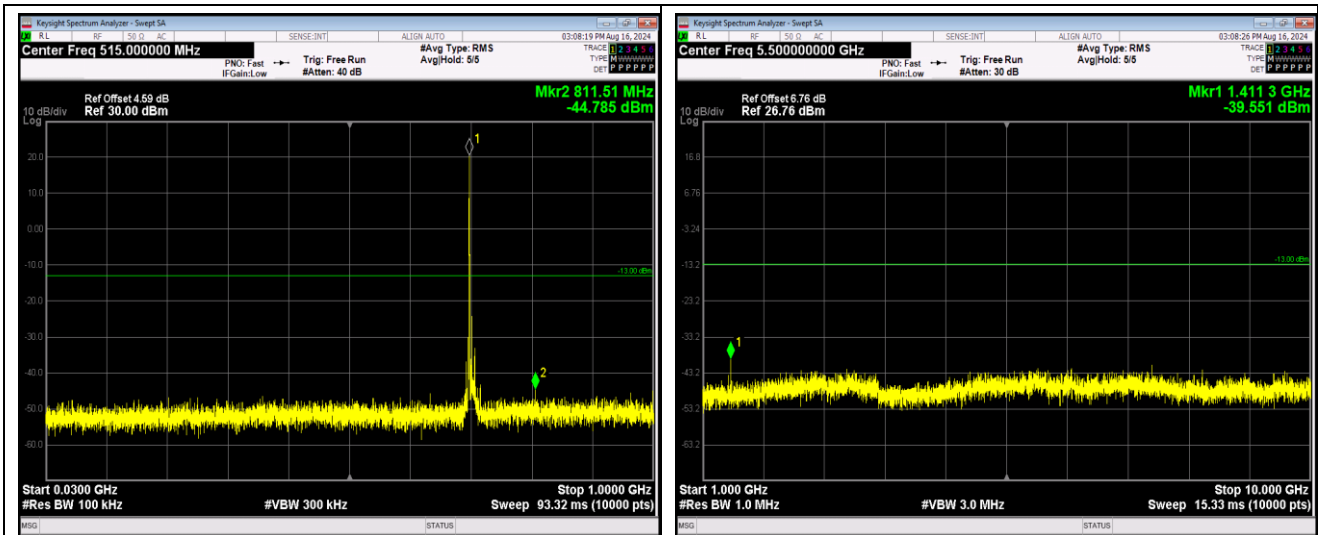
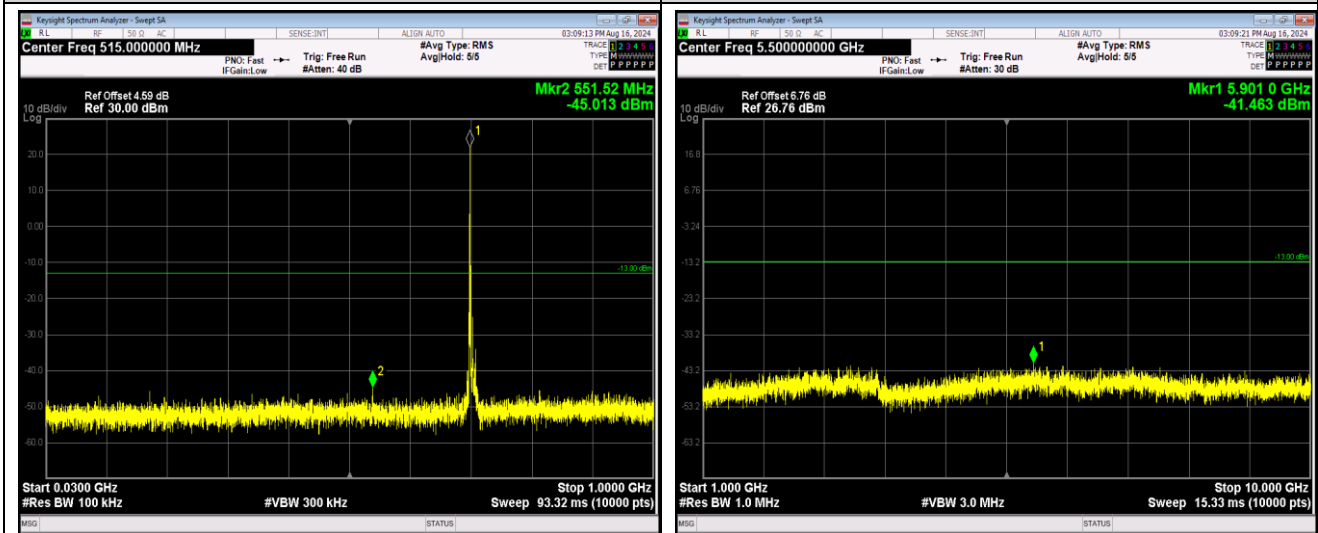




