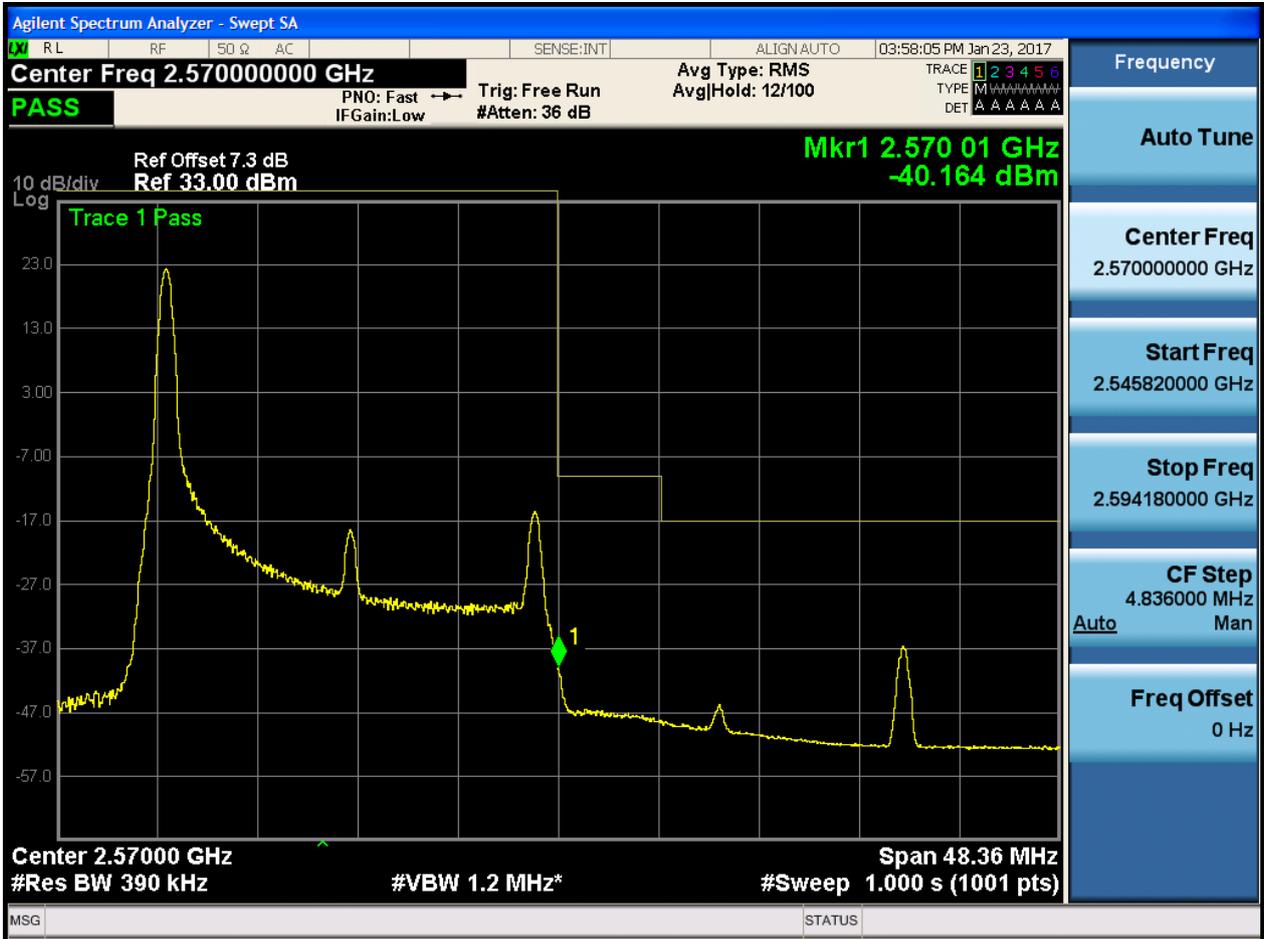




5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0





5.1.1.2.4.2.2 Test RB = RB1#99





5.1.1.2.4.2.4 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

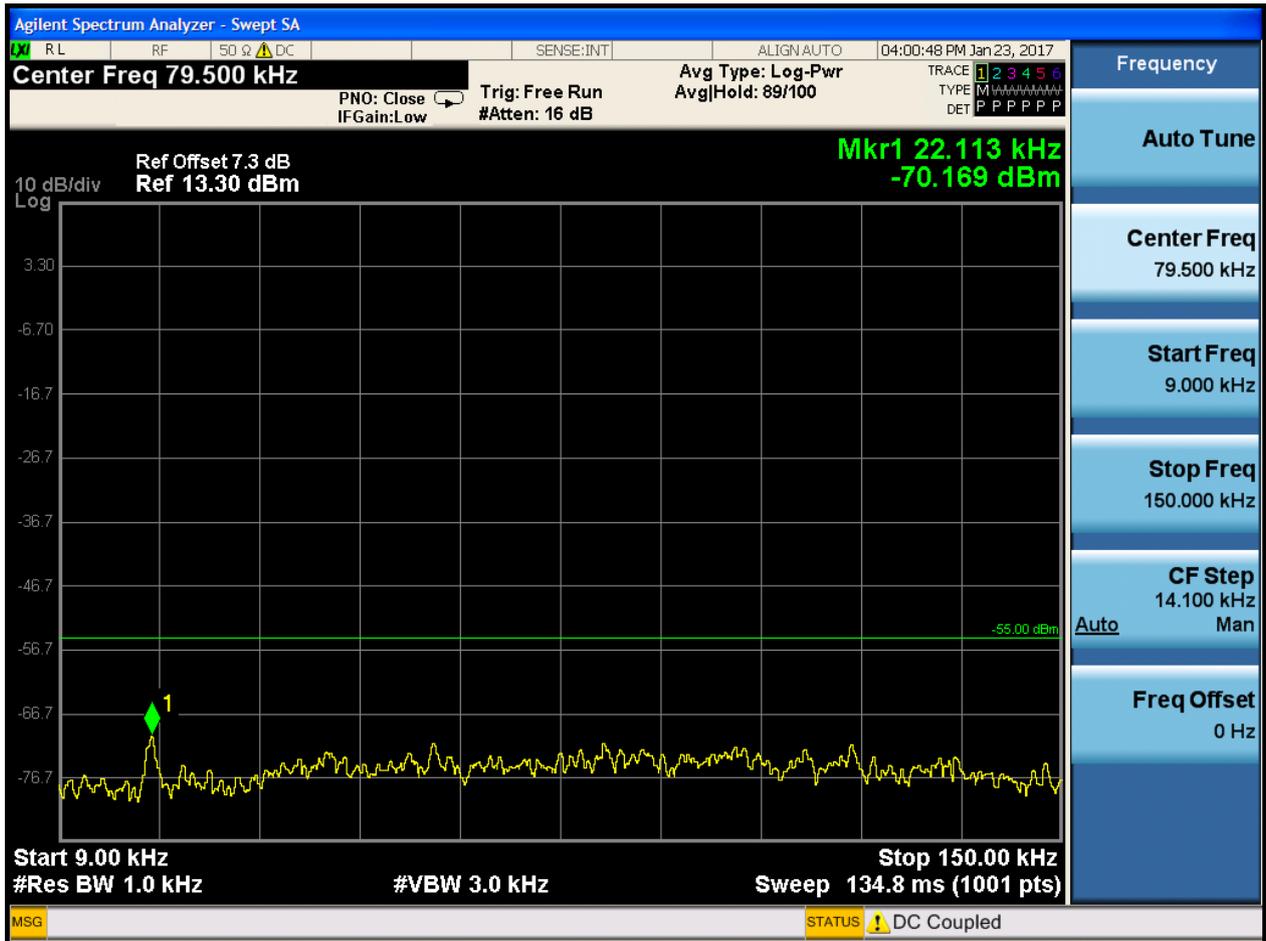
6.1.1 Test Band = BAND7

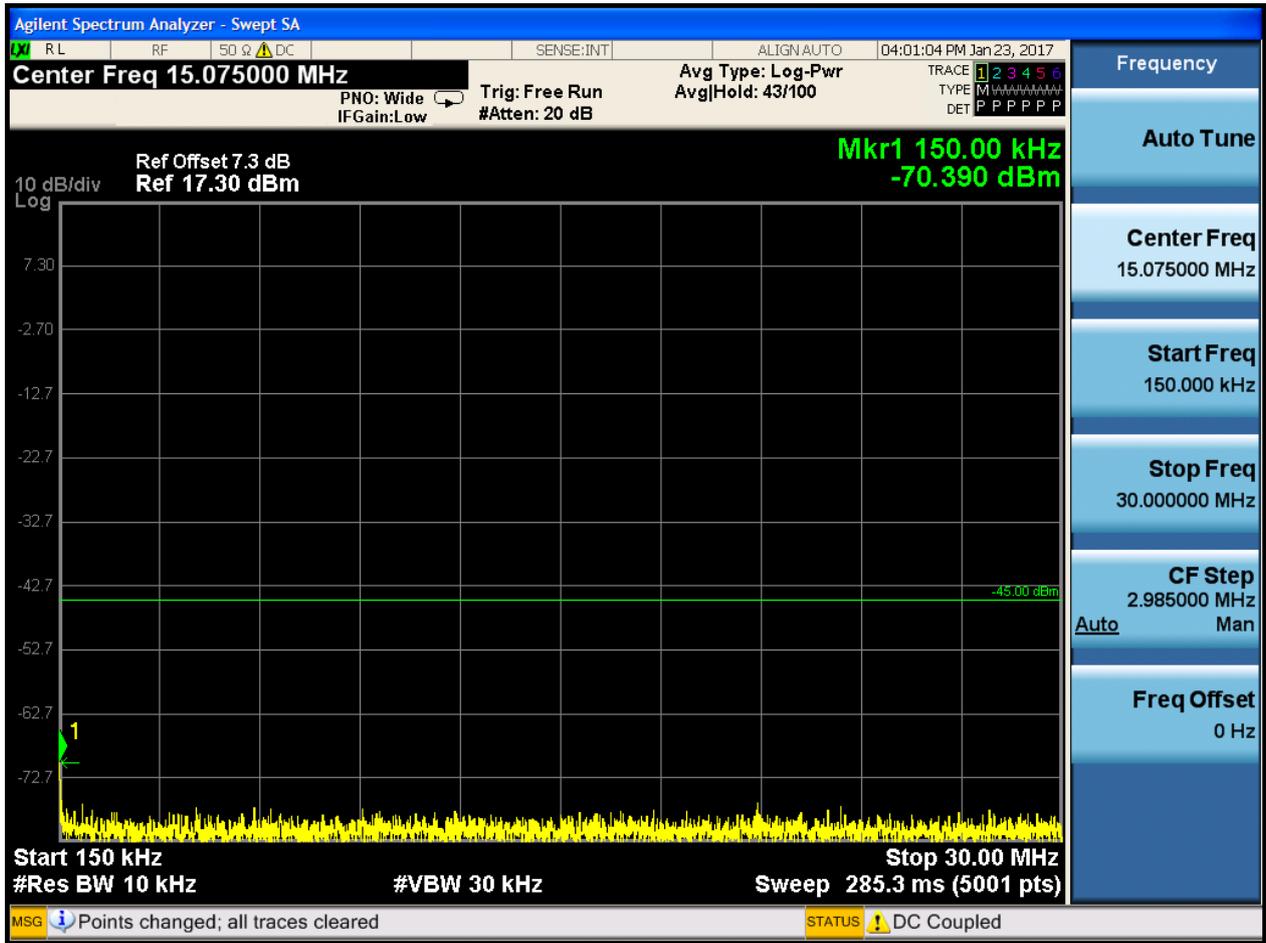
6.1.1.1 Test Mode = LTE/TM1

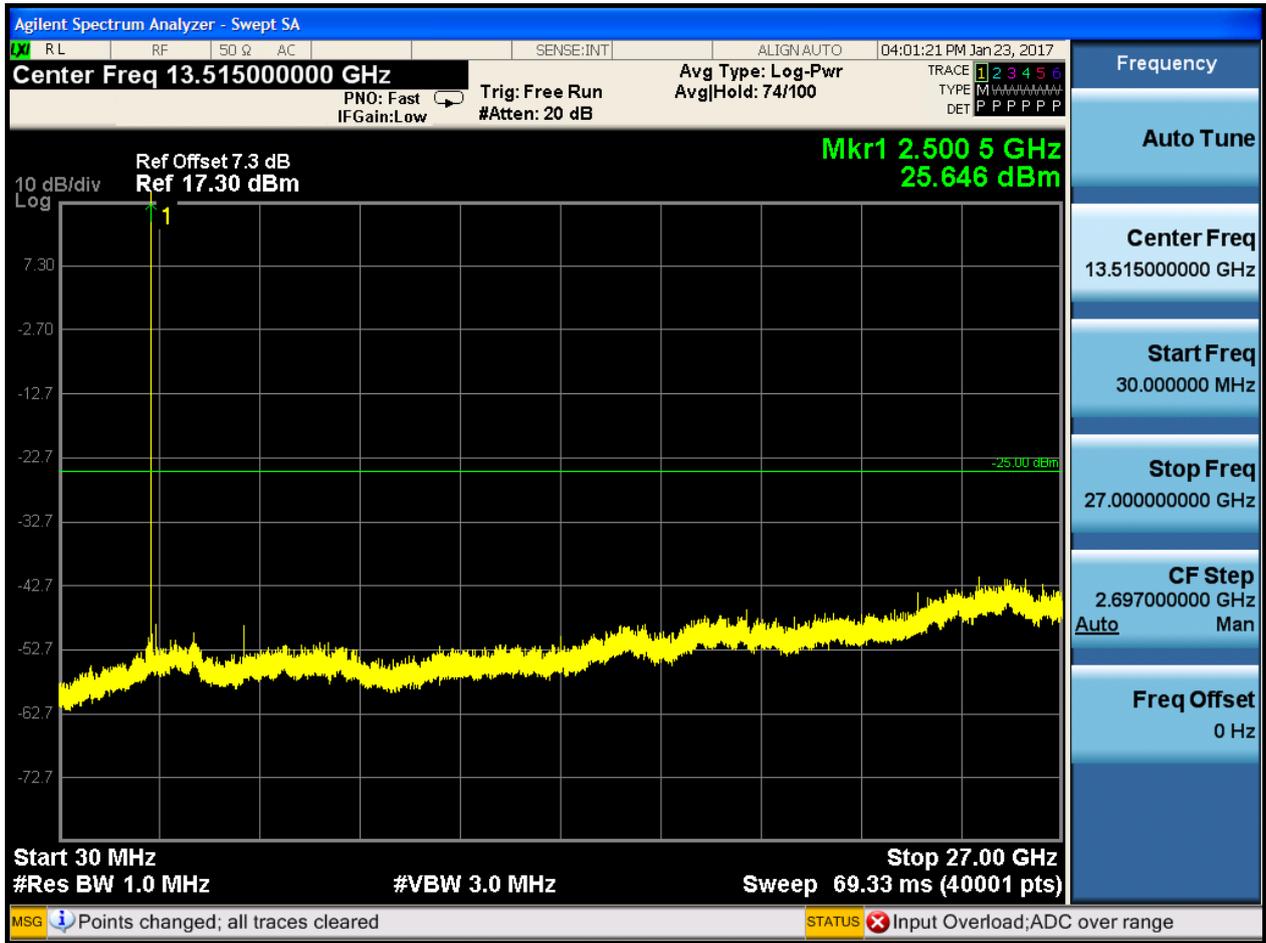
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



