

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

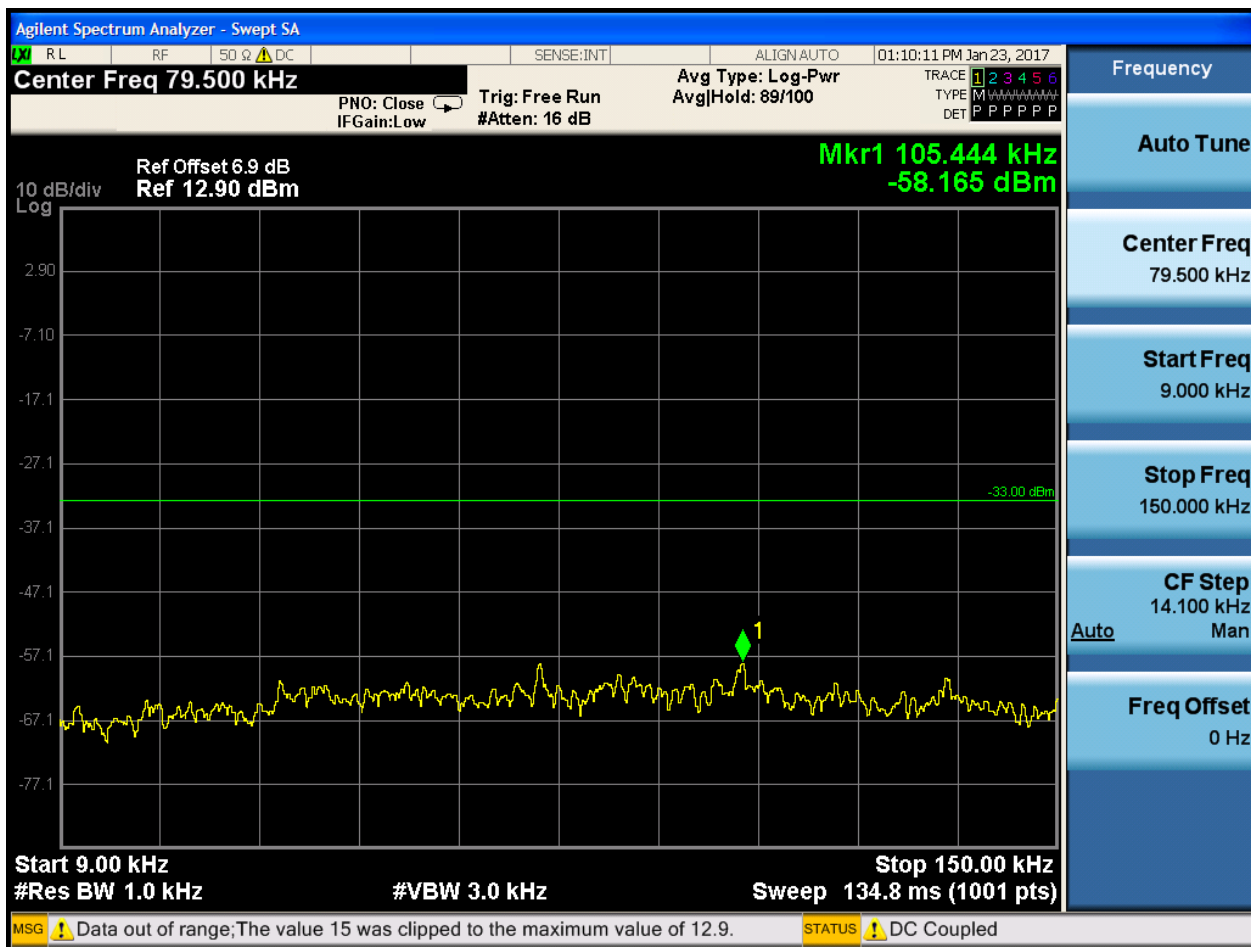
6.1.1 Test Band = BAND5

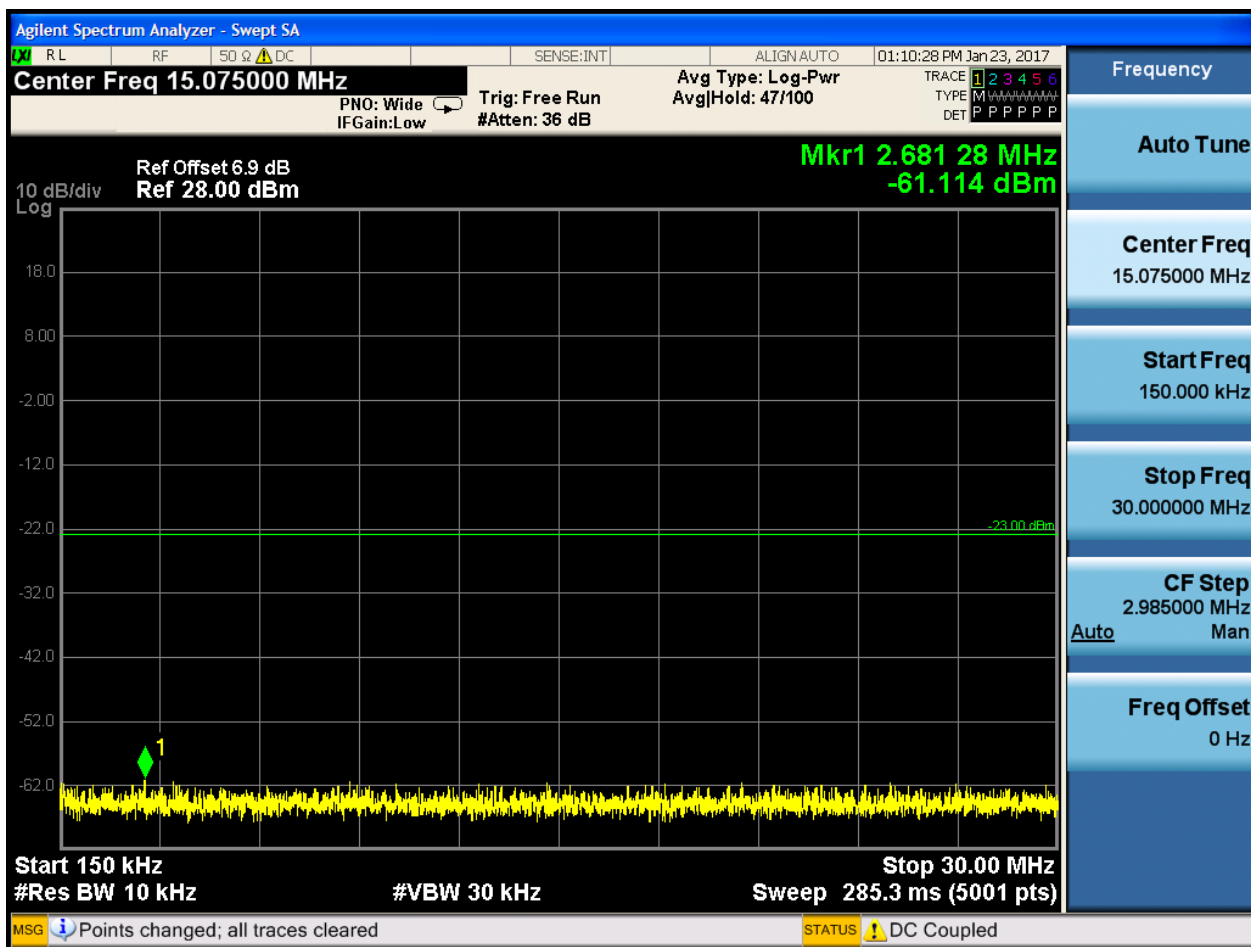
6.1.1.1 Test Mode = LTE/TM1

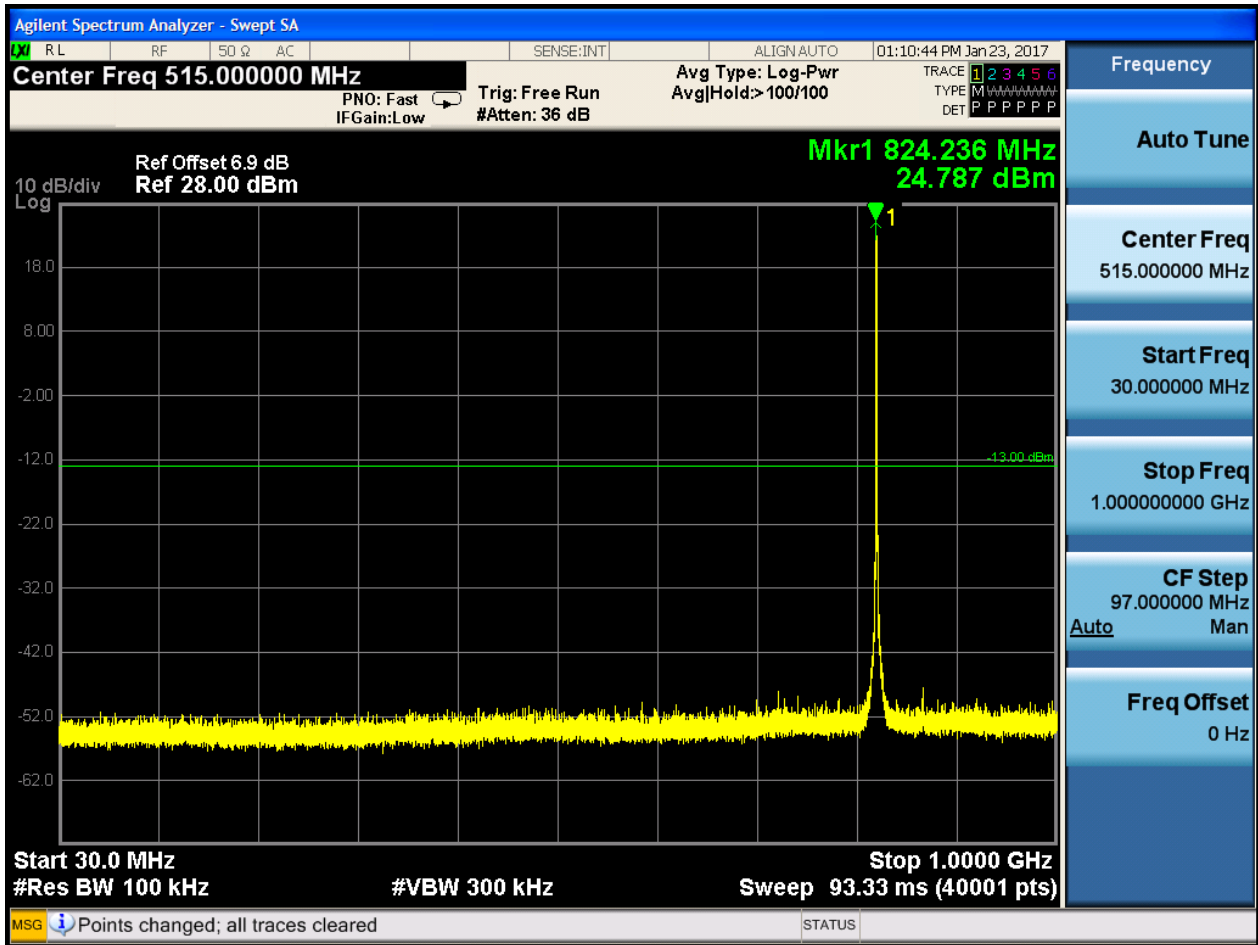
6.1.1.1.1 Test Bandwidth = 1.4

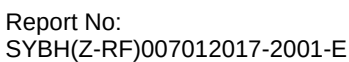
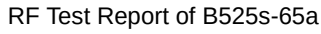
6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0





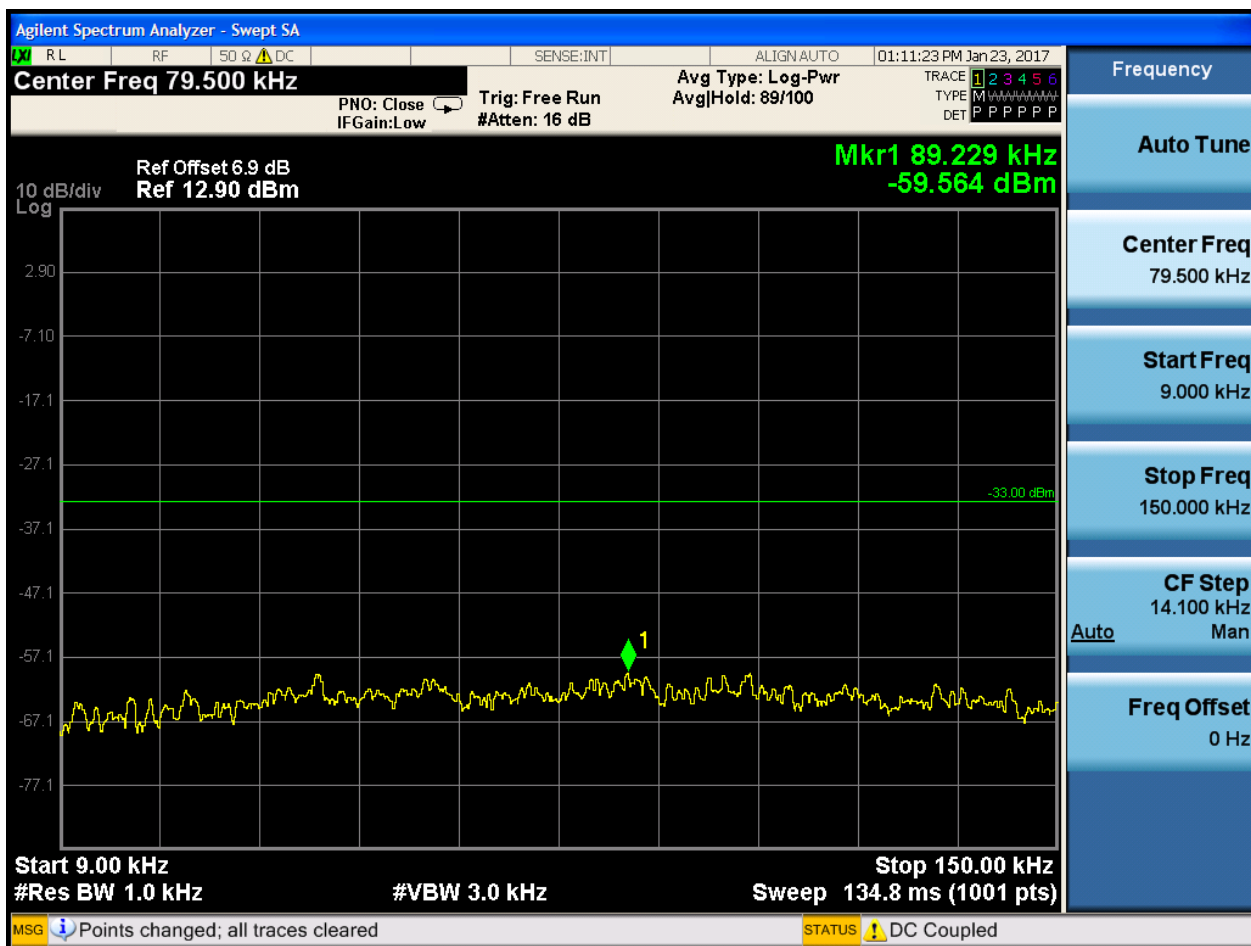


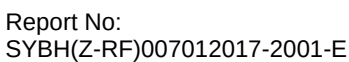
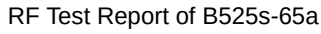


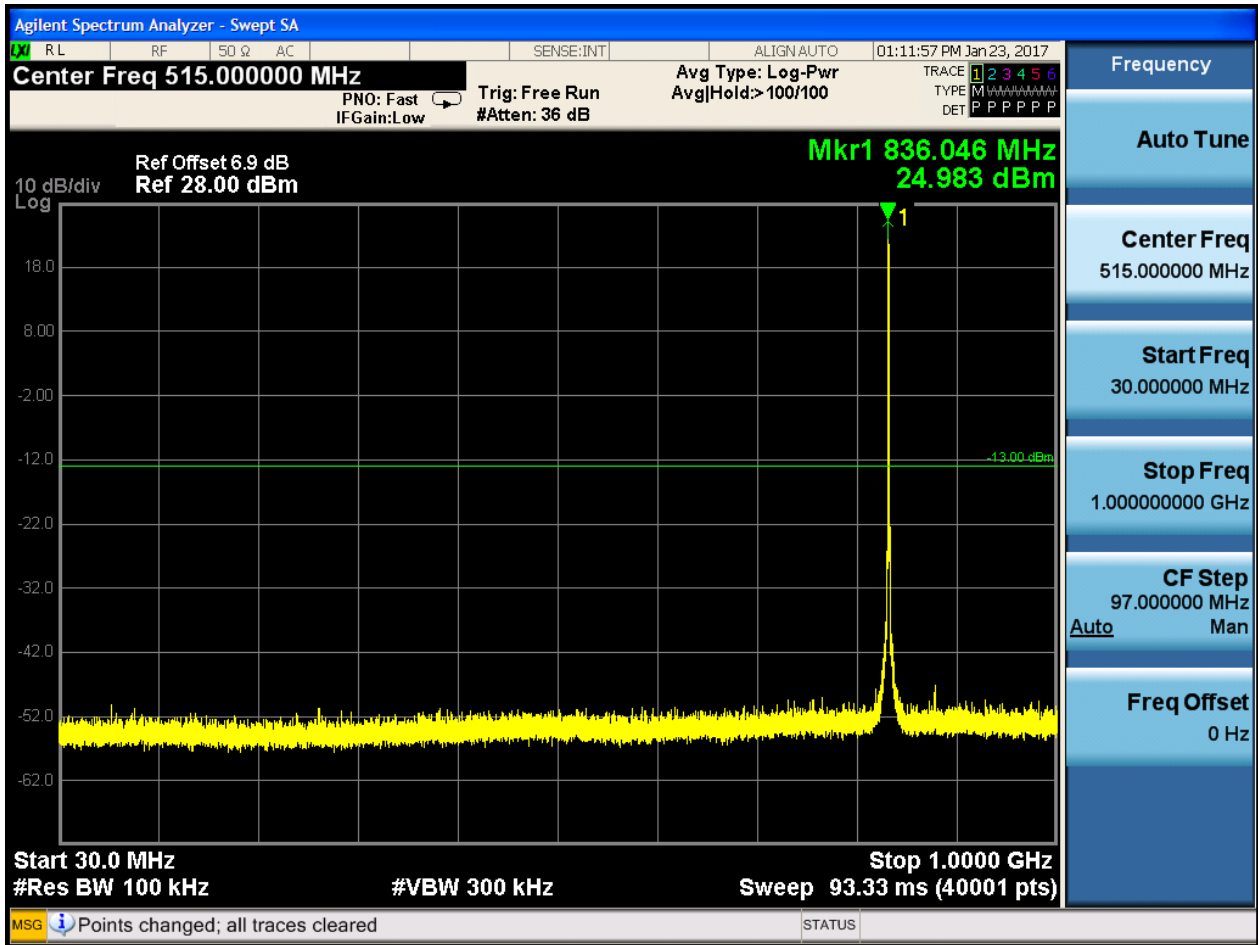


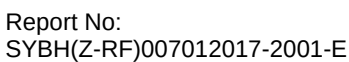
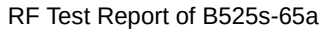
6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0





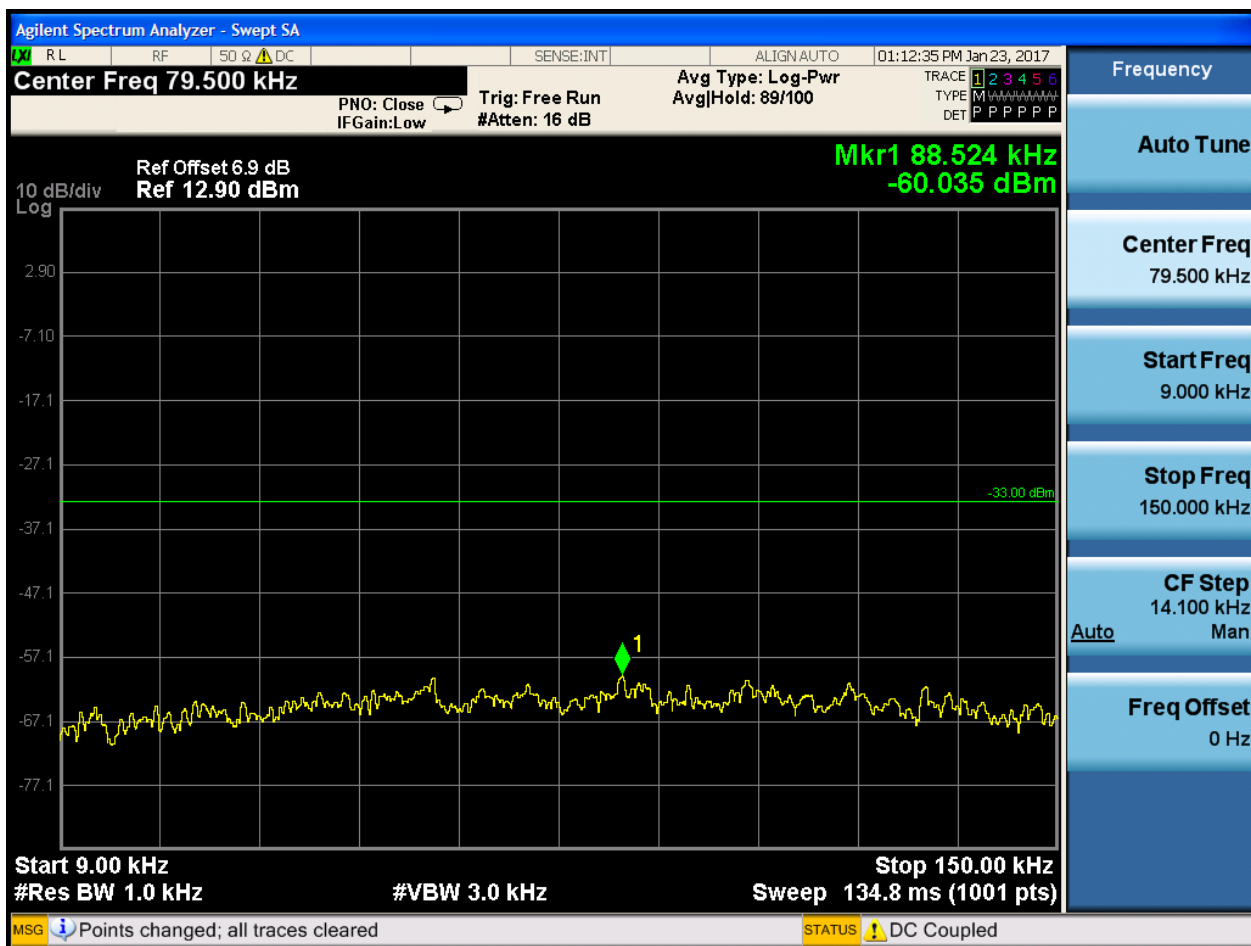


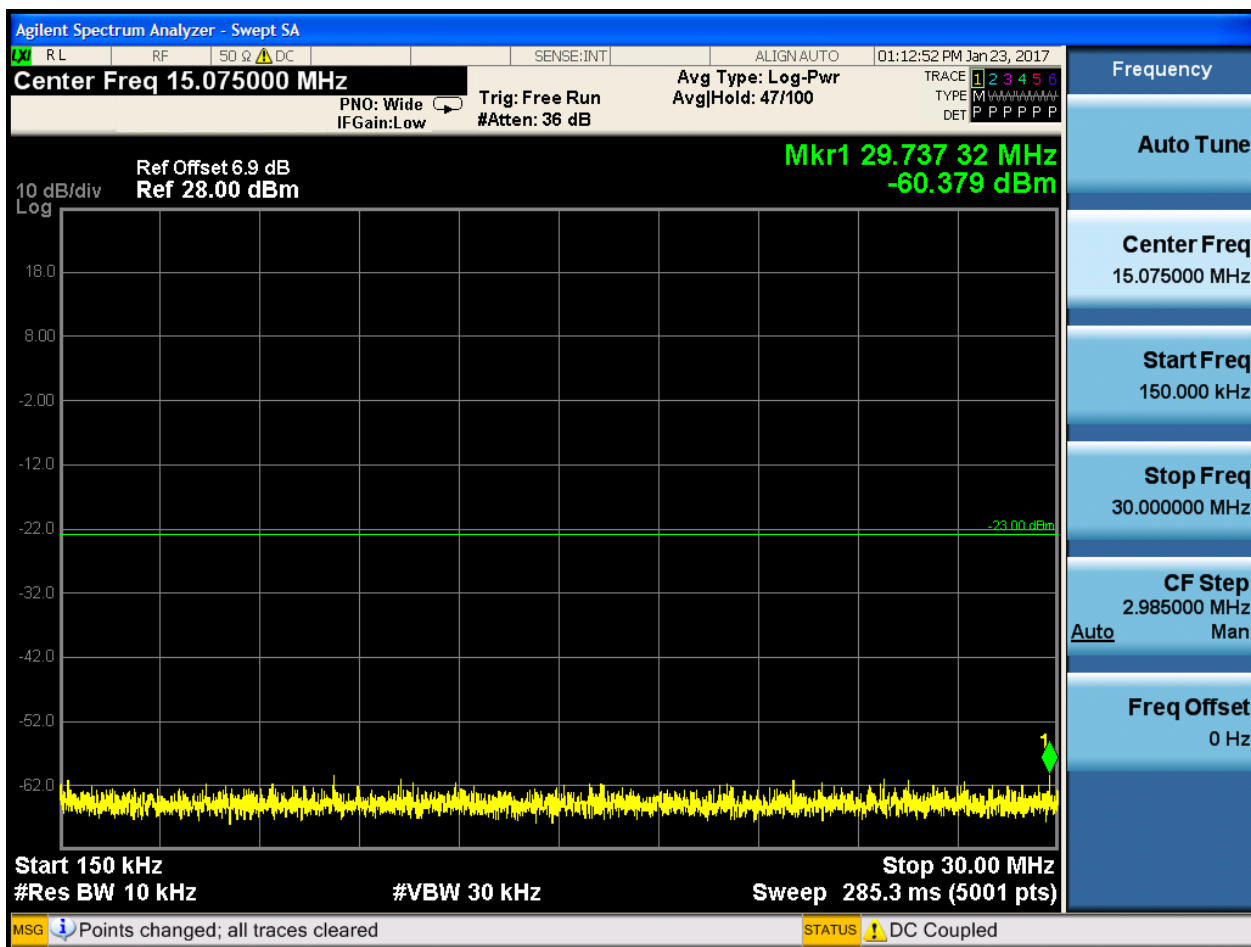


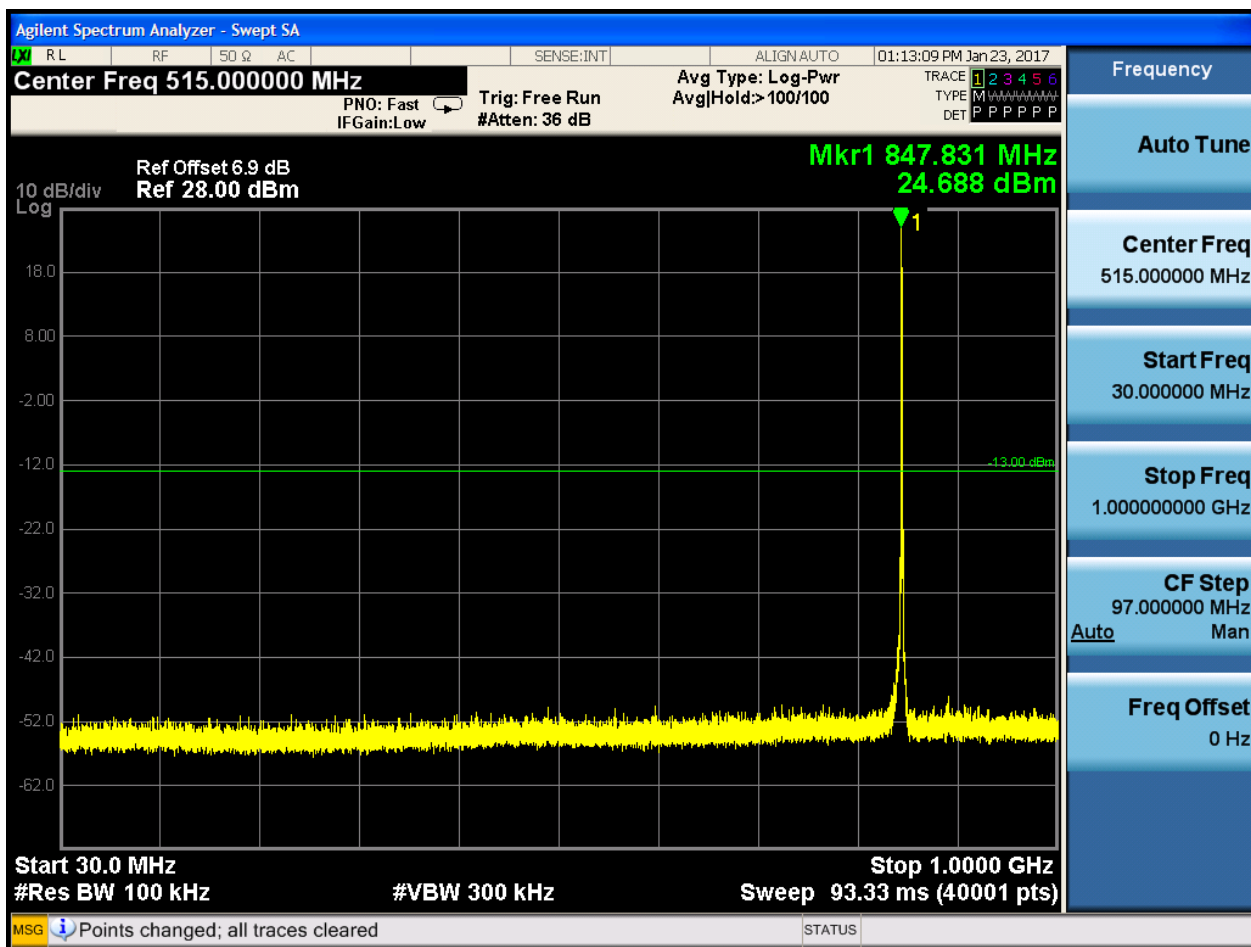


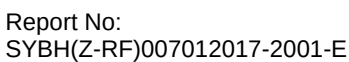
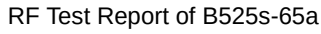
6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0







