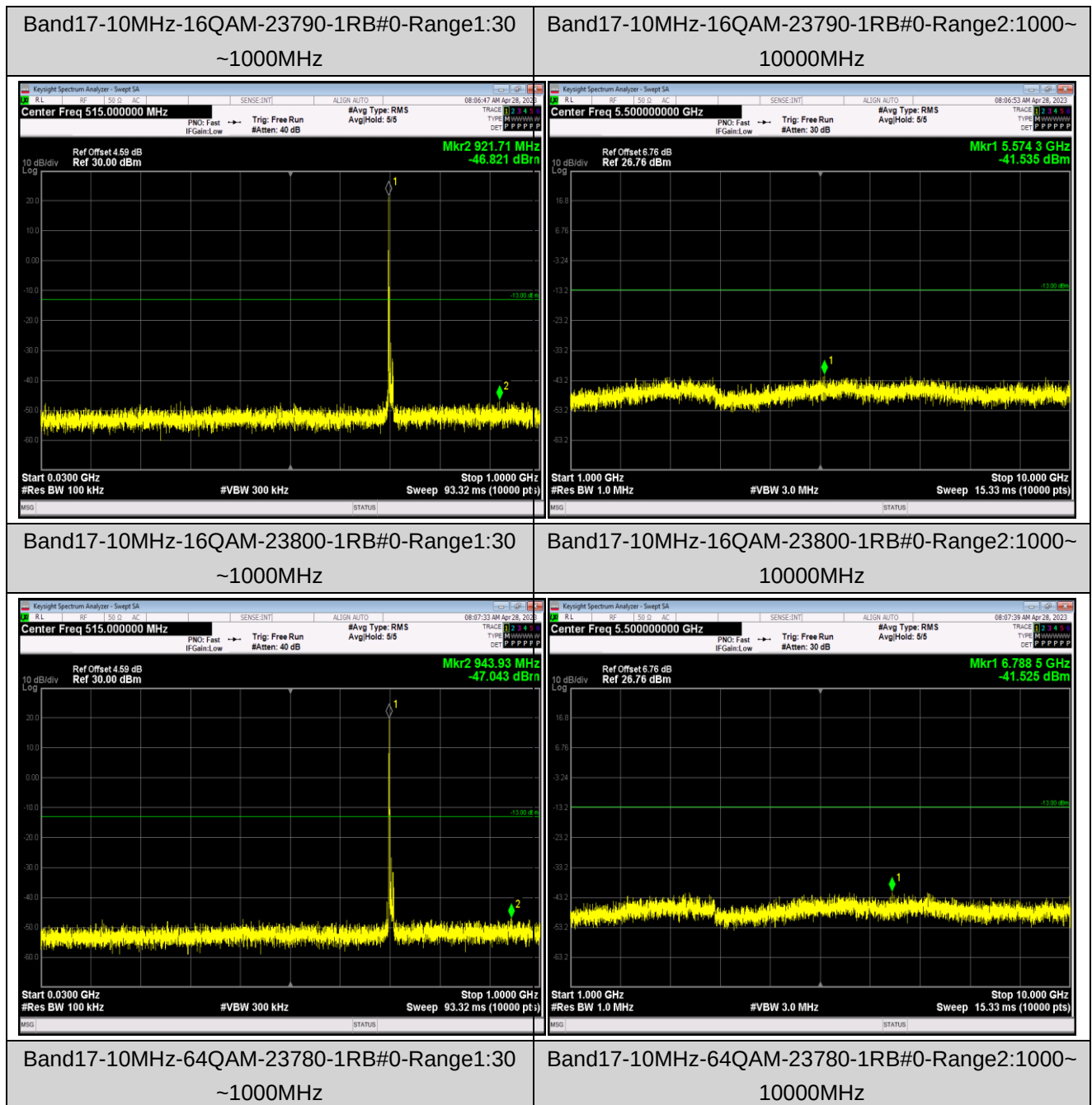
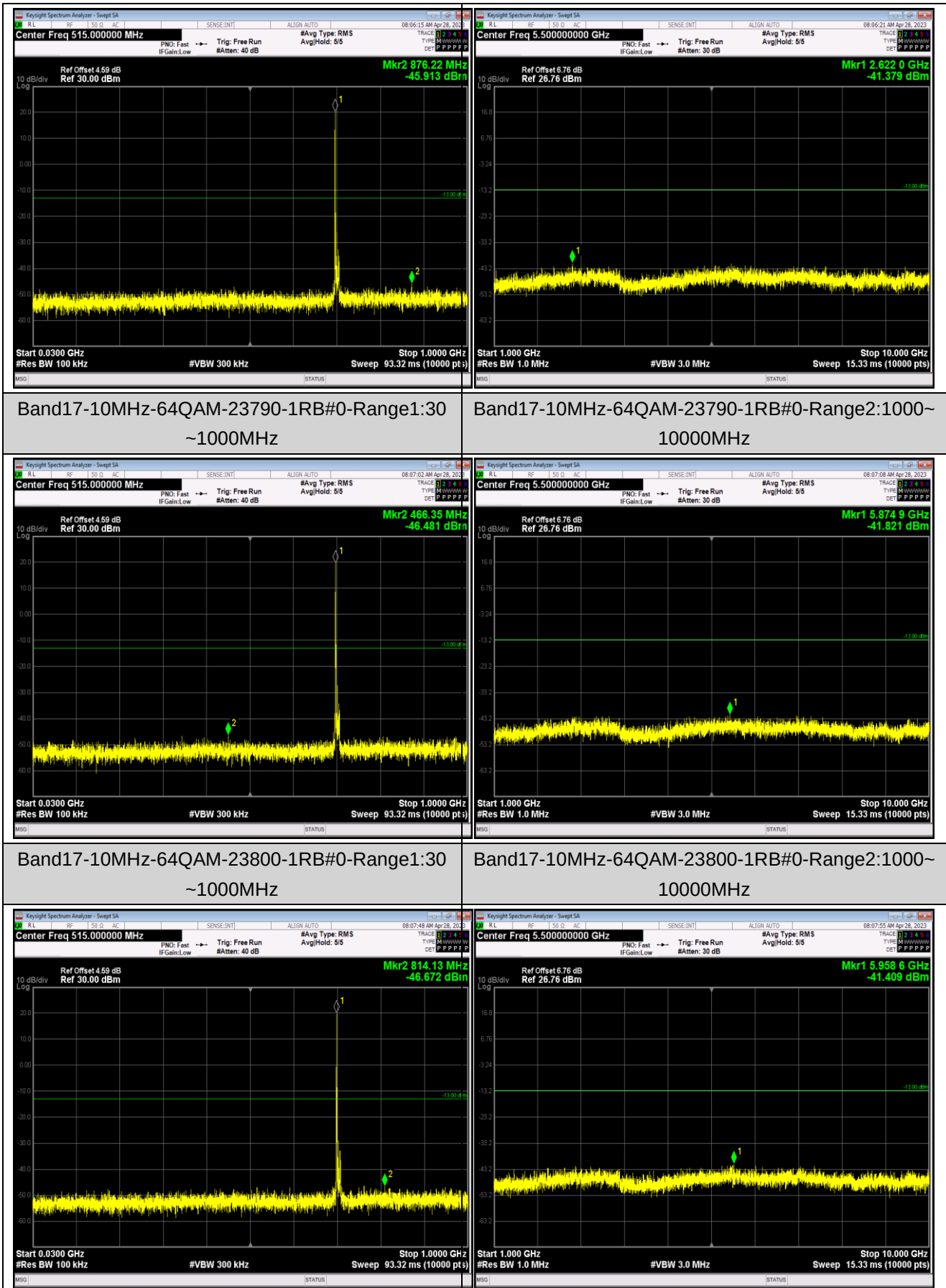
