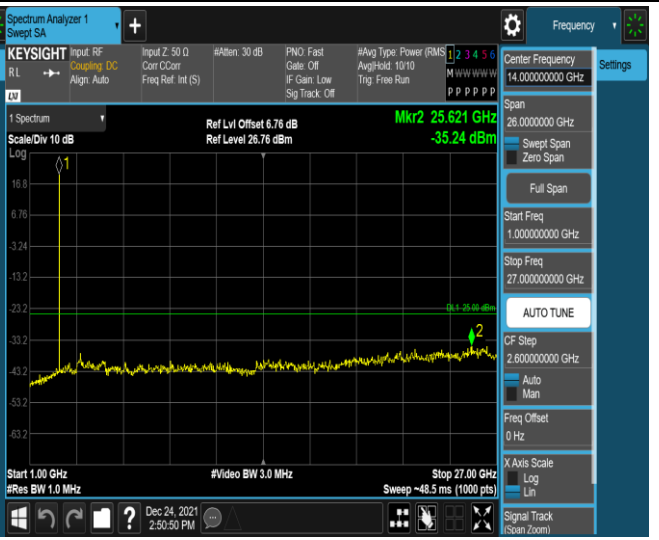
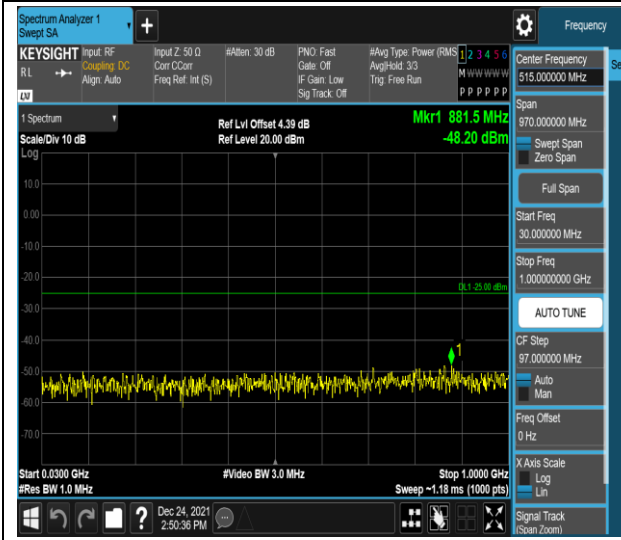


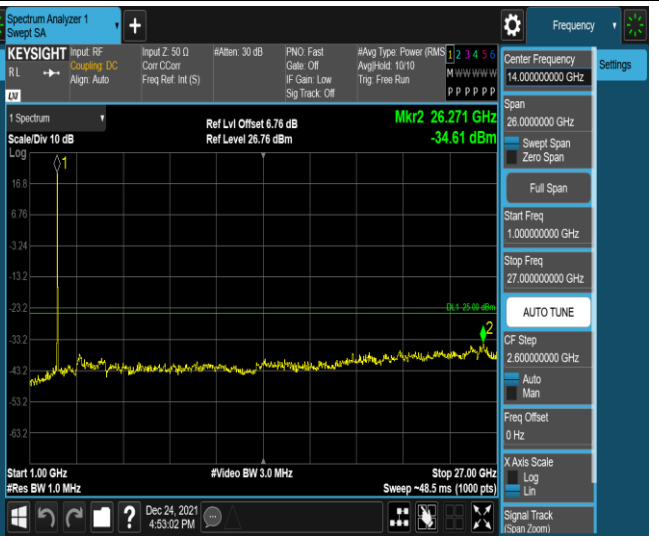
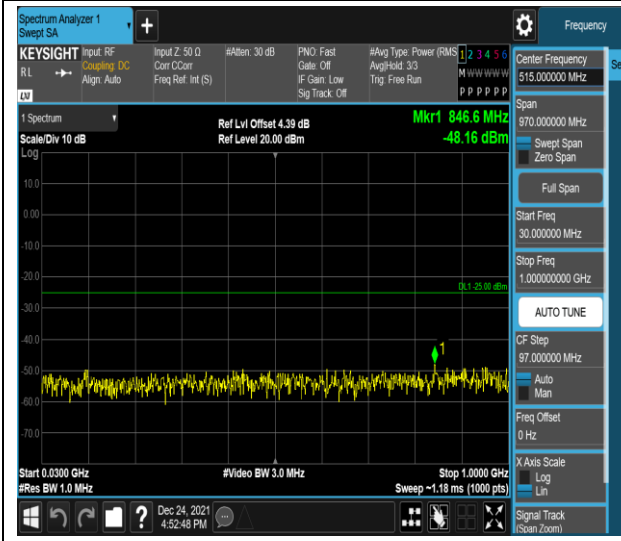
Band41-5MHz-16QAM-41215-1RB#0-Range1:30~1000MHz

