

Band17-10MHz-QPSK-23780-1RB#0-Range1:30~1
000MHz

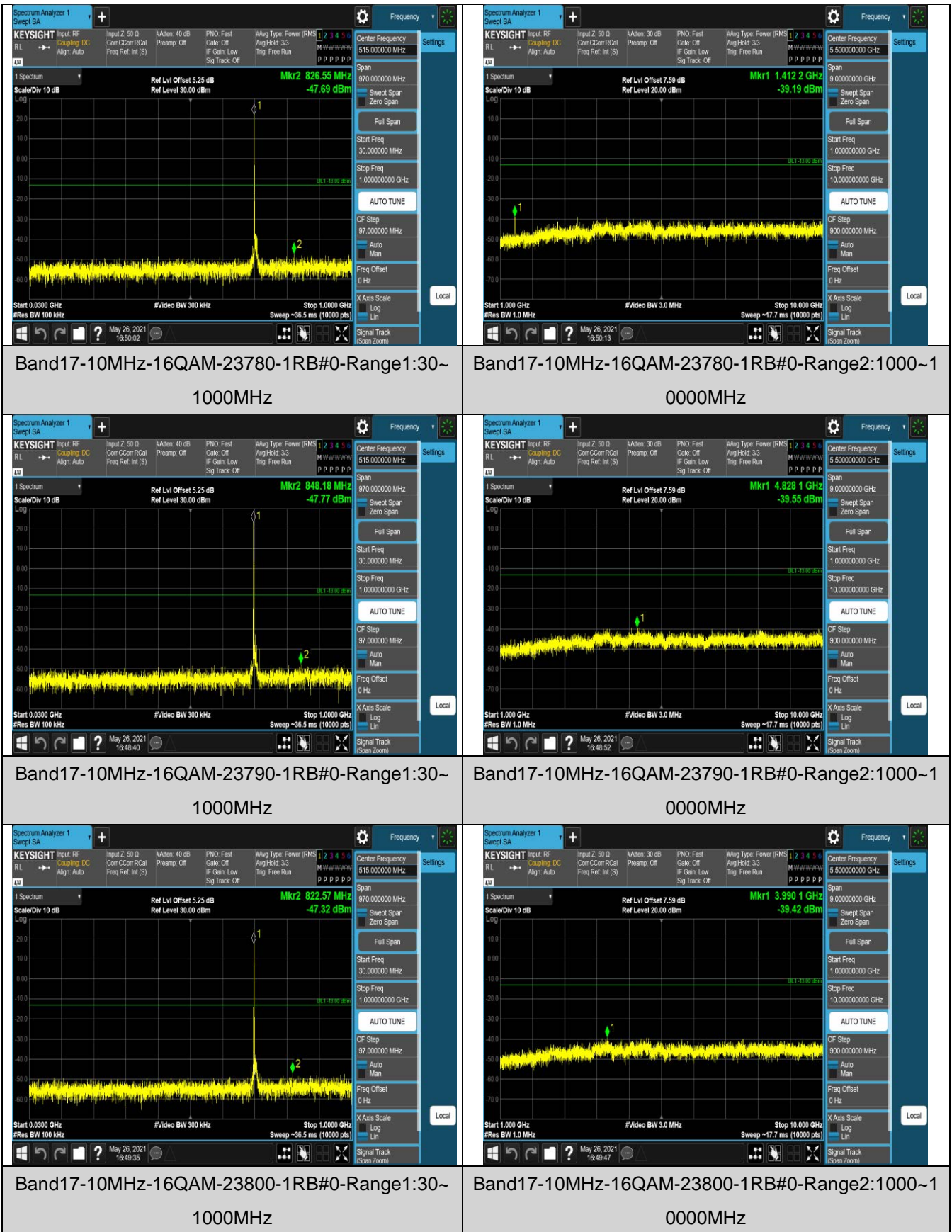
Band17-10MHz-QPSK-23780-1RB#0-Range2:1000~10
000MHz

