



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

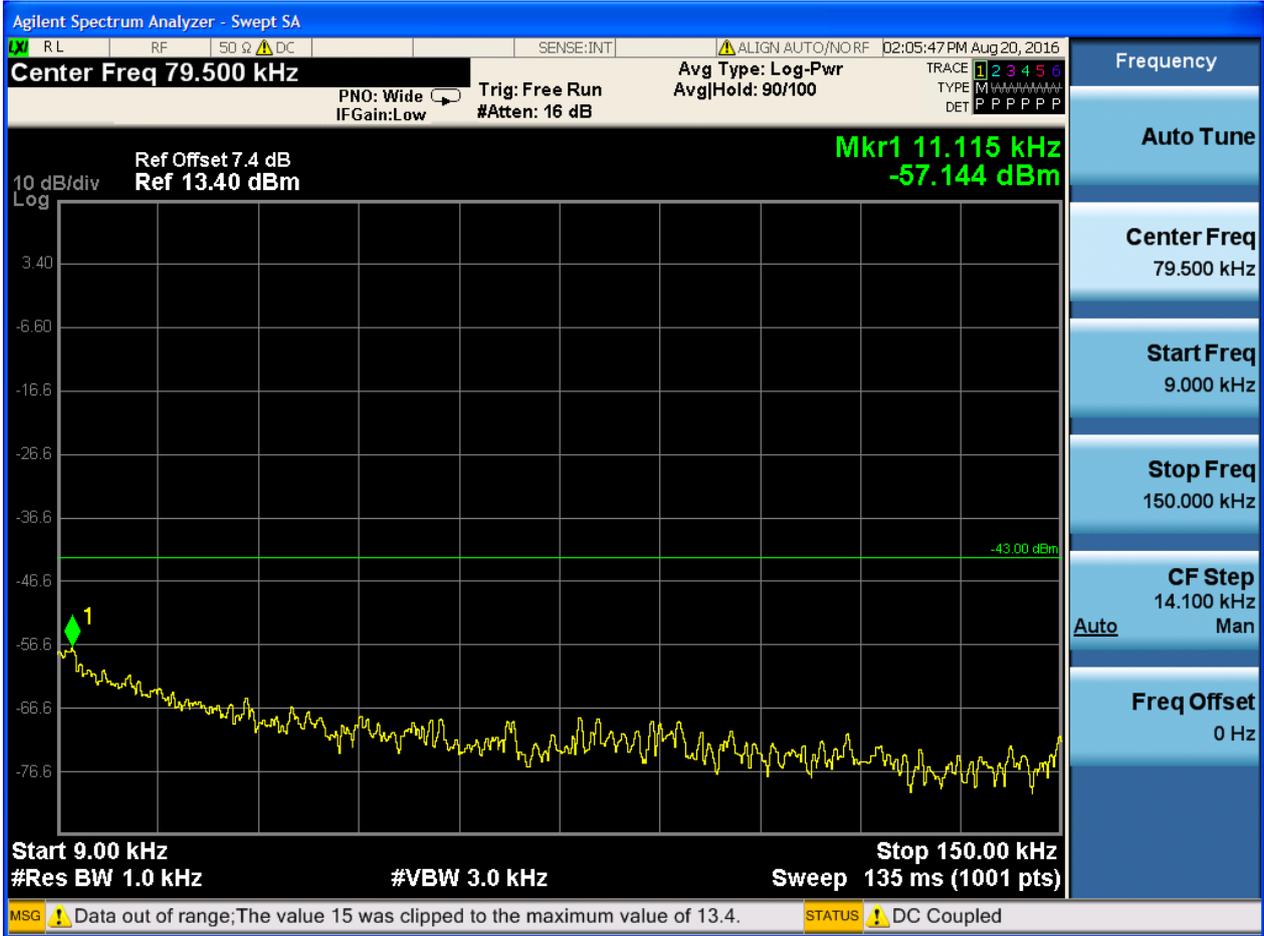
6.1.1 Test Band = BAND41

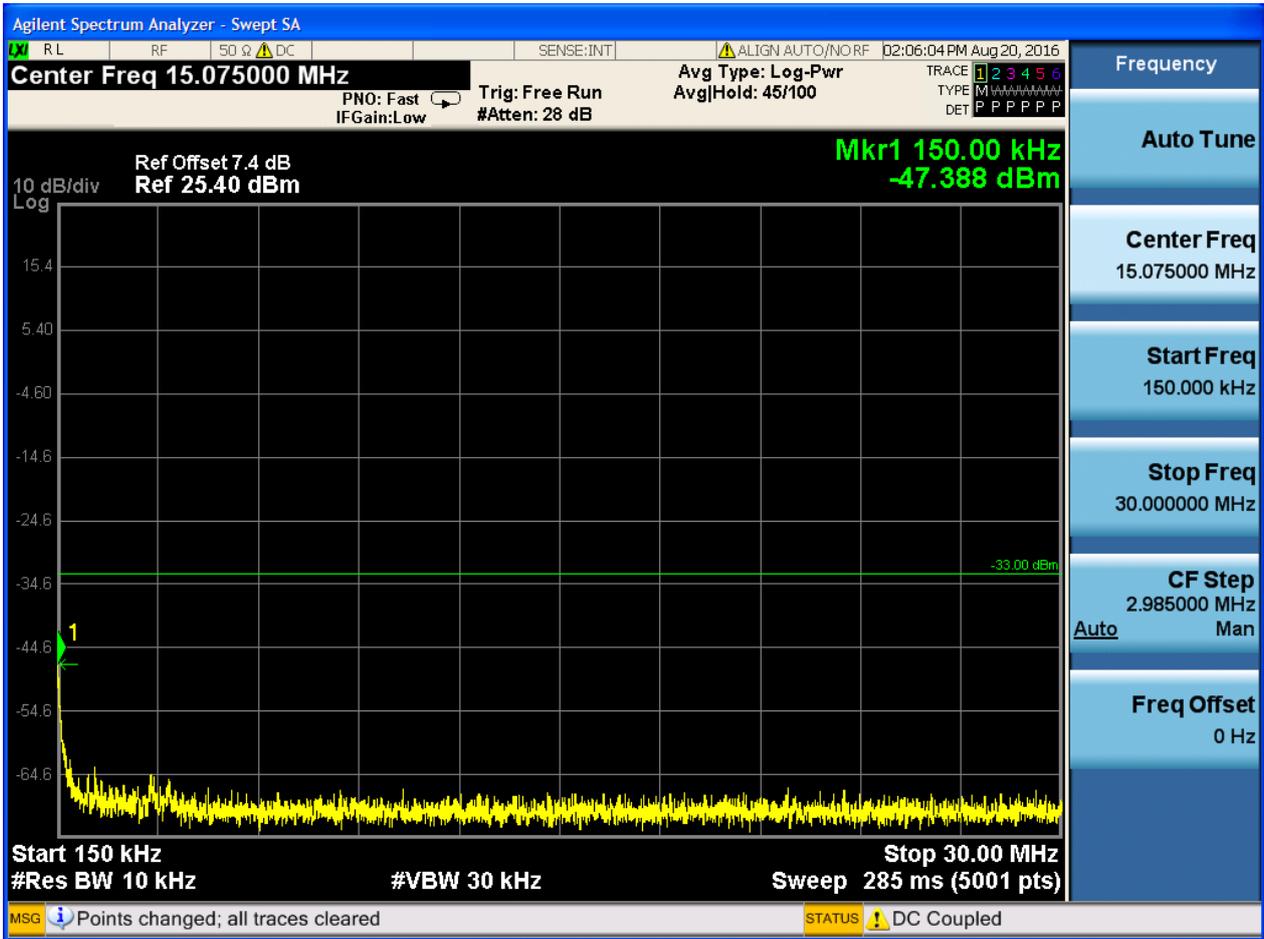
6.1.1.1 Test Mode = LTE/TM1

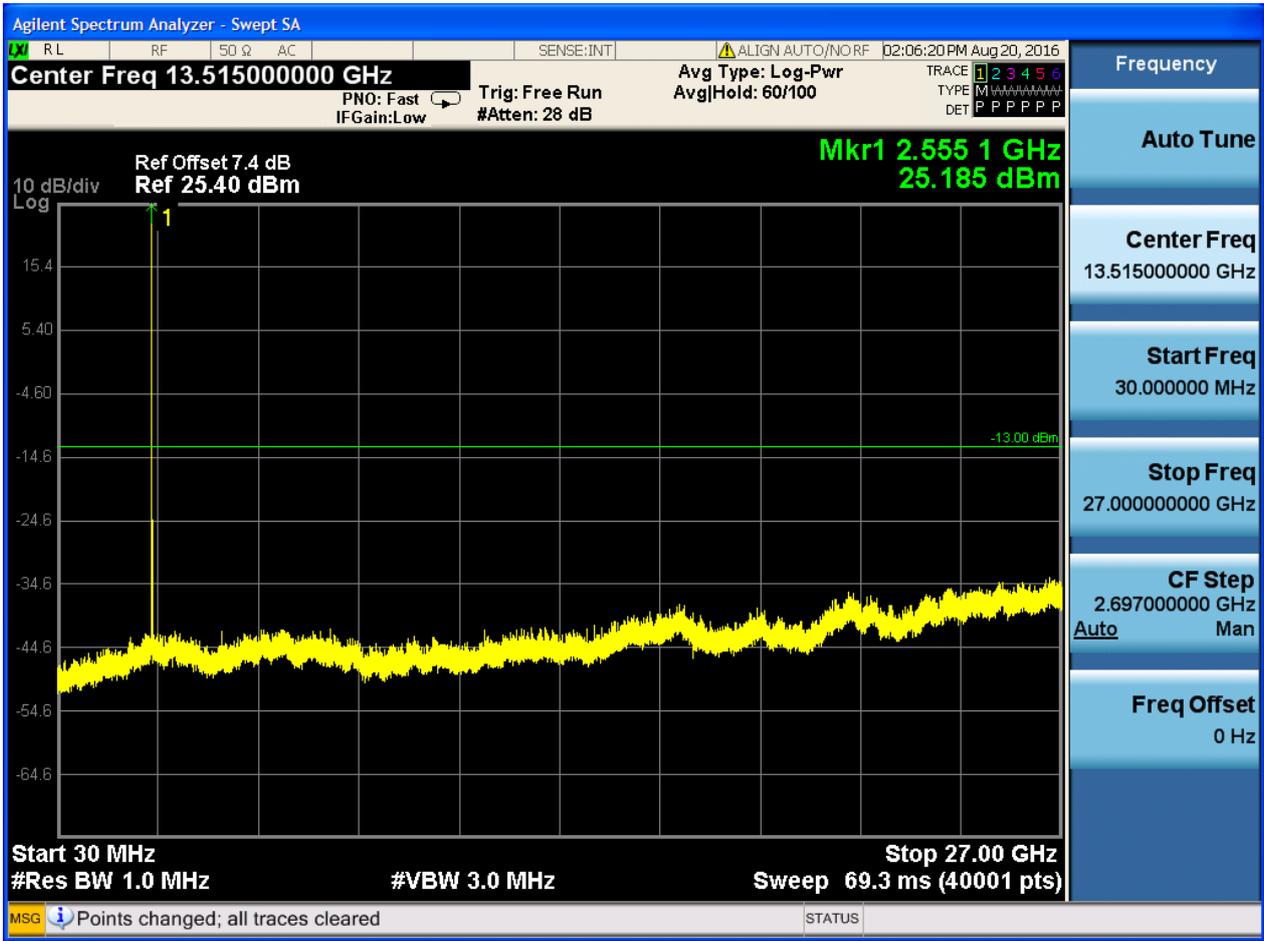
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



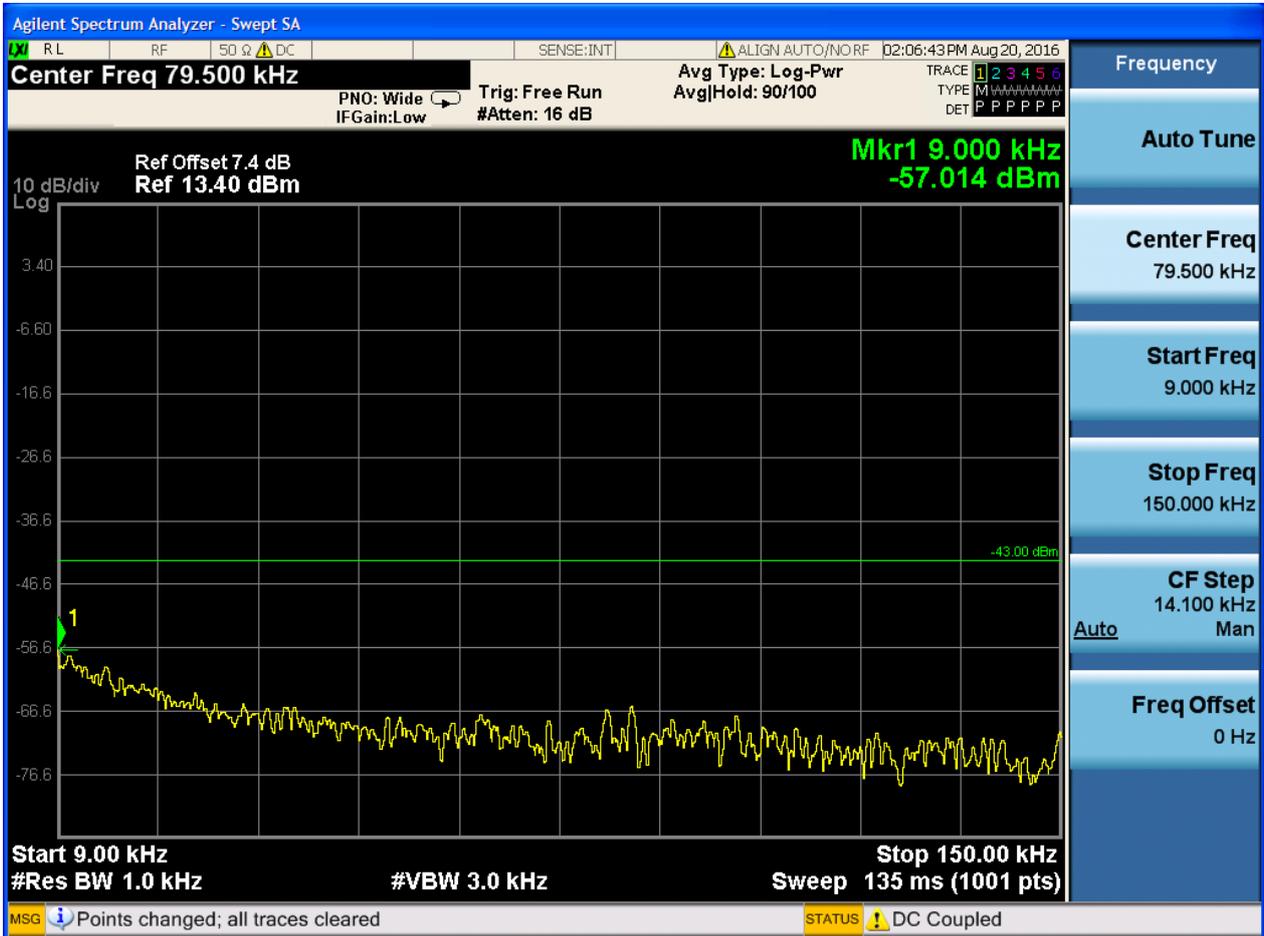


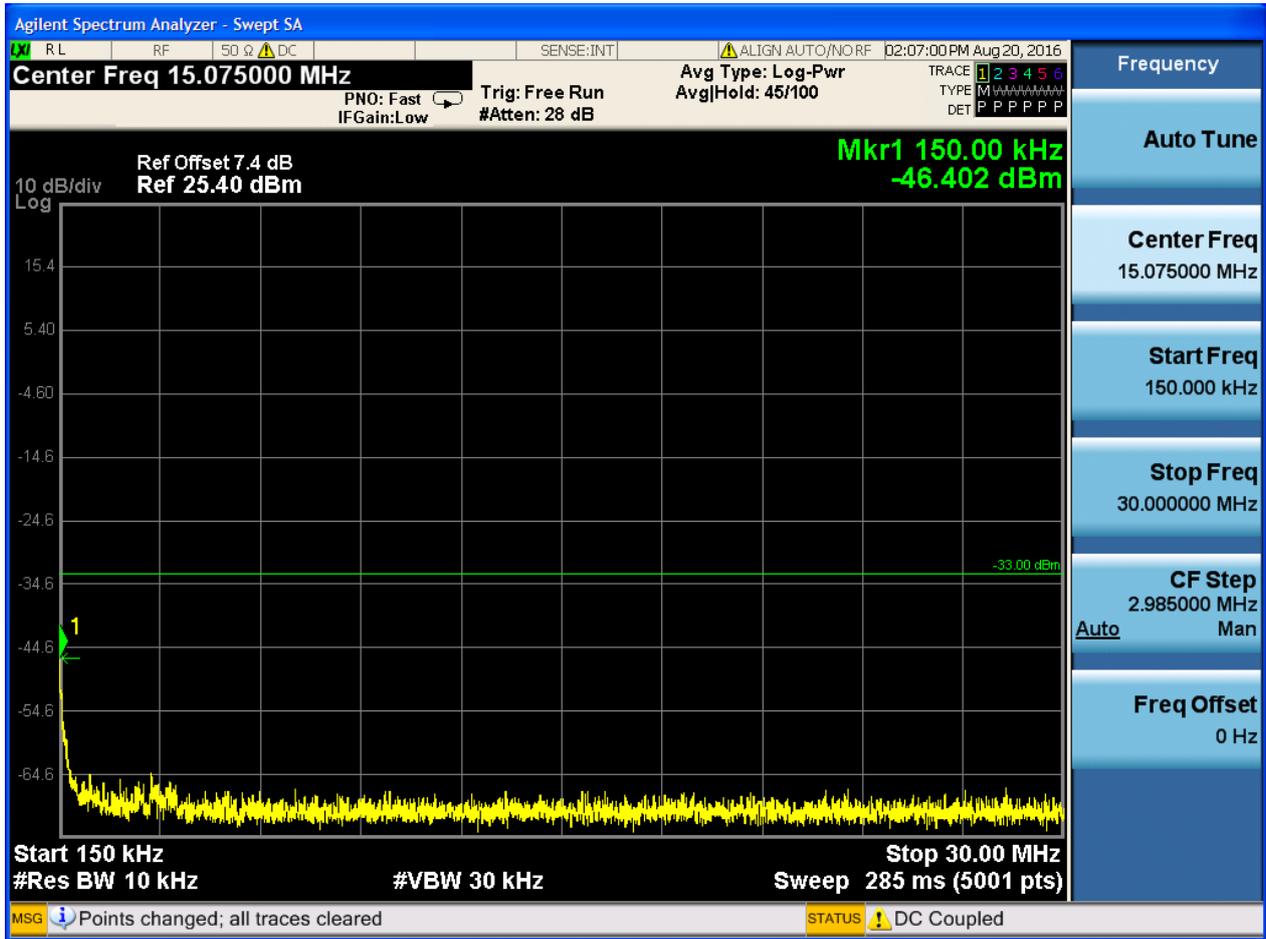


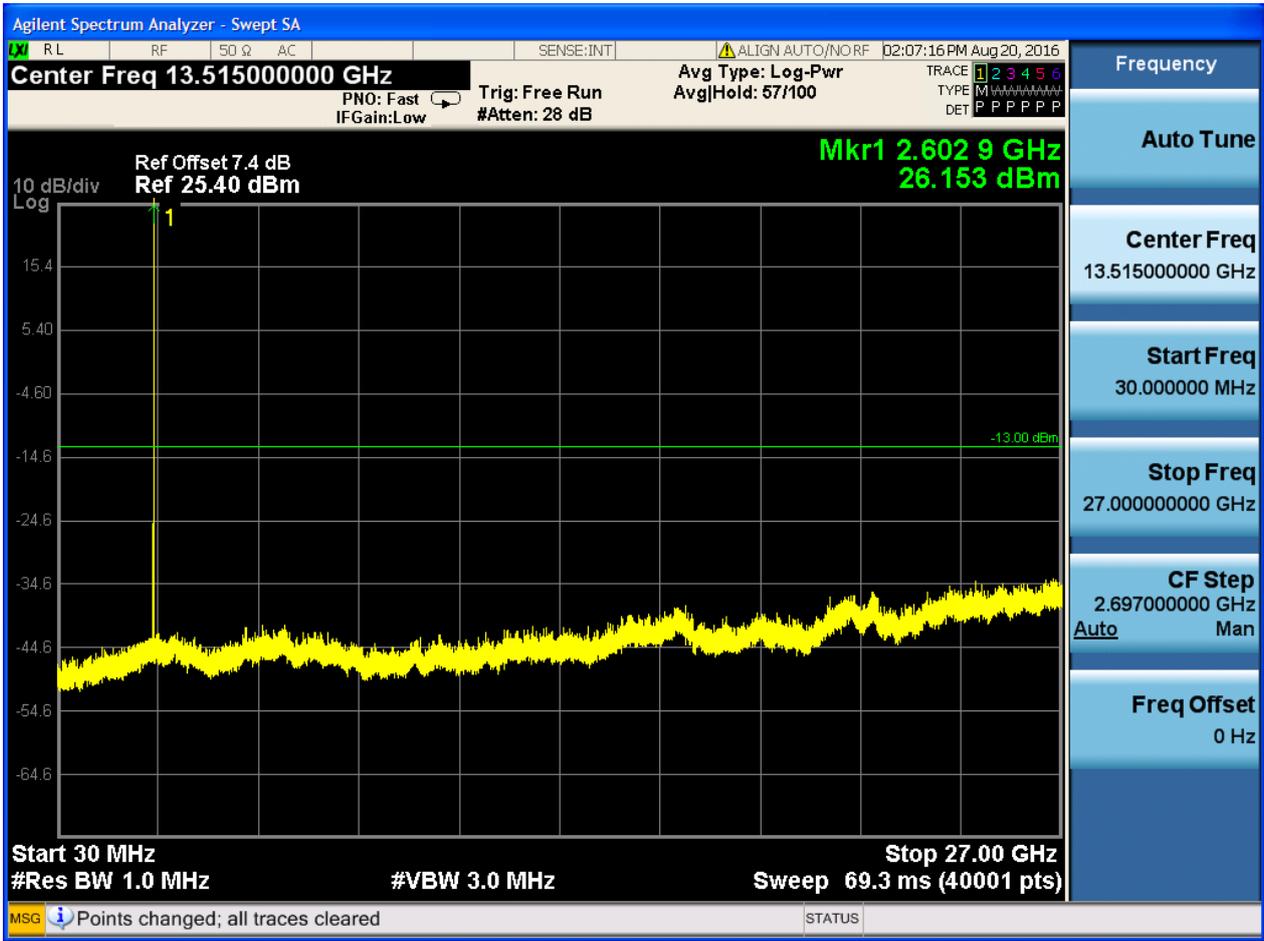


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



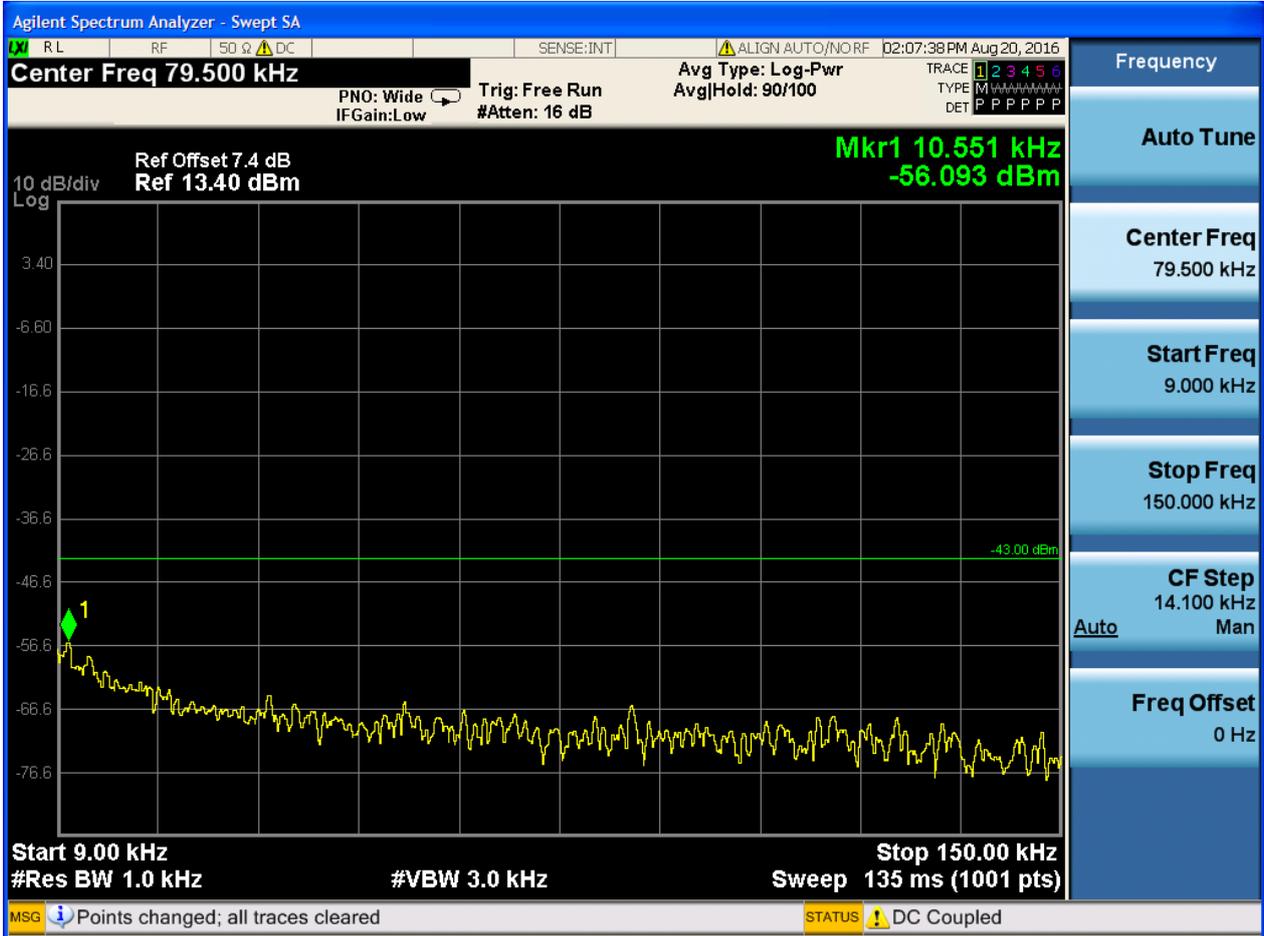


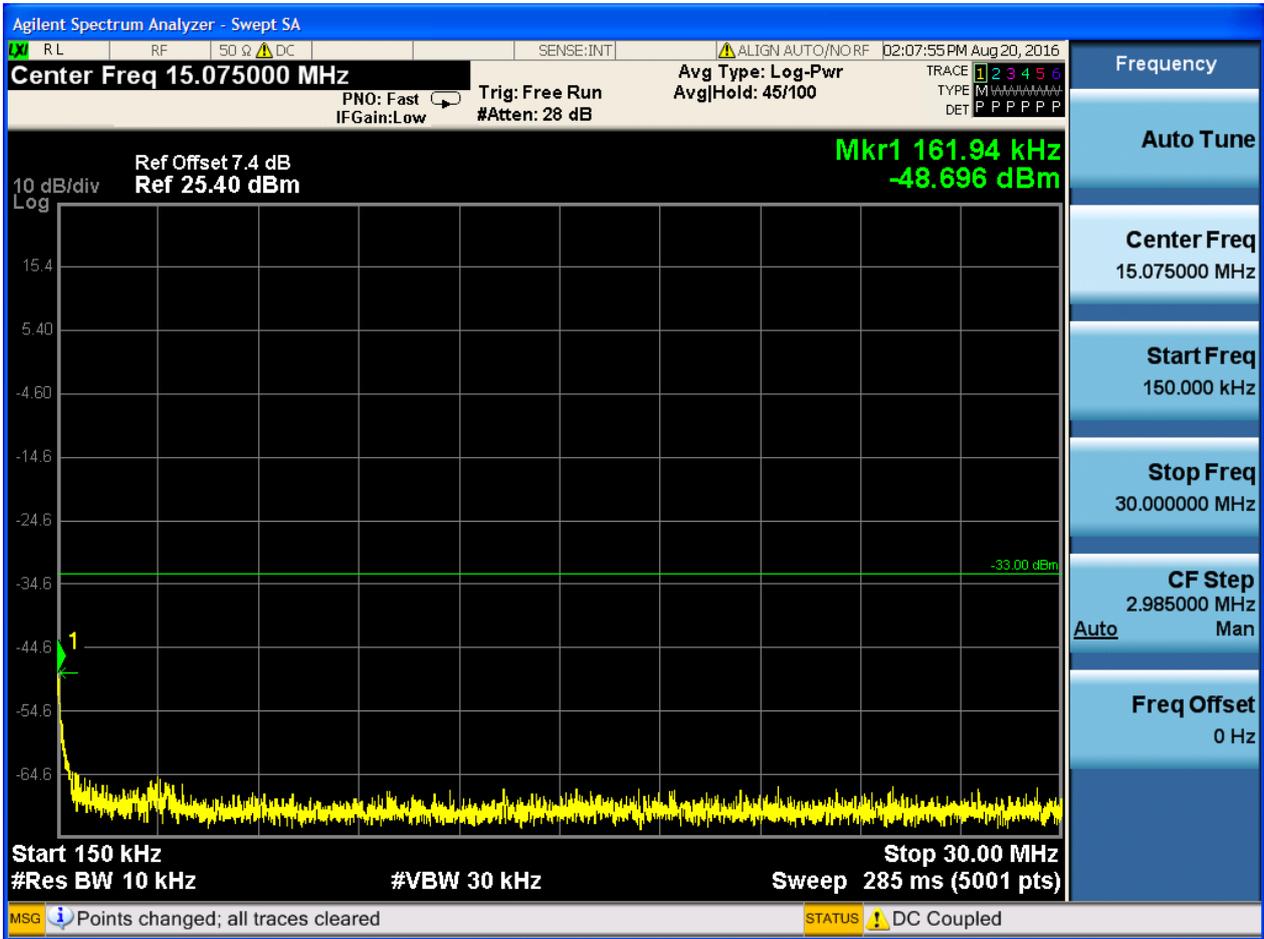


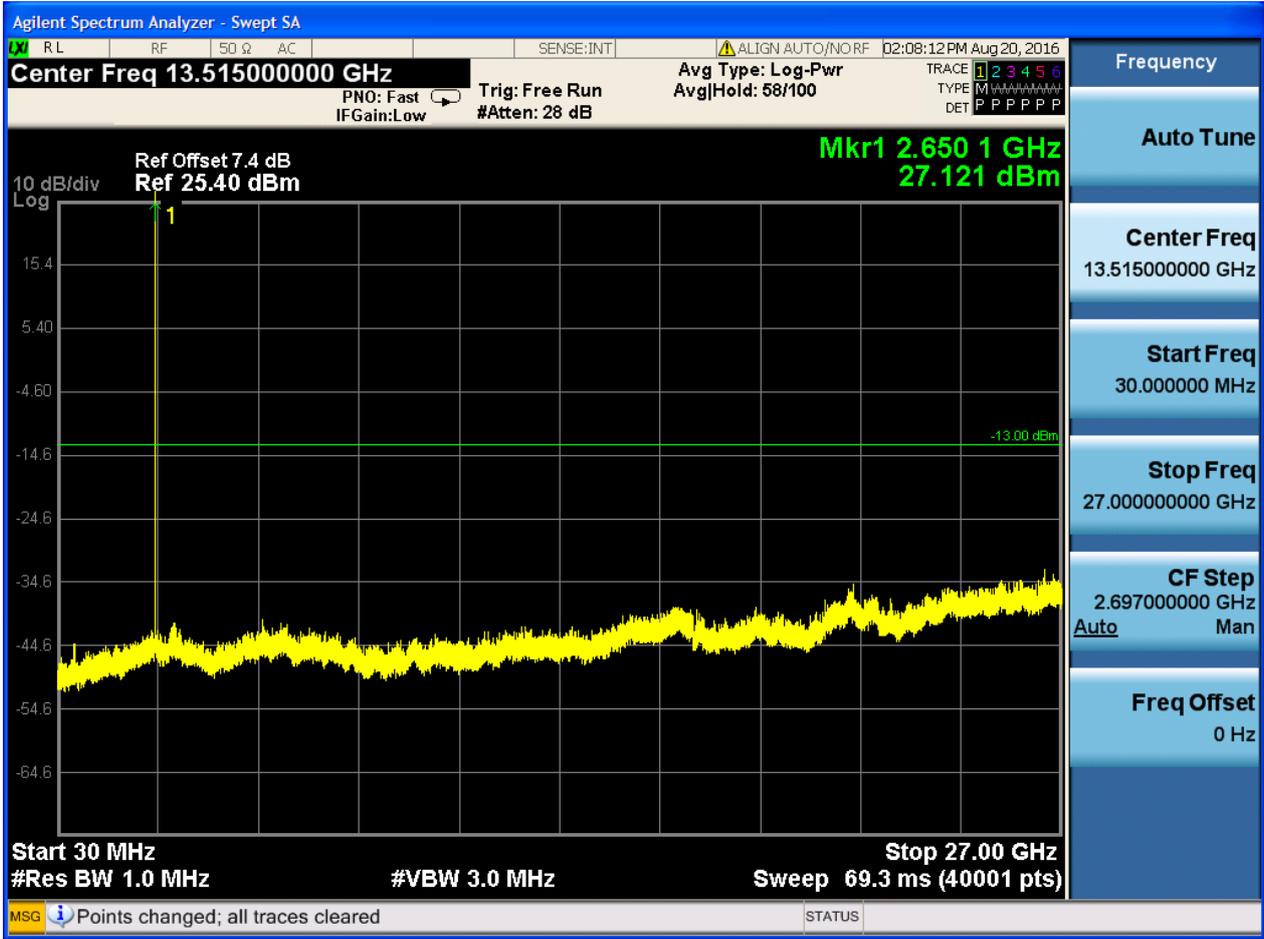


6.1.1.1.3 Test Channel = HCH

6.1.1.1.3.1 Test RB = RB1#0







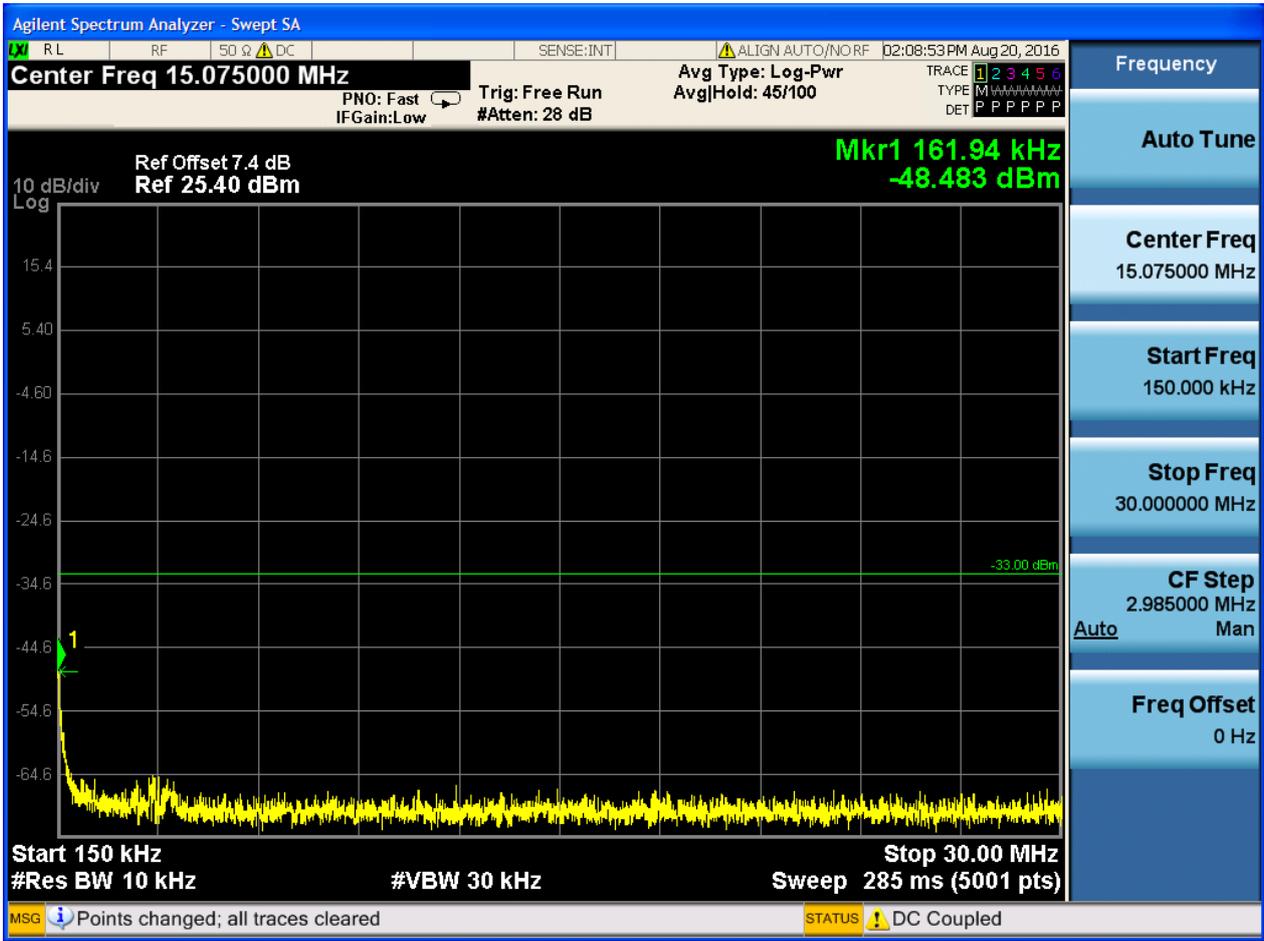


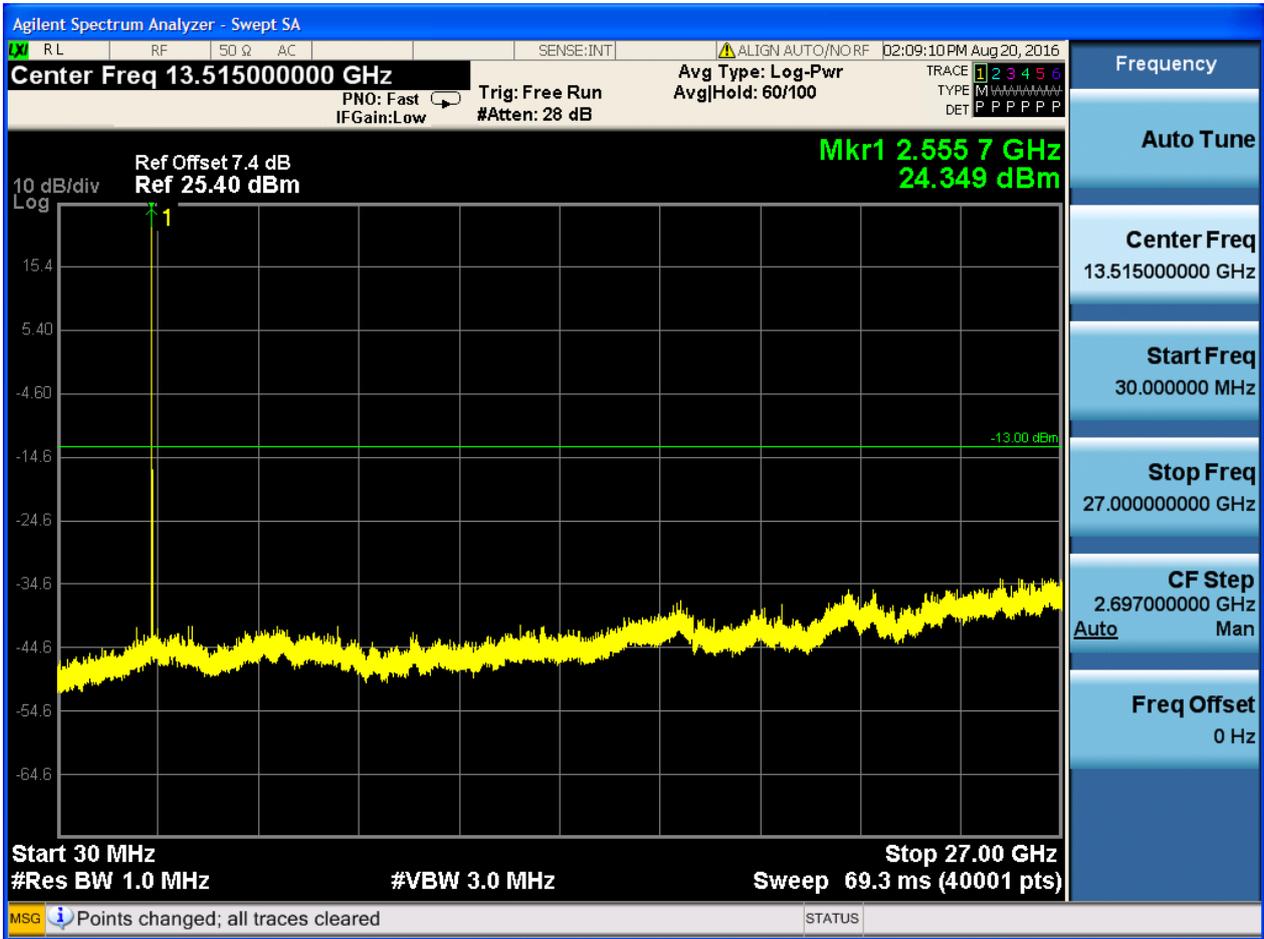
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