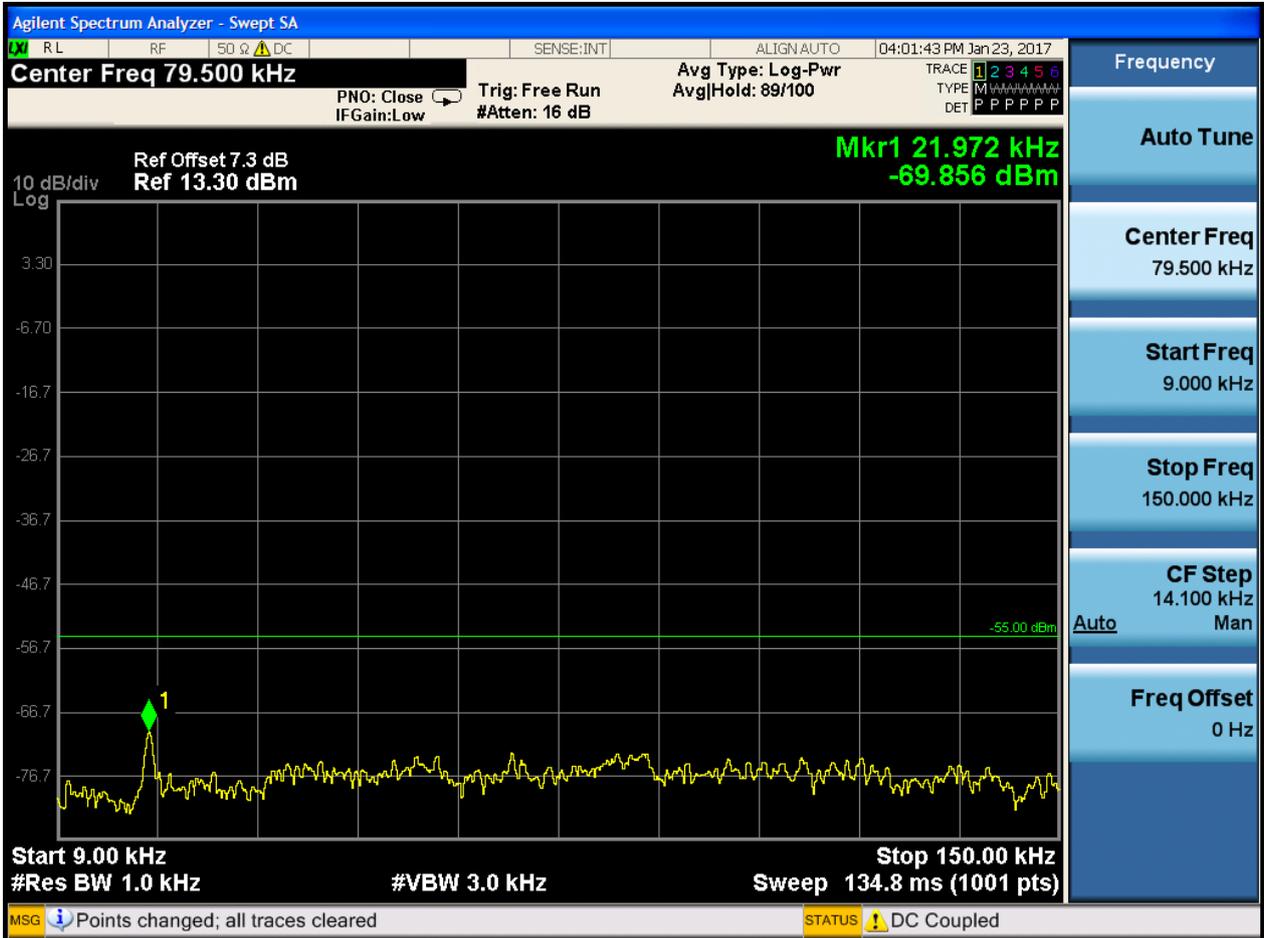


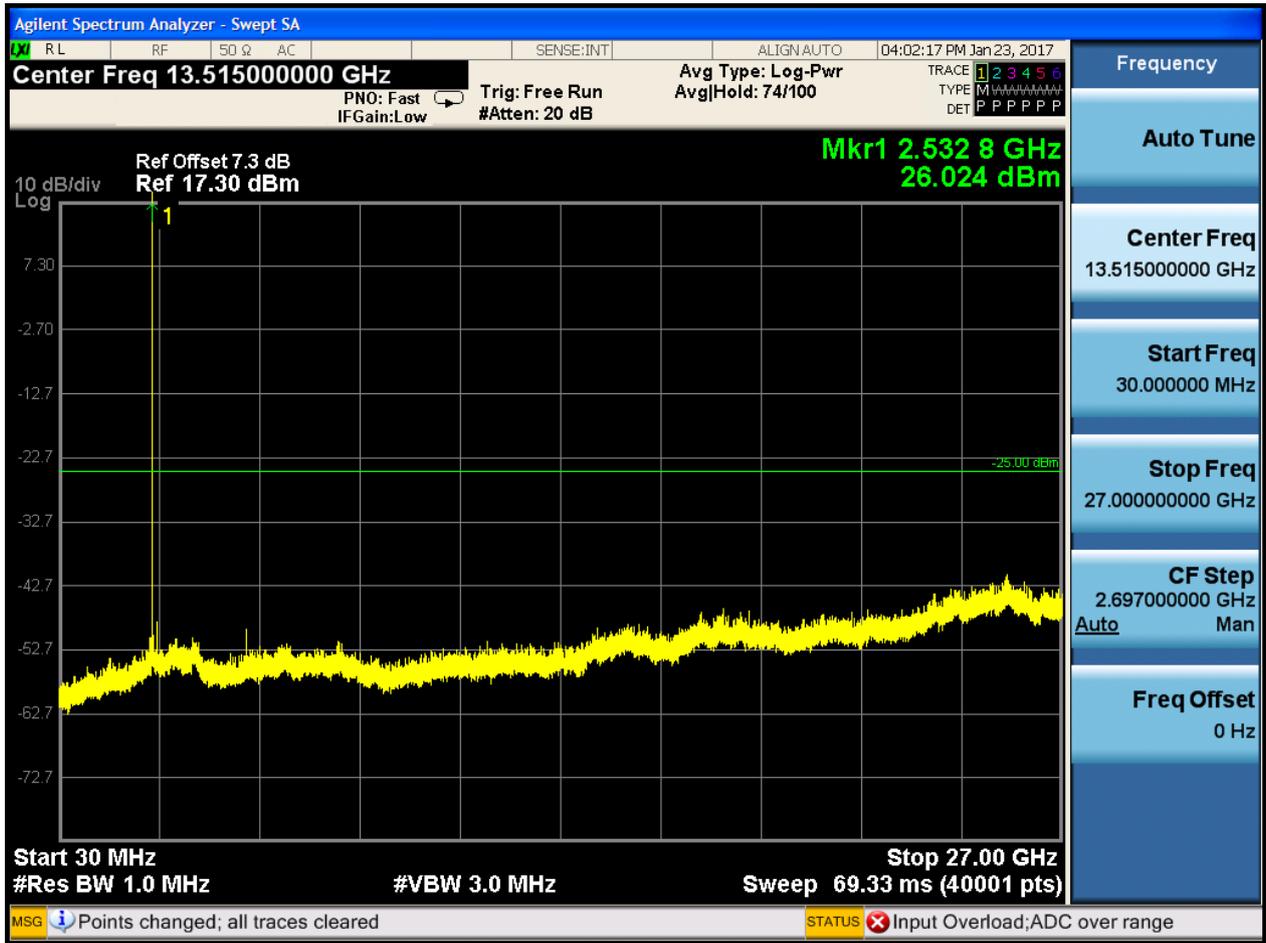




6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

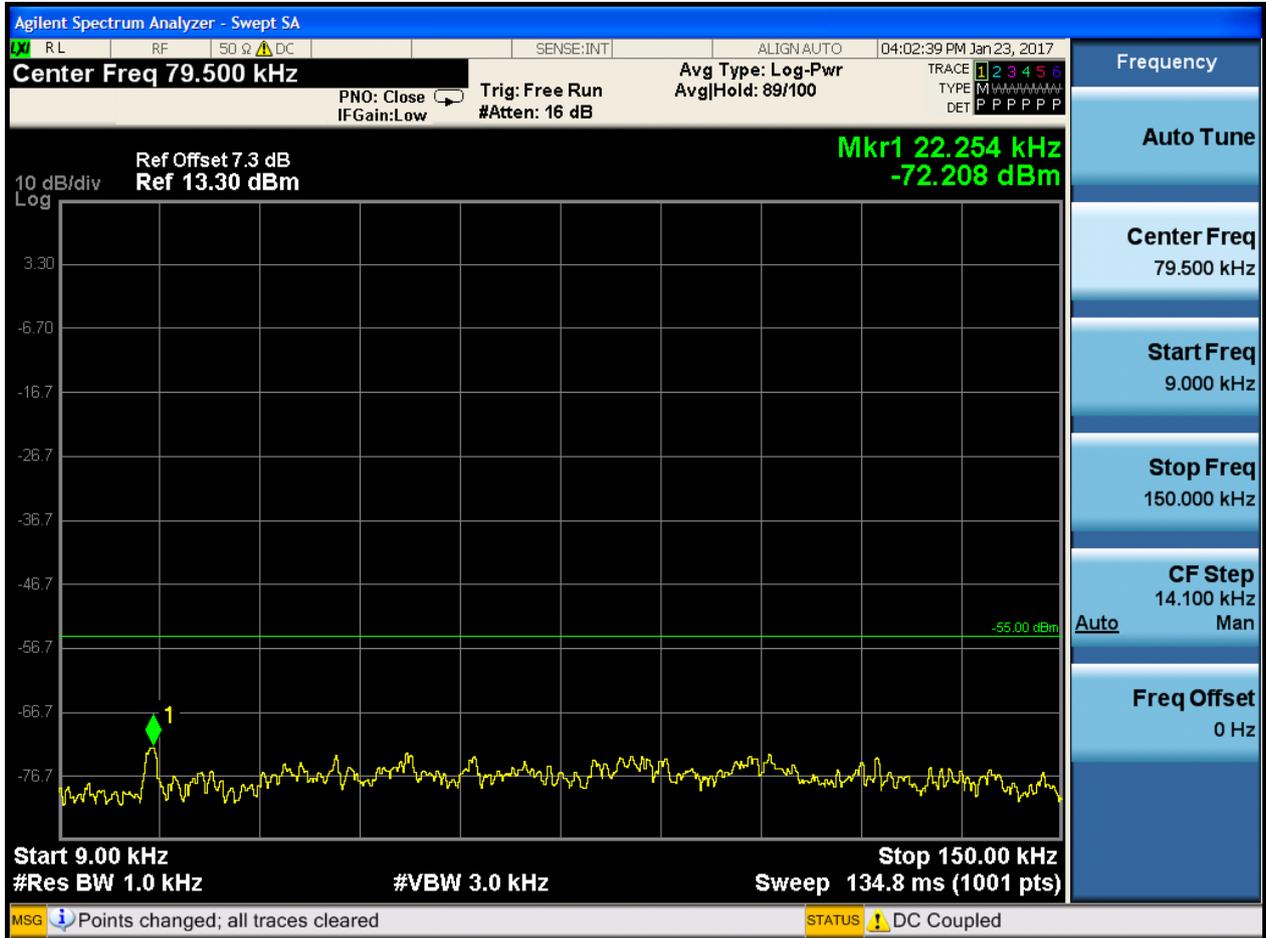






6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0

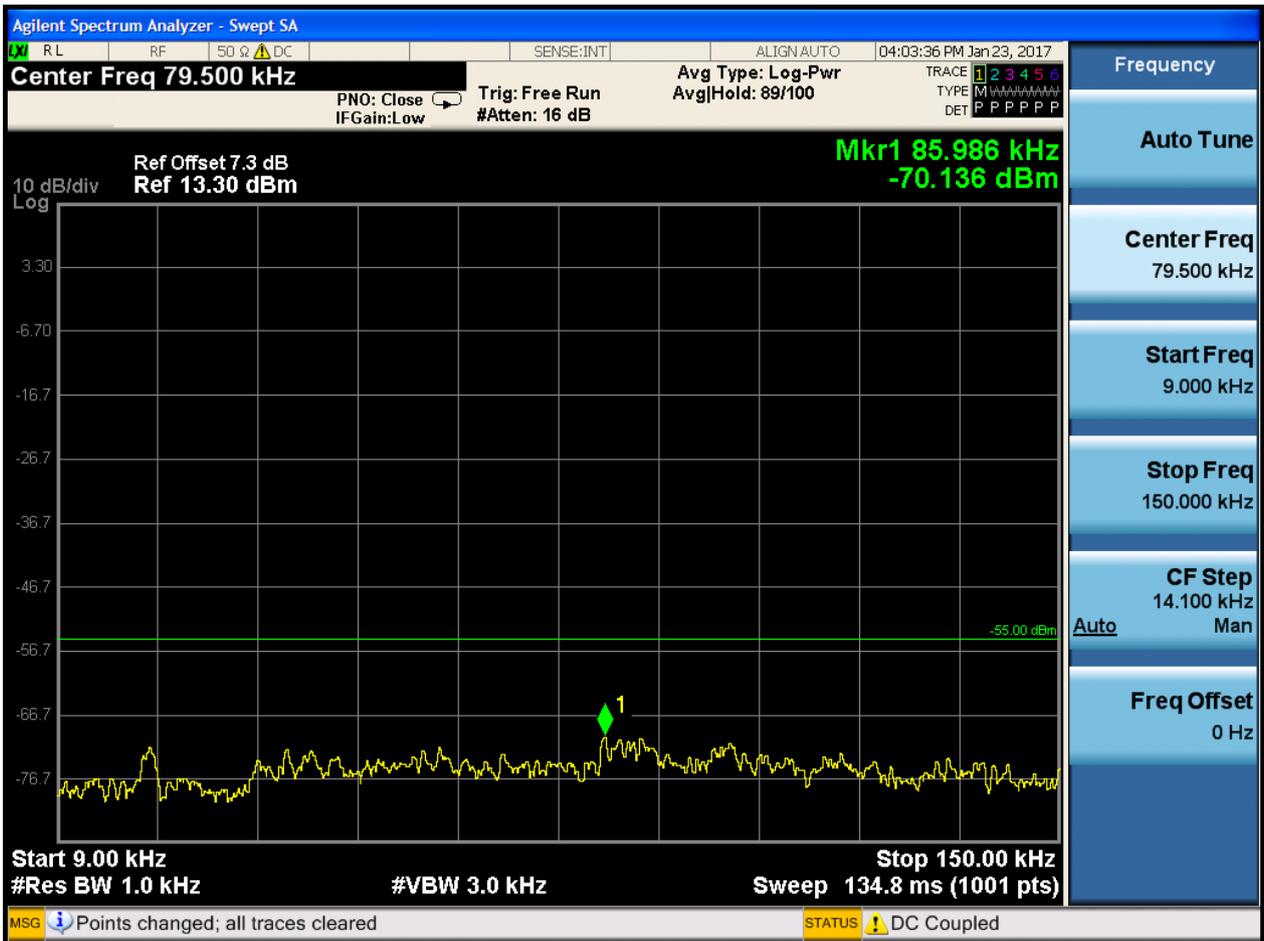




6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

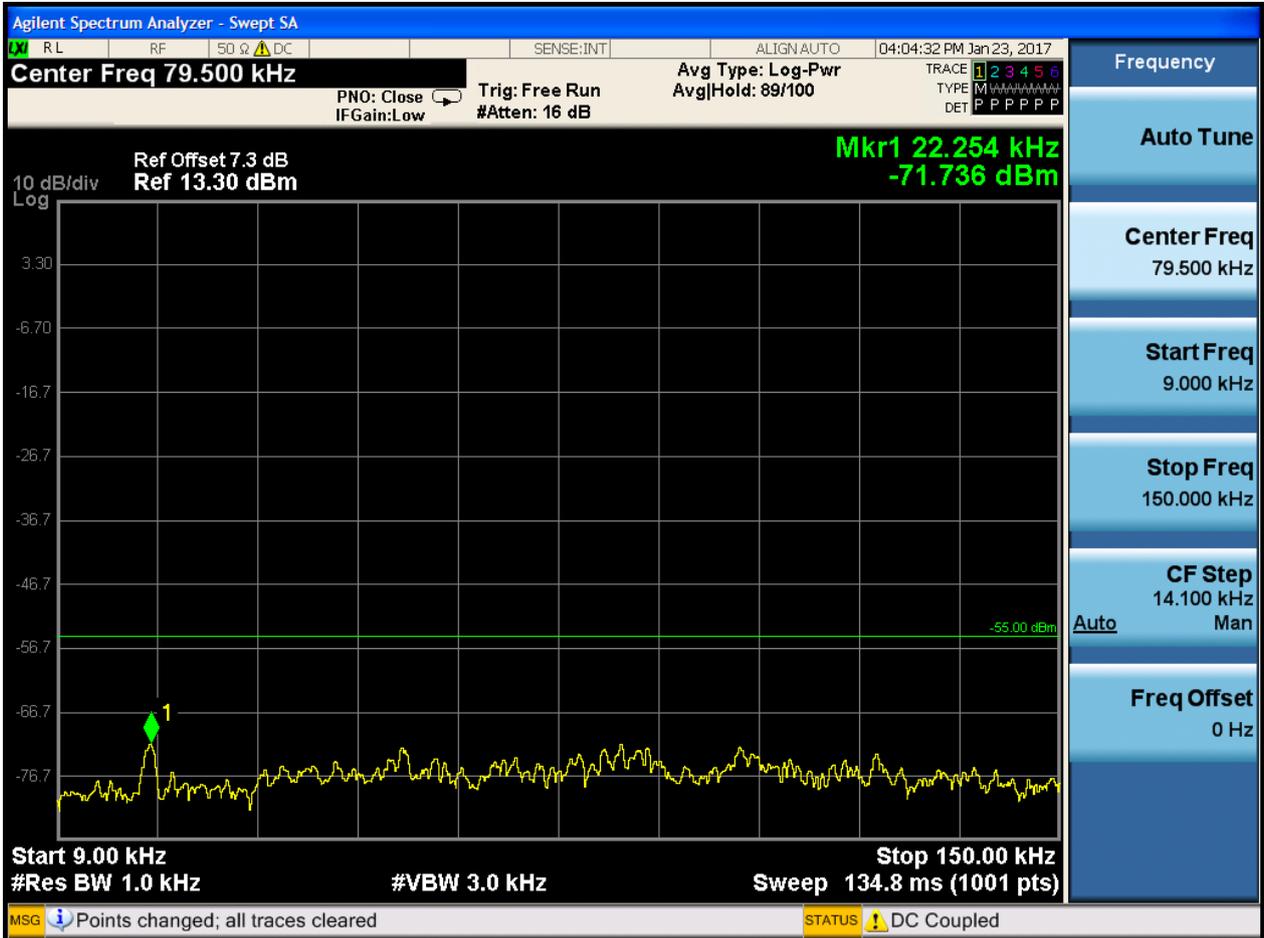
