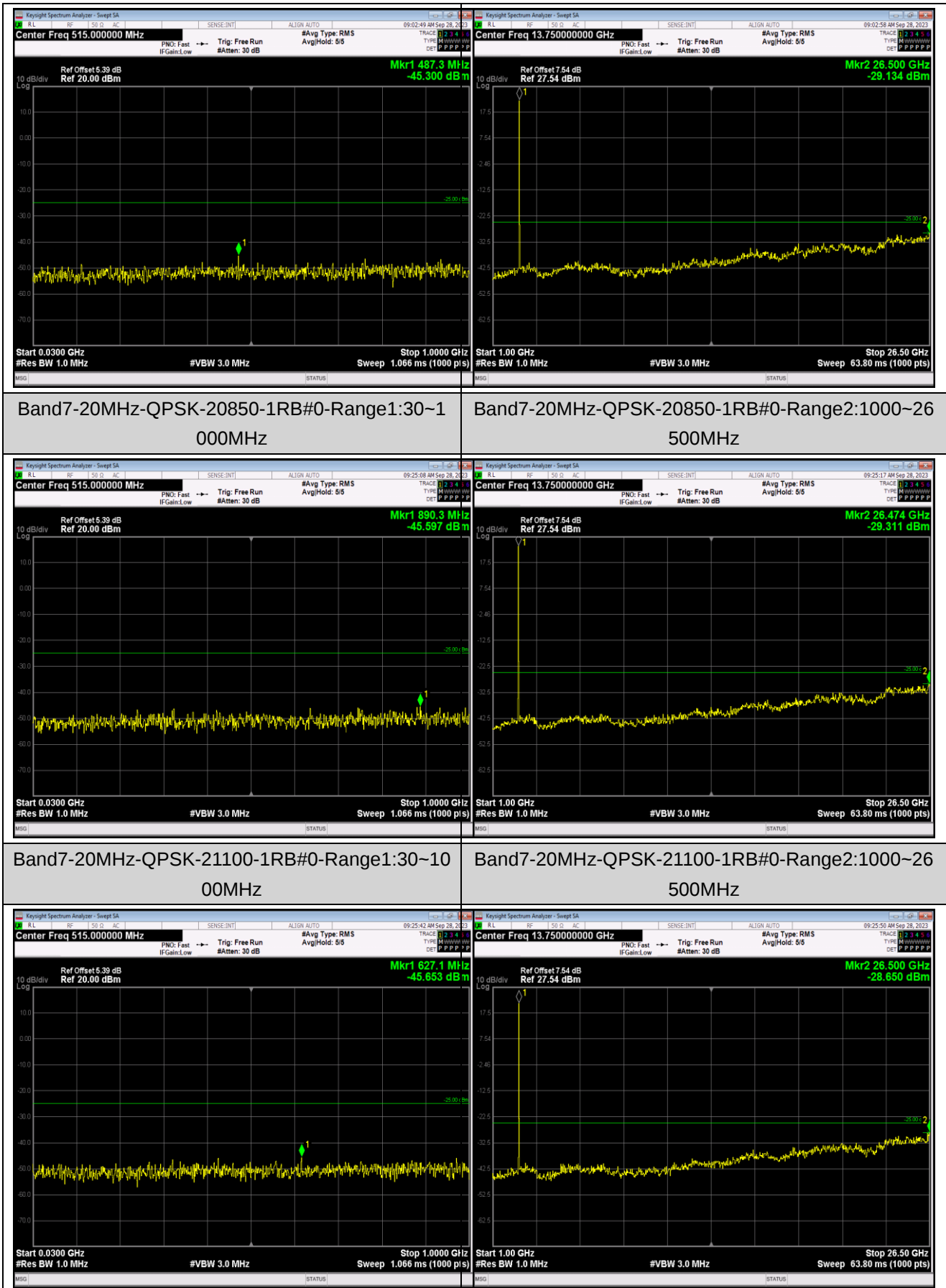


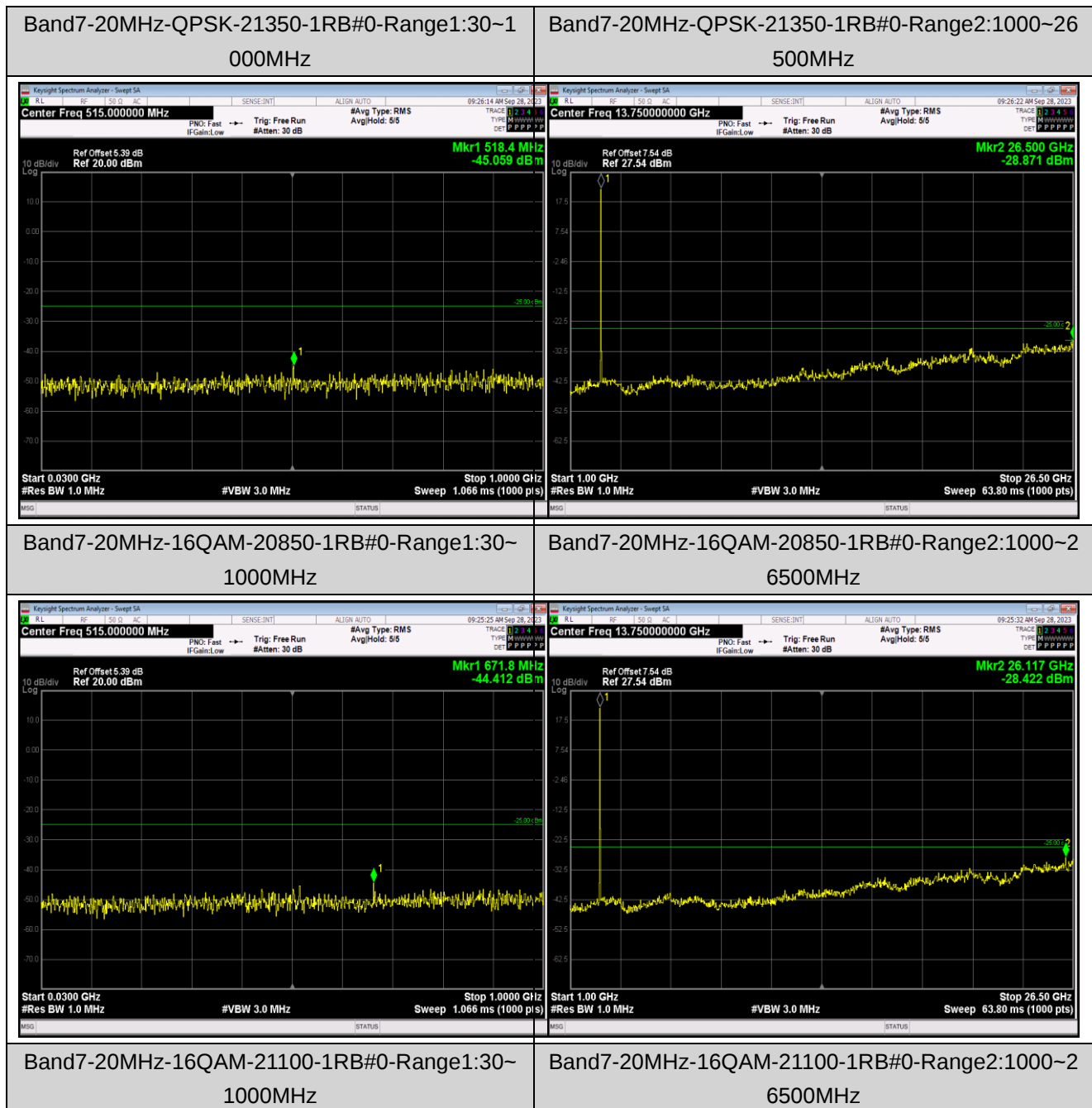


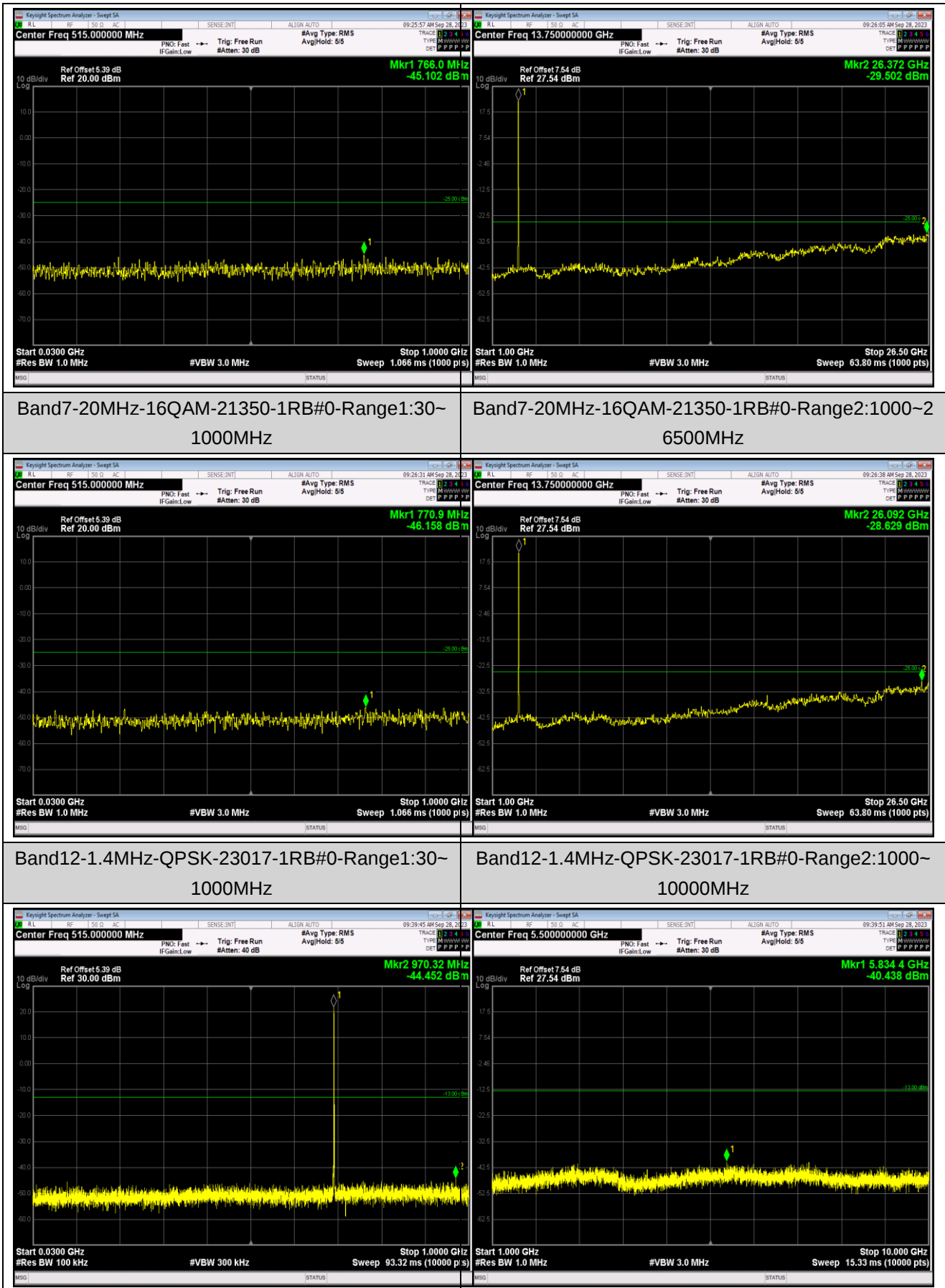
JianYan Testing Group Shenzhen Co., Ltd.

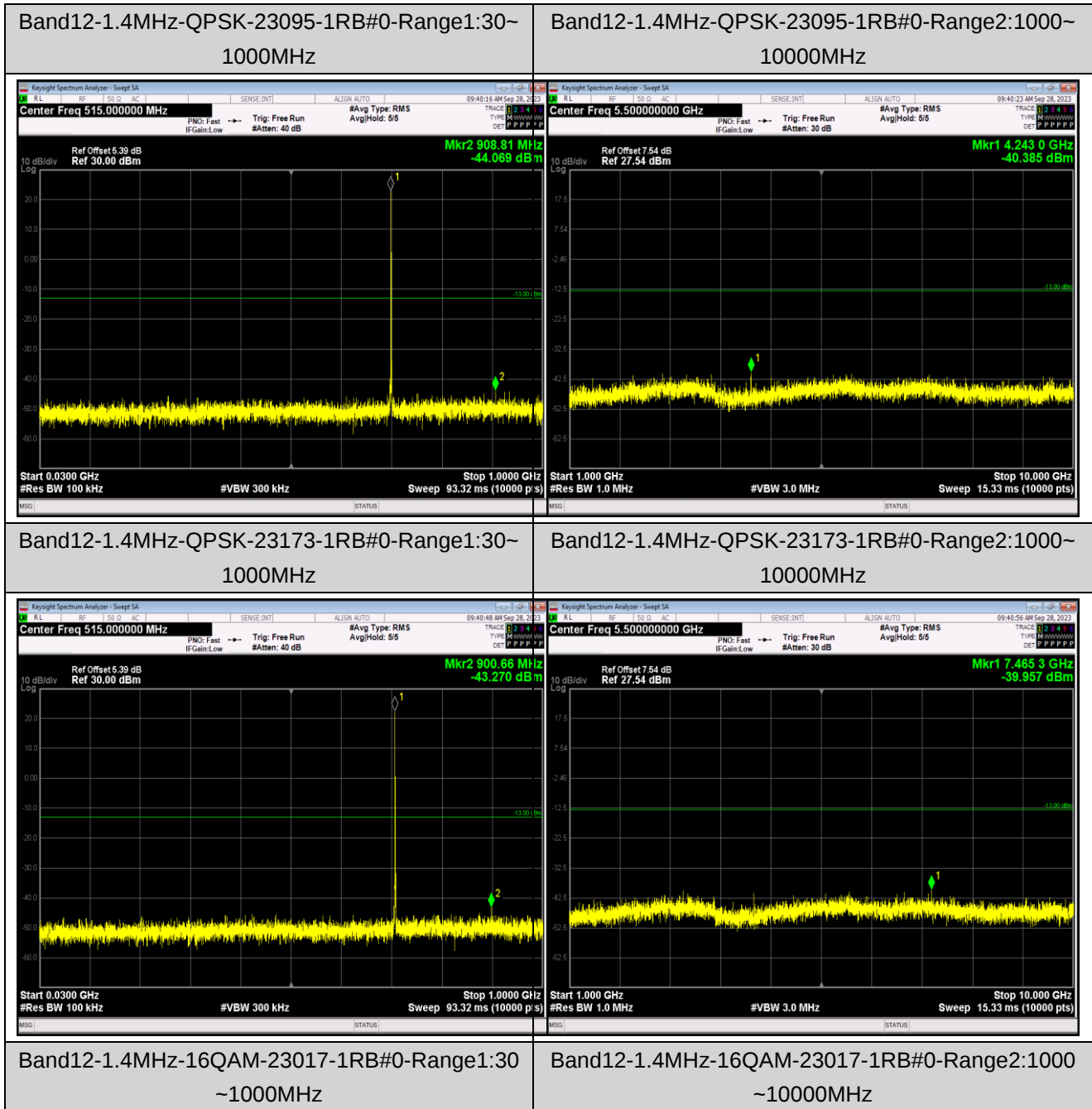
No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

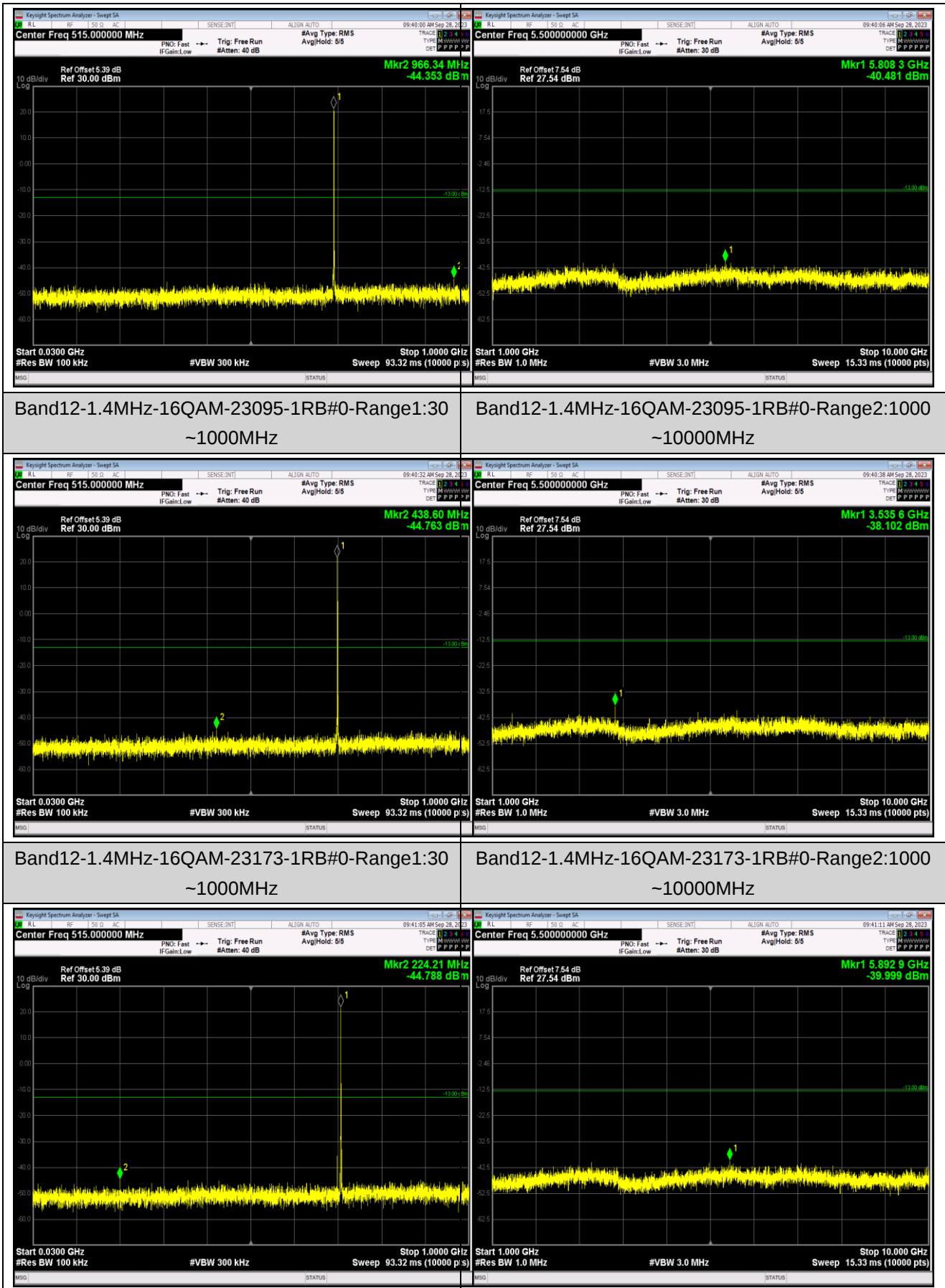
Tel: +86-755-23118282, Fax: +86-755-23116366

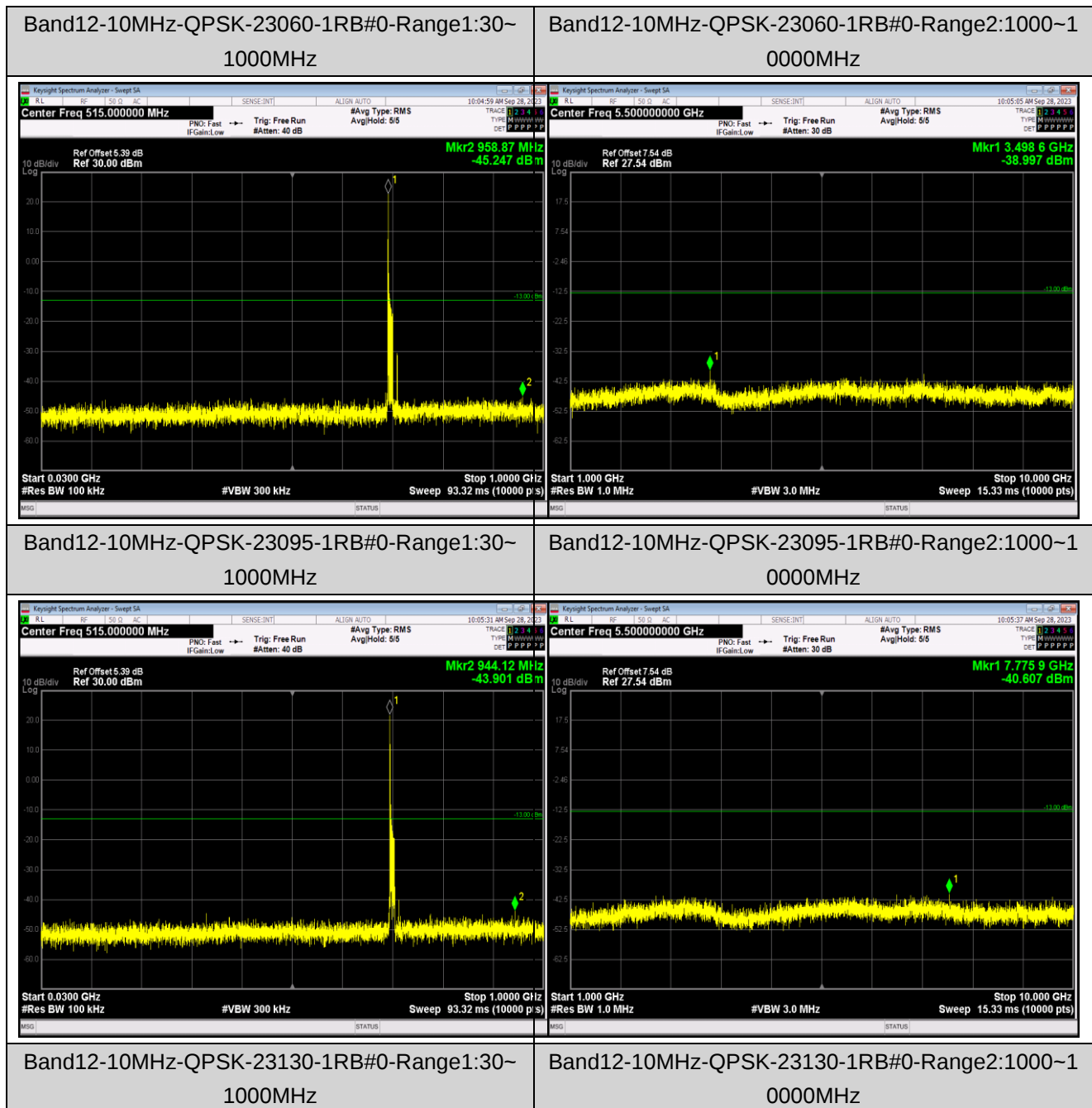
Project No.: JYTSZR2309027

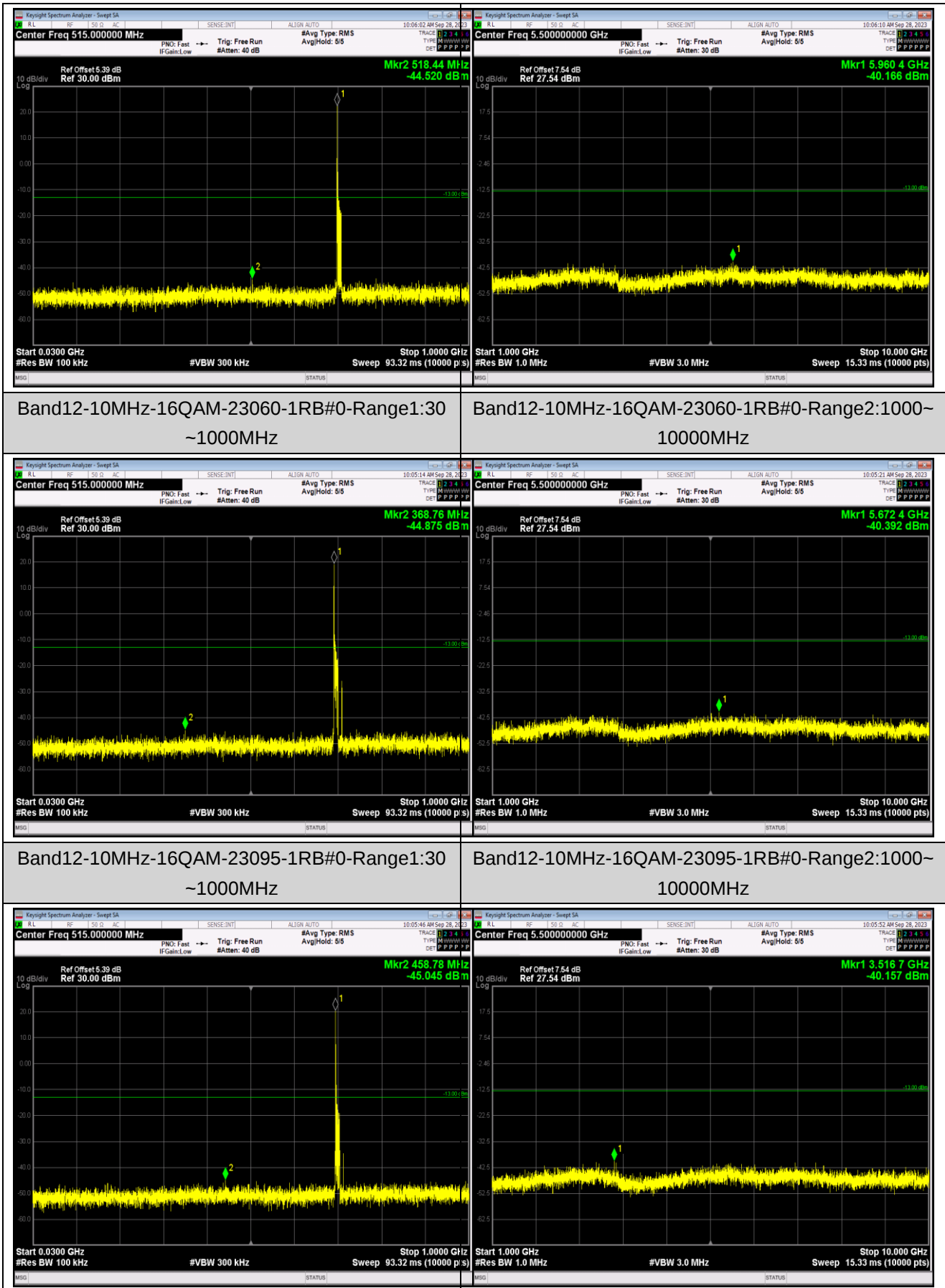


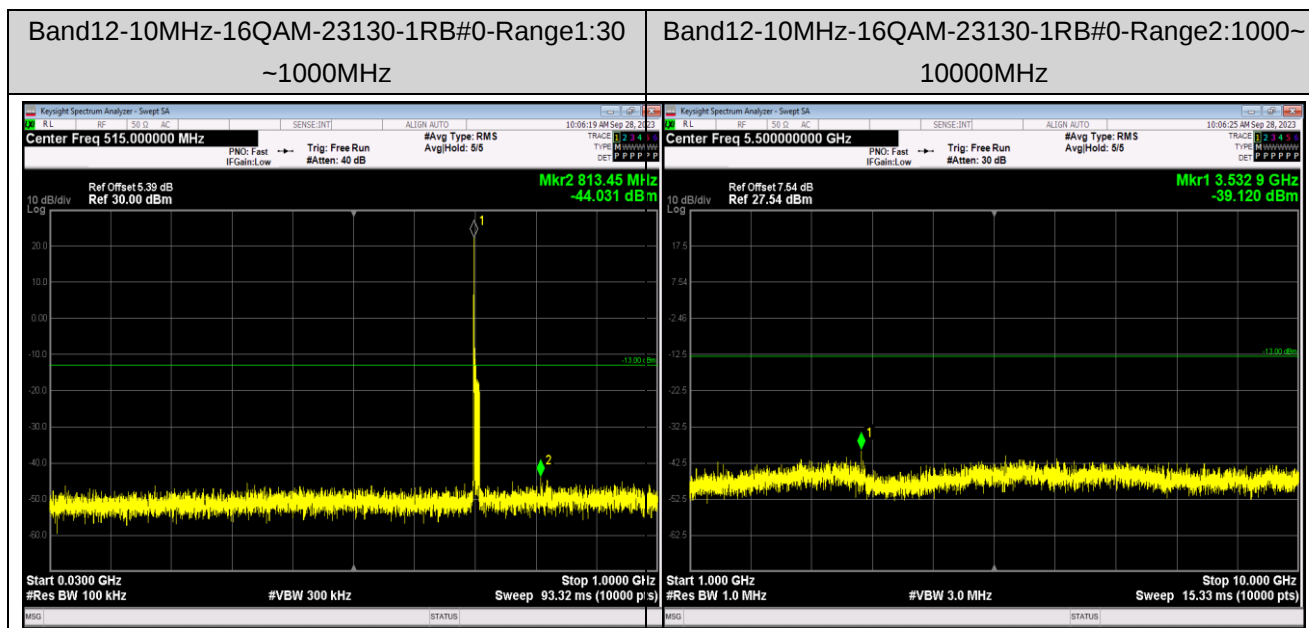












Appendix F: Frequency Stability

