

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					
3.85	-30	-10.03	-0.011990	±2.5	Pass
	-20	-10.23	-0.012230		
	-10	-10.53	-0.012588		
	0	-6.21	-0.007424		
	10	-8.88	-0.010616		
	20	-8.37	-0.010006		
	30	-7.28	-0.008703		
	40	-10.13	-0.012110		
	50	-13.30	-0.015900		
16QAM					
3.85	-30	-11.42	-0.013652	±2.5	Pass
	-20	-8.43	-0.010078		
	-10	-6.58	-0.007866		
	0	-8.10	-0.009683		
	10	-10.20	-0.012194		
	20	-8.51	-0.010173		
	30	-8.91	-0.010652		
	40	-3.81	-0.004555		
	50	-9.36	-0.005403		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-10.66	-0.012744	±2.5	Pass
	3.85	-10.33	-0.012349		
	4.40	-10.20	-0.012194		
16QAM					
25	3.50	-14.00	-0.016736	±2.5	Pass
	3.85	-6.98	-0.008344		
	4.40	-9.27	-0.011082		
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					
3.85	-30	-15.26	-0.006020	Within authorized band for Band 7	Pass
	-20	-19.68	-0.007763		
	-10	-9.06	-0.003574		
	0	-16.01	-0.006316		
	10	13.09	0.005164		
	20	8.65	0.003412		
	30	-12.17	-0.004801		
	40	-8.17	-0.003223		
	50	-8.31	-0.003278		
16QAM					
3.85	-30	4.12	0.001625	Within authorized band for Band 7	Pass
	-20	-8.97	-0.003538		
	-10	4.99	0.001968		
	0	5.62	0.002217		
	10	-8.27	-0.003262		
	20	12.23	0.004824		
	30	-11.93	-0.004706		
	40	3.12	0.001231		
	50	6.90	0.002722		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-21.99	-0.008675	Within authorized band for Band 7	Pass
	3.85	-26.26	-0.010359		
	4.40	-15.11	-0.005961		
16QAM					
25	3.50	-10.70	-0.004221	Within authorized band for Band 7	Pass
	3.85	-12.20	-0.004813		
	4.40	-12.40	-0.004892		
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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-8.20	-0.011549	Within authorized band for Band 17	Pass
	-20	-5.89	-0.008296		
	-10	-4.51	-0.006352		
	0	-6.62	-0.009324		
	10	-8.27	-0.011648		
	20	-6.09	-0.008577		
	30	-6.35	-0.008944		
	40	-5.04	-0.007099		
	50	-11.50	-0.016197		
16QAM					
3.85	-30	-5.38	-0.007577	Within authorized band for Band 17	Pass
	-20	-6.09	-0.008577		
	-10	-6.65	-0.009366		
	0	-5.85	-0.008239		
	10	-7.52	-0.010592		
	20	-11.63	-0.016380		
	30	-7.15	-0.010070		
	40	-4.33	-0.006099		
	50	-5.08	-0.007155		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.01	-0.009873	Within authorized band for Band 17	Pass
	3.85	-10.97	-0.015451		
	4.40	-8.93	-0.012577		
16QAM					
25	3.50	-6.19	-0.008718	Within authorized band for Band 17	Pass
	3.85	-5.11	-0.007197		
	4.40	-4.79	-0.006746		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 38 part:

