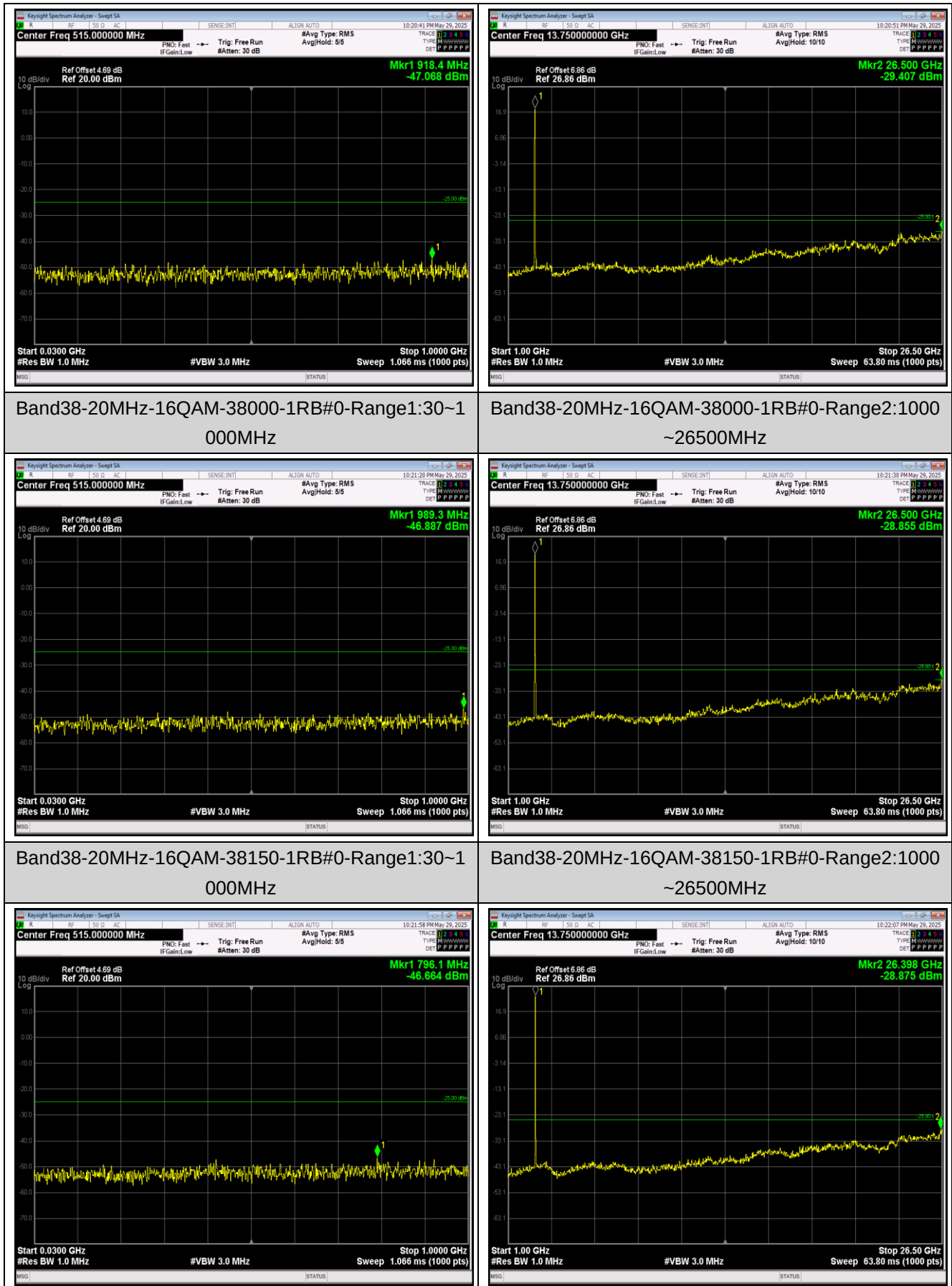
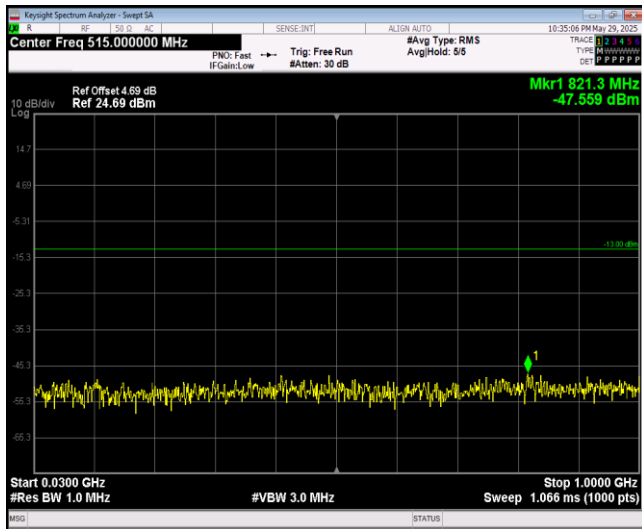
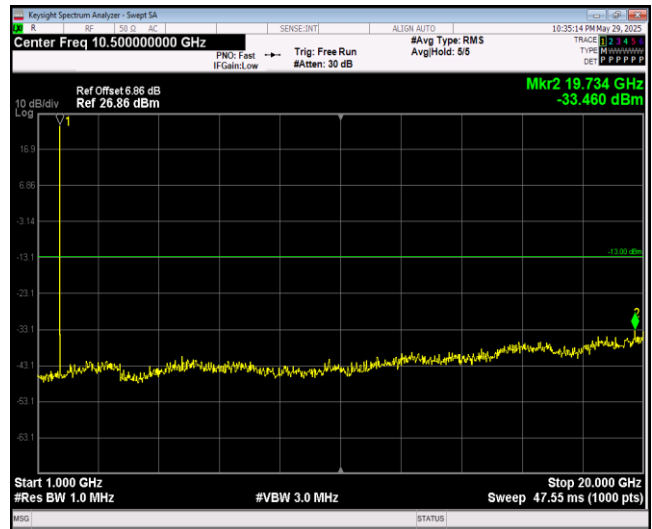
