

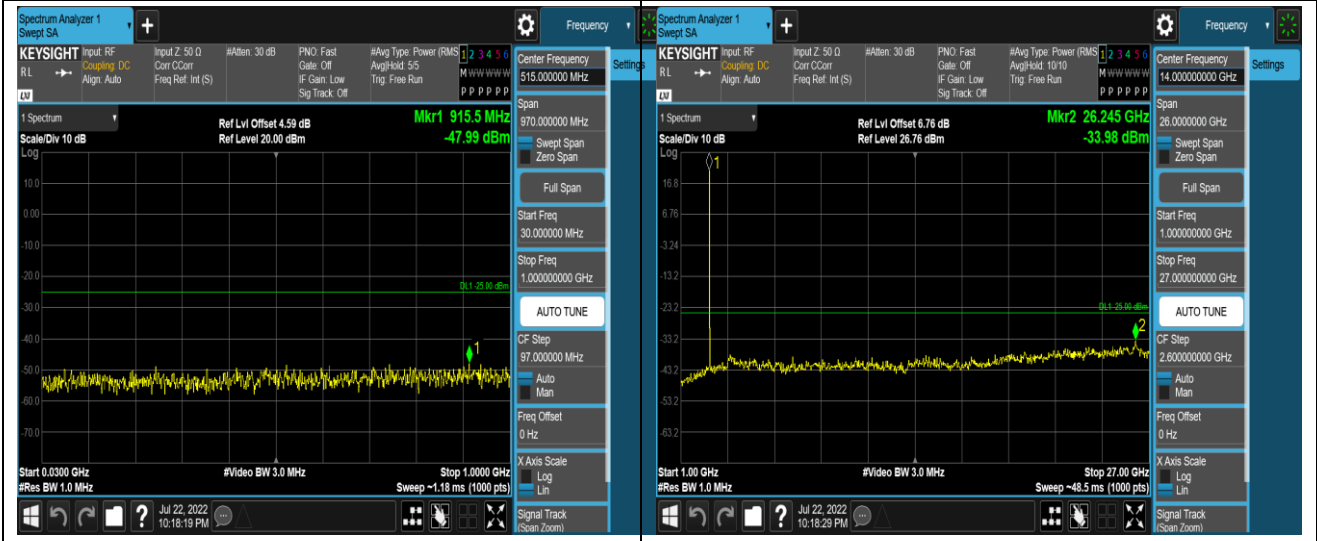
Band41-5MHz-QPSK-40065-1RB#0-Range1:30~1000MHz

