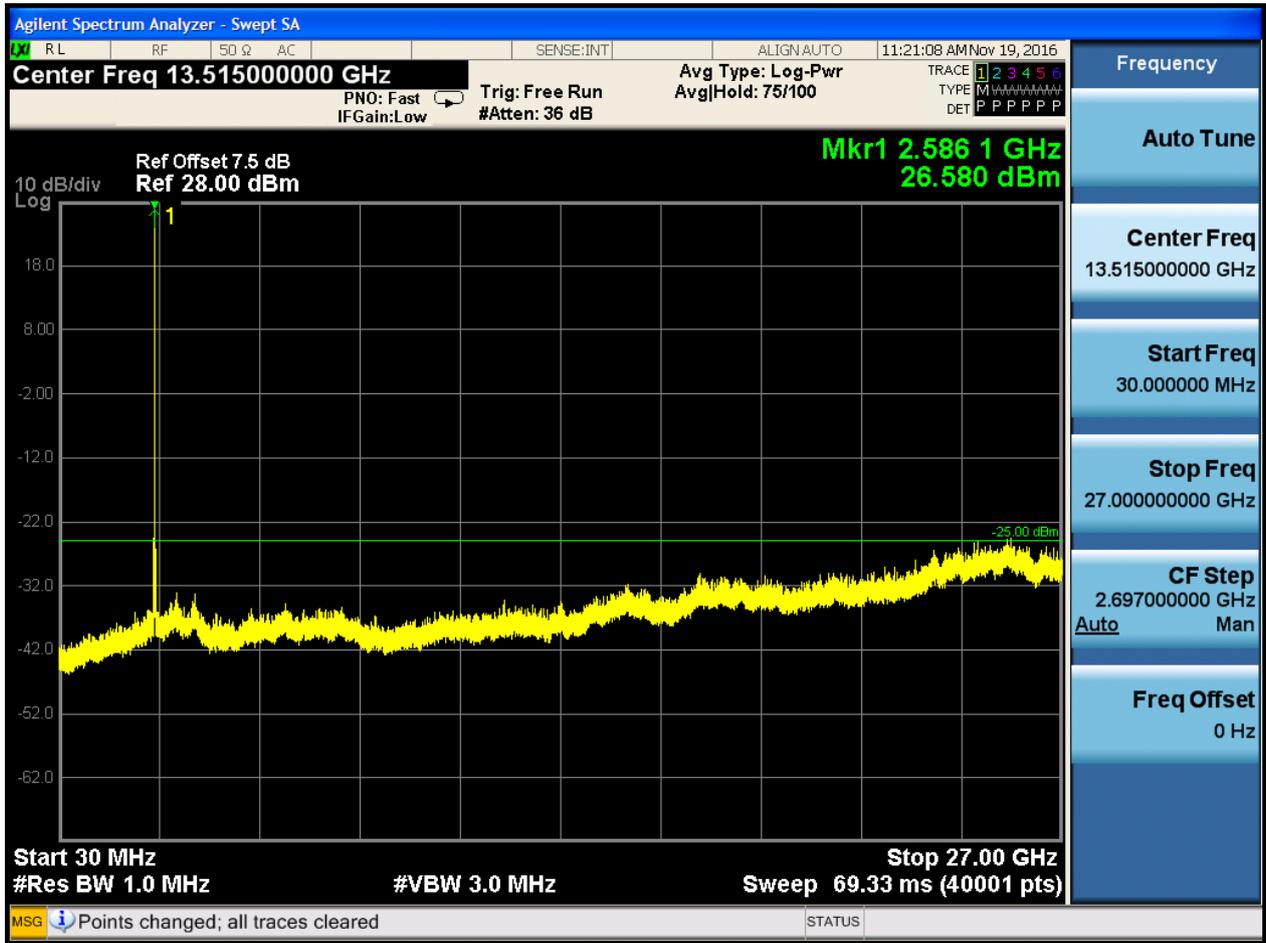


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



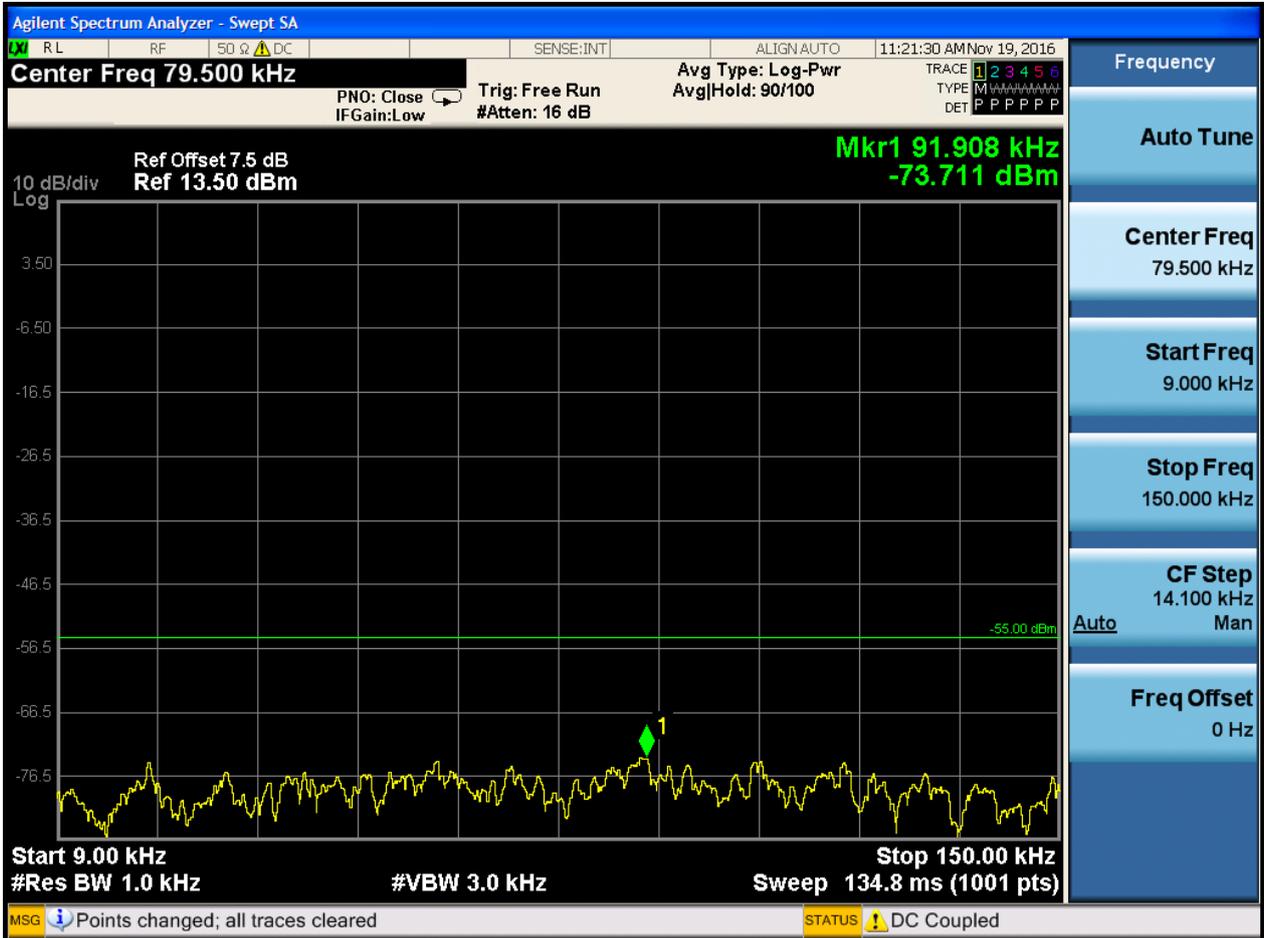


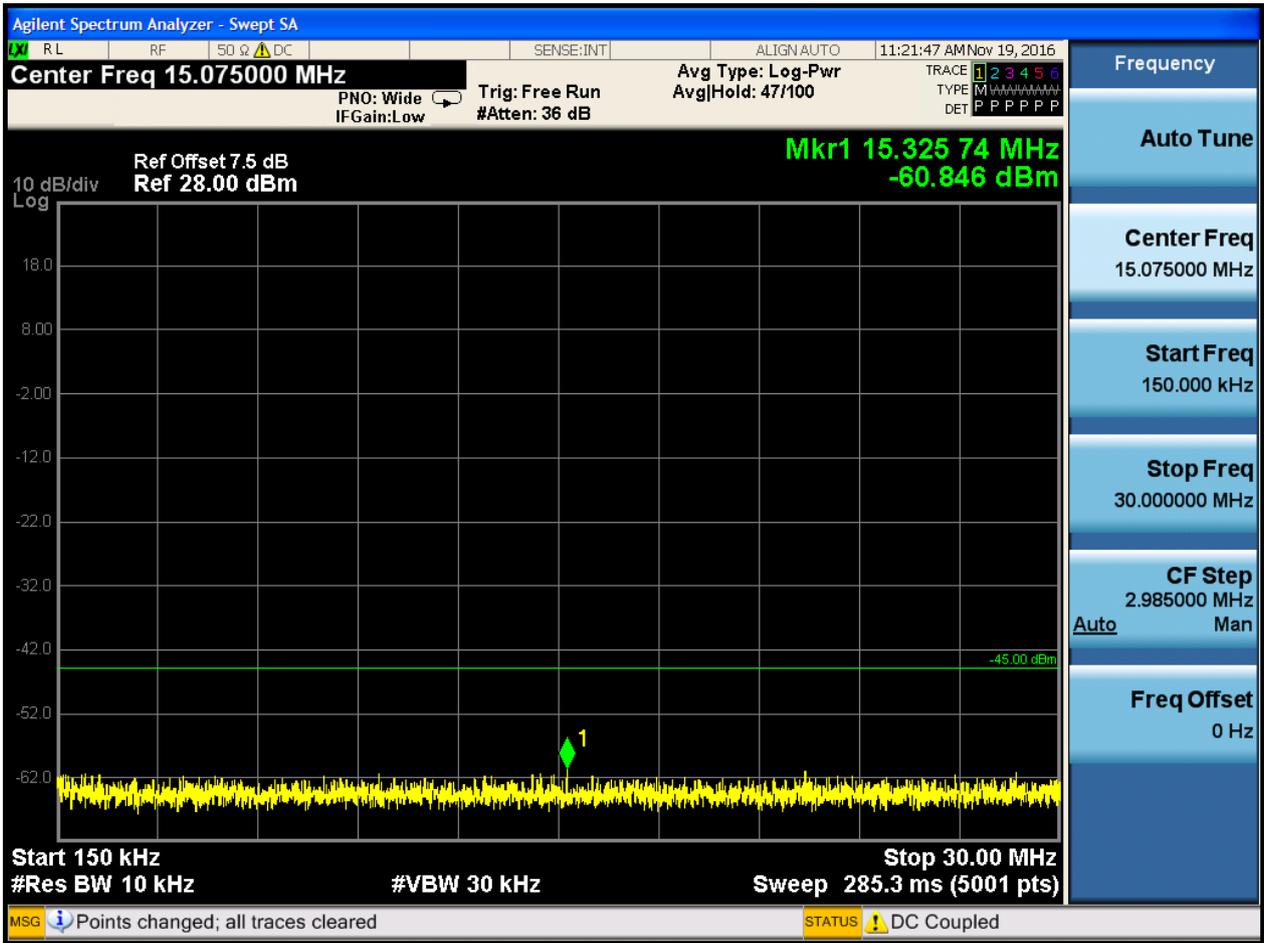


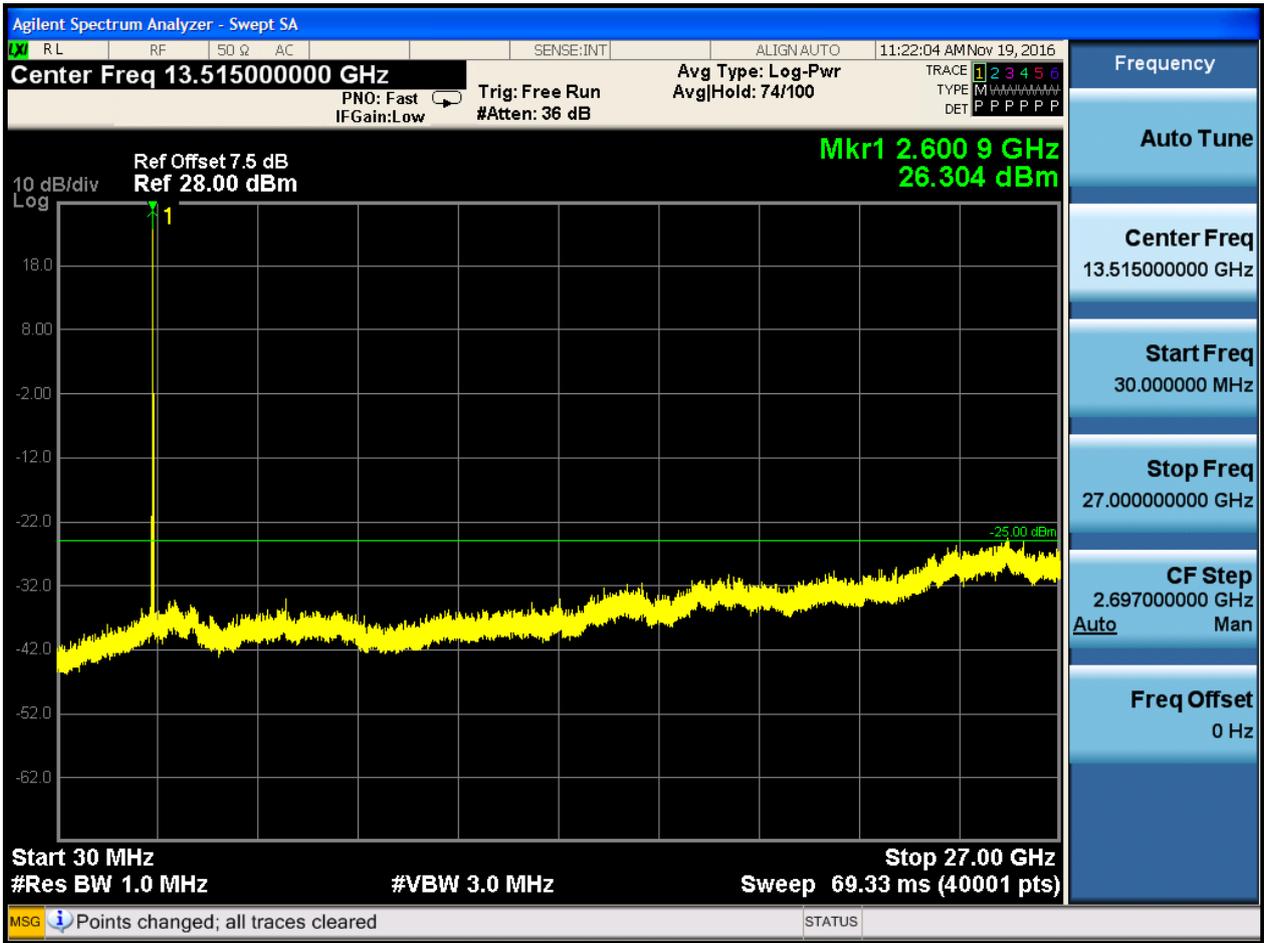


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







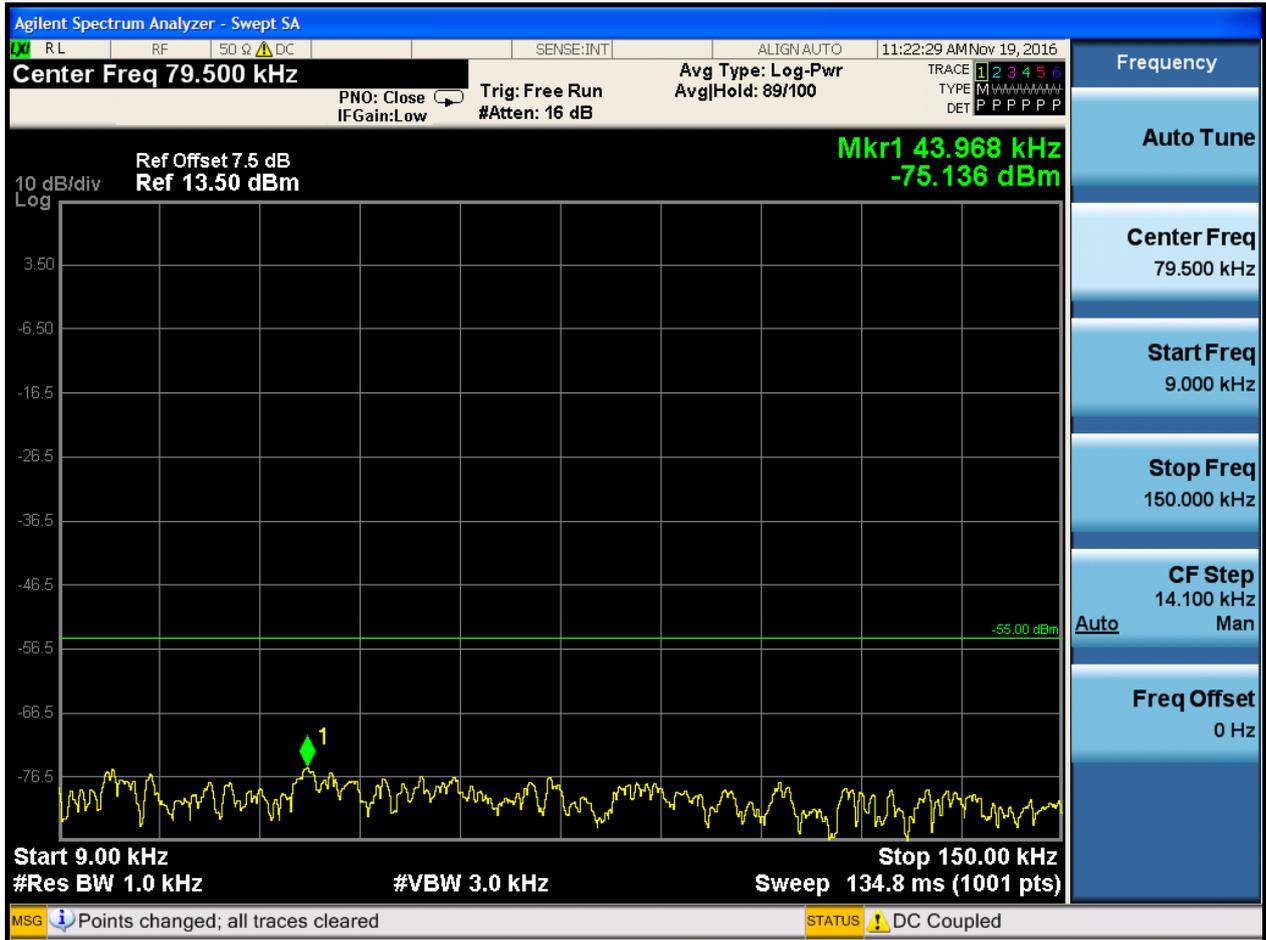


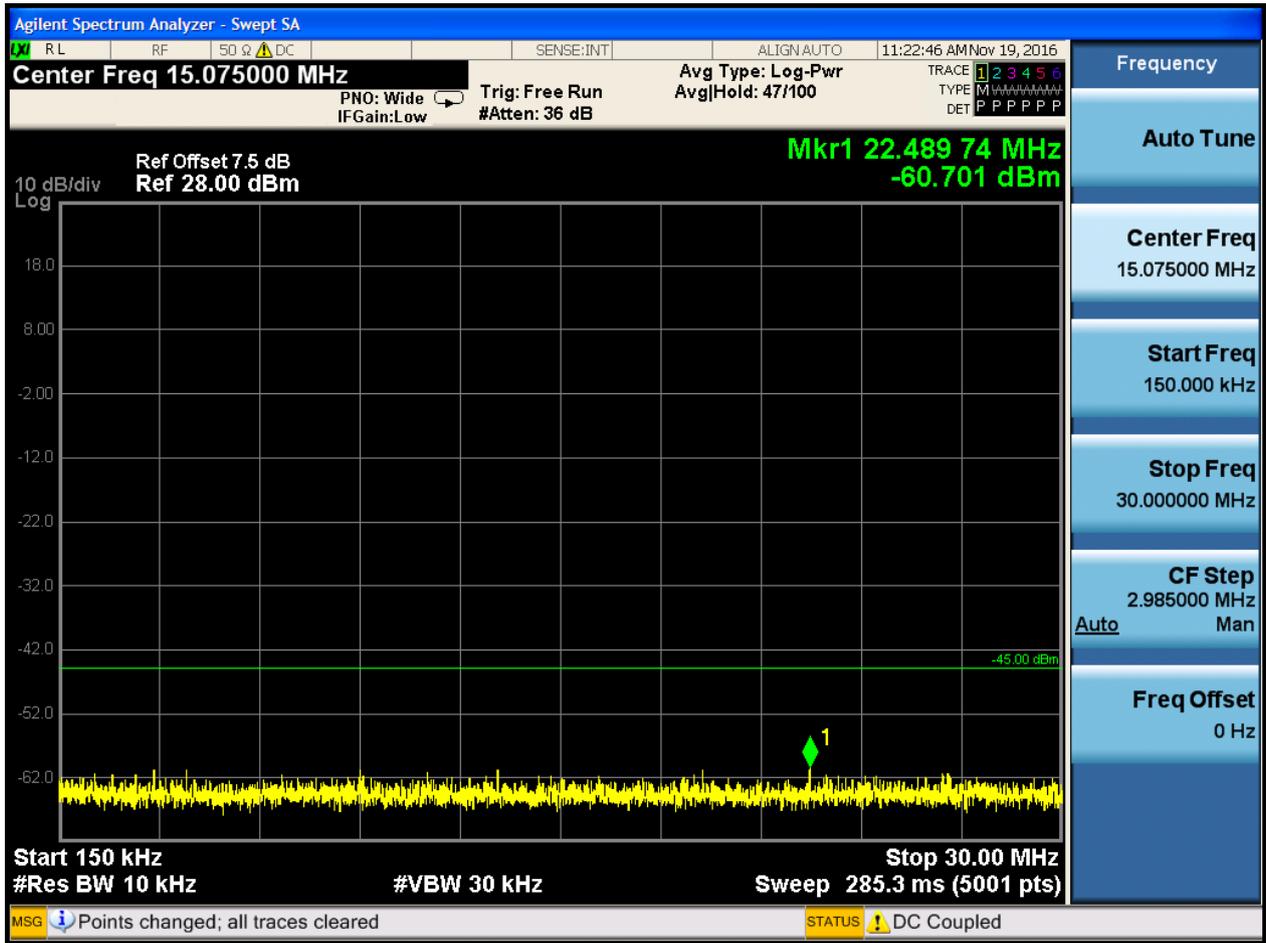
6.1.1.2 Test Mode = LTE/TM2

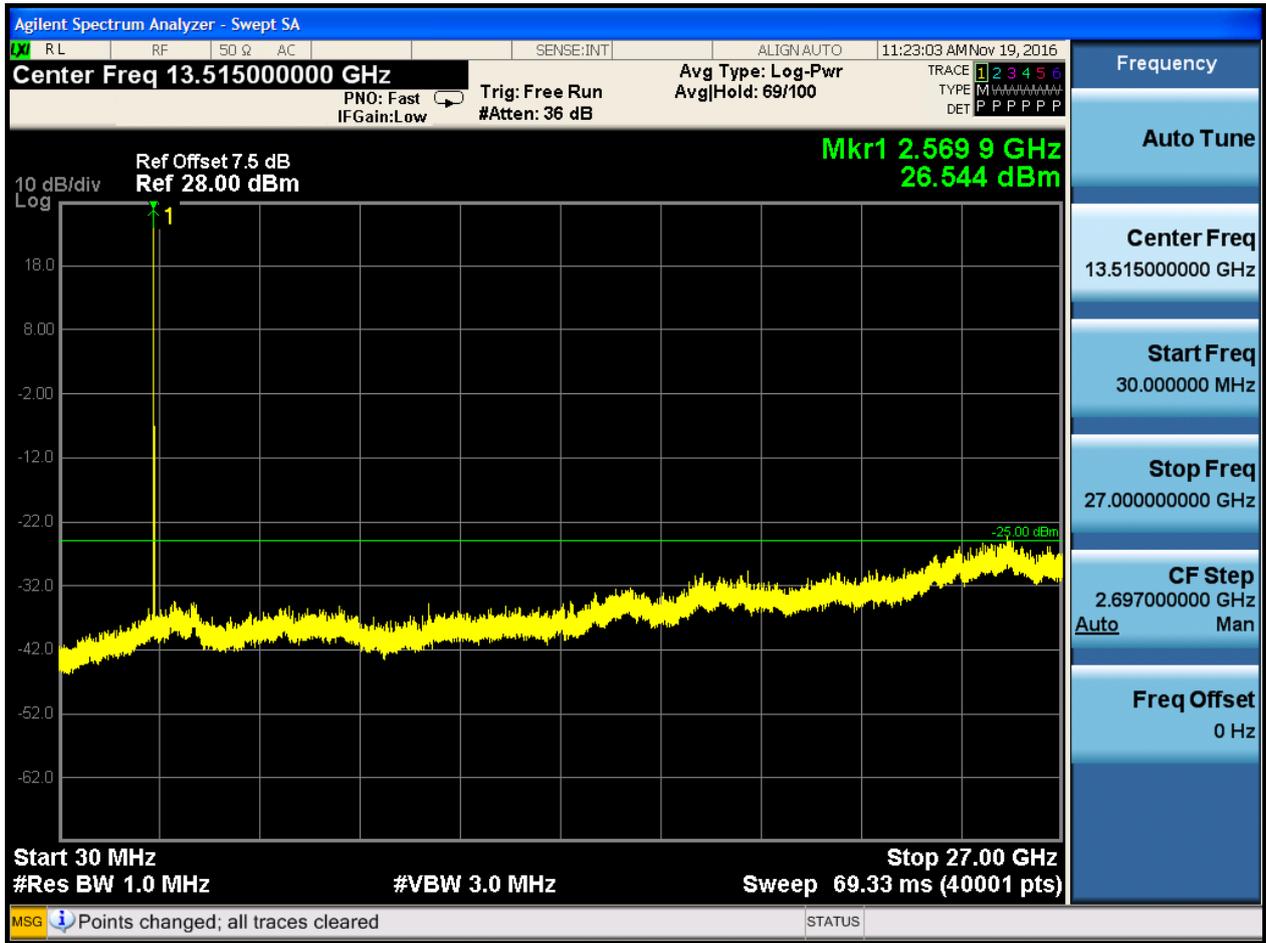
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0



