

































Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz							
Voltage							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	4.35	25	0.15	0.000095	± 2.5	PASS
		4	25	0.29	0.000114	± 2.5	PASS
		3.7	25	-0.05	-0.000101	± 2.5	PASS
	MCH	4.35	25	-3.81	-0.001463	± 2.5	PASS
		4	25	-4.05	-0.001597	± 2.5	PASS
		3.7	25	-3.72	-0.001395	± 2.5	PASS
	HCH	4.35	25	-3.50	-0.001288	± 2.5	PASS
		4	25	-2.68	-0.001042	± 2.5	PASS
		3.7	25	-2.53	-0.000983	± 2.5	PASS
16QAM	LCH	4.35	25	-2.41	-0.000864	± 2.5	PASS
		4	25	0.01	0.000006	± 2.5	PASS
		3.7	25	0.17	0.000121	± 2.5	PASS
	MCH	4.35	25	0.24	0.000139	± 2.5	PASS
		4	25	-3.68	-0.001450	± 2.5	PASS
		3.7	25	-3.46	-0.001324	± 2.5	PASS
	HCH	4.35	25	-3.37	-0.001281	± 2.5	PASS
		4	25	-4.46	-0.001738	± 2.5	PASS
		3.7	25	-4.29	-0.001677	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	4	-30	-3.28	-0.001785	± 2.5	PASS
		4	-20	-3.15	-0.001613	± 2.5	PASS
		4	-10	-2.92	-0.001401	± 2.5	PASS
		4	0	-2.79	-0.001273	± 2.5	PASS
		4	10	-2.67	-0.001129	± 2.5	PASS
		4	20	-2.52	-0.001006	± 2.5	PASS
		4	30	1.47	0.000589	± 2.5	PASS
		4	40	-1.37	-0.000549	± 2.5	PASS
	MCH	4	-30	-3.41	-0.001370	± 2.5	PASS
		4	-20	-3.28	-0.001244	± 2.5	PASS
		4	-10	-3.13	-0.001130	± 2.5	PASS
		4	0	-3.04	-0.001022	± 2.5	PASS
		4	10	-2.86	-0.000967	± 2.5	PASS
		4	20	-6.67	-0.002630	± 2.5	PASS
		4	30	-3.49	-0.001377	± 2.5	PASS
		4	40	-4.66	-0.001840	± 2.5	PASS

	HCH	4	50	-4.86	-0.001919	± 2.5	PASS
		4	-30	-4.71	-0.001843	± 2.5	PASS
		4	-20	-4.53	-0.001722	± 2.5	PASS
		4	-10	-4.31	-0.001609	± 2.5	PASS
		4	0	-4.14	-0.001503	± 2.5	PASS
		4	10	-4.02	-0.001416	± 2.5	PASS
		4	20	-1.34	-0.000524	± 2.5	PASS
		4	30	-3.73	-0.001454	± 2.5	PASS
		4	40	-0.03	-0.000011	± 2.5	PASS
		4	50	-2.70	-0.001053	± 2.5	PASS
16QAM	LCH	4	-30	-2.55	-0.000990	± 2.5	PASS
		4	-20	-2.32	-0.000891	± 2.5	PASS
		4	-10	-2.11	-0.000776	± 2.5	PASS
		4	0	-2.04	-0.000702	± 2.5	PASS
		4	10	-2.95	-0.001254	± 2.5	PASS
		4	20	-2.76	-0.001103	± 2.5	PASS
		4	30	-11.07	-0.004424	± 2.5	PASS
		4	40	-4.32	-0.001726	± 2.5	PASS
		4	50	-5.01	-0.002001	± 2.5	PASS
	MCH	4	-30	-4.86	-0.001918	± 2.5	PASS
		4	-20	-4.73	-0.001724	± 2.5	PASS
		4	-10	-4.50	-0.001640	± 2.5	PASS
		4	0	-4.31	-0.001483	± 2.5	PASS
		4	10	-4.08	-0.001298	± 2.5	PASS
		4	20	-0.44	-0.000175	± 2.5	PASS
		4	30	1.57	0.000621	± 2.5	PASS
		4	40	-5.04	-0.001986	± 2.5	PASS
		4	50	-4.96	-0.001958	± 2.5	PASS
	HCH	4	-30	-4.84	-0.001760	± 2.5	PASS
		4	-20	-4.61	-0.001635	± 2.5	PASS
		4	-10	-4.37	-0.001470	± 2.5	PASS
		4	0	-4.18	-0.001352	± 2.5	PASS
		4	10	-4.02	-0.001238	± 2.5	PASS
		4	20	0.34	0.000134	± 2.5	PASS
		4	30	-5.34	-0.002078	± 2.5	PASS
		4	40	-2.02	-0.000786	± 2.5	PASS
		4	50	-1.04	-0.000407	± 2.5	PASS