



# Appendix G

## Frequency Stability

According to FCC Part 2.1055& Part 27.54



## Frequency Error vs. Temperature:

Table 1 Measurement Results(LTE) BAND 4

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 4	M	100%	-30 °C	19	0.010967	---	±2.5	Pass
			-20 °C	-17	-0.00981	---	±2.5	Pass
			-10 °C	14	0.008081	---	±2.5	Pass
			0 °C	-16	-0.00924	---	±2.5	Pass
			10 °C	10	0.005772	---	±2.5	Pass
			20 °C	-11	-0.00635	---	±2.5	Pass
			30 °C	13	0.007504	---	±2.5	Pass
			40 °C	11	0.006349	---	±2.5	Pass
TM 5	M	100%	50 °C	-7	-0.00404	---	±2.5	Pass
			-30 °C	16	0.009235	---	±2.5	Pass
			-20 °C	16	0.009235	---	±2.5	Pass
			-10 °C	-13	-0.0075	---	±2.5	Pass
			0 °C	12	0.006926	---	±2.5	Pass
			10 °C	16	0.009235	---	±2.5	Pass
			20 °C	-10	-0.00577	---	±2.5	Pass
			30 °C	13	0.007504	---	±2.5	Pass
			40 °C	-19	-0.01097	---	±2.5	Pass
			50 °C	18	0.01039	---	±2.5	Pass

Table 2 Measurement Results(LTE) BAND 17

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 4	M	100%	-30 °C	17	0.023944	---	±2.5	Pass
			-20 °C	-15	-0.02113	---	±2.5	Pass
			-10 °C	16	0.022535	---	±2.5	Pass
			0 °C	-15	-0.02113	---	±2.5	Pass
			10 °C	10	0.014085	---	±2.5	Pass
			20 °C	-11	-0.01549	---	±2.5	Pass
			30 °C	13	0.01831	---	±2.5	Pass
			40 °C	14	0.019718	---	±2.5	Pass
TM 5	M	100%	50 °C	-7	-0.00986	---	±2.5	Pass
			-30 °C	16	0.022535	---	±2.5	Pass
			-20 °C	14	0.019718	---	±2.5	Pass
			-10 °C	-12	-0.0169	---	±2.5	Pass
			0 °C	14	0.019718	---	±2.5	Pass
			10 °C	16	0.022535	---	±2.5	Pass
			20 °C	-8	-0.01127	---	±2.5	Pass
			30 °C	13	0.01831	---	±2.5	Pass
			40 °C	-17	-0.02394	---	±2.5	Pass



Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
			50 °C	18	0.025352	---	±2.5	Pass

## Frequency Error vs. Voltage:

Table 3 Measurement Results(LTE) BAND 4

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 4	M	20 °C	85 %	21	0.012121	---	±2.5	Pass
			100 %	-18	-0.01039	---	±2.5	Pass
			115 %	9	0.005195	---	±2.5	Pass
TM 5	M	20 °C	85 %	-17	-0.00981	---	±2.5	Pass
			100 %	-14	-0.00808	---	±2.5	Pass
			115 %	11	0.006349	---	±2.5	Pass

Table 4 Measurement Results(LTE) BAND 17

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 4	M	20 °C	85 %	23	0.032394	---	±2.5	Pass
			100 %	-20	-0.02817	---	±2.5	Pass
			115 %	7	0.009859	---	±2.5	Pass
TM 5	M	20 °C	85 %	-18	-0.02535	---	±2.5	Pass
			100 %	-15	-0.02113	---	±2.5	Pass
			115 %	10	0.014085	---	±2.5	Pass