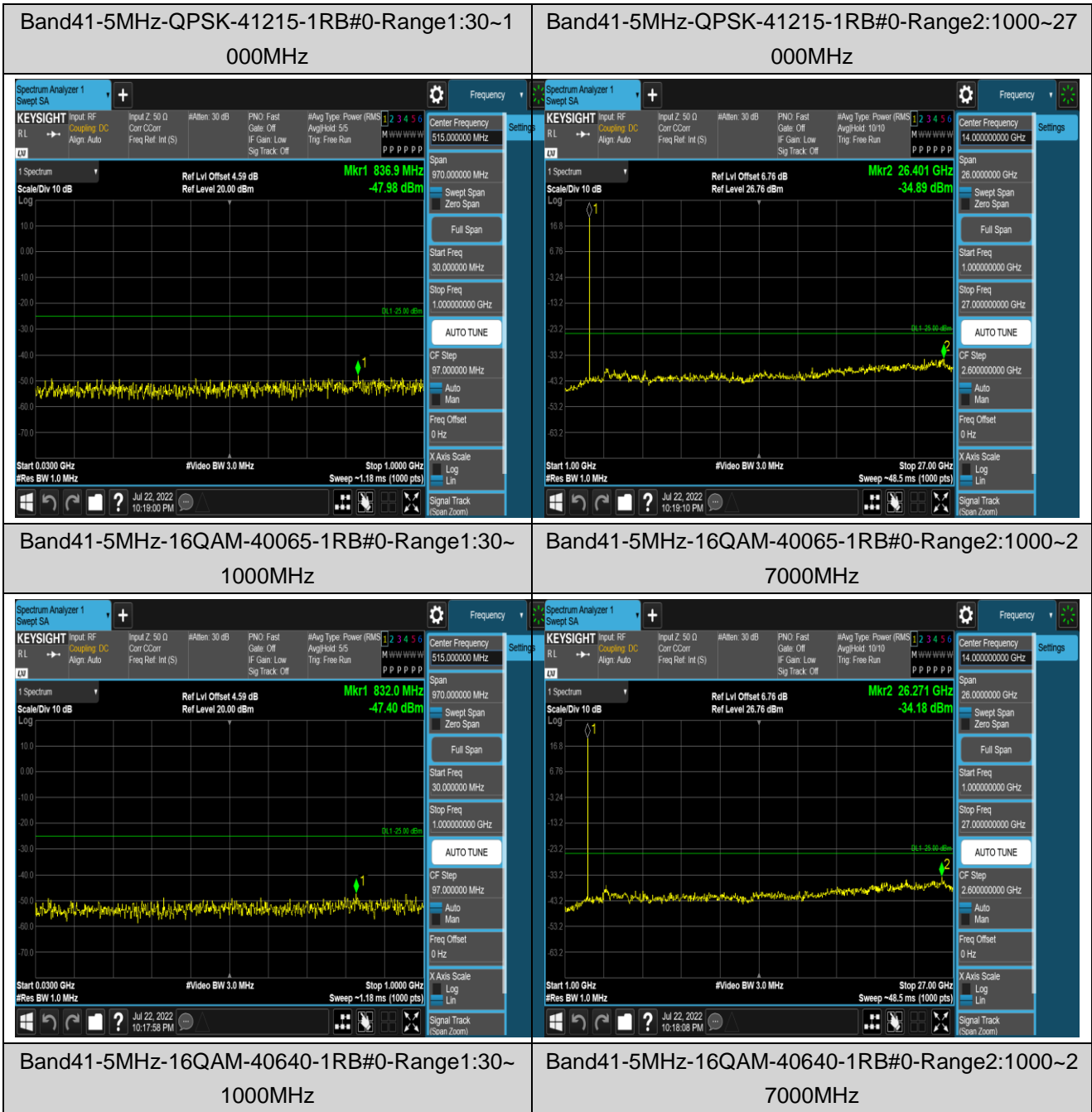
Band41-5MHz-QPSK-40065-1RB#0-Range2:1000~27000MHz