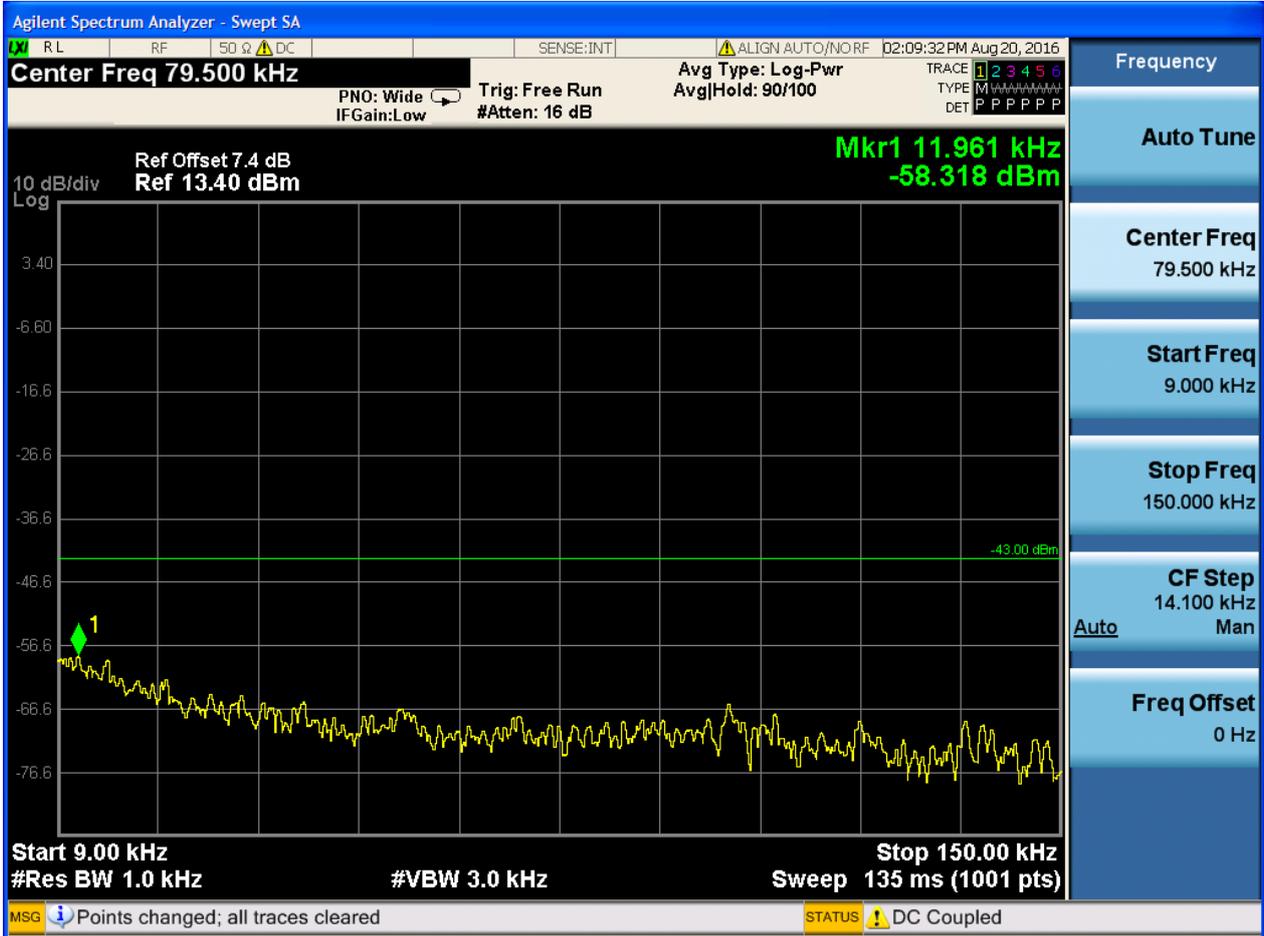


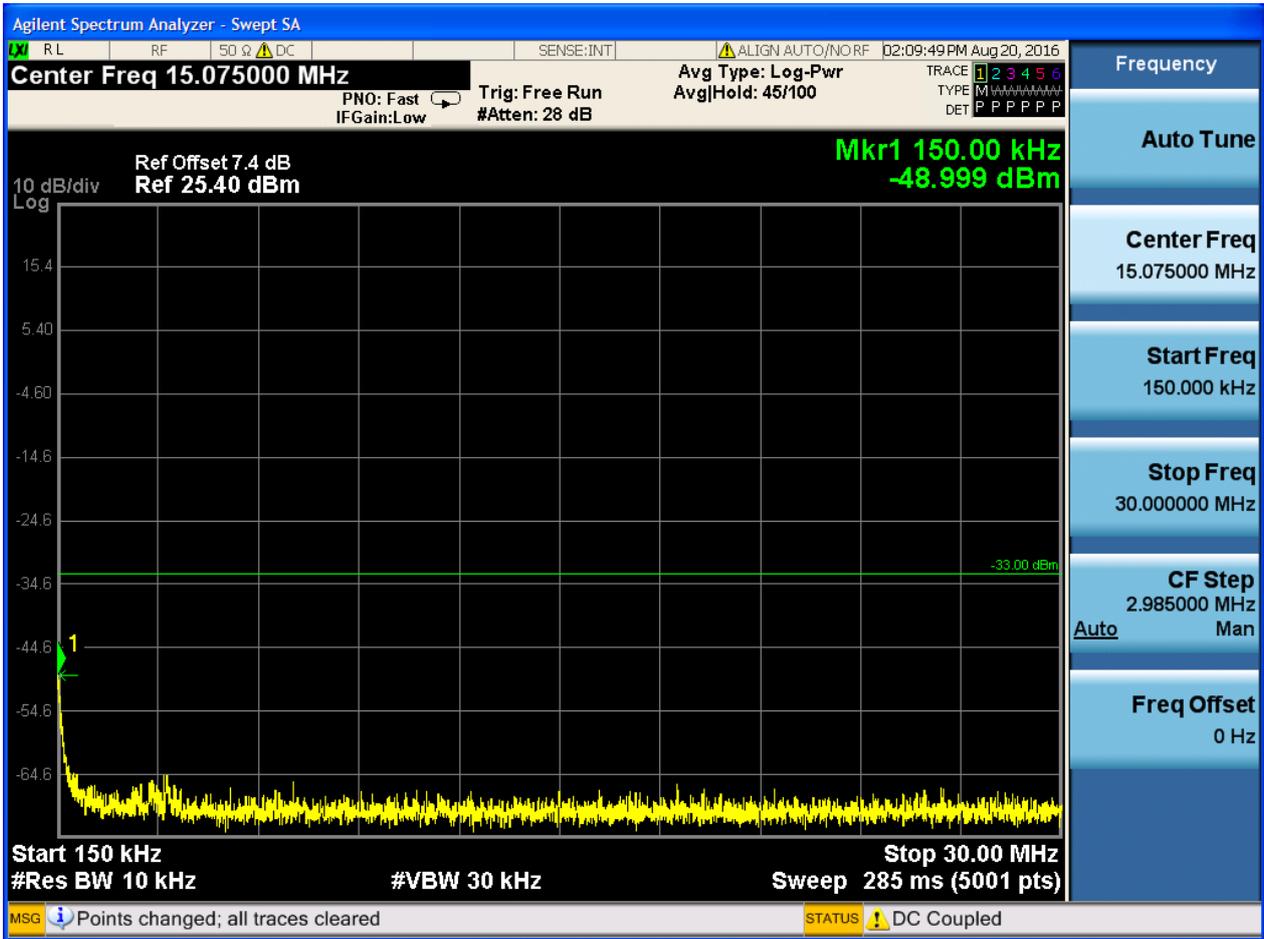


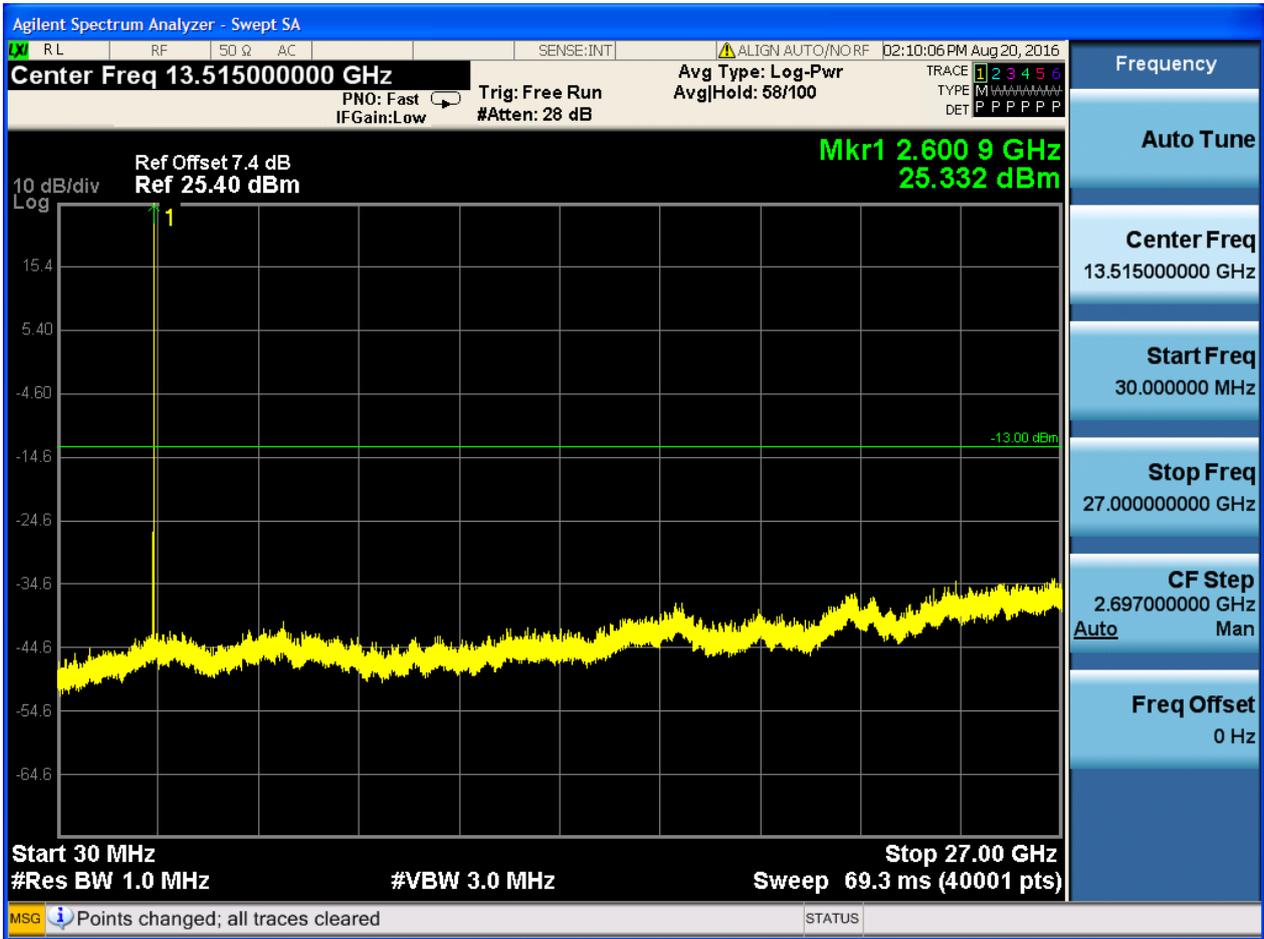


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



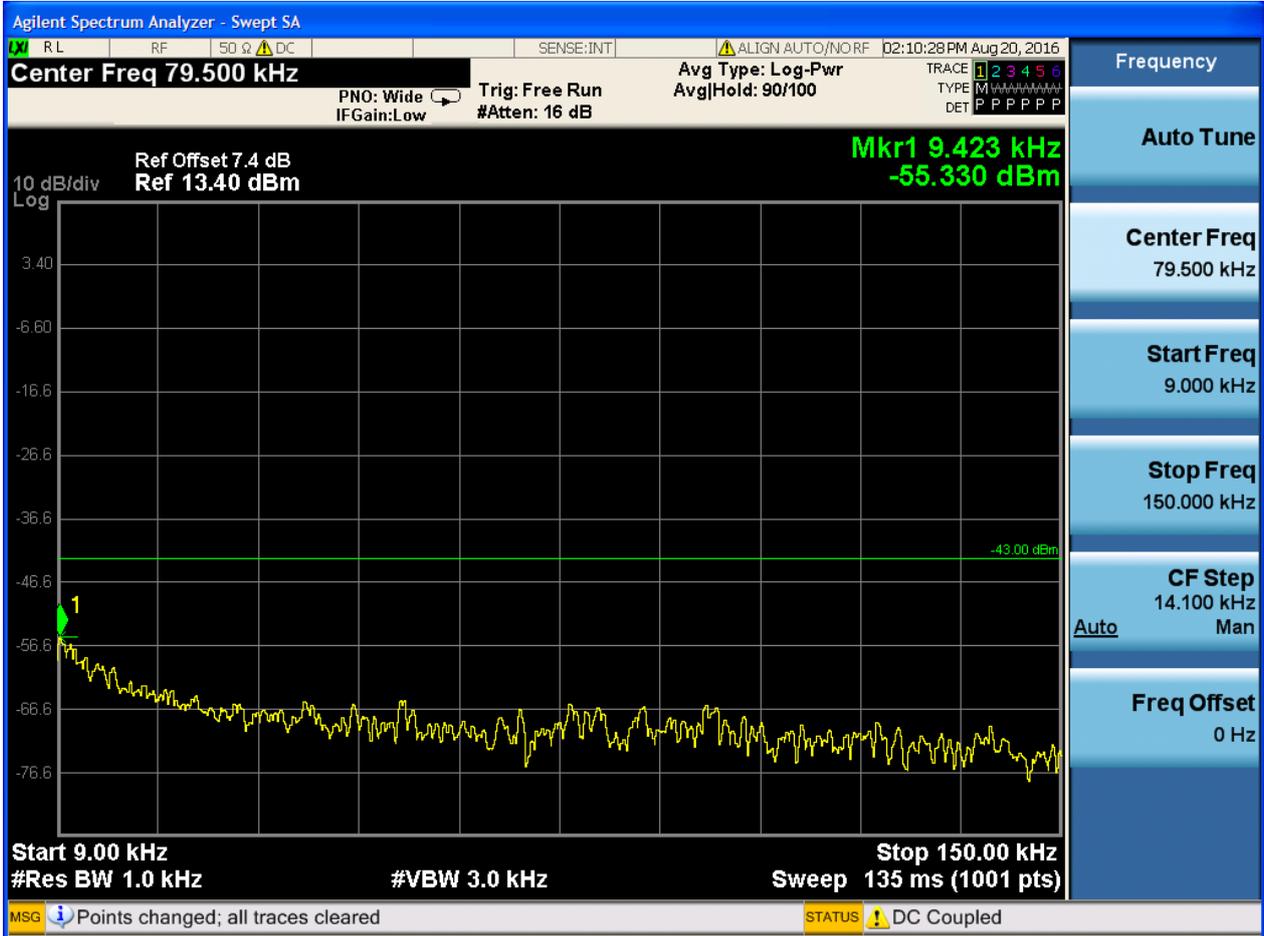


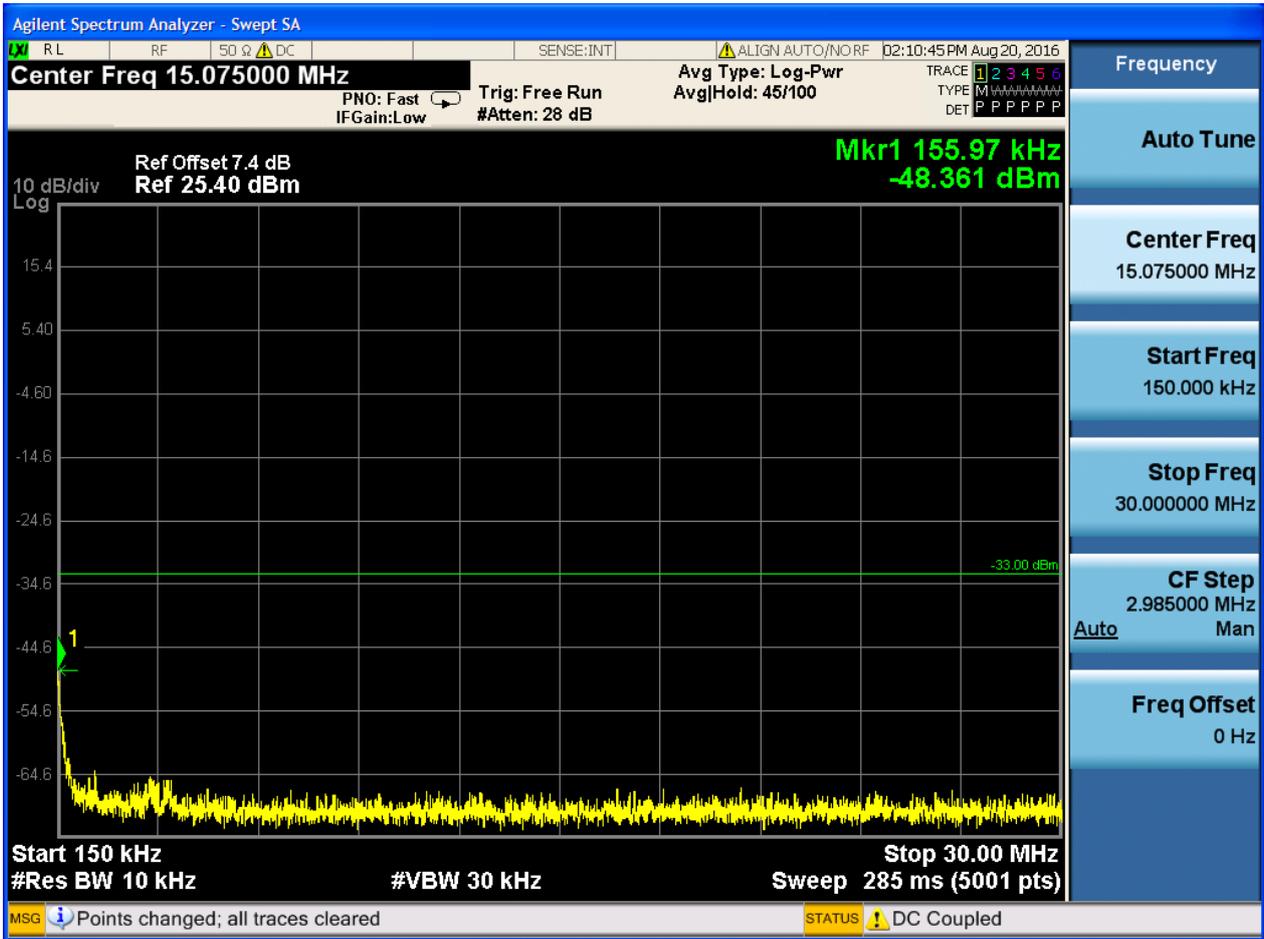


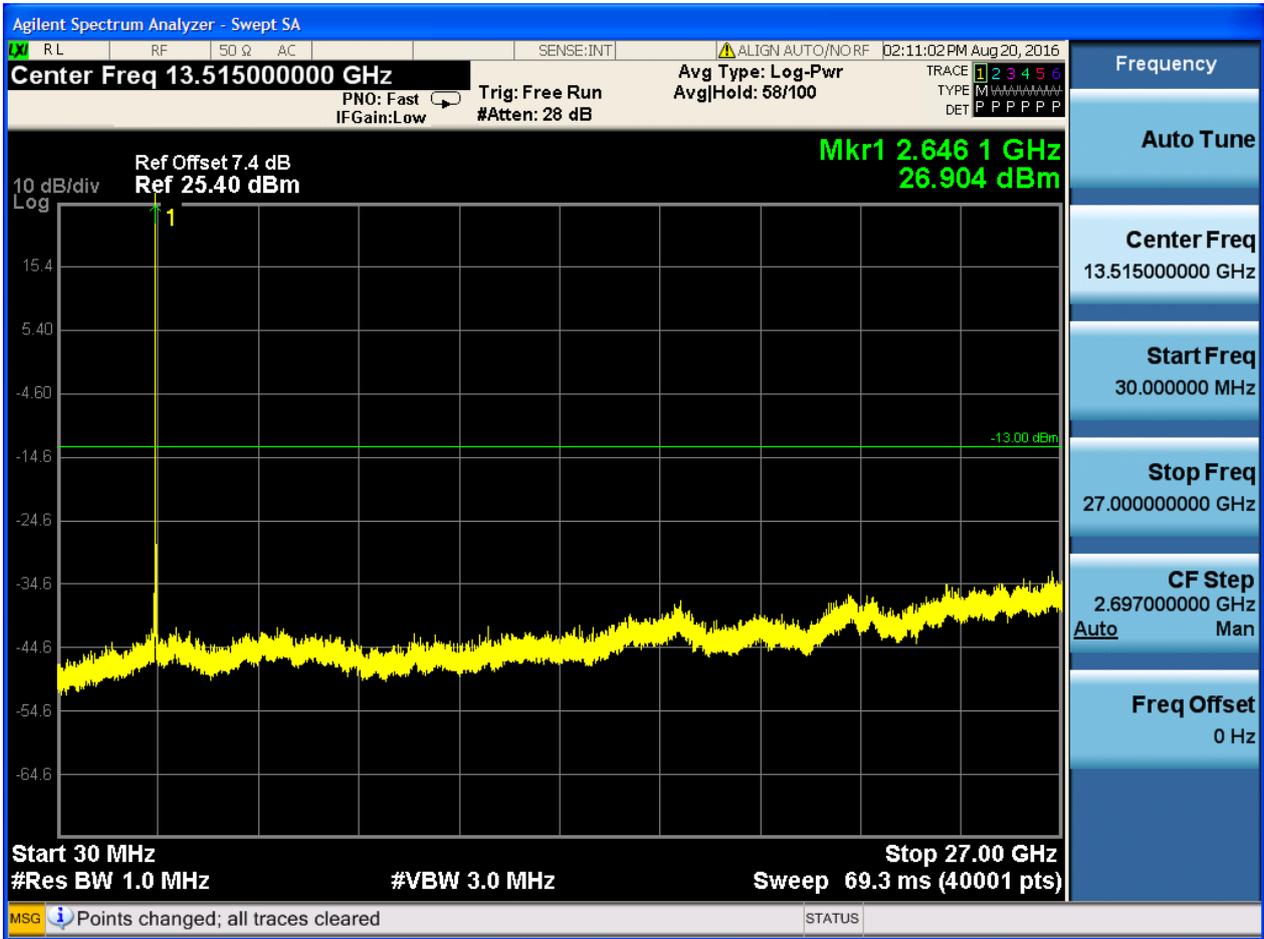


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





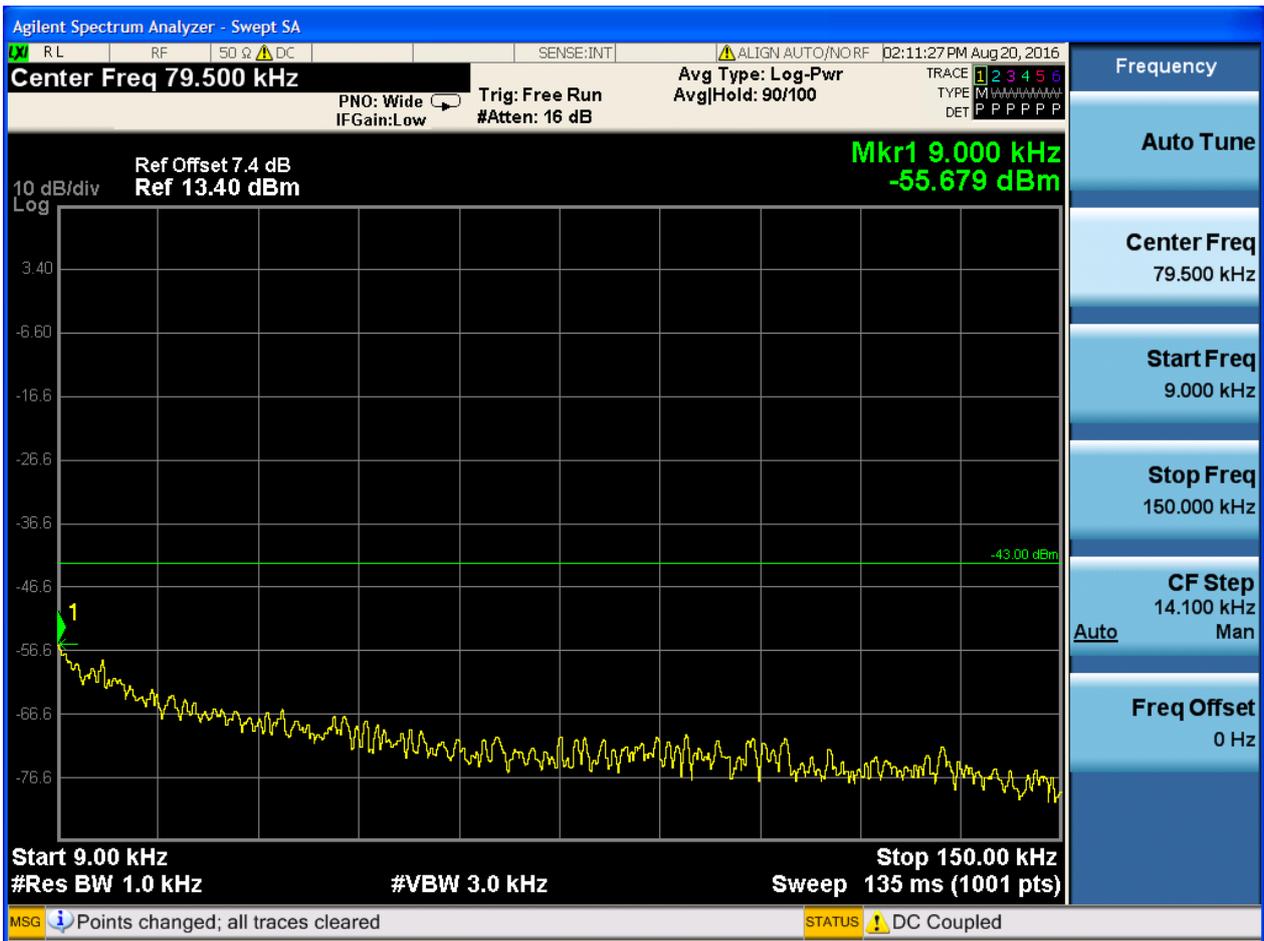


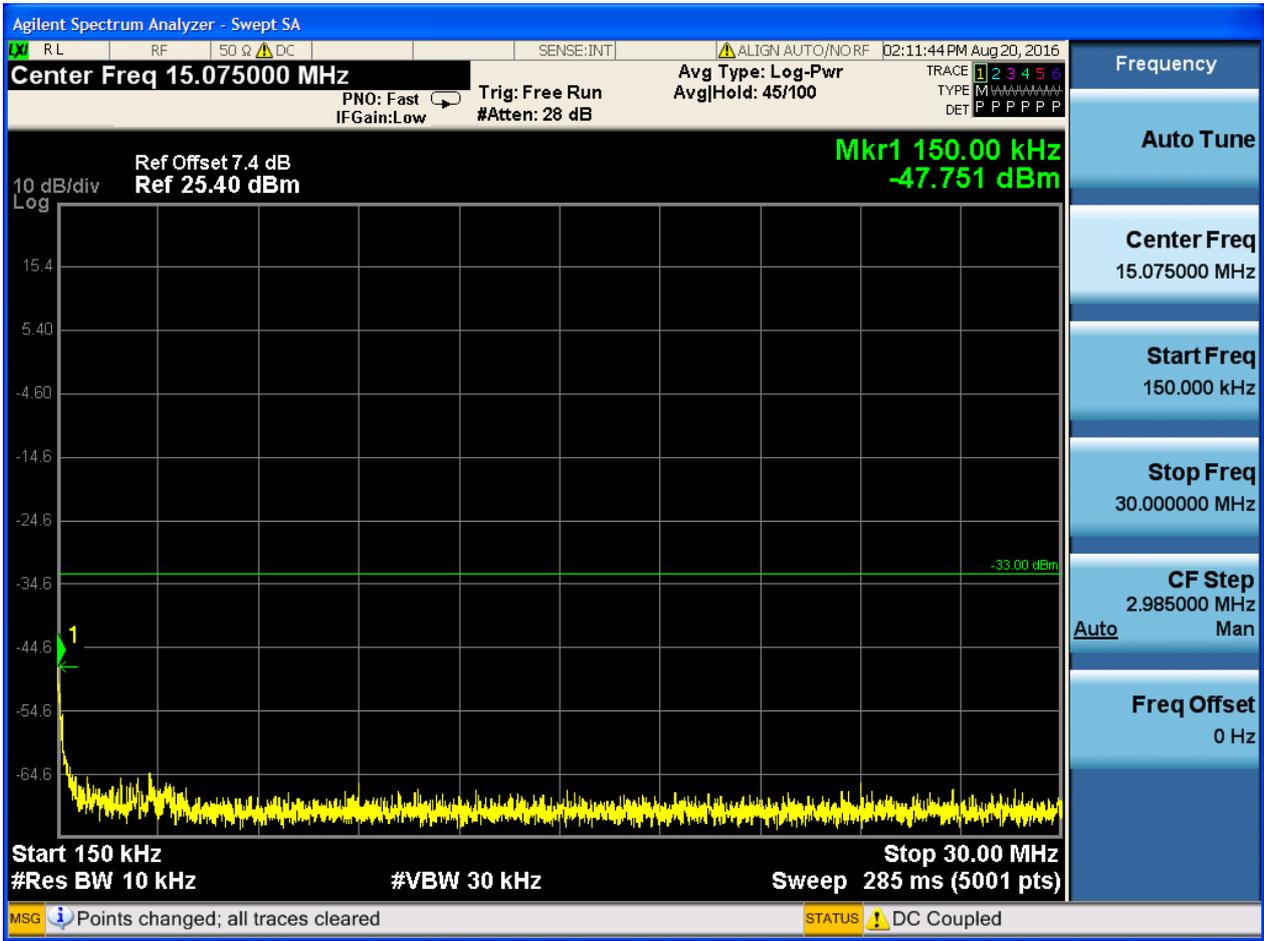


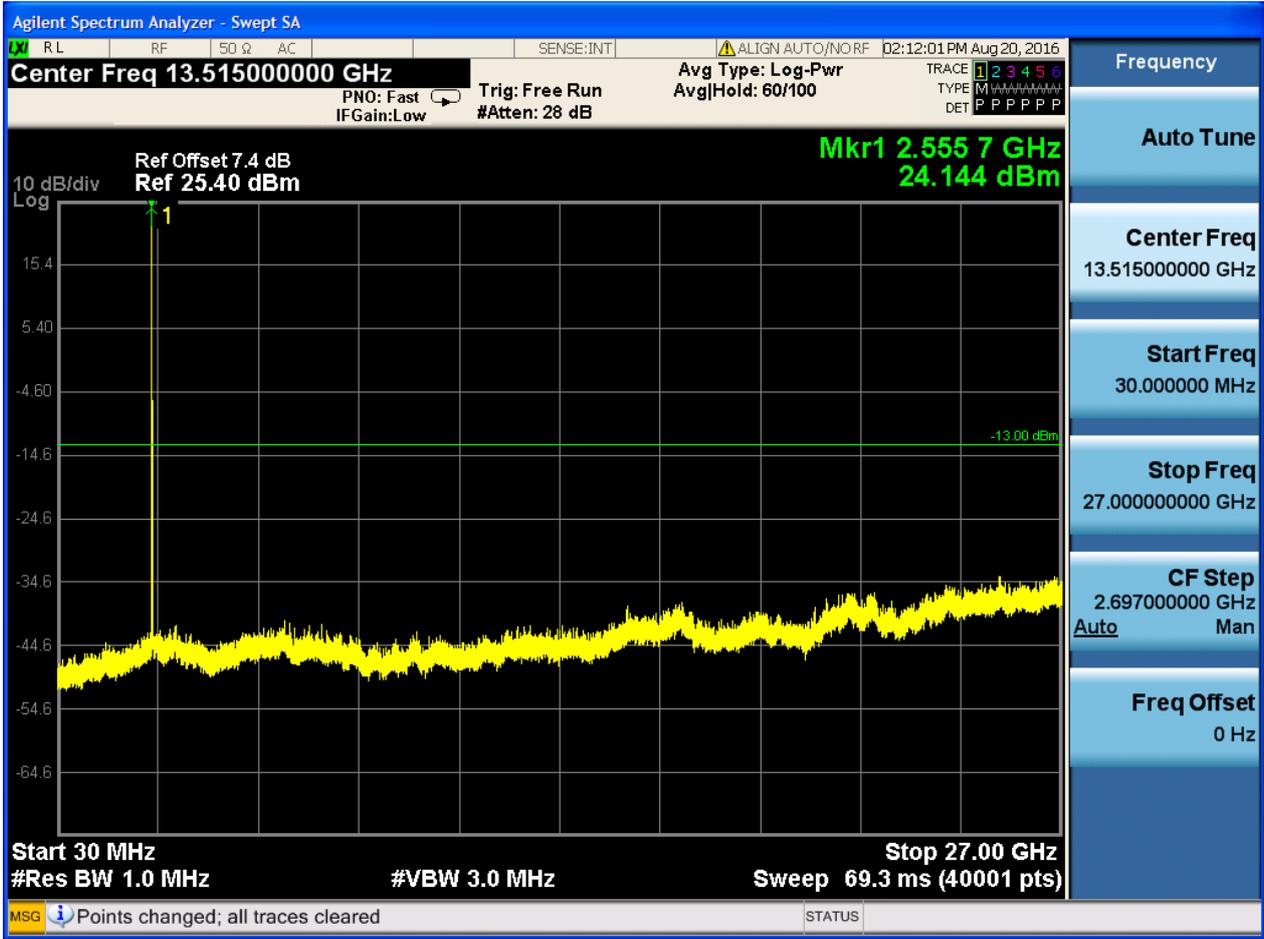
6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