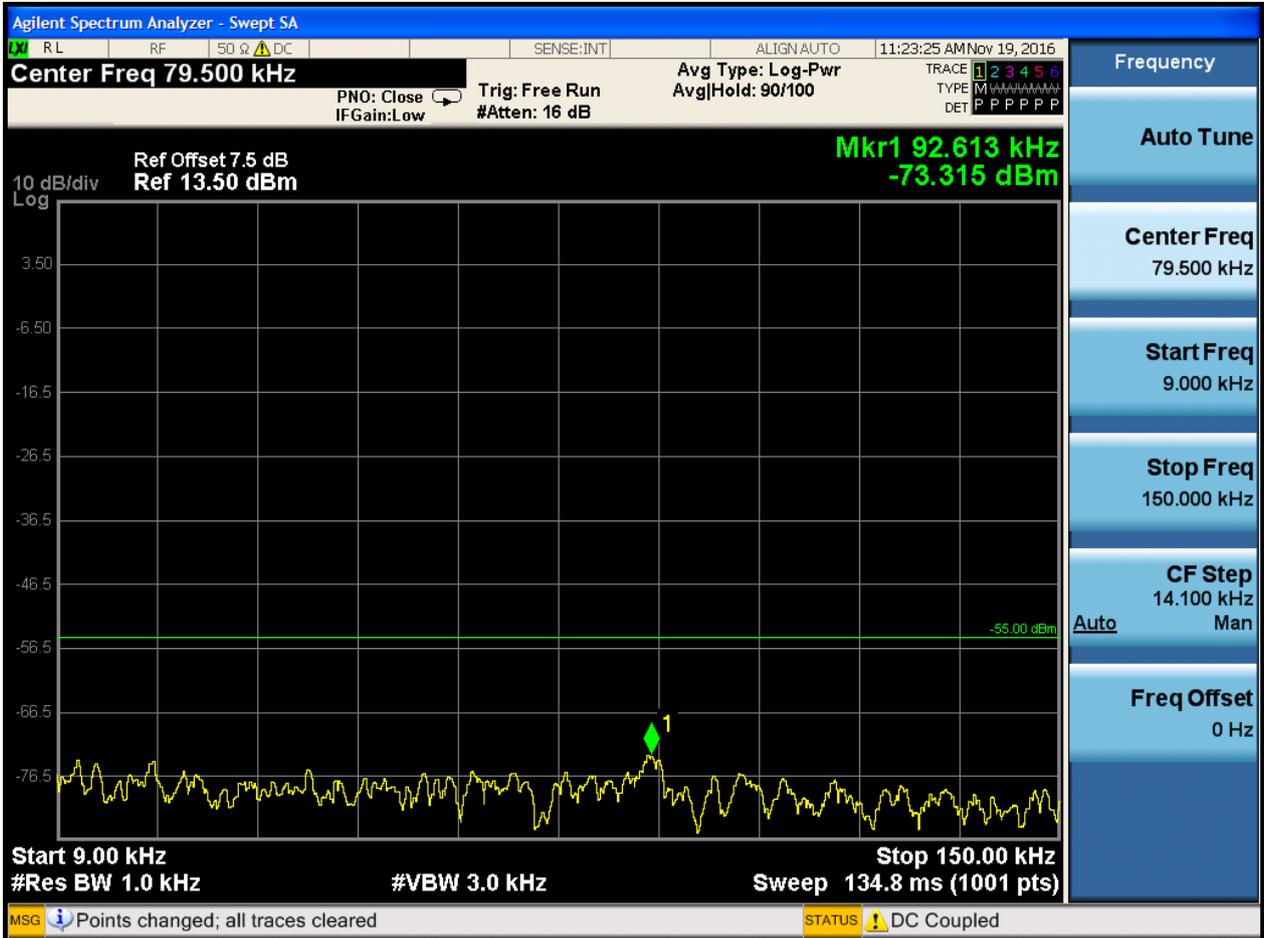


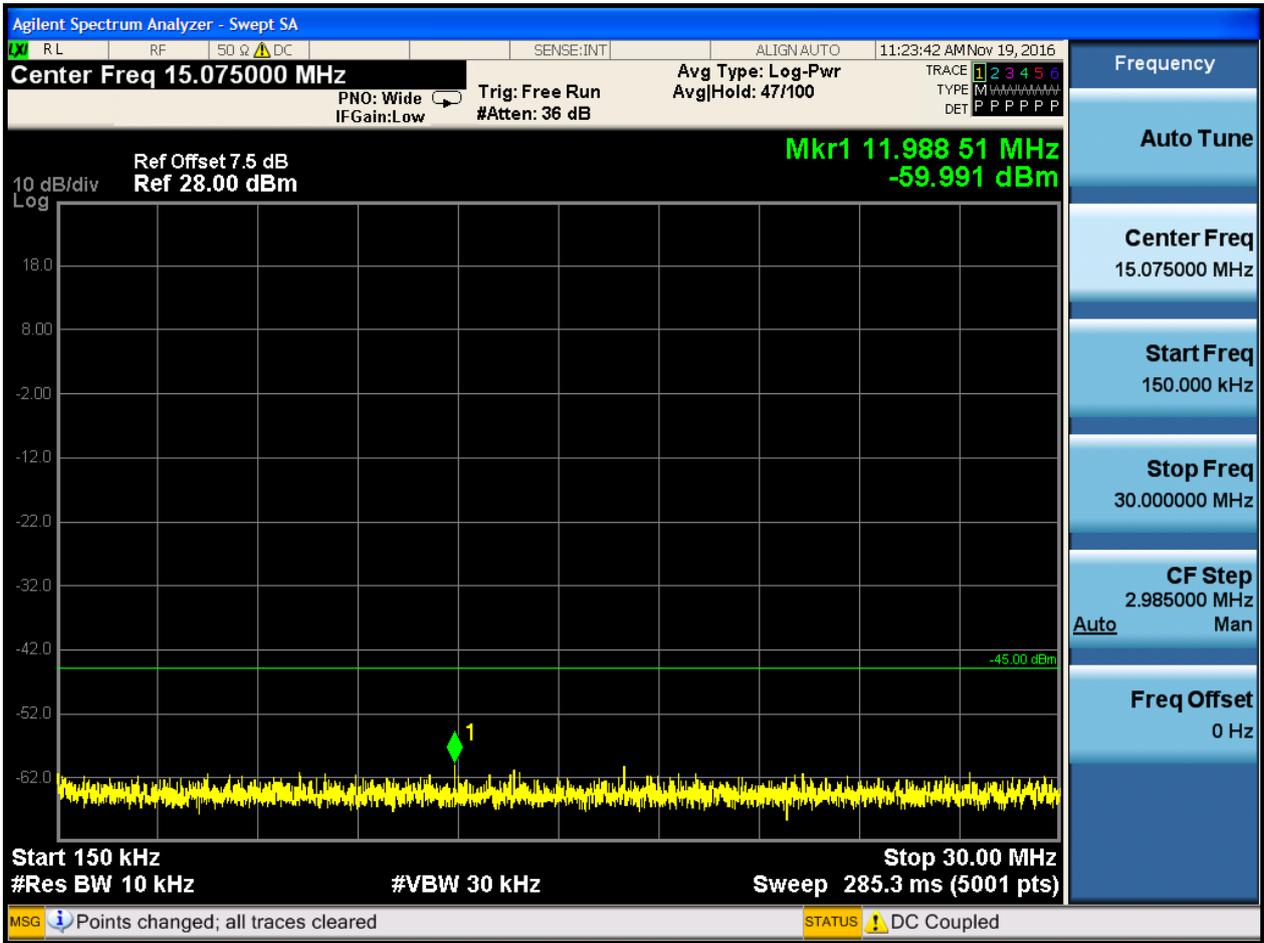


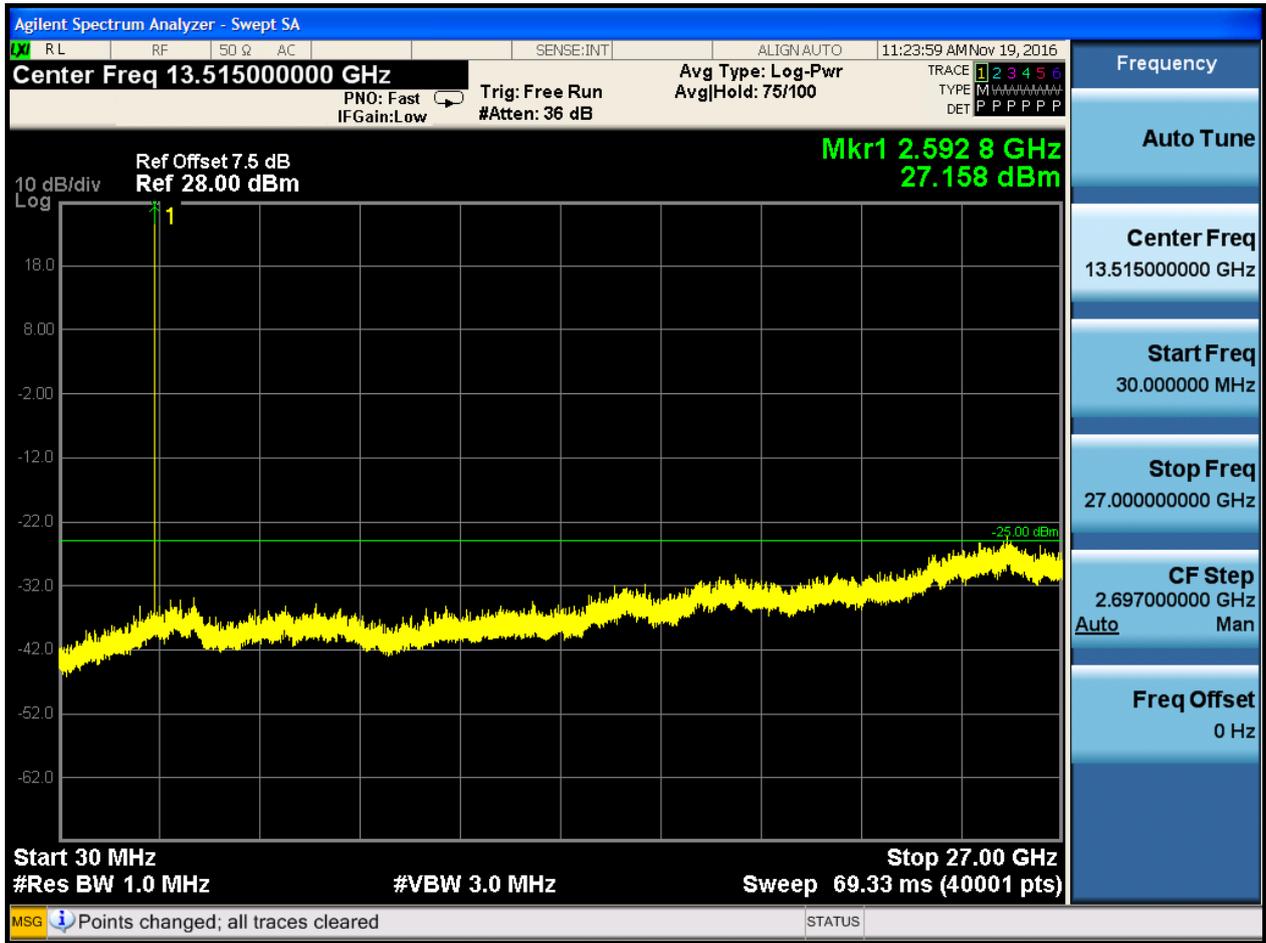


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0



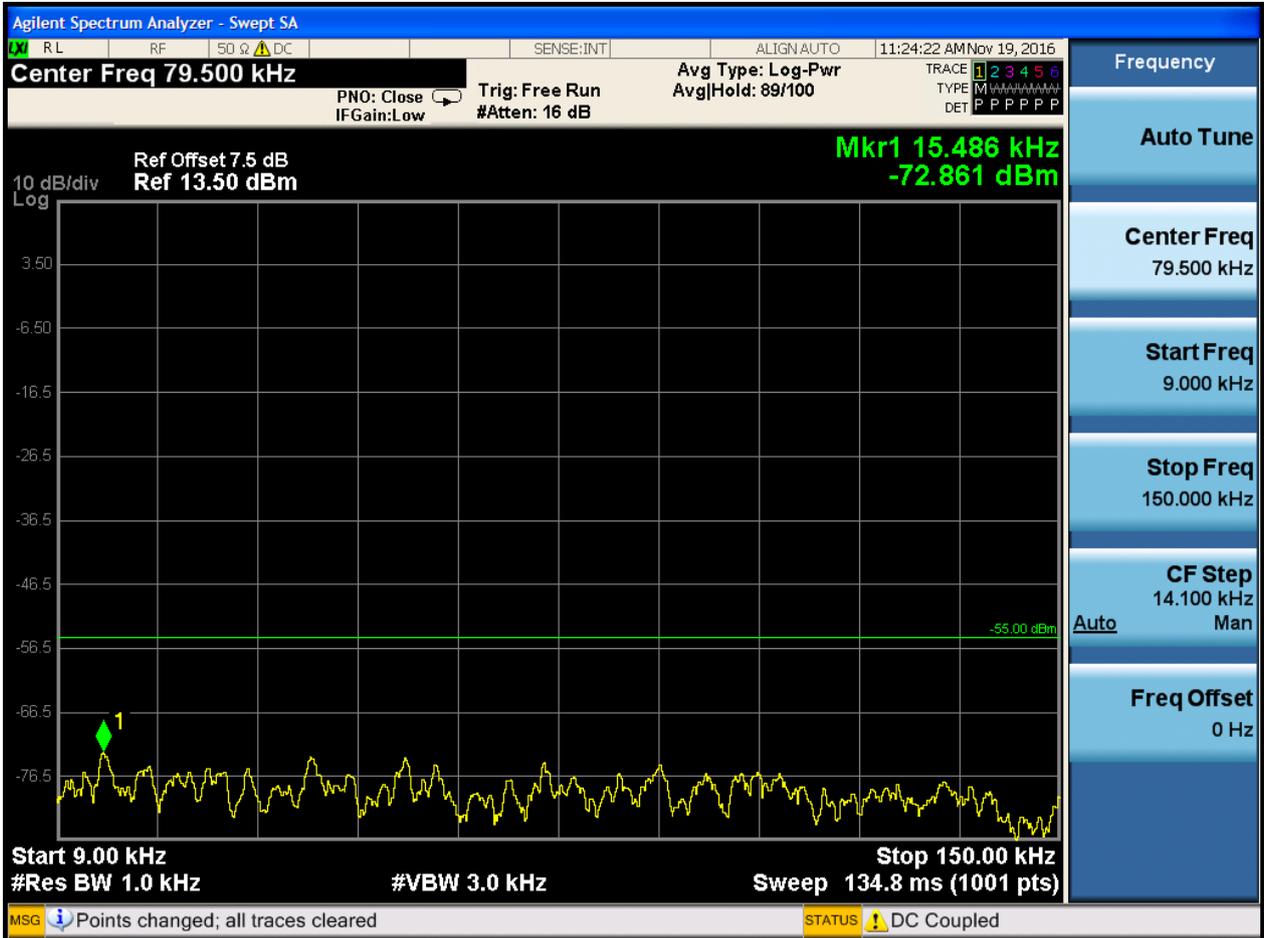


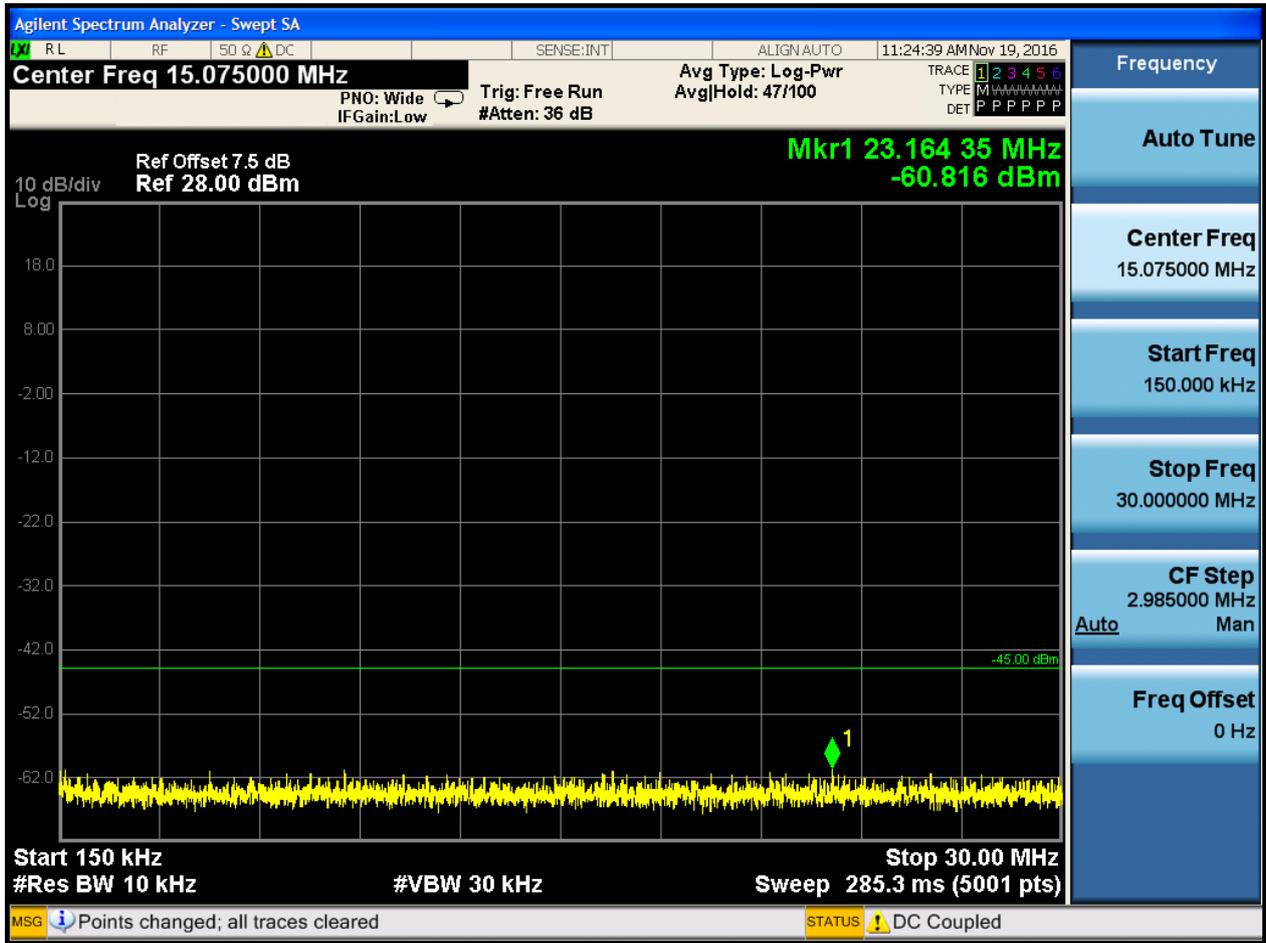




6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0







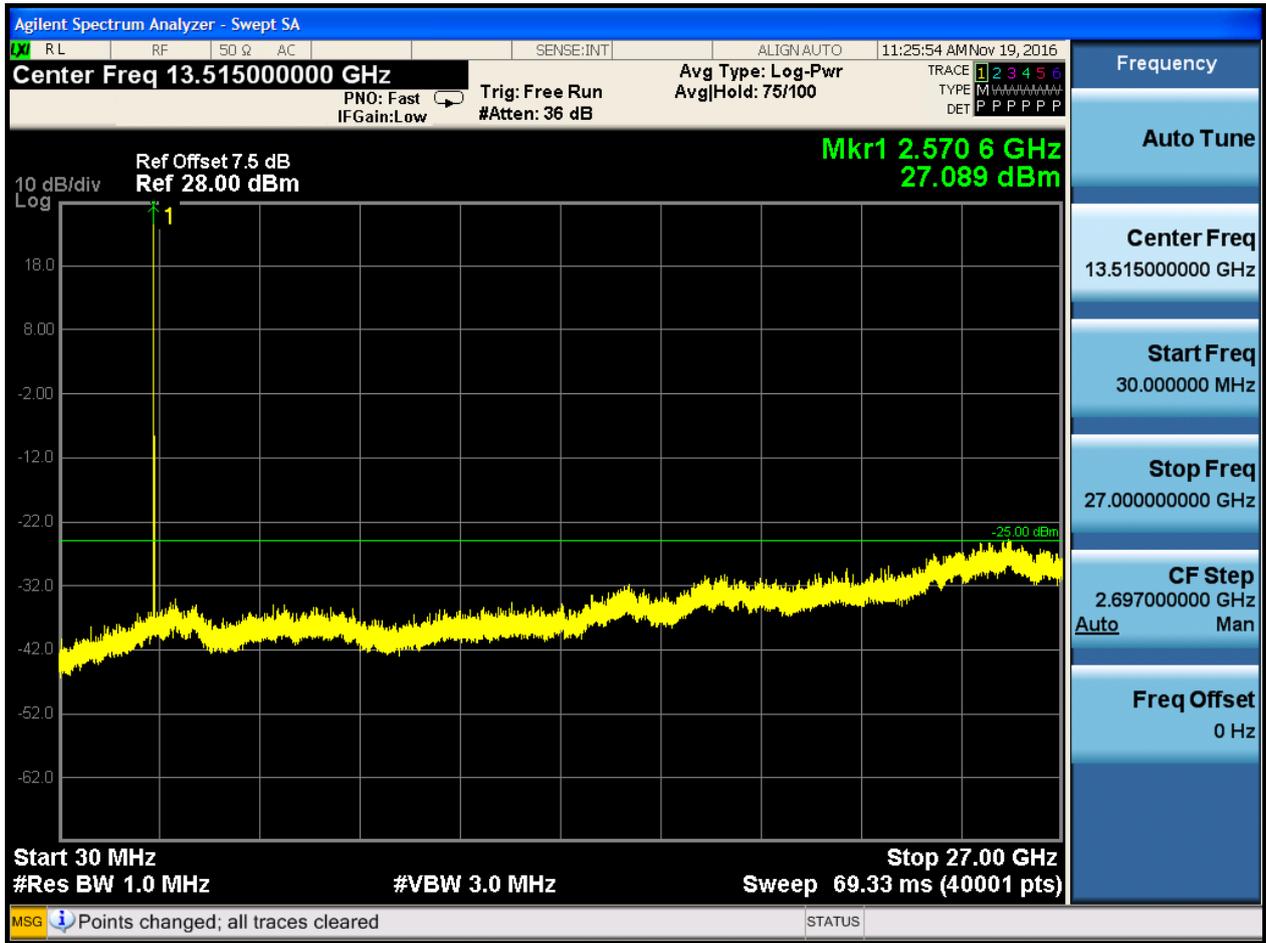