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	6.08	0.003234	Within authorized band for Band 2	Pass
	-20	-7.14	-0.003798		
	-10	14.12	0.007511		
	0	10.81	0.005750		
	10	14.75	0.007846		
	20	17.02	0.009053		
	30	21.24	0.011298		
	40	23.17	0.012324		
	50	21.01	0.011176		
16QAM					
3.70	-30	19.45	0.010346	Within authorized band for Band 2	Pass
	-20	21.86	0.011628		
	-10	19.01	0.010112		
	0	9.88	0.005255		
	10	8.23	0.004378		
	20	12.37	0.006580		
	30	10.67	0.005676		

	40	8.63	0.004590		
	50	6.32	0.003362		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.33	6.15	0.003271	Within authorized band for Band 2	Pass
	3.70	11.64	0.006191		
	4.07	-4.09	-0.002176		
16QAM					
25	3.33	24.78	0.013181	Within authorized band for Band 2	Pass
	3.70	24.79	0.013186		
	4.07	21.30	0.011330		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	-19.56	-0.011290	Within authorized band for Band 4	Pass
	-20	-21.79	-0.012577		
	-10	-18.34	-0.010586		
	0	-17.21	-0.009934		
	10	-21.00	-0.012121		
	20	-17.95	-0.010361		
	30	-16.15	-0.009322		
	40	-15.55	-0.008975		
	50	-15.69	-0.009056		
16QAM					
3.70	-30	-9.30	-0.005368	Within authorized band for Band 4	Pass
	-20	-4.86	-0.002805		
	-10	-2.93	-0.001691		
