

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	4.73	0.001866	Within authorized band for Band 7	Pass
	3.91	-22.26	-0.008781		
	4.50	-10.99	-0.004335		
16QAM					
25	3.45	4.23	0.001669	Within authorized band for Band 7	Pass
	3.91	6.05	0.002387		
	4.50	-14.29	-0.005637		
64QAM					
25	3.45	12.19	0.004809	Within authorized band for Band 7	Pass
	3.91	-13.53	-0.005337		
	4.50	-16.37	-0.006458		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 Frequency=707.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	-5.01	-0.007081	Within authorized band for Band 12	Pass
	-20	-5.69	-0.008042		
	-10	-2.88	-0.004071		
	0	-7.52	-0.010629		
	10	-3.09	-0.004367		
	20	-3.52	-0.004975		
	30	-2.19	-0.003095		
	40	-2.52	-0.003562		
	50	-2.83	-0.004000		
16QAM					
3.91	-30	-4.33	-0.006120	Within authorized band for Band 12	Pass
	-20	-5.48	-0.007746		
	-10	2.23	0.003152		
	0	-5.19	-0.007336		
	10	-6.09	-0.008608		
	20	-6.92	-0.009781		
	30	-4.65	-0.006572		
	40	4.19	0.005922		
	50	-5.95	-0.008410		
64QAM					
3.91	-30	-4.69	-0.006629	Within authorized band for Band 12	Pass
	-20	-3.18	-0.004495		
	-10	-3.73	-0.005272		
	0	-2.37	-0.003350		
	10	-2.92	-0.004127		
	20	-1.66	-0.002346		
	30	-3.65	-0.005159		
	40	-3.06	-0.004325		
	50	-3.19	-0.004509		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	1.22	0.001724	Within authorized band for Band 12	Pass
	3.91	-3.75	-0.005300		
	4.50	-4.23	-0.005979		
16QAM					
25	3.45	-4.72	-0.006671	Within authorized band for Band 12	Pass
	3.91	-5.25	-0.007420		
	4.50	-7.78	-0.010996		
64QAM					
25	3.45	-4.73	-0.006686	Within authorized band for Band 12	Pass
	3.91	-3.65	-0.005159		
	4.50	-4.36	-0.006163		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 17 part:

Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 Frequency=710.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	-5.99	-0.008437	Within authorized band for Band 17	Pass
	-20	-4.85	-0.006831		
	-10	-5.41	-0.007620		
	0	3.09	0.004352		
	10	-7.55	-0.010634		
	20	-5.54	-0.007803		
	30	-4.94	-0.006958		
	40	-8.00	-0.011268		
	50	2.27	0.003197		
16QAM					
3.91	-30	-3.68	-0.005183	Within authorized band for Band 17	Pass
	-20	-4.03	-0.005676		
	-10	-4.92	-0.006930		
	0	-2.06	-0.002901		
	10	-4.96	-0.006986		
	20	-2.47	-0.003479		
	30	-5.32	-0.007493		
	40	-1.96	-0.002761		
	50	-7.32	-0.010310		
64QAM					
3.91	-30	-3.50	-0.004930	Within authorized band for Band 17	Pass
	-20	-6.54	-0.009211		
	-10	-2.75	-0.003873		
	0	-3.52	-0.004958		
	10	1.00	0.001408		
	20	-4.81	-0.006775		
	30	-6.69	-0.009423		
	40	-6.02	-0.008479		
	50	-6.17	-0.008690		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-6.17	-0.008690	Within authorized band for Band 17	Pass
	3.91	-7.38	-0.010394		
	4.50	-5.45	-0.007676		
16QAM					
25	3.45	-3.79	-0.005338	Within authorized band for Band 17	Pass
	3.91	2.80	0.003944		
	4.50	-3.65	-0.005141		
64QAM					
25	3.45	-6.85	-0.009648	Within authorized band for Band 17	Pass
	3.91	-4.68	-0.006592		
	4.50	3.13	0.004408		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 41 part:

Reference Frequency: LTE Band 41 (10MHz) Middle channel=40640 Frequency=2595.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	-3.78	-0.001457	Within authorized band for Band 41	Pass
	-20	-9.81	-0.003780		
	-10	-7.37	-0.002840		
	0	-3.10	-0.001195		
	10	-5.48	-0.002112		
	20	-10.10	-0.003892		
	30	-7.12	-0.002744		
	40	-8.60	-0.003314		
	50	-6.84	-0.002636		
16QAM					
3.91	-30	-3.98	-0.001534	Within authorized band for Band 41	Pass
	-20	-4.65	-0.001792		
	-10	-4.58	-0.001765		
	0	-7.22	-0.002782		
	10	-5.91	-0.002277		
	20	-9.77	-0.003765		
	30	-10.71	-0.004127		
	40	4.06	0.001565		
	50	5.01	0.001931		
64QAM					
3.91	-30	-6.67	-0.002570	Within authorized band for Band 41	Pass
	-20	-11.60	-0.004470		
	-10	-3.32	-0.001279		
	0	-6.32	-0.002435		
	10	-3.75	-0.001445		
	20	-4.86	-0.001873		
	30	-6.79	-0.002617		
	40	6.28	0.002420		
	50	-6.02	-0.002320		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-7.27	-0.002802	Within authorized band for Band 41	Pass
	3.91	-7.95	-0.003064		
	4.50	3.55	0.001368		
16QAM					
25	3.45	-5.88	-0.002266	Within authorized band for Band41	Pass
	3.91	7.91	0.003048		
	4.50	-5.79	-0.002231		
64QAM					
25	3.45	4.95	0.001908	Within authorized band for Band41	Pass
	3.91	-3.69	-0.001422		
	4.50	-3.76	-0.001449		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 66 part:

Reference Frequency: LTE Band 66 (10MHz) Middle channel=132322 Frequency=1745.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	-4.39	-0.002516	Within authorized band for Band 66	Pass
	-20	7.51	0.004304		
	-10	4.26	0.002441		
	0	4.49	0.002573		
	10	-6.37	-0.003650		
	20	-2.22	-0.001272		
	30	4.19	0.002401		
	40	-6.39	-0.003662		
	50	-3.68	-0.002109		
16QAM					
3.91	-30	-2.56	-0.001467	Within authorized band for Band 66	Pass
	-20	-3.33	-0.001908		
	-10	2.60	0.001490		
	0	2.22	0.001272		
	10	-6.68	-0.003828		
	20	3.45	0.001977		
	30	-7.42	-0.004252		
	40	3.73	0.002138		
	50	5.52	0.003163		
64QAM					
3.91	-30	-8.57	-0.004911	Within authorized band for Band 66	Pass
	-20	5.52	0.003163		
	-10	-2.00	-0.001146		
	0	-6.58	-0.003771		
	10	1.17	0.000670		
	20	2.68	0.001536		
	30	-3.95	-0.002264		
	40	-4.01	-0.002298		
	50	-4.22	-0.002418		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-3.45	-0.001977	Within authorized band for Band 66	Pass
	3.91	4.12	0.002361		
	4.50	7.37	0.004223		
16QAM					
25	3.45	-5.89	-0.003375	Within authorized band for Band 66	Pass
	3.91	-2.50	-0.001433		
	4.50	-3.32	-0.001903		
64QAM					
25	3.45	-1.57	-0.000900	Within authorized band for Band 66	Pass
	3.91	5.64	0.003232		
	4.50	-6.79	-0.003891		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band2	20MHz	64QAM	18900	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band5	10MHz	64QAM	20525	50RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band7	20MHz	64QAM	21100	100RB#0	PASS	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS
Band12	10MHz	64QAM	23095	50RB#0	PASS	PASS
Band17	10MHz	QPSK	23790	50RB#0	PASS	PASS
Band17	10MHz	16QAM	23790	50RB#0	PASS	PASS
Band17	10MHz	64QAM	23790	50RB#0	PASS	PASS
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	100RB#0	PASS	PASS
Band41	20MHz	64QAM	40640	100RB#0	PASS	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS	PASS
Band66	20MHz	16QAM	132322	100RB#0	PASS	PASS
Band66	20MHz	64QAM	132322	100RB#0	PASS	PASS

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

Test Graphs







