



5.1.1.2.4.2.4 Test RB = RB100#0





6Appendix_F: Spurious Emission at Antenna Terminal

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

Part I - Test Plots

6.1 For LTE

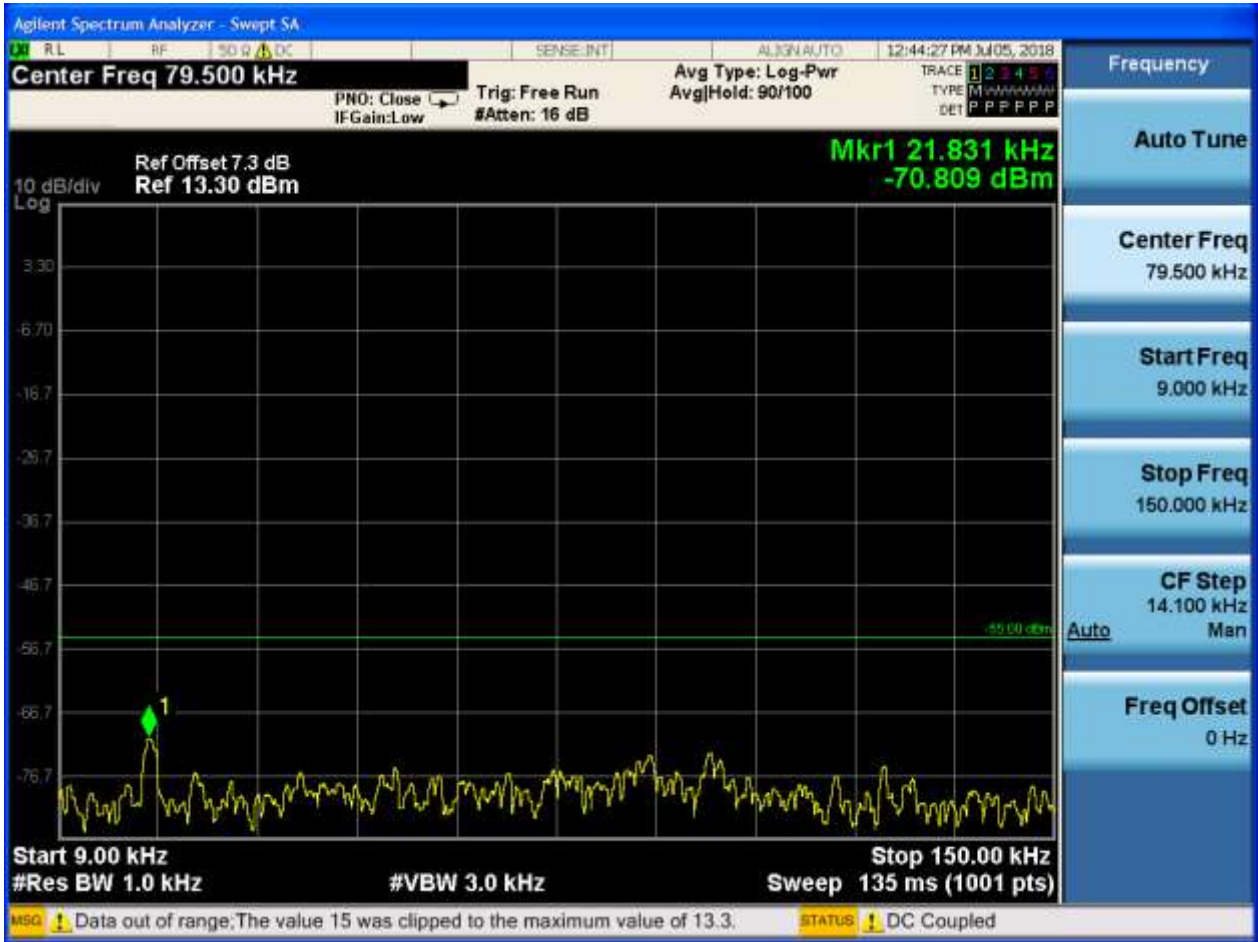
6.1.1 Test Band = BAND38

6.1.1.1 Test Mode = LTE/TM1

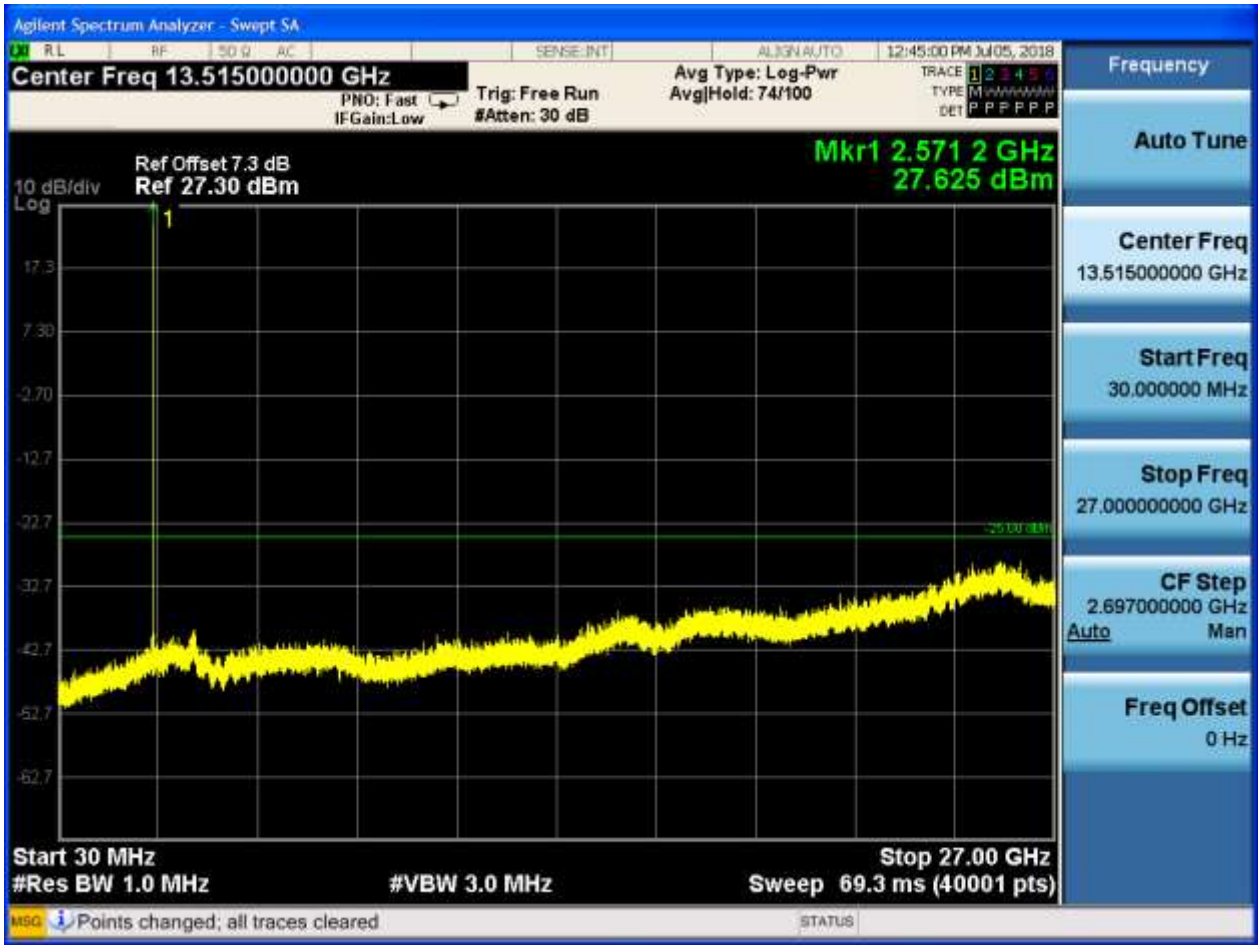
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0