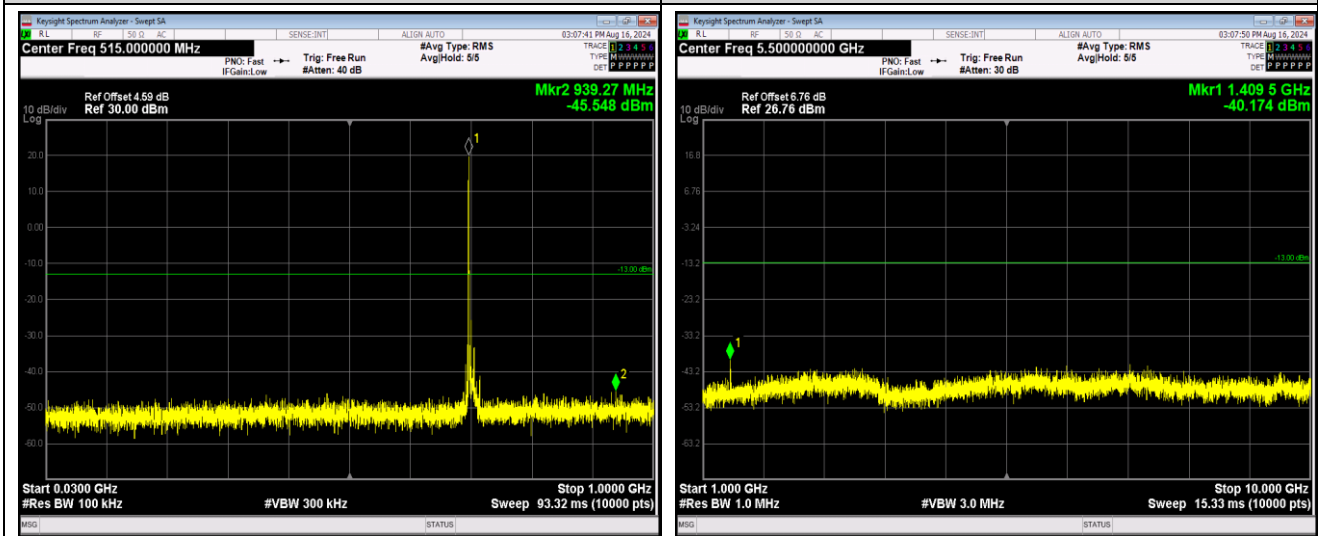
Band17-10MHz-QPSK-23800-1RB#0-Range1:30~1000MHz