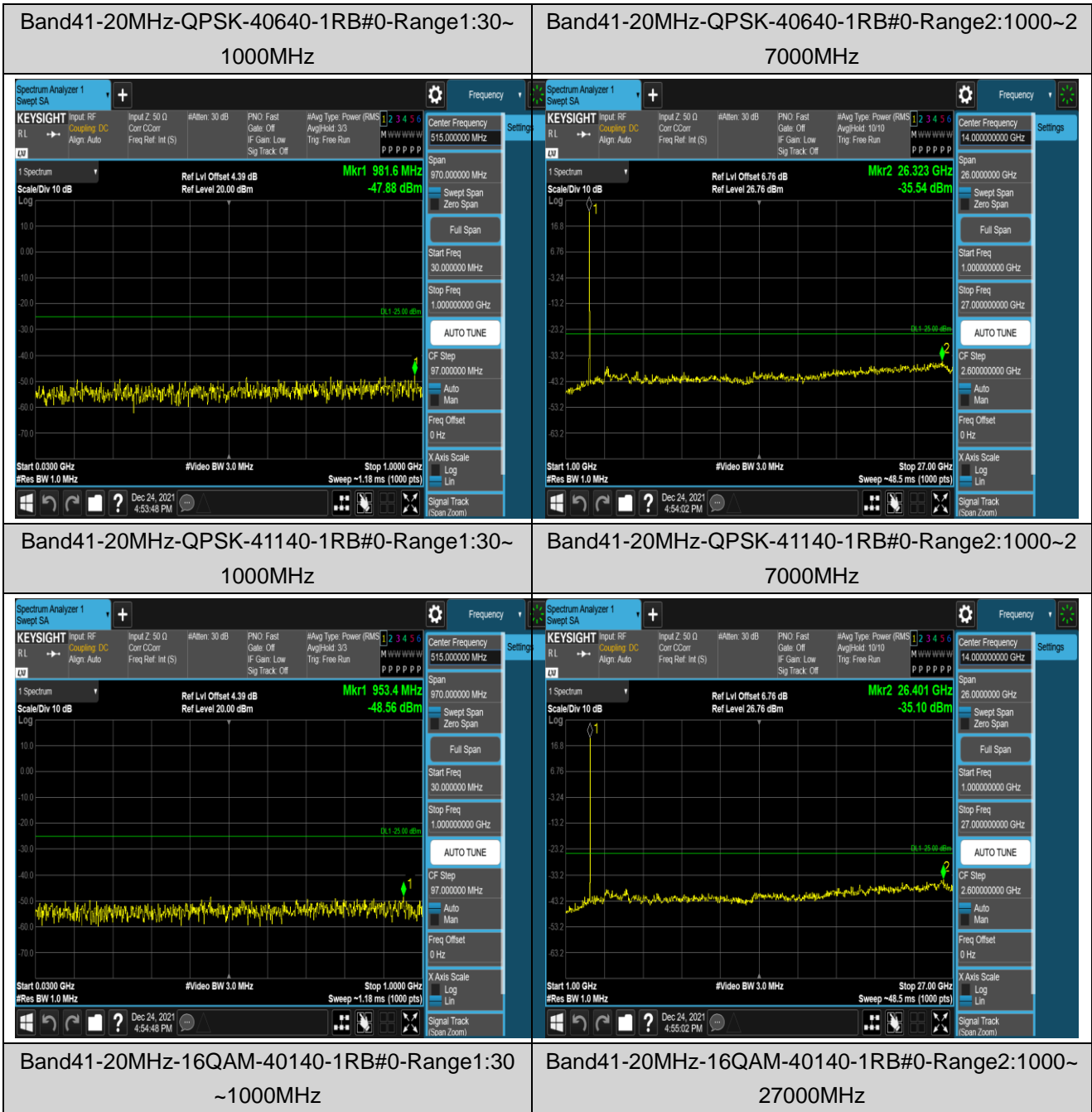
Band41-5MHz-16QAM-41215-1RB#0-Range2:1000~27000MHz

