



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

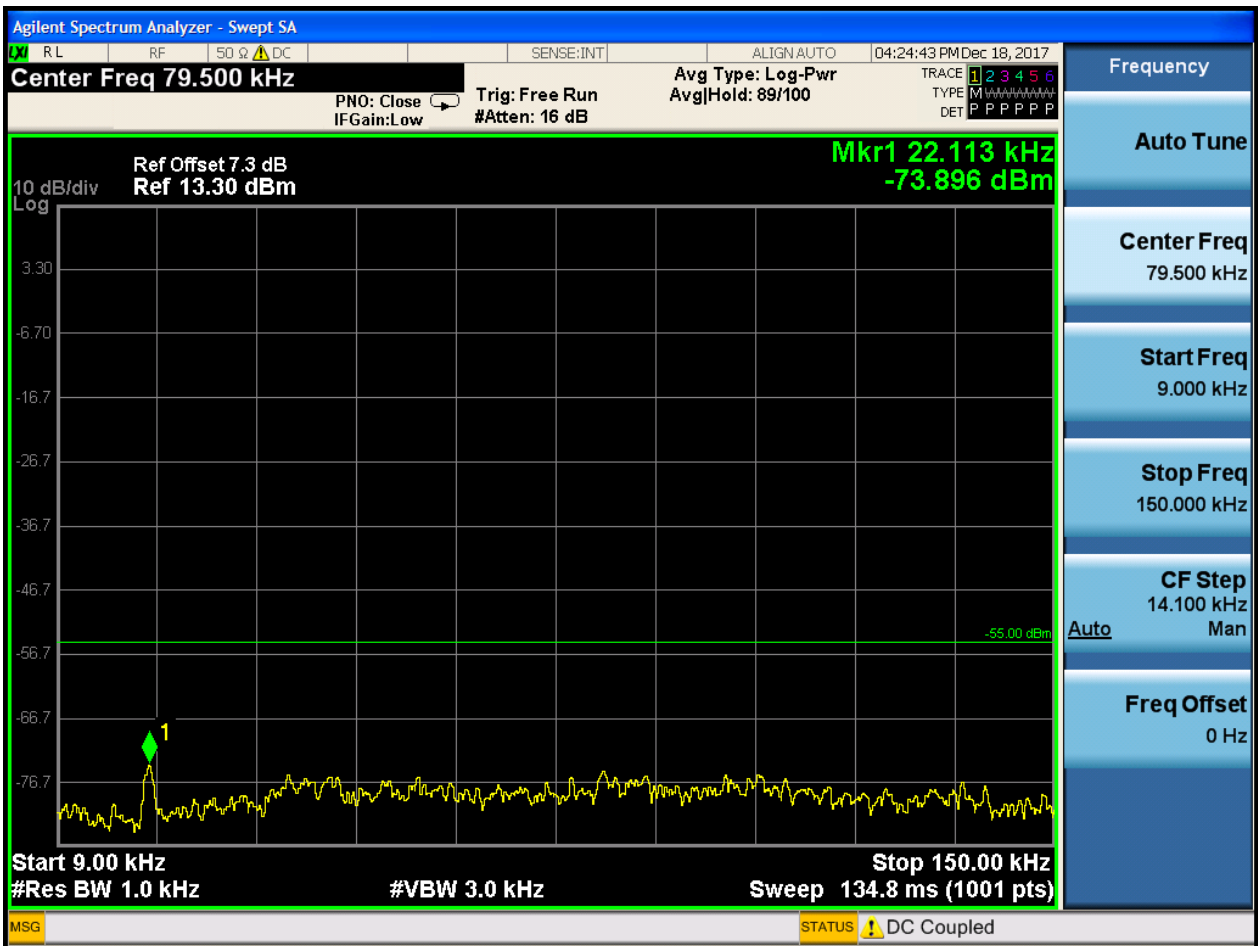
6.1.1 Test Band = BAND7

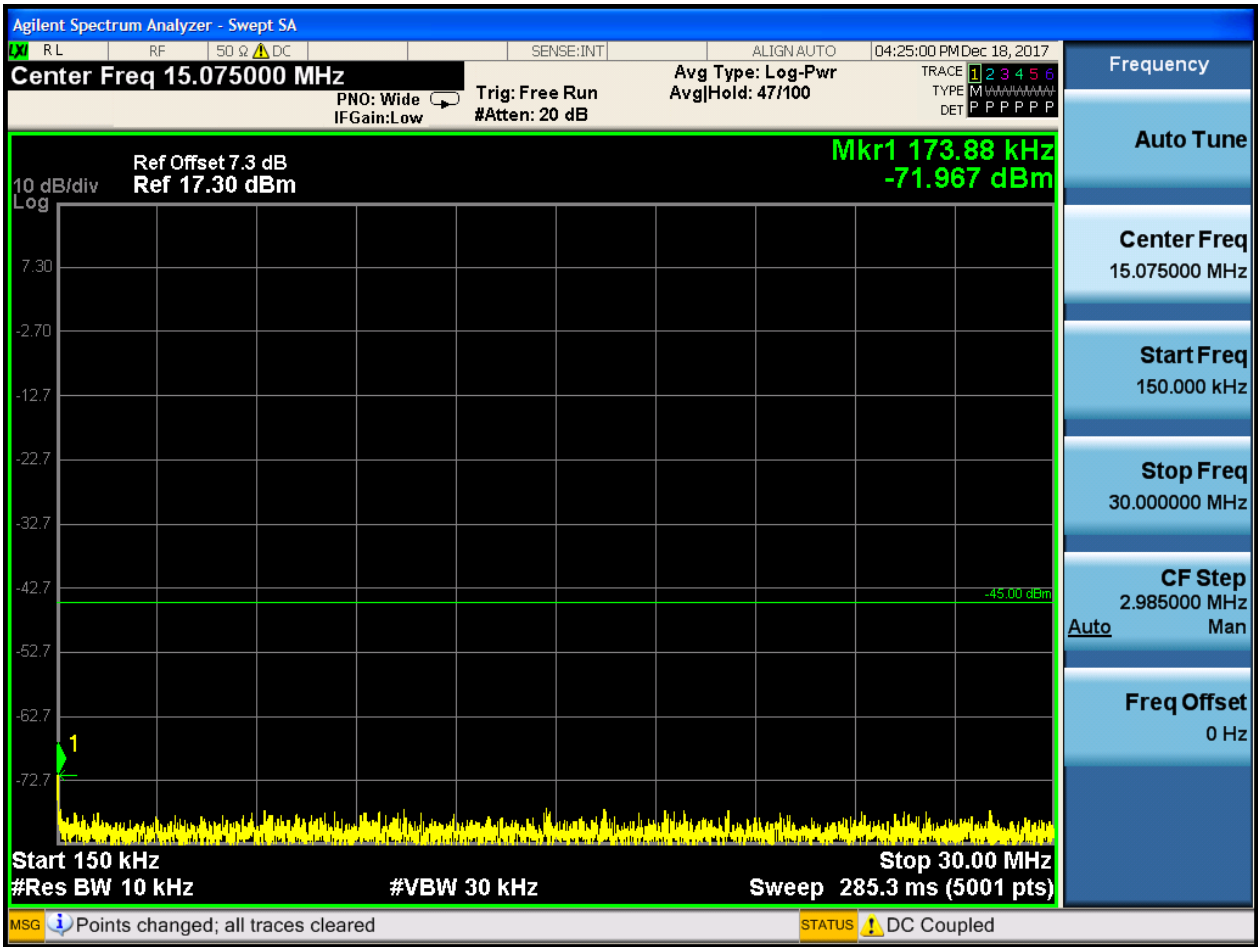
6.1.1.1 Test Mode = LTE/TM1

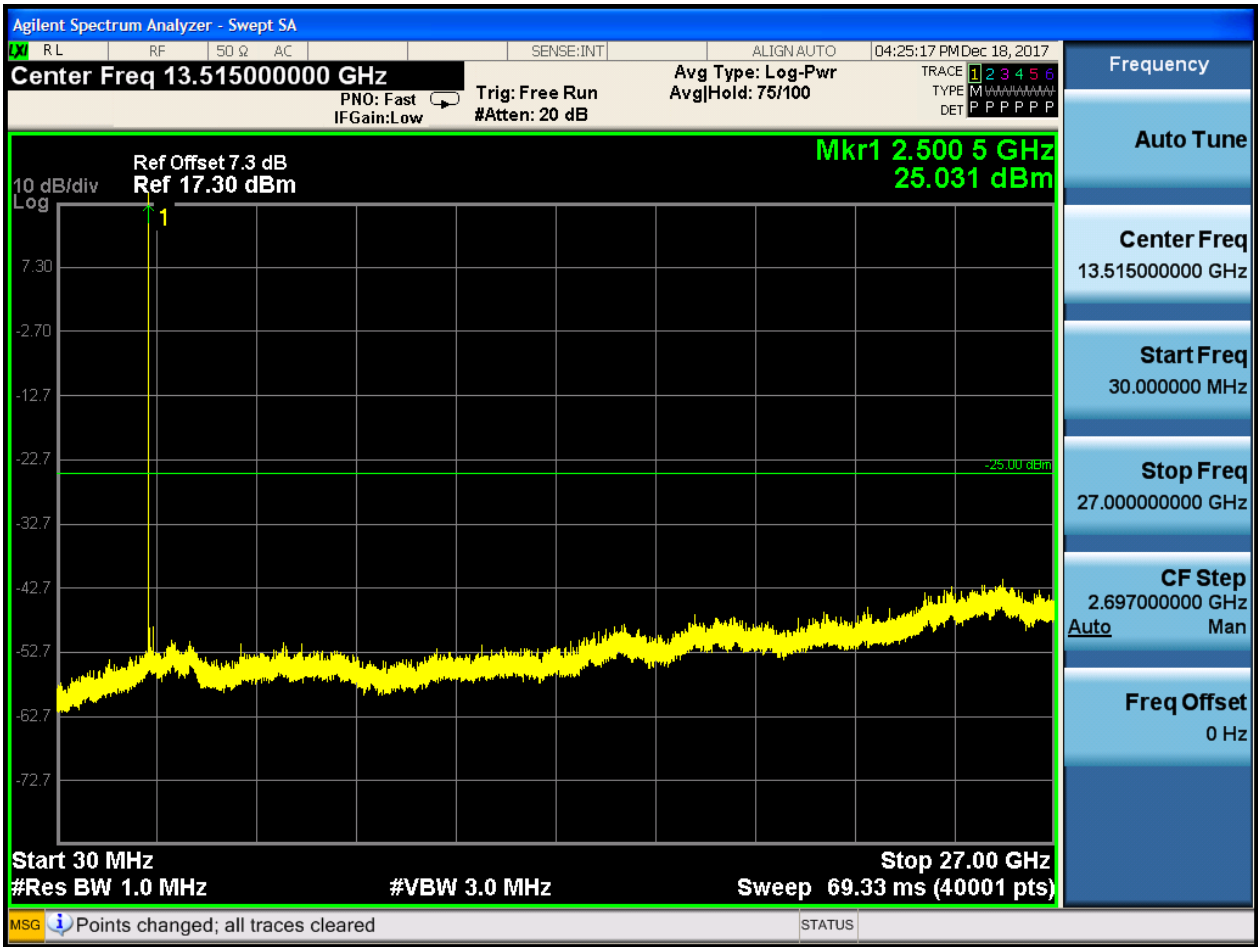
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