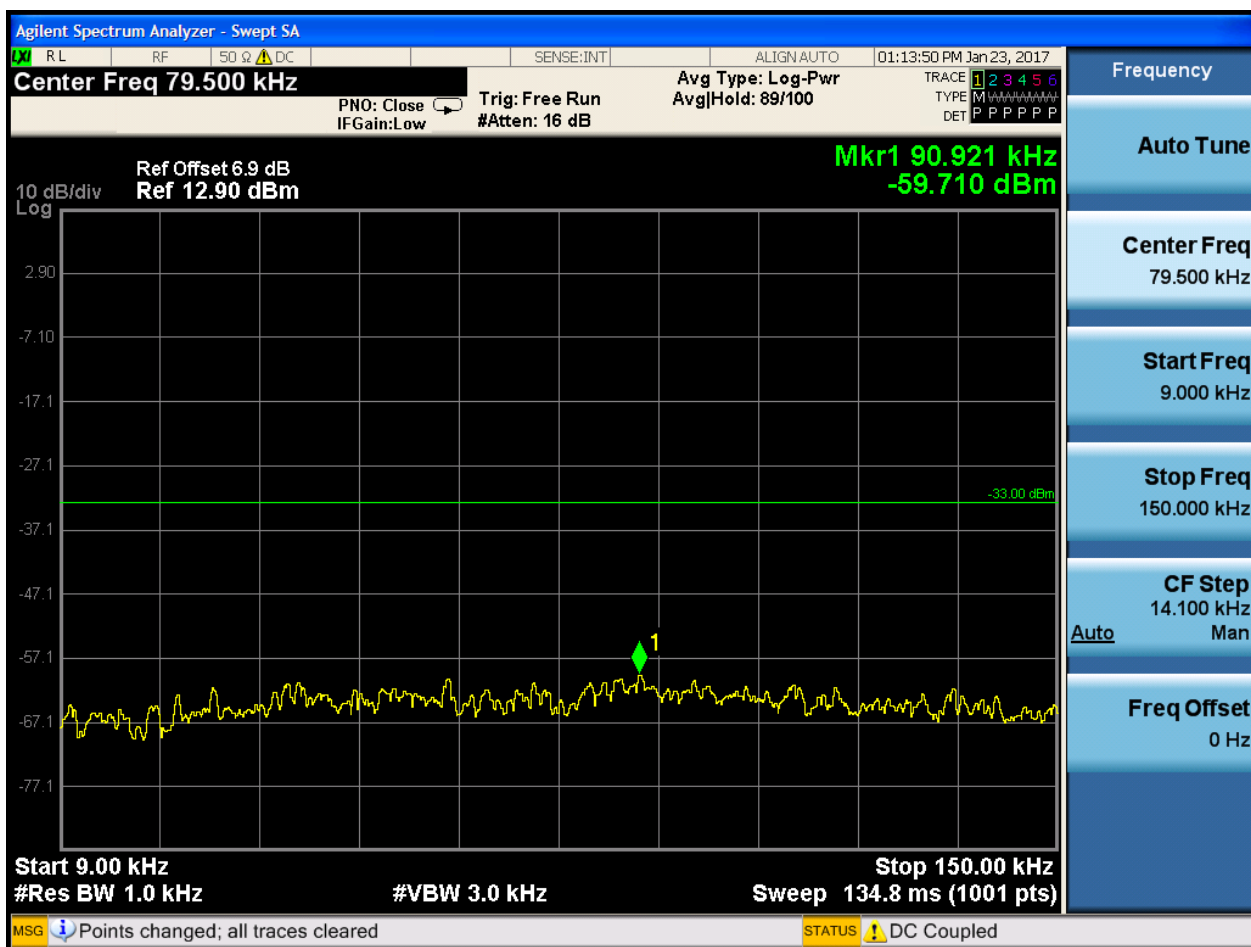


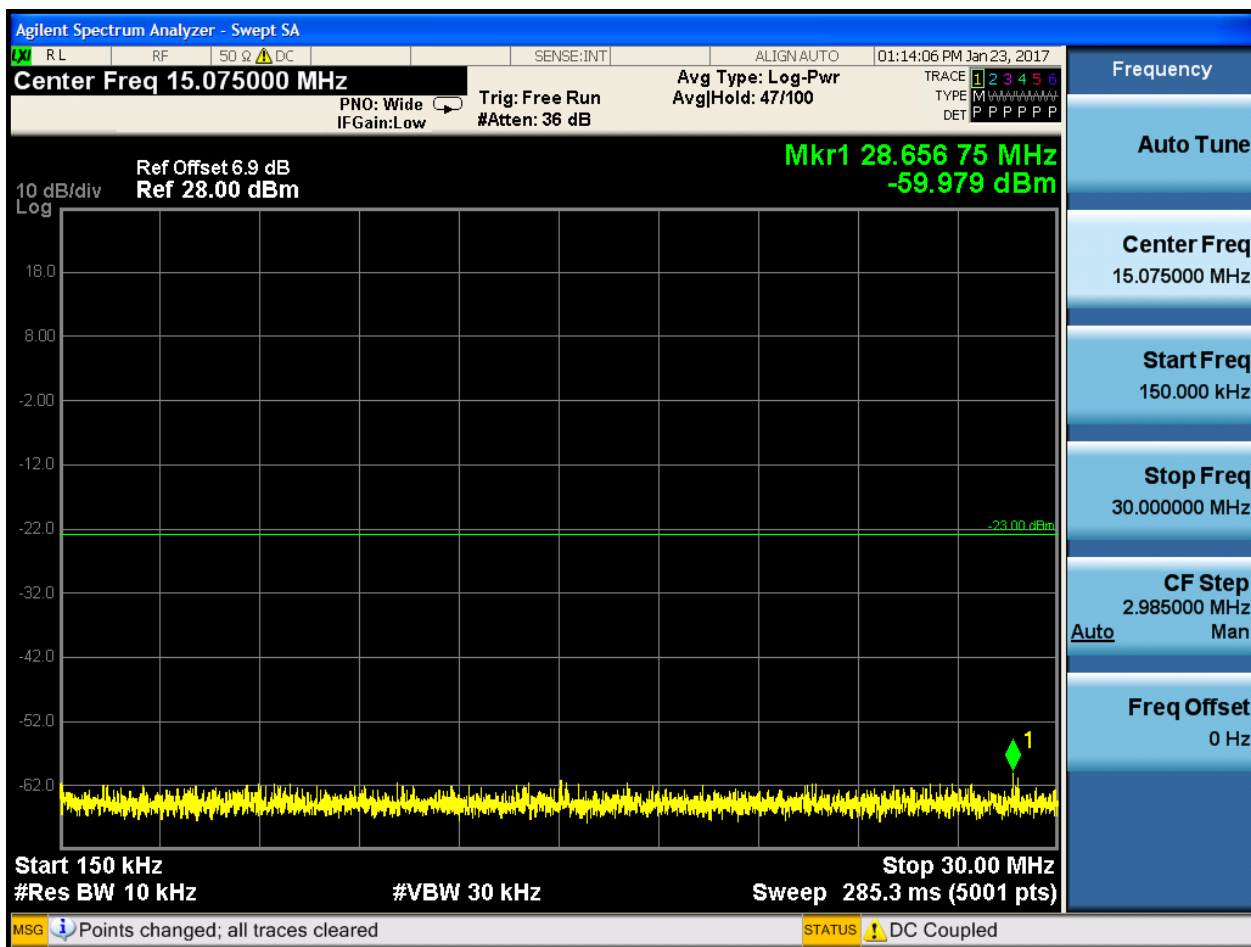


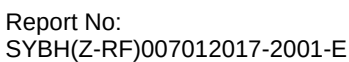
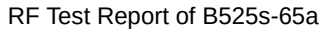
6.1.1.1.2 Test Bandwidth = 3

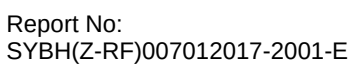
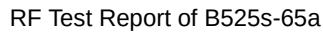
6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0





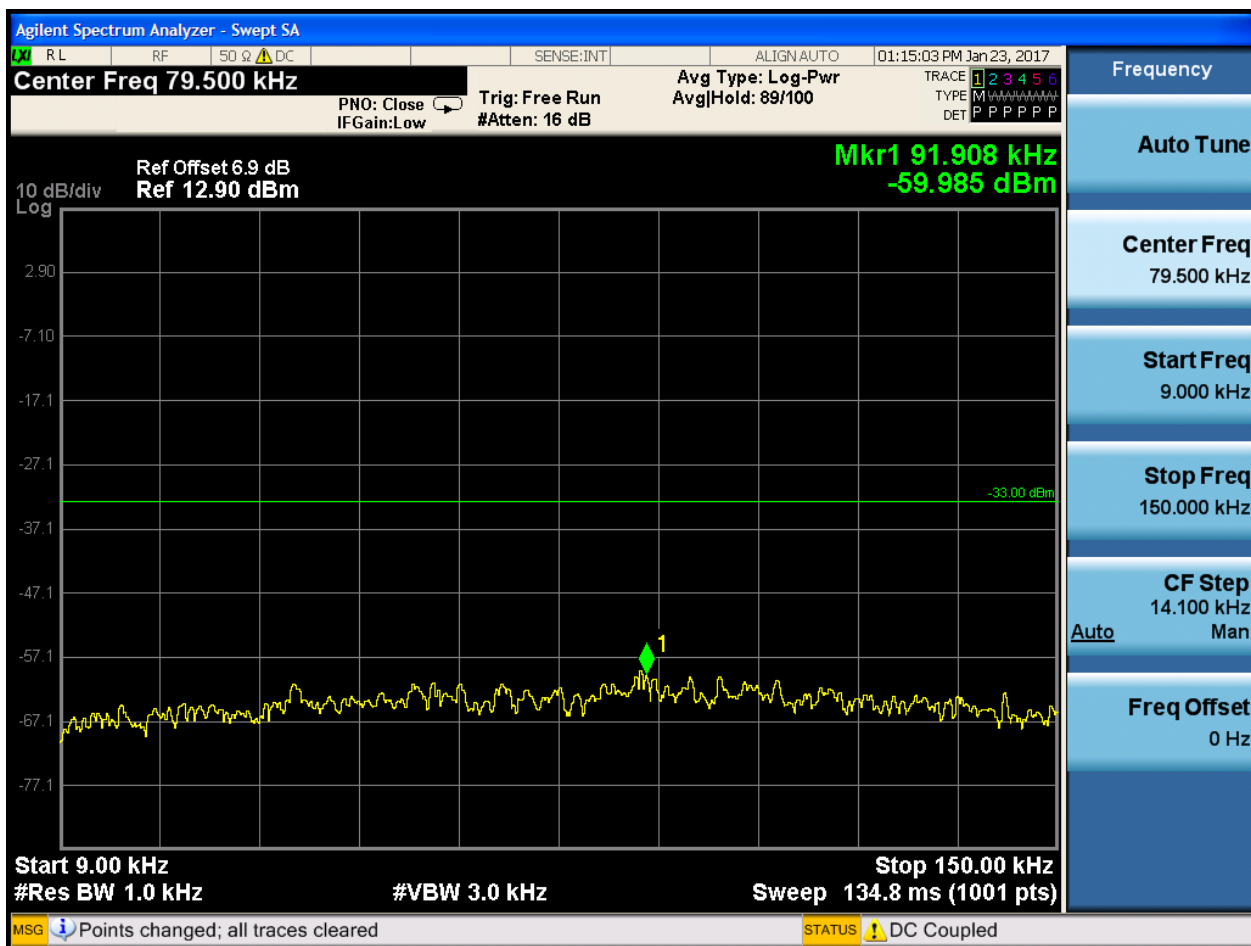


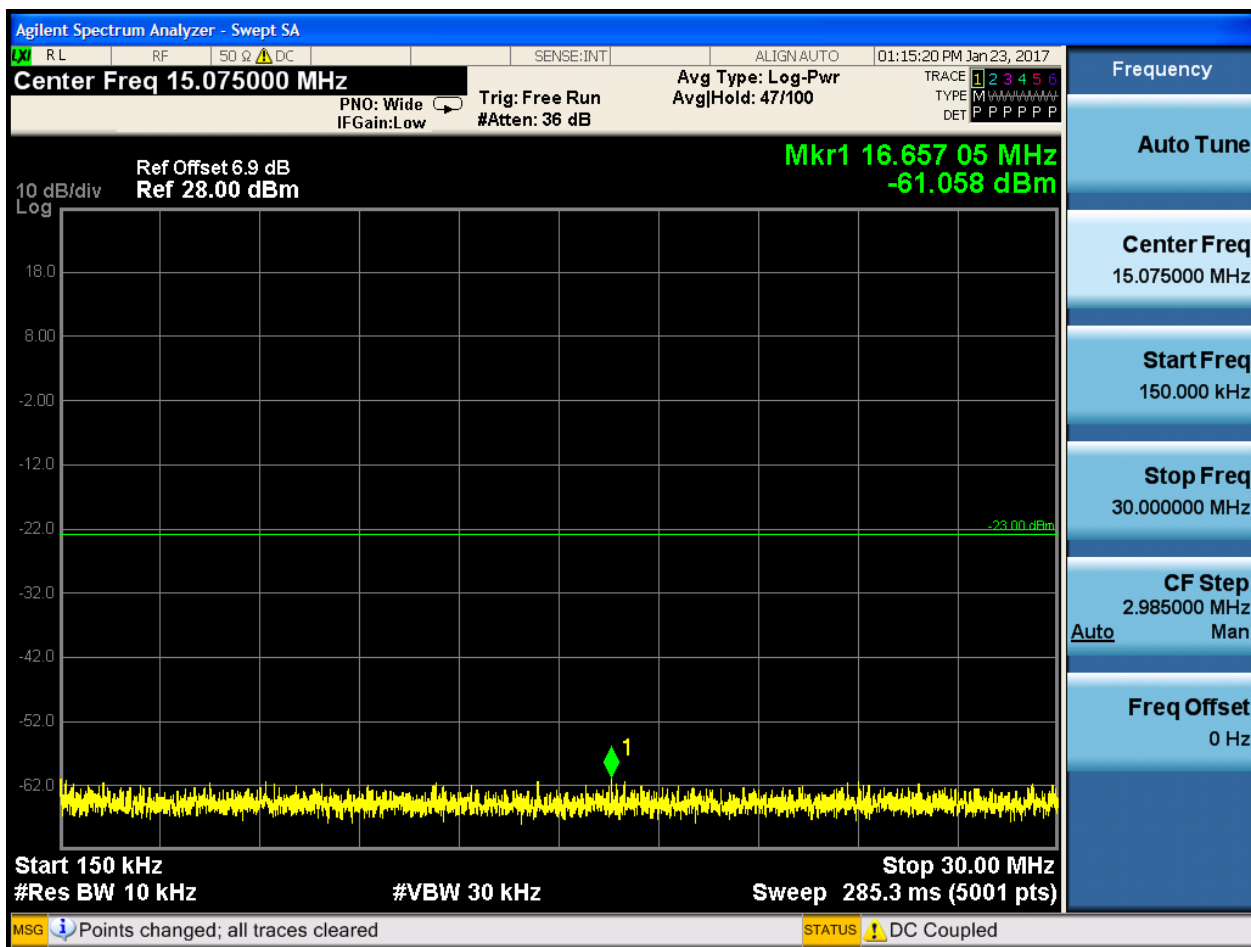


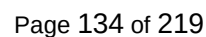
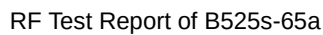


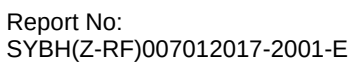
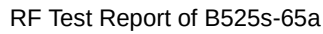
6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0





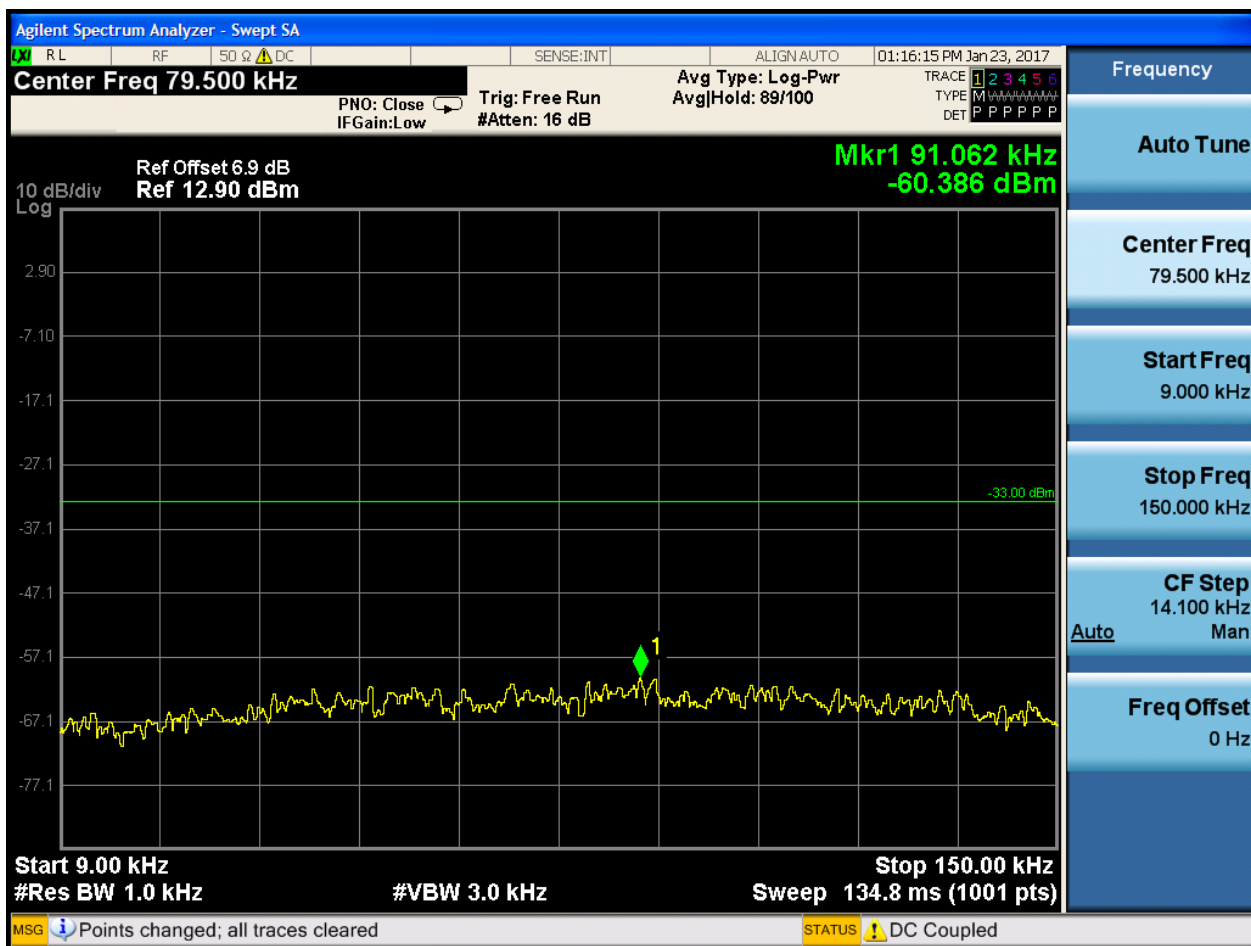


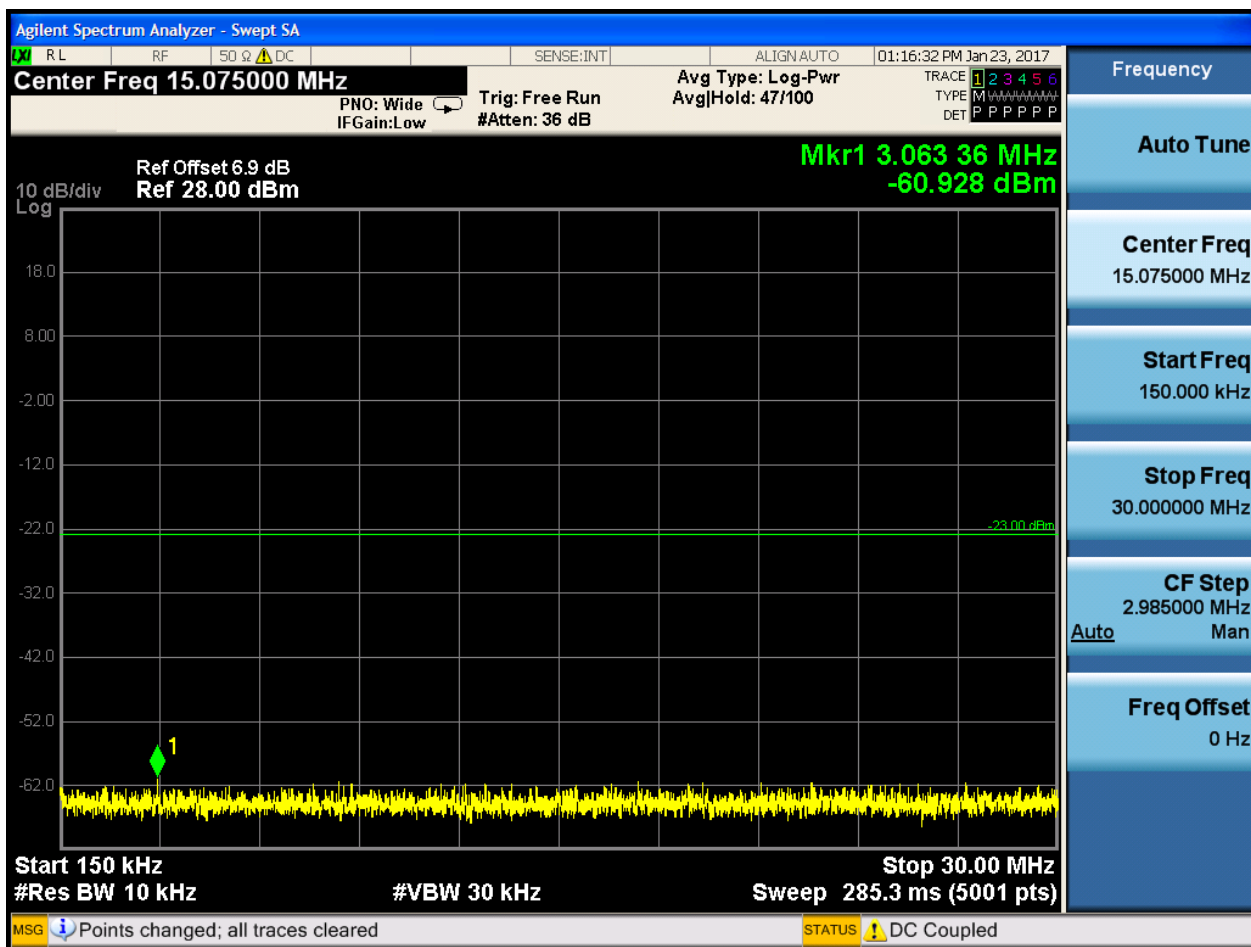


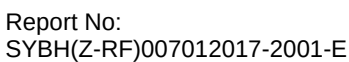
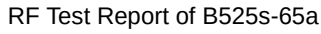


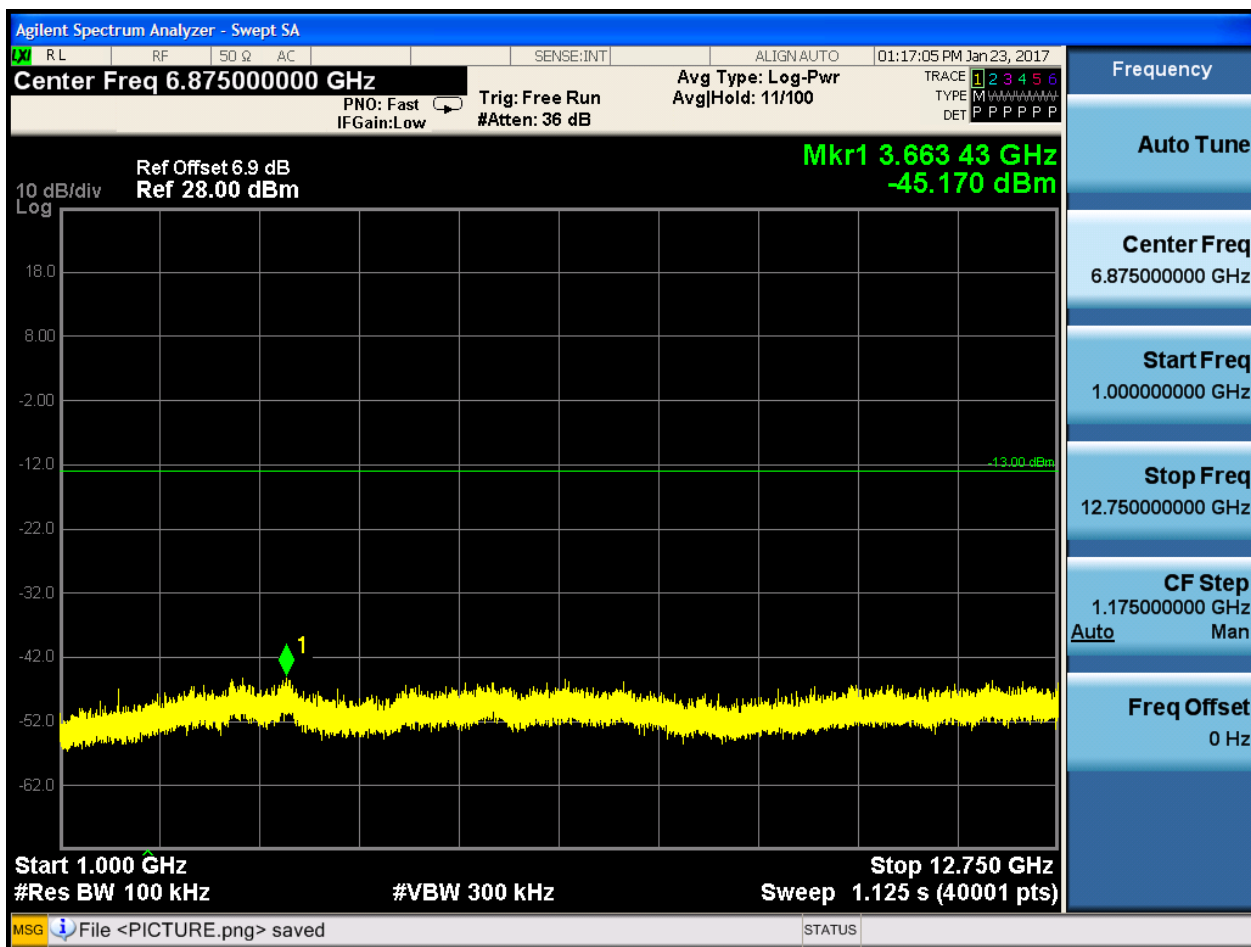
6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





