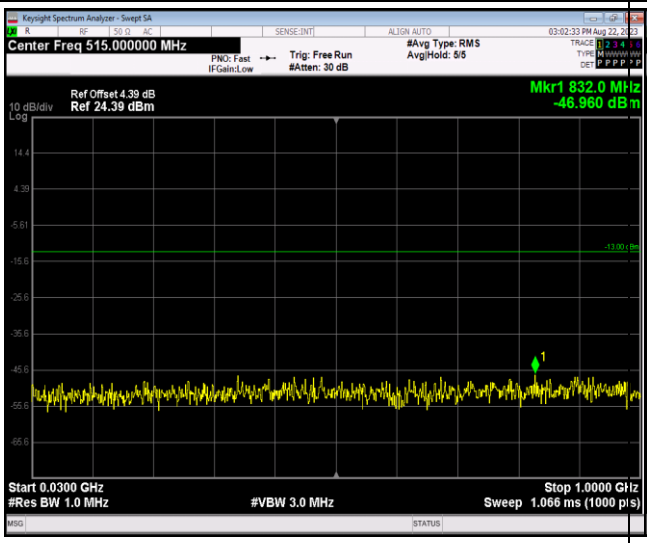
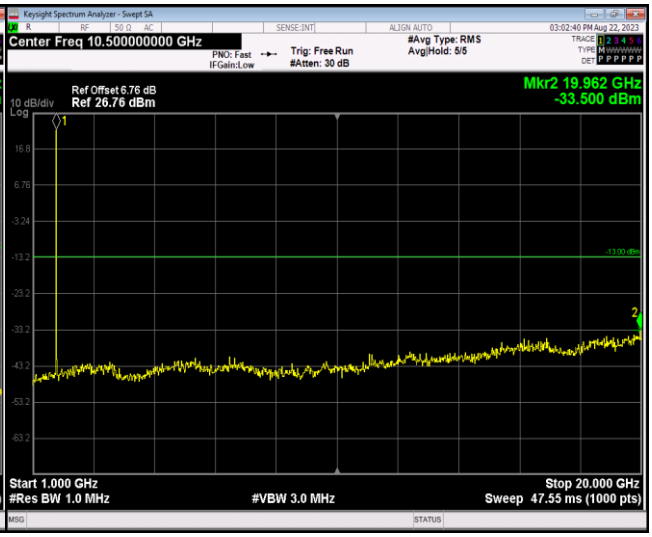
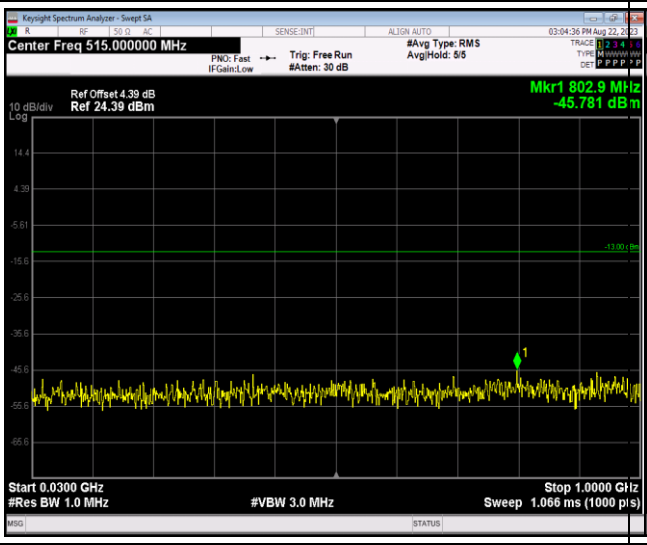
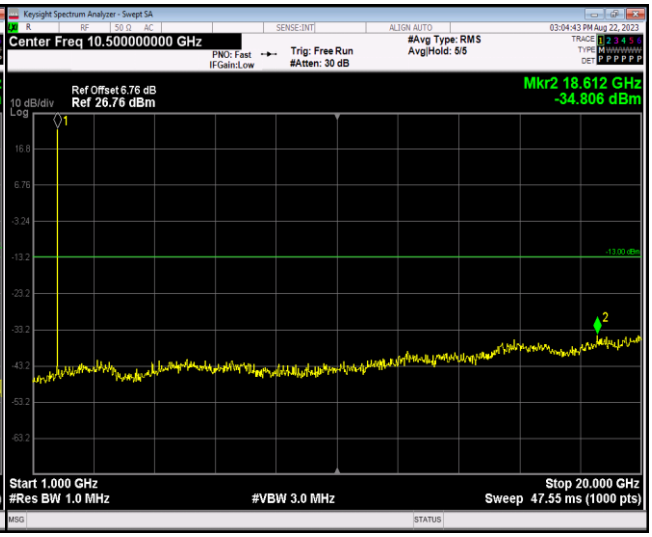
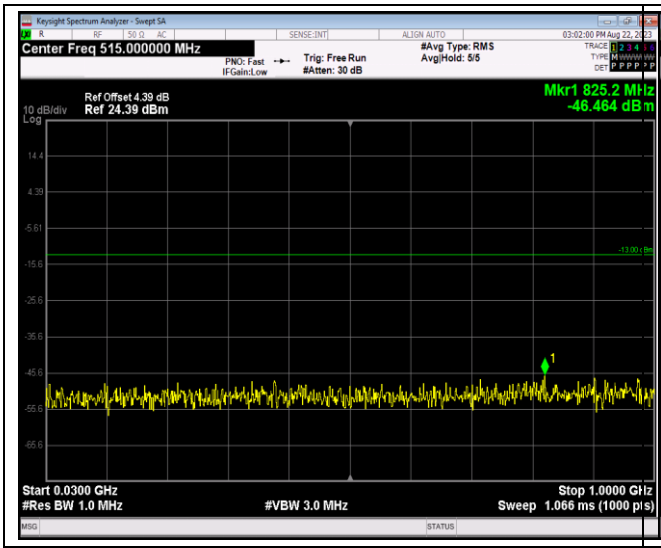
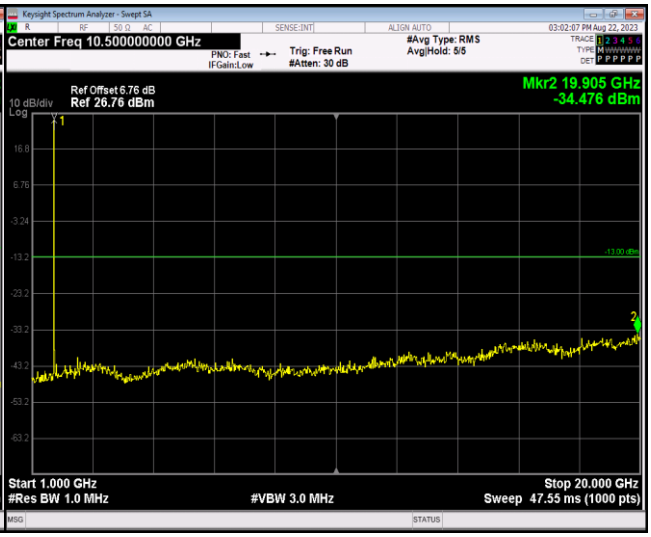
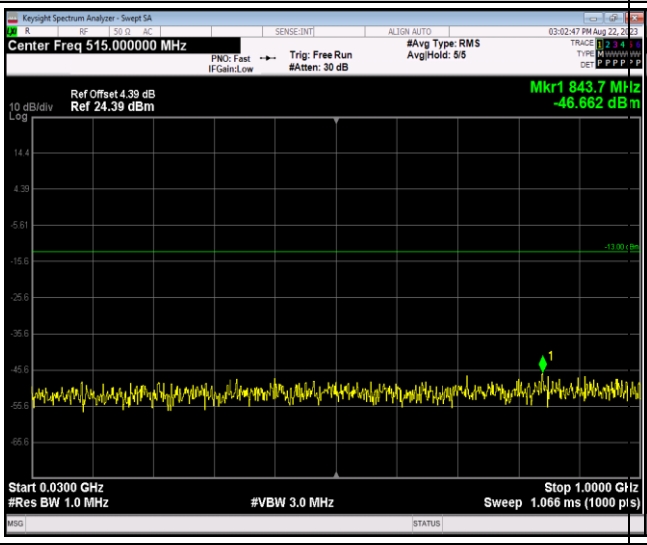
Band66-1.4MHz-QPSK-132322-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-QPSK-132322-1RB#0-Range2:1000~20000MHz
	