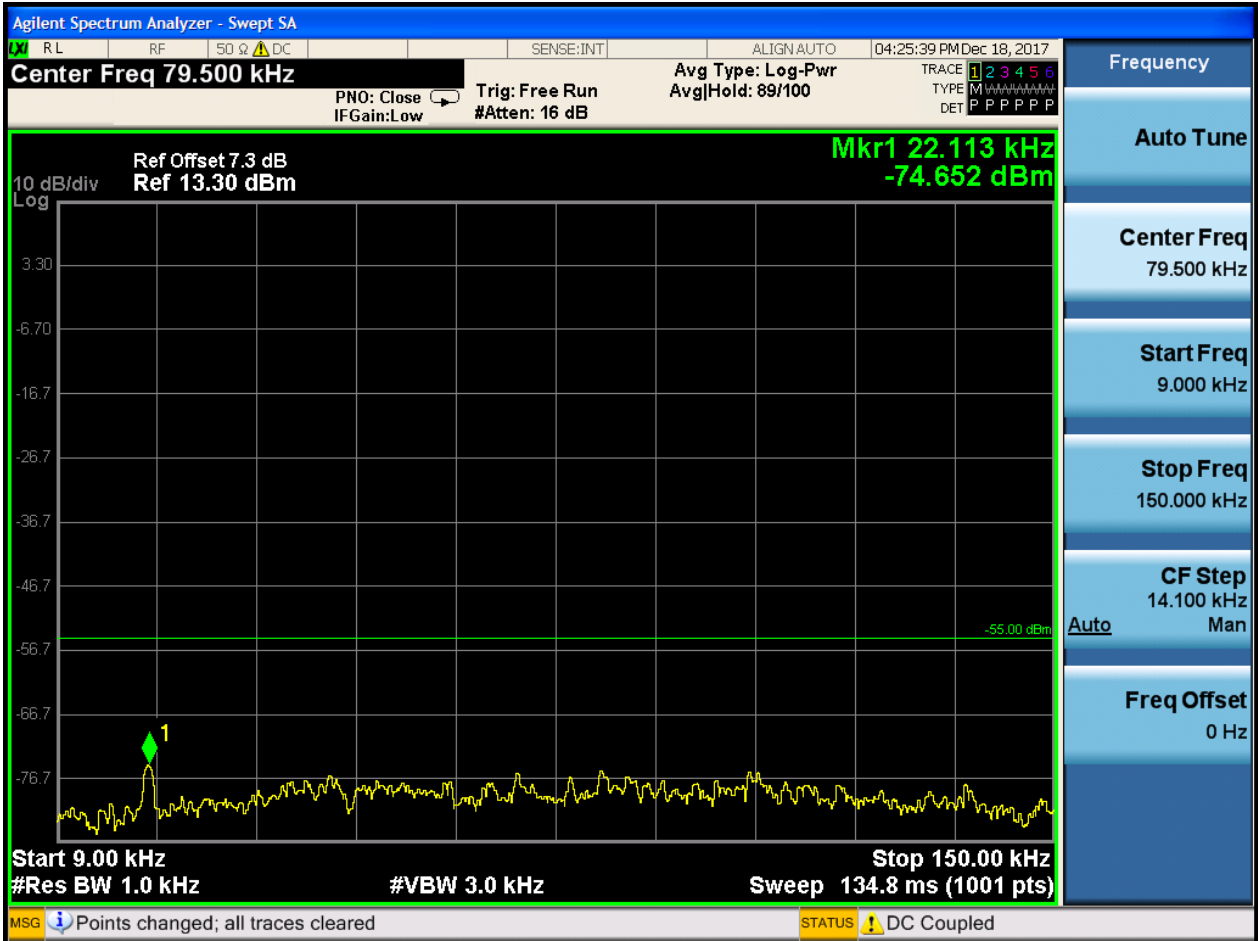


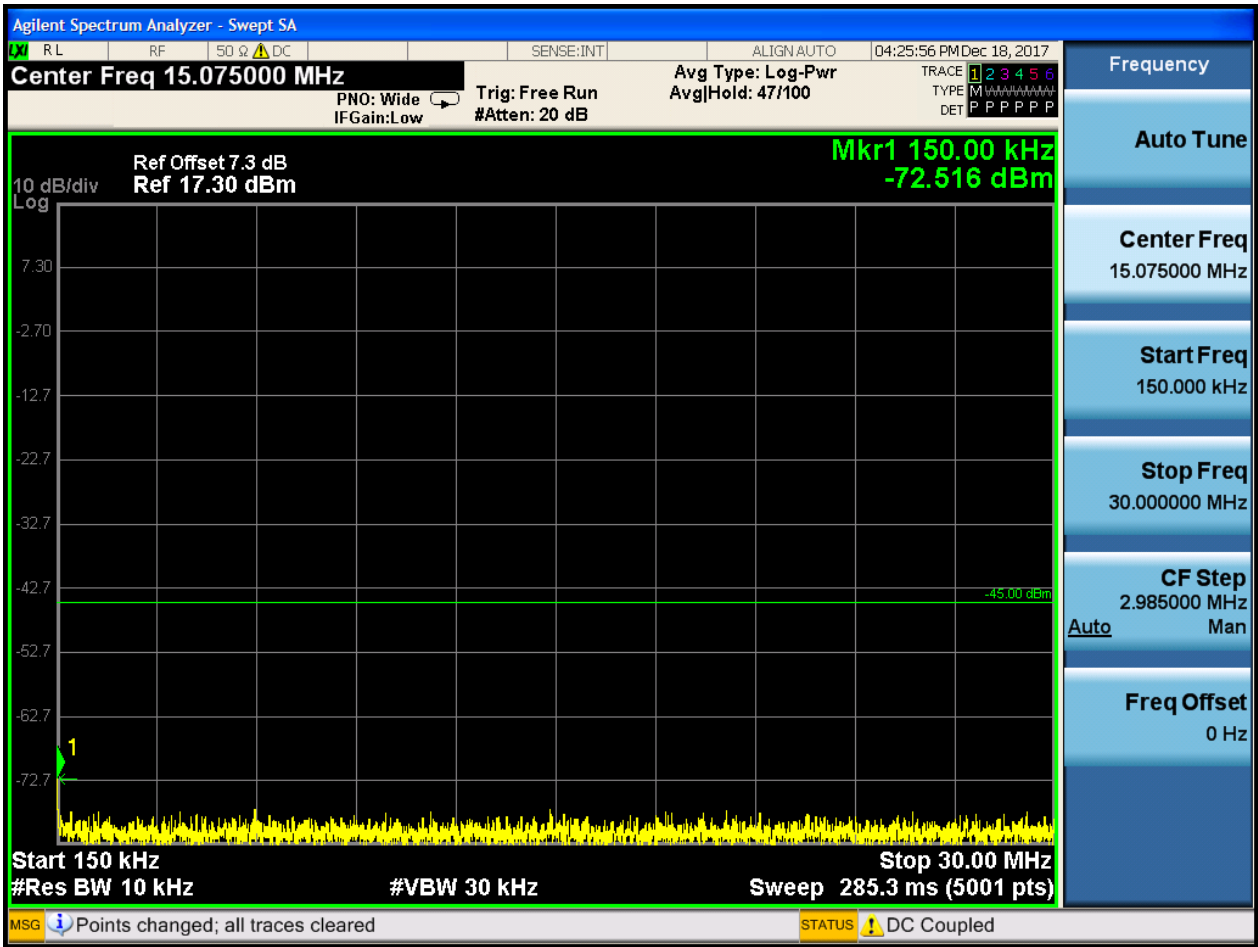


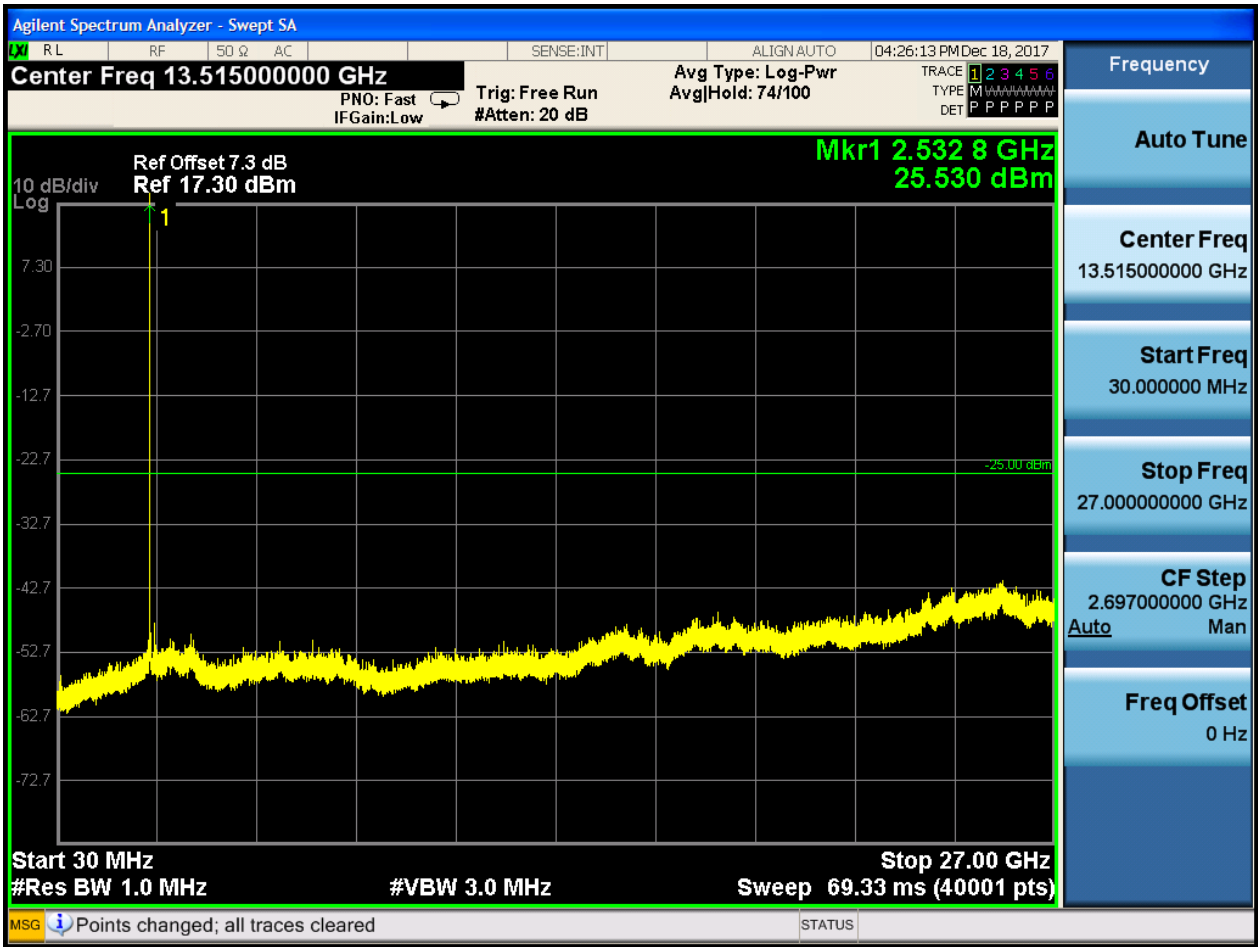


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



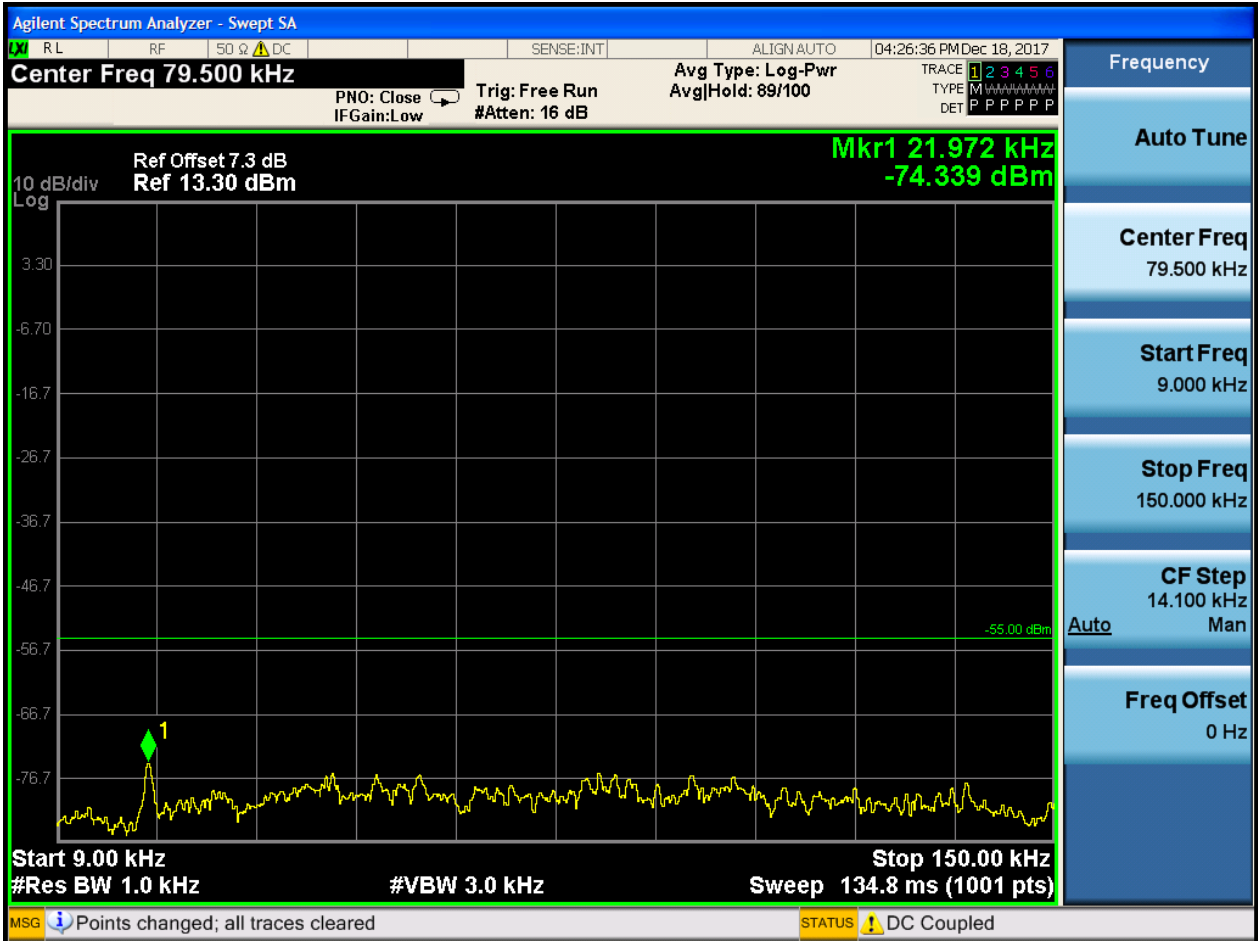


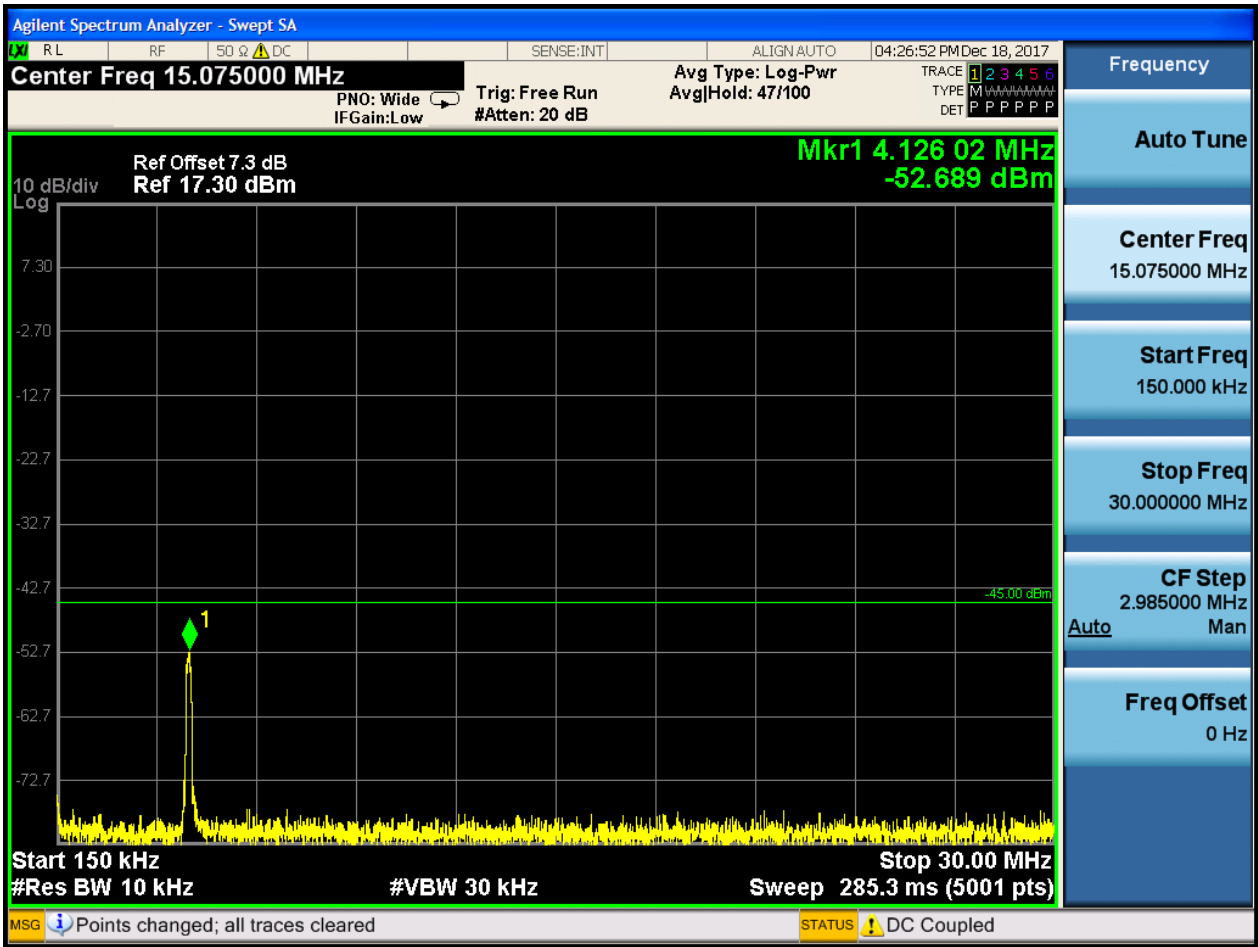


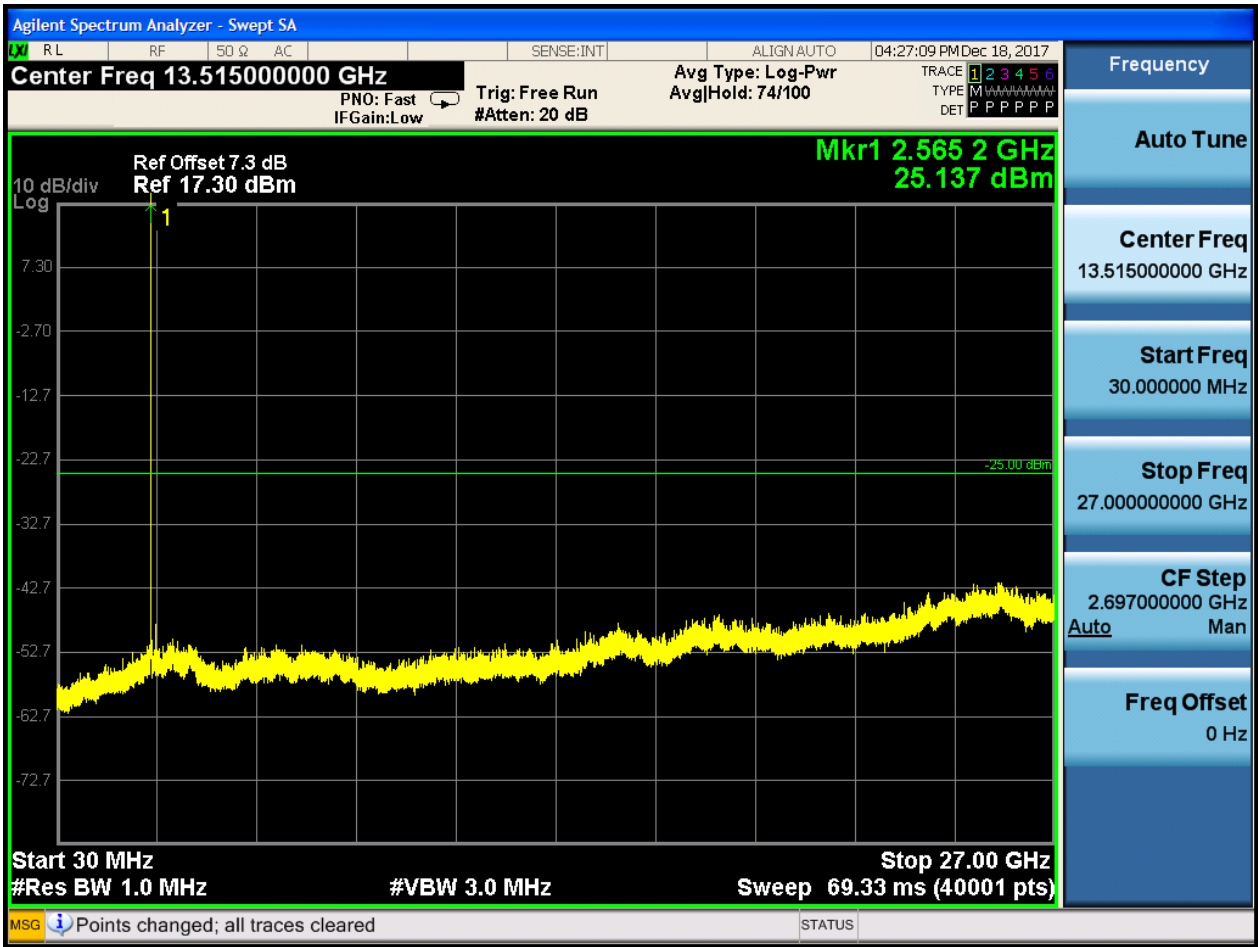


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0





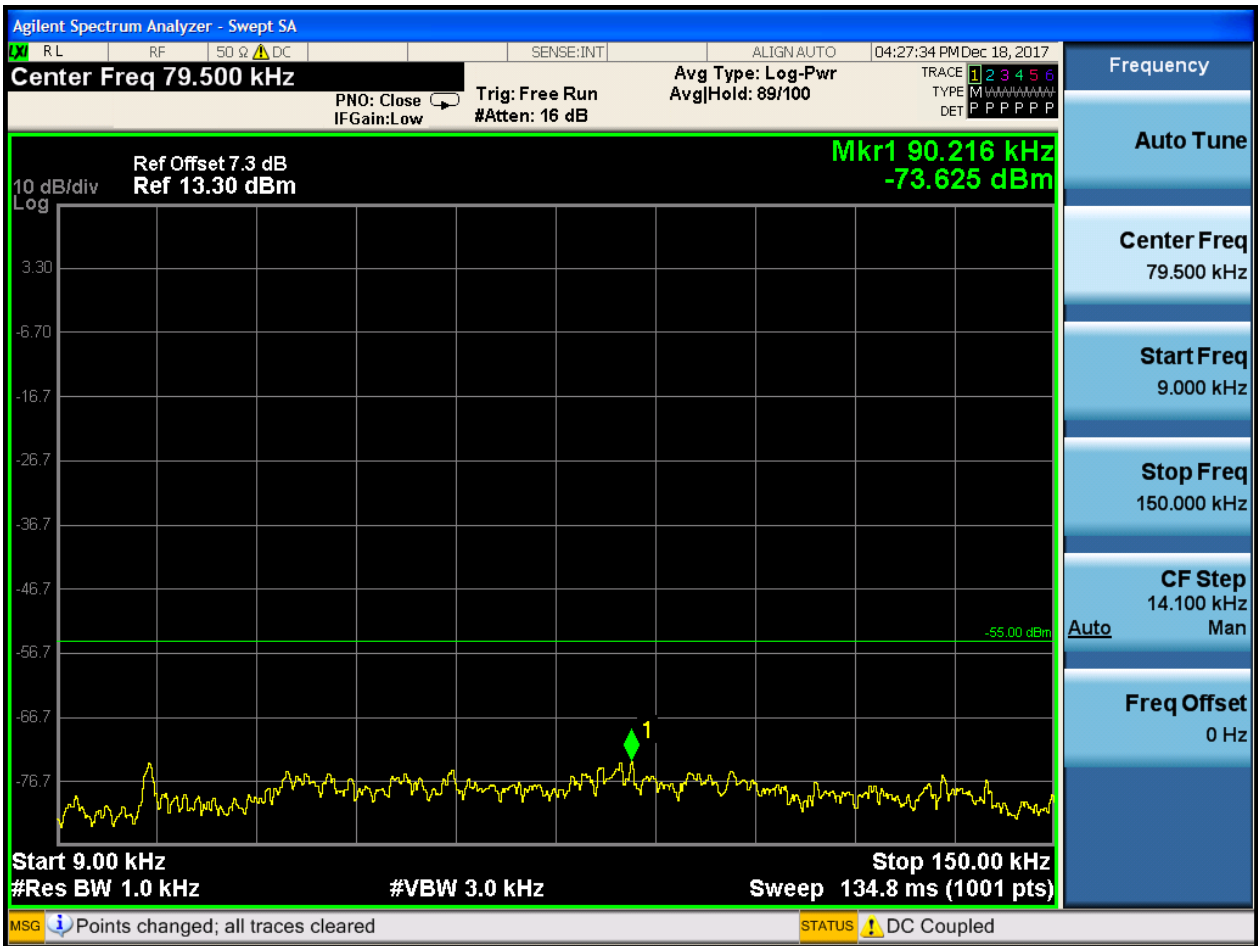


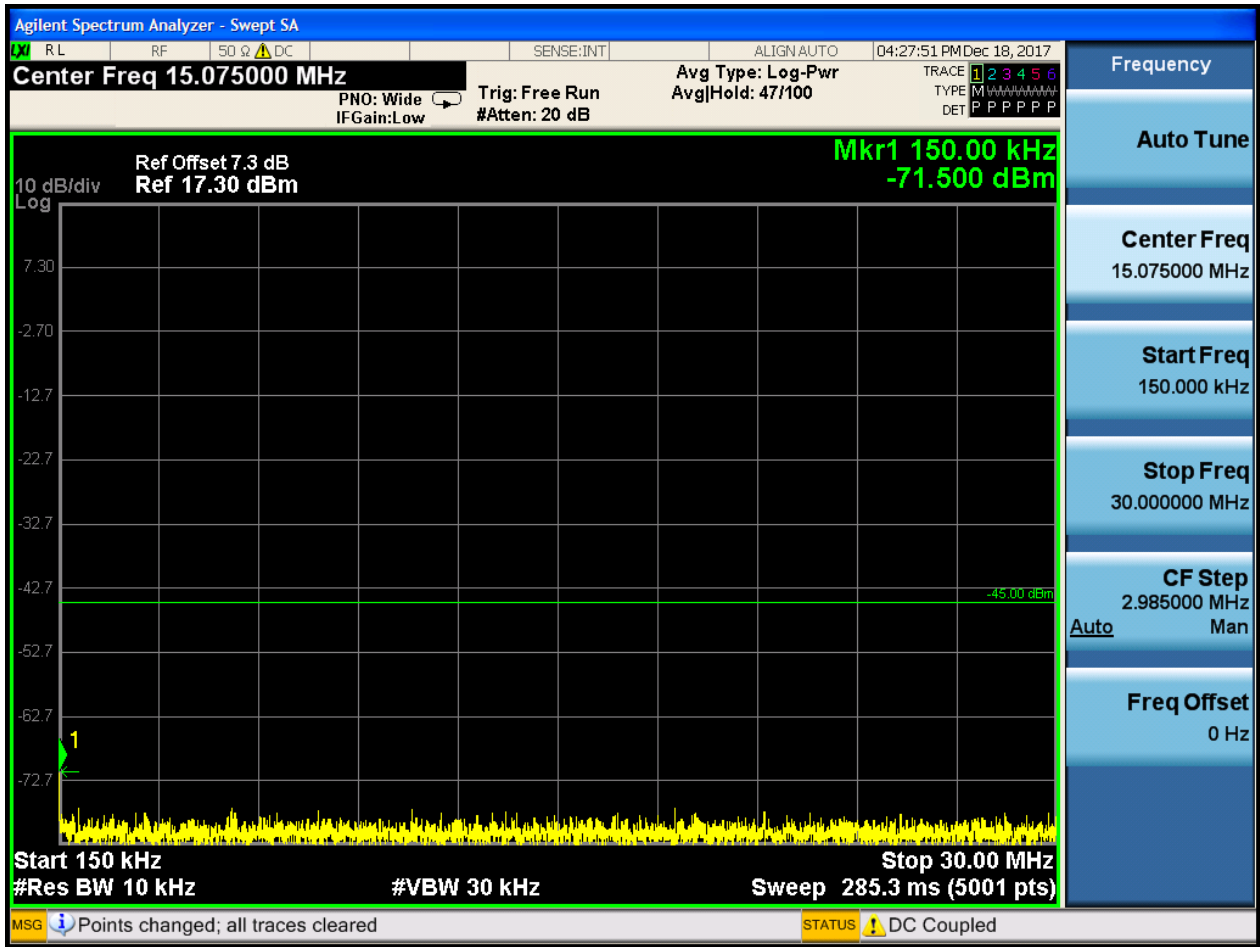


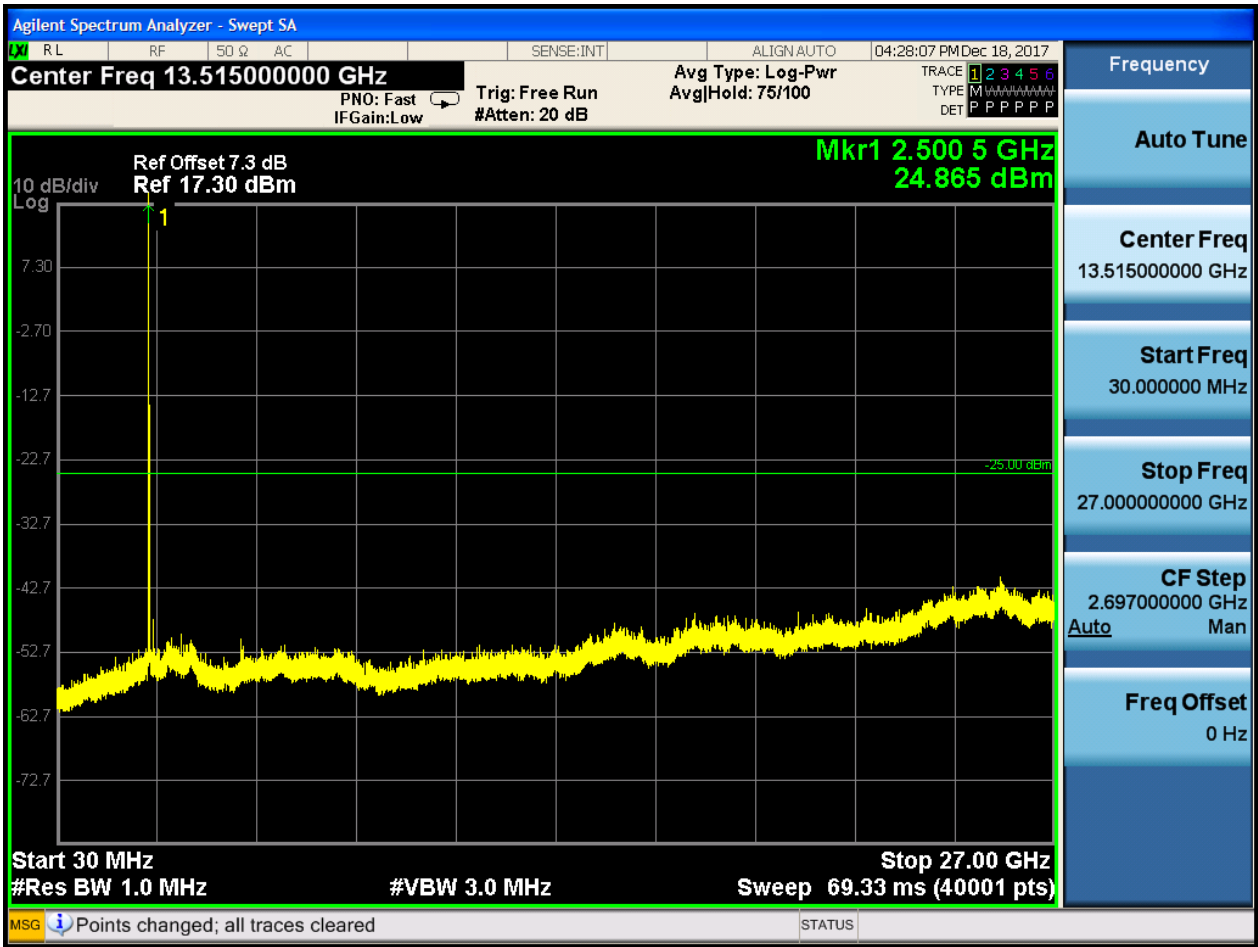
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



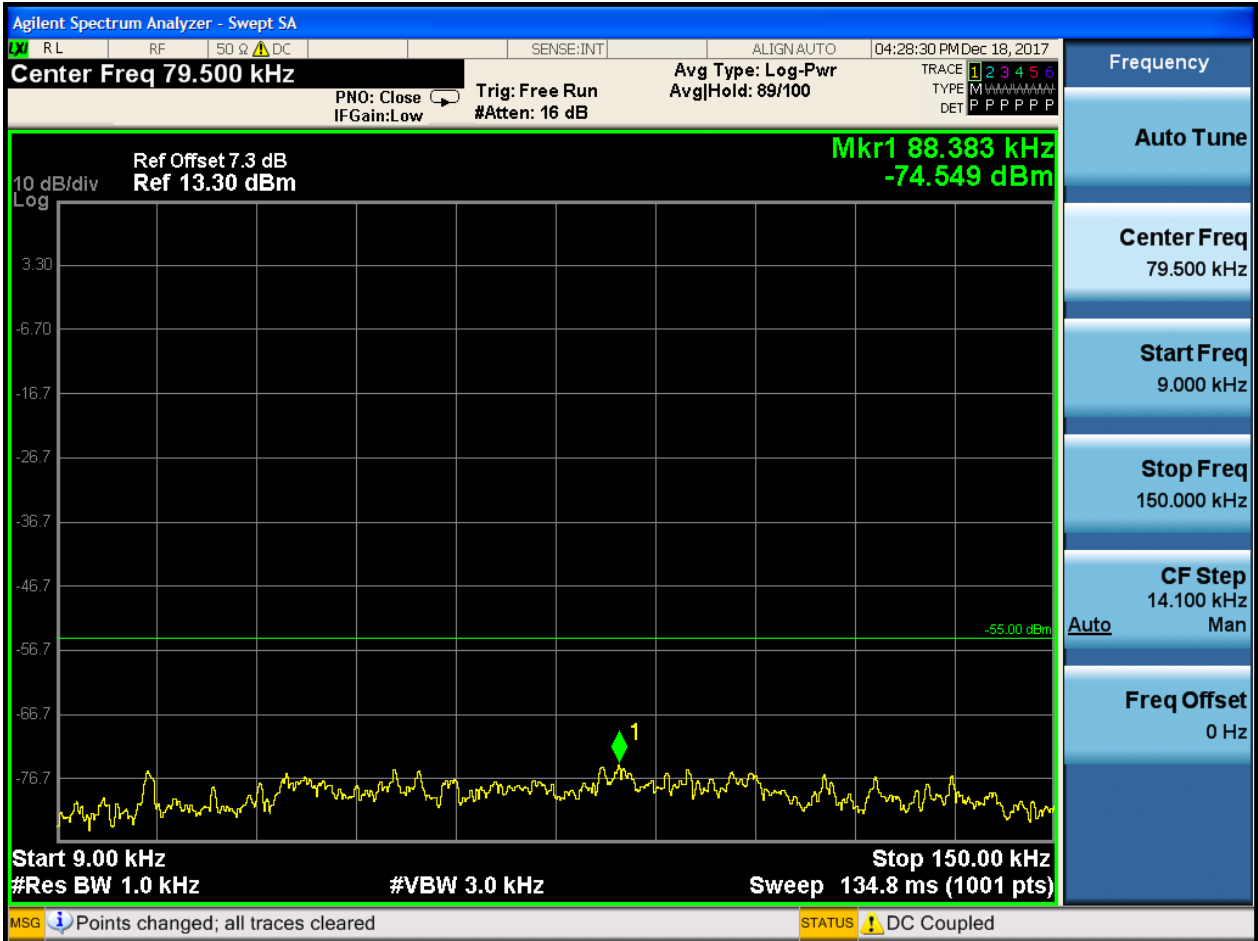


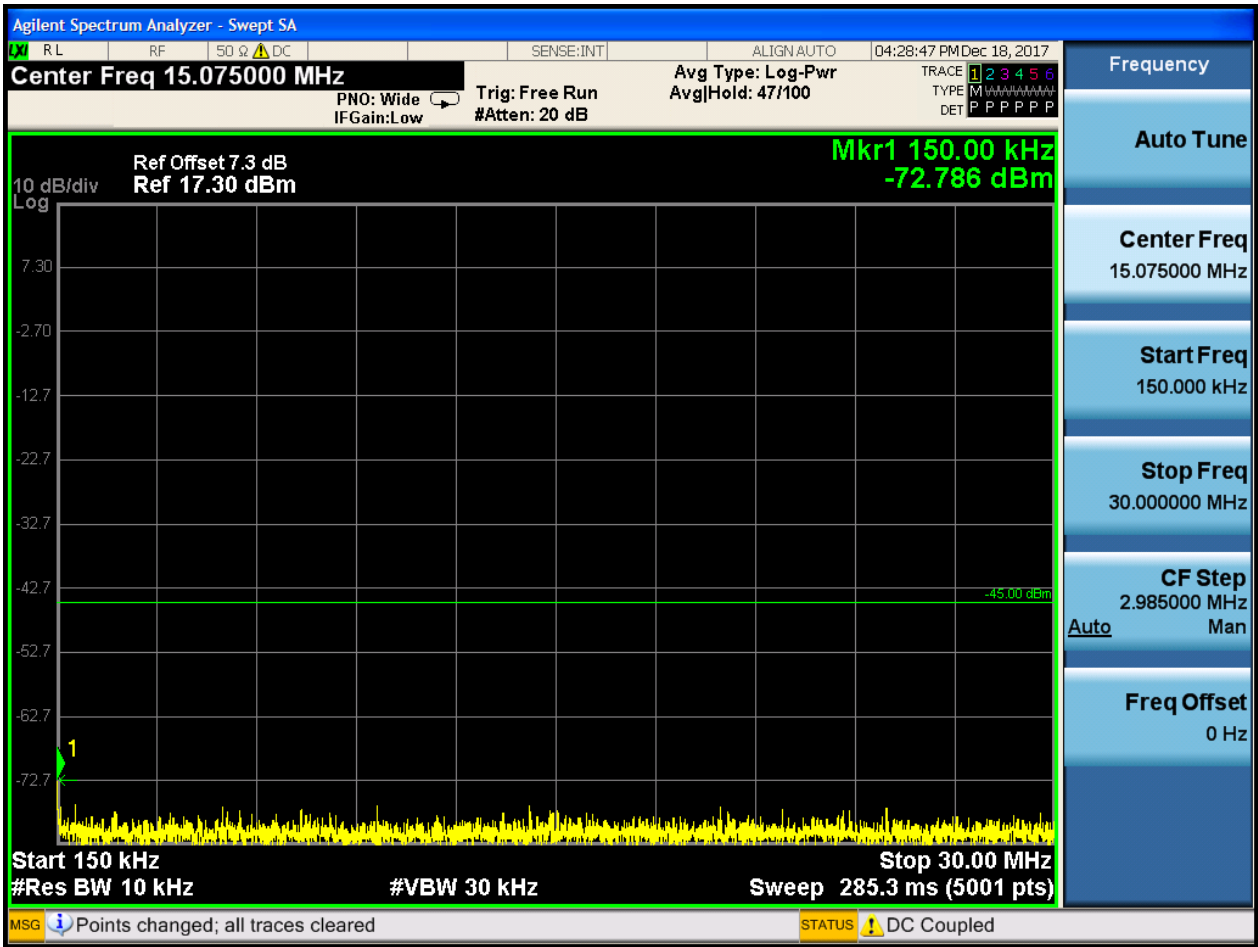




6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



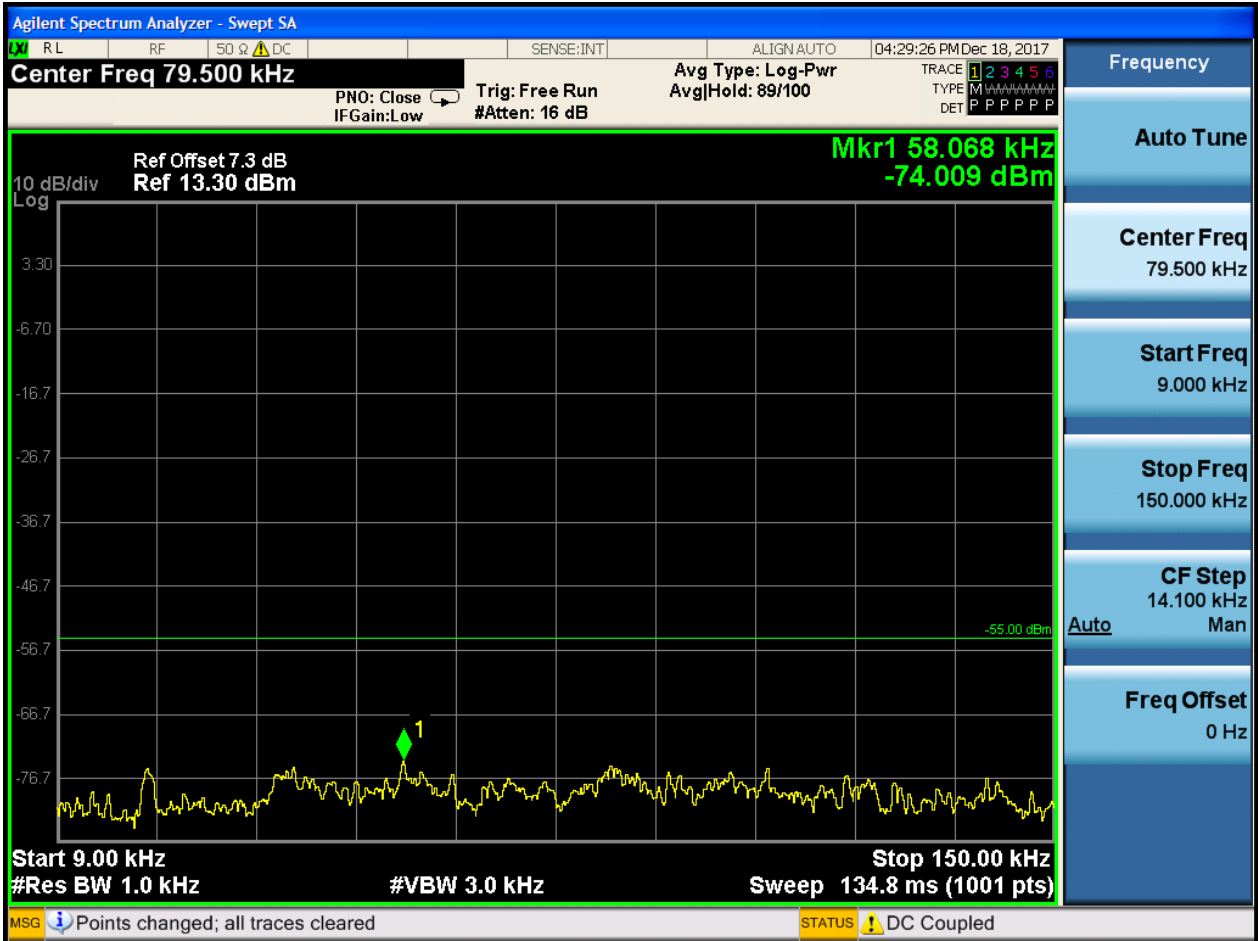


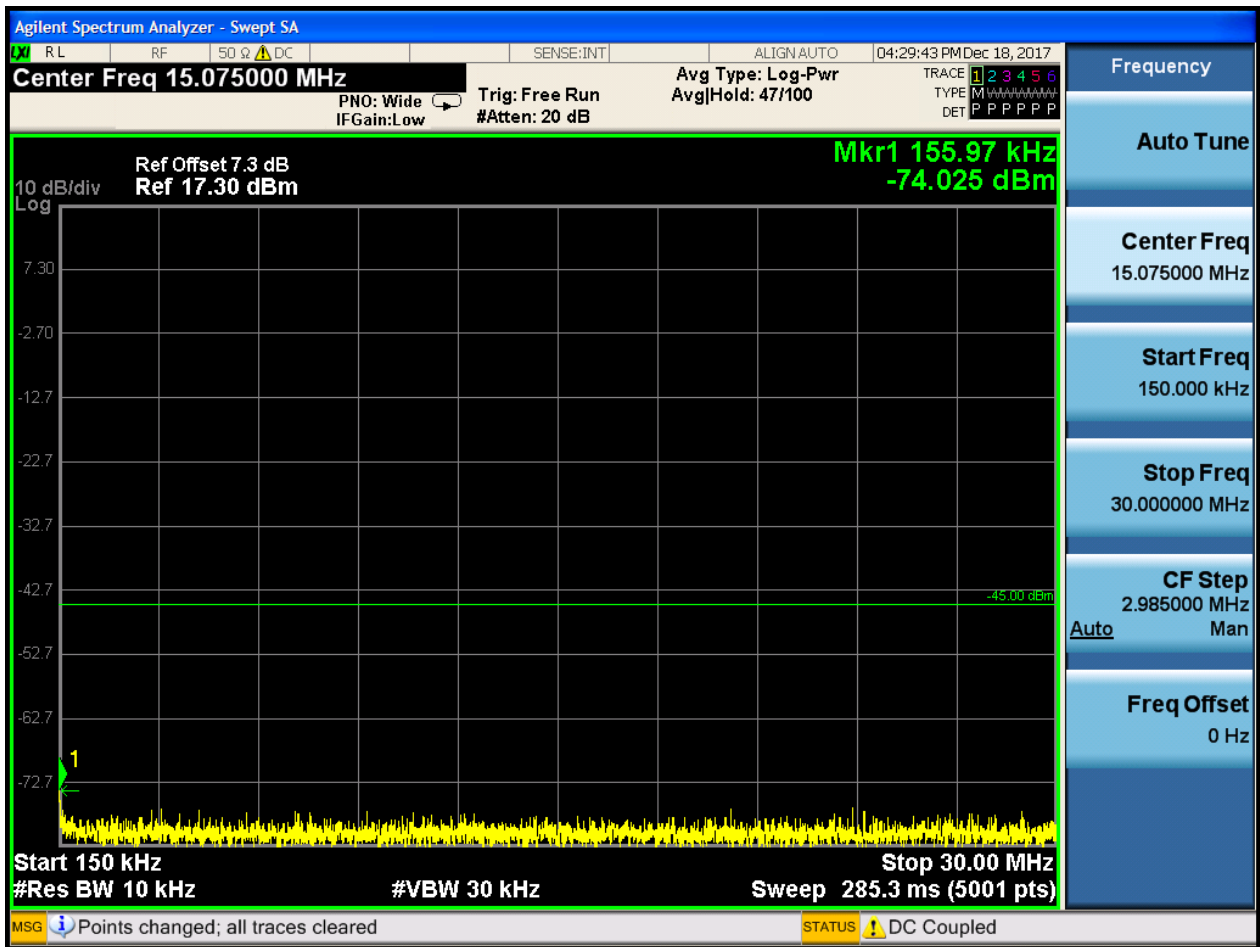


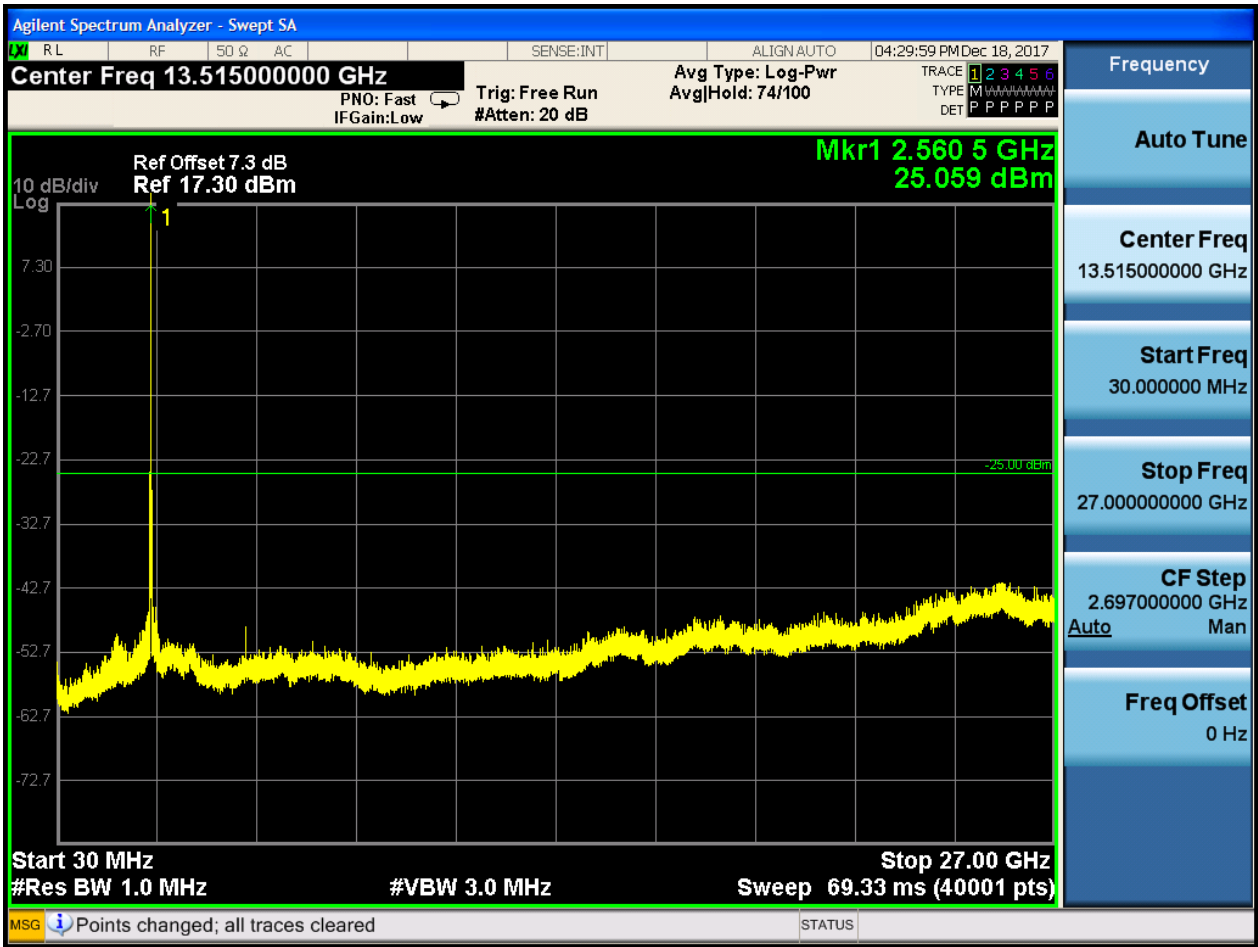


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





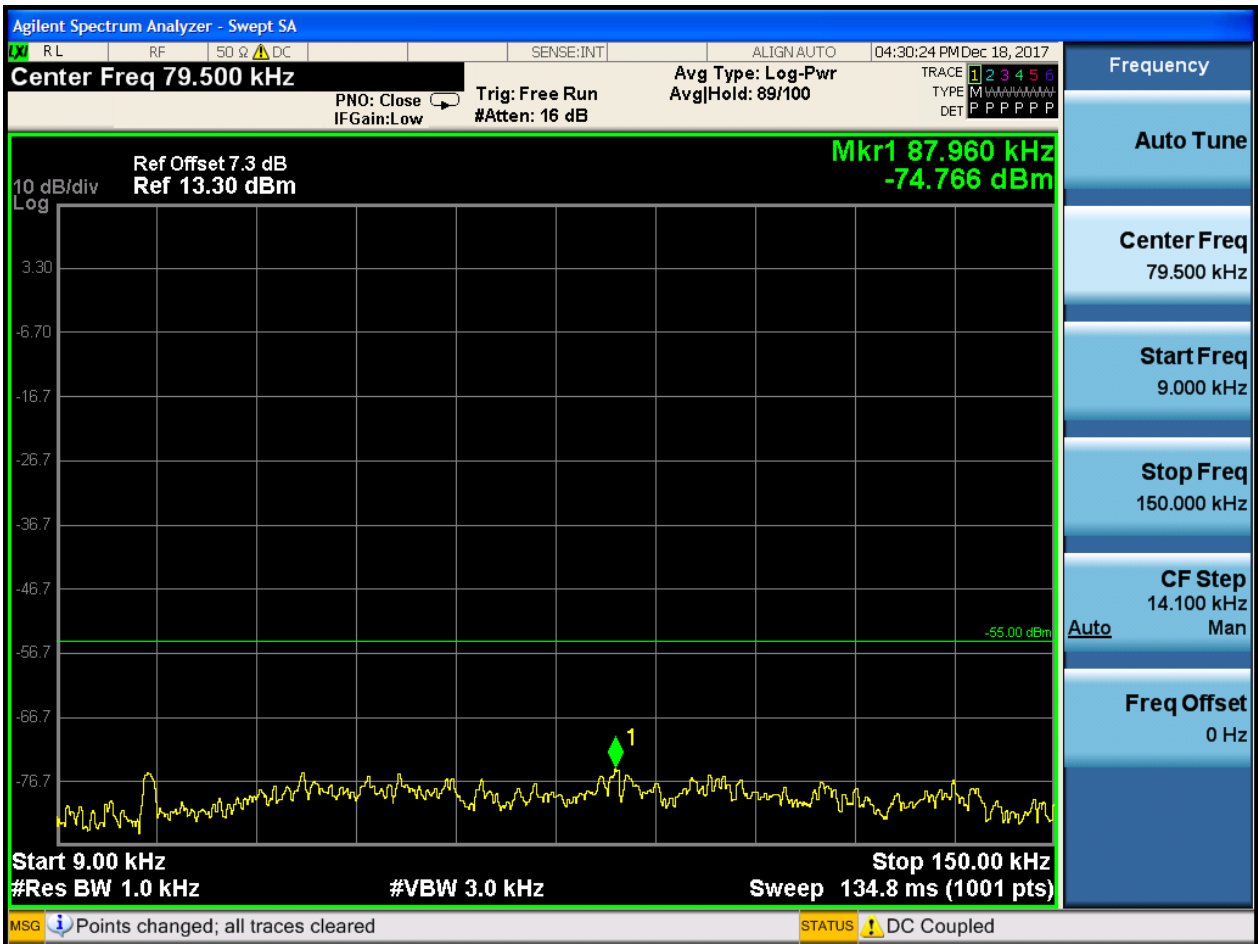


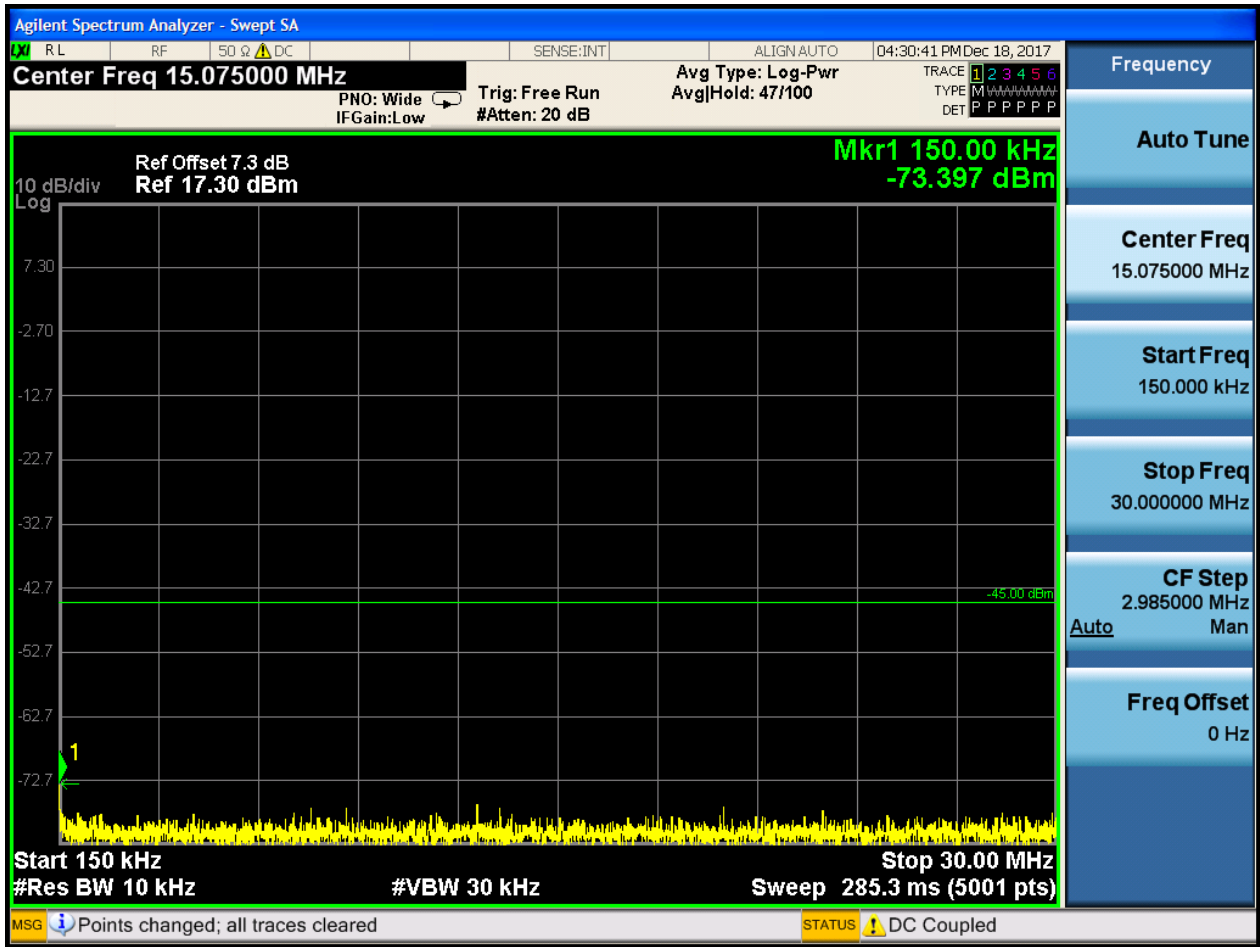


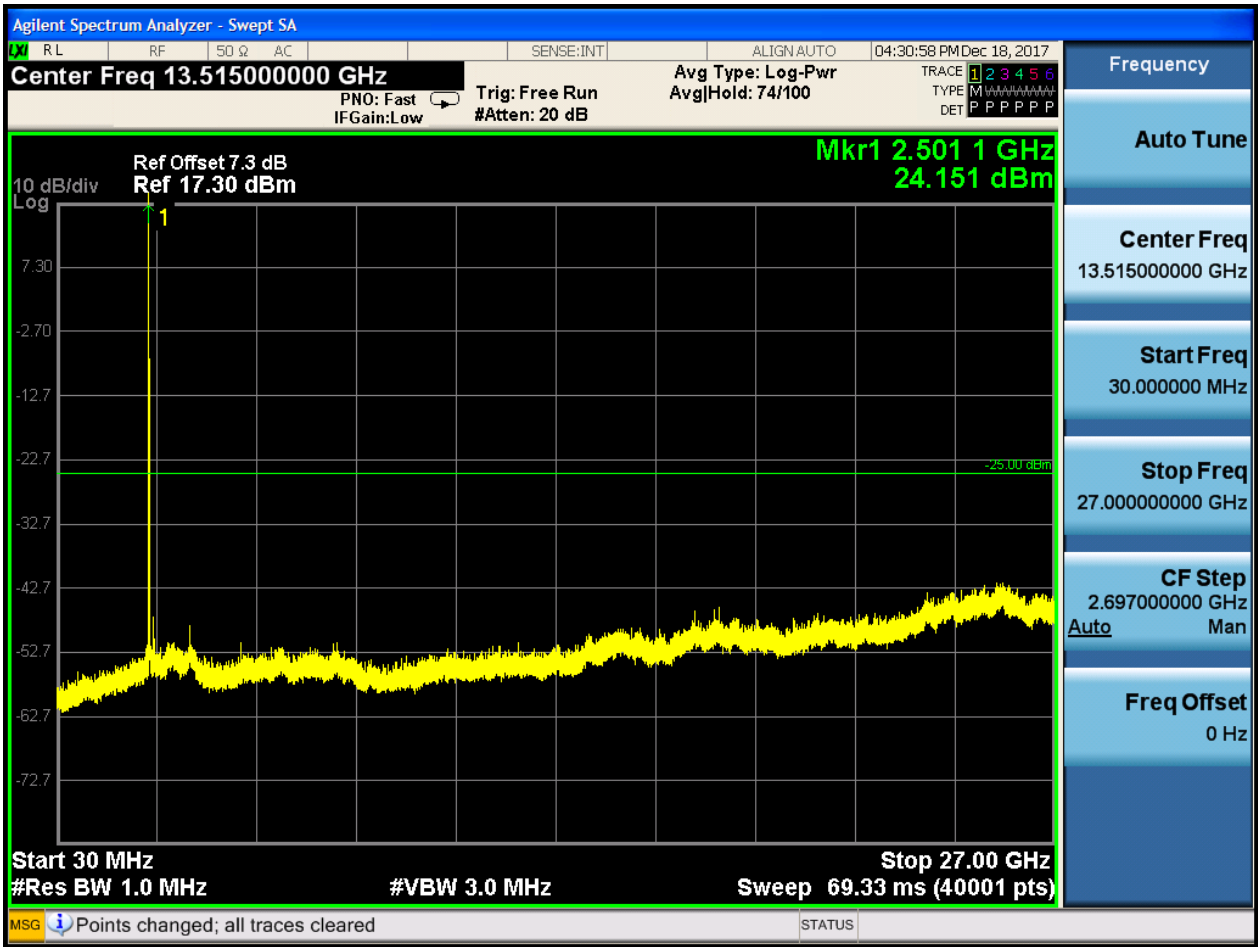
6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