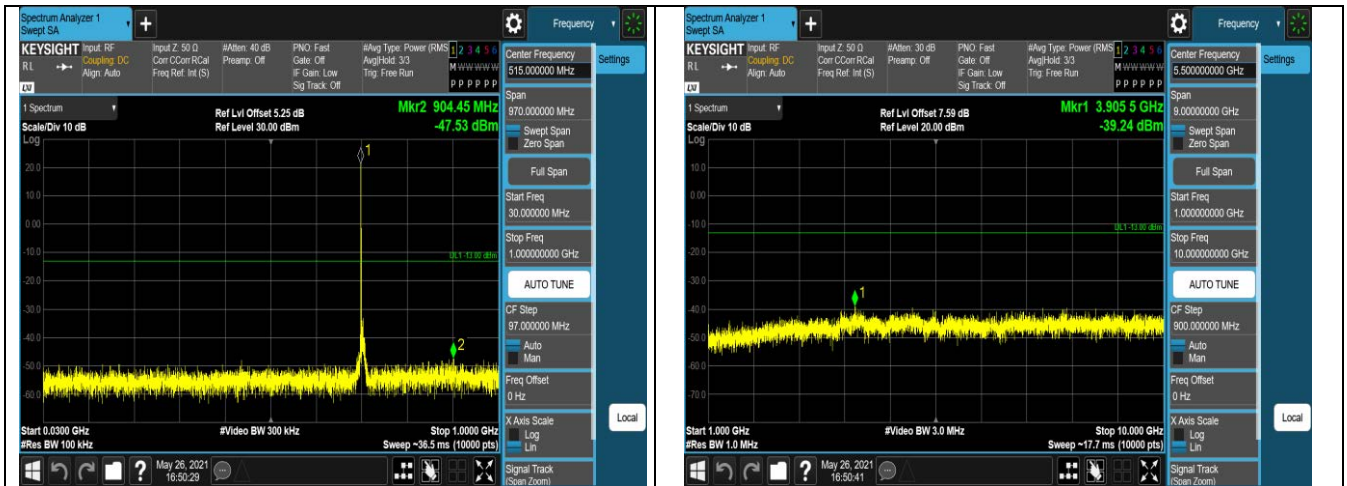
Band17-10MHz-QPSK-23790-1RB#0-Range1:30~1
000MHz

Band17-10MHz-QPSK-23790-1RB#0-Range2:1000~10
000MHz

Band17-10MHz-QPSK-23800-1RB#0-Range1:30~1
000MHz

Band17-10MHz-QPSK-23800-1RB#0-Range2:1000~10
000MHz





Appendix F: Frequency Stability

Test Result (Worst case):

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	-16.91	-0.008995	Within authorized band for Band 2	Pass
	-20	-23.37	-0.012431		
	-10	-15.11	-0.008037		
	0	-23.90	-0.012713		
	10	-17.35	-0.009229		
	20	-21.89	-0.011644		
	30	-14.68	-0.007809		
	40	-19.64	-0.010447		
	50	-7.64	-0.004064		
16QAM					
3.87	-30	-18.08	-0.009617	Within authorized band for Band 2	Pass
	-20	-17.42	-0.009266		
	-10	-21.43	-0.011399		
	0	-10.26	-0.005457		
	10	-18.81	-0.010005		
	20	-16.49	-0.008771		
	30	-4.91	-0.002612		
	40	-19.66	-0.010457		
	50	-12.62	-0.006713		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-15.59	-0.008293	Within authorized band for Band 2	Pass
	3.87	-16.41	-0.008729		
	4.45	-2.96	-0.001574		
16QAM					
25	3.50	-5.14	-0.002734	Within authorized band for Band 2	Pass
	3.87	-9.86	-0.005245		
	4.45	-22.42	-0.011926		

Note: Only the worst case shown in the report.

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.87	-30	-15.96	-0.009212	Within authorized band for Band 4	Pass
	-20	-16.39	-0.009460		
	-10	-10.40	-0.006003		
	0	-15.75	-0.009091		
	10	-14.71	-0.008491		
	20	12.72	0.007342		
	30	-15.38	-0.008877		
	40	-12.76	-0.007365		
	50	-11.90	-0.006869		
16QAM					
3.87	-30	-13.82	-0.007977	Within authorized band for Band 4	Pass
	-20	14.12	0.008150		
	-10	6.78	0.003913		
	0	4.43	0.002557		
	10	-13.48	-0.007781		
	20	-18.97	-0.010949		
	30	3.58	0.002066		
	40	-15.31	-0.008837		
	50	3.60	0.002078		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-13.66	-0.007885	Within authorized band for Band 4	Pass
	3.87	-9.86	-0.005691		
	4.45	-10.06	-0.005807		
16QAM					
25	3.50	-13.49	-0.007786	Within authorized band for Band 4	Pass
	3.87	-14.00	-0.008081		
	4.45	-6.54	-0.003775		

