

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	8.96	0.004766	Within authorized band for Band 2	Pass
	3.85	22.24	0.011830		
	4.40	-47.82	-0.025436		
16QAM					
25	3.45	-35.76	-0.019021	Within authorized band for Band 2	Pass
	3.85	-34.07	-0.018122		
	4.40	-9.38	-0.004989		
64QAM					
25	3.45	48.88	0.026000	Within authorized band for Band 2	Pass
	3.85	13.29	0.007069		
	4.40	57.52	0.030596		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

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	-40.15	-0.047998	±2.5	Pass
	-20	-7.74	-0.009253		
	-10	-18.22	-0.021781		
	0	-31.00	-0.037059		
	10	-40.03	-0.047854		
	20	-6.74	-0.008057		
	30	-14.83	-0.017729		
	40	-21.27	-0.025427		
	50	-18.42	-0.022020		
16QAM					
3.85	-30	26.29	0.031429	±2.5	Pass
	-20	36.55	0.043694		
	-10	45.56	0.054465		
	0	47.64	0.056952		
	10	46.68	0.055804		
	20	-10.76	-0.012863		
	30	-7.70	-0.009205		
	40	-7.02	-0.008392		
	50	-7.45	-0.008906		
64QAM					
3.85	-30	25.02	0.029910	±2.5	Pass
	-20	28.48	0.034047		
	-10	31.19	0.037286		
	0	36.84	0.044041		
	10	42.57	0.050891		
	20	47.55	0.056844		
	30	50.97	0.060932		
	40	16.22	0.019390		
	50	23.12	0.027639		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	51.33	0.061363	±2.5	Pass
	3.85	31.57	0.037741		
	4.40	-31.07	-0.037143		
16QAM					
25	3.45	-19.24	-0.023001	±2.5	Pass
	3.85	-26.35	-0.031500		
	4.40	-15.15	-0.018111		
64QAM					
25	3.45	11.42	0.013652	±2.5	Pass
	3.85	4.49	0.005368		
	4.40	20.63	0.024662		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

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	32.47	0.012809	Within authorized band for Band 7	Pass
	-20	-36.03	-0.014213		
	-10	-68.79	-0.027136		
	0	-40.50	-0.015976		
	10	-53.14	-0.020963		
	20	-27.49	-0.010844		
	30	-46.62	-0.018391		
	40	-26.24	-0.010351		
	50	-42.26	-0.016671		
16QAM					
3.85	-30	52.94	0.020884	Within authorized band for Band 7	Pass
	-20	40.30	0.015897		
	-10	54.20	0.021381		
	0	25.91	0.010221		
	10	39.68	0.015653		
	20	40.96	0.016158		
	30	31.64	0.012481		
	40	23.30	0.009191		
	50	35.65	0.014063		
64QAM					
3.85	-30	49.27	0.019436	Within authorized band for Band 7	Pass
	-20	59.08	0.023306		
	-10	31.71	0.012509		
	0	38.78	0.015298		
	10	12.40	0.004892		
	20	23.13	0.009124		
	30	53.01	0.020911		
	40	25.12	0.009909		
	50	-7.11	-0.002805		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
25	3.45	40.05	0.015799	Within authorized band for Band 7	Pass
	3.85	23.83	0.009400		
	4.40	-13.90	-0.005483		
<b>16QAM</b>					
25	3.45	19.23	0.007586	Within authorized band for Band 7	Pass
	3.85	-34.26	-0.013515		
	4.40	56.93	0.022458		
<b>64QAM</b>					
25	3.45	63.86	0.025191	Within authorized band for Band 7	Pass
	3.85	47.98	0.018927		
	4.40	54.14	0.021357		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

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					
3.85	-30	-23.43	-0.033117	Within authorized band for Band 12	Pass
	-20	-31.29	-0.044226		
	-10	-38.54	-0.054473		
	0	-49.45	-0.069894		
	10	-56.00	-0.079152		
	20	-8.21	-0.011604		
	30	-10.93	-0.015449		
	40	-19.20	-0.027138		
	50	-19.48	-0.027534		
16QAM					
3.85	-30	21.49	0.030375	Within authorized band for Band 12	Pass
	-20	32.43	0.045837		
	-10	37.99	0.053696		
	0	44.86	0.063406		
	10	53.70	0.075901		
	20	8.44	0.011929		
	30	13.83	0.019548		
	40	12.73	0.017993		
	50	19.45	0.027491		
64QAM					
3.85	-30	34.40	0.048622	Within authorized band for Band 12	Pass
	-20	34.29	0.048466		
	-10	34.78	0.049159		
	0	47.28	0.066827		
	10	46.82	0.066177		
	20	47.08	0.066544		
	30	43.16	0.061004		
	40	12.80	0.018092		
	50	14.56	0.020580		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
25	3.45	18.44	0.026064	Within authorized band for Band 12	Pass
	3.85	9.16	0.012947		
	4.40	5.72	0.008085		
<b>16QAM</b>					
25	3.45	-10.06	-0.014219	Within authorized band for Band 12	Pass
	3.85	-23.80	-0.033640		
	4.40	8.24	0.011647		
<b>64QAM</b>					
25	3.45	27.02	0.038191	Within authorized band for Band 12	Pass
	3.85	24.50	0.034629		
	4.40	31.09	0.043943		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

