LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175Frequency=1732.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	4.11	0.002372	Within authorized band for Band 4	Pass
	-20	-9.43	-0.005443		
	-10	-7.45	-0.004300		
	0	-8.33	-0.004808		
	10	-5.46	-0.003152		
	20	3.72	0.002147		
	30	-13.93	-0.008040		
	40	-8.54	-0.004929		
	50	-9.40	-0.005426		
16QAM					
3.85	-30	-11.57	-0.006678	Within authorized band for Band 4	Pass
	-20	-5.24	-0.003025		
	-10	-9.96	-0.005749		
	0	-8.21	-0.004739		
	10	-8.43	-0.004866		
	20	-7.57	-0.004369		
	30	-12.65	-0.007302		
	40	-9.98	-0.005760		
	50	-11.46	-0.006615		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-8.15	-0.004704	Within authorized band for Band 4	Pass
	3.85	-15.21	-0.008779		
	4.40	-9.73	-0.005616		
16QAM					
25	3.50	-10.40	-0.006003	Within authorized band for Band 4	Pass
	3.85	-8.68	-0.005010		
	4.40	-8.91	-0.005143		
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=20525Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-5.11	-0.006109	±2.5	Pass
	-20	-3.48	-0.004160		
	-10	-8.00	-0.009564		
	0	-7.55	-0.009026		
	10	-8.11	-0.009695		
	20	-9.21	-0.011010		
