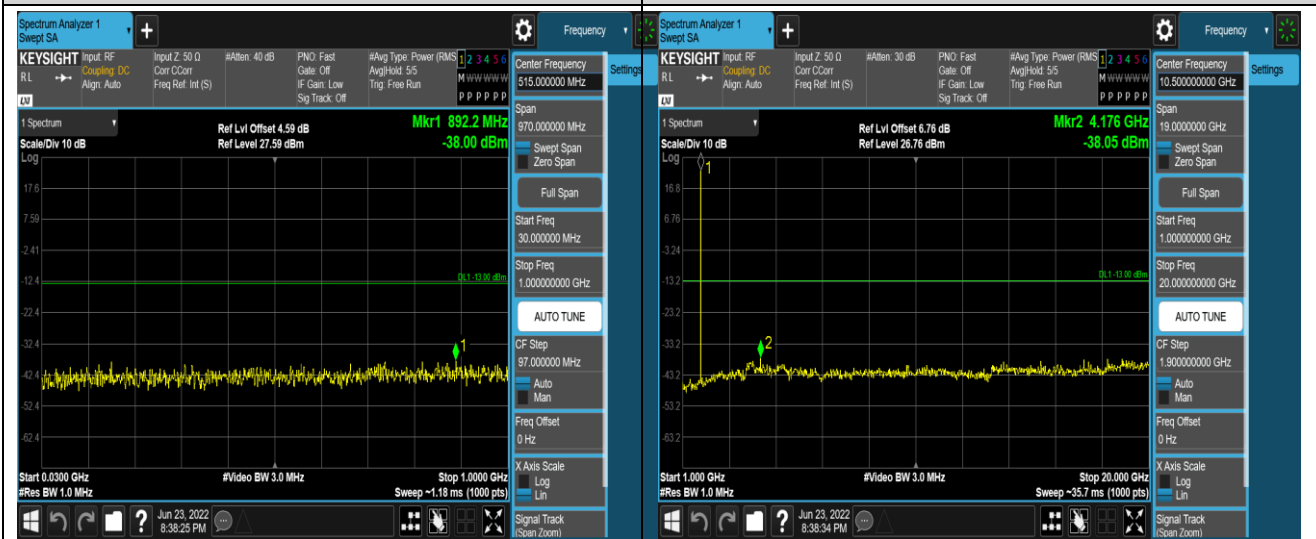


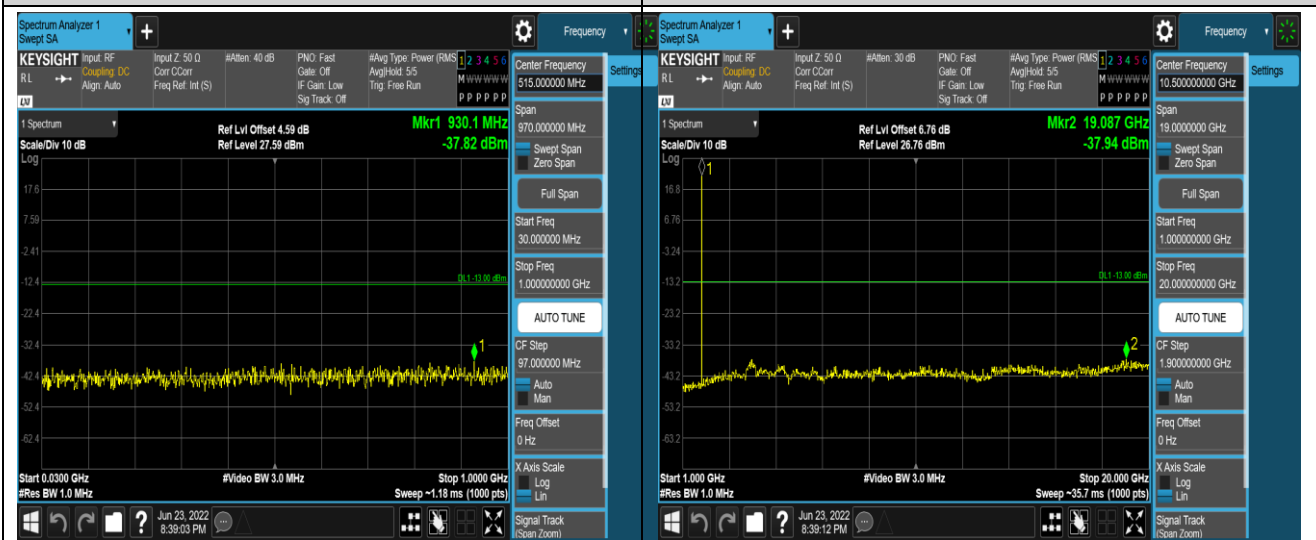
Band66-1.4MHz-QPSK-132322-1RB#0-Range1:30 ~1000MHz

