



5.1.1.2.3.1.3 Test RB = RB36#18





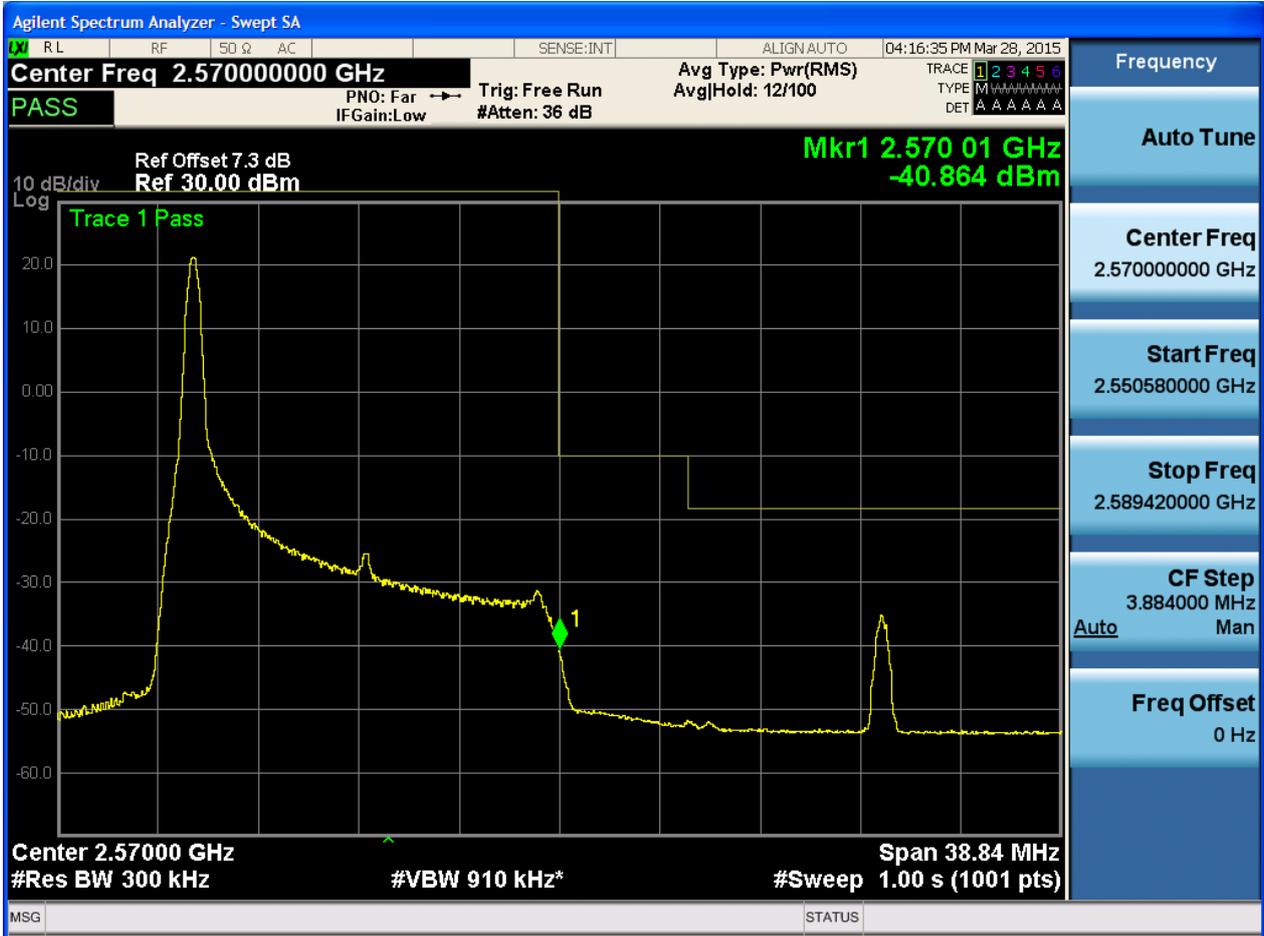
5.1.1.2.3.1.4 Test RB = RB75#0





5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0







5.1.1.2.3.2.3 Test RB = RB36#18





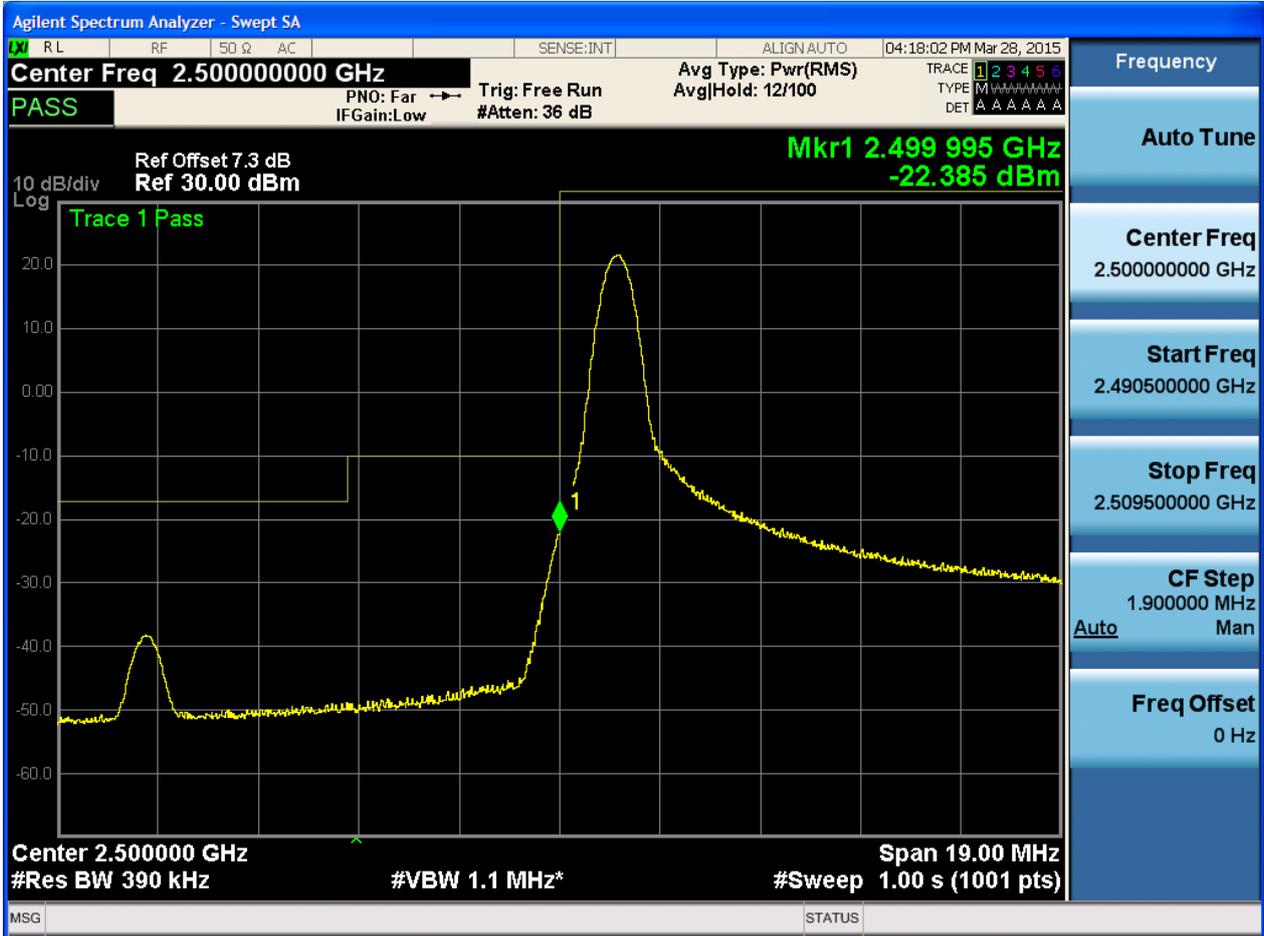
5.1.1.2.3.2.4 Test RB = RB75#0



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







5.1.1.2.4.2.3 Test RB = RB50#25





5.1.1.2.4.2.4 Test RB = RB100#0





## 6Appendix\_F: Spurious Emission at Antenna Terminal

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

### Part I - Test Plots

#### 6.1 For LTE

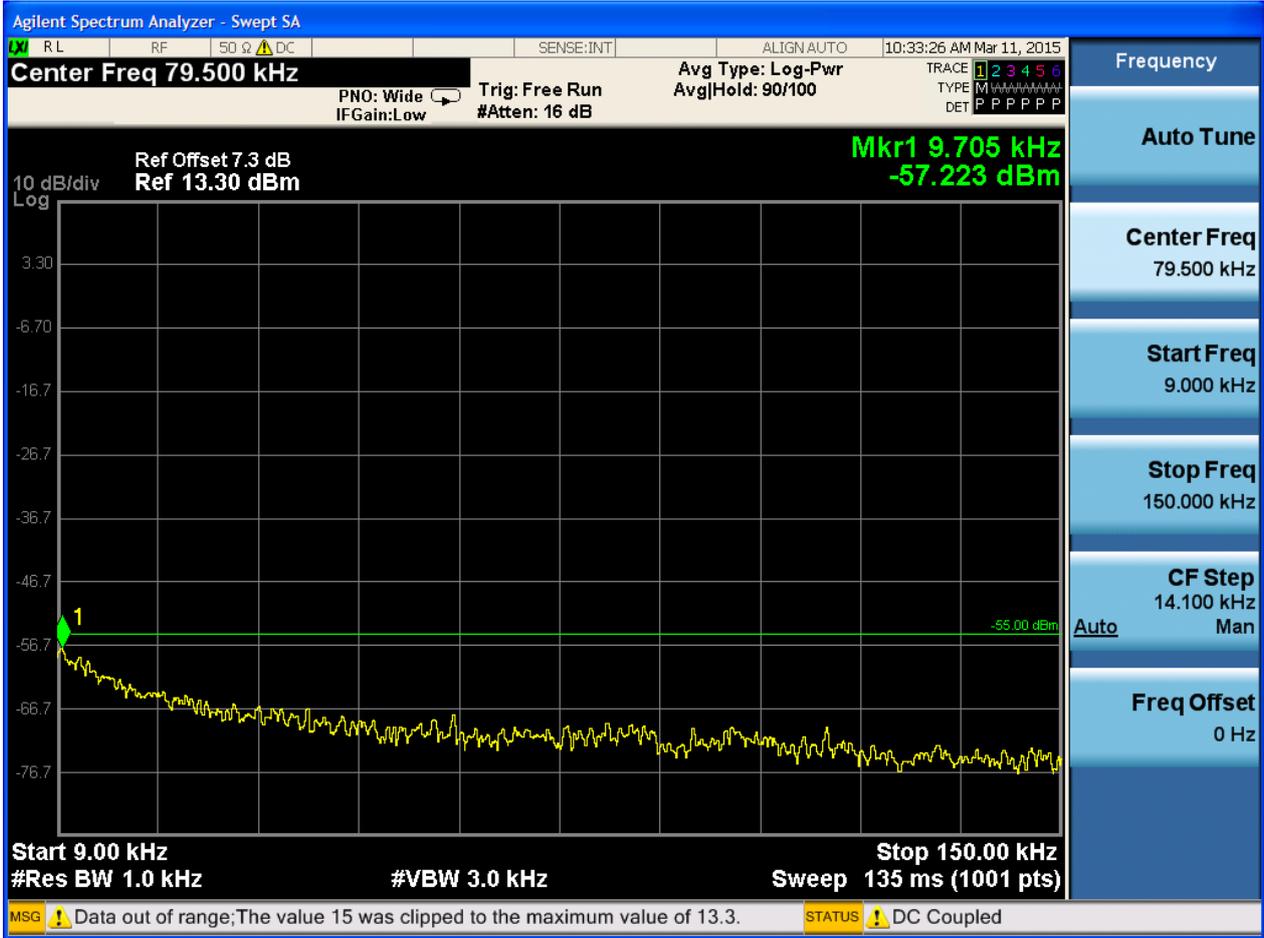
##### 6.1.1 Test Band = BAND7

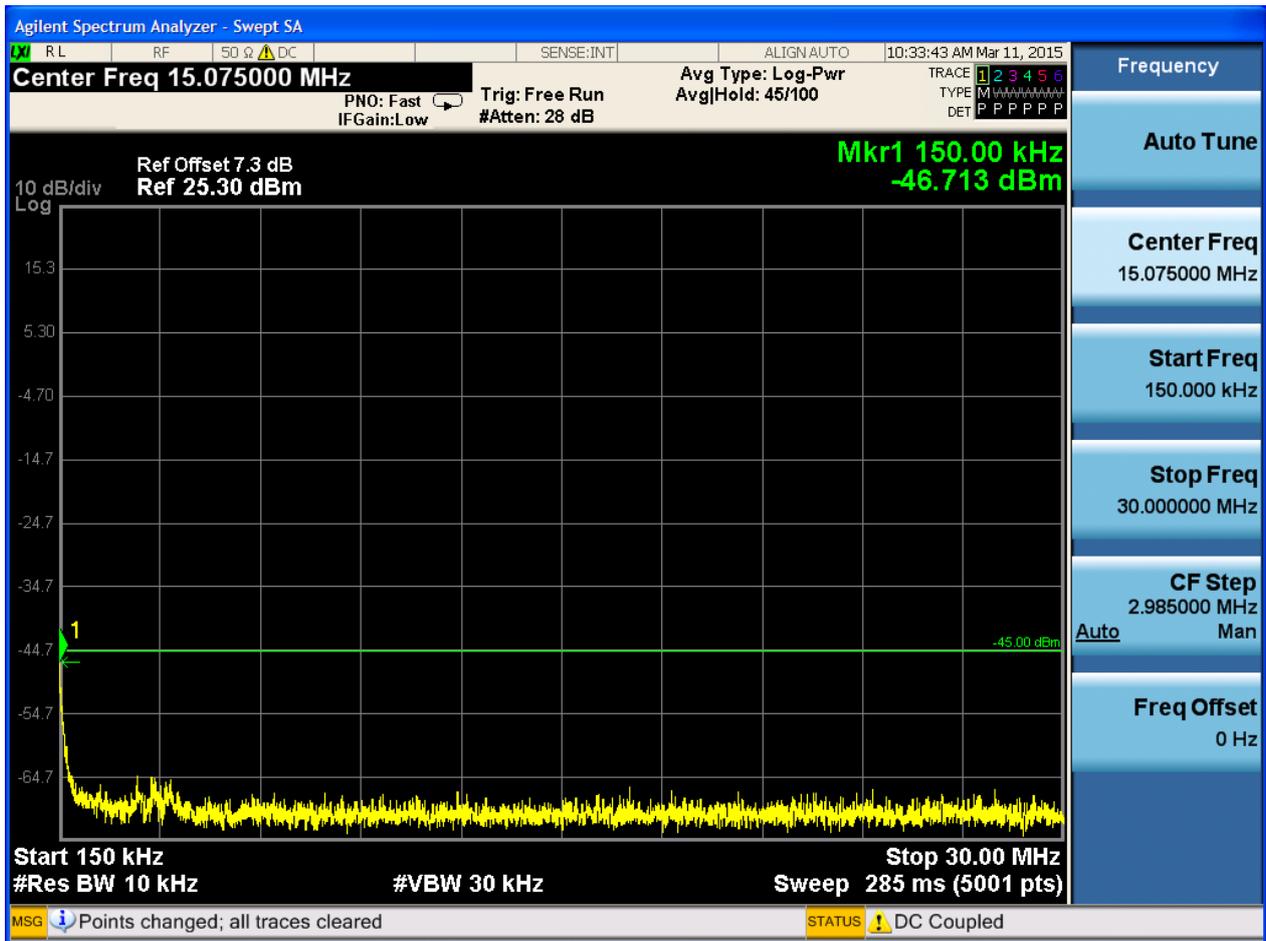