	30	-8.80	-0.010520		
	40	-6.79	-0.008117		
	50	-10.09	-0.012062		
16QAM					
3.85	-30	-5.97	-0.007137	±2.5	Pass
	-20	-7.41	-0.008858		
	-10	-5.31	-0.006348		
	0	-7.42	-0.008870		
	10	-7.05	-0.008428		
	20	-4.86	-0.005810		
	30	-5.42	-0.006479		
	40	-7.50	-0.008966		
	50	-6.44	-0.007699		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.20	-0.008607	±2.5	Pass
	3.85	-12.09	-0.014453		
	4.40	-12.67	-0.015146		
16QAM					
25	3.50	-4.26	-0.005093	±2.5	Pass
	3.85	-10.26	-0.012265		
	4.40	-5.85	-0.006993		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-15.39	-0.006071	Within authorized band for Band 7	Pass
	-20	-16.11	-0.006355		
	-10	-14.92	-0.005886		
	0	-14.22	-0.005609		
	10	-19.81	-0.007815		
	20	-8.25	-0.003254		
	30	5.22	0.002059		
	40	6.77	0.002671		
	50	-5.76	-0.002272		
16QAM					
3.85	-30	-6.14	-0.002422	Within authorized band for Band 7	Pass
	-20	8.47	0.003341		
	-10	7.42	0.002927		
	0	-14.09	-0.005558		
	10	-11.86	-0.004679		
	20	-14.79	-0.005834		
	30	-6.34	-0.002501		
	40	-5.29	-0.002087		
	50	-5.99	-0.002363		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-13.82	-0.005452	Within authorized band for Band 7	Pass
