



5.1.1.2.4.2.2 Test RB = RB1#99





5.1.1.2.4.2.3 Test RB = RB50#25





5.1.1.2.4.2.4 Test RB = RB100#0



6Appendix_F: Spurious Emission at Antenna Terminal

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



Part I - Test Plots

6.1 For LTE

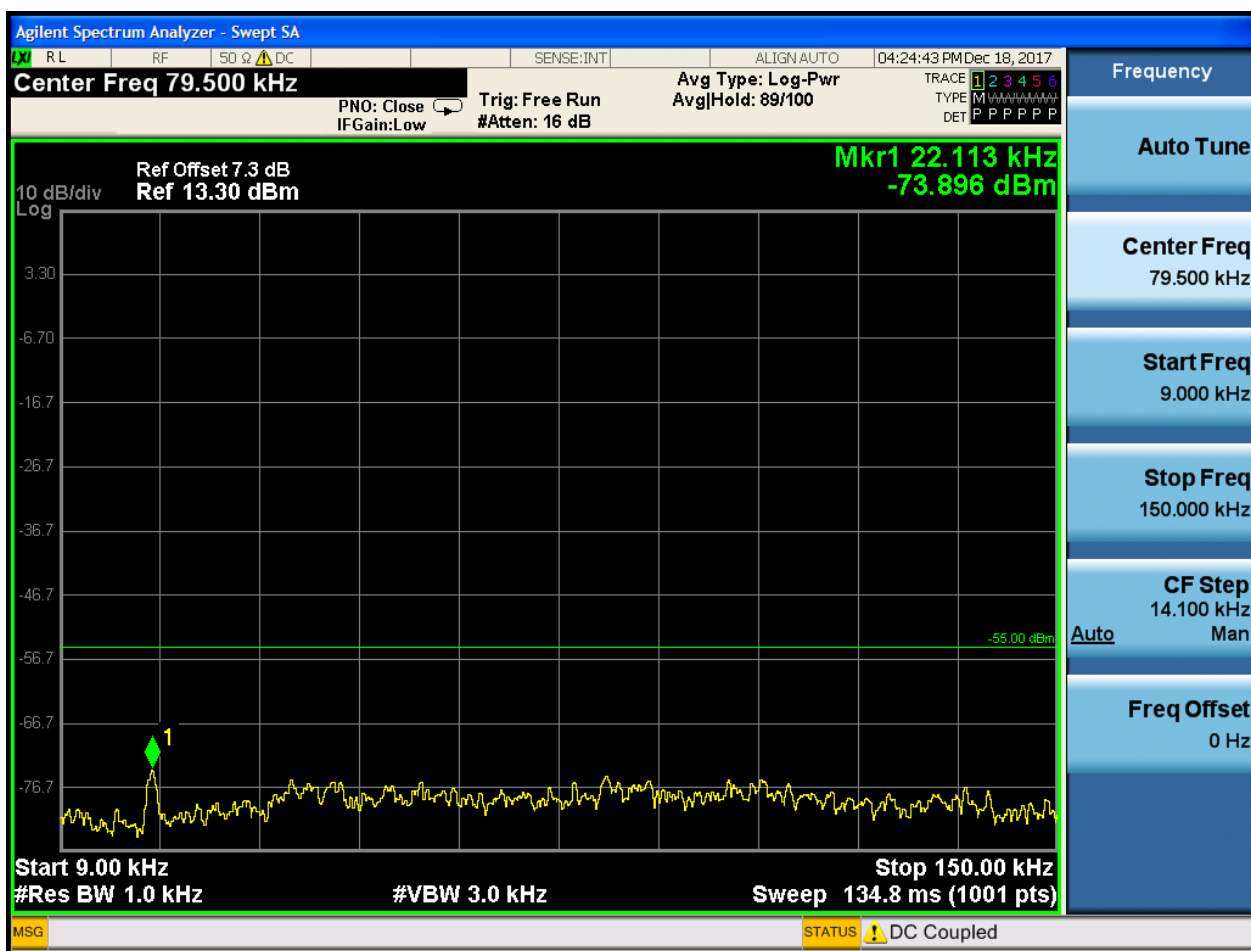
6.1.1 Test Band = BAND7

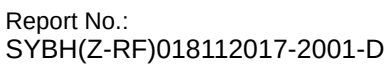
6.1.1.1 Test Mode = LTE/TM1

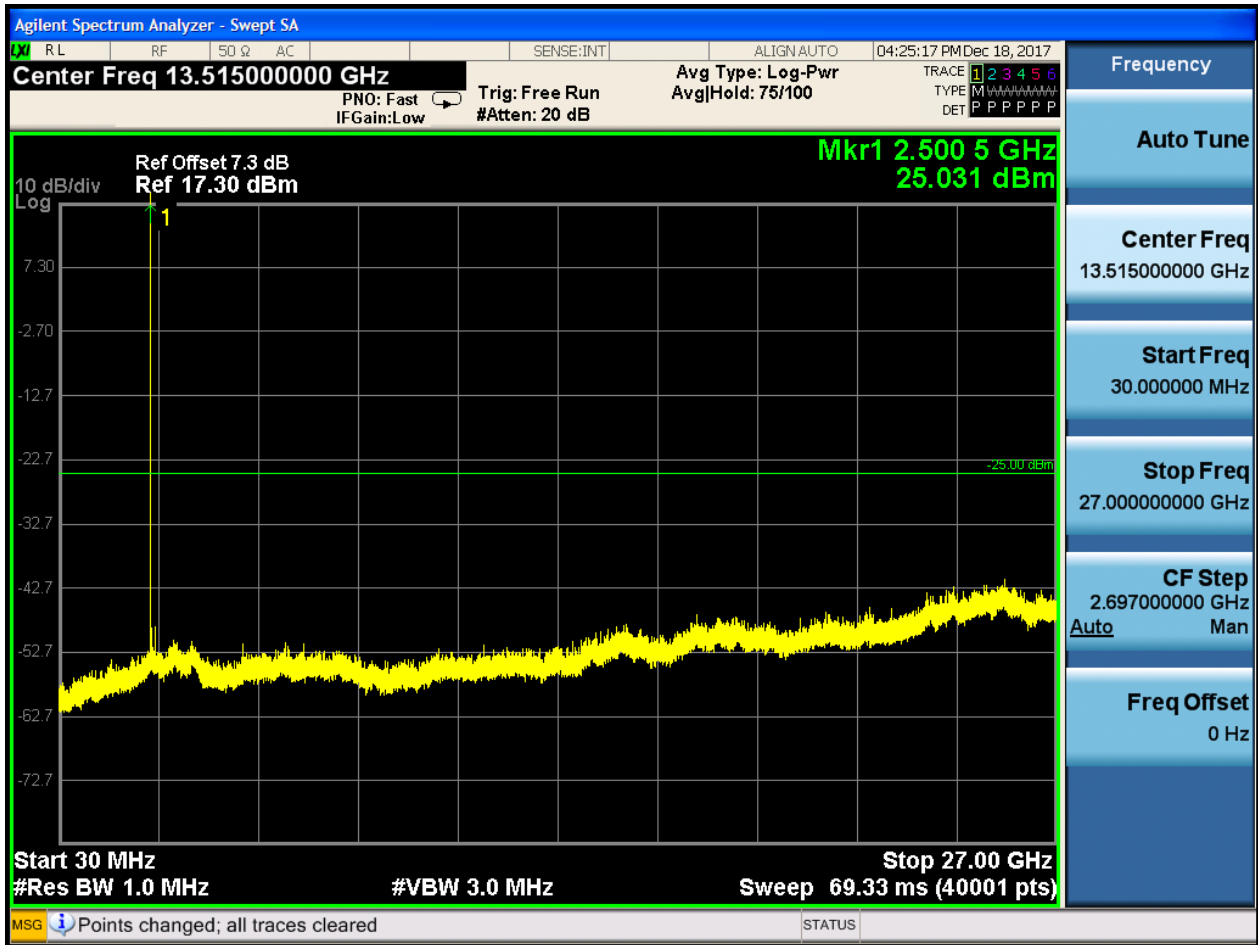
6.1.1.1.1 Test Bandwidth = 5

6.1.1.1.1.1 Test Channel = LCH

6.1.1.1.1.1.1 Test RB = RB1#0

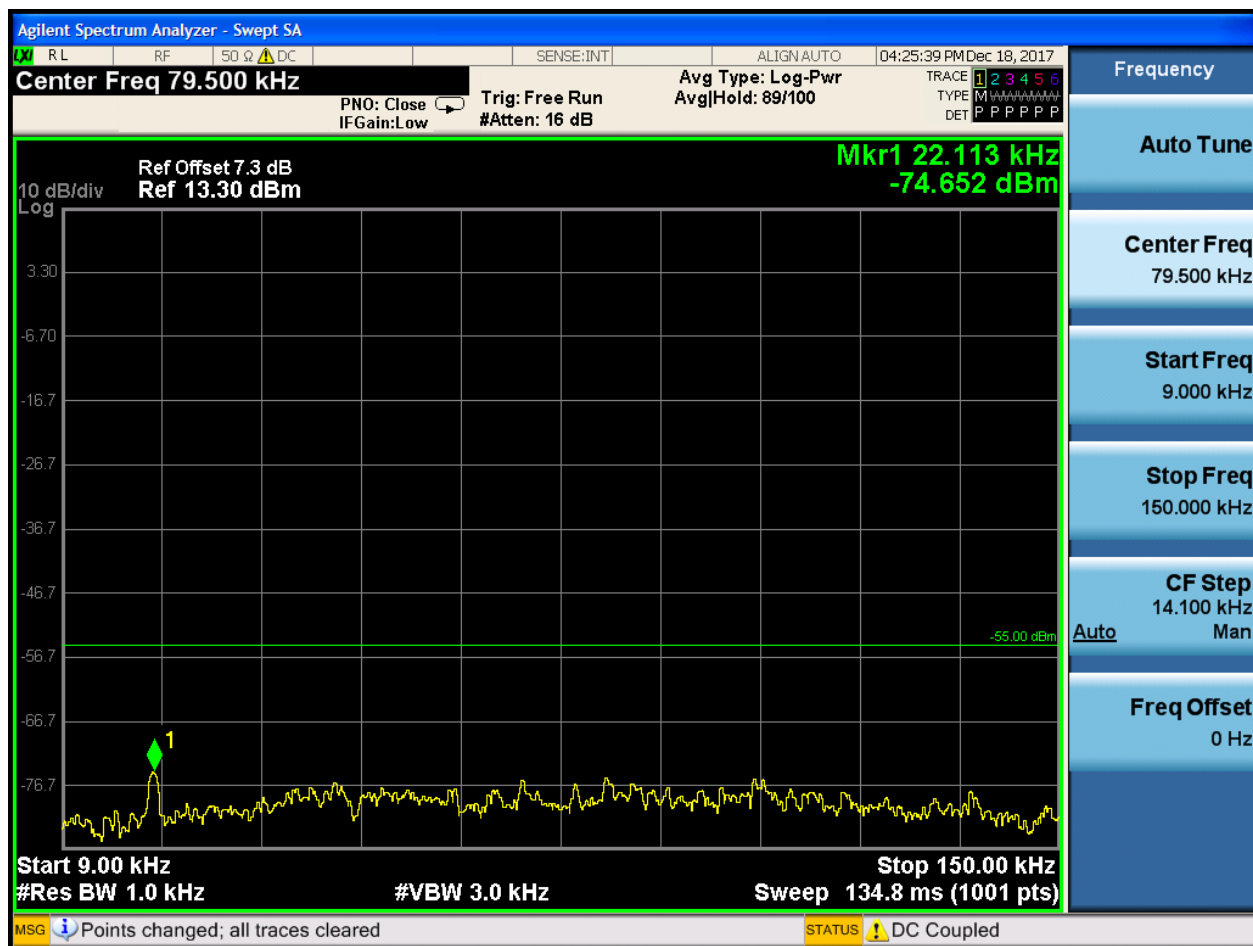


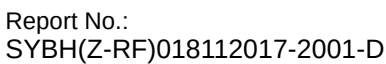


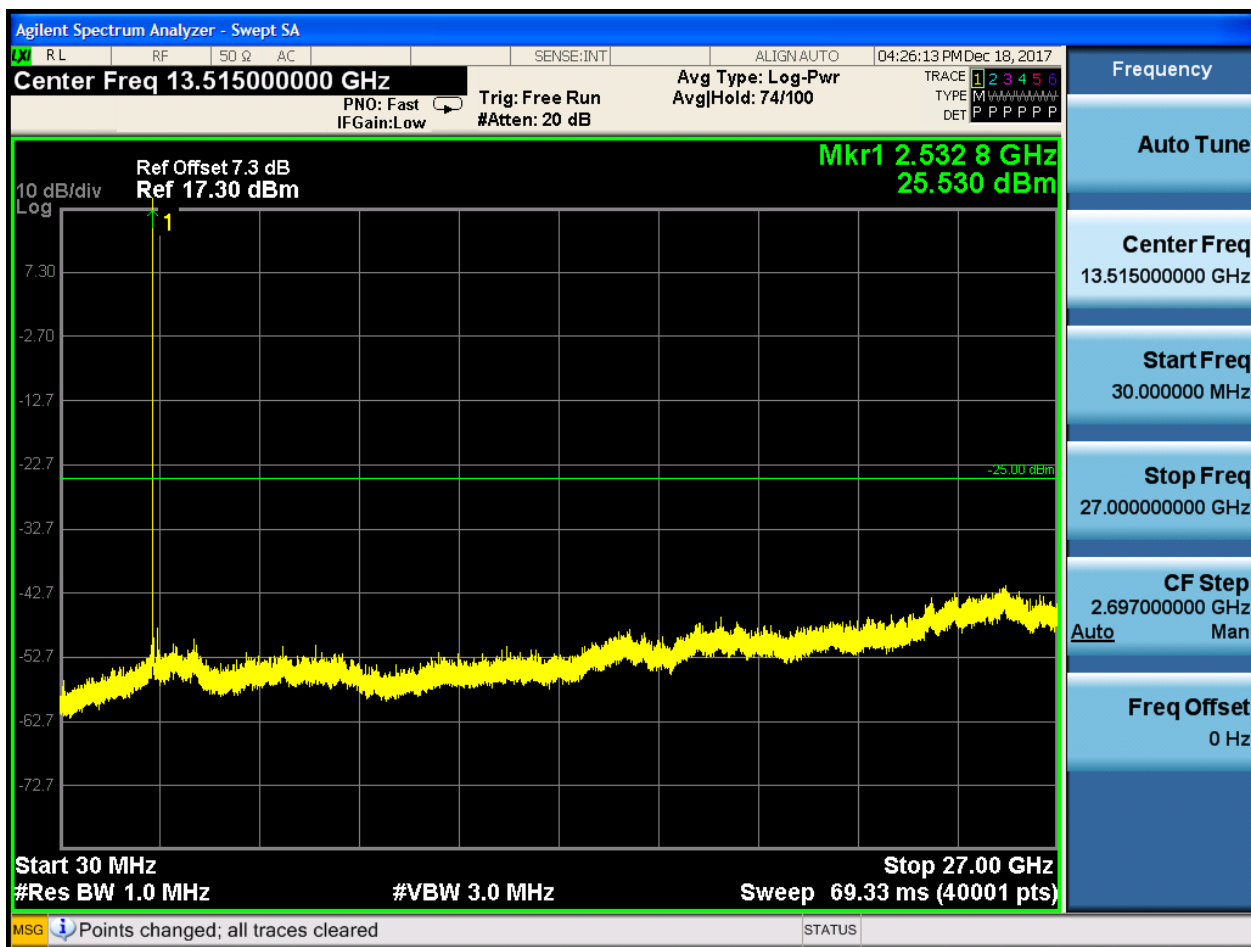


6.1.1.1.1.2 Test Channel = MCH

6.1.1.1.1.2.1 Test RB = RB1#0

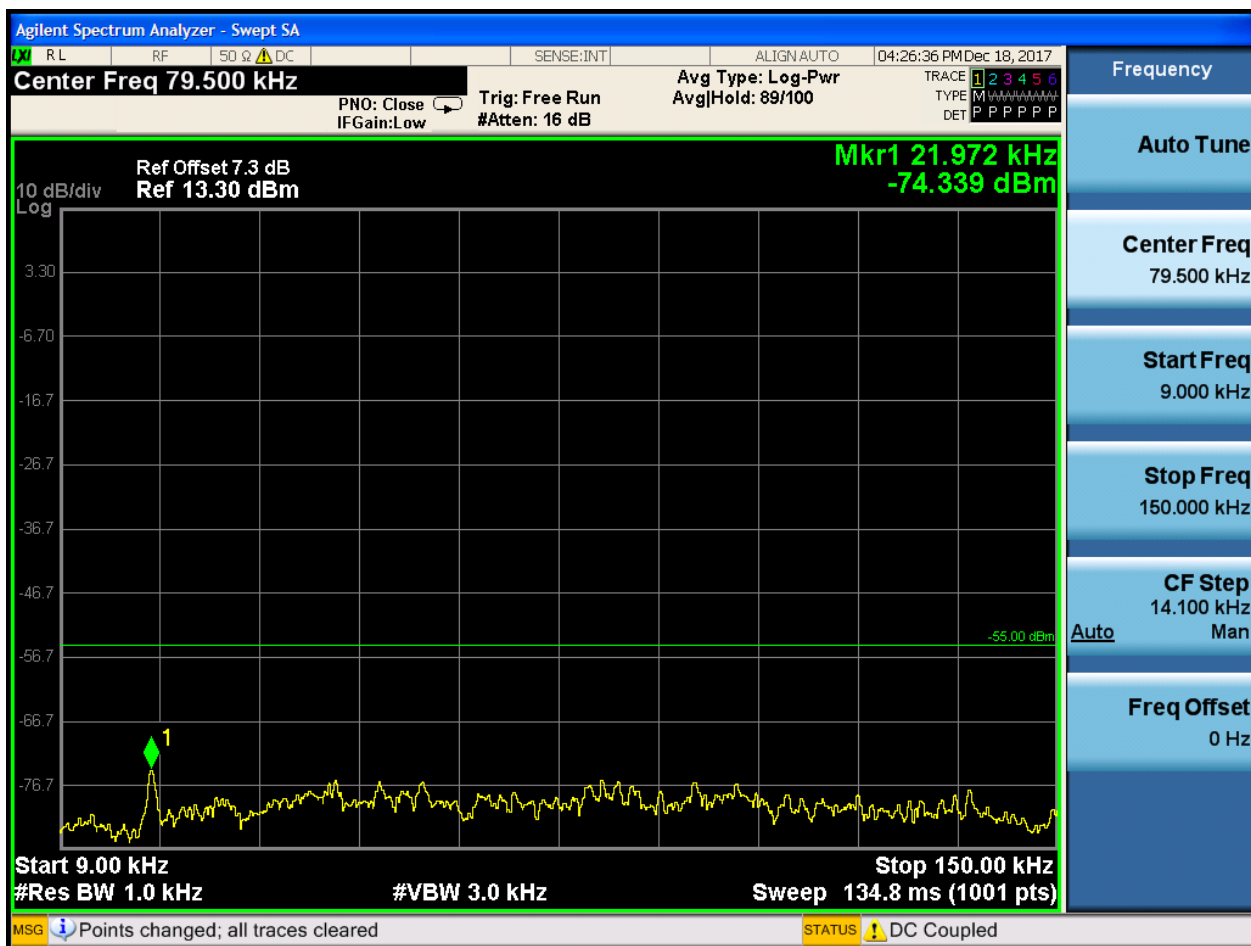


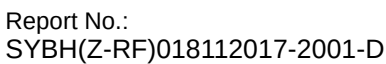