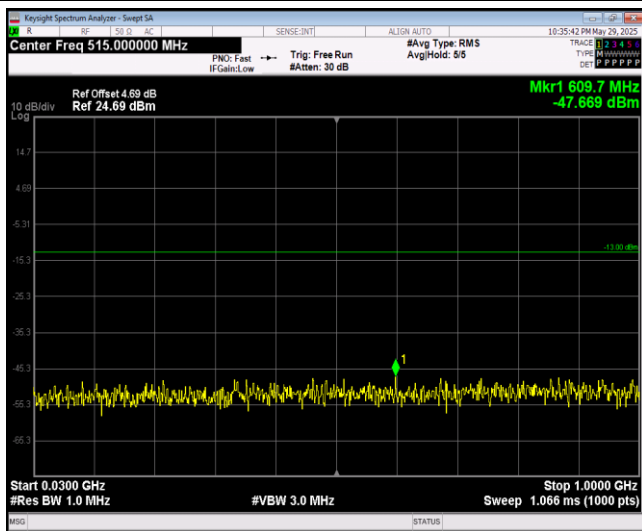
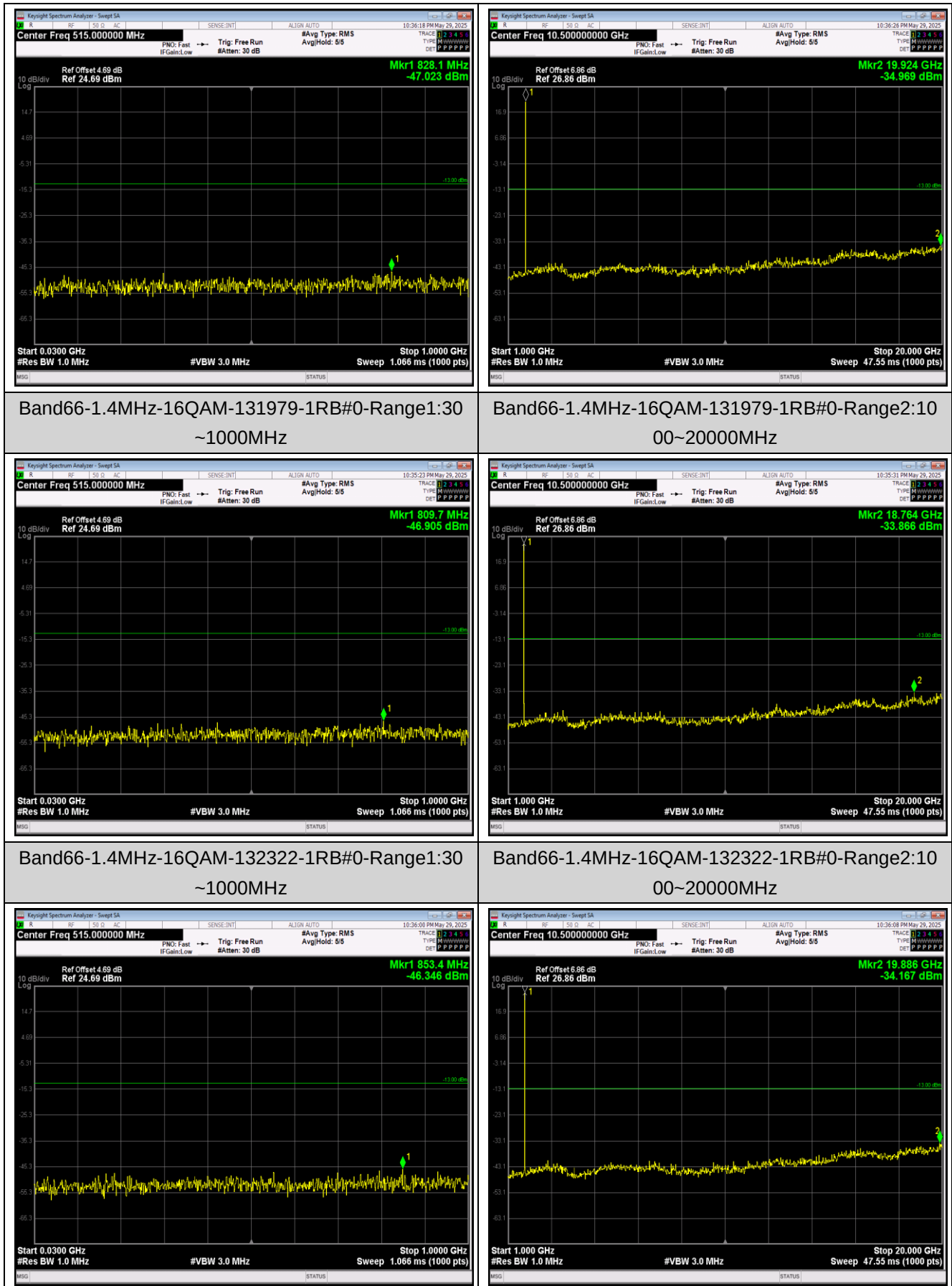