##### 6.1.1.1 Test Mode = LTE/TM1

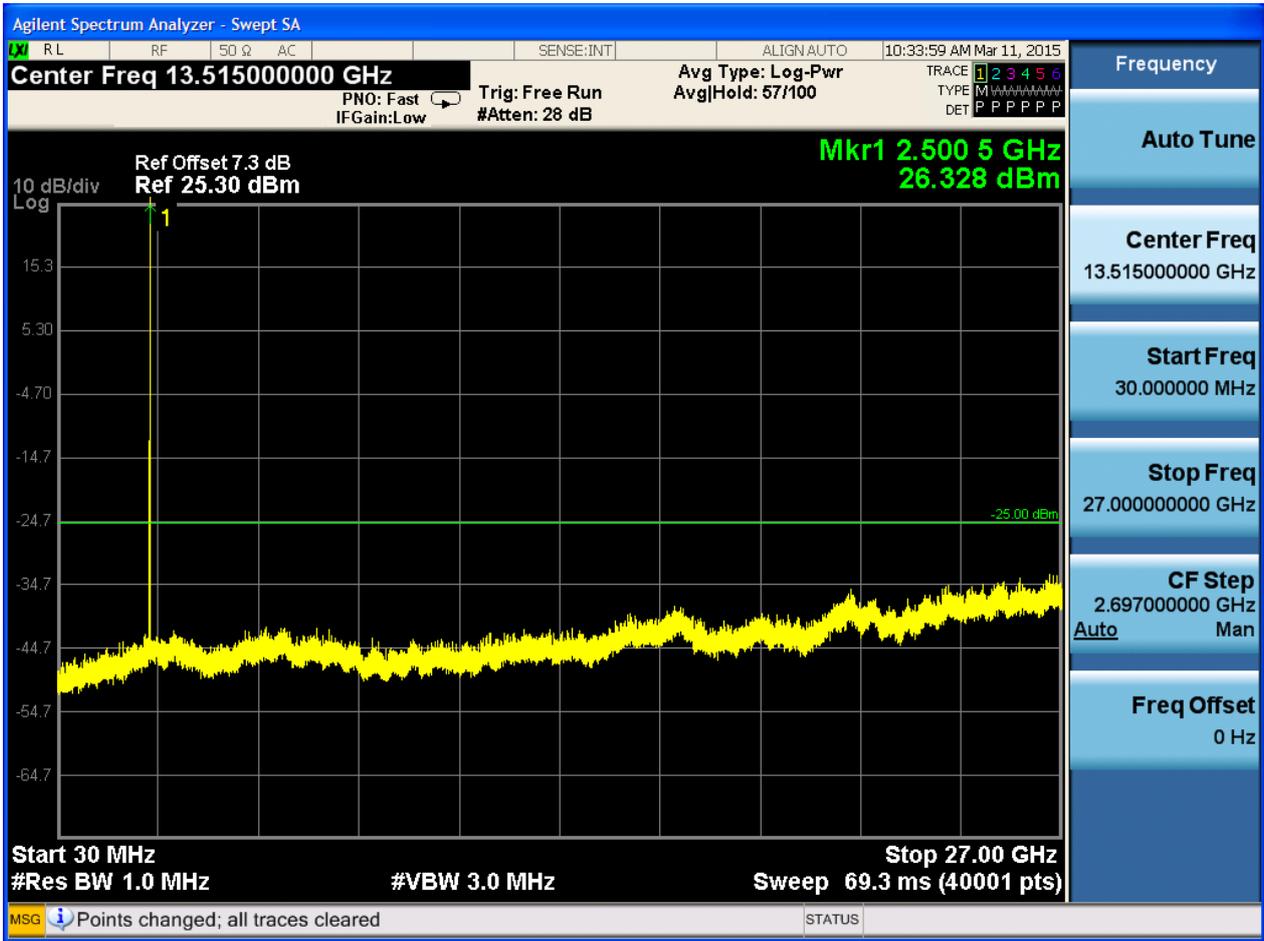
##### 6.1.1.1.1 Test Bandwidth = 5

##### 6.1.1.1.1.1 Test Channel = LCH

##### 6.1.1.1.1.1.1 Test RB = RB1#0

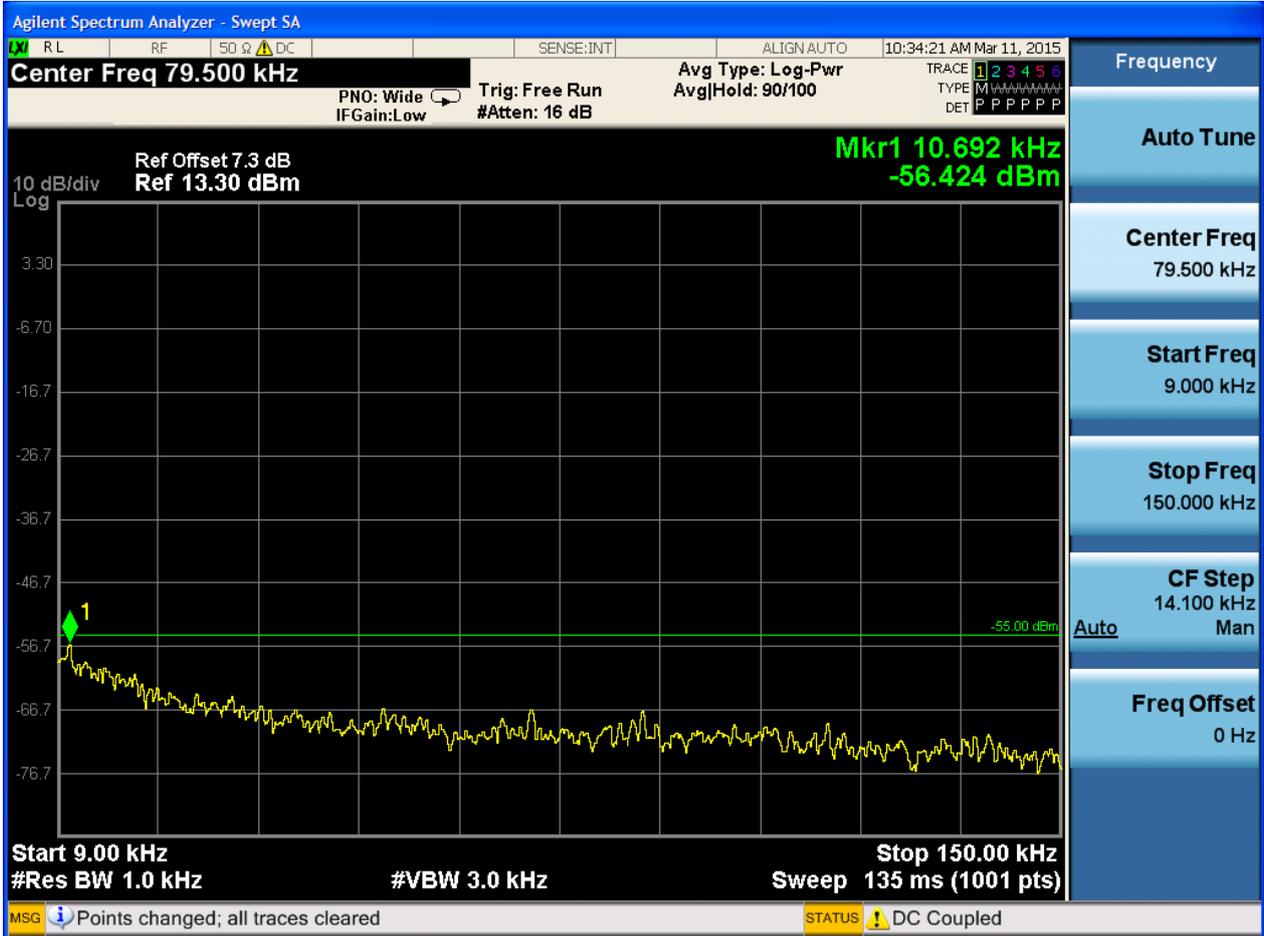


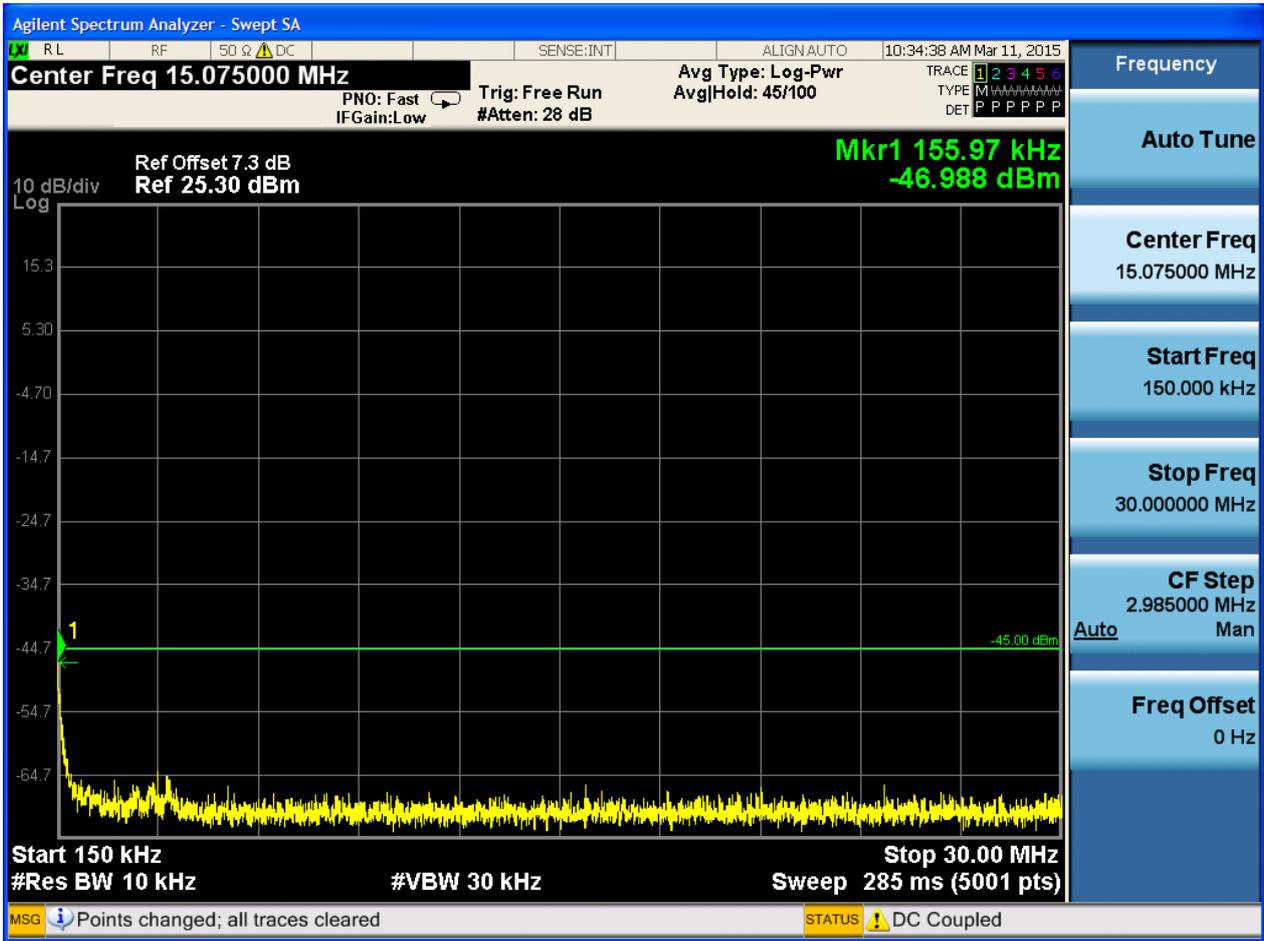


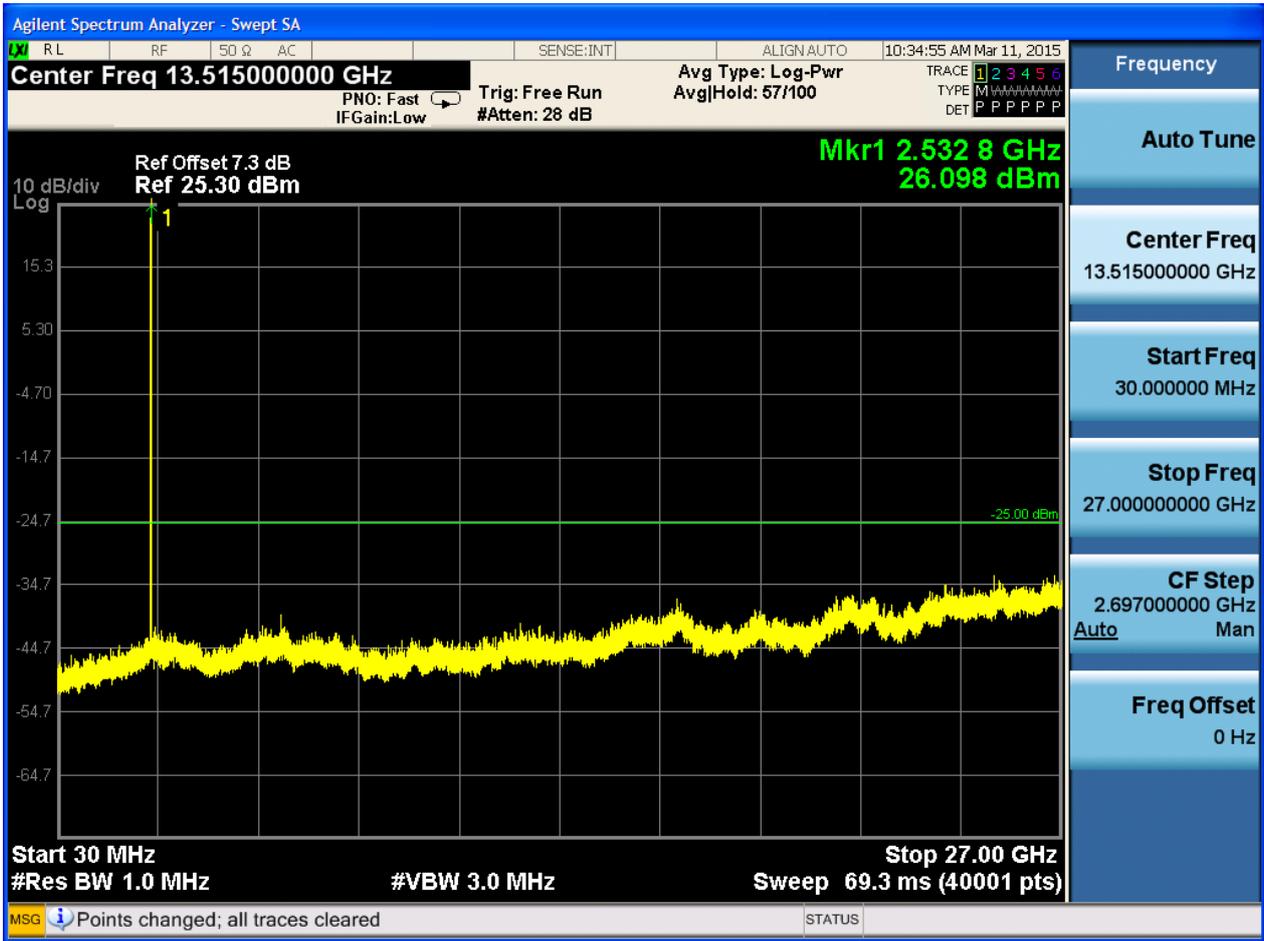


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

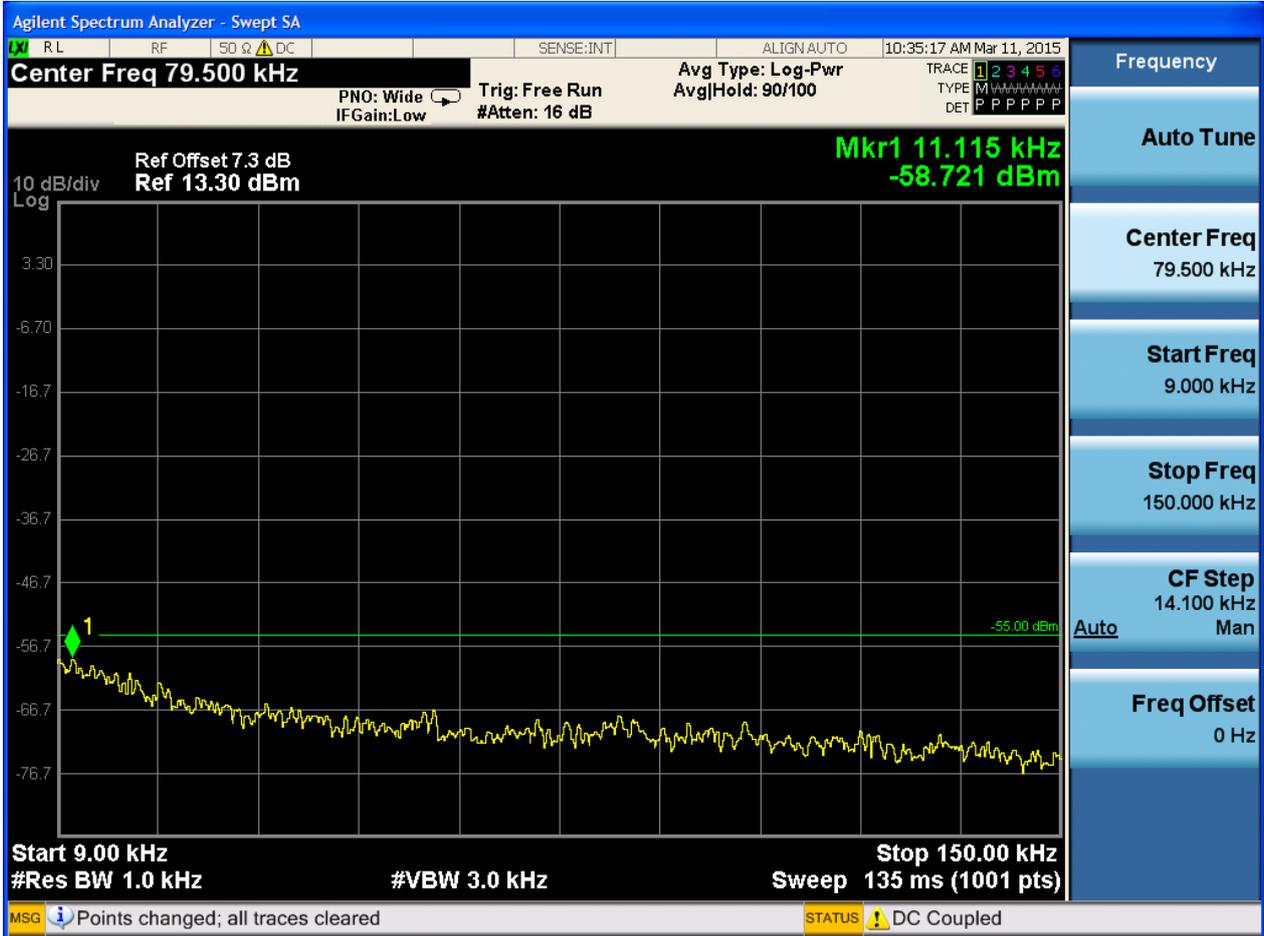




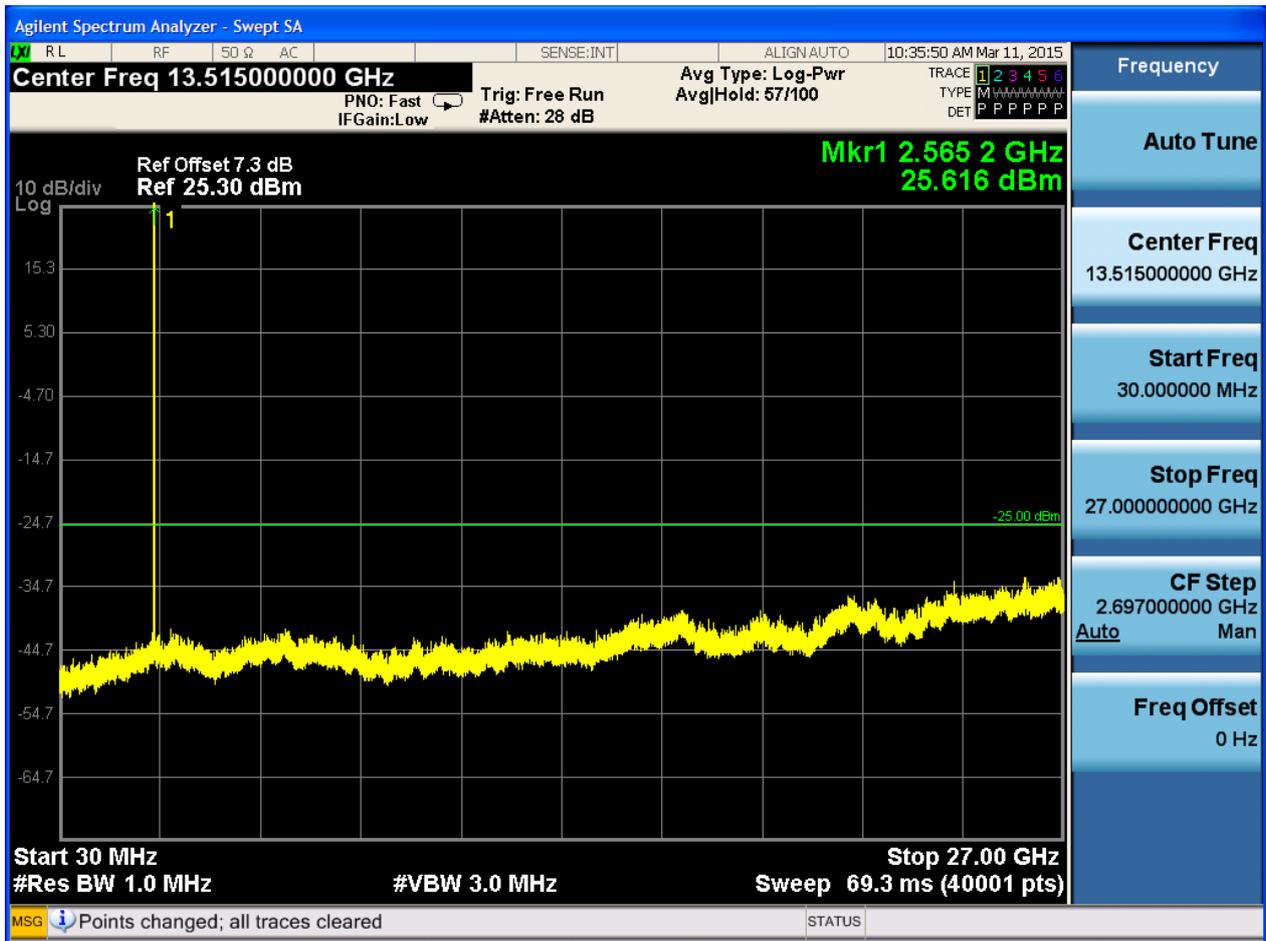


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0





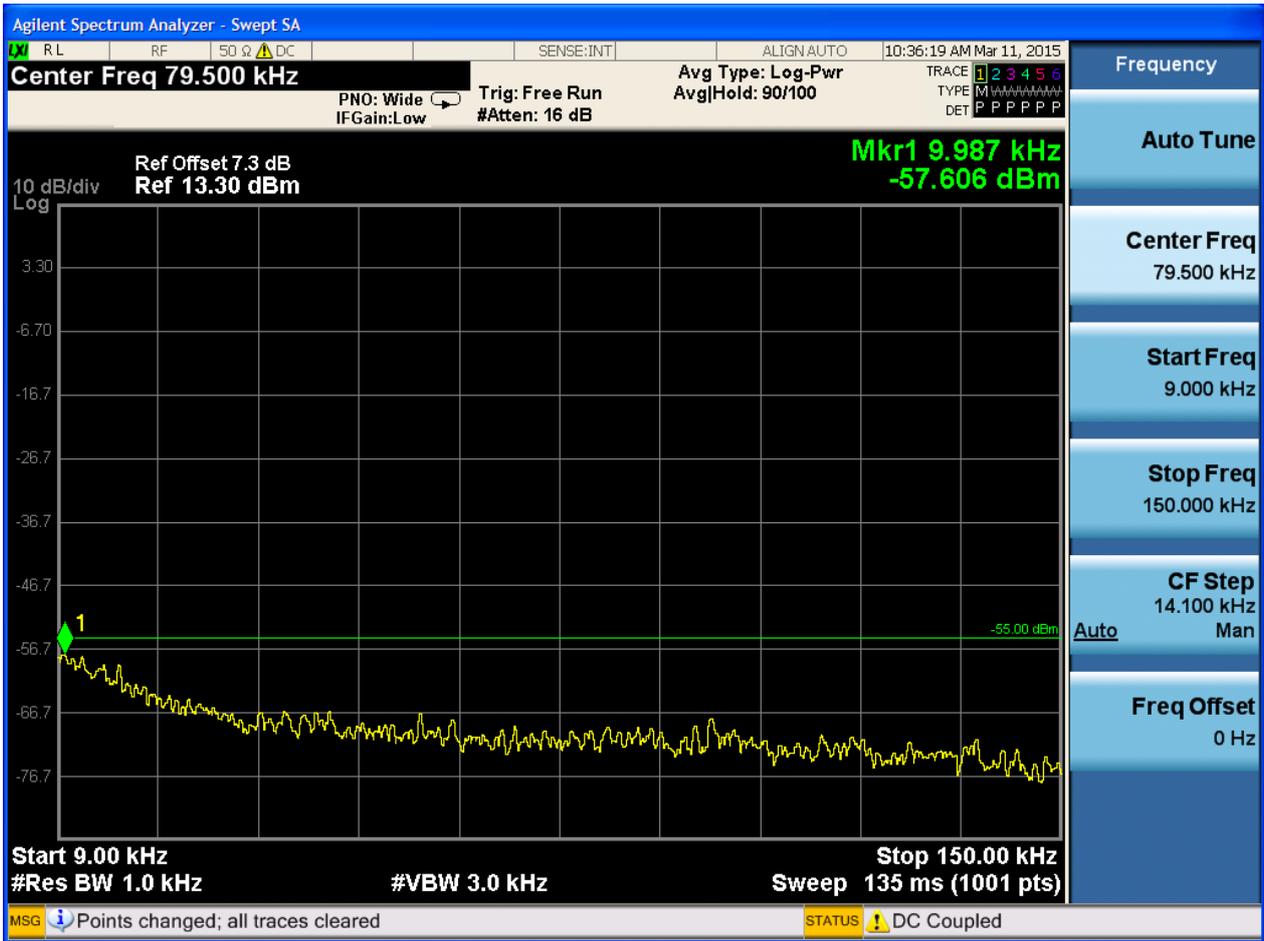




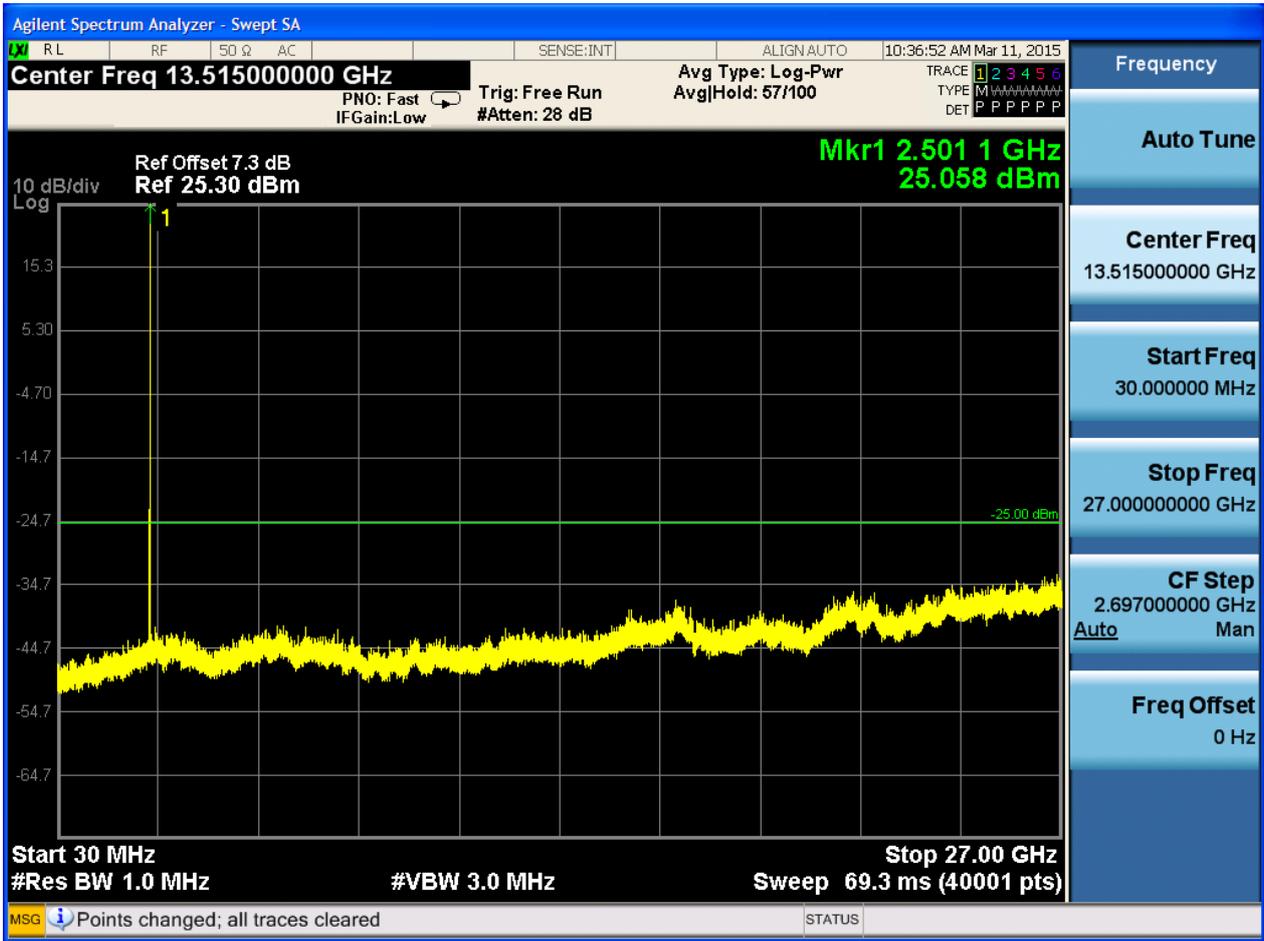
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