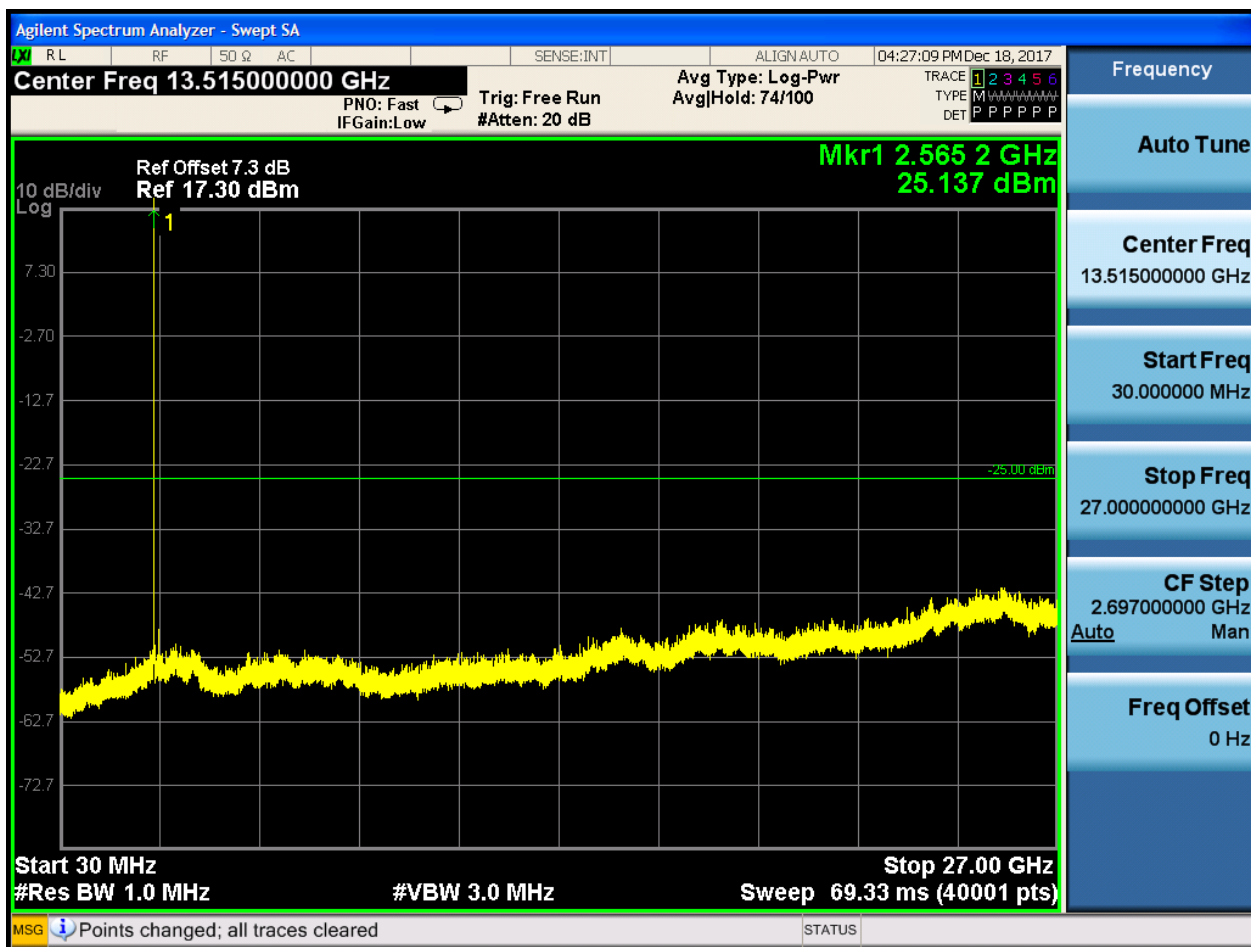




6.1.1.1.1.3.1 Test RB = RB1#0



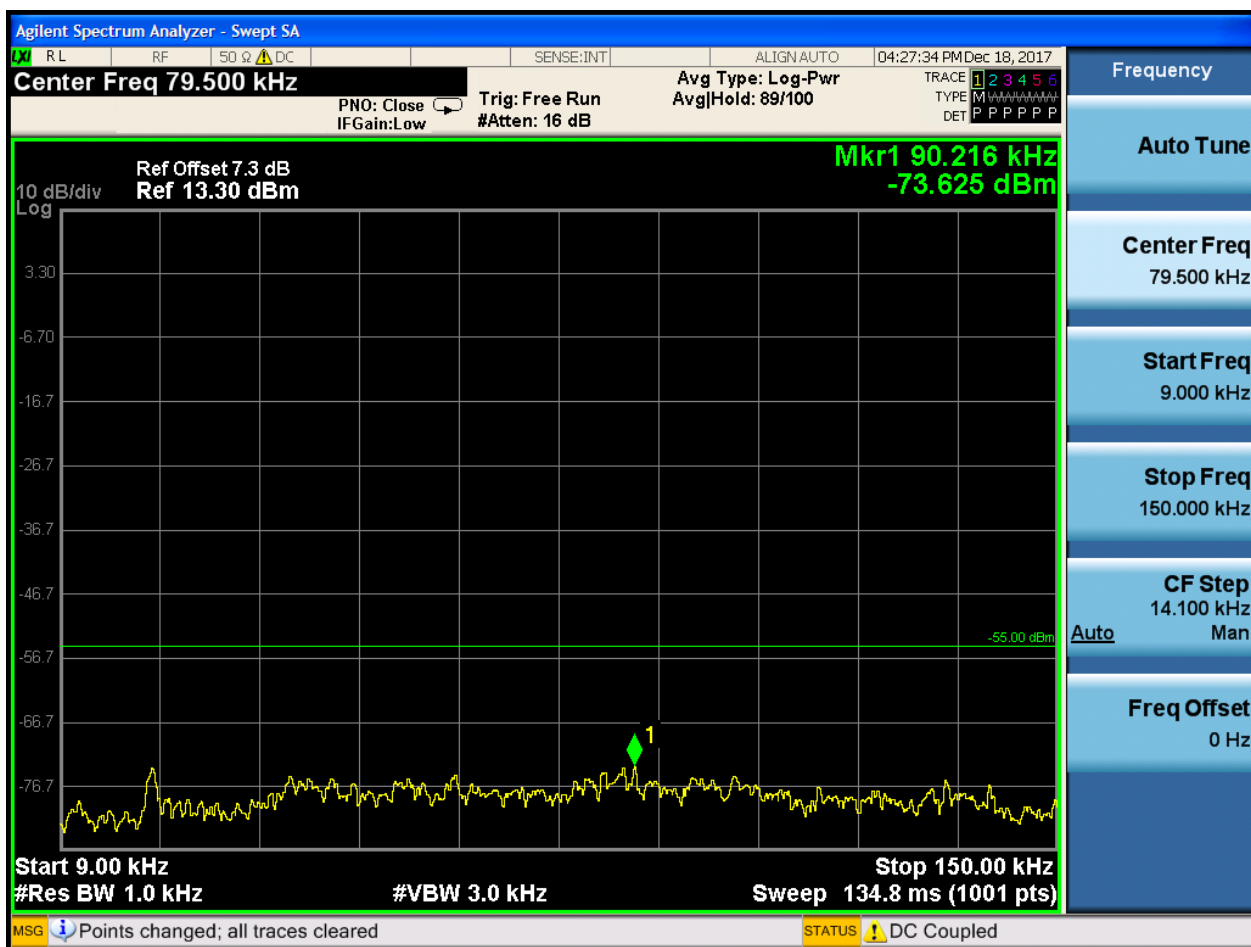


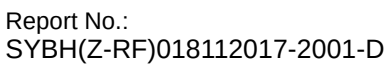


6.1.1.1.2 Test Bandwidth = 10

6.1.1.1.2.1 Test Channel = LCH

6.1.1.1.2.1.1 Test RB = RB1#0

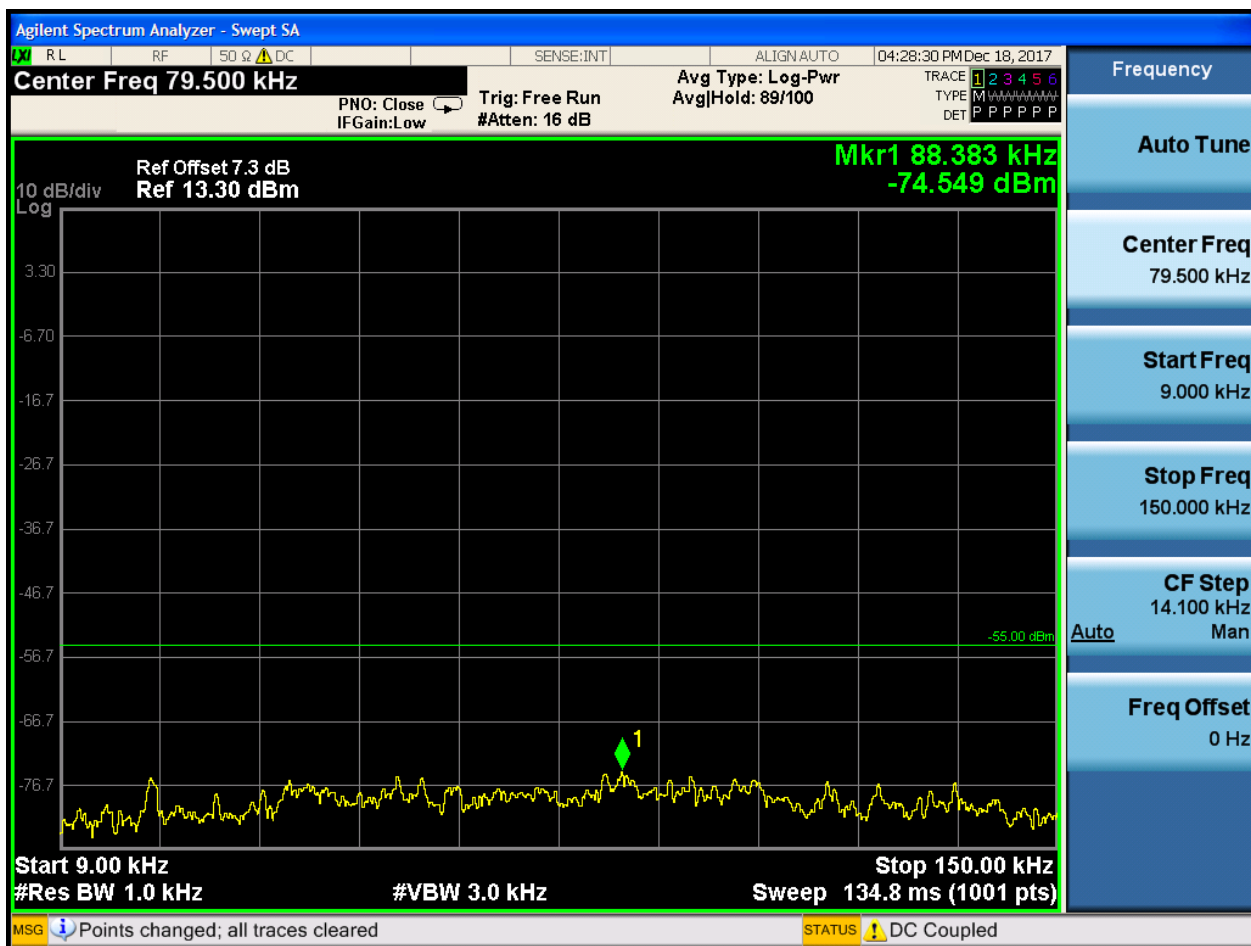


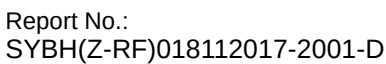


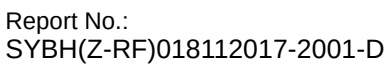


6.1.1.1.2.2 Test Channel = MCH

6.1.1.1.2.2.1 Test RB = RB1#0



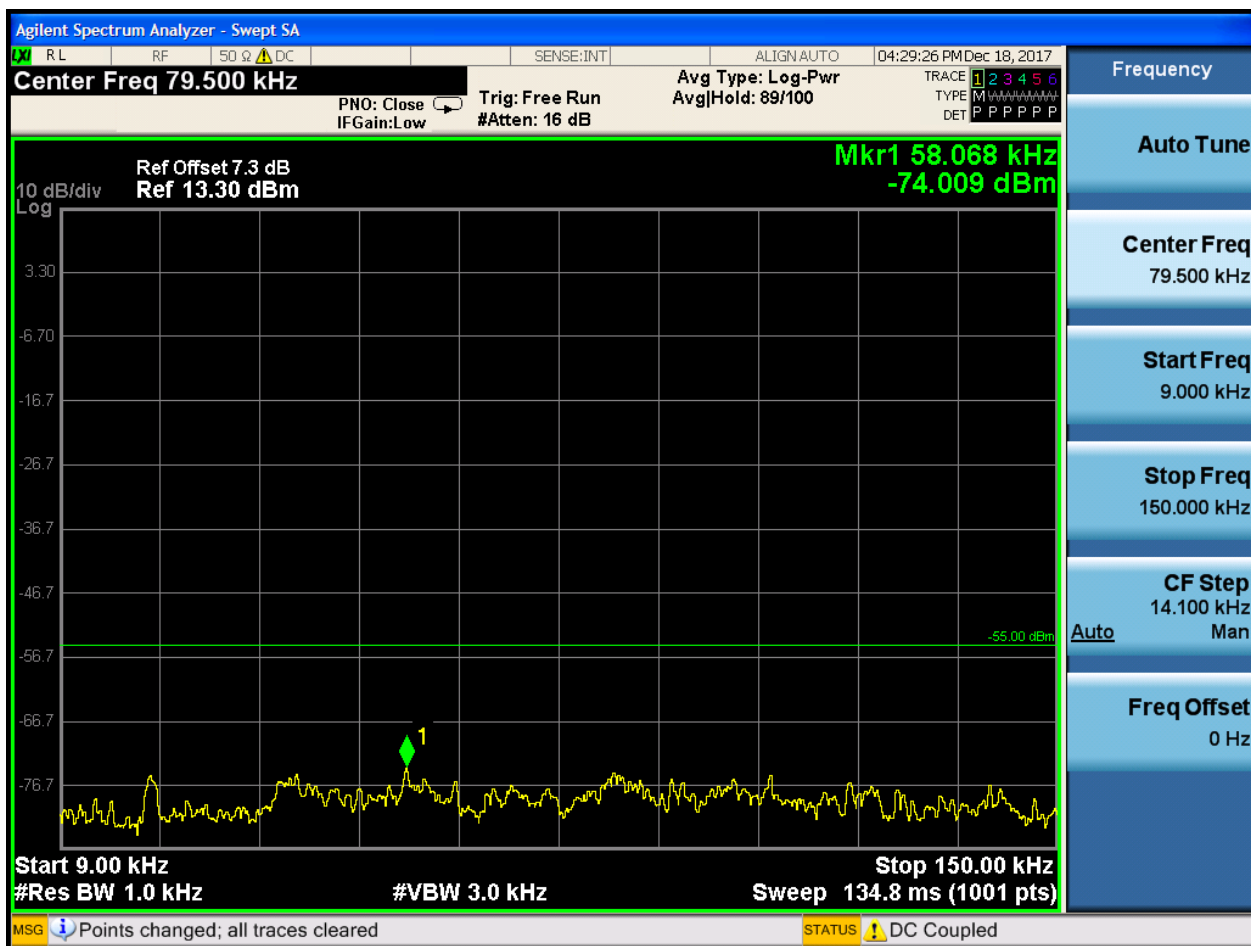


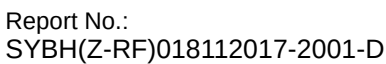


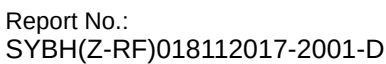


6.1.1.1.2.3 Test Channel = HCH

6.1.1.1.2.3.1 Test RB = RB1#0





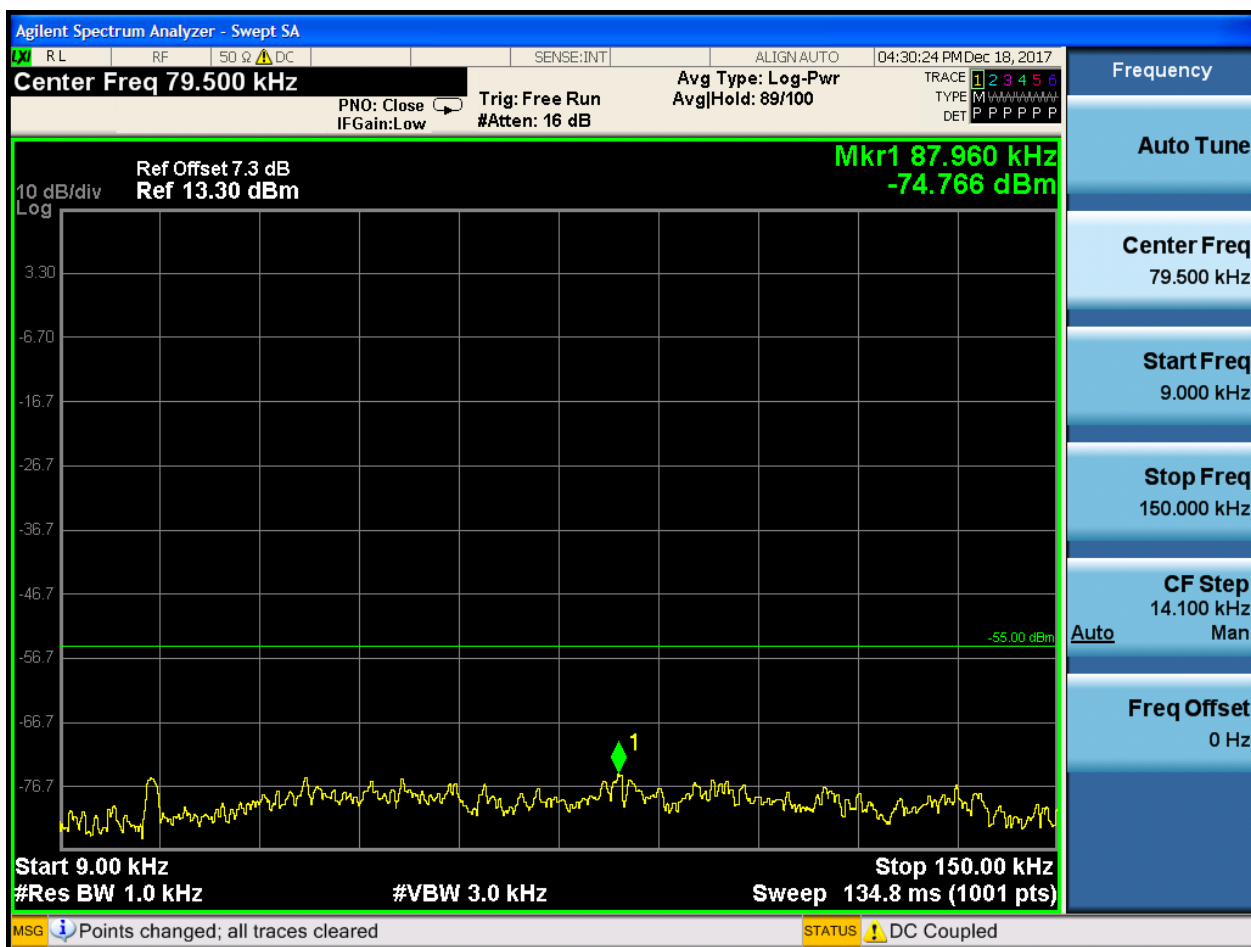


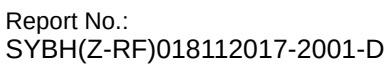


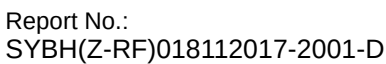
6.1.1.1.3 Test Bandwidth = 15