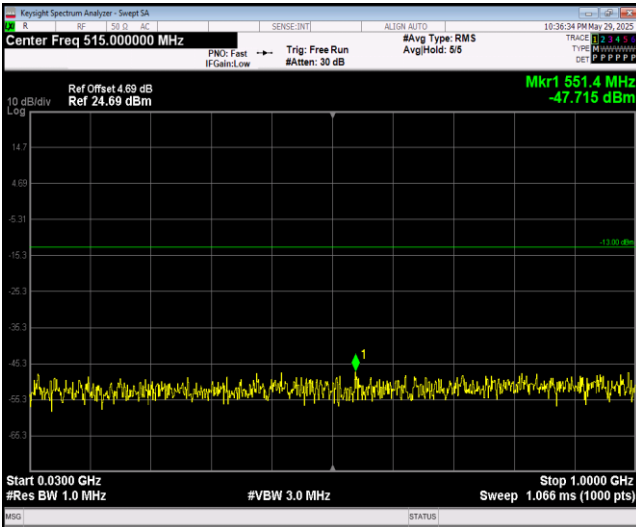


Band66-1.4MHz-QPSK-131979-1RB#0-Range1:30~
1000MHzBand66-1.4MHz-QPSK-131979-1RB#0-Range2:100
0~20000MHzBand66-1.4MHz-QPSK-132322-1RB#0-Range1:30~
1000MHzBand66-1.4MHz-QPSK-132322-1RB#0-Range2:100
0~20000MHzBand66-1.4MHz-QPSK-132665-1RB#0-Range1:30~
1000MHzBand66-1.4MHz-QPSK-132665-1RB#0-Range2:100
0~20000MHz

