



5.1.1.2.3.1.3 Test RB = RB36#18





5.1.1.2.3.1.4 Test RB = RB75#0





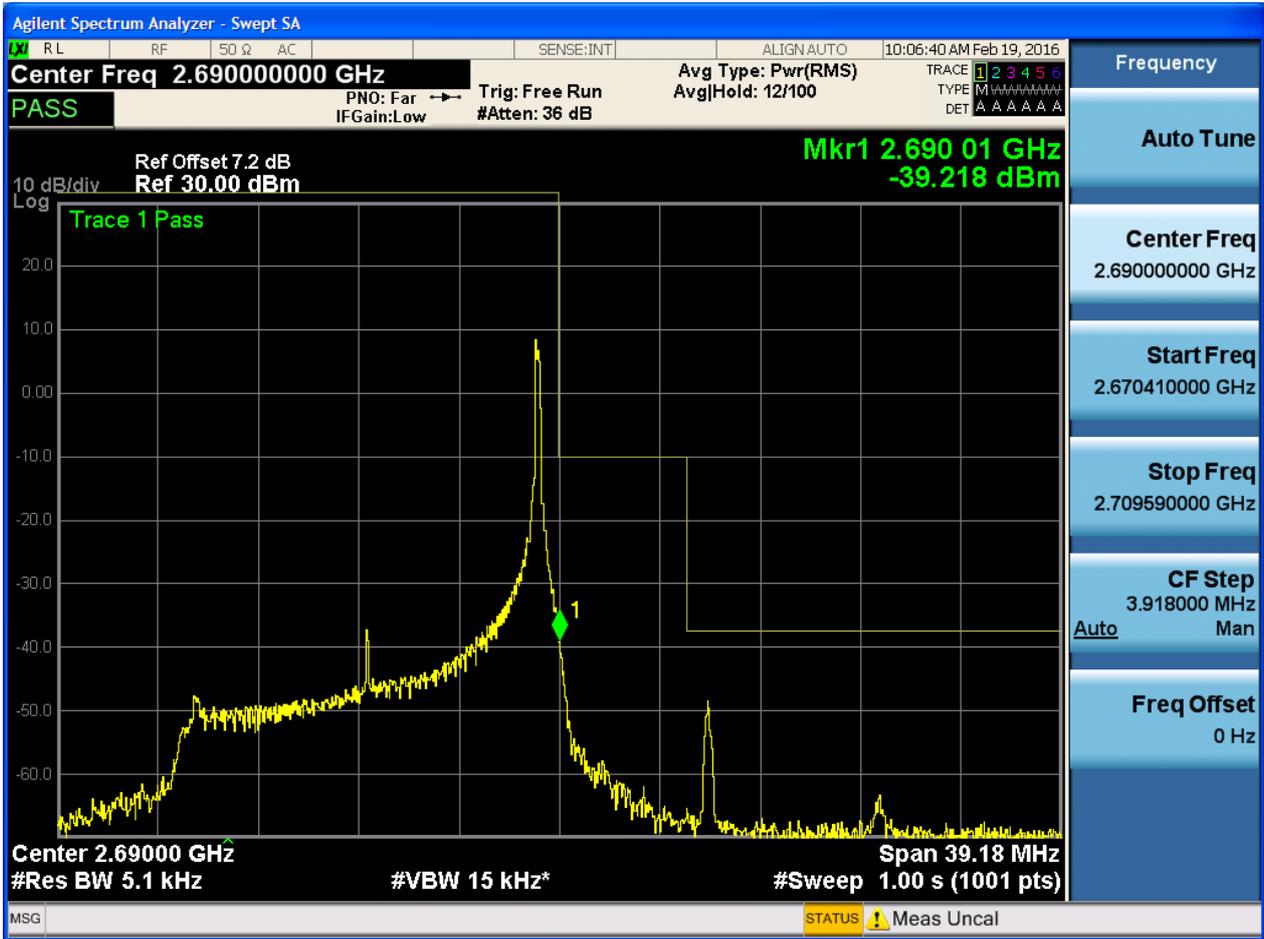
5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





5.1.1.2.3.2.2 Test RB = RB1#74





5.1.1.2.3.2.3 Test RB = RB36#18





5.1.1.2.3.2.4 Test RB = RB75#0

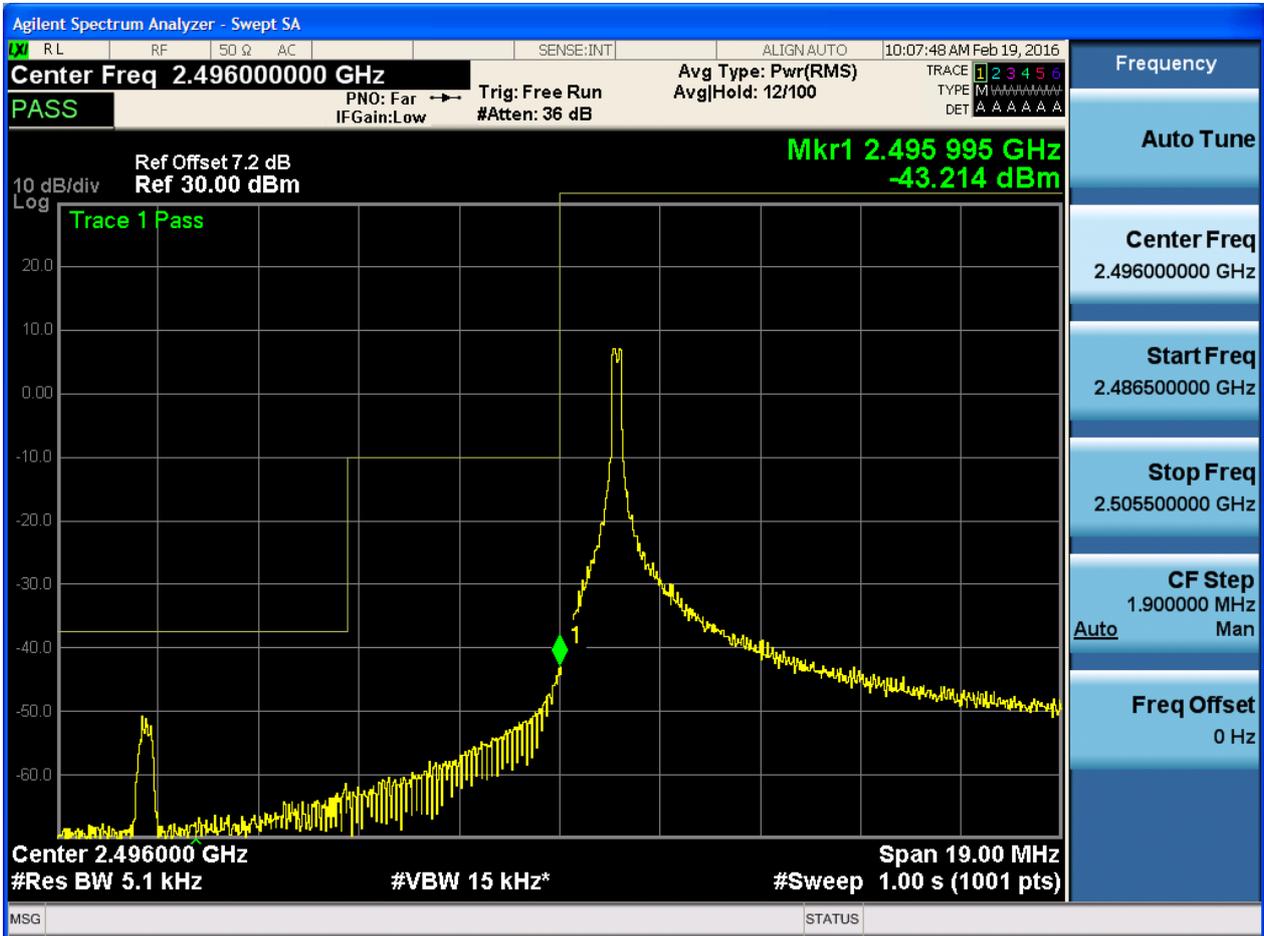




5.1.1.2.4 Test Bandwidth = 20

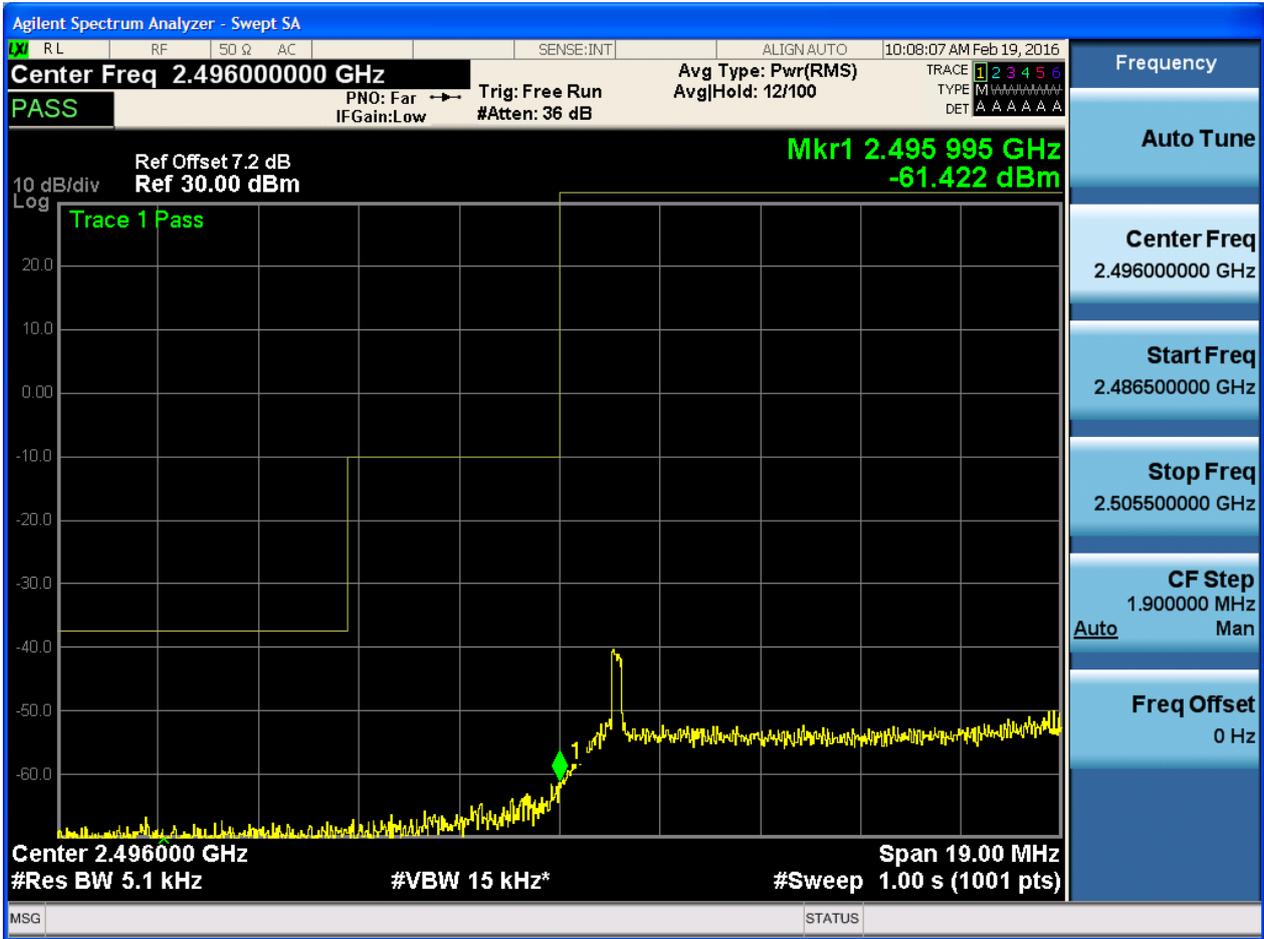
5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0





5.1.1.2.4.1.2 Test RB = RB1#99





5.1.1.2.4.1.3 Test RB = RB50#25





5.1.1.2.4.1.4 Test RB = RB100#0





5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0





5.1.1.2.4.2.2 Test RB = RB1#99





5.1.1.2.4.2.3 Test RB = RB50#25





5.1.1.2.4.2.4 Test RB = RB100#0





6Appendix_F: Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Part I - Test Plots

6.1 For LTE

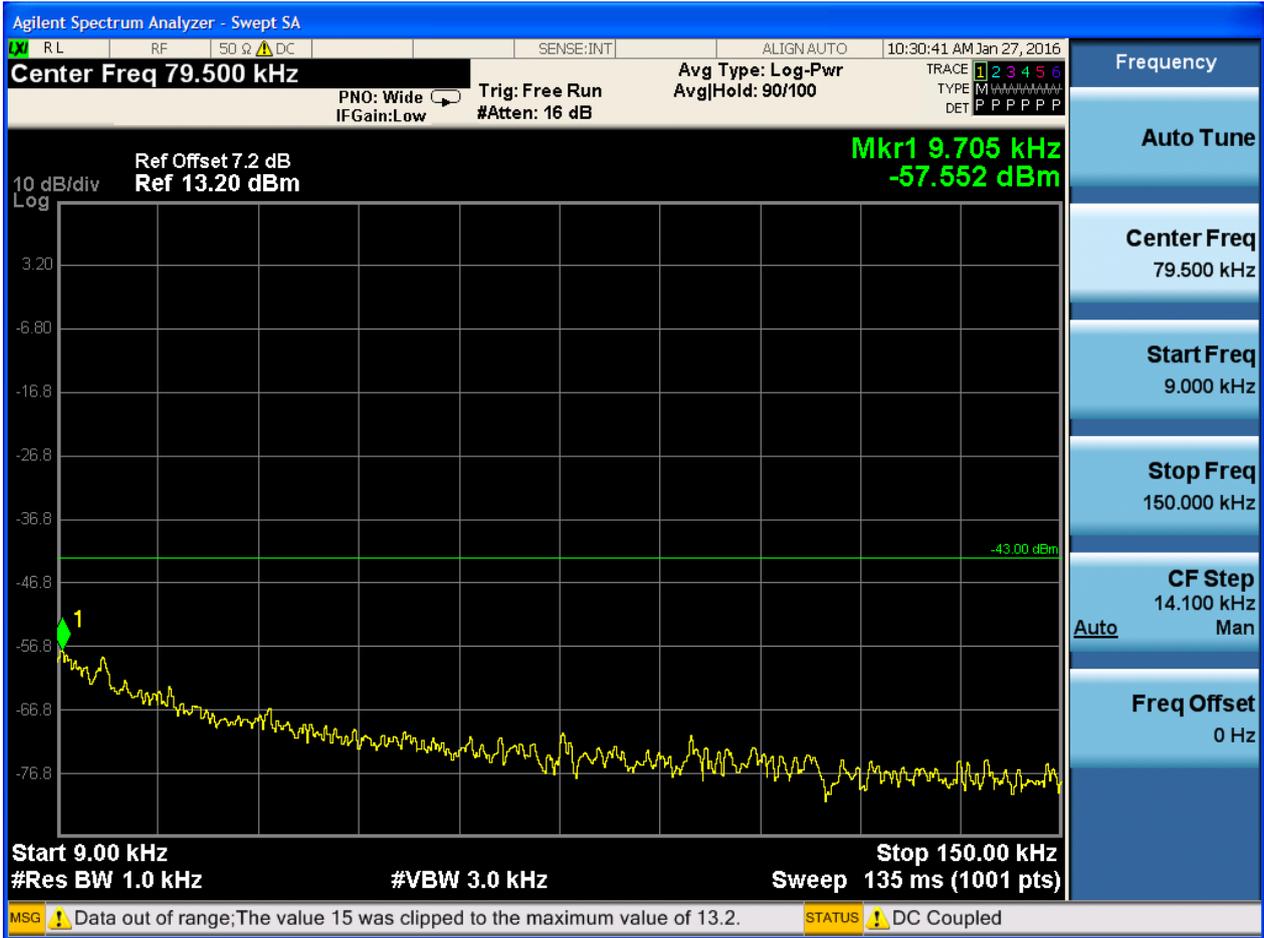
6.1.1 Test Band = BAND41

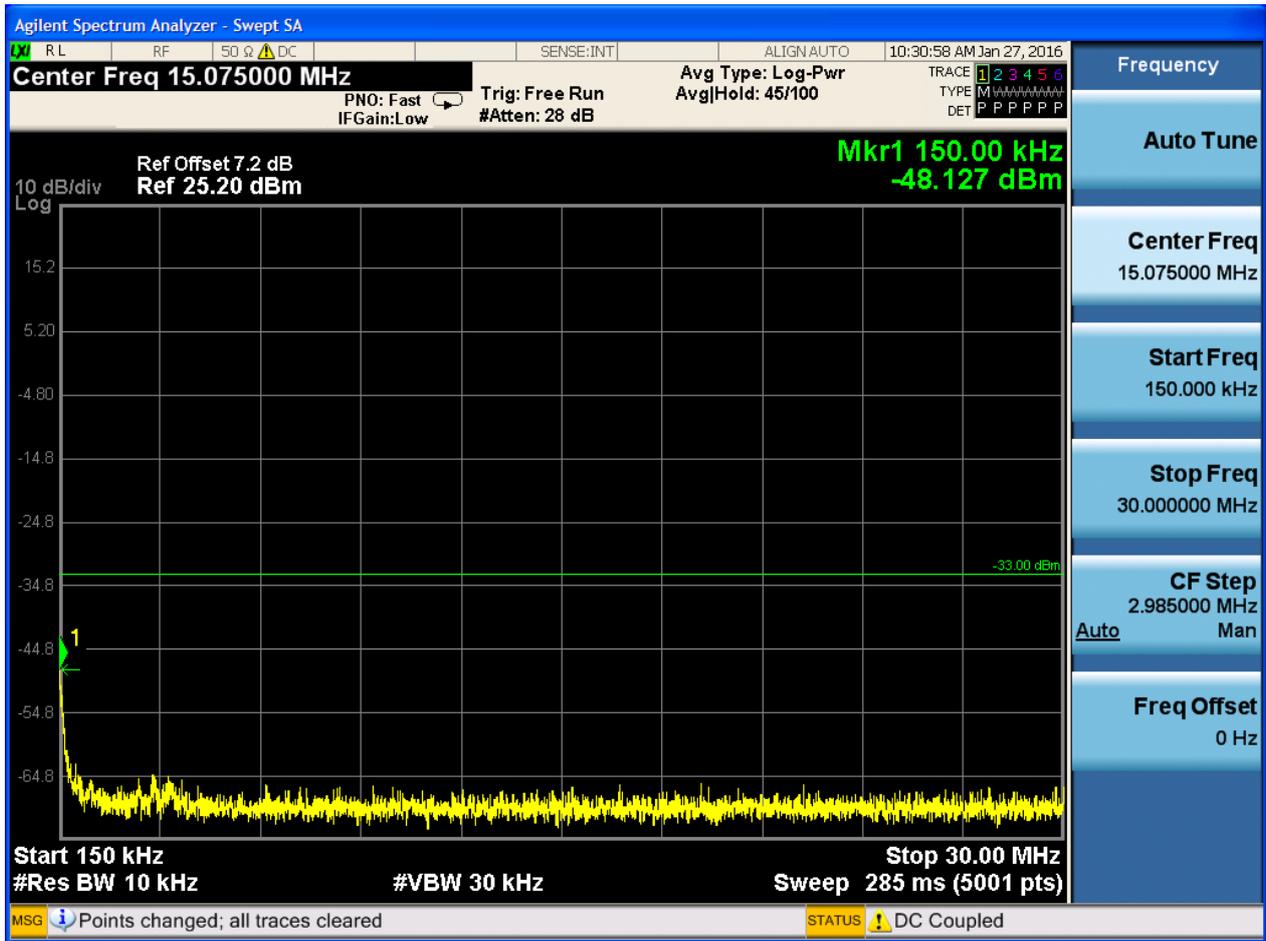
6.1.1.1 Test Mode = LTE/TM1

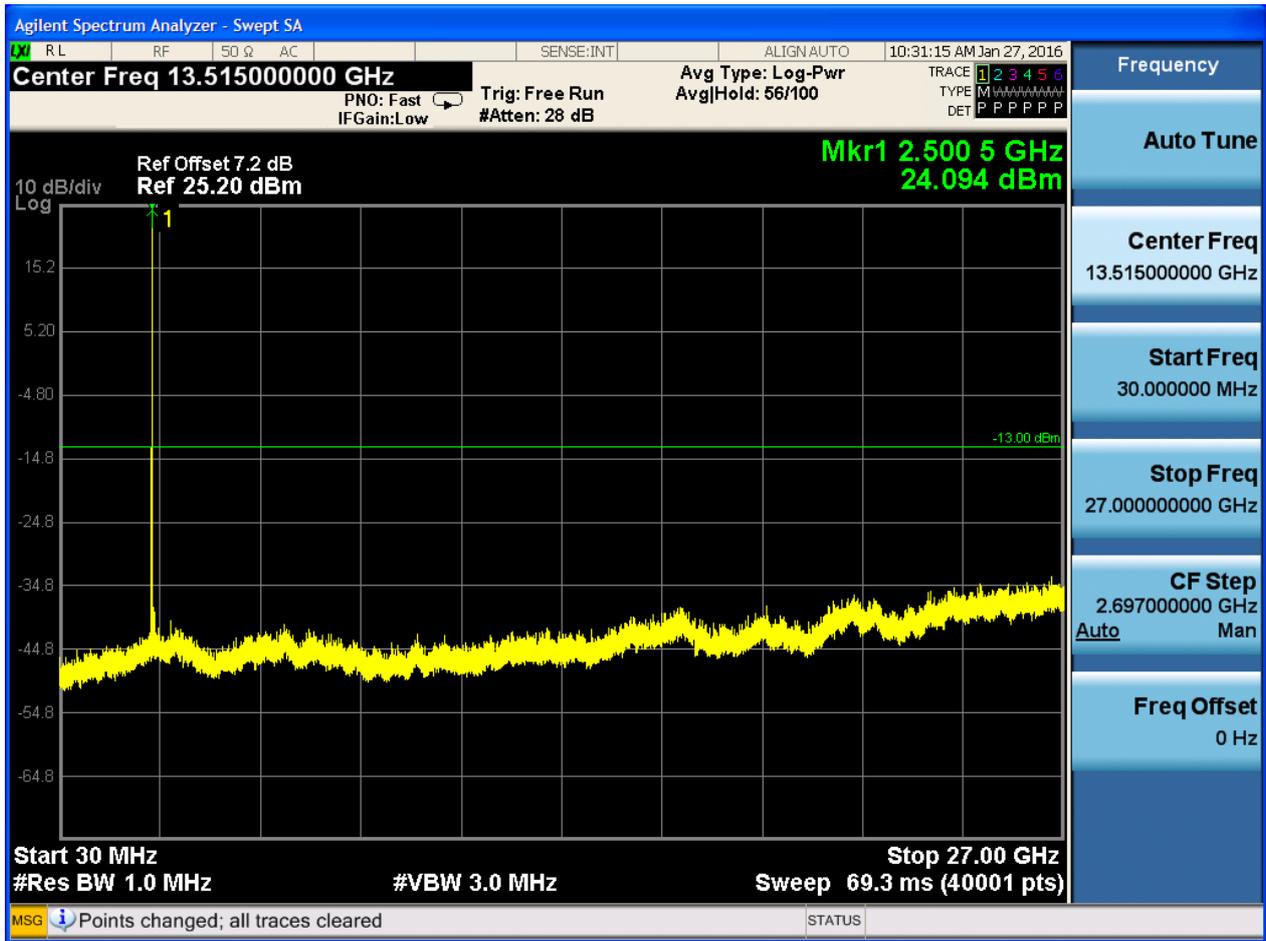
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