	3.85	-6.08	-0.002398		
	4.40	-9.61	-0.003791		
16QAM					
25	3.50	-6.39	-0.002521	Within authorized band for Band 7	Pass
	3.85	4.99	0.001968		
	4.40	-9.63	-0.003799		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-14.36	-0.020225	Within authorized band for Band 17	Pass
	-20	-5.24	-0.007380		
	-10	-7.11	-0.010014		
	0	-8.81	-0.012408		
	10	-9.88	-0.013915		
	20	-7.67	-0.010803		
	30	-6.97	-0.009817		
	40	-3.02	-0.004254		
	50	-5.76	-0.008113		
16QAM					
3.85	-30	-34.33	-0.048352	Within authorized band for Band 17	Pass
	-20	-3.83	-0.005394		
	-10	-1.66	-0.002338		
	0	-11.09	-0.015620		
	10	-7.18	-0.010113		
	20	-6.24	-0.008789		
	30	-7.57	-0.010662		
	40	-4.56	-0.006423		
	50	-14.03	-0.019761		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.84	-0.011042	Within authorized band for Band 17	Pass
	3.85	-9.68	-0.013634		
	4.40	-9.21	-0.012972		
16QAM					
25	3.50	-16.62	-0.023408	Within authorized band for Band 17	Pass
	3.85	-7.82	-0.011014		
	4.40	-33.79	-0.047592		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-8.84	-0.003407	Within authorized band for Band 38	Pass
	-20	-6.21	-0.002393		
	-10	-4.09	-0.001576		