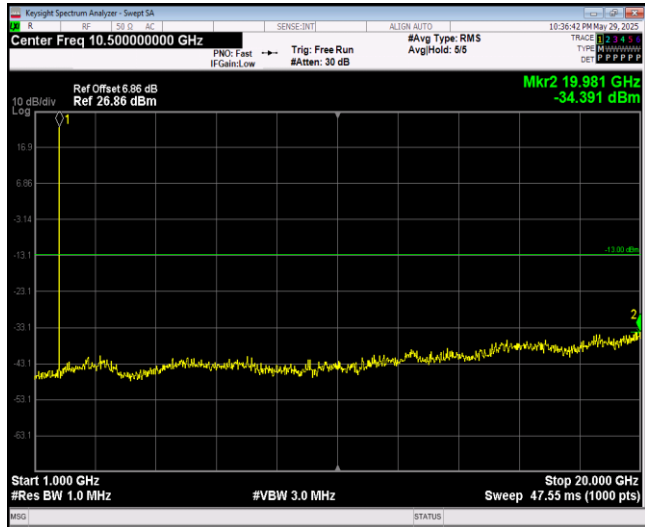




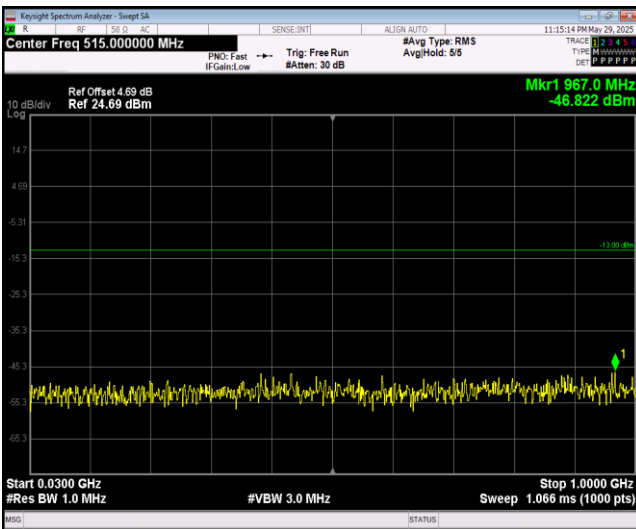
Band66-1.4MHz-16QAM-132665-1RB#0-Range1:30
~1000MHz



