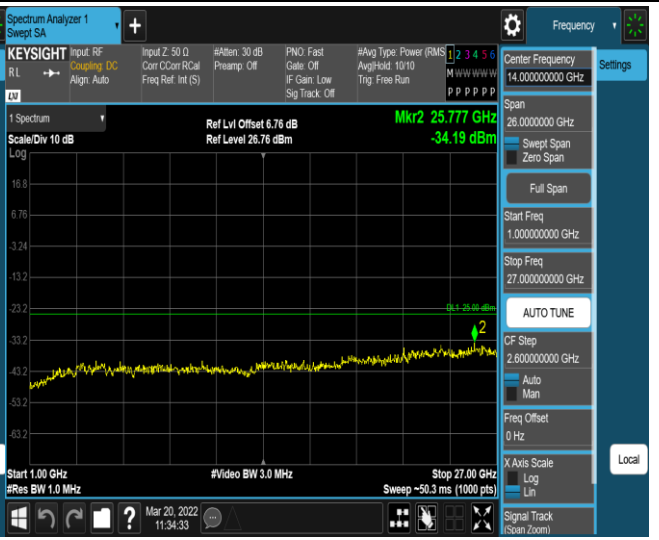


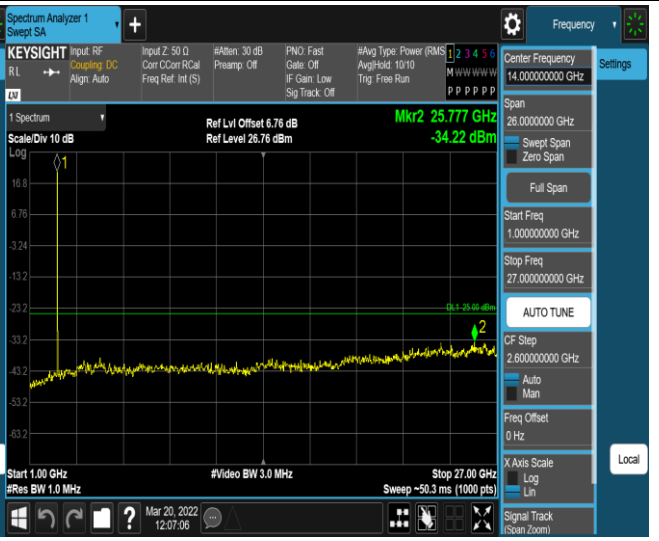
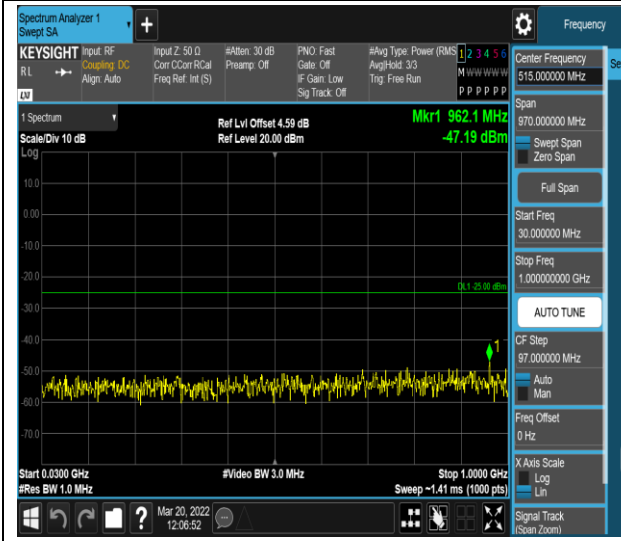
Band41-5MHz-16QAM-41215-1RB#0-Range1:30~1000MHz