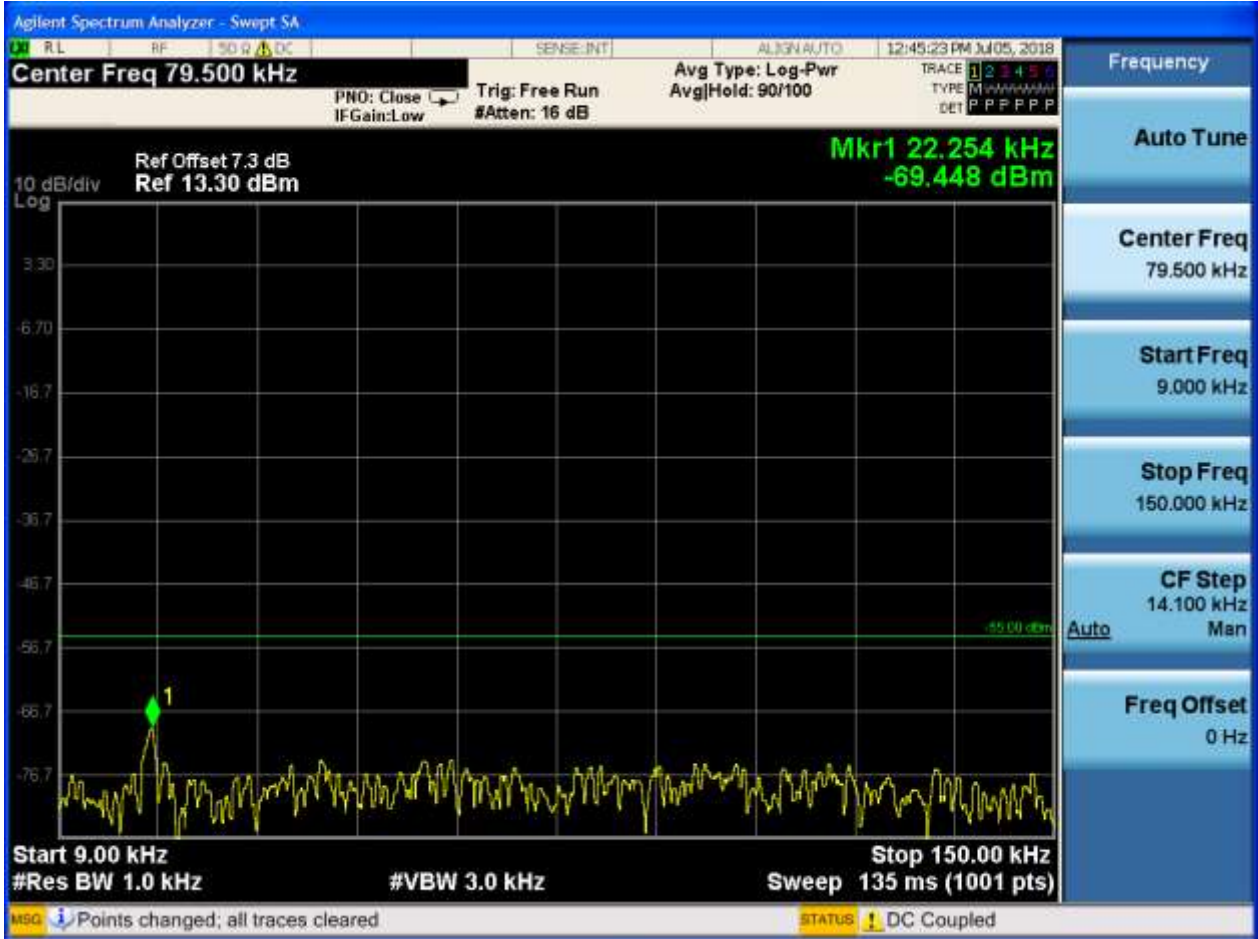




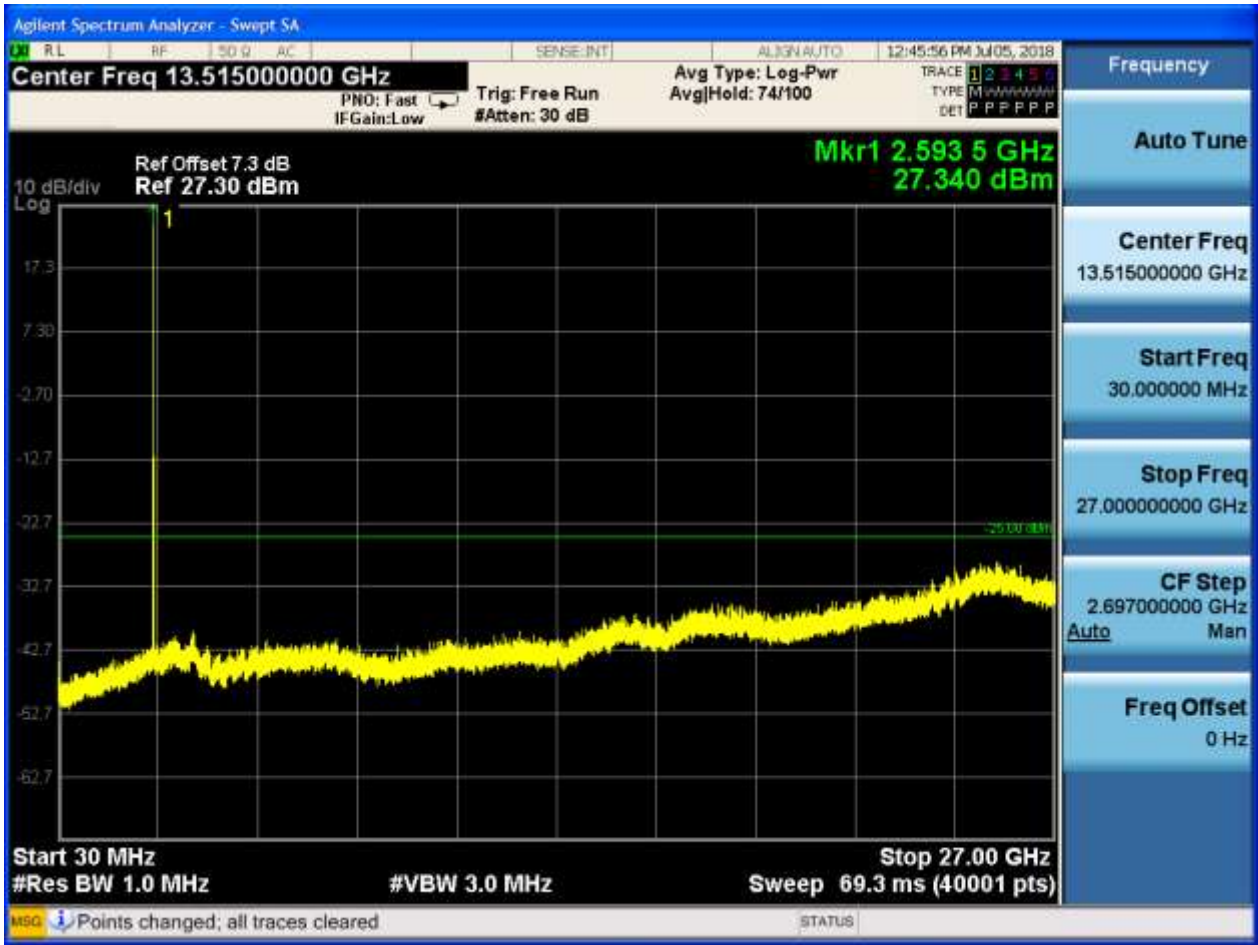


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0



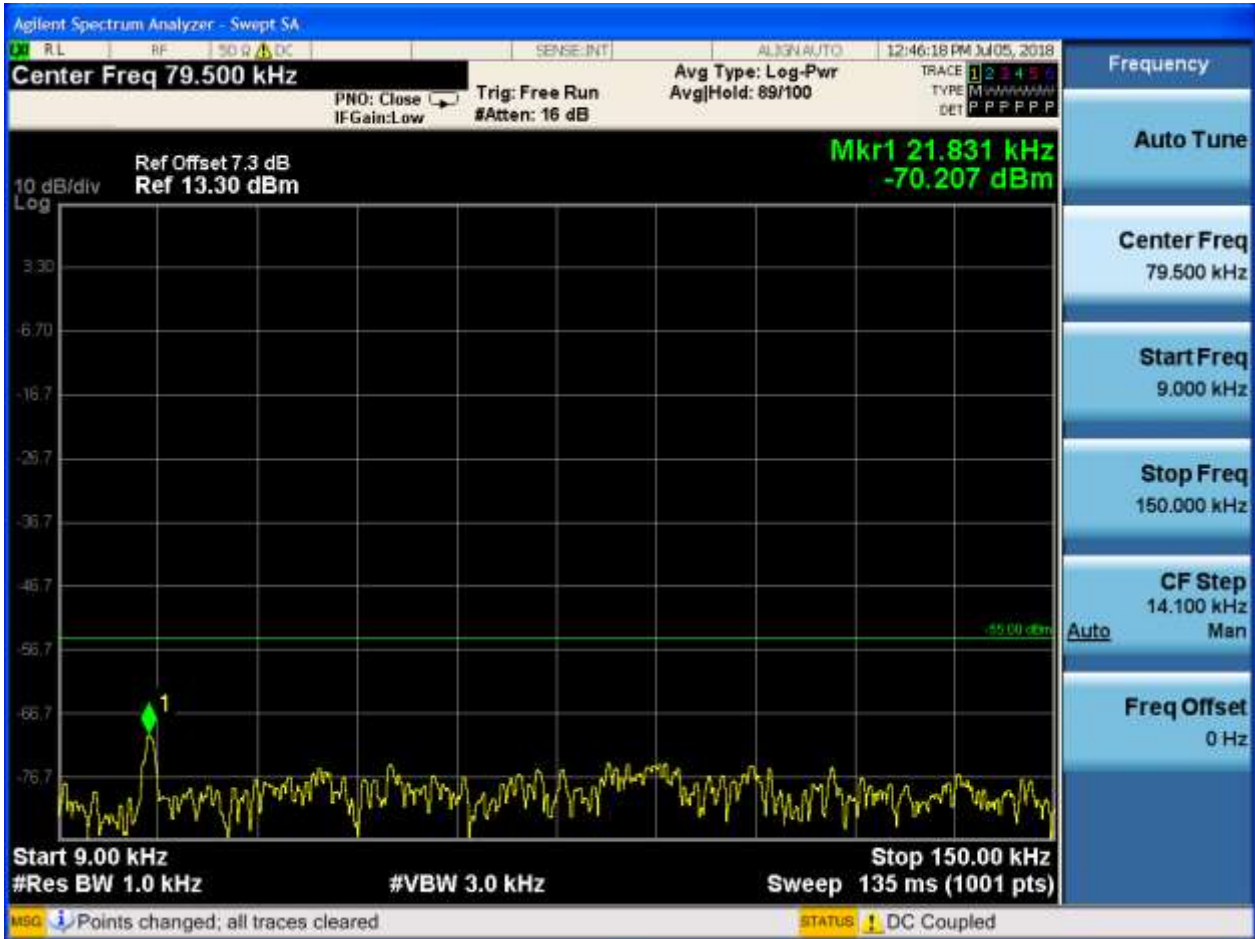






6.1.1.1.1.3 Test Channel = HCH

6.1.1.1.1.3.1 Test RB = RB1#0





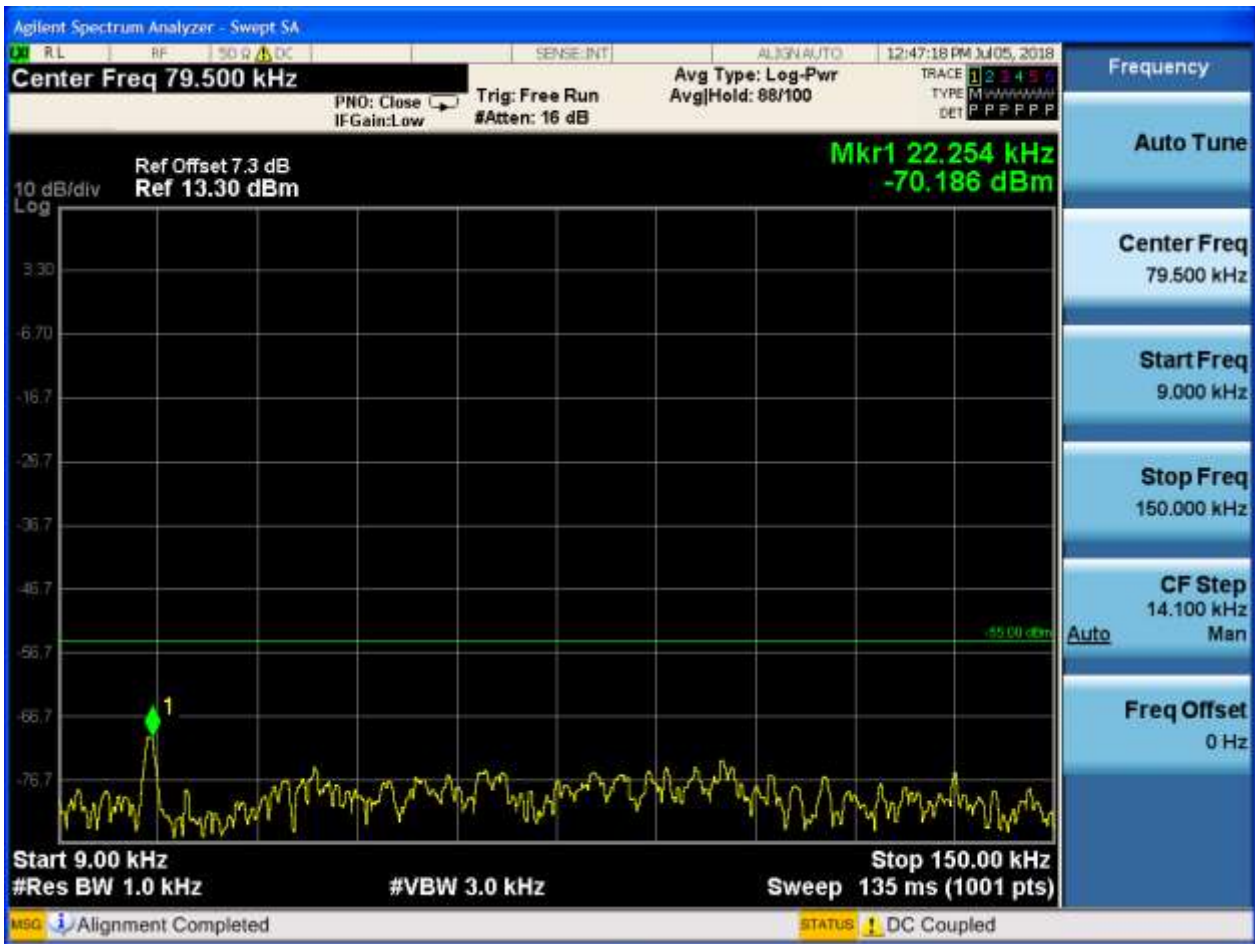




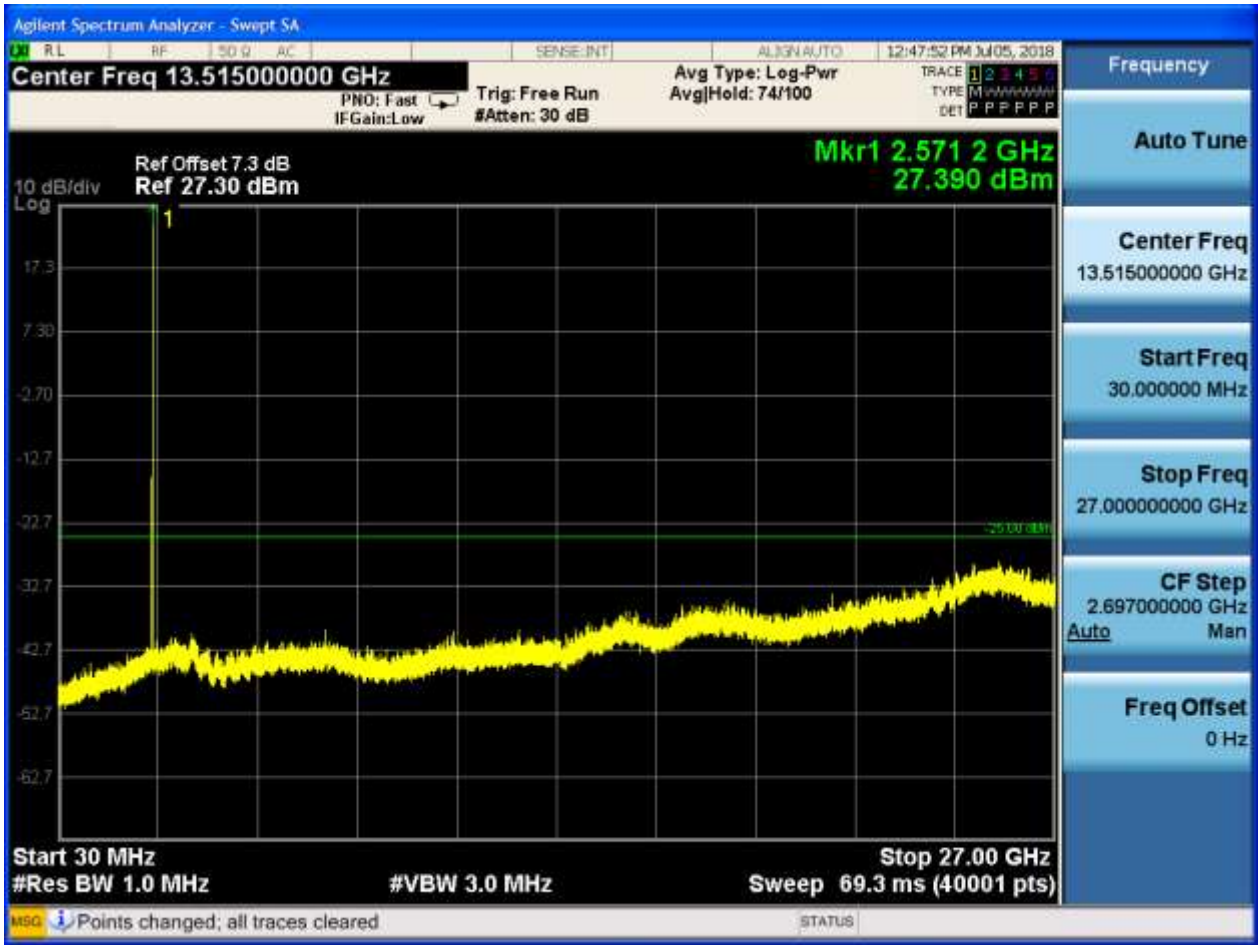
6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