Band66-1.4MHz-16QAM-132665-1RB#0-Range2:10
00~20000MHz



Band66-20MHz-QPSK-132072-1RB#0-Range1:30~1
000MHz

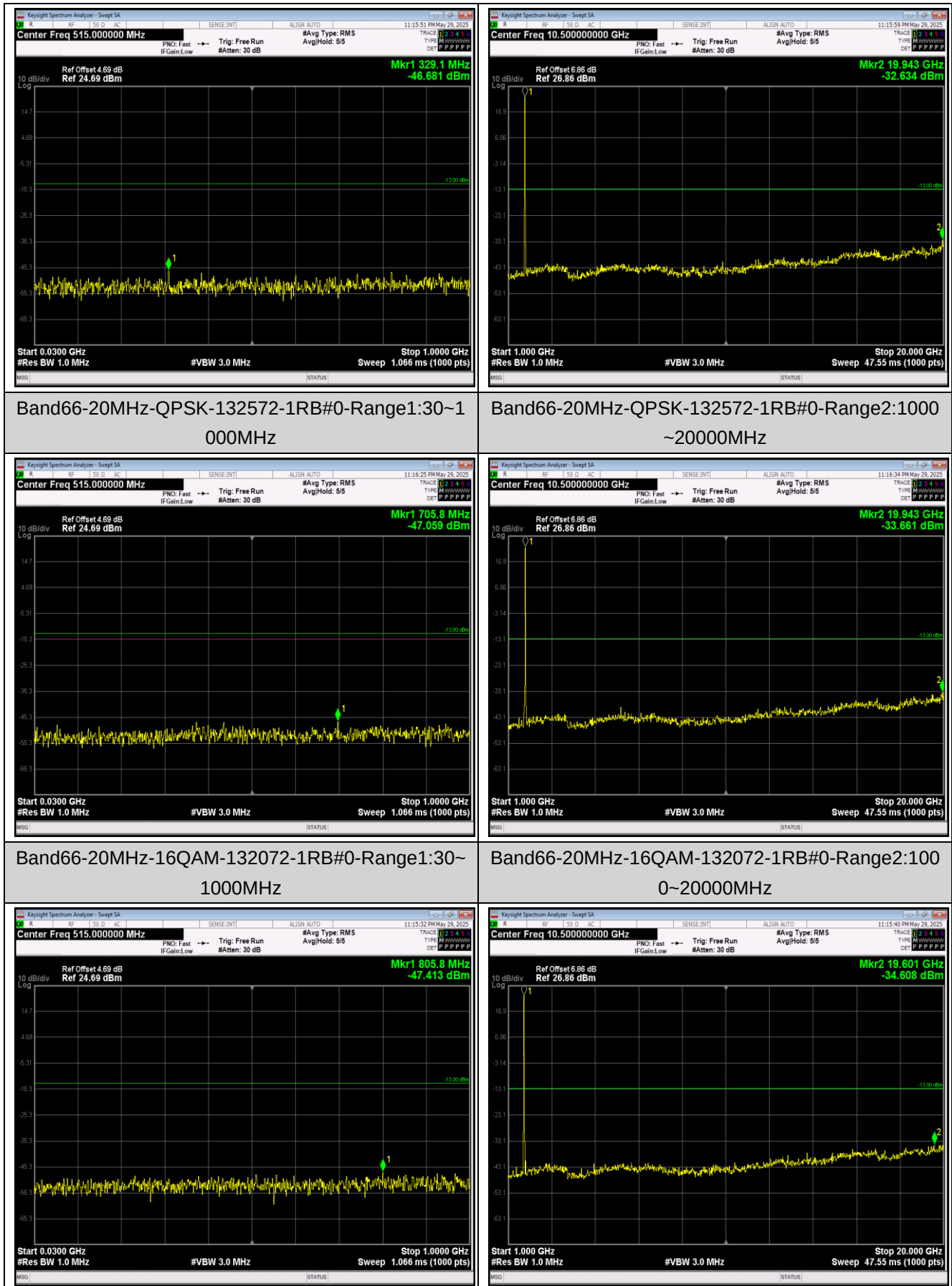


Band66-20MHz-QPSK-132072-1RB#0-Range2:1000
~20000MHz



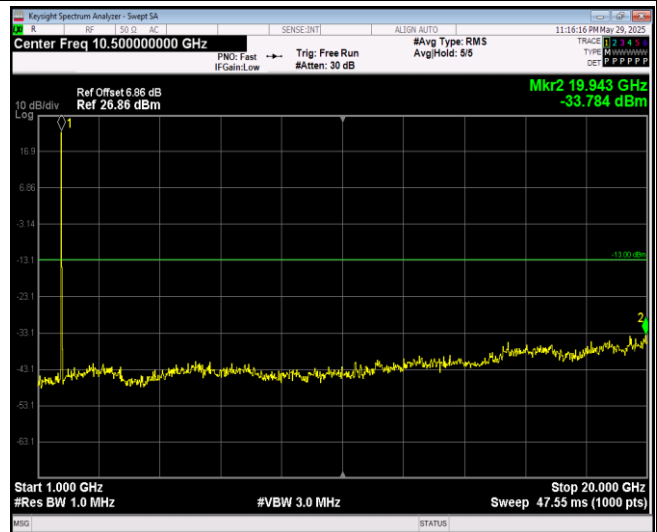
Band66-20MHz-QPSK-132322-1RB#0-Range1:30~1
000MHz