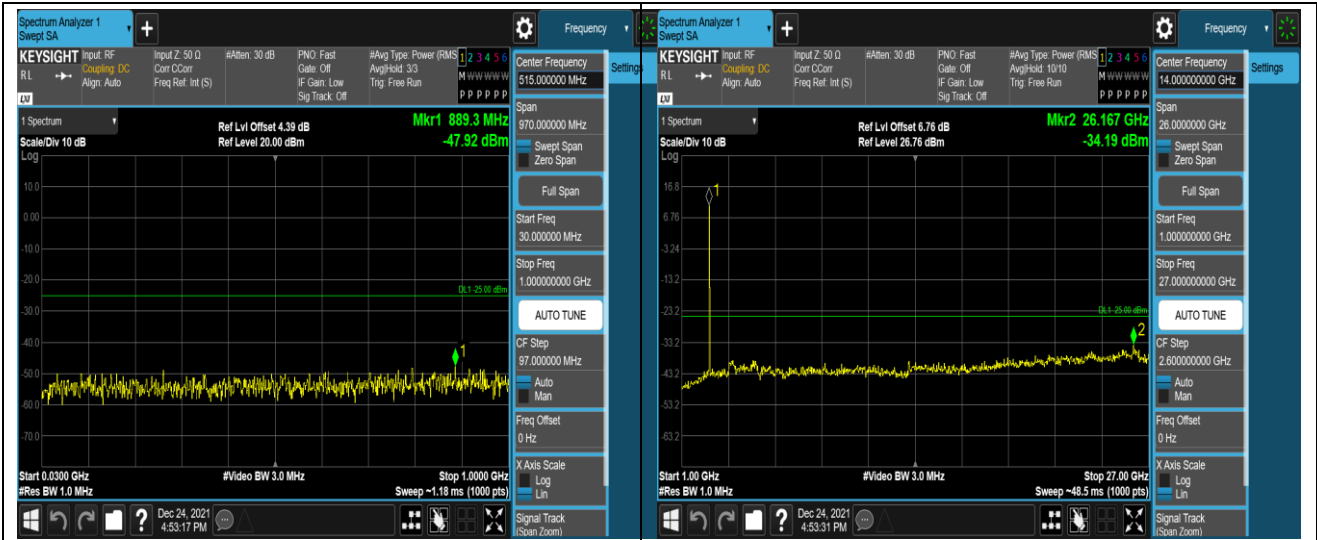


Band41-20MHz-QPSK-40140-1RB#0-Range1:30~1000MHz

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







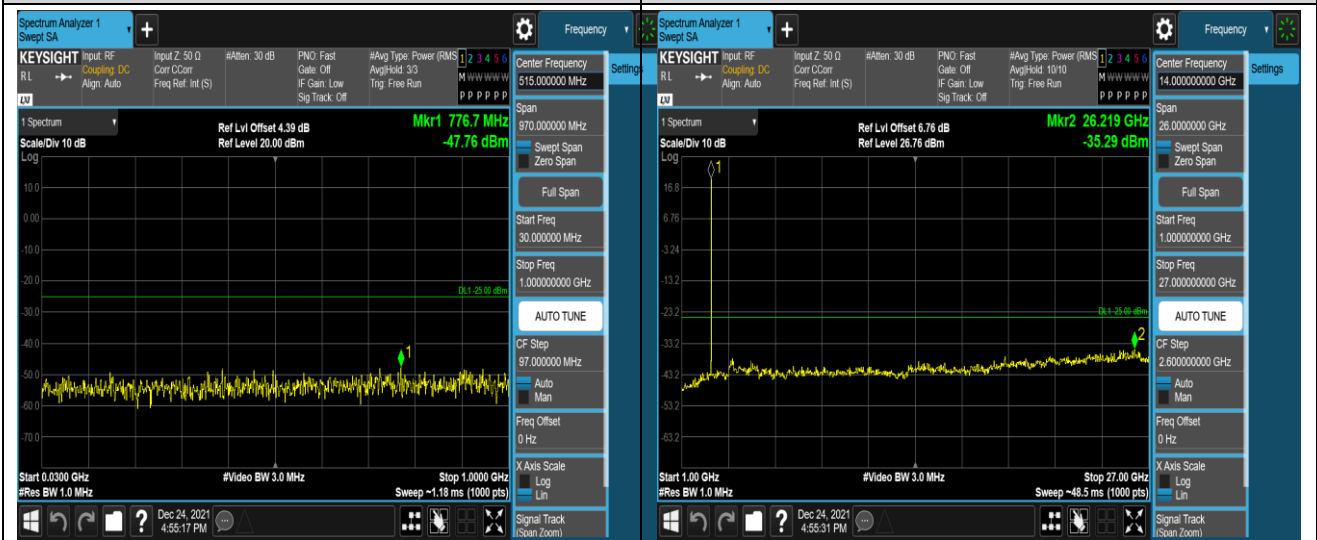
Band41-20MHz-16QAM-40640-1RB#0-Range1:30
~1000MHz

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					
3.87	-30	-8.91	-0.004739	Within authorized band for Band 2	Pass
	-20	9.21	0.004899		
	-10	-5.88	-0.003128		
	0	11.43	0.006080		
	10	13.29	0.007069		
	20	-14.22	-0.007564		
	30	-4.23	-0.002250		
	40	2.93	0.001559		
	50	15.29	0.008133		
16QAM					
3.87	-30	16.55	0.008803	Within authorized band for Band 2	Pass
	-20	-6.38	-0.003394		
	-10	-11.13	-0.005920		
	0	9.68	0.005149		
	10	-10.96	-0.005830		
	20	8.05	0.004282		
	30	-14.81	-0.007878		
	40	-5.38	-0.002862		
	50	-11.92	-0.006340		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-11.46	-0.006096	Within authorized band for Band 2	Pass
	3.87	-15.76	-0.008383		
	4.45	12.56	0.006681		
16QAM					
25	3.50	10.23	0.005441	Within authorized band for Band 2	Pass
	3.87	6.31	0.003356		
	4.45	-8.54	-0.004543		

