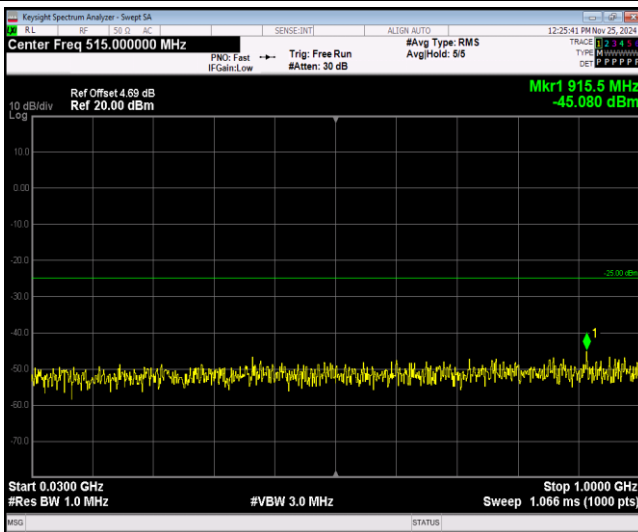
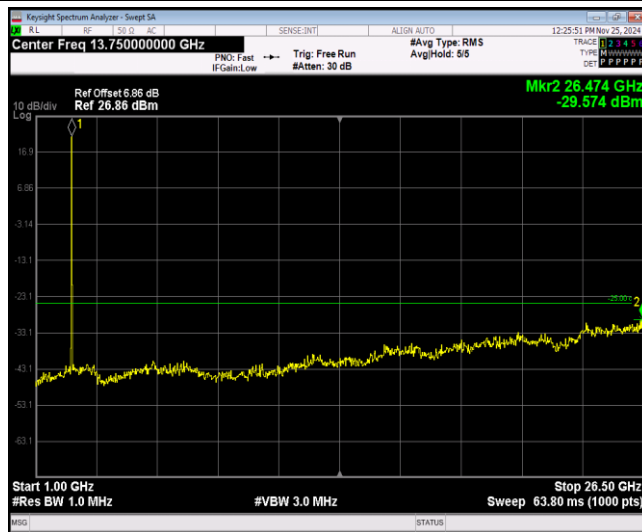


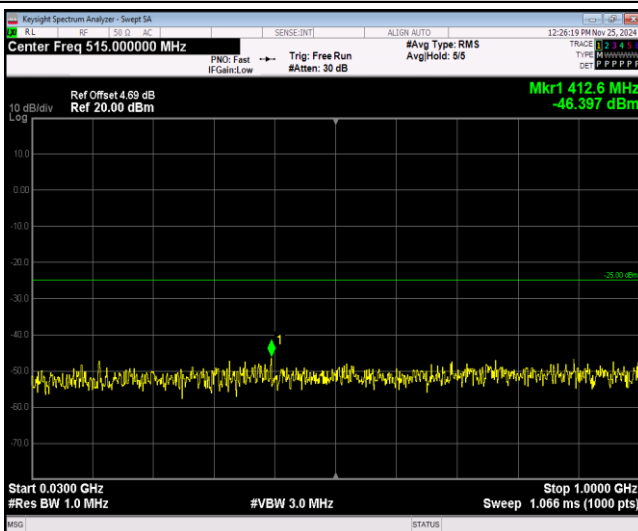
Band7-20MHz-16QAM-20850-1RB#0-Range1:30~1000MHz



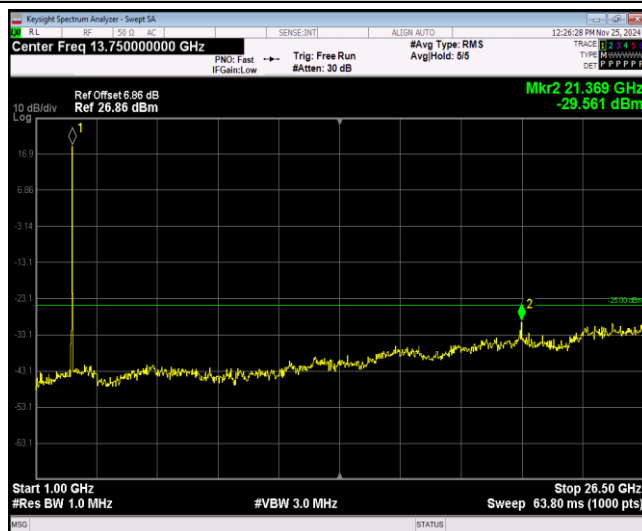
Band7-20MHz-16QAM-20850-1RB#0-Range2:1000~26500MHz



