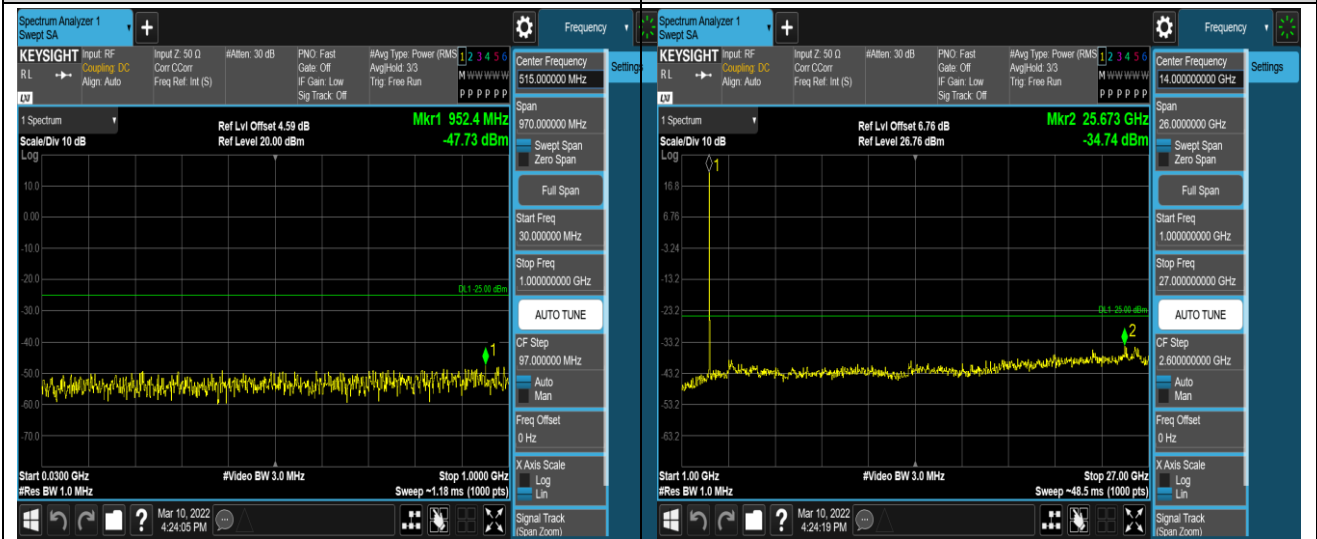


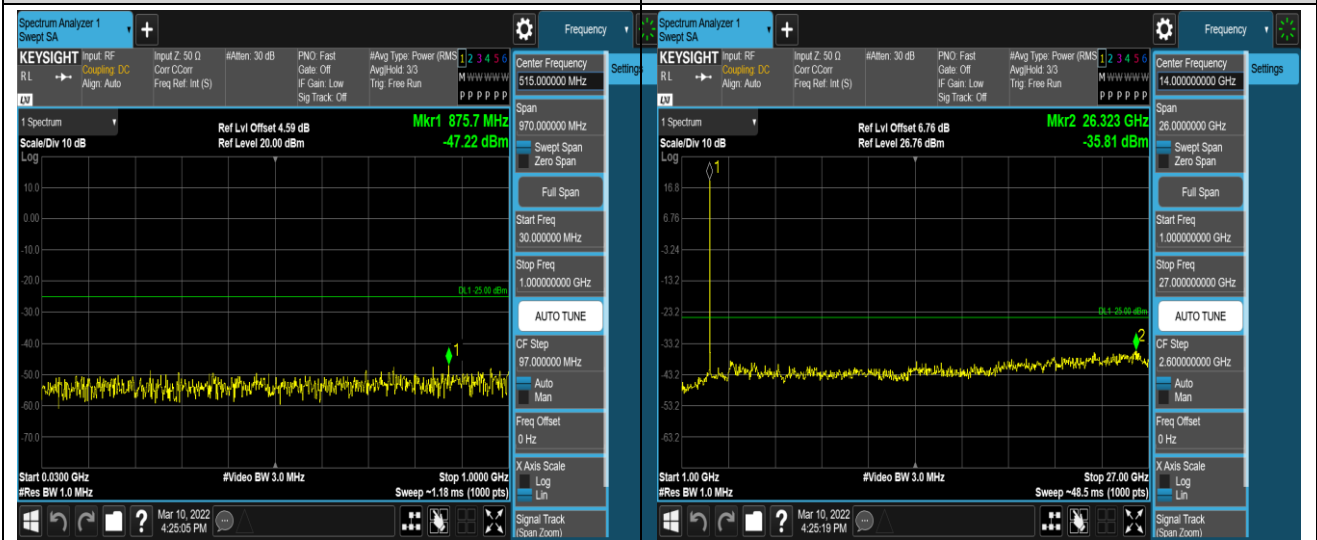
Band7-20MHz-QPSK-21100-1RB#0-Range1:30~1000MHz