	0	-11.24	-0.004331		
	10	-10.60	-0.004085		
	20	-8.74	-0.003368		
	30	-8.05	-0.003102		
	40	-11.49	-0.004428		
	50	-11.01	-0.004243		
16QAM					
3.85	-30	-4.56	-0.001757	Within authorized band for Band 38	Pass
	-20	-13.62	-0.005249		
	-10	-4.42	-0.001703		
	0	-7.90	-0.003044		
	10	-11.42	-0.004401		
	20	-6.94	-0.002674		
	30	-6.78	-0.002613		
	40	-13.62	-0.005249		
	50	-5.52	-0.002127		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-16.98	-0.006543	Within authorized band for Band 38	Pass
	3.85	-9.06	-0.003491		
	4.40	-5.79	-0.002231		
16QAM					
25	3.50	-11.24	-0.004331	Within authorized band for Band 38	Pass
	3.85	-12.25	-0.004721		
	4.40	-10.24	-0.003946		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-16.71	-0.006439	Within authorized band for Band 41	Pass
	-20	-8.97	-0.003457		
	-10	-12.92	-0.004979		
	0	-9.11	-0.003511		
	10	-9.46	-0.003645		
	20	-8.78	-0.003383		
	30	-5.26	-0.002027		
	40	-13.32	-0.005133		
	50	-10.69	-0.004119		
16QAM					
3.85	-30	-10.40	-0.004008	Within authorized band for Band 41	Pass
	-20	-10.87	-0.004189		
	-10	-6.11	-0.002355		
	0	-9.78	-0.003769		
	10	-9.74	-0.003753		
	20	-7.37	-0.002840		
