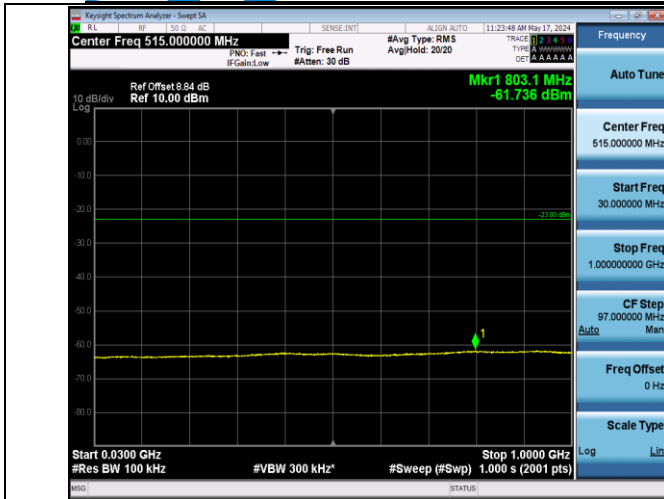
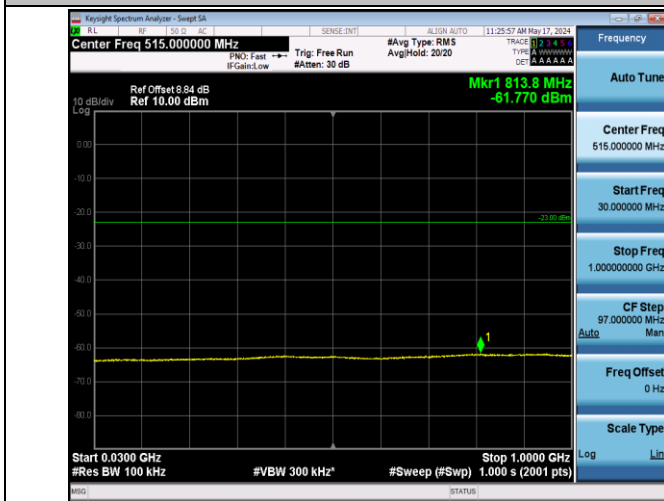




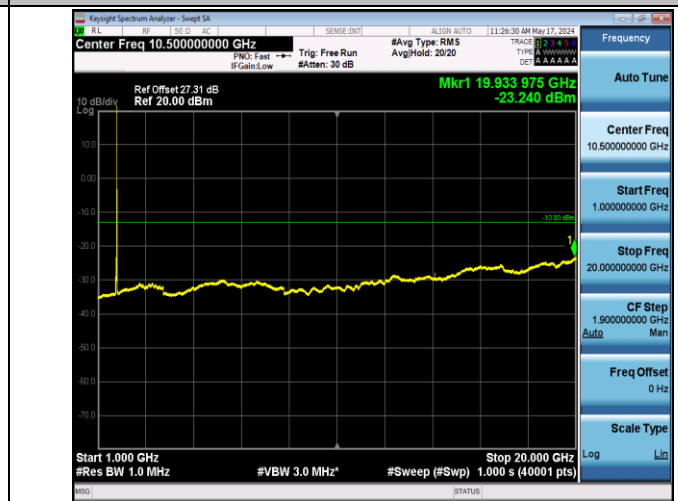
Band66_20MHz_16QAM_132072_1RB#0_30~1000_30~1000



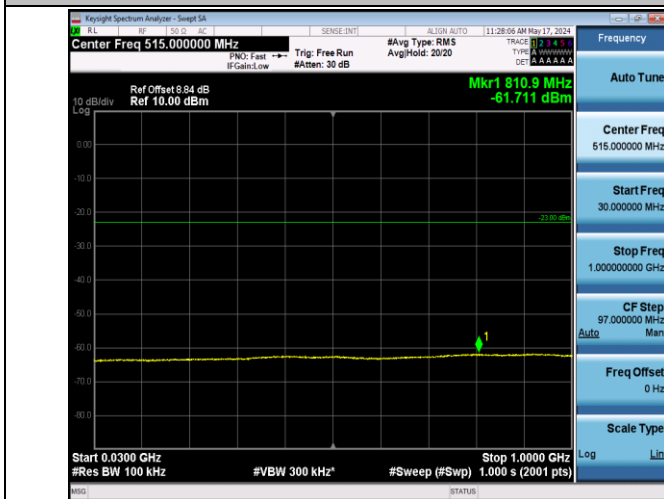
Band66_20MHz_16QAM_132072_1RB#0_1000~20000_1000~2000



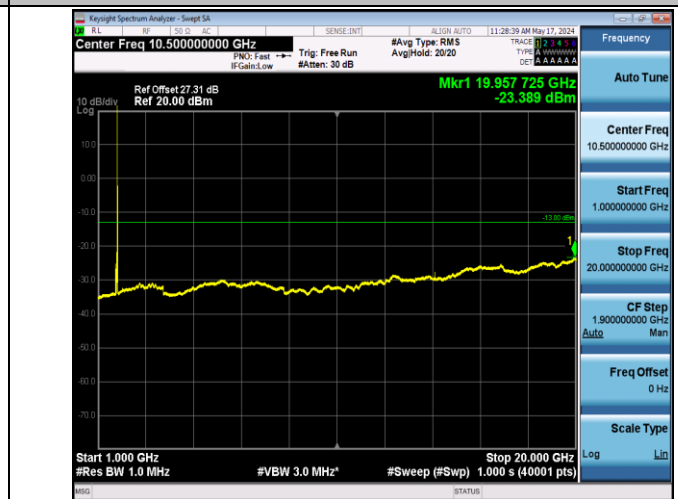
Band66_20MHz_16QAM_132322_1RB#0_30~1000_30~1000