Band7-20MHz-16QAM-21100-1RB#0-Range1:30~1000MHz



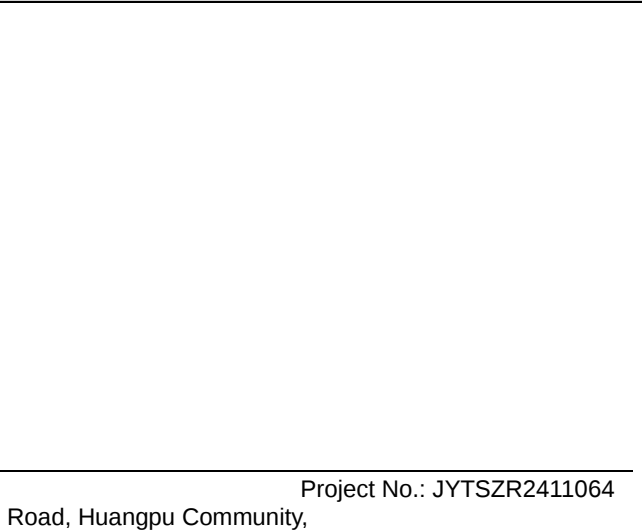
Band7-20MHz-16QAM-21100-1RB#0-Range2:1000~26500MHz

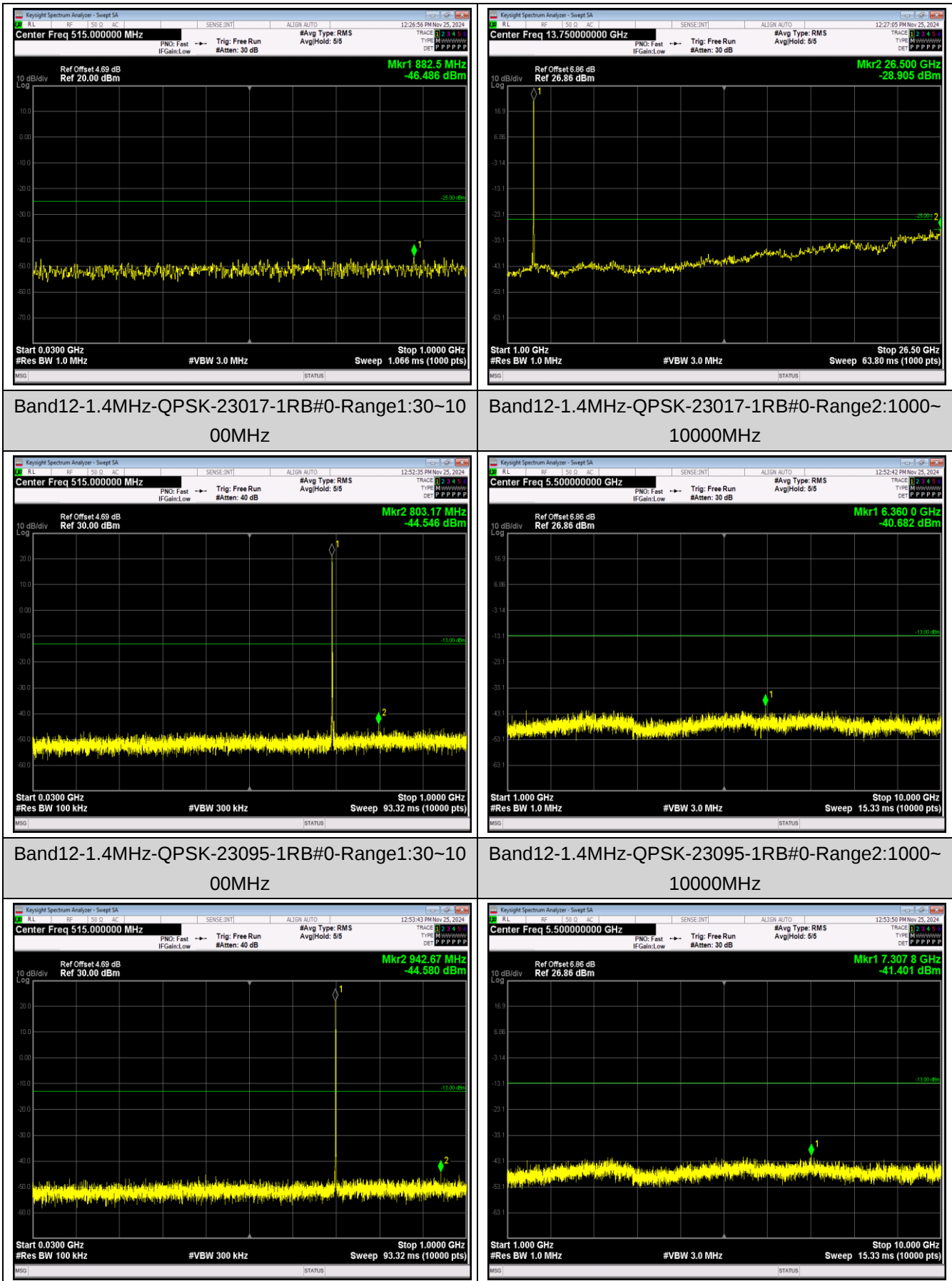


Band7-20MHz-16QAM-21350-1RB#0-Range1:30~1000MHz

