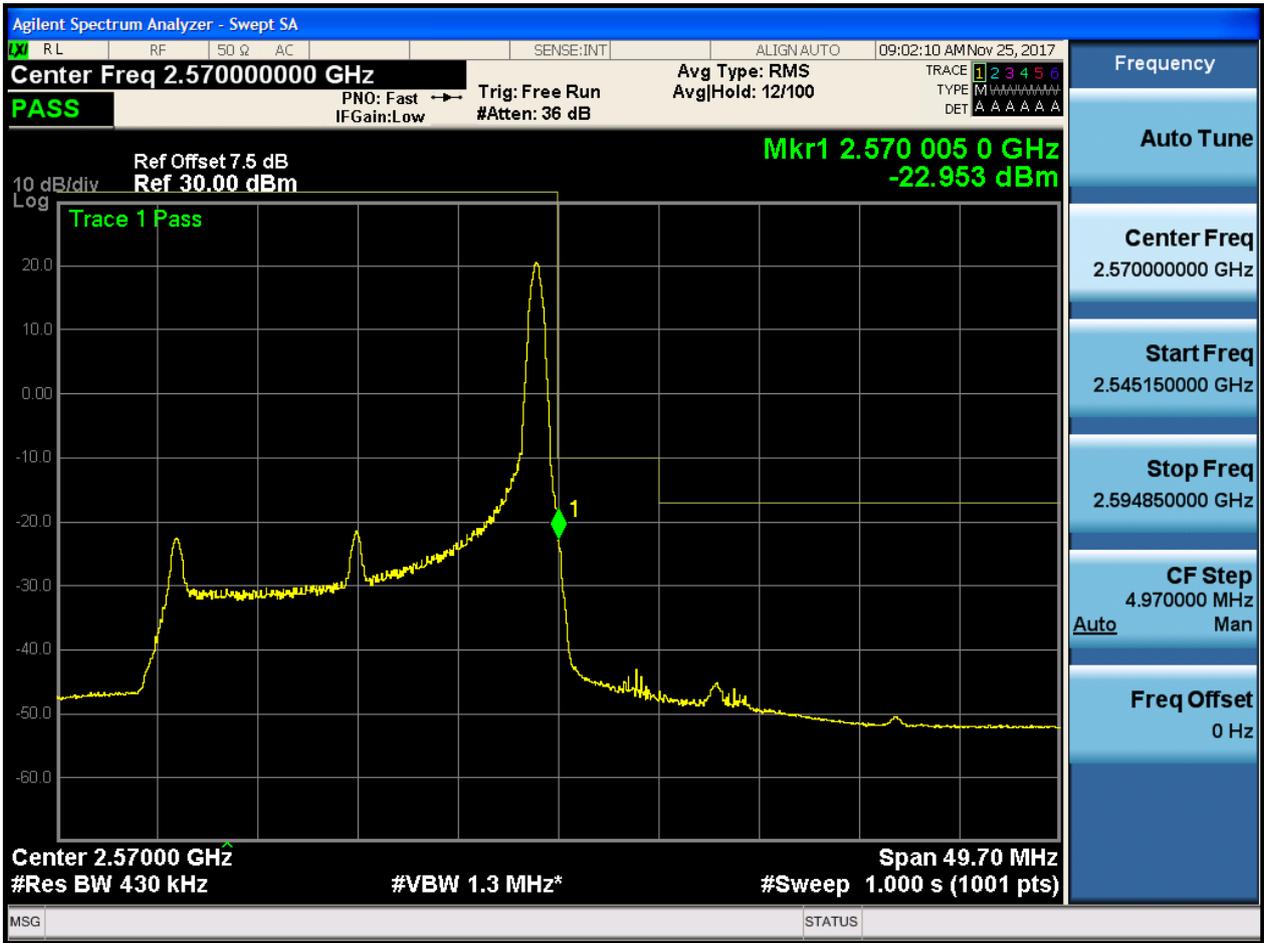




5.1.1.2.4.2.2 Test RB = RB1#99





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

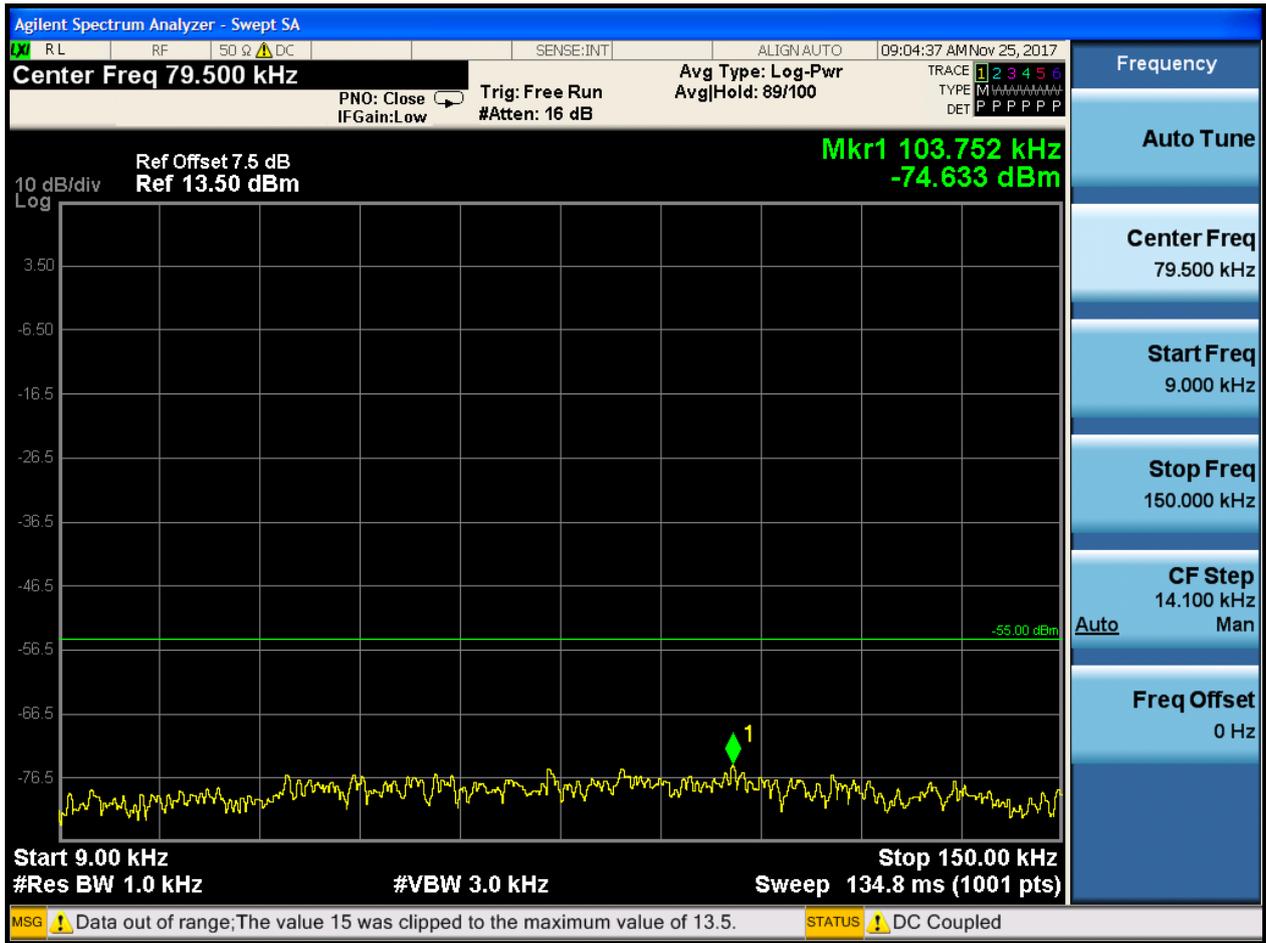
6.1.1 Test Band = BAND7

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

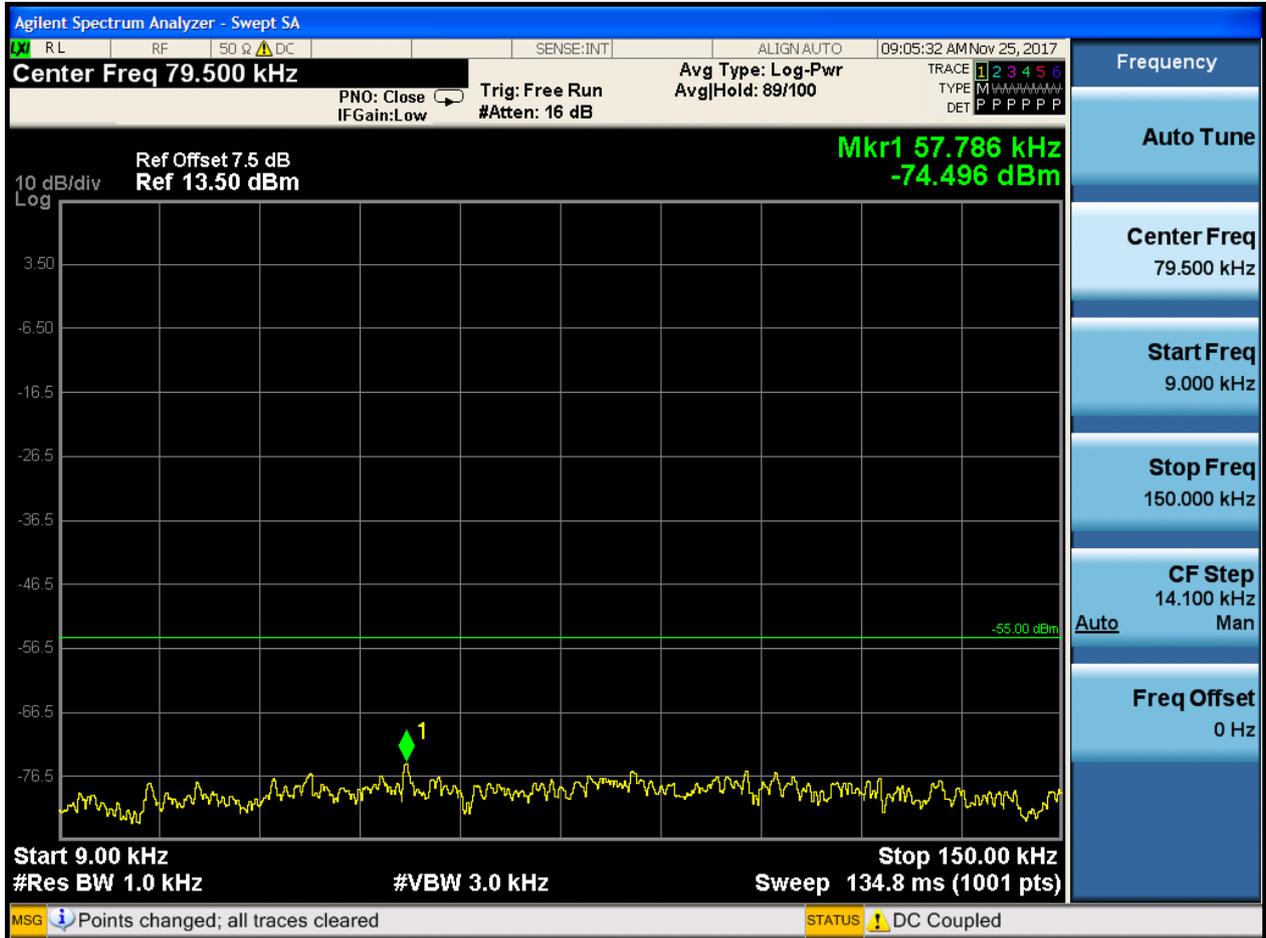






6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



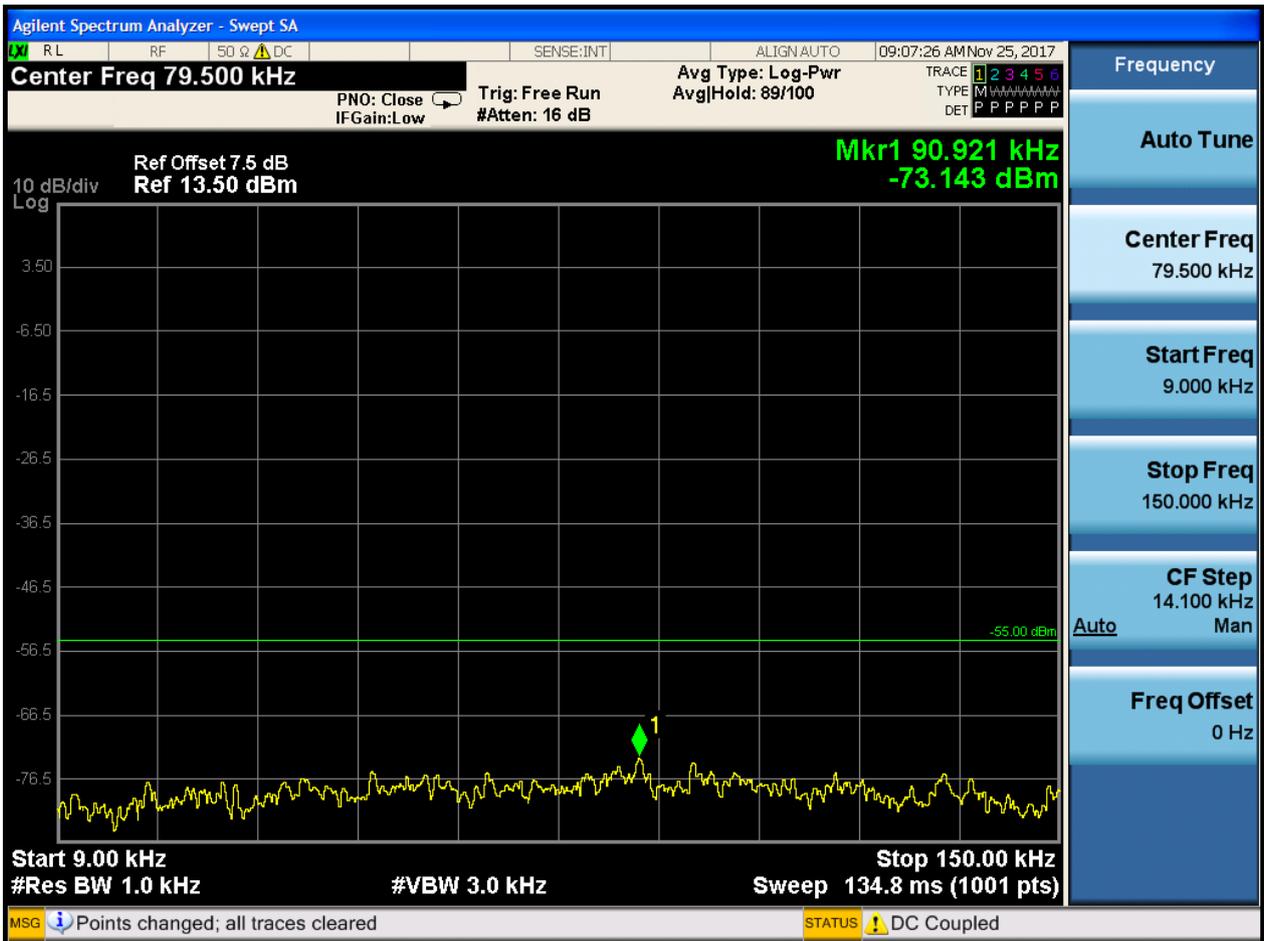


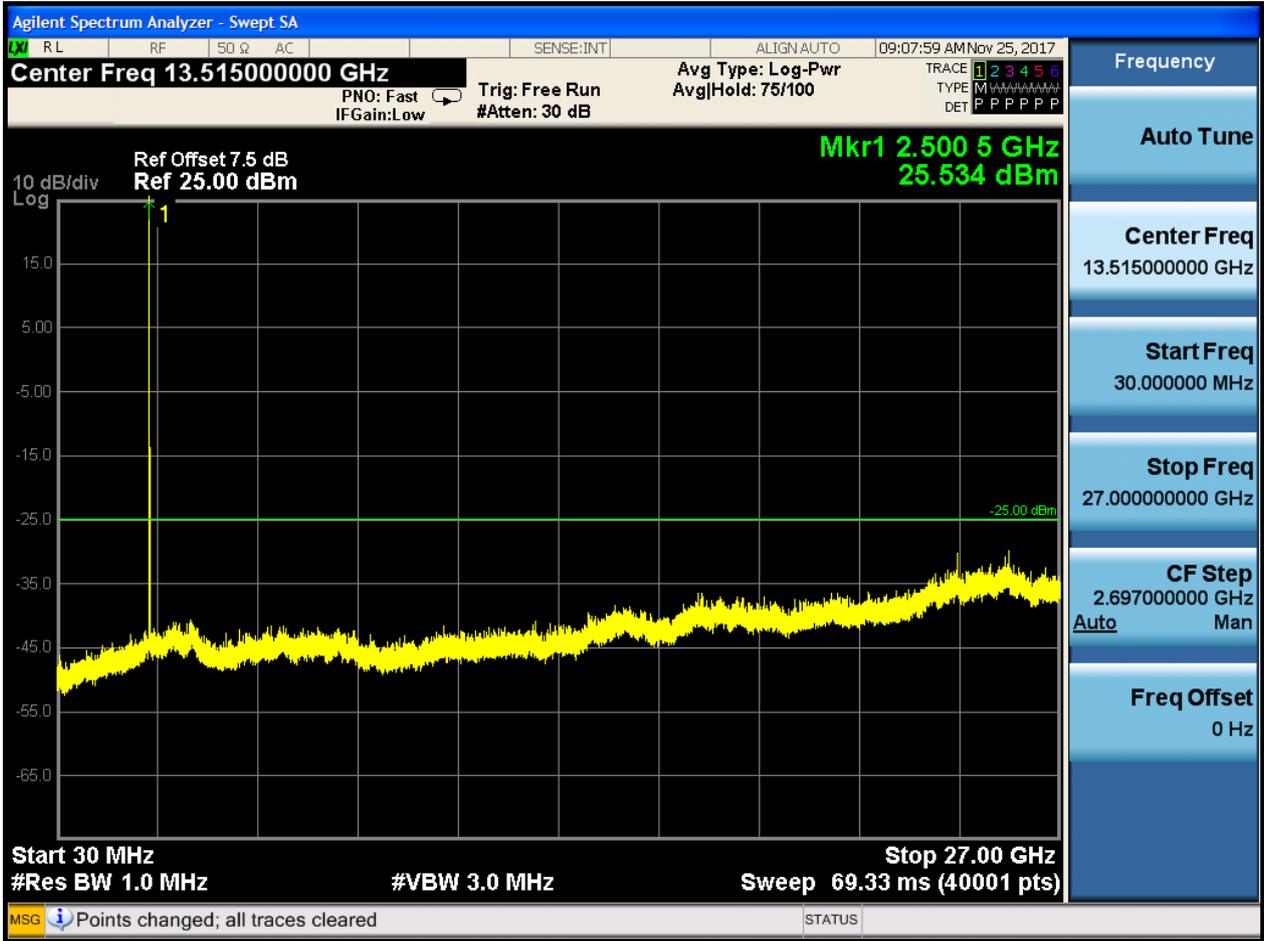


6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

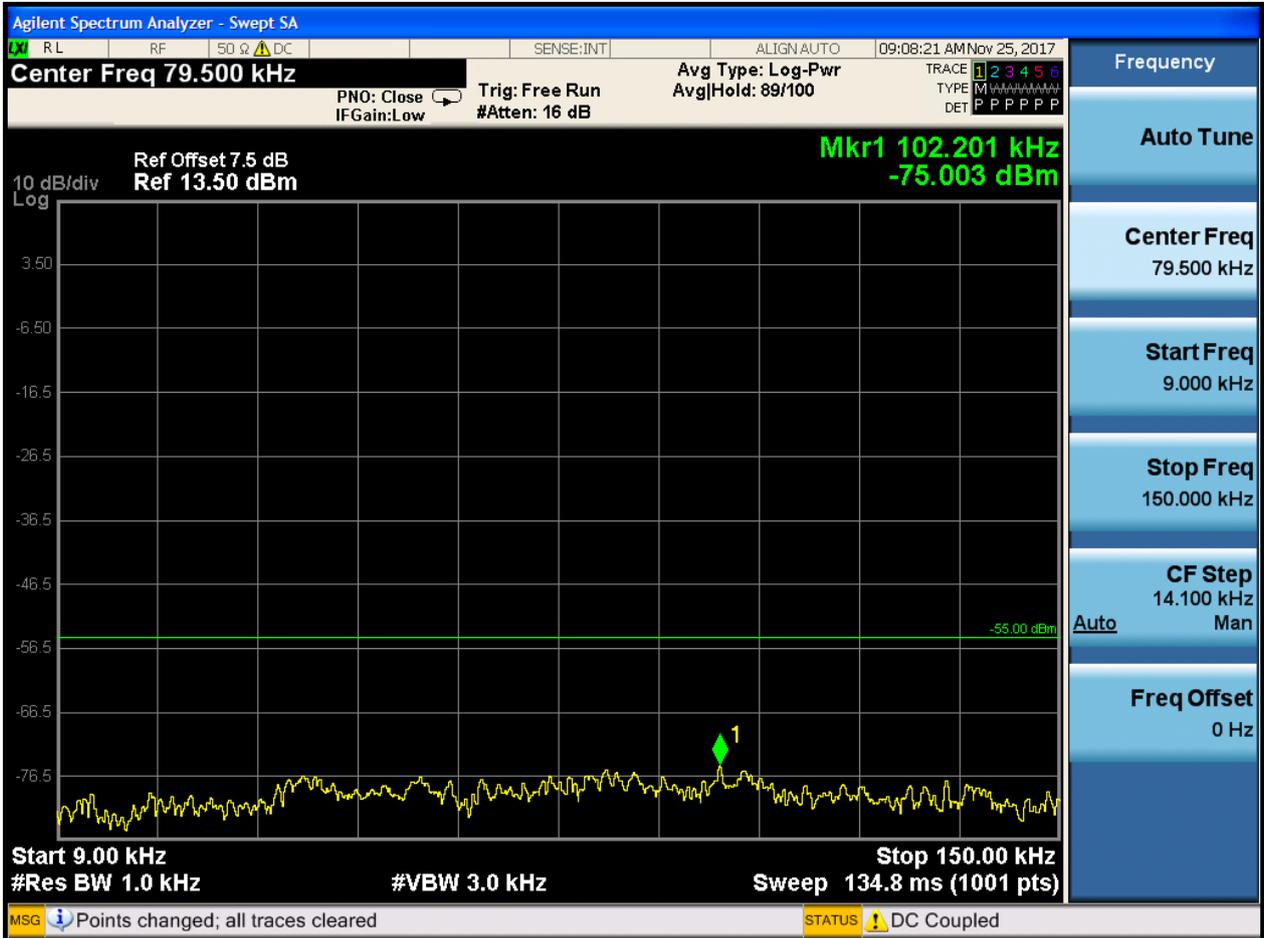