6.1.1.1.2.1.1 Test RB = RB1#0





6.1.1.1.2.2 Test Channel = MCH

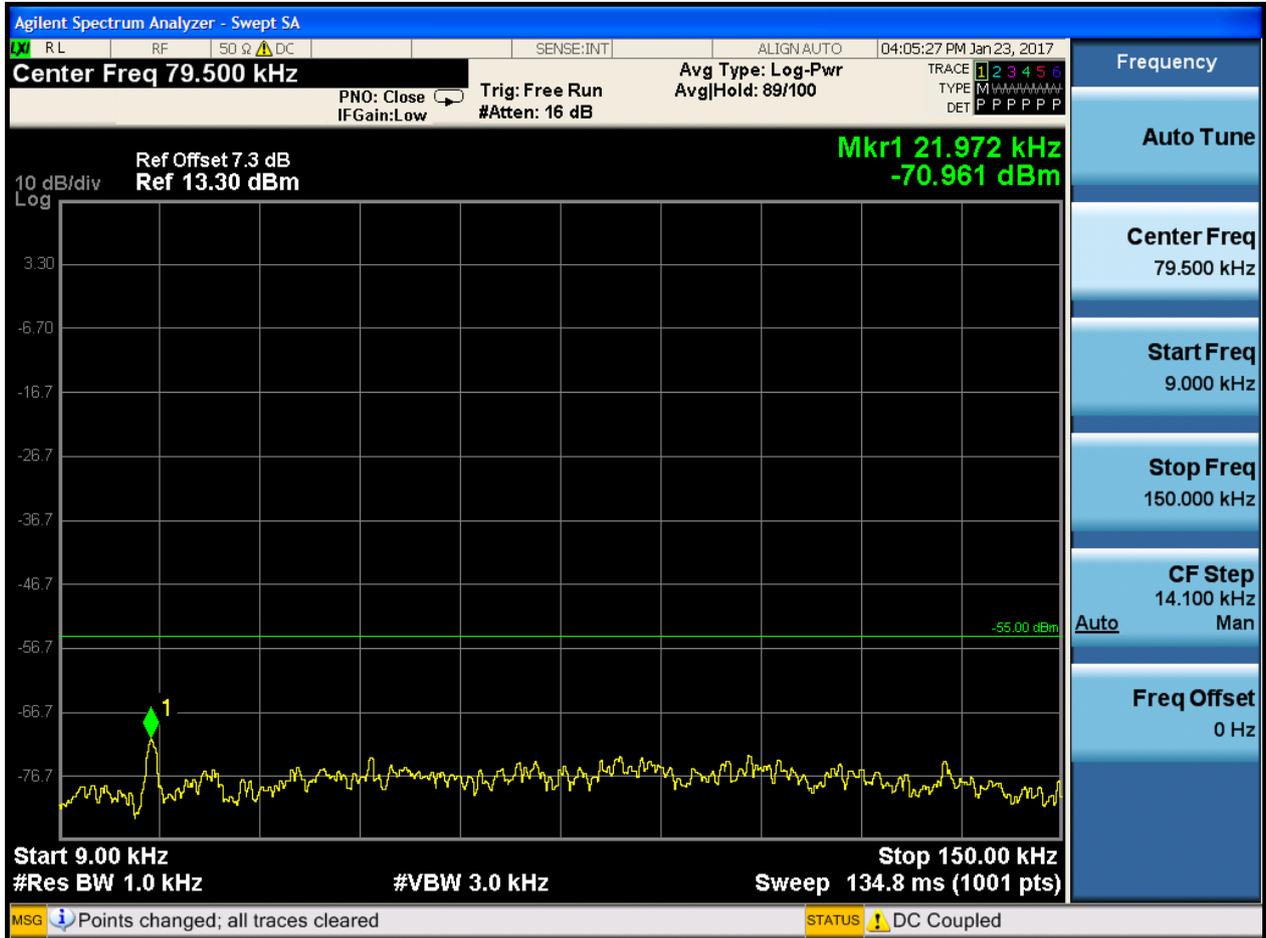
6.1.1.1.2.2.1 Test RB = RB1#0





6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0



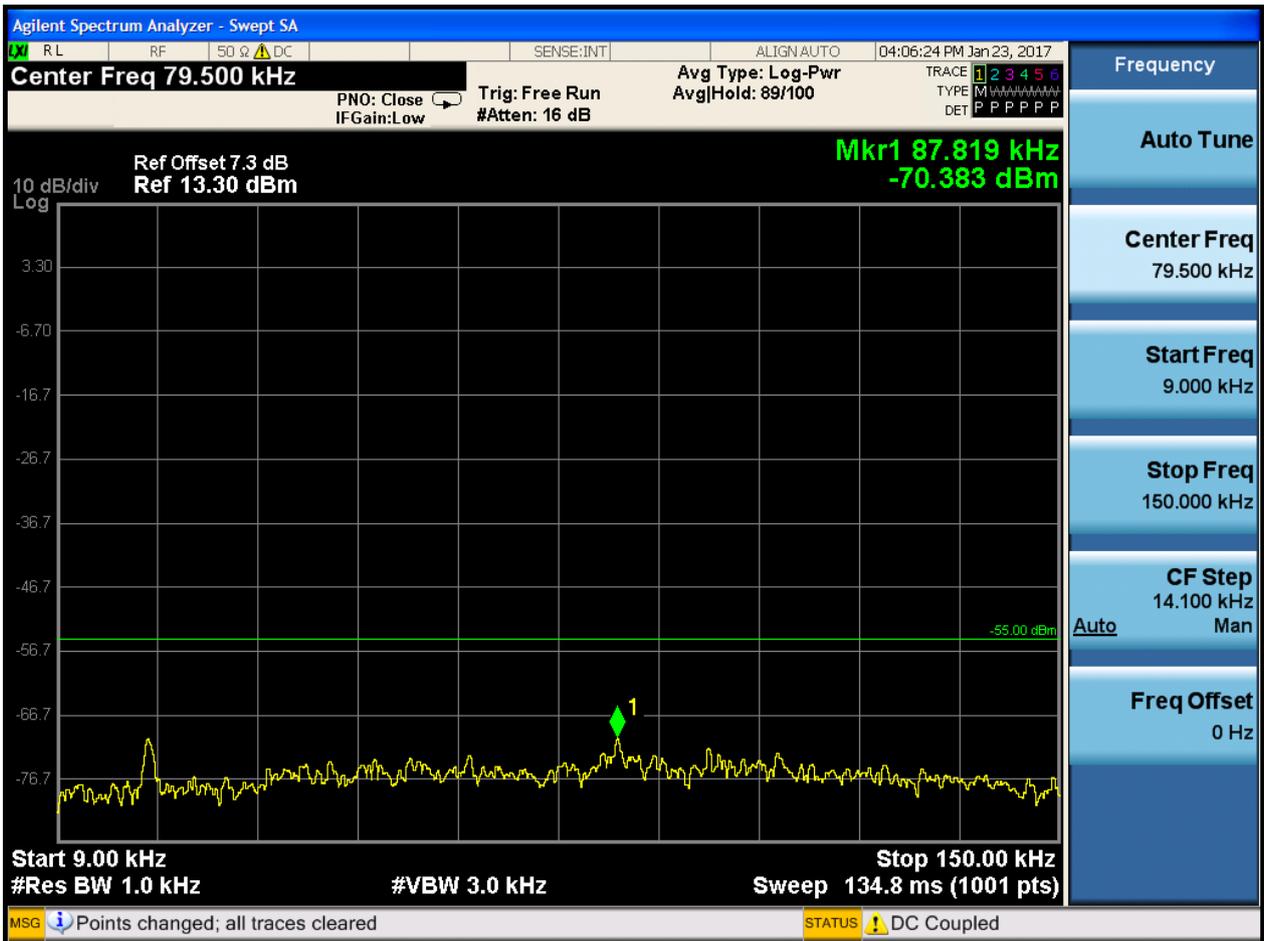


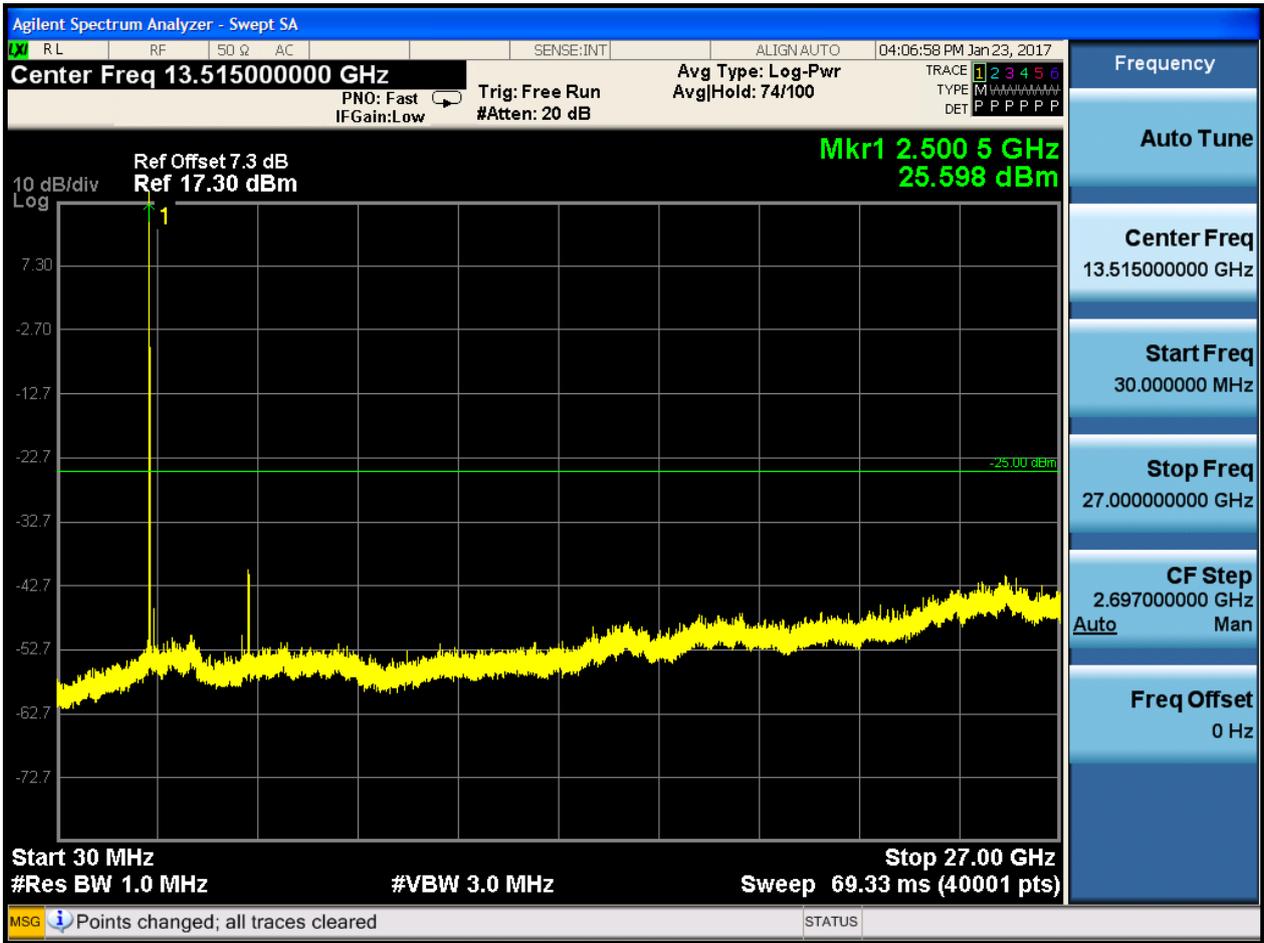


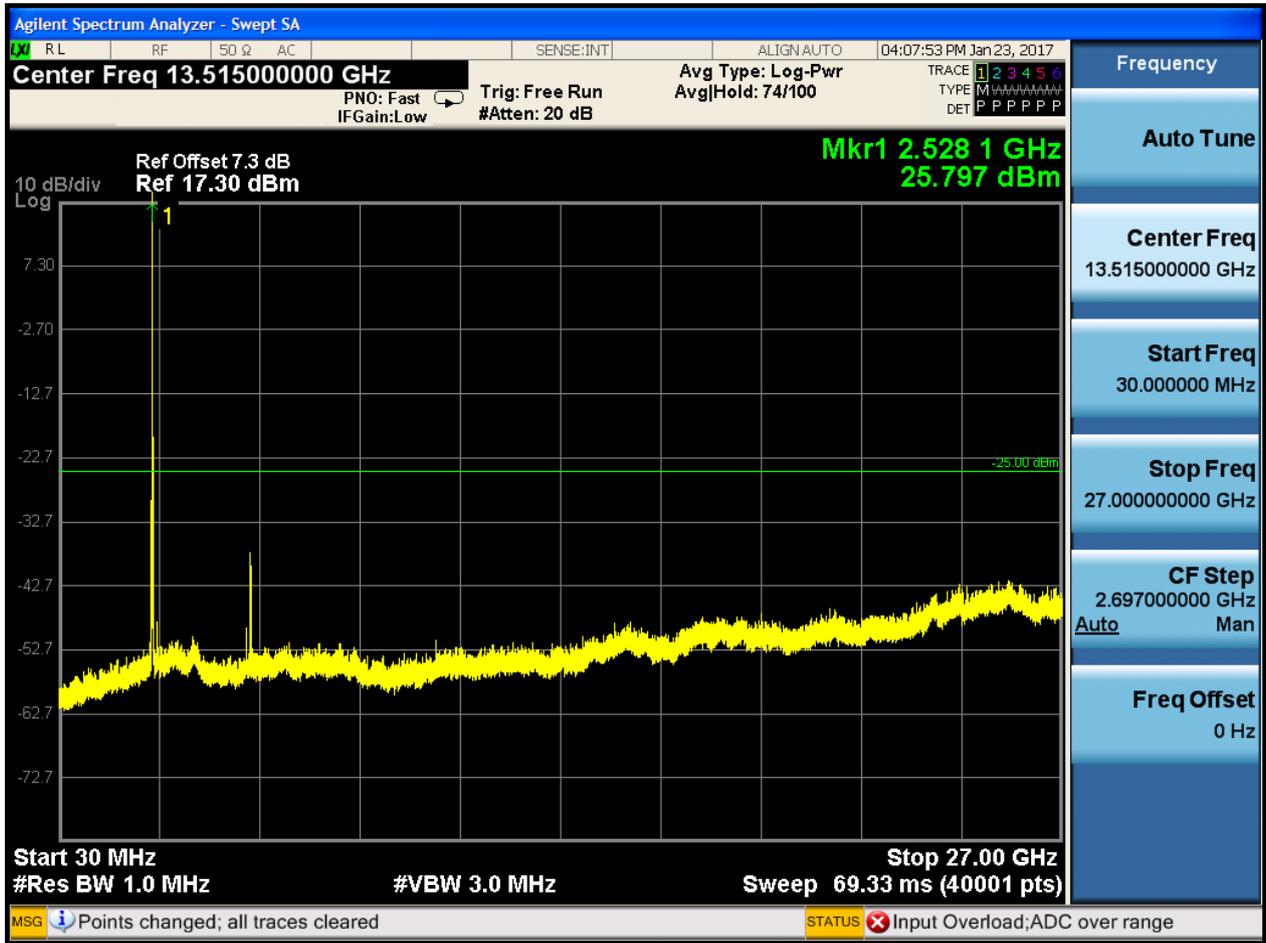
6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