	0	10.09	0.005824		
	10	7.51	0.004335		
	20	5.46	0.003152		
	30	9.47	0.005466		
	40	13.70	0.007908		
	50	12.43	0.007175		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.33	-18.32	-0.010574	Within authorized band for Band 4	Pass
	3.70	-16.57	-0.009564		
	4.07	-20.27	-0.011700		
16QAM					
25	3.33	-15.96	-0.009212	Within authorized band for Band 4	Pass
	3.70	-15.26	-0.008808		
	4.07	-12.92	-0.007457		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	20.16	0.024100	±2.5	Pass
	-20	20.34	0.024316		
	-10	17.52	0.020944		
	0	14.68	0.017549		
	10	18.10	0.021638		
	20	13.28	0.015876		
	30	13.03	0.015577		
	40	12.12	0.014489		
	50	9.47	0.011321		
16QAM					
3.70	-30	13.70	0.016378	±2.5	Pass
	-20	11.89	0.014214		
	-10	11.69	0.013975		
	0	16.25	0.019426		
	10	17.47	0.020885		
	20	15.81	0.018900		
	30	16.74	0.020012		
	40	16.94	0.020251		
	50	18.37	0.021961		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.33	24.13	0.028846	±2.5	Pass
	3.70	25.23	0.030161		
	4.07	25.29	0.030233		
16QAM					
25	3.33	10.11	0.012086	±2.5	Pass
	3.70	9.77	0.011680		
	4.07	8.91	0.010652		
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					