6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

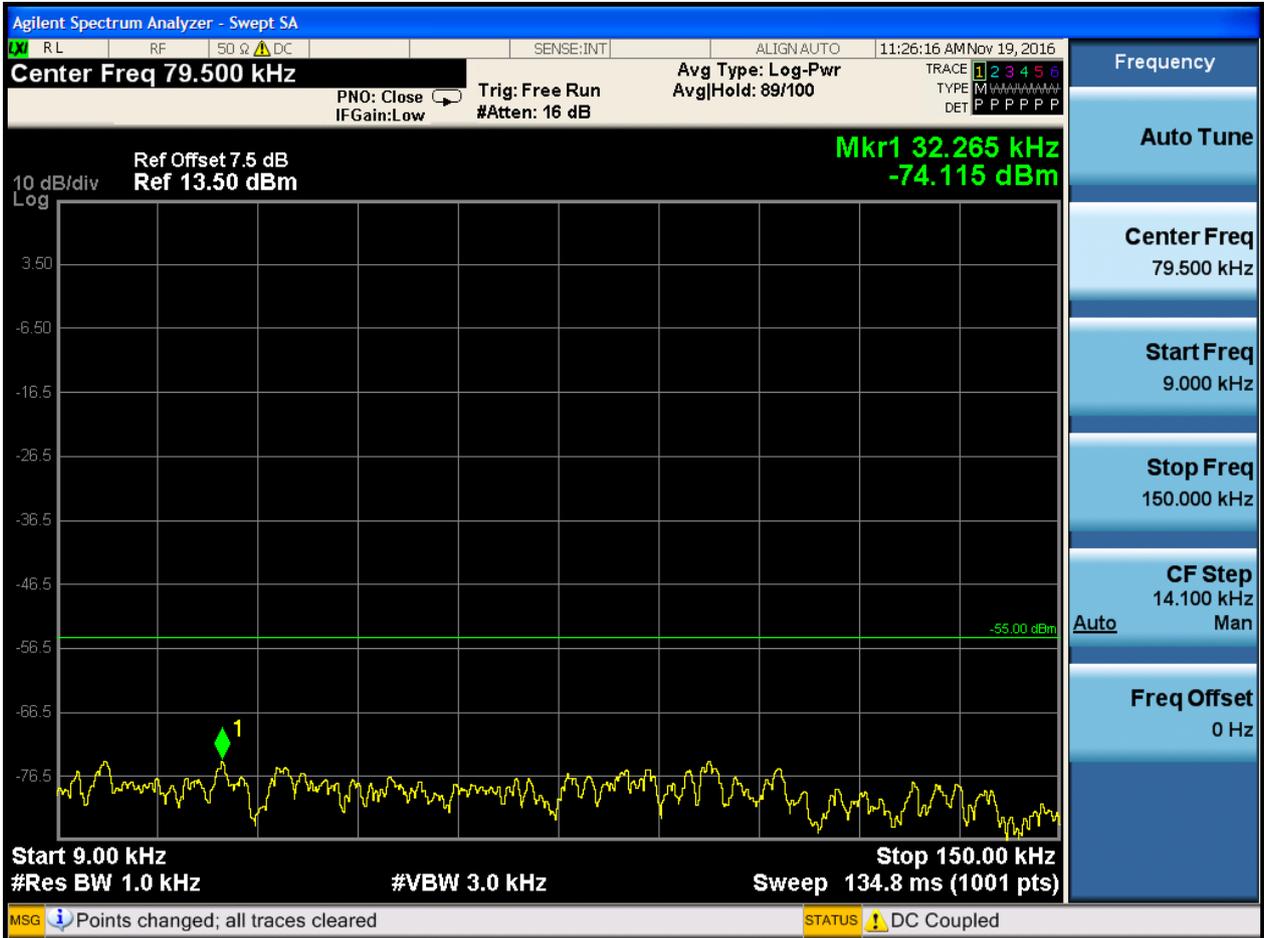


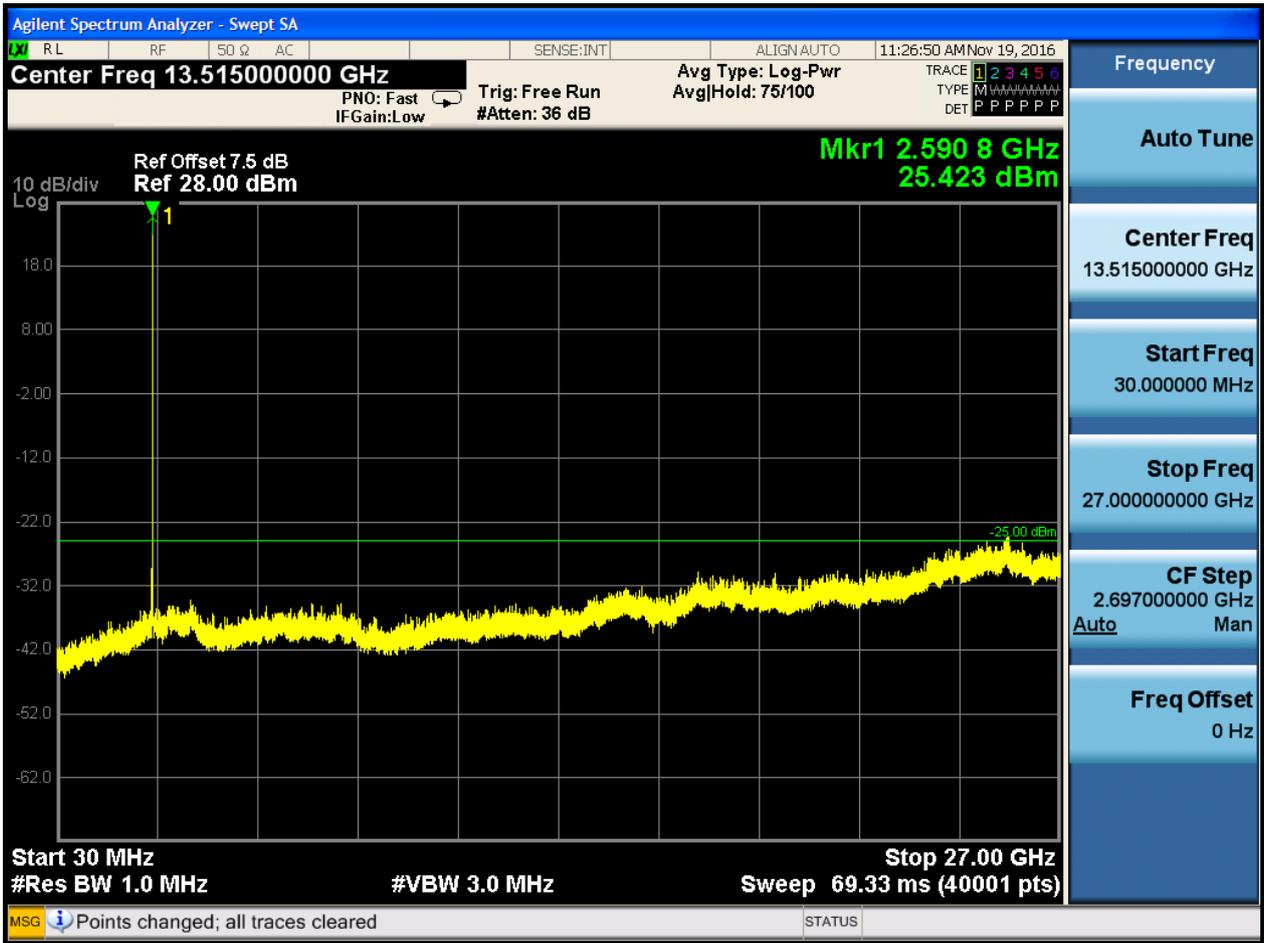




6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0

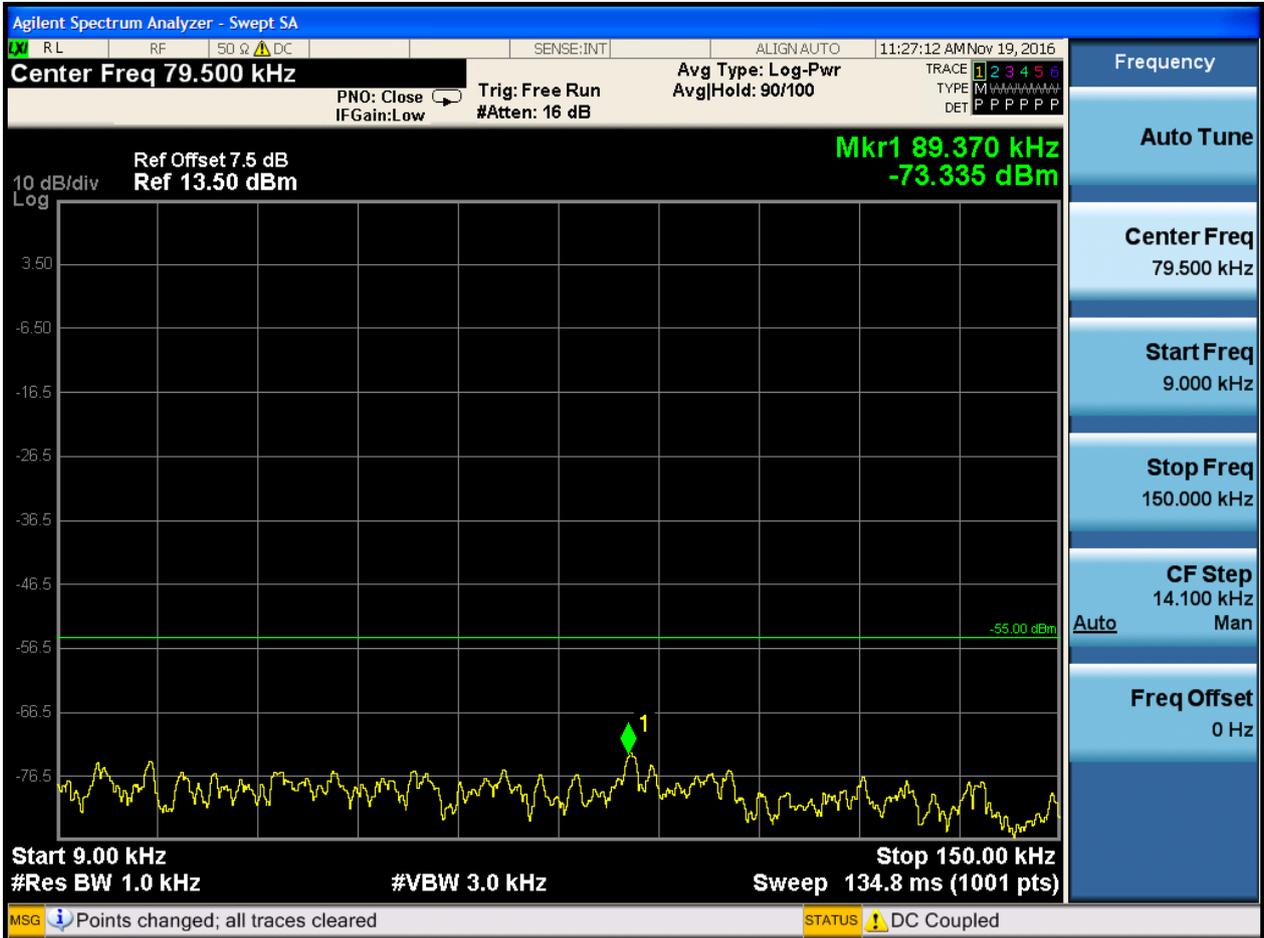


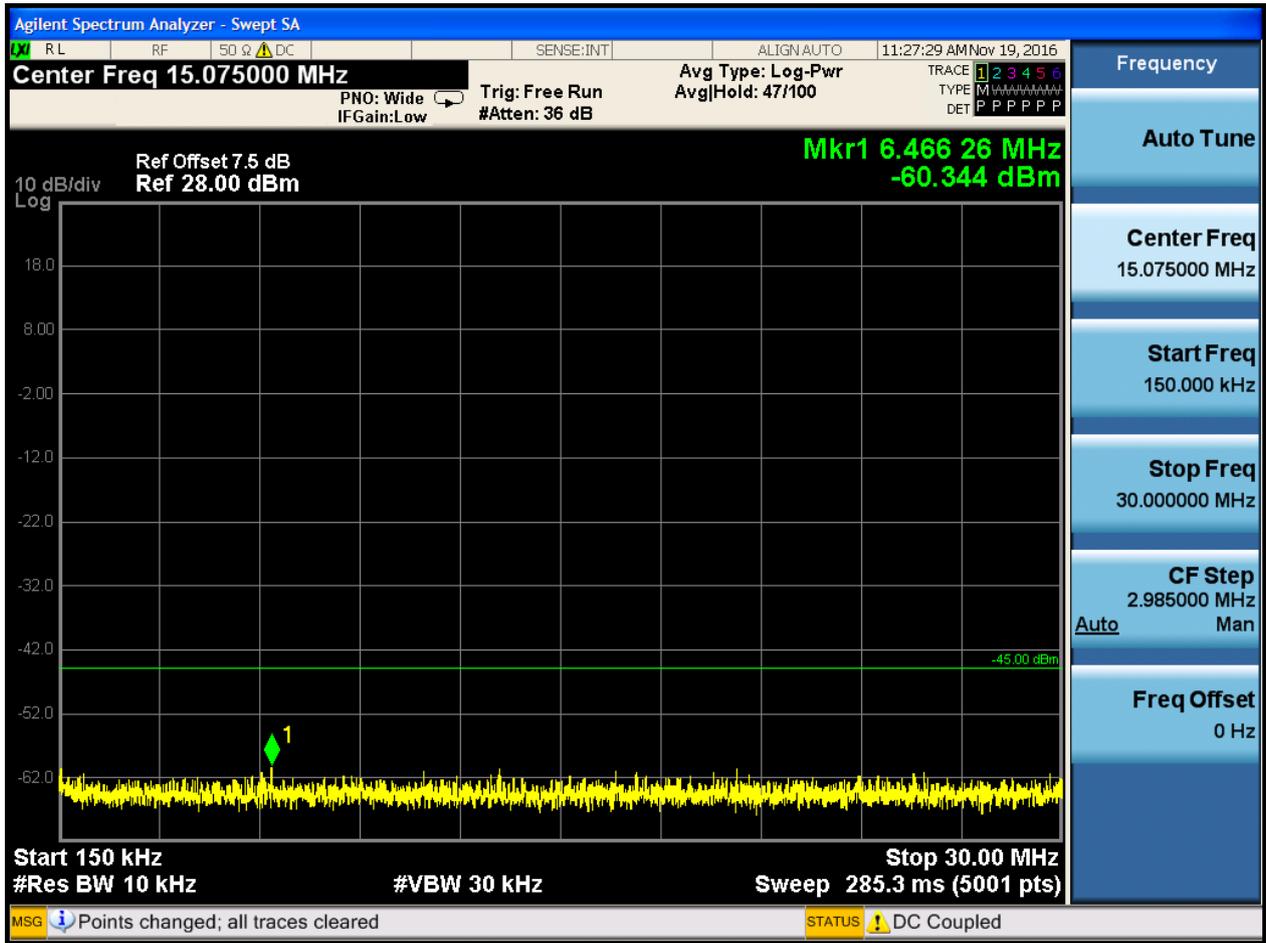


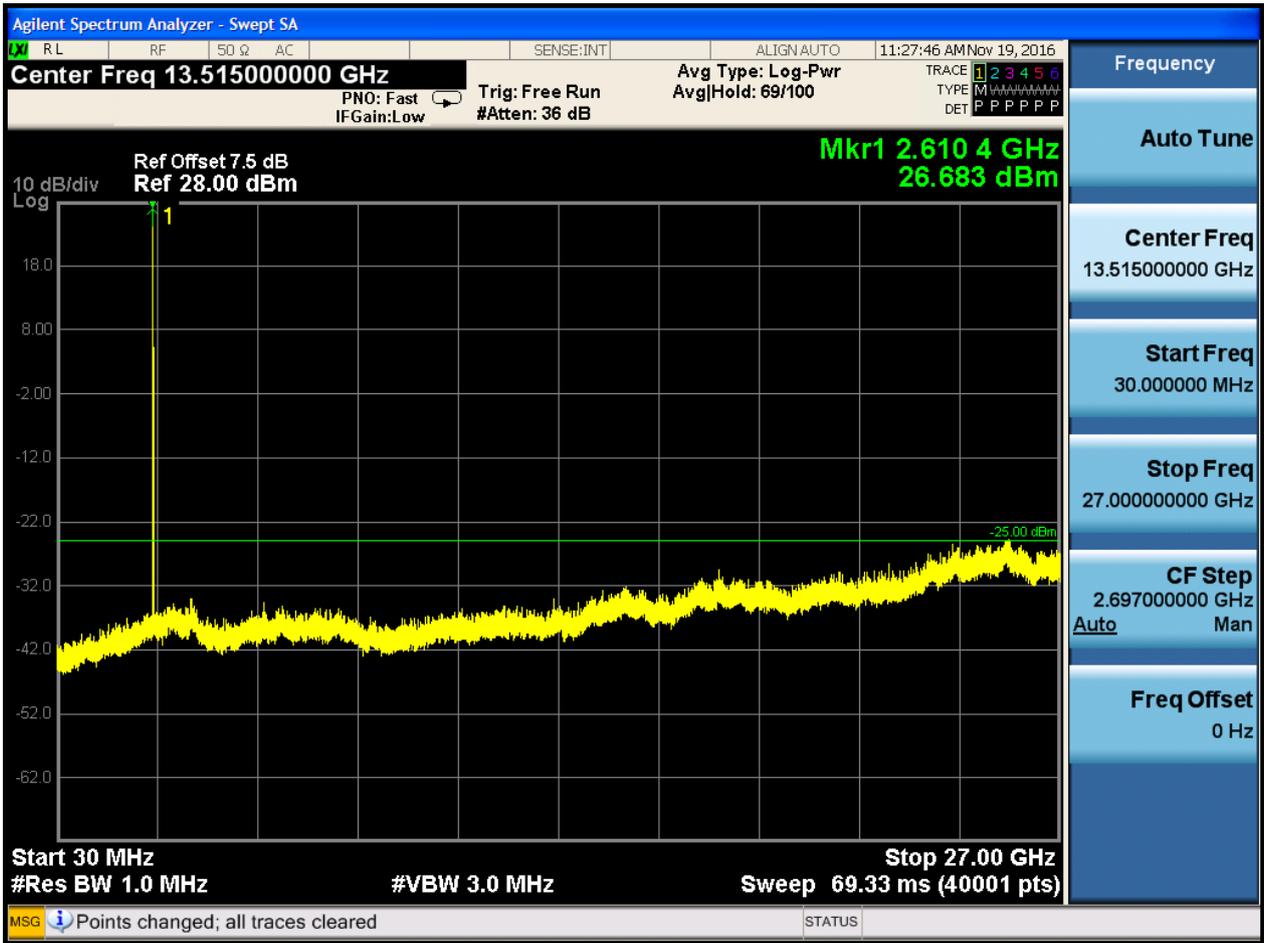


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0







