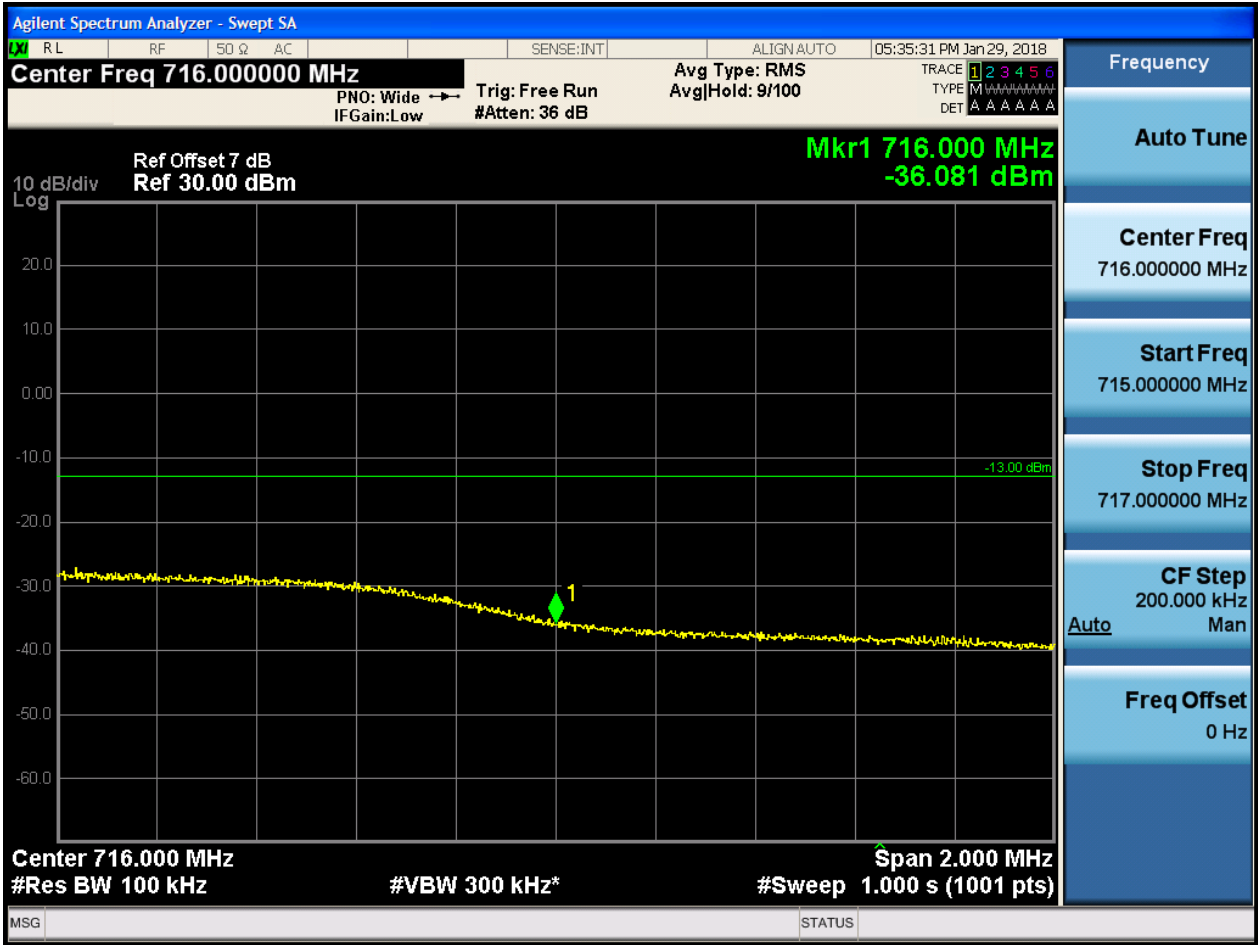




5.1.1.2.4.2.3 Test RB = RB25#13





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

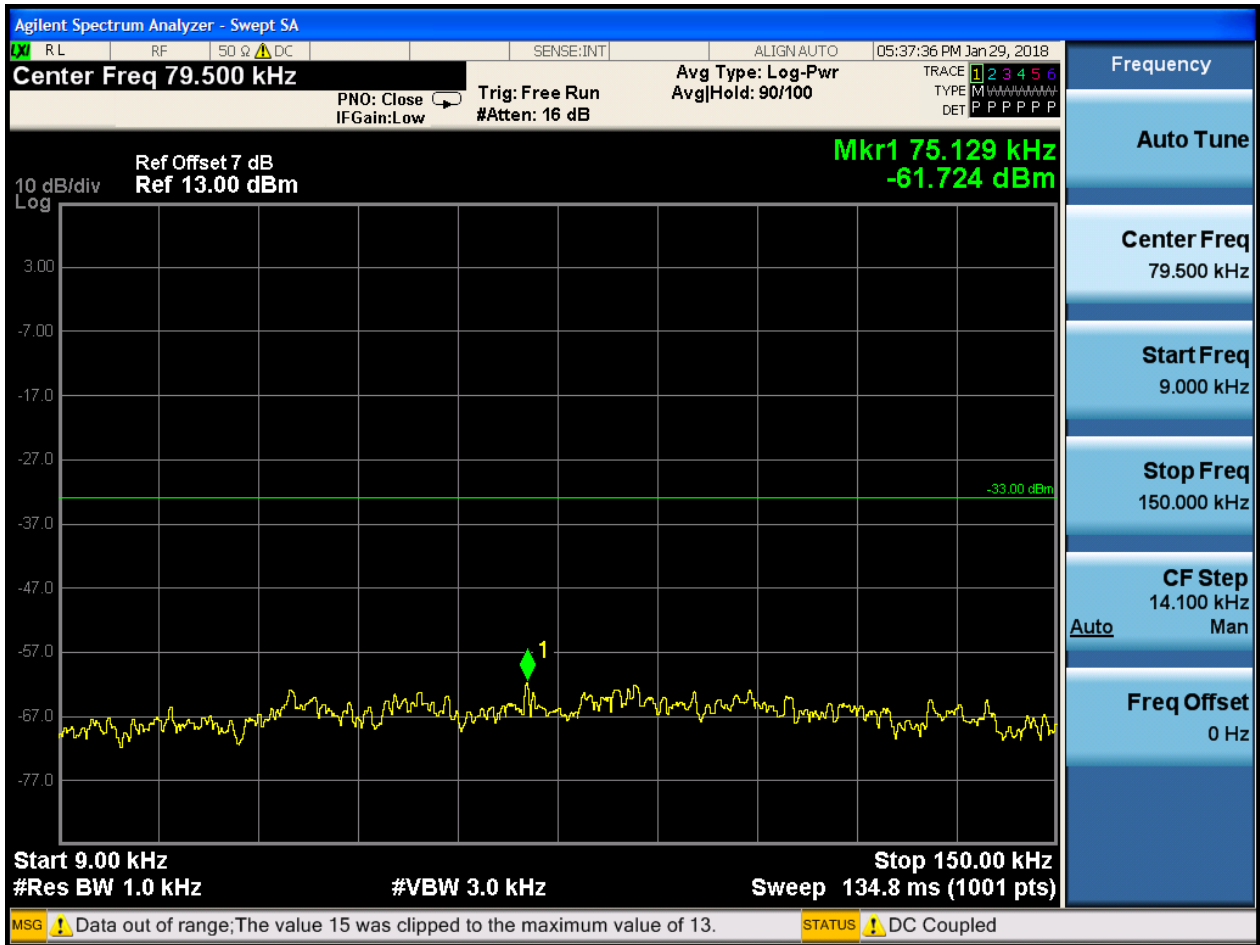
##### 6.1.1 Test Band = BAND12

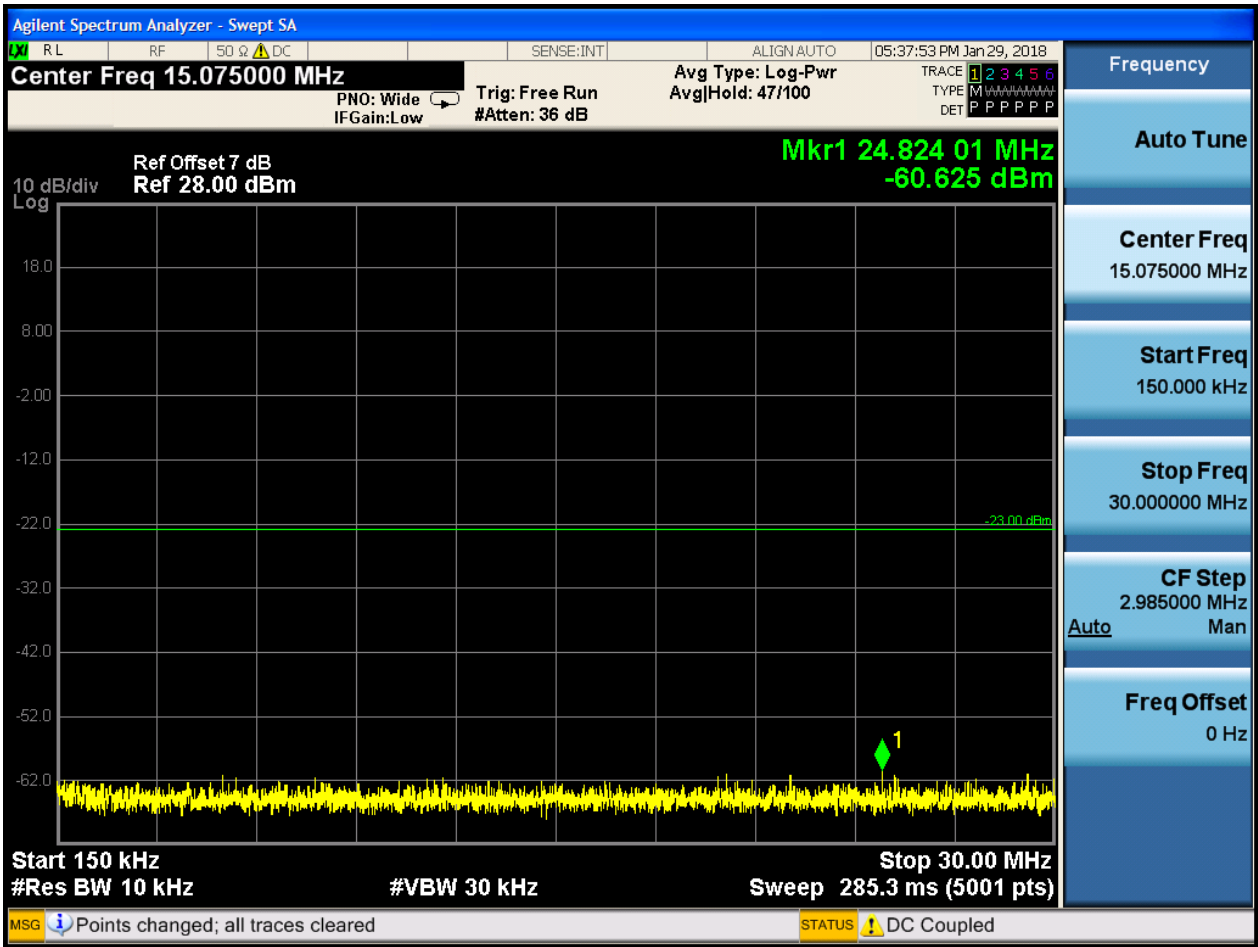
##### 6.1.1.1 Test Mode = LTE/TM1

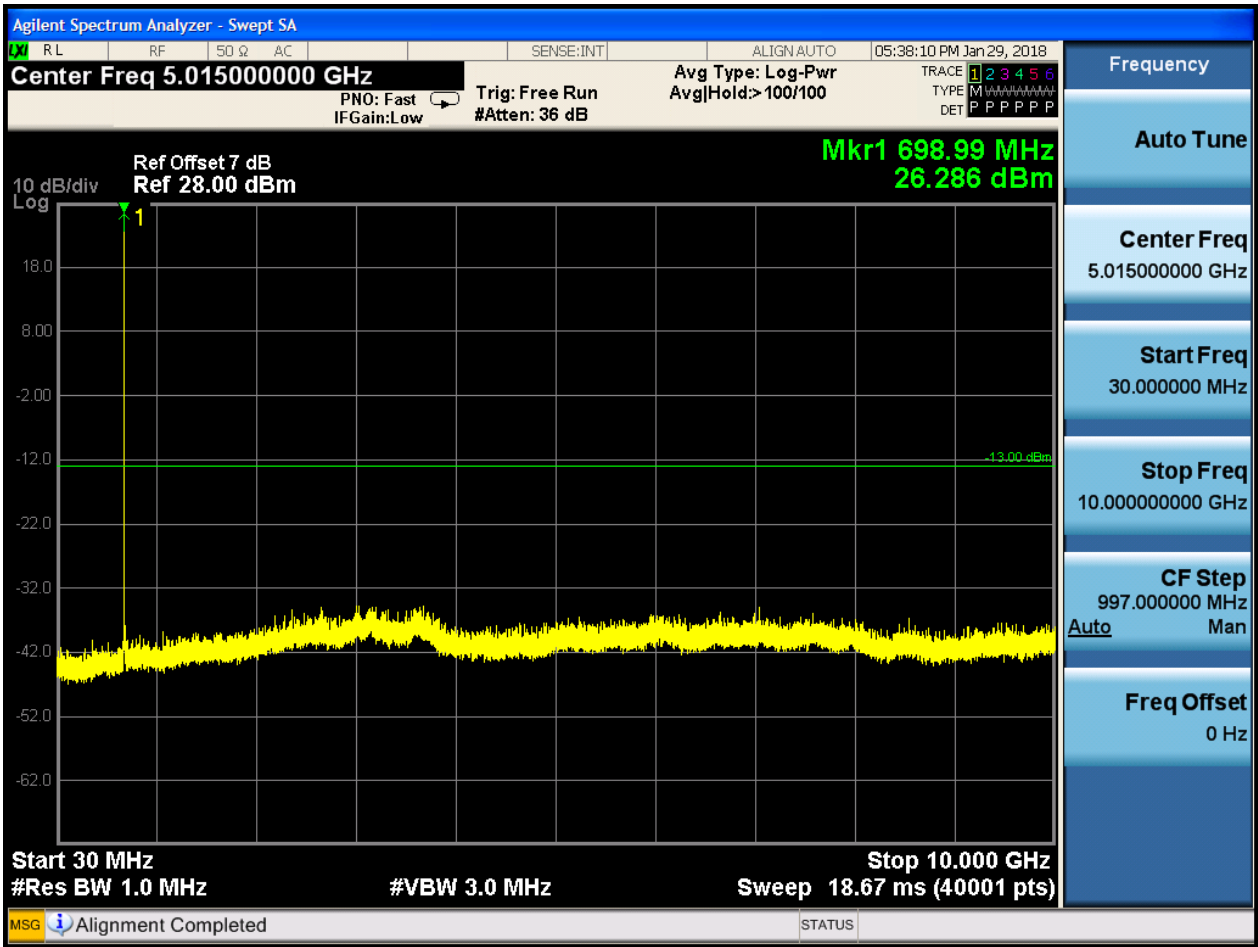
##### 6.1.1.1.1 Test Bandwidth = 1.4

##### 6.1.1.1.1.1 Test Channel = LCH

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



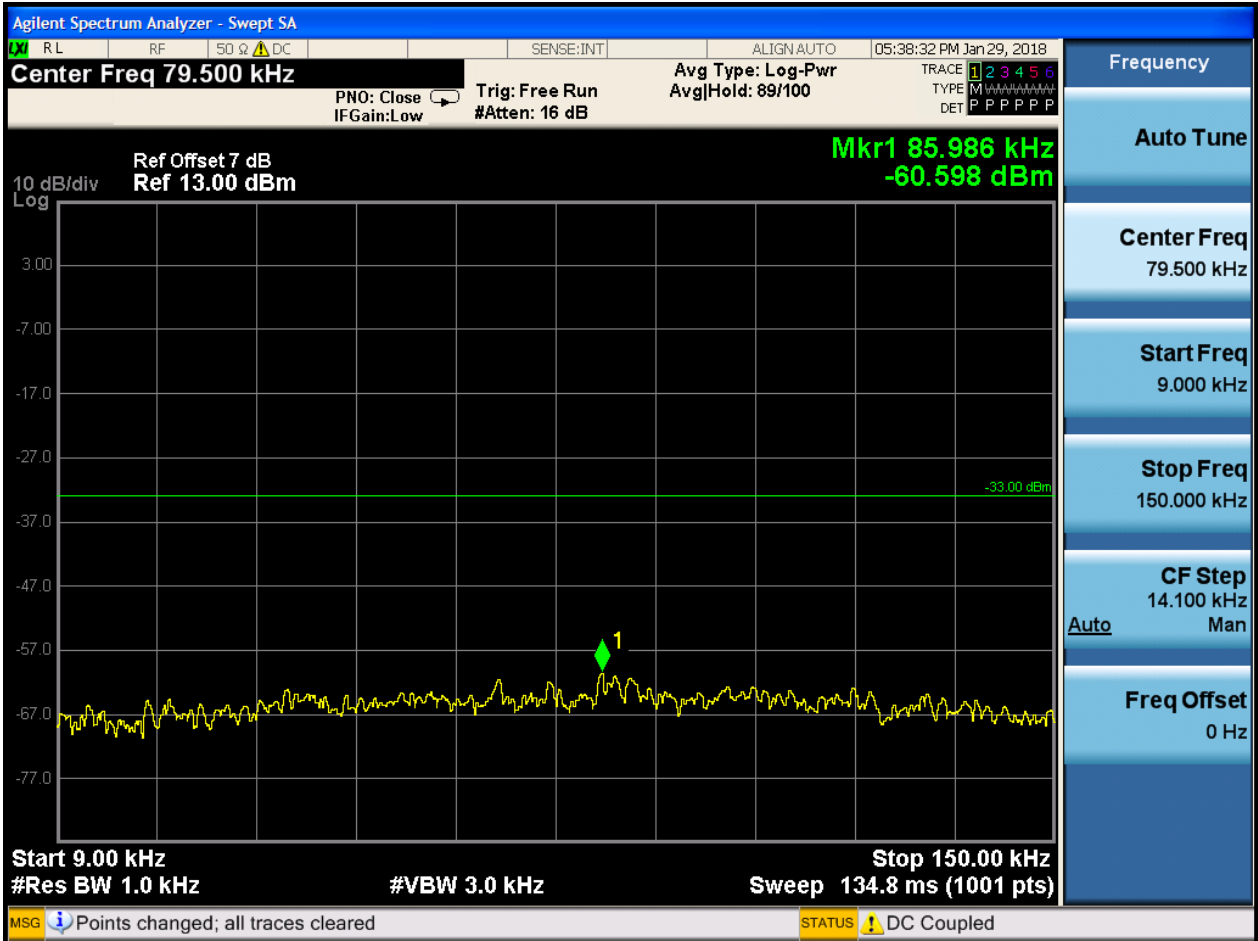


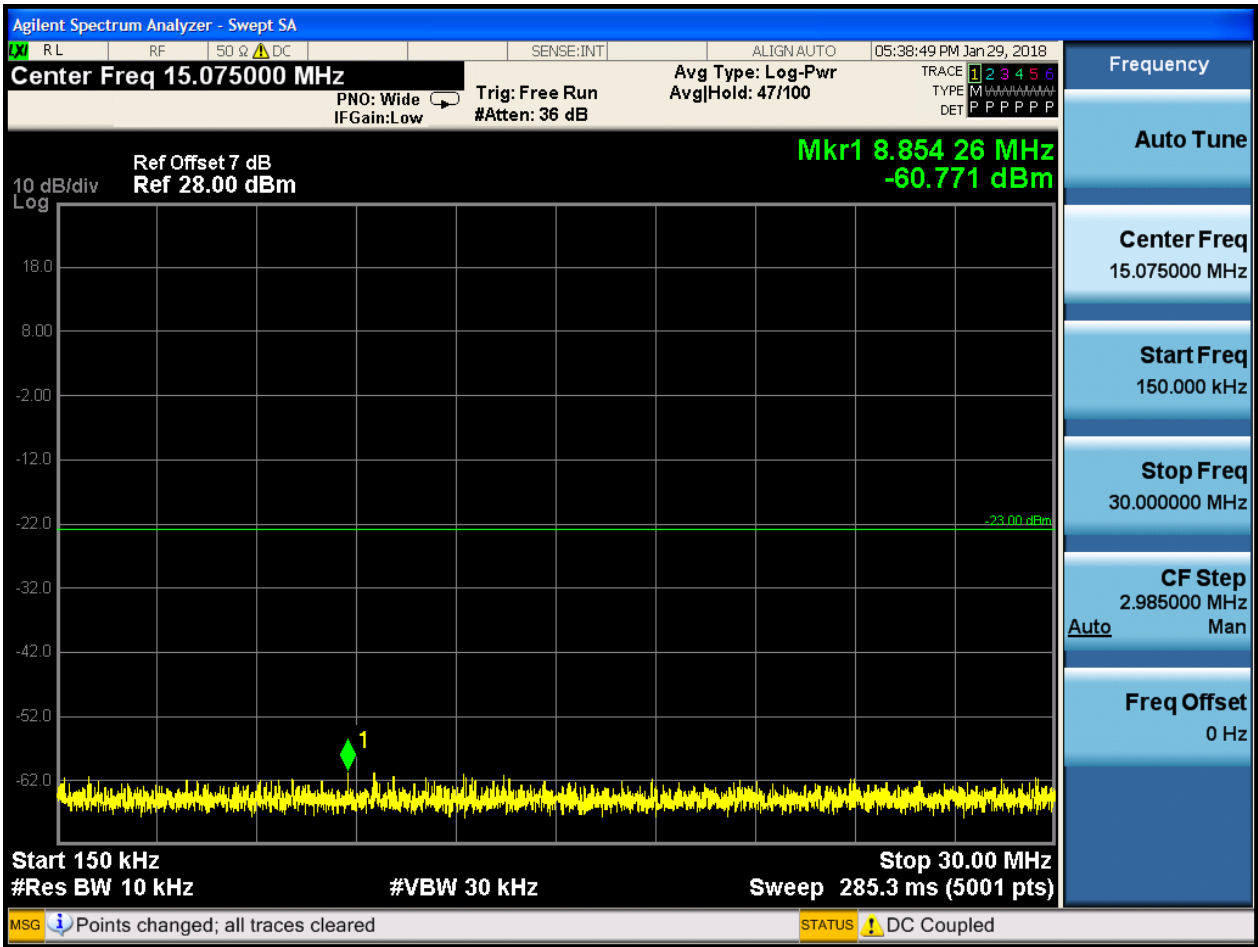




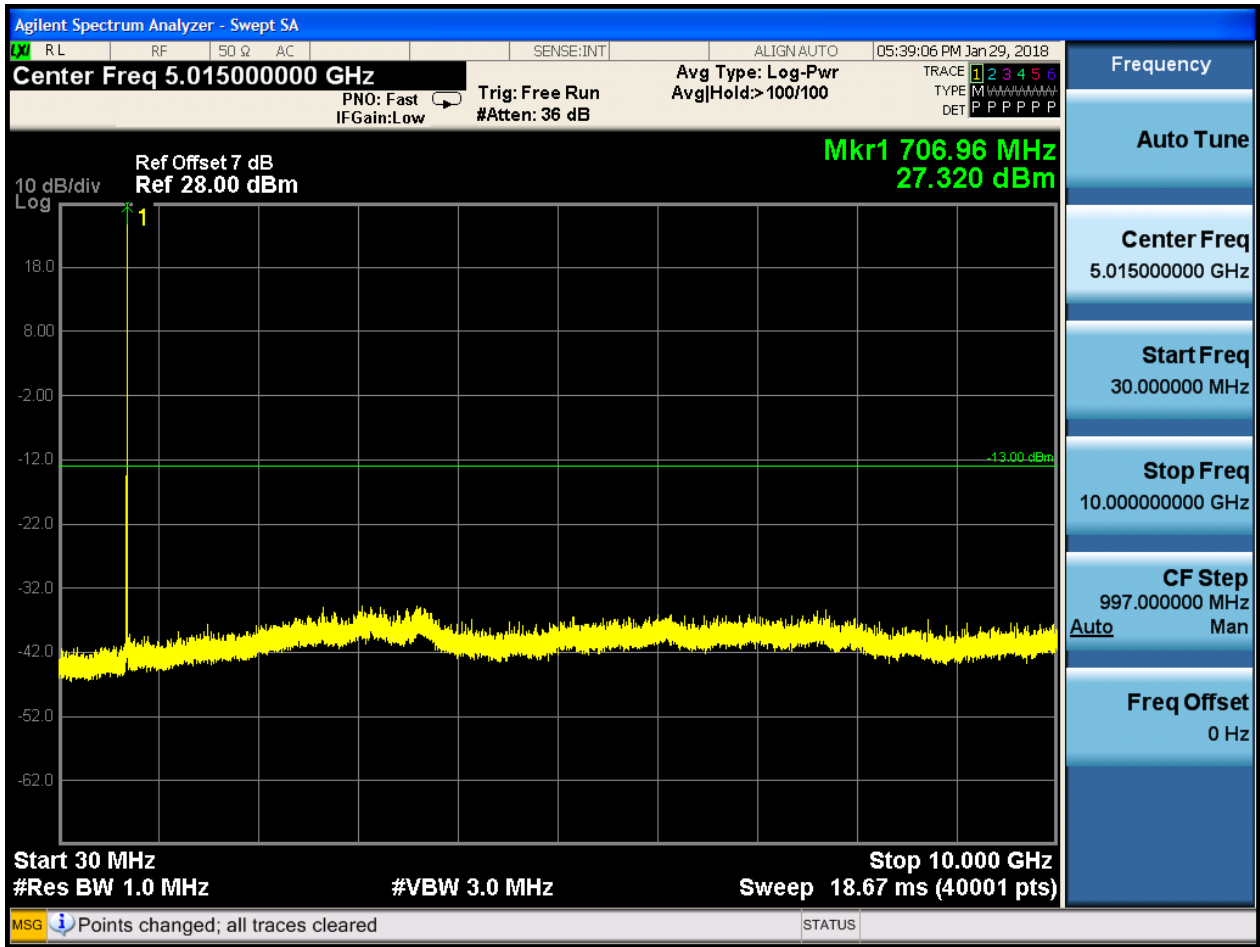
6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0