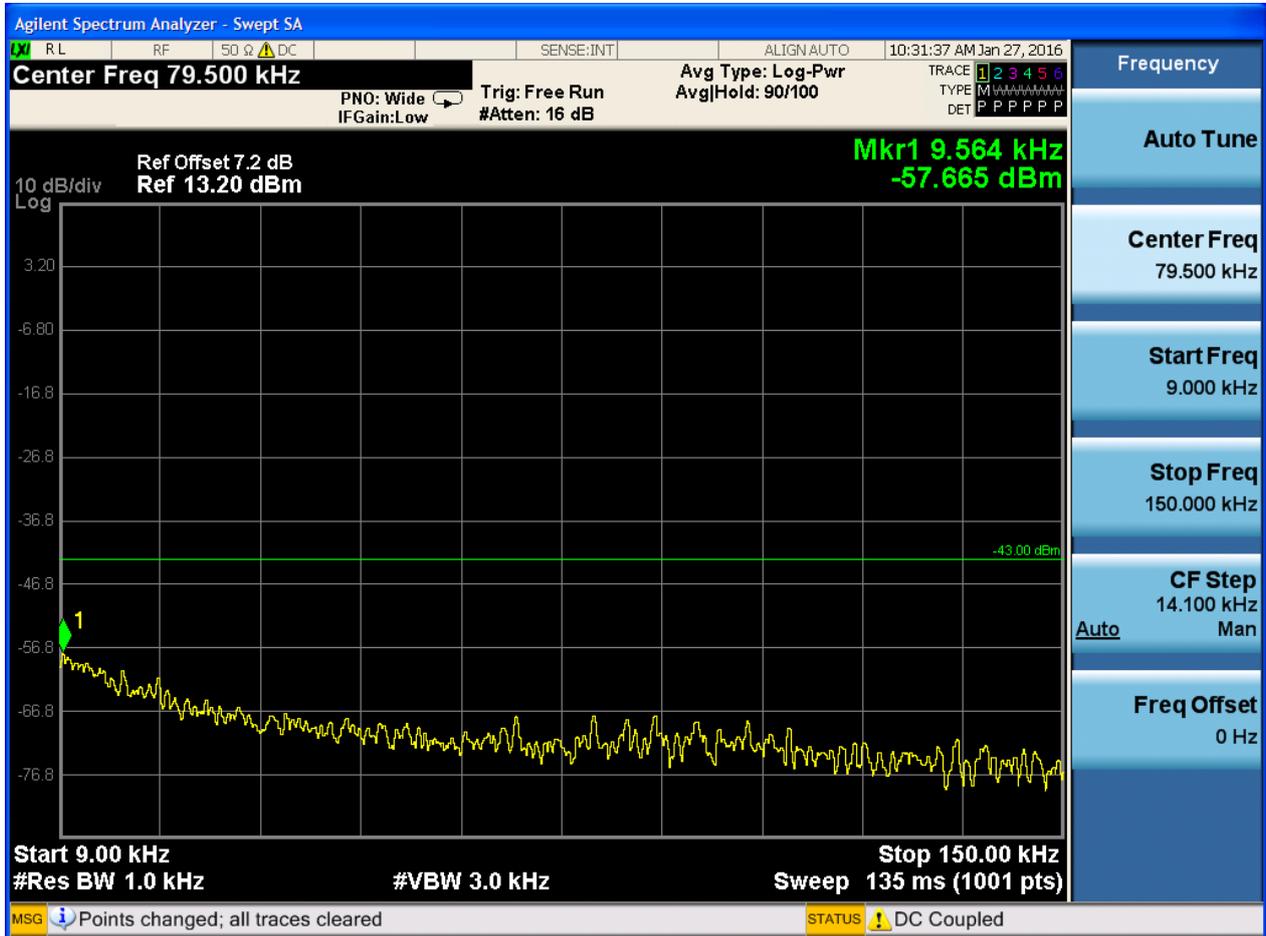


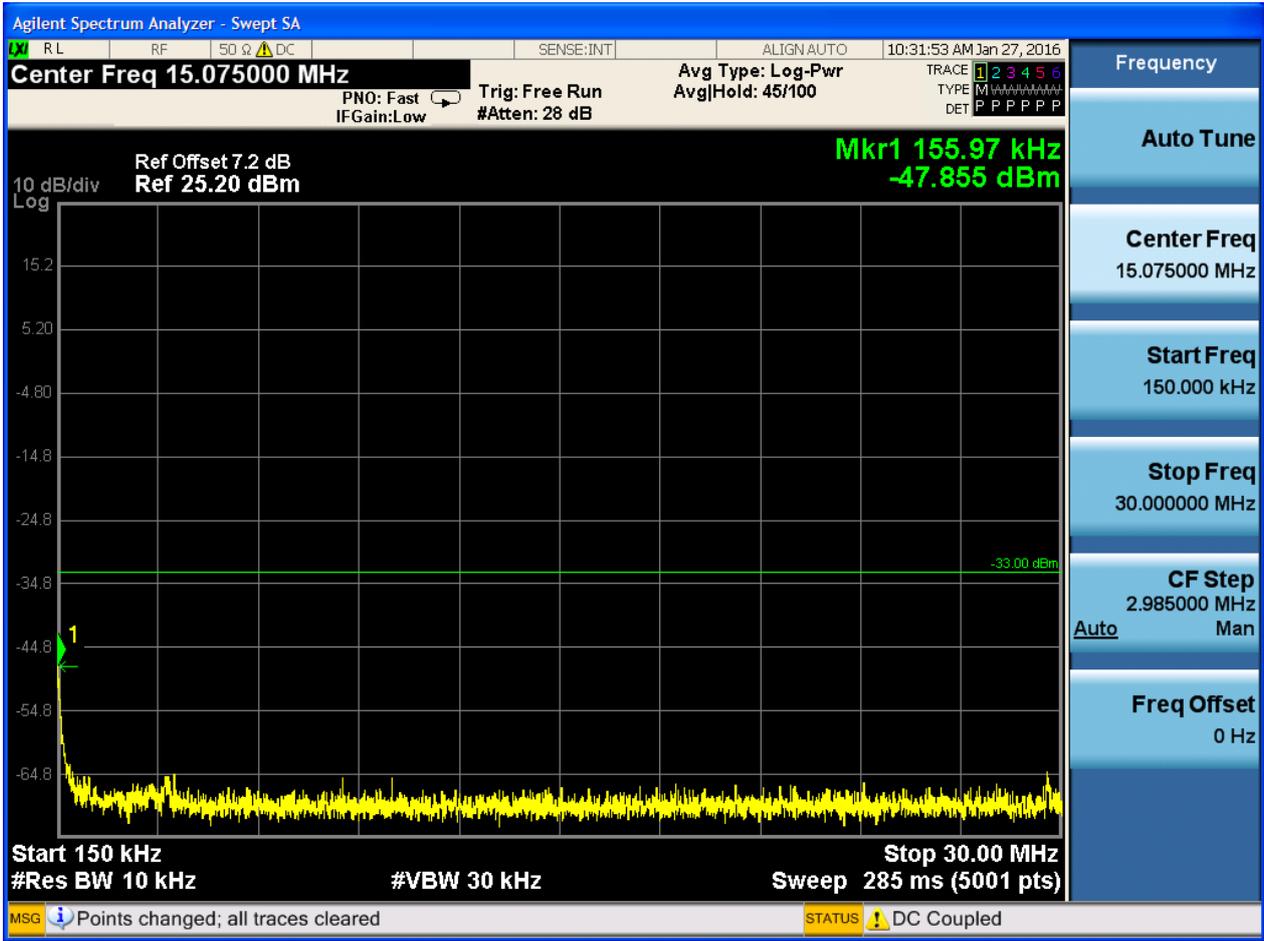


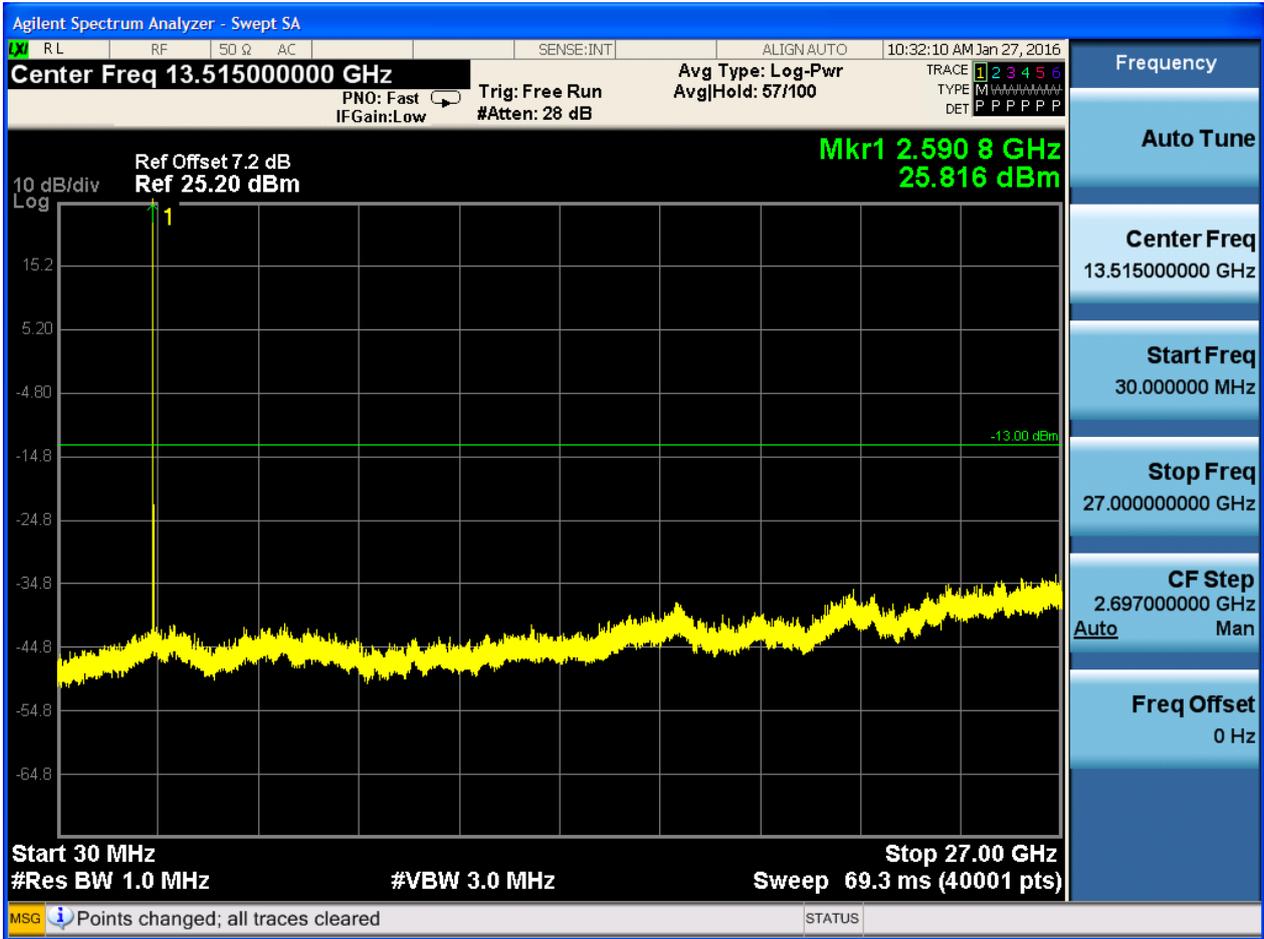


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



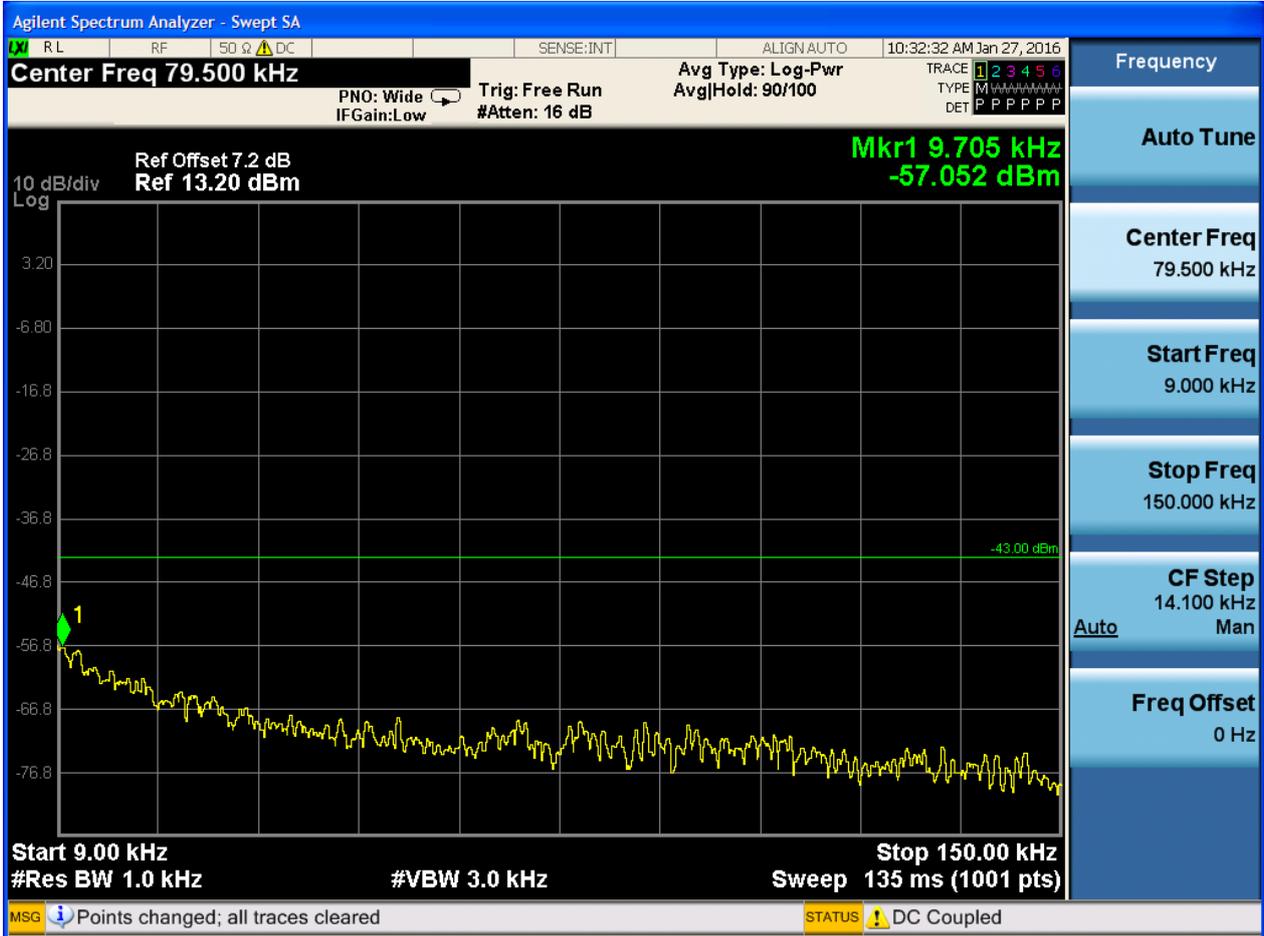


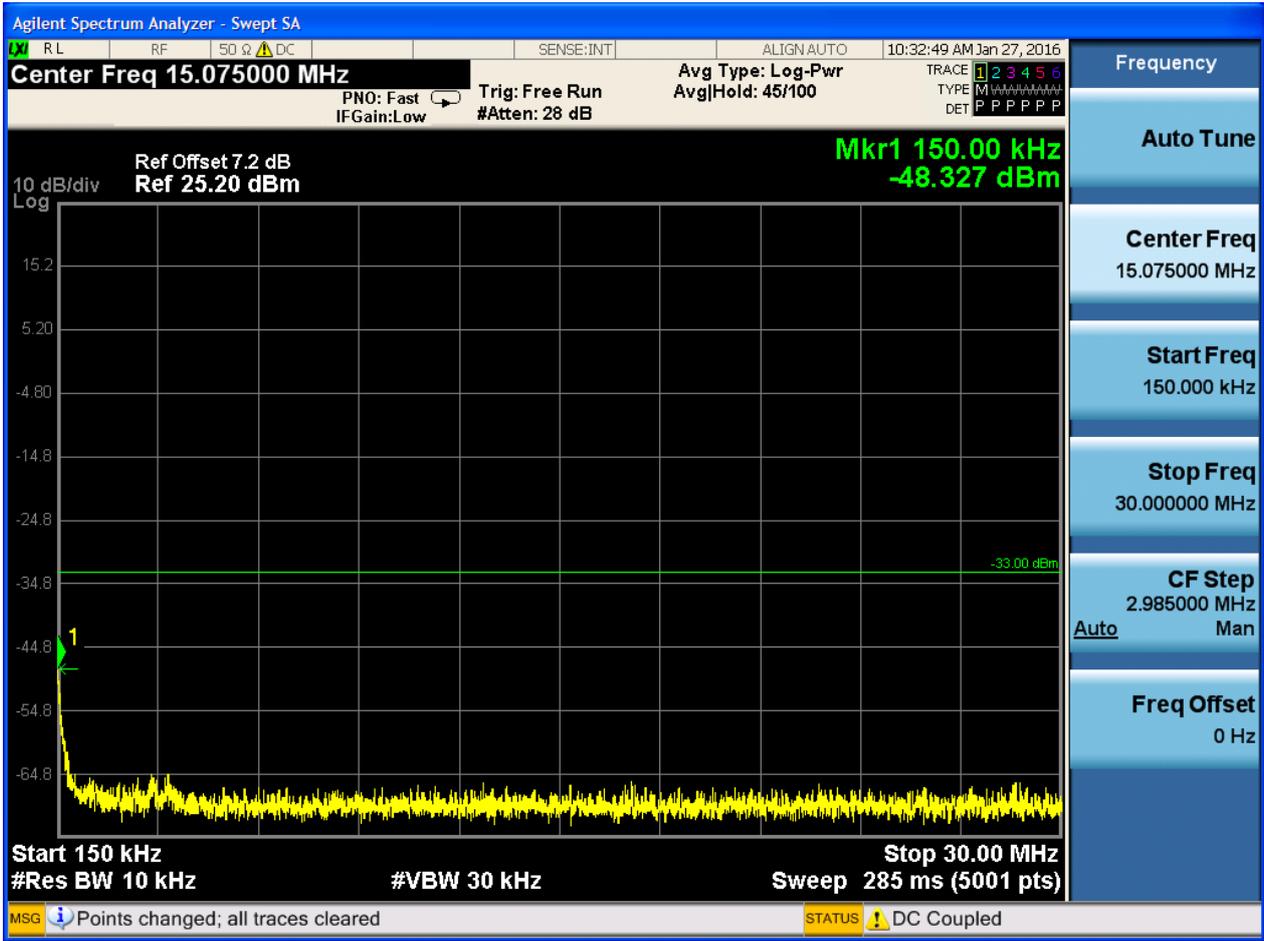


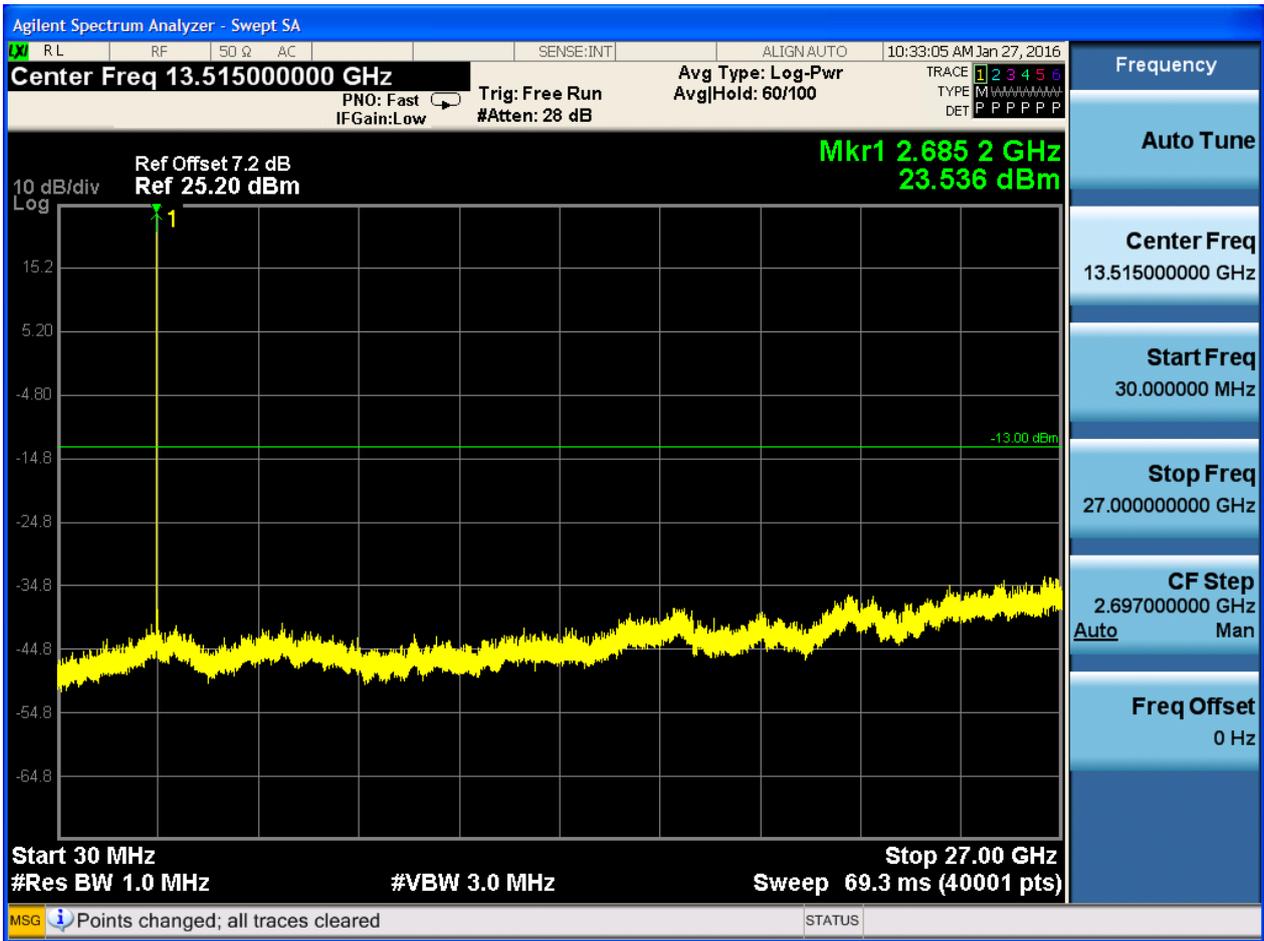


6.1.1.1.3 Test Channel = HCH

6.1.1.1.3.1 Test RB = RB1#0





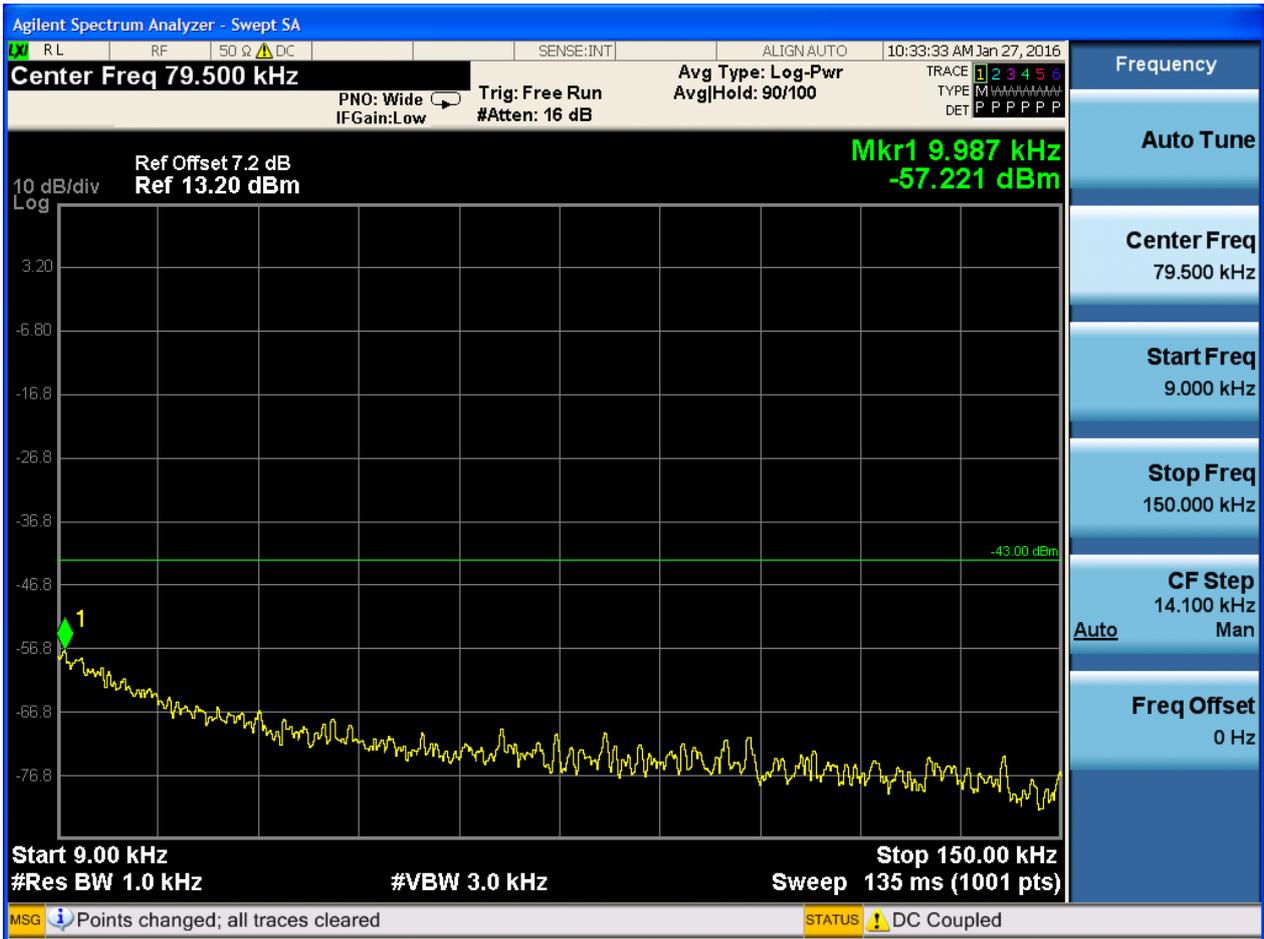


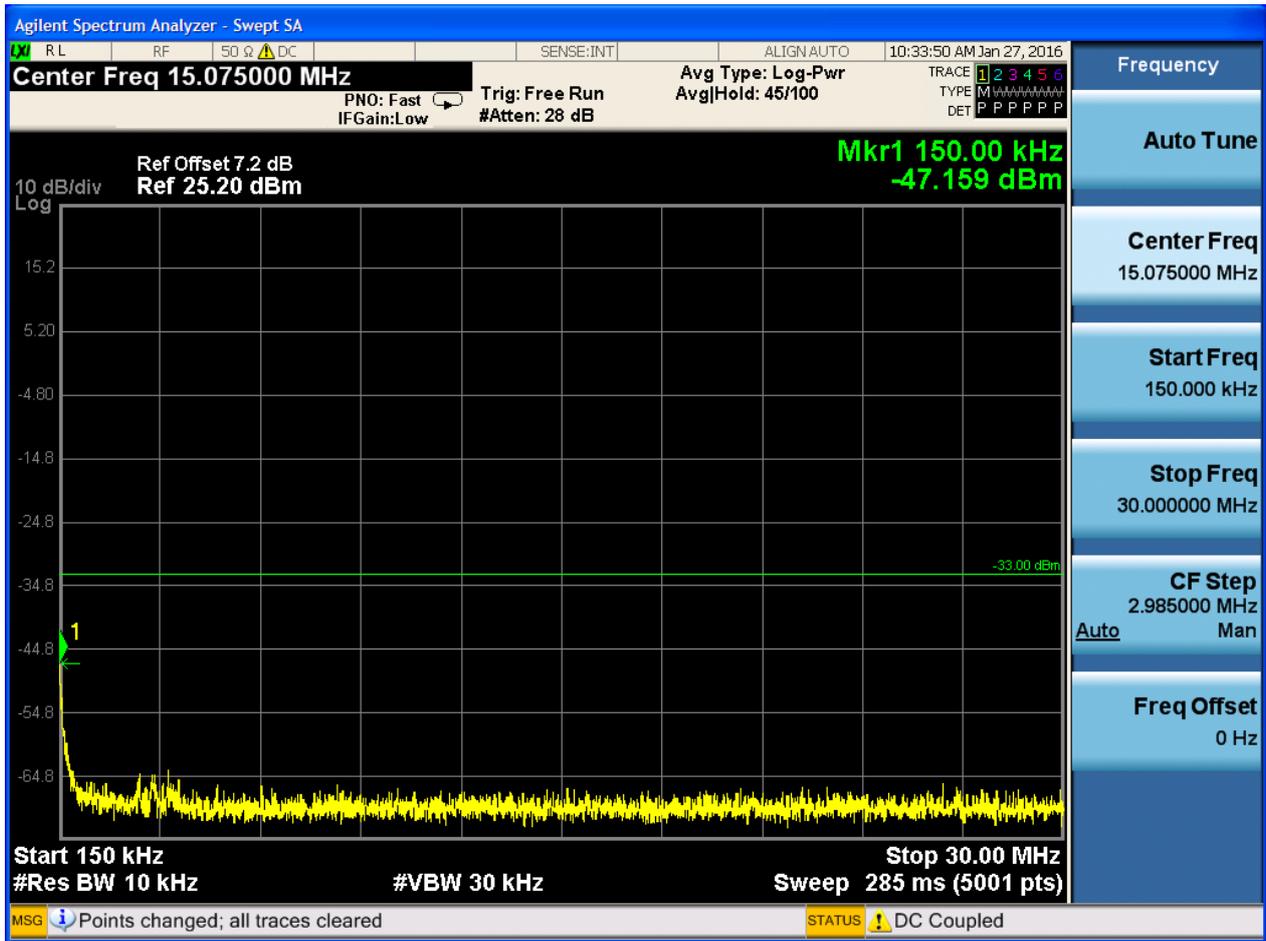


6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



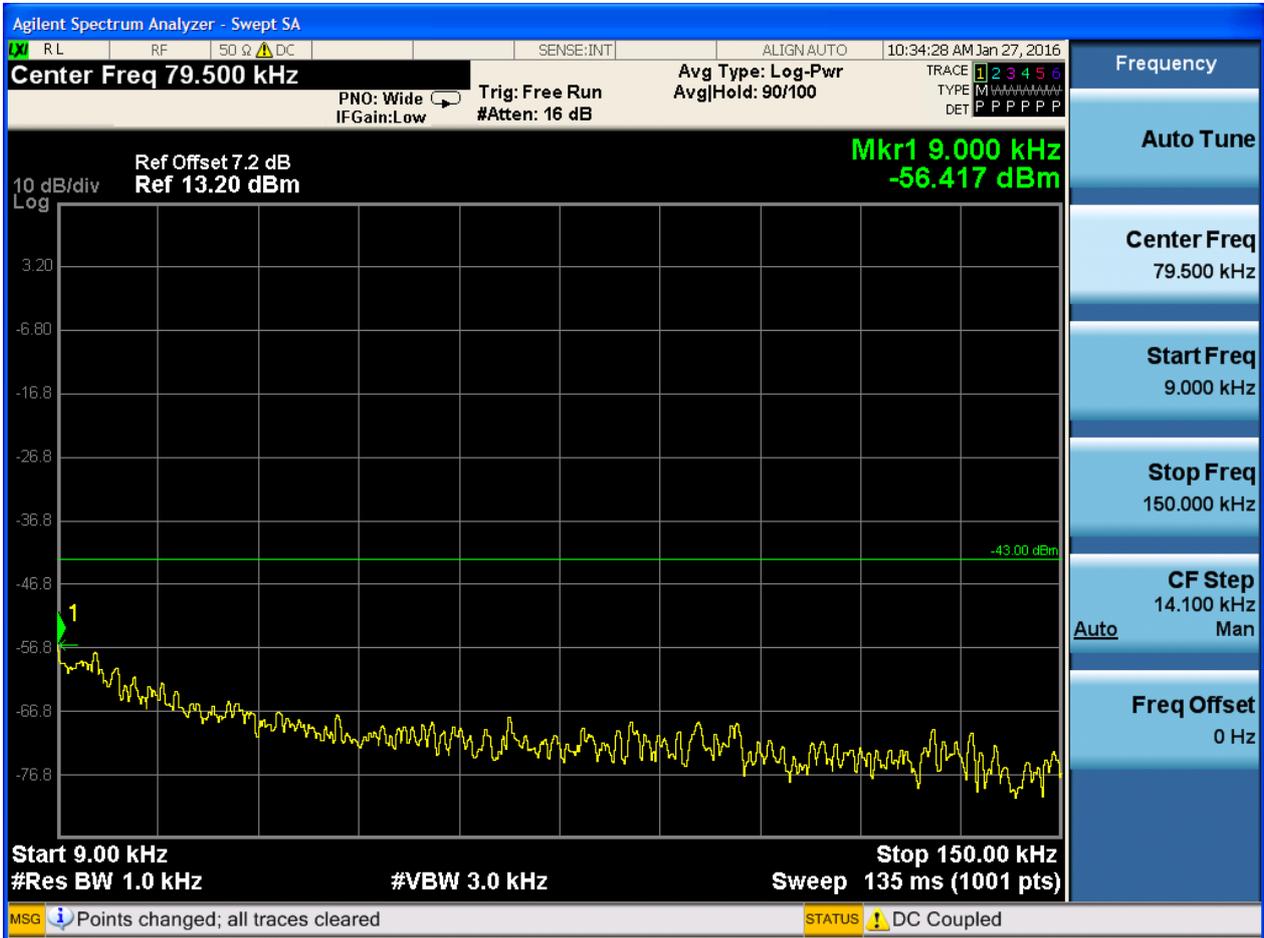


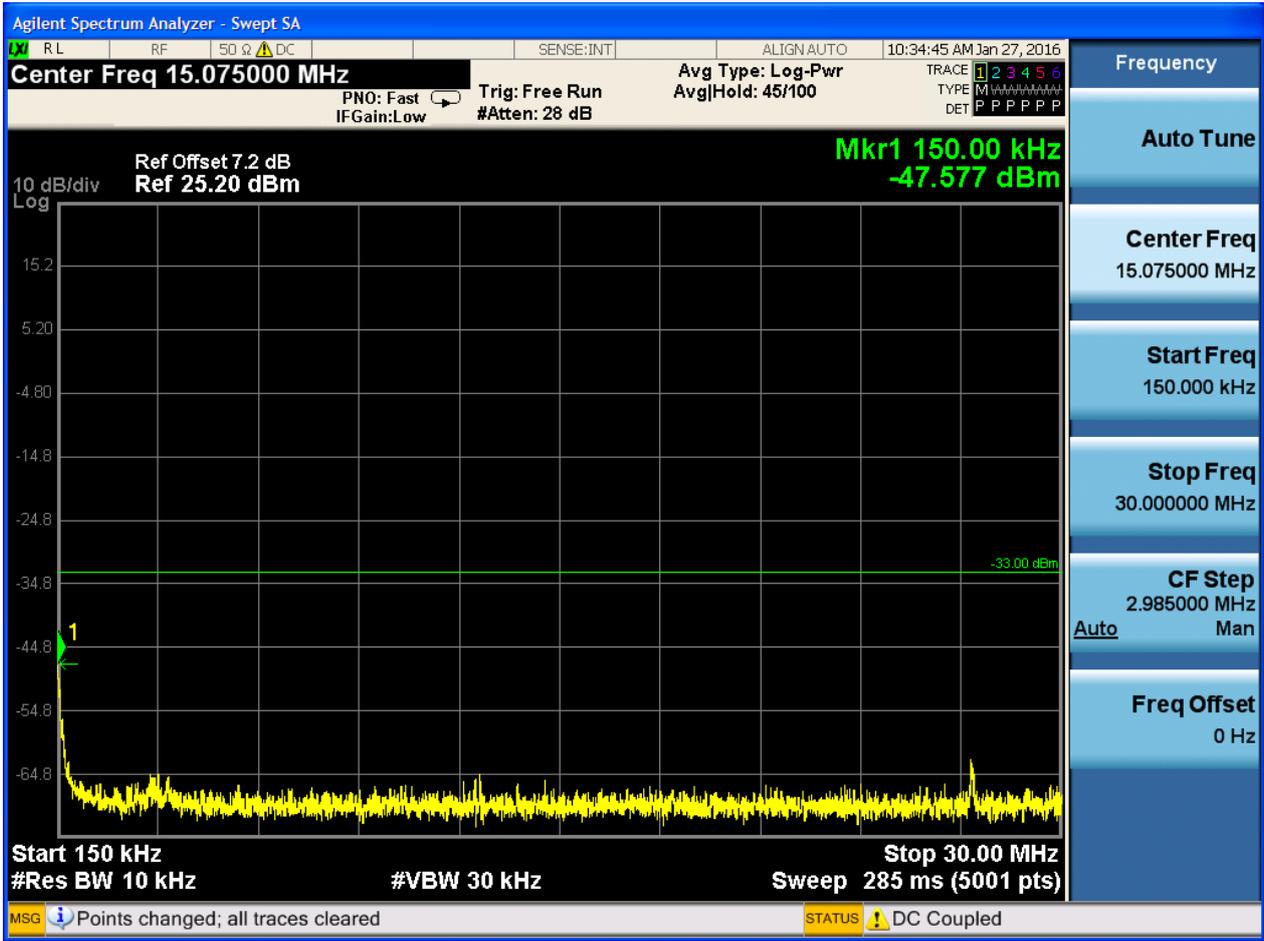


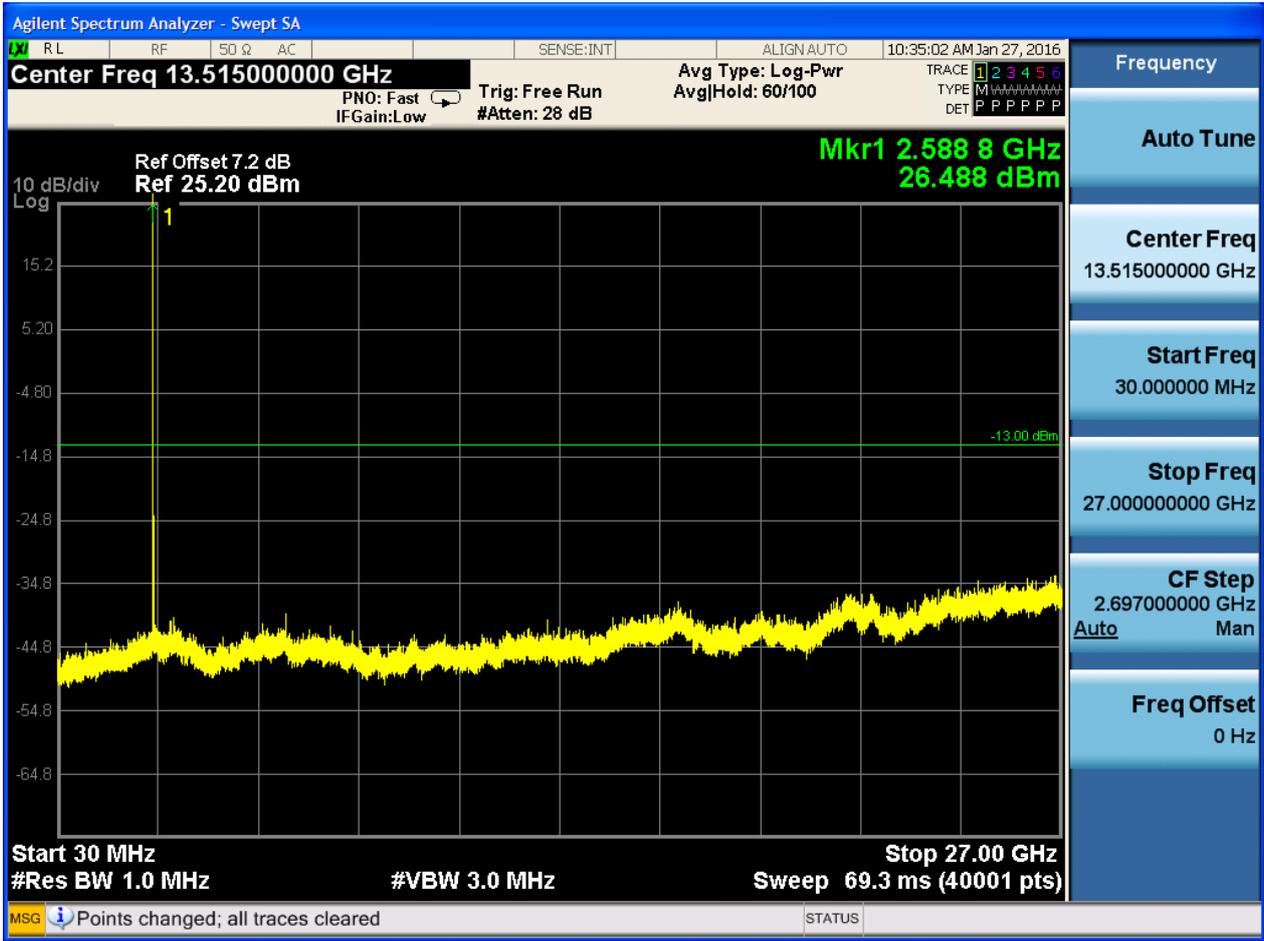


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0

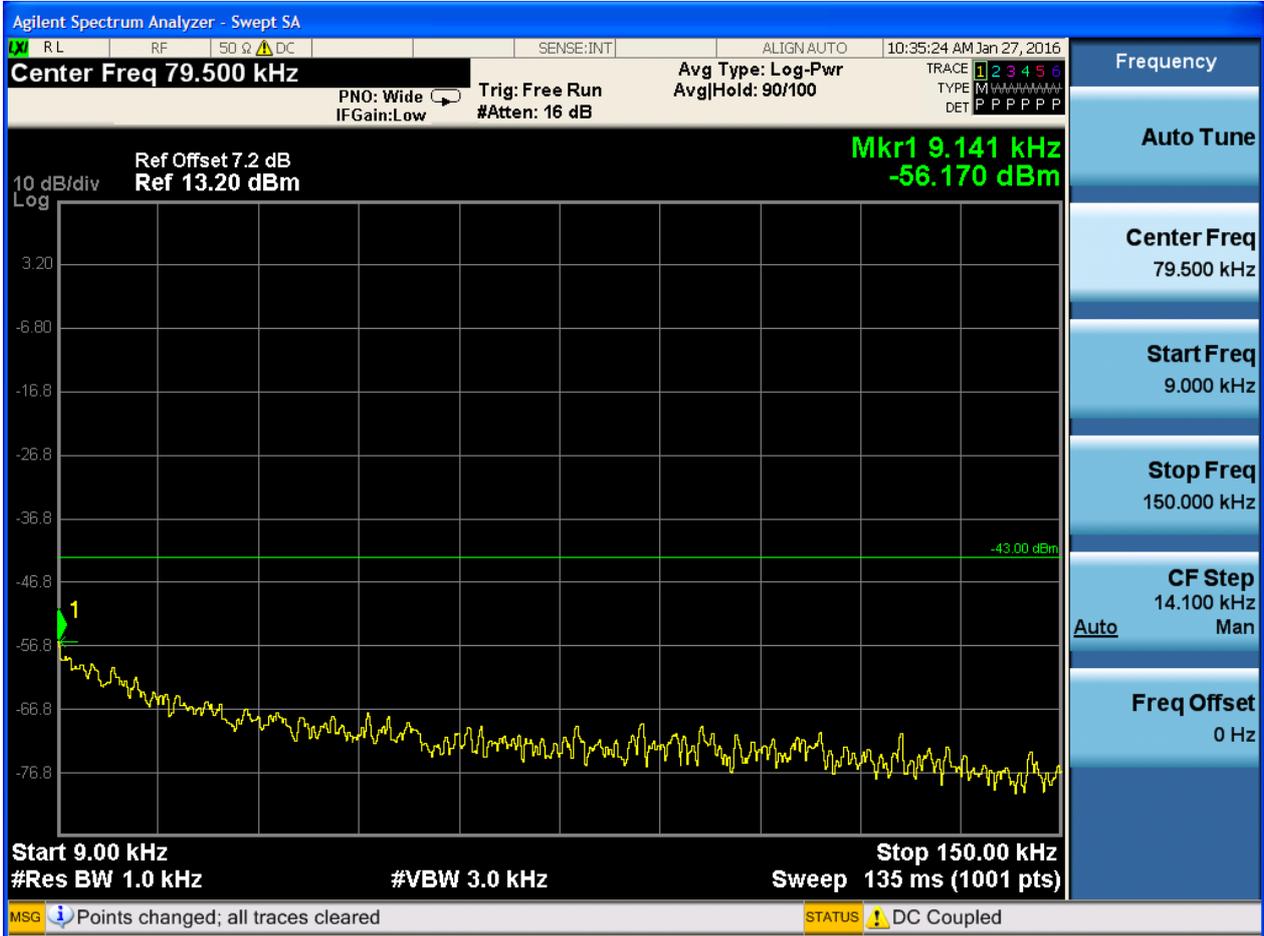




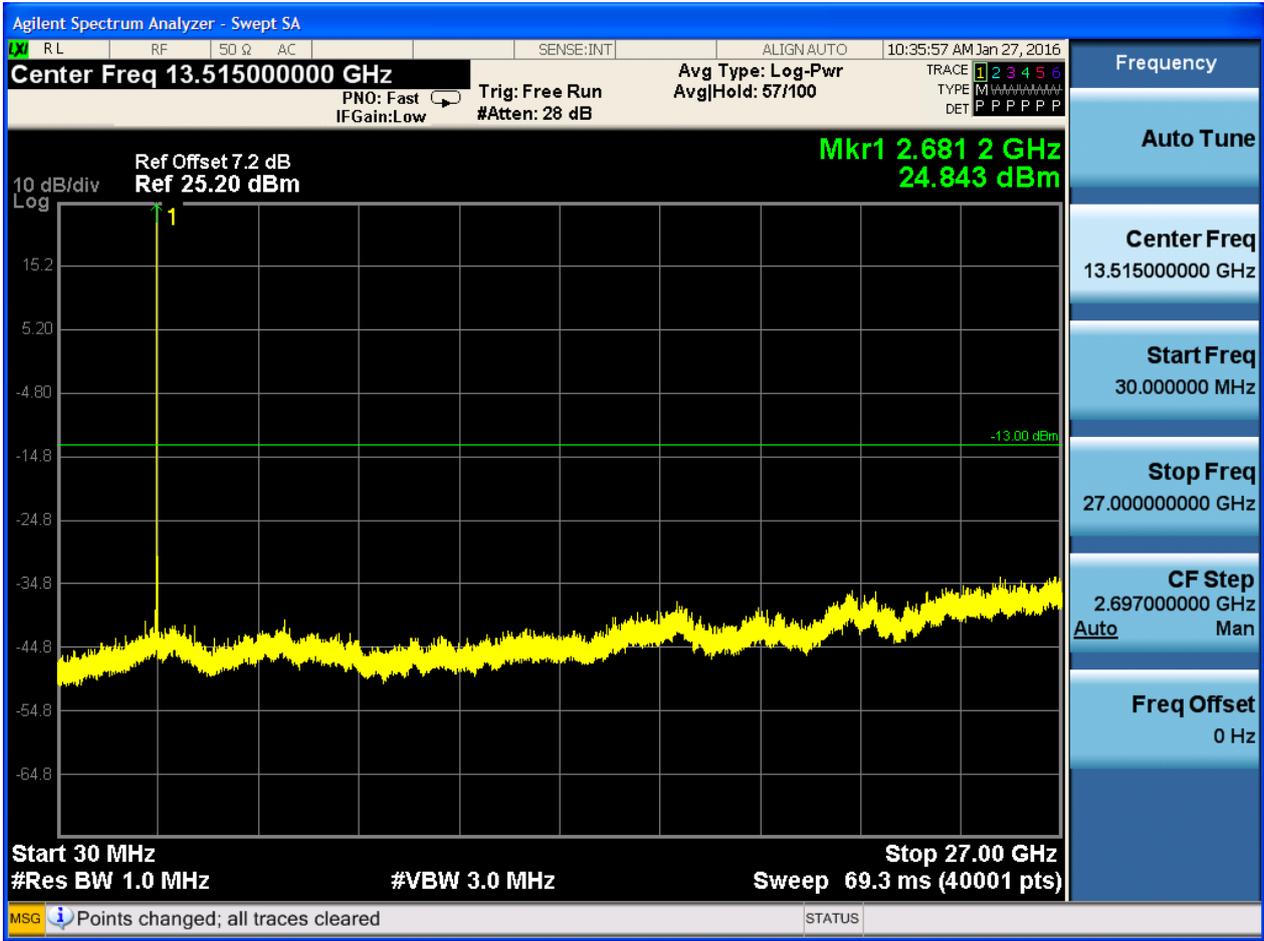


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0







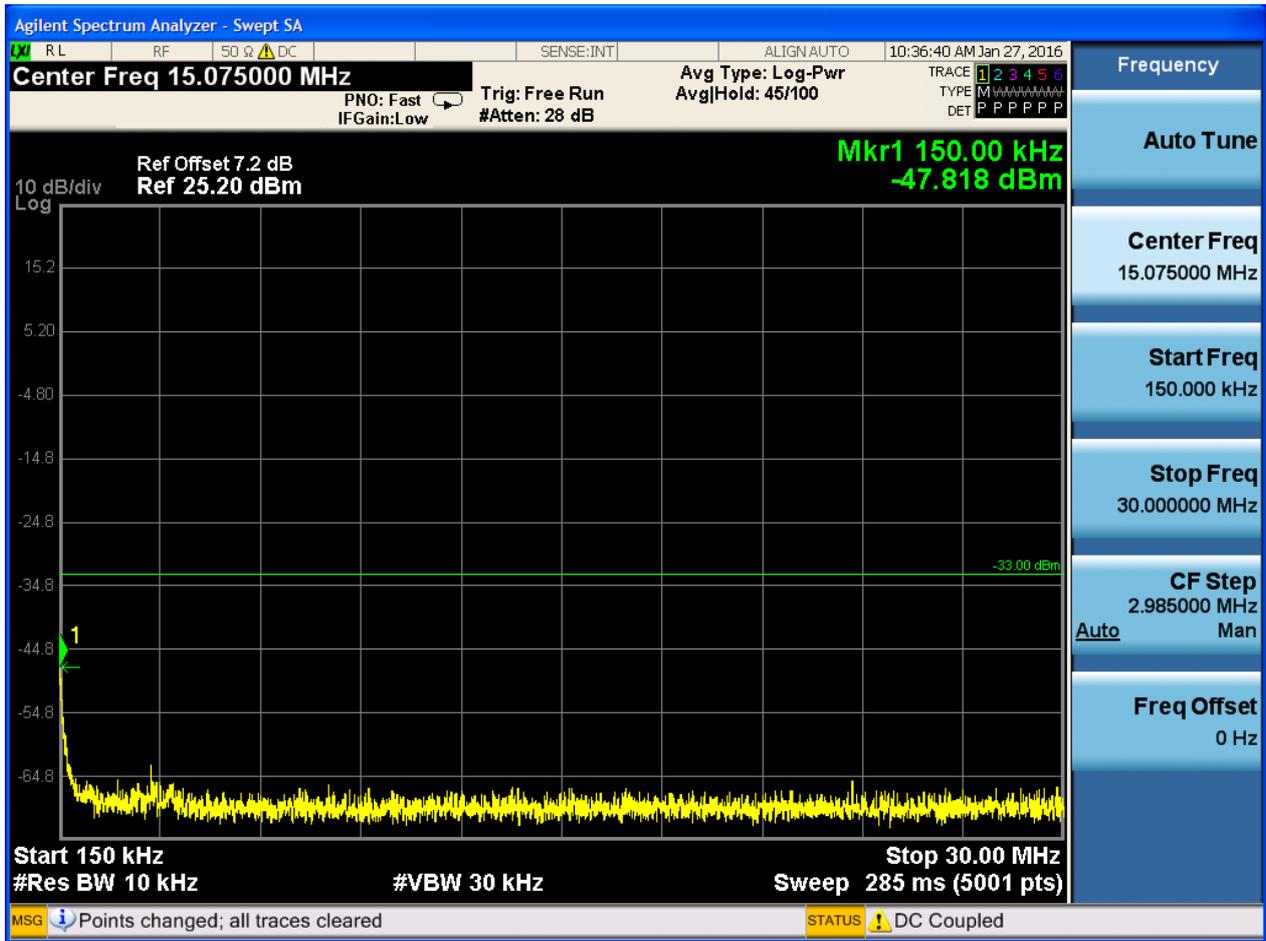


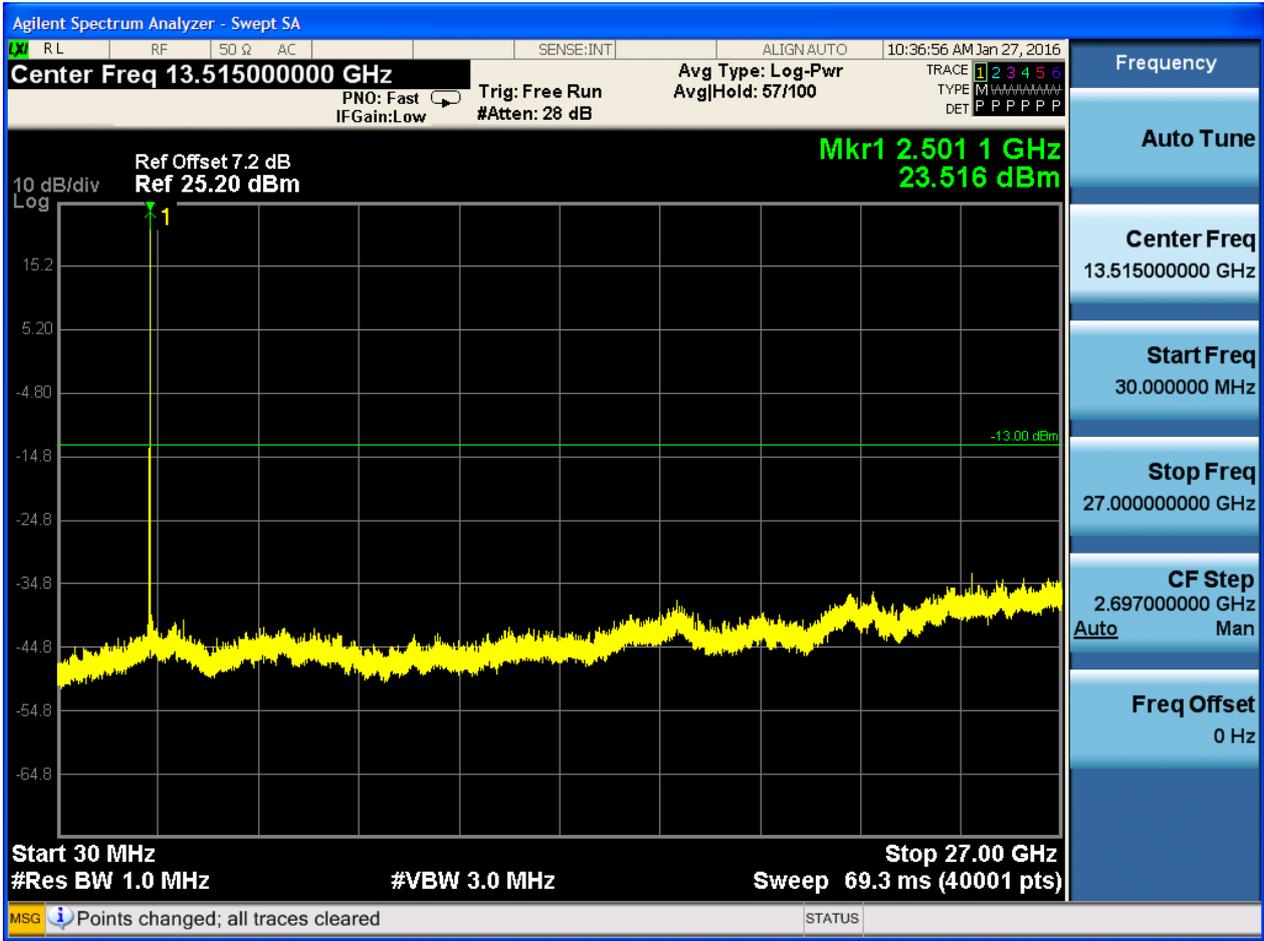
6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