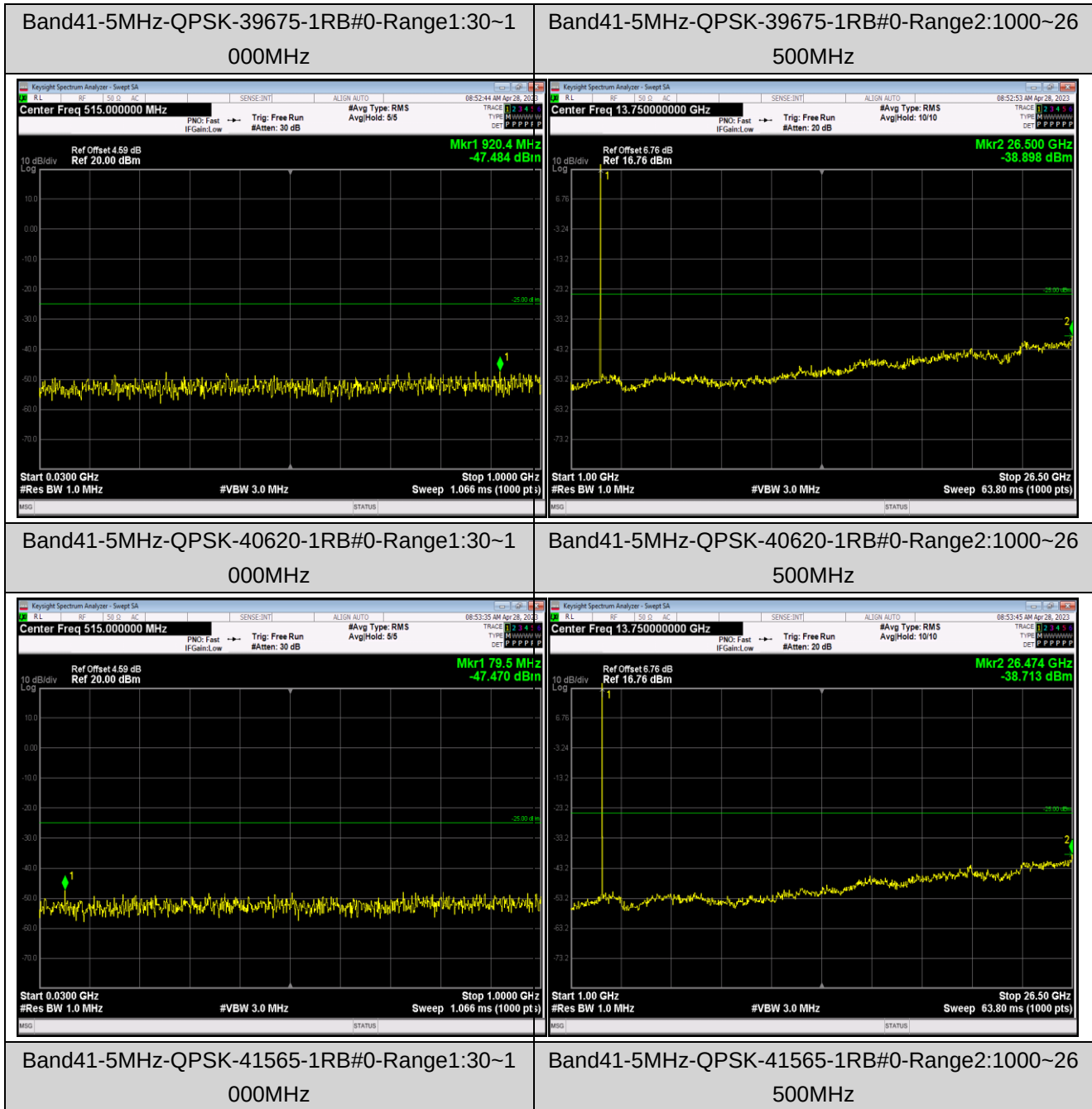
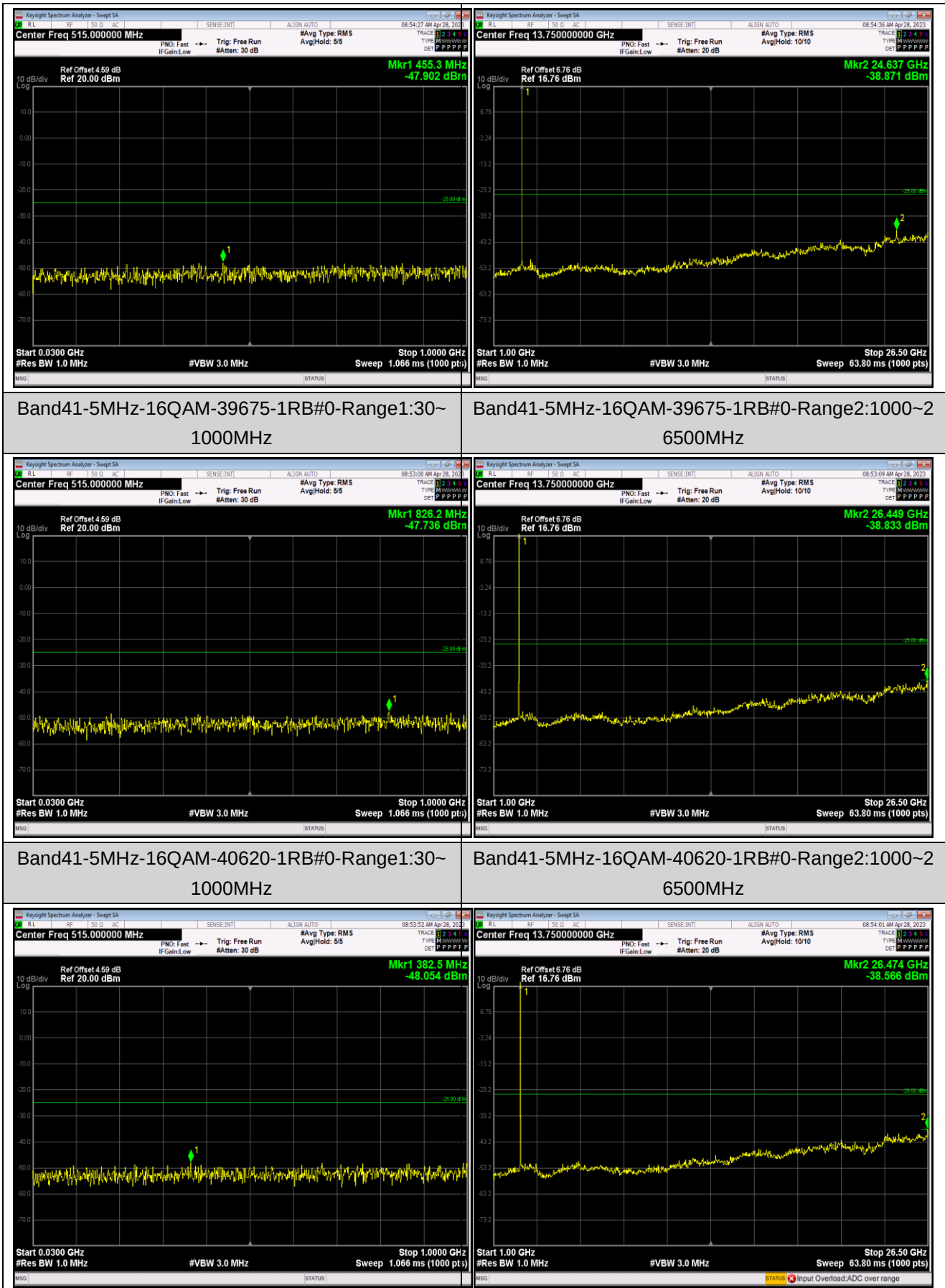








