

















Appendix F: Frequency Stability

Test Result

LTE Band 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 Frequency=1880.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-8.33	-0.004431	Within authorized band for Band 2	Pass
	-20	2.76	0.001468		
	-10	-10.16	-0.005404		
	0	-9.48	-0.005043		
	10	-10.56	-0.005617		
	20	-8.65	-0.004601		
	30	-11.69	-0.006218		
	40	-13.45	-0.007154		
	50	-11.29	-0.006005		
16QAM					
3.85	-30	-4.13	-0.002197	Within authorized band for Band 2	Pass
	-20	-10.06	-0.005351		
	-10	-13.19	-0.007016		
	0	-11.44	-0.006085		
	10	-11.50	-0.006117		
	20	-8.47	-0.004505		
	30	-8.57	-0.004559		
	40	-11.01	-0.005856		
	50	-10.30	-0.005479		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-13.76	-0.007319	Within authorized band for Band 2	Pass
	3.85	-17.05	-0.009069		
	4.40	-15.12	-0.008043		
16QAM					
25	3.50	-16.32	-0.008681	Within authorized band for Band 2	Pass
	3.85	-6.34	-0.003372		
	4.40	-6.67	-0.003548		

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	5.55	0.003203	Within authorized band for Band 4	Pass
	-20	-6.74	-0.003890		
	-10	-6.17	-0.003561		
	0	-8.87	-0.005120		
	10	-7.34	-0.004237		
	20	-4.38	-0.002528		
	30	-11.57	-0.006678		
	40	-7.80	-0.004502		
	50	1.97	0.001137		
16QAM					
3.85	-30	-9.36	-0.005403	Within authorized band for Band 4	Pass
	-20	-5.41	-0.003123		
	-10	-8.93	-0.005154		
	0	-5.08	-0.002932		
	10	-8.25	-0.004762		
	20	-5.48	-0.003163		
	30	-8.04	-0.004641		
	40	-6.84	-0.003948		
	50	-7.61	-0.004392		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-13.48	-0.007781	Within authorized band for Band 4	Pass
	3.85	-13.60	-0.007850		
	4.40	-9.46	-0.005460		
16QAM					
25	3.50	-7.74	-0.004468	Within authorized band for Band 4	Pass
	3.85	-11.56	-0.006672		
	4.40	-5.81	-0.003354		

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.