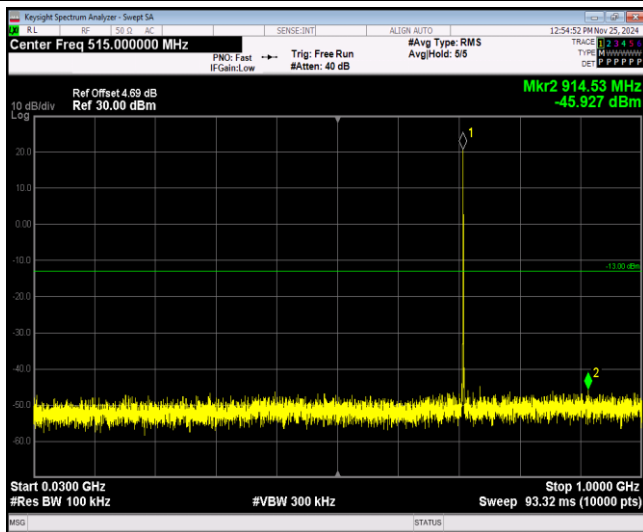


Band7-20MHz-16QAM-21350-1RB#0-Range2:1000~26500MHz

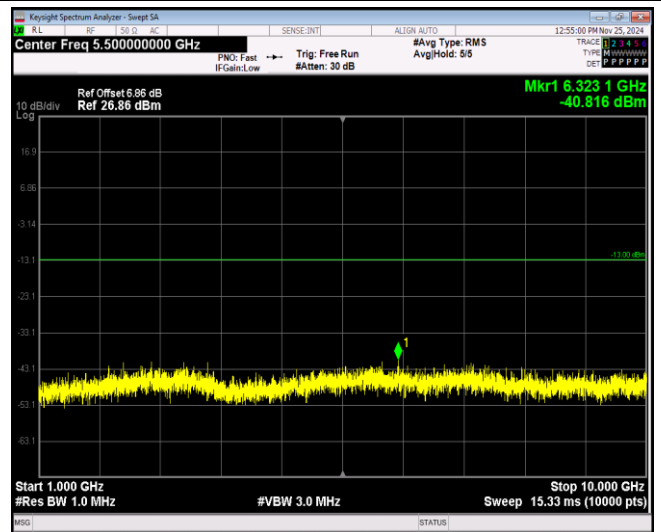




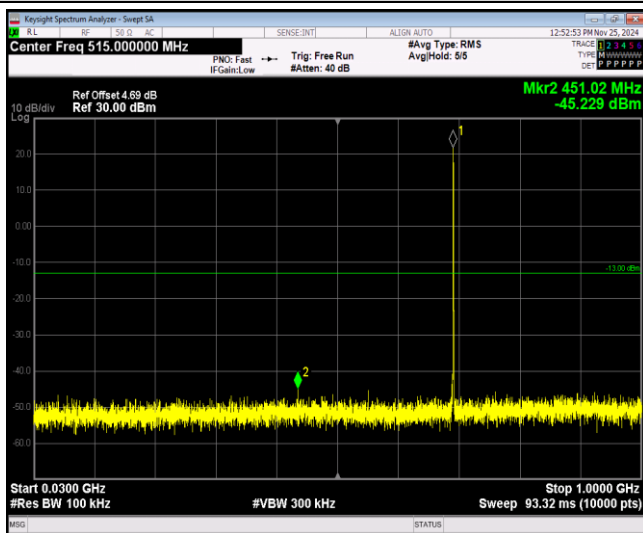
Band12-1.4MHz-QPSK-23173-1RB#0-Range1:30~1000MHz



