

Frequency Error VS. Voltage

Test Band	Test mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band2	QPSK/ 20MHz	LCH	TN	VL	-3.7	-0.00200	PASS
				VN	1.25	0.00067	PASS
				VH	-1.87	-0.00101	PASS
		MCH	TN	VL	2.29	0.00122	PASS
				VN	-1.98	-0.00106	PASS
				VH	-0.31	-0.00017	PASS
		HCH	TN	VL	-0.73	-0.00038	PASS
				VN	-0.34	-0.00018	PASS
				VH	0.08	0.00004	PASS
	16QAM/ 20MHz	LCH	TN	VL	-4.48	-0.00242	PASS
				VN	-3.19	-0.00172	PASS
				VH	-3.32	-0.00179	PASS
		MCH	TN	VL	1.31	0.00070	PASS
				VN	-3.06	-0.00163	PASS
				VH	0.37	0.00020	PASS
		HCH	TN	VL	-3.27	-0.00171	PASS
				VN	-2.24	-0.00117	PASS
				VH	1.22	0.00064	PASS

Test Band	Test mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band4	QPSK/ 20MHz	LCH	TN	VL	-3.38	-0.00197	PASS
				VN	1.61	0.00094	PASS
				VH	-0.56	-0.00033	PASS
		MCH	TN	VL	1.44	0.00084	PASS
				VN	-1.67	-0.00097	PASS
				VH	1.81	0.00105	PASS
		HCH	TN	VL	-1.33	-0.00076	PASS
				VN	0.02	0.00001	PASS
				VH	0.41	0.00023	PASS
	16QAM/ 20MHz	LCH	TN	VL	-3.57	-0.00209	PASS
				VN	-2.26	-0.00132	PASS
				VH	-0.43	-0.00025	PASS
		MCH	TN	VL	1.15	0.00067	PASS
				VN	-2.15	-0.00125	PASS

		HCH	TN	VH	1.24	0.00072	PASS
				VL	-2.37	-0.00135	PASS
				VN	-1.34	-0.00076	PASS
				VH	1.11	0.00063	PASS

Test Band	Test mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band12	QPSK/ 10MHz	LCH	TN	VL	-2.45	-0.00350	PASS
				VN	1.84	0.00263	PASS
				VH	0.38	0.00054	PASS
		MCH	TN	VL	3.54	0.00503	PASS
				VN	-0.71	-0.00101	PASS
				VH	1.72	0.00244	PASS
		HCH	TN	VL	-0.42	-0.00059	PASS
				VN	0.94	0.00132	PASS
				VH	1.35	0.00189	PASS
	16QAM/ 10MHz	LCH	TN	VL	-2.54	-0.00363	PASS
				VN	-1.22	-0.00174	PASS
				VH	-0.39	-0.00056	PASS
		MCH	TN	VL	1.3	0.00185	PASS
				VN	-1.13	-0.00161	PASS
				VH	1.3	0.00185	PASS
		HCH	TN	VL	-1.35	-0.00189	PASS
				VN	0.7	0.00098	PASS
				VH	2.16	0.00302	PASS

Test Band	Test mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band13	QPSK/ 10MHz	LCH	TN	VL	-0.77	-0.00099	PASS
				VN	-1.16	-0.00149	PASS
				VH	-1.04	-0.00134	PASS
		MCH	TN	VL	1.55	0.00199	PASS
				VN	-1.39	-0.00179	PASS
				VH	1.05	0.00135	PASS
		HCH	TN	VL	0.56	0.00071	PASS
				VN	0.79	0.00101	PASS
				VH	0.25	0.00032	PASS
	16QAM/	LCH	TN	VL	0.14	0.00018	PASS

	10MHz			VN	0.07	0.00009	PASS
				VH	0.28	0.00036	PASS
		MCH	TN	VL	0.51	0.00066	PASS
				VN	-1.85	-0.00238	PASS
				VH	0.57	0.00073	PASS
		HCH	TN	VL	0.47	0.00060	PASS
				VN	0.51	0.00065	PASS
				VH	0.06	0.00008	PASS

Frequency Error VS. Temperature

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band2	QPSK/ 20MHz	LCH	VN	-30	0.48	0.00026	PASS
				-20	0.49	0.00026	PASS
				-10	-1.36	-0.00073	PASS
				0	0.27	0.00015	PASS
				10	-0.17	-0.00009	PASS
				20	-0.11	-0.00006	PASS
				30	1.06	0.00057	PASS
				40	0.85	0.00046	PASS
				50	0.03	0.00002	PASS
		MCH	VN	-30	-2.3	-0.00123	PASS
				-20	-2.31	-0.00123	PASS
				-10	-4.09	-0.00218	PASS
				0	-2.5	-0.00134	PASS
				10	-3.63	-0.00194	PASS
				20	0.25	0.00013	PASS
				30	3.03	0.00162	PASS
				40	-2.25	-0.00120	PASS
				50	-1.53	-0.00082	PASS
		HCH	VN	-30	-0.16	-0.00008	PASS
				-20	-0.17	-0.00009	PASS
				-10	-1.16	-0.00061	PASS
				0	-0.12	-0.00006	PASS
				10	-2.14	-0.00112	PASS
				20	-0.03	-0.00002	PASS
				30	-0.18	-0.00009	PASS
				40	-1.9	-0.00100	PASS
				50	-3.14	-0.00165	PASS