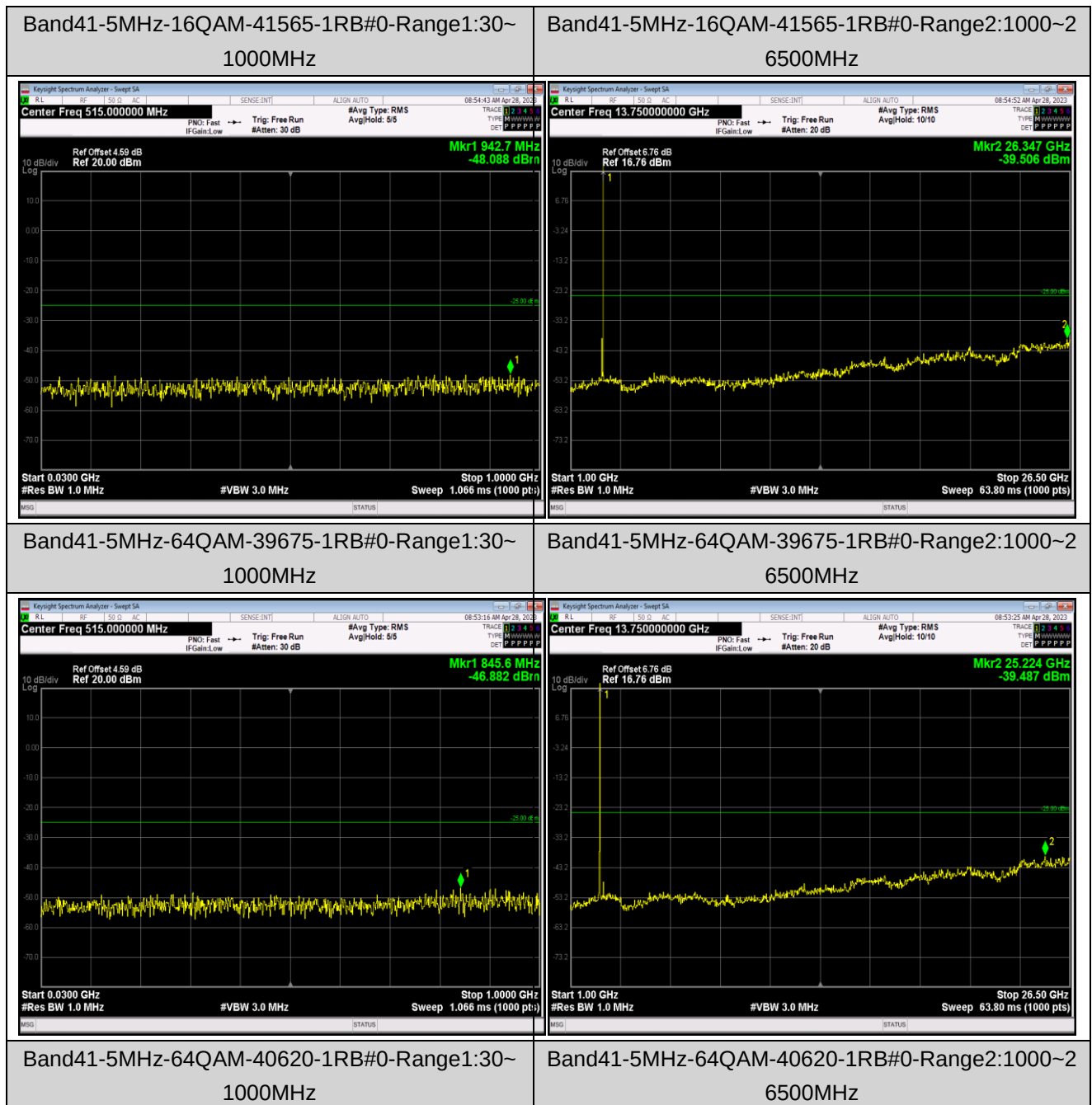


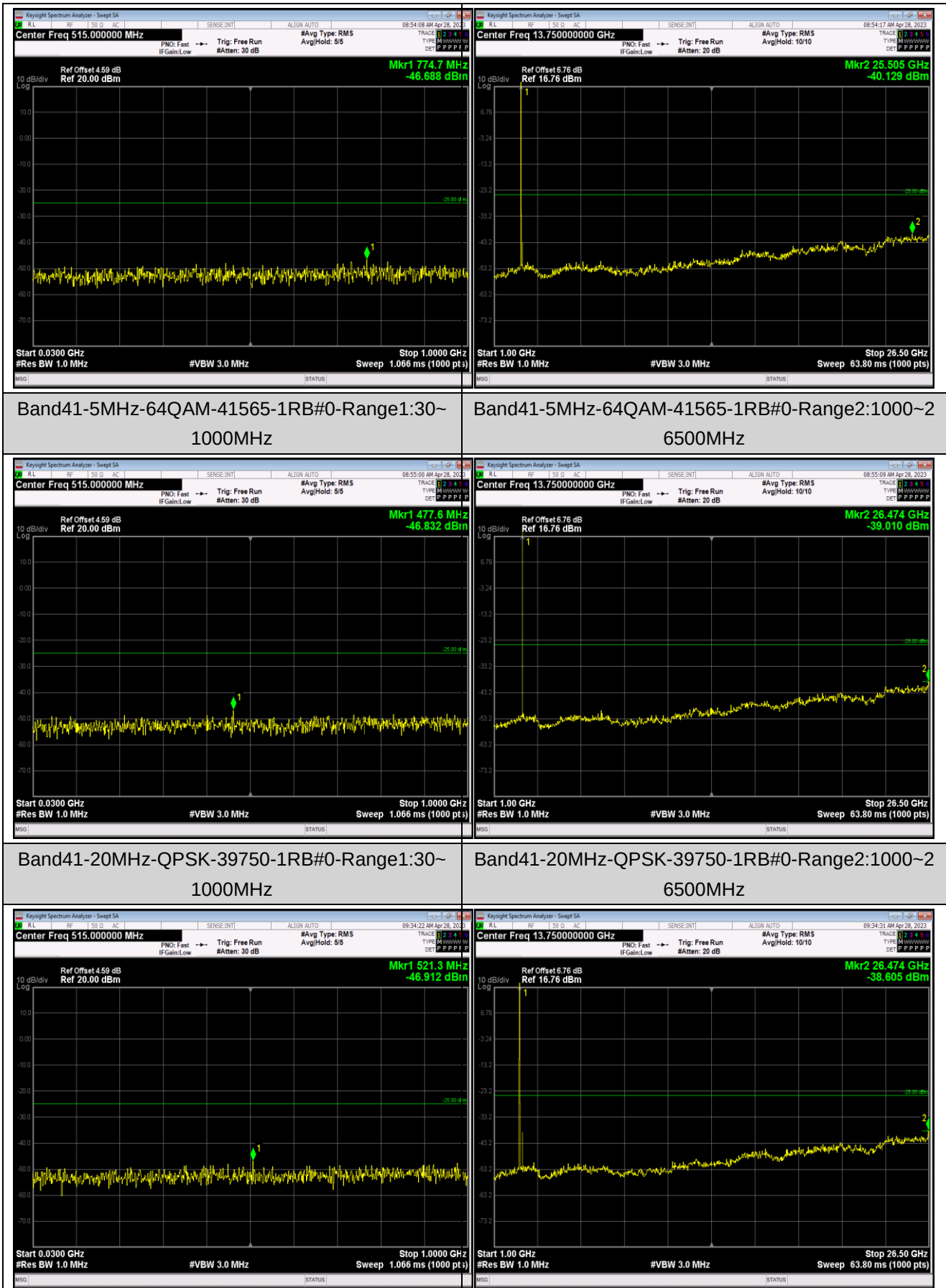
Band41-5MHz-16QAM-39675-1RB#0-Range1:30~1000MHz

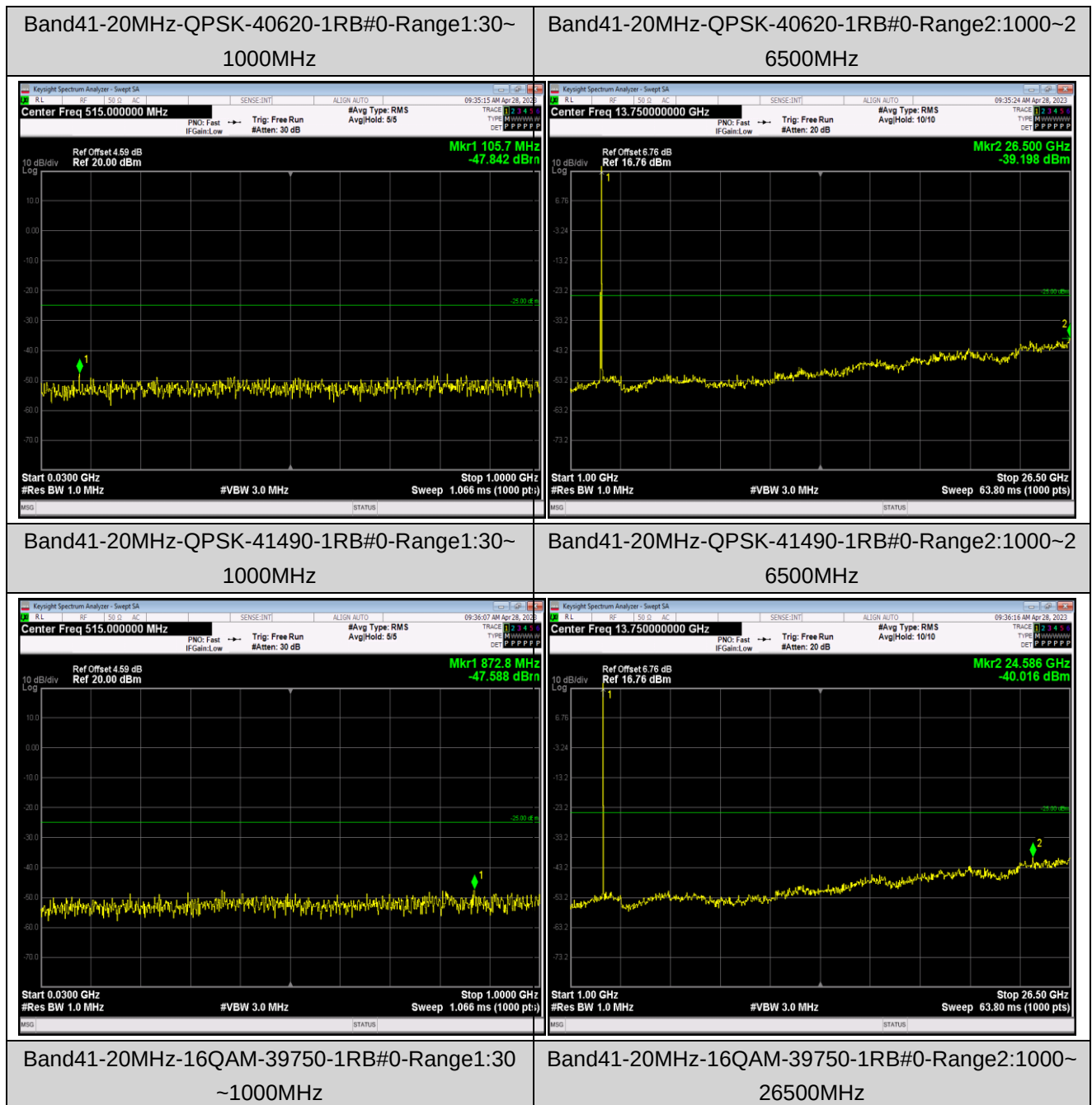
Band41-5MHz-16QAM-39675-1RB#0-Range2:1000~26500MHz