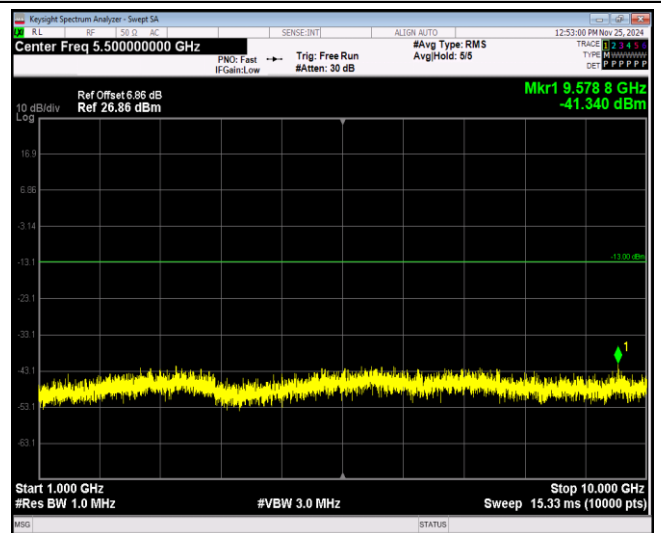
Band12-1.4MHz-QPSK-23173-1RB#0-Range2:1000~10000MHz



Band12-1.4MHz-16QAM-23017-1RB#0-Range1:30~1000MHz



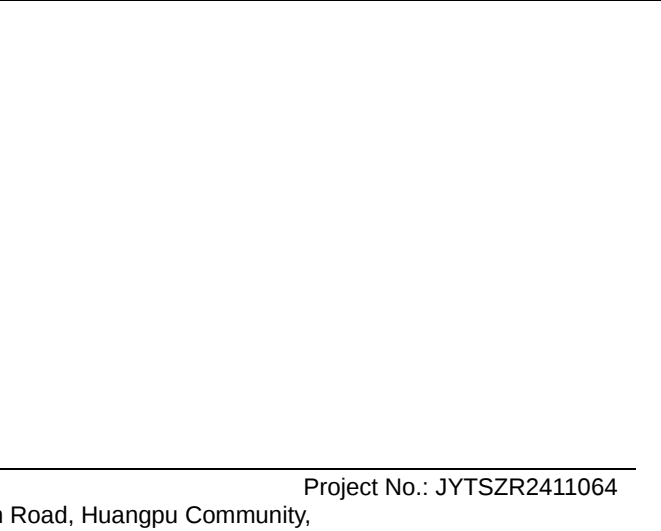
Band12-1.4MHz-16QAM-23017-1RB#0-Range2:1000~10000MHz