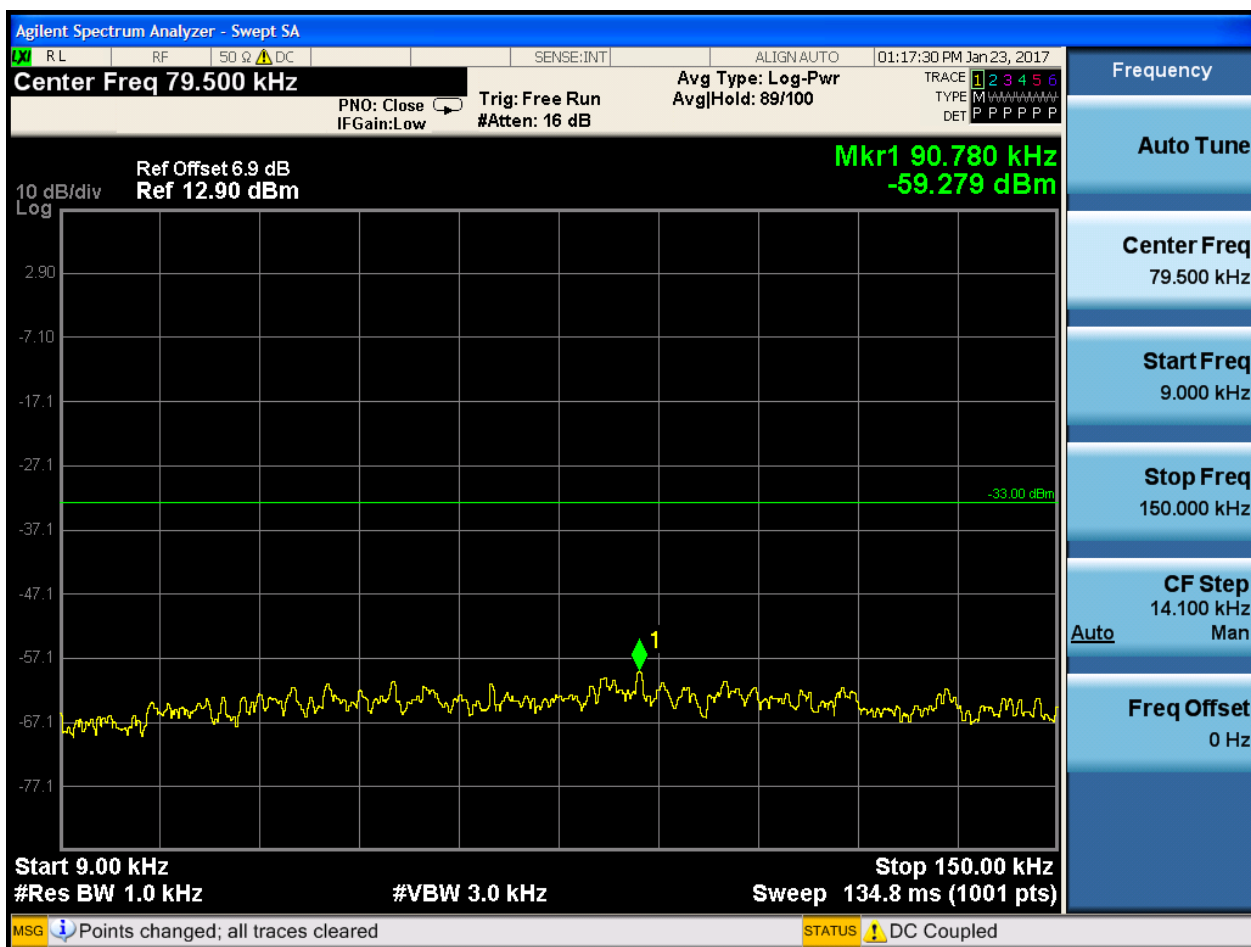


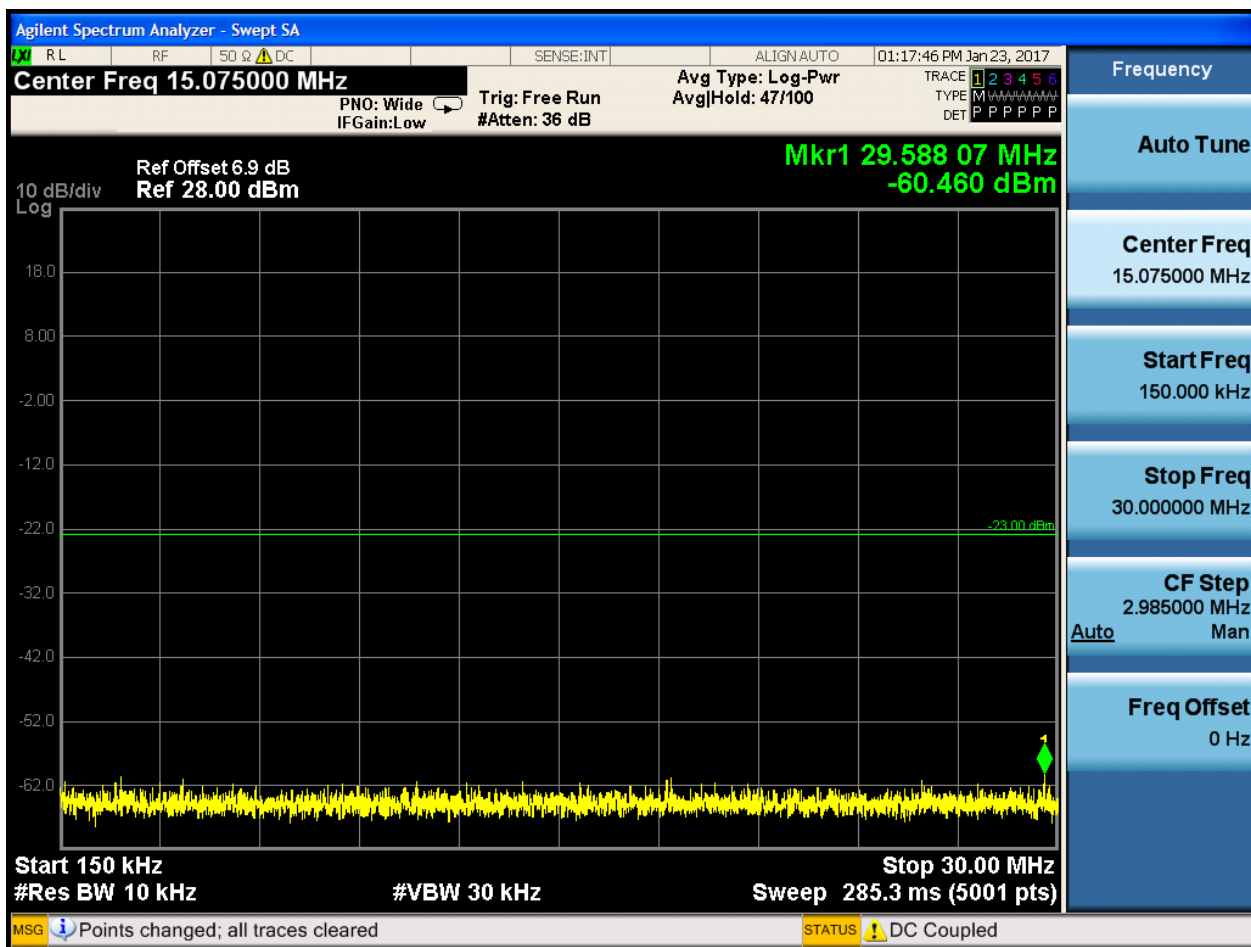


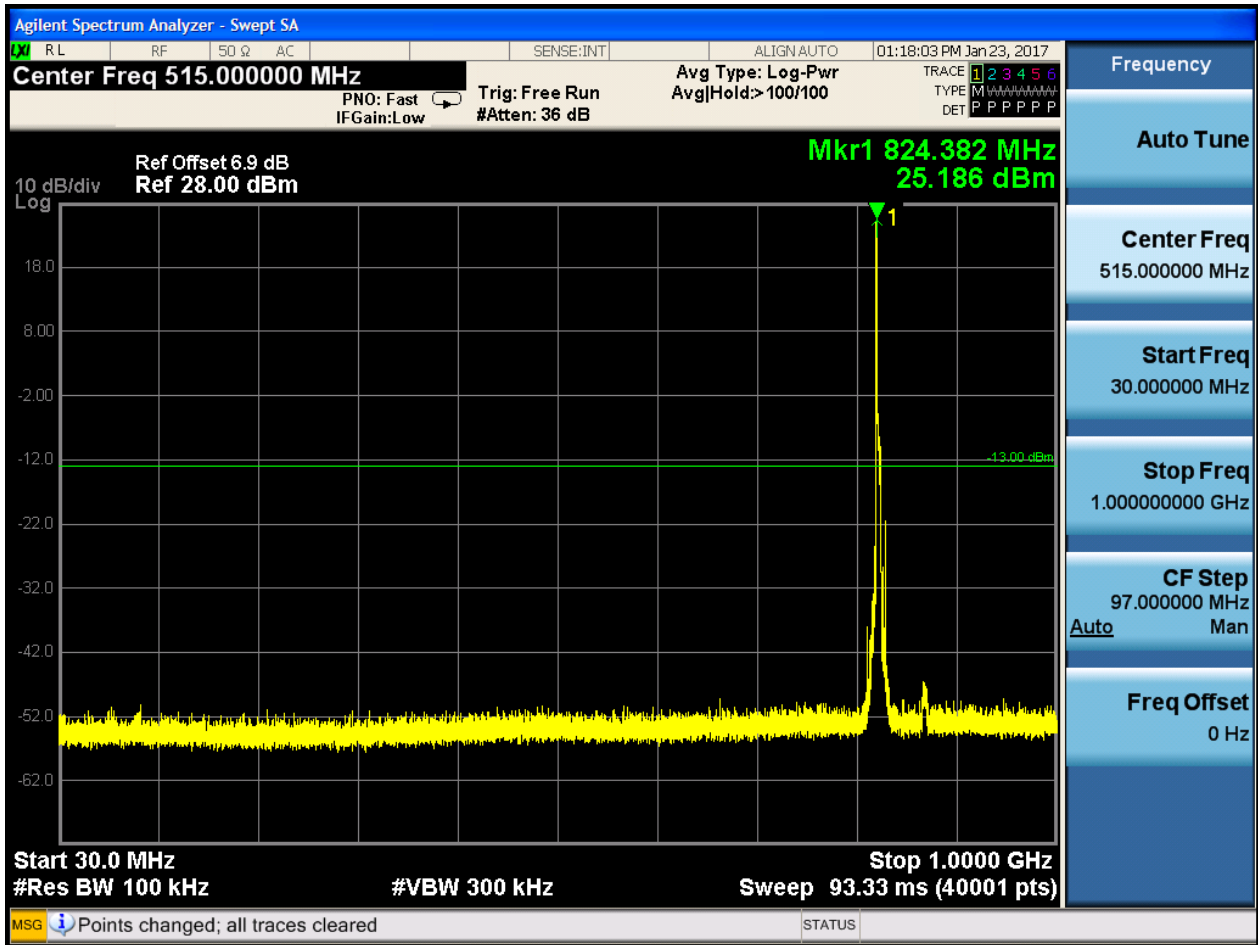
6.1.1.1.3 Test Bandwidth = 5

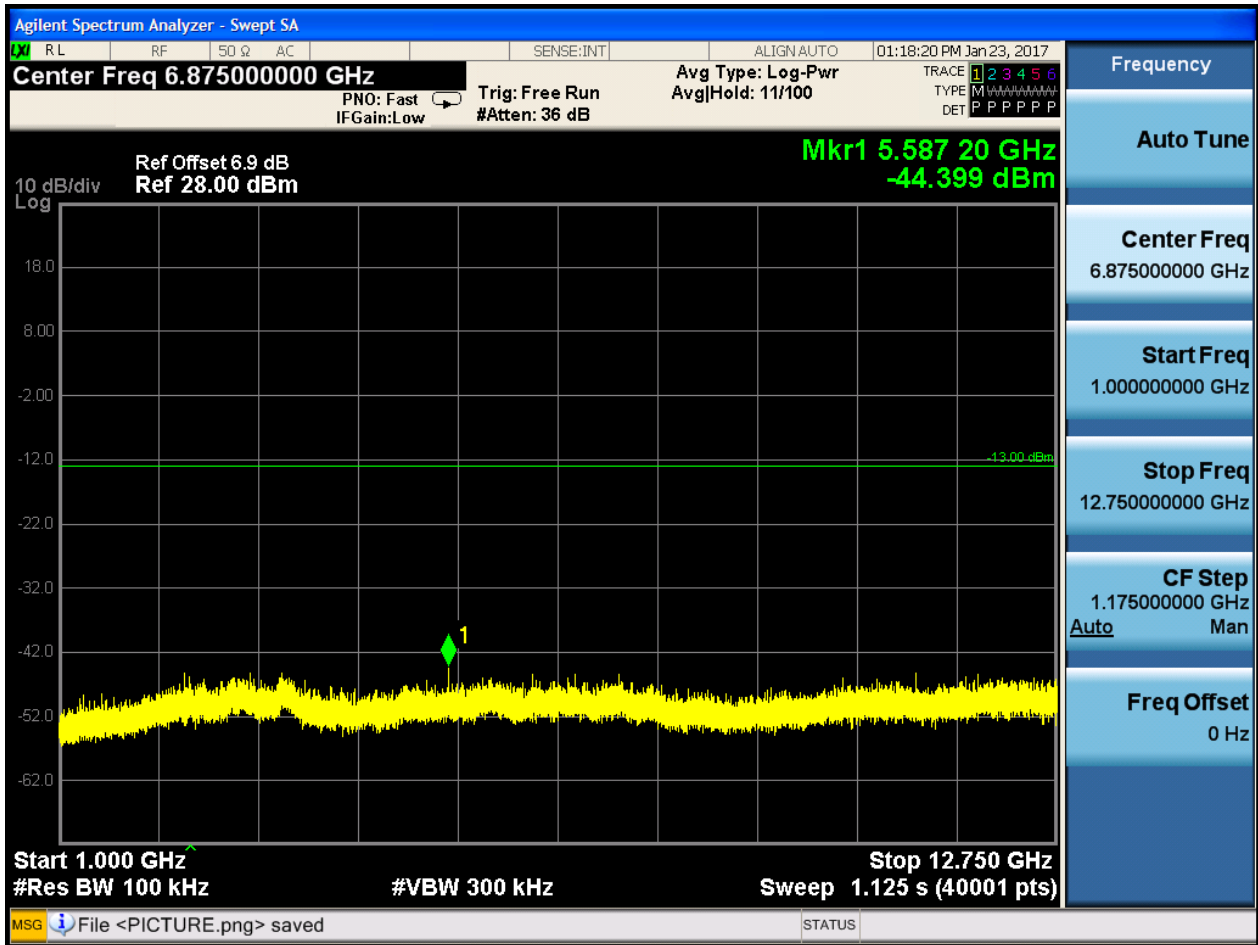
6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0



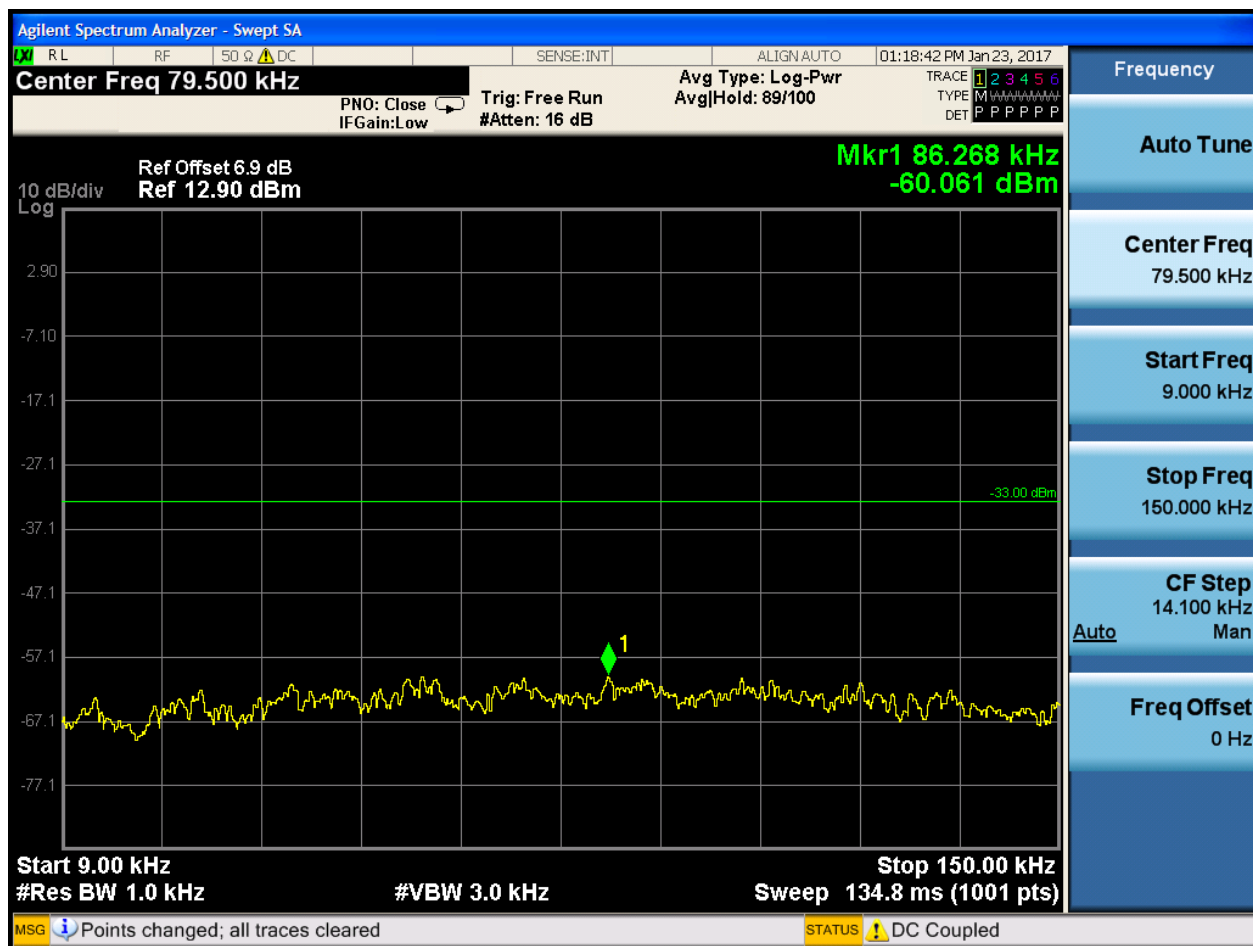


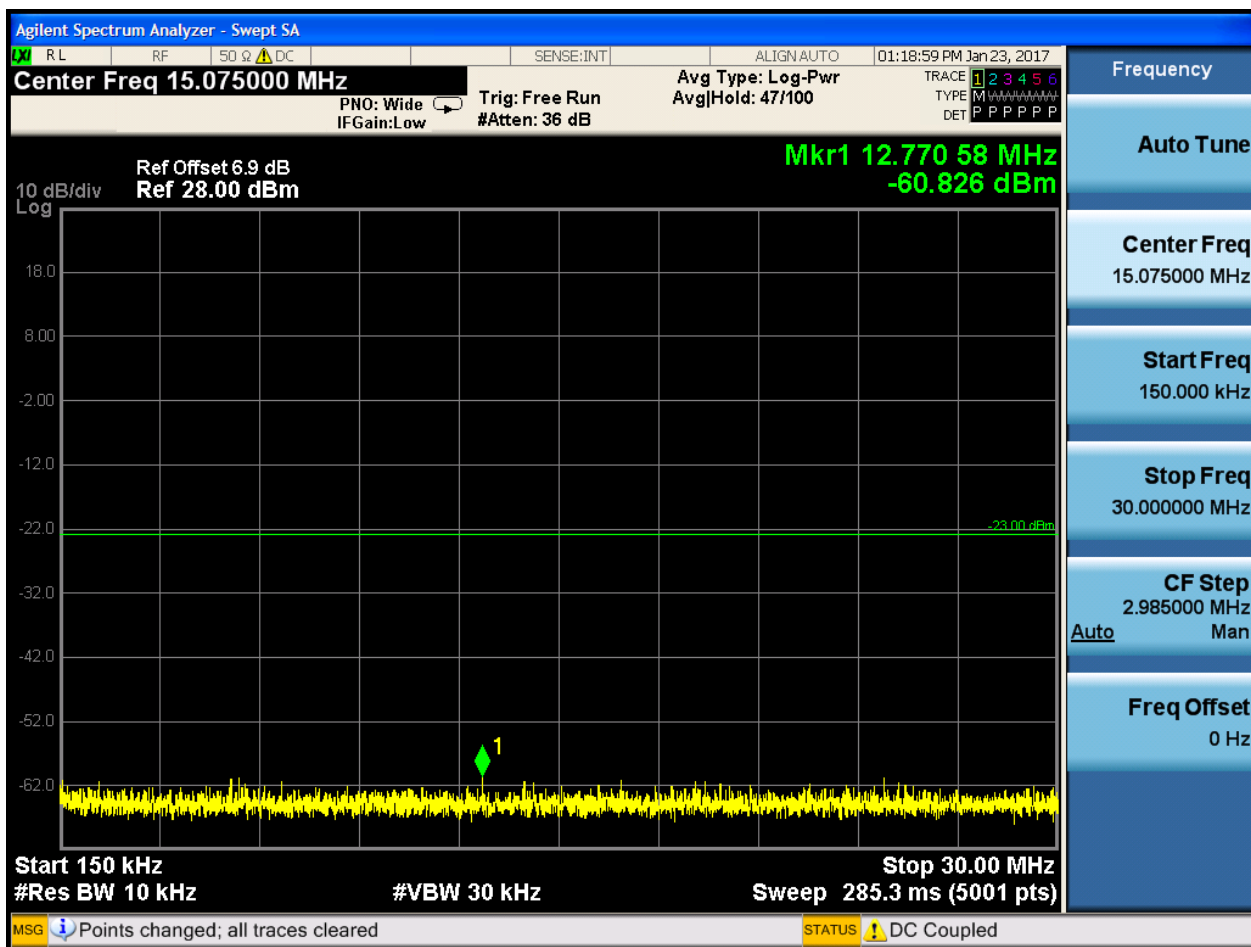


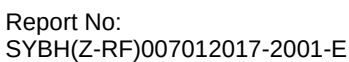
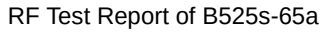


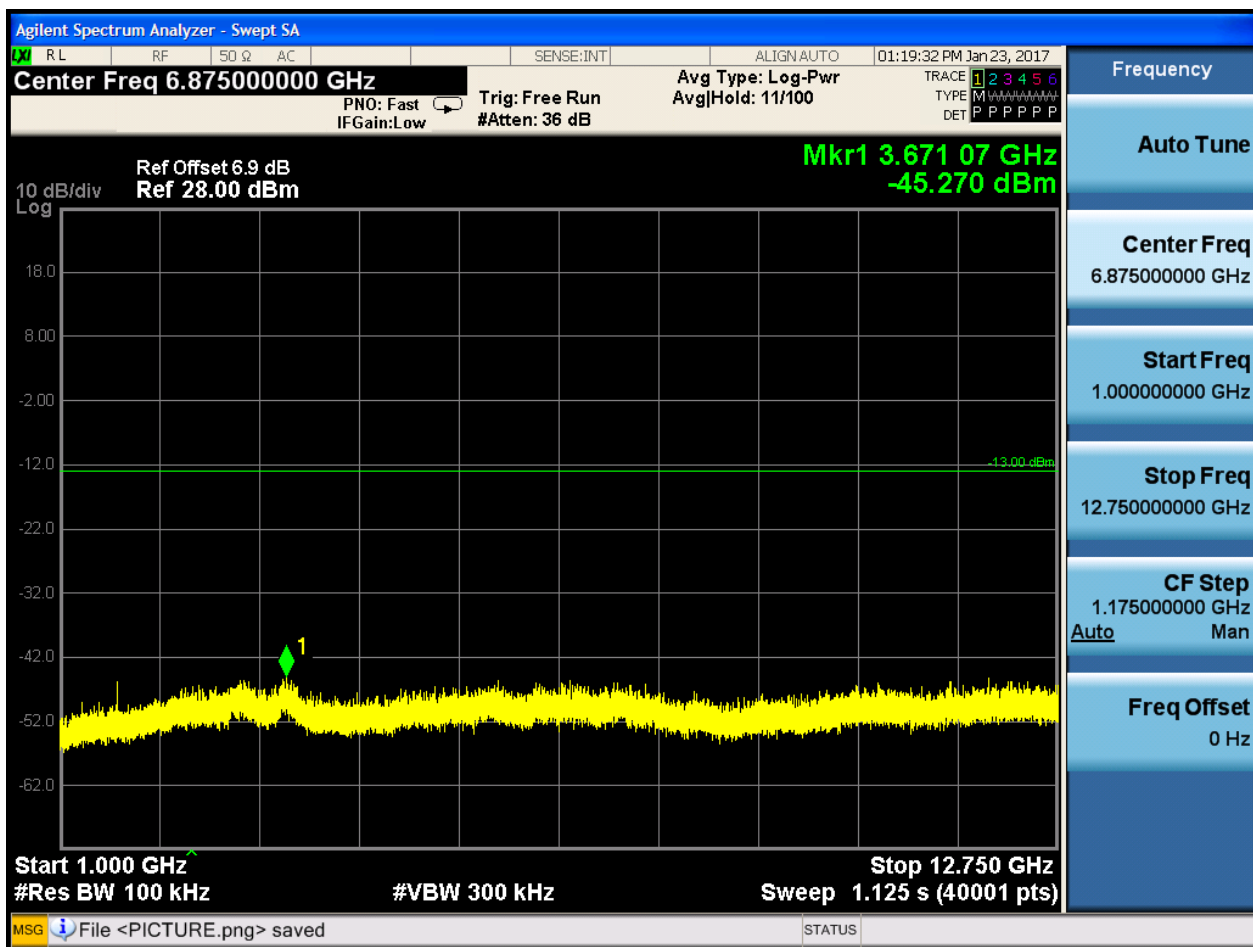
6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0





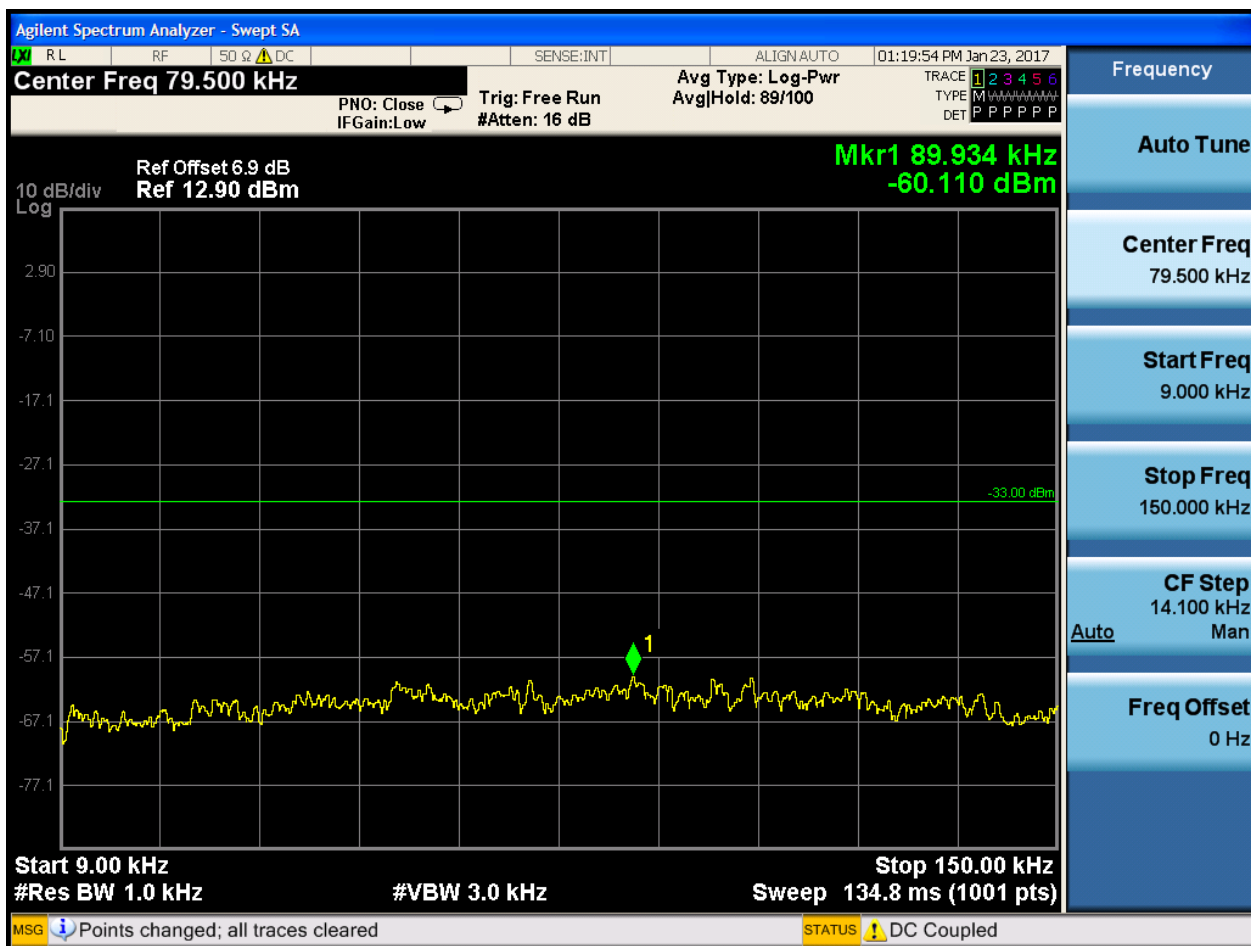


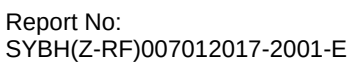
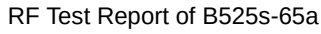