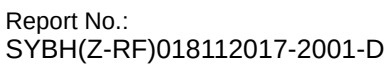
6.1.1.1.3.1 Test Channel = LCH

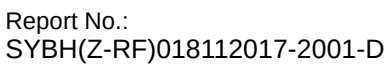
6.1.1.1.3.1.1 Test RB = RB1#0





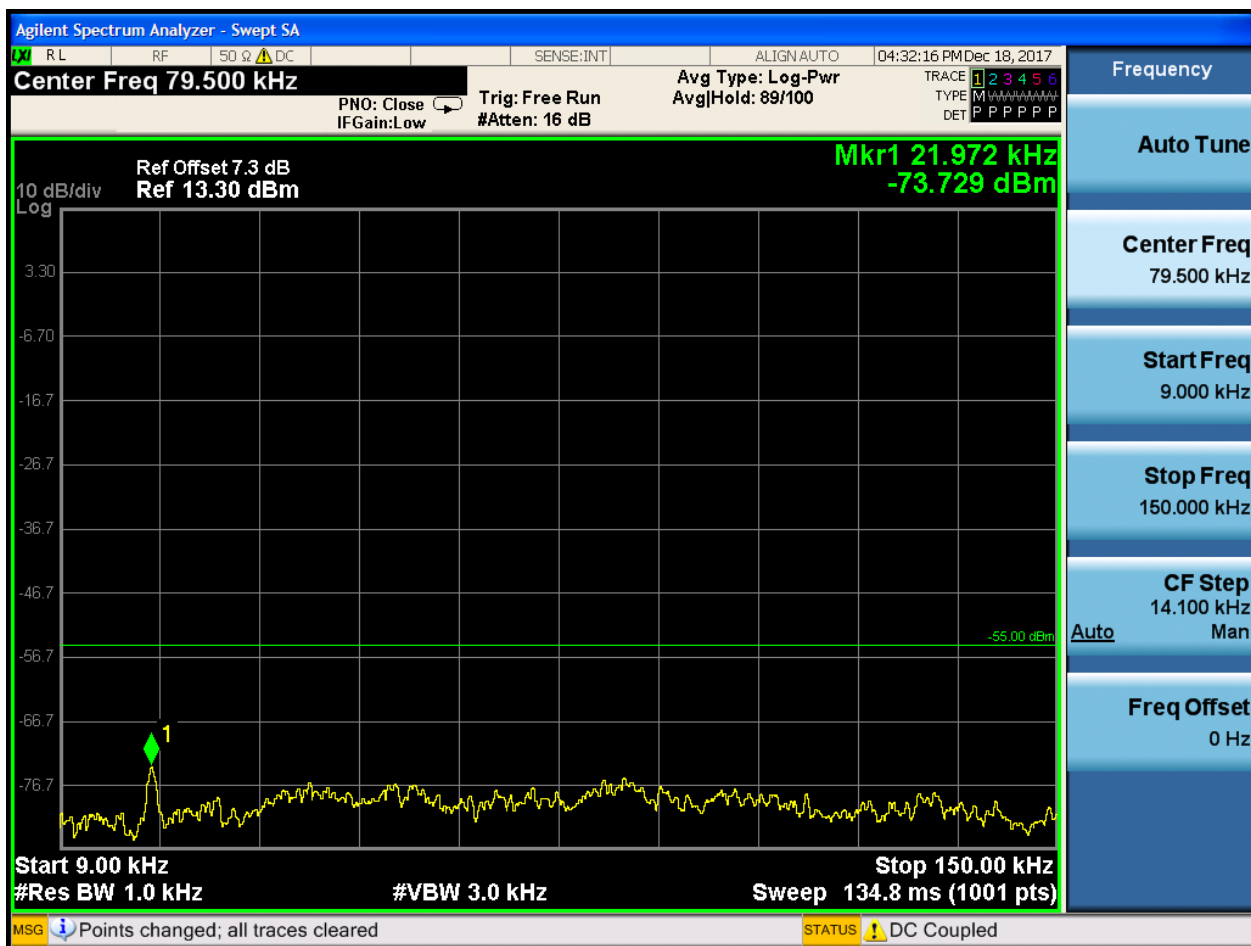


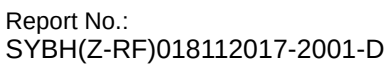


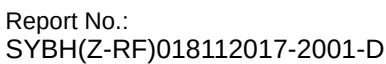


6.1.1.1.3.3 Test Channel = HCH

6.1.1.1.3.3.1 Test RB = RB1#0





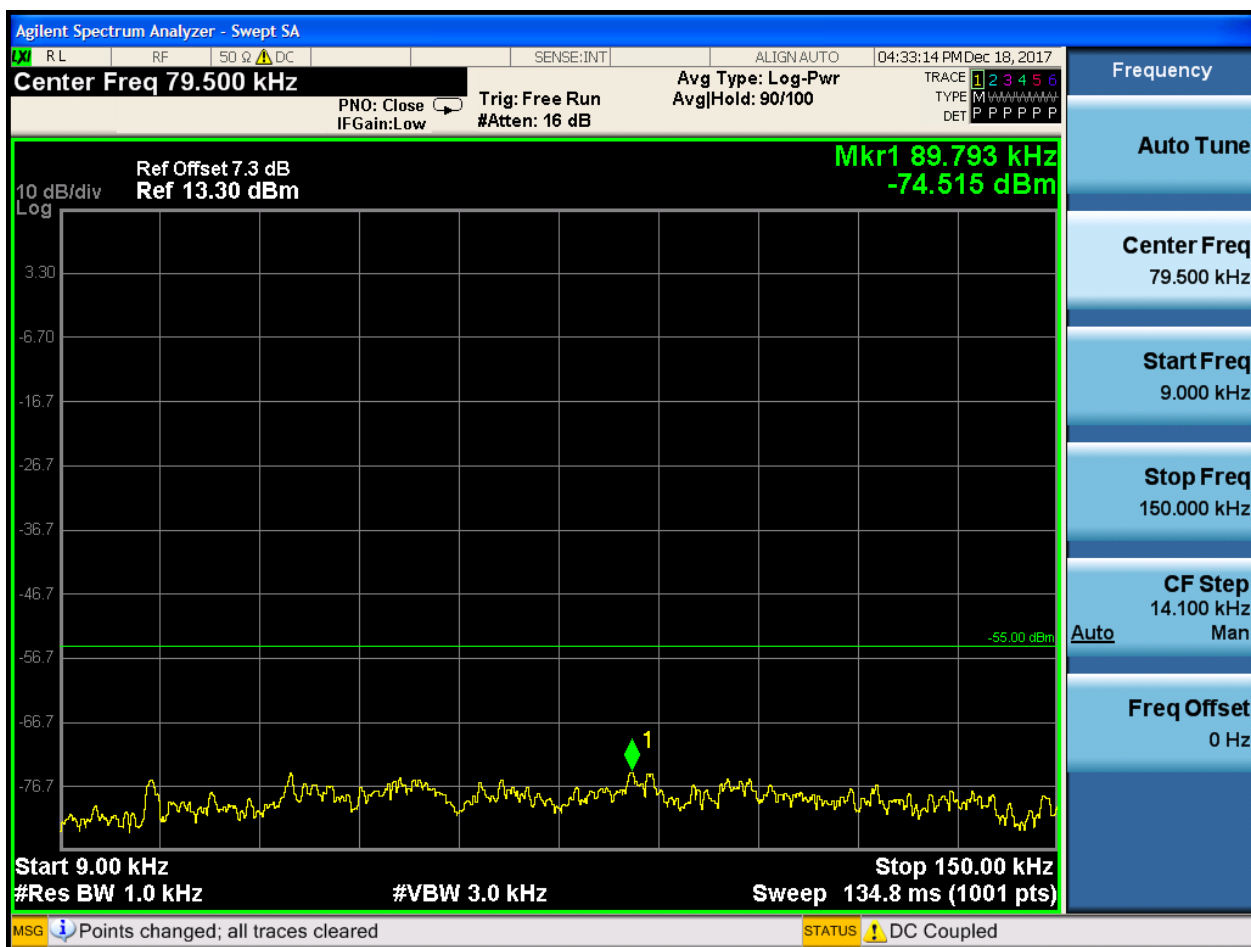


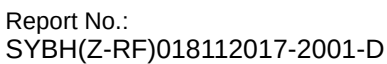


6.1.1.1.4 Test Bandwidth = 20

6.1.1.1.4.1 Test Channel = LCH

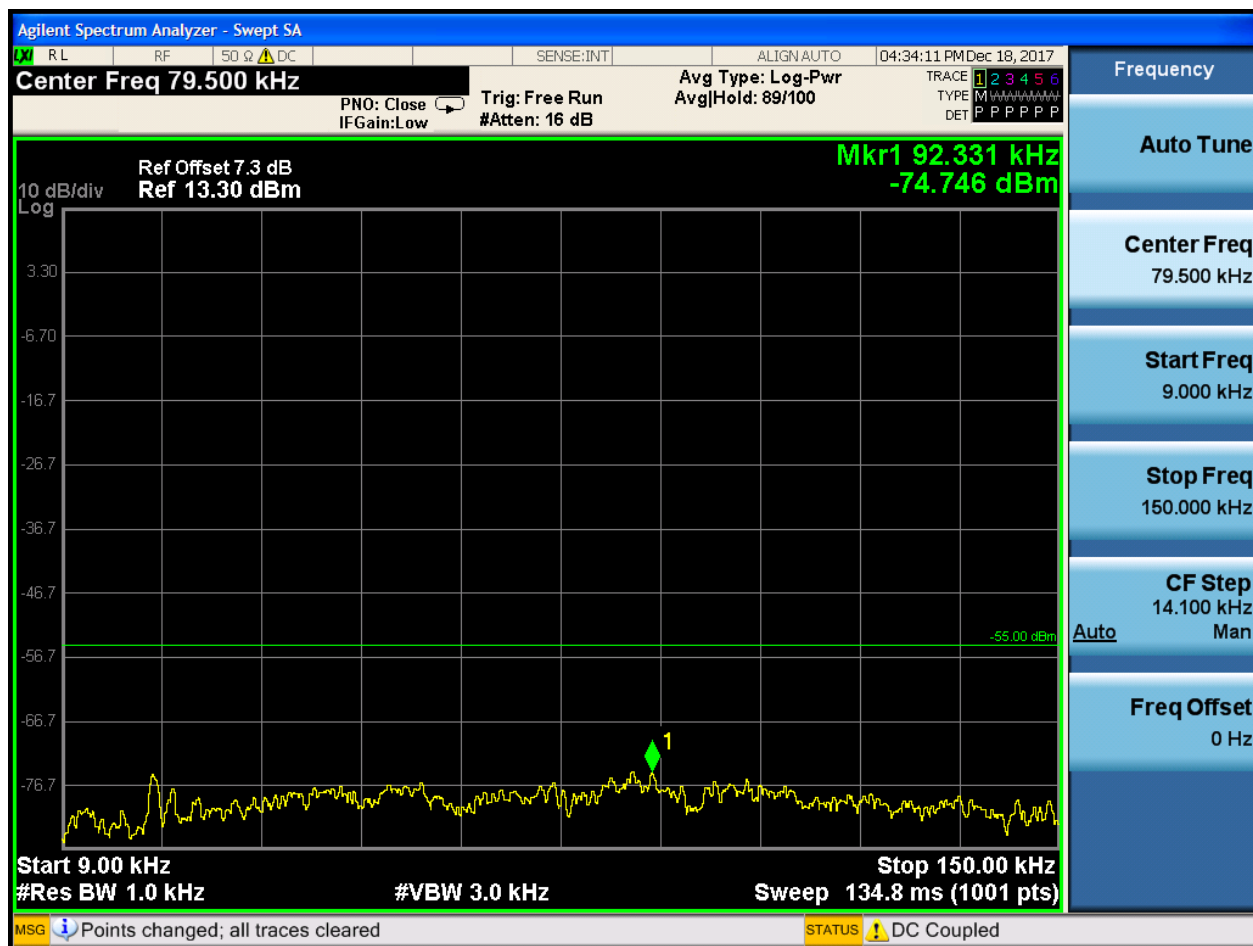
6.1.1.1.4.1.1 Test RB = RB1#0

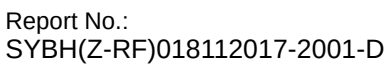


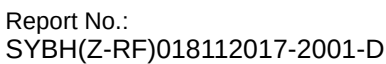


6.1.1.1.4.2 Test Channel = MCH

6.1.1.1.4.2.1 Test RB = RB1#0



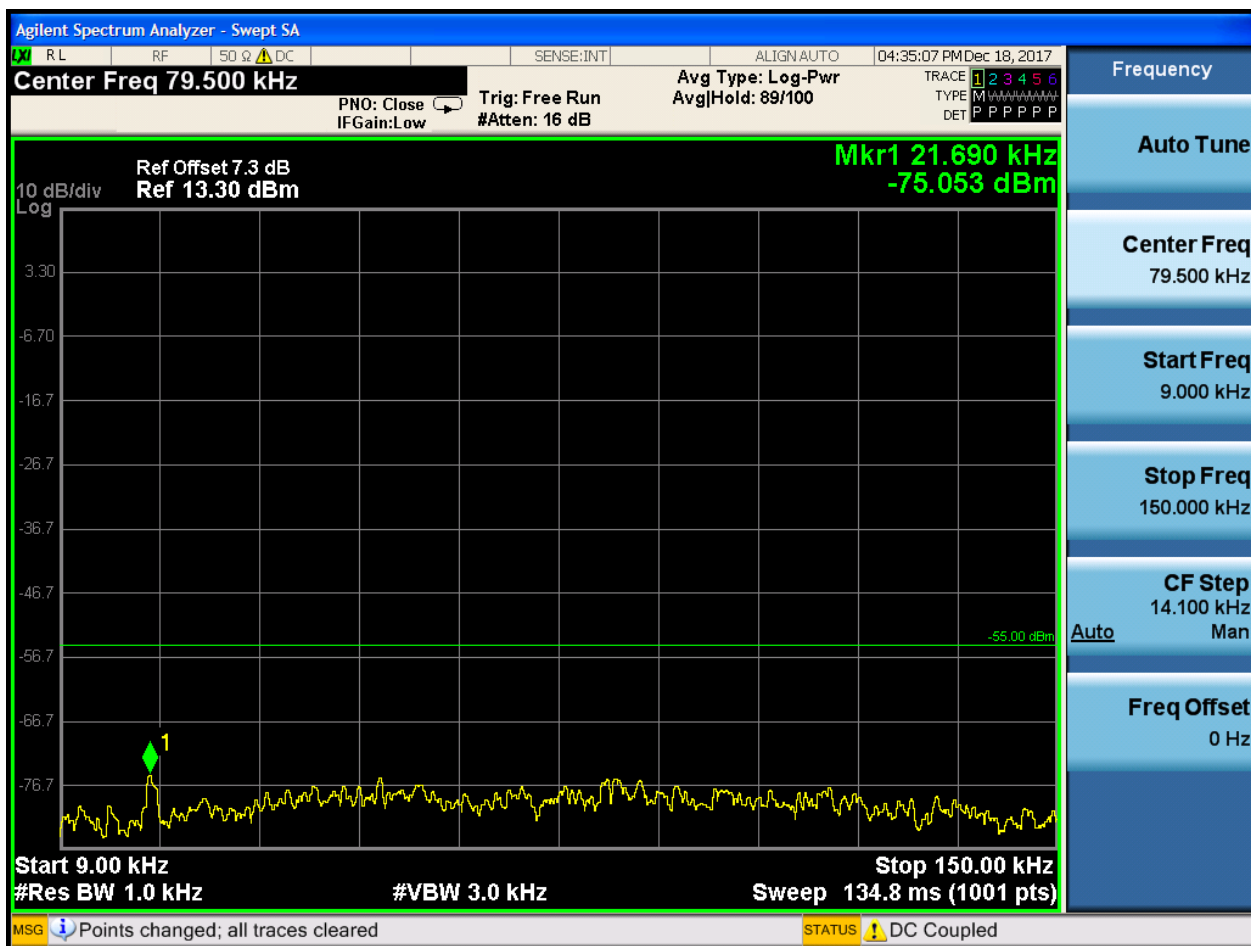


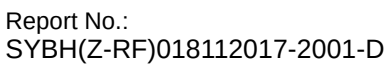