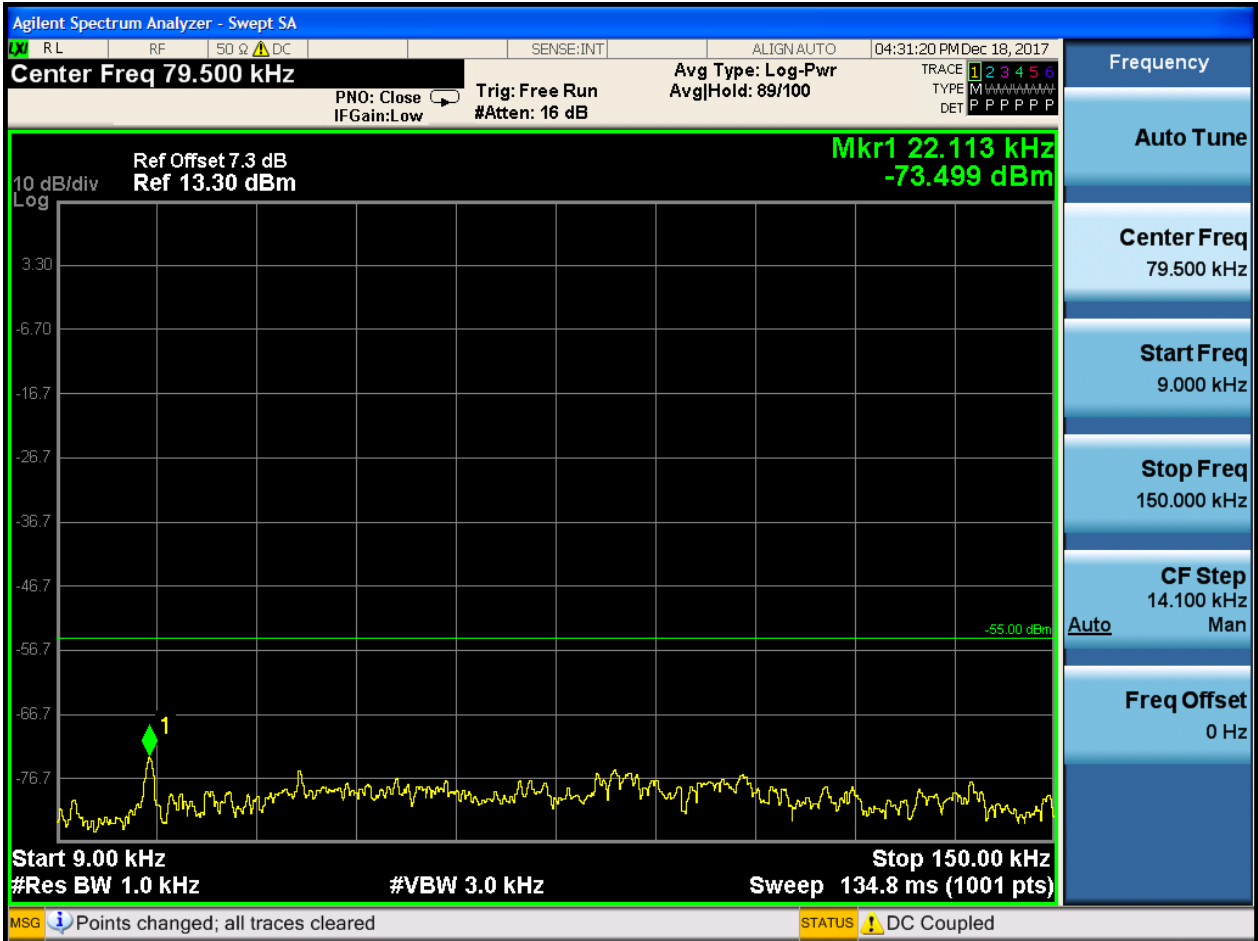






6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0

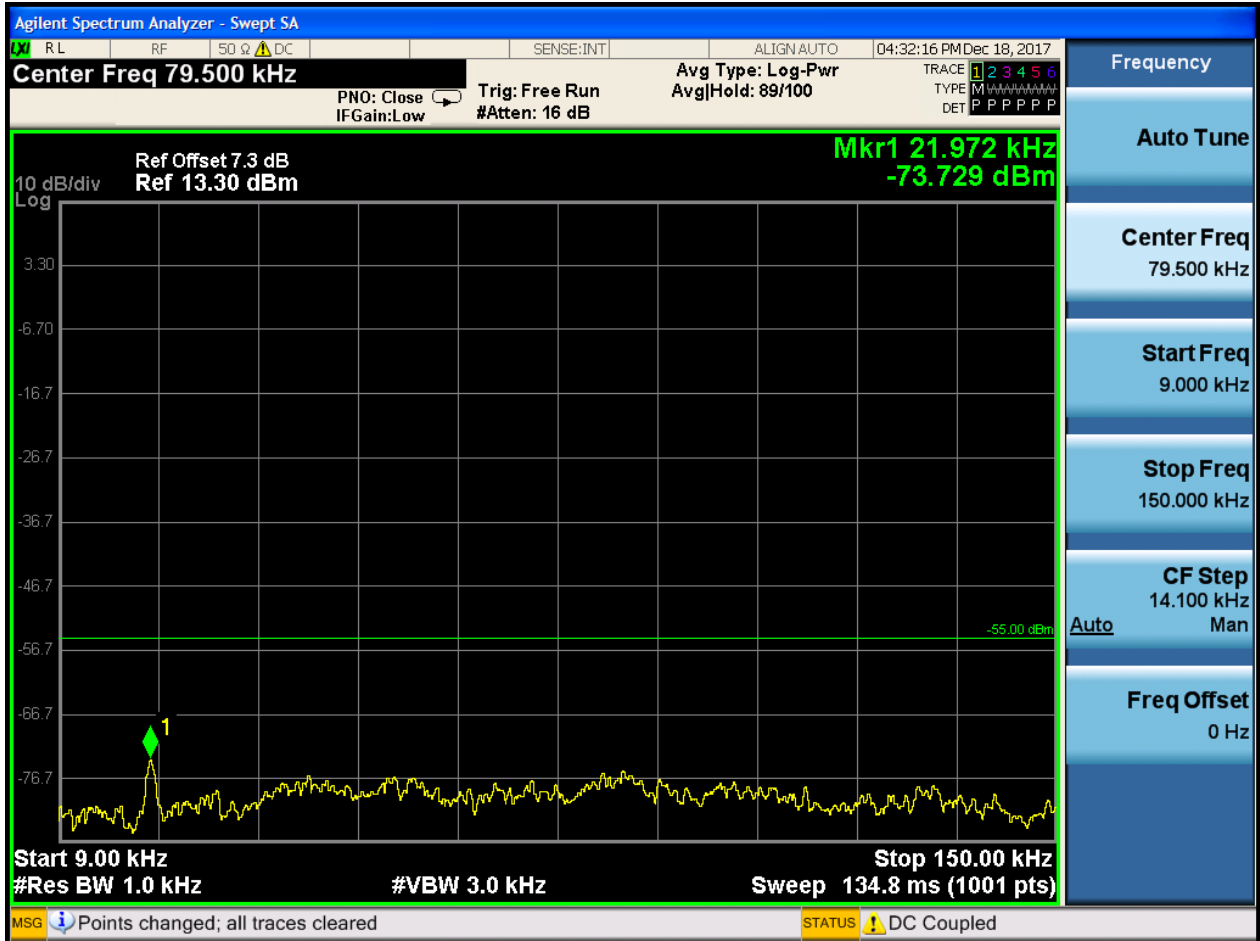


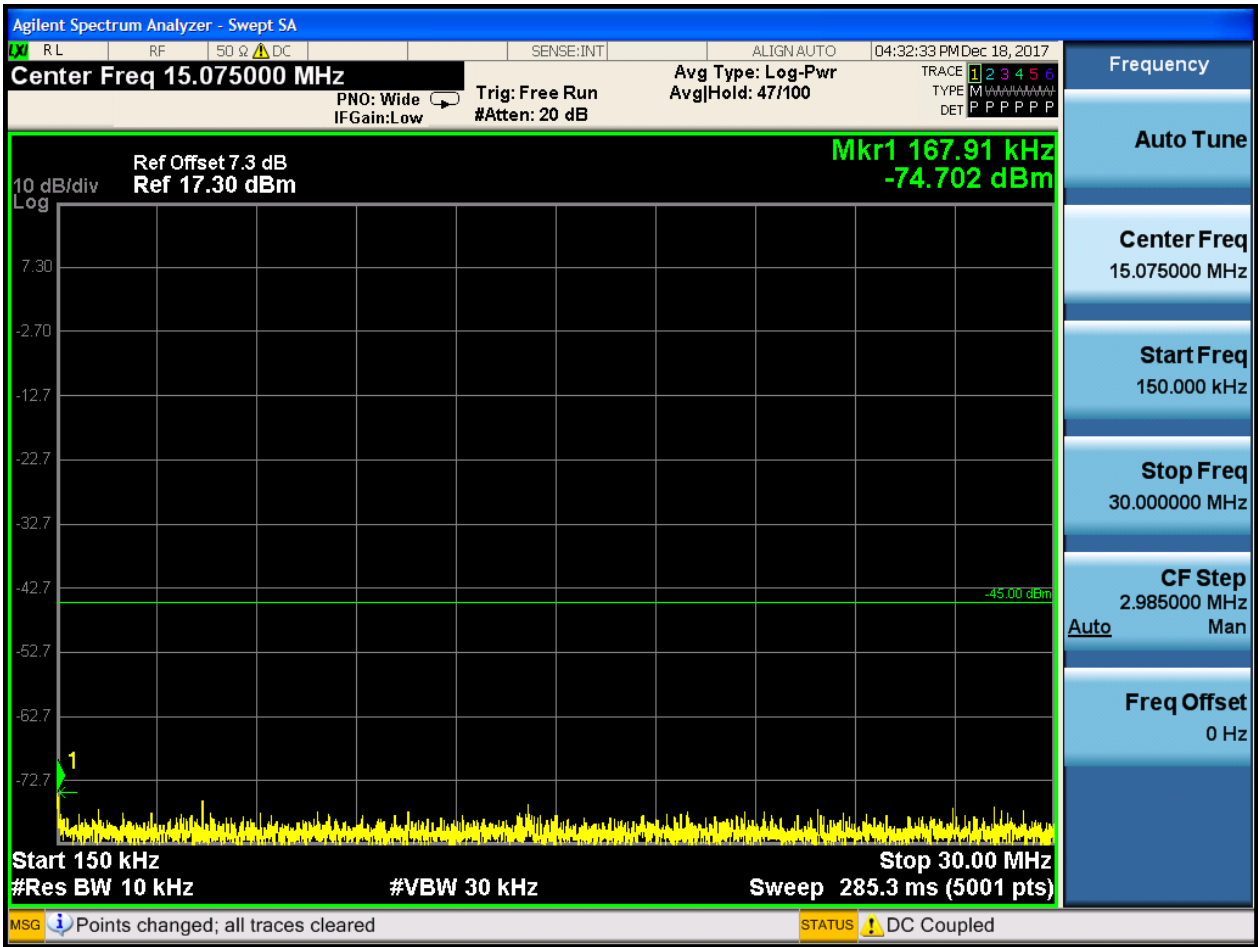


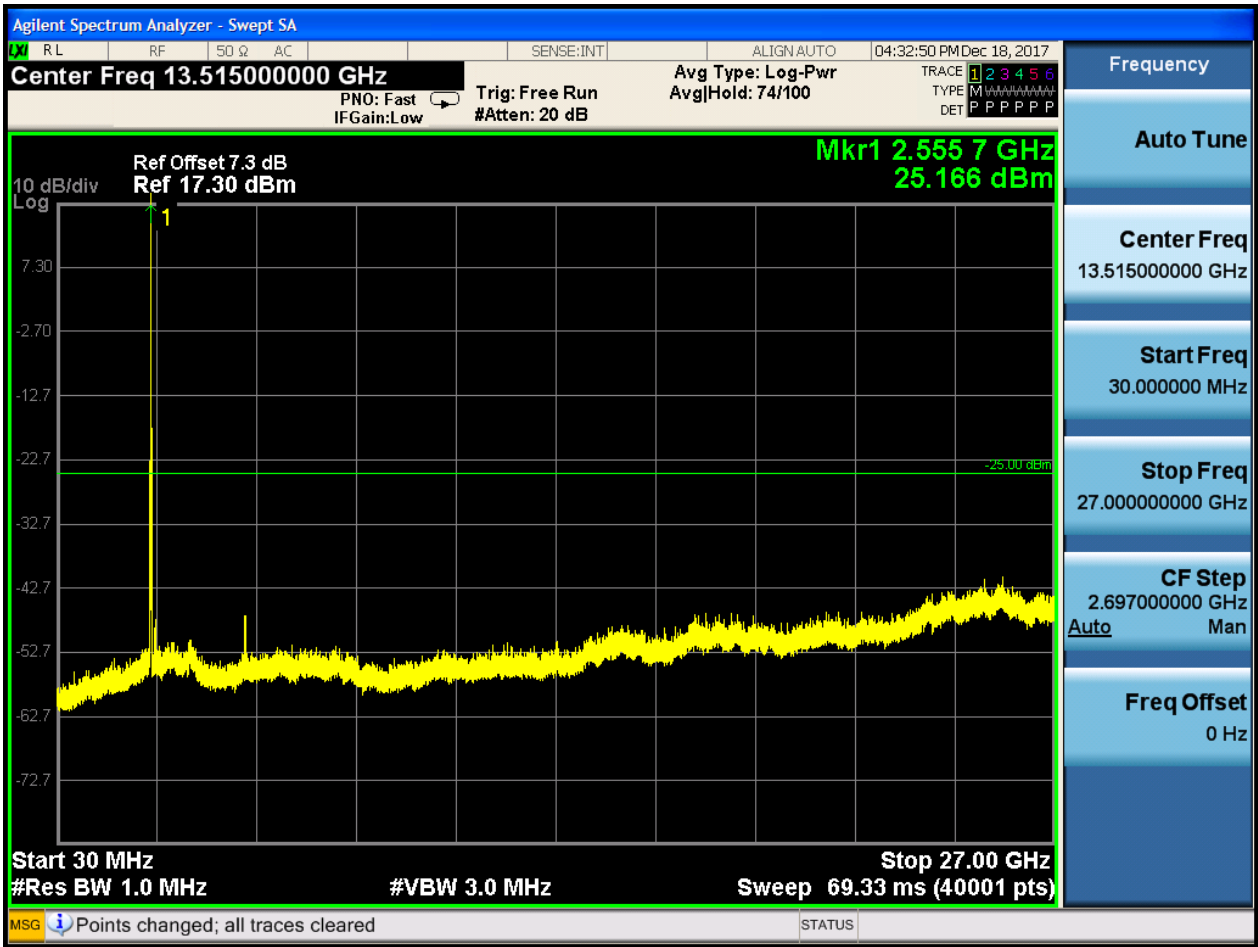


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





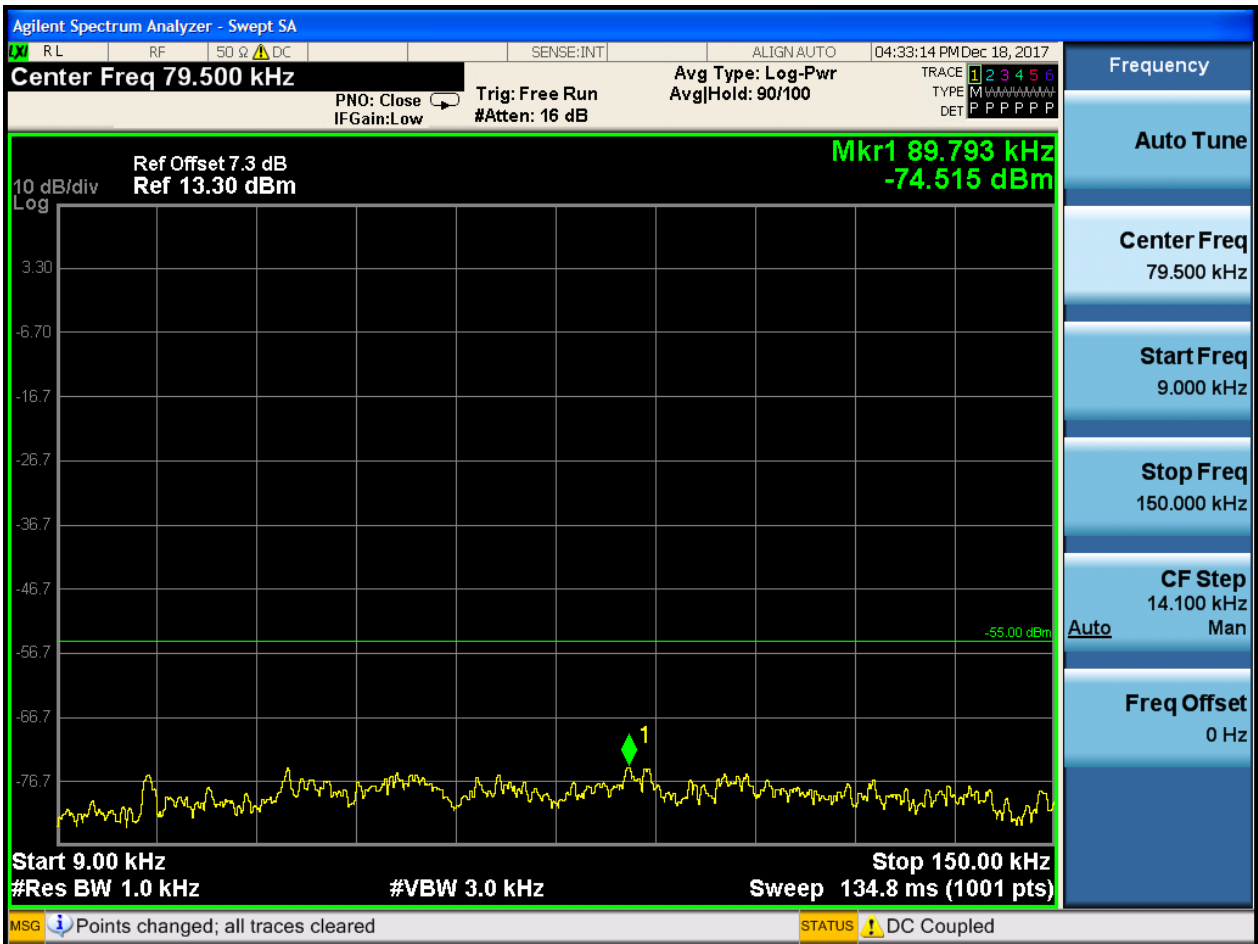


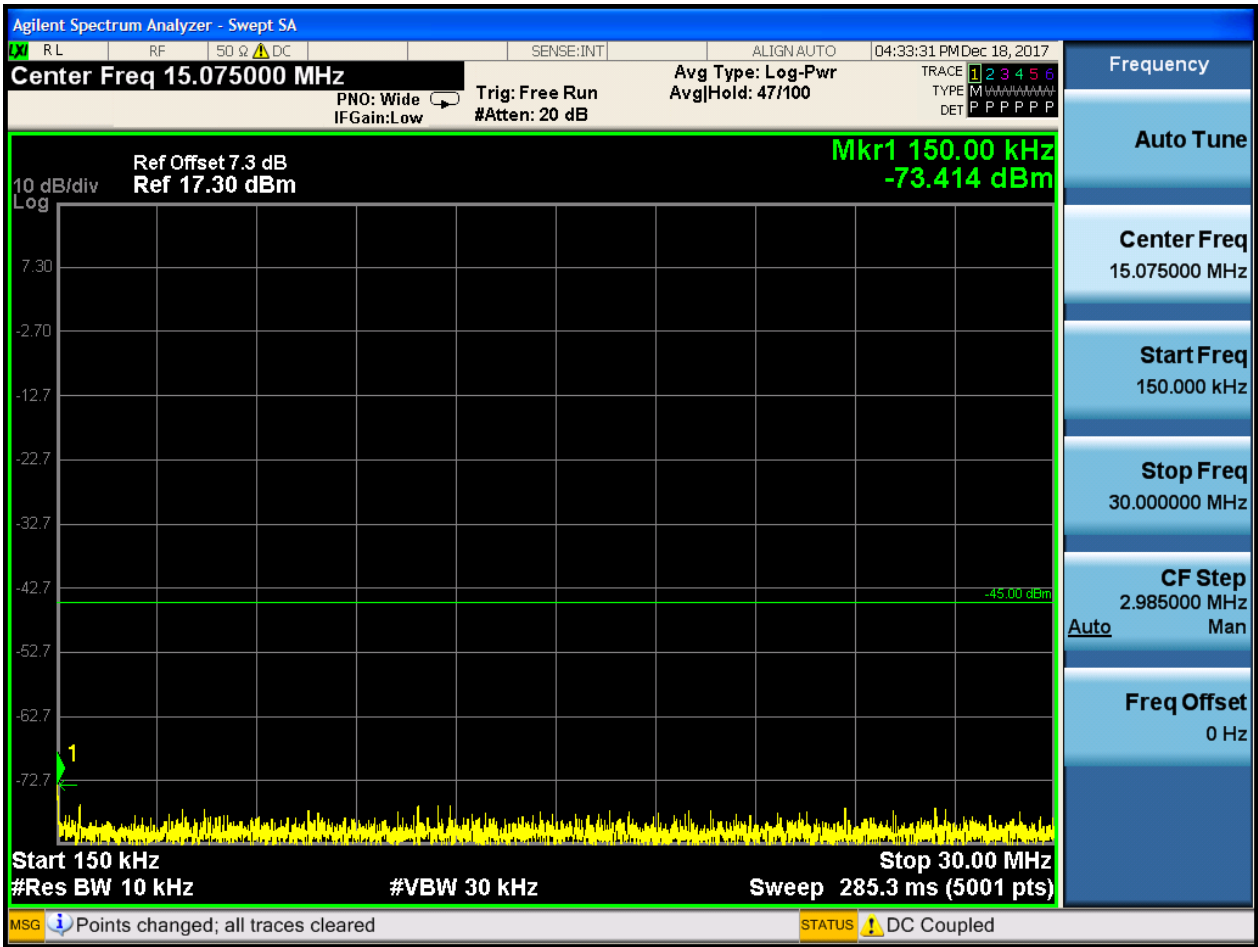


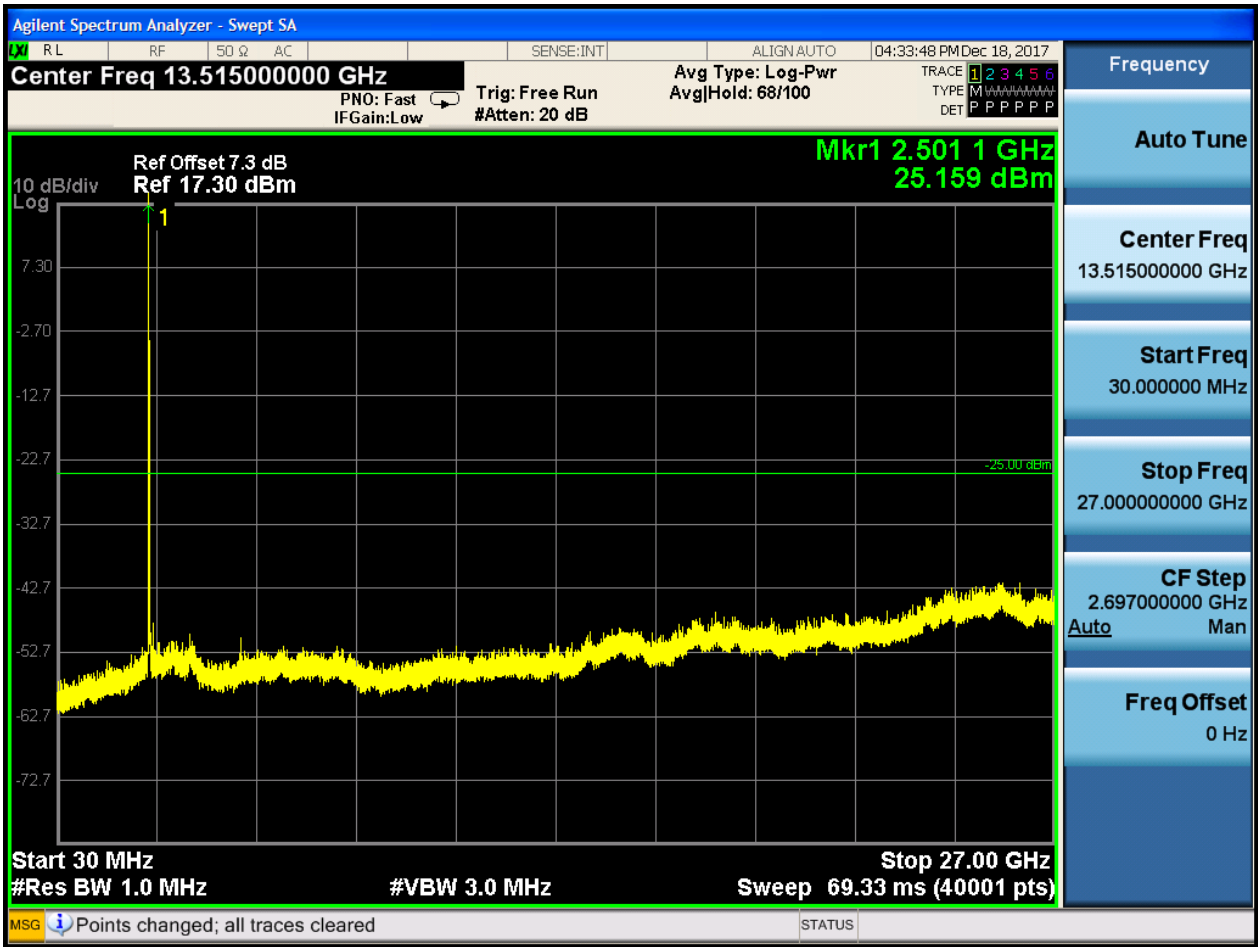
6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