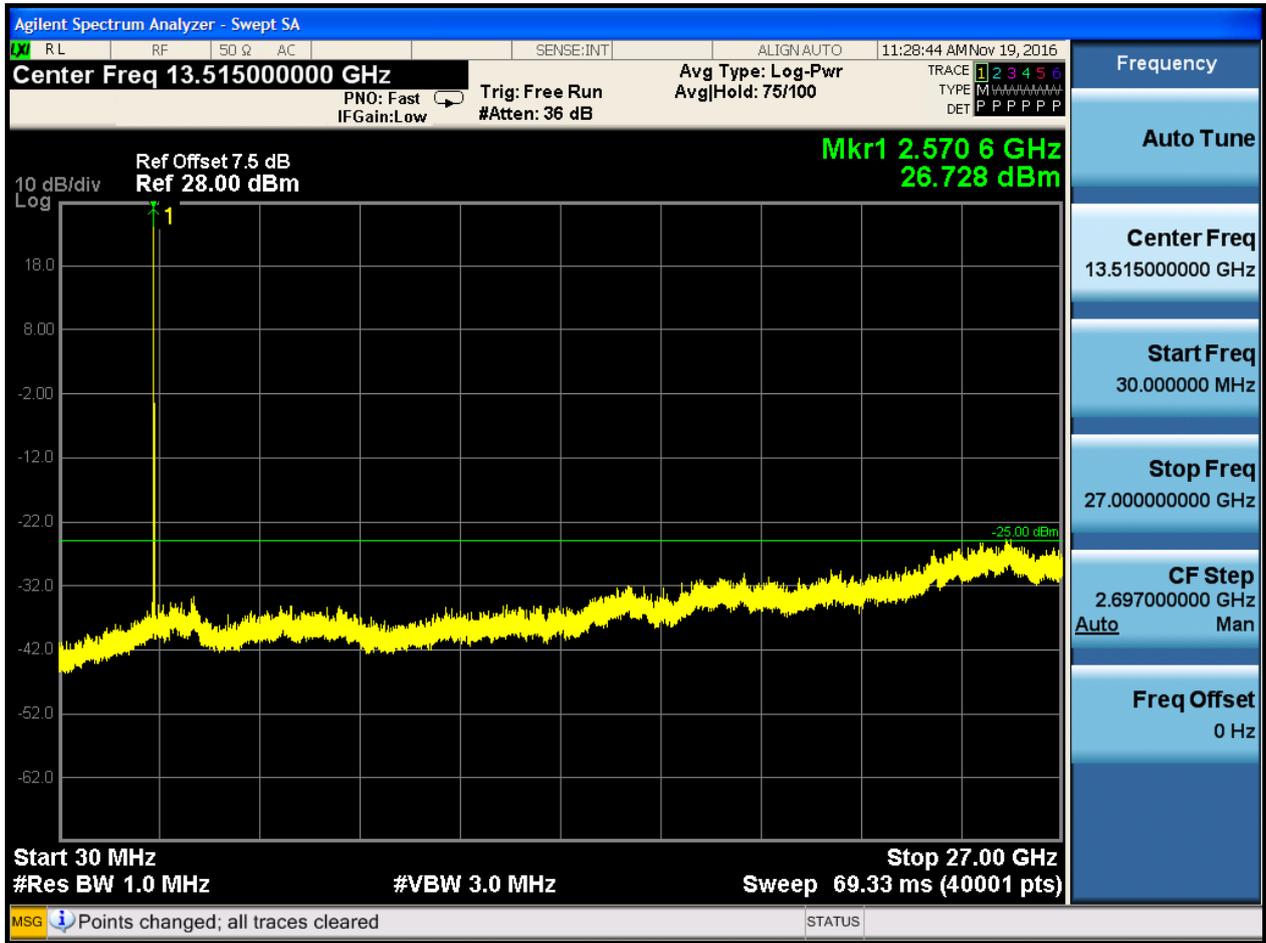


6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0

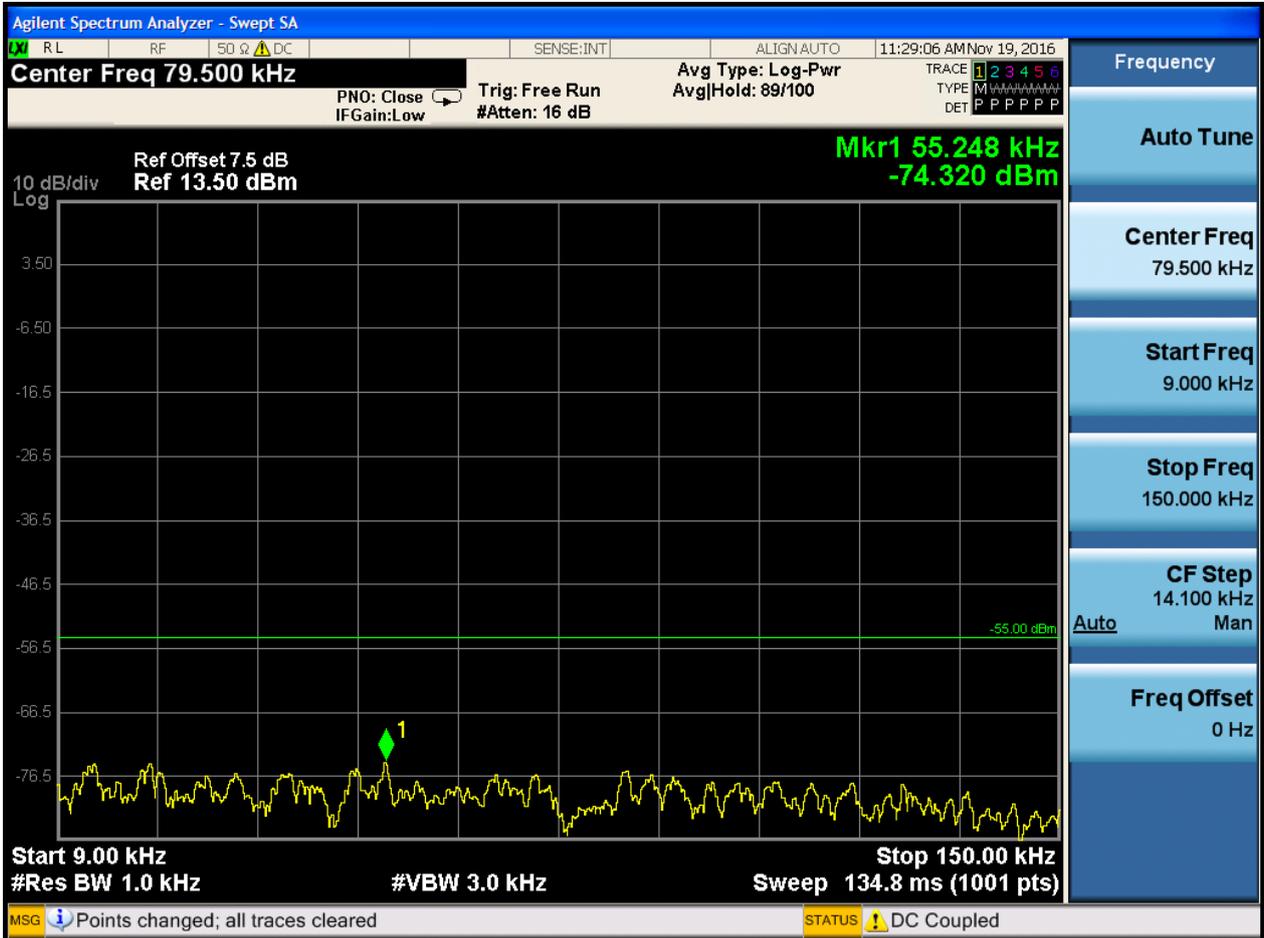


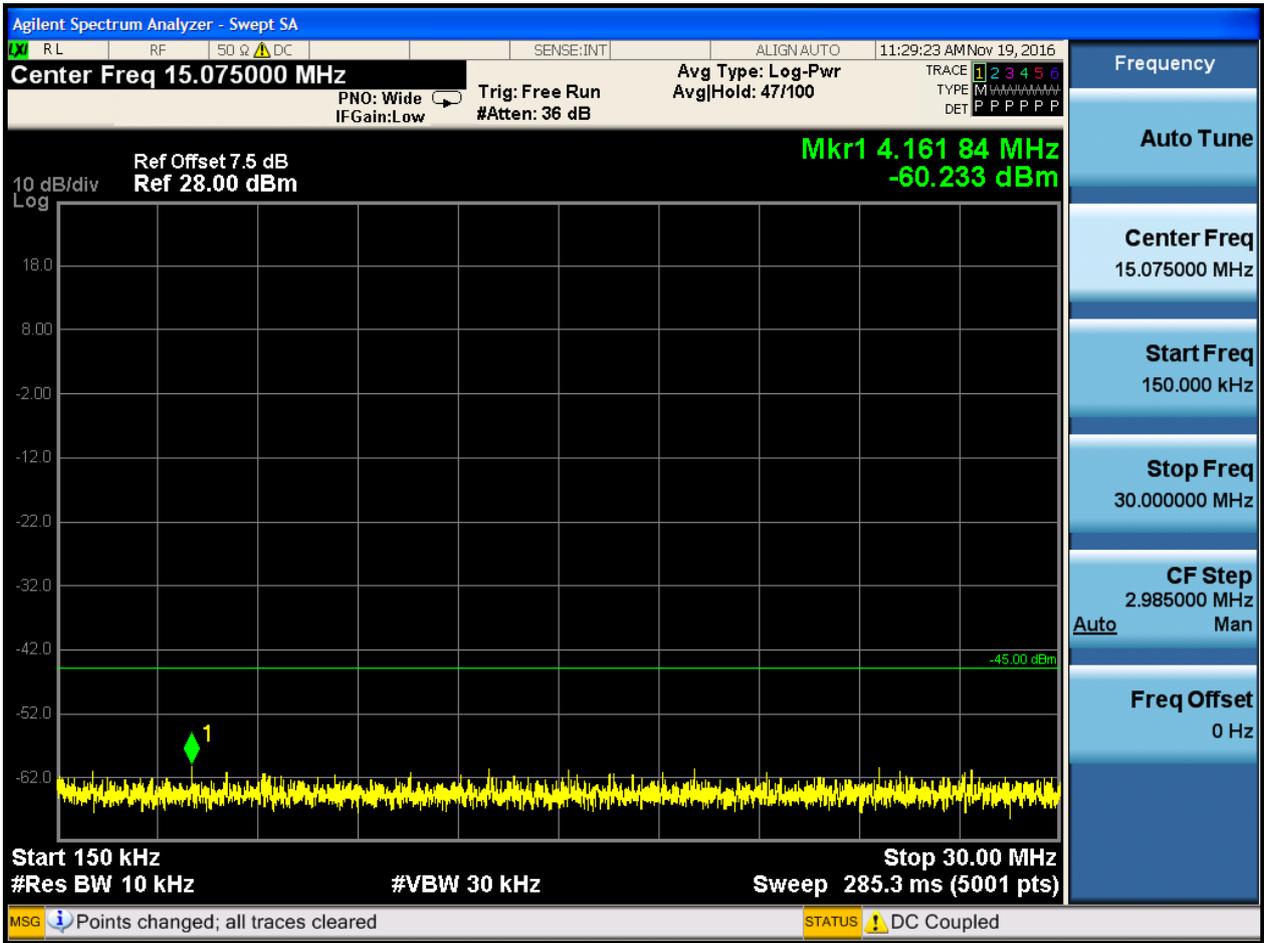




6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



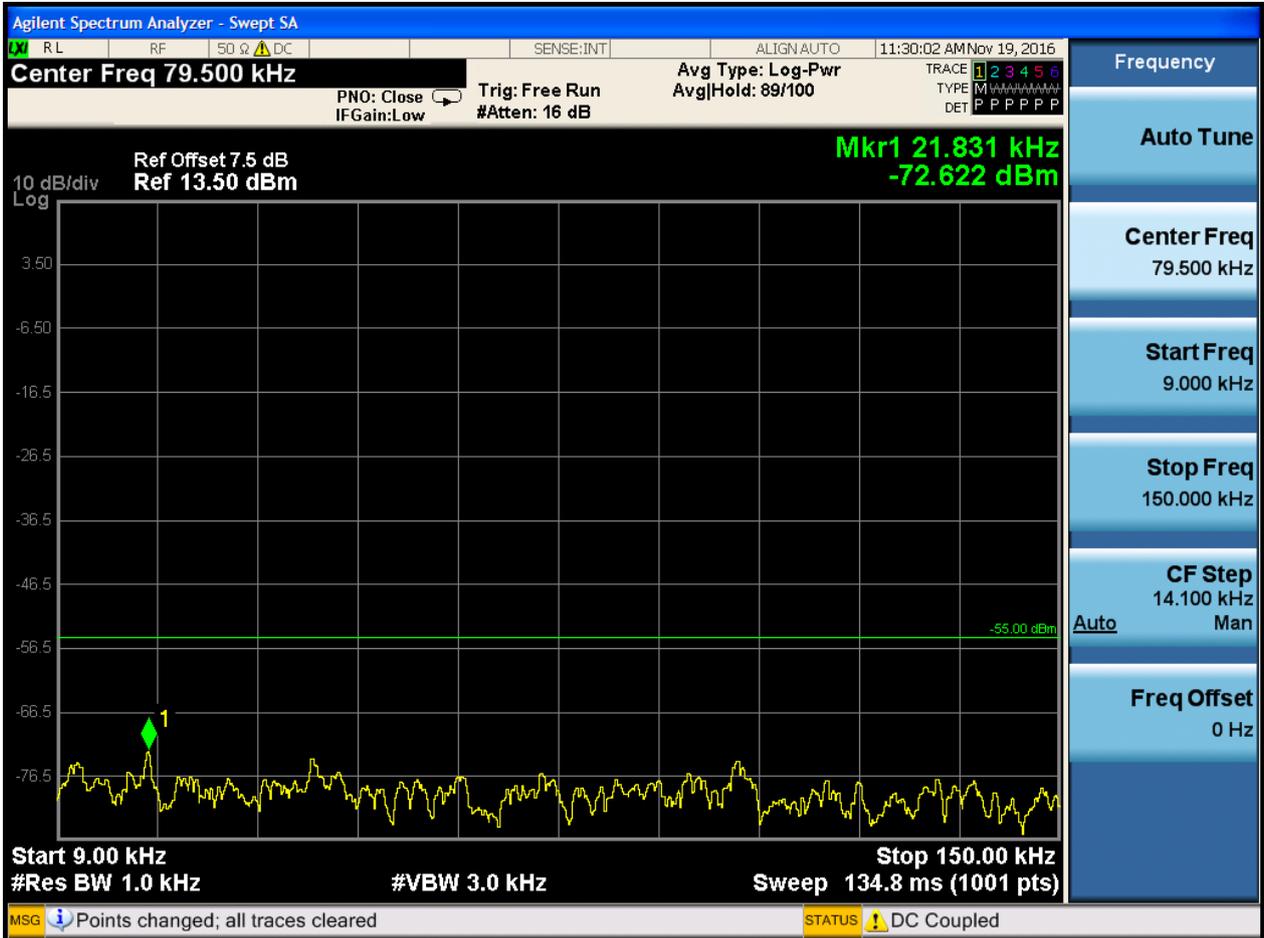


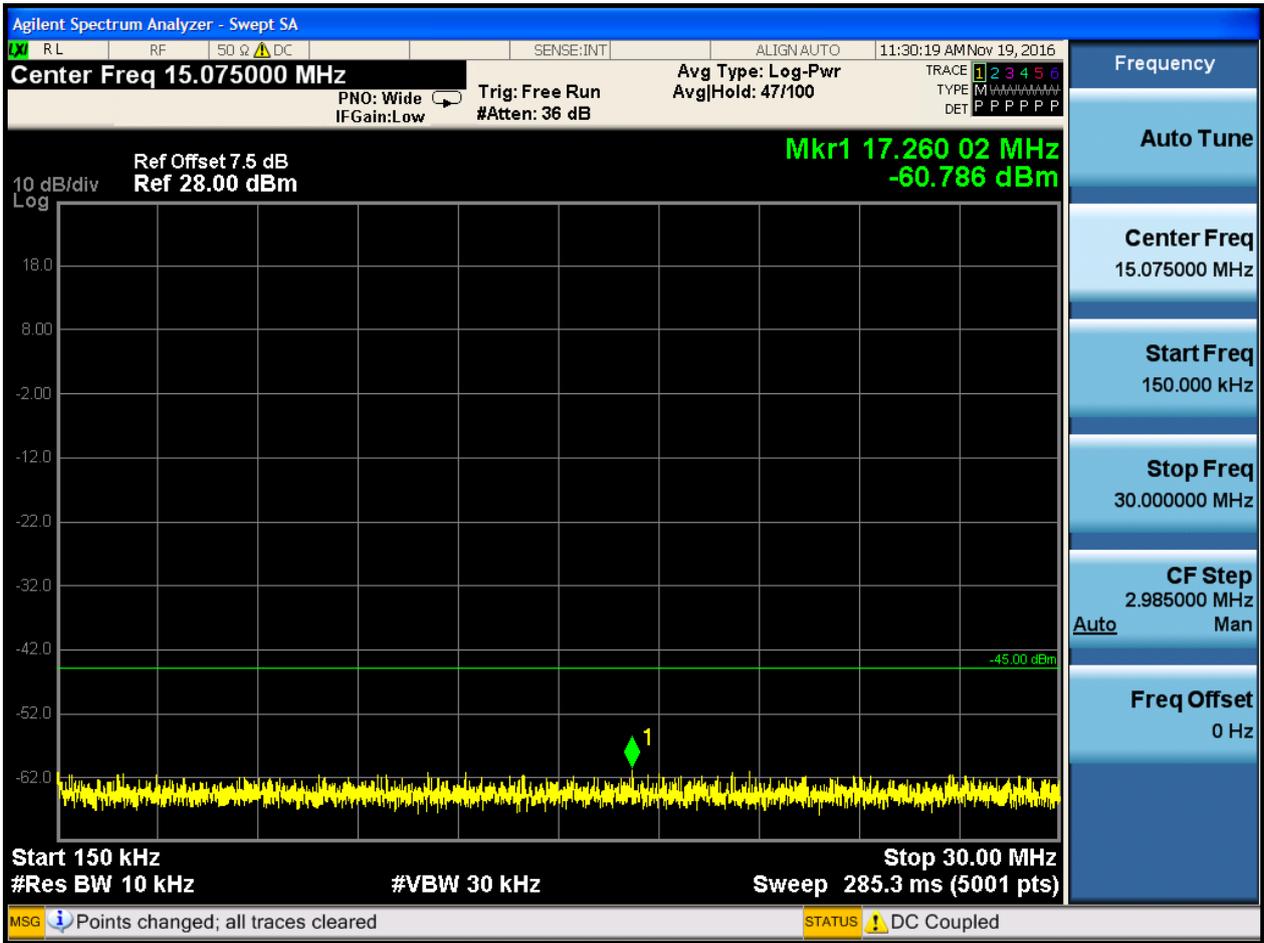


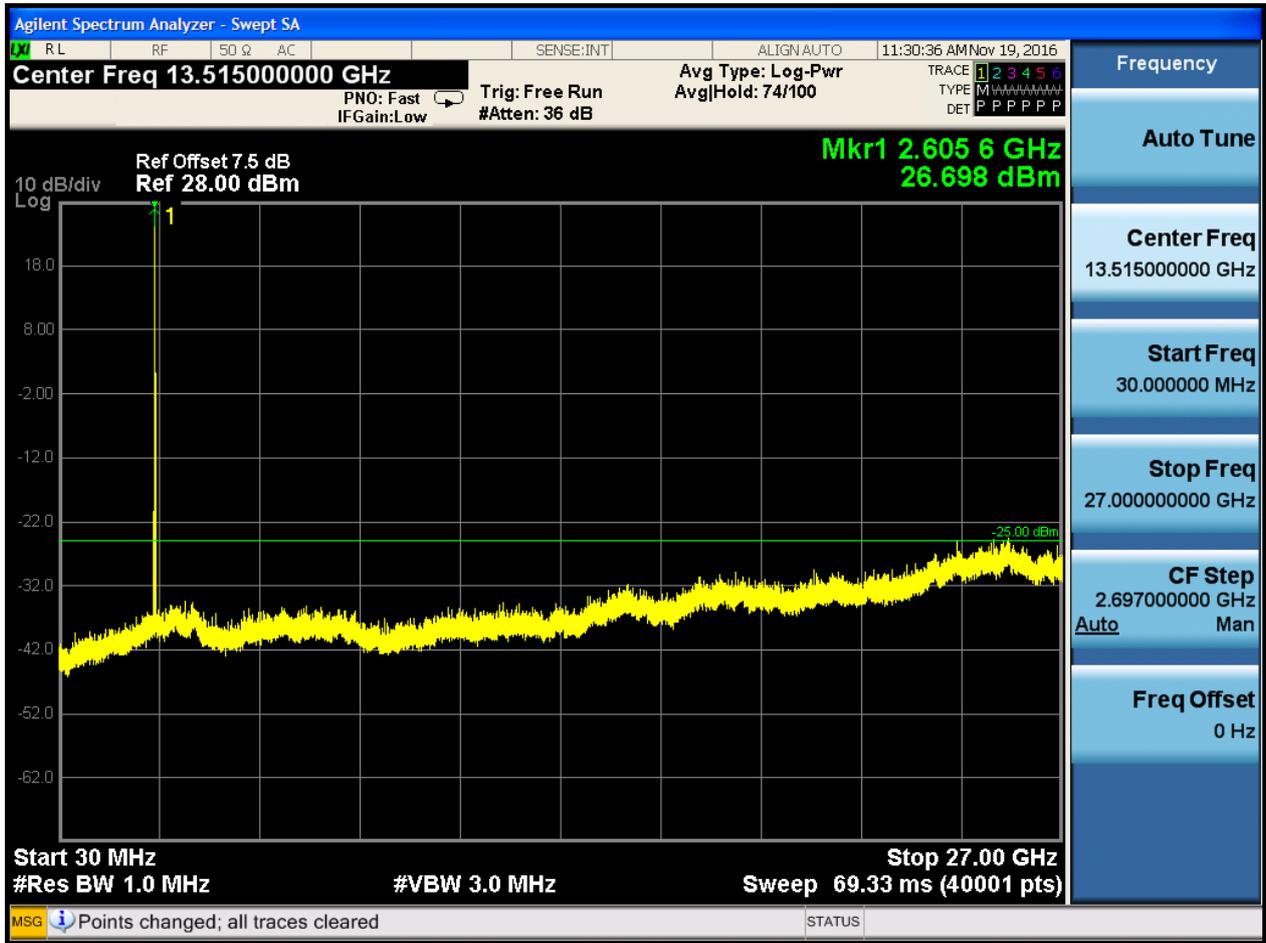