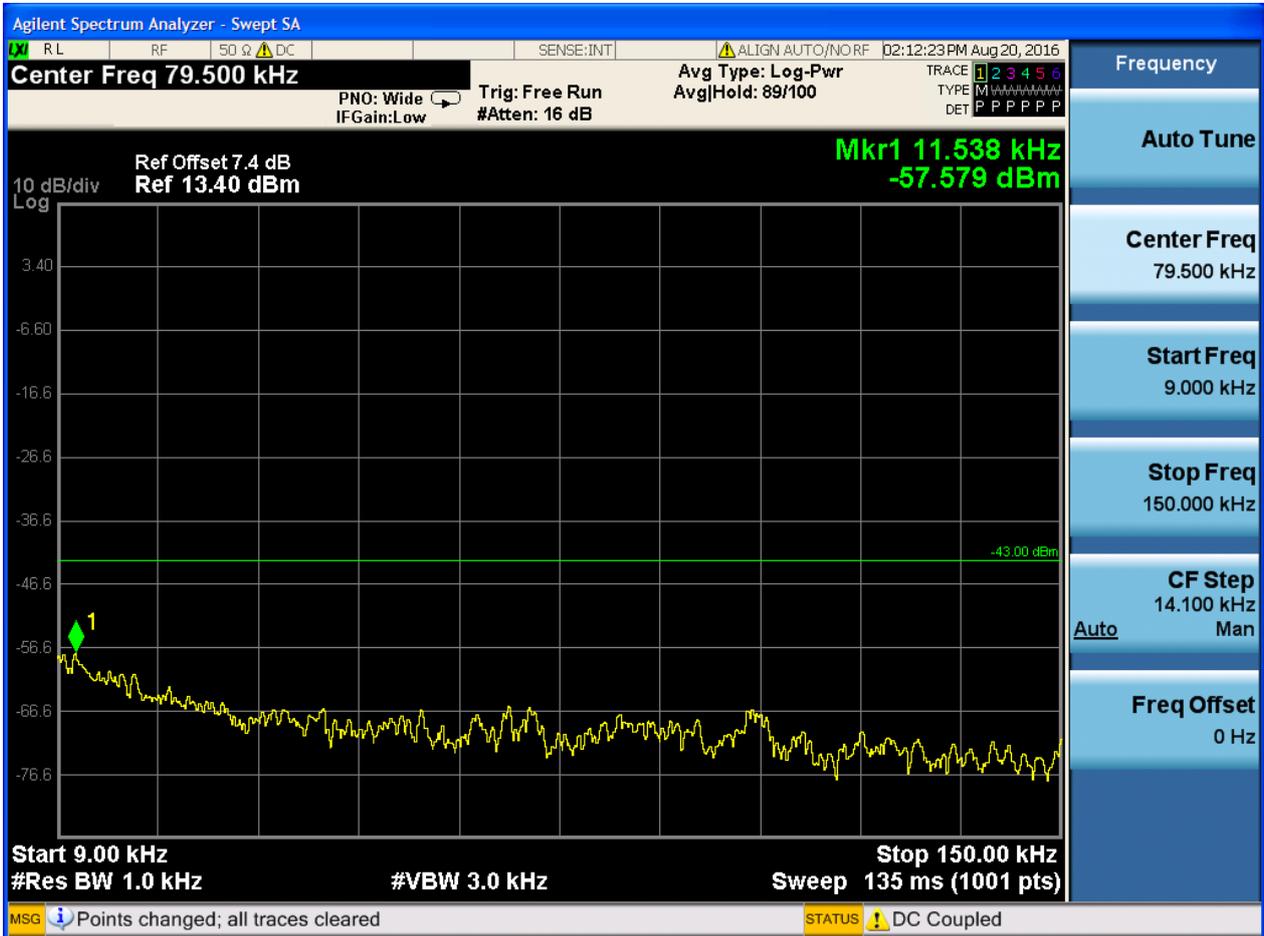


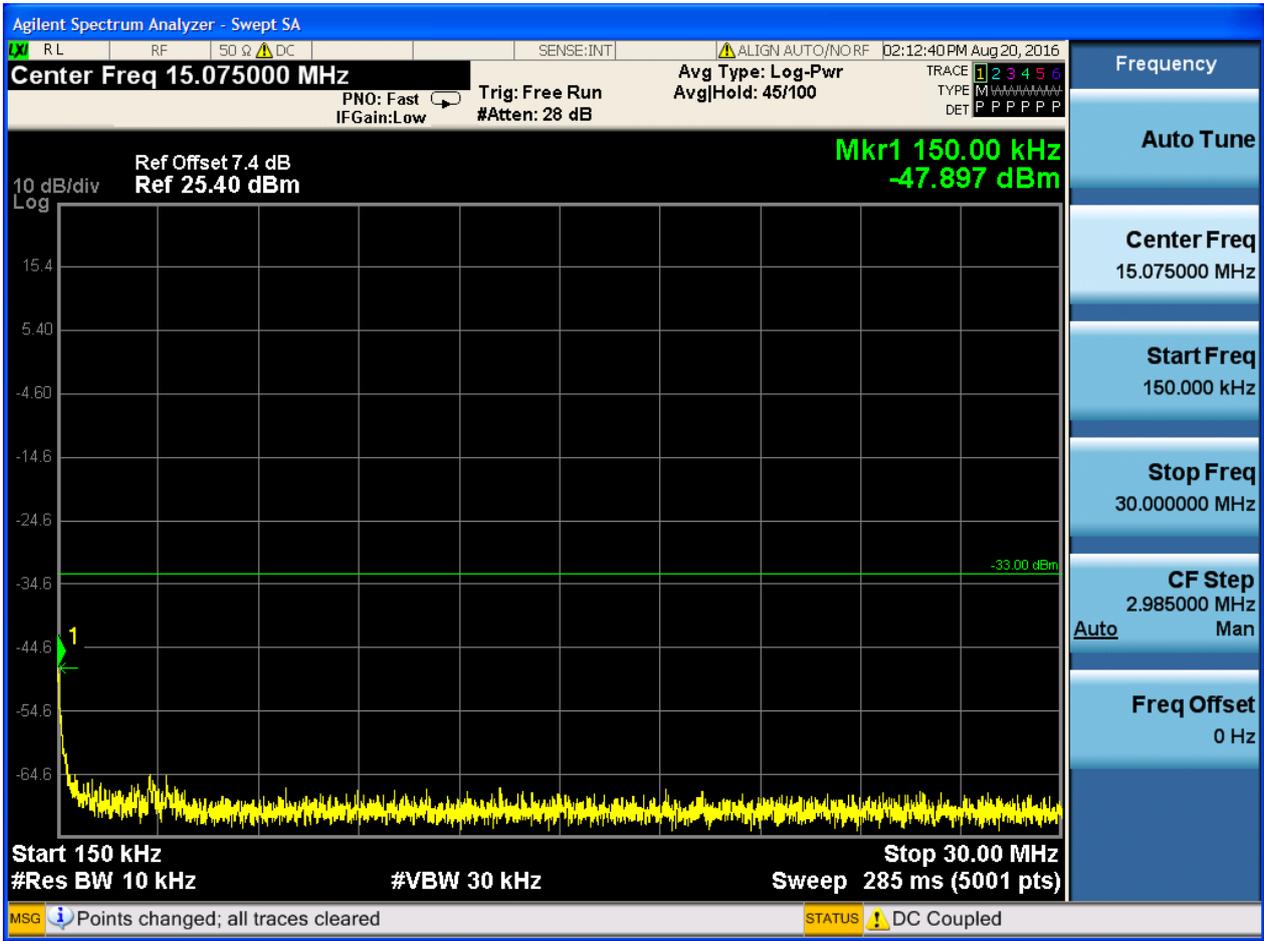


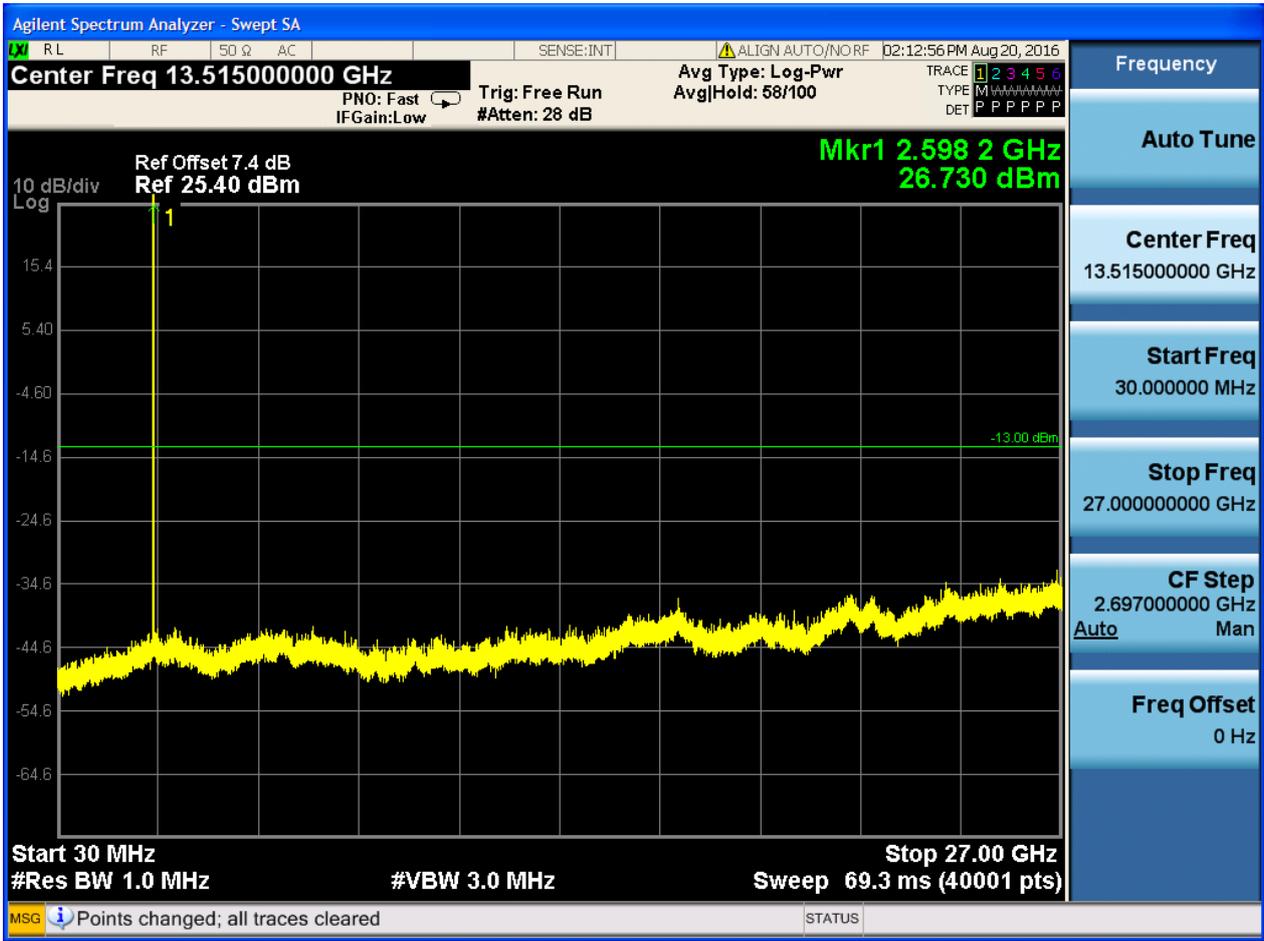


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0



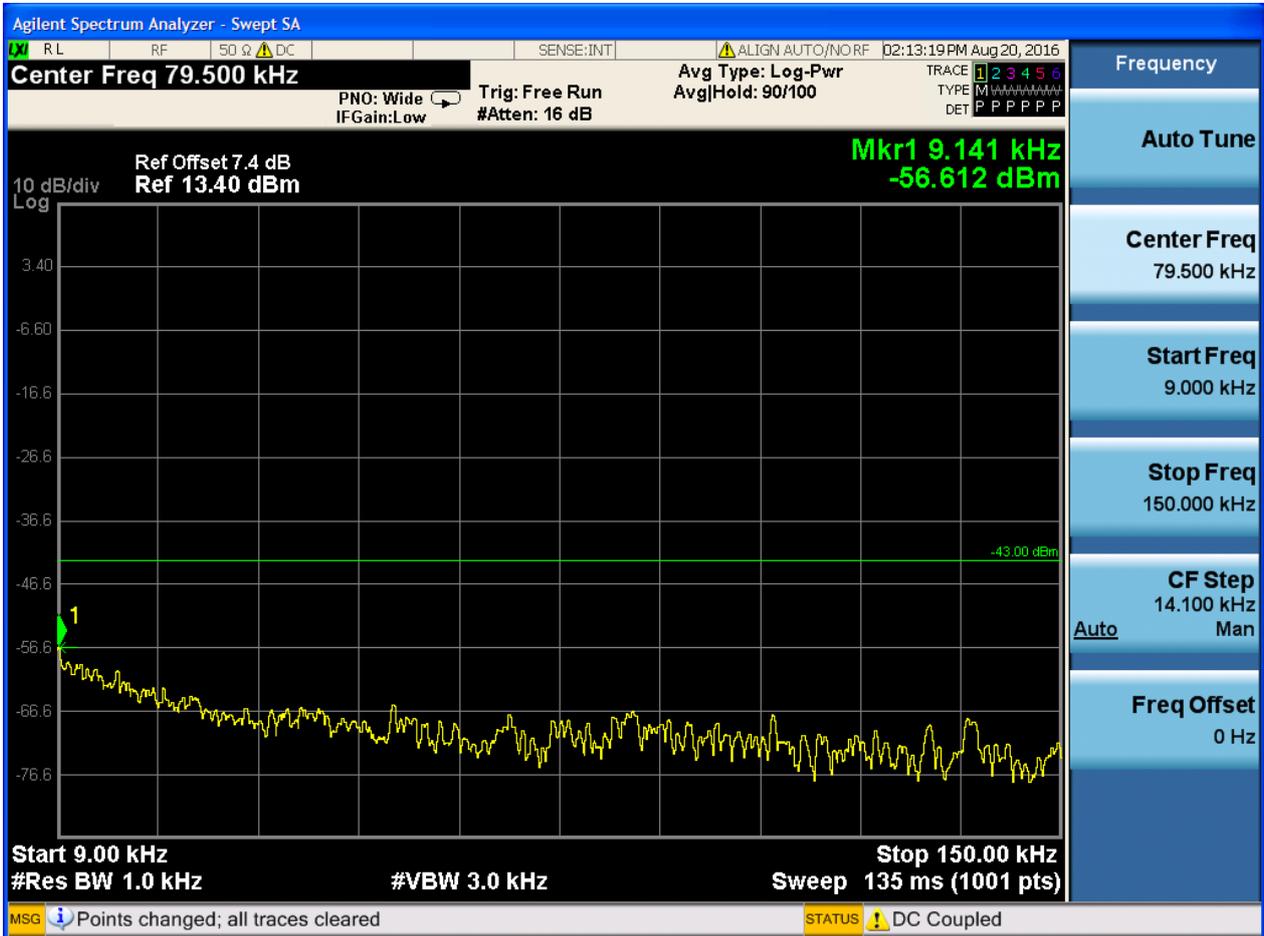


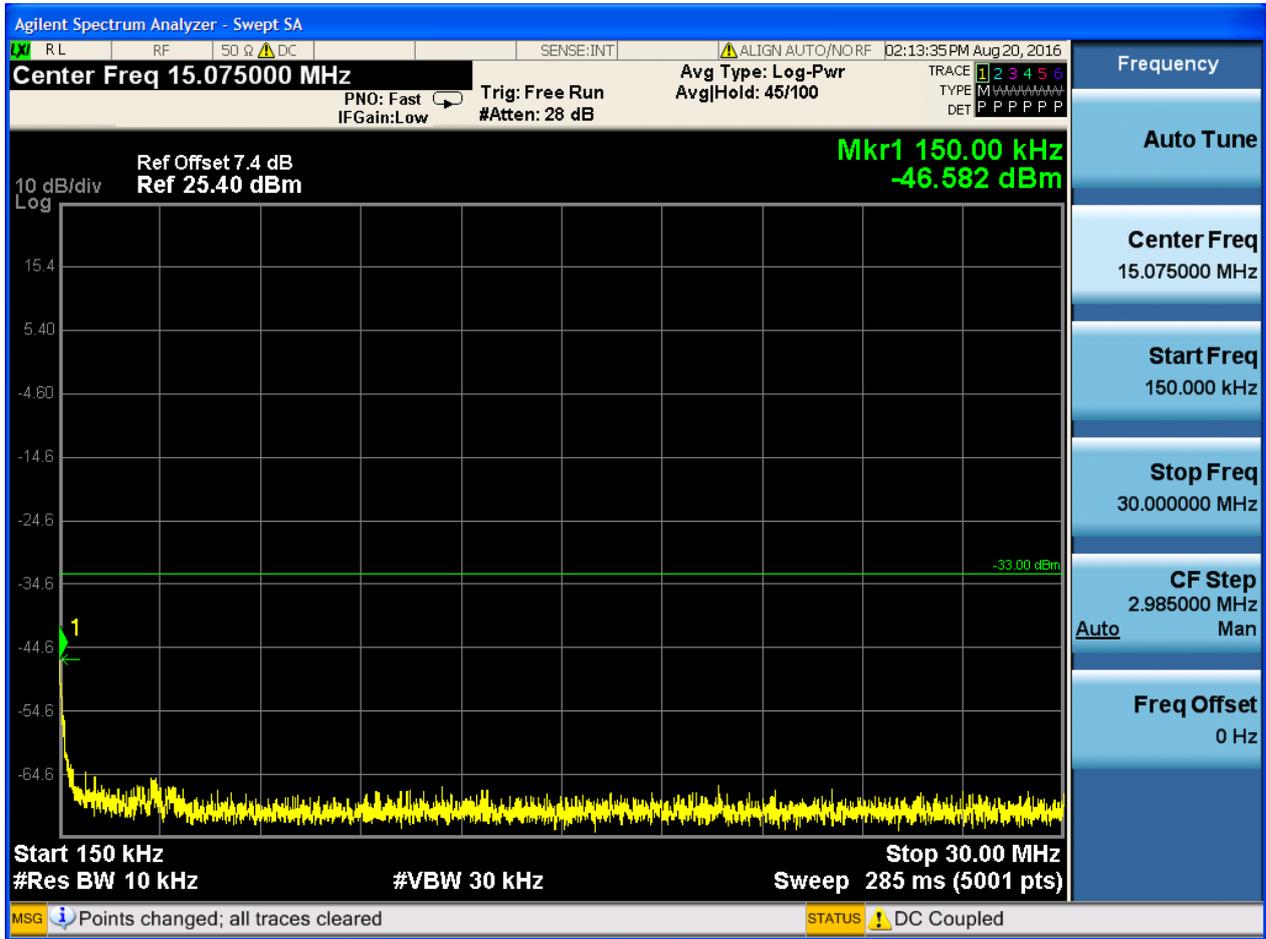


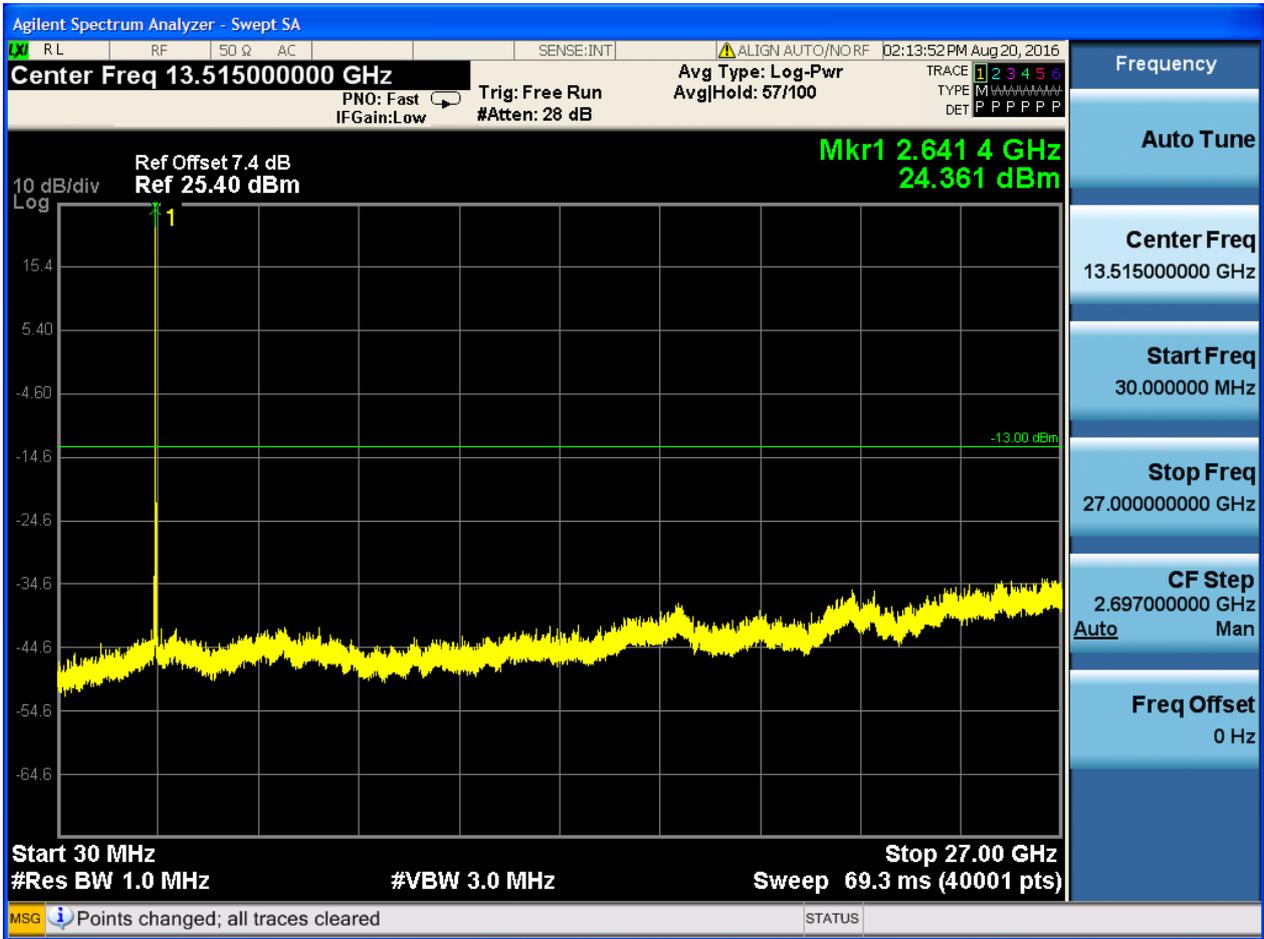


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





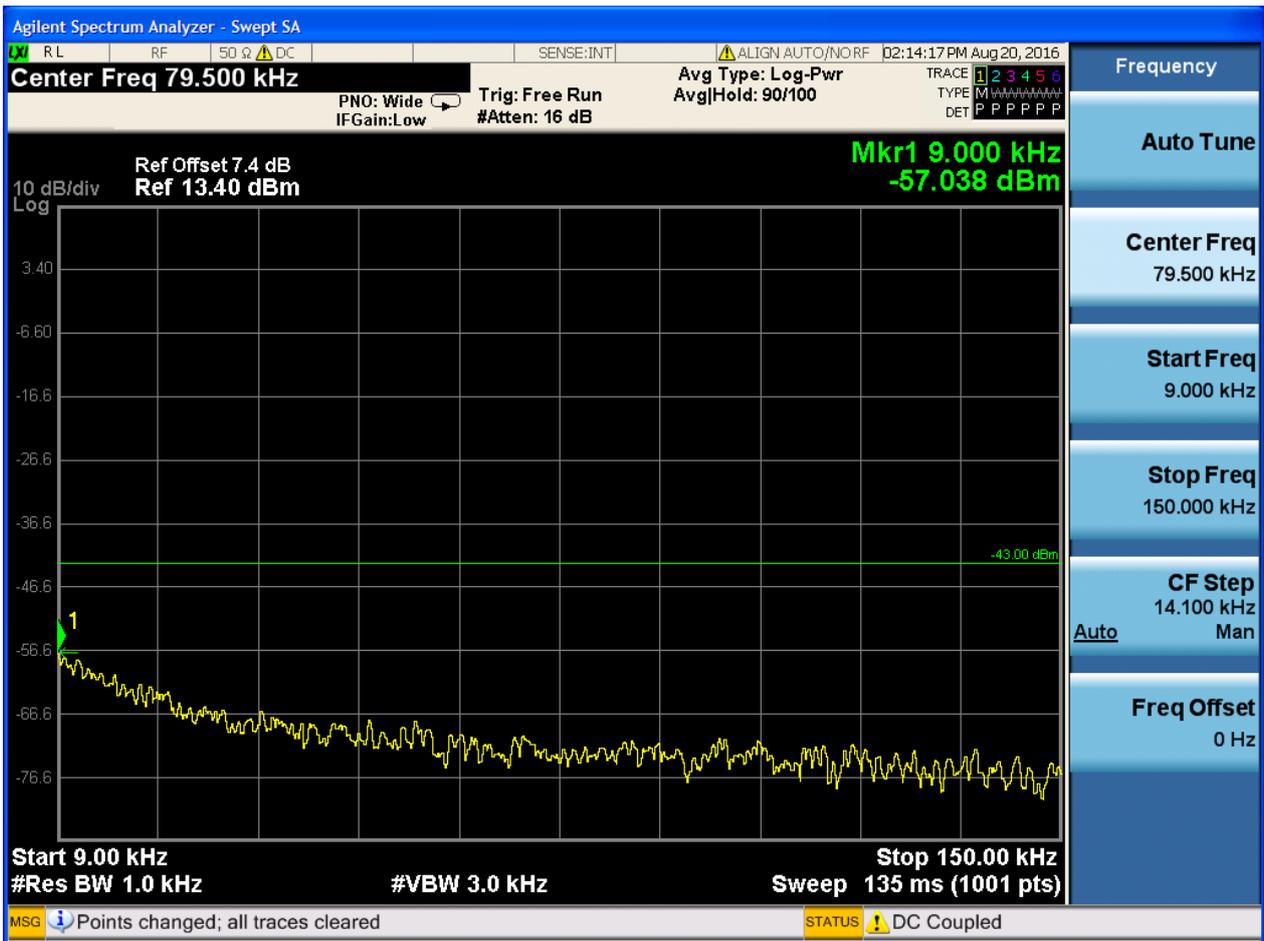


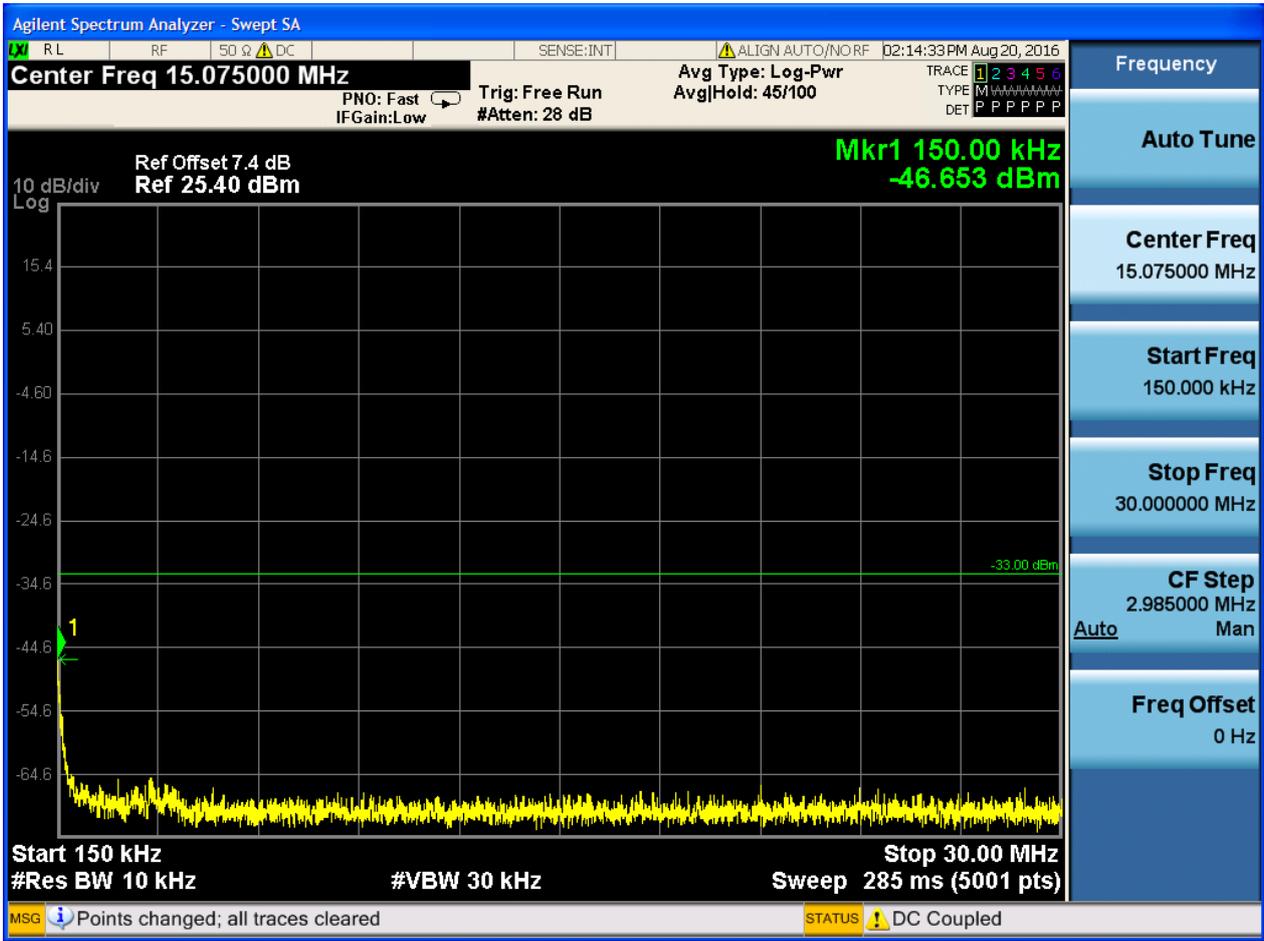


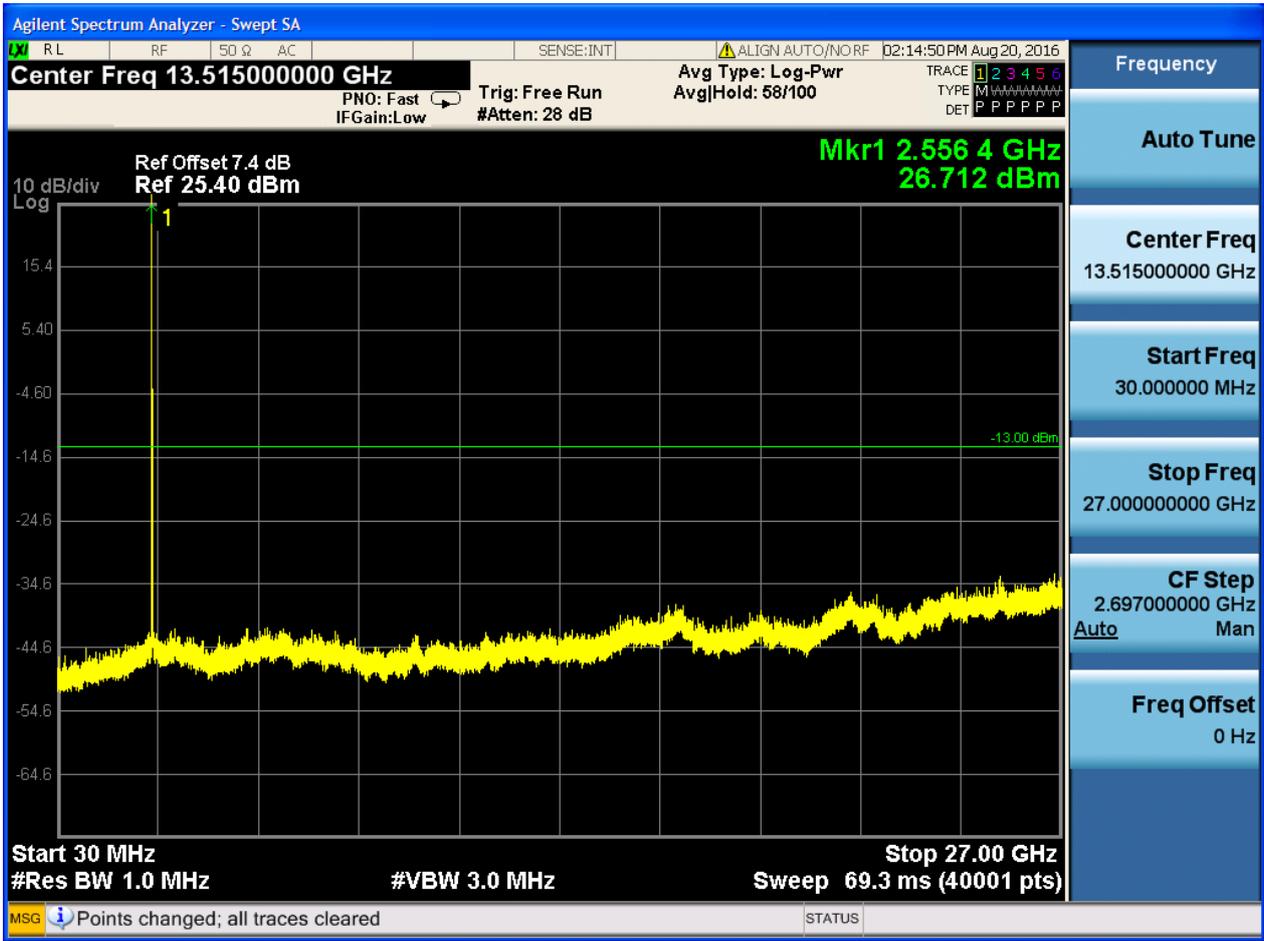
6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



