



5.1.1.2.3.1.3 Test RB = RB12#6





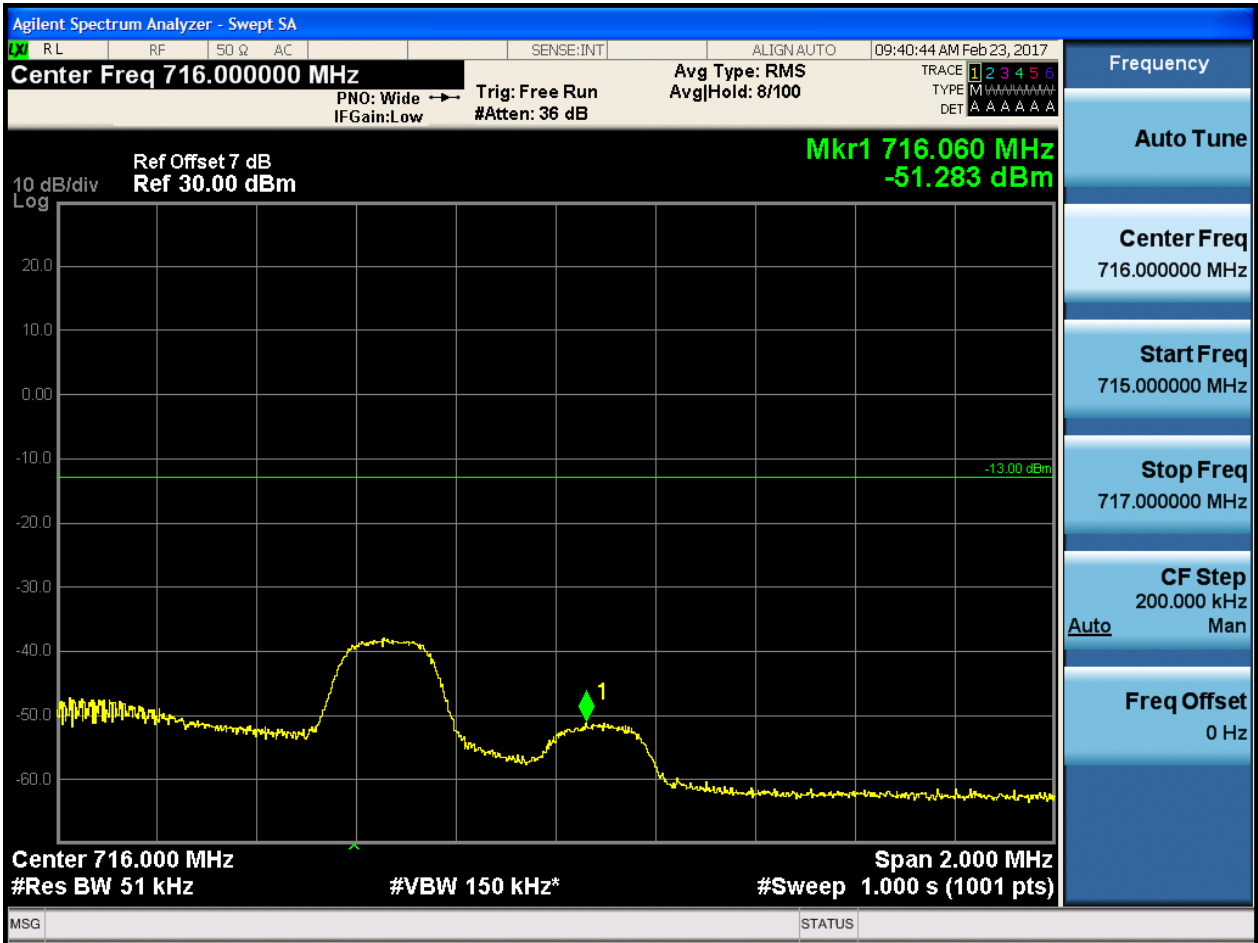
5.1.1.2.3.1.4 Test RB = RB25#0





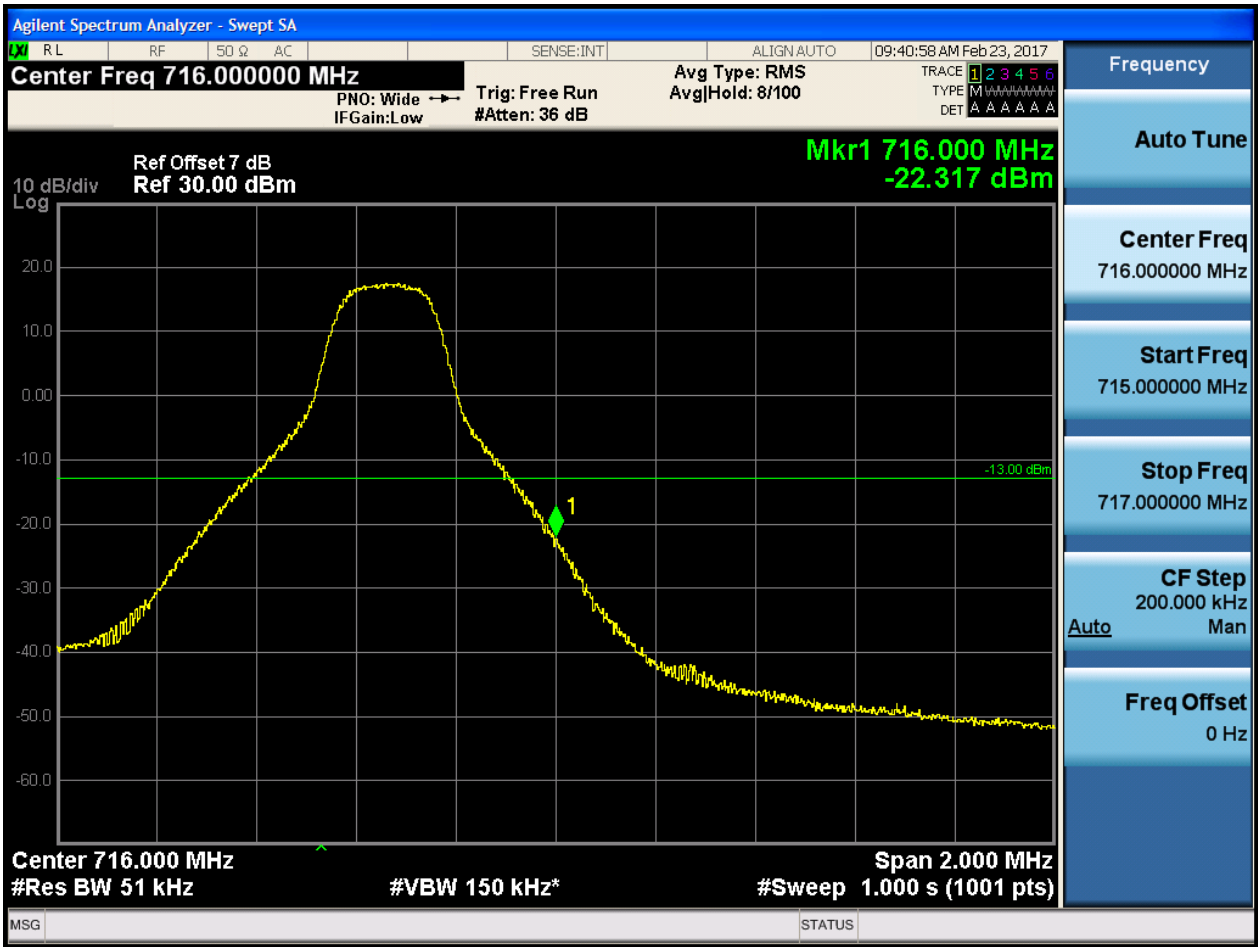
5.1.1.2.3.2 Test Channel = HCH

5.1.1.2.3.2.1 Test RB = RB1#0





5.1.1.2.3.2.2 Test RB = RB1#24





5.1.1.2.3.2.3 Test RB = RB12#6





5.1.1.2.3.2.4 Test RB = RB25#0

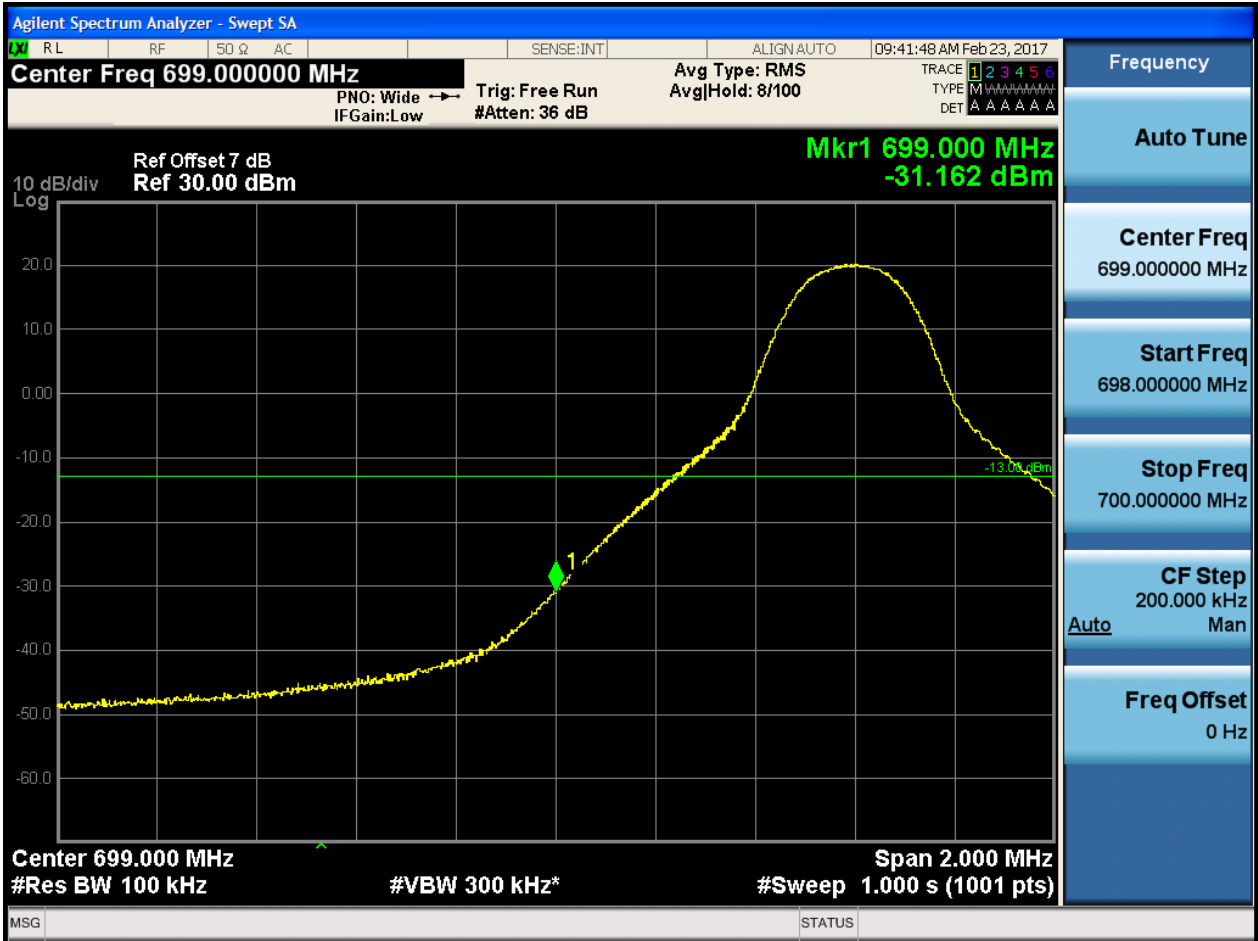




5.1.1.2.4 Test Bandwidth = 10

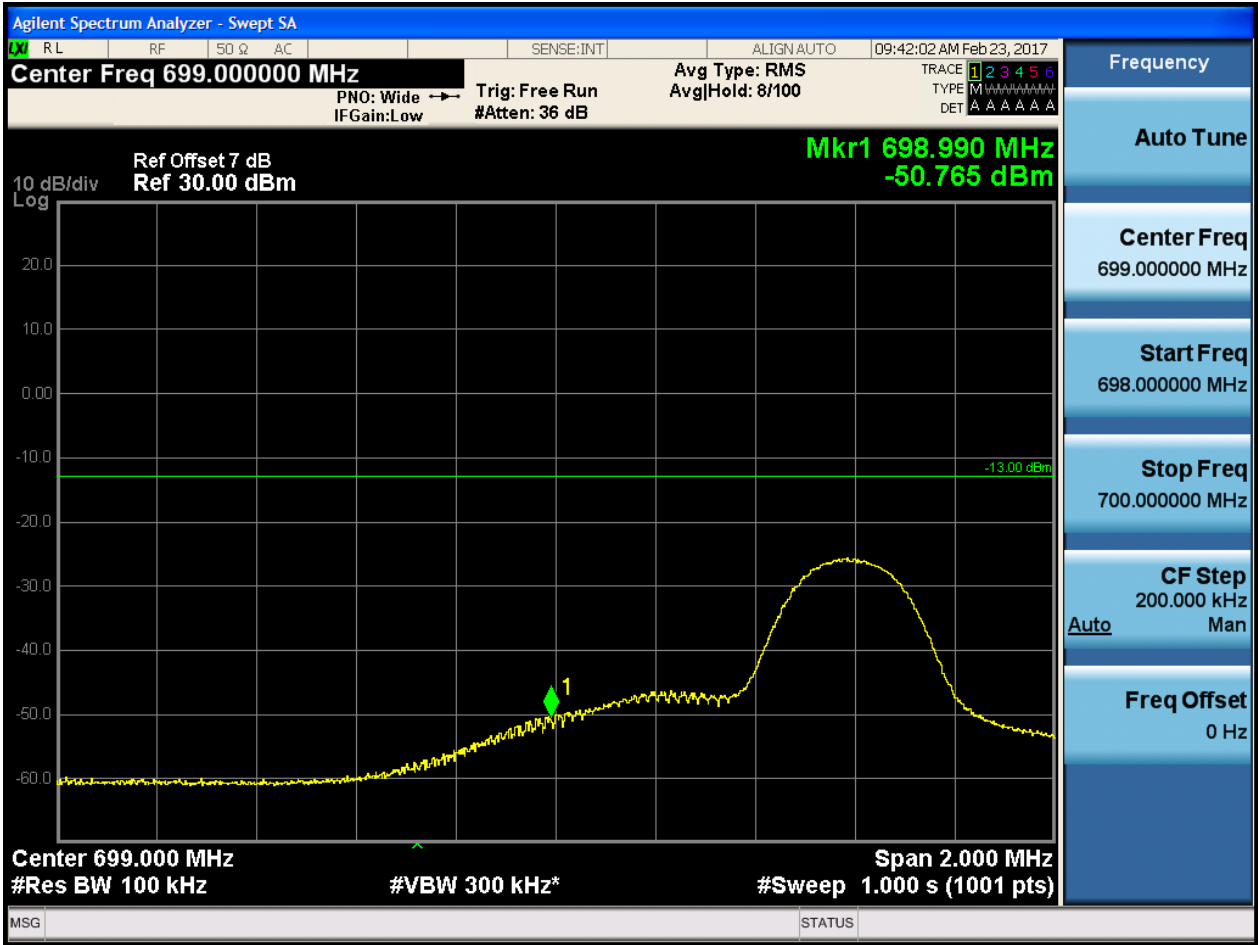
5.1.1.2.4.1 Test Channel = LCH

5.1.1.2.4.1.1 Test RB = RB1#0





5.1.1.2.4.1.2 Test RB = RB1#49







5.1.1.2.4.1.3 Test RB = RB25#13





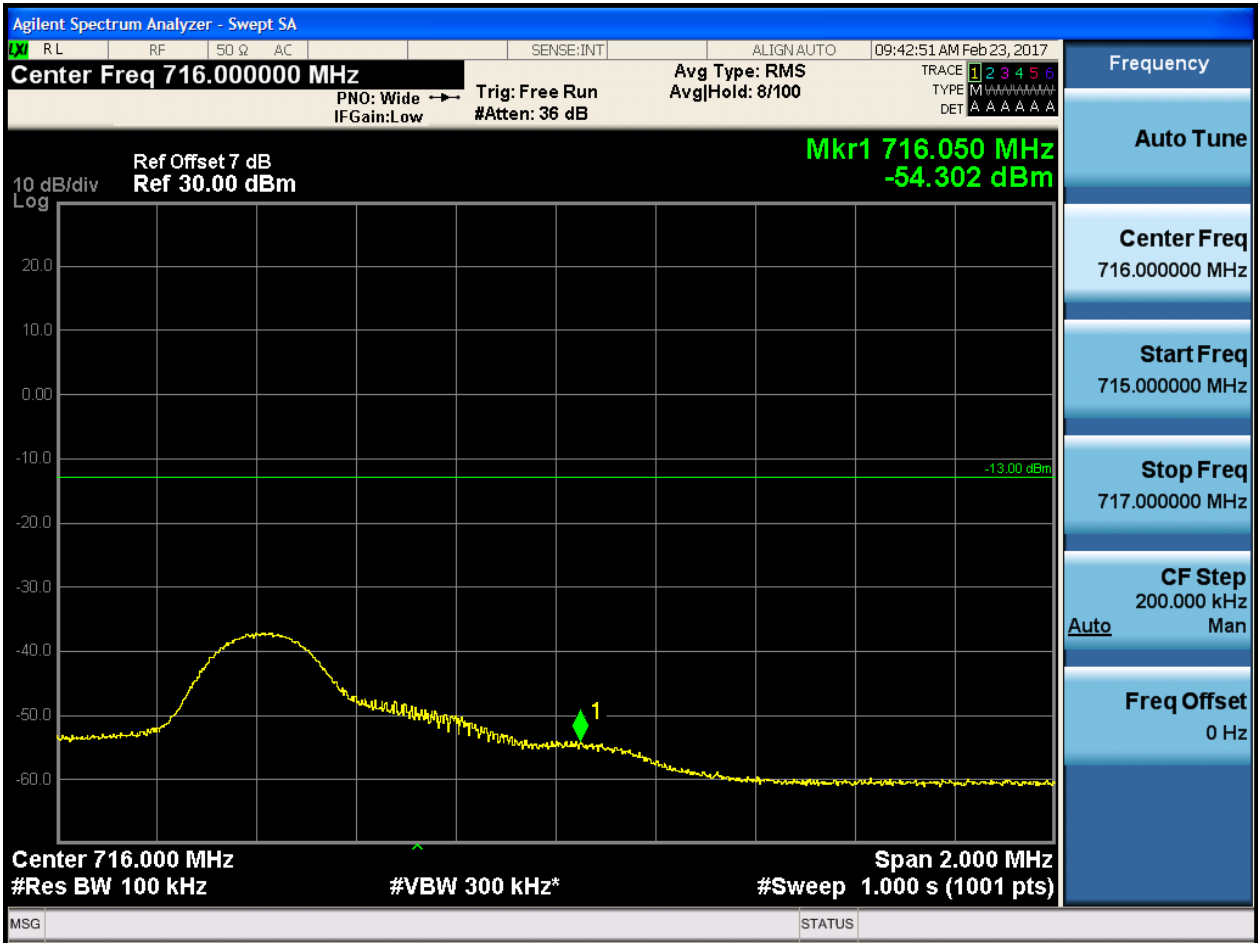
5.1.1.2.4.1.4 Test RB = RB50#0





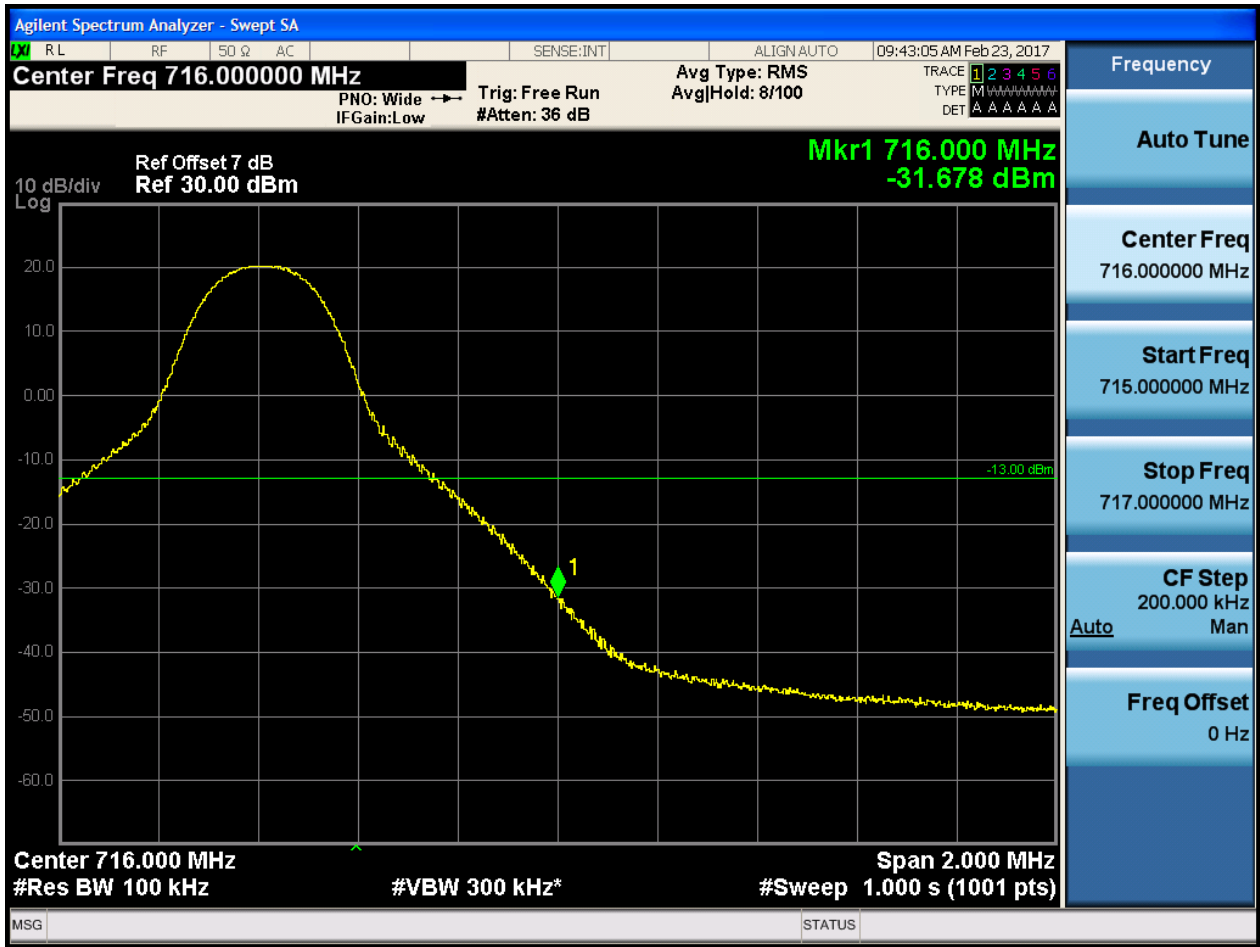
5.1.1.2.4.2 Test Channel = HCH

5.1.1.2.4.2.1 Test RB = RB1#0





5.1.1.2.4.2.2 Test RB = RB1#49





5.1.1.2.4.2.3 Test RB = RB25#13





5.1.1.2.4.2.4 Test RB = RB50#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

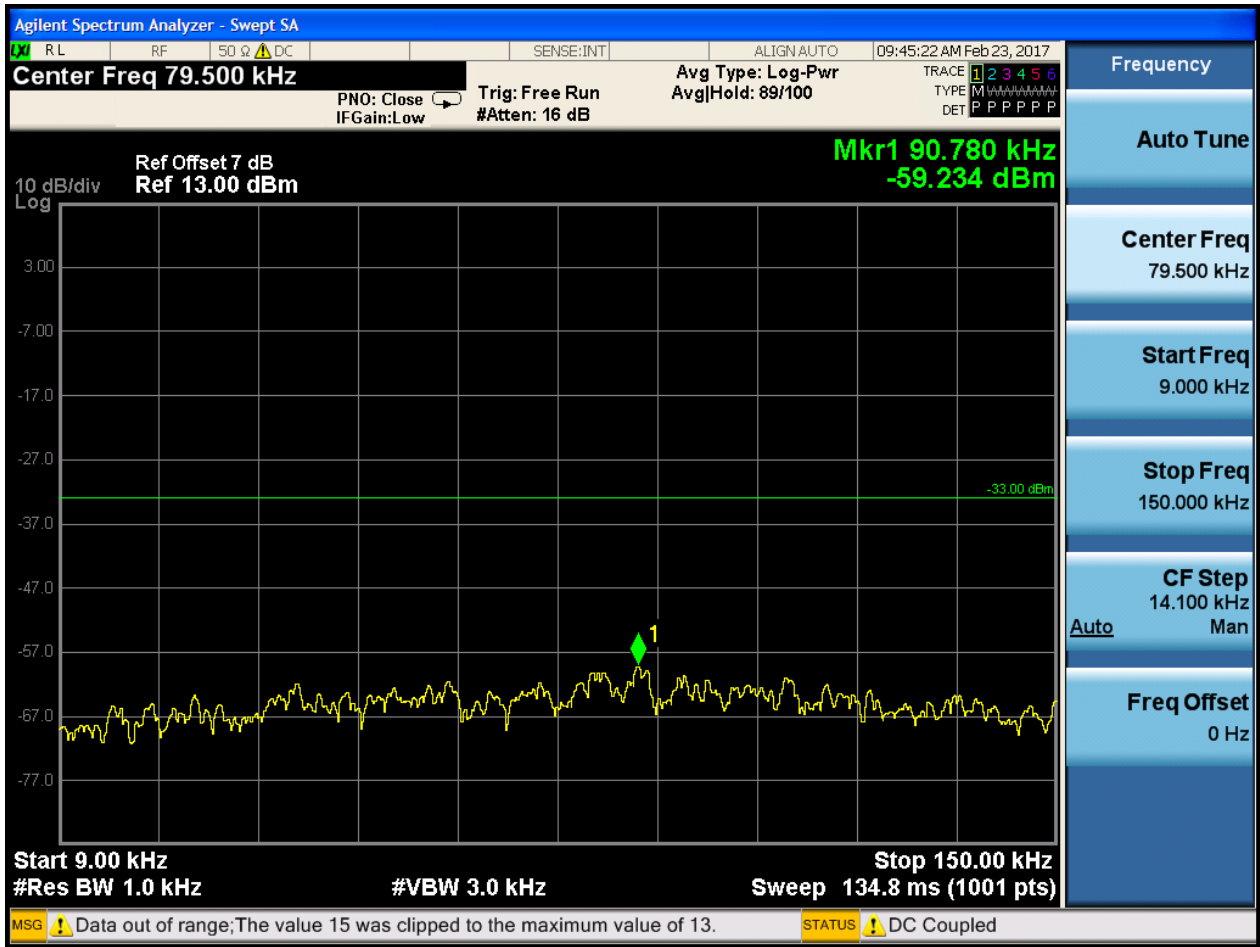
##### 6.1.1 Test Band = BAND12

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