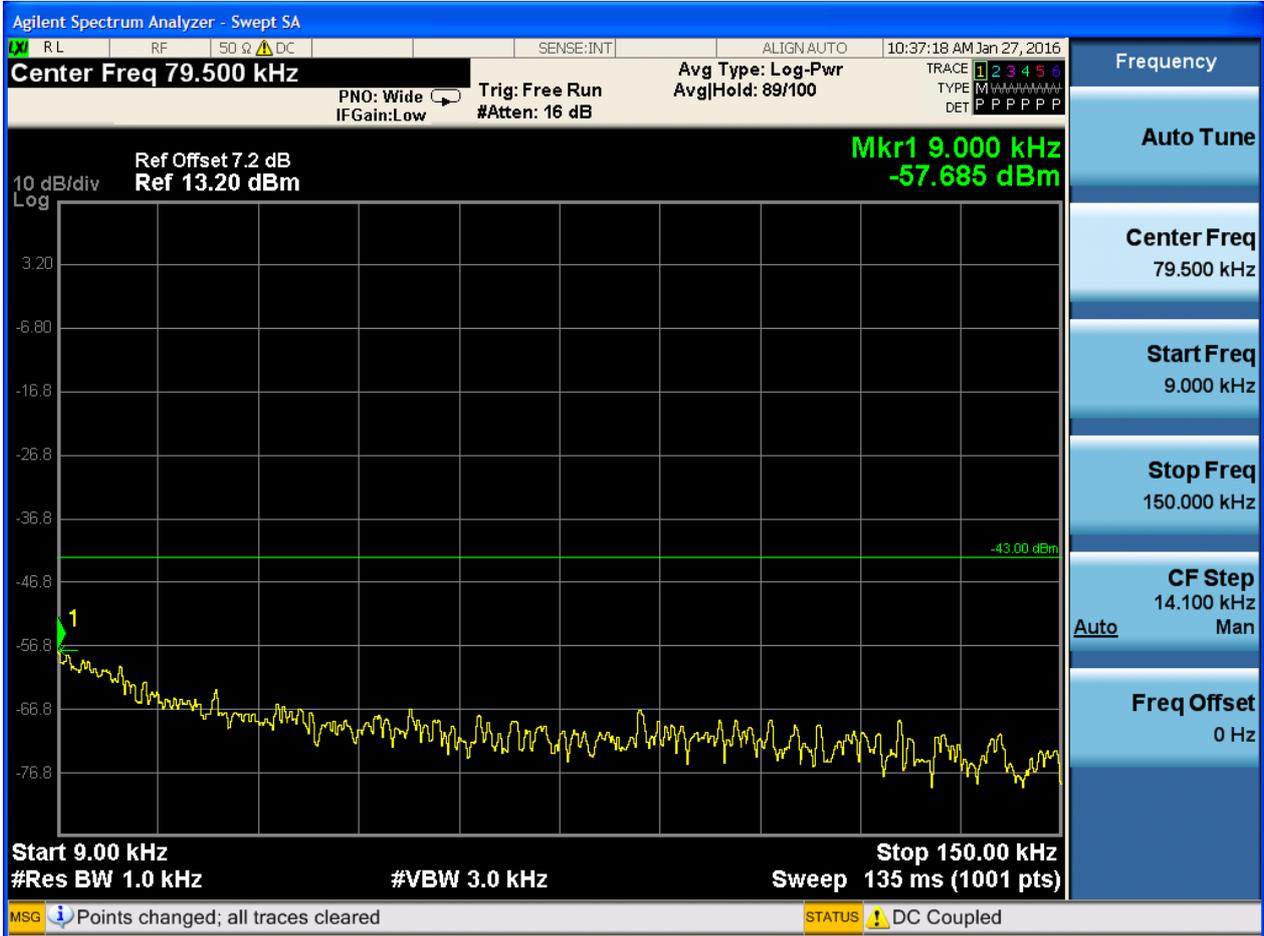


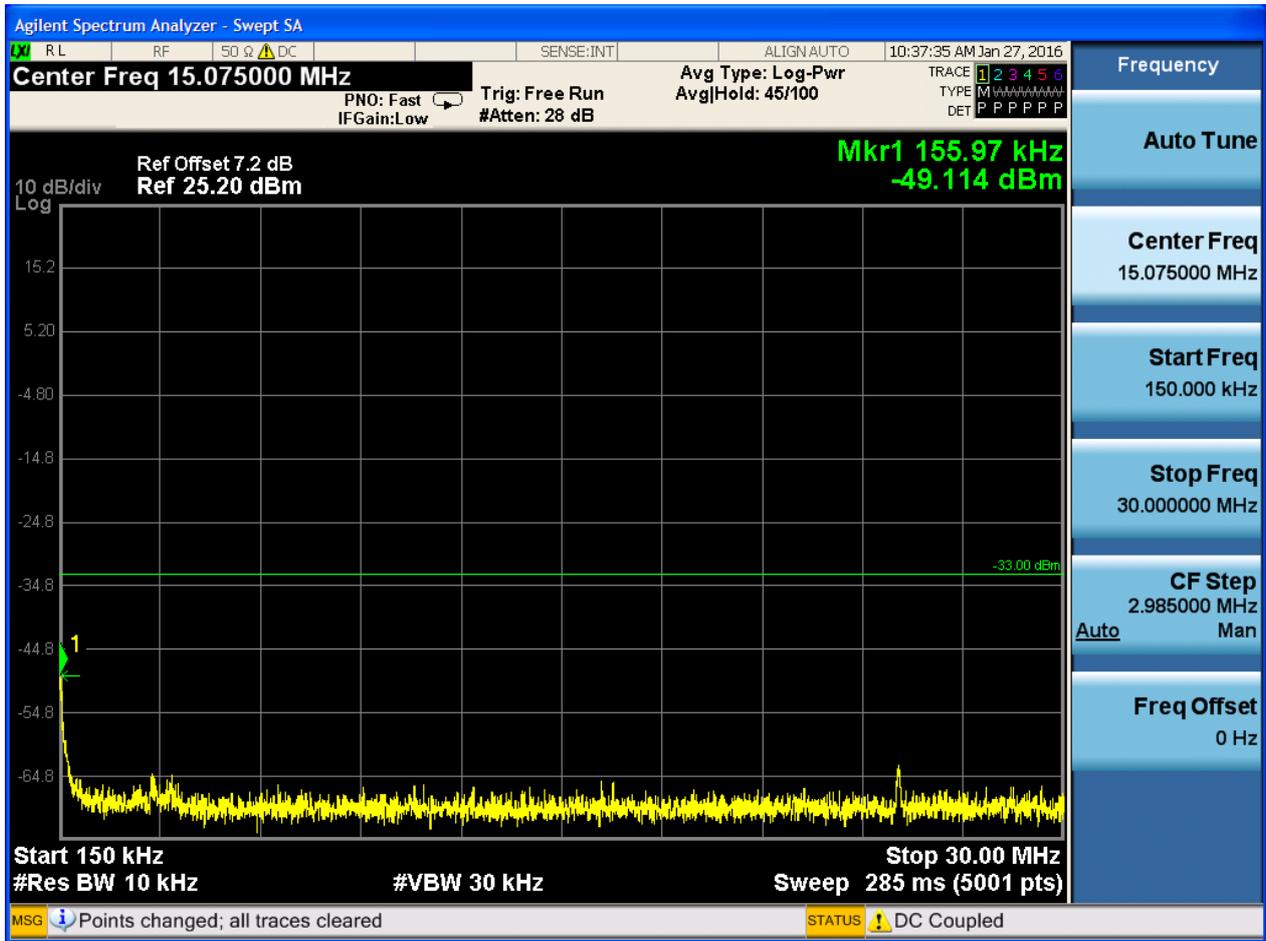


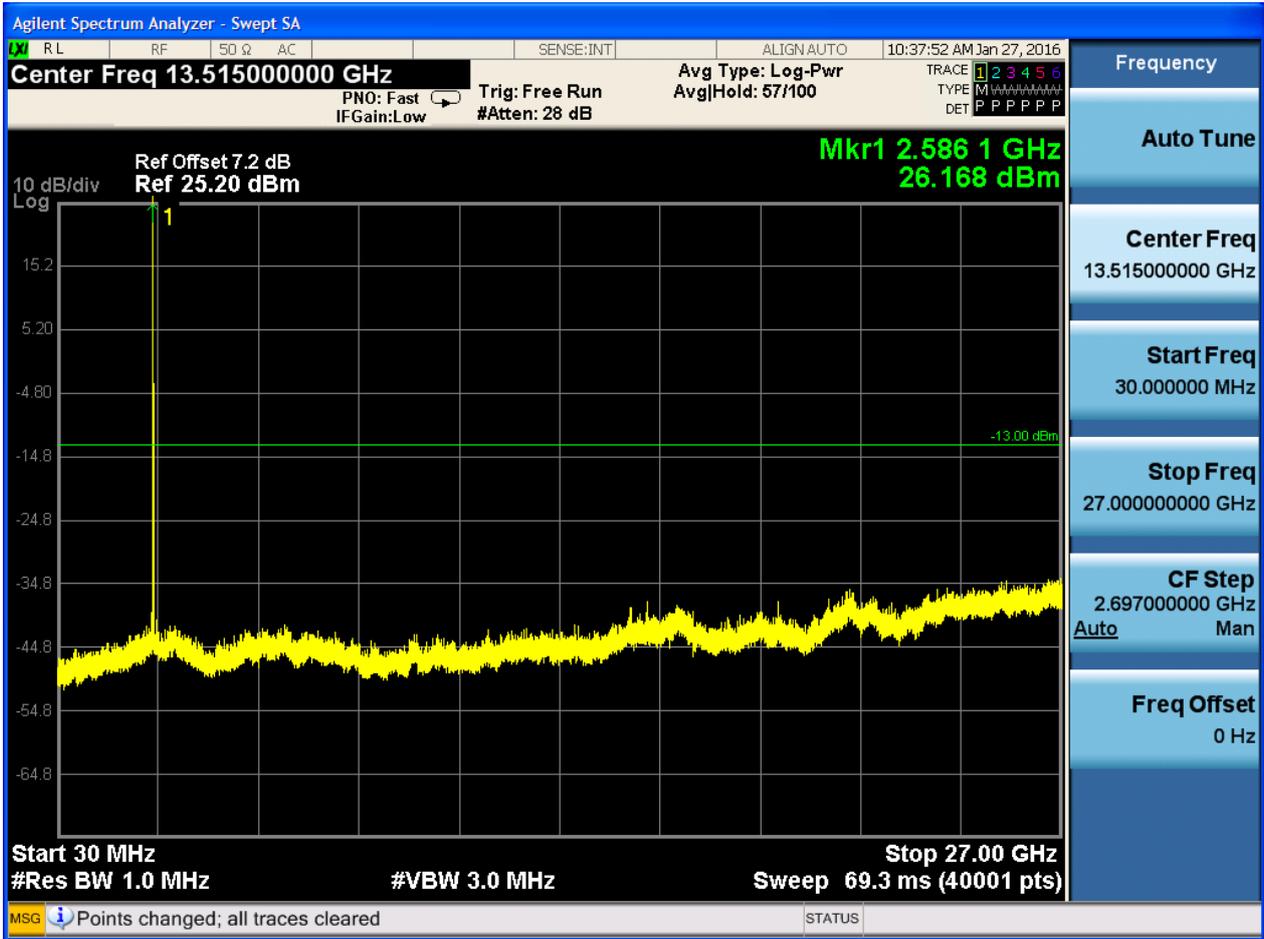


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0



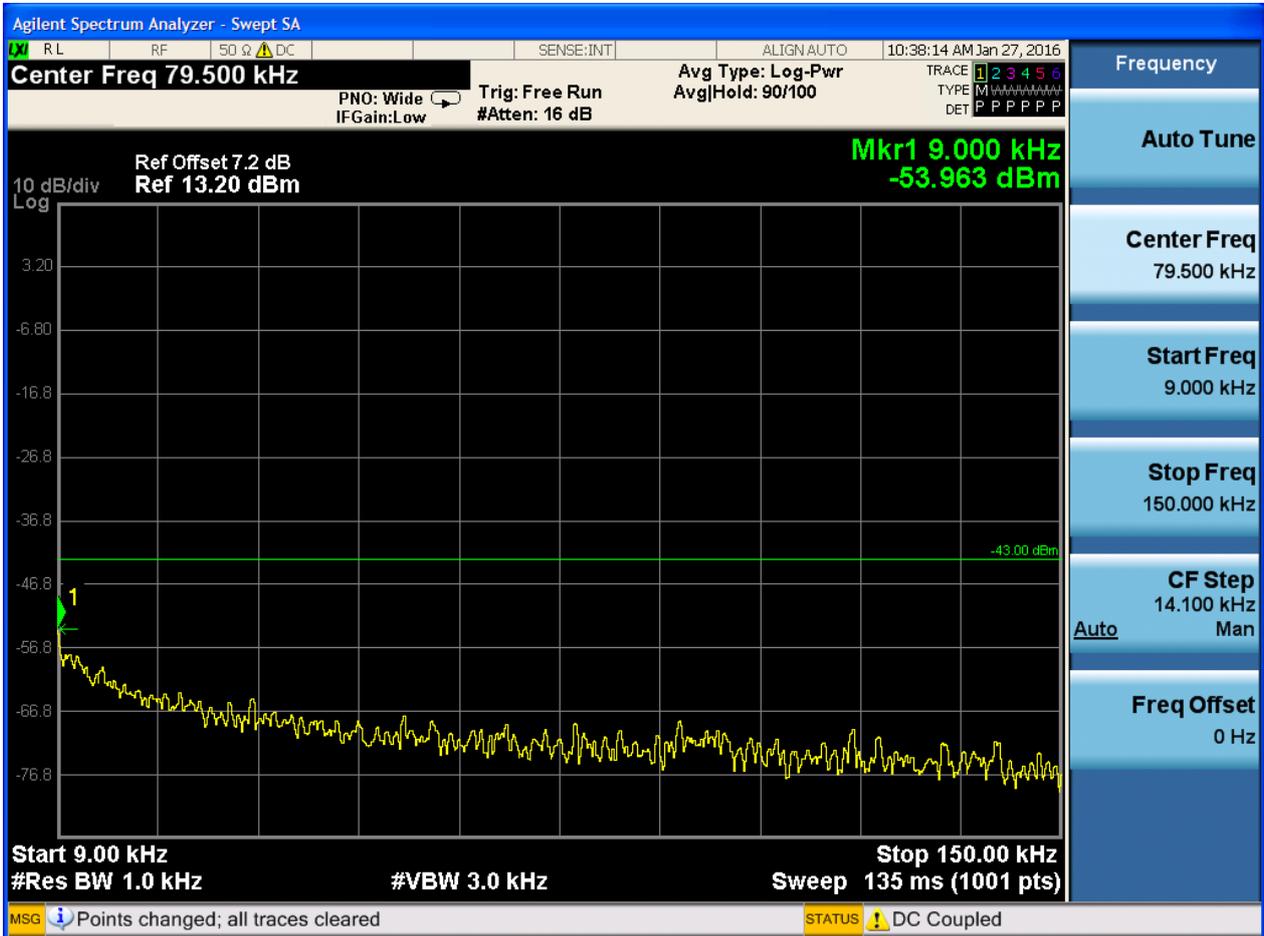


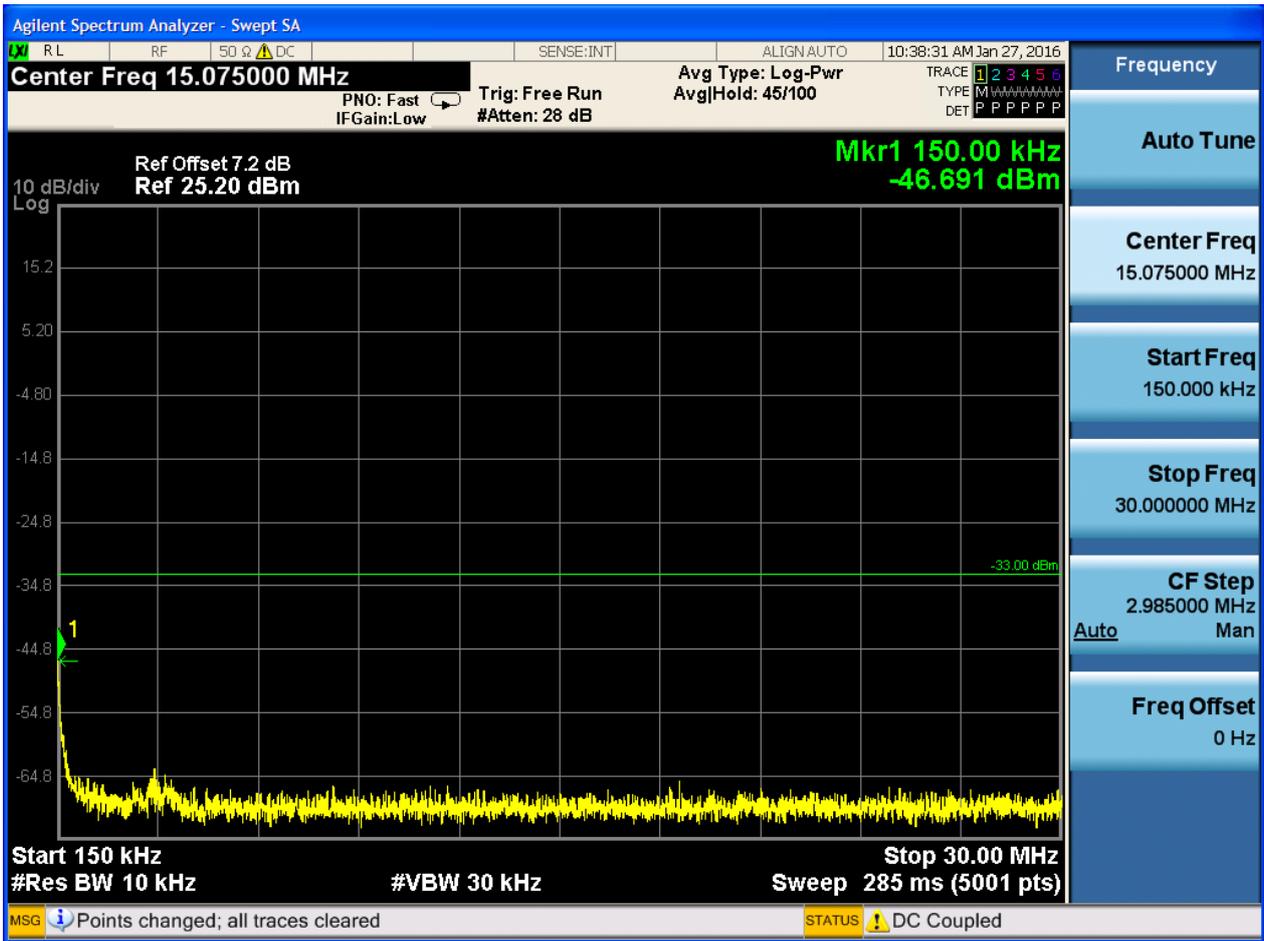


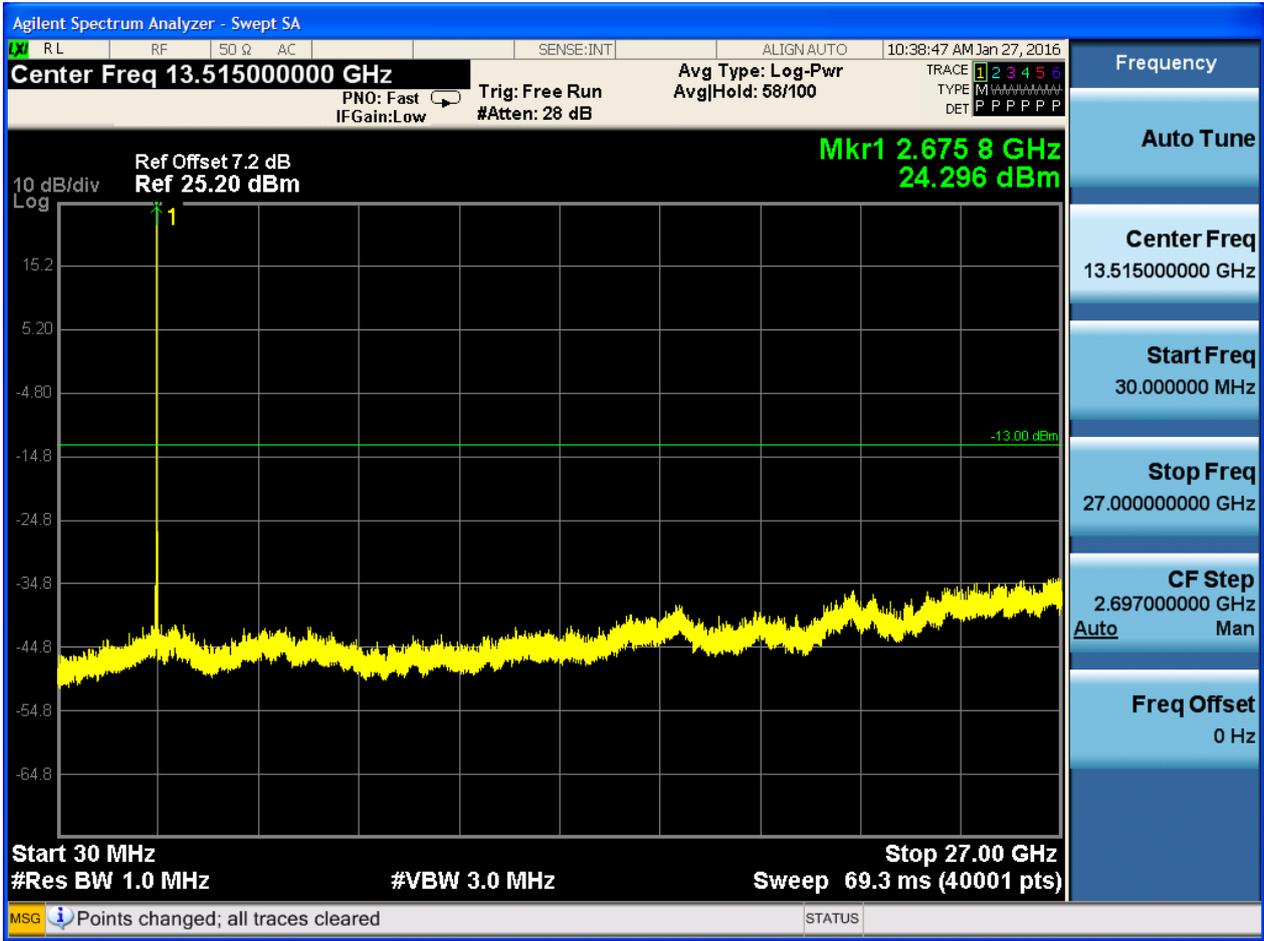


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





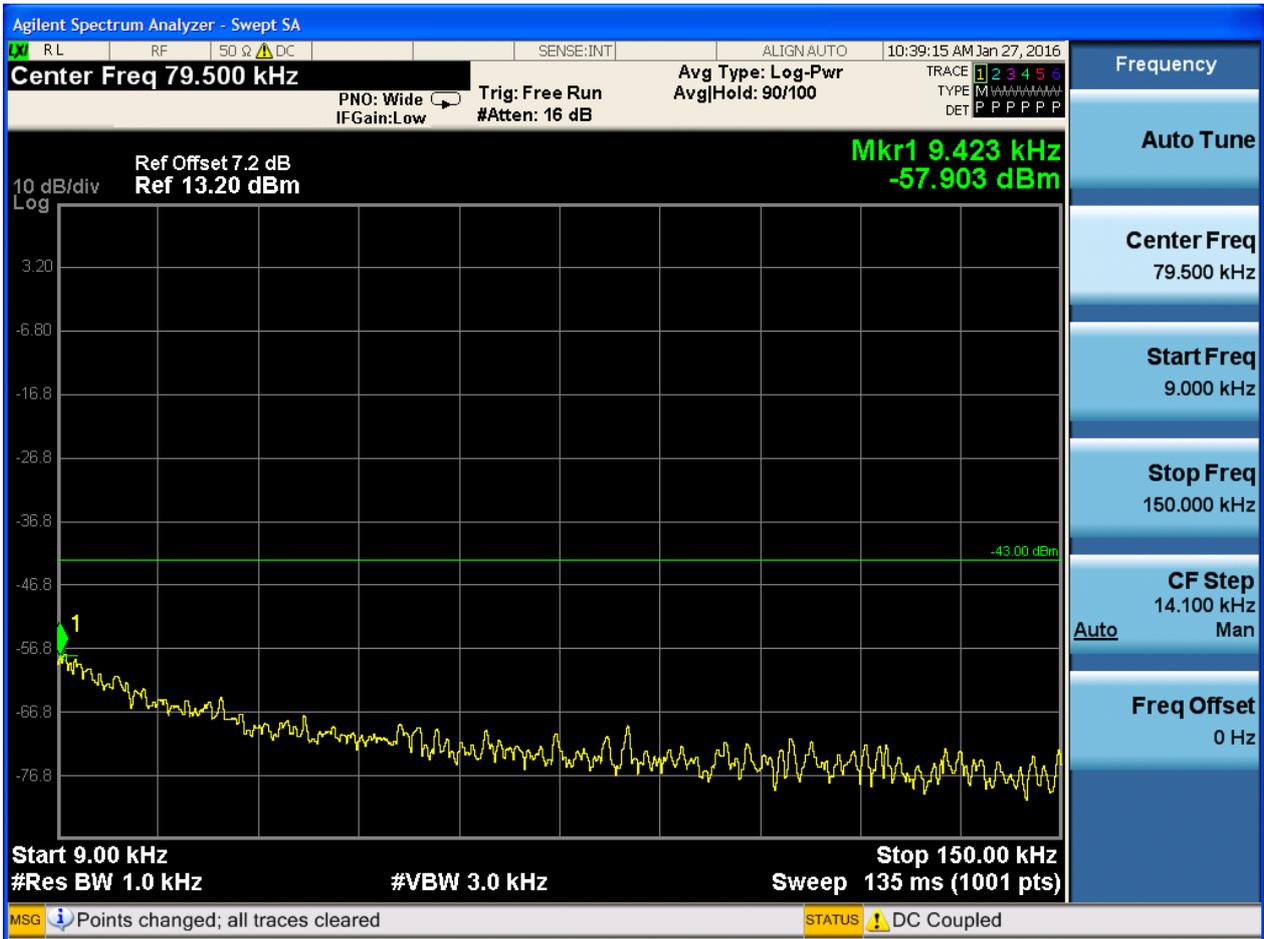


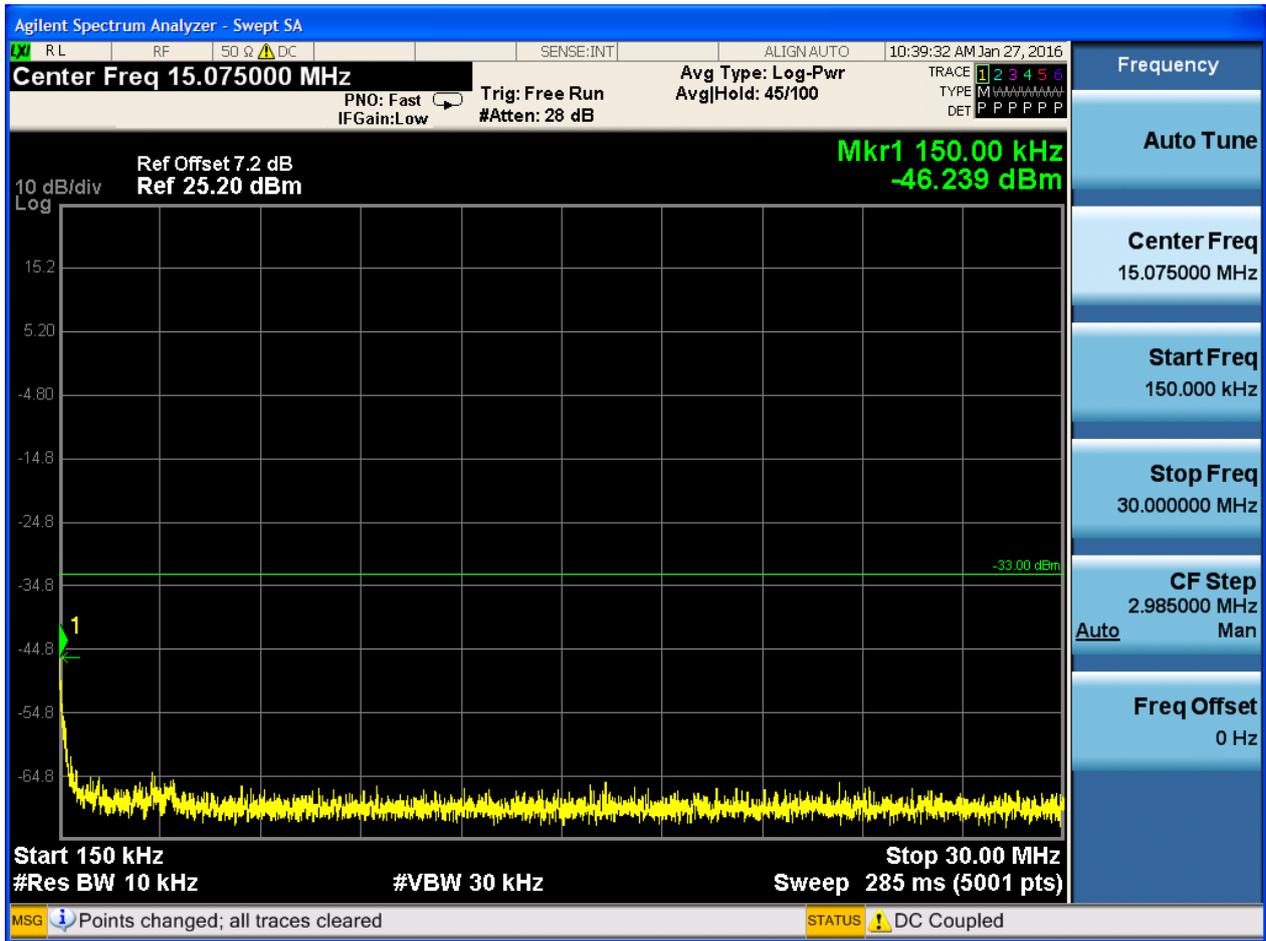


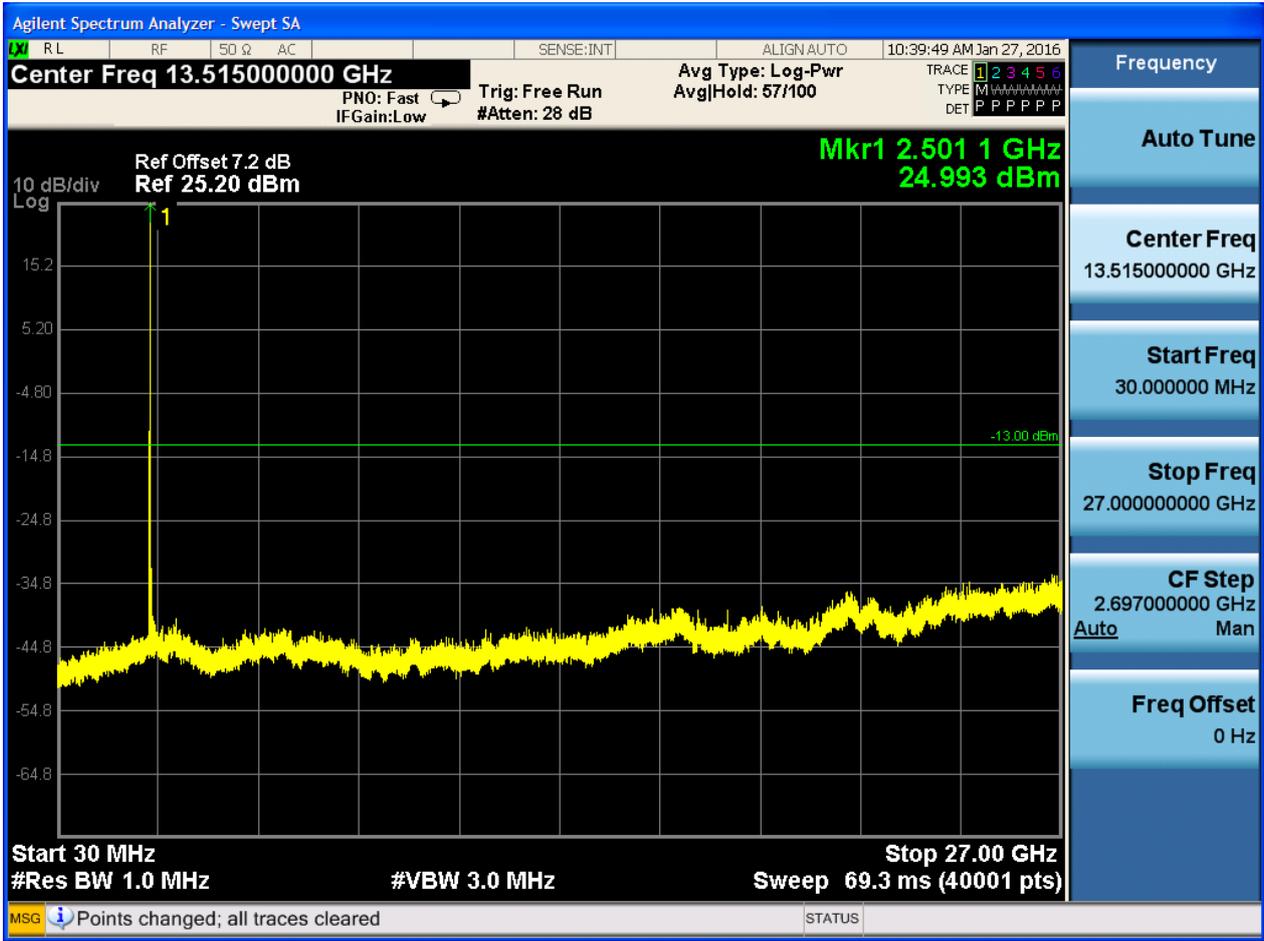
6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