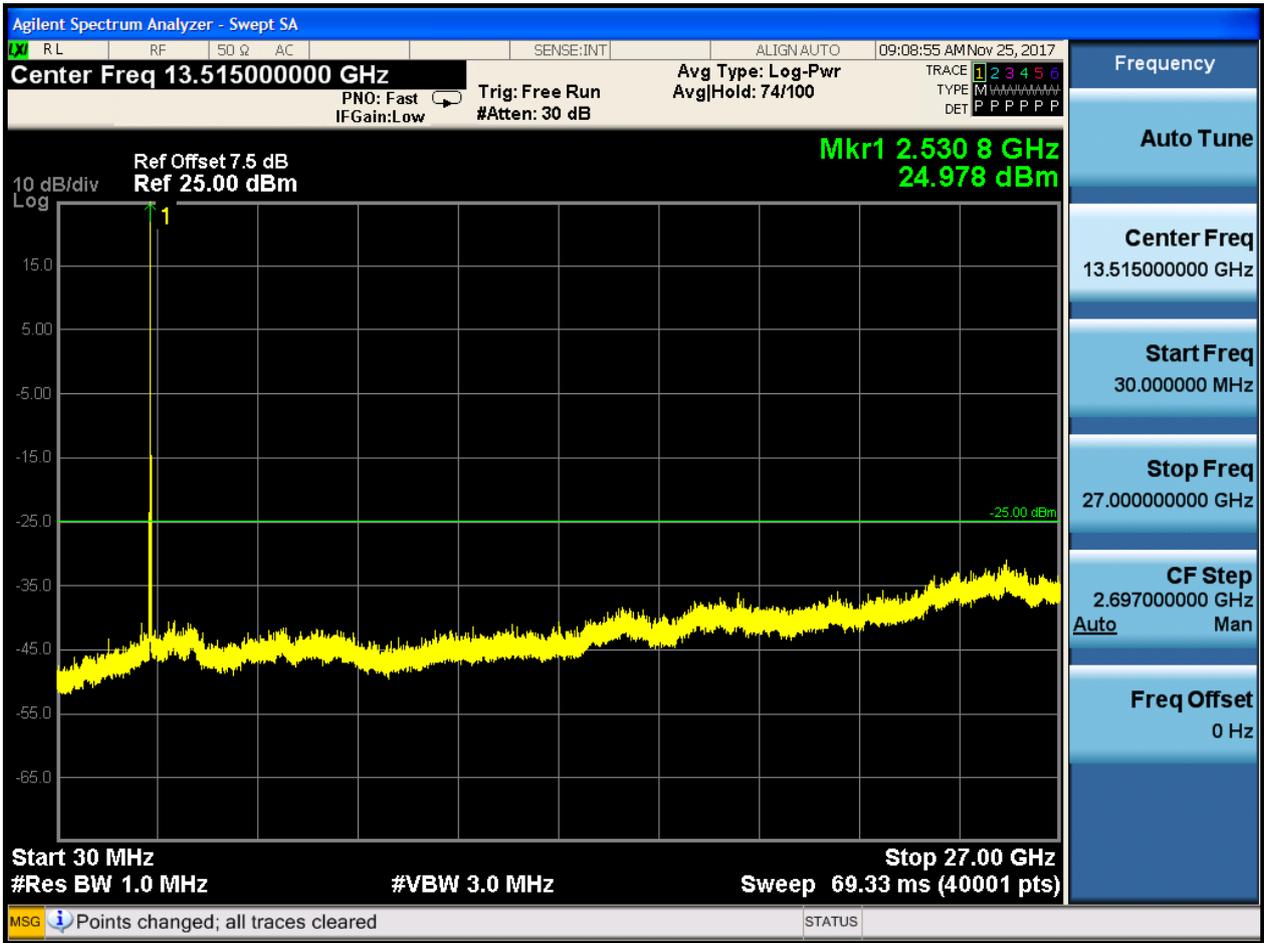




6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0

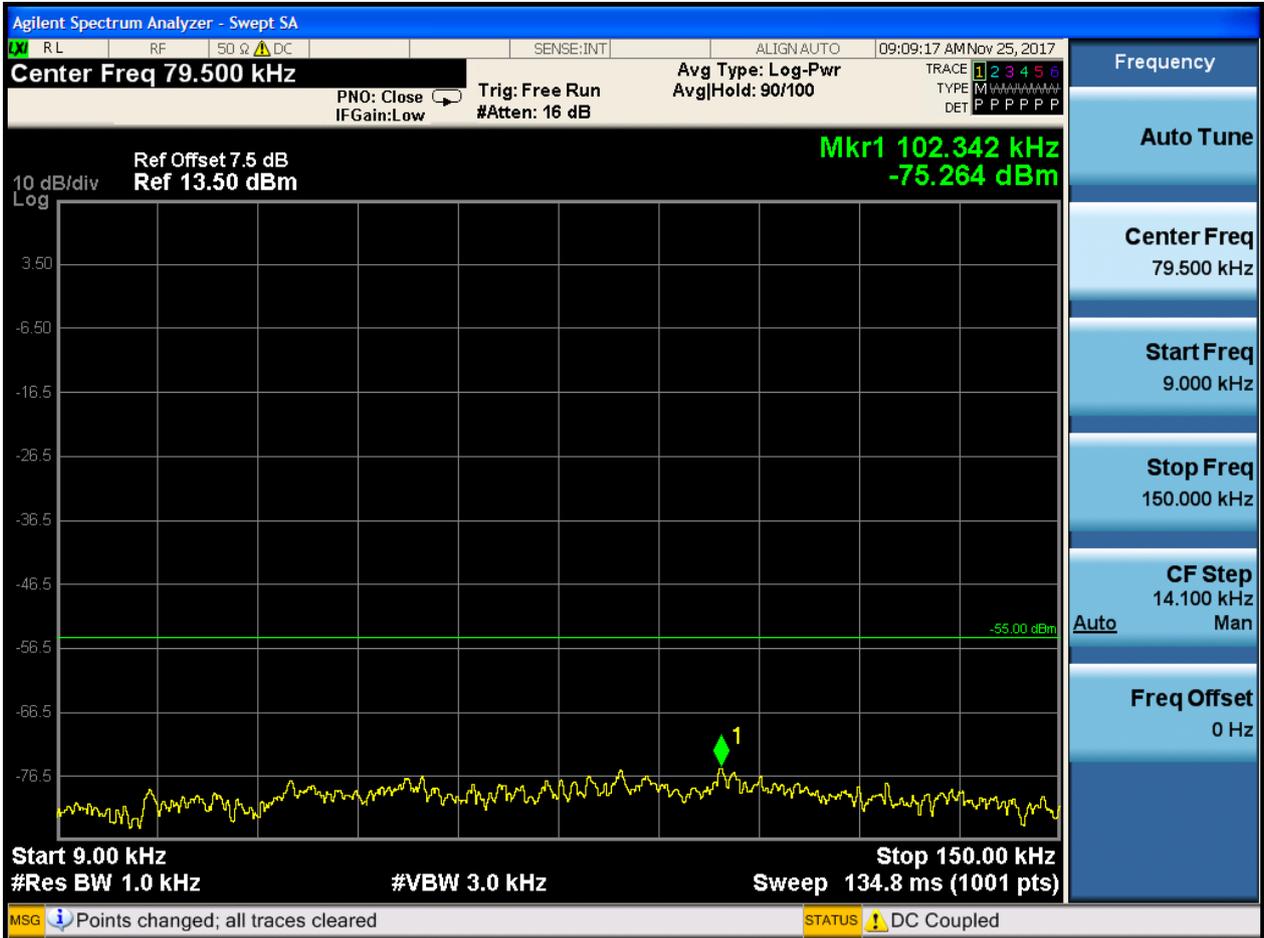


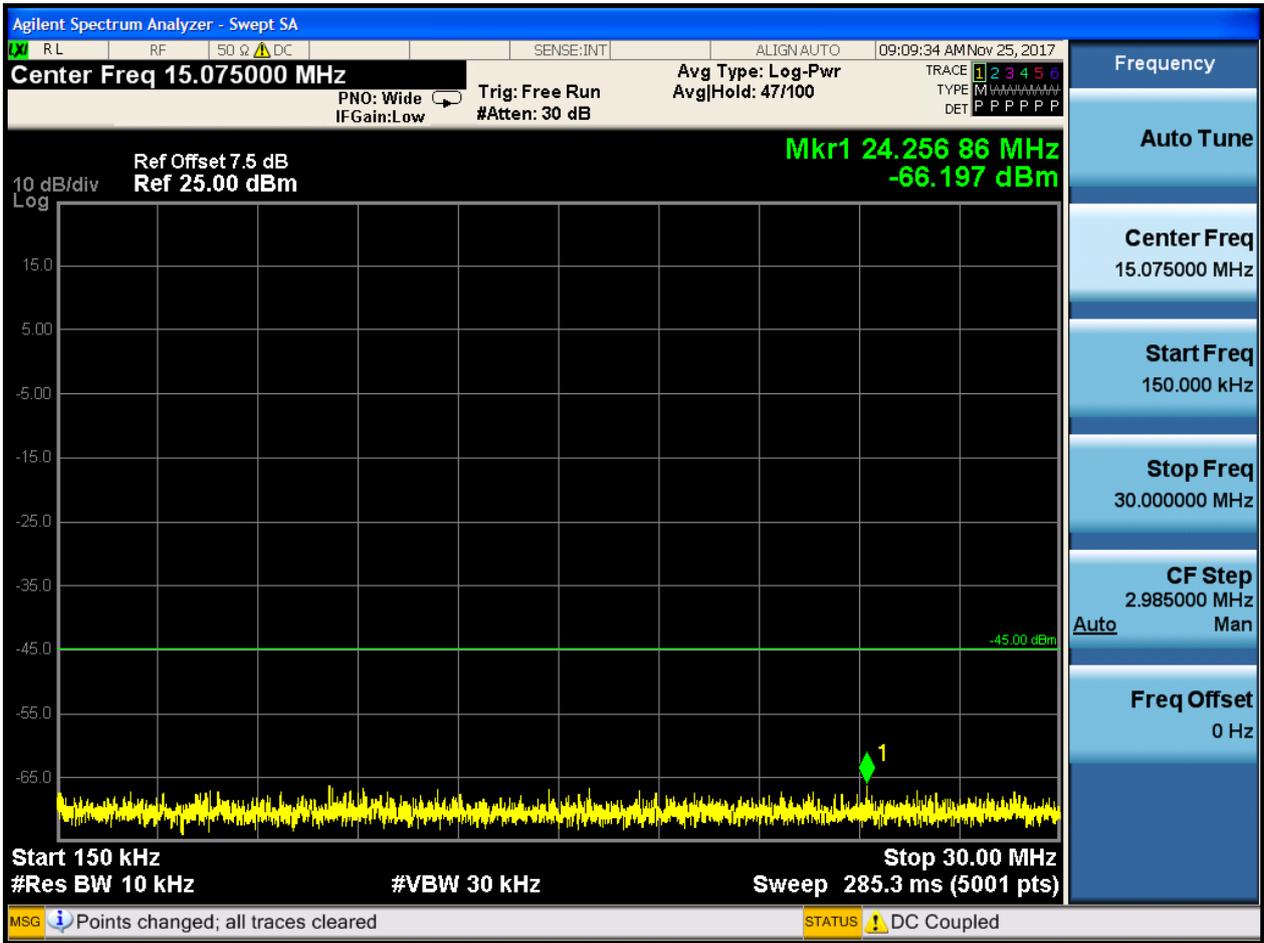




6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





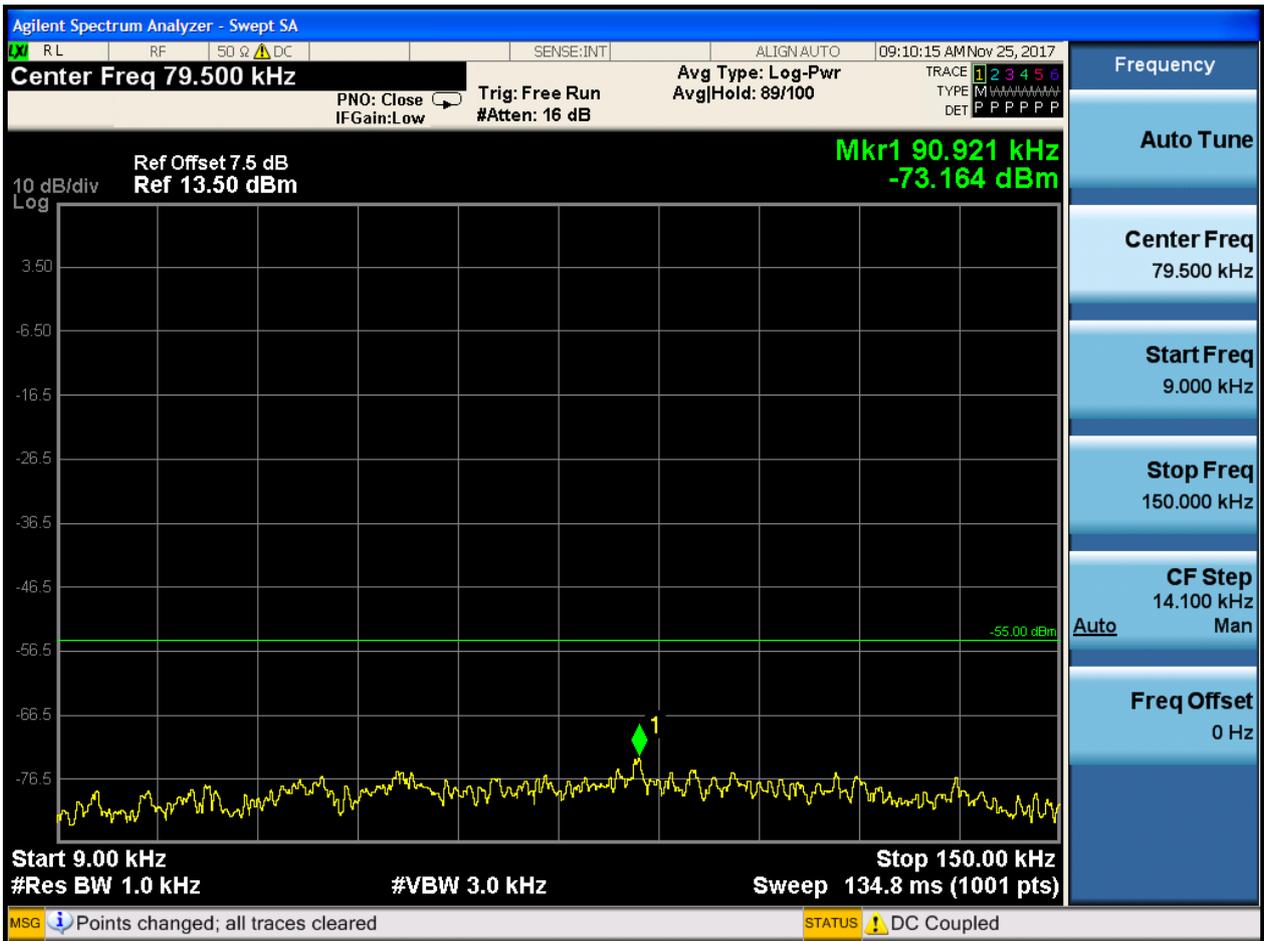


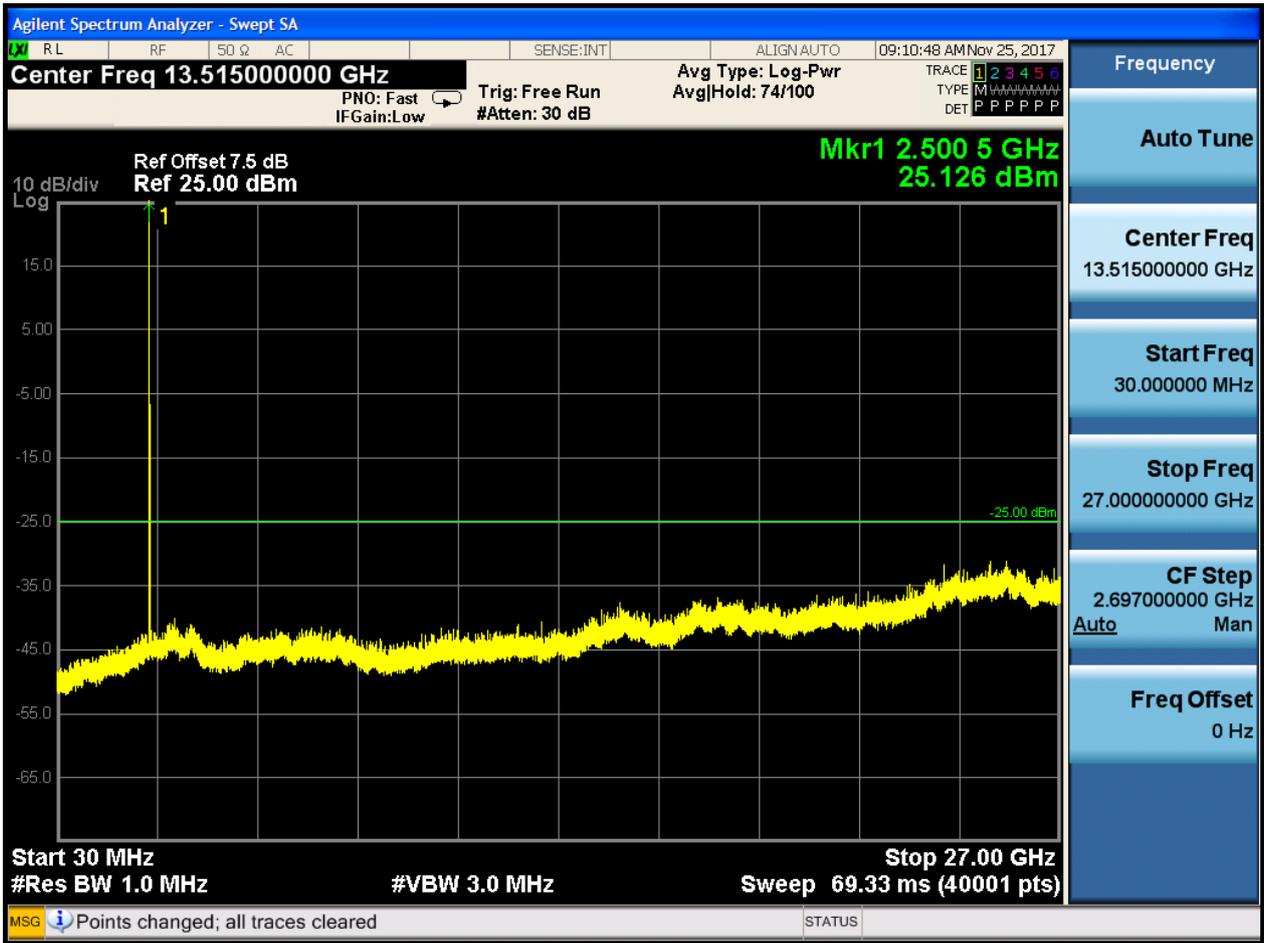


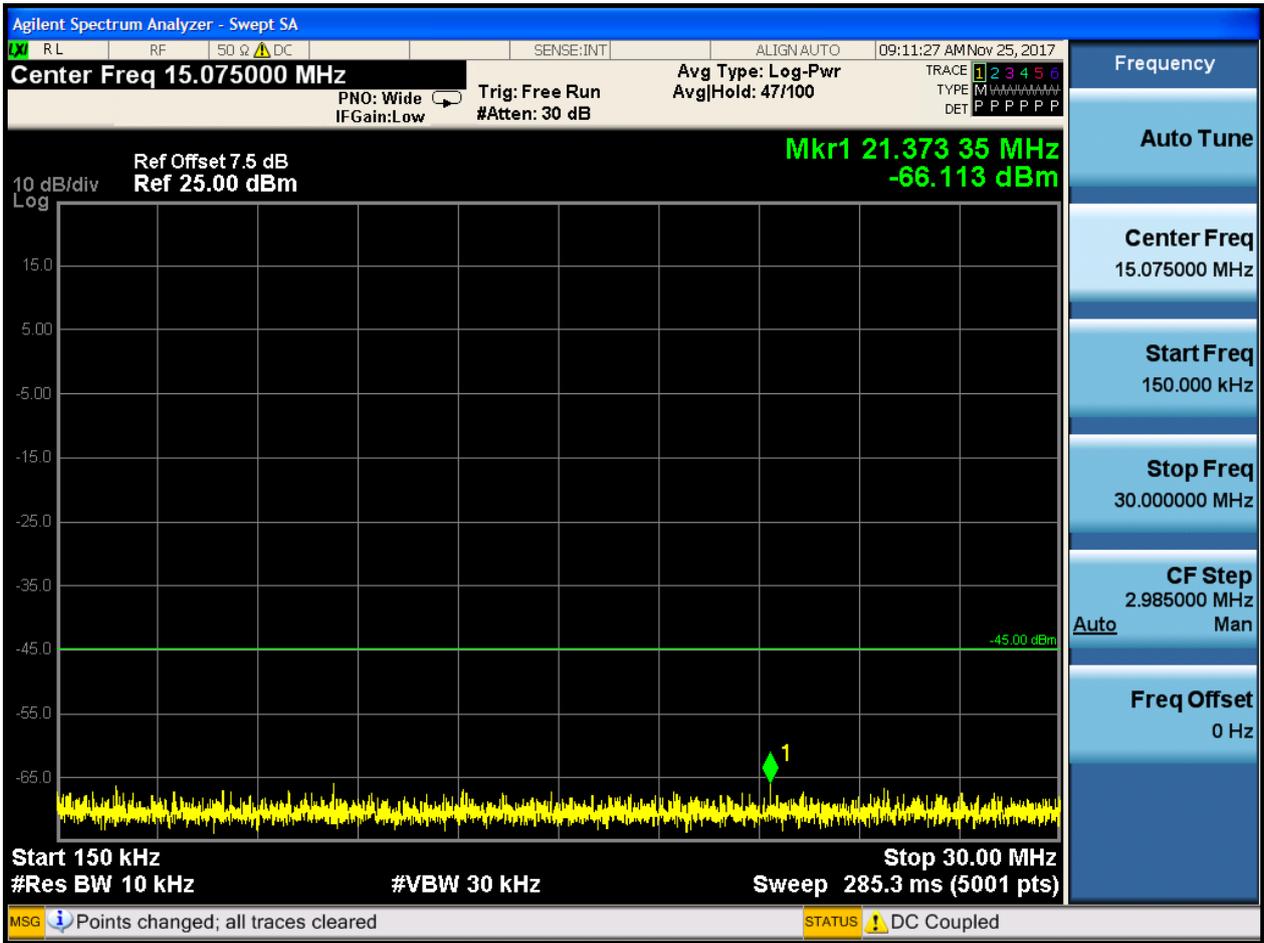
6.1.1.1.3 Test Bandwidth = 15

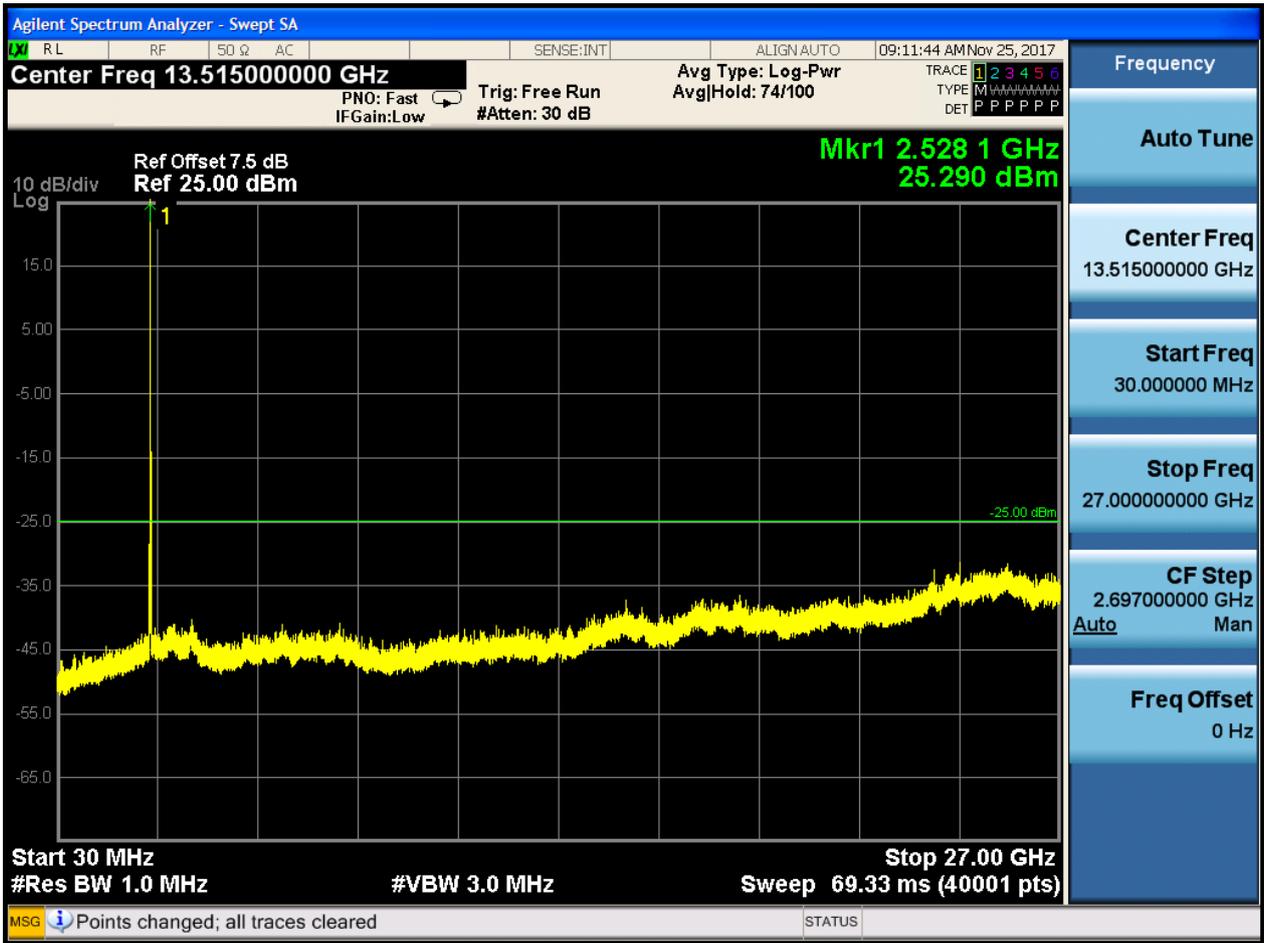
6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0