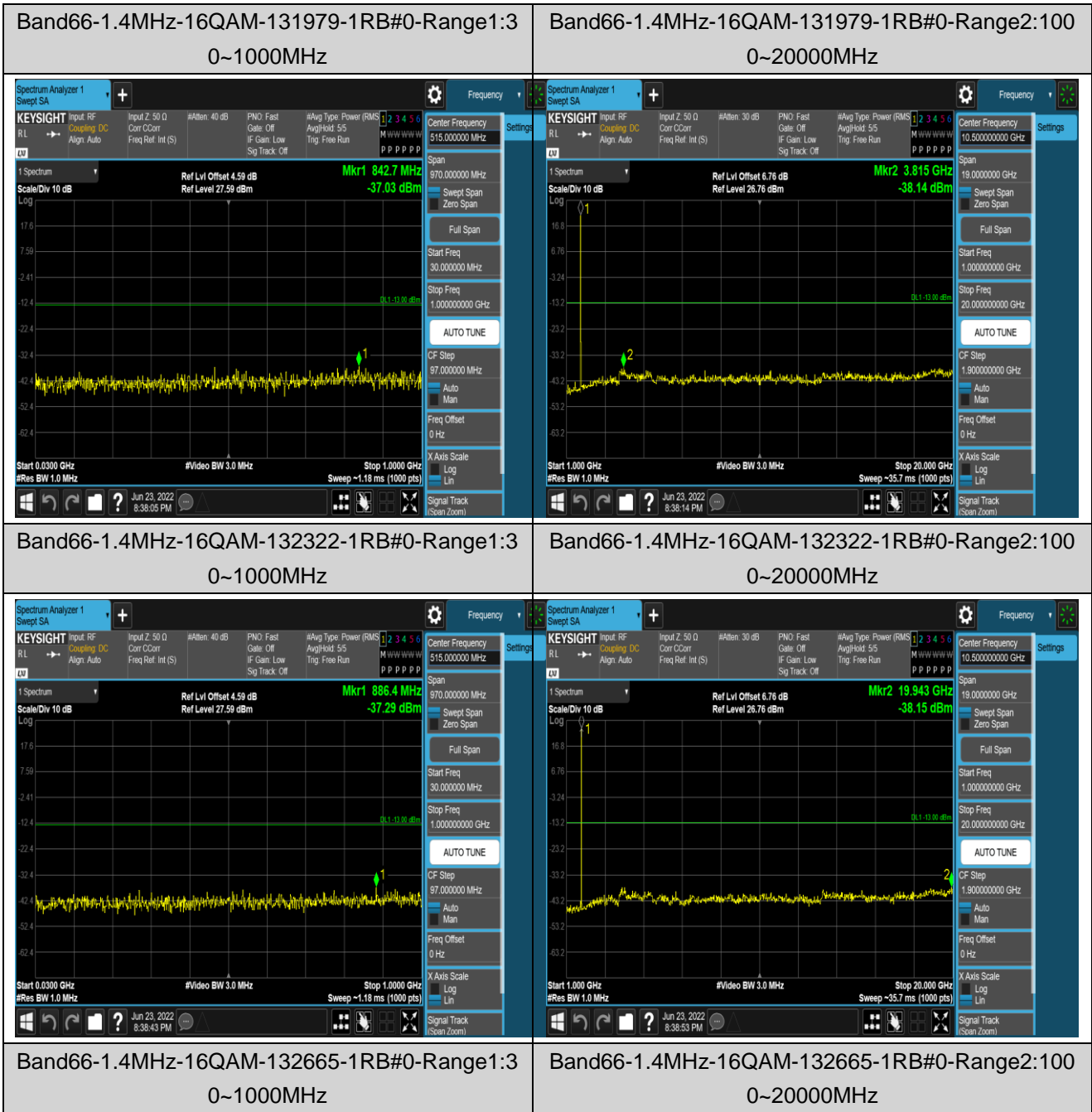
Band66-1.4MHz-QPSK-132322-1RB#0-Range2:1000 ~2000MHz