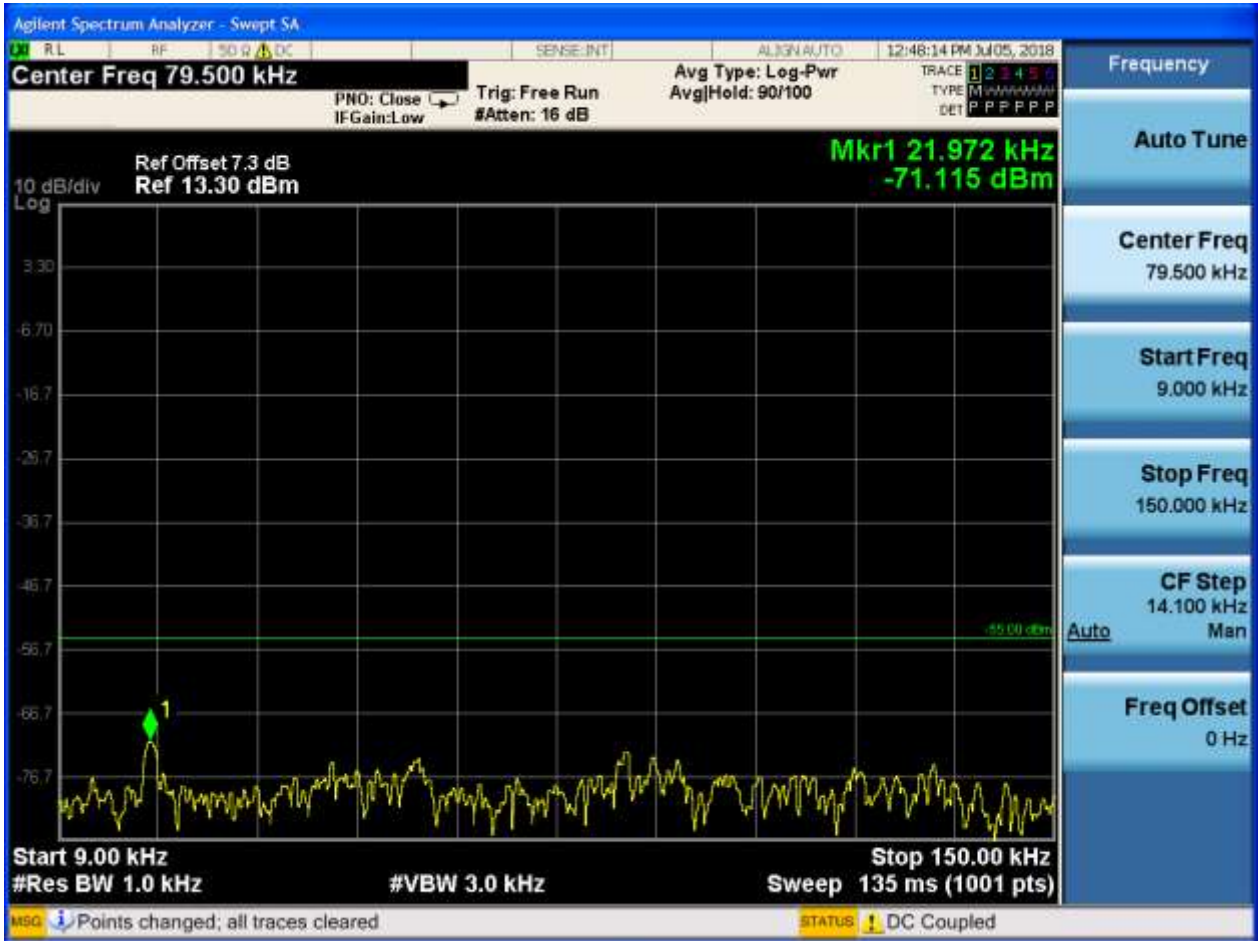




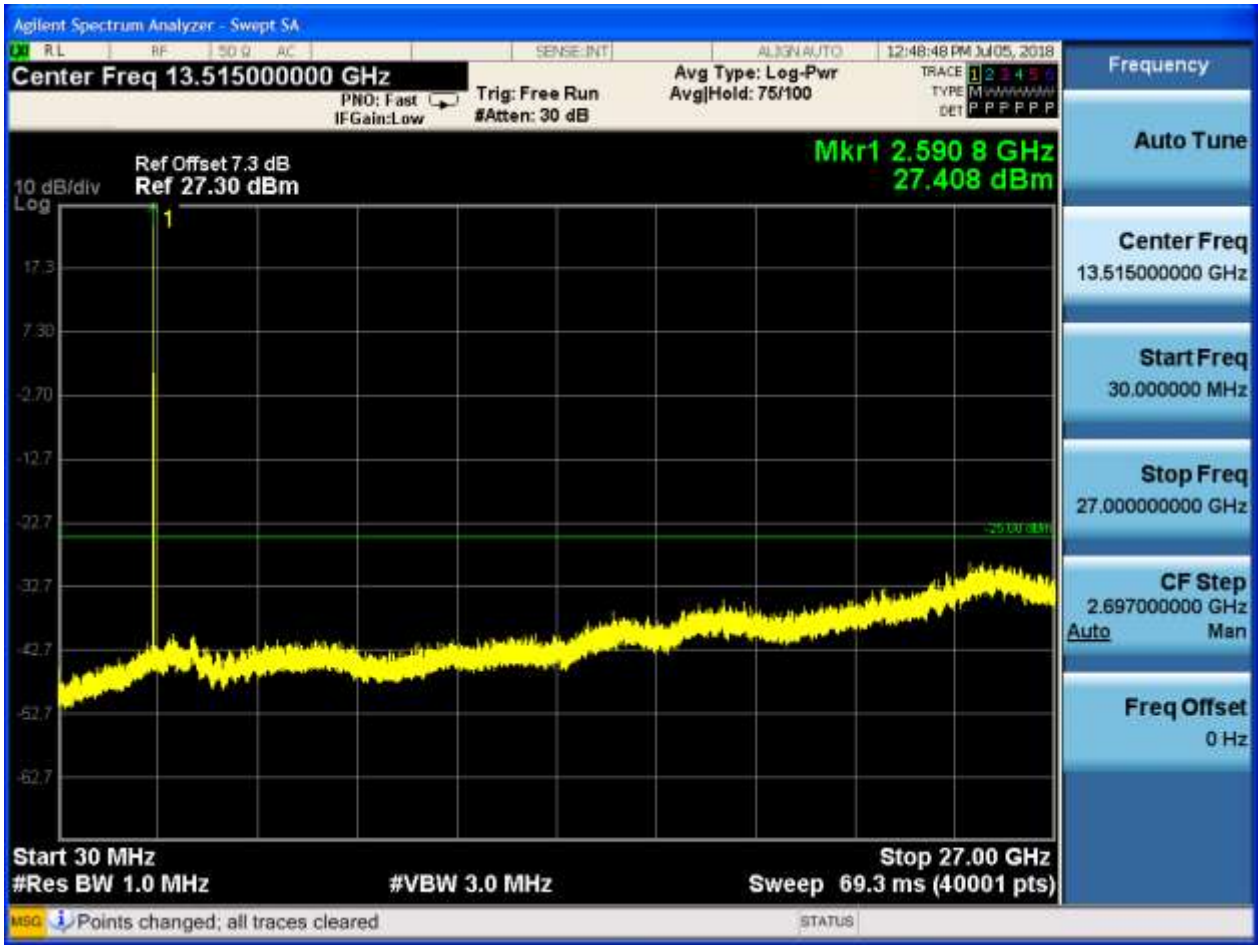


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0









6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0



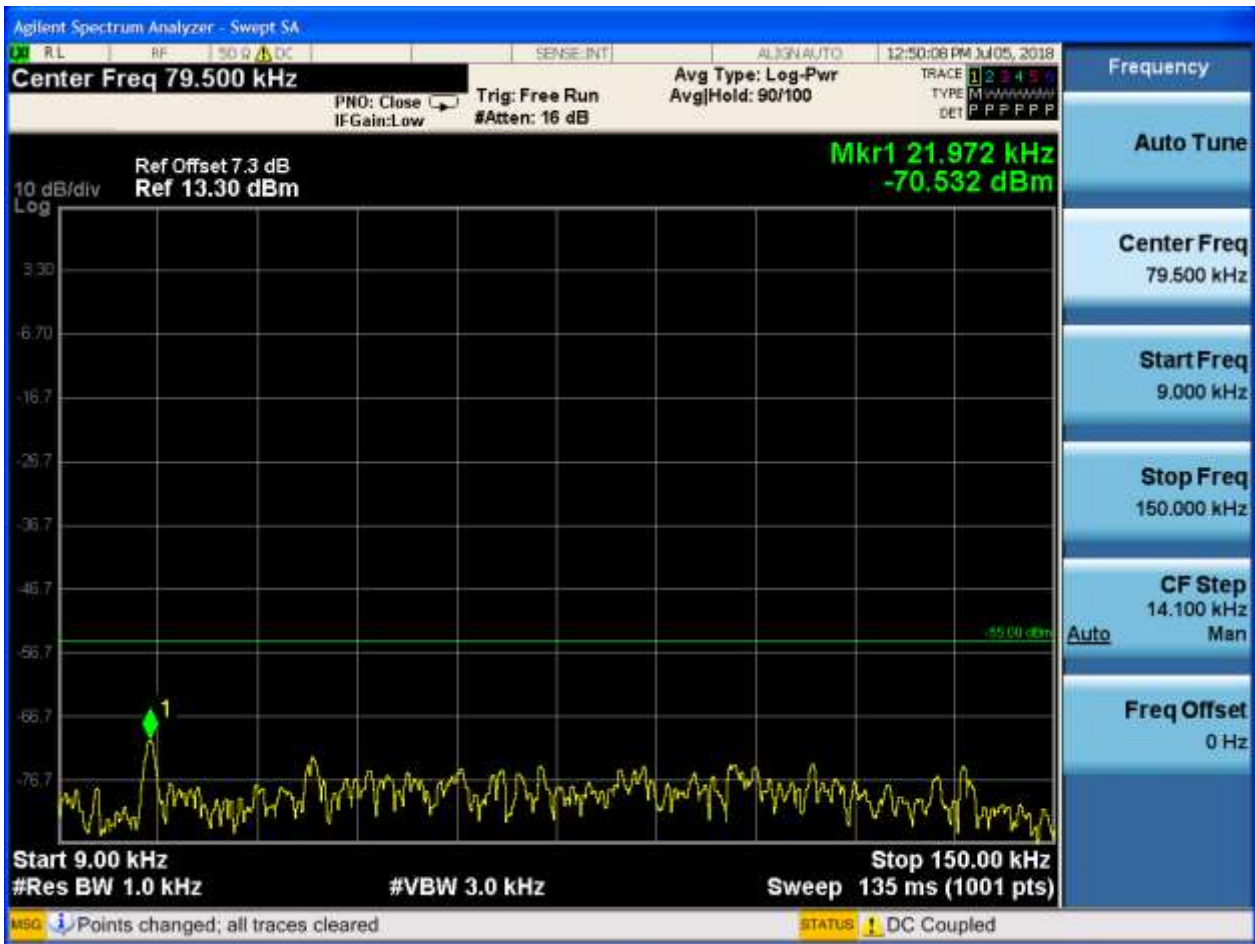




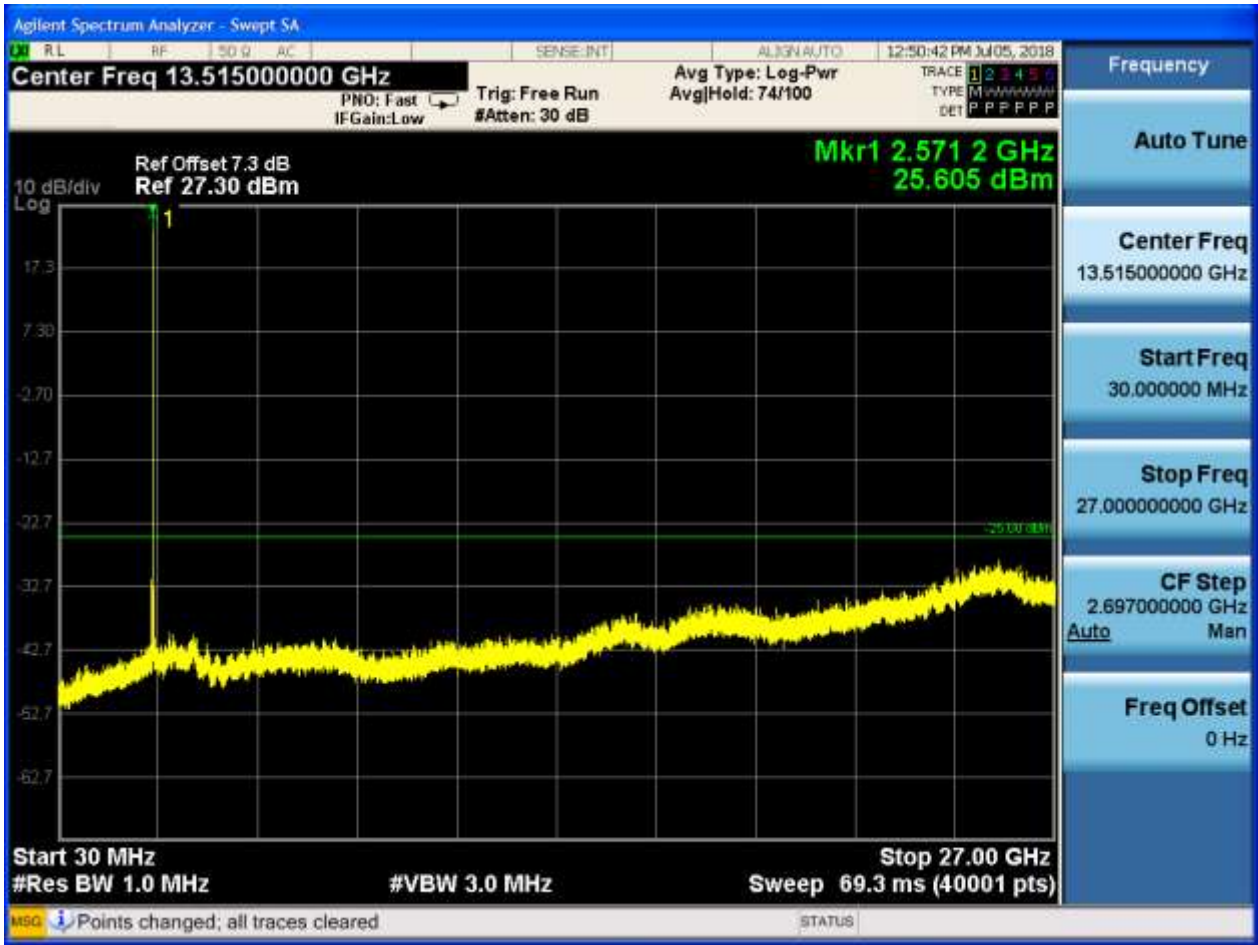
6.1.1.1.3 Test Bandwidth = 15

6.1.1.1.3.1 Test Channel = LCH

6.1.1.1.3.1.1 Test RB = RB1#0







6.1.1.1.3.2 Test Channel = MCH

6.1.1.1.3.2.1 Test RB = RB1#0



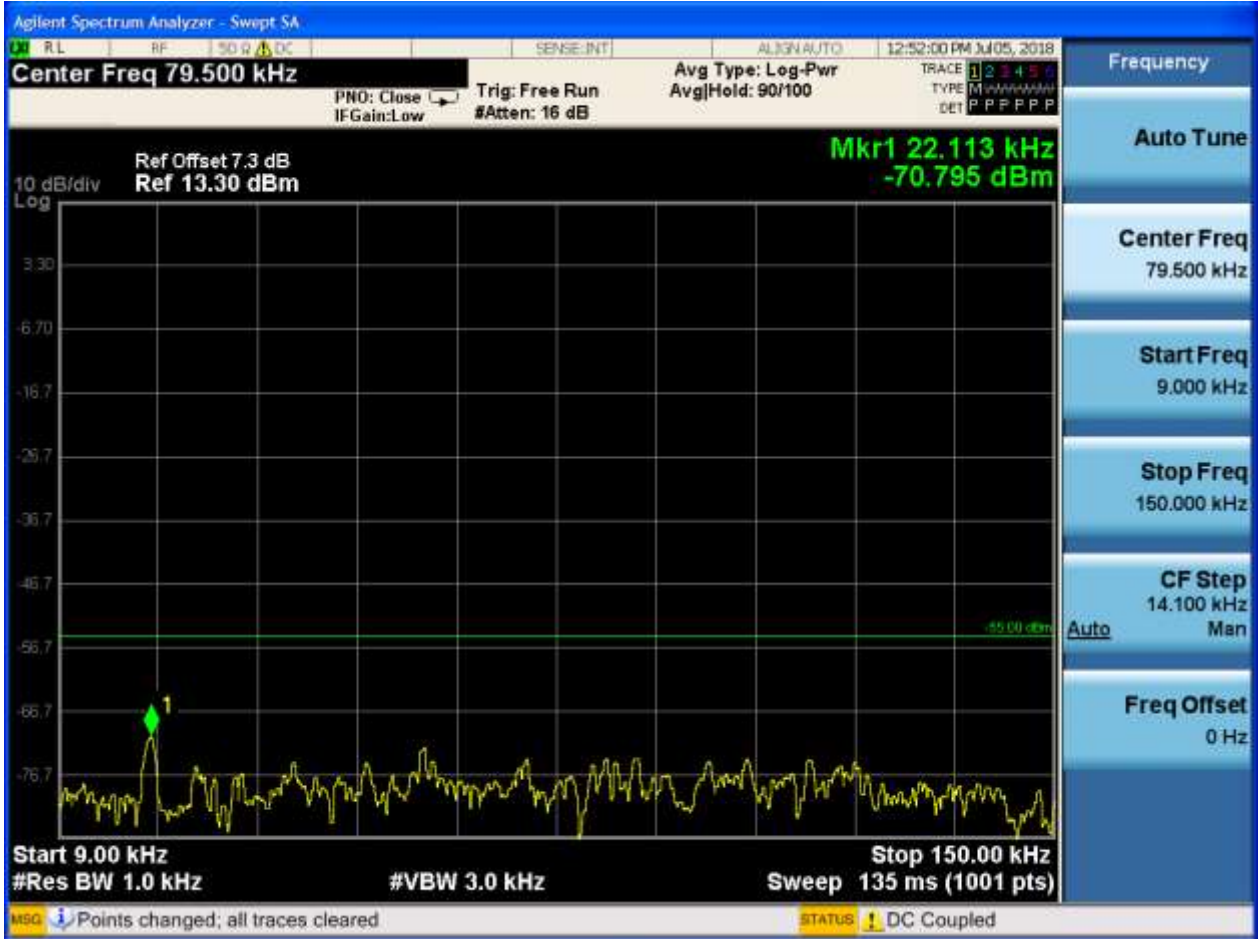






6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0