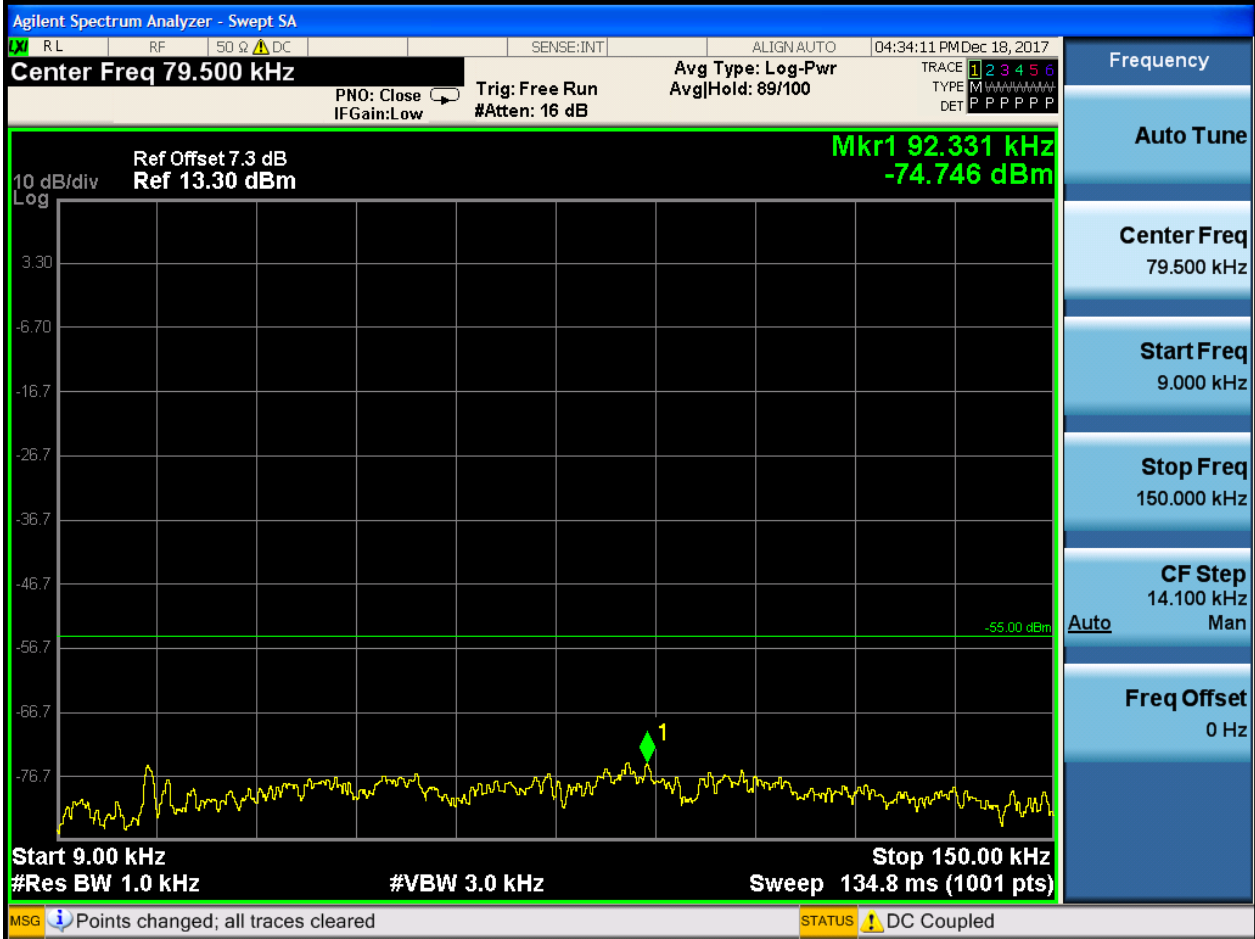


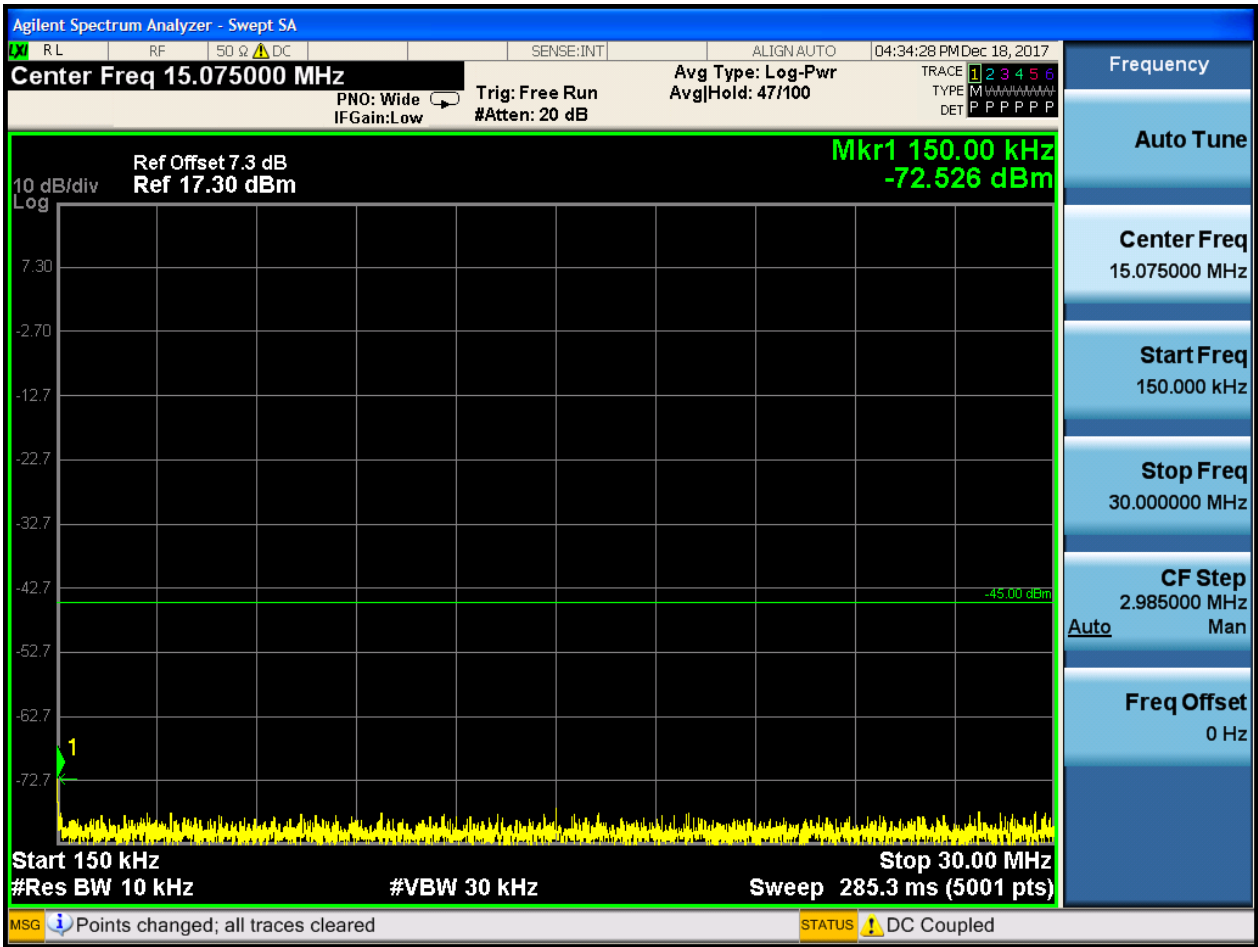




6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



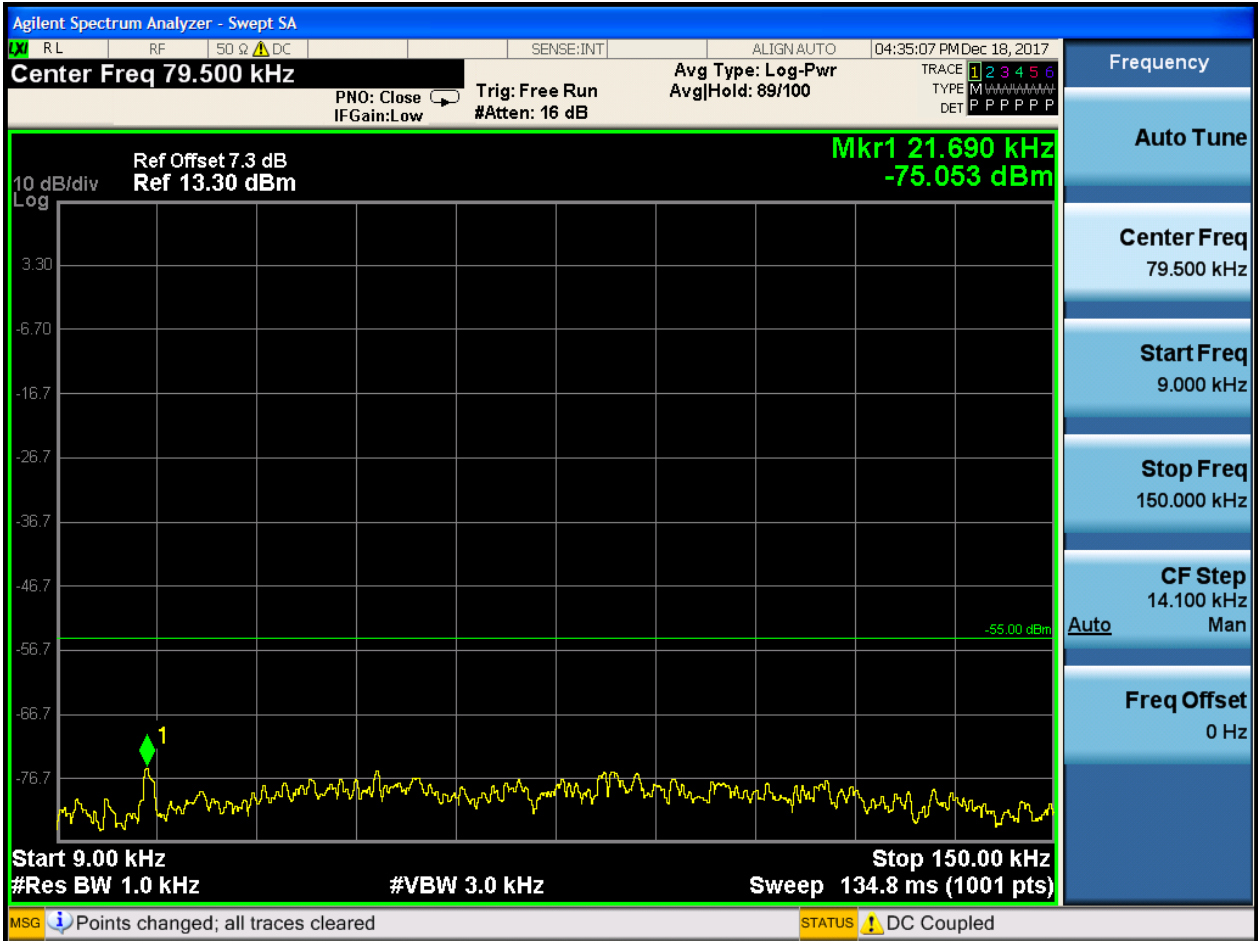


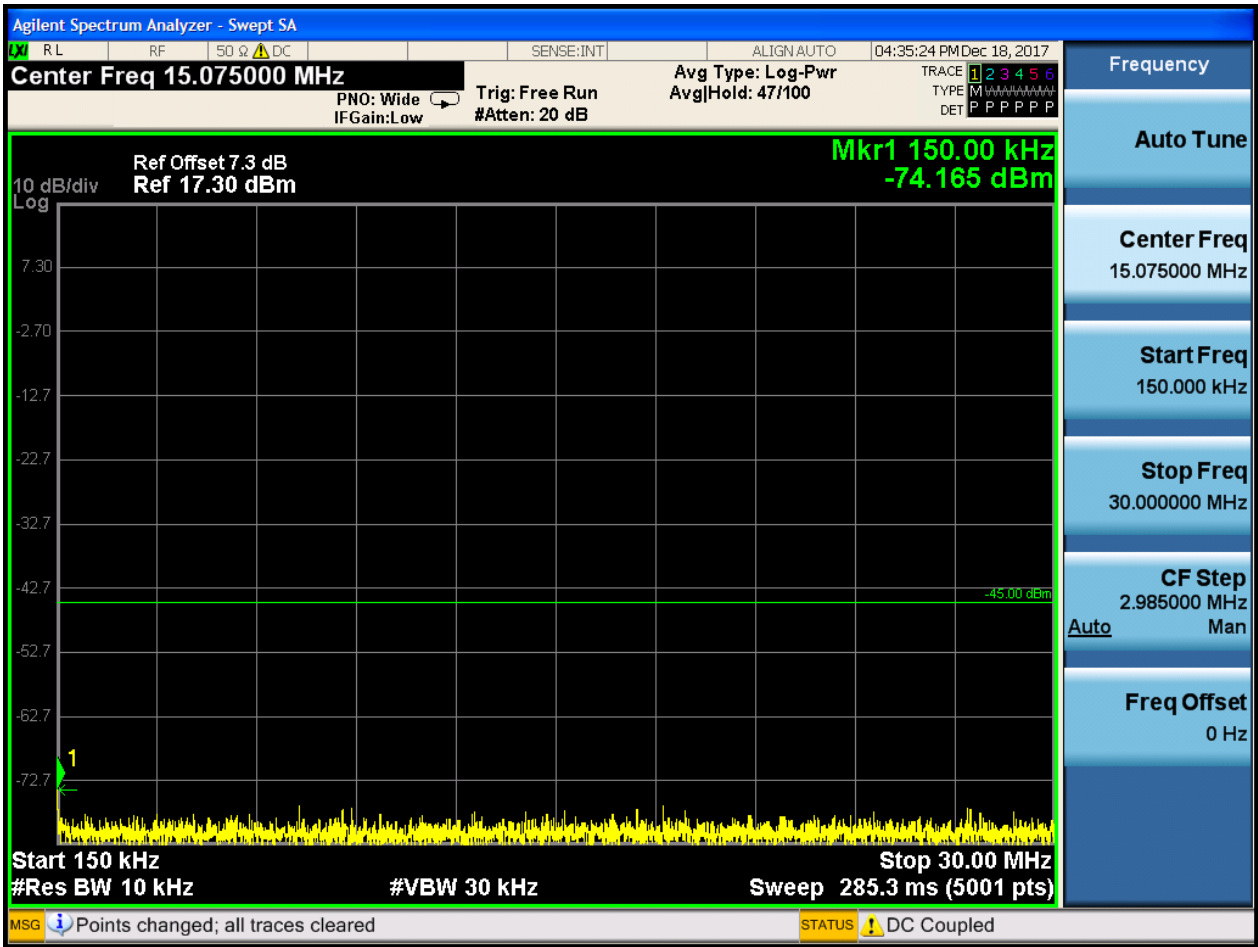


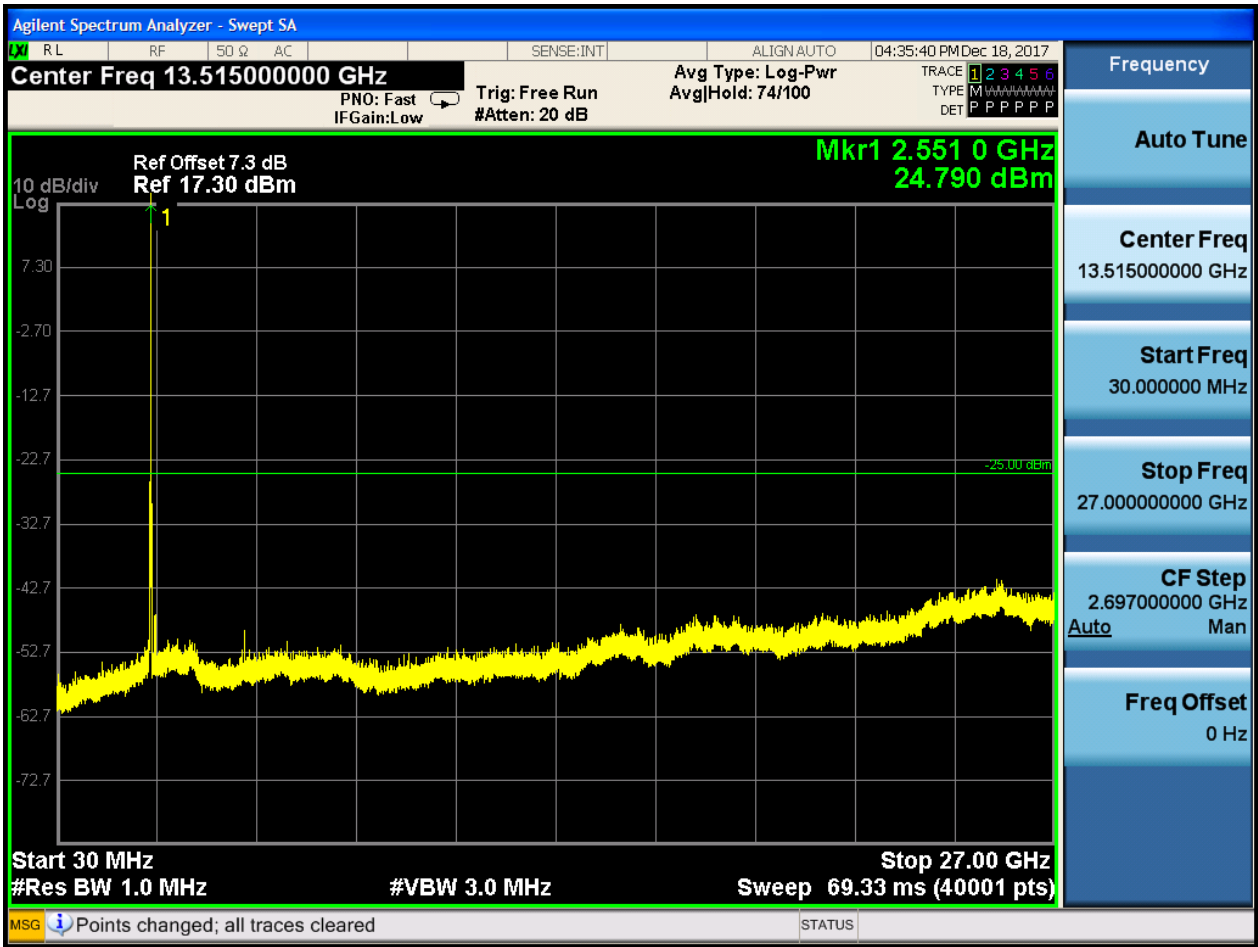


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







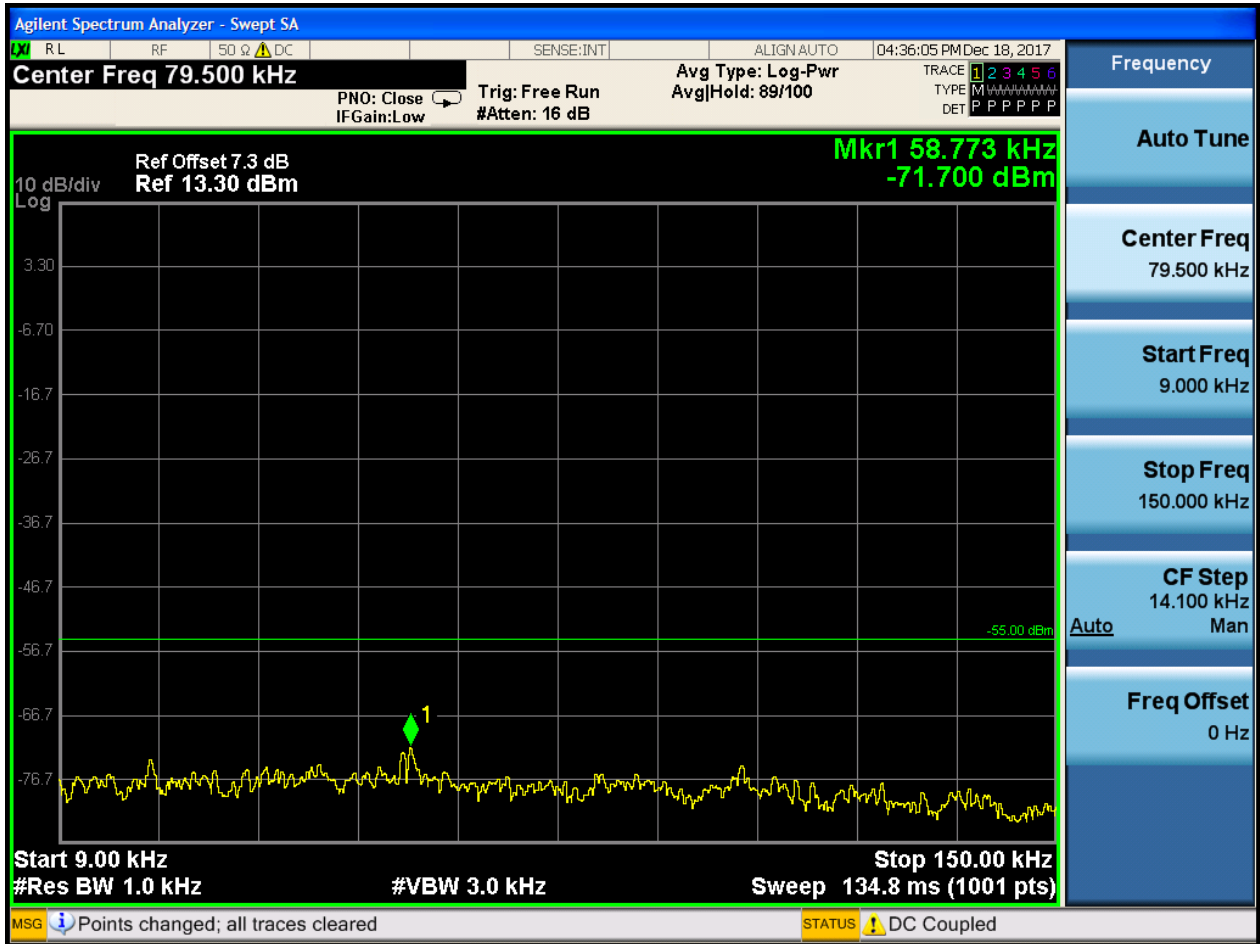


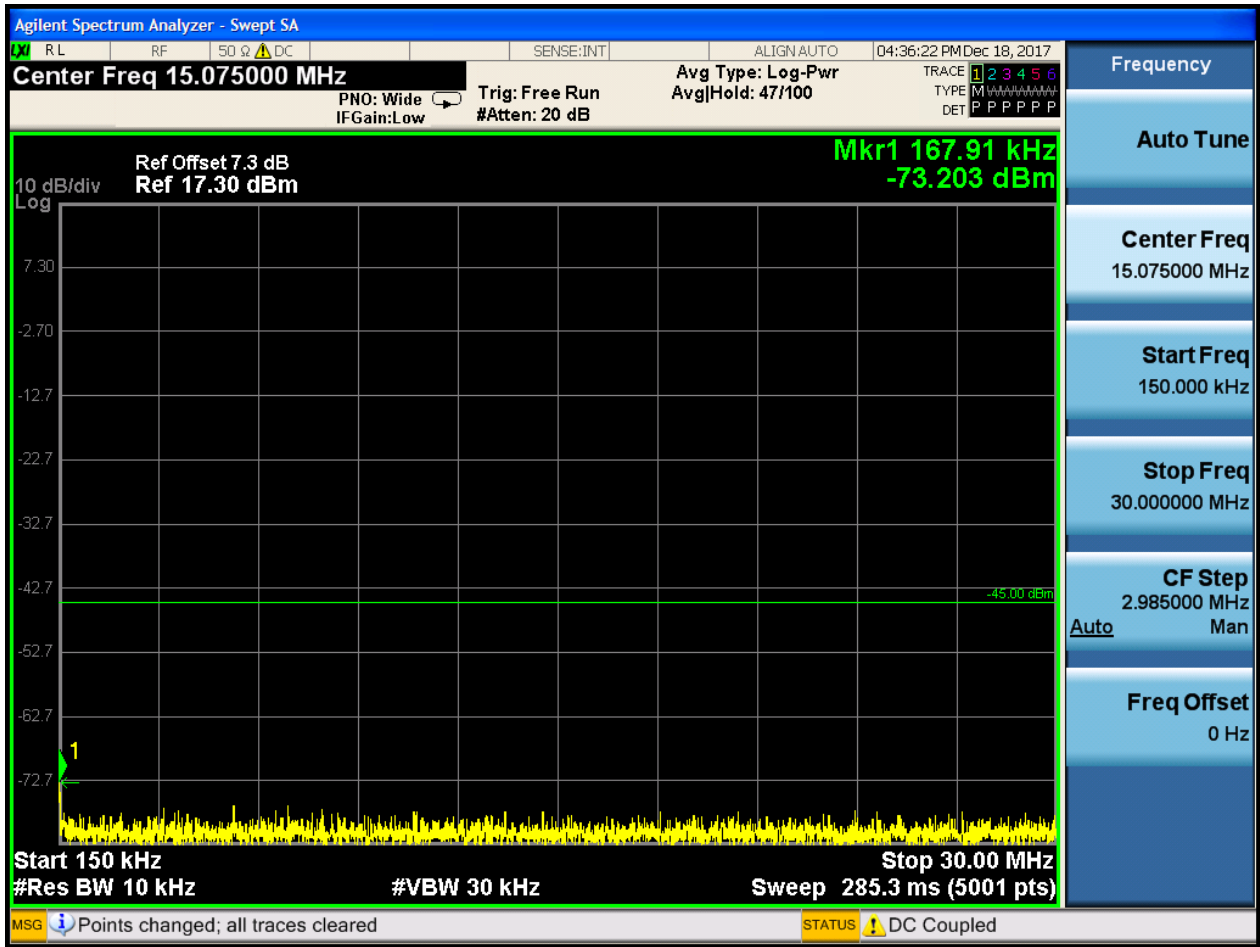
6.1.1.2 Test Mode = LTE/TM2

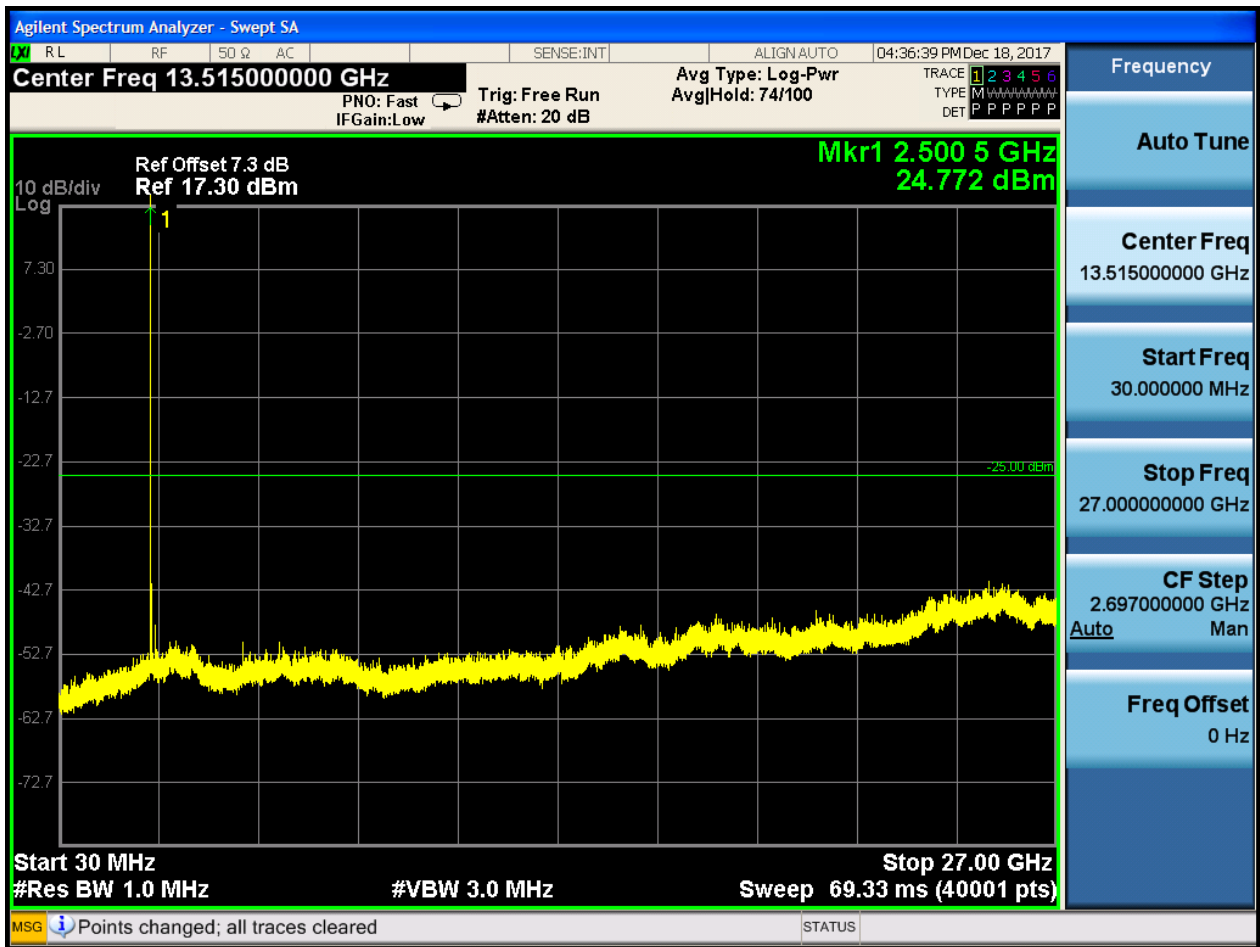
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0