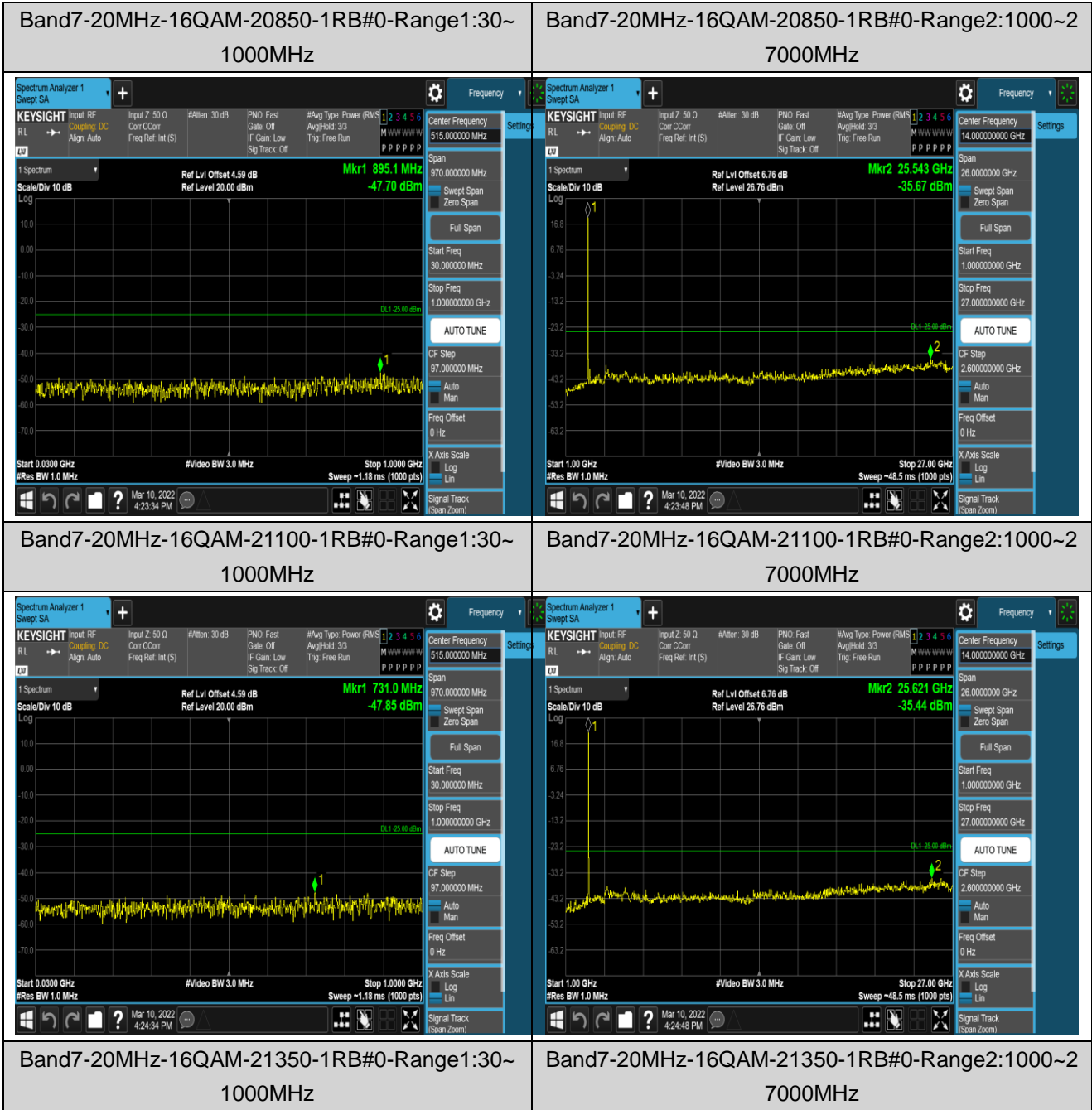
Band7-20MHz-QPSK-21100-1RB#0-Range2:1000~27000MHz