	30	-8.98	-0.003461		
	40	-5.97	-0.002301		
	50	-7.31	-0.002817		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.91	-0.003048	Within authorized band for Band 41	Pass
	3.85	-10.21	-0.003934		
	4.40	-8.98	-0.003461		
16QAM					
25	3.50	-13.70	-0.005279	Within authorized band for Band41	Pass
	3.85	-9.30	-0.003584		
	4.40	-14.09	-0.005430		
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=132322Frequency=1745.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-8.70	-0.004986	Within authorized band for Band 66	Pass
	-20	-8.34	-0.004779		
	-10	-6.78	-0.003885		
	0	-2.29	-0.001312		
	10	-6.75	-0.003868		
	20	-7.77	-0.004453		
	30	-7.64	-0.004378		
	40	-3.02	-0.001731		
	50	-7.47	-0.004281		
16QAM					
3.85	-30	-10.27	-0.005885	Within authorized band for Band 66	Pass
	-20	-9.37	-0.005370		
	-10	-5.38	-0.003083		
	0	-5.82	-0.003335		
	10	-8.15	-0.004670		
	20	-11.23	-0.006436		
	30	-7.22	-0.004138		
	40	-4.28	-0.002453		
	50	7.61	0.0043612		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-6.97	-0.003994	Within authorized band for Band 66	Pass
	3.85	-19.76	-0.011324		
	4.40	-9.63	-0.005519		
16QAM					