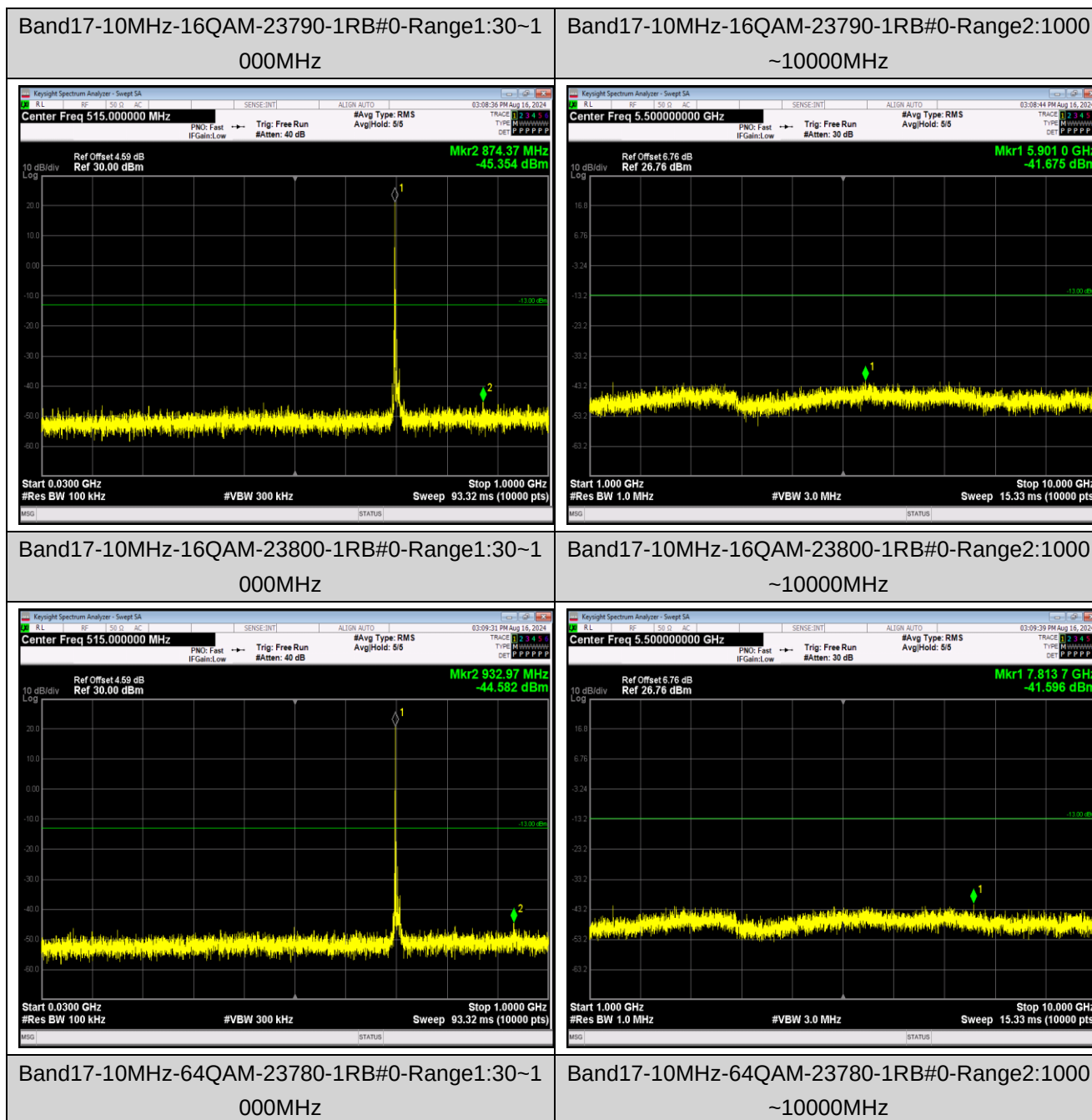
Band17-10MHz-QPSK-23800-1RB#0-Range2:1000~10000MHz