Band66-1.4MHz-QPSK-132665-1RB#0-Range1:30 ~1000MHz

Band66-1.4MHz-QPSK-132665-1RB#0-Range2:1000 ~2000MHz







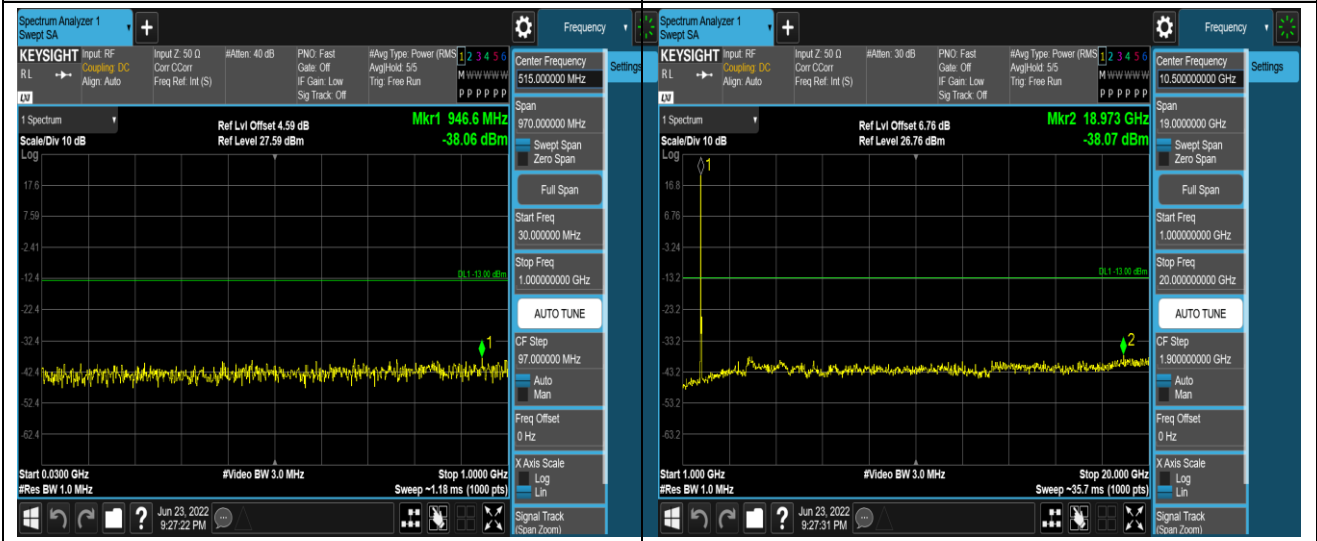
Band66-20MHz-QPSK-132072-1RB#0-Range1:30
~1000MHz