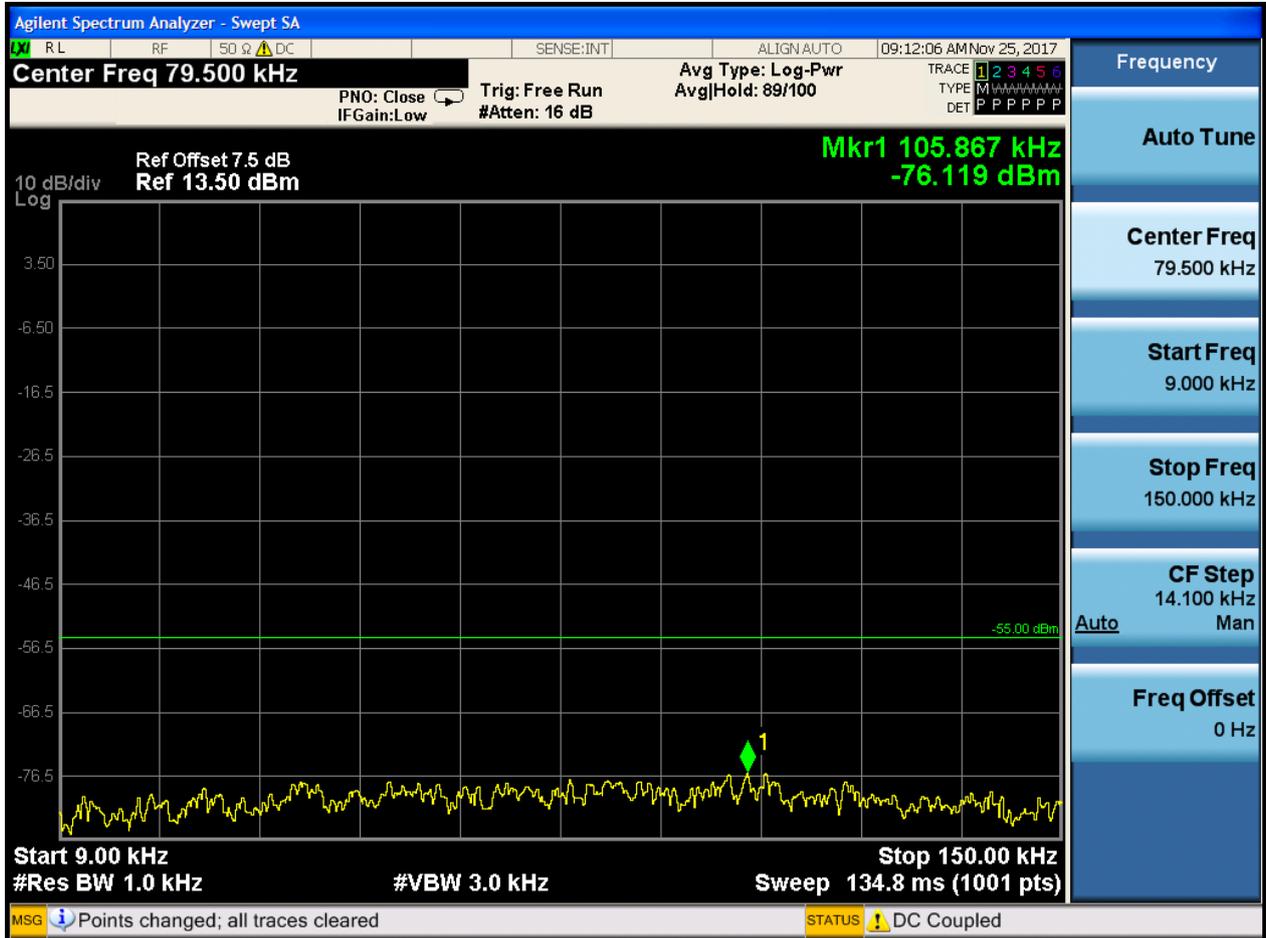


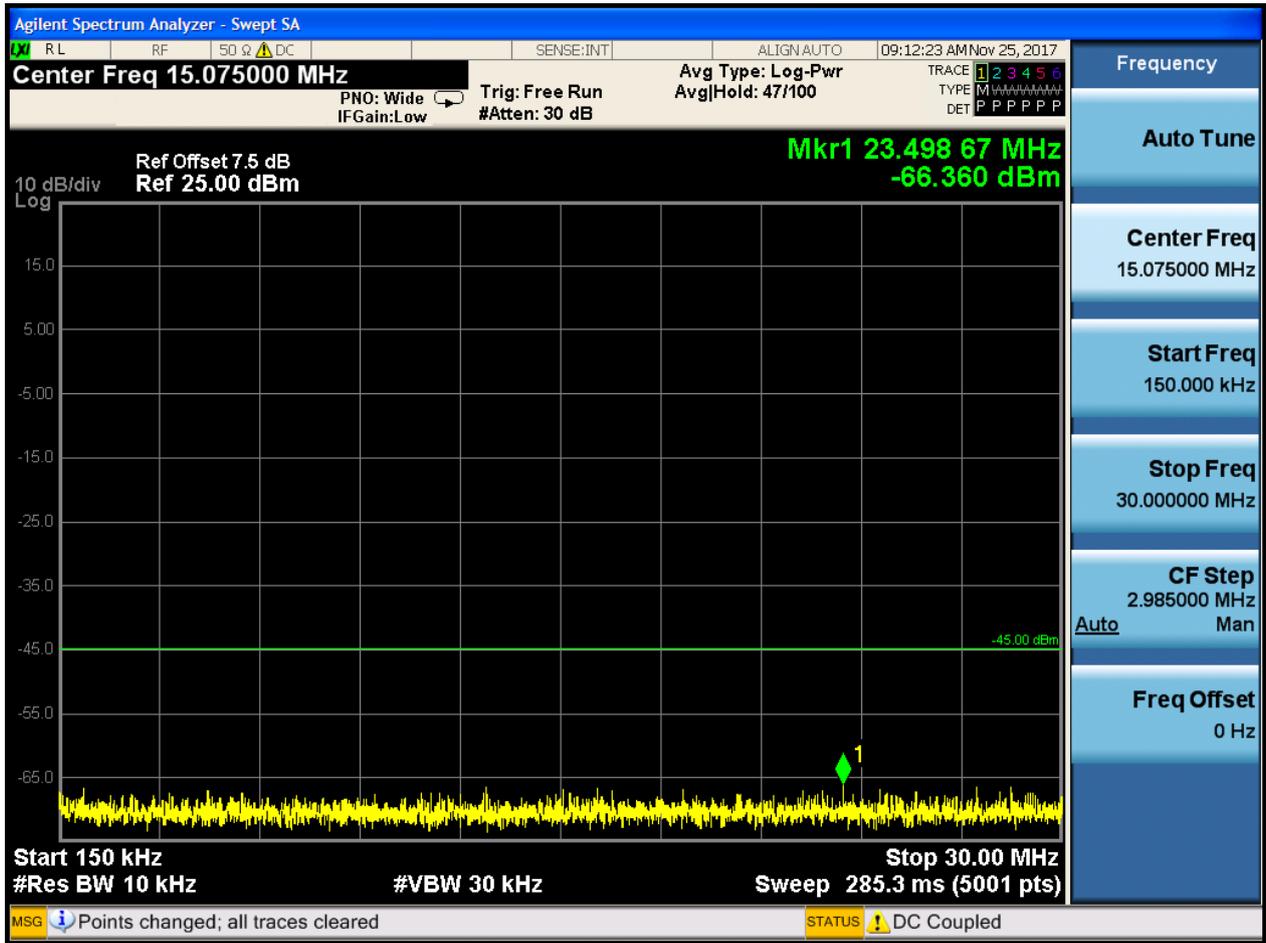




6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0



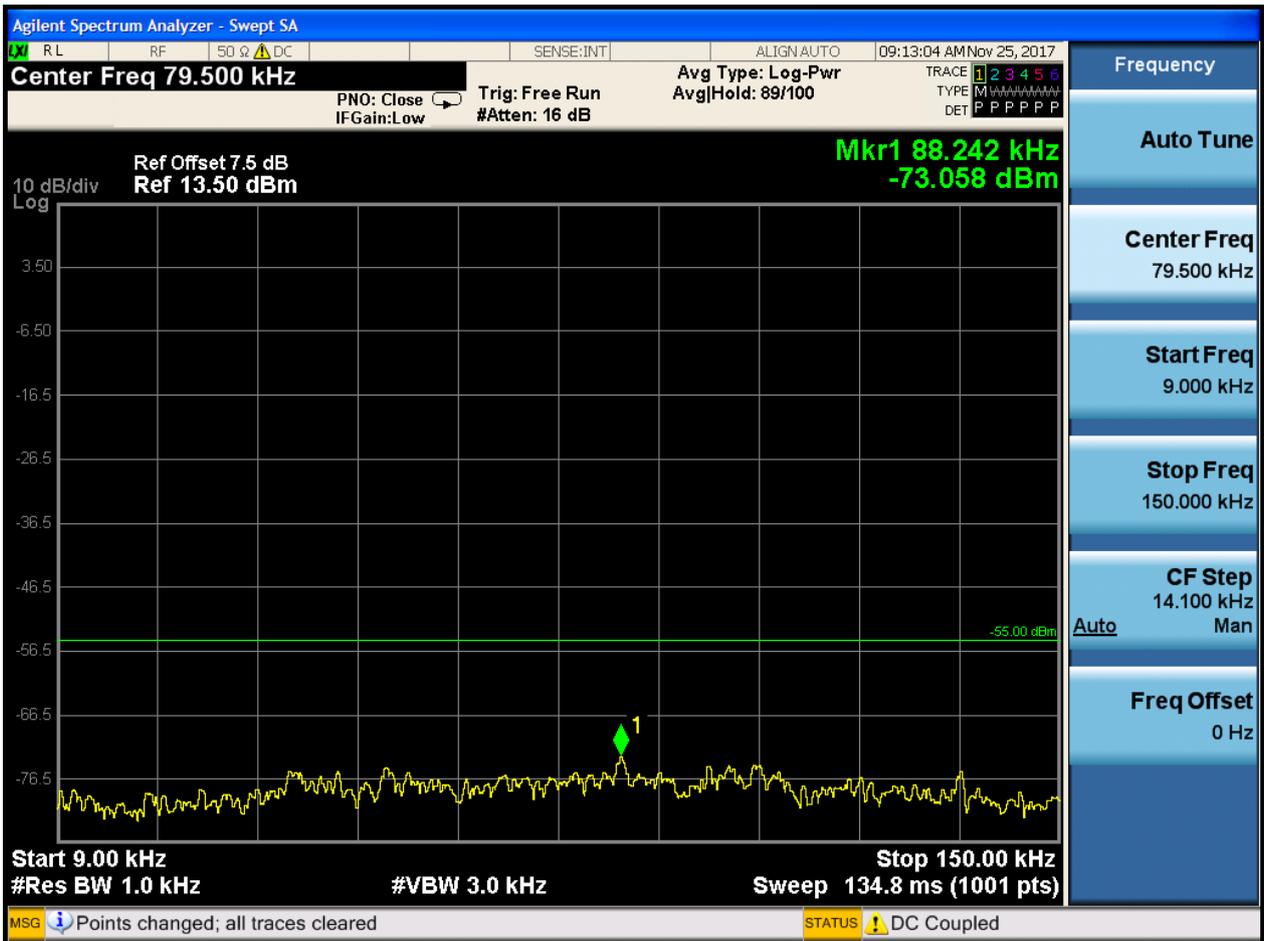




6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

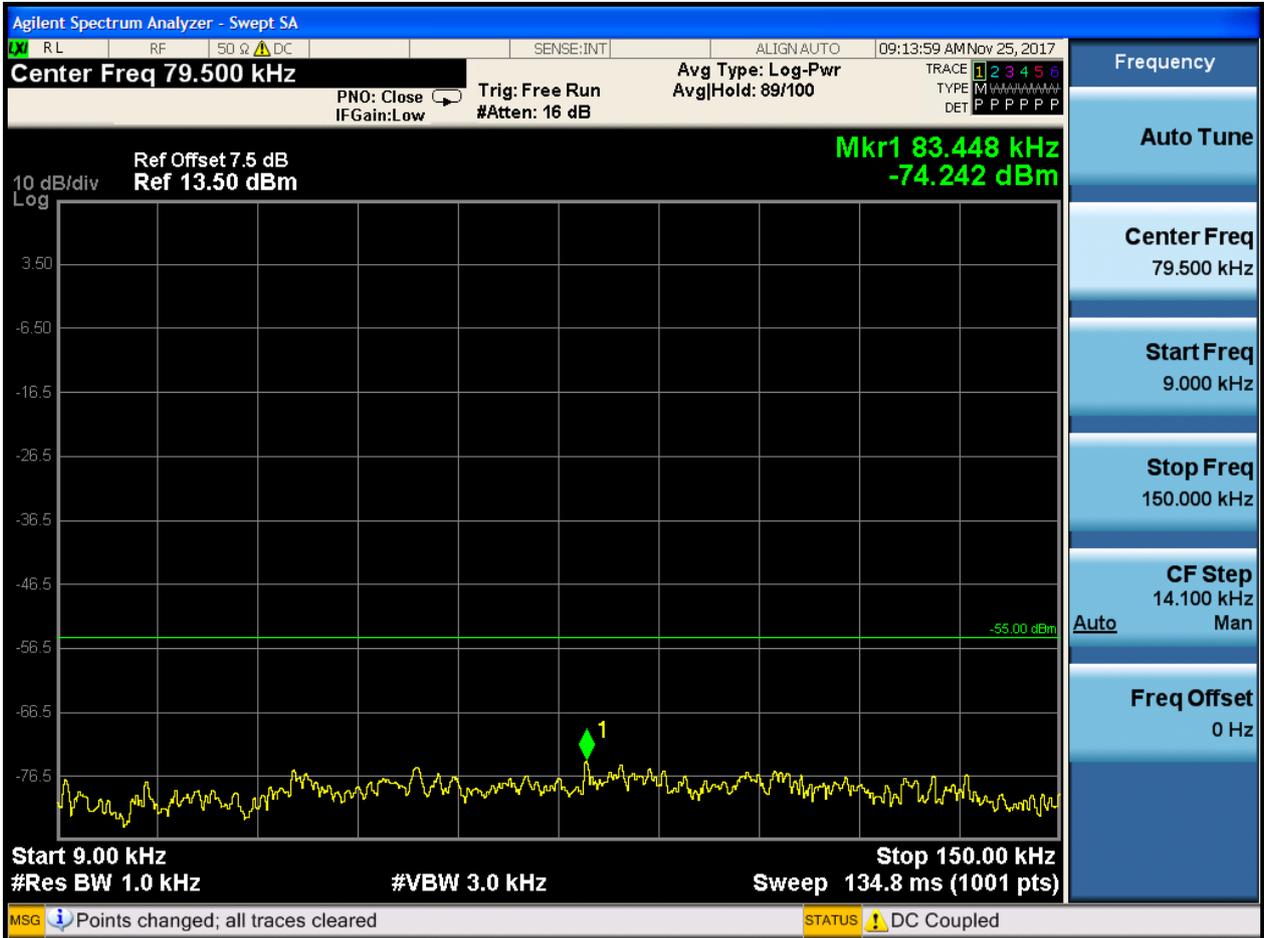
6.1.1.1.4.1.1 Test RB = RB1#0

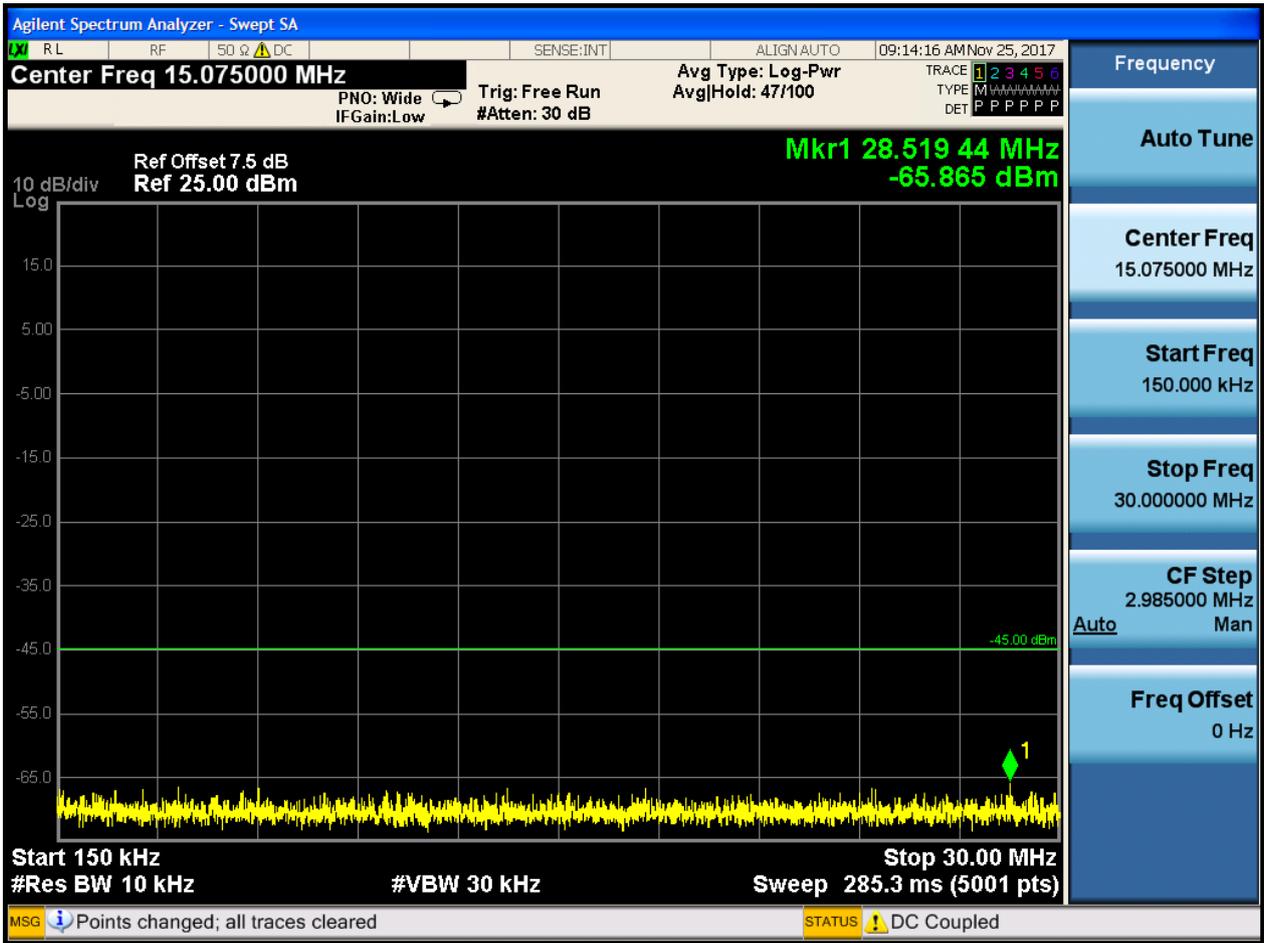


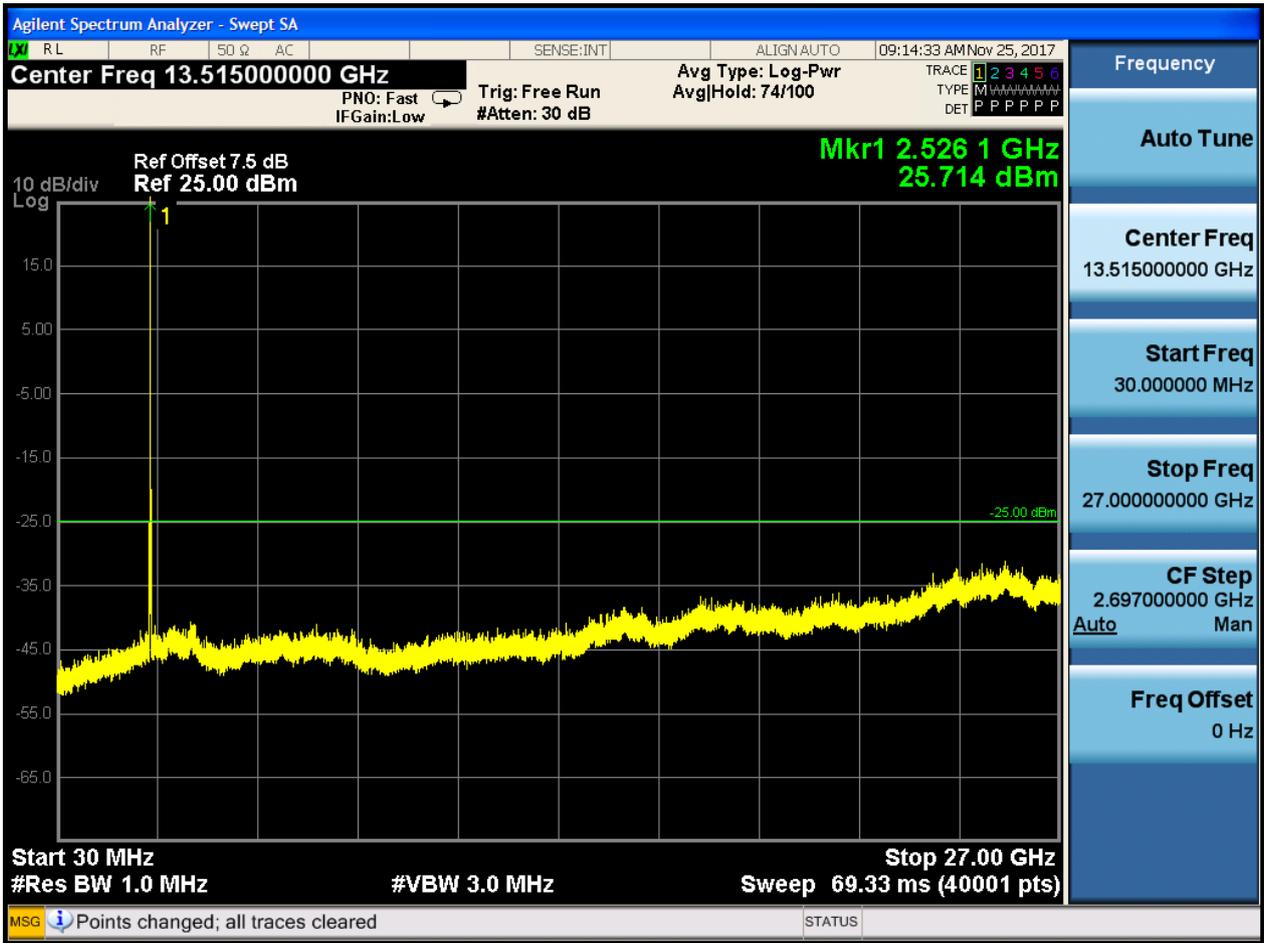


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0





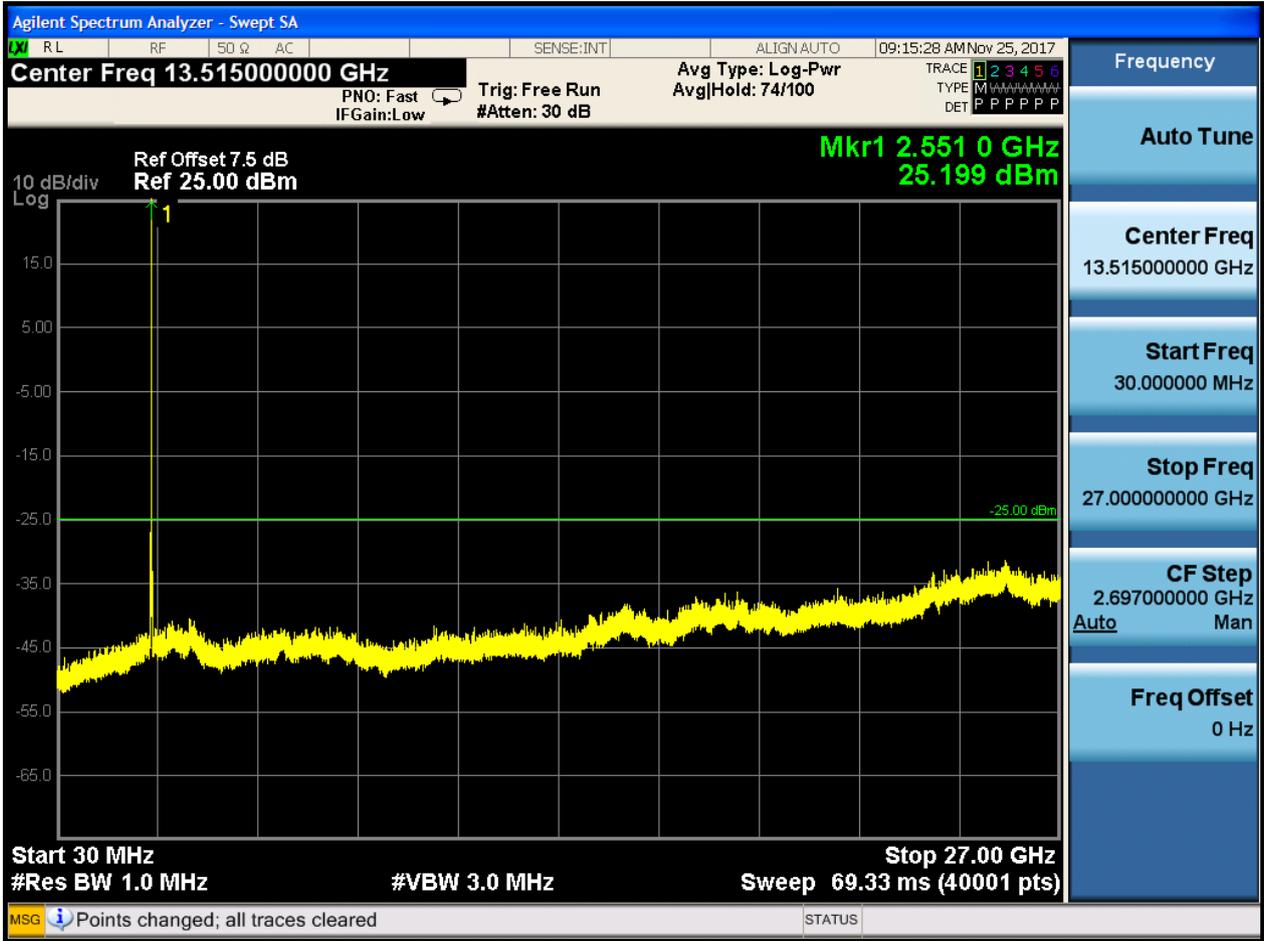




6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0