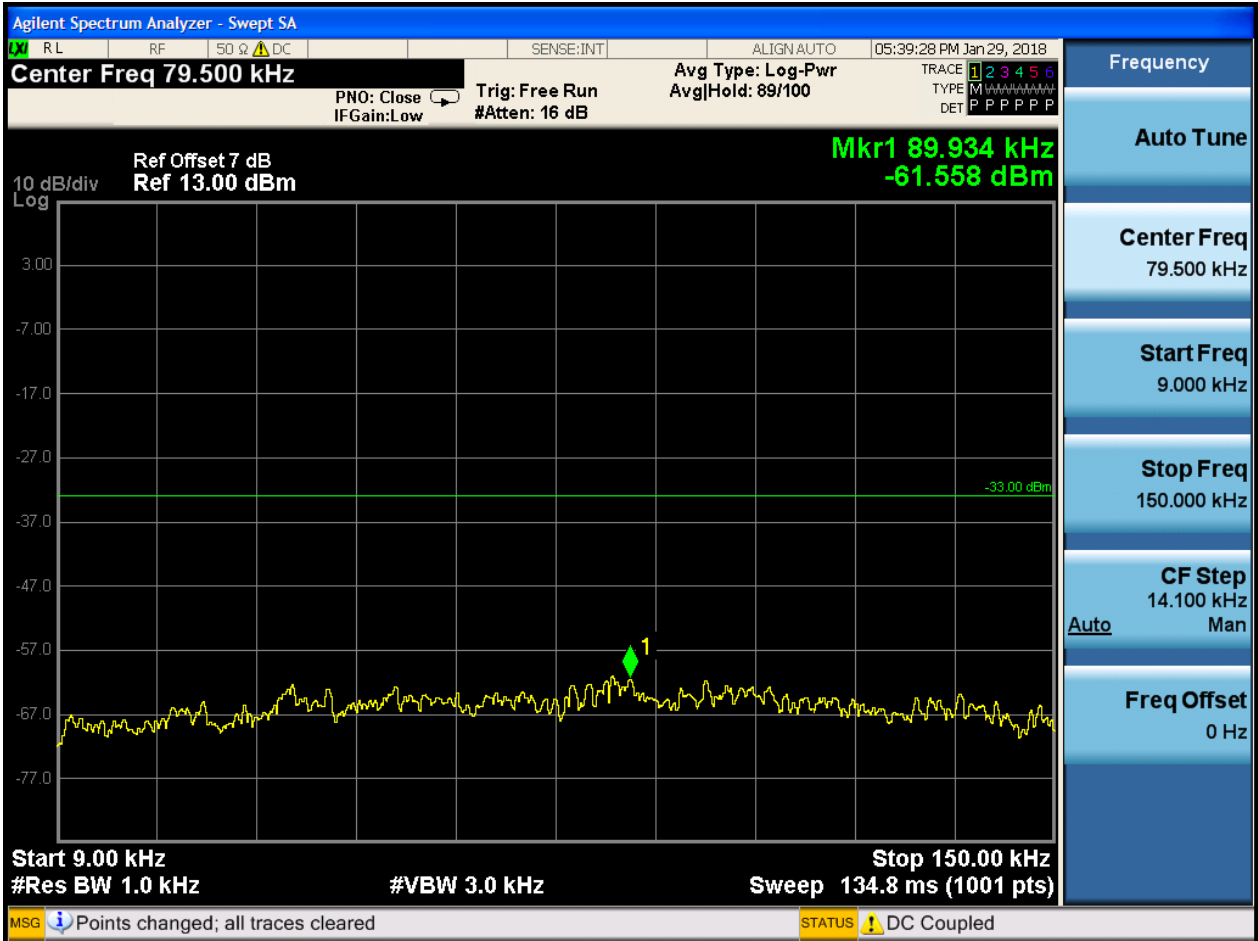


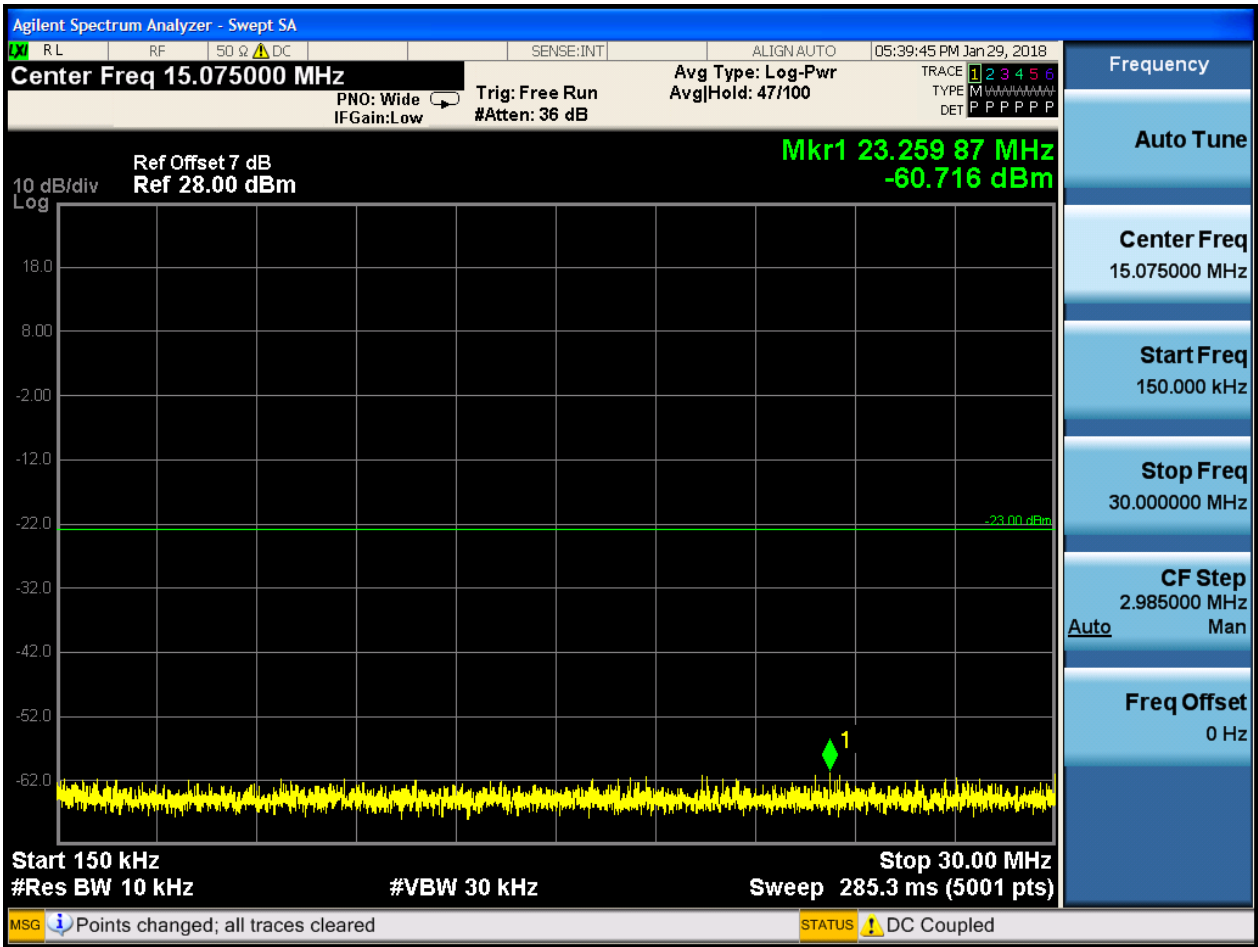


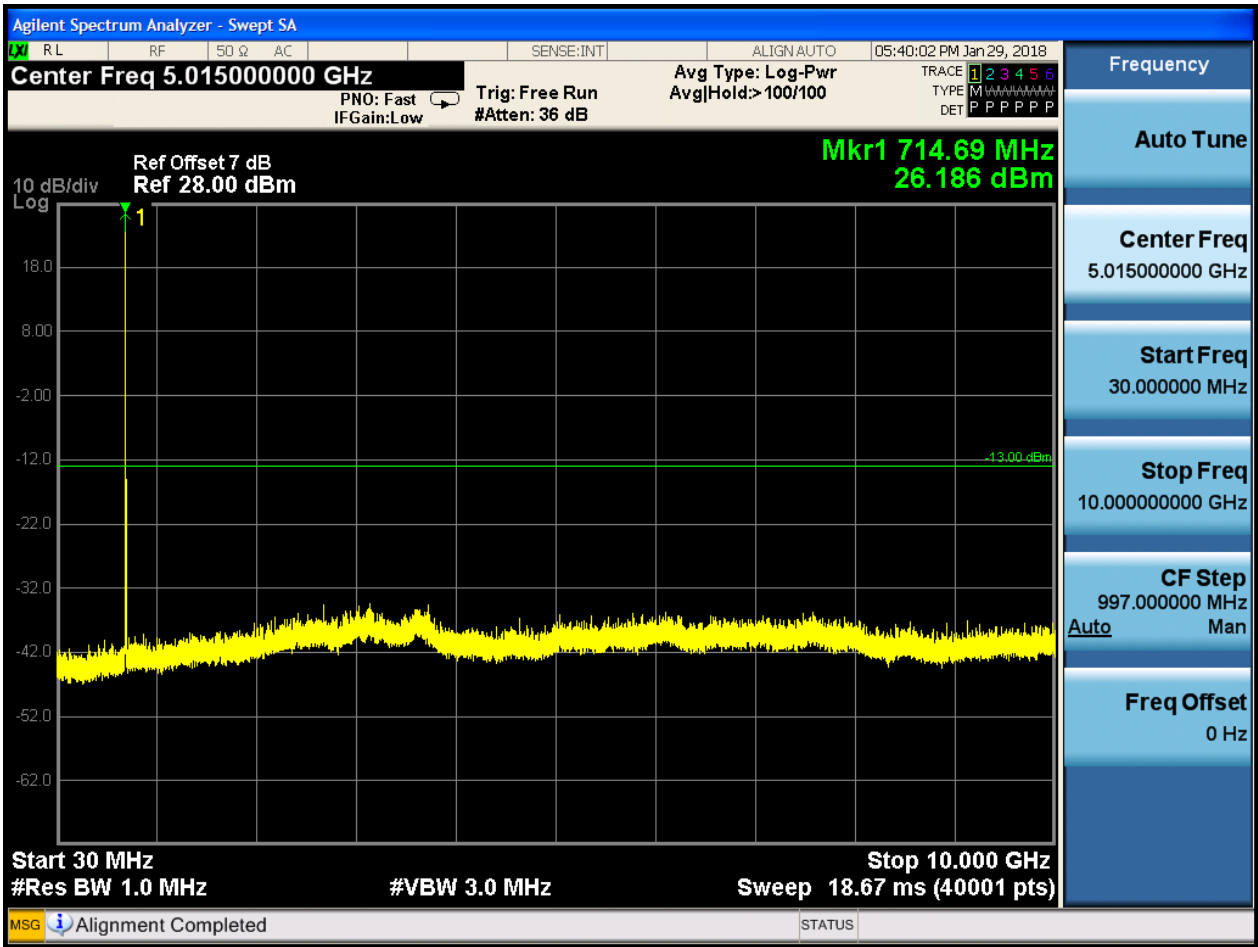


6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0





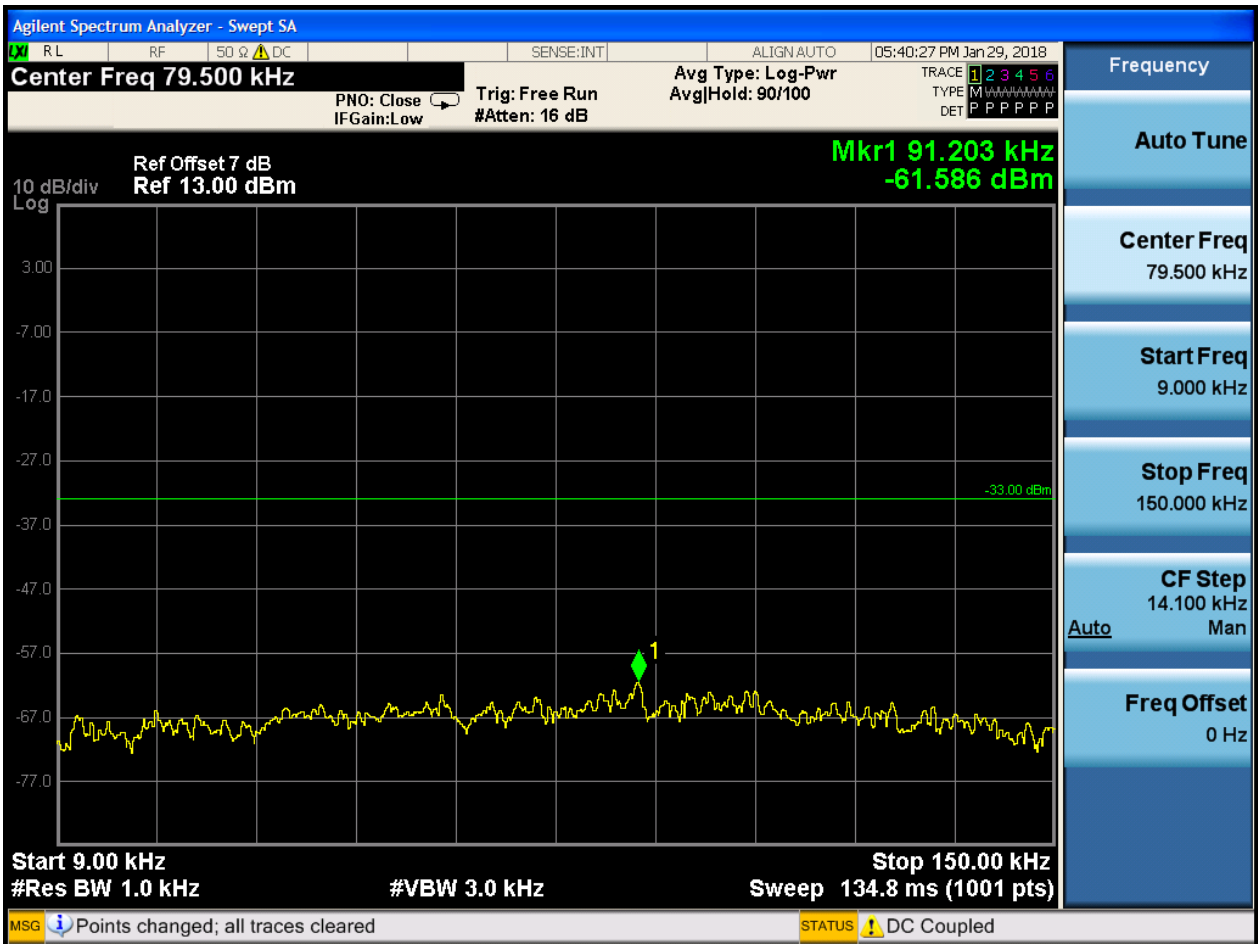


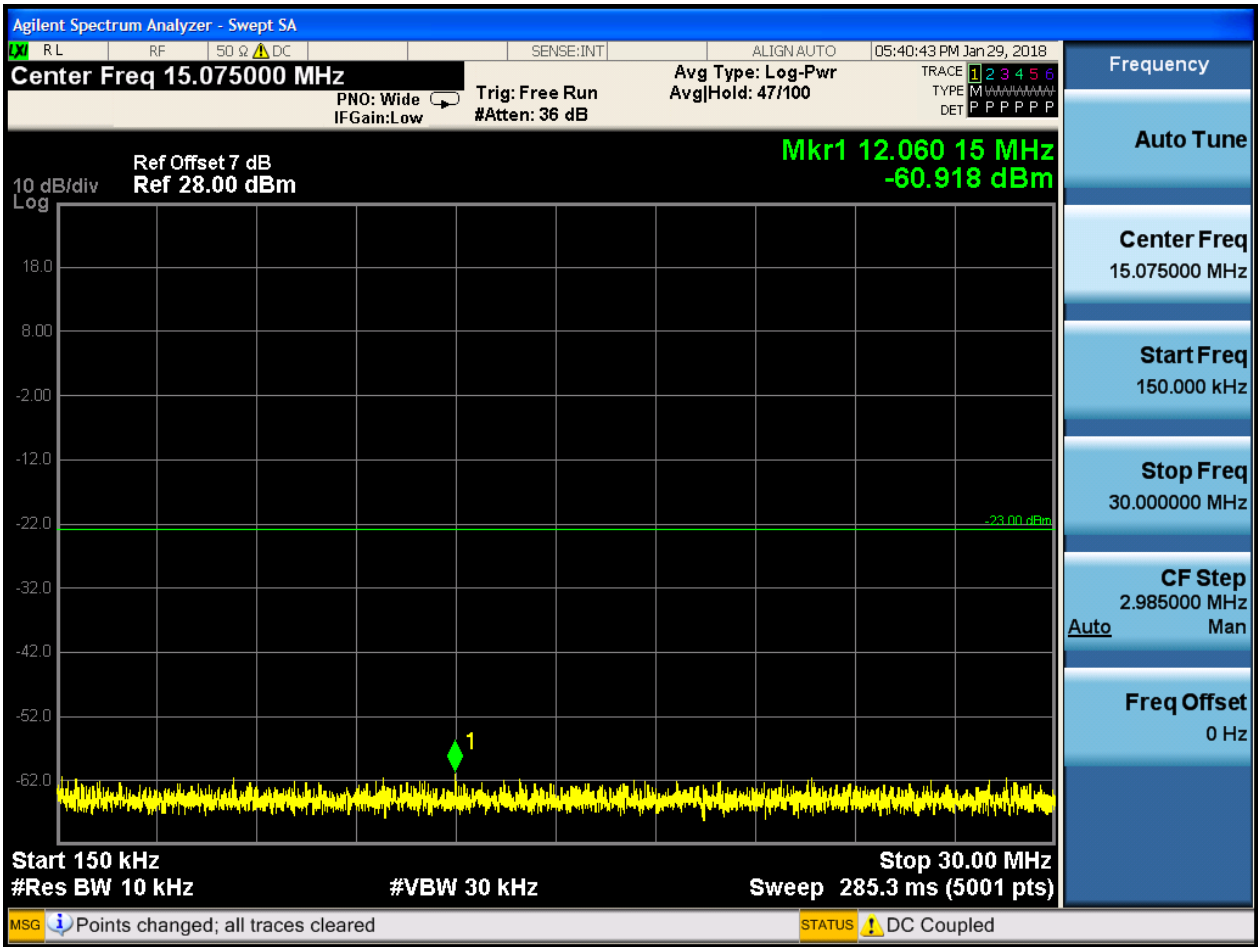


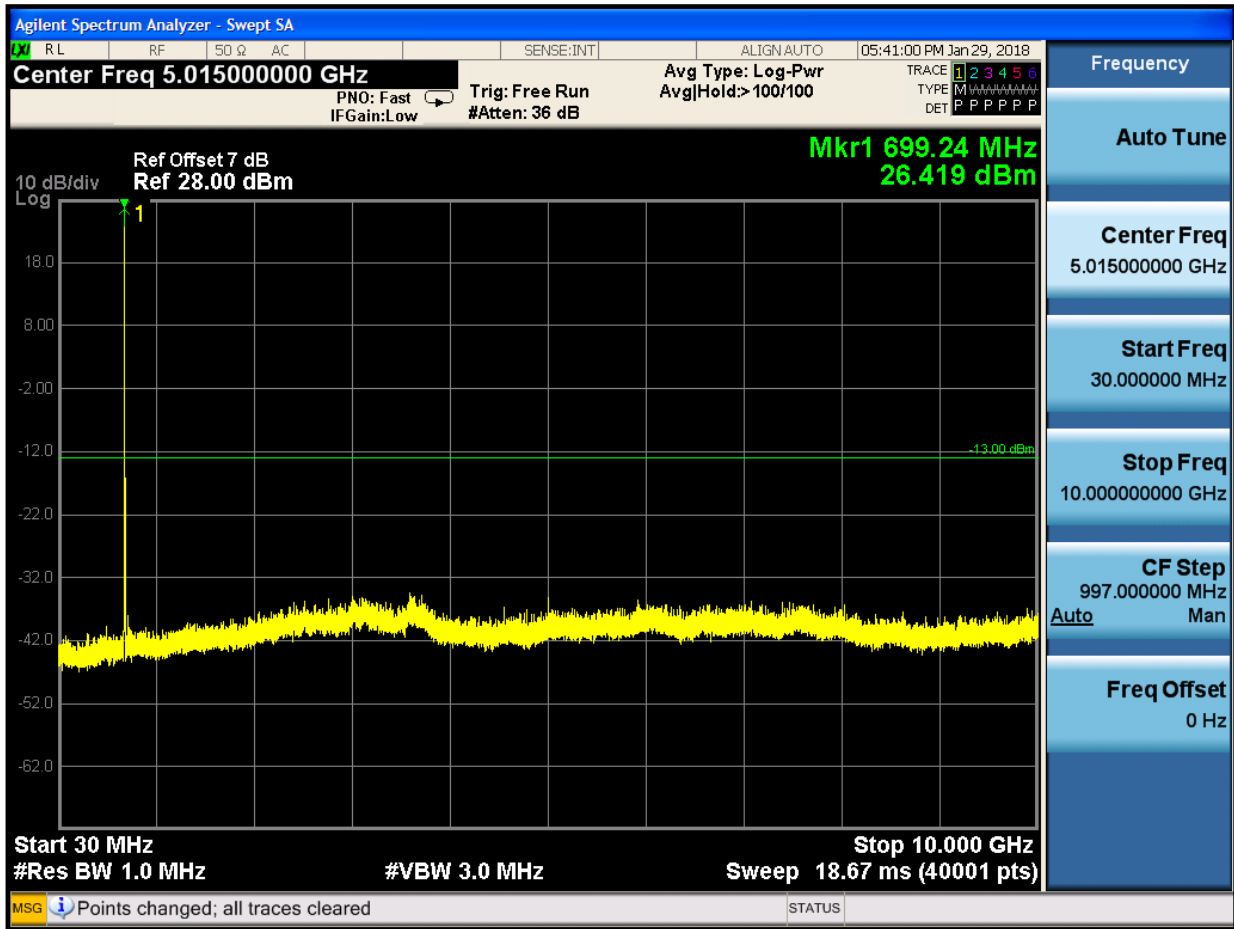
6.1.1.1.2 Test Bandwidth = 3

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0



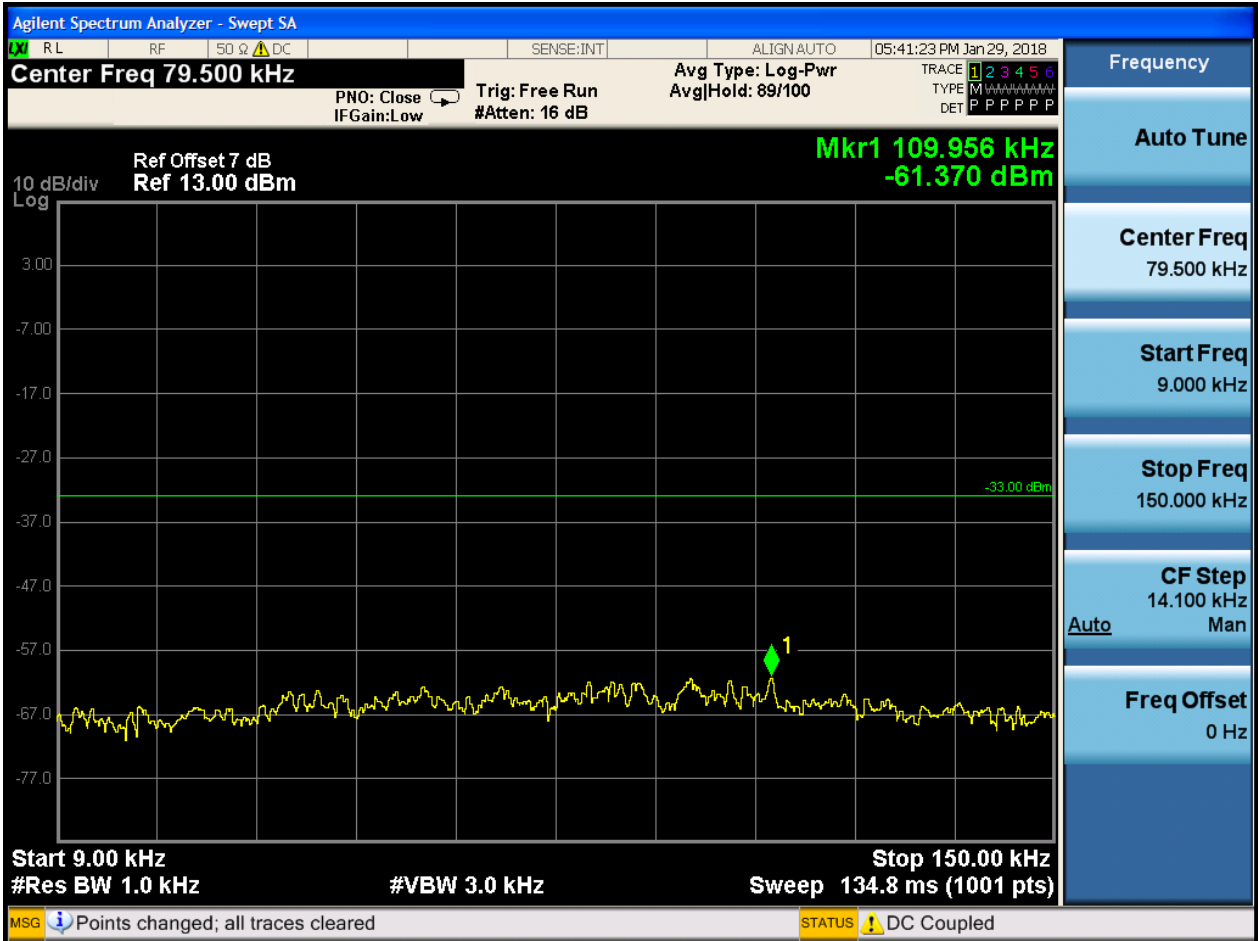




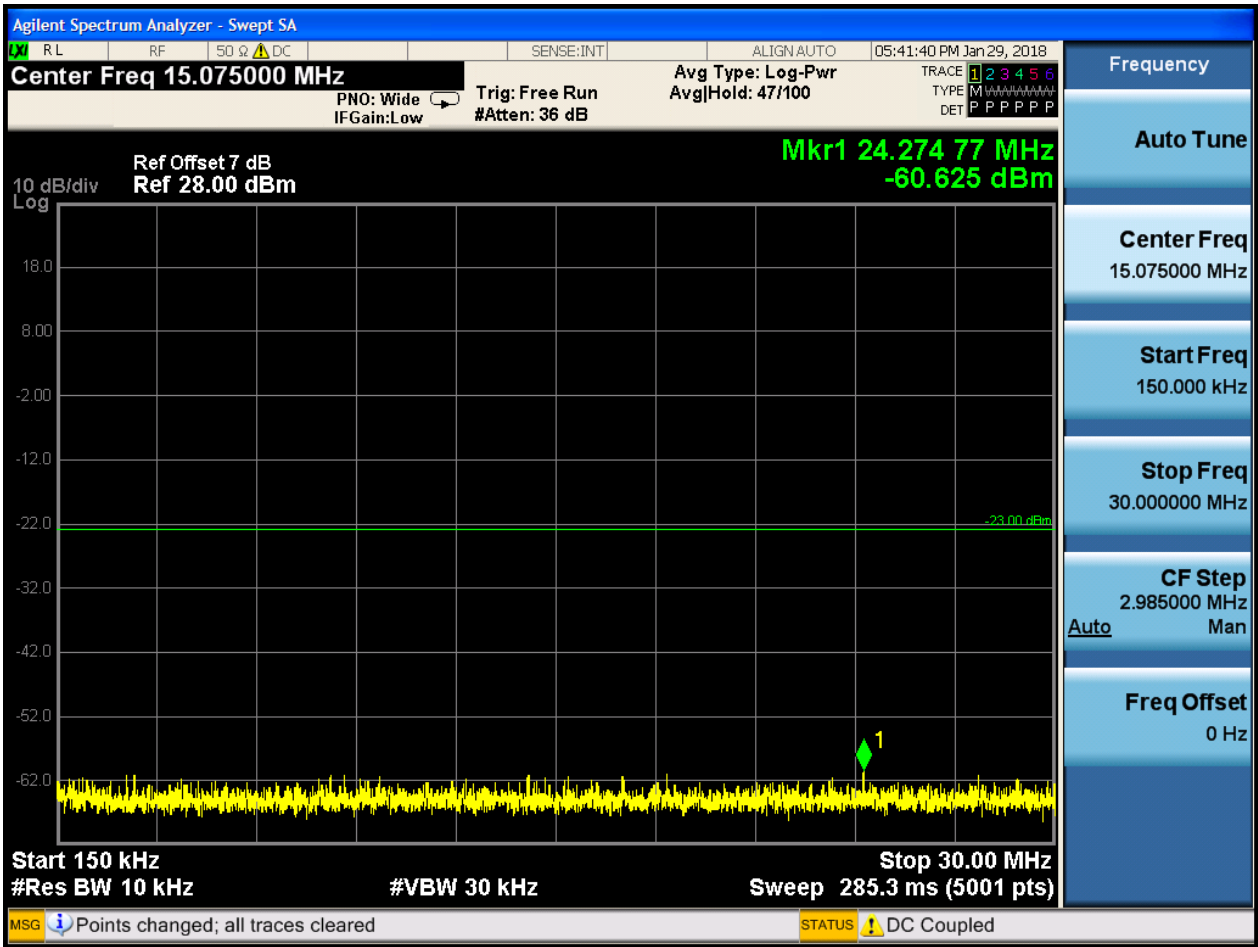


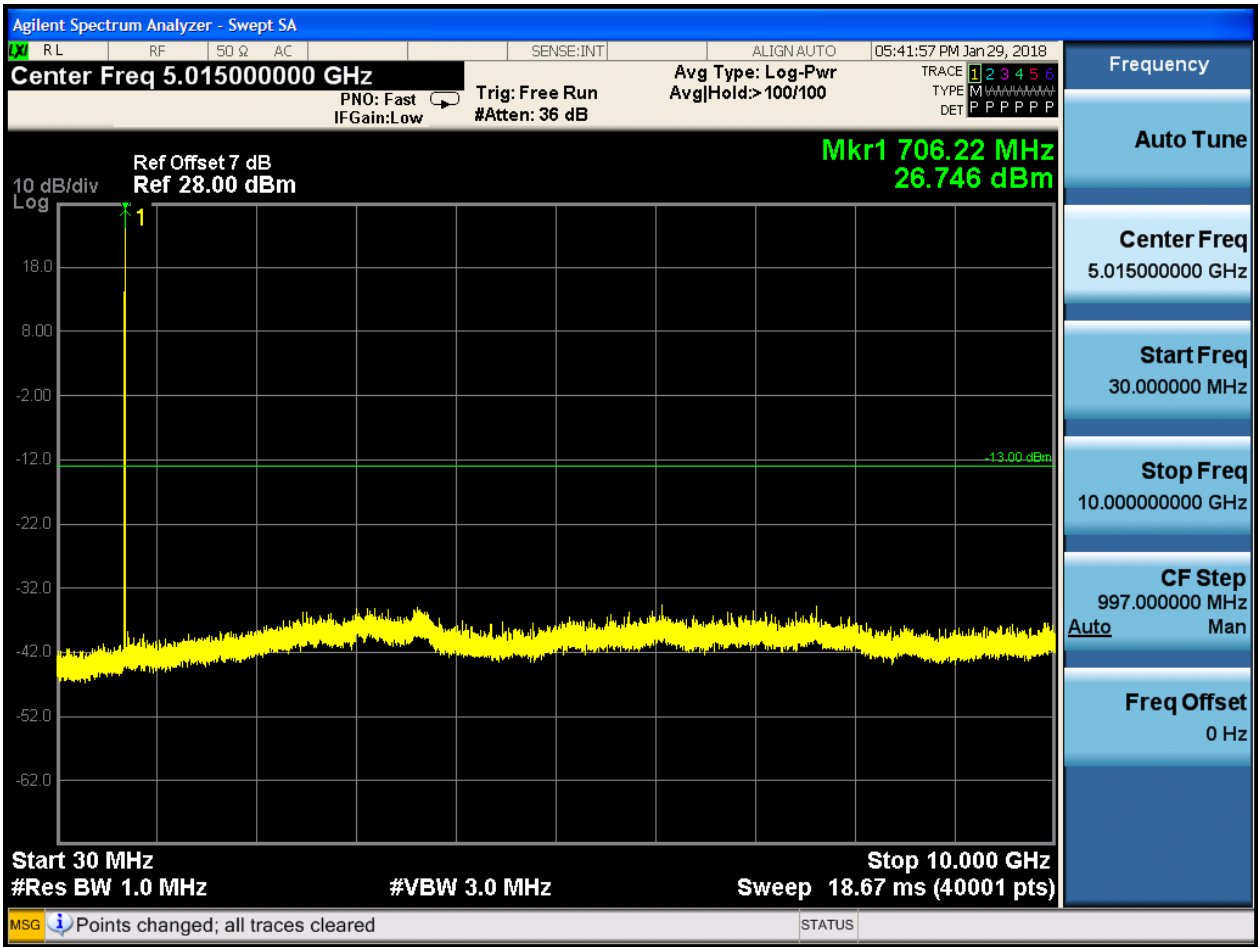
6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0