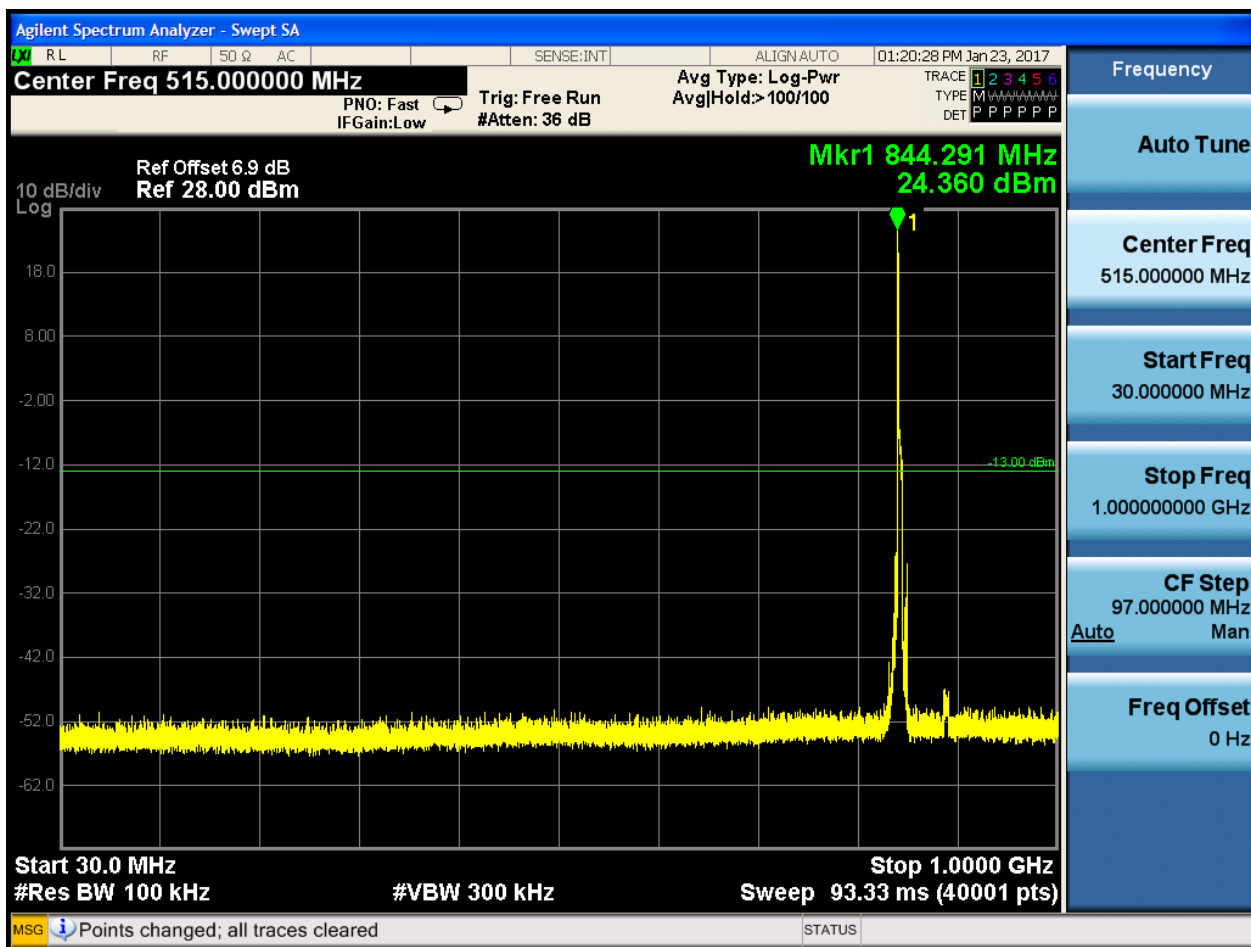


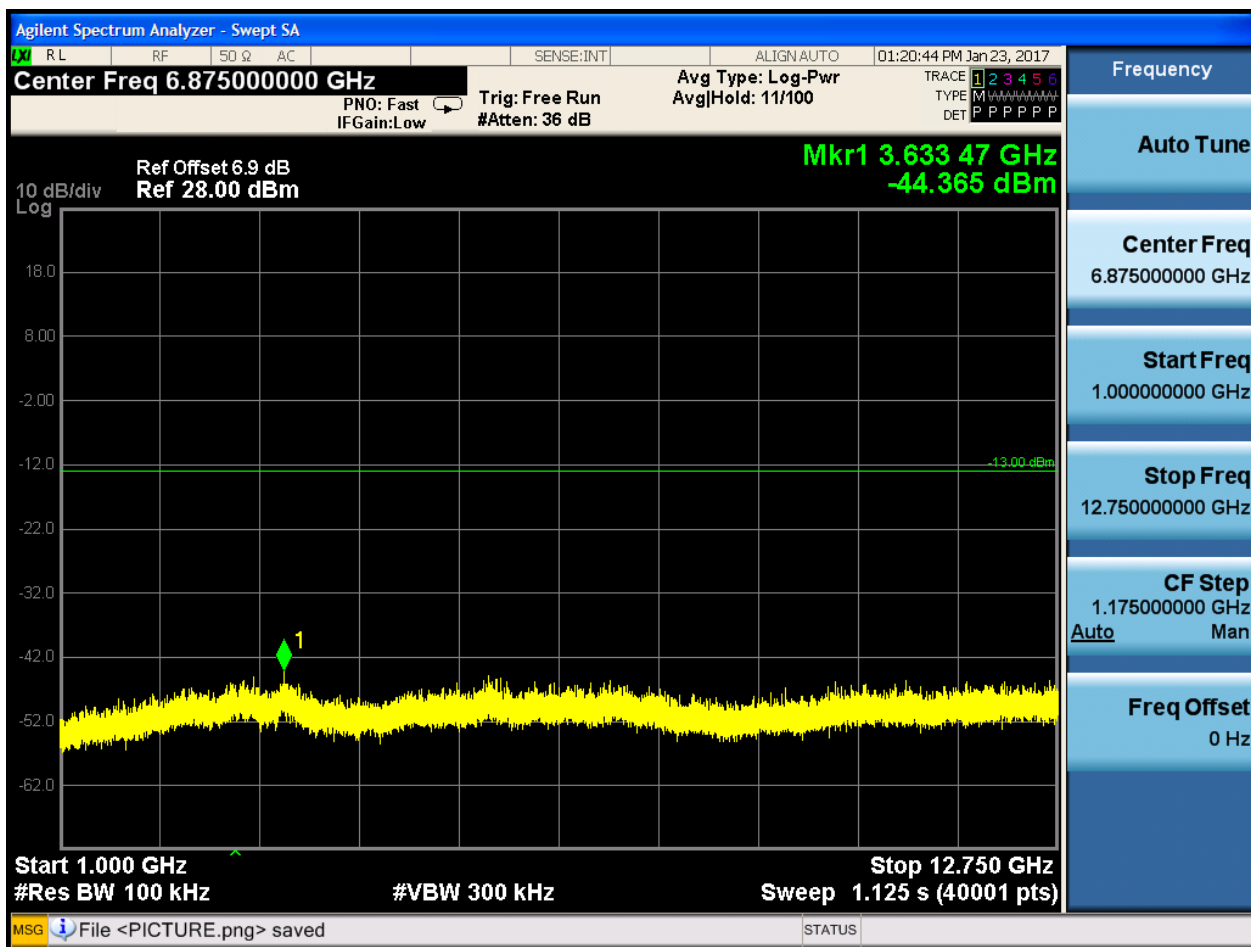
6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





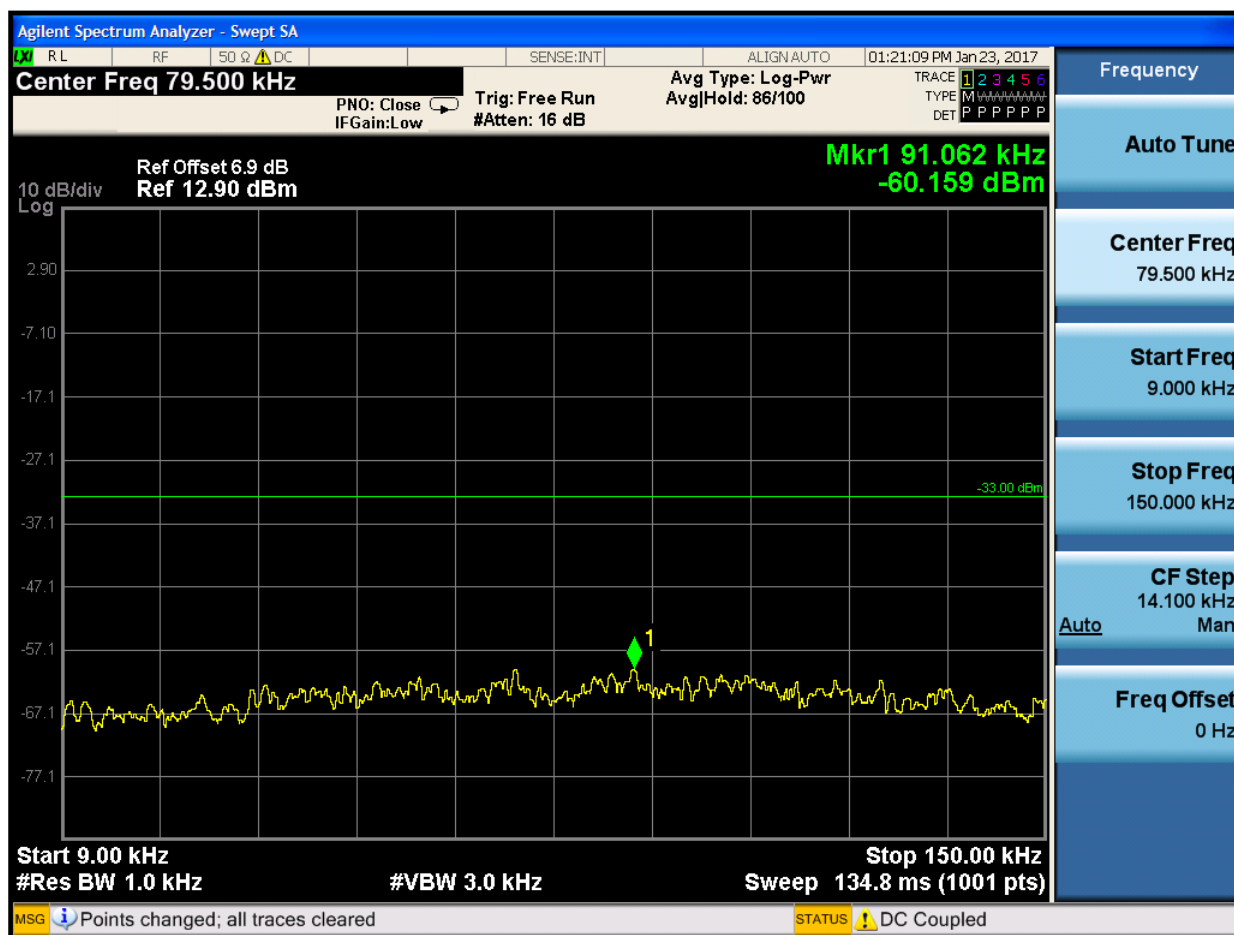


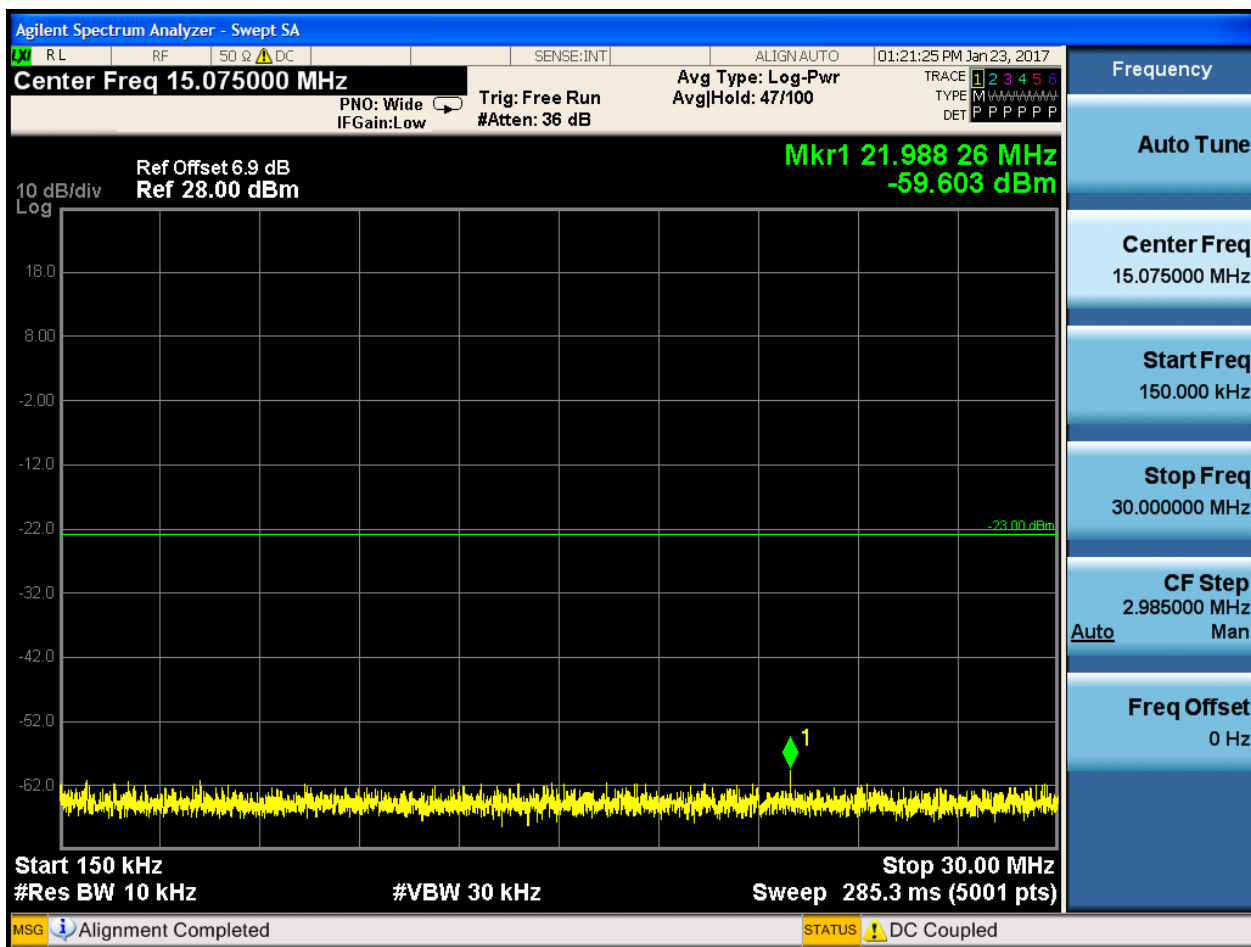


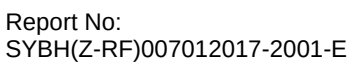
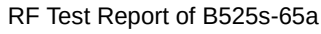
6.1.1.1.4 Test Bandwidth = 10

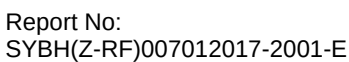
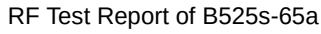
6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0



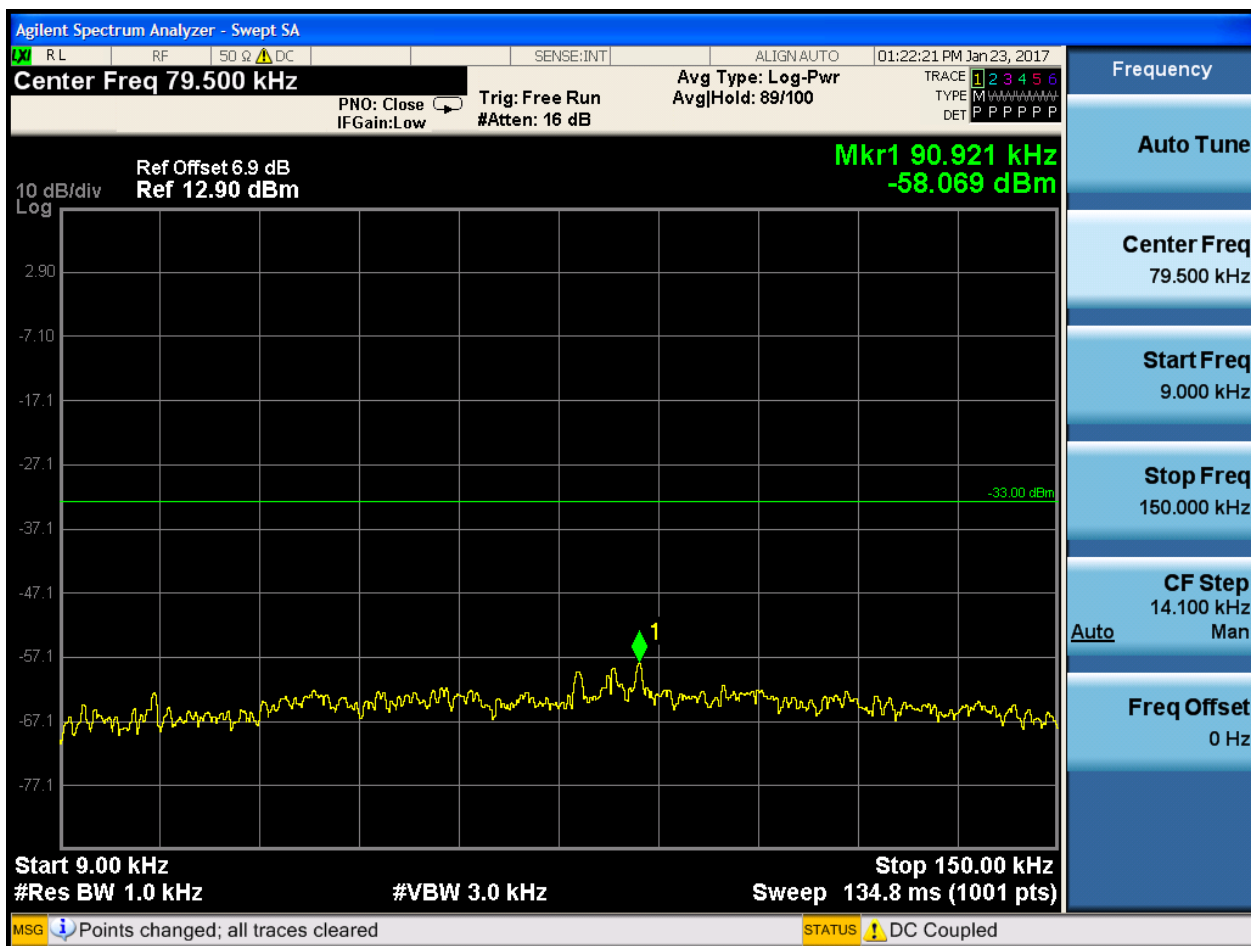


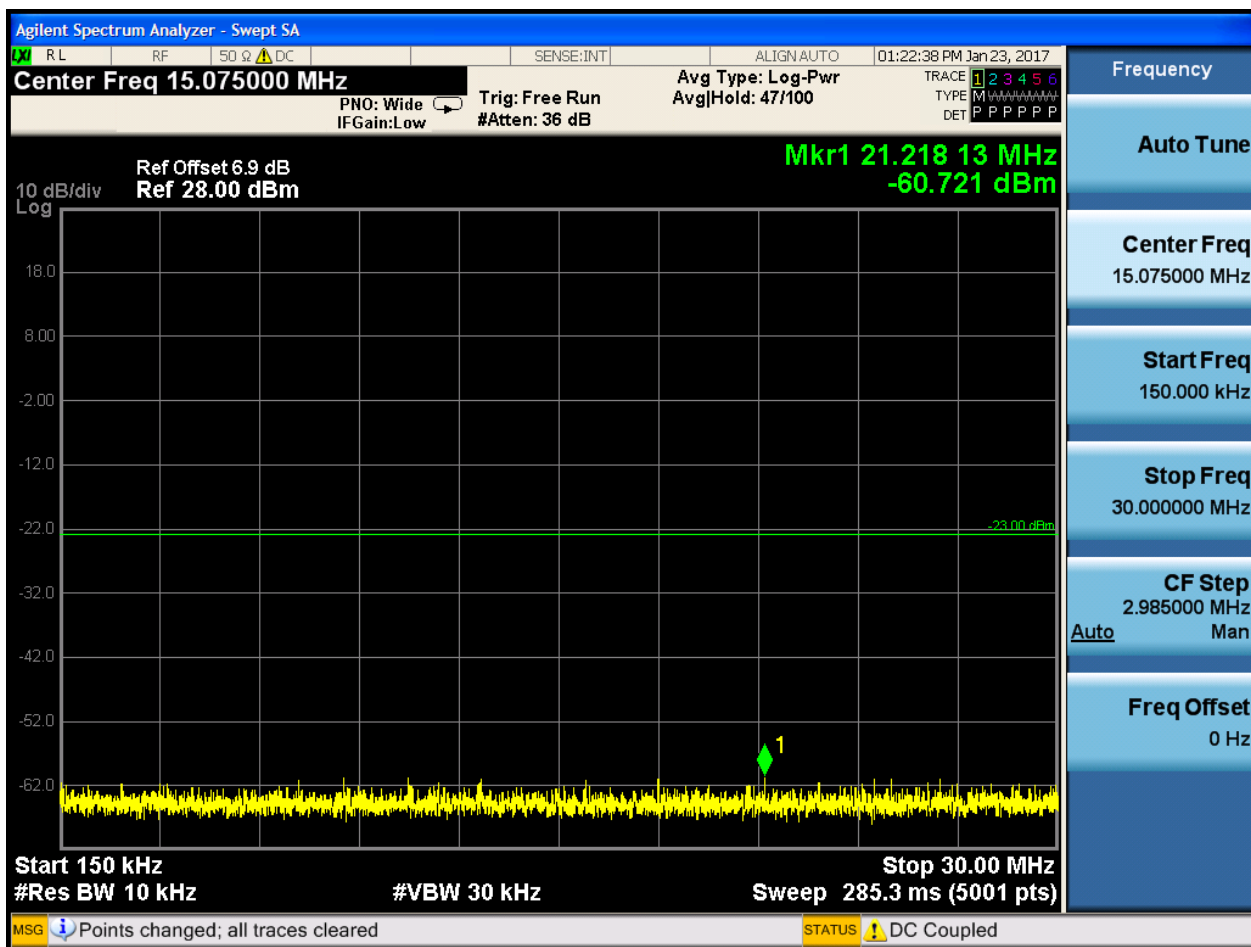


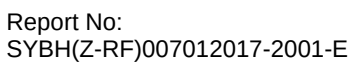
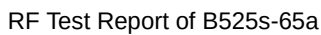


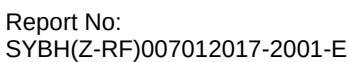
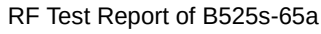
6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



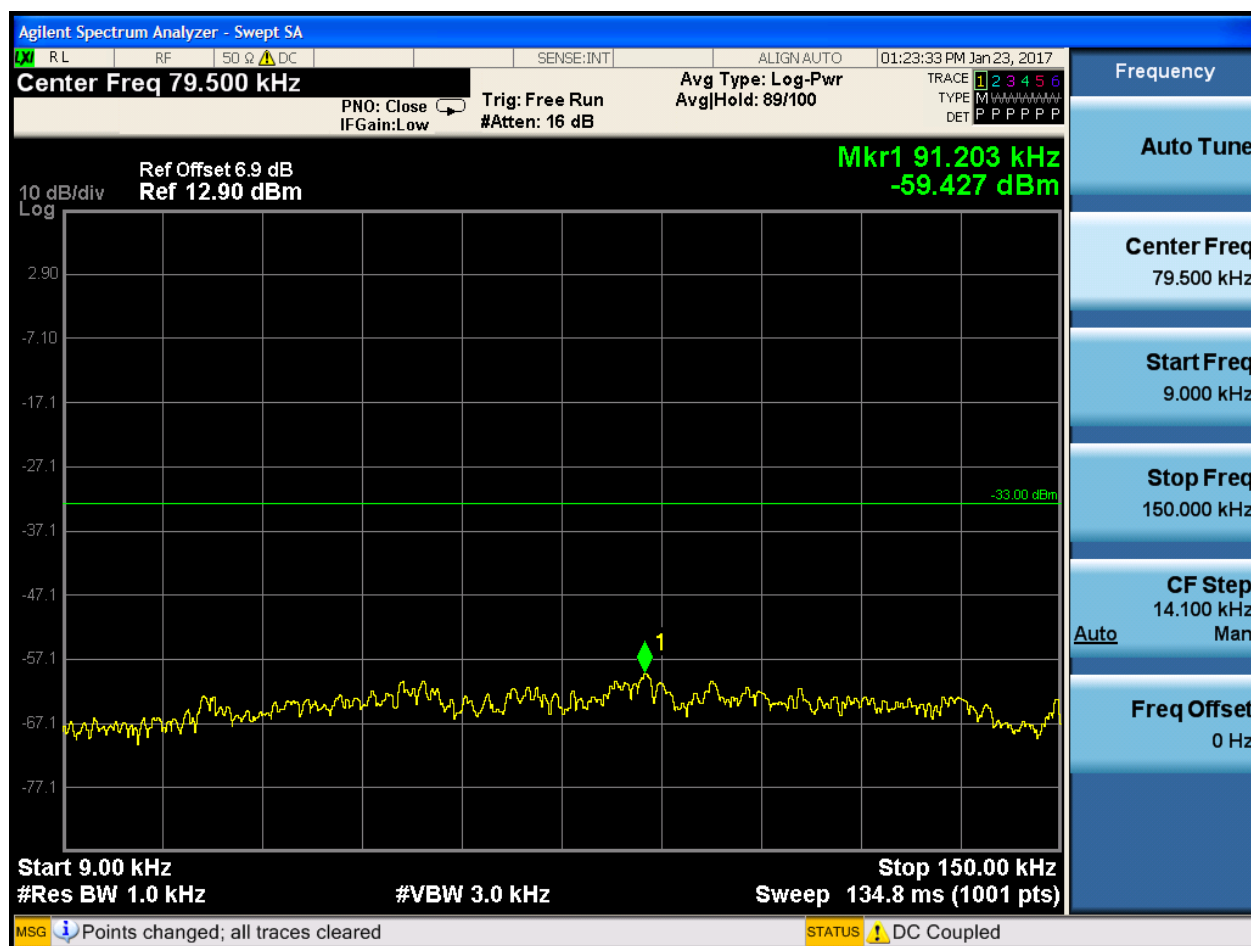


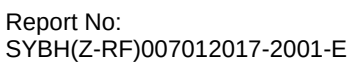
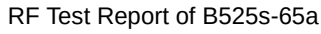


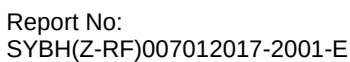
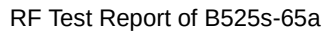


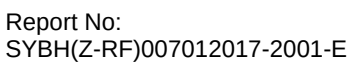
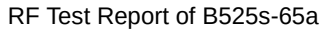
6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0