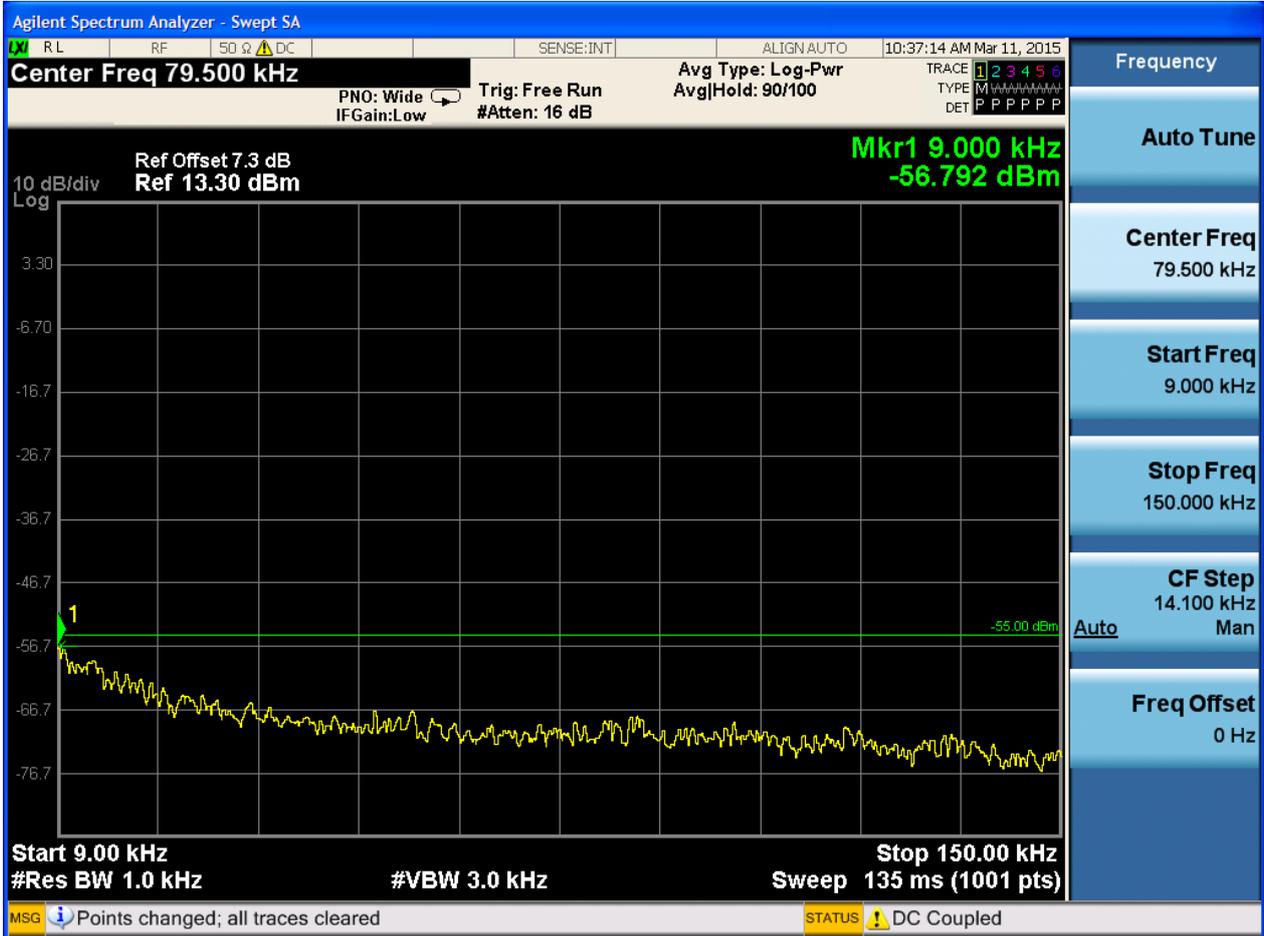




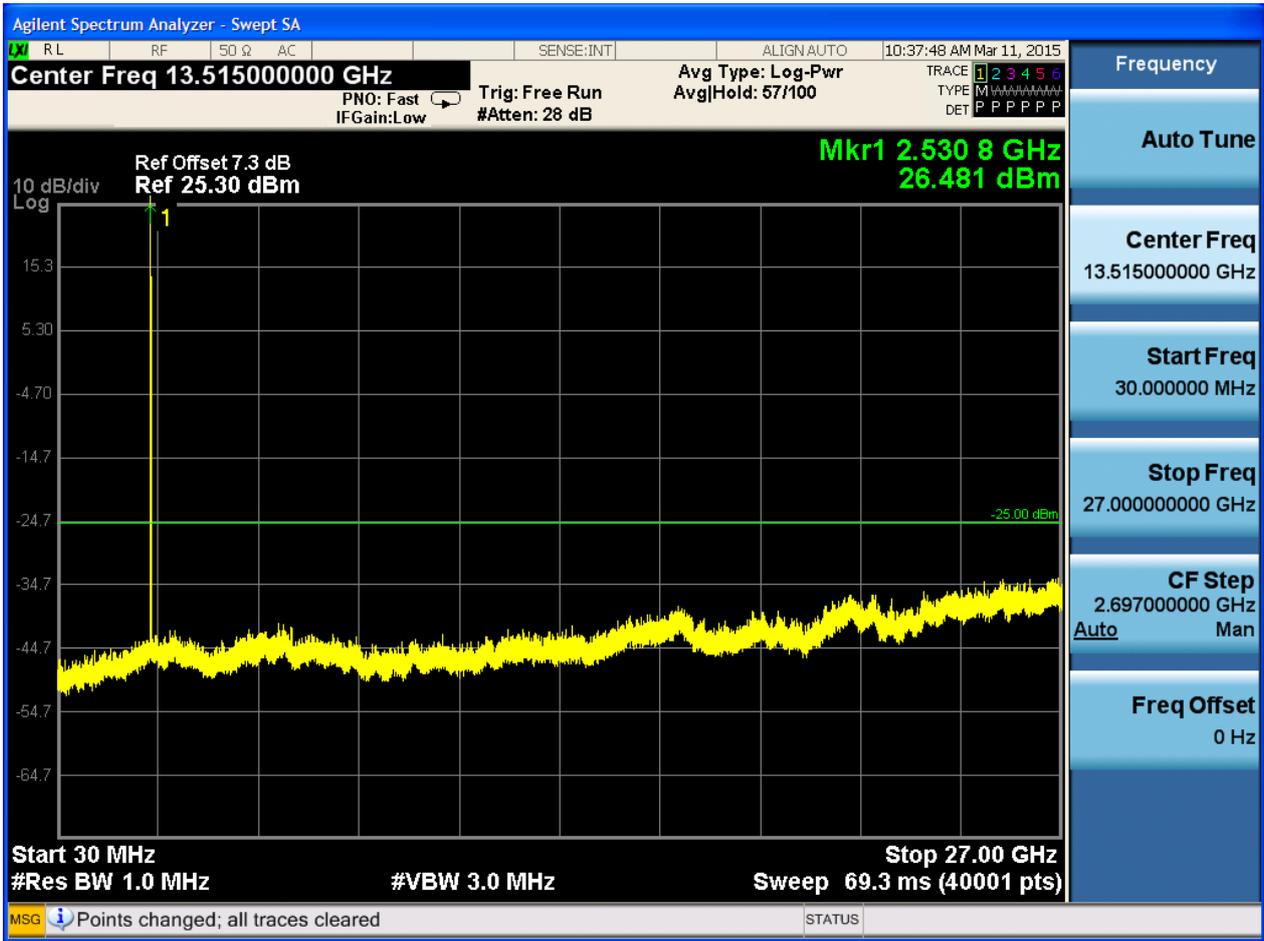


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



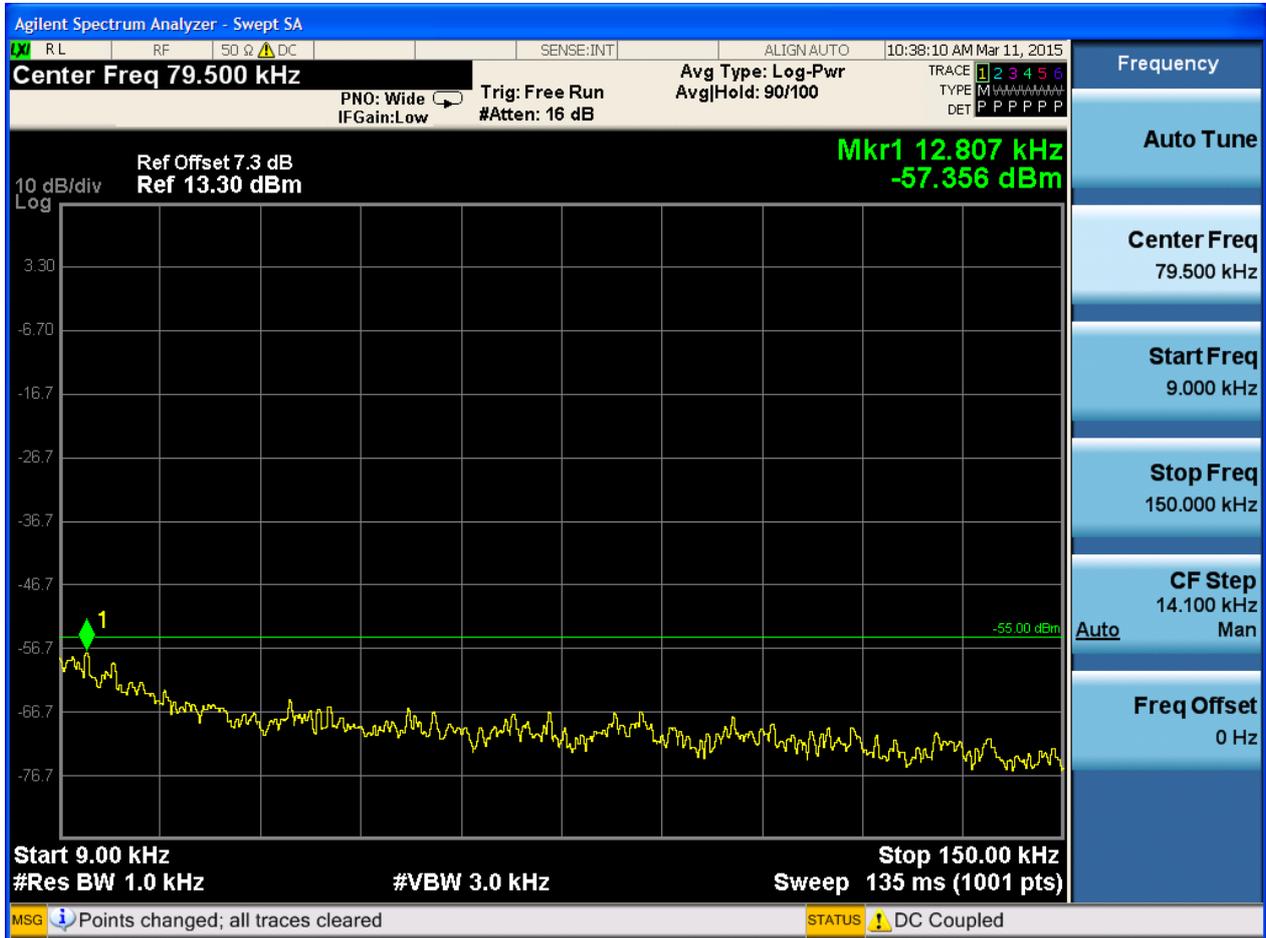




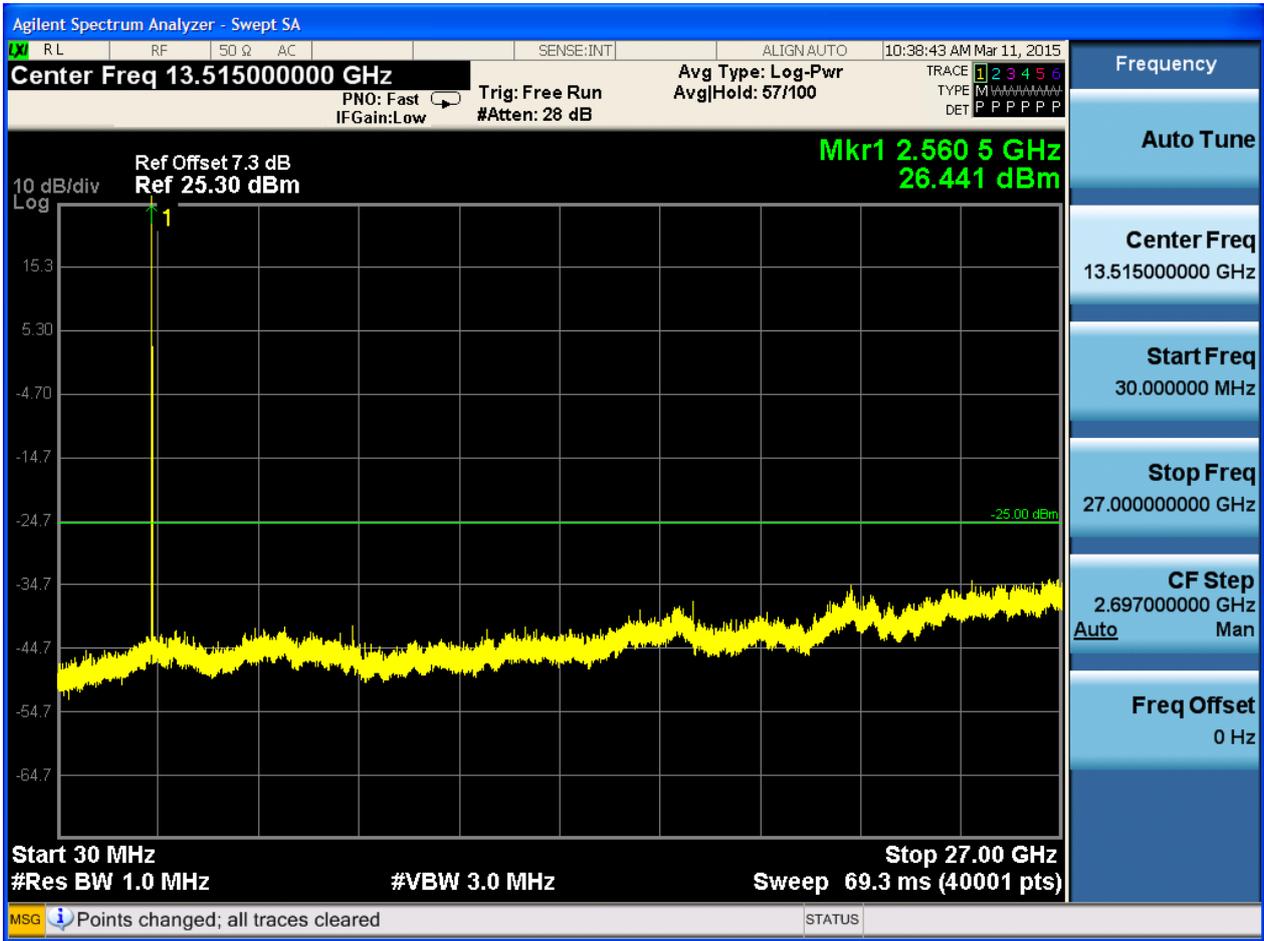


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





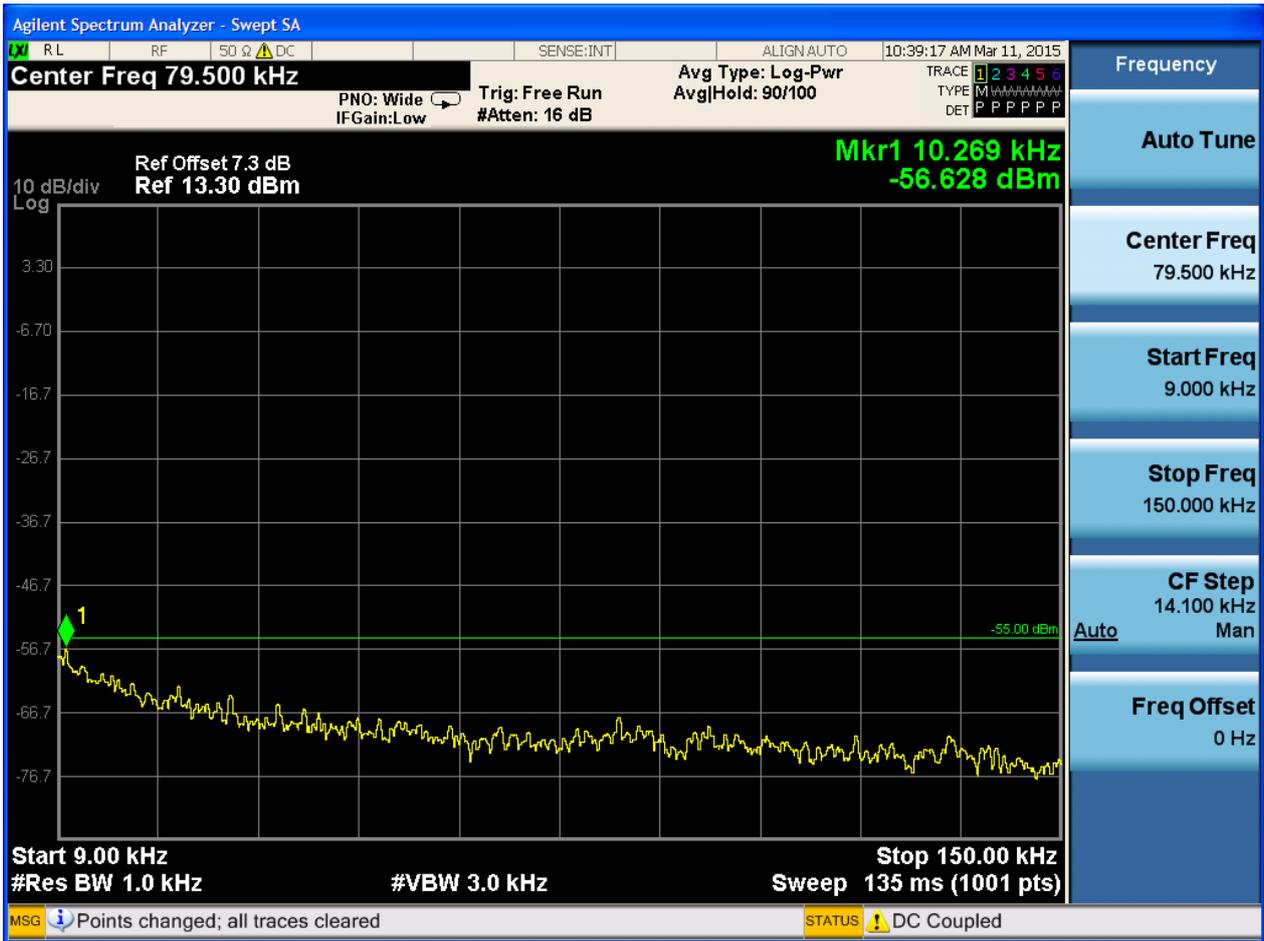




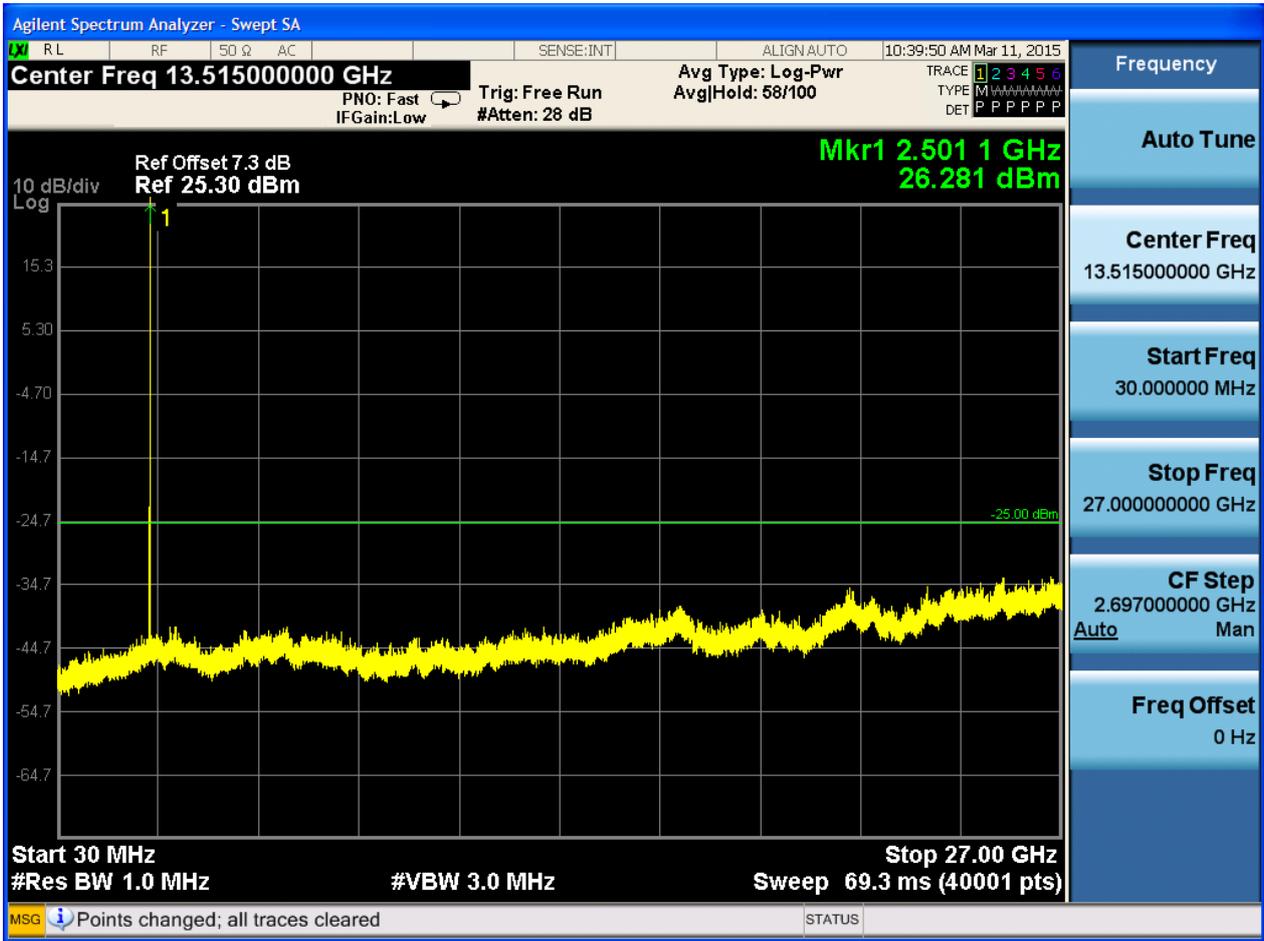
6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