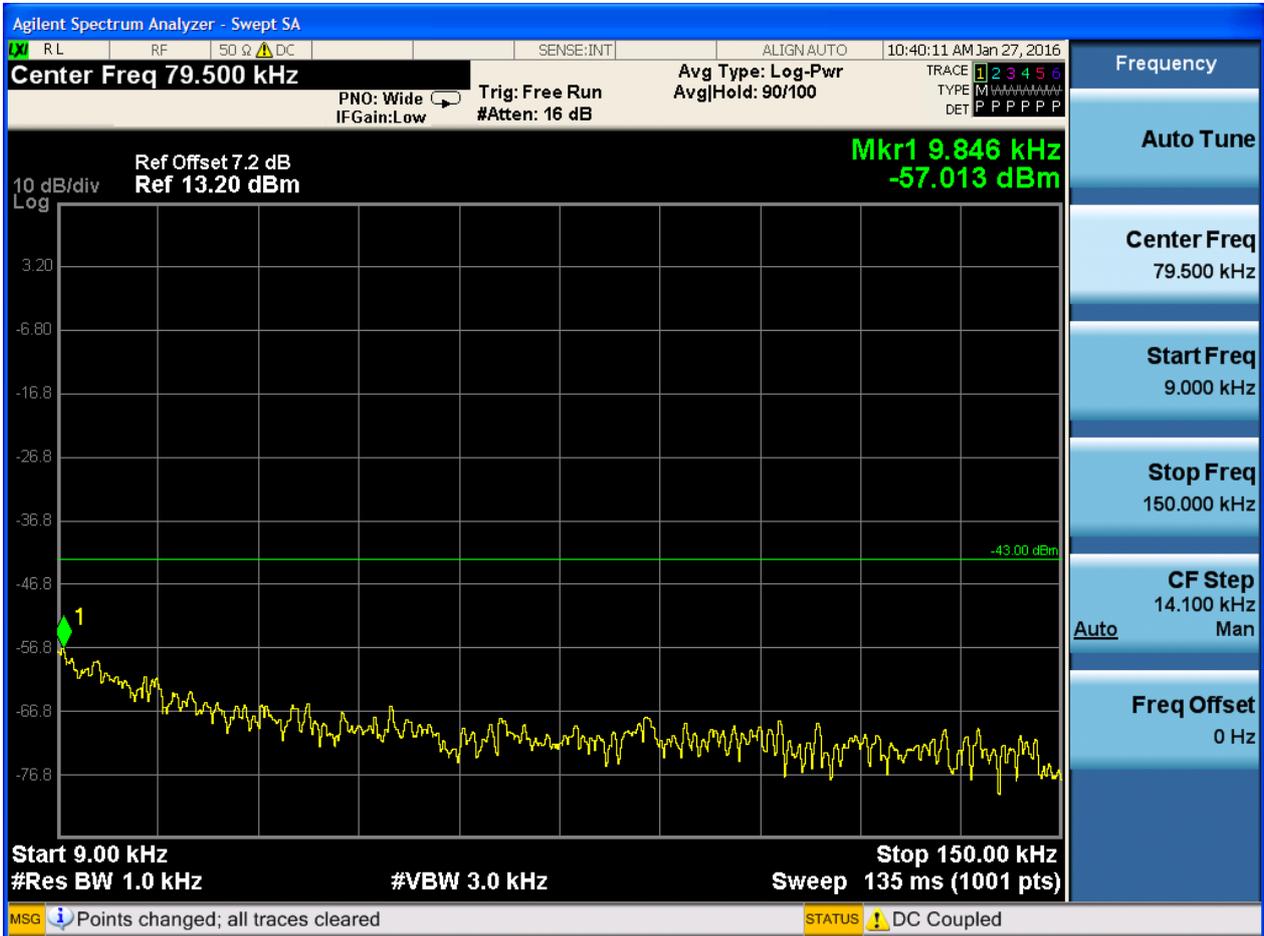


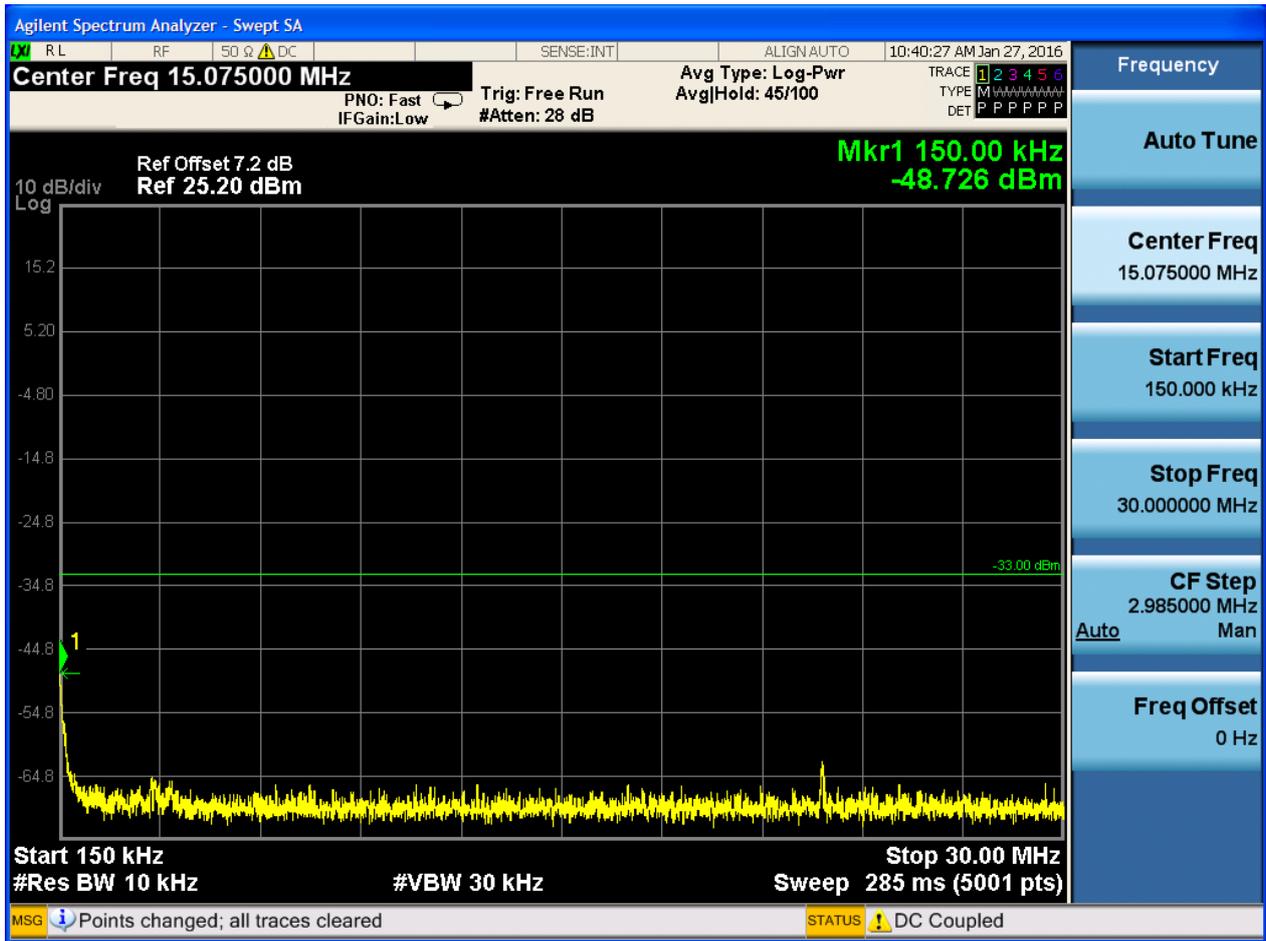




6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



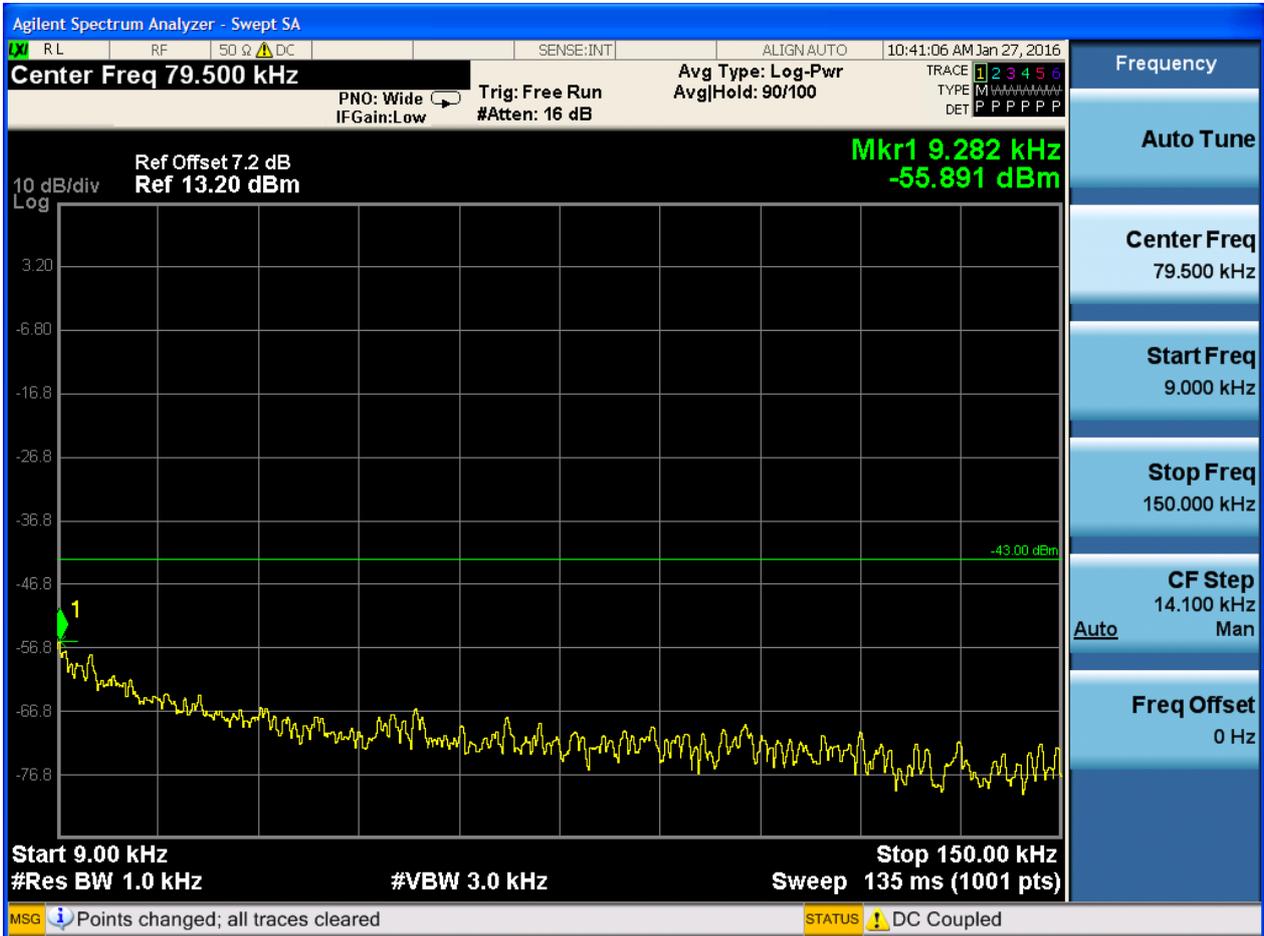


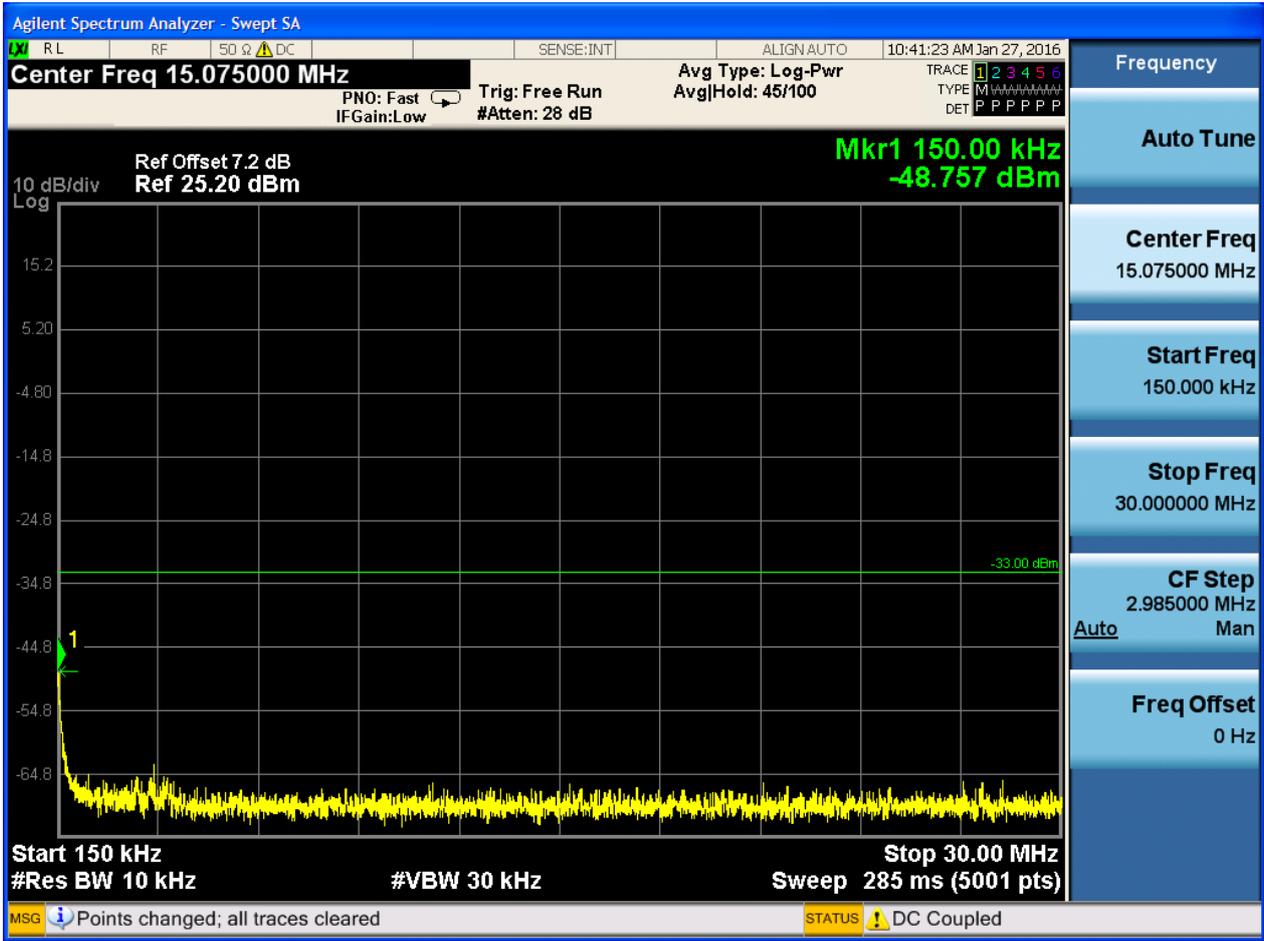


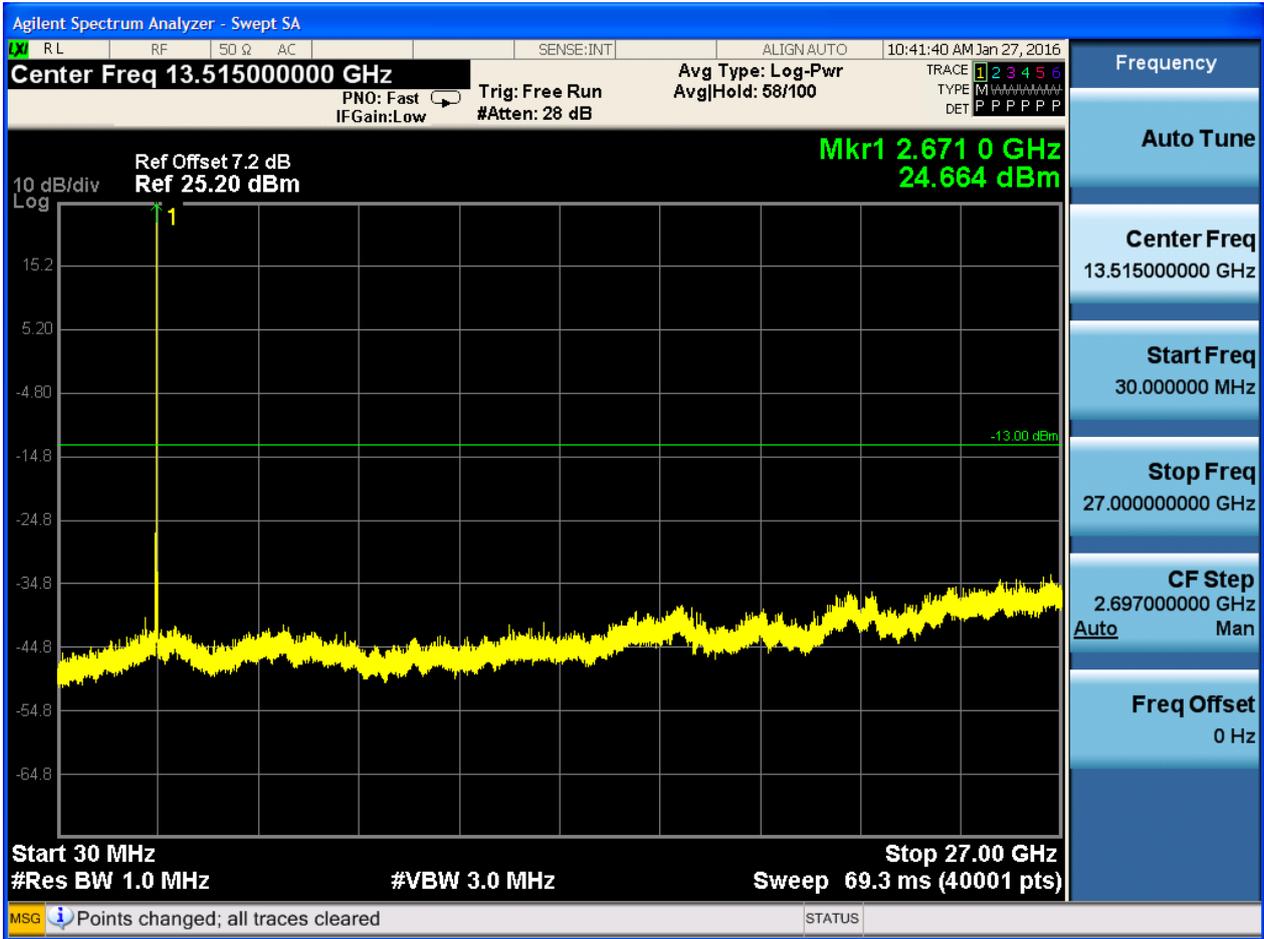


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







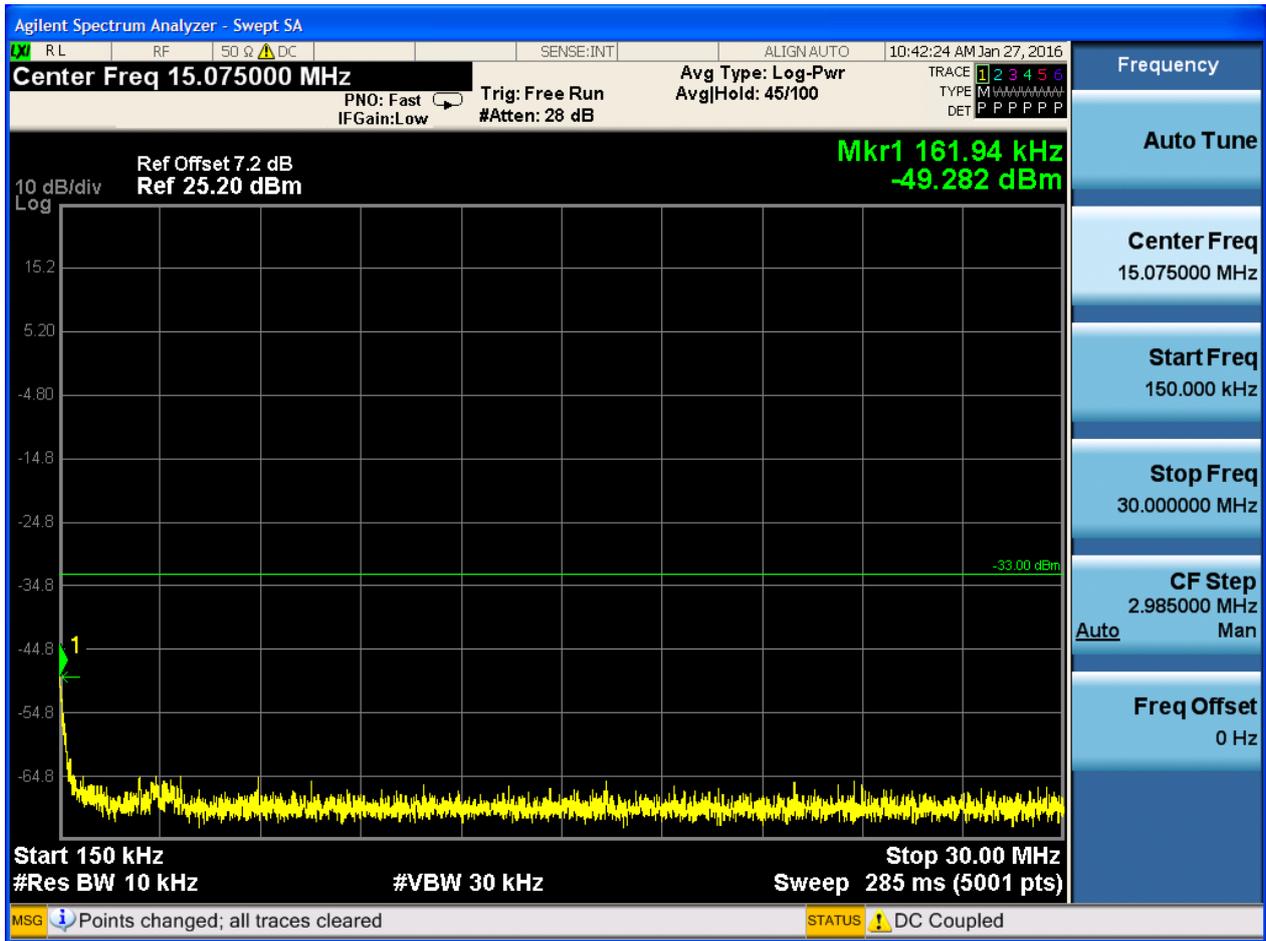
6.1.1.2 Test Mode = LTE/TM2

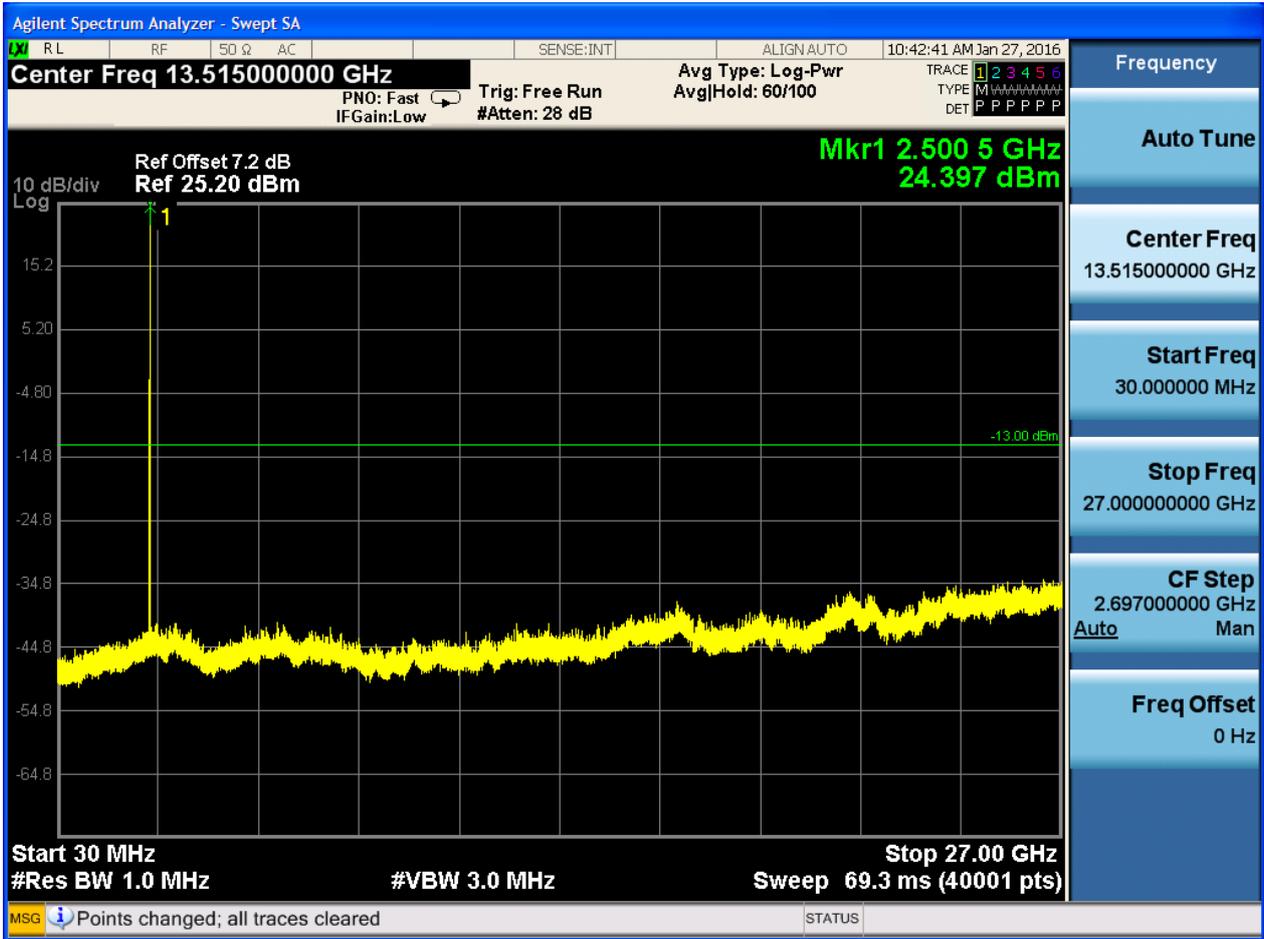
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0