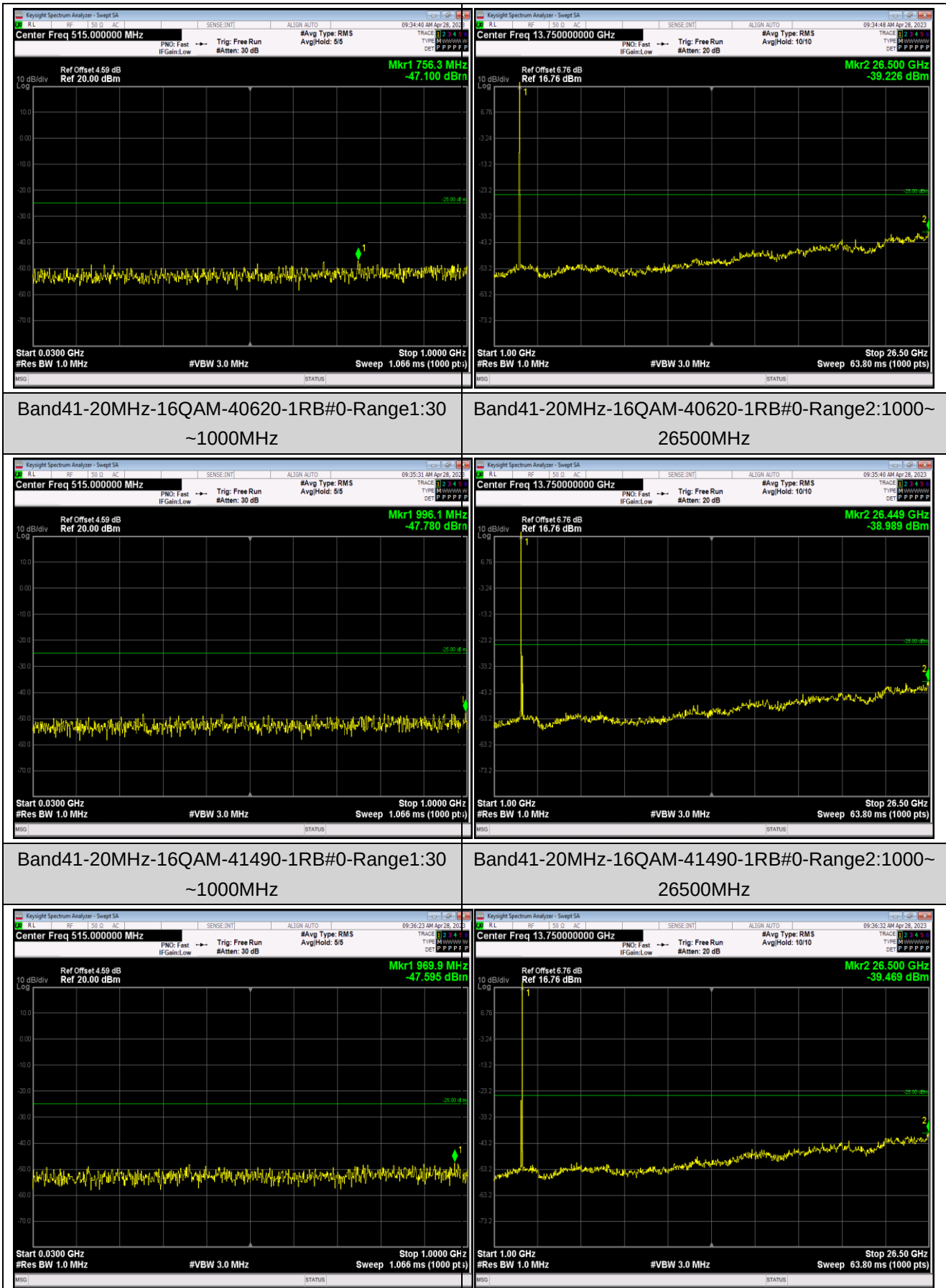
Band41-5MHz-16QAM-40620-1RB#0-Range1:30~1000MHz

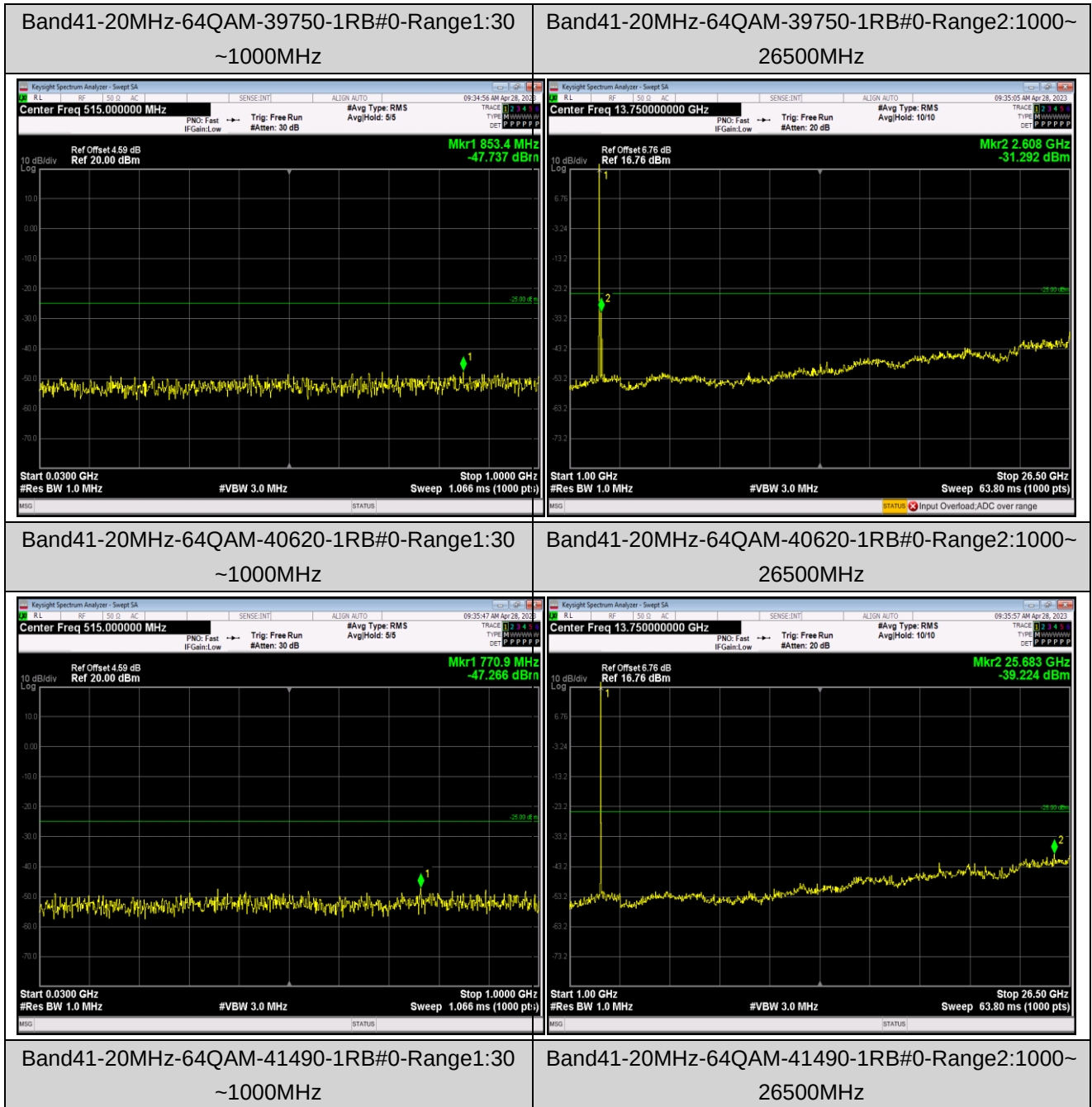
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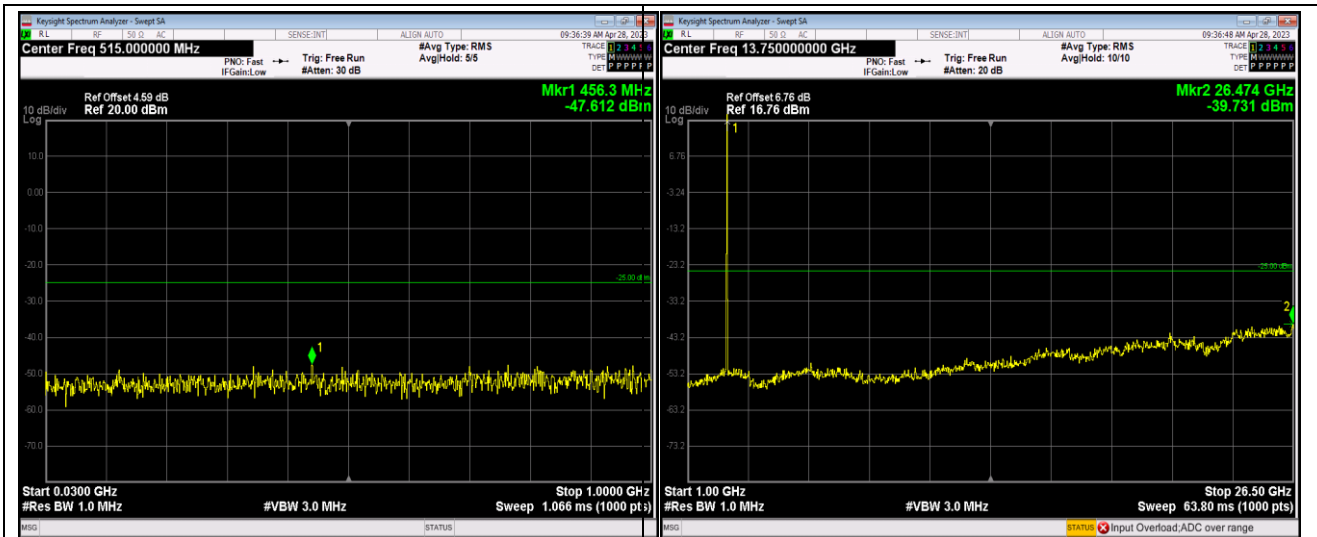