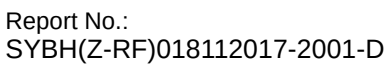


6.1.1.1.4.3 Test Channel = HCH

6.1.1.1.4.3.1 Test RB = RB1#0







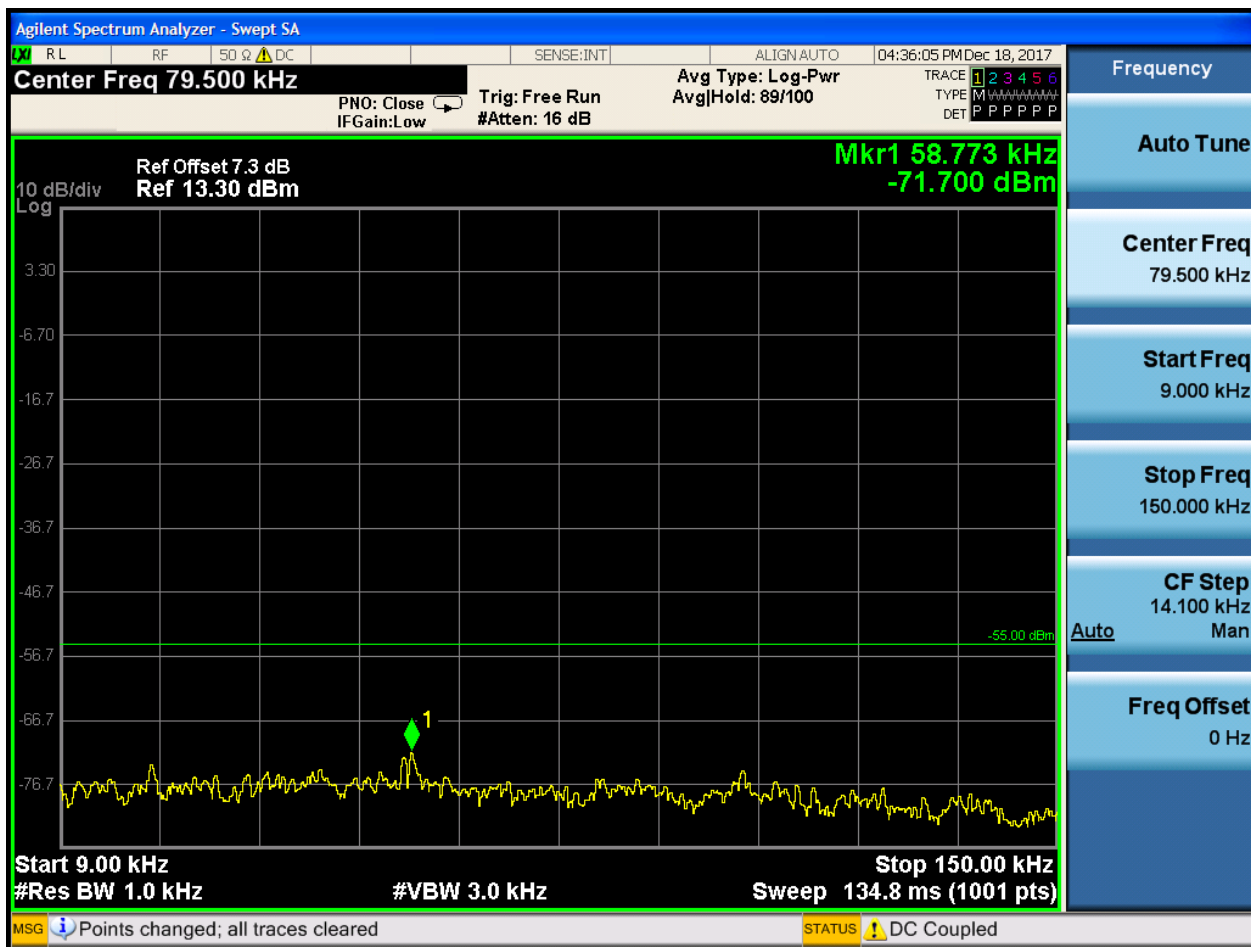


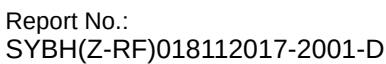
6.1.1.2 Test Mode = LTE/TM2

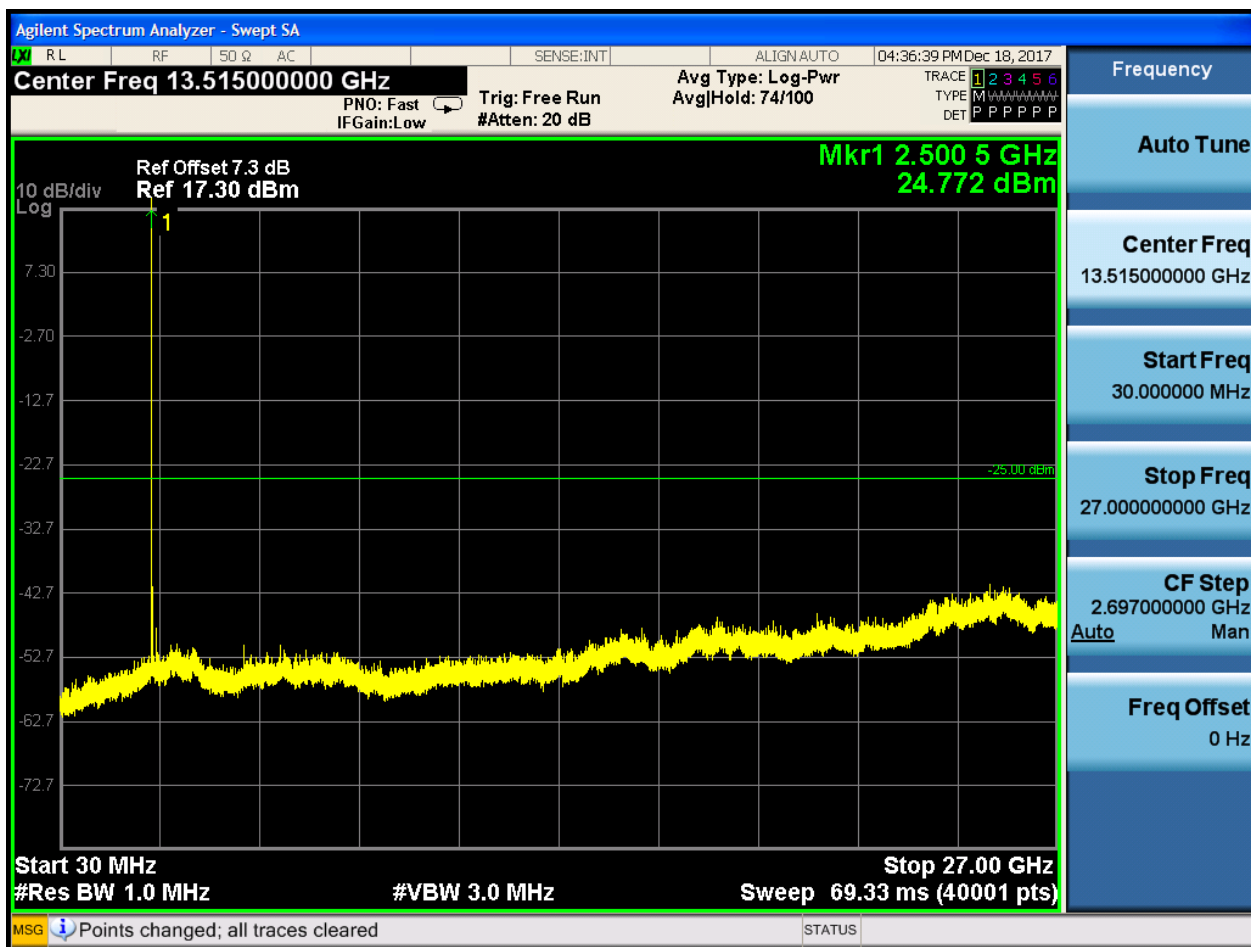
6.1.1.2.1 Test Bandwidth = 5

6.1.1.2.1.1 Test Channel = LCH

6.1.1.2.1.1.1 Test RB = RB1#0

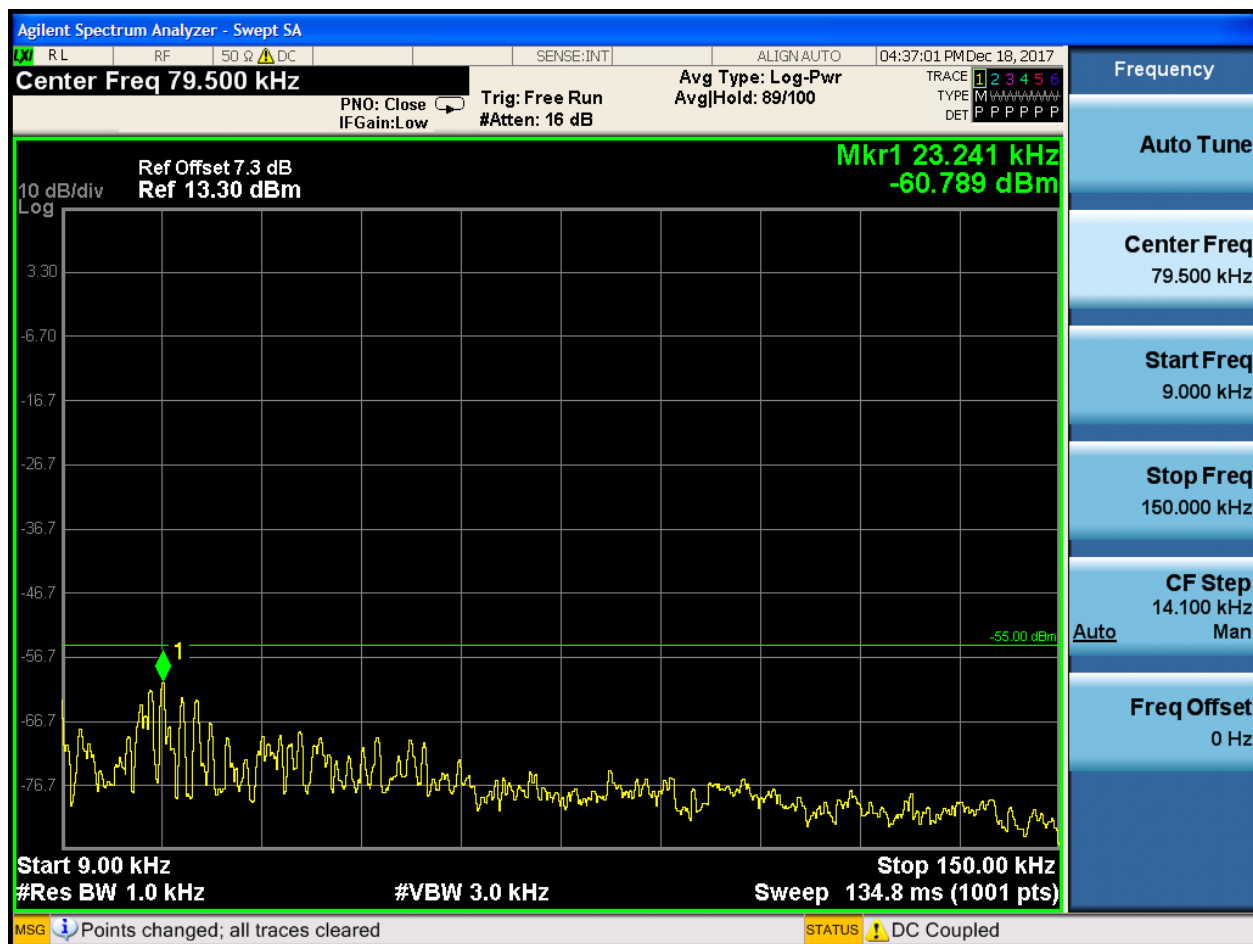


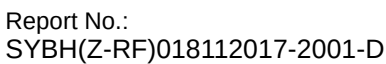




6.1.1.2.1.2 Test Channel = MCH

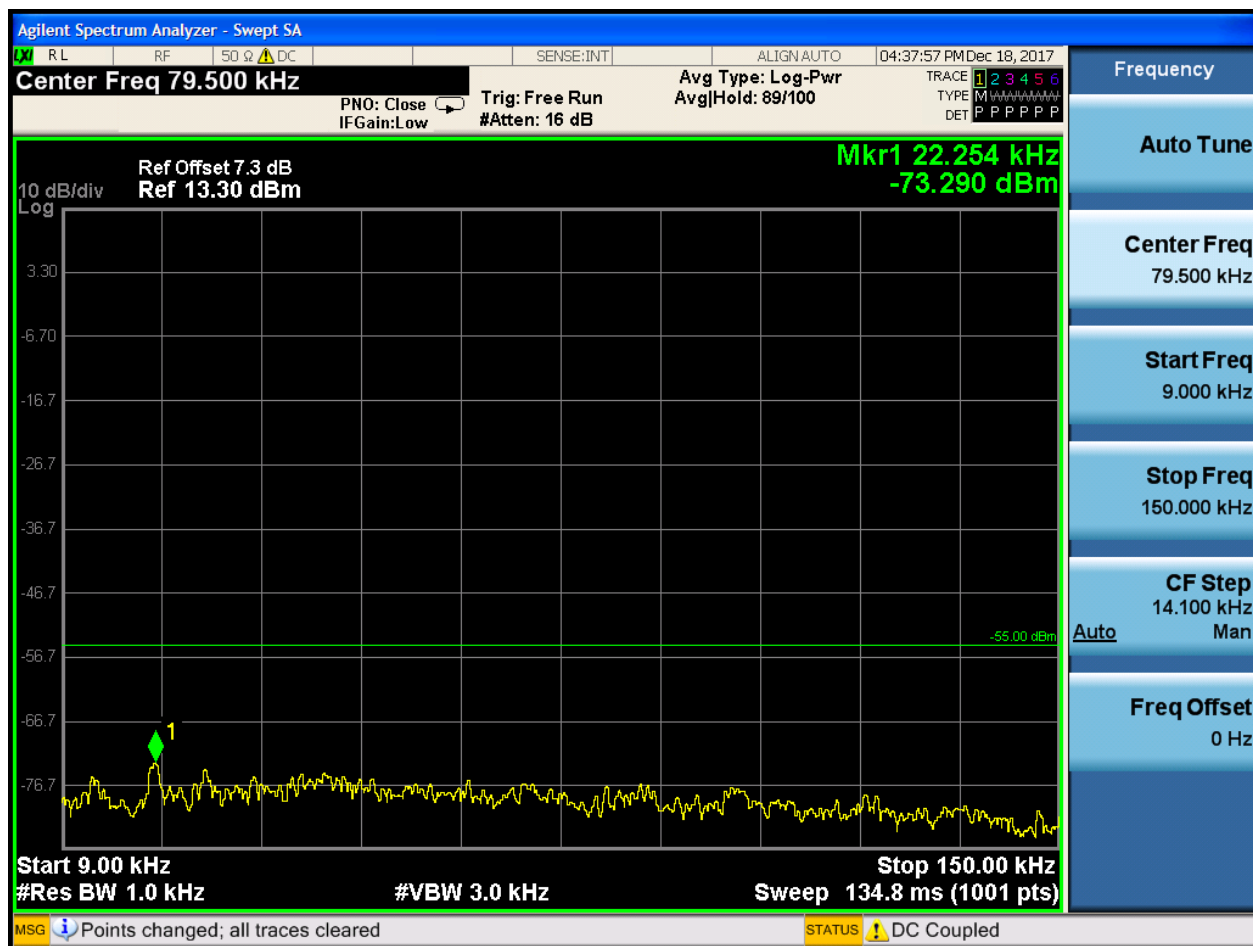
6.1.1.2.1.2.1 Test RB = RB1#0

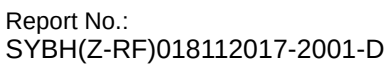


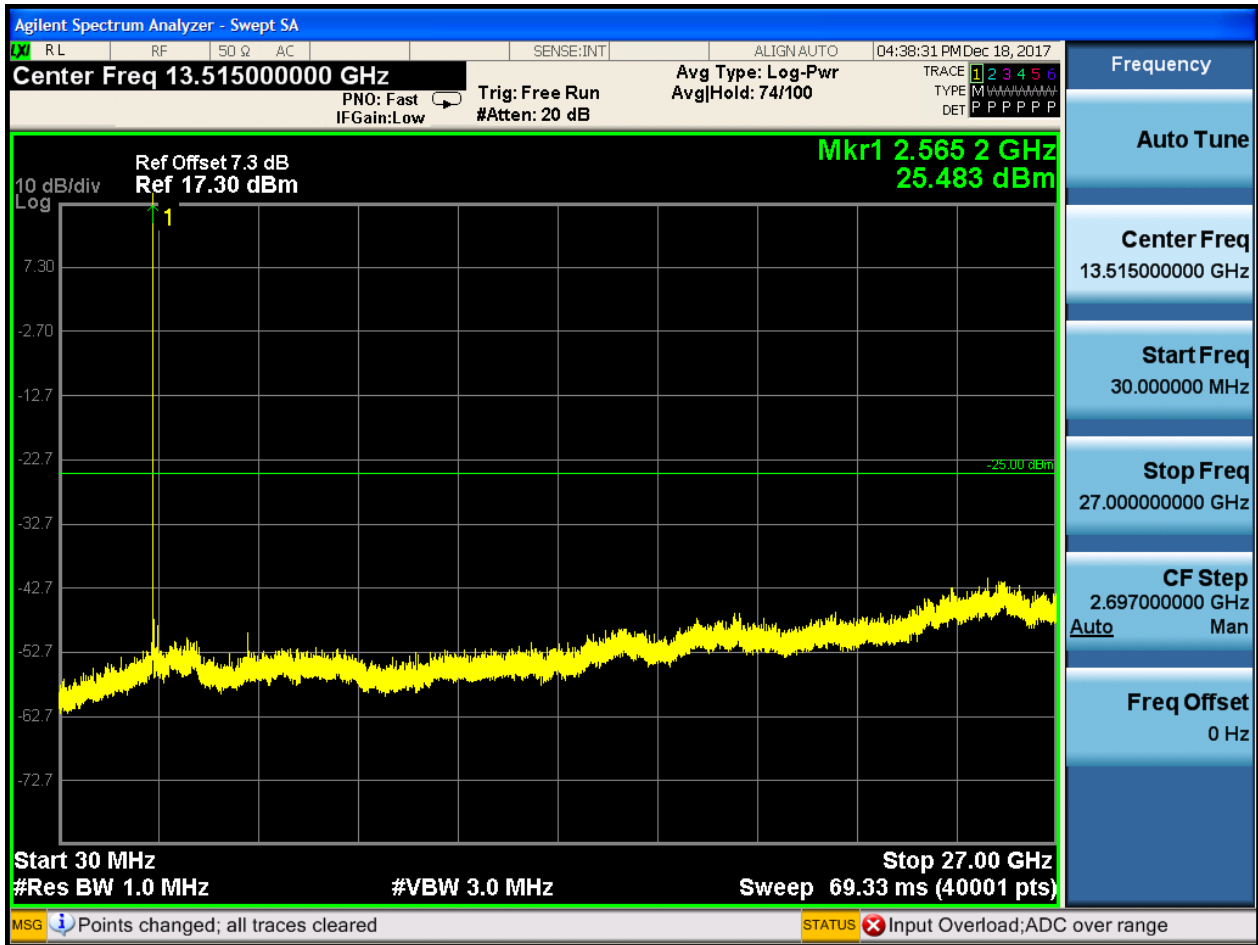


6.1.1.2.1.3 Test Channel = HCH

6.1.1.2.1.3.1 Test RB = RB1#0





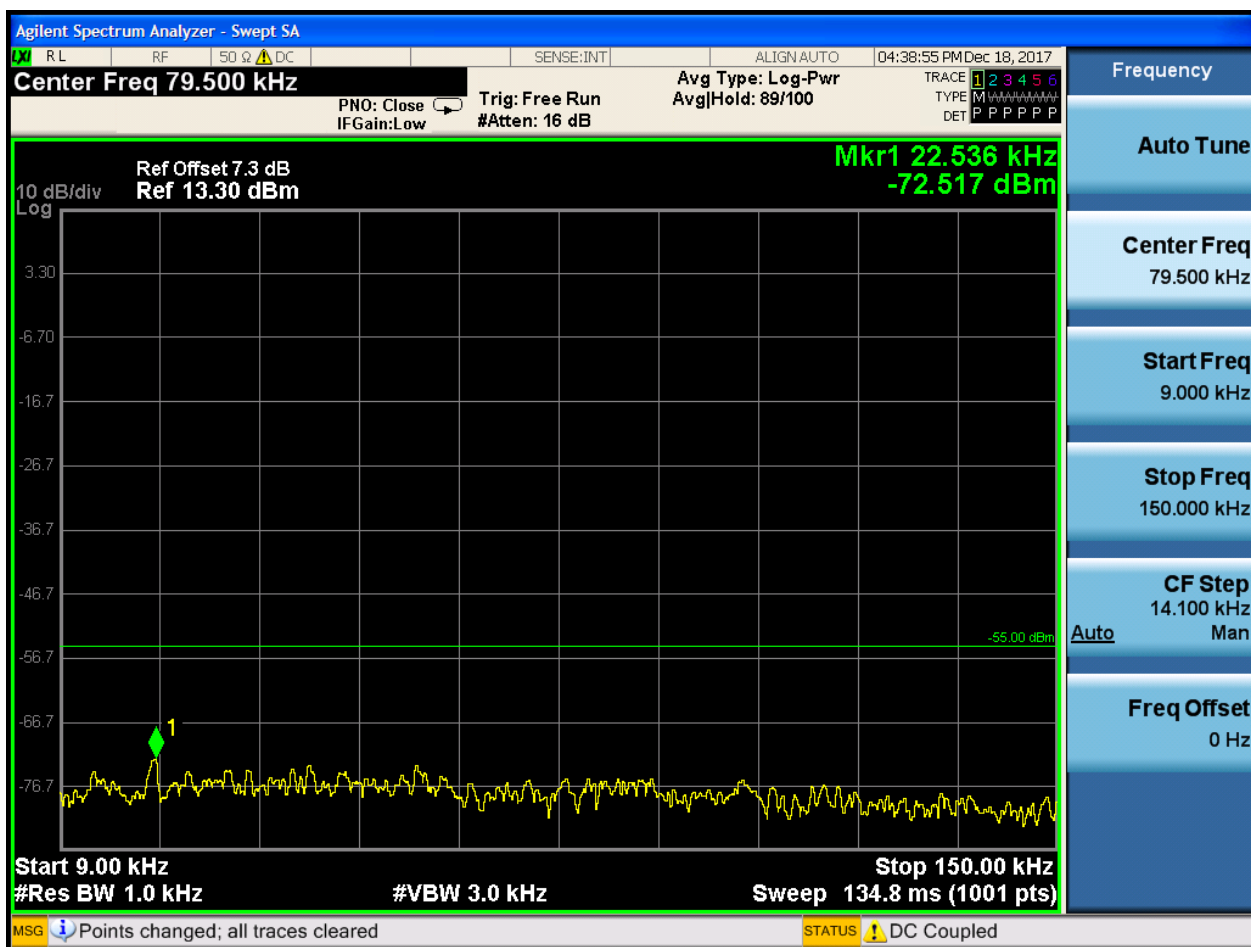


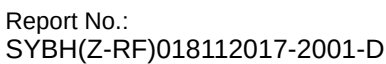


6.1.1.2.2 Test Bandwidth = 10