Reference Frequency: LTE Band 38(10MHz) Middle channel=38000 Frequency=2595.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-7.02	-0.002705	Within authorized band for Band 38	Pass
	-20	2.92	0.001125		
	-10	-2.82	-0.001087		
	0	-8.05	-0.003102		
	10	-3.93	-0.001514		
	20	-8.23	-0.003171		
	30	9.96	0.003838		
	40	3.63	0.001399		
	50	5.99	0.002308		
16QAM					
3.85	-30	-10.01	-0.003857	Within authorized band for Band 38	Pass
	-20	-10.74	-0.004139		
	-10	-12.22	-0.004709		
	0	-10.24	-0.003946		
	10	-11.56	-0.004455		
	20	-7.22	-0.002782		
	30	-11.67	-0.004497		
	40	-7.75	-0.002987		
	50	-5.85	-0.002254		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-9.33	-0.003595	Within authorized band for Band 38	Pass
	3.85	-24.65	-0.009499		
	4.40	-12.60	-0.004855		
16QAM					
25	3.50	-9.97	-0.003842	Within authorized band for Band 38	Pass
	3.85	-9.68	-0.003730		
	4.40	-13.06	-0.005033		
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					
3.85	-30	-7.98	-0.003075	Within authorized band for Band 41	Pass
	-20	-11.22	-0.004324		
	-10	-6.07	-0.002339		
	0	-6.54	-0.002520		
	10	-5.45	-0.002100		
	20	-10.33	-0.003981		
	30	-4.79	-0.001846		
	40	-11.67	-0.004497		
	50	-13.52	-0.005210		
16QAM					
3.85	-30	-10.06	-0.003877	Within authorized band for Band 41	Pass
	-20	3.23	0.001245		
	-10	-5.75	-0.002216		
	0	-9.26	-0.003568		
	10	-7.32	-0.002821		
	20	-4.51	-0.001738		
	30	-10.59	-0.004081		
	40	-8.74	-0.003368		
	50	-9.41	-0.003626		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-9.88	-0.003807	Within authorized band for Band 41	Pass
	3.85	-30.23	-0.011649		
	4.40	-9.00	-0.003468		
16QAM					
25	3.50	-16.72	-0.006443	Within authorized band for Band41	Pass
	3.85	-10.69	-0.004119		
	4.40	-11.72	-0.004516		
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	-2.43	-0.001393	Within authorized band for Band 66	Pass
	-20	7.10	0.004069		
	-10	-7.95	-0.004556		
	0	7.71	0.004418		
	10	-11.87	-0.006802		
	20	7.58	0.004344		
	30	-7.57	-0.004338		
	40	-9.63	-0.005519		
	50	-9.97	-0.005713		
16QAM					
3.85	-30	-10.39	-0.005954	Within authorized band for Band 66	Pass
	-20	-10.36	-0.005937		
	-10	-13.16	-0.007542		
	0	-9.97	-0.005713		
	10	-8.93	-0.005117		
	20	-9.78	-0.005605		
	30	-10.00	-0.005731		
	40	-12.06	-0.006911		
	50	-10.13	-0.005805		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-14.89	-0.008533	Within authorized band for Band 66	Pass
	3.85	-17.60	-0.010086		
	4.40	-13.09	-0.007501		
16QAM					
25	3.50	-11.27	-0.006458	Within authorized band for Band 66	Pass
	3.85	-10.81	-0.006195		
	4.40	4.98	0.002854		
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

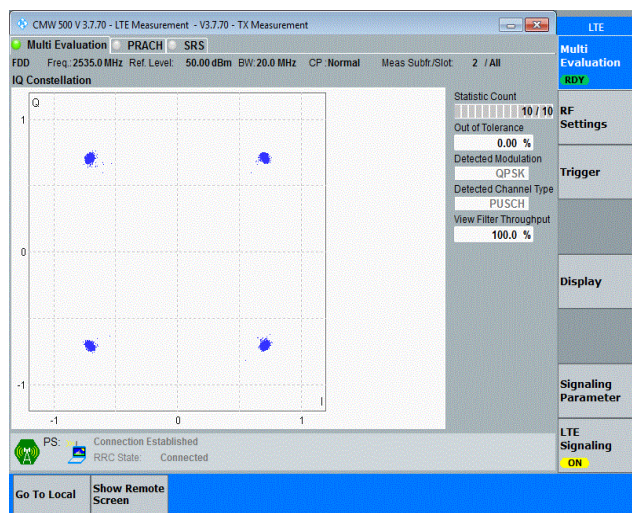
Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band17	10MHz	QPSK	23790	50RB#0	PASS	PASS
Band17	10MHz	16QAM	23790	50RB#0	PASS	PASS
Band38	20MHz	QPSK	38000	100RB#0	PASS	PASS
Band38	20MHz	16QAM	38000	100RB#0	PASS	PASS
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	100RB#0	PASS	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS	PASS
Band66	20MHz	16QAM	132322	100RB#0	PASS	PASS