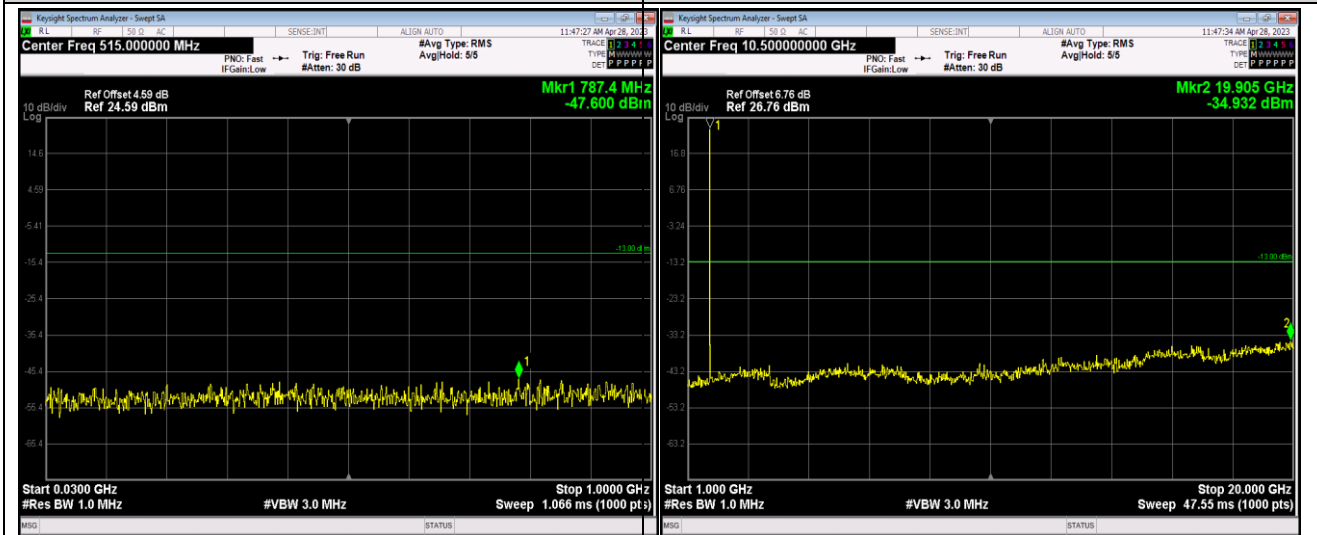






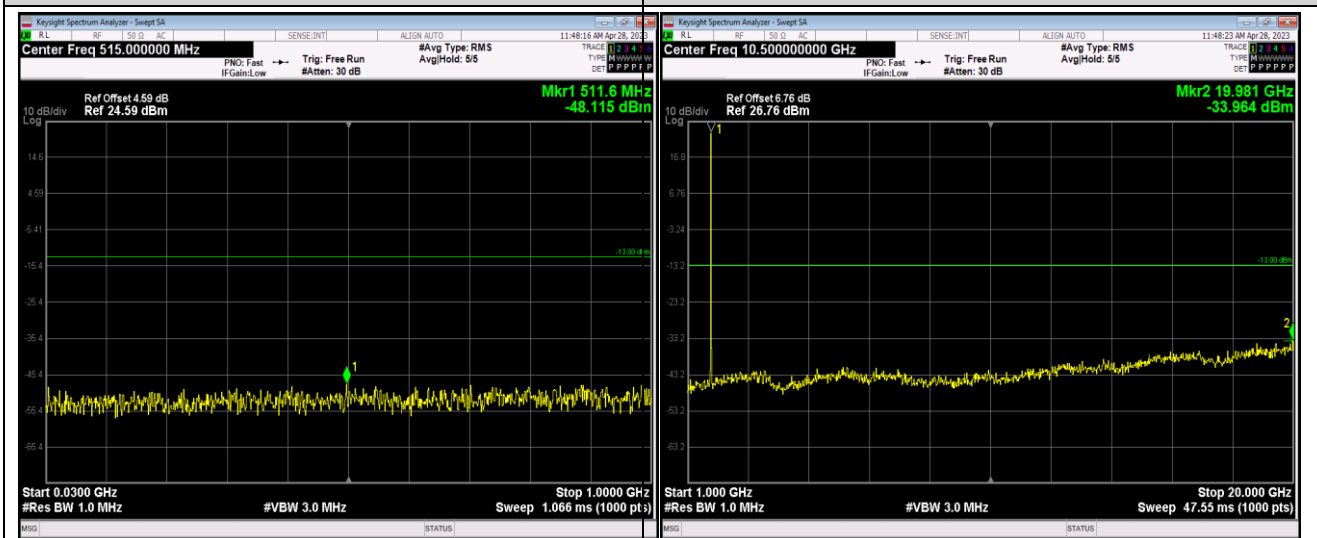
Band66-1.4MHz-QPSK-131979-1RB#0-Range1:30
~1000MHz

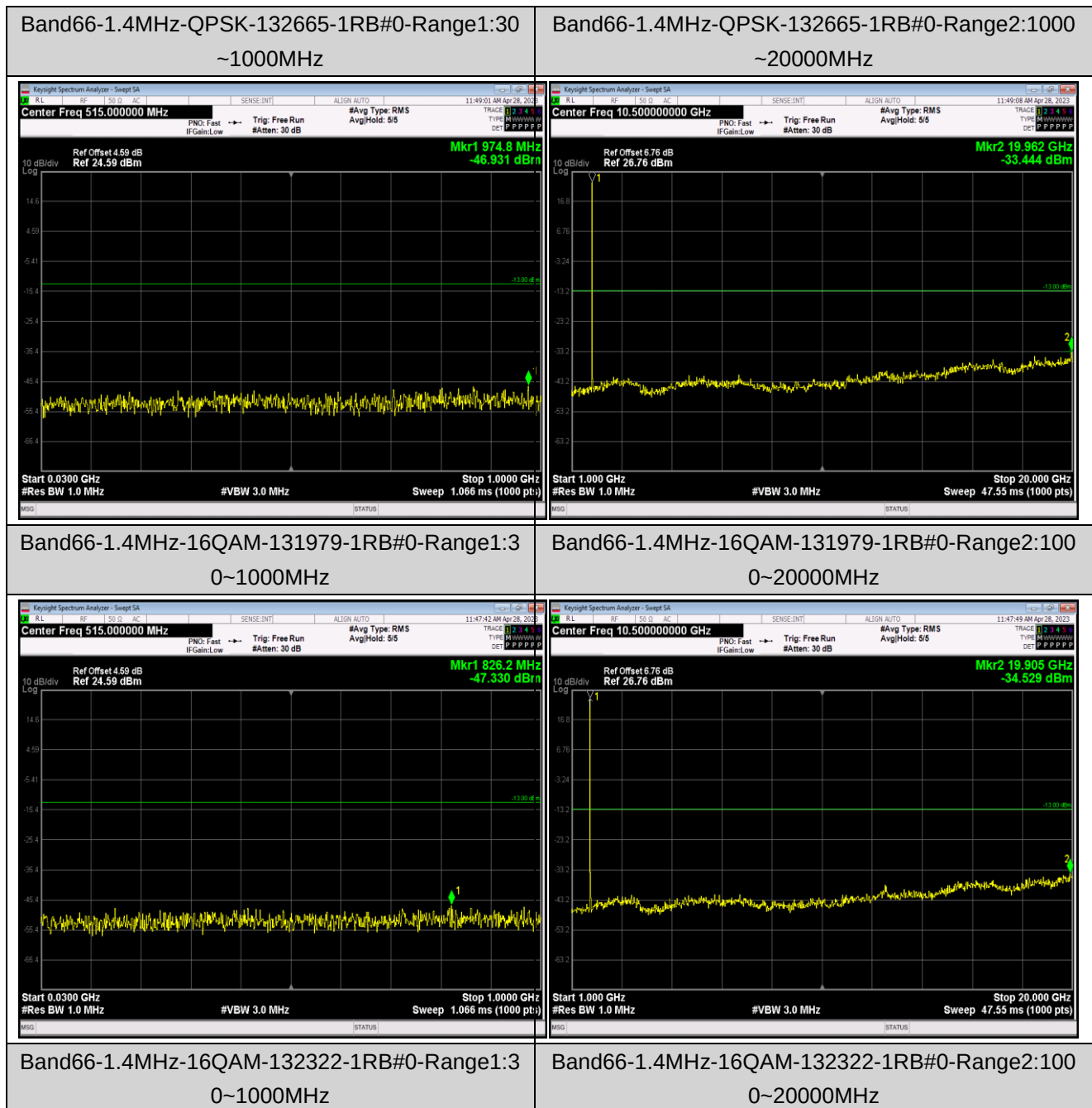
Band66-1.4MHz-QPSK-131979-1RB#0-Range2:1000
~20000MHz