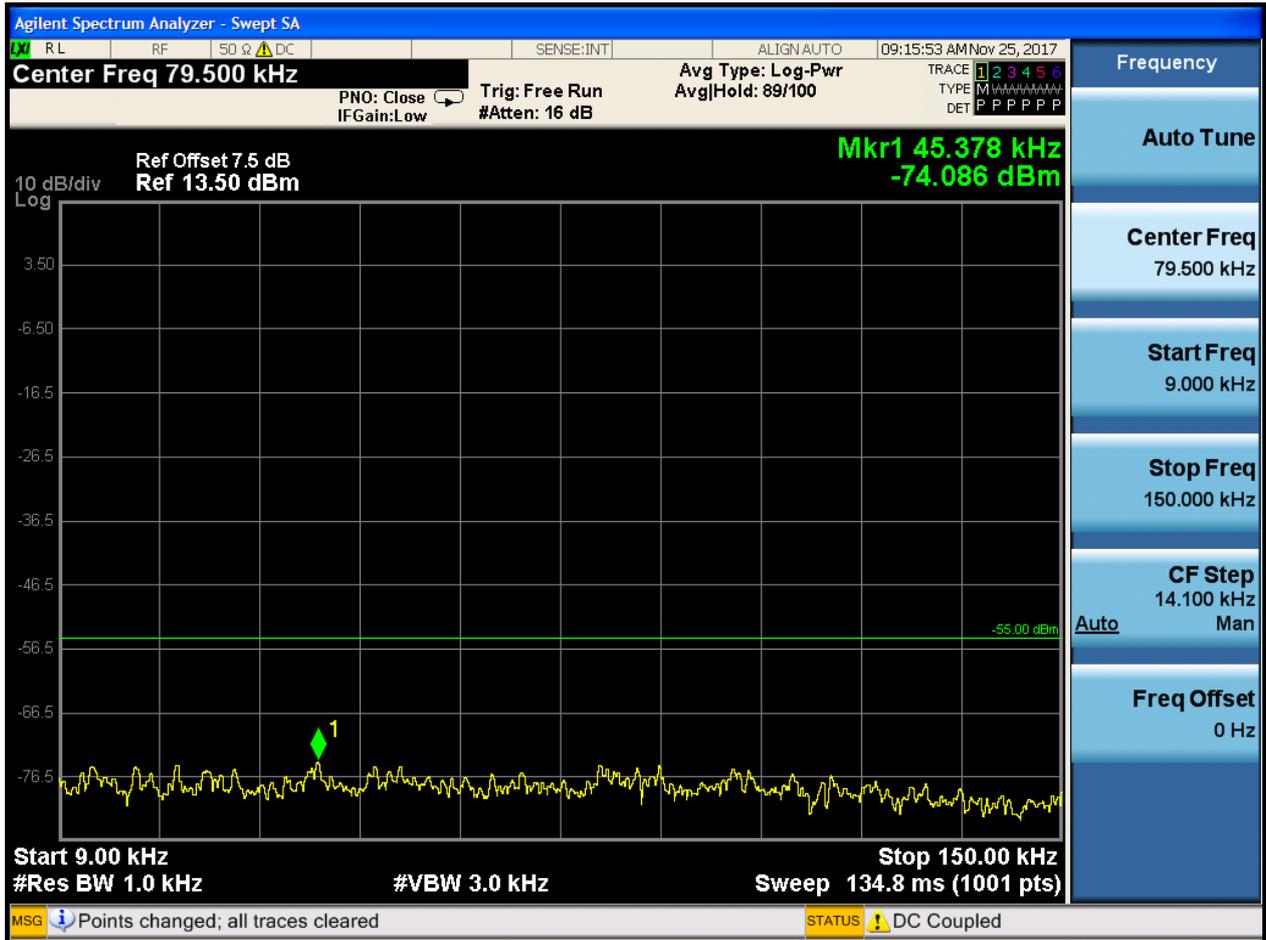


6.1.1.2 Test Mode = LTE/TM2

6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

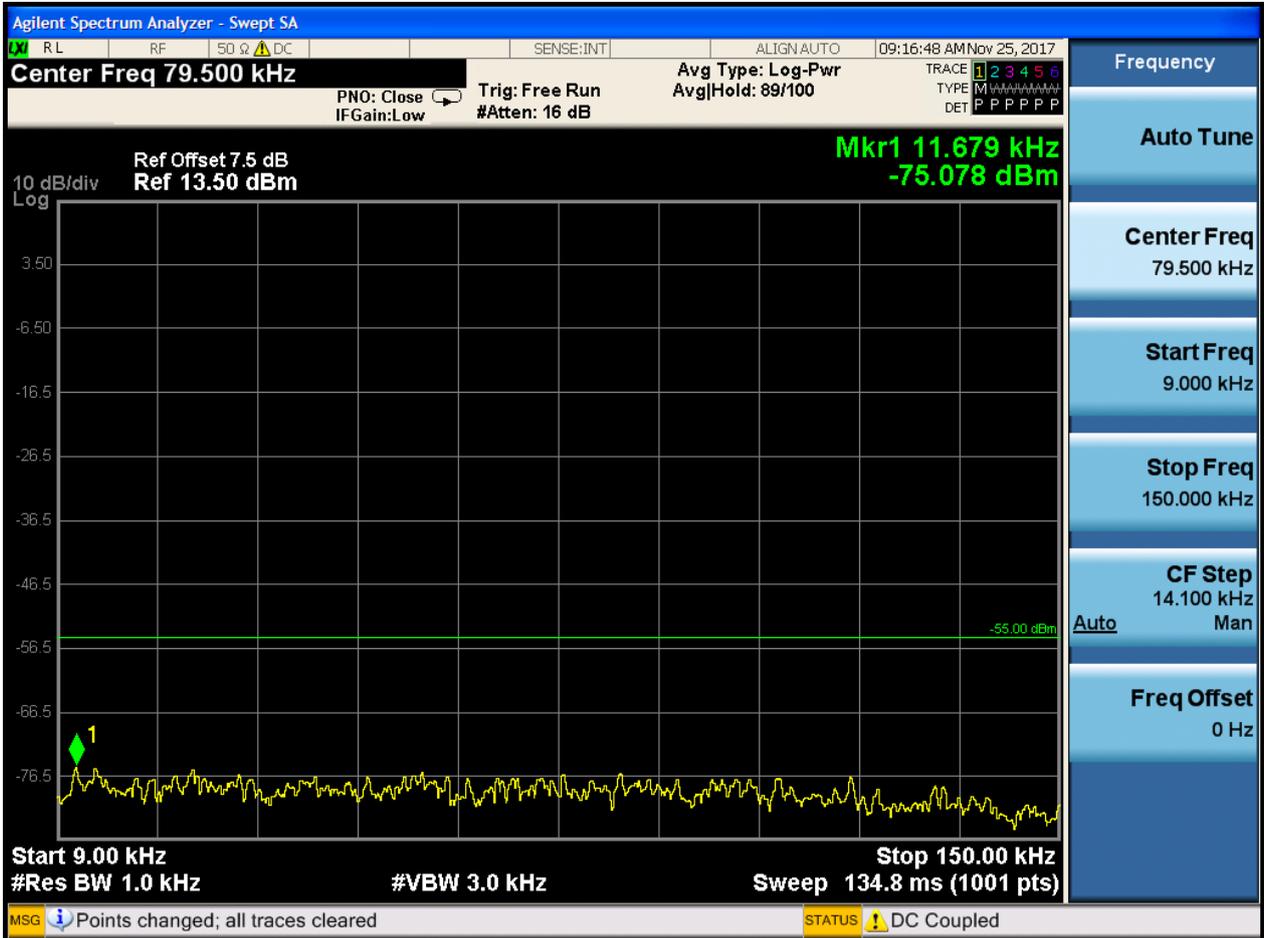
6.1.1.2.1.1.1 Test RB = RB1#0

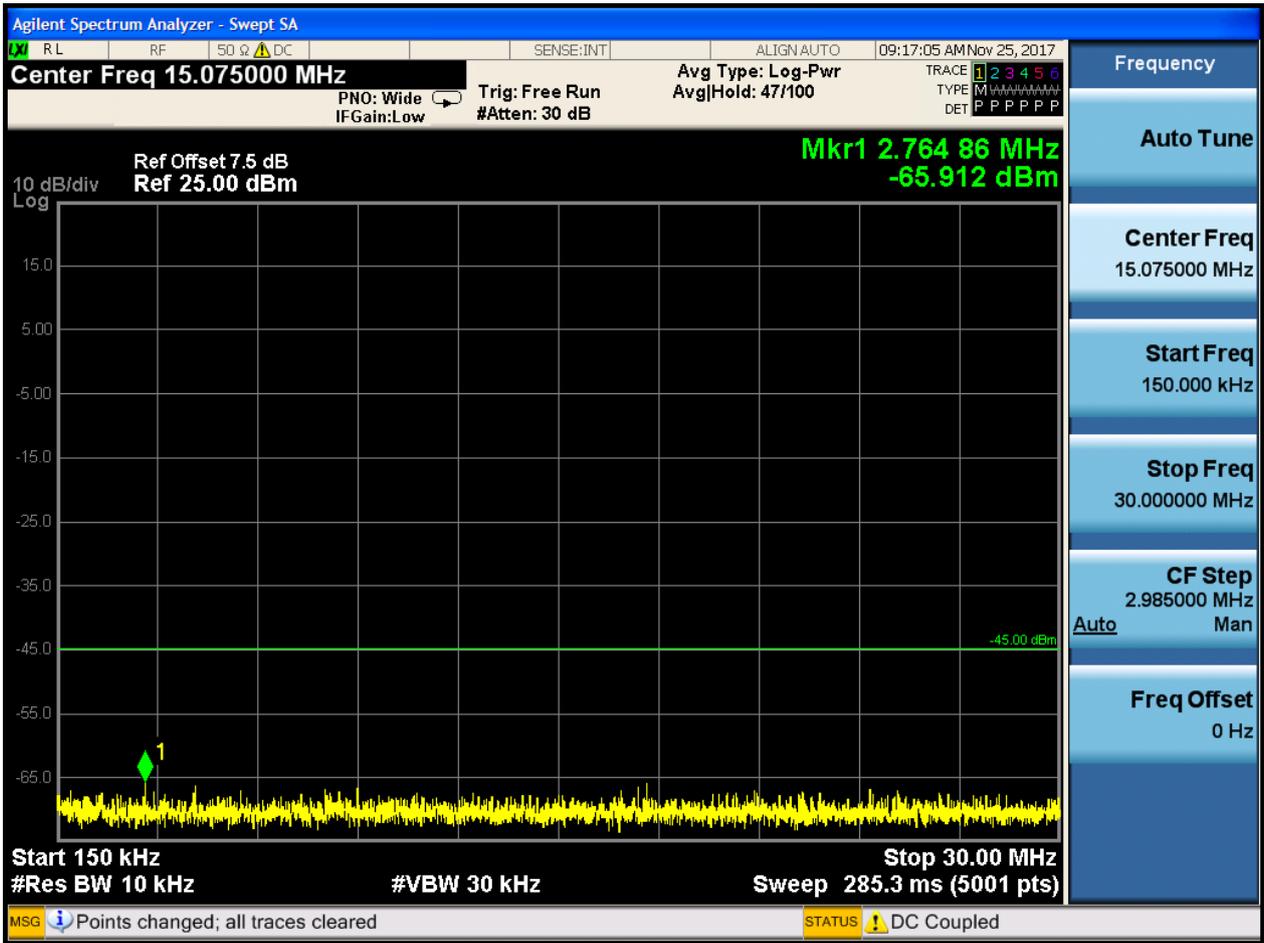




6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

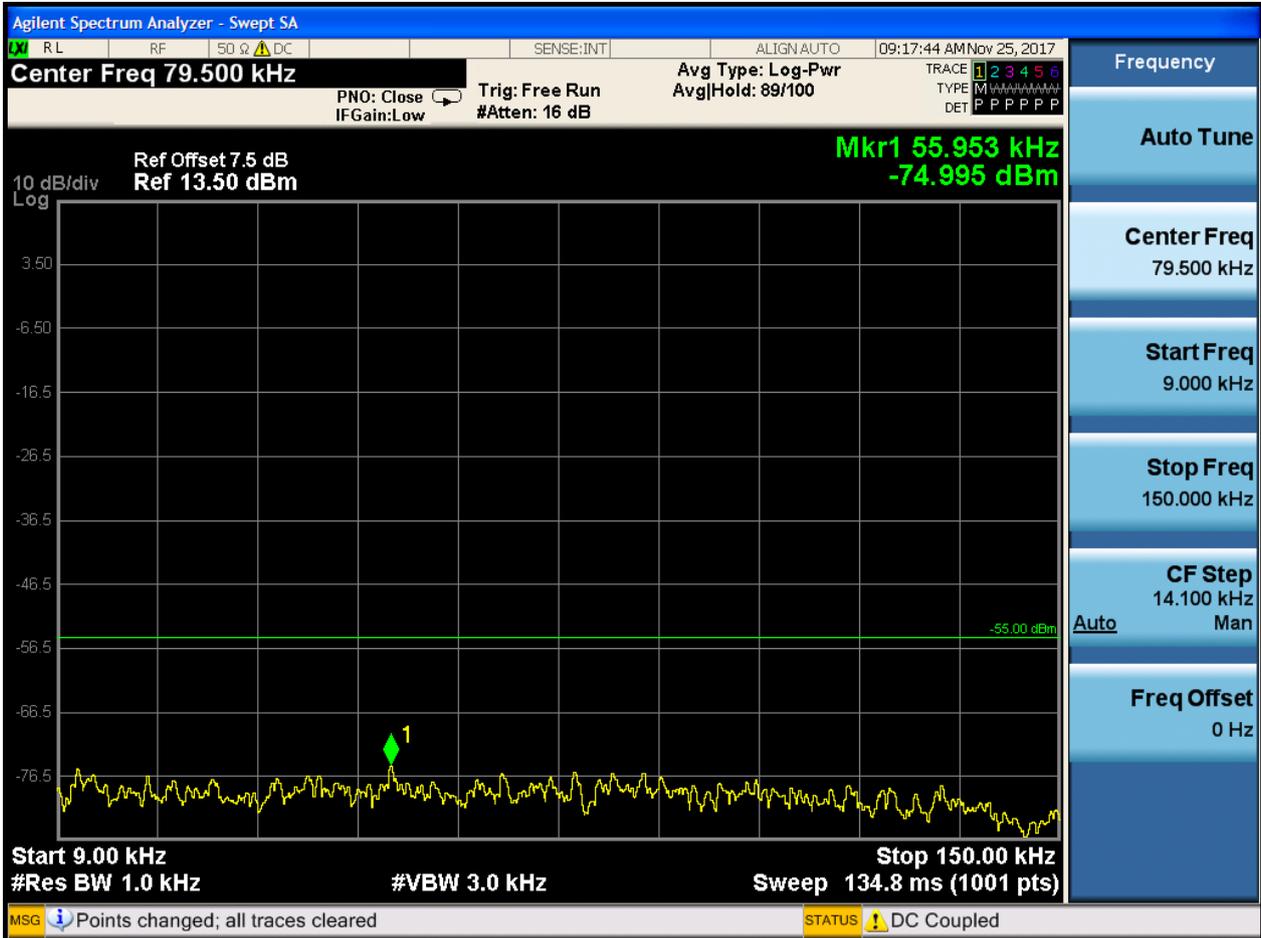


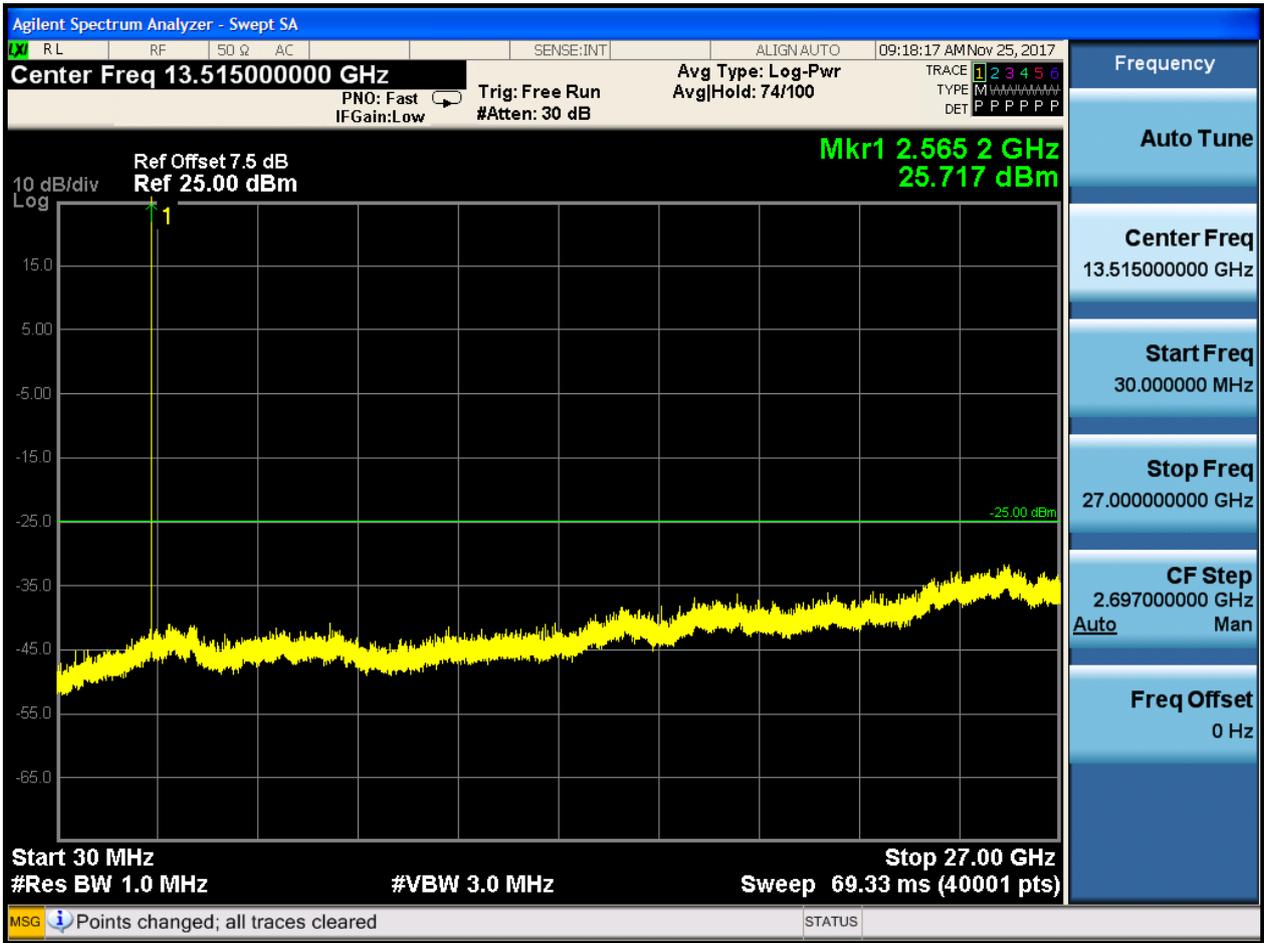




6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0



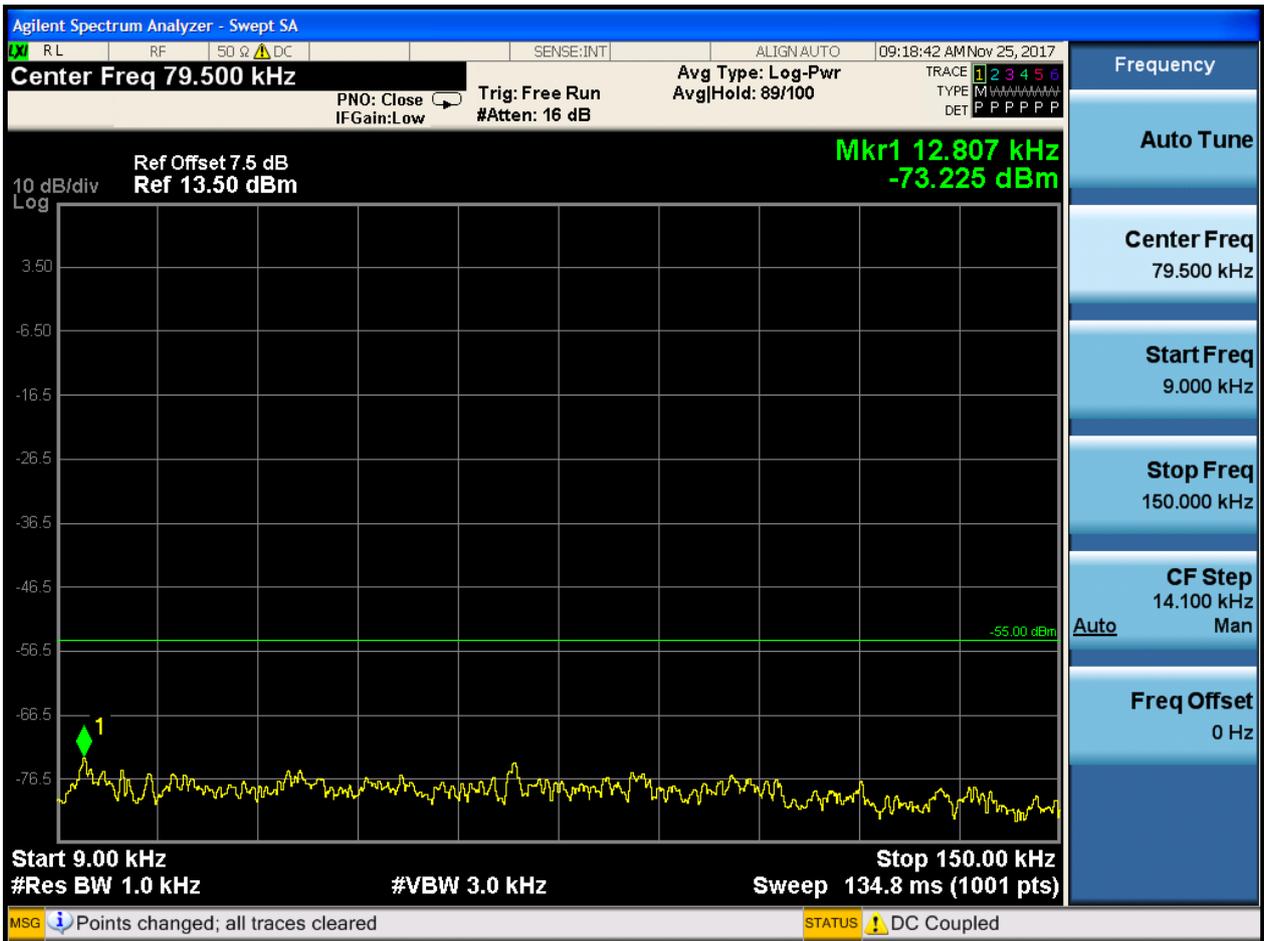


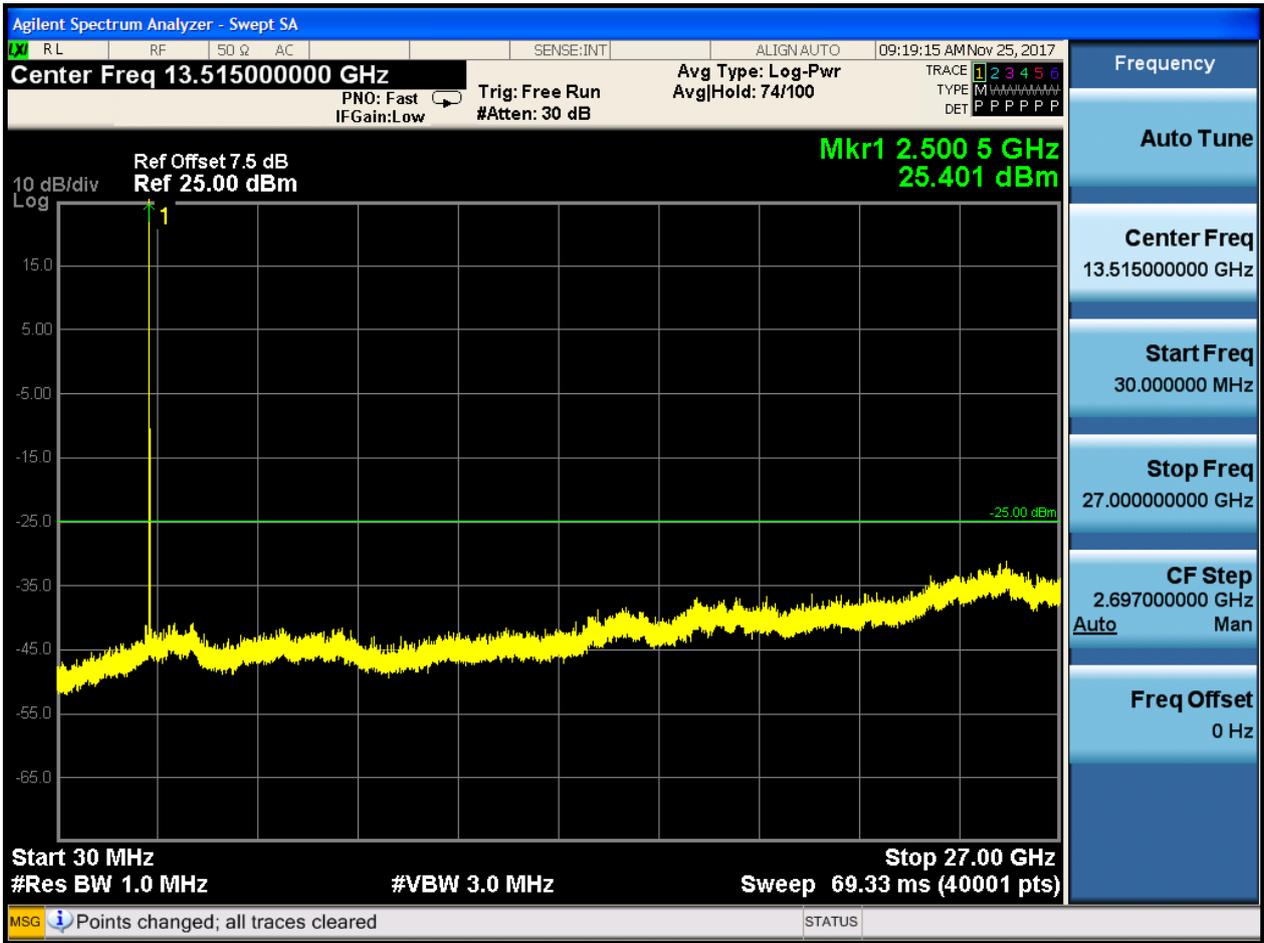