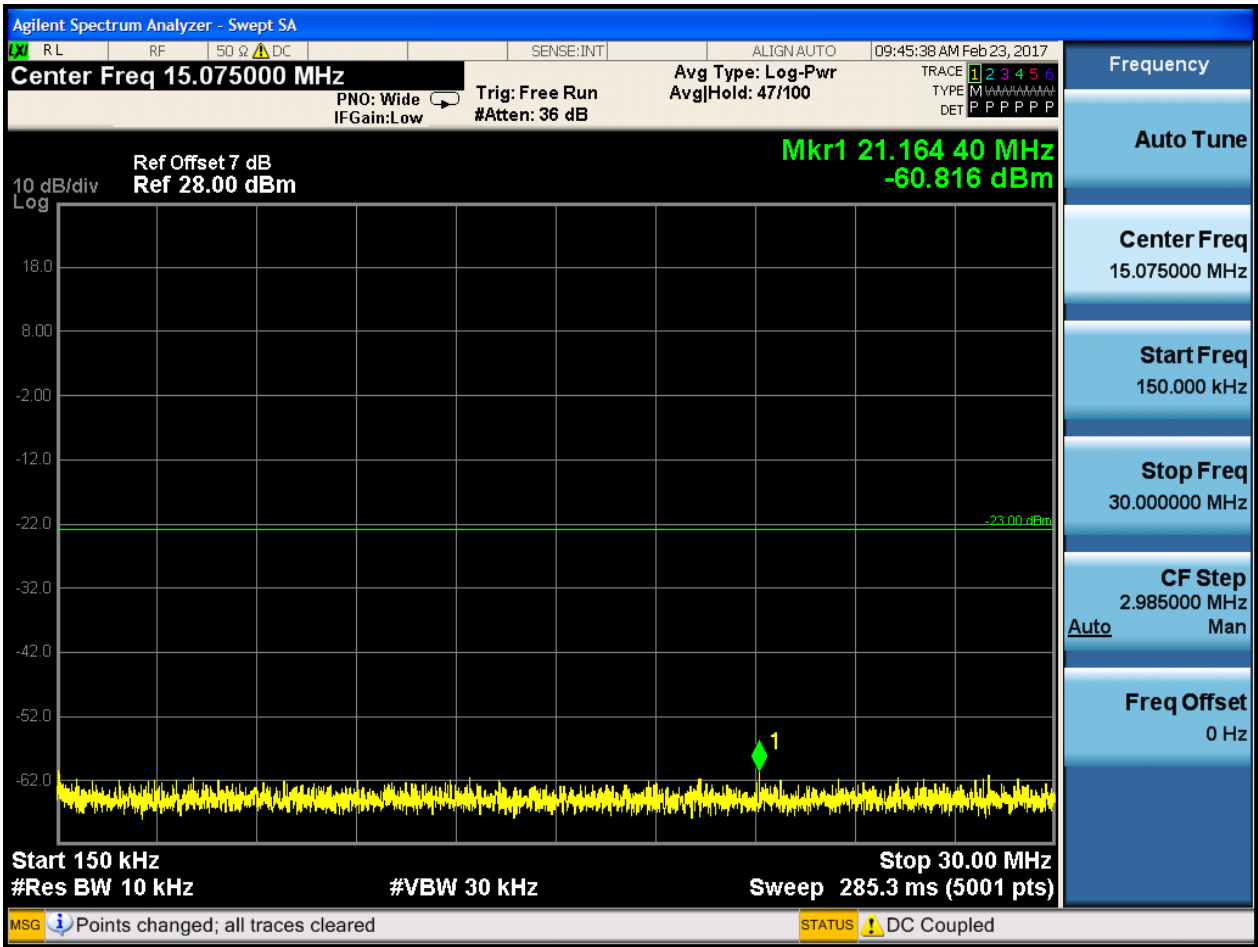
##### 6.1.1.1.1 Test Bandwidth = 1.4

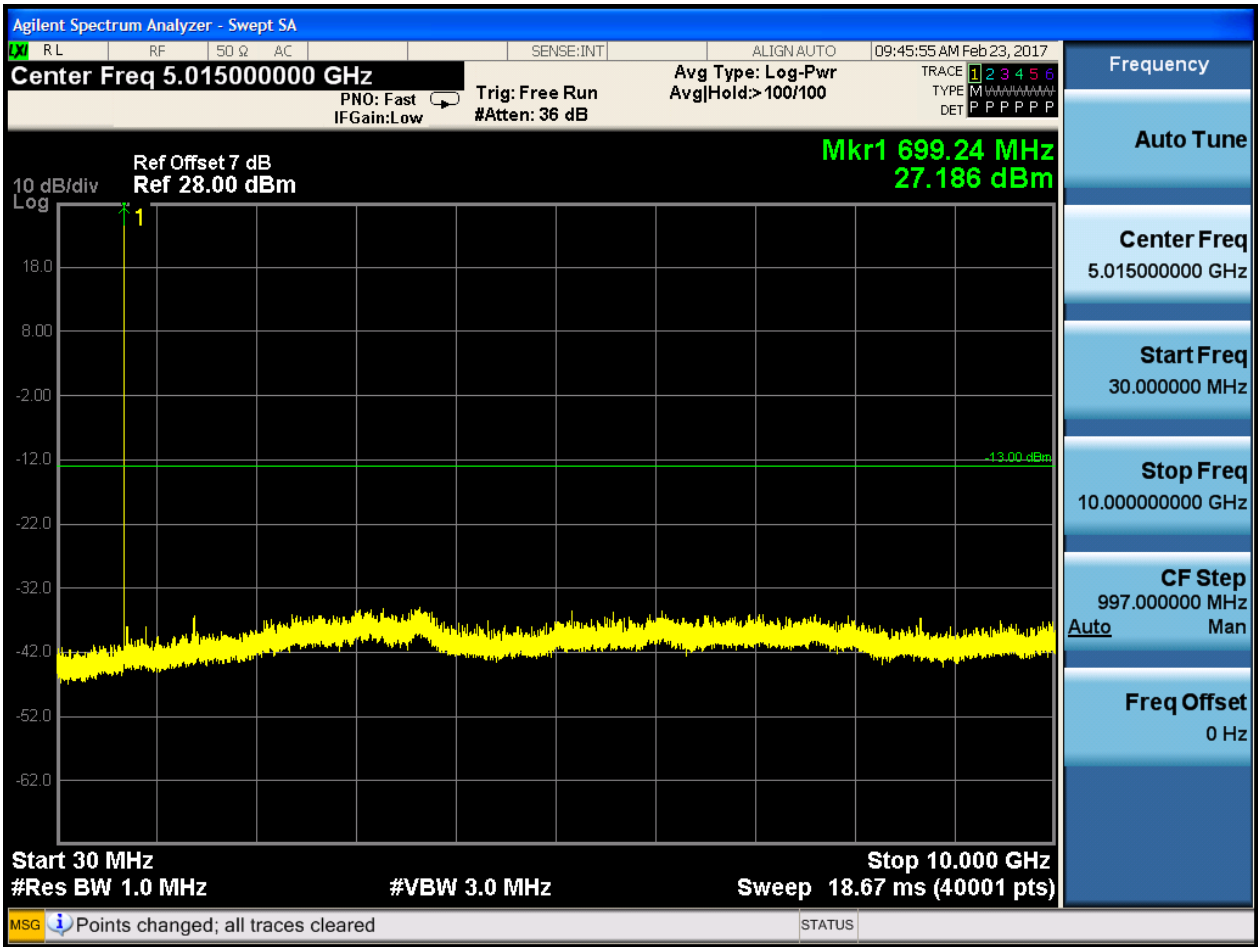
##### 6.1.1.1.1.1 Test Channel = LCH

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





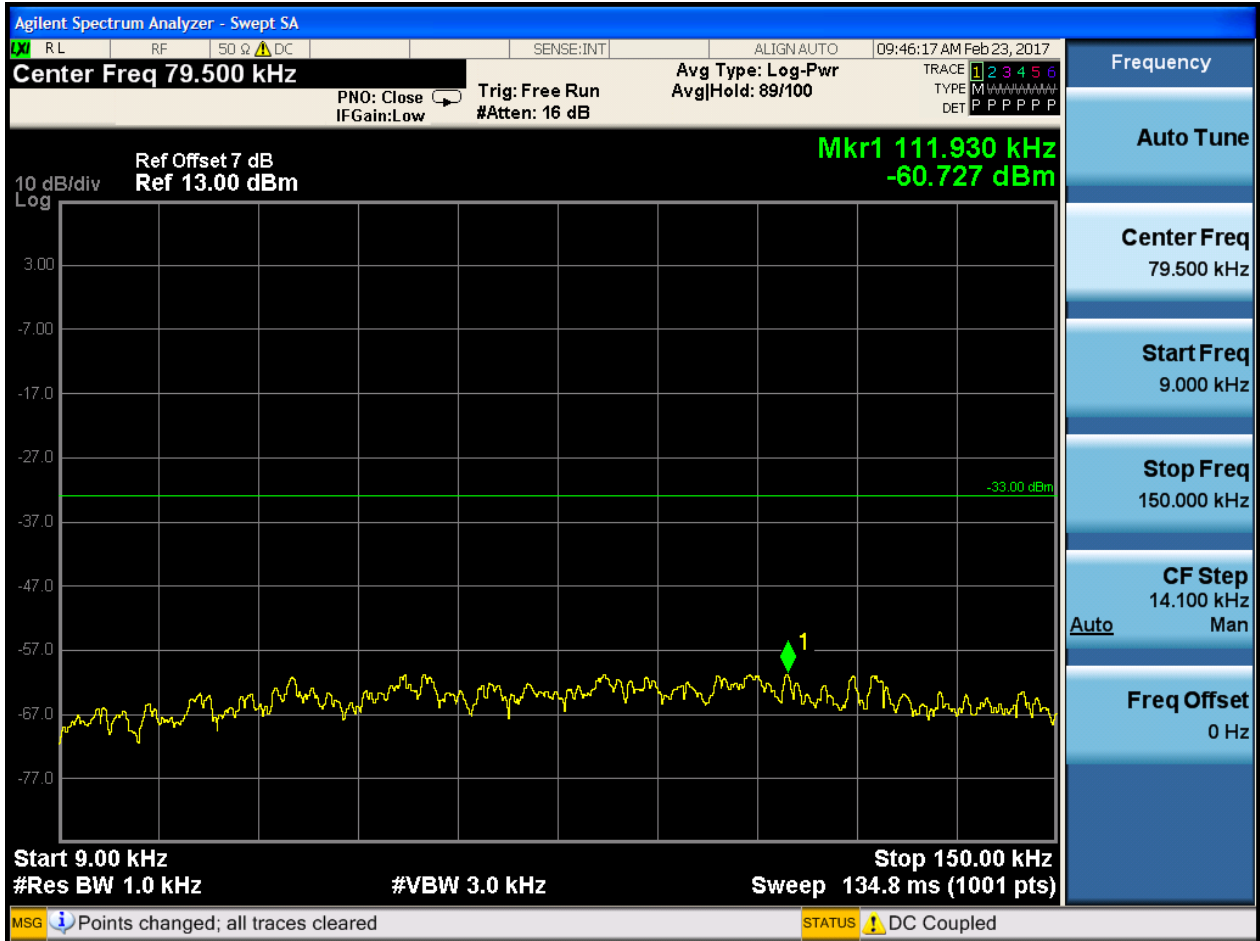


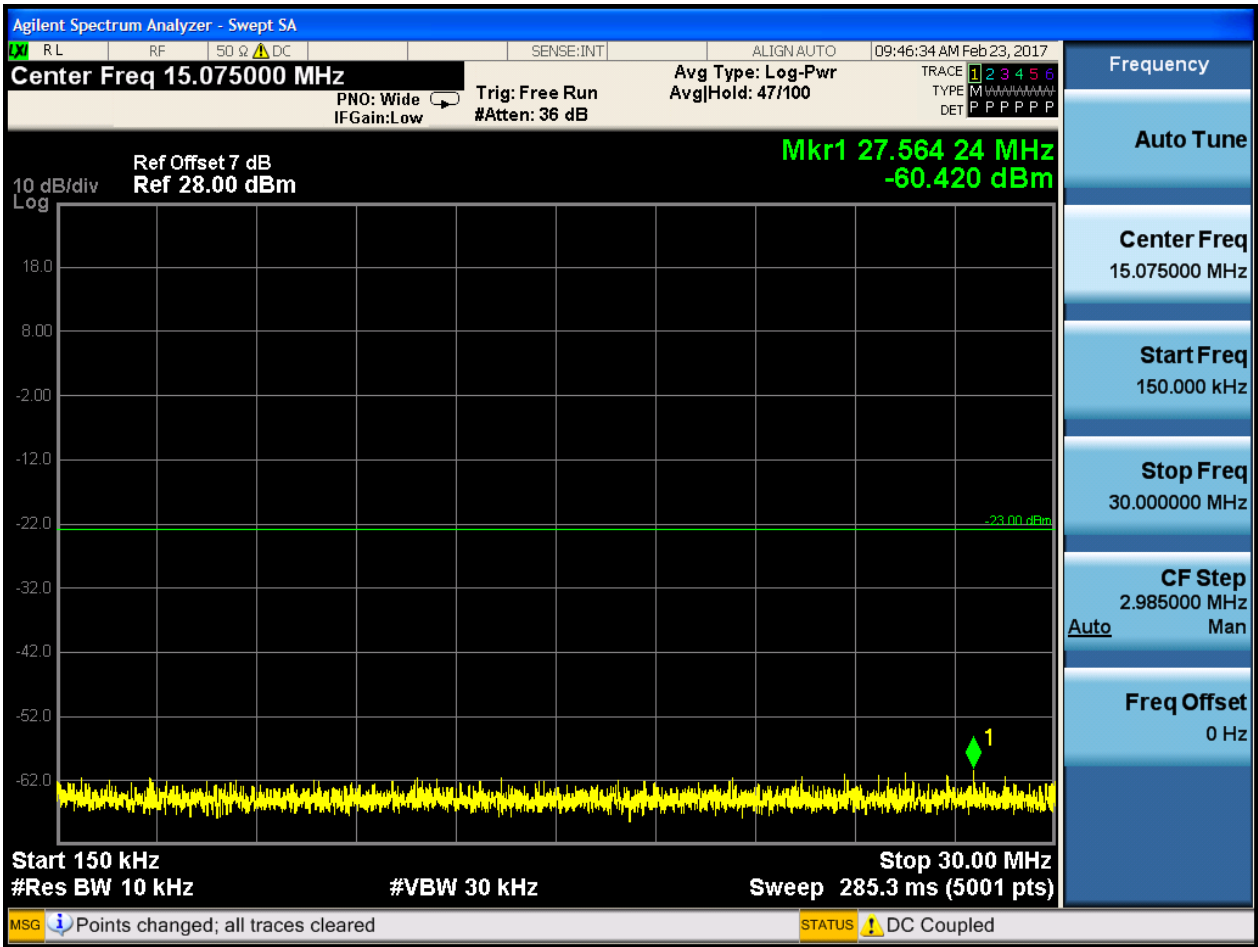


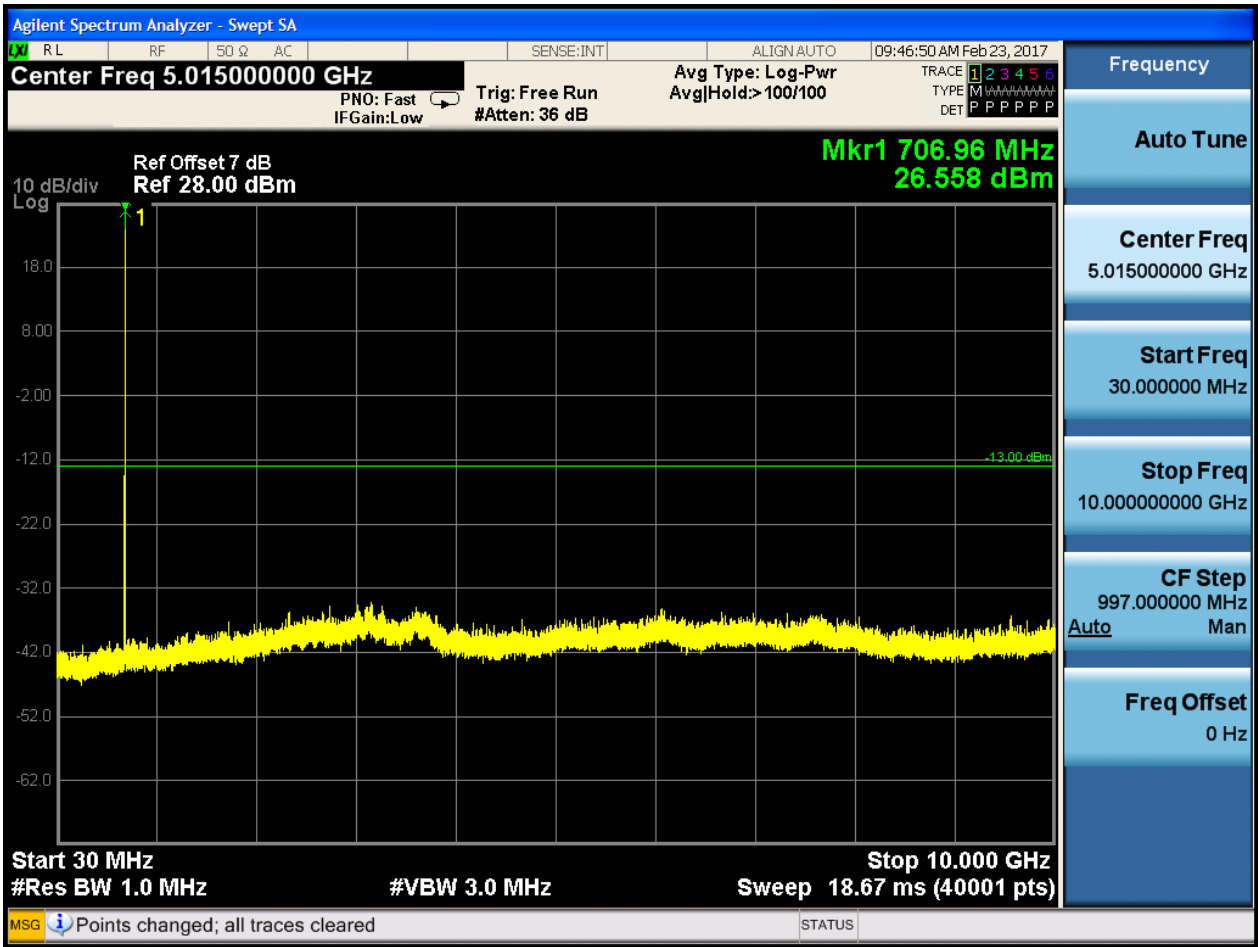


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



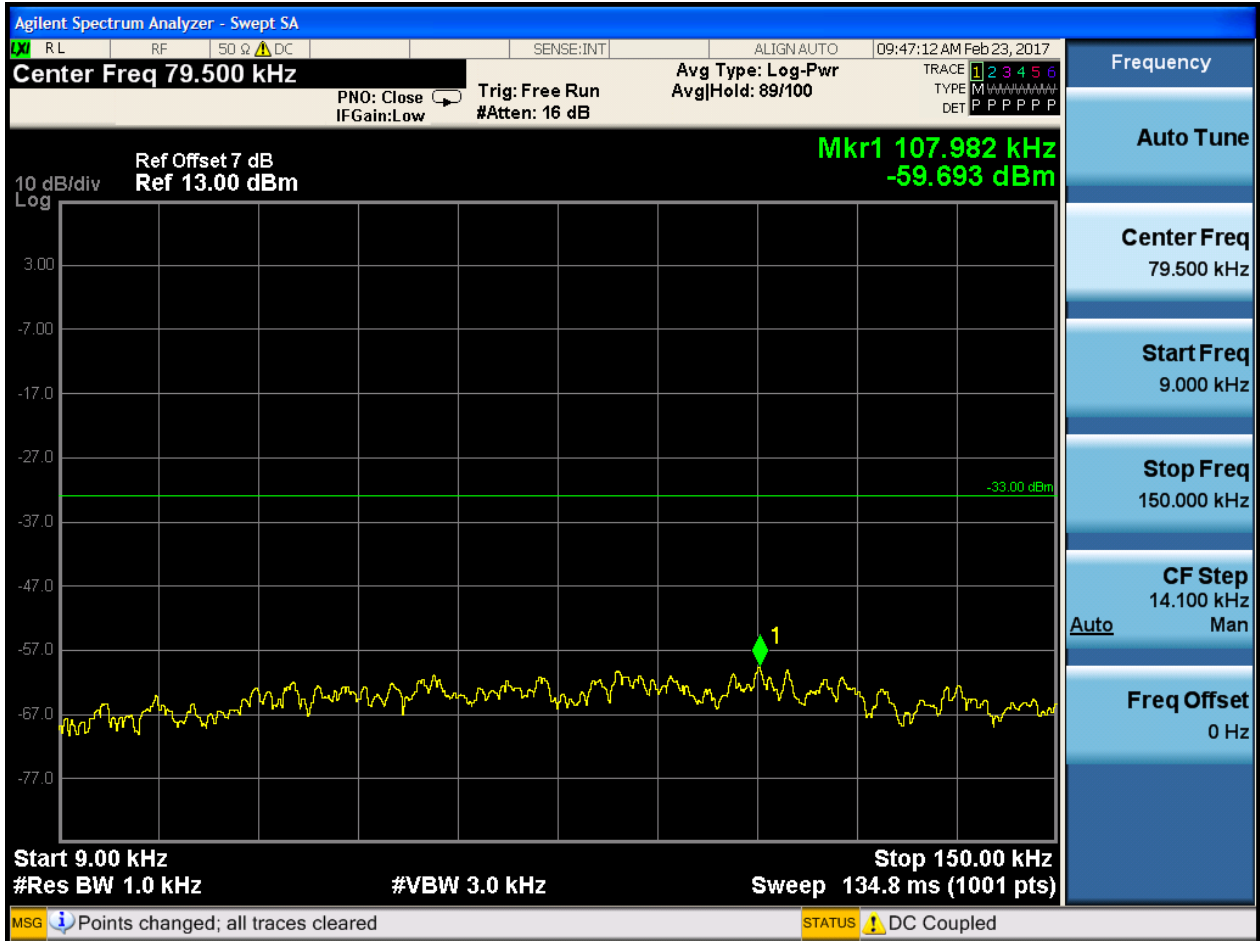


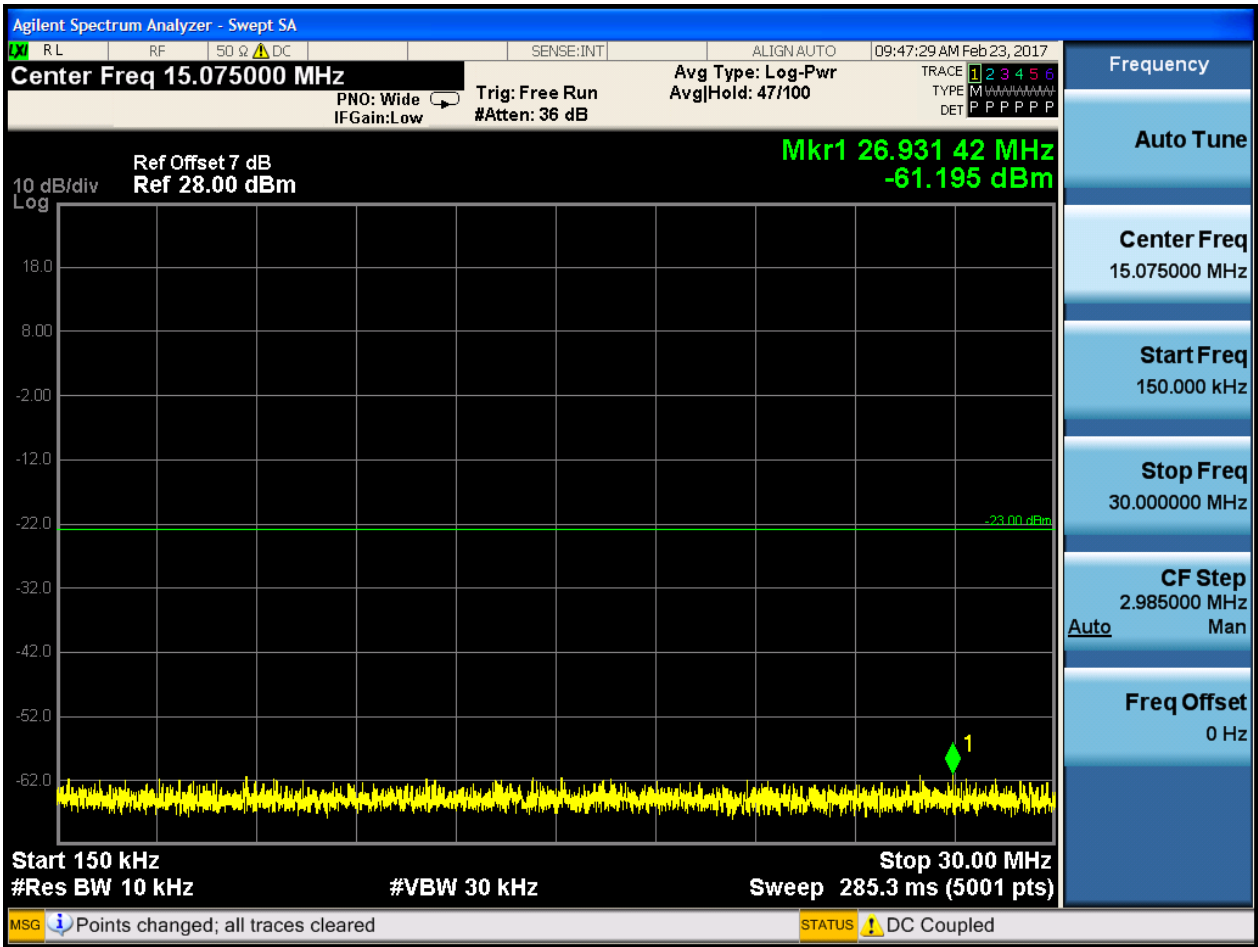


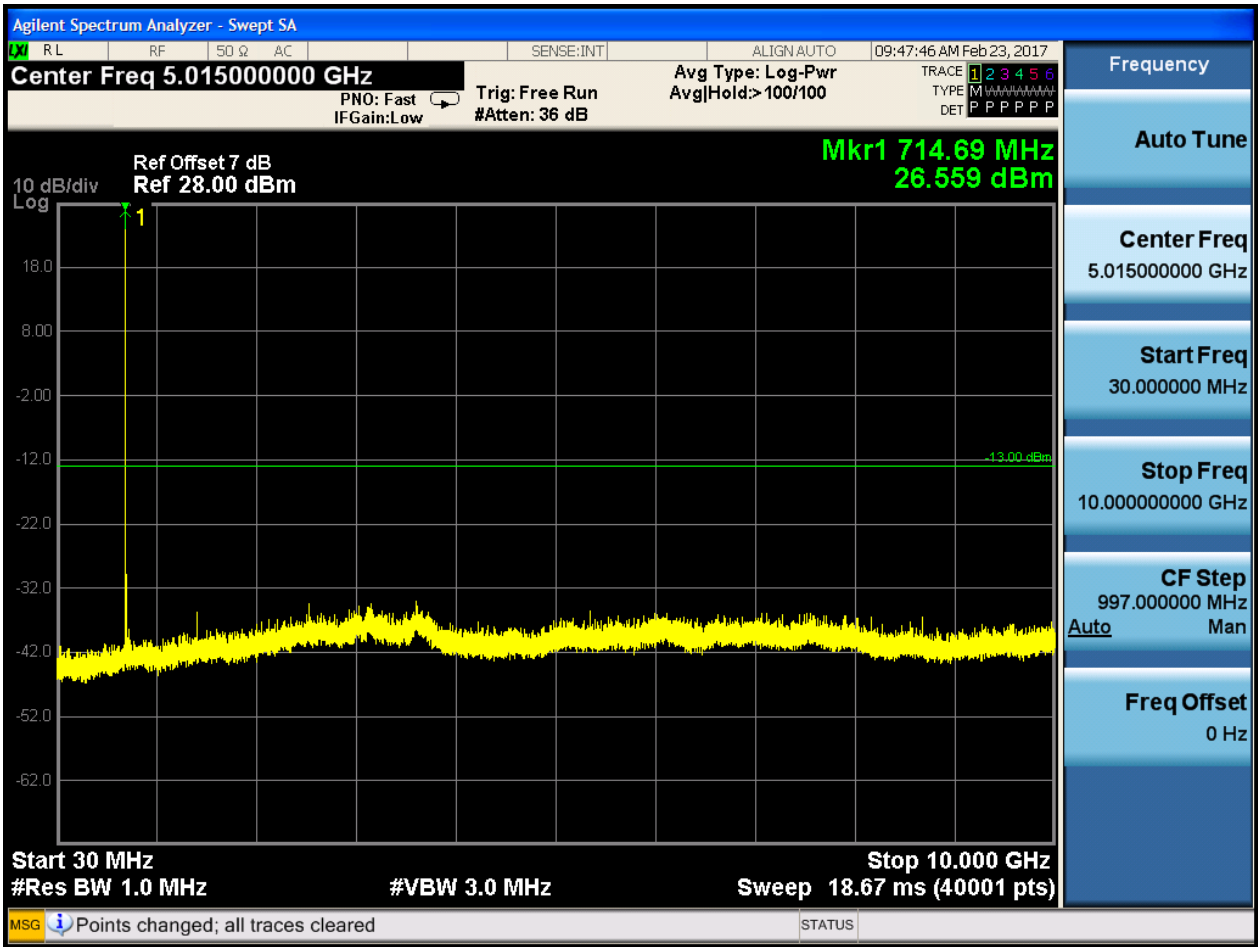


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0

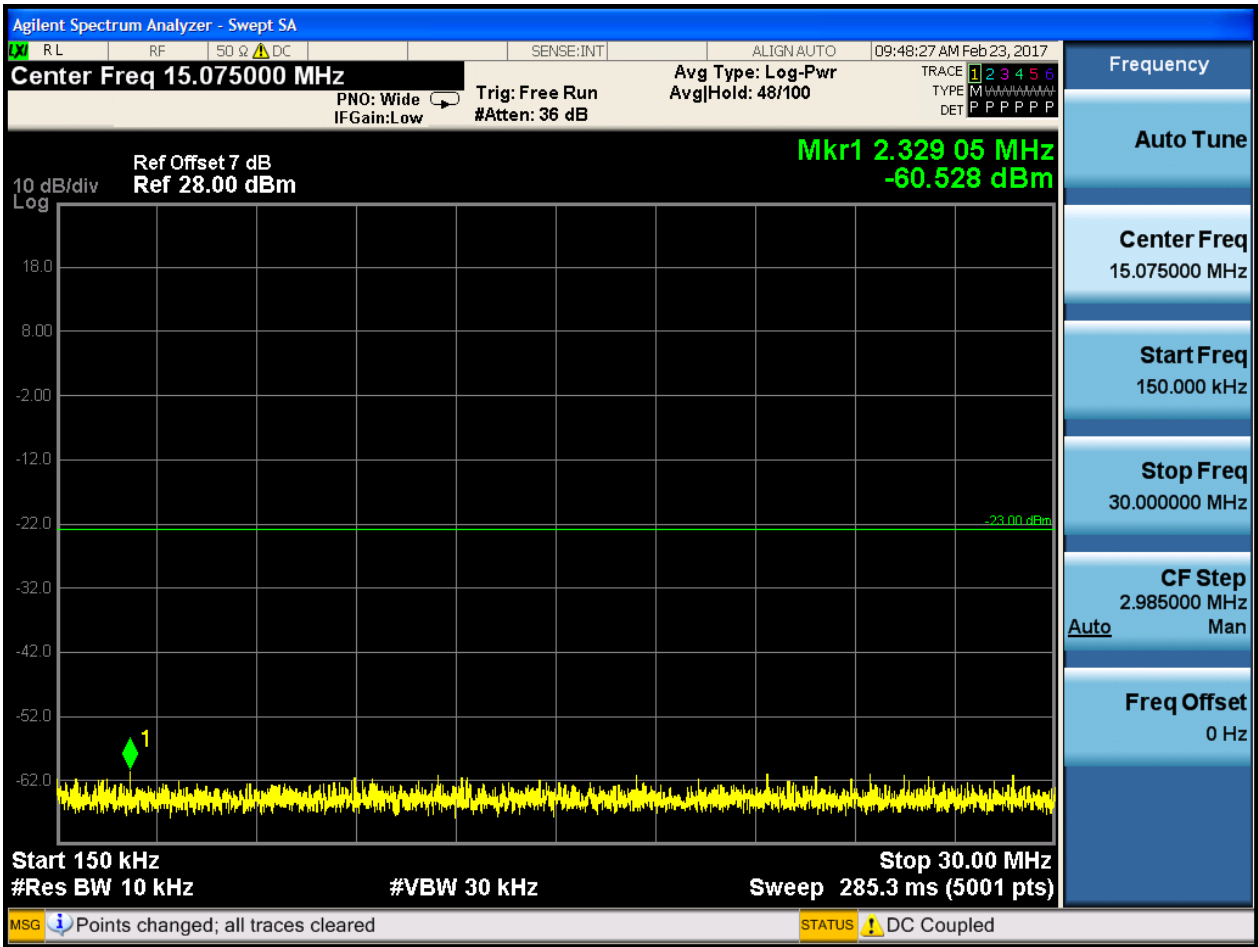










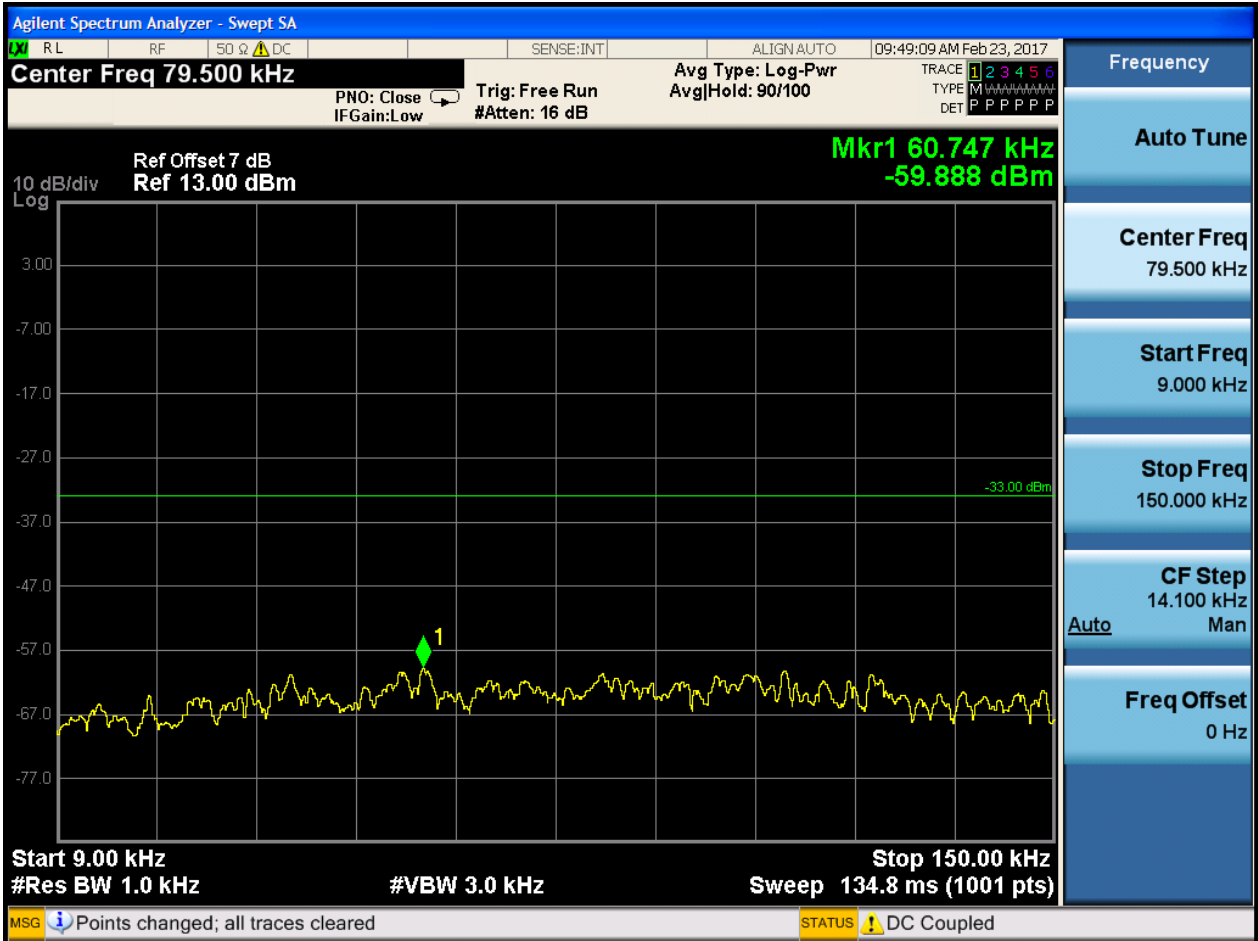


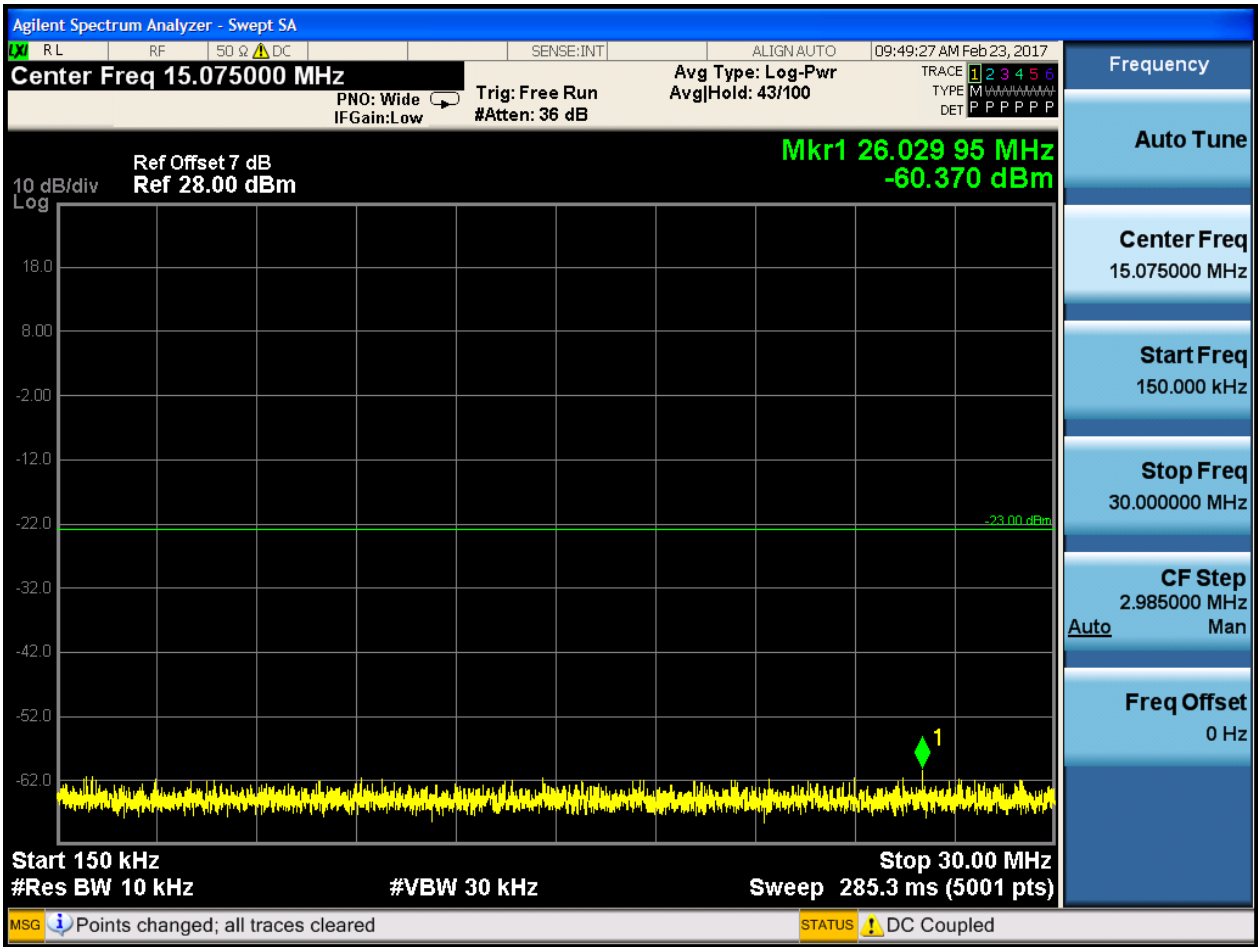


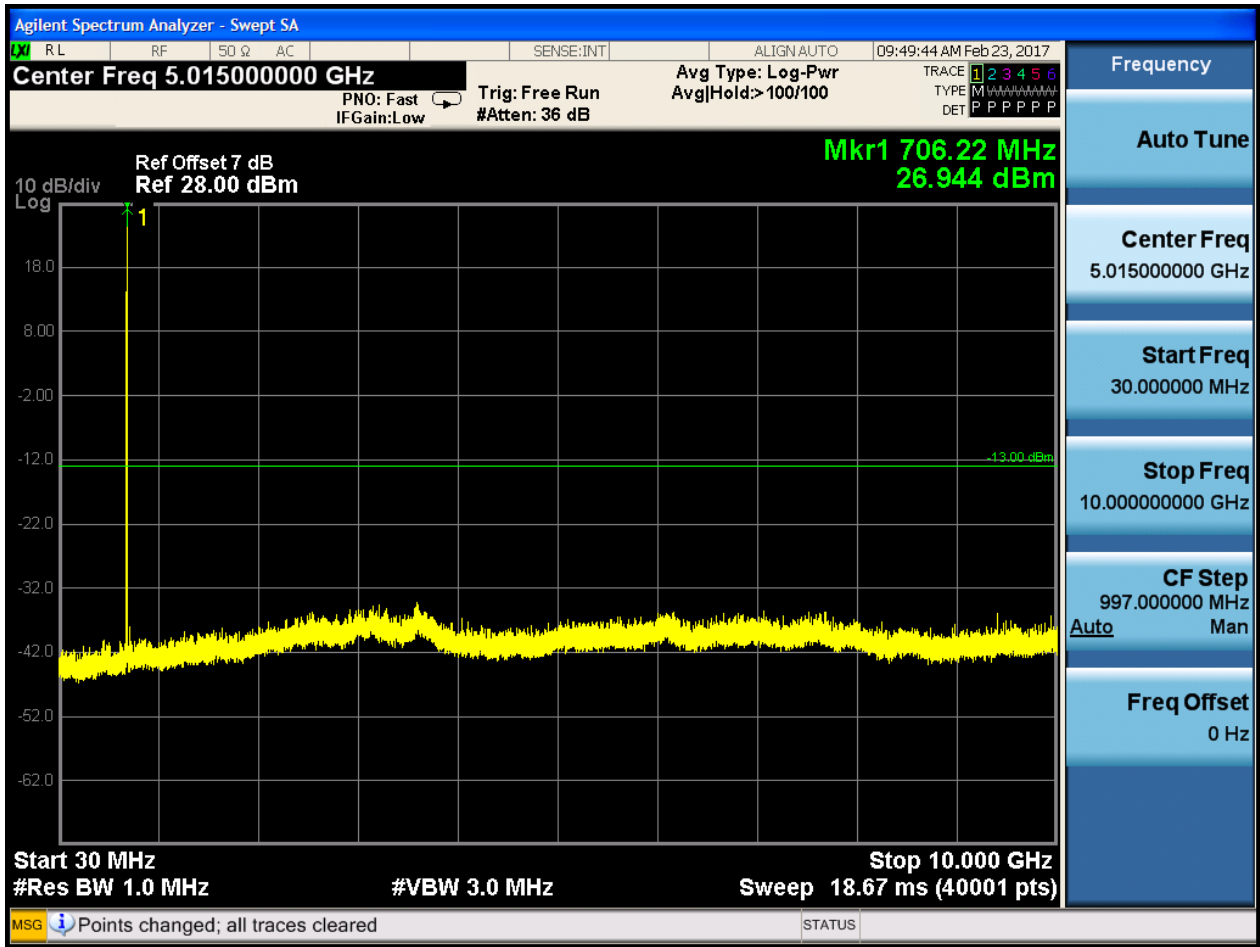


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



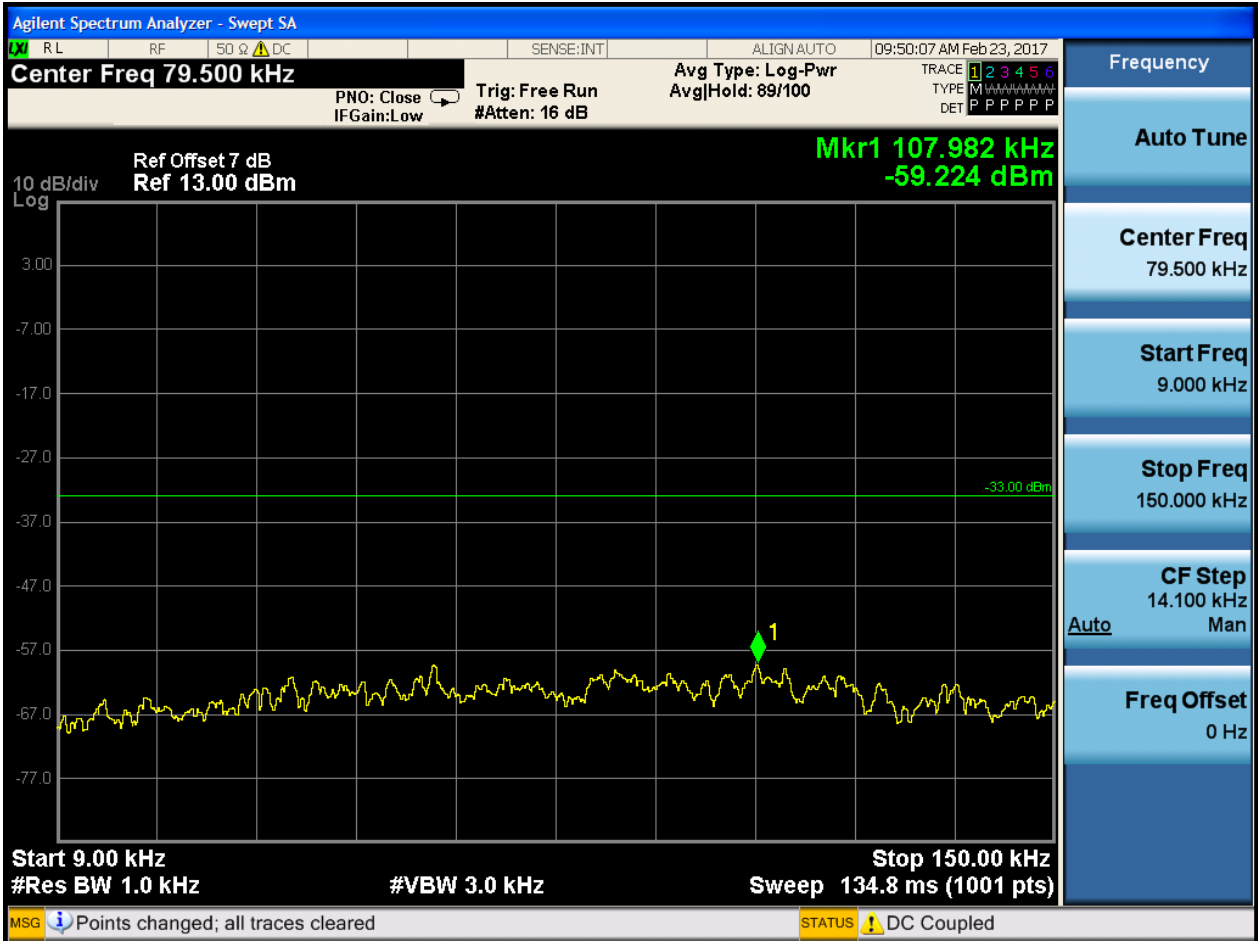


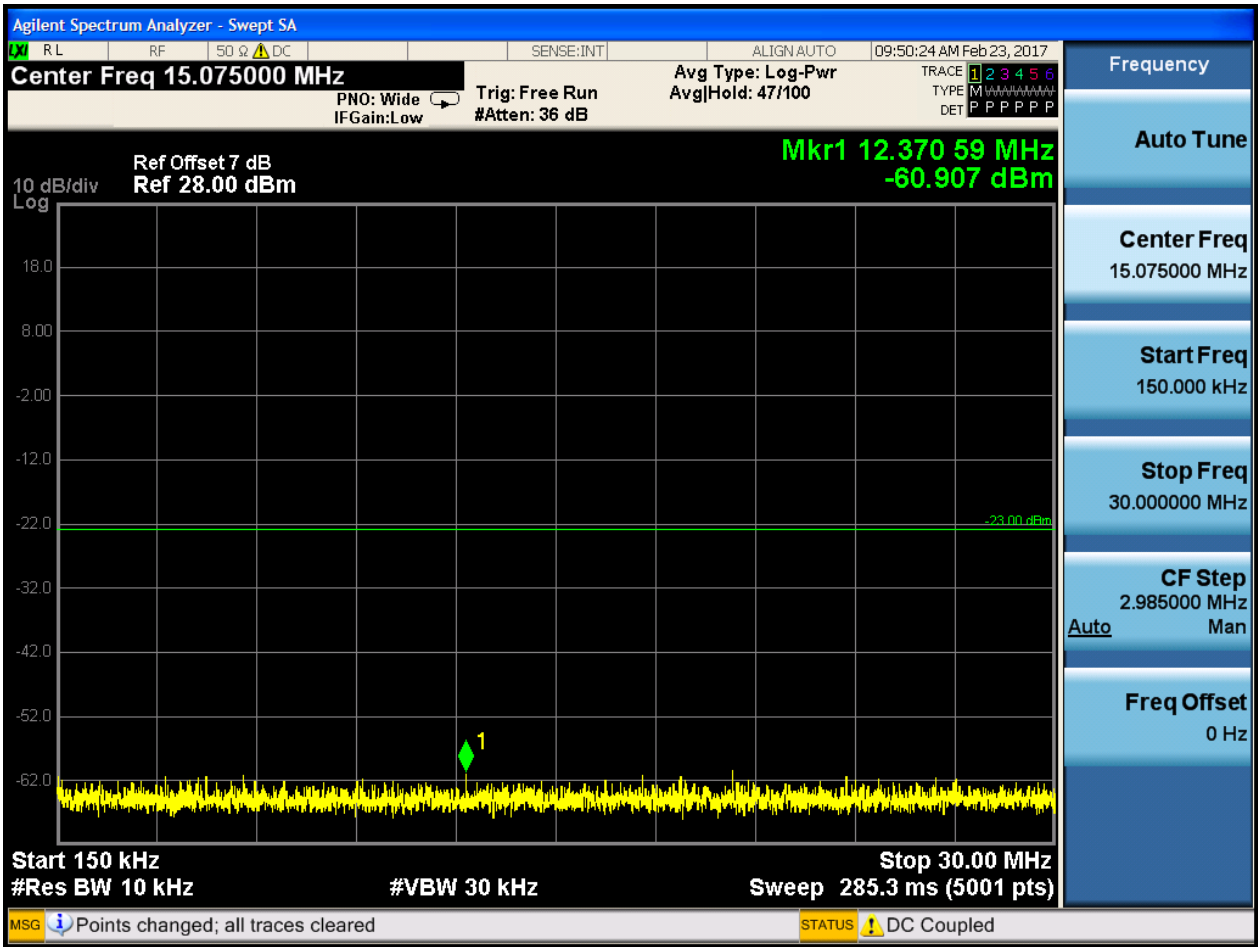




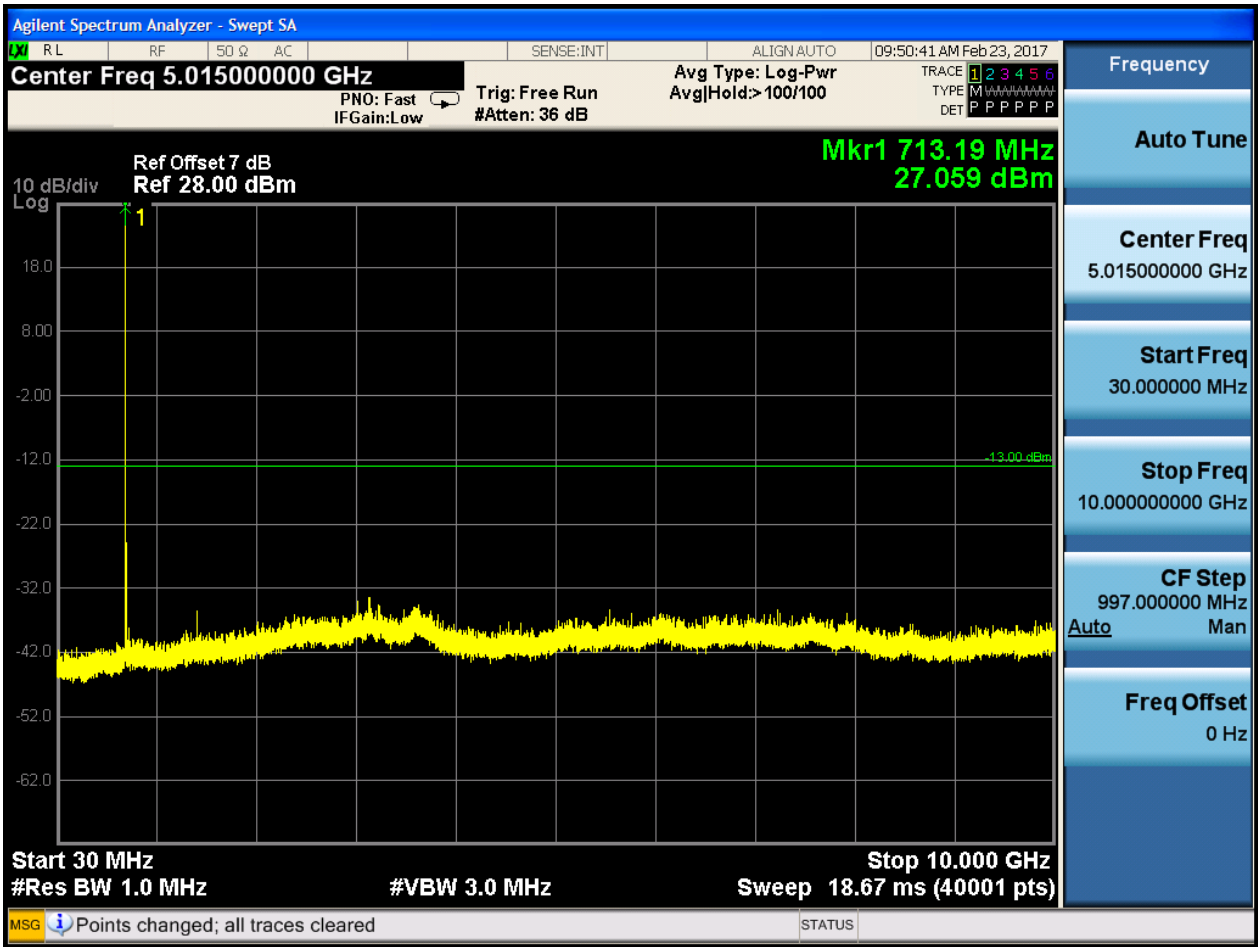
6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0