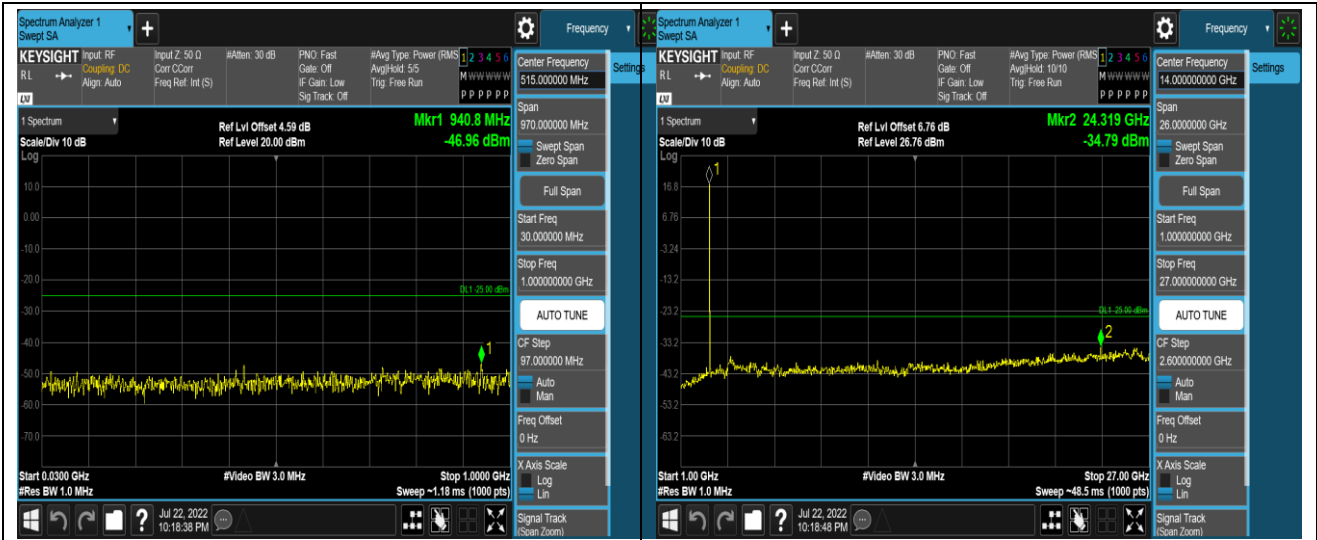


Band41-5MHz-QPSK-40640-1RB#0-Range1:30~1000MHz

Band41-5MHz-QPSK-40640-1RB#0-Range2:1000~27000MHz







