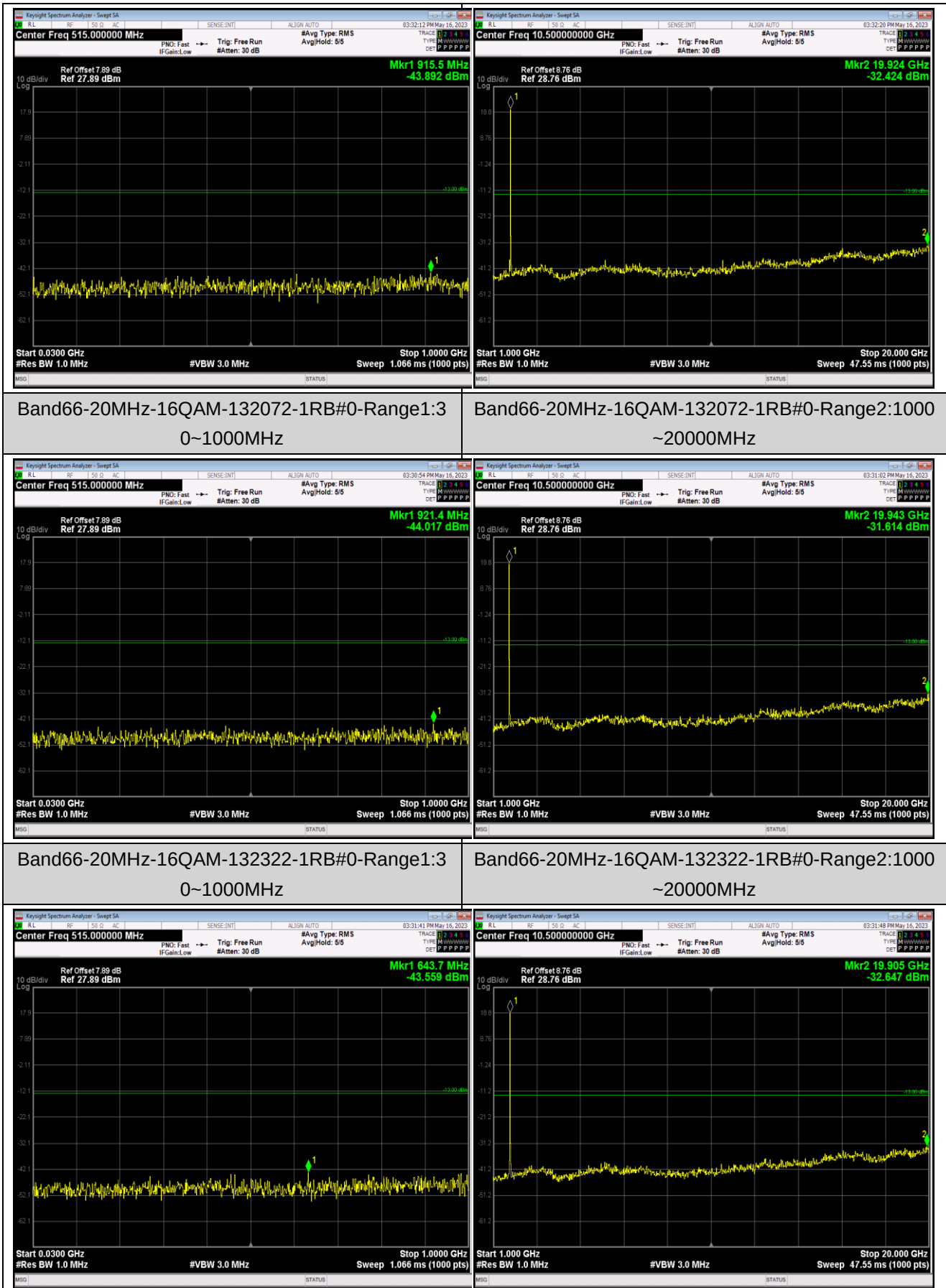
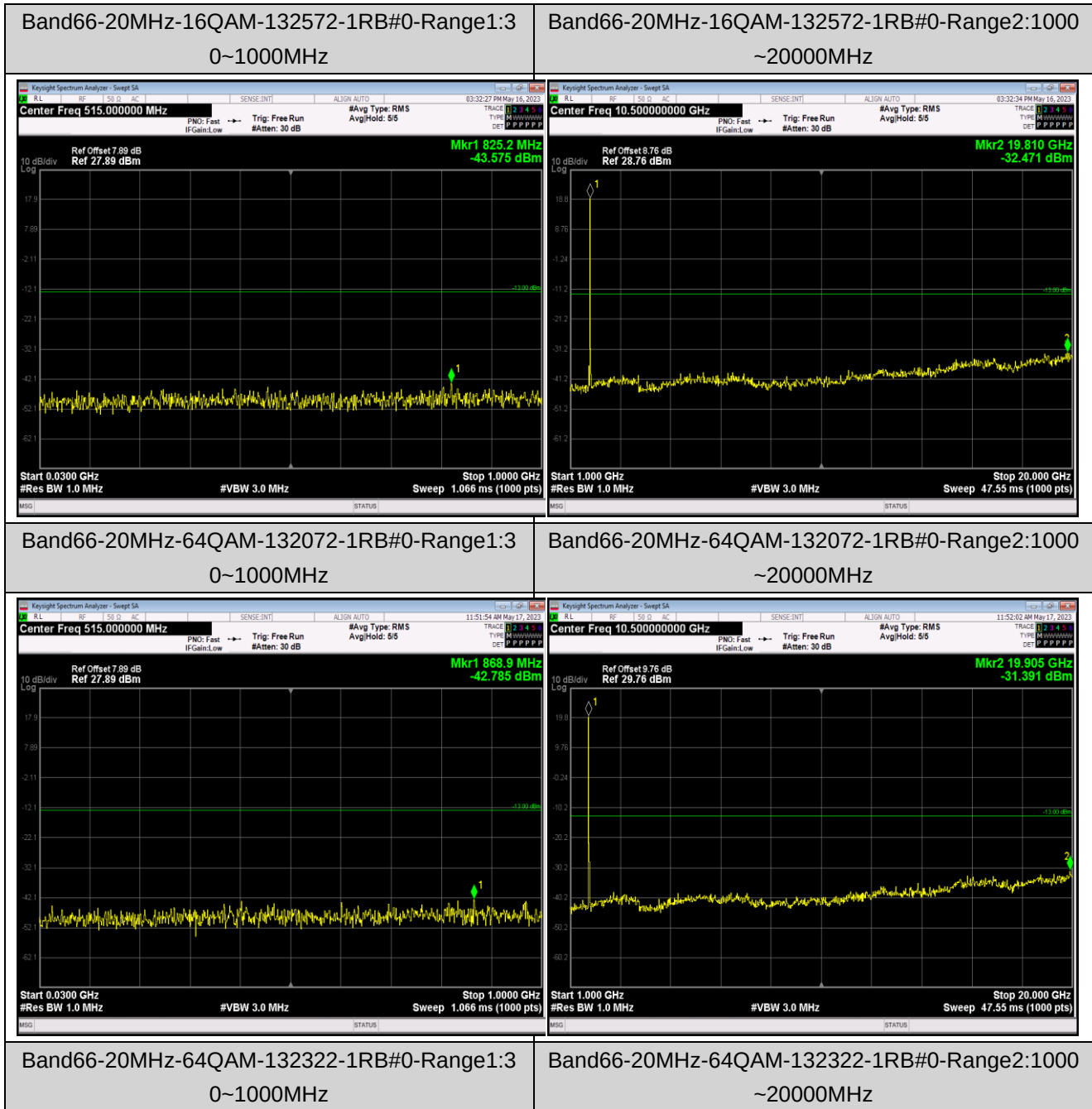
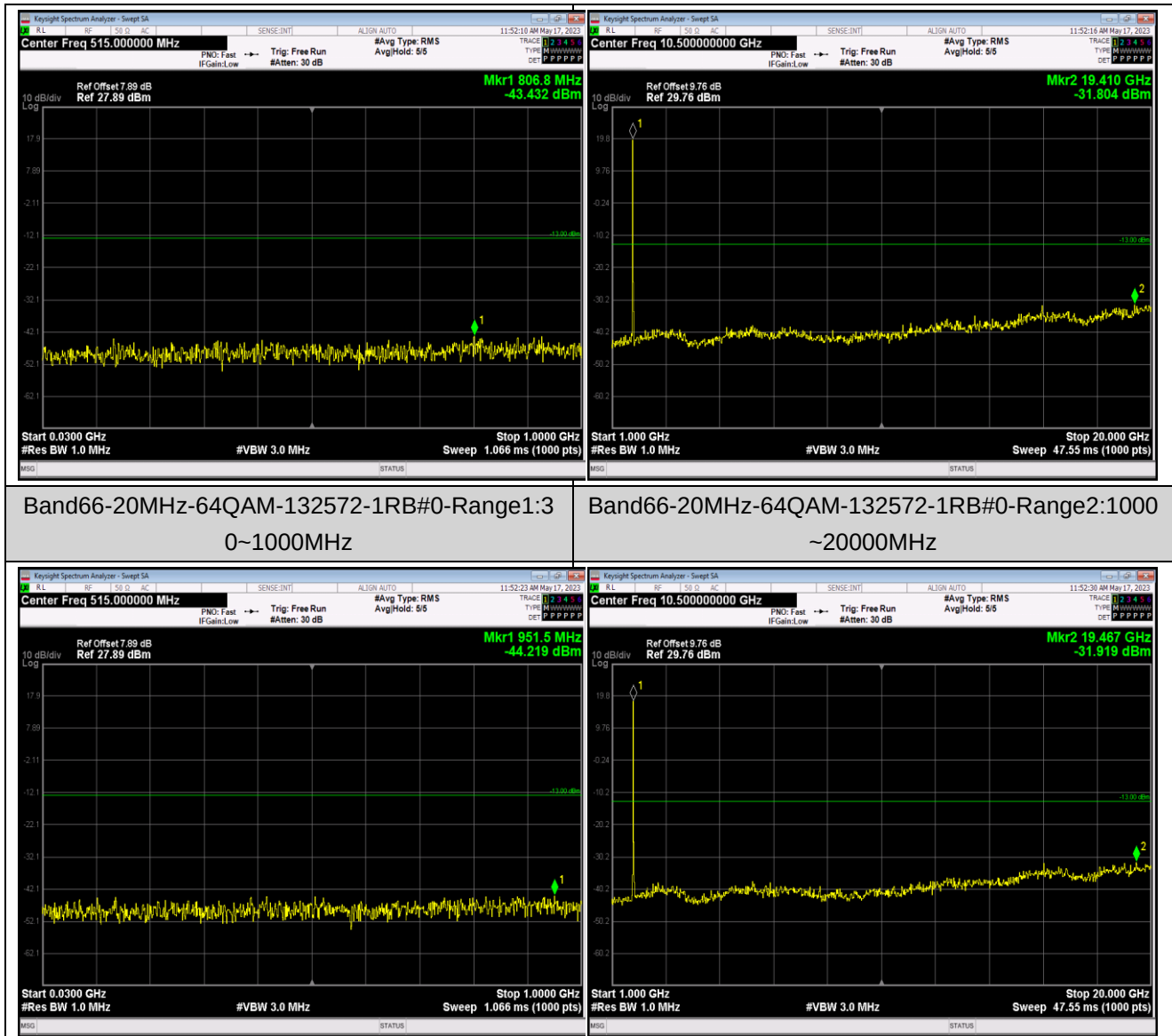








Appendix F: Frequency Stability

Test Result

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					
3.89	-30	7.24	0.002856	Within authorized band for Band 7	Pass
	-20	4.94	0.001949		
	-10	-9.03	-0.003562		
	0	8.35	0.003294		
	10	-2.72	-0.001073		
	20	7.48	0.002951		
	30	8.45	0.003333		
	40	6.90	0.002722		
	50	-3.66	-0.001444		
16QAM					
3.89	-30	4.95	0.001953	Within authorized band for Band 7	Pass
	-20	6.14	0.002422		
	-10	-6.81	-0.002686		
	0	-3.40	-0.001341		
	10	2.12	0.000836		
	20	-11.42	-0.004505		
	30	-4.29	-0.001692		
	40	-4.15	-0.001637		
	50	-1.77	-0.000698		
64QAM					
3.89	-30	6.47	0.002552	Within authorized band for Band 7	Pass
	-20	11.47	0.004525		
	-10	6.41	0.002529		
	0	5.06	0.001996		
	10	8.01	0.003160		
	20	4.49	0.001771		
	30	2.35	0.000927		
	40	6.97	0.002750		