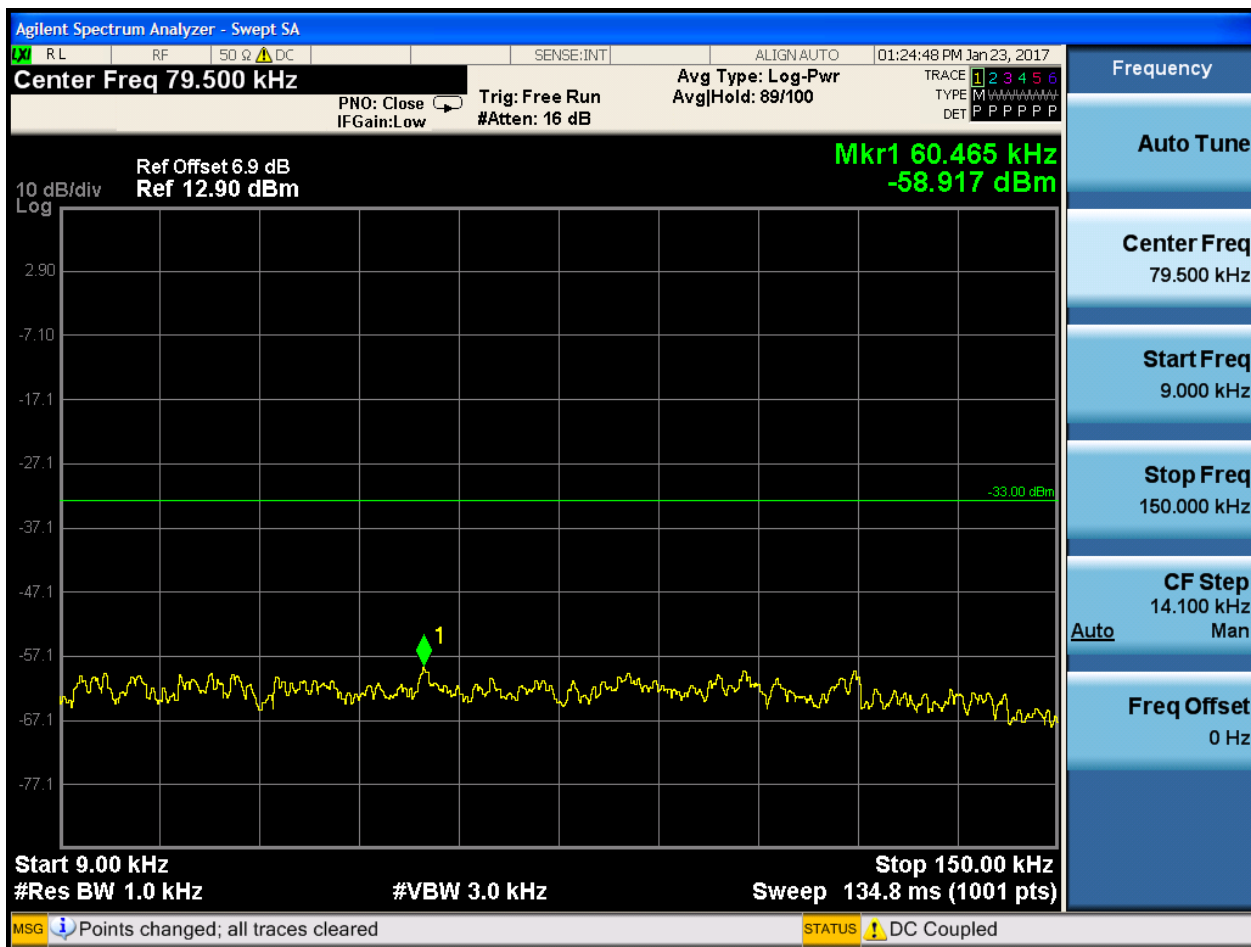


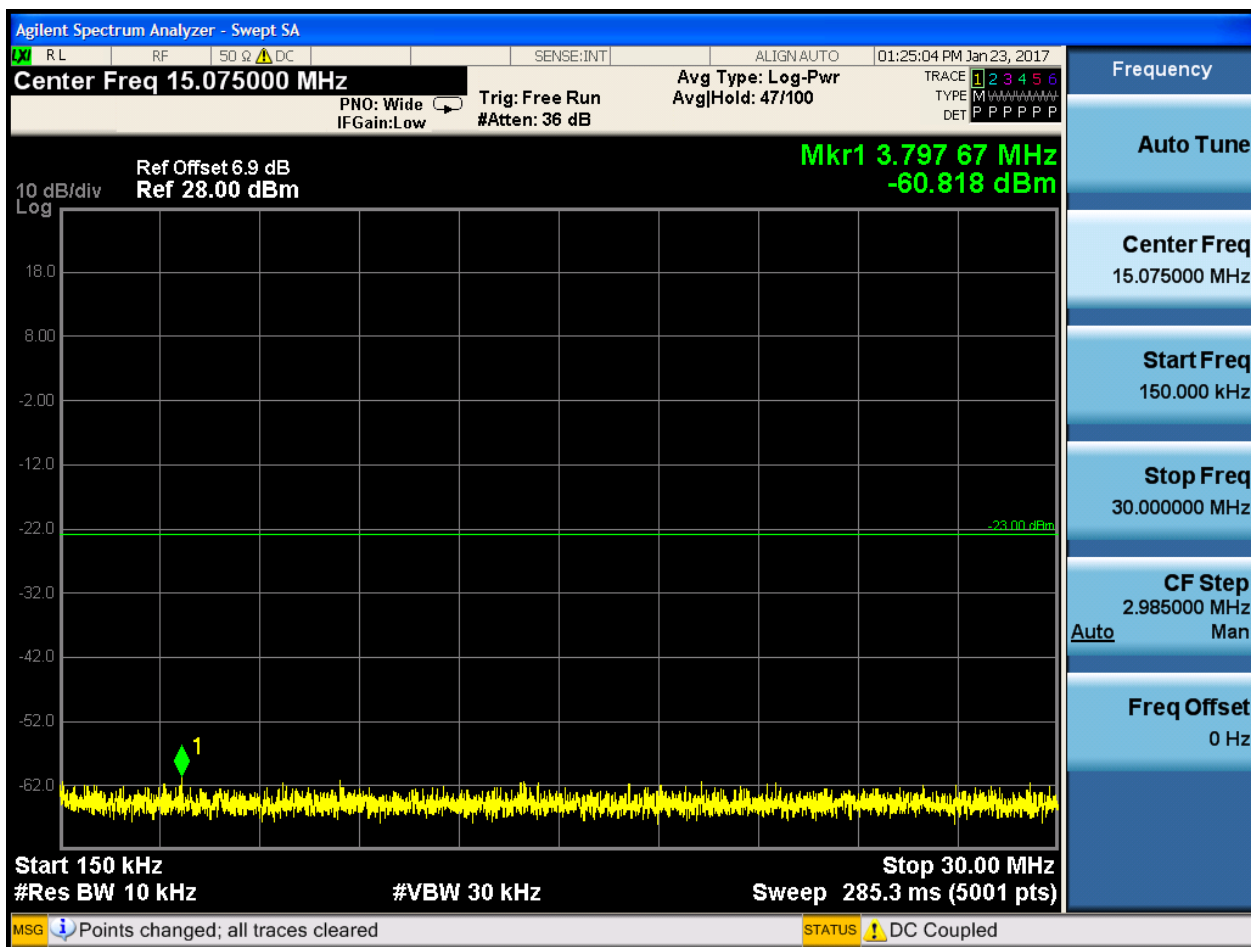
6.1.1.2 Test Mode = LTE/TM2

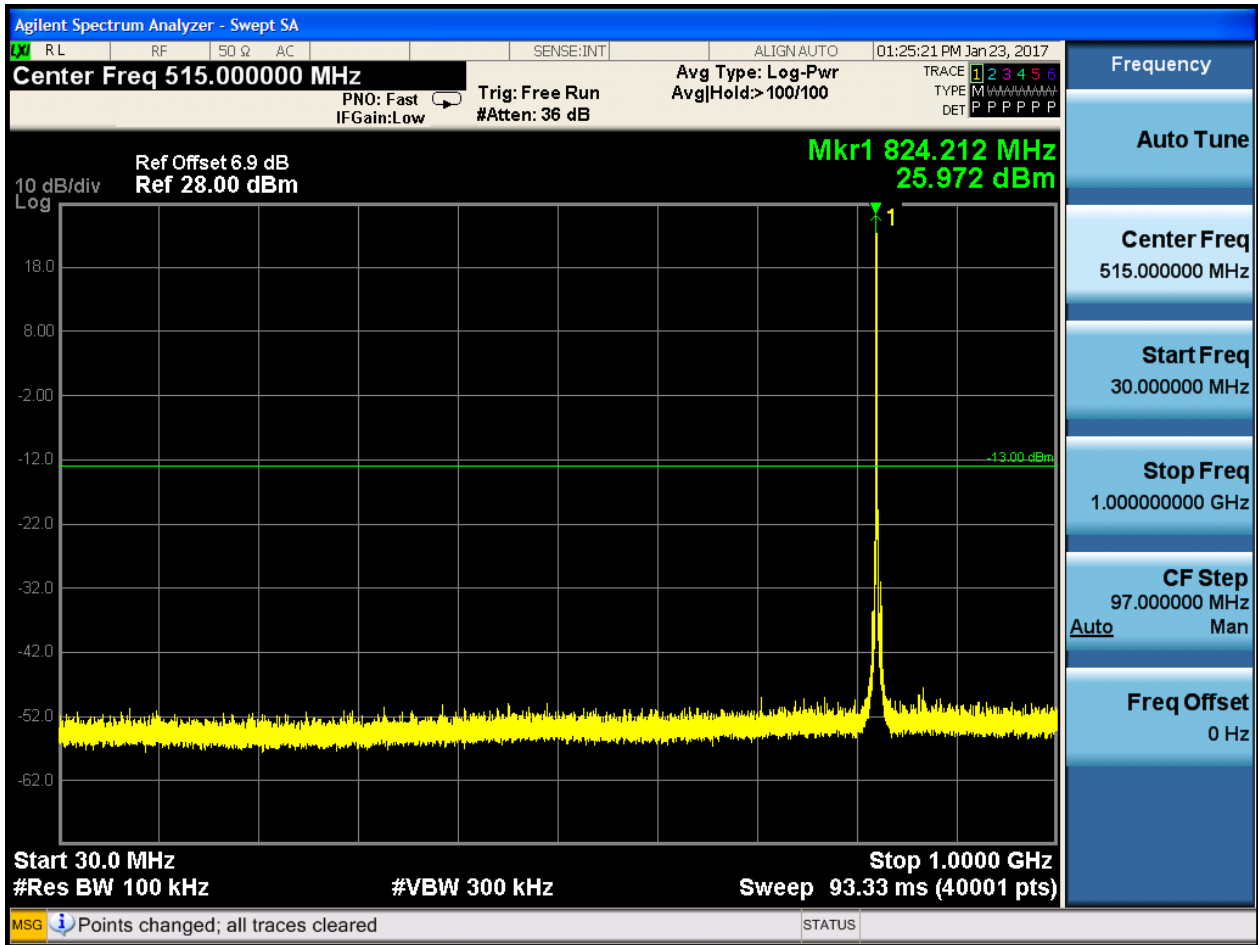
6.1.1.2.1 Test Bandwidth = 1.4

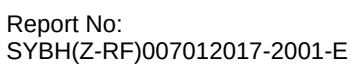
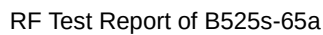
6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0





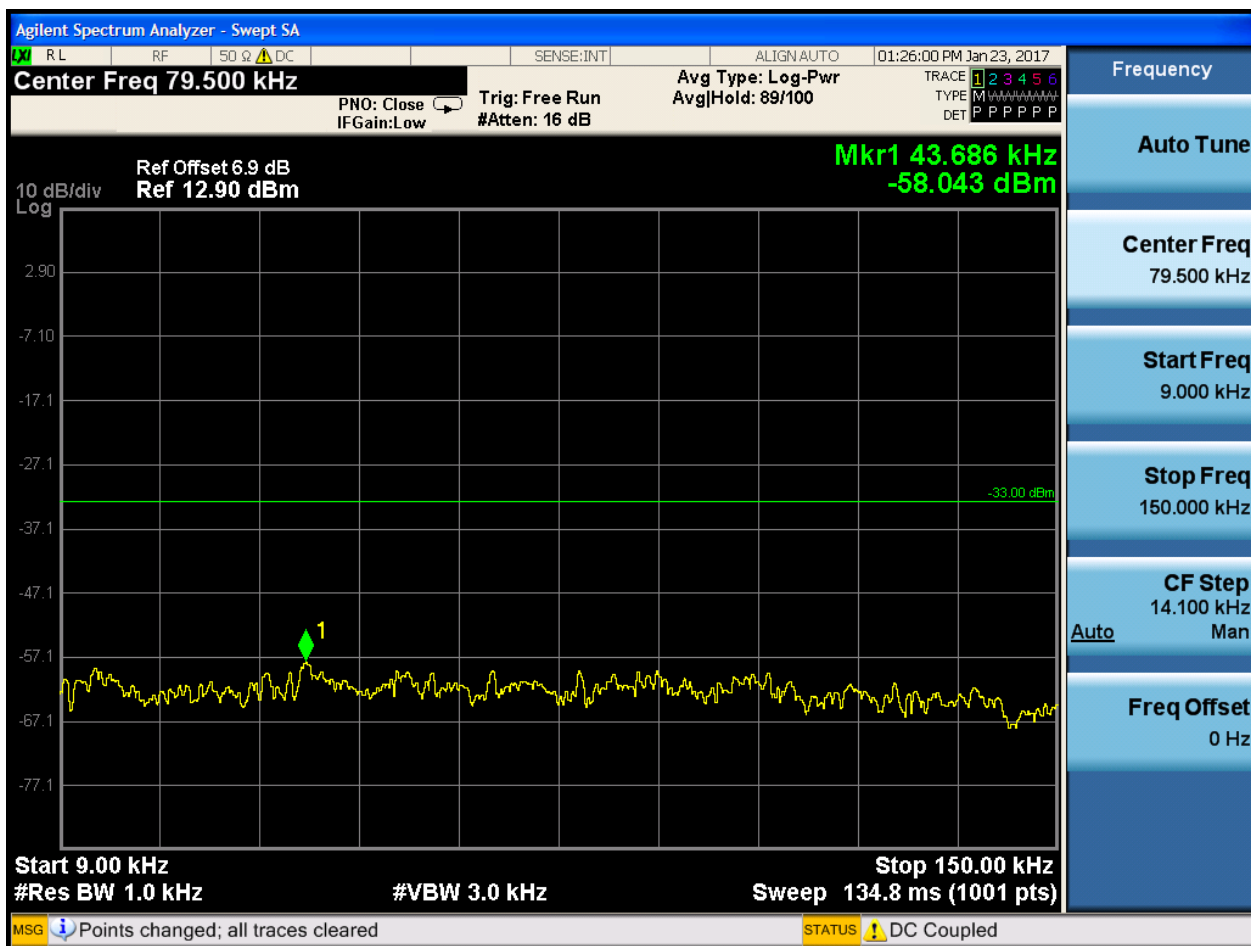


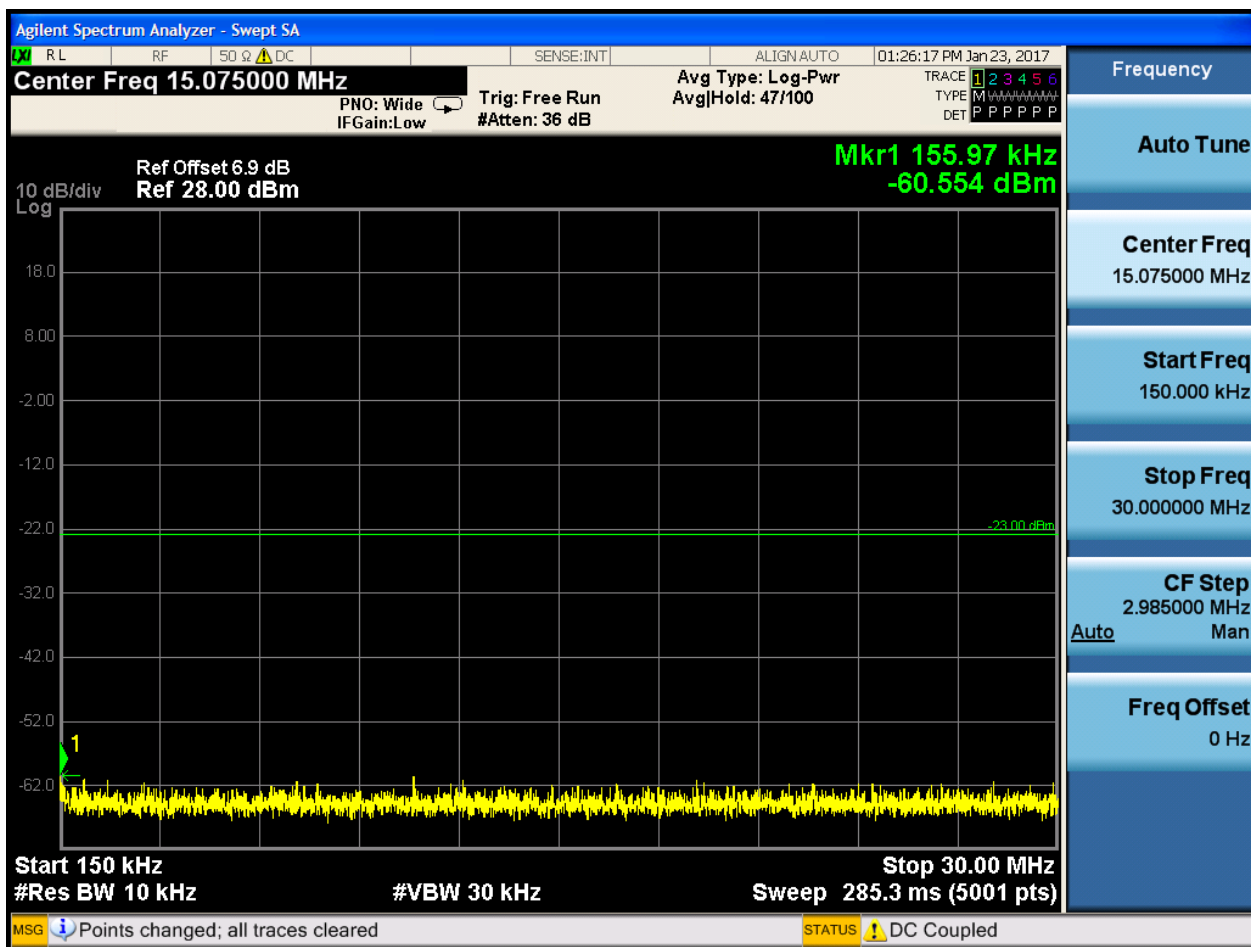


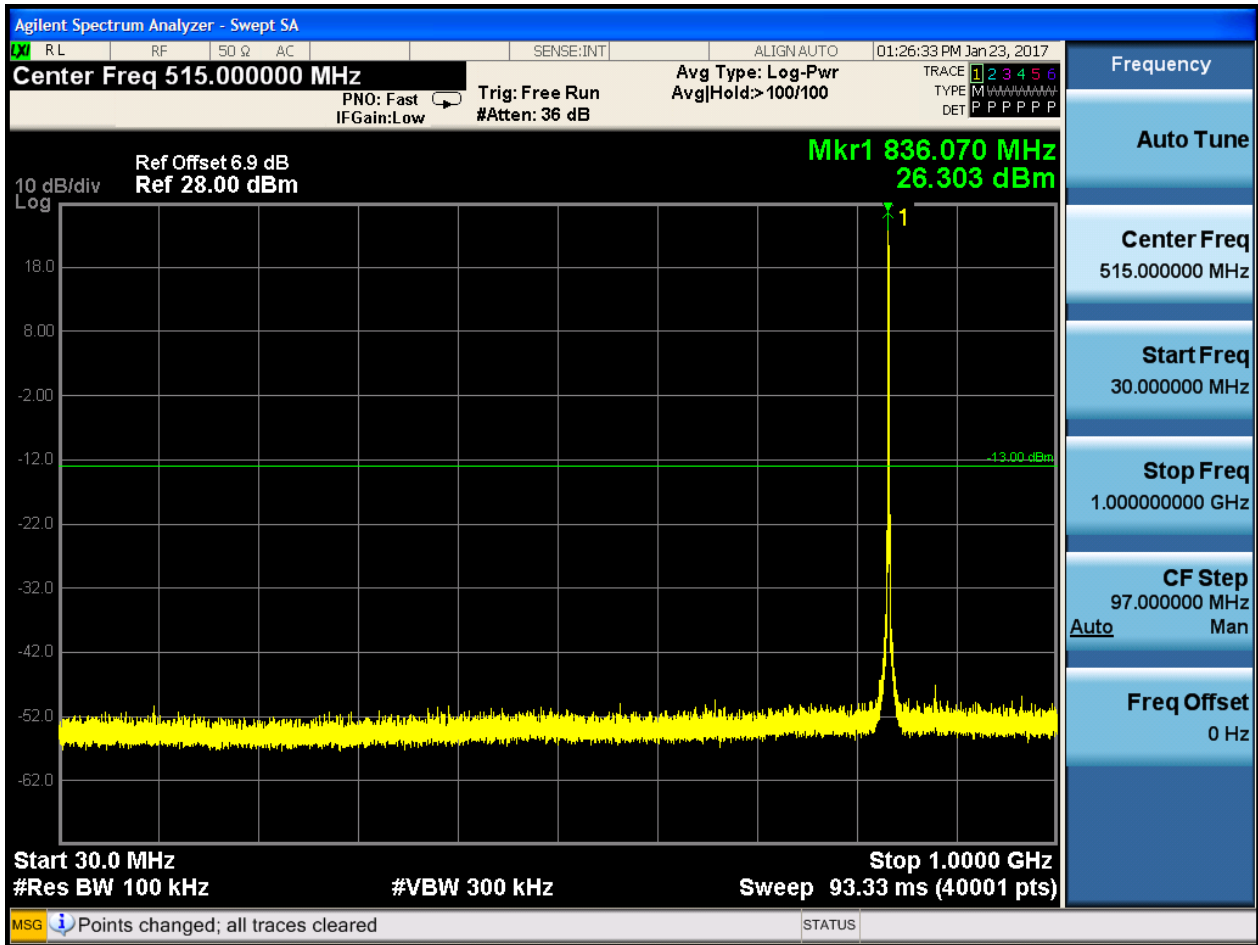


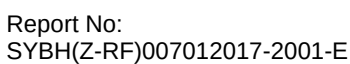
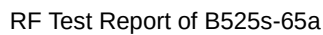
6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0





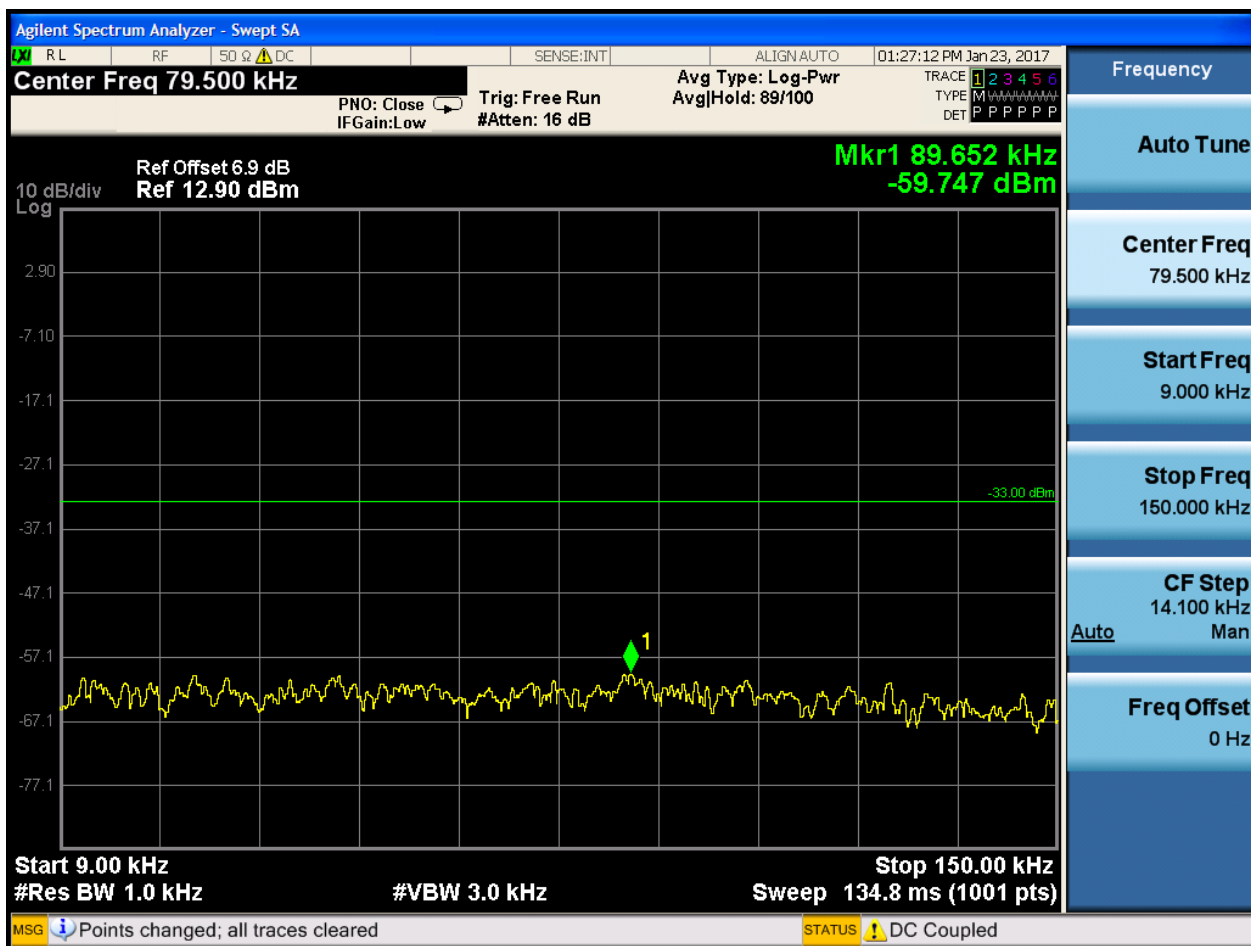


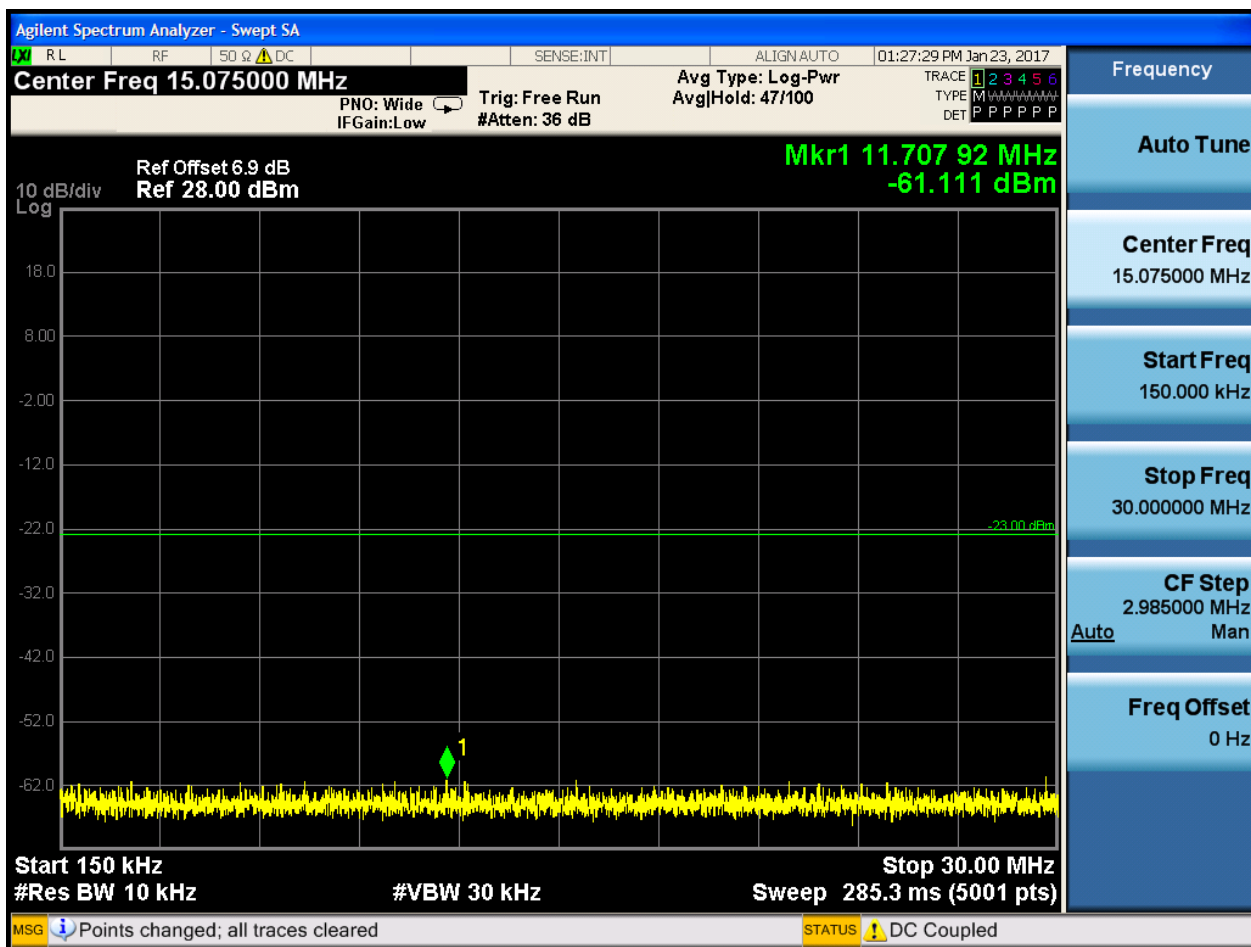


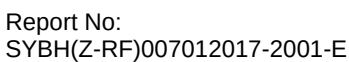
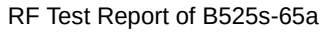


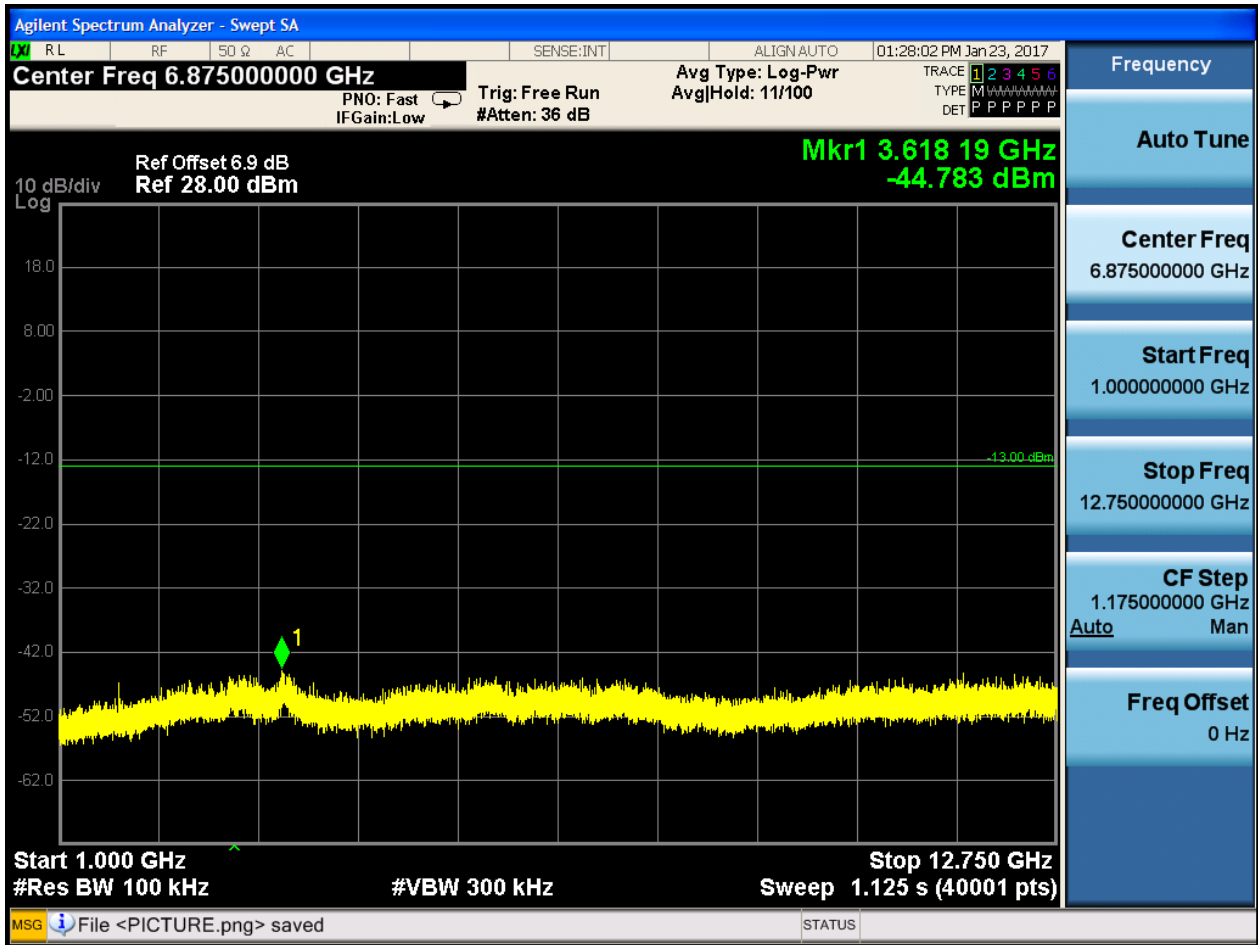
6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0