6.1.1.2.2.1 Test Channel = LCH

6.1.1.2.2.1.1 Test RB = RB1#0

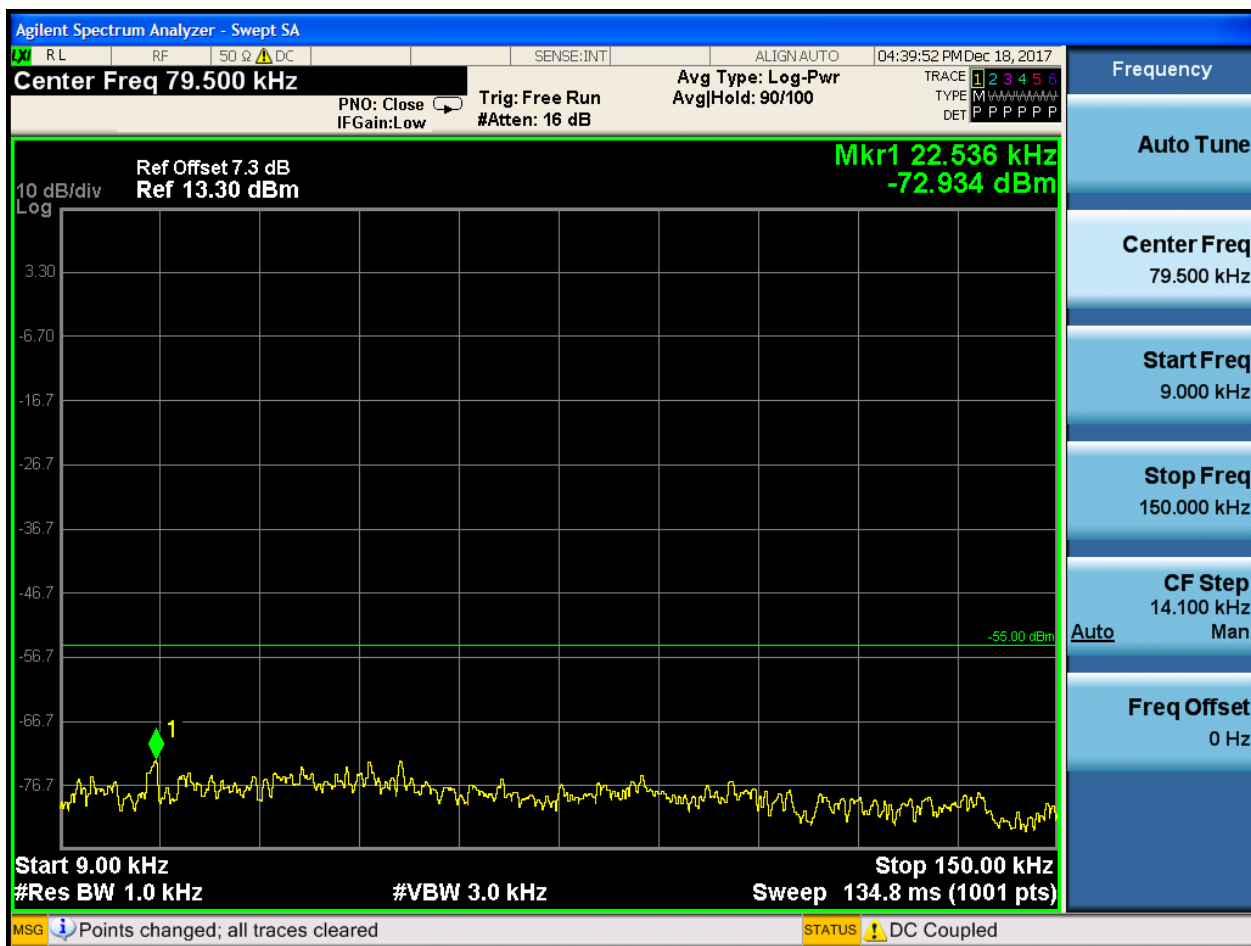


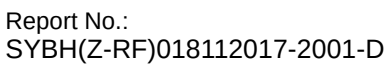


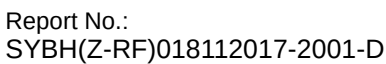


6.1.1.2.2.2 Test Channel = MCH

6.1.1.2.2.2.1 Test RB = RB1#0



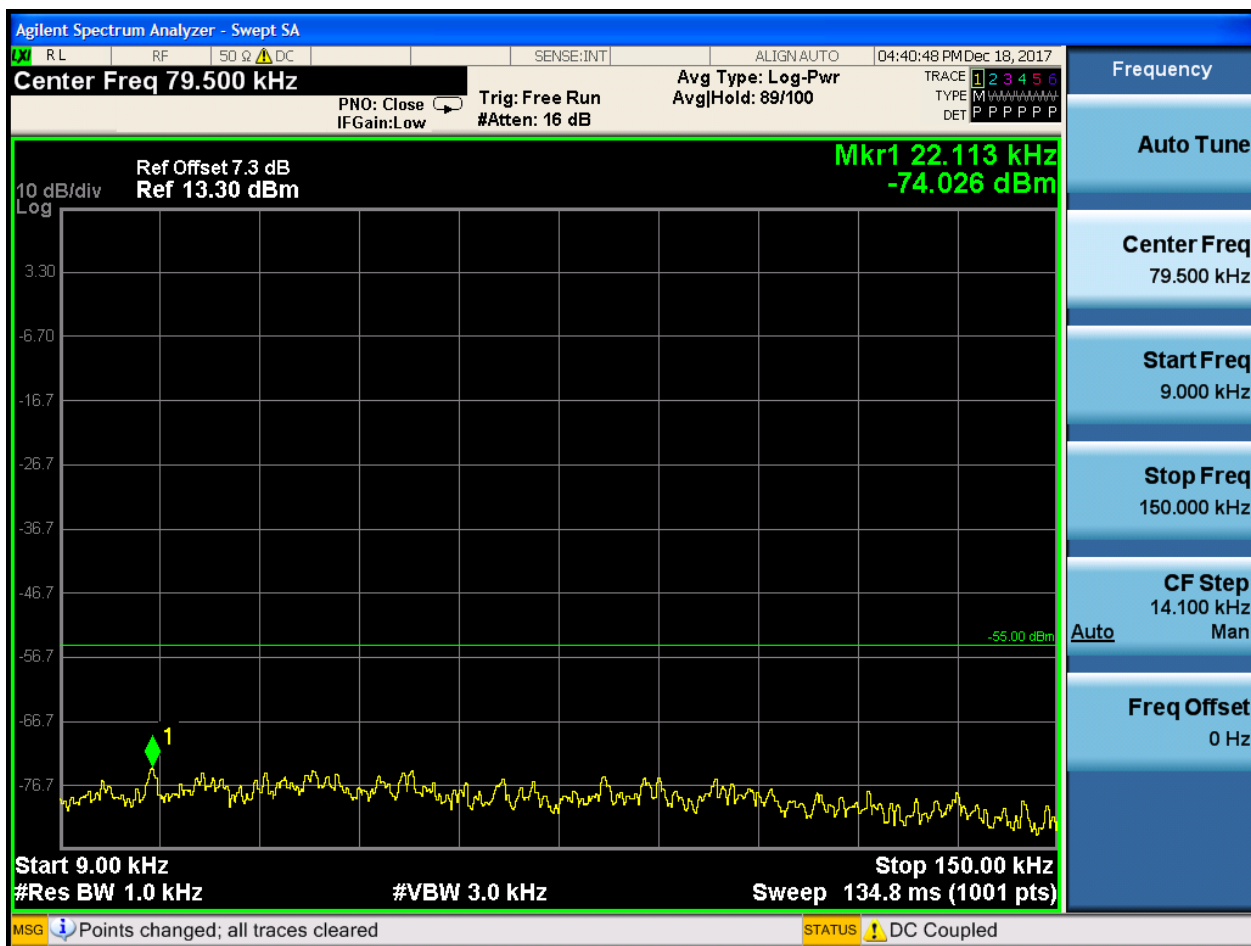






6.1.1.2.2.3 Test Channel = HCH

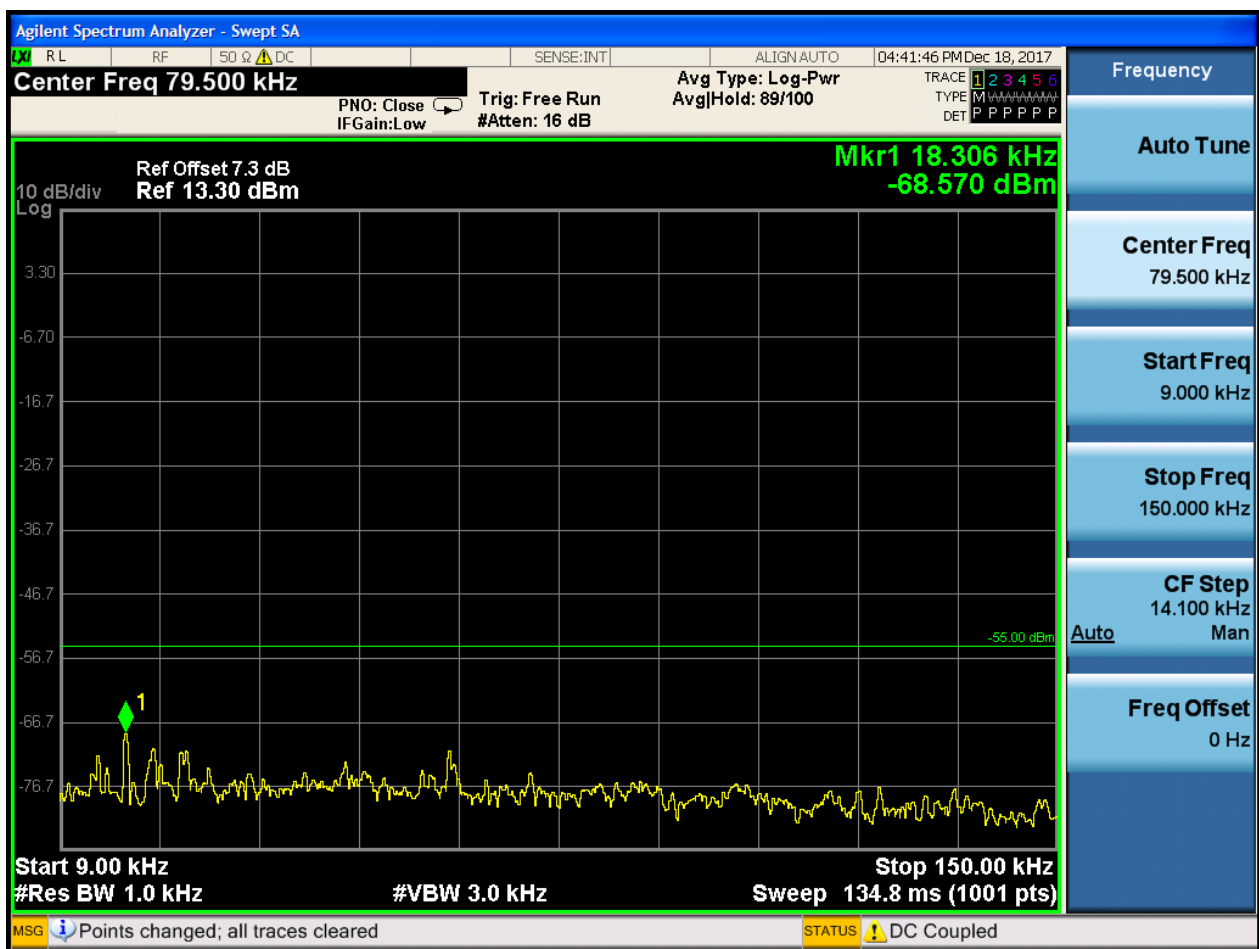
6.1.1.2.2.3.1 Test RB = RB1#0

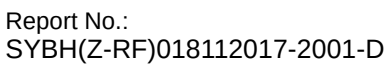


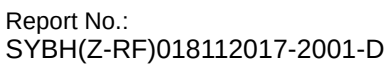
6.1.1.2.3 Test Bandwidth = 15

6.1.1.2.3.1 Test Channel = LCH

6.1.1.2.3.1.1 Test RB = RB1#0



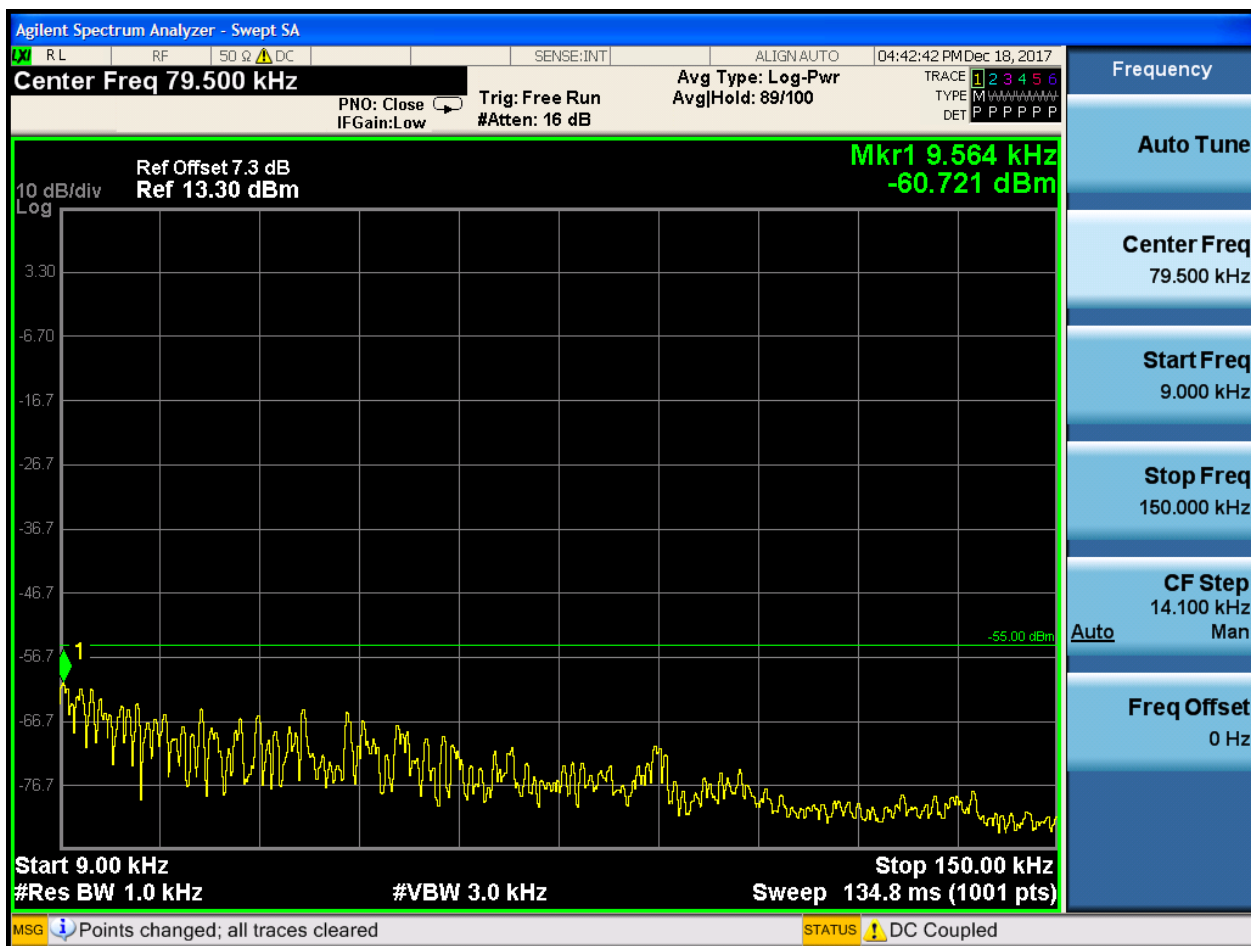


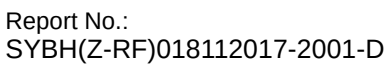


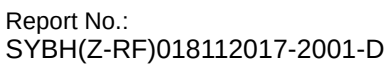


6.1.1.2.3.2 Test Channel = MCH

6.1.1.2.3.2.1 Test RB = RB1#0

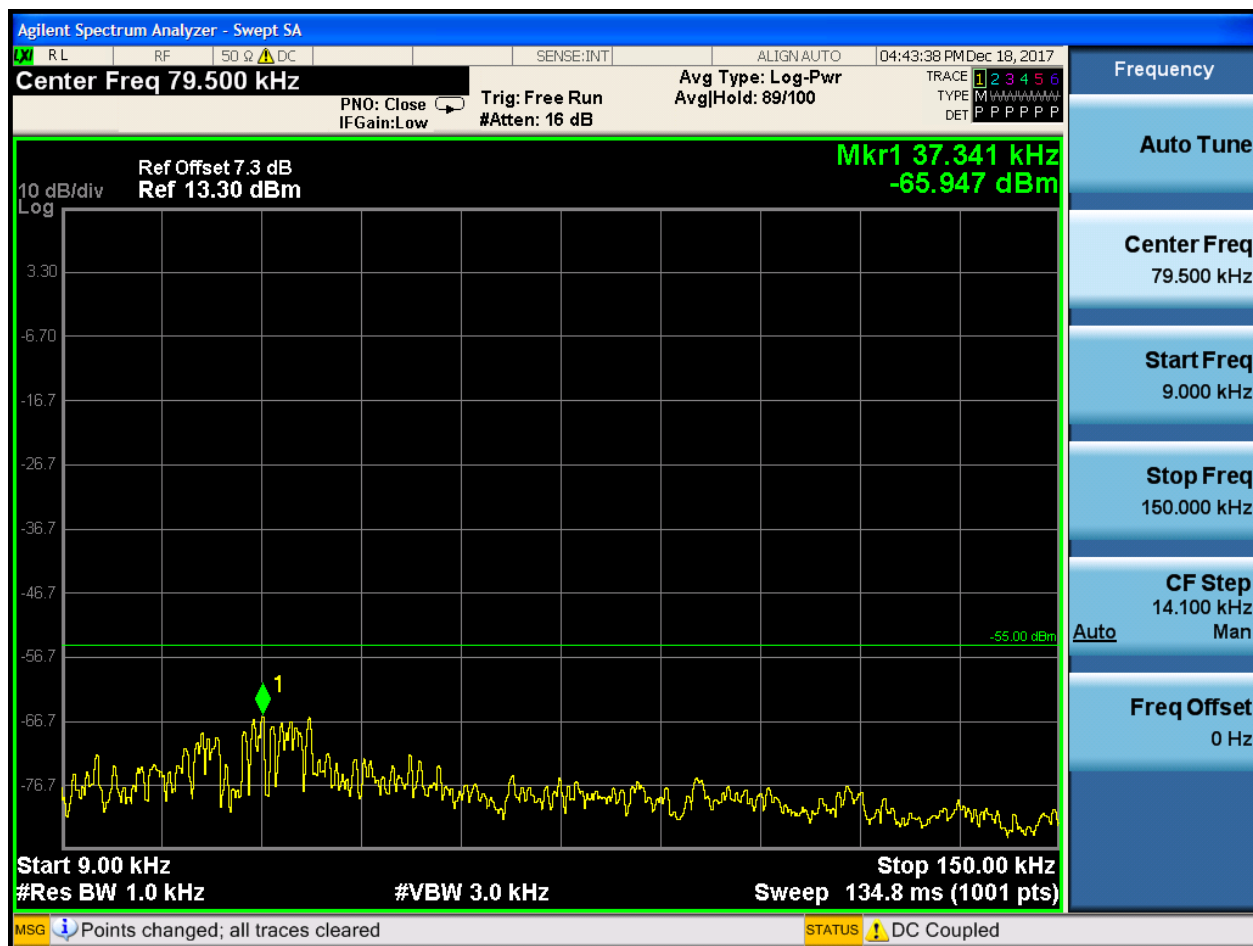






