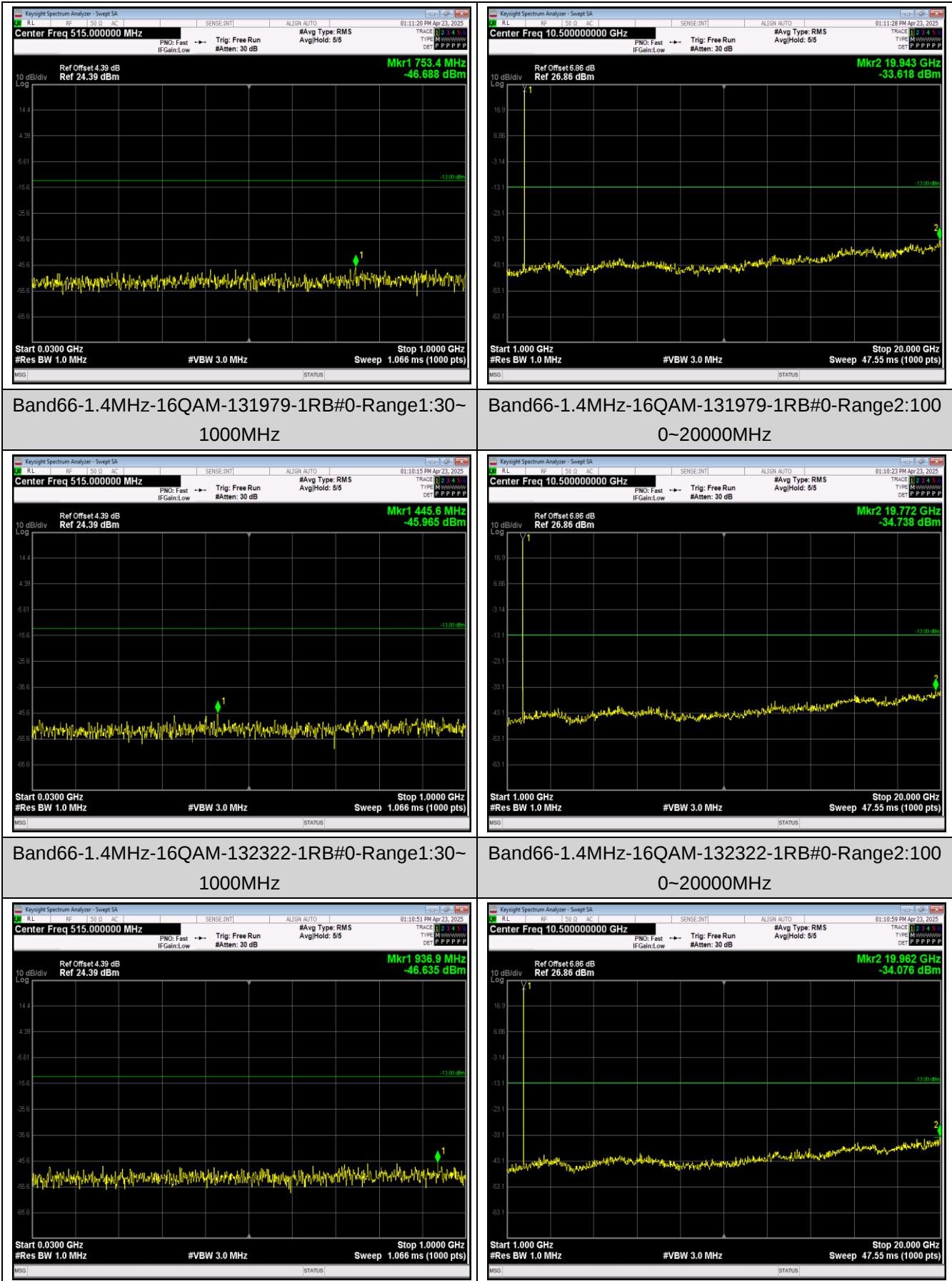
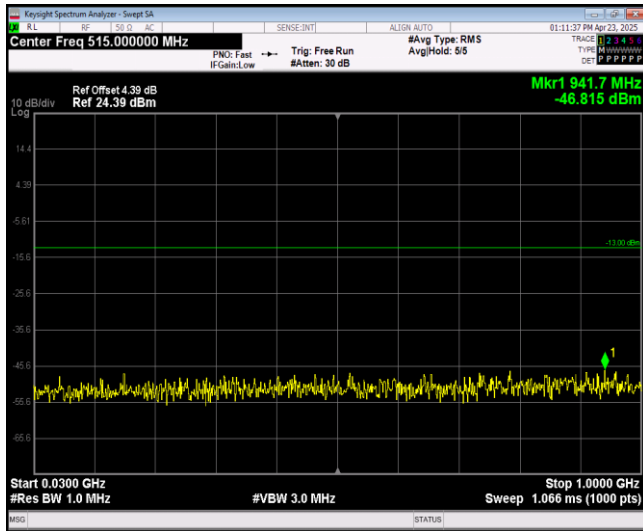
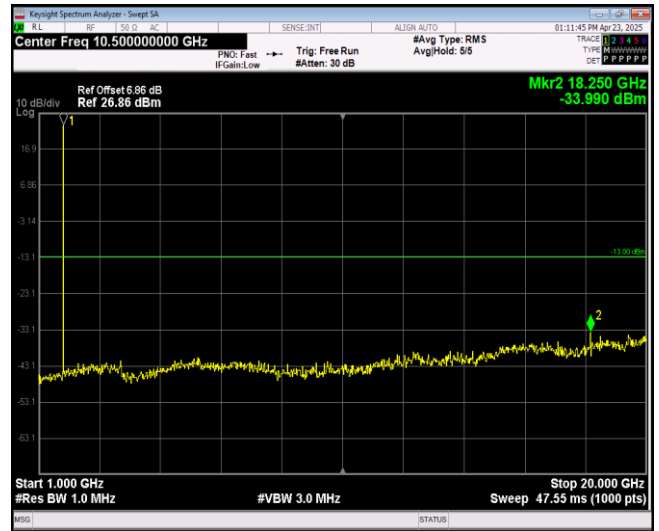