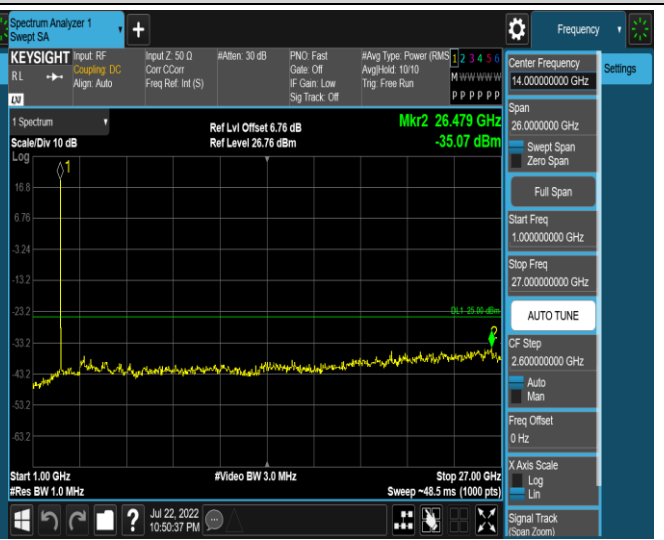
Band41-5MHz-16QAM-41215-1RB#0-Range1:30~1000MHz

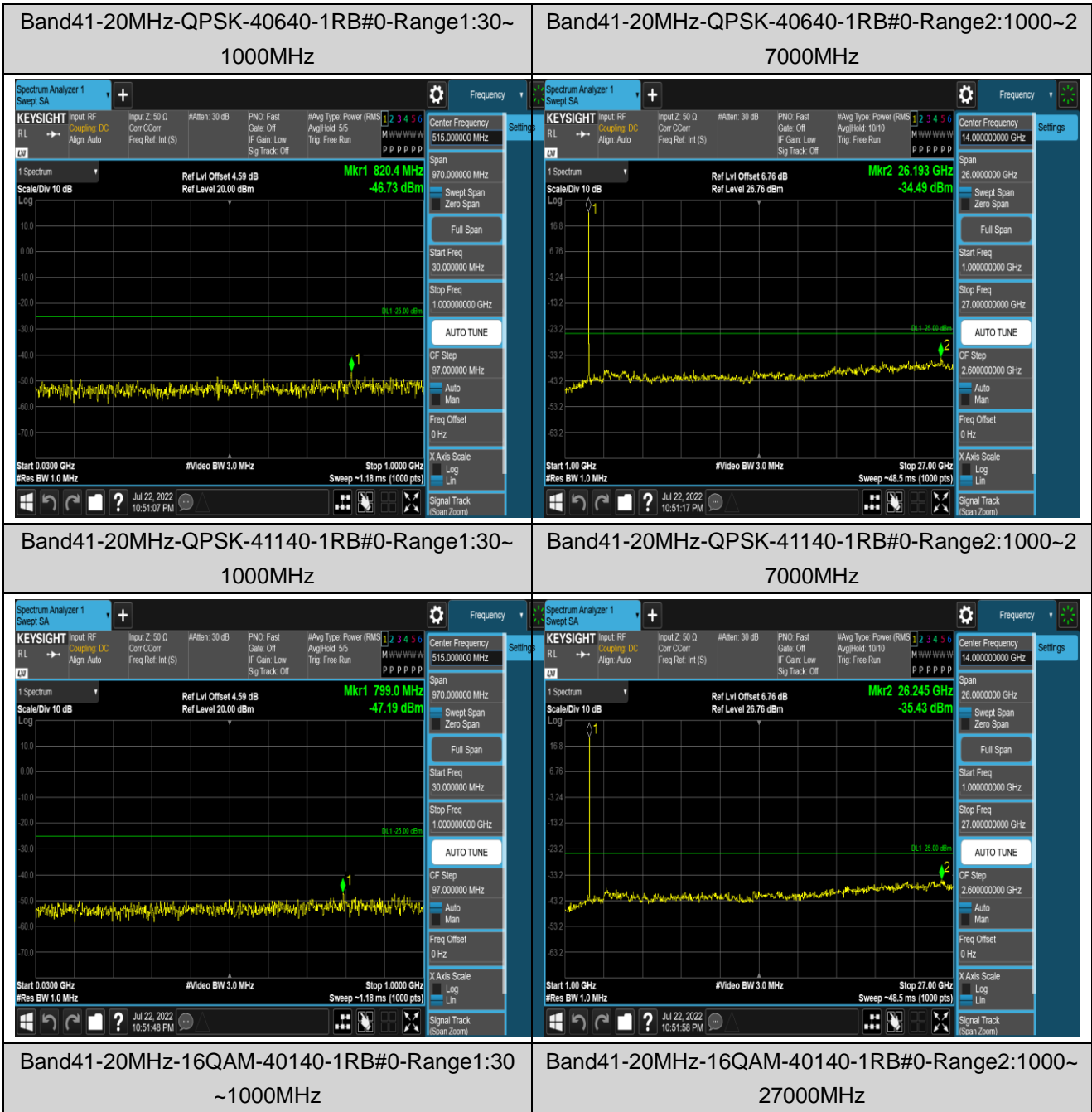
Band41-5MHz-16QAM-41215-1RB#0-Range2:1000~27000MHz