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	-127.94	-0.049303	Within authorized band for Band 41	Pass
	-20	-41.38	-0.015946		
	-10	-14.48	-0.005580		
	0	-56.42	-0.021742		
	10	-60.34	-0.023252		
	20	-35.88	-0.013827		
	30	-46.79	-0.018031		
	40	-10.41	-0.004012		
	50	-56.09	-0.021615		
16QAM					
3.85	-30	31.76	0.012239	Within authorized band for Band 41	Pass
	-20	57.41	0.022123		
	-10	85.00	0.032755		
	0	11.00	0.004239		
	10	-12.32	-0.004748		
	20	-16.09	-0.006200		
	30	18.05	0.006956		
	40	29.14	0.011229		
	50	12.25	0.004721		
64QAM					
3.85	-30	49.51	0.019079	Within authorized band for Band 41	Pass
	-20	63.20	0.024355		
	-10	40.71	0.015688		
	0	13.46	0.005187		
	10	30.96	0.011931		
	20	35.29	0.013599		
	30	36.94	0.014235		
	40	-11.47	-0.004420		
	50	36.16	0.013934		



Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	36.46	0.014050	Within authorized band for Band 41	Pass
	3.85	80.58	0.031052		
	4.40	-142.58	-0.054944		
16QAM					
25	3.45	-28.77	-0.011087	Within authorized band for Band41	Pass
	3.85	-49.57	-0.019102		
	4.40	12.13	0.004674		
64QAM					
25	3.45	51.83	0.019973	Within authorized band for Band41	Pass
	3.85	19.31	0.007441		
	4.40	-11.16	-0.004301		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

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	-35.33	-0.020246	Within authorized band for Band 66	Pass
	-20	-19.86	-0.011381		
	-10	-52.31	-0.029977		
	0	-36.36	-0.020837		
	10	-32.19	-0.018447		
	20	-15.01	-0.008602		
	30	-21.23	-0.012166		
	40	-25.28	-0.014487		
	50	-42.57	-0.024395		
16QAM					
3.85	-30	7.47	0.004281	Within authorized band for Band 66	Pass
	-20	23.20	0.013295		
	-10	22.19	0.012716		
	0	30.63	0.017553		
	10	37.45	0.021461		
	20	22.20	0.012722		
	30	21.63	0.012395		
	40	35.62	0.020413		
	50	62.07	0.035570		
64QAM					
3.85	-30	19.43	0.011135	Within authorized band for Band 66	Pass
	-20	-20.63	-0.011822		
	-10	27.98	0.016034		
	0	32.14	0.018418		
	10	14.58	0.008355		
	20	40.48	0.023198		
	30	23.73	0.013599		
	40	25.91	0.014848		
	50	57.05	0.032693		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-22.12	-0.012676	Within authorized band for Band 66	Pass
	3.85	36.81	0.021095		
	4.40	-54.92	-0.031473		
16QAM					
25	3.45	-20.14	-0.011542	Within authorized band for Band 66	Pass
	3.85	-19.45	-0.011146		
	4.40	26.46	0.015163		
64QAM					
25	3.45	28.41	0.016281	Within authorized band for Band 66	Pass
	3.85	56.58	0.032424		
	4.40	21.73	0.012453		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