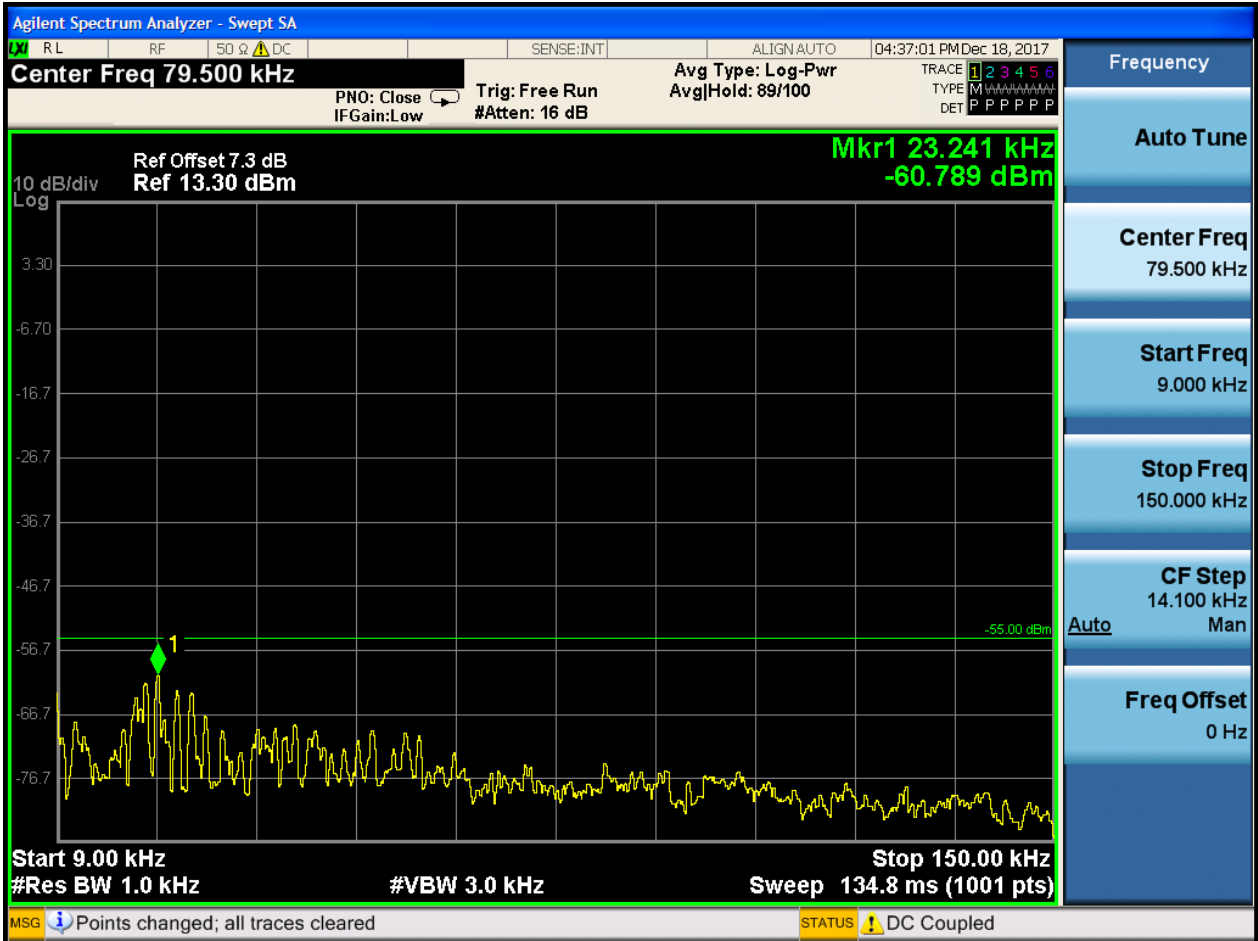


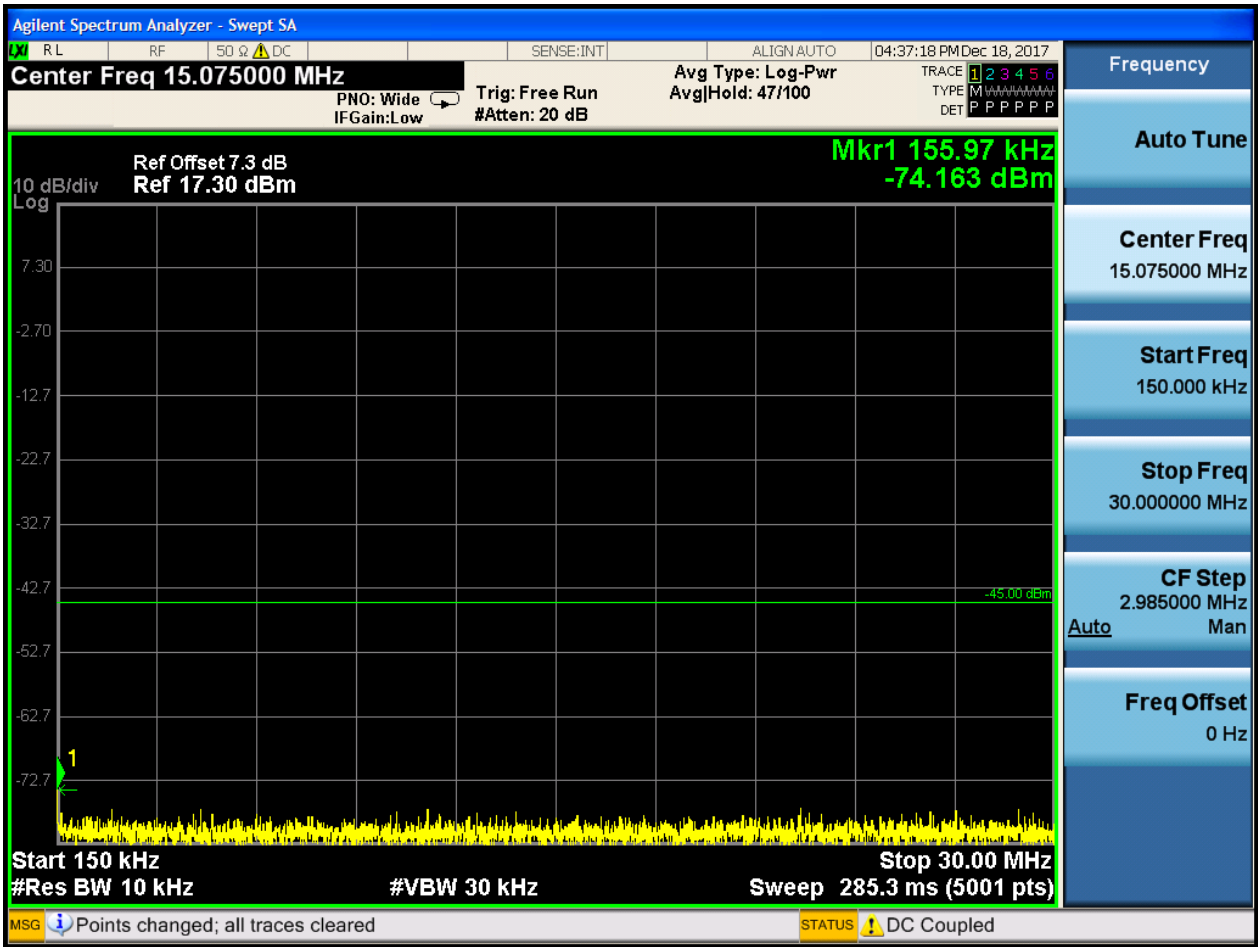


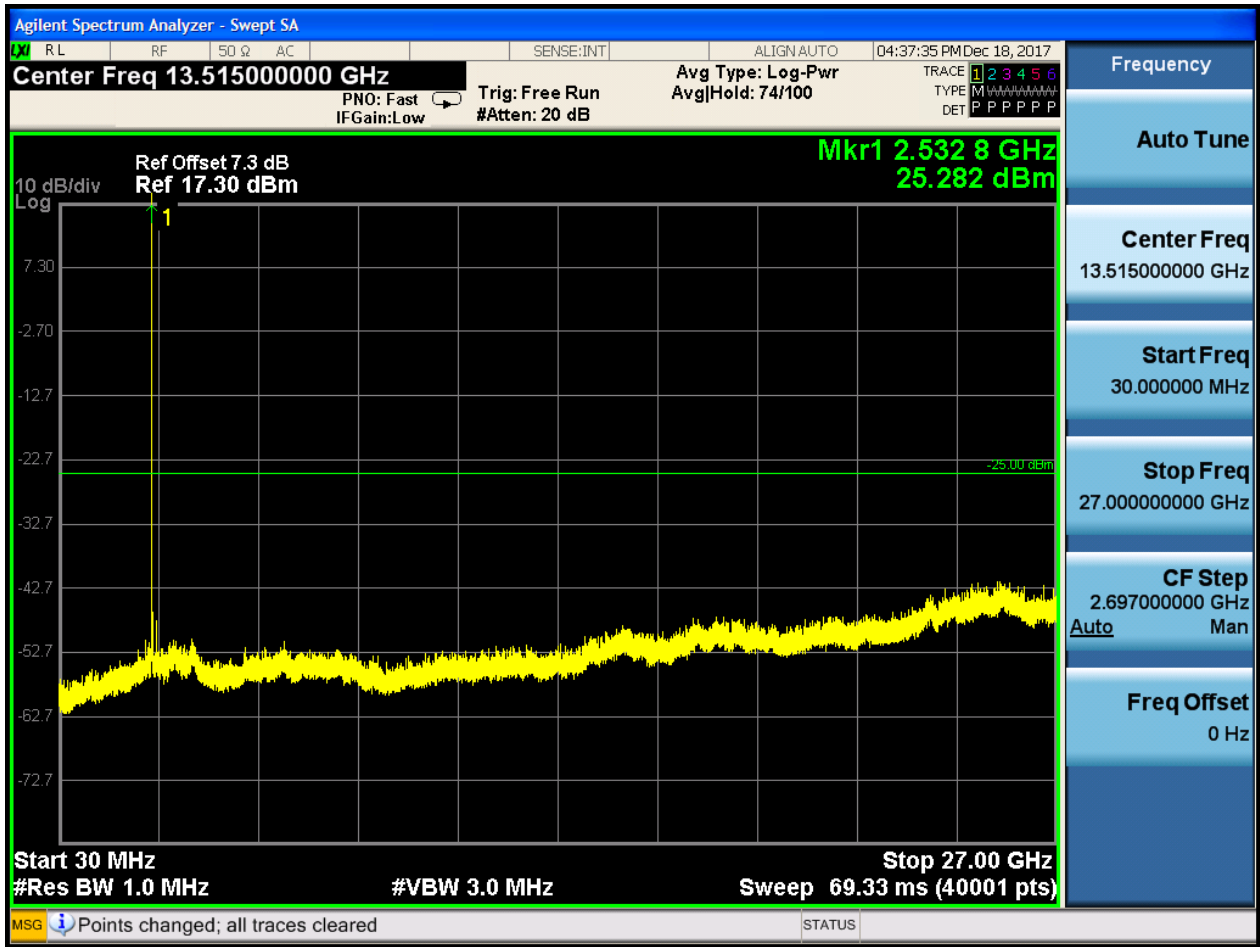


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0



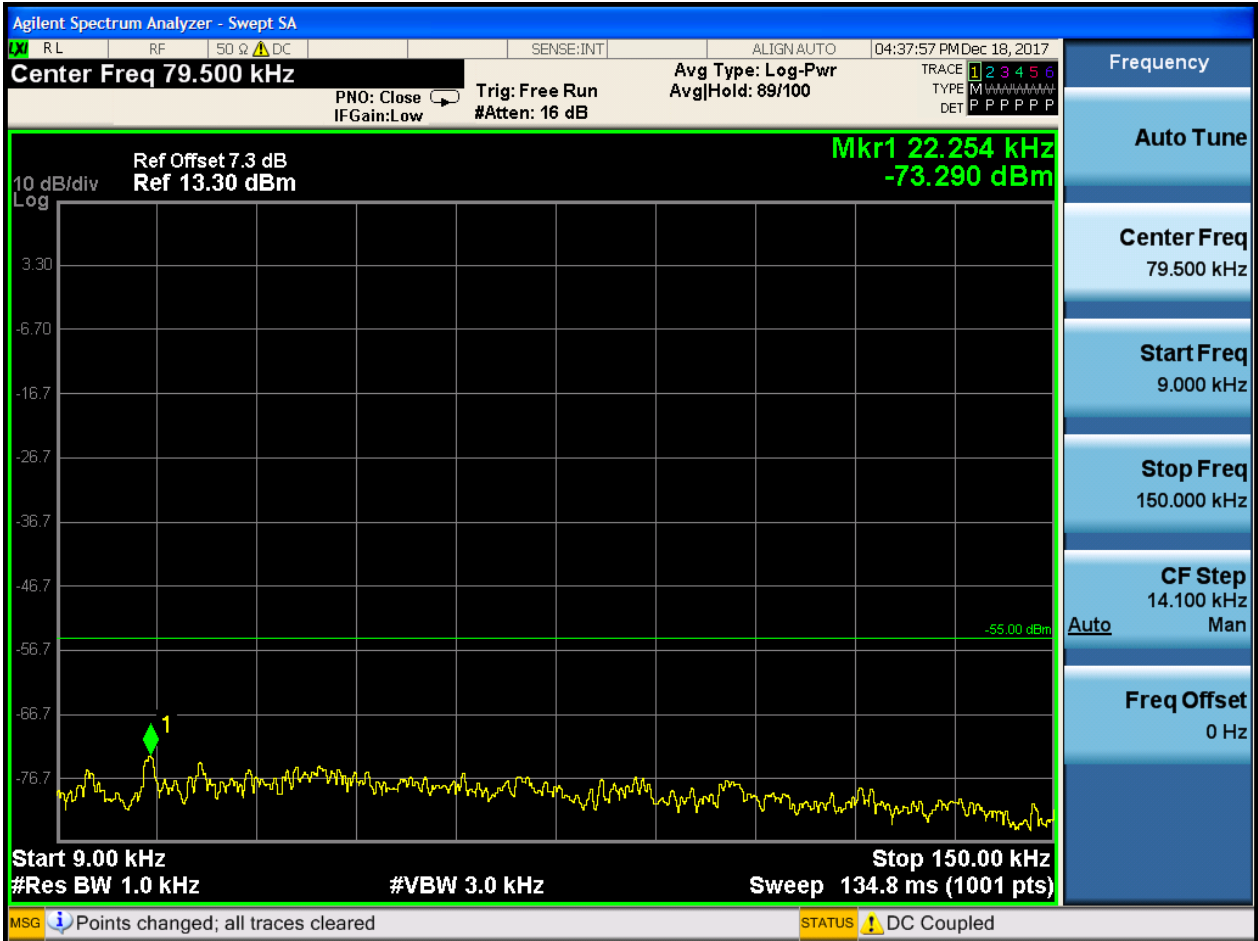


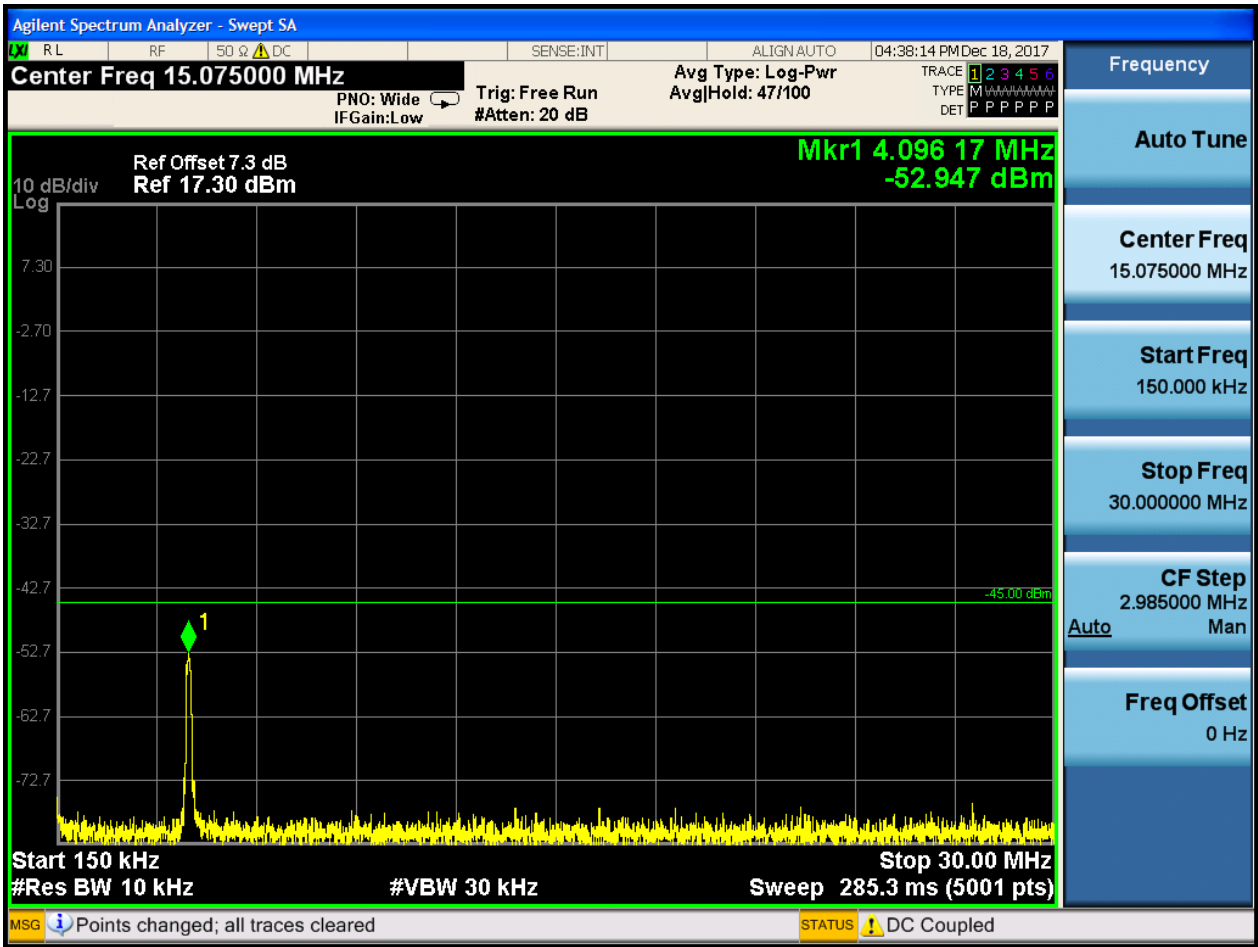




6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





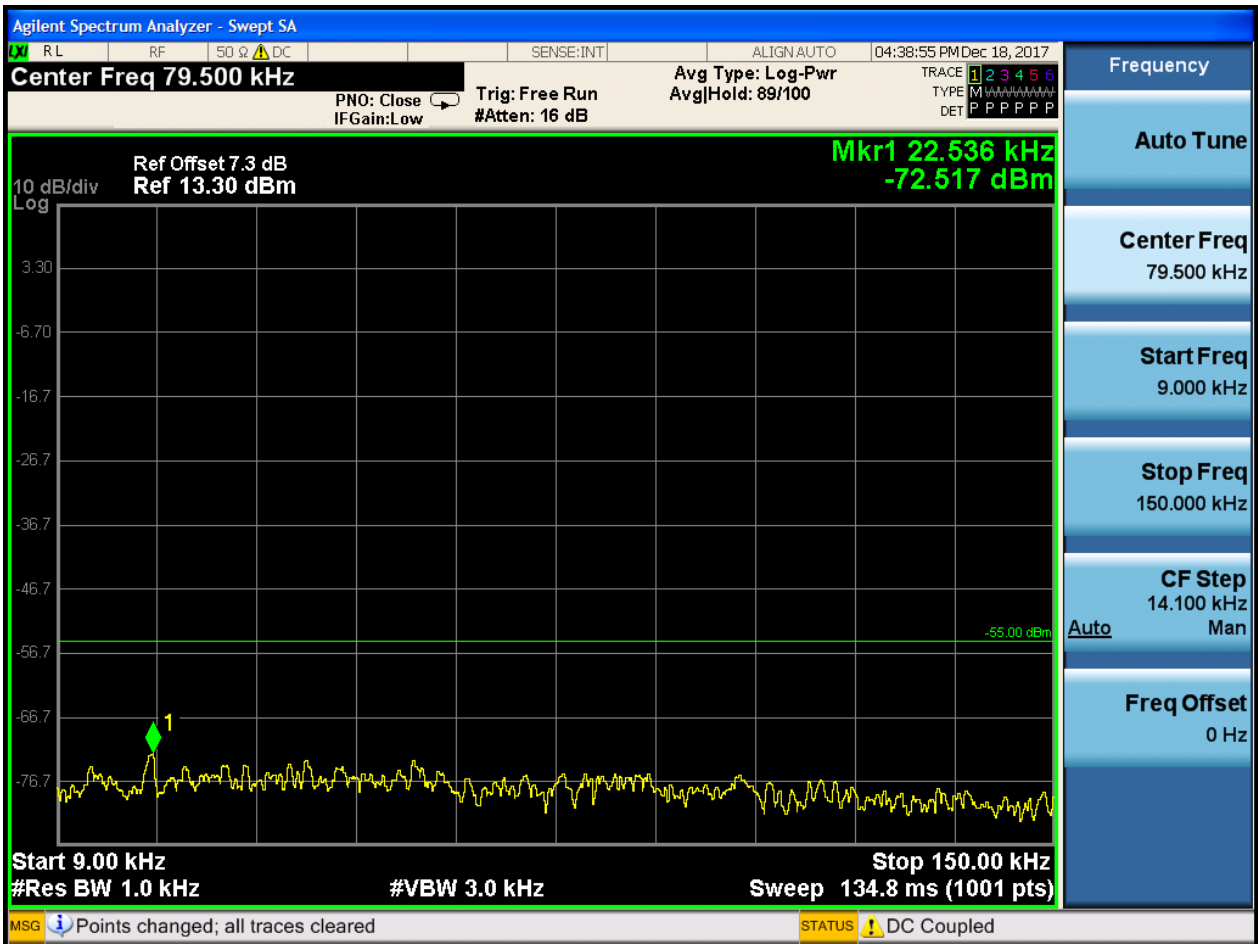


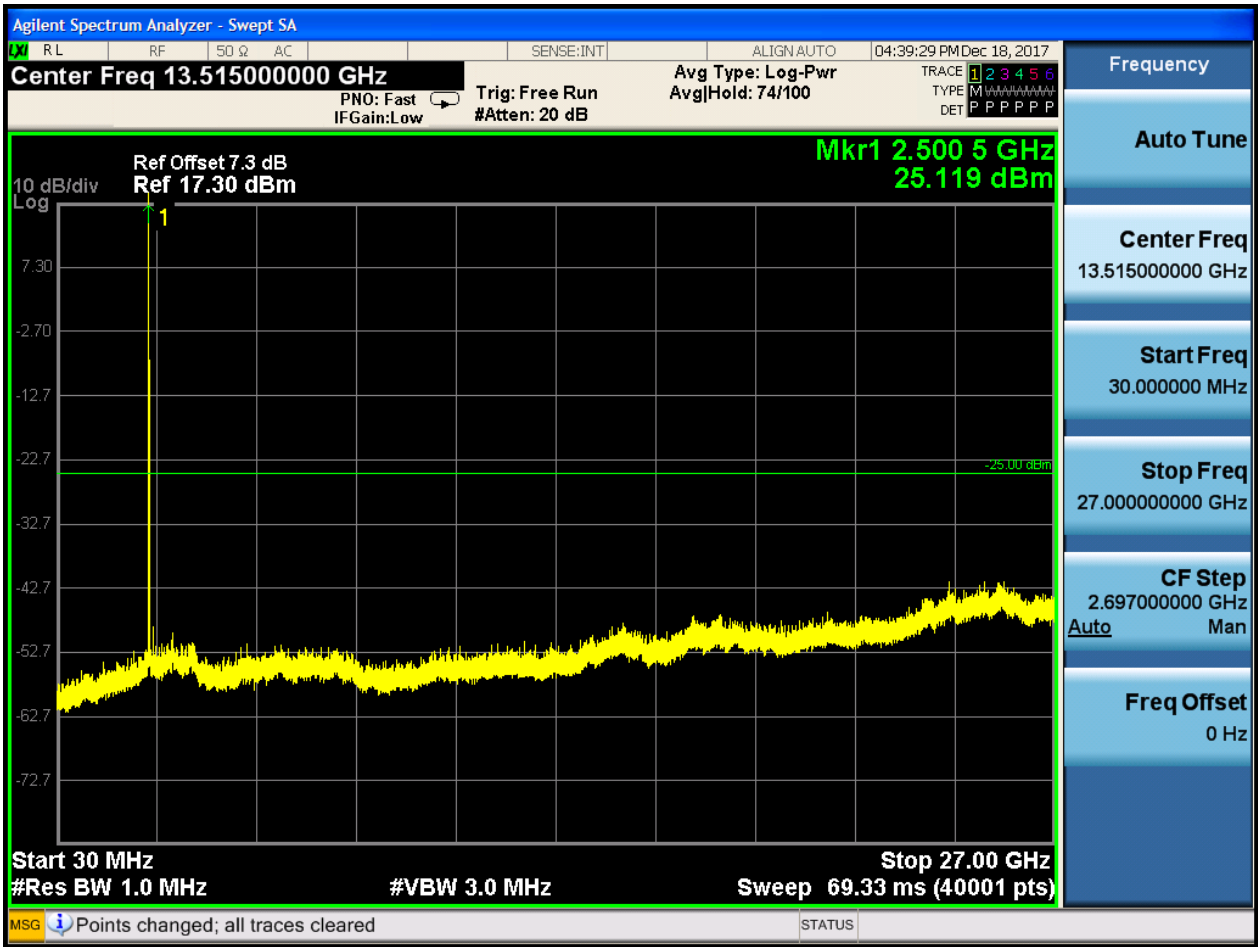


6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

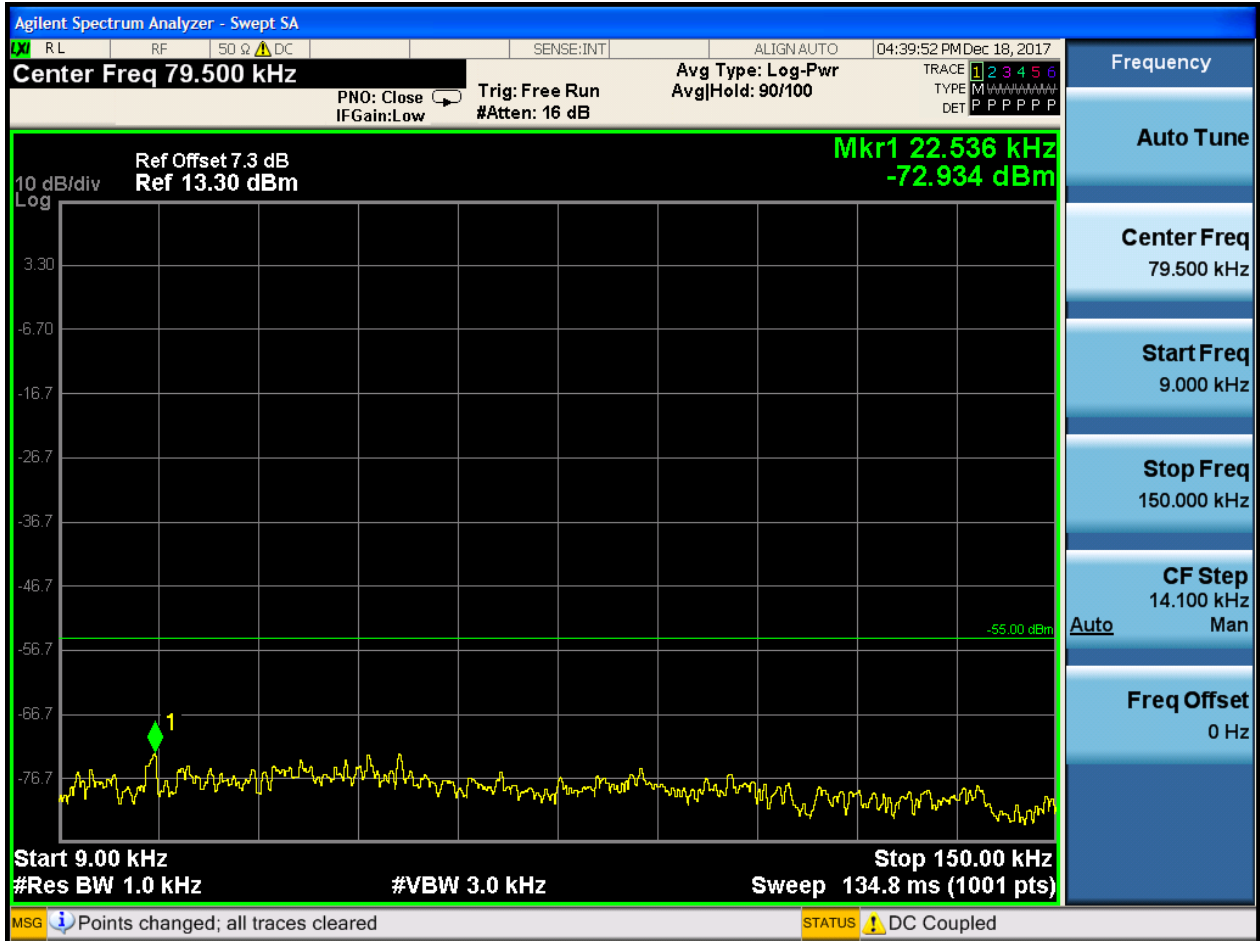


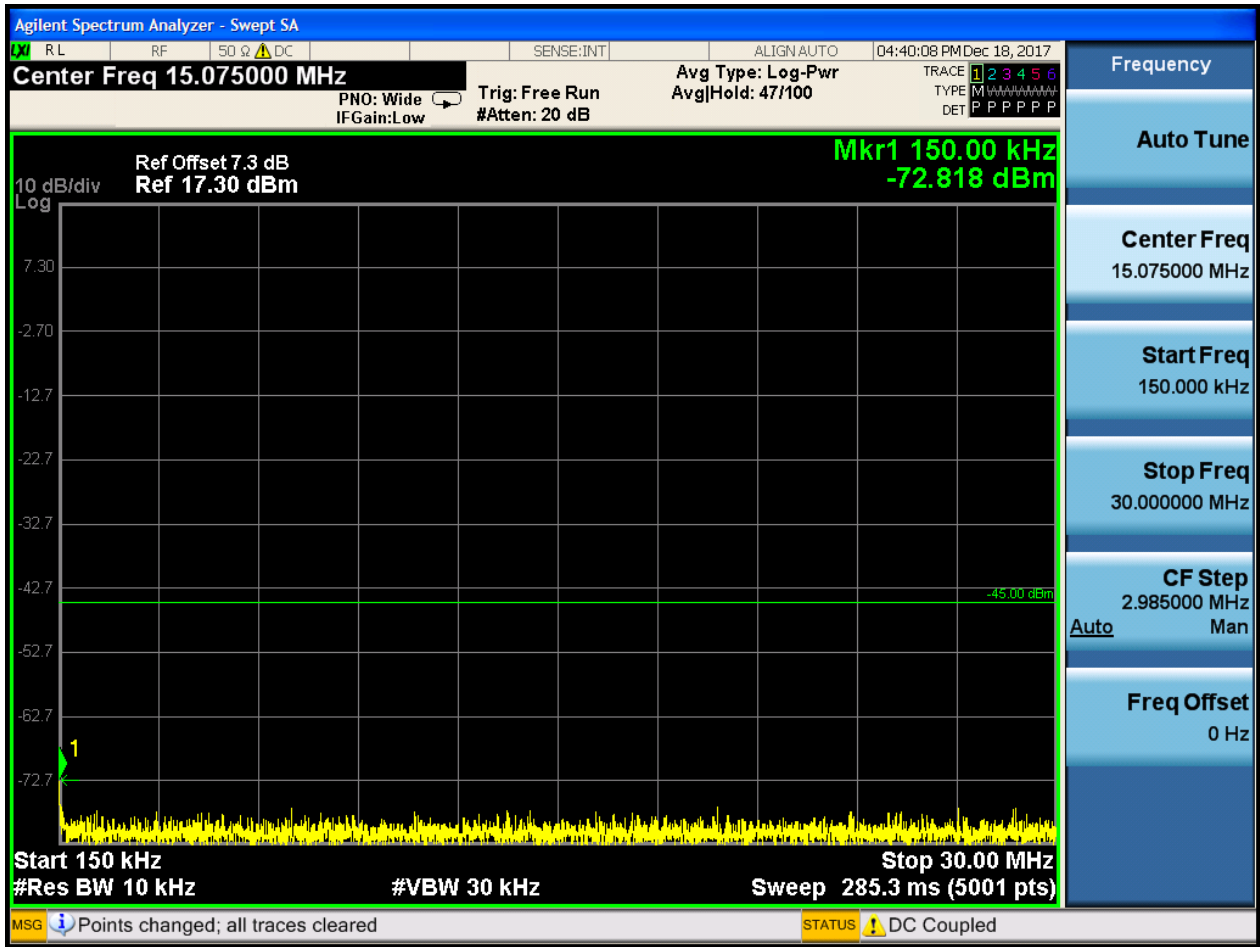


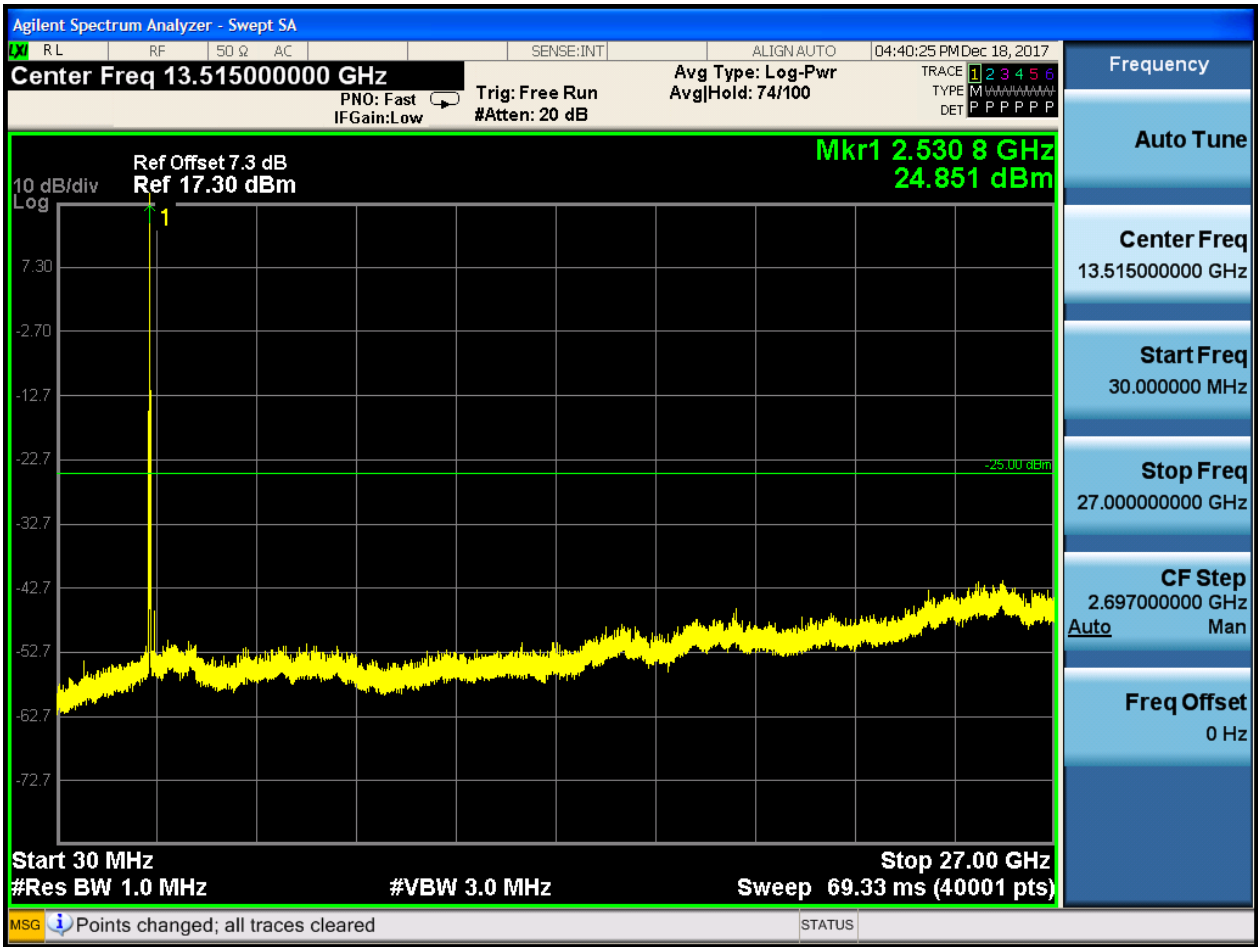


6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0

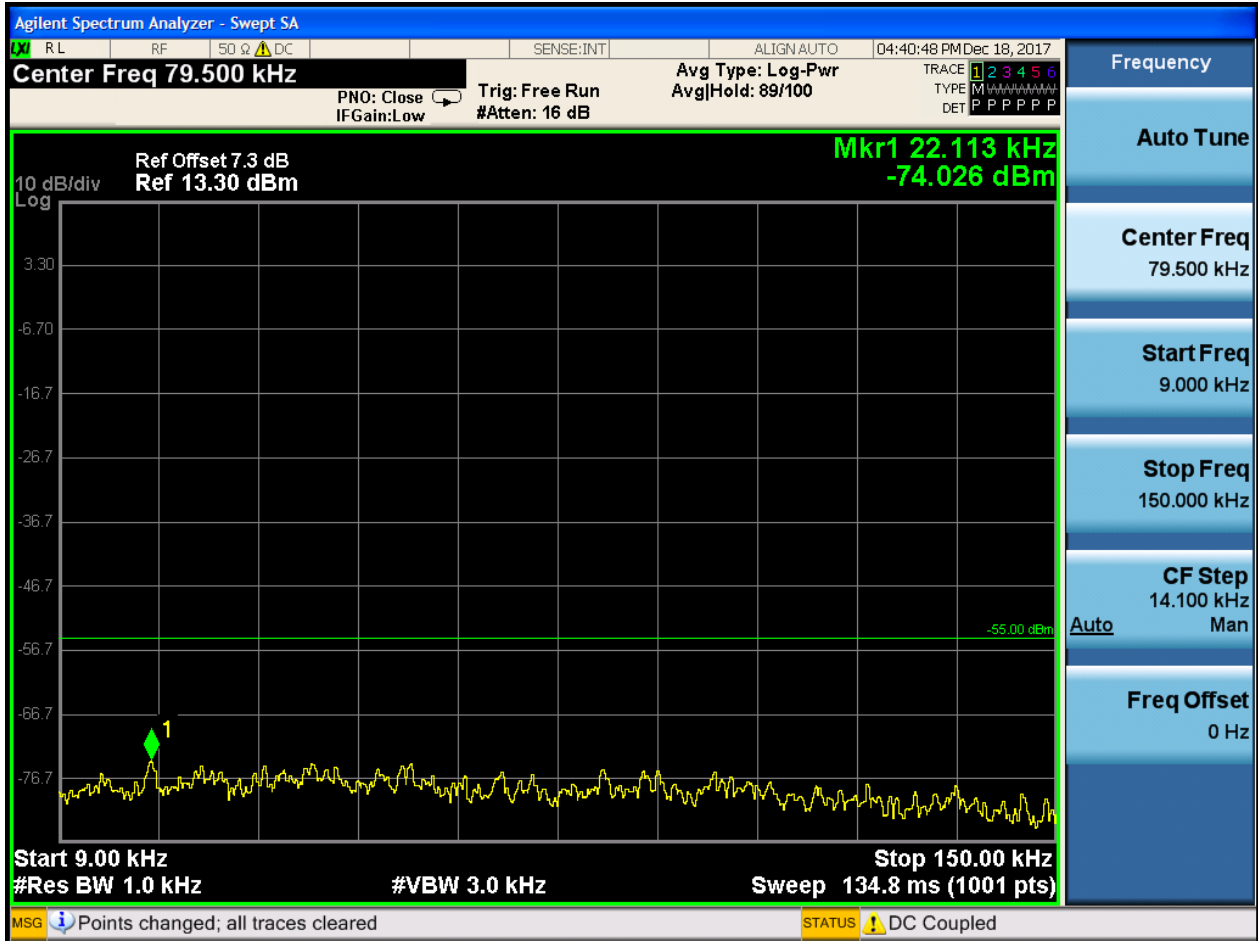


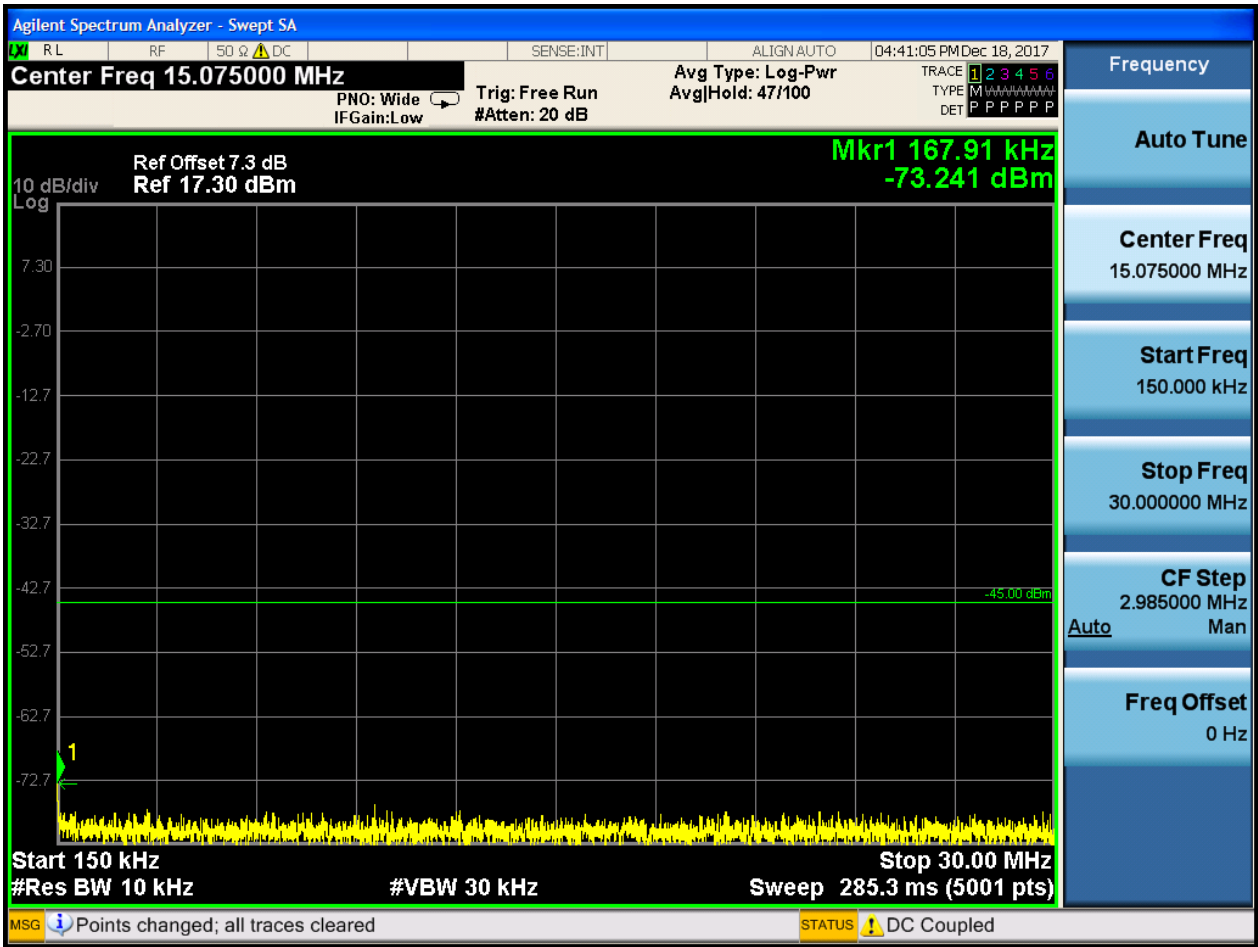


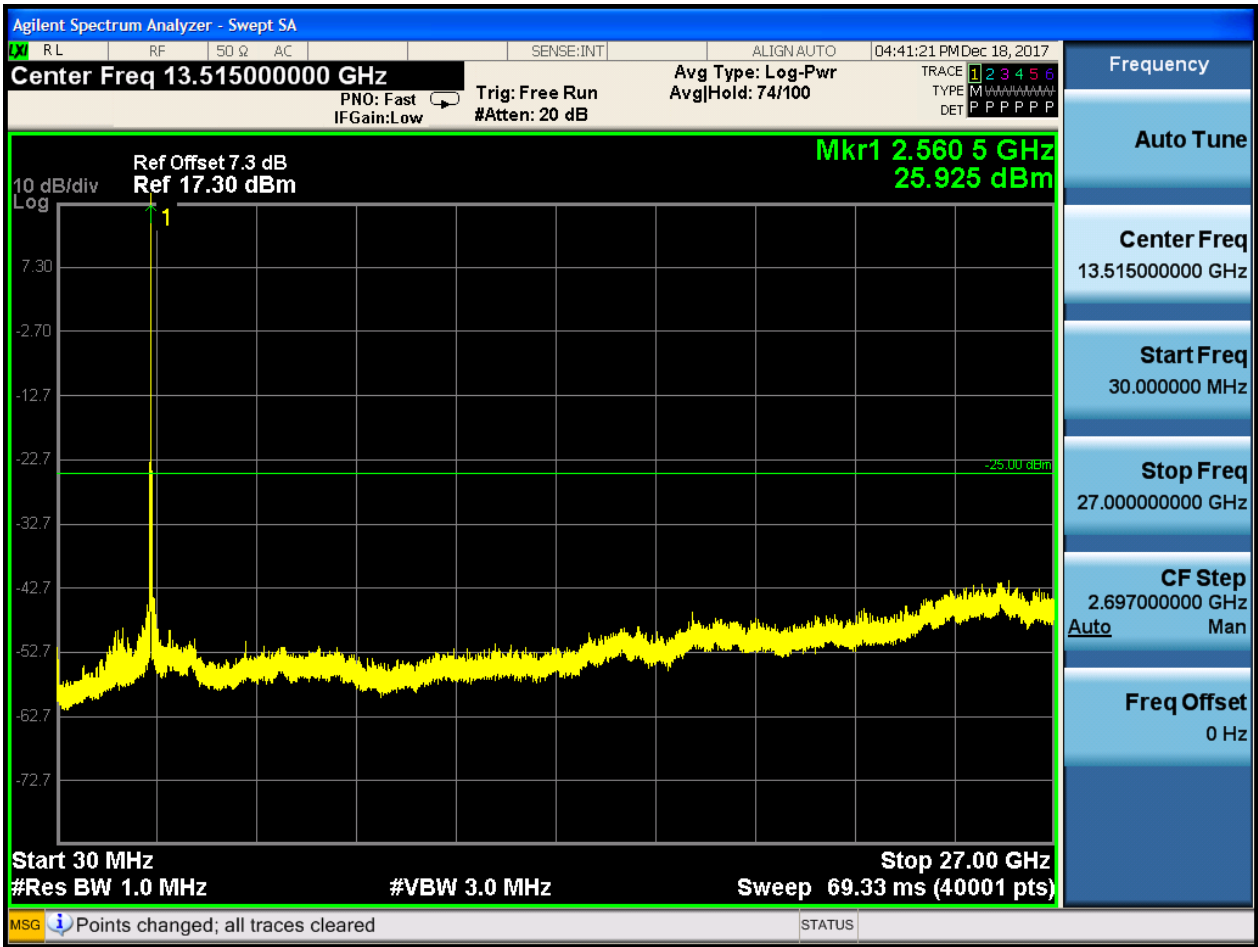