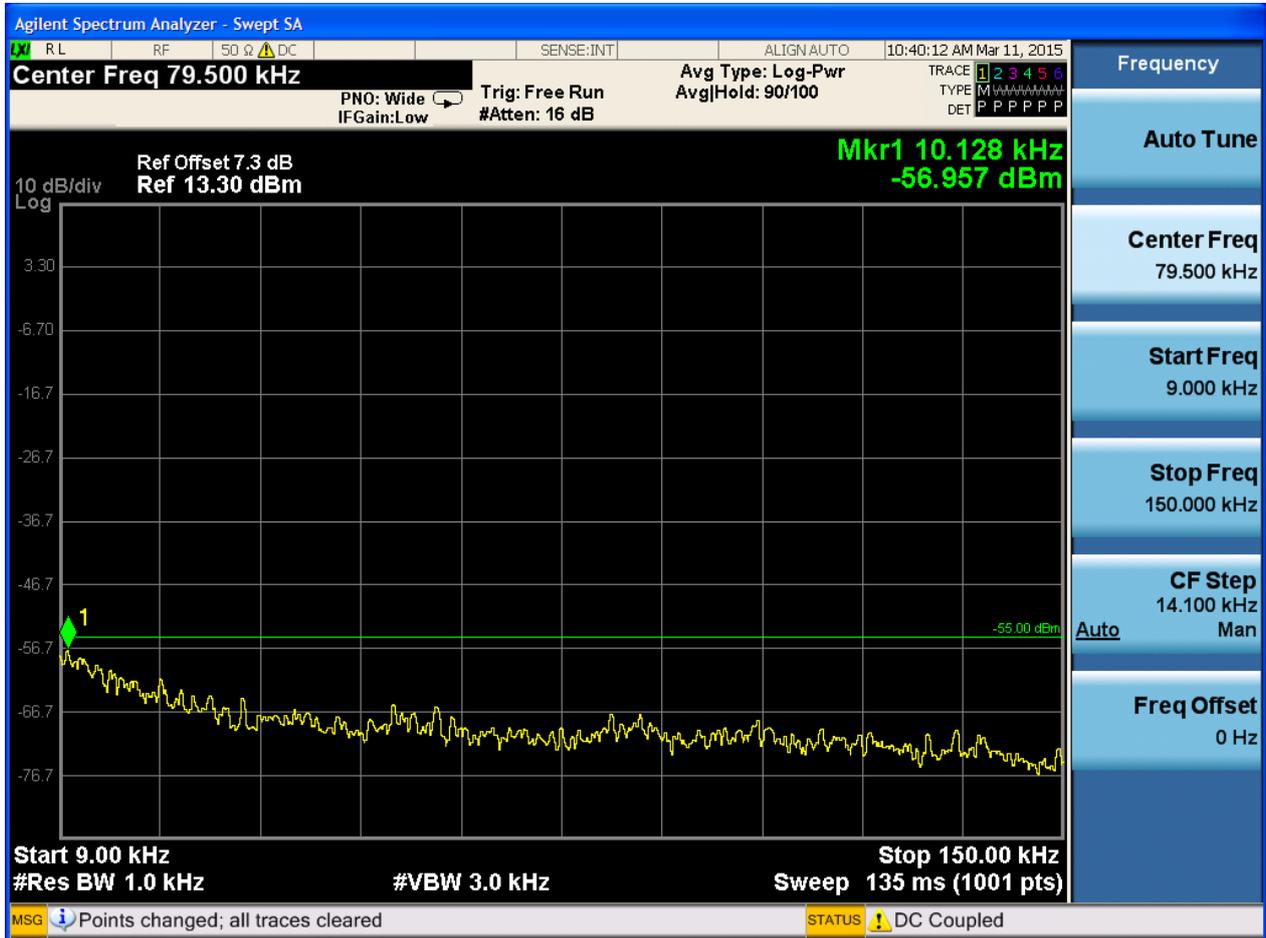


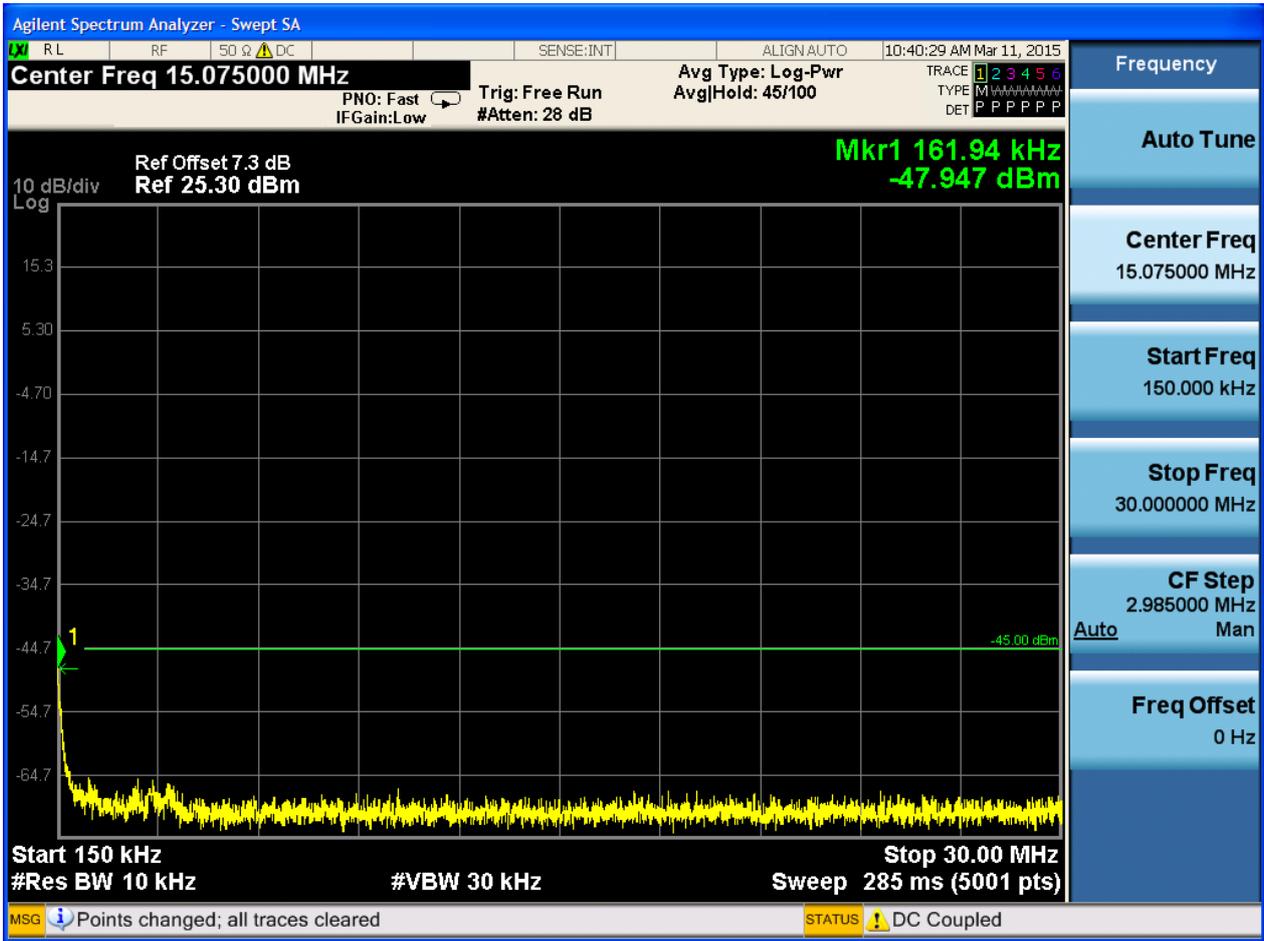


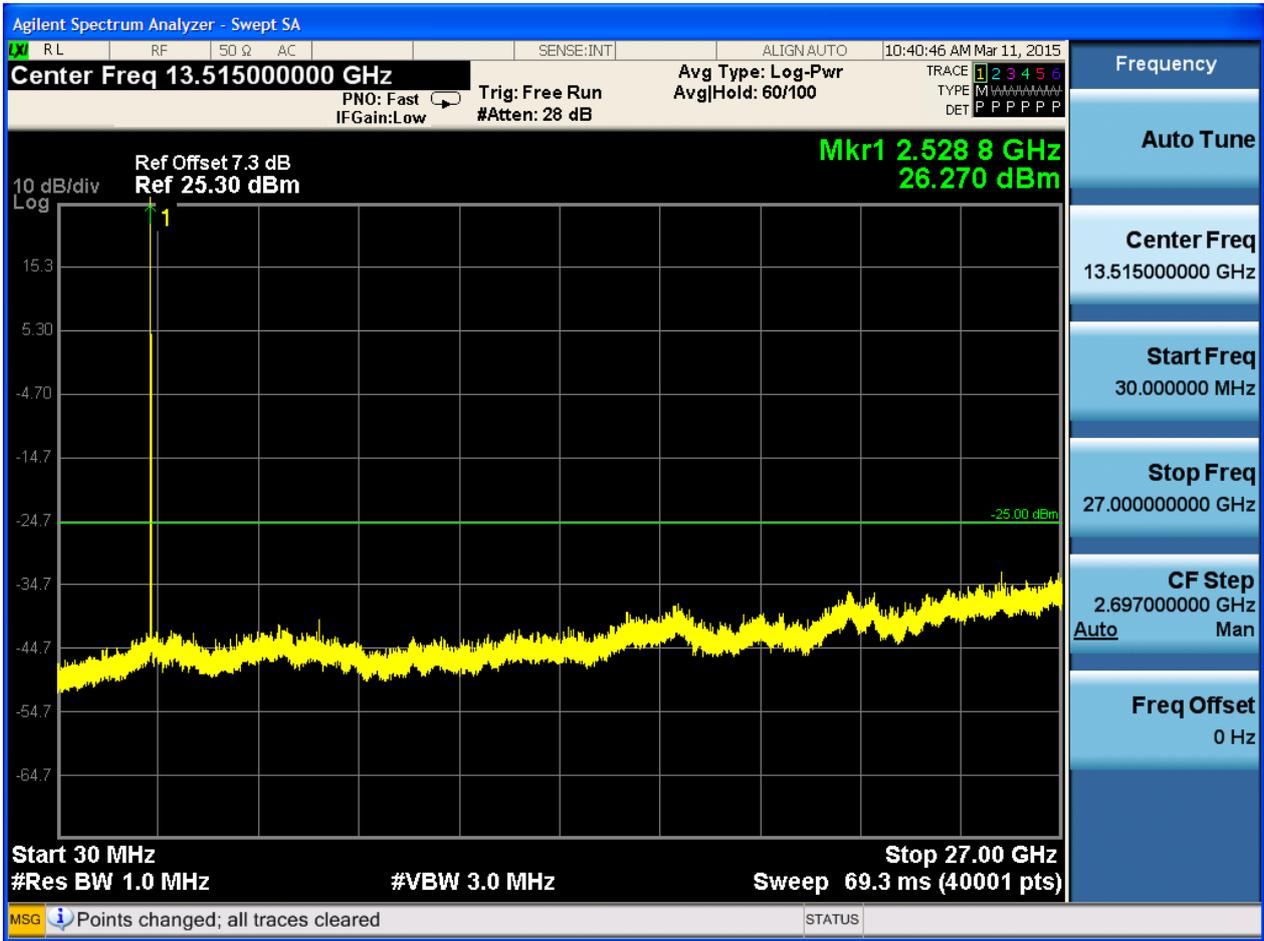


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0

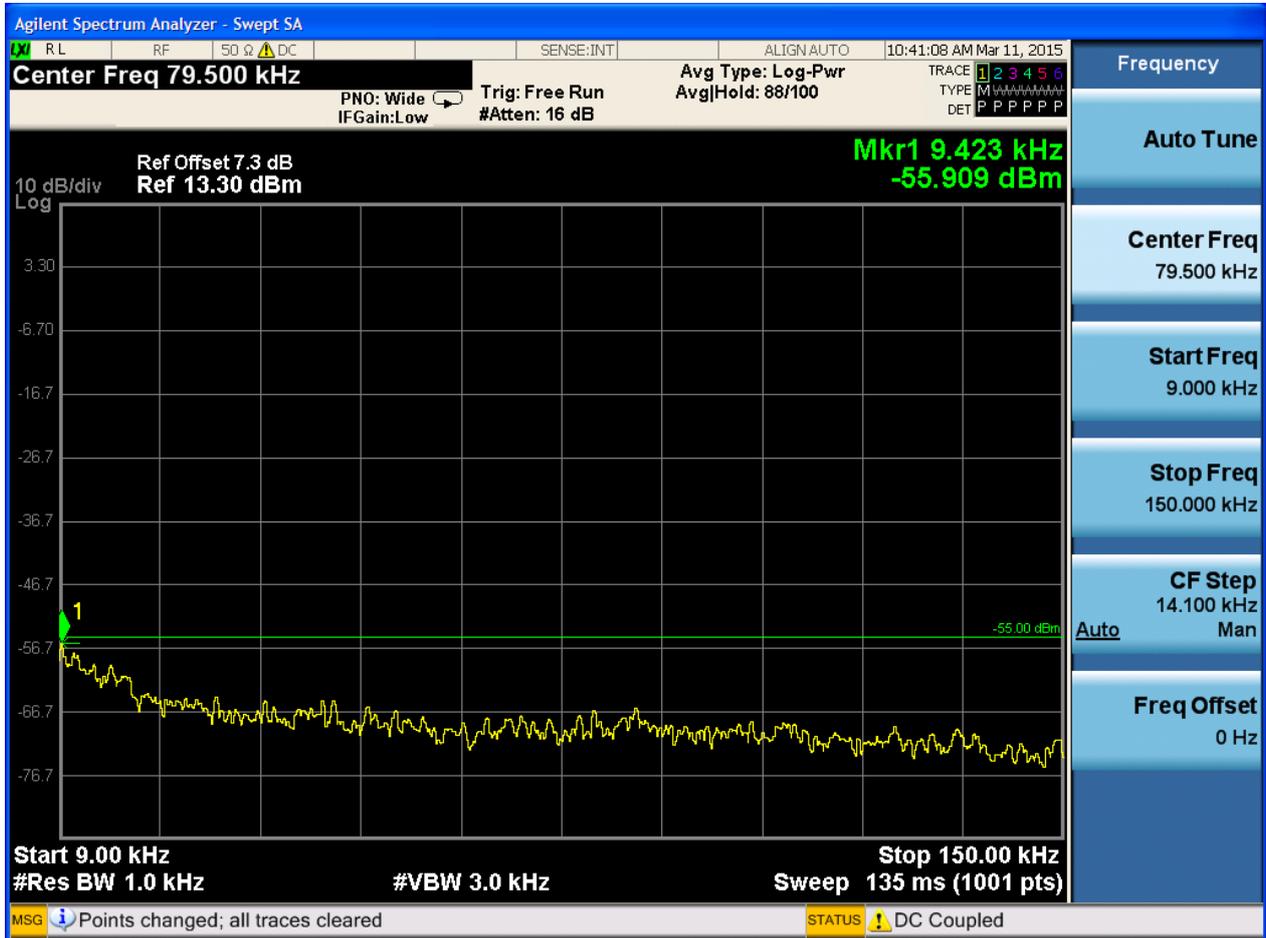






6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0









6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0

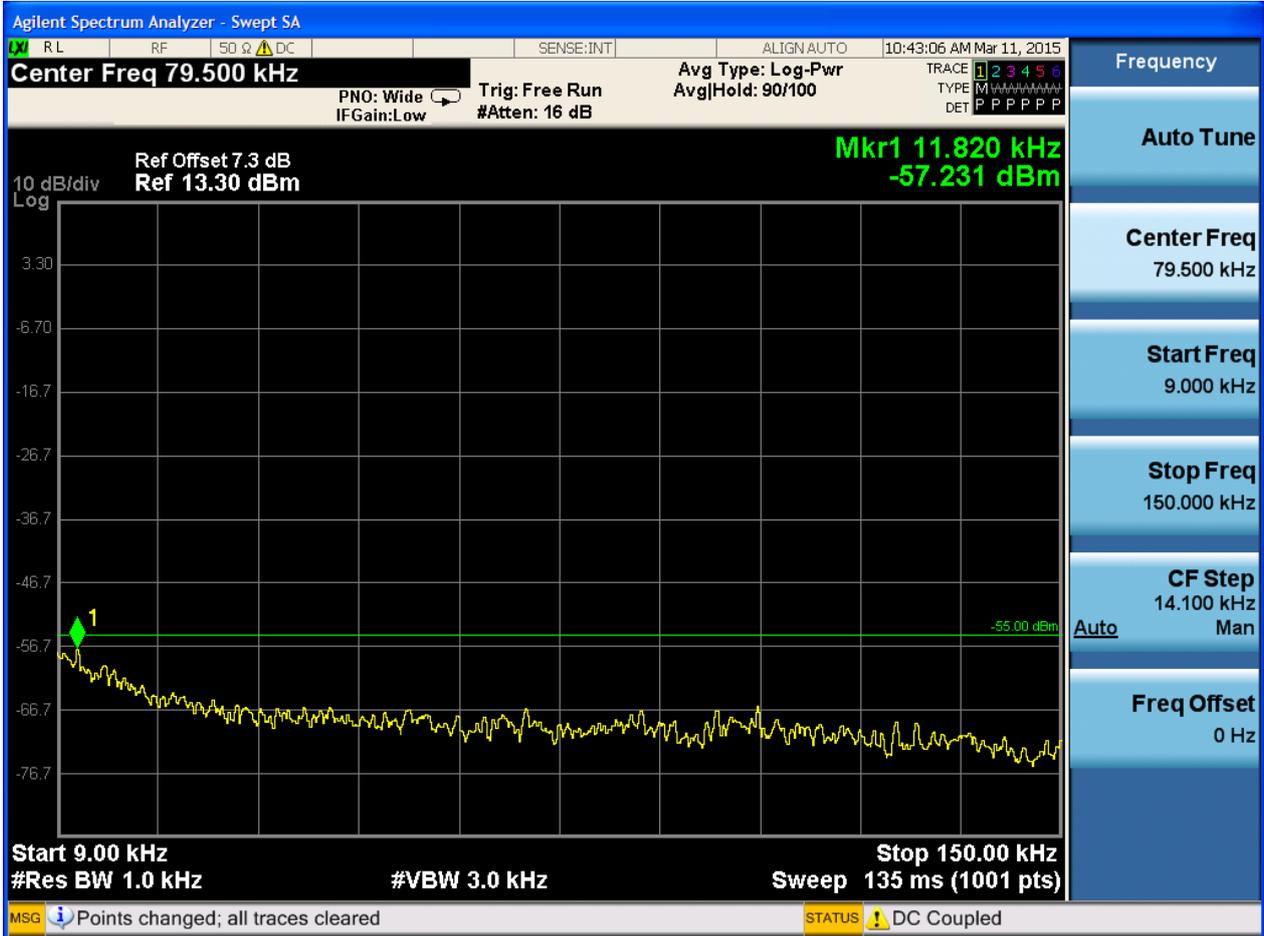


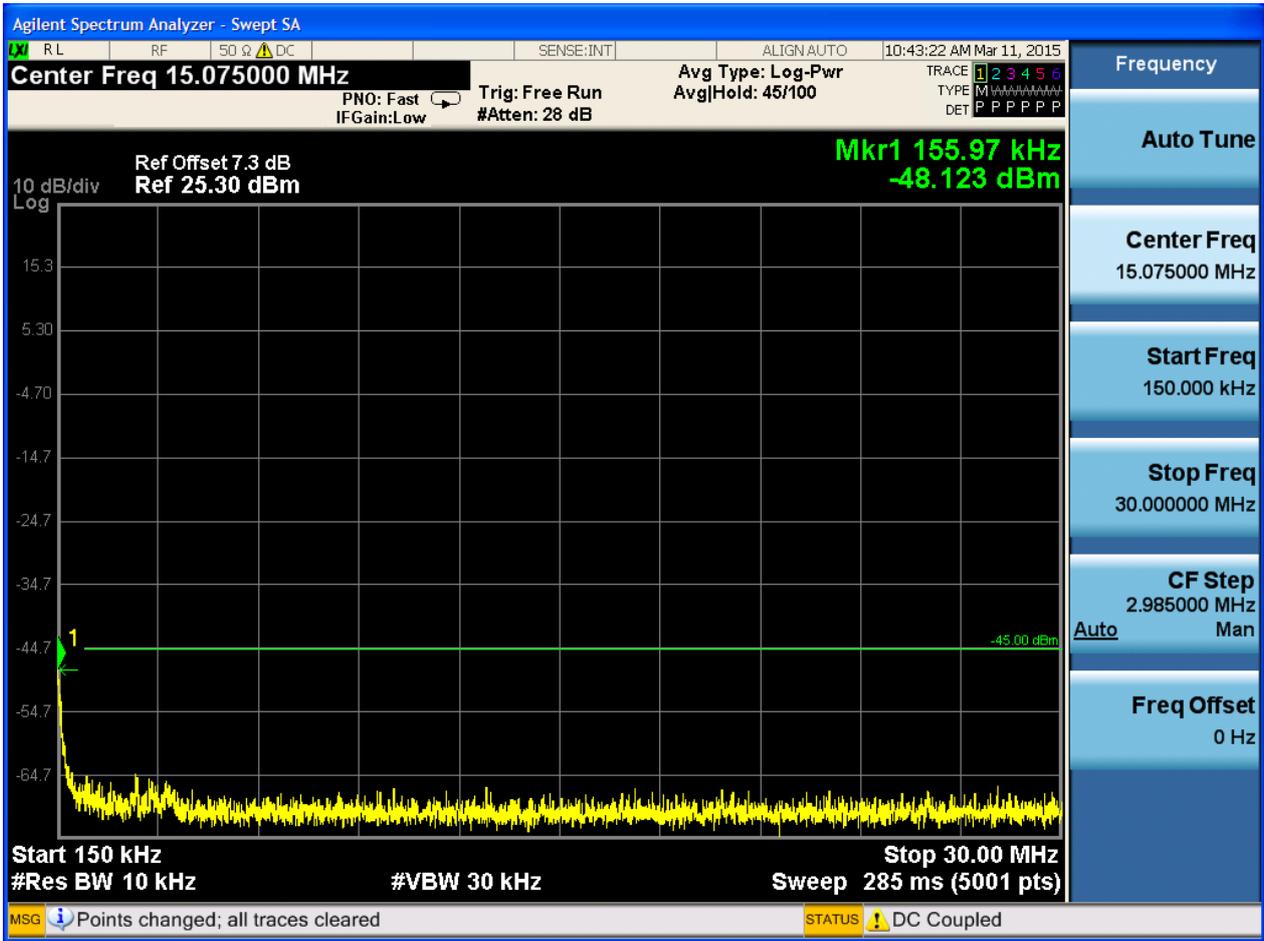


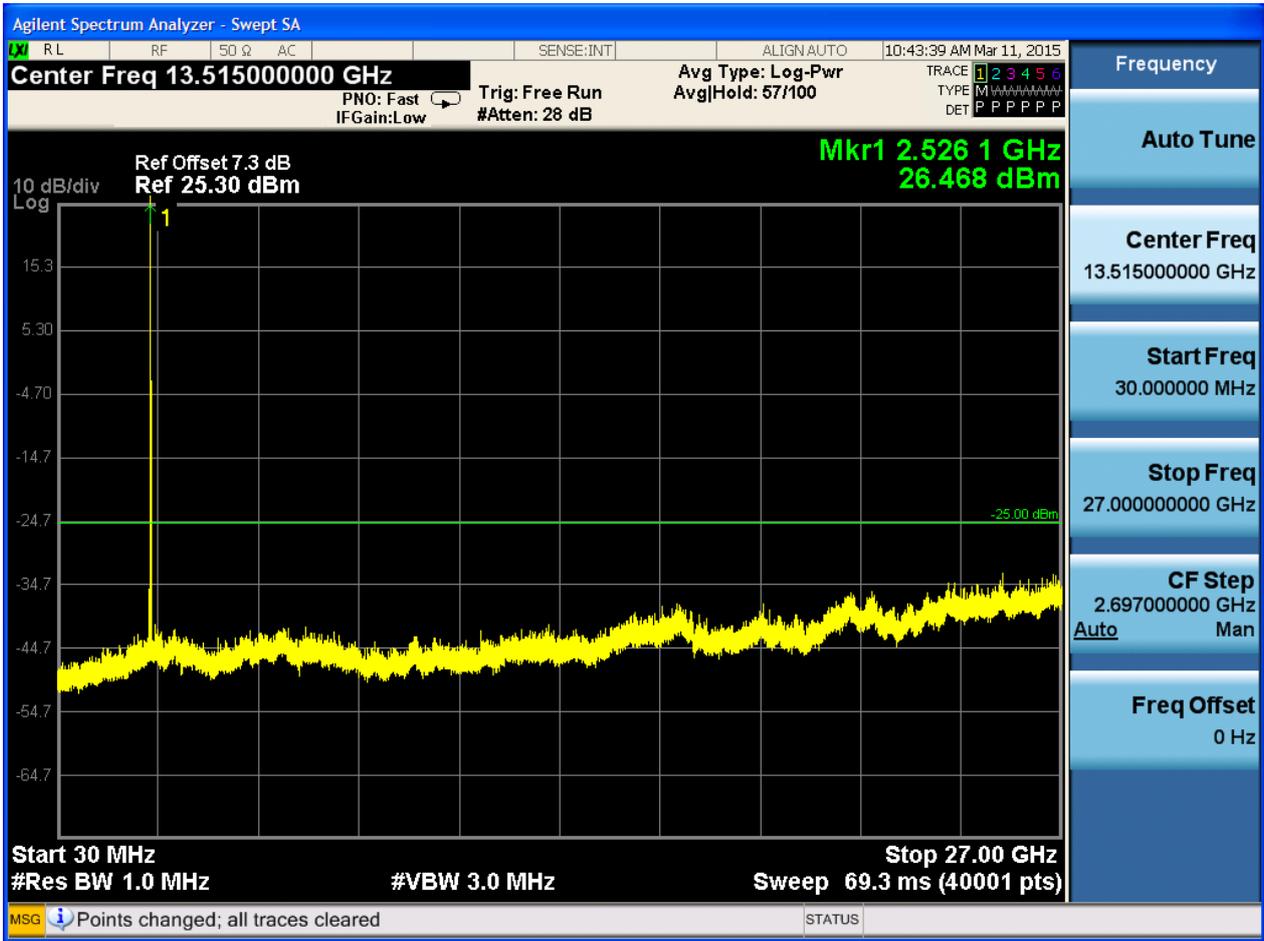


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0

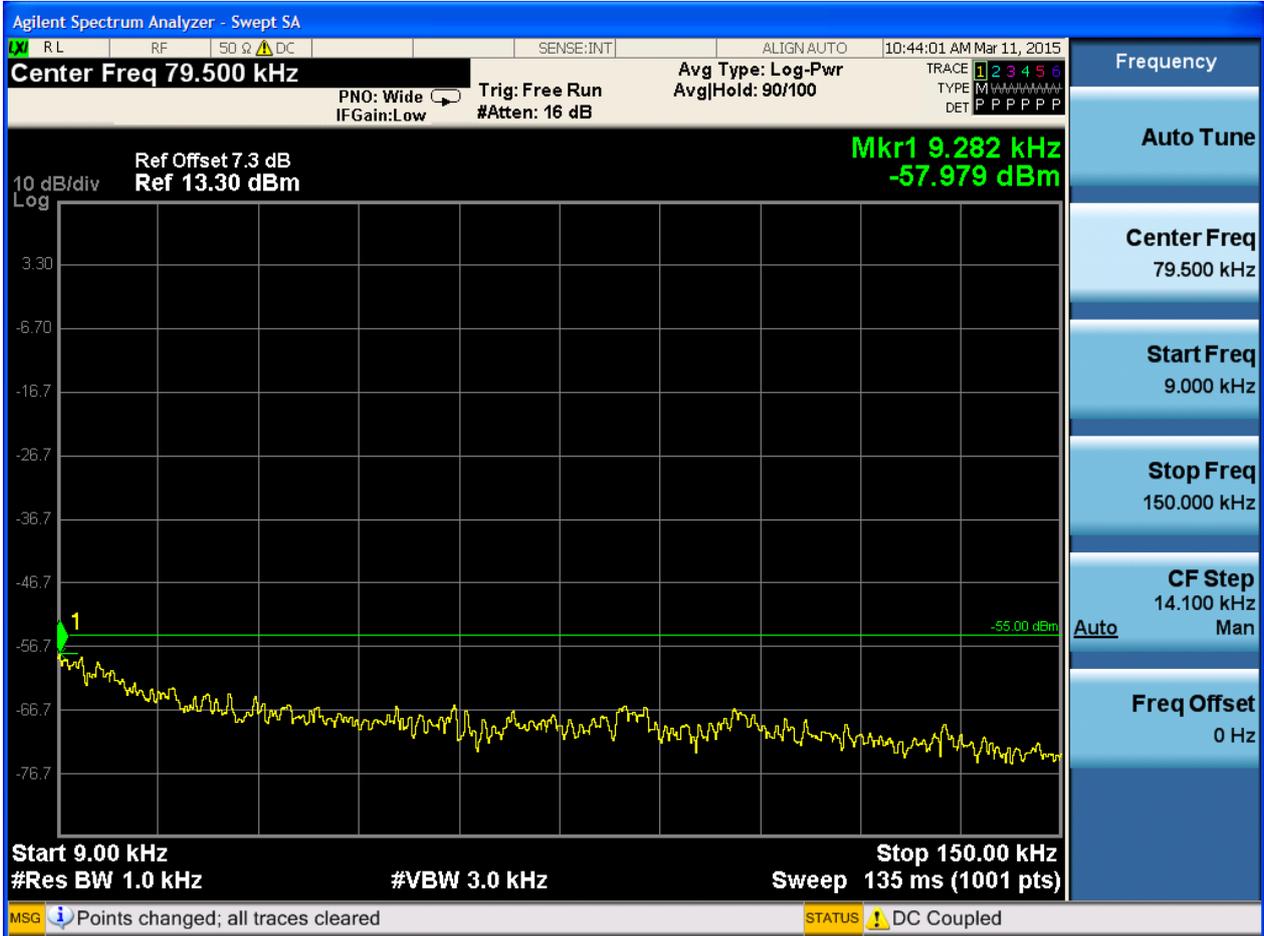


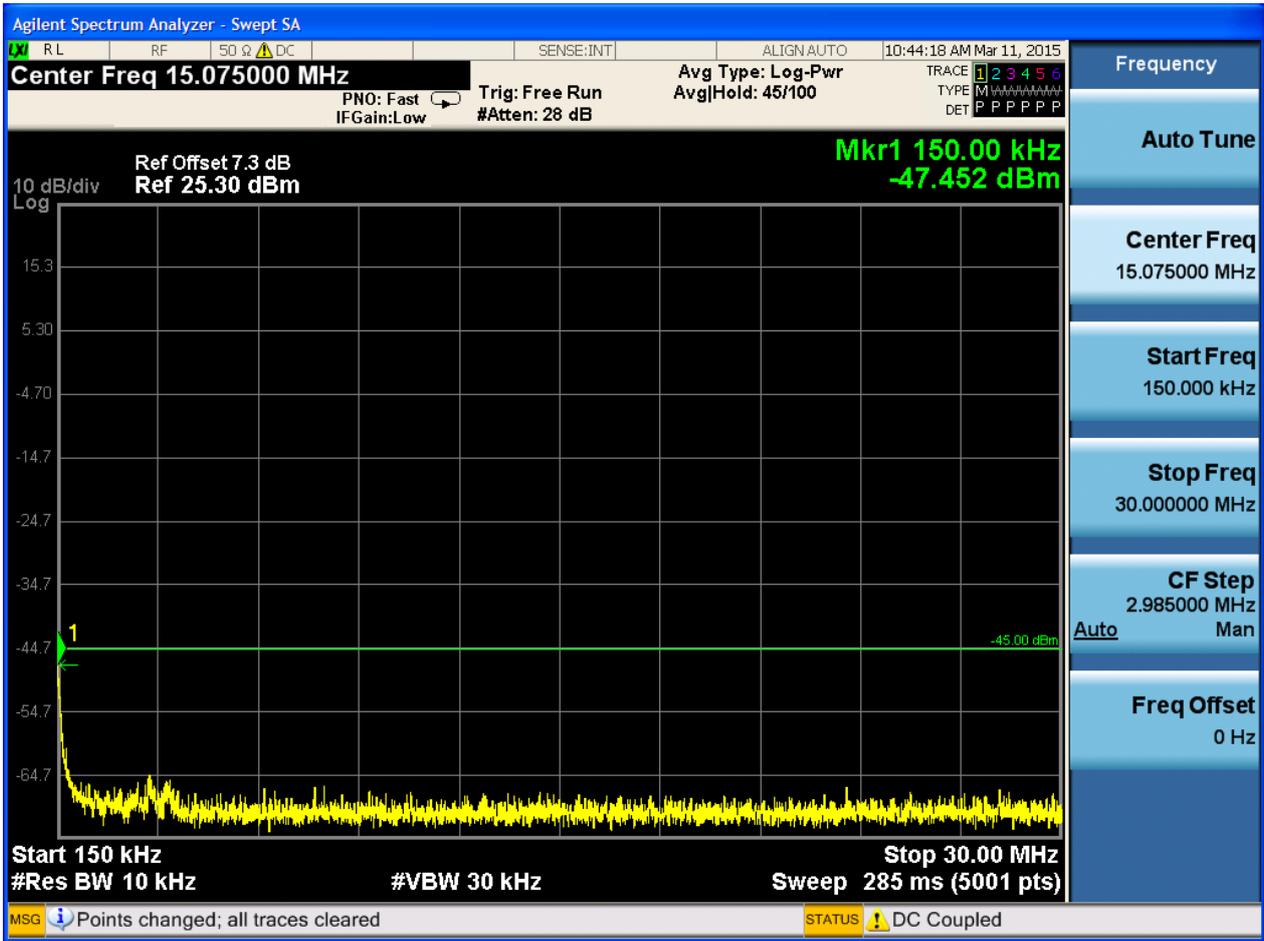




6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0





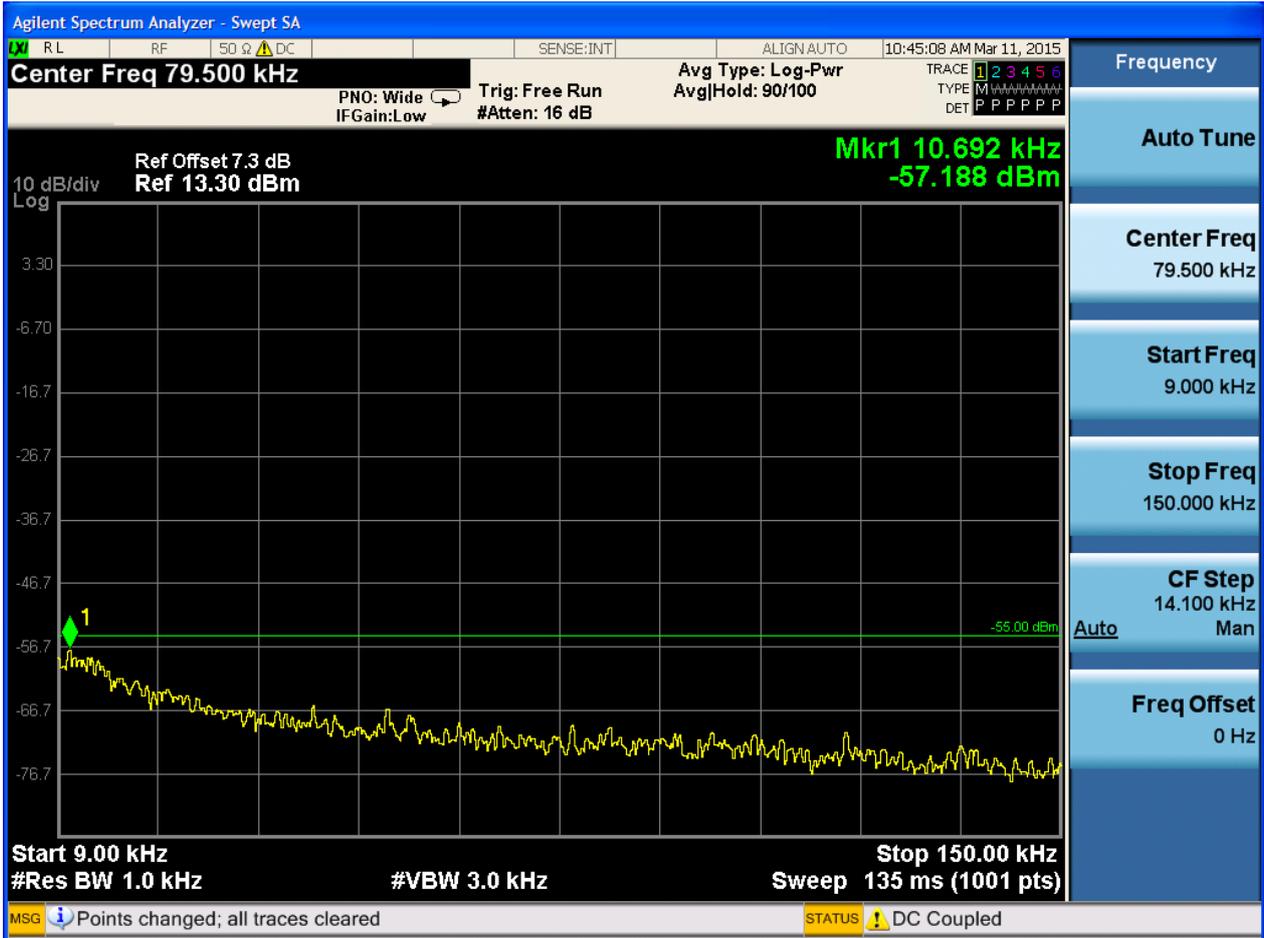


6.1.1.2 Test Mode = LTE/TM2

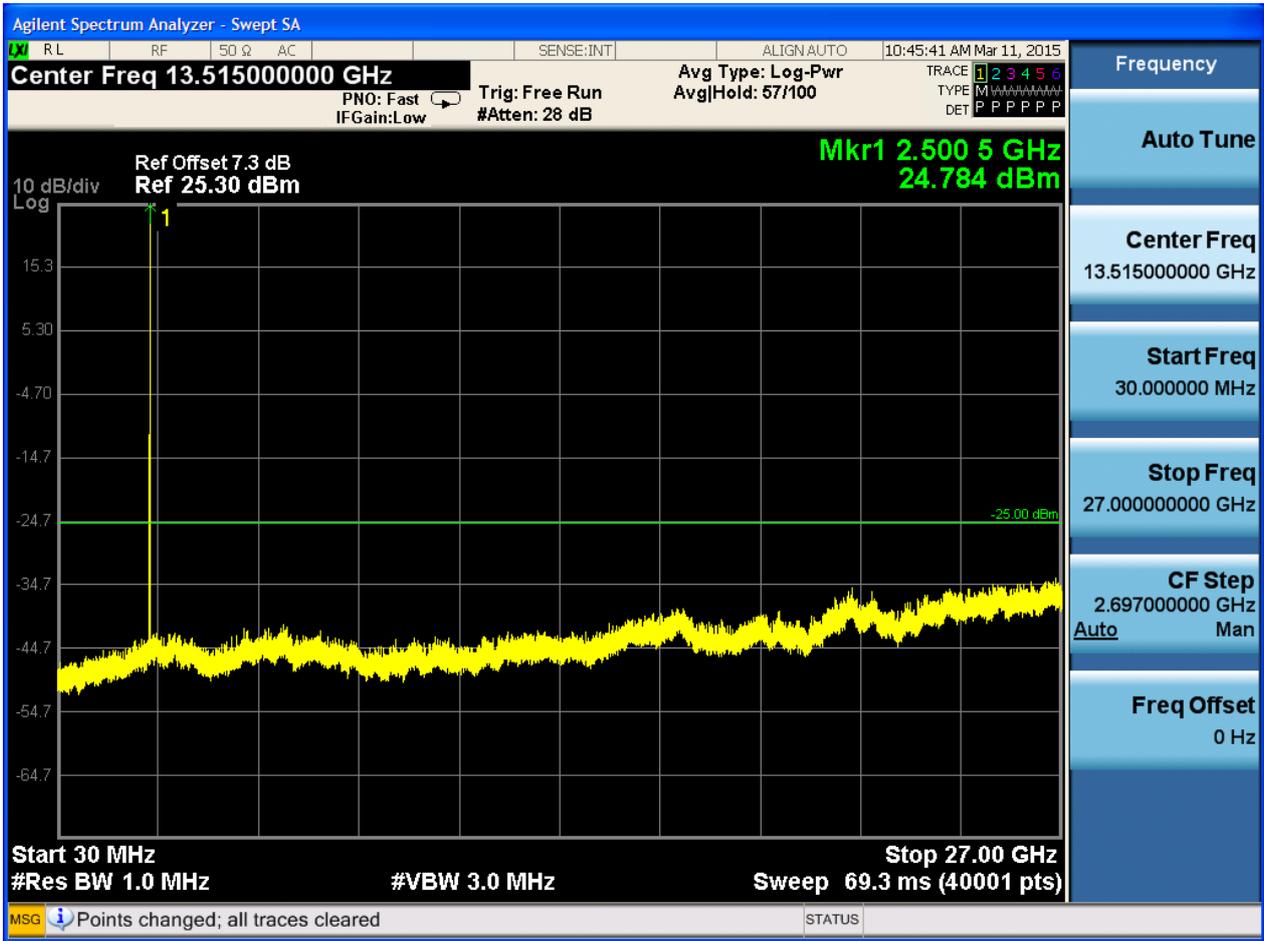
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0