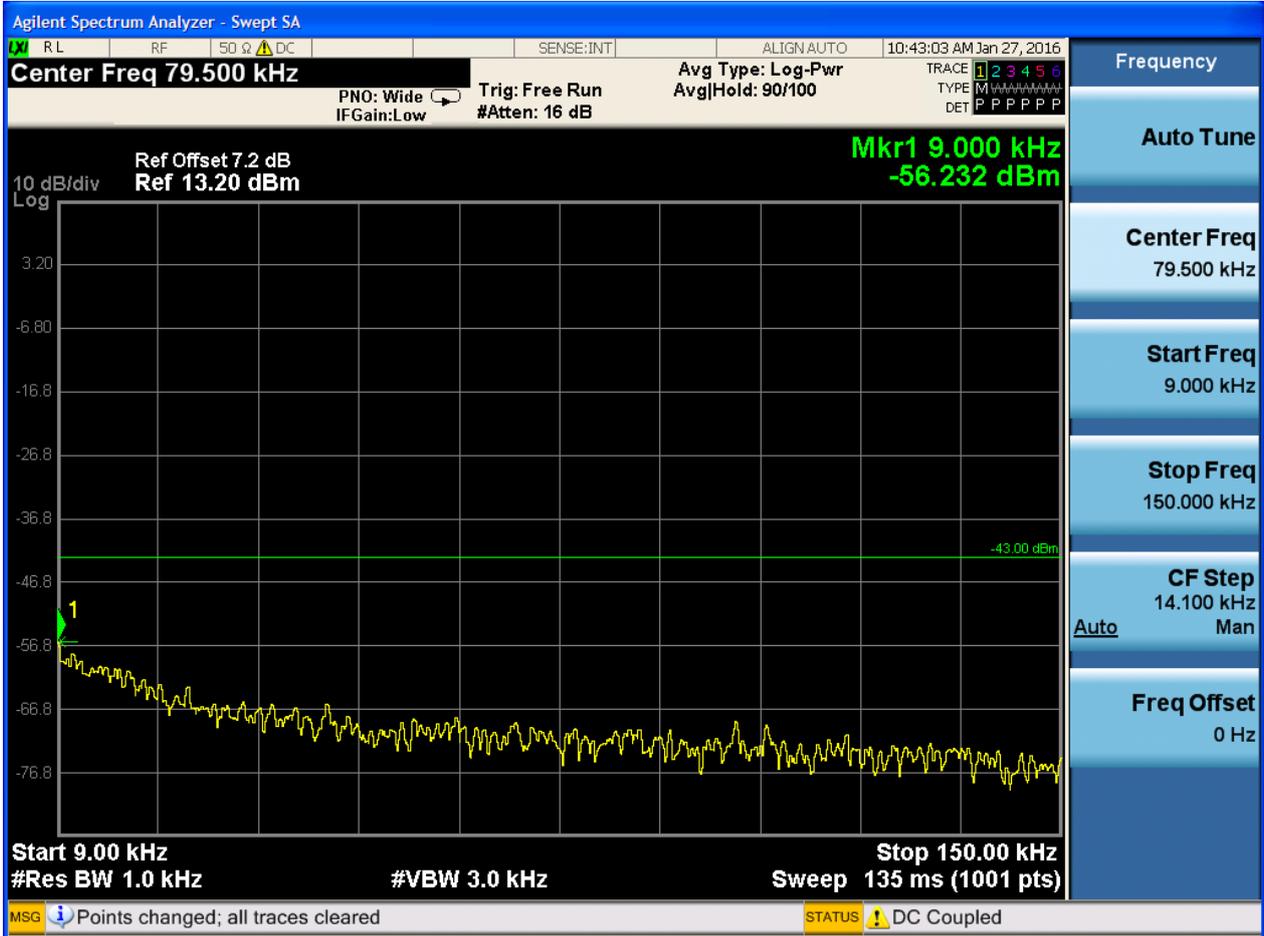


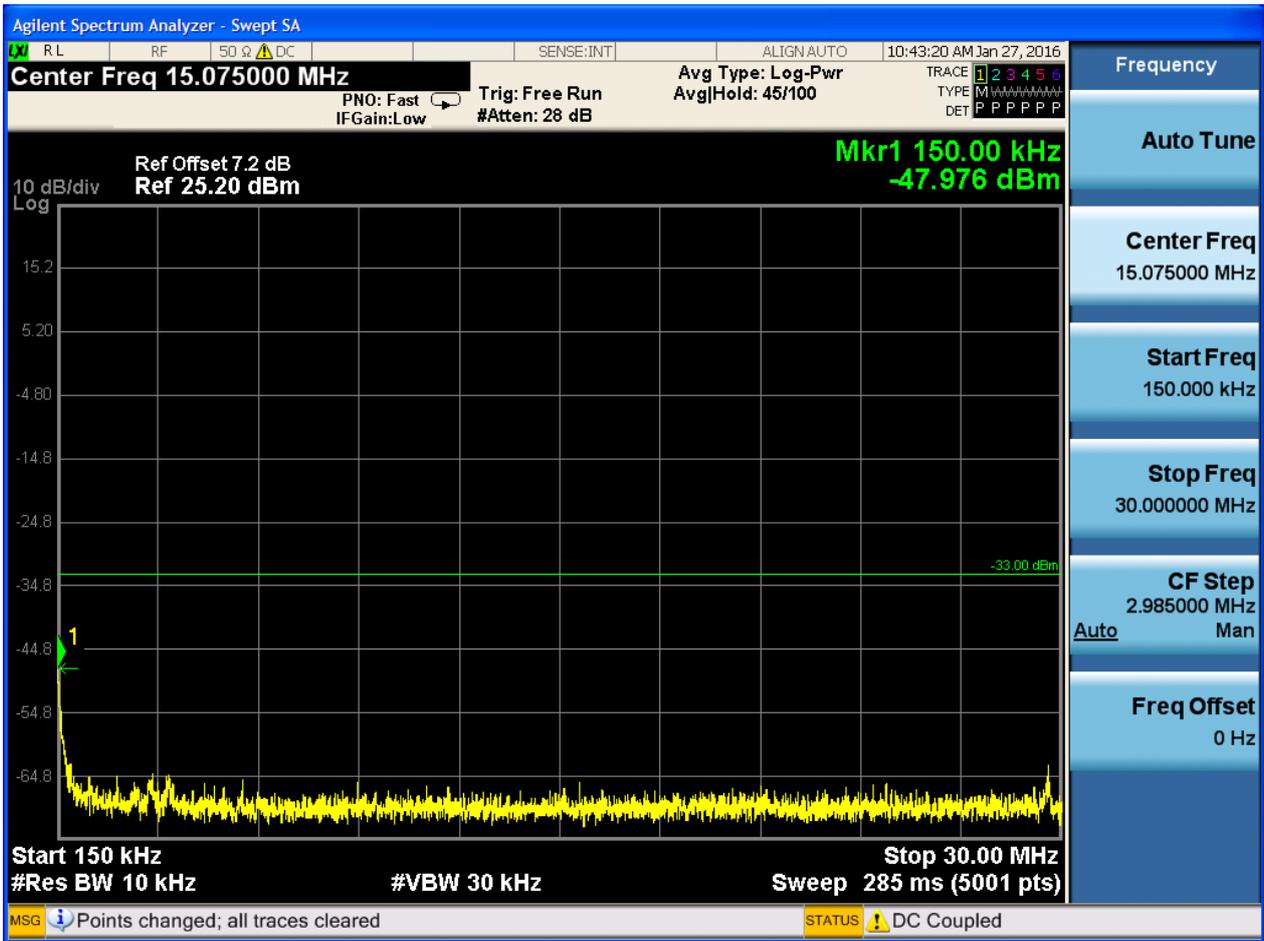


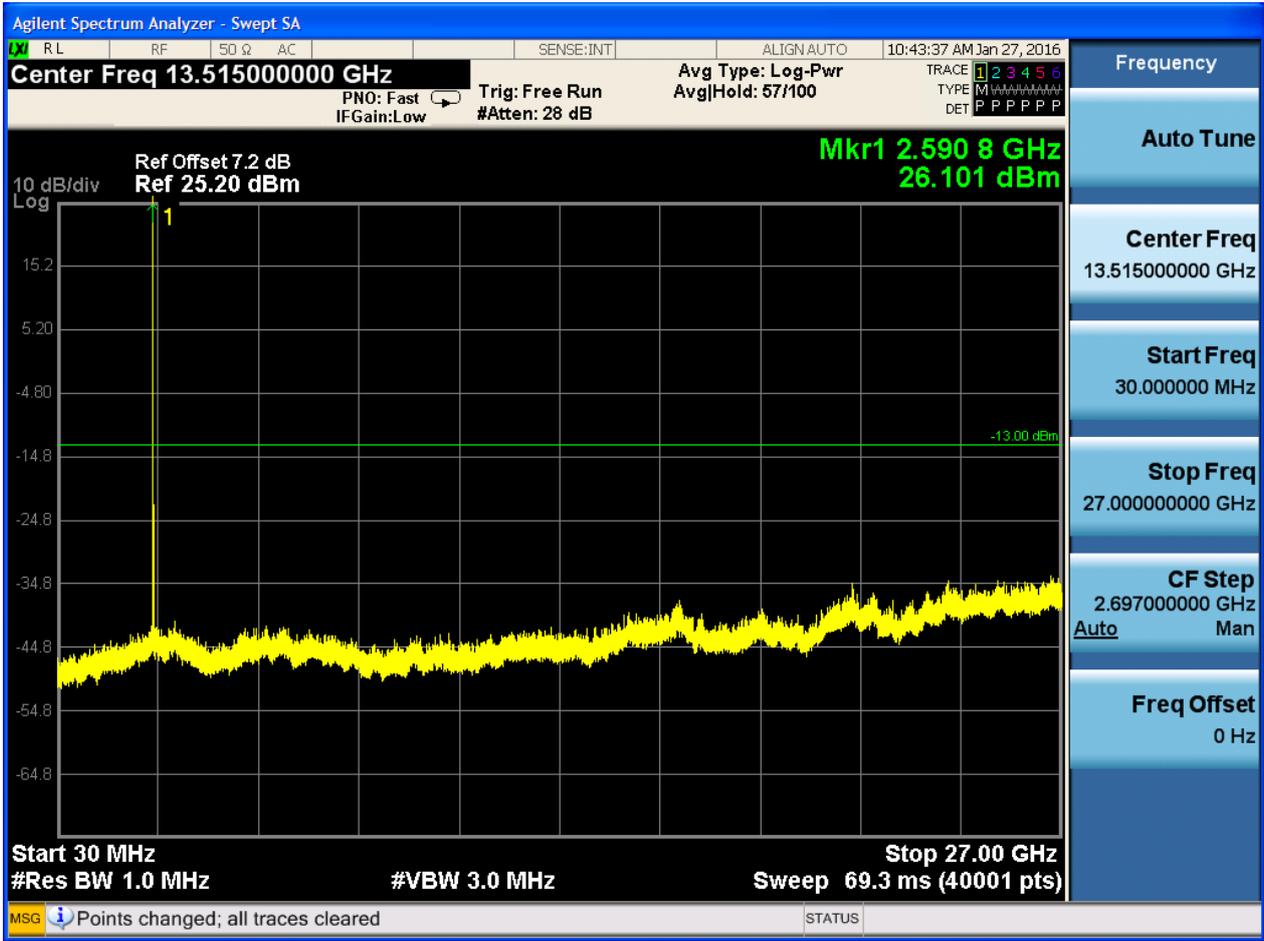


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0



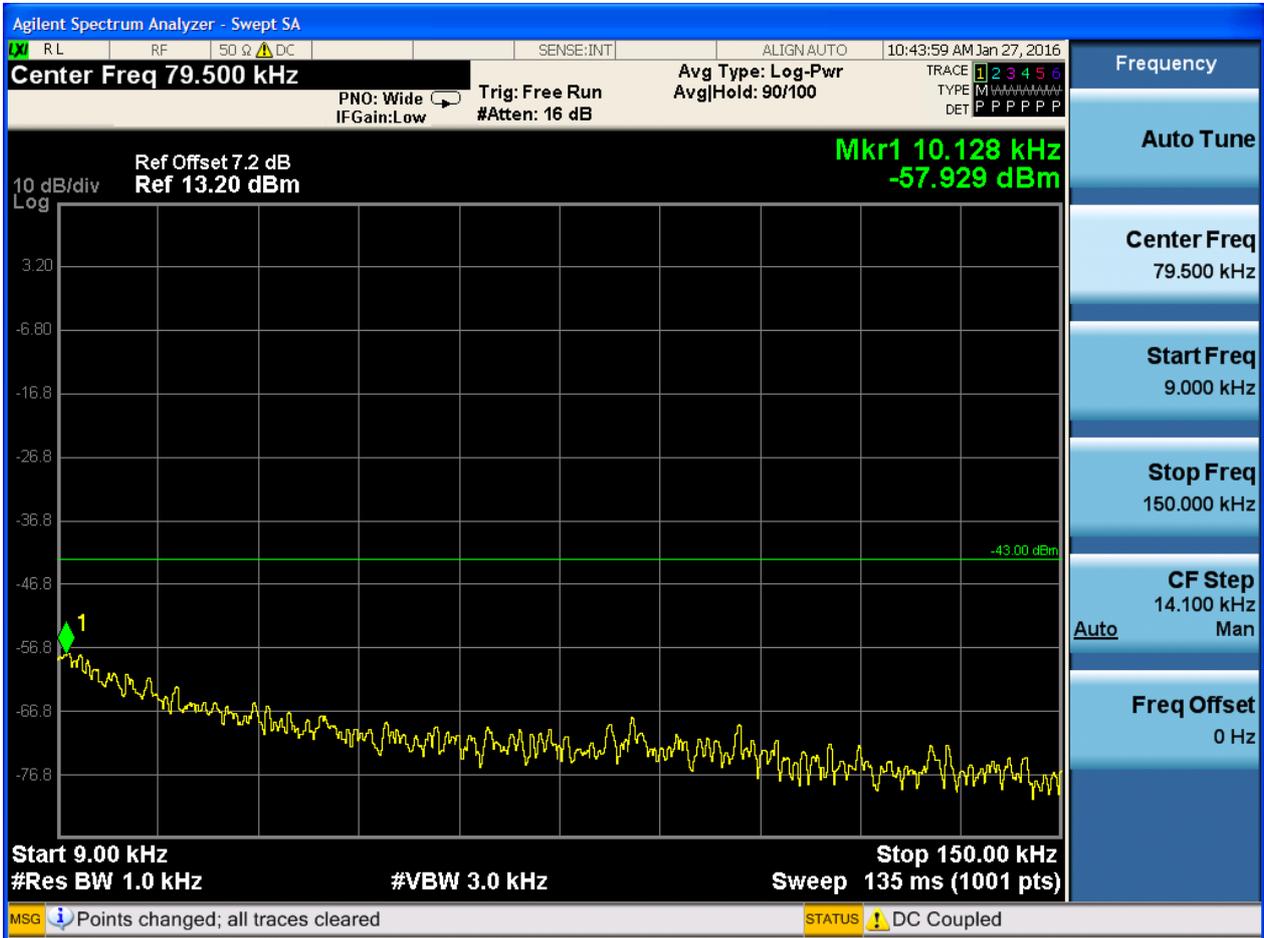




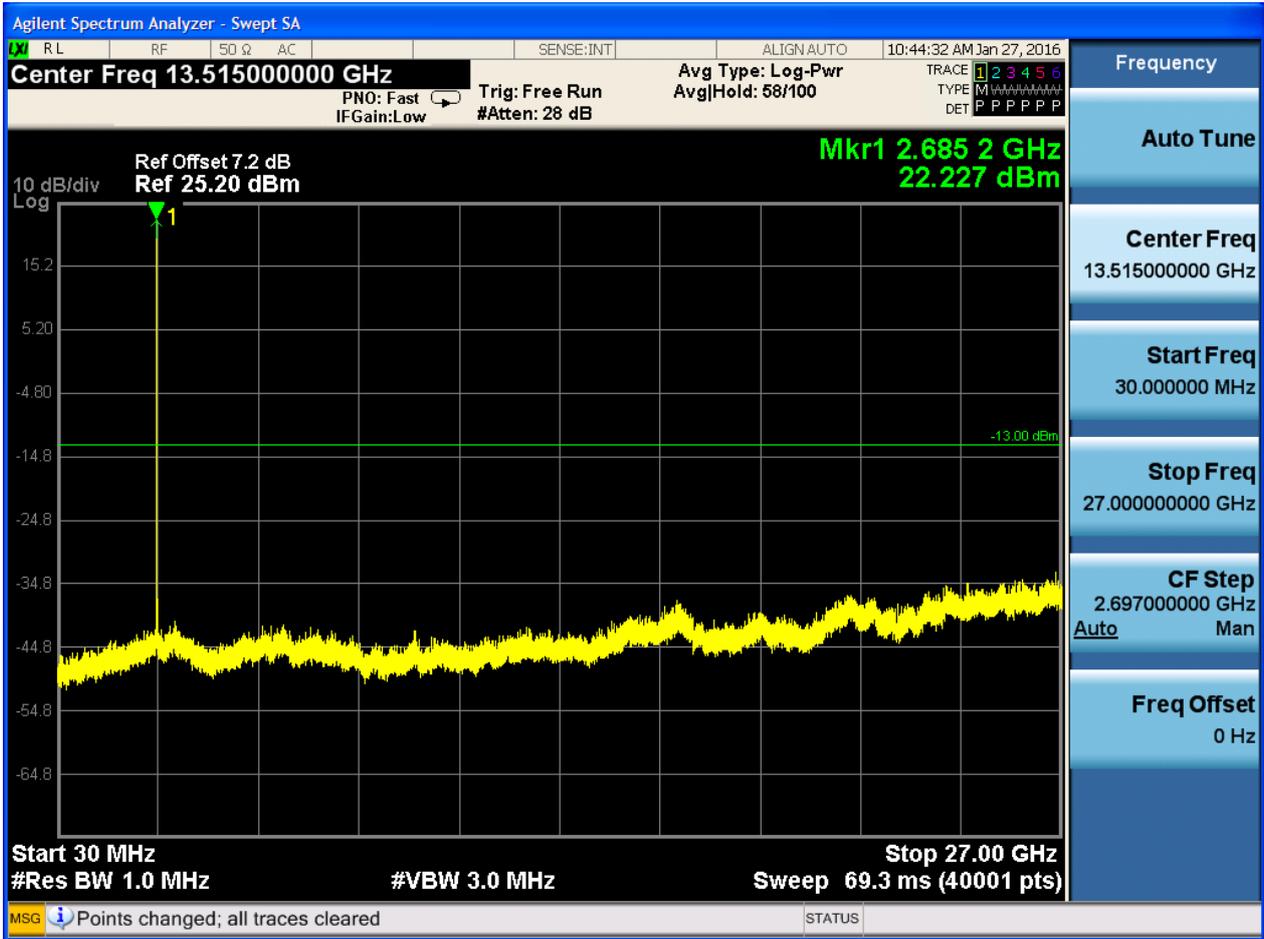


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





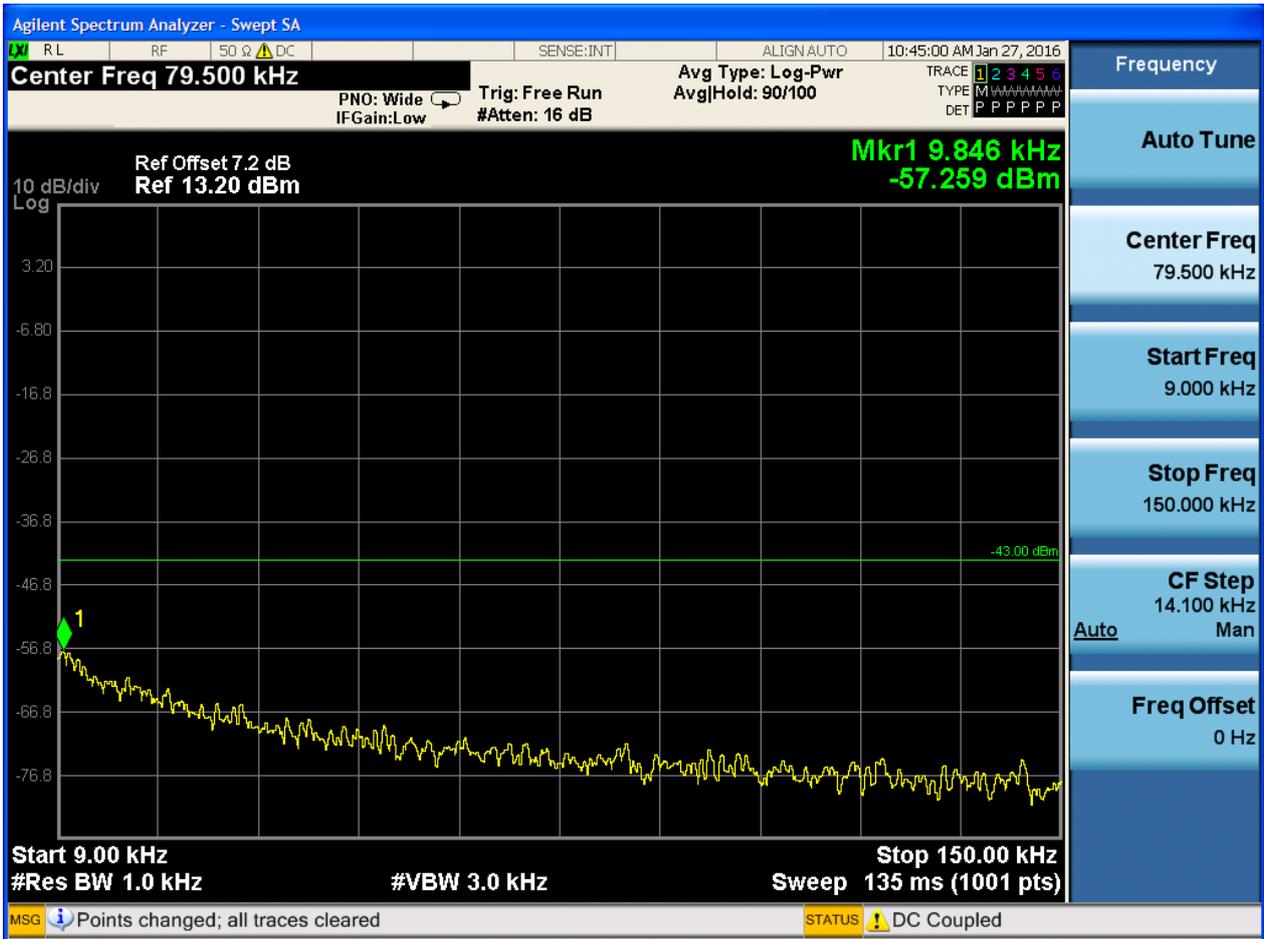


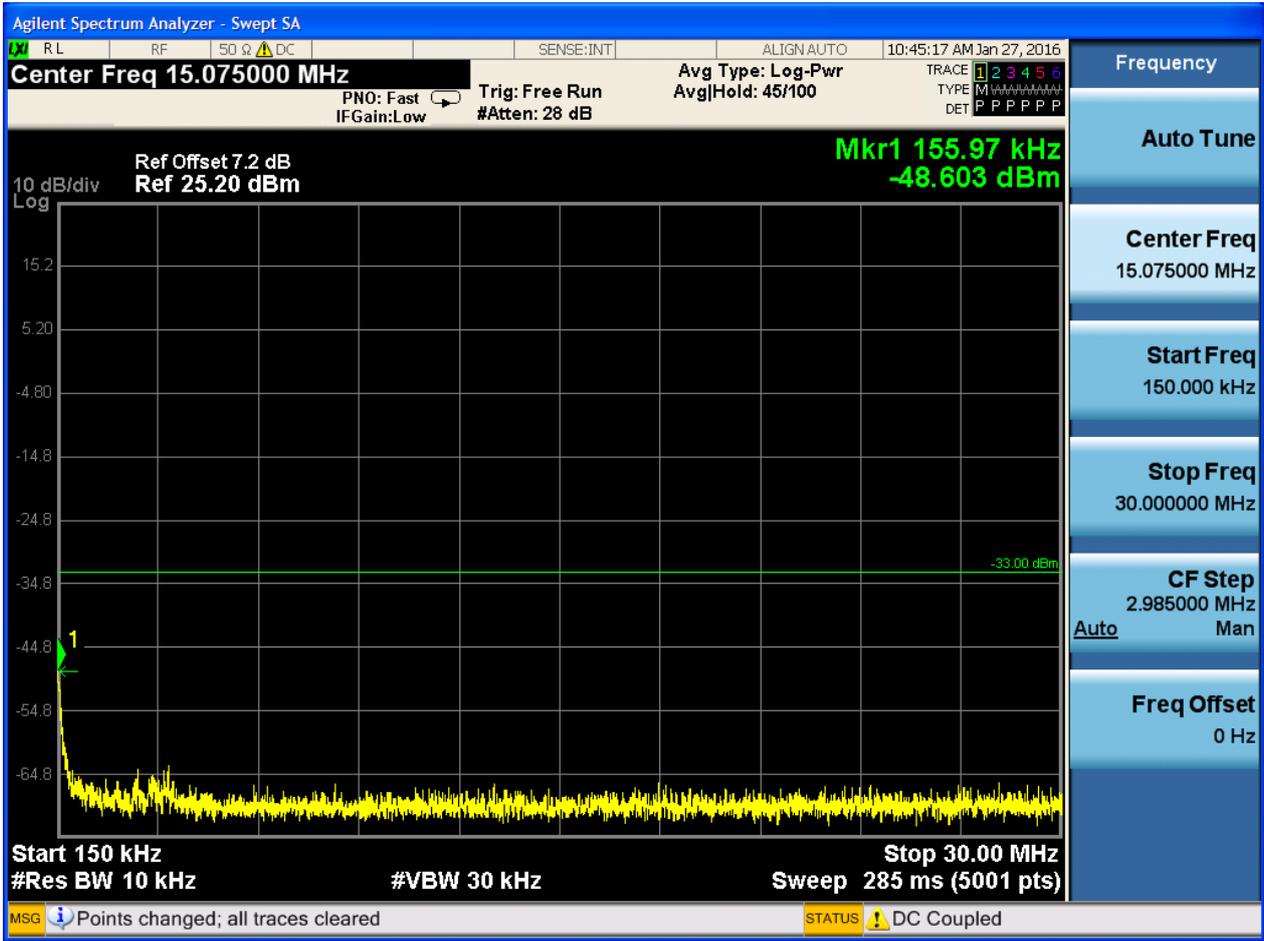


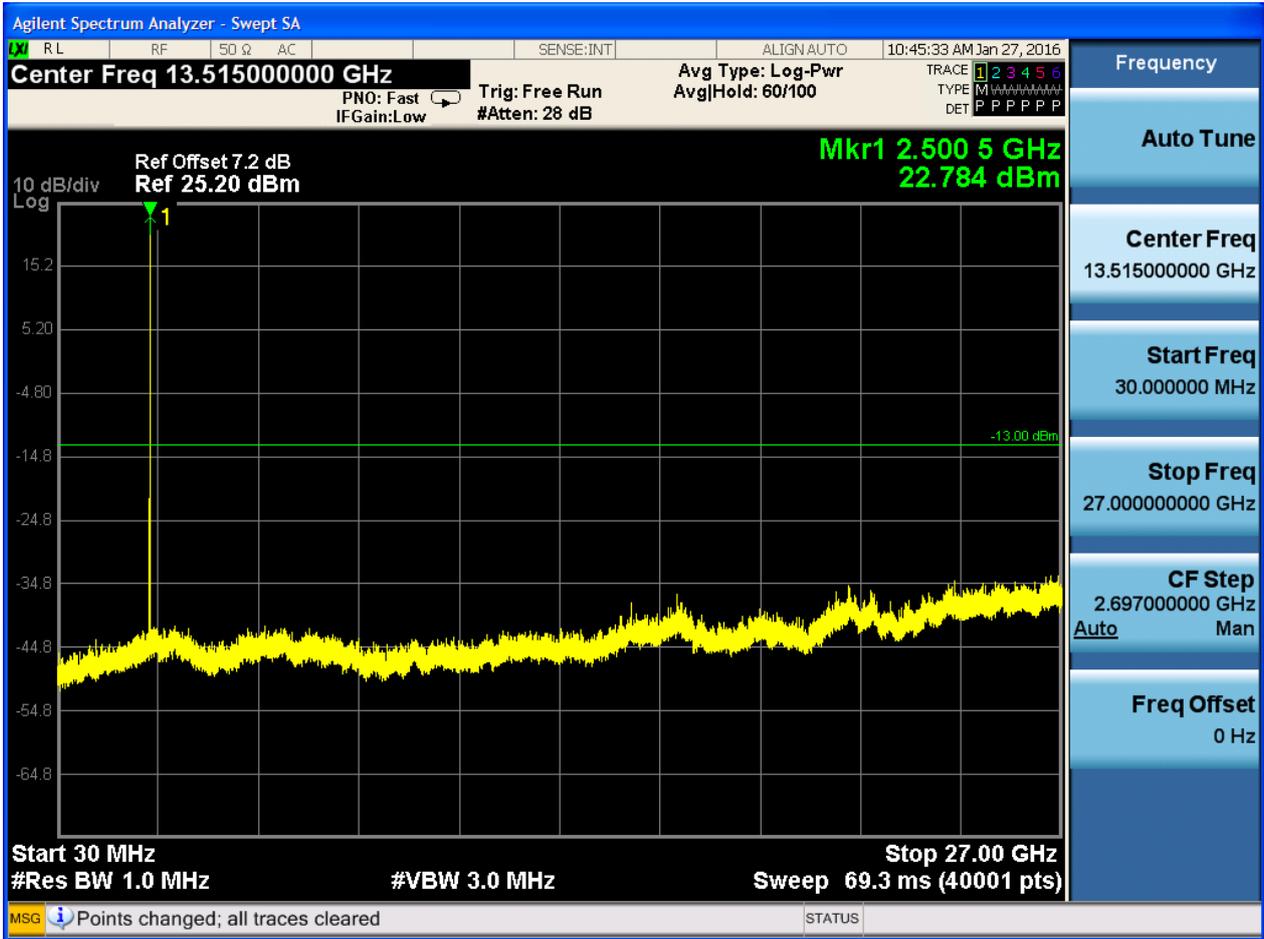
6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0