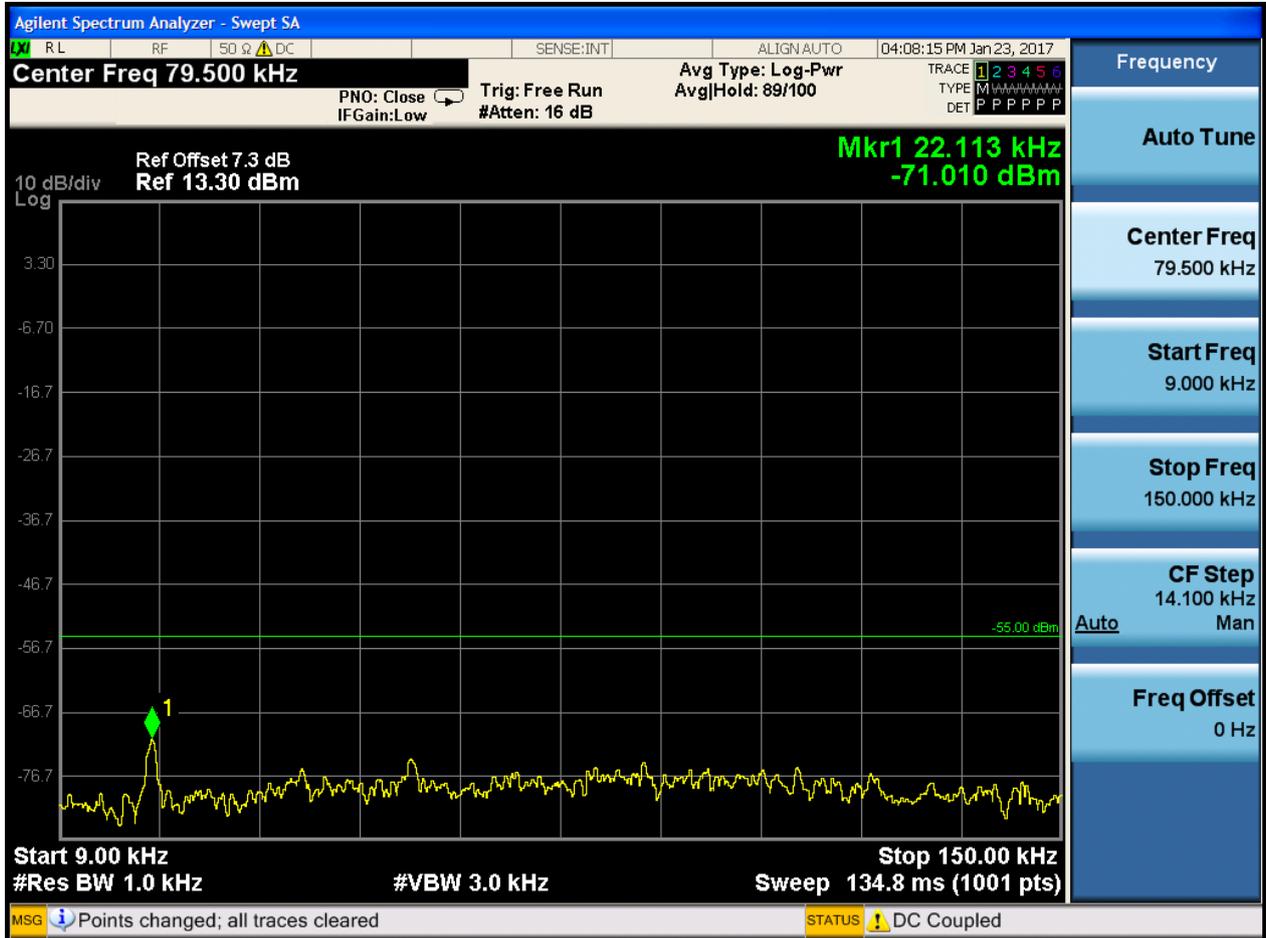






6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0

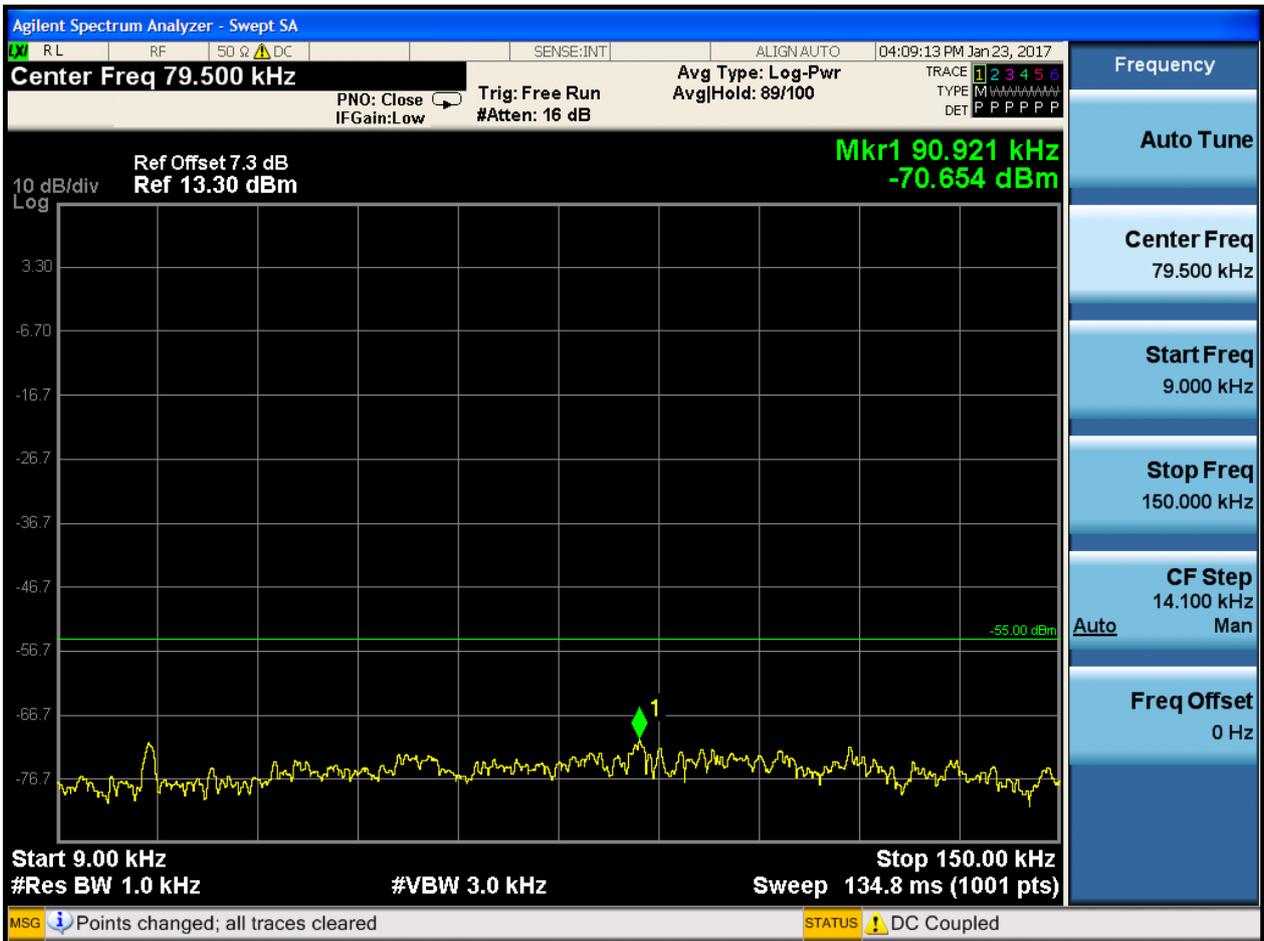


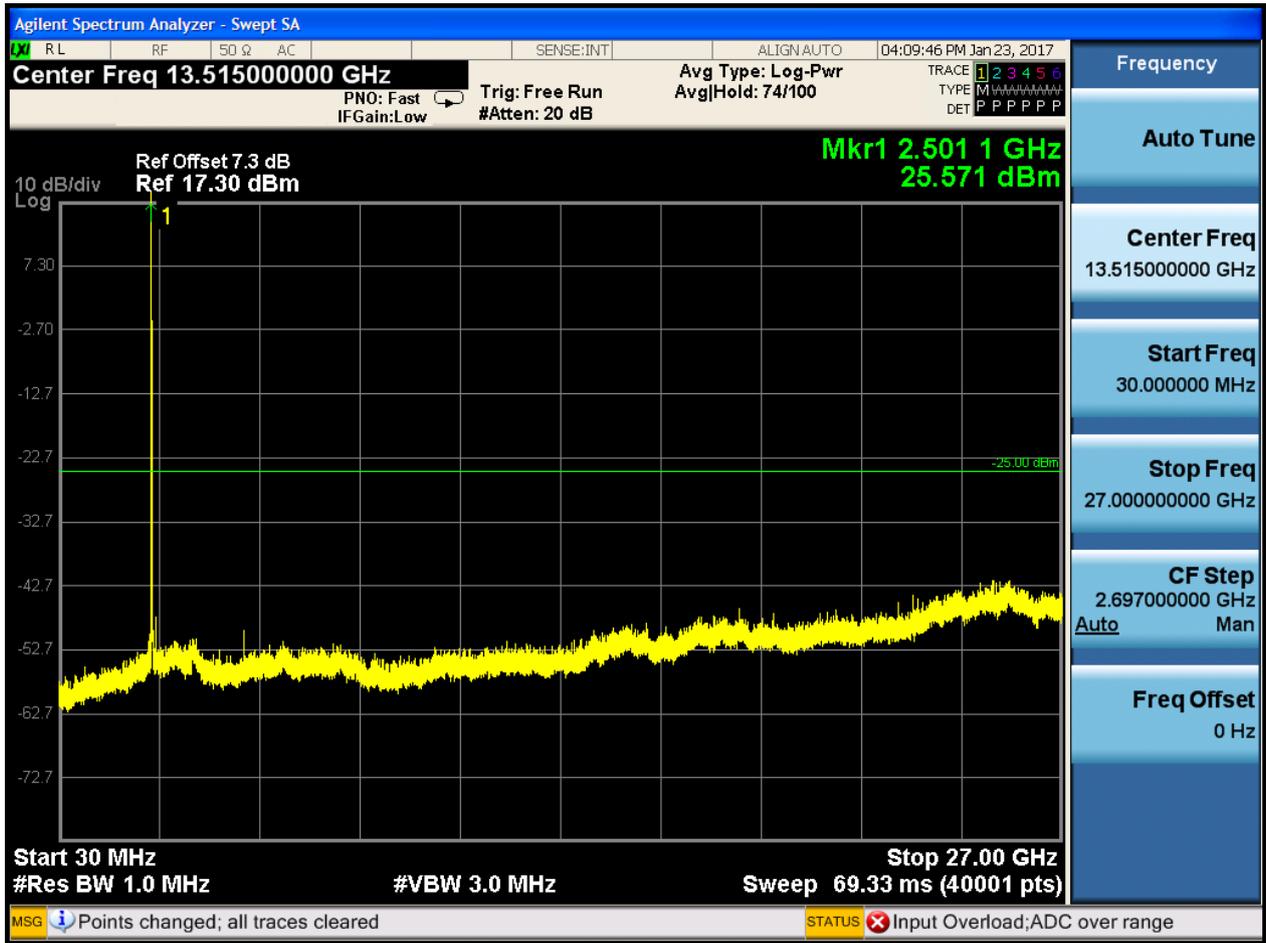


6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0

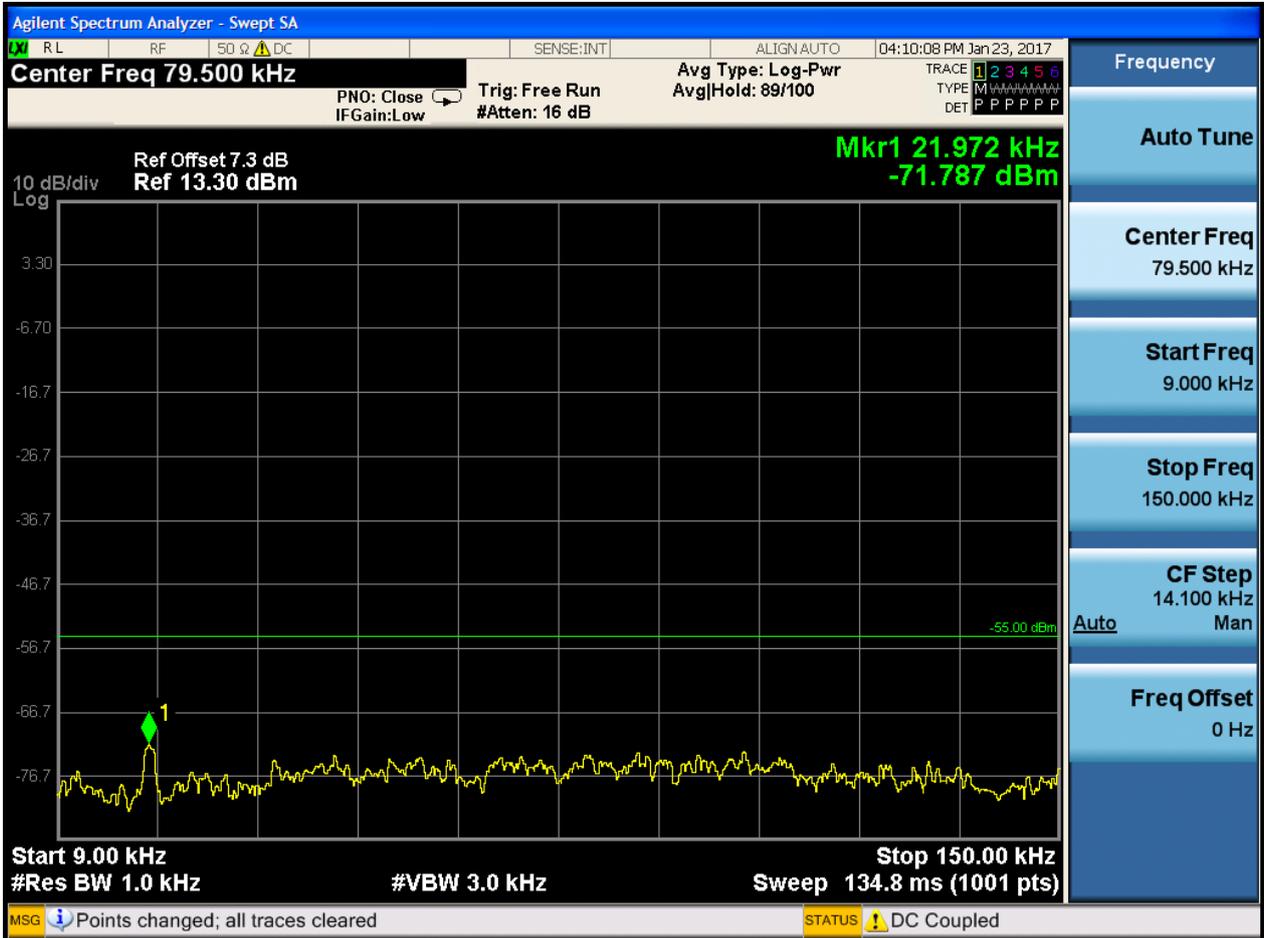


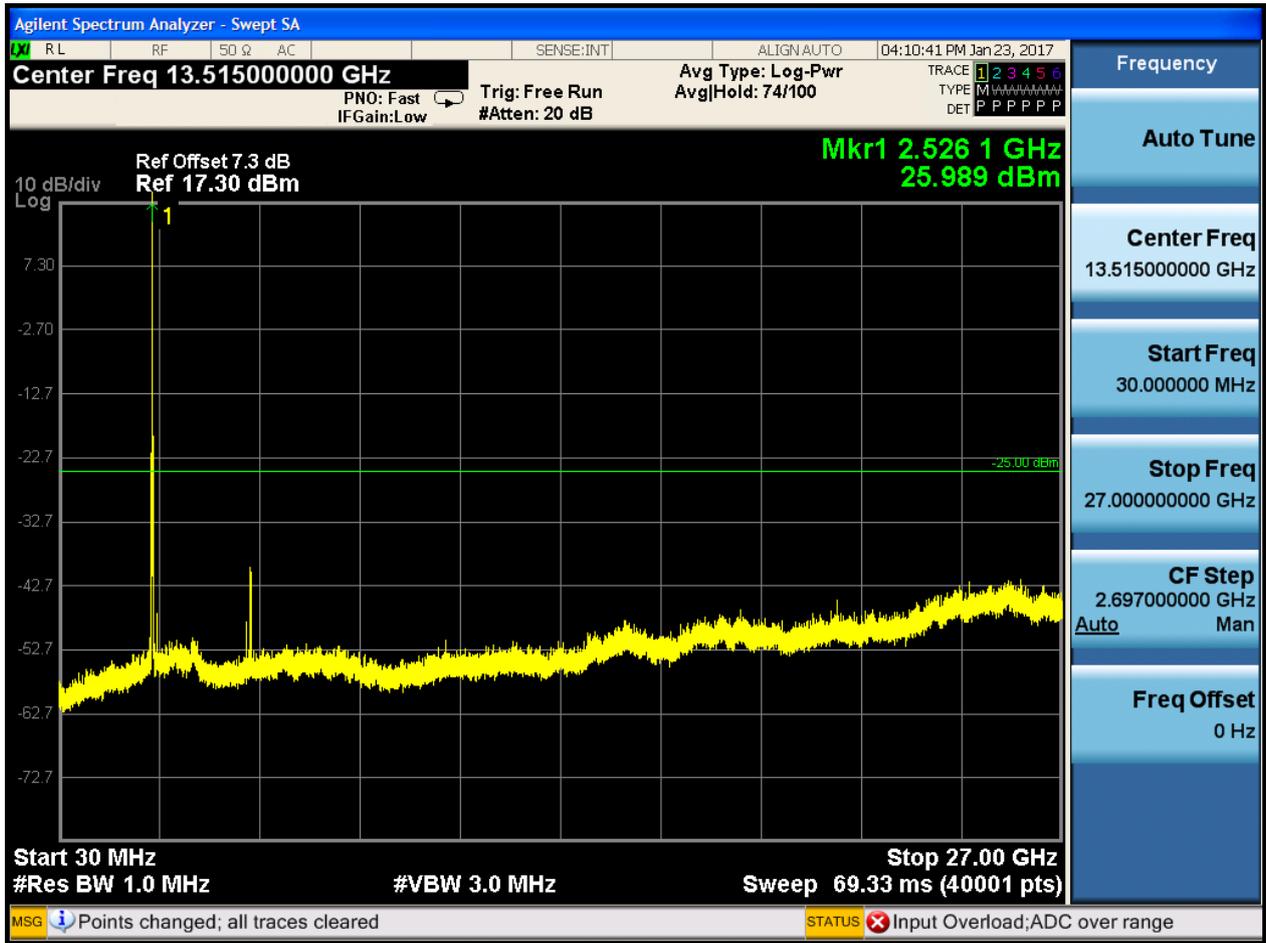




6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



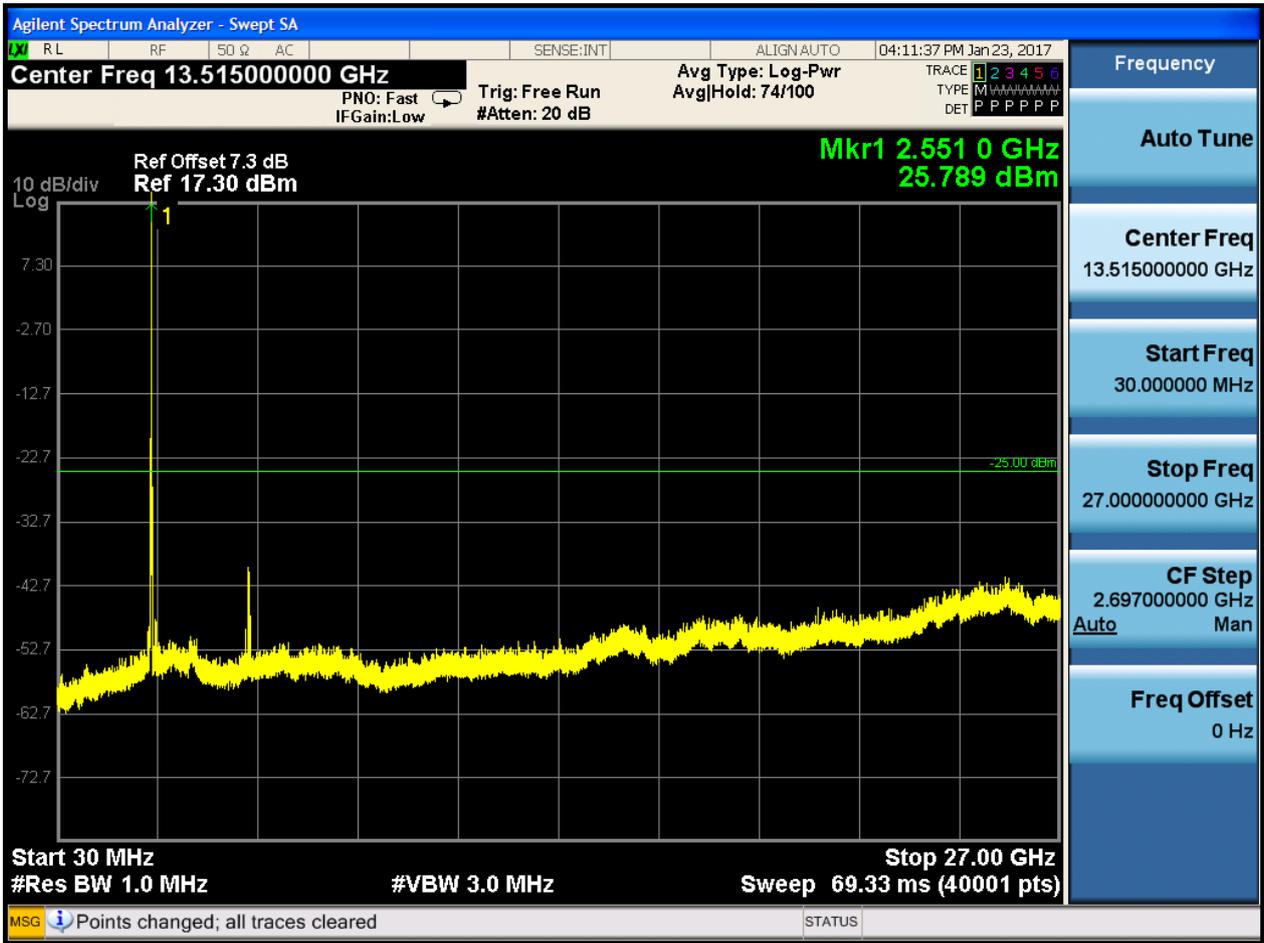




6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0





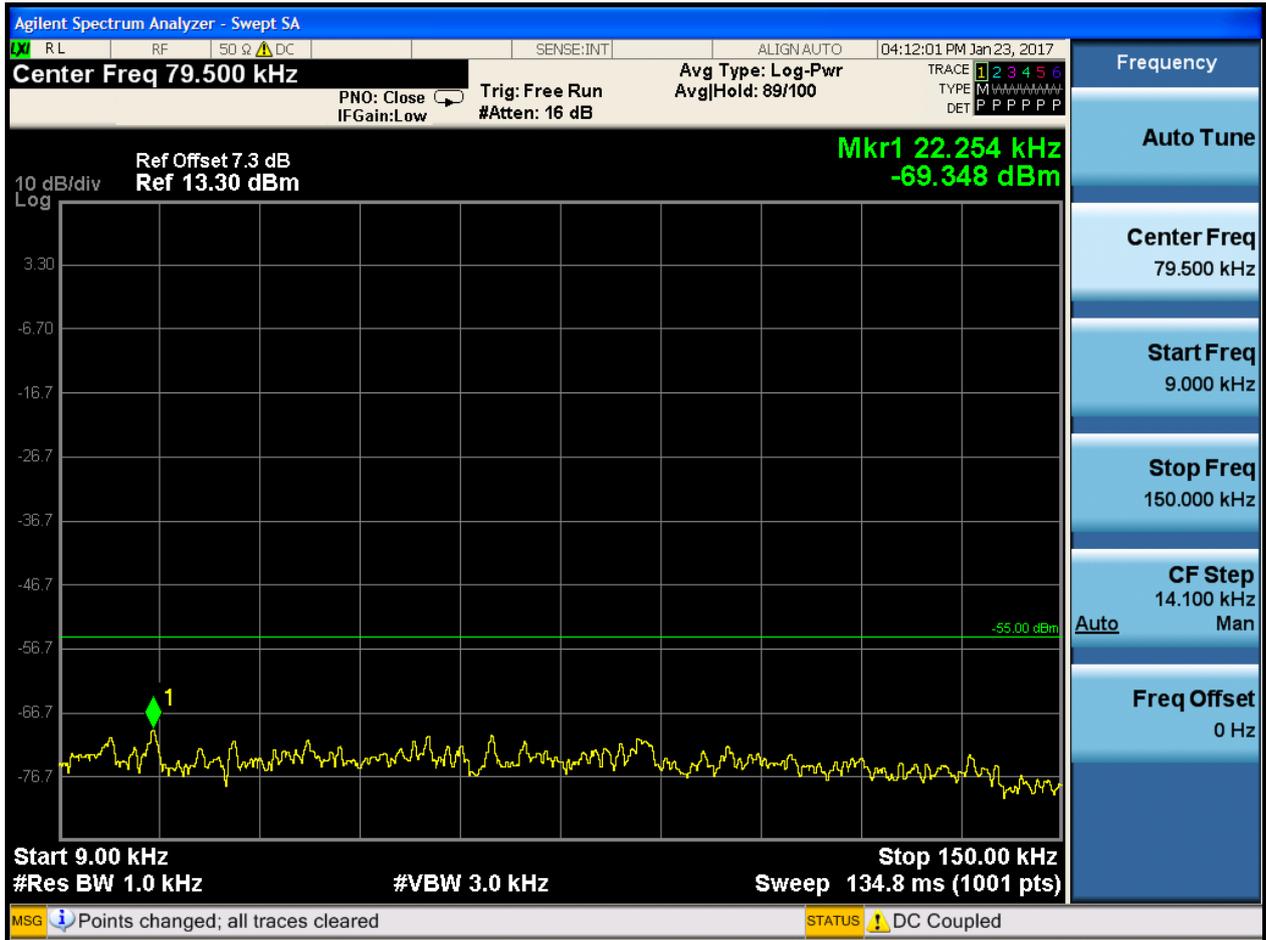


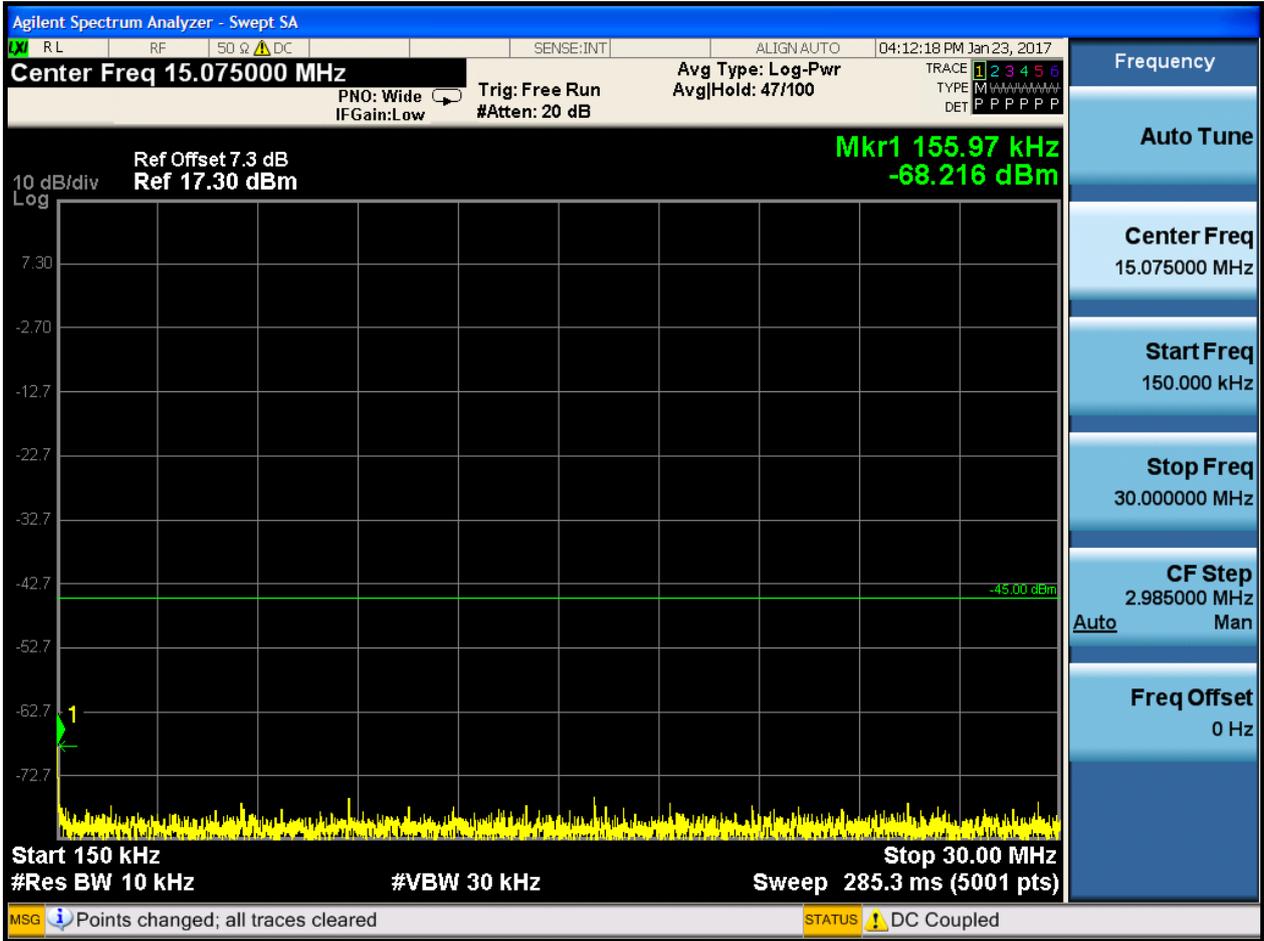
6.1.1.2 Test Mode = LTE/TM2

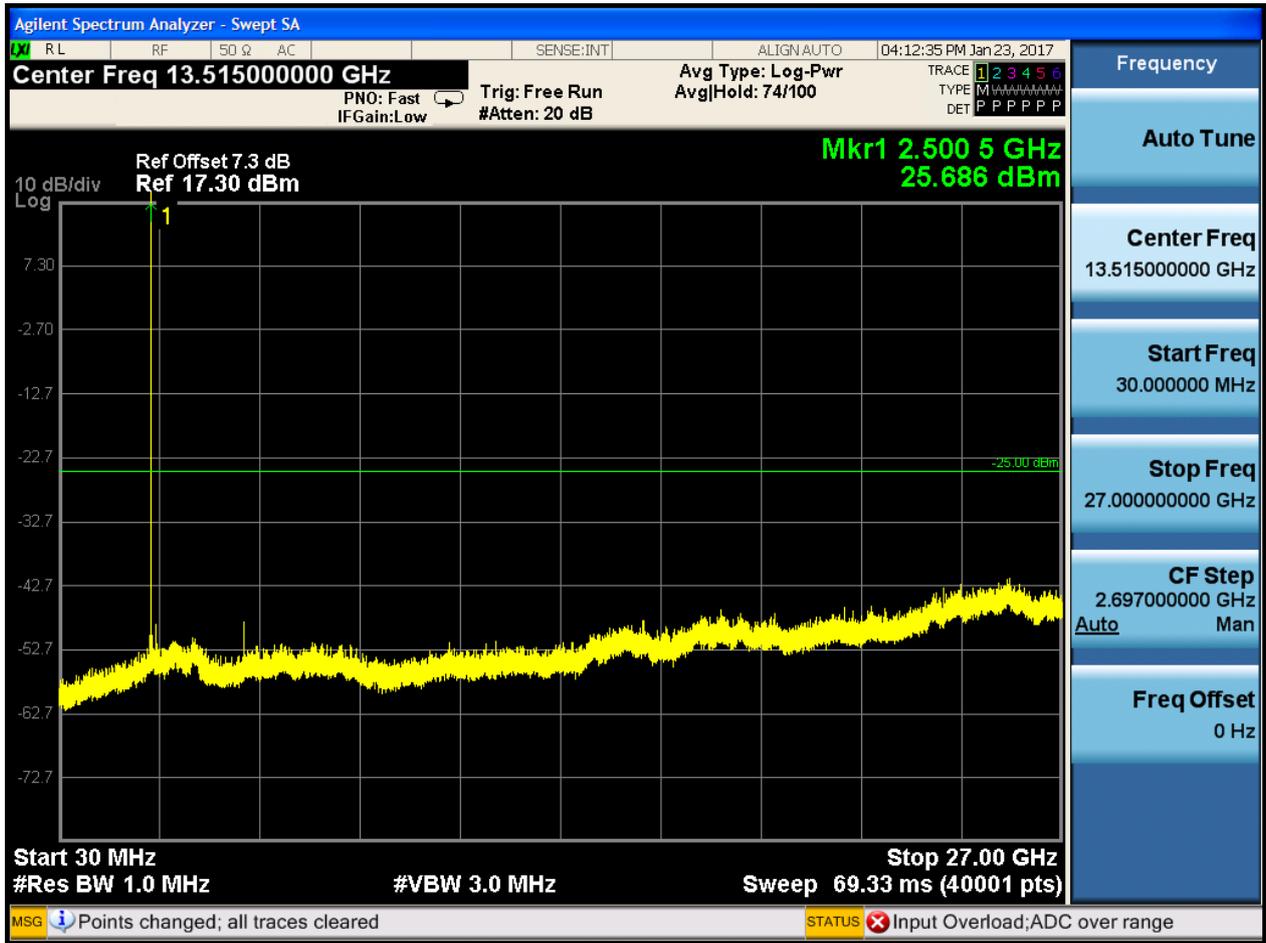
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0