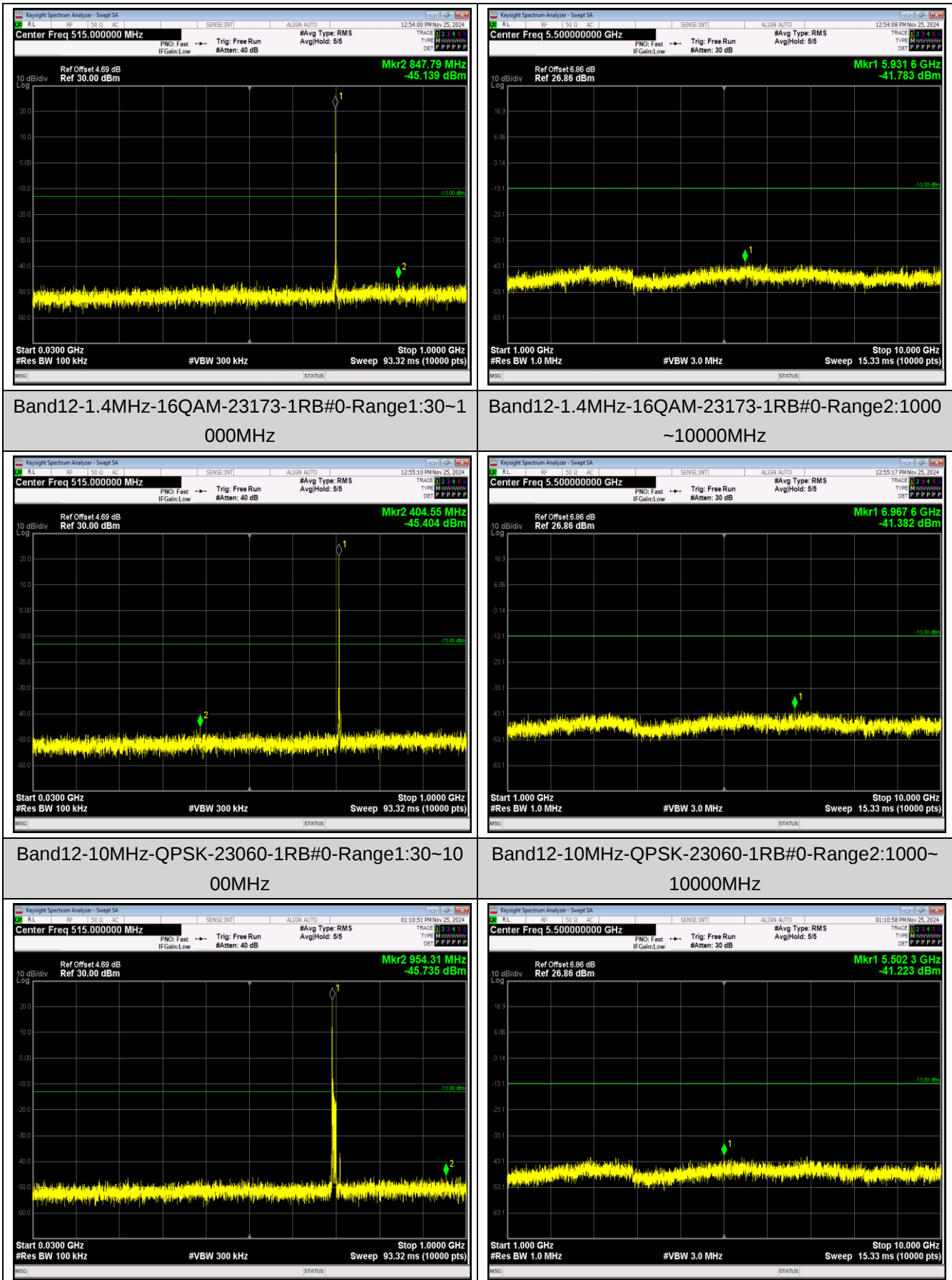


Band12-1.4MHz-16QAM-23095-1RB#0-Range1:30~1000MHz



Band12-1.4MHz-16QAM-23095-1RB#0-Range2:1000~10000MHz





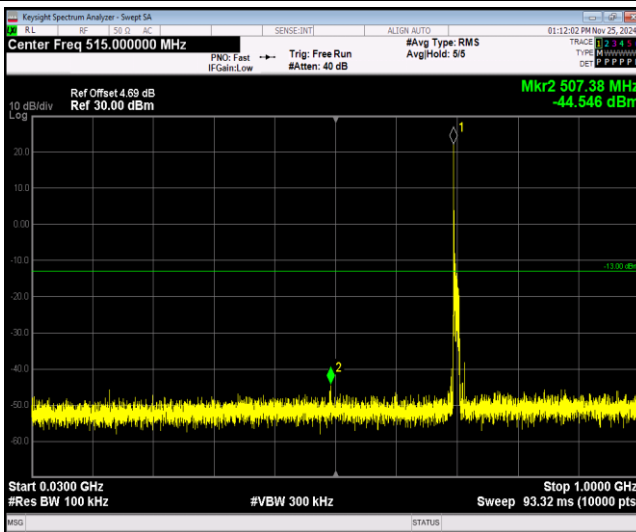
Band12-1.4MHz-16QAM-23173-1RB#0-Range1:30~1000MHz