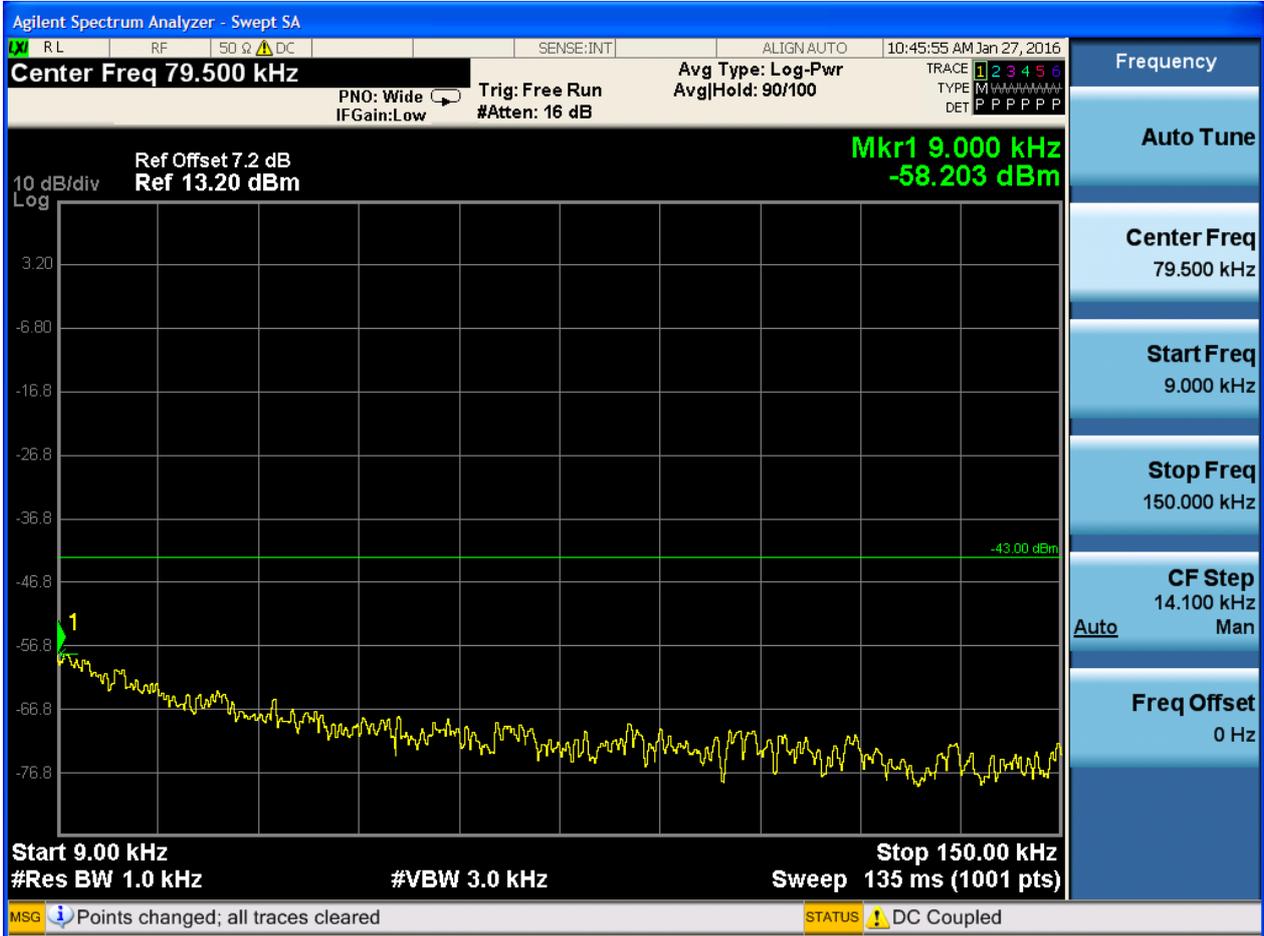


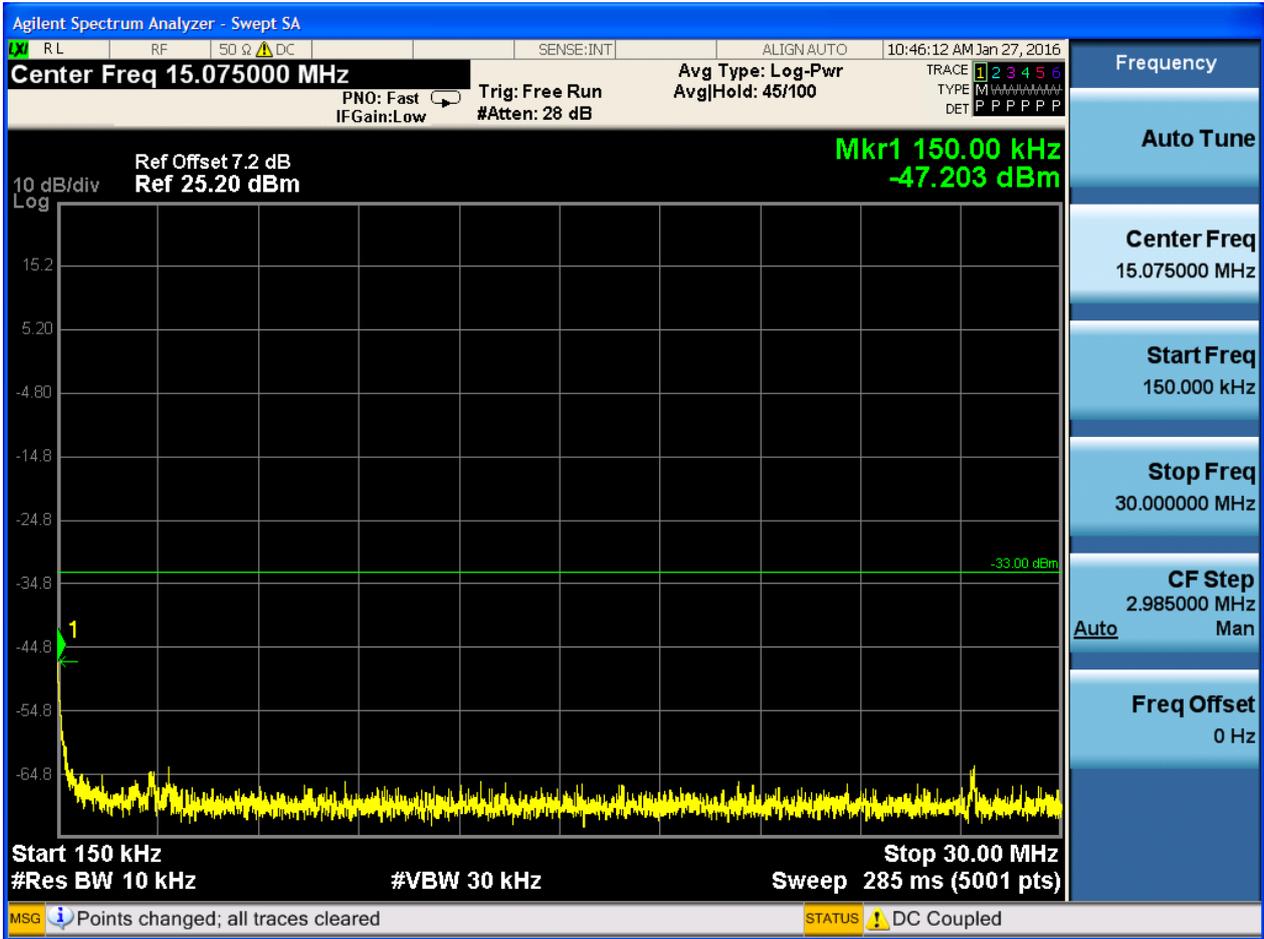




6.1.1.2.2 Test Channel = MCH

6.1.1.2.2.1 Test RB = RB1#0



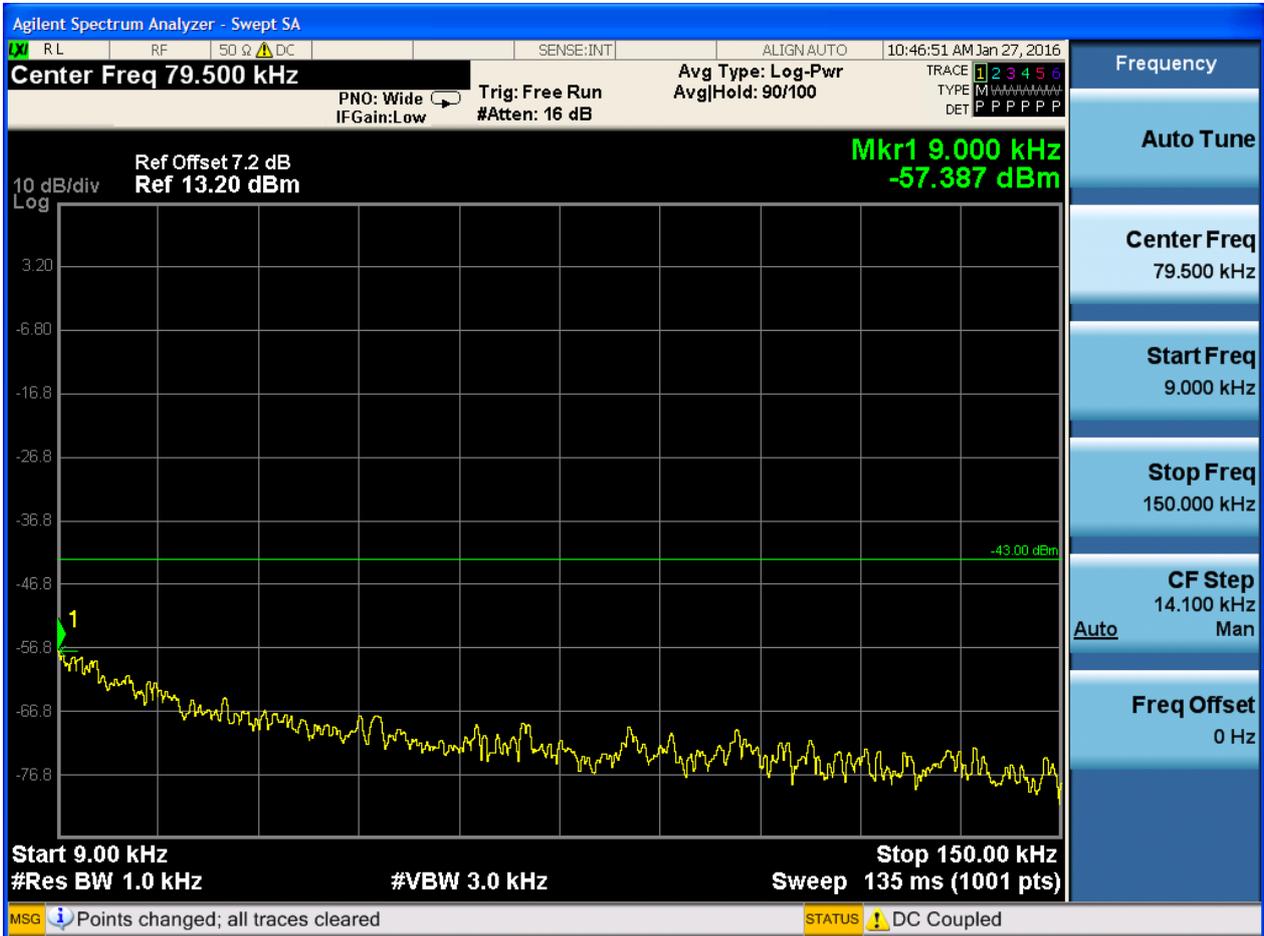


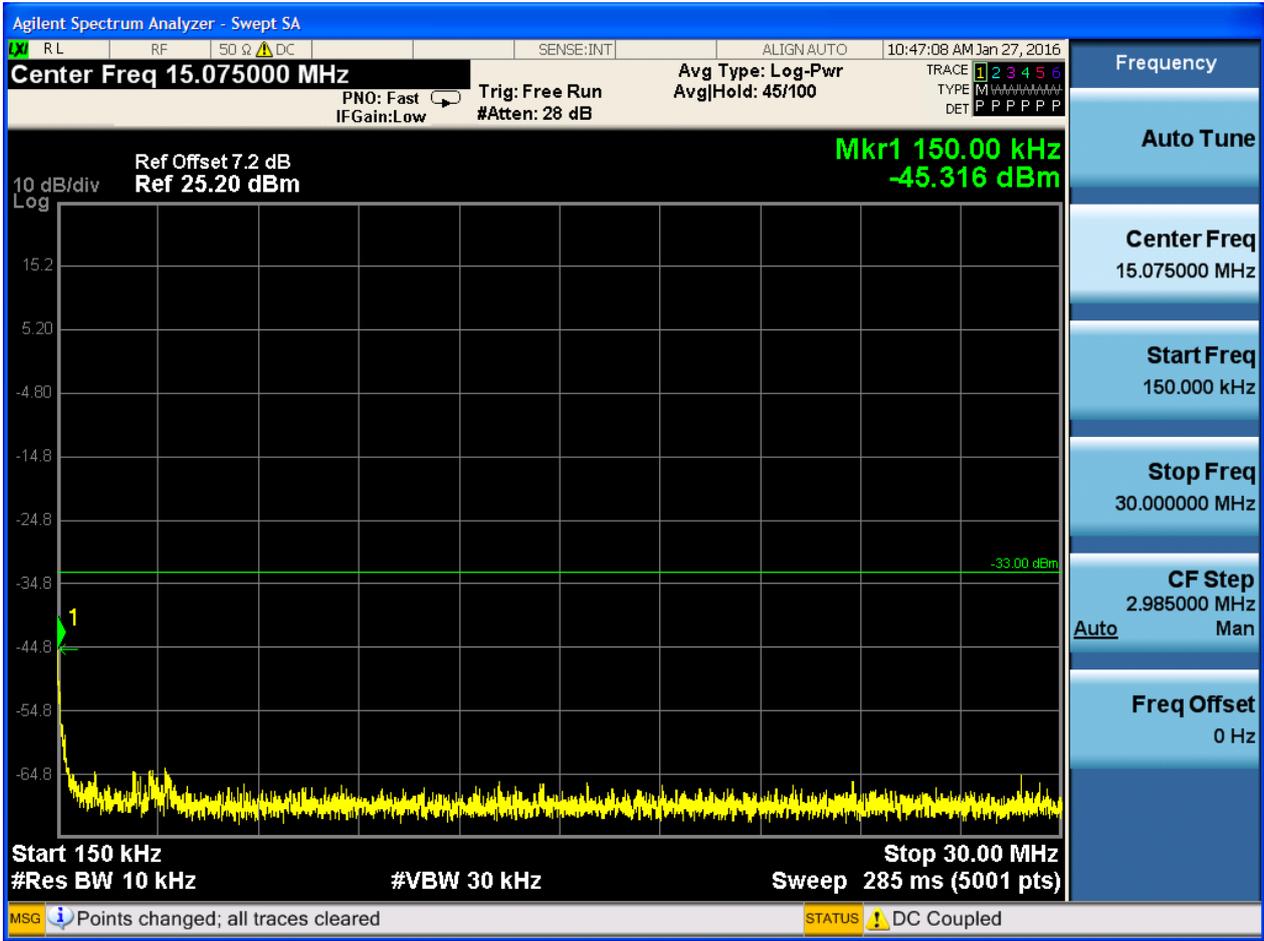


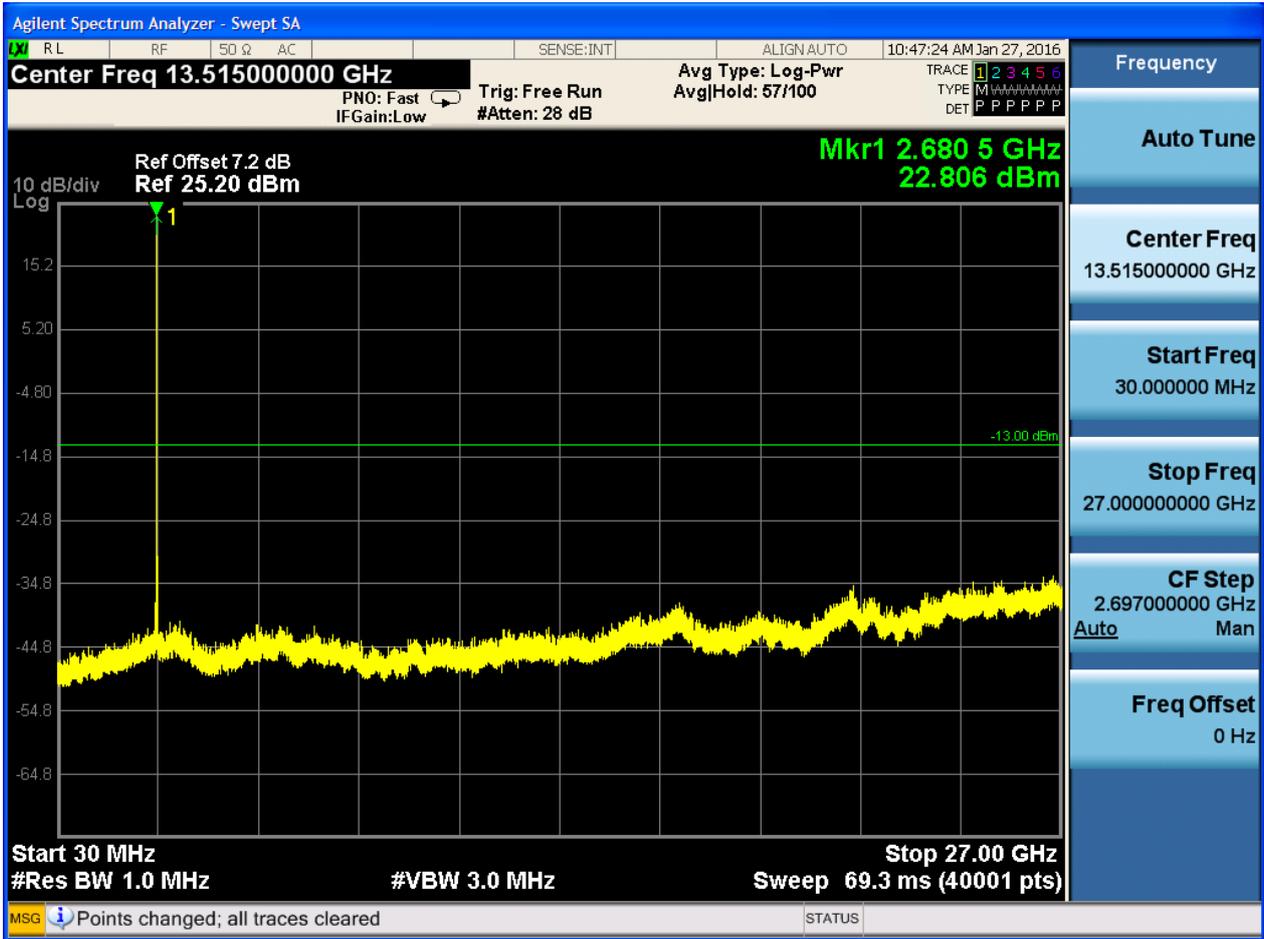


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0





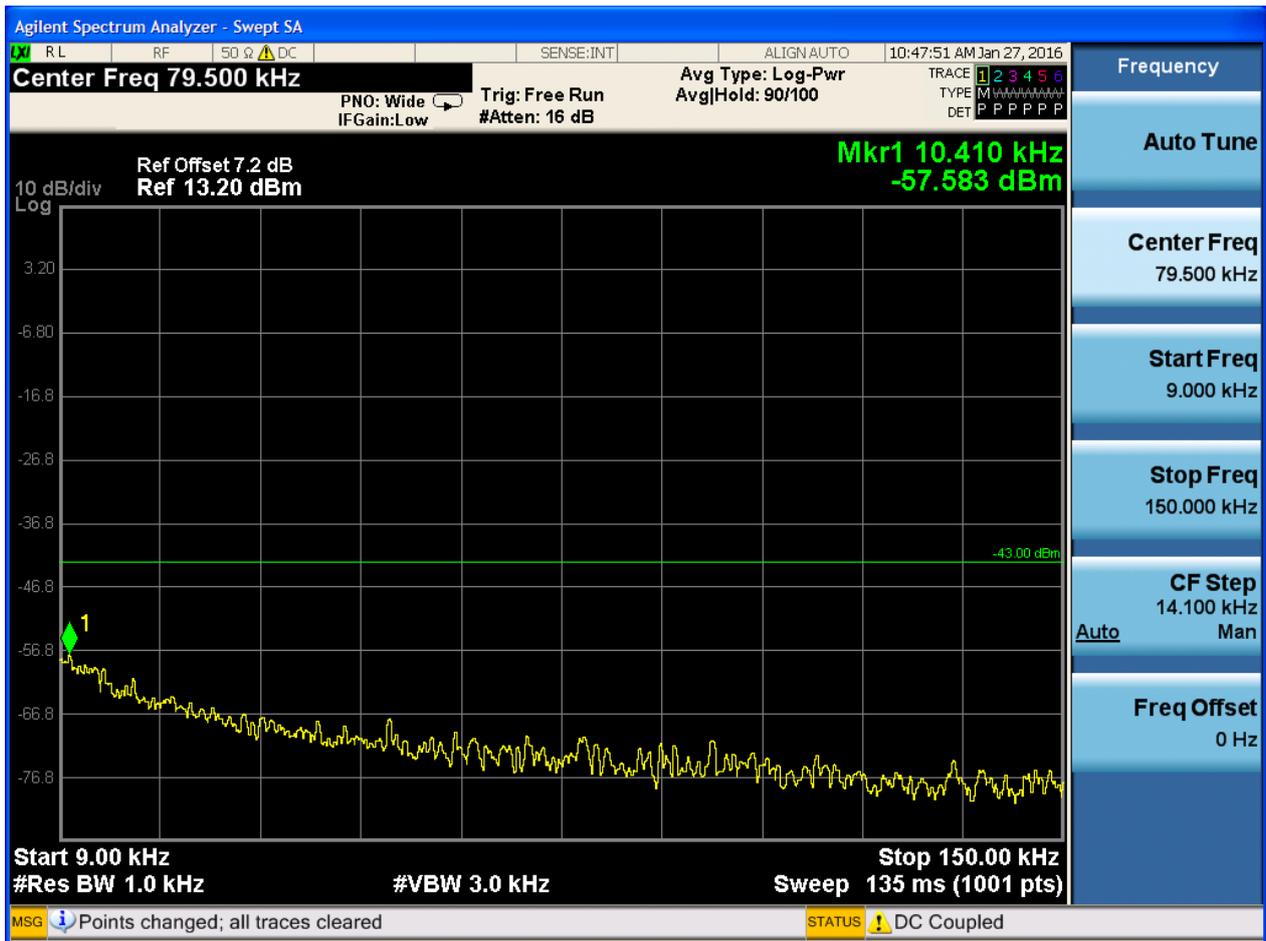


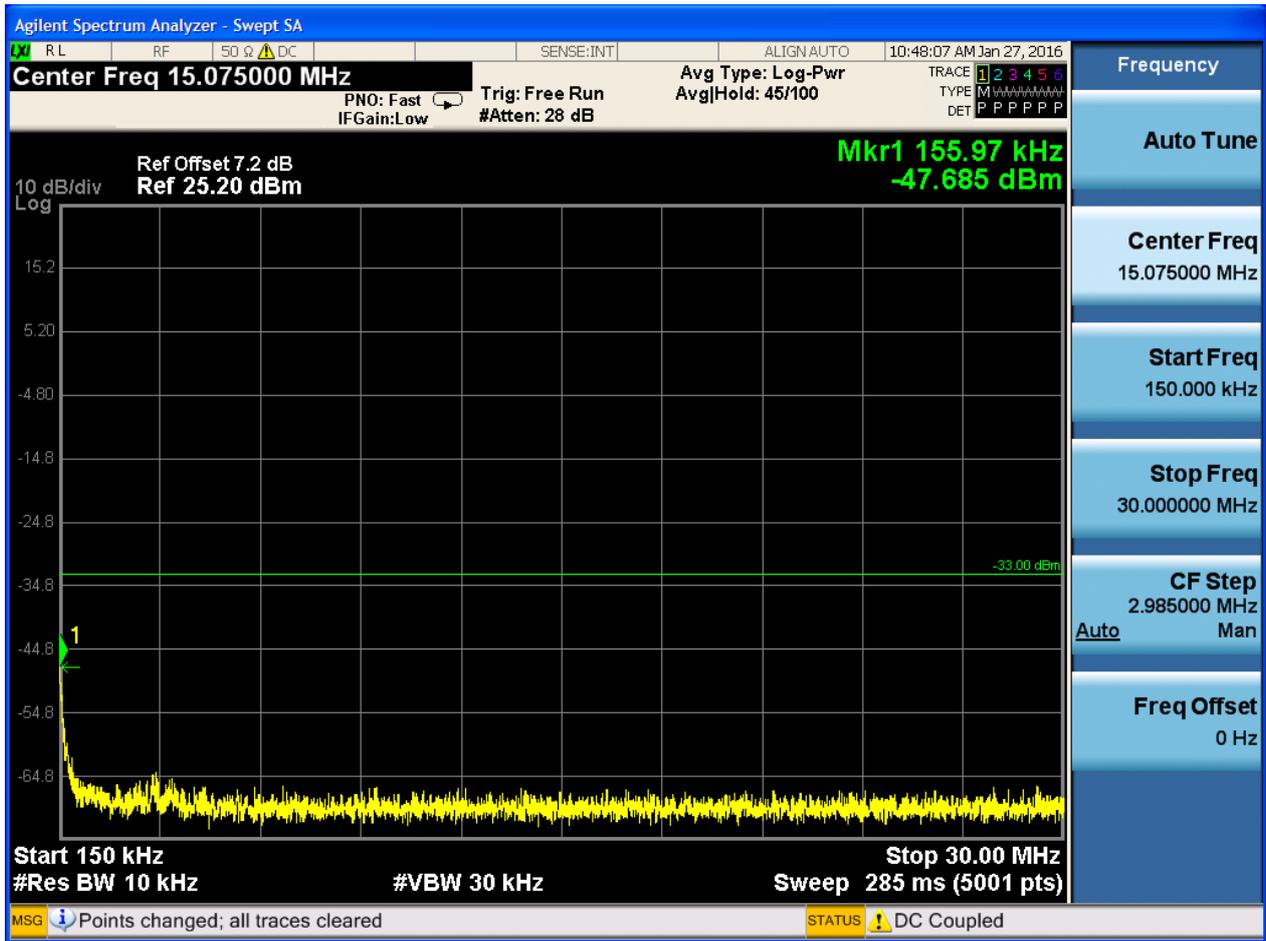


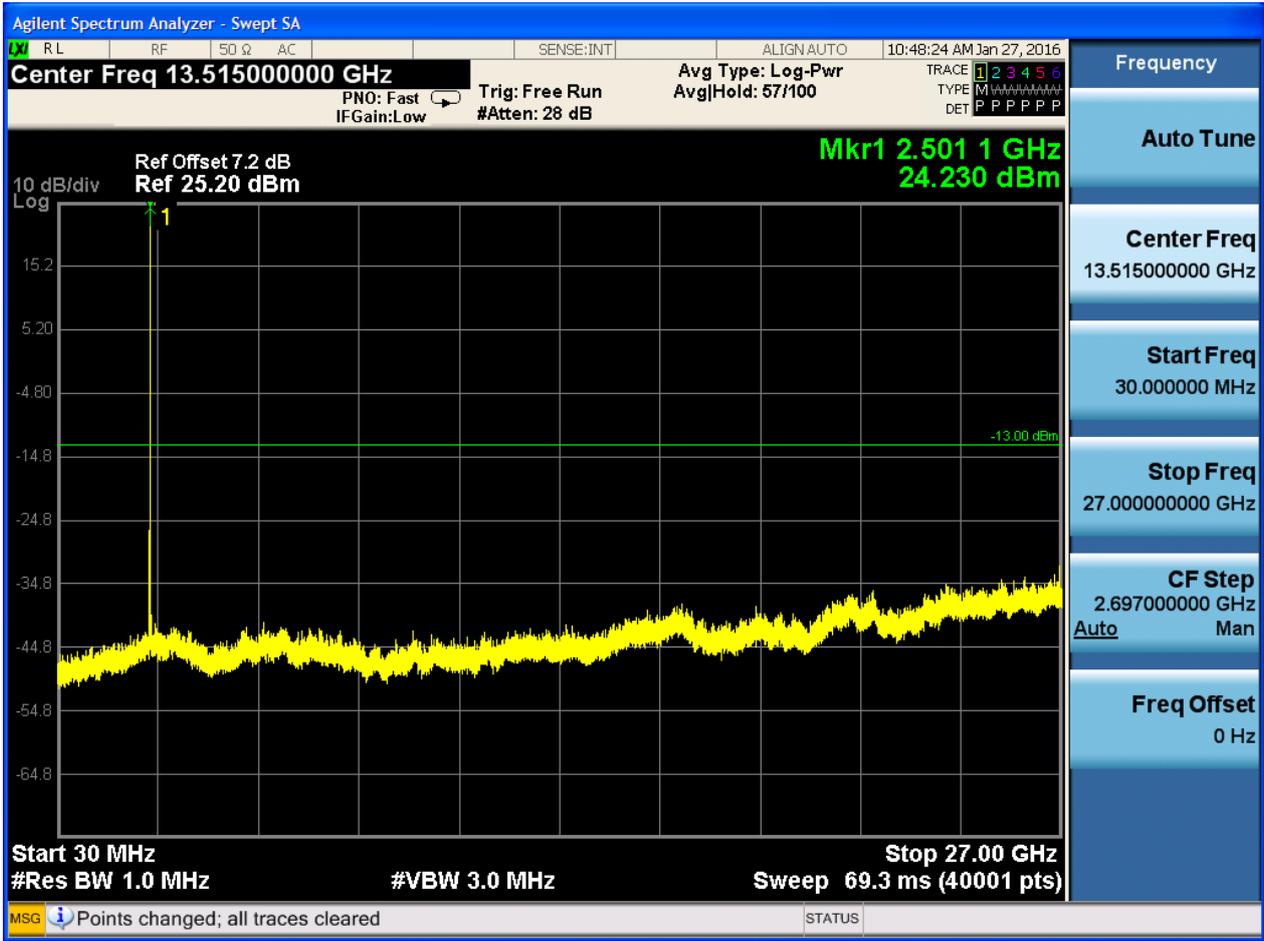
6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0