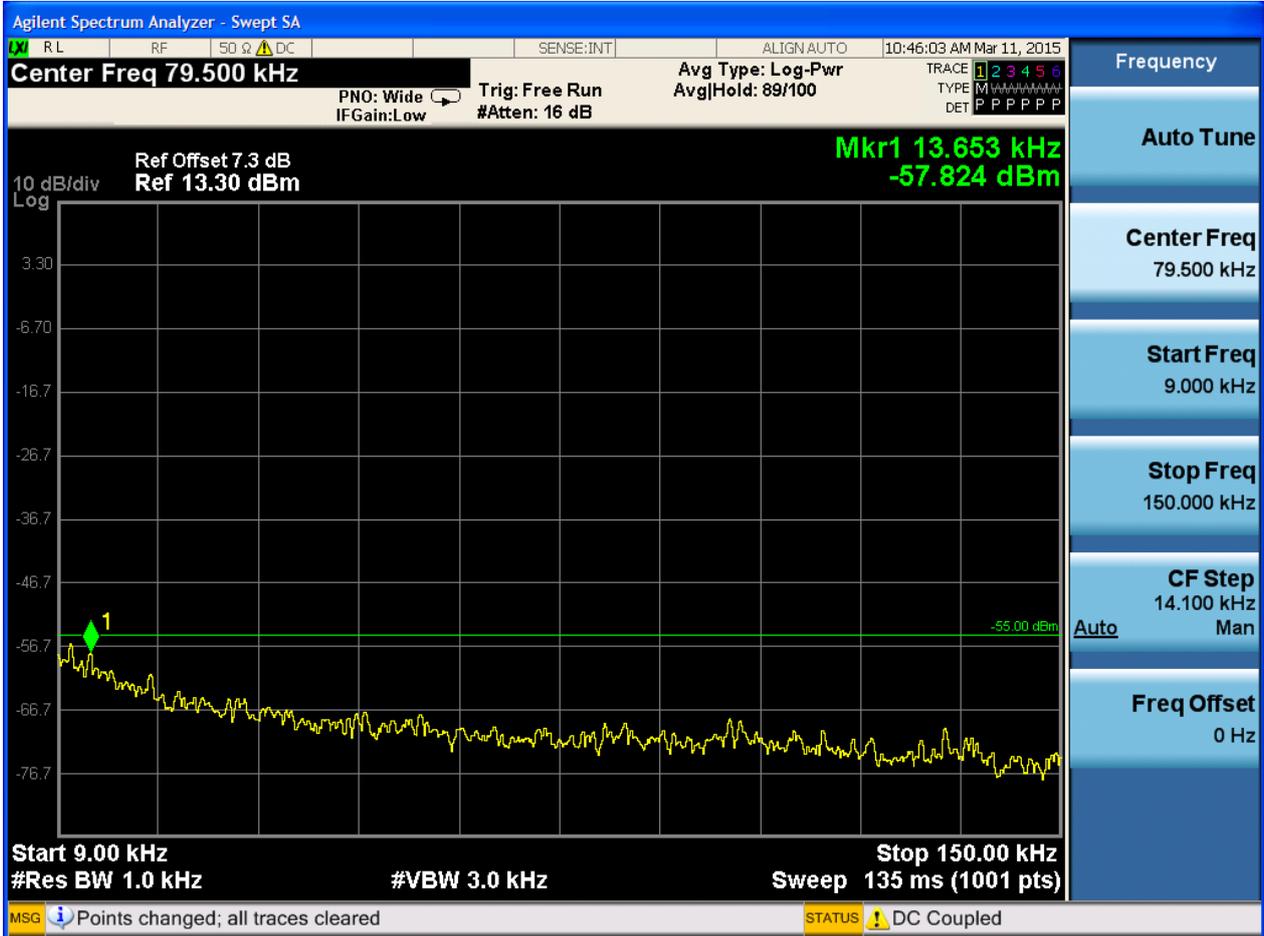


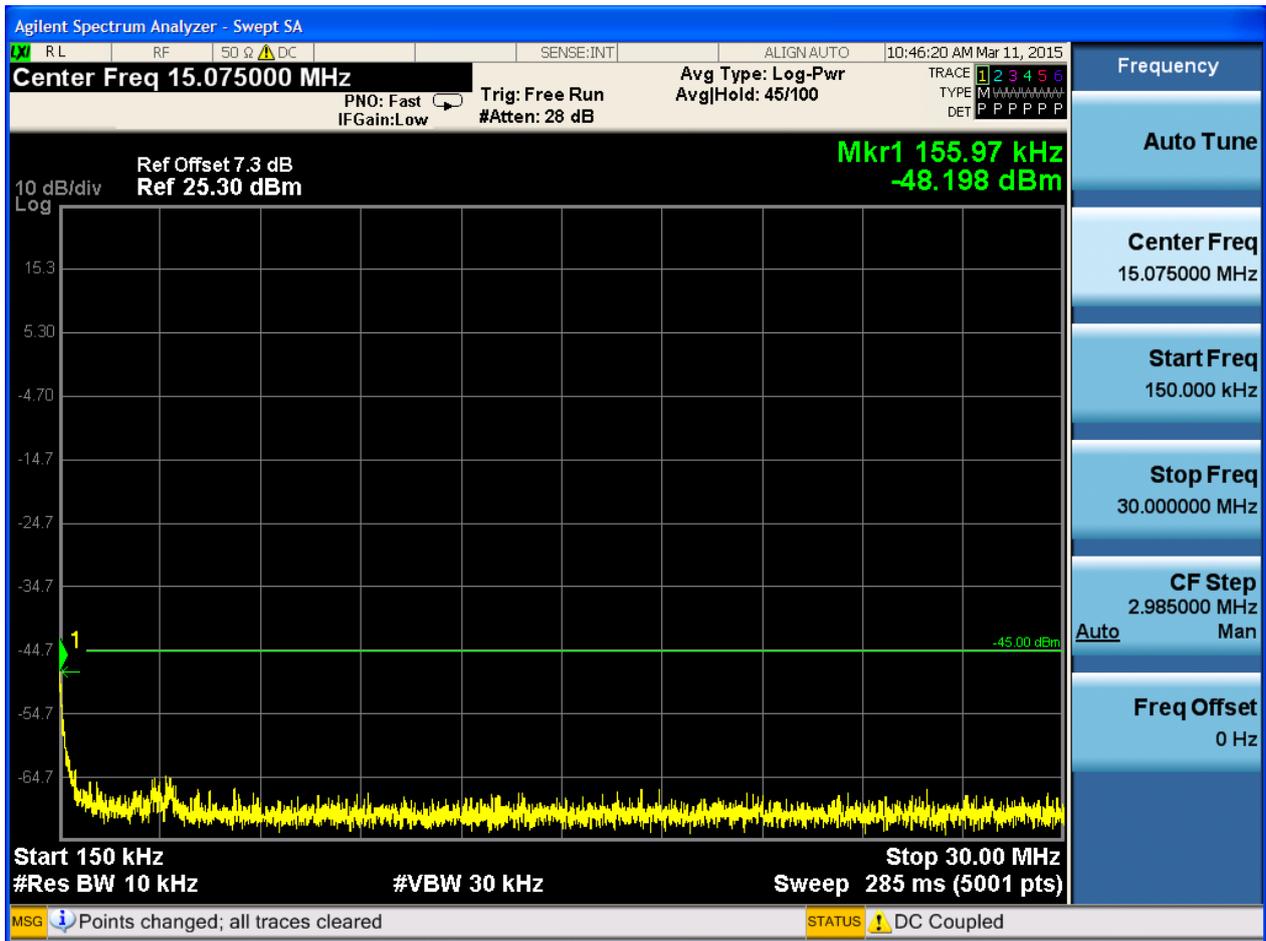


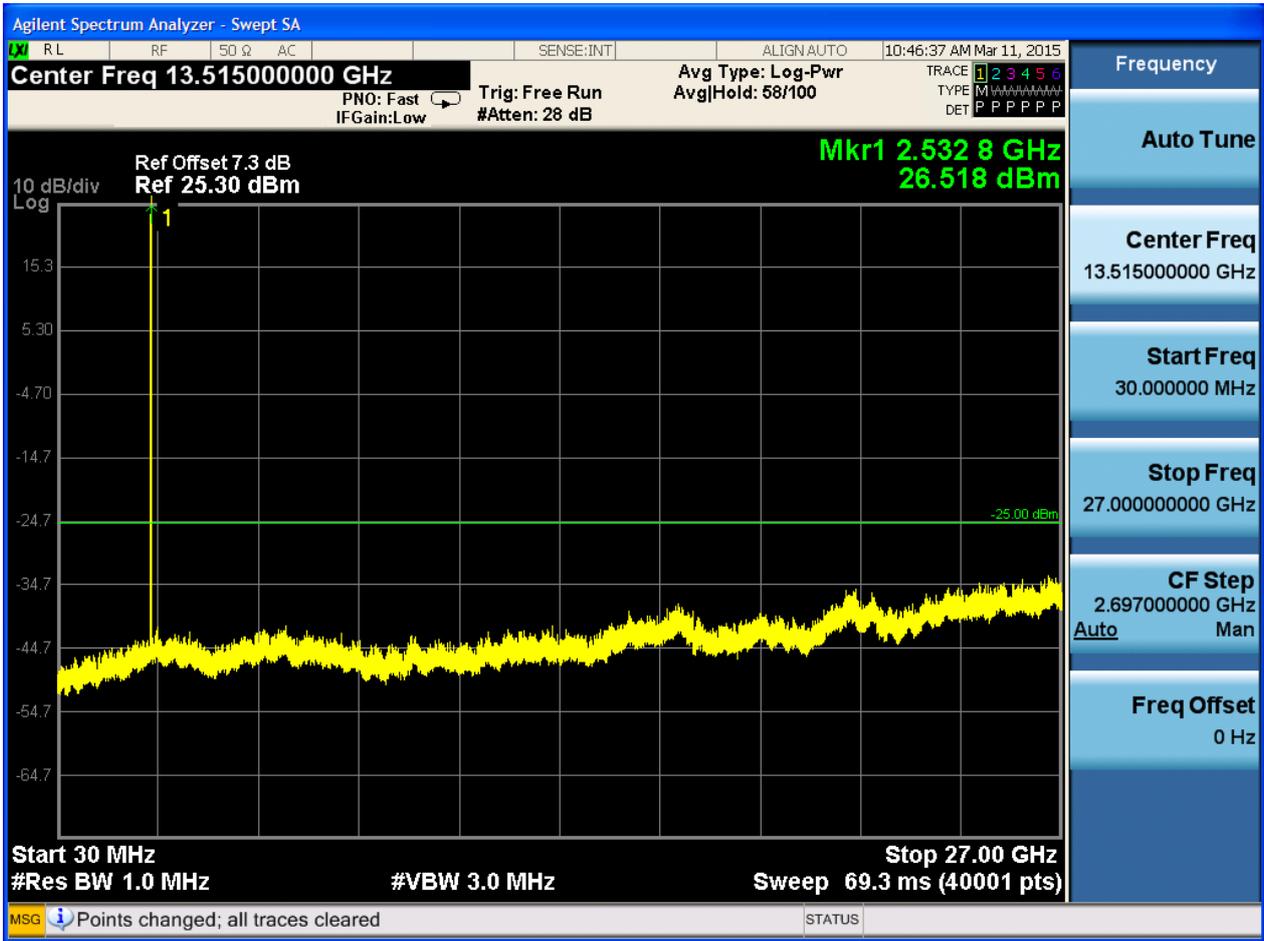


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0



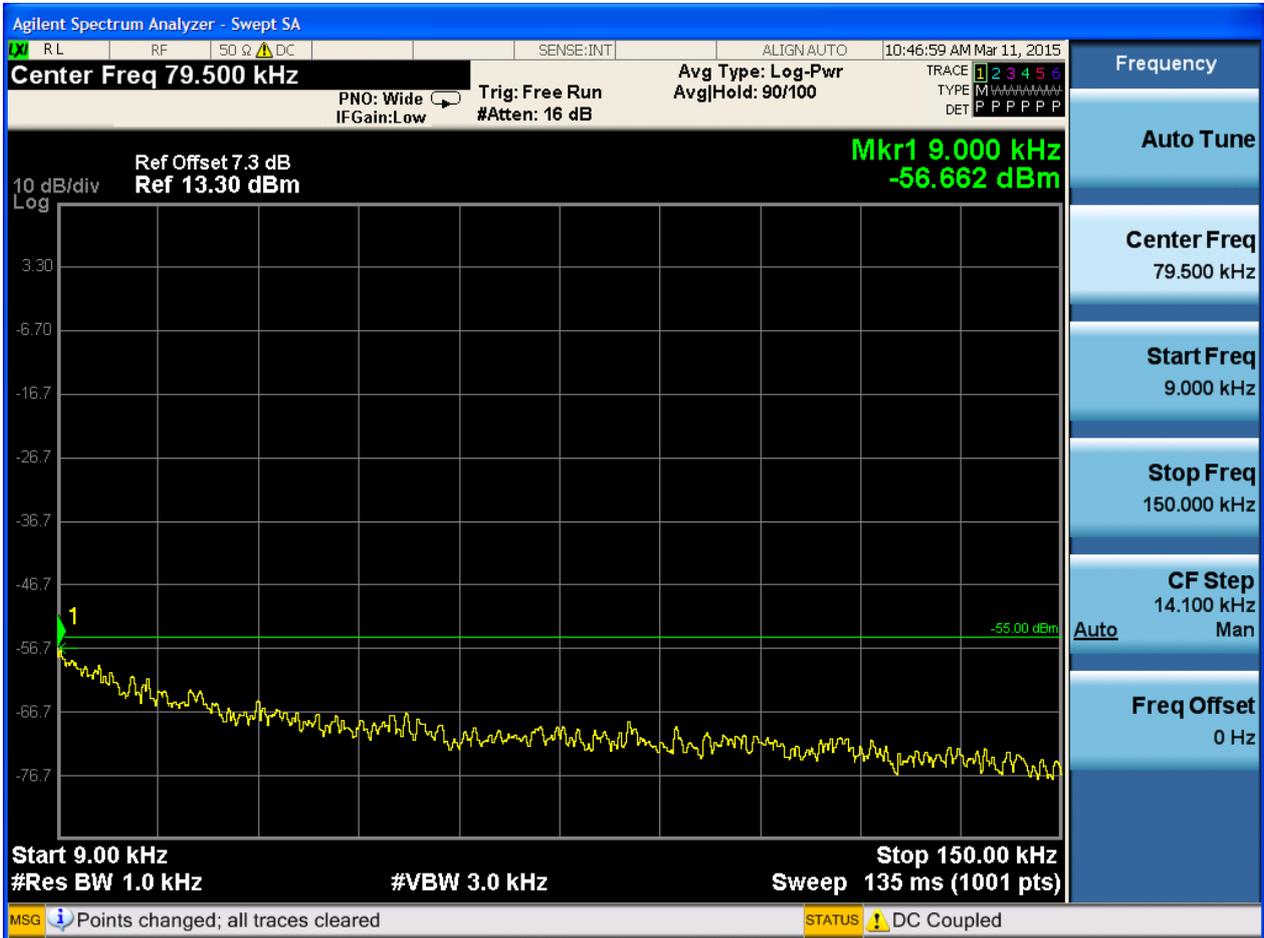


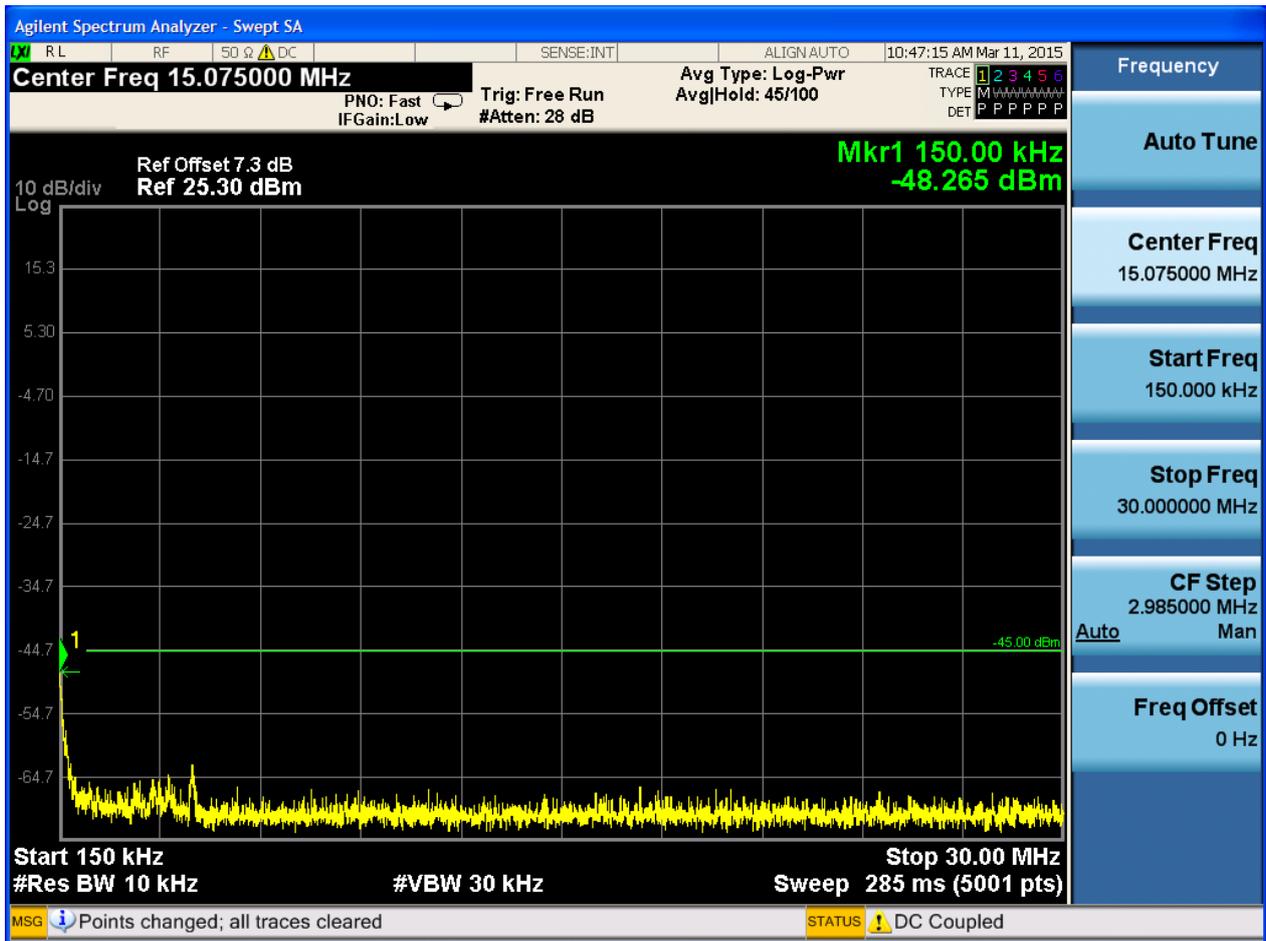


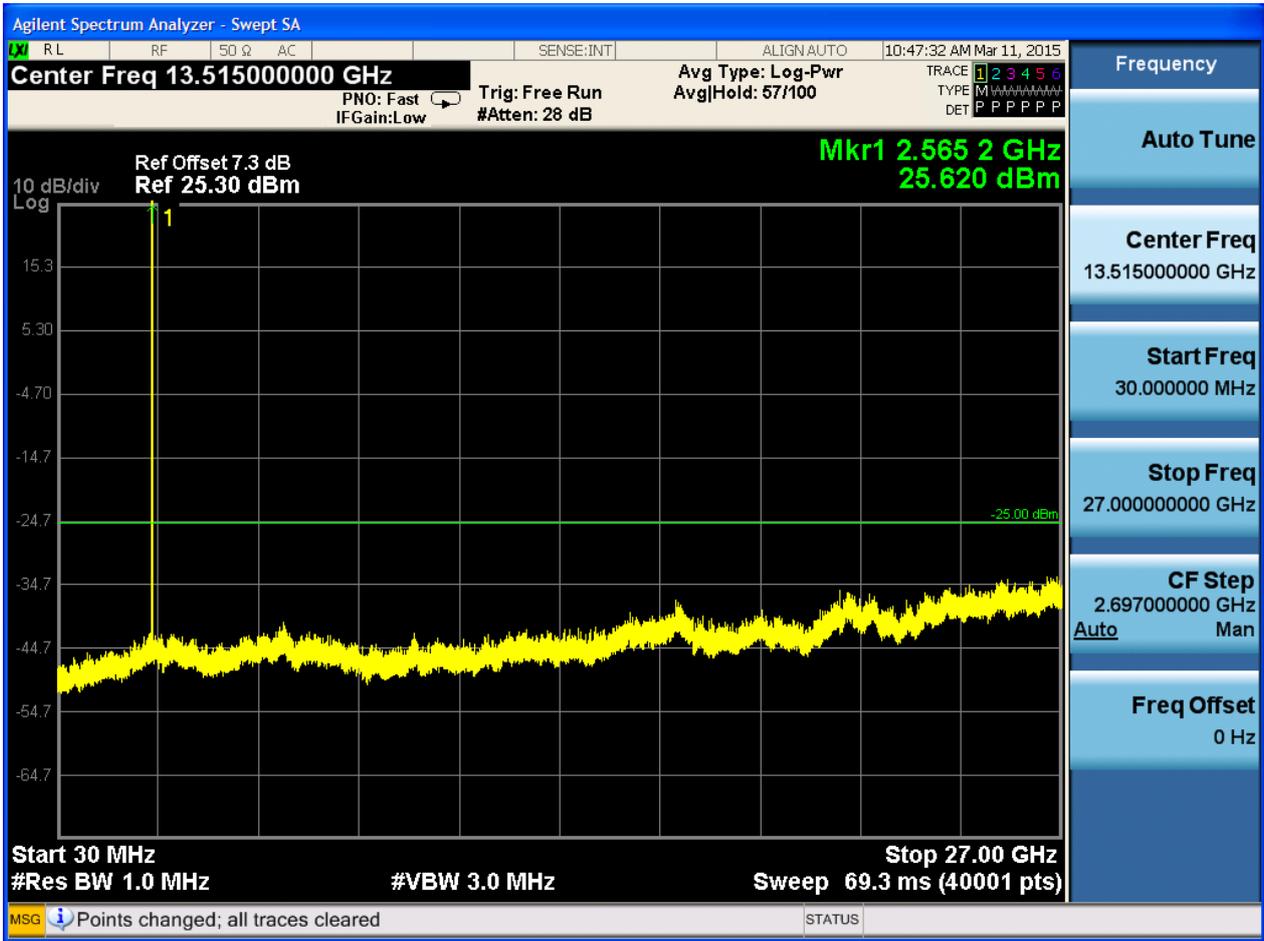


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0









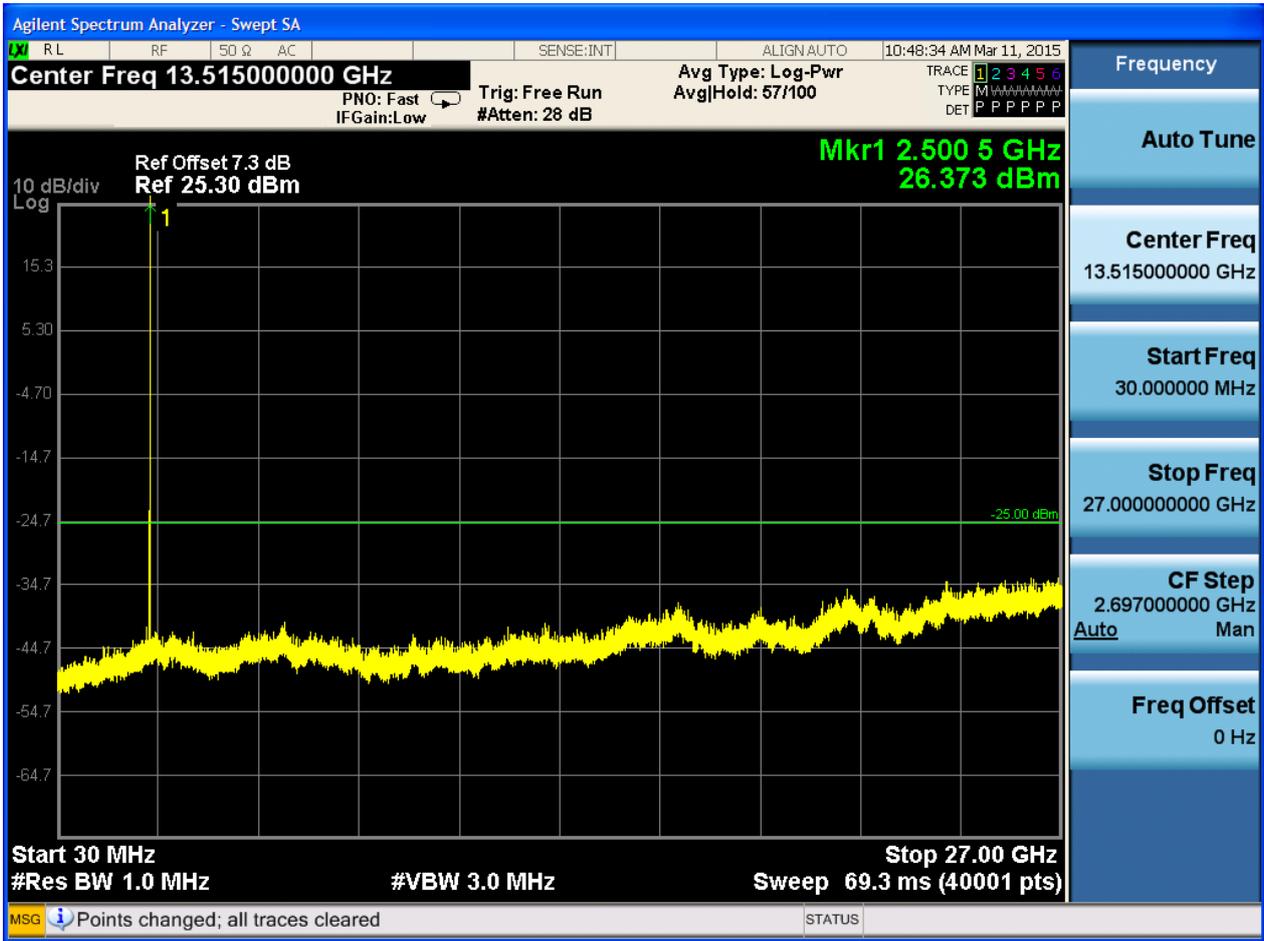
6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0