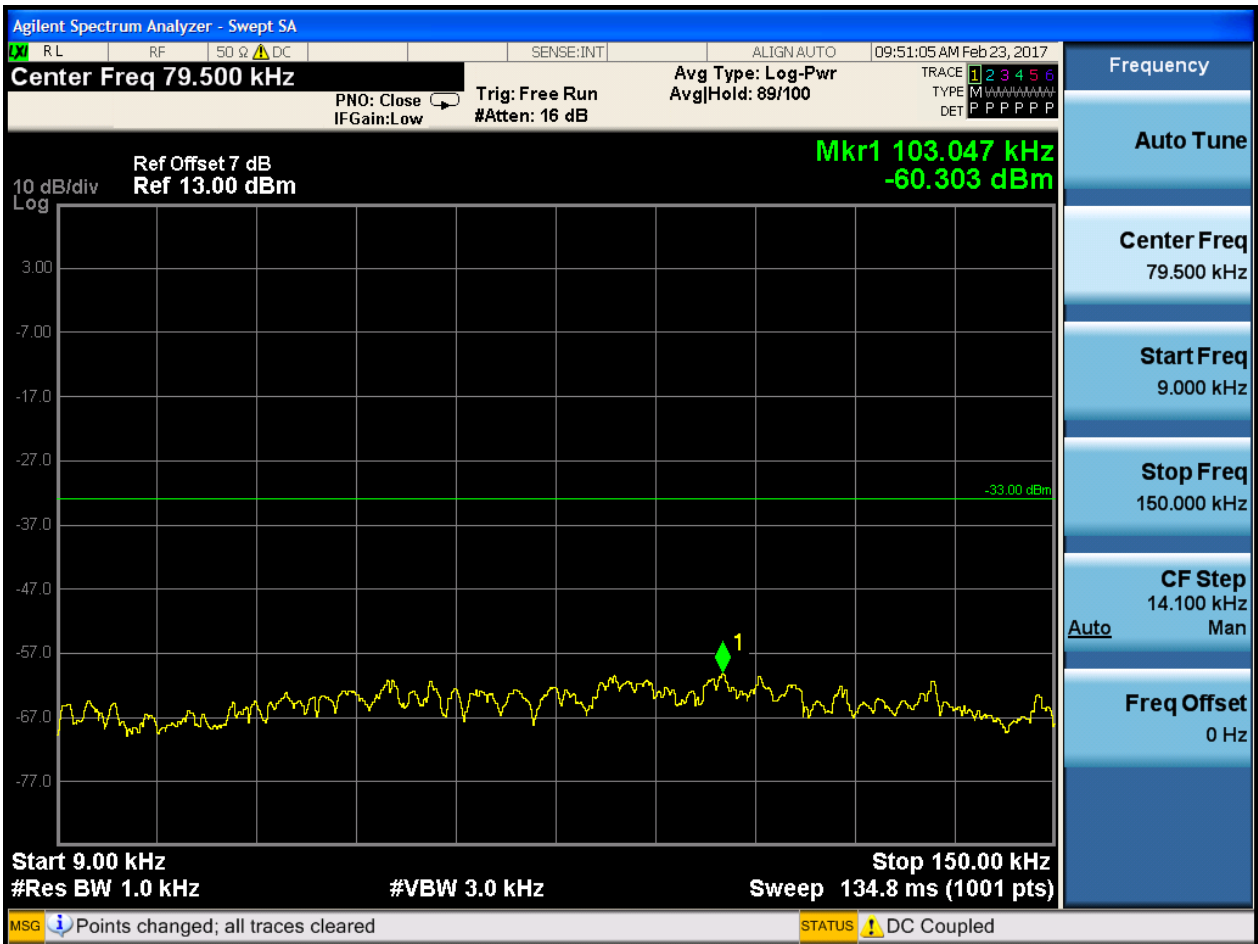


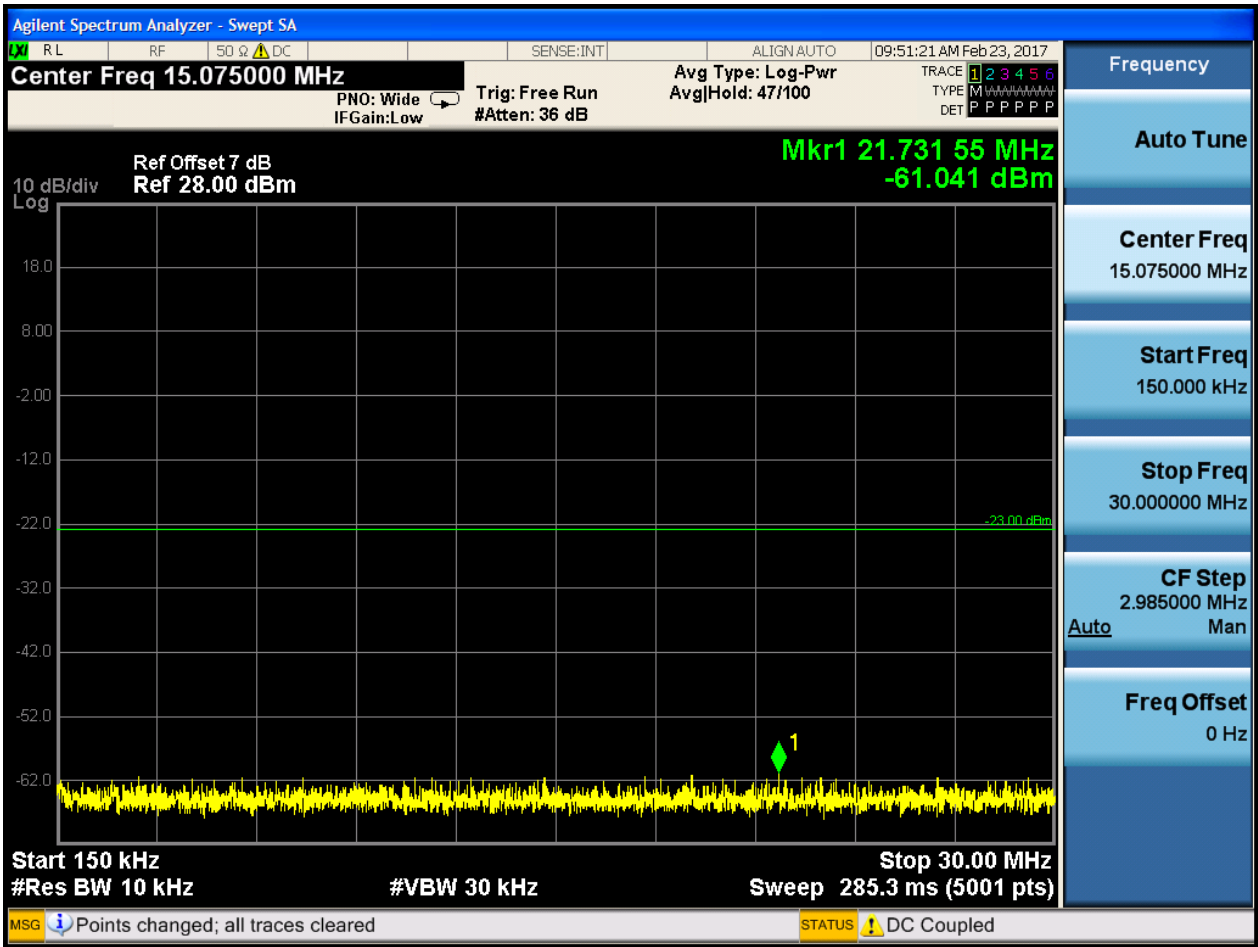


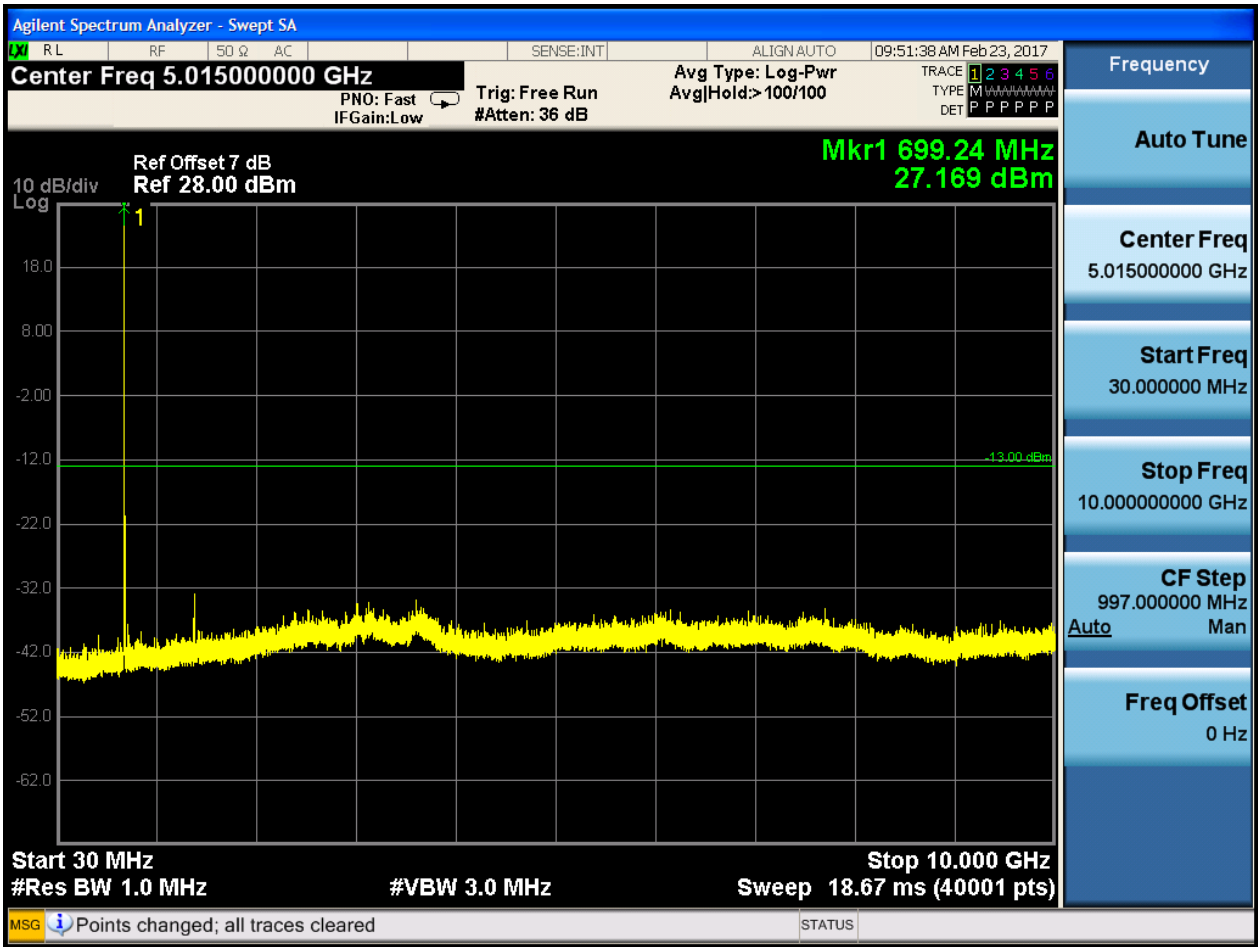
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



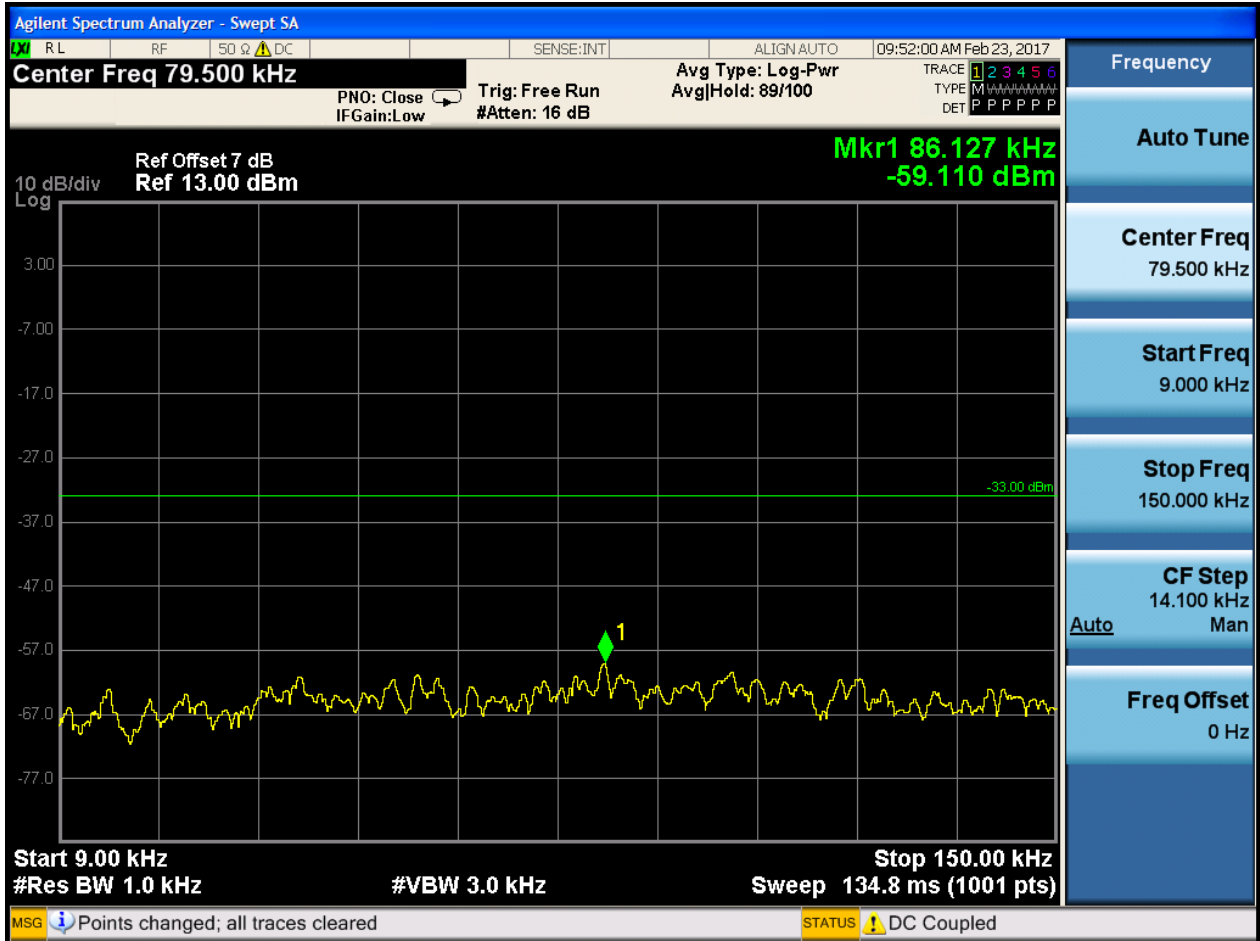


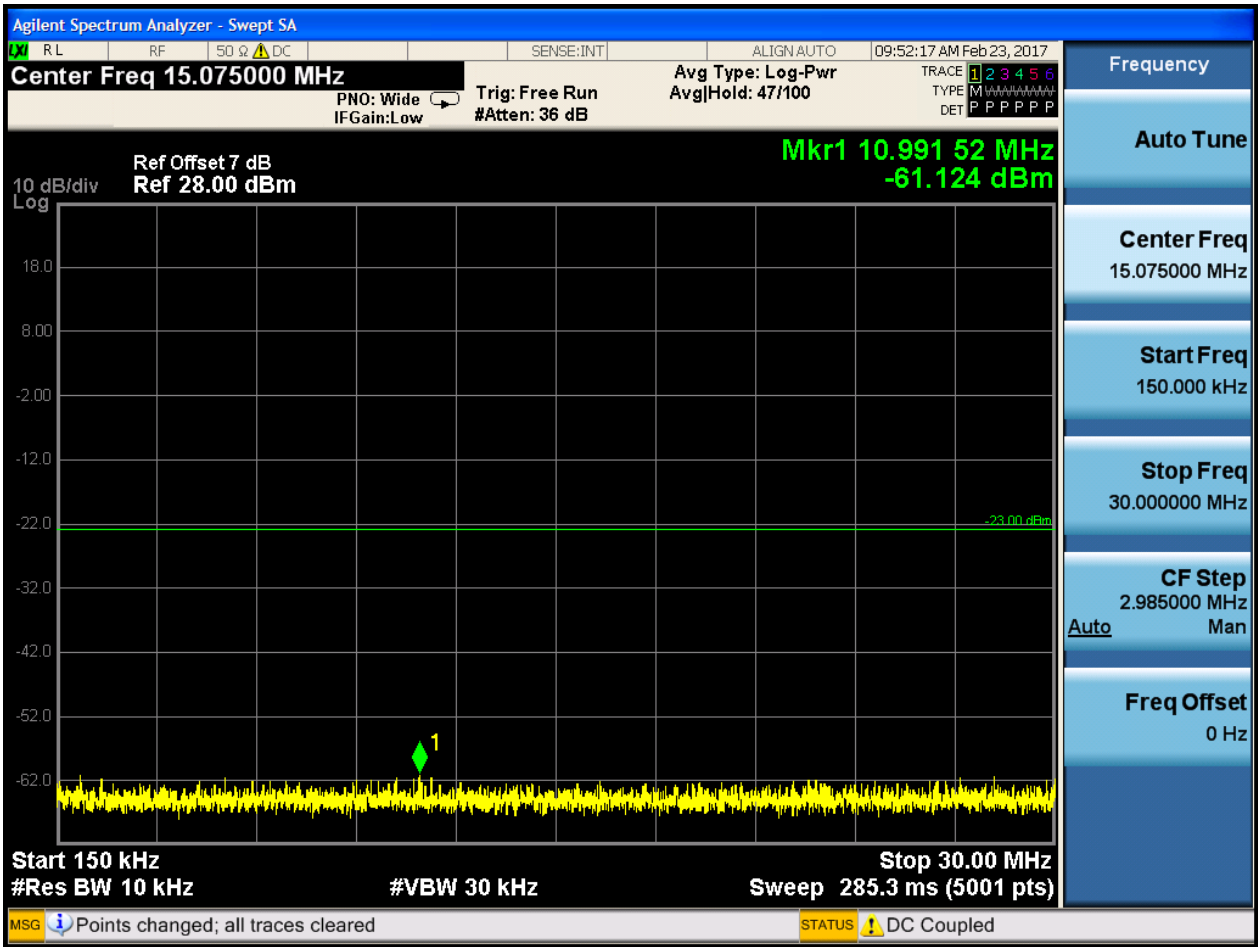


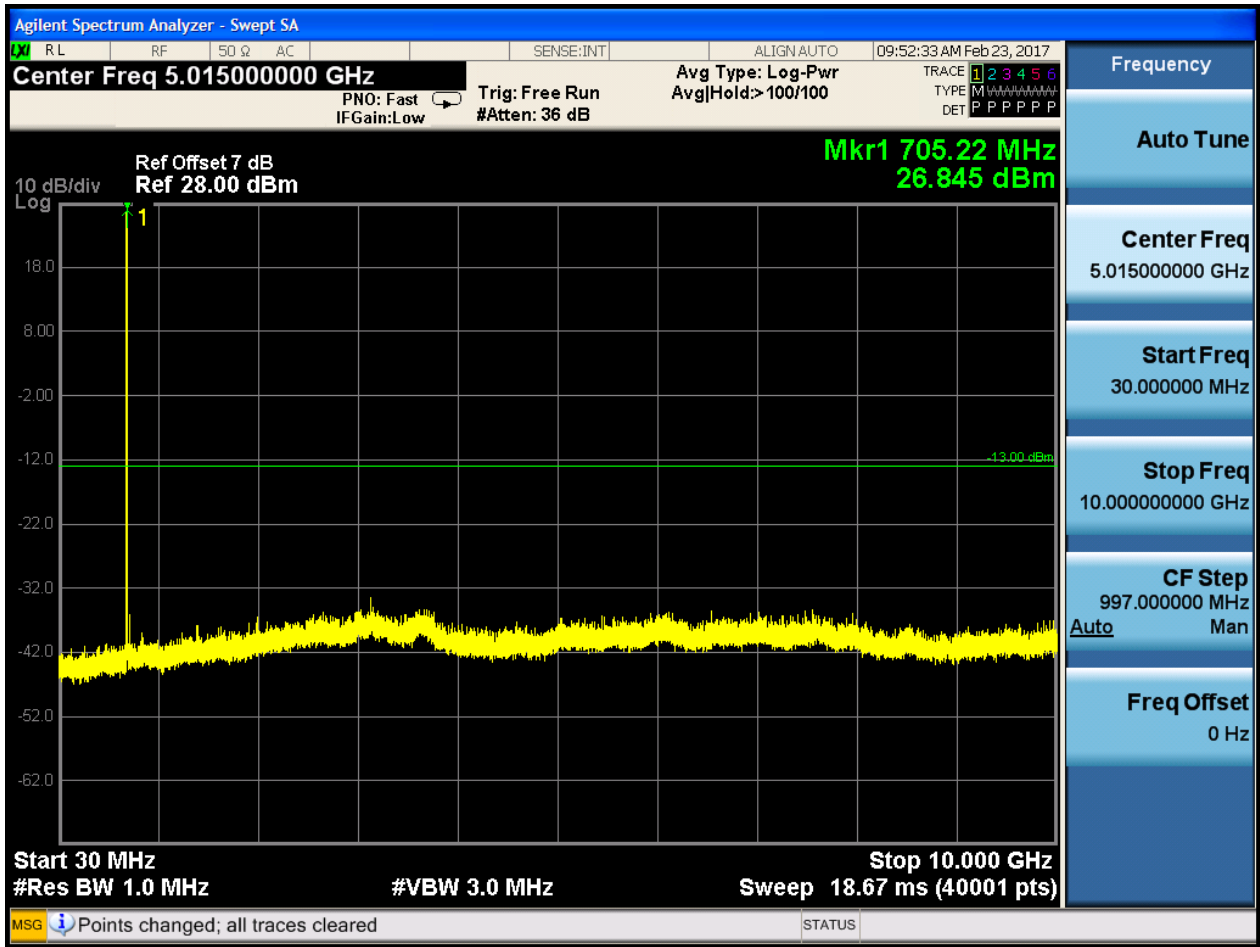


### 6.1.1.1.3.2 Test Channel = MCH

#### 6.1.1.1.3.2.1 Test RB = RB1#0



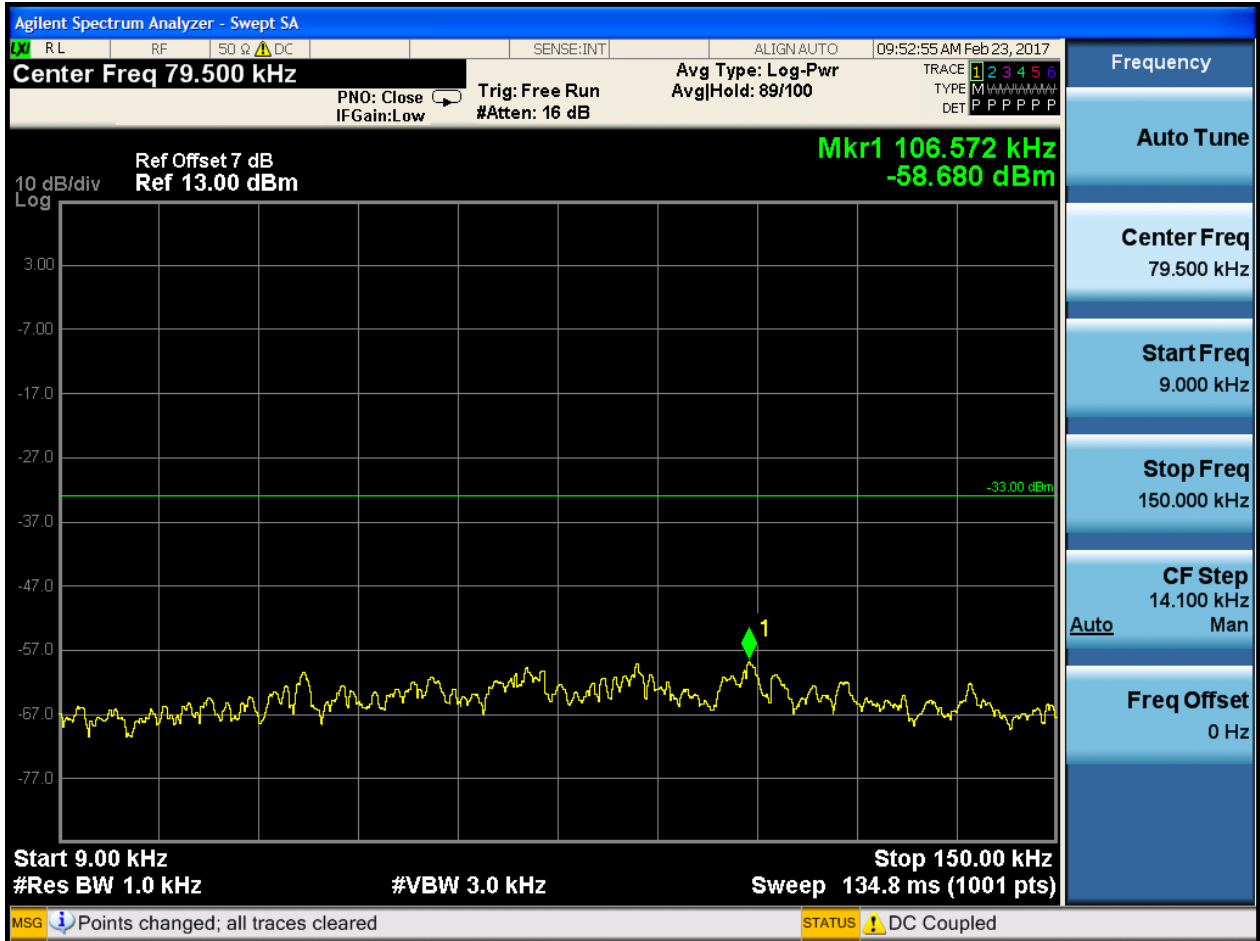




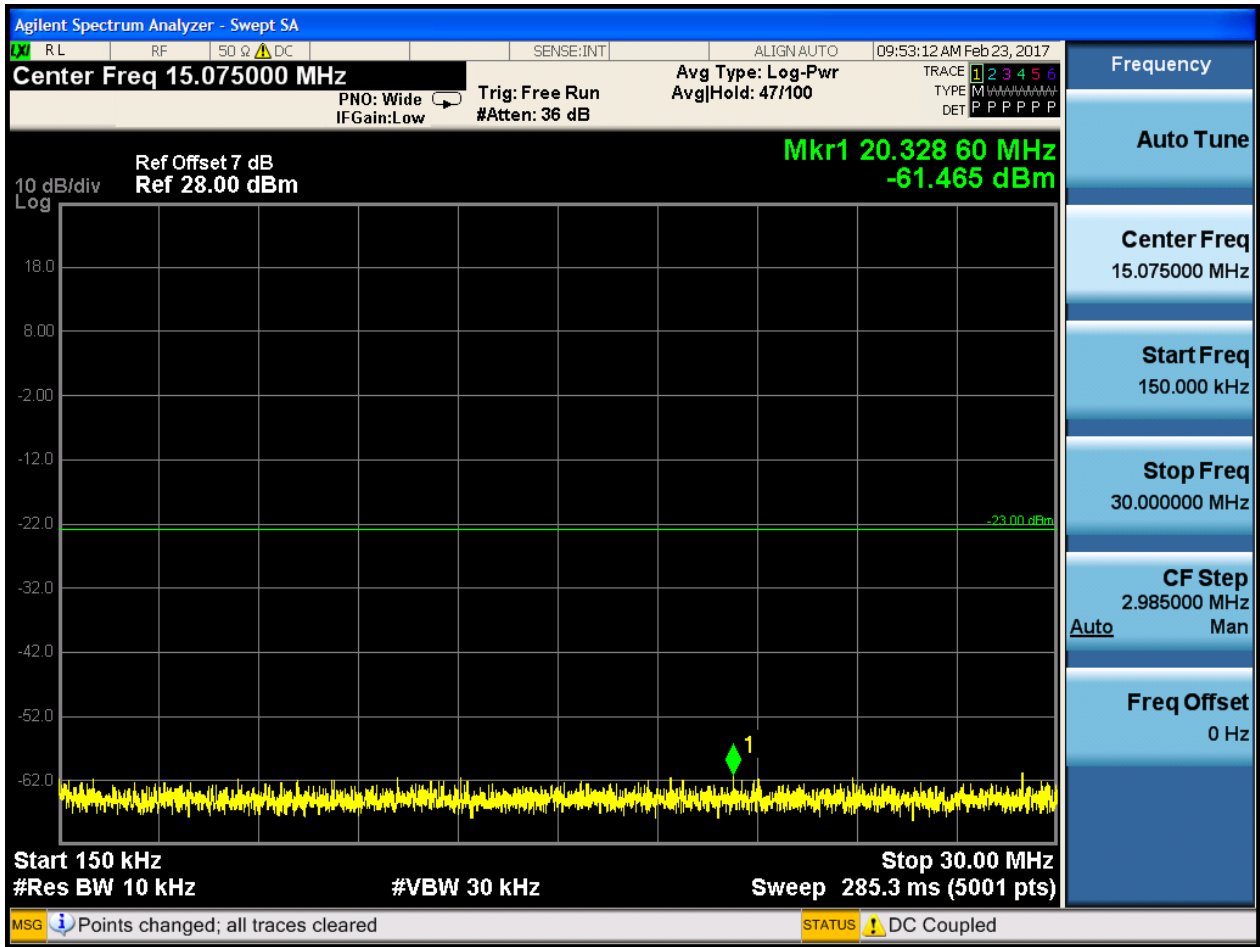


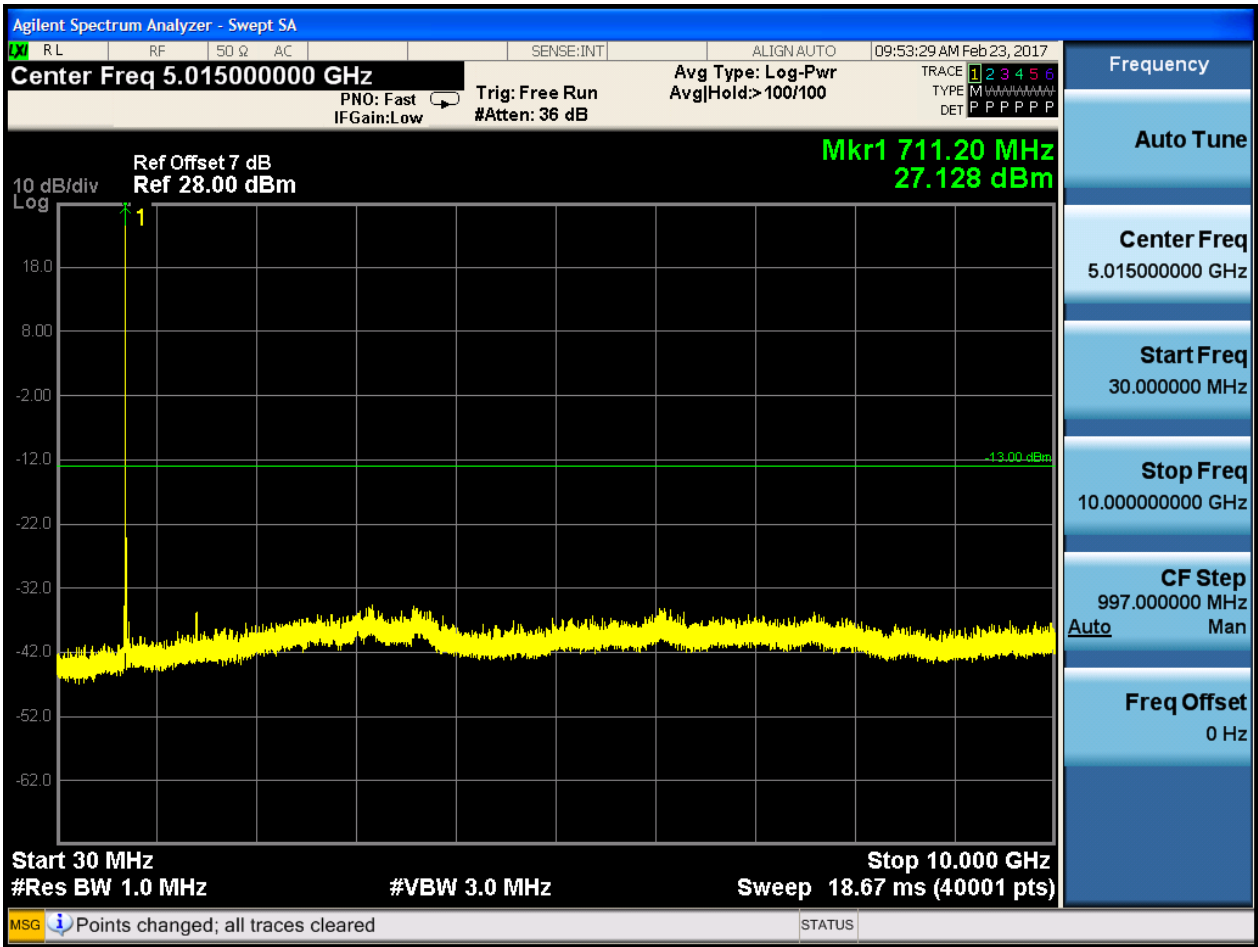
6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0







