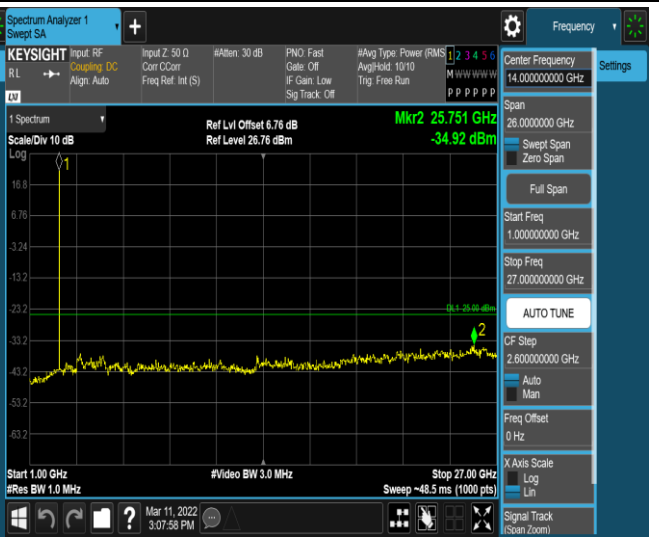
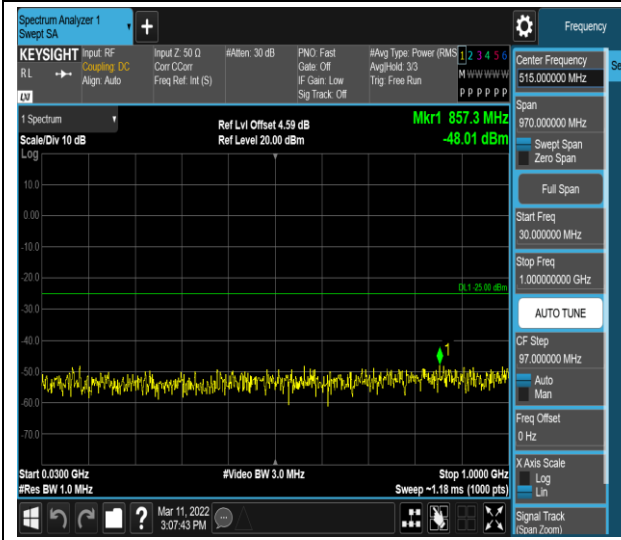


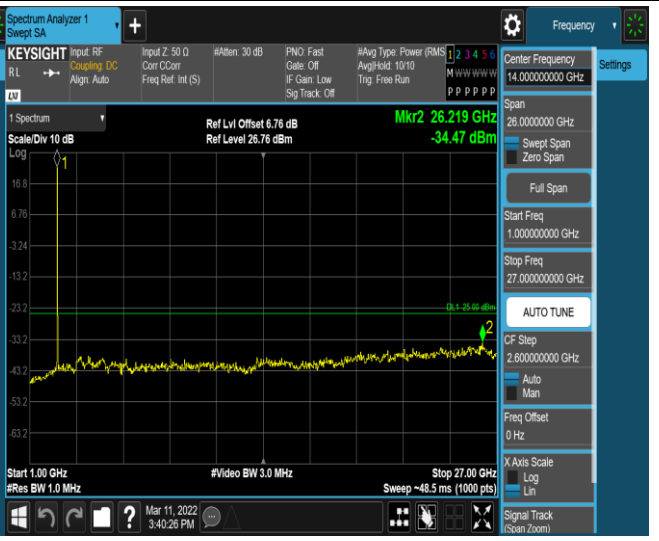
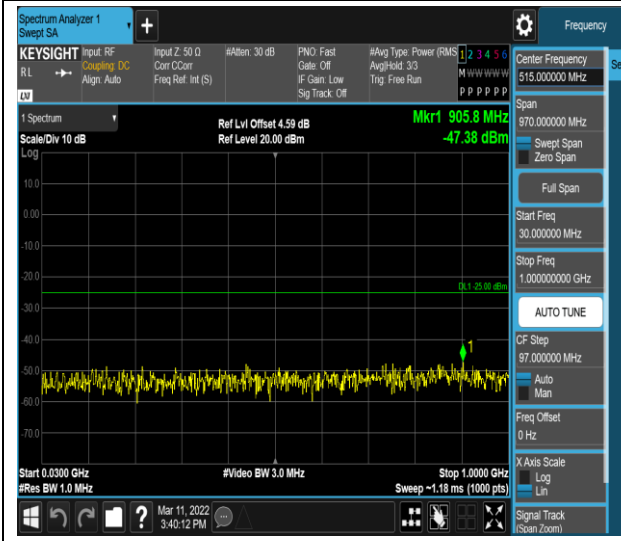
Band41-5MHz-16QAM-41215-1RB#0-Range1:30~1000MHz