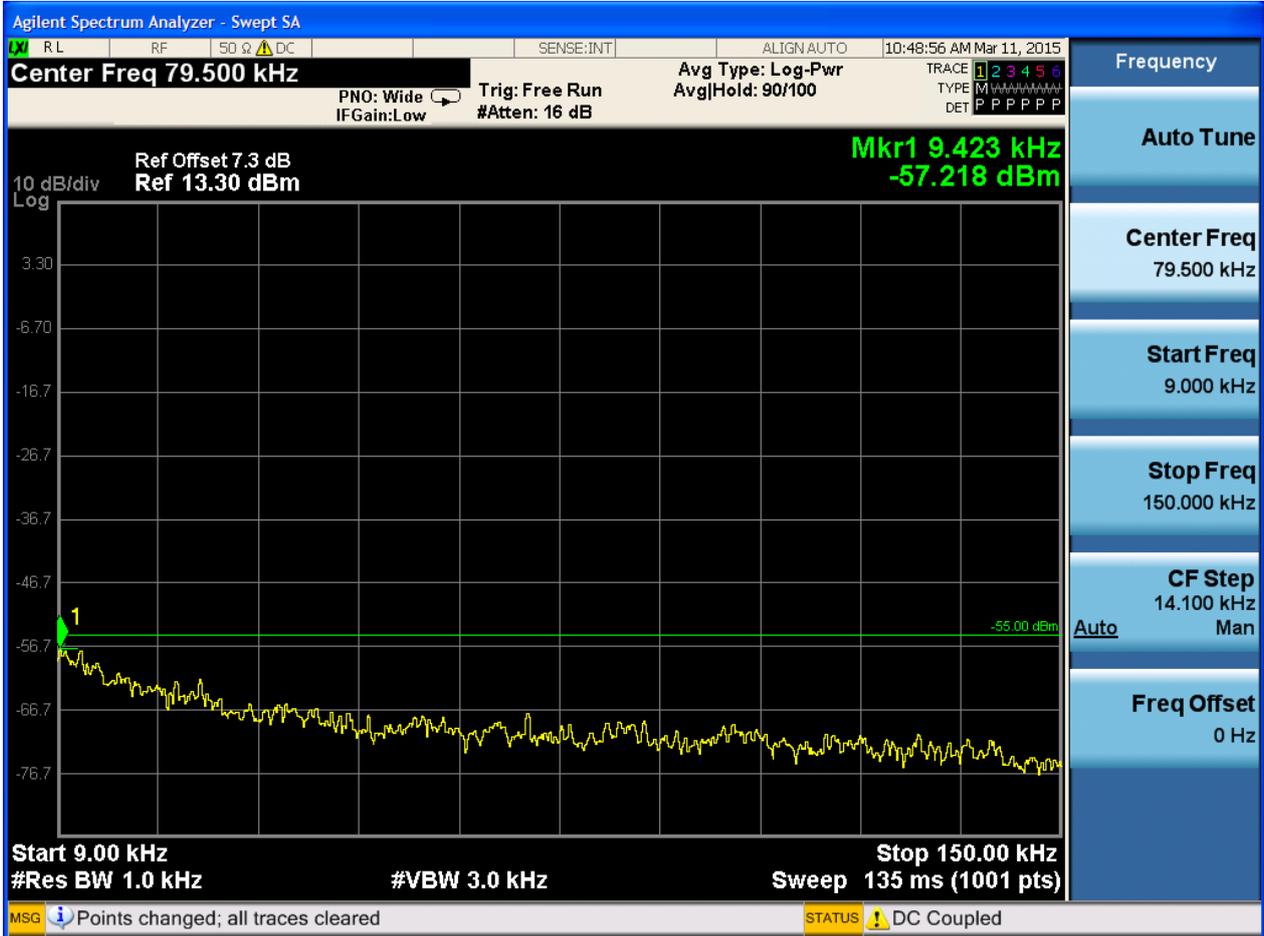


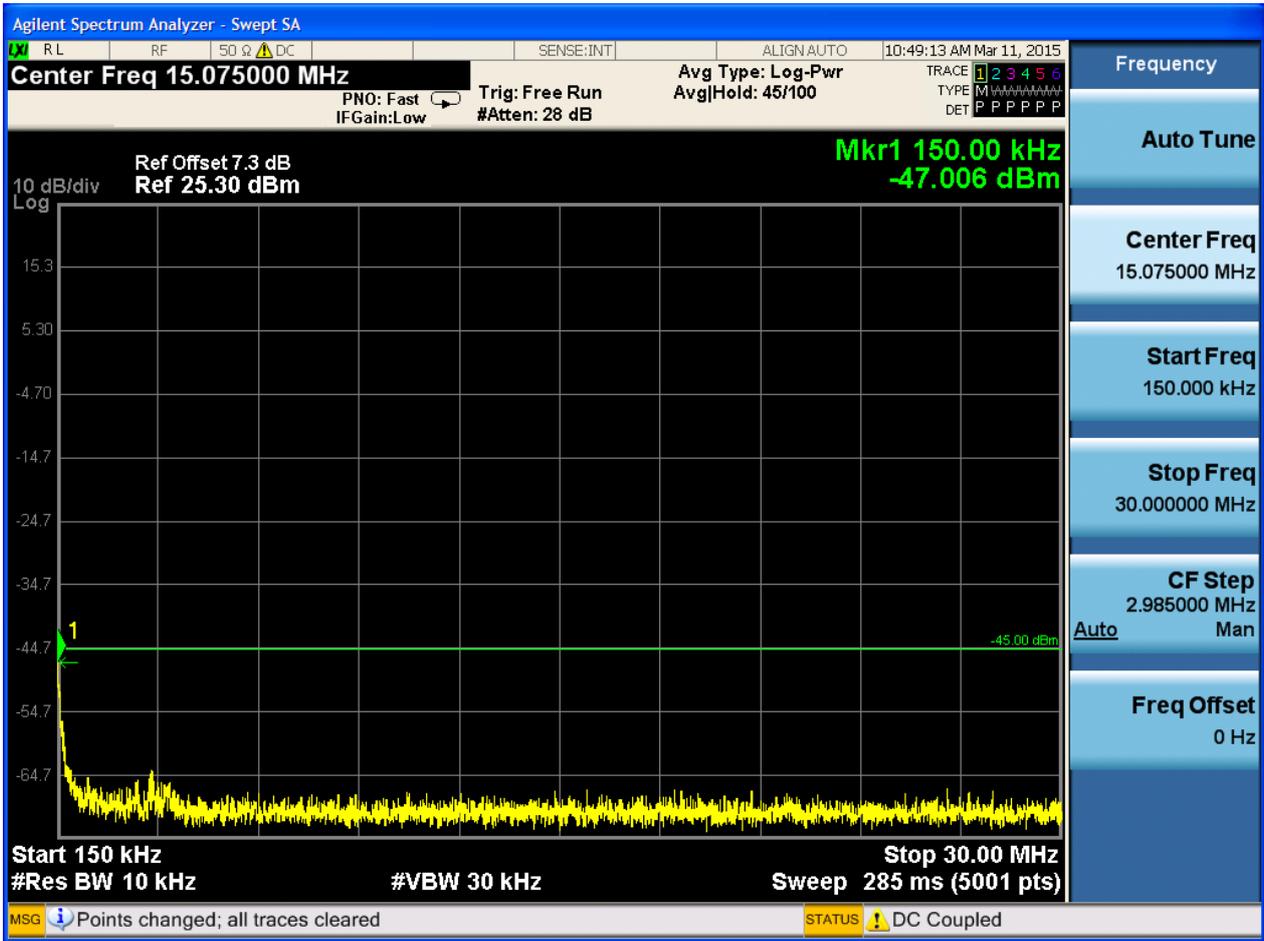




6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0



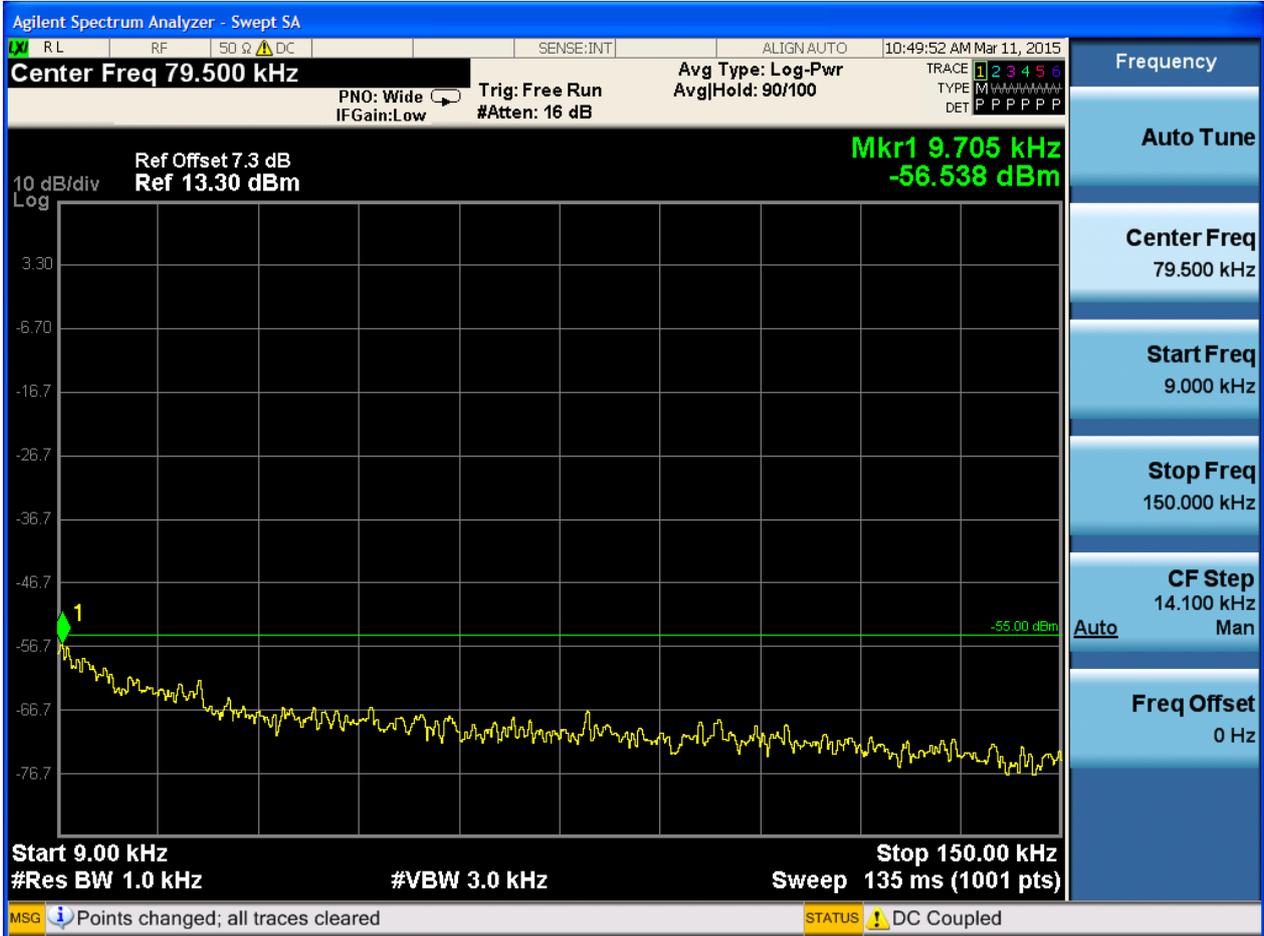


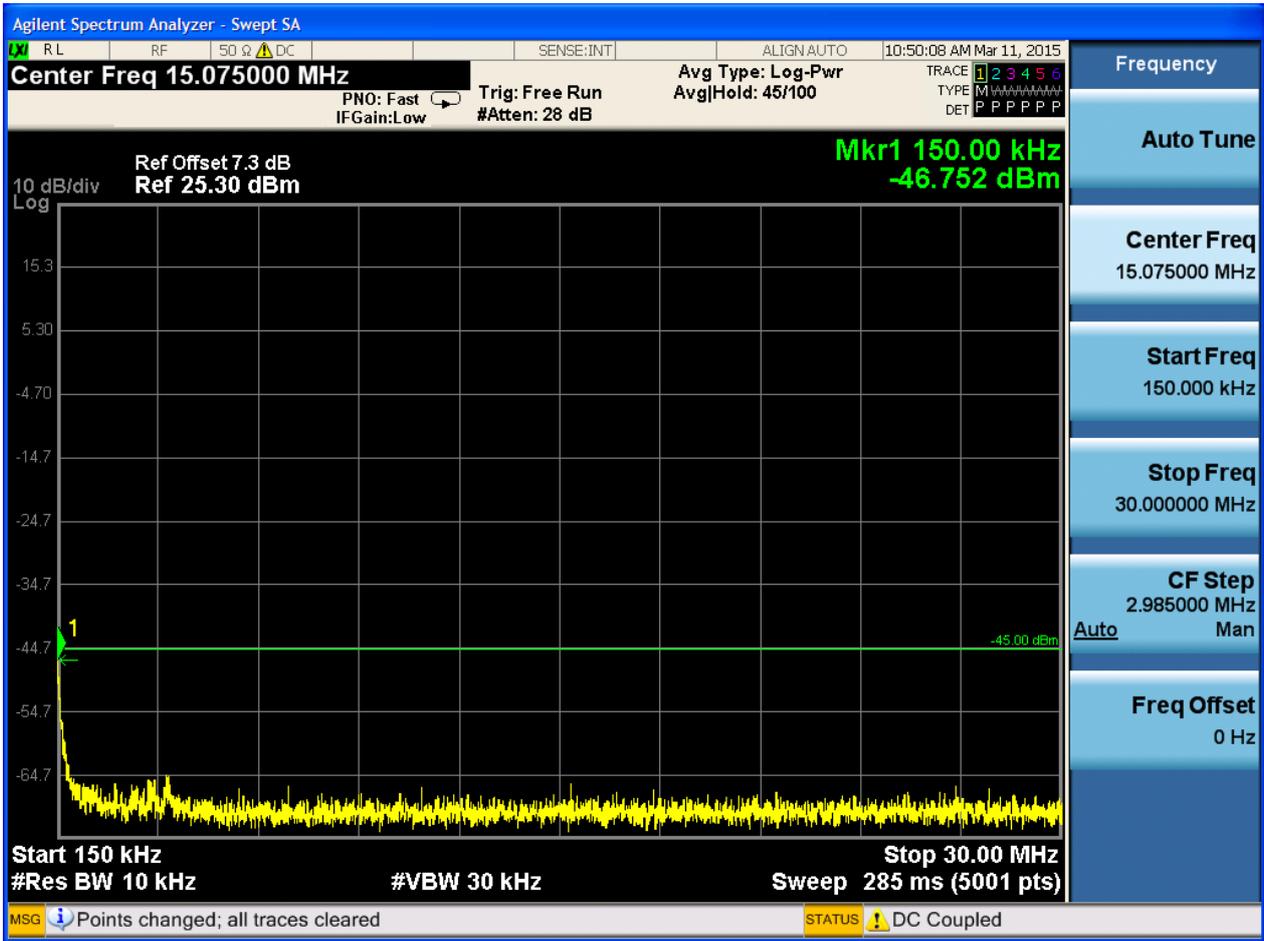


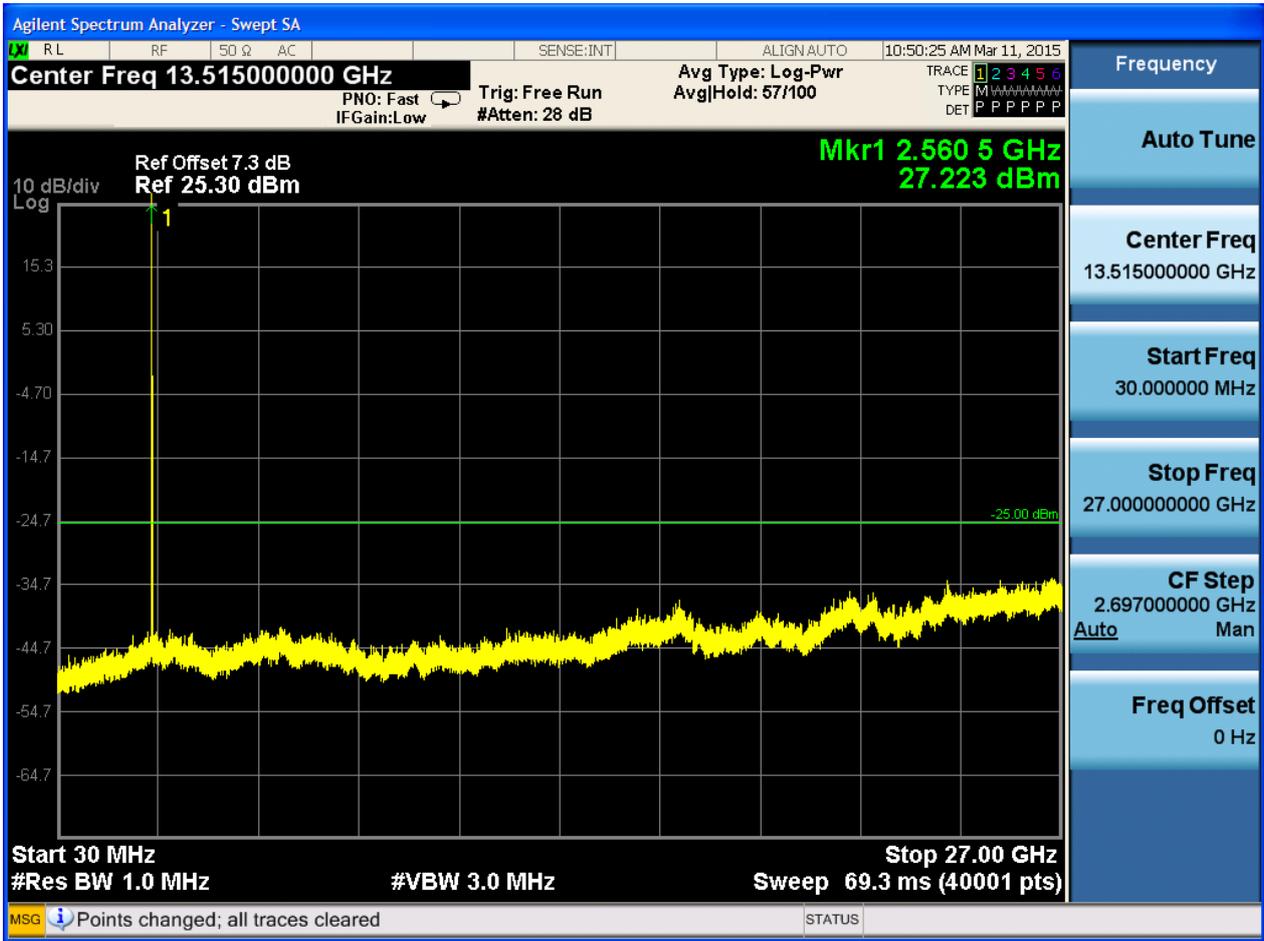


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0





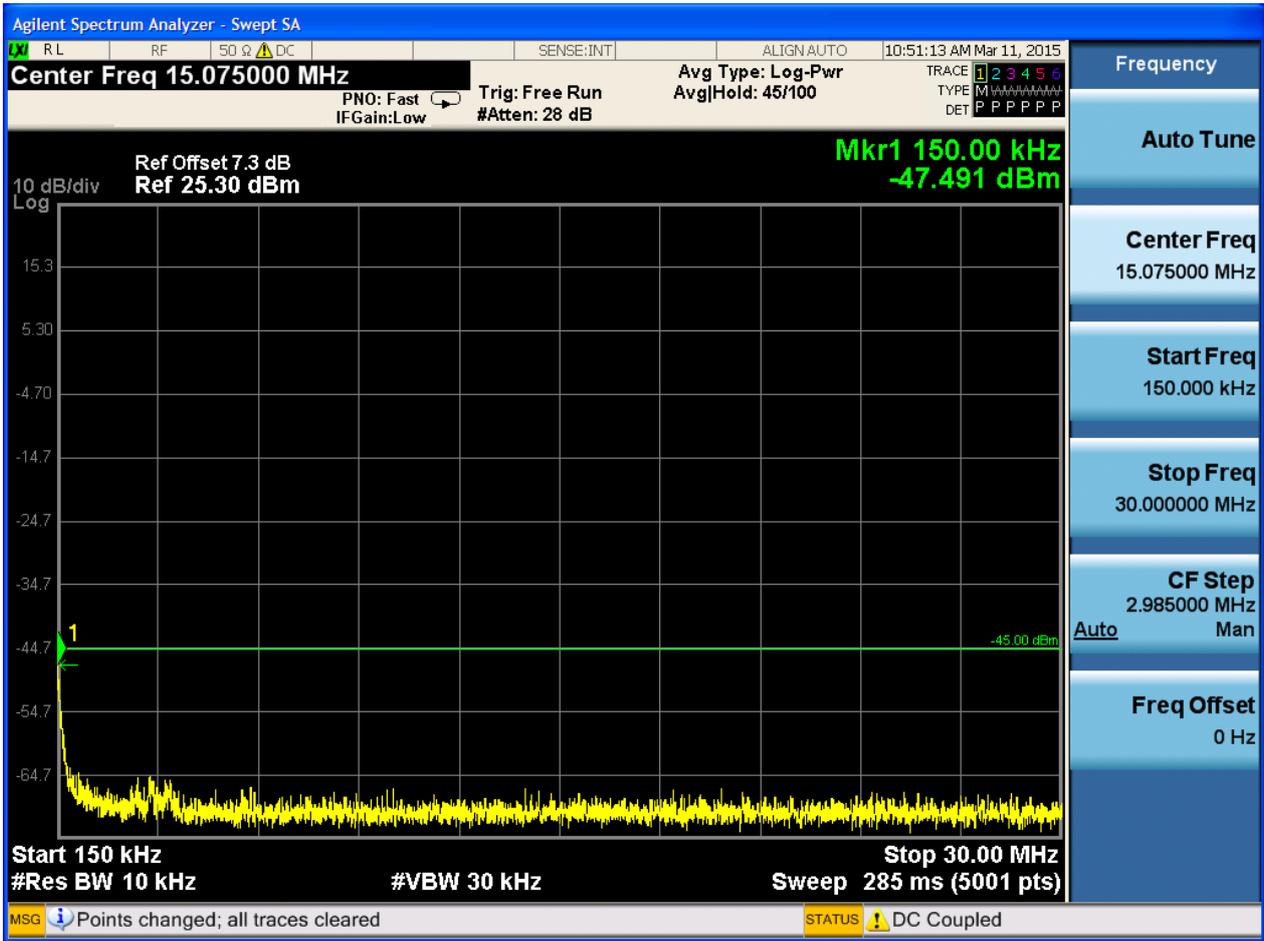


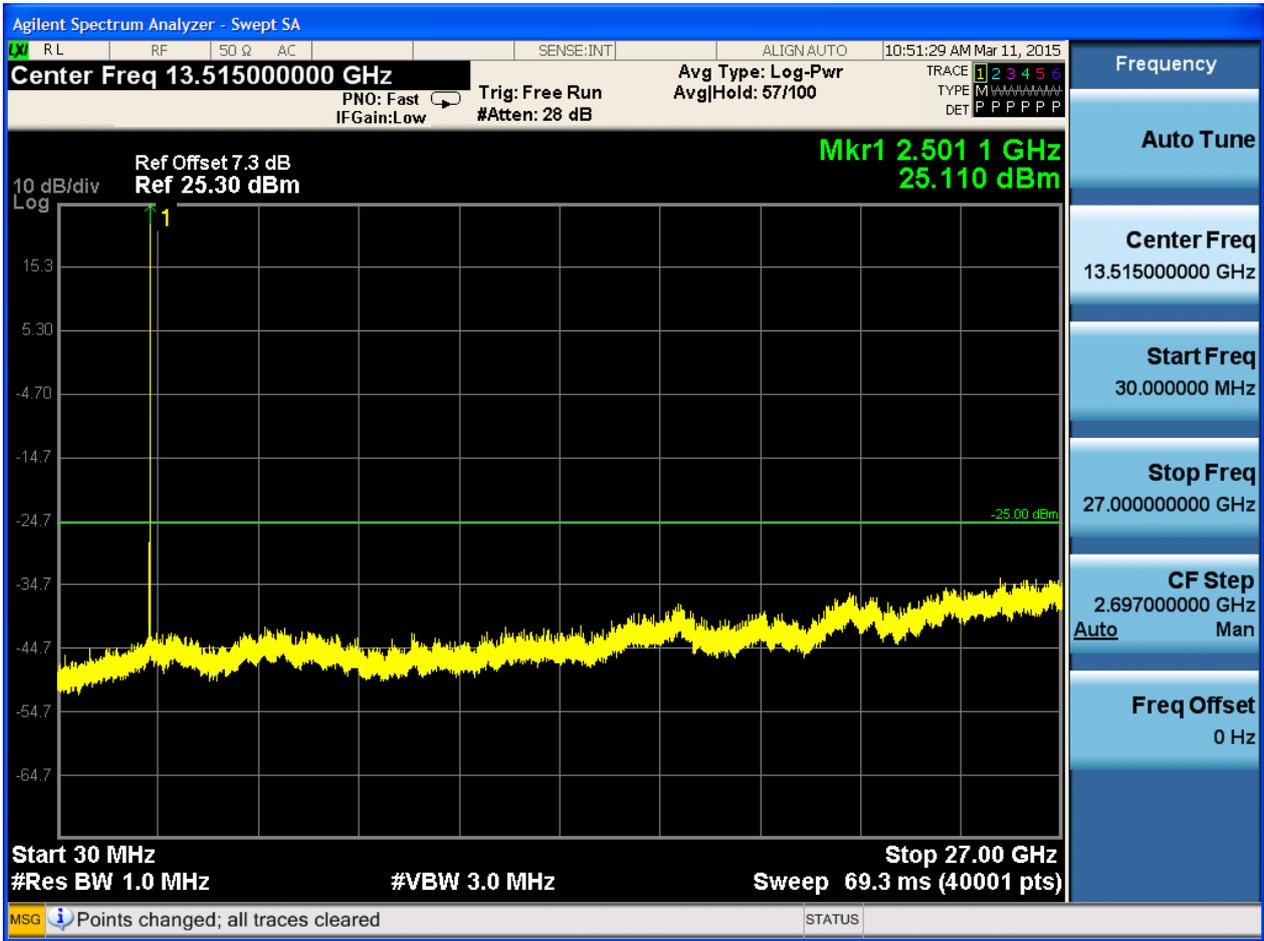
6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0