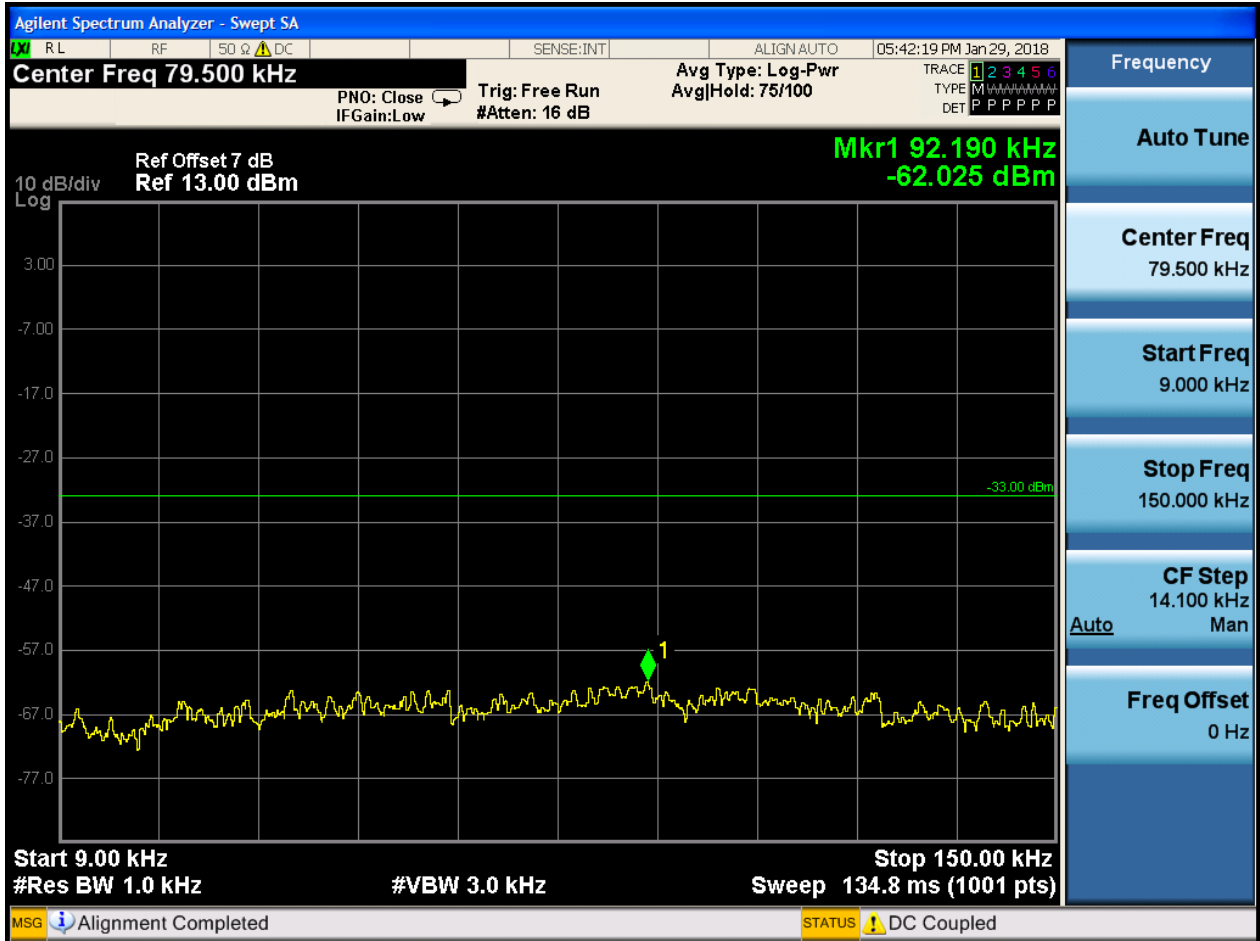


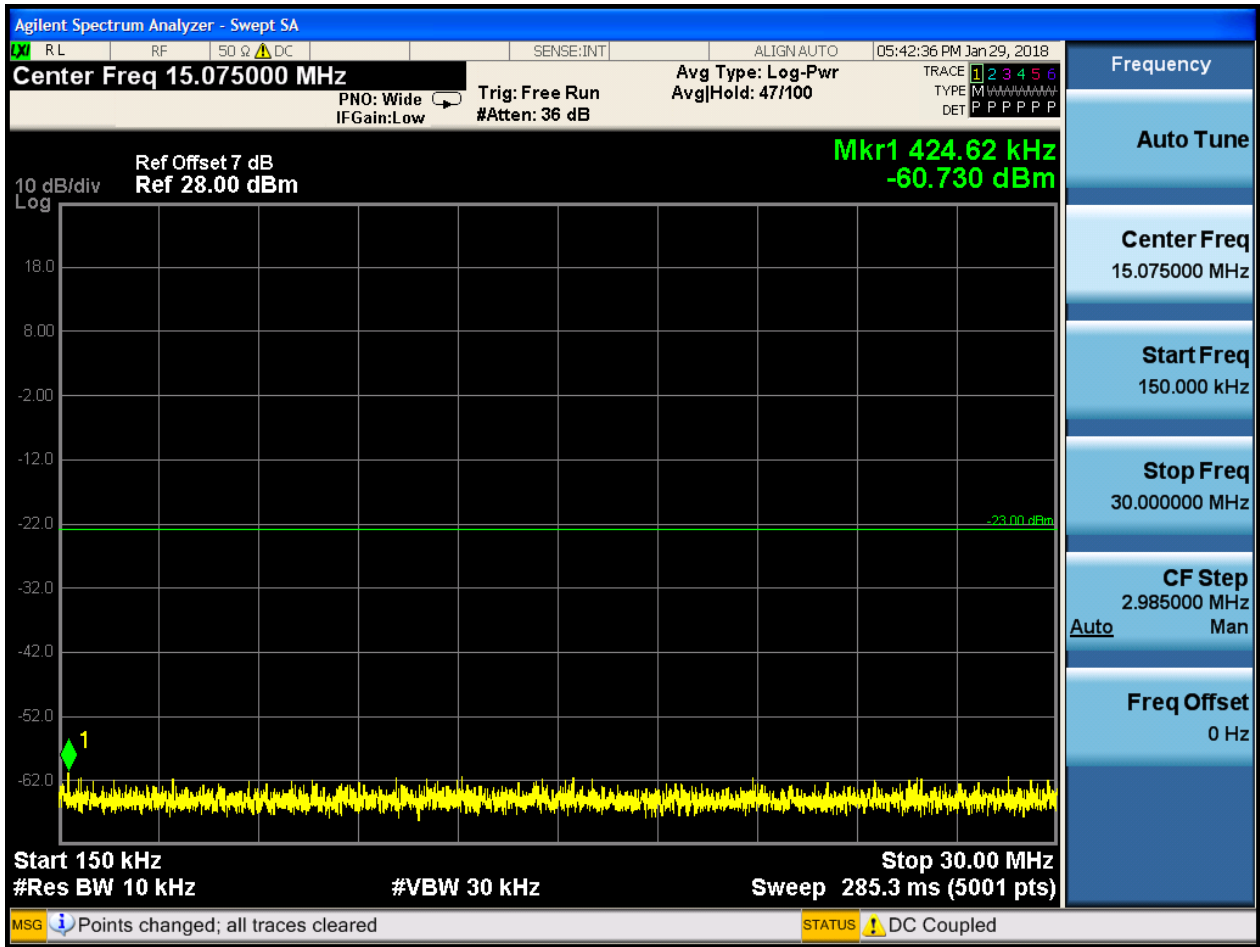


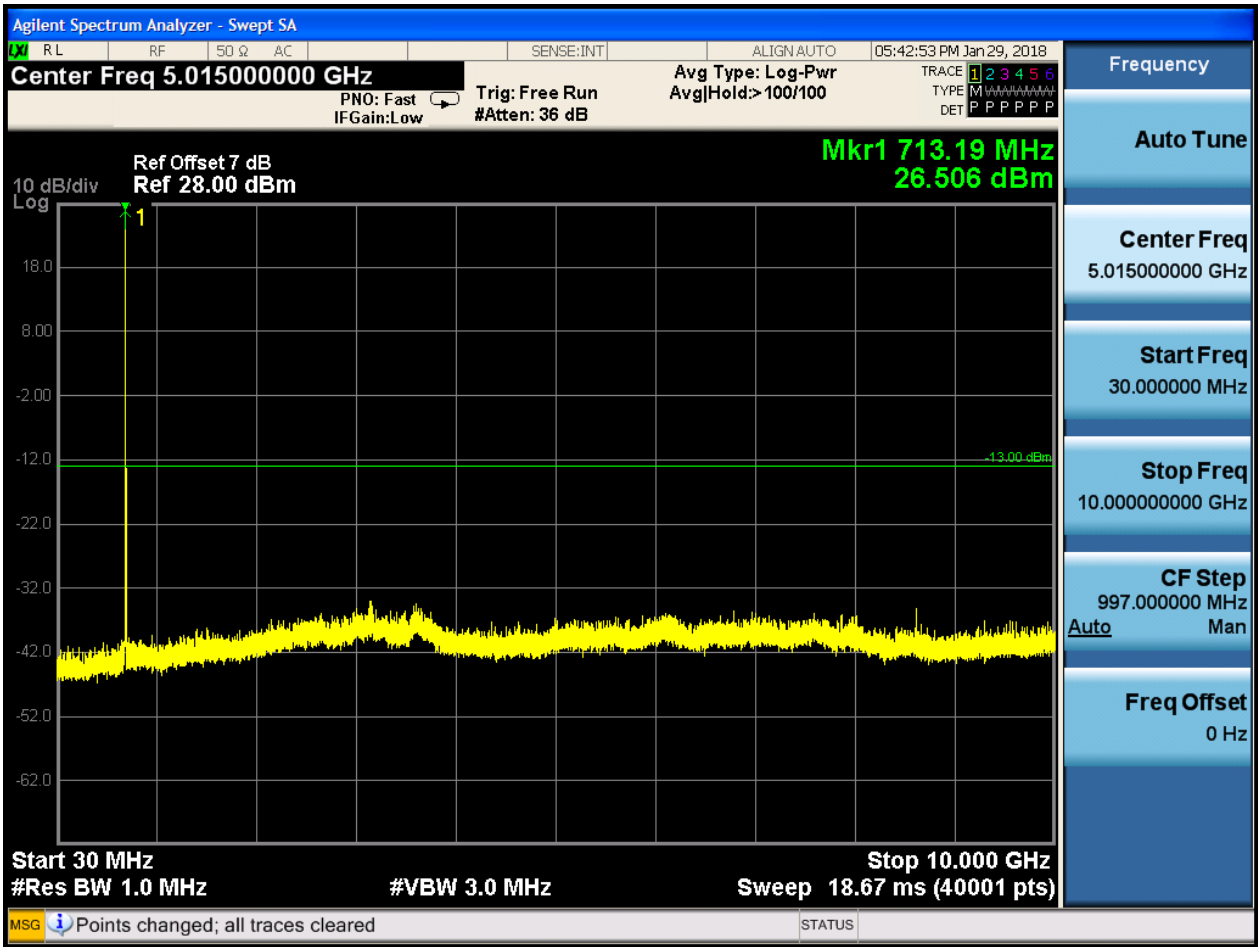


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





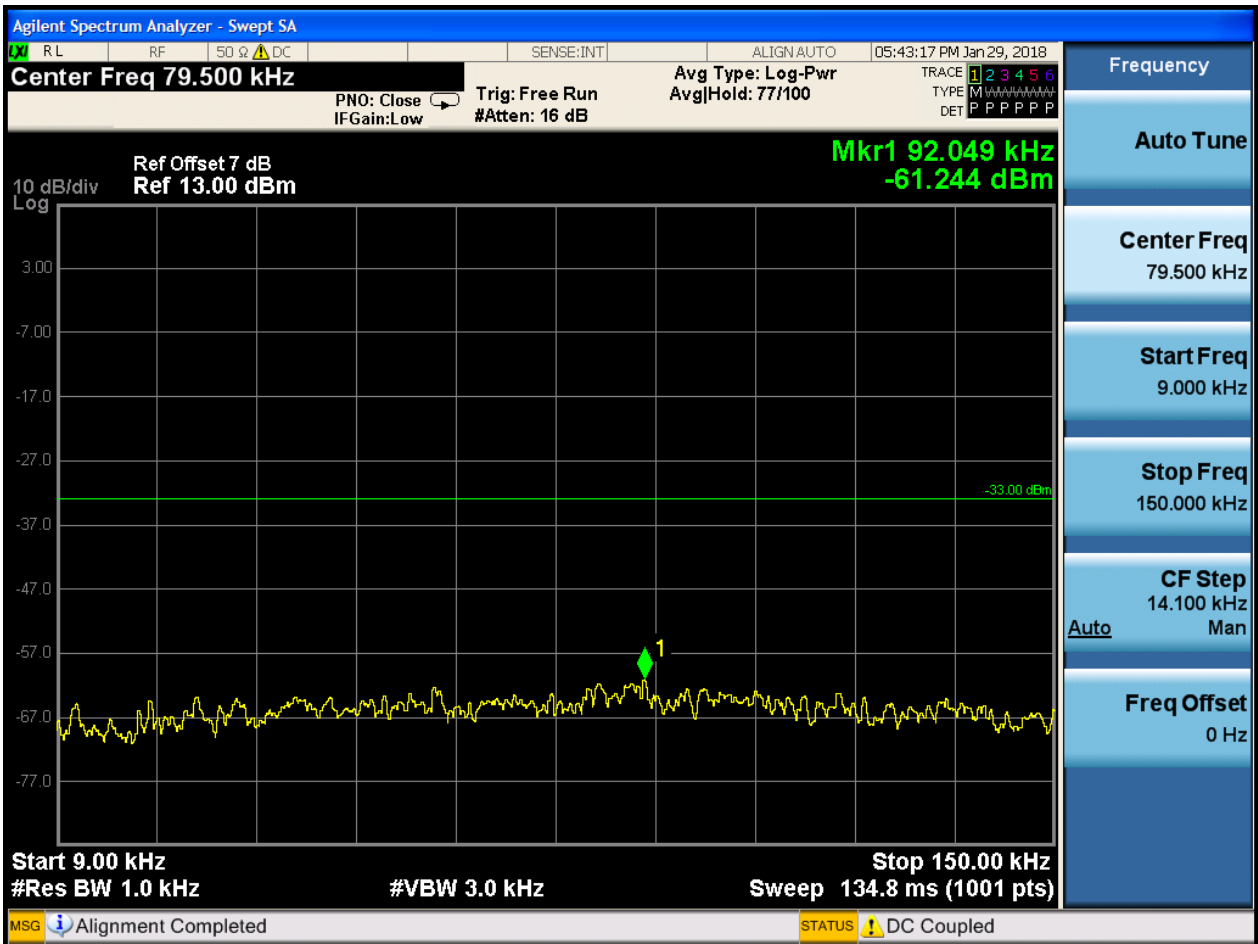


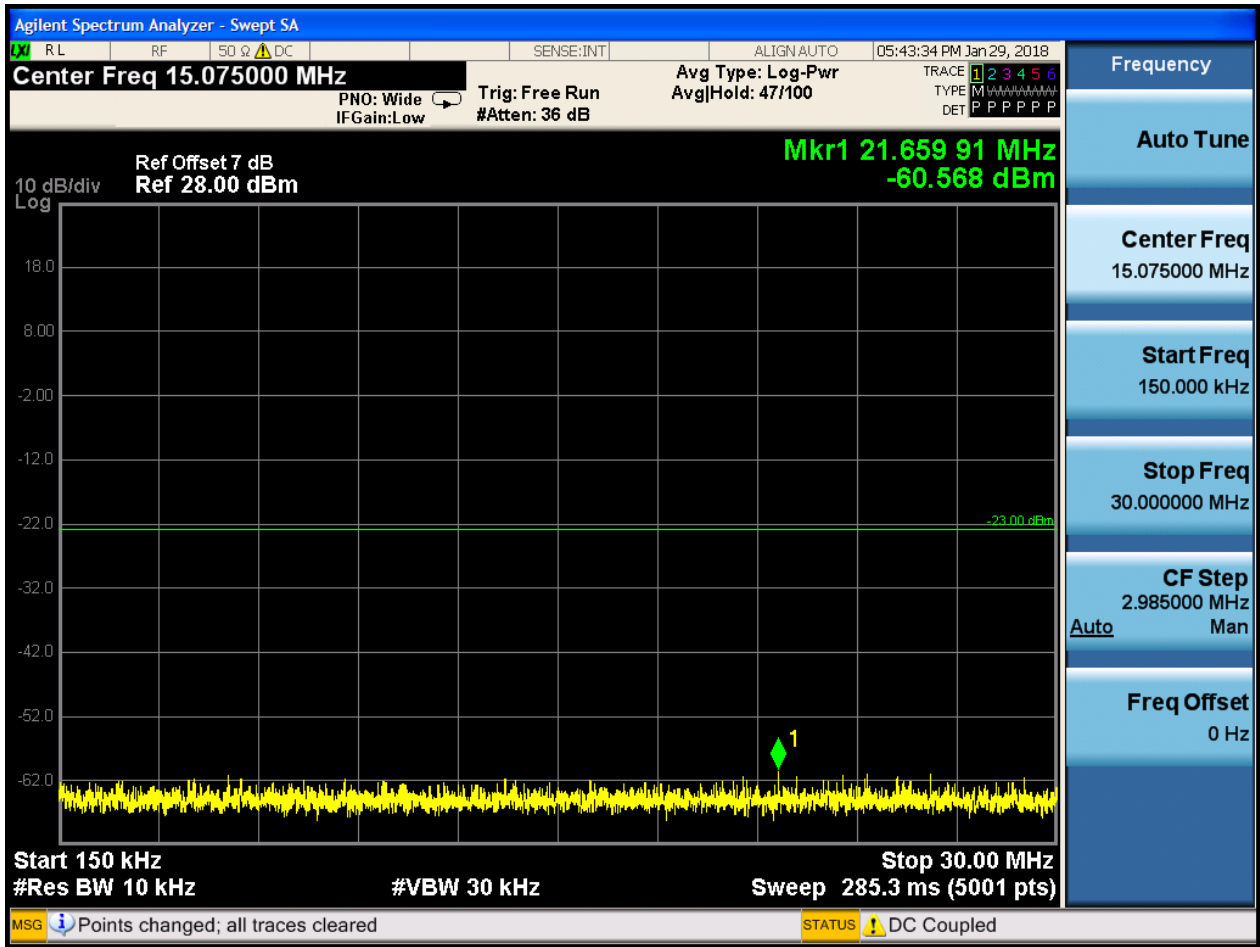


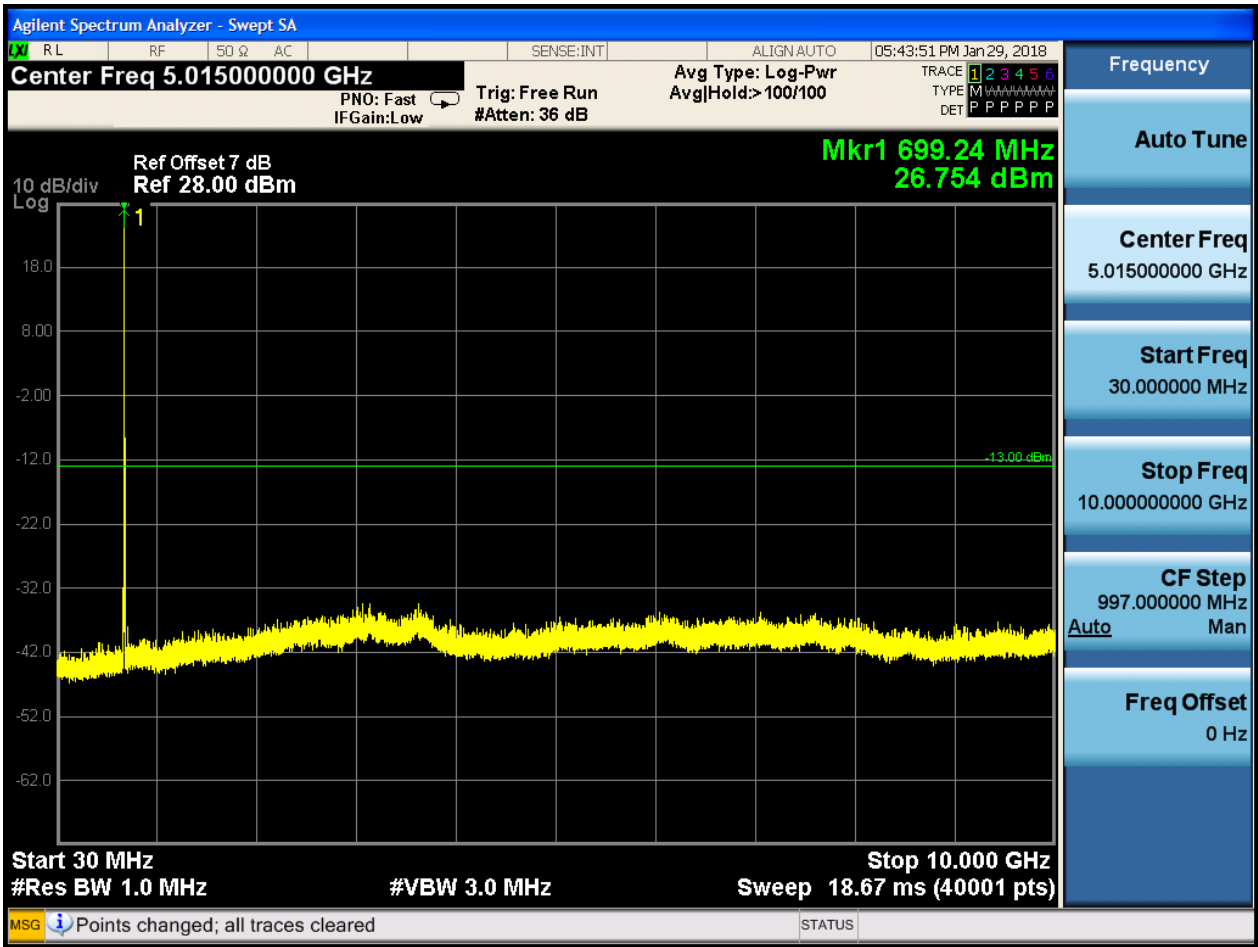
6.1.1.1.3 Test Bandwidth = 5

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0





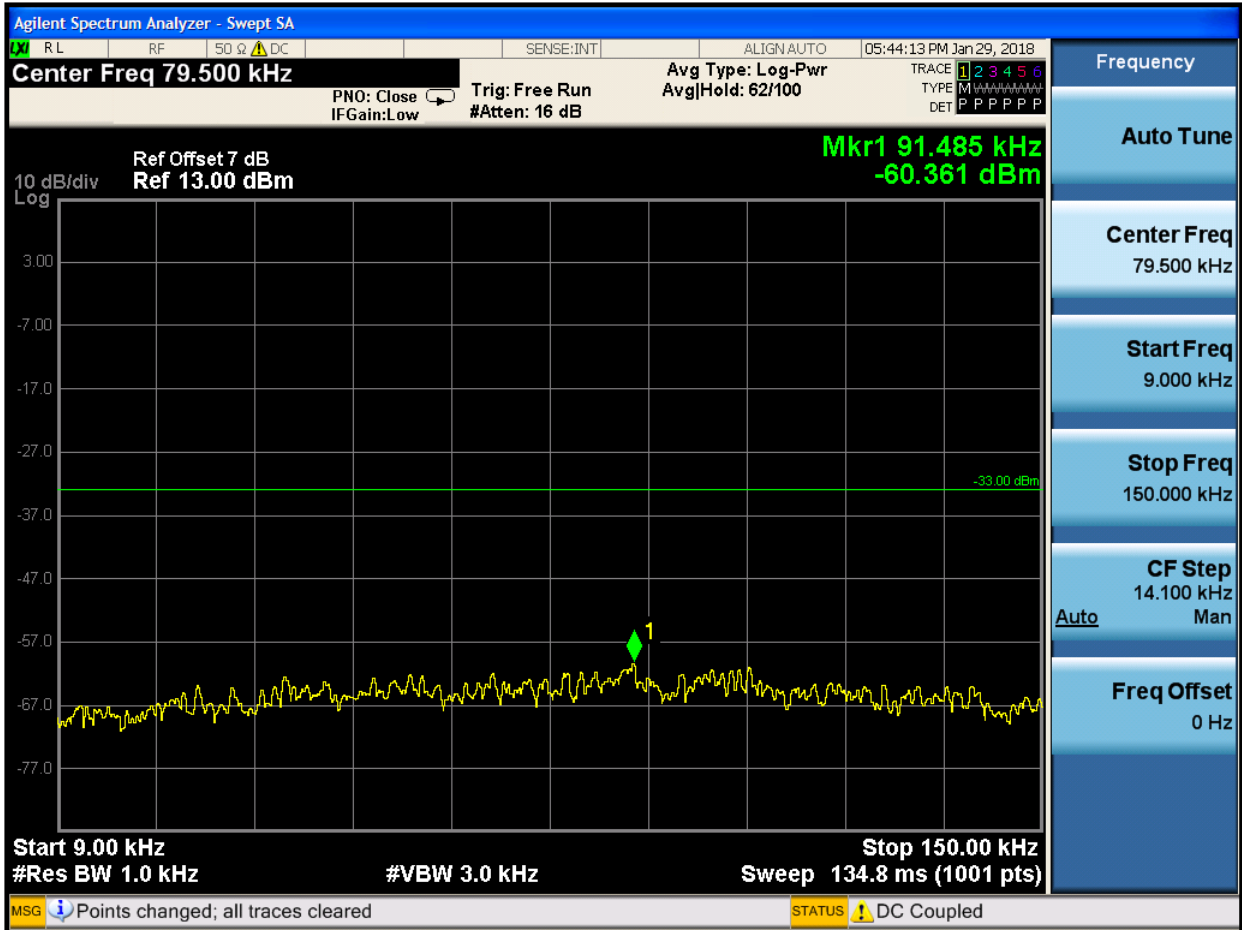


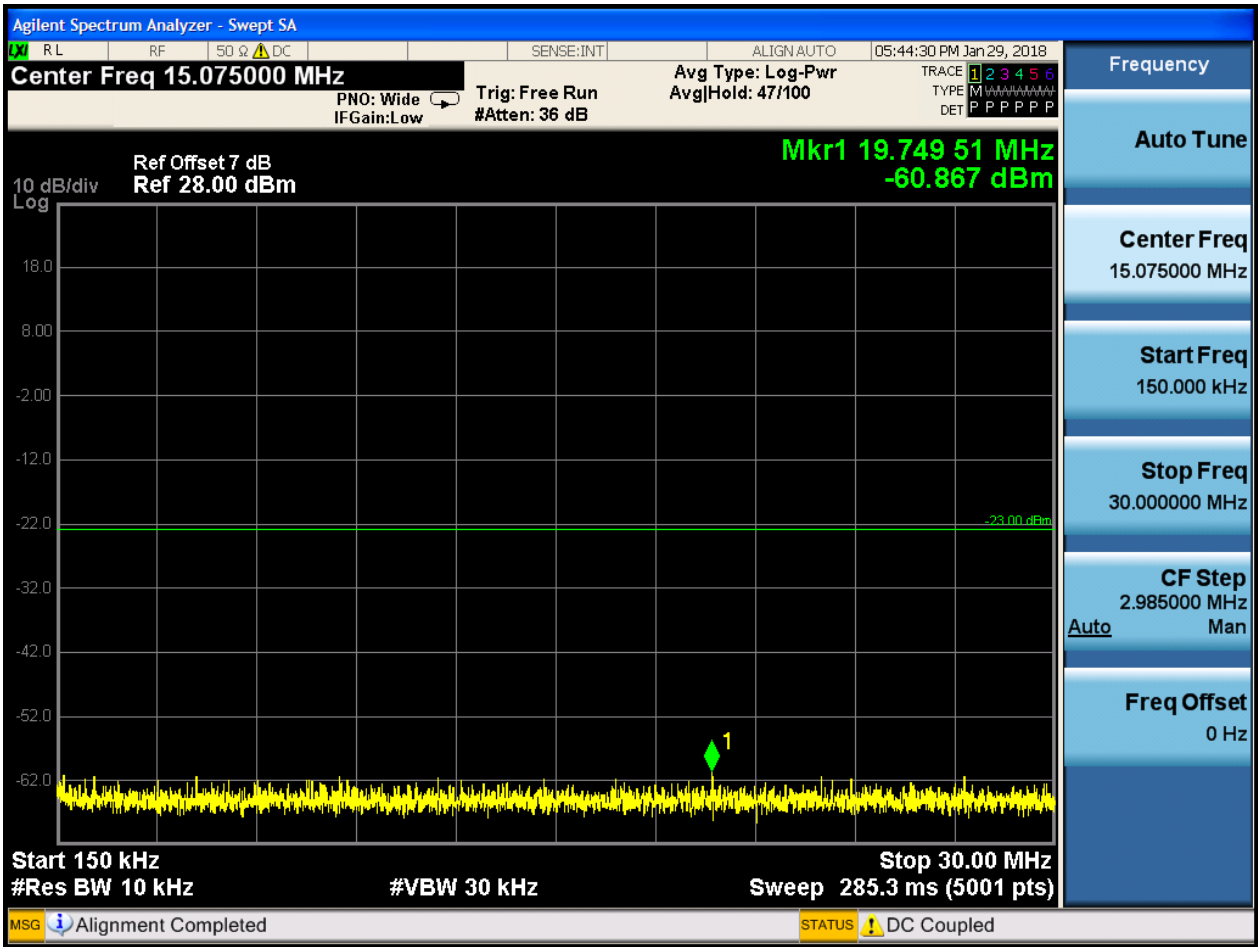


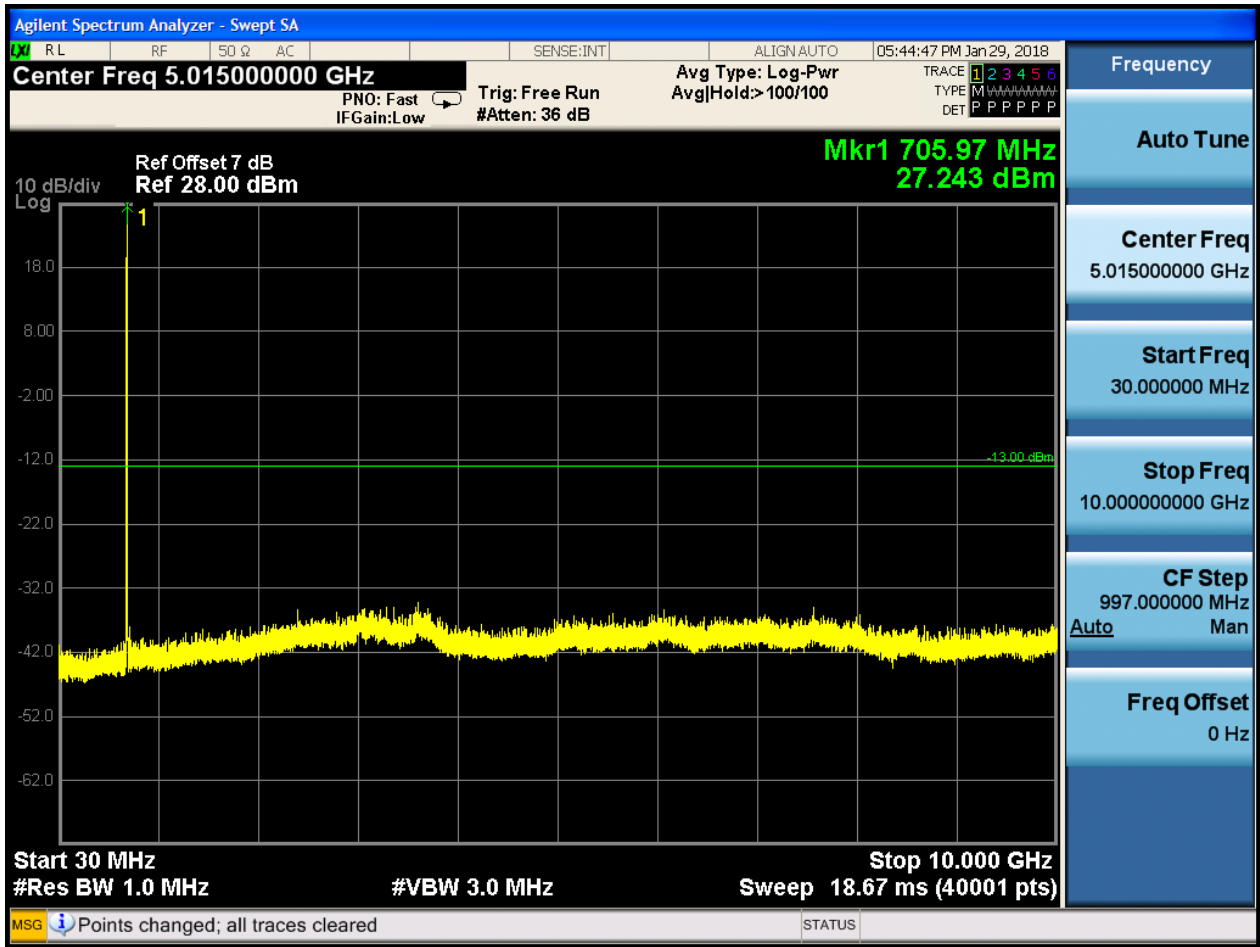


6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0



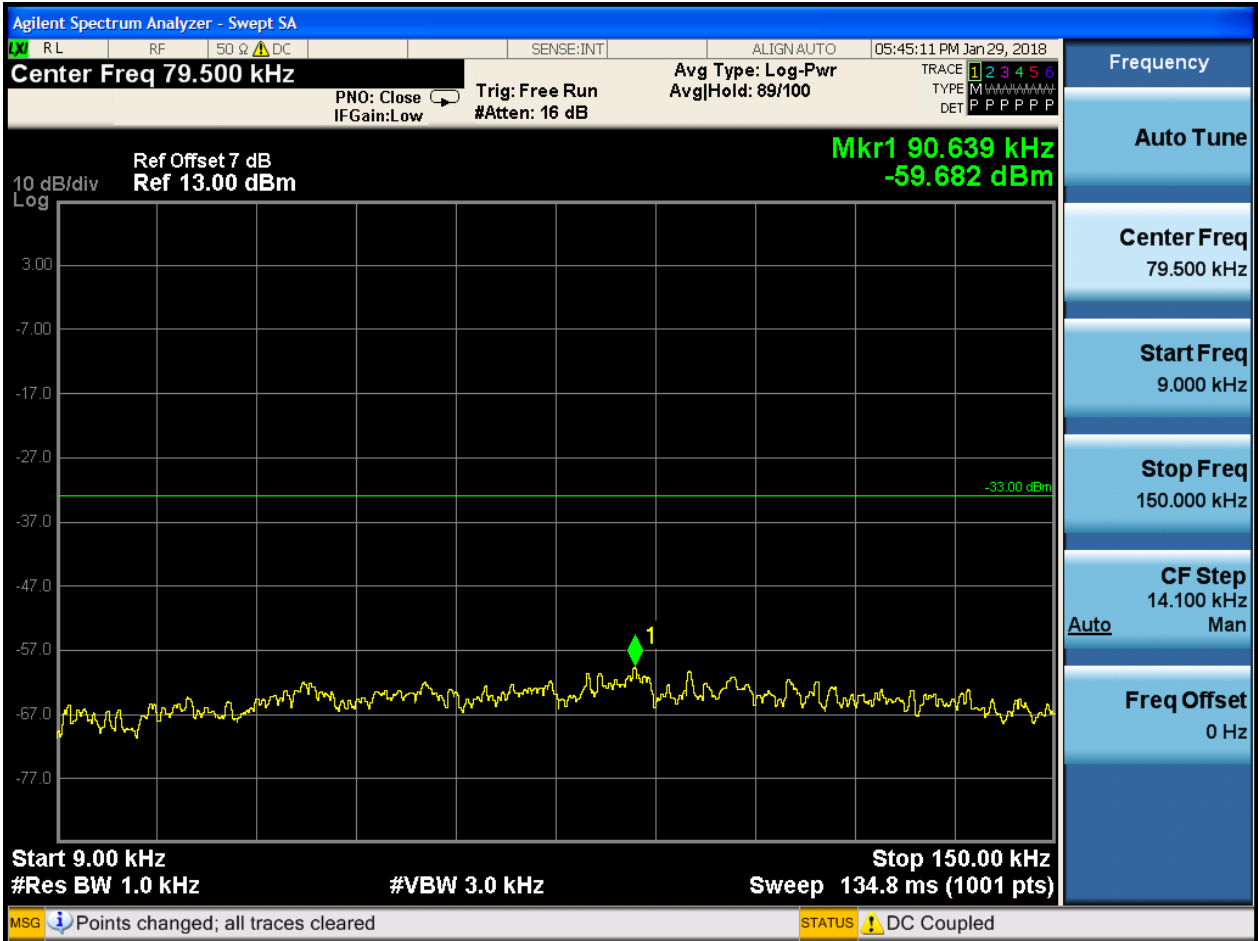


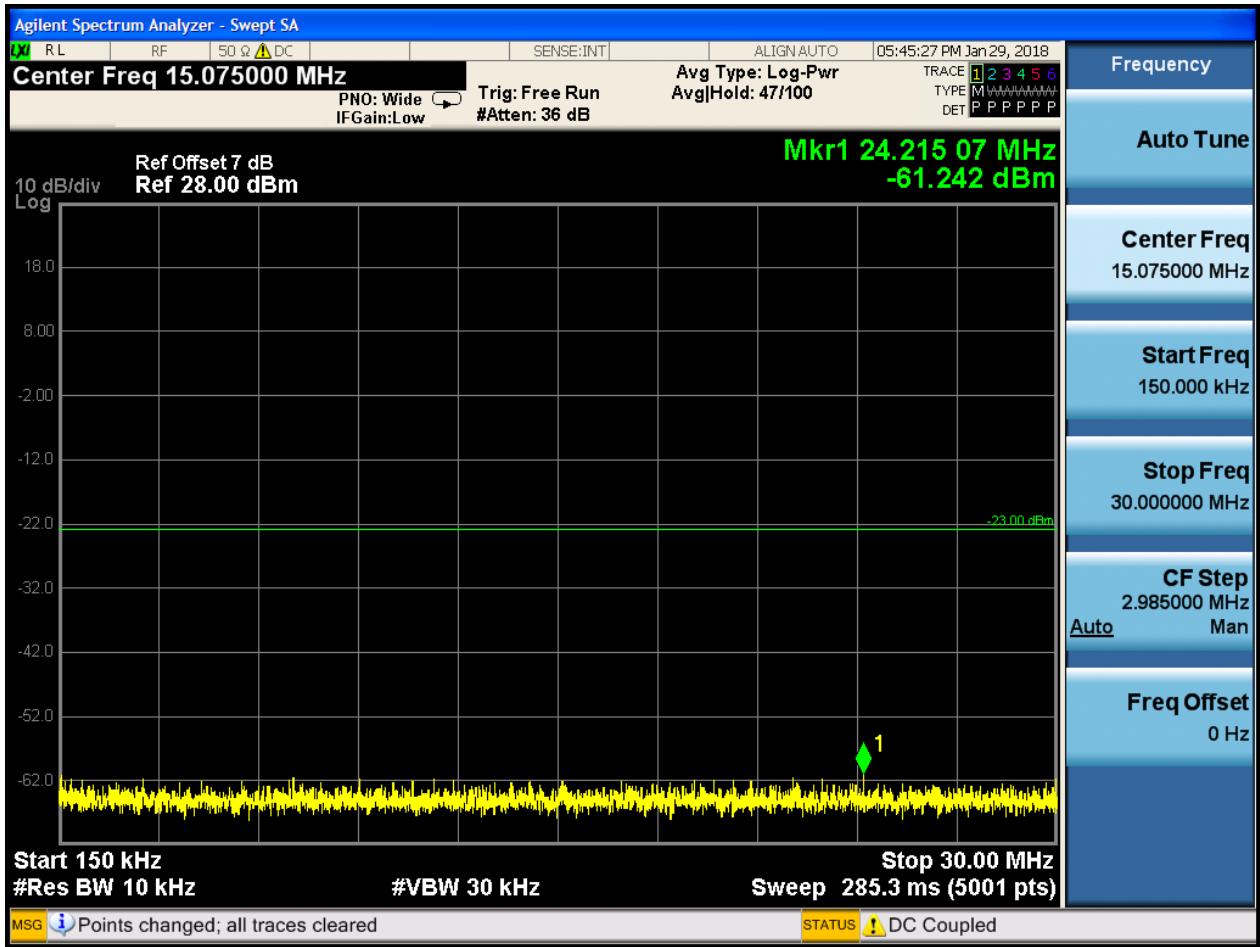


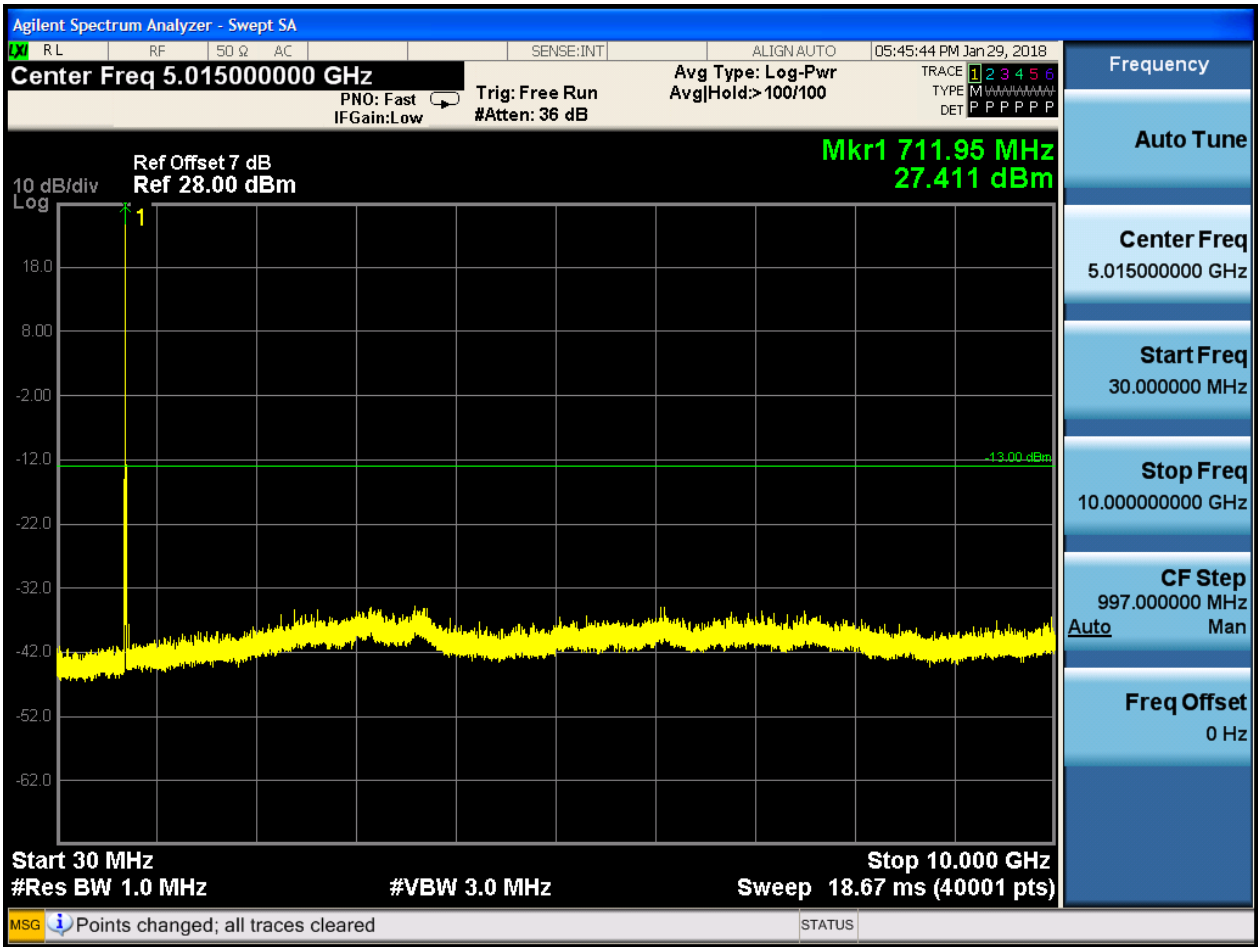


### 6.1.1.1.3.3 Test Channel = HCH

#### 6.1.1.1.3.3.1 Test RB = RB1#0





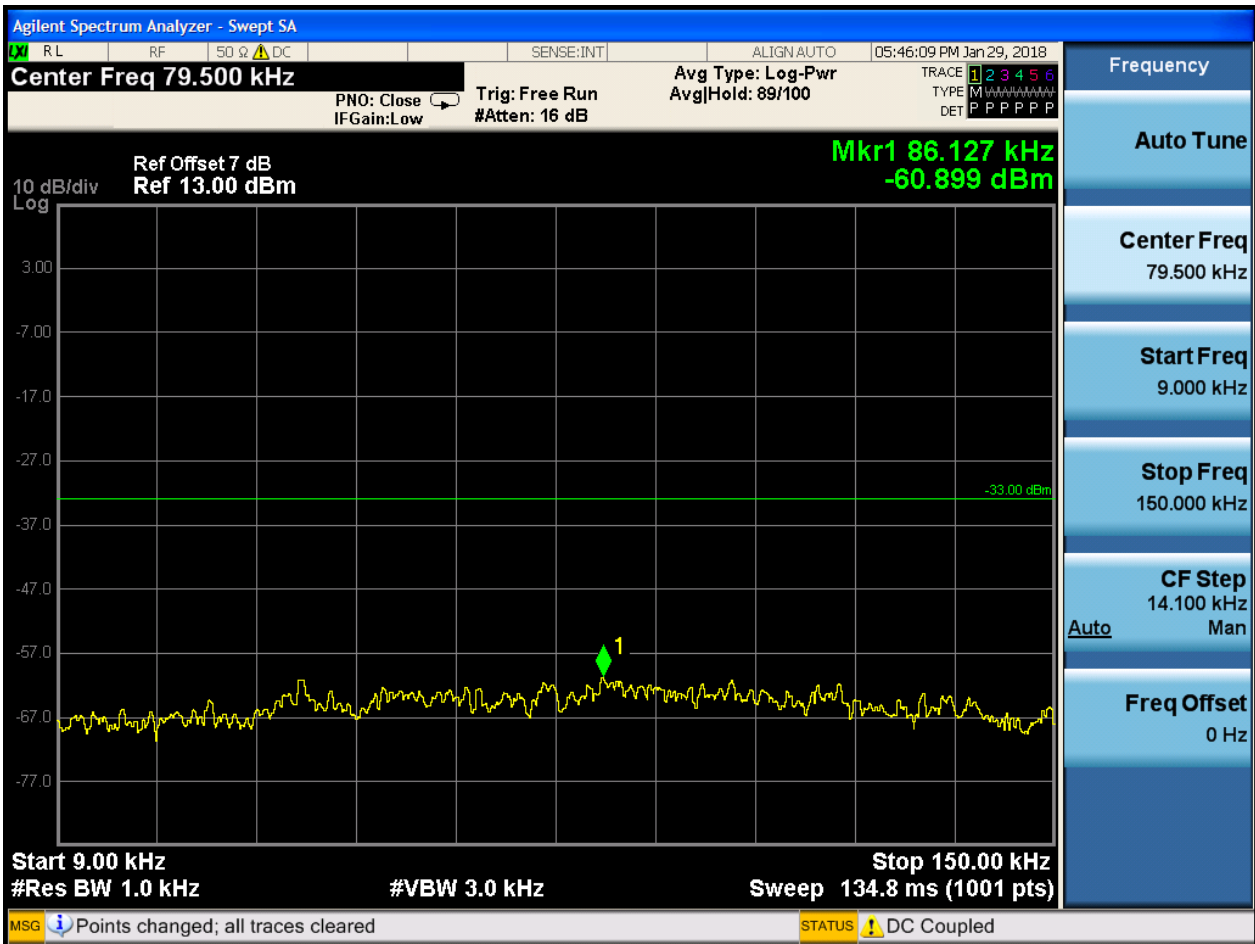


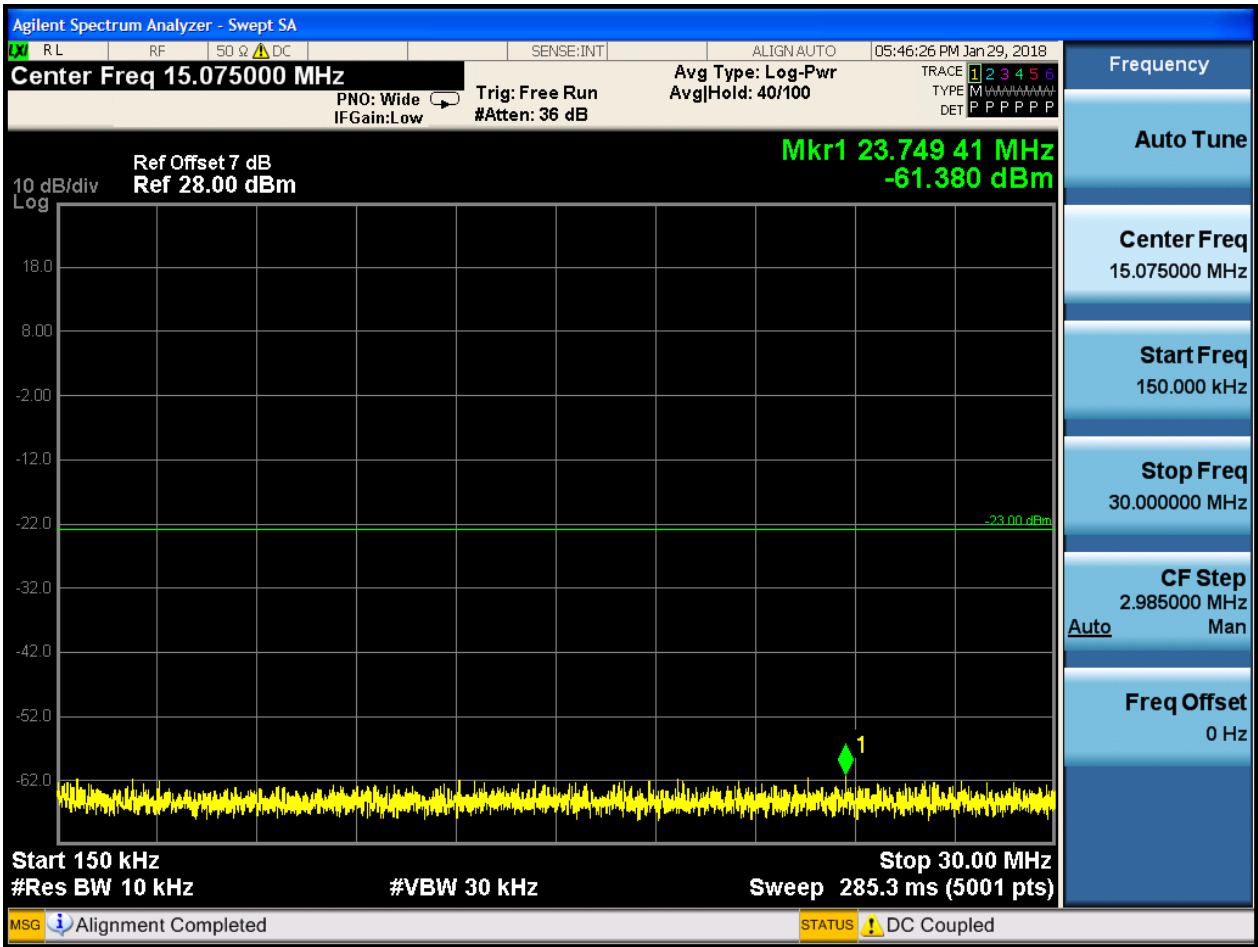


6.1.1.1.4 Test Bandwidth = 10

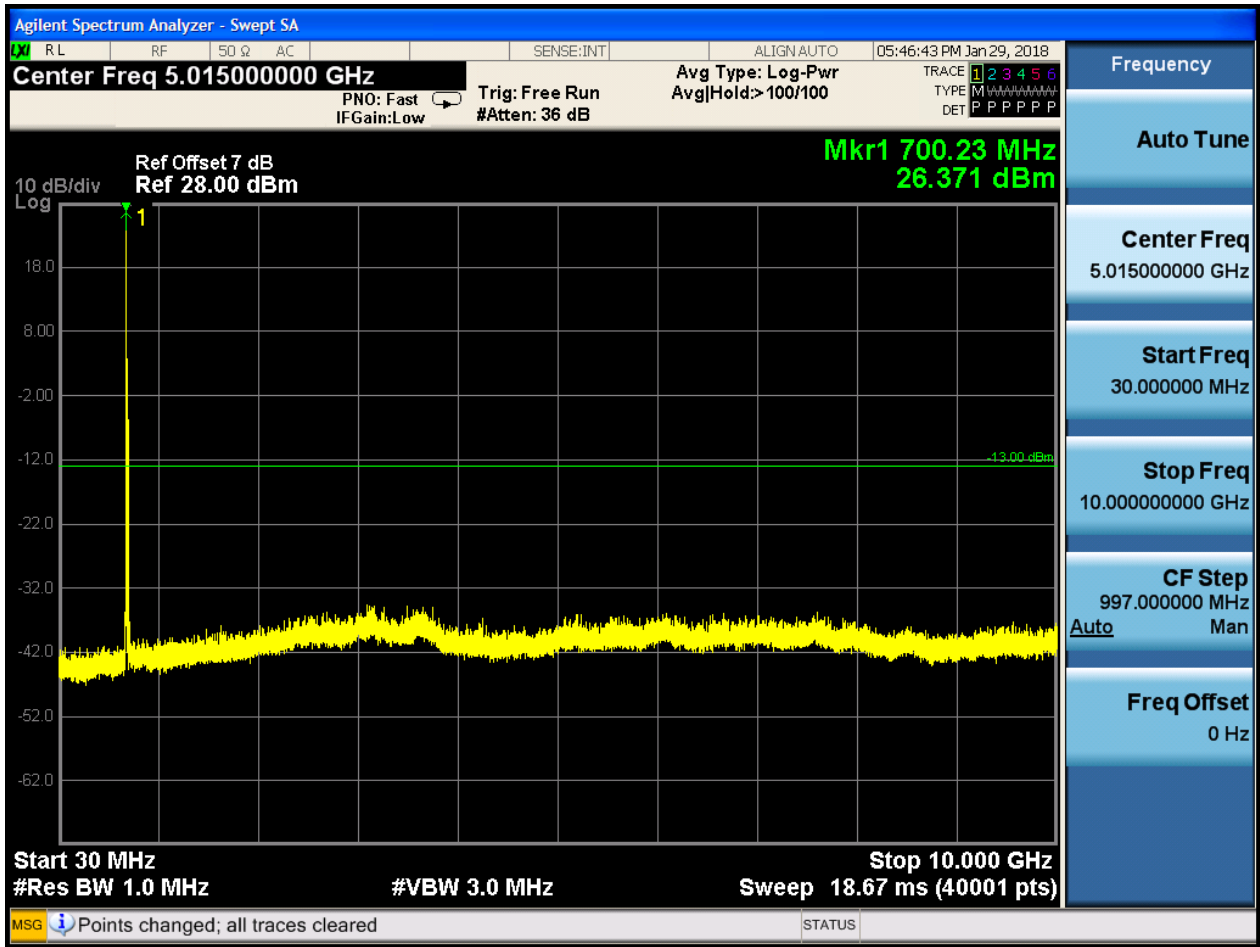
6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0