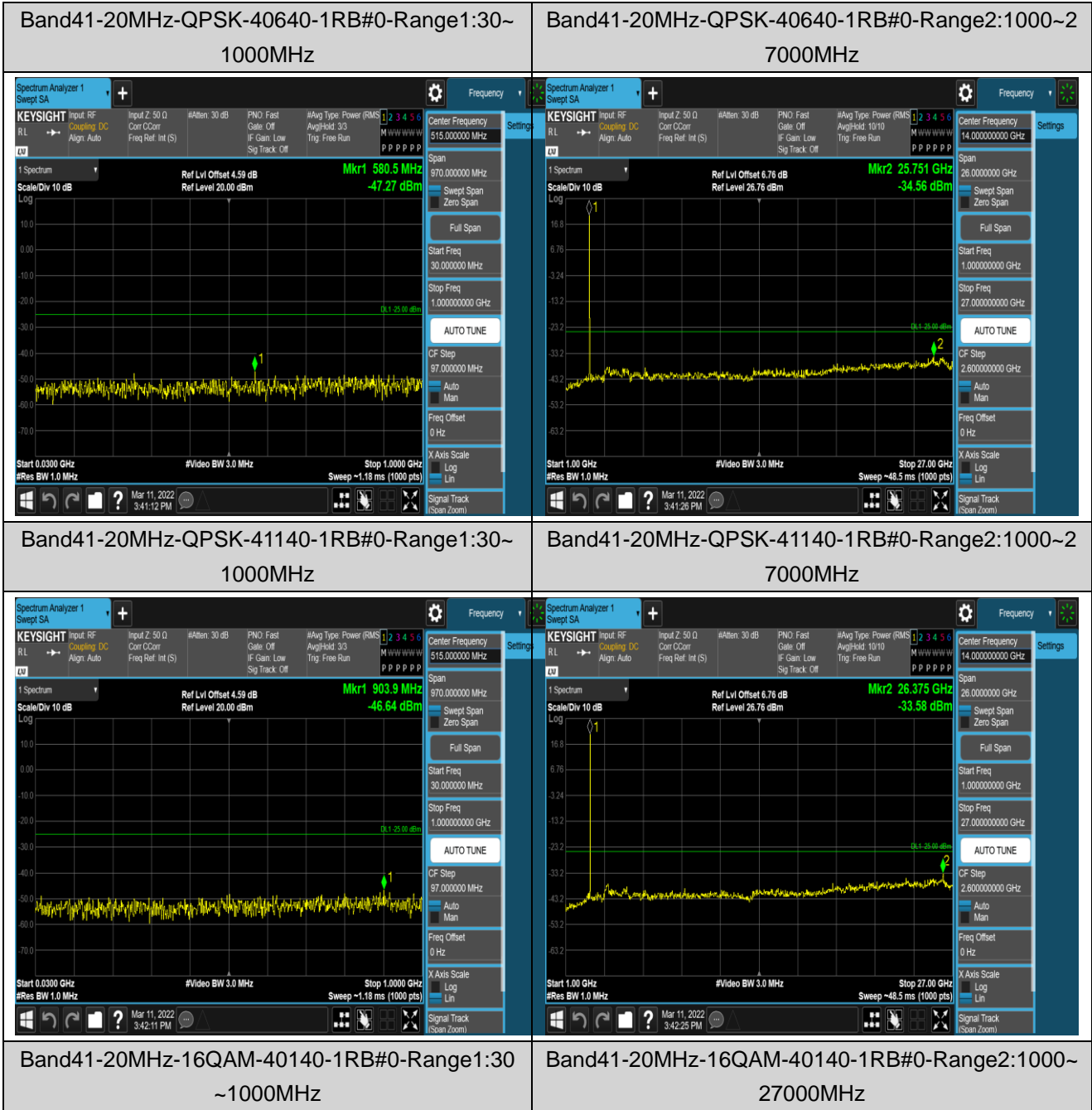
Band41-5MHz-16QAM-41215-1RB#0-Range2:1000~7000MHz



