



# **Appendix G**

## **Frequency Stability** According to FCC Part 2.1055& Part 24.235



## 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 CDMA&EVDO

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 1	M	VN	-30 °C	15	0.00798	---	±2.5	Pass
			-20 °C	-11	-0.00585	---	±2.5	Pass
			-10 °C	-16	-0.00851	---	±2.5	Pass
			0 °C	20	0.01064	---	±2.5	Pass
			10 °C	-15	-0.00798	---	±2.5	Pass
			20 °C	-13	-0.00691	---	±2.5	Pass
			30 °C	22	0.01170	---	±2.5	Pass
			40 °C	-15	-0.00798	---	±2.5	Pass
			50 °C	-9	-0.00479	---	±2.5	Pass
TM 3	M	VN	-30 °C	14	0.00745	---	±2.5	Pass
			-20 °C	17	0.00904	---	±2.5	Pass
			-10 °C	-12	-0.00638	---	±2.5	Pass
			0 °C	-13	-0.00691	---	±2.5	Pass
			10 °C	21	0.01117	---	±2.5	Pass
			20 °C	-10	-0.00532	---	±2.5	Pass
			30 °C	14	0.00745	---	±2.5	Pass
			40 °C	-12	-0.00638	---	±2.5	Pass
			50 °C	-11	-0.00585	---	±2.5	Pass
Subtype 0	M	VN	-30 °C	11	0.00585	---	±2.5	Pass
			-20 °C	-14	-0.00745	---	±2.5	Pass
			-10 °C	-15	-0.00798	---	±2.5	Pass
			0 °C	18	0.00957	---	±2.5	Pass
			10 °C	19	0.01011	---	±2.5	Pass
			20 °C	-13	-0.00691	---	±2.5	Pass
			30 °C	-8	-0.00426	---	±2.5	Pass
			40 °C	10	0.00532	---	±2.5	Pass
			50 °C	-13	-0.00691	---	±2.5	Pass
Subtype 2	M	VN	-30 °C	11	0.00585	---	±2.5	Pass
			-20 °C	13	0.00692	---	±2.5	Pass
			-10 °C	-12	-0.00638	---	±2.5	Pass
			0 °C	-9	-0.00479	---	±2.5	Pass
			10 °C	17	0.00904	---	±2.5	Pass
			20 °C	21	0.01117	---	±2.5	Pass
			30 °C	-14	-0.00745	---	±2.5	Pass
			40 °C	-12	-0.00638	---	±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	16	0.00851	---	±2.5	Pass

Table 2 Measurement Results (LTE) BAND 2

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 4(1.4M)	M	VN	-30 °C	-14	-0.00745	---	±2.5	Pass
			-20 °C	-10	-0.00532	---	±2.5	Pass
			-10 °C	18	0.00957	---	±2.5	Pass
			0 °C	19	0.01011	---	±2.5	Pass
			10 °C	-9	-0.00479	---	±2.5	Pass
			20 °C	-17	-0.00904	---	±2.5	Pass
			30 °C	14	0.00745	---	±2.5	Pass
			40 °C	-10	-0.00532	---	±2.5	Pass
TM 4(3M)	M	VN	50 °C	-14	-0.00745	---	±2.5	Pass
			-30 °C	11	0.00585	---	±2.5	Pass
			-20 °C	12	0.00638	---	±2.5	Pass
			-10 °C	-8	-0.00426	---	±2.5	Pass
			0 °C	-15	-0.00798	---	±2.5	Pass
			10 °C	16	0.00851	---	±2.5	Pass
			20 °C	-11	-0.00585	---	±2.5	Pass
			30 °C	14	0.00745	---	±2.5	Pass
TM 4(5M)	M	VN	40 °C	-12	-0.00638	---	±2.5	Pass
			50 °C	-14	-0.00745	---	±2.5	Pass
			-30 °C	19	0.01011	---	±2.5	Pass
			-20 °C	-12	-0.00638	---	±2.5	Pass
			-10 °C	19	0.01011	---	±2.5	Pass
			0 °C	-15	-0.00798	---	±2.5	Pass
			10 °C	17	0.00904	---	±2.5	Pass
			20 °C	15	0.00798	---	±2.5	Pass
TM 4(10M)	M	VN	30 °C	13	0.00692	---	±2.5	Pass
			40 °C	-12	-0.00638	---	±2.5	Pass
			50 °C	-7	-0.00372	---	±2.5	Pass
			-30 °C	12	0.00638	---	±2.5	Pass
			-20 °C	-12	-0.00638	---	±2.5	Pass
			-10 °C	21	0.01117	---	±2.5	Pass
			0 °C	-16	-0.00851	---	±2.5	Pass
			10 °C	-11	-0.00585	---	±2.5	Pass
20 °C	-8	-0.00426	---	±2.5	Pass			
30 °C	16	0.00851	---	±2.5	Pass			
40 °C	-19	-0.01011	---	±2.5	Pass			



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			50 °C	18	0.00957	---	±2.5	Pass
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## Frequency Error vs. Voltage:

Table 3 Measurement Results CDMA&EVDO

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 1	M	20 °C	VL	-17	-0.00904	---	±2.5	Pass
			VN	-14	-0.00745	---	±2.5	Pass
			VH	20	0.01064	---	±2.5	Pass
TM 3	M	20 °C	VL	-13	-0.00691	---	±2.5	Pass
			VN	-10	-0.00532	---	±2.5	Pass
			VH	18	0.00958	---	±2.5	Pass
Subtype 0	M	20 °C	VL	-10	-0.00532	---	±2.5	Pass
			VN	13	0.00692	---	±2.5	Pass
			VH	-13	-0.00691	---	±2.5	Pass
Subtype 2	M	20 °C	VL	16	0.00851	---	±2.5	Pass
			VN	-17	-0.00904	---	±2.5	Pass
			VH	-14	-0.00745	---	±2.5	Pass
TM4(1.4M)	M	20 °C	VL	15	0.00798	---	±2.5	Pass
			VN	-12	-0.00638	---	±2.5	Pass
			VH	19	0.01011	---	±2.5	Pass
TM4(3M)	M	20 °C	VL	17	0.00904	---	±2.5	Pass
			VN	-15	-0.00798	---	±2.5	Pass
			VH	-9	-0.00479	---	±2.5	Pass
TM4(5M)	M	20 °C	VL	-18	-0.00957	---	±2.5	Pass
			VN	12	0.00638	---	±2.5	Pass
			VH	-14	-0.00745	---	±2.5	Pass
TM4(10M)	M	20 °C	VL	19	0.01011	---	±2.5	Pass
			VN	15	0.00798	---	±2.5	Pass
			VH	-11	-0.00585	---	±2.5	Pass



Table 4 Measurement Results (LTE) BAND 2

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM4(1.4M)	M	20 °C	VL	15	0.00798	---	±2.5	Pass
			VN	-12	-0.00638	---	±2.5	Pass
			VH	19	0.01011	---	±2.5	Pass
TM4(3M)	M	20 °C	VL	17	0.00904	---	±2.5	Pass
			VN	-15	-0.00798	---	±2.5	Pass
			VH	-9	-0.00479	---	±2.5	Pass
TM4(5M)	M	20 °C	VL	-18	-0.00957	---	±2.5	Pass
			VN	12	0.00638	---	±2.5	Pass
			VH	-14	-0.00745	---	±2.5	Pass
TM4(10M)	M	20 °C	VL	19	0.01011	---	±2.5	Pass
			VN	15	0.00798	---	±2.5	Pass
			VH	-11	-0.00585	---	±2.5	Pass

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