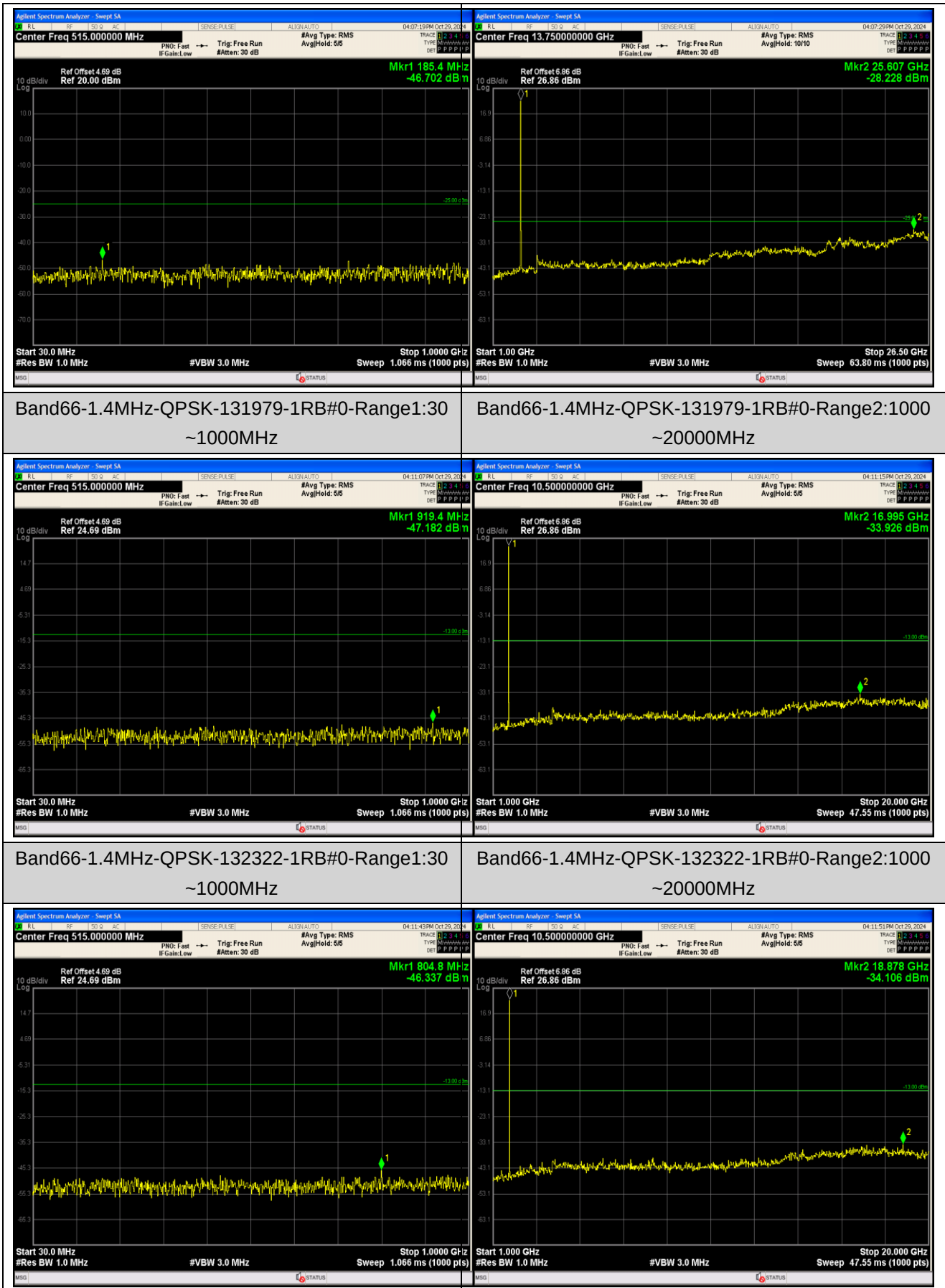


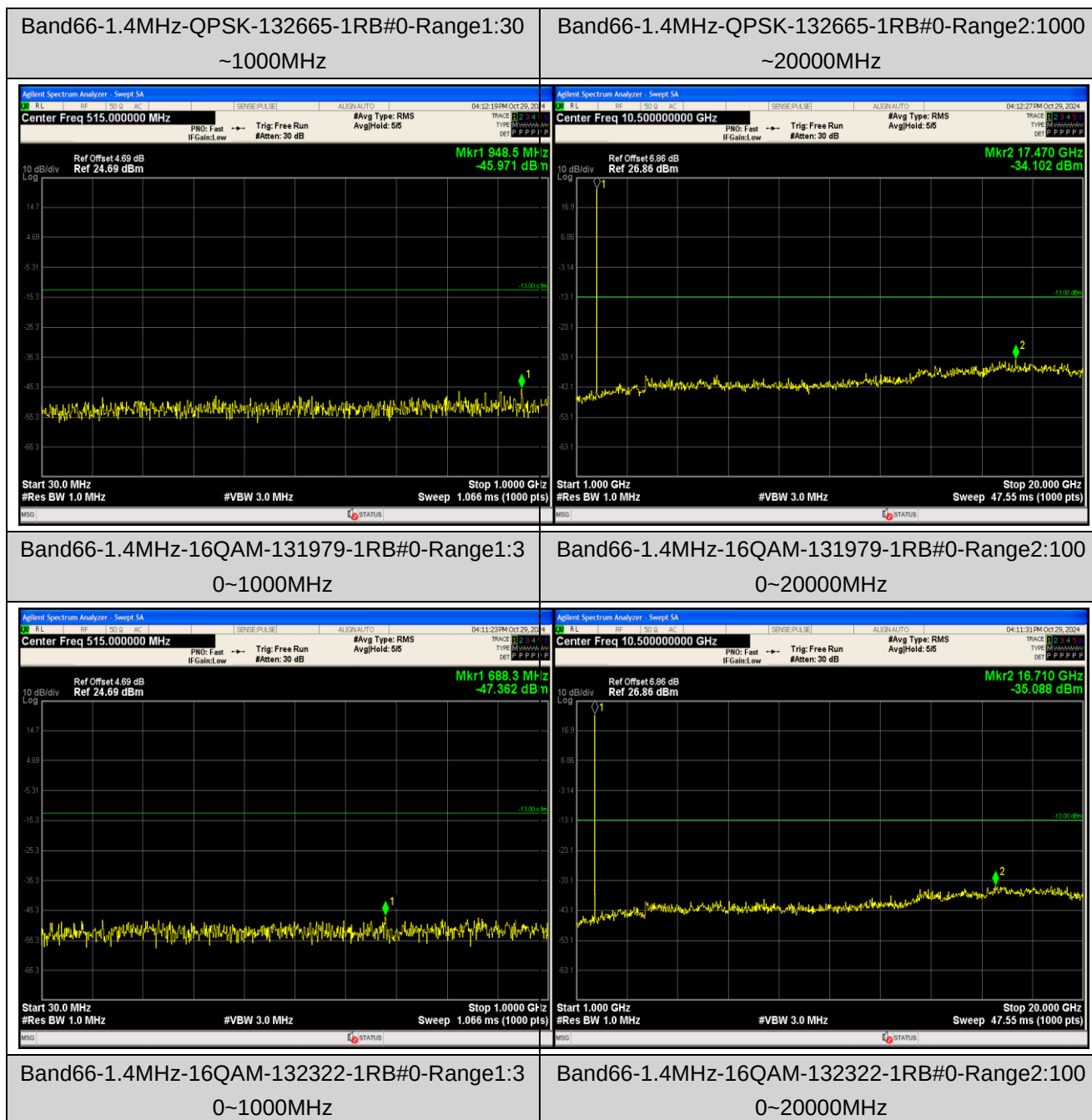


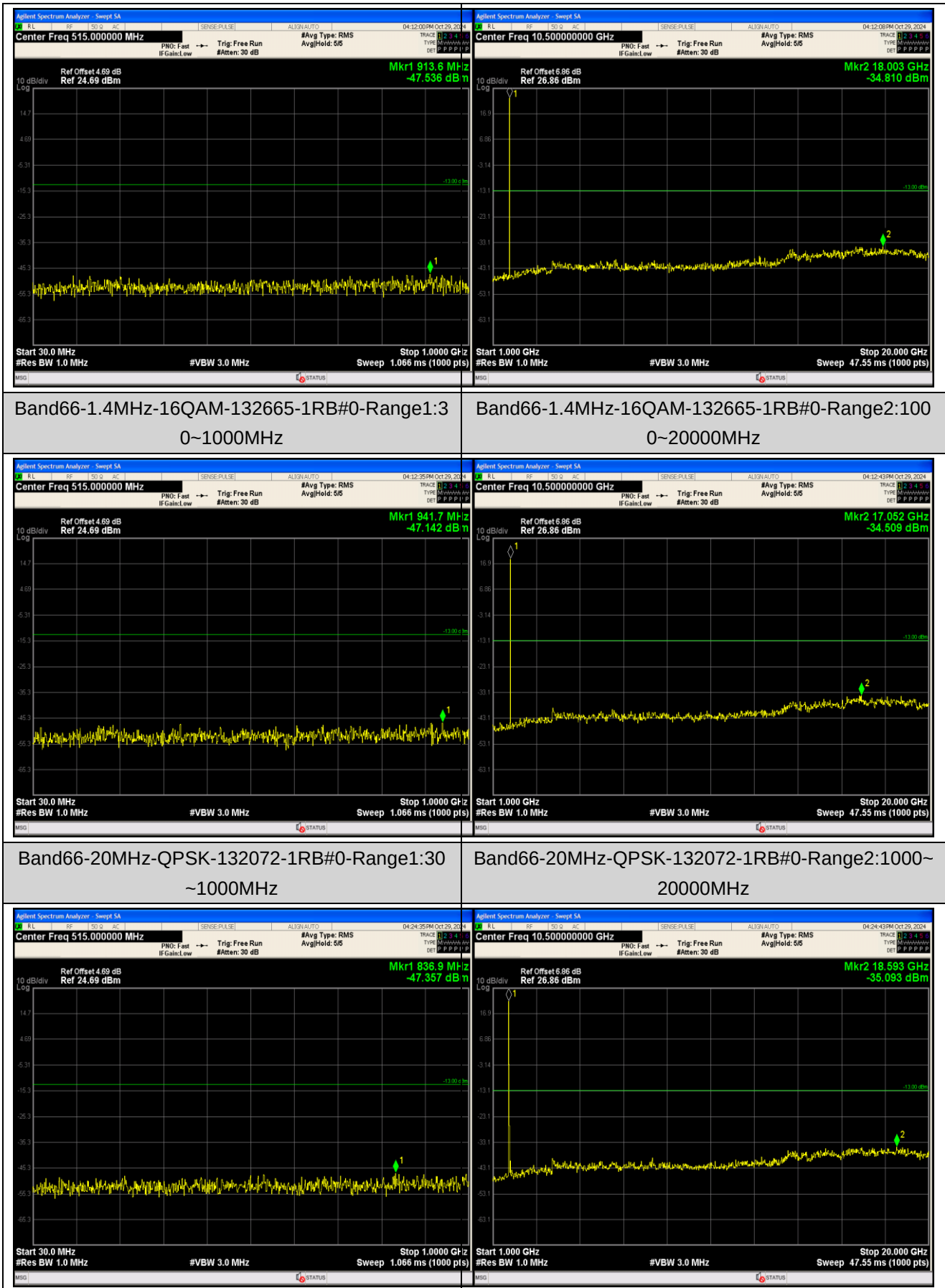
Band66-1.4MHz-QPSK-131979-1RB#0-Range1:30
~1000MHz

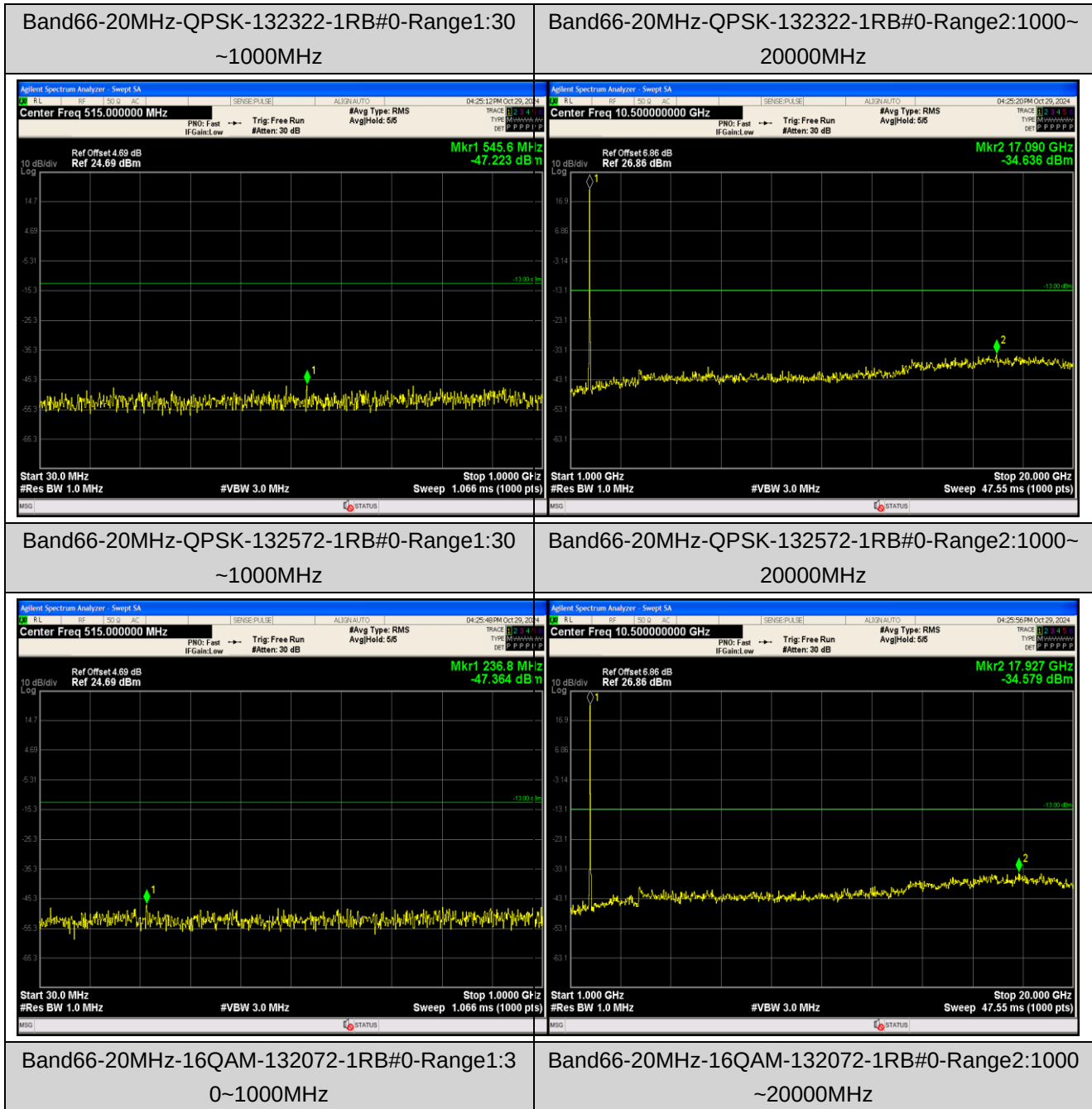
Band66-1.4MHz-QPSK-131979-1RB#0-Range2:1000
~20000MHz

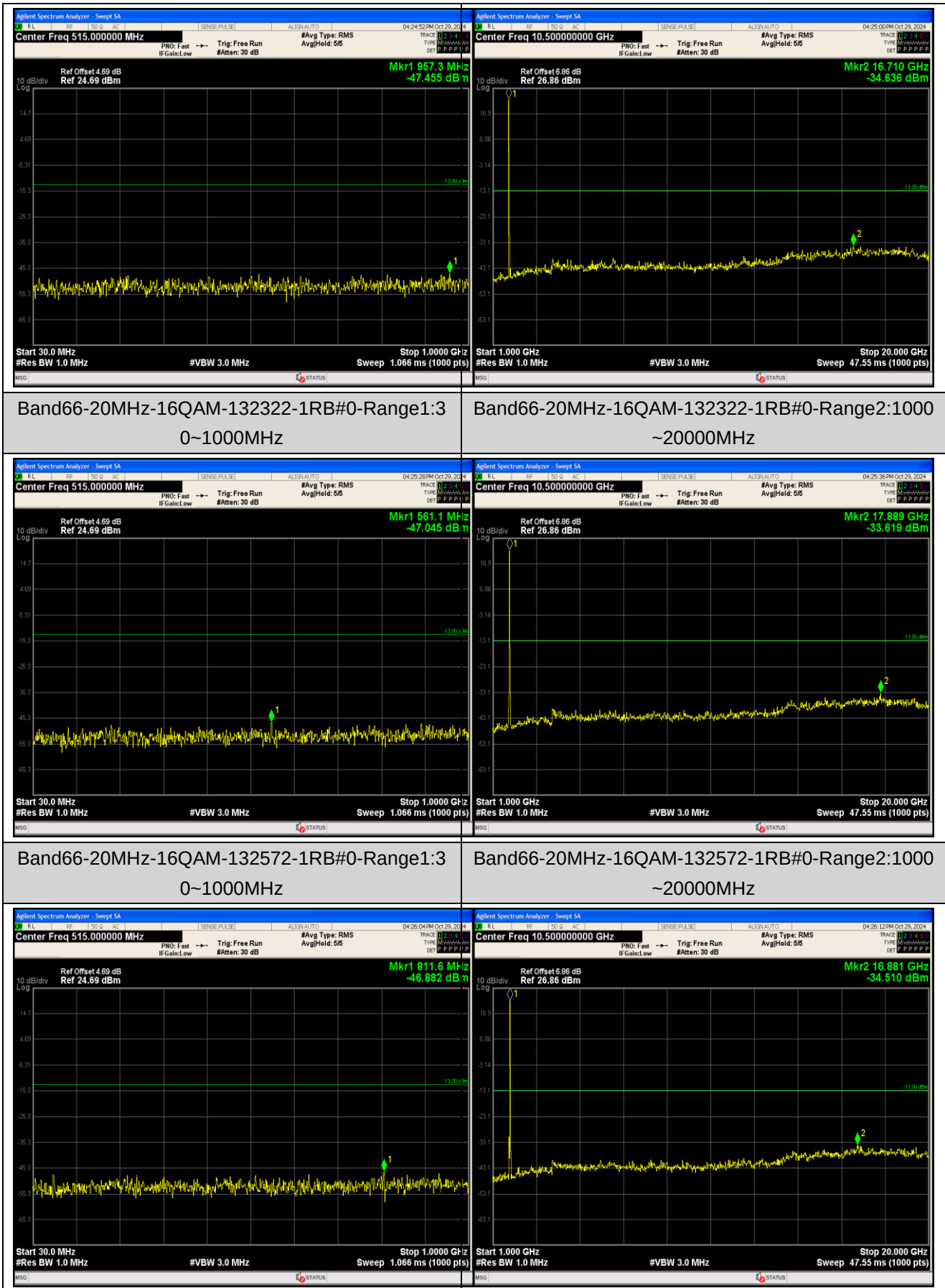
Band66-1.4MHz-QPSK-132322-1RB#0-Range1:30
~1000MHz

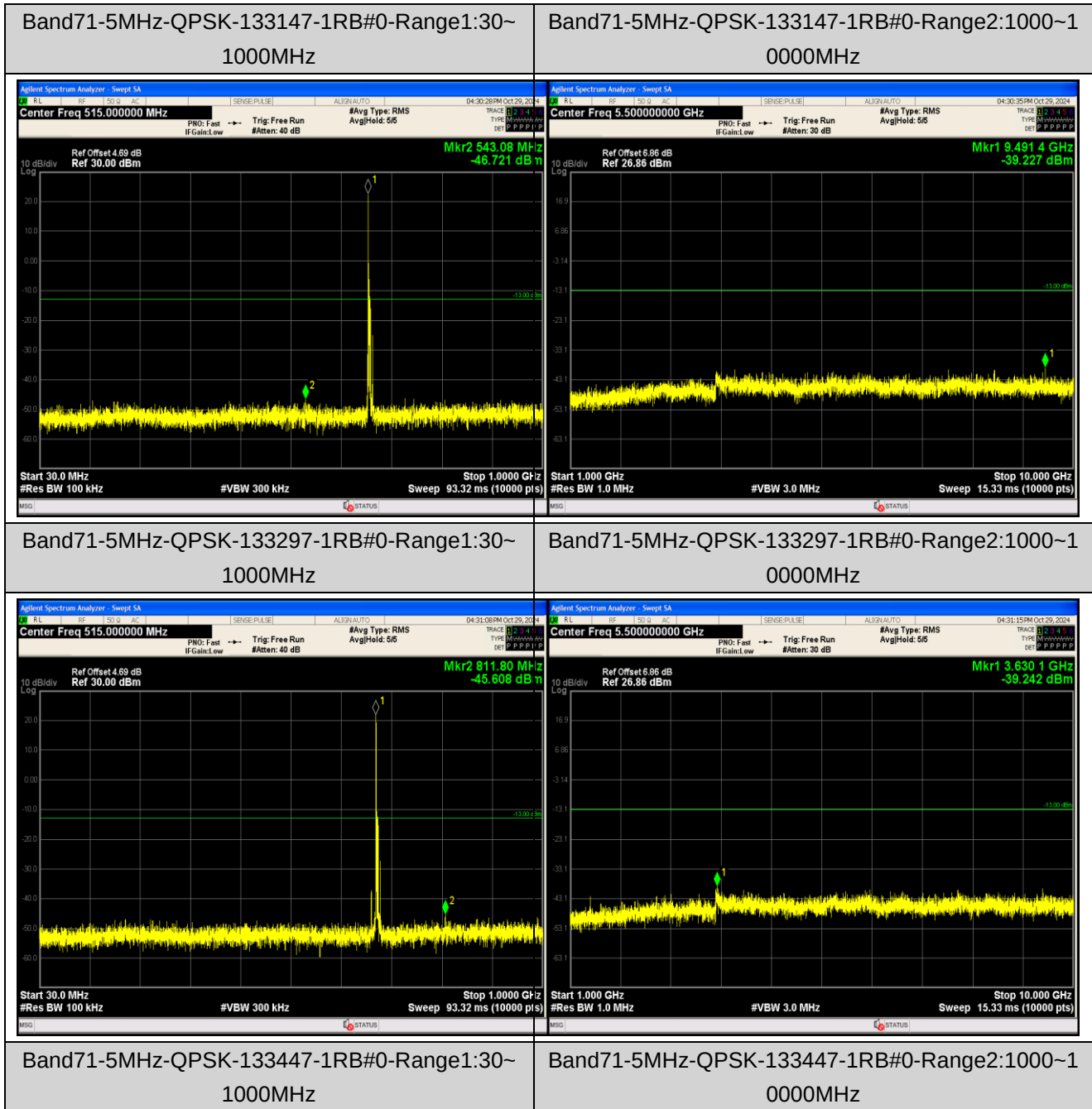
Band66-1.4MHz-QPSK-132322-1RB#0-Range2:1000
~20000MHz

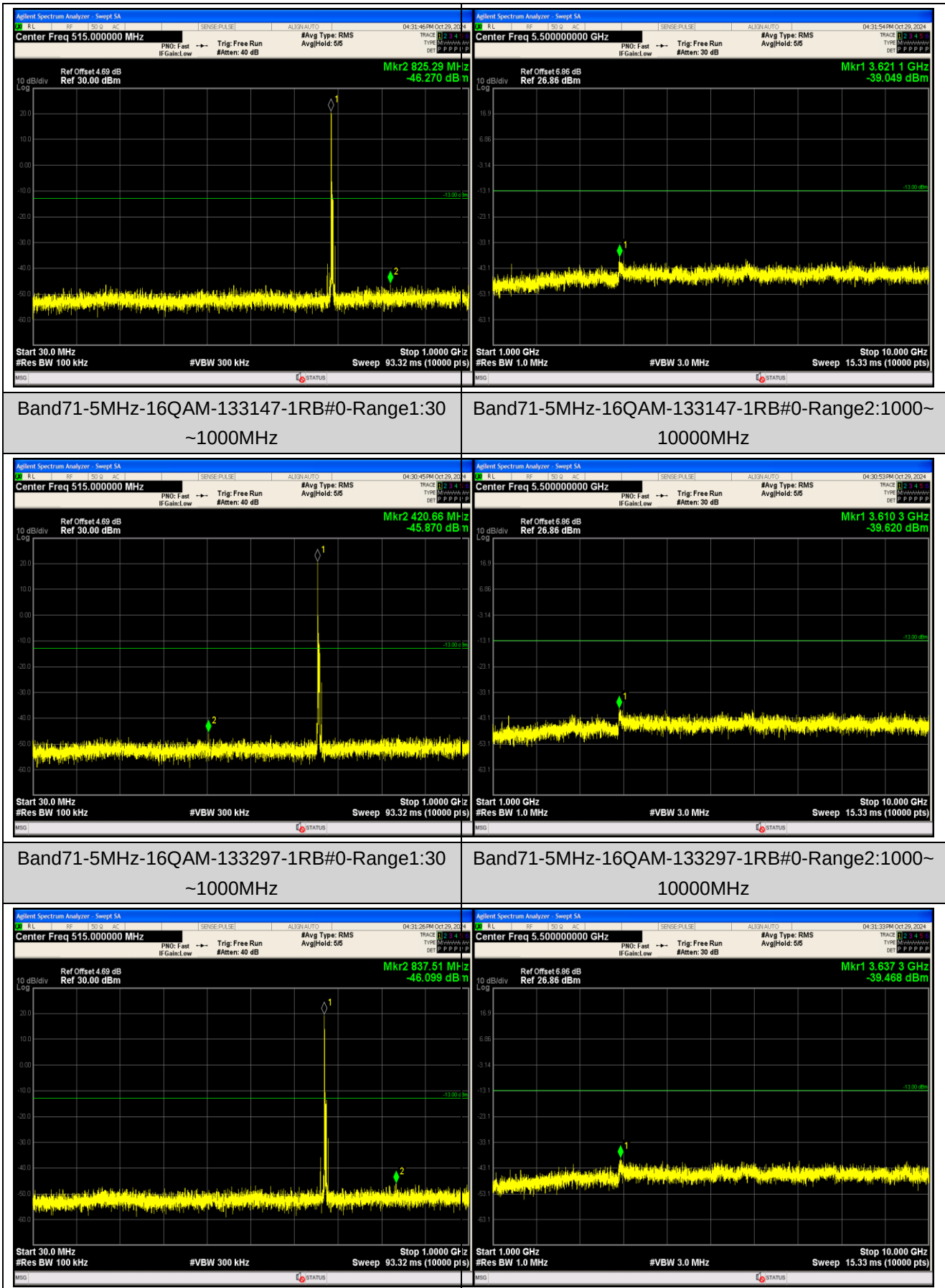


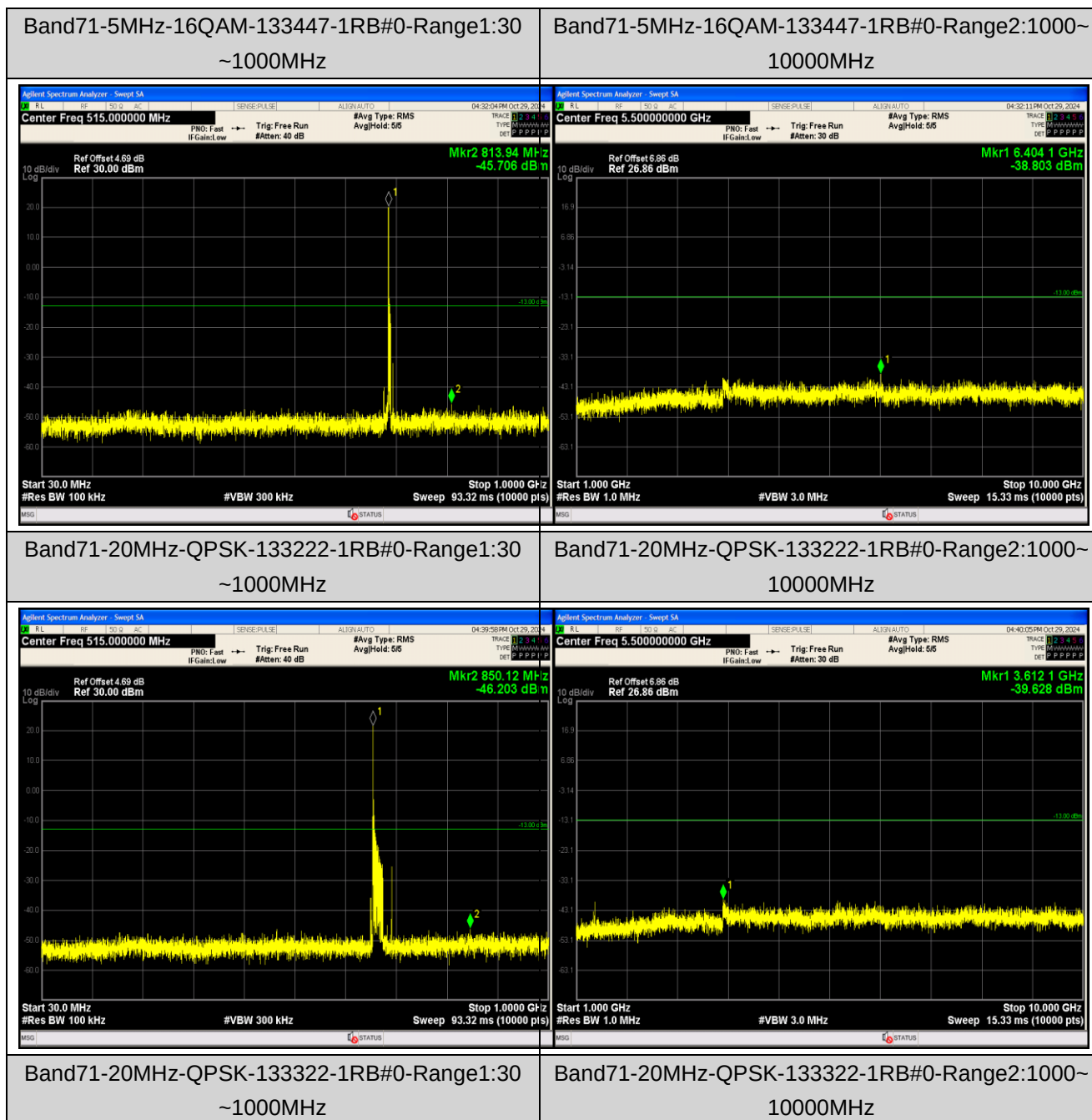


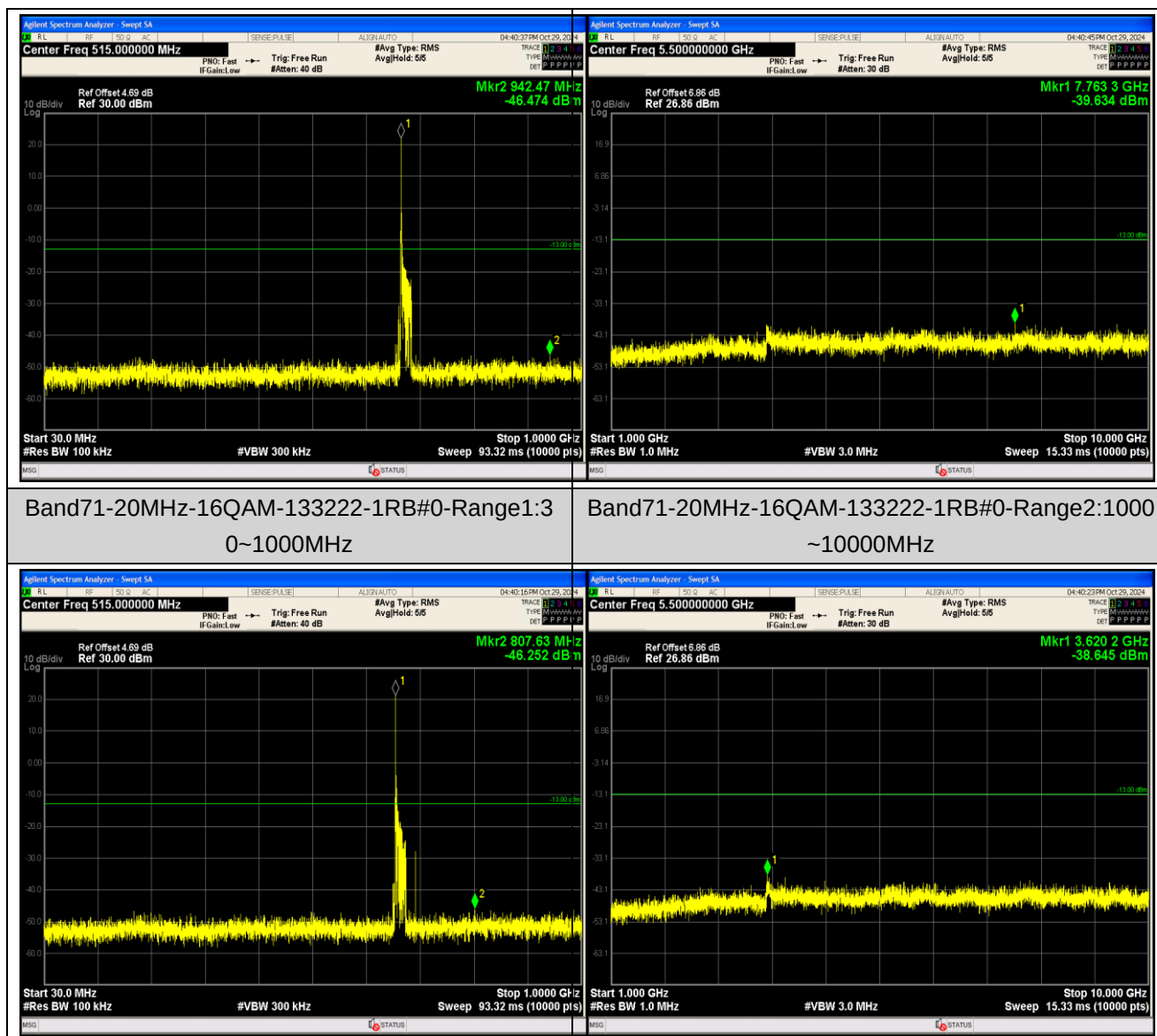












Appendix F: Frequency Stability

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					
3.80	-30	20.64	0.010979	Within authorized band for Band 2	Pass