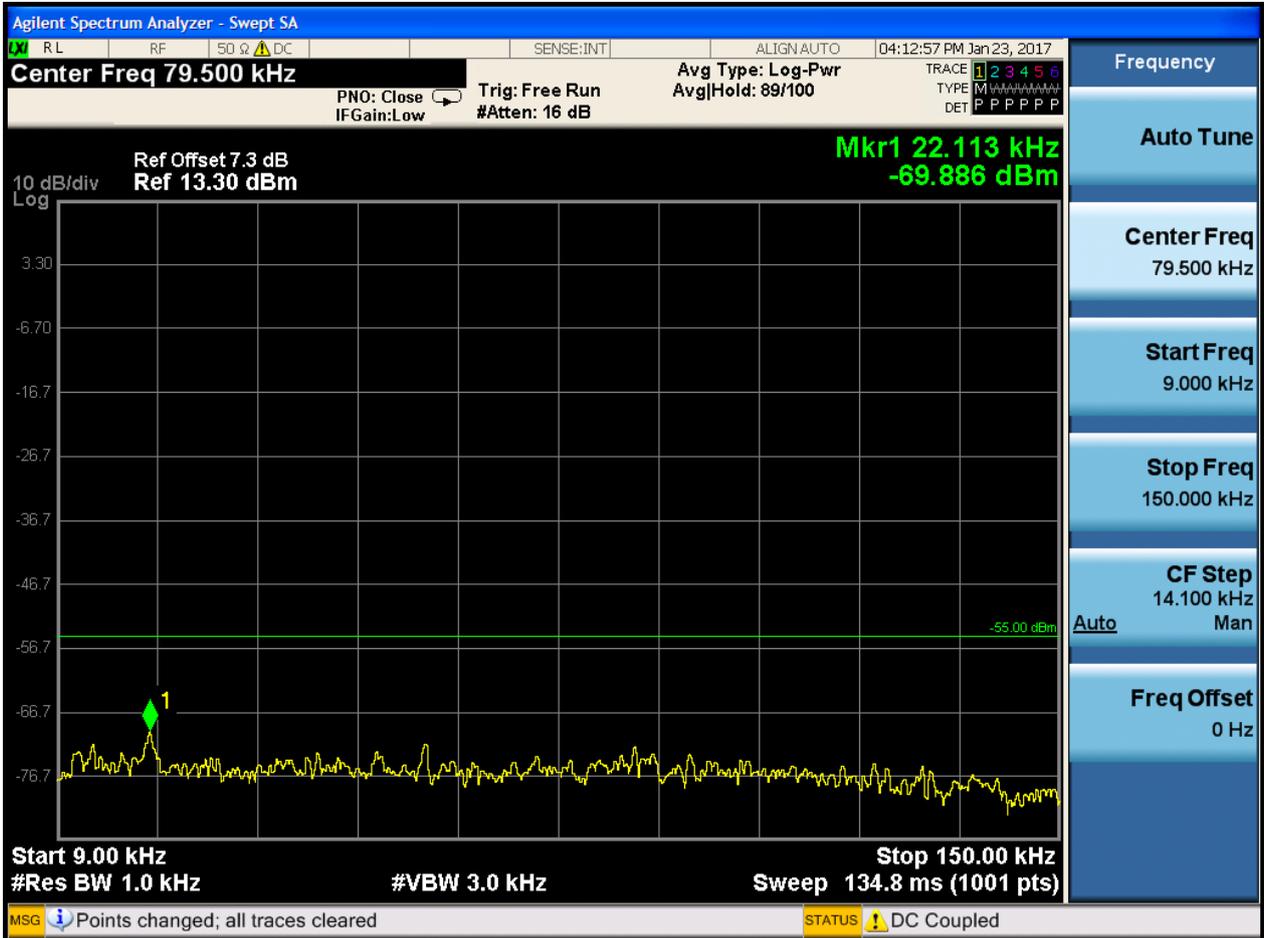


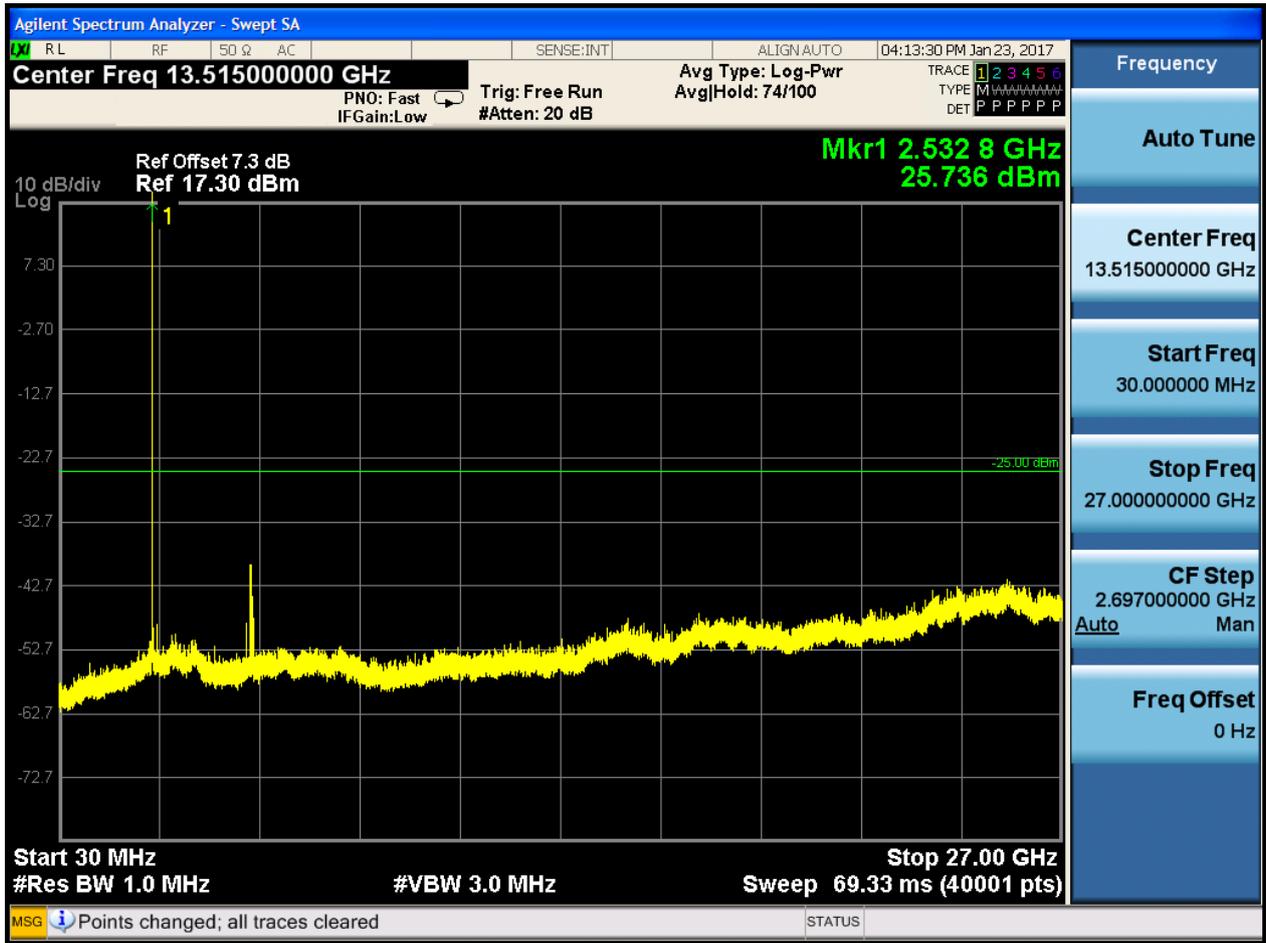




6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

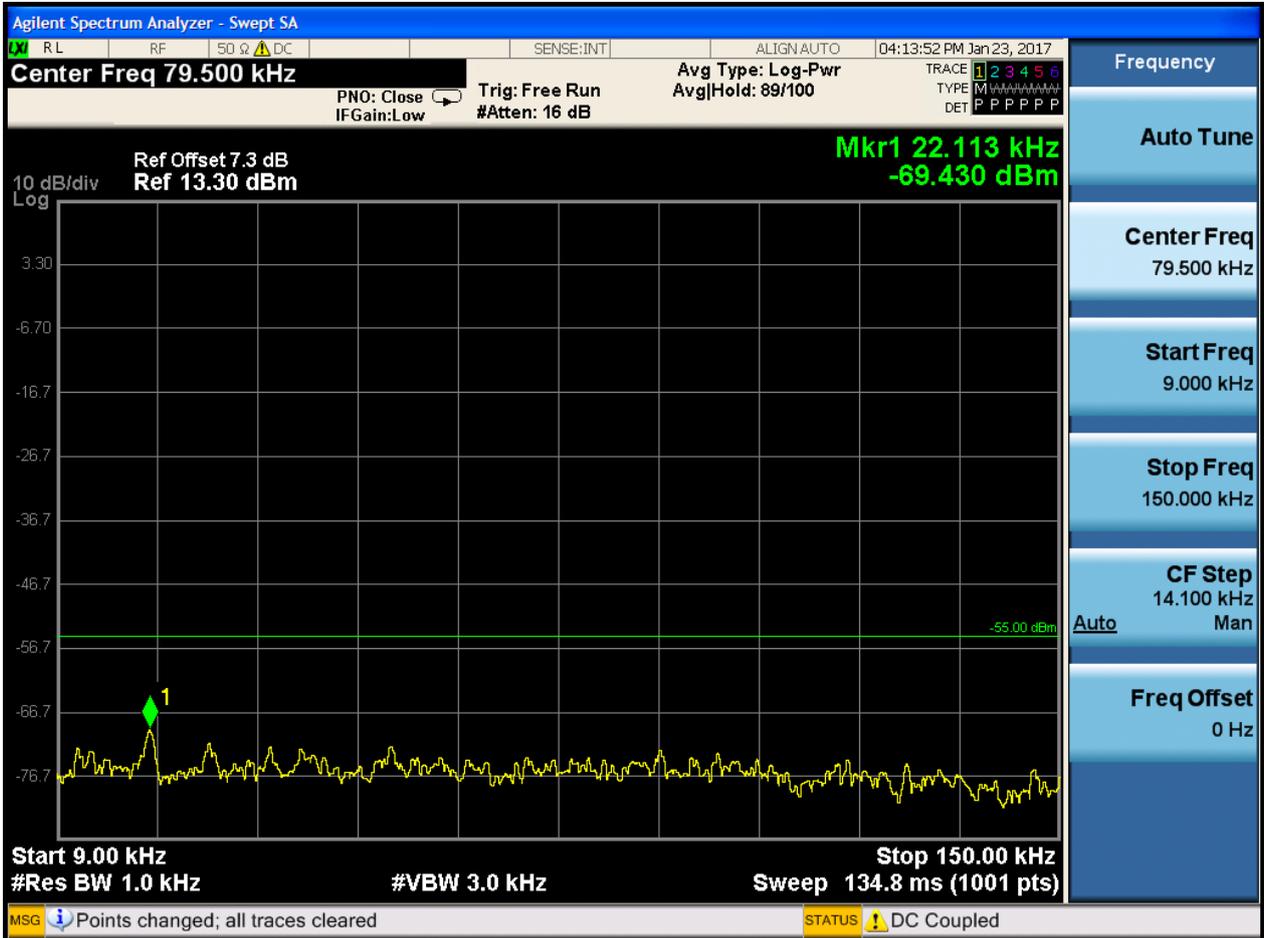






6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0

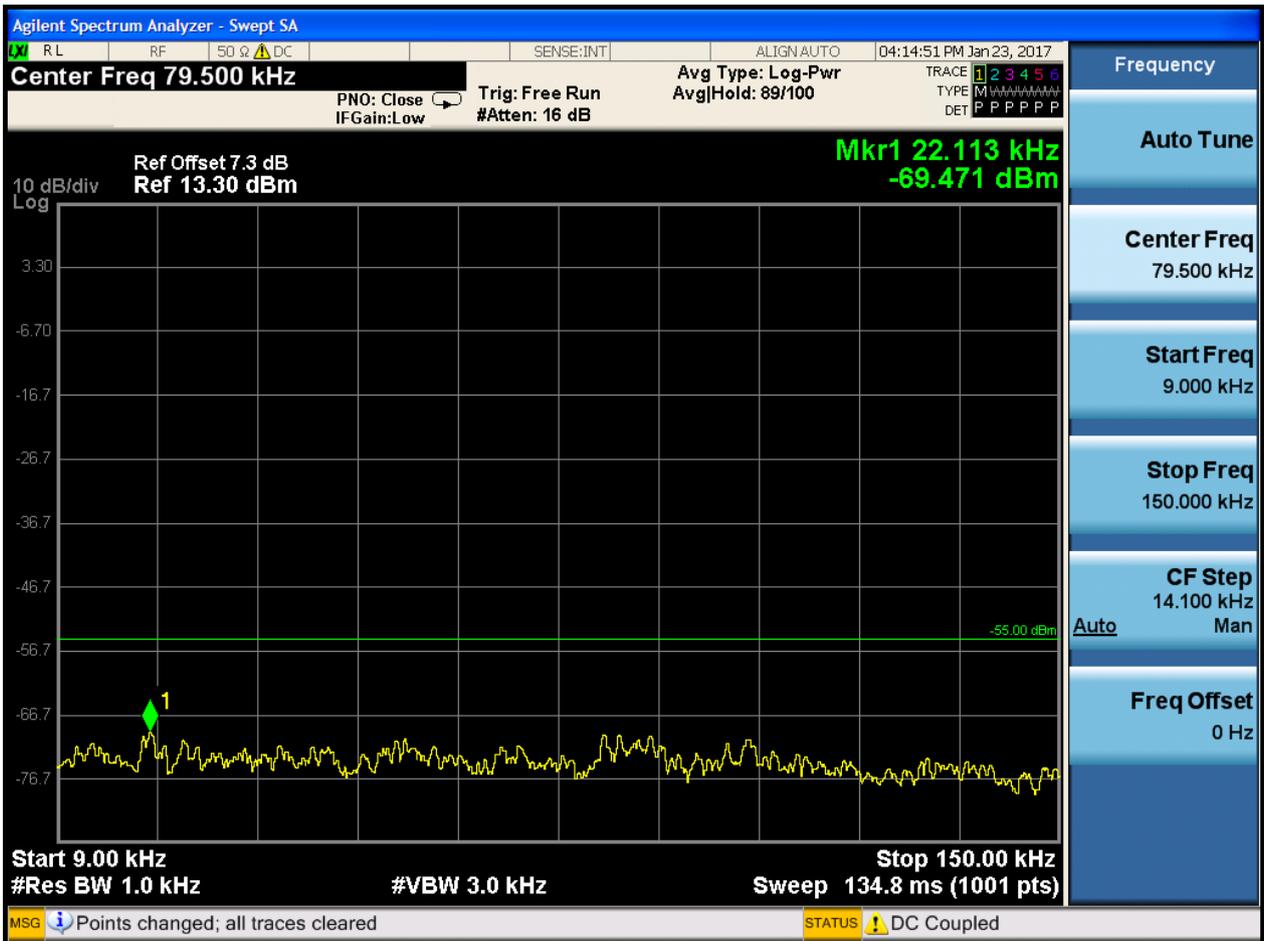


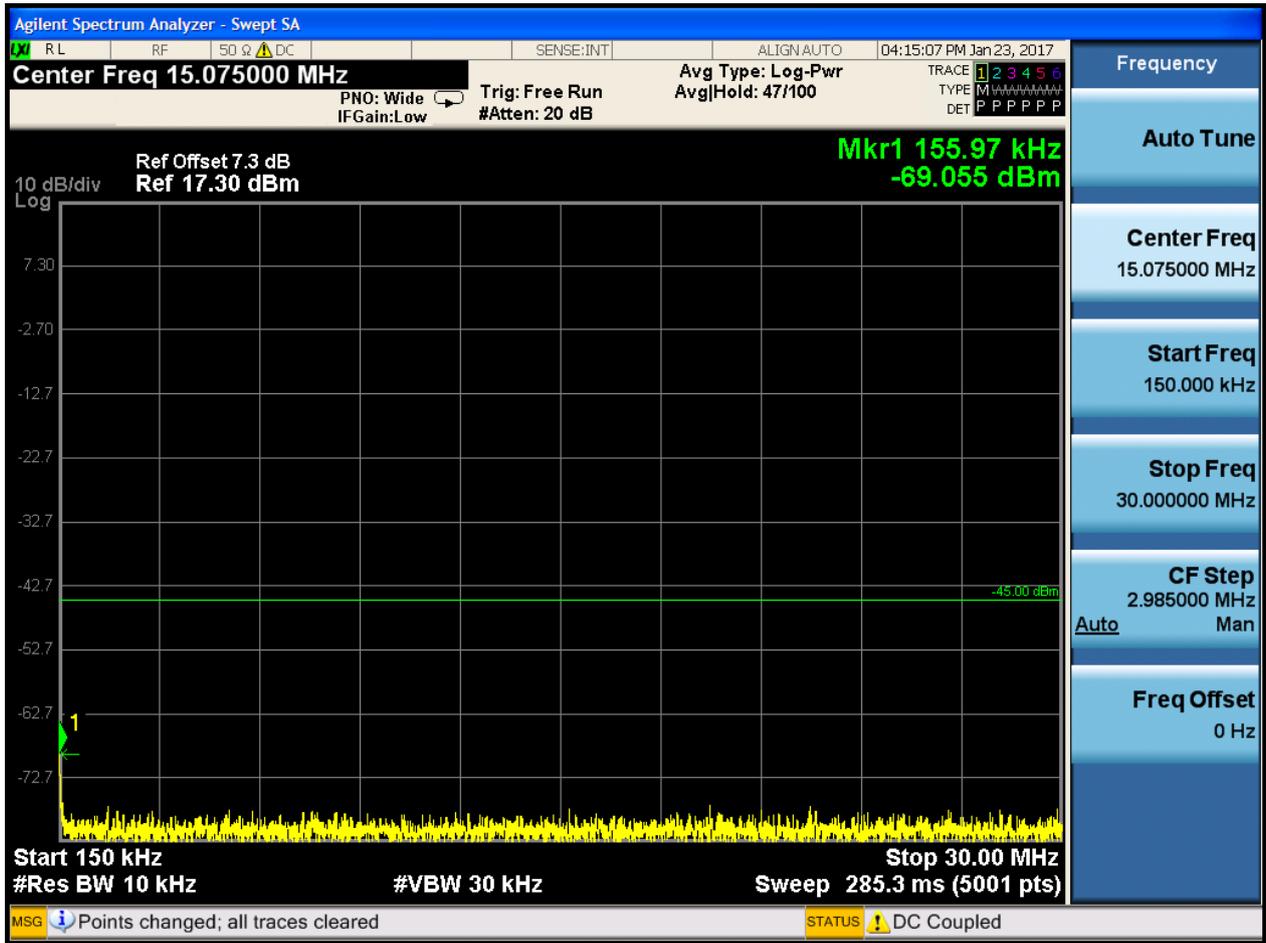


6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

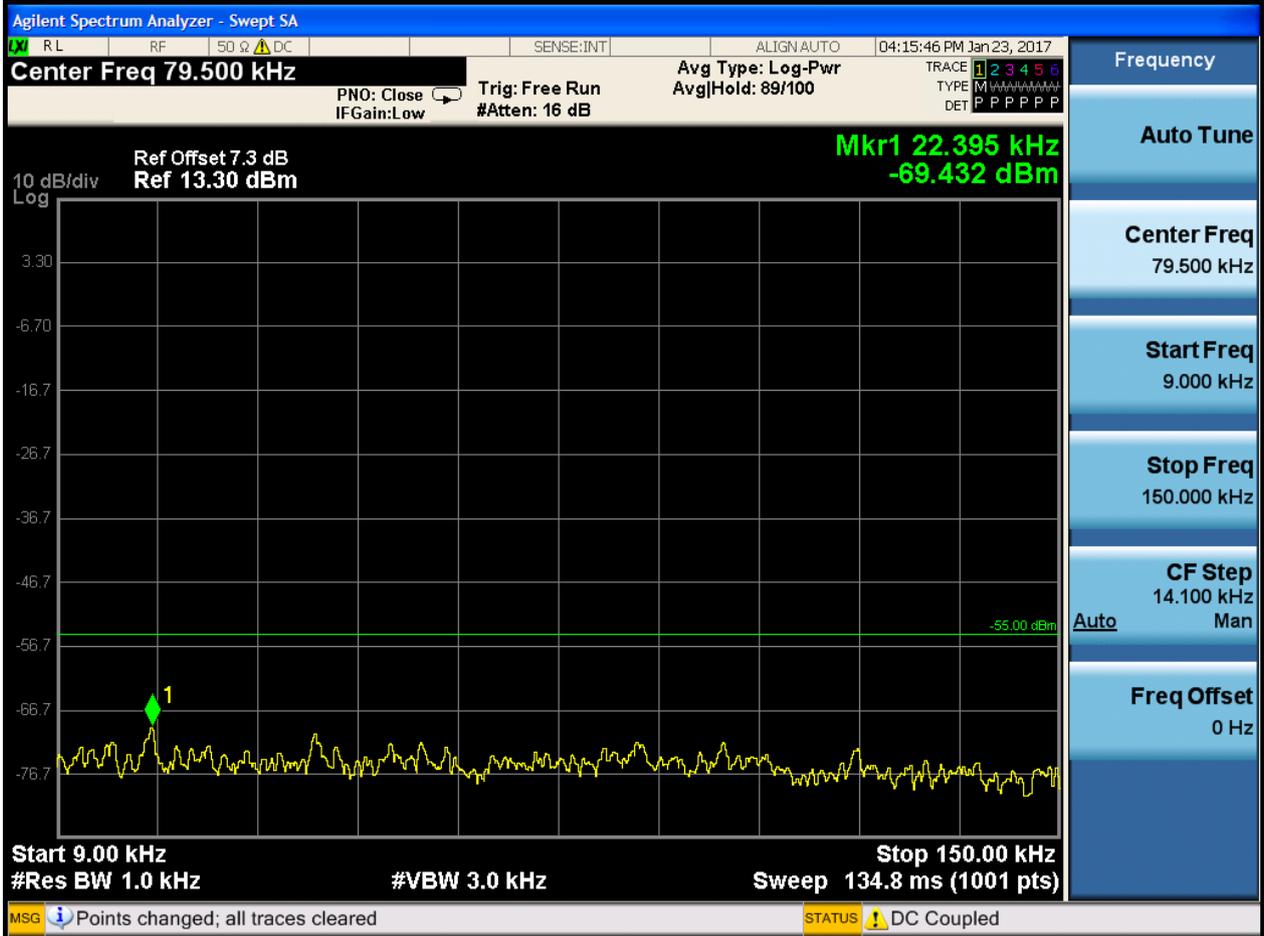






6.1.1.2.2.2 Test Channel = MCH

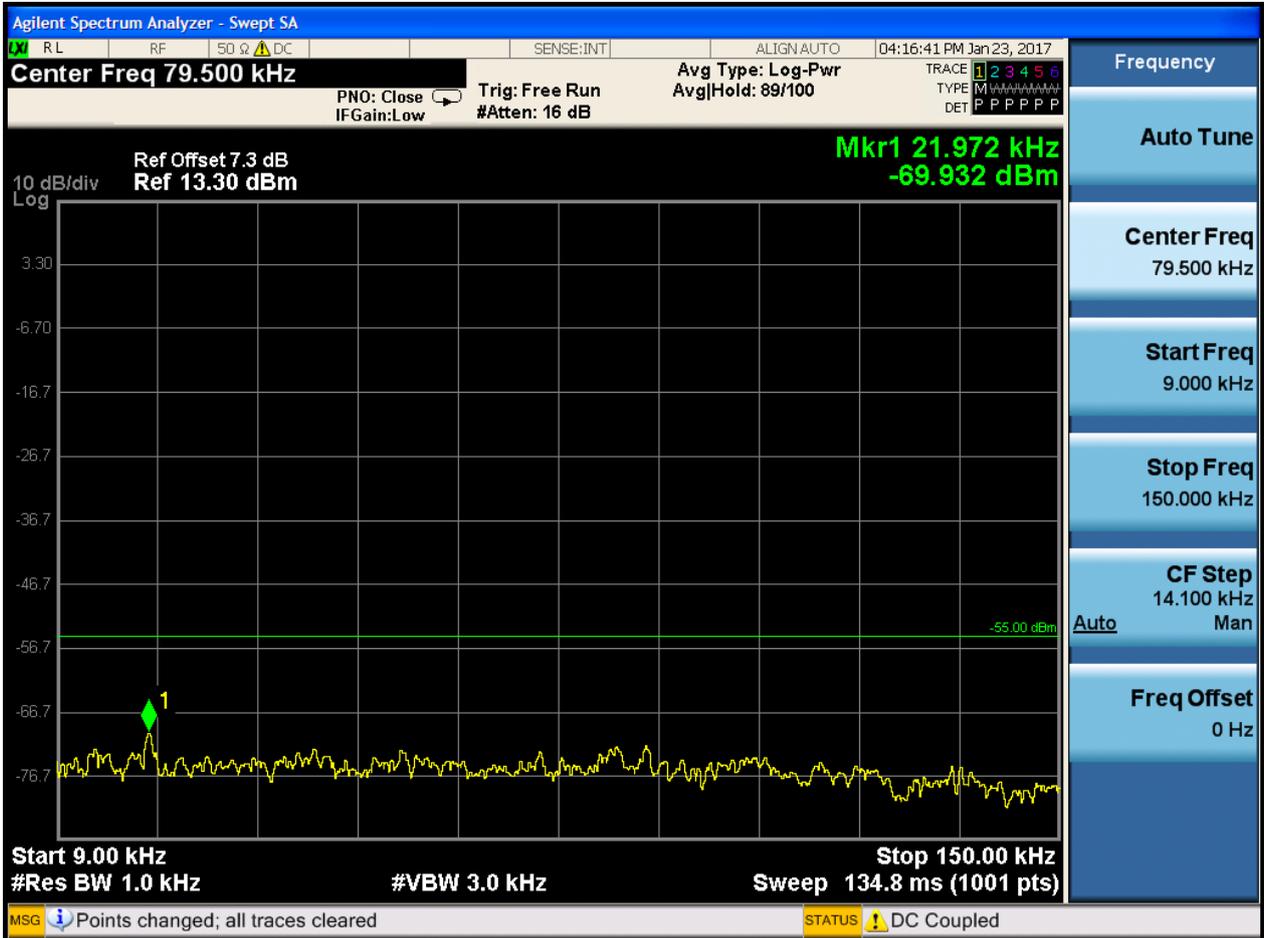
6.1.1.2.2.2.1 Test RB = RB1#0





6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0

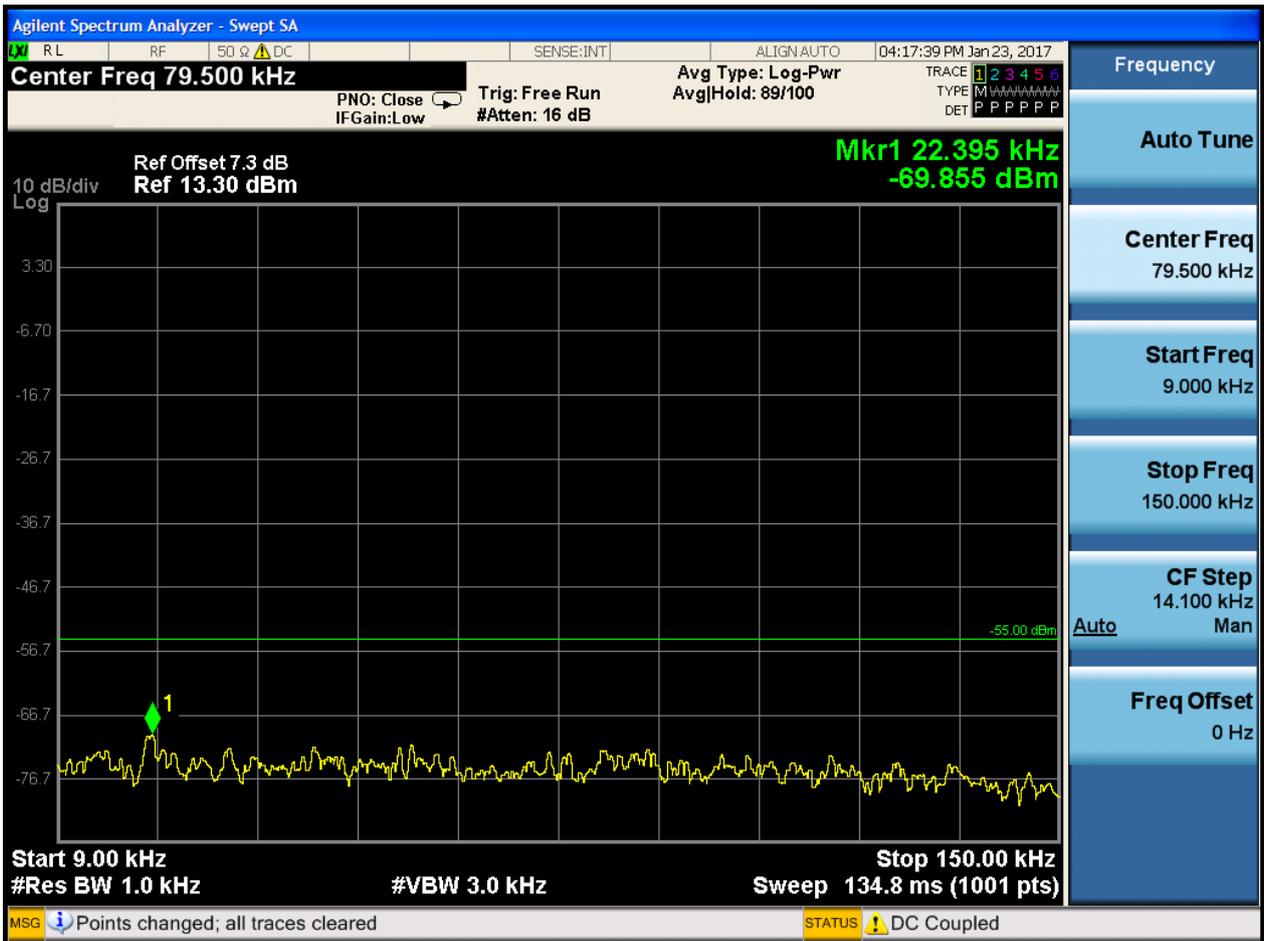




6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

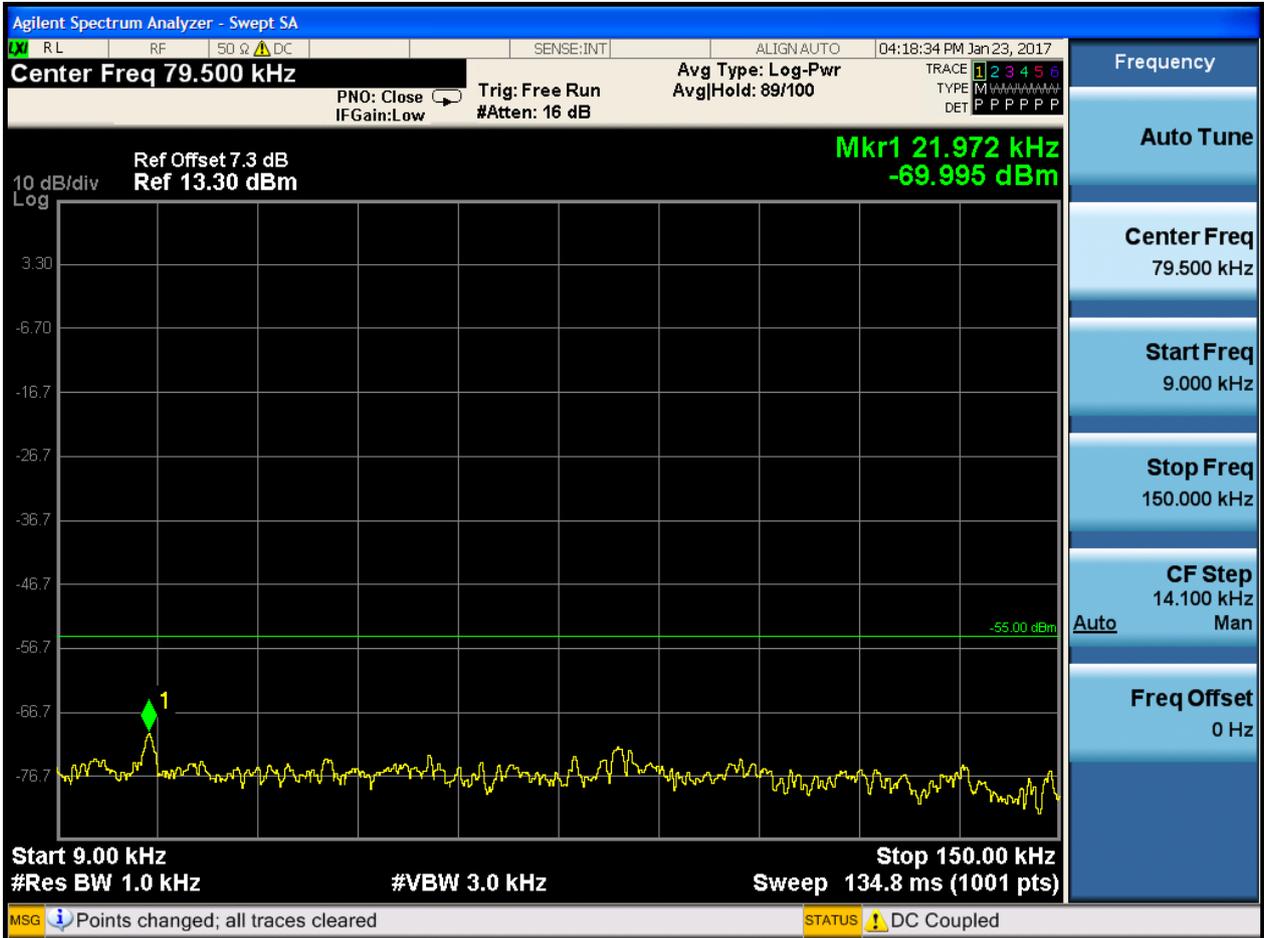
6.1.1.2.3.1.1 Test RB = RB1#0

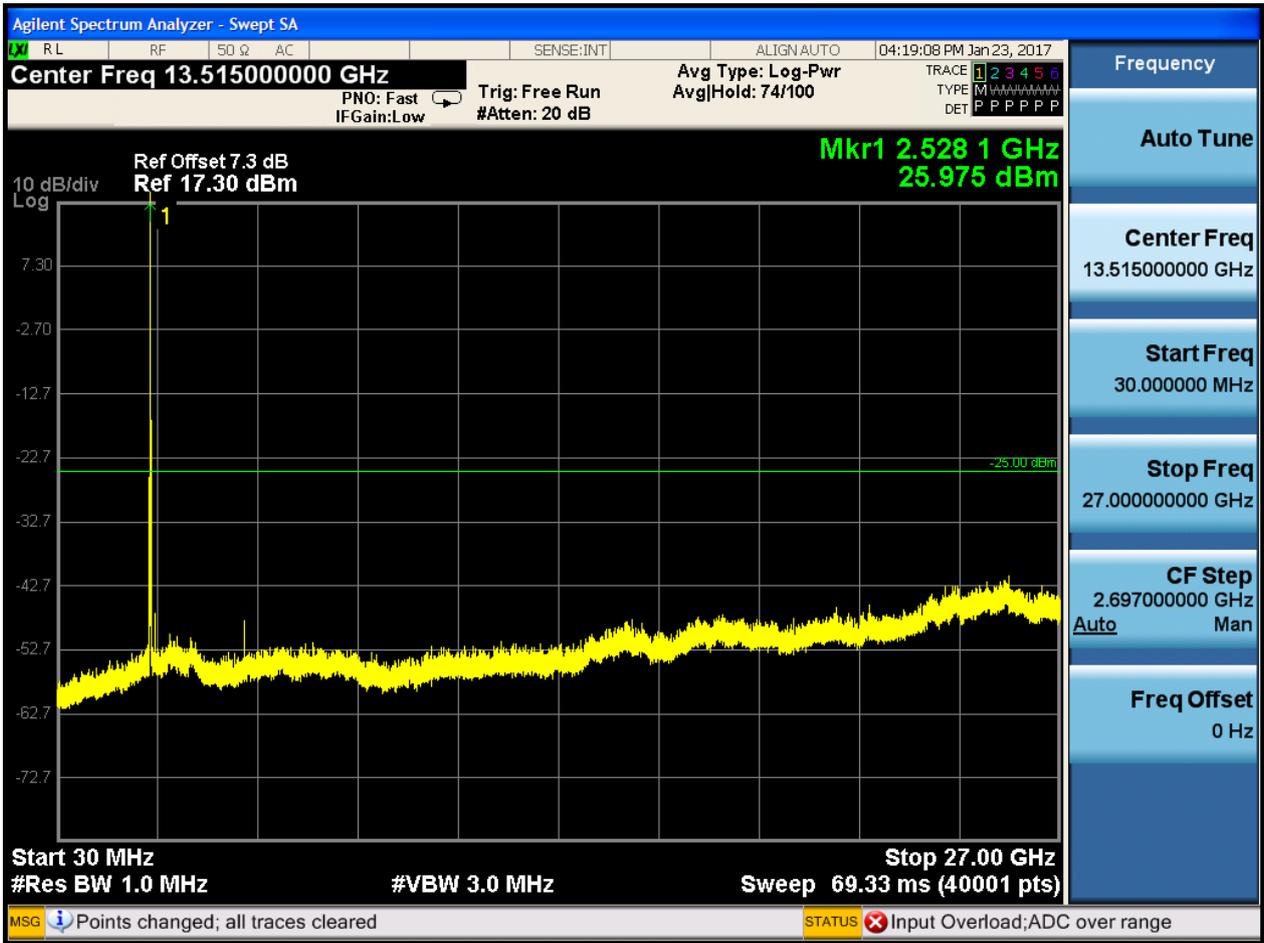


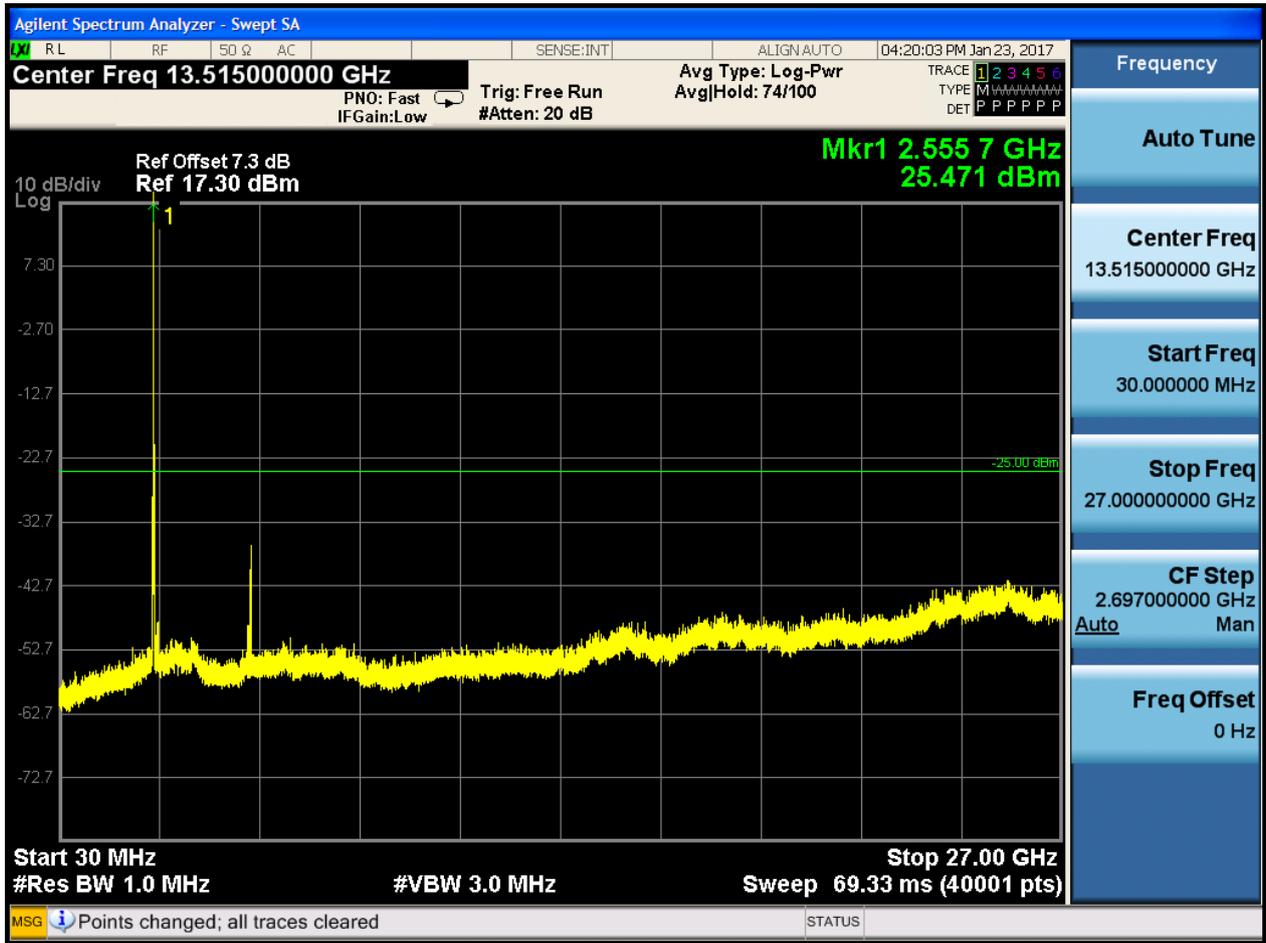


6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0





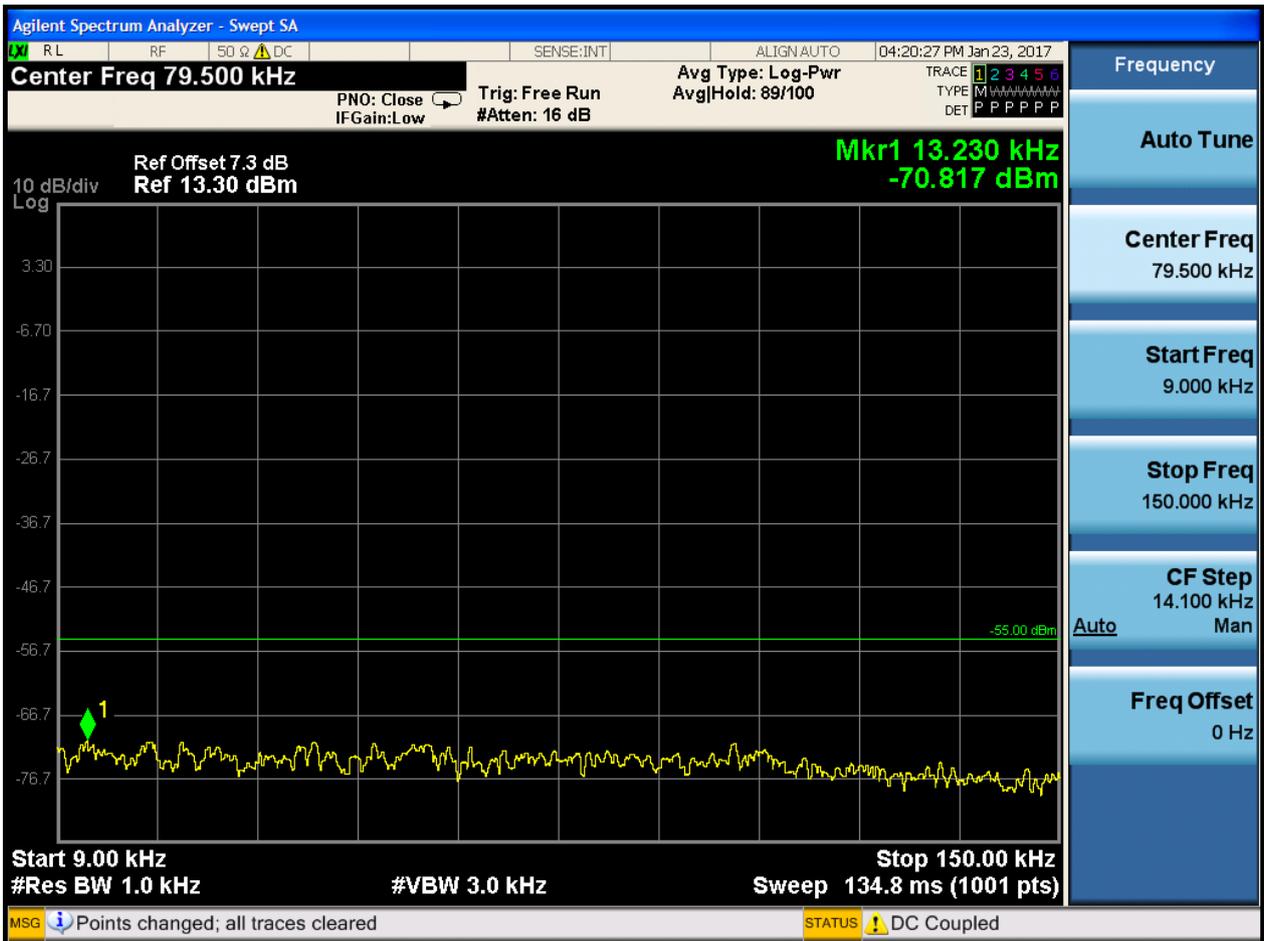


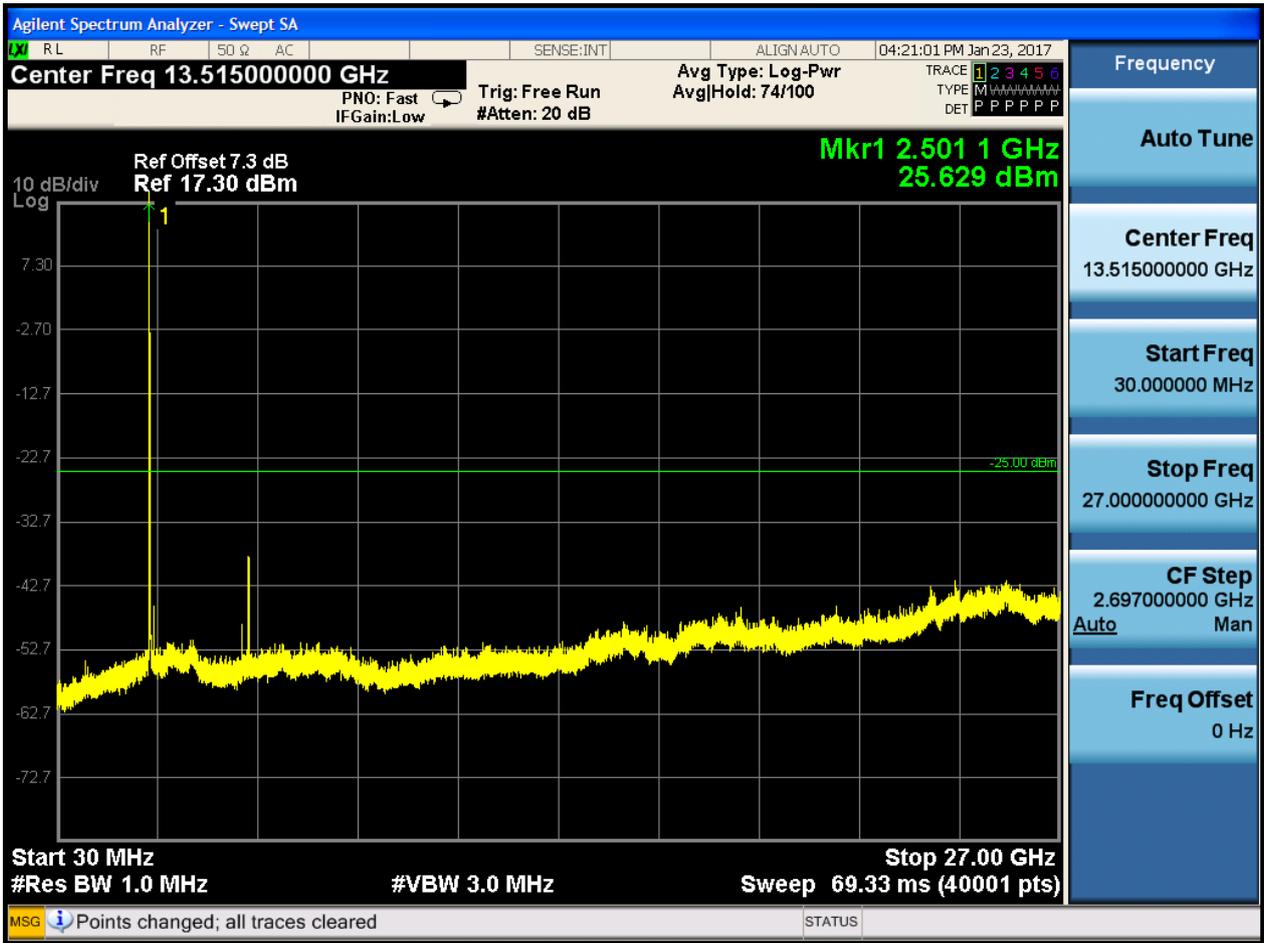


6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

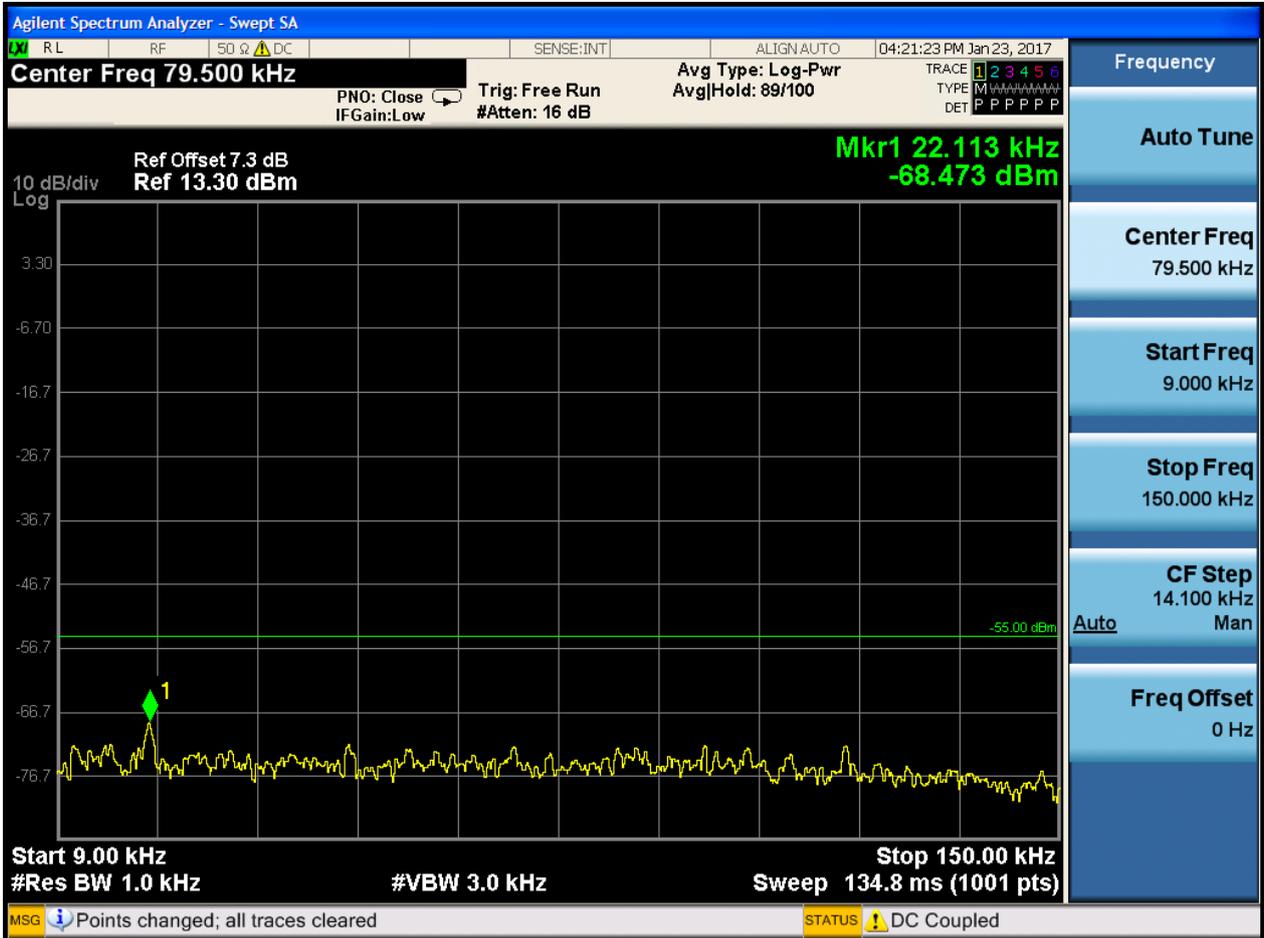






6.1.1.2.4.2 Test Channel = MCH

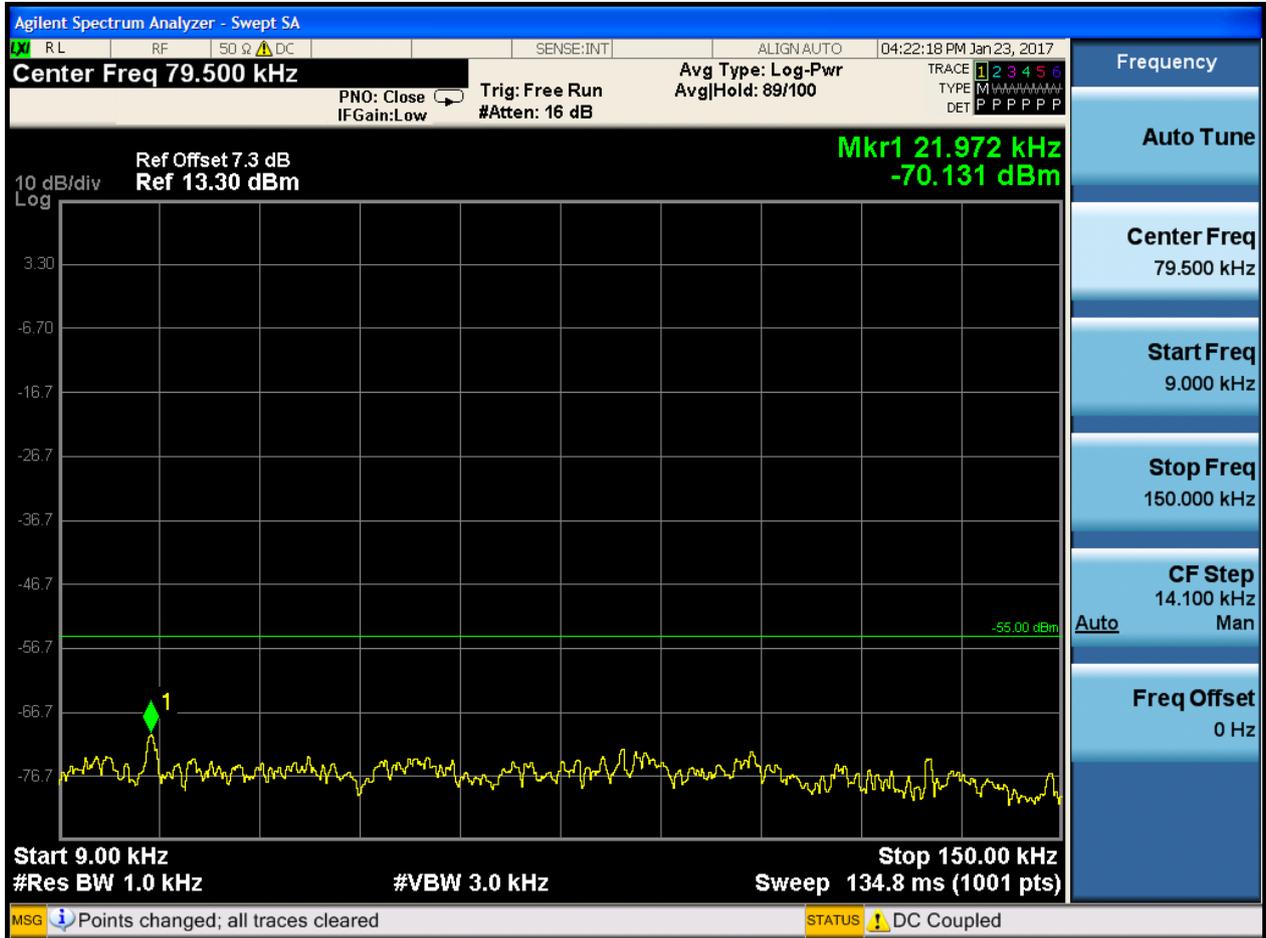
6.1.1.2.4.2.1 Test RB = RB1#0

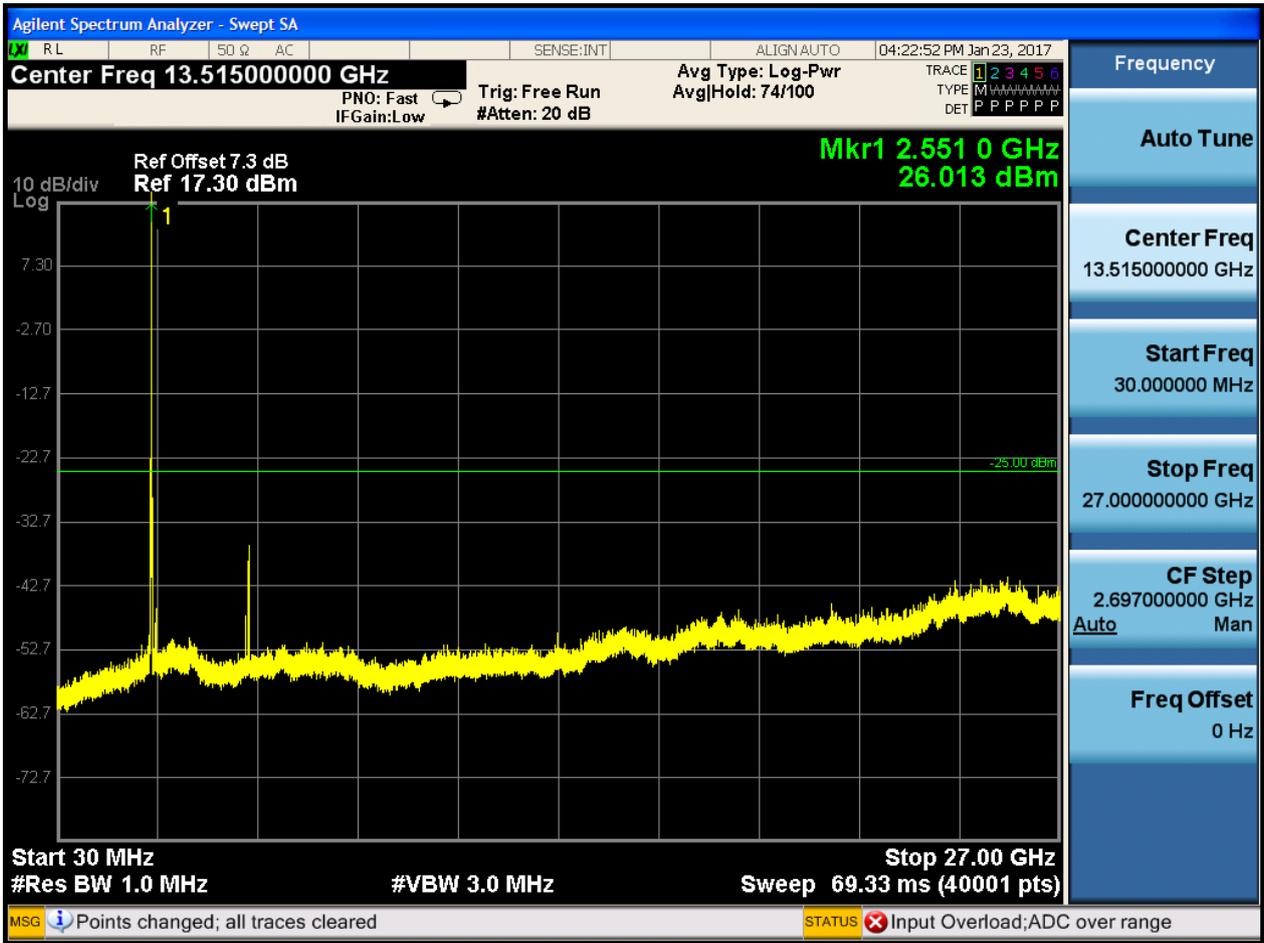




6.1.1.2.4.3 Test Channel = HCH

6.1.1.2.4.3.1 Test RB = RB1#0





7Appendix_G: Frequency Stability

7.1 For LTE

7.1.1 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	-1.30	-0.00052	PASS
					VN	-3.38	-0.00135	PASS
					VH	-1.93	-0.00077	PASS
			MCH	TN	VL	0.09	0.00004	PASS
					VN	-2.57	-0.00101	PASS
					VH	-5.72	-0.00226	PASS
			HCH	TN	VL	3.05	0.00119	PASS
					VN	-4.98	-0.00194	PASS
					VH	-2.07	-0.00081	PASS
		10	LCH	TN	VL	-2.79	-0.00111	PASS
					VN	1.65	0.00066	PASS
					VH	-2.16	-0.00086	PASS
			MCH	TN	VL	-1.83	-0.00072	PASS
					VN	1.87	0.00074	PASS
					VH	-0.30	-0.00012	PASS
			HCH	TN	VL	-2.45	-0.00096	PASS
					VN	1.65	0.00064	PASS
					VH	-2.96	-0.00115	PASS
		15	LCH	TN	VL	0.11	0.00004	PASS
					VN	0.33	0.00013	PASS
					VH	2.60	0.00104	PASS
			MCH	TN	VL	-0.40	-0.00016	PASS
					VN	-0.84	-0.00033	PASS
					VH	-1.12	-0.00044	PASS
HCH	TN		VL	-2.16	-0.00084	PASS		
			VN	2.23	0.00087	PASS		
			VH	0.11	0.00004	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
		20	LCH	TN	VL	0.76	0.0003	PASS	
					VN	0.73	0.00029	PASS	
					VH	0.82	0.00033	PASS	
			MCH	TN	VL	-0.63	-0.00025	PASS	
					VN	-1.90	-0.00075	PASS	
					VH	-0.40	-0.00016	PASS	
			HCH	TN	VL	-2.25	-0.00088	PASS	
					VN	0.41	0.00016	PASS	
					VH	-1.93	-0.00075	PASS	
			5	LCH	TN	VL	-4.69	-0.00187	PASS
						VN	2.32	0.00093	PASS
						VH	0.53	0.00021	PASS
		MCH		TN	VL	1.90	0.00075	PASS	
					VN	-1.70	-0.00067	PASS	
					VH	-2.07	-0.00082	PASS	
		HCH		TN	VL	-4.52	-0.00176	PASS	
					VN	-3.89	-0.00152	PASS	