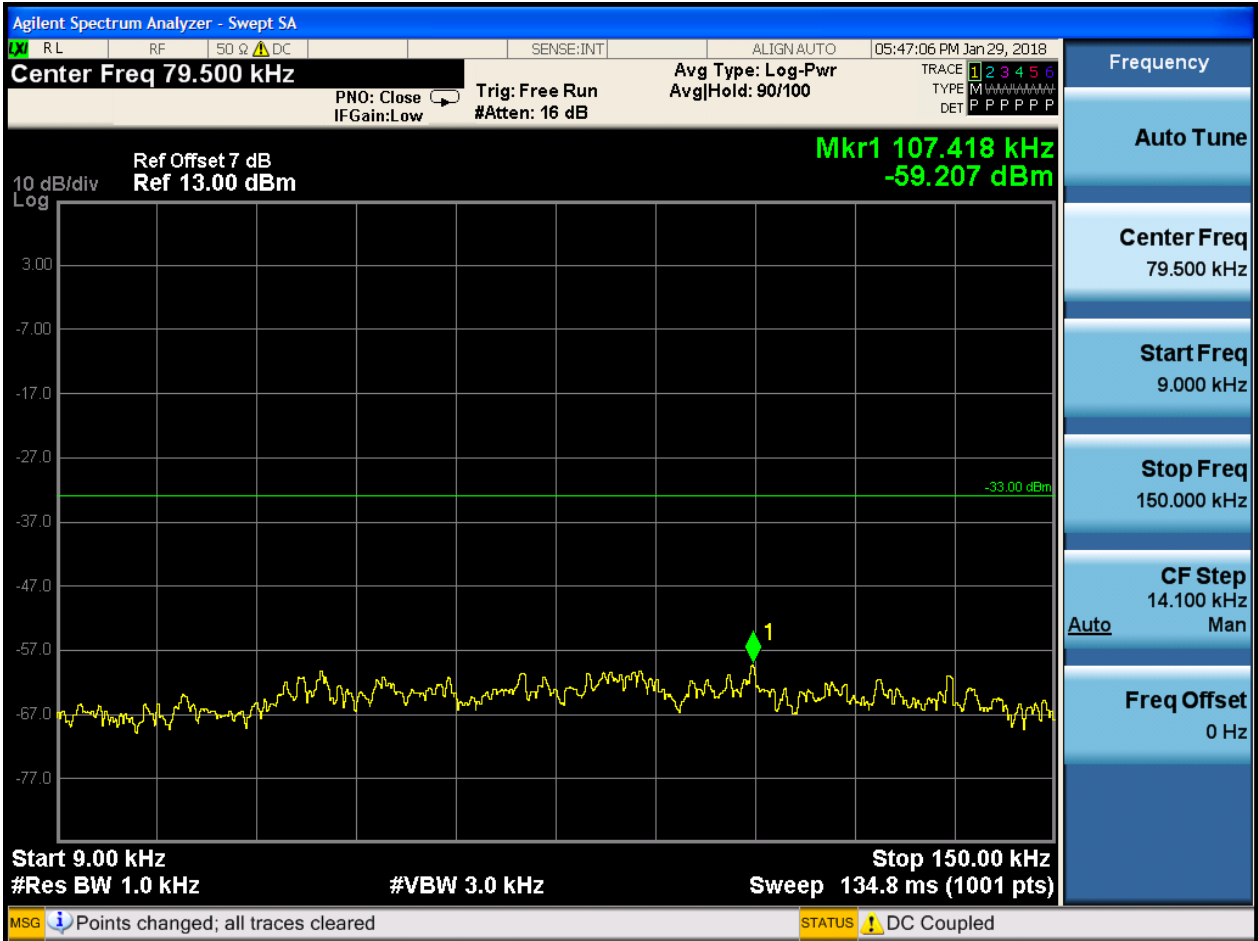


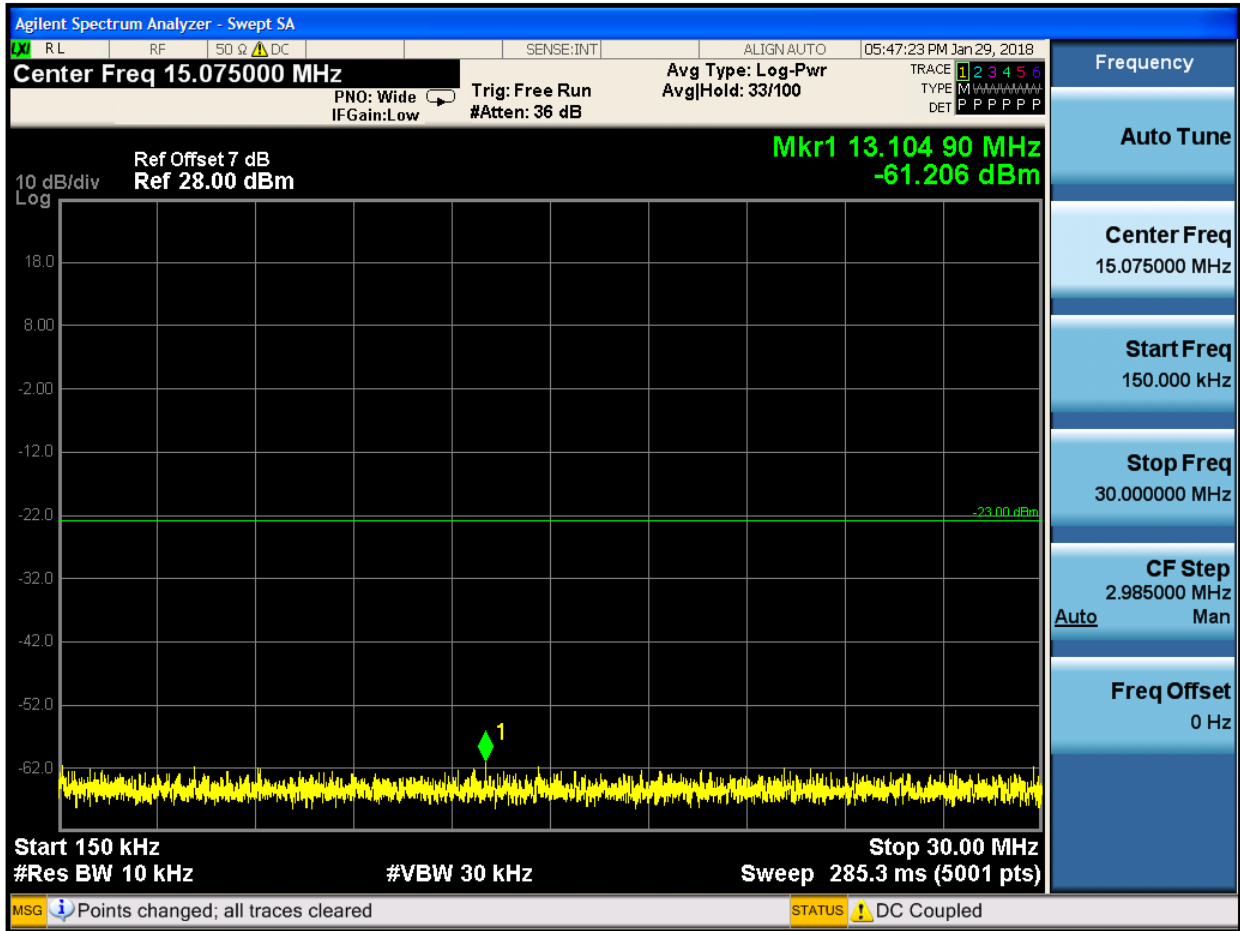


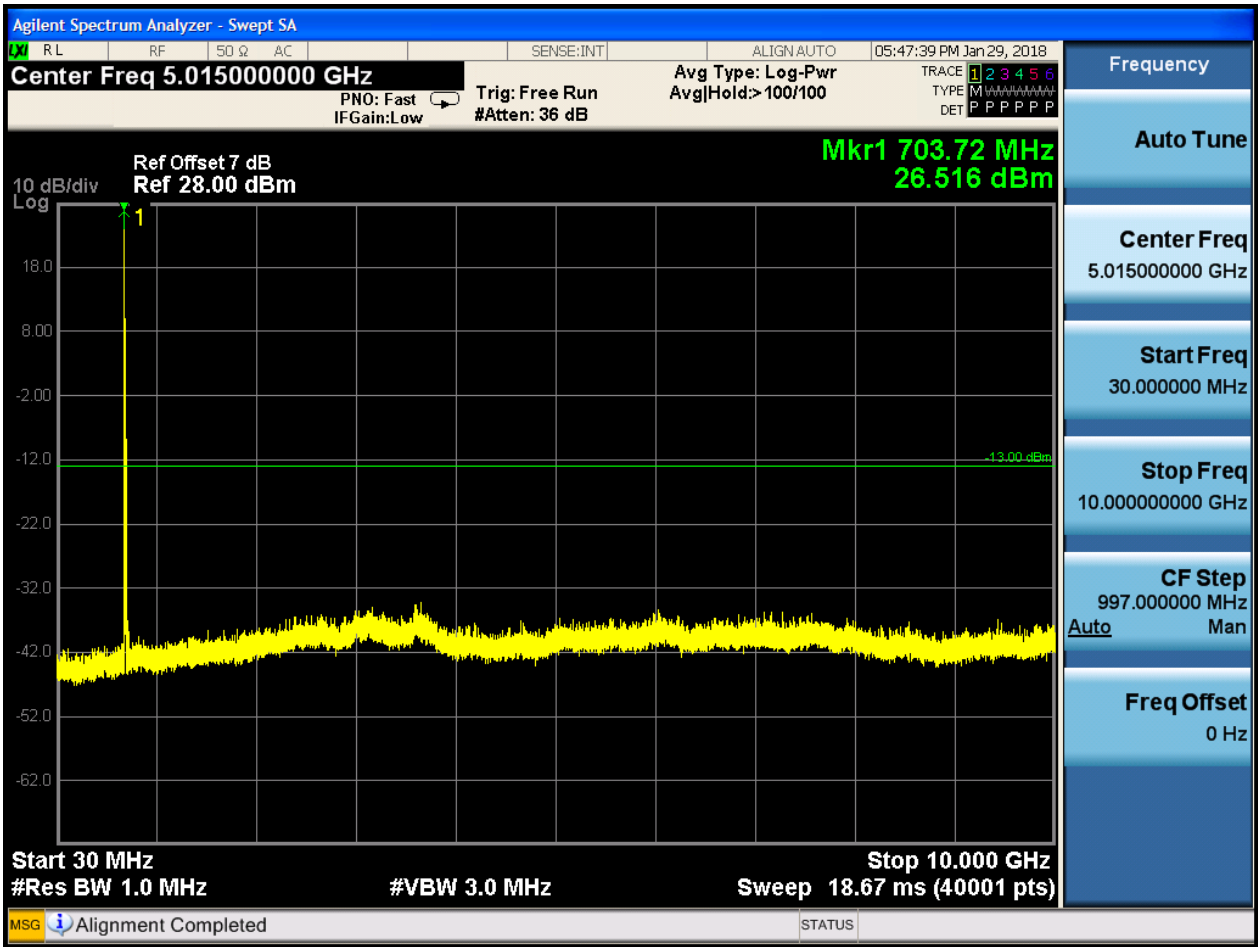


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



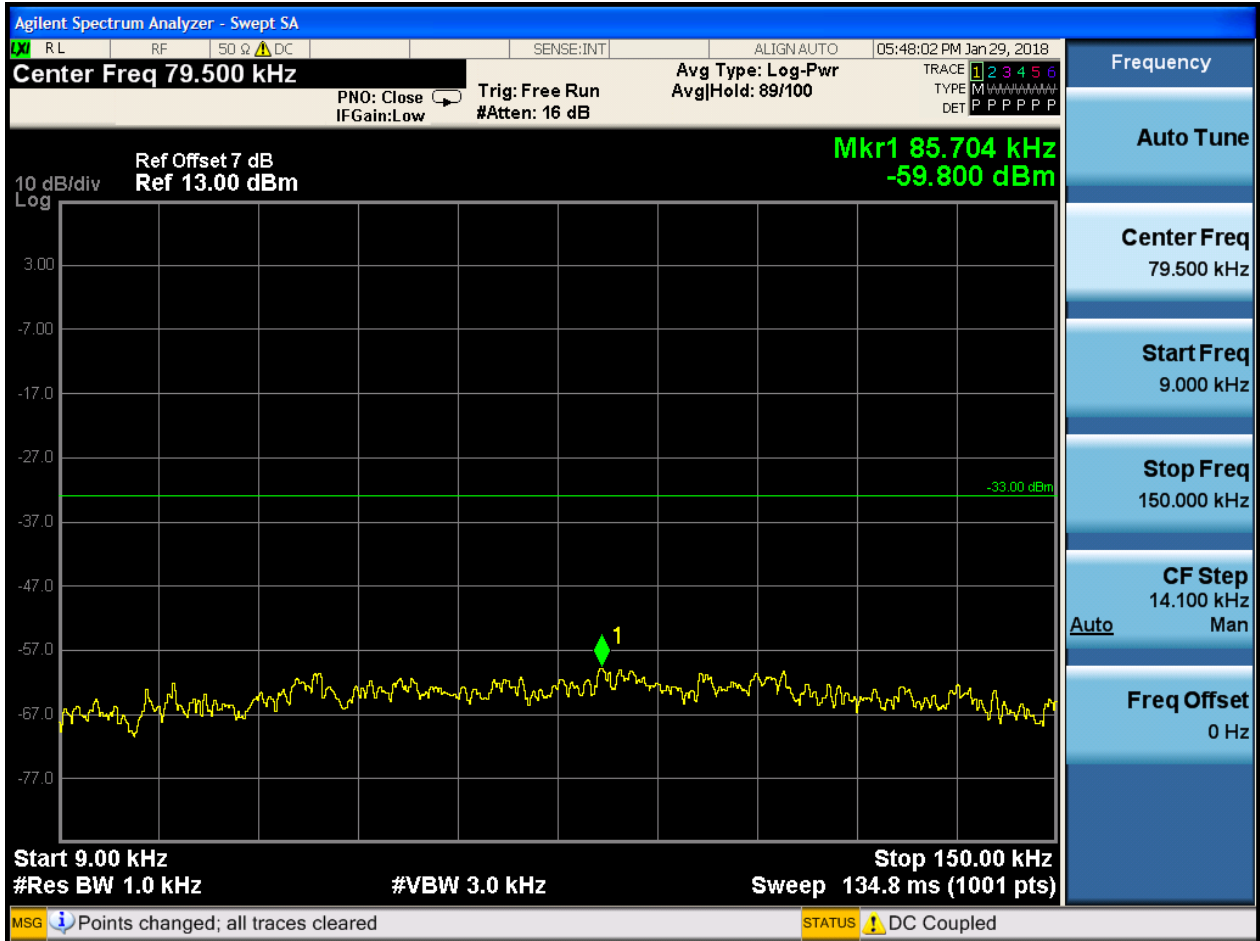


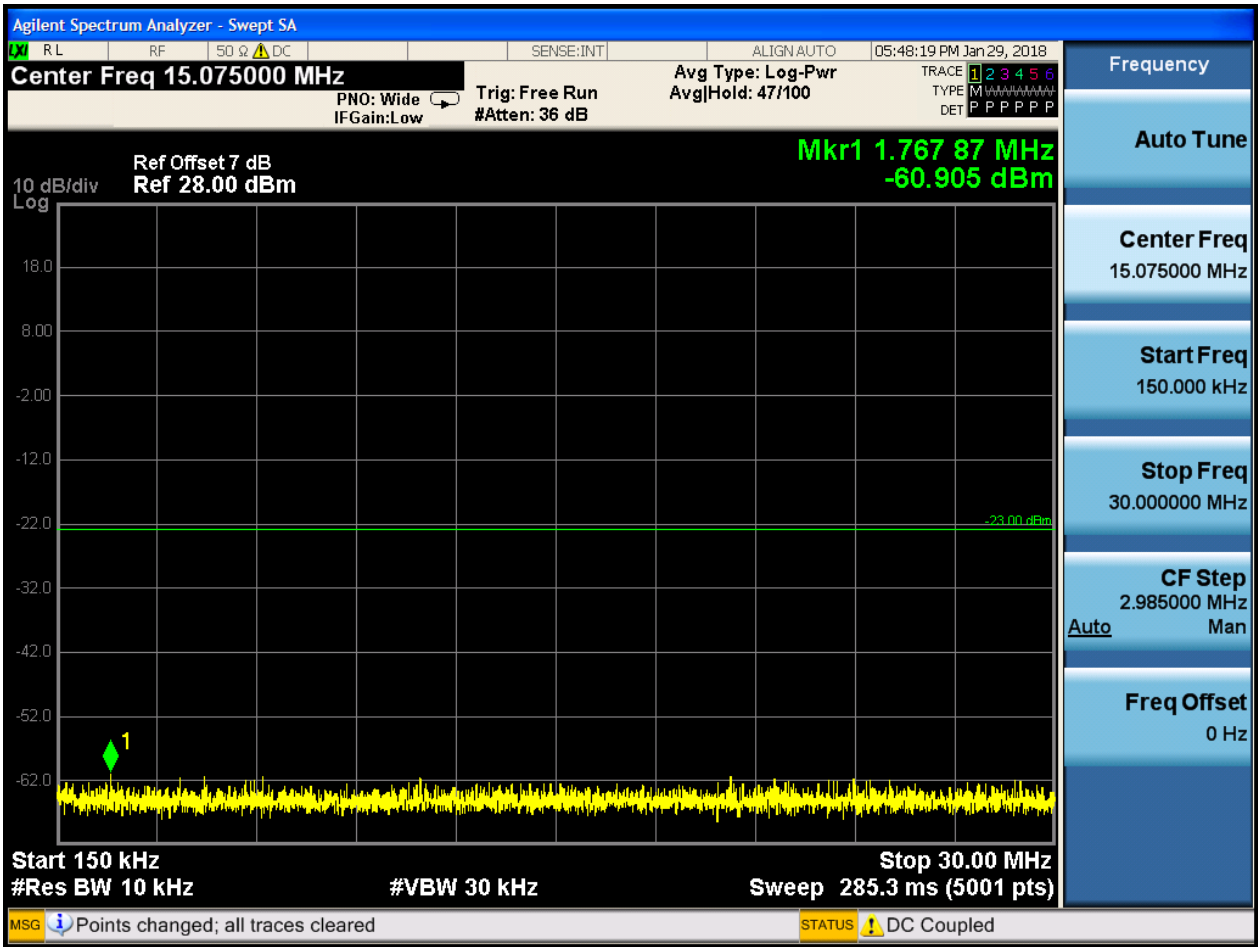


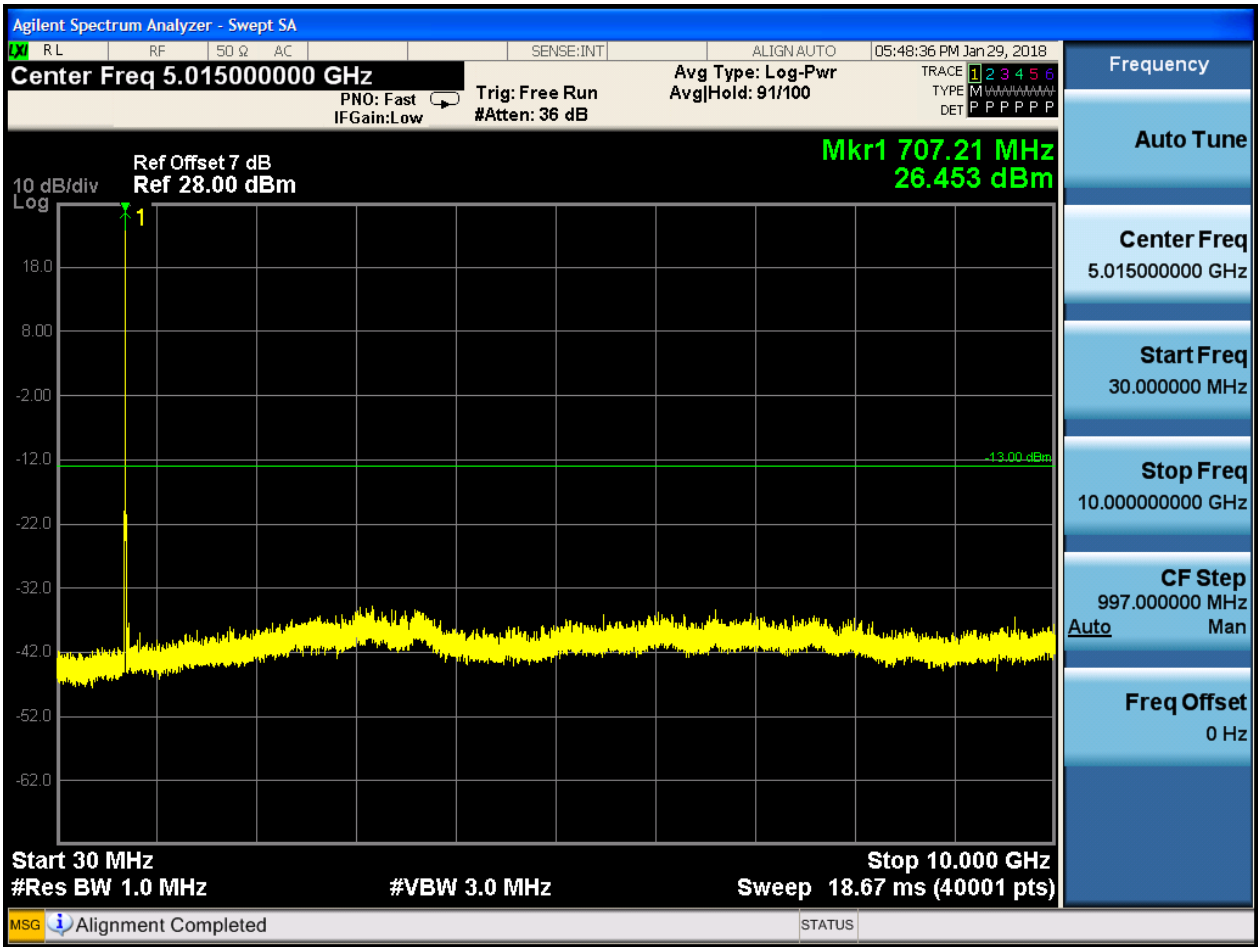


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







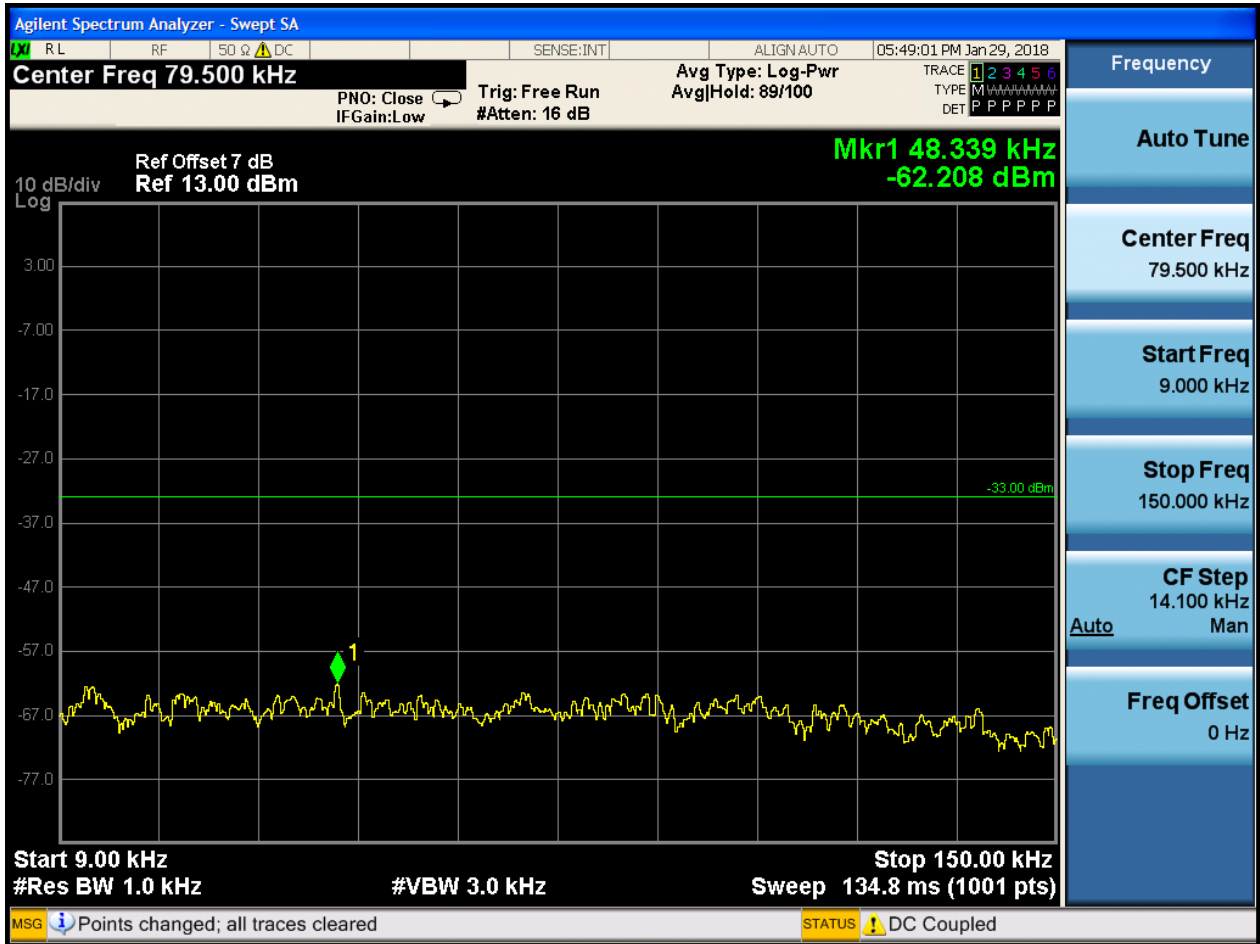


6.1.1.2 Test Mode = LTE/TM2

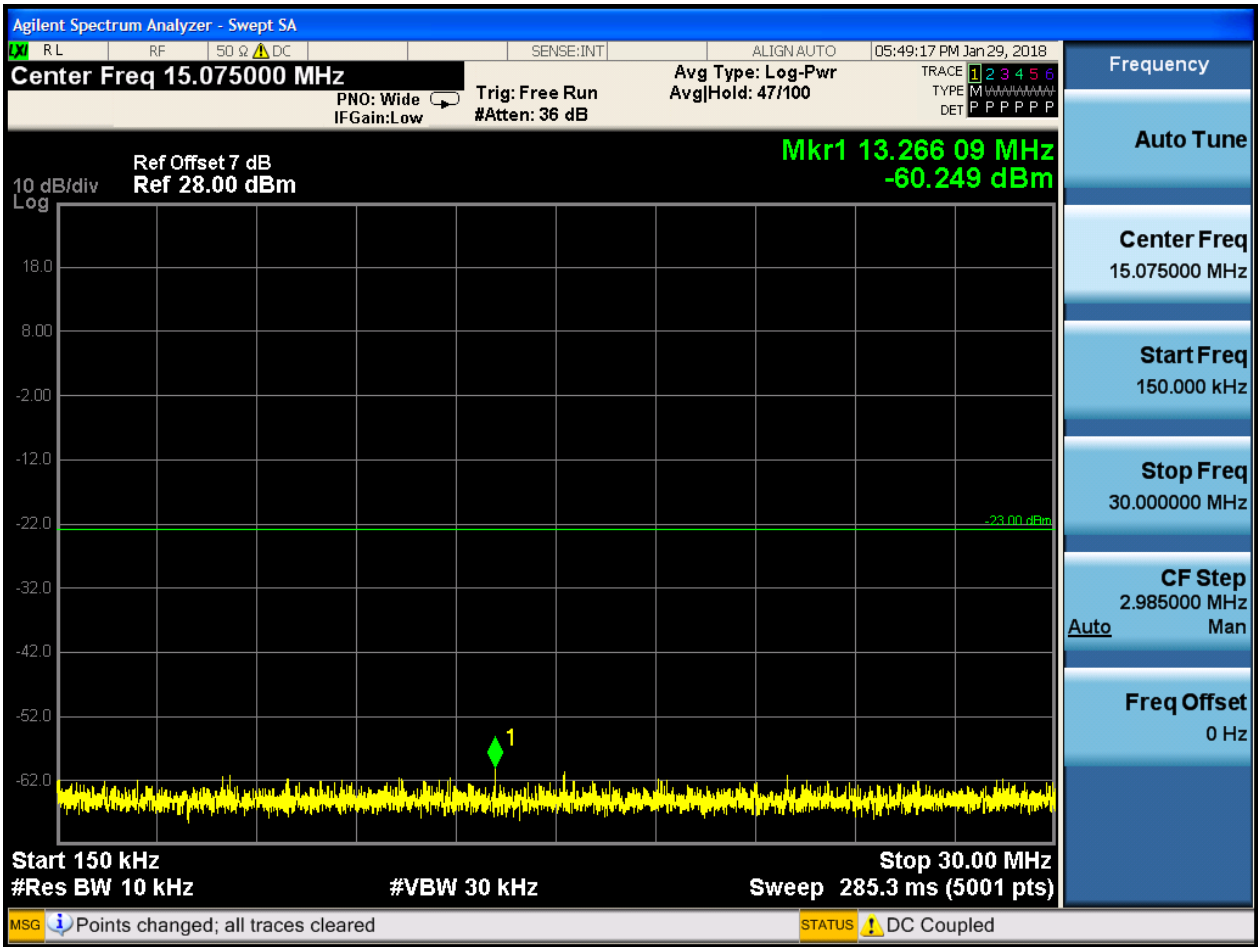
6.1.1.2.1 Test Bandwidth = 1.4

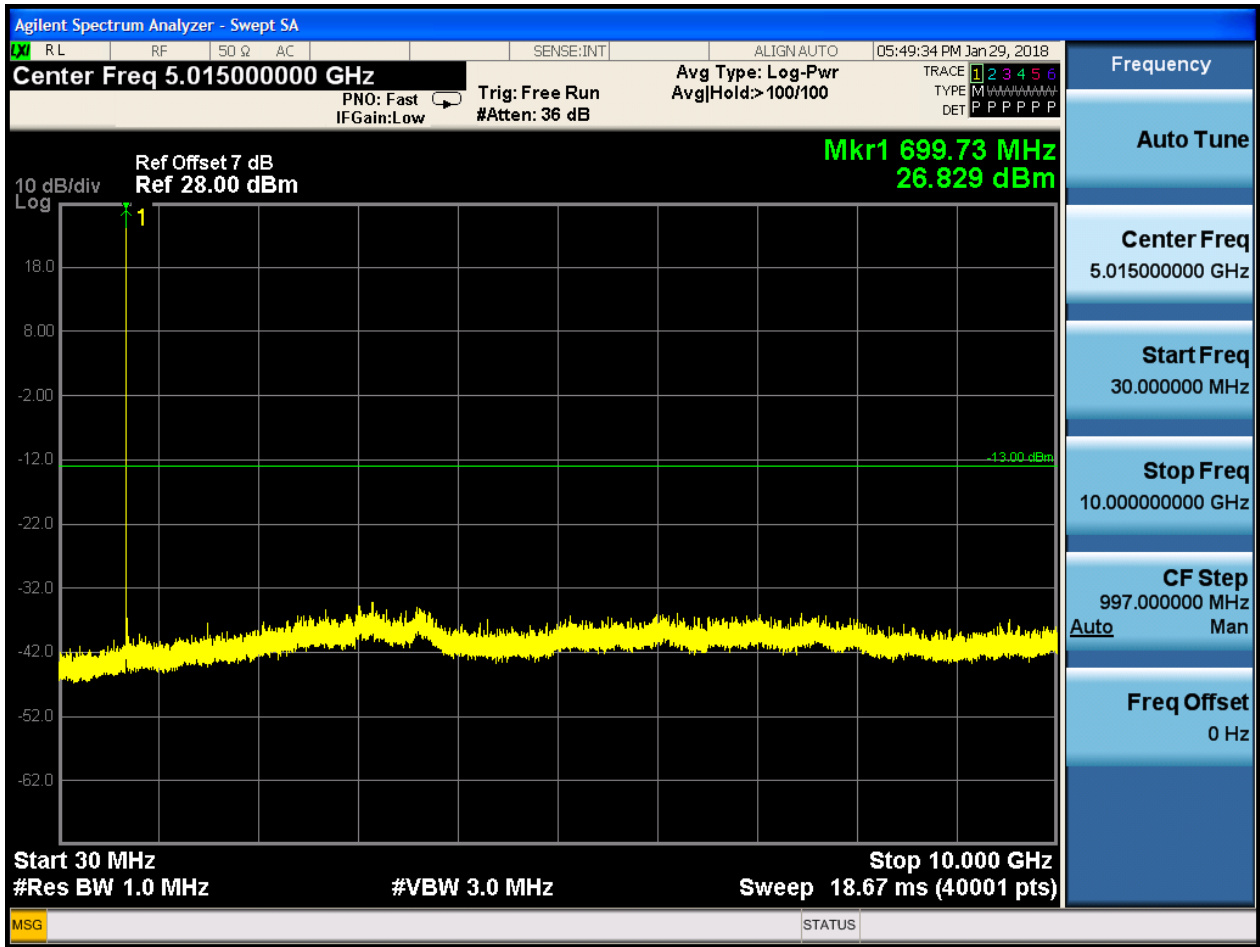
6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0