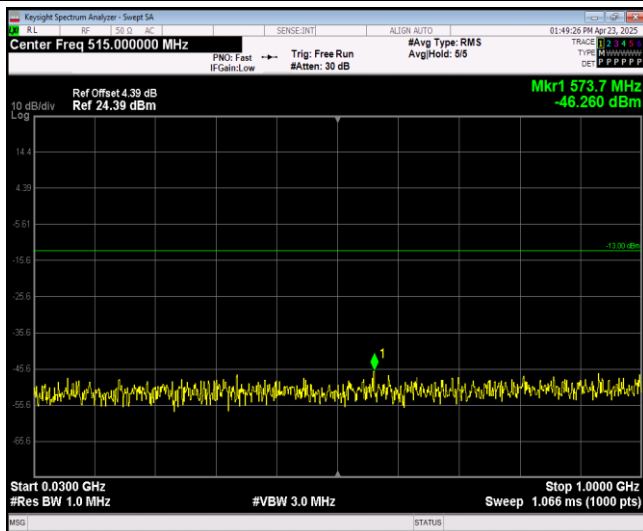
Band66-1.4MHz-16QAM-132665-1RB#0-Range1:30~1000MHz



Band66-1.4MHz-16QAM-132665-1RB#0-Range2:1000~20000MHz



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



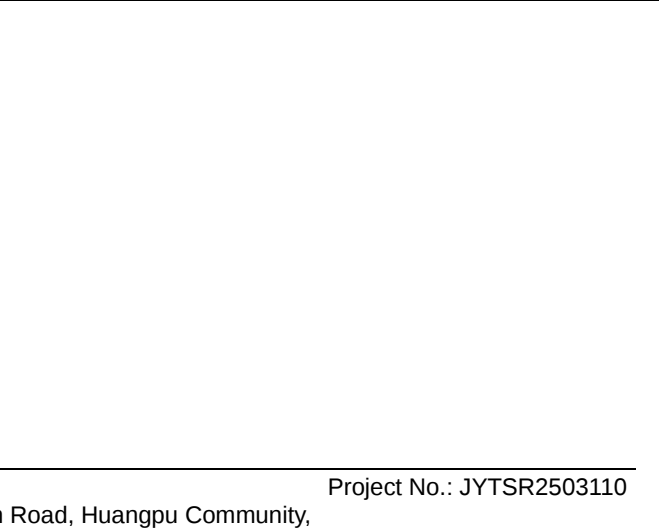
Band66-20MHz-QPSK-132072-1RB#0-Range2:1000~20000MHz