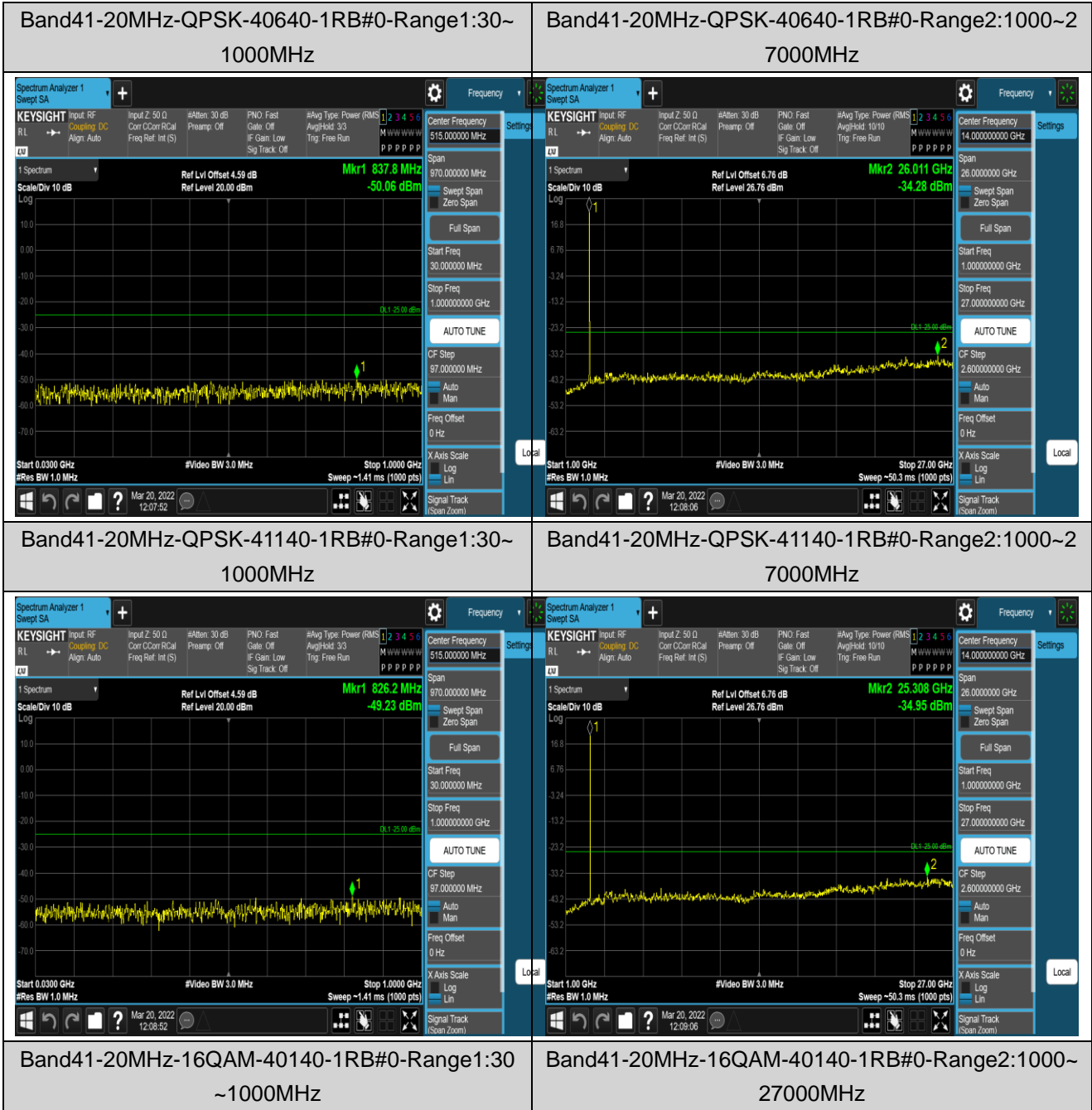
Band41-5MHz-16QAM-41215-1RB#0-Range2:1000~27000MHz