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

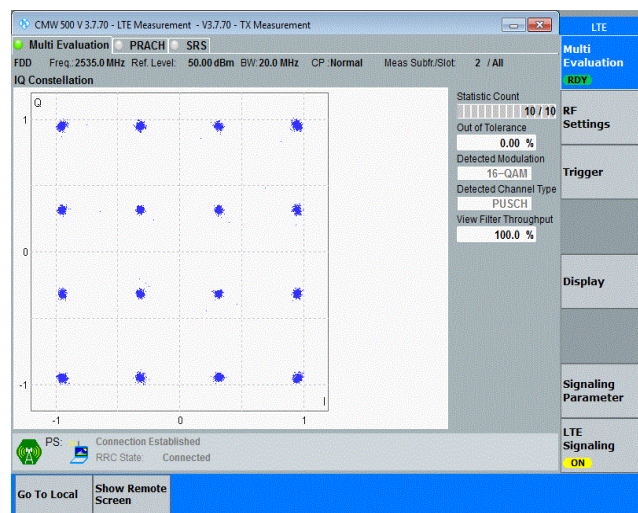
Test Graphs



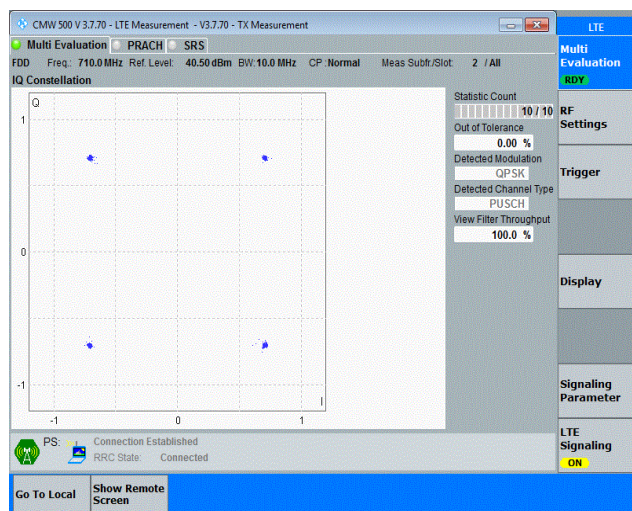
Band7-20MHz-QPSK-21100-100RB#0



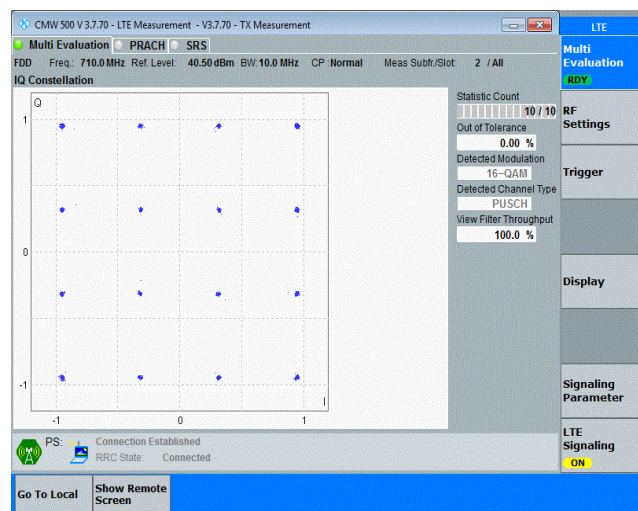
Band7-20MHz-16QAM-21100-100RB#0



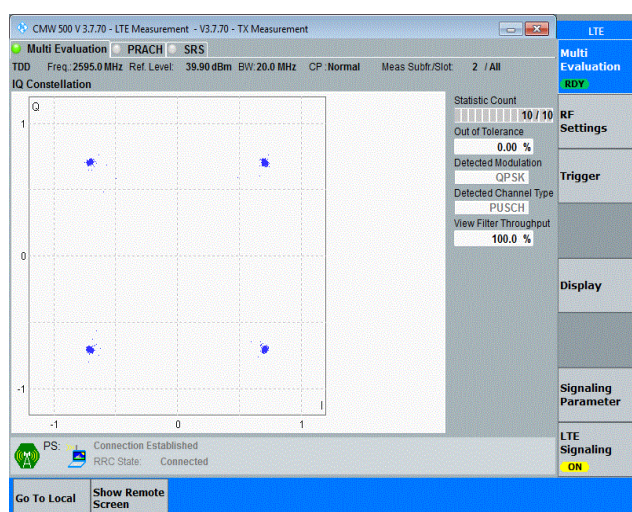
Band17-10MHz-QPSK-23790-50RB#0



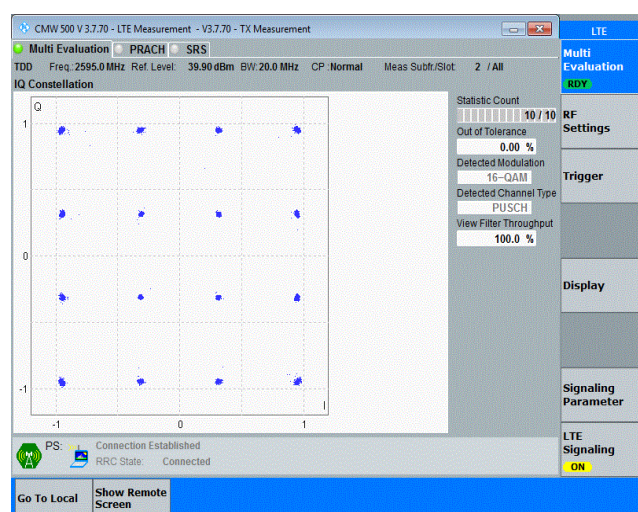