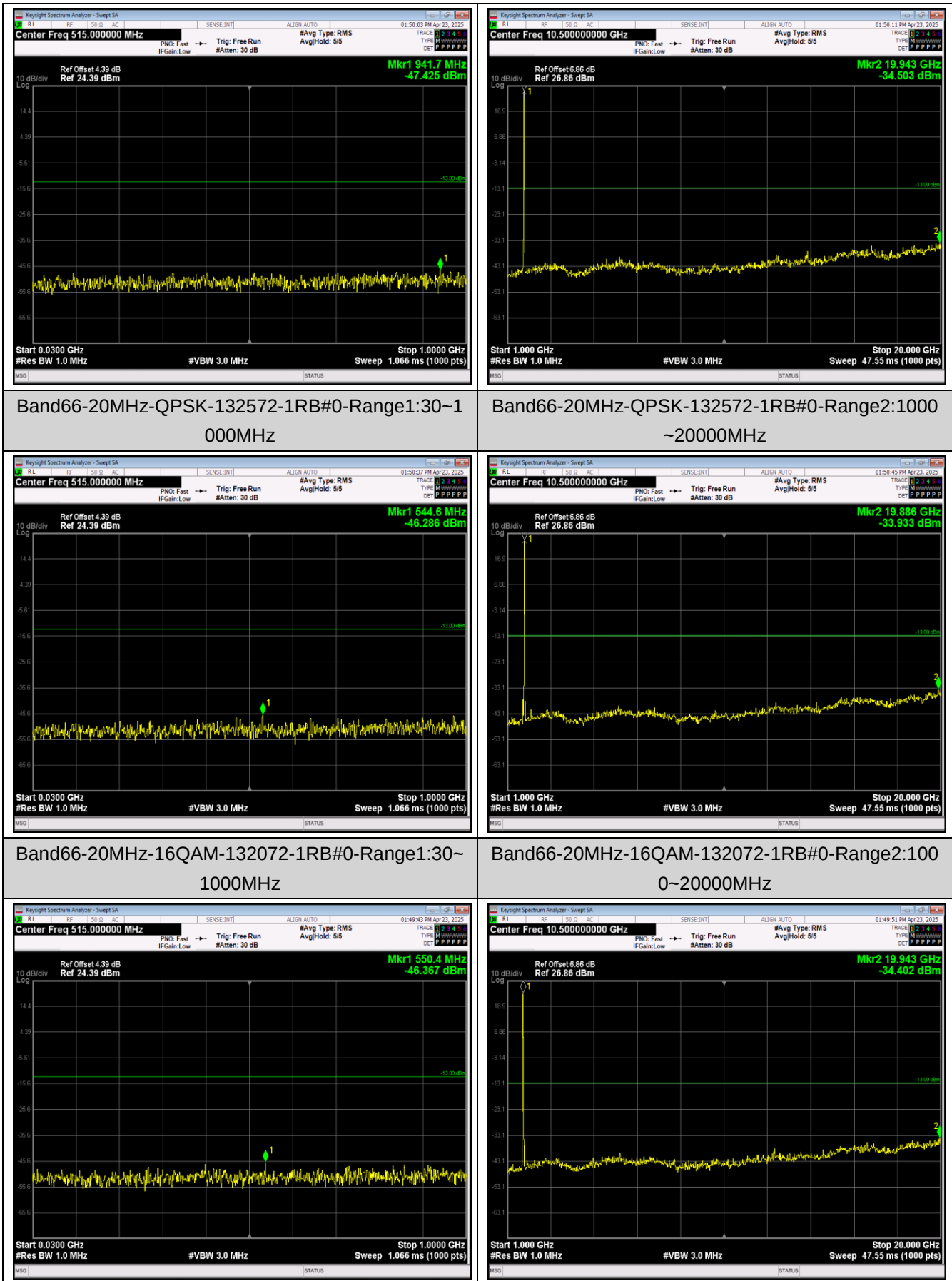


Band66-20MHz-QPSK-132322-1RB#0-Range1:30~1000MHz

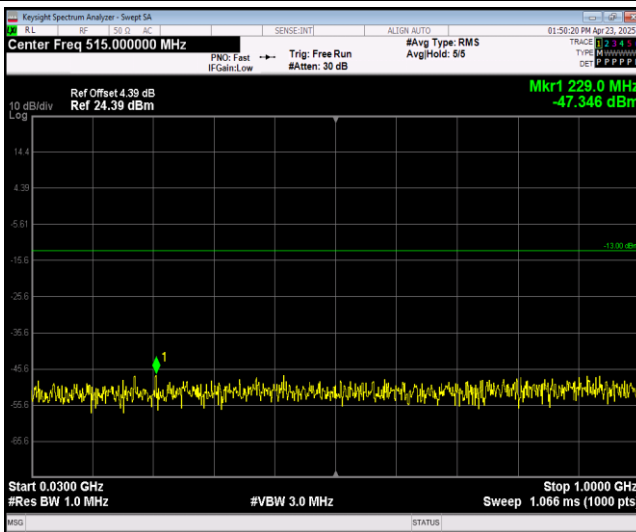


Band66-20MHz-QPSK-132322-1RB#0-Range2:1000~20000MHz