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0





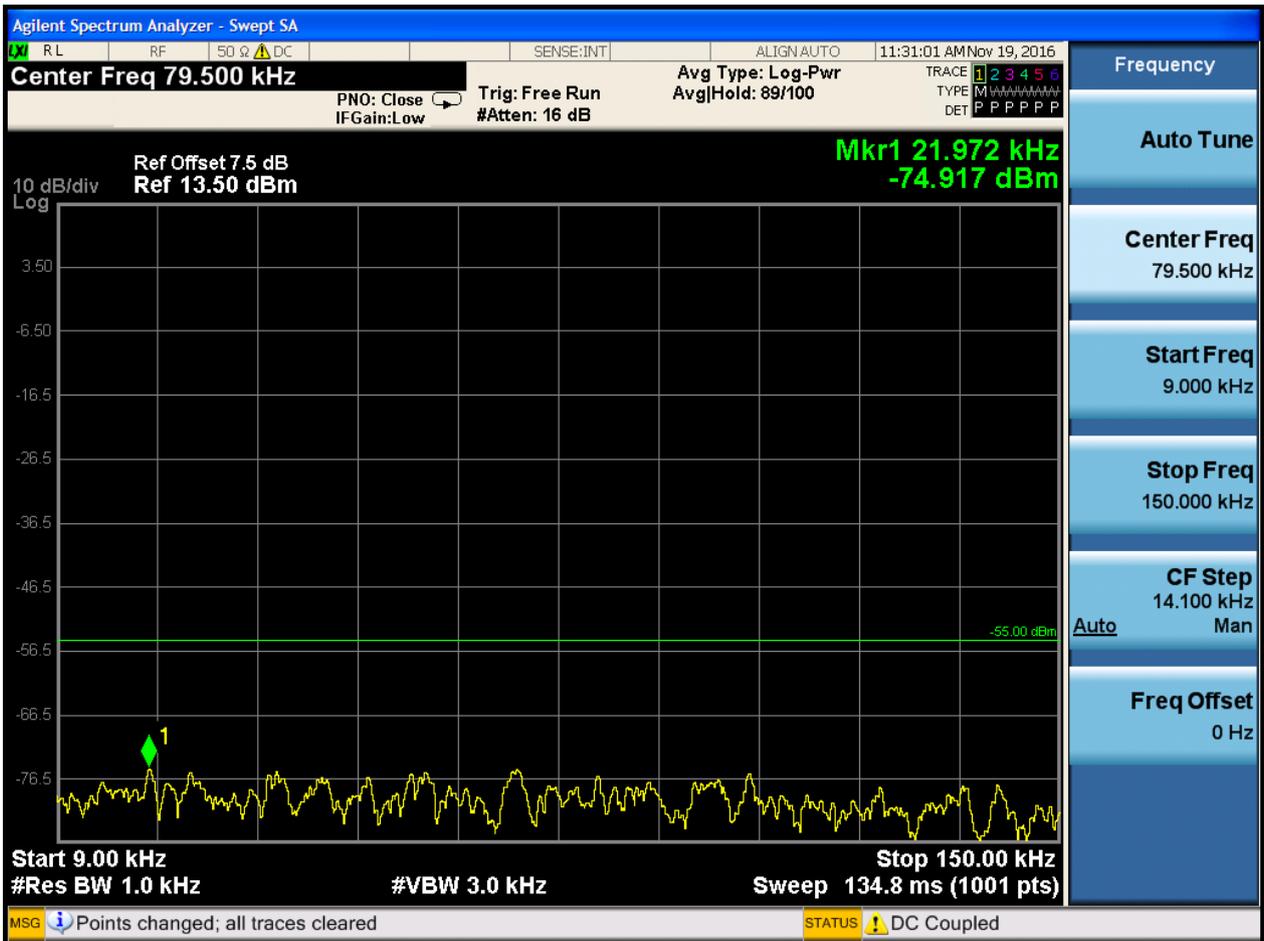


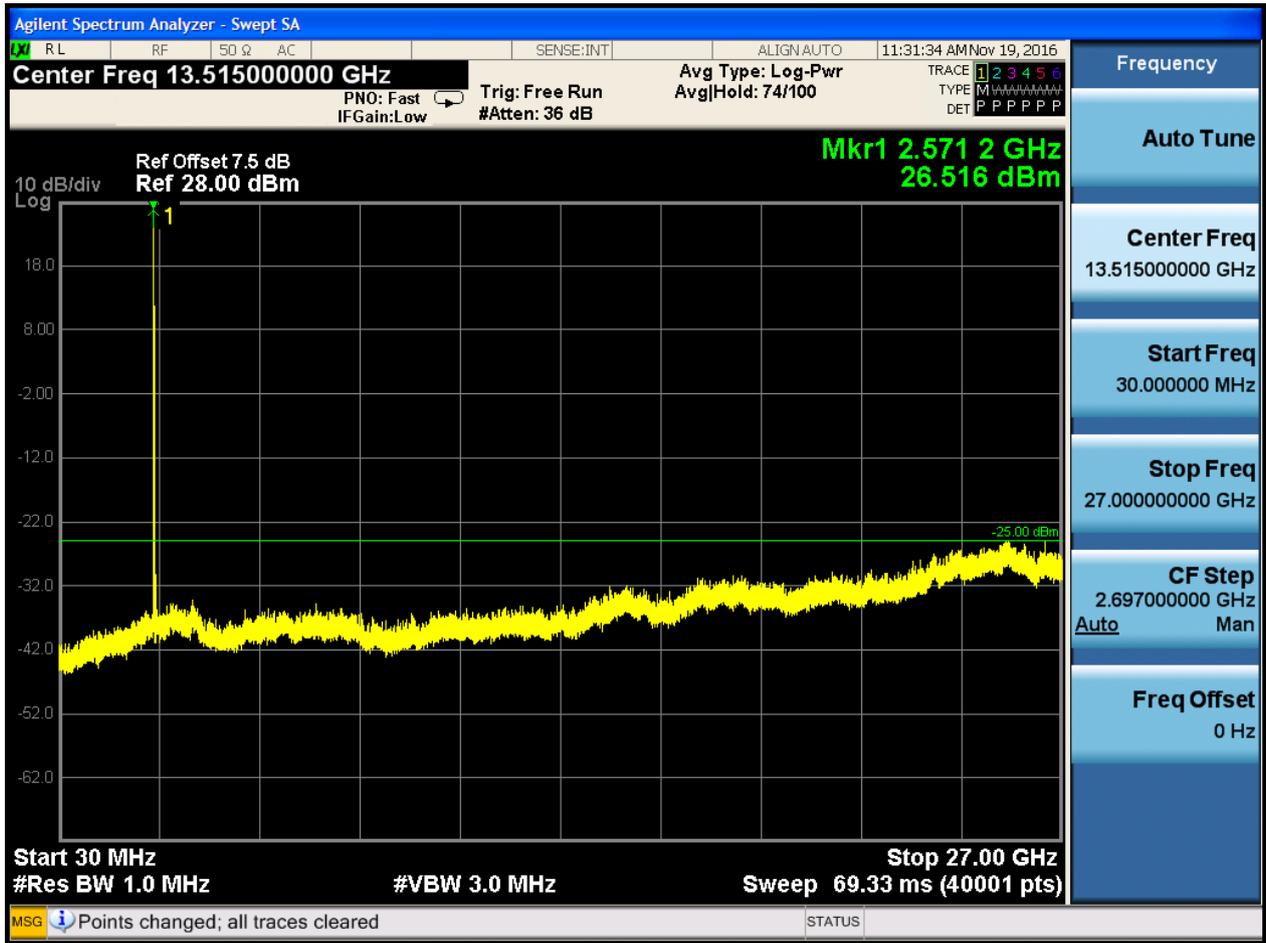


6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

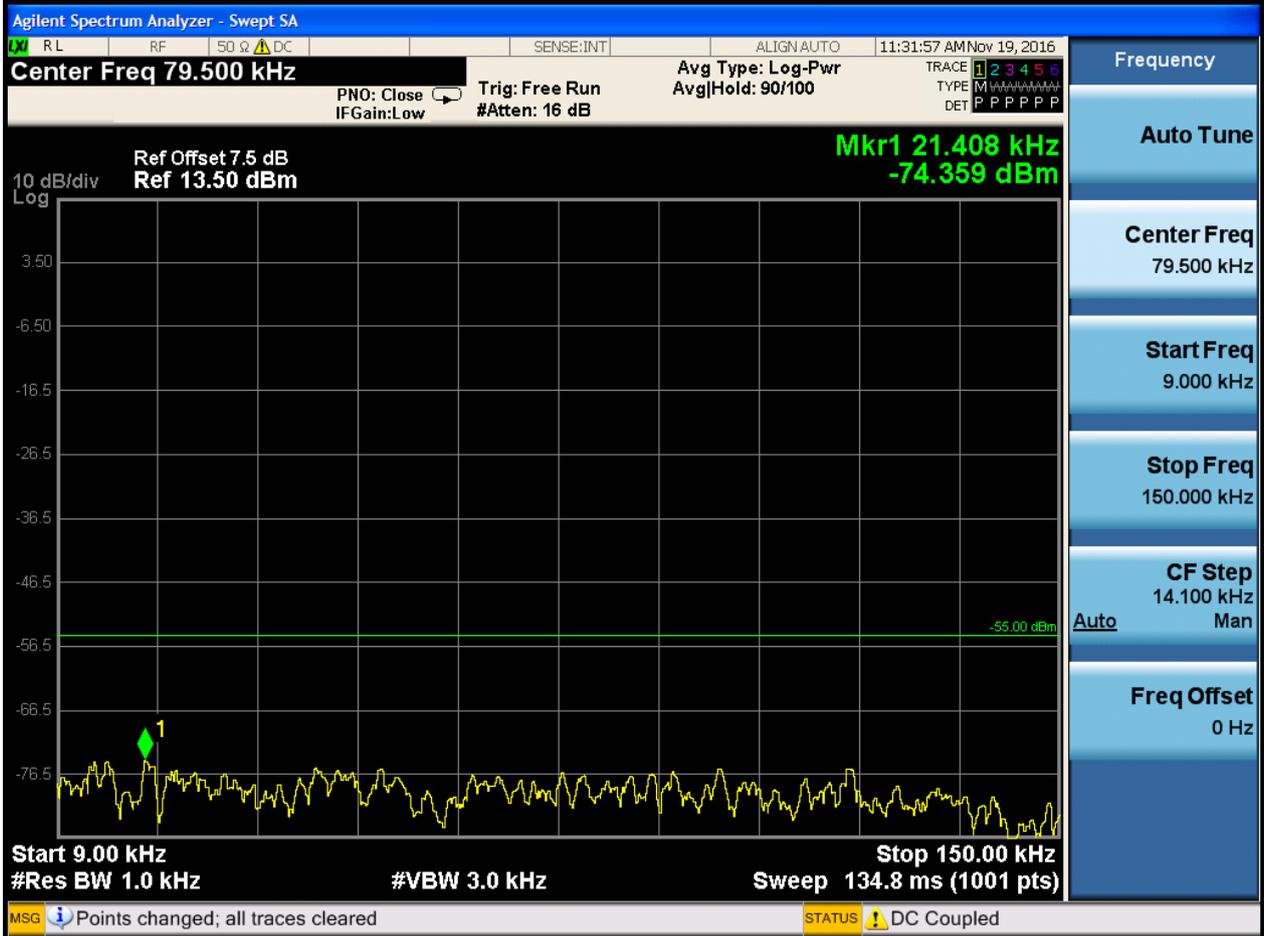


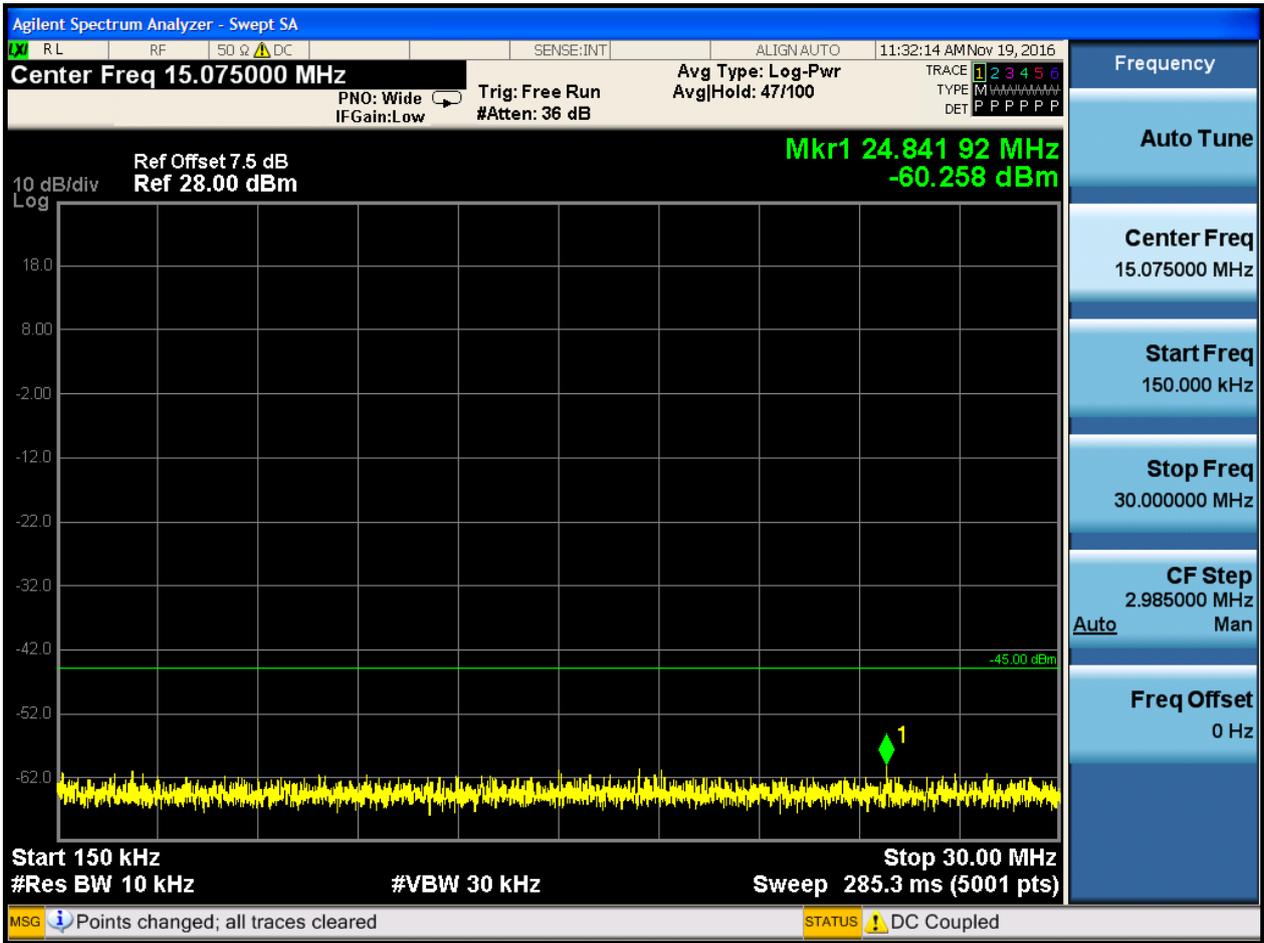


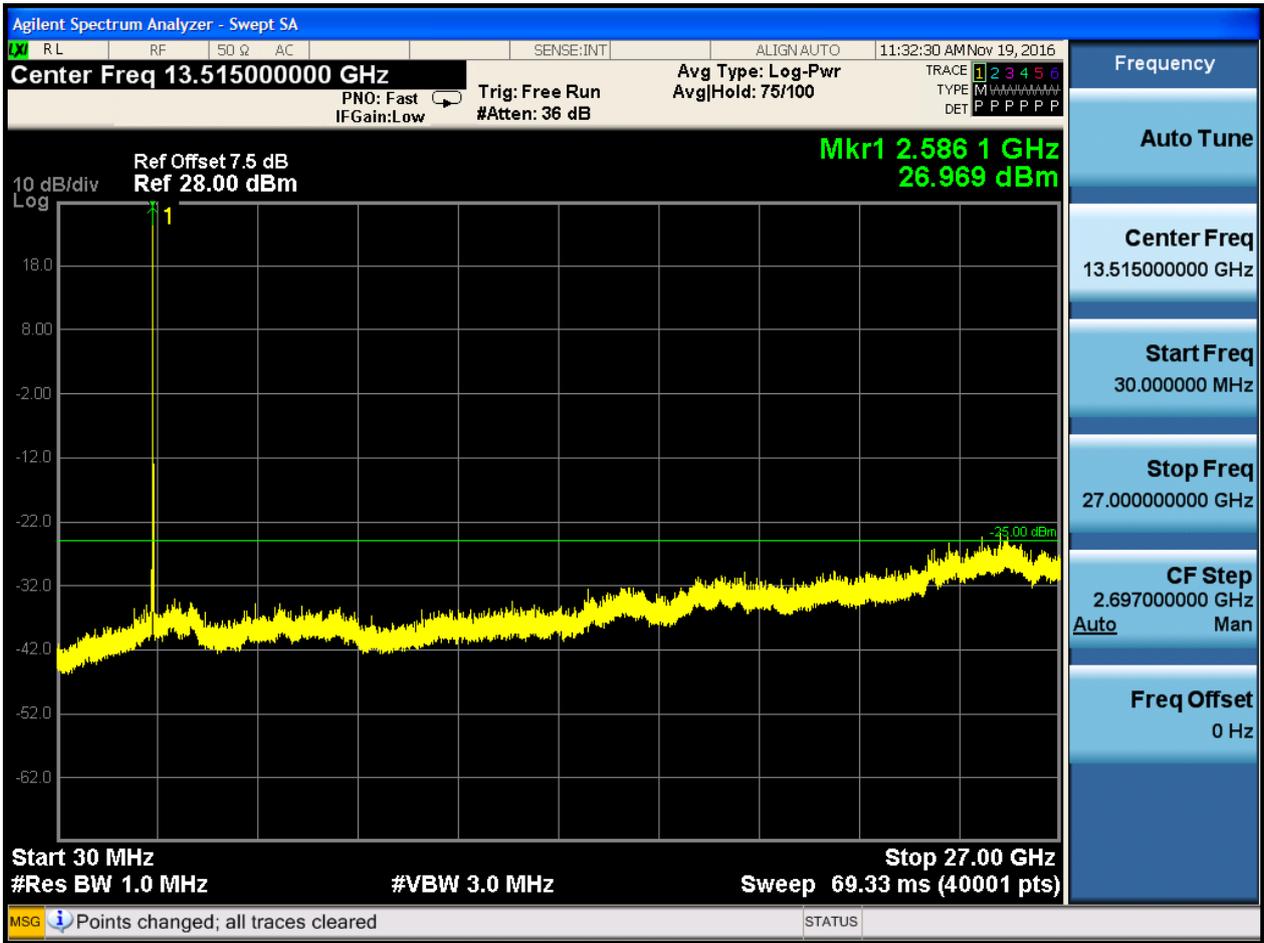


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0



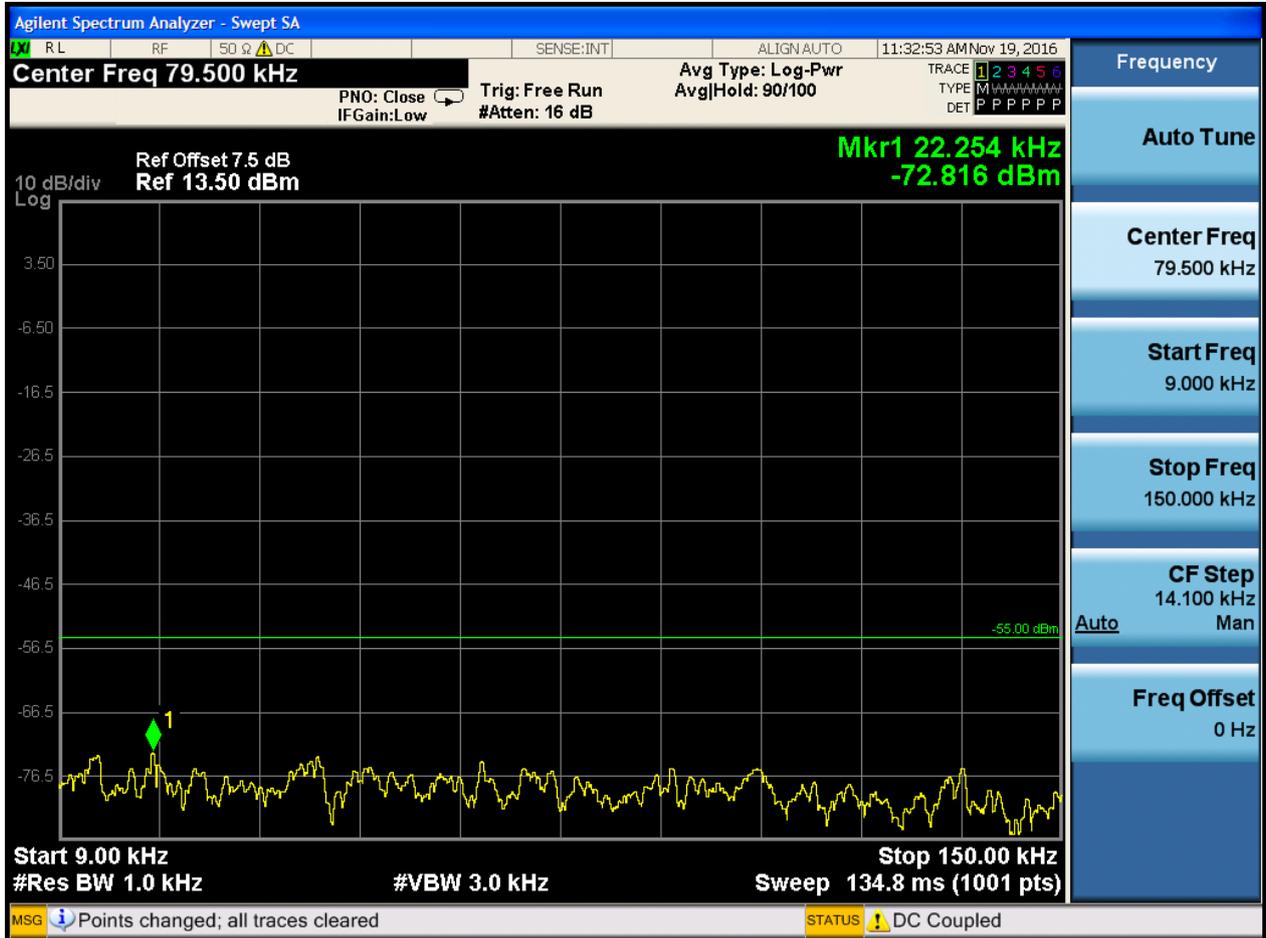