	50	6.37	0.002513		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	7.60	0.002998	Within authorized band for Band 7	Pass
	3.89	-4.03	-0.001590		
	4.48	5.85	0.002308		
16QAM					
25	3.45	-5.72	-0.002256	Within authorized band for Band 7	Pass
	3.89	4.61	0.001819		
	4.48	-2.86	-0.001128		
64QAM					
25	3.45	-8.40	-0.003314	Within authorized band for Band 7	Pass
	3.89	-4.11	-0.001621		
	4.48	7.52	0.002966		
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	7.54	0.002908	Within authorized band for Band 41	Pass
	-20	-3.63	-0.001400		
	-10	-2.56	-0.000987		
	0	-2.47	-0.000953		
	10	7.31	0.002819		
	20	5.05	0.001948		
	30	4.96	0.001913		
	40	7.40	0.002854		
	50	-2.30	-0.000887		
16QAM					
3.89	-30	-1.87	-0.000721	Within authorized band for Band 41	Pass
	-20	7.45	0.002873		
	-10	5.42	0.002090		
	0	-5.06	-0.001951		
	10	3.65	0.001408		
	20	5.55	0.002140		
	30	-3.42	-0.001319		
	40	3.56	0.001373		
	50	5.14	0.001982		
64QAM					
3.89	-30	6.17	0.002379	Within authorized band for Band 41	Pass