Band66-1.4MHz-QPSK-132665-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-QPSK-132665-1RB#0-Range2:1000~20000MHz
	
Band66-1.4MHz-16QAM-131979-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-16QAM-131979-1RB#0-Range2:1000~20000MHz



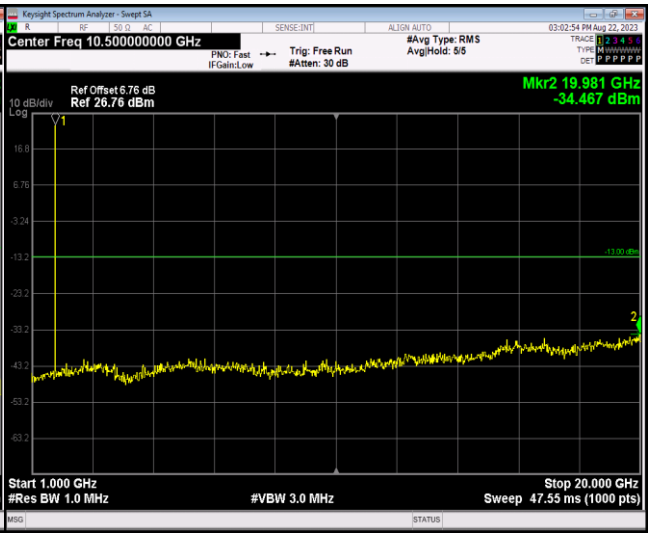
Band66-1.4MHz-16QAM-132322-1RB#0-Range1:30~1000MHz



