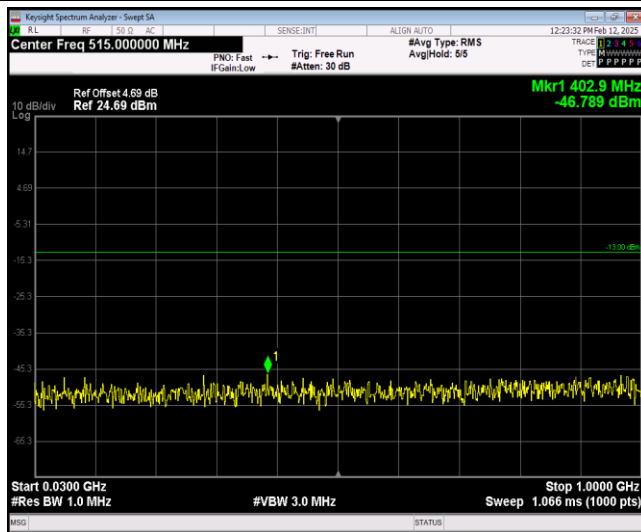
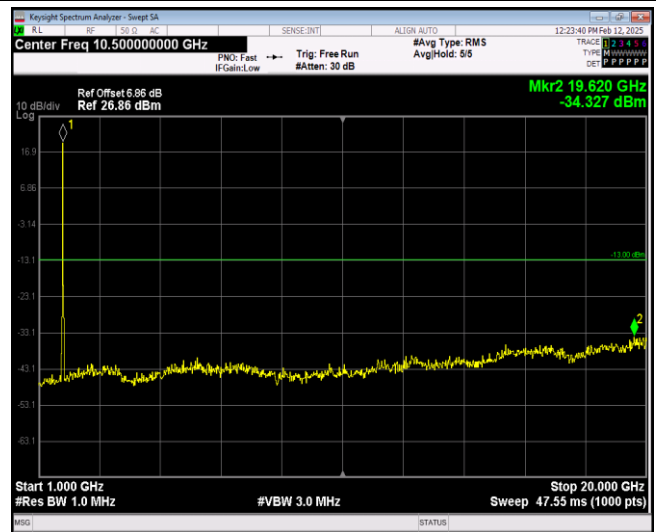


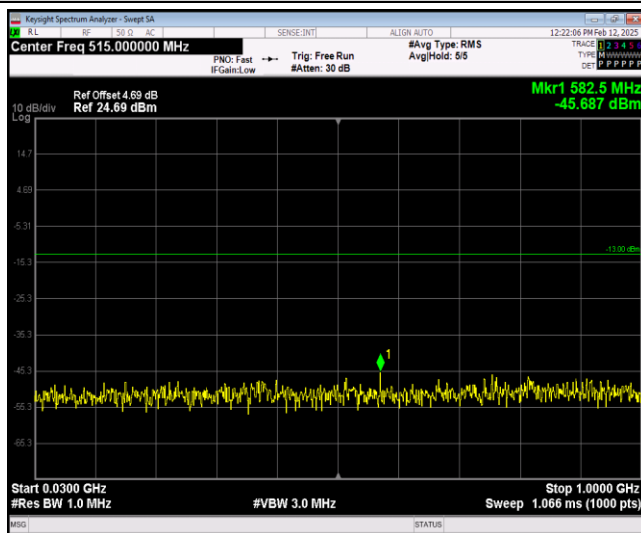
Band66-20MHz-16QAM-132572-1RB#0-Range1:30~
1000MHz