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

Band41-20MHz-QPSK-40140-1RB#0-Range2:1000~7000MHz

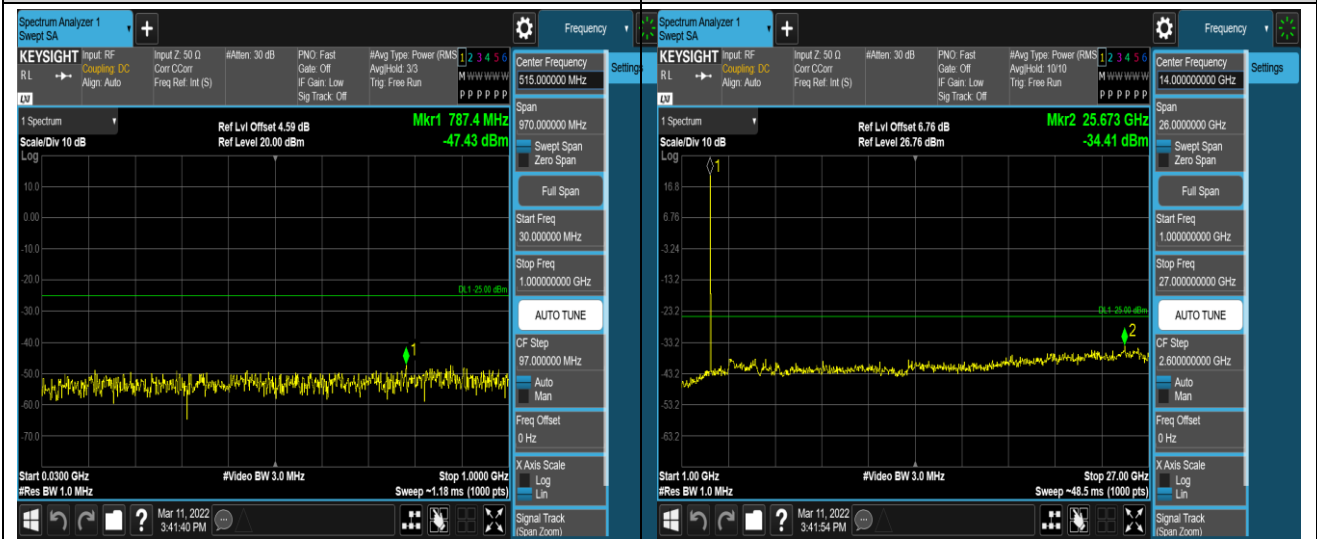






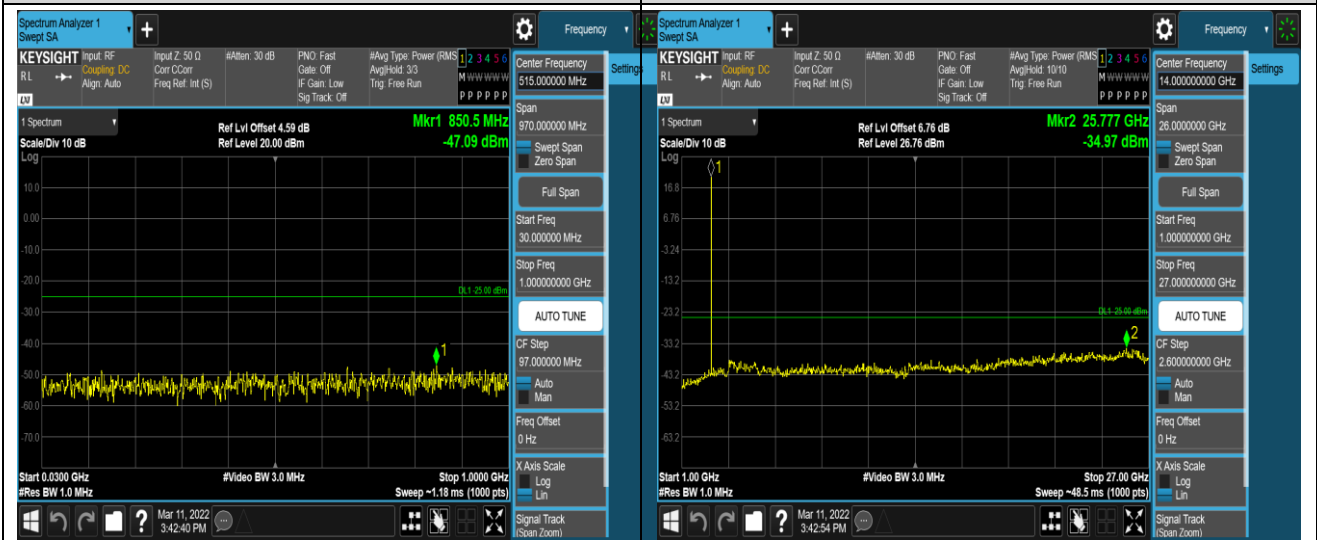
Band41-20MHz-16QAM-40640-1RB#0-Range1:30
~1000MHz

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					
3.87	-30	3.45	0.001835	Within authorized band for Band 2	Pass
	-20	-9.13	-0.004856		
	-10	-13.53	-0.007197		
	0	-9.14	-0.004862		
	10	-13.49	-0.007176		
	20	-12.73	-0.006771		
	30	-6.29	-0.003346		
	40	-8.11	-0.004314		
	50	-11.17	-0.005941		
16QAM					
3.87	-30	-14.12	-0.007511	Within authorized band for Band 2	Pass
	-20	-2.17	-0.001154		
	-10	-15.99	-0.008505		
	0	-8.08	-0.004298		
	10	-10.94	-0.005819		
	20	-13.58	-0.007223		
	30	-5.58	-0.002968		
	40	3.60	0.001915		
	50	-16.04	-0.008532		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-14.49	-0.007707	Within authorized band for Band 2	Pass
	3.87	-19.11	-0.010165		
	4.45	-15.36	-0.008170		