Band66-20MHz-QPSK-132322-1RB#0-Range2:1000
~20000MHz

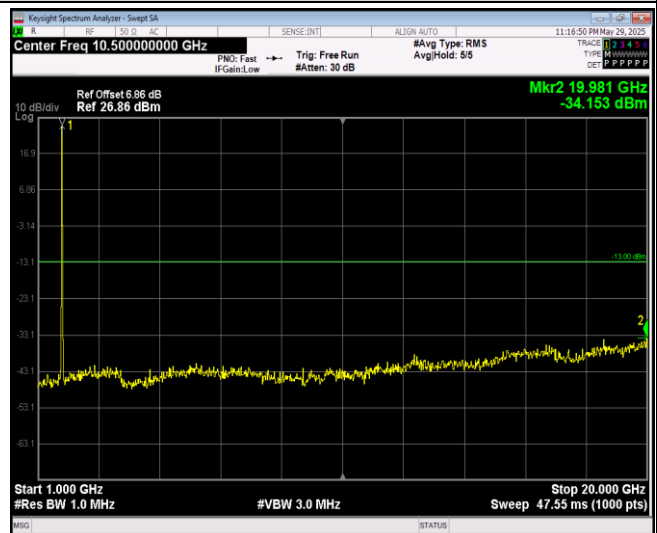




Band66-20MHz-16QAM-132322-1RB#0-Range2:100
0~20000MHz



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





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	-32.70	-0.017394	Within authorized band for Band 2	Pass
	-20	-27.69	-0.014729		
	-10	-27.15	-0.014441		
	0	-33.86	-0.018011		
	10	-26.36	-0.014021		
	20	-61.76	-0.032851		
	30	-36.48	-0.019404		
	40	-40.86	-0.021734		
	50	-38.01	-0.020218		
16QAM					
3.87	-30	-12.89	-0.006856	Within authorized band for Band 2	Pass
	-20	-40.87	-0.021739		
	-10	9.27	0.004931		
	0	16.62	0.008840		
	10	25.52	0.013574		
	20	41.06	0.021840		
	30	46.79	0.024888		
	40	22.66	0.012053		
	50	35.36	0.018809		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-28.17	-0.014984	Within authorized band for Band 2	Pass
	3.87	-15.94	-0.008479		
	4.45	-27.92	-0.014851		
16QAM					
25	3.50	-22.66	-0.012053	Within authorized band for Band 2	Pass
	3.87	-36.11	-0.019207		
	4.45	-17.77	-0.009452		
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	3.89	0.004650	±2.5	Pass
	-20	6.47	0.007735		
	-10	8.61	0.010293		
	0	-12.92	-0.015445		
	10	-9.28	-0.011094		
	20	-13.16	-0.015732		
	30	-8.55	-0.010221		
	40	-10.27	-0.012277		
	50	-10.69	-0.012779		
16QAM					
3.87	-30	8.94	0.010687	±2.5	Pass
	-20	17.78	0.021255		
	-10	18.65	0.022295		
	0	20.06	0.023981		
	10	24.12	0.028834		
	20	24.59	0.029396		
	30	25.62	0.030628		
	40	28.25	0.033772		
	50	30.83	0.036856		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-6.82	-0.008153	±2.5	Pass
	3.87	-16.31	-0.019498		
	4.45	-4.53	-0.005415		
16QAM					
25	3.50	2.76	0.003299	±2.5	Pass
	3.87	-7.11	-0.008500		
	4.45	6.25	0.007472		
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	31.89	0.012580	Within authorized band for Band 7	Pass
	-20	17.64	0.006959		
	-10	26.79	0.010568		
	0	43.37	0.017108		
	10	21.59	0.008517		
	20	36.62	0.014446		
	30	42.16	0.016631		
	40	50.70	0.020000		
	50	31.17	0.012296		
16QAM					
3.87	-30	-43.02	-0.016970	Within authorized band for Band 7	Pass
	-20	-10.69	-0.004217		
	-10	31.37	0.012375		
	0	-11.64	-0.004592		
	10	26.51	0.010458		
	20	46.25	0.018245		
	30	23.82	0.009396		
	40	44.03	0.017369		
	50	-58.84	-0.023211		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	49.55	0.019546	Within authorized band for Band 7	Pass
	3.87	29.87	0.011783		
	4.45	61.33	0.024193		
16QAM					
25	3.50	36.16	0.014264	Within authorized band for Band 7	Pass
	3.87	42.20	0.016647		
	4.45	50.01	0.019728		
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					
3.87	-30	9.74	0.013767	Within authorized band for Band 12	Pass
	-20	6.15	0.008693		
	-10	-9.74	-0.013767		
	0	-17.54	-0.024792		
	10	-30.00	-0.042403		
	20	-32.97	-0.046601		
	30	-31.17	-0.044057		
	40	-31.93	-0.045131		
	50	-27.64	-0.039067		
16QAM					
3.87	-30	-20.23	-0.028594	Within authorized band for Band 12	Pass
	-20	-15.09	-0.021329		
	-10	-11.59	-0.016382		
	0	-7.21	-0.010191		
	10	5.72	0.008085		
	20	14.28	0.020184		
	30	17.44	0.024650		
	40	20.27	0.028650		
	50	22.03	0.031138		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-5.51	-0.007788	Within authorized band for Band 12	Pass
	3.87	-8.80	-0.012438		
	4.45	6.91	0.009767		
16QAM					
25	3.50	-20.48	-0.028947	Within authorized band for Band 12	Pass
	3.87	-26.71	-0.037753		
	4.45	-31.99	-0.045216		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					