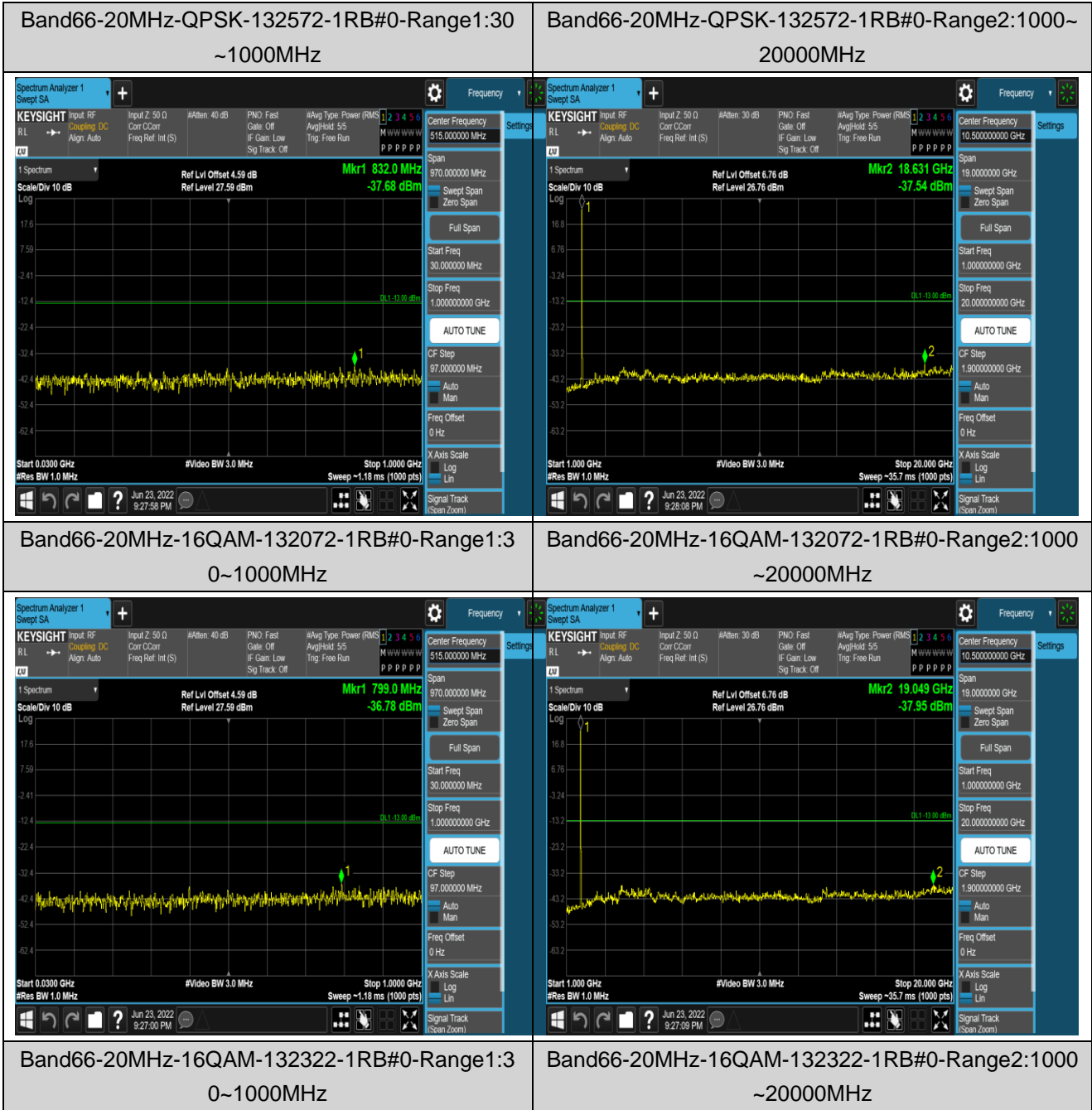
Band66-20MHz-QPSK-132072-1RB#0-Range2:1000~
20000MHz