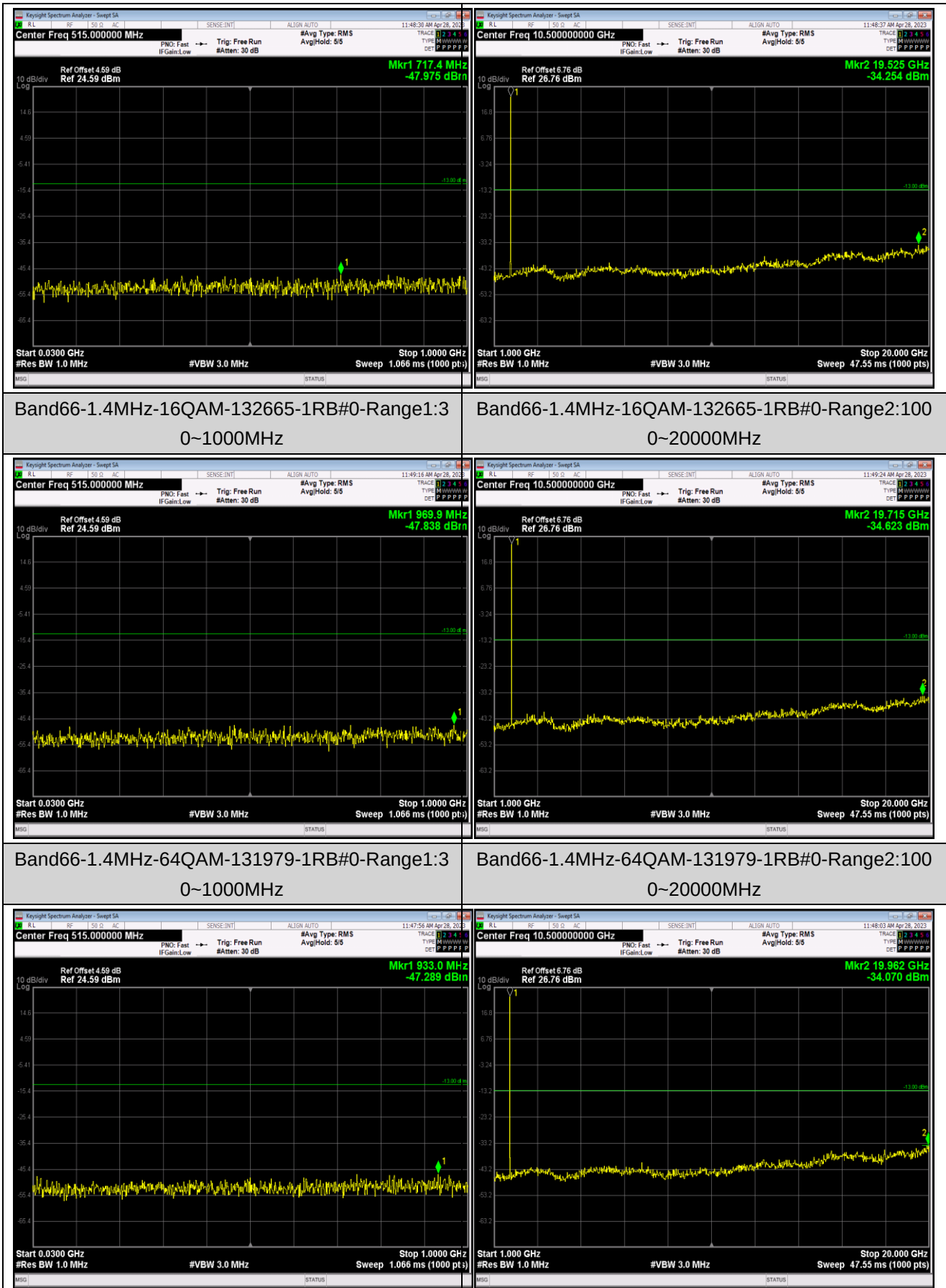


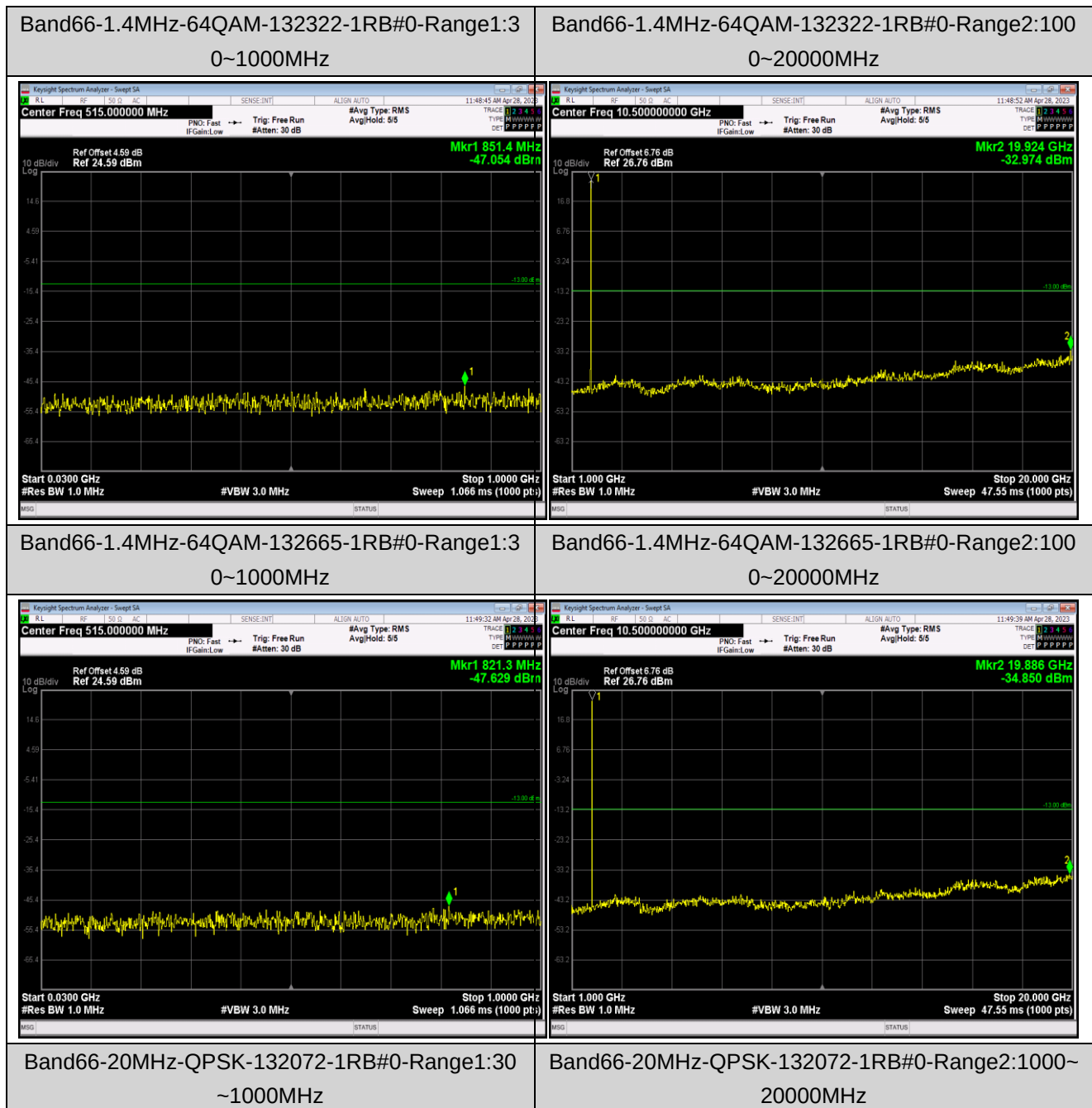
Band66-1.4MHz-QPSK-132322-1RB#0-Range1:30
~1000MHz

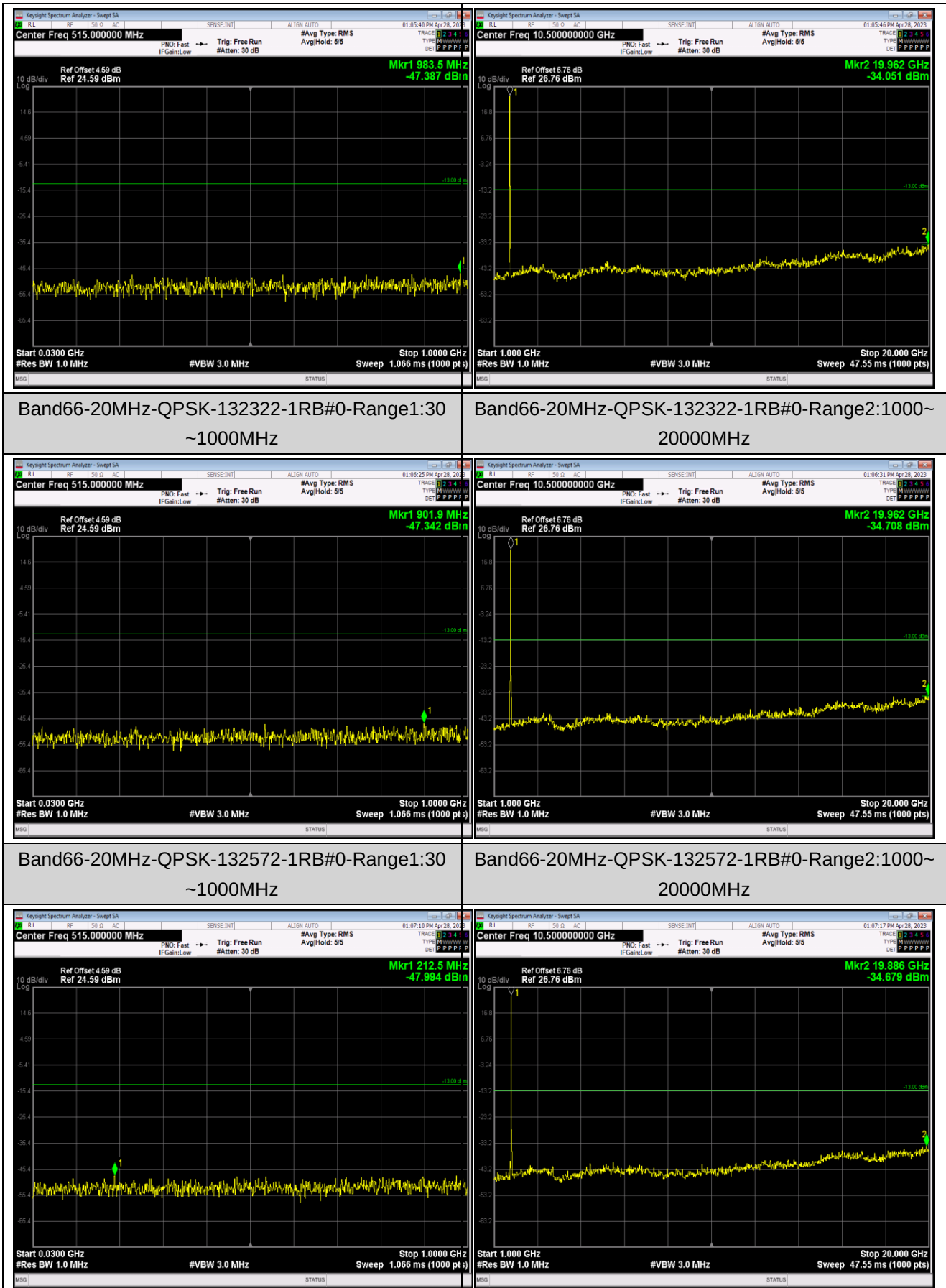
Band66-1.4MHz-QPSK-132322-1RB#0-Range2:1000
~20000MHz