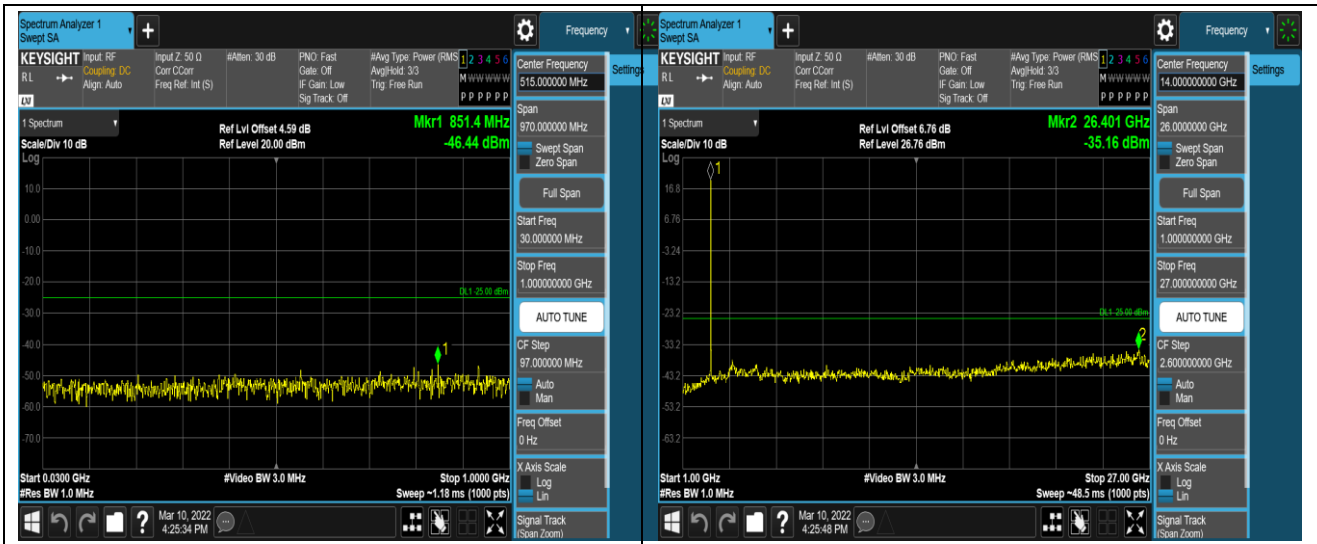


Band7-20MHz-QPSK-21350-1RB#0-Range1:30~1000MHz

Band7-20MHz-QPSK-21350-1RB#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	-22.72	-0.012085	Within authorized band for Band 2	Pass
	-20	-16.88	-0.008979		
	-10	-22.16	-0.011787		
	0	-6.28	-0.003340		
	10	-25.06	-0.013330		
	20	3.35	0.001782		
	30	-22.70	-0.012074		
	40	-24.91	-0.013250		
	50	-21.83	-0.011612		
16QAM					
3.85	-30	15.03	0.007995	Within authorized band for Band 2	Pass
	-20	-3.89	-0.002069		
	-10	-20.96	-0.011149		
	0	-22.97	-0.012218		
	10	-19.43	-0.010335		
	20	-3.03	-0.001612		
	30	-16.62	-0.008840		
	40	-14.65	-0.007793		
	50	-15.48	-0.008234		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-15.78	-0.008394	Within authorized band for Band 2	Pass
	3.85	-19.25	-0.010239		
	4.43	-23.36	-0.012426		
16QAM					
25	3.50	-21.09	-0.011218	Within authorized band for Band 2	Pass
	3.85	-24.50	-0.013032		
	4.43	-18.02	-0.009585		

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	-13.56	-0.007827	Within authorized band for Band 4	Pass
	-20	-11.26	-0.006499		
	-10	-13.16	-0.007596		
	0	-17.27	-0.009968		
	10	-14.45	-0.008341		
	20	-19.84	-0.011452		
	30	-19.94	-0.011509		
	40	-14.15	-0.008167		
	50	-12.43	-0.007175		
16QAM					
3.85	-30	-17.67	-0.010199	Within authorized band for Band 4	Pass
	-20	46.88	0.027059		
	-10	-20.31	-0.011723		
	0	-17.27	-0.009968		
	10	-23.66	-0.013657		
	20	-17.25	-0.009957		
	30	-13.56	-0.007827		
	40	-10.36	-0.005980		
	50	-17.47	-0.010084		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-15.59	-0.008999	Within authorized band for Band 4	Pass
	3.85	24.06	0.013887		
	4.43	45.96	0.026528		
16QAM					
25	3.50	-18.40	-0.010620	Within authorized band for Band 4	Pass