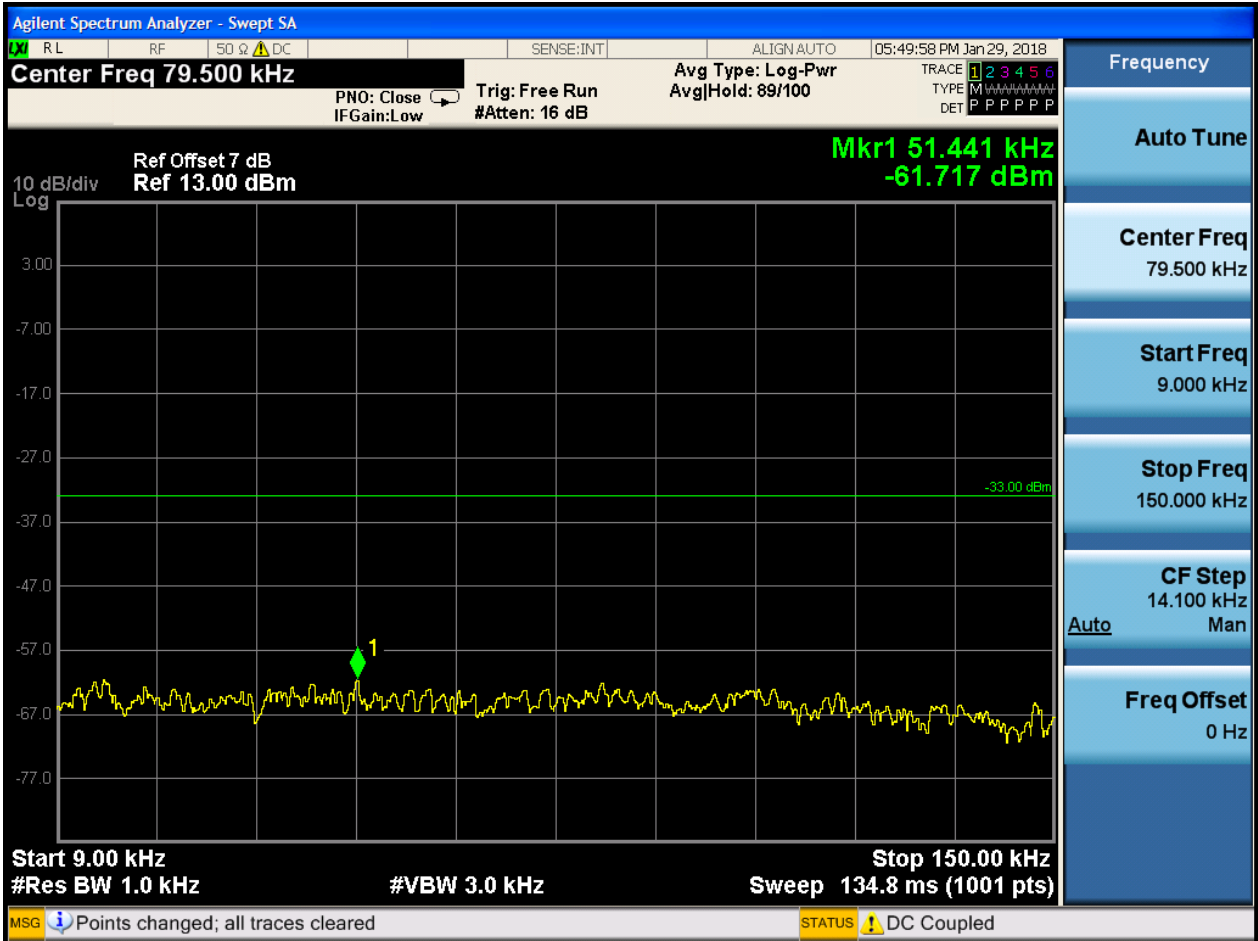


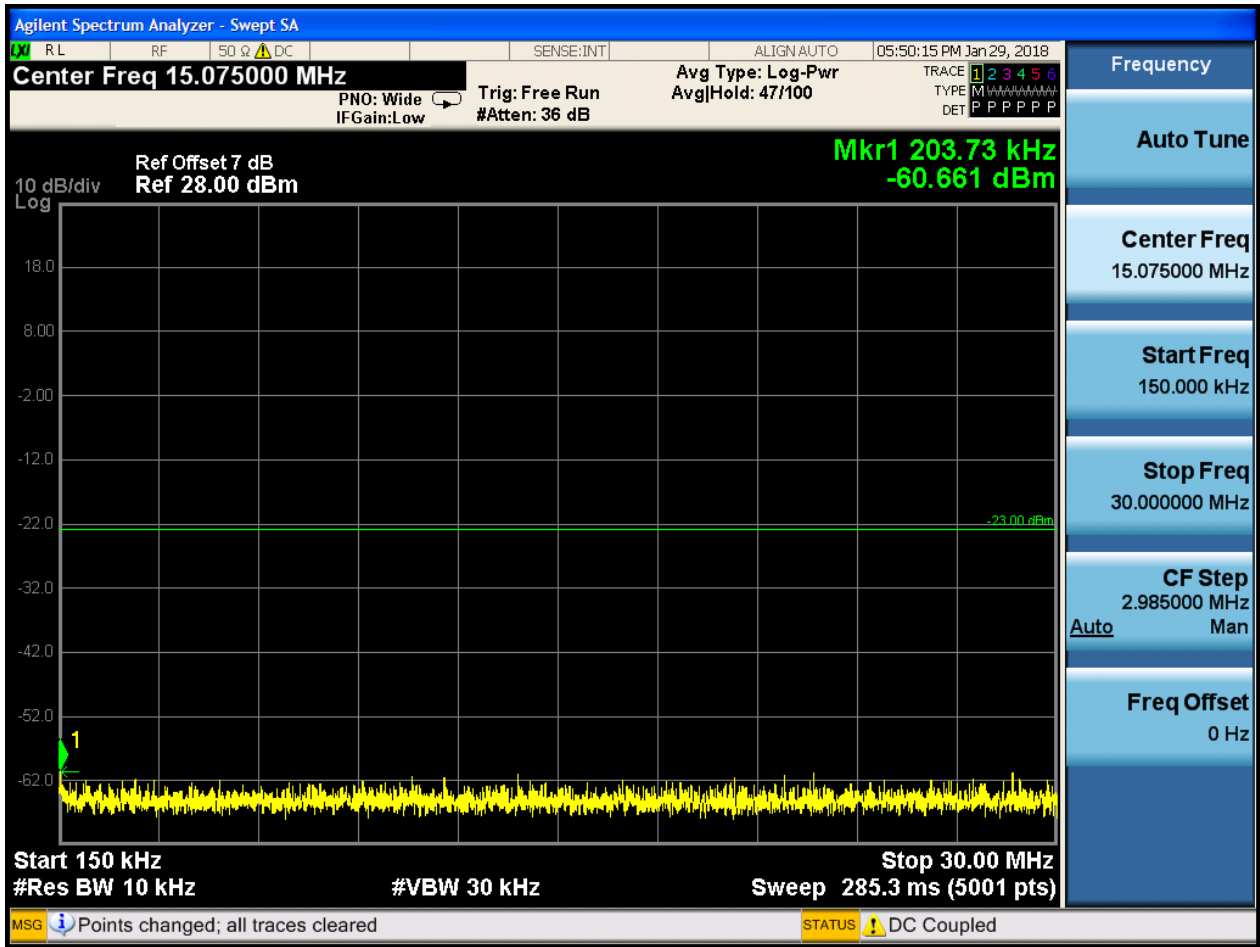


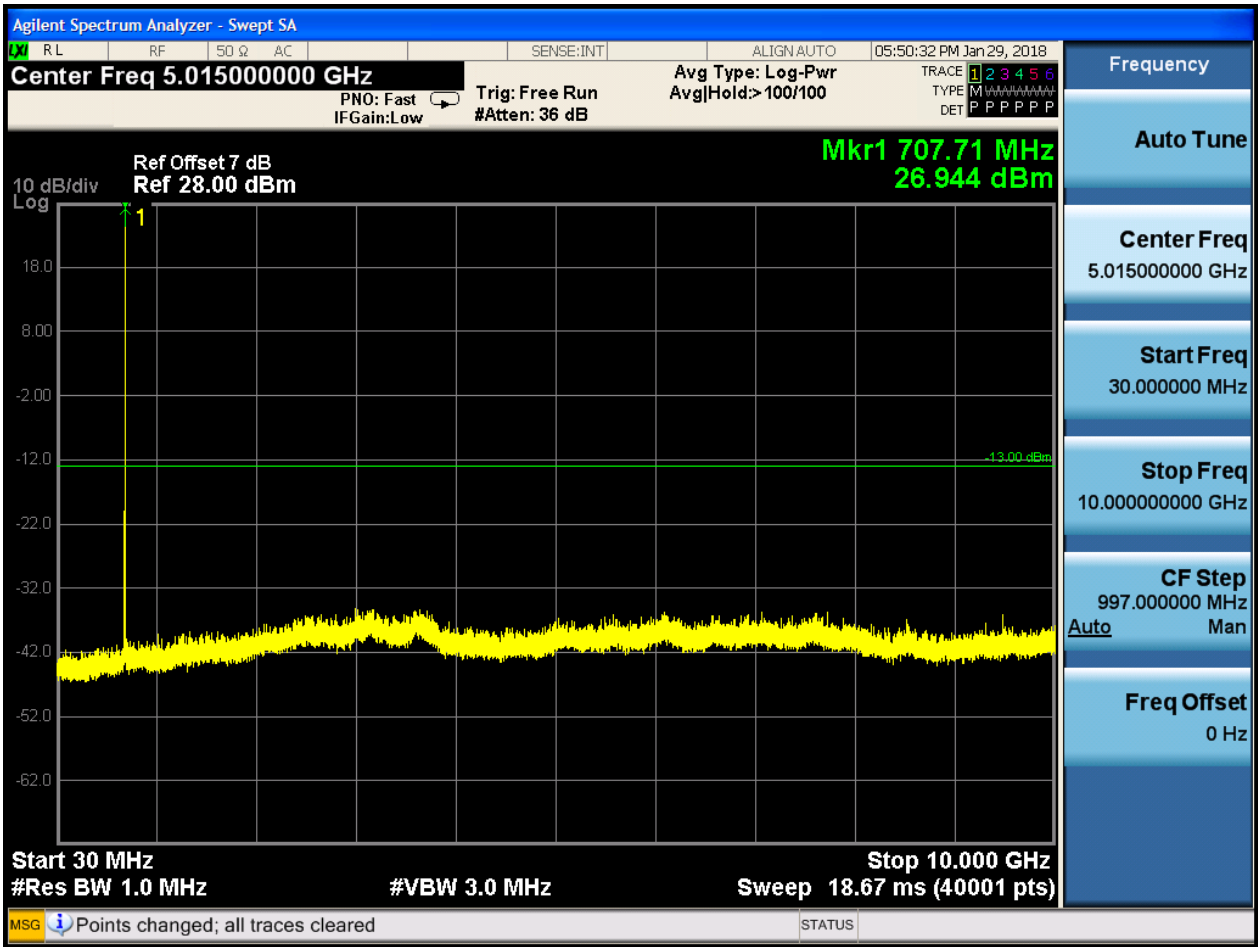


6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

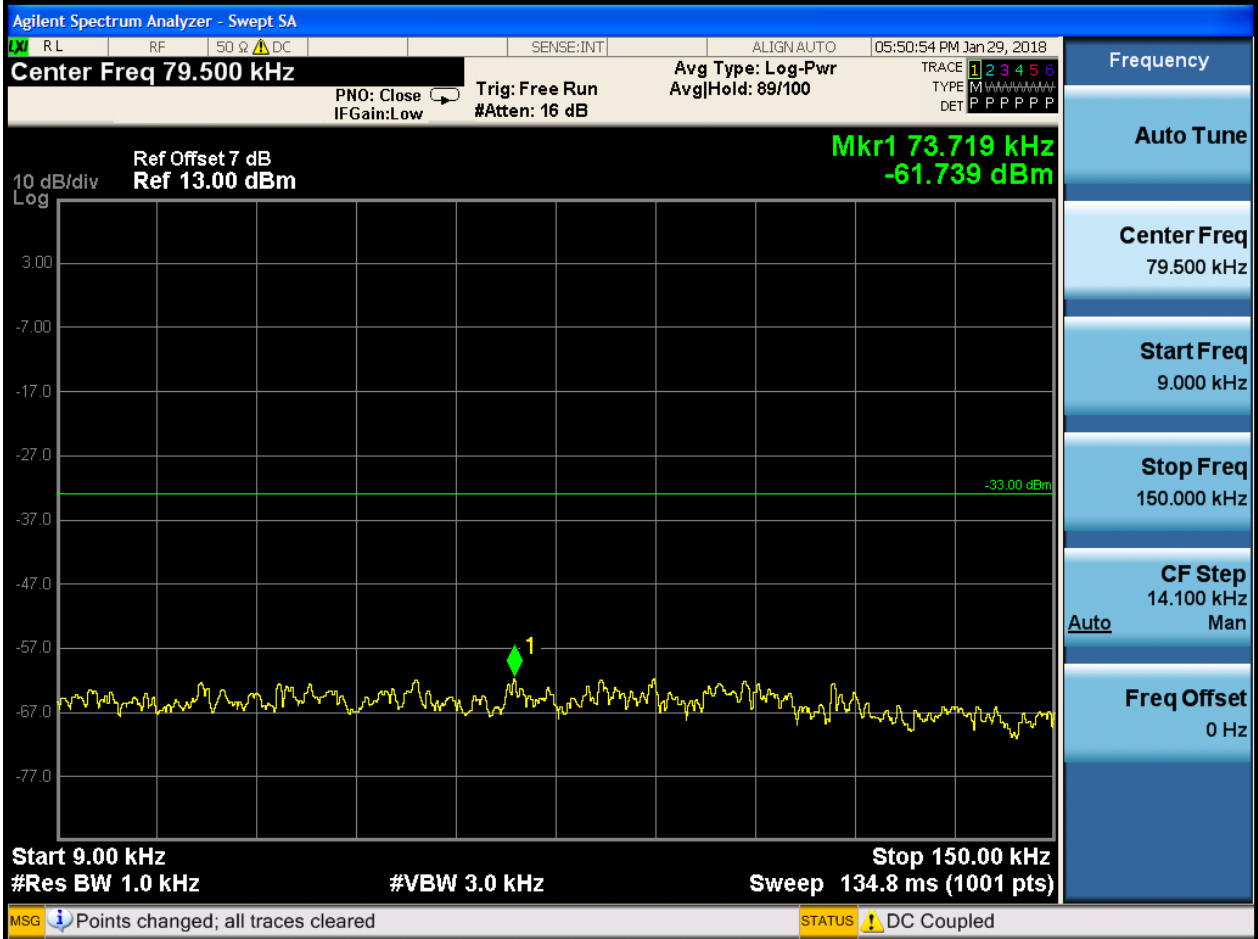


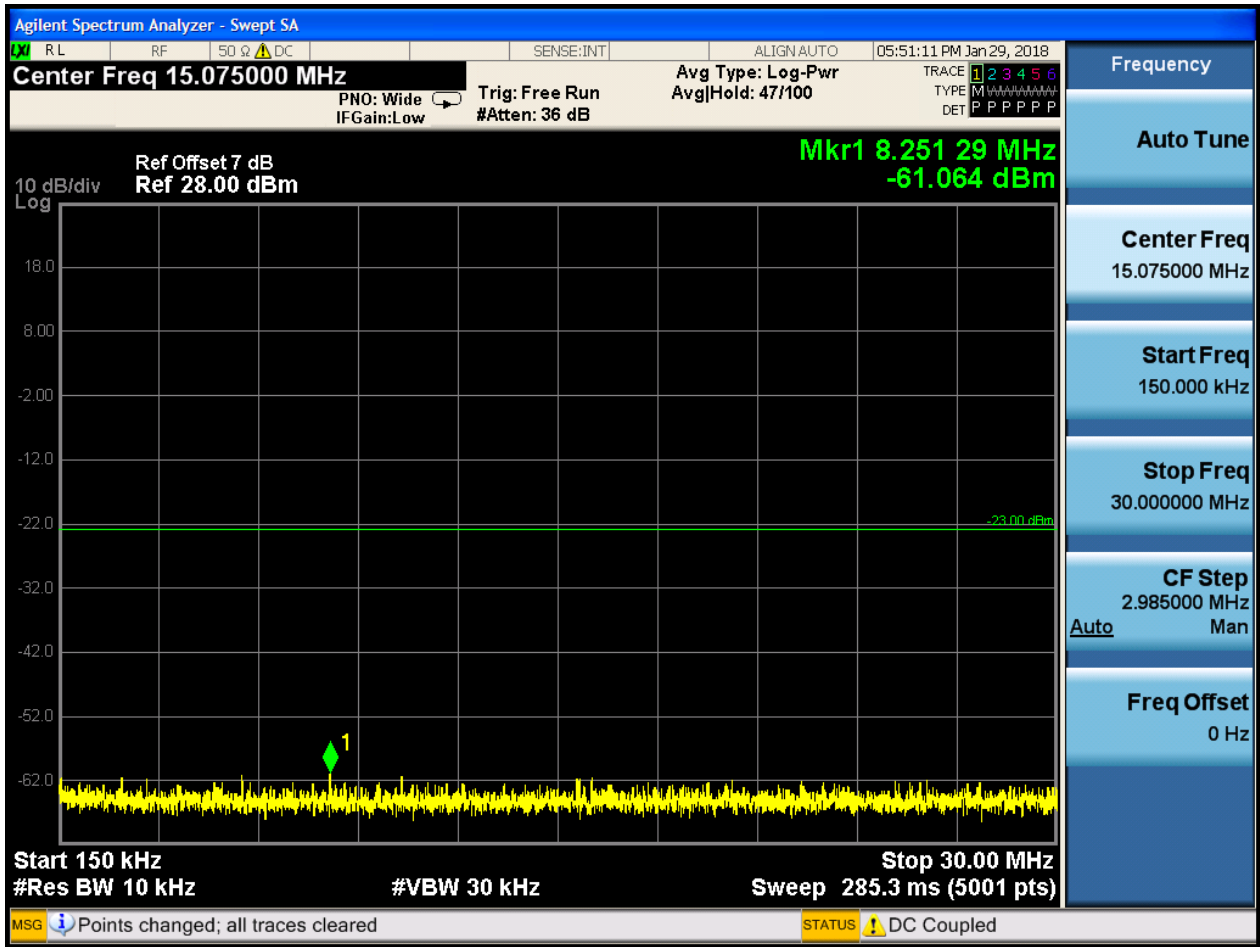


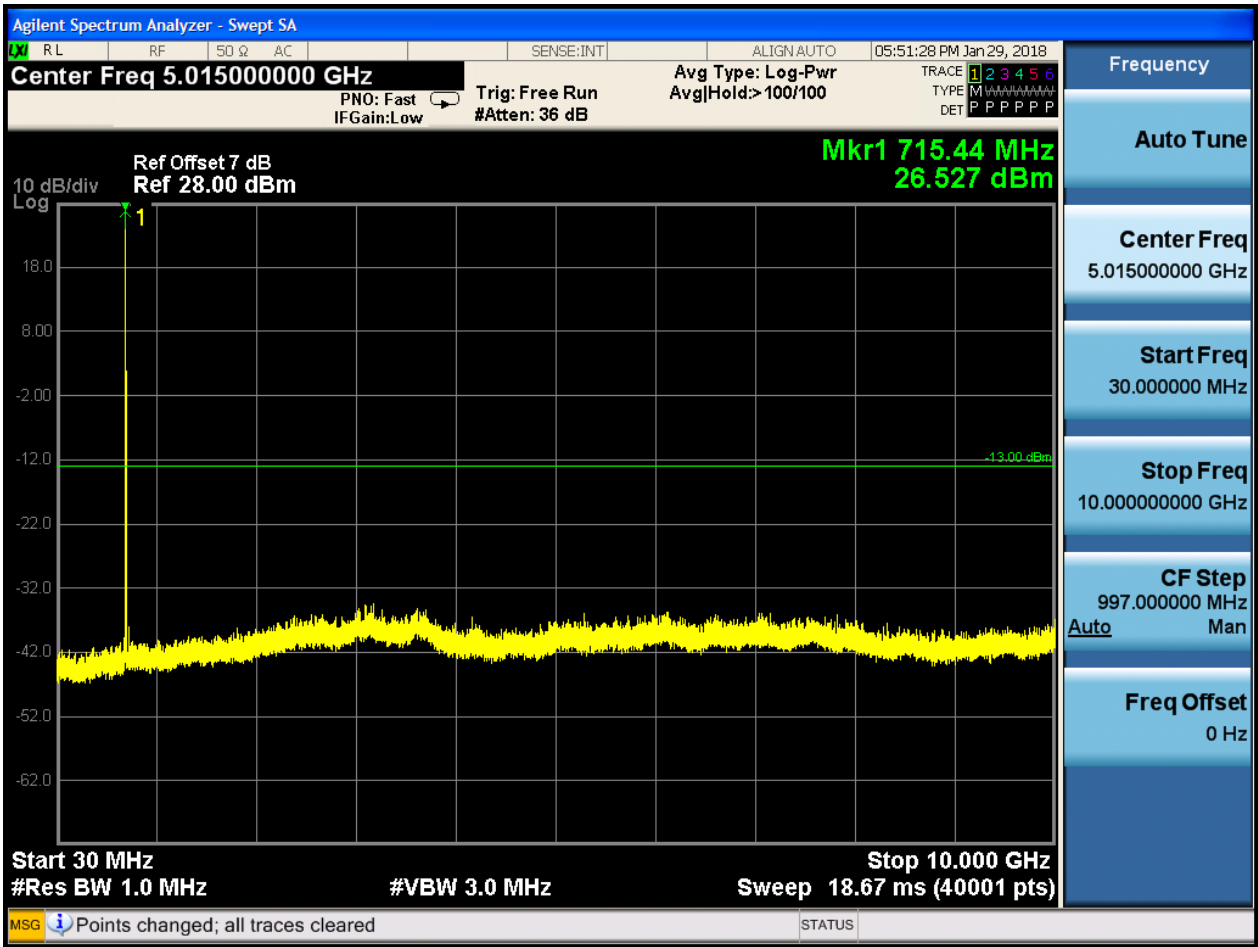


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0







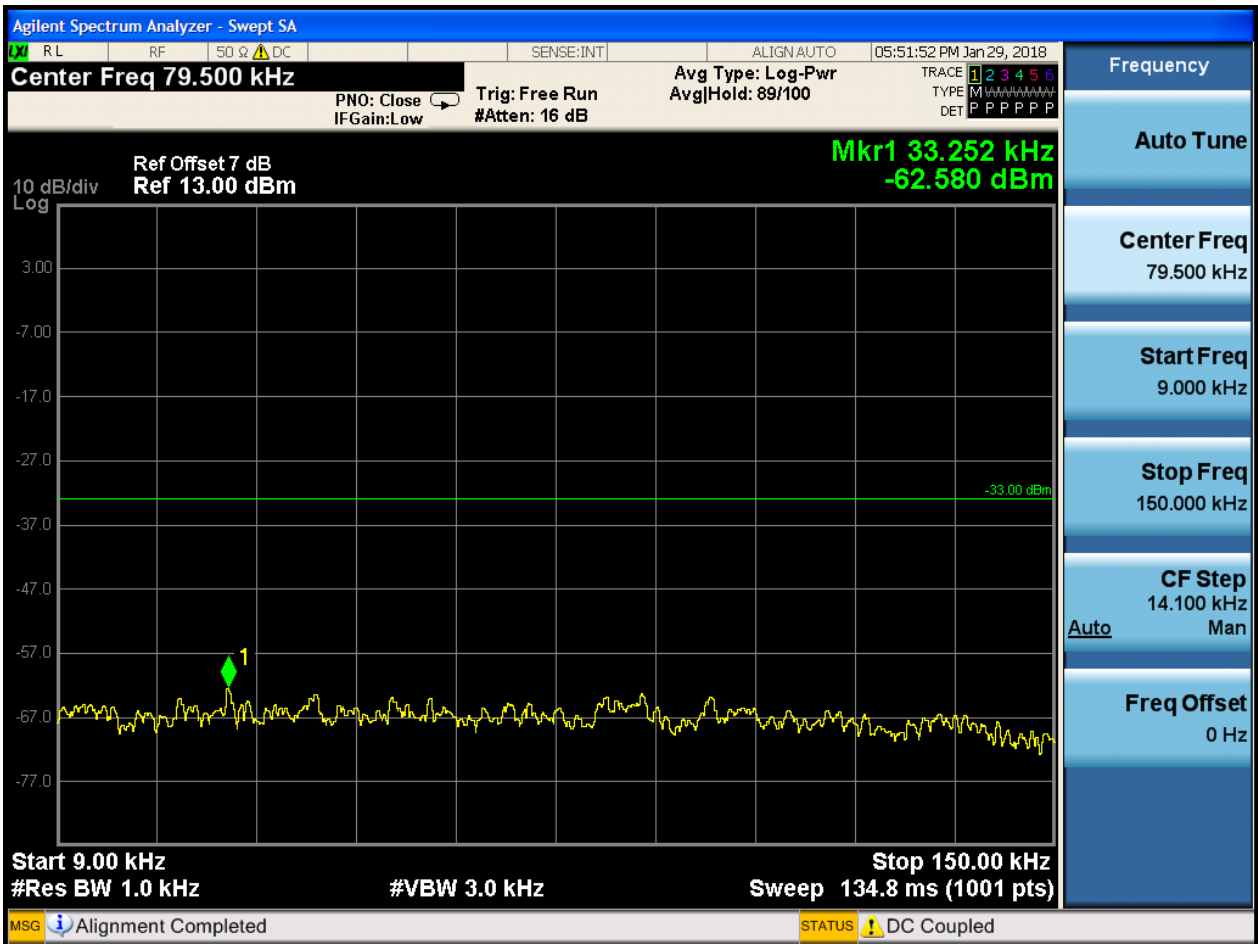


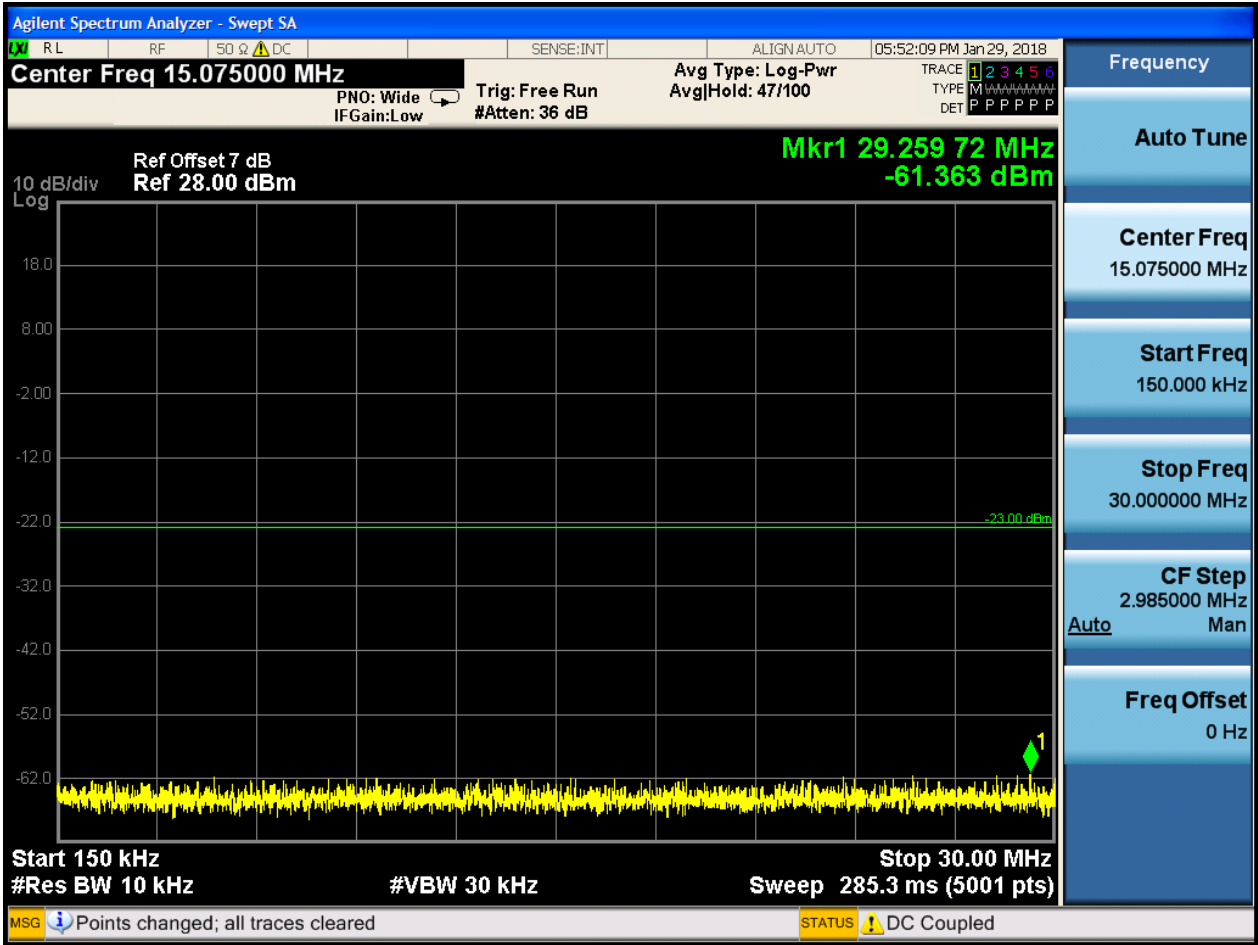


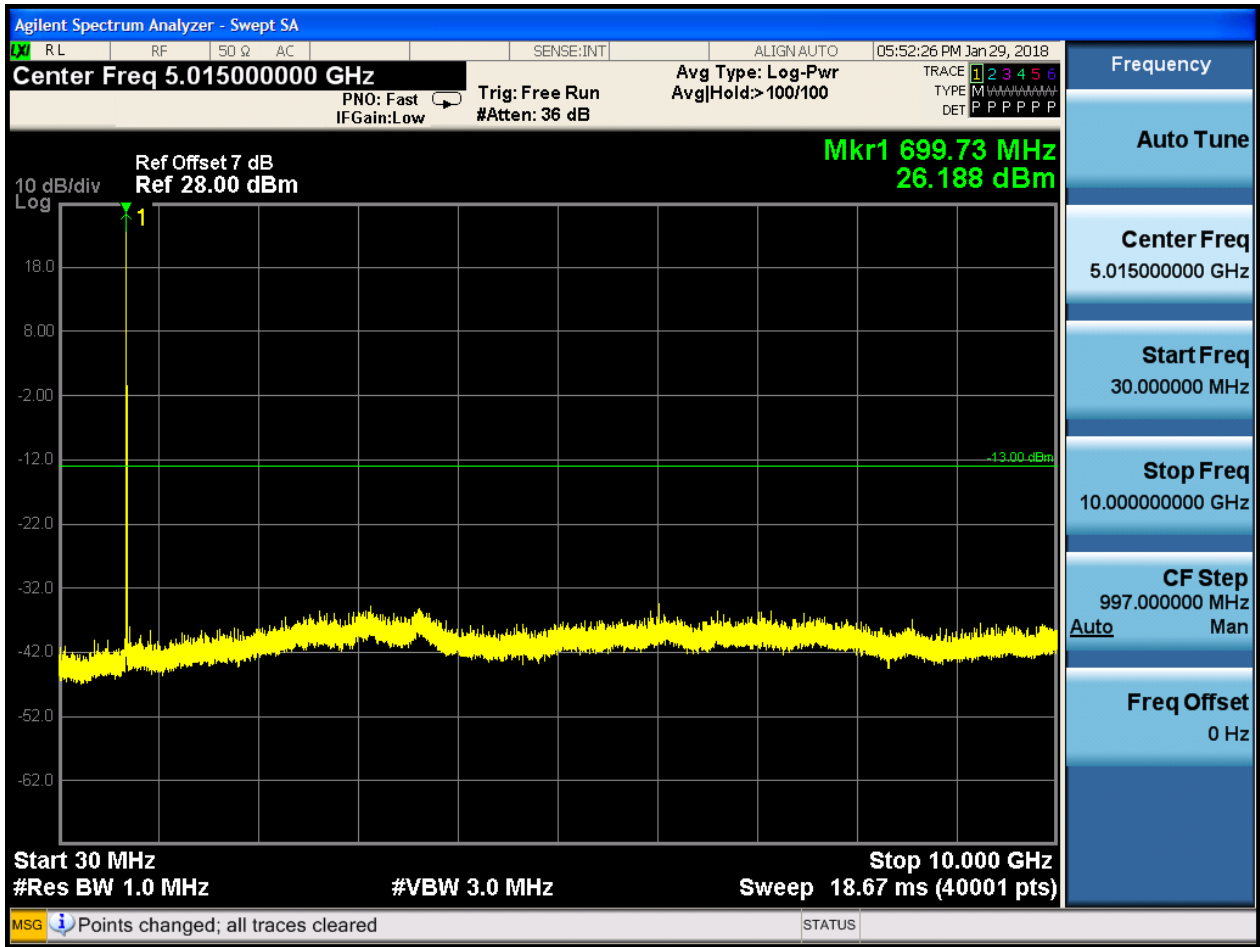
6.1.1.2.2 Test Bandwidth = 3

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0



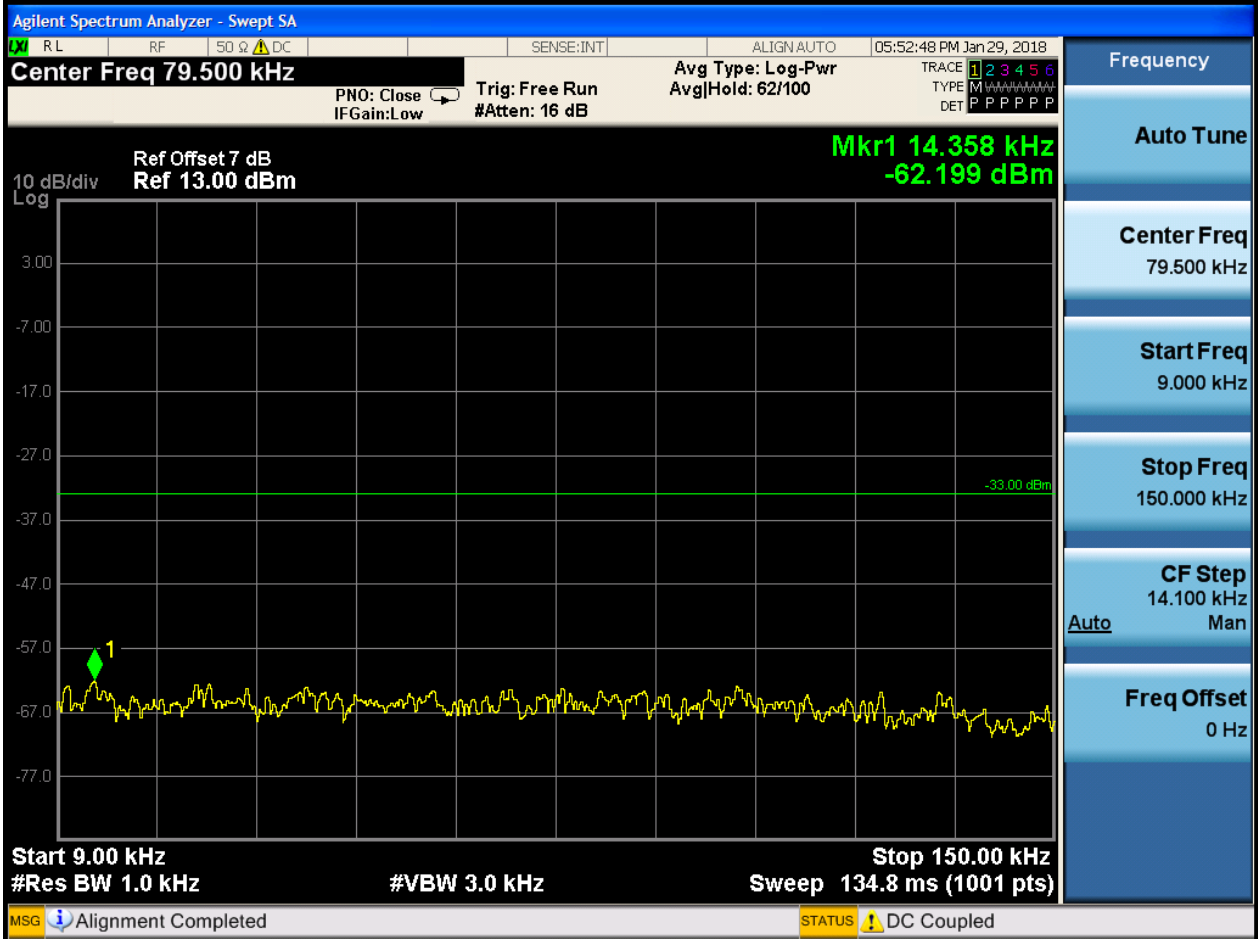


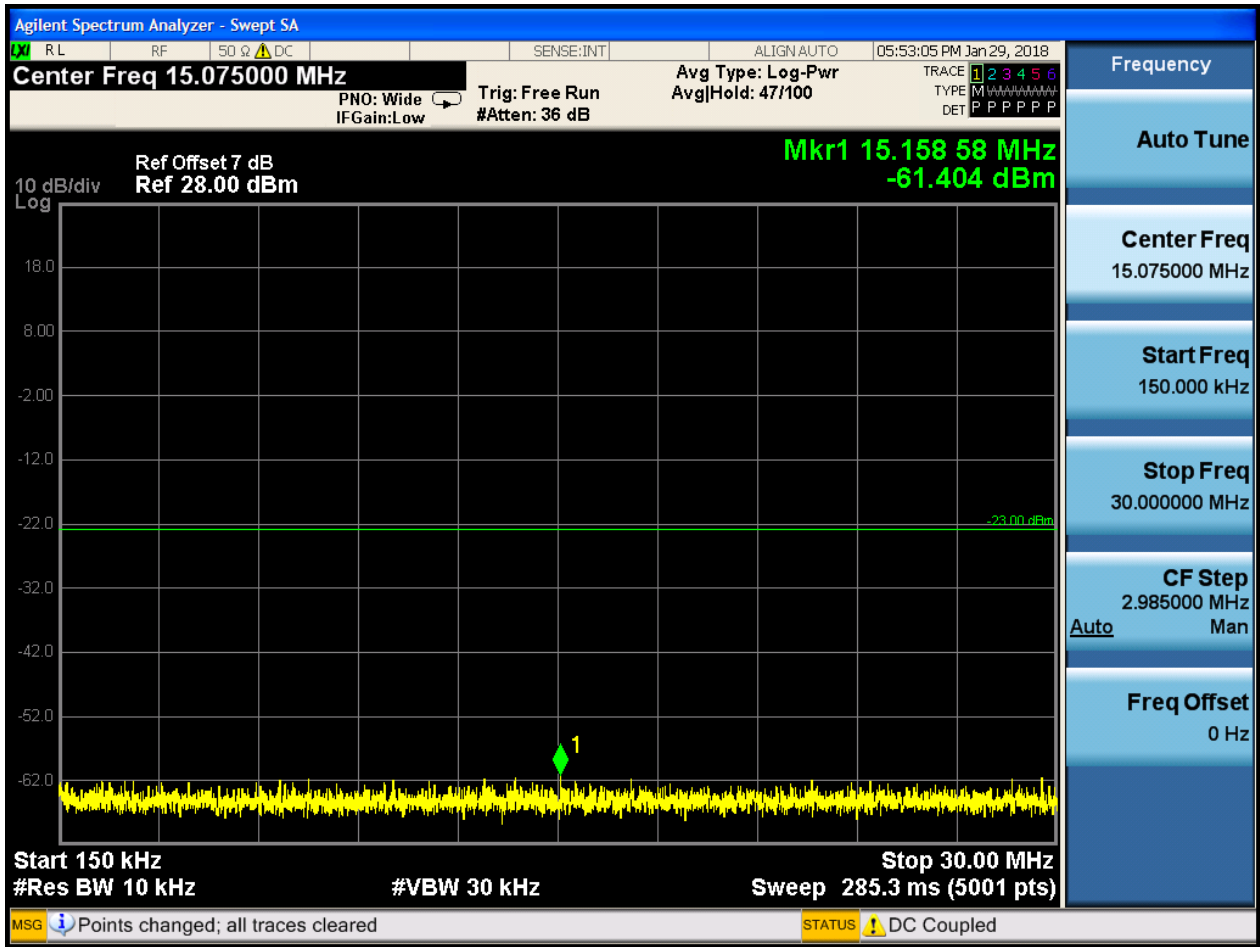


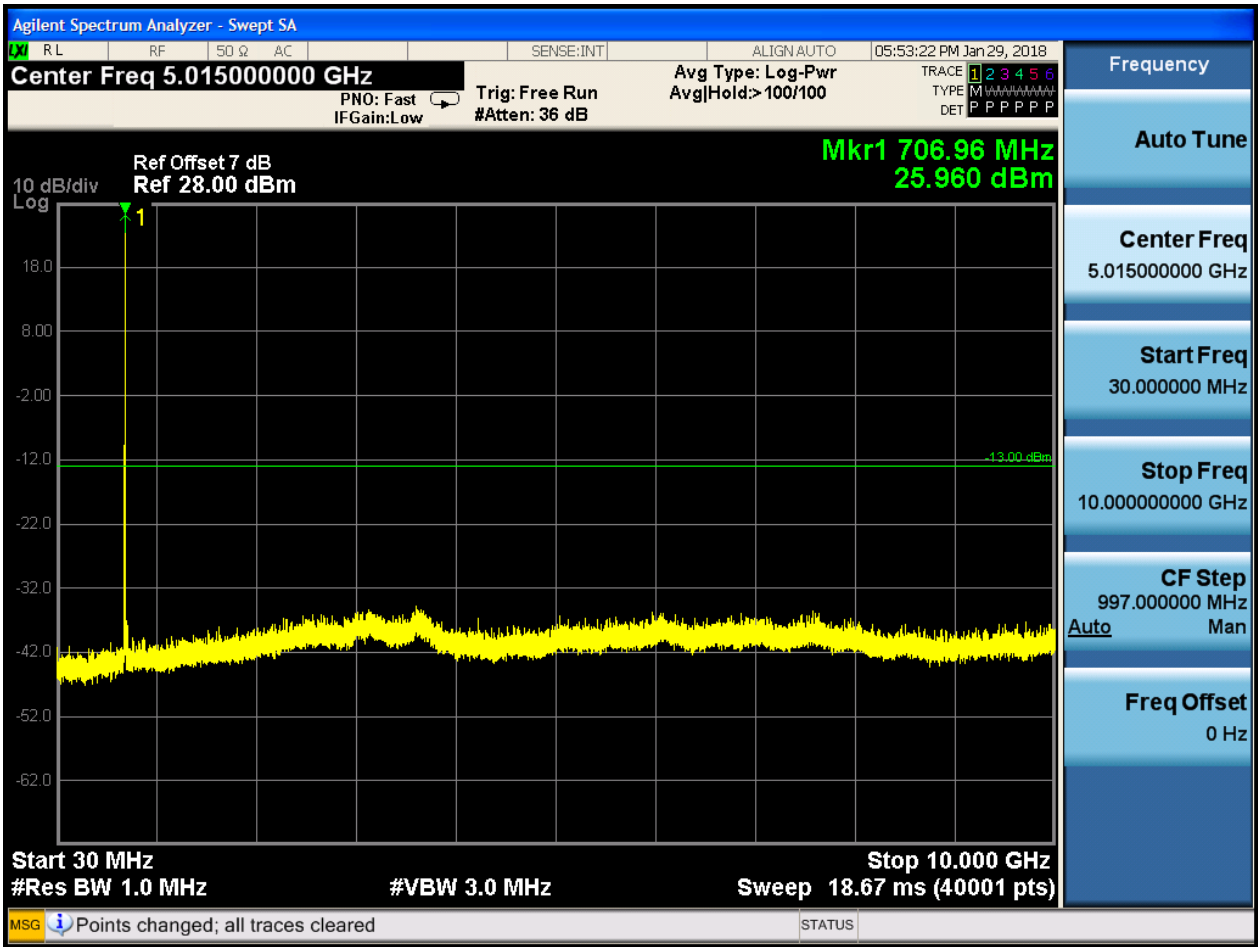


### 6.1.1.2.2.2 Test Channel = MCH

#### 6.1.1.2.2.2.1 Test RB = RB1#0



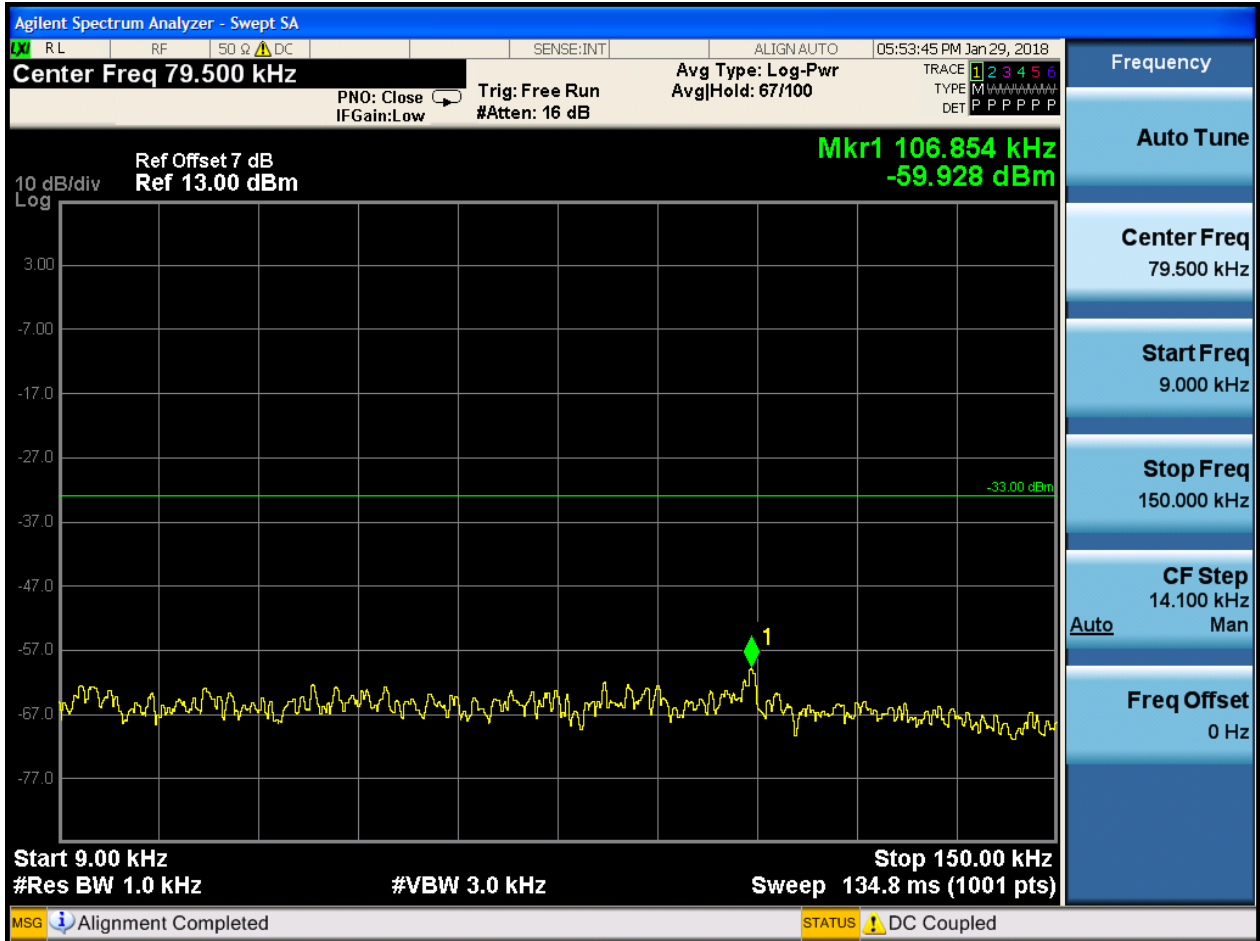