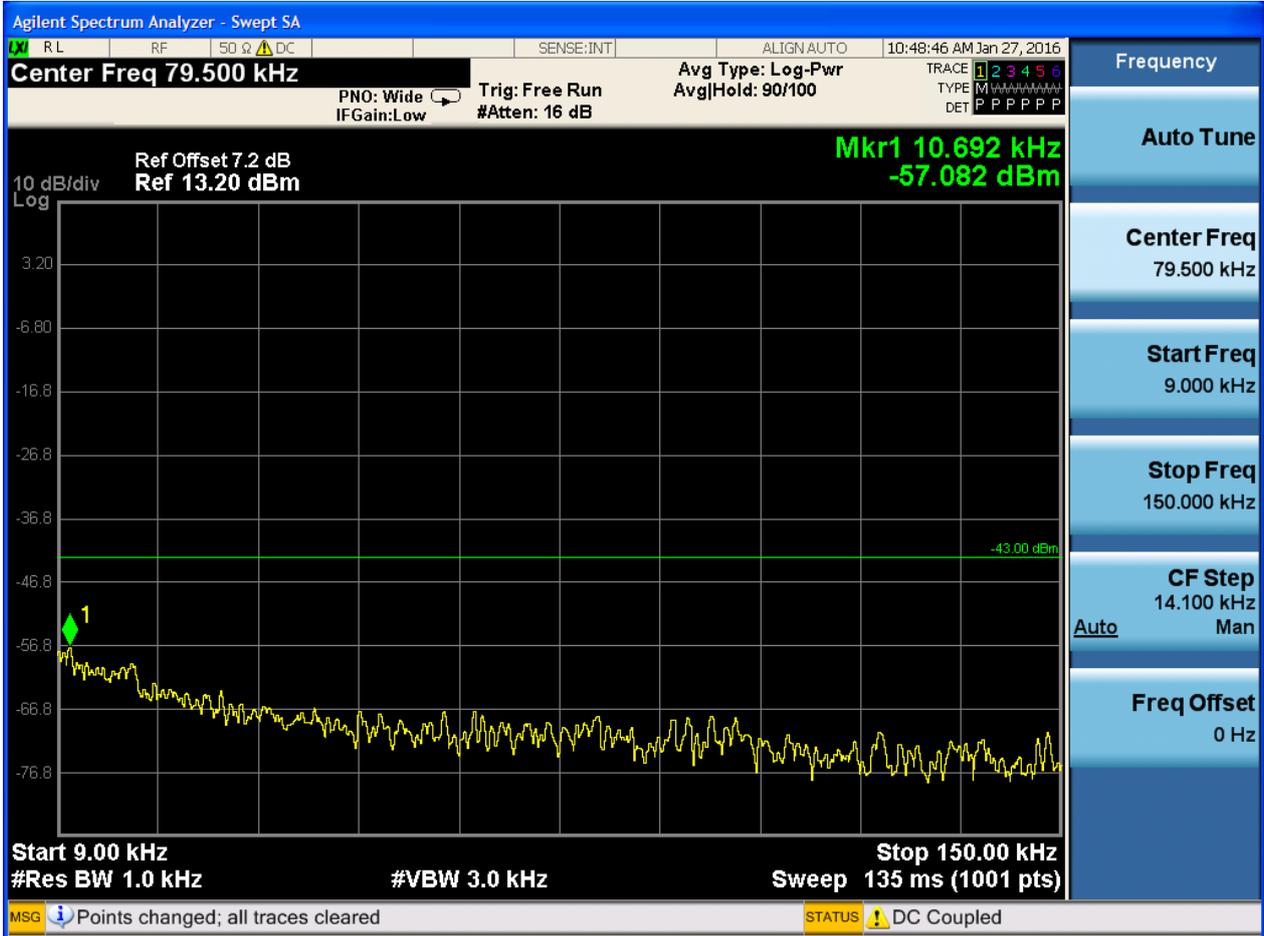


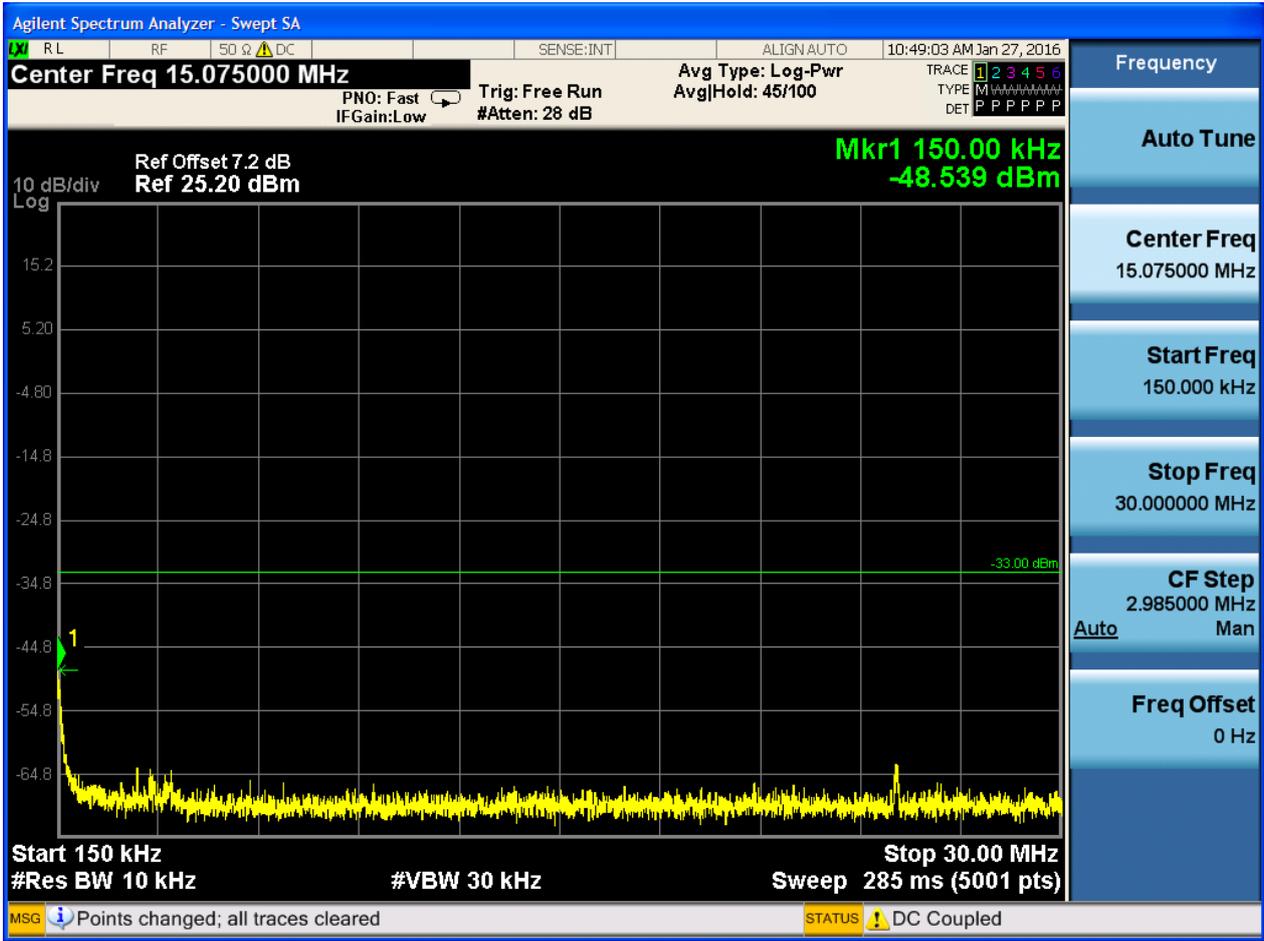


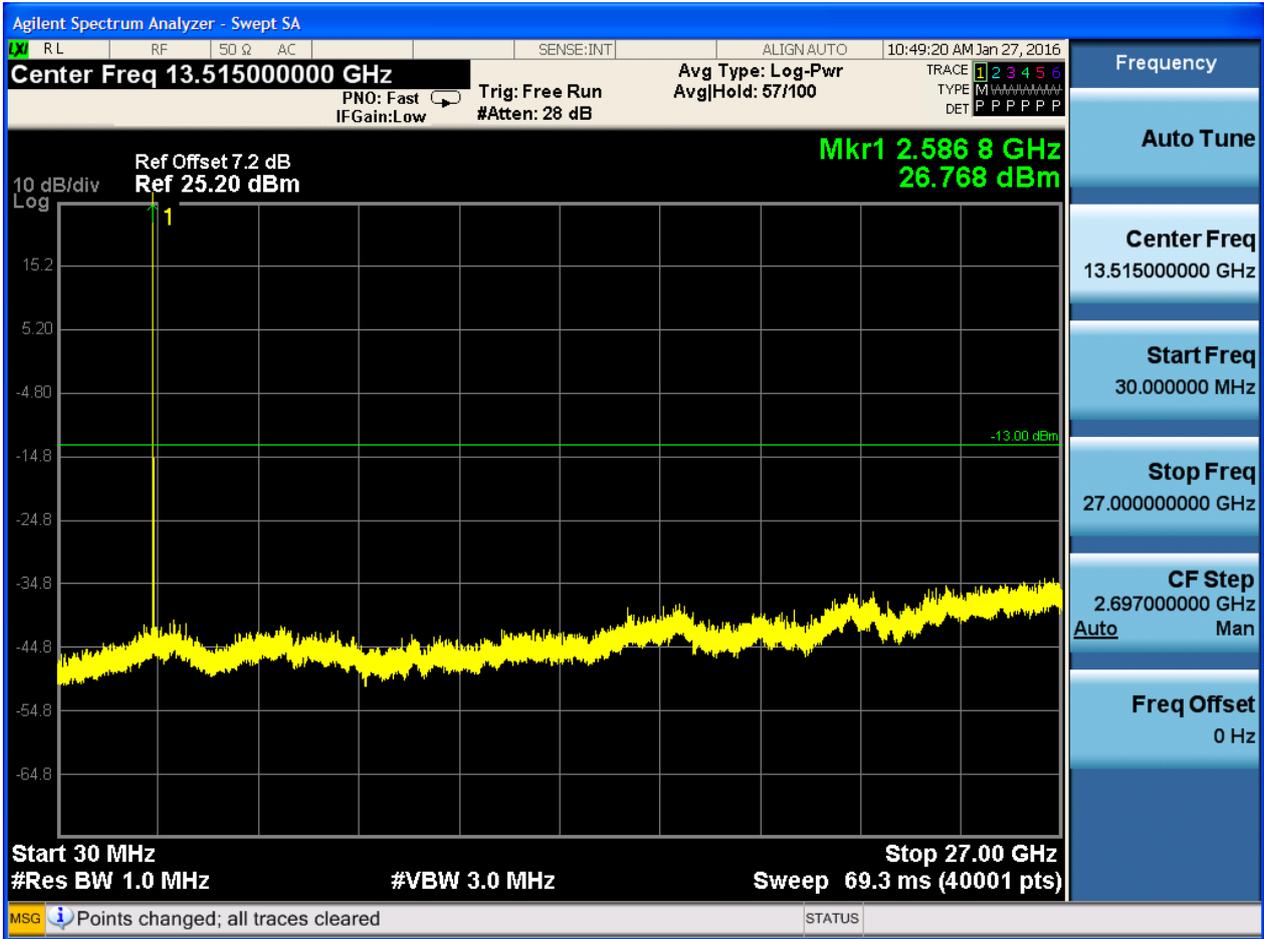


6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



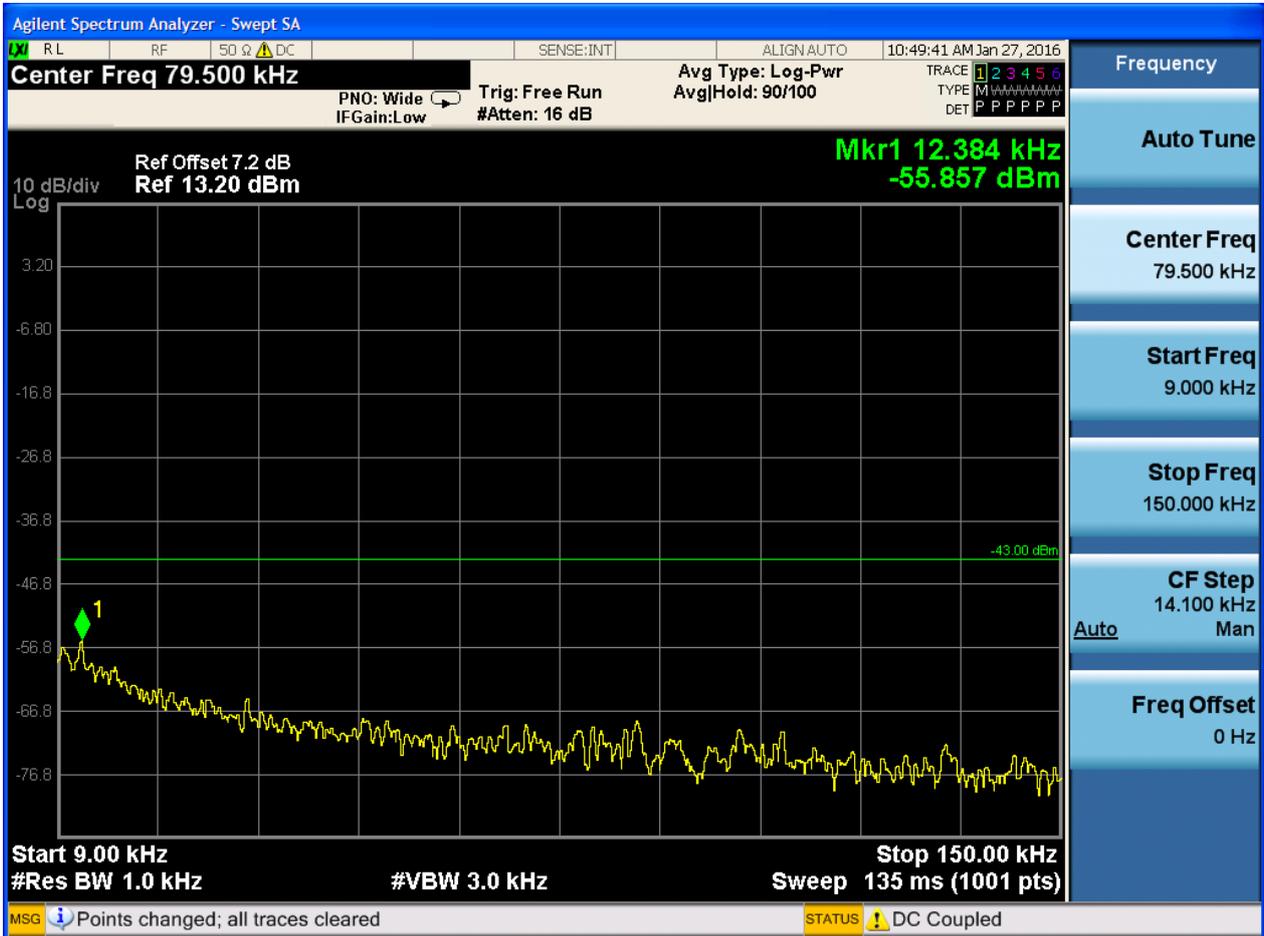


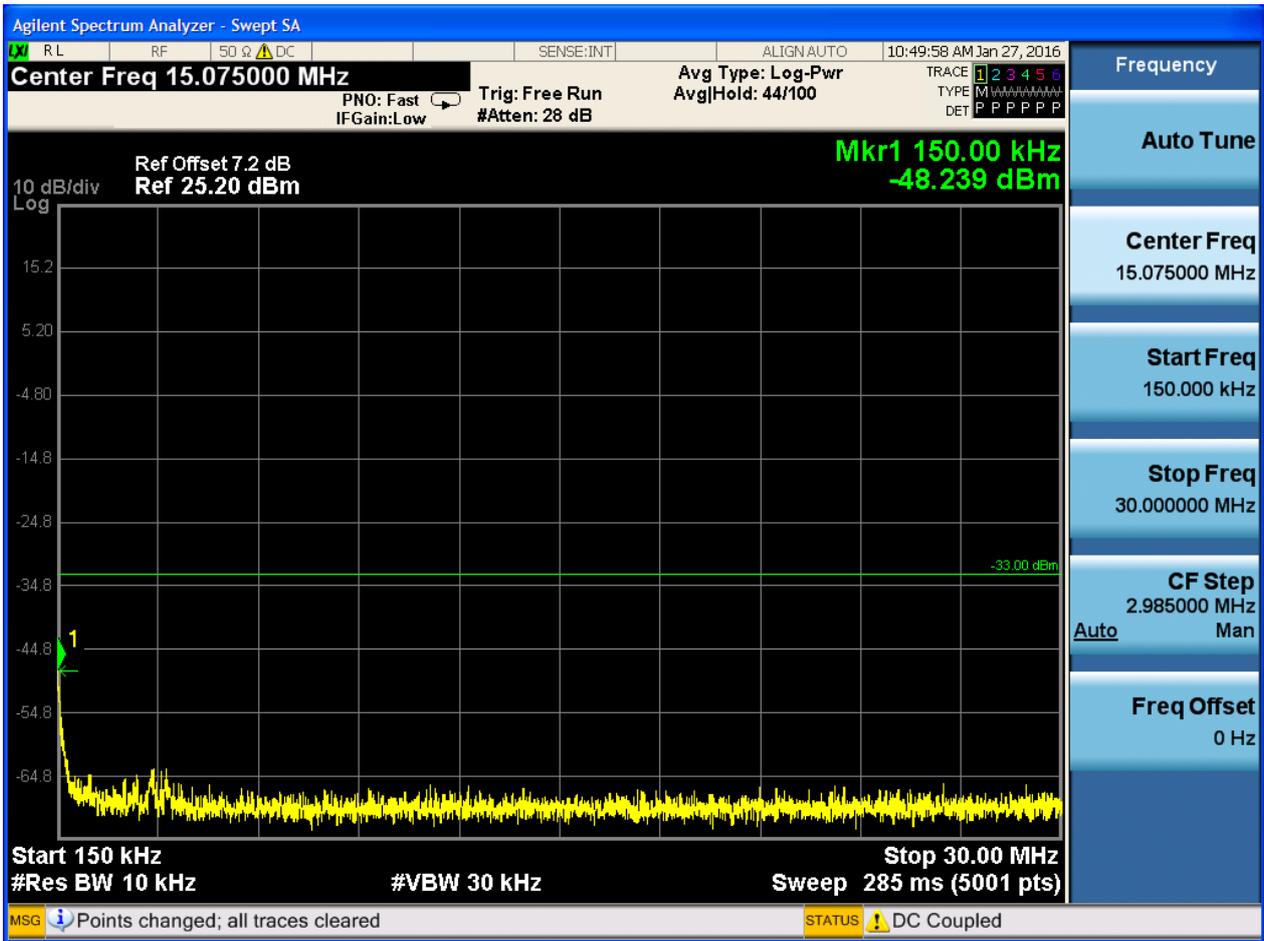


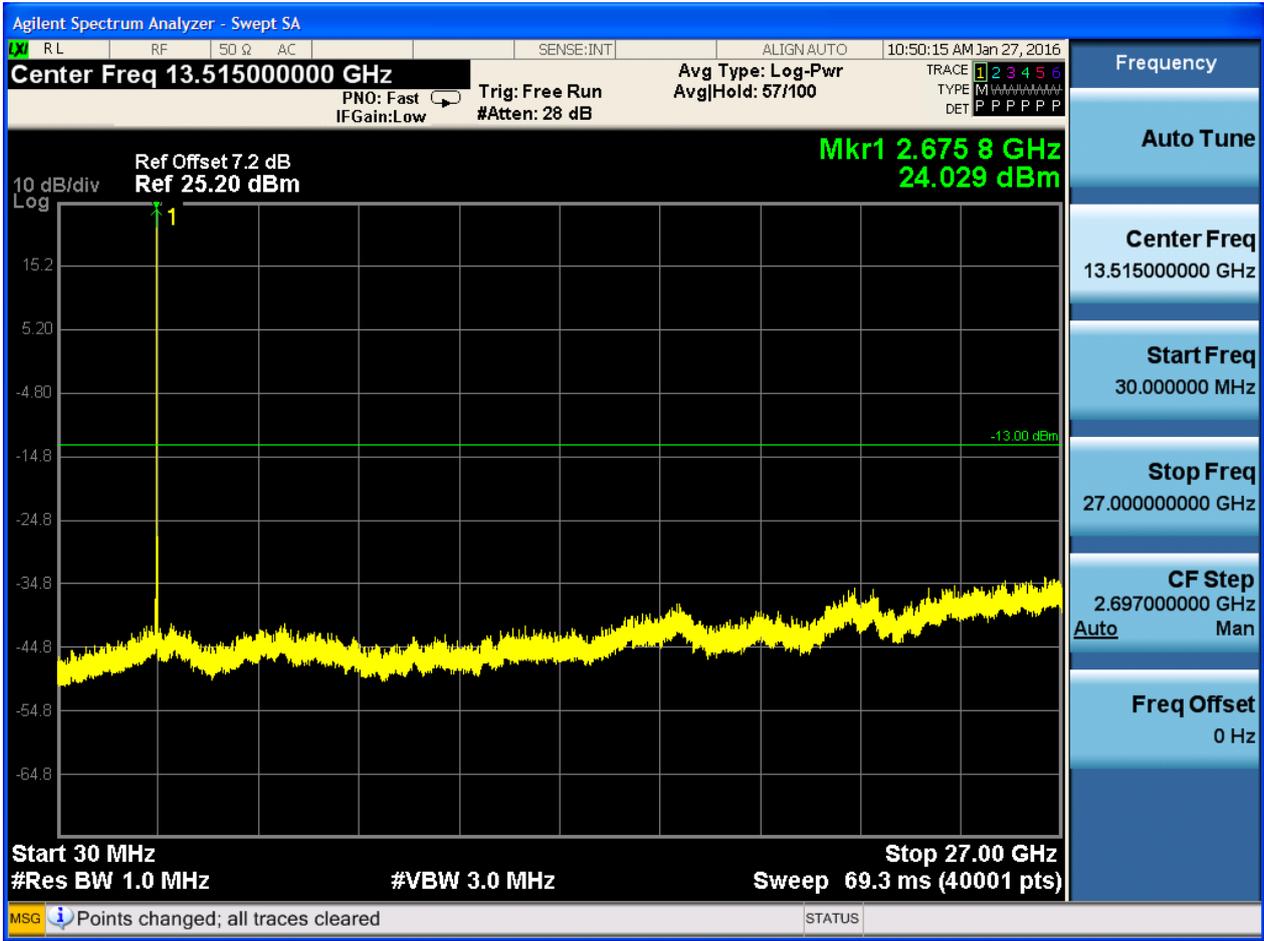


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0





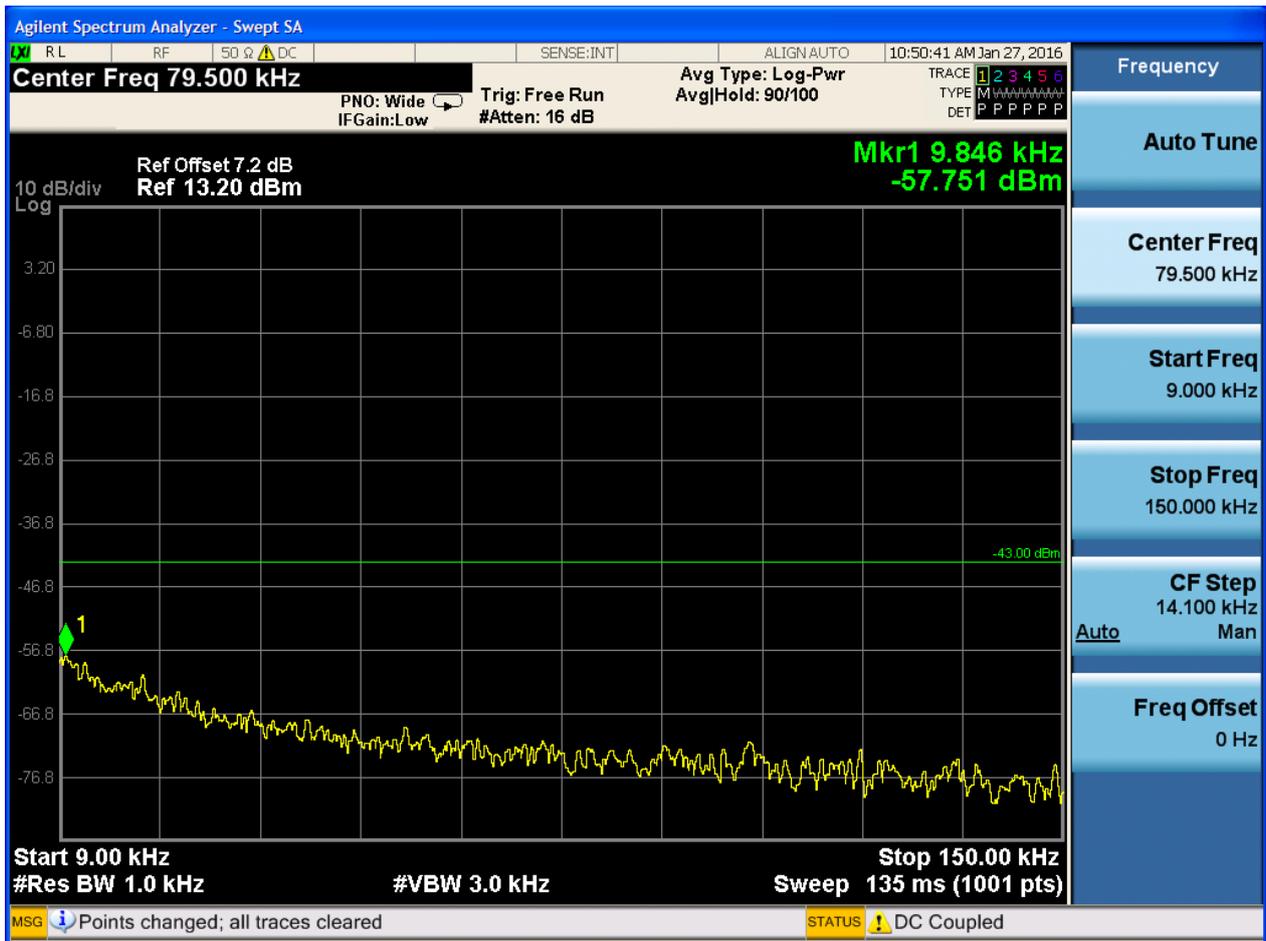


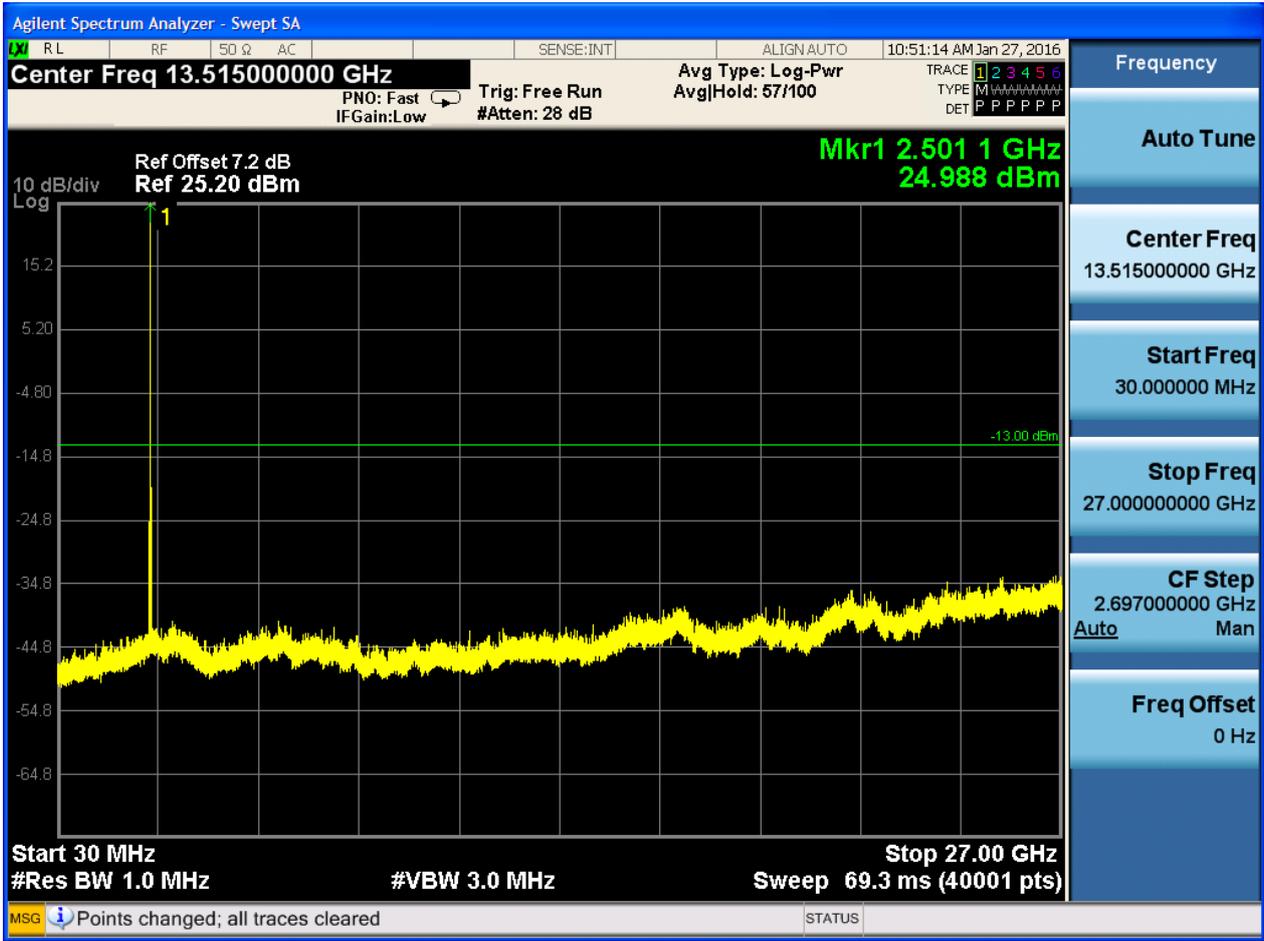


6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

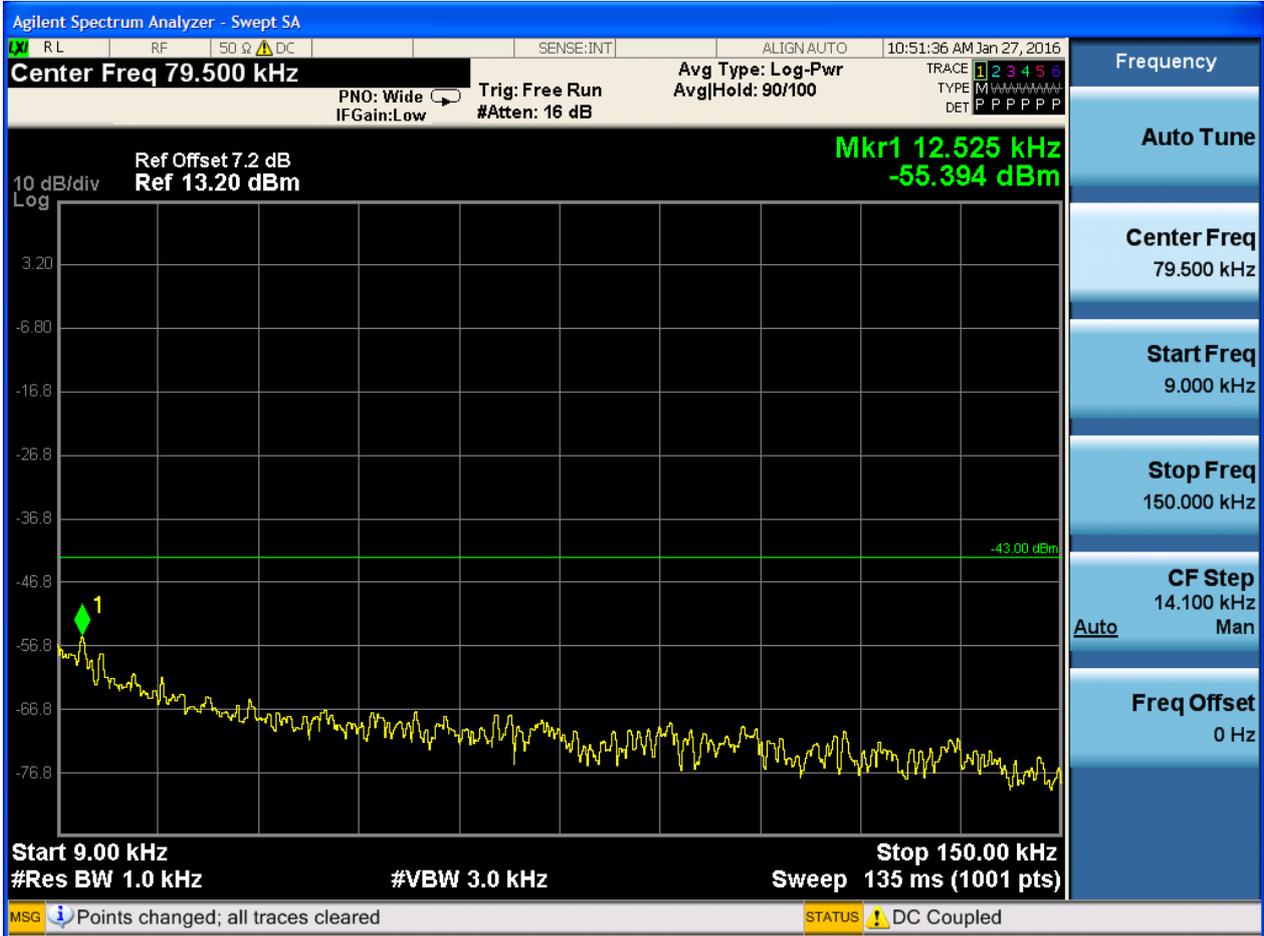


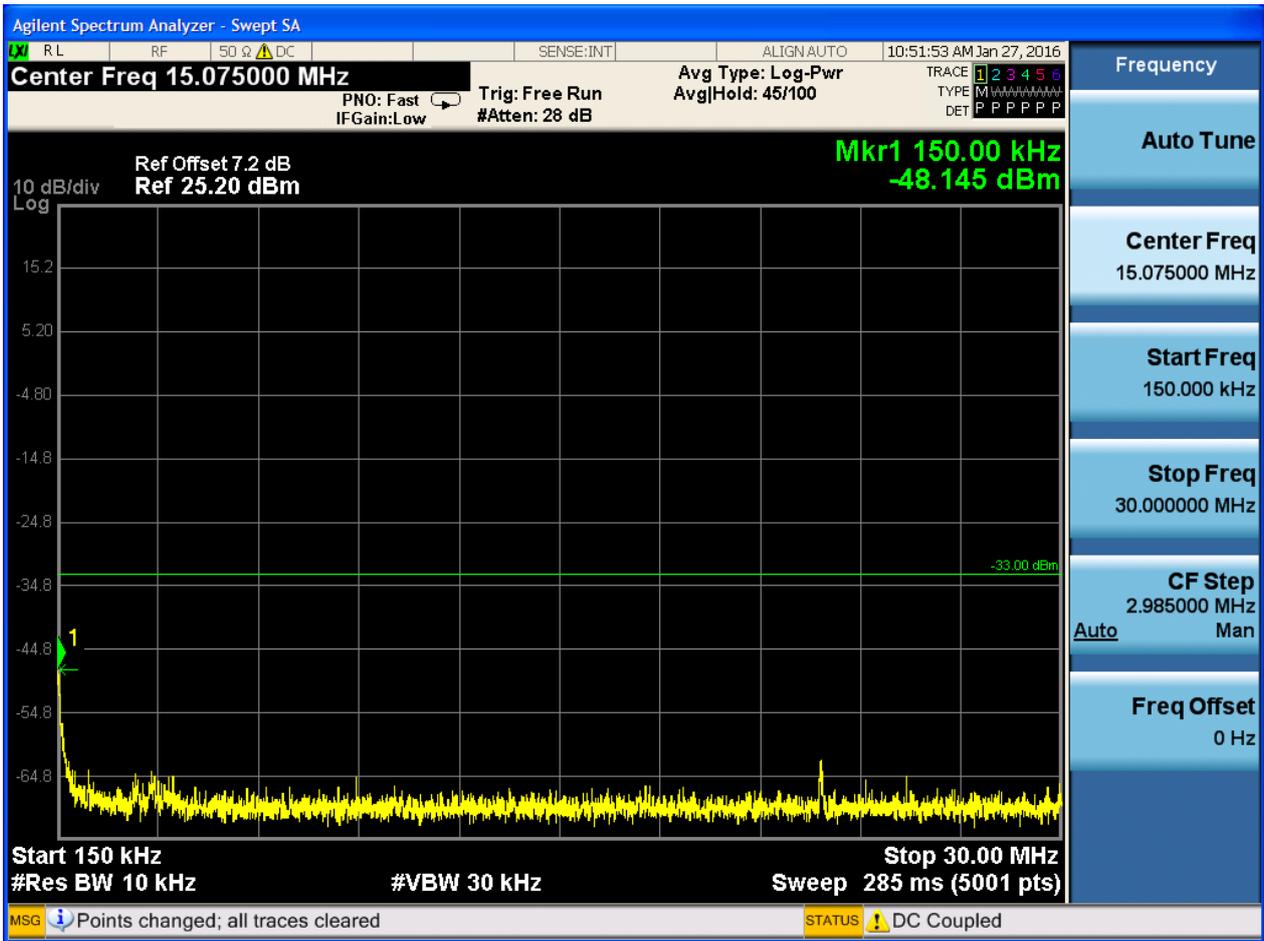


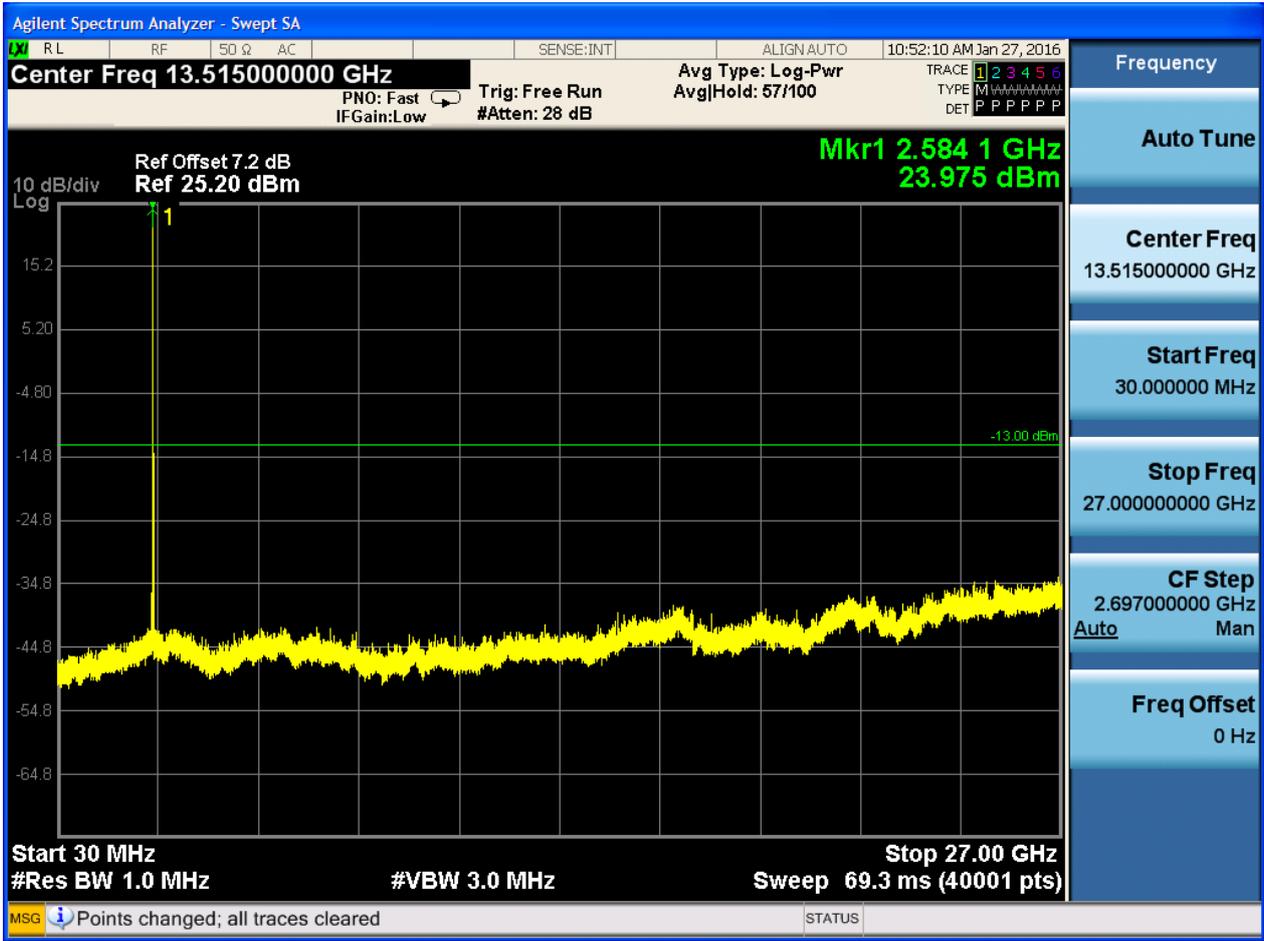


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0



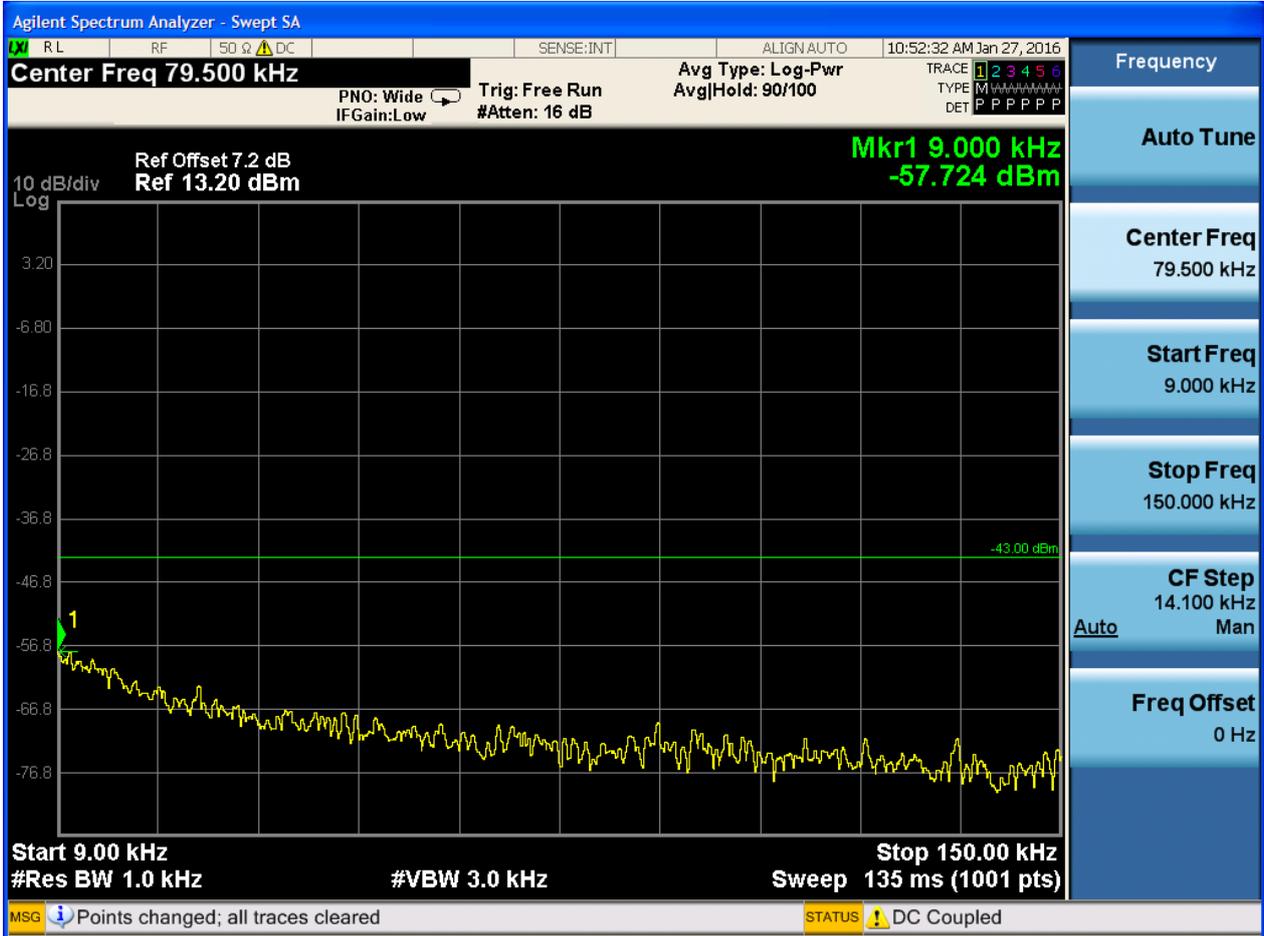


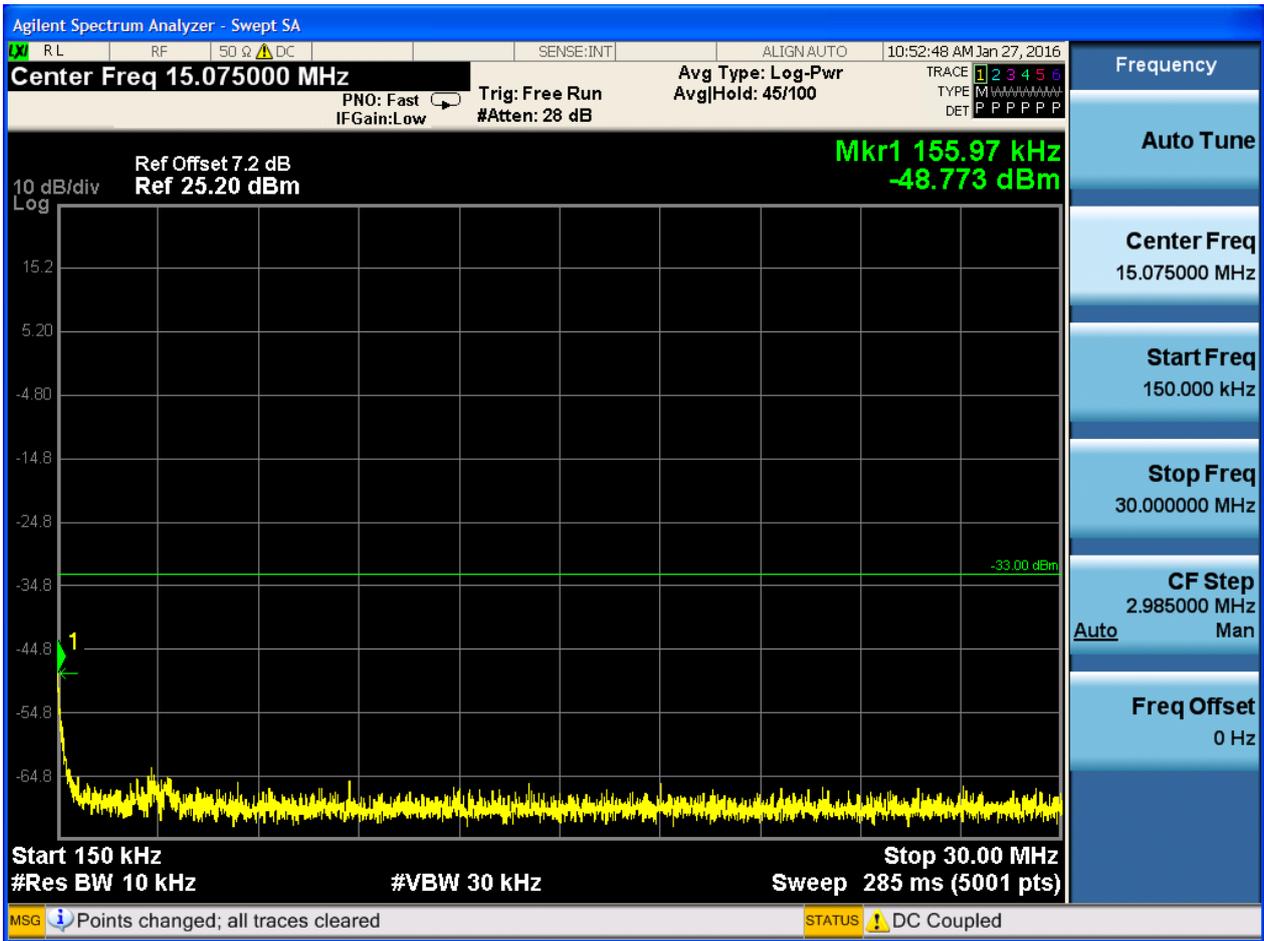


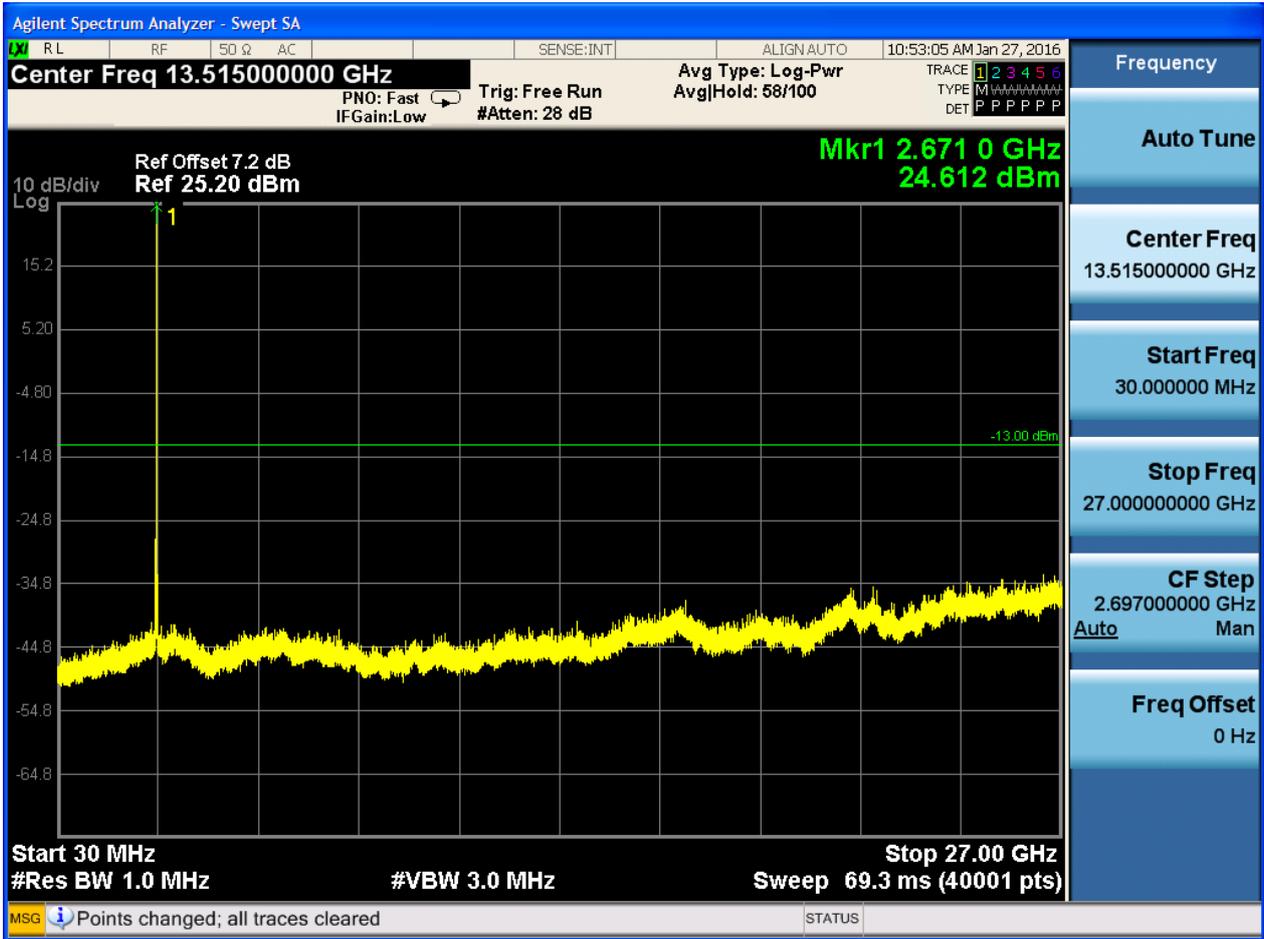


6.1.1.2.4.3 Test Channel = HCH

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

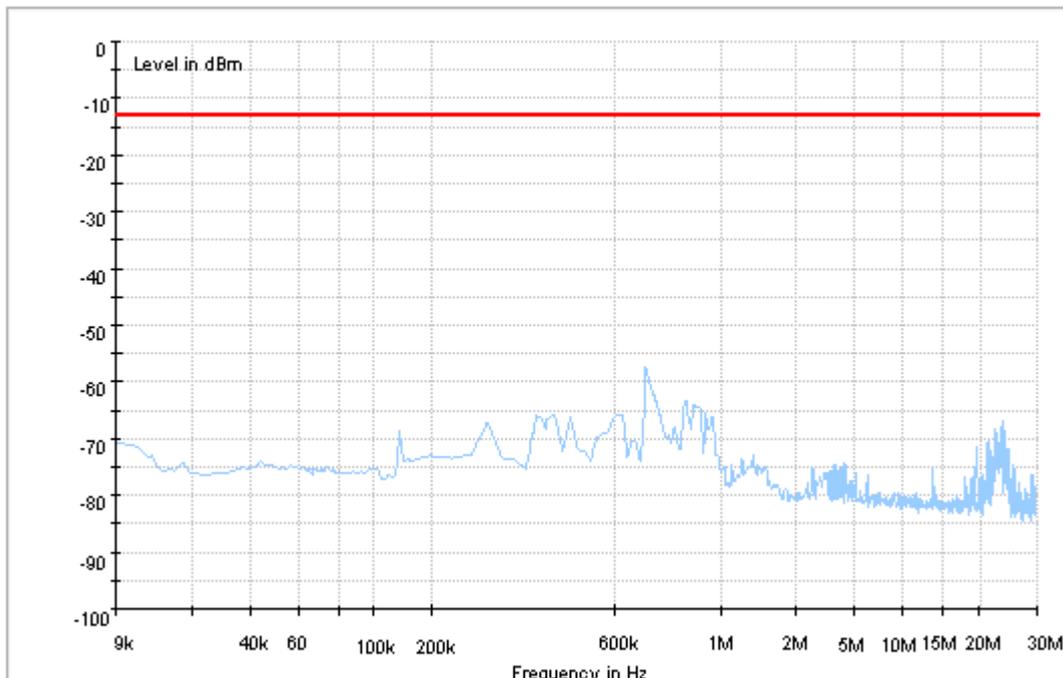
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

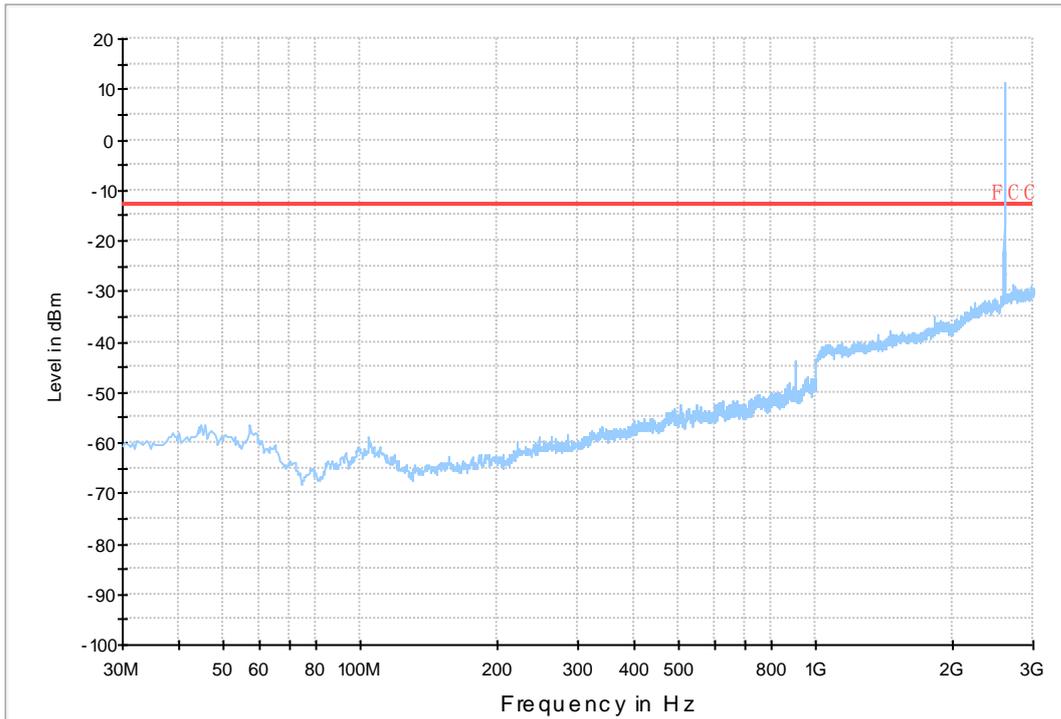
7.1 For LTE

7.1.1 Test Band = BAND41

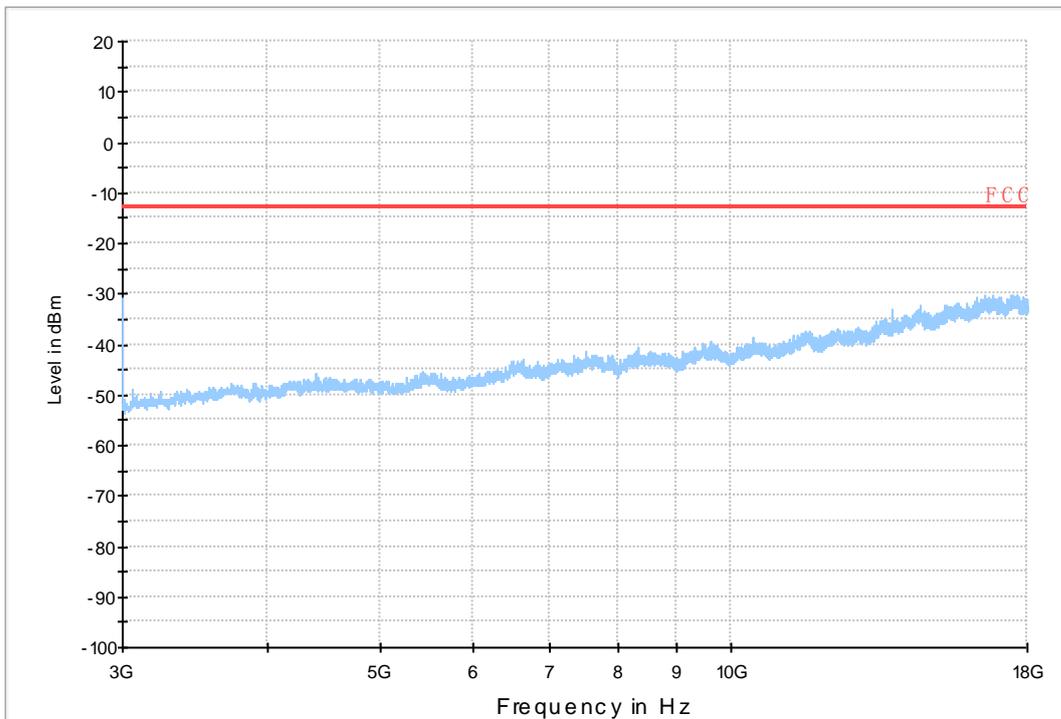
7.1.1.1 Test Bandwidth = 5

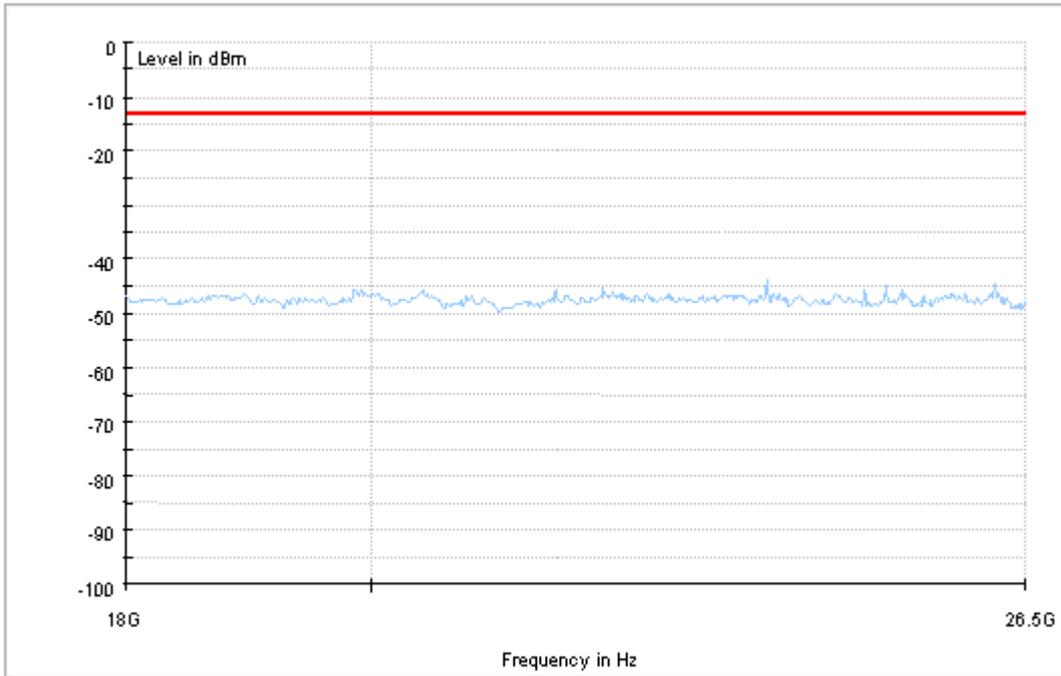


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L

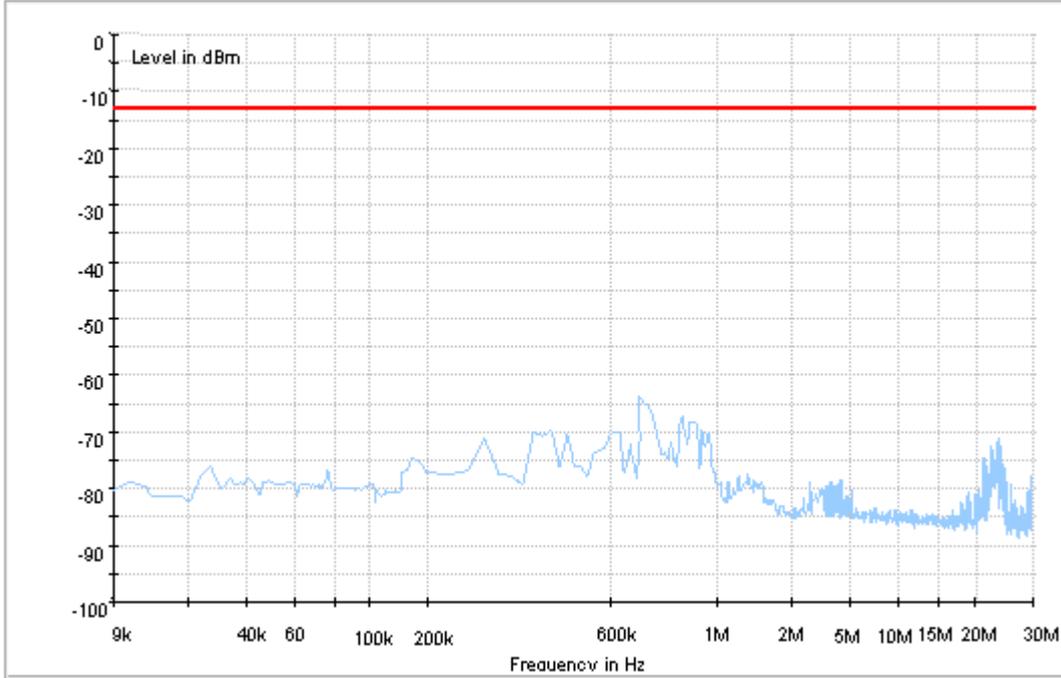


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H

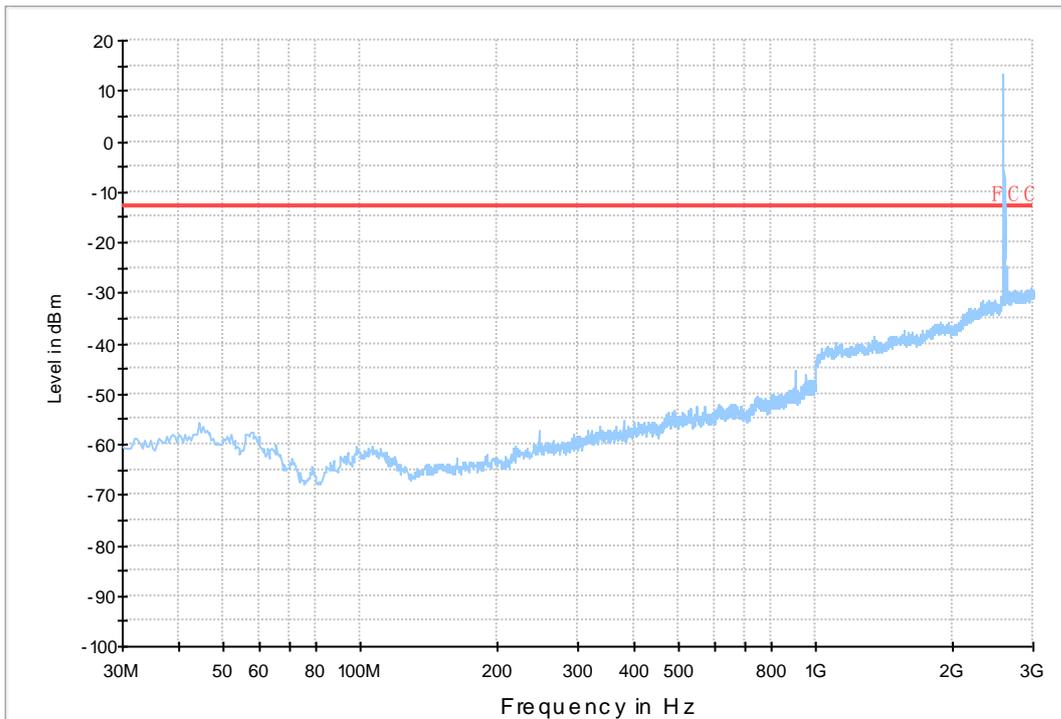




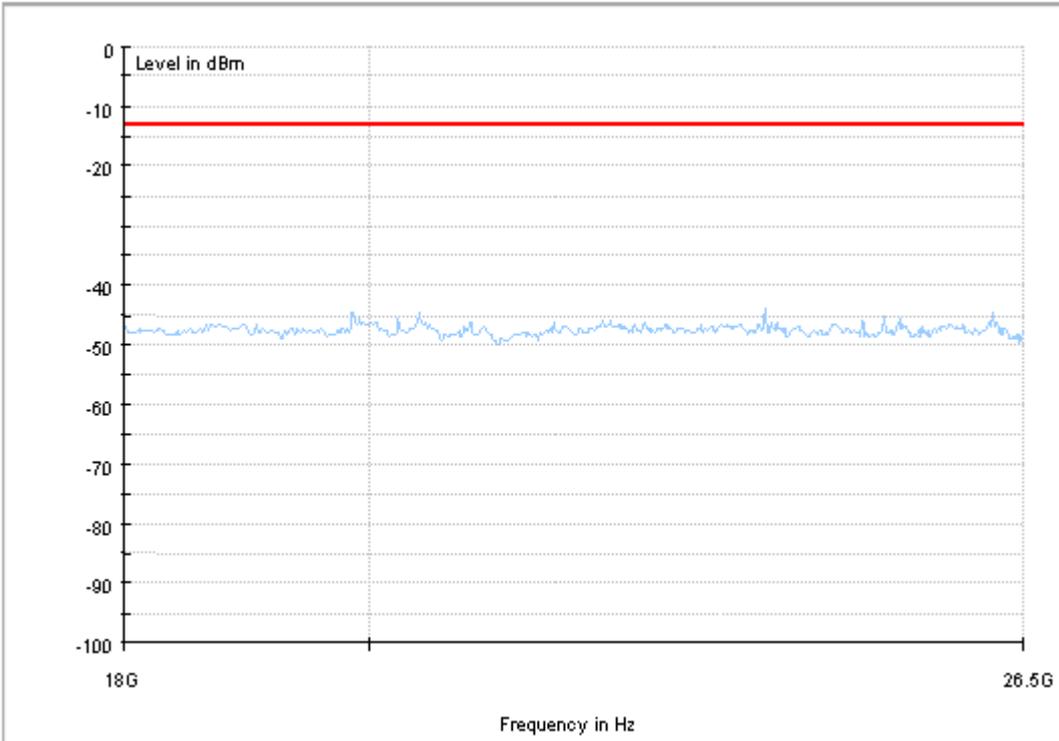
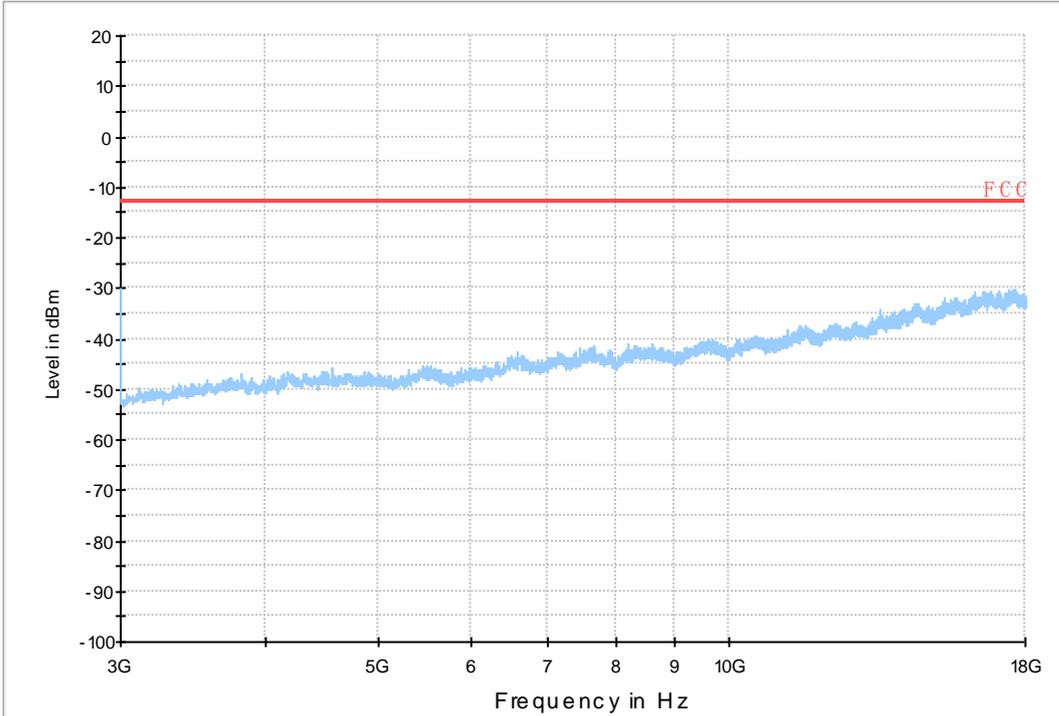
7.1.1.2 Test Bandwidth = 20



Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L



Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H



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
BAND41	LTE/TM1	5	LCH	TN	VL	1.65	0.00066	PASS
					VN	-1.65	-0.00066	PASS
					VH	0.39	0.00016	PASS
			MCH	TN	VL	-4.58	-0.00177	PASS
					VN	-6.55	-0.00253	PASS
					VH	-2.9	-0.00112	PASS
			HCH	TN	VL	-1.29	-0.00048	PASS
					VN	-1.16	-0.00043	PASS
					VH	-2.88	-0.00107	PASS
		10	LCH	TN	VL	-6.31	-0.00252	PASS
					VN	-0.4	-0.00016	PASS
					VH	-0.87	-0.00035	PASS
			MCH	TN	VL	1.62	0.00062	PASS
					VN	0.26	0.0001	PASS
					VH	0.03	0.00001	PASS
			HCH	TN	VL	2.57	0.00096	PASS
					VN	5.72	0.00213	PASS
					VH	6.49	0.00242	PASS
		15	LCH	TN	VL	-2.59	-0.00103	PASS
					VN	-5.52	-0.0022	PASS
					VH	1.52	0.00061	PASS
			MCH	TN	VL	1.04	0.0004	PASS
					VN	-2.52	-0.00097	PASS
					VH	-1.5	-0.00058	PASS
			HCH	TN	VL	3.76	0.0014	PASS
					VN	-0.06	-0.00002	PASS
					VH	-3.69	-0.00138	PASS
		20	LCH	TN	VL	-0.62	-0.00025	PASS
					VN	-8.34	-0.00332	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			MCH	TN	VH	-5.94	-0.00237	PASS
					VL	0.96	0.00037	PASS
					VN	-2.57	-0.00099	PASS
			HCH	TN	VH	1.43	0.00055	PASS
					VL	-5.01	-0.00187	PASS
					VN	0.6	0.00022	PASS
		5	LCH	TN	VH	-3.35	-0.00125	PASS
					VL	-4.52	-0.00181	PASS
					VN	-1.83	-0.00073	PASS
			MCH	TN	VH	-2.37	-0.00095	PASS
					VL	2.29	0.00088	PASS
					VN	-2.05	-0.00079	PASS
	HCH	TN	VH	-0.43	-0.00017	PASS		
			VL	-3.63	-0.00135	PASS		
			VN	4.39	0.00163	PASS		
	10	LCH	TN	VH	7.55	0.00281	PASS	
				VL	0.56	0.00022	PASS	
				VN	-4.36	-0.00174	PASS	
		MCH	TN	VH	6.88	0.00275	PASS	
				VL	-0.29	-0.00011	PASS	
				VN	-6.09	-0.00235	PASS	
		HCH	TN	VH	-2.57	-0.00099	PASS	
				VL	-3.43	-0.00128	PASS	
				VN	-7.84	-0.00292	PASS	
		15	LCH	TN	VH	-5.34	-0.00199	PASS
					VL	-0.1	-0.00004	PASS
					VN	0.76	0.0003	PASS
	MCH		TN	VH	-1.87	-0.00075	PASS	
				VL	1.66	0.00064	PASS	
				VN	-3.1	-0.0012	PASS	
	HCH	TN	VH	-4.03	-0.00155	PASS		
			VL	-3.68	-0.00137	PASS		
			VN	-1.2	-0.00045	PASS		
	20	LCH	TN	VH	-2.45	-0.00091	PASS	
				VL	-3.82	-0.00152	PASS	
				VN	2.95	0.00118	PASS	
		MCH	TN	VH	-0.8	-0.00032	PASS	
				VL	-4.11	-0.00159	PASS	
				VN	-3.75	-0.00145	PASS	

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VH	0.63	0.00024	PASS
			HCH	TN	VL	-0.57	-0.00021	PASS
					VN	-1.02	-0.00038	PASS
					VH	-3.13	-0.00117	PASS

8.1.2 Frequency Error vs. Temperature:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Tem.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND41	LTE/TM1	5	LCH	VN	-30	-4.95	-0.00198	PASS
					-20	-3.3	-0.00132	PASS
					-10	2.96	0.00118	PASS
					0	-4.08	-0.00163	PASS
					10	0.24	0.0001	PASS
					20	2.06	0.00082	PASS
					30	7.87	0.00314	PASS
					40	2.99	0.00119	PASS
			50	-3.02	-0.00121	PASS		
			MCH	VN	-30	1.39	0.00054	PASS
					-20	2.68	0.00103	PASS
					-10	1.79	0.00069	PASS
					0	-2.09	-0.00081	PASS
					10	-6.82	-0.00263	PASS
					20	-4.42	-0.0017	PASS
					30	-5.44	-0.0021	PASS
					40	1.37	0.00053	PASS
			50	-4.73	-0.00182	PASS		
			HCH	VN	-30	0.21	0.00008	PASS
					-20	0.92	0.00034	PASS
					-10	-2.96	-0.0011	PASS
					0	-0.9	-0.00033	PASS
					10	0.62	0.00023	PASS
					20	-4.42	-0.00164	PASS
		30			-4.09	-0.00152	PASS	
		40			-3.75	-0.0014	PASS	
		50	-7.6	-0.00283	PASS			
		10	LCH	VN	-30	1.07	0.00043	PASS
					-20	1.49	0.00059	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Tem.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
					-10	-5.04	-0.00201	PASS	
					0	-6.75	-0.00269	PASS	
					10	-6.61	-0.00264	PASS	
					20	-7.84	-0.00313	PASS	
					30	1.07	0.00043	PASS	
					40	-3.32	-0.00133	PASS	
					50	-1.6	-0.00064	PASS	
			MCH	VN	-30	-2.96	-0.00114	PASS	
					-20	-0.59	-0.00023	PASS	
					-10	-7.6	-0.00293	PASS	
					0	0.51	0.0002	PASS	
					10	-2.26	-0.00087	PASS	
					20	-6.24	-0.00241	PASS	
					30	-8.28	-0.00319	PASS	
					40	-1.99	-0.00077	PASS	
			HCH	VN	-30	-8.47	-0.00315	PASS	
					-20	-1.96	-0.00073	PASS	
					-10	-3.91	-0.00146	PASS	
					0	-11.36	-0.00423	PASS	