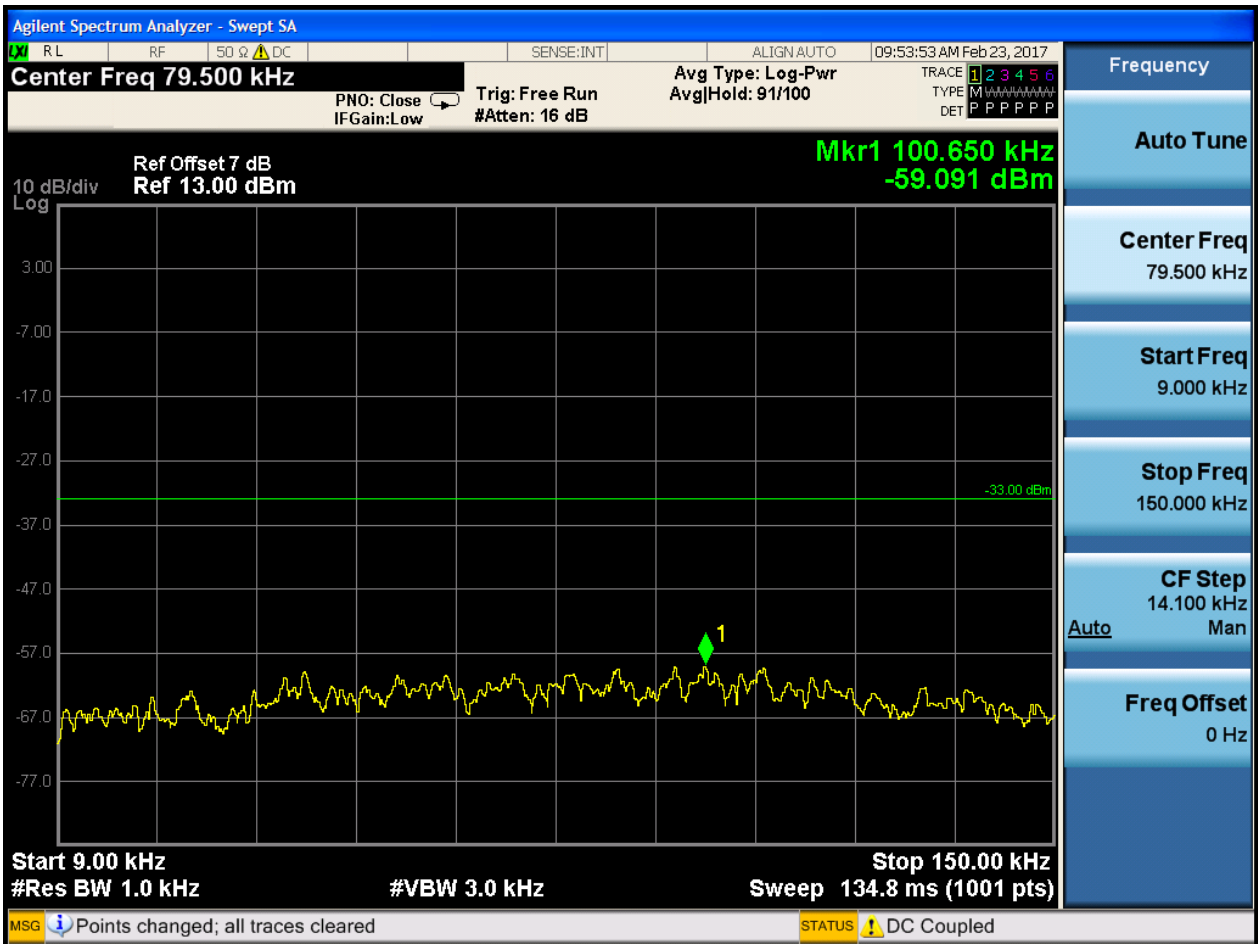


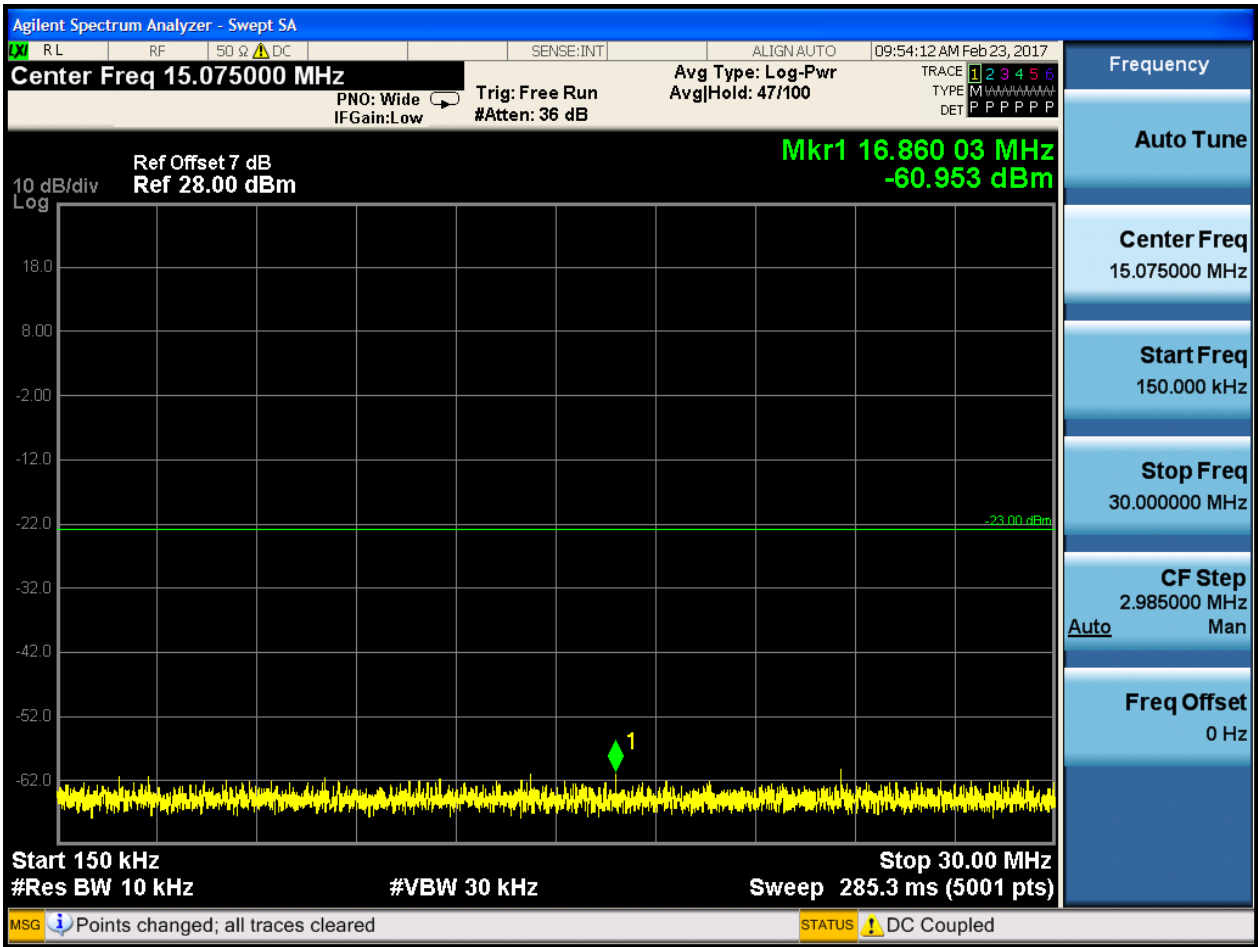


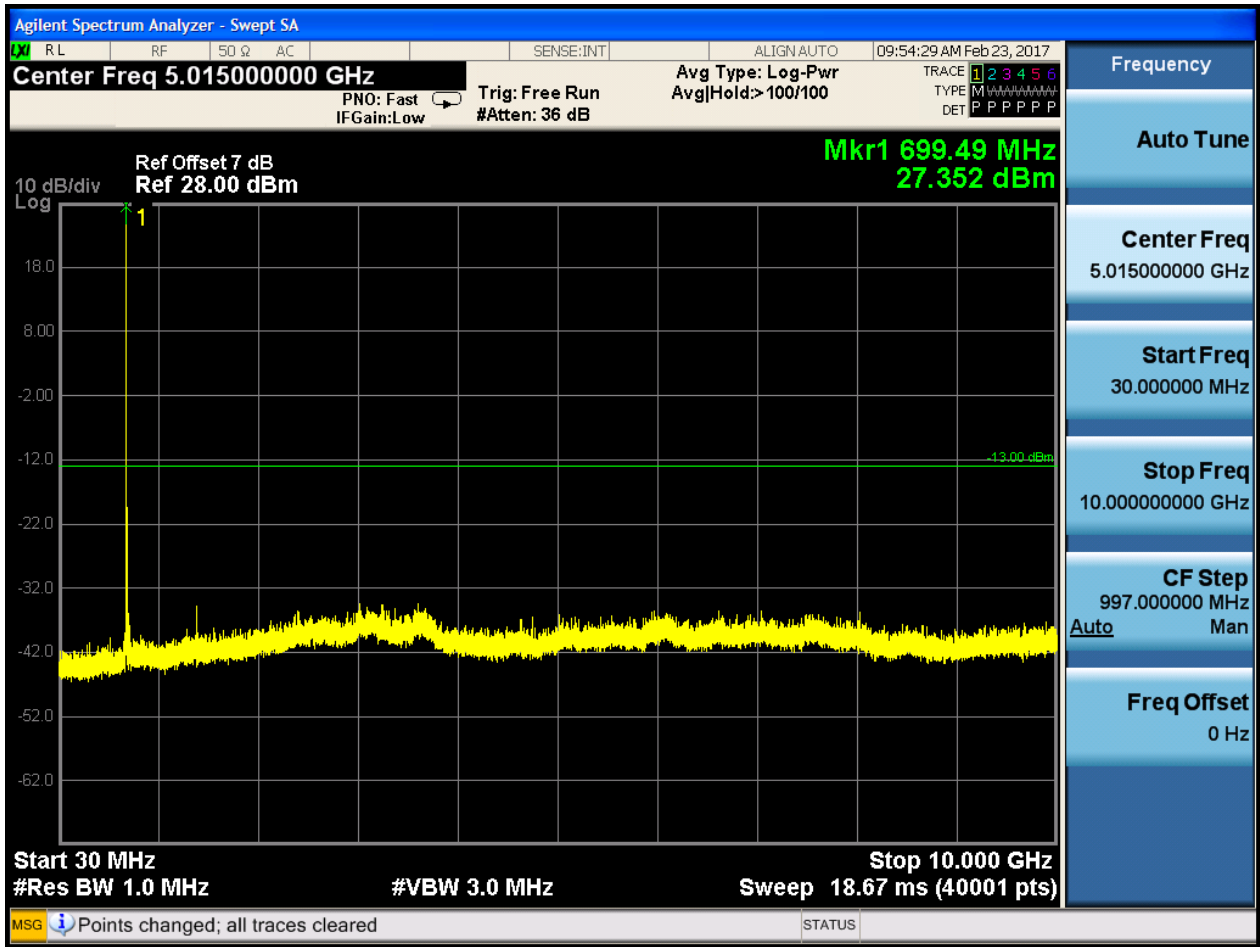
6.1.1.1.4 Test Bandwidth = 10

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



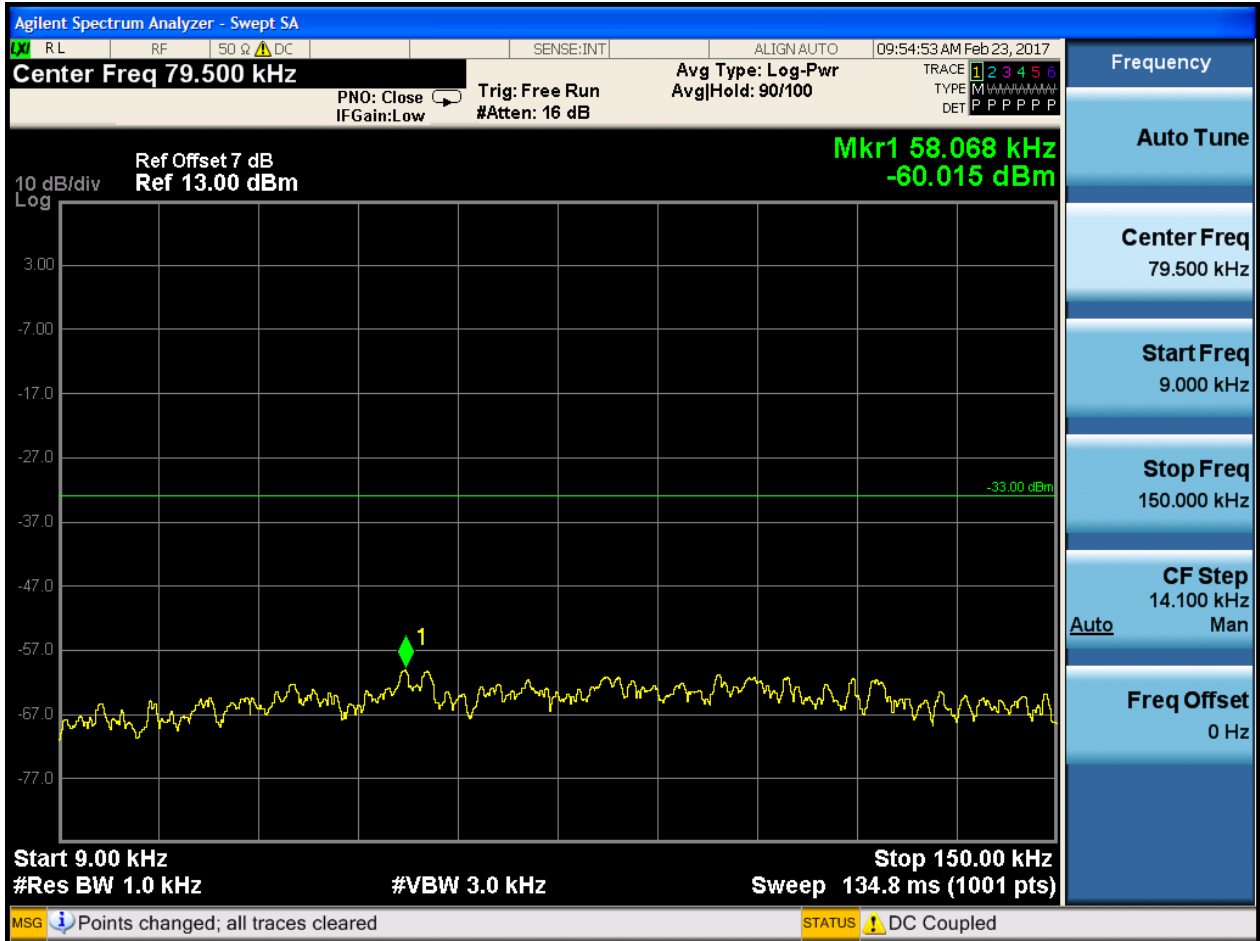


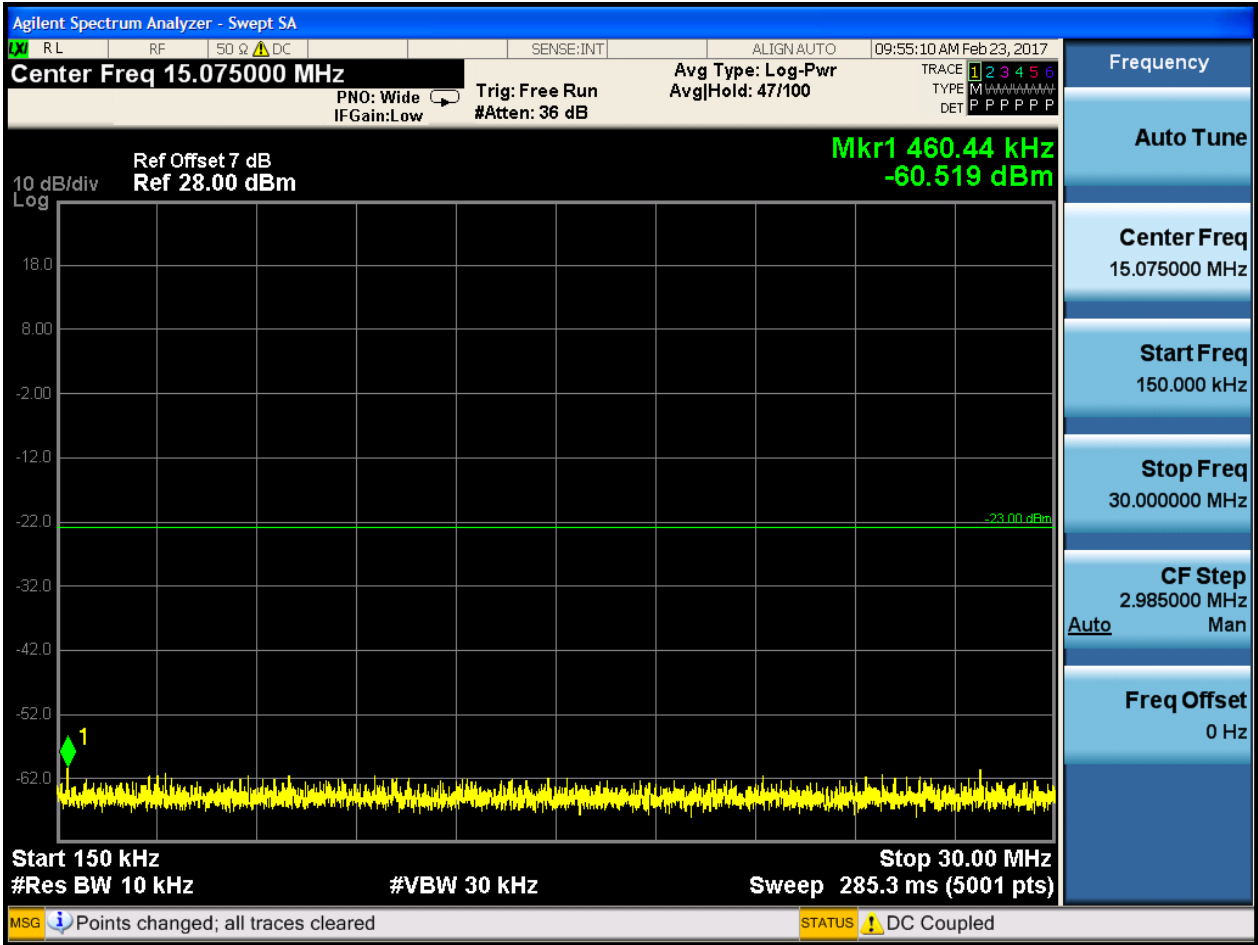


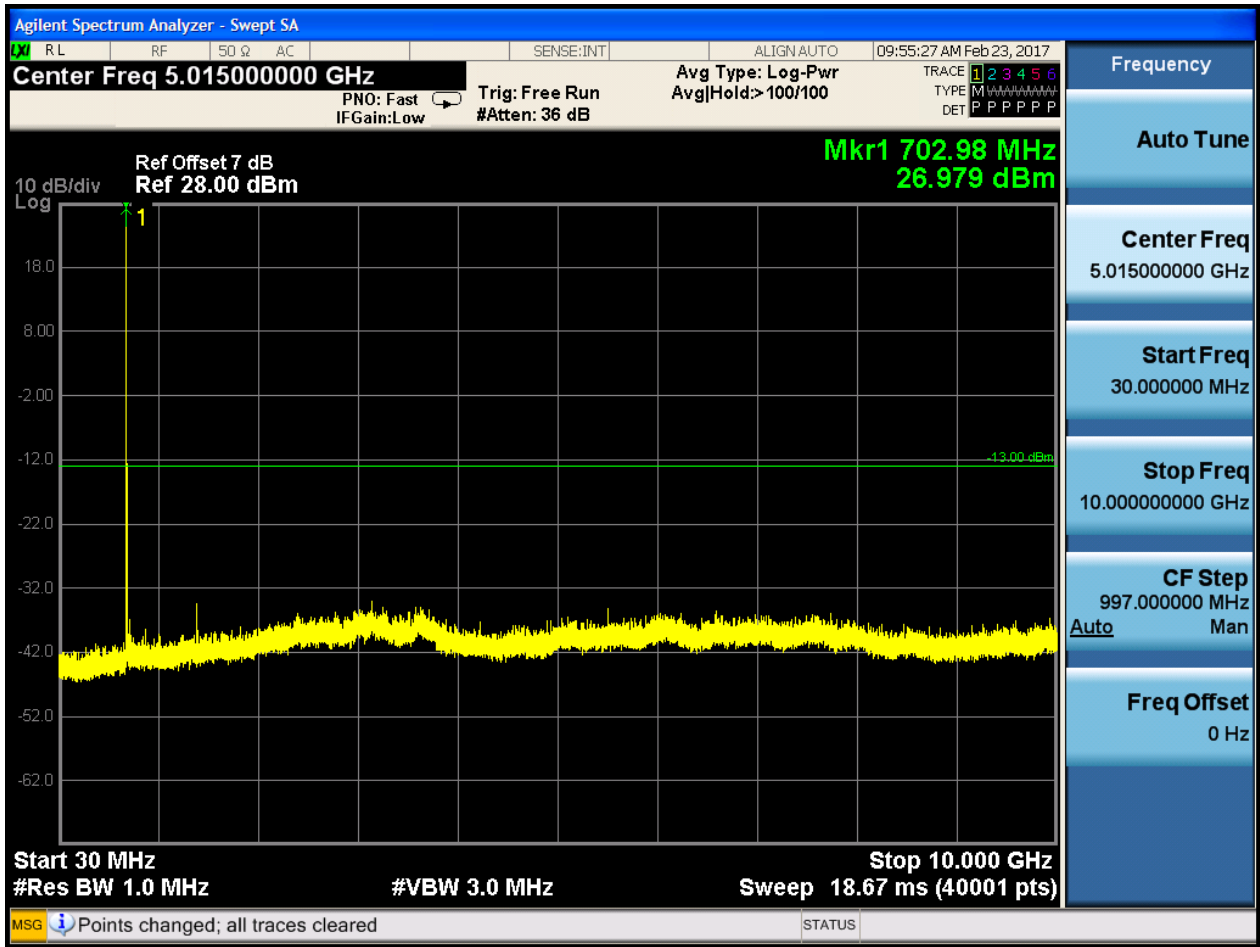


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0





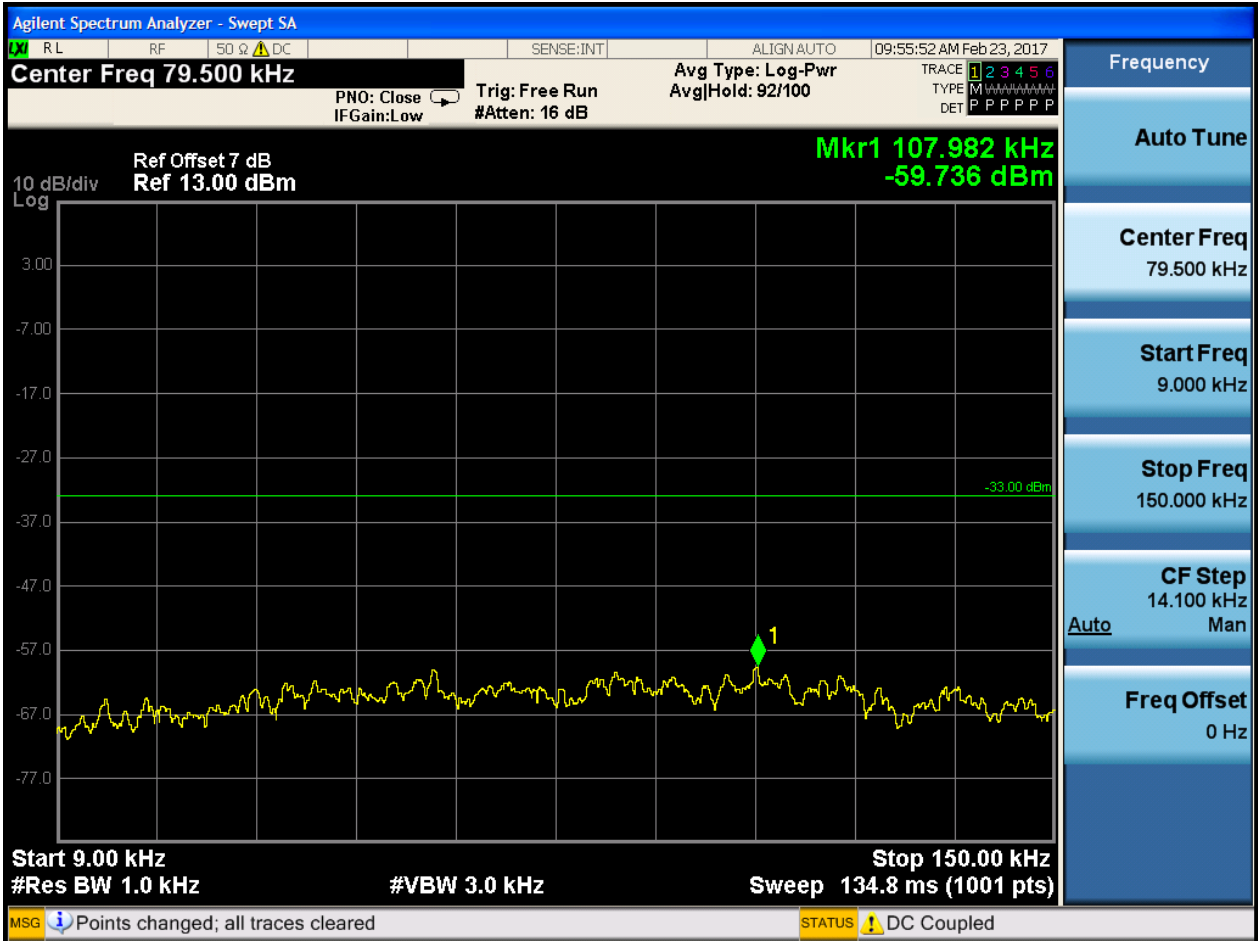


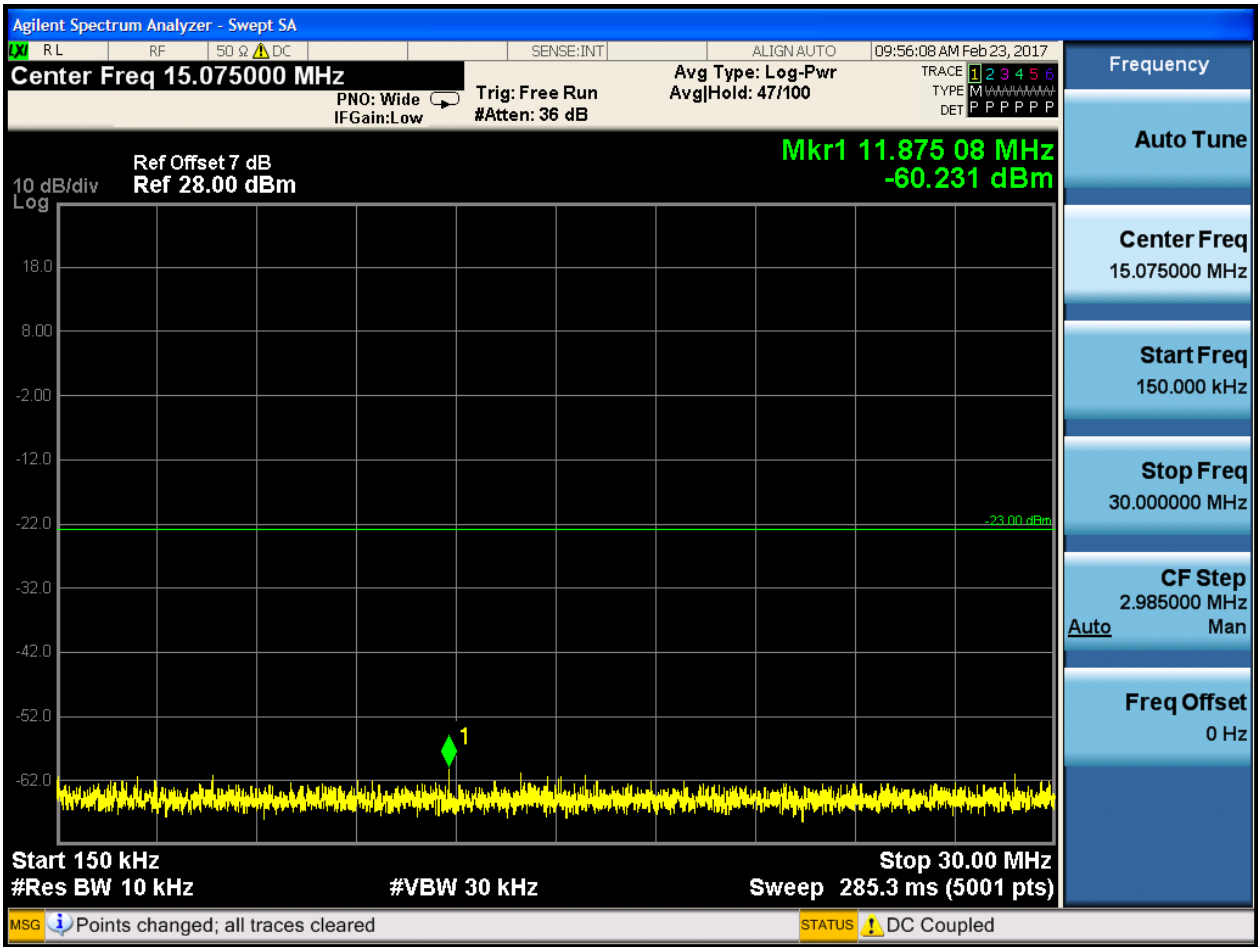


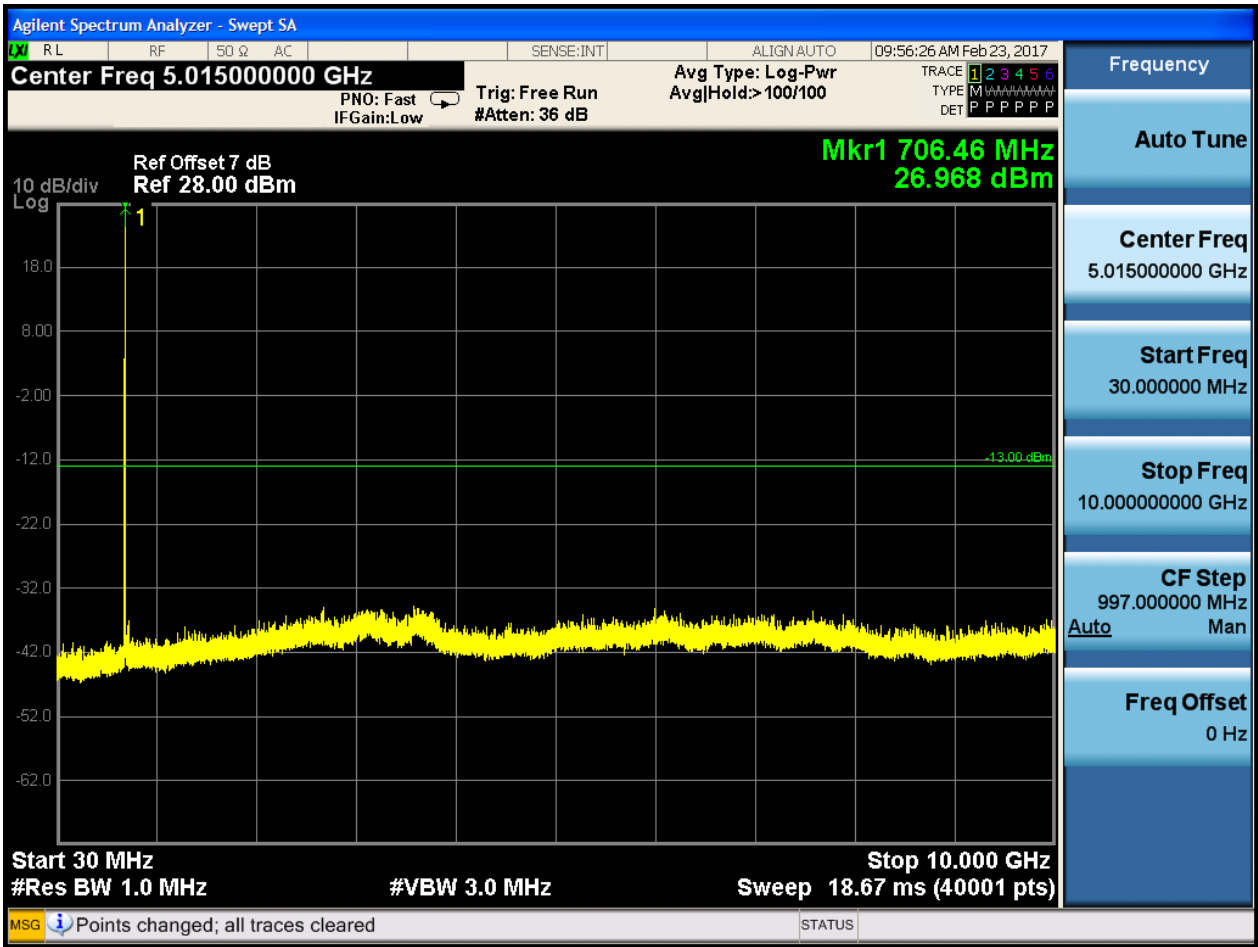