6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

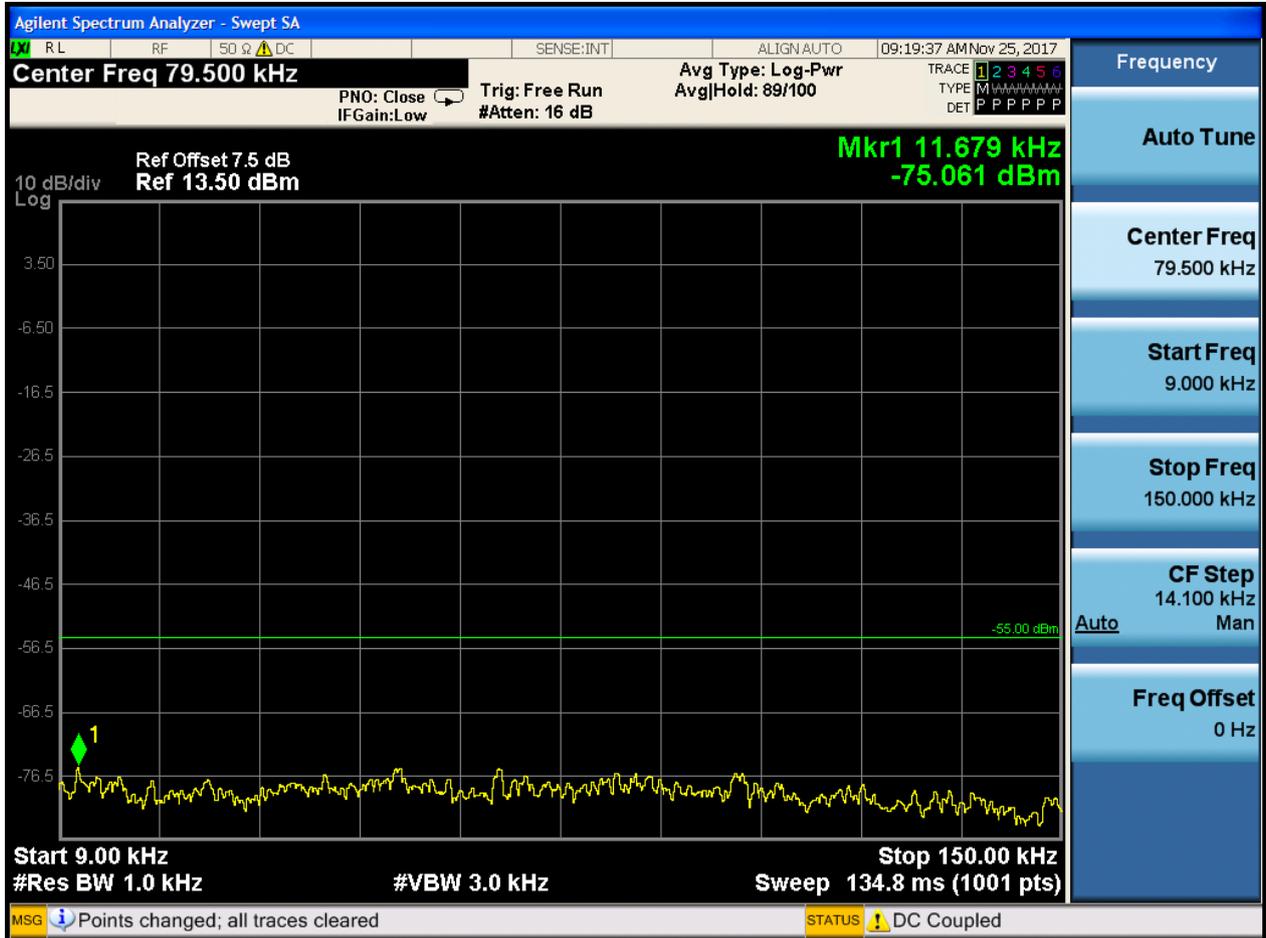






6.1.1.2.2.2 Test Channel = MCH

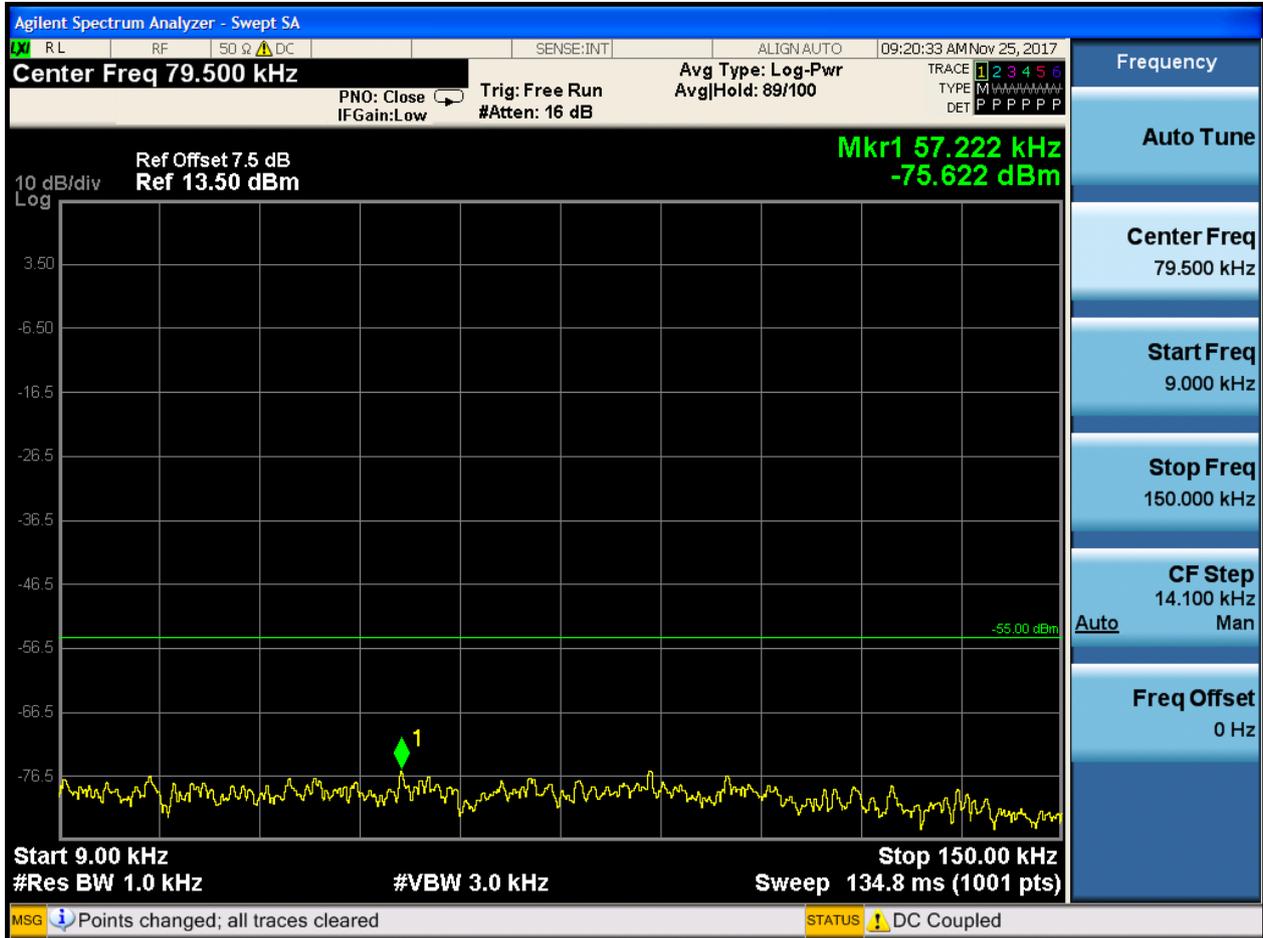
6.1.1.2.2.2.1 Test RB = RB1#0



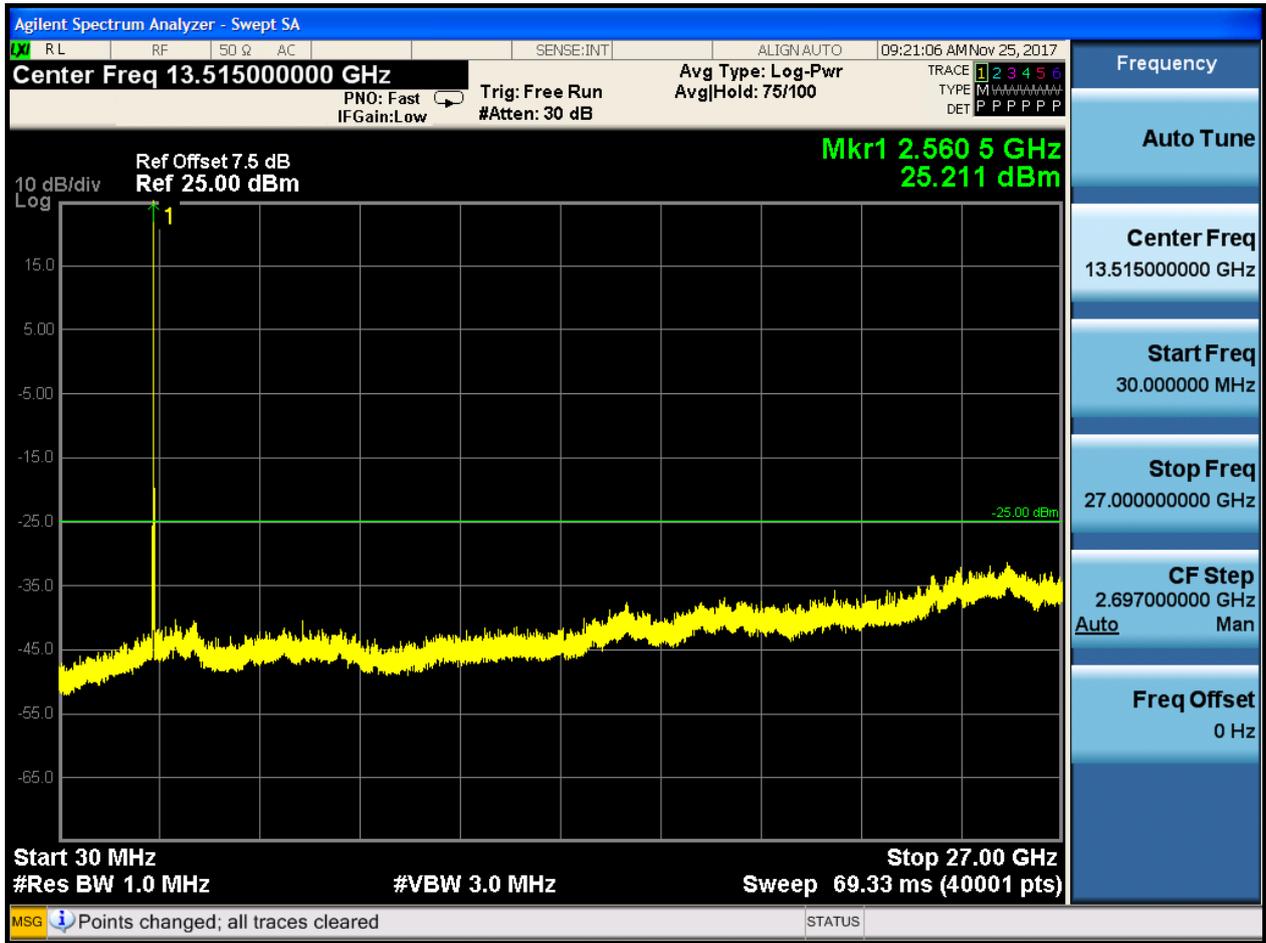


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0





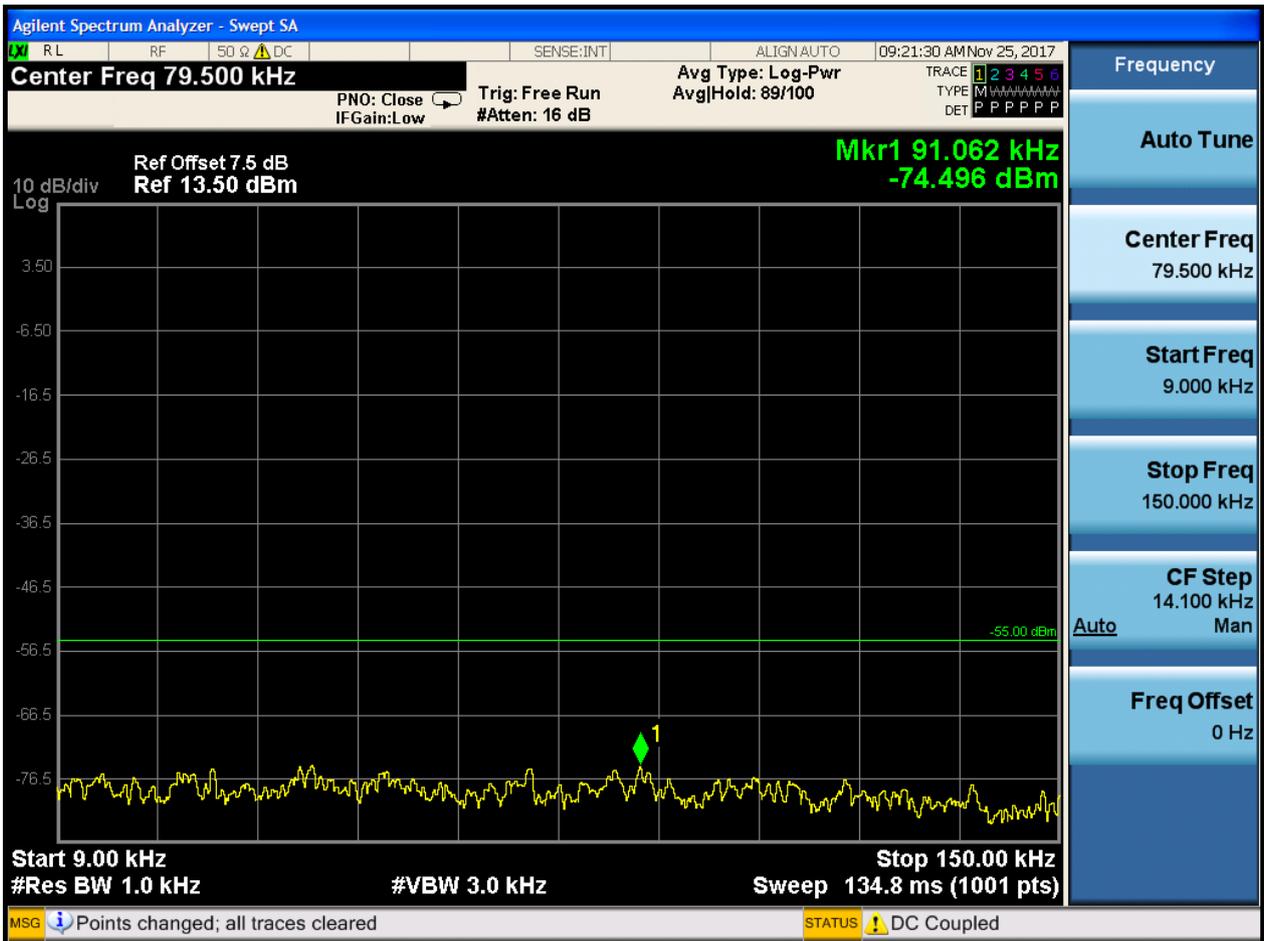


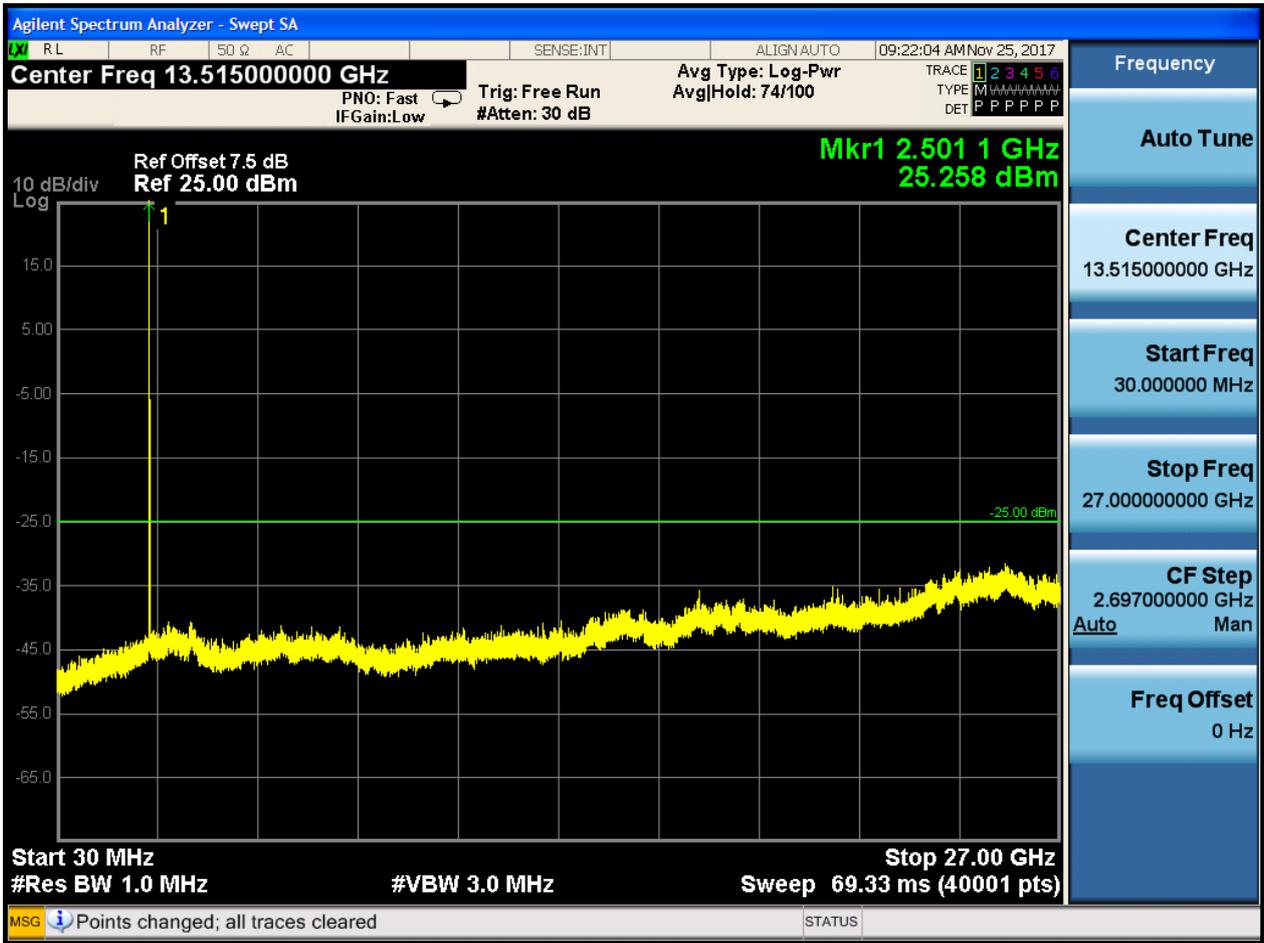


6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0

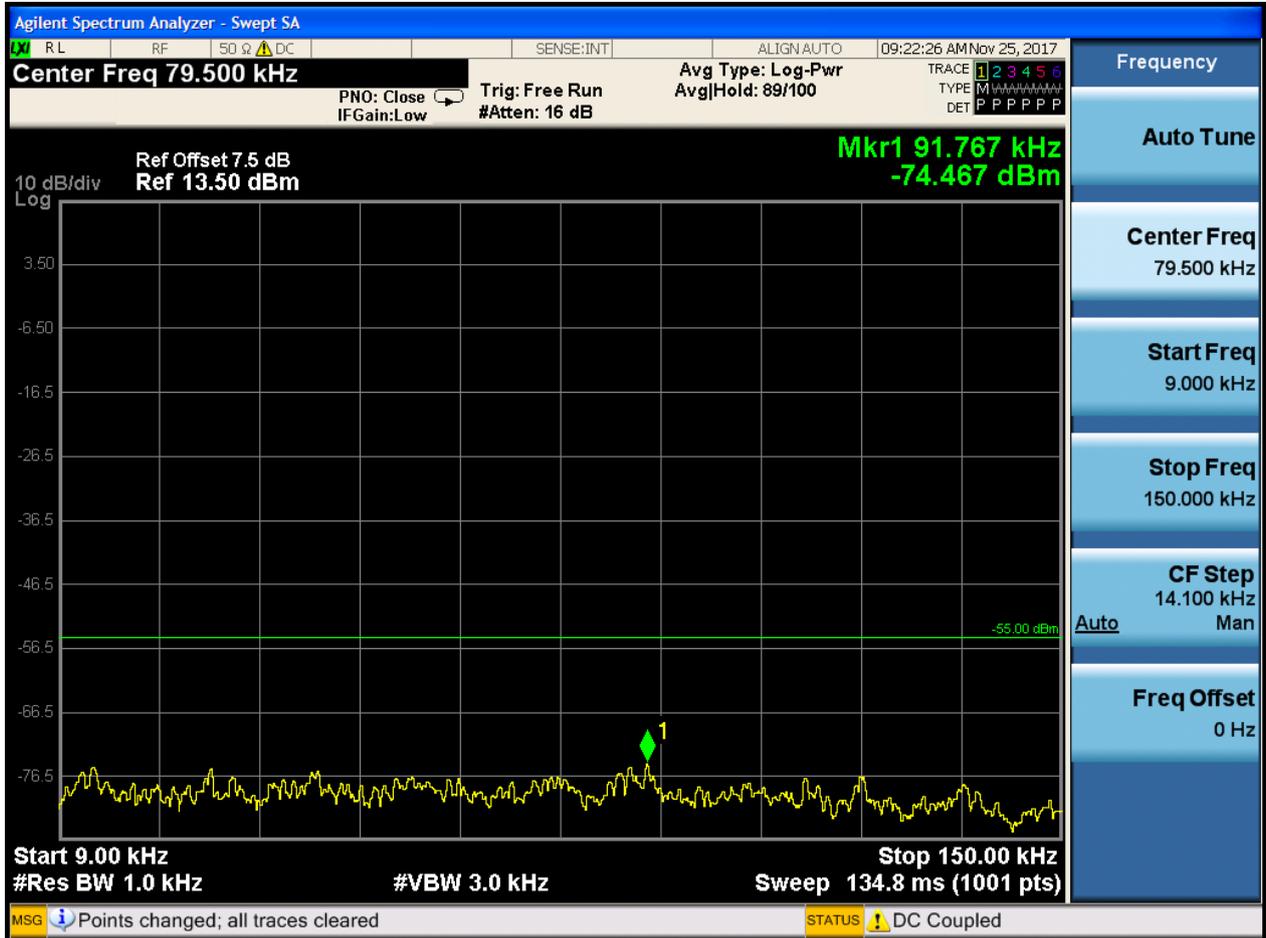






6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0