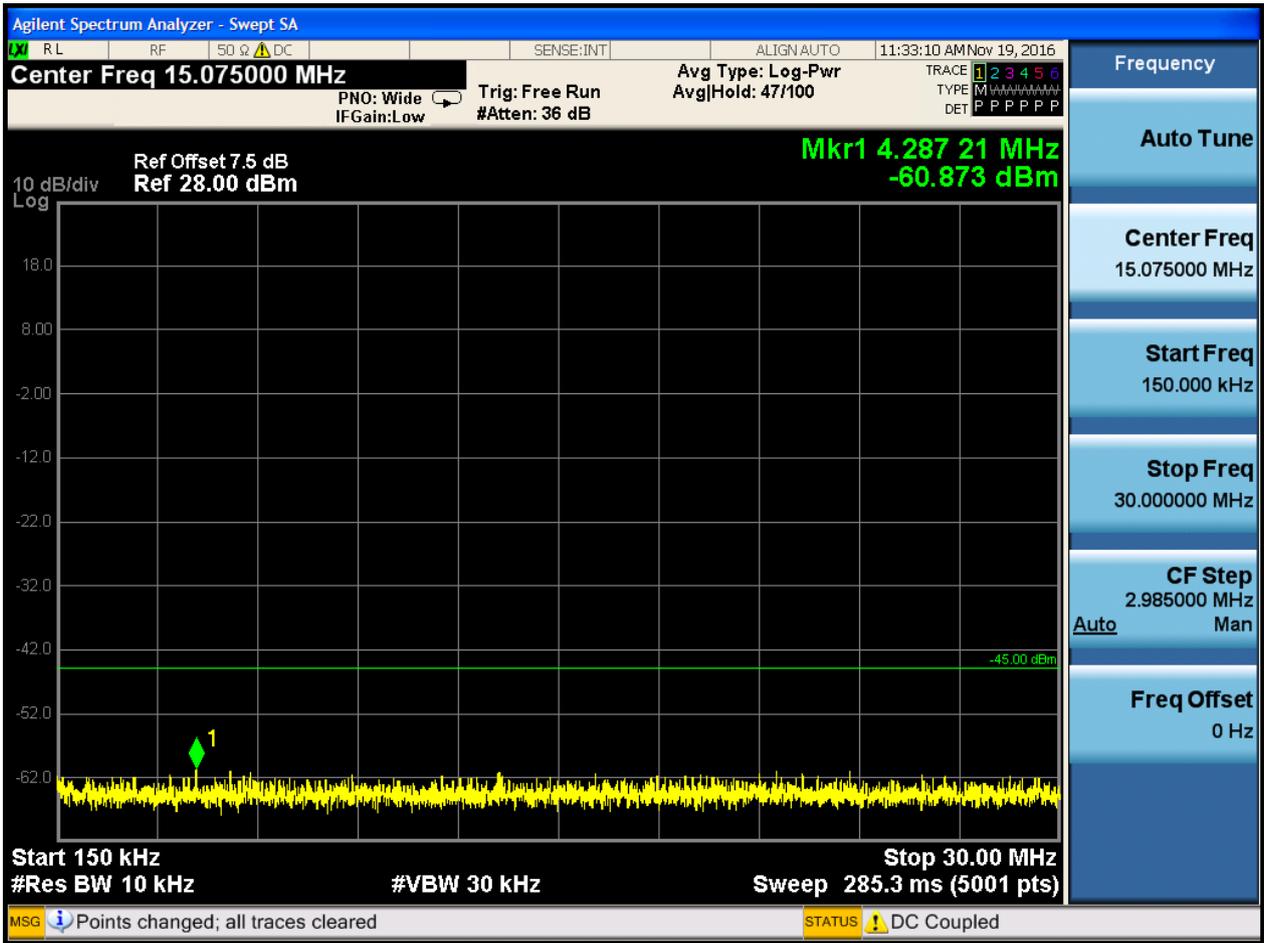


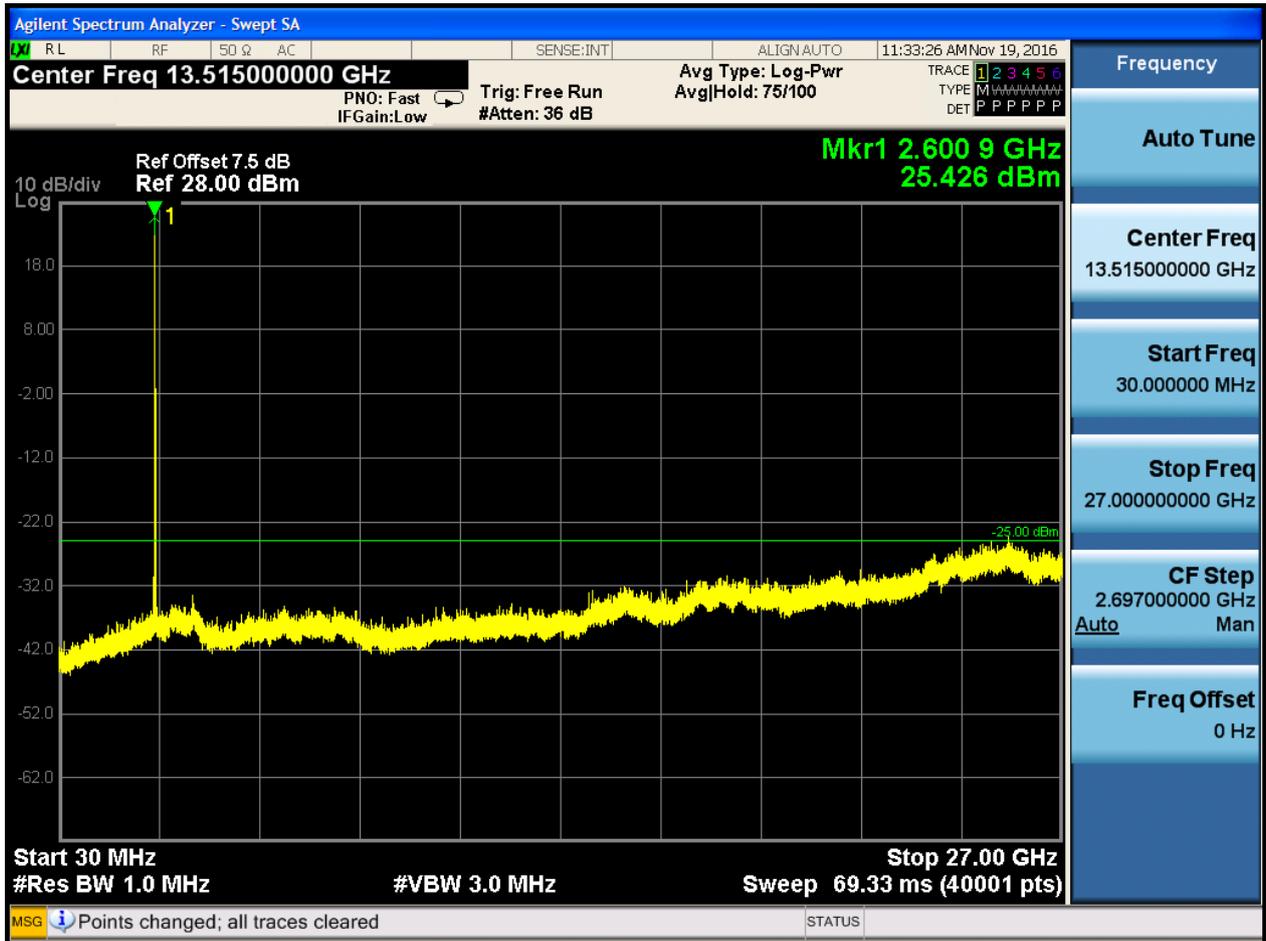


6.1.1.2.4.3 Test Channel = HCH

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

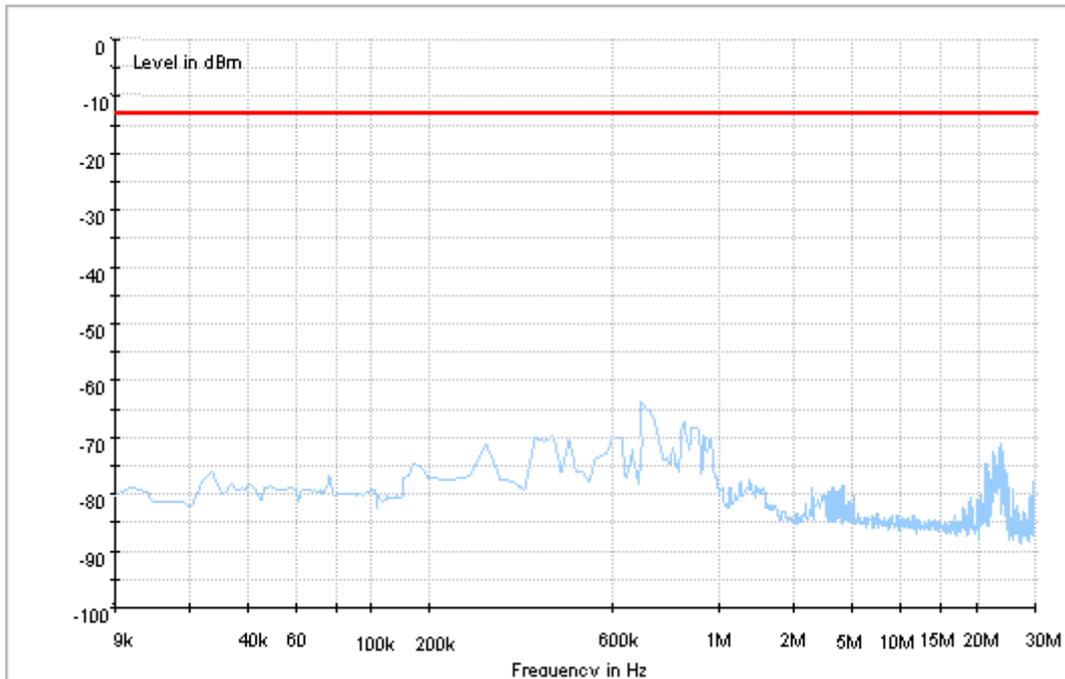
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

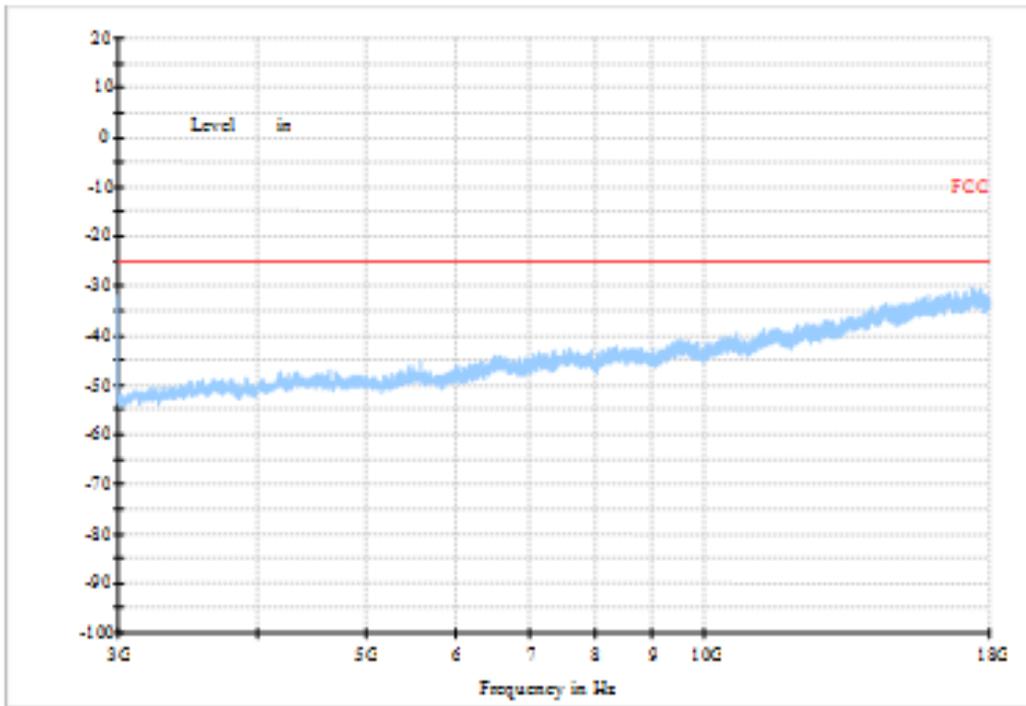
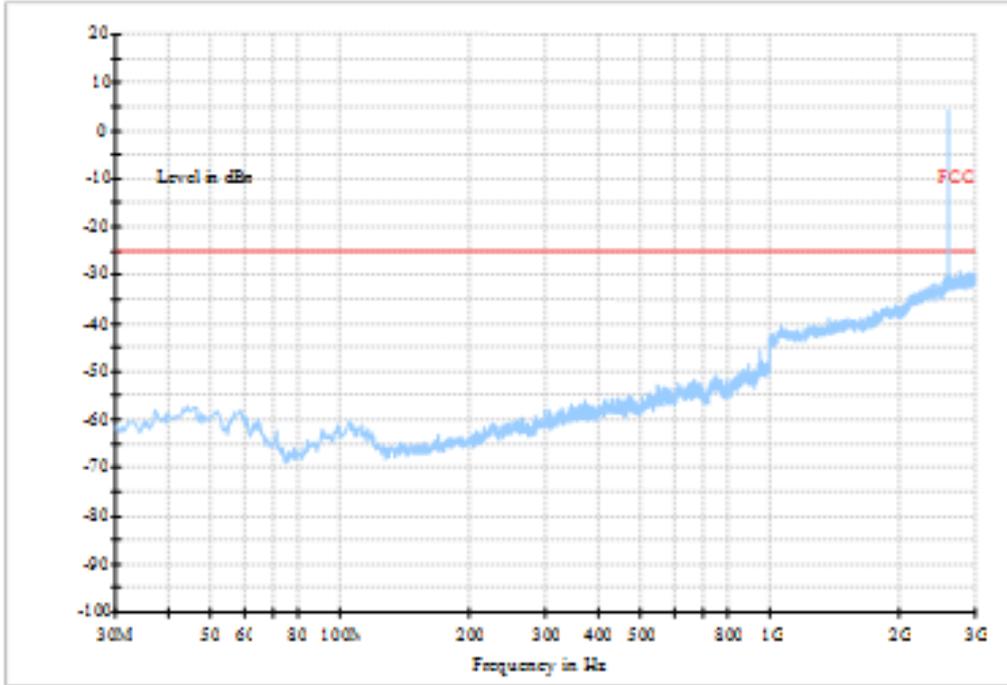
Part I - Test Plots

