



































Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 1.4 MHz

Channel Bandwidth: 1.4 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	4.35	25	-0.35	-0.000349	± 2.5	PASS
		4	25	-0.17	-0.000100	± 2.5	PASS
		3.7	25	-0.62	-0.000684	± 2.5	PASS
	MCH	4.35	25	-0.51	-0.000537	± 2.5	PASS
		4	25	-6.90	-0.003980	± 2.5	PASS
		3.7	25	-6.76	-0.003761	± 2.5	PASS
	HCH	4.35	25	-6.53	-0.003628	± 2.5	PASS
		4	25	-2.75	-0.001566	± 2.5	PASS
		3.7	25	-2.58	-0.001479	± 2.5	PASS
16QAM	LCH	4.35	25	-2.44	-0.001396	± 2.5	PASS
		4	25	-3.83	-0.002241	± 2.5	PASS
		3.7	25	-3.97	-0.002383	± 2.5	PASS
	MCH	4.35	25	-4.20	-0.002655	± 2.5	PASS
		4	25	-4.09	-0.002361	± 2.5	PASS
		3.7	25	-3.99	-0.002391	± 2.5	PASS
	HCH	4.35	25	-3.80	-0.002237	± 2.5	PASS
		4	25	-7.84	-0.004469	± 2.5	PASS
		3.7	25	-7.55	-0.004243	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	4	-30	-2.35	-0.001669	± 2.5	PASS
		4	-20	-2.02	-0.001475	± 2.5	PASS
		4	-10	-1.91	-0.001382	± 2.5	PASS
		4	0	-1.76	-0.001153	± 2.5	PASS
		4	10	-1.59	-0.000979	± 2.5	PASS
		4	20	1.50	0.000878	± 2.5	PASS
		4	30	-1.40	-0.000819	± 2.5	PASS
		4	40	-1.49	-0.000870	± 2.5	PASS
	MCH	4	-30	3.36	0.001897	± 2.5	PASS
		4	-20	3.24	0.001733	± 2.5	PASS
		4	-10	3.10	0.001615	± 2.5	PASS
		4	0	3.02	0.001546	± 2.5	PASS
		4	10	2.96	0.001501	± 2.5	PASS
		4	20	-6.94	-0.004005	± 2.5	PASS
		4	30	-6.64	-0.003831	± 2.5	PASS
		4	40	-3.42	-0.001973	± 2.5	PASS

	HCH	4	50	-5.59	-0.003228	± 2.5	PASS
		4	-30	-5.74	-0.003536	± 2.5	PASS
		4	-20	-5.92	-0.003754	± 2.5	PASS
		4	-10	-6.16	-0.003968	± 2.5	PASS
		4	0	-6.27	-0.004005	± 2.5	PASS
		4	10	-6.45	-0.004186	± 2.5	PASS
		4	20	-7.10	-0.004045	± 2.5	PASS
		4	30	-2.17	-0.001239	± 2.5	PASS
		4	40	-3.08	-0.001753	± 2.5	PASS
		4	50	-5.72	-0.003262	± 2.5	PASS
16QAM	LCH	4	-30	-5.96	-0.003470	± 2.5	PASS
		4	-20	-5.60	-0.003108	± 2.5	PASS
		4	-10	-5.42	-0.002914	± 2.5	PASS
		4	0	-5.15	-0.002731	± 2.5	PASS
		4	10	-5.08	-0.002656	± 2.5	PASS
		4	20	-5.82	-0.003403	± 2.5	PASS
		4	30	-10.04	-0.005870	± 2.5	PASS
		4	40	-5.88	-0.003437	± 2.5	PASS
		4	50	-7.85	-0.004591	± 2.5	PASS
	MCH	4	-30	-7.63	-0.004373	± 2.5	PASS
		4	-20	-7.50	-0.004197	± 2.5	PASS
		4	-10	-7.39	-0.003953	± 2.5	PASS
		4	0	-7.21	-0.003746	± 2.5	PASS
		4	10	-7.08	-0.003589	± 2.5	PASS
		4	20	-2.85	-0.001643	± 2.5	PASS
		4	30	-7.72	-0.004459	± 2.5	PASS
		4	40	-7.08	-0.004087	± 2.5	PASS
		4	50	-7.51	-0.004335	± 2.5	PASS
	HCH	4	-30	-7.34	-0.004128	± 2.5	PASS
		4	-20	-7.12	-0.004001	± 2.5	PASS
		4	-10	-6.96	-0.003911	± 2.5	PASS
		4	0	-6.73	-0.003744	± 2.5	PASS
		4	10	-6.51	-0.003660	± 2.5	PASS
		4	20	-4.43	-0.002528	± 2.5	PASS
		4	30	-6.98	-0.003979	± 2.5	PASS
		4	40	-6.82	-0.003890	± 2.5	PASS
		4	50	-12.69	-0.007233	± 2.5	PASS