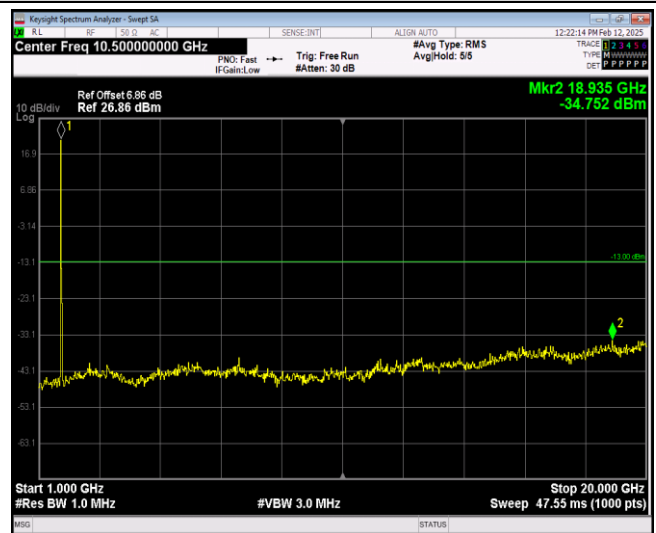
Band66-20MHz-16QAM-132572-1RB#0-Range2:100
0~20000MHz



Band66-20MHz-64QAM-132072-1RB#0-Range1:30~
1000MHz



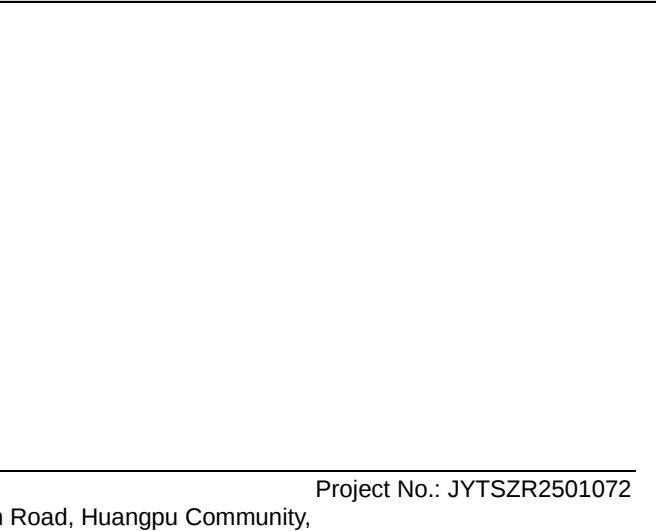
Band66-20MHz-64QAM-132072-1RB#0-Range2:100
0~20000MHz

