



# Appendix G

## Frequency Stability

According to FCC Part 2.1051 & FCC Part 27C & 27M



Frequency Error vs. Temperature:

NOTE: All relevant operation modes have been tested, and the worst case data is included in this report.

Table 1 Measurement Results (LTE) BAND 7

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM6(5M)	M	VN	-30 °C	-8	-0.00316	---	±2.5	Pass
			-20 °C	18	0.007101	---	±2.5	Pass
			-10 °C	13	0.005128	---	±2.5	Pass
			0 °C	-7	-0.00276	---	±2.5	Pass
			10 °C	20	0.00789	---	±2.5	Pass
			20 °C	-6	-0.00237	---	±2.5	Pass
			30 °C	26	0.010256	---	±2.5	Pass
			40 °C	14	0.005523	---	±2.5	Pass
TM6(10M)	M	VN	50 °C	-22	-0.00868	---	±2.5	Pass
			-30 °C	-20	-0.00789	---	±2.5	Pass
			-20 °C	-14	-0.00552	---	±2.5	Pass
			-10 °C	10	0.003945	---	±2.5	Pass
			0 °C	-7	-0.00276	---	±2.5	Pass
			10 °C	-15	-0.00592	---	±2.5	Pass
			20 °C	26	0.010256	---	±2.5	Pass
			30 °C	22	0.008679	---	±2.5	Pass
TM6(15M)	M	VN	40 °C	10	0.003945	---	±2.5	Pass
			50 °C	17	0.006706	---	±2.5	Pass
			-30 °C	-16	-0.00631	---	±2.5	Pass
			-20 °C	-9	-0.00355	---	±2.5	Pass
			-10 °C	-13	-0.00513	---	±2.5	Pass
			0 °C	-17	-0.00671	---	±2.5	Pass
			10 °C	15	0.005917	---	±2.5	Pass
			20 °C	19	0.007495	---	±2.5	Pass
TM6(20M)	M	VN	30 °C	-8	-0.00316	---	±2.5	Pass
			40 °C	11	0.004339	---	±2.5	Pass
			50 °C	-12	-0.00473	---	±2.5	Pass
			-30 °C	15	0.005917	---	±2.5	Pass
			-20 °C	21	0.008284	---	±2.5	Pass
			-10 °C	9	0.00355	---	±2.5	Pass
			0 °C	24	0.009467	---	±2.5	Pass
			10 °C	-16	-0.00631	---	±2.5	Pass
TM6(20M)	M	VN	20 °C	12	0.004734	---	±2.5	Pass
			30 °C	-20	-0.00789	---	±2.5	Pass
			40 °C	-12	-0.00473	---	±2.5	Pass
			50 °C	12	0.004734	---	±2.5	Pass



Table 2 Measurement Results (LTE) BAND 7

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM7(5M)	M	VN	-30 °C	11	0.004339	---	±2.5	Pass
			-20 °C	13	0.005128	---	±2.5	Pass
			-10 °C	16	0.006312	---	±2.5	Pass
			0 °C	-11	-0.00434	---	±2.5	Pass
			10 °C	18	0.007101	---	±2.5	Pass
			20 °C	-13	-0.00513	---	±2.5	Pass
			30 °C	21	0.008284	---	±2.5	Pass
			40 °C	12	0.004734	---	±2.5	Pass
TM7(10M)	M	VN	-30 °C	-11	-0.00434	---	±2.5	Pass
			-20 °C	-19	-0.0075	---	±2.5	Pass
			-10 °C	-12	-0.00473	---	±2.5	Pass
			0 °C	-8	-0.00316	---	±2.5	Pass
			10 °C	-16	-0.00631	---	±2.5	Pass
			20 °C	19	0.007495	---	±2.5	Pass
			30 °C	23	0.009073	---	±2.5	Pass
			40 °C	17	0.006706	---	±2.5	Pass
TM7(15M)	M	VN	-30 °C	13	0.005128	---	±2.5	Pass
			-20 °C	-9	-0.00355	---	±2.5	Pass
			-10 °C	-14	-0.00552	---	±2.5	Pass
			0 °C	-19	-0.0075	---	±2.5	Pass
			10 °C	-16	-0.00631	---	±2.5	Pass
			20 °C	-23	-0.00907	---	±2.5	Pass
			30 °C	-11	-0.00434	---	±2.5	Pass
			40 °C	-18	-0.0071	---	±2.5	Pass
TM7(20M)	M	VN	-30 °C	16	0.006312	---	±2.5	Pass
			-20 °C	20	0.00789	---	±2.5	Pass
			-10 °C	12	0.004734	---	±2.5	Pass
			0 °C	18	0.007101	---	±2.5	Pass
			10 °C	-17	-0.00671	---	±2.5	Pass
			20 °C	13	0.005128	---	±2.5	Pass
			30 °C	-22	-0.00868	---	±2.5	Pass
			40 °C	-16	-0.00631	---	±2.5	Pass
			50 °C	15	0.005917	---	±2.5	Pass

### Frequency Error vs. Voltage:



Table 3 Measurement Results (LTE) BAND 7

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM6(5M)	M	20 °C	VL	24	0.009467	---	±2.5	Pass
			VN	18	0.007101	---	±2.5	Pass
			VH	9	0.00355	---	±2.5	Pass
TM6(10M)	M	20 °C	VL	-19	-0.0075	---	±2.5	Pass
			VN	-22	-0.00868	---	±2.5	Pass
			VH	-6	-0.00237	---	±2.5	Pass
TM6(15M)	M	20 °C	VL	23	0.009073	---	±2.5	Pass
			VN	14	0.005523	---	±2.5	Pass
			VH	16	0.006312	---	±2.5	Pass
TM6(20M)	M	20 °C	VL	-21	-0.00828	---	±2.5	Pass
			VN	26	0.010256	---	±2.5	Pass
			VH	12	0.004734	---	±2.5	Pass

Table 4 Measurement Results (LTE) BAND 7

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM7(5M)	M	20 °C	VL	22	0.008679	---	±2.5	Pass
			VN	19	0.007495	---	±2.5	Pass
			VH	15	0.005917	---	±2.5	Pass
TM7(10M)	M	20 °C	VL	17	0.006706	---	±2.5	Pass
			VN	21	0.008284	---	±2.5	Pass
			VH	13	0.005128	---	±2.5	Pass
TM7(15M)	M	20 °C	VL	-25	-0.009862	---	±2.5	Pass
			VN	-12	-0.004734	---	±2.5	Pass
			VH	-17	-0.006706	---	±2.5	Pass
TM7(20M)	M	20 °C	VL	-22	-0.008679	---	±2.5	Pass
			VN	20	0.007890	---	±2.5	Pass
			VH	16	0.006312	---	±2.5	Pass

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