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	-7.48	-0.004317	Within authorized band for Band 4	Pass
	-20	-6.17	-0.003561		
	-10	-7.77	-0.004485		
	0	2.59	0.001495		
	10	-3.68	-0.002124		
	20	-6.45	-0.003723		
	30	-14.35	-0.008283		
	40	-15.35	-0.008860		
	50	-16.74	-0.009662		
16QAM					
3.87	-30	-12.87	-0.007429	Within authorized band for Band 4	Pass
	-20	-7.37	-0.004254		
	-10	9.11	0.005258		
	0	-8.41	-0.004854		
	10	-7.34	-0.004237		
	20	-9.37	-0.005408		
	30	-6.54	-0.003775		
	40	-10.20	-0.005887		
	50	-12.86	-0.007423		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-9.71	-0.005605	Within authorized band for Band 4	Pass
	3.87	-8.88	-0.005126		
	4.45	-6.79	-0.003919		
16QAM					
25	3.50	-11.87	-0.006851	Within authorized band for Band 4	Pass
	3.87	-8.04	-0.004641		
	4.45	-6.88	-0.003971		

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	-2.86	-0.003419	±2.5	Pass
	-20	-2.39	-0.002857		
	-10	-7.50	-0.008966		
	0	-6.91	-0.008261		
	10	-6.05	-0.007233		
	20	-9.48	-0.011333		
	30	-5.71	-0.006826		
	40	-9.58	-0.011452		
	50	-6.45	-0.007711		
16QAM					
3.87	-30	-7.40	-0.008846	±2.5	Pass
	-20	-6.27	-0.007496		
	-10	-8.55	-0.010221		
	0	-7.14	-0.008536		
	10	-6.49	-0.007759		
	20	-7.20	-0.008607		
	30	-8.17	-0.009767		
	40	-11.52	-0.013772		
	50	-7.58	-0.009062		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-5.94	-0.007101	±2.5	Pass
	3.87	-6.09	-0.007280		
	4.45	-7.05	-0.008428		
16QAM					
25	3.50	-4.06	-0.004854	±2.5	Pass
	3.87	-8.18	-0.009779		
	4.45	-10.26	-0.012265		

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	15.68	0.006185	Within authorized band for Band 7	Pass
	-20	-14.49	-0.005716		
	-10	-5.02	-0.001980		
	0	-3.26	-0.001286		
	10	-21.41	-0.008446		
	20	-16.39	-0.006465		
	30	13.86	0.005467		
	40	-16.77	-0.006615		
	50	-20.46	-0.008071		
16QAM					
3.87	-30	-15.61	-0.006158	Within authorized band for Band 7	Pass
	-20	-22.46	-0.008860		
	-10	10.39	0.004099		
	0	-12.83	-0.005061		
	10	-10.64	-0.004197		
	20	-15.32	-0.006043		
	30	13.30	0.005247		
	40	-11.87	-0.004682		
	50	19.97	0.007878		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-17.18	-0.006777	Within authorized band for Band 7	Pass
	3.87	-18.83	-0.007428		
	4.45	-17.65	-0.006963		
16QAM					
25	3.50	-18.12	-0.007148	Within authorized band for Band 7	Pass
	3.87	-25.48	-0.010051		
	4.45	-17.87	-0.007049		

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	11.93	0.004597	Within authorized band for Band 41	Pass
	-20	15.76	0.006073		
	-10	12.49	0.004813		
	0	-10.21	-0.003934		
	10	4.22	0.001626		
	20	-3.39	-0.001306		
	30	-11.13	-0.004289		
	40	-8.33	-0.003210		
	50	-8.01	-0.003087		
16QAM					
3.87	-30	-5.25	-0.002023	Within authorized band for Band 41	Pass
	-20	-8.96	-0.003453		
	-10	-13.95	-0.005376		
	0	7.25	0.002794		
	10	-11.80	-0.004547		
	20	-15.52	-0.005981		
	30	8.51	0.003279		
	40	-12.15	-0.004682		
	50	-15.51	-0.005977		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-12.96	-0.004994	Within authorized band for Band 41	Pass
	3.87	-9.40	-0.003622		
	4.45	12.47	0.004805		
16QAM					
25	3.50	-14.99	-0.005776	Within authorized band for Band41	Pass
	3.87	-9.34	-0.003599		
	4.45	-14.73	-0.005676		

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