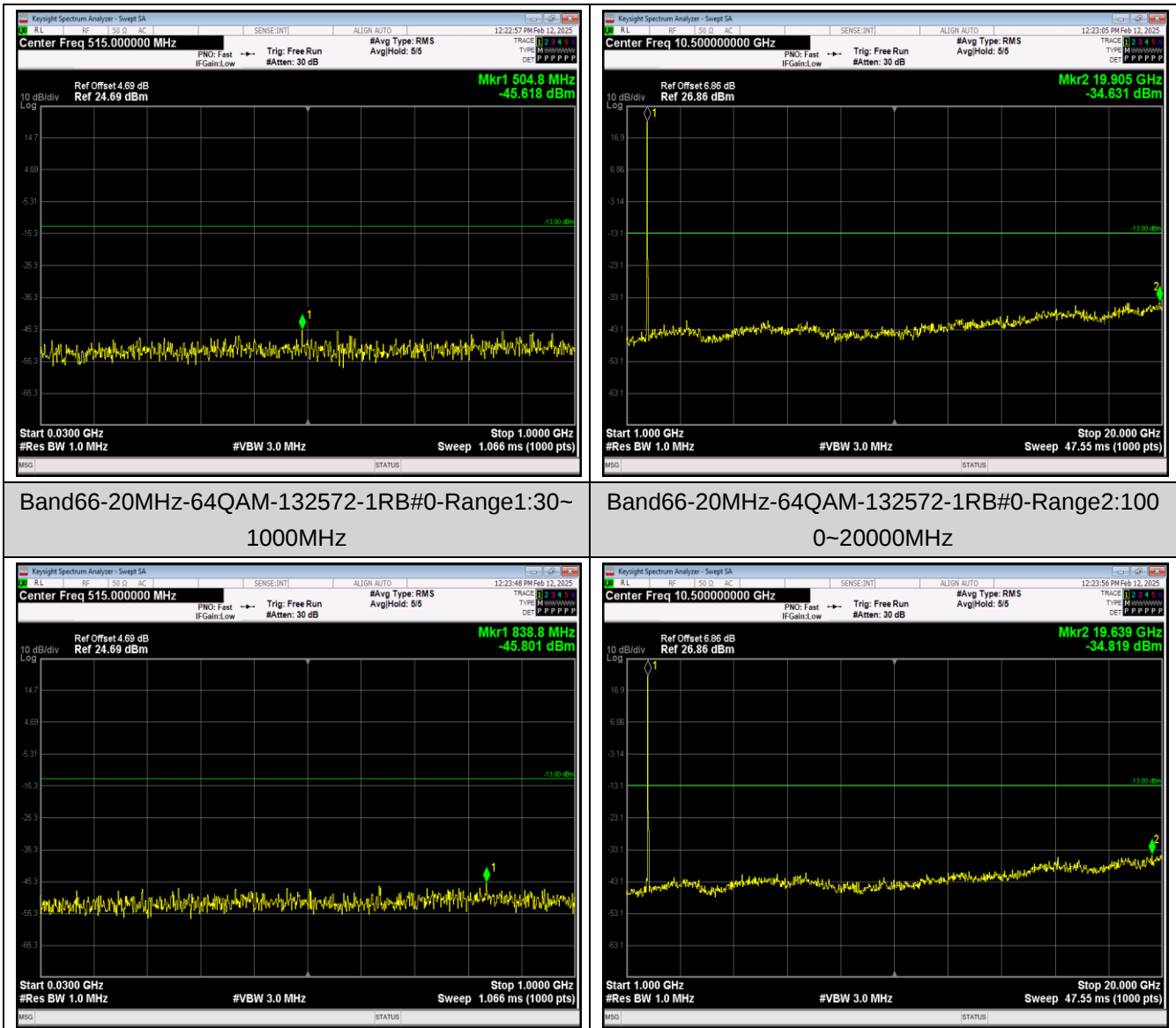


Band66-20MHz-64QAM-132322-1RB#0-Range1:30~
1000MHz



Band66-20MHz-64QAM-132322-1RB#0-Range2:100
0~20000MHz





Appendix F: Frequency Stability

Test Result

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					
3.80	-30	-14.75	-0.008514	Within authorized band for Band 4	Pass
	-20	-18.02	-0.010401		
	-10	-13.73	-0.007925		
	0	-14.76	-0.008519		
	10	-8.64	-0.004987		
	20	-22.39	-0.012924		
	30	-17.57	-0.010141		
	40	-18.71	-0.010799		
	50	-18.71	-0.010799		
16QAM					
3.80	-30	-14.93	-0.008618	Within authorized band for Band 4	Pass
	-20	-14.26	-0.008231		
	-10	-16.08	-0.009281		
	0	-20.17	-0.011642		
	10	-16.24	-0.009374		
	20	-16.41	-0.009472		
	30	-9.78	-0.005645		
	40	-15.84	-0.009143		
	50	-18.30	-0.010563		
64QAM					
3.80	-30	5.22	0.003013	Within authorized band for Band 4	Pass
	-20	-19.63	-0.011330		
	-10	-16.31	-0.009414		
	0	-15.86	-0.009154		
	10	-12.49	-0.007209		
	20	-17.17	-0.009911		
	30	10.49	0.006055		
	40	-15.36	-0.008866		
	50	-12.02	-0.006938		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-4.98	-0.002874	Within authorized band for Band 4	Pass
	3.80	-18.21	-0.010511		
	4.35	-10.66	-0.006153		
16QAM					
25	3.50	-17.52	-0.010113	Within authorized band for Band 4	Pass
	3.80	-14.15	-0.008167		
	4.35	-16.02	-0.009247		
64QAM					
25	3.50	-16.48	-0.009512	Within authorized band for Band 4	Pass
	3.80	-17.87	-0.010315		
	4.35	-15.72	-0.009074		
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					
3.80	-30	-2.06	-0.002912	Within authorized band for Band 12	Pass
	-20	-4.88	-0.006898		
	-10	-5.66	-0.008000		
	0	-9.23	-0.013046		
	10	-9.80	-0.013852		
	20	-11.13	-0.015731		
	30	-11.30	-0.015972		
	40	-13.16	-0.018601		
	50	-14.33	-0.020254		
16QAM					
3.80	-30	-11.82	-0.016707	Within authorized band for Band 12	Pass
	-20	-9.31	-0.013159		
	-10	-10.77	-0.015223		
	0	-11.70	-0.016537		
	10	-11.20	-0.015830		
	20	-8.51	-0.012028		
	30	-10.47	-0.014799		
	40	-11.90	-0.016820		
	50	-8.28	-0.011703		
64QAM					
3.80	-30	-7.10	-0.010035	Within authorized band for Band 12	Pass
	-20	-7.24	-0.010233		
	-10	-7.07	-0.009993		
	0	-5.56	-0.007859		
	10	-10.49	-0.014827		