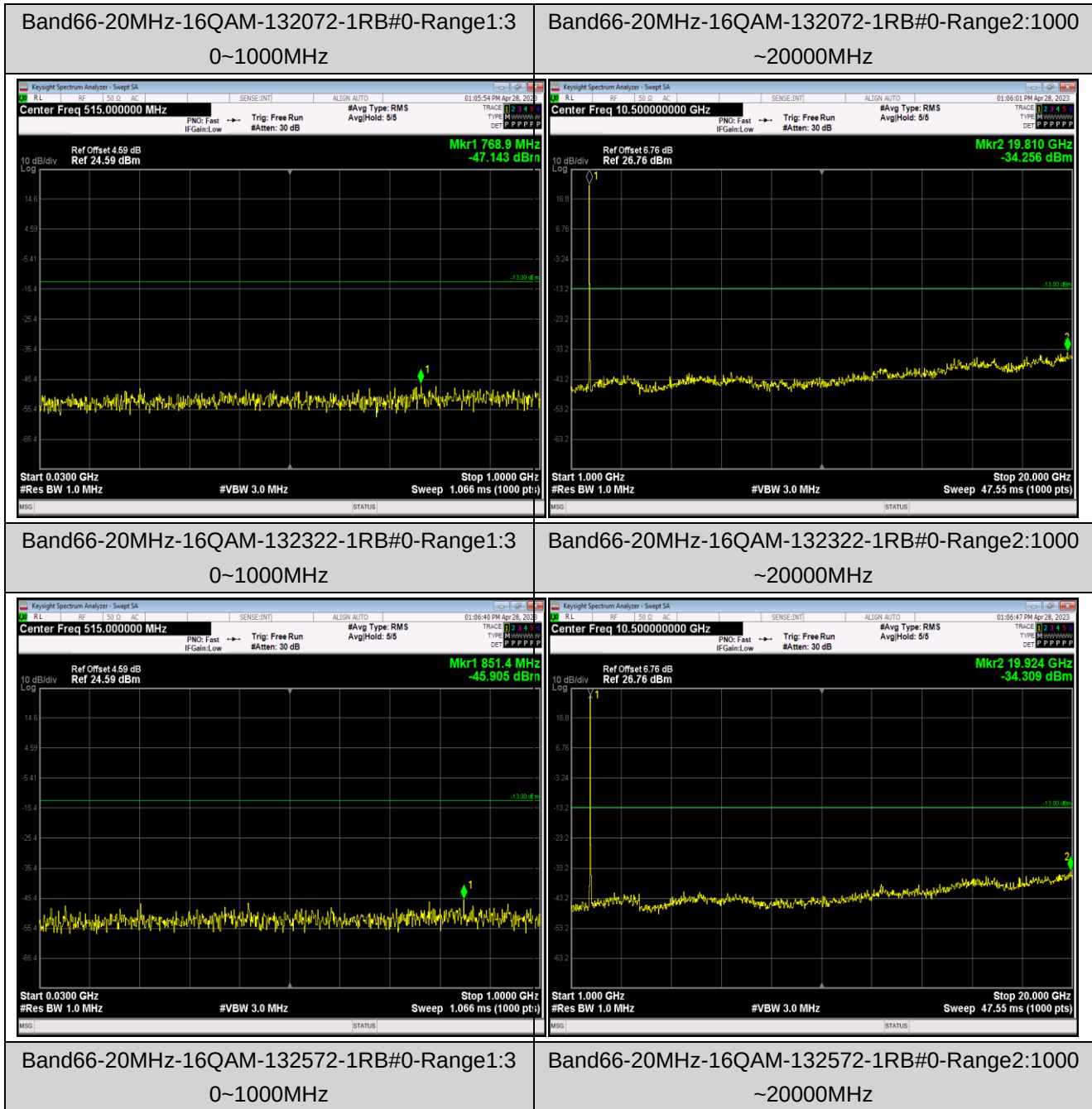


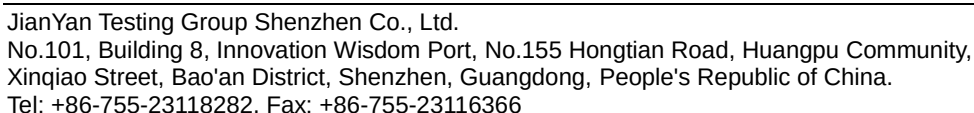


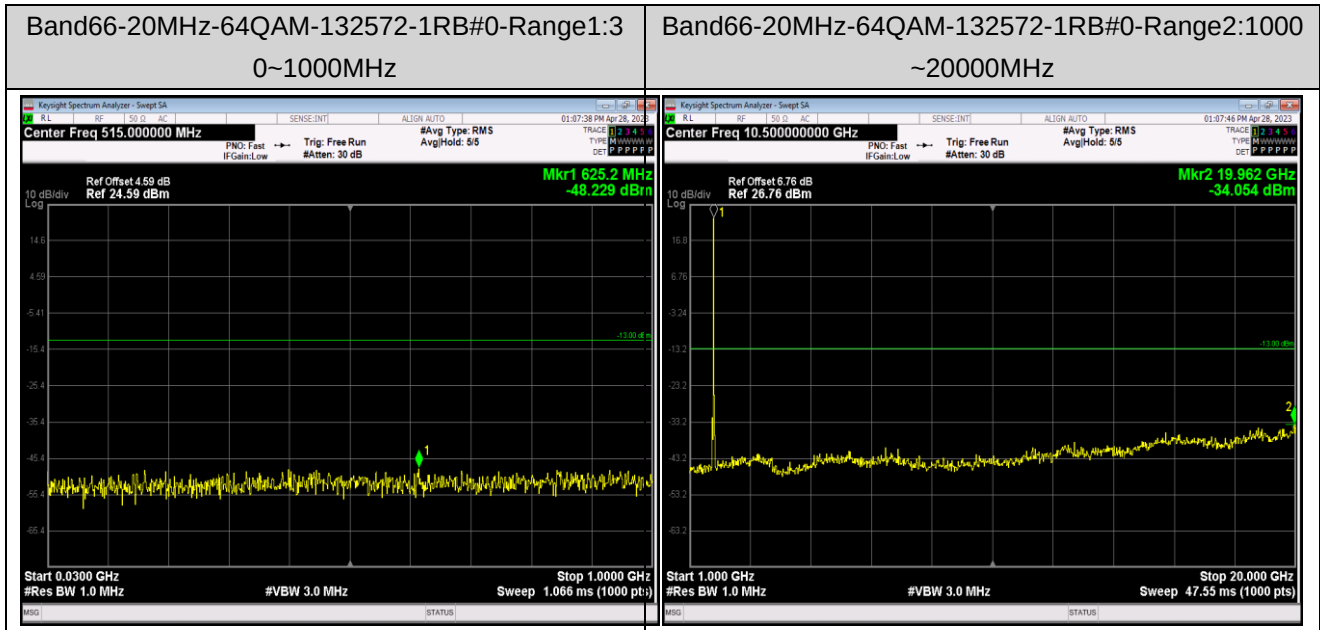












Appendix F: Frequency Stability

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					
3.89	-30	6.48	0.003447	Within authorized band for Band 2	Pass
	-20	9.57	0.005090		
	-10	11.52	0.006128		
	0	11.67	0.006207		
	10	13.46	0.007160		
	20	6.32	0.003362		
	30	3.68	0.001957		
	40	14.52	0.007723		
	50	11.69	0.006218		
16QAM					
3.89	-30	6.92	0.003681	Within authorized band for Band 2	Pass
	-20	17.22	0.009160		
	-10	9.58	0.005096		
	0	5.95	0.003165		
	10	4.84	0.002574		
	20	12.57	0.006686		
	30	16.09	0.008559		
	40	6.71	0.003569		
	50	3.92	0.002085		
64QAM					
3.89	-30	11.20	0.005957	Within authorized band for Band 2	Pass
	-20	10.47	0.005569		
	-10	5.59	0.002973		
	0	10.26	0.005457		
	10	9.11	0.004846		
	20	10.20	0.005426		
	30	17.95	0.009548		
	40	6.79	0.003612		
	50	9.96	0.005298		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	17.25	0.009176	Within authorized band for Band 2	Pass
	3.89	15.42	0.008202		
	4.48	12.13	0.006452		
16QAM					
25	3.45	14.95	0.007952	Within authorized band for Band 2	Pass
	3.89	10.69	0.005686		
	4.48	18.44	0.009809		
64QAM					
25	3.45	14.98	0.007968	Within authorized band for Band 2	Pass
	3.89	10.66	0.005670		
	4.48	16.68	0.008872		
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					
3.89	-30	-5.58	-0.006671	±2.5	Pass
	-20	-5.41	-0.006467		
	-10	-8.78	-0.010496		
	0	3.82	0.004567		
	10	2.13	0.002546		
	20	-7.25	-0.008667		
	30	-4.51	-0.005392		
	40	-3.18	-0.003802		
	50	-5.29	-0.006324		
16QAM					
3.89	-30	4.21	0.005033	±2.5	Pass
	-20	-7.22	-0.008631		
	-10	2.15	0.002570		
	0	-6.91	-0.008261		
	10	2.20	0.002630		
	20	-6.42	-0.007675		
	30	-6.49	-0.007759		
	40	3.71	0.004435		
	50	-2.19	-0.002618		
64QAM					
3.89	-30	-3.18	-0.003802	±2.5	Pass
	-20	3.25	0.003885		
	-10	3.52	0.004208		
	0	-5.89	-0.007041		
	10	-3.00	-0.003586		
	20	-3.68	-0.004399		
	30	4.18	0.004997		
	40	3.32	0.003969		
	50	-1.44	-0.001721		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	3.73	0.004459	±2.5	Pass
	3.89	3.49	0.004172		
	4.48	-1.50	-0.001793		
16QAM					
25	3.45	-2.66	-0.003180	±2.5	Pass
	3.89	-4.75	-0.005678		
	4.48	5.16	0.006169		
64QAM					
25	3.45	5.99	0.007161	±2.5	Pass
	3.89	-3.40	-0.004065		
	4.48	-4.53	-0.005415		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.89	-30	11.04	0.004355	Within authorized band for Band 7	Pass
	-20	-4.32	-0.001704		
	-10	9.04	0.003566		
	0	2.43	0.000959		
	10	4.78	0.001886		
	20	-4.09	-0.001613		
	30	-3.69	-0.001456		
	40	14.22	0.005609		
	50	-4.69	-0.001850		
16QAM					
3.89	-30	14.19	0.005598	Within authorized band for Band 7	Pass
	-20	13.28	0.005239		
	-10	15.94	0.006288		
	0	6.77	0.002671		
	10	13.76	0.005428		
	20	4.89	0.001929		
	30	12.79	0.005045		
	40	10.63	0.004193		
	50	5.99	0.002363		
64QAM					
3.89	-30	14.52	0.005728	Within authorized band for Band 7	Pass
	-20	13.26	0.005231		
	-10	2.12	0.000836		
	0	1.57	0.000619		
	10	7.00	0.002761		
	20	4.99	0.001968		
	30	-9.04	-0.003566		
	40	-11.42	-0.004505		
	50	-5.39	-0.002126		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	9.47	0.003736	Within authorized band for Band 7	Pass
	3.89	-12.57	-0.004959		
	4.48	-6.18	-0.002438		
16QAM					
25	3.45	13.70	0.005404	Within authorized band for Band 7	Pass
	3.89	11.07	0.004367		
	4.48	-9.27	-0.003657		
64QAM					
25	3.45	-12.85	-0.005069	Within authorized band for Band 7	Pass
	3.89	-4.28	-0.001688		
	4.48	-2.69	-0.001061		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.89	-30	6.38	0.009018	Within authorized band for Band 12	Pass
	-20	9.06	0.012806		
	-10	4.59	0.006488		
	0	-2.47	-0.003491		
	10	2.76	0.003901		
	20	4.63	0.006544		
	30	-3.29	-0.004650		
	40	-3.39	-0.004792		
	50	5.05	0.007138		
16QAM					
3.89	-30	2.83	0.004000	Within authorized band for Band 12	Pass
	-20	3.06	0.004325		
	-10	2.03	0.002869		
	0	1.85	0.002615		
	10	9.70	0.013710		
	20	5.81	0.008212		
	30	-2.60	-0.003675		
	40	5.04	0.007124		
	50	4.39	0.006205		
64QAM					
3.89	-30	4.16	0.005880	Within authorized band for Band 12	Pass
	-20	3.92	0.005541		
	-10	-4.68	-0.006615		
	0	3.55	0.005018		
	10	3.08	0.004353		
	20	3.53	0.004989		
	30	6.05	0.008551		
	40	3.96	0.005597		
	50	2.07	0.002926		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	3.66	0.005173	Within authorized band for Band 12	Pass
	3.89	-4.13	-0.005837		
	4.48	2.88	0.004071		
16QAM					