					VH	-3.52	-0.00137	PASS	
		10		LCH	TN	VL	-9.61	-0.00384	PASS
						VN	-2.39	-0.00095	PASS
						VH	0.14	0.00006	PASS
			MCH	TN	VL	-1.97	-0.00078	PASS	
					VN	1.47	0.00058	PASS	
					VH	-6.24	-0.00246	PASS	
	HCH		TN	VL	1.24	0.00048	PASS		
				VN	1.06	0.00041	PASS		
				VH	-10.17	-0.00396	PASS		
	15		LCH	TN	VL	0.53	0.00021	PASS	
					VN	0.00	0	PASS	
					VH	-0.23	-0.00009	PASS	
		MCH	TN	VL	-0.27	-0.00011	PASS		
				VN	1.60	0.00063	PASS		
				VH	0.17	0.00007	PASS		
		HCH	TN	VL	-0.63	-0.00025	PASS		
				VN	-0.80	-0.00031	PASS		
				VH	0.51	0.0002	PASS		
		20	LCH	TN	VL	2.27	0.0009	PASS	
					VN	1.52	0.00061	PASS	
					VH	-0.27	-0.00011	PASS	
	LTE/TM2	5	LCH	TN	VL	-4.69	-0.00187	PASS	
					VN	2.32	0.00093	PASS	
					VH	0.53	0.00021	PASS	
			MCH	TN	VL	1.90	0.00075	PASS	
					VN	-1.70	-0.00067	PASS	
					VH	-2.07	-0.00082	PASS	
			HCH	TN	VL	-4.52	-0.00176	PASS	
					VN	-3.89	-0.00152	PASS	
					VH	-3.52	-0.00137	PASS	
10			LCH	TN	VL	-9.61	-0.00384	PASS	
					VN	-2.39	-0.00095	PASS	
					VH	0.14	0.00006	PASS	
		MCH	TN	VL	-1.97	-0.00078	PASS		
				VN	1.47	0.00058	PASS		
				VH	-6.24	-0.00246	PASS		
		HCH	TN	VL	1.24	0.00048	PASS		
				VN	1.06	0.00041	PASS		
				VH	-10.17	-0.00396	PASS		
		15	LCH	TN	VL	0.53	0.00021	PASS	
					VN	0.00	0	PASS	
					VH	-0.23	-0.00009	PASS	
MCH			TN	VL	-0.27	-0.00011	PASS		
				VN	1.60	0.00063	PASS		
				VH	0.17	0.00007	PASS		
HCH	TN		VL	-0.63	-0.00025	PASS			
			VN	-0.80	-0.00031	PASS			
			VH	0.51	0.0002	PASS			
20	LCH		TN	VL	2.27	0.0009	PASS		
				VN	1.52	0.00061	PASS		
				VH	-0.27	-0.00011	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			MCH	TN	VL	-0.41	-0.00016	PASS
					VN	-2.16	-0.00085	PASS
					VH	-5.54	-0.00219	PASS
			HCH	TN	VL	-3.76	-0.00147	PASS
					VN	-1.24	-0.00048	PASS
					VH	-2.43	-0.00095	PASS

7.1.2 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	1.76	0.0007	PASS
					-20	3.58	0.00143	PASS
					-10	-0.83	-0.00033	PASS
					0	-1.77	-0.00071	PASS
					10	-5.35	-0.00214	PASS
					20	2.37	0.00095	PASS
					30	1.24	0.0005	PASS
					40	-3.13	-0.00125	PASS
					50	3.32	0.00133	PASS
			MCH	VN	-30	-1.10	-0.00043	PASS
					-20	1.07	0.00042	PASS
					-10	-2.56	-0.00101	PASS
					0	-3.92	-0.00155	PASS
					10	0.00	0	PASS
					20	-0.94	-0.00037	PASS
					30	-2.37	-0.00093	PASS
					40	-3.33	-0.00131	PASS
					50	1.63	0.00064	PASS
			HCH	VN	-30	-4.84	-0.00189	PASS
					-20	-2.98	-0.00116	PASS
					-10	-1.02	-0.0004	PASS
					0	-2.22	-0.00086	PASS
					10	-1.09	-0.00042	PASS
					20	0.77	0.0003	PASS
30	-4.94	-0.00192			PASS			
40	-2.56	-0.001			PASS			



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
		10	LCH	VN	50	-4.94	-0.00192	PASS
					-30	-6.08	-0.00243	PASS
					-20	-2.12	-0.00085	PASS
					-10	1.97	0.00079	PASS
					0	-3.13	-0.00125	PASS
					10	1.20	0.00048	PASS