Band66_20MHz_16QAM_132322_1RB#0_1000~20000_1000~2000



Band66_20MHz_16QAM_132572_1RB#0_30~1000_30~1000



Band66_20MHz_16QAM_132572_1RB#0_1000~20000_1000~2000

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					
3.70	-30	48.95	0.026037	Within authorized band for Band 2	Pass
	-20	4.69	0.002495		
	-10	49.54	0.026351		
	0	29.18	0.015521		
	10	58.32	0.031021		
	20	41.91	0.022293		
	30	-8.93	-0.004750		
	40	22.19	0.011803		
	50	41.48	0.022064		
16QAM					
3.70	-30	-43.13	-0.022941	Within authorized band for Band 2	Pass
	-20	-17.29	-0.009197		
	-10	-44.36	-0.023596		
	0	-24.33	-0.012941		
	10	-38.22	-0.020330		
	20	8.08	0.004298		
	30	-13.02	-0.006926		
	40	-22.52	-0.011979		
	50	-30.96	-0.016468		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-32.72	-0.017404	Within authorized band for Band 2	Pass
	3.70	-49.28	-0.026213		
	4.20	-13.68	-0.007277		
16QAM					
25	3.50	25.86	0.013755	Within authorized band for Band 2	Pass
	3.70	-8.01	-0.004261		
	4.20	-52.70	-0.028032		
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					
3.70	-30	-16.55	-0.019785	±2.5	Pass
	-20	-9.43	-0.011273		
	-10	-5.66	-0.006766		
	0	5.79	0.006922		
	10	10.47	0.012516		
	20	11.44	0.013676		
	30	15.28	0.018267		
	40	18.81	0.022487		
	50	17.92	0.021423		
16QAM					
3.70	-30	-47.54	-0.056832	±2.5	Pass
	-20	-16.37	-0.019570		
	-10	-35.45	-0.042379		
	0	-46.18	-0.055206		
	10	-18.50	-0.022116		
	20	-25.65	-0.030663		
	30	-38.01	-0.045439		
	40	-46.28	-0.055326		
	50	-5.81	-0.006946		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-51.78	-0.061901	±2.5	Pass
	3.70	-26.71	-0.031931		
	4.20	-22.62	-0.027041		
16QAM					
25	3.50	20.10	0.024029	±2.5	Pass
	3.70	9.71	0.011608		
	4.20	-23.29	-0.027842		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 Frequency=707.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	4.53	0.006403	Within authorized band for Band 12	Pass
	-20	22.13	0.031279		
	-10	34.70	0.049046		
	0	-1.96	-0.002770		
	10	12.45	0.017597		
	20	22.23	0.031420		
	30	31.47	0.044481		
	40	39.10	0.055265		
	50	45.92	0.064905		
16QAM					
3.70	-30	-5.81	-0.008212	Within authorized band for Band 12	Pass
	-20	-7.72	-0.010912		
	-10	-14.48	-0.020466		
	0	-18.21	-0.025739		
	10	-23.43	-0.033117		
	20	-22.36	-0.031604		
	30	-21.26	-0.030049		
	40	-21.66	-0.030615		
	50	-14.98	-0.021173		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.34	-0.010375	Within authorized band for Band 12	Pass
	3.70	12.10	0.017102		
	4.20	33.70	0.047633		
16QAM					
25	3.50	10.27	0.014516	Within authorized band for Band 12	Pass
	3.70	10.04	0.014191		
	4.20	6.09	0.008608		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 66 part:

Reference Frequency: LTE Band 66 (10MHz) Middle channel=132322 Frequency=1745.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	10.80	0.006189	Within authorized band for Band 66	Pass
	-20	27.97	0.016029		
	-10	39.08	0.022395		
	0	17.32	0.009926		
	10	21.19	0.012143		
	20	33.49	0.019192		
	30	40.64	0.023289		
	40	11.80	0.006762		
	50	15.13	0.008670		
16QAM					
3.70	-30	-4.72	-0.002705	Within authorized band for Band 66	Pass
	-20	-11.07	-0.006344		
	-10	-28.54	-0.016355		
	0	-26.14	-0.014980		
	10	-34.33	-0.019673		
	20	-33.30	-0.019083		
	30	-38.90	-0.022292		
	40	-36.82	-0.021100		
	50	-37.58	-0.021536		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	22.20	0.012722	Within authorized band for Band 66	Pass
	3.70	-29.73	-0.017037		
	4.20	-17.35	-0.009943		
16QAM					
25	3.50	23.35	0.013381	Within authorized band for Band 66	Pass
	3.70	27.48	0.015748		
	4.20	20.23	0.011593		
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	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS
Band66	20MHz	16QAM	132322	100RB#0	PASS

Test Graphs