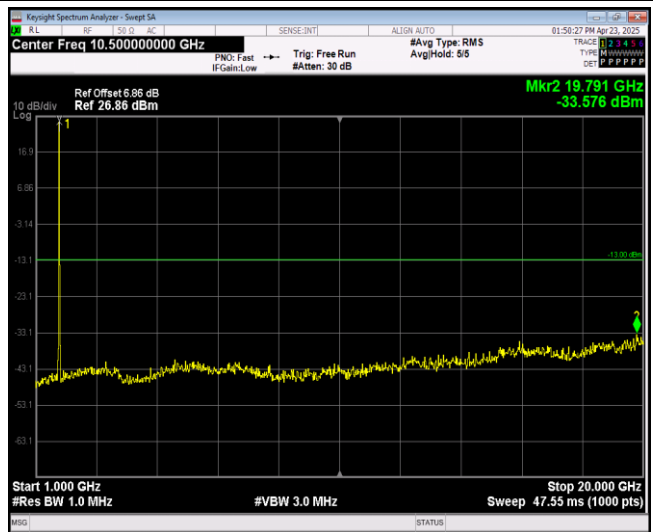




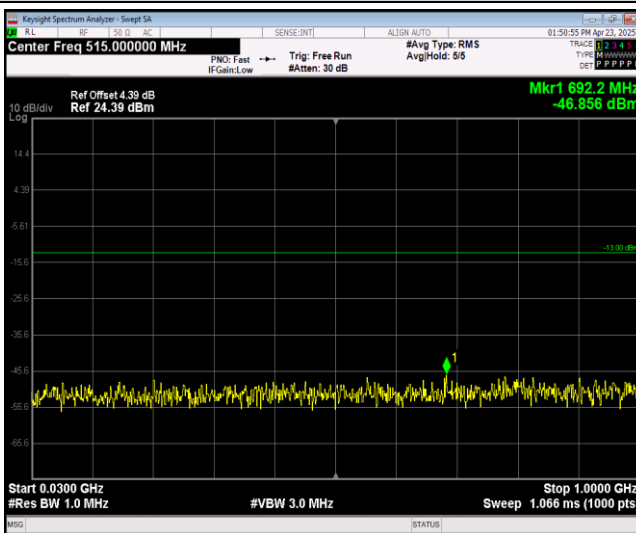
Band66-20MHz-16QAM-132322-1RB#0-Range1:30~
1000MHz