6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

6.1.1.1.4.1.1 Test RB = RB1#0

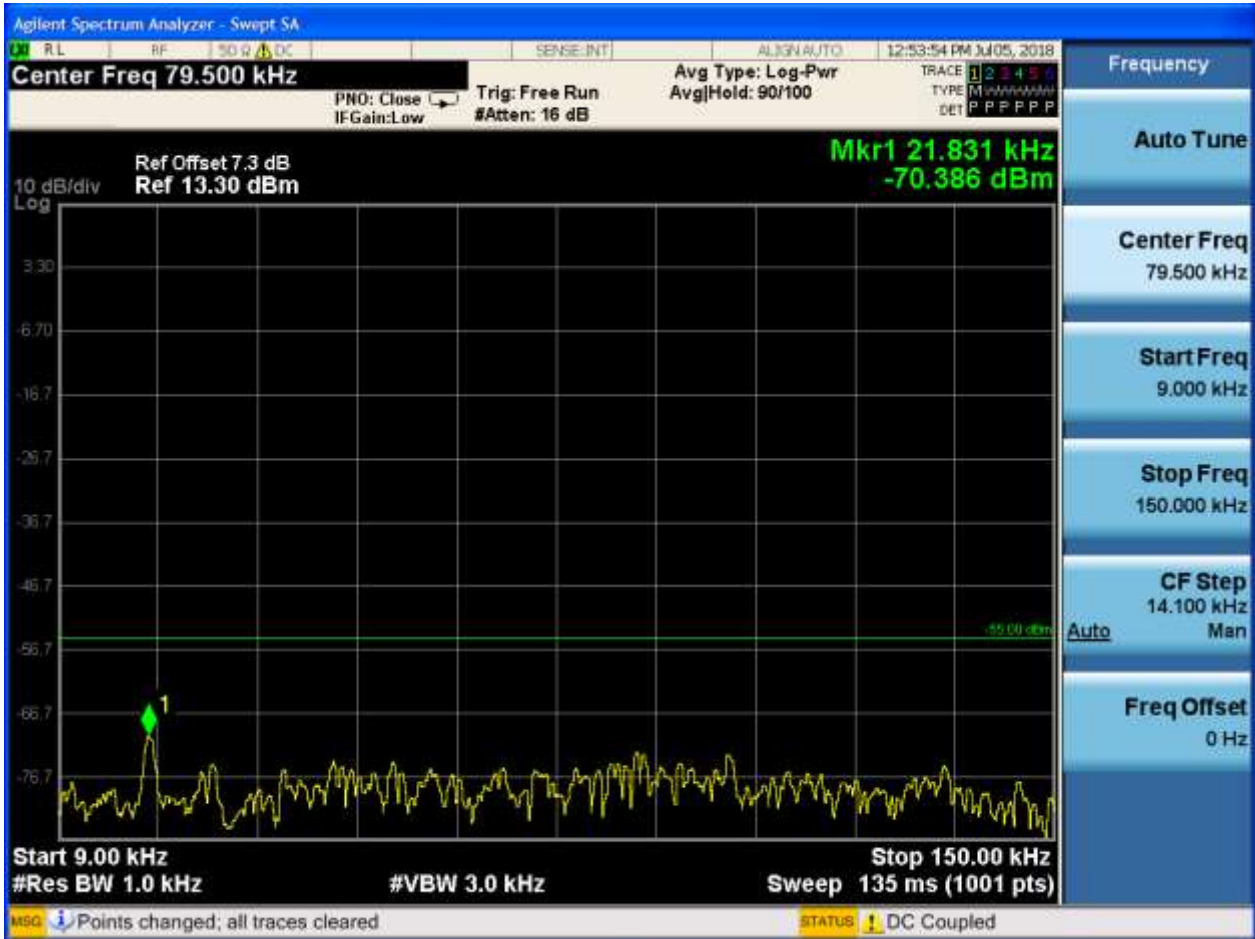




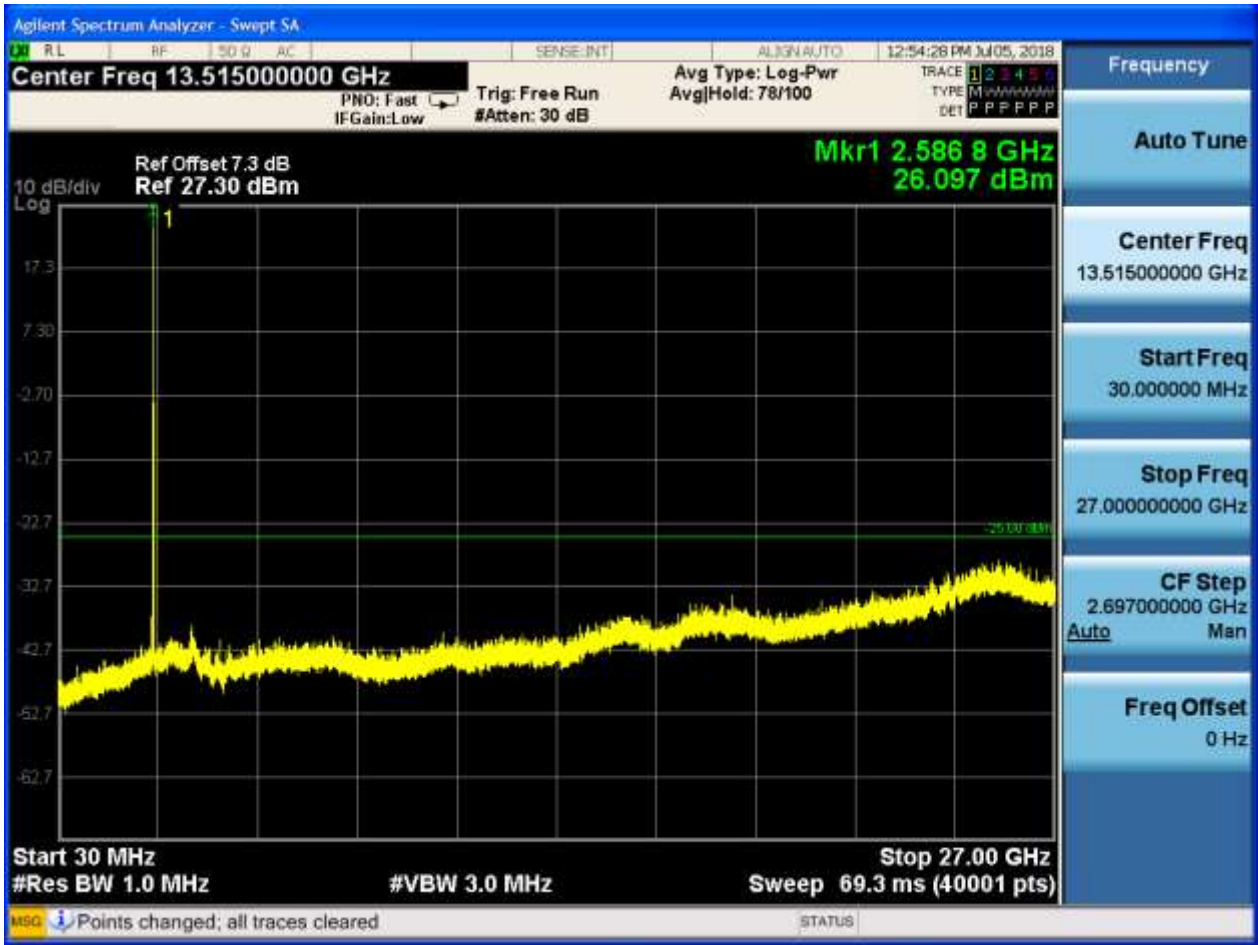


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



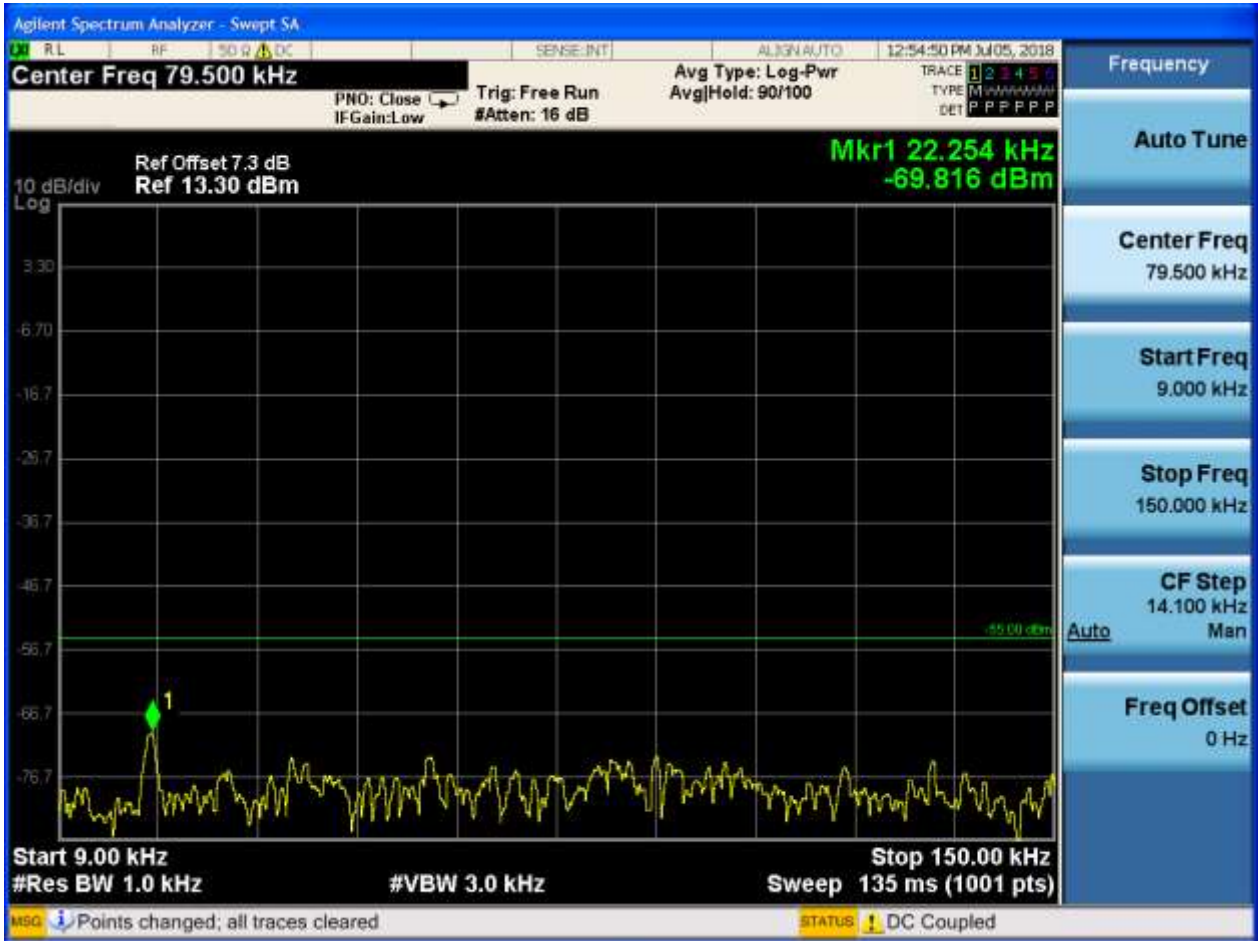




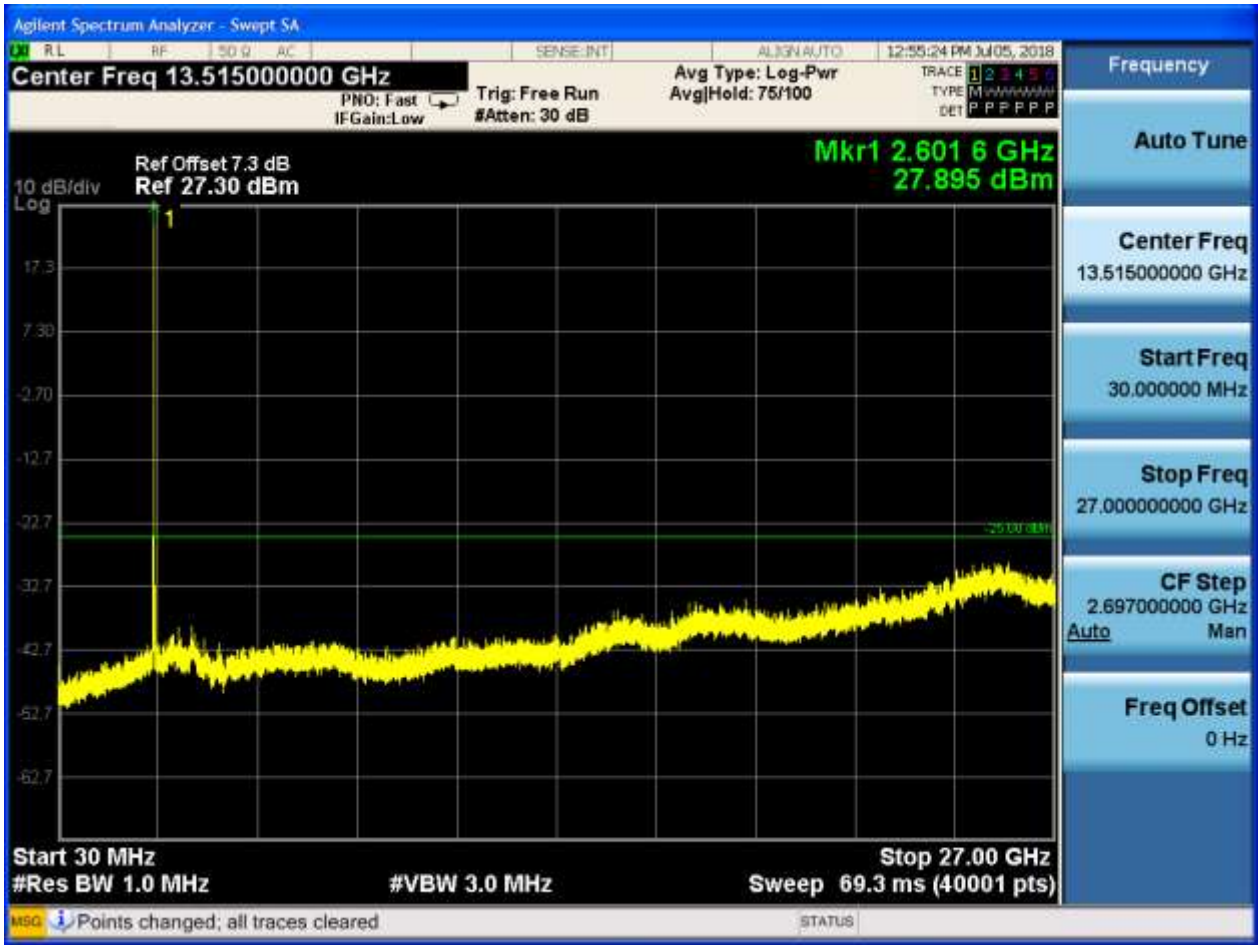


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







6.1.1.2 Test Mode = LTE/TM2

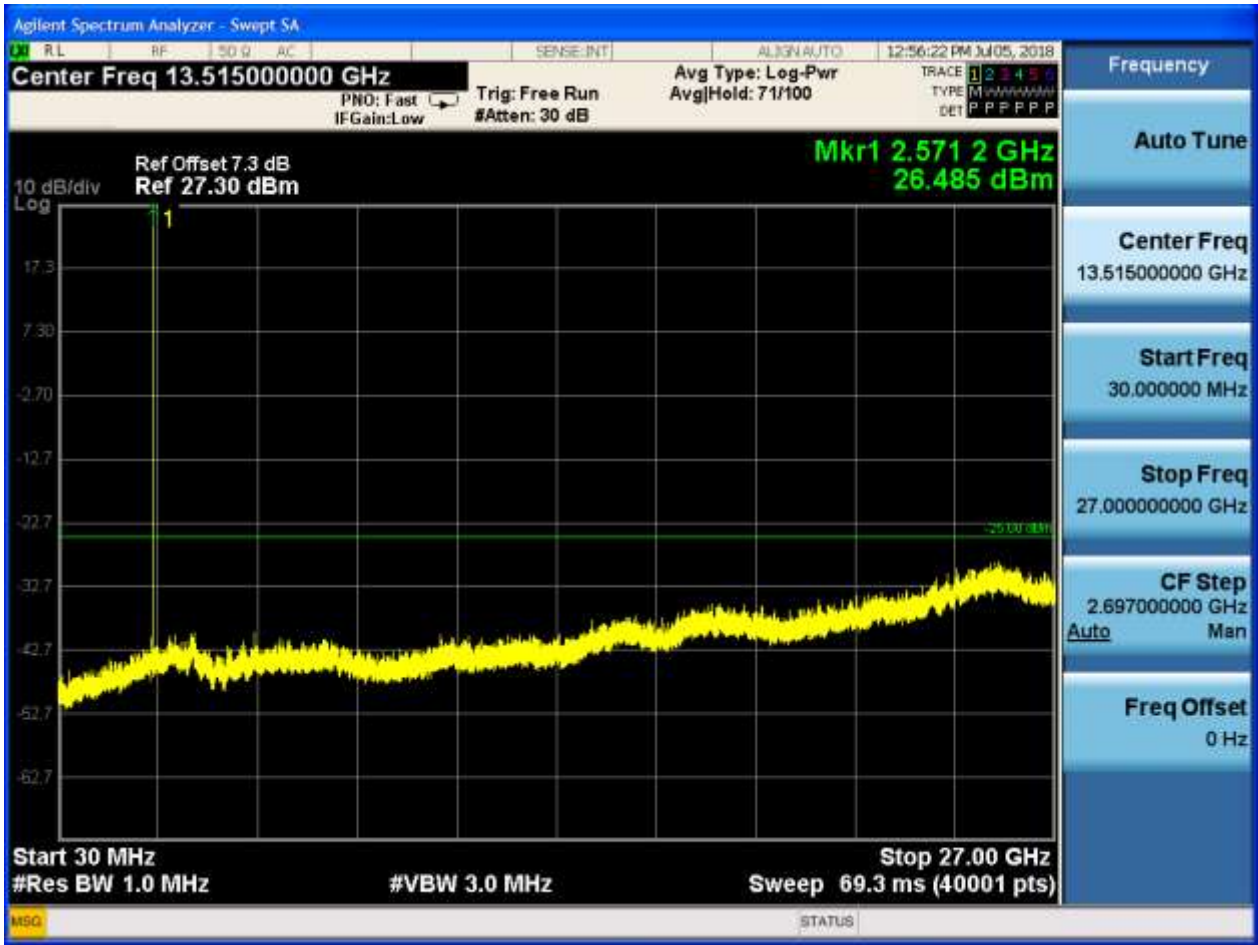
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0