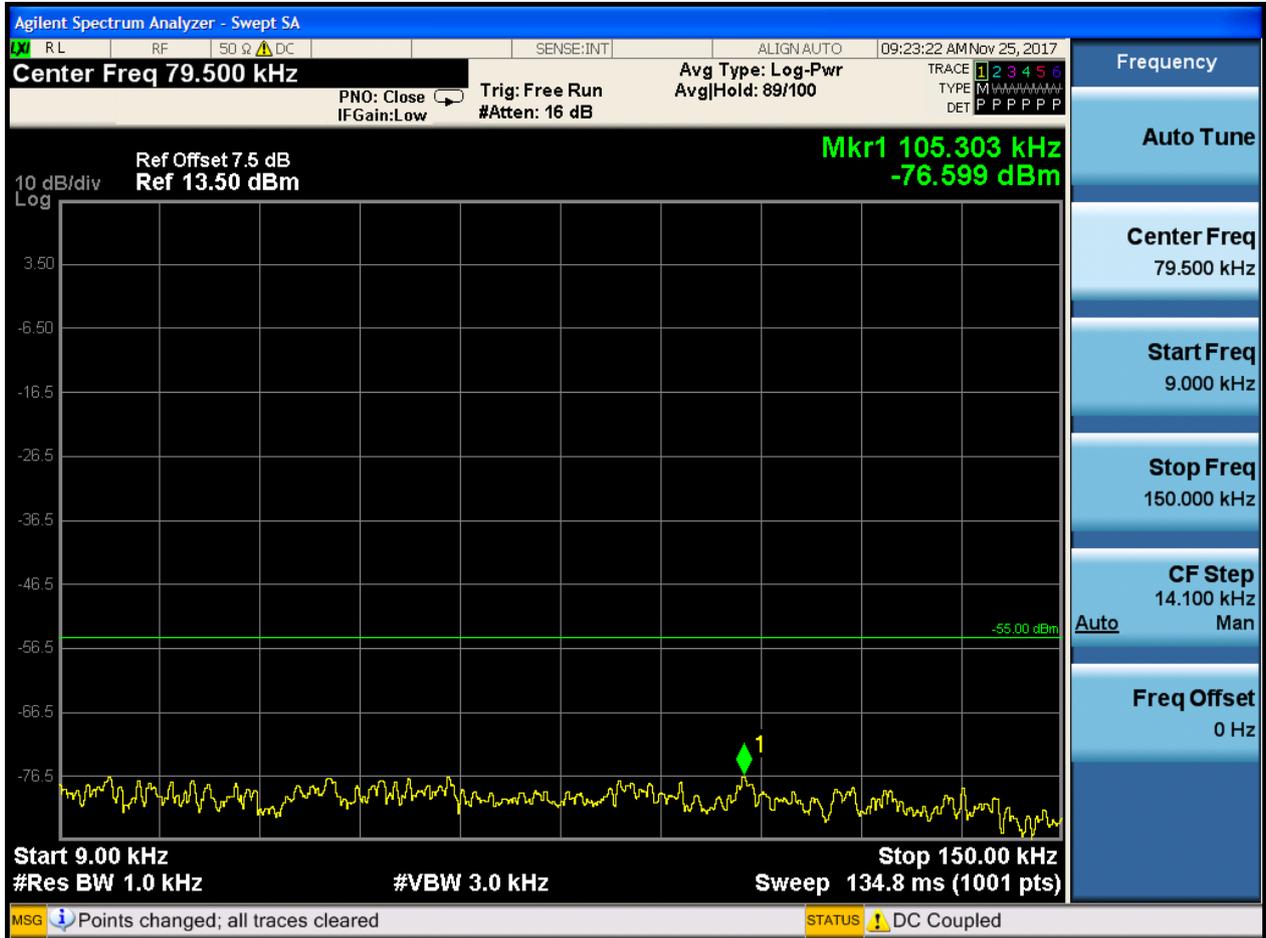






6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0

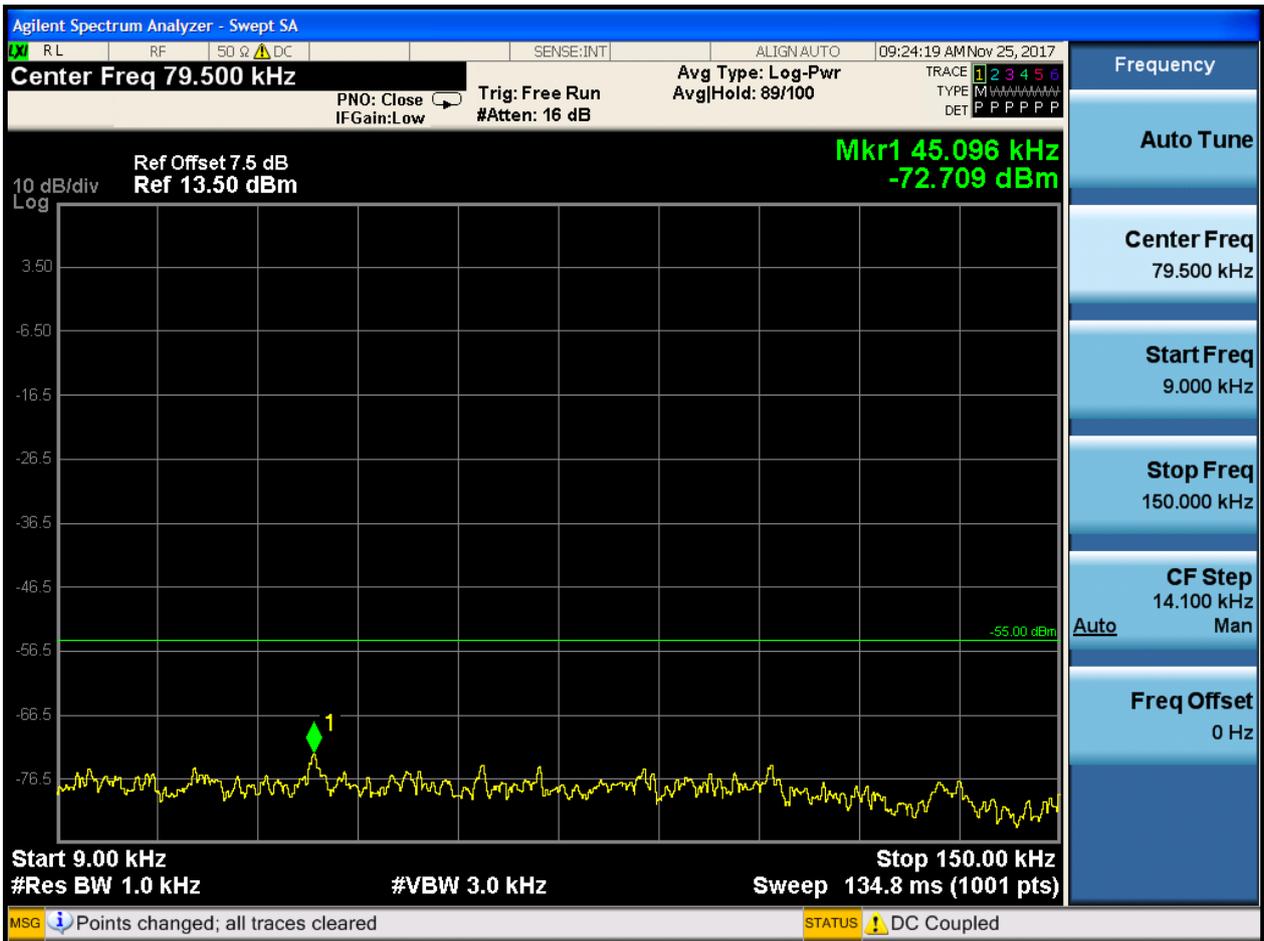




6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0

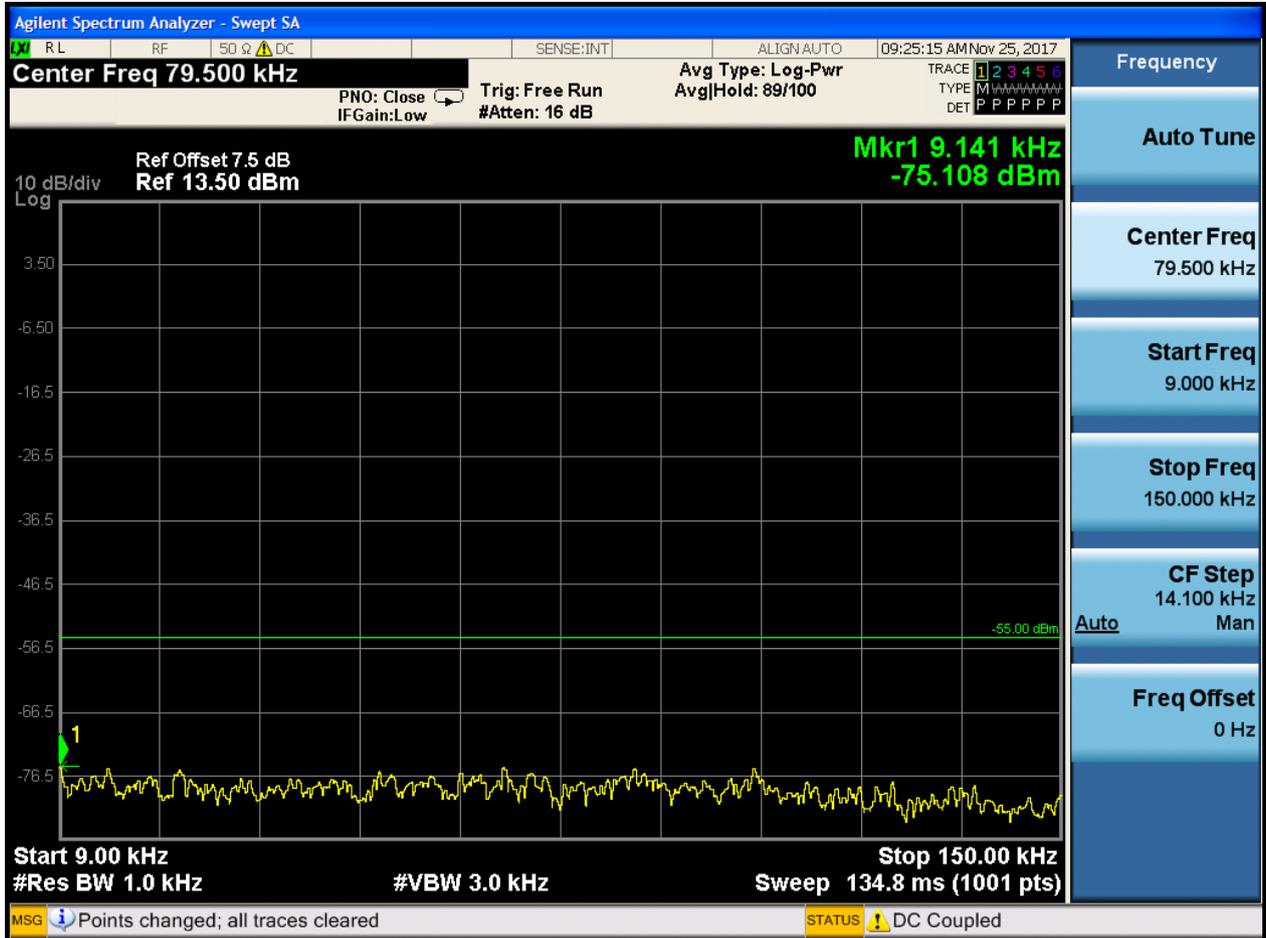






6.1.1.2.4.2 Test Channel = MCH

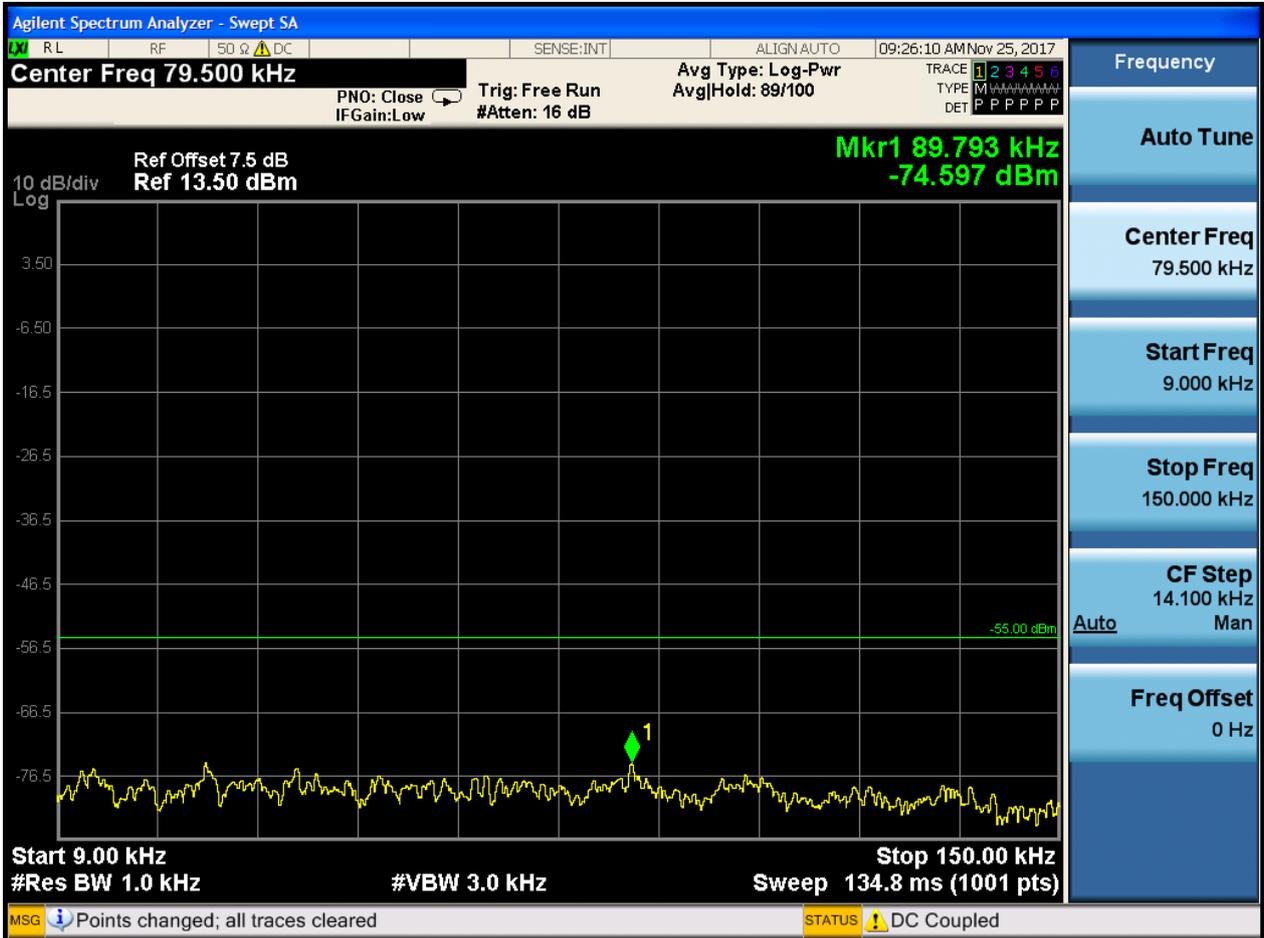
6.1.1.2.4.2.1 Test RB = RB1#0

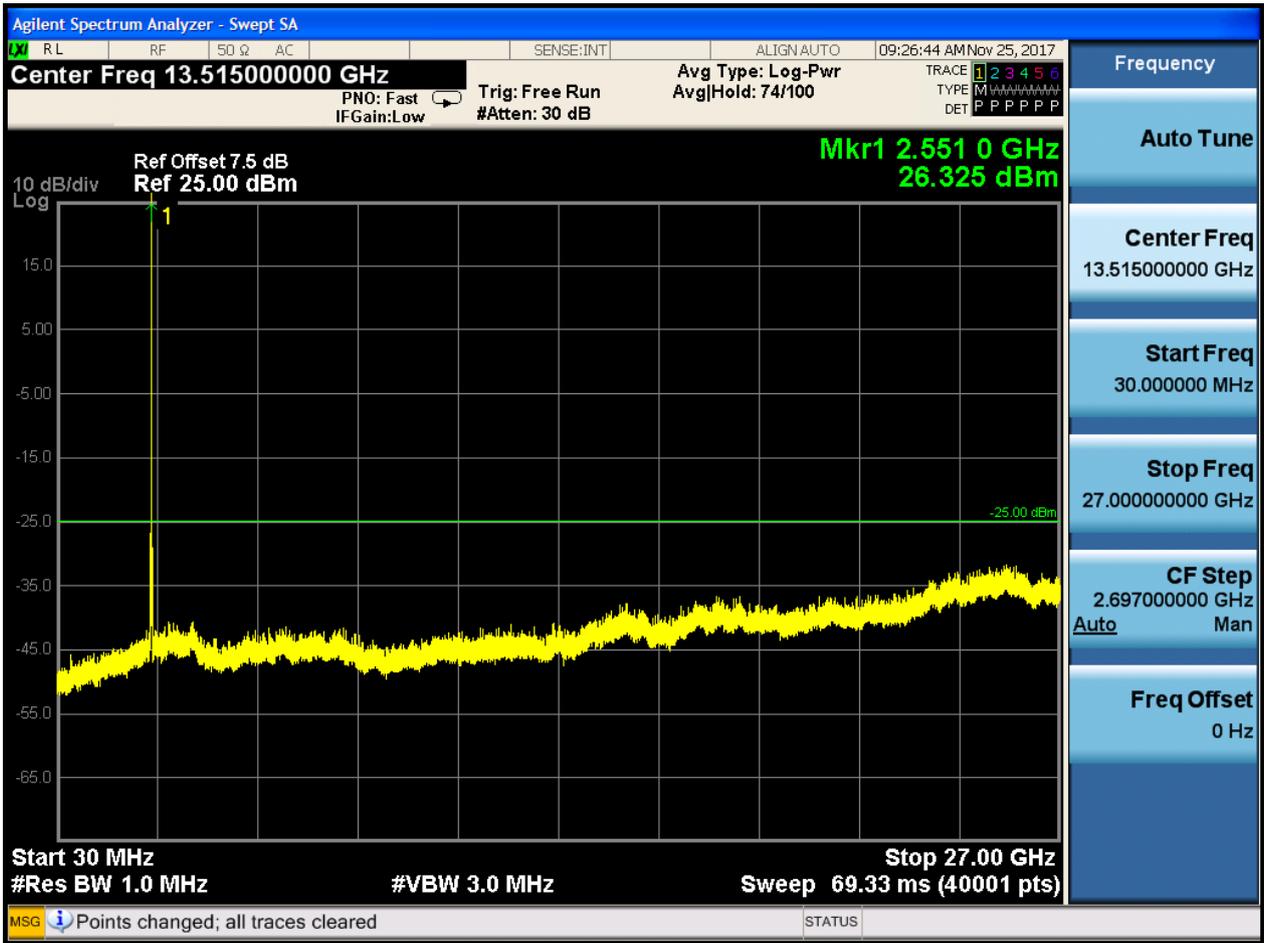




6.1.1.2.4.3 Test Channel = HCH

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

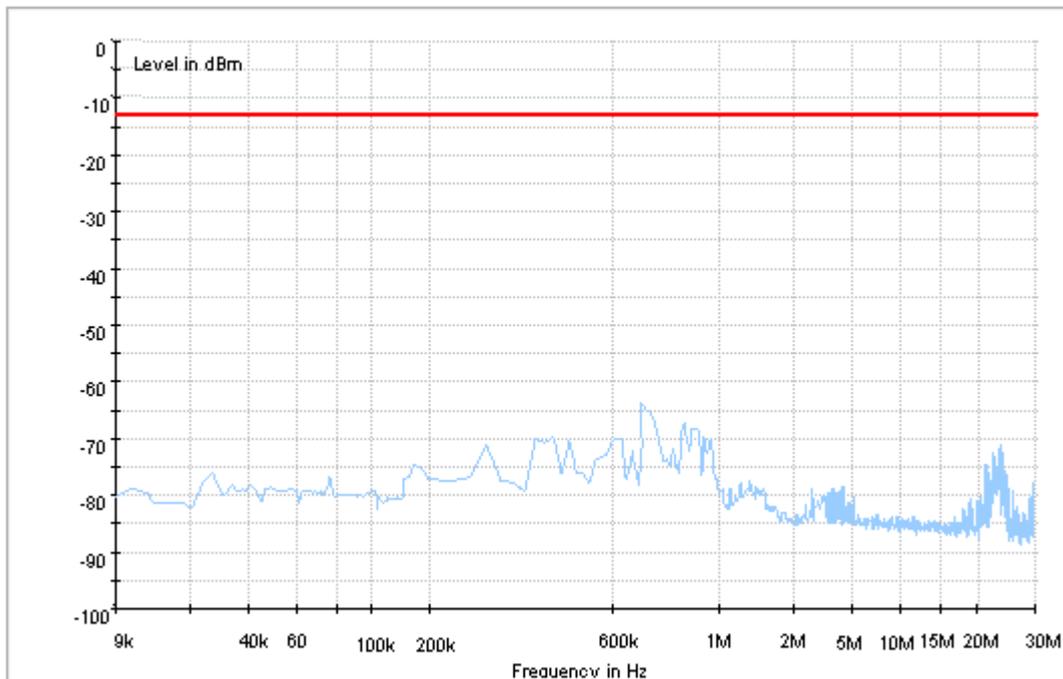
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