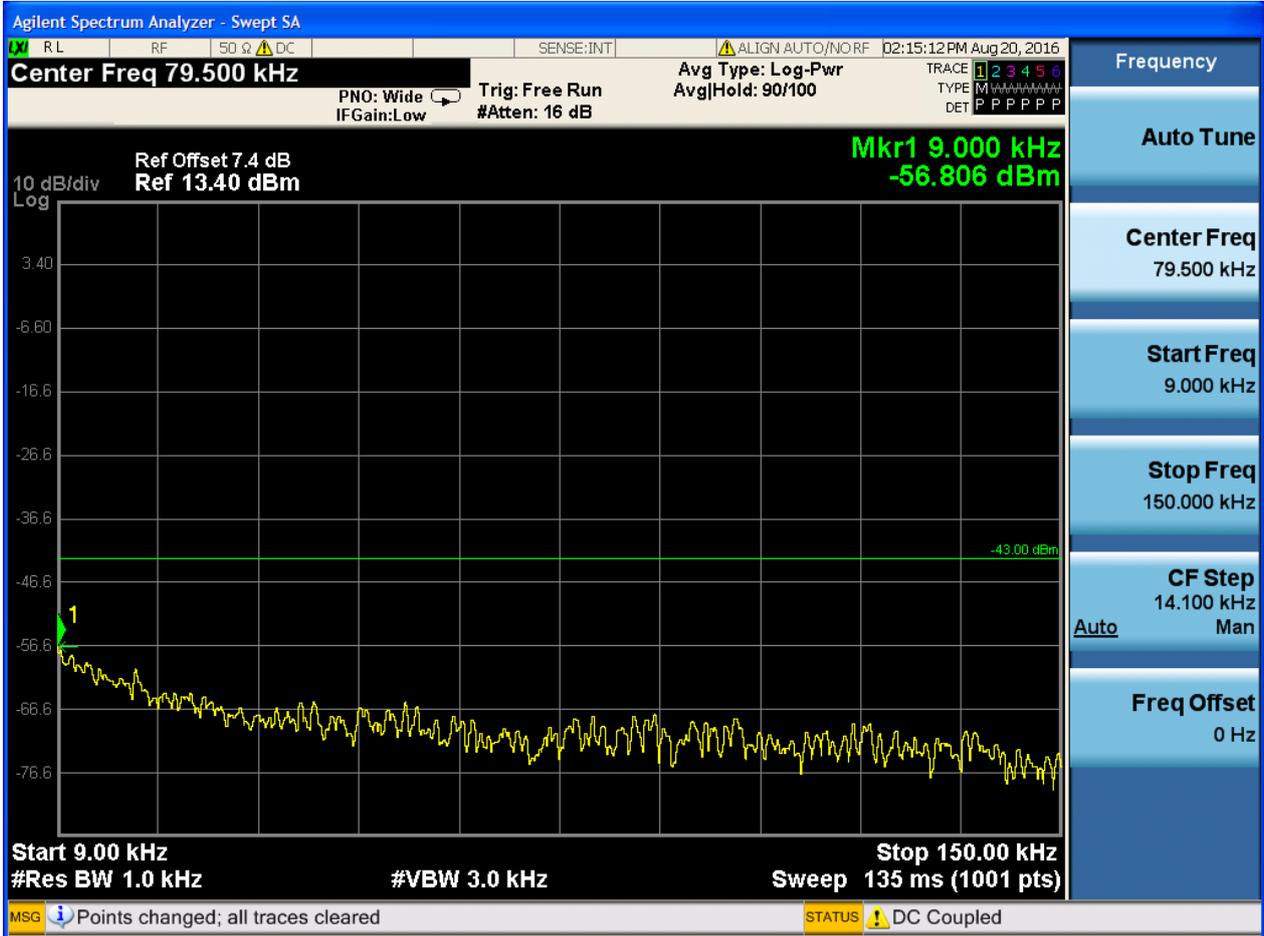


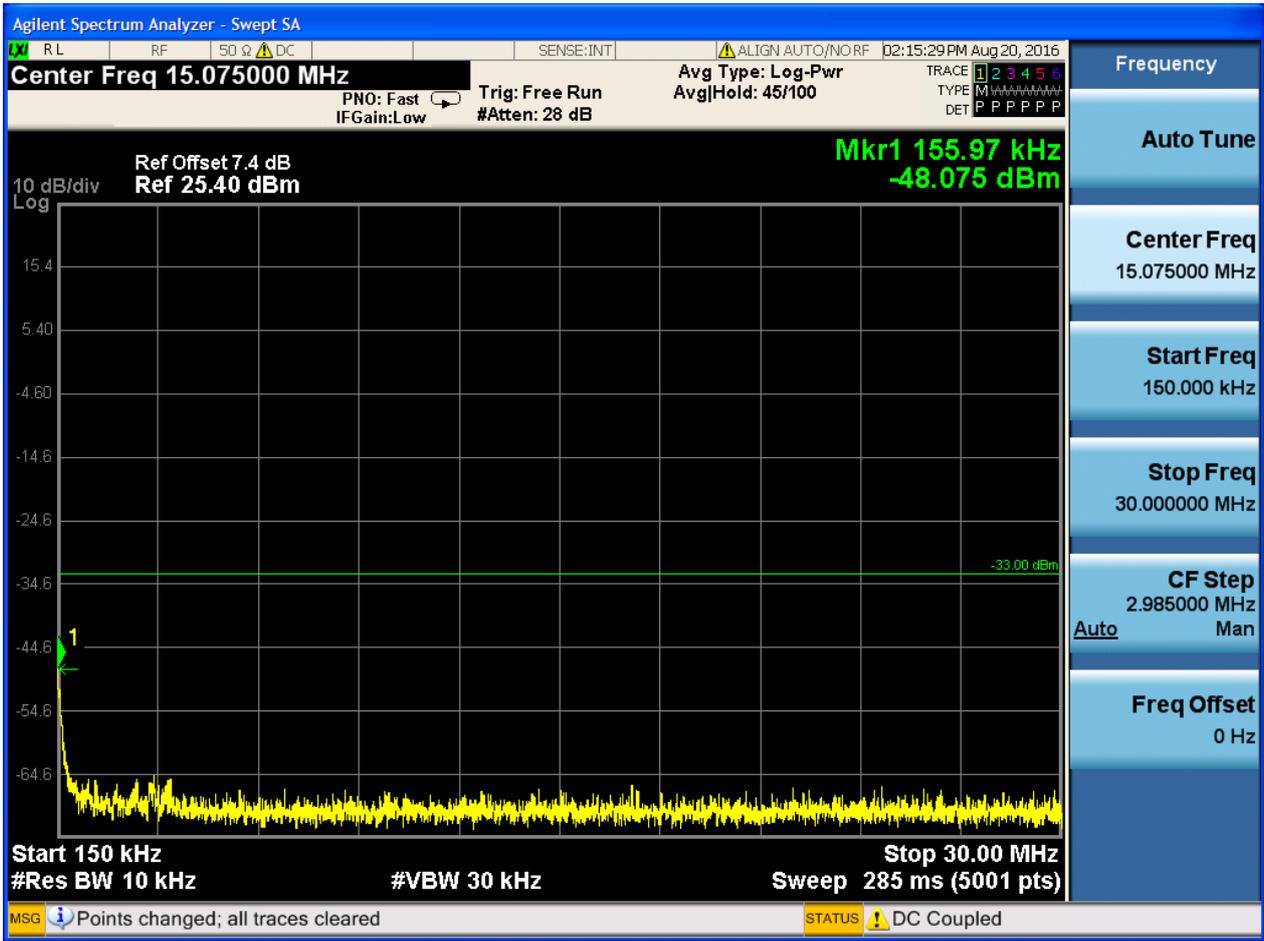


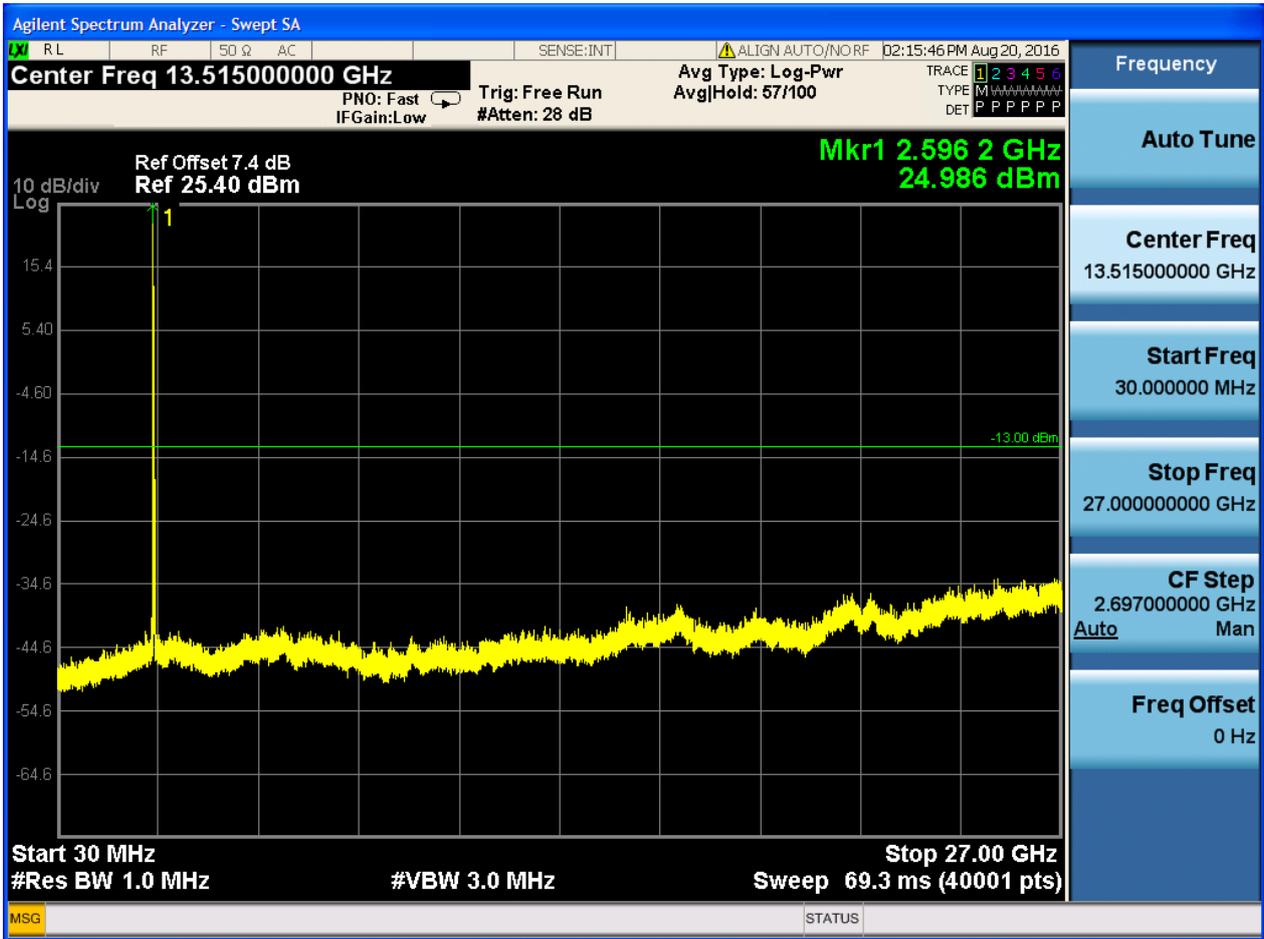


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



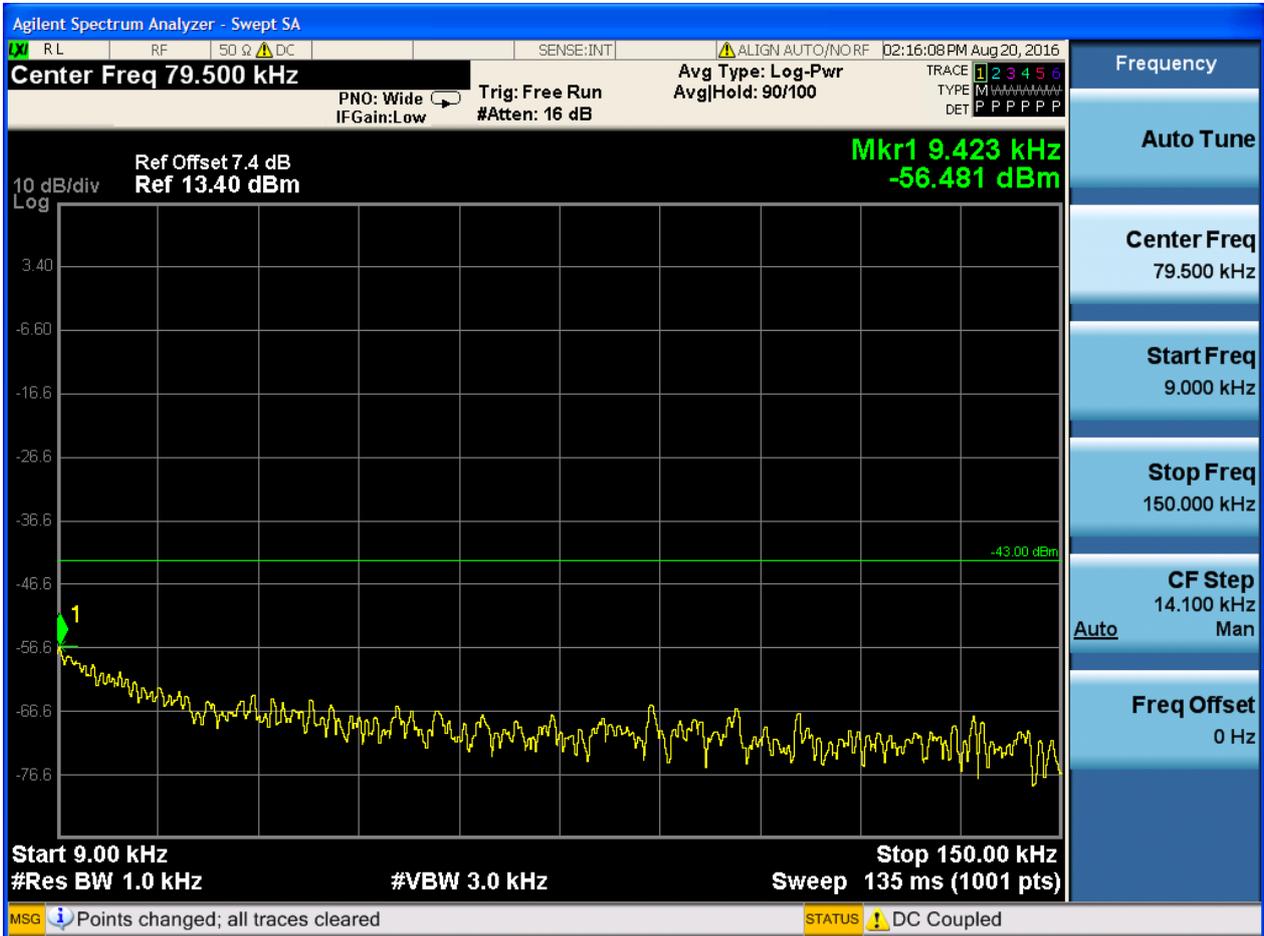


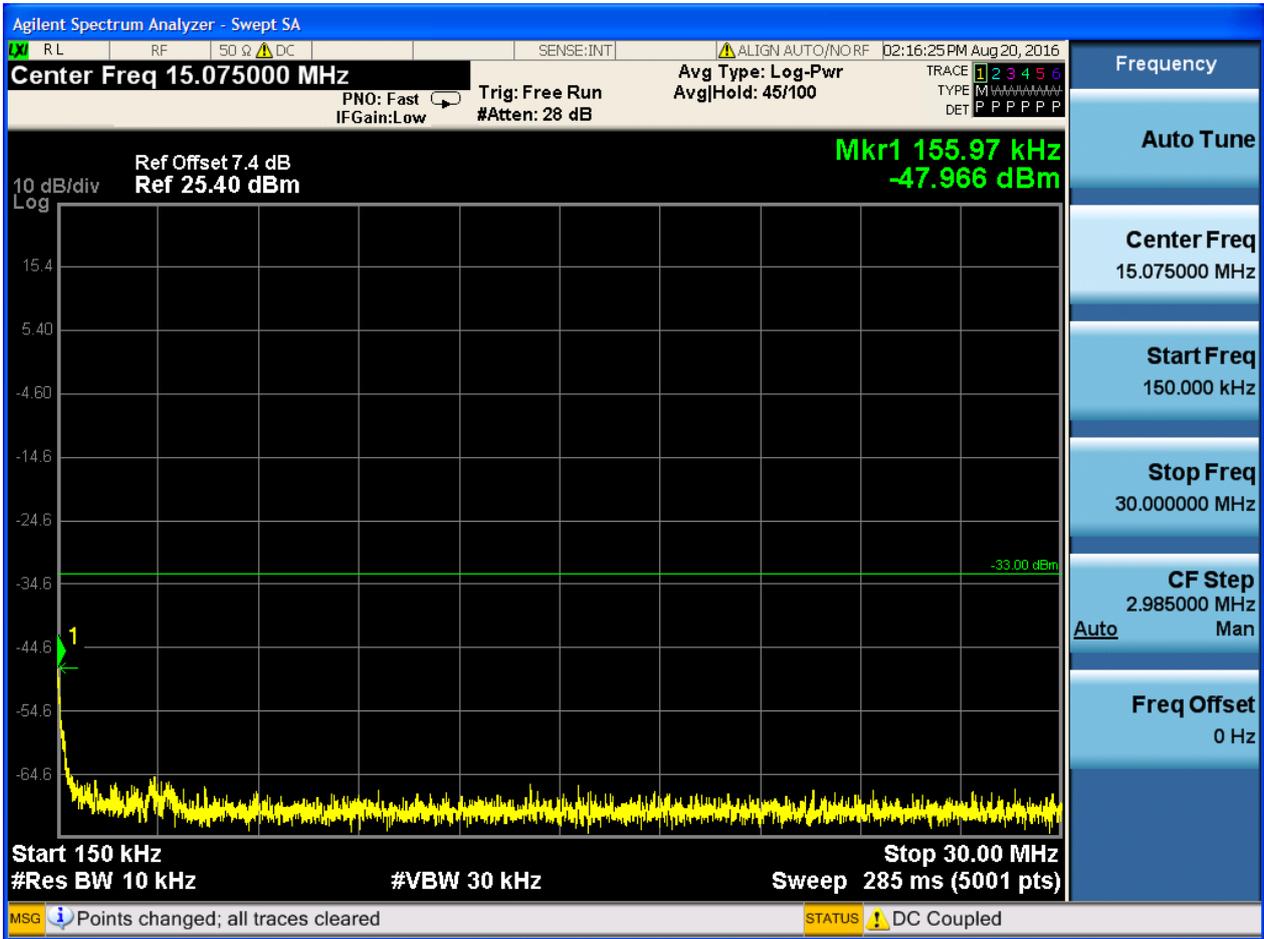


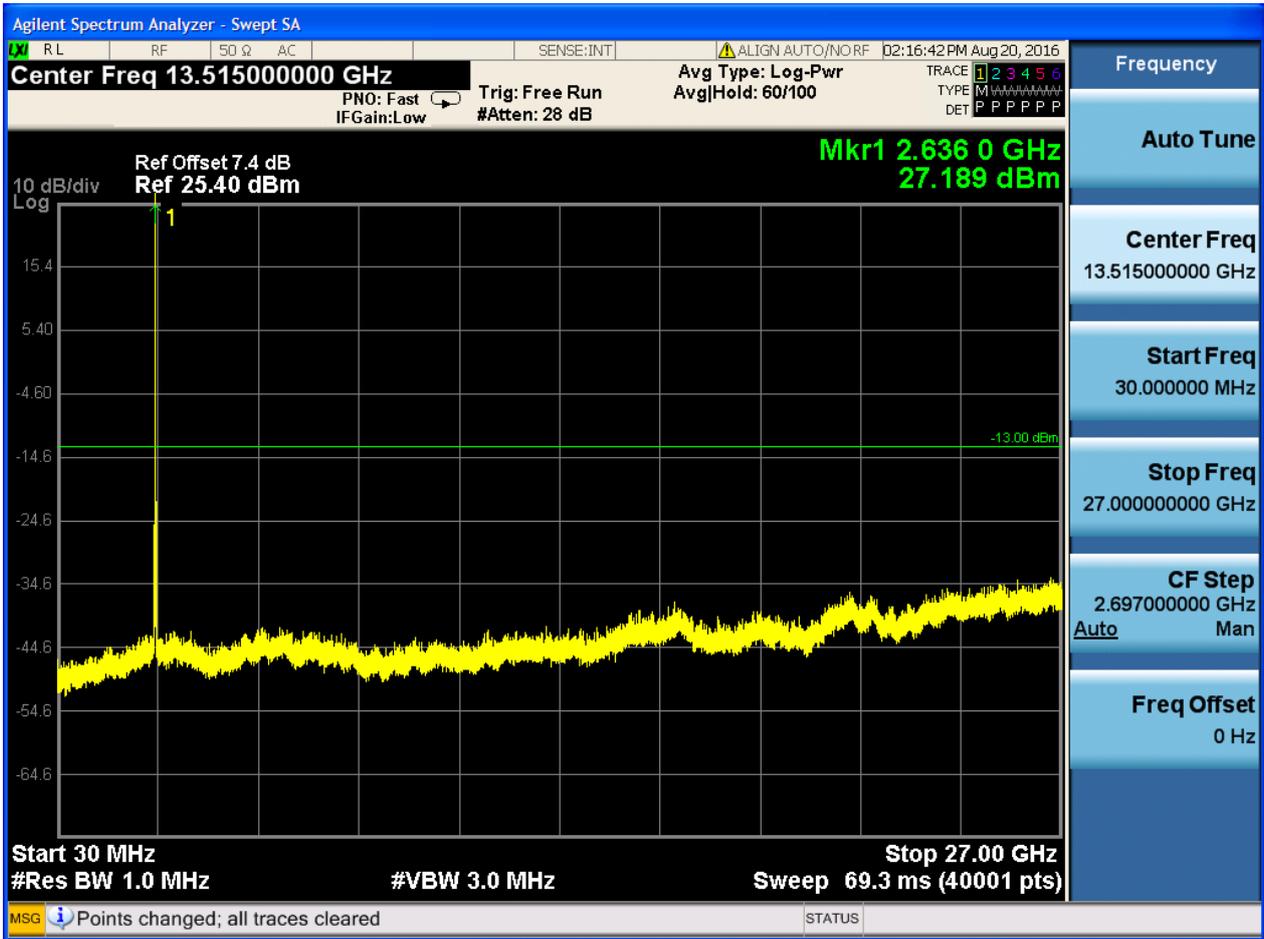


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







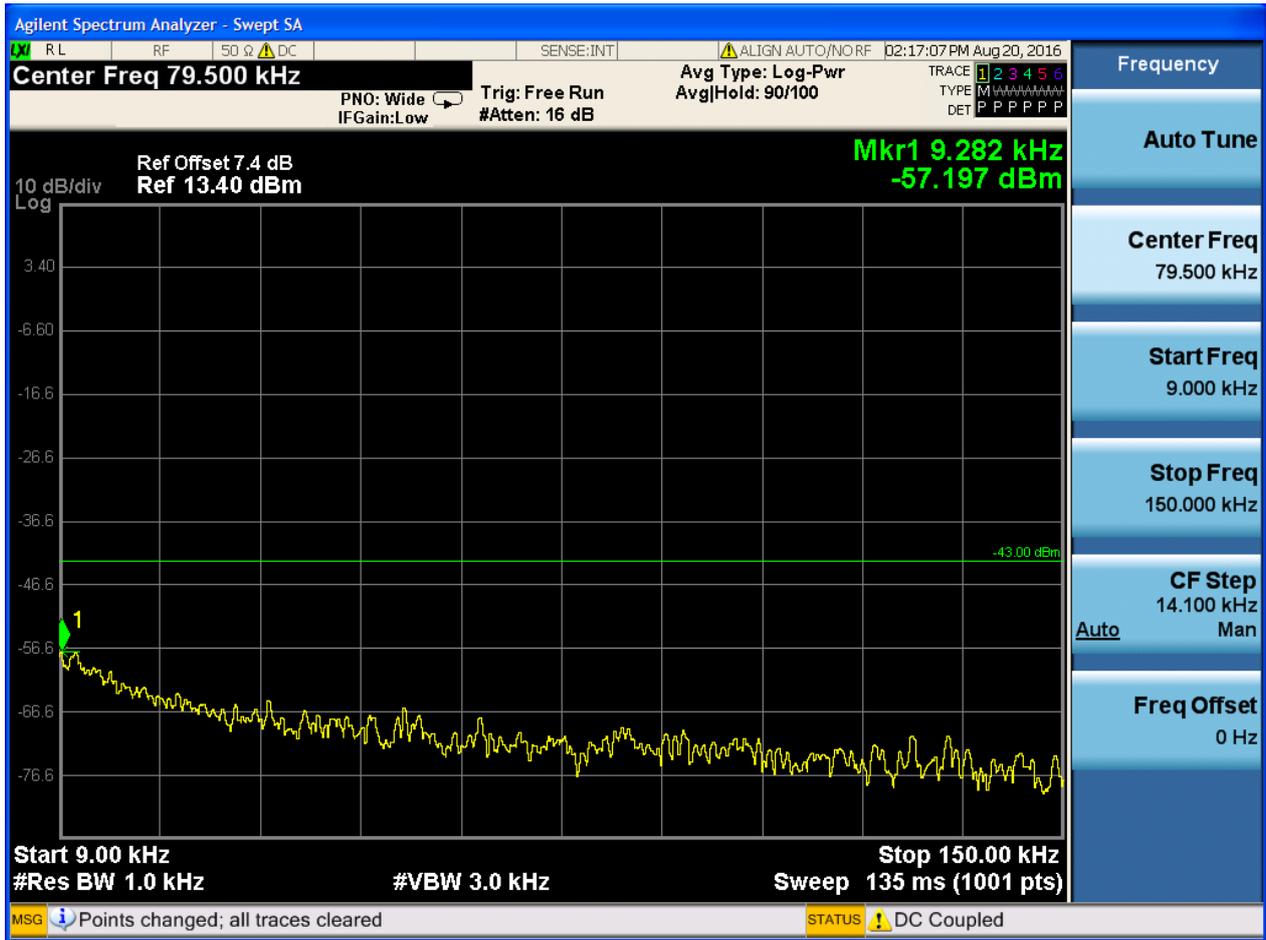


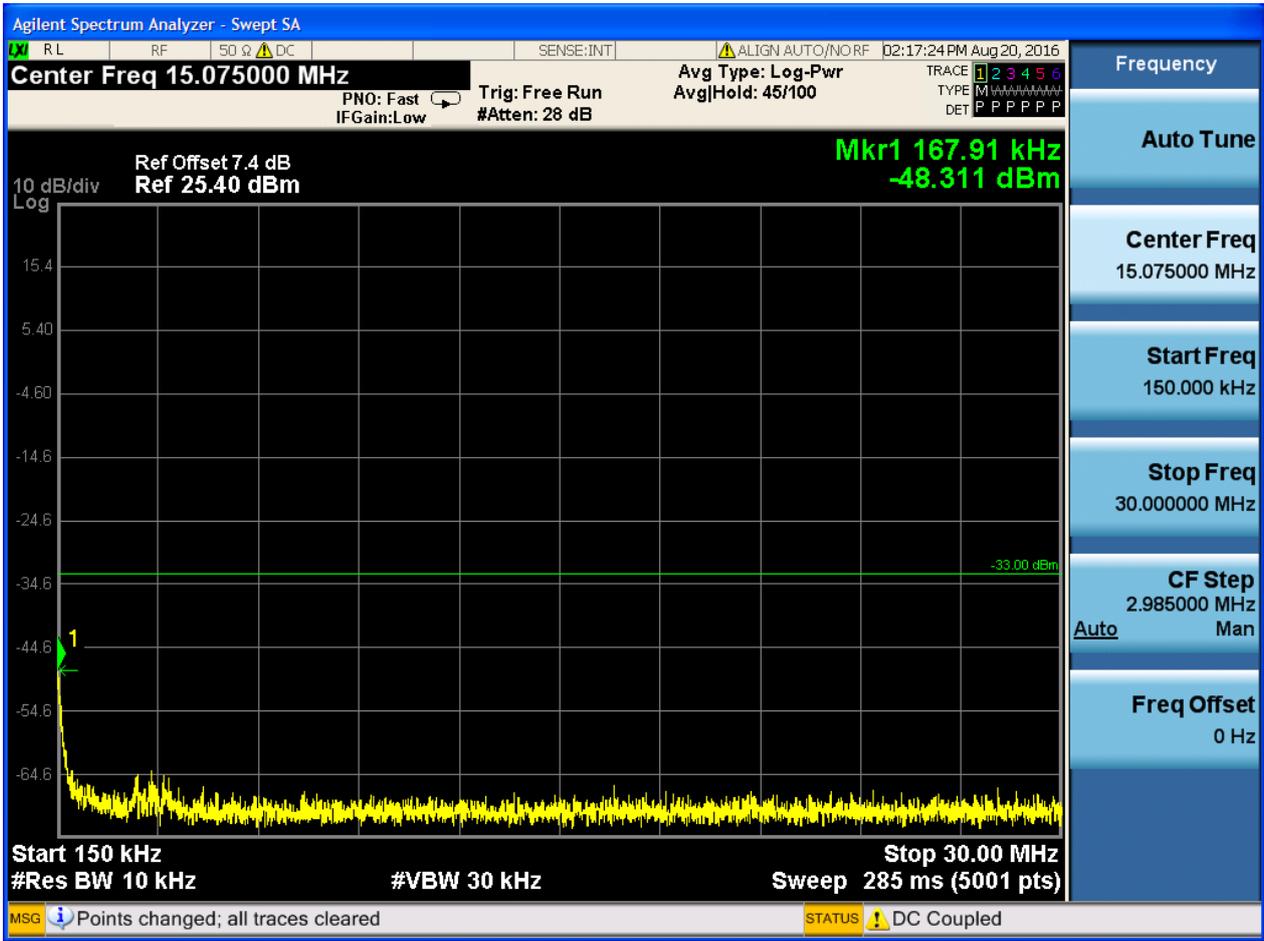
6.1.1.2 Test Mode = LTE/TM2

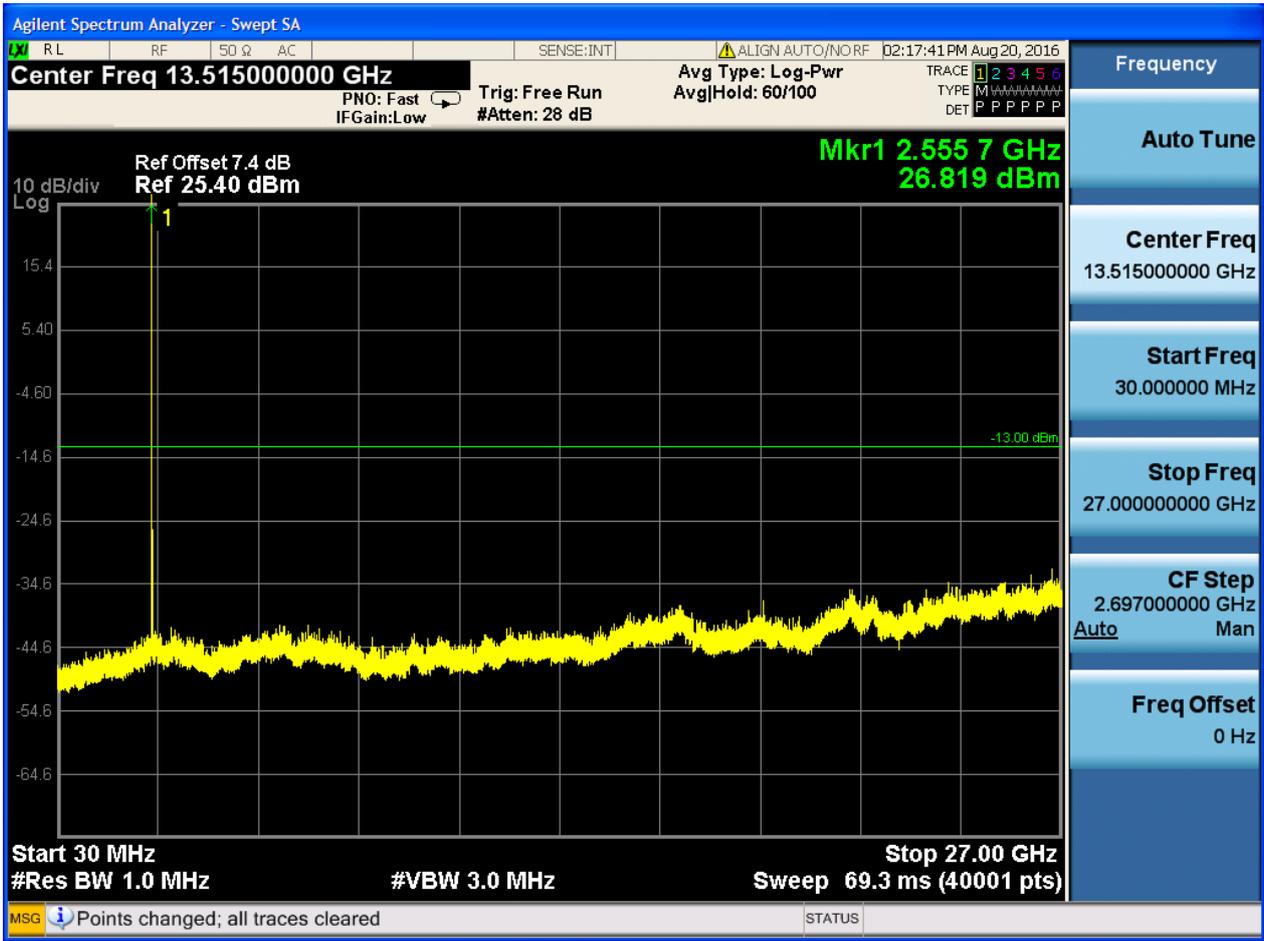
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0