6.1.1.2.3.3 Test Channel = HCH

6.1.1.2.3.3.1 Test RB = RB1#0



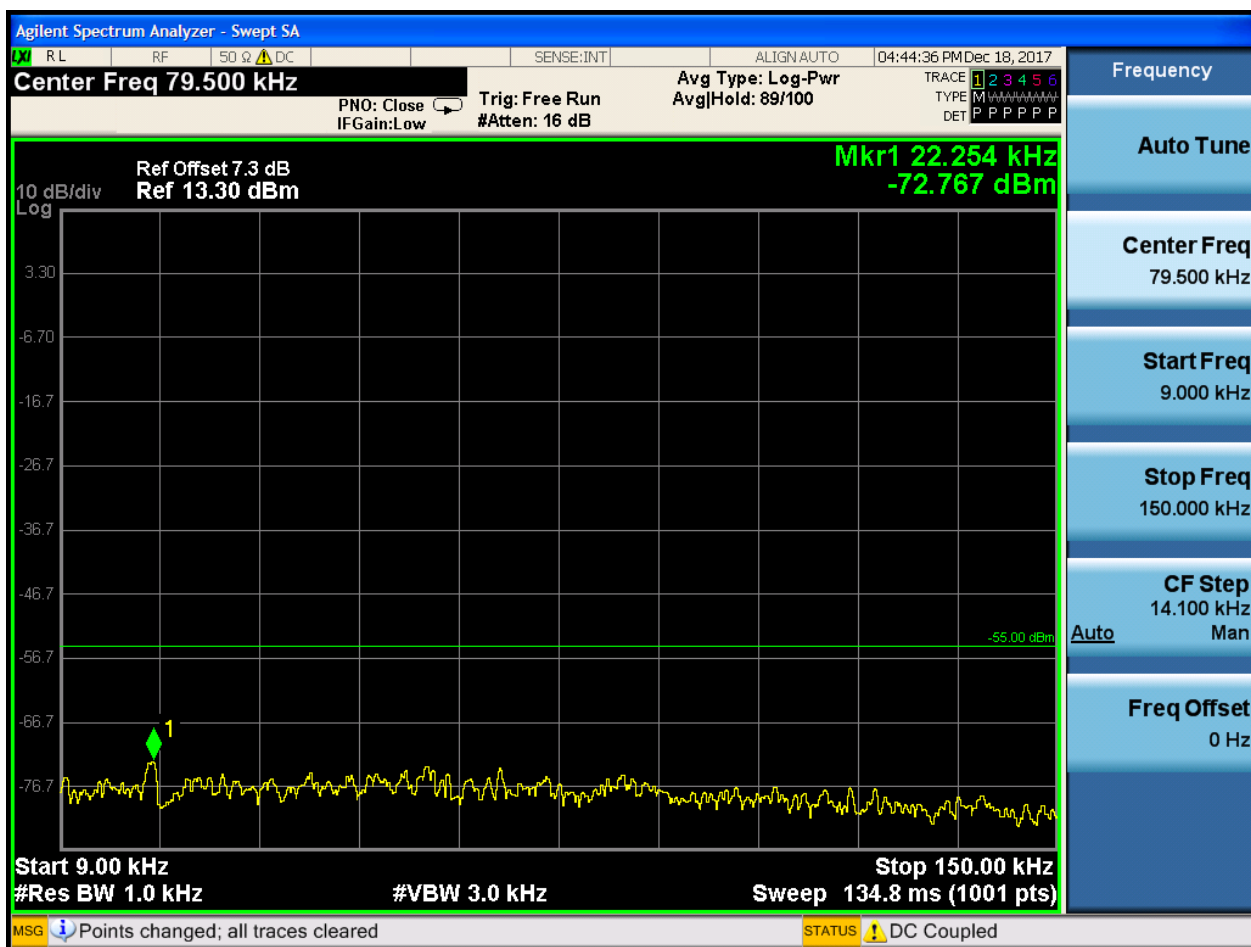


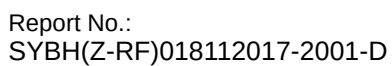


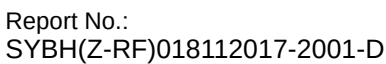
6.1.1.2.4 Test Bandwidth = 20

6.1.1.2.4.1 Test Channel = LCH

6.1.1.2.4.1.1 Test RB = RB1#0



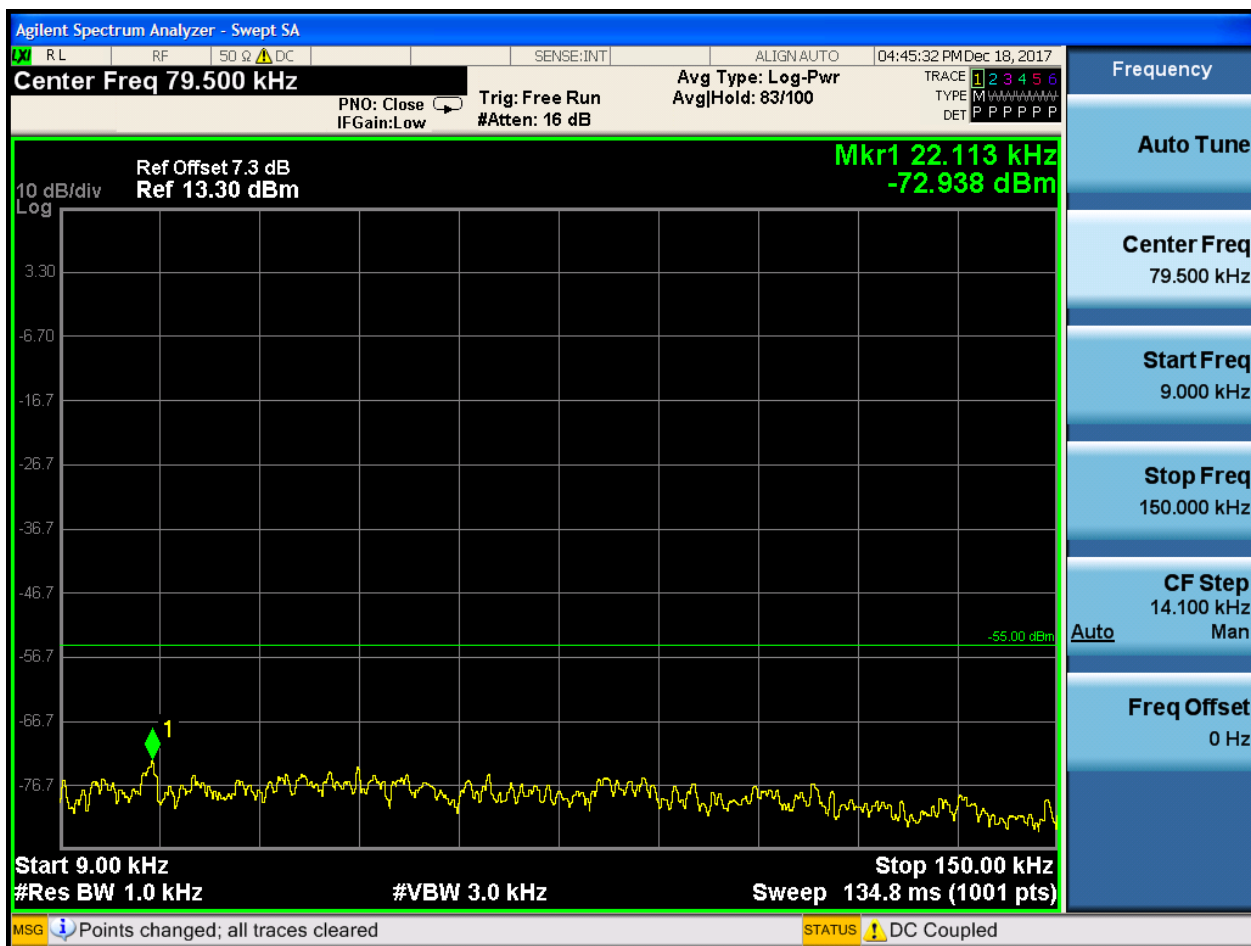


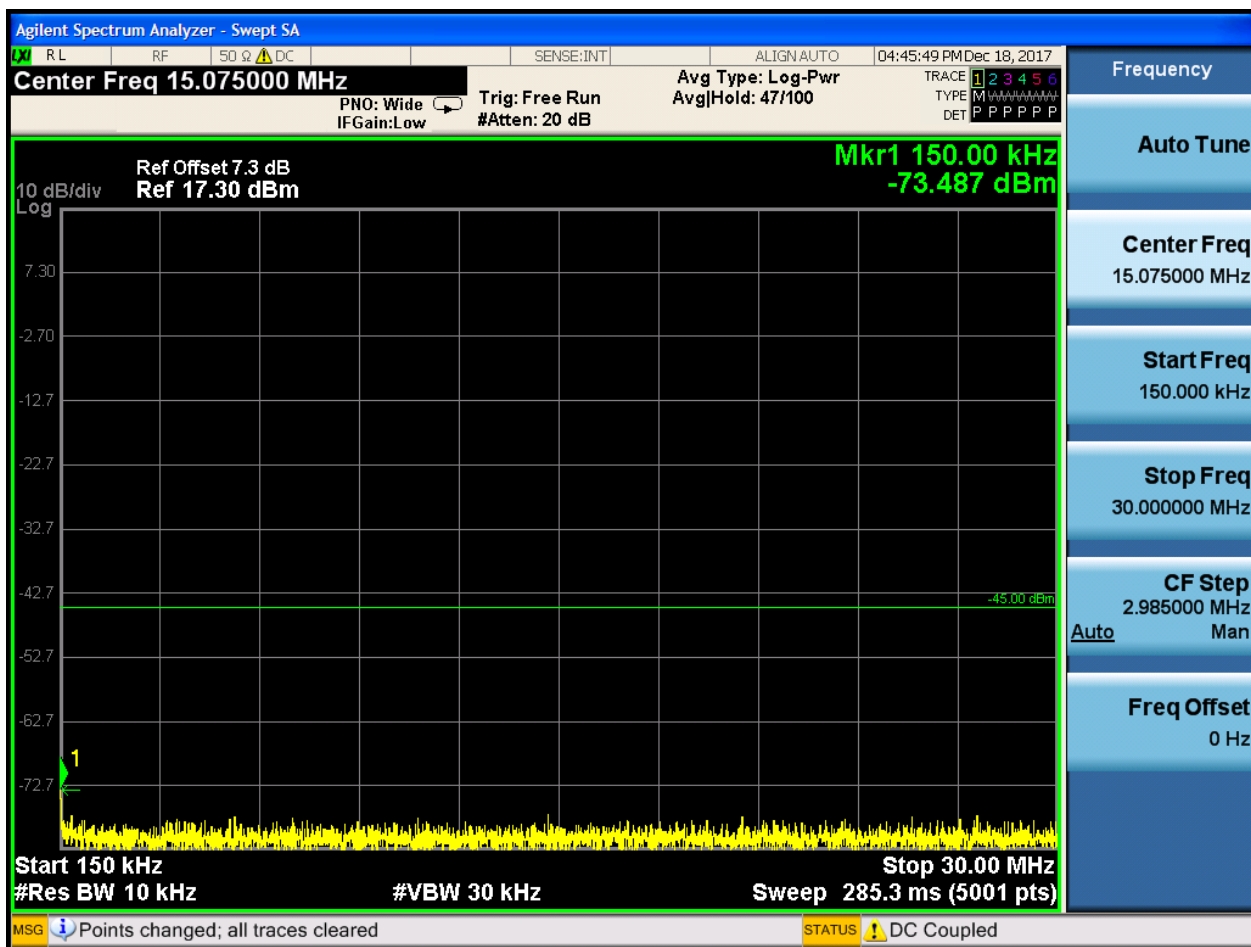


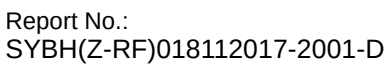


6.1.1.2.4.2 Test Channel = MCH

6.1.1.2.4.2.1 Test RB = RB1#0



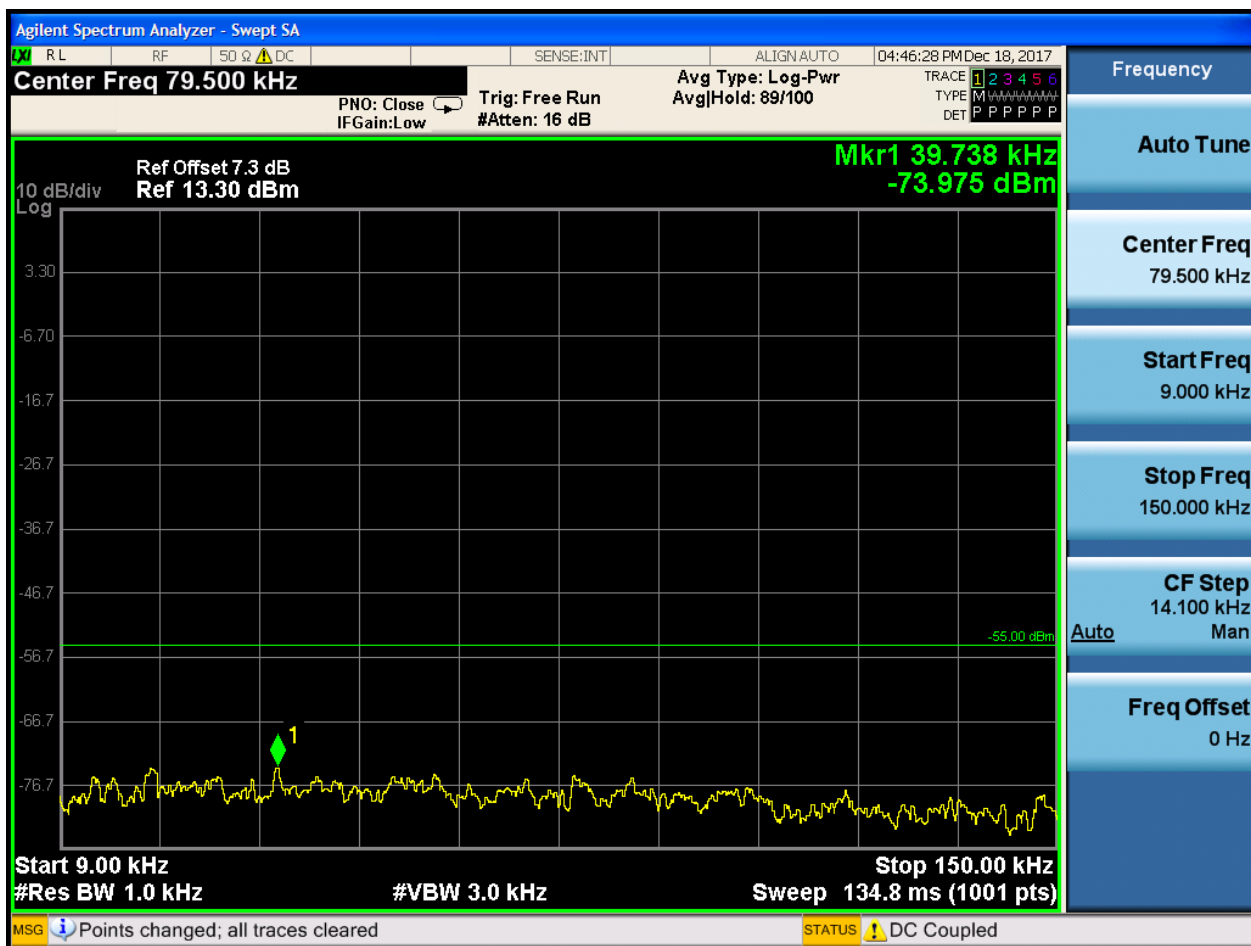


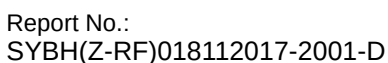


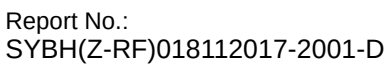


6.1.1.2.4.3 Test Channel = HCH

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

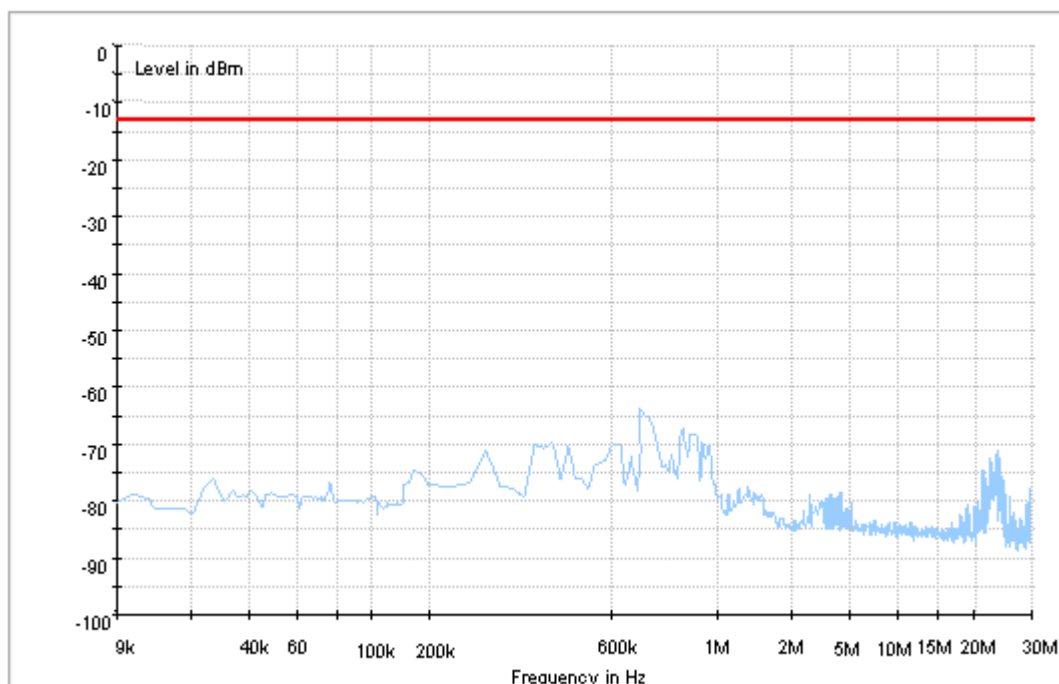
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