Band12-1.4MHz-16QAM-23173-1RB#0-Range2:1000~10000MHz

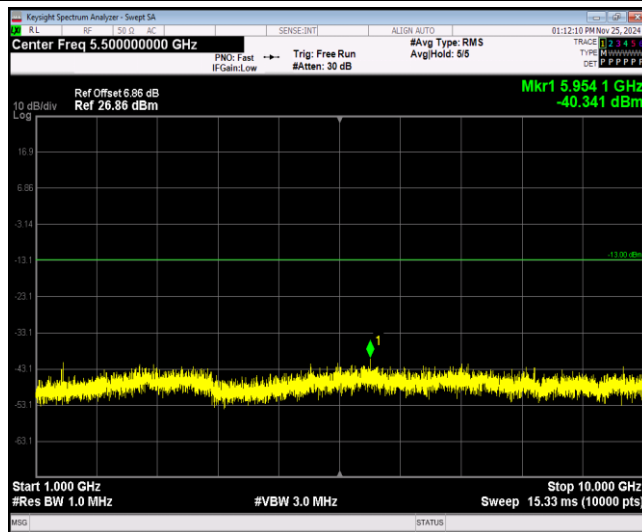
Band12-10MHz-QPSK-23060-1RB#0-Range1:30~1000MHz

Band12-10MHz-QPSK-23060-1RB#0-Range2:1000~10000MHz

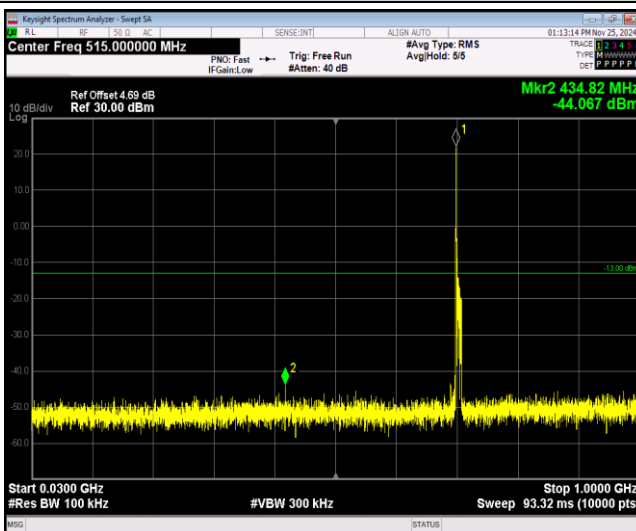
Band12-10MHz-QPSK-23095-1RB#0-Range1:30~1000MHz



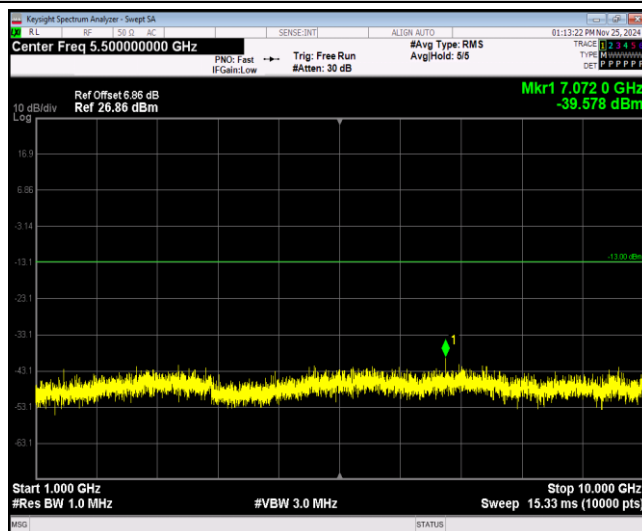
Band12-10MHz-QPSK-23095-1RB#0-Range2:1000~10000MHz