	20	-7.27	-0.010276		
	30	-6.68	-0.009442		
	40	-7.90	-0.011166		
	50	-7.81	-0.011039		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-9.84	-0.013908	Within authorized band for Band 12	Pass
	3.80	-13.58	-0.019194		
	4.35	-11.52	-0.016283		
16QAM					
25	3.50	-9.60	-0.013569	Within authorized band for Band 12	Pass
	3.80	-7.02	-0.009922		
	4.35	-11.69	-0.016523		
64QAM					
25	3.50	-9.56	-0.013512	Within authorized band for Band 12	Pass
	3.80	-9.10	-0.012862		
	4.35	-9.41	-0.013300		
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					
3.80	-30	-15.26	-0.008745	Within authorized band for Band 66	Pass
	-20	-17.62	-0.010097		
	-10	-4.45	-0.002550		
	0	-7.88	-0.004516		
	10	-20.61	-0.011811		
	20	-19.96	-0.011438		
	30	-15.94	-0.009135		
	40	-18.30	-0.010487		
	50	6.34	0.003633		
16QAM					
3.80	-30	-21.13	-0.012109	Within authorized band for Band 66	Pass
	-20	-17.02	-0.009754		
	-10	-19.27	-0.011043		
	0	-8.34	-0.004779		
	10	-12.43	-0.007123		
	20	-15.51	-0.008888		
	30	-14.82	-0.008493		
	40	-14.96	-0.008573		
	50	-8.00	-0.004585		
64QAM					
3.80	-30	-12.33	-0.007066	Within authorized band for Band 66	Pass
	-20	-15.96	-0.009146		
	-10	-21.37	-0.012246		
	0	-17.09	-0.009794		
	10	-4.51	-0.002585		
	20	-6.91	-0.003960		
	30	-20.07	-0.011501		
	40	-15.98	-0.009158		
	50	-7.70	-0.004413		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-17.12	-0.009811	Within authorized band for Band 66	Pass
	3.80	-10.61	-0.006080		
	4.35	-12.45	-0.007135		
16QAM					
25	3.50	-24.15	-0.013840	Within authorized band for Band 66	Pass
	3.80	-9.93	-0.005691		
	4.35	-13.66	-0.007828		
64QAM					
25	3.50	-4.61	-0.002642	Within authorized band for Band 66	Pass
	3.80	5.38	0.003083		
	4.35	-15.08	-0.008642		
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
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band4	20MHz	64QAM	20175	100RB#0	PASS	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS
Band12	10MHz	64QAM	23095	50RB#0	PASS	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS	PASS
Band66	20MHz	16QAM	132322	100RB#0	PASS	PASS
Band66	20MHz	64QAM	132322	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