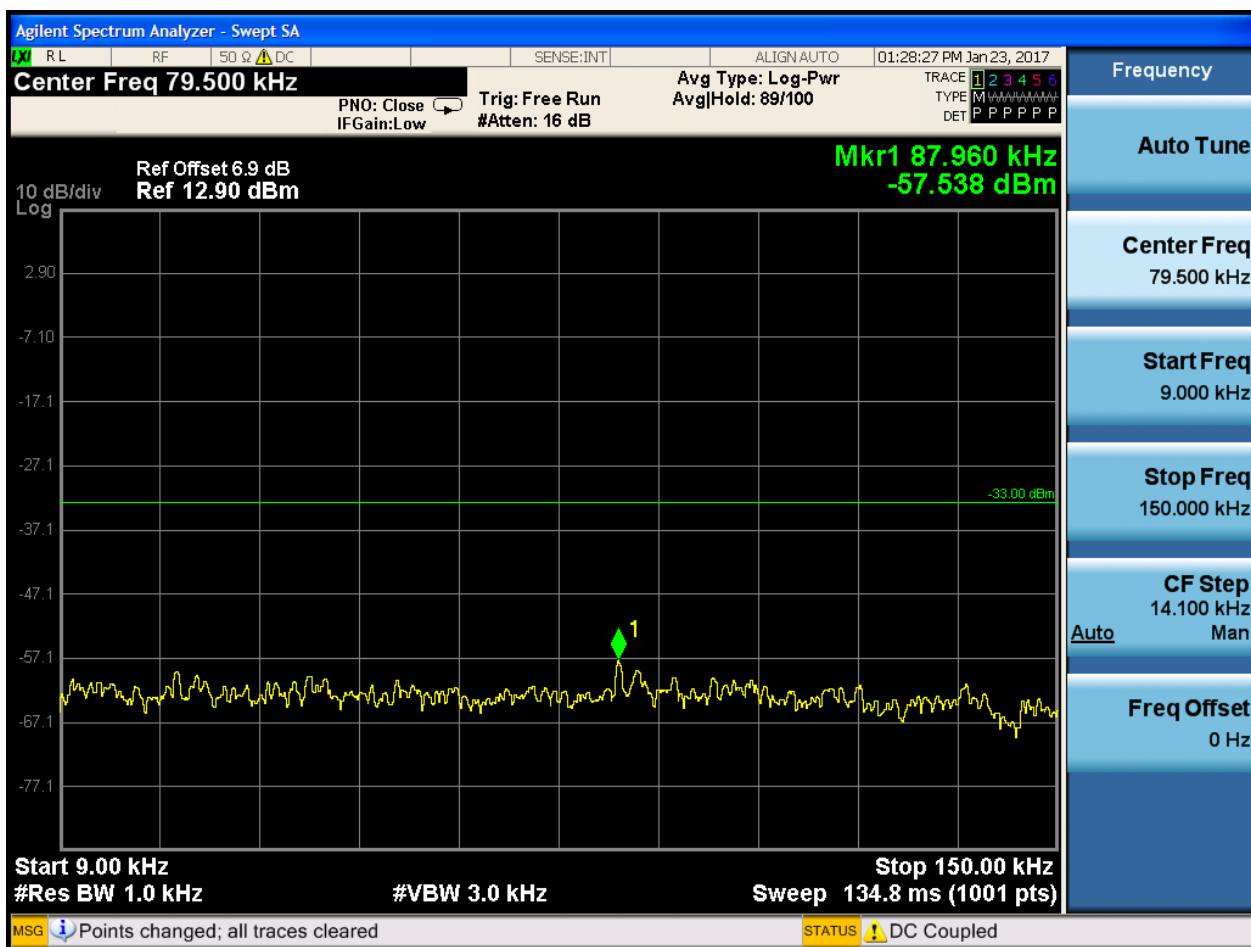


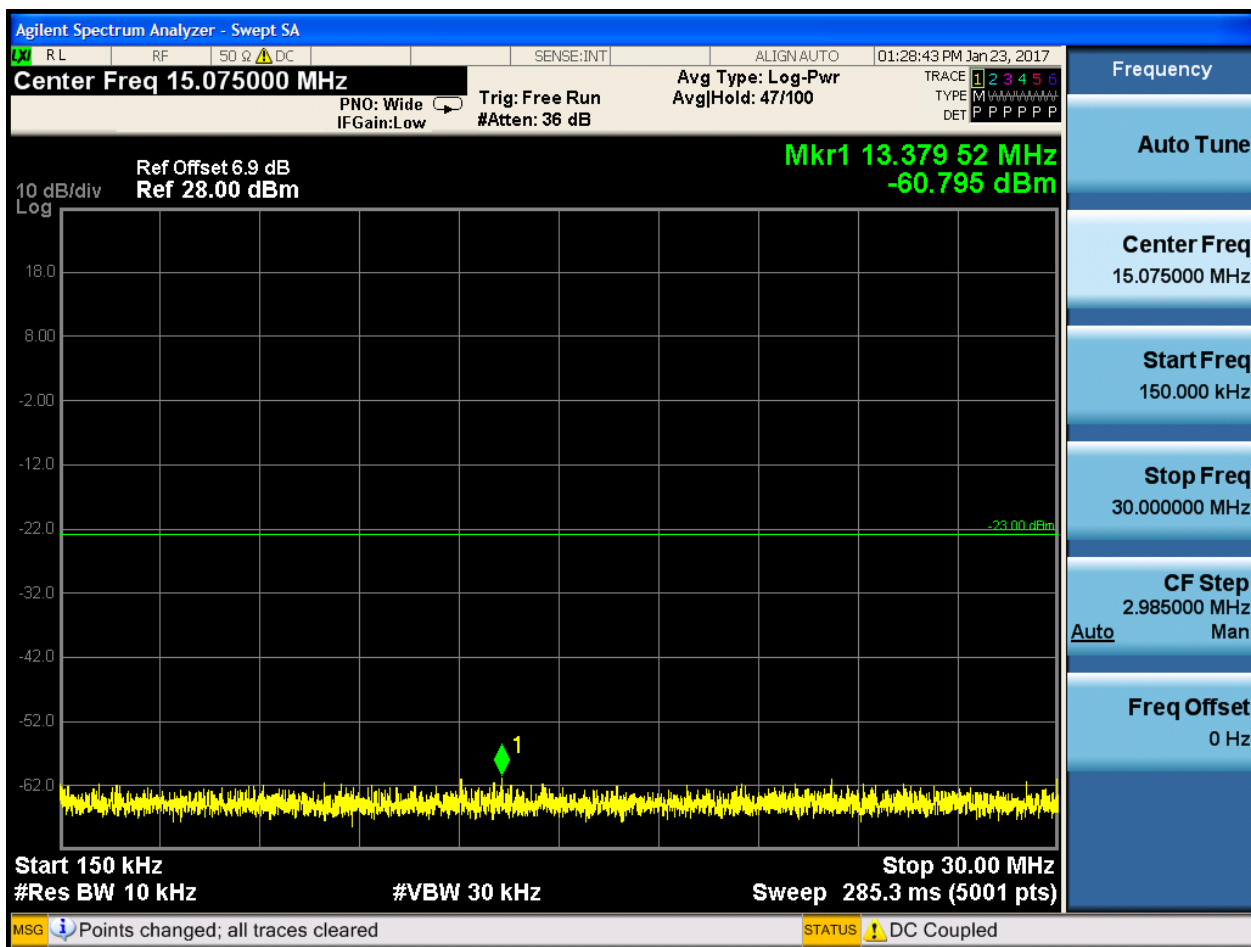


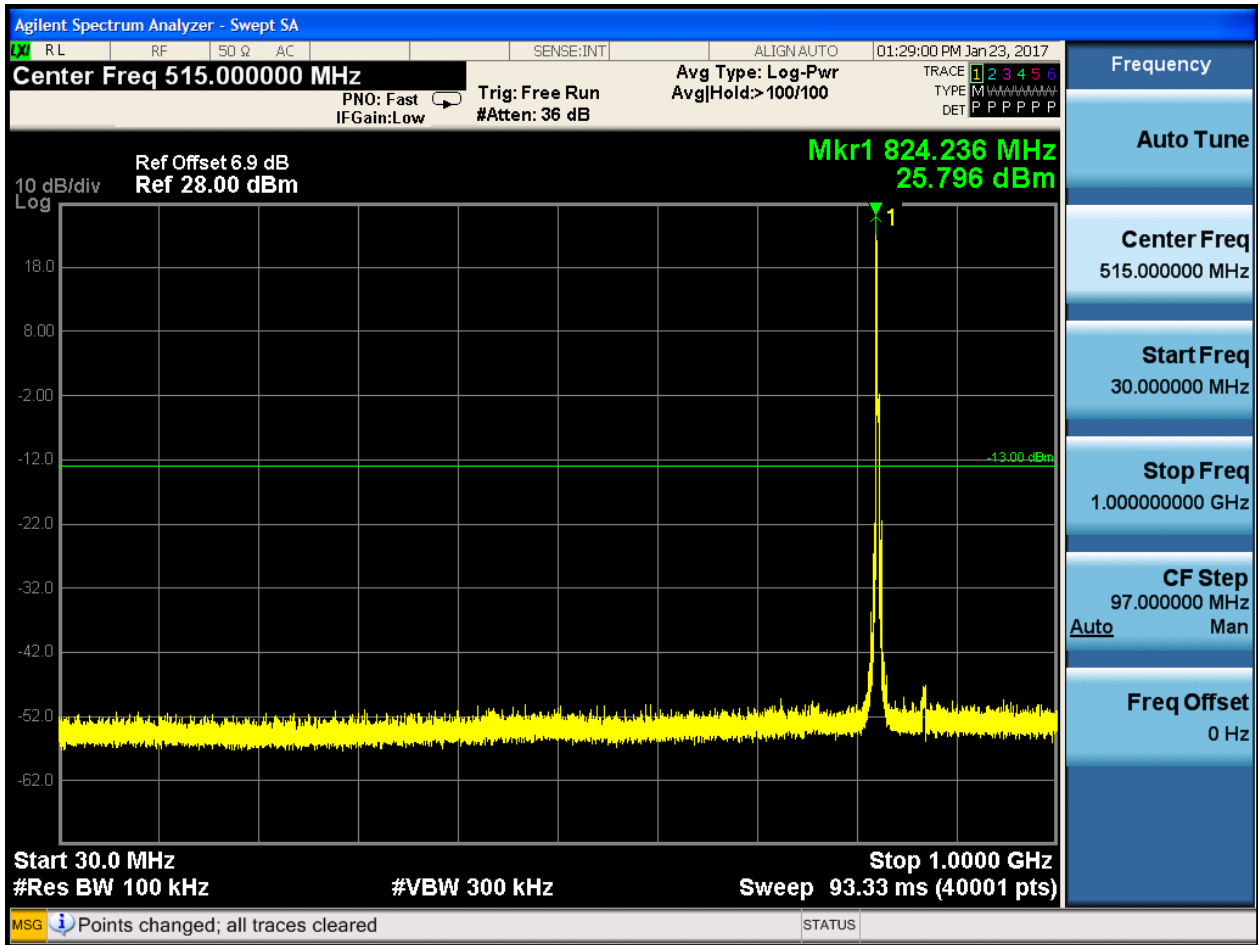
6.1.1.2.2 Test Bandwidth = 3

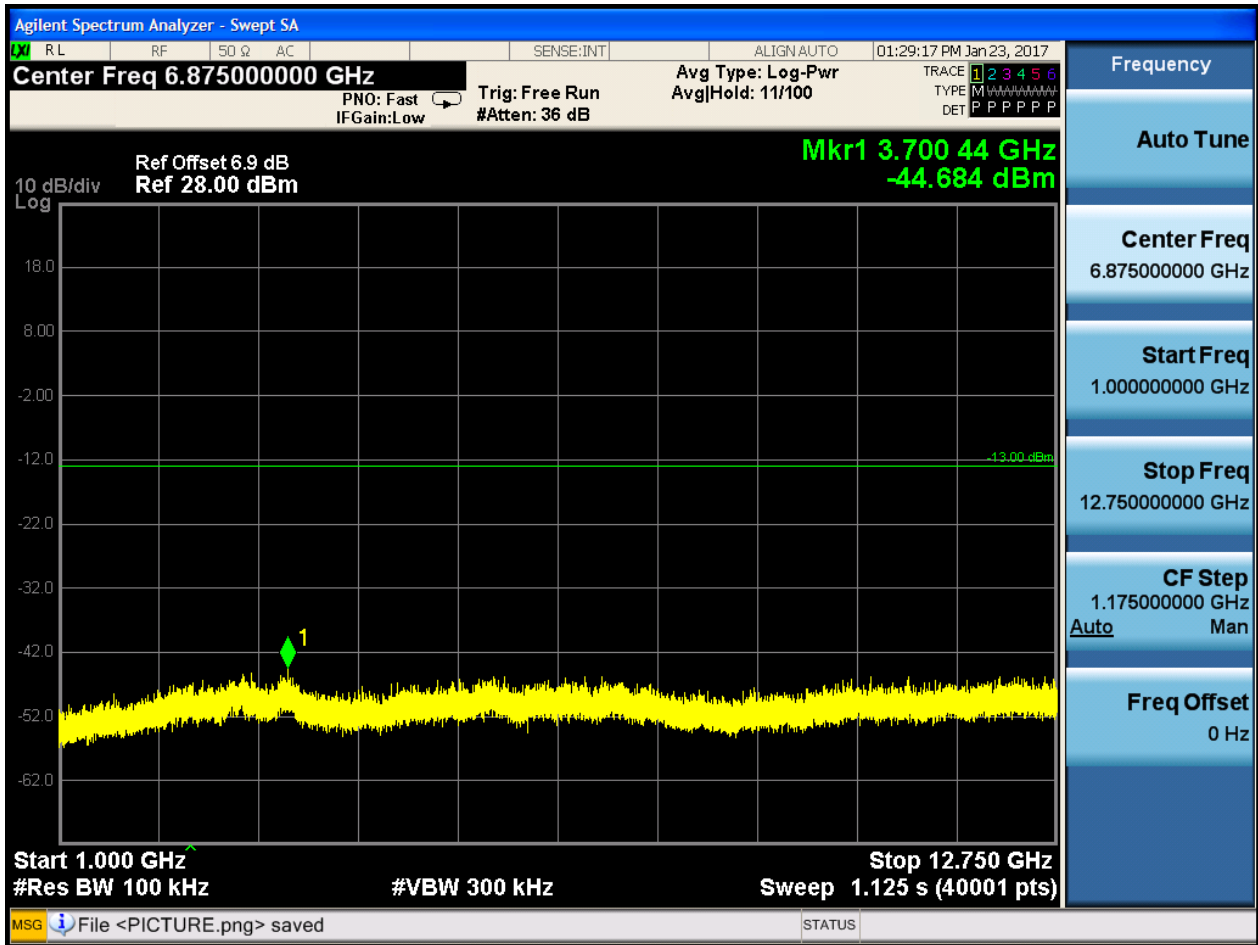
6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0



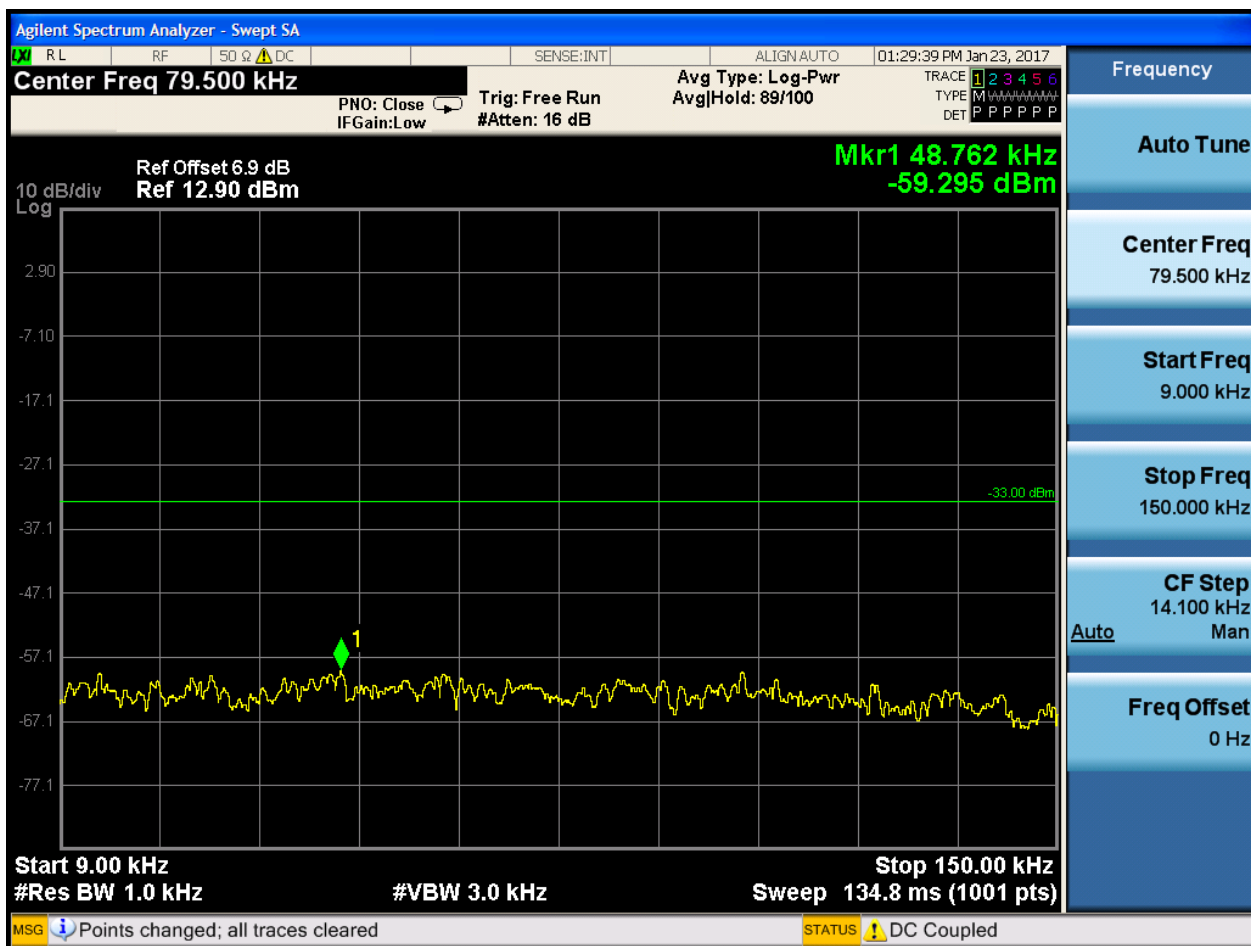


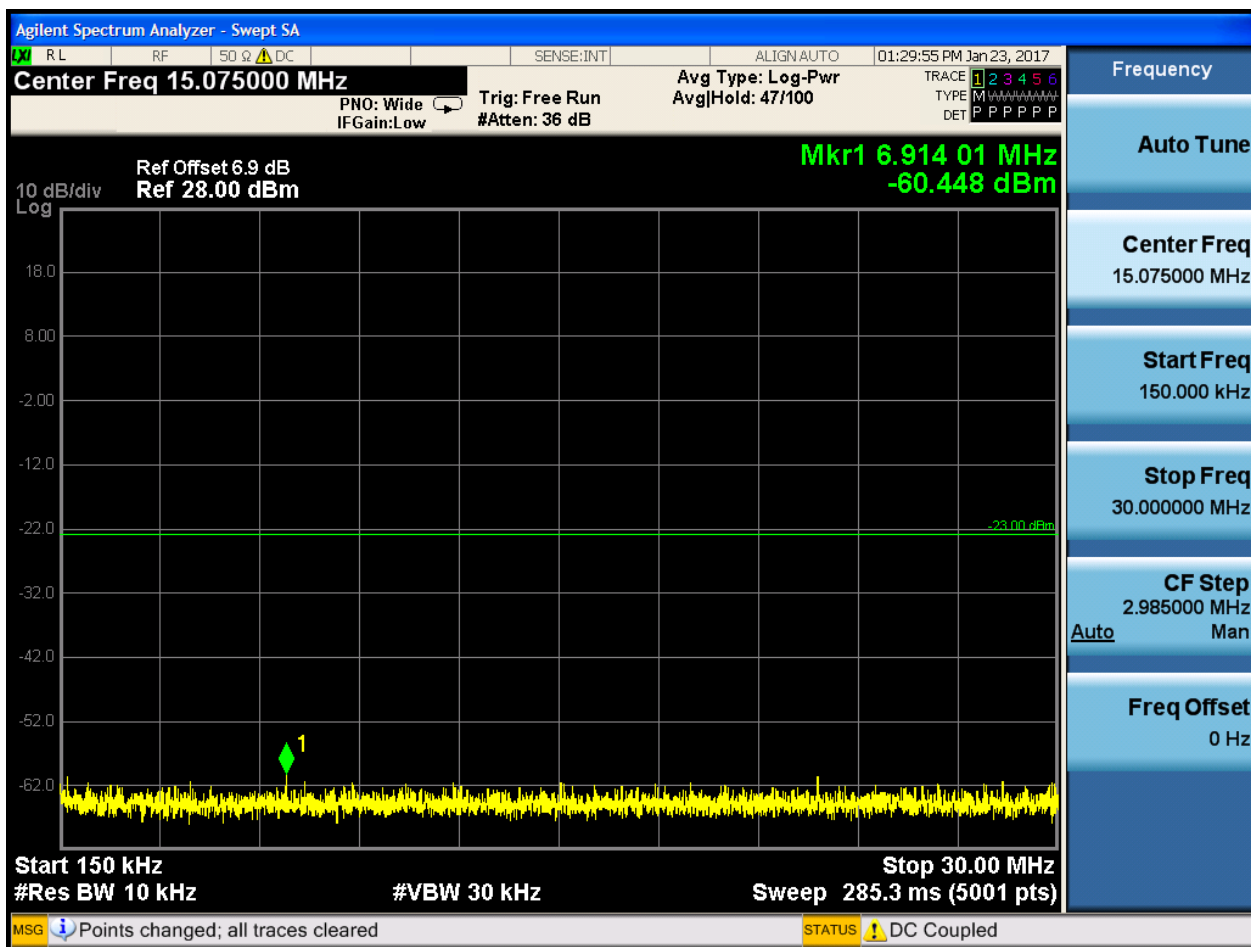


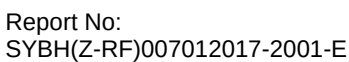
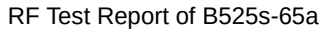


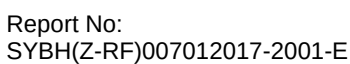
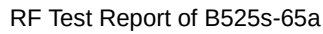
6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0



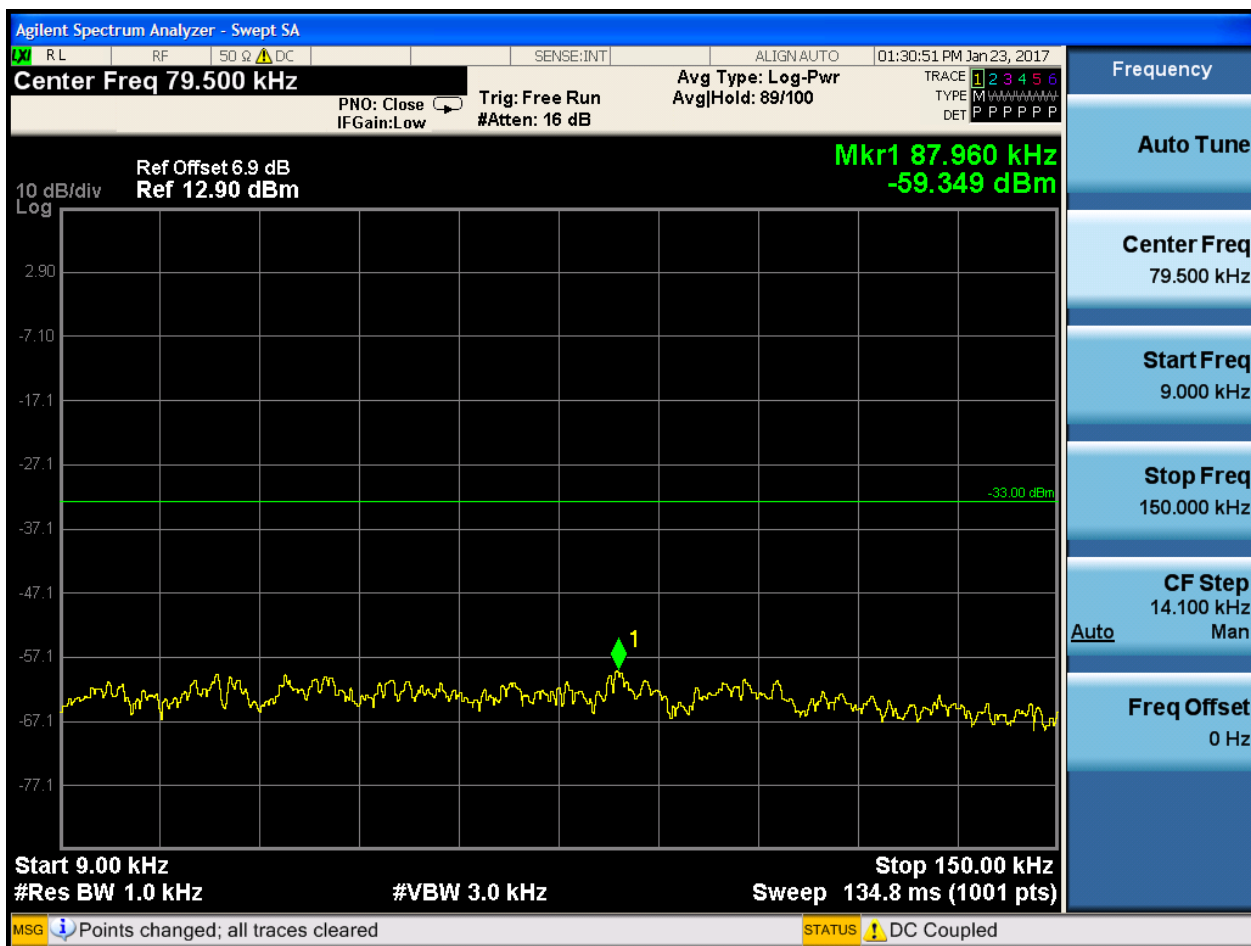


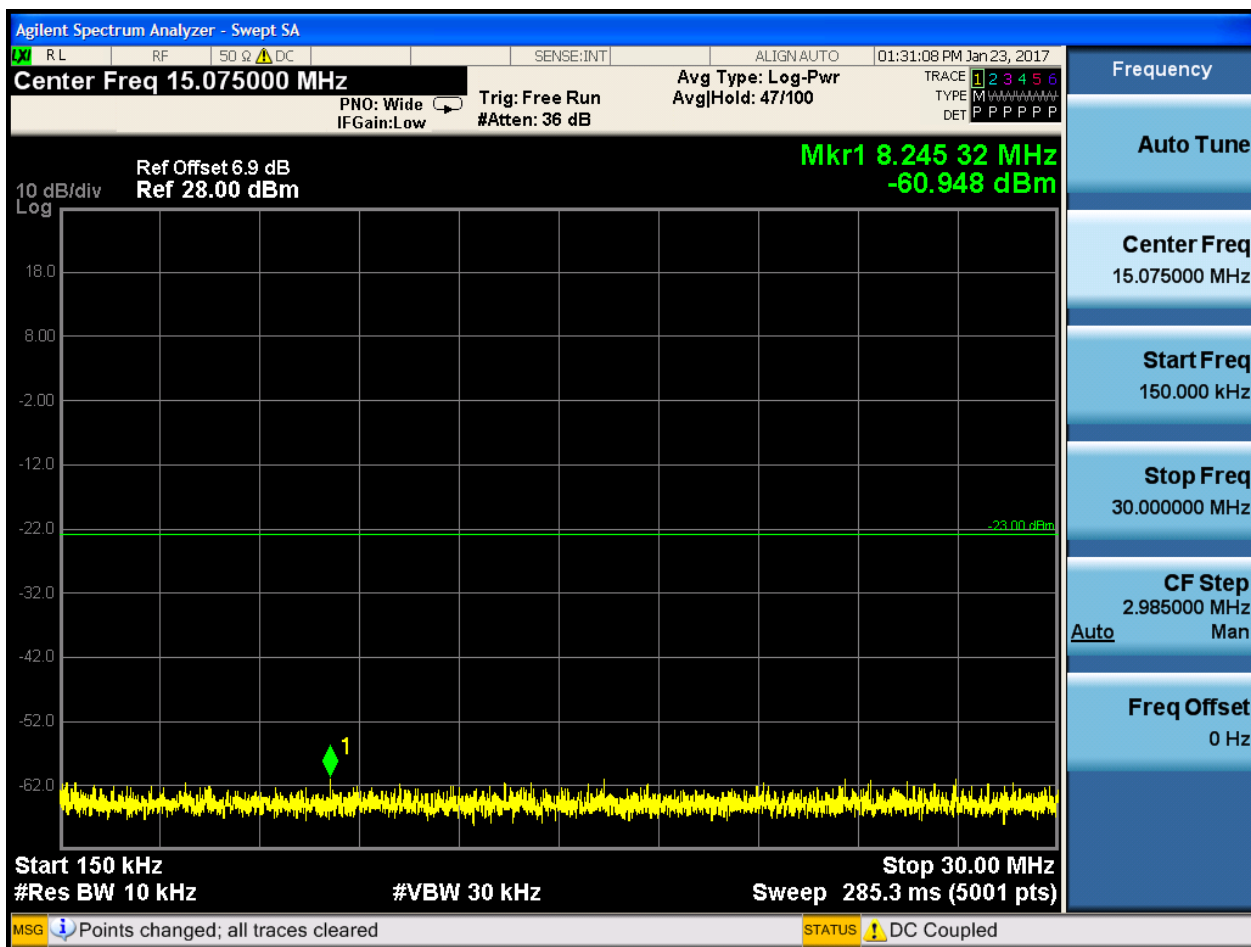


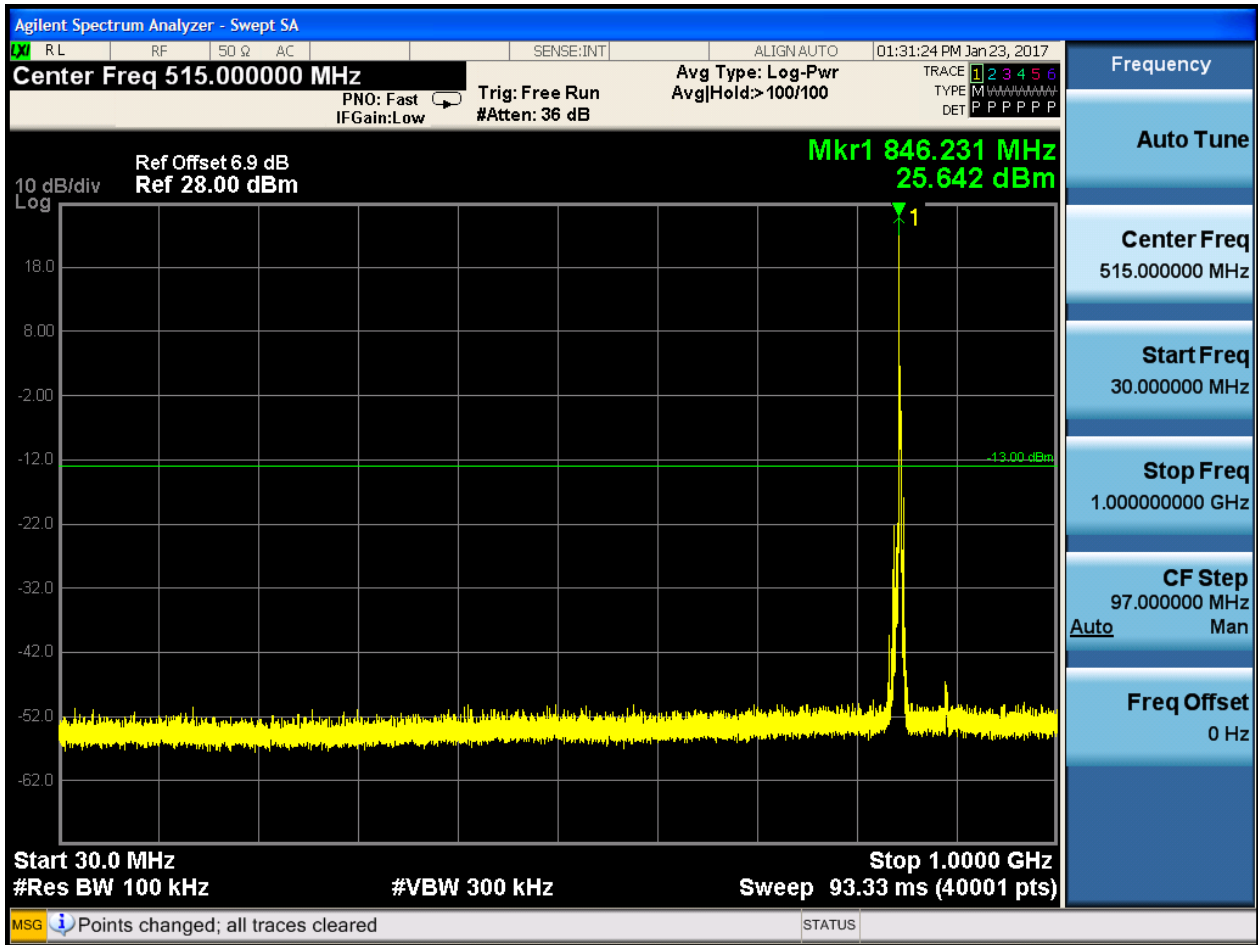


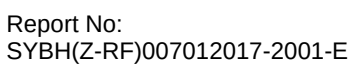
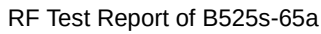
6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0