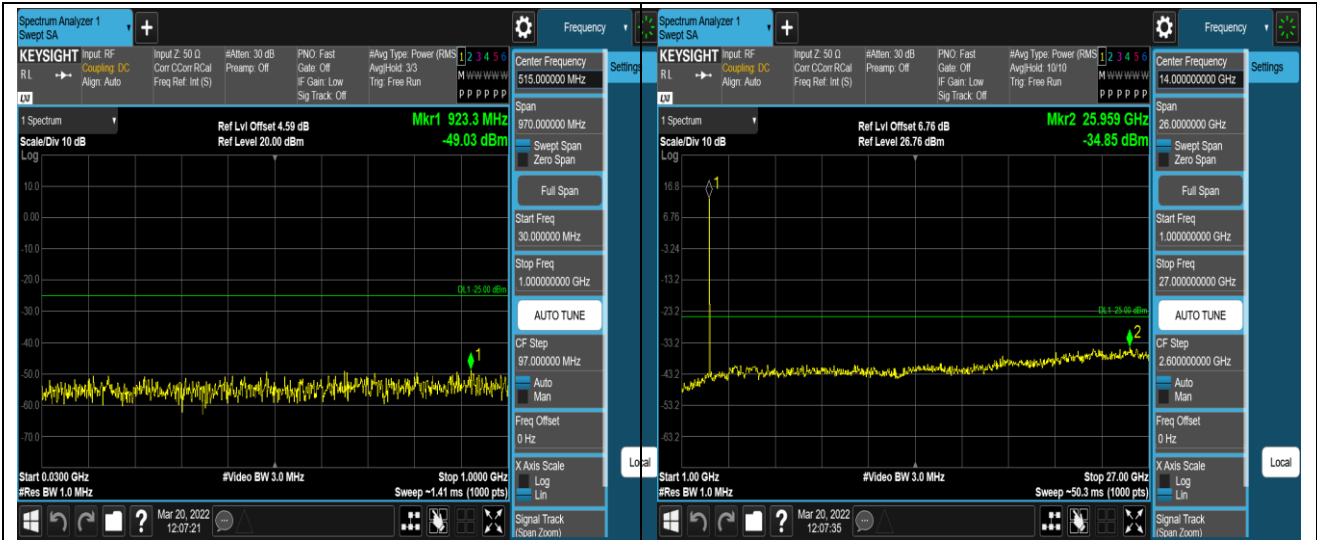


Band41-20MHz-QPSK-40140-1RB#0-Range1:30~1000MHz

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







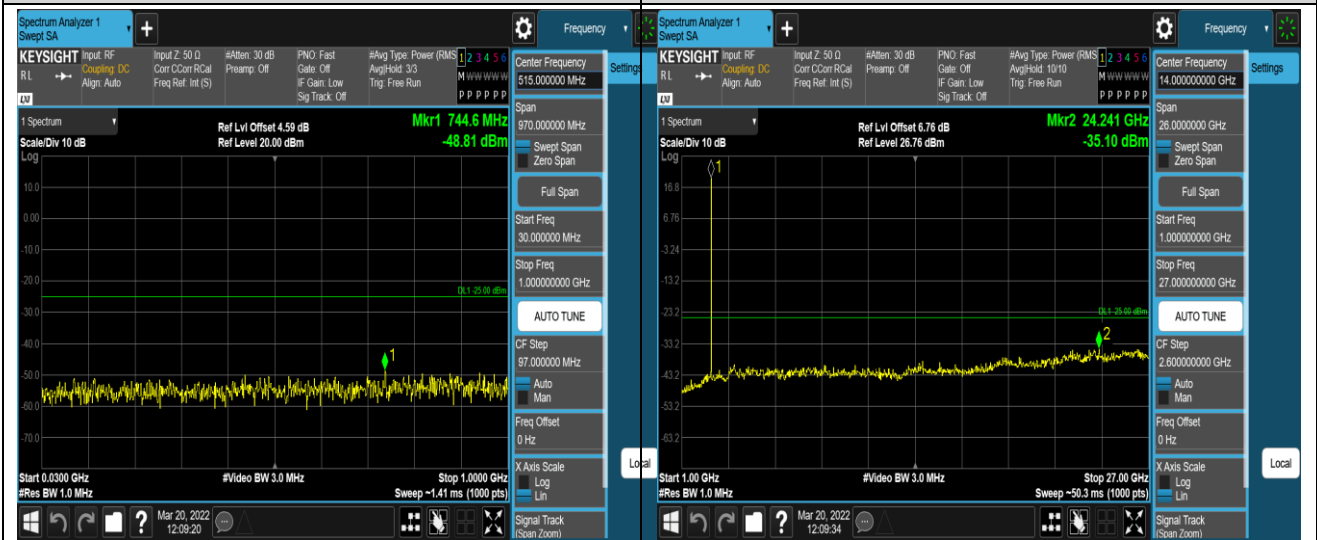
Band41-20MHz-16QAM-40640-1RB#0-Range1:30
~1000MHz

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	-20.84	-0.011085	Within authorized band for Band 2	Pass
	-20	-12.52	-0.006660		
	-10	-22.04	-0.011723		
	0	-13.06	-0.006947		
	10	-11.26	-0.005989		
	20	-14.63	-0.007782		
	30	-11.52	-0.006128		
	40	12.59	0.006697		
	50	-15.96	-0.008489		
16QAM					
3.85	-30	-12.46	-0.006628	Within authorized band for Band 2	Pass
	-20	-14.26	-0.007585		
	-10	-6.64	-0.003532		
	0	-20.20	-0.010745		
	10	-11.87	-0.006314		
	20	-18.80	-0.010000		
	30	-6.64	-0.003532		
	40	-16.52	-0.008787		
	50	-20.87	-0.011101		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-20.34	-0.010819	Within authorized band for Band 2	Pass
	3.85	-16.82	-0.008947		
	4.40	-19.93	-0.010601		
16QAM					
25	3.50	-7.88	-0.004191	Within authorized band for Band 2	Pass
	3.85	-9.43	-0.005016		
	4.40	-17.22	-0.009160		