	-20	18.60	0.009894		
	-10	13.30	0.007074		
	0	10.23	0.005441		
	10	8.75	0.004654		
	20	5.72	0.003043		
	30	4.18	0.002223		
	40	-4.03	-0.002144		
	50	-5.44	-0.002894		
16QAM					
3.80	-30	-3.76	-0.002000	Within authorized band for Band 2	Pass
	-20	1.26	0.000670		
	-10	4.13	0.002197		
	0	5.89	0.003133		
	10	7.80	0.004149		
	20	7.80	0.004149		
	30	11.00	0.005851		
	40	9.31	0.004952		
	50	11.42	0.006074		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	28.14	0.014968	Within authorized band for Band 2	Pass
	3.80	29.18	0.015521		
	4.40	23.32	0.012404		
16QAM					
25	3.50	-5.39	-0.002867	Within authorized band for Band 2	Pass
	3.80	-8.01	-0.004261		
	4.40	-4.59	-0.002441		
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					
3.80	-30	-1.75	-0.002092	±2.5	Pass
	-20	-7.08	-0.008464		
	-10	-11.42	-0.013652		
	0	-16.59	-0.019833		
	10	-19.01	-0.022726		
	20	-22.50	-0.026898		
	30	-24.89	-0.029755		
	40	-26.39	-0.031548		
	50	-29.38	-0.035123		
16QAM					
3.80	-30	-20.41	-0.024399	±2.5	Pass
	-20	-15.81	-0.018900		
	-10	-12.80	-0.015302		
	0	-8.81	-0.010532		
	10	-7.81	-0.009337		
	20	-4.11	-0.004913		
	30	-2.17	-0.002594		
	40	3.55	0.004244		
	50	4.22	0.005045		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	10.50	0.012552	±2.5	Pass
	3.80	12.46	0.014895		
	4.40	5.99	0.007161		
16QAM					
25	3.50	-28.75	-0.034369	±2.5	Pass
	3.80	-30.18	-0.036079		
	4.40	-25.21	-0.030137		
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	-5.74	-0.008113	Within authorized band for Band 12	Pass
	-20	-11.77	-0.016636		