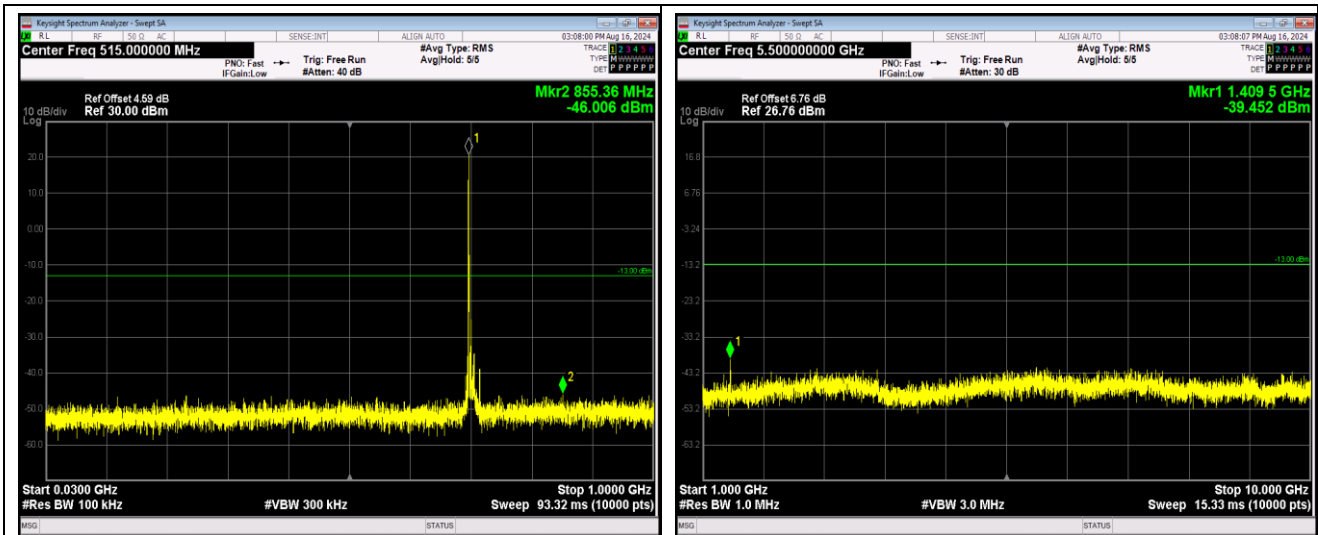


Band17-10MHz-16QAM-23780-1RB#0-Range1:30~1000MHz

Band17-10MHz-16QAM-23780-1RB#0-Range2:1000~10000MHz