16QAM					
25	3.50	-16.68	-0.008872	Within authorized band for Band 2	Pass
	3.87	3.03	0.001612		
	4.45	-3.93	-0.002090		

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					
3.87	-30	-10.07	-0.005812	Within authorized band for Band 4	Pass
	-20	-15.26	-0.008808		
	-10	-7.44	-0.004294		
	0	-8.48	-0.004895		
	10	-10.31	-0.005951		
	20	-6.17	-0.003561		
	30	-13.66	-0.007885		
	40	-2.37	-0.001368		
	50	-10.61	-0.006124		
16QAM					
3.87	-30	-10.61	-0.006124	Within authorized band for Band 4	Pass
	-20	-11.63	-0.006713		
	-10	-11.20	-0.006465		
	0	-15.36	-0.008866		
	10	-8.53	-0.004924		
	20	-13.00	-0.007504		
	30	-13.46	-0.007769		
	40	-7.93	-0.004577		
	50	-6.35	-0.003665		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-12.37	-0.007140	Within authorized band for Band 4	Pass
	3.87	-15.44	-0.008912		
	4.45	-11.76	-0.006788		
16QAM					
25	3.50	-6.47	-0.003734	Within authorized band for Band 4	Pass
	3.87	-5.84	-0.003371		
	4.45	-9.83	-0.005674		