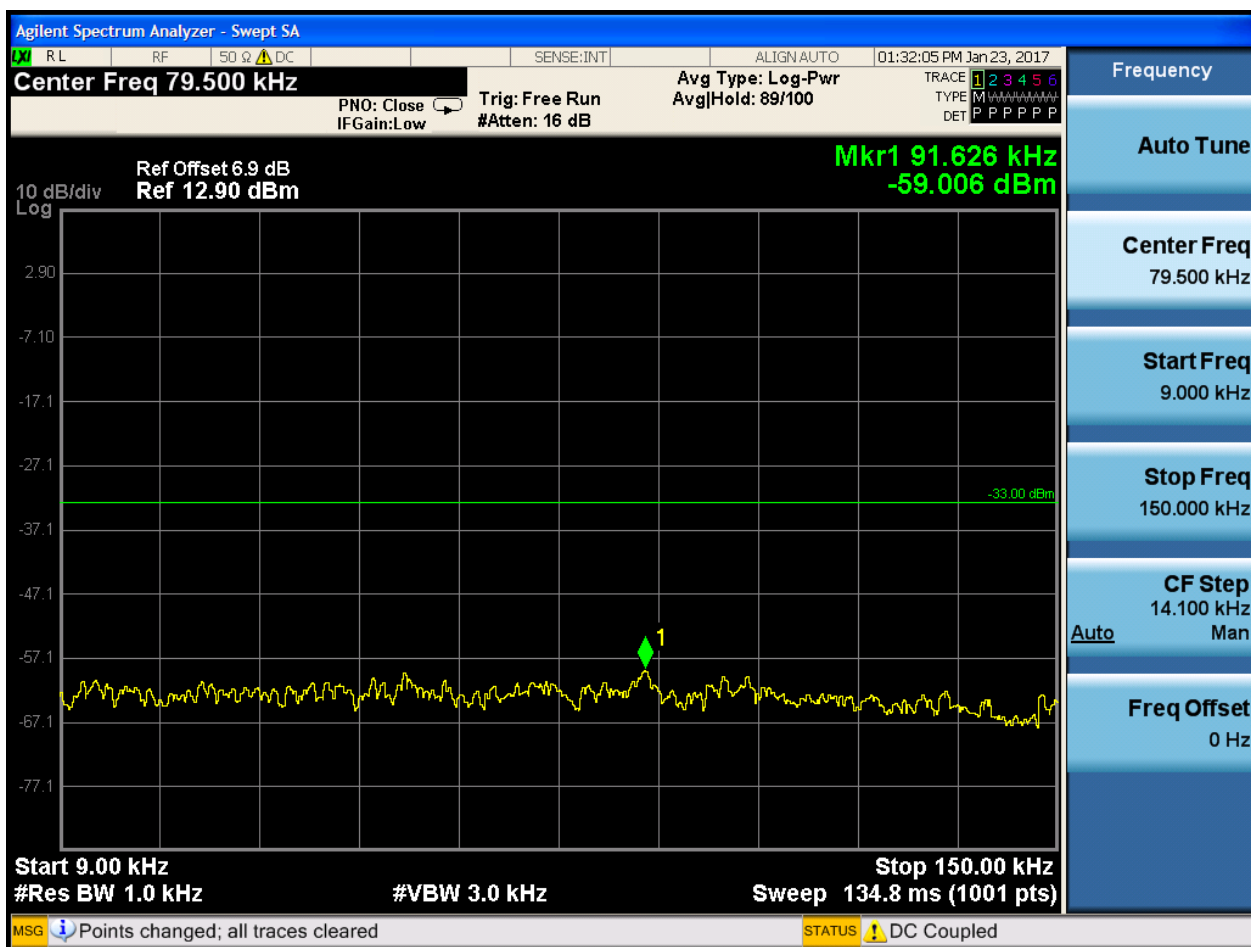


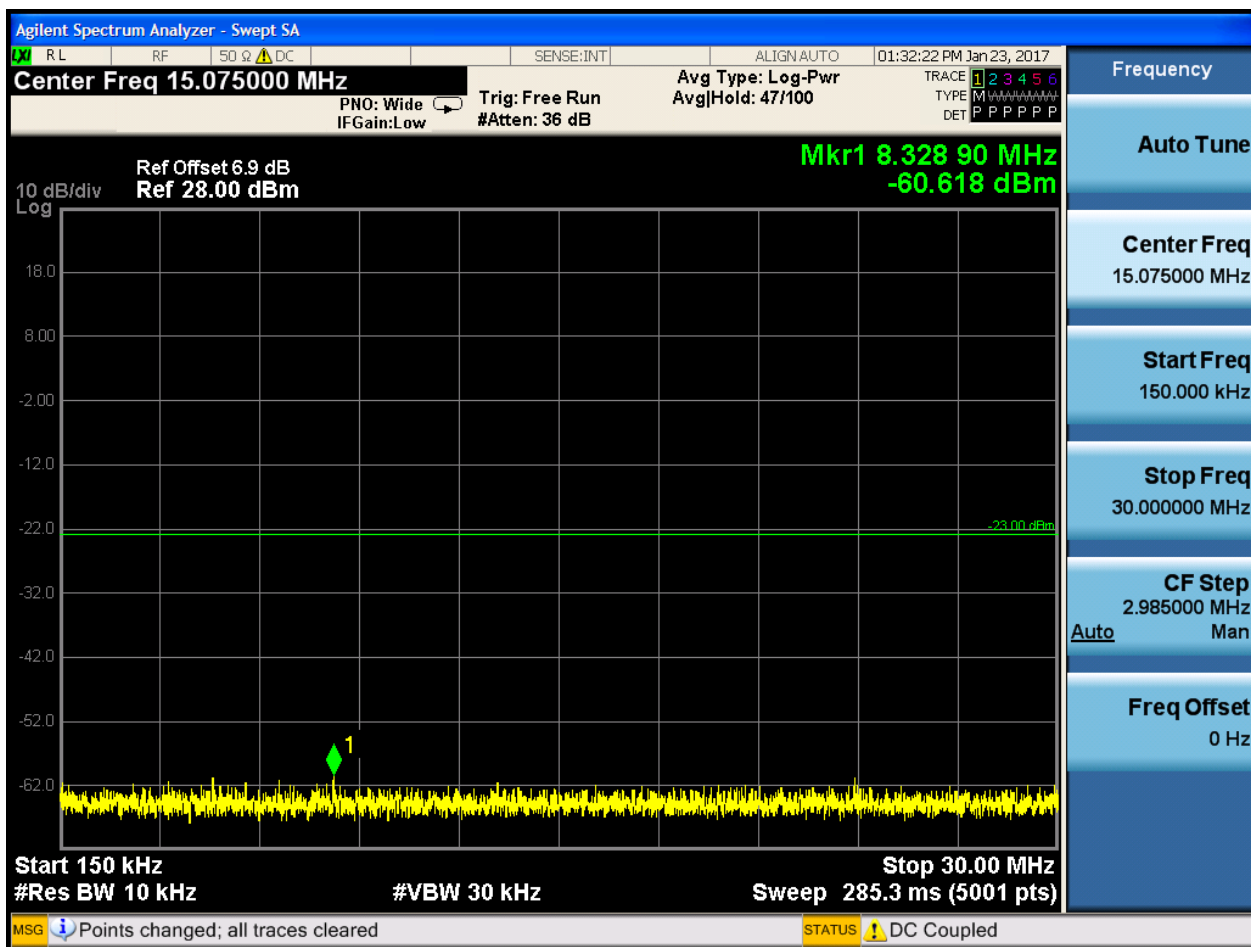


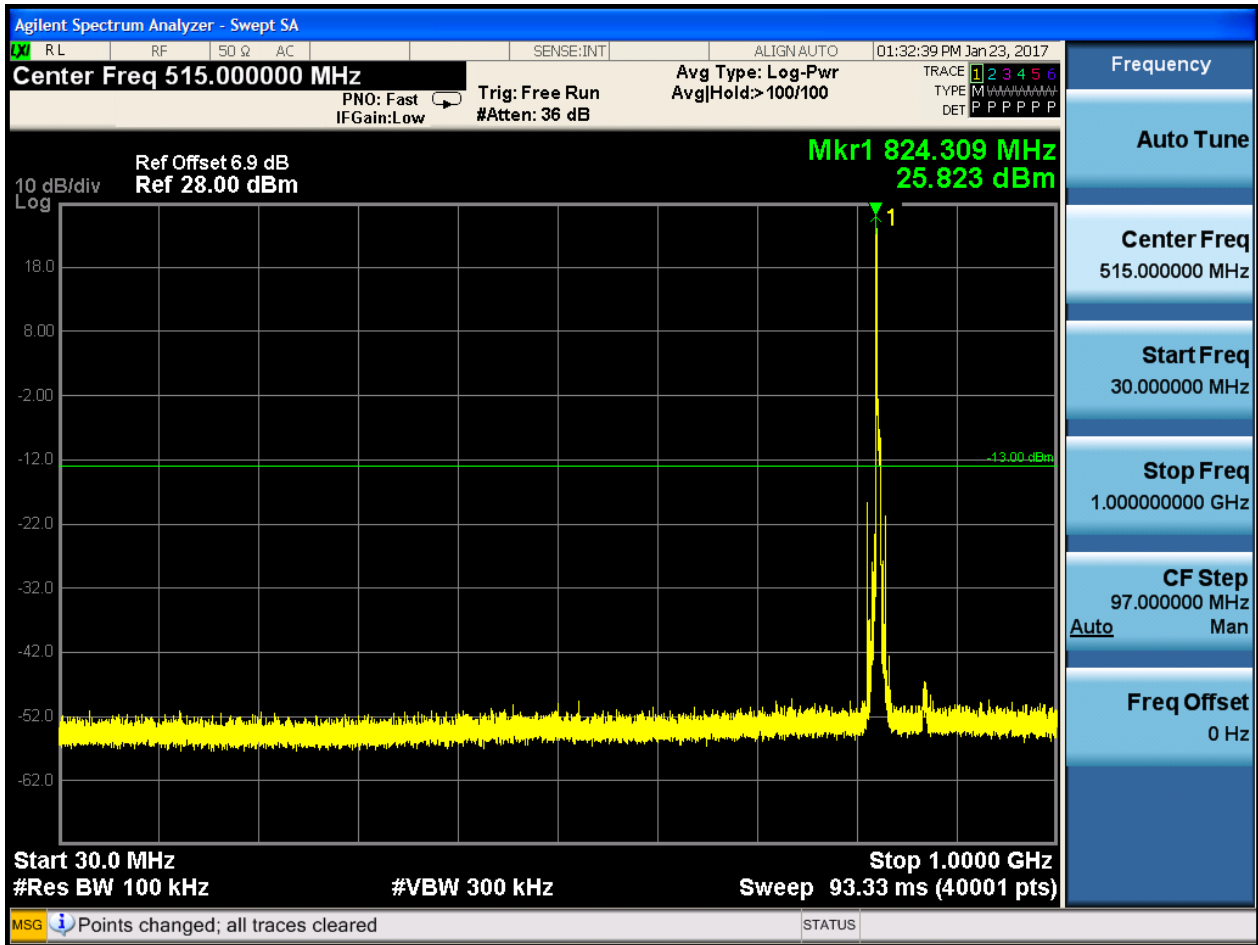
6.1.1.2.3 Test Bandwidth = 5

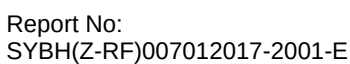
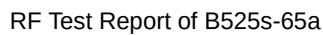
6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0





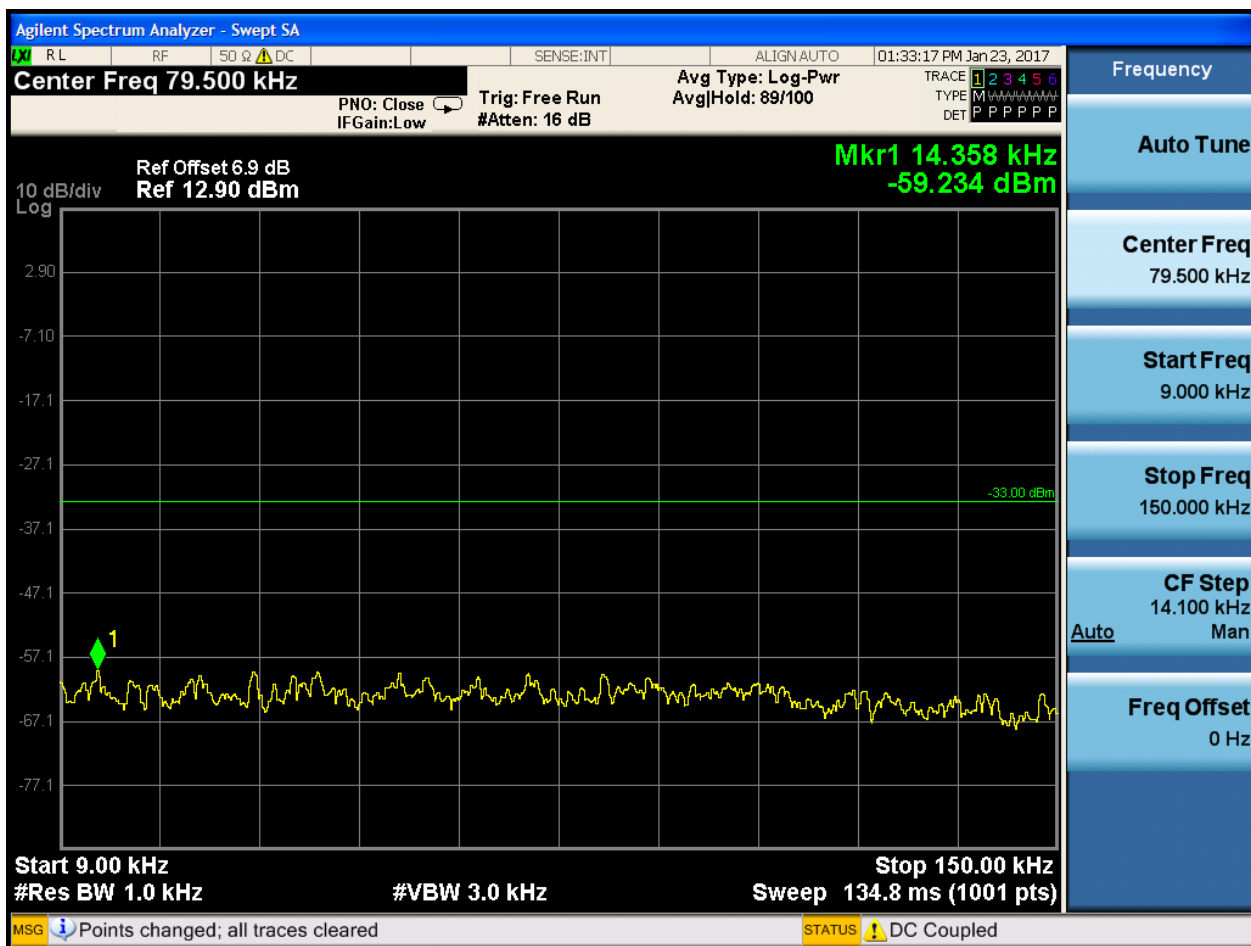


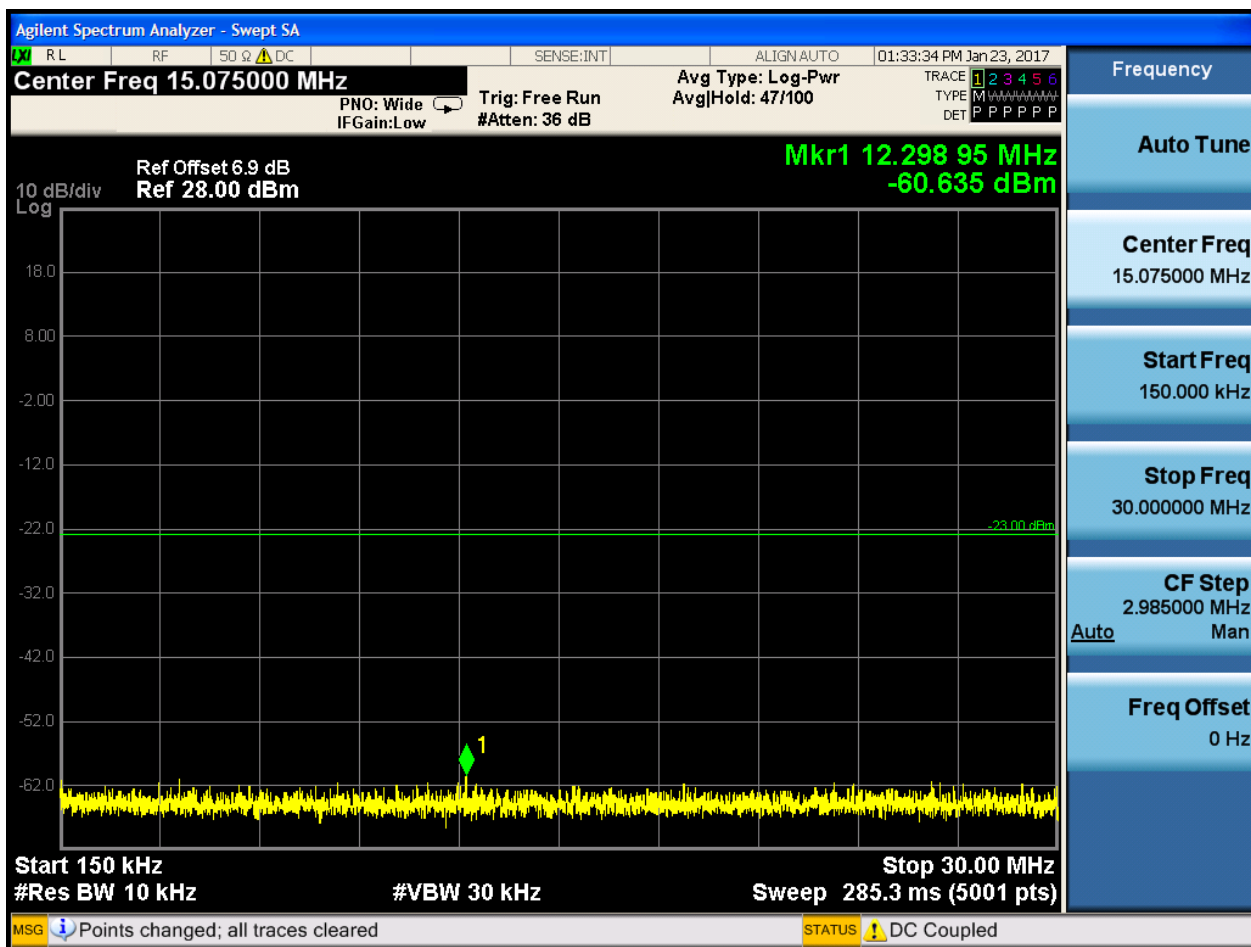


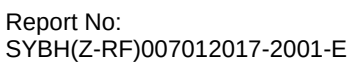
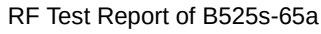


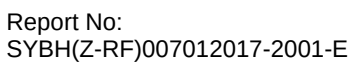
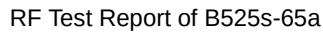
6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0



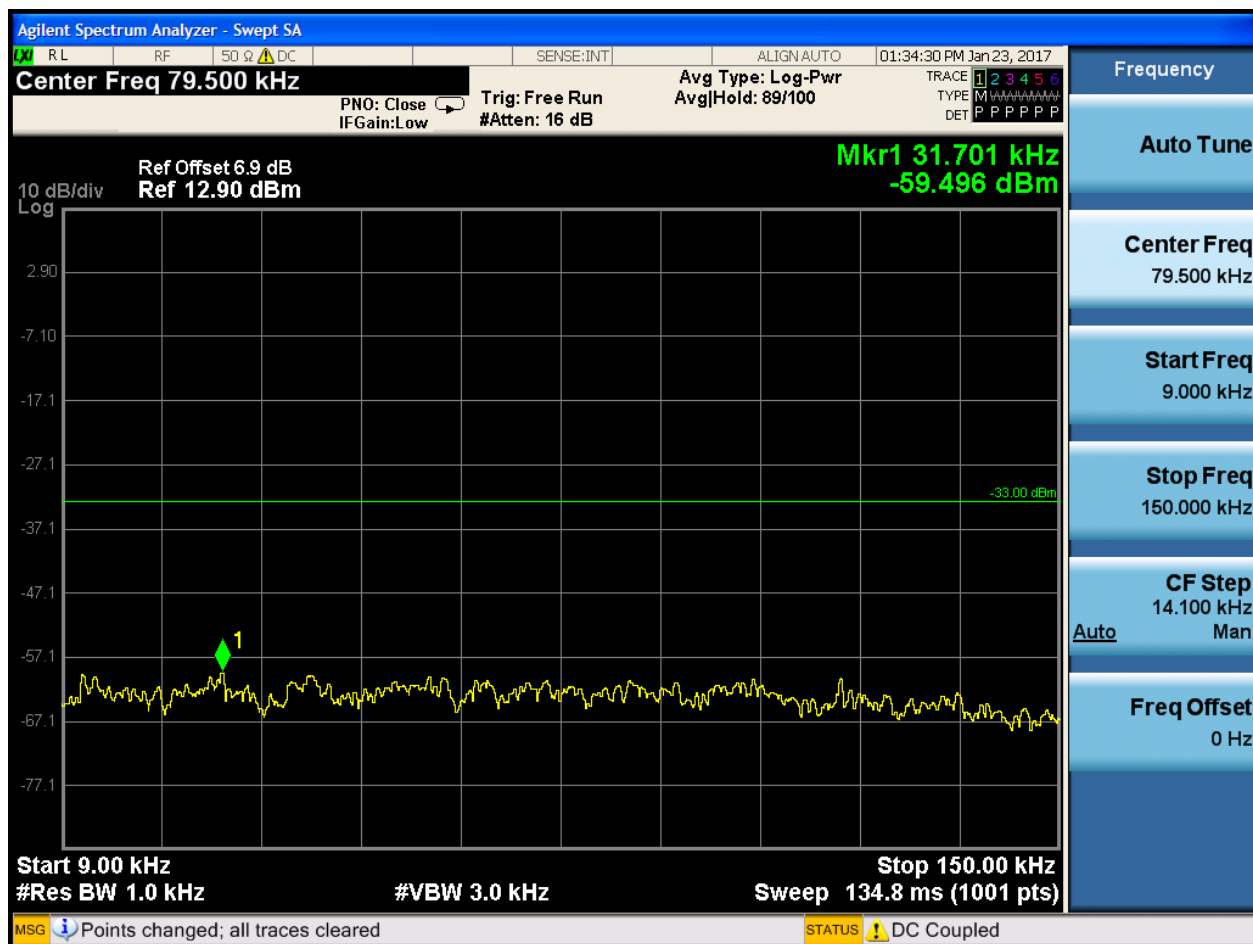


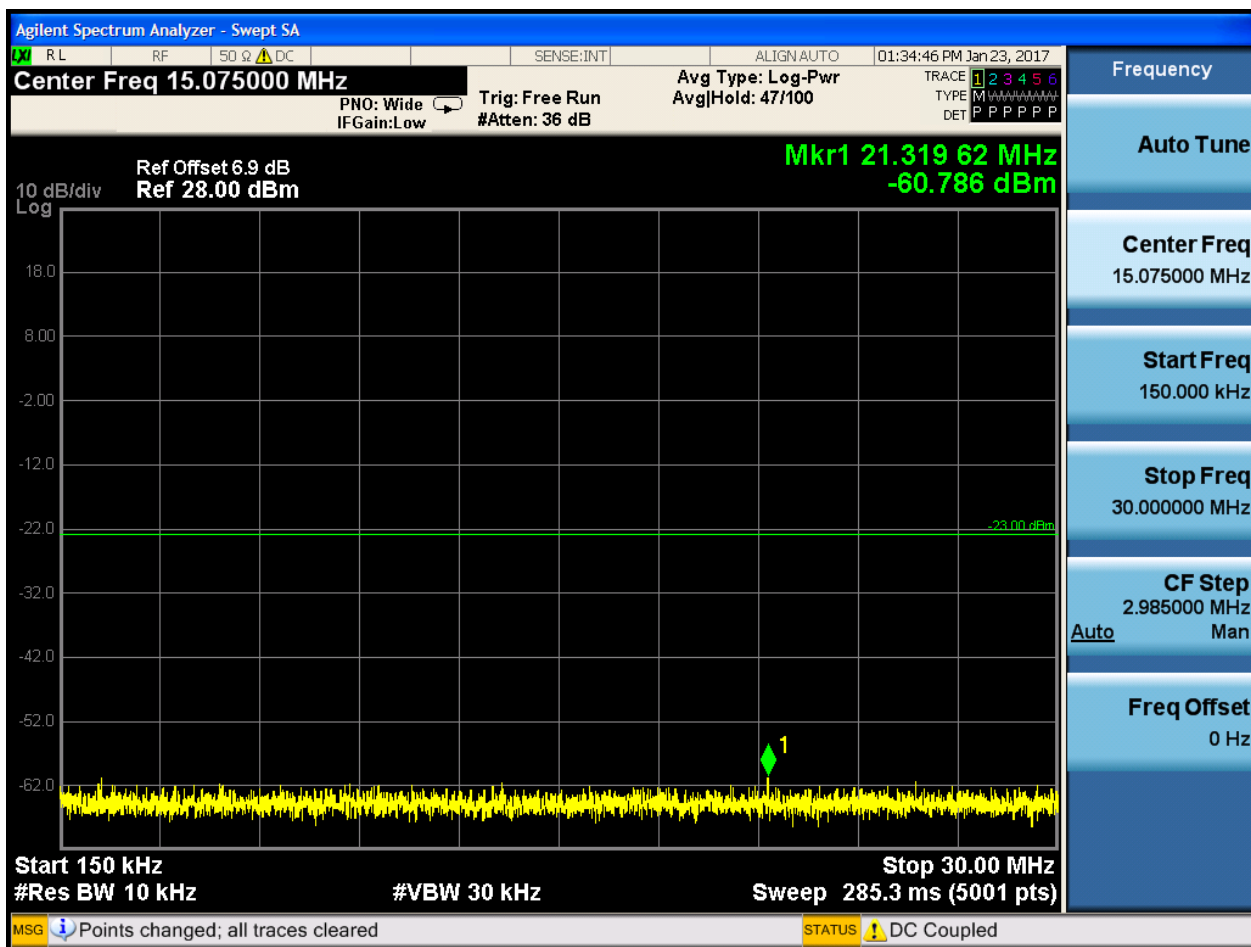


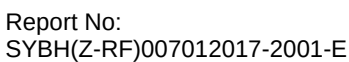
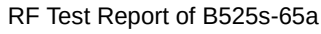


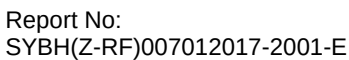
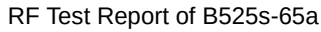
6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0