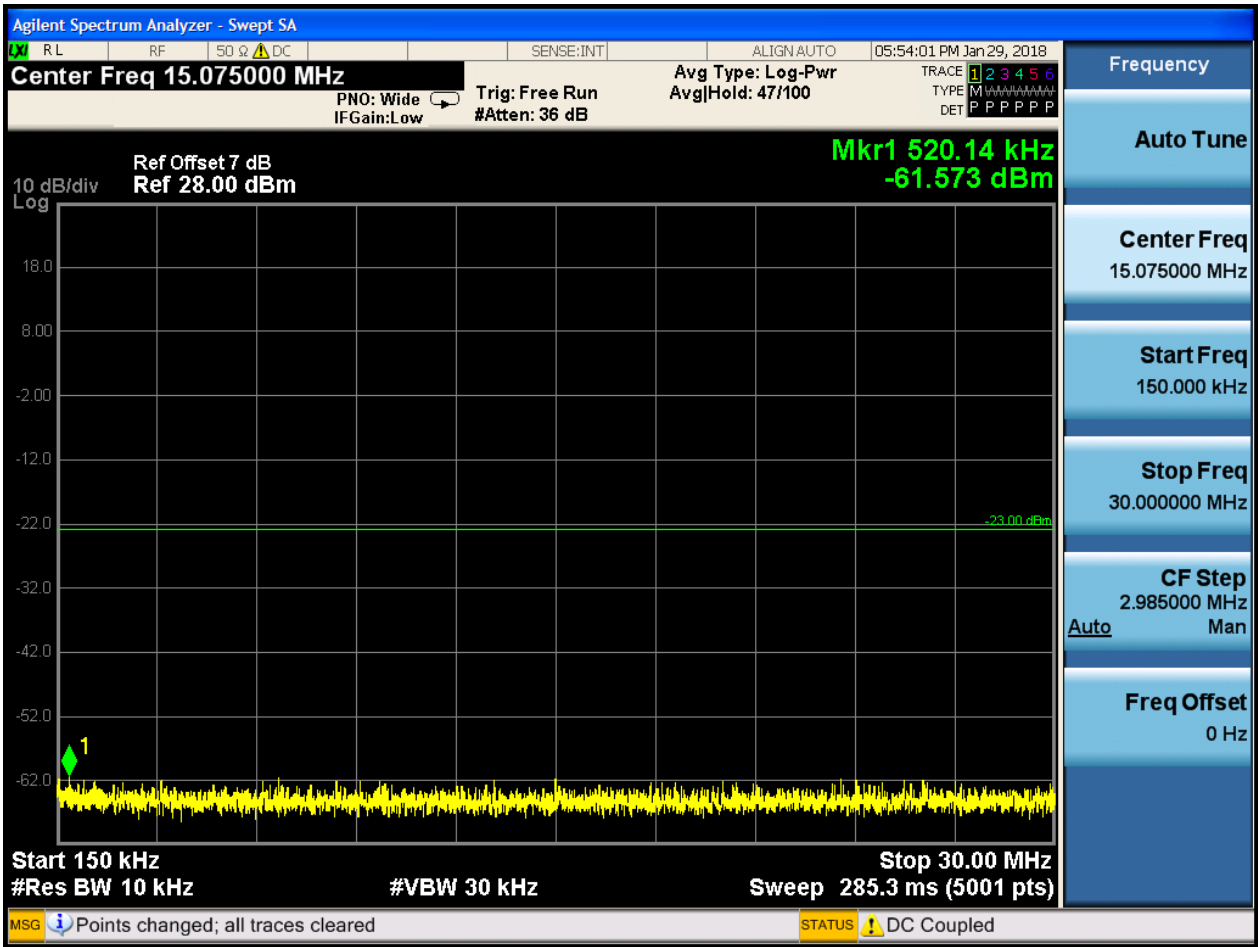




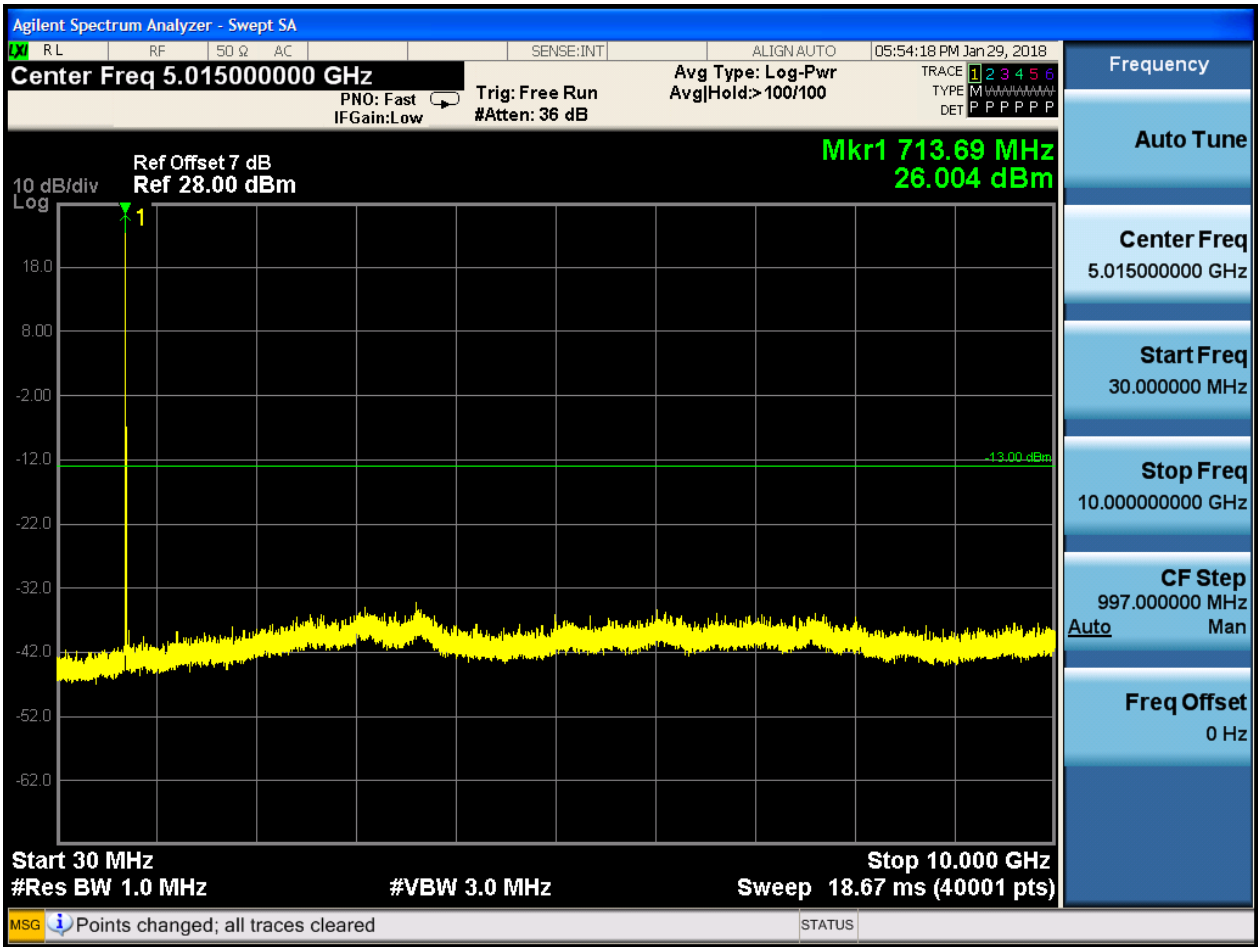
6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0







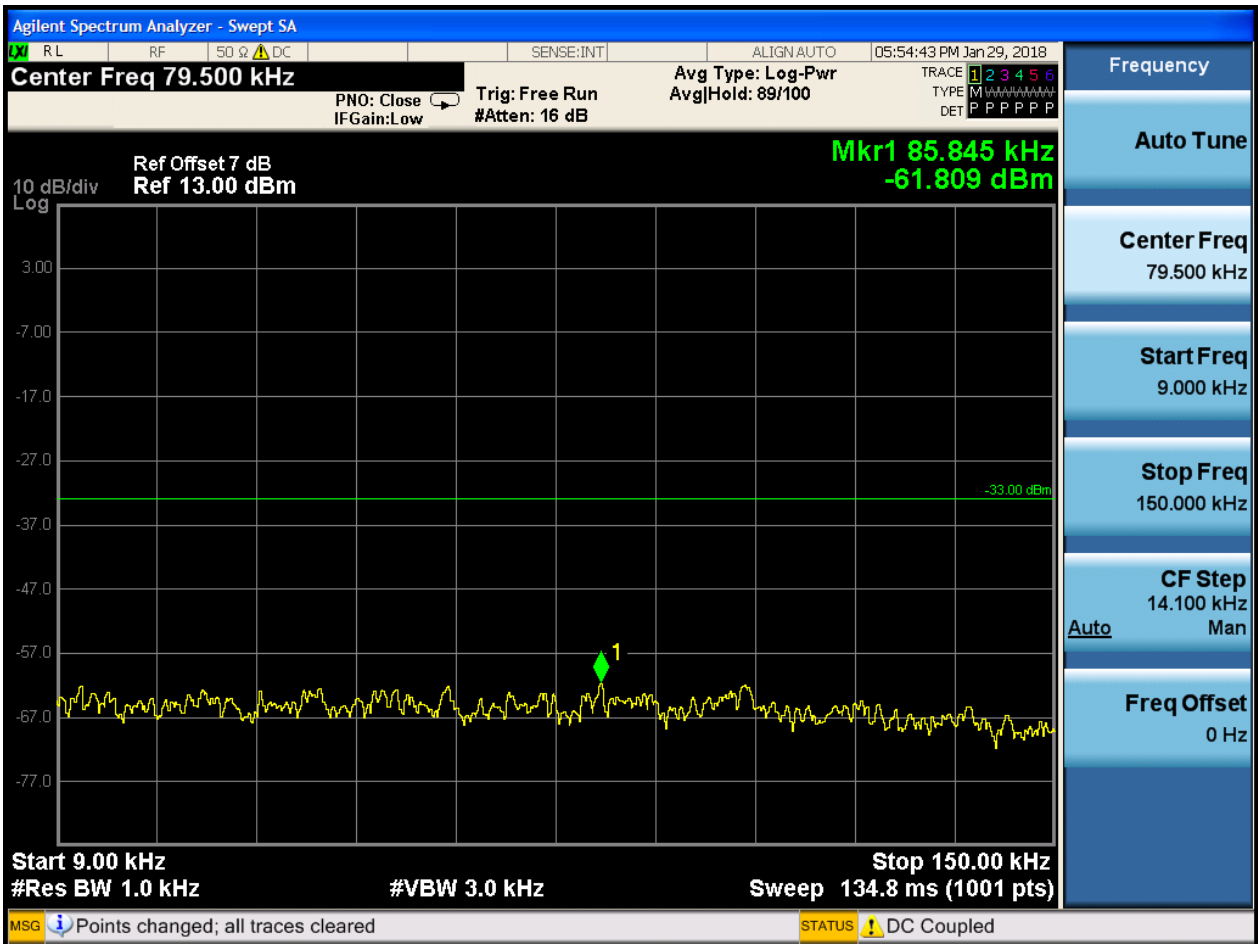


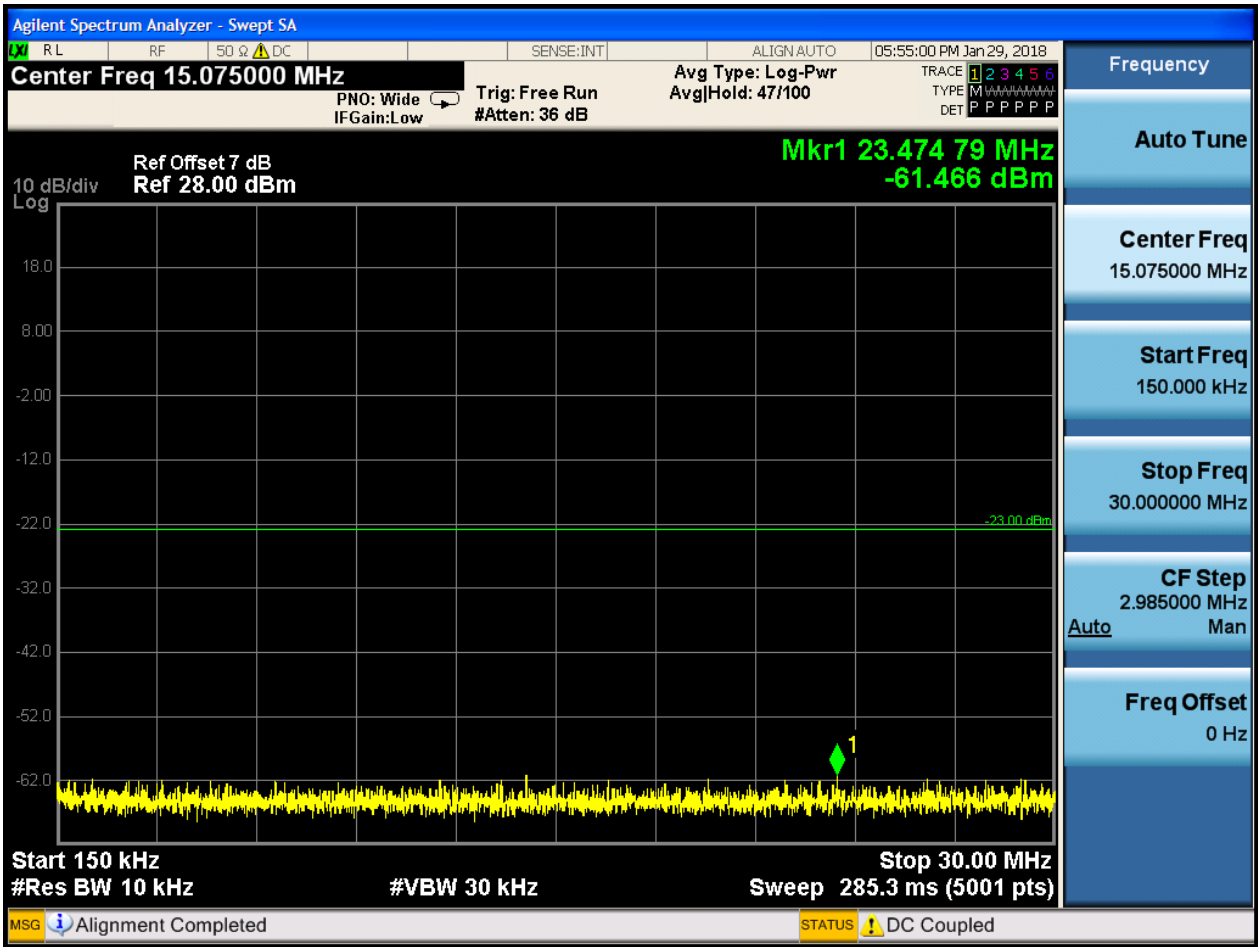


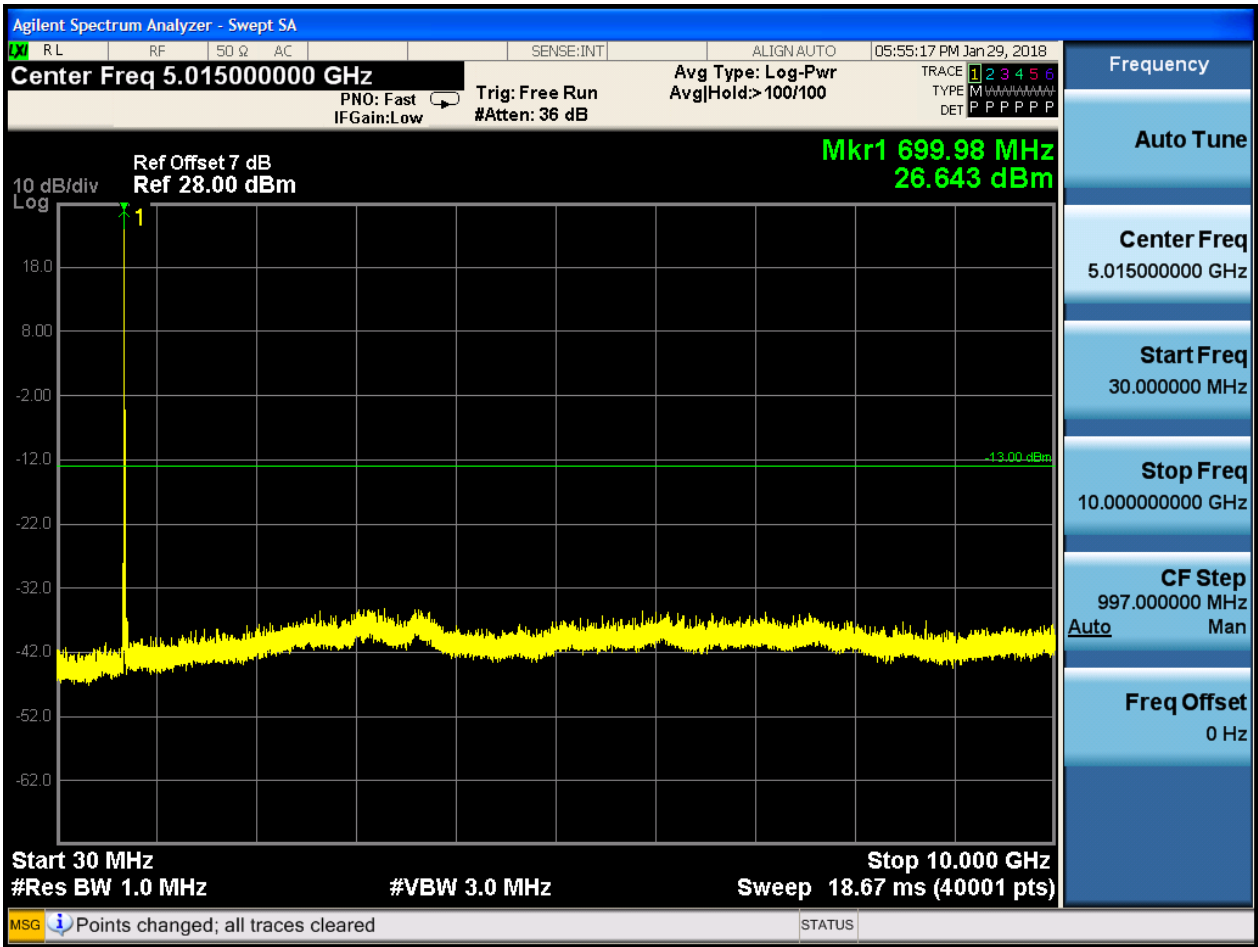
6.1.1.2.3 Test Bandwidth = 5

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0



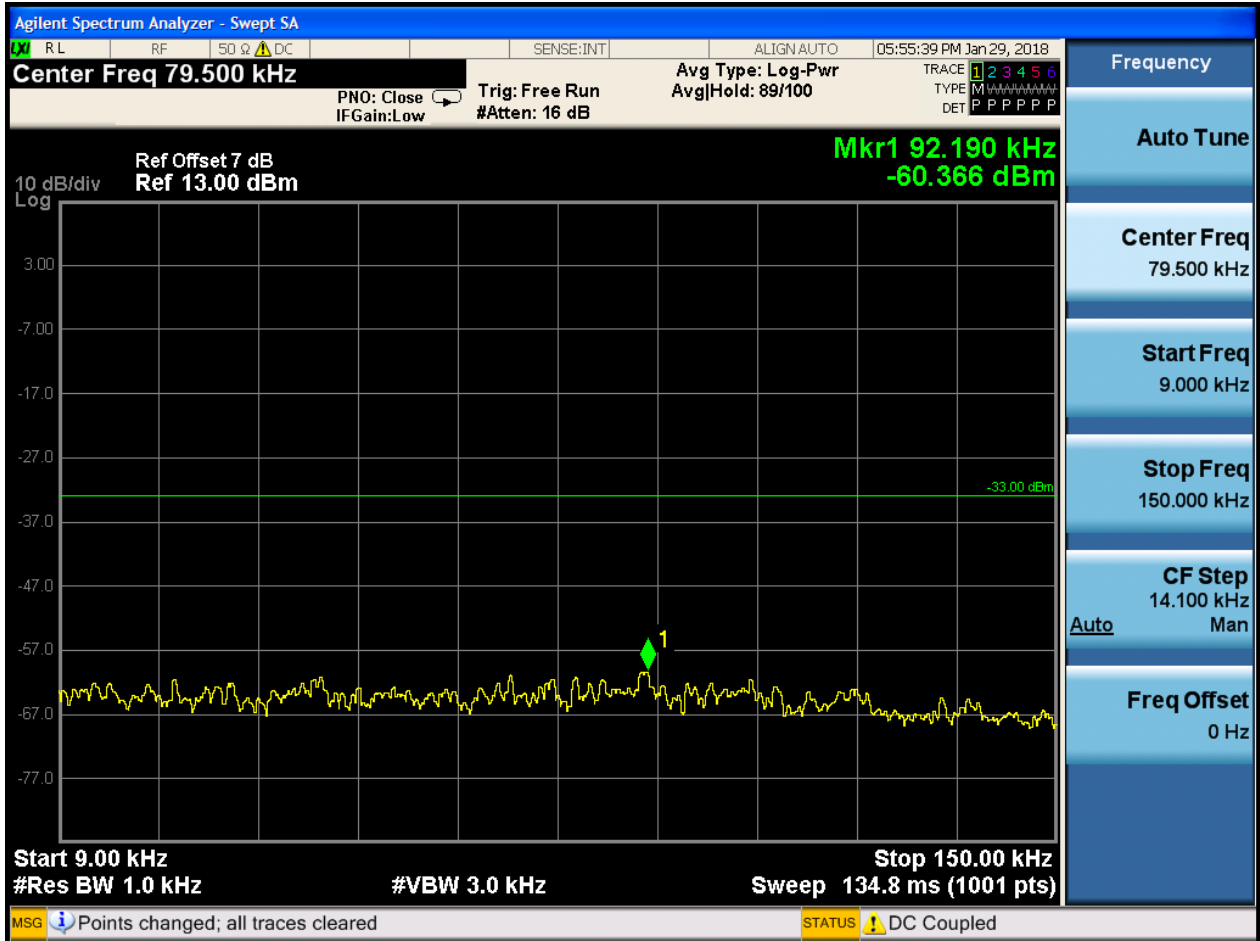


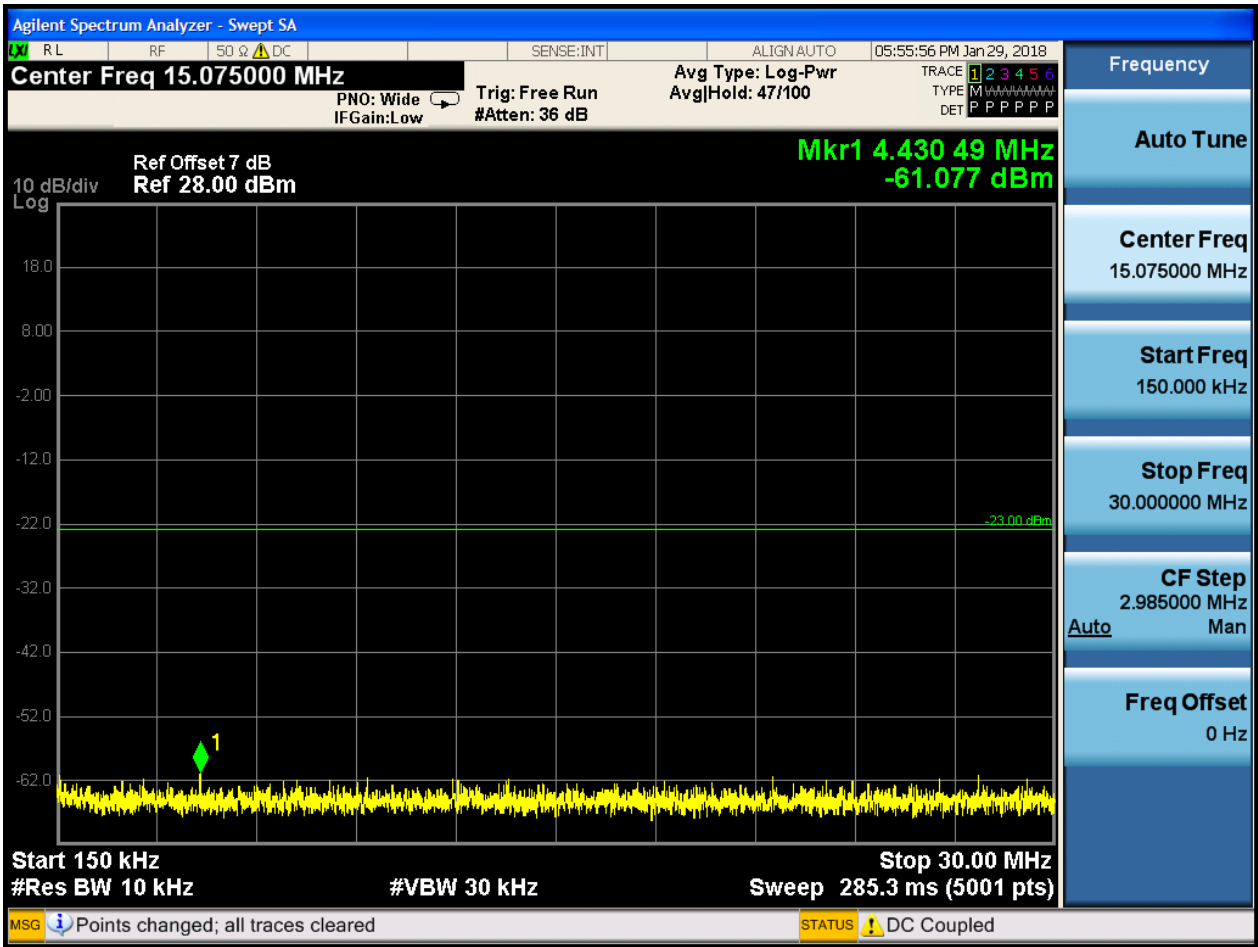


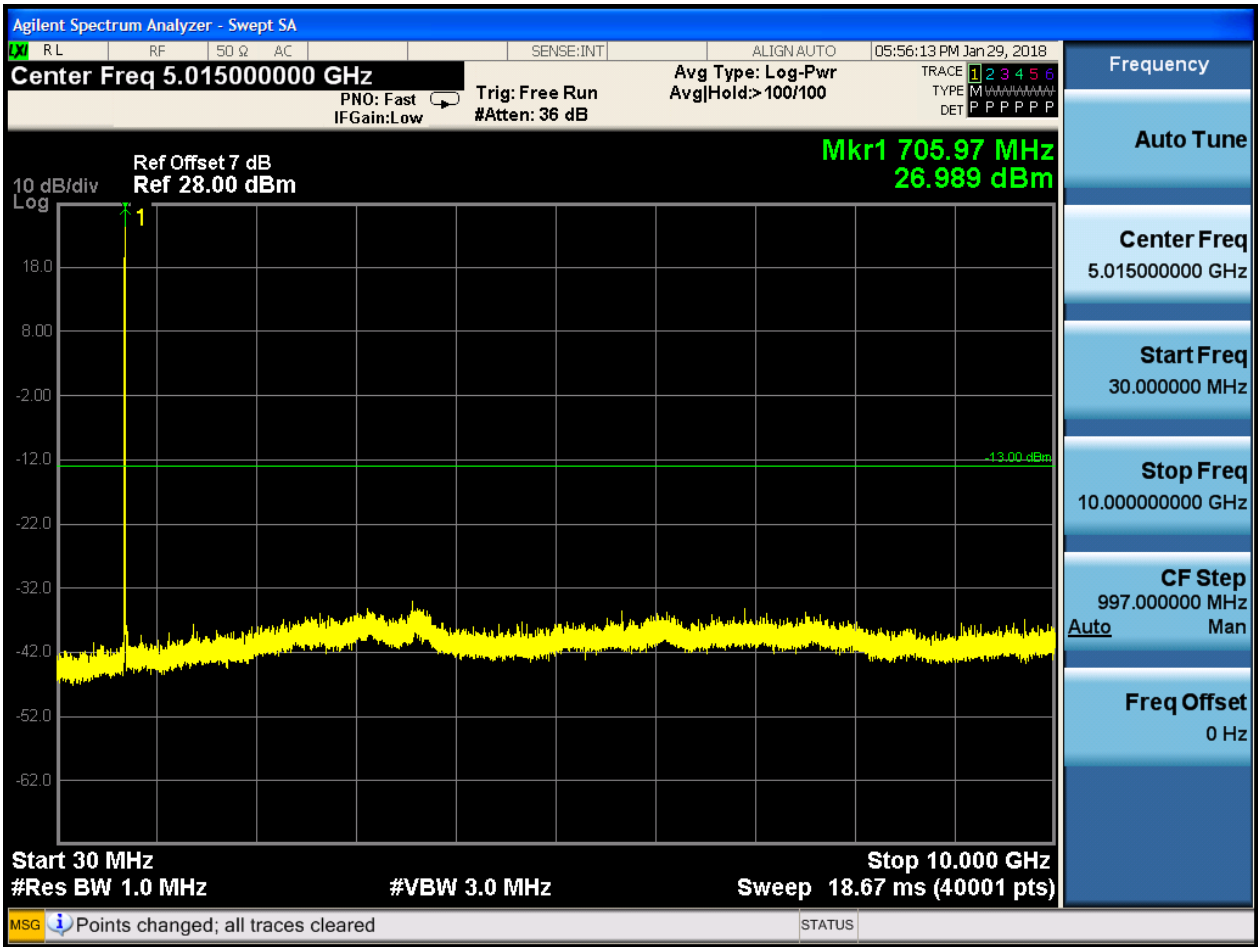


6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



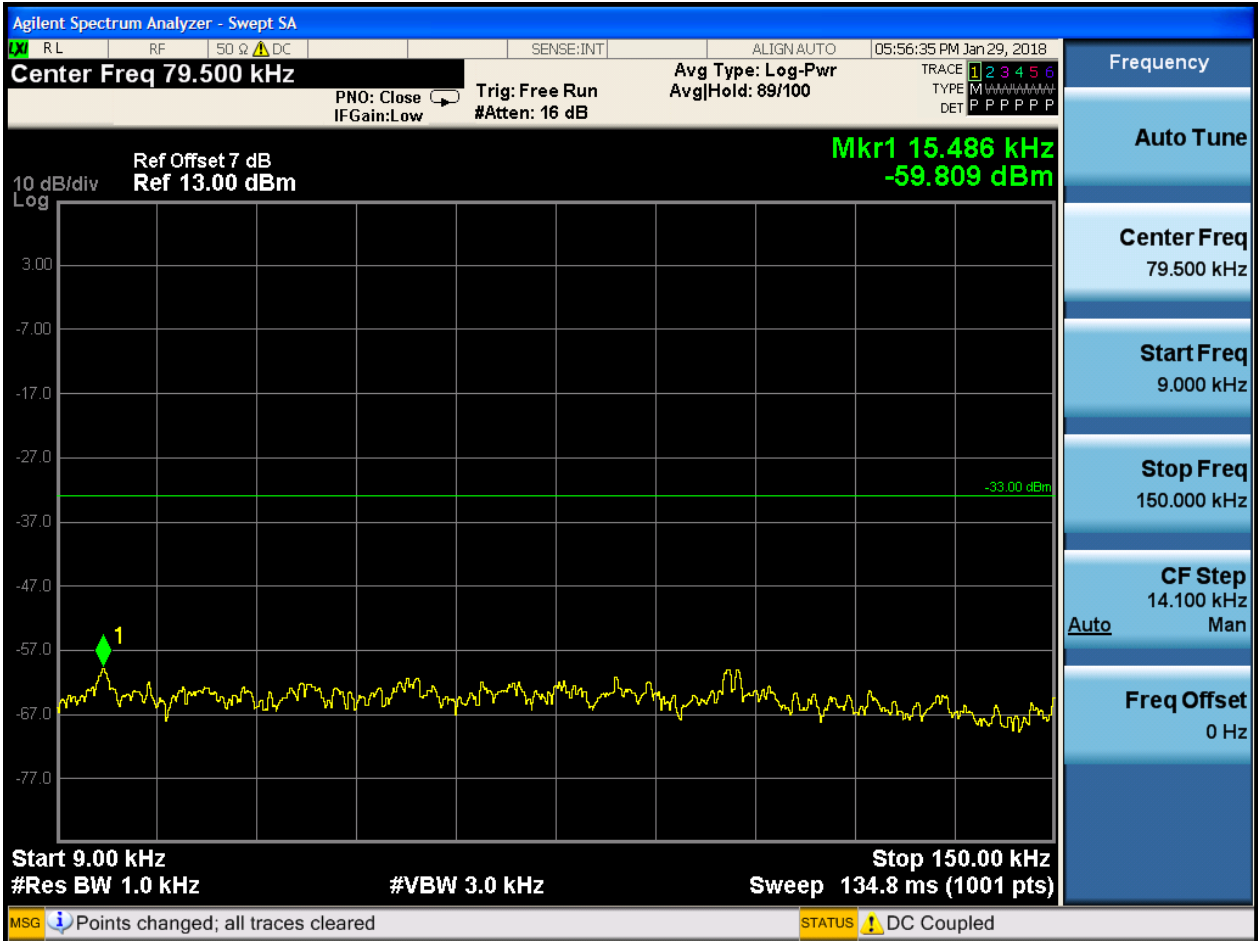




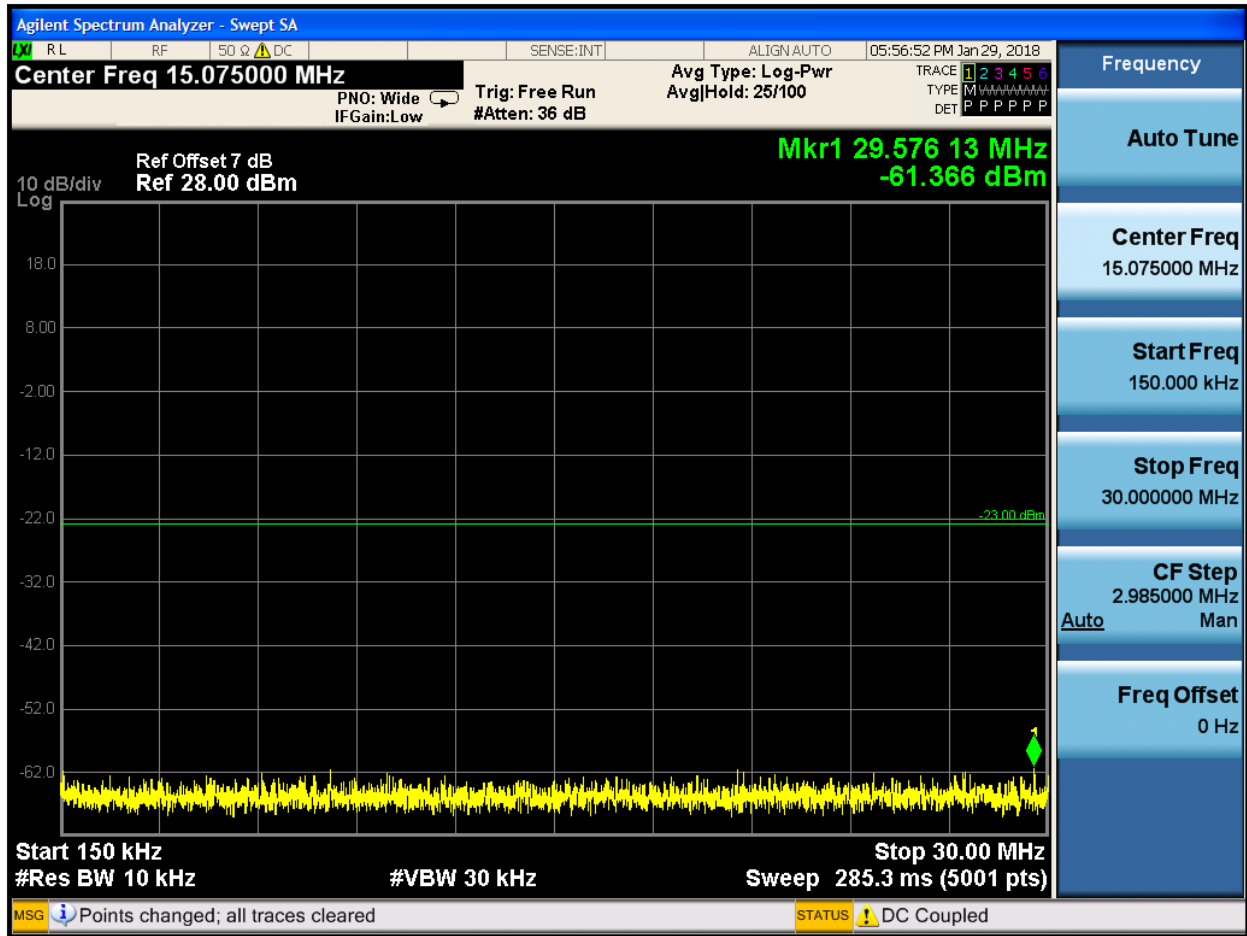


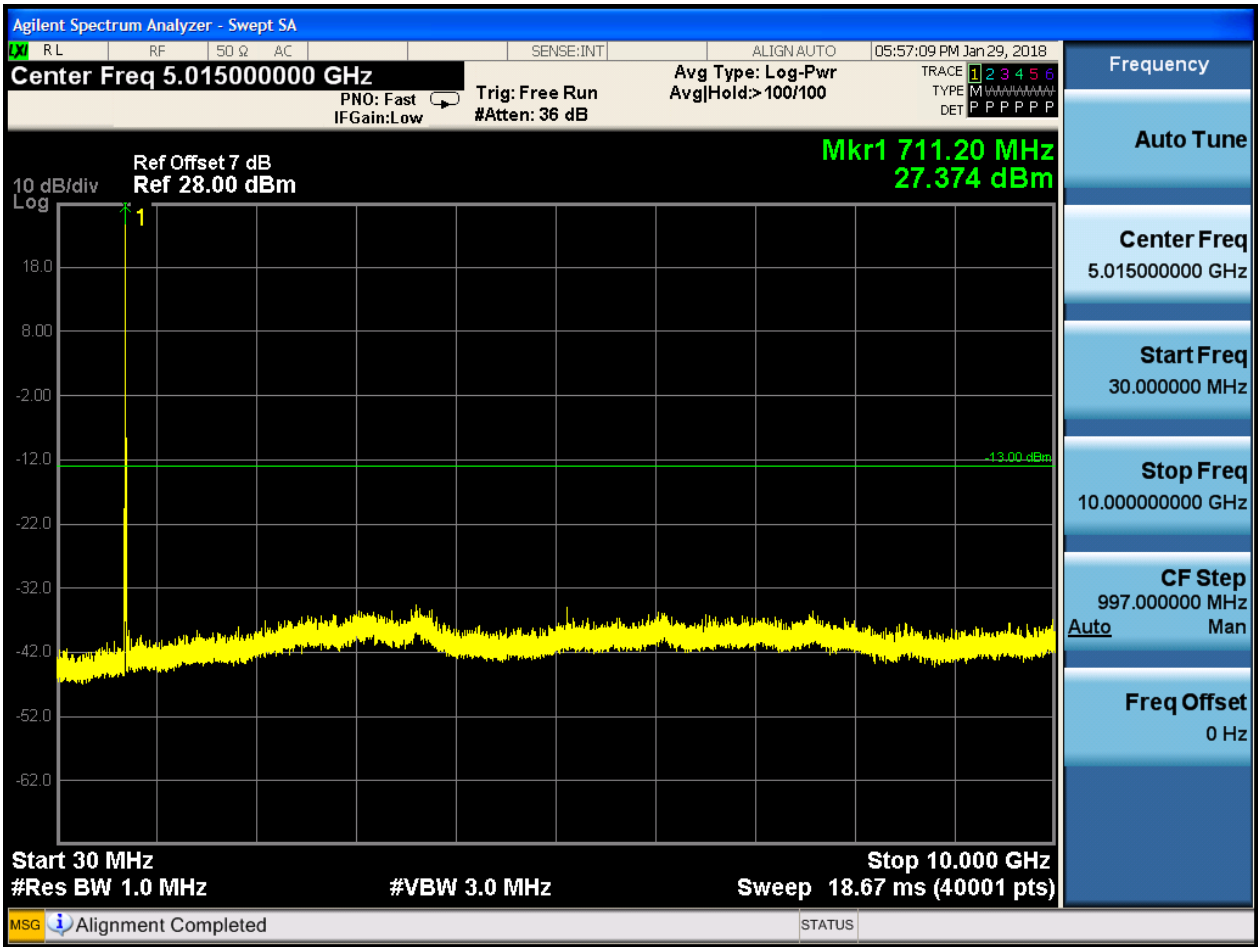
6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0