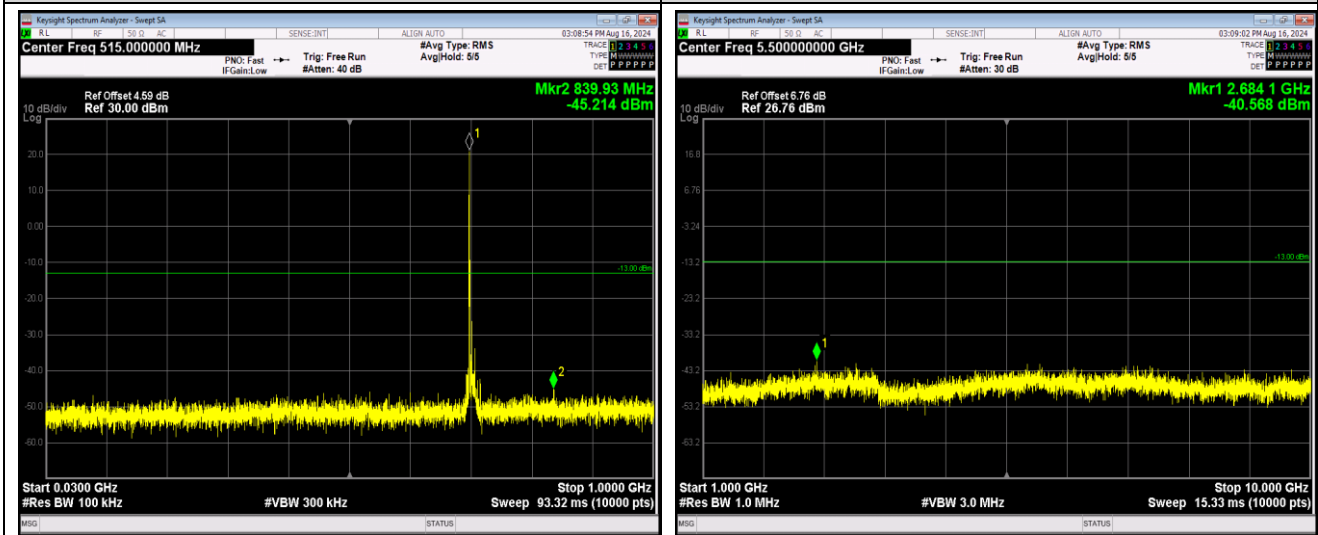






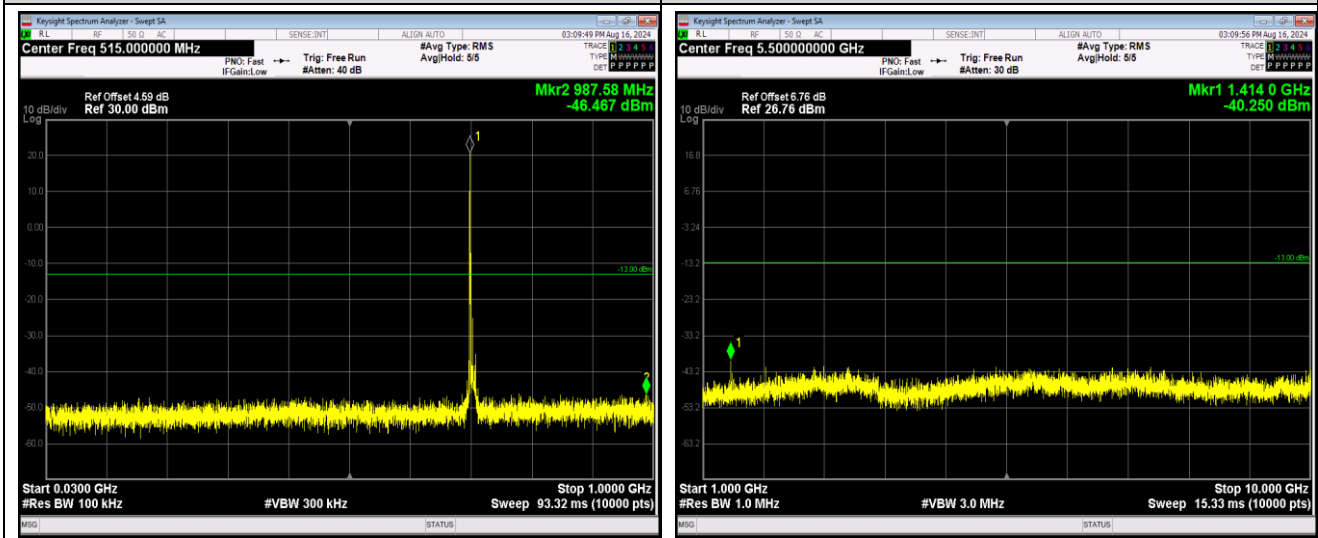
Band17-10MHz-64QAM-23790-1RB#0-Range1:30~1000MHz