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







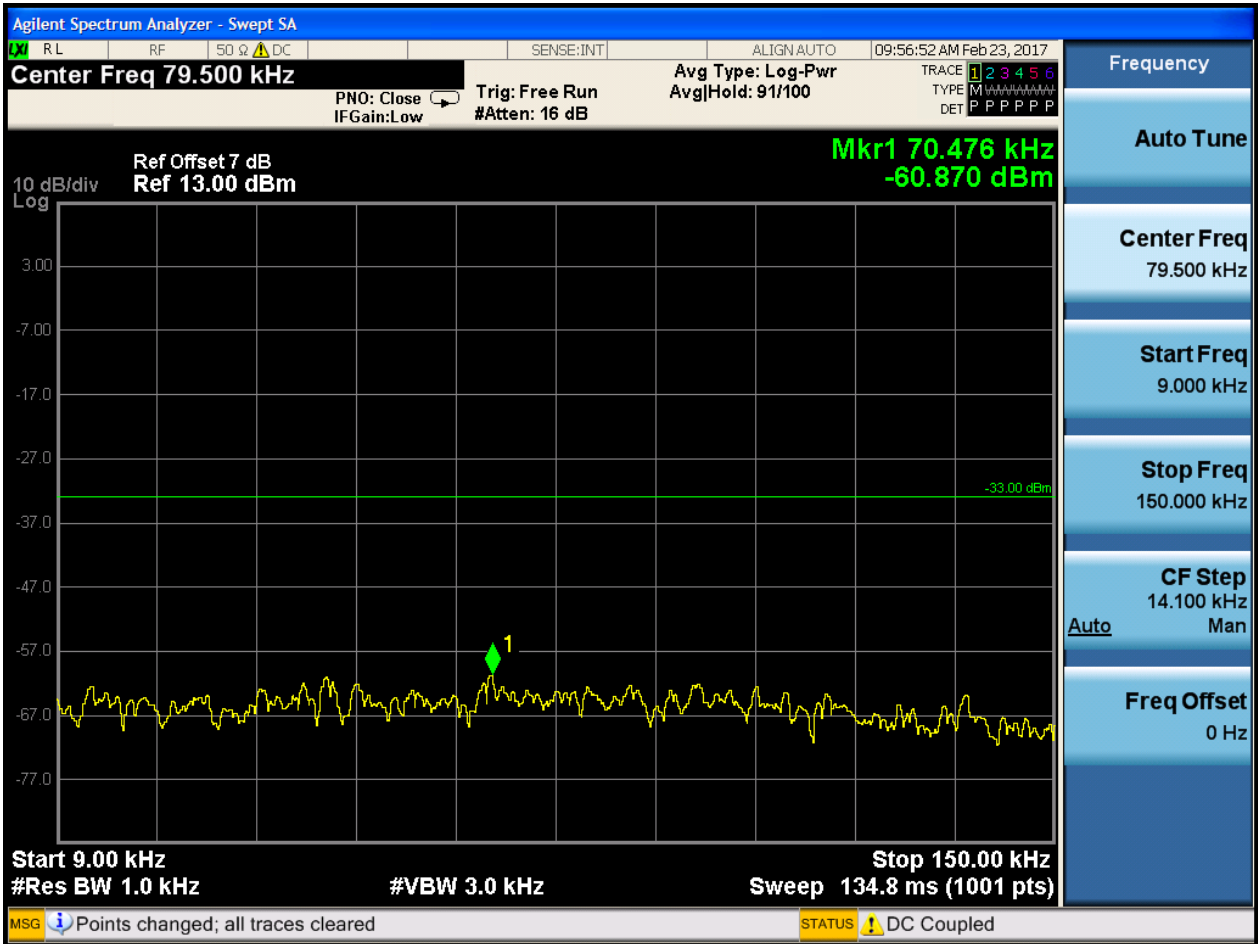


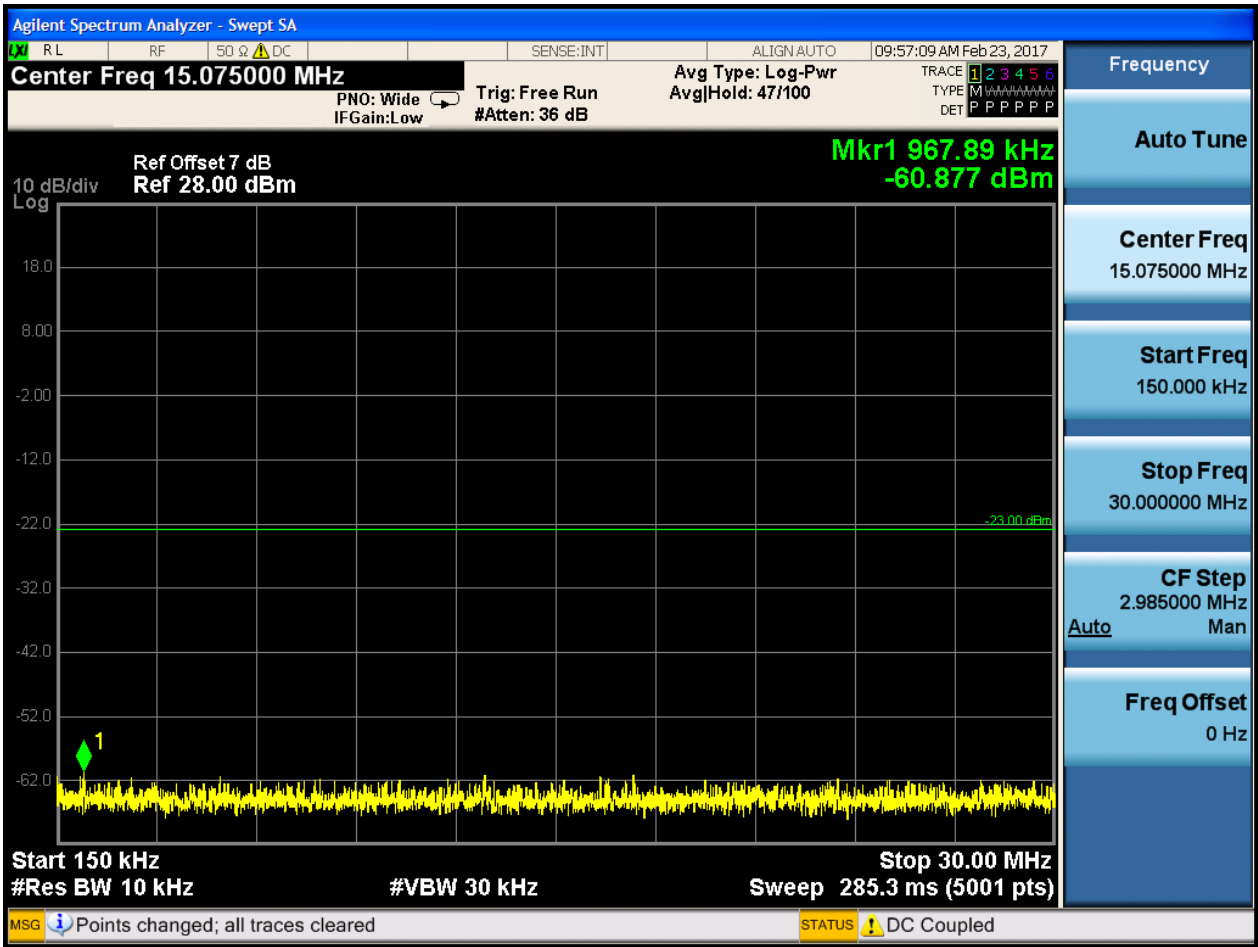
6.1.1.2 Test Mode = LTE/TM2

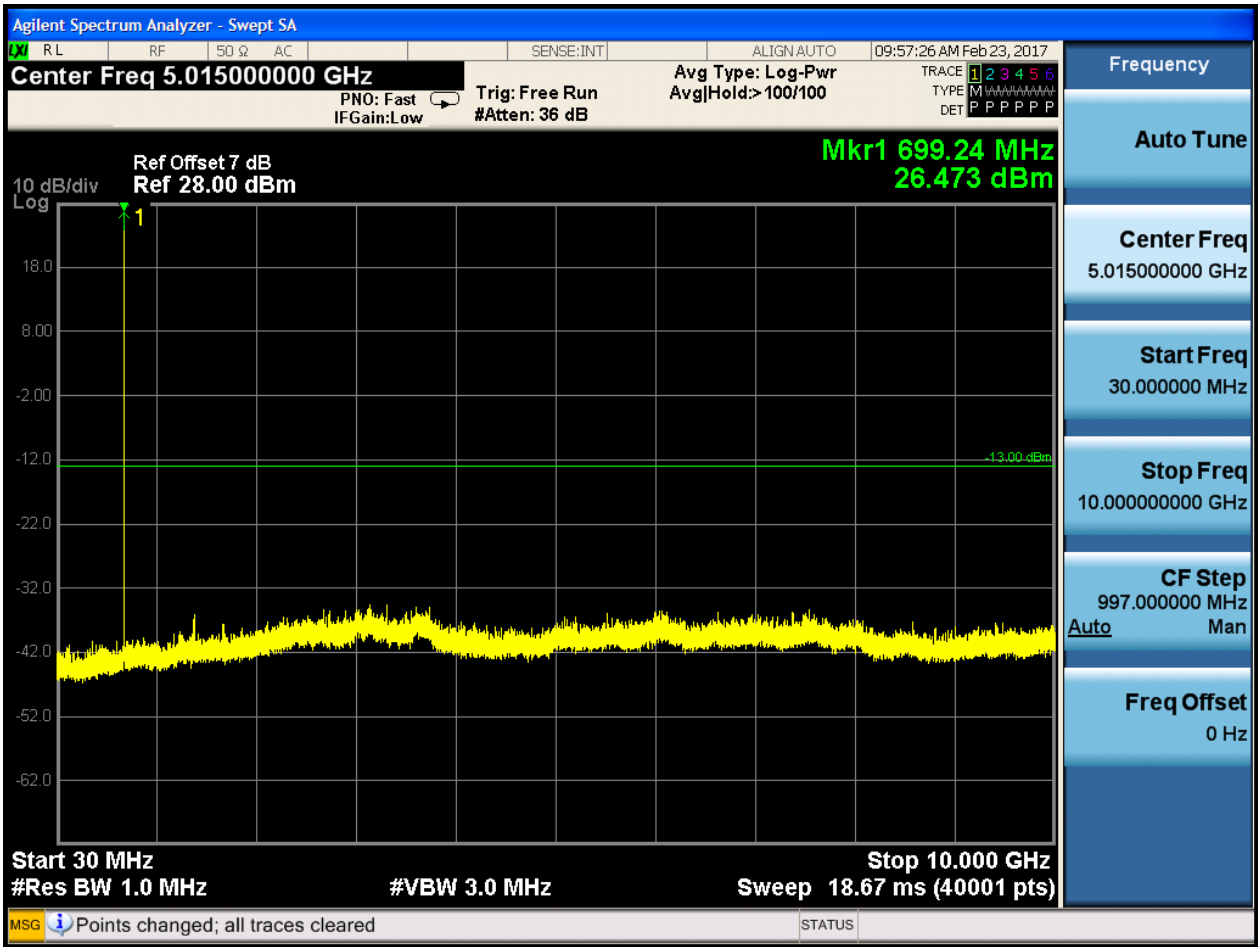
6.1.1.2.1 Test Bandwidth = 1.4

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0



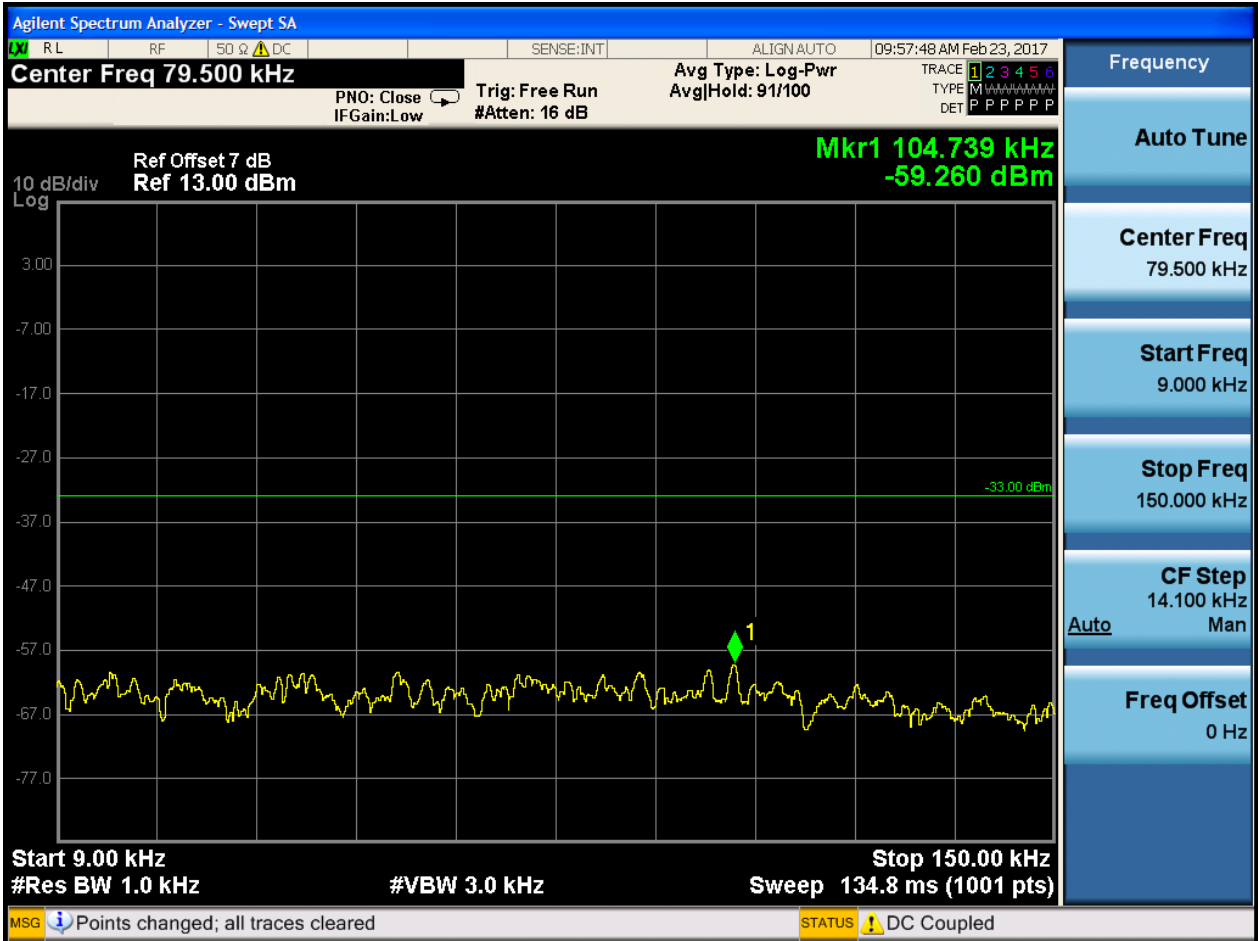


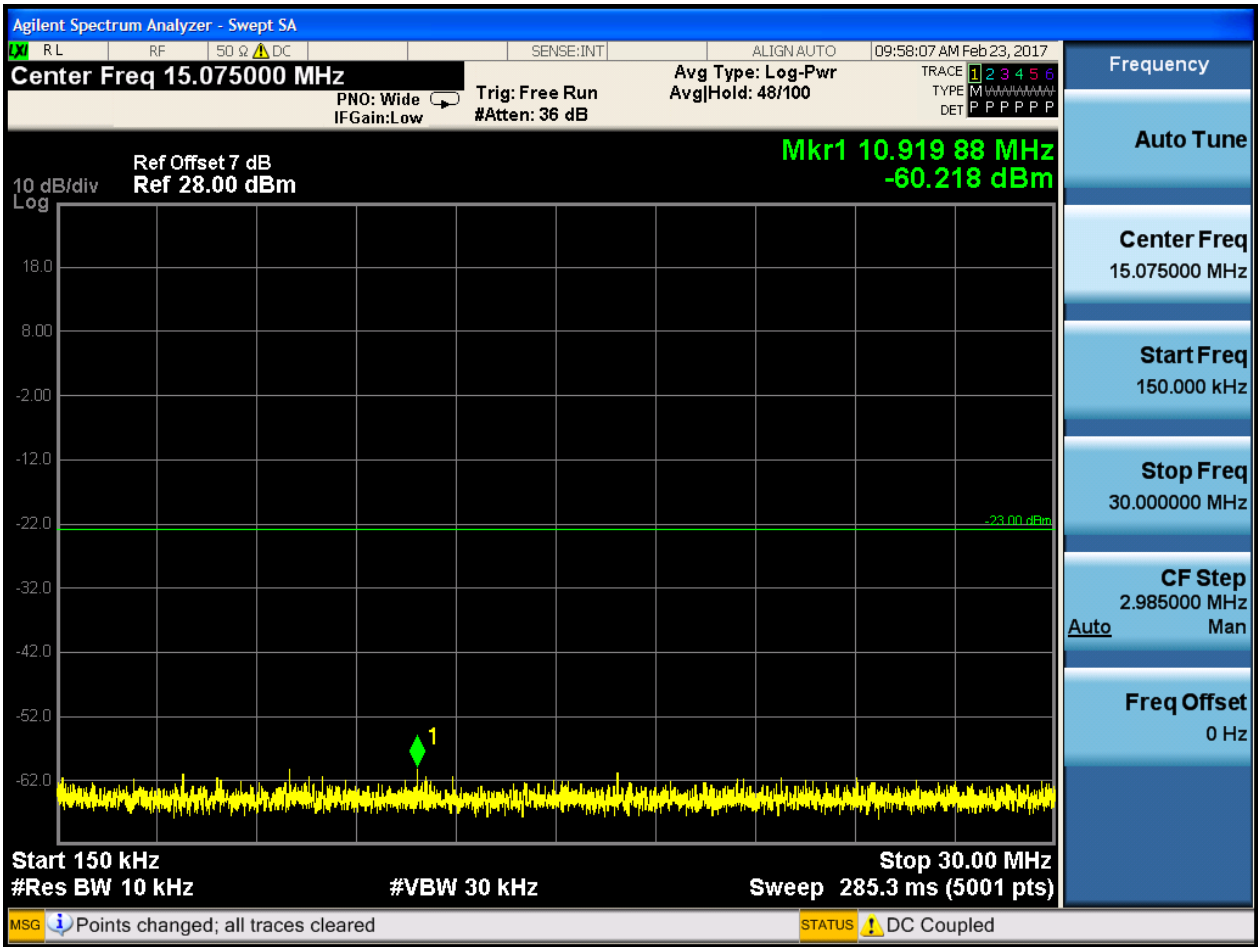




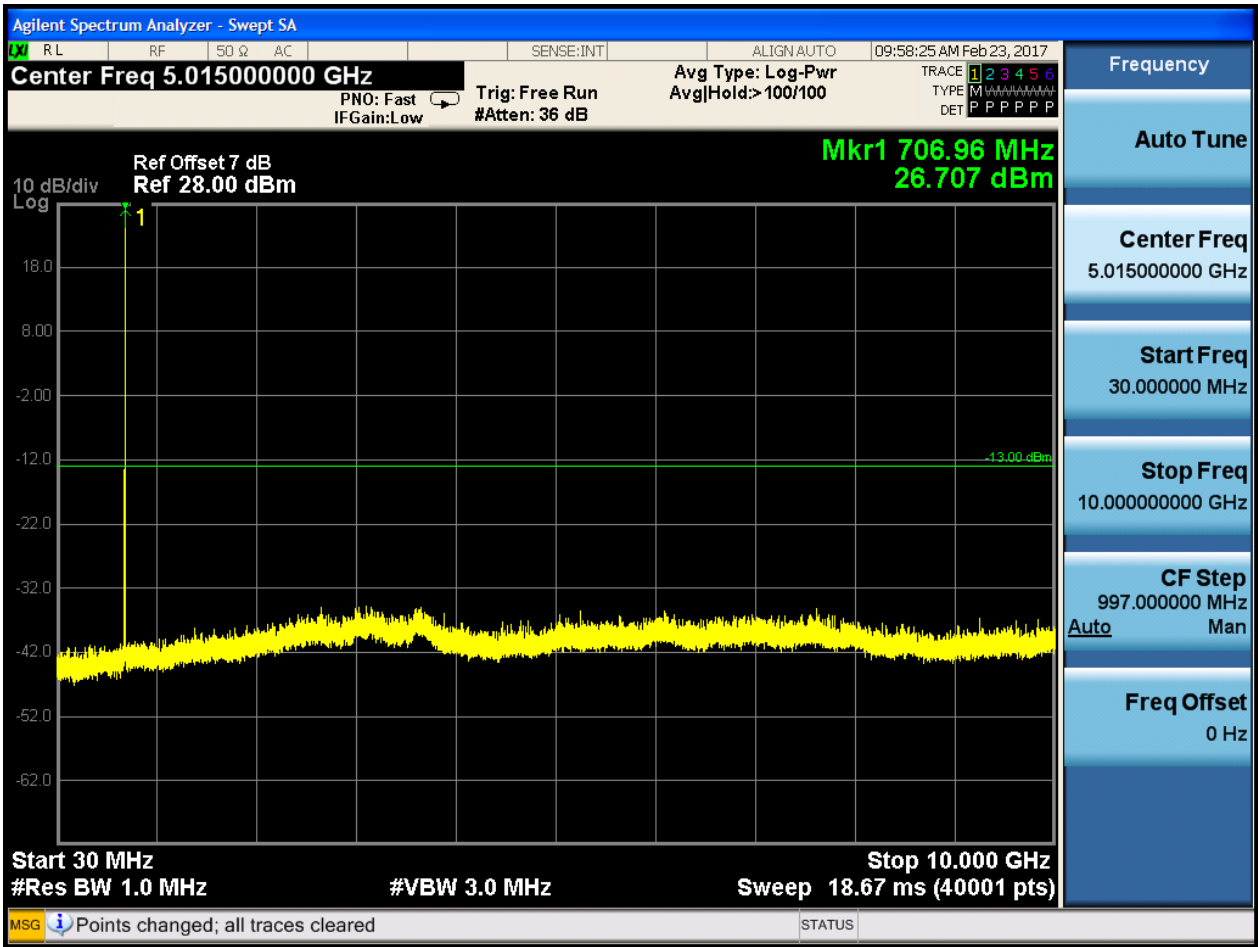
6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0