	-20	8.20	0.003162		
	-10	-6.74	-0.002599		
	0	3.13	0.001207		
	10	-2.55	-0.000983		
	20	-2.93	-0.001130		
	30	4.19	0.001616		
	40	5.65	0.002179		
	50	-5.11	-0.001971		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	6.24	0.002406	Within authorized band for Band 41	Pass
	3.89	-5.89	-0.002272		
	4.48	3.86	0.001489		
16QAM					
25	3.45	4.99	0.001924	Within authorized band for Band41	Pass
	3.89	-1.54	-0.000594		
	4.48	3.66	0.001411		
64QAM					
25	3.45	7.52	0.002900	Within authorized band for Band41	Pass
	3.89	-1.76	-0.000679		
	4.48	5.48	0.002113		
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	9.74	0.005582	Within authorized band for Band 66	Pass
	-20	4.76	0.002728		
	-10	7.17	0.004109		
	0	6.81	0.003903		
	10	10.41	0.005966		
	20	17.02	0.009754		
	30	14.25	0.008166		
	40	8.85	0.005072		
	50	7.37	0.004223		
16QAM					
3.89	-30	11.70	0.006705	Within authorized band for Band 66	Pass
	-20	12.93	0.007410		
	-10	11.27	0.006458		
	0	4.69	0.002688		
	10	16.77	0.009610		
	20	8.71	0.004991		
	30	3.66	0.002097		
	40	17.74	0.010166		
	50	8.80	0.005043		
64QAM					
3.89	-30	1.27	0.000728	Within authorized band for Band 66	Pass
	-20	4.51	0.002585		
	-10	5.04	0.002888		
	0	5.78	0.003312		
	10	3.96	0.002269		
	20	7.07	0.004052		
	30	3.62	0.002074		
	40	4.73	0.002711		
	50	6.59	0.003777		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	13.72	0.007862	Within authorized band for Band 66	Pass
	3.89	9.51	0.005450		
	4.48	15.84	0.009077		
16QAM					
25	3.45	7.60	0.004355	Within authorized band for Band 66	Pass
	3.89	13.30	0.007622		
	4.48	13.16	0.007542		
64QAM					
25	3.45	5.18	0.002968	Within authorized band for Band 66	Pass
	3.89	7.47	0.004281		
	4.48	3.29	0.001885		
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
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band7	20MHz	64QAM	21100	100RB#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.

Test Graphs