## Appendix G: Modulation Characteristics

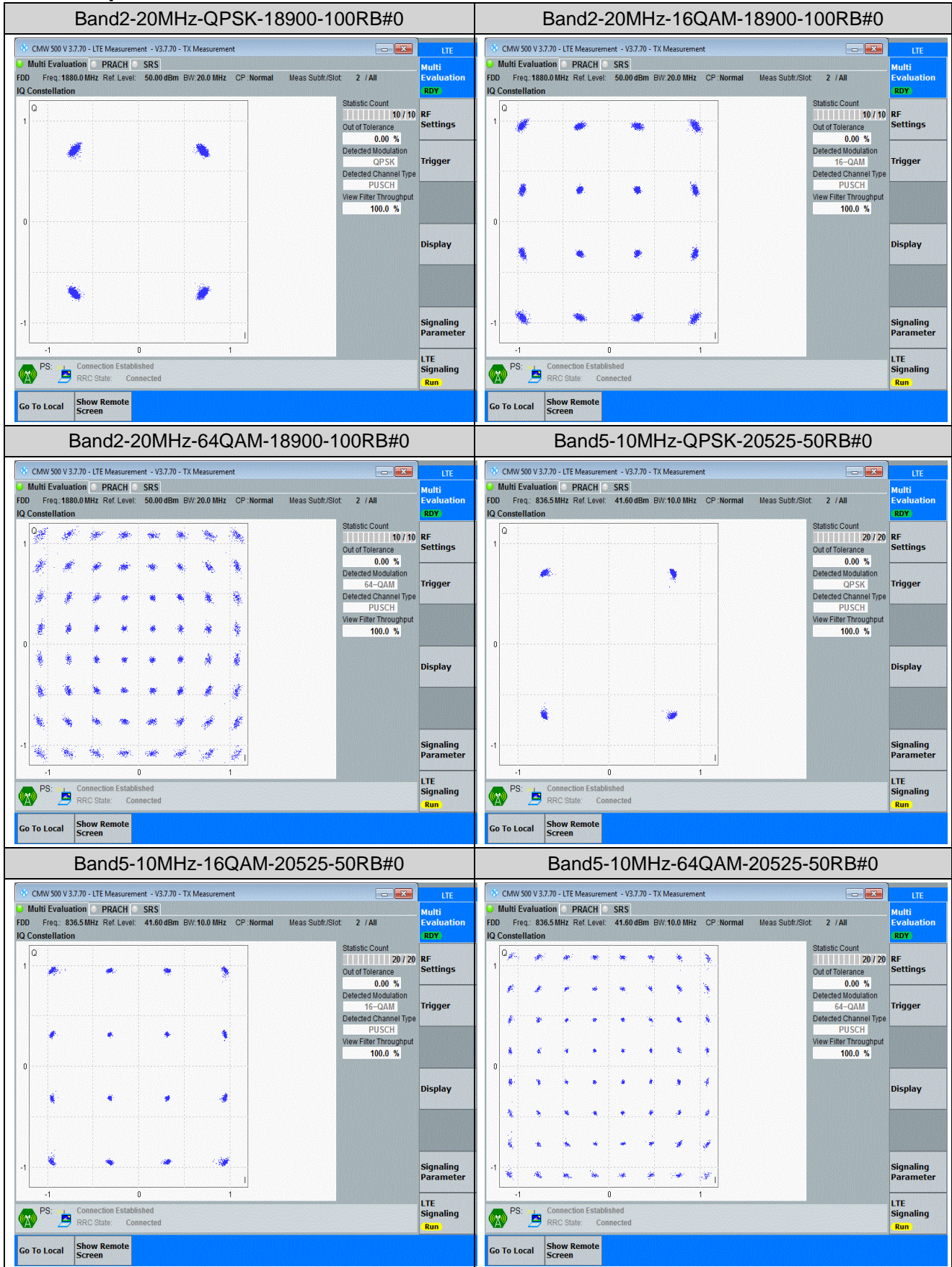
### Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band2	20MHz	64QAM	18900	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band5	10MHz	64QAM	20525	50RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band7	20MHz	64QAM	21100	100RB#0	PASS	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS
Band12	10MHz	64QAM	23095	50RB#0	PASS	PASS
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	100RB#0	PASS	PASS
Band41	20MHz	64QAM	40640	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.*