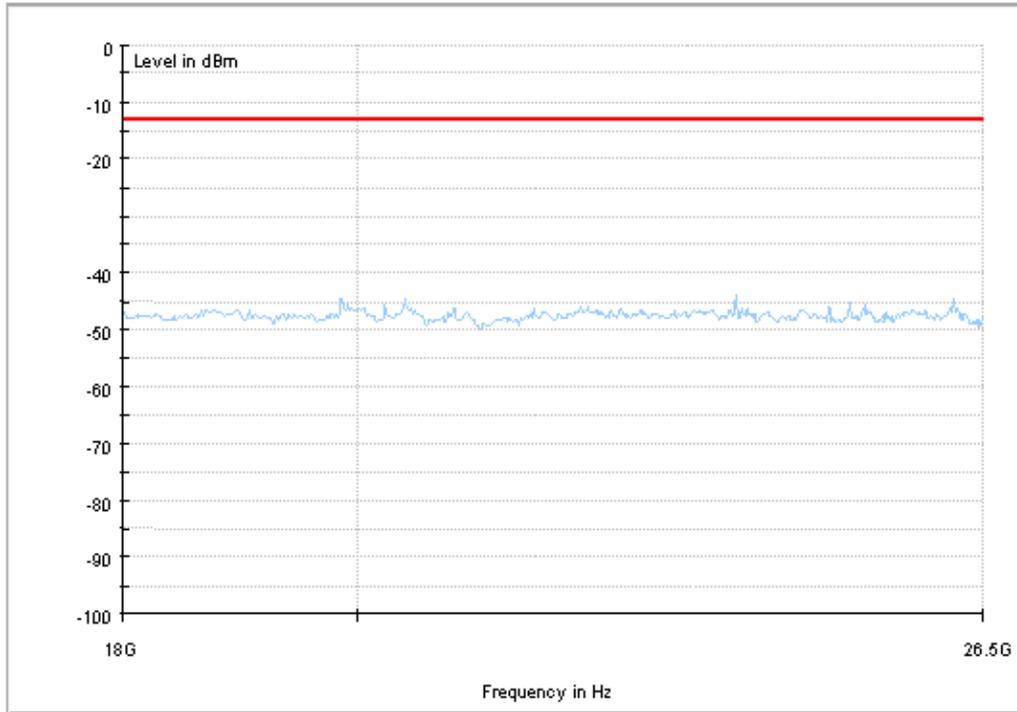
7.1 For LTE

7.1.1 Test Band = BAND38_Ant1

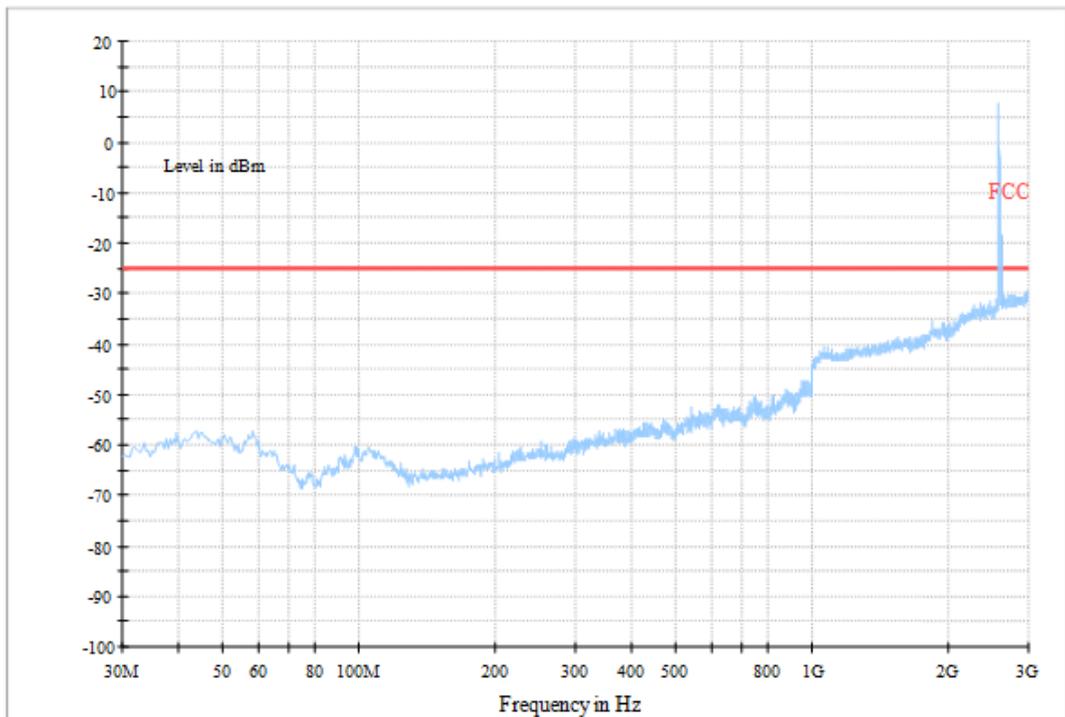
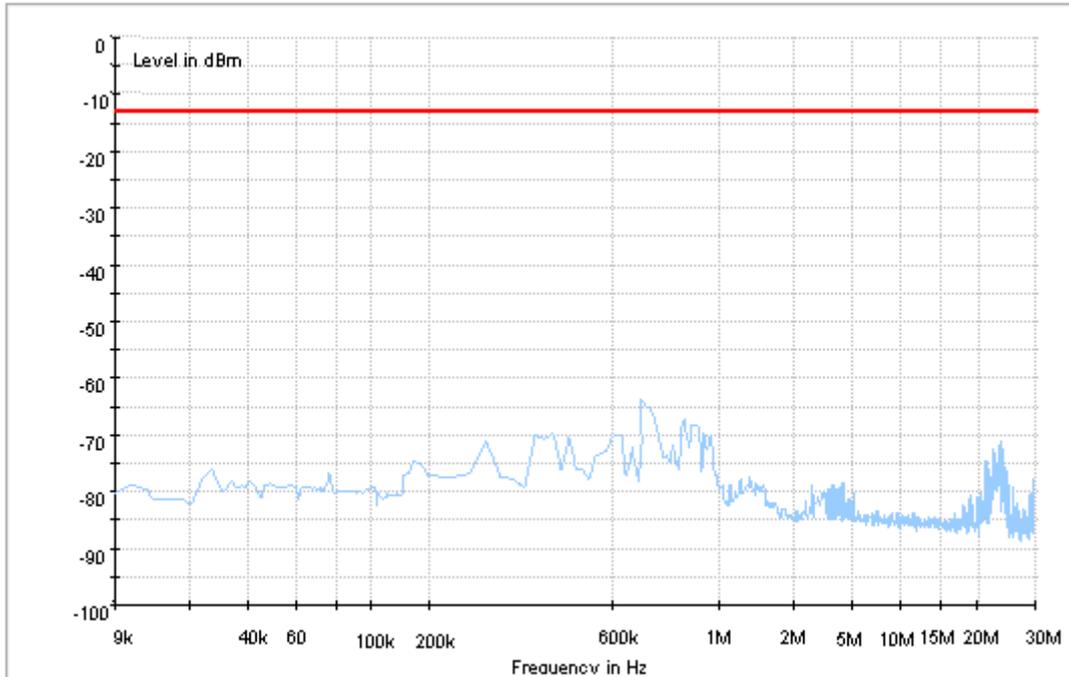
7.1.1.1 Test Bandwidth = 5

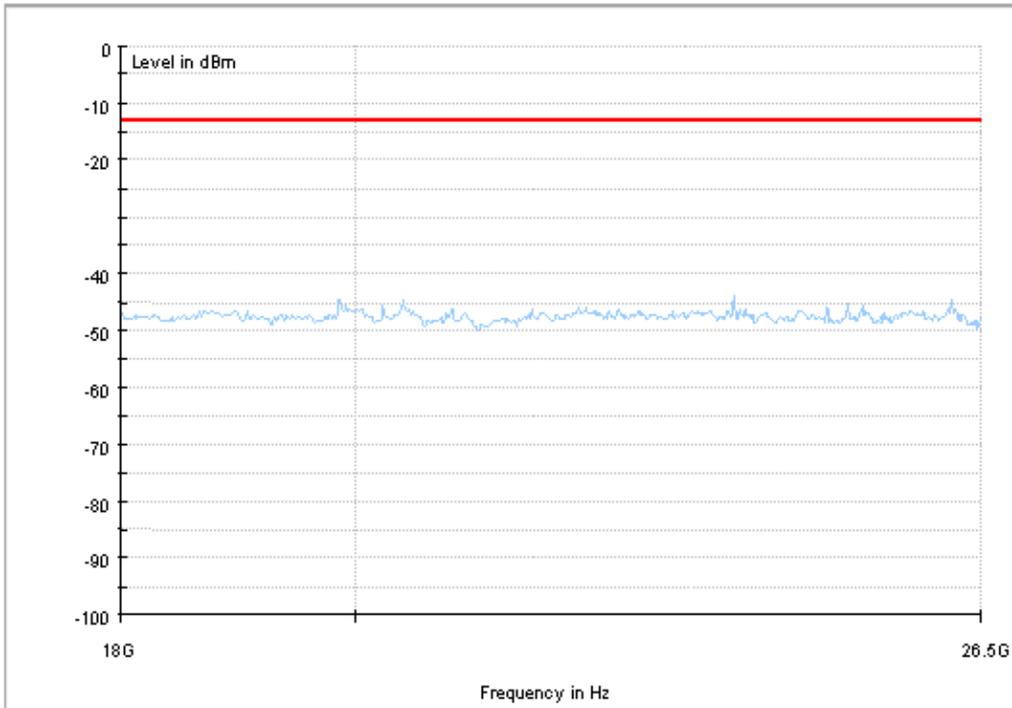
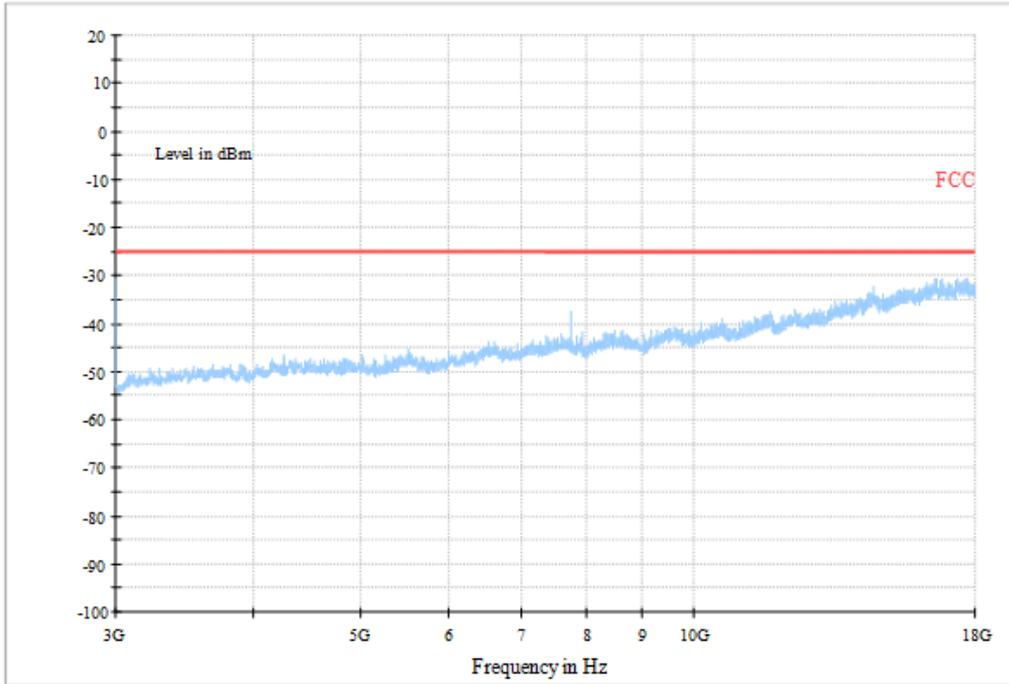






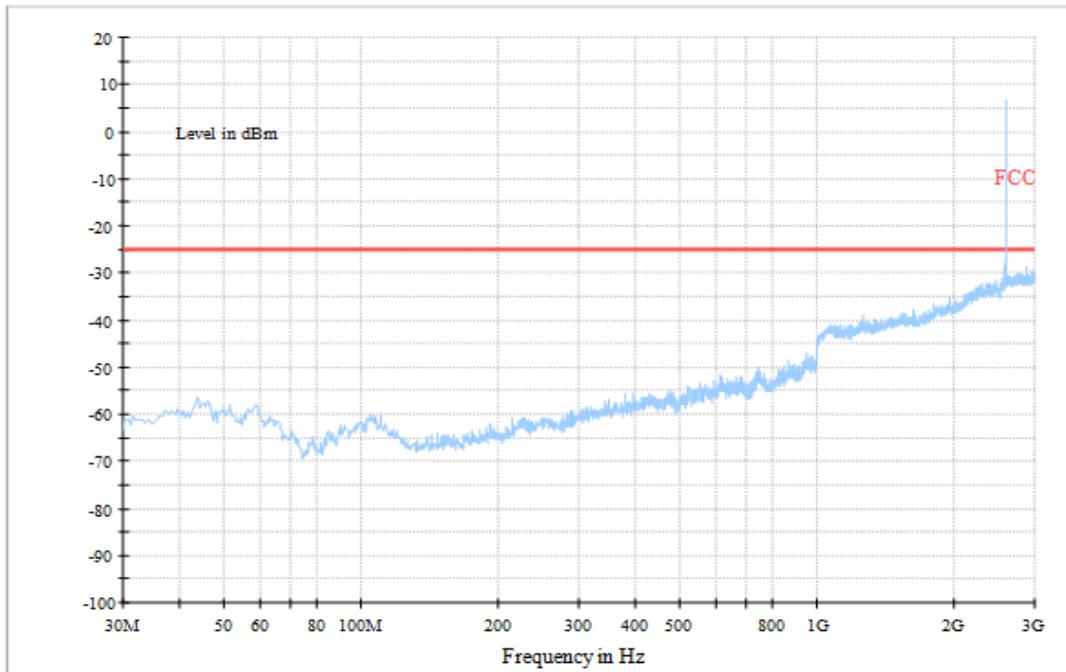
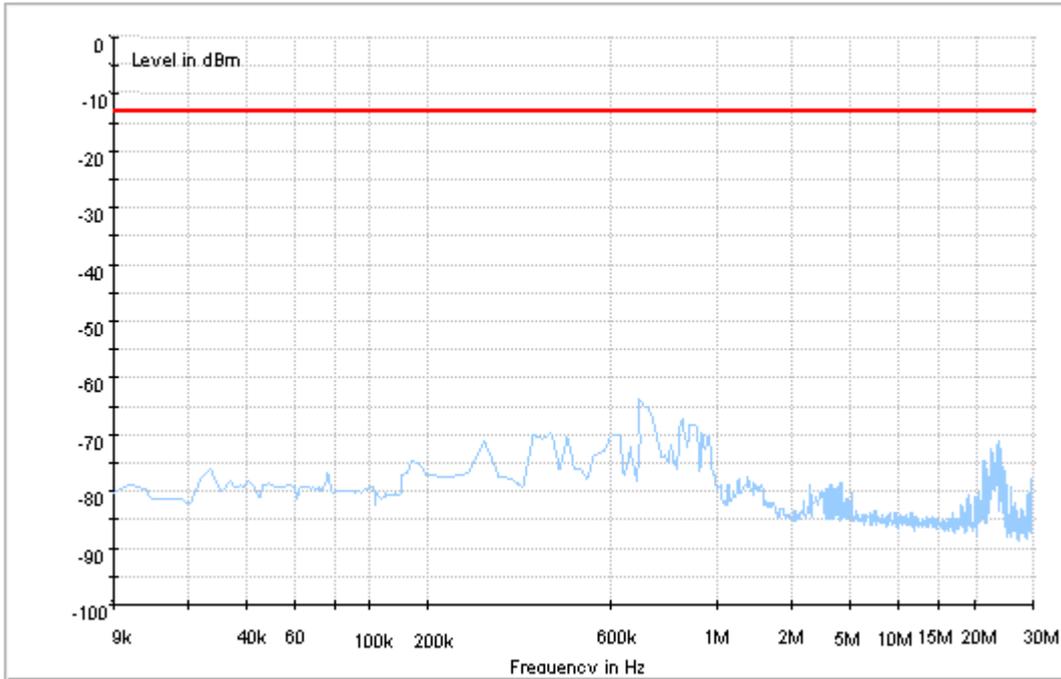
7.1.1.2 Test Bandwidth = 20

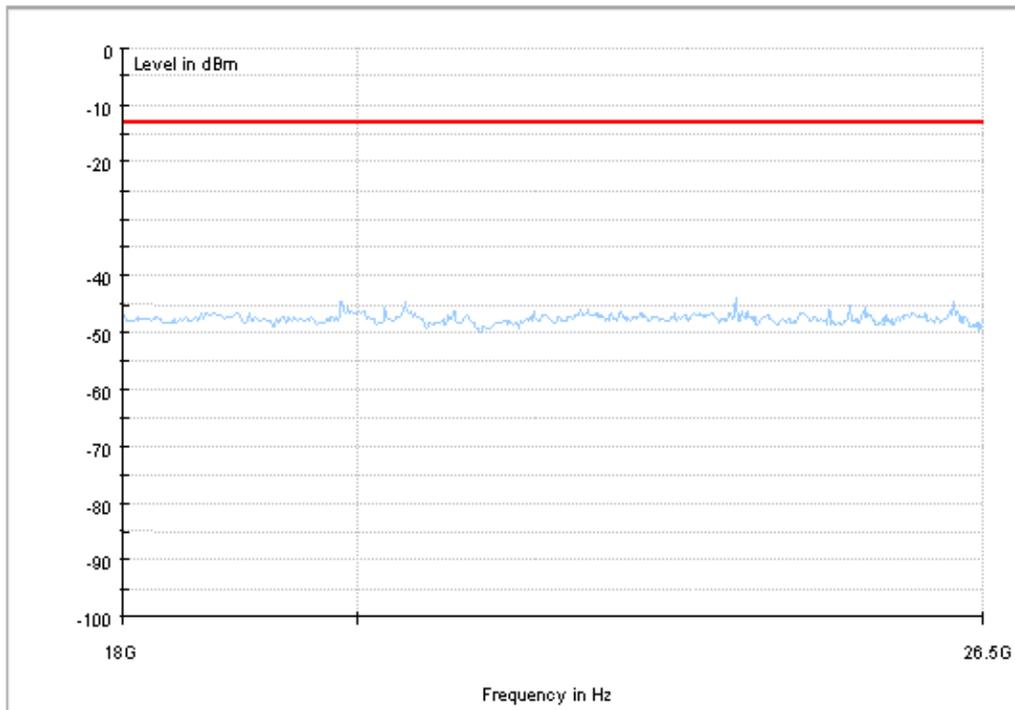
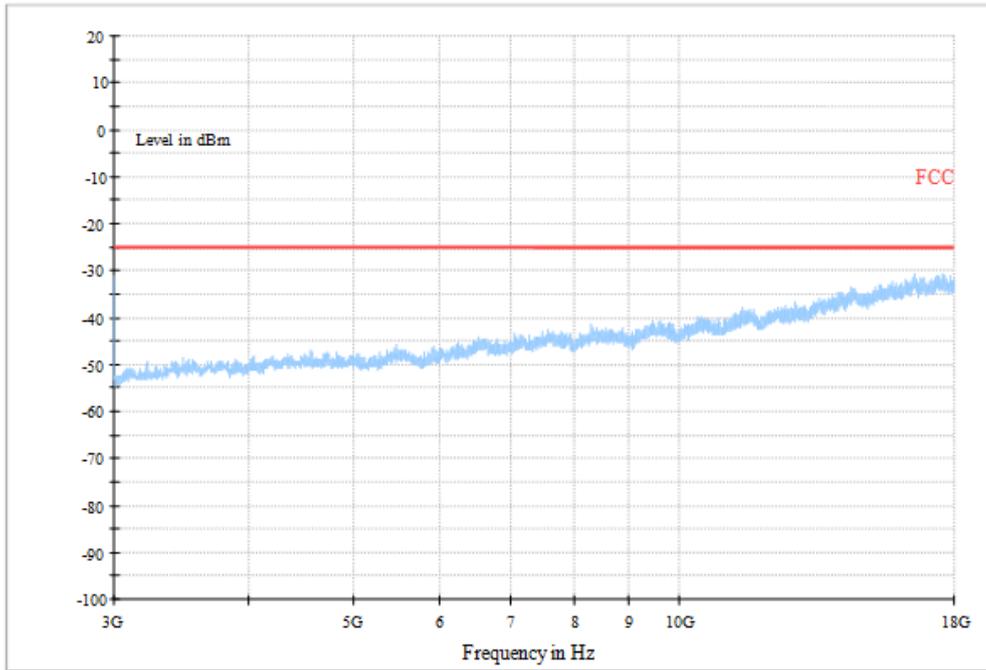