					20	-2.42	-0.00097	PASS
					30	-0.57	-0.00023	PASS
					40	-4.98	-0.00199	PASS
			50	-2.36	-0.00094	PASS		
			MCH	VN	-30	-0.36	-0.00014	PASS
					-20	-14.26	-0.00563	PASS
					-10	-3.58	-0.00141	PASS
					0	-3.18	-0.00125	PASS
					10	-2.70	-0.00107	PASS
					20	-3.19	-0.00126	PASS
					30	1.70	0.00067	PASS
					40	-0.83	-0.00033	PASS
		50			-3.81	-0.0015	PASS	
		HCH	VN	-30	-1.12	-0.00044	PASS	
				-20	2.29	0.00089	PASS	
				-10	1.89	0.00074	PASS	
				0	-4.31	-0.00168	PASS	
				10	-5.41	-0.00211	PASS	
				20	5.52	0.00215	PASS	
				30	-6.01	-0.00234	PASS	
				40	-1.79	-0.0007	PASS	
				50	0.11	0.00004	PASS	
		15	LCH	VN	-30	-0.49	-0.0002	PASS
					-20	2.02	0.00081	PASS
					-10	0.49	0.0002	PASS
					0	-0.33	-0.00013	PASS
					10	-1.95	-0.00078	PASS
					20	-0.47	-0.00019	PASS
					30	-3.43	-0.00137	PASS
					40	-1.26	-0.0005	PASS
					50	0.56	0.00022	PASS
			MCH	VN	-30	-1.04	-0.00041	PASS
					-20	-1.54	-0.00061	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict			
					-10	-2.45	-0.00097	PASS			
					0	1.93	0.00076	PASS			
					10	-0.37	-0.00015	PASS			
					20	0.56	0.00022	PASS			
					30	0.73	0.00029	PASS			
					40	-0.51	-0.0002	PASS			
					50	-0.89	-0.00035	PASS			
					HCH	VN	-30	-1.83	-0.00071	PASS	
							-20	-2.06	-0.0008	PASS	
							-10	-2.73	-0.00107	PASS	
							0	-2.20	-0.00086	PASS	
							10	0.01	0	PASS	
			20	1.16			0.00045	PASS			
			30	0.84			0.00033	PASS			
			40	-3.20			-0.00125	PASS			
			-30	1.76			0.0007	PASS			
			20	LCH			VN	-20	3.58	0.00143	PASS
								-10	-0.83	-0.00033	PASS
								0	-1.77	-0.00071	PASS
					10	-5.35		-0.00214	PASS		
					20	2.37		0.00095	PASS		
					30	1.24		0.0005	PASS		
					40	-3.13		-0.00125	PASS		
					50	3.32		0.00133	PASS		
		-30			-1.10	-0.00043		PASS			
		MCH			VN	-20		1.07	0.00042	PASS	
						-10		-2.56	-0.00101	PASS	
						0		-3.92	-0.00155	PASS	
				10		0.00	0	PASS			
				20		-0.94	-0.00037	PASS			
				30		-2.37	-0.00093	PASS			
				40		-3.33	-0.00131	PASS			
				50		1.63	0.00064	PASS			
				-30		-4.84	-0.00189	PASS			
				HCH		VN	-20	-2.98	-0.00116	PASS	
							-10	-1.02	-0.0004	PASS	
							0	-2.22	-0.00086	PASS	
		10			-1.09		-0.00042	PASS			
		20			0.77		0.0003	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	30	-4.94	-0.00192	PASS
					40	-2.56	-0.001	PASS
					50	-4.94	-0.00192	PASS
					-30	-6.08	-0.00243	PASS
			-30		-5.25	-0.0021	PASS	
			-20		-0.31	-0.00012	PASS	
			-10		-22.57	-0.00902	PASS	
			0		-12.86	-0.00514	PASS	
		10	-44.85	-0.01792	PASS			
		20	-2.10	-0.00084	PASS			
		30	1.37	0.00055	PASS			
		40	-18.90	-0.00755	PASS			
		50	-51.24	-0.02048	PASS			
		MCH	VN	-30	2.09	0.00082	PASS	
				-20	-3.62	-0.00143	PASS	
				-10	-7.25	-0.00286	PASS	
	0			-4.48	-0.00177	PASS		
	10			-0.57	-0.00022	PASS		
	20			4.13	0.00163	PASS		
	30			0.03	0.00001	PASS		