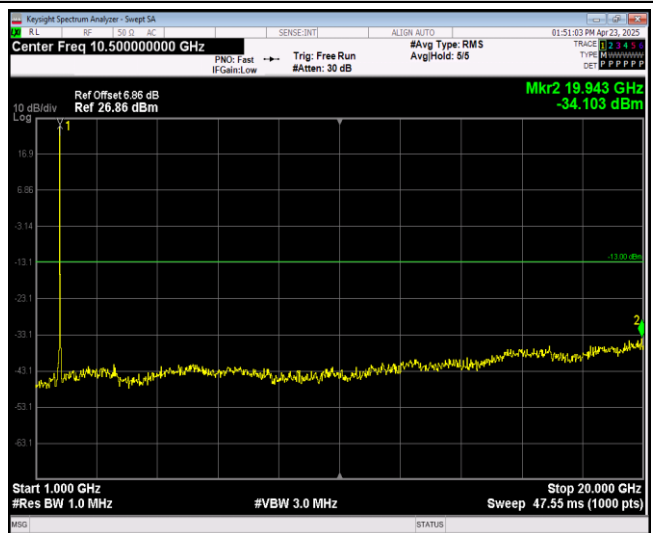
Band66-20MHz-16QAM-132322-1RB#0-Range2:100
0~20000MHz



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



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



Appendix F: Frequency Stability

Test Result: LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.87	-30	25.96	0.031034	±2.5	Pass
	-20	39.45	0.047161		
	-10	35.66	0.042630		
	0	39.42	0.047125		
	10	35.53	0.042475		
	20	32.96	0.039402		
	30	32.23	0.038530		
	40	32.36	0.038685		
	50	30.04	0.035912		
16QAM					
3.87	-30	-32.54	-0.038900	±2.5	Pass
	-20	-29.74	-0.035553		
	-10	-40.63	-0.048571		
	0	-39.54	-0.047268		
	10	-46.75	-0.055888		
	20	6.04	0.007221		
	30	-9.13	-0.010915		
	40	-11.27	-0.013473		
	50	-13.85	-0.016557		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	14.73	0.017609	±2.5	Pass
	3.87	-44.19	-0.052827		
	4.45	33.42	0.039952		
16QAM					
25	3.50	-6.45	-0.007711	±2.5	Pass
	3.87	26.74	0.031967		
	4.45	-20.01	-0.023921		
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	57.18	0.022556	Within authorized band for Band 7	Pass
	-20	47.84	0.018872		
	-10	59.37	0.023420		
	0	27.32	0.010777		
	10	-18.18	-0.007172		
	20	34.88	0.013759		
	30	45.18	0.017822		
	40	51.24	0.020213		
	50	42.83	0.016895		
16QAM					
3.87	-30	-42.87	-0.016911	Within authorized band for Band 7	Pass
	-20	-36.42	-0.014367		
	-10	19.40	0.007653		
	0	-14.38	-0.005673		
	10	-34.10	-0.013452		
	20	-41.76	-0.016473		
	30	-17.34	-0.006840		
	40	-59.82	-0.023598		
	50	-43.69	-0.017235		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	40.45	0.015957	Within authorized band for Band 7	Pass
	3.87	24.70	0.009744		
	4.45	41.84	0.016505		
16QAM					
25	3.50	-22.62	-0.008923	Within authorized band for Band 7	Pass
	3.87	15.99	0.006308		
	4.45	-67.82	-0.026753		
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	22.77	0.032184	Within authorized band for Band 12	Pass
	-20	31.03	0.043859		
	-10	46.81	0.066163		
	0	7.22	0.010205		
	10	16.64	0.023519		
	20	25.61	0.036198		
	30	31.41	0.044396		
	40	31.93	0.045131		
	50	42.33	0.059830		
16QAM					
3.87	-30	-9.83	-0.013894	Within authorized band for Band 12	Pass
	-20	-17.48	-0.024707		
	-10	-28.85	-0.040777		
	0	-46.02	-0.065046		
	10	-10.37	-0.014657		
	20	-14.06	-0.019873		
	30	-17.70	-0.025018		
	40	-18.77	-0.026530		
	50	-23.93	-0.033823		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	10.76	0.015208	Within authorized band for Band 12	Pass
	3.87	-9.07	-0.012820		
	4.45	47.49	0.067124		
16QAM					
25	3.50	23.05	0.032580	Within authorized band for Band 12	Pass
	3.87	41.94	0.059279		
	4.45	5.95	0.008410		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 25 part:

Reference Frequency: LTE Band 25(10MHz) Middle channel=26365 Frequency=1882.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.87	-30	35.13	0.018661	Within authorized band for Band 25	Pass
	-20	54.76	0.029089		
	-10	-11.82	-0.006279		
	0	17.17	0.009121		
	10	13.93	0.007400		
	20	15.21	0.008080		
	30	21.90	0.011633		
	40	37.11	0.019713		
	50	31.89	0.016940		
16QAM					
3.87	-30	-36.42	-0.019347	Within authorized band for Band 25	Pass
	-20	-43.36	-0.023033		
	-10	-53.11	-0.028212		
	0	15.02	0.007979		
	10	-10.60	-0.005631		
	20	-32.04	-0.017020		
	30	-43.77	-0.023251		
	40	-32.66	-0.017349		
	50	-34.58	-0.018369		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	26.15	0.013891	Within authorized band for Band 25	Pass
	3.87	-4.56	-0.002422		
	4.45	58.67	0.031166		
16QAM					
25	3.50	23.92	0.012707	Within authorized band for Band 25	Pass
	3.87	42.10	0.022364		
	4.45	-20.11	-0.010683		
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	18.75	0.007225	Within authorized band for Band 41	Pass
	-20	-31.93	-0.012304		
	-10	-60.78	-0.023422		
	0	-40.48	-0.015599		
	10	-22.49	-0.008667		
	20	-53.17	-0.020489		
	30	16.26	0.006266		
	40	-28.61	-0.011025		
	50	-58.34	-0.022482		
16QAM					
3.87	-30	-54.65	-0.021060	Within authorized band for Band 41	Pass
	-20	-20.66	-0.007961		
	-10	-14.52	-0.005595		
	0	-28.28	-0.010898		
	10	-26.14	-0.010073		
	20	-30.98	-0.011938		
	30	-33.02	-0.012724		
	40	-43.49	-0.016759		
	50	-41.74	-0.016085		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-29.08	-0.011206	Within authorized band for Band 41	Pass
	3.87	-24.39	-0.009399		
	4.45	-25.43	-0.009800		
16QAM					
25	3.50	-24.35	-0.009383	Within authorized band for Band41	Pass
	3.87	-13.89	-0.005353		
	4.45	-22.00	-0.008478		
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	48.09	0.027559	Within authorized band for Band 66	Pass
	-20	-26.82	-0.015370		
	-10	33.36	0.019117		
	0	14.39	0.008246		
	10	36.72	0.021043		
	20	34.70	0.019885		
	30	18.70	0.010716		
	40	55.25	0.031662		
	50	26.62	0.015255		
16QAM					
3.87	-30	-42.86	-0.024562	Within authorized band for Band 66	Pass
	-20	-45.30	-0.025960		
	-10	-49.15	-0.028166		
	0	-35.92	-0.020585		
	10	-18.12	-0.010384		
	20	-47.85	-0.027421		
	30	-45.39	-0.026011		
	40	11.59	0.006642		
	50	-25.68	-0.014716		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	26.82	0.015370	Within authorized band for Band 66	Pass
	3.87	-7.30	-0.004183		
	4.45	18.41	0.010550		
16QAM					
25	3.50	-33.59	-0.019249	Within authorized band for Band 66	Pass
	3.87	34.03	0.019501		
	4.45	-49.68	-0.028470		
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
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
Band25	20MHz	QPSK	26365	100RB#0	PASS	PASS
Band25	20MHz	16QAM	26365	100RB#0	PASS	PASS
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	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