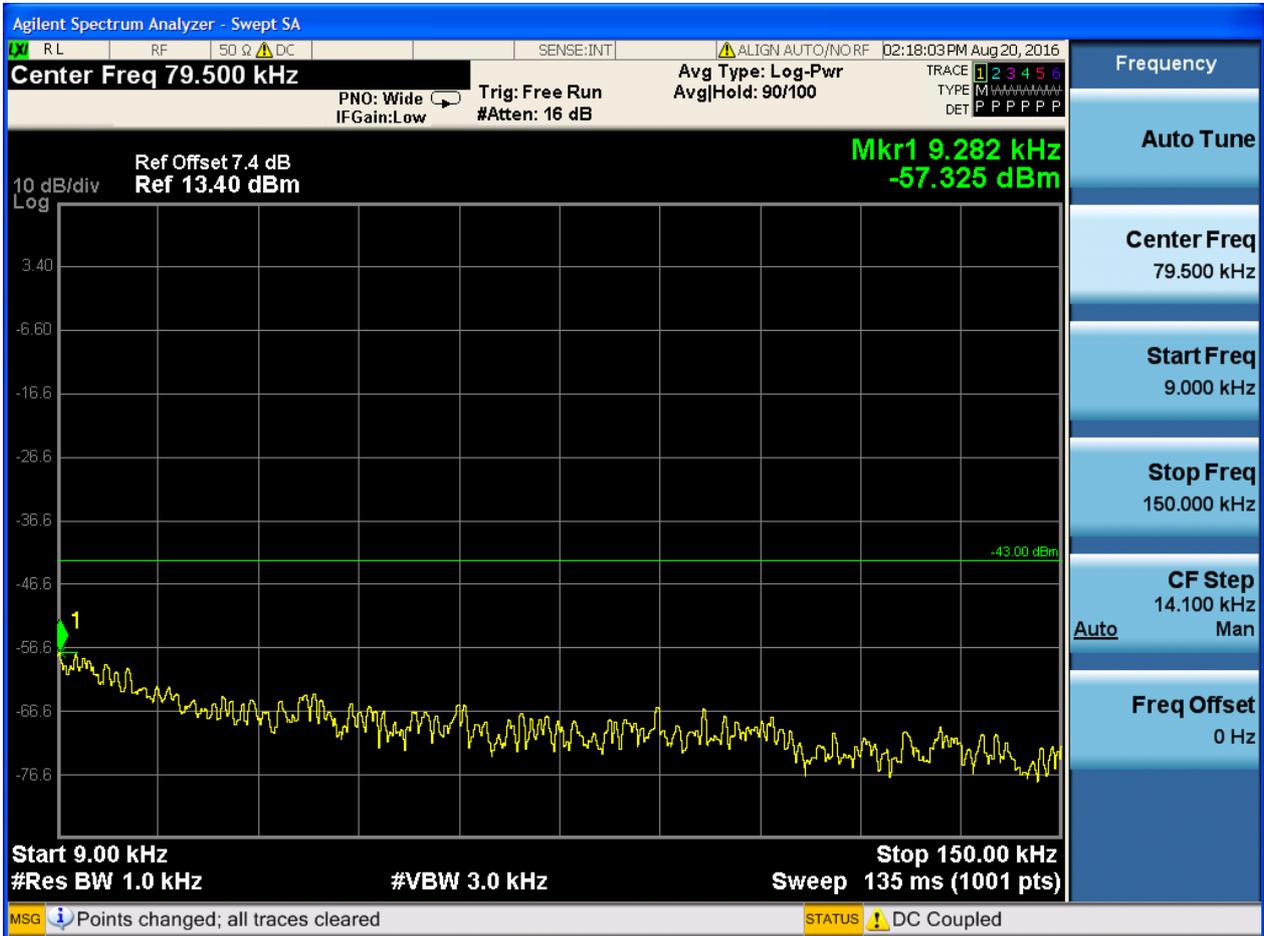


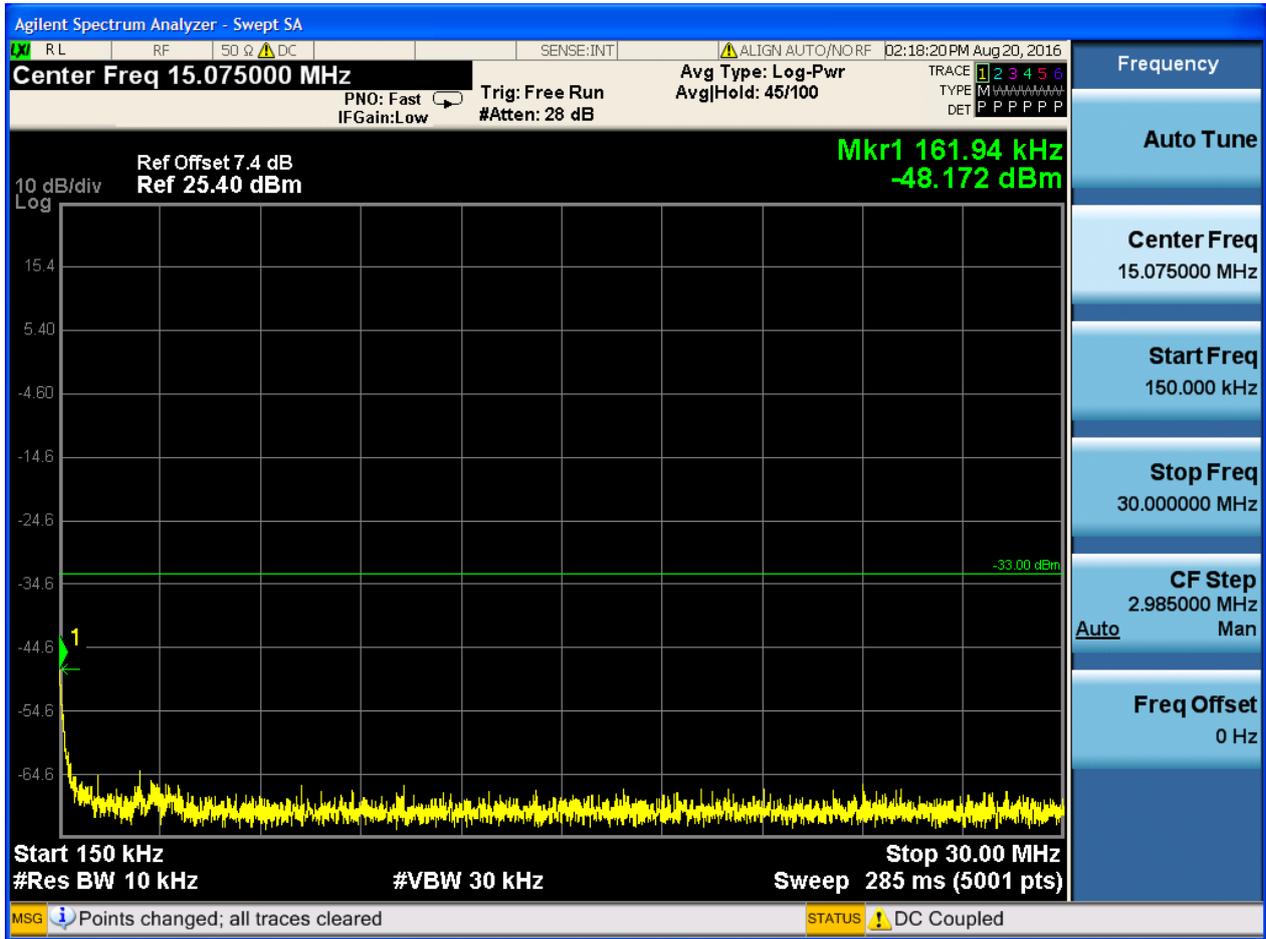


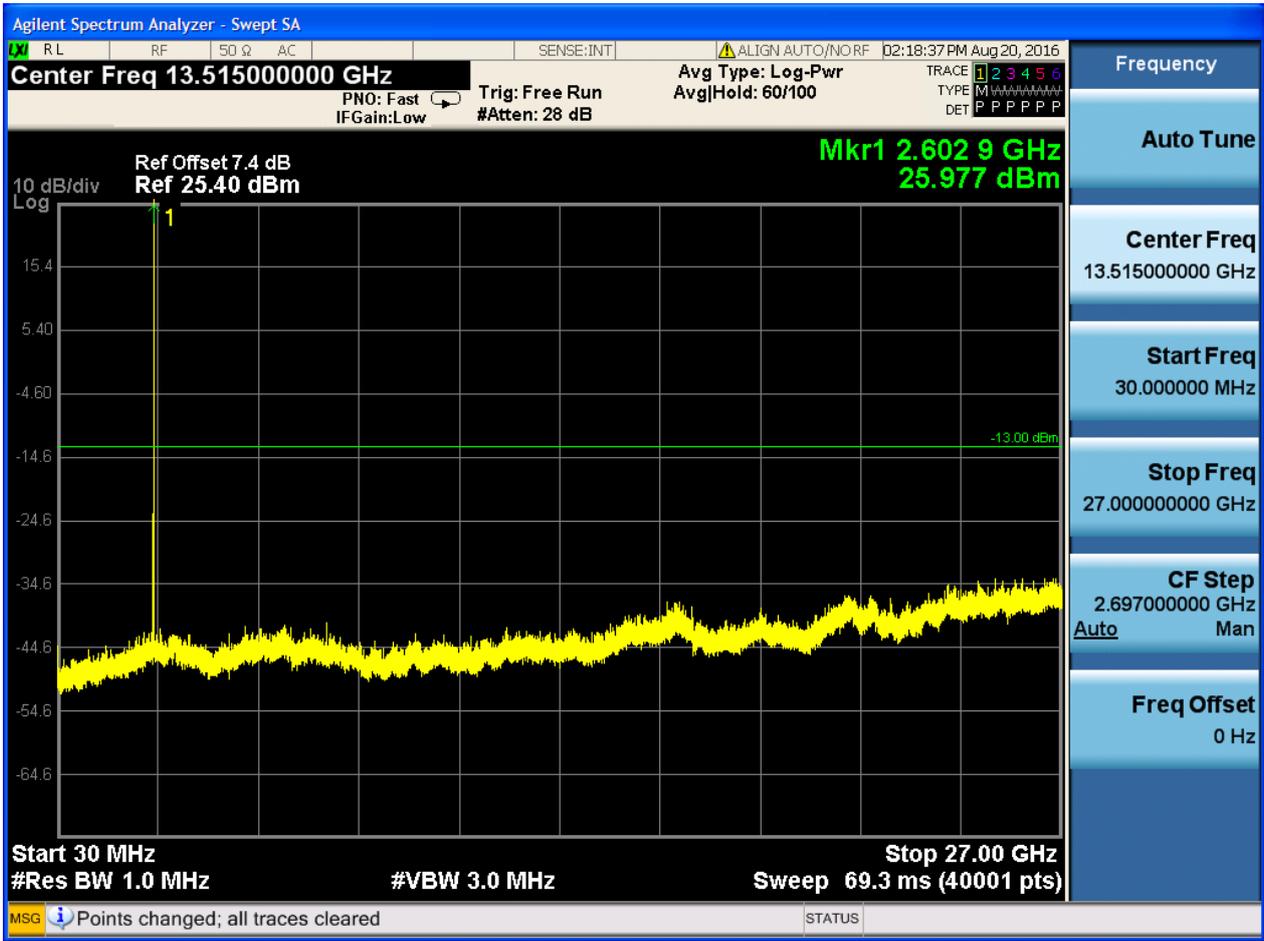


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

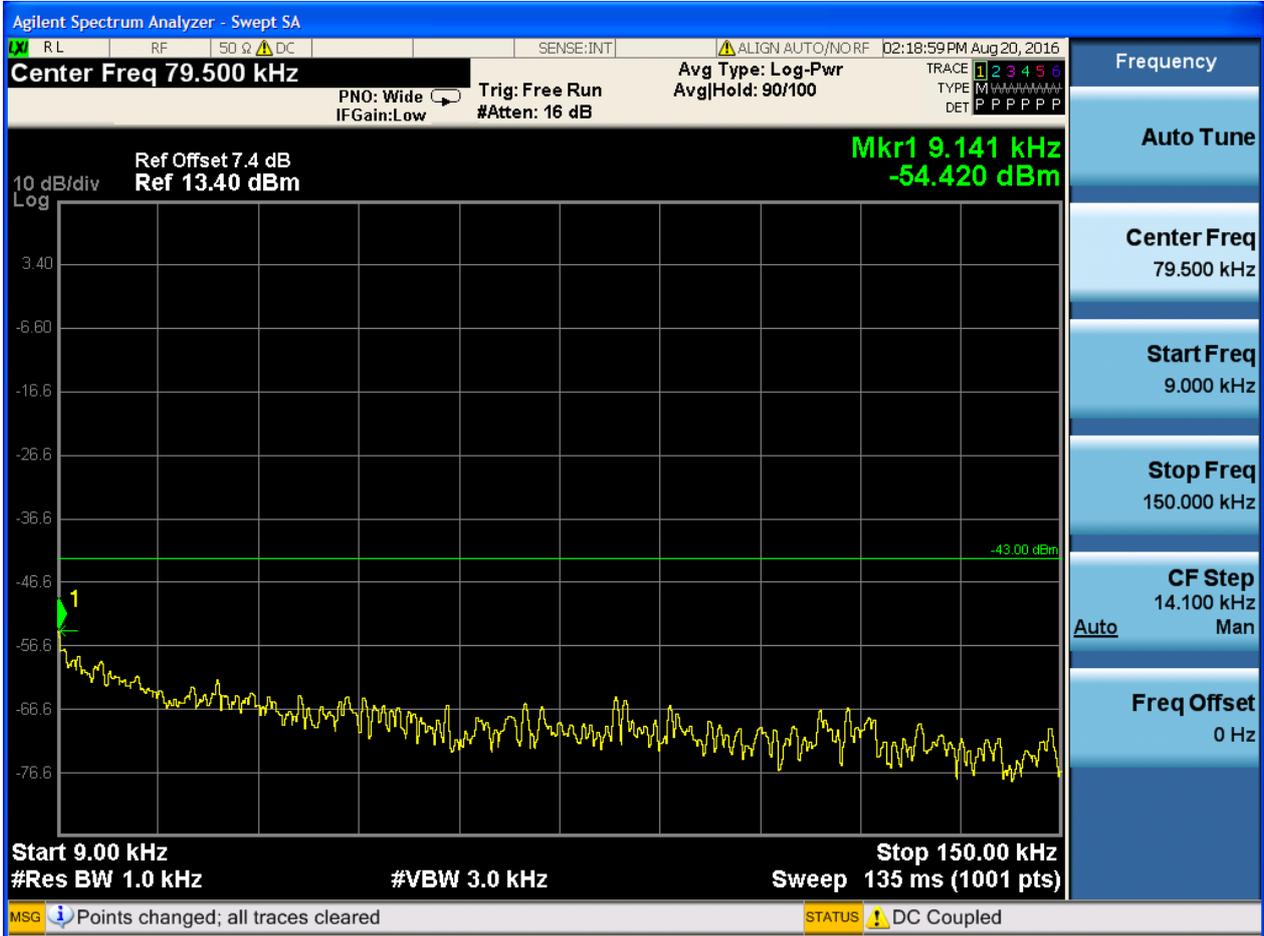


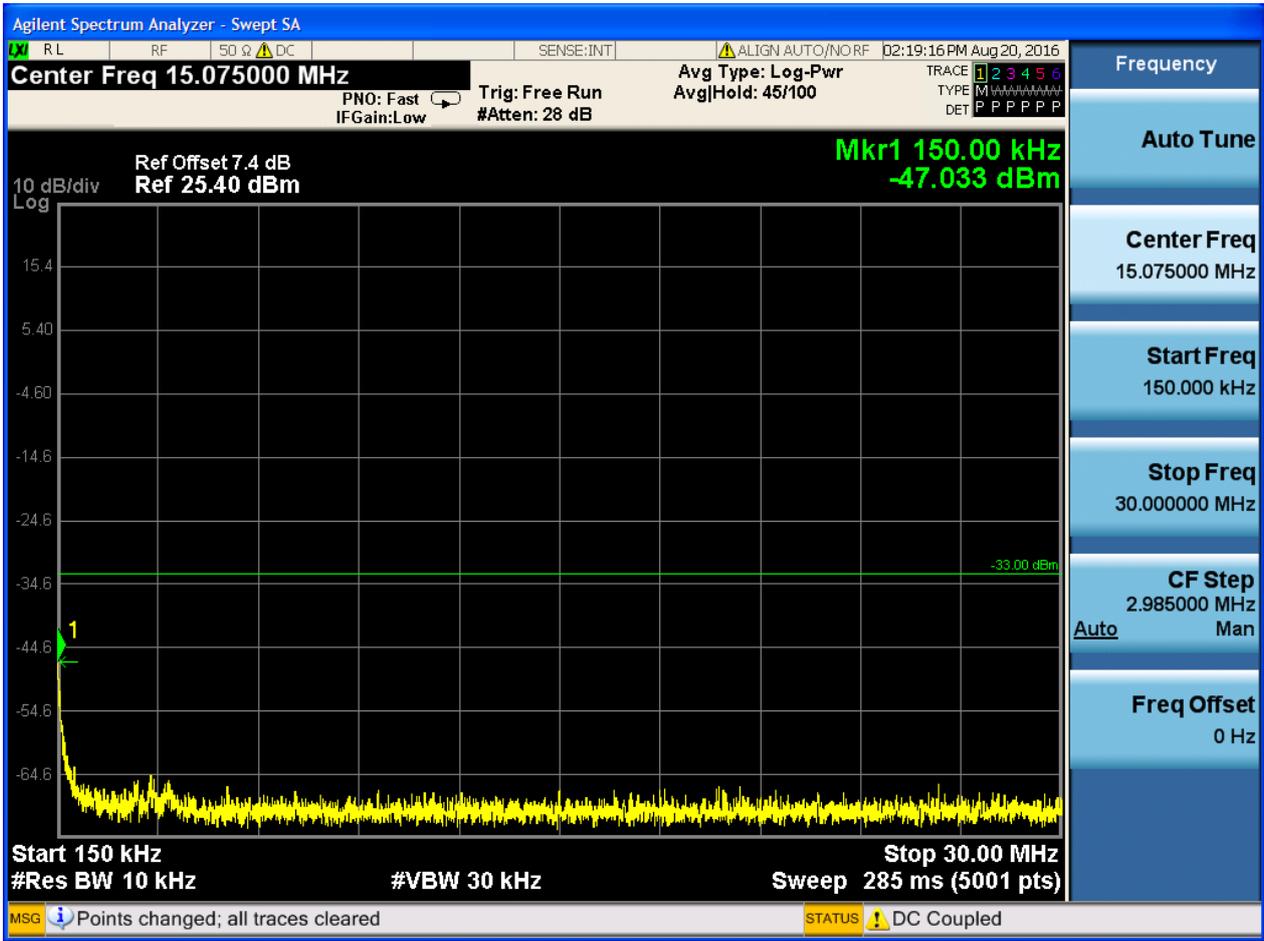


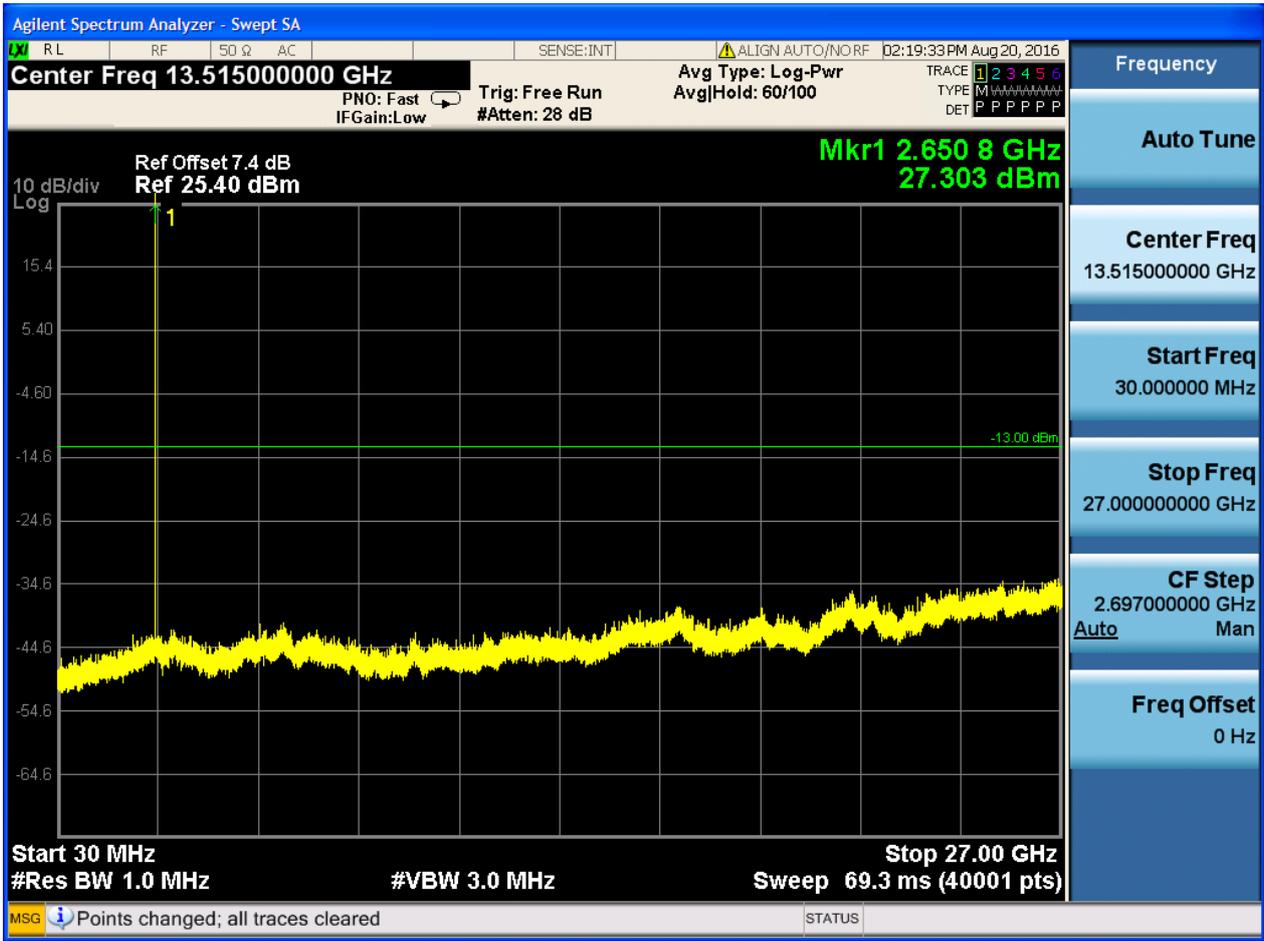


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





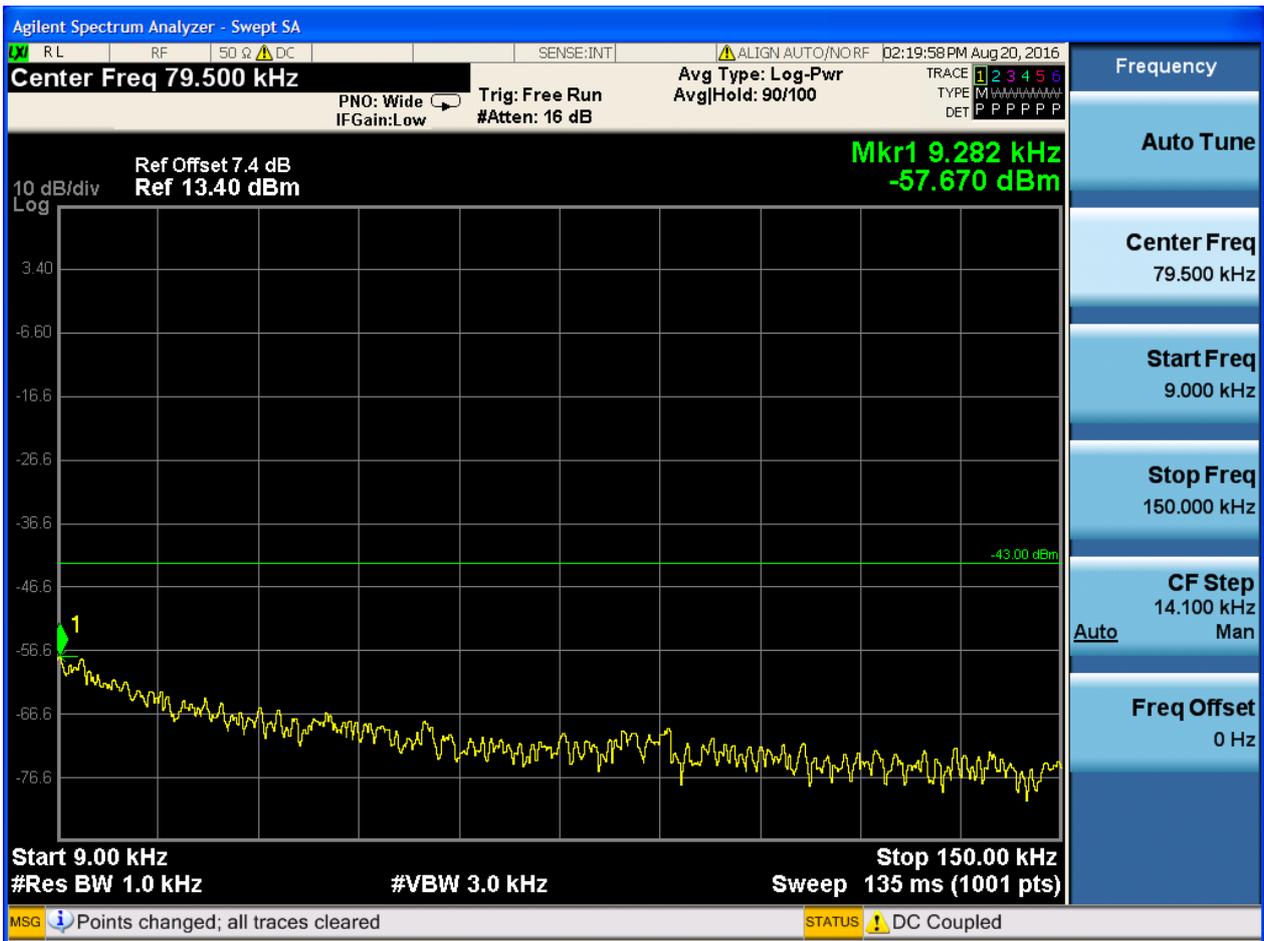


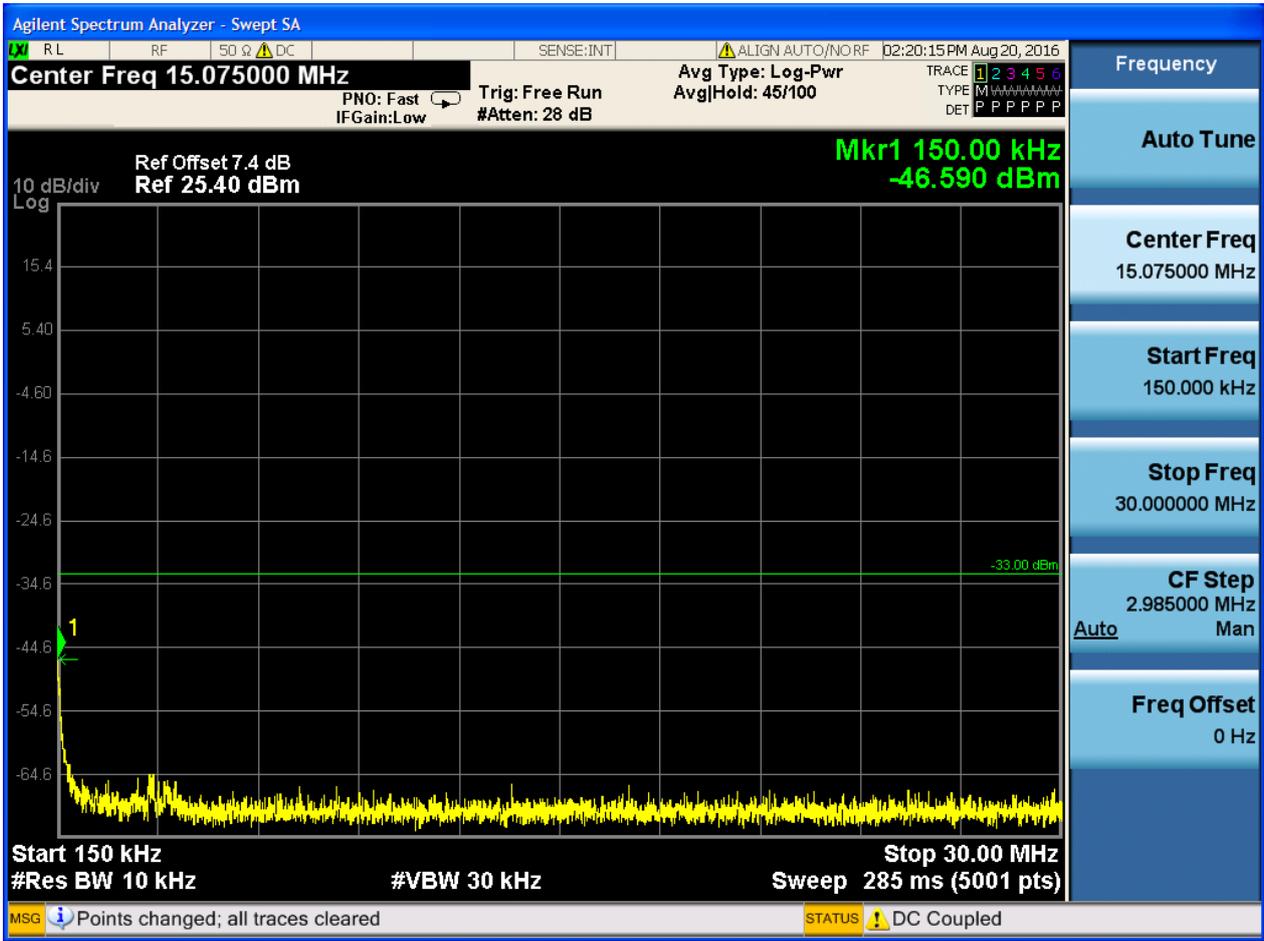


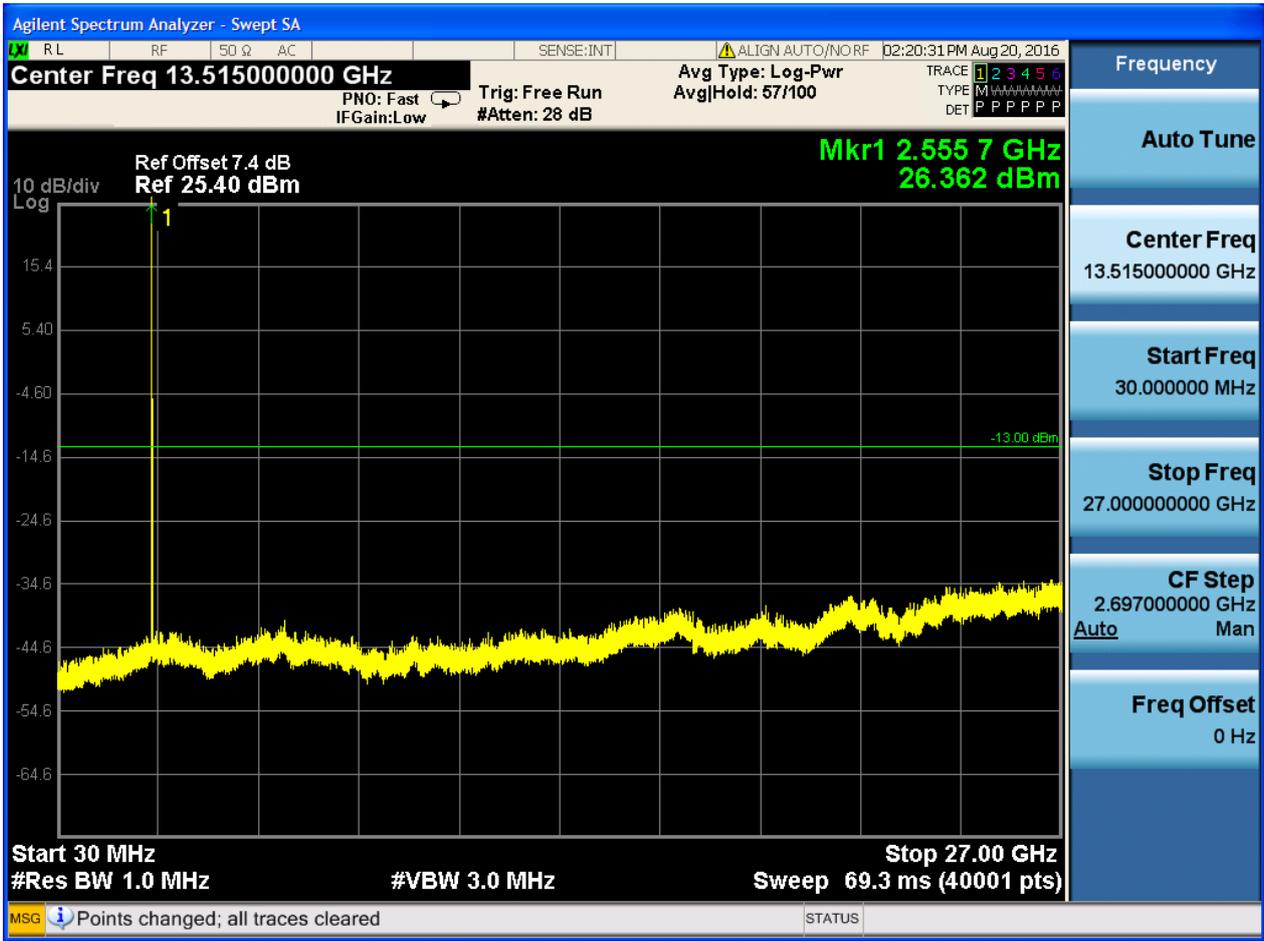
6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0