LTE Band 38 part:

Reference Frequency: LTE Band 38(10MHz) Middle channel=38000 Frequency=2595.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.87	-30	16.08	0.006197	Within authorized band for Band 38	Pass
	-20	15.58	0.006004		
	-10	-25.92	-0.009988		
	0	-36.95	-0.014239		
	10	-37.19	-0.014331		
	20	-45.95	-0.017707		
	30	-52.56	-0.020254		
	40	-11.01	-0.004243		
	50	-17.57	-0.006771		
16QAM					
3.87	-30	-24.09	-0.009283	Within authorized band for Band 38	Pass
	-20	-21.74	-0.008378		
	-10	9.56	0.003684		
	0	21.24	0.008185		
	10	33.50	0.012909		
	20	40.66	0.015669		
	30	20.31	0.007827		
	40	35.35	0.013622		
	50	48.18	0.018566		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-5.14	-0.001981	Within authorized band for Band 38	Pass
	3.87	-11.04	-0.004254		
	4.45	14.28	0.005503		
16QAM					
25	3.50	-9.43	-0.003634	Within authorized band for Band 38	Pass
	3.87	-12.23	-0.004713		
	4.45	-23.07	-0.008890		
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					
3.87	-30	21.24	0.012172	Within authorized band for Band 66	Pass
	-20	25.29	0.014493		
	-10	11.67	0.006688		
	0	-22.59	-0.012946		
	10	-12.50	-0.007163		
	20	-24.49	-0.014034		
	30	10.14	0.005811		
	40	17.65	0.010115		
	50	24.48	0.014029		
16QAM					
3.87	-30	22.22	0.012734	Within authorized band for Band 66	Pass
	-20	-22.95	-0.013152		
	-10	18.47	0.010585		
	0	28.68	0.016436		
	10	41.43	0.023742		
	20	14.82	0.008493		
	30	23.98	0.013742		
	40	30.61	0.017542		
	50	37.61	0.021553		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-46.23	-0.026493	Within authorized band for Band 66	Pass
	3.87	-13.18	-0.007553		
	4.45	27.11	0.015536		
16QAM					
25	3.50	41.10	0.023553	Within authorized band for Band 66	Pass
	3.87	35.66	0.020436		
	4.45	16.72	0.009582		
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
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
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS
Band38	20MHz	QPSK	38000	100RB#0	PASS	PASS
Band38	20MHz	16QAM	38000	100RB#0	PASS	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS	PASS
Band66	20MHz	16QAM	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