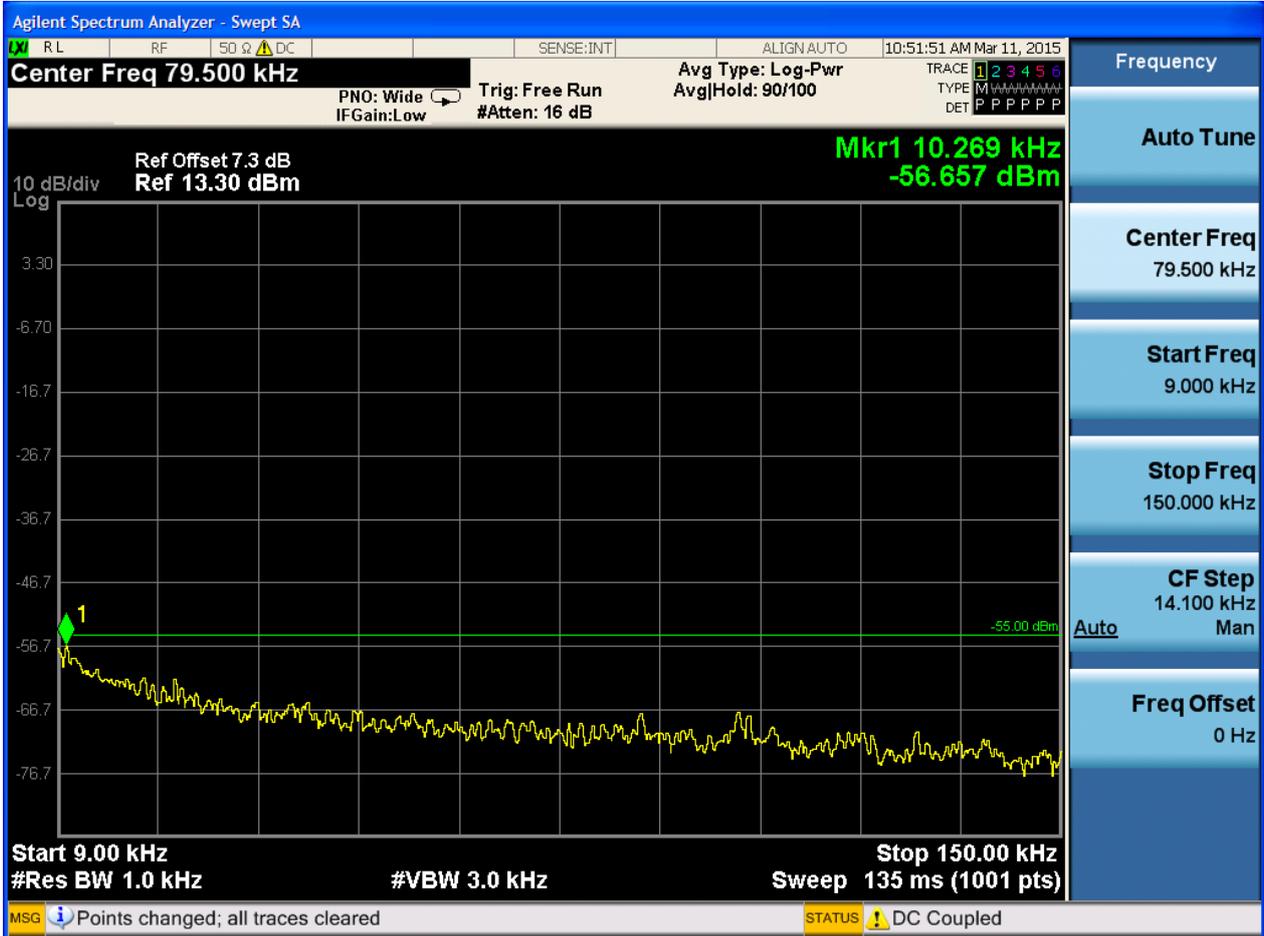


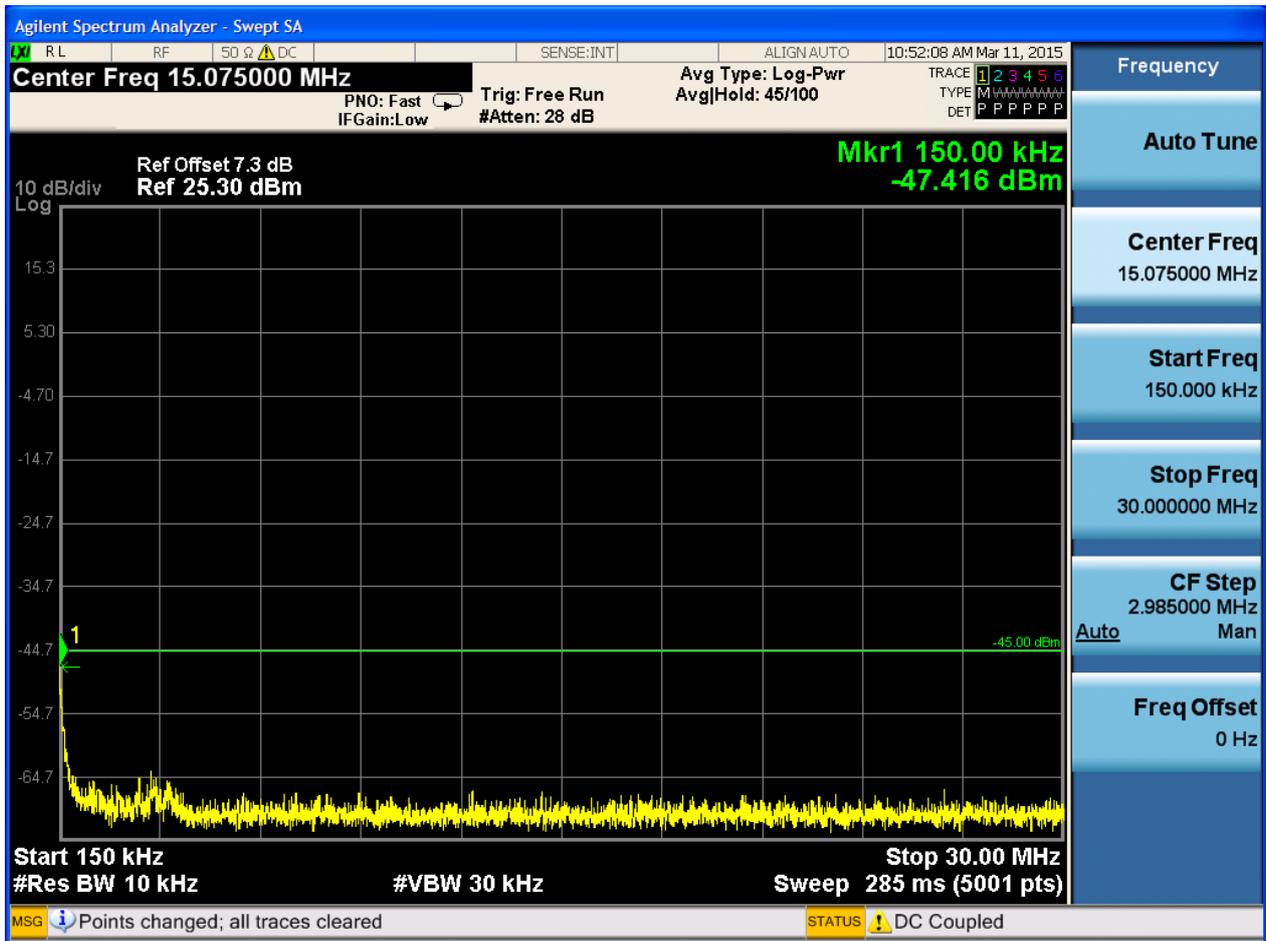


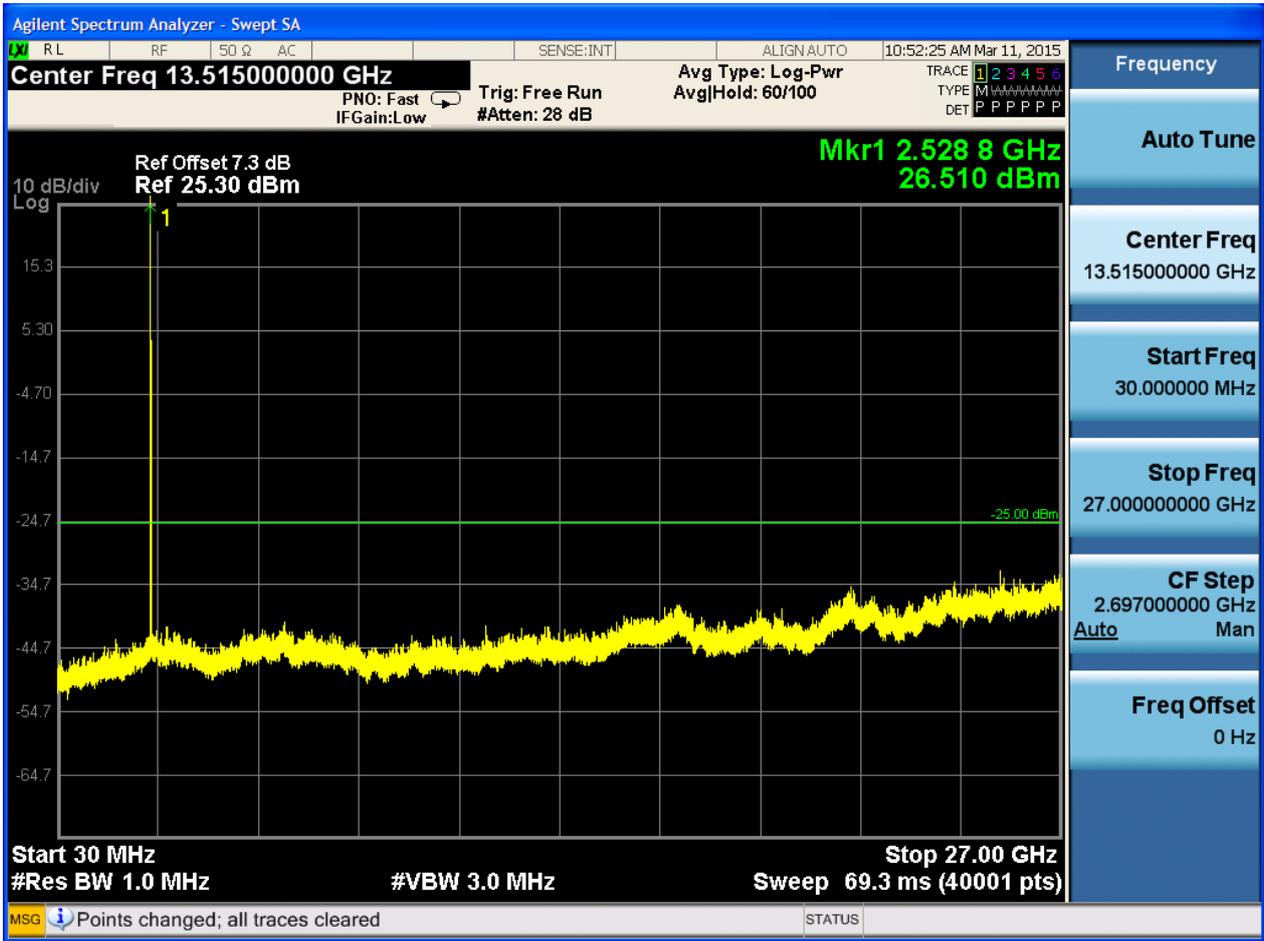


6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



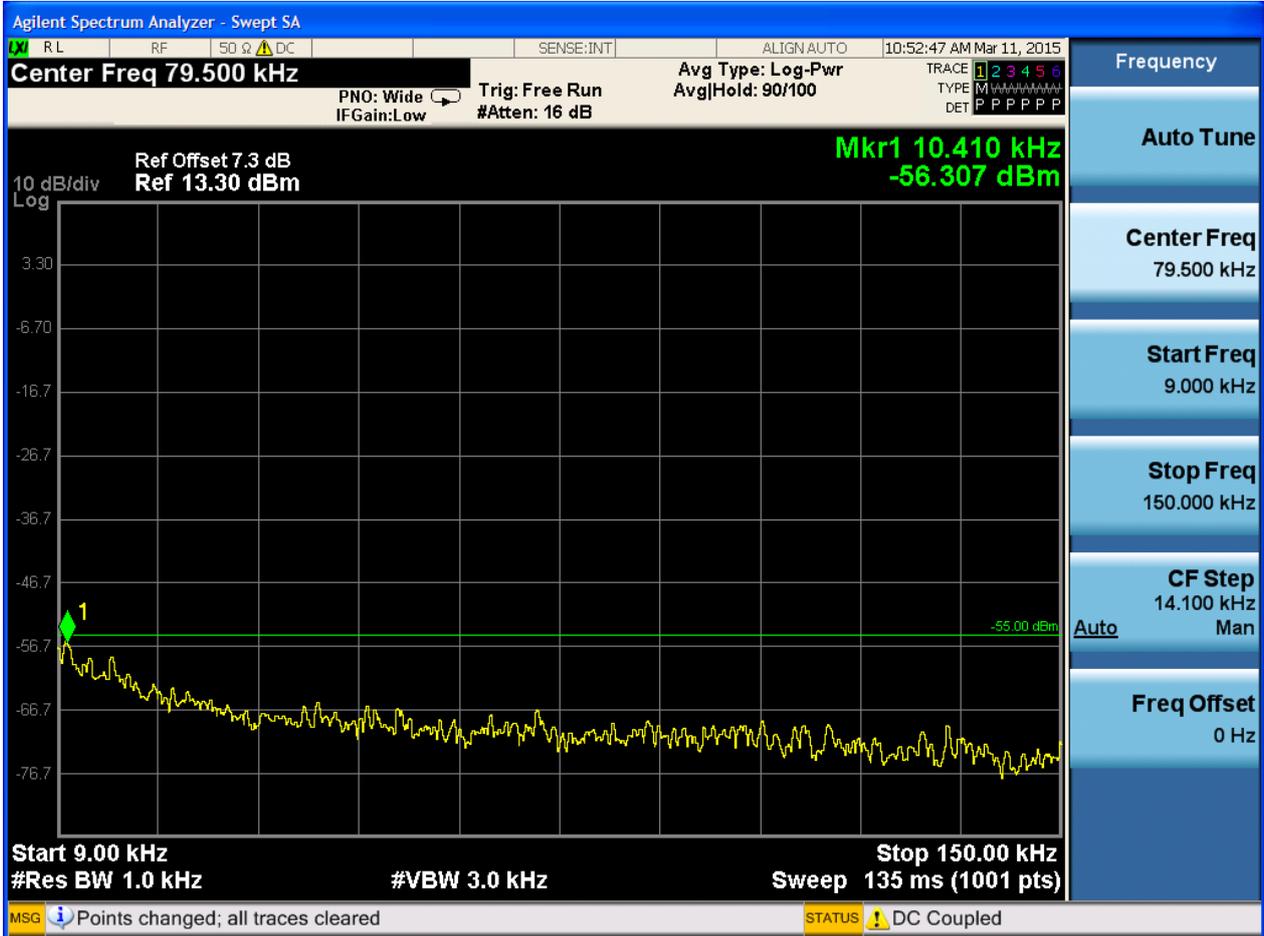


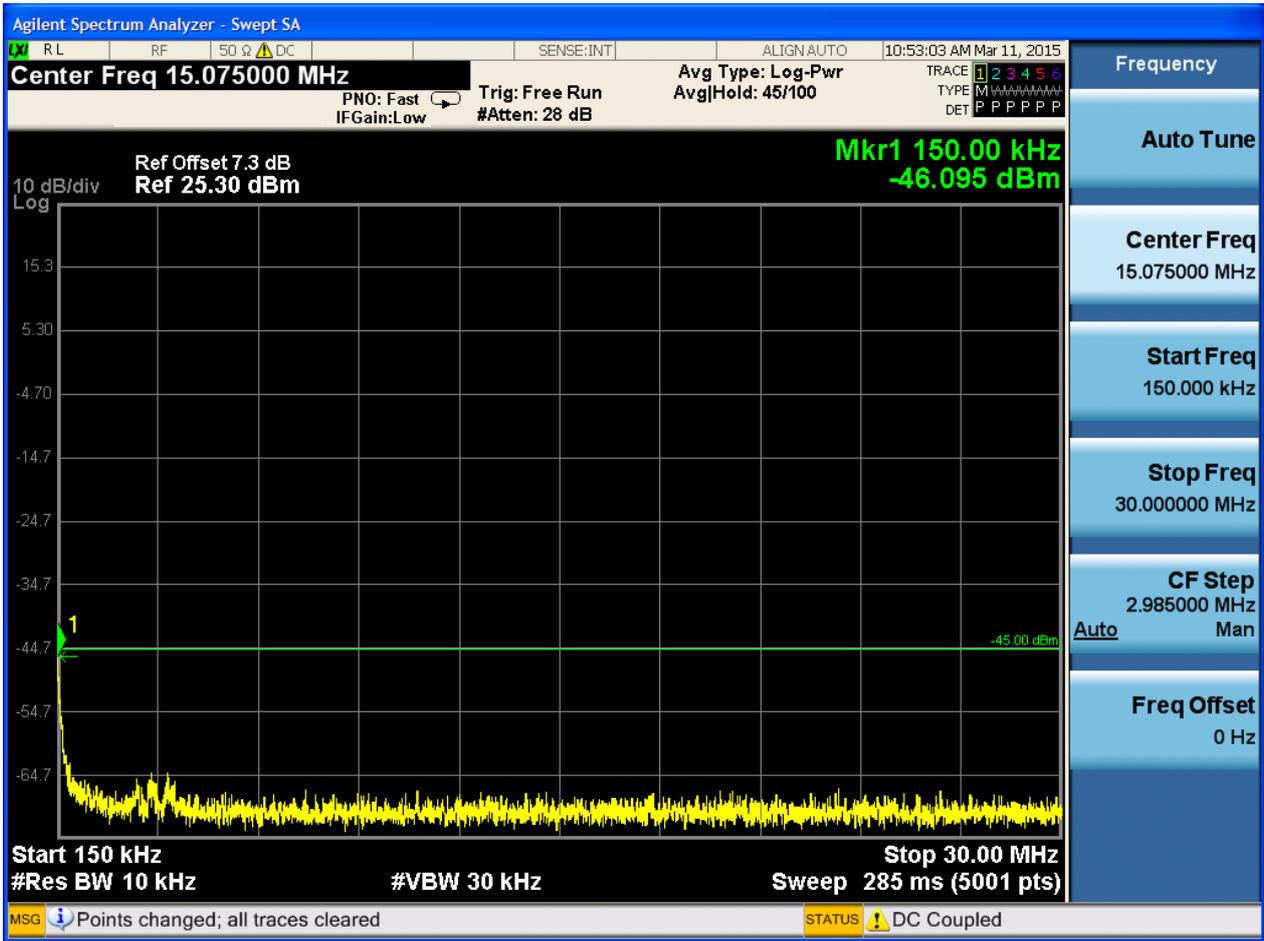


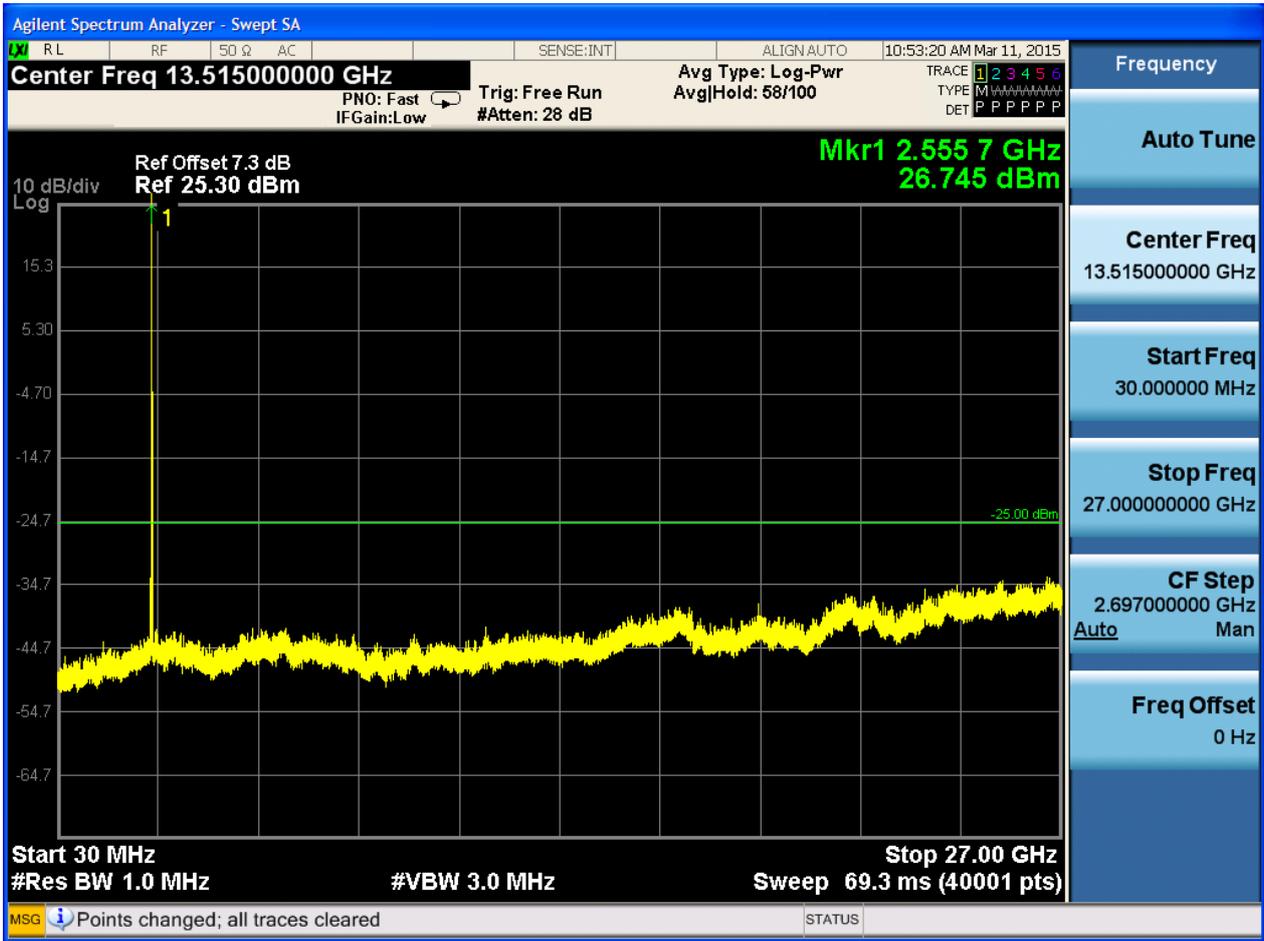


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0









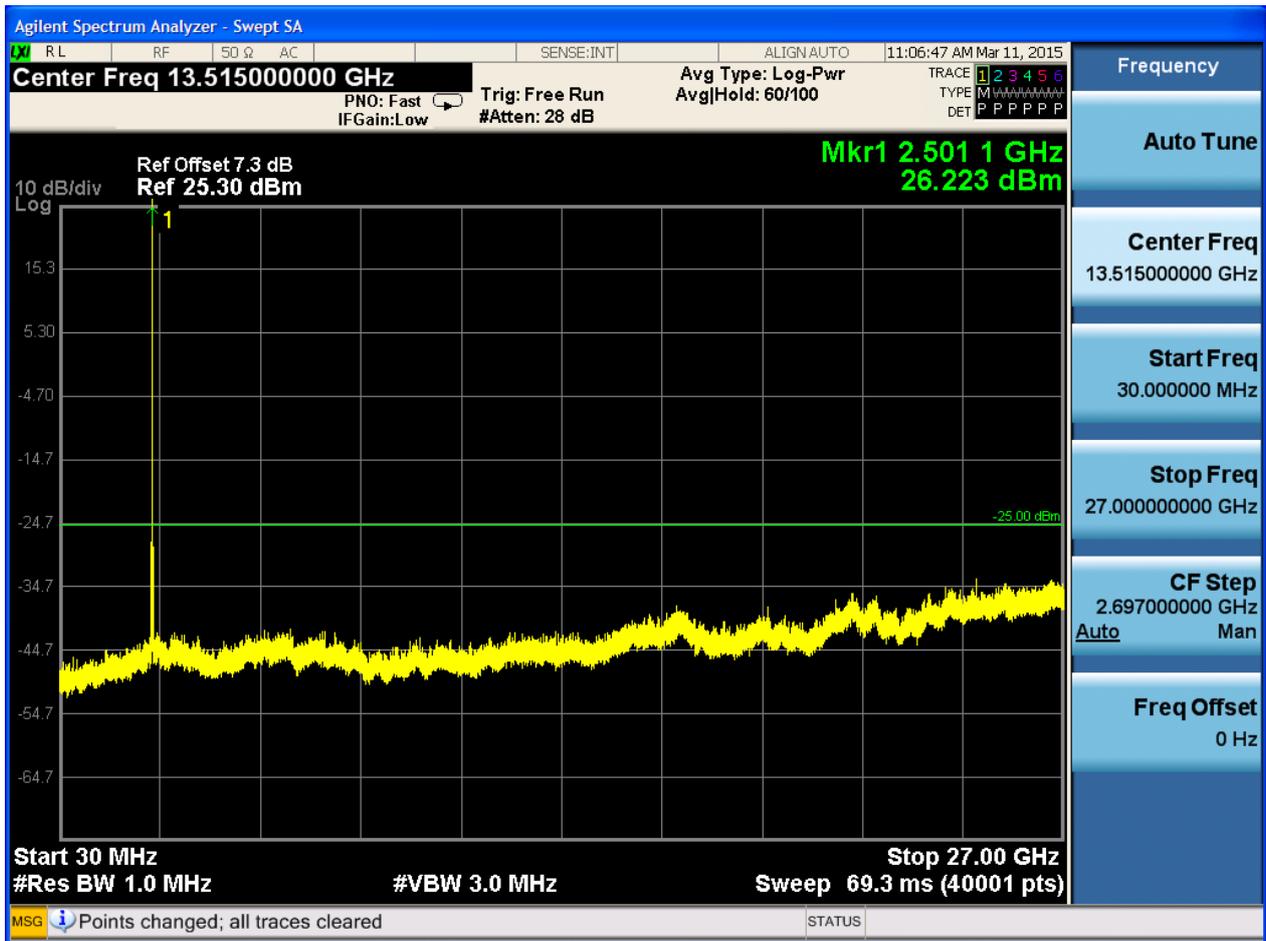
6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.6.4.1.1 Test RB = RB1#0

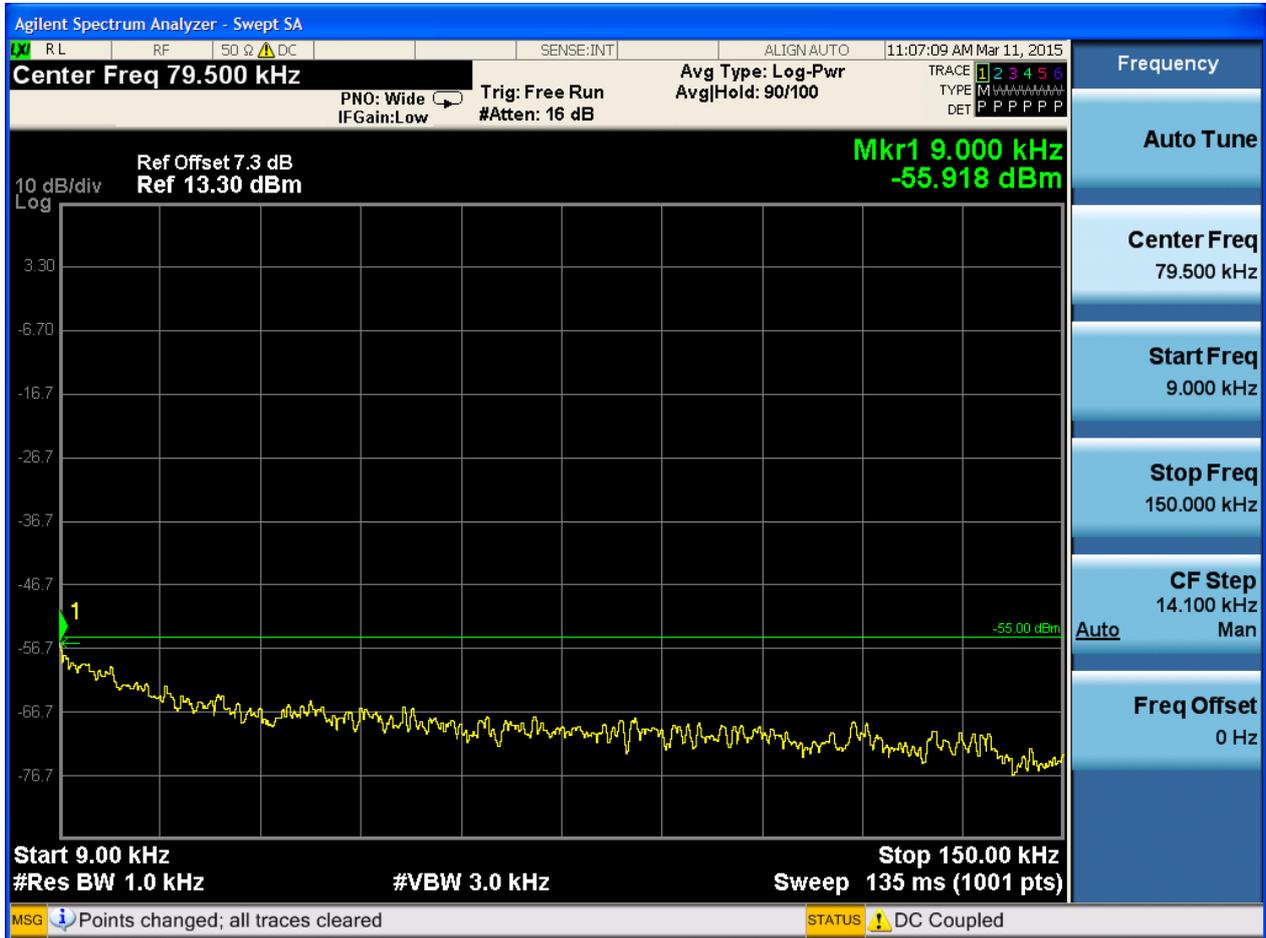




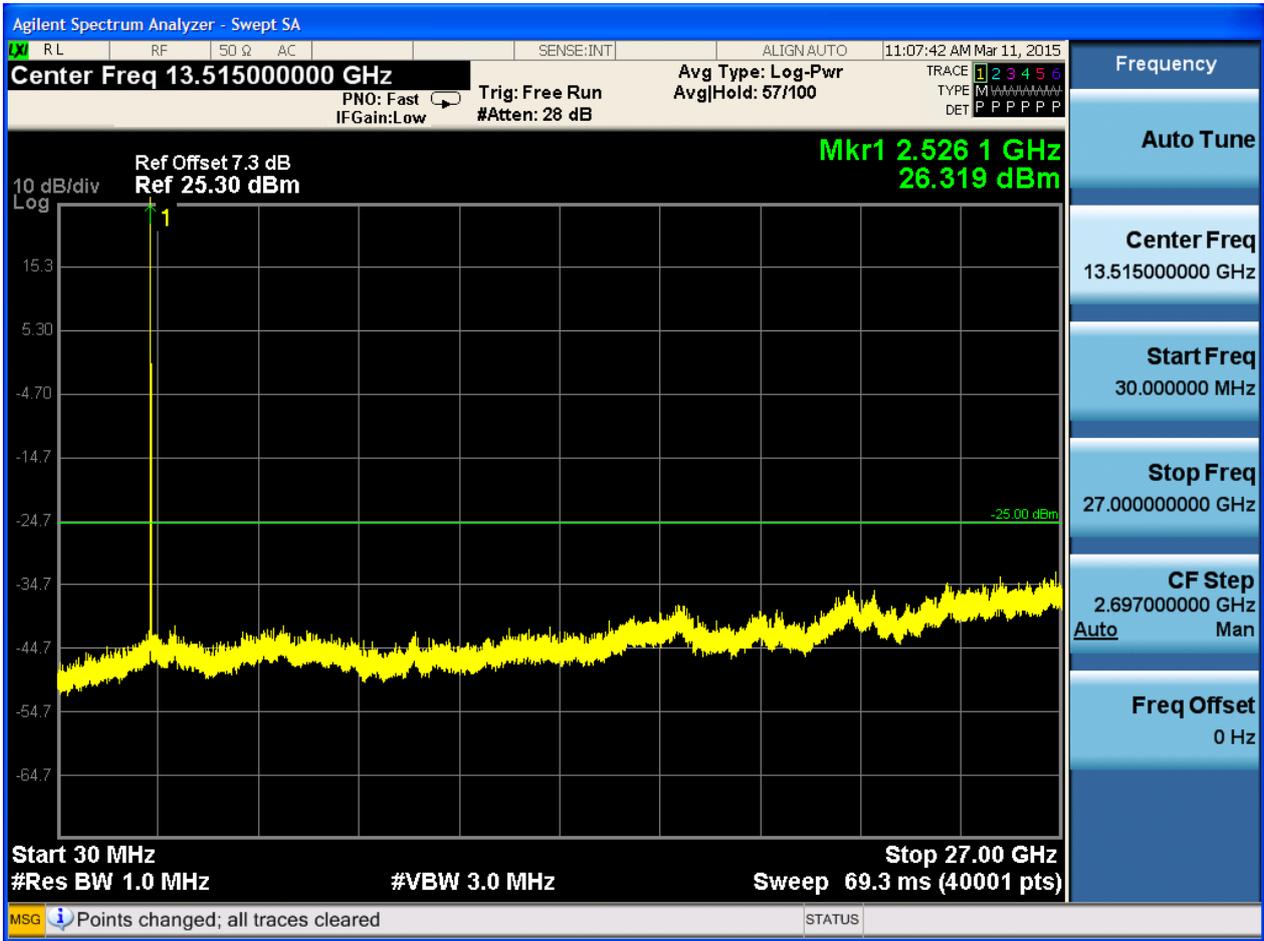


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0

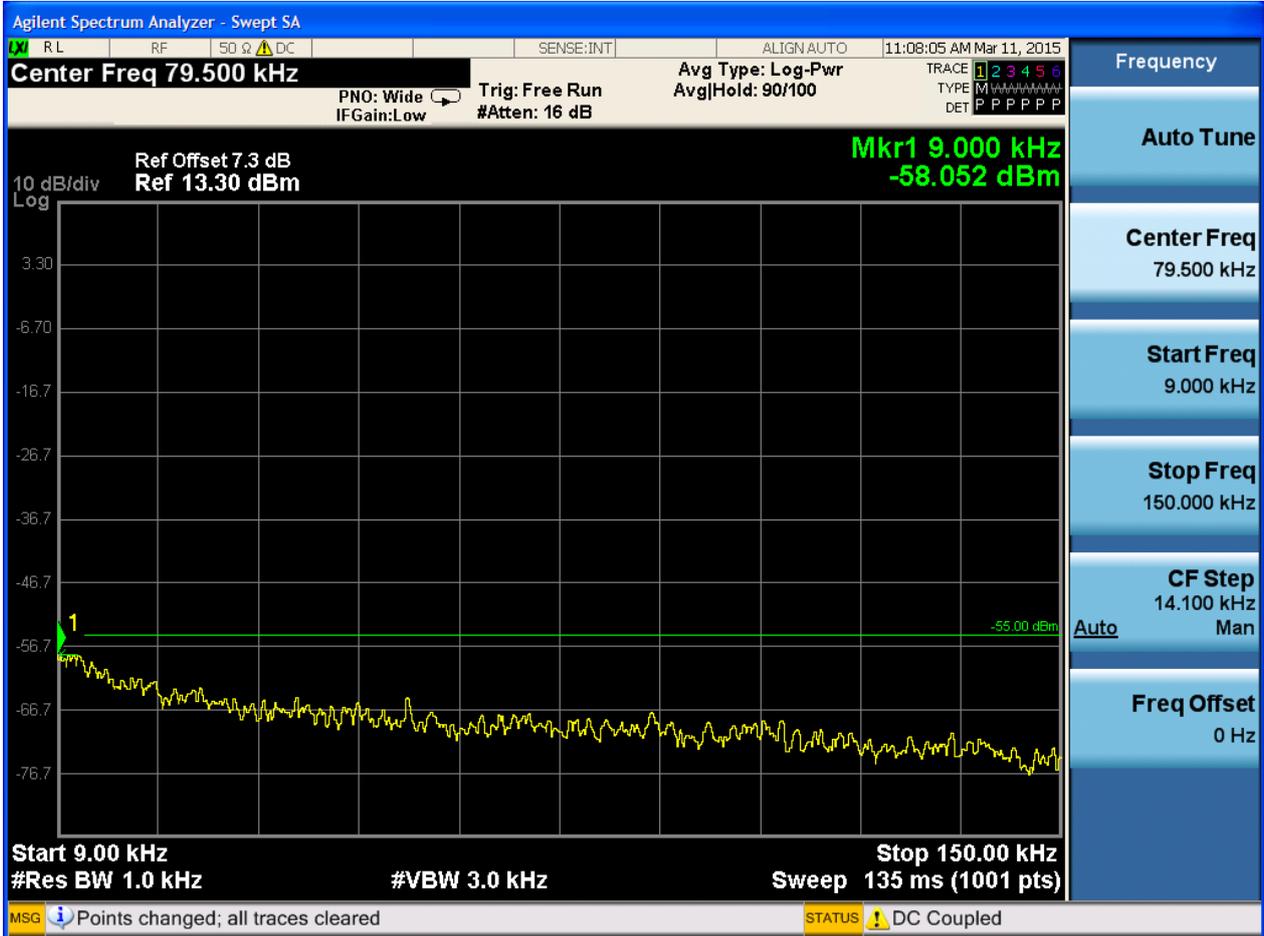




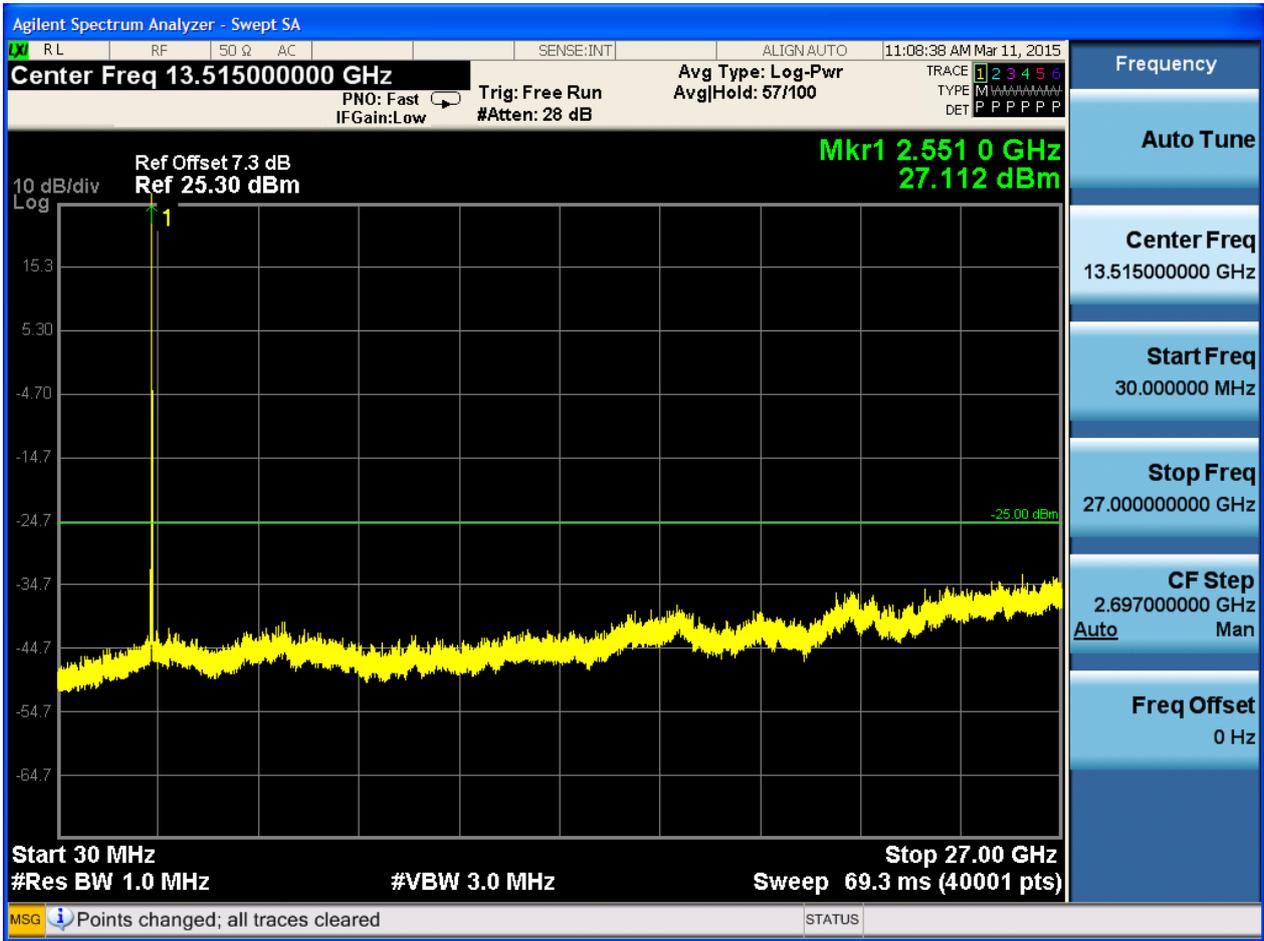


6.1.1.2.4.3 Test Channel = HCH

6.1.1.2.4.3.1 Test RB = RB1#0







## 7Appendix\_G: Field Strength of Spurious Radiation

Note:

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

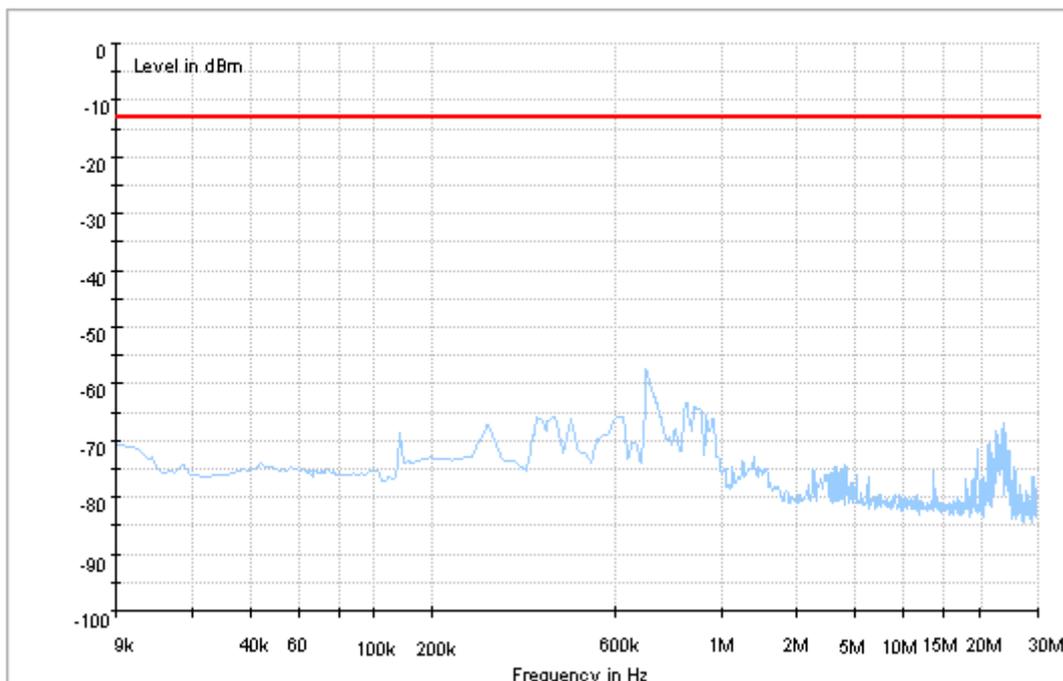
We tested all modes, but the data presented below is the worst case.