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					
3.87	-30	-10.93	-0.013066	±2.5	Pass
	-20	-9.54	-0.011405		
	-10	-6.69	-0.007998		
	0	-6.61	-0.007902		
	10	-6.54	-0.007818		
	20	-5.76	-0.006886		
	30	-7.22	-0.008631		
	40	-9.93	-0.011871		
	50	-6.91	-0.008261		
16QAM					
3.87	-30	-8.78	-0.010496	±2.5	Pass
	-20	-6.79	-0.008117		
	-10	-10.46	-0.012504		
	0	-7.72	-0.009229		
	10	-5.82	-0.006958		
	20	-7.64	-0.009133		
	30	-9.81	-0.011727		
	40	-5.18	-0.006192		
	50	-5.56	-0.006647		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-4.89	-0.005846	±2.5	Pass
	3.87	-13.29	-0.015888		
	4.45	-8.21	-0.009815		
16QAM					
25	3.50	-10.40	-0.012433	±2.5	Pass
	3.87	-3.20	-0.003825		
	4.45	-9.06	-0.010831		

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					
3.87	-30	-17.15	-0.006765	Within authorized band for Band 7	Pass
	-20	-17.44	-0.006880		
	-10	-7.74	-0.003053		
	0	-1.69	-0.000667		
	10	-12.66	-0.004994		
	20	-6.69	-0.002639		
	30	-19.57	-0.007720		
	40	4.23	0.001669		
	50	11.26	0.004442		
16QAM					
3.87	-30	-14.16	-0.005586	Within authorized band for Band 7	Pass
	-20	-13.28	-0.005239		
	-10	-14.42	-0.005688		
	0	-15.36	-0.006059		
	10	-11.63	-0.004588		
	20	-2.98	-0.001176		
	30	-7.18	-0.002832		
	40	-16.69	-0.006584		
	50	-16.62	-0.006556		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-17.61	-0.006947	Within authorized band for Band 7	Pass
	3.87	-14.71	-0.005803		
	4.45	-13.59	-0.005361		
16QAM					
25	3.50	-11.89	-0.004690	Within authorized band for Band 7	Pass
	3.87	6.98	0.002753		
	4.45	-16.11	-0.006355		

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					
3.87	-30	-17.82	-0.006867	Within authorized band for Band 41	Pass
	-20	-15.76	-0.006073		
	-10	-10.67	-0.004112		
	0	-16.84	-0.006489		
	10	6.21	0.002393		
	20	-19.21	-0.007403		
	30	-17.41	-0.006709		
	40	-14.69	-0.005661		
	50	-8.35	-0.003218		
16QAM					
3.87	-30	12.97	0.004998	Within authorized band for Band 41	Pass
	-20	12.59	0.004852		
	-10	-21.30	-0.008208		
	0	-14.15	-0.005453		
	10	7.41	0.002855		
	20	-12.69	-0.004890		
	30	-15.09	-0.005815		
	40	-12.75	-0.004913		
	50	-14.36	-0.005534		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	5.31	0.002046	Within authorized band for Band 41	Pass
	3.87	-14.48	-0.005580		
	4.45	-16.45	-0.006339		
16QAM					
25	3.50	-16.71	-0.006439	Within authorized band for Band41	Pass
	3.87	-10.30	-0.003969		
	4.45	-18.41	-0.007094		

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