6.1.1.2.1.2 Test Channel = MCH

6.1.1.2.1.2.1 Test RB = RB1#0

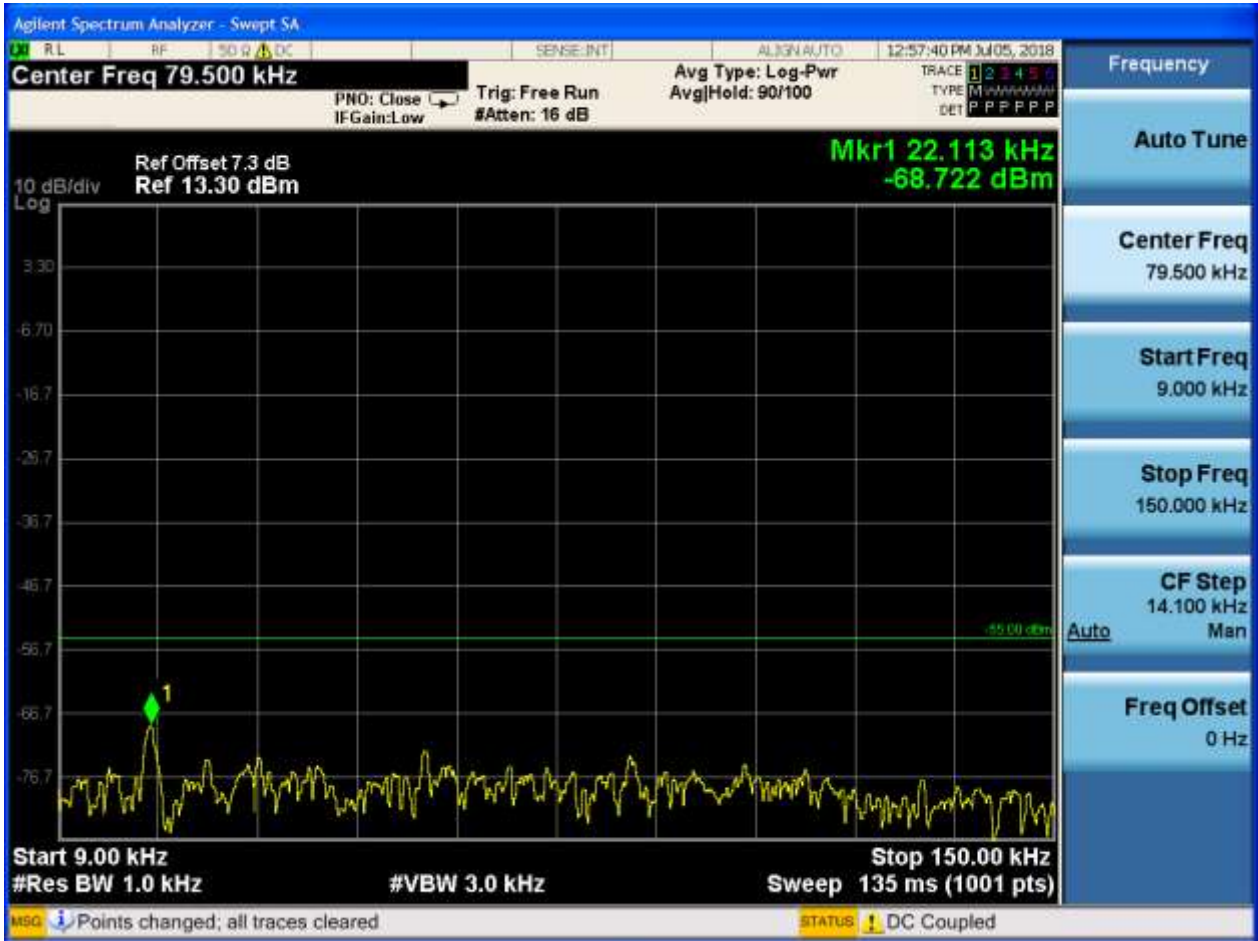




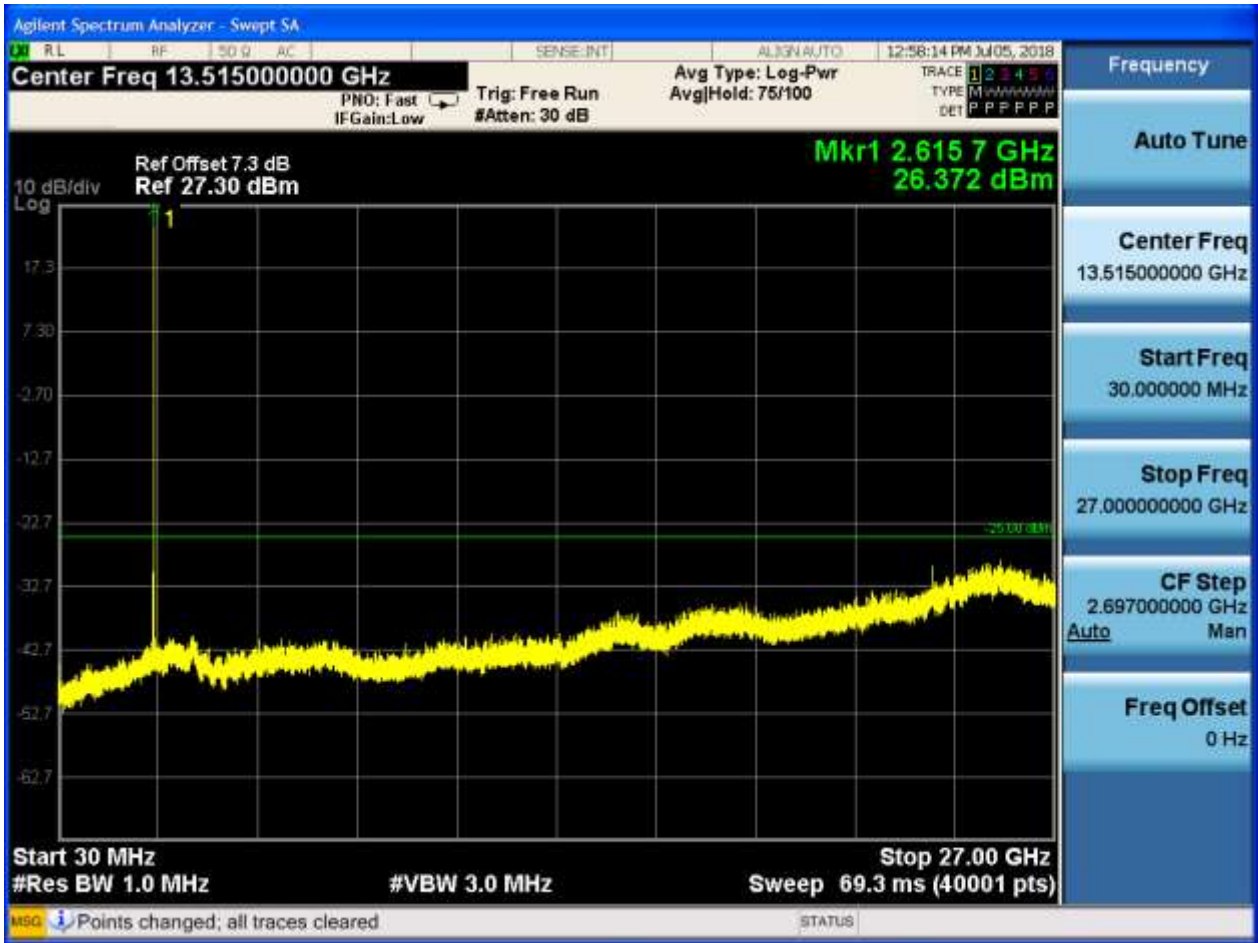


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





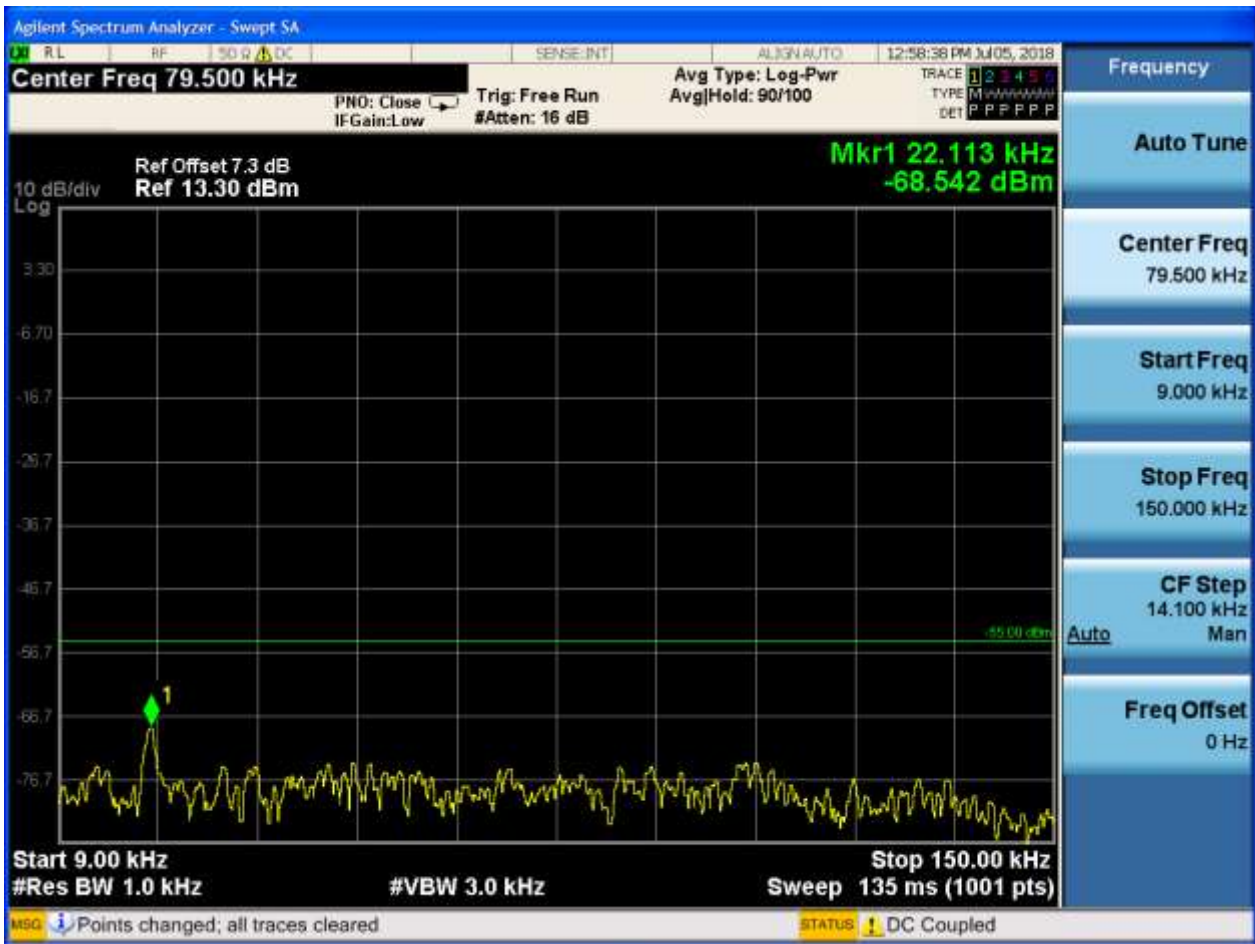




6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

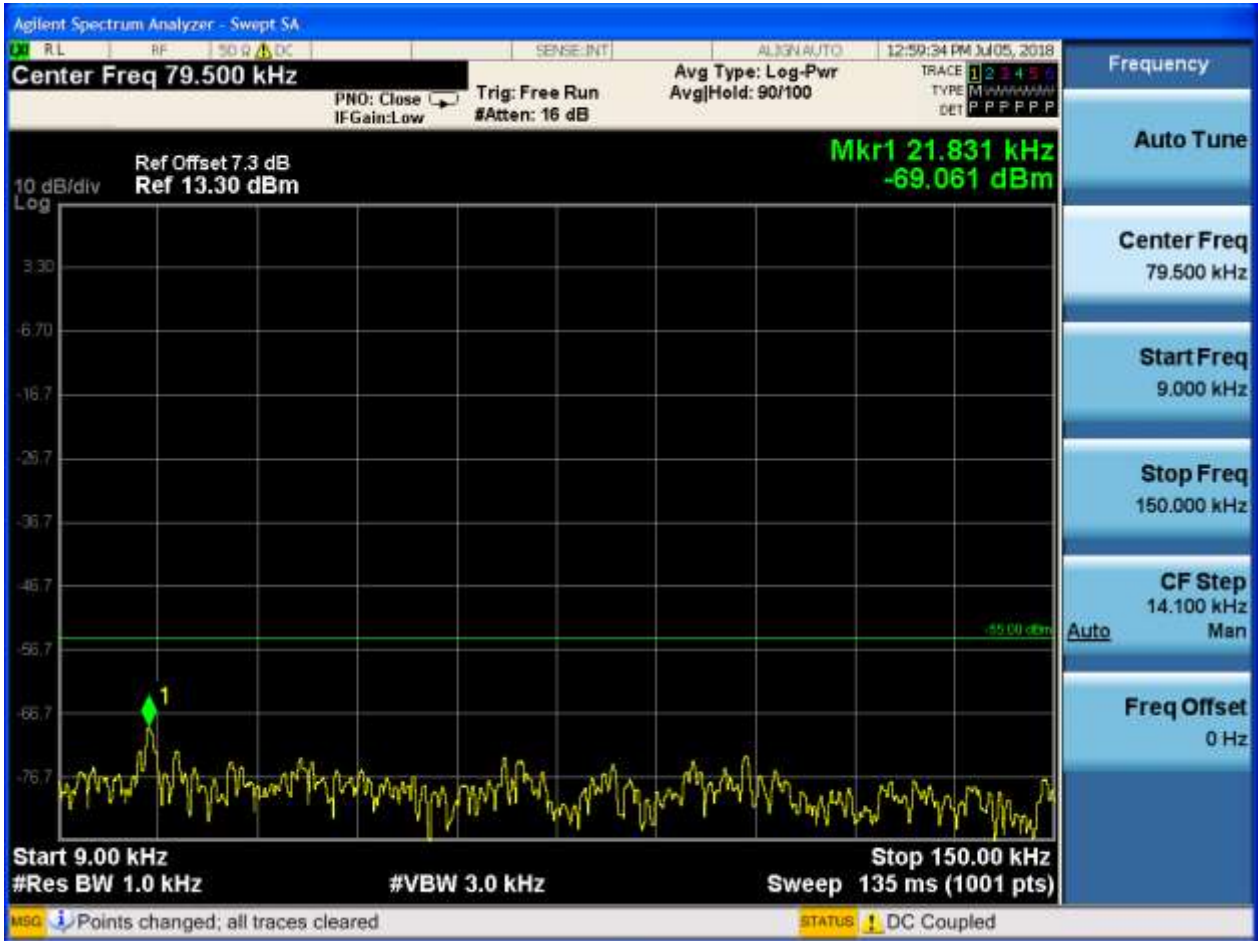




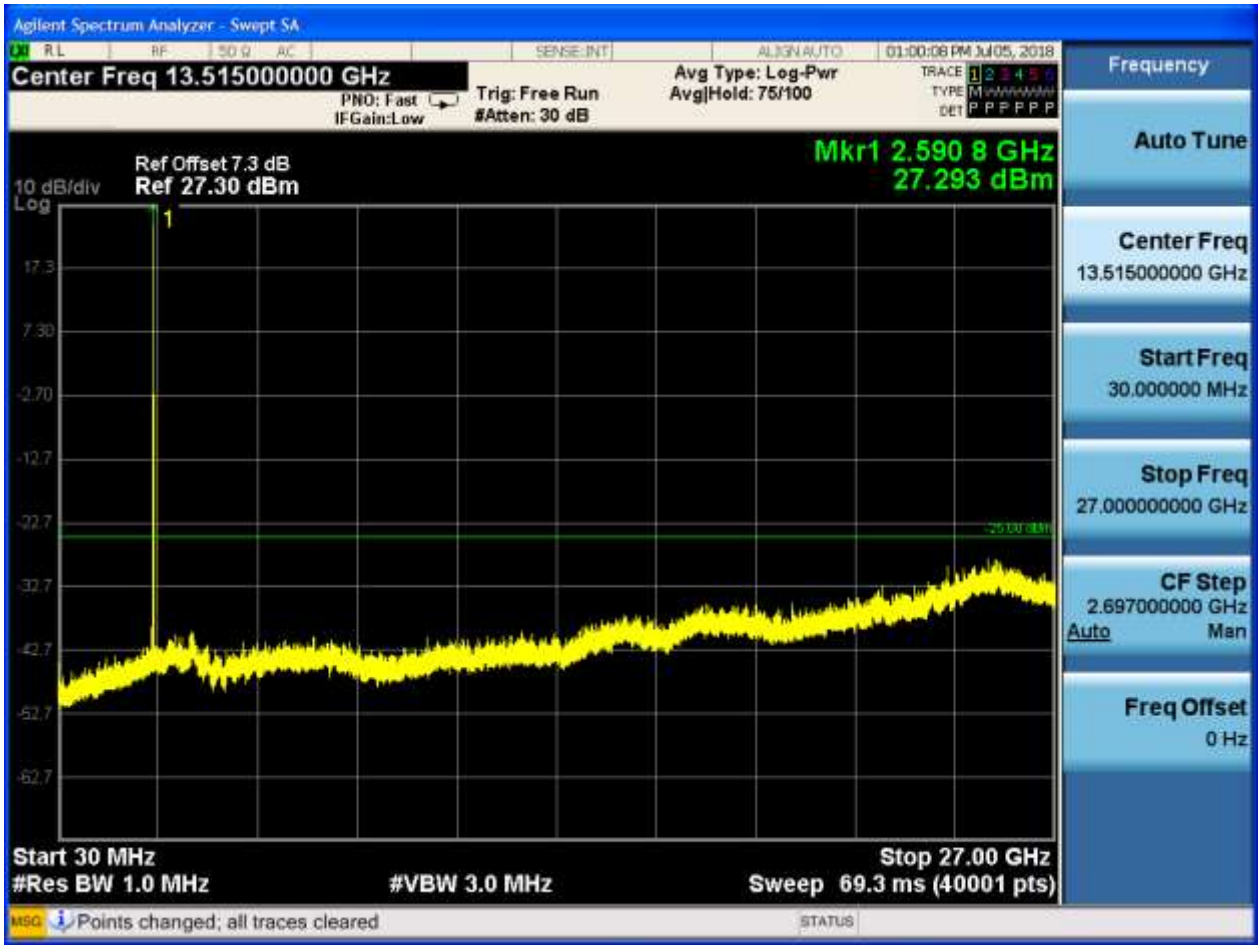


6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0







6.1.1.2.2.3 Test Channel = HCH

6.1.1.2.2.3.1 Test RB = RB1#0









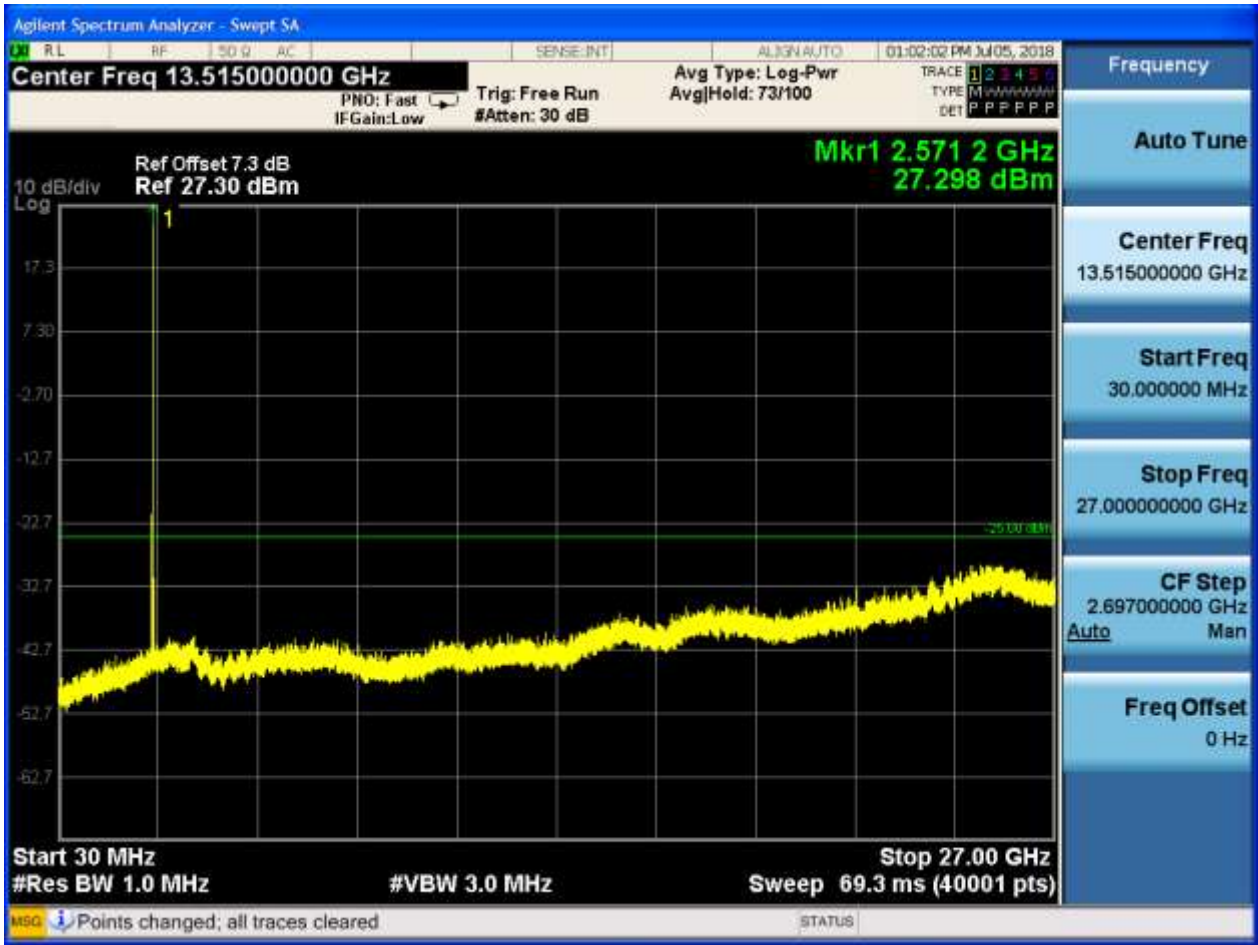
6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0