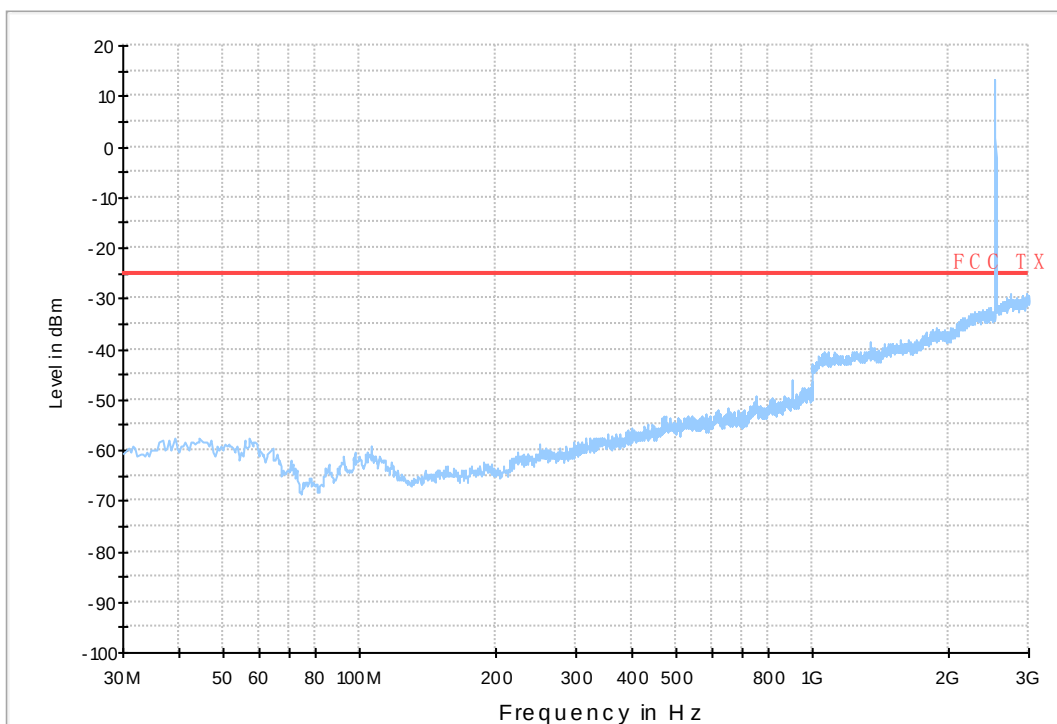
7.1 For LTE

7.1.1 Test Band = BAND7_ANT1

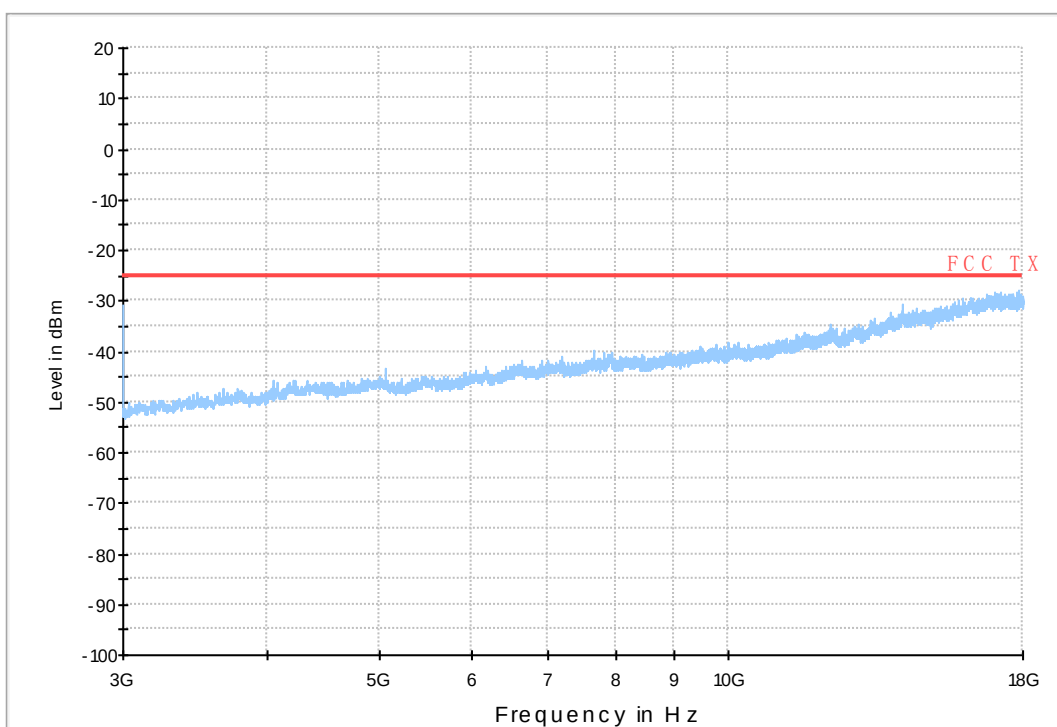
7.1.1.1 Test Bandwidth = 5

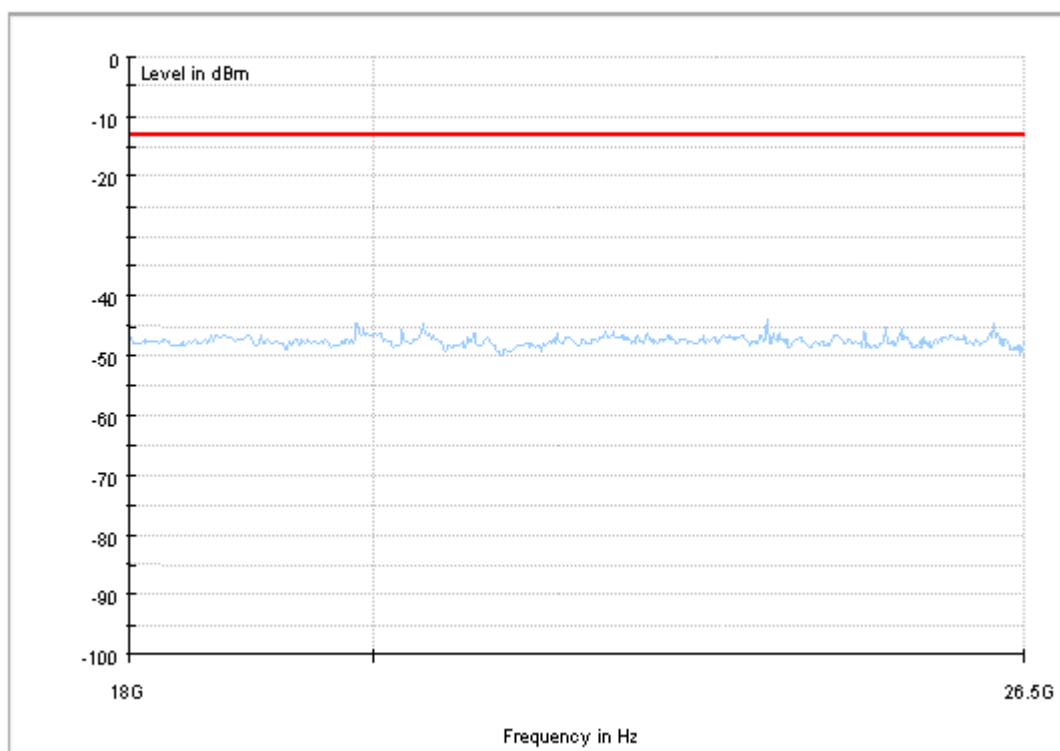


Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L

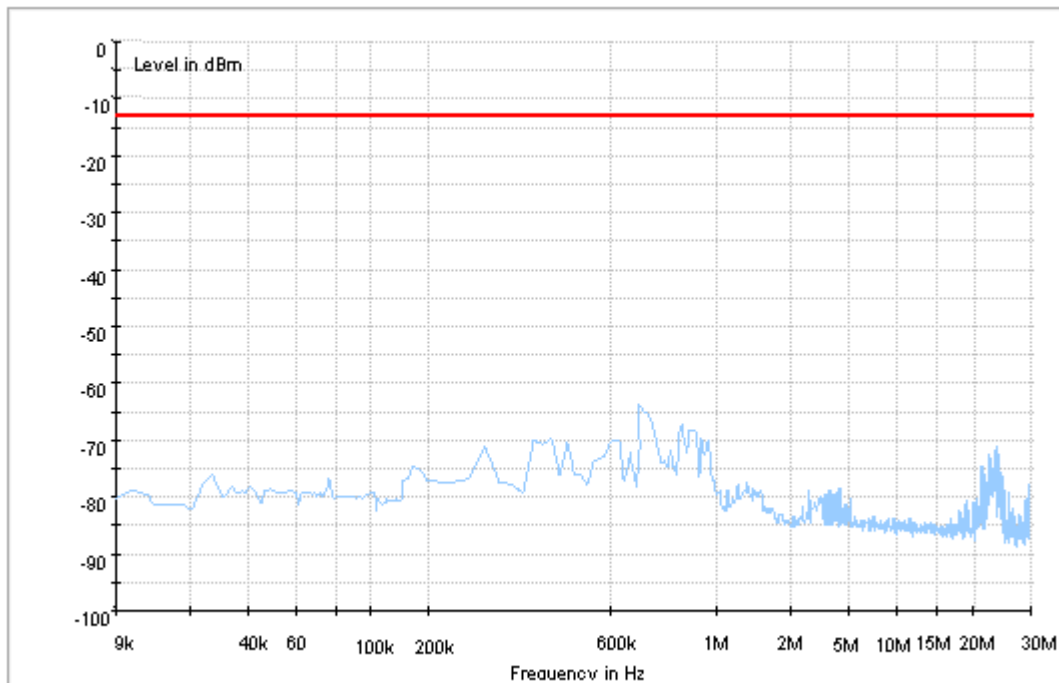


Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H

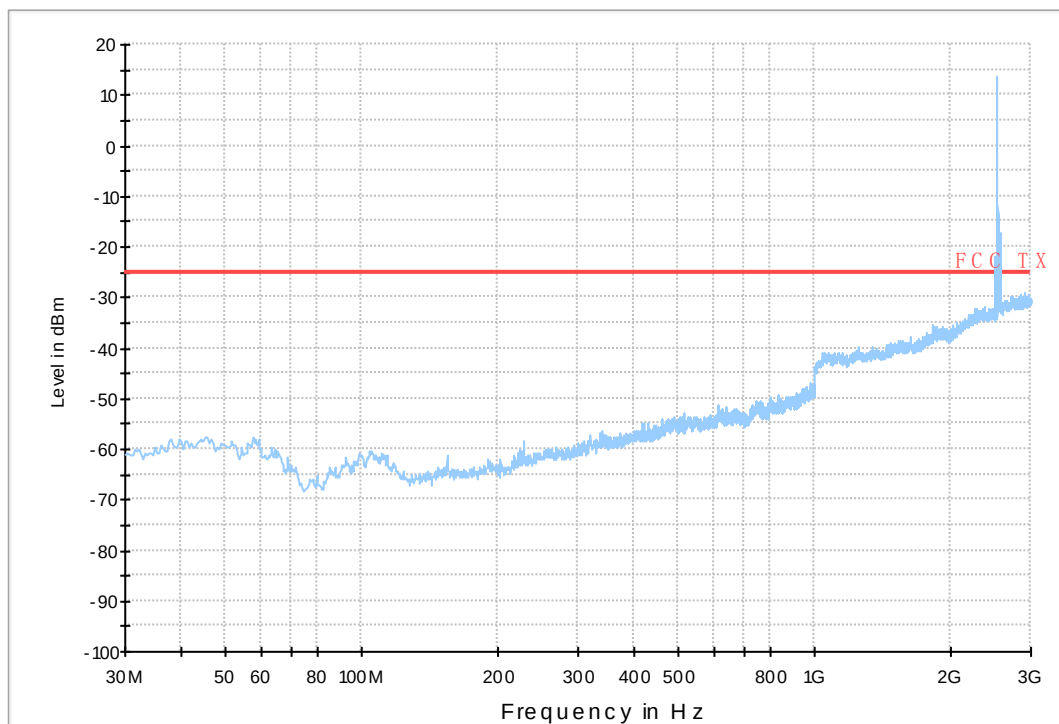




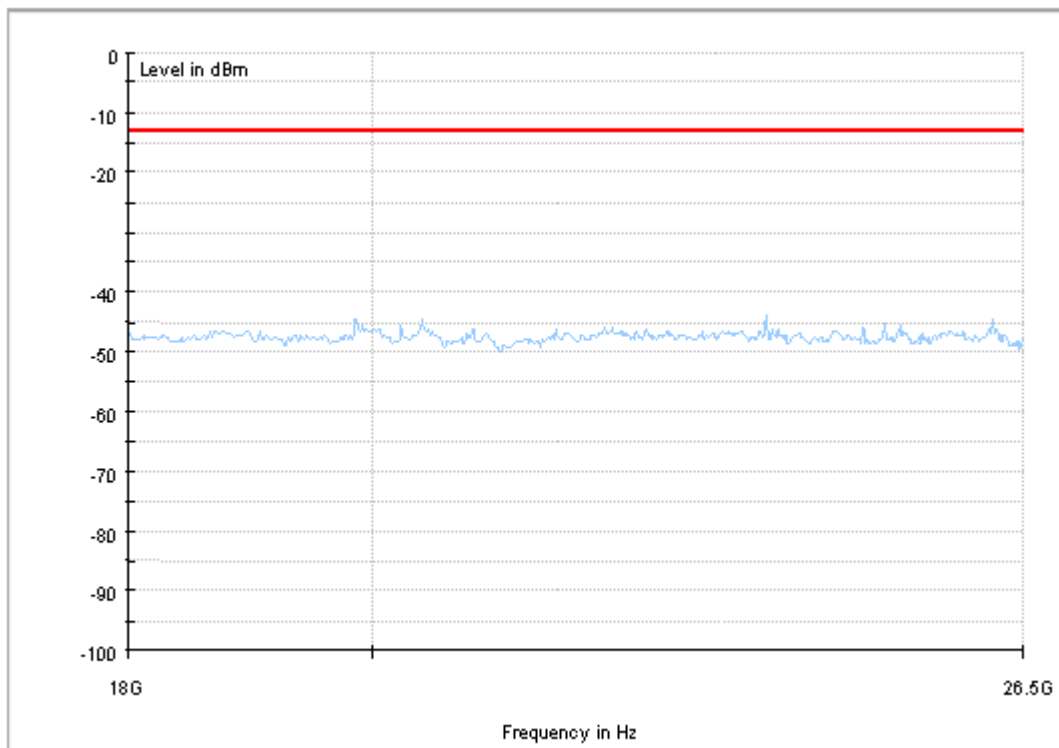
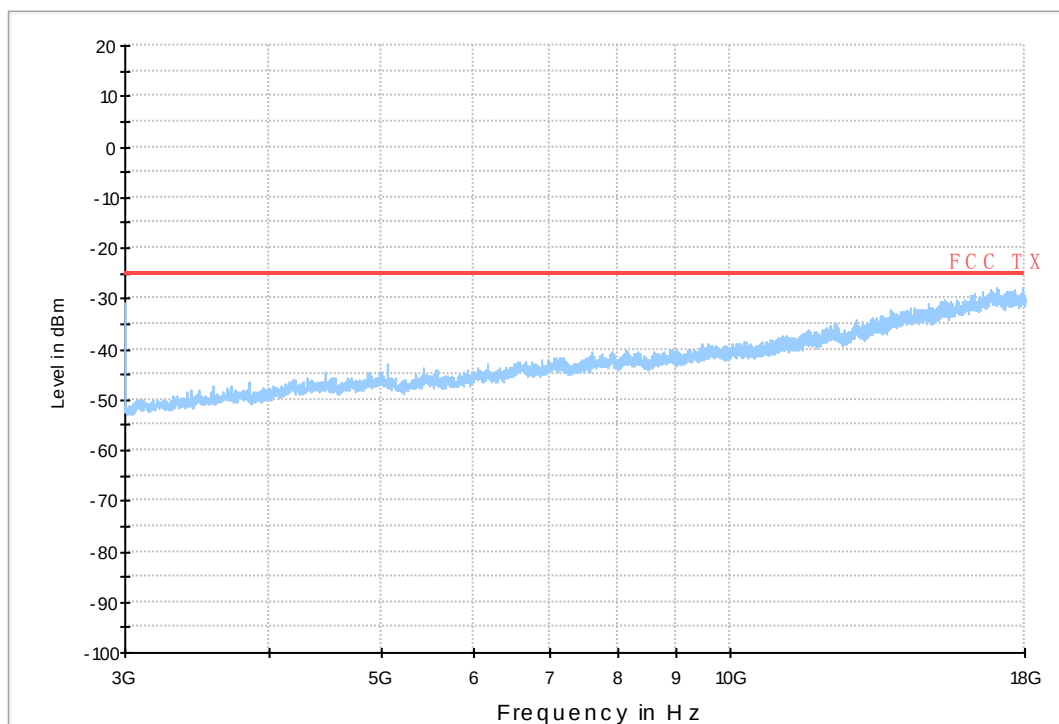
7.1.1.2 Test Bandwidth = 20



Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L

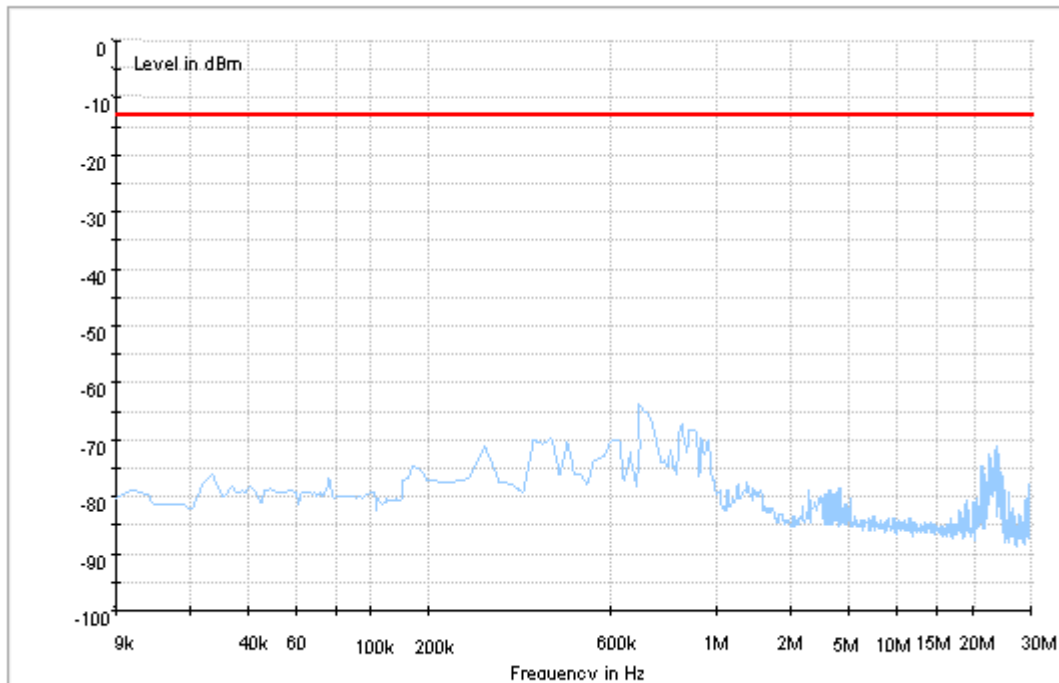


Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H

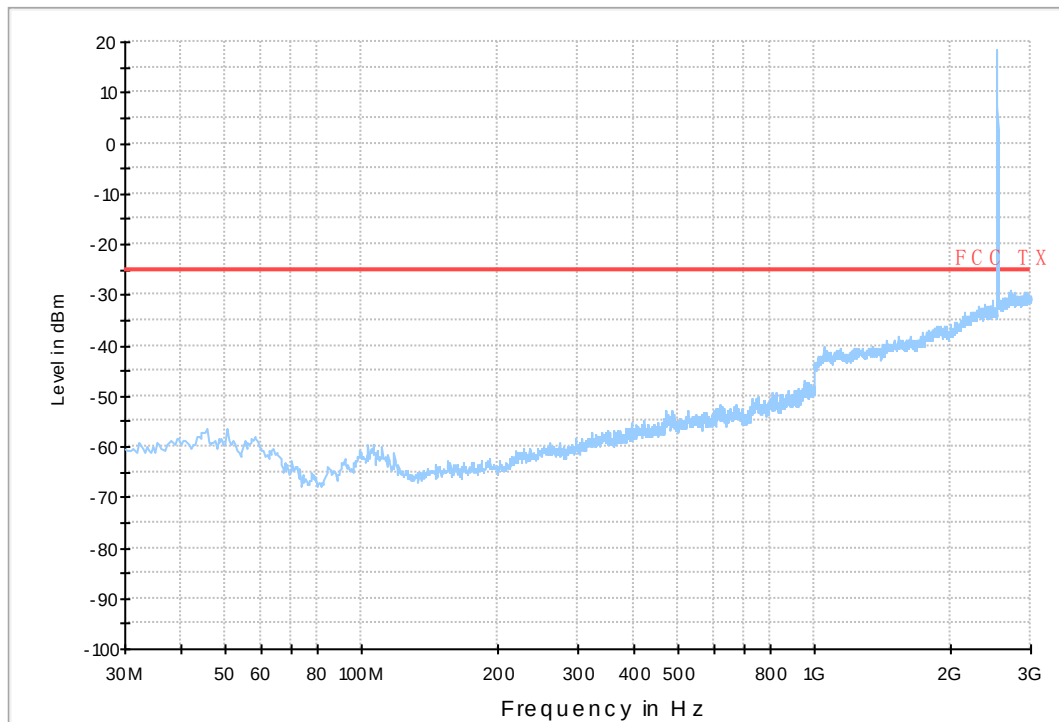


7.1.2 Test Band = BAND7_ANT2

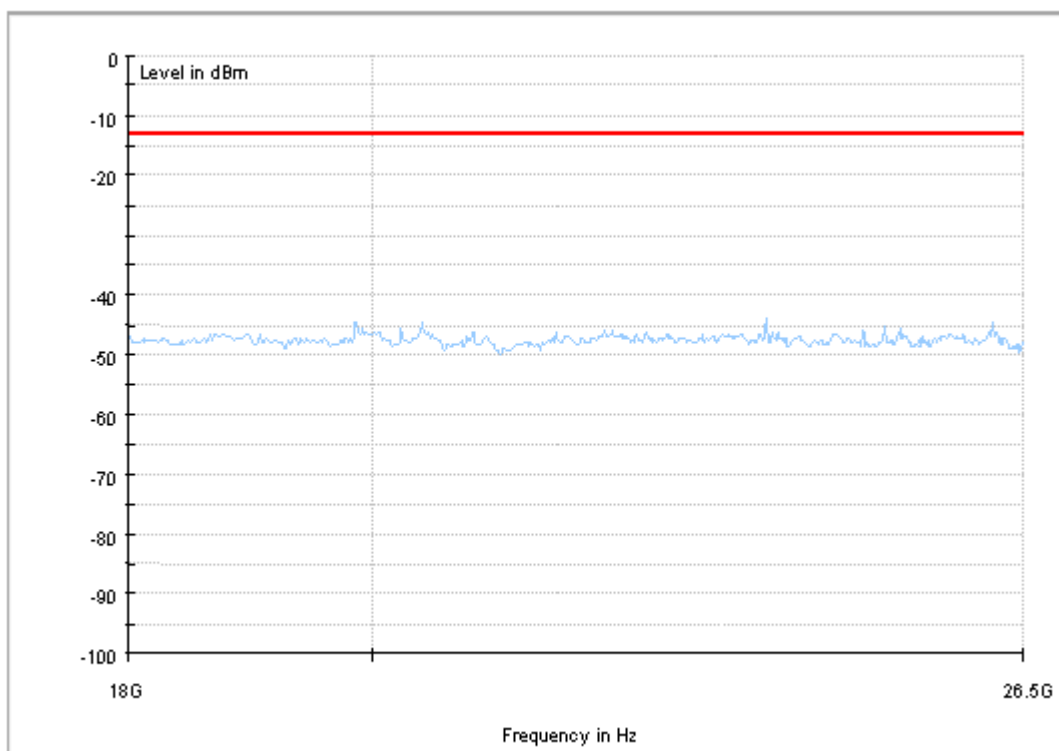
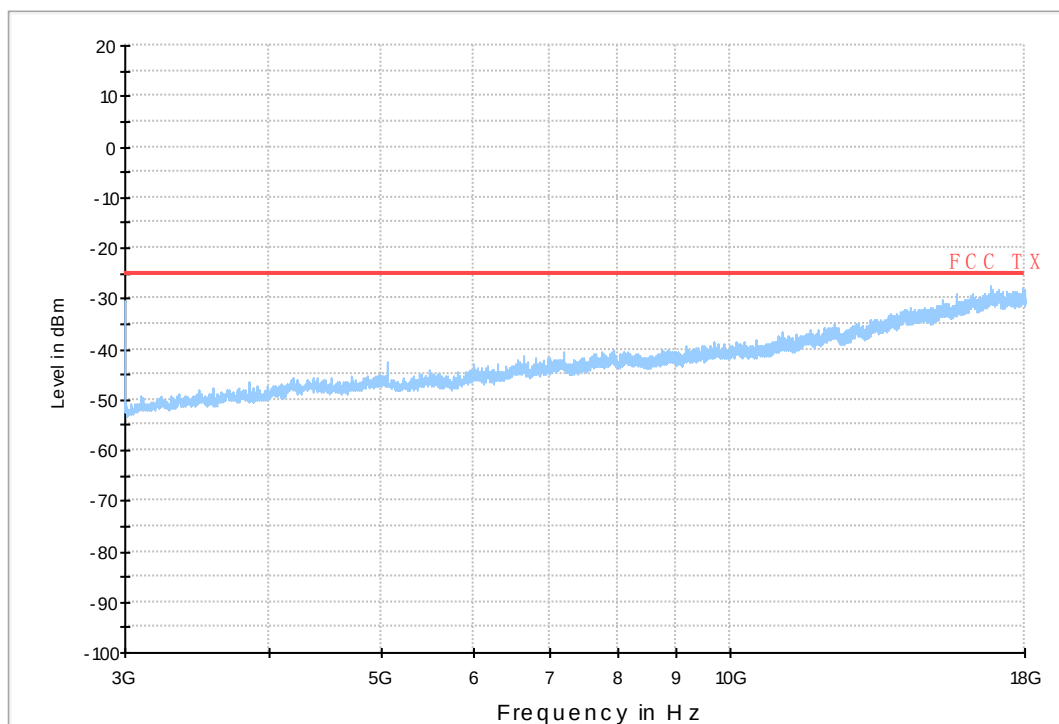
7.1.2.1 Test Bandwidth = 5



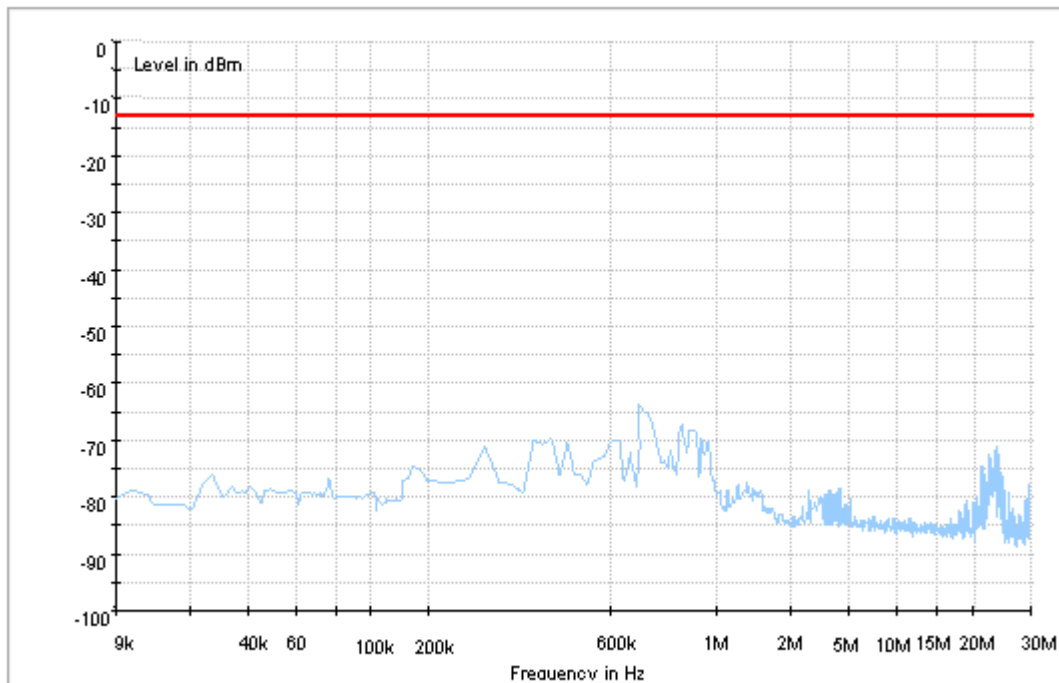
Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L