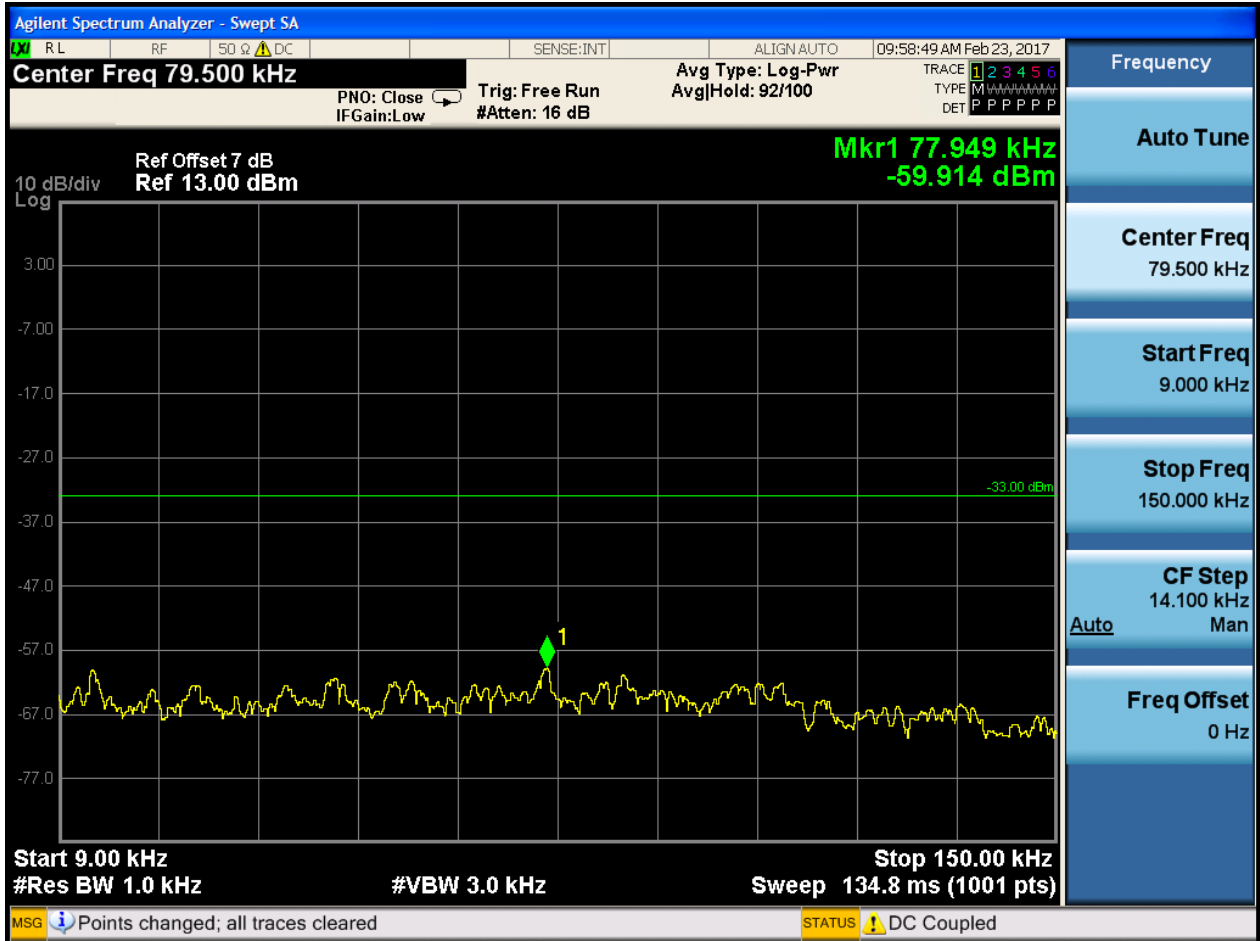




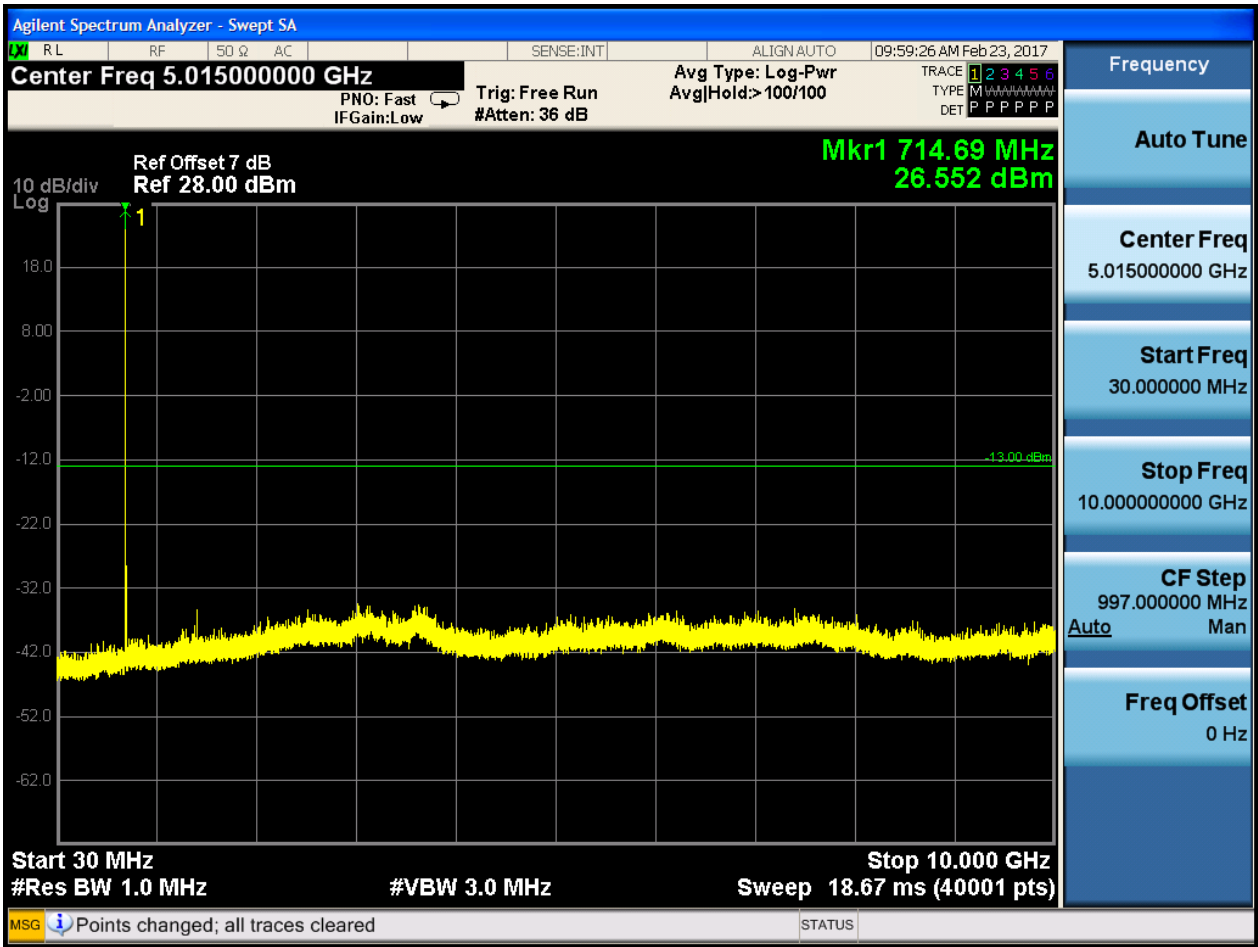


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





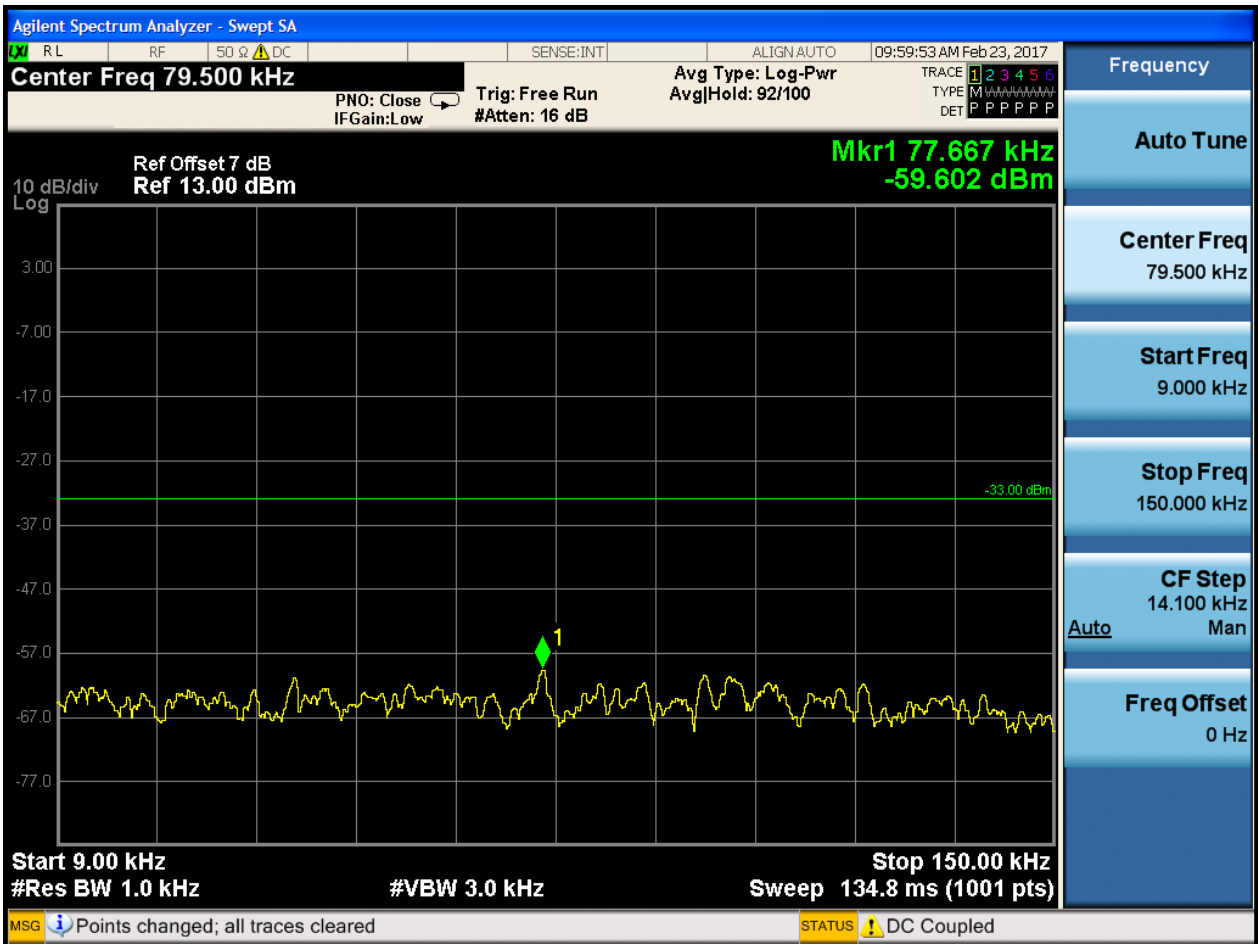


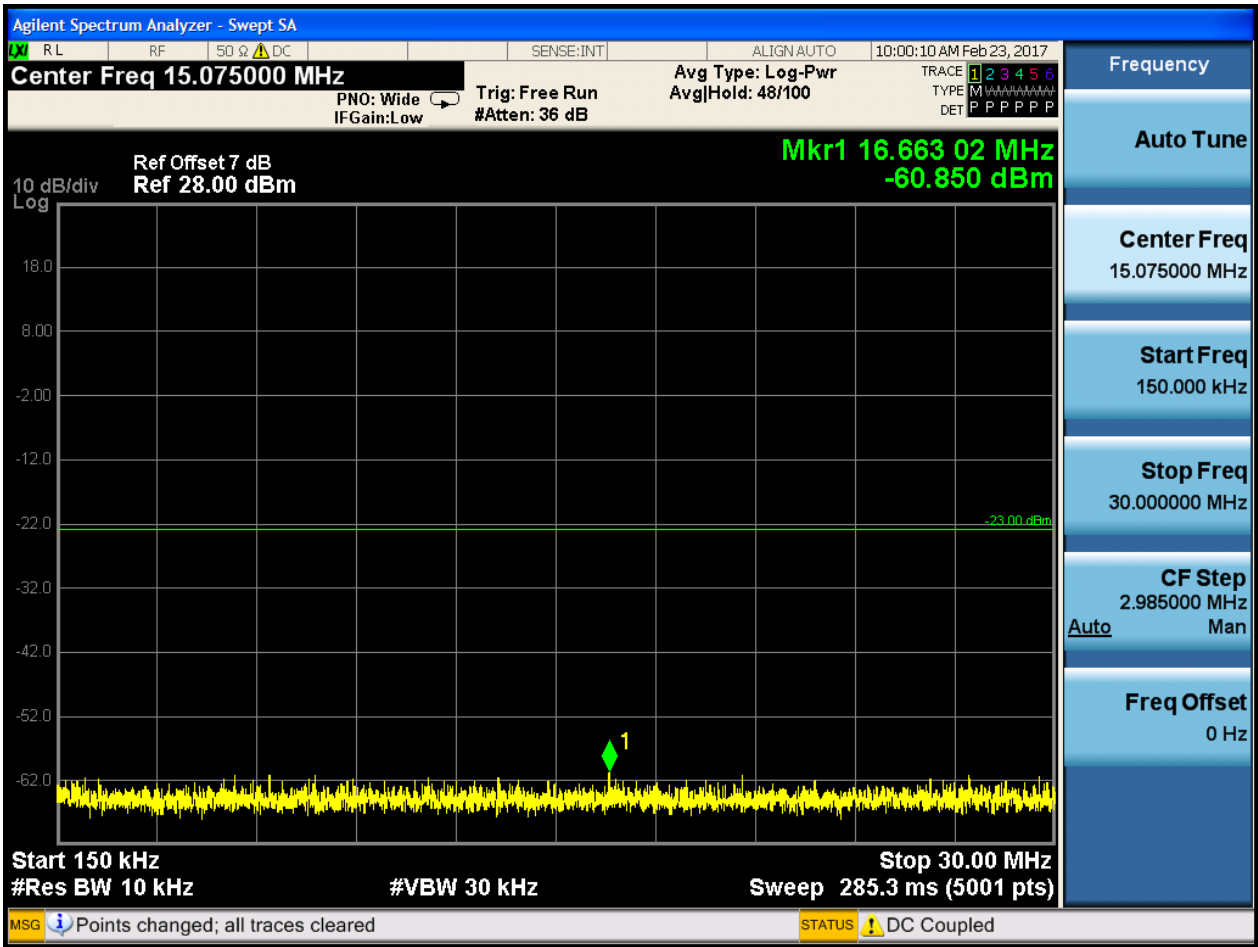


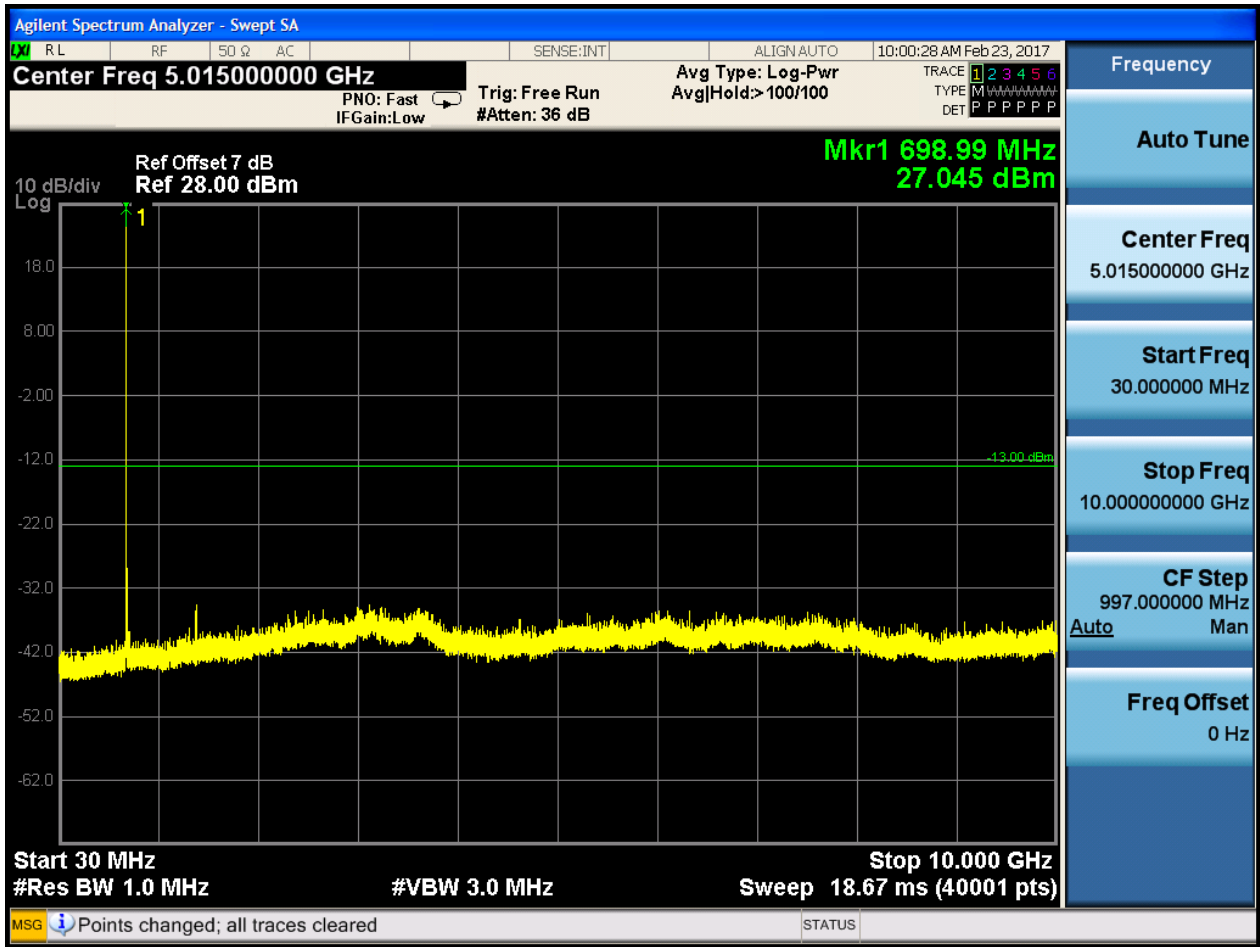
6.1.1.2.2 Test Bandwidth = 3

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0



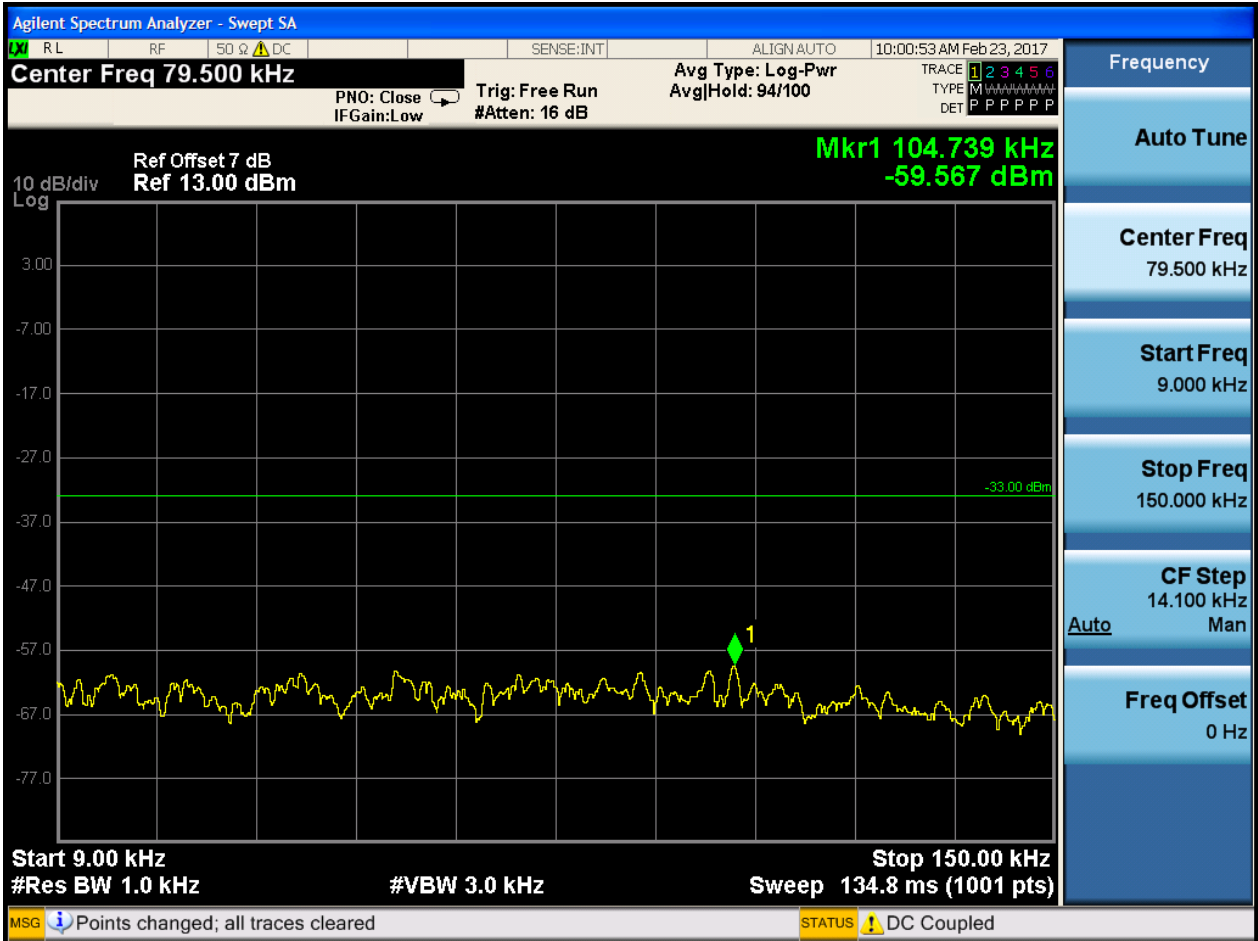




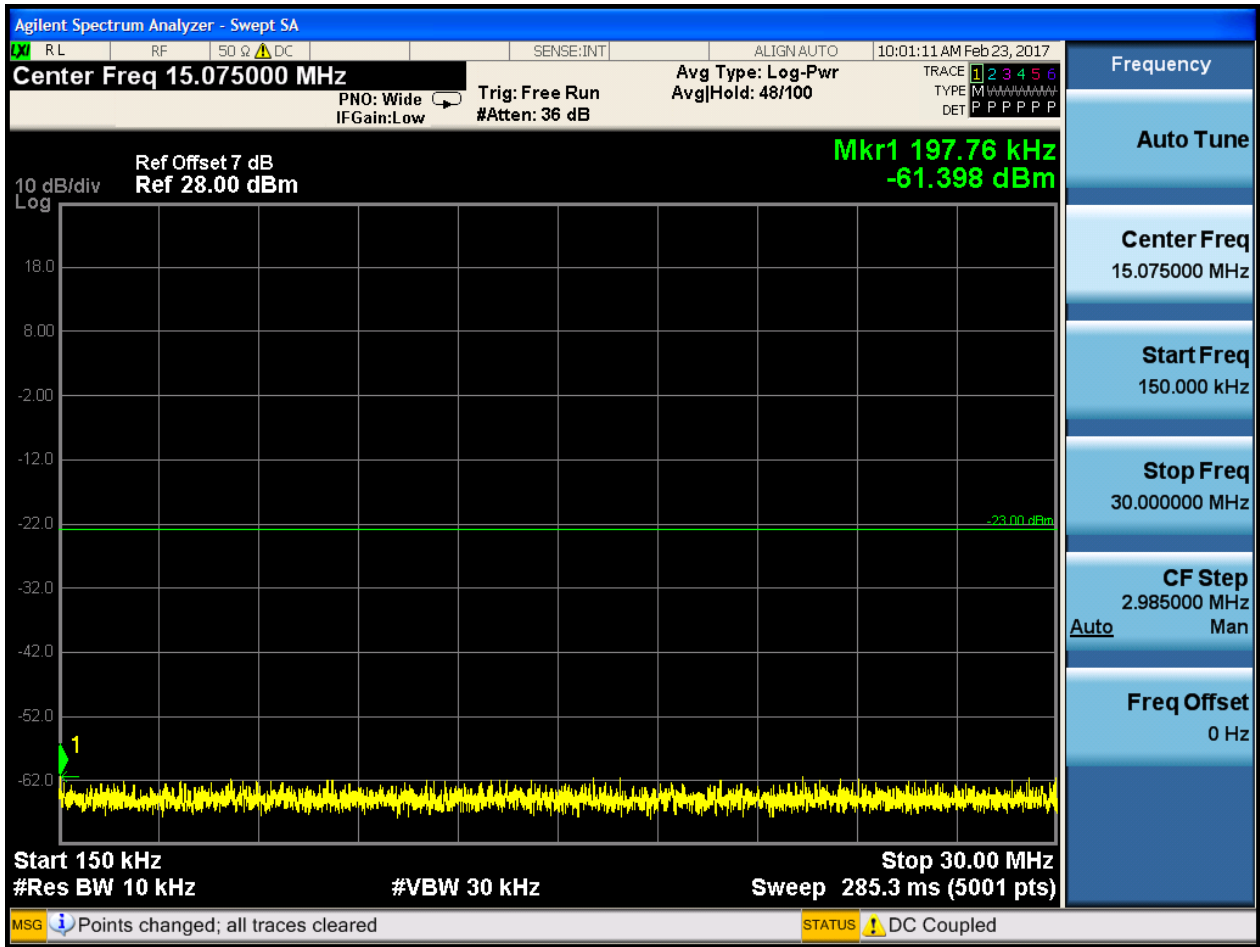


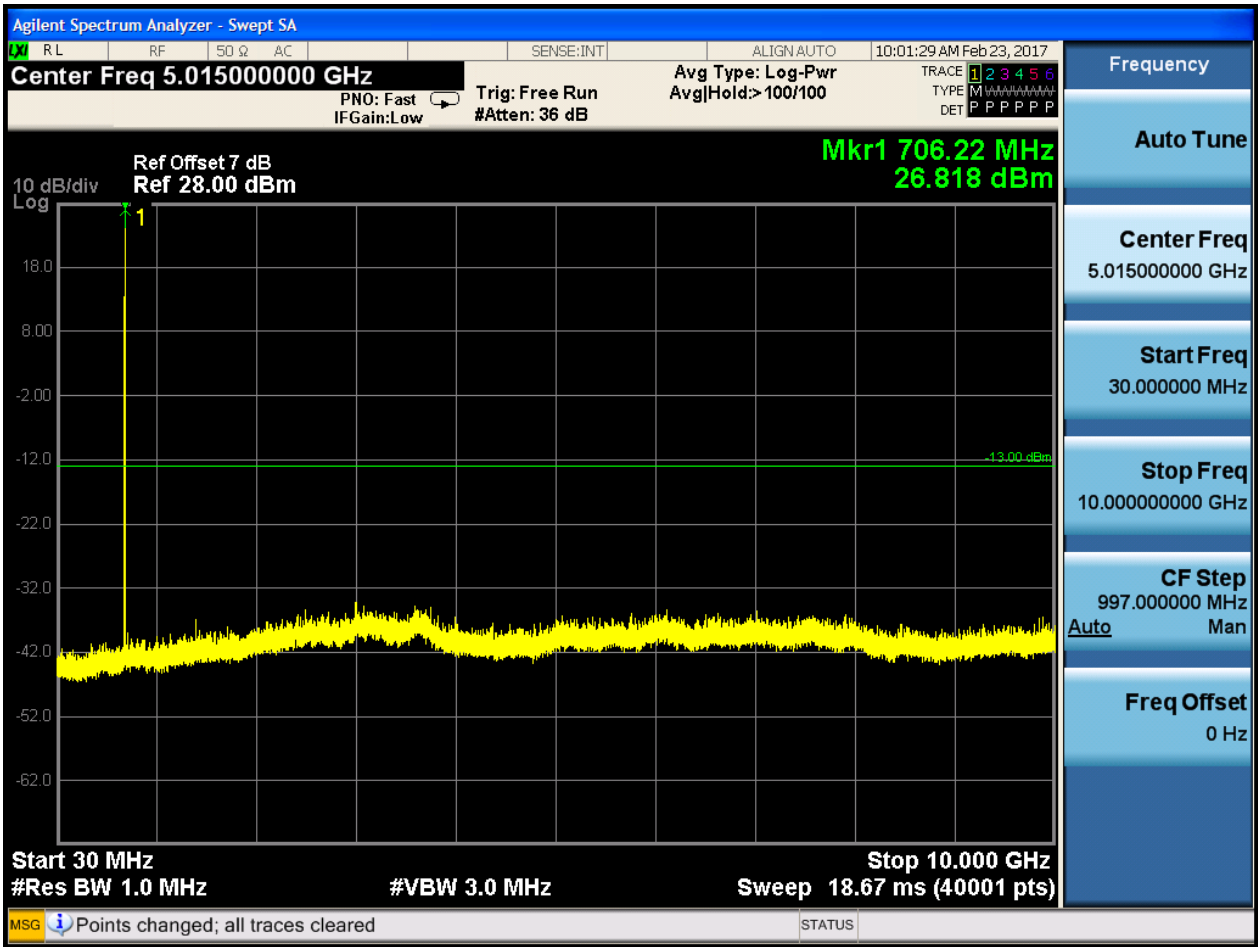
6.1.1.2.2 Test Channel = MCH

6.1.1.2.2.1 Test RB = RB1#0





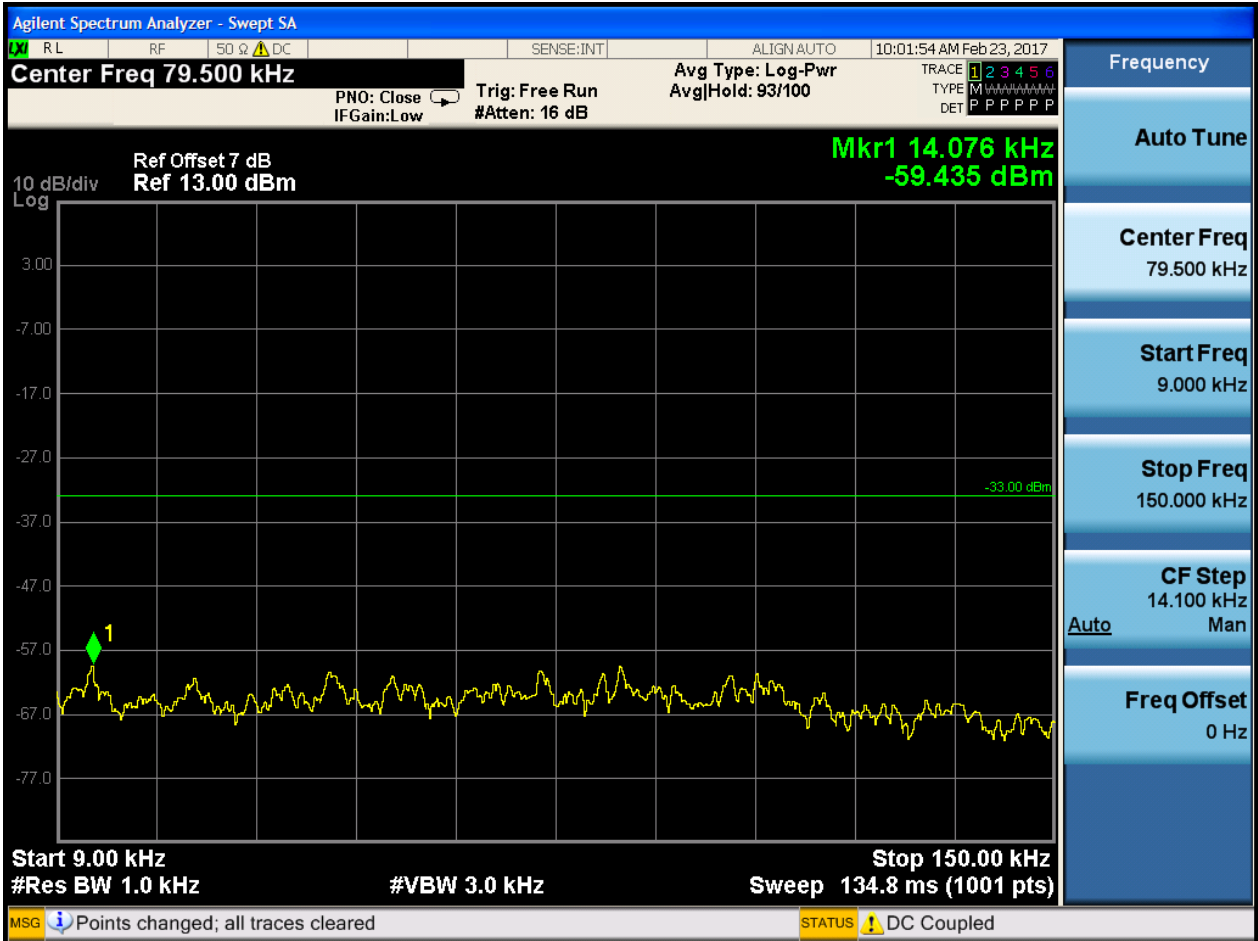


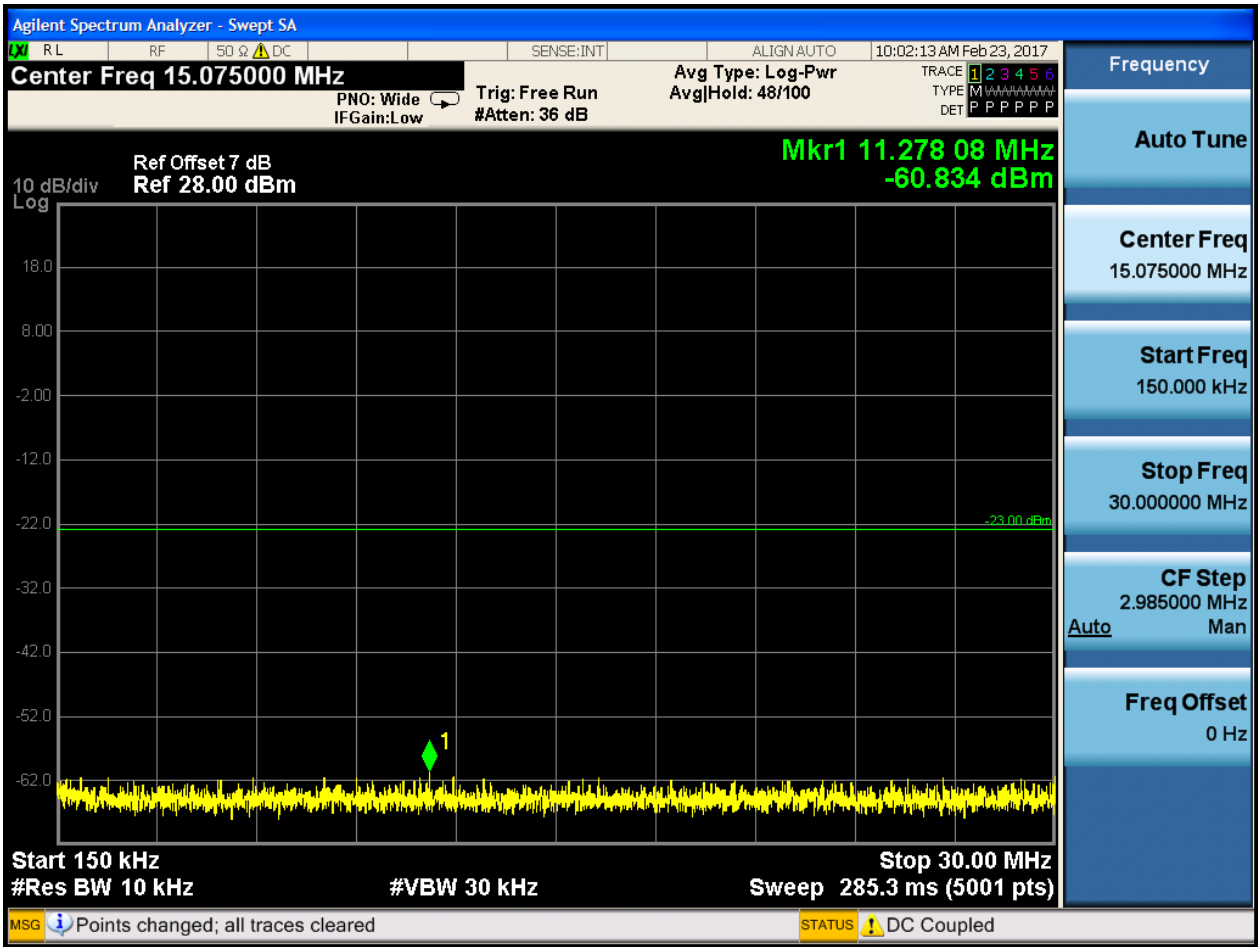


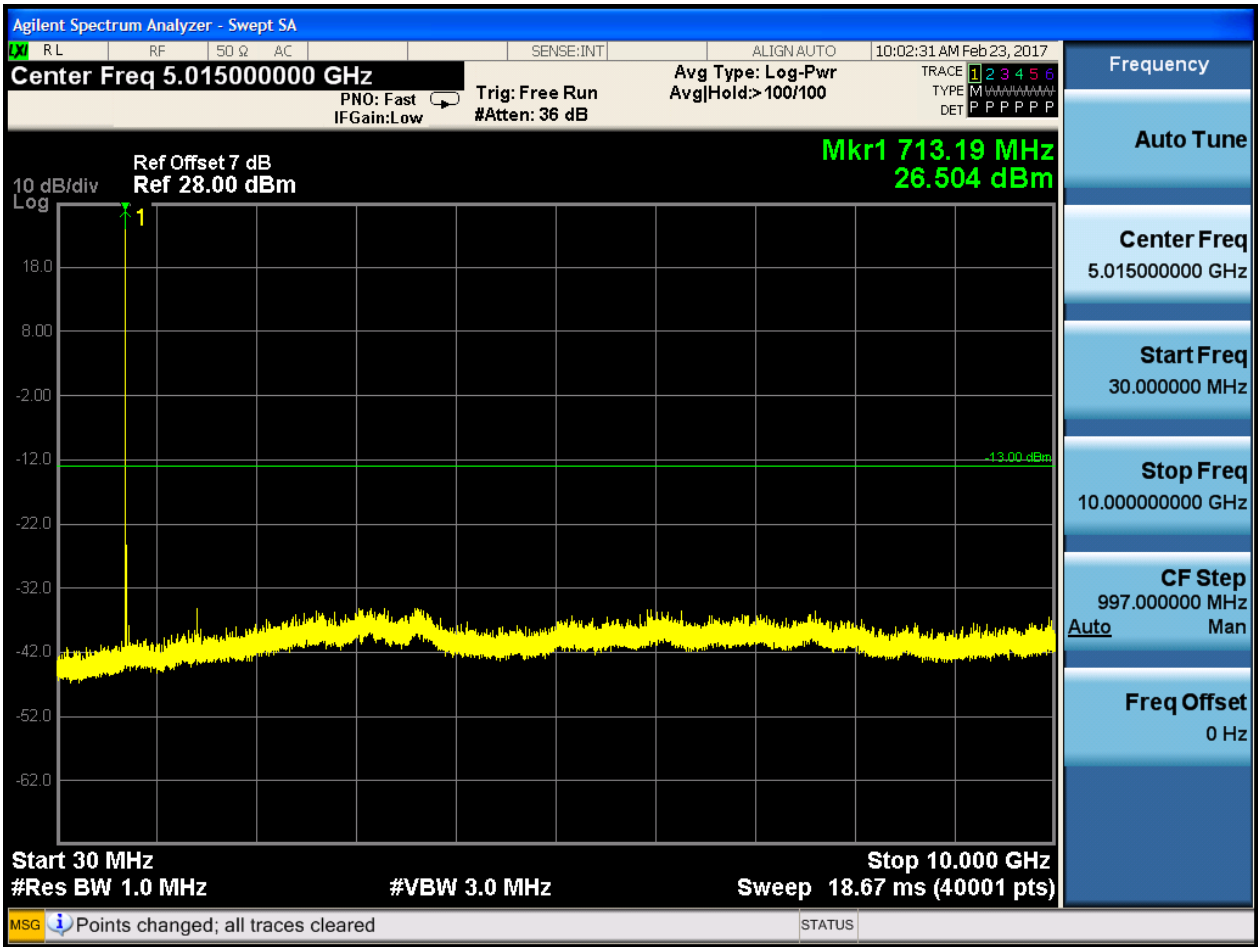


6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0





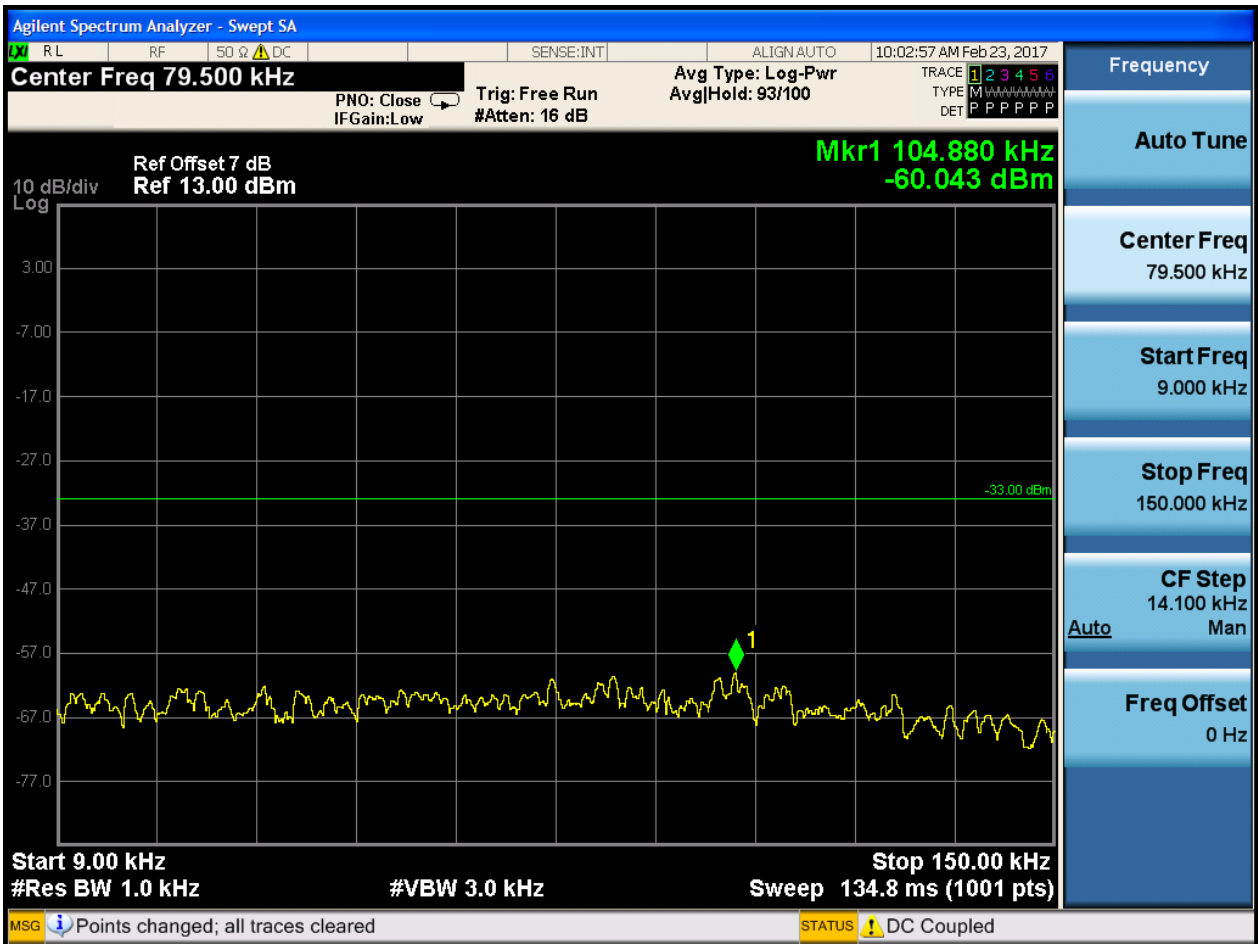