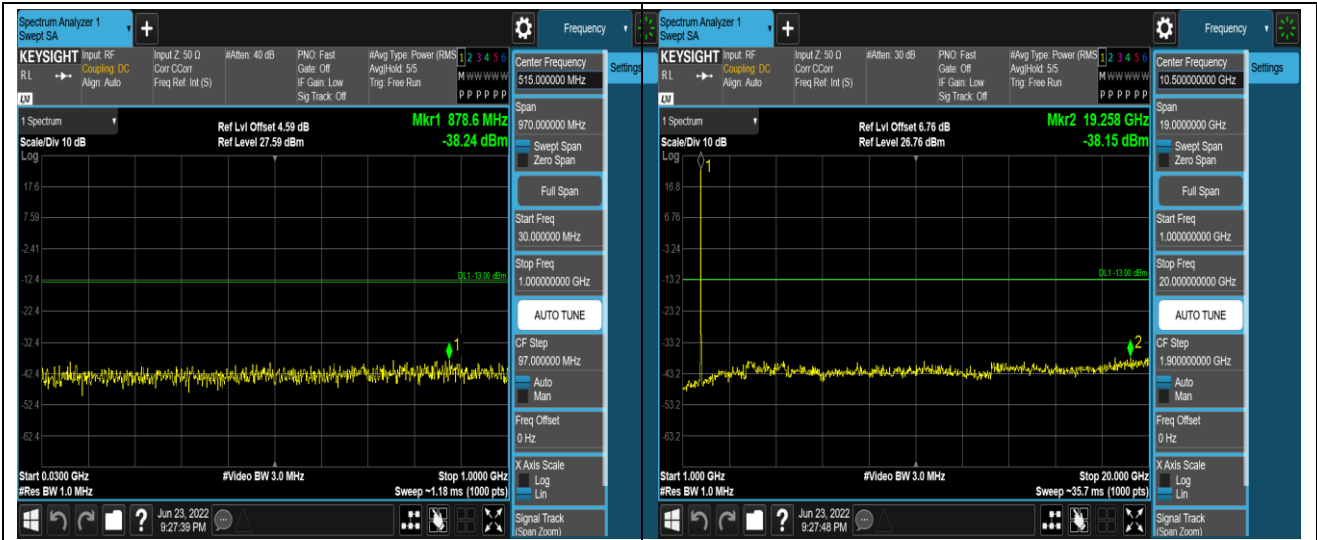


Band66-20MHz-QPSK-132322-1RB#0-Range1:30
~1000MHz

Band66-20MHz-QPSK-132322-1RB#0-Range2:1000~
20000MHz







Band66-20MHz-16QAM-132572-1RB#0-Range1:3
0~1000MHz

Band66-20MHz-16QAM-132572-1RB#0-Range2:1000
~20000MHz



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	-16.59	-0.008824	Within authorized band for Band 2	Pass
	-20	-18.85	-0.010027		
	-10	-16.45	-0.008750		
	0	7.47	0.003973		
	10	-24.18	-0.012862		
	20	-20.23	-0.010761		
	30	-13.05	-0.006941		
	40	-8.05	-0.004282		
	50	-23.78	-0.012649		
16QAM					
3.85	-30	-25.13	-0.013367	Within authorized band for Band 2	Pass
	-20	-21.04	-0.011191		
	-10	-14.91	-0.007931		
	0	-16.31	-0.008676		
	10	-14.82	-0.007883		
	20	-18.57	-0.009878		
	30	-15.98	-0.008500		
	40	-24.00	-0.012766		
	50	-24.30	-0.012926		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-26.95	-0.014335	Within authorized band for Band 2	Pass
	3.85	-20.06	-0.010670		
	4.40	-9.70	-0.005160		
16QAM					
25	3.50	-17.40	-0.009255	Within authorized band for Band 2	Pass
	3.85	-16.19	-0.008612		
	4.40	-19.40	-0.010319		

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					
3.85	-30	-13.98	-0.016712	±2.5	Pass
	-20	-10.59	-0.012660		
	-10	-5.49	-0.006563		
	0	-14.15	-0.016916		
	10	-14.53	-0.017370		
	20	-11.06	-0.013222		
	30	-8.73	-0.010436		
	40	-11.47	-0.013712		
	50	-10.73	-0.012827		
16QAM					
3.85	-30	-6.58	-0.007866	±2.5	Pass
	-20	-12.10	-0.014465		
	-10	-4.99	-0.005965		
	0	-13.18	-0.015756		
	10	-9.26	-0.011070		
	20	-4.73	-0.005655		
	30	-7.80	-0.009325		
	40	-11.70	-0.013987		
	50	-14.73	-0.017609		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-9.44	-0.011285	±2.5	Pass
	3.85	-14.63	-0.017490		
	4.40	-12.17	-0.014549		
16QAM					
25	3.50	-8.96	-0.010711	±2.5	Pass
	3.85	-4.19	-0.005009		
	4.40	-14.16	-0.016928		

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					
3.85	-30	14.35	0.005661	Within authorized band for Band 7	Pass
	-20	-20.07	-0.007917		
	-10	16.02	0.006320		
	0	-20.44	-0.008063		
	10	-20.94	-0.008260		
	20	-21.92	-0.008647		
	30	-33.62	-0.013262		
	40	16.42	0.006477		
	50	-19.31	-0.007617		
16QAM					
3.85	-30	-20.69	-0.008162	Within authorized band for Band 7	Pass
	-20	-13.18	-0.005199		
	-10	-13.10	-0.005168		
	0	15.75	0.006213		
	10	-16.55	-0.006529		
	20	14.53	0.005732		
	30	-19.01	-0.007499		
	40	-20.41	-0.008051		
	50	-20.73	-0.008178		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-9.37	-0.003696	Within authorized band for Band 7	Pass
	3.85	-14.68	-0.005791		
	4.40	-19.66	-0.007755		
16QAM					
25	3.50	16.31	0.006434	Within authorized band for Band 7	Pass
	3.85	-21.82	-0.008607		
	4.40	-10.77	-0.004249		