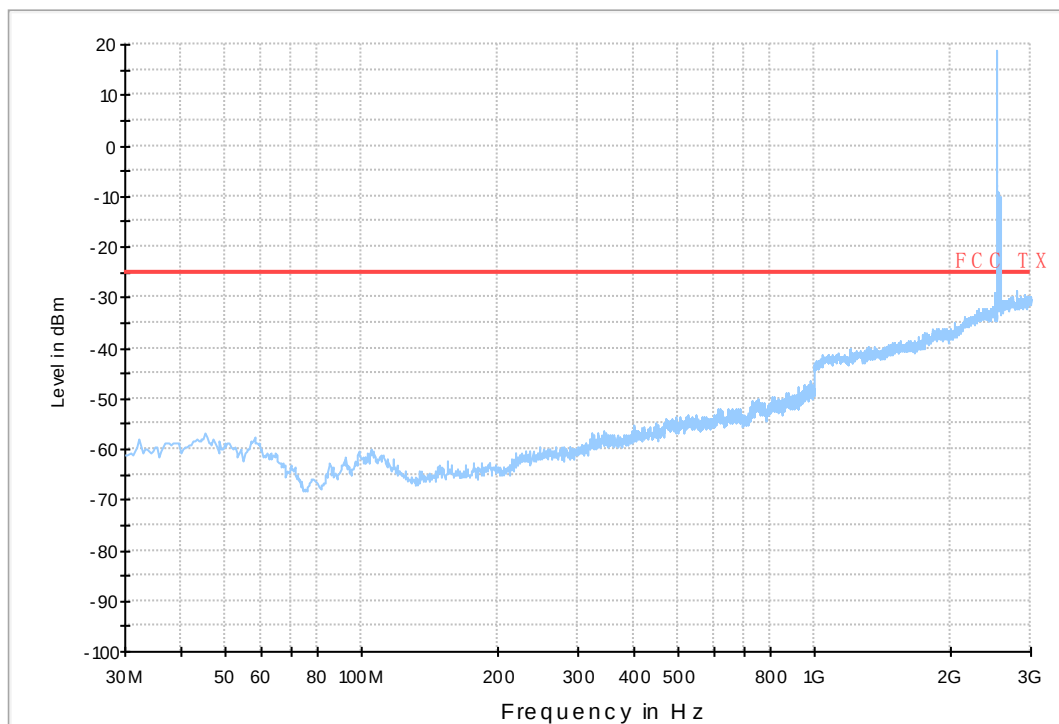
Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_H



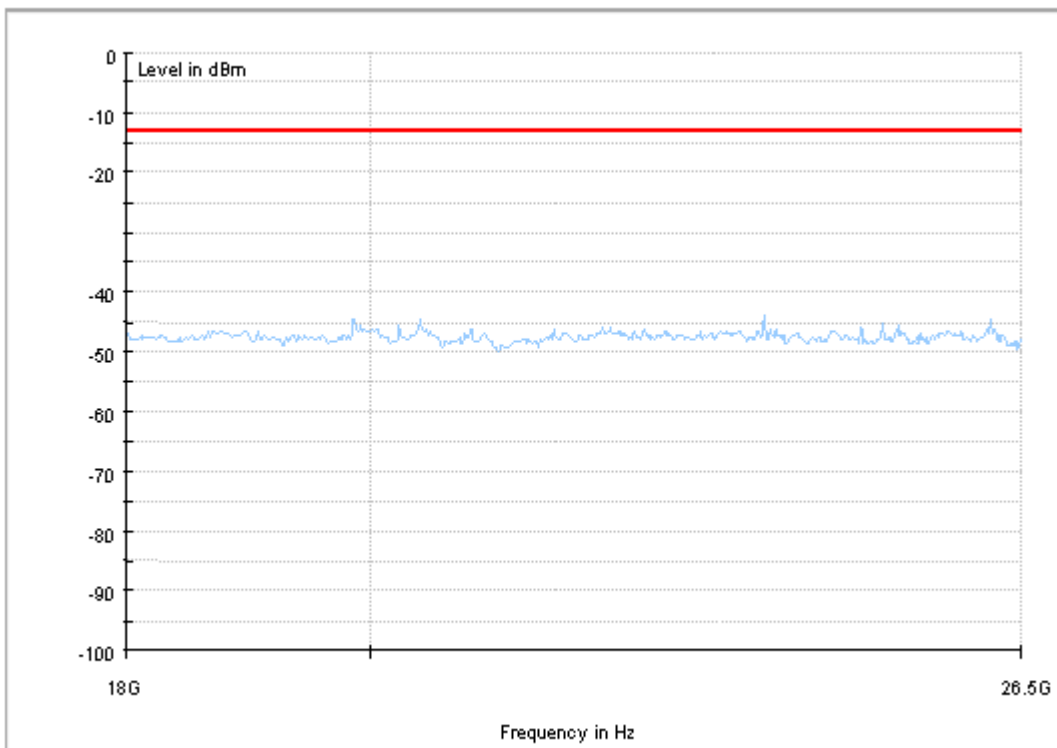
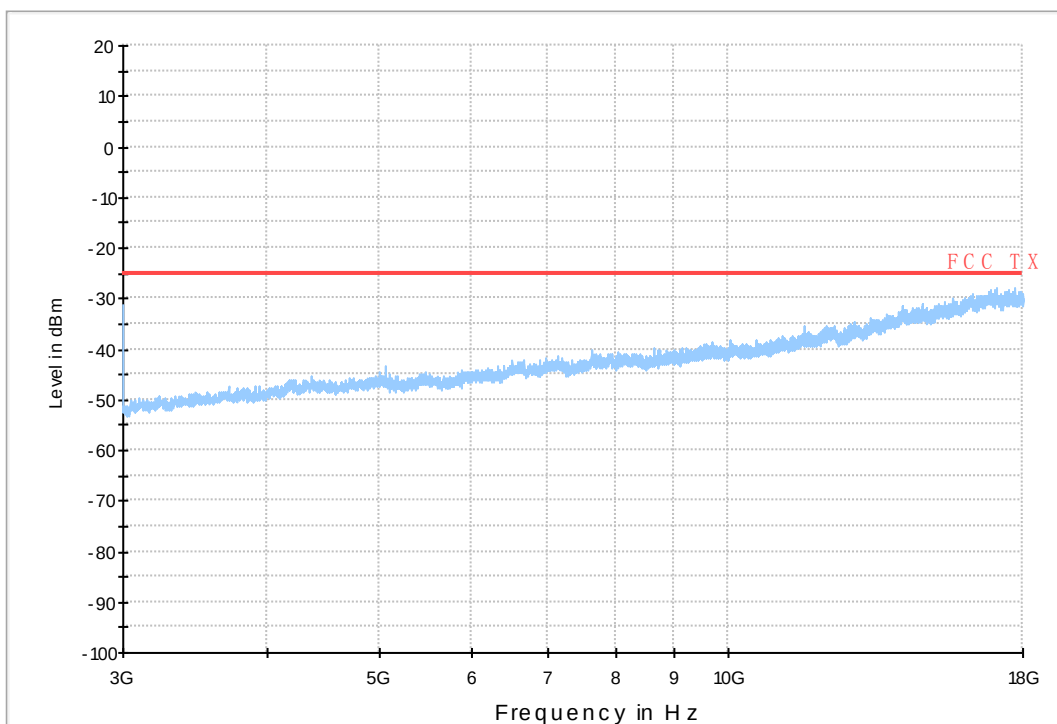
7.1.2.2 Test Bandwidth = 20



Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_L



Copy of RSE-TX-DIRECTOR ABOVE 1.5G Limit -25_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
BAND7	LTE/TM1	5	LCH	TN	VL	4.59	0.00183	PASS
					VN	3.85	0.00154	PASS
					VH	-1.52	-0.00061	PASS
			MCH	TN	VL	1.7	0.00067	PASS
					VN	-0.33	-0.00013	PASS
					VH	-2.17	-0.00086	PASS
			HCH	TN	VL	-2.52	-0.00098	PASS
					VN	-1.22	-0.00048	PASS
					VH	-1.53	-0.0006	PASS
		10	LCH	TN	VL	-2.92	-0.00117	PASS
					VN	-1.75	-0.0007	PASS
					VH	-2.72	-0.00109	PASS
			MCH	TN	VL	0.73	0.00029	PASS
					VN	2.4	0.00095	PASS
					VH	1.73	0.00068	PASS
			HCH	TN	VL	-0.69	-0.00027	PASS
					VN	1.44	0.00056	PASS
					VH	1.02	0.0004	PASS
		15	LCH	TN	VL	-2.02	-0.00081	PASS
					VN	-0.7	-0.00028	PASS
					VH	0.63	0.00025	PASS
			MCH	TN	VL	-2.53	-0.001	PASS
					VN	-2.49	-0.00098	PASS
					VH	-0.76	-0.0003	PASS
			HCH	TN	VL	-3.18	-0.00124	PASS
					VN	-1.36	-0.00053	PASS
					VH	0.1	0.00004	PASS
		20	LCH	TN	VL	-0.66	-0.00026	PASS

	LTE/TM2				VN	-2.39	-0.00095	PASS
					VH	-1.36	-0.00054	PASS
					VL	-1.34	-0.00053	PASS
					VN	1.43	0.00056	PASS
					VH	2.62	0.00103	PASS
					VL	0.43	0.00017	PASS
			HCH	TN	VN	-1.24	-0.00048	PASS
					VH	-2.15	-0.00084	PASS
					VL	-1.69	-0.00068	PASS
		5	LCH	TN	VN	-2.68	-0.00107	PASS
					VH	-2.9	-0.00116	PASS
					VL	2.7	0.00107	PASS
			MCH	TN	VN	2.16	0.00085	PASS
					VH	2.32	0.00092	PASS
					VL	-2.55	-0.00099	PASS
			HCH	TN	VN	-0.96	-0.00037	PASS
					VH	-0.06	-0.00002	PASS
					VL	-1.36	-0.00054	PASS
		10	LCH	TN	VN	1.16	0.00046	PASS
					VH	-4.12	-0.00164	PASS
					VL	3.43	0.00135	PASS
			MCH	TN	VN	2.47	0.00097	PASS
					VH	3.66	0.00144	PASS
					VL	2.55	0.00099	PASS
			HCH	TN	VN	-1.34	-0.00052	PASS
					VH	-1.82	-0.00071	PASS
					VL	-1.62	-0.00065	PASS
		15	LCH	TN	VN	0.43	0.00017	PASS
					VH	-1.72	-0.00069	PASS
					VL	-1.22	-0.00048	PASS
			MCH	TN	VN	0.93	0.00037	PASS
					VH	0.99	0.00039	PASS
					VL	-0.47	-0.00018	PASS
			HCH	TN	VN	-2.59	-0.00101	PASS
					VH	-0.41	-0.00016	PASS
					VL	-1.16	-0.00046	PASS
		20	LCH	TN	VN	-0.06	-0.00002	PASS
					VH	-5.38	-0.00214	PASS
					VL	0.5	0.0002	PASS
			MCH	TN	VN	4.55	0.00179	PASS
					VH	2.95	0.00116	PASS
					VL	0.5	0.0002	PASS

			HCH	TN	VL	-1.83	-0.00071	PASS
					VN	-2.16	-0.00084	PASS
					VH	-1.23	-0.00048	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
BAND7	LTE/TM1	5	LCH	VN	-30	-0.24	-0.0001	PASS
					-20	1.67	0.00067	PASS
					-10	1.06	0.00042	PASS
					0	-2.15	-0.00086	PASS
					10	-1.7	-0.00068	PASS
					20	-1.46	-0.00058	PASS
					30	1.24	0.0005	PASS
					40	-1.19	-0.00048	PASS
					50	-3.66	-0.00146	PASS
			MCH	VN	-30	6.41	0.00253	PASS
					-20	0.83	0.00033	PASS
					-10	5.04	0.00199	PASS
					0	2	0.00079	PASS
					10	2.33	0.00092	PASS
					20	1.65	0.00065	PASS
					30	4.48	0.00177	PASS
					40	-0.92	-0.00036	PASS
					50	0.93	0.00037	PASS
			HCH	VN	-30	0.46	0.00018	PASS
					-20	-0.57	-0.00022	PASS
					-10	0.34	0.00013	PASS
					0	0.26	0.0001	PASS
					10	-0.37	-0.00014	PASS
					20	-0.87	-0.00034	PASS
					30	-1.43	-0.00056	PASS
					40	1.22	0.00048	PASS
					50	-1.14	-0.00044	PASS
		10	LCH	VN	-30	1.27	0.00051	PASS
					-20	1.12	0.00045	PASS
					-10	-4.42	-0.00176	PASS
					0	-2.32	-0.00093	PASS
					10	-1.07	-0.00043	PASS

					20	-2.59	-0.00103	PASS
					30	-2.52	-0.00101	PASS
					40	-0.7	-0.00028	PASS
					50	-1.36	-0.00054	PASS
			MCH	VN	-30	8.4	0.00331	PASS
					-20	1.59	0.00063	PASS
					-10	2.13	0.00084	PASS
					0	2.17	0.00086	PASS
					10	5.78	0.00228	PASS
					20	1.36	0.00054	PASS
					30	3.48	0.00137	PASS
					40	5.81	0.00229	PASS
					50	2.72	0.00107	PASS
			HCH	VN	-30	-0.03	-0.00001	PASS
					-20	0.56	0.00022	PASS
					-10	1.12	0.00044	PASS
					0	-0.09	-0.00004	PASS
					10	-0.79	-0.00031	PASS
					20	-6.68	-0.0026	PASS
					30	-6.45	-0.00251	PASS
					40	-8.18	-0.00319	PASS
					50	-7.27	-0.00283	PASS
		15	LCH	VN	-30	-4.29	-0.00171	PASS
					-20	-4.95	-0.00197	PASS
					-10	-4.72	-0.00188	PASS
					0	-1.12	-0.00045	PASS
					10	-0.93	-0.00037	PASS
					20	-3.46	-0.00138	PASS
					30	-4.73	-0.00189	PASS
					40	-2.26	-0.0009	PASS
					50	0	0	PASS
			MCH	VN	-30	-1.1	-0.00043	PASS
					-20	0.64	0.00025	PASS
					-10	-0.4	-0.00016	PASS
					0	0.82	0.00032	PASS
					10	-3.72	-0.00147	PASS
					20	-0.69	-0.00027	PASS
					30	-1.17	-0.00046	PASS
					40	-1.29	-0.00051	PASS
					50	1.9	0.00075	PASS
			HCH	VN	-30	-0.72	-0.00028	PASS

					-20	-0.69	-0.00027	PASS
					-10	-2.59	-0.00101	PASS
					0	-0.82	-0.00032	PASS
					10	-3.02	-0.00118	PASS
					20	1.65	0.00064	PASS
					30	-3.06	-0.00119	PASS
					40	-2.39	-0.00093	PASS
					50	-3.79	-0.00148	PASS
		20	LCH	VN	-30	-0.99	-0.00039	PASS
					-20	-1.72	-0.00069	PASS
					-10	1.04	0.00041	PASS
					0	-0.07	-0.00003	PASS
					10	-2.32	-0.00092	PASS
					20	-1.59	-0.00063	PASS
					30	-0.64	-0.00025	PASS
					40	-0.13	-0.00005	PASS
					50	-1.03	-0.00041	PASS
			MCH	VN	-30	-0.33	-0.00013	PASS
					-20	-0.3	-0.00012	PASS
					-10	2.26	0.00089	PASS
					0	-0.21	-0.00008	PASS
					10	-2.52	-0.00099	PASS
					20	0.59	0.00023	PASS
					30	0.47	0.00019	PASS
					40	0.43	0.00017	PASS
					50	2.35	0.00093	PASS
			HCH	VN	-30	0.01	0	PASS
					-20	-0.77	-0.0003	PASS
					-10	-3.32	-0.0013	PASS
					0	1.75	0.00068	PASS
					10	-1.76	-0.00069	PASS
					20	-1.37	-0.00054	PASS
					30	1.14	0.00045	PASS
					40	-1.65	-0.00064	PASS
					50	-1.66	-0.00065	PASS
	LTE/TM2	5	LCH	VN	-30	-2.52	-0.00101	PASS
					-20	8.53	0.00341	PASS
					-10	6.09	0.00243	PASS
					0	5.99	0.00239	PASS
					10	4.43	0.00177	PASS
					20	5.79	0.00231	PASS

					30	2.1	0.00084	PASS
					40	2.03	0.00081	PASS
					50	4.63	0.00185	PASS
			MCH	VN	-30	6.35	0.0025	PASS
					-20	1.32	0.00052	PASS
					-10	2.43	0.00096	PASS
					0	5.61	0.00221	PASS
					10	5.15	0.00203	PASS
					20	3.56	0.0014	PASS
					30	-2.68	-0.00106	PASS
					40	1.3	0.00051	PASS
					50	4.53	0.00179	PASS
			HCH	VN	-30	0.2	0.00008	PASS
					-20	1.3	0.00051	PASS
					-10	1.96	0.00076	PASS
					0	0	0	PASS
					10	2.29	0.00089	PASS
					20	-0.31	-0.00012	PASS
					30	-0.57	-0.00022	PASS
					40	1.86	0.00072	PASS
					50	-0.33	-0.00013	PASS
		10	LCH	VN	-30	-2.29	-0.00091	PASS
					-20	0.63	0.00025	PASS
					-10	0.01	0	PASS
					0	-1.26	-0.0005	PASS
					10	2.07	0.00083	PASS
					20	-0.46	-0.00018	PASS
					30	-0.56	-0.00022	PASS
					40	-0.49	-0.0002	PASS
					50	0.19	0.00008	PASS
			MCH	VN	-30	0.03	0.00001	PASS
					-20	-1.92	-0.00076	PASS
					-10	1.54	0.00061	PASS
					0	1.44	0.00057	PASS
					10	3.88	0.00153	PASS
					20	-0.84	-0.00033	PASS
					30	3.46	0.00136	PASS
					40	1.82	0.00072	PASS
					50	-1.33	-0.00052	PASS
			HCH	VN	-30	1.06	0.00041	PASS
					-20	1.44	0.00056	PASS

					-10	-1.33	-0.00052	PASS
					0	1.66	0.00065	PASS
					10	0.01	0	PASS
					20	0.31	0.00012	PASS
					30	0.64	0.00025	PASS
					40	-1.93	-0.00075	PASS
					50	0.2	0.00008	PASS
		15	LCH	VN	-30	0.07	0.00003	PASS
					-20	-4.26	-0.0017	PASS
					-10	-0.41	-0.00016	PASS
					0	-1.1	-0.00044	PASS
					10	-1.2	-0.00048	PASS
					20	-2.15	-0.00086	PASS
					30	-1.73	-0.00069	PASS
					40	-0.23	-0.00009	PASS
					50	-1.42	-0.00057	PASS
			MCH	VN	-30	1.75	0.00069	PASS
					-20	1.42	0.00056	PASS
					-10	1.19	0.00047	PASS
					0	0.9	0.00036	PASS
					10	-0.19	-0.00007	PASS
					20	2.56	0.00101	PASS
					30	1.1	0.00043	PASS
					40	2.32	0.00092	PASS
					50	1.34	0.00053	PASS
			HCH	VN	-30	1.32	0.00052	PASS
					-20	1.07	0.00042	PASS
					-10	1.95	0.00076	PASS
					0	0.2	0.00008	PASS
					10	-0.37	-0.00014	PASS
					20	-0.62	-0.00024	PASS
					30	-1.02	-0.0004	PASS
					40	1.47	0.00057	PASS
					50	-1.49	-0.00058	PASS
		20	LCH	VN	-30	-0.27	-0.00011	PASS
					-20	2.76	0.0011	PASS
					-10	3.88	0.00155	PASS
					0	2.47	0.00098	PASS
					10	3.75	0.00149	PASS
					20	-0.09	-0.00004	PASS
					30	0.8	0.00032	PASS

					40	-1.12	-0.00045	PASS
					50	0.73	0.00029	PASS
			MCH	VN	-30	-2.43	-0.00096	PASS
					-20	0.17	0.00007	PASS
					-10	-1	-0.00039	PASS
					0	-0.26	-0.0001	PASS
					10	1.46	0.00058	PASS
					20	0.21	0.00008	PASS
					30	-0.74	-0.00029	PASS
					40	1.85	0.00073	PASS
					50	-1.36	-0.00054	PASS
			HCH	VN	-30	-0.06	-0.00002	PASS
					-20	-0.27	-0.00011	PASS
					-10	-1.06	-0.00041	PASS
					0	-0.76	-0.0003	PASS
					10	0.7	0.00027	PASS
					20	-1.92	-0.00075	PASS
					30	-3.38	-0.00132	PASS
					40	-3.36	-0.00131	PASS
					50	-2.25	-0.00088	PASS

END