Band12-10MHz-QPSK-23130-1RB#0-Range1:30~1000MHz

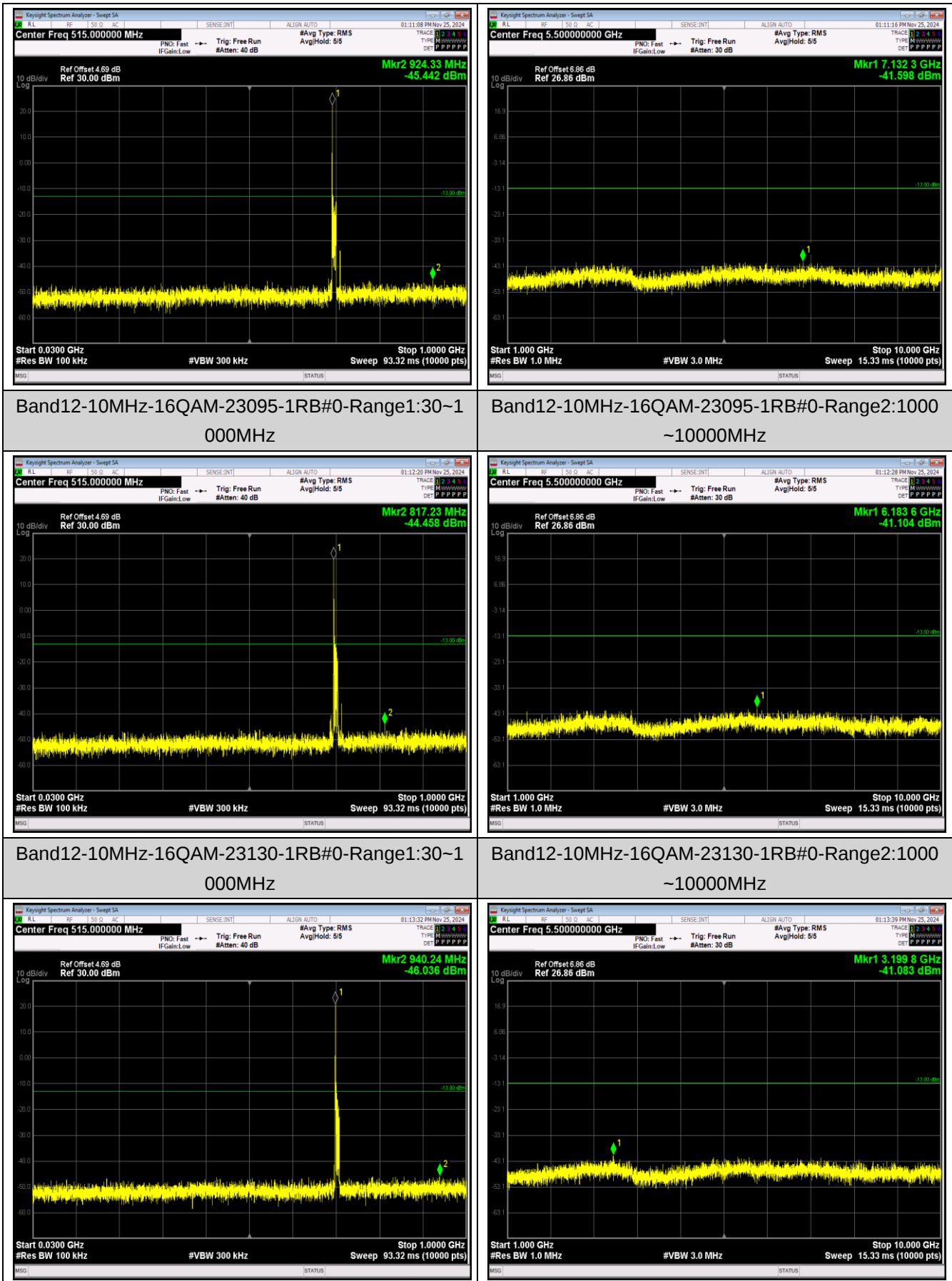


Band12-10MHz-QPSK-23130-1RB#0-Range2:1000~10000MHz



Band12-10MHz-16QAM-23060-1RB#0-Range1:30~1000MHz

Band12-10MHz-16QAM-23060-1RB#0-Range2:1000~10000MHz



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	38.17	0.020303	Within authorized band for Band 2	Pass
	-20	28.28	0.015043		
	-10	9.64	0.005128		
	0	36.23	0.019271		
	10	7.65	0.004069		
	20	29.31	0.015590		
	30	50.97	0.027112		
	40	14.29	0.007601		
	50	30.36	0.016149		
16QAM					
3.70	-30	27.59	0.014676	Within authorized band for Band 2	Pass
	-20	38.91	0.020697		
	-10	41.53	0.022090		
	0	-14.25	-0.007580		
	10	6.65	0.003537		
	20	13.86	0.007372		
	30	22.00	0.011702		
	40	31.54	0.016777		
	50	38.47	0.020463		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	14.52	0.007723	Within authorized band for Band 2	Pass
	3.70	8.57	0.004559		
	4.20	-11.34	-0.006032		
16QAM					
25	3.50	14.12	0.007511	Within authorized band for Band 2	Pass
	3.70	-7.65	-0.004069		
	4.20	19.53	0.010388		
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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	7.24	0.004179	Within authorized band for Band 4	Pass
	-20	12.87	0.007429		
	-10	16.87	0.009737		
	0	17.35	0.010014		
	10	46.69	0.026949		
	20	25.72	0.014846		
	30	4.55	0.002626		
	40	27.54	0.015896		
	50	9.24	0.005333		
16QAM					
3.70	-30	-7.52	-0.004341	Within authorized band for Band 4	Pass
	-20	10.29	0.005939		
	-10	16.26	0.009385		
	0	32.90	0.018990		
	10	38.87	0.022436		
	20	12.52	0.007227		
	30	23.65	0.013651		
	40	36.05	0.020808		
	50	4.41	0.002545		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	36.54	0.021091	Within authorized band for Band 4	Pass
	3.70	37.81	0.021824		
	4.20	-13.19	-0.007613		
16QAM					
25	3.50	26.35	0.015209	Within authorized band for Band 4	Pass
	3.70	35.35	0.020404		
	4.20	-18.38	-0.010609		
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					
3.70	-30	39.21	0.046874	±2.5	Pass
	-20	9.86	0.011787		
	-10	20.87	0.024949		
	0	35.86	0.042869		
	10	46.83	0.055983		
	20	7.15	0.008548		
	30	15.82	0.018912		
