

















Appendix F: Frequency Stability

Test Result (Worst case):

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					
3.70	-30	10.70	0.006176	Within authorized band for Band 4	Pass
	-20	14.46	0.008346		
	-10	10.26	0.005922		
	0	9.18	0.005299		
	10	8.71	0.005027		
	20	11.19	0.006459		
	30	10.87	0.006274		
	40	14.79	0.008537		
	50	17.50	0.010101		
16QAM					
3.70	-30	34.40	0.019856	Within authorized band for Band 4	Pass
	-20	36.78	0.021229		
	-10	40.61	0.023440		
	0	46.55	0.026869		
	10	-3.79	-0.002188		
	20	5.01	0.002892		
	30	10.59	0.006113		
	40	23.69	0.013674		
	50	22.30	0.012872		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	7.18	0.004144	Within authorized band for Band 4	Pass
	3.70	-31.41	-0.018130		
	4.25	13.62	0.007861		
16QAM					
25	3.50	26.79	0.015463	Within authorized band for Band 4	Pass
	3.70	14.88	0.008589		
	4.25	25.49	0.014713		

Note: Only the worst case shown in the report.

LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	-4.06	-0.004854	±2.5	Pass
	-20	-3.65	-0.004363		
	-10	-4.31	-0.005152		
	0	-1.99	-0.002379		
	10	-3.52	-0.004208		
	20	-4.21	-0.005033		
	30	-4.78	-0.005714		
	40	-2.47	-0.002953		
	50	-3.18	-0.003802		
16QAM					
3.70	-30	4.01	0.004794	±2.5	Pass
	-20	3.32	0.003969		
	-10	3.00	0.003586		
	0	4.89	0.005846		
	10	6.47	0.007735		
	20	5.84	0.006981		
	30	8.08	0.009659		
	40	9.44	0.011285		
	50	8.71	0.010412		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-3.40	-0.004065	±2.5	Pass
	3.70	10.31	0.012325		
	4.25	3.09	0.003694		
16QAM					
25	3.50	3.52	0.004208	±2.5	Pass
	3.70	-3.85	-0.004603		
	4.25	3.48	0.004160		

Note: Only the worst case shown in the report.

LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	-9.14	-0.003606	Within authorized band for Band 7	Pass
	-20	6.75	0.002663		
	-10	14.65	0.005779		
	0	23.60	0.009310		
	10	15.48	0.006107		
	20	-4.36	-0.001720		
	30	5.81	0.002292		
	40	-9.53	-0.003759		
	50	10.80	0.004260		
16QAM					
3.70	-30	16.65	0.006568	Within authorized band for Band 7	Pass
	-20	6.29	0.002481		
	-10	5.92	0.002335		
	0	7.42	0.002927		
	10	9.27	0.003657		
	20	5.06	0.001996		
	30	-7.12	-0.002809		
	40	-7.70	-0.003037		
	50	-10.13	-0.003996		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-25.15	-0.009921	Within authorized band for Band 7	Pass
	3.70	-16.91	-0.006671		
	4.25	-7.15	-0.002821		
16QAM					
25	3.50	9.41	0.003712	Within authorized band for Band 7	Pass
	3.70	13.65	0.005385		
	4.25	14.33	0.005653		

Note: Only the worst case shown in the report.