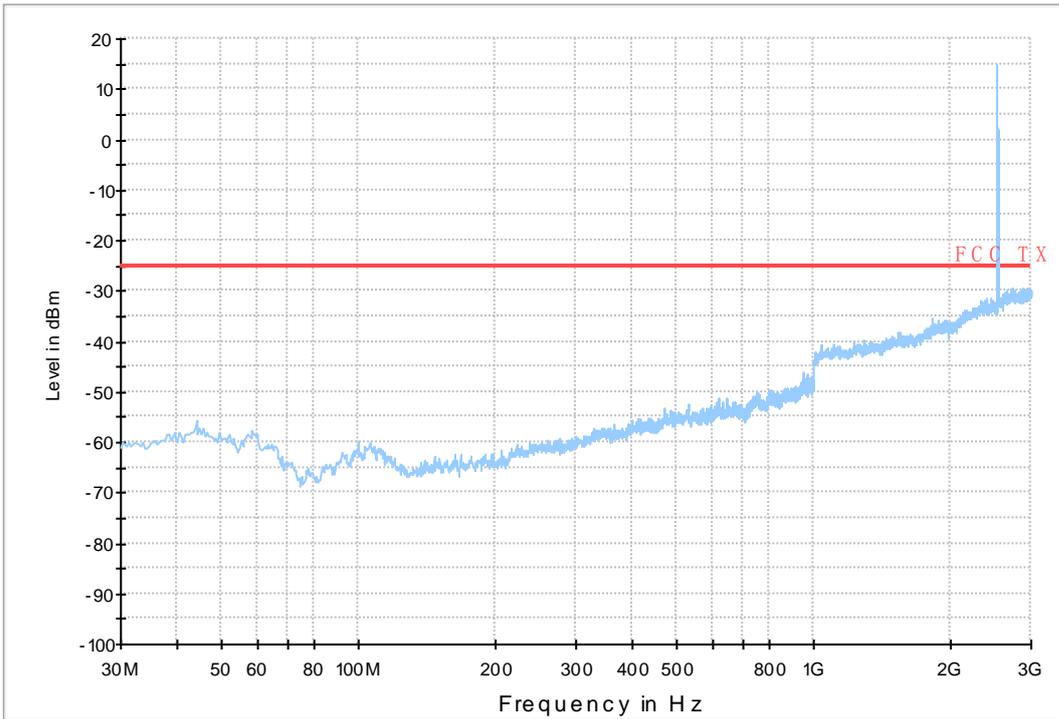
7.1 For LTE

7.1.1 Test Band = BAND7_ANT1

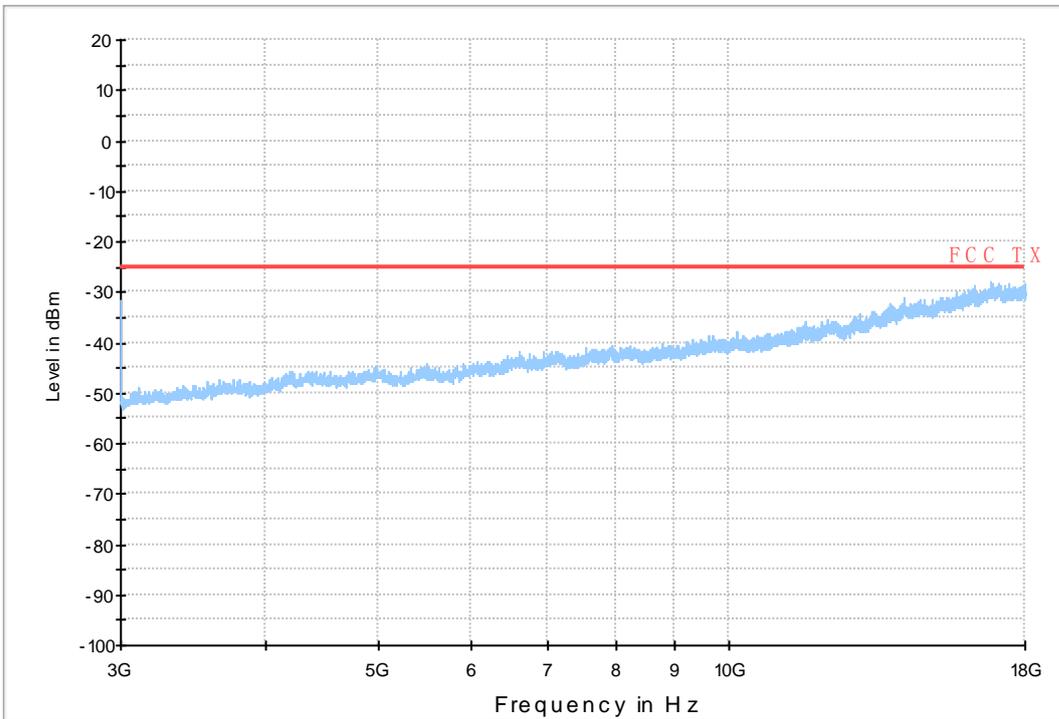
7.1.1.1 Test Bandwidth = 5

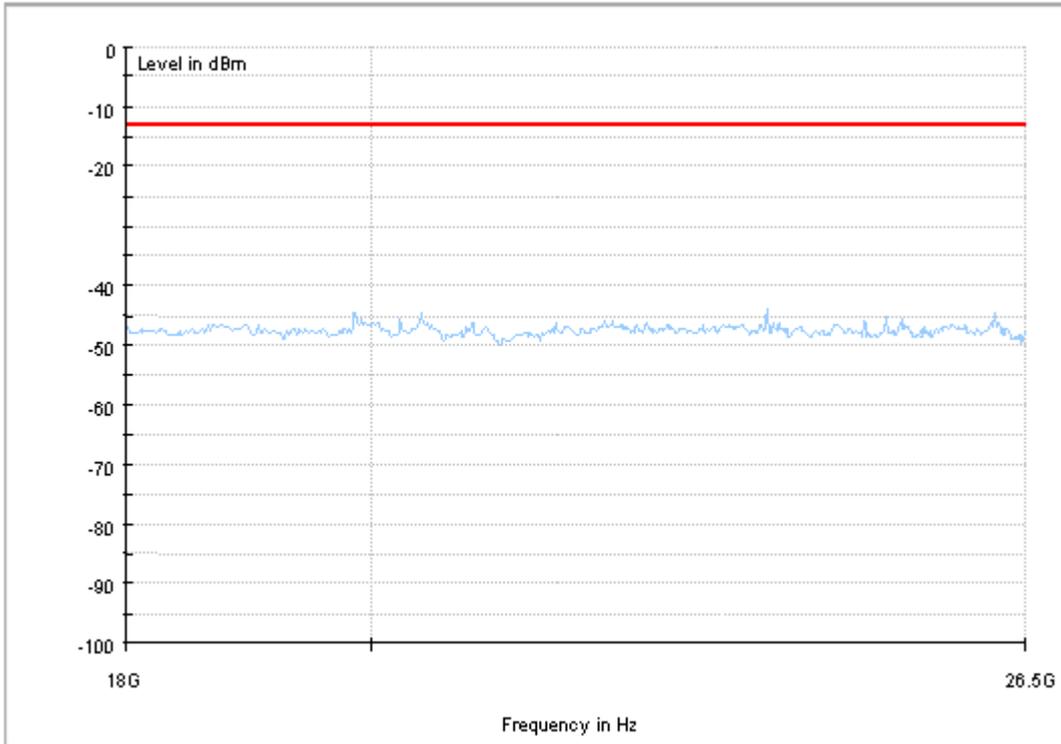


RSE-TX-DIRECTOR LTE 7 38 41_L

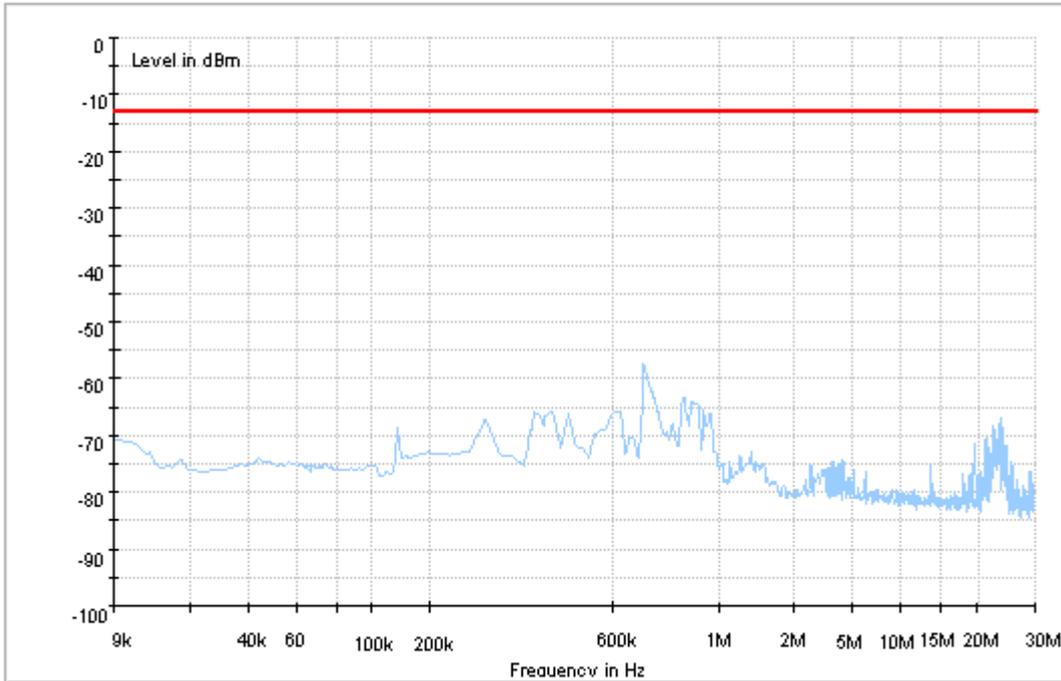


RSE-TX-DIRECTOR LTE7 38 41_H

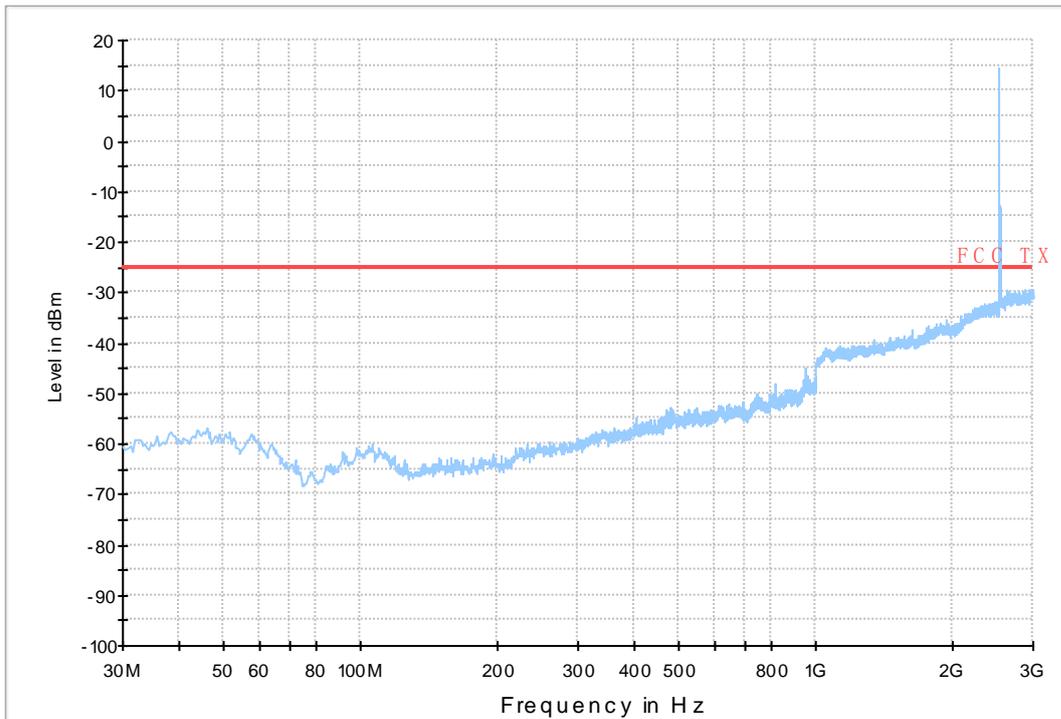




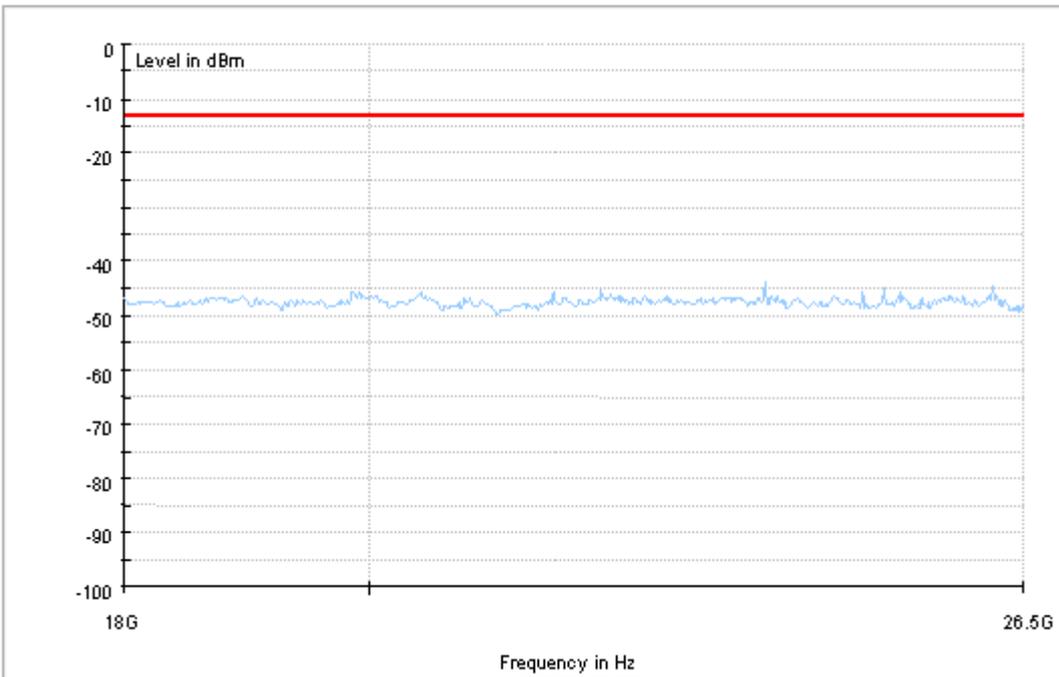
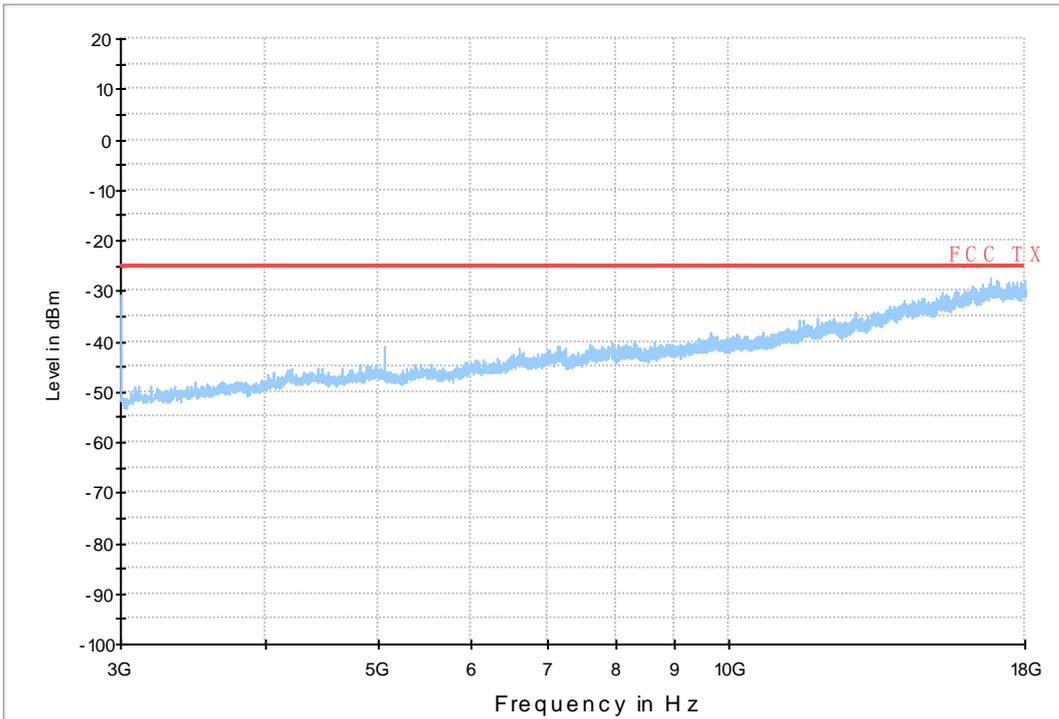
7.1.1.2 Test Bandwidth = 20



RSE-TX-DIRECTOR LTE 7 38 41_L

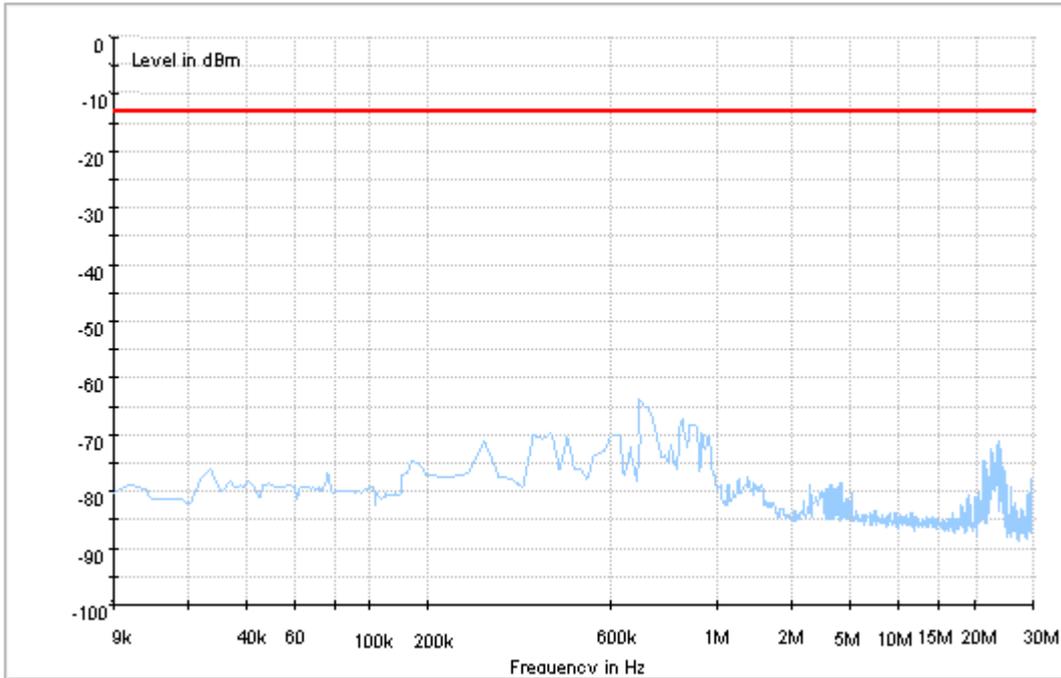


RSE-TX-DIRECTOR LTE7 38 41_H

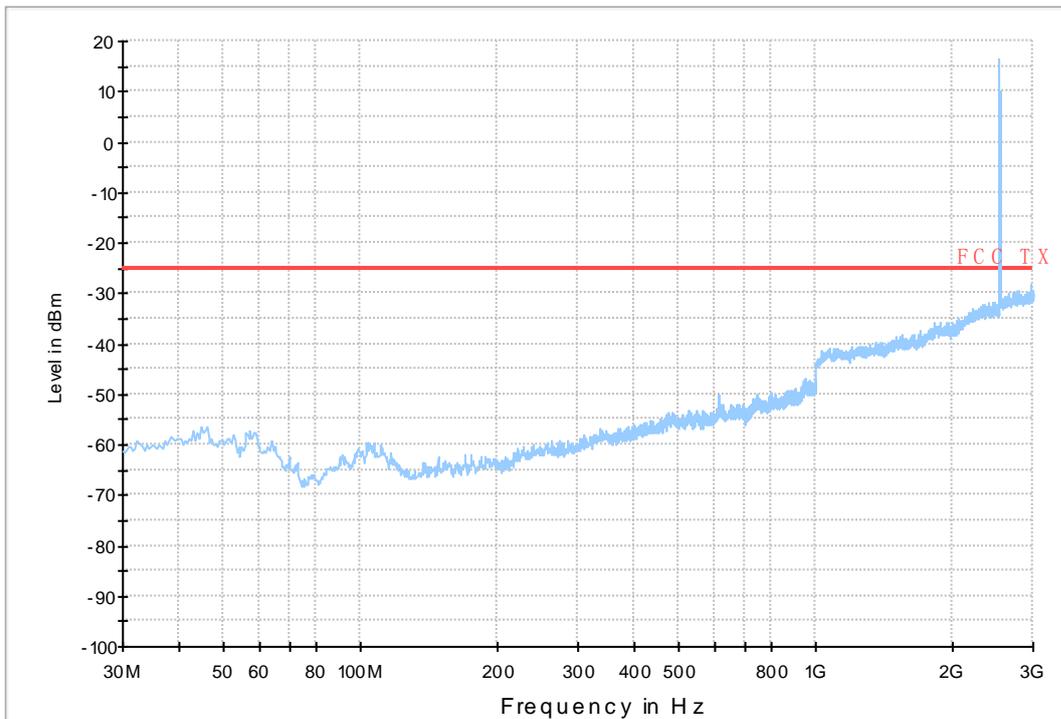


7.1.2 Test Band = BAND7_ANT2

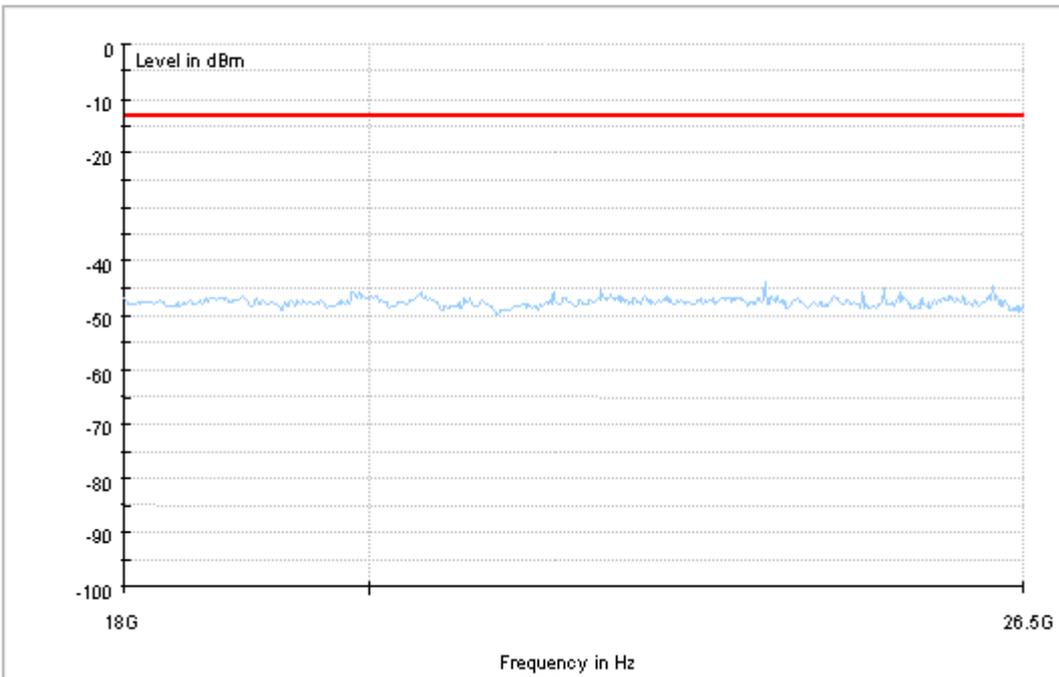
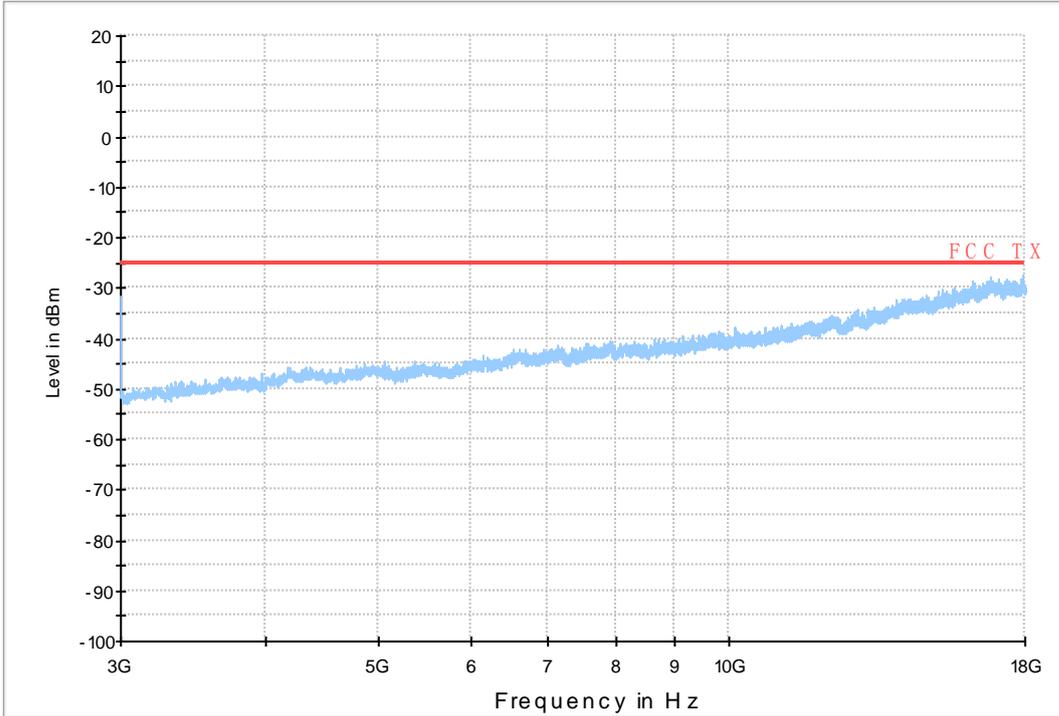
7.1.2.1 Test Bandwidth = 5