					10	-6.25	-0.00233	PASS	
					20	-3.36	-0.00125	PASS	
					30	-8.57	-0.00319	PASS	
					40	-5.25	-0.00196	PASS	
			15	LCH	VN	-30	-7.68	-0.00306	PASS
						-20	-9.81	-0.00391	PASS
						-10	-4.25	-0.00169	PASS
						0	-6.44	-0.00257	PASS
						10	-11.01	-0.00439	PASS
						20	-9.2	-0.00367	PASS
						30	-3.69	-0.00147	PASS
						40	-6.49	-0.00259	PASS
						50	-4.12	-0.00164	PASS
						MCH	VN	-30	1.69
			-20	5.44	0.0021			PASS	
			-10	1.26	0.00049			PASS	
			0	-4.94	-0.00191			PASS	
			10	-0.6	-0.00023			PASS	

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Tem.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					20	-0.27	-0.0001	PASS		
					30	4.98	0.00192	PASS		
					40	-3.53	-0.00136	PASS		
					50	-0.13	-0.00005	PASS		
			HCH	VN	-30	-3.72	-0.00139	PASS		
					-20	-5.52	-0.00206	PASS		
					-10	-0.4	-0.00015	PASS		
					0	-1.29	-0.00048	PASS		
					10	3.1	0.00116	PASS		
					20	-2.99	-0.00111	PASS		
					30	-1.02	-0.00038	PASS		
					40	-0.84	-0.00031	PASS		
					50	-2.99	-0.00111	PASS		
					LCH	VN	-30	0.41	0.00016	PASS
							-20	-2.7	-0.00108	PASS
							-10	0.59	0.00024	PASS
			0	1.95			0.00078	PASS		
			10	-3.23			-0.00129	PASS		
			20	-3.92			-0.00156	PASS		
			30	-3.45			-0.00137	PASS		
		40	2.99	0.00119			PASS			
		MCH	VN	-30	-1.52	-0.00059	PASS			
				-20	0.19	0.00007	PASS			
				-10	-2.05	-0.00079	PASS			
				0	-4.33	-0.00167	PASS			
				10	-3.62	-0.0014	PASS			
				20	-4.72	-0.00182	PASS			
				30	-0.5	-0.00019	PASS			
				40	-0.8	-0.00031	PASS			
		HCH	VN	-30	0.41	0.00016	PASS			
				-20	1	0.00037	PASS			
				-10	2.06	0.00077	PASS			
				0	2.25	0.00084	PASS			
				10	-2.22	-0.00083	PASS			
				20	1.59	0.00059	PASS			
				30	0.87	0.00032	PASS			
				40	0.6	0.00022	PASS			

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Tem.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM2	5	LCH	VN	50	-2.4	-0.0009	PASS
					-30	-1.04	-0.00042	PASS
					-20	-5.14	-0.00205	PASS
					-10	1.72	0.00069	PASS
					0	0.26	0.0001	PASS
					10	-1.04	-0.00042	PASS
					20	-1.4	-0.00056	PASS
					30	-3.09	-0.00123	PASS
			40	-5.69	-0.00227	PASS		
			50	-0.8	-0.00032	PASS		
			MCH	VN	-30	-3.16	-0.00122	PASS
					-20	-0.29	-0.00011	PASS
					-10	4.81	0.00185	PASS
					0	3.5	0.00135	PASS
					10	-3.65	-0.00141	PASS
					20	-6.35	-0.00245	PASS
					30	-6.71	-0.00259	PASS
					40	2.79	0.00108	PASS
			HCH	VN	50	4.51	0.00174	PASS
					-30	0.87	0.00032	PASS
		-20			-7.75	-0.00288	PASS	
		-10			-8.85	-0.00329	PASS	
		0			-3.06	-0.00114	PASS	
		10			1.82	0.00068	PASS	
		20			-5.59	-0.00208	PASS	
		30			-0.54	-0.0002	PASS	
		40	3.13	0.00116	PASS			
		50	-2.3	-0.00086	PASS			
		10	LCH	VN	-30	-9.51	-0.0038	PASS
					-20	1.39	0.00055	PASS
					-10	-1.76	-0.0007	PASS
					0	5.66	0.00226	PASS
					10	-1.24	-0.0005	PASS
					20	-1.49	-0.00059	PASS
					30	-3.55	-0.00142	PASS
					40	-5.04	-0.00201	PASS
			50	-11.32	-0.00452	PASS		
			MCH	VN	-30	2.49	0.00096	PASS
		-20			-9.21	-0.00355	PASS	

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Tem.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict								
					-10	0.03	0.00001	PASS								
					0	1.44	0.00056	PASS								
					10	2.25	0.00087	PASS								
					20	0.43	0.00017	PASS								
					30	0.59	0.00023	PASS								
					40	-3.75	-0.00145	PASS								
					50	-7.12	-0.00275	PASS								
			HCH	VN				-30	4.18	0.00156	PASS					
								-20	-3.28	-0.00122	PASS					
								-10	2.47	0.00092	PASS					
								0	3.43	0.00128	PASS					
								10	4.16	0.00155	PASS					
								20	2.09	0.00078	PASS					
								30	-3.32	-0.00124	PASS					
								40	-3.22	-0.0012	PASS					
								50	-2.85	-0.00106	PASS					
								LCH	VN	15			-30	0.82	0.00033	PASS
													-20	-3.85	-0.00154	PASS
													-10	-3.39	-0.00135	PASS
													0	-3.15	-0.00126	PASS
		10	-5.88	-0.00234	PASS											
		20	-7.34	-0.00293	PASS											
		30	-5.66	-0.00226	PASS											
		40	-5.16	-0.00206	PASS											
		50	-2.89	-0.00115	PASS											
		MCH	VN	15			-30						-4.53	-0.00175	PASS	
							-20	-2.3	-0.00089	PASS						
							-10	-5.44	-0.0021	PASS						
							0	-7.15	-0.00276	PASS						
							10	-6.57	-0.00253	PASS						
							20	-1.37	-0.00053	PASS						
							30	-2.15	-0.00083	PASS						
							40	-8.7	-0.00336	PASS						
		HCH	VN	15			50	0.33	0.00013	PASS						
							-30	2.69	0.001	PASS						
							-20	-0.79	-0.00029	PASS						
							-10	3.53	0.00132	PASS						
							0	-5.49	-0.00205	PASS						
							10	-2.13	-0.00079	PASS						



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Tem.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					20	-2.55	-0.00095	PASS		
					30	-2.56	-0.00095	PASS		
					40	2.85	0.00106	PASS		
					50	-2.55	-0.00095	PASS		
		20	LCH	VN	-30	-2.53	-0.00101	PASS		
					-20	-5.87	-0.00234	PASS		
					-10	-2.7	-0.00108	PASS		
					0	0.17	0.00007	PASS		
					10	-1.95	-0.00078	PASS		
					20	-1.97	-0.00078	PASS		
					30	-0.09	-0.00004	PASS		
					40	-1.33	-0.00053	PASS		
					50	-1.97	-0.00078	PASS		
					MCH	VN	-30	-5.16	-0.00199	PASS
							-20	-4.15	-0.0016	PASS
							-10	1.16	0.00045	PASS
							0	-3.39	-0.00131	PASS
							10	-2.05	-0.00079	PASS
							20	-5.45	-0.0021	PASS
							30	-4.09	-0.00158	PASS
							40	-2.56	-0.00099	PASS
					HCH	VN	50	0.33	0.00013	PASS
							-30	-2.66	-0.00099	PASS
							-20	0.56	0.00021	PASS
							-10	-3.48	-0.0013	PASS
							0	-6.14	-0.00229	PASS
							10	1.39	0.00052	PASS
							20	-1.56	-0.00058	PASS
							30	-5.74	-0.00214	PASS
					40	-5.35	-0.002	PASS		
					50	-1.73	-0.00065	PASS		

END