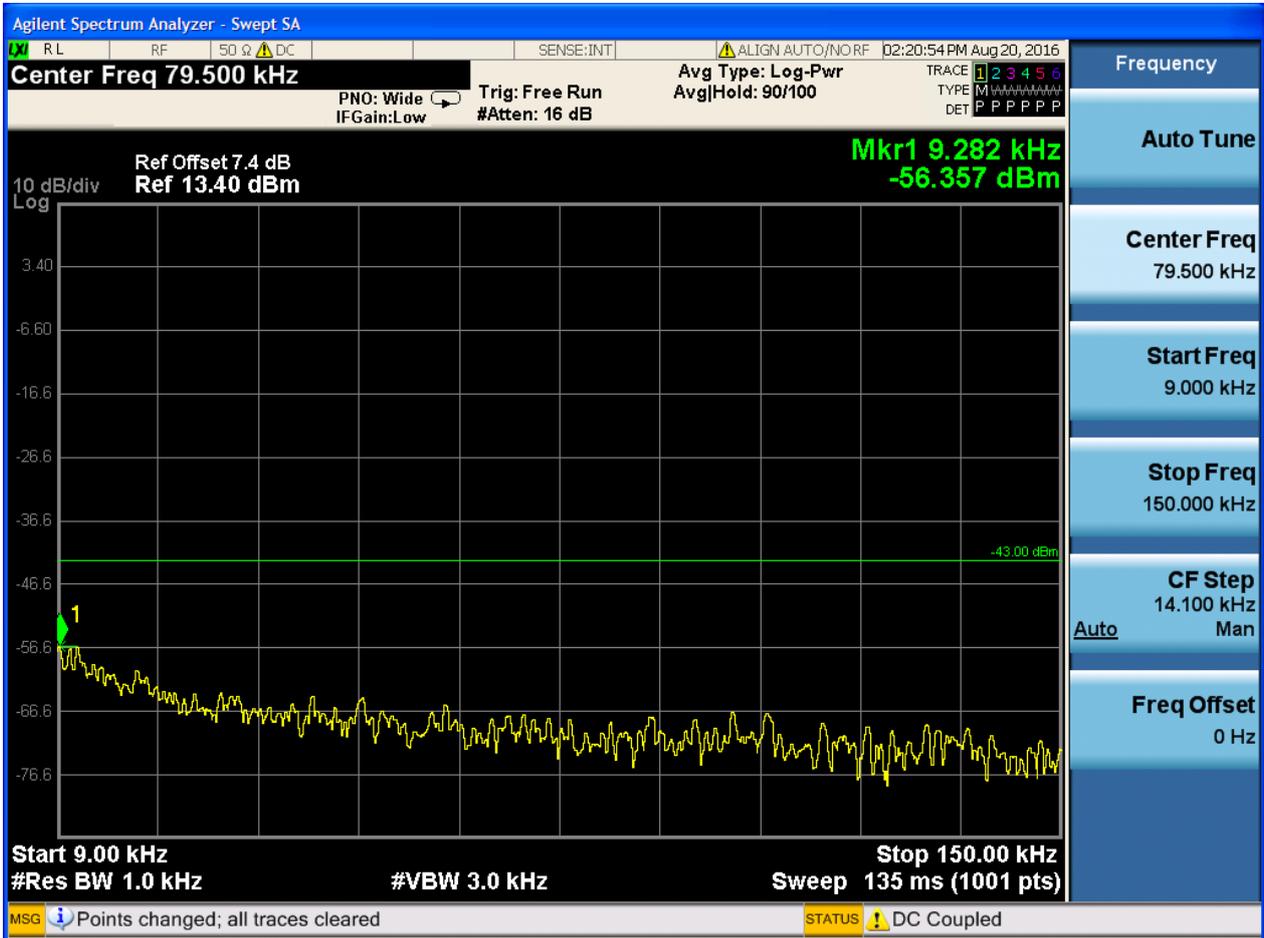


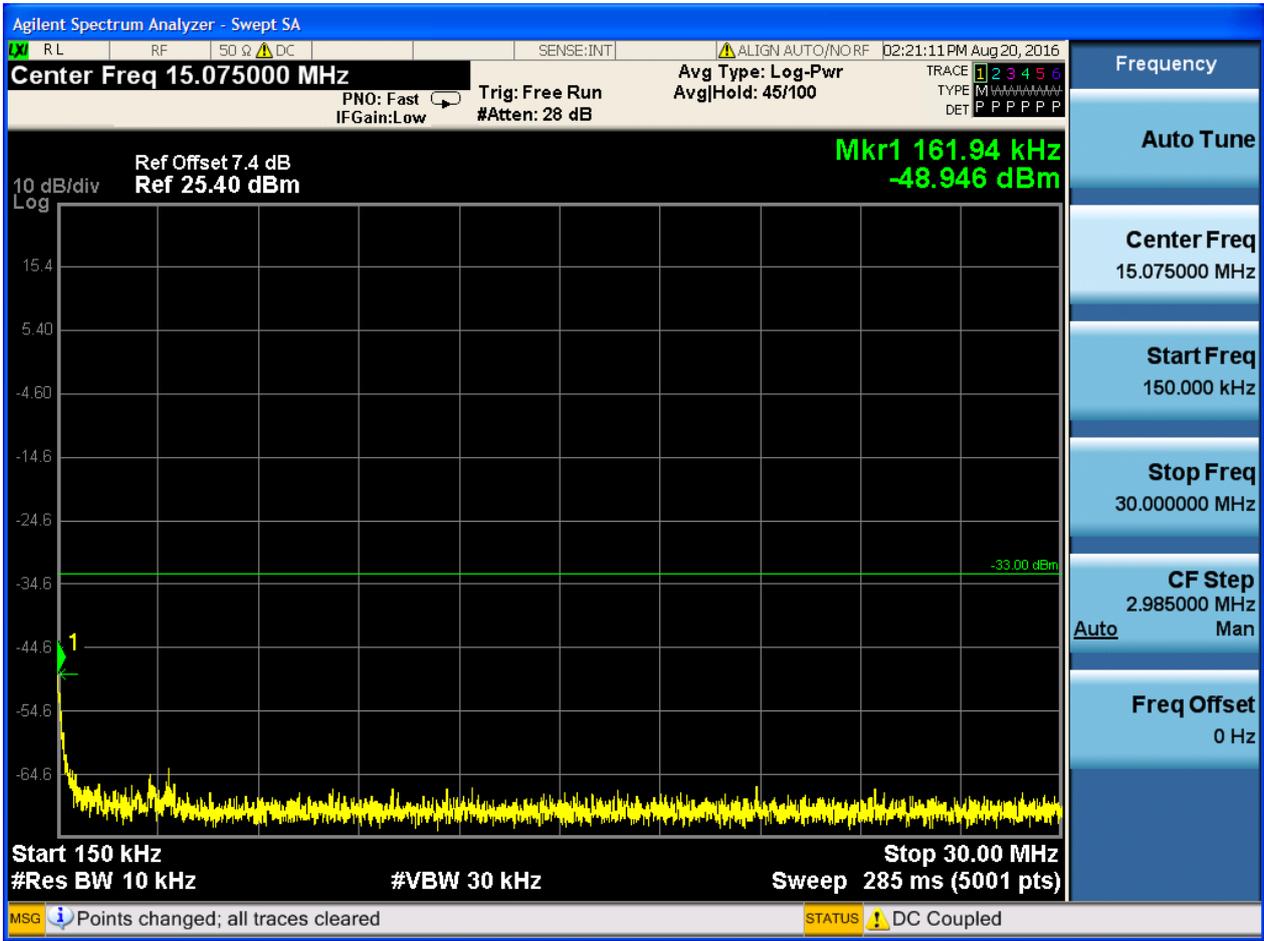


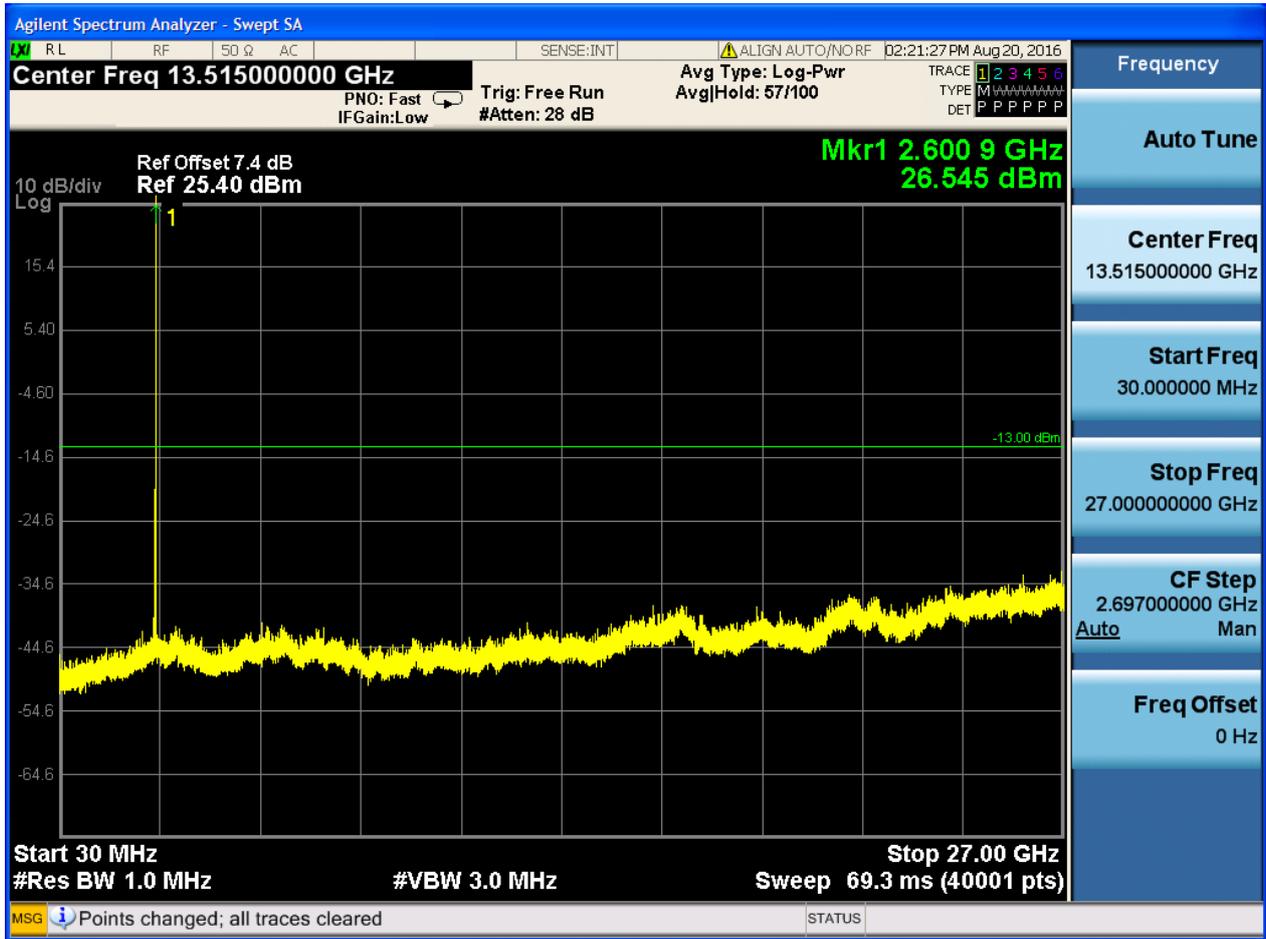


6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0



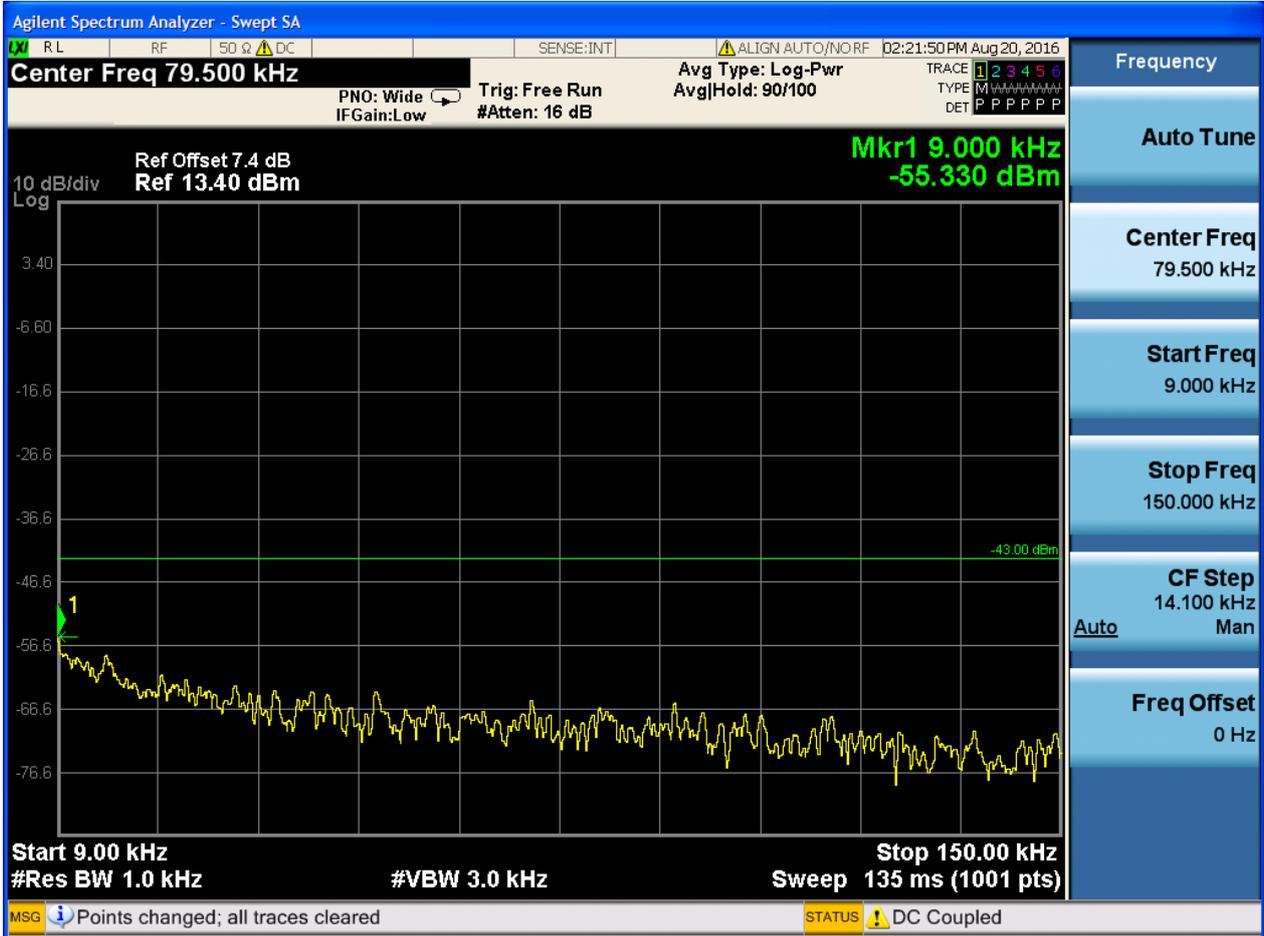


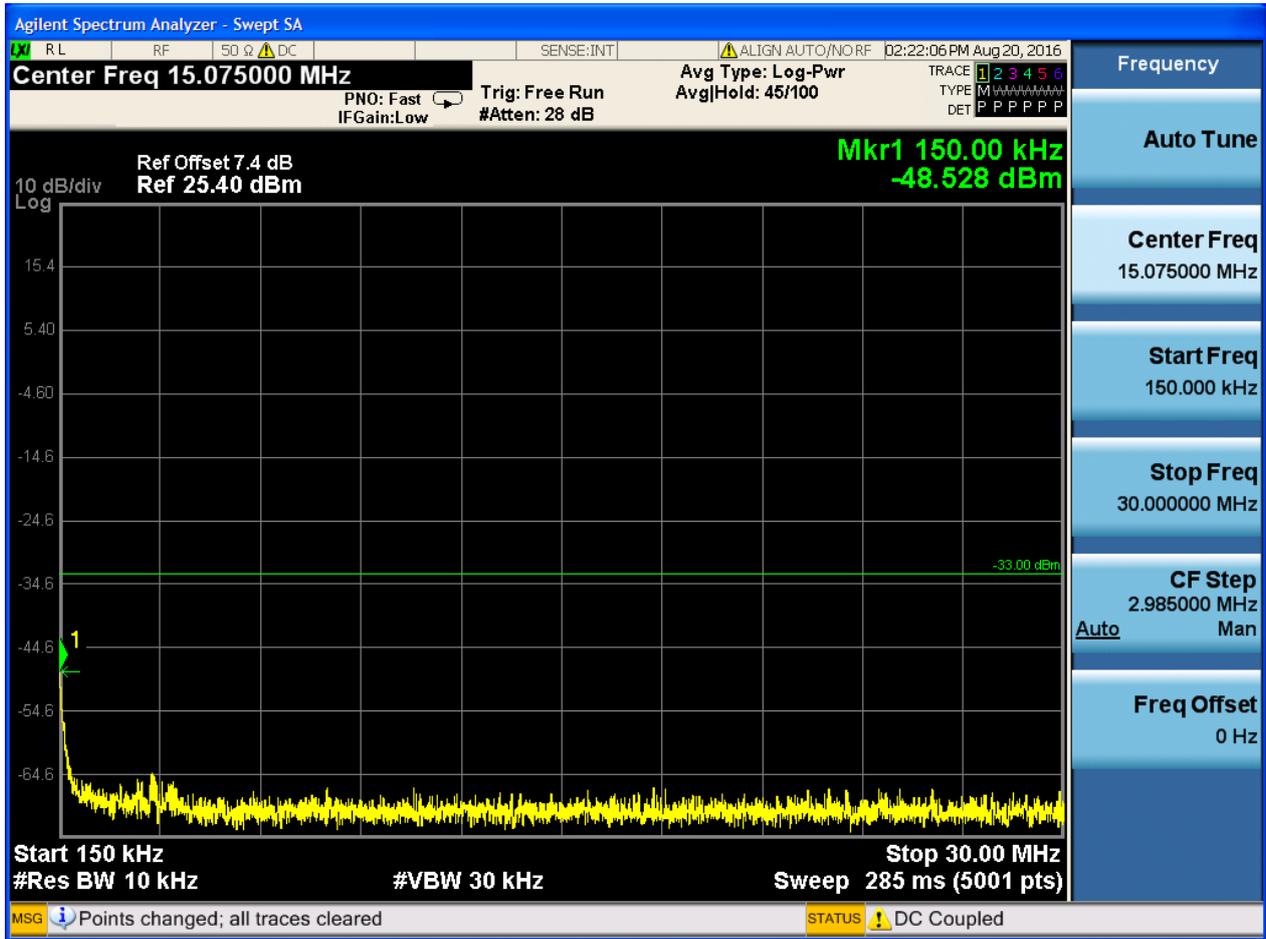


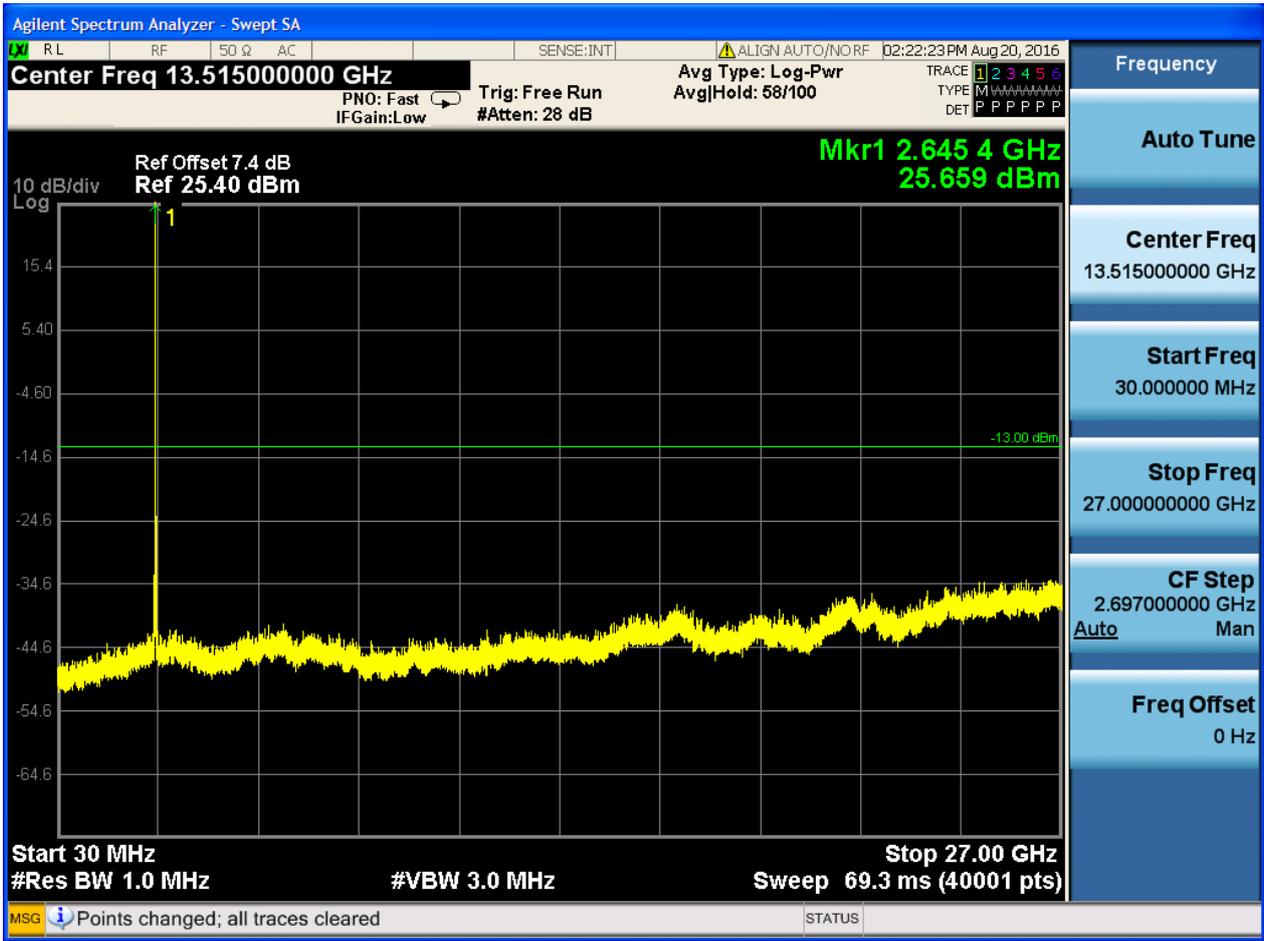


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0





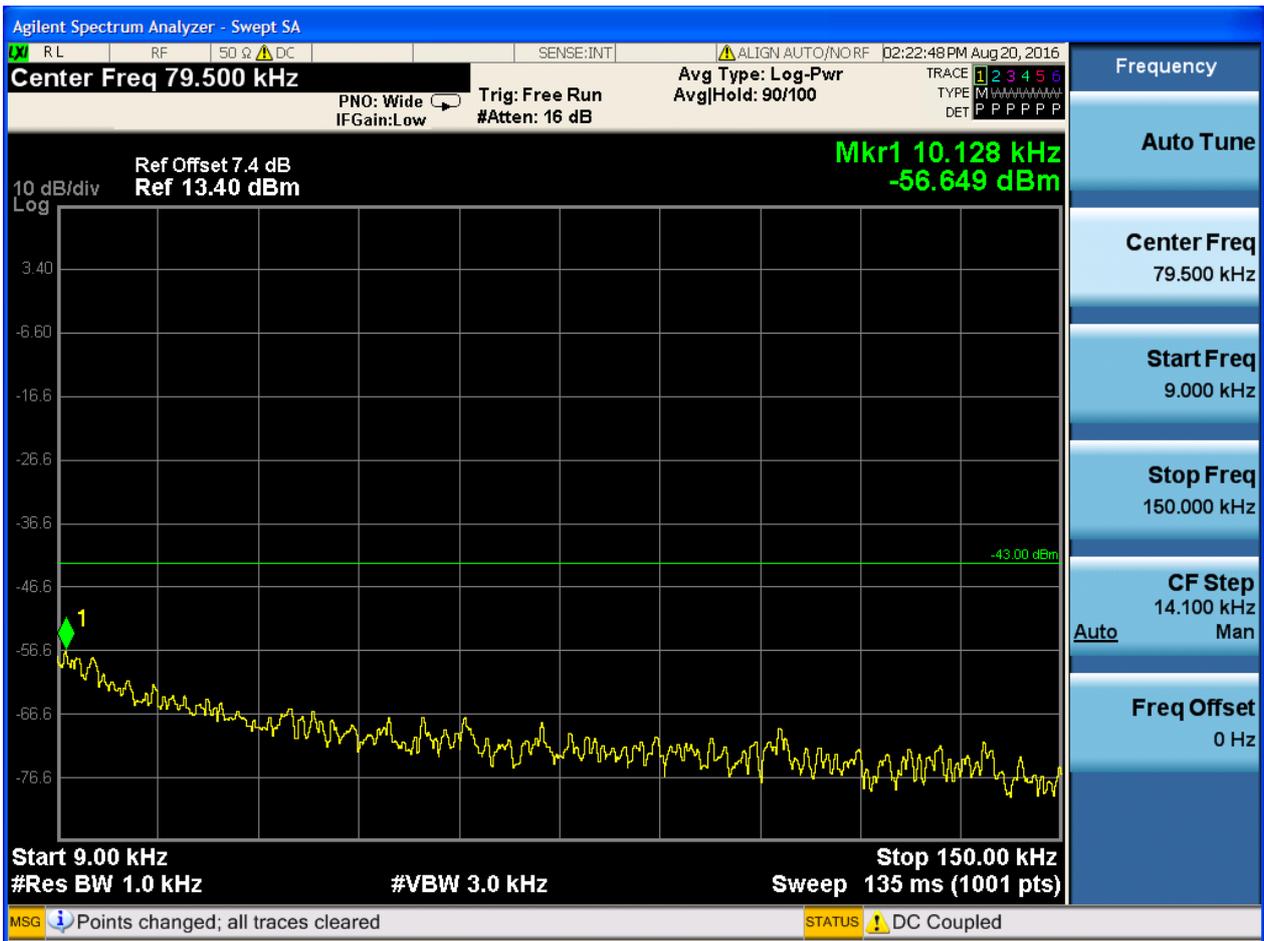


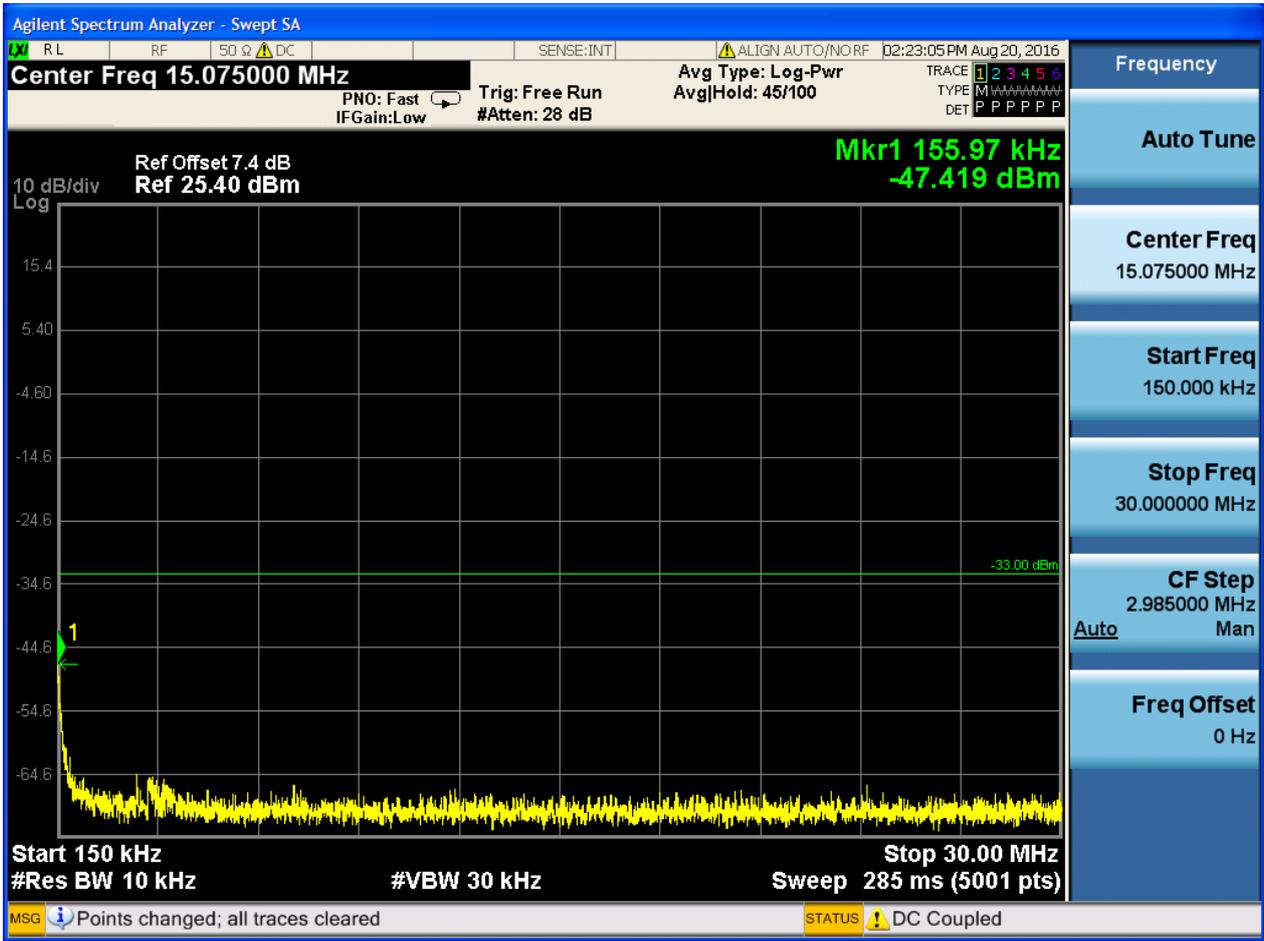


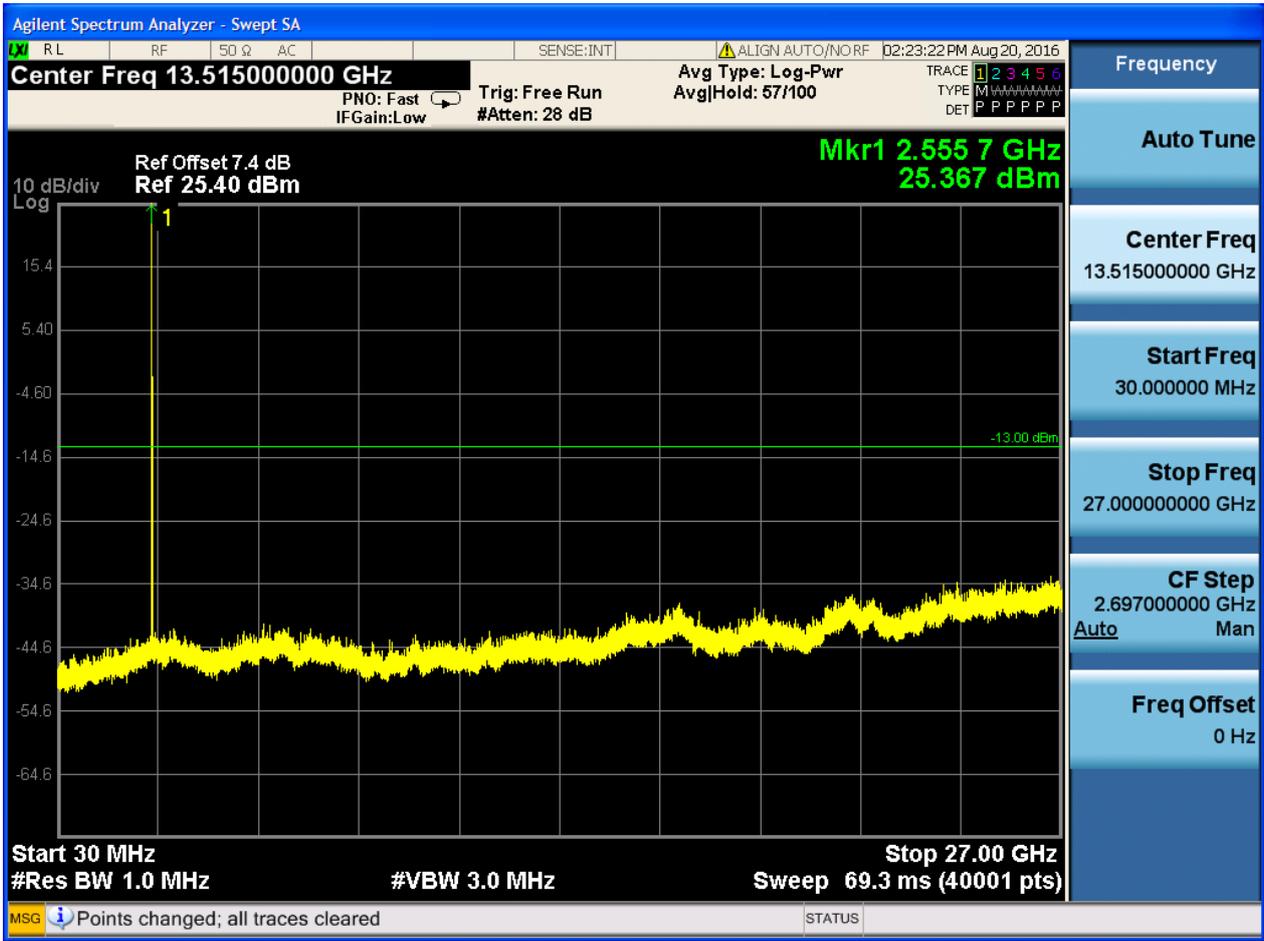
6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0