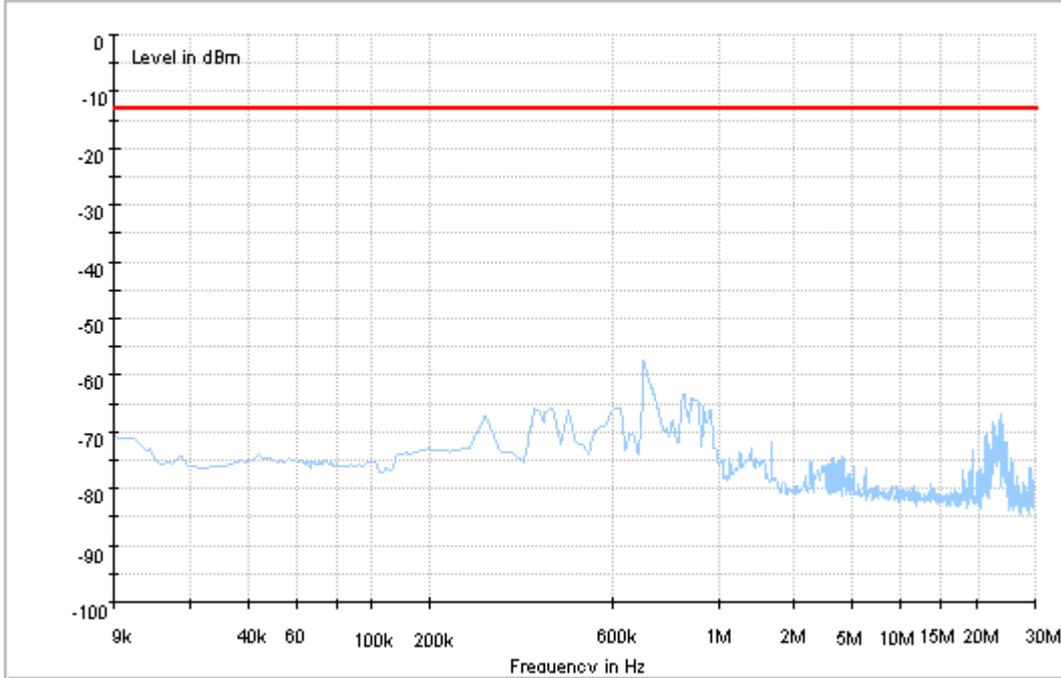
RSE-TX-DIRECTOR LTE 7 38 41_L



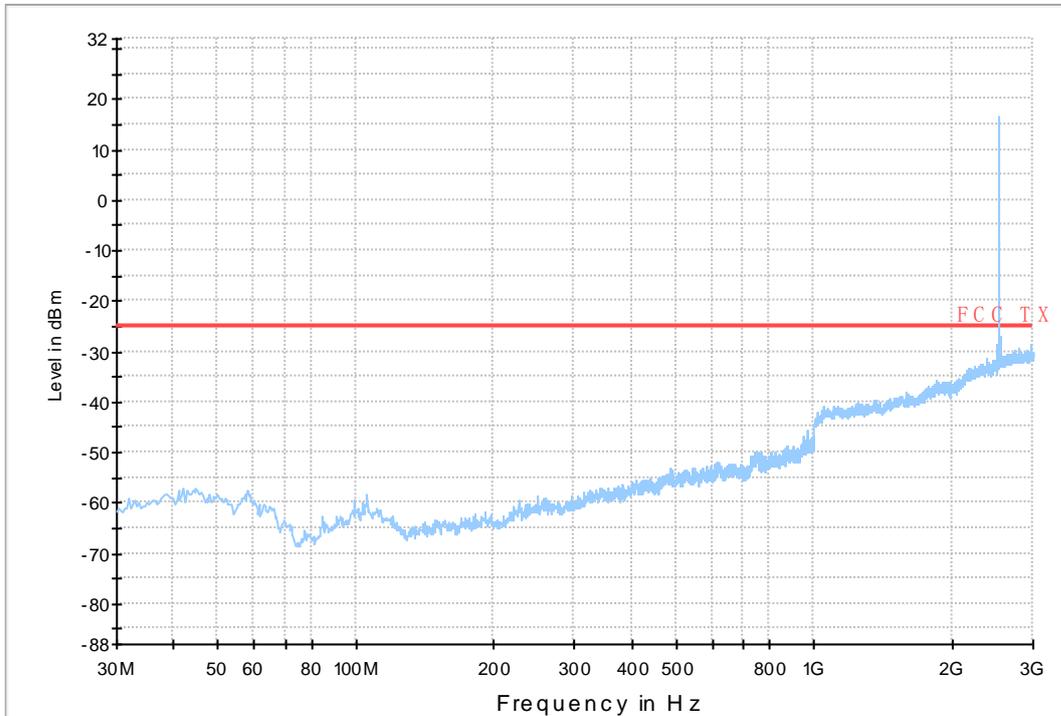
RSE-TX-DIRECTOR LTE7 38 41_H



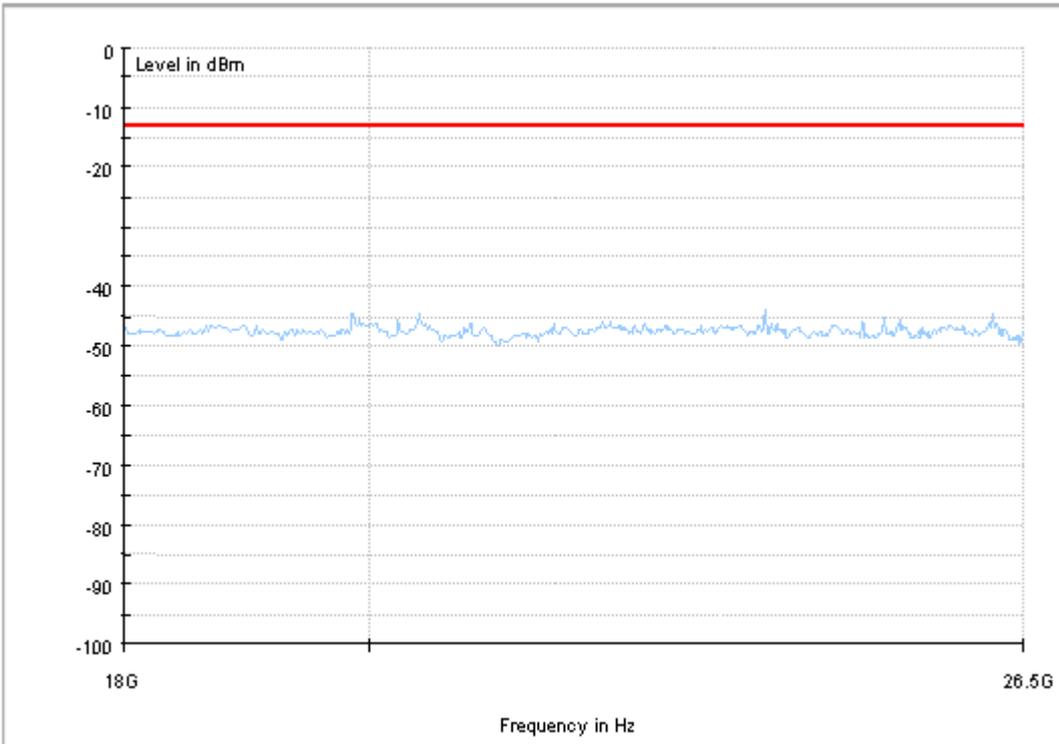
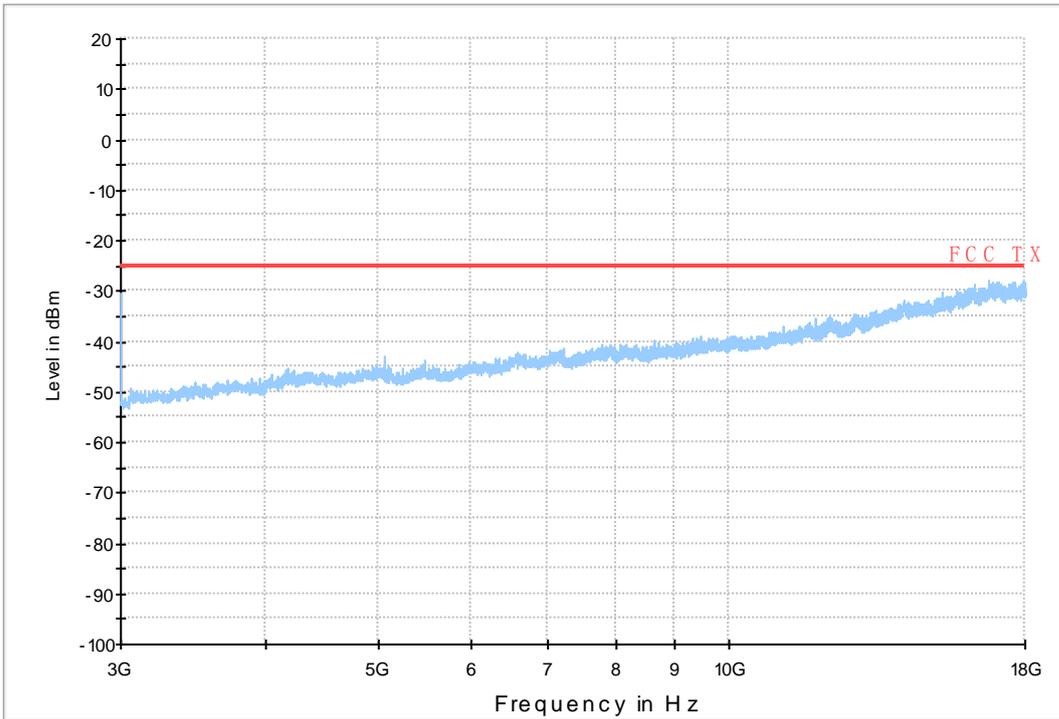
7.1.2.2 Test Bandwidth = 20



RSE-TX-DIRECTOR LTE 7 38 41_L



RSE-TX-DIRECTOR LTE7 38 41_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	1.63	0.00065	PASS
					VN	-4.88	-0.00195	PASS
					VH	-5.01	-0.002	PASS
			MCH	TN	VL	-2.3	-0.00091	PASS
					VN	2.82	0.00111	PASS
					VH	-2.56	-0.00101	PASS
			HCH	TN	VL	-0.76	-0.0003	PASS
					VN	-1.63	-0.00063	PASS
					VH	0.76	0.0003	PASS
		10	LCH	TN	VL	-1.43	-0.00057	PASS
					VN	-2.57	-0.00103	PASS
					VH	0.43	0.00017	PASS
			MCH	TN	VL	-1.6	-0.00063	PASS
					VN	-0.11	-0.00004	PASS
					VH	0.14	0.00006	PASS
			HCH	TN	VL	-0.79	-0.00031	PASS
					VN	-1.27	-0.0005	PASS
					VH	-4.63	-0.00181	PASS
		15	LCH	TN	VL	-0.97	-0.00039	PASS
					VN	-1.66	-0.00066	PASS
					VH	-1.59	-0.00063	PASS
			MCH	TN	VL	-1.5	-0.00059	PASS
					VN	-1.97	-0.00078	PASS
					VH	0	0	PASS
			HCH	TN	VL	-1.37	-0.00053	PASS
					VN	0.43	0.00017	PASS
					VH	2.02	0.00079	PASS
20	LCH	TN	VL	0.03	0.00001	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					VN	-0.01	0	PASS		
					VH	-0.21	-0.00008	PASS		
					MCH	TN	VL	-1.19	-0.00047	PASS
							VN	0.44	0.00017	PASS
					VH	-0.94	-0.00037	PASS		
					HCH	TN	VL	-0.8	-0.00031	PASS
			VN	-1.03			-0.0004	PASS		
			VH	-0.23			-0.00009	PASS		
			LTE/TM2	5	LCH	TN	VL	-3.49	-0.00139	PASS
							VN	0.54	0.00022	PASS
							VH	0.34	0.00014	PASS
							MCH	TN	VL	-3.99
	VN	-1.24							-0.00049	PASS
	VH	-0.16					-0.00006	PASS		
	HCH	TN			VL	-2.57	-0.001	PASS		
					VN	2.85	0.00111	PASS		
					VH	-0.24	-0.00009	PASS		
	10	LCH			TN	VL	1.02	0.00041	PASS	
						VN	-1.22	-0.00049	PASS	
						VH	-0.54	-0.00022	PASS	
		MCH			TN	VL	-2.96	-0.00117	PASS	
						VN	2.98	0.00118	PASS	
						VH	0.36	0.00014	PASS	
	HCH	TN			VL	-0.74	-0.00029	PASS		
					VN	-0.09	-0.00004	PASS		
					VH	-1.24	-0.00048	PASS		
	15	LCH		TN	VL	-1.82	-0.00073	PASS		
					VN	-0.39	-0.00016	PASS		
					VH	-0.63	-0.00025	PASS		
		MCH		TN	VL	0.89	0.00035	PASS		
					VN	-9.53	-0.00376	PASS		
					VH	-0.07	-0.00003	PASS		
		HCH	TN	VL	0.97	0.00038	PASS			
				VN	-2.19	-0.00085	PASS			
				VH	-2.1	-0.00082	PASS			
	20	LCH	TN	VL	0.27	0.00011	PASS			
				VN	-3.09	-0.00123	PASS			
				VH	0.36	0.00014	PASS			
	MCH	TN	VL	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
					VN	-0.73	-0.00029	PASS
					VH	-1.95	-0.00077	PASS
			HCH	TN	VL	-0.86	-0.00034	PASS
					VN	0.13	0.00005	PASS
					VH	1.07	0.00042	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	-2.05	-0.00082	PASS
					-20	-5.14	-0.00205	PASS
					-10	-3.6	-0.00144	PASS
					0	0.03	0.00001	PASS
					10	0.64	0.00026	PASS
					20	-1	-0.0004	PASS
					30	-2.8	-0.00112	PASS
					40	-2.42	-0.00097	PASS
			50	1.5	0.0006	PASS		
			MCH	VN	-30	-0.96	-0.00038	PASS
					-20	-3.72	-0.00147	PASS
					-10	-1.39	-0.00055	PASS
					0	-0.33	-0.00013	PASS
					10	-4.71	-0.00186	PASS
					20	-3.16	-0.00125	PASS
					30	-1.6	-0.00063	PASS
					40	-2.89	-0.00114	PASS
			50	0.72	0.00028	PASS		
			HCH	VN	-30	-1.02	-0.0004	PASS
					-20	-1.9	-0.00074	PASS
					-10	-0.06	-0.00002	PASS
					0	1.24	0.00048	PASS
					10	1.93	0.00075	PASS
					20	-3.69	-0.00144	PASS
		30			-6.15	-0.0024	PASS	
		40			0.11	0.00004	PASS	
		50	-5.36	-0.00209	PASS			
10	LCH	VN	-30	-2.39	-0.00095	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp .	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
		15			-20	-0.33	-0.00013	PASS	
					-10	-3.09	-0.00123	PASS	
					0	1.7	0.00068	PASS	
					10	-1.5	-0.0006	PASS	
					20	-2.2	-0.00088	PASS	
					30	3.69	0.00147	PASS	
					40	1.12	0.00045	PASS	
					50	-2.59	-0.00103	PASS	
			MCH	VN	-30	-1.69	-0.00067	PASS	
					-20	-1.59	-0.00063	PASS	
					-10	-0.01	0	PASS	
					0	-1.32	-0.00052	PASS	
					10	-0.04	-0.00002	PASS	
					20	-2.65	-0.00105	PASS	
					30	0.92	0.00036	PASS	
					40	0.11	0.00004	PASS	
			HCH	VN	-30	1.54	0.0006	PASS	
					-20	-4.85	-0.00189	PASS	
					-10	0.06	0.00002	PASS	
					0	1.49	0.00058	PASS	
					10	-2.45	-0.00096	PASS	
					20	0.74	0.00029	PASS	
					30	2.95	0.00115	PASS	
					40	1.12	0.00044	PASS	
			15	LCH	VN	-30	-3.38	-0.00135	PASS
						-20	-3.73	-0.00149	PASS
						-10	0.33	0.00013	PASS
						0	-4.29	-0.00171	PASS
		10				-2.65	-0.00106	PASS	
		20				-4.05	-0.00162	PASS	
		30				-0.46	-0.00018	PASS	
		40				-2.33	-0.00093	PASS	
		50		-3.81	-0.00152	PASS			
		MCH		VN	-30	-0.86	-0.00034	PASS	
					-20	-2.32	-0.00092	PASS	
					-10	-0.5	-0.0002	PASS	
			0		0.3	0.00012	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp .	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					10	-0.14	-0.00006	PASS
					20	-0.17	-0.00007	PASS
					30	0.94	0.00037	PASS
					40	-2.2	-0.00087	PASS
					50	-1.29	-0.00051	PASS
			HCH	VN	-30	-2.36	-0.00092	PASS
					-20	-0.27	-0.00011	PASS
					-10	0.09	0.00004	PASS
					0	0.17	0.00007	PASS
					10	-0.39	-0.00015	PASS
					20	-4.03	-0.00157	PASS
					30	-2.8	-0.00109	PASS
					40	0.01	0	PASS
					50	1.03	0.0004	PASS
					LCH	VN	-30	0.29
			-20	-0.36			-0.00014	PASS
			-10	-0.07			-0.00003	PASS
			0	-1.1			-0.00044	PASS
			10	-1.75			-0.0007	PASS
			20	1.44			0.00057	PASS
		30	-2.1	-0.00084			PASS	
		40	-0.34	-0.00014			PASS	
		50	-0.36	-0.00014			PASS	
		MCH	VN	-30			-0.5	-0.0002
				-20	-1.29	-0.00051	PASS	
				-10	-0.11	-0.00004	PASS	
				0	1.02	0.0004	PASS	
				10	-1.17	-0.00046	PASS	
				20	-0.62	-0.00024	PASS	
				30	1.7	0.00067	PASS	
				40	0.04	0.00002	PASS	
				50	-0.59	-0.00023	PASS	
				HCH	VN	-30	-2.53	-0.00099
		-20	-0.72			-0.00028	PASS	
		-10	-0.5			-0.0002	PASS	
		0	-0.31			-0.00012	PASS	
		10	-0.13			-0.00005	PASS	
		20	-0.67			-0.00026	PASS	
		30	-2.29			-0.00089	PASS	
		20					-30	0.29
-20	-0.36						-0.00014	PASS
-10	-0.07						-0.00003	PASS
0	-1.1						-0.00044	PASS
10	-1.75						-0.0007	PASS
20	1.44						0.00057	PASS
30	-2.1						-0.00084	PASS
40	-0.34						-0.00014	PASS
50	-0.36						-0.00014	PASS
-30	-0.5						-0.0002	PASS
-20	-1.29	-0.00051	PASS					
-10	-0.11	-0.00004	PASS					
0	1.02	0.0004	PASS					
10	-1.17	-0.00046	PASS					
20	-0.62	-0.00024	PASS					
30	1.7	0.00067	PASS					
40	0.04	0.00002	PASS					
50	-0.59	-0.00023	PASS					
-30	-2.53	-0.00099	PASS					
-20	-0.72	-0.00028	PASS					
-10	-0.5	-0.0002	PASS					
0	-0.31	-0.00012	PASS					
10	-0.13	-0.00005	PASS					
20	-0.67	-0.00026	PASS					
30	-2.29	-0.00089	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	40	0.26	0.0001	PASS
					50	-3.05	-0.00119	PASS
					-30	4.01	0.0016	PASS
					-20	-2.92	-0.00117	PASS
					-10	-6.85	-0.00274	PASS
					0	-2.62	-0.00105	PASS
					10	-6.38	-0.00255	PASS
					20	0.94	0.00038	PASS
					30	1.12	0.00045	PASS
			40	0.97	0.00039	PASS		
			50	0.6	0.00024	PASS		
			MCH	VN	-30	0.94	0.00037	PASS
					-20	2.37	0.00093	PASS
					-10	-1.42	-0.00056	PASS
					0	-0.5	-0.0002	PASS
					10	-0.74	-0.00029	PASS
					20	1.36	0.00054	PASS
					30	-3.81	-0.0015	PASS
		40			-1.23	-0.00049	PASS	
		50			0.23	0.00009	PASS	
		HCH	VN	-30	0.24	0.00009	PASS	
				-20	-2.03	-0.00079	PASS	
				-10	1.66	0.00065	PASS	
				0	2.86	0.00111	PASS	
				10	-7.01	-0.00273	PASS	
				20	-1.1	-0.00043	PASS	
				30	-2.05	-0.0008	PASS	
				40	-3.63	-0.00141	PASS	
				50	1.56	0.00061	PASS	
		10	LCH	VN	-30	1.19	0.00048	PASS
					-20	-2.39	-0.00095	PASS
					-10	1.32	0.00053	PASS
					0	-2.89	-0.00115	PASS
10	-1.07				-0.00043	PASS		
20	-0.36				-0.00014	PASS		
30	0.37				0.00015	PASS		
40	-0.73				-0.00029	PASS		
50	0.73				0.00029	PASS		
MCH	VN		-30	0.93	0.00037	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp .	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					-20	1.13	0.00045	PASS		
					-10	-1.24	-0.00049	PASS		
					0	-1.82	-0.00072	PASS		
					10	-1.85	-0.00073	PASS		
					20	-2.46	-0.00097	PASS		
					30	0.2	0.00008	PASS		
					40	-0.17	-0.00007	PASS		
					50	-3.88	-0.00153	PASS		
			HCH	VN	-30	0.49	0.00019	PASS		
					-20	-1.83	-0.00071	PASS		
					-10	0.62	0.00024	PASS		
					0	0	0	PASS		
					10	-3.18	-0.00124	PASS		
					20	-2.75	-0.00107	PASS		
					30	2.3	0.0009	PASS		
					40	-0.57	-0.00022	PASS		
			LCH	VN	-30	-3.86	-0.00154	PASS		
					-20	-4.25	-0.00169	PASS		
					-10	-0.11	-0.00004	PASS		
					0	0.26	0.0001	PASS		
		10			-0.86	-0.00034	PASS			
		20			0.17	0.00007	PASS			
		30			-0.6	-0.00024	PASS			
		40			-2.43	-0.00097	PASS			
		MCH	VN	-30	-1.33	-0.00052	PASS			
				-20	0.51	0.0002	PASS			
				-10	-1.34	-0.00053	PASS			
				0	-0.82	-0.00032	PASS			
				10	-3.89	-0.00153	PASS			
				20	-23.72	-0.00936	PASS			
				30	-18.54	-0.00731	PASS			
				40	-12.83	-0.00506	PASS			
		HCH	VN	-30	7.98	0.00311	PASS			
				-20	6.81	0.00266	PASS			
				-10	6.29	0.00245	PASS			
				0	3	0.00117	PASS			
		15					-30	-3.86	-0.00154	PASS
							-20	-4.25	-0.00169	PASS
							-10	-0.11	-0.00004	PASS
							0	0.26	0.0001	PASS
10	-0.86						-0.00034	PASS		
20	0.17						0.00007	PASS		
30	-0.6						-0.00024	PASS		
40	-2.43						-0.00097	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp .	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					10	4.66	0.00182	PASS		
					20	1.5	0.00059	PASS		
					30	1.43	0.00056	PASS		
					40	1.59	0.00062	PASS		
					50	1.42	0.00055	PASS		
		20	LCH	VN	-30	-2.29	-0.00091	PASS		
					-20	0.79	0.00031	PASS		
					-10	-0.04	-0.00002	PASS		
					0	-3.22	-0.00128	PASS		
					10	-1.62	-0.00065	PASS		
					20	-3.4	-0.00135	PASS		
					30	0.14	0.00006	PASS		
					40	-0.36	-0.00014	PASS		
					50	-4.53	-0.0018	PASS		
					MCH	VN	-30	-4.03	-0.00159	PASS
							-20	-0.62	-0.00024	PASS
							-10	0.27	0.00011	PASS
							0	-0.4	-0.00016	PASS
							10	0.51	0.0002	PASS
							20	-1.47	-0.00058	PASS
		30	-2.3	-0.00091			PASS			
		40	-3.3	-0.0013			PASS			
		HCH	VN	-30	-2.9	-0.00113	PASS			
				-20	-0.49	-0.00019	PASS			
				-10	-0.21	-0.00008	PASS			
				0	-3.45	-0.00135	PASS			
				10	-1.77	-0.00069	PASS			
				20	-3.55	-0.00139	PASS			
				30	-1.85	-0.00072	PASS			
				40	-3.38	-0.00132	PASS			
50	-3.72	-0.00145	PASS							

END