	3.85	-19.45	-0.011227		
	4.43	-16.32	-0.009420		

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	-7.01	-0.008380	±2.5	Pass
	-20	-6.08	-0.007268		
	-10	-6.12	-0.007316		
	0	-8.54	-0.010209		
	10	-9.23	-0.011034		
	20	-4.89	-0.005846		
	30	-9.48	-0.011333		
	40	-5.22	-0.006240		
	50	-9.24	-0.011046		
16QAM					
3.85	-30	-13.20	-0.015780	±2.5	Pass
	-20	-8.53	-0.010197		
	-10	-13.75	-0.016438		
	0	-11.22	-0.013413		
	10	2.52	0.003013		
	20	-7.90	-0.009444		
	30	-11.66	-0.013939		
	40	-10.77	-0.012875		
	50	-14.20	-0.016975		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-18.40	-0.010620	±2.5	Pass
	3.85	-19.45	-0.011227		
	4.43	-16.32	-0.009420		
16QAM					
25	3.50	-12.89	-0.015409	±2.5	Pass
	3.85	-11.29	-0.013497		
	4.43	-12.86	-0.015374		

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	-5.38	-0.002122	Within authorized band for Band 7	Pass
	-20	-18.94	-0.007471		
	-10	10.21	0.004028		
	0	-21.60	-0.008521		
	10	-26.34	-0.010391		
	20	-6.90	-0.002722		
	30	-16.92	-0.006675		
	40	-29.48	-0.011629		
	50	-23.06	-0.009097		
16QAM					
3.85	-30	-24.85	-0.009803	Within authorized band for Band 7	Pass
	-20	-23.02	-0.009081		
	-10	16.37	0.006458		
	0	-19.97	-0.007878		
	10	-26.24	-0.010351		
	20	10.94	0.004316		
	30	-32.44	-0.012797		
	40	6.11	0.002410		
	50	-22.90	-0.009034		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-23.03	-0.009085	Within authorized band for Band 7	Pass
	3.85	-20.89	-0.008241		
	4.43	-3.76	-0.001483		
16QAM					
25	3.50	-16.25	-0.006410	Within authorized band for Band 7	Pass
	3.85	-14.15	-0.005582		
	4.43	8.61	0.003396		

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

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