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	-10.49	-0.006055	Within authorized band for Band 4	Pass
	-20	-19.80	-0.011429		
	-10	-13.72	-0.007919		
	0	-10.31	-0.005951		
	10	-15.86	-0.009154		
	20	-11.60	-0.006696		
	30	-15.41	-0.008895		
	40	-9.38	-0.005414		
	50	-14.73	-0.008502		
16QAM					
3.85	-30	-16.92	-0.009766	Within authorized band for Band 4	Pass
	-20	-15.06	-0.008693		
	-10	-17.64	-0.010182		
	0	-13.92	-0.008035		
	10	-4.69	-0.002707		
	20	-14.06	-0.008115		
	30	-15.23	-0.008791		
	40	10.11	0.005835		
	50	-12.62	-0.007284		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-12.02	-0.006938	Within authorized band for Band 4	Pass
	3.85	-11.50	-0.006638		
	4.40	-12.65	-0.007302		
16QAM					
25	3.50	-7.80	-0.004502	Within authorized band for Band 4	Pass
	3.85	-12.52	-0.007227		
	4.40	10.14	0.005853		

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	-2.69	-0.003216	±2.5	Pass
	-20	-9.73	-0.011632		
	-10	-9.88	-0.011811		
	0	-15.35	-0.018350		
	10	-11.96	-0.014298		
	20	-5.25	-0.006276		
	30	-7.94	-0.009492		
	40	-6.68	-0.007986		
	50	-10.40	-0.012433		
16QAM					
3.85	-30	-15.46	-0.018482	±2.5	Pass
	-20	-12.17	-0.014549		
	-10	-2.13	-0.002546		
	0	-3.92	-0.004686		
	10	-4.46	-0.005332		
	20	-11.14	-0.013317		
	30	-8.21	-0.009815		
	40	-8.94	-0.010687		
	50	-7.21	-0.008619		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-14.33	-0.017131	±2.5	Pass
	3.85	-9.33	-0.011154		
	4.40	-11.01	-0.013162		
16QAM					
25	3.50	-14.63	-0.017490	±2.5	Pass
	3.85	-10.67	-0.012756		
	4.40	-15.64	-0.018697		

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	-17.87	-0.007049	Within authorized band for Band 7	Pass
	-20	5.66	0.002233		
	-10	-12.96	-0.005112		
	0	-14.06	-0.005546		
	10	-15.03	-0.005929		
	20	-20.71	-0.008170		
	30	-18.25	-0.007199		
	40	13.93	0.005495		
	50	-11.89	-0.004690		
16QAM					
3.85	-30	-11.19	-0.004414	Within authorized band for Band 7	Pass
	-20	-10.46	-0.004126		
	-10	19.11	0.007538		
	0	-12.29	-0.004848		
	10	12.02	0.004742		
	20	-12.42	-0.004899		
	30	-6.64	-0.002619		
	40	-7.67	-0.003026		
	50	-14.20	-0.005602		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	14.16	0.005586	Within authorized band for Band 7	Pass
	3.85	-19.13	-0.007546		
	4.40	-15.45	-0.006095		
16QAM					
25	3.50	15.38	0.006067	Within authorized band for Band 7	Pass
	3.85	-14.92	-0.005886		
	4.40	-16.91	-0.006671		

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=40715 Frequency=2602.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	9.31	0.003588	Within authorized band for Band 41	Pass
	-20	-22.47	-0.008659		
	-10	-11.76	-0.004532		
	0	-5.21	-0.002008		
	10	4.18	0.001611		
	20	-20.86	-0.008039		
	30	-14.46	-0.005572		
	40	-17.44	-0.006721		
	50	-5.16	-0.001988		
16QAM					
3.85	-30	-7.54	-0.002906	Within authorized band for Band 41	Pass
	-20	-20.48	-0.007892		
	-10	-14.18	-0.005464		
	0	-24.20	-0.009326		
	10	-12.87	-0.004960		
	20	-18.32	-0.007060		
	30	-26.16	-0.010081		
	40	-21.43	-0.008258		
	50	-19.35	-0.007457		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-22.19	-0.008551	Within authorized band for Band 41	Pass
	3.85	-23.66	-0.009118		
	4.40	-4.63	-0.001784		
16QAM					
25	3.50	2.83	0.001091	Within authorized band for Band41	Pass
	3.85	-13.10	-0.005048		
	4.40	-23.22	-0.008948		

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

