



Range1:30~1000MHz	Range2:1000~27000MHz
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## 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					
3.70	-30	5.64	0.003000	Within authorized band for Band 2	Pass
	-20	-13.10	-0.006968		
	-10	7.41	0.003941		
	0	-19.30	-0.010266		
	10	-13.78	-0.007330		
	20	-11.93	-0.006346		
	30	-14.39	-0.007654		
	40	-15.18	-0.008074		
	50	-13.10	-0.006968		
16QAM					
3.70	-30	-8.50	-0.004521	Within authorized band for Band 2	Pass
	-20	-15.02	-0.007989		
	-10	-10.21	-0.005431		
	0	7.45	0.003963		
	10	-17.24	-0.009170		
	20	-8.64	-0.004596		
	30	-18.04	-0.009596		
	40	9.10	0.004840		
	50	-10.37	-0.005516		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-22.60	-0.012021	Within authorized band for Band 2	Pass
	3.70	5.42	0.002883		
	4.20	-13.93	-0.007410		
16QAM					
25	3.50	-13.58	-0.007223	Within authorized band for Band 2	Pass
	3.70	6.59	0.003505		
	4.20	-11.64	-0.006191		

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					
3.70	-30	-6.78	-0.003913	Within authorized band for Band 4	Pass
	-20	-8.98	-0.005183		
	-10	-9.90	-0.005714		
	0	-11.72	-0.006765		
	10	-9.51	-0.005489		
	20	-5.99	-0.003457		
	30	-8.97	-0.005177		
	40	-4.73	-0.002730		
	50	-7.08	-0.004087		
16QAM					
3.70	-30	-8.84	-0.005102	Within authorized band for Band 4	Pass
	-20	-5.42	-0.003128		
	-10	-6.97	-0.004023		
	0	-7.58	-0.004375		
	10	-9.94	-0.005737		
	20	-7.44	-0.004294		
	30	-6.64	-0.003833		
	40	-12.63	-0.007290		
	50	-7.71	-0.004450		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-6.72	-0.003879	Within authorized band for Band 4	Pass
	3.70	-9.26	-0.005345		
	4.20	-10.51	-0.006066		
16QAM					
25	3.50	-8.83	-0.005097	Within authorized band for Band 4	Pass
	3.70	-6.47	-0.003734		
	4.20	-7.62	-0.004398		

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this 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	-5.05	-0.001992	Within authorized band for Band 7	Pass
	-20	3.98	0.001570		
	-10	4.12	0.001625		
	0	-7.25	-0.002860		
	10	-5.87	-0.002316		
	20	-6.32	-0.002493		
	30	1.73	0.000682		
	40	-4.01	-0.001582		
	50	-5.36	-0.002114		
16QAM					
3.70	-30	-6.24	-0.002462	Within authorized band for Band 7	Pass
	-20	-6.35	-0.002505		
	-10	-7.75	-0.003057		
	0	-10.99	-0.004335		
	10	-6.91	-0.002726		
	20	-8.50	-0.003353		
	30	-6.81	-0.002686		
	40	-10.87	-0.004288		
	50	-8.70	-0.003432		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	4.96	0.001957	Within authorized band for Band 7	Pass
	3.70	3.45	0.001361		
	4.20	-1.59	-0.000627		
16QAM					
25	3.50	-7.94	-0.003132	Within authorized band for Band 7	Pass
	3.70	-7.42	-0.002927		
	4.20	-9.27	-0.003657		

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
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	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