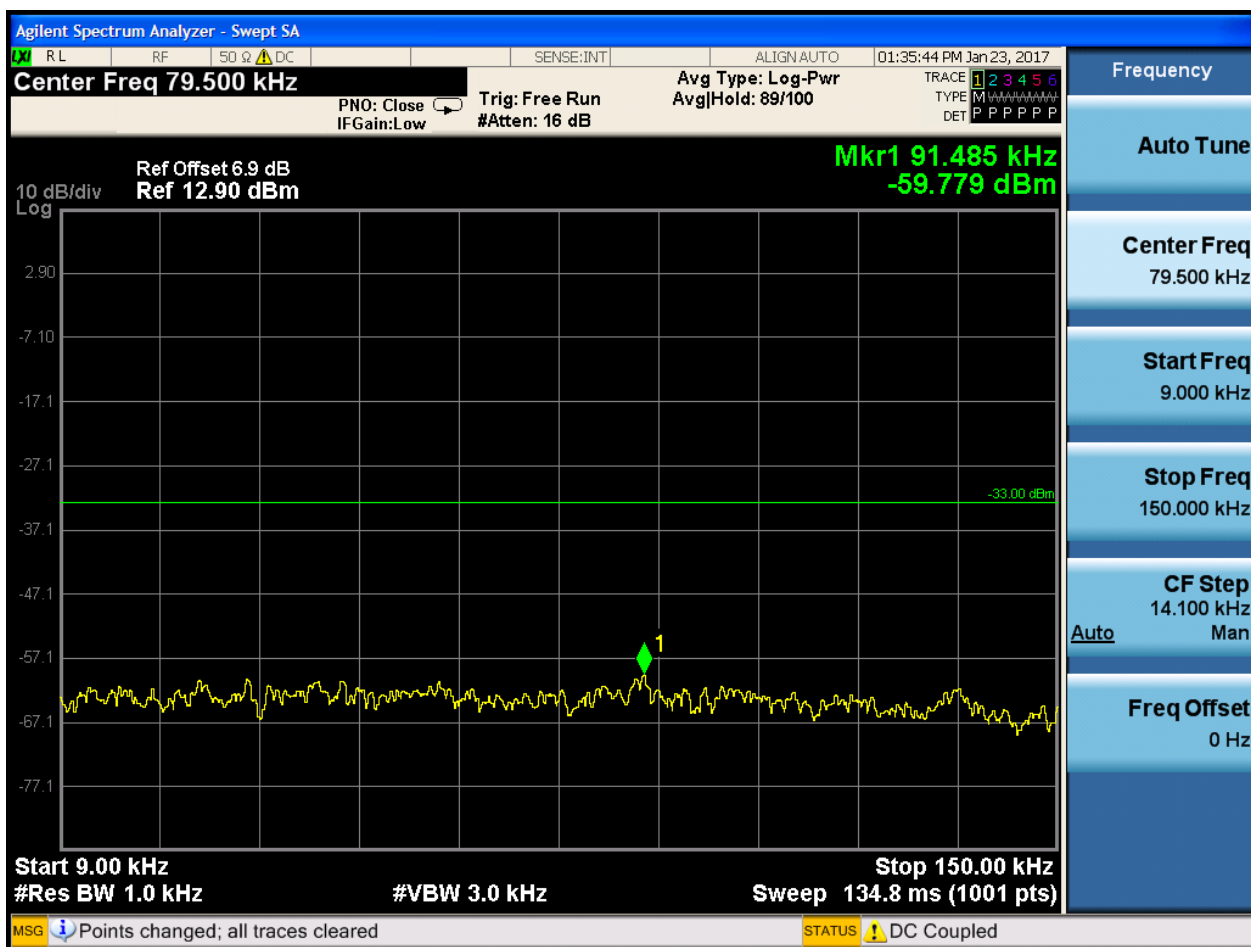


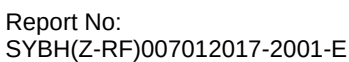
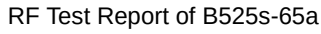


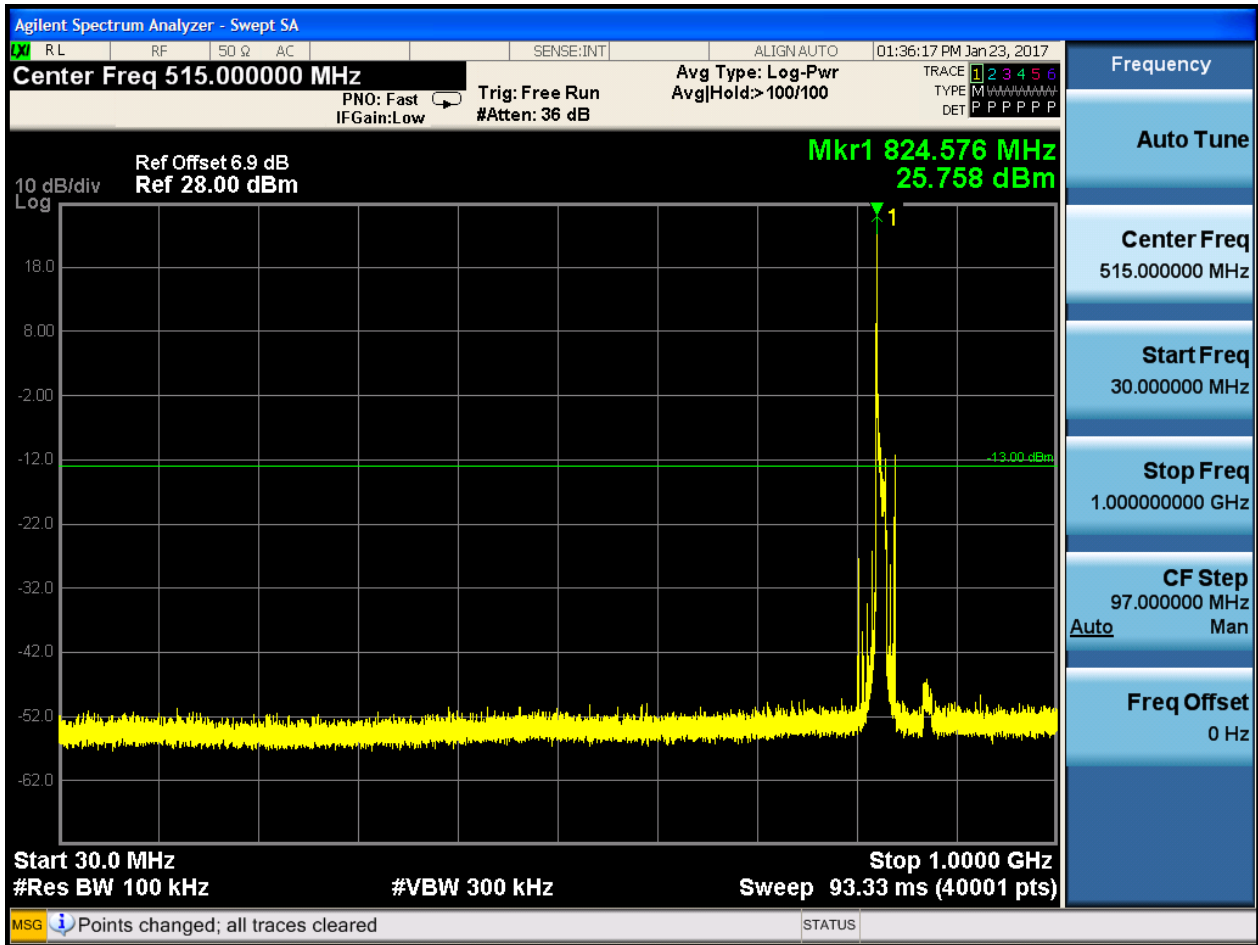
6.1.1.2.4 Test Bandwidth = 10

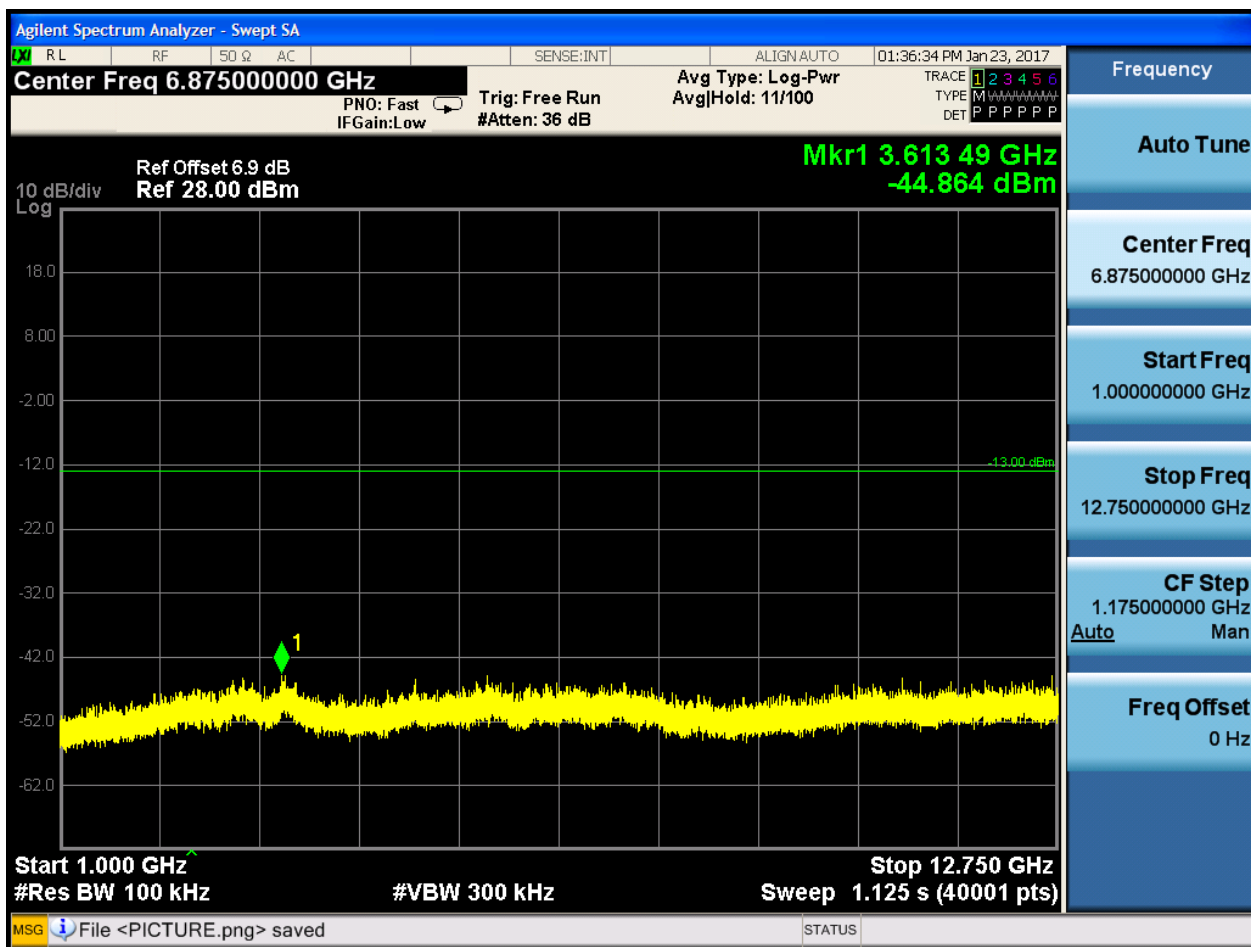
6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0





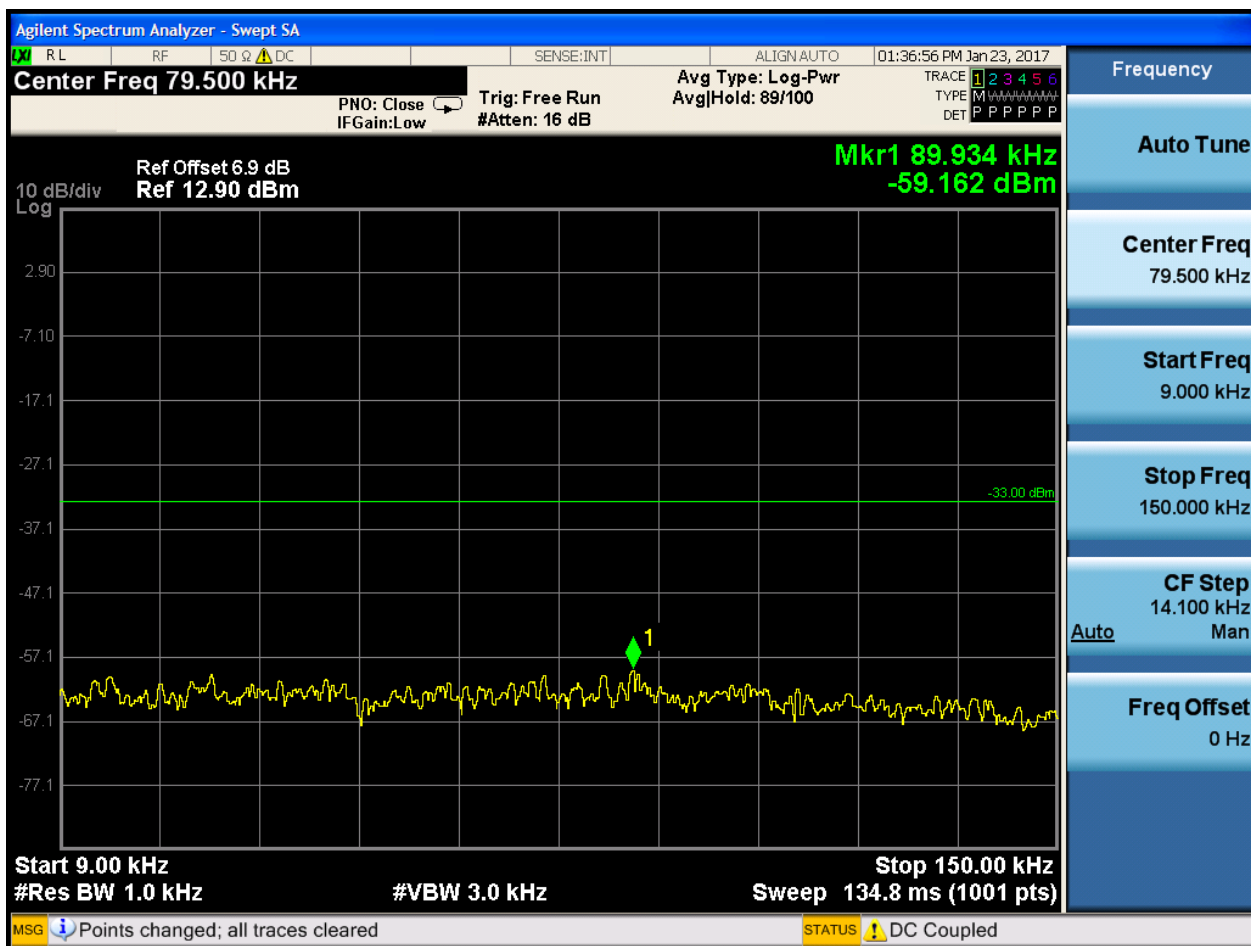


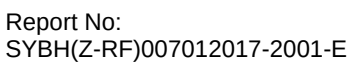
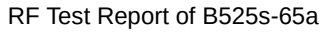


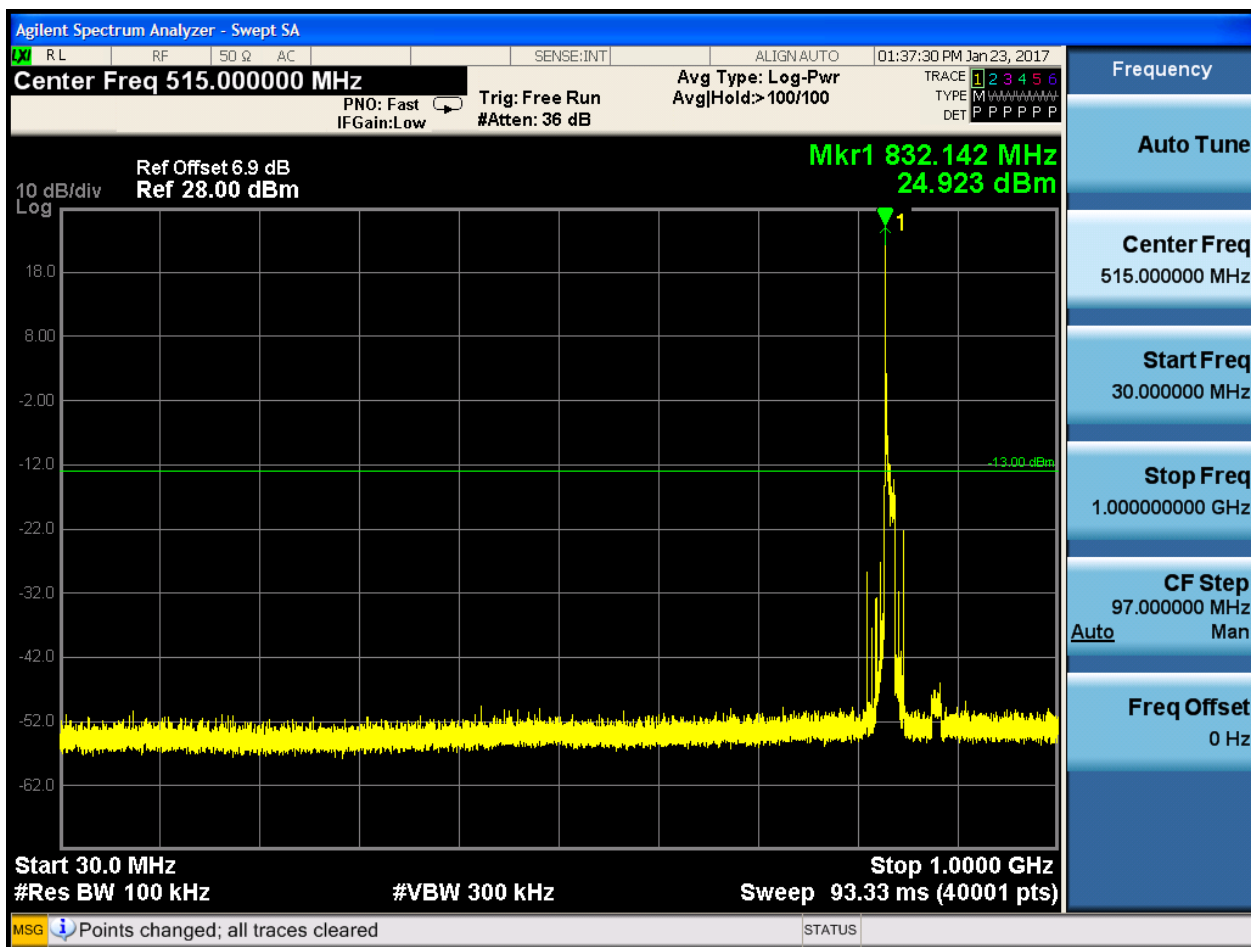


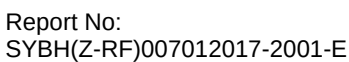
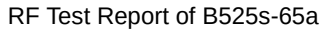
6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0





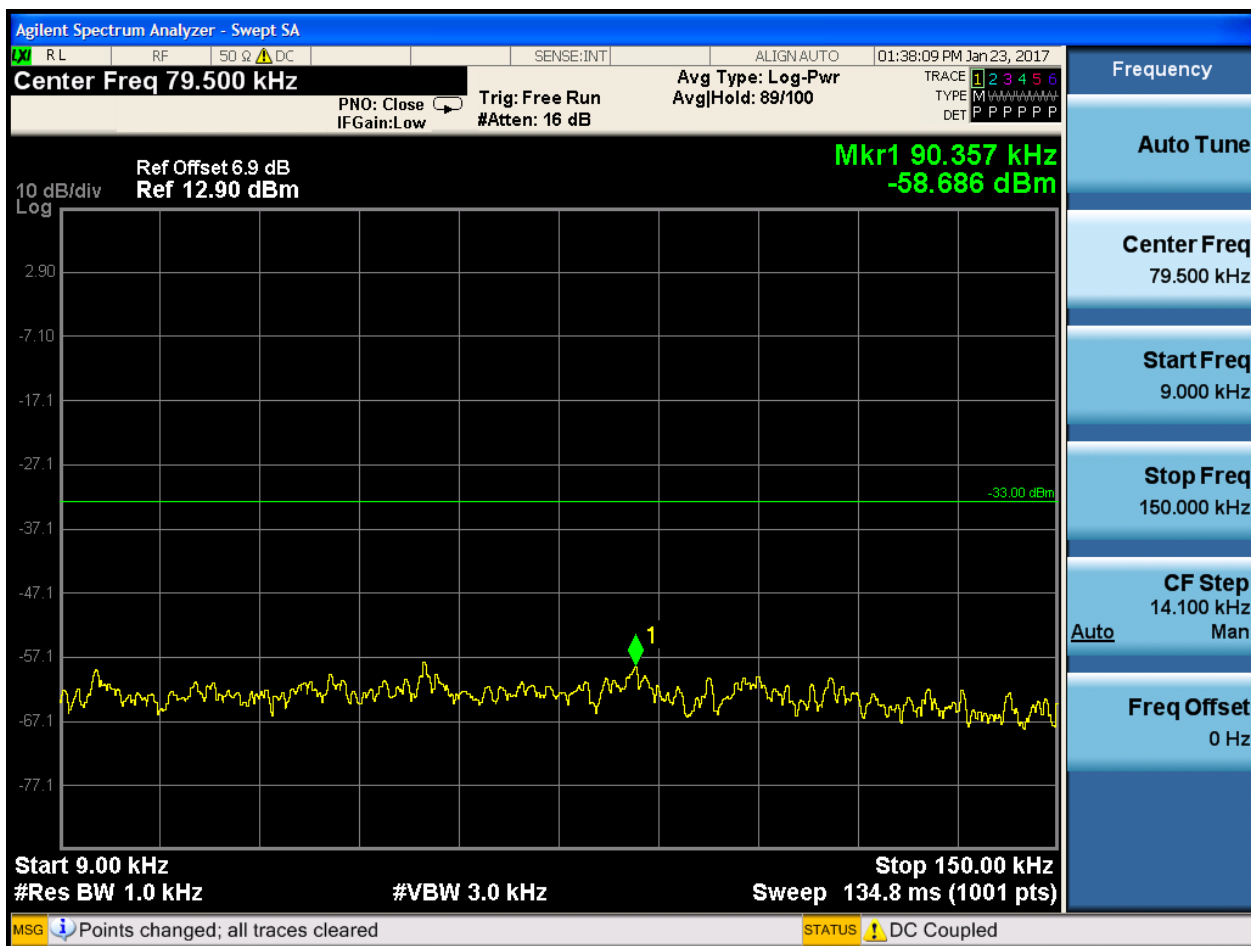


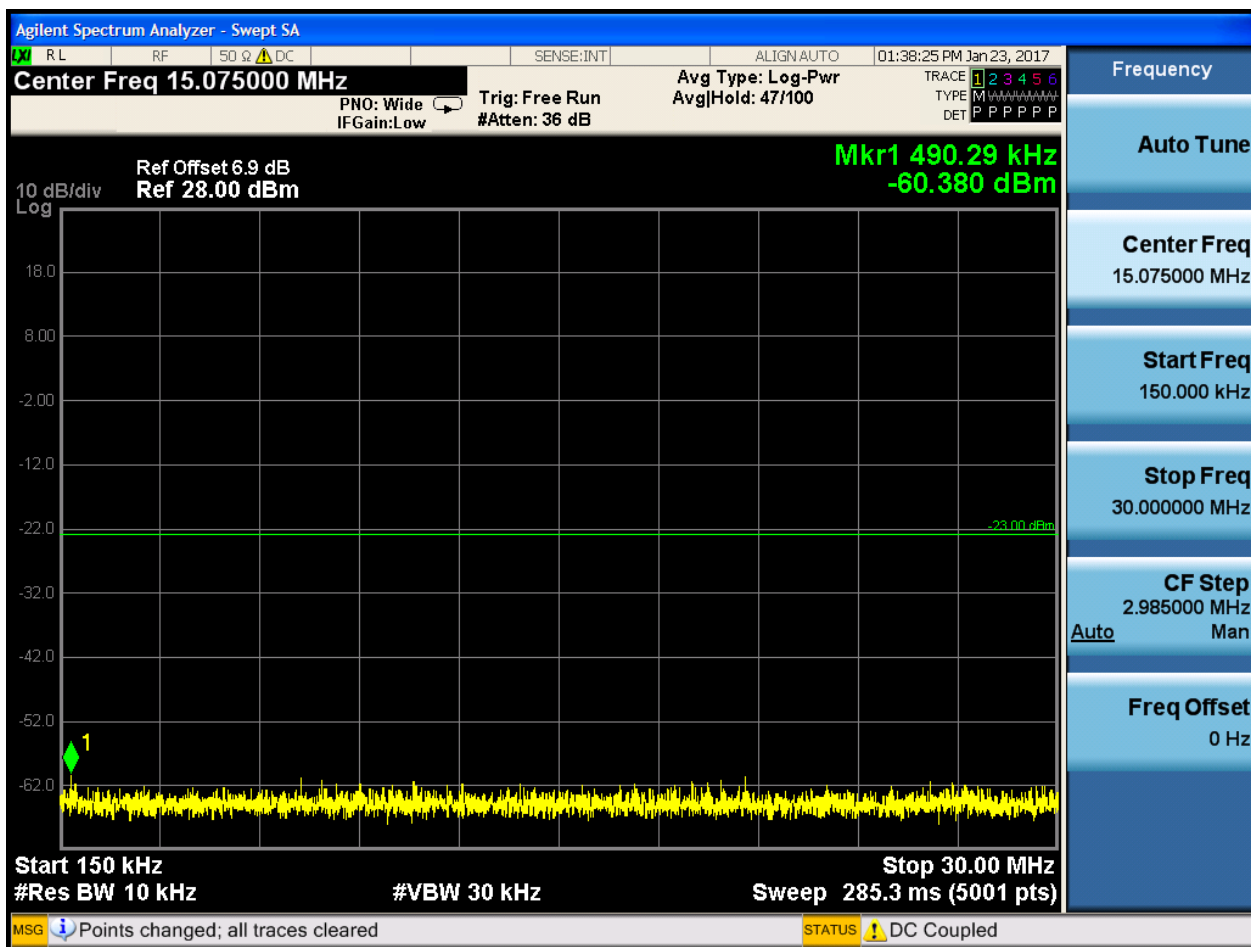


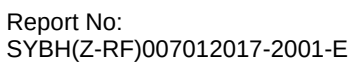
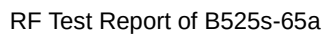


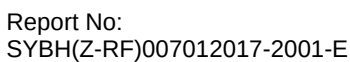
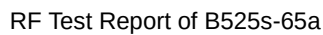
6.1.1.2.4.3 Test Channel = HCH

6.1.1.2.4.3.1 Test RB = RB1#0









7Appendix_G: Frequency Stability

7.1 For LTE

7.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND5	LTE/TM1	1.4	LCH	TN	VL	-14.20	-0.01722	PASS
					VN	0.83	0.00101	PASS
					VH	-4.56	-0.00553	PASS
			MCH	TN	VL	-7.51	-0.00898	PASS
					VN	-3.93	-0.0047	PASS
					VH	-10.89	-0.01302	PASS
			HCH	TN	VL	-1.62	-0.00191	PASS
					VN	-1.83	-0.00216	PASS
					VH	-1.00	-0.00118	PASS
		3	LCH	TN	VL	0.16	0.00019	PASS
					VN	1.07	0.0013	PASS
					VH	5.51	0.00667	PASS
			MCH	TN	VL	0.09	0.00011	PASS
					VN	-1.44	-0.00172	PASS
					VH	3.71	0.00444	PASS
			HCH	TN	VL	2.06	0.00243	PASS
					VN	-1.13	-0.00133	PASS
					VH	-2.16	-0.00255	PASS
		5	LCH	TN	VL	2.53	0.00306	PASS
					VN	-1.92	-0.00232	PASS
					VH	-0.09	-0.00011	PASS
			MCH	TN	VL	-0.66	-0.00079	PASS
					VN	0.16	0.00019	PASS
					VH	-0.09	-0.00011	PASS
			HCH	TN	VL	0.53	0.00063	PASS
					VN	4.16	0.00491	PASS
					VH	1.04	0.00123	PASS
		10	LCH	TN	VL	-37.01	-0.04464	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
					VN	-4.25	-0.00513	PASS	
					VH	4.32	0.00521	PASS	
					VL	42.61	0.05094	PASS	
			MCH	TN	VN	58.65	0.07011	PASS	
					VH	72.41	0.08656	PASS	
					VL	3.76	0.00445	PASS	
			HCH	TN	VN	-3.62	-0.00429	PASS	
					VH	5.79	0.00686	PASS	
			LTE/TM2	1.4	LCH	TN	VL	-6.58	-0.00798
	VN	-9.88					-0.01198	PASS	
	VH	11.86					0.01438	PASS	
	MCH	TN			VL	8.44	0.01009	PASS	
					VN	-2.09	-0.0025	PASS	
					VH	9.76	0.01167	PASS	
	HCH	TN			VL	-4.06	-0.00479	PASS	
					VN	-4.53	-0.00534	PASS	
					VH	-5.85	-0.0069	PASS	
	3	LCH			TN	VL	-0.33	-0.0004	PASS
						VN	0.27	0.00033	PASS
						VH	0.90	0.00109	PASS
		MCH			TN	VL	-0.99	-0.00118	PASS
						VN	-2.99	-0.00357	PASS
						VH	0.34	0.00041	PASS
		HCH			TN	VL	-1.37	-0.00162	PASS
						VN	-0.20	-0.00024	PASS
						VH	-0.89	-0.00105	PASS
	5	LCH		TN	VL	-3.12	-0.00377	PASS	
					VN	1.62	0.00196	PASS	
					VH	2.92	0.00353	PASS	
		MCH		TN	VL	-1.19	-0.00142	PASS	
					VN	0.34	0.00041	PASS	
					VH	1.30	0.00155	PASS	
		HCH		TN	VL	-0.11	-0.00013	PASS	
					VN	0.62	0.00073	PASS	
					VH	0.92	0.00109	PASS	
		10		LCH	TN	VL	0.10	0.00012	PASS
						VN	-3.55	-0.00428	PASS
						VH	-3.42	-0.00413	PASS
	MCH		TN	VL	9.04	0.01081	PASS		

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VN	20.64	0.02467	PASS
					VH	26.25	0.03138	PASS
			HCH	TN	VL	-4.69	-0.00556	PASS
					VN	-1.54	-0.00182	PASS
					VH	-5.97	-0.00707	PASS

7.1.2 Frequency Error vs. Temperature:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND5	LTE/TM1	1.4	LCH	VN	-30	2.90	0.00352	PASS
					-20	-3.10	-0.00376	PASS
					-10	-12.55	-0.01522	PASS
					0	-3.99	-0.00484	PASS
					10	-8.44	-0.01023	PASS
					20	3.20	0.00388	PASS
					30	-2.32	-0.00281	PASS
					40	-7.67	-0.0093	PASS
					50	-10.81	-0.01311	PASS
			MCH	VN	-30	-13.72	-0.0164	PASS
					-20	8.23	0.00984	PASS
					-10	14.33	0.01713	PASS
					0	26.74	0.03197	PASS
					10	0.83	0.00099	PASS
					20	-2.78	-0.00332	PASS
					30	-18.51	-0.02213	PASS
					40	-8.61	-0.01029	PASS
					50	-39.20	-0.04686	PASS
			HCH	VN	-30	-2.59	-0.00305	PASS
					-20	-2.83	-0.00334	PASS
					-10	-3.89	-0.00459	PASS
					0	-7.65	-0.00902	PASS
					10	-1.24	-0.00146	PASS
					20	1.67	0.00197	PASS
					30	-6.97	-0.00822	PASS
					40	-1.76	-0.00207	PASS
					50	1.39	0.00164	PASS
		3	LCH	VN	-30	1.24	0.0015	PASS