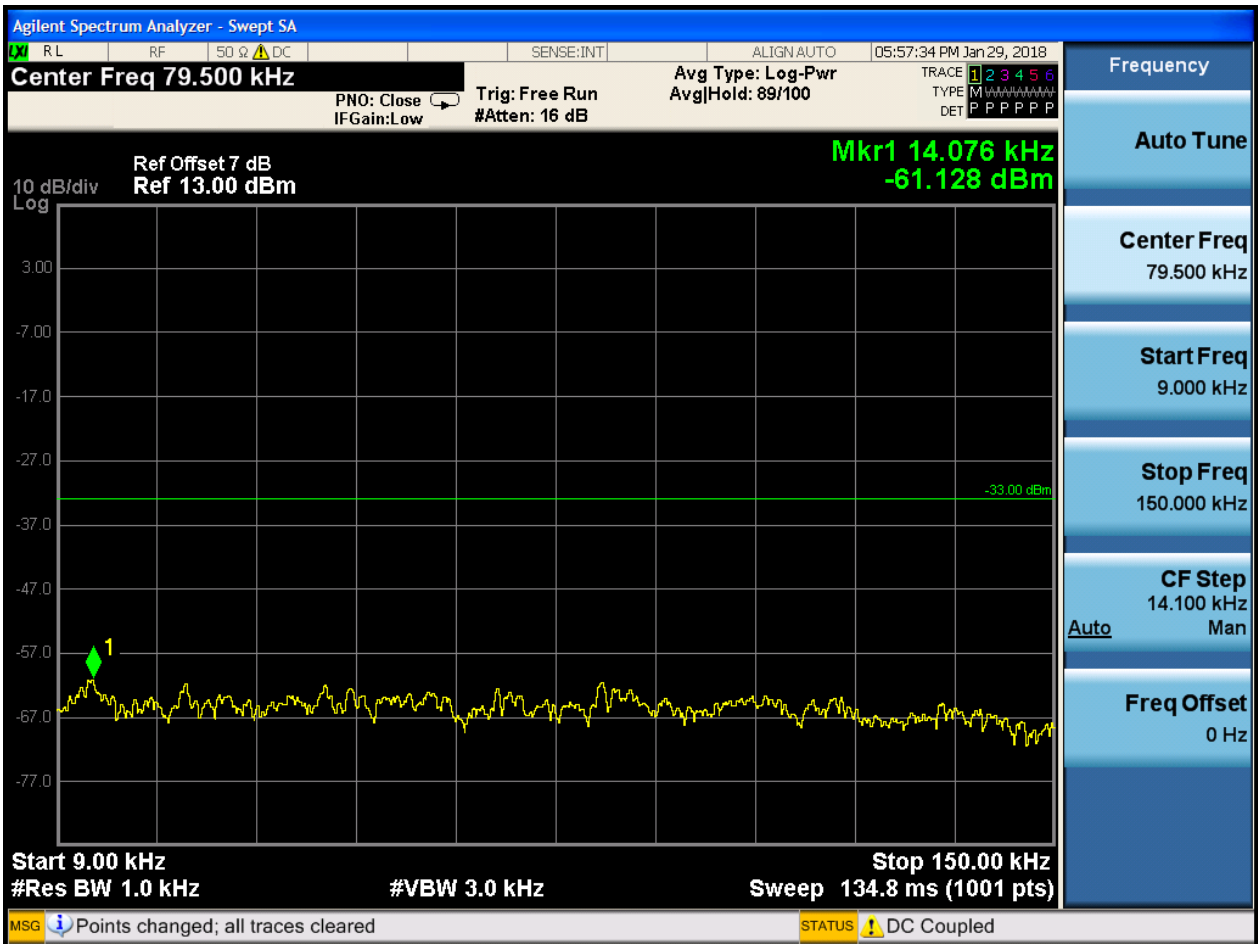


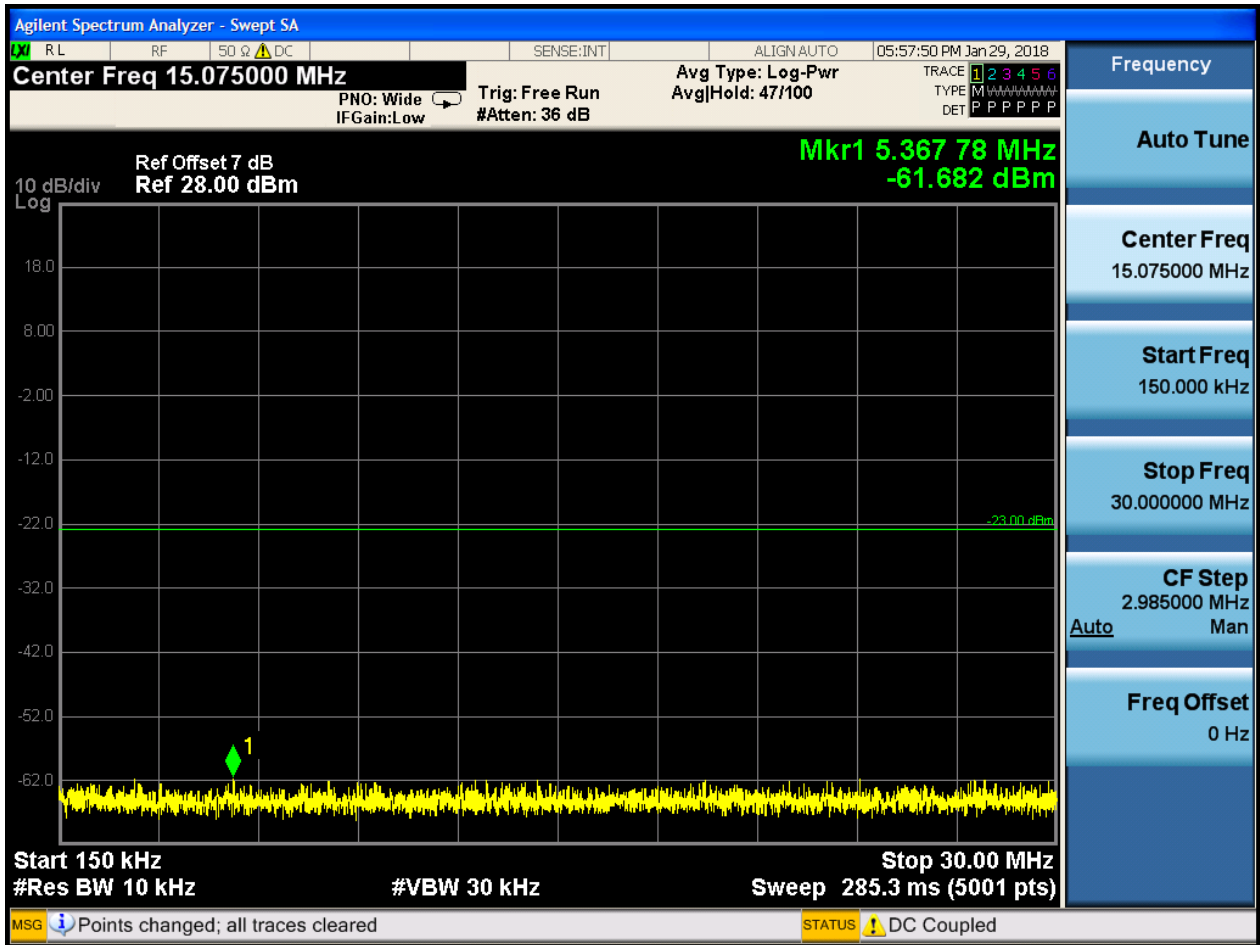


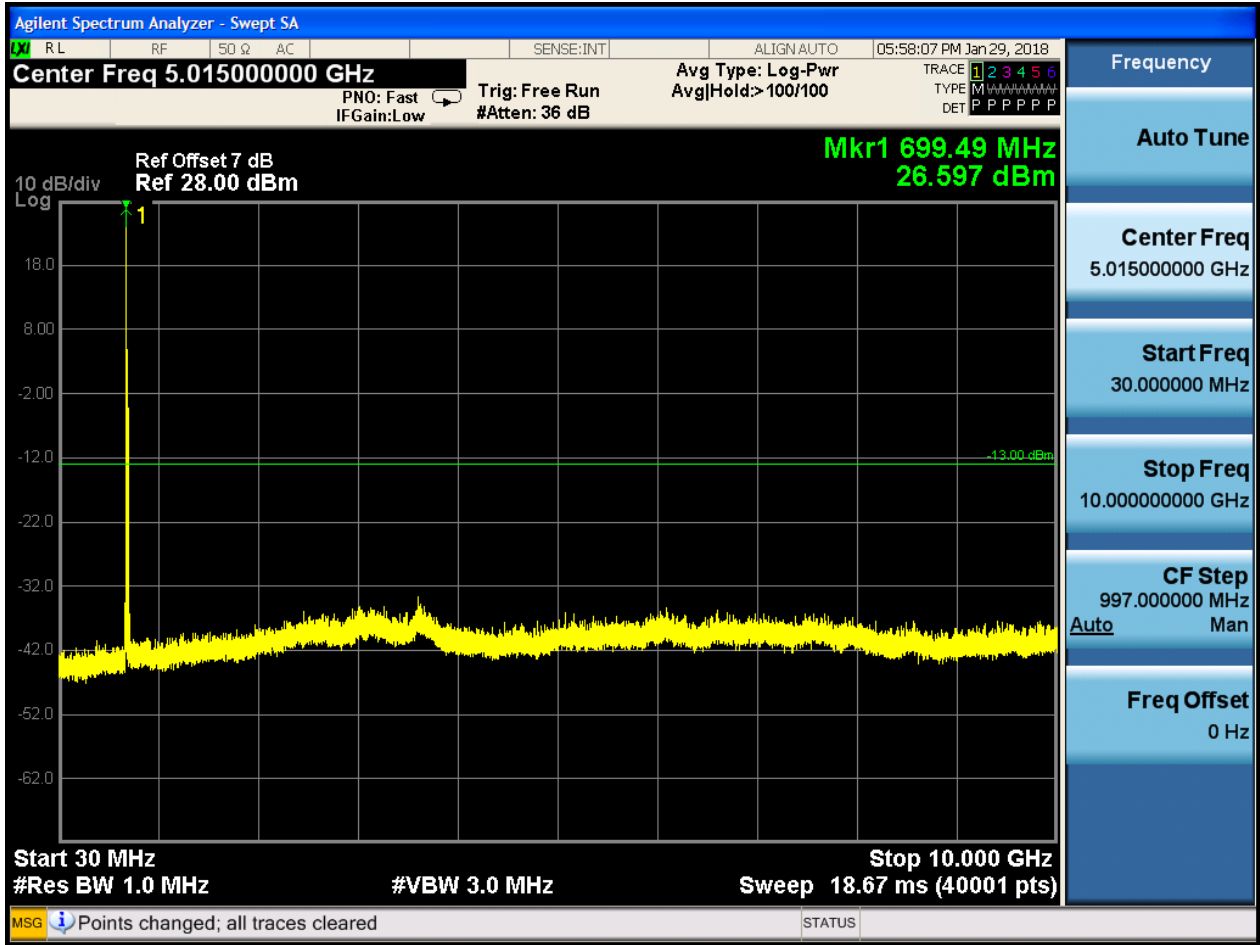
6.1.1.2.4 Test Bandwidth = 10

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0



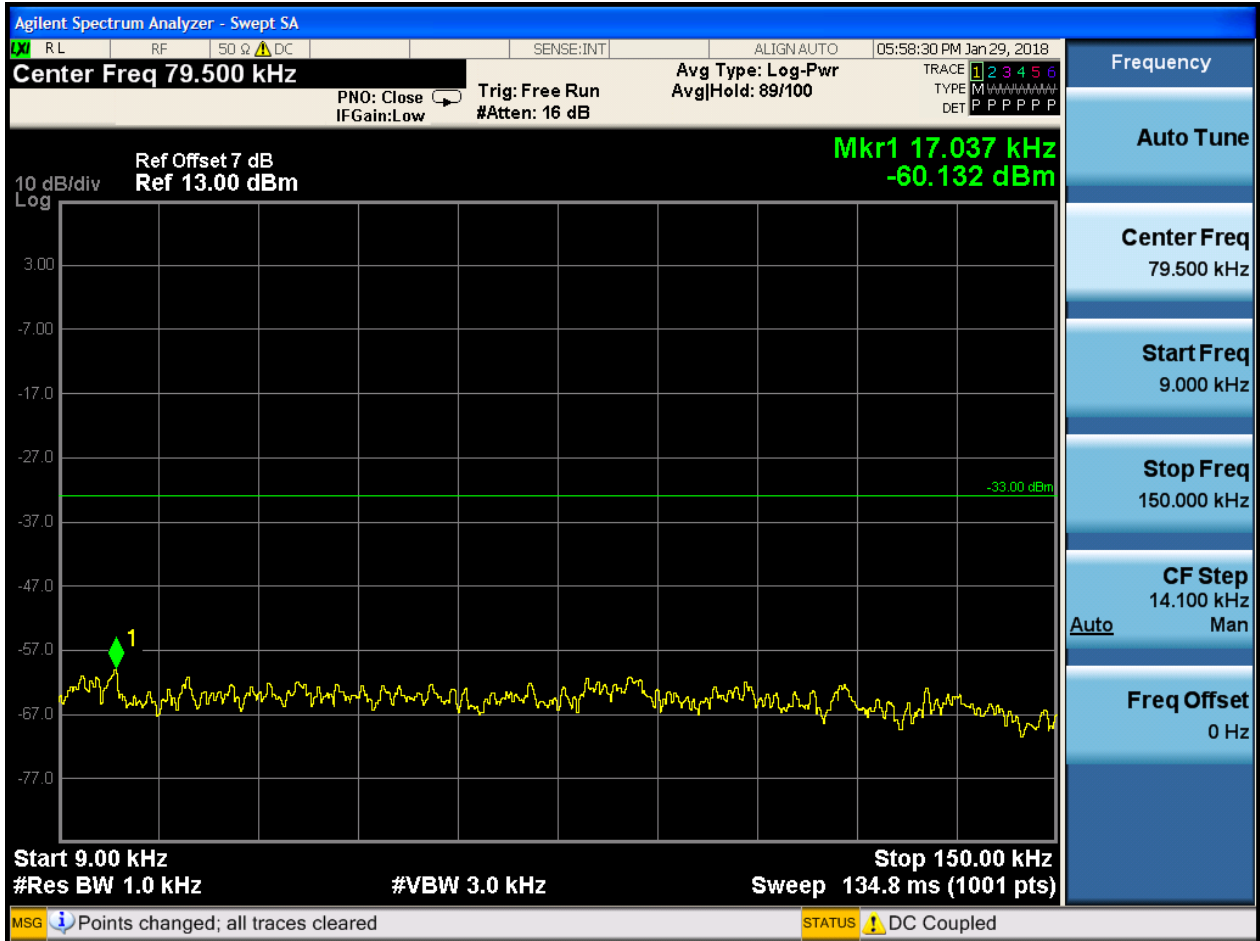


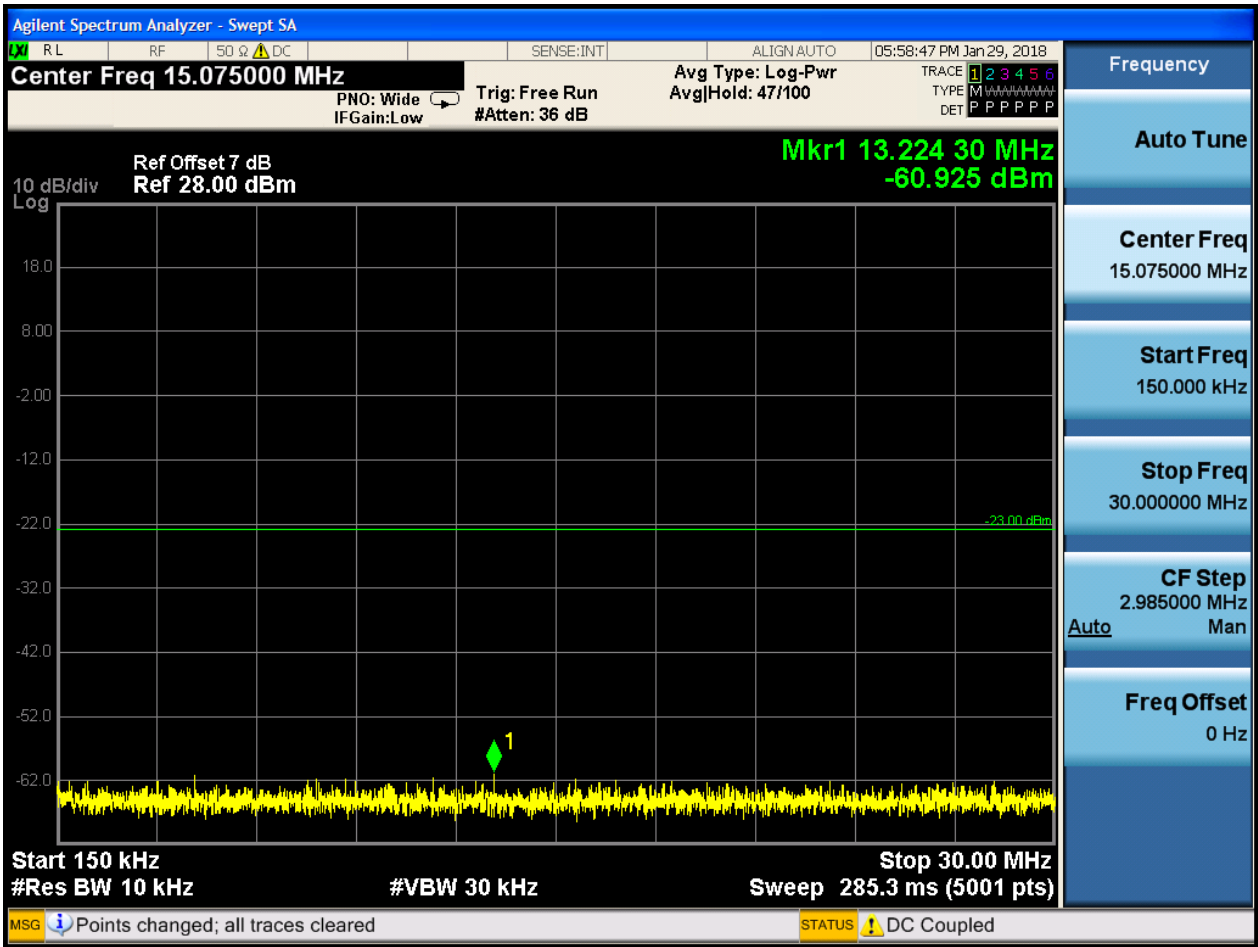


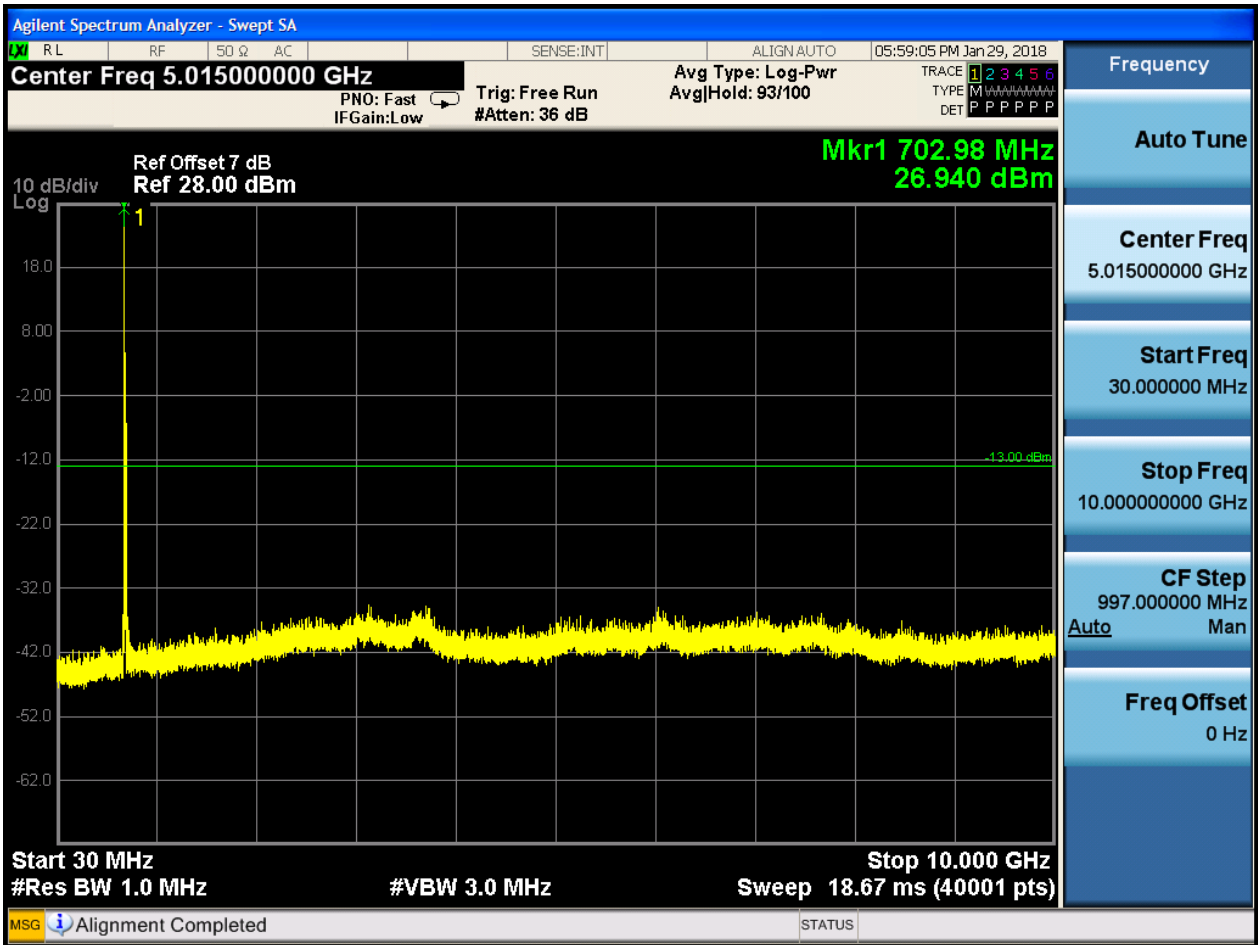


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0





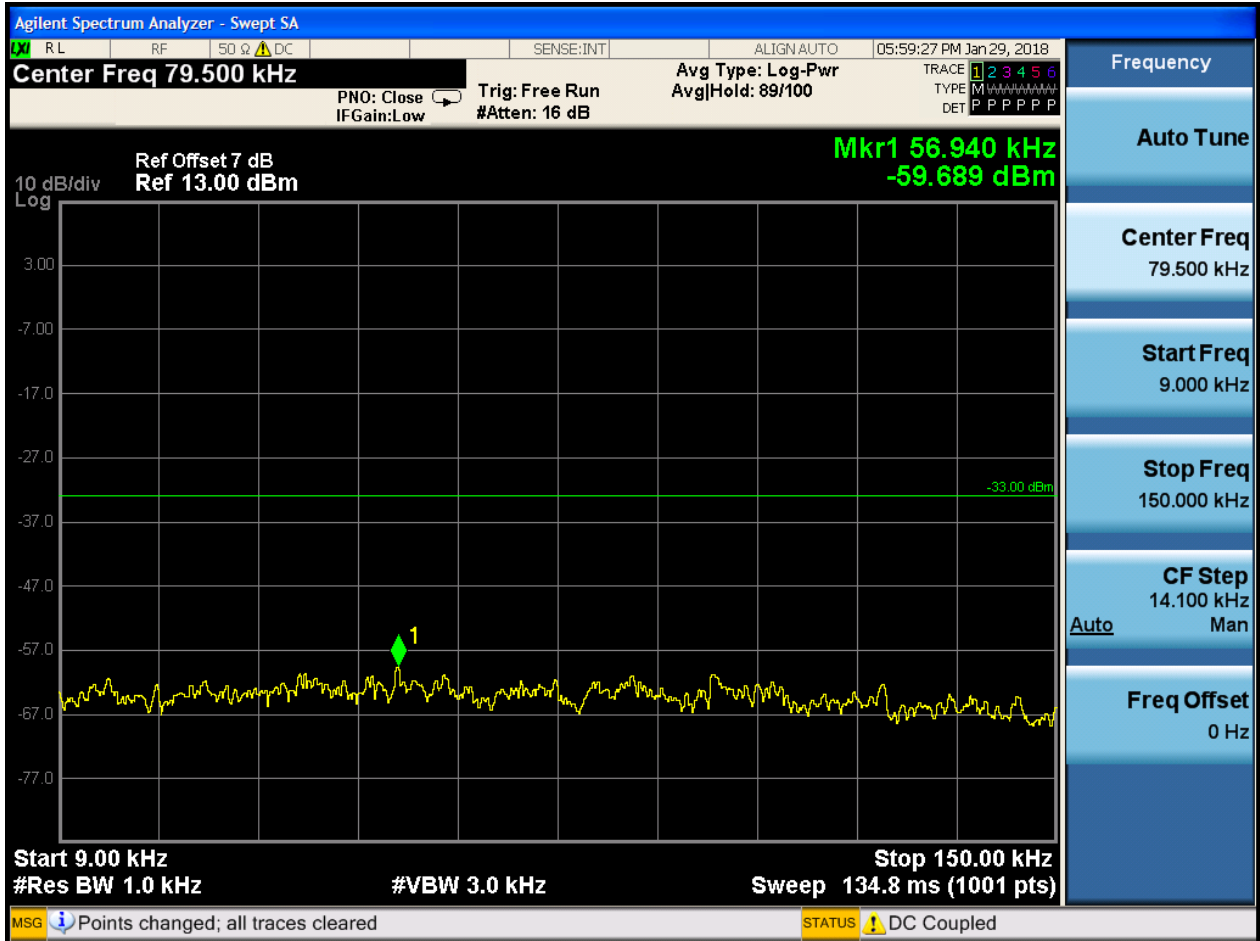


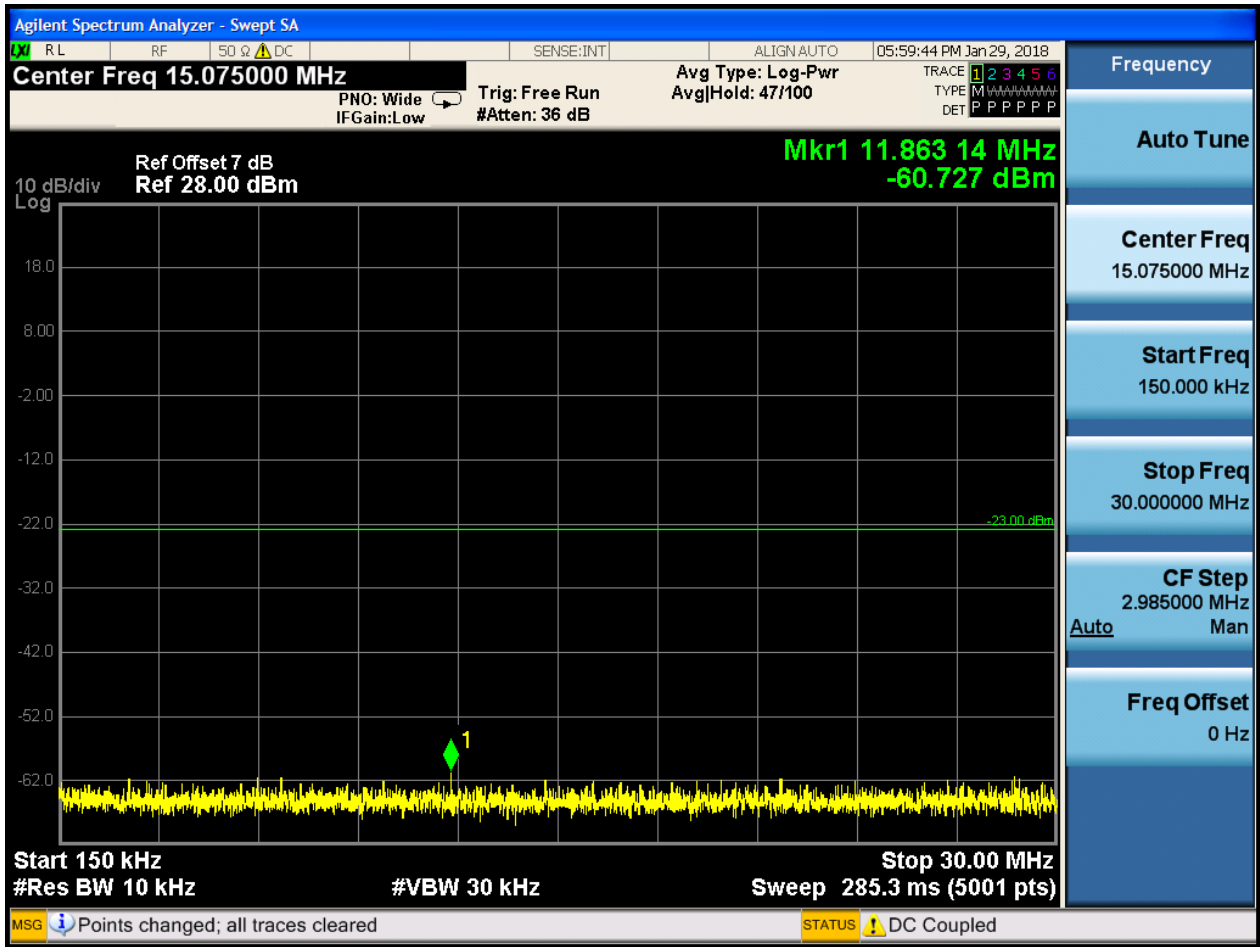


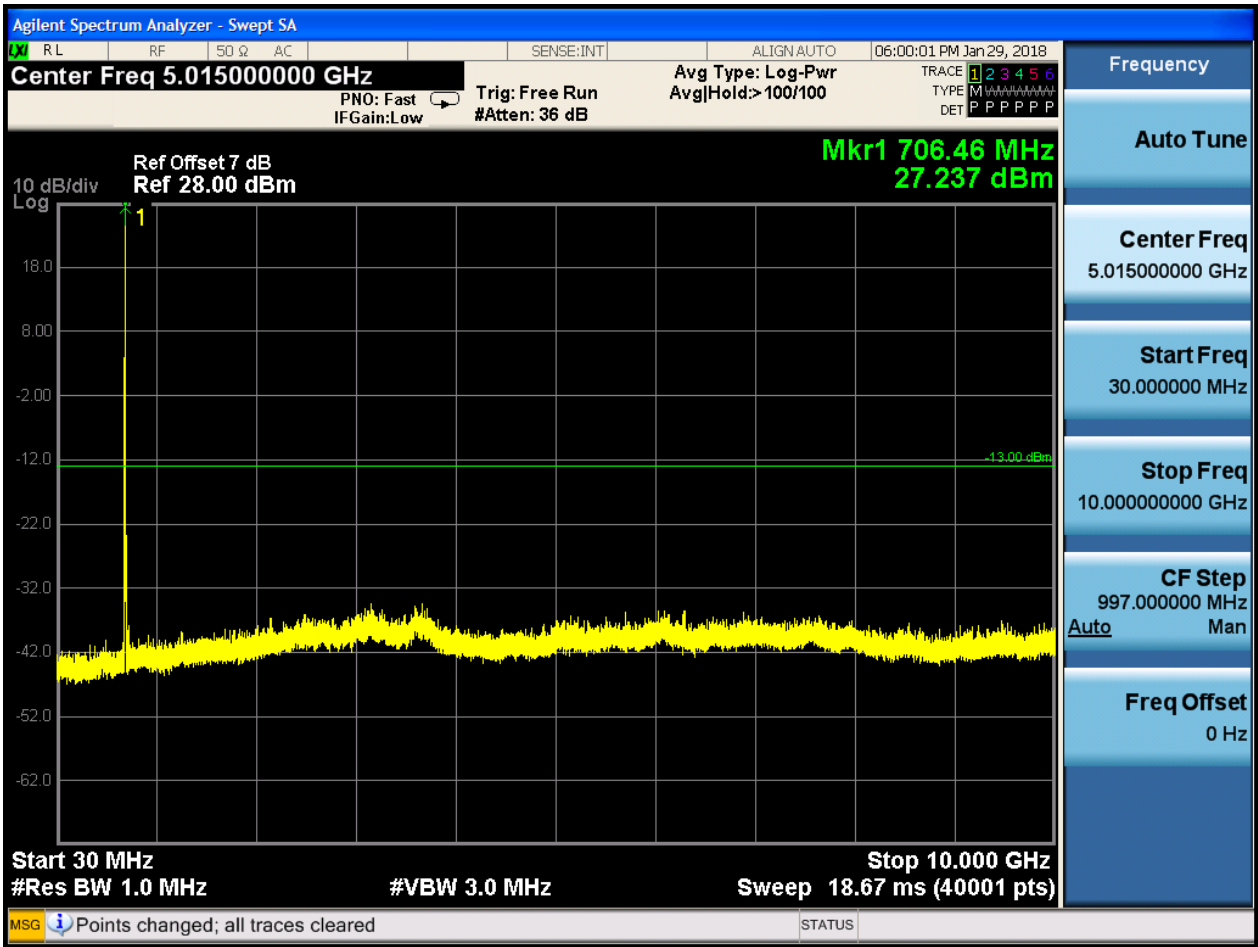


6.1.1.2.4.3 Test Channel = HCH

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, 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

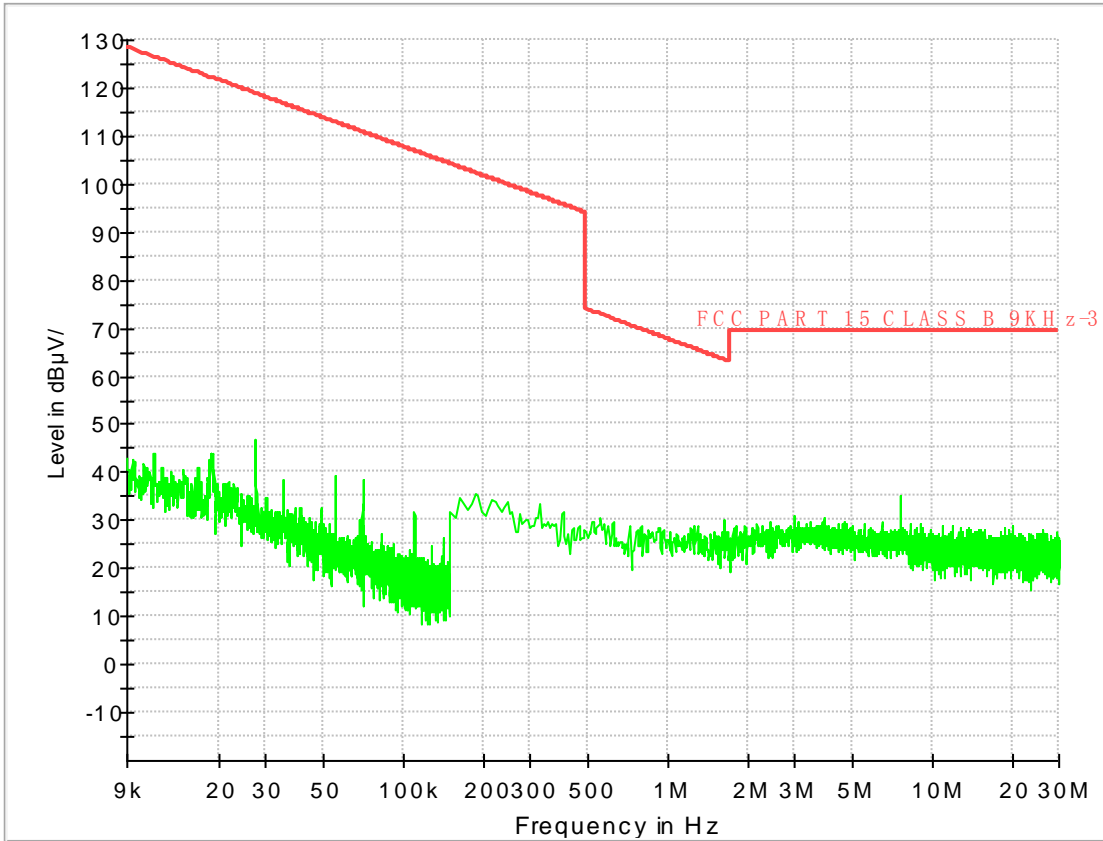
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