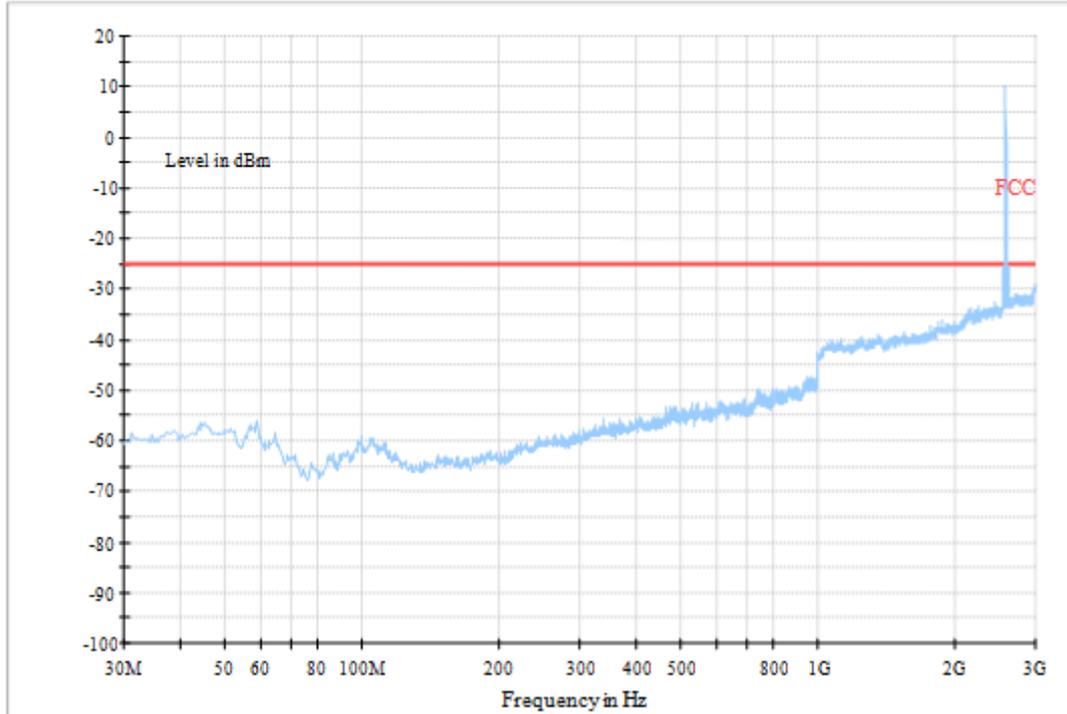
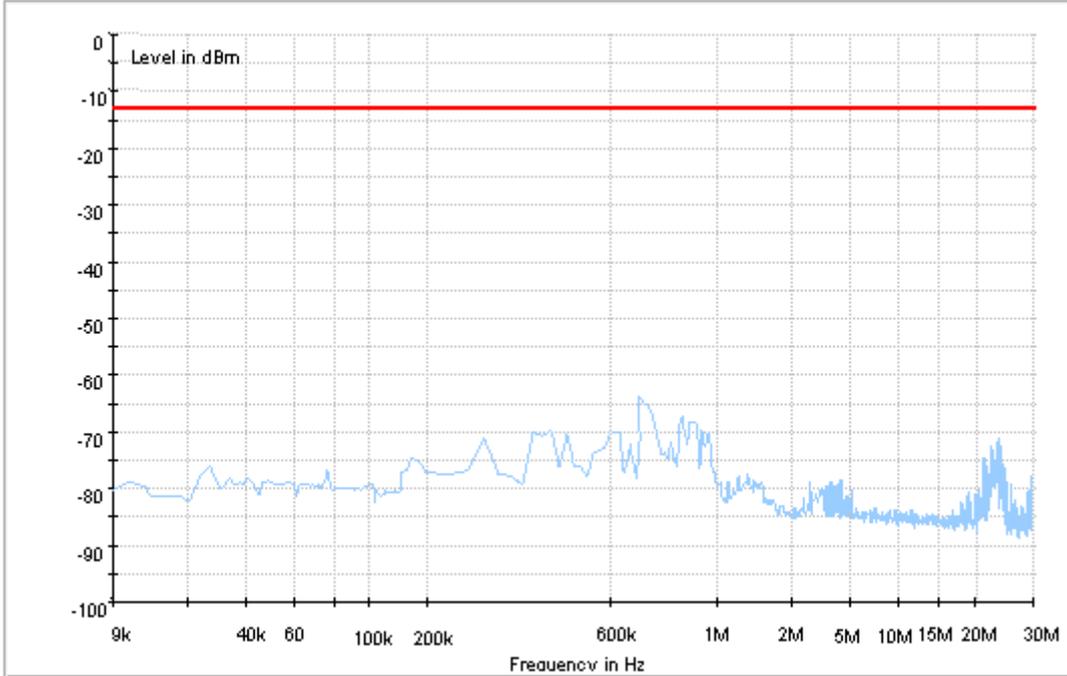
7.1.2 Test Band = BAND38_Ant2

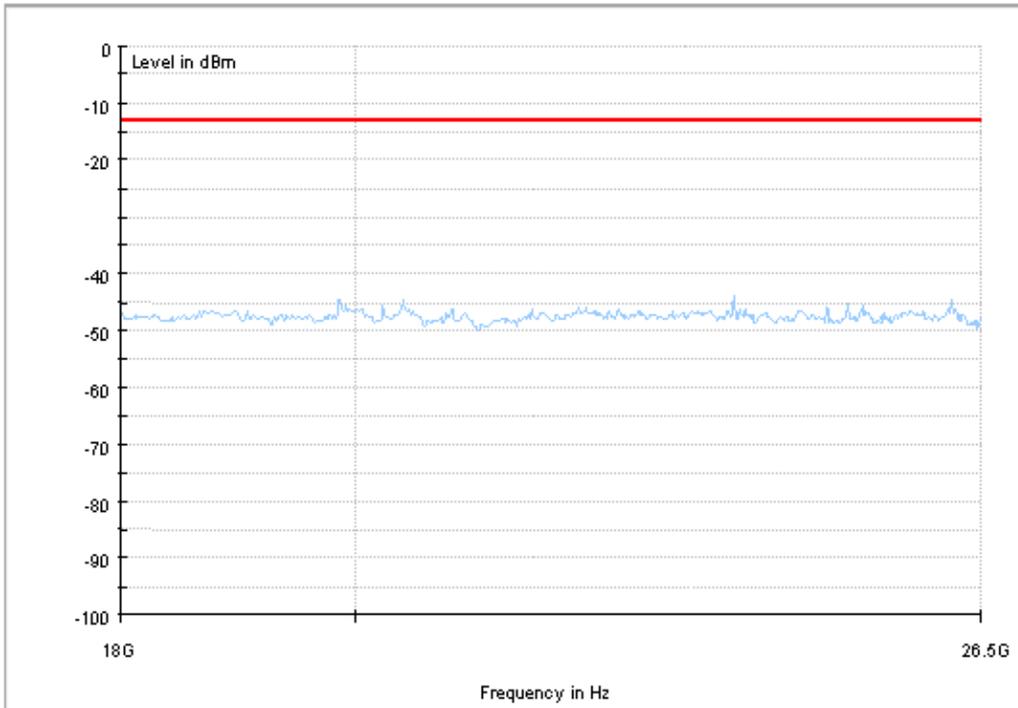
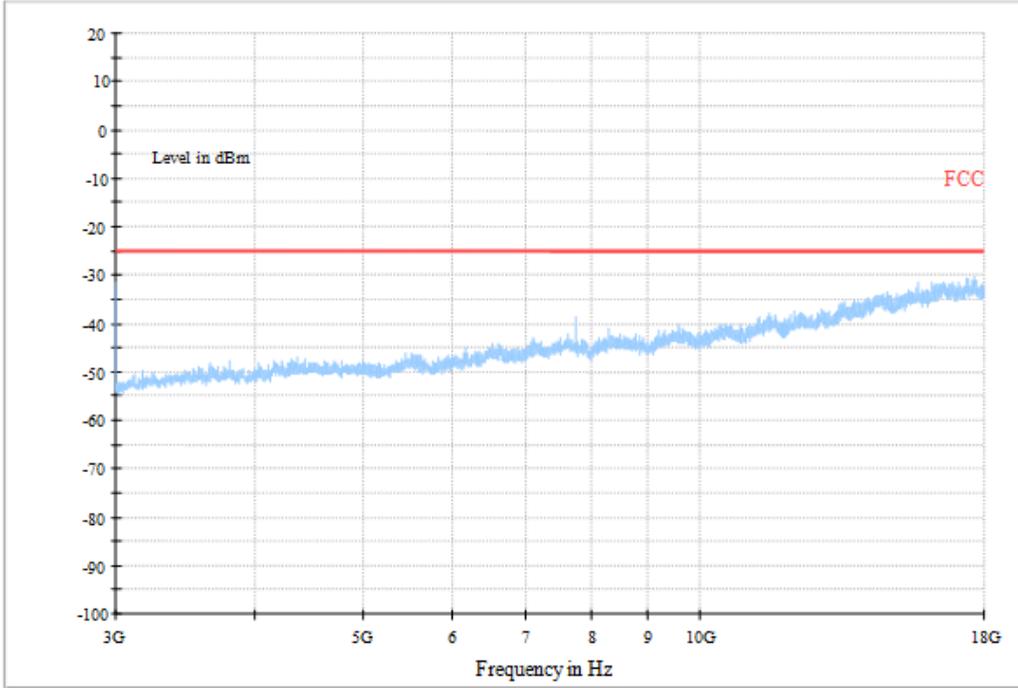
7.1.2.1 Test Bandwidth = 5





7.1.2.2 Test Bandwidth = 20





8Appendix_H: Frequency Stability

8.1 For LTE

8.1.1 Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND38	LTE/TM1	5	LCH	TN	VL	-6.19	-0.00241	PASS
					VN	-9.24	-0.00359	PASS
					VH	-11.52	-0.00448	PASS
			MCH	TN	VL	-0.99	-0.00038	PASS
					VN	-2.32	-0.00089	PASS
					VH	-1.95	-0.00075	PASS
			HCH	TN	VL	2.03	0.00078	PASS
					VN	3.36	0.00128	PASS
					VH	-2.68	-0.00102	PASS
		10	LCH	TN	VL	-5.88	-0.00228	PASS
					VN	-8.90	-0.00346	PASS
					VH	-11.22	-0.00436	PASS
			MCH	TN	VL	-6.90	-0.00266	PASS
					VN	-13.53	-0.00521	PASS
					VH	-20.50	-0.0079	PASS
			HCH	TN	VL	-0.36	-0.00014	PASS
					VN	-5.87	-0.00224	PASS
					VH	-7.32	-0.0028	PASS
		15	LCH	TN	VL	-5.78	-0.00224	PASS
					VN	-8.55	-0.00332	PASS
					VH	-6.15	-0.00239	PASS
			MCH	TN	VL	-5.08	-0.00196	PASS
					VN	-35.92	-0.01384	PASS
					VH	-8.21	-0.00316	PASS
HCH	TN		VL	-0.59	-0.00023	PASS		
			VN	-17.91	-0.00686	PASS		
			VH	-1.97	-0.00075	PASS		
20	LCH	TN	VL	-16.12	-0.00625	PASS		
			VN	3.32	0.00129	PASS		
			VH	-0.20	-0.00008	PASS		
	MCH	TN	VL	-2.73	-0.00105	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict			
					VN	-7.38	-0.00284	PASS			
					VH	-4.19	-0.00161	PASS			
			HCH	TN	VL	-0.29	-0.00011	PASS			
					VN	-0.53	-0.0002	PASS			
								VH	-1.43	-0.00055	PASS
								VL	-4.06	-0.00158	PASS
			LTE/TM2	5	LCH	TN		VN	-6.48	-0.00252	PASS
								VH	-10.90	-0.00424	PASS
								VL	-6.90	-0.00266	PASS
						MCH	TN		VN	-3.60	-0.00139
	VH	-4.12							-0.00159	PASS	
	VL	-4.02							-0.00154	PASS	
	HCH	TN				VN	-2.09	-0.0008	PASS		
						VH	-3.75	-0.00143	PASS		
						VL	-4.02	-0.00154	PASS		
	10	LCH			TN		VL	-7.07	-0.00275	PASS	
							VN	-10.19	-0.00396	PASS	
							VH	-15.75	-0.00612	PASS	
		MCH			TN		VL	-20.66	-0.00796	PASS	
							VN	-6.47	-0.00249	PASS	
							VH	0.96	0.00037	PASS	
	HCH	TN				VL	-8.91	-0.00341	PASS		
						VN	-0.57	-0.00022	PASS		
						VH	-3.66	-0.0014	PASS		
	15	LCH	TN		VL	-21.09	-0.00818	PASS			
					VN	-7.18	-0.00279	PASS			
					VH	-23.35	-0.00906	PASS			
		MCH	TN		VL	-6.79	-0.00262	PASS			
					VN	-1.66	-0.00064	PASS			
					VH	-3.86	-0.00149	PASS			
		HCH	TN		VL	-5.11	-0.00196	PASS			
					VN	-9.33	-0.00357	PASS			
					VH	-17.91	-0.00686	PASS			
	20	LCH	TN		VL	-3.73	-0.00145	PASS			
					VN	-6.34	-0.00246	PASS			
					VH	-8.25	-0.0032	PASS			
		MCH	TN		VL	-4.89	-0.00188	PASS			
					VN	-5.58	-0.00215	PASS			
					VH	-4.19	-0.00161	PASS			
	HCH	TN		VL	1.27	0.00049	PASS				



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VN	0.56	0.00021	PASS
					VH	-0.26	-0.0001	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
BAND38	LTE/TM1	5	LCH	VN	-30	-18.95	-0.00742	PASS
					-20	-14.75	-0.00635	PASS
					-10	-7.42	-0.00316	PASS
					0	-8.41	-0.00295	PASS
					10	-13.09	-0.00476	PASS
					20	-7.31	-0.00251	PASS
					30	-5.81	-0.00193	PASS
					40	-10.57	-0.00377	PASS
					50	-10.47	-0.00374	PASS
			MCH	VN	-30	-4.42	-0.00138	PASS
					-20	-5.34	-0.00174	PASS
					-10	-4.87	-0.00156	PASS
					0	-7.44	-0.00255	PASS
					10	-7.16	-0.00244	PASS
					20	29.44	0.01169	PASS
					30	-6.56	-0.00221	PASS
					40	-15.42	-0.00561	PASS
					50	-33.33	-0.01253	PASS
			HCH	VN	-30	-3.68	-0.00109	PASS
					-20	-5.38	-0.00173	PASS
					-10	-4.93	-0.00157	PASS
					0	-4.93	-0.00157	PASS
					10	-5.15	-0.00166	PASS
					20	-5.56	-0.00181	PASS
		30			-5.87	-0.00193	PASS	
		40			-5.45	-0.00177	PASS	
		50			-5.64	-0.00184	PASS	
		10	LCH	VN	-30	-5.21	-0.00169	PASS
					-20	-8.33	-0.00291	PASS
					-10	-12.68	-0.0046	PASS
					0	-17.67	-0.00653	PASS
					10	-4.01	-0.00123	PASS
					20	-13.39	-0.00487	PASS
					30	-7.86	-0.00272	PASS
					40	-5.81	-0.00193	PASS
					50	-11.03	-0.00396	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			MCH	VN	-30	3.07	0.0015	PASS
					-20	-1.72	-0.00034	PASS
					-10	-1.16	-0.00013	PASS
					0	-9.65	-0.0034	PASS
					10	-3.92	-0.00119	PASS
					20	2.64	0.00134	PASS
					30	-15.65	-0.00571	PASS
					40	-7.13	-0.00243	PASS
					50	1.07	0.00073	PASS
			HCH	VN	-30	-4.11	-0.00126	PASS
					-20	-4.71	-0.00149	PASS
					-10	-4.95	-0.00158	PASS
					0	-5.11	-0.00164	PASS
					10	-4.87	-0.00155	PASS
					20	-3.94	-0.0012	PASS
					30	-5.31	-0.00172	PASS
					40	-3.74	-0.00112	PASS
					50	-4.54	-0.00142	PASS
		15	LCH	VN	-30	-7.94	-0.00275	PASS
					-20	-3.87	-0.00117	PASS
					-10	-14.15	-0.00516	PASS
					0	-5.44	-0.00178	PASS
					10	-7.1	-0.00243	PASS
					20	-6.67	-0.00226	PASS
					30	-3.35	-0.00097	PASS
					40	-14.2	-0.00518	PASS
					50	-5.63	-0.00186	PASS
			MCH	VN	-30	-4.45	-0.0014	PASS
					-20	-8.29	-0.00287	PASS
					-10	3.66	0.00173	PASS
					0	2.08	0.00112	PASS
					10	2.73	0.00137	PASS
					20	-6.01	-0.002	PASS
					30	0.24	0.00041	PASS
					40	-1.89	-0.00041	PASS
					50	-4.32	-0.00134	PASS
HCH	VN	-30	-5.03	-0.00161	PASS			
		-20	-4.9	-0.00156	PASS			
		-10	-5.14	-0.00166	PASS			



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					0	-6.54	-0.00219	PASS		
					10	-5.43	-0.00177	PASS		
					20	-4.9	-0.00156	PASS		
					30	-6.59	-0.00221	PASS		
					40	-6.21	-0.00206	PASS		
					50	-4.7	-0.00149	PASS		
					LCH	VN	-30	-8.72	-0.00305	PASS
							-20	-28.04	-0.01054	PASS
							-10	-154.61	-0.0596	PASS
							0	-119.85	-0.04613	PASS
		10	-97.44	-0.03744			PASS			
		20	-123.49	-0.04754			PASS			
		30	-44.67	-0.01699			PASS			
		40	-77.35	-0.02965			PASS			
		50	-83.93	-0.0322			PASS			
		MCH	VN	-30			-0.29	0.00021	PASS	
				-20	-27.33	-0.01021	PASS			
				-10	-20.82	-0.0077	PASS			
				0	-8.46	-0.00294	PASS			
				10	-15.4	-0.00561	PASS			
	20			-9.37	-0.00329	PASS				
	30			-1.59	-0.00029	PASS				
	40			-5.61	-0.00184	PASS				
	50			-16.21	-0.00593	PASS				
	HCH			VN	-30	-5.34	-0.00173	PASS		
		-20	-4.97		-0.00159	PASS				
		-10	-3.87		-0.00117	PASS				
		0	-5.1		-0.00164	PASS				
		10	-4.37		-0.00136	PASS				
		20	-5.57		-0.00182	PASS				
		30	-4.7		-0.00149	PASS				
		40	-4.41		-0.00138	PASS				
	50	-5.88	-0.00194	PASS						
LTE/TM2	5	LCH	VN	-30	-11.25	-0.00404	PASS			
				-20	-8.19	-0.00285	PASS			
				-10	-15.71	-0.00578	PASS			
				0	1.43	0.00089	PASS			
				10	-13.59	-0.00495	PASS			
				20	-2.22	-0.00053	PASS			



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					30	-11.94	-0.00431	PASS
					40	-1.09	-0.00009	PASS
					50	-7.49	-0.00258	PASS
			MCH	VN	-30	-7.09	-0.00241	PASS
					-20	-1.74	-0.00035	PASS
					-10	-8.63	-0.00301	PASS
					0	-4.54	-0.00143	PASS
					10	-17.71	-0.0065	PASS
					20	-16.06	-0.00587	PASS
					30	1.28	0.00081	PASS
					40	-19.2	-0.00708	PASS
					50	6.6	0.00286	PASS
			HCH	VN	-30	-6.13	-0.00203	PASS
					-20	-4.74	-0.0015	PASS
					-10	-6.36	-0.00212	PASS
					0	-5.45	-0.00177	PASS
					10	-3.81	-0.00115	PASS
					20	-5.27	-0.0017	PASS
		30			-5.66	-0.00185	PASS	
		10	LCH	VN	-30	4.93	0.00224	PASS
					-20	-4.87	-0.00156	PASS
					-10	0.95	0.0007	PASS
					0	-0.76	0.00003	PASS
					10	-2.84	-0.00077	PASS
					20	4.16	0.00194	PASS
					30	-8.7	-0.00305	PASS
					40	1.17	0.00078	PASS
					50	5.03	0.00228	PASS
			MCH	VN	-30	-3.57	-0.00106	PASS
					-20	-9.79	-0.00345	PASS
					-10	6.42	0.00279	PASS
					0	-7.54	-0.00259	PASS
					10	14.64	0.00596	PASS
					20	-5.98	-0.00198	PASS
					30	-1.22	-0.00015	PASS
					40	-27.58	-0.01031	PASS
50	5.6				0.00248	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
			HCH	VN	-30	-2.48	-0.00064	PASS	
					-20	-6.1	-0.00202	PASS	
					-10	46.33	0.01803	PASS	
					0	-1.52	-0.00027	PASS	
					10	-1.56	-0.00029	PASS	
					20	-2.14	-0.00051	PASS	
					30	-3.38	-0.00098	PASS	
					40	-2.16	-0.00051	PASS	
					50	-2.45	-0.00063	PASS	
			15	LCH	VN	-30	-13.92	-0.00507	PASS
						-20	-7.87	-0.00273	PASS
						-10	-13.89	-0.00506	PASS
						0	-6.74	-0.00229	PASS
						10	-11.72	-0.00422	PASS
						20	-6.81	-0.00231	PASS
						30	-4.44	-0.0014	PASS
						40	-11.21	-0.00402	PASS
						50	2.33	0.00123	PASS
				MCH	VN	-30	-4.85	-0.00155	PASS
						-20	-3.74	-0.00112	PASS
						-10	7.29	0.00313	PASS
						0	8.05	0.00342	PASS
						10	-5.66	-0.00186	PASS
						20	16.16	0.00655	PASS
						30	-12.28	-0.00441	PASS
						40	-2.45	-0.00062	PASS
						50	-6	-0.00199	PASS
		HCH	VN	-30	-4.07	-0.00125	PASS		
				-20	-3.02	-0.00084	PASS		
				-10	14.94	0.00603	PASS		
				0	-3.34	-0.00097	PASS		
				10	-4.04	-0.00123	PASS		
				20	-2.98	-0.00083	PASS		
				30	-2.04	-0.00047	PASS		
				40	-96.02	-0.03644	PASS		
				50	-7.16	-0.00243	PASS		
		20	LCH	VN	-30	-9.06	-0.00319	PASS	
					-20	-8.24	-0.00287	PASS	
					-10	-34.05	-0.01287	PASS	



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					0	-18.08	-0.00701	PASS
					10	-7.88	-0.00273	PASS
					20	-4.91	-0.00161	PASS
					30	12.02	0.00498	PASS
					40	17.43	0.00708	PASS
					50	21.54	0.00868	PASS
			MCH	VN	-30	-8.3	-0.00288	PASS
					-20	-11.33	-0.00405	PASS
					-10	-7.99	-0.00276	PASS
					0	-19.3	-0.00712	PASS
					10	-2.24	-0.00054	PASS
					20	-10.45	-0.00371	PASS
					30	-6.6	-0.00222	PASS
					40	-11.33	-0.00405	PASS
			HCH	VN	50	-6.33	-0.00212	PASS
					-30	-6.03	-0.002	PASS
					-20	-8.57	-0.00297	PASS
					-10	-4.48	-0.0014	PASS
					0	-3.8	-0.00114	PASS
					10	-9.08	-0.00314	PASS
					20	-5.17	-0.00167	PASS
					30	-2.67	-0.00071	PASS
			40	-4.25	-0.00142	PASS		
			50	-5.23	-0.00159	PASS		

END