	-10	-15.64	-0.022106		
	0	-19.38	-0.027392		
	10	-23.35	-0.033004		
	20	-25.38	-0.035873		
	30	-28.15	-0.039788		
	40	-28.70	-0.040565		
	50	-31.70	-0.044806		
16QAM					
3.80	-30	-26.46	-0.037399	Within authorized band for Band 12	Pass
	-20	-25.51	-0.036057		
	-10	-24.22	-0.034233		
	0	-24.66	-0.034855		
	10	-22.12	-0.031265		
	20	-21.97	-0.031053		
	30	-20.57	-0.029074		
	40	-18.90	-0.026714		
	50	-17.82	-0.025187		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	6.37	0.009004	Within authorized band for Band 12	Pass
	3.80	9.33	0.013187		
	4.40	-1.57	-0.002219		
16QAM					
25	3.50	-31.13	-0.044000	Within authorized band for Band 12	Pass
	3.80	-32.99	-0.046629		
	4.40	-29.00	-0.040989		
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=40740 Frequency=2605MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	39.21	0.015052	Within authorized band for Band 41	Pass
	-20	43.83	0.016825		
	-10	45.70	0.017543		
	0	53.17	0.020411		
	10	-19.08	-0.007324		
	20	-4.38	-0.001681		
	30	13.09	0.005025		
	40	24.62	0.009451		
	50	34.07	0.013079		
16QAM					
3.80	-30	35.48	0.013620	Within authorized band for Band 41	Pass
	-20	20.73	0.007958		
	-10	54.22	0.020814		
	0	23.33	0.008956		
	10	51.30	0.019693		
	20	42.17	0.016188		
	30	9.53	0.003658		
	40	35.35	0.013570		
	50	8.48	0.003255		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	28.18	0.010818	Within authorized band for Band 41	Pass
	3.80	46.65	0.017908		
	4.40	37.16	0.014265		
16QAM					
25	3.50	18.85	0.007236	Within authorized band for Band41	Pass