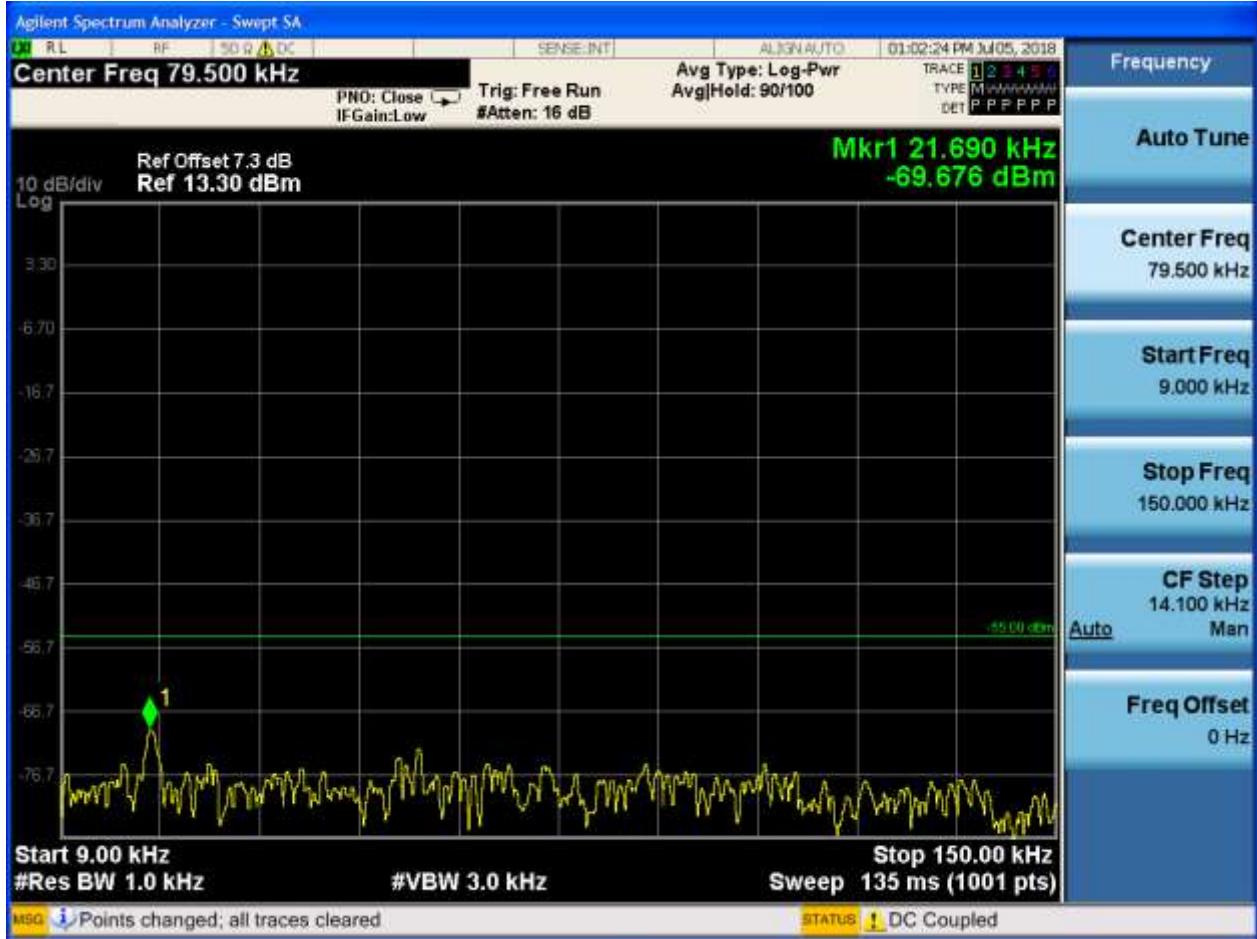






6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0







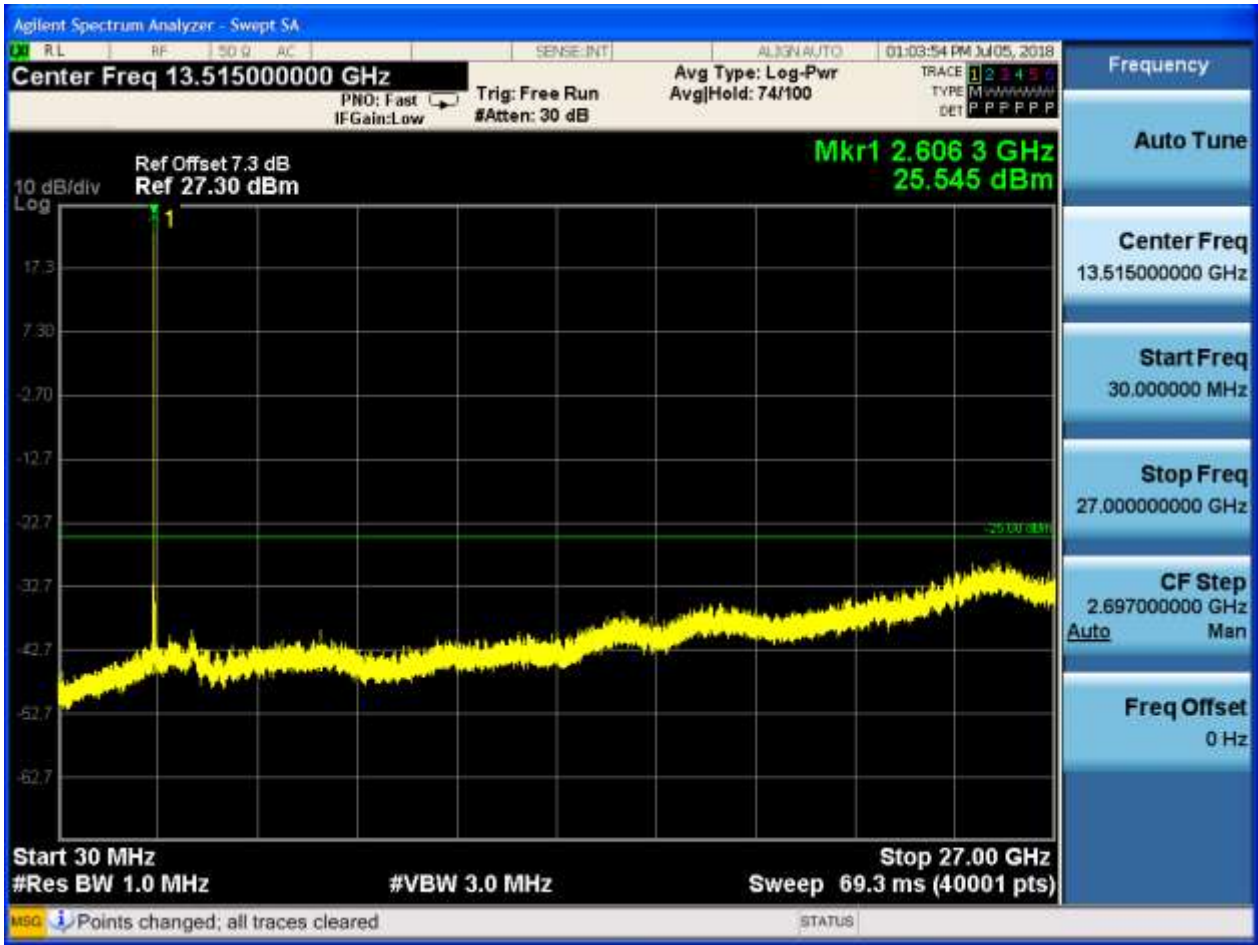


6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0





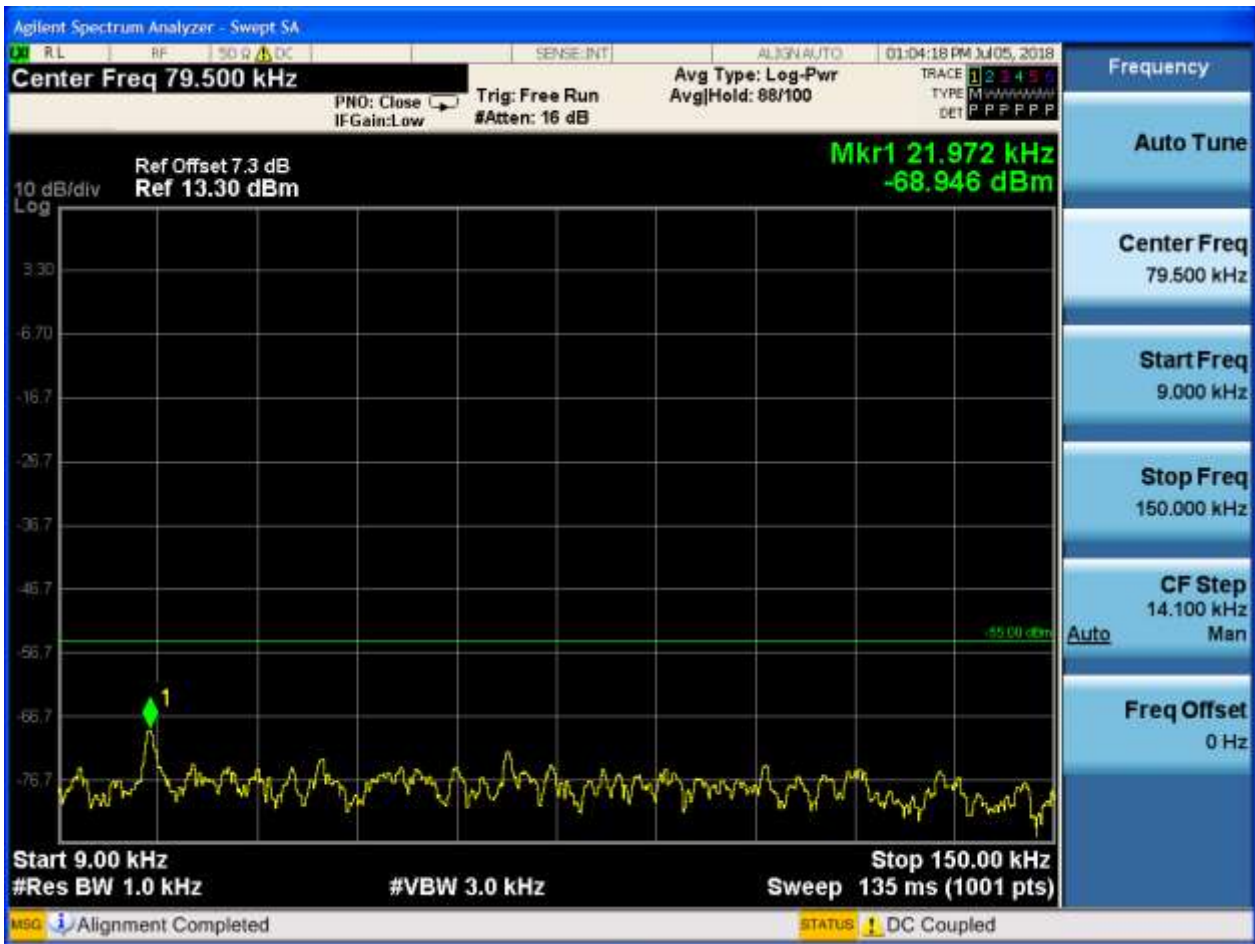




6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0



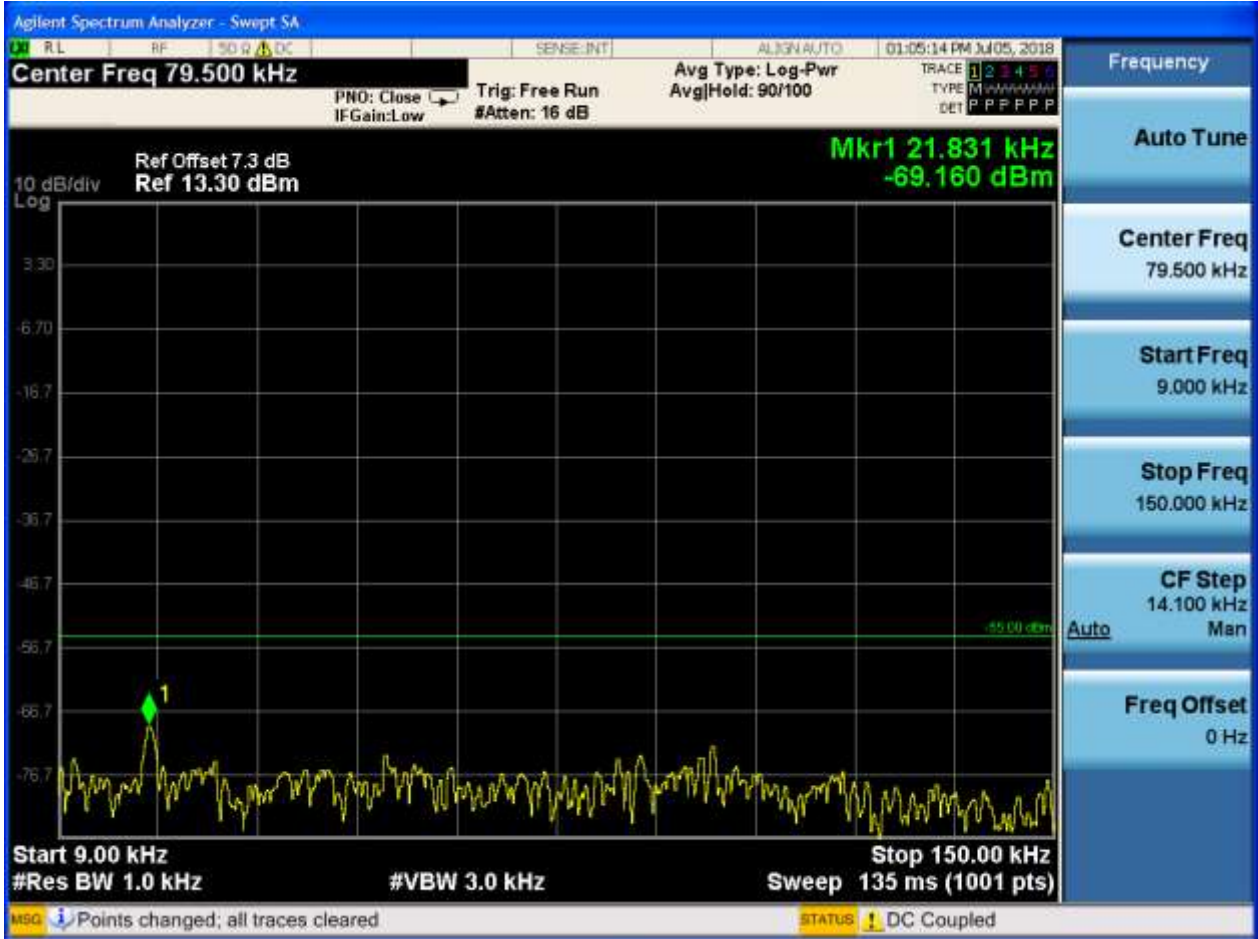






6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0

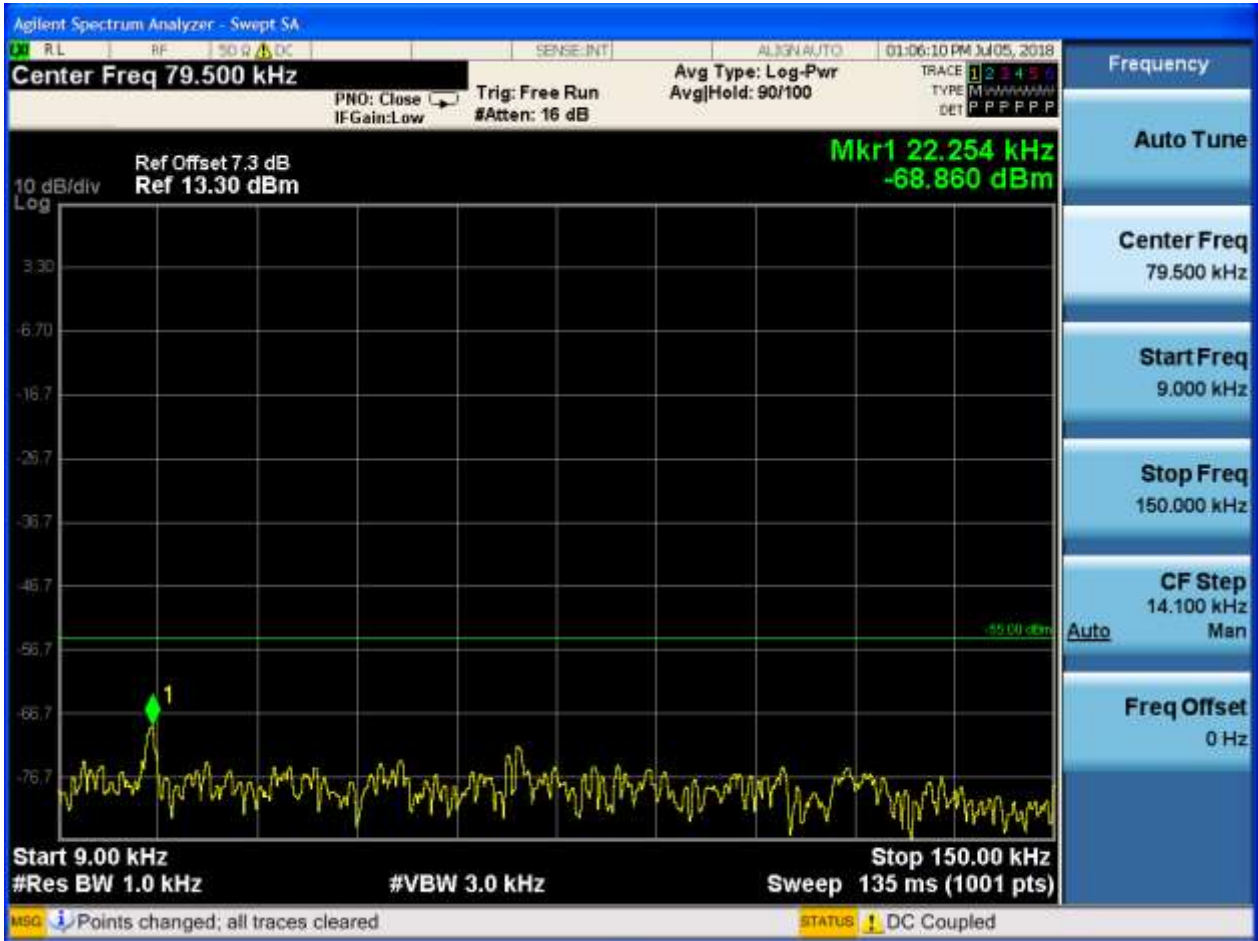






6.1.1.2.4.3 Test Channel = HCH

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

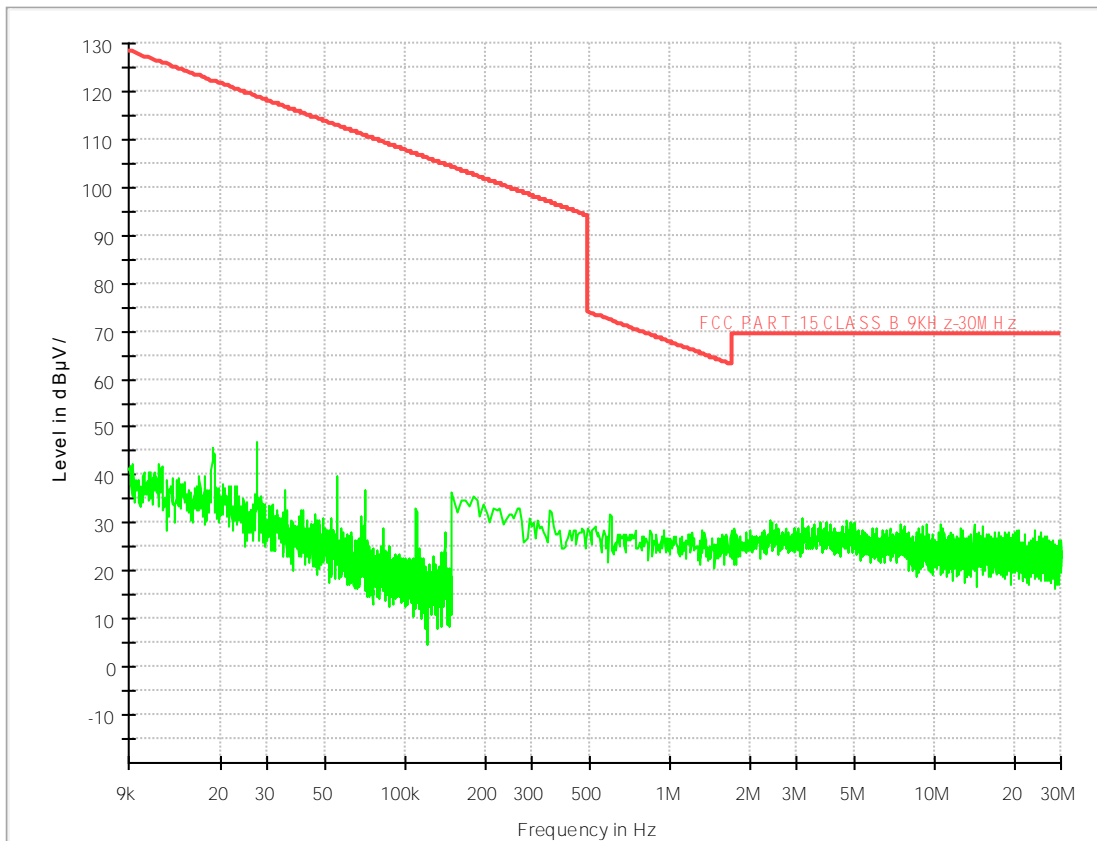


Part I - Test Plots

7.1 For LTE

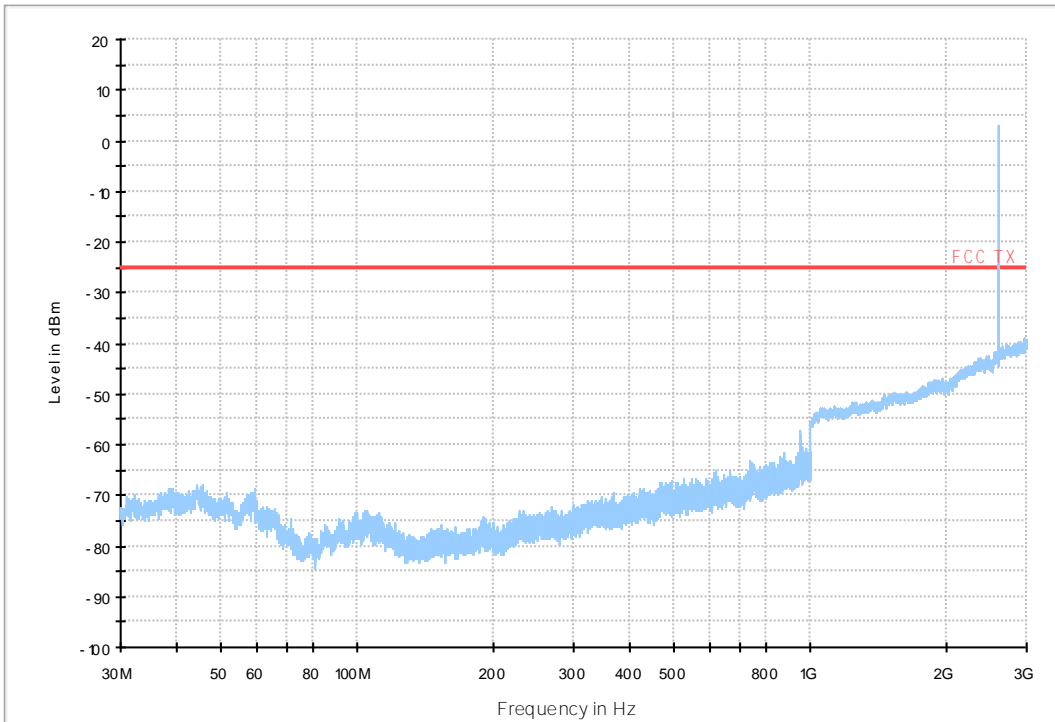
7.1.1 Test Band = BAND38-Ant1

7.1.1.1 Test Bandwidth = 5

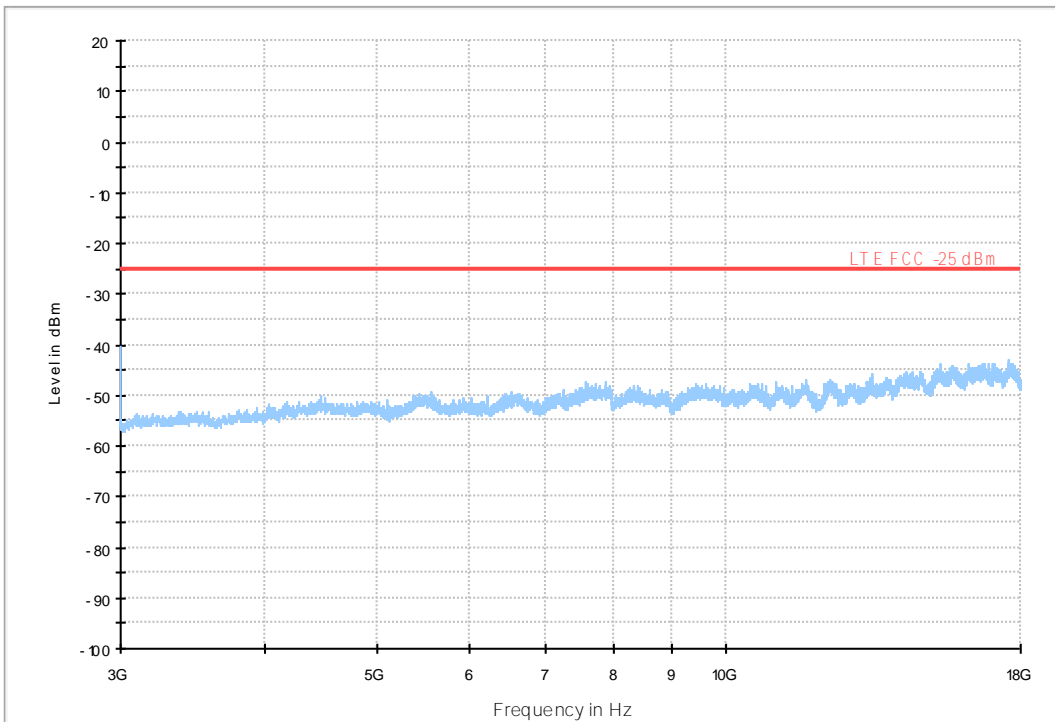




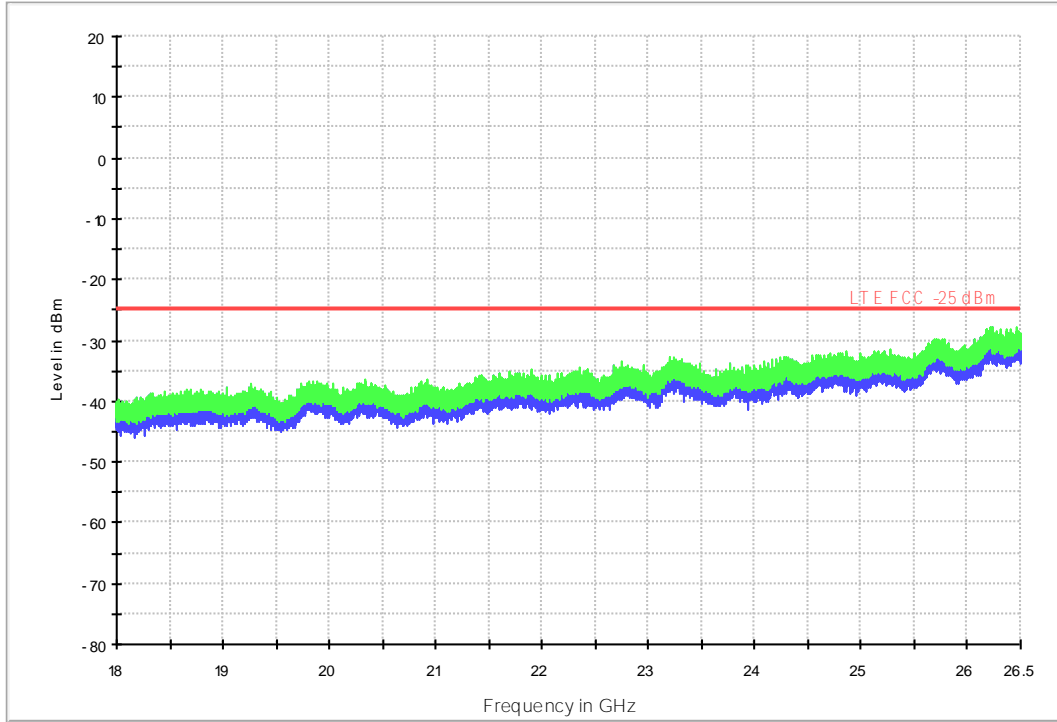
LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_L -25dBm limit



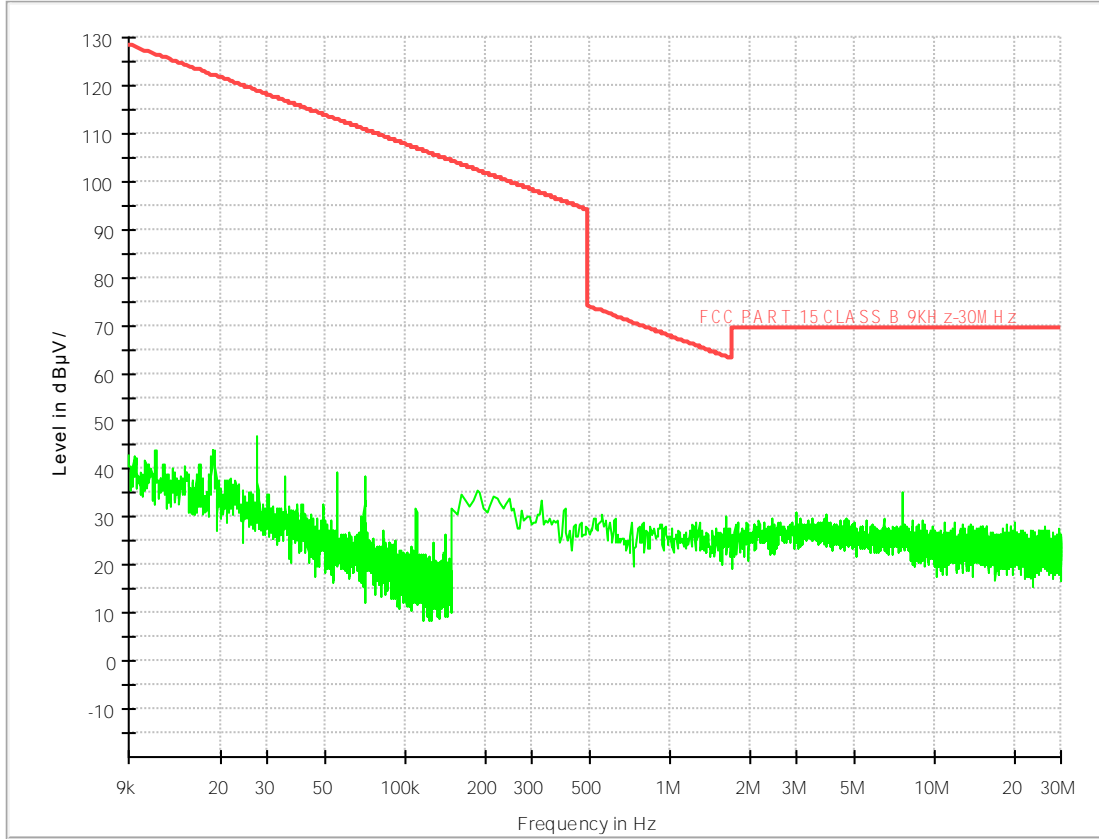
LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_H -25dBm limit