	40	22.14	0.026467		
	50	30.86	0.036892		
16QAM					
3.70	-30	-3.35	-0.004005	±2.5	Pass
	-20	5.25	0.006276		
	-10	7.48	0.008942		
	0	9.86	0.011787		
	10	15.44	0.018458		
	20	17.80	0.021279		
	30	18.54	0.022164		
	40	21.94	0.026228		
	50	27.22	0.032540		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	44.55	0.053258	±2.5	Pass
	3.70	16.99	0.020311		
	4.20	18.37	0.021961		
16QAM					
25	3.50	43.43	0.051919	±2.5	Pass
	3.70	39.11	0.046754		
	4.20	44.92	0.053700		
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	58.01	0.022884	Within authorized band for Band 7	Pass
	-20	57.58	0.022714		
	-10	35.10	0.013846		
	0	48.64	0.019187		
	10	21.79	0.008596		
	20	45.48	0.017941		
	30	21.47	0.008469		
	40	50.18	0.019795		
	50	42.76	0.016868		
16QAM					
3.70	-30	27.54	0.010864	Within authorized band for Band 7	Pass
	-20	-12.93	-0.005101		
	-10	19.43	0.007665		
	0	44.99	0.017748		
	10	31.90	0.012584		
	20	-15.41	-0.006079		
	30	18.68	0.007369		
	40	42.51	0.016769		
	50	-5.79	-0.002284		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	49.01	0.019333	Within authorized band for Band 7	Pass
	3.70	51.10	0.020158		
	4.20	49.11	0.019373		
16QAM					
25	3.50	19.25	0.007594	Within authorized band for Band 7	Pass
	3.70	26.55	0.010473		
	4.20	36.44	0.014375		
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	36.99	0.052283	Within authorized band for Band 12	Pass
	-20	-6.49	-0.009173		
	-10	11.97	0.016919		
	0	22.29	0.031505		
	10	31.66	0.044749		
	20	40.78	0.057640		
	30	4.12	0.005823		
	40	10.34	0.014615		
	50	19.21	0.027152		
16QAM					
3.70	-30	30.18	0.042657	Within authorized band for Band 12	Pass
	-20	35.25	0.049823		
	-10	35.99	0.050869		
	0	40.86	0.057753		
	10	40.87	0.057767		
	20	43.19	0.061046		
	30	45.55	0.064382		
	40	48.15	0.068057		
	50	-2.98	-0.004212		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	44.16	0.062417	Within authorized band for Band 12	Pass
	3.70	14.85	0.020989		
	4.20	20.47	0.028933		
16QAM					
25	3.50	28.91	0.040862	Within authorized band for Band 12	Pass
	3.70	23.25	0.032862		
	4.20	30.70	0.043392		
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