Band17-10MHz-16QAM-23790-50RB#0



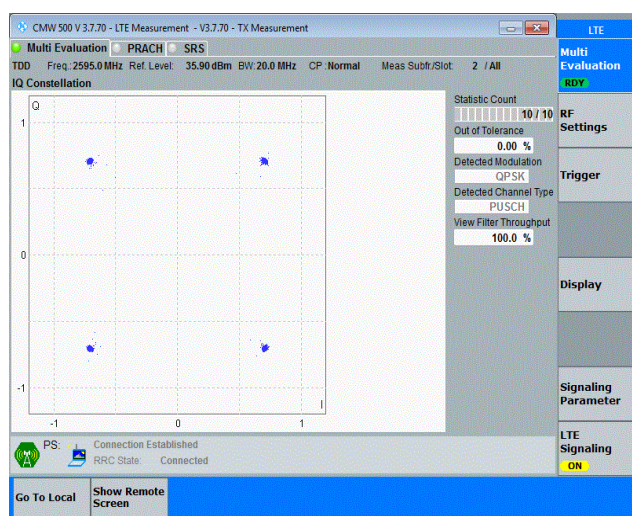
Band38-20MHz-QPSK-38000-100RB#0



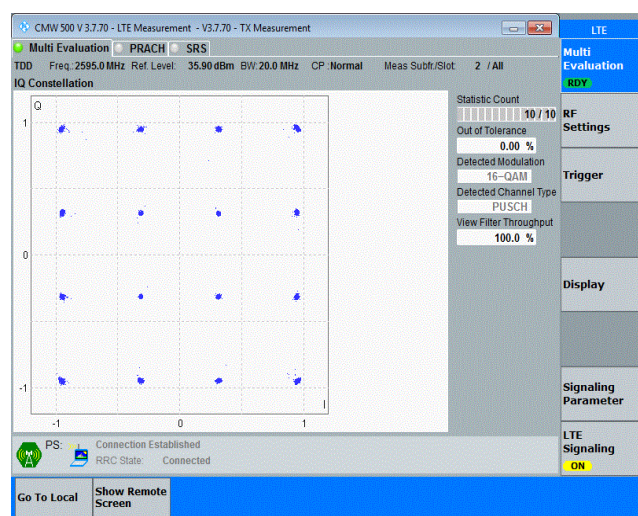
Band38-20MHz-16QAM-38000-100RB#0



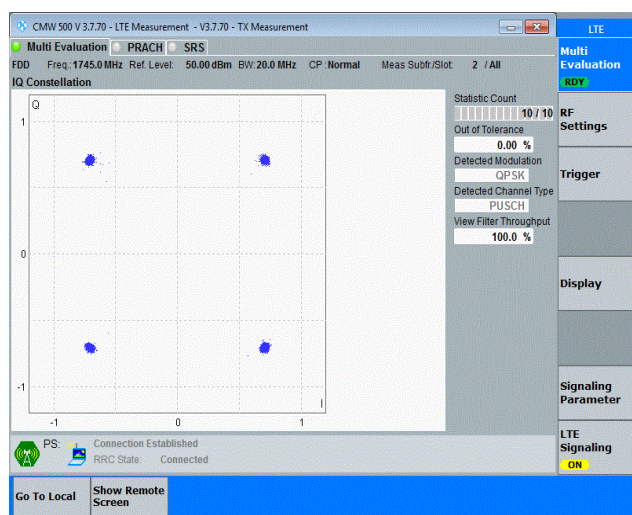
Band41-20MHz-QPSK-40640-100RB#0



Band41-20MHz-16QAM-40640-100RB#0



Band66-20MHz-QPSK-132322-100RB#0



Band66-20MHz-16QAM-132322-100RB#0