25	3.45	-4.63	-0.006544	Within authorized band for Band 12	Pass
	3.89	-4.18	-0.005908		
	4.48	5.05	0.007138		
64QAM					
25	3.45	-1.70	-0.002403	Within authorized band for Band 12	Pass
	3.89	3.78	0.005343		
	4.48	-1.24	-0.001753		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 17 part:

Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 Frequency=710.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.89	-30	-2.85	-0.004014	Within authorized band for Band 17	Pass
	-20	-3.60	-0.005070		
	-10	-2.55	-0.003592		
	0	-2.47	-0.003479		
	10	1.89	0.002662		
	20	-4.31	-0.006070		
	30	-2.32	-0.003268		
	40	-3.03	-0.004268		
	50	-2.92	-0.004113		
16QAM					
3.89	-30	-2.23	-0.003141	Within authorized band for Band 17	Pass
	-20	-2.68	-0.003775		
	-10	-3.58	-0.005042		
	0	-5.22	-0.007352		
	10	4.05	0.005704		
	20	-2.90	-0.004085		
	30	3.55	0.005000		
	40	-5.04	-0.007099		
	50	2.32	0.003268		
64QAM					
3.89	-30	1.50	0.002113	Within authorized band for Band 17	Pass
	-20	-4.08	-0.005746		
	-10	-5.75	-0.008099		
	0	-2.25	-0.003169		
	10	1.93	0.002718		
	20	-2.06	-0.002901		
	30	2.66	0.003746		
	40	-2.63	-0.003704		
	50	-3.29	-0.004634		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-4.18	-0.005887	Within authorized band for Band 17	Pass
	3.89	-3.22	-0.004535		
	4.48	-2.90	-0.004085		
16QAM					
25	3.45	3.72	0.005239	Within authorized band for Band 17	Pass
	3.89	-2.86	-0.004028		
	4.48	2.33	0.003282		
64QAM					
25	3.45	3.59	0.005056	Within authorized band for Band 17	Pass
	3.89	-5.59	-0.007873		
	4.48	-4.25	-0.005986		
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					
3.89	-30	-3.73	-0.001438	Within authorized band for Band 41	Pass
	-20	-4.61	-0.001778		
	-10	9.14	0.003525		
	0	-5.21	-0.002009		
	10	9.46	0.003648		
	20	4.18	0.001612		
	30	-4.36	-0.001681		
	40	7.50	0.002892		
	50	5.71	0.002202		
16QAM					
3.89	-30	-6.05	-0.002333	Within authorized band for Band 41	Pass
	-20	5.05	0.001948		
	-10	4.73	0.001824		
	0	6.91	0.002665		
	10	-3.35	-0.001292		
	20	12.92	0.004983		
	30	-9.86	-0.003803		
	40	3.05	0.001176		
	50	3.63	0.001400		
64QAM					
3.89	-30	7.20	0.002777	Within authorized band for Band 41	Pass
	-20	5.74	0.002214		
	-10	5.09	0.001963		
	0	7.82	0.003016		
	10	-2.17	-0.000837		
	20	-5.76	-0.002221		
	30	4.84	0.001867		
	40	8.97	0.003459		
	50	4.82	0.001859		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	8.70	0.003355	Within authorized band for Band 41	Pass
	3.89	7.11	0.002742		
	4.48	5.78	0.002229		
16QAM					
25	3.45	8.73	0.003367	Within authorized band for Band41	Pass
	3.89	9.40	0.003625		
	4.48	12.92	0.004983		
64QAM					
25	3.45	5.74	0.002214	Within authorized band for Band41	Pass
	3.89	-5.81	-0.002241		
	4.48	2.35	0.000906		
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					
3.89	-30	14.25	0.008166	Within authorized band for Band 66	Pass
	-20	12.83	0.007352		
	-10	12.52	0.007175		
	0	11.23	0.006436		
	10	10.26	0.005880		
	20	16.29	0.009335		
	30	14.09	0.008074		
	40	8.11	0.004648		
	50	8.71	0.004991		
16QAM					
3.89	-30	13.58	0.007782	Within authorized band for Band 66	Pass
	-20	13.66	0.007828		
	-10	13.65	0.007822		
	0	8.60	0.004928		
	10	10.94	0.006269		
	20	11.82	0.006774		
	30	8.48	0.004860		
	40	9.56	0.005479		
	50	6.38	0.003656		
64QAM					
3.89	-30	10.69	0.006126	Within authorized band for Band 66	Pass
	-20	7.74	0.004436		
	-10	8.94	0.005123		
	0	10.74	0.006155		
	10	9.60	0.005501		
	20	12.93	0.007410		
	30	8.57	0.004911		
	40	9.86	0.005650		
	50	4.86	0.002785		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	14.06	0.008057	Within authorized band for Band 66	Pass
	3.89	10.33	0.005920		
	4.48	11.67	0.006688		
16QAM					
25	3.45	13.29	0.007616	Within authorized band for Band 66	Pass
	3.89	8.48	0.004860		
	4.48	9.38	0.005375		
64QAM					
25	3.45	5.25	0.003009	Within authorized band for Band 66	Pass
	3.89	7.87	0.004510		
	4.48	11.90	0.006819		
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
Band2	20MHz	64QAM	18900	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band5	10MHz	64QAM	20525	50RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band7	20MHz	64QAM	21100	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
Band17	10MHz	QPSK	23790	50RB#0	PASS	PASS
Band17	10MHz	16QAM	23790	50RB#0	PASS	PASS
Band17	10MHz	64QAM	23790	50RB#0	PASS	PASS
Band41	20MHz	QPSK	40620	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40620	100RB#0	PASS	PASS
Band41	20MHz	64QAM	40620	100RB#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.