18G~26.5G RSE-TX-DIRECT OR ABOVE 1.5G PK

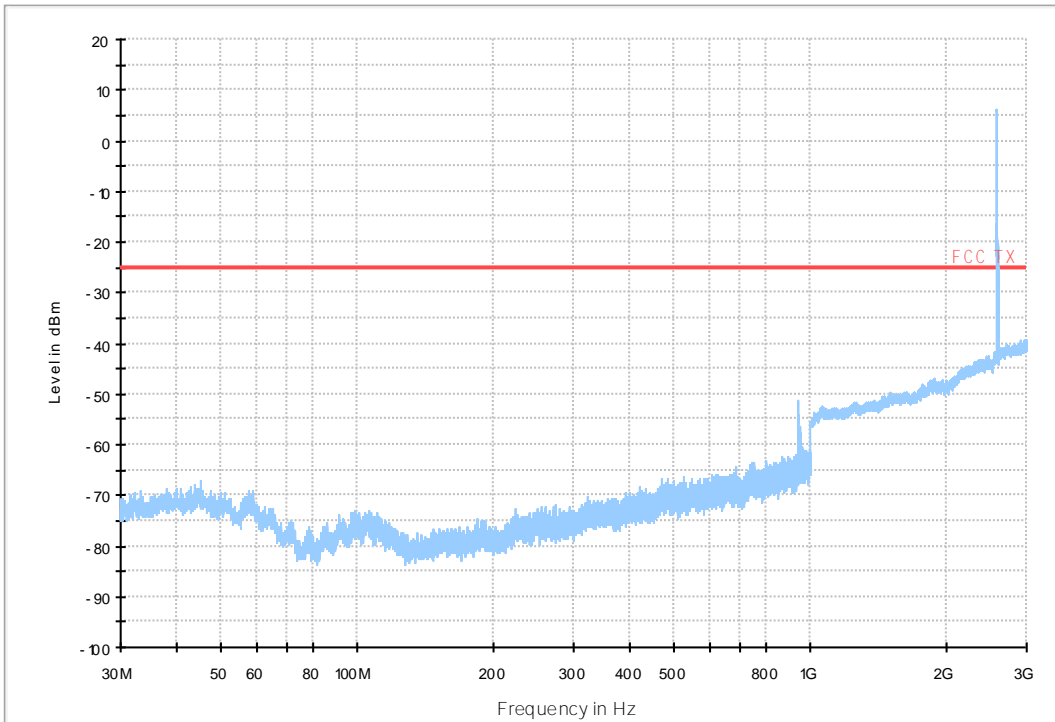


7.1.1.2 Test Bandwidth = 20

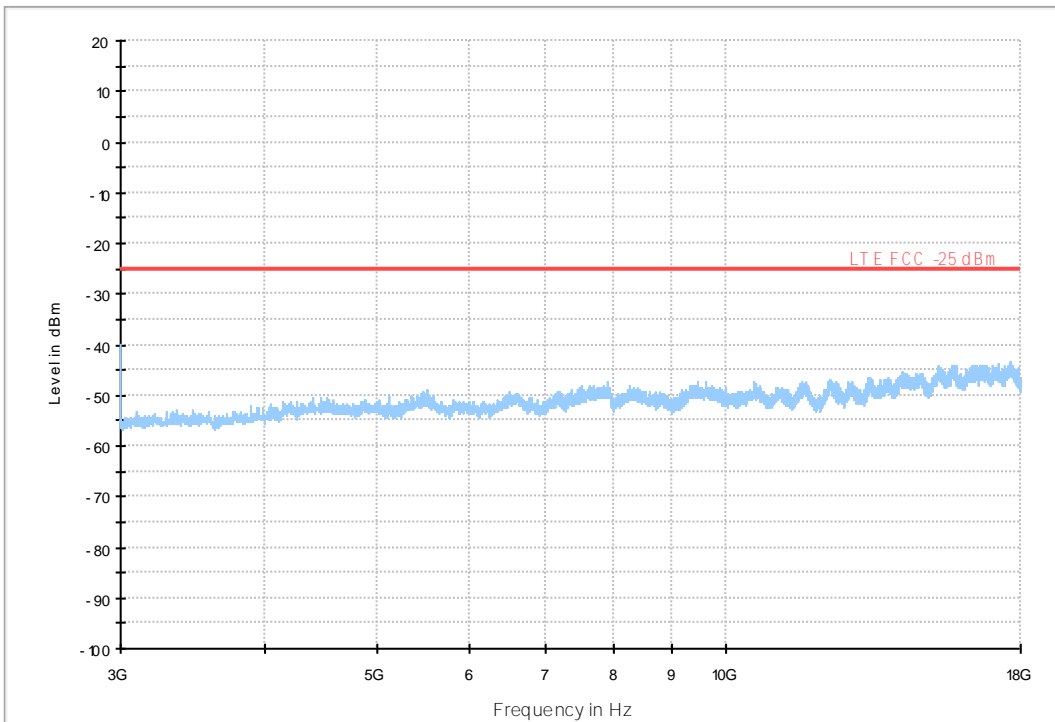




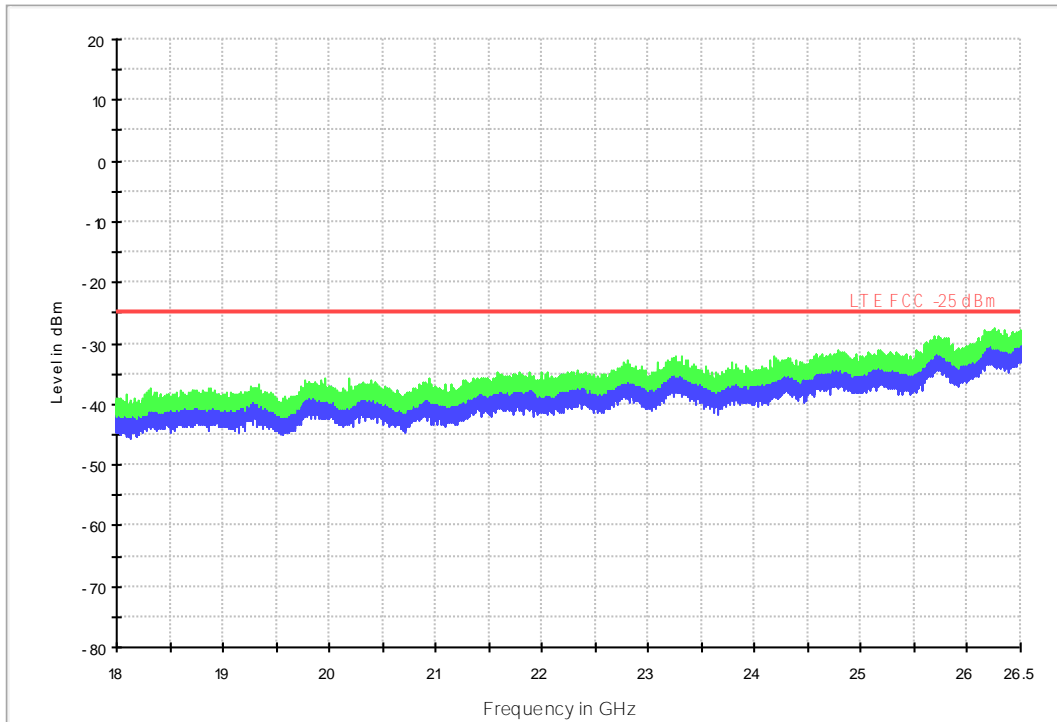
LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_L -25dBm limit



LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_H -25dBm limit

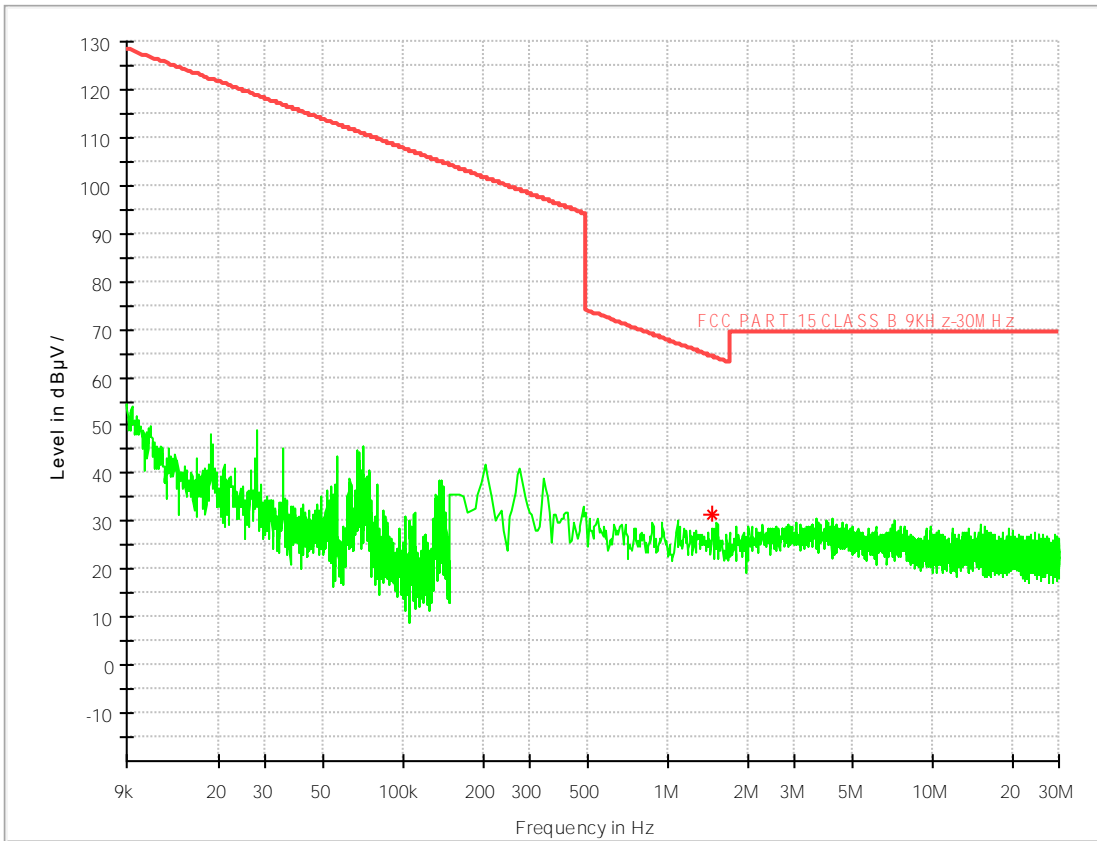


18G~26.5G RSE-TX-DIRECT OR ABOVE 1.5G PK

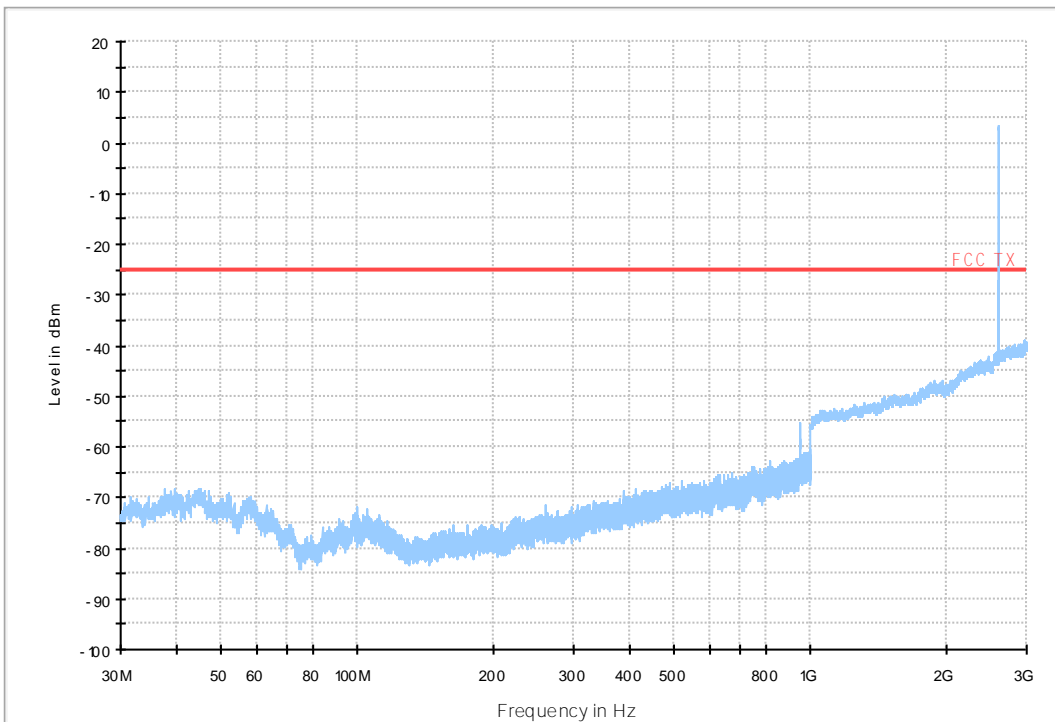


7.1.2 Test Band = BAND38-Ant2

7.1.2.1 Test Bandwidth = 5

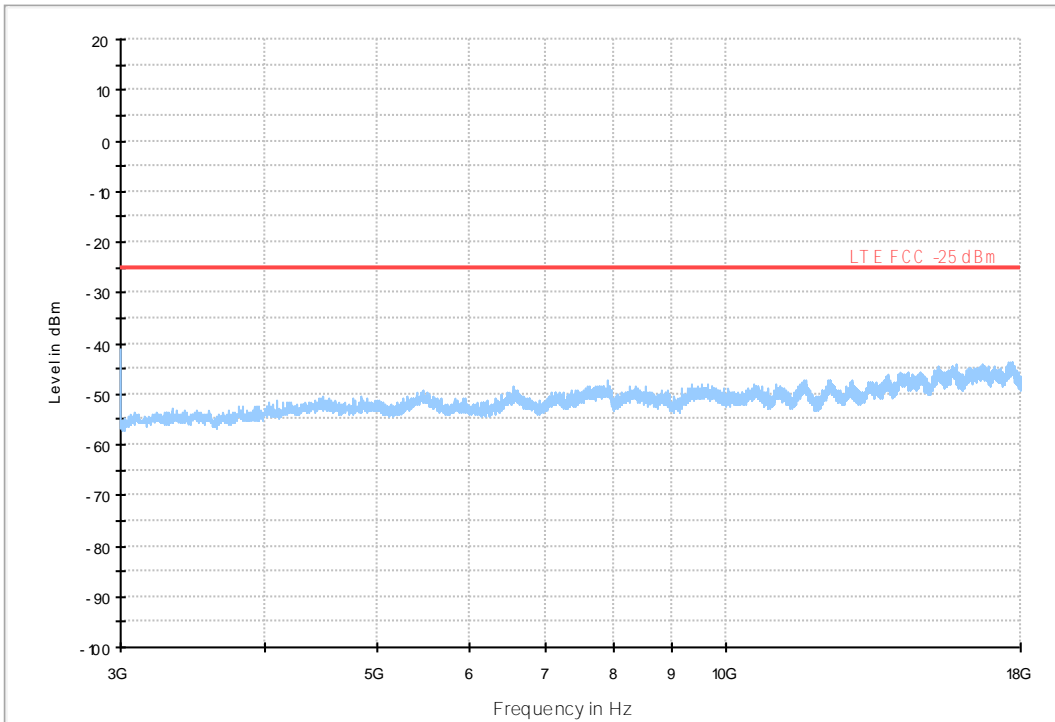


LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_L -25dBm limit

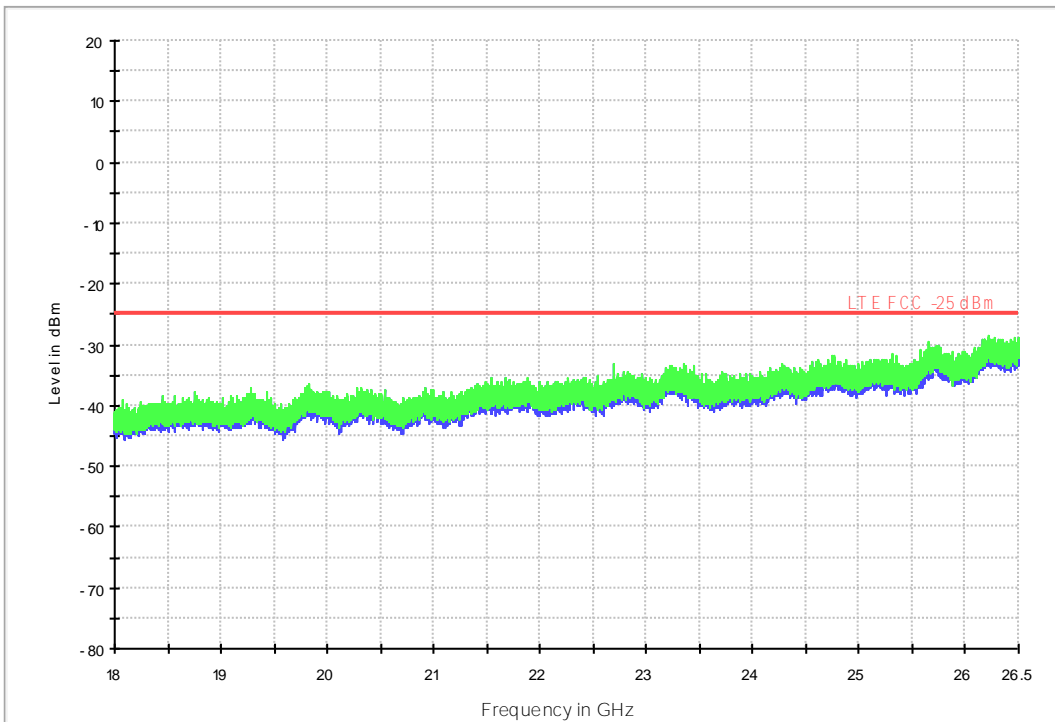




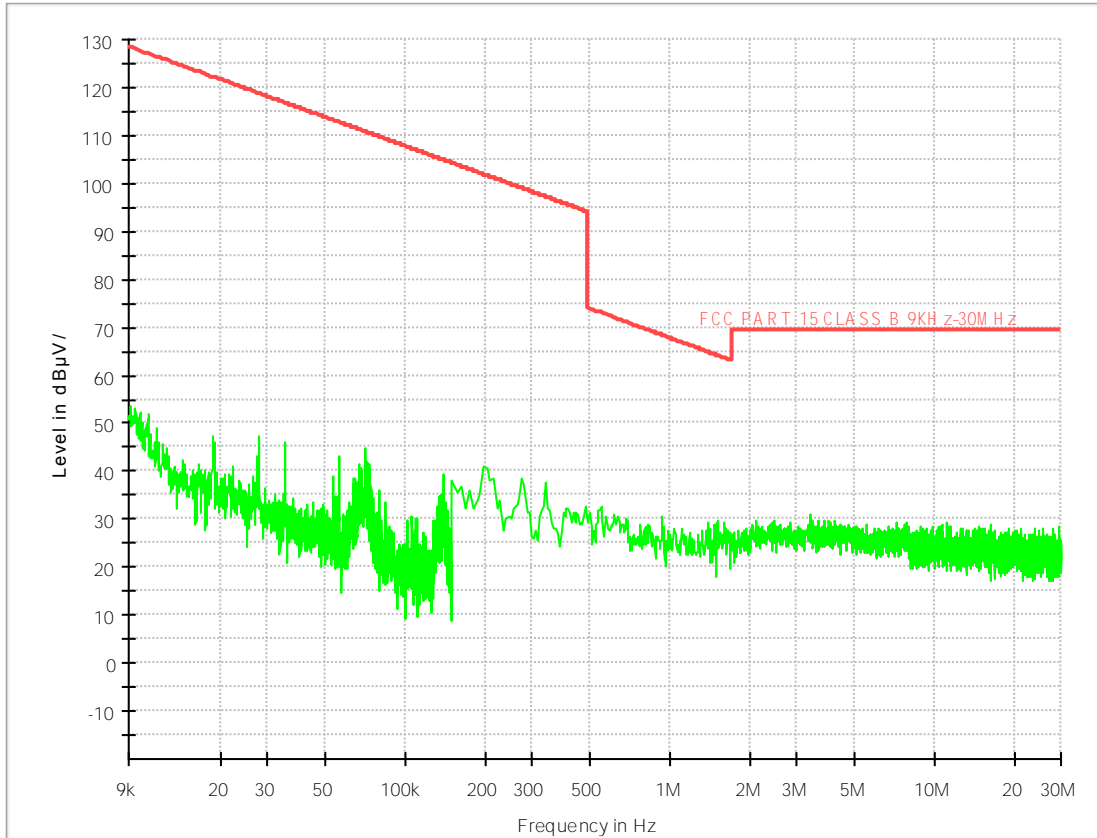
LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_H -25dBm limit