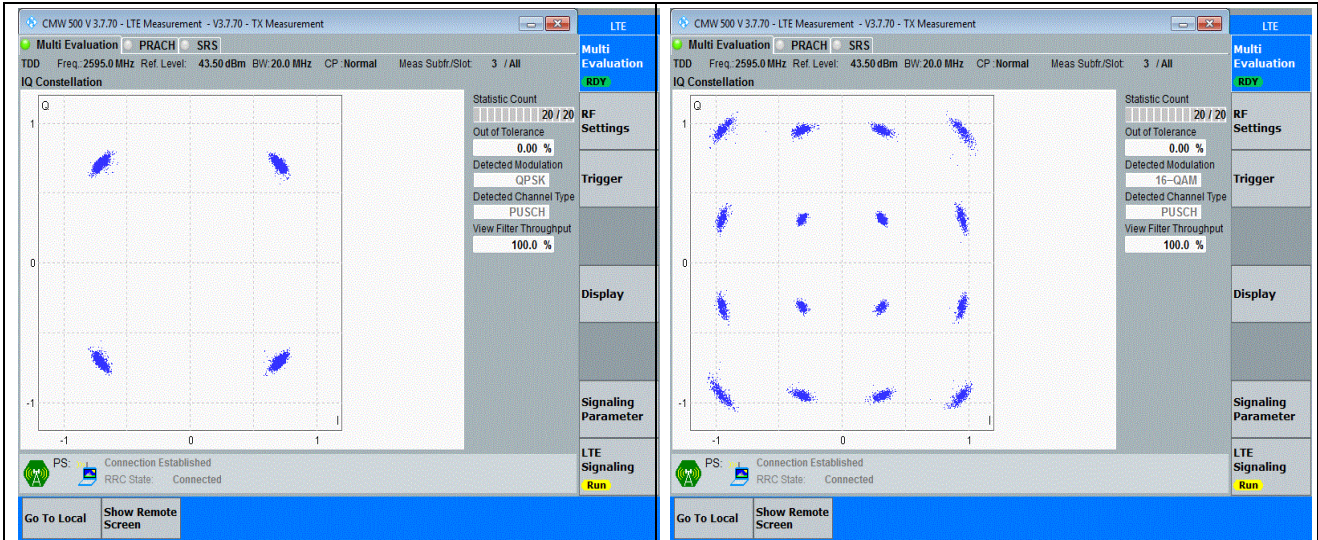
Test Graphs





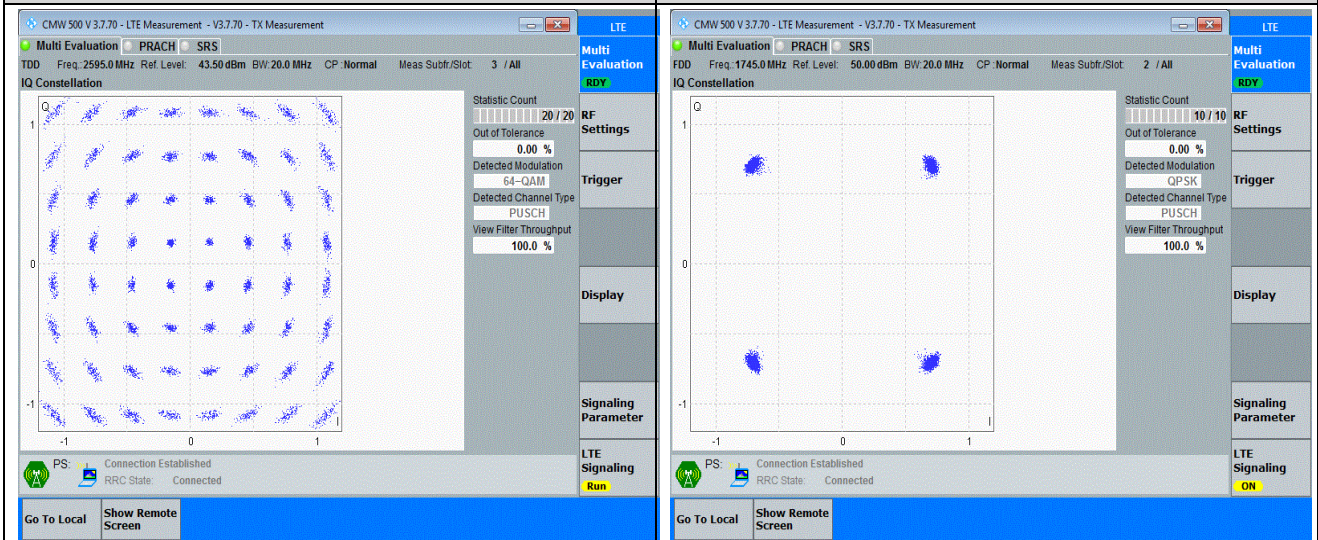
<p align="center"><b>Band7-20MHz-QPSK-21100-100RB#0</b></p>	<p align="center"><b>Band7-20MHz-16QAM-21100-100RB#0</b></p>
<p align="center"><b>Band7-20MHz-64QAM-21100-100RB#0</b></p>	<p align="center"><b>Band12-10MHz-QPSK-23095-50RB#0</b></p>
<p align="center"><b>Band12-10MHz-16QAM-23095-50RB#0</b></p>	<p align="center"><b>Band12-10MHz-64QAM-23095-50RB#0</b></p>
<p align="center"><b>Band41-20MHz-QPSK-40640-100RB#0</b></p>	<p align="center"><b>Band41-20MHz-16QAM-40640-100RB#0</b></p>





Band41-20MHz-64QAM-40640-100RB#0

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



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

Band66-20MHz-64QAM-132322-100RB#0