Note: Only the worst case shown in the 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	-11.96	-0.014298	±2.5	Pass
	-20	-9.31	-0.011130		
	-10	-9.76	-0.011668		
	0	-13.43	-0.016055		
	10	-8.45	-0.010102		
	20	-12.95	-0.015481		
	30	-3.91	-0.004674		
	40	-18.08	-0.021614		
	50	-11.13	-0.013305		
16QAM					
3.87	-30	-4.43	-0.005296	±2.5	Pass
	-20	-10.66	-0.012744		
	-10	-9.58	-0.011452		
	0	-10.86	-0.012983		
	10	-10.16	-0.012146		
	20	-13.33	-0.015935		
	30	-7.78	-0.009301		
	40	-10.49	-0.012540		
	50	-12.27	-0.014668		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-16.62	-0.019868	±2.5	Pass
	3.87	-8.81	-0.010532		
	4.45	-11.59	-0.013855		
16QAM					
25	3.50	-11.34	-0.013556	±2.5	Pass
	3.87	-3.79	-0.004531		
	4.45	-10.41	-0.012445		

Note: Only the worst case shown in the 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	15.88	0.006264	Within authorized band for Band 7	Pass
	-20	16.45	0.006489		
	-10	13.82	0.005452		
	0	7.05	0.002781		
	10	-9.78	-0.003858		
	20	17.65	0.006963		
	30	12.23	0.004824		
	40	-9.91	-0.003909		
	50	10.11	0.003988		
16QAM					
3.87	-30	18.04	0.007116	Within authorized band for Band 7	Pass
	-20	-11.40	-0.004497		
	-10	-21.30	-0.008402		
	0	-20.86	-0.008229		
	10	-15.82	-0.006241		
	20	17.75	0.007002		
	30	-17.70	-0.006982		
	40	-13.98	-0.005515		
	50	-18.38	-0.007250		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-17.25	-0.006805	Within authorized band for Band 7	Pass
	3.87	19.28	0.007606		
	4.45	-16.14	-0.006367		
16QAM					
25	3.50	-16.06	-0.006335	Within authorized band for Band 7	Pass
	3.87	-17.95	-0.007081		
	4.45	16.59	0.006544		

Note: Only the worst case shown in the 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	-12.75	-0.018021	Within authorized band for Band 12	Pass
	-20	-15.31	-0.021640		
	-10	-16.77	-0.023703		
	0	-10.47	-0.014799		
	10	-8.77	-0.012396		
	20	-12.10	-0.017102		
	30	-6.02	-0.008509		
	40	-12.13	-0.017145		
	50	-14.39	-0.020339		
16QAM					
3.87	-30	-9.20	-0.013004	Within authorized band for Band 12	Pass
	-20	-8.54	-0.012071		
	-10	-5.51	-0.007788		
	0	-8.60	-0.012155		
	10	-6.02	-0.008509		
	20	-5.82	-0.008226		
	30	-9.07	-0.012820		
	40	-6.55	-0.009258		
	50	-10.57	-0.014940		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-8.08	-0.011420	Within authorized band for Band 12	Pass
	3.87	-11.93	-0.016862		
	4.45	-9.34	-0.013201		
16QAM					
25	3.50	-7.70	-0.010883	Within authorized band for Band 12	Pass
	3.87	-12.93	-0.018276		
	4.45	-10.36	-0.014643		

Note: Only the worst case shown in the report.

LTE Band 17 part:

Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 Frequency=710.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.87	-30	-9.80	-0.013803	Within authorized band for Band 17	Pass
	-20	-16.39	-0.023085		
	-10	-11.80	-0.016620		
	0	-3.32	-0.004676		
	10	-10.57	-0.014887		
	20	-6.42	-0.009042		
	30	-6.85	-0.009648		
	40	-8.13	-0.011451		
	50	-11.44	-0.016113		
16QAM					
3.87	-30	-12.27	-0.017282	Within authorized band for Band 17	Pass
	-20	-9.48	-0.013352		
	-10	-10.96	-0.015437		
	0	-10.10	-0.014225		
	10	-12.06	-0.016986		
	20	-12.27	-0.017282		
	30	-9.54	-0.013437		
	40	-9.28	-0.013070		
	50	-9.66	-0.013606		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-8.73	-0.012296	Within authorized band for Band 17	Pass
	3.87	-7.38	-0.010394		
	4.45	-10.47	-0.014746		
16QAM					
25	3.50	-15.58	-0.021944	Within authorized band for Band 17	Pass
	3.87	-10.57	-0.014887		
	4.45	-11.72	-0.016507		

Note: Only the worst case shown in the report.