### Part I - Test Plots

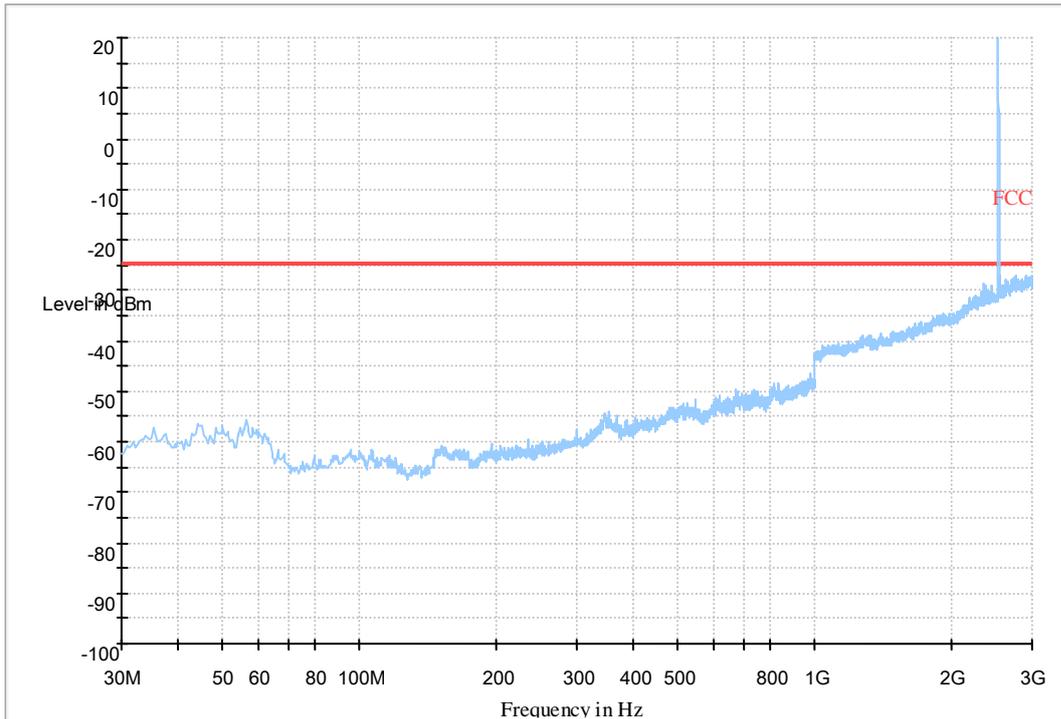
#### 7.1 For LTE

##### 7.1.1 Test Band = BAND7

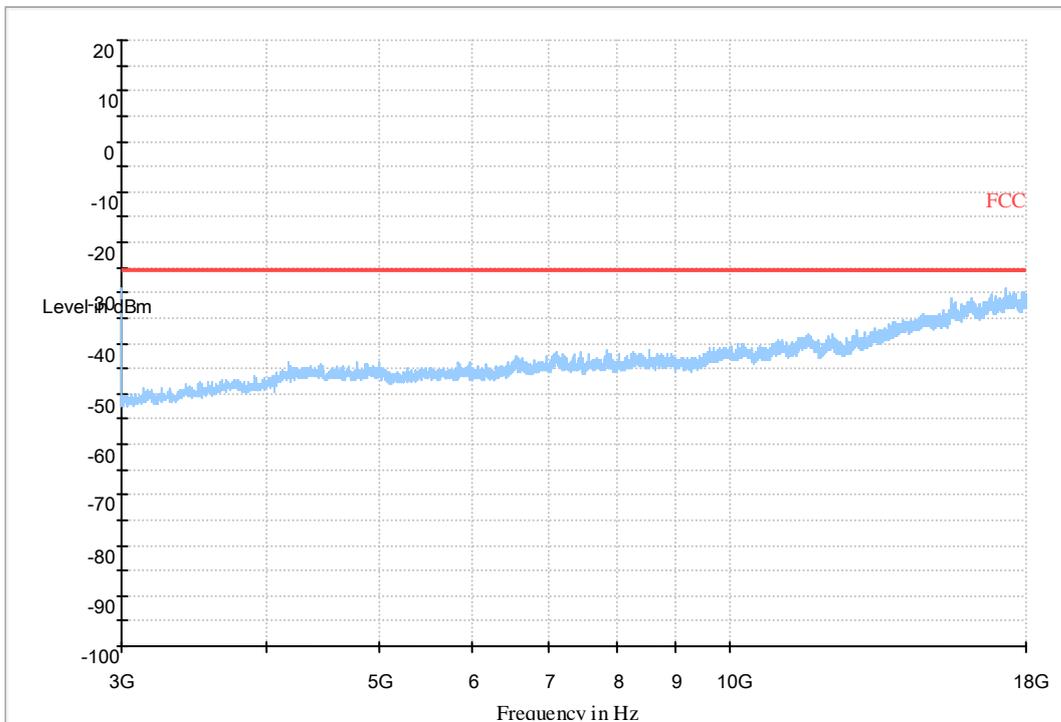
##### 7.1.1.1 Test Bandwidth = 5

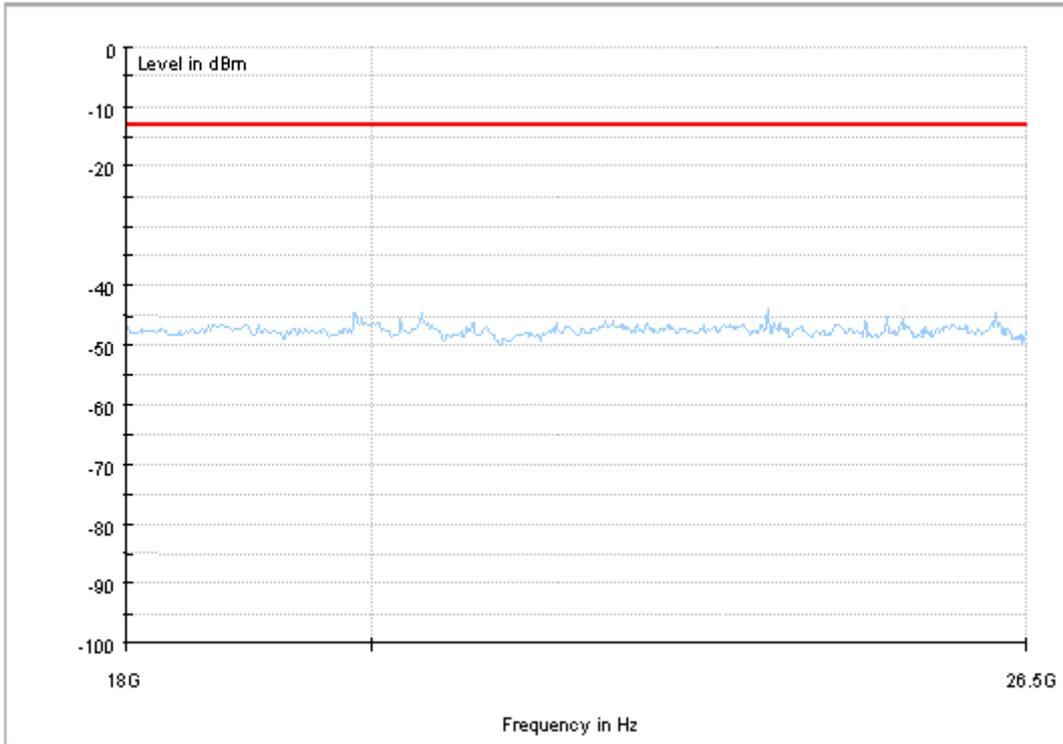


Copy of RSE-TX-DIRECTOR ABOVE 1.5G\_L

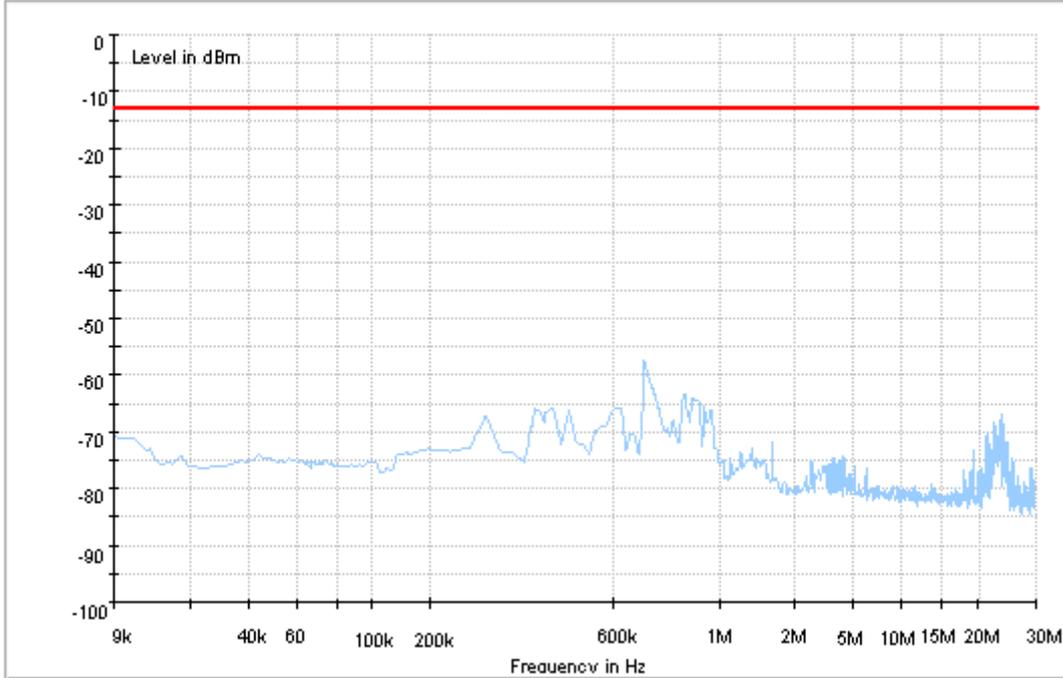


Copy of RSE-TX-DIRECTOR ABOVE 1.5G\_H

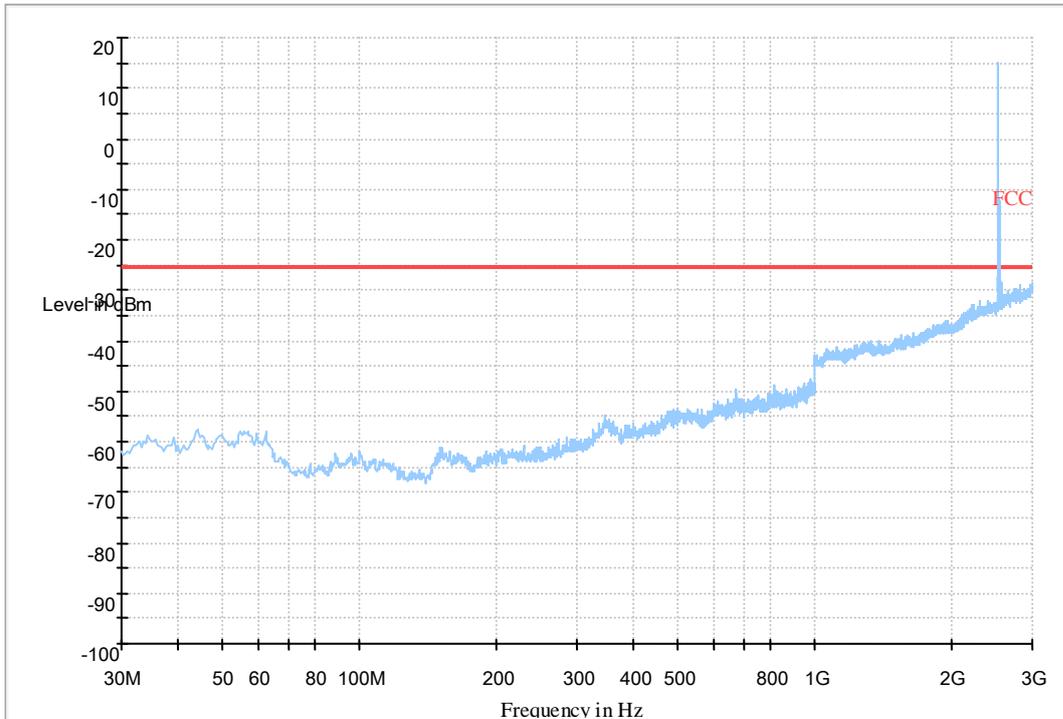




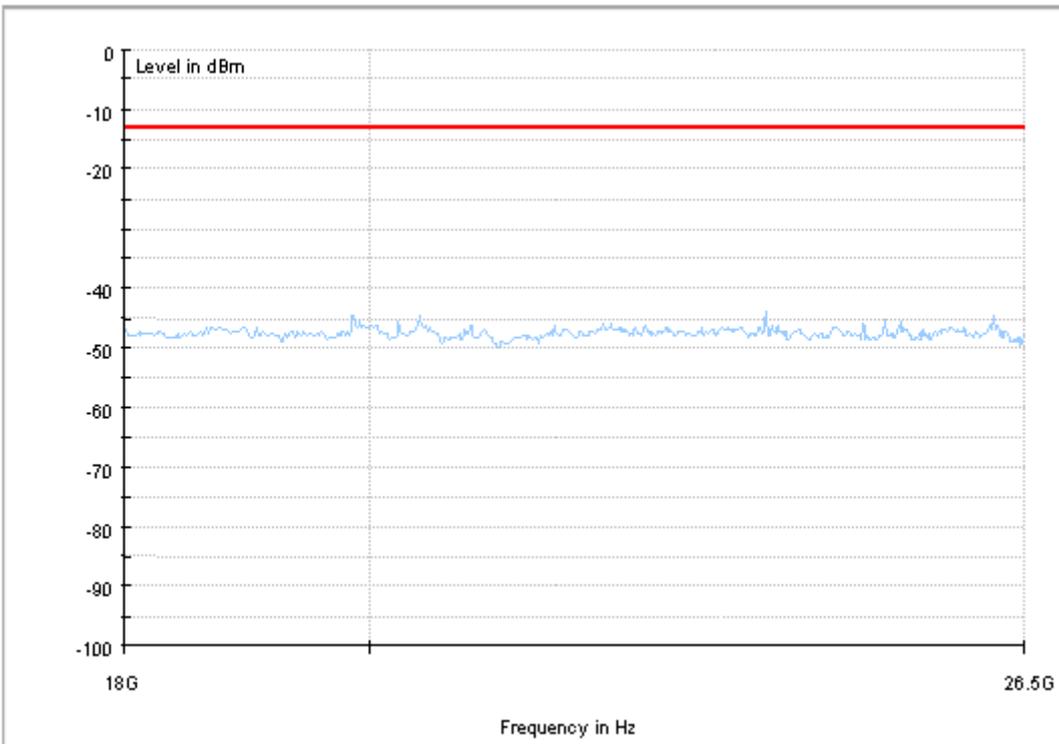
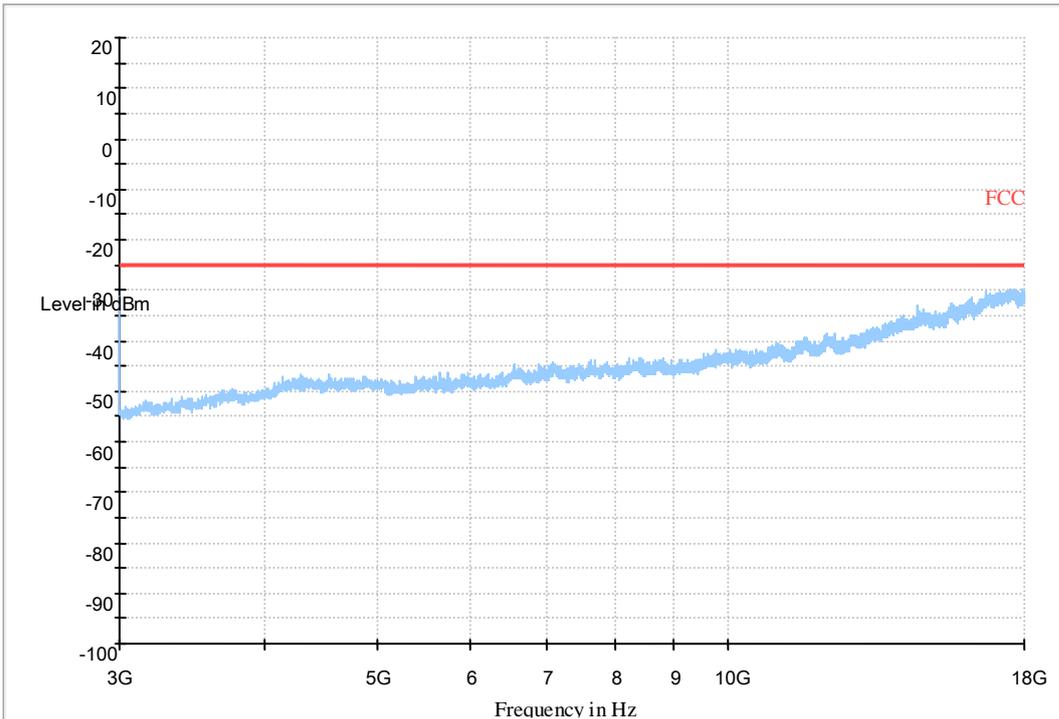
### 7.1.1.2 Test Bandwidth = 20



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

#### 8.1.1 Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND7	LTE/TM1	5	LCH	TN	VL	-4.12	-0.00165	PASS
					VN	-1.13	-0.00045	PASS
					VH	-0.27	-0.00011	PASS
			MCH	TN	VL	-0.94	-0.00037	PASS
					VN	-2.02	-0.0008	PASS
					VH	-3.56	-0.0014	PASS
			HCH	TN	VL	-0.89	-0.00035	PASS
					VN	1.12	0.00044	PASS
					VH	-0.43	-0.00017	PASS
		10	LCH	TN	VL	-0.07	-0.00003	PASS
					VN	1.67	0.00067	PASS
					VH	0.39	0.00016	PASS
			MCH	TN	VL	-0.29	-0.00011	PASS
					VN	0.74	0.00029	PASS
					VH	3	0.00118	PASS
			HCH	TN	VL	0.73	0.00028	PASS
					VN	-3.23	-0.00126	PASS
					VH	-0.13	-0.00005	PASS
		15	LCH	TN	VL	-0.51	-0.0002	PASS
					VN	-0.56	-0.00022	PASS
					VH	-3.09	-0.00123	PASS
			MCH	TN	VL	2.92	0.00115	PASS
					VN	1.59	0.00063	PASS
					VH	0.6	0.00024	PASS
			HCH	TN	VL	-0.74	-0.00029	PASS
					VN	-1.14	-0.00044	PASS
					VH	-2.07	-0.00081	PASS
		20	LCH	TN	VL	-1.62	-0.00065	PASS
					VN	-1.13	-0.00045	PASS
					VH	-2.05	-0.00082	PASS
			MCH	TN	VL	0.06	0.00002	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VN	1.7	0.00067	PASS
					VH	0.34	0.00013	PASS
			HCH	TN	VL	0.46	0.00018	PASS
					VN	1.59	0.00062	PASS
			VH	0.64	0.00025	PASS		
			5	LCH	TN	VL	-2.36	-0.00094
		VN				-0.92	-0.00037	PASS
		VH				1.86	0.00074	PASS
		MCH		TN	VL	-0.92	-0.00036	PASS
					VN	0.73	0.00029	PASS
					VH	0.11	0.00004	PASS
		HCH	TN	VL	-0.74	-0.00029	PASS	
	VN			0.83	0.00032	PASS		
	VH			-1.17	-0.00046	PASS		
	10	LCH	TN	VL	0.27	0.00011	PASS	
				VN	-0.87	-0.00035	PASS	
				VH	0.29	0.00012	PASS	
		MCH	TN	VL	3.81	0.0015	PASS	
				VN	0.03	0.00001	PASS	
				VH	-0.99	-0.00039	PASS	
		HCH	TN	VL	-1.34	-0.00052	PASS	
				VN	-1.66	-0.00065	PASS	
				VH	-2.16	-0.00084	PASS	
		15	LCH	TN	VL	0.23	0.00009	PASS
					VN	0.84	0.00033	PASS
					VH	0.64	0.00026	PASS
	MCH		TN	VL	-2.05	-0.00081	PASS	
				VN	-2.16	-0.00085	PASS	
				VH	-0.09	-0.00004	PASS	
	HCH		TN	VL	-0.31	-0.00012	PASS	
				VN	-0.29	-0.00011	PASS	
				VH	-0.23	-0.00009	PASS	
	20	LCH	TN	VL	-1.42	-0.00057	PASS	
				VN	-0.36	-0.00014	PASS	
				VH	-0.37	-0.00015	PASS	
		MCH	TN	VL	-1.26	-0.0005	PASS	
				VN	-1.86	-0.00073	PASS	
				VH	-1.2	-0.00047	PASS	
	HCH	TN	VL	0.57	0.00022	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VN	-0.96	-0.00038	PASS
					VH	-0.39	-0.00015	PASS

**8.1.2 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	VN	-30	0.36	0.00014	PASS
					-20	-0.62	-0.00025	PASS
					-10	1.73	0.00069	PASS
					0	-1.9	-0.00076	PASS
					10	-1.73	-0.00069	PASS
					20	-0.53	-0.00021	PASS
					30	-4.02	-0.00161	PASS
					40	0.89	0.00036	PASS
			50	-0.19	-0.00008	PASS		
			MCH	VN	-30	0.33	0.00013	PASS
					-20	-2.53	-0.001	PASS
					-10	1.26	0.0005	PASS
					0	0.94	0.00037	PASS
					10	2.66	0.00105	PASS
					20	-0.43	-0.00017	PASS
					30	0.79	0.00031	PASS
					40	-0.09	-0.00004	PASS
			HCH	VN	-30	1.33	0.00052	PASS
					-20	2.57	0.001	PASS
					-10	-1.37	-0.00053	PASS
					0	0.82	0.00032	PASS
					10	-2.2	-0.00086	PASS
					20	-2.37	-0.00092	PASS
					30	1.26	0.00049	PASS
		40			0.97	0.00038	PASS	
		50	0.03	0.00001	PASS			
		10	LCH	VN	-30	-0.5	-0.0002	PASS
					-20	-2.22	-0.00089	PASS
					-10	-1.23	-0.00049	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					0	-1.06	-0.00042	PASS
					10	-0.23	-0.00009	PASS
					20	0.46	0.00018	PASS
					30	0.76	0.0003	PASS
					40	0.54	0.00022	PASS
					50	-0.69	-0.00028	PASS
			MCH	VN	-30	-2.8	-0.0011	PASS
					-20	-0.2	-0.00008	PASS
					-10	-0.26	-0.0001	PASS
					0	2.07	0.00082	PASS
					10	-2.17	-0.00086	PASS
					20	-1.33	-0.00052	PASS
					30	-0.83	-0.00033	PASS
					40	0.94	0.00037	PASS
			HCH	VN	50	-5.21	-0.00206	PASS
					-30	-0.43	-0.00017	PASS
					-20	2.32	0.0009	PASS
					-10	-0.51	-0.0002	PASS
					0	-0.06	-0.00002	PASS
					10	-1.65	-0.00064	PASS
					20	-0.24	-0.00009	PASS
					30	2.12	0.00083	PASS
			LCH	VN	40	-0.87	-0.00034	PASS
					50	0.3	0.00012	PASS
					-30	1.17	0.00047	PASS
					-20	-1.75	-0.0007	PASS
					-10	0.16	0.00006	PASS
					0	1.97	0.00079	PASS
					10	1.22	0.00049	PASS
					20	0.13	0.00005	PASS
					30	-1.76	-0.0007	PASS
					40	1.23	0.00049	PASS
			MCH	VN	50	0.64	0.00026	PASS
					-30	-0.54	-0.00021	PASS
					-20	-1.57	-0.00062	PASS
					-10	2.02	0.0008	PASS
					0	2.6	0.00103	PASS
					10	0.3	0.00012	PASS
			20	0.64	0.00025	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					30	0.41	0.00016	PASS		
					40	0.72	0.00028	PASS		
					50	-0.31	-0.00012	PASS		
			HCH	VN	-30	1.85	0.00072	PASS		
					-20	0.51	0.0002	PASS		
					-10	-1.87	-0.00073	PASS		
					0	-1.57	-0.00061	PASS		
					10	1.37	0.00053	PASS		
					20	0.54	0.00021	PASS		
					30	1.22	0.00048	PASS		
					40	-0.73	-0.00028	PASS		
					50	-0.1	-0.00004	PASS		
					LCH	VN	-30	-0.51	-0.0002	PASS
							-20	-0.56	-0.00022	PASS
							-10	-0.94	-0.00037	PASS
		0	-0.92	-0.00037			PASS			
		10	1.34	0.00053			PASS			
		20	0.23	0.00009			PASS			
		30	-1.37	-0.00055			PASS			
		40	-0.64	-0.00025			PASS			
		50	-0.21	-0.00008			PASS			
		MCH	VN	-30	0.16	0.00006	PASS			
				-20	-0.9	-0.00036	PASS			
				-10	-2.03	-0.0008	PASS			
				0	-0.89	-0.00035	PASS			
				10	0.99	0.00039	PASS			
				20	-0.73	-0.00029	PASS			
				30	1	0.00039	PASS			
				40	0.26	0.0001	PASS			
				50	-0.33	-0.00013	PASS			
		HCH	VN	-30	-0.16	-0.00006	PASS			
				-20	-1.52	-0.00059	PASS			
				-10	-0.7	-0.00027	PASS			
				0	-0.84	-0.00033	PASS			
				10	-0.16	-0.00006	PASS			
				20	-1.54	-0.0006	PASS			
				30	-0.36	-0.00014	PASS			
				40	-2.3	-0.0009	PASS			
				50	0.21	0.00008	PASS			

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM1	5	LCH	VN	-30	-1.7	-0.00068	PASS
					-20	2.9	0.00116	PASS
					-10	0.86	0.00034	PASS
					0	-0.82	-0.00033	PASS
					10	-1.29	-0.00052	PASS
					20	-2.85	-0.00114	PASS
					30	-0.8	-0.00032	PASS
					40	-0.11	-0.00004	PASS
			50	-0.96	-0.00038	PASS		
			MCH	VN	-30	-3.83	-0.00151	PASS
					-20	-1.03	-0.00041	PASS
					-10	0.5	0.0002	PASS
					0	-0.11	-0.00004	PASS
					10	-0.44	-0.00017	PASS
					20	0.31	0.00012	PASS
					30	-2.22	-0.00088	PASS
					40	3.05	0.0012	PASS
			50	-3.98	-0.00157	PASS		
			HCH	VN	-30	0.53	0.00021	PASS
					-20	-1.89	-0.00074	PASS
					-10	-0.57	-0.00022	PASS
					0	1.43	0.00056	PASS
					10	-2.3	-0.0009	PASS
					20	-0.6	-0.00023	PASS
		30			-3.08	-0.0012	PASS	
		40			-0.4	-0.00016	PASS	
		50	0.96	0.00037	PASS			
		10	LCH	VN	-30	1.37	0.00055	PASS
					-20	1.89	0.00075	PASS
					-10	1.7	0.00068	PASS
					0	-3.19	-0.00127	PASS
					10	1.43	0.00057	PASS
					20	1.16	0.00046	PASS
					30	0.86	0.00034	PASS
					40	0.77	0.00031	PASS
			50	3.53	0.00141	PASS		
			MCH	VN	-30	-2.45	-0.00097	PASS
					-20	0.5	0.0002	PASS
					-10	-2.85	-0.00112	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					0	0.24	0.00009	PASS		
					10	0.34	0.00013	PASS		
					20	1.93	0.00076	PASS		
					30	-0.13	-0.00005	PASS		
					40	1.47	0.00058	PASS		
					50	-1.03	-0.00041	PASS		
			HCH	VN	-30	0.63	0.00025	PASS		
					-20	1.42	0.00055	PASS		
					-10	-0.72	-0.00028	PASS		
					0	-0.34	-0.00013	PASS		
					10	4.03	0.00157	PASS		
					20	-1.75	-0.00068	PASS		
			LCH	VN	30	2.53	0.00099	PASS		
					40	3.02	0.00118	PASS		
					50	-0.43	-0.00017	PASS		
					-30	0.37	0.00015	PASS		
					-20	0.37	0.00015	PASS		
					-10	-0.49	-0.0002	PASS		
		MCH	VN	0	0.09	0.00004	PASS			
				10	-0.59	-0.00024	PASS			
				20	1.75	0.0007	PASS			
				30	-1.12	-0.00045	PASS			
				40	1.44	0.00057	PASS			
				50	-0.73	-0.00029	PASS			
				-30	-0.59	-0.00023	PASS			
				-20	-2.32	-0.00092	PASS			
				-10	-1.53	-0.0006	PASS			
				0	0.4	0.00016	PASS			
				10	-0.89	-0.00035	PASS			
				20	-1.03	-0.00041	PASS			
		HCH	VN	30	0.3	0.00012	PASS			
				40	-1	-0.00039	PASS			
				50	1.76	0.00069	PASS			
				-30	0.24	0.00009	PASS			
				-20	-1.19	-0.00046	PASS			
				-10	-2.45	-0.00096	PASS			
				15	HCH	VN	0	-1.65	-0.00064	PASS
							10	-2.42	-0.00094	PASS
							20	0.87	0.00034	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					30	0.86	0.00034	PASS		
					40	0.47	0.00018	PASS		
					50	-1.53	-0.0006	PASS		
				20	LCH	VN	-30	-0.51	-0.0002	PASS
							-20	0.6	0.00024	PASS
							-10	-1.9	-0.00076	PASS
							0	-3.82	-0.00152	PASS
							10	-0.56	-0.00022	PASS
							20	-0.31	-0.00012	PASS
							30	0.5	0.0002	PASS
							40	0.1	0.00004	PASS
							50	0.47	0.00019	PASS
					MCH	VN	-30	0.21	0.00008	PASS
							-20	-0.49	-0.00019	PASS
							-10	2.1	0.00083	PASS
							0	-0.27	-0.00011	PASS
							10	-0.7	-0.00028	PASS
							20	-2.26	-0.00089	PASS
							30	-0.92	-0.00036	PASS
							40	0.01	0	PASS
							50	-0.41	-0.00016	PASS
					HCH	VN	-30	-1.37	-0.00054	PASS
							-20	-0.26	-0.0001	PASS
							-10	-0.67	-0.00026	PASS
							0	-1.8	-0.0007	PASS
							10	-0.49	-0.00019	PASS
							20	0.33	0.00013	PASS
30	1.34						0.00052	PASS		
40	-0.83						-0.00032	PASS		
50	-0.89						-0.00035	PASS		

END