Band41-20MHz-QPSK-40140-1RB#0-Range1:30~1000MHz

Band41-20MHz-QPSK-40140-1RB#0-Range2:1000~27000MHz

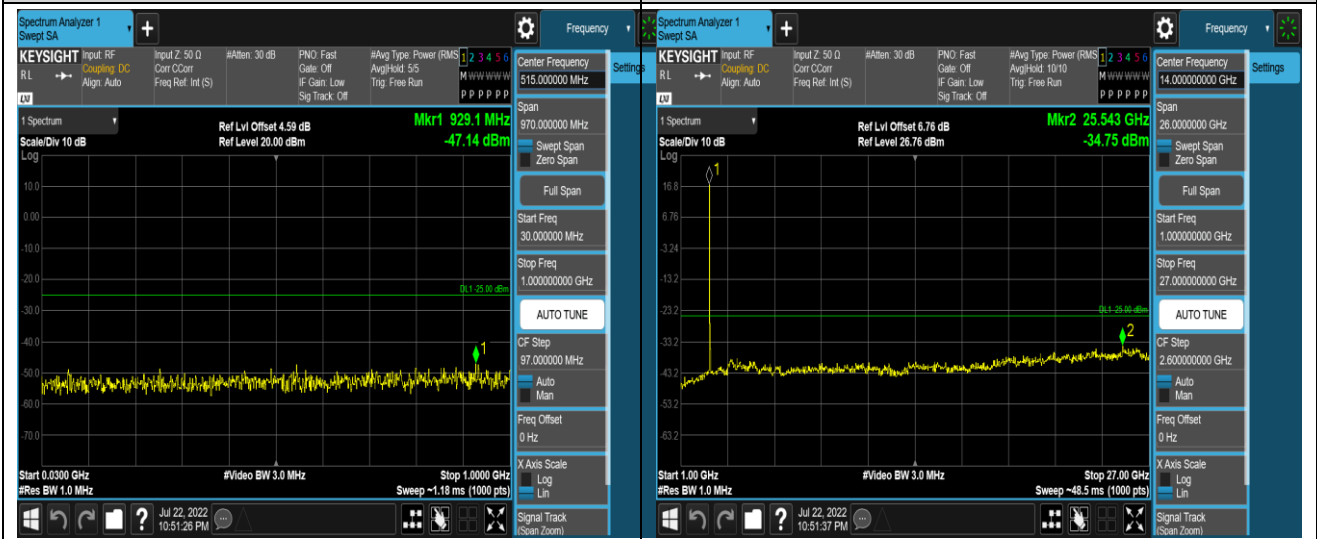






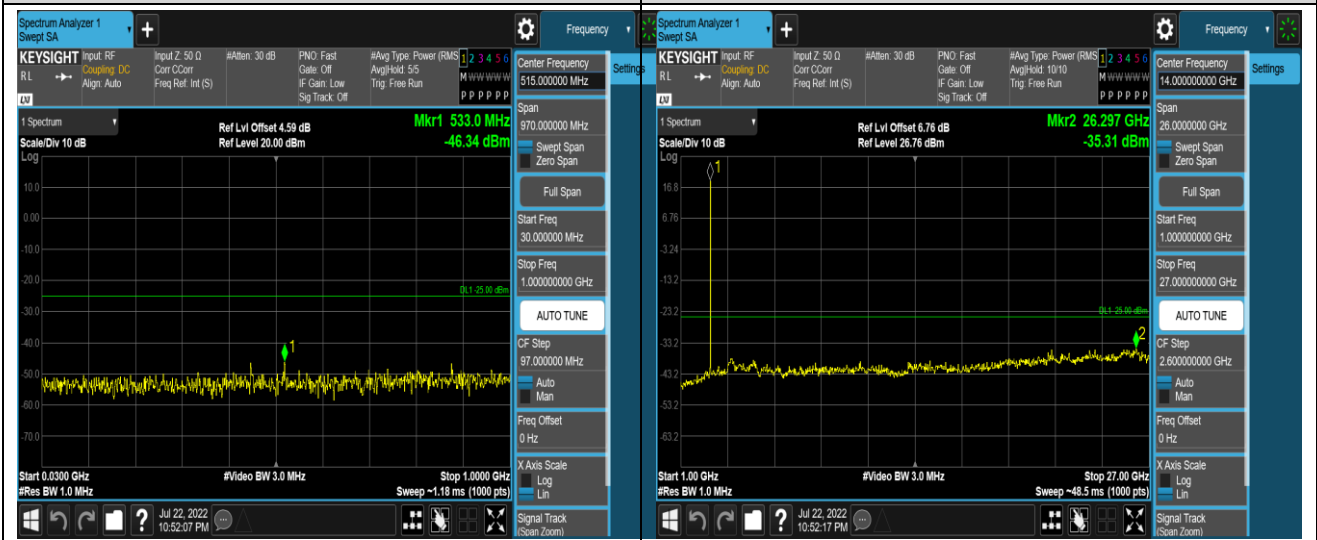
Band41-20MHz-16QAM-40640-1RB#0-Range1:30
~1000MHz

Band41-20MHz-16QAM-40640-1RB#0-Range2:1000~
27000MHz



Band41-20MHz-16QAM-41140-1RB#0-Range1:30
~1000MHz

Band41-20MHz-16QAM-41140-1RB#0-Range2:1000~
27000MHz



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	6.24	0.003319	Within authorized band for Band 2	Pass
	-20	2.03	0.001080		
	-10	-15.34	-0.008160		
	0	-12.65	-0.006729		
	10	-14.41	-0.007665		
	20	-5.41	-0.002878		
	30	-15.95	-0.008484		
	40	-13.16	-0.007000		
	50	-15.16	-0.008064		
16QAM					
3.85	-30	-16.62	-0.008840	Within authorized band for Band 2	Pass
	-20	-13.35	-0.007101		
	-10	-2.76	-0.001468		
	0	-15.94	-0.008479		
	10	-16.95	-0.009016		
	20	3.08	0.001638		
	30	-17.60	-0.009362		
	40	-19.63	-0.010441		
	50	-15.85	-0.008431		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.60	-17.97	-0.009559	Within authorized band for Band 2	Pass
	3.85	-16.51	-0.008782		
	4.40	-17.37	-0.009239		
16QAM					
25	3.60	8.55	0.004548	Within authorized band for Band 2	Pass
	3.85	-13.69	-0.007282		
	4.40	-19.28	-0.010255		