Band17-10MHz-64QAM-23790-1RB#0-Range2:1000~10000MHz



Band17-10MHz-64QAM-23800-1RB#0-Range1:30~1000MHz

Band17-10MHz-64QAM-23800-1RB#0-Range2:1000~10000MHz



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	-10.99	-0.005846	Within authorized band for Band 2	Pass
	-20	-5.74	-0.003053		
	-10	-17.05	-0.009069		
	0	-14.15	-0.007527		
	10	-14.39	-0.007654		
	20	-9.53	-0.005069		
	30	-12.03	-0.006399		
	40	-9.40	-0.005000		
	50	-16.18	-0.008606		
16QAM					
3.70	-30	-14.89	-0.007920	Within authorized band for Band 2	Pass
	-20	-11.62	-0.006181		
	-10	-8.50	-0.004521		
	0	-8.90	-0.004734		
	10	-9.41	-0.005005		
	20	-9.66	-0.005138		
	30	-6.69	-0.003559		
	40	-9.54	-0.005074		
	50	-9.61	-0.005112		
64QAM					
3.70	-30	-10.11	-0.005378	Within authorized band for Band 2	Pass
	-20	-11.06	-0.005883		
	-10	-10.09	-0.005367		
	0	-11.34	-0.006032		
	10	-17.42	-0.009266		
	20	-8.83	-0.004697		
	30	-8.53	-0.004537		
	40	-11.04	-0.005872		
	50	-11.42	-0.006074		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-10.00	-0.005319	Within authorized band for Band 2	Pass
	3.70	-10.20	-0.005426		
	4.25	-13.35	-0.007101		
16QAM					
25	3.50	-6.34	-0.003372	Within authorized band for Band 2	Pass
	3.70	-15.59	-0.008293		
	4.25	-12.87	-0.006846		
64QAM					
25	3.50	-14.73	-0.007835	Within authorized band for Band 2	Pass
	3.70	-13.76	-0.007319		
	4.25	-10.30	-0.005479		
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	-3.88	-0.002240	Within authorized band for Band 4	Pass
	-20	-8.96	-0.005172		
	-10	-2.00	-0.001154		
	0	-11.59	-0.006690		
	10	-13.95	-0.008052		
	20	-5.87	-0.003388		
	30	-4.02	-0.002320		
	40	2.12	0.001224		
	50	-6.58	-0.003798		
16QAM					
3.70	-30	-13.03	-0.007521	Within authorized band for Band 4	Pass
	-20	-5.76	-0.003325		
	-10	-7.51	-0.004335		
	0	-8.45	-0.004877		
	10	-9.31	-0.005374		
	20	-10.83	-0.006251		
	30	-6.79	-0.003919		
	40	-8.28	-0.004779		
	50	-5.02	-0.002898		
64QAM					
3.70	-30	-9.44	-0.005449	Within authorized band for Band 4	Pass
	-20	-7.01	-0.004046		
	-10	-6.15	-0.003550		
	0	-9.56	-0.005518		
	10	-8.48	-0.004895		
	20	-6.84	-0.003948		
	30	-8.38	-0.004837		
	40	-10.29	-0.005939		
	50	-11.82	-0.006823		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-6.38	-0.003683	Within authorized band for Band 4	Pass
	3.70	-10.06	-0.005807		
	4.25	-8.07	-0.004658		
16QAM					
25	3.50	-6.28	-0.003625	Within authorized band for Band 4	Pass
	3.70	-5.38	-0.003105		
	4.25	-8.21	-0.004739		
64QAM					
25	3.50	-7.98	-0.004606	Within authorized band for Band 4	Pass
	3.70	-5.19	-0.002996		
	4.25	-7.87	-0.004543		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this 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	-4.98	-0.005953	±2.5	Pass
	-20	-4.63	-0.005535		
	-10	-5.84	-0.006981		
	0	-5.78	-0.006910		
	10	-5.29	-0.006324		
	20	-2.40	-0.002869		
	30	-5.65	-0.006754		
	40	-7.02	-0.008392		
	50	-10.39	-0.012421		
16QAM					
3.70	-30	-4.02	-0.004806	±2.5	Pass
	-20	-4.96	-0.005929		
	-10	-9.97	-0.011919		
	0	-6.71	-0.008022		
	10	-4.02	-0.004806		
	20	-4.51	-0.005392		
	30	-7.20	-0.008607		
	40	-7.27	-0.008691		
	50	-6.19	-0.007400		
64QAM					
3.70	-30	-5.21	-0.006228	±2.5	Pass
	-20	-7.75	-0.009265		
	-10	-5.01	-0.005989		
	0	-4.13	-0.004937		
	10	-2.40	-0.002869		