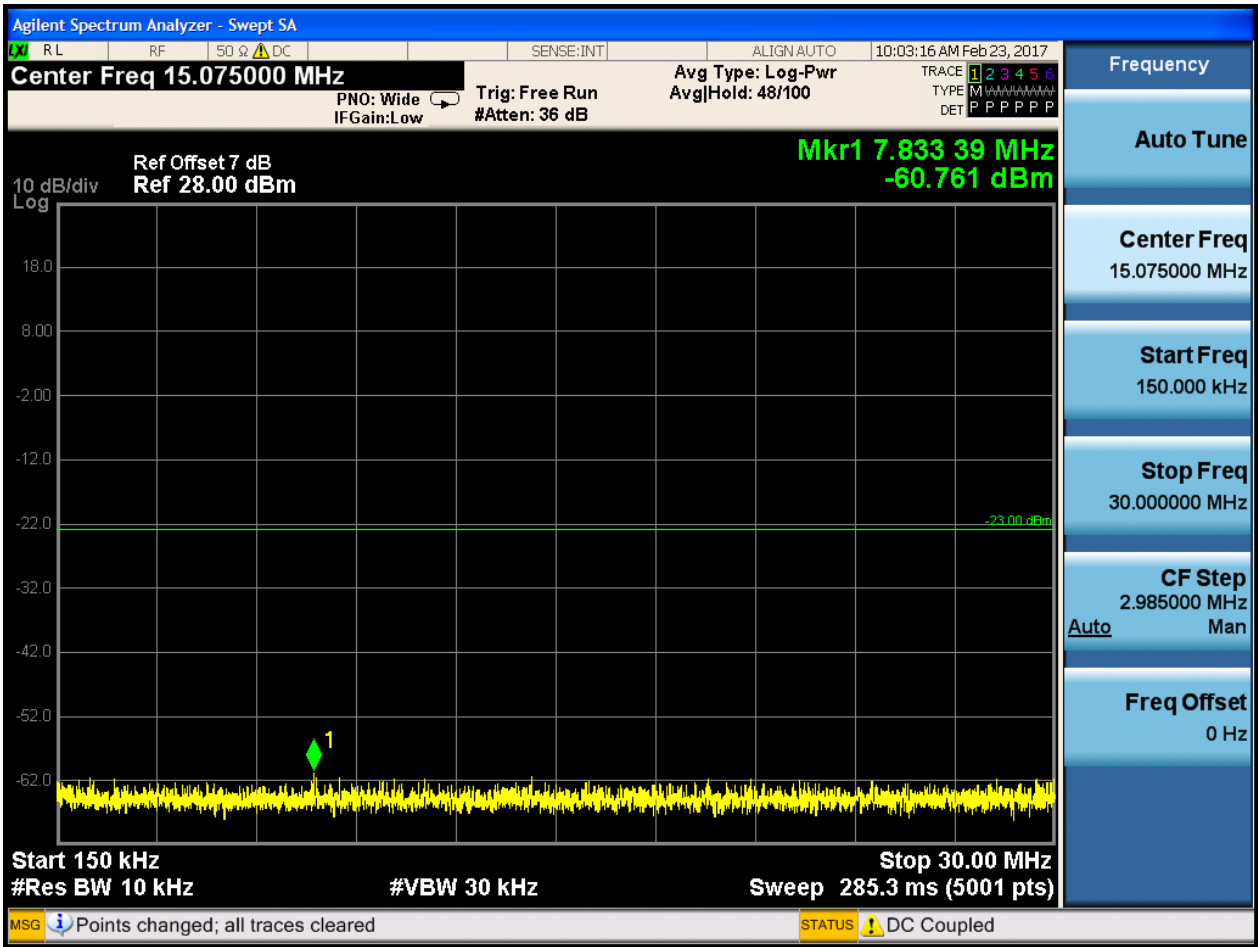


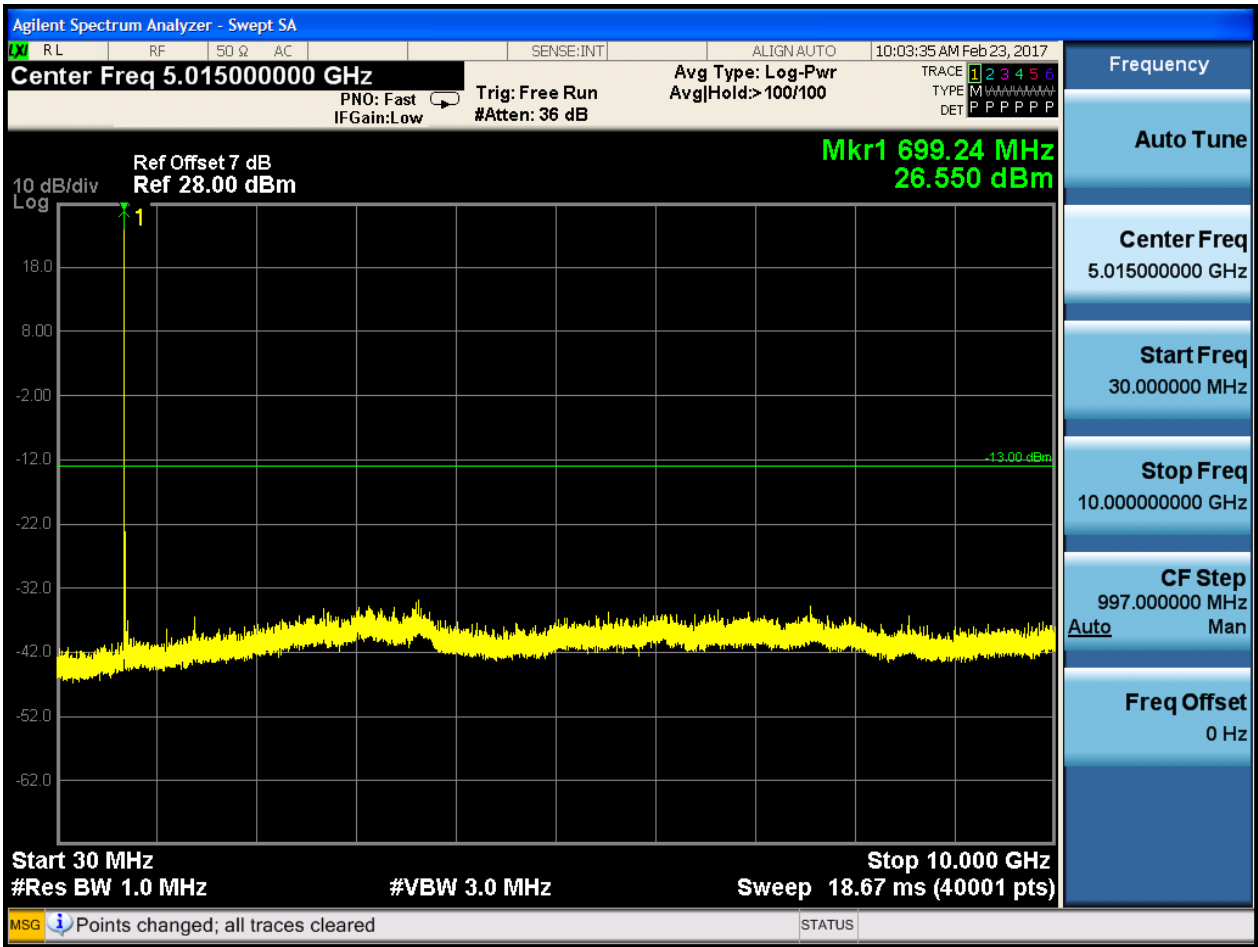
6.1.1.2.3 Test Bandwidth = 5

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0





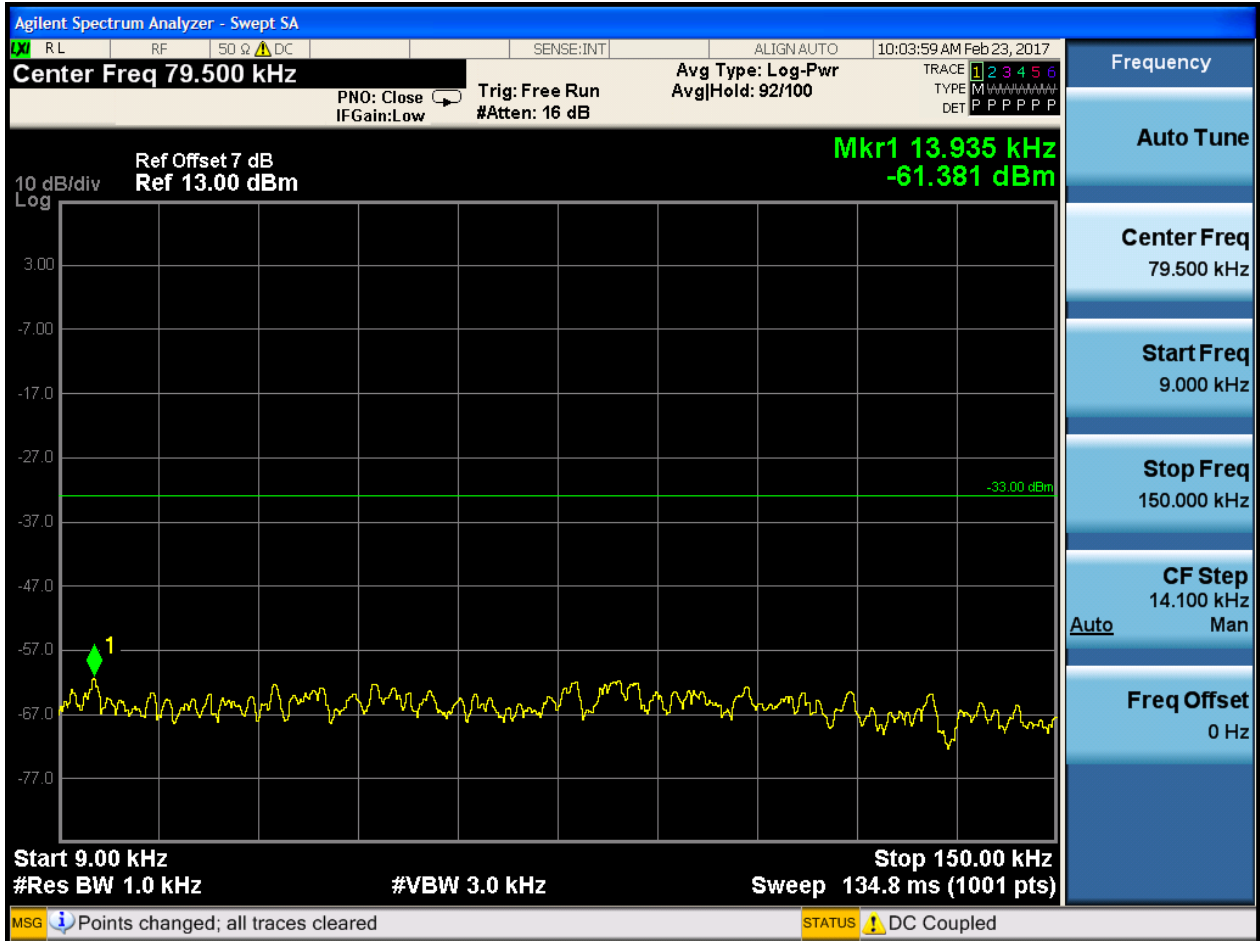


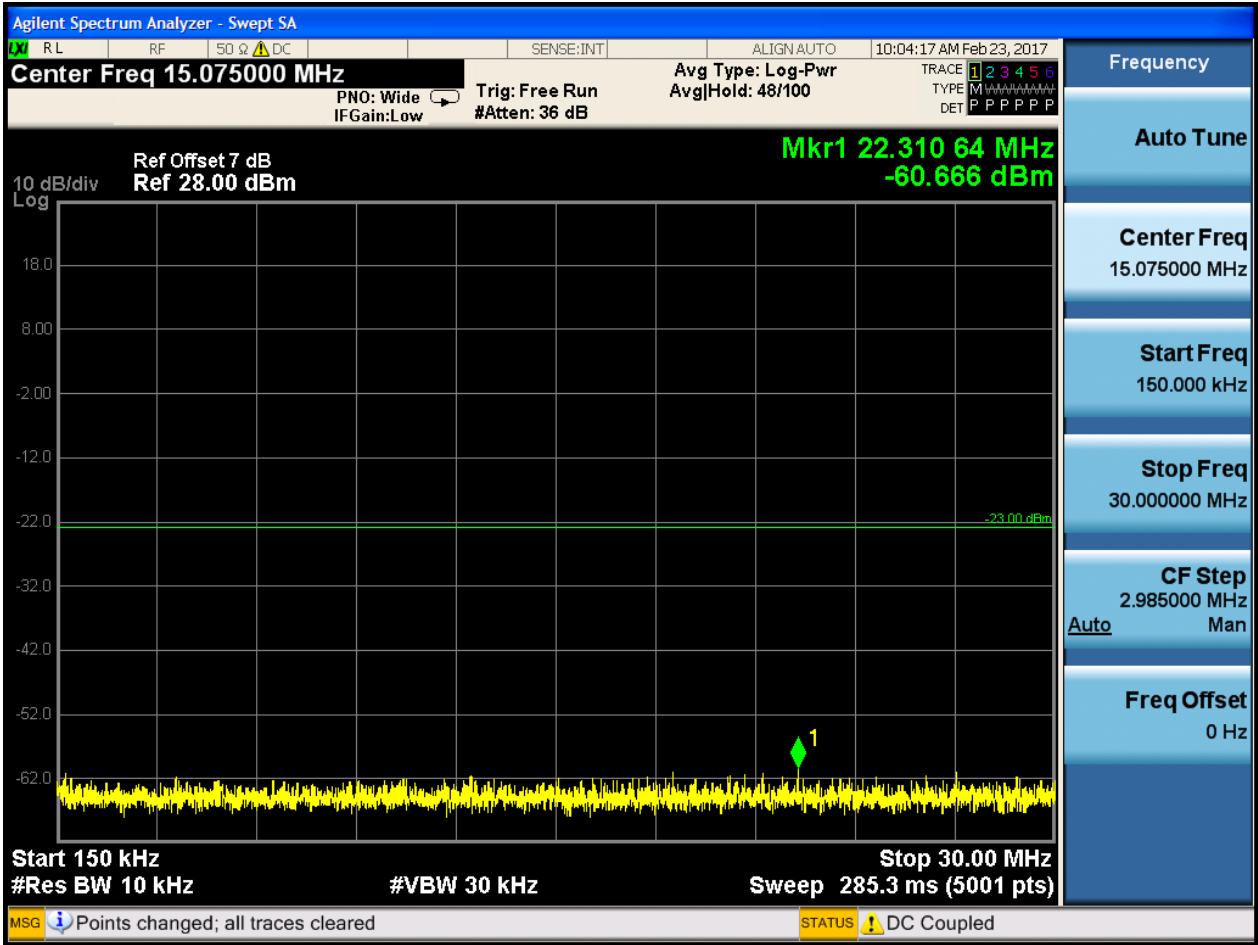


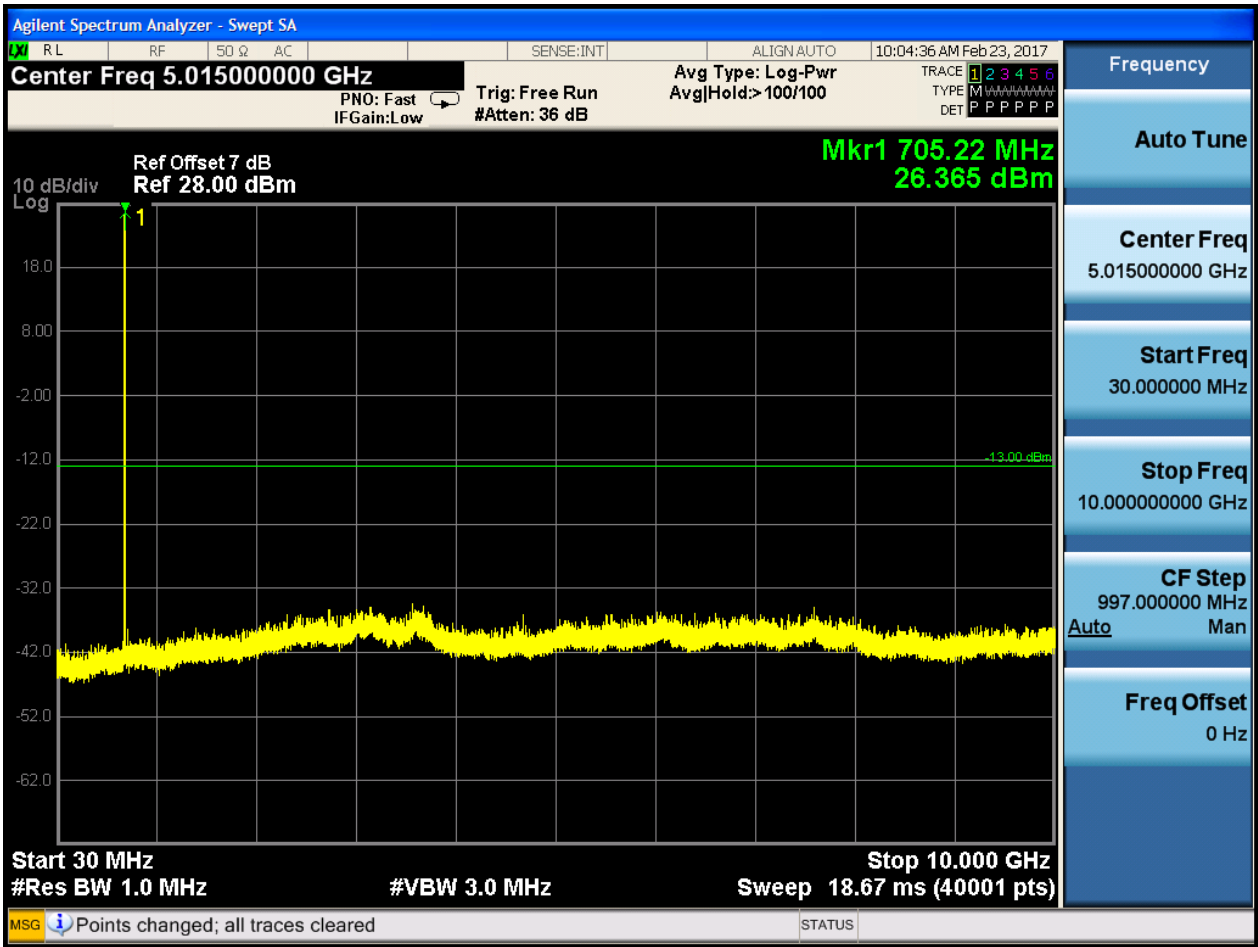


6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



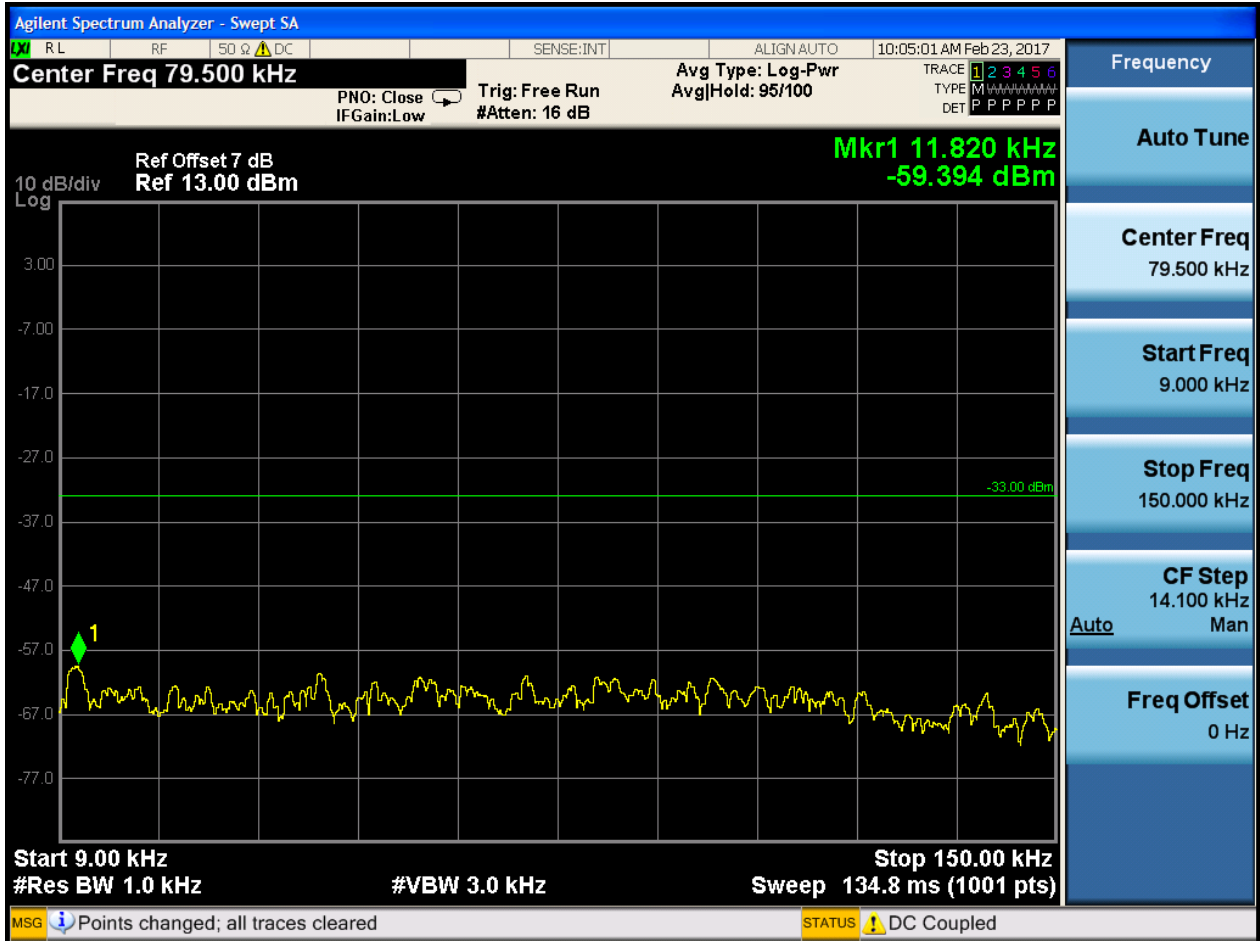


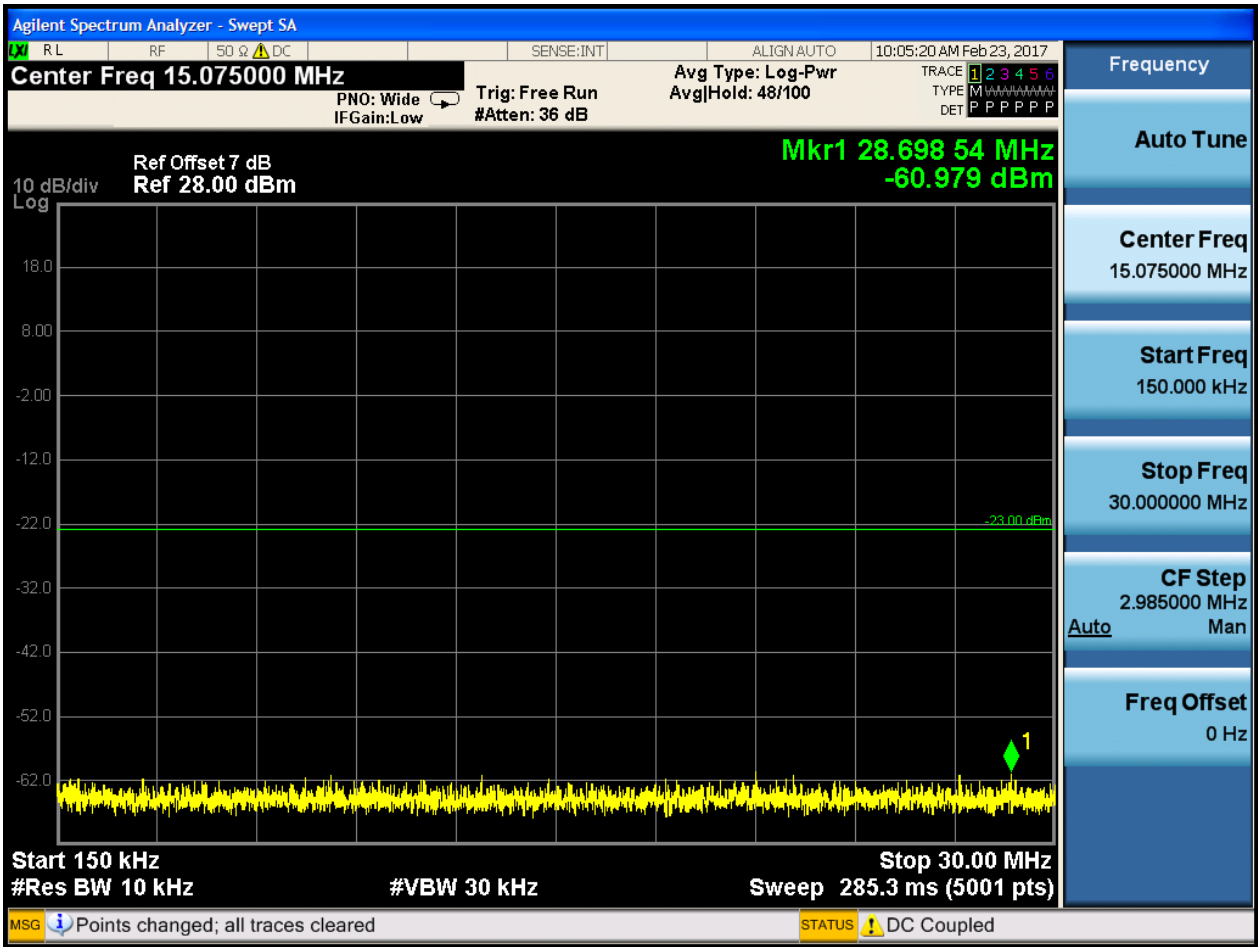


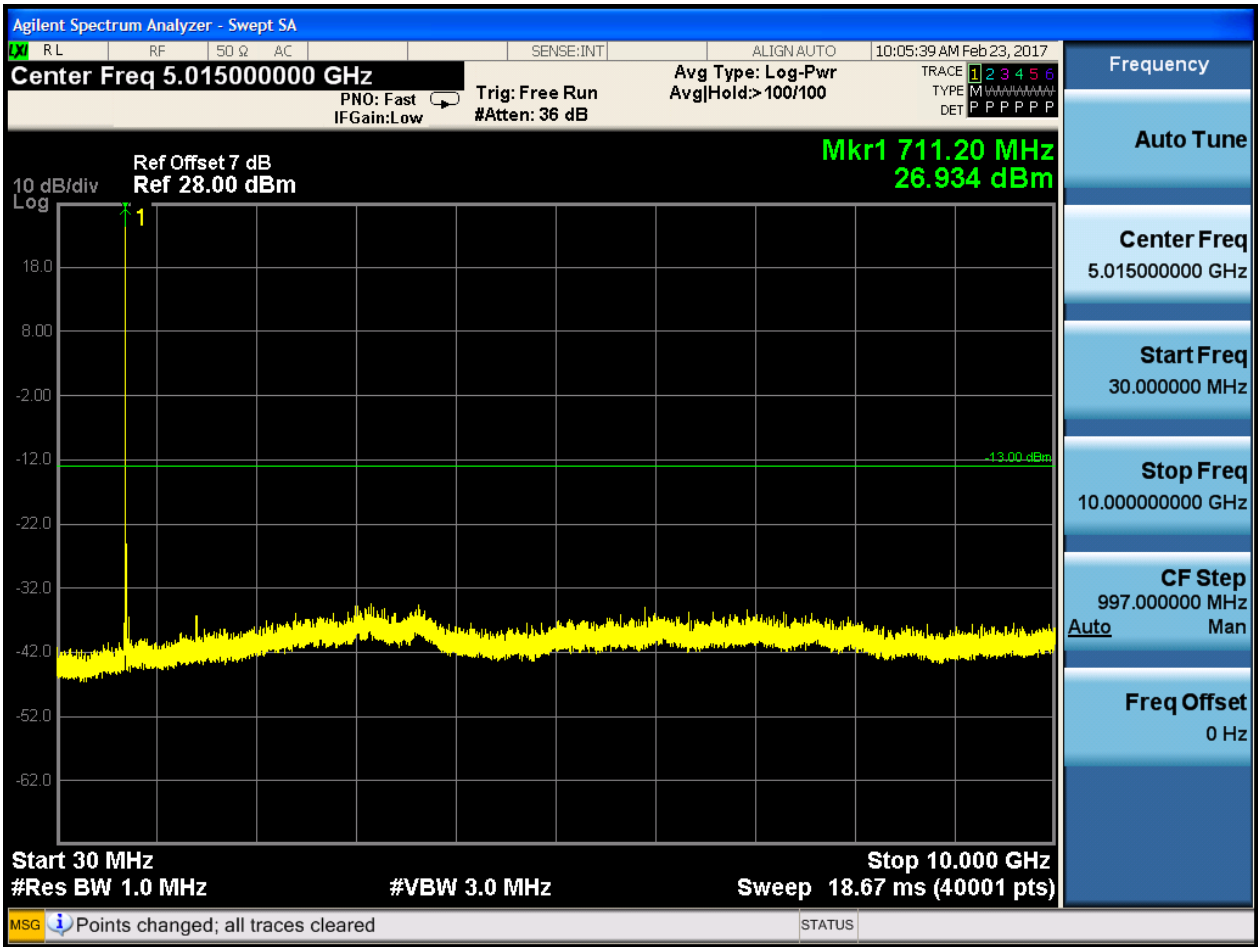


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0





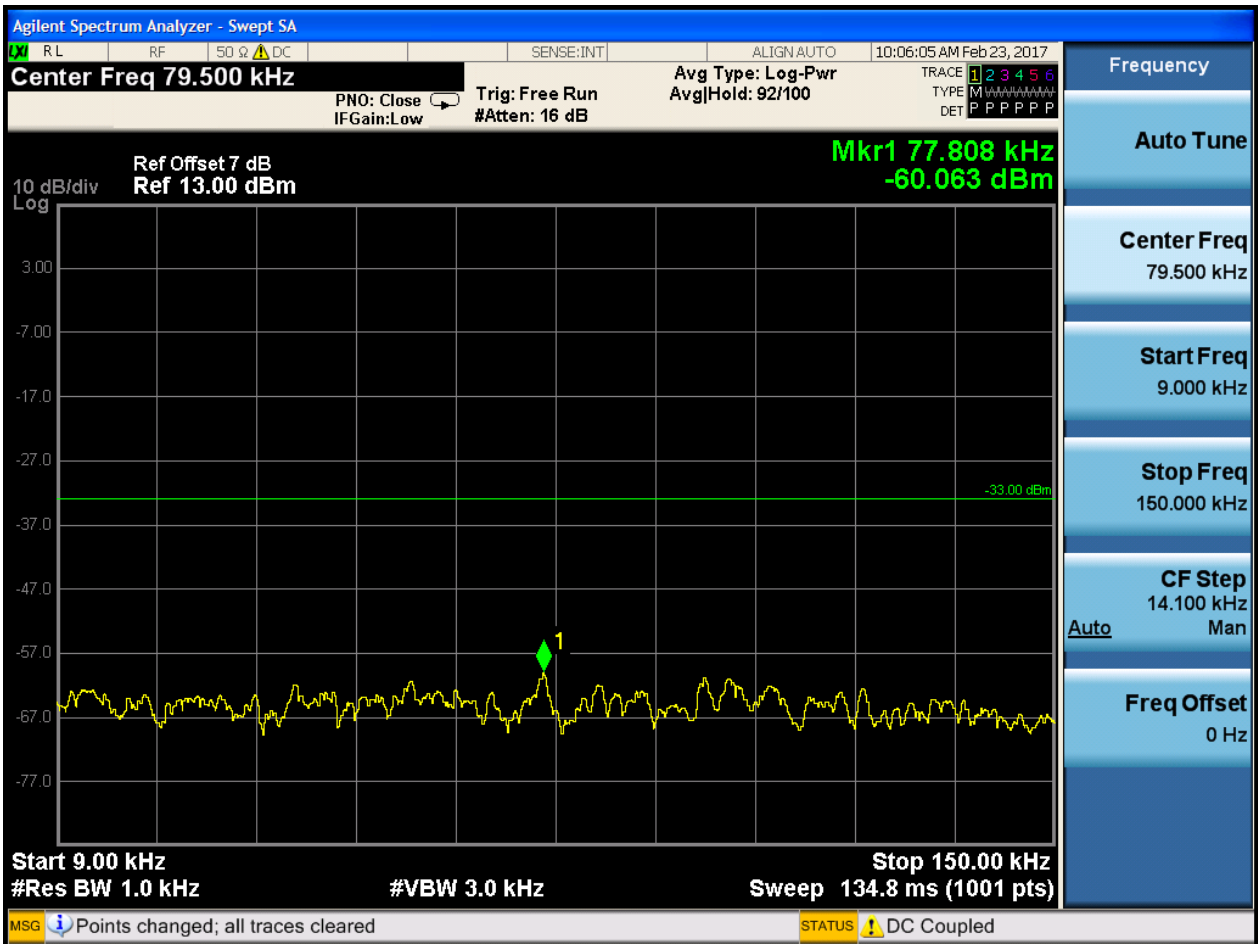


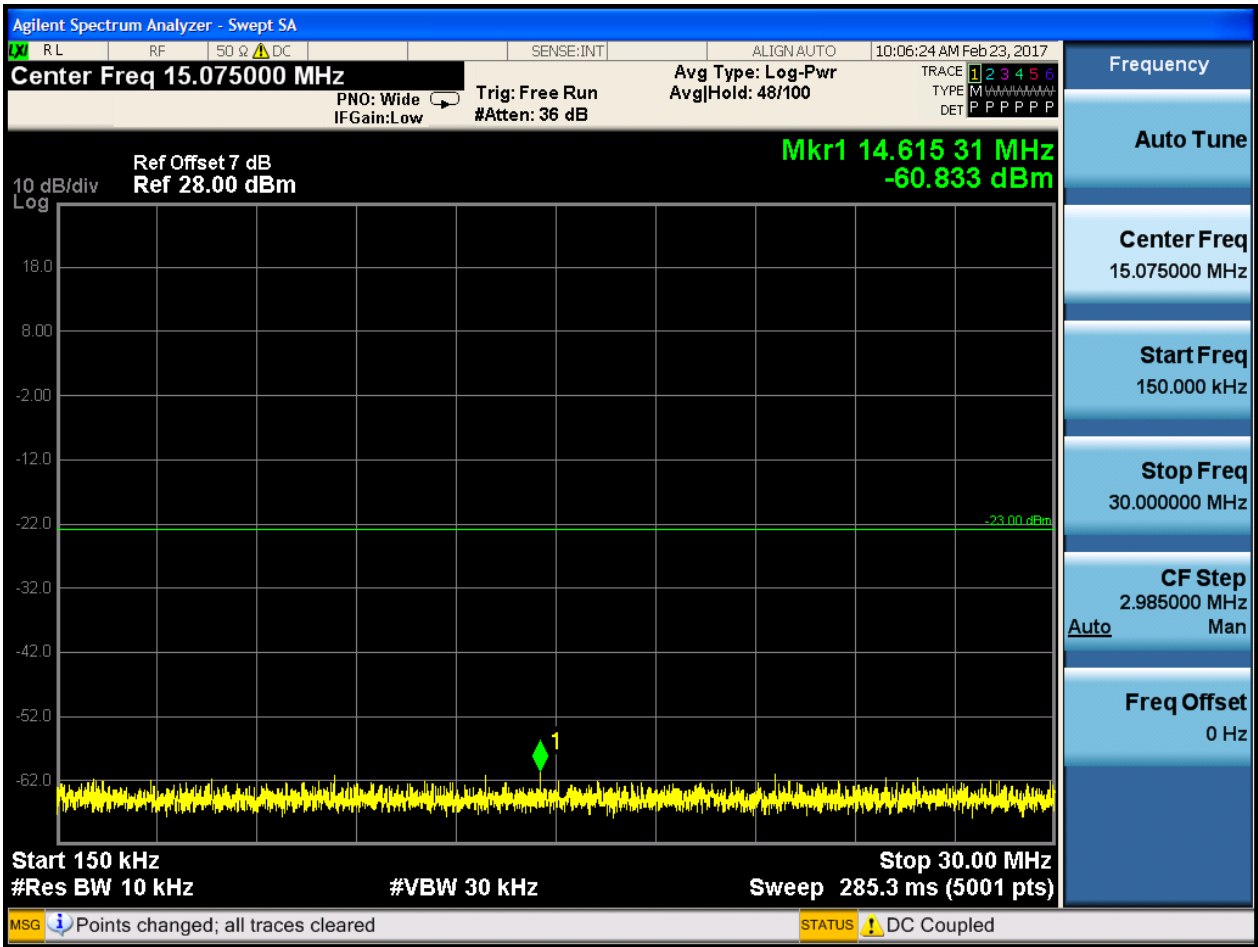


6.1.1.2.4 Test Bandwidth = 10

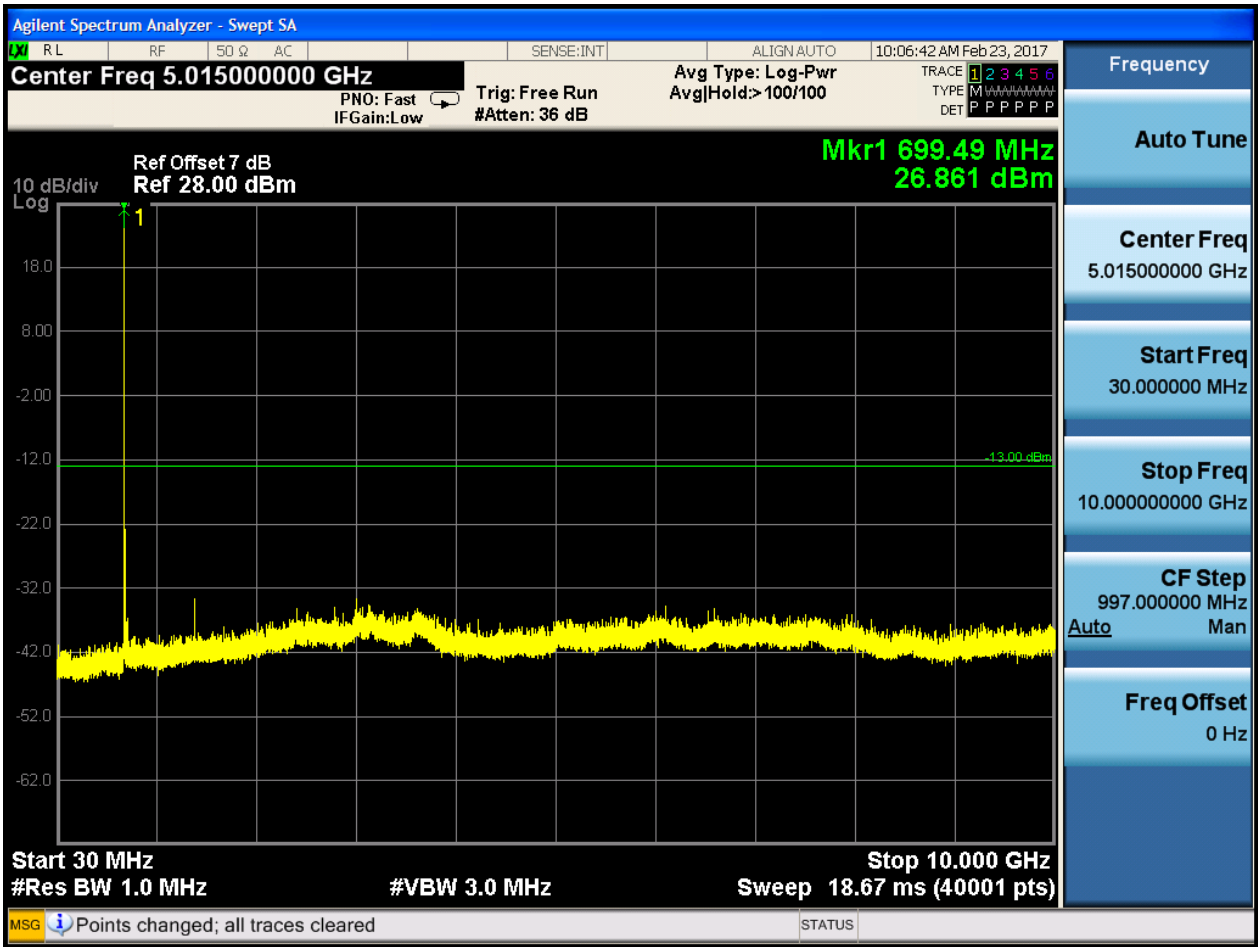
6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0