18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK

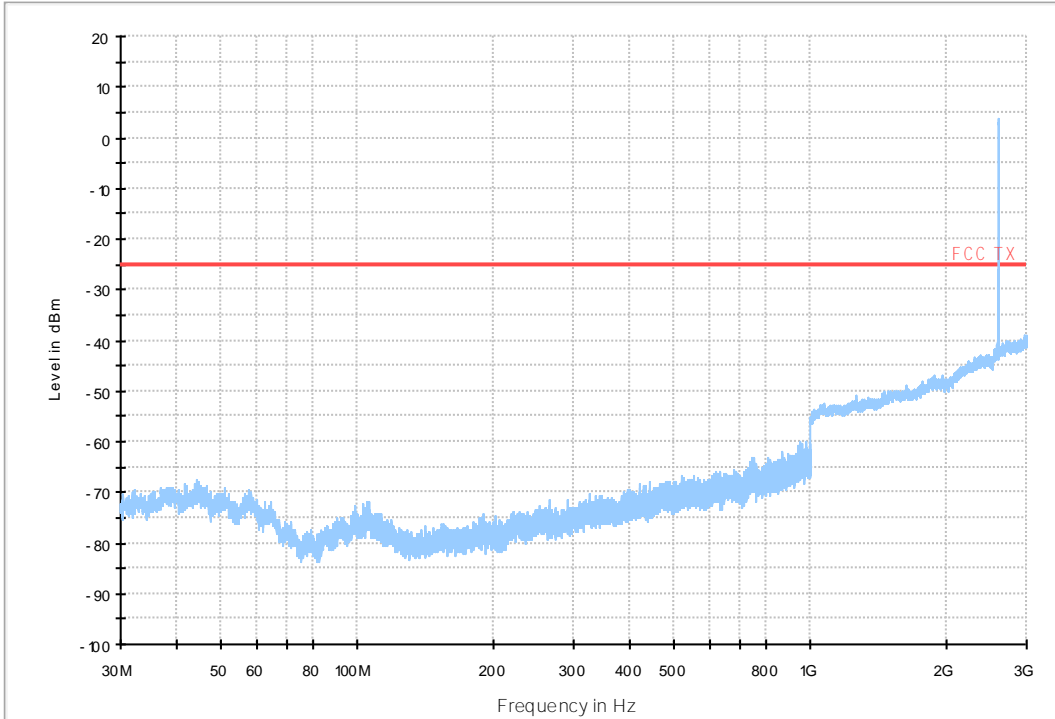


7.1.2.2 Test Bandwidth = 20

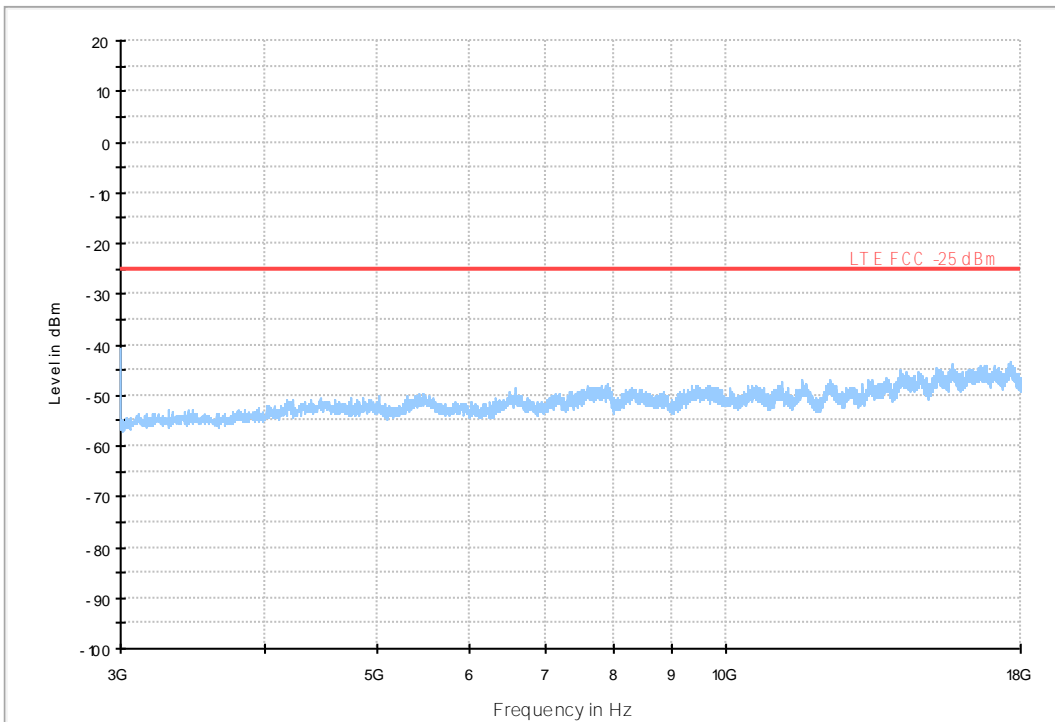




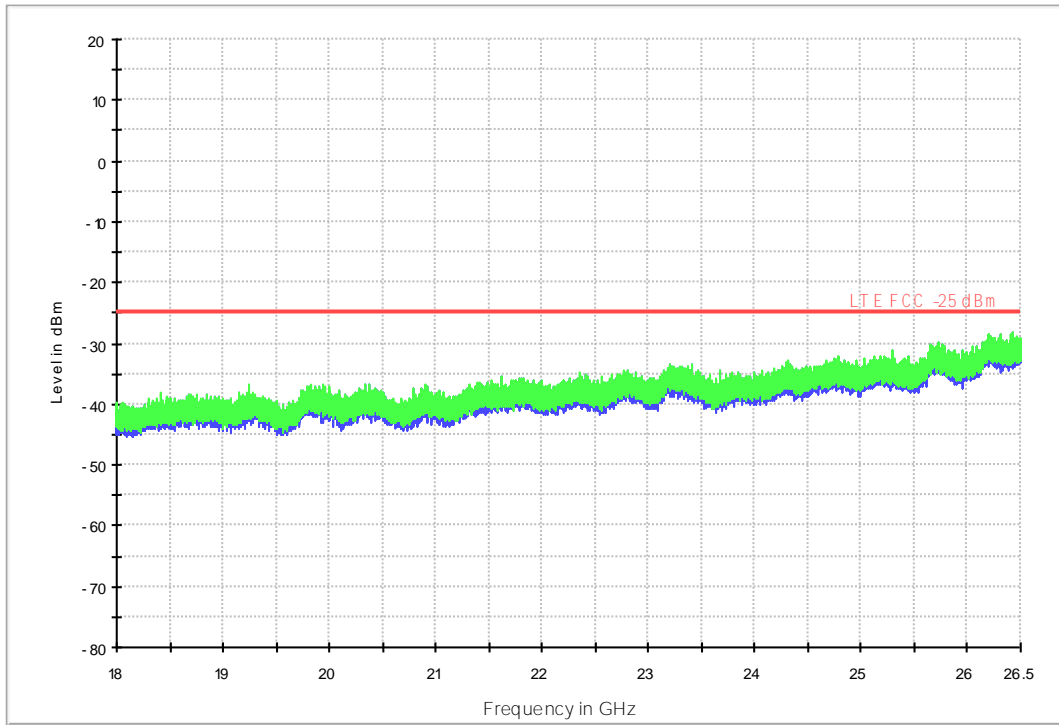
LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_L -25dBm limit



LTE TDD Band 38&41 RSE-TX-DIRECTOR ABOVE 1.5G_H -25dBm limit



18G~ 26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK





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
BAND38	LTE/TM1	5	LCH	TN	VL	-73.60	-0.02861	PASS
					VN	-22.92	-0.00891	PASS
					VH	-22.27	-0.00866	PASS
			MCH	TN	VL	-24.85	-0.00958	PASS
					VN	-25.95	-0.01	PASS
					VH	-20.07	-0.00773	PASS
			HCH	TN	VL	-22.26	-0.0085	PASS
					VN	-49.84	-0.01904	PASS
					VH	-24.56	-0.00938	PASS
		10	LCH	TN	VL	-19.70	-0.00765	PASS
					VN	-19.33	-0.00751	PASS
					VH	-23.10	-0.00897	PASS
			MCH	TN	VL	-24.96	-0.00962	PASS
					VN	-19.77	-0.00762	PASS
					VH	-23.72	-0.00914	PASS
			HCH	TN	VL	-24.70	-0.00945	PASS
					VN	-26.88	-0.01028	PASS
					VH	-23.86	-0.00912	PASS
		15	LCH	TN	VL	-23.88	-0.00926	PASS
					VN	-21.31	-0.00827	PASS
					VH	-19.18	-0.00744	PASS
			MCH	TN	VL	-21.90	-0.00844	PASS
					VN	-21.63	-0.00834	PASS
					VH	-23.35	-0.009	PASS
			HCH	TN	VL	-24.00	-0.00919	PASS
					VN	-26.64	-0.0102	PASS
					VH	-22.49	-0.00861	PASS
		20	LCH	TN	VL	-18.34	-0.00711	PASS
					VN	-21.16	-0.0082	PASS
					VH	-17.24	-0.00668	PASS
			MCH	TN	VL	-24.53	-0.00945	PASS
					VN	-21.70	-0.00836	PASS
					VH	-25.46	-0.00981	PASS
			HCH	TN	VL	-23.85	-0.00914	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
	LTE/TM2				VN	-20.26	-0.00776	PASS
					VH	-27.67	-0.0106	PASS
		5	LCH	TN	VL	-15.12	-0.00588	PASS
					VN	-46.18	-0.01795	PASS
					VH	-23.13	-0.00899	PASS
					VL	-21.74	-0.00838	PASS
					VN	-25.08	-0.00966	PASS
					VH	-25.16	-0.0097	PASS
			MCH	TN	VL	-22.80	-0.00871	PASS
					VN	-24.82	-0.00948	PASS
					VH	-24.08	-0.0092	PASS
					VL	-16.61	-0.00645	PASS
					VN	-21.19	-0.00823	PASS
					VH	-16.05	-0.00623	PASS
		10	LCH	TN	VL	-22.10	-0.00852	PASS
					VN	-20.73	-0.00799	PASS
					VH	-27.97	-0.01078	PASS
					VL	-24.73	-0.00946	PASS
					VN	-20.48	-0.00783	PASS
					VH	-25.55	-0.00977	PASS
			MCH	TN	VL	-19.05	-0.00739	PASS
					VN	-20.36	-0.0079	PASS
					VH	-20.13	-0.00781	PASS
					VL	-20.93	-0.00807	PASS
					VN	-25.68	-0.0099	PASS
					VH	-23.47	-0.00904	PASS
		15	LCH	TN	VL	-20.31	-0.00777	PASS
					VN	-23.49	-0.00899	PASS
					VH	-21.77	-0.00833	PASS
					VL	-18.20	-0.00705	PASS
					VN	-22.06	-0.00855	PASS
					VH	-20.01	-0.00776	PASS
			MCH	TN	VL	-23.25	-0.00896	PASS
					VN	-20.57	-0.00793	PASS
					VH	-19.33	-0.00745	PASS
					VL	-22.82	-0.00874	PASS
					VN	-23.42	-0.00897	PASS
					VH	-24.10	-0.00923	PASS
		20	LCH	TN	VL	-22.82	-0.00874	PASS
					VN	-23.42	-0.00897	PASS
					VH	-24.10	-0.00923	PASS
					VL	-22.82	-0.00874	PASS
VN	-23.42				-0.00897	PASS		
VH	-24.10				-0.00923	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
BAND38	LTE/TM1	5	LCH	VN	-30	-24.05	-0.00935	PASS
					-20	-26.15	-0.01017	PASS
					-10	-57.82	-0.02248	PASS
					0	-20.18	-0.00784	PASS
					10	-19.70	-0.00766	PASS
					20	-24.92	-0.00969	PASS
					30	-18.65	-0.00725	PASS
					40	-43.10	-0.01675	PASS
			50	-22.47	-0.00873	PASS		
			MCH	VN	-30	-22.79	-0.00878	PASS
					-20	-22.56	-0.00869	PASS
					-10	-25.76	-0.00993	PASS
					0	-22.66	-0.00873	PASS
					10	-26.28	-0.01013	PASS
					20	-21.79	-0.0084	PASS
					30	-23.43	-0.00903	PASS
		40			-20.91	-0.00806	PASS	
		50	-27.52	-0.01061	PASS			
		HCH	VN	-30	-68.86	-0.02631	PASS	
				-20	-25.94	-0.00991	PASS	
				-10	-25.13	-0.0096	PASS	
				0	-23.70	-0.00905	PASS	
				10	-25.95	-0.00991	PASS	
				20	-65.09	-0.02487	PASS	
				30	-30.10	-0.0115	PASS	
				40	-30.87	-0.01179	PASS	
		50	-28.84	-0.01102	PASS			
		10	LCH	VN	-30	-20.10	-0.00781	PASS
					-20	-21.53	-0.00836	PASS
					-10	-19.76	-0.00767	PASS
					0	-19.18	-0.00745	PASS
					10	-20.16	-0.00783	PASS
20	-20.93				-0.00813	PASS		
30	-17.91				-0.00696	PASS		
40	-18.15				-0.00705	PASS		
50	-21.62		-0.0084	PASS				
MCH	VN		-30	-21.56	-0.00831	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict		
					-20	-22.90	-0.00882	PASS		
					-10	-24.08	-0.00928	PASS		
					0	-26.11	-0.01006	PASS		
					10	-26.12	-0.01007	PASS		
					20	-23.35	-0.009	PASS		
					30	-21.11	-0.00813	PASS		
					40	-21.39	-0.00824	PASS		
					50	-26.75	-0.01031	PASS		
			HCH	VN	-30	-20.06	-0.00767	PASS		
					-20	-20.53	-0.00785	PASS		
					-10	-24.02	-0.00919	PASS		
					0	-25.08	-0.00959	PASS		
					10	-28.01	-0.01071	PASS		
					20	-21.76	-0.00832	PASS		
					30	-24.76	-0.00947	PASS		
					40	-25.51	-0.00976	PASS		
			LCH	VN	-30	-21.23	-0.00824	PASS		
					-20	-18.50	-0.00718	PASS		
					-10	-20.16	-0.00782	PASS		
					0	-21.14	-0.0082	PASS		
		10			-20.13	-0.00781	PASS			
		20			-20.57	-0.00798	PASS			
		30			-19.76	-0.00767	PASS			
		40			-21.03	-0.00816	PASS			
		MCH	VN	-30	-23.29	-0.00897	PASS			
				-20	-23.88	-0.0092	PASS			
				-10	-24.75	-0.00954	PASS			
				0	-22.59	-0.00871	PASS			
				10	-22.77	-0.00877	PASS			
				20	-23.23	-0.00895	PASS			
				30	-22.03	-0.00849	PASS			
				40	-21.79	-0.0084	PASS			
		HCH	VN	-30	-21.04	-0.00805	PASS			
				-20	-23.33	-0.00893	PASS			
				-10	-24.85	-0.00951	PASS			
				0	-20.26	-0.00776	PASS			
		15					-30	-21.23	-0.00824	PASS
							-20	-18.50	-0.00718	PASS
							-10	-20.16	-0.00782	PASS
							0	-21.14	-0.0082	PASS
10	-20.13						-0.00781	PASS		
20	-20.57						-0.00798	PASS		
30	-19.76						-0.00767	PASS		
40	-21.03						-0.00816	PASS		



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					10	-22.80	-0.00873	PASS
					20	-25.82	-0.00988	PASS
					30	-25.18	-0.00964	PASS
					40	-23.40	-0.00896	PASS
					50	-25.25	-0.00967	PASS
					-30	-22.82	-0.00884	PASS
					-20	-17.21	-0.00667	PASS
					-10	-19.96	-0.00774	PASS
					0	-19.25	-0.00746	PASS
					10	-17.65	-0.00684	PASS
		20	-20.46	-0.00793	PASS			
		30	-17.94	-0.00695	PASS			
		40	-20.16	-0.00781	PASS			
		50	-19.18	-0.00743	PASS			
		-30	-22.40	-0.00863	PASS			
		-20	-21.72	-0.00837	PASS			
		-10	-23.90	-0.00921	PASS			
		0	-23.95	-0.00923	PASS			
		10	-23.10	-0.0089	PASS			
		20	-20.86	-0.00804	PASS			
	30	-24.56	-0.00946	PASS				
	40	-24.06	-0.00927	PASS				
	50	-23.98	-0.00924	PASS				
	-30	-22.49	-0.00862	PASS				
	-20	-22.37	-0.00857	PASS				
	-10	-23.12	-0.00886	PASS				
	0	-23.16	-0.00887	PASS				
	10	-22.62	-0.00867	PASS				
	20	-21.60	-0.00828	PASS				
	30	-22.14	-0.00848	PASS				
40	-23.60	-0.00904	PASS					
50	-22.65	-0.00868	PASS					
-30	-22.62	-0.00879	PASS					
-20	-20.86	-0.00811	PASS					
-10	-19.60	-0.00762	PASS					
0	-23.73	-0.00922	PASS					
10	-19.28	-0.00749	PASS					
20	-23.60	-0.00917	PASS					
30	-21.57	-0.00838	PASS					
	LTE/TM2	5	LCH	VN				



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
					40	-24.18	-0.0094	PASS	
					50	-16.29	-0.00633	PASS	
			MCH	VN	-30	-20.01	-0.00771	PASS	
					-20	-23.65	-0.00911	PASS	
					-10	-23.22	-0.00895	PASS	
					0	-21.03	-0.0081	PASS	
					10	-21.24	-0.00818	PASS	
					20	-24.95	-0.00961	PASS	
					30	-24.72	-0.00953	PASS	
					40	-20.73	-0.00799	PASS	
					50	-21.46	-0.00827	PASS	
					HCH	VN	-30	-34.99	-0.01337
			-20	-20.74			-0.00792	PASS	
			-10	-50.21			-0.01918	PASS	
			0	-23.73			-0.00907	PASS	
			10	-27.67			-0.01057	PASS	
			20	-59.07			-0.02257	PASS	
			30	-24.70			-0.00944	PASS	
		40	-25.91	-0.0099			PASS		
		10		LCH	VN	-30	-17.01	-0.00661	PASS
						-20	-21.72	-0.00843	PASS
						-10	-19.86	-0.00771	PASS
						0	-16.38	-0.00636	PASS
						10	-22.00	-0.00854	PASS
						20	-20.54	-0.00798	PASS
						30	-18.64	-0.00724	PASS
						40	-18.55	-0.0072	PASS
				50	-23.39	-0.00908	PASS		
				MCH	VN	-30	-23.15	-0.00892	PASS
						-20	-21.54	-0.0083	PASS
						-10	-21.50	-0.00829	PASS
						0	-16.44	-0.00634	PASS
10	-26.06					-0.01004	PASS		
20	-22.32	-0.0086	PASS						
HCH	VN	30	-24.75	-0.00954	PASS				
		40	-19.10	-0.00736	PASS				
					50	-23.22	-0.00895	PASS	
					-30	-23.59	-0.00902	PASS	



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					-20	-23.23	-0.00888	PASS
					-10	-23.12	-0.00884	PASS
					0	-22.57	-0.00863	PASS
					10	-24.78	-0.00948	PASS
					20	-20.10	-0.00769	PASS
					30	-21.10	-0.00807	PASS
					40	-21.10	-0.00807	PASS
					50	-26.31	-0.01006	PASS
		15	LCH	VN	-30	-17.58	-0.00682	PASS
					-20	-19.17	-0.00744	PASS
					-10	-18.85	-0.00731	PASS
					0	-17.92	-0.00695	PASS
					10	-19.27	-0.00748	PASS
					20	-19.27	-0.00748	PASS
					30	-18.17	-0.00705	PASS
					40	-18.12	-0.00703	PASS
			MCH	VN	-30	-25.39	-0.00978	PASS
					-20	-22.52	-0.00868	PASS
					-10	-21.26	-0.00819	PASS
					0	-22.12	-0.00852	PASS
					10	-24.19	-0.00932	PASS
					20	-21.93	-0.00845	PASS
					30	-23.62	-0.0091	PASS
					40	-23.99	-0.00924	PASS
			HCH	VN	-30	-22.72	-0.0087	PASS
					-20	-23.06	-0.00883	PASS
					-10	-19.37	-0.00741	PASS
					0	-22.16	-0.00848	PASS
					10	-24.40	-0.00934	PASS
					20	-21.82	-0.00835	PASS
					30	-23.52	-0.009	PASS
					40	-24.38	-0.00933	PASS
		20	LCH	VN	-30	-17.45	-0.00676	PASS
					-20	-19.30	-0.00748	PASS
					-10	-19.90	-0.00771	PASS
					0	-21.86	-0.00847	PASS



Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict			
					10	-19.56	-0.00758	PASS			
					20	-20.91	-0.0081	PASS			
					30	-19.14	-0.00742	PASS			
					40	-18.28	-0.00709	PASS			
					50	-20.71	-0.00803	PASS			
			MCH	VN	-30	-23.59	-0.00909	PASS			
					-20	-22.92	-0.00883	PASS			
					-10	-22.20	-0.00855	PASS			
					0	-23.98	-0.00924	PASS			
					10	-24.25	-0.00934	PASS			
					20	-21.89	-0.00844	PASS			
					30	-21.27	-0.0082	PASS			
					40	-22.90	-0.00882	PASS			
			HCH	VN	-30	-24.72	-0.00947	PASS			
					-20	-22.95	-0.00879	PASS			
					-10	-24.00	-0.0092	PASS			
					0	-22.69	-0.00869	PASS			
					10	-21.51	-0.00824	PASS			
					20	-19.56	-0.00749	PASS			
					30	-24.02	-0.0092	PASS			
					40	-22.56	-0.00864	PASS			
								50	-22.93	-0.00879	PASS

END