	20	-5.82	-0.006958		
	30	-7.22	-0.008631		
	40	-5.25	-0.006276		
	50	-4.22	-0.005045		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-8.00	-0.009564	±2.5	Pass
	3.70	-5.34	-0.006384		
	4.25	-5.97	-0.007137		
16QAM					
25	3.50	-5.72	-0.006838	±2.5	Pass
	3.70	-5.42	-0.006479		
	4.25	-5.12	-0.006121		
64QAM					
25	3.50	-2.92	-0.003491	±2.5	Pass
	3.70	-3.95	-0.004722		
	4.25	3.09	0.003694		
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	4.95	0.001953	Within authorized band for Band 7	Pass
	-20	-6.28	-0.002477		
	-10	-7.31	-0.002884		
	0	-4.49	-0.001771		
	10	-12.00	-0.004734		
	20	-2.30	-0.000907		
	30	-3.99	-0.001574		
	40	-7.07	-0.002789		
	50	-7.11	-0.002805		
16QAM					
3.70	-30	-14.23	-0.005613	Within authorized band for Band 7	Pass
	-20	-11.22	-0.004426		
	-10	-7.80	-0.003077		
	0	-10.44	-0.004118		
	10	-8.71	-0.003436		
	20	-11.39	-0.004493		
	30	5.95	0.002347		
	40	-4.51	-0.001779		
	50	-6.62	-0.002611		
64QAM					
3.70	-30	-5.87	-0.002316	Within authorized band for Band 7	Pass
	-20	-6.14	-0.002422		
	-10	-8.07	-0.003183		
	0	-7.90	-0.003116		
	10	-10.67	-0.004209		
	20	-5.98	-0.002359		
	30	-2.72	-0.001073		
	40	-3.26	-0.001286		
	50	-7.24	-0.002856		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-4.38	-0.001728	Within authorized band for Band 7	Pass
	3.70	-6.64	-0.002619		
	4.25	-10.20	-0.004024		
16QAM					
25	3.50	-8.05	-0.003176	Within authorized band for Band 7	Pass
	3.70	-8.90	-0.003511		
	4.25	-11.94	-0.004710		
64QAM					
25	3.50	-5.54	-0.002185	Within authorized band for Band 7	Pass
	3.70	-6.42	-0.002533		
	4.25	-5.12	-0.002020		
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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	-11.33	-0.015958	Within authorized band for Band 17	Pass
	-20	-5.15	-0.007254		
	-10	-4.75	-0.006690		
	0	-2.30	-0.003239		
	10	-5.09	-0.007169		
	20	-8.51	-0.011986		
	30	-8.80	-0.012394		
	40	-8.90	-0.012535		
	50	-12.16	-0.017127		
16QAM					
3.70	-30	-9.87	-0.013901	Within authorized band for Band 17	Pass
	-20	-6.32	-0.008901		
	-10	-4.86	-0.006845		
	0	-6.09	-0.008577		
	10	-8.21	-0.011563		
	20	-4.88	-0.006873		
	30	-11.46	-0.016141		
	40	-12.16	-0.017127		
	50	-11.01	-0.015507		
64QAM					
3.70	-30	-4.49	-0.006324	Within authorized band for Band 17	Pass
	-20	-3.85	-0.005423		
	-10	-2.23	-0.003141		
	0	-6.18	-0.008704		
	10	-5.21	-0.007338		
	20	-7.45	-0.010493		
	30	2.56	0.003606		
	40	-12.86	-0.018113		
	50	-5.38	-0.007577		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-9.51	-0.013394	Within authorized band for Band 17	Pass
	3.70	-4.26	-0.006000		
	4.25	-7.04	-0.009915		
16QAM					
25	3.50	-8.44	-0.011887	Within authorized band for Band 17	Pass
	3.70	-9.60	-0.013521		
	4.25	-5.95	-0.008380		
64QAM					
25	3.50	-11.70	-0.016479	Within authorized band for Band 17	Pass
	3.70	-8.60	-0.012113		
	4.25	-7.48	-0.010535		
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
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band4	20MHz	64QAM	20175	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
Band17	10MHz	QPSK	23790	50RB#0	PASS	PASS
Band17	10MHz	16QAM	23790	50RB#0	PASS	PASS
Band17	10MHz	64QAM	23790	50RB#0	PASS	PASS

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

Test Graphs