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band2	16QAM/ 20MHz	LCH	VN	-30	-0.42	-0.00023	PASS
				-20	-0.41	-0.00022	PASS
				-10	-2.26	-0.00122	PASS
				0	-0.92	-0.00050	PASS
				10	-0.56	-0.00030	PASS
				20	-0.97	-0.00052	PASS
				30	0.16	0.00009	PASS
				40	-0.05	-0.00003	PASS
				50	-0.01	-0.00001	PASS
		MCH	VN	-30	-3.2	-0.00171	PASS
				-20	-3.21	-0.00171	PASS
				-10	-2.5	-0.00134	PASS
				0	-3.4	-0.00182	PASS
				10	-4.53	-0.00242	PASS
				20	-0.65	-0.00035	PASS
				30	-0.64	-0.00034	PASS
				40	-3.15	-0.00168	PASS
				50	-2.43	-0.00130	PASS
		HCH	VN	-30	-0.81	-0.00042	PASS
				-20	-0.74	-0.00039	PASS
				-10	-2.06	-0.00108	PASS
				0	-0.82	-0.00043	PASS
				10	-3.04	-0.00159	PASS
				20	-0.53	-0.00028	PASS
				30	-1.08	-0.00057	PASS
				40	-2.8	-0.00147	PASS
				50	-4.04	-0.00212	PASS

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band4	QPSK/ 20MHz	LCH	VN	-30	-0.09	-0.00005	PASS
				-20	-0.08	-0.00005	PASS
				-10	-0.95	-0.00055	PASS
				0	-0.26	-0.00015	PASS
				10	0.13	0.00008	PASS
				20	0	0.00000	PASS
				30	0.54	0.00032	PASS
				40	0.05	0.00003	PASS
				50	0.2	0.00012	PASS
		MCH	VN	-30	-3.46	-0.00201	PASS
				-20	-3.46	-0.00201	PASS
				-10	-2.6	-0.00151	PASS
				0	-3.06	-0.00177	PASS
				10	-2.3	-0.00133	PASS
				20	-3.72	-0.00216	PASS
				30	-2.6	-0.00151	PASS
				40	-2.25	-0.00130	PASS
				50	-2.3	-0.00133	PASS
		HCH	VN	-30	0.96	0.00055	PASS
				-20	0.95	0.00054	PASS
				-10	-1.12	-0.00064	PASS
				0	-0.11	-0.00006	PASS
				10	-2.52	-0.00144	PASS
				20	-1	-0.00057	PASS
				30	-0.18	-0.00010	PASS
				40	-2.31	-0.00132	PASS
				50	-2.05	-0.00117	PASS

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band4	16QAM/ 20MHz	LCH	VN	-30	1.63	0.00095	PASS
				-20	1.62	0.00095	PASS
				-10	-0.23	-0.00013	PASS
				0	0.4	0.00023	PASS
				10	0.96	0.00056	PASS
				20	1.02	0.00060	PASS
				30	0.19	0.00011	PASS
				40	0.98	0.00057	PASS
				50	1.16	0.00068	PASS
		MCH	VN	-30	-1.17	-0.00068	PASS
				-20	-1.18	-0.00068	PASS
				-10	-2.96	-0.00172	PASS
				0	-0.37	-0.00021	PASS
				10	-2.5	-0.00145	PASS
				20	1.38	0.00080	PASS
				30	0.16	0.00009	PASS
				40	-1.12	-0.00065	PASS
				50	-0.4	-0.00023	PASS
		HCH	VN	-30	0.95	0.00054	PASS
				-20	0.96	0.00055	PASS
				-10	-0.03	-0.00002	PASS
				0	1.01	0.00058	PASS
				10	-1.01	-0.00058	PASS
				20	1.1	0.00063	PASS
				30	0.95	0.00054	PASS
				40	-0.77	-0.00044	PASS
				50	-2.01	-0.00115	PASS