3.70	-30	-10.06	-0.003968	Within authorized band for Band 7	Pass
	-20	7.84	0.003093		
	-10	6.11	0.002410		
	0	11.19	0.004414		
	10	11.57	0.004564		
	20	12.95	0.005108		
	30	8.05	0.003176		
	40	-4.66	-0.001838		
	50	8.55	0.003373		
16QAM					
3.70	-30	-14.09	-0.005558	Within authorized band for Band 7	Pass
	-20	-14.12	-0.005570		
	-10	-16.79	-0.006623		
	0	-20.76	-0.008189		
	10	-20.11	-0.007933		
	20	-25.71	-0.010142		
	30	-24.65	-0.009724		
	40	-25.71	-0.010142		
	50	-28.07	-0.011073		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.33	-6.18	-0.002438	Within authorized band for Band 7	Pass
	3.70	22.63	0.008927		
	4.07	-8.60	-0.003393		
16QAM					
25	3.33	-12.10	-0.004773	Within authorized band for Band 7	Pass
	3.70	-13.63	-0.005377		
	4.07	-8.97	-0.003538		
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	-14.59	-0.020622	Within authorized band for Band 12	Pass
	-20	-11.24	-0.015887		
	-10	-2.75	-0.003887		
	0	5.51	0.007788		
	10	8.50	0.012014		
	20	11.87	0.016777		
	30	14.79	0.020905		
	40	16.55	0.023392		
	50	20.01	0.028283		
16QAM					
3.70	-30	3.91	0.005527	Within authorized band for Band 12	Pass
	-20	-3.49	-0.004933		
	-10	-12.89	-0.018219		
	0	-18.81	-0.026587		
	10	-25.01	-0.035350		
	20	-35.78	-0.050572		
	30	-42.04	-0.059420		
	40	-47.44	-0.067053		
	50	-7.65	-0.010813		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.33	-19.60	-0.027703	Within authorized band for Band 12	Pass
	3.70	-8.57	-0.012113		
	4.07	-19.20	-0.027138		
16QAM					
25	3.33	14.05	0.019859	Within authorized band for Band 12	Pass
	3.70	16.88	0.023859		
	4.07	10.40	0.014700		
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
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS

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

Test Graphs