	3.80	49.08	0.018841		
	4.40	53.73	0.020626		
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					
3.85	-30	-46.15	-0.026447	Within authorized band for Band 66	Pass
	-20	-36.88	-0.021135		
	-10	-15.05	-0.008625		
	0	-37.18	-0.021307		
	10	-18.12	-0.010384		
	20	-37.67	-0.021587		
	30	-17.78	-0.010189		
	40	-31.21	-0.017885		
	50	-45.26	-0.025937		
16QAM					
3.80	-30	-5.36	-0.003072	Within authorized band for Band 66	Pass
	-20	-5.15	-0.002951		
	-10	-5.74	-0.003289		
	0	-4.76	-0.002728		
	10	-5.85	-0.003352		
	20	-4.61	-0.002642		
	30	-7.55	-0.004327		
	40	-6.81	-0.003903		
	50	-6.69	-0.003834		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	20.13	0.011536	Within authorized band for Band 66	Pass
	3.80	30.16	0.017284		
	4.40	-12.22	-0.007003		
16QAM					
25	3.50	-10.24	-0.005868	Within authorized band for Band 66	Pass
	3.80	-8.18	-0.004688		
	4.40	-6.24	-0.003576		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 71 part:

Reference Frequency: LTE Band 71 (10MHz) Middle channel=133297 Frequency=680.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	-38.95	-0.057237	Within authorized band for Band 71	Pass
	-20	-5.55	-0.008156		
	-10	-19.25	-0.028288		
	0	-30.14	-0.044291		
	10	-38.74	-0.056929		
	20	-46.03	-0.067641		
	30	-50.31	-0.073931		
	40	-55.80	-0.081999		
	50	-1.13	-0.001661		
16QAM					
3.80	-30	-1.62	-0.002381	Within authorized band for Band 71	Pass
	-20	-1.50	-0.002204		
	-10	-2.40	-0.003527		
	0	-1.85	-0.002719		
	10	-1.90	-0.002792		
	20	-3.18	-0.004673		
	30	-4.39	-0.006451		
	40	-4.89	-0.007186		
	50	-5.12	-0.007524		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-3.65	-0.005364	Within authorized band for Band 71	Pass
	3.80	15.84	0.023277		
	4.40	-21.51	-0.031609		
16QAM					
25	3.50	-3.16	-0.004644	Within authorized band for Band 71	Pass
	3.80	-4.61	-0.006774		
	4.40	-3.22	-0.004732		
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
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS
Band41	20MHz	QPSK	40740	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40740	100RB#0	PASS	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS	PASS
Band66	20MHz	16QAM	132322	100RB#0	PASS	PASS
Band71	20MHz	QPSK	133322	100RB#0	PASS	PASS
Band71	20MHz	16QAM	133322	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