25	3.50	-12.00	-0.006877	Within authorized band for Band 66	Pass
	3.85	-5.74	-0.003289		
	4.40	-10.10	-0.005788		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

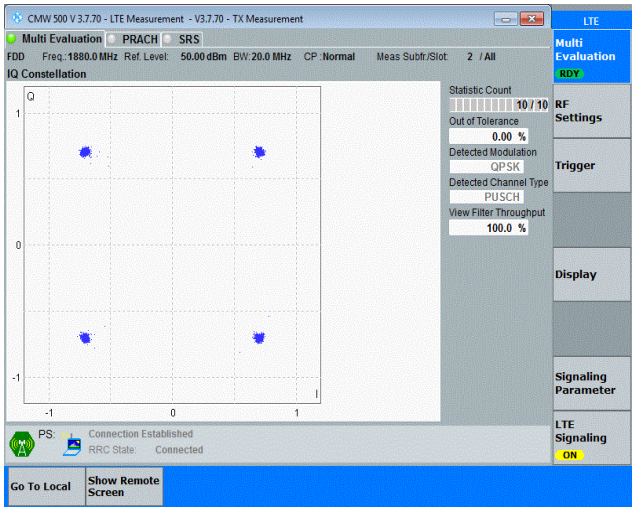
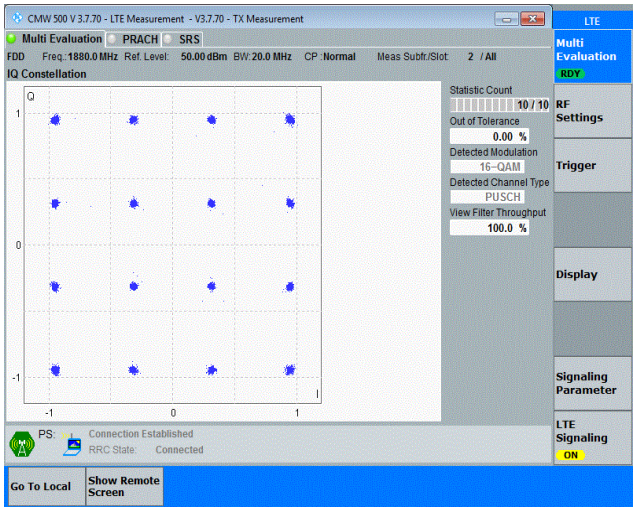
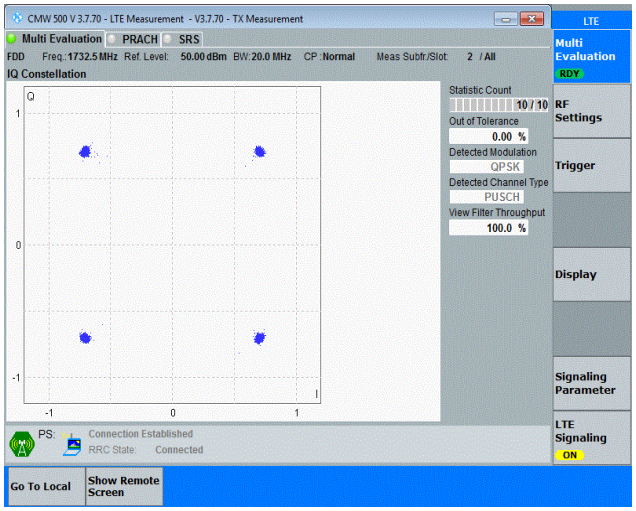
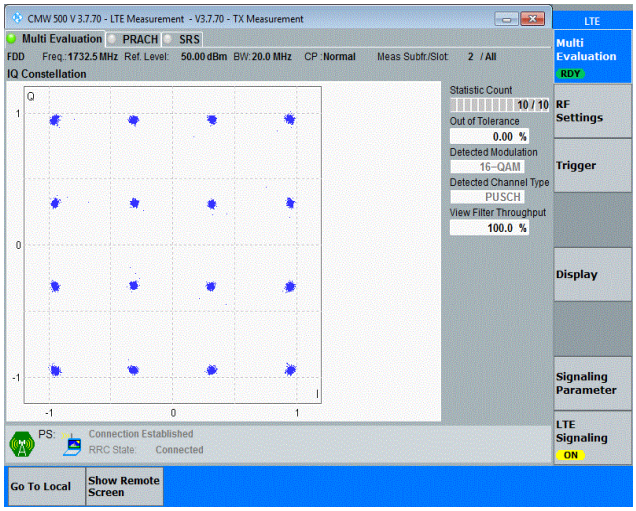
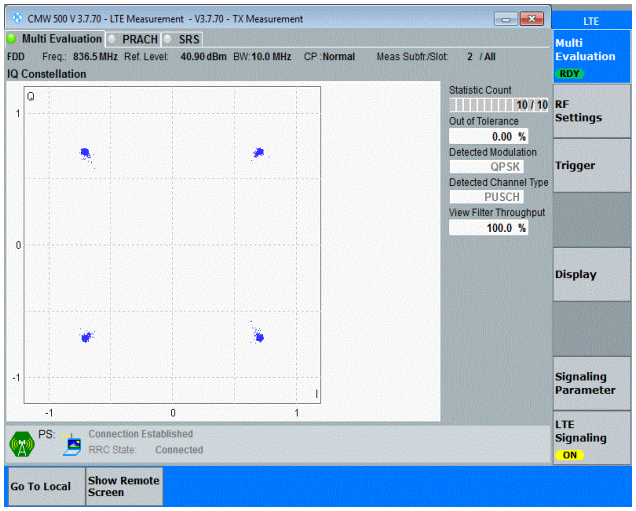
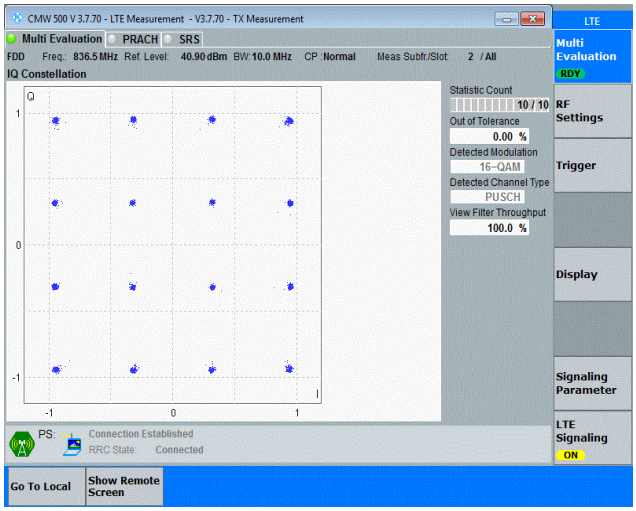
AppendixG:Modulation Characteristics

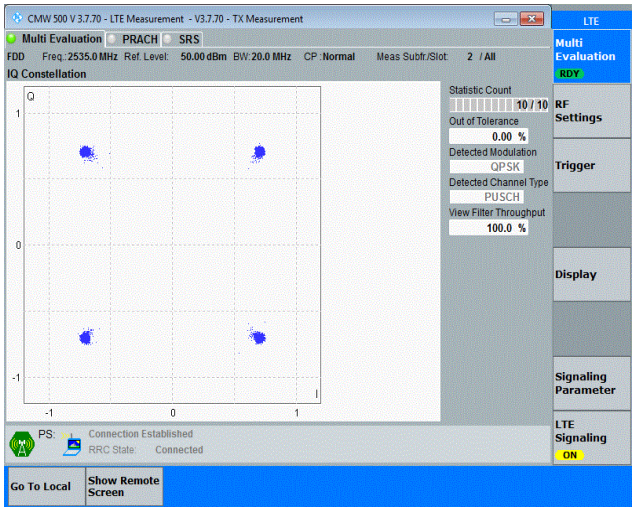
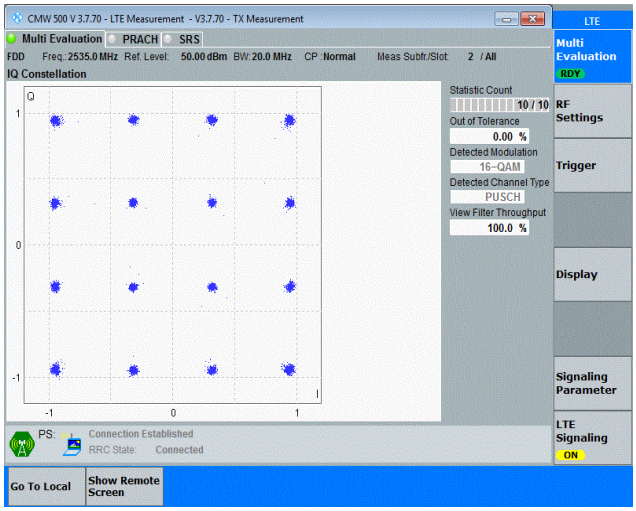
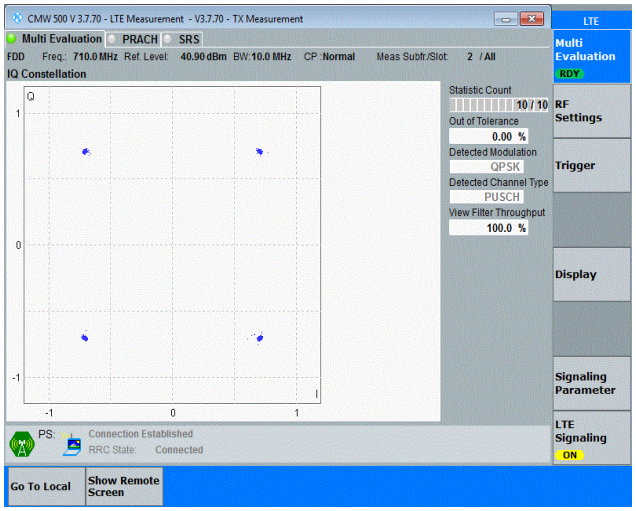
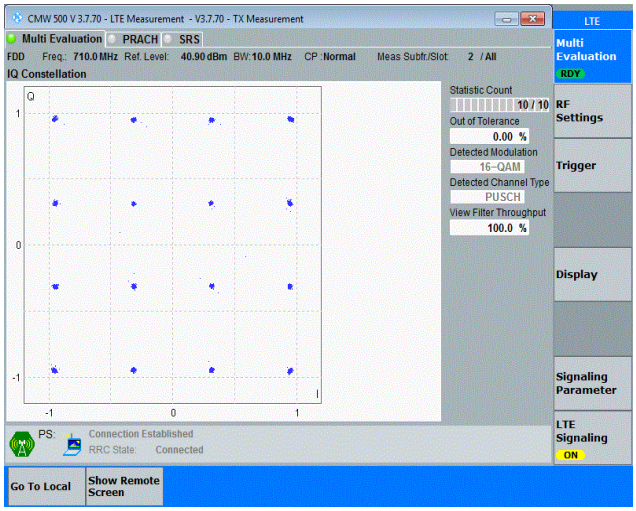
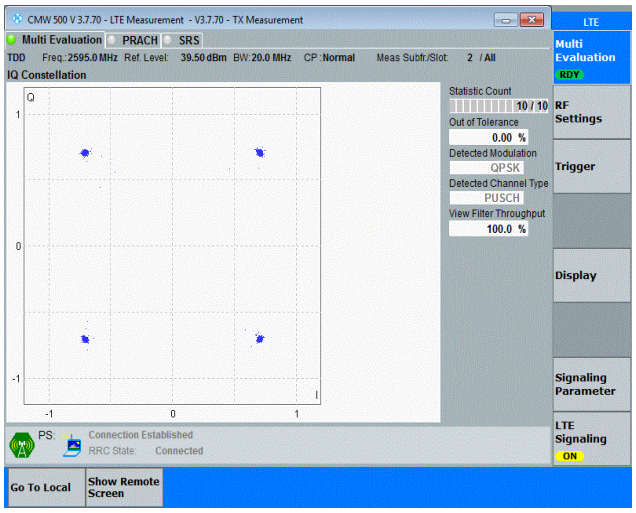
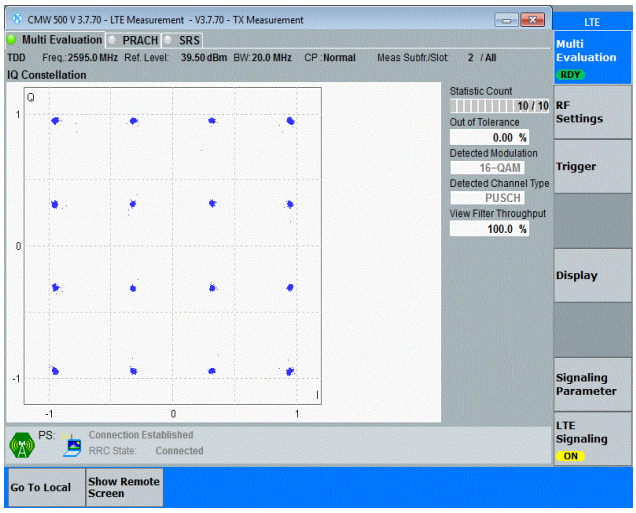
Test Result

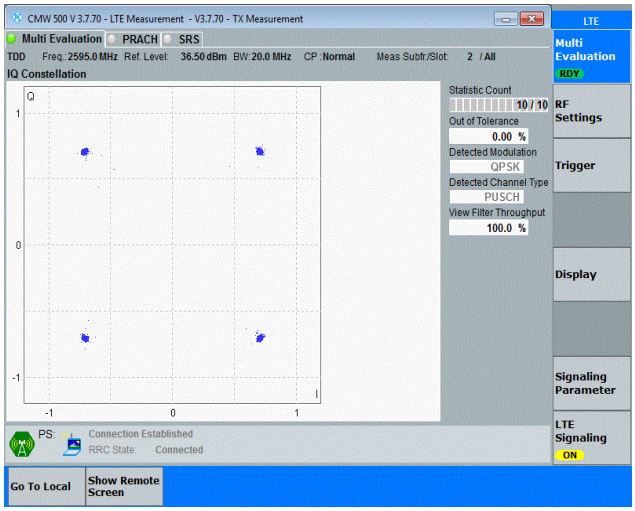
Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	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.

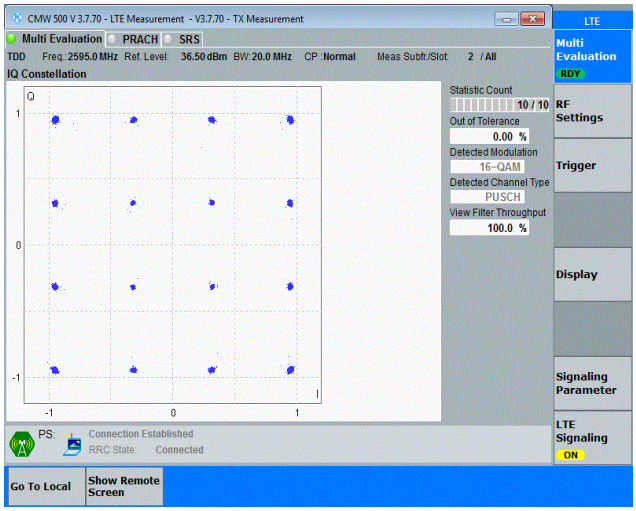
Test Graphs

Band2-20MHz-QPSK-18900-100RB#0	Band2-20MHz-16QAM-18900-100RB#0
	
Band4-20MHz-QPSK-20175-100RB#0	**Band4-20MHz-16QAM-20175-100RB#0**
	
Band5-10MHz-QPSK-20525-50RB#0	**Band5-10MHz-16QAM-20525-50RB#0**
	

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