	40			-0.19	-0.00007	PASS		
	50	-2.76	-0.00109	PASS				
	HCH	VN	-30	-5.45	-0.00212	PASS		
			-20	-5.58	-0.00217	PASS		
			-10	2.80	0.00109	PASS		
			0	-1.27	-0.00049	PASS		
			10	-3.60	-0.0014	PASS		
			20	-8.90	-0.00347	PASS		
			30	-1.43	-0.00056	PASS		
			40	1.39	0.00054	PASS		
	50	-7.93	-0.00309	PASS				
	10	LCH	VN	-30	-3.30	-0.00132	PASS	
-20				1.12	0.00045	PASS		
-10				-0.20	-0.00008	PASS		
0				0.14	0.00006	PASS		
10				-1.99	-0.00079	PASS		
20				-14.65	-0.00585	PASS		
30				-10.36	-0.00414	PASS		
40				-2.20	-0.00088	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
					50	-2.83	-0.00113	PASS	
			MCH	VN	-30	0.63	0.00025	PASS	
					-20	0.99	0.00039	PASS	
					-10	4.25	0.00168	PASS	
					0	-11.19	-0.00441	PASS	
					10	1.70	0.00067	PASS	
					20	-2.45	-0.00097	PASS	
					30	2.12	0.00084	PASS	
					40	-3.79	-0.0015	PASS	
					50	-1.49	-0.00059	PASS	
					HCH	VN	-30	-1.75	-0.00068
			-20	-1.30			-0.00051	PASS	
			-10	-10.07			-0.00393	PASS	
			0	-5.82			-0.00227	PASS	
			10	-0.90			-0.00035	PASS	
			20	-8.20			-0.0032	PASS	
			30	-0.11			-0.00004	PASS	
			40	2.09			0.00081	PASS	
			50	-4.82	-0.00188	PASS			
		15	LCH	VN	-30	-13.38	-0.00534	PASS	
						-20	1.57	0.00063	PASS
						-10	0.31	0.00012	PASS
						0	-1.92	-0.00077	PASS
						10	-0.43	-0.00017	PASS
						20	1.13	0.00045	PASS
						30	-0.54	-0.00022	PASS
						40	-2.37	-0.00095	PASS
				50	0.09	0.00004	PASS		
				MCH	VN	-30	1.66	0.00065	PASS
						-20	-2.63	-0.00104	PASS
						-10	-4.71	-0.00186	PASS
						0	0.46	0.00018	PASS
						10	-1.73	-0.00068	PASS
						20	0.64	0.00025	PASS
						30	-1.86	-0.00073	PASS
						40	0.41	0.00016	PASS
				50	-0.56	-0.00022	PASS		
				HCH	VN	-30	-4.35	-0.0017	PASS
						-20	-0.73	-0.00028	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					-10	-0.92	-0.00036	PASS		
					0	-2.40	-0.00094	PASS		
					10	-1.12	-0.00044	PASS		
					20	-1.75	-0.00068	PASS		
					30	-4.23	-0.00165	PASS		
					40	1.20	0.00047	PASS		
					50	-3.18	-0.00124	PASS		
		20	LCH	VN	-30	3.76	0.0015	PASS		
					-20	1.03	0.00041	PASS		
					-10	-0.69	-0.00027	PASS		
					0	-0.49	-0.0002	PASS		
					10	-1.12	-0.00045	PASS		
					20	0.23	0.00009	PASS		
					30	1.32	0.00053	PASS		
					40	-0.37	-0.00015	PASS		
					50	-2.73	-0.00109	PASS		
					MCH	VN	-30	2.60	0.00103	PASS
							-20	0.17	0.00007	PASS
							-10	-0.72	-0.00028	PASS
							0	0.93	0.00037	PASS
							10	-1.39	-0.00055	PASS
							20	-0.21	-0.00008	PASS
							30	-0.59	-0.00023	PASS
							40	-1.95	-0.00077	PASS
					HCH	VN	-30	1.22	0.00048	PASS
							-20	-4.11	-0.00161	PASS
							-10	-2.80	-0.00109	PASS
							0	-3.35	-0.00131	PASS
		10	-0.27	-0.00011			PASS			
		20	-1.53	-0.0006			PASS			
		30	-3.95	-0.00154			PASS			
		40	-3.19	-0.00125			PASS			
		50	0.29	0.00011	PASS					

END