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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-2.27	-0.003208	Within authorized band for Band 12	Pass
	-20	-4.08	-0.005767		
	-10	-6.47	-0.009145		
	0	-4.94	-0.006982		
	10	-3.58	-0.005060		
	20	-10.61	-0.014996		
	30	-11.00	-0.015548		
	40	-12.45	-0.017597		
	50	-7.71	-0.010898		
16QAM					
3.85	-30	-8.81	-0.012452	Within authorized band for Band 12	Pass
	-20	-3.66	-0.005173		
	-10	-9.83	-0.013894		
	0	1.42	0.002007		
	10	-5.88	-0.008311		
	20	-5.81	-0.008212		
	30	-2.62	-0.003703		
	40	-6.74	-0.009527		
	50	-6.98	-0.009866		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.41	-0.010473	Within authorized band for Band 12	Pass
	3.85	-5.55	-0.007845		
	4.40	-10.20	-0.014417		
16QAM					
25	3.50	-11.10	-0.015689	Within authorized band for Band 12	Pass
	3.85	-3.26	-0.004608		
	4.40	-6.69	-0.009456		

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					
3.85	-30	-9.64	-0.013577	Within authorized band for Band 17	Pass
	-20	-9.78	-0.013775		
	-10	-6.90	-0.009718		
	0	-5.62	-0.007915		
	10	-9.13	-0.012859		
	20	-4.46	-0.006282		
	30	-9.23	-0.013000		
	40	-11.09	-0.015620		
	50	-13.59	-0.019141		
16QAM					
3.85	-30	-5.46	-0.007690	Within authorized band for Band 17	Pass
	-20	-8.78	-0.012366		
	-10	-8.91	-0.012549		
	0	-7.08	-0.009972		
	10	-6.27	-0.008831		
	20	-7.52	-0.010592		
	30	-10.63	-0.014972		
	40	-9.41	-0.013254		
	50	-5.18	-0.007296		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-8.70	-0.012254	Within authorized band for Band 17	Pass
	3.85	-10.57	-0.014887		
	4.40	-9.01	-0.012690		
16QAM					
25	3.50	-9.43	-0.013282	Within authorized band for Band 17	Pass
	3.85	-5.91	-0.008324		
	4.40	-4.98	-0.007014		

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					
3.85	-30	-3.98	-0.001534	Within authorized band for Band 41	Pass
	-20	-5.89	-0.002270		
	-10	-12.90	-0.004971		
	0	-13.55	-0.005222		
	10	-8.83	-0.003403		
	20	-9.66	-0.003723		
	30	-12.12	-0.004671		
	40	-6.65	-0.002563		
	50	-14.49	-0.005584		
16QAM					
3.85	-30	-15.31	-0.005900	Within authorized band for Band 41	Pass
	-20	-4.01	-0.001545		
	-10	-7.15	-0.002755		
	0	-12.02	-0.004632		
	10	-2.07	-0.000798		
	20	-5.94	-0.002289		
	30	-14.18	-0.005464		
	40	-13.29	-0.005121		
	50	-9.00	-0.003468		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.65	-0.002948	Within authorized band for Band 41	Pass
	3.85	-9.90	-0.003815		
	4.40	-15.54	-0.005988		
16QAM					
25	3.50	-9.28	-0.003576	Within authorized band for Band41	Pass
	3.85	-18.83	-0.007256		
	4.40	-2.73	-0.001052		

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					
3.85	-30	4.79	0.002745	Within authorized band for Band 66	Pass
	-20	-7.27	-0.004166		
	-10	-10.63	-0.006092		
	0	-6.85	-0.003926		
	10	-13.13	-0.007524		
	20	-7.52	-0.004309		
	30	-7.00	-0.004011		
	40	-10.64	-0.006097		
	50	-5.04	-0.002888		
16QAM					
3.85	-30	-8.88	-0.005089	Within authorized band for Band 66	Pass
	-20	-16.51	-0.009461		
	-10	-5.12	-0.002934		
	0	-12.35	-0.007077		
	10	-10.69	-0.006126		
	20	-14.46	-0.008287		
	30	-4.11	-0.002355		
	40	-9.07	-0.005198		
	50	-8.91	-0.005106		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.38	-0.004229	Within authorized band for Band 66	Pass
	3.85	-10.80	-0.006189		
	4.40	2.33	0.001335		
16QAM					
25	3.50	-10.04	-0.005754	Within authorized band for Band 66	Pass
	3.85	4.85	0.002779		
	4.40	-8.64	-0.004951		

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
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS
Band17	10MHz	QPSK	23790	50RB#0	PASS	PASS
Band17	10MHz	16QAM	23790	50RB#0	PASS	PASS
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	100RB#0	PASS	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS	PASS
Band66	20MHz	16QAM	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