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band12	QPSK/ 10MHz	LCH	VN	-30	0.94	0.00134	PASS
				-20	0.93	0.00133	PASS
				-10	0.06	0.00009	PASS
				0	3.75	0.00536	PASS
				10	3.14	0.00448	PASS
				20	3.01	0.00430	PASS
				30	1.55	0.00221	PASS
				40	1.06	0.00151	PASS
				50	1.21	0.00173	PASS
		MCH	VN	-30	-3.44	-0.00489	PASS
				-20	-3.45	-0.00490	PASS
				-10	-4.59	-0.00652	PASS
				0	-1.05	-0.00149	PASS
				10	-4.29	-0.00610	PASS
				20	-2.71	-0.00385	PASS
				30	-1.59	-0.00226	PASS
				40	-4.24	-0.00603	PASS
				50	-3.29	-0.00468	PASS
		HCH	VN	-30	1.97	0.00276	PASS
				-20	1.96	0.00274	PASS
				-10	-0.11	-0.00015	PASS
				0	2.9	0.00406	PASS
				10	-1.51	-0.00211	PASS
				20	4.01	0.00561	PASS
				30	0.83	0.00116	PASS
				40	-1.3	-0.00182	PASS
				50	-4.04	-0.00565	PASS

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band12	16QAM/10MHz	LCH	VN	-30	0.54	0.00077	PASS
				-20	0.55	0.00079	PASS
				-10	-1.3	-0.00186	PASS
				0	0.33	0.00047	PASS
				10	-0.11	-0.00016	PASS
				20	-0.05	-0.00007	PASS
				30	1.12	0.00160	PASS
				40	0.91	0.00130	PASS
				50	0.09	0.00013	PASS
		MCH	VN	-30	-2.26	-0.00321	PASS
				-20	-2.25	-0.00320	PASS
				-10	-1.03	-0.00146	PASS
				0	-1.44	-0.00205	PASS
				10	-3.57	-0.00507	PASS
				20	0.31	0.00044	PASS
				30	0.09	0.00013	PASS
				40	-2.19	-0.00311	PASS
				50	-1.47	-0.00209	PASS
		HCH	VN	-30	-0.12	-0.00017	PASS
				-20	-0.11	-0.00015	PASS
				-10	-1.1	-0.00154	PASS
				0	-0.06	-0.00008	PASS
				10	-2.08	-0.00291	PASS
				20	0.03	0.00004	PASS
				30	-0.12	-0.00017	PASS
				40	-1.84	-0.00257	PASS
				50	-3.08	-0.00431	PASS

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band13	QPSK/ 10MHz	LCH	VN	-20	-1.17	-0.00150	PASS
				-10	-1.08	-0.00139	PASS
				0	-0.75	-0.00096	PASS
				10	-0.49	-0.00063	PASS
				20	-1.14	-0.00146	PASS
				30	-1.52	-0.00195	PASS
				40	-1.07	-0.00137	PASS
				50	-0.88	-0.00113	PASS
				55	-0.03	-0.00004	PASS
		MCH	VN	-30	-1.24	-0.00159	PASS
				-20	-1.25	-0.00161	PASS
				-10	-1.39	-0.00179	PASS
				0	-2.85	-0.00366	PASS
				10	-2.09	-0.00269	PASS
				20	-1.51	-0.00194	PASS
				30	-1.39	-0.00179	PASS
				40	-1.04	-0.00134	PASS
				50	-1.09	-0.00140	PASS
		HCH	VN	-20	-0.78	-0.00099	PASS
				-10	-0.61	-0.00078	PASS
				0	-1.14	-0.00145	PASS
				10	-1.28	-0.00163	PASS
				20	-1.75	-0.00223	PASS
				30	-0.38	-0.00048	PASS
				40	-1.64	-0.00209	PASS
				50	-1.09	-0.00139	PASS
				55	-1.55	-0.00197	PASS

Test Band	Test mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CatM1 band13	16QAM/ 10MHz	LCH	VN	-20	-1.88	-0.00242	PASS
				-10	-1.62	-0.00208	PASS
				0	-1.05	-0.00135	PASS
				10	-1.49	-0.00191	PASS
				20	-0.88	-0.00113	PASS
				30	-0.64	-0.00082	PASS
				40	-1.66	-0.00213	PASS
				50	-1.27	-0.00163	PASS
				55	-1.37	-0.00176	PASS
		MCH	VN	-30	-2.09	-0.00269	PASS
				-20	-2.1	-0.00270	PASS
				-10	-0.88	-0.00113	PASS
				0	-2.29	-0.00294	PASS
				10	-0.42	-0.00054	PASS
				20	0.46	0.00059	PASS
				30	0.24	0.00031	PASS
				40	-2.04	-0.00262	PASS
				50	-1.32	-0.00170	PASS
		HCH	VN	-20	-0.56	-0.00071	PASS
				-10	-0.07	-0.00009	PASS
				0	0.15	0.00019	PASS
				10	0.37	0.00047	PASS
				20	-0.16	-0.00020	PASS
				30	-0.75	-0.00095	PASS
				40	0.47	0.00060	PASS
				50	0.62	0.00079	PASS
				55	-1.06	-0.00135	PASS

Note: All modes have been tested and we only record the worst test result.