### Part I - Test Plots

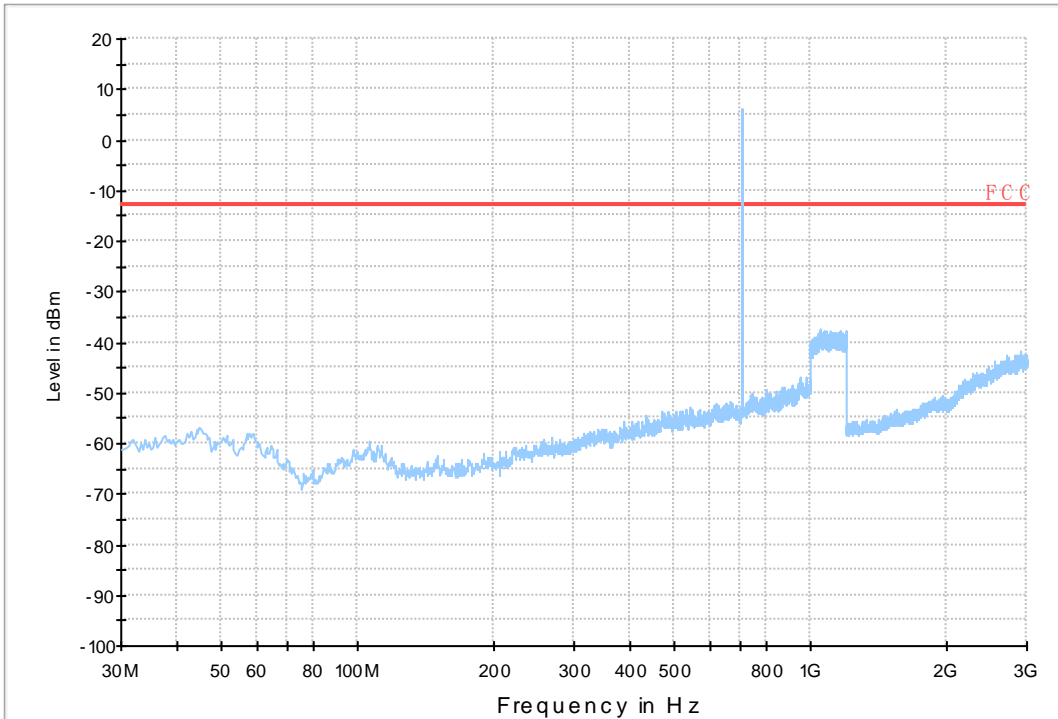
#### 7.1 For LTE

##### 7.1.1 Test Band = BAND12\_ANT1

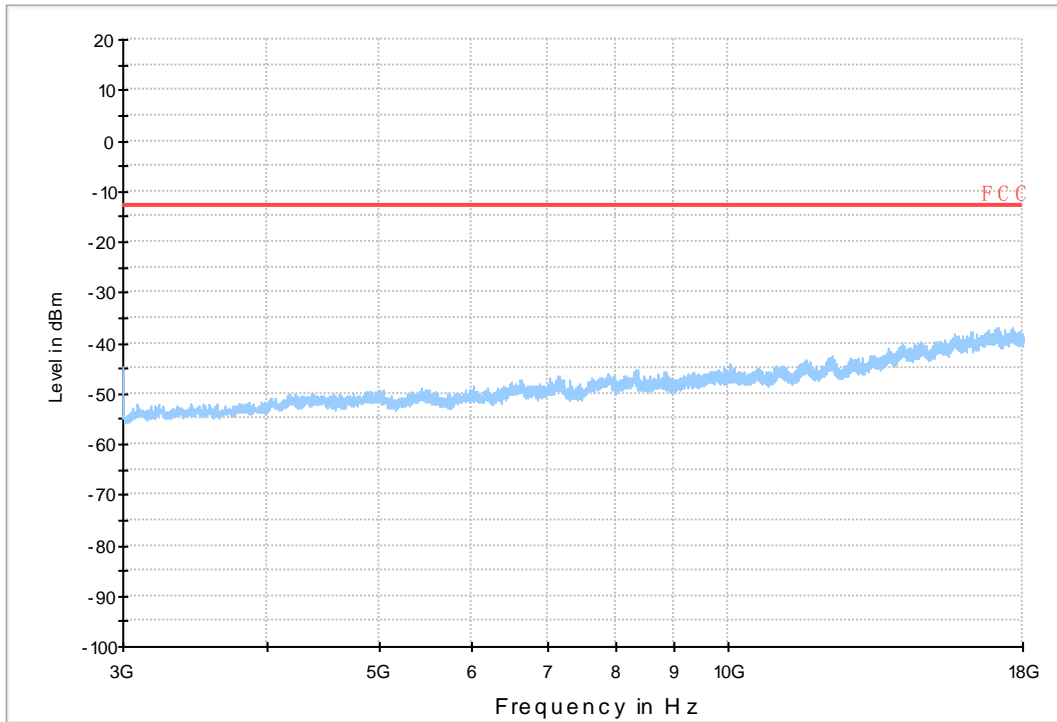
##### 7.1.1.1 Test Bandwidth = 1.4



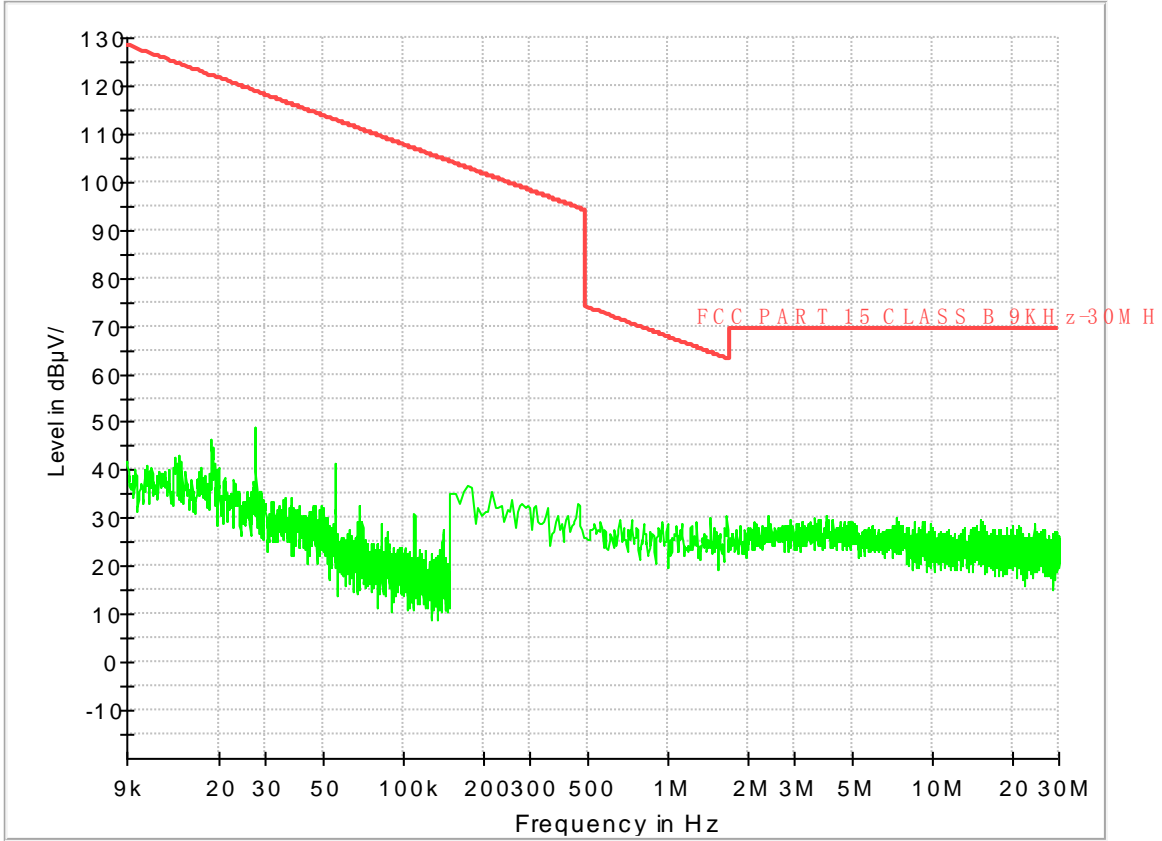
Copy of RSE-TX-DIRECTOR BELOW 1G\_L



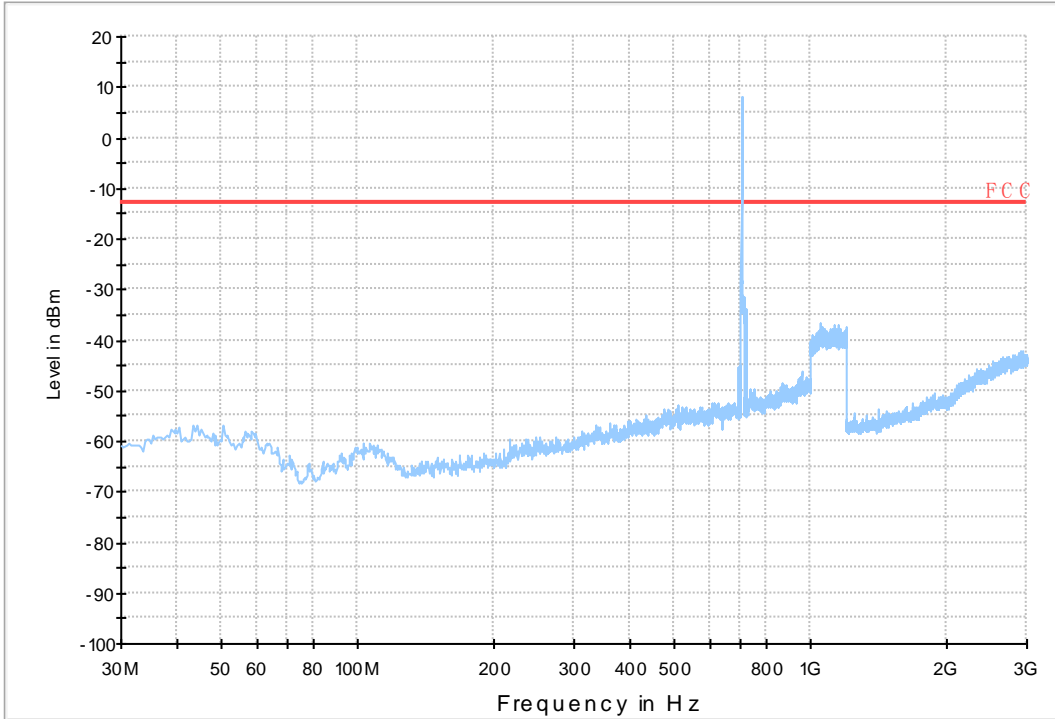
Copy of RSE-TX-DIRECTOR BELOW 1G\_H



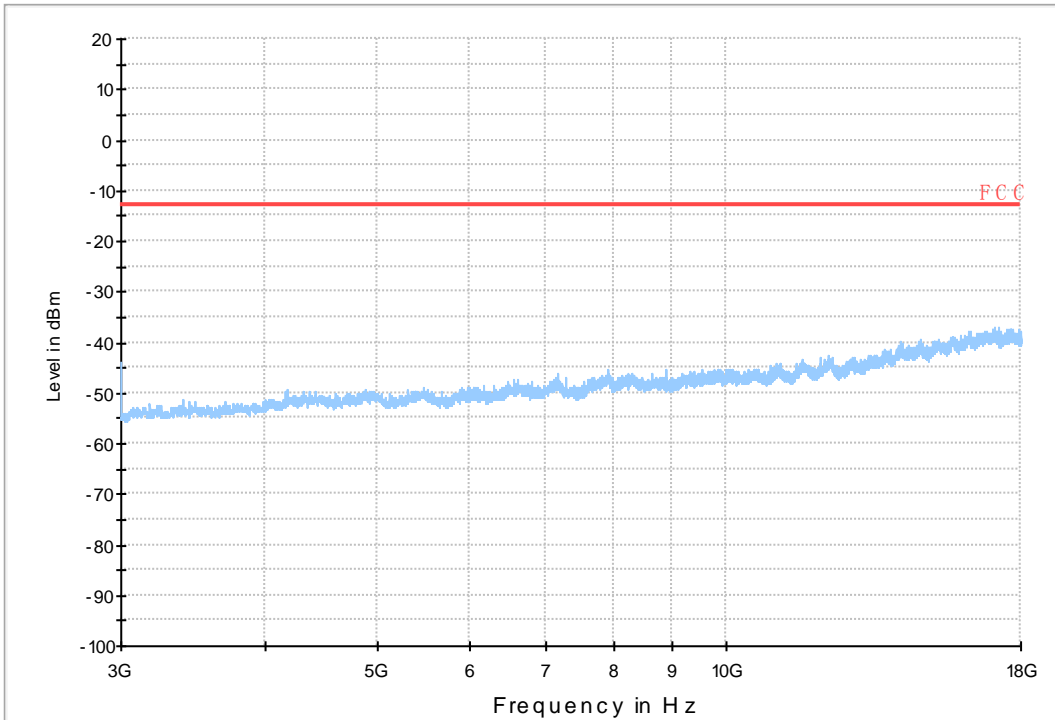
### 7.1.1.2 Test Bandwidth = 10



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



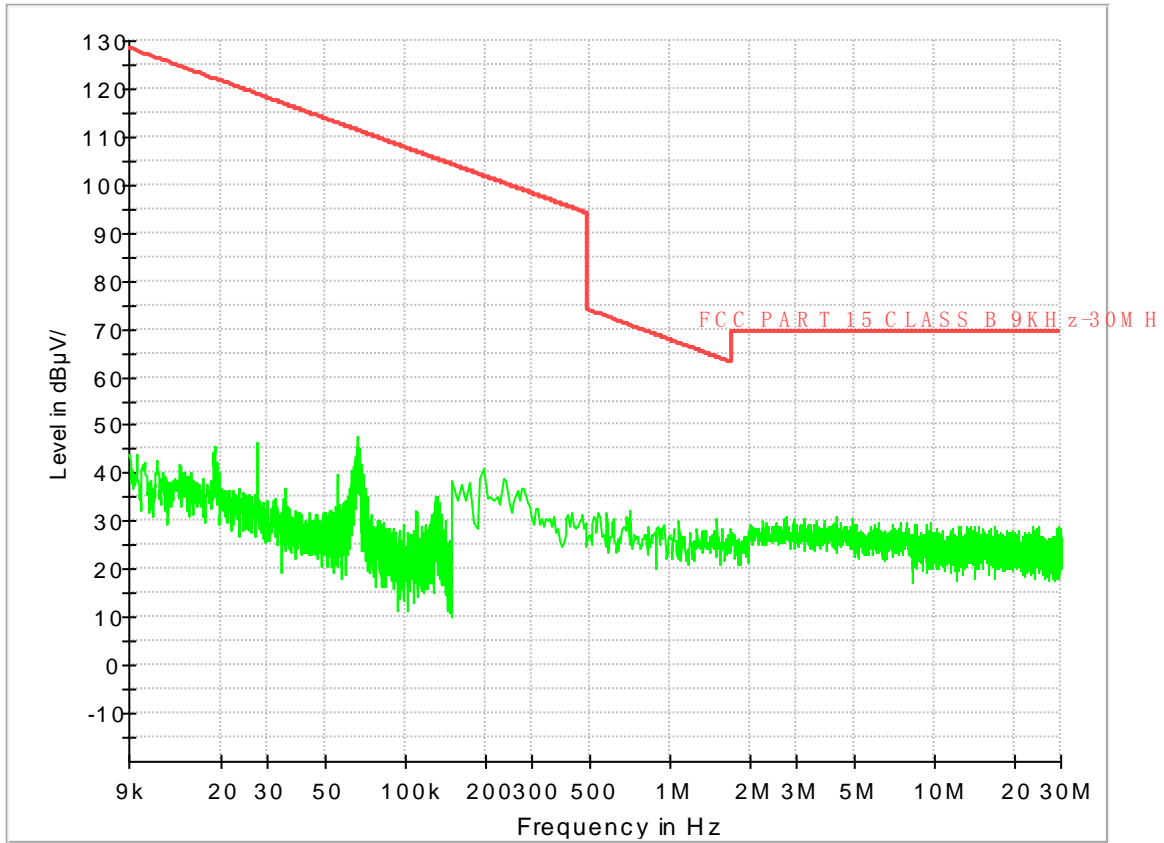
Copy of RSE-TX-DIRECTOR BELOW 1G\_H



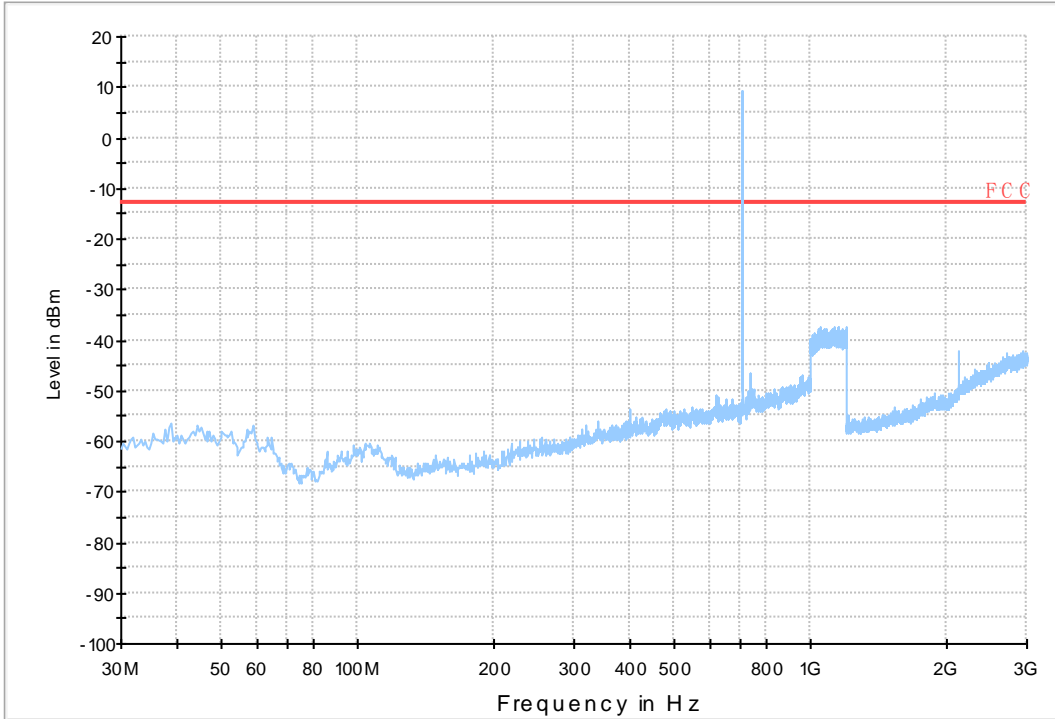


### 7.1.2 Test Band = BAND12\_ANT2

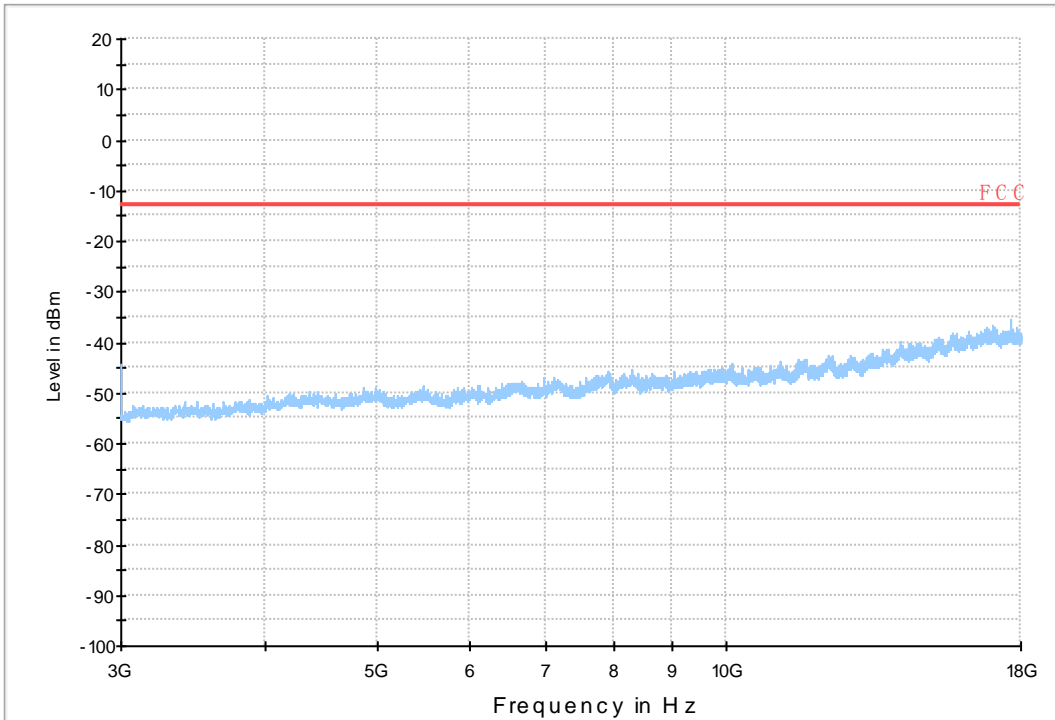
#### 7.1.2.1 Test Bandwidth = 1.4



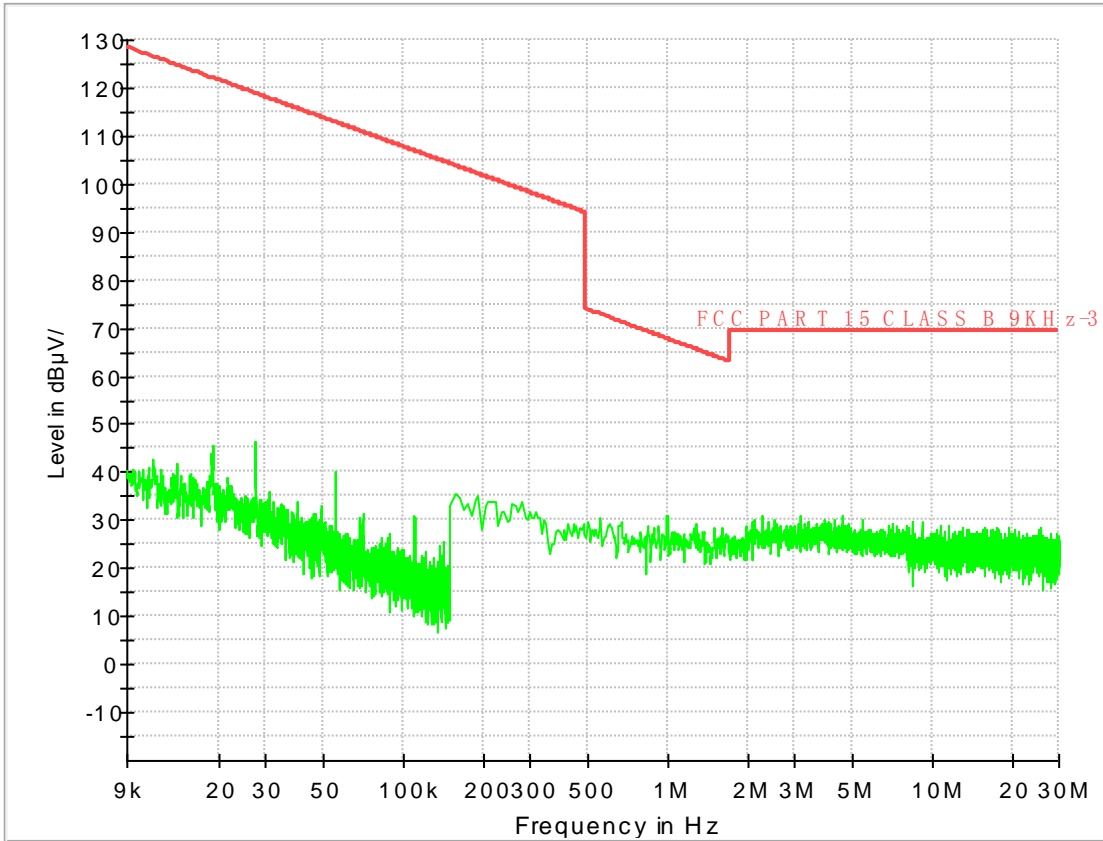
Copy of RSE-TX-DIRECTOR BELOW 1G\_L



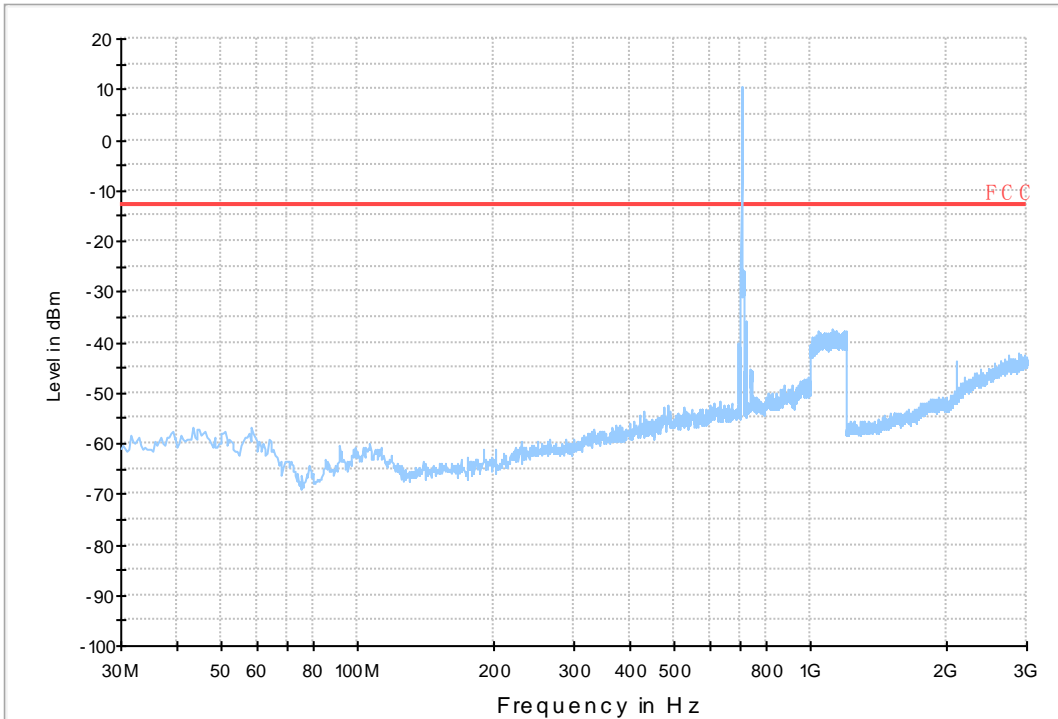
Copy of RSE-TX-DIRECTOR BELOW 1G\_H



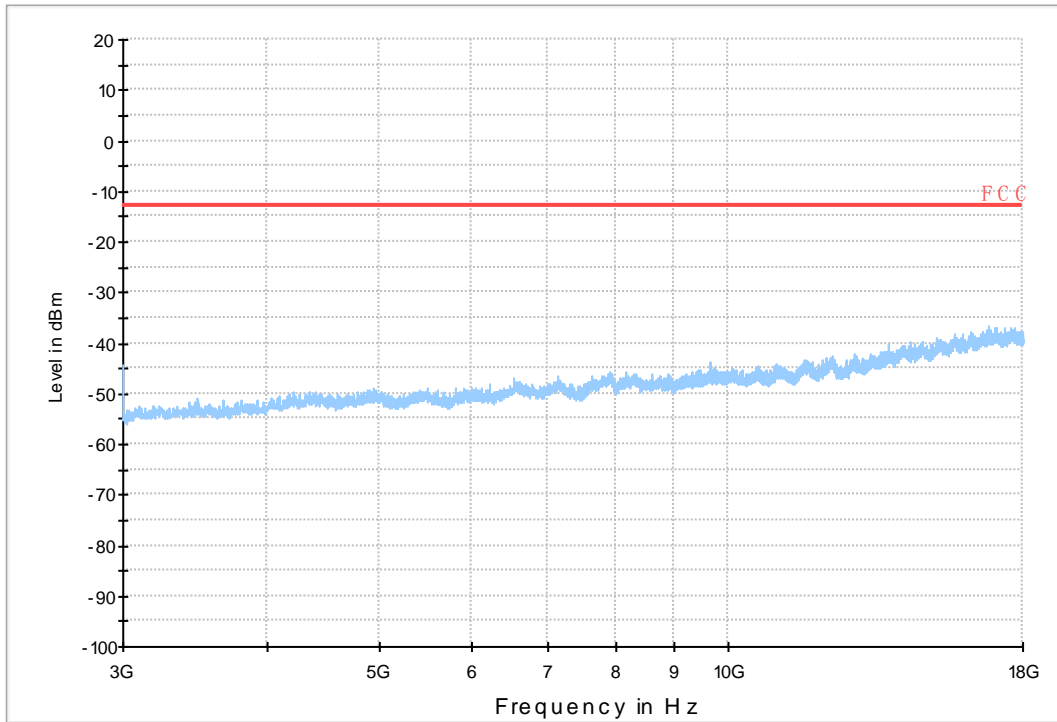
7.1.2.2 Test Bandwidth = 10



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



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



## 8Appendix\_H: Frequency Stability

### 8.1 For LTE

#### 8.1.1Frequency 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	-11.44	-0.01635	PASS
					VN	13.32	0.01904	PASS
					VH	2.70	0.00386	PASS
			MCH	TN	VL	-4.91	-0.00694	PASS
					VN	-0.56	-0.00079	PASS
					VH	14.10	0.01993	PASS
			HCH	TN	VL	12.13	0.01696	PASS
					VN	-2.37	-0.00331	PASS
					VH	2.35	0.00329	PASS
		3	LCH	TN	VL	2.02	0.00288	PASS
					VN	-0.80	-0.00114	PASS
					VH	5.49	0.00784	PASS
			MCH	TN	VL	0.83	0.00117	PASS
					VN	1.85	0.00261	PASS
					VH	2.05	0.0029	PASS
			HCH	TN	VL	1.36	0.0019	PASS
					VN	-5.97	-0.00836	PASS
					VH	2.05	0.00287	PASS
		5	LCH	TN	VL	4.98	0.0071	PASS
					VN	-1.59	-0.00227	PASS
					VH	-4.26	-0.00607	PASS
			MCH	TN	VL	-2.99	-0.00423	PASS
					VN	4.48	0.00633	PASS
					VH	-7.34	-0.01037	PASS
			HCH	TN	VL	-0.23	-0.00032	PASS
					VN	3.16	0.00443	PASS
					VH	4.89	0.00685	PASS
		10	LCH	TN	VL	-0.56	-0.0008	PASS
					VN	-0.31	-0.00044	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			MCH	TN	VH	-1.49	-0.00212	PASS
					VL	-0.84	-0.00119	PASS
					VN	-1.70	-0.0024	PASS
			HCH	TN	VH	-0.04	-0.00006	PASS
					VL	-0.19	-0.00027	PASS
					VN	-1.27	-0.00179	PASS
		1.4	LCH	TN	VH	-4.23	-0.00595	PASS
					VL	-10.33	-0.01476	PASS
					VN	4.02	0.00575	PASS
			MCH	TN	VH	10.09	0.01442	PASS
					VL	-6.90	-0.00975	PASS
					VN	9.16	0.01295	PASS
	HCH		TN	VH	2.76	0.0039	PASS	
				VL	6.42	0.00898	PASS	
				VN	2.06	0.00288	PASS	
	3		LCH	TN	VH	10.04	0.01404	PASS
					VL	-5.41	-0.00772	PASS
					VN	1.46	0.00208	PASS
			MCH	TN	VH	4.56	0.00651	PASS
					VL	0.27	0.00038	PASS
					VN	2.12	0.003	PASS
			HCH	TN	VH	-2.06	-0.00291	PASS
					VL	-7.81	-0.01093	PASS
					VN	-8.21	-0.01149	PASS
	5	LCH	TN	VH	4.09	0.00572	PASS	
				VL	6.35	0.00905	PASS	
				VN	-4.78	-0.00681	PASS	
		MCH	TN	VH	2.26	0.00322	PASS	
				VL	1.92	0.00271	PASS	
				VN	-0.14	-0.0002	PASS	
		HCH	TN	VH	-3.63	-0.00513	PASS	
				VL	1.72	0.00241	PASS	
				VN	-5.58	-0.00782	PASS	
	10	LCH	TN	VH	-1.09	-0.00153	PASS	
				VL	0.89	0.00126	PASS	
				VN	0.37	0.00053	PASS	
		MCH	TN	VH	0.13	0.00018	PASS	
				VL	-1.30	-0.00184	PASS	
				VN				

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
					VN	0.54	0.00076	PASS	
					VH	0.26	0.00037	PASS	
			HCH		TN	VL	0.77	0.00108	PASS
					VN	-1.30	-0.00183	PASS	
					VH	-0.17	-0.00024	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	6.59	0.00942	PASS
					-20	1.26	0.0018	PASS
					-10	-3.78	-0.0054	PASS
					0	8.18	0.01169	PASS
					10	5.39	0.0077	PASS
					20	-7.31	-0.01045	PASS
					30	21.17	0.03026	PASS
					40	0.44	0.00063	PASS
			50	6.92	0.00989	PASS		
			MCH	VN	-30	-0.70	-0.00099	PASS
					-20	-7.71	-0.0109	PASS
					-10	-11.67	-0.01649	PASS
					0	2.23	0.00315	PASS
					10	-4.95	-0.007	PASS
					20	-7.52	-0.01063	PASS
					30	0.03	0.00004	PASS
					40	8.01	0.01132	PASS
			50	-11.33	-0.01601	PASS		
			HCH	VN	-30	6.59	0.00921	PASS
					-20	-8.44	-0.0118	PASS
					-10	10.64	0.01487	PASS
					0	2.73	0.00382	PASS
					10	-6.88	-0.00962	PASS
					20	-4.52	-0.00632	PASS
		30			-1.82	-0.00254	PASS	
		40			2.70	0.00377	PASS	
		50	2.02	0.00282	PASS			
3	LCH	VN	-30	-1.80	-0.00257	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					-20	3.85	0.0055	PASS
					-10	-4.32	-0.00617	PASS
					0	1.79	0.00256	PASS
					10	-6.58	-0.00939	PASS
					20	-4.58	-0.00654	PASS
					30	-1.92	-0.00274	PASS
					40	-2.02	-0.00288	PASS
			50	1.12	0.0016	PASS		
			MCH	VN	-30	-5.97	-0.00844	PASS
					-20	-7.28	-0.01029	PASS
					-10	-6.44	-0.0091	PASS
					0	3.88	0.00548	PASS
					10	-4.99	-0.00705	PASS
					20	-3.60	-0.00509	PASS
					30	3.13	0.00442	PASS
			HCH	VN	-30	2.63	0.00368	PASS
					-20	-4.12	-0.00577	PASS
					-10	-0.96	-0.00134	PASS
					0	2.29	0.00321	PASS
					10	0.73	0.00102	PASS
					20	2.62	0.00367	PASS
		30			4.71	0.00659	PASS	
		40	-8.10	-0.01134	PASS			
		50	1.80	0.00252	PASS			
		5	LCH	VN	-30	2.90	0.00413	PASS
					-20	-0.49	-0.0007	PASS
					-10	2.82	0.00402	PASS
					0	1.13	0.00161	PASS
					10	3.63	0.00517	PASS
					20	0.56	0.0008	PASS
					30	-1.10	-0.00157	PASS
					40	0.63	0.0009	PASS
			50	-0.31	-0.00044	PASS		
MCH	VN		-30	0.70	0.00099	PASS		
			-20	-0.44	-0.00062	PASS		
			-10	4.11	0.00581	PASS		





Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					0	-3.35	-0.00473	PASS
					10	-2.62	-0.0037	PASS
					20	-5.41	-0.00765	PASS
					30	1.07	0.00151	PASS
					40	-0.17	-0.00024	PASS
					50	1.59	0.00225	PASS
			HCH	VN	-30	0.34	0.00048	PASS
					-20	4.81	0.00674	PASS
					-10	-2.70	-0.00378	PASS
					0	-0.63	-0.00088	PASS
					10	-2.66	-0.00373	PASS
					20	-4.63	-0.00649	PASS
					30	-3.79	-0.00531	PASS
					40	3.82	0.00535	PASS
					50	-5.79	-0.00811	PASS
		10	LCH	VN	-30	0.01	0.00001	PASS
					-20	-2.72	-0.00386	PASS
					-10	-1.03	-0.00146	PASS
					0	-0.46	-0.00065	PASS
					10	1.00	0.00142	PASS
					20	-1.20	-0.0017	PASS
					30	-0.13	-0.00018	PASS
					40	-0.49	-0.0007	PASS
					50	-0.93	-0.00132	PASS
			MCH	VN	-30	-5.19	-0.00734	PASS
					-20	-0.46	-0.00065	PASS
					-10	-5.16	-0.00729	PASS
					0	-3.18	-0.00449	PASS
					10	-3.09	-0.00437	PASS
					20	-2.79	-0.00394	PASS
		HCH	VN	30	-3.32	-0.00469	PASS	
				40	-1.59	-0.00225	PASS	
				50	-2.02	-0.00286	PASS	
				-30	1.97	0.00277	PASS	
				-20	1.09	0.00153	PASS	
					-10	1.44	0.00203	PASS
					0	-2.07	-0.00291	PASS
					10	-1.17	-0.00165	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
	LTE/TM2	1.4	LCH	VN	20	-0.83	-0.00117	PASS		
					30	4.58	0.00644	PASS		
					40	-6.82	-0.00959	PASS		
					50	-1.46	-0.00205	PASS		
			MCH	VN	-30	2.60	0.00372	PASS		
					-20	5.31	0.00759	PASS		
					-10	7.95	0.01136	PASS		
					0	5.21	0.00745	PASS		
					10	1.24	0.00177	PASS		
					20	-6.39	-0.00913	PASS		
					30	7.35	0.0105	PASS		
					40	-1.76	-0.00252	PASS		
					50	9.66	0.01381	PASS		
					HCH	VN	-30	12.00	0.01696	PASS
		-20	5.51	0.00779			PASS			
		-10	10.26	0.0145			PASS			
		0	-3.46	-0.00489			PASS			
		10	-3.73	-0.00527			PASS			
		20	5.61	0.00793			PASS			
		3	LCH	VN	30	-0.72	-0.00102	PASS		
					40	4.32	0.00611	PASS		
					50	8.14	0.01151	PASS		
					-30	-11.20	-0.01566	PASS		
					-20	2.85	0.00398	PASS		
					-10	-0.51	-0.00071	PASS		
					0	6.59	0.00921	PASS		
					10	3.83	0.00535	PASS		
							20	12.27	0.01715	PASS
							30	-0.79	-0.0011	PASS
							40	-2.15	-0.00301	PASS
50	10.09						0.01411	PASS		
-30	-5.39						-0.00769	PASS		
-20	-6.37						-0.00909	PASS		
-10	5.72						0.00817	PASS		
0	-0.84	-0.0012	PASS							
10	0.34	0.00049	PASS							
20	-2.93	-0.00418	PASS							
30	0.04	0.00006	PASS							



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
		5			40	-1.73	-0.00247	PASS
					50	-6.95	-0.00992	PASS
			MCH	VN	-30	2.89	0.00408	PASS
					-20	3.15	0.00445	PASS
					-10	2.20	0.00311	PASS
					0	1.22	0.00172	PASS
					10	-6.94	-0.00981	PASS
					20	0.67	0.00095	PASS
					30	-3.59	-0.00507	PASS
					40	-6.62	-0.00936	PASS
					50	-0.60	-0.00085	PASS
					HCH	VN	-30	1.70
			-20	2.45			0.00343	PASS
			-10	2.72			0.00381	PASS
			0	1.56			0.00218	PASS
			10	4.88			0.00683	PASS
			20	-2.42			-0.00339	PASS
			30	5.61			0.00785	PASS
		40	-0.97	-0.00136			PASS	
		5	LCH	VN	-30	-1.02	-0.00145	PASS
					-20	3.72	0.0053	PASS
					-10	-7.71	-0.01099	PASS
					0	-2.63	-0.00375	PASS
					10	3.12	0.00445	PASS
					20	-8.48	-0.01209	PASS
					30	-2.53	-0.00361	PASS
					40	0.43	0.00061	PASS
					50	-1.69	-0.00241	PASS
					5	MCH	VN	-30
		-20	8.64	0.01221				PASS
		-10	-0.92	-0.0013				PASS
		0	-1.20	-0.0017				PASS
10	-0.62	-0.00088	PASS					
20	7.87	0.01112	PASS					
30	3.95	0.00558	PASS					
40	-0.50	-0.00071	PASS					
50	-1.62	-0.00229	PASS					



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			HCH	VN	-30	0.54	0.00076	PASS
					-20	1.90	0.00266	PASS
					-10	-2.00	-0.0028	PASS
					0	-1.57	-0.0022	PASS
					10	-7.65	-0.01072	PASS
					20	-6.94	-0.00973	PASS
					30	-0.60	-0.00084	PASS
					40	-1.44	-0.00202	PASS
		50	5.14	0.0072	PASS			
		10	LCH	VN	-30	0.69	0.00098	PASS
					-20	0.43	0.00061	PASS
					-10	-0.92	-0.00131	PASS
					0	0.09	0.00013	PASS
					10	-0.13	-0.00018	PASS
					20	-0.76	-0.00108	PASS
					30	0.06	0.00009	PASS
					40	-0.37	-0.00053	PASS
			50	-0.46	-0.00065	PASS		
			MCH	VN	-30	2.22	0.00314	PASS
					-20	0.07	0.0001	PASS
					-10	1.23	0.00174	PASS
					0	1.62	0.00229	PASS
					10	0.56	0.00079	PASS
					20	0.36	0.00051	PASS
					30	1.10	0.00155	PASS
		40			2.72	0.00384	PASS	
		50	2.50	0.00353	PASS			
		HCH	VN	-30	2.90	0.00408	PASS	
				-20	3.83	0.00539	PASS	
				-10	0.26	0.00037	PASS	
				0	3.73	0.00525	PASS	
				10	1.43	0.00201	PASS	
20	6.07			0.00854	PASS			
30	-0.07			-0.0001	PASS			
40	3.99			0.00561	PASS			
50	-0.49	-0.00069	PASS					

END