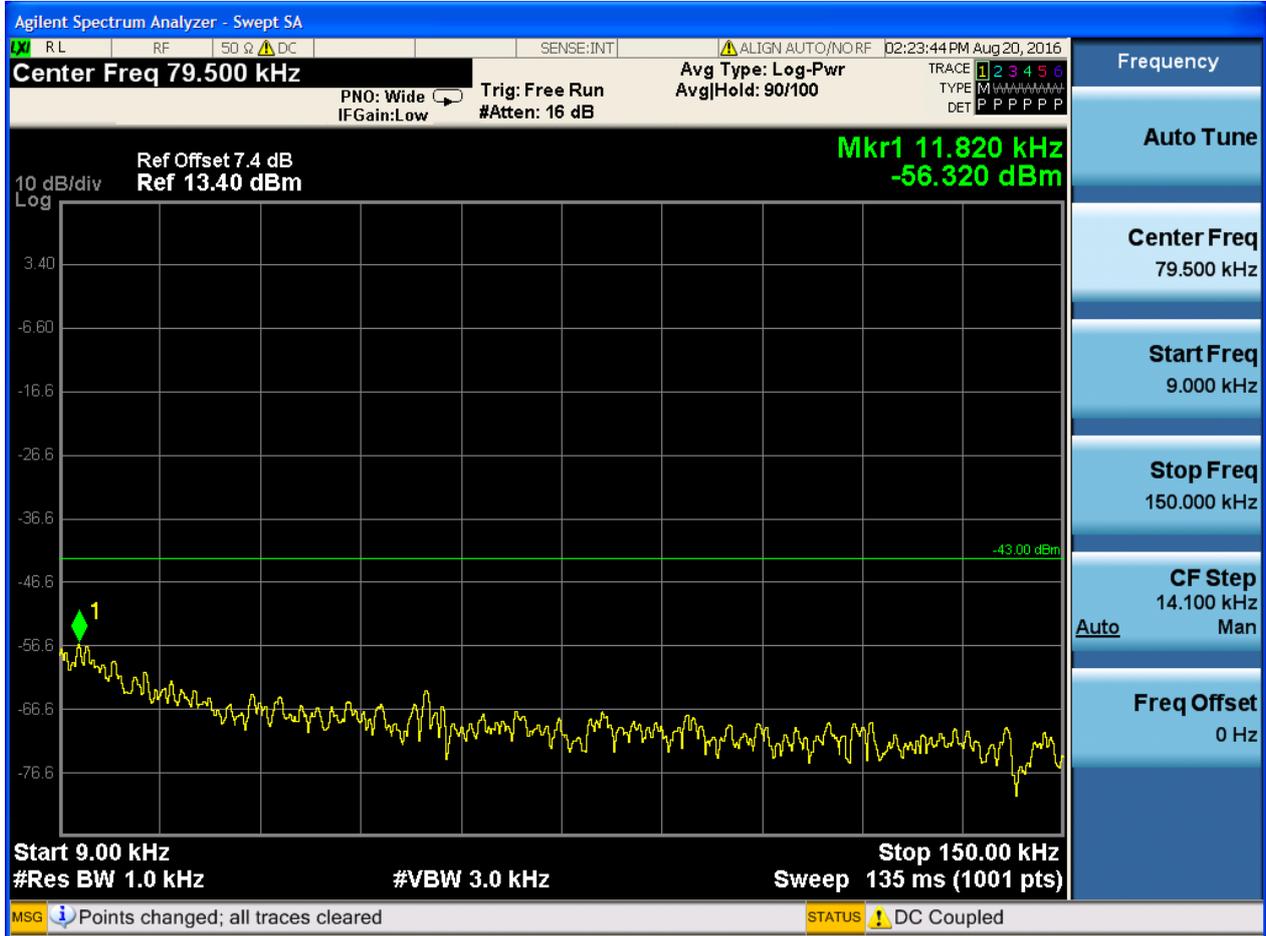




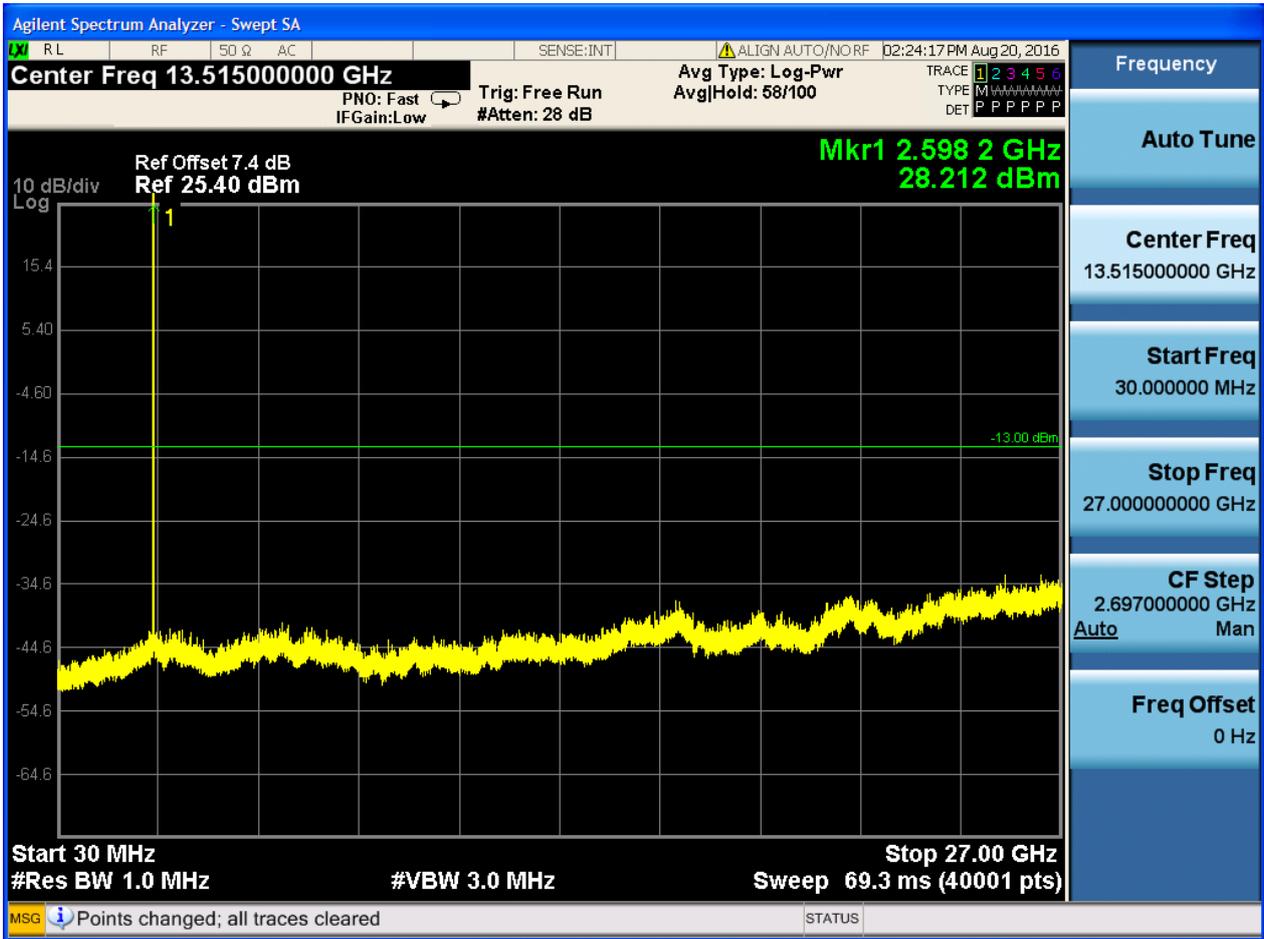


6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



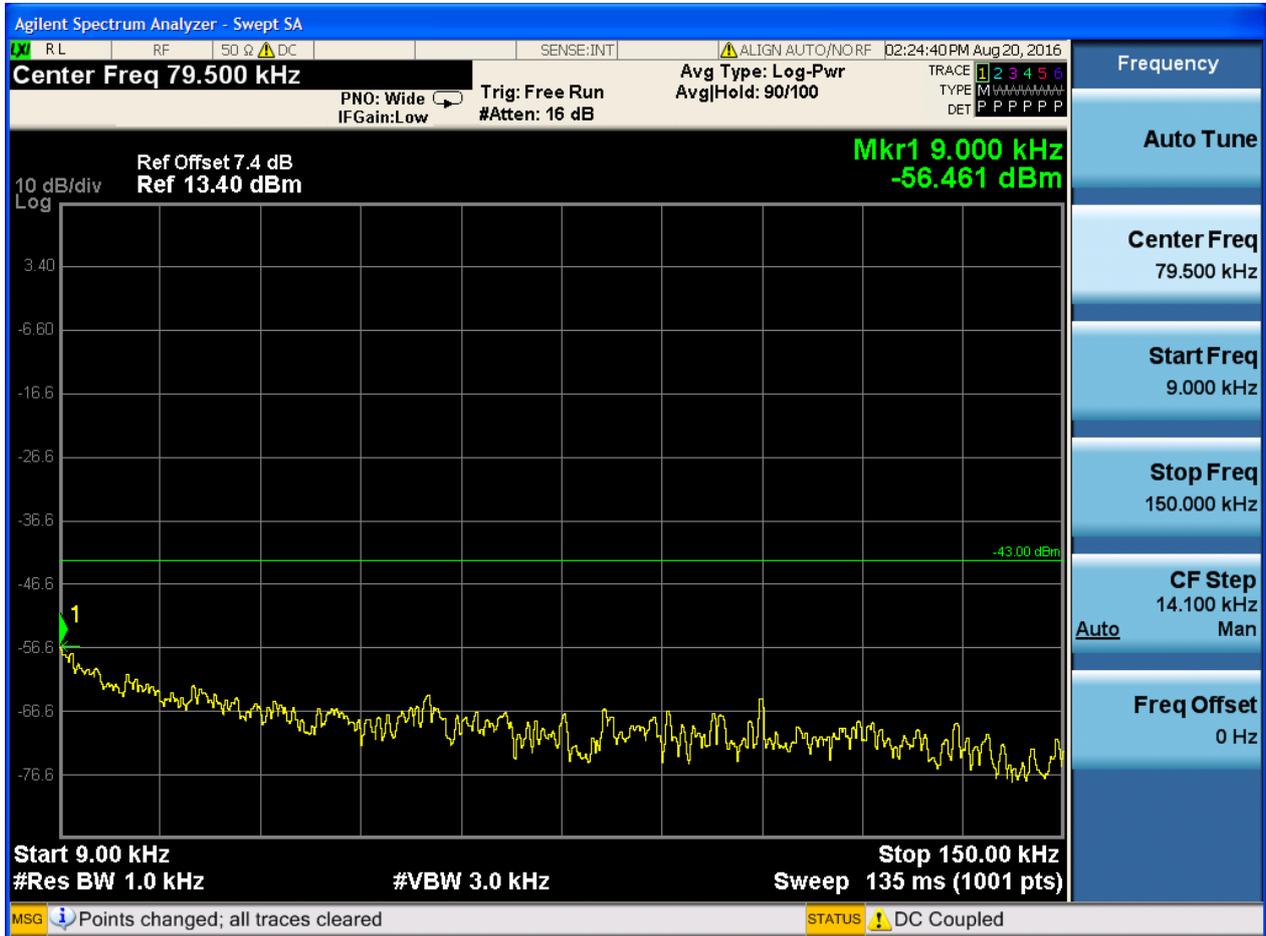


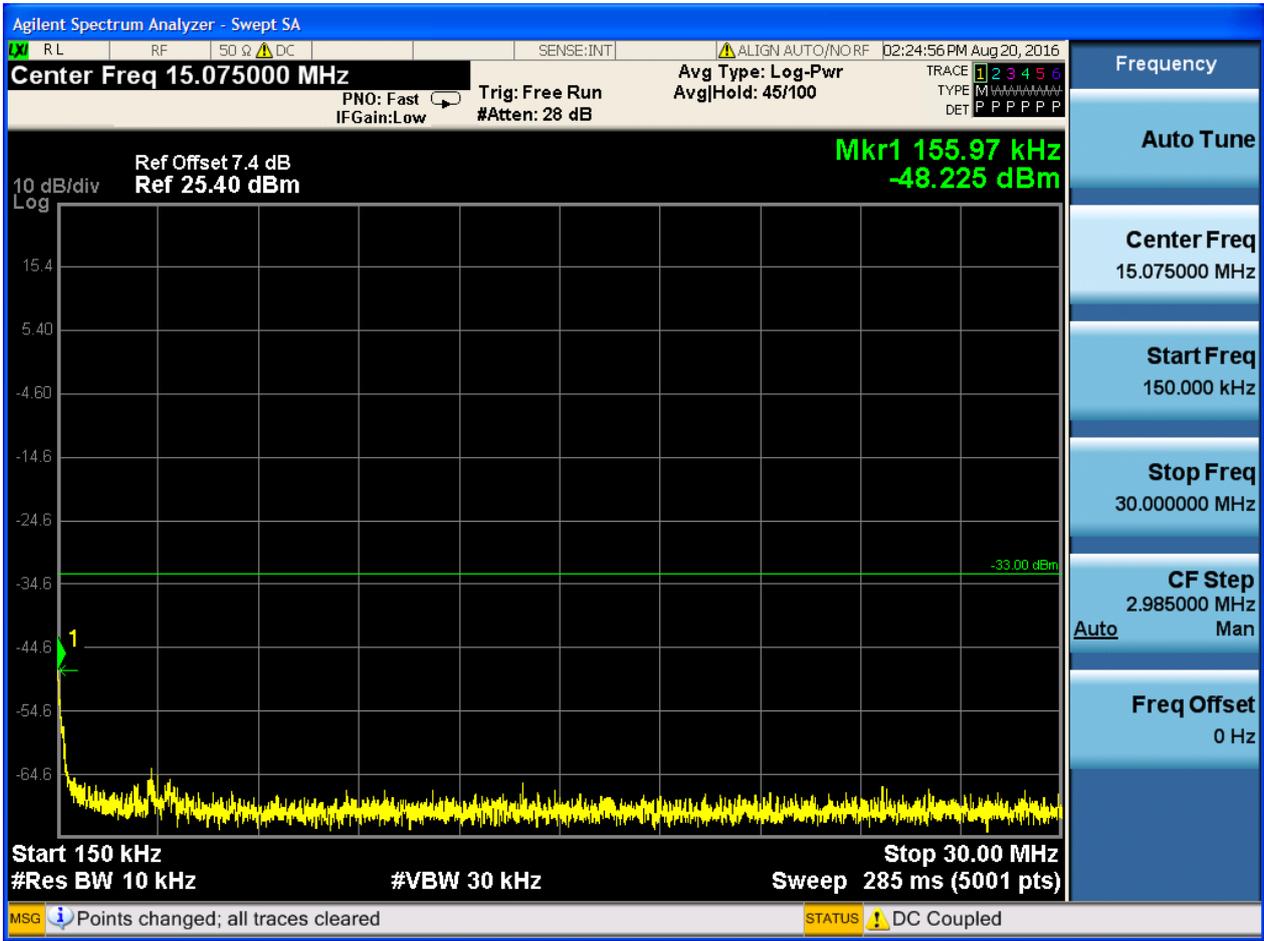


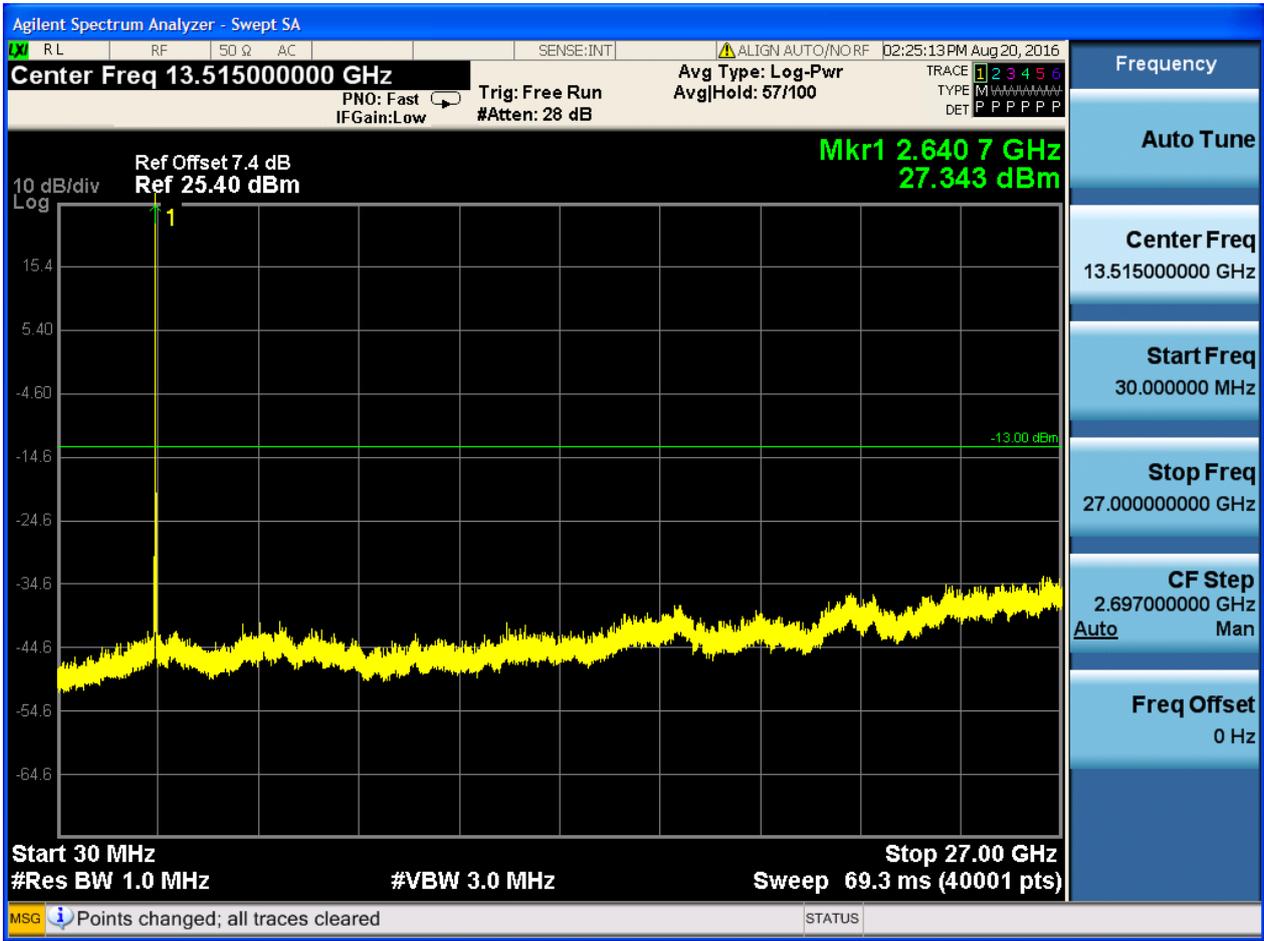


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0





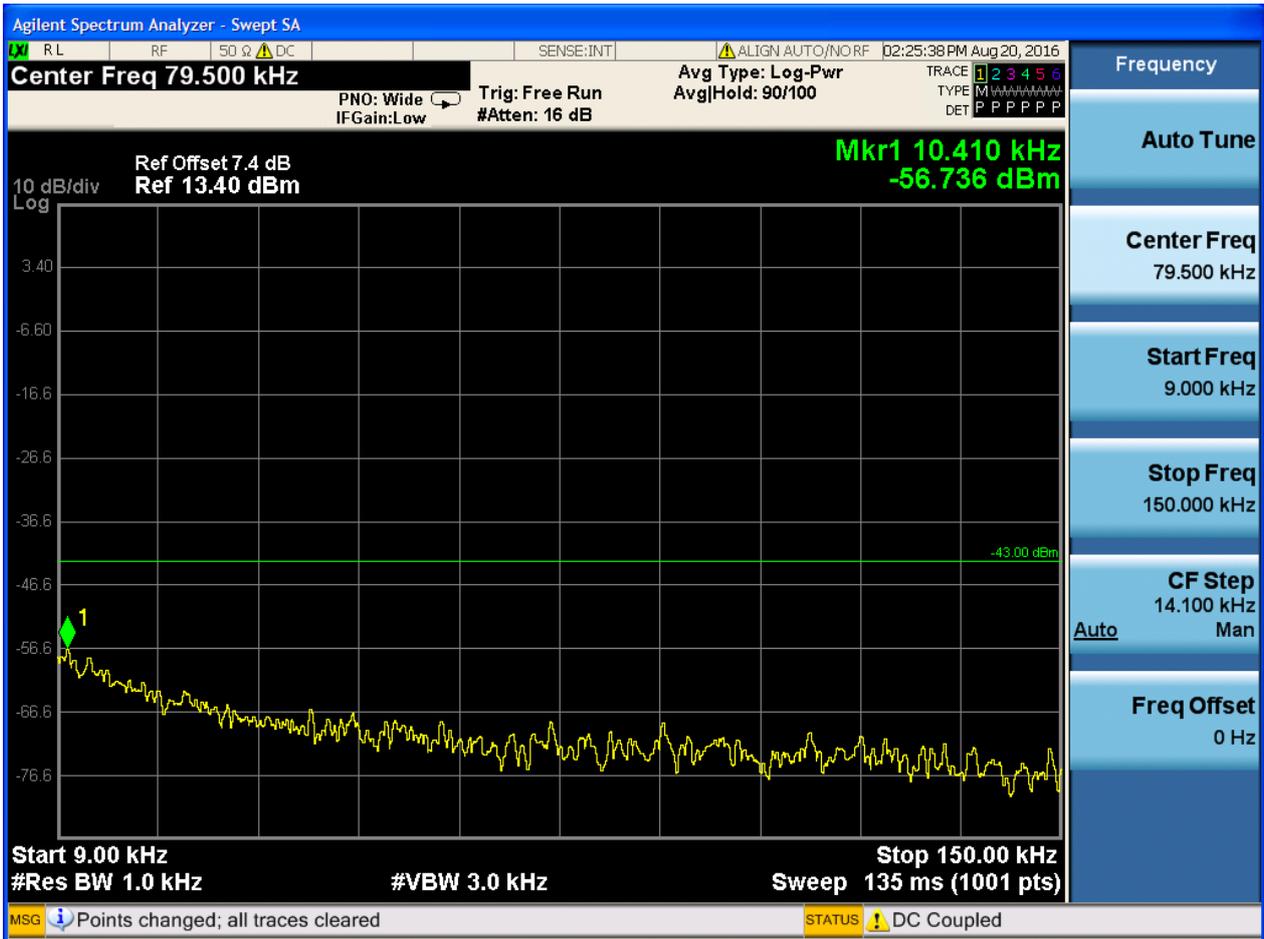


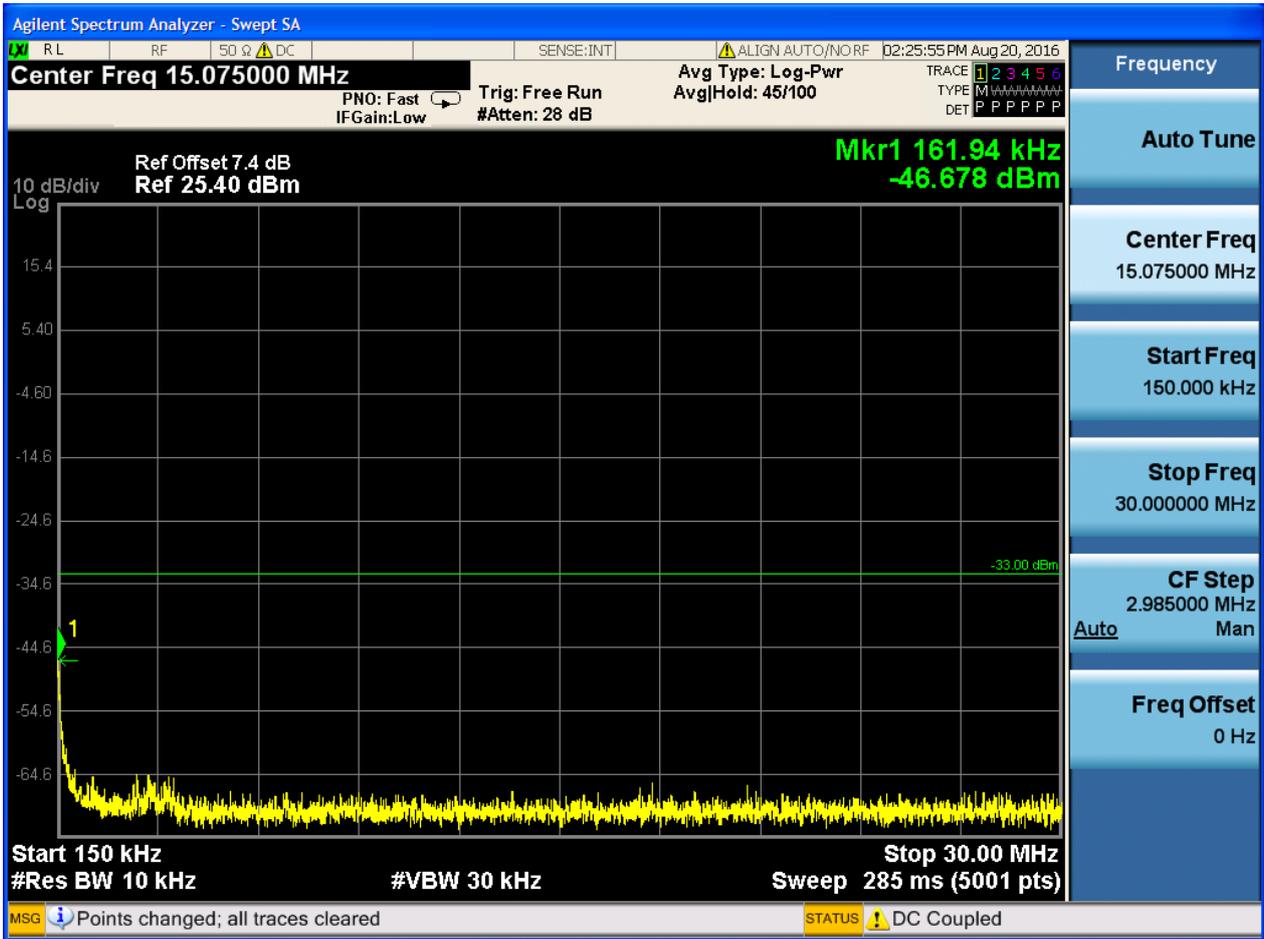


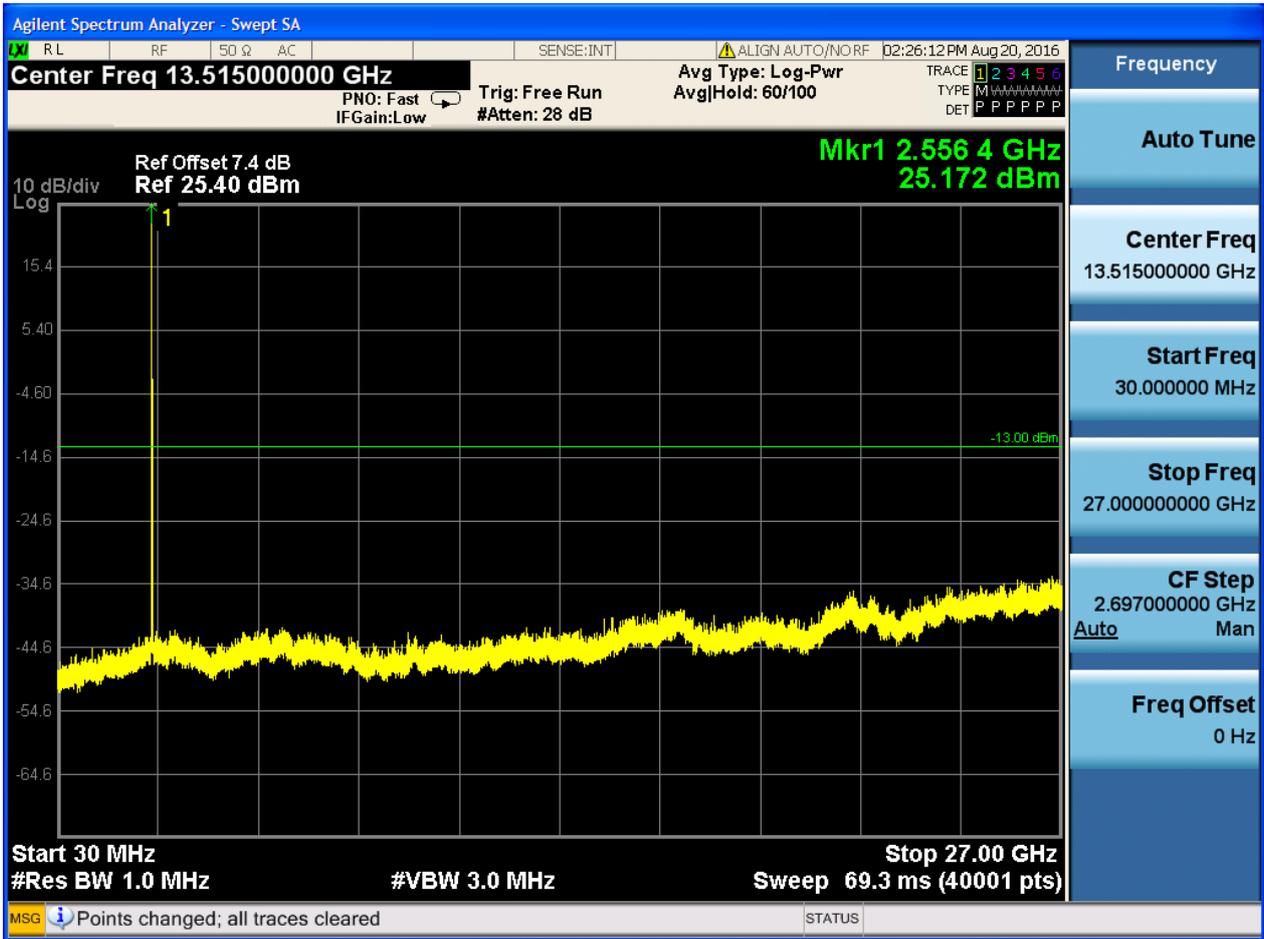
6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0



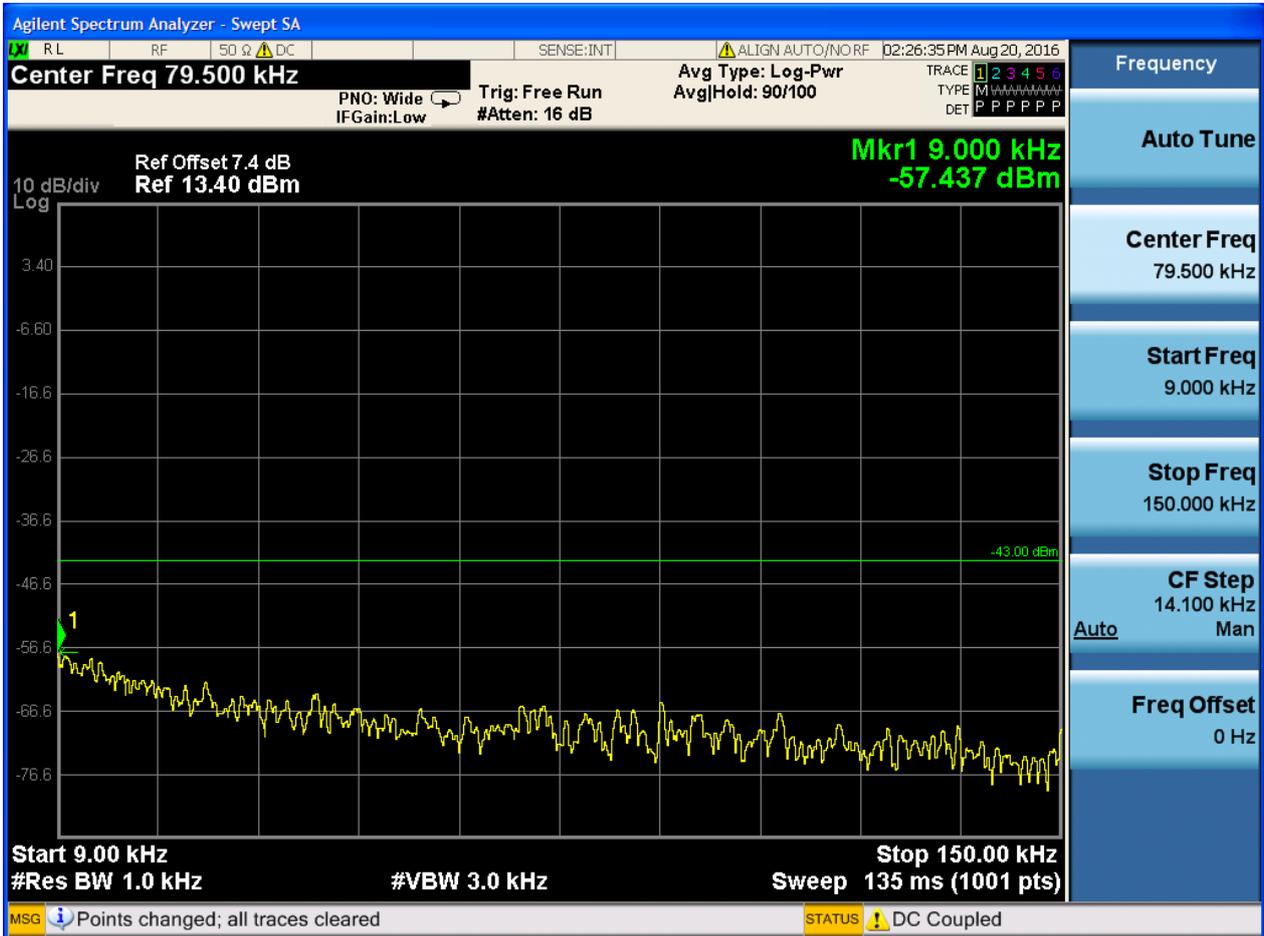


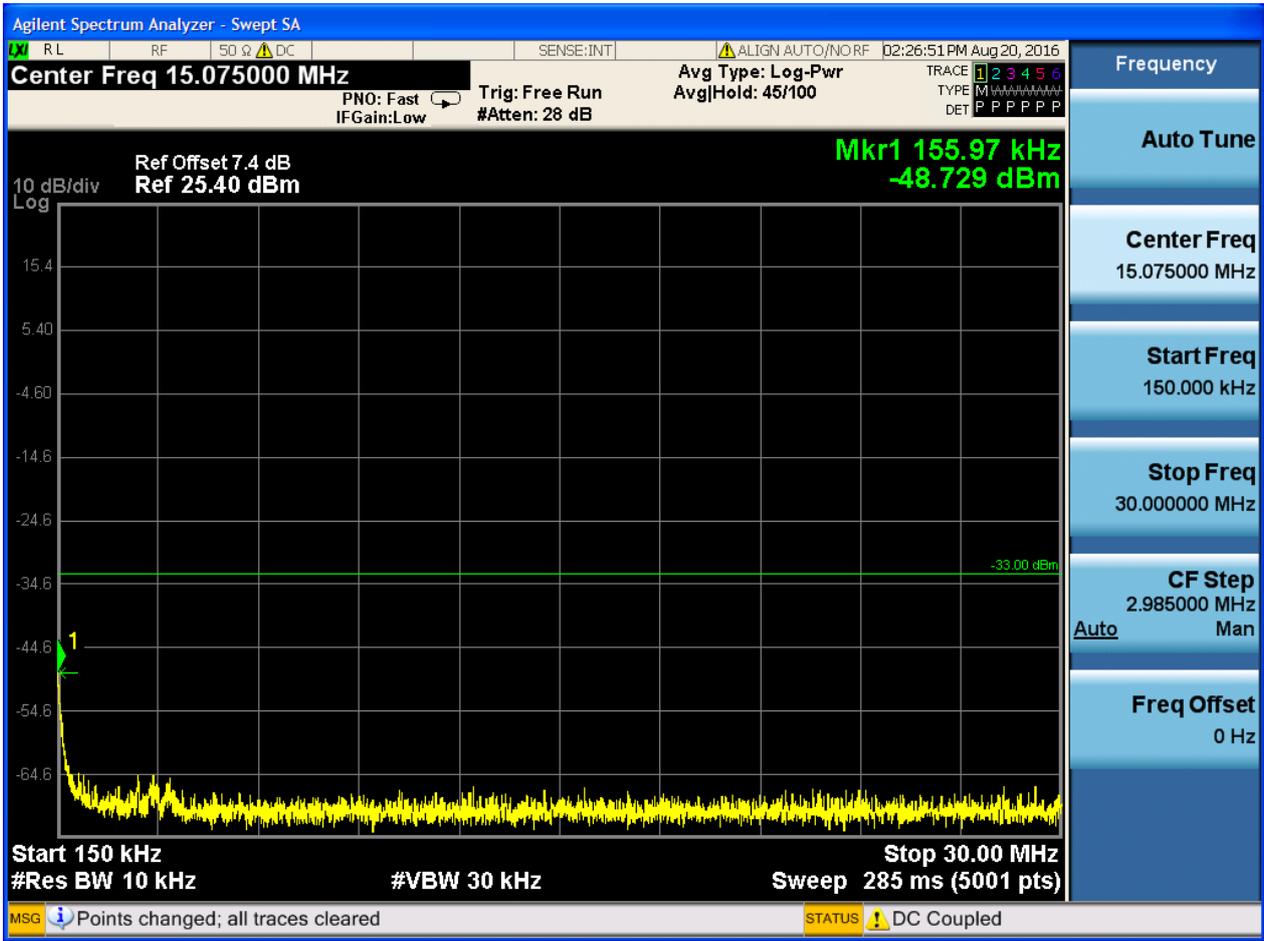


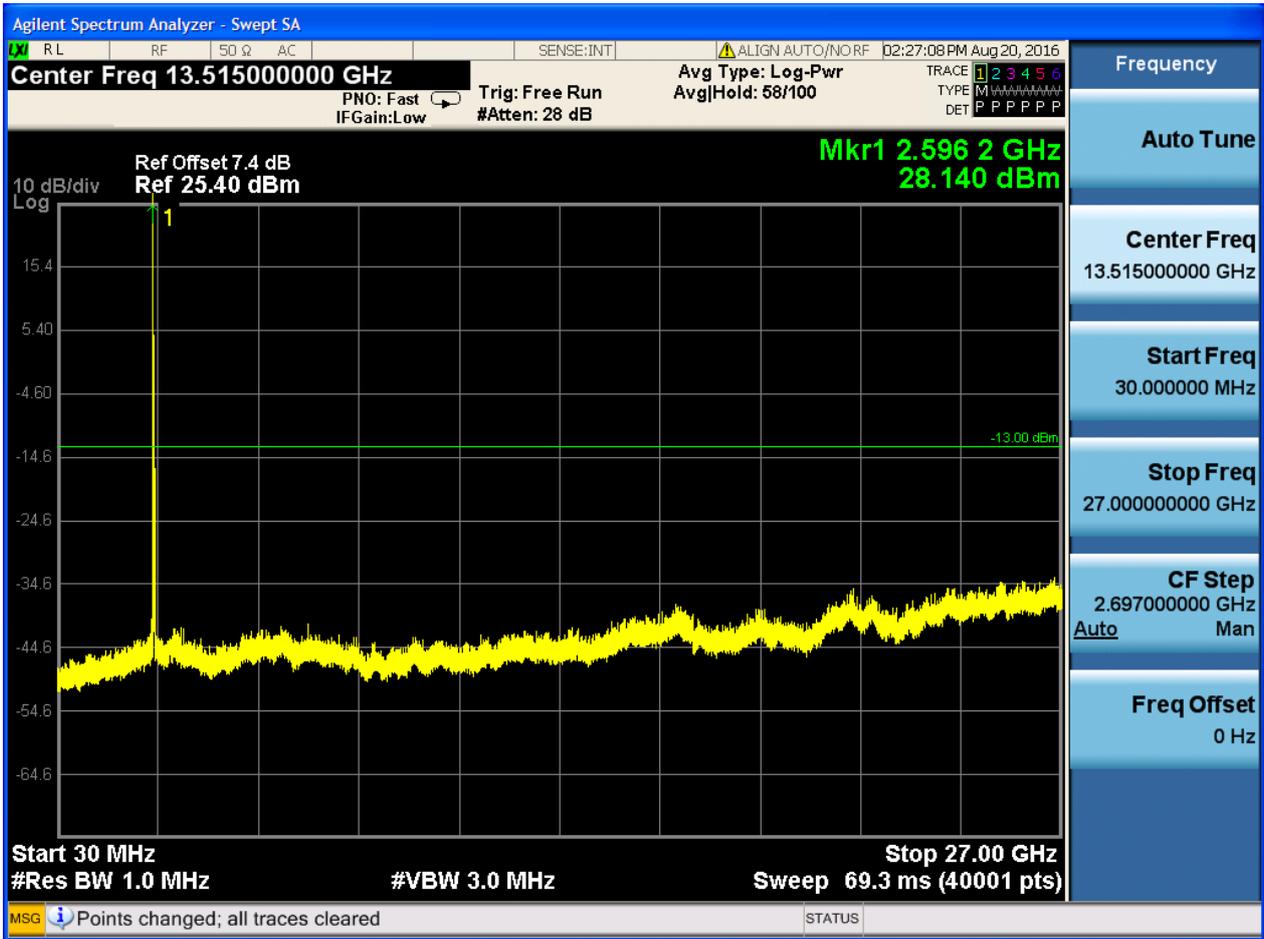


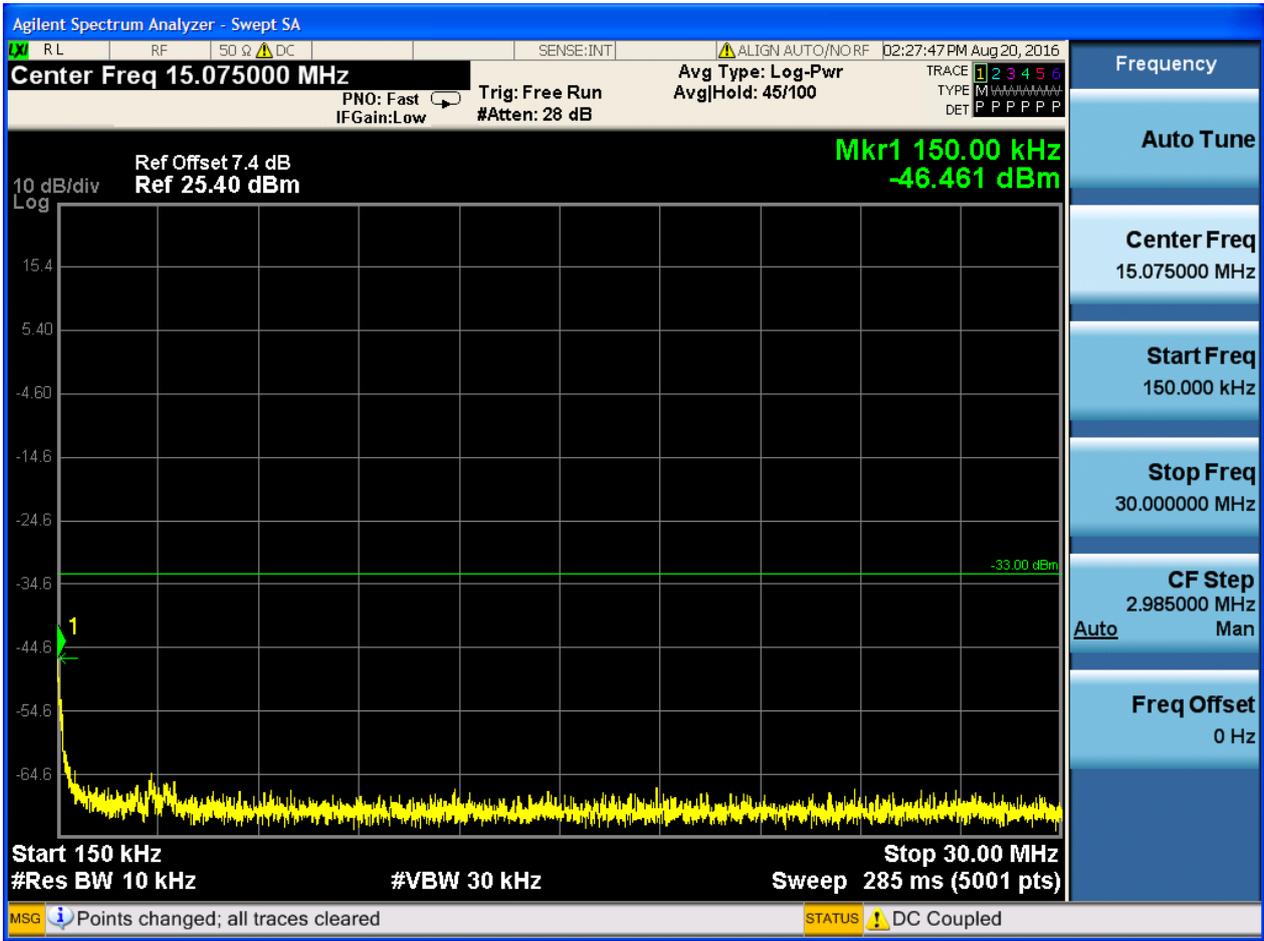
6.1.1.2.4.2 Test Channel = MCH

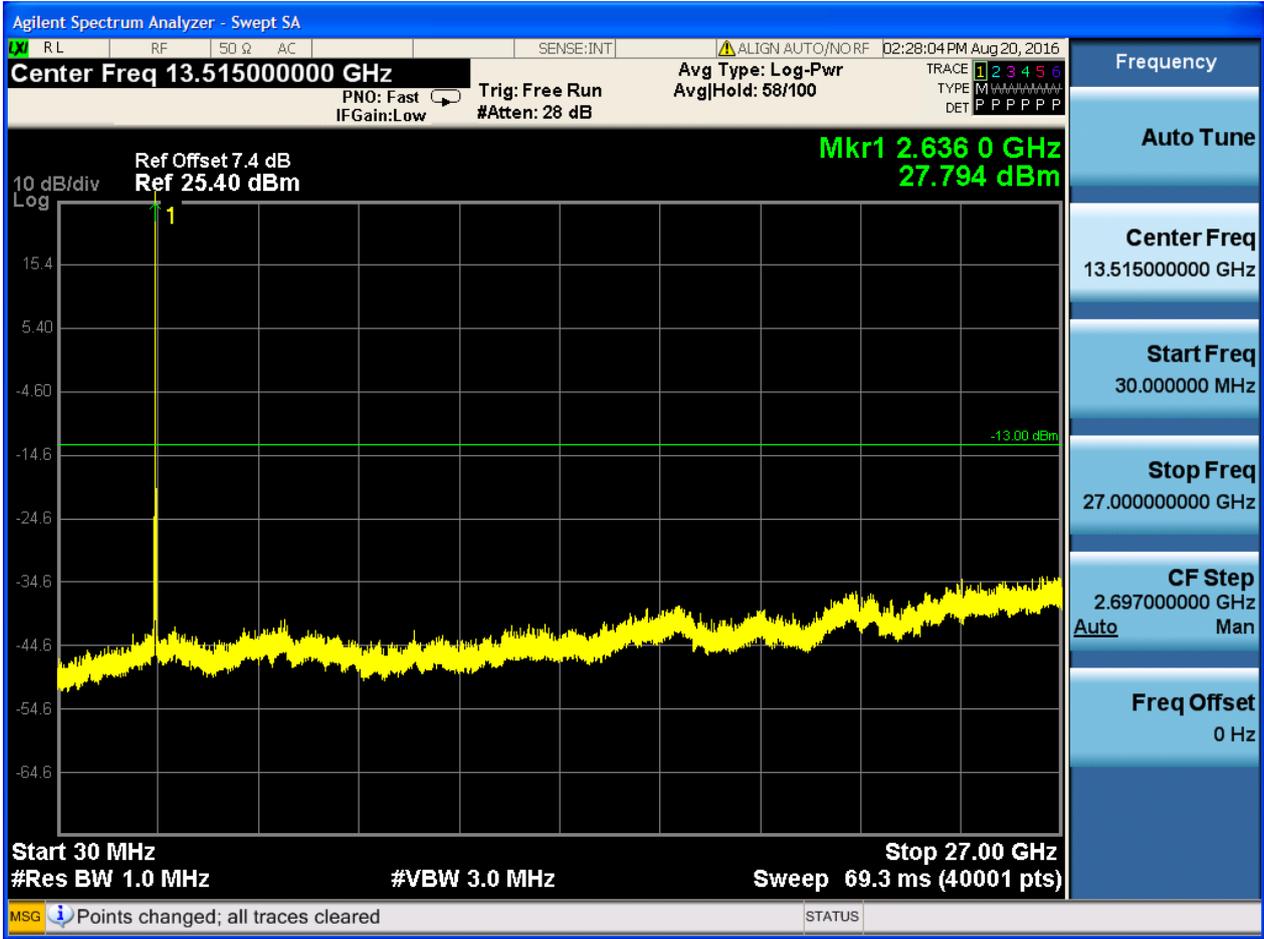
6.1.1.2.4.2.1 Test RB = RB1#0











7Appendix_G: Field Strength of Spurious Radiation

Note:

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

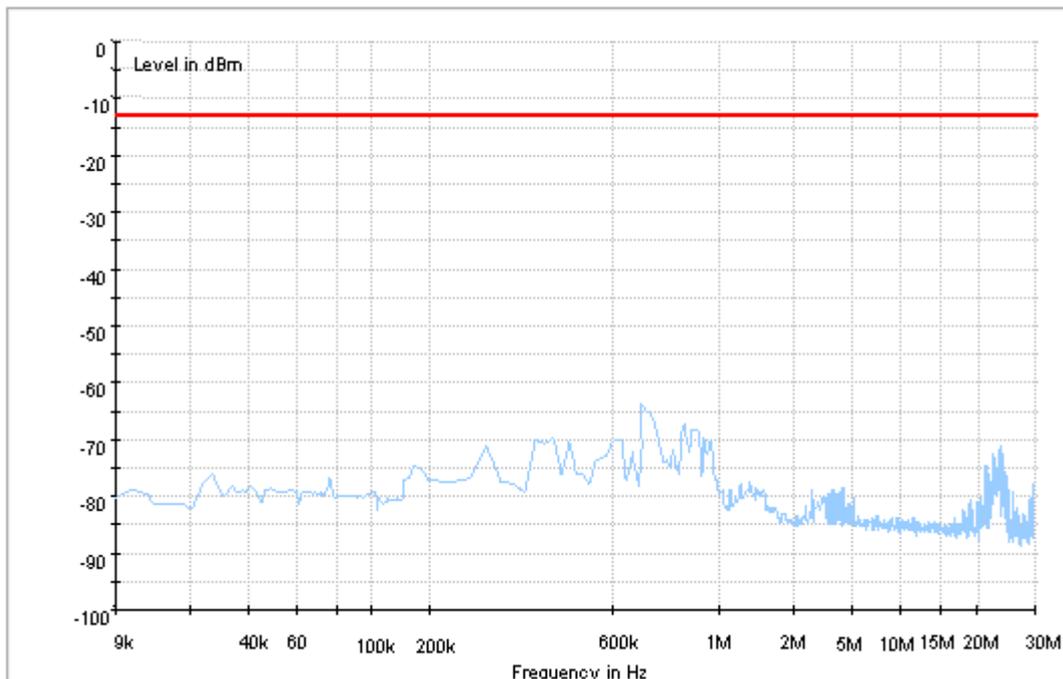
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

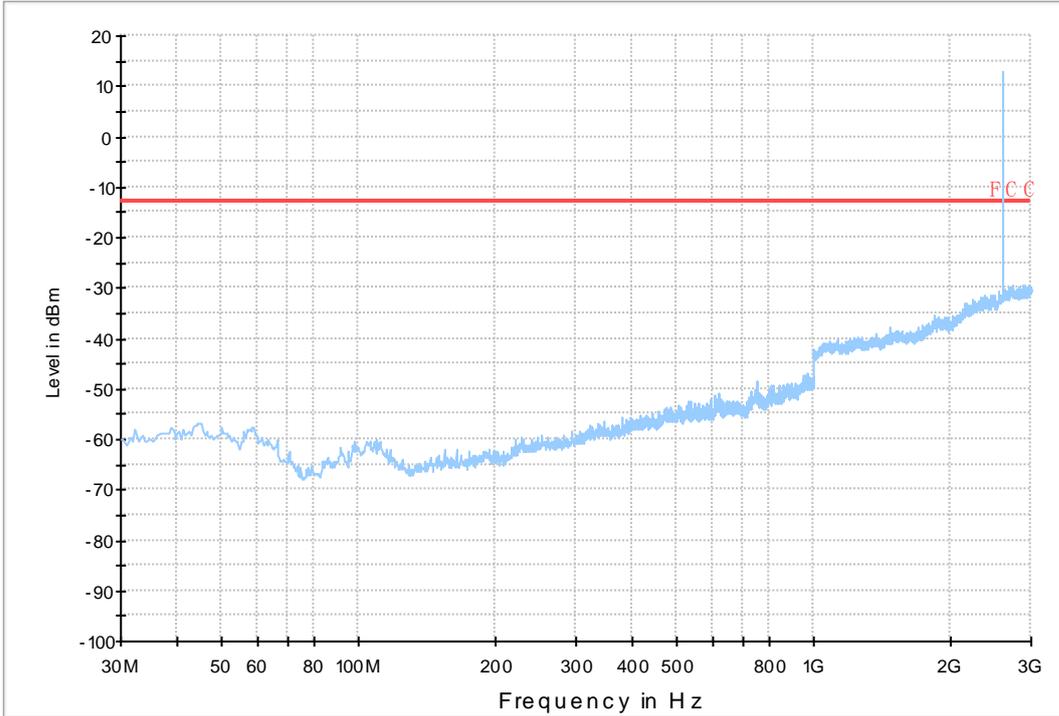
7.1 For LTE

7.1.1 Test Band = BAND41

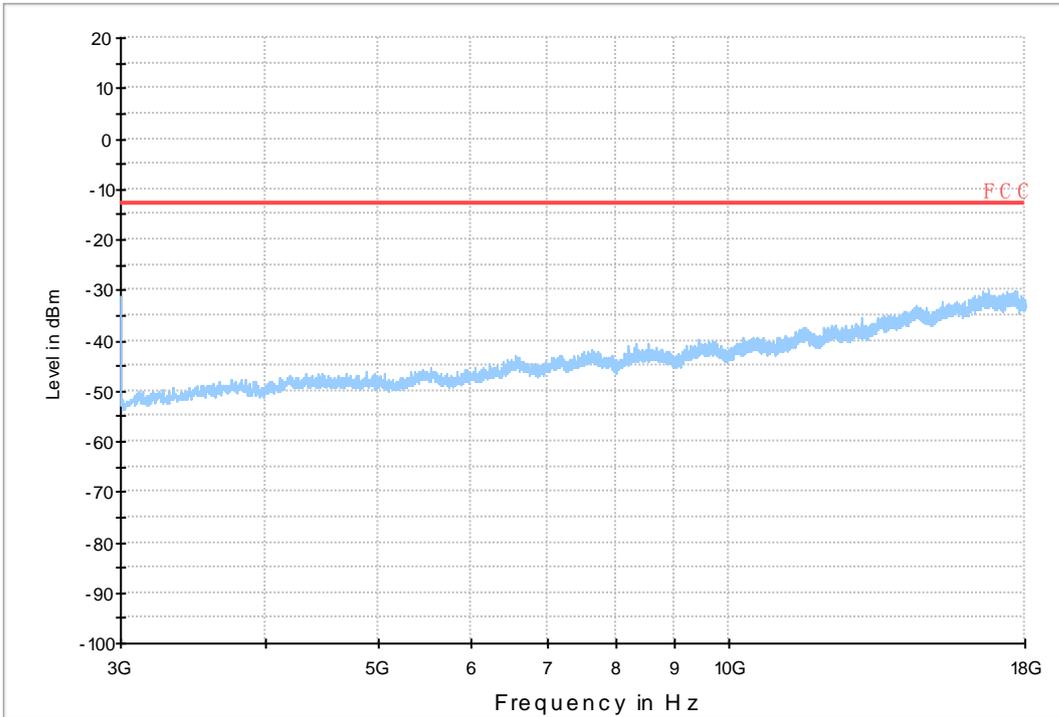
7.1.1.1 Test Bandwidth = 5 MHz

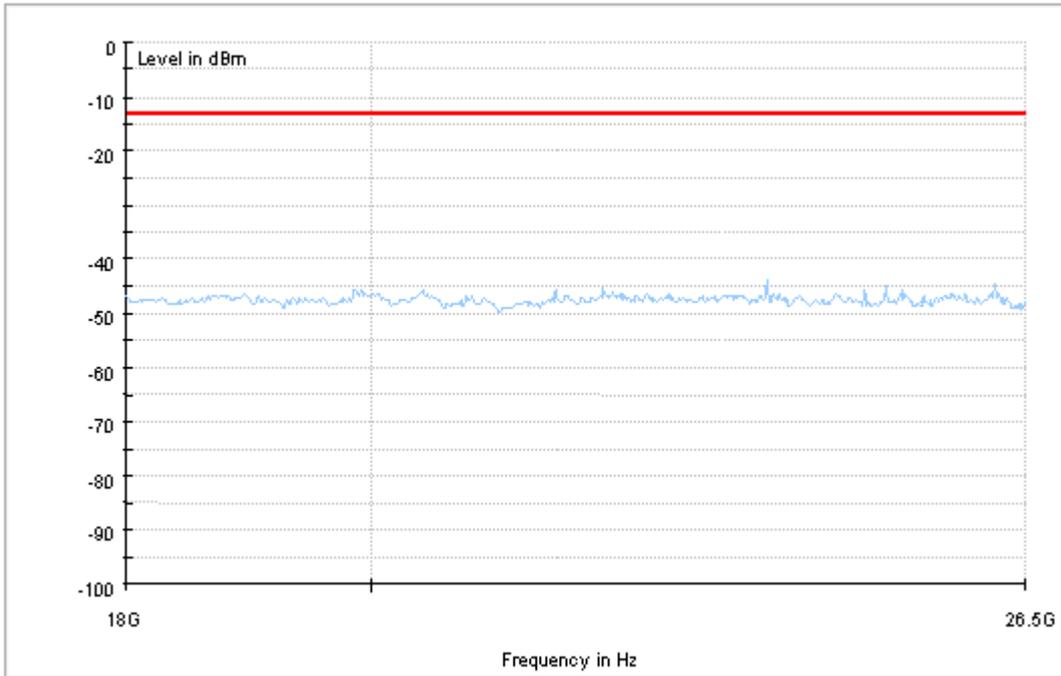


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L

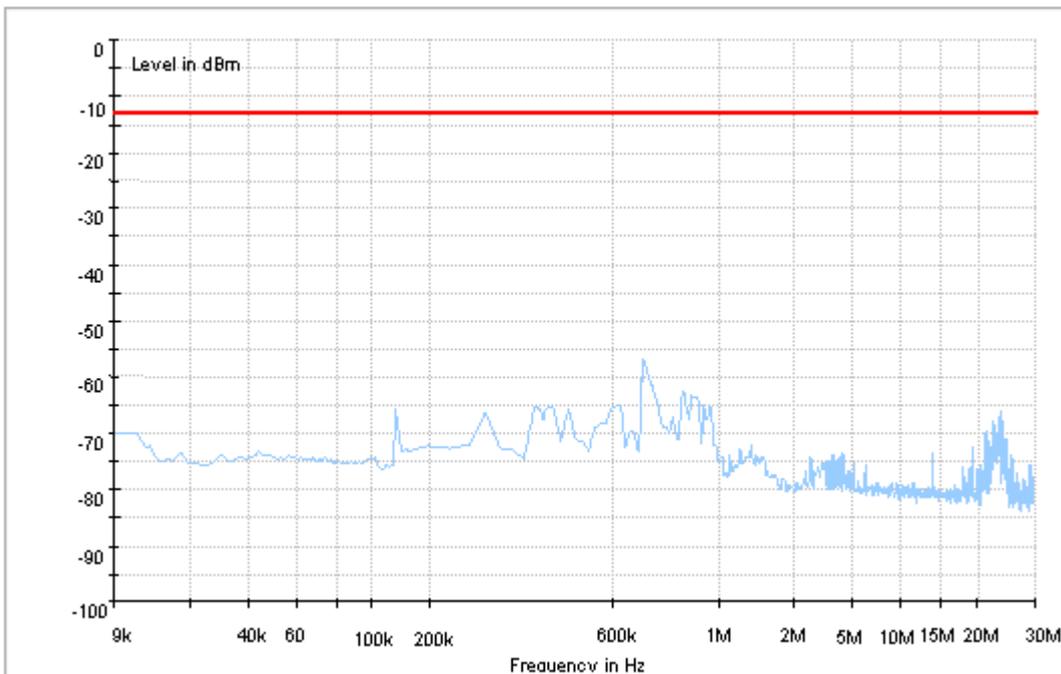


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H

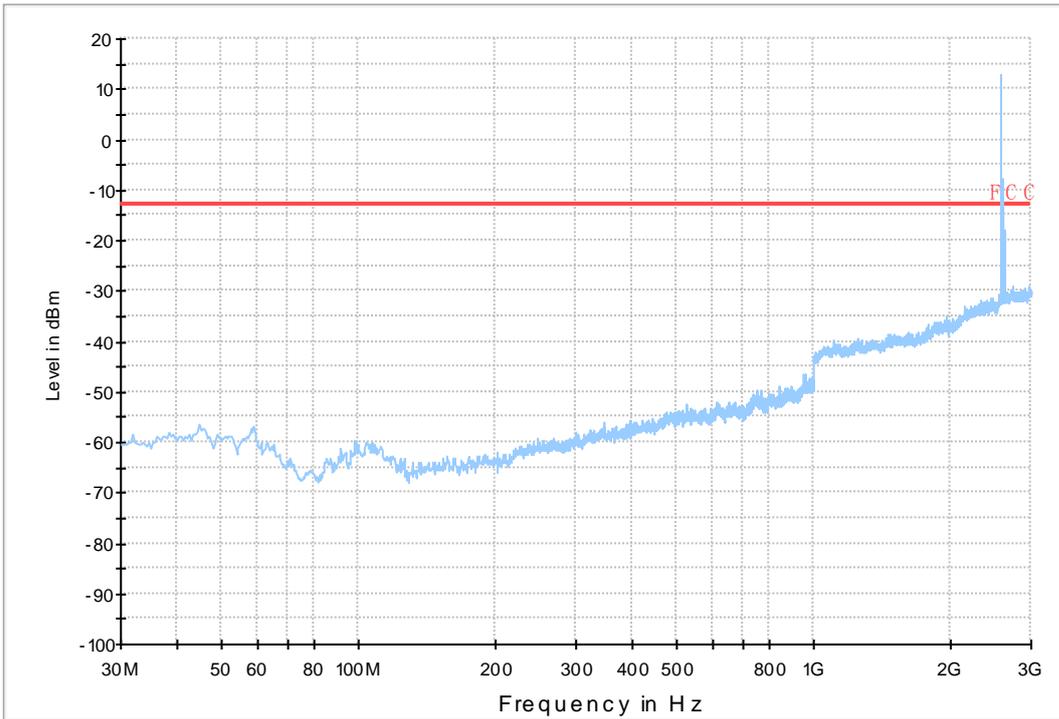




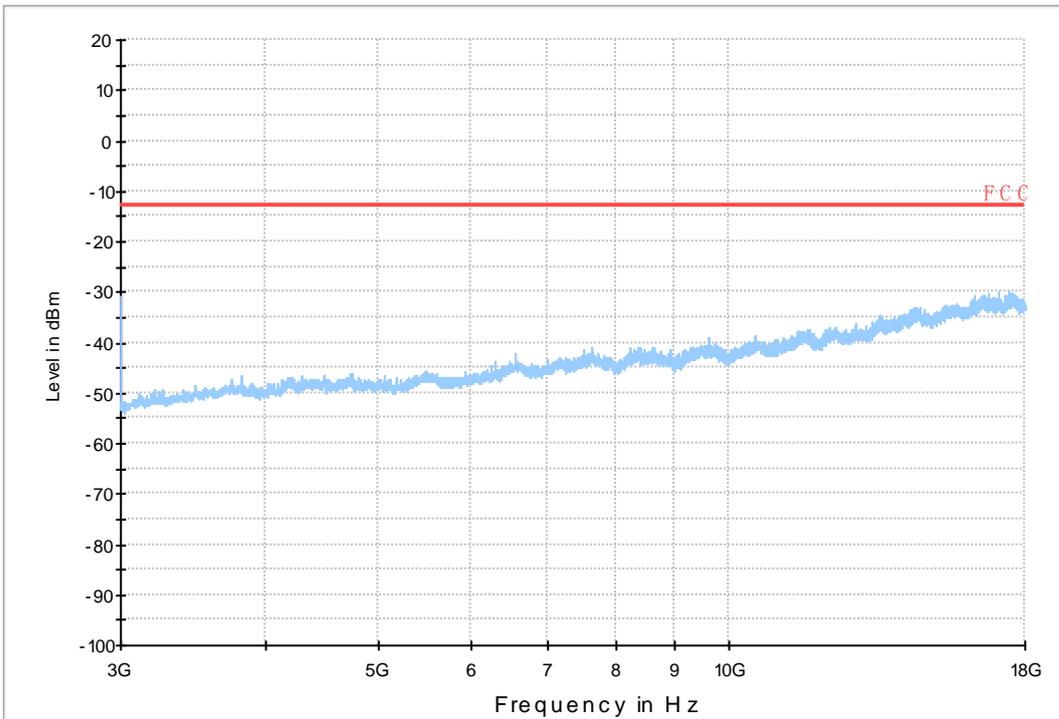
7.1.1.2 Test Bandwidth = 20 MHz

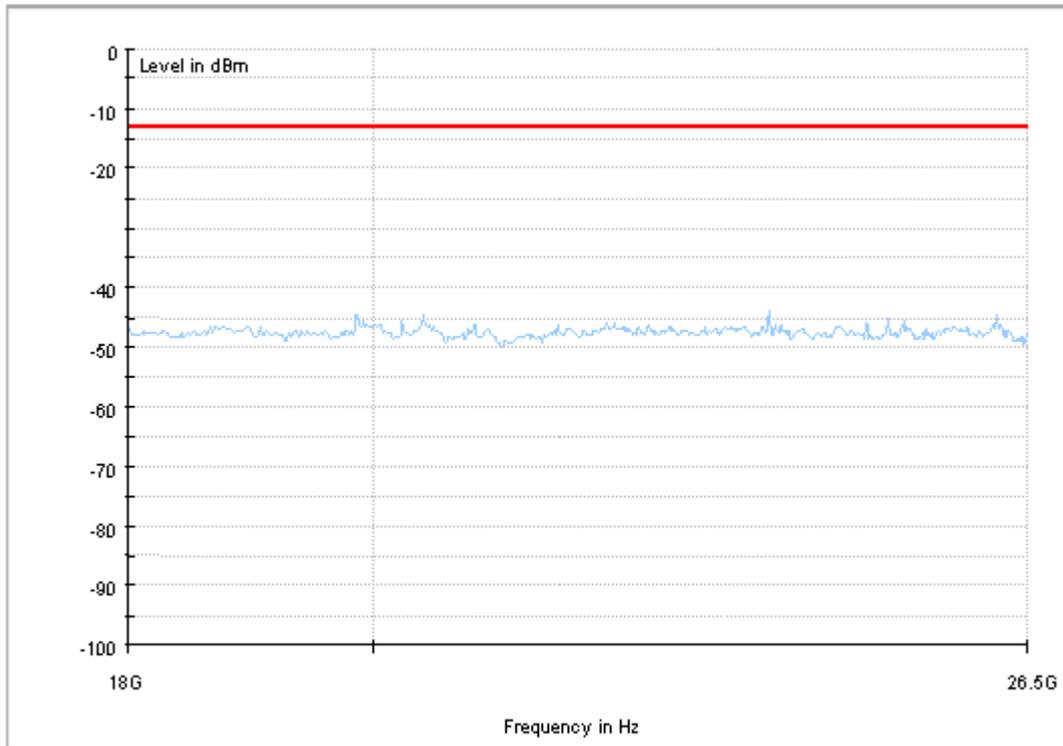


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L



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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
BAND41	LTE/TM1	5	LCH	TN	VL	-1.52	-0.00059	PASS
					VN	-3.43	-0.00134	PASS
					VH	-4.05	-0.00158	PASS
			MCH	TN	VL	-1.07	-0.00041	PASS
					VN	-2.26	-0.00087	PASS
					VH	-4.43	-0.0017	PASS
			HCH	TN	VL	-3.75	-0.00141	PASS
					VN	-7.14	-0.00269	PASS
					VH	-6.19	-0.00233	PASS
		10	LCH	TN	VL	-4.42	-0.00173	PASS
					VN	0.76	0.0003	PASS
					VH	-5.18	-0.00202	PASS
			MCH	TN	VL	-0.94	-0.00036	PASS
					VN	-12.83	-0.00493	PASS
					VH	-5.61	-0.00215	PASS
			HCH	TN	VL	-1.29	-0.00049	PASS
					VN	-3.13	-0.00118	PASS
					VH	-3.62	-0.00137	PASS
		15	LCH	TN	VL	-5.14	-0.00201	PASS
					VN	-2.50	-0.00098	PASS
					VH	-2.13	-0.00083	PASS
			MCH	TN	VL	-3.23	-0.00124	PASS
					VN	-1.73	-0.00066	PASS
					VH	-1.60	-0.00061	PASS
			HCH	TN	VL	-4.15	-0.00157	PASS
					VN	-4.76	-0.0018	PASS
					VH	-4.21	-0.00159	PASS
		20	LCH	TN	VL	-2.68	-0.00104	PASS
					VN	-2.47	-0.00096	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	-2.07	-0.00081	PASS	
					VL	-2.36	-0.00091	PASS	
					VN	-5.26	-0.00202	PASS	
			HCH	TN	VH	-4.22	-0.00162	PASS	
					VL	-3.91	-0.00148	PASS	
					VN	-3.88	-0.00147	PASS	
		LTE/TM2	5	LCH	TN	VH	-2.88	-0.00109	PASS
						VL	-3.25	-0.00127	PASS
						VN	-2.86	-0.00112	PASS
				MCH	TN	VH	-3.26	-0.00127	PASS
						VL	-4.35	-0.00167	PASS
						VN	-5.71	-0.00219	PASS
			HCH	TN	VH	-2.27	-0.00087	PASS	
					VL	-2.66	-0.001	PASS	
					VN	-4.53	-0.00171	PASS	
			10	LCH	TN	VH	-4.66	-0.00176	PASS
						VL	-4.08	-0.00159	PASS
						VN	0.67	0.00026	PASS
	MCH			TN	VH	-2.40	-0.00094	PASS	
					VL	-2.33	-0.00089	PASS	
					VN	-3.52	-0.00135	PASS	
	HCH		TN	VH	-2.53	-0.00097	PASS		
				VL	-4.05	-0.00153	PASS		
				VN	-3.95	-0.00149	PASS		
	15	LCH	TN	VH	-7.37	-0.00278	PASS		
				VL	-4.76	-0.00186	PASS		
				VN	-7.04	-0.00275	PASS		
		MCH	TN	VH	-2.59	-0.00101	PASS		
				VL	-0.87	-0.00033	PASS		
				VN	-2.07	-0.00079	PASS		
	HCH	TN	VH	-4.98	-0.00191	PASS			
			VL	-2.99	-0.00113	PASS			
			VN	-4.45	-0.00168	PASS			
	20	LCH	TN	VH	-2.76	-0.00104	PASS		
				VL	-4.99	-0.00195	PASS		
				VN	-5.46	-0.00213	PASS		
		MCH	TN	VH	-2.93	-0.00114	PASS		
				VL	-5.31	-0.00204	PASS		
				VN	-0.62	-0.00024	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VH	-2.32	-0.00089	PASS
			HCH	TN	VL	-4.19	-0.00158	PASS
					VN	-5.71	-0.00216	PASS
					VH	-5.04	-0.00191	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
BAND41	LTE/TM1	5	LCH	VN	-30	-10.66	-0.00417	PASS
					-20	0.74	0.00029	PASS
					-10	-5.21	-0.00204	PASS
					0	-2.22	-0.00087	PASS
					10	-3.33	-0.0013	PASS
					20	-4.11	-0.00161	PASS
					30	-3.58	-0.0014	PASS
					40	-5.38	-0.0021	PASS
			50	-3.95	-0.00154	PASS		
			MCH	VN	-30	-3.88	-0.00149	PASS
					-20	-4.79	-0.00184	PASS
					-10	-3.86	-0.00148	PASS
					0	-5.84	-0.00224	PASS
					10	-6.08	-0.00233	PASS
					20	-4.32	-0.00166	PASS
					30	-8.57	-0.00329	PASS
					40	-4.88	-0.00187	PASS
			HCH	VN	-30	-6.62	-0.0025	PASS
					-20	-6.32	-0.00238	PASS
					-10	-7.41	-0.00279	PASS
					0	-10.46	-0.00394	PASS
					10	-3.50	-0.00132	PASS
					20	-4.96	-0.00187	PASS
					30	-3.93	-0.00148	PASS
		40			-5.71	-0.00215	PASS	
		10	LCH	VN	-30	-8.18	-0.0032	PASS
					-20	-0.33	-0.00013	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt..	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
					-10	-0.04	-0.00002	PASS	
					0	0.57	0.00022	PASS	
					10	-0.16	-0.00006	PASS	
					20	-3.98	-0.00155	PASS	
					30	-6.14	-0.0024	PASS	
					40	-1.60	-0.00063	PASS	
					50	-5.56	-0.00217	PASS	
			MCH	VN	-30	-3.68	-0.00141	PASS	
					-20	-5.46	-0.0021	PASS	
					-10	-0.72	-0.00028	PASS	
					0	-1.83	-0.0007	PASS	
					10	-3.85	-0.00148	PASS	
					20	-1.26	-0.00048	PASS	
					30	-1.12	-0.00043	PASS	
					40	-5.99	-0.0023	PASS	
			HCH	VN	-30	0.83	0.00031	PASS	
					-20	-3.09	-0.00117	PASS	
					-10	0.13	0.00005	PASS	
					0	-4.09	-0.00154	PASS	
					10	-2.57	-0.00097	PASS	
					20	-1.22	-0.00046	PASS	
					30	-4.94	-0.00186	PASS	
					40	-6.27	-0.00237	PASS	
			15	LCH	VN	-30	-7.20	-0.00281	PASS
						-20	-4.89	-0.00191	PASS
						-10	-1.97	-0.00077	PASS
						0	-4.62	-0.0018	PASS
						10	-2.36	-0.00092	PASS
						20	-3.10	-0.00121	PASS
						30	-3.15	-0.00123	PASS
						40	-2.98	-0.00116	PASS
				MCH	VN	-30	-2.96	-0.00114	PASS
						-20	-3.62	-0.00139	PASS
						-10	-3.82	-0.00147	PASS
						0	-4.22	-0.00162	PASS
						10	-3.46	-0.00133	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt..	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					20	-3.66	-0.0014	PASS		
					30	-1.09	-0.00042	PASS		
					40	0.11	0.00004	PASS		
					50	-3.86	-0.00148	PASS		
			HCH	VN	-30	-2.95	-0.00111	PASS		
					-20	-3.76	-0.00142	PASS		
					-10	-6.12	-0.00231	PASS		
					0	-4.51	-0.0017	PASS		
					10	-6.35	-0.0024	PASS		
					20	-7.01	-0.00265	PASS		
					30	-4.58	-0.00173	PASS		
					40	-4.36	-0.00165	PASS		
					50	-2.33	-0.00088	PASS		
					LCH	VN	-30	-4.98	-0.00194	PASS
							-20	-2.92	-0.00114	PASS
							-10	-5.31	-0.00207	PASS
		0	-6.39	-0.00249			PASS			
		10	-3.75	-0.00146			PASS			
		20	-8.43	-0.00329			PASS			
		30	-3.00	-0.00117			PASS			
		40	-1.92	-0.00075			PASS			
		MCH	VN	50	-4.71	-0.00184	PASS			
				-30	-2.07	-0.00079	PASS			
				-20	-5.62	-0.00216	PASS			
				-10	-0.92	-0.00035	PASS			
				0	-1.24	-0.00048	PASS			
				10	-2.50	-0.00096	PASS			
				20	-1.82	-0.0007	PASS			
				30	-5.88	-0.00226	PASS			
		HCH	VN	40	-2.25	-0.00086	PASS			
				50	-3.52	-0.00135	PASS			
				-30	-3.52	-0.00133	PASS			
				-20	-5.64	-0.00213	PASS			
				-10	-4.63	-0.00175	PASS			
				0	-4.38	-0.00166	PASS			
				10	-4.22	-0.0016	PASS			
				20	-5.66	-0.00214	PASS			
		30	-5.59	-0.00211	PASS					
		40	-3.79	-0.00143	PASS					

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt..	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM2	5	LCH	VN	50	-4.46	-0.00169	PASS
					-30	-5.24	-0.00205	PASS
					-20	-1.20	-0.00047	PASS
					-10	-6.81	-0.00266	PASS
					0	-6.98	-0.00273	PASS
					10	0.33	0.00013	PASS
					20	-5.02	-0.00196	PASS
					30	-2.00	-0.00078	PASS
					40	-0.70	-0.00027	PASS
			50	-7.00	-0.00274	PASS		
			MCH	VN	-30	4.72	0.00181	PASS
					-20	-8.74	-0.00336	PASS
					-10	6.67	0.00256	PASS
					0	-3.92	-0.0015	PASS
					10	-2.78	-0.00107	PASS
					20	-6.41	-0.00246	PASS
					30	-14.52	-0.00557	PASS
					40	2.98	0.00114	PASS
					50	-1.92	-0.00074	PASS
			HCH	VN	-30	-2.82	-0.00106	PASS
					-20	-5.36	-0.00202	PASS
					-10	-5.14	-0.00194	PASS
					0	-7.87	-0.00297	PASS
					10	-5.49	-0.00207	PASS
		20			-3.08	-0.00116	PASS	
		30			-4.53	-0.00171	PASS	
		40			-4.35	-0.00164	PASS	
		50			-2.92	-0.0011	PASS	
		10	LCH	VN	-30	-1.97	-0.00077	PASS
					-20	4.84	0.00189	PASS
					-10	-3.13	-0.00122	PASS
					0	0.20	0.00008	PASS
					10	-4.96	-0.00194	PASS
					20	-1.12	-0.00044	PASS
					30	-2.29	-0.00089	PASS
					40	-4.56	-0.00178	PASS
					50	-3.73	-0.00146	PASS
			MCH	VN	-30	0.70	0.00027	PASS
					-20	-5.41	-0.00208	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt..	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					-10	2.68	0.00103	PASS
					0	-0.37	-0.00014	PASS
					10	-0.29	-0.00011	PASS
					20	-3.19	-0.00122	PASS
					30	-2.76	-0.00106	PASS
					40	-6.75	-0.00259	PASS
					50	0.40	0.00015	PASS
			HCH	VN	-30	-5.45	-0.00206	PASS
					-20	-3.09	-0.00117	PASS
					-10	-6.45	-0.00243	PASS
					0	-1.47	-0.00055	PASS
					10	-4.12	-0.00155	PASS
					20	-4.79	-0.00181	PASS
					30	-7.38	-0.00278	PASS
					40	-4.33	-0.00163	PASS
		50	-3.72	-0.0014	PASS			
		15	LCH	VN	-30	-5.36	-0.00209	PASS
					-20	-1.37	-0.00053	PASS
					-10	-1.67	-0.00065	PASS
					0	-0.40	-0.00016	PASS
					10	-2.46	-0.00096	PASS
					20	-0.73	-0.00028	PASS
					30	-1.44	-0.00056	PASS
					40	-3.09	-0.00121	PASS
			50	-3.20	-0.00125	PASS		
			MCH	VN	-30	-1.83	-0.0007	PASS
					-20	-0.20	-0.00008	PASS
					-10	-1.14	-0.00044	PASS
					0	-0.10	-0.00004	PASS
					10	-4.18	-0.0016	PASS
					20	-3.88	-0.00149	PASS
		30			-3.62	-0.00139	PASS	
		40	-2.76	-0.00106	PASS			
		50	0.99	0.00038	PASS			
		HCH	VN	-30	-1.50	-0.00057	PASS	
				-20	-3.13	-0.00118	PASS	
				-10	-6.25	-0.00236	PASS	
				0	-6.09	-0.0023	PASS	
				10	-3.32	-0.00125	PASS	



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt..	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					20	-3.10	-0.00117	PASS		
					30	-6.84	-0.00258	PASS		
					40	-5.24	-0.00198	PASS		
					50	-5.82	-0.0022	PASS		
		20	LCH	VN	-30	-4.72	-0.00184	PASS		
					-20	1.06	0.00041	PASS		
					-10	-7.82	-0.00305	PASS		
					0	-4.63	-0.00181	PASS		
					10	-5.36	-0.00209	PASS		
					20	0.60	0.00023	PASS		
					30	-3.33	-0.0013	PASS		
					40	-0.41	-0.00016	PASS		
					50	1.80	0.0007	PASS		
					MCH	VN	-30	-2.72	-0.00104	PASS
							-20	-0.57	-0.00022	PASS
							-10	-3.22	-0.00124	PASS
							0	-3.23	-0.00124	PASS
							10	-0.86	-0.00033	PASS
							20	-6.18	-0.00237	PASS
							30	0.69	0.00026	PASS
							40	-2.93	-0.00112	PASS
					HCH	VN	-30	-5.94	-0.00225	PASS
							-20	-7.91	-0.00299	PASS
							-10	-5.69	-0.00215	PASS
							0	-4.11	-0.00155	PASS
							10	-4.63	-0.00175	PASS
							20	-5.64	-0.00213	PASS
							30	-6.61	-0.0025	PASS
							40	-5.41	-0.00205	PASS
					50	-5.09	-0.00192	PASS		

END