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					
3.85	-30	-8.57	-0.004947	Within authorized band for Band 4	Pass
	-20	-4.73	-0.002730		
	-10	-7.47	-0.004312		
	0	-4.65	-0.002684		
	10	-12.42	-0.007169		
	20	-14.48	-0.008358		
	30	-9.06	-0.005229		
	40	2.02	0.001166		
	50	-8.50	-0.004906		
16QAM					
3.85	-30	-13.40	-0.007734	Within authorized band for Band 4	Pass
	-20	-13.68	-0.007896		
	-10	-11.76	-0.006788		
	0	-4.53	-0.002615		
	10	-12.69	-0.007325		
	20	-4.78	-0.002759		
	30	-4.52	-0.002609		
	40	-3.81	-0.002199		
	50	-14.86	-0.008577		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.60	-9.70	-0.005599	Within authorized band for Band 4	Pass
	3.85	-4.12	-0.002378		
	4.40	-12.69	-0.007325		
16QAM					
25	3.60	-10.49	-0.006055	Within authorized band for Band 4	Pass
	3.85	7.88	0.004548		
	4.40	-13.43	-0.007752		

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	-9.04	-0.010807	±2.5	Pass
	-20	-1.19	-0.001423		
	-10	-9.26	-0.011070		
	0	-7.50	-0.008966		
	10	-8.31	-0.009934		
	20	-10.06	-0.012026		
	30	-8.24	-0.009851		
	40	-2.85	-0.003407		
	50	-10.29	-0.012301		
16QAM					
3.85	-30	-6.04	-0.007221	±2.5	Pass
	-20	-11.89	-0.014214		
	-10	-12.06	-0.014417		
	0	-8.17	-0.009767		
	10	-7.77	-0.009289		
	20	-10.27	-0.012277		
	30	-13.53	-0.016175		
	40	-10.23	-0.012230		
	50	-10.30	-0.012313		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.60	-6.61	-0.007902	±2.5	Pass
	3.85	-10.36	-0.012385		
	4.40	-11.04	-0.013198		
16QAM					
25	3.60	-9.06	-0.010831	±2.5	Pass
	3.85	-11.37	-0.013592		
	4.40	-2.99	-0.003574		

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	17.54	0.006919	Within authorized band for Band 7	Pass
	-20	-19.08	-0.007527		
	-10	-13.12	-0.005176		
	0	-14.28	-0.005633		
	10	-31.96	-0.012607		
	20	10.36	0.004087		
	30	15.99	0.006308		
	40	23.12	0.009120		
	50	-12.65	-0.004990		
16QAM					
3.85	-30	-17.95	-0.007081	Within authorized band for Band 7	Pass
	-20	-17.42	-0.006872		
	-10	-16.55	-0.006529		
	0	-14.09	-0.005558		
	10	-22.43	-0.008848		
	20	-21.46	-0.008465		
	30	13.98	0.005515		
	40	-13.03	-0.005140		
	50	-18.02	-0.007108		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.60	-27.61	-0.010892	Within authorized band for Band 7	Pass
	3.85	13.10	0.005168		
	4.40	12.69	0.005006		
16QAM					
25	3.60	-14.08	-0.005554	Within authorized band for Band 7	Pass
	3.85	19.83	0.007822		
	4.40	14.65	0.005779		

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	-19.63	-0.007565	Within authorized band for Band 41	Pass
	-20	-13.10	-0.005048		
	-10	-18.71	-0.007210		
	0	-6.98	-0.002690		
	10	-16.32	-0.006289		
	20	6.38	0.002459		
	30	-16.62	-0.006405		
	40	-17.11	-0.006593		
	50	-18.57	-0.007156		
16QAM					
3.85	-30	-16.72	-0.006443	Within authorized band for Band 41	Pass
	-20	-15.76	-0.006073		
	-10	-10.21	-0.003934		
	0	-19.83	-0.007642		
	10	-17.58	-0.006775		
	20	-9.26	-0.003568		
	30	-21.23	-0.008181		
	40	-21.13	-0.008143		
	50	-13.09	-0.005044		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.60	-14.52	-0.005595	Within authorized band for Band 41	Pass
	3.85	-18.65	-0.007187		
	4.40	-14.16	-0.005457		
16QAM					
25	3.60	-15.89	-0.006123	Within authorized band for Band41	Pass
	3.85	-18.45	-0.007110		
	4.40	-15.89	-0.006123		

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
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
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	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