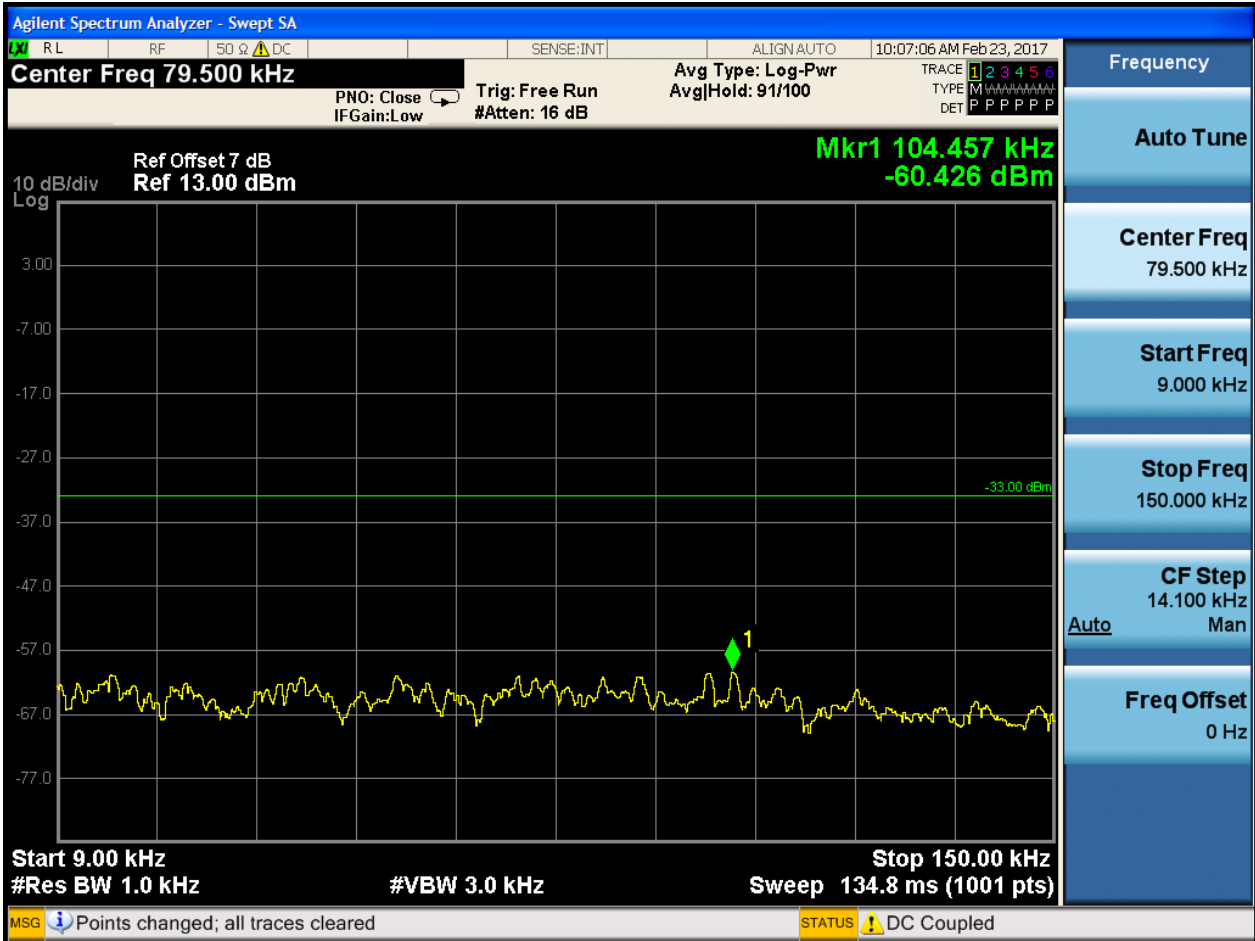


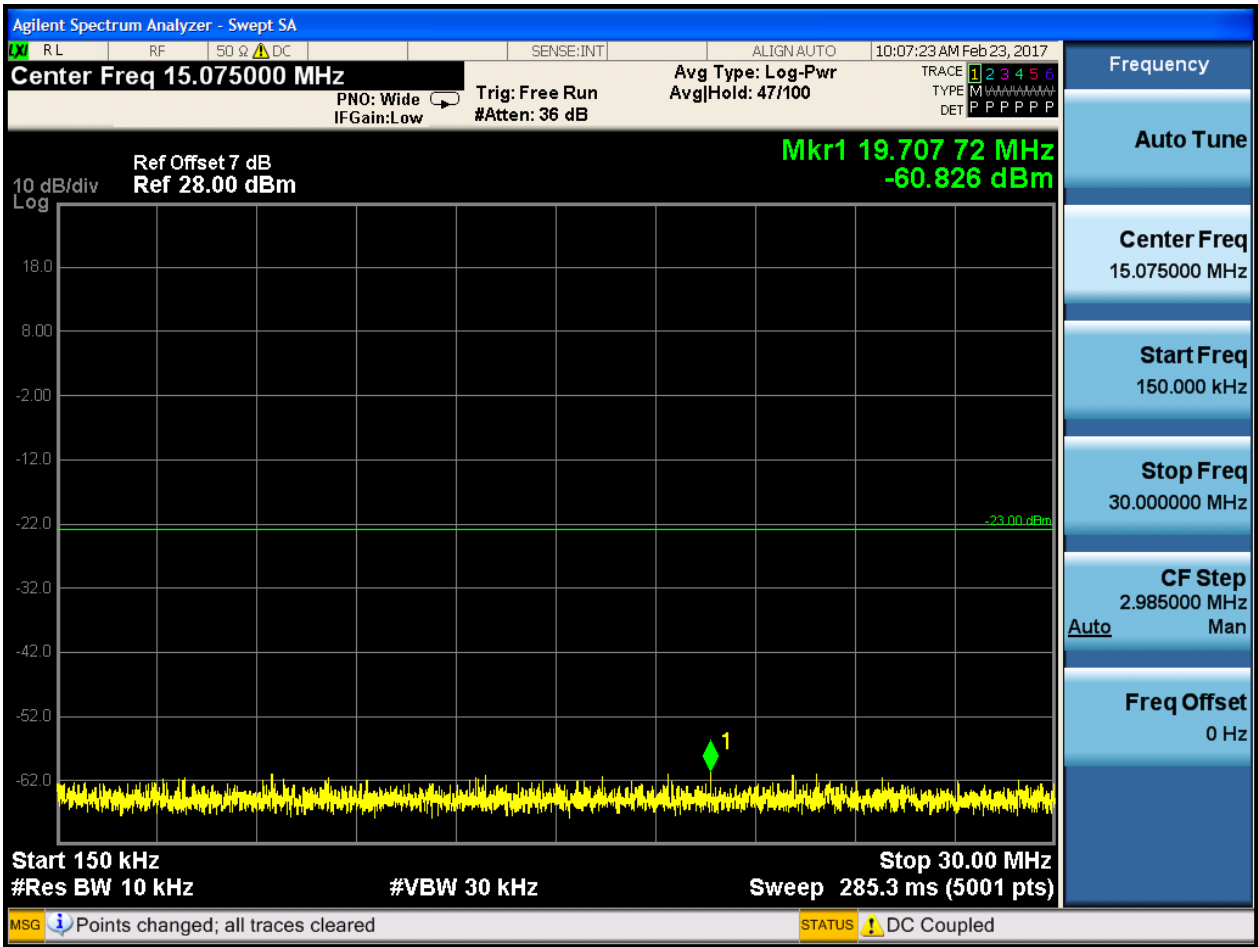


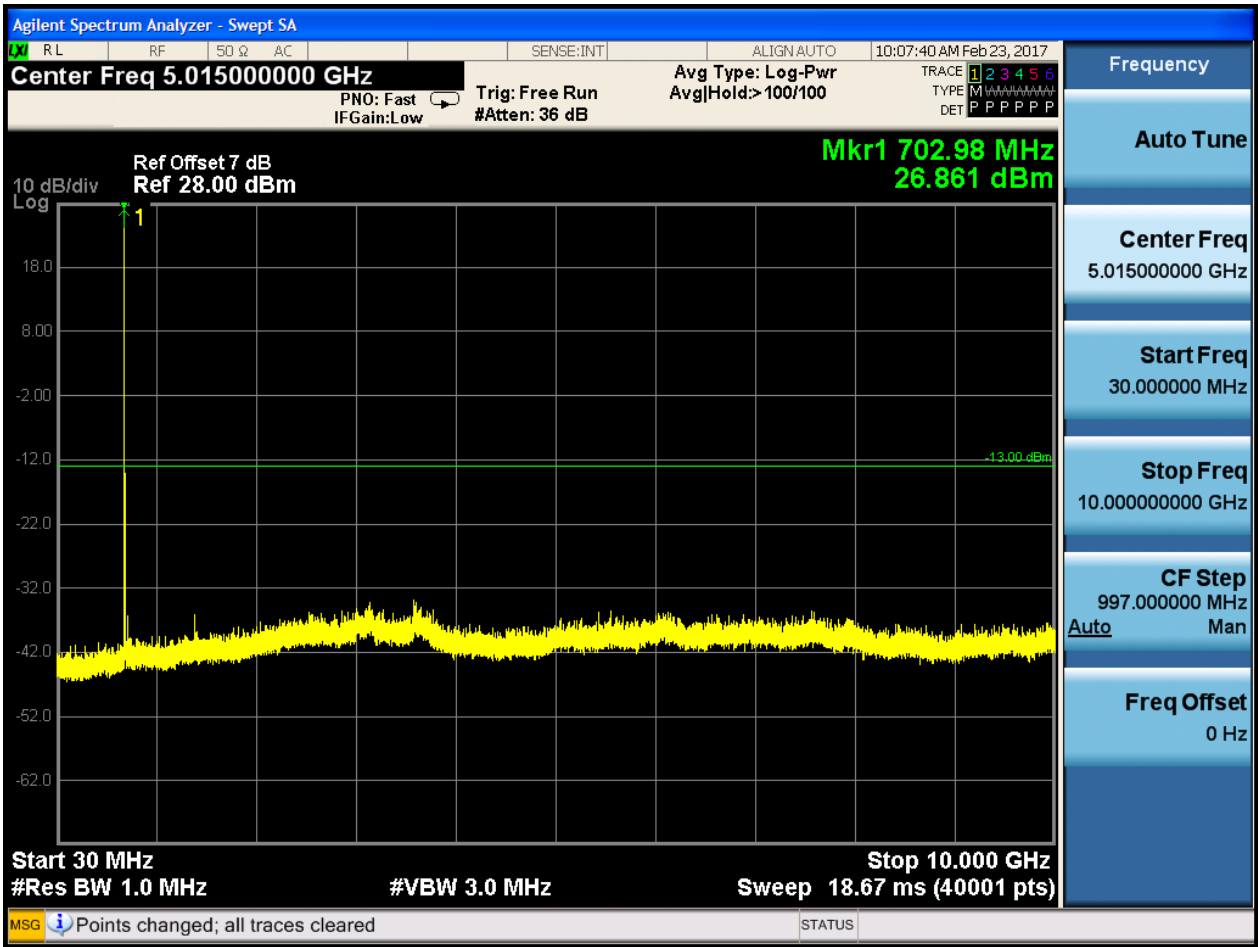


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0



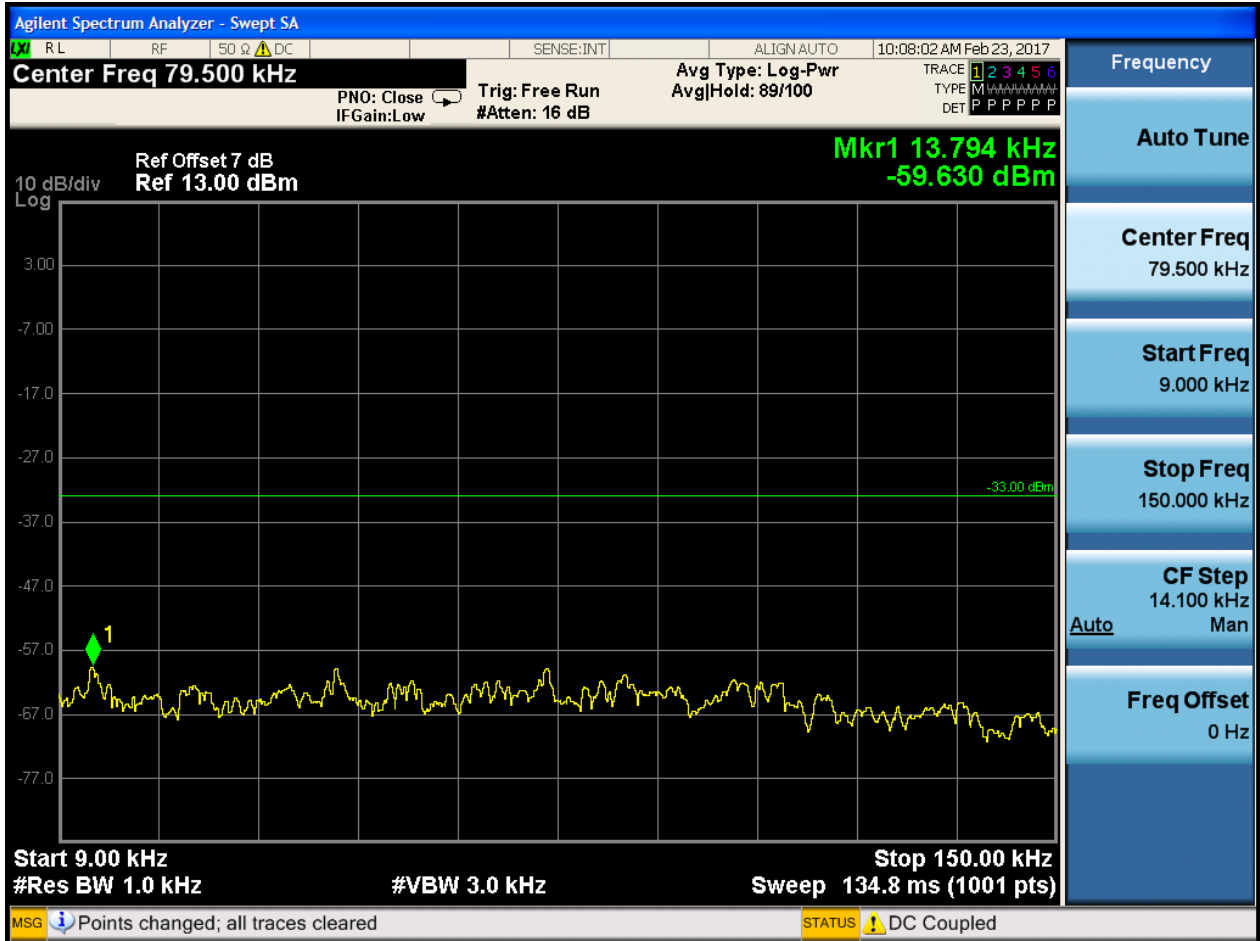


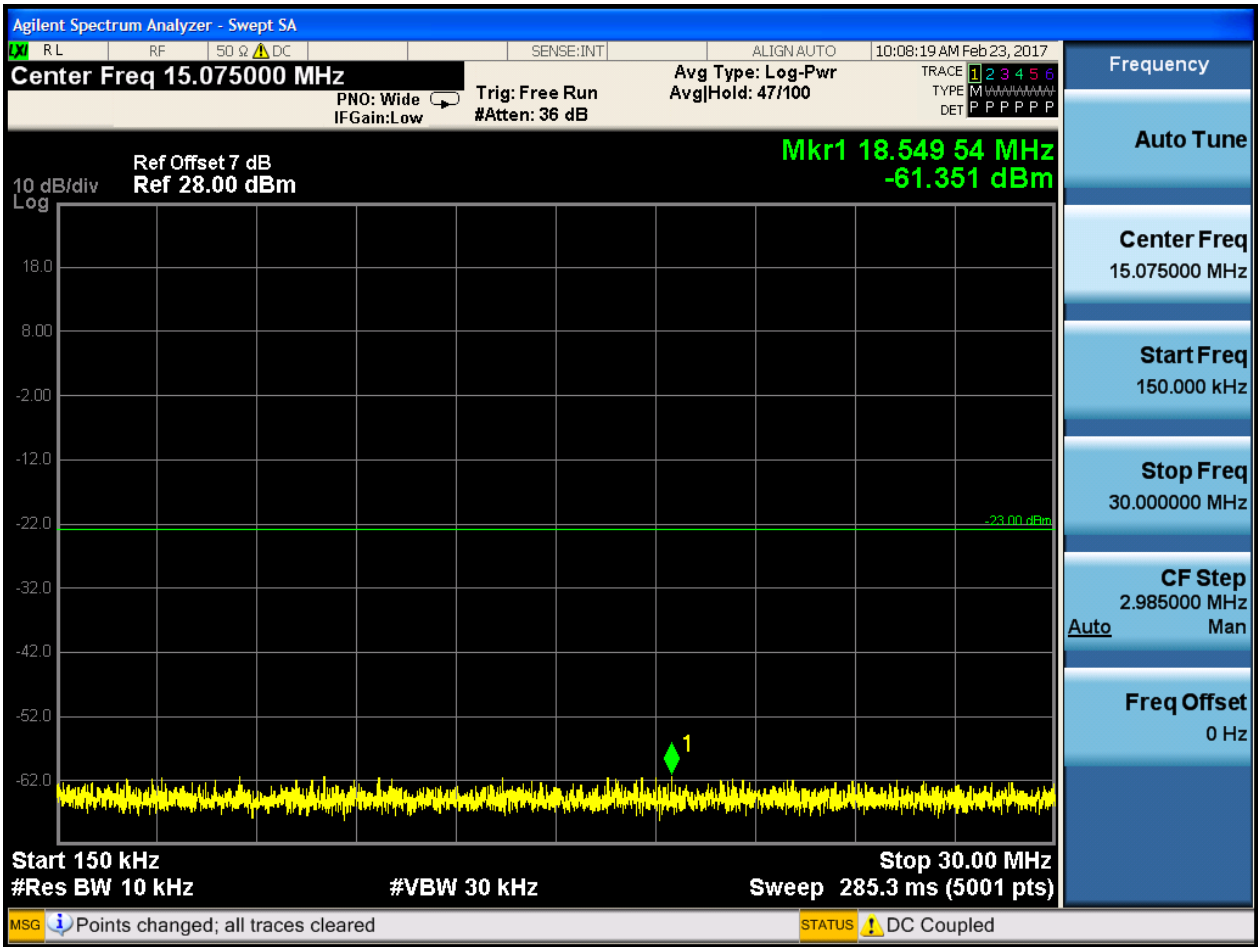


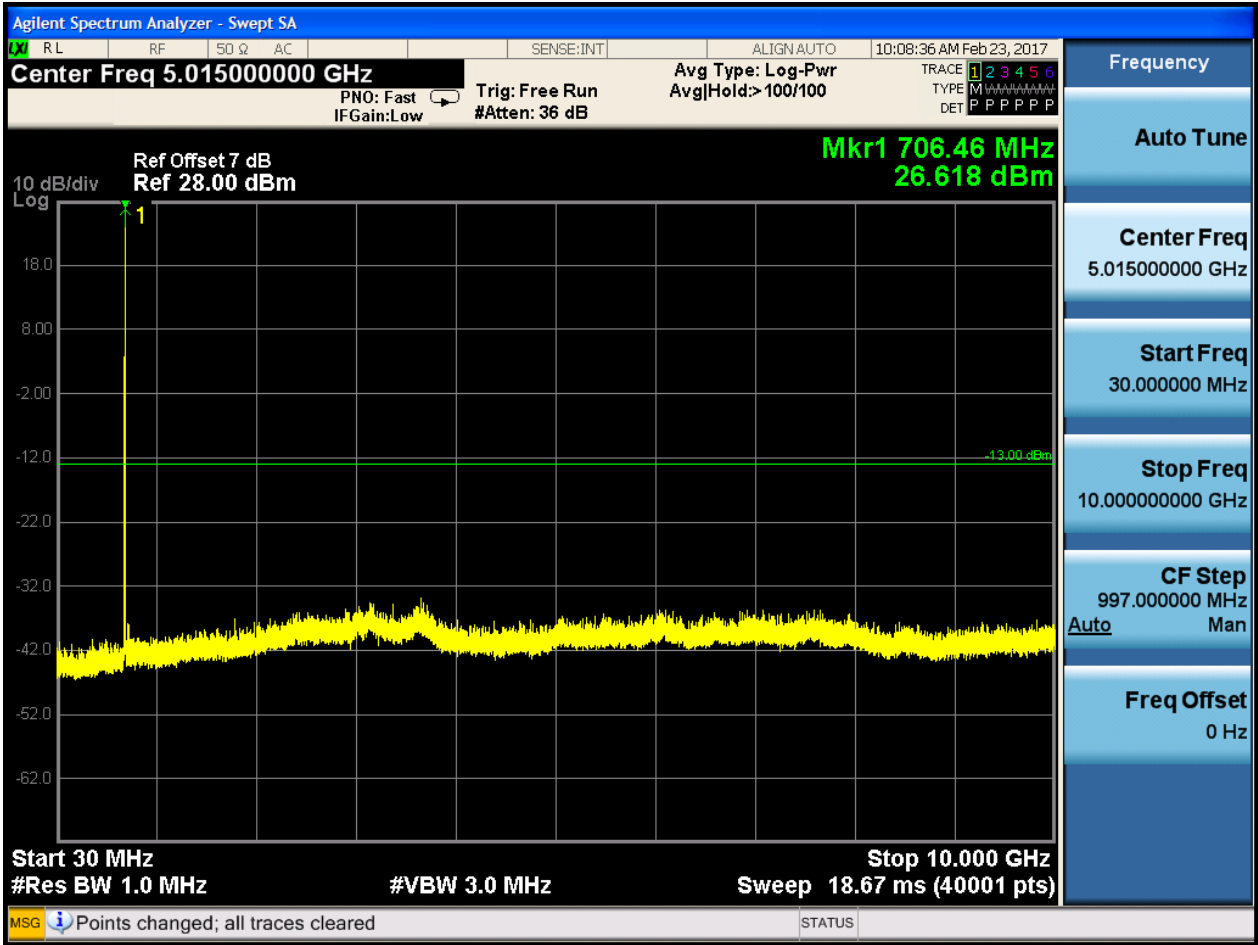


6.1.1.2.4.3 Test Channel = HCH

6.1.1.2.4.3.1 Test RB = RB1#0







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

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

9kHz~150kHz, VBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, VBW = 9kHz, VBW = 30k Hz, Detector: PK

30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: PK

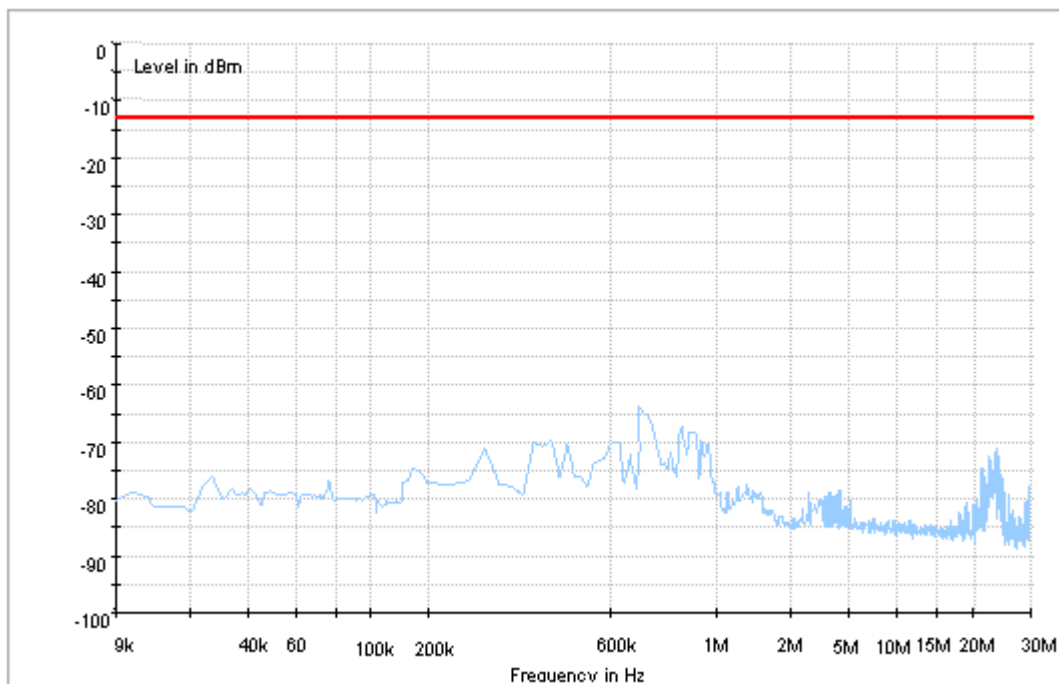
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

### Part I - Test Plots

#### 7.1 For LTE

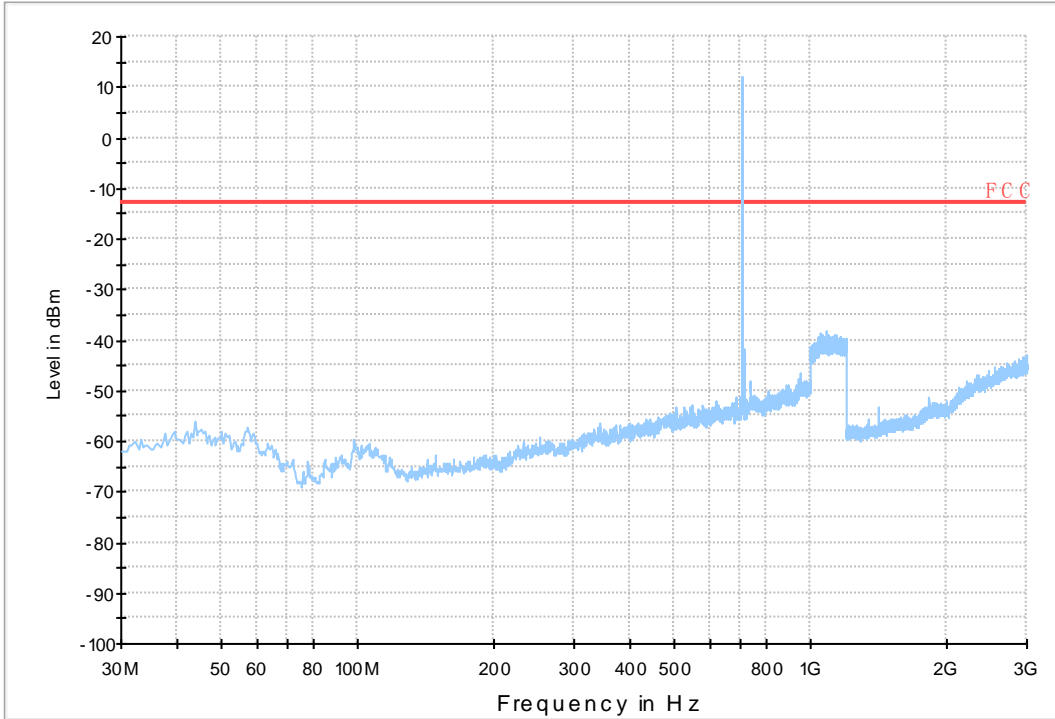
##### 7.1.1 Test Band = BAND12

##### 7.1.1.1 Test Bandwidth = 1.4

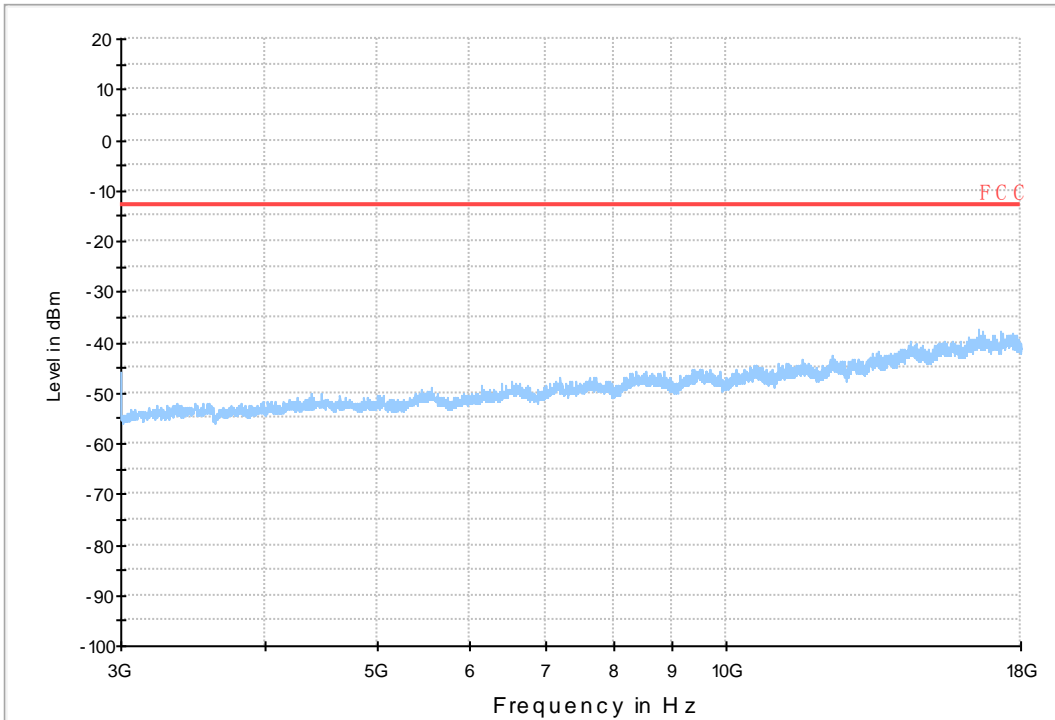




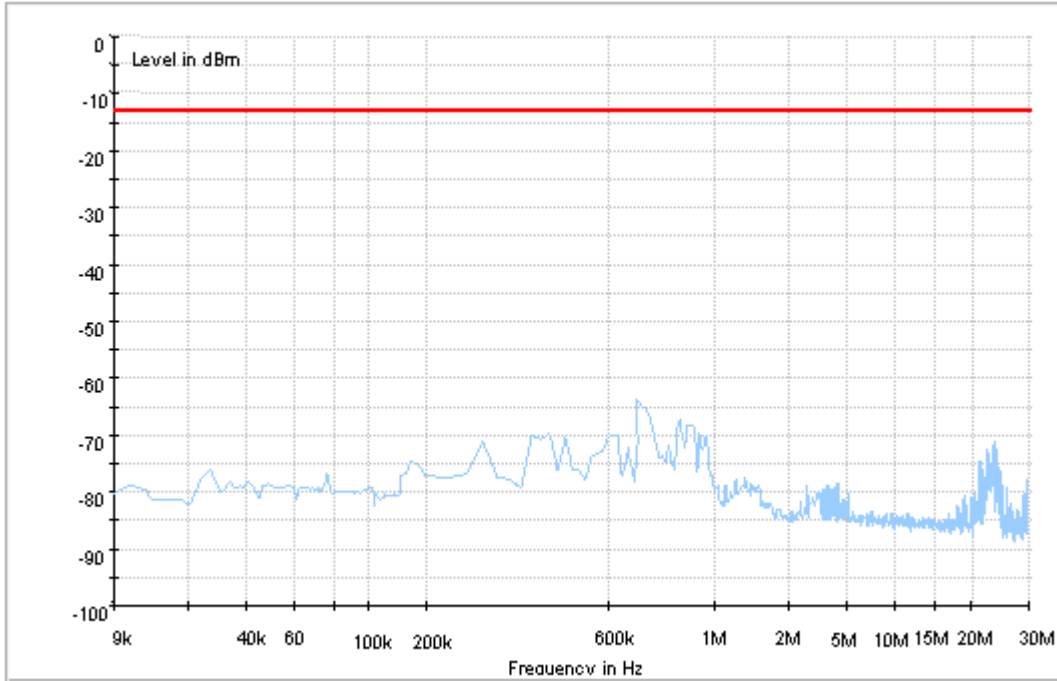
Copy of RSE-TX-DIRECTOR BELOW 1G\_L



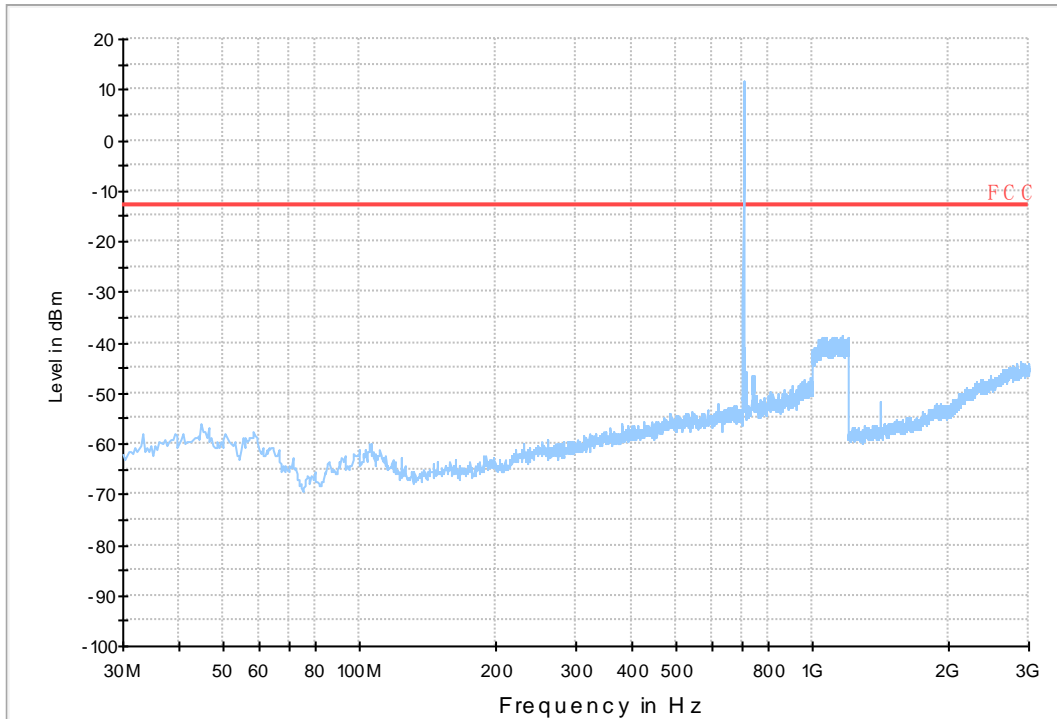
Copy of RSE-TX-DIRECTOR BELOW 1G\_H



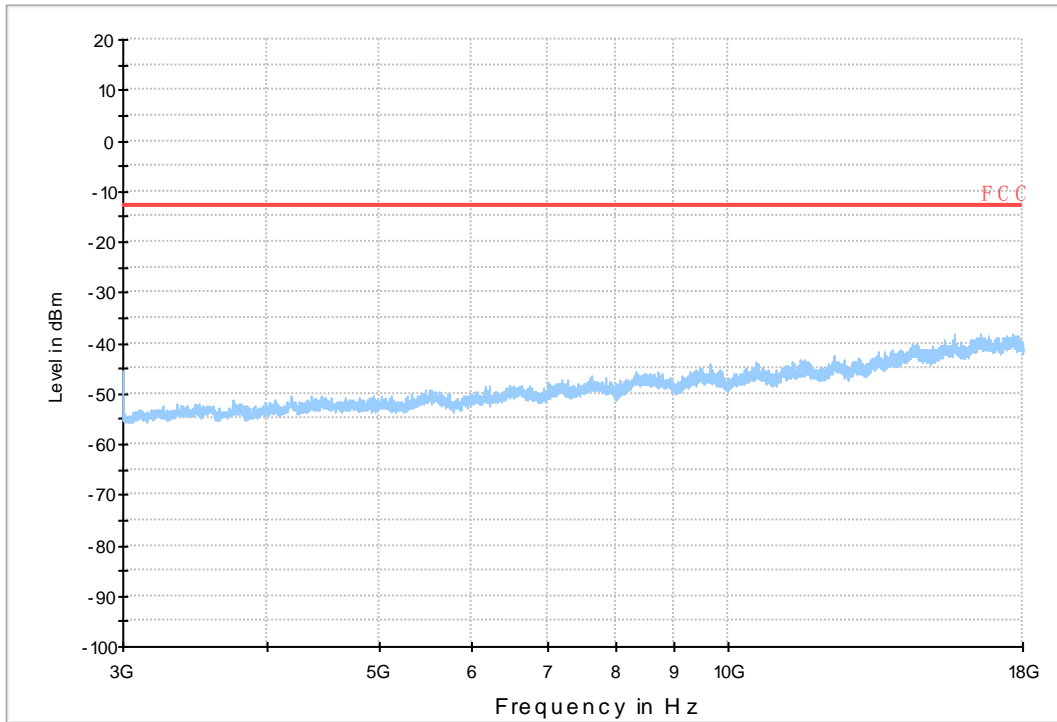
### 7.1.1.3 Test Bandwidth = 10



Copy of RSE-TX-DIRECTOR BELOW 1G\_L



Copy of RSE-TX-DIRECTOR BELOW 1G\_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
BAND12	LTE/TM1	1.4	LCH	TN	VL	0.76	0.00109	PASS
					VN	0.87	0.00124	PASS
					VH	0.43	0.00061	PASS
			MCH	TN	VL	-1.67	-0.00236	PASS
					VN	-1.86	-0.00263	PASS
					VH	-1.24	-0.00175	PASS
			HCH	TN	VL	-2.36	-0.0033	PASS
					VN	-2.85	-0.00398	PASS
					VH	-1.82	-0.00254	PASS
		3	LCH	TN	VL	-9.77	-0.01395	PASS
					VN	-11.52	-0.01645	PASS
					VH	-10.19	-0.01455	PASS
			MCH	TN	VL	-0.40	-0.00057	PASS
					VN	-0.13	-0.00018	PASS
					VH	-0.83	-0.00117	PASS
			HCH	TN	VL	-5.84	-0.00817	PASS
					VN	-5.88	-0.00823	PASS
					VH	-6.49	-0.00908	PASS
		5	LCH	TN	VL	0.99	0.00141	PASS
					VN	-0.59	-0.00084	PASS
					VH	0.01	0.00001	PASS
			MCH	TN	VL	-0.53	-0.00075	PASS
					VN	0.46	0.00065	PASS
					VH	-0.56	-0.00079	PASS
			HCH	TN	VL	-0.57	-0.0008	PASS
					VN	0.00	0	PASS
					VH	-1.59	-0.00223	PASS
		10	LCH	TN	VL	-1.06	-0.00151	PASS
					VN	-1.47	-0.00209	PASS
					VH	-1.37	-0.00195	PASS
			MCH	TN	VL	-2.55	-0.0036	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict			
					VN	-1.65	-0.00233	PASS			
					VH	-1.46	-0.00206	PASS			
					VL	0.99	0.00139	PASS			
			HCH	TN	VN	1.07	0.0015	PASS			
					VH	2.13	0.003	PASS			
					VL	0.51	0.00073	PASS			
		LTE/TM2	1.4	LCH	TN	VN	1.43	0.00204	PASS		
						VH	1.02	0.00146	PASS		
						VL	-0.90	-0.00127	PASS		
						MCH	TN	VN	-2.16	-0.00305	PASS
								VH	-2.50	-0.00353	PASS
								VL	-0.79	-0.0011	PASS
	HCH			TN	VN	-0.26	-0.00036	PASS			
					VH	-0.90	-0.00126	PASS			
					3	LCH	TN	VL	-10.01	-0.01429	PASS
								VN	-10.01	-0.01429	PASS
								VH	-11.73	-0.01675	PASS
								MCH	TN	VL	-1.10
	VN		0.30	0.00042						PASS	
	VH		-1.44	-0.00204						PASS	
	HCH		TN	VL	-4.58	-0.00641	PASS				
				VN	-6.35	-0.00889	PASS				
				VH	-4.43	-0.0062	PASS				
				5	LCH	TN	VL	0.19	0.00027	PASS	
		VN					-0.57	-0.00081	PASS		
		VH					-0.54	-0.00077	PASS		
	MCH	TN	VL		-0.72	-0.00102	PASS				
			VN		-1.14	-0.00161	PASS				
			VH		-0.67	-0.00095	PASS				
	HCH	TN	VL		-0.84	-0.00118	PASS				
			VN		-1.29	-0.00181	PASS				
			VH		-0.86	-0.00121	PASS				
	10	LCH	TN	VL	0.57	0.00081	PASS				
				VN	0.84	0.00119	PASS				
				VH	-0.80	-0.00114	PASS				
		MCH	TN	VL	-0.74	-0.00105	PASS				
				VN	0.24	0.00034	PASS				
				VH	0.83	0.00117	PASS				
		HCH	TN	VL	-1.85	-0.0026	PASS				



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VN	-1.75	-0.00246	PASS
					VH	-1.72	-0.00242	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
BAND12	LTE/TM1	1.4	LCH	VN	-30	0.72	0.00103	PASS
					-20	1.12	0.0016	PASS
					-10	0.76	0.00109	PASS
					0	1.06	0.00151	PASS
					10	-0.24	-0.00034	PASS
					20	0.01	0.00001	PASS
					30	1.27	0.00182	PASS
					40	1.29	0.00184	PASS
			50	1.09	0.00156	PASS		
			MCH	VN	-30	-1.49	-0.00211	PASS
					-20	-1.33	-0.00188	PASS
					-10	-2.07	-0.00293	PASS
					0	-1.22	-0.00172	PASS
					10	-1.59	-0.00225	PASS
					20	-1.19	-0.00168	PASS
					30	-1.54	-0.00218	PASS
					40	-2.36	-0.00334	PASS
			50	-1.07	-0.00151	PASS		
			HCH	VN	-30	-1.62	-0.00226	PASS
					-20	-0.50	-0.0007	PASS
					-10	-1.22	-0.00171	PASS
					0	-2.12	-0.00296	PASS
					10	-0.82	-0.00115	PASS
					20	0.07	0.0001	PASS
		30			-0.77	-0.00108	PASS	
		40			-1.03	-0.00144	PASS	
		50	-0.43	-0.0006	PASS			
		3	LCH	VN	-30	-10.39	-0.01483	PASS
					-20	-13.30	-0.01899	PASS
					-10	-12.67	-0.01809	PASS
					0	-13.43	-0.01917	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
		5			10	-11.87	-0.01695	PASS		
					20	-12.13	-0.01732	PASS		
					30	-11.42	-0.0163	PASS		
					40	-12.86	-0.01836	PASS		
					50	-12.00	-0.01713	PASS		
			MCH	VN	-30	0.56	0.00079	PASS		
					-20	0.53	0.00075	PASS		
					-10	-0.43	-0.00061	PASS		
					0	0.89	0.00126	PASS		
					10	0.16	0.00023	PASS		
					20	-1.49	-0.00211	PASS		
					30	0.69	0.00098	PASS		
					40	0.07	0.0001	PASS		
					50	-0.87	-0.00123	PASS		
			HCH	VN	-30	-3.81	-0.00533	PASS		
					-20	-5.02	-0.00703	PASS		
					-10	-4.91	-0.00687	PASS		
					0	-4.11	-0.00575	PASS		
					10	-4.31	-0.00603	PASS		
					20	-5.39	-0.00754	PASS		
					30	-2.96	-0.00414	PASS		
					40	-3.49	-0.00488	PASS		
			5	LCH	VN	-30	0.20	0.00029	PASS	
						-20	-0.84	-0.0012	PASS	
		-10				0.04	0.00006	PASS		
		0				0.66	0.00094	PASS		
		10				-1.33	-0.0019	PASS		
		20				0.59	0.00084	PASS		
		30				-0.54	-0.00077	PASS		
		40				0.53	0.00076	PASS		
		50				-0.03	-0.00004	PASS		
		MCH				VN	-30	-0.56	-0.00079	PASS
							-20	-0.63	-0.00089	PASS
							-10	-0.19	-0.00027	PASS
			0	-0.27	-0.00038		PASS			
			10	-0.60	-0.00085		PASS			
20	-0.64		-0.0009	PASS						
30	-0.97		-0.00137	PASS						



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					40	0.30	0.00042	PASS
					50	-0.67	-0.00095	PASS
			HCH	VN	-30	-0.40	-0.00056	PASS
					-20	-1.20	-0.00168	PASS
					-10	-0.69	-0.00097	PASS
					0	-0.93	-0.0013	PASS
					10	-1.14	-0.0016	PASS
					20	0.41	0.00057	PASS
					30	-1.43	-0.002	PASS
					40	-1.16	-0.00163	PASS
					50	-1.06	-0.00149	PASS
			LCH	VN	-30	-1.86	-0.00264	PASS
					-20	-2.49	-0.00354	PASS
					-10	-0.86	-0.00122	PASS
					0	-2.25	-0.0032	PASS
		10			-2.15	-0.00305	PASS	
		20			-1.06	-0.00151	PASS	
		30			-1.06	-0.00151	PASS	
		40			-1.47	-0.00209	PASS	
		50			-2.33	-0.00331	PASS	
		MCH	VN	-30	-3.00	-0.00424	PASS	
				-20	-2.15	-0.00304	PASS	
				-10	-2.88	-0.00407	PASS	
				0	-1.72	-0.00243	PASS	
				10	-1.82	-0.00257	PASS	
				20	-1.36	-0.00192	PASS	
				30	-1.76	-0.00249	PASS	
				40	-2.59	-0.00366	PASS	
				50	-1.37	-0.00194	PASS	
		HCH	VN	-30	1.12	0.00158	PASS	
-20	1.27			0.00179	PASS			
-10	2.43			0.00342	PASS			
0	1.93			0.00271	PASS			
10	1.30			0.00183	PASS			
20	1.03			0.00145	PASS			
30	1.26			0.00177	PASS			
40	0.73			0.00103	PASS			
50	1.65	0.00232	PASS					
LTE/TM2	1.4	LCH	VN	-30	0.01	0.00001	PASS	



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					-20	0.23	0.00033	PASS
					-10	1.14	0.00163	PASS
					0	1.02	0.00146	PASS
					10	0.59	0.00084	PASS
					20	-0.70	-0.001	PASS
					30	-0.29	-0.00041	PASS
					40	-0.24	-0.00034	PASS
					50	-0.40	-0.00057	PASS
			MCH	VN	-30	-0.59	-0.00083	PASS
					-20	-0.06	-0.00008	PASS
					-10	-2.00	-0.00283	PASS
					0	-0.57	-0.00081	PASS
					10	-2.52	-0.00356	PASS
					20	-0.66	-0.00093	PASS
					30	-1.09	-0.00154	PASS
					40	-0.07	-0.0001	PASS
			HCH	VN	-30	0.14	0.0002	PASS
					-20	0.16	0.00022	PASS
					-10	-0.23	-0.00032	PASS
					0	0.23	0.00032	PASS
					10	0.20	0.00028	PASS
					20	0.53	0.00074	PASS
					30	-0.57	-0.0008	PASS
					40	-1.06	-0.00148	PASS
		3	LCH	VN	-30	-12.37	-0.01766	PASS
					-20	-10.99	-0.01569	PASS
					-10	-13.30	-0.01899	PASS
					0	-12.07	-0.01723	PASS
					10	-11.94	-0.01704	PASS
					20	-12.47	-0.0178	PASS
					30	-12.53	-0.01789	PASS
					40	-11.76	-0.01679	PASS
			50	-13.15	-0.01877	PASS		
			MCH	VN	-30	-1.10	-0.00155	PASS
					-20	-0.44	-0.00062	PASS
					-10	-0.13	-0.00018	PASS
0	0.79	0.00112			PASS			



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					10	-0.60	-0.00085	PASS
					20	-1.06	-0.0015	PASS
					30	-0.60	-0.00085	PASS
					40	-0.90	-0.00127	PASS
					50	-0.83	-0.00117	PASS
			HCH	VN	-30	-3.63	-0.00508	PASS
					-20	-2.42	-0.00339	PASS
					-10	-4.08	-0.00571	PASS
					0	-3.65	-0.00511	PASS
					10	-4.05	-0.00567	PASS
					20	-4.02	-0.00563	PASS
					30	-3.15	-0.00441	PASS
					40	-3.25	-0.00455	PASS
			LCH	VN	-30	-1.30	-0.00185	PASS
					-20	0.10	0.00014	PASS
					-10	-0.80	-0.00114	PASS
					0	-0.17	-0.00024	PASS
					10	-0.56	-0.0008	PASS
		20			-0.23	-0.00033	PASS	
		30			-0.07	-0.0001	PASS	
		40			0.27	0.00038	PASS	
		50			0.87	0.00124	PASS	
		MCH	VN	-30	-1.02	-0.00144	PASS	
				-20	-0.54	-0.00076	PASS	
				-10	-0.53	-0.00075	PASS	
				0	-0.41	-0.00058	PASS	
				10	-0.23	-0.00033	PASS	
				20	-0.93	-0.00131	PASS	
				30	0.04	0.00006	PASS	
				40	-0.59	-0.00083	PASS	
		HCH	VN	50	0.20	0.00028	PASS	
				-30	-0.56	-0.00078	PASS	
				-20	0.11	0.00015	PASS	
				-10	-0.99	-0.00139	PASS	
				0	-0.69	-0.00097	PASS	
				10	-1.49	-0.00209	PASS	
20	-0.17			-0.00024	PASS			
30	-0.89	-0.00125	PASS					
5								



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					40	-0.24	-0.00034	PASS		
					50	-1.13	-0.00158	PASS		
		10	LCH	VN	-30	0.57	0.00081	PASS		
					-20	0.09	0.00013	PASS		
					-10	-1.17	-0.00166	PASS		
					0	1.32	0.00188	PASS		
					10	-0.26	-0.00037	PASS		
					20	0.27	0.00038	PASS		
					30	-0.51	-0.00072	PASS		
					40	1.03	0.00146	PASS		
					50	1.85	0.00263	PASS		
					MCH	VN	-30	-0.57	-0.00081	PASS
							-20	-0.62	-0.00088	PASS
							-10	0.23	0.00033	PASS
		0	-0.93	-0.00131			PASS			
		10	-0.60	-0.00085			PASS			
		20	0.60	0.00085			PASS			
		30	-0.79	-0.00112			PASS			
		40	-0.47	-0.00066			PASS			
		HCH	VN	-30	-0.19	-0.00027	PASS			
				-20	-1.17	-0.00165	PASS			
				-10	-1.04	-0.00146	PASS			
				0	-0.39	-0.00055	PASS			
				10	0.19	0.00027	PASS			
				20	-1.22	-0.00172	PASS			
				30	-1.72	-0.00242	PASS			
				40	-1.49	-0.0021	PASS			
		50	-1.24	-0.00174	PASS					

END