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0





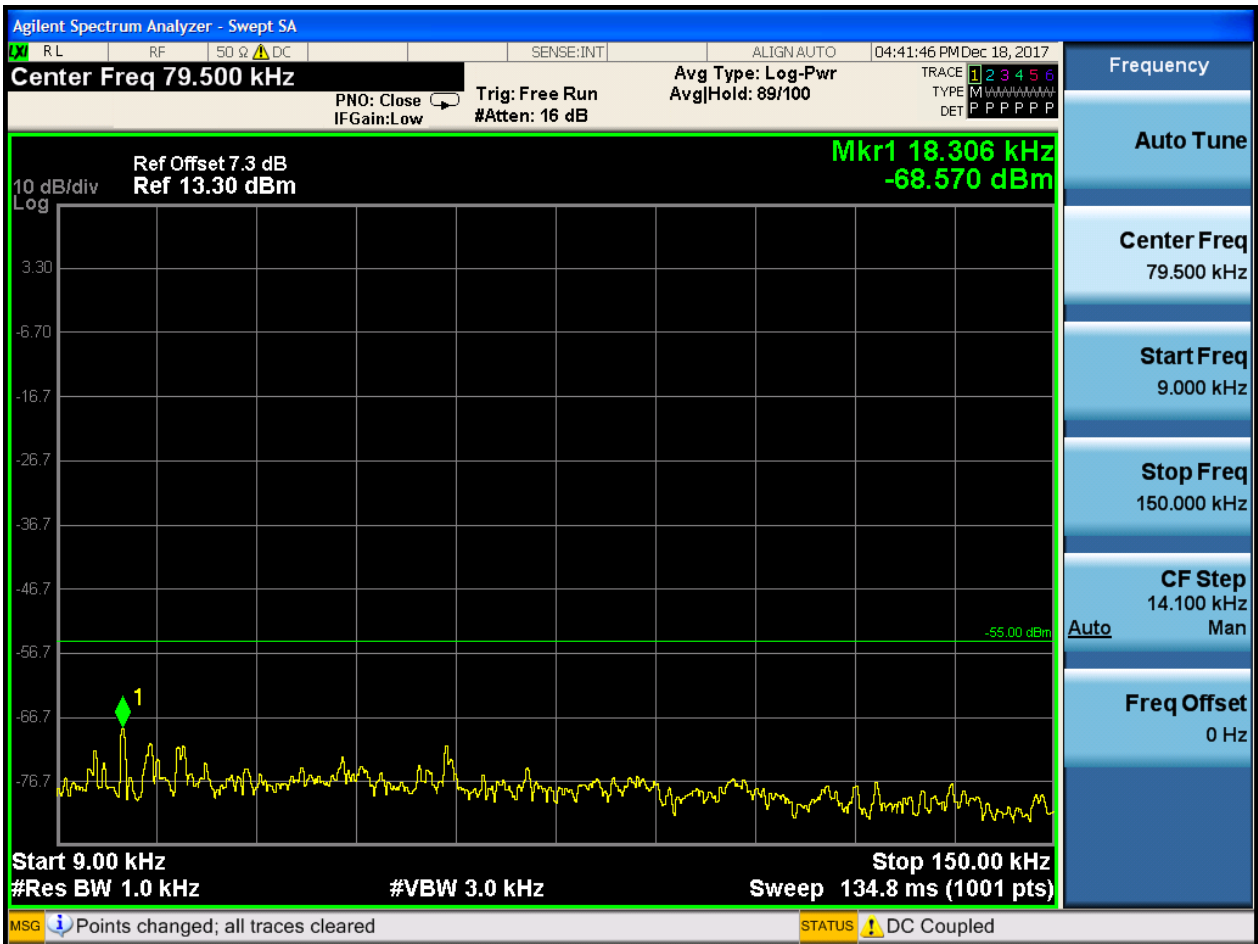


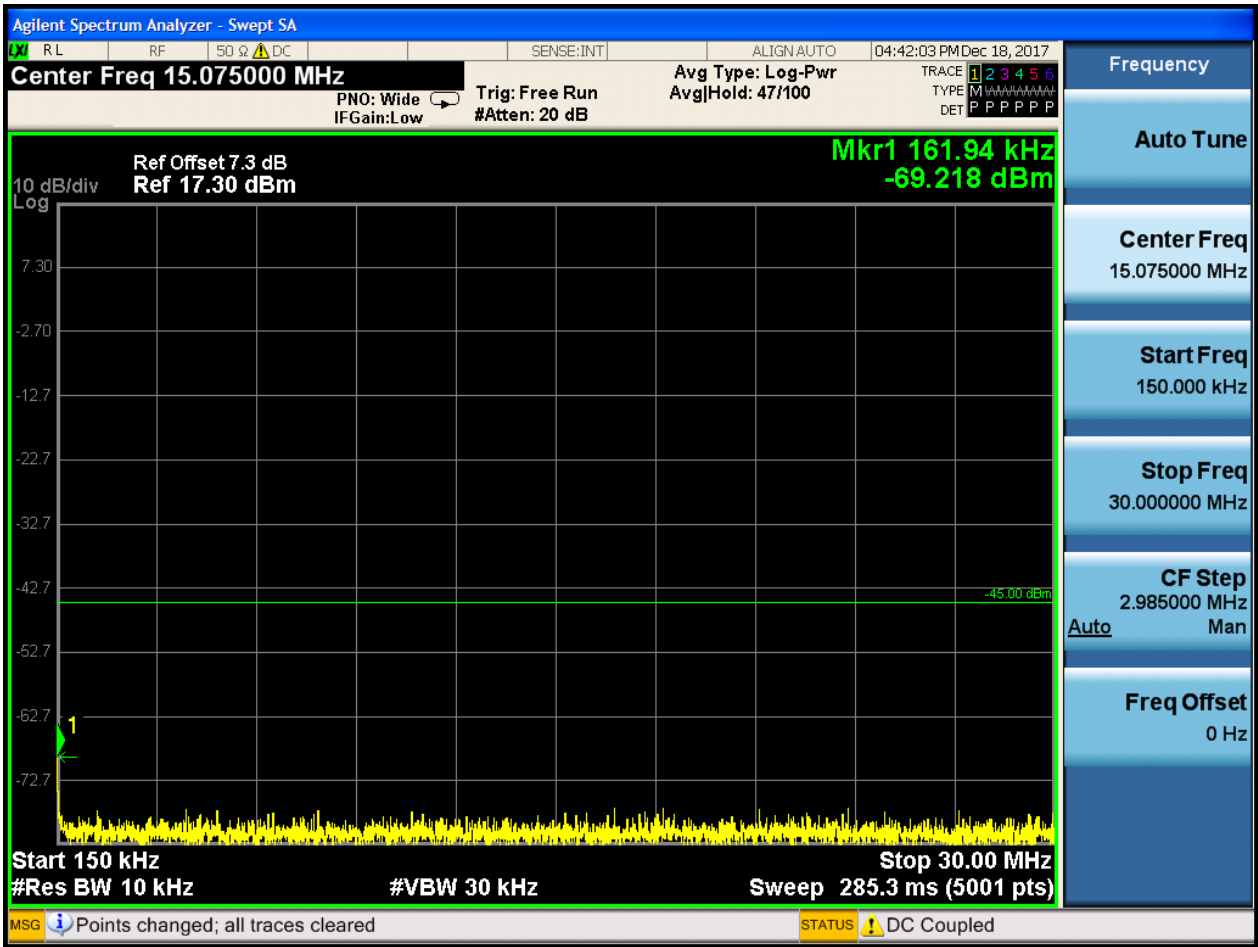


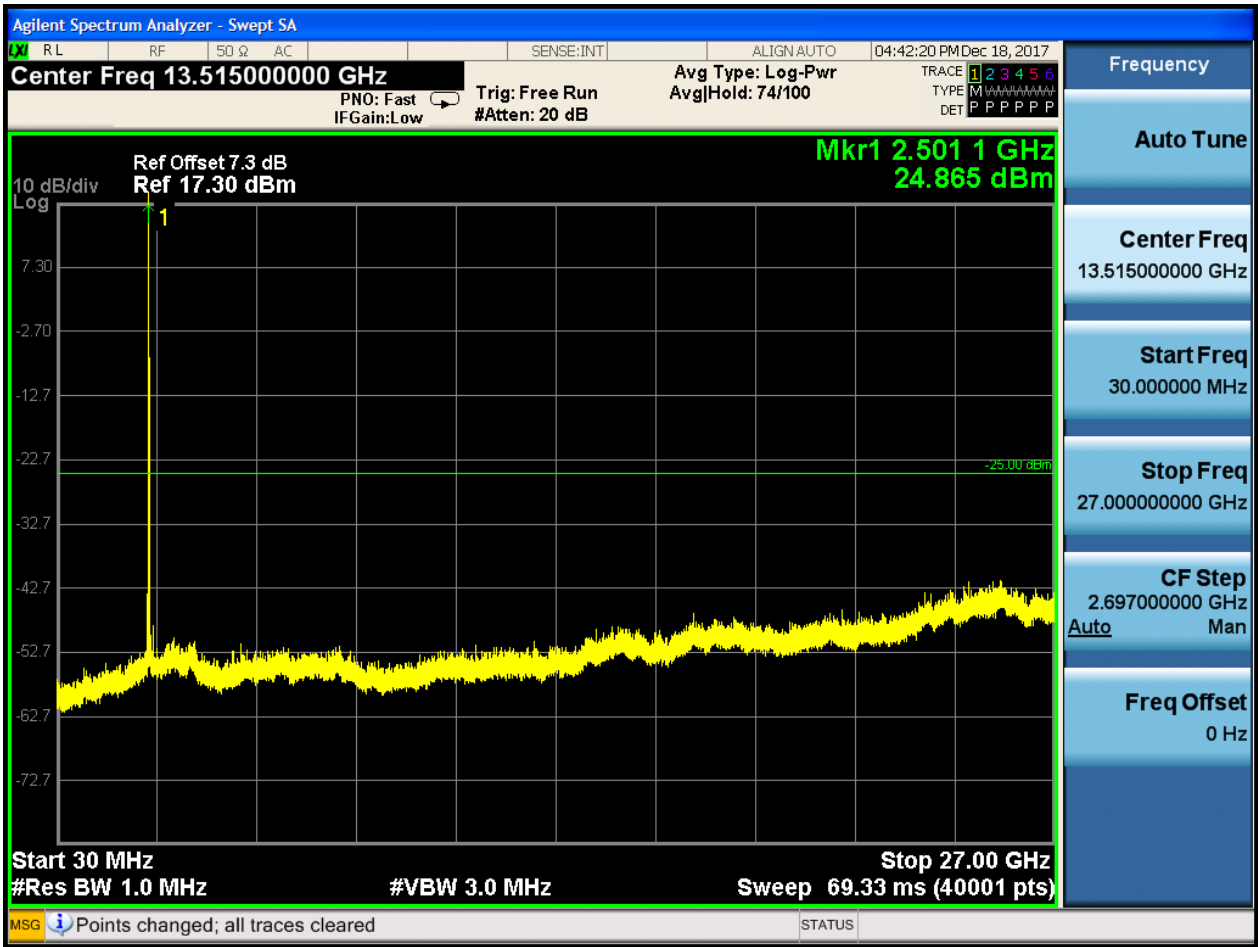
6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0



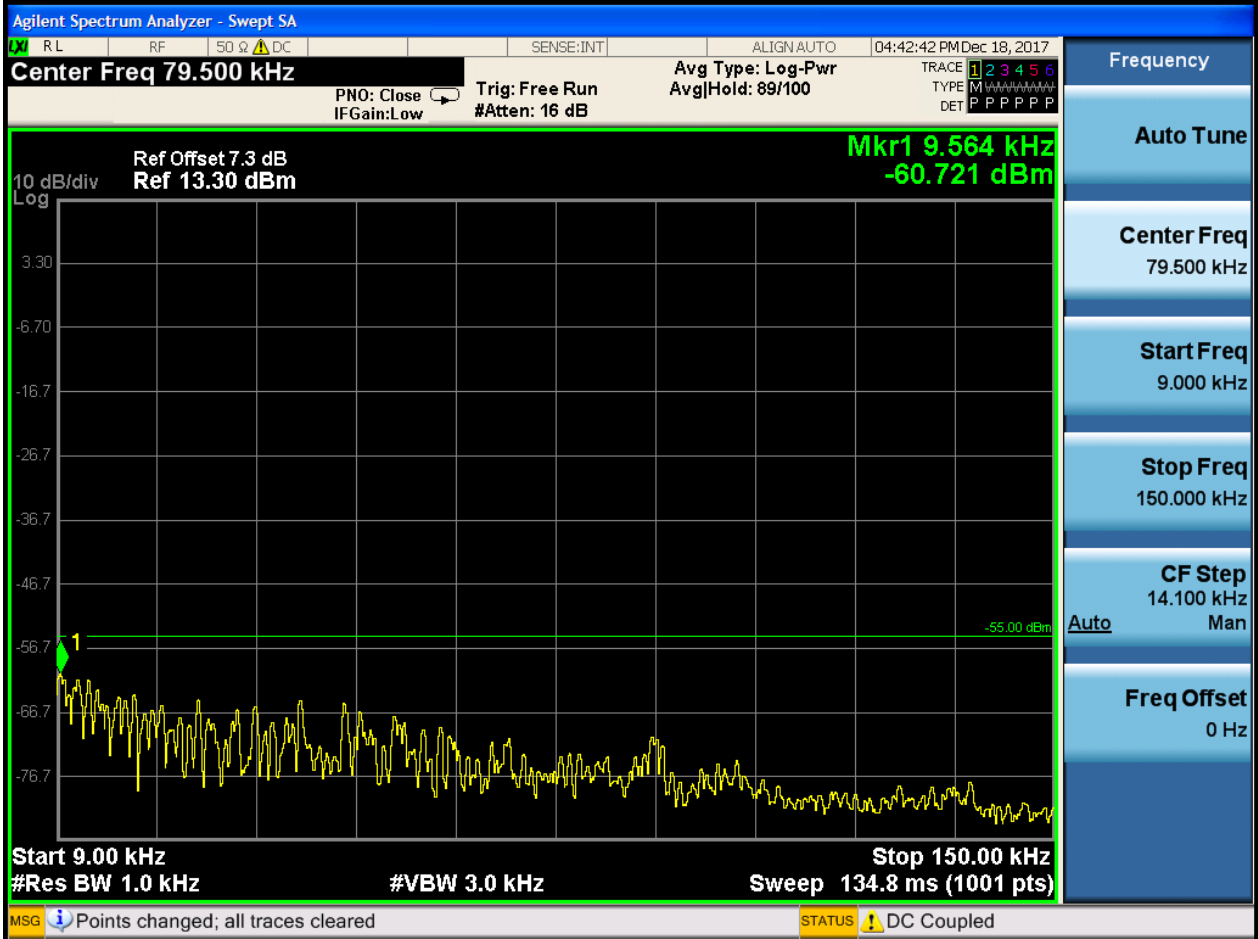


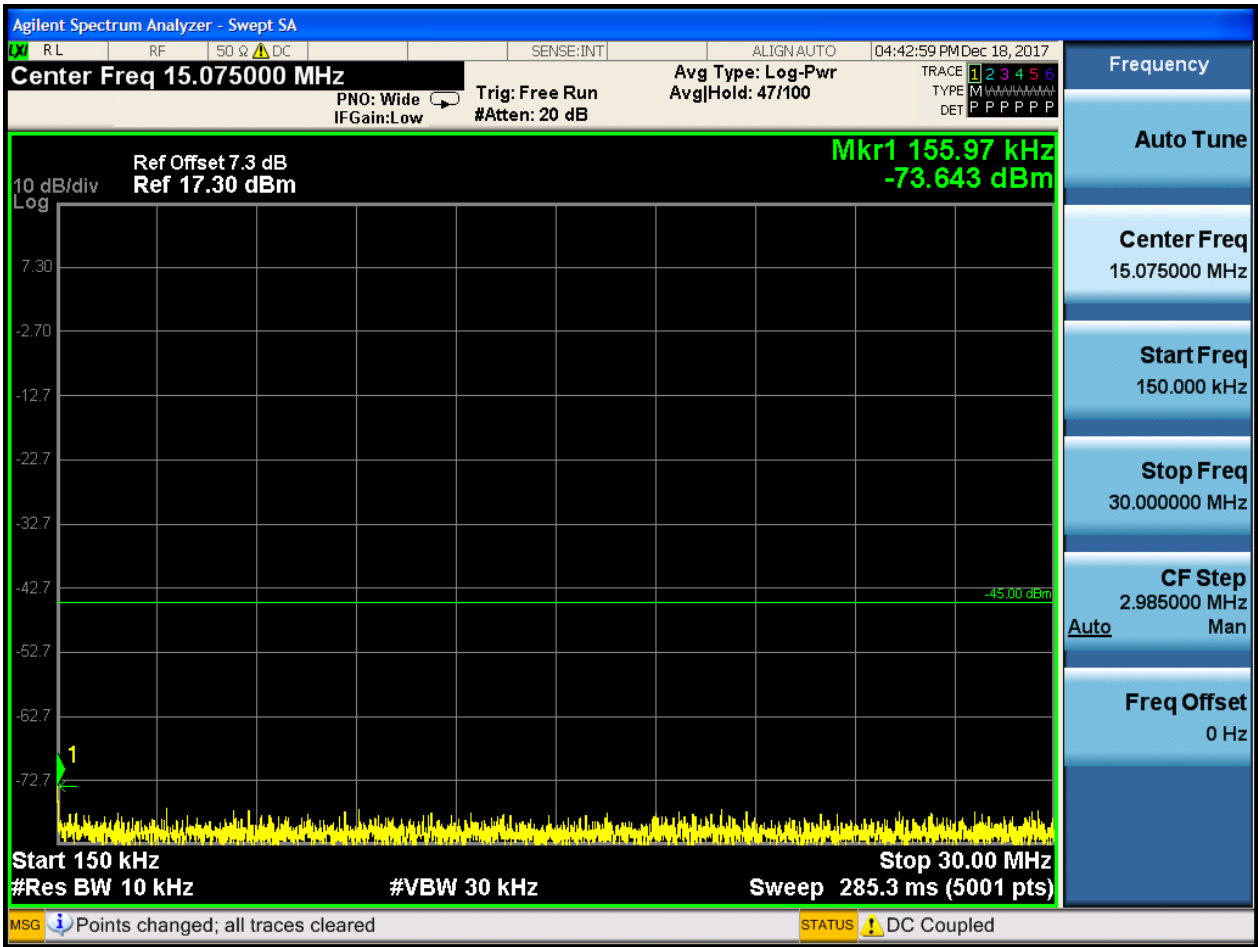




6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



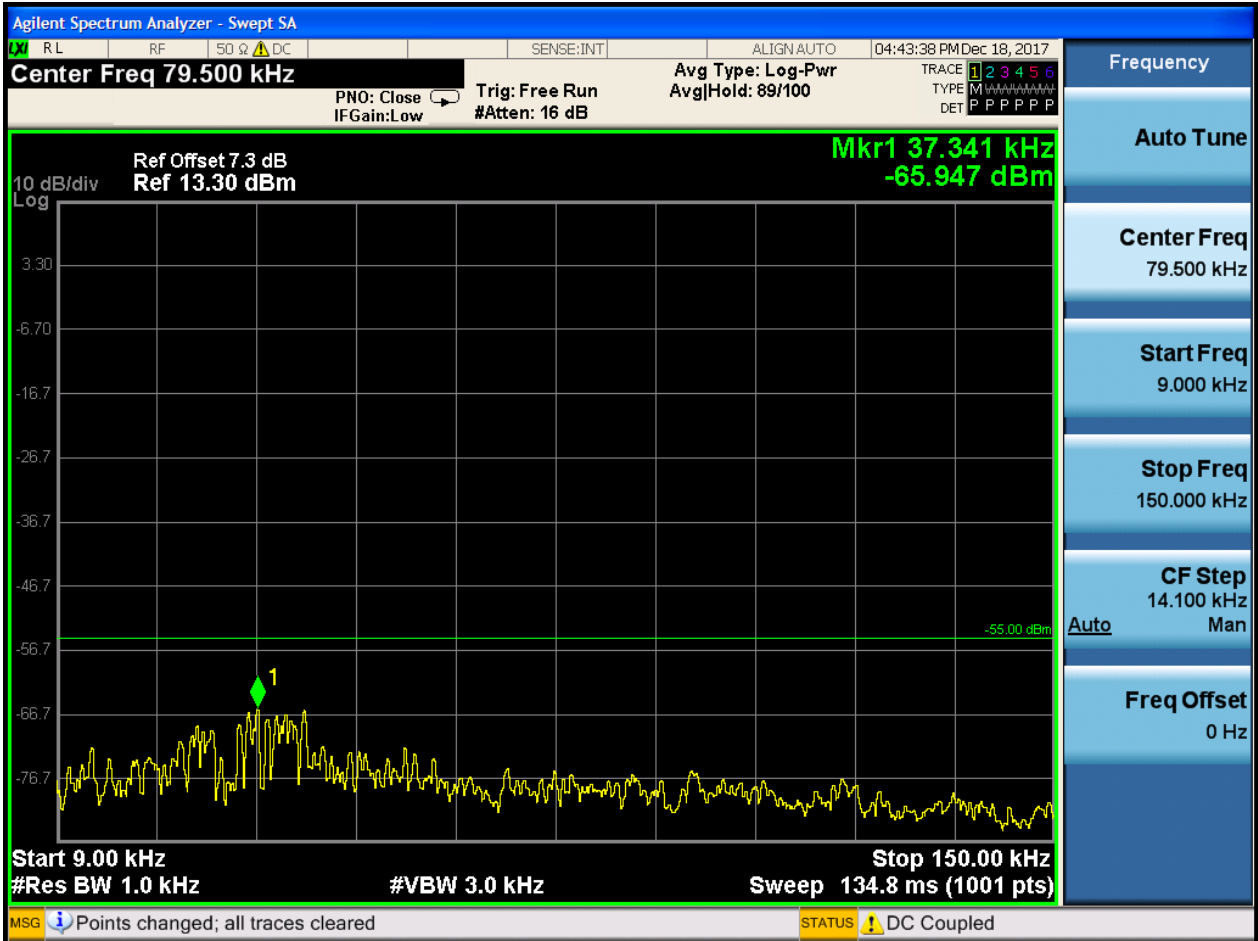


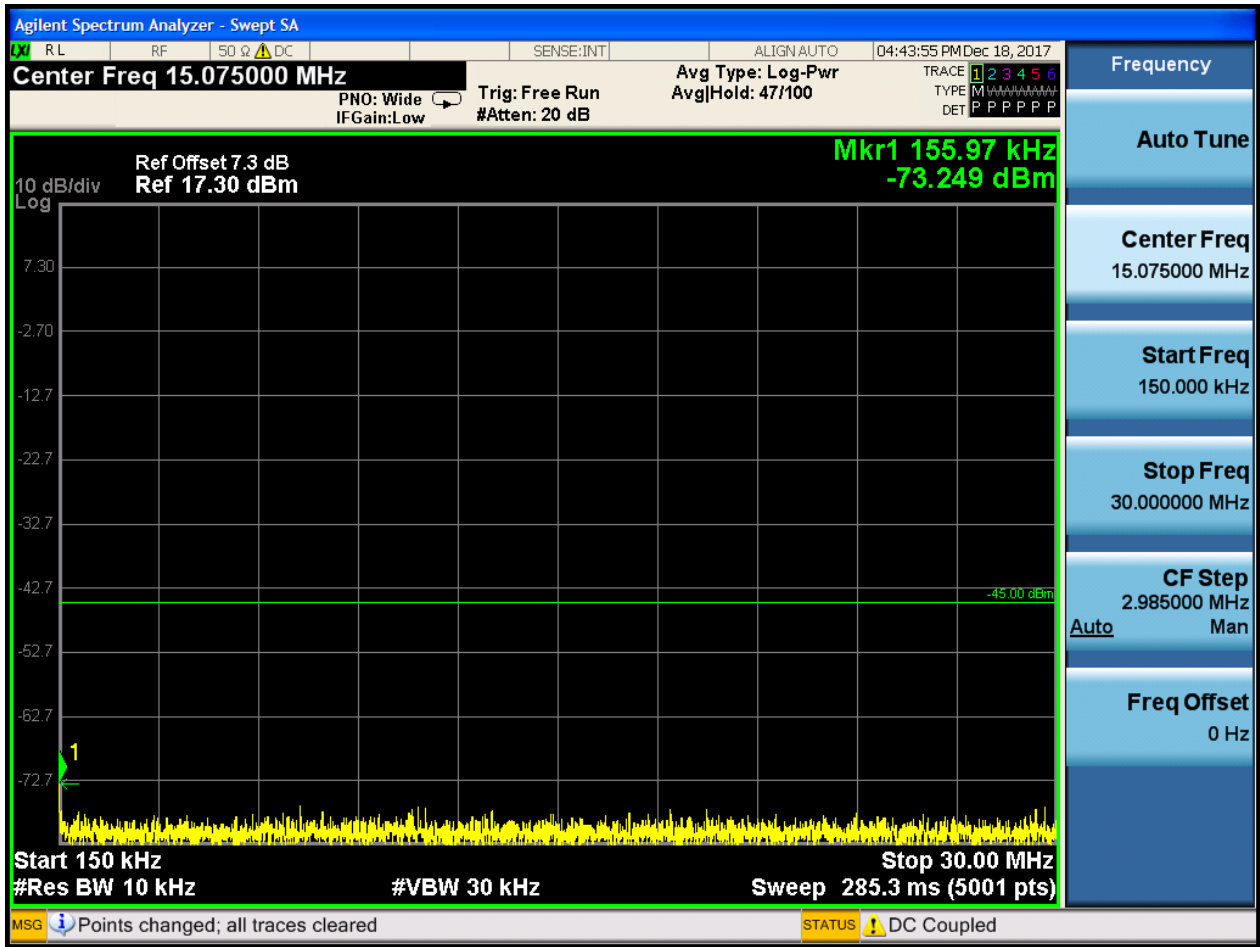


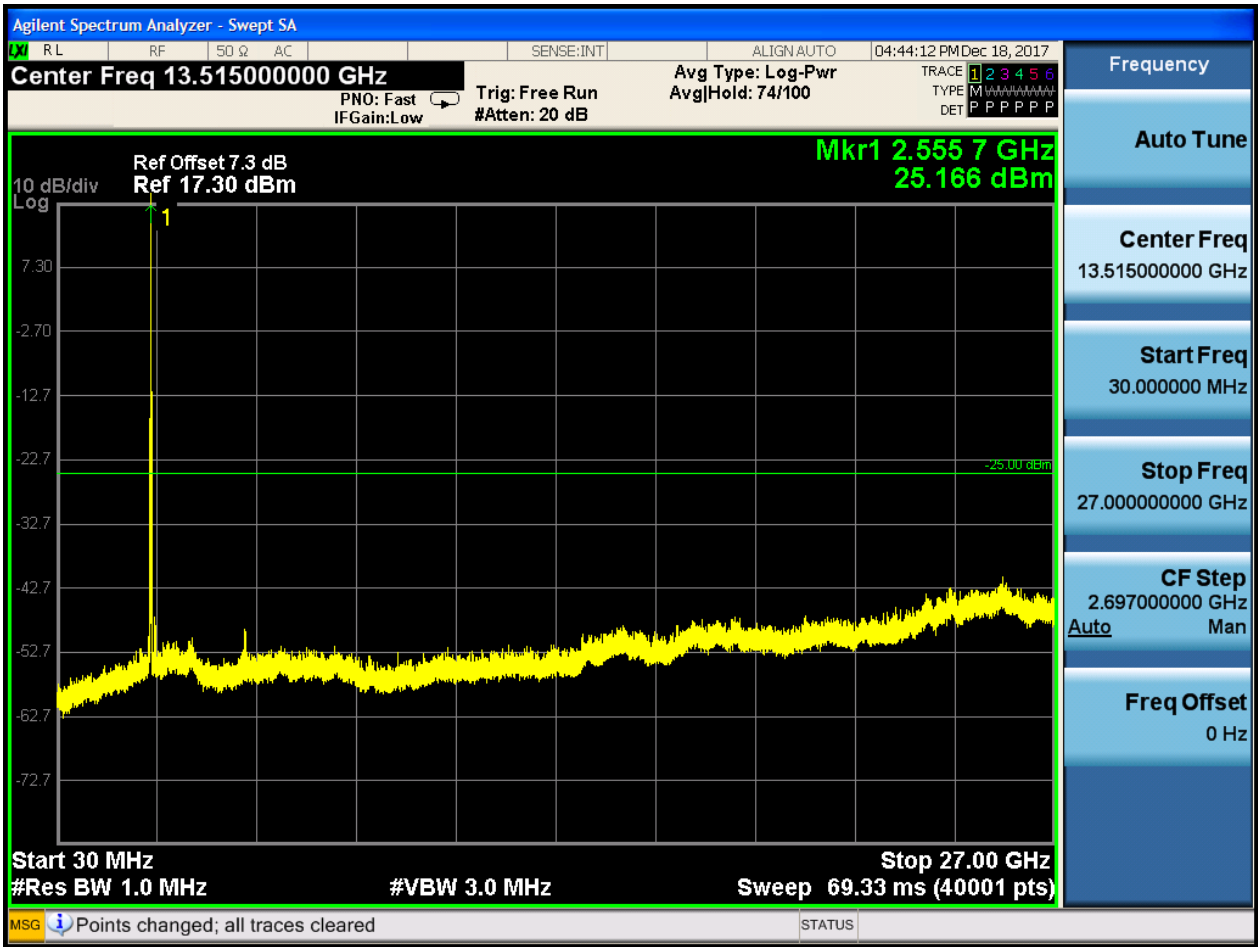


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0





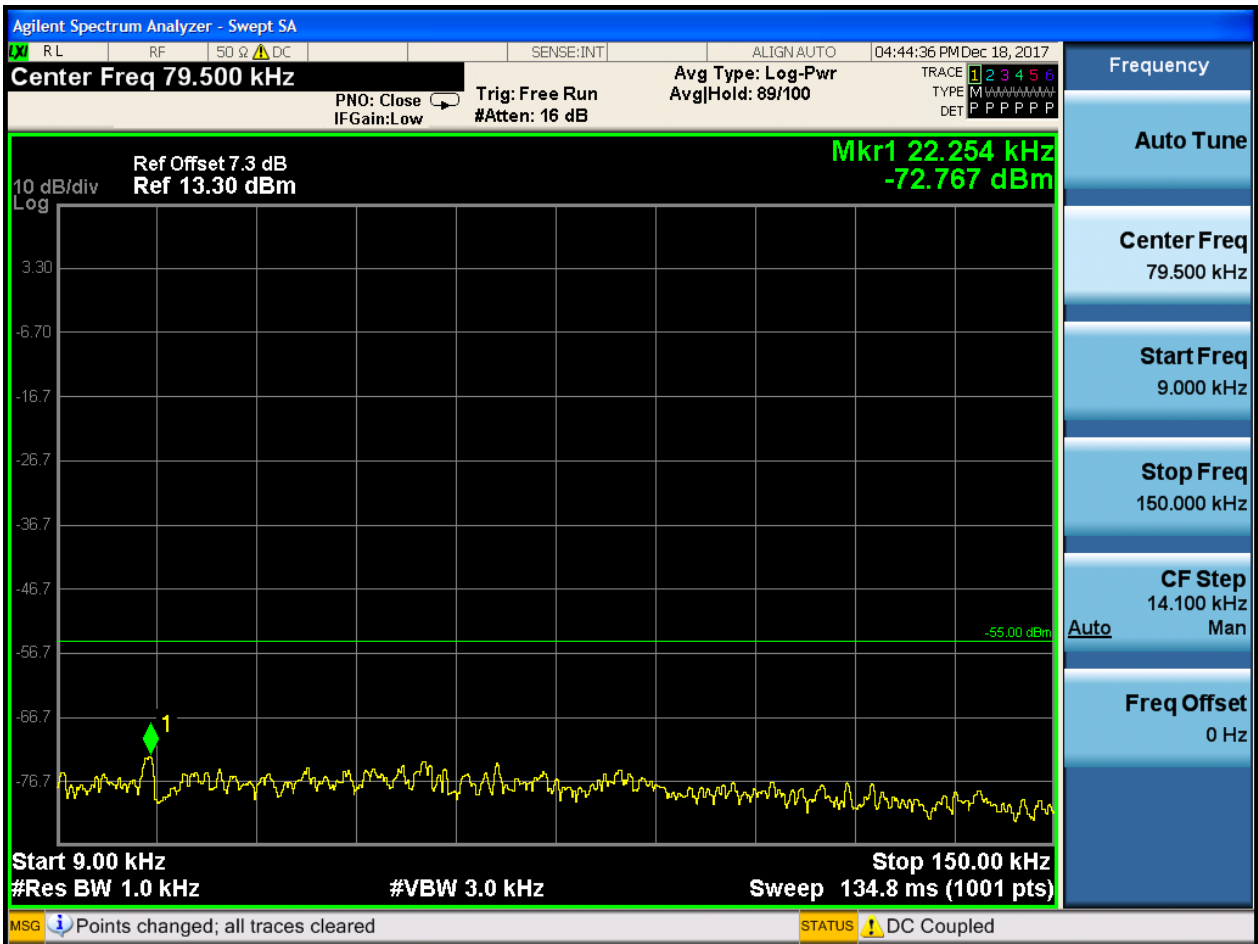


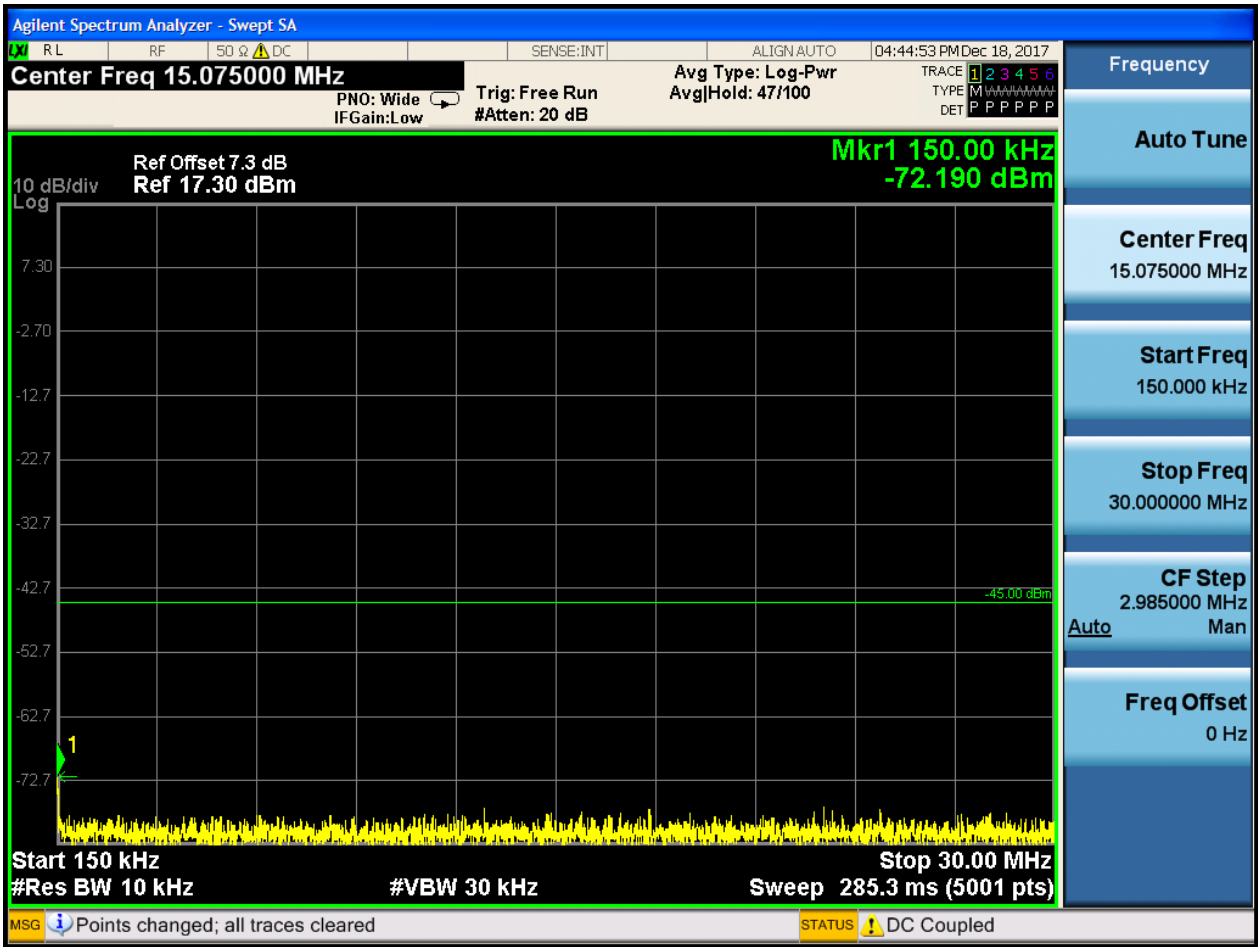


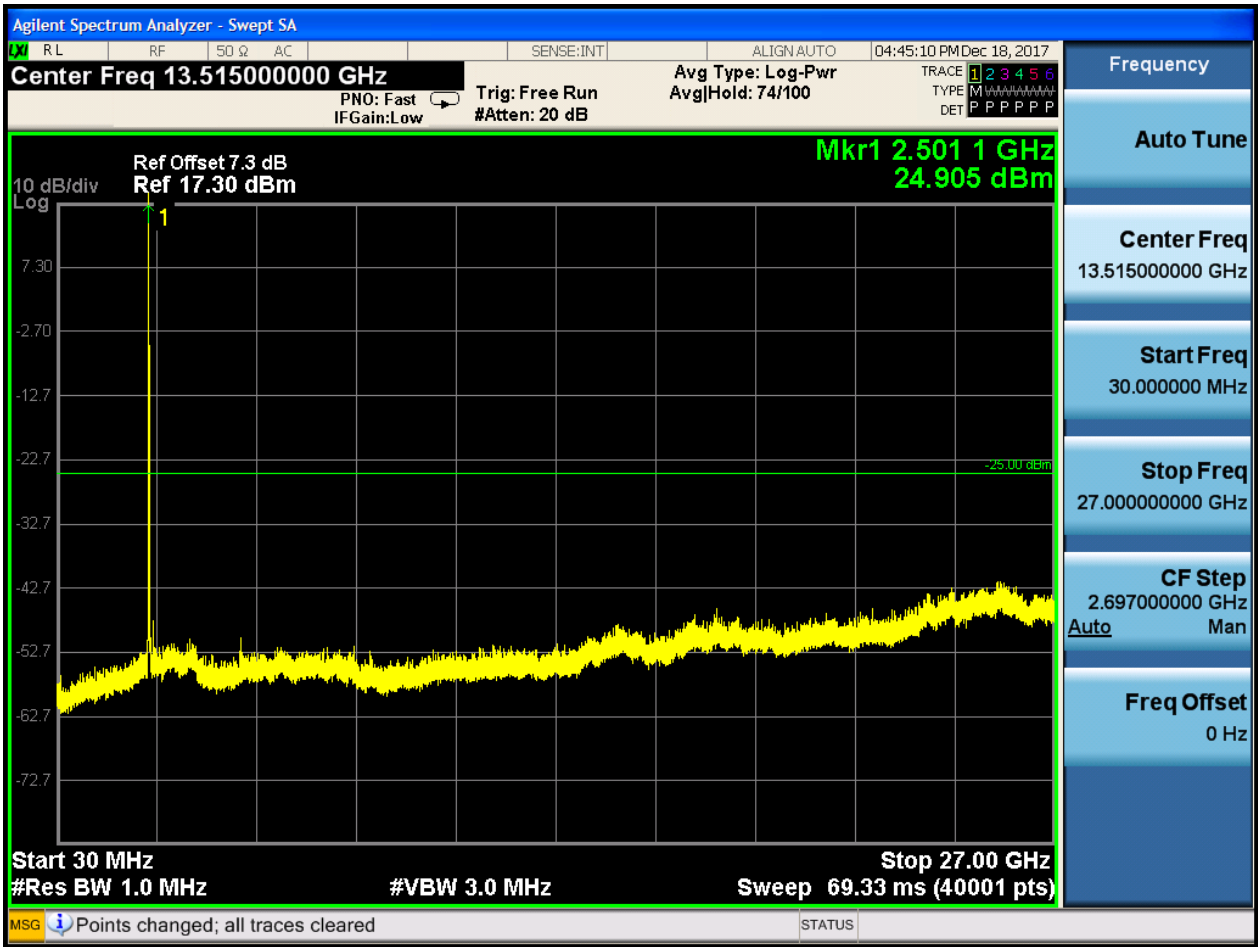
6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0



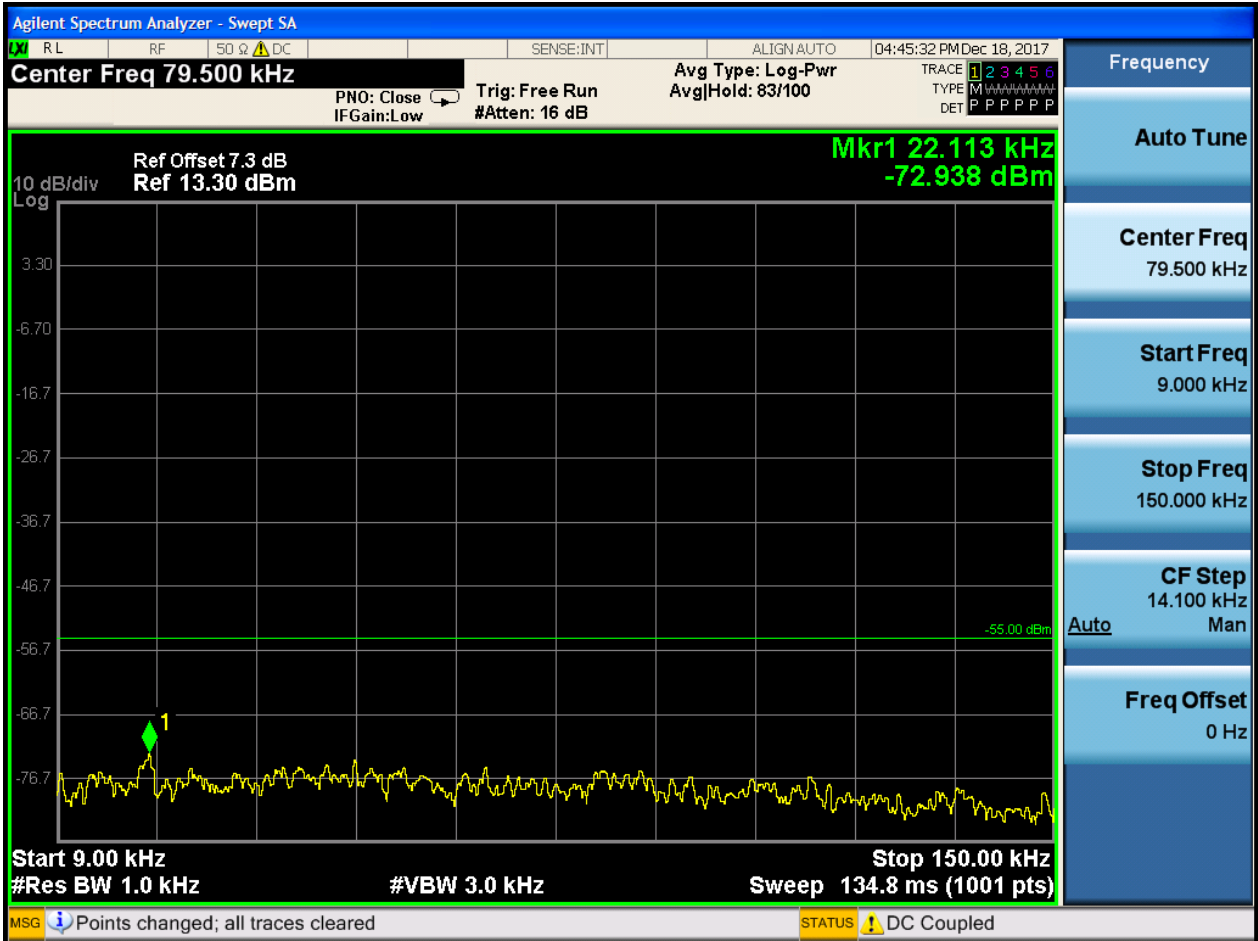


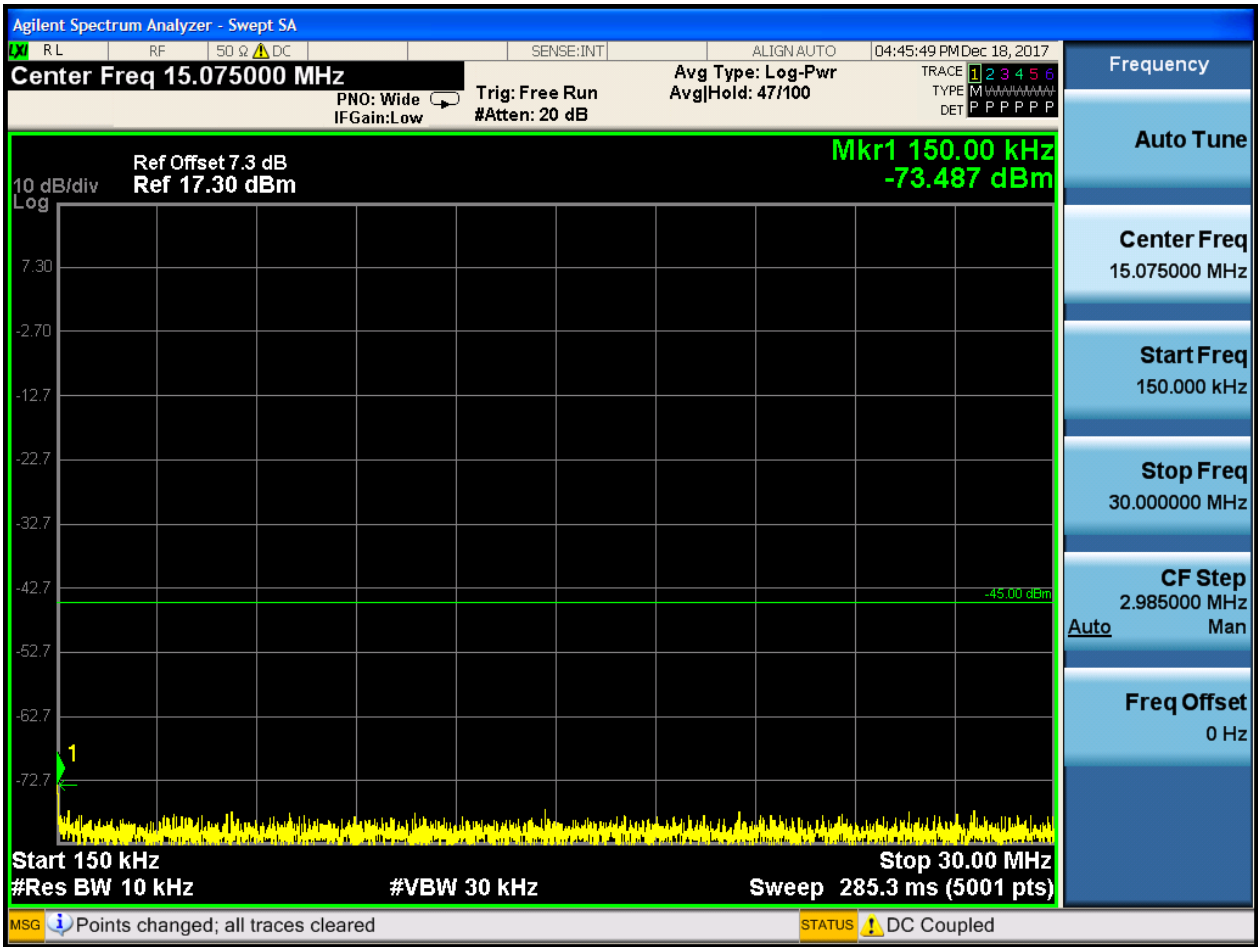


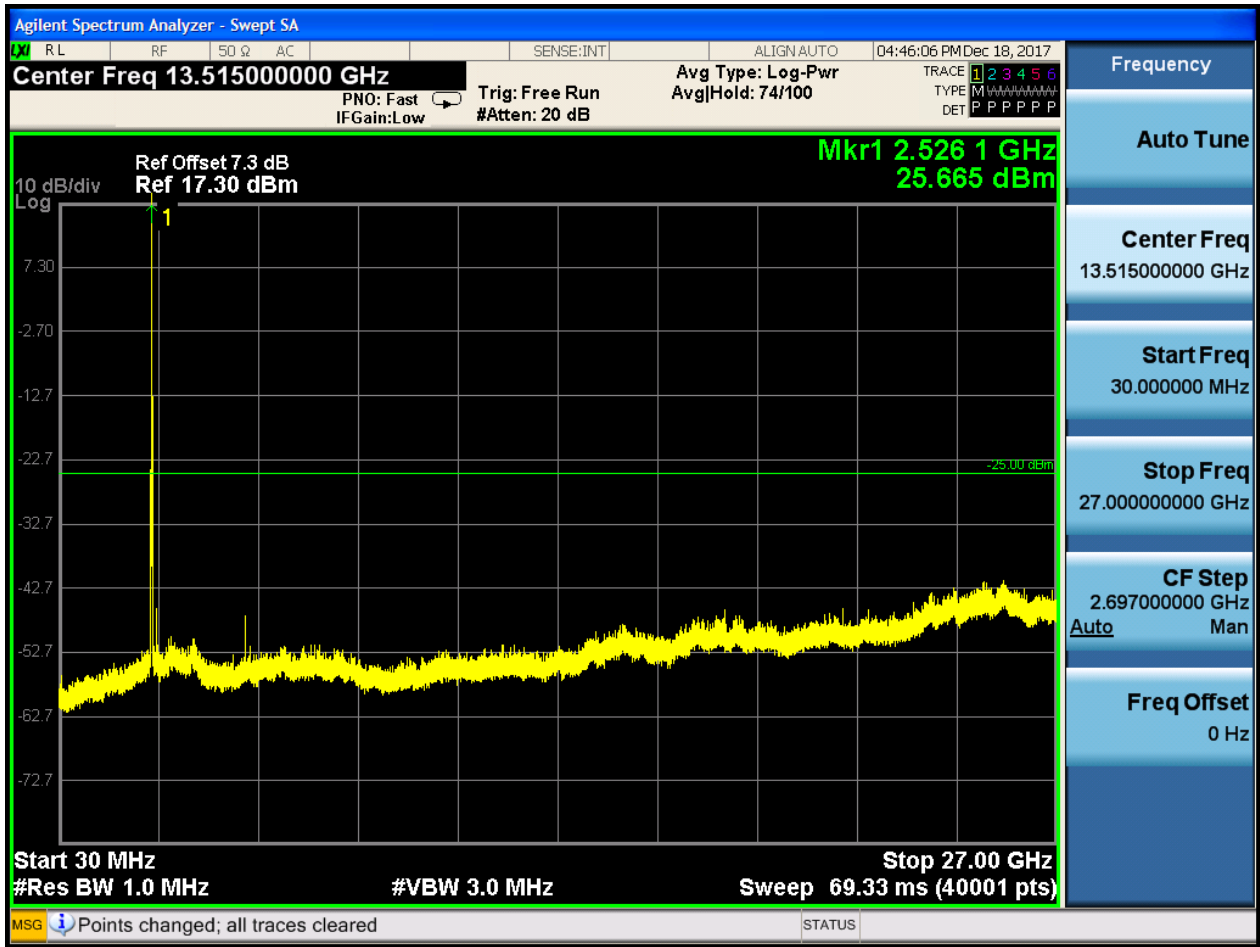


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0



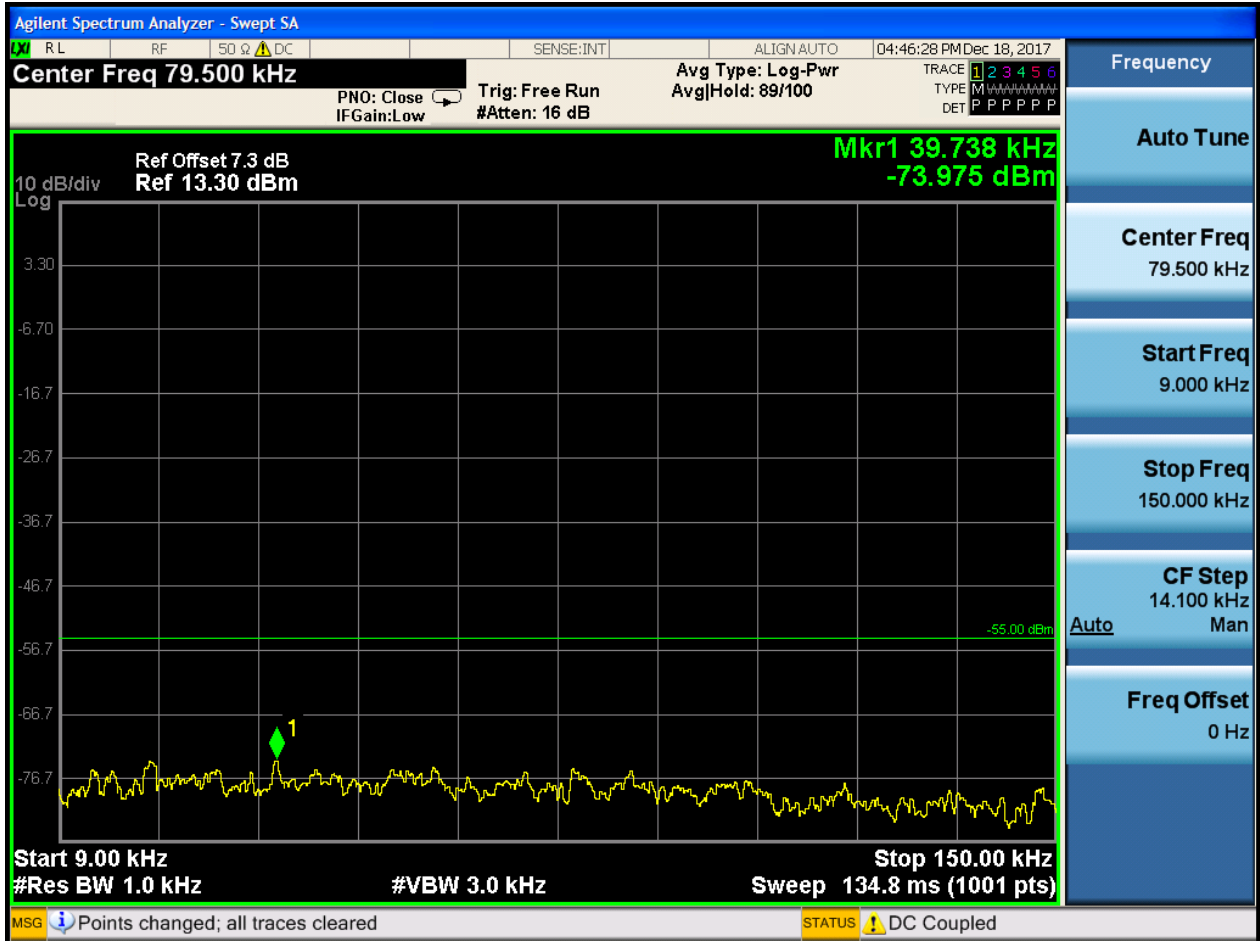


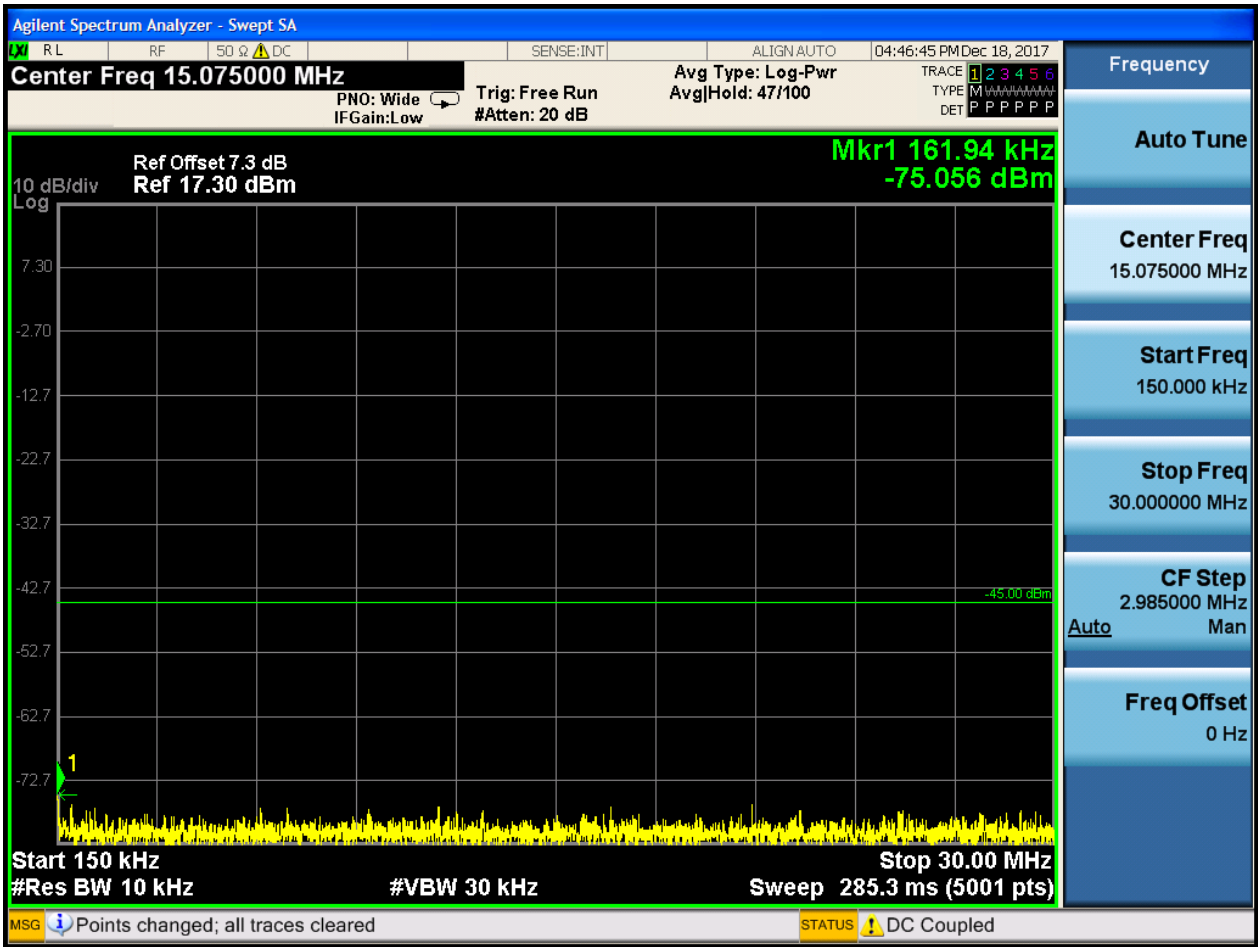




6.1.1.2.4.3 Test Channel = HCH

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, 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

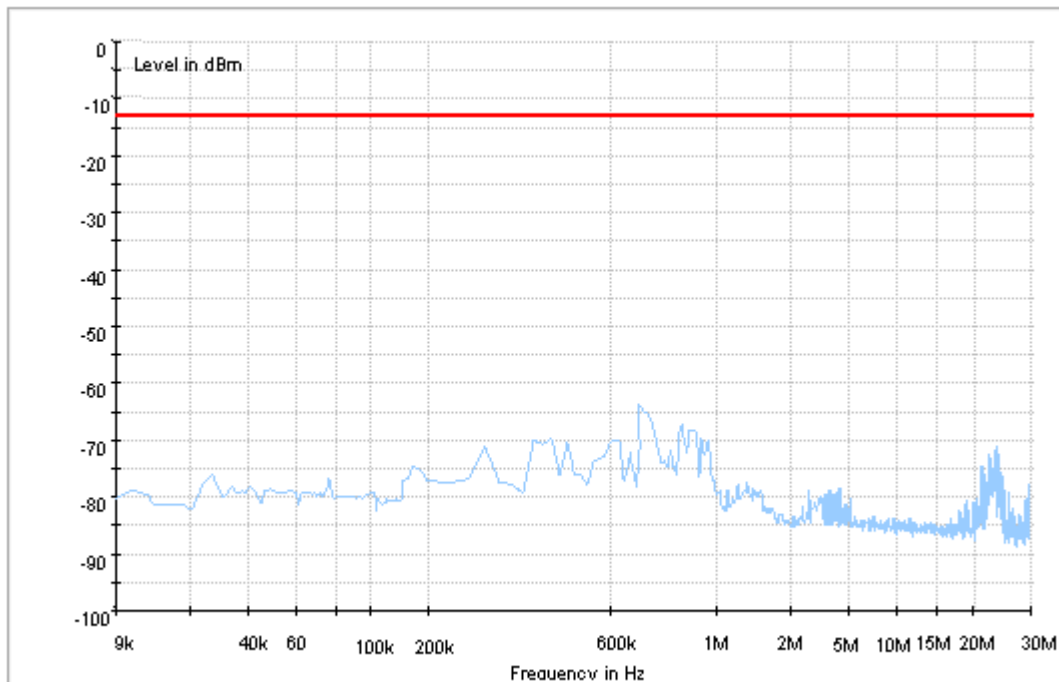
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

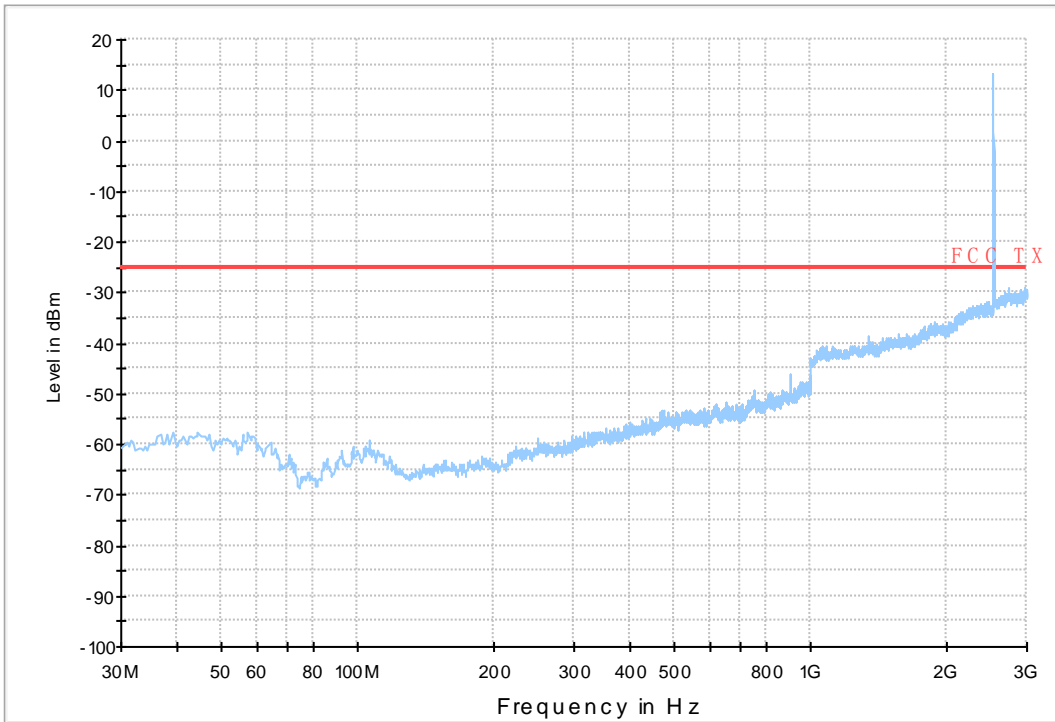
7.1 For LTE

7.1.1 Test Band = BAND7_ANT1

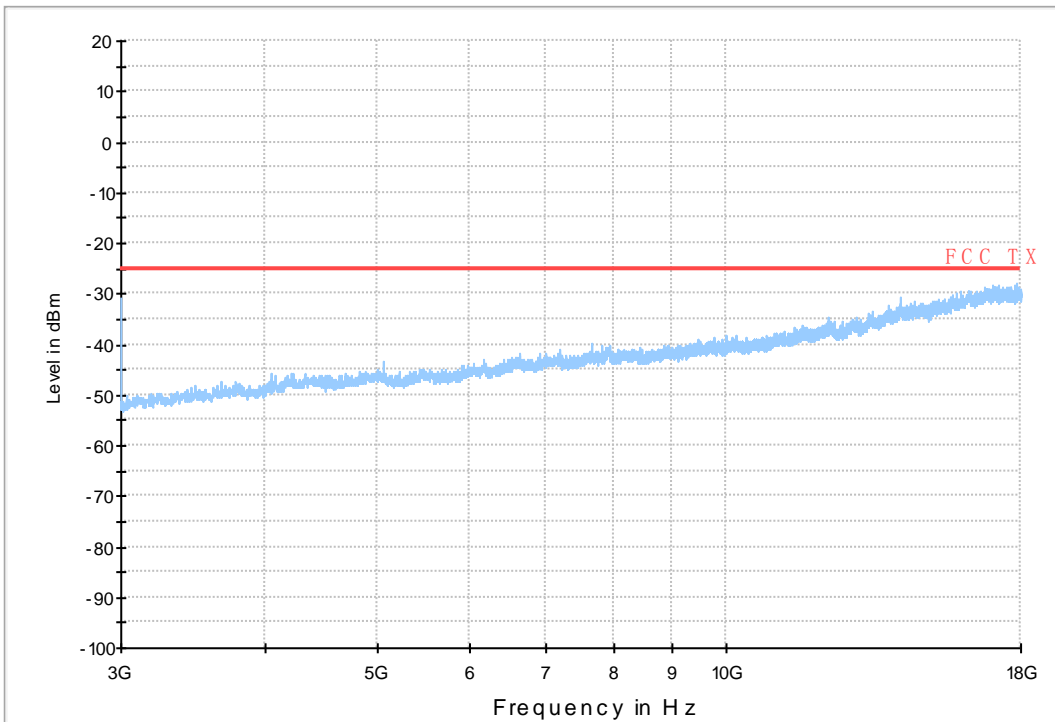
7.1.1.1 Test Bandwidth = 5

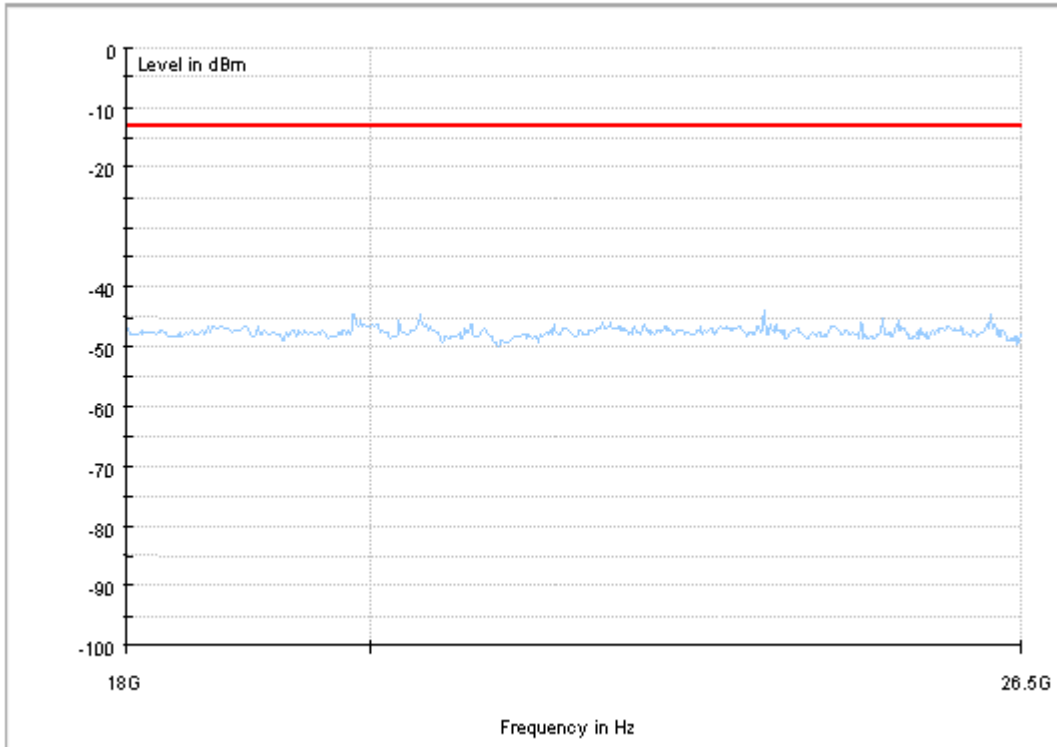


Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L

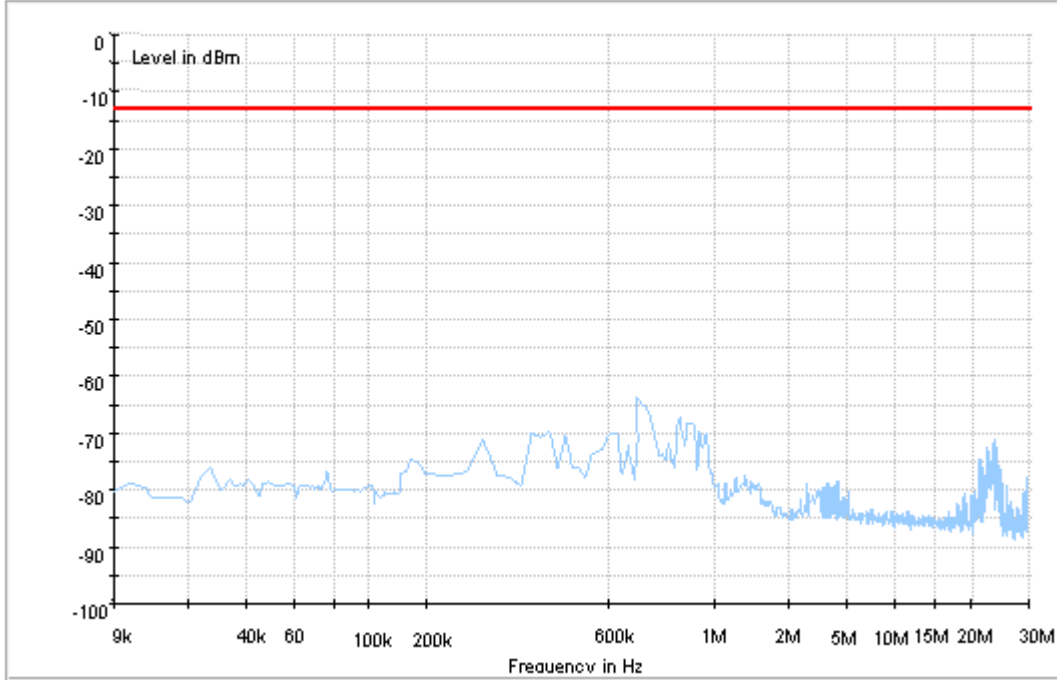


Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H

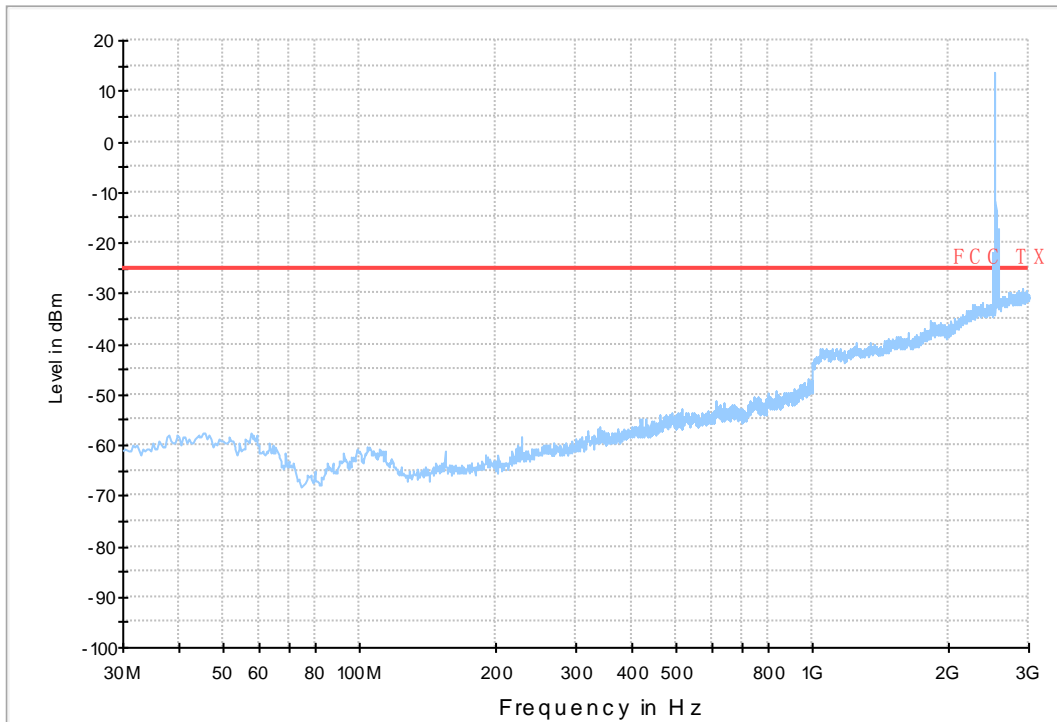




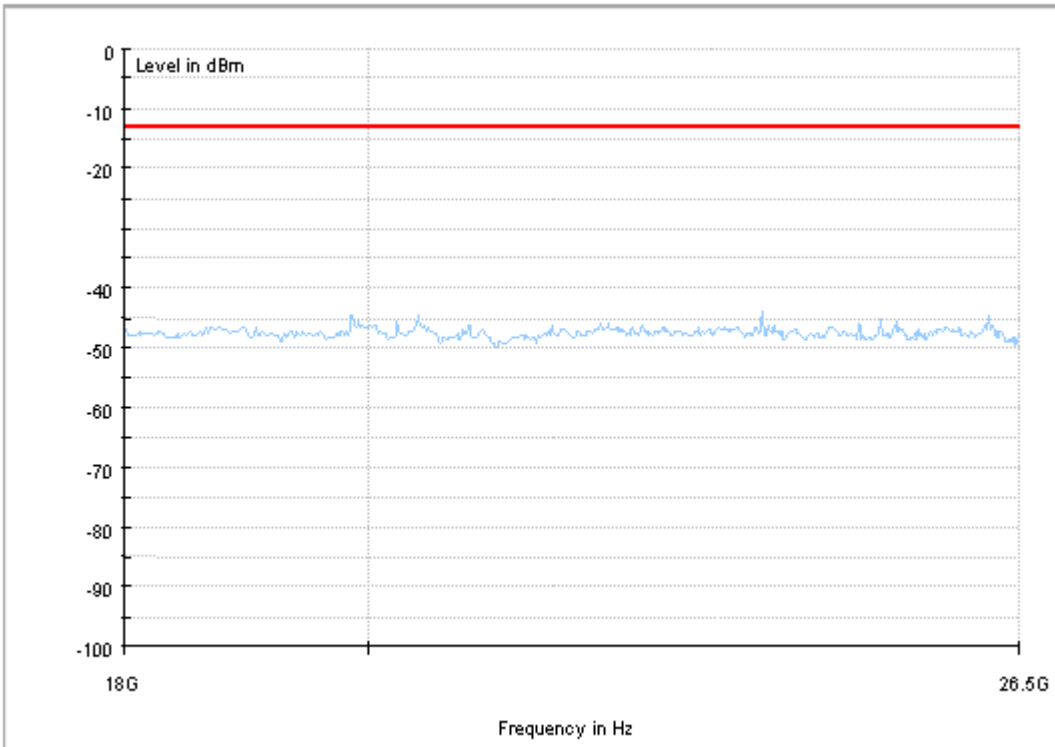
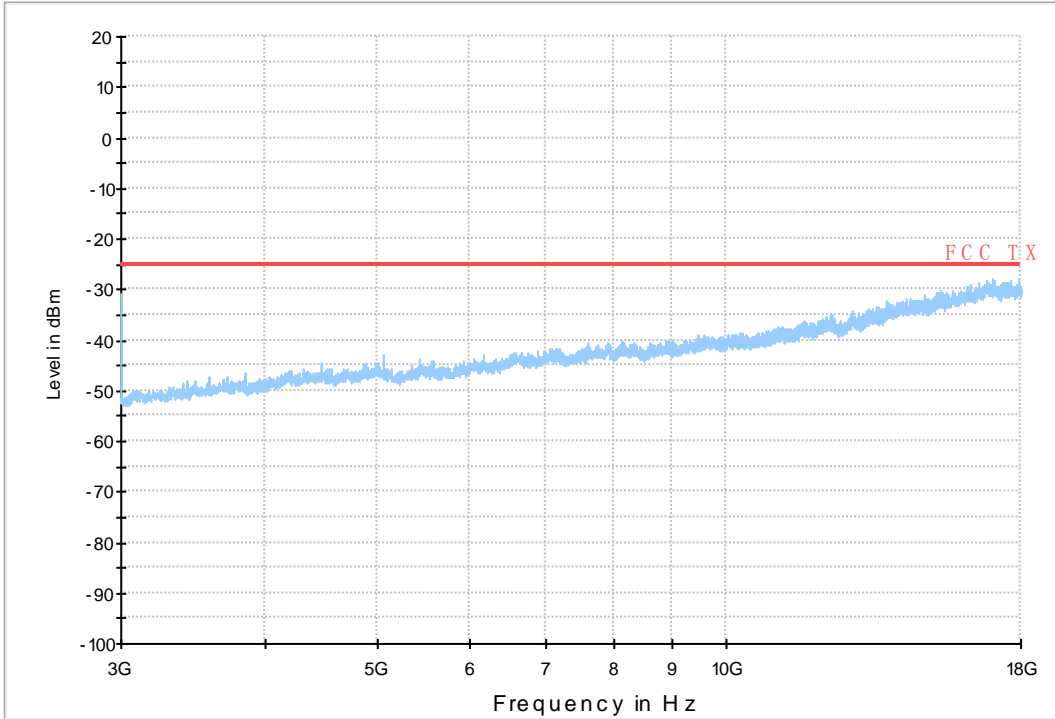
7.1.1.2 Test Bandwidth = 20



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

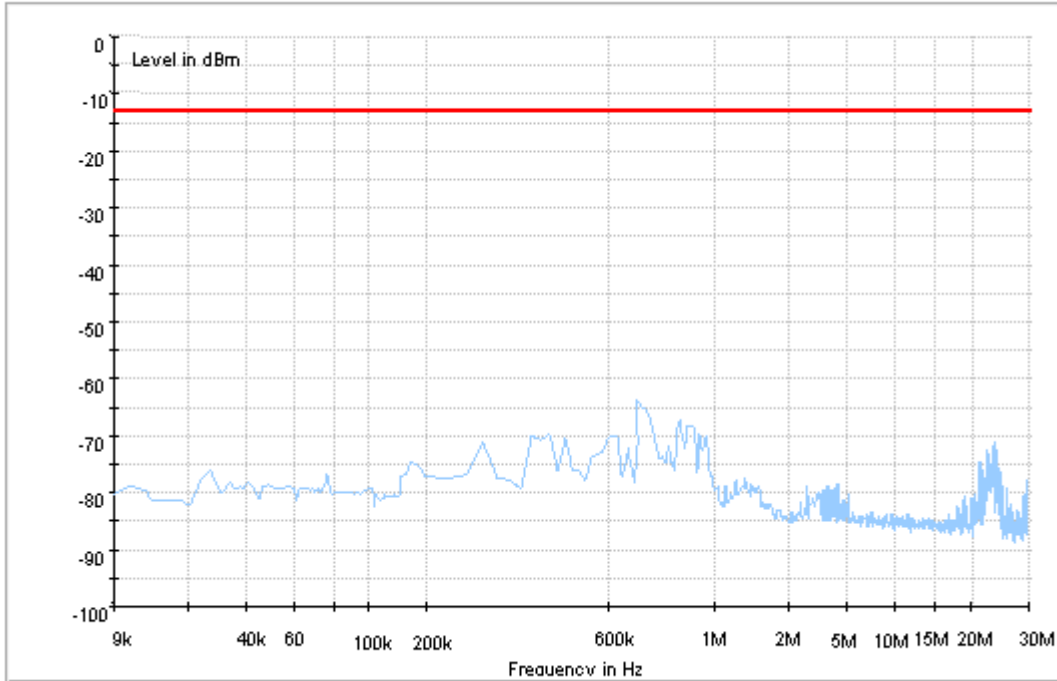


Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H

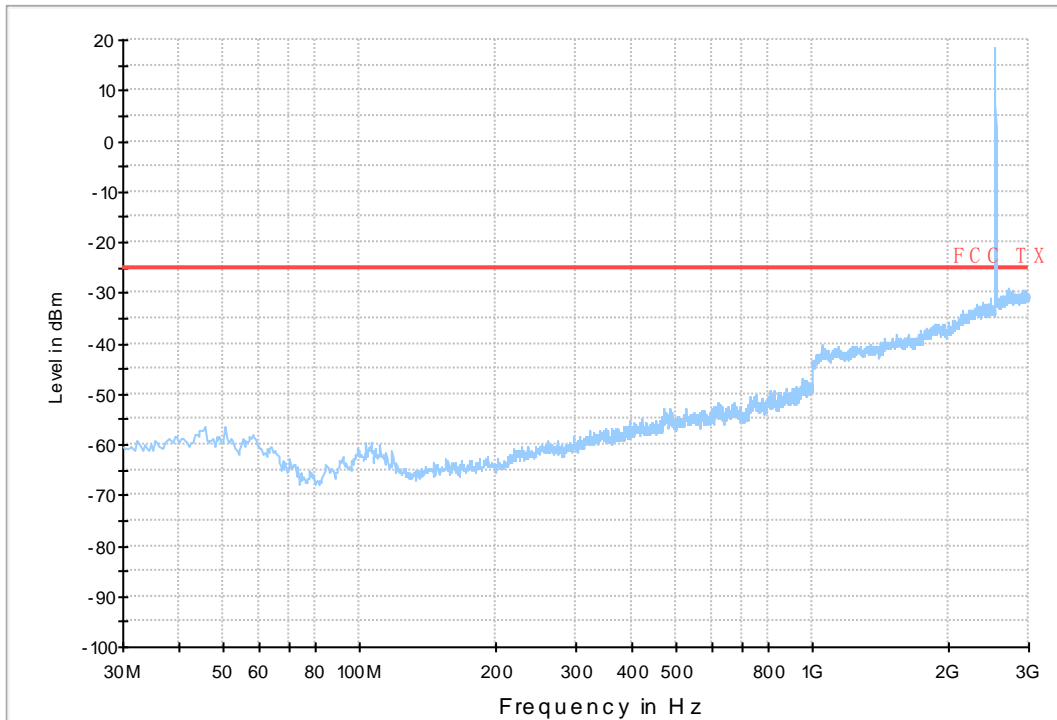


7.1.2 Test Band = BAND7_ANT2

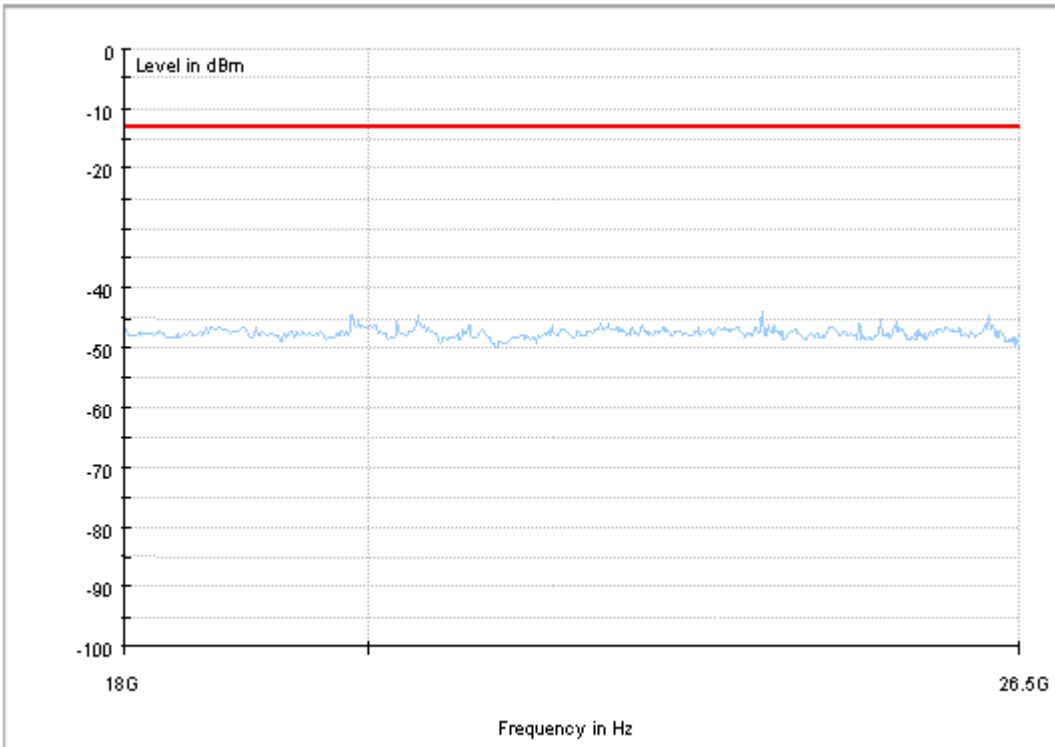
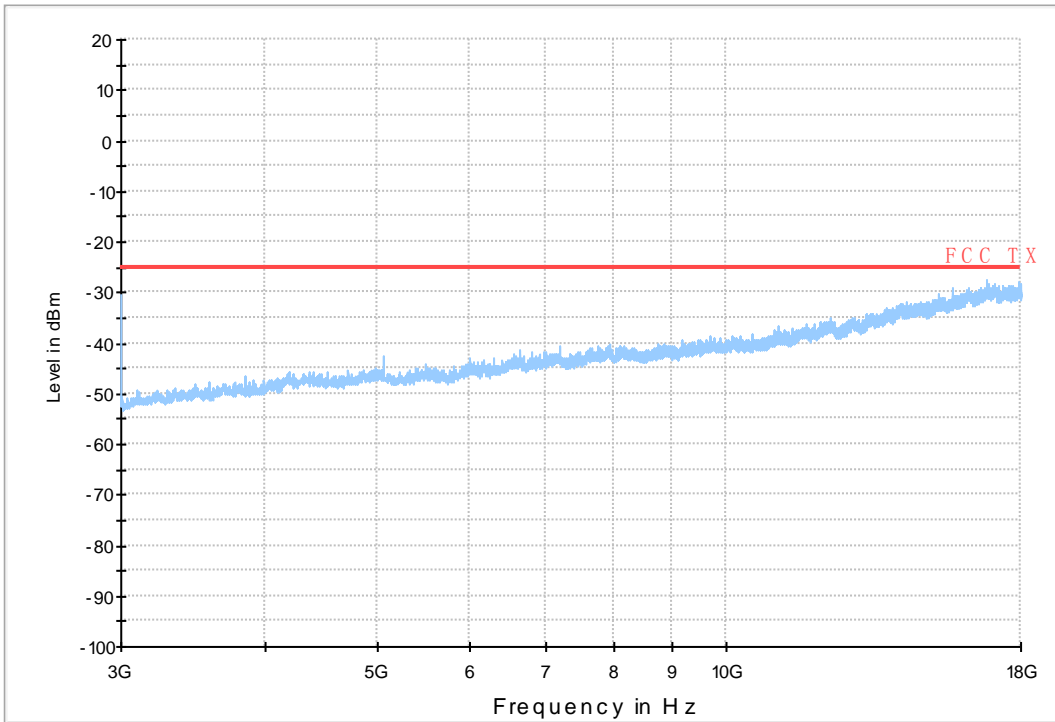
7.1.2.1 Test Bandwidth = 5



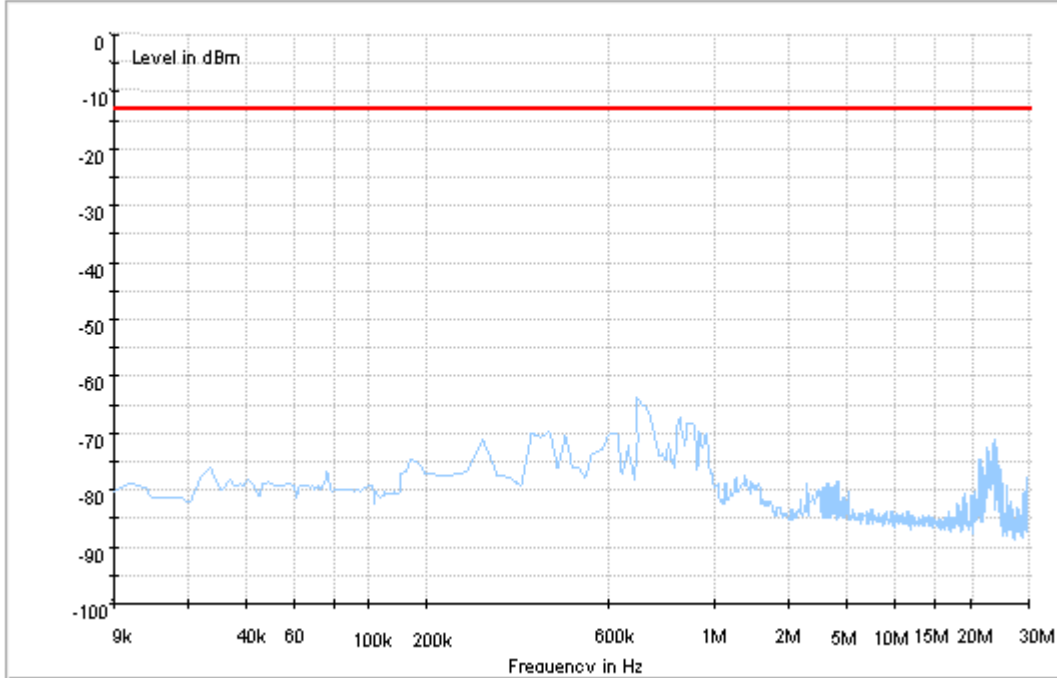
Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L



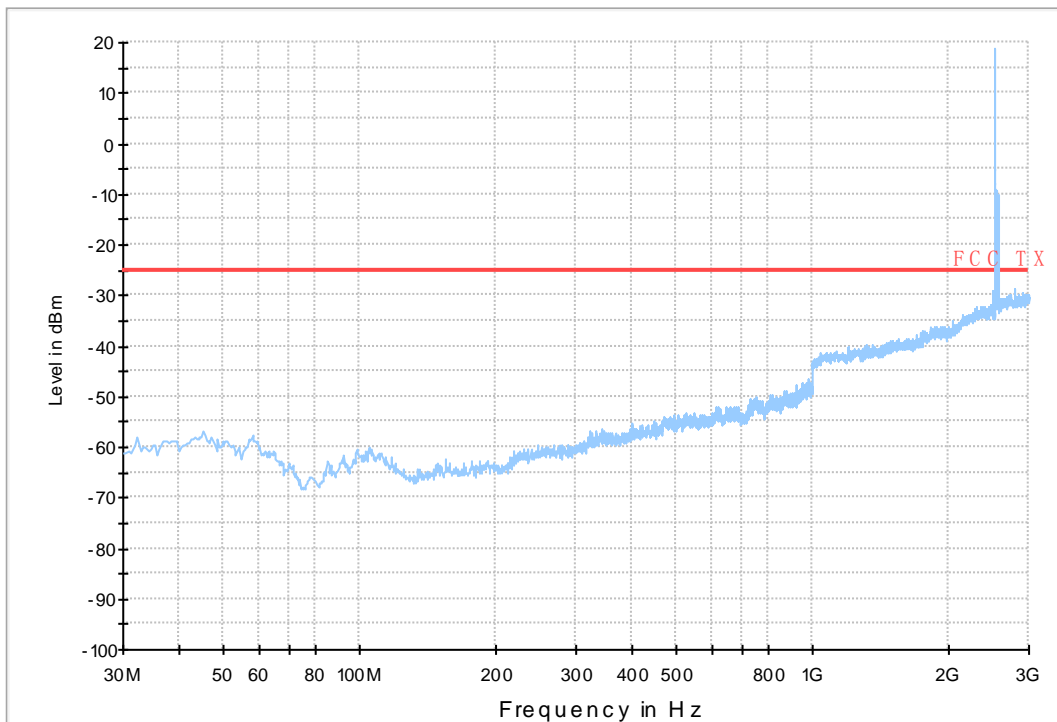
Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H



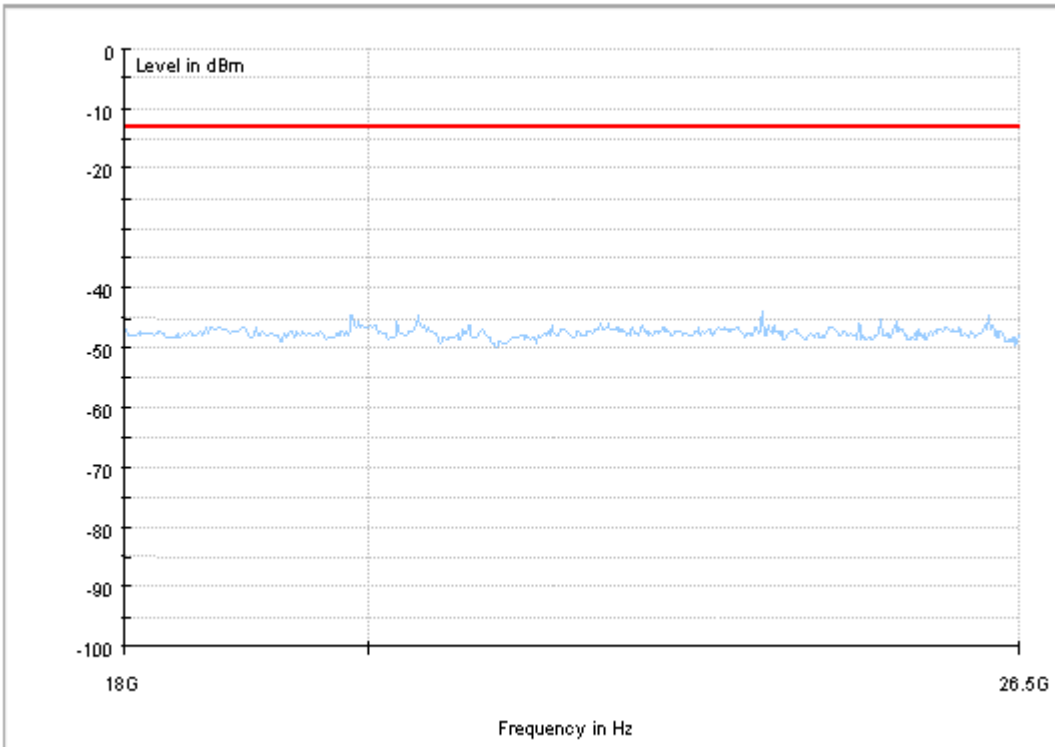
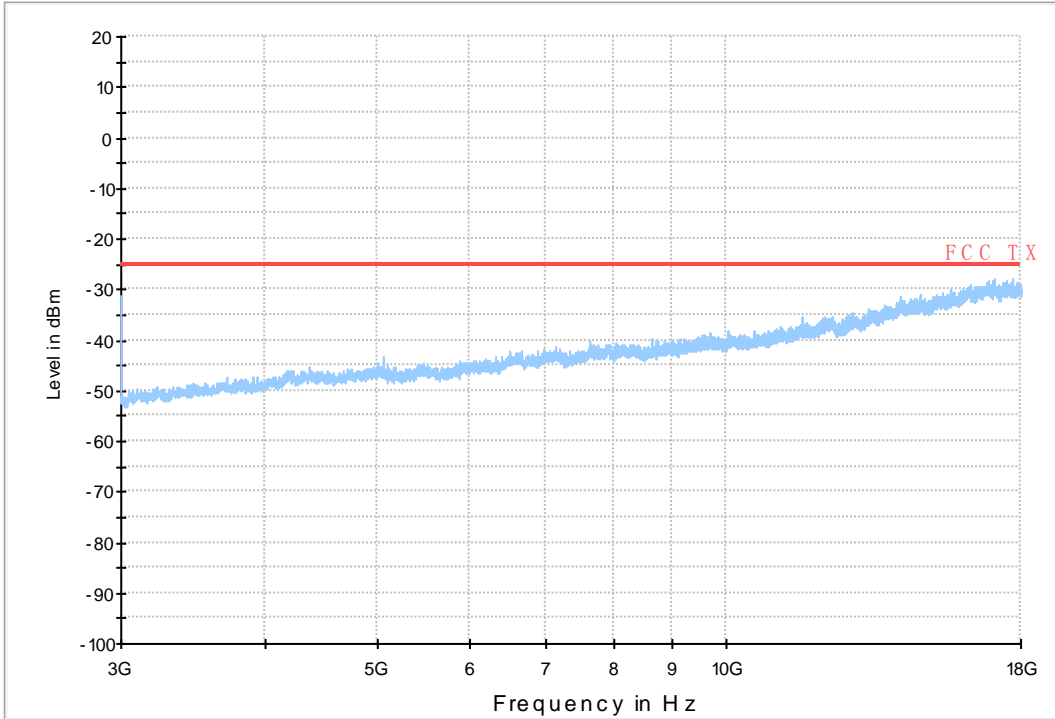
7.1.2.2 Test Bandwidth = 20



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



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



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
BAND7	LTE/TM1	5	LCH	TN	VL	4.59	0.00183	PASS
					VN	3.85	0.00154	PASS
					VH	-1.52	-0.00061	PASS
			MCH	TN	VL	1.7	0.00067	PASS
					VN	-0.33	-0.00013	PASS
					VH	-2.17	-0.00086	PASS
			HCH	TN	VL	-2.52	-0.00098	PASS
					VN	-1.22	-0.00048	PASS
					VH	-1.53	-0.0006	PASS
		10	LCH	TN	VL	-2.92	-0.00117	PASS
					VN	-1.75	-0.0007	PASS
					VH	-2.72	-0.00109	PASS
			MCH	TN	VL	0.73	0.00029	PASS
					VN	2.4	0.00095	PASS
					VH	1.73	0.00068	PASS
			HCH	TN	VL	-0.69	-0.00027	PASS
					VN	1.44	0.00056	PASS
					VH	1.02	0.0004	PASS
		15	LCH	TN	VL	-2.02	-0.00081	PASS
					VN	-0.7	-0.00028	PASS
					VH	0.63	0.00025	PASS
			MCH	TN	VL	-2.53	-0.001	PASS
					VN	-2.49	-0.00098	PASS
					VH	-0.76	-0.0003	PASS
			HCH	TN	VL	-3.18	-0.00124	PASS
					VN	-1.36	-0.00053	PASS
					VH	0.1	0.00004	PASS
20	LCH	TN	VL	-0.66	-0.00026	PASS		

			MCH	TN	VN	-2.39	-0.00095	PASS	
					VH	-1.36	-0.00054	PASS	
					VL	-1.34	-0.00053	PASS	
			VN	1.43	0.00056	PASS			
			VH	2.62	0.00103	PASS			
			VL	0.43	0.00017	PASS			
		HCH	TN	VN	-1.24	-0.00048	PASS		
				VH	-2.15	-0.00084	PASS		
				VL	-1.69	-0.00068	PASS		
		LTE/TM2	5	LCH	TN	VN	-2.68	-0.00107	PASS
						VH	-2.9	-0.00116	PASS
						VL	2.7	0.00107	PASS
	MCH			TN	VN	2.16	0.00085	PASS	
					VH	2.32	0.00092	PASS	
					VL	-2.55	-0.00099	PASS	
	HCH			TN	VN	-0.96	-0.00037	PASS	
					VH	-0.06	-0.00002	PASS	
					VL	-1.36	-0.00054	PASS	
	10			LCH	TN	VN	1.16	0.00046	PASS
						VH	-4.12	-0.00164	PASS
						VL	3.43	0.00135	PASS
			MCH	TN	VN	2.47	0.00097	PASS	
					VH	3.66	0.00144	PASS	
					VL	2.55	0.00099	PASS	
	HCH		TN	VN	-1.34	-0.00052	PASS		
				VH	-1.82	-0.00071	PASS		
				VL	-1.62	-0.00065	PASS		
	15	LCH	TN	VN	0.43	0.00017	PASS		
				VH	-1.72	-0.00069	PASS		
				VL	-1.22	-0.00048	PASS		
		MCH	TN	VN	0.93	0.00037	PASS		
				VH	0.99	0.00039	PASS		
				VL	-0.47	-0.00018	PASS		
		HCH	TN	VN	-2.59	-0.00101	PASS		
				VH	-0.41	-0.00016	PASS		
				VL	-1.16	-0.00046	PASS		
	20	LCH	TN	VN	-0.06	-0.00002	PASS		
				VH	-5.38	-0.00214	PASS		
				VL	0.5	0.0002	PASS		
		MCH	TN	VN	4.55	0.00179	PASS		
VH				2.95	0.00116	PASS			
VL				0.5	0.0002	PASS			



			HCH	TN	VL	-1.83	-0.00071	PASS
					VN	-2.16	-0.00084	PASS
					VH	-1.23	-0.00048	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	-0.24	-0.0001	PASS
					-20	1.67	0.00067	PASS
					-10	1.06	0.00042	PASS
					0	-2.15	-0.00086	PASS
					10	-1.7	-0.00068	PASS
					20	-1.46	-0.00058	PASS
					30	1.24	0.0005	PASS
					40	-1.19	-0.00048	PASS
			50	-3.66	-0.00146	PASS		
			MCH	VN	-30	6.41	0.00253	PASS
					-20	0.83	0.00033	PASS
					-10	5.04	0.00199	PASS
					0	2	0.00079	PASS
					10	2.33	0.00092	PASS
					20	1.65	0.00065	PASS
		30			4.48	0.00177	PASS	
		HCH	VN	-30	0.46	0.00018	PASS	
				-20	-0.57	-0.00022	PASS	
				-10	0.34	0.00013	PASS	
				0	0.26	0.0001	PASS	
				10	-0.37	-0.00014	PASS	
				20	-0.87	-0.00034	PASS	
				30	-1.43	-0.00056	PASS	
		10	LCH	VN	-30	1.27	0.00051	PASS
					-20	1.12	0.00045	PASS
					-10	-4.42	-0.00176	PASS
					0	-2.32	-0.00093	PASS
					10	-1.07	-0.00043	PASS

				20	-2.59	-0.00103	PASS	
				30	-2.52	-0.00101	PASS	
				40	-0.7	-0.00028	PASS	
				50	-1.36	-0.00054	PASS	
			MCH	VN	-30	8.4	0.00331	PASS
			MCH	VN	-20	1.59	0.00063	PASS
			MCH	VN	-10	2.13	0.00084	PASS
			MCH	VN	0	2.17	0.00086	PASS
			MCH	VN	10	5.78	0.00228	PASS
			MCH	VN	20	1.36	0.00054	PASS
			MCH	VN	30	3.48	0.00137	PASS
			MCH	VN	40	5.81	0.00229	PASS
			MCH	VN	50	2.72	0.00107	PASS
			HCH	VN	-30	-0.03	-0.00001	PASS
			HCH	VN	-20	0.56	0.00022	PASS
			HCH	VN	-10	1.12	0.00044	PASS
			HCH	VN	0	-0.09	-0.00004	PASS
			HCH	VN	10	-0.79	-0.00031	PASS
			HCH	VN	20	-6.68	-0.0026	PASS
			HCH	VN	30	-6.45	-0.00251	PASS
			HCH	VN	40	-8.18	-0.00319	PASS
			HCH	VN	50	-7.27	-0.00283	PASS
		15	LCH	VN	-30	-4.29	-0.00171	PASS
			LCH	VN	-20	-4.95	-0.00197	PASS
			LCH	VN	-10	-4.72	-0.00188	PASS
			LCH	VN	0	-1.12	-0.00045	PASS
			LCH	VN	10	-0.93	-0.00037	PASS
			LCH	VN	20	-3.46	-0.00138	PASS
			LCH	VN	30	-4.73	-0.00189	PASS
			LCH	VN	40	-2.26	-0.0009	PASS
			LCH	VN	50	0	0	PASS
			MCH	VN	-30	-1.1	-0.00043	PASS
			MCH	VN	-20	0.64	0.00025	PASS
			MCH	VN	-10	-0.4	-0.00016	PASS
			MCH	VN	0	0.82	0.00032	PASS
			MCH	VN	10	-3.72	-0.00147	PASS
			MCH	VN	20	-0.69	-0.00027	PASS
			MCH	VN	30	-1.17	-0.00046	PASS
		MCH	VN	40	-1.29	-0.00051	PASS	
		MCH	VN	50	1.9	0.00075	PASS	
		HCH	VN	-30	-0.72	-0.00028	PASS	

					-20	-0.69	-0.00027	PASS					
					-10	-2.59	-0.00101	PASS					
					0	-0.82	-0.00032	PASS					
					10	-3.02	-0.00118	PASS					
					20	1.65	0.00064	PASS					
					30	-3.06	-0.00119	PASS					
					40	-2.39	-0.00093	PASS					
					50	-3.79	-0.00148	PASS					
					20	LCH	VN	-30	-0.99	-0.00039	PASS		
								-20	-1.72	-0.00069	PASS		
								-10	1.04	0.00041	PASS		
								0	-0.07	-0.00003	PASS		
								10	-2.32	-0.00092	PASS		
								20	-1.59	-0.00063	PASS		
								30	-0.64	-0.00025	PASS		
								40	-0.13	-0.00005	PASS		
								50	-1.03	-0.00041	PASS		
								MCH	VN	-30	-0.33	-0.00013	PASS
										-20	-0.3	-0.00012	PASS
										-10	2.26	0.00089	PASS
										0	-0.21	-0.00008	PASS
										10	-2.52	-0.00099	PASS
					20	0.59	0.00023			PASS			
					30	0.47	0.00019			PASS			
					40	0.43	0.00017			PASS			
					HCH	VN	50	2.35	0.00093	PASS			
							-30	0.01	0	PASS			
							-20	-0.77	-0.0003	PASS			
							-10	-3.32	-0.0013	PASS			
							0	1.75	0.00068	PASS			
							10	-1.76	-0.00069	PASS			
							20	-1.37	-0.00054	PASS			
							30	1.14	0.00045	PASS			
					LTE/TM2	5	LCH	VN	40	-1.65	-0.00064	PASS	
									50	-1.66	-0.00065	PASS	
-30	-2.52	-0.00101	PASS										
-20	8.53	0.00341	PASS										
-10	6.09	0.00243	PASS										
0	5.99	0.00239	PASS										
10	4.43	0.00177	PASS										
20	5.79	0.00231	PASS										

			MCH	VN	30	2.1	0.00084	PASS		
					40	2.03	0.00081	PASS		
					50	4.63	0.00185	PASS		
					-30	6.35	0.0025	PASS		
					-20	1.32	0.00052	PASS		
					-10	2.43	0.00096	PASS		
					0	5.61	0.00221	PASS		
					10	5.15	0.00203	PASS		
					20	3.56	0.0014	PASS		
					30	-2.68	-0.00106	PASS		
					40	1.3	0.00051	PASS		
					50	4.53	0.00179	PASS		
			HCH	VN	-30	0.2	0.00008	PASS		
					-20	1.3	0.00051	PASS		
					-10	1.96	0.00076	PASS		
					0	0	0	PASS		
					10	2.29	0.00089	PASS		
					20	-0.31	-0.00012	PASS		
					30	-0.57	-0.00022	PASS		
					40	1.86	0.00072	PASS		
					50	-0.33	-0.00013	PASS		
					LCH	VN	-30	-2.29	-0.00091	PASS
							-20	0.63	0.00025	PASS
							-10	0.01	0	PASS
			0	-1.26			-0.0005	PASS		
			10	2.07			0.00083	PASS		
			20	-0.46			-0.00018	PASS		
			30	-0.56			-0.00022	PASS		
			40	-0.49			-0.0002	PASS		
			50	0.19			0.00008	PASS		
			MCH	VN			-30	0.03	0.00001	PASS
							-20	-1.92	-0.00076	PASS
							-10	1.54	0.00061	PASS
					0	1.44	0.00057	PASS		
					10	3.88	0.00153	PASS		
					20	-0.84	-0.00033	PASS		
					30	3.46	0.00136	PASS		
					40	1.82	0.00072	PASS		
					50	-1.33	-0.00052	PASS		
					HCH	VN	-30	1.06	0.00041	PASS
							-20	1.44	0.00056	PASS

					-10	-1.33	-0.00052	PASS			
					0	1.66	0.00065	PASS			
					10	0.01	0	PASS			
					20	0.31	0.00012	PASS			
					30	0.64	0.00025	PASS			
					40	-1.93	-0.00075	PASS			
					50	0.2	0.00008	PASS			
		15	LCH	VN	-30	0.07	0.00003	PASS			
								-20	-4.26	-0.0017	PASS
								-10	-0.41	-0.00016	PASS
								0	-1.1	-0.00044	PASS
								10	-1.2	-0.00048	PASS
								20	-2.15	-0.00086	PASS
						30	-1.73	-0.00069	PASS		
						40	-0.23	-0.00009	PASS		
						50	-1.42	-0.00057	PASS		
				MCH	VN	-30	1.75	0.00069	PASS		
								-20	1.42	0.00056	PASS
								-10	1.19	0.00047	PASS
								0	0.9	0.00036	PASS
								10	-0.19	-0.00007	PASS
								20	2.56	0.00101	PASS
					30	1.1	0.00043	PASS			
					40	2.32	0.00092	PASS			
					50	1.34	0.00053	PASS			
			HCH	VN	-30	1.32	0.00052	PASS			
							-20	1.07	0.00042	PASS	
							-10	1.95	0.00076	PASS	
							0	0.2	0.00008	PASS	
							10	-0.37	-0.00014	PASS	
							20	-0.62	-0.00024	PASS	
					30	-1.02	-0.0004	PASS			
					40	1.47	0.00057	PASS			
					50	-1.49	-0.00058	PASS			
		20	LCH	VN	-30	-0.27	-0.00011	PASS			
								-20	2.76	0.0011	PASS
								-10	3.88	0.00155	PASS
								0	2.47	0.00098	PASS
								10	3.75	0.00149	PASS
								20	-0.09	-0.00004	PASS
								30	0.8	0.00032	PASS



			MCH	VN	40	-1.12	-0.00045	PASS
					50	0.73	0.00029	PASS
					-30	-2.43	-0.00096	PASS
					-20	0.17	0.00007	PASS
					-10	-1	-0.00039	PASS
					0	-0.26	-0.0001	PASS
					10	1.46	0.00058	PASS
					20	0.21	0.00008	PASS
					30	-0.74	-0.00029	PASS
					40	1.85	0.00073	PASS
			50	-1.36	-0.00054	PASS		
			HCH	VN	-30	-0.06	-0.00002	PASS
					-20	-0.27	-0.00011	PASS
					-10	-1.06	-0.00041	PASS
					0	-0.76	-0.0003	PASS
					10	0.7	0.00027	PASS
					20	-1.92	-0.00075	PASS
					30	-3.38	-0.00132	PASS
					40	-3.36	-0.00131	PASS
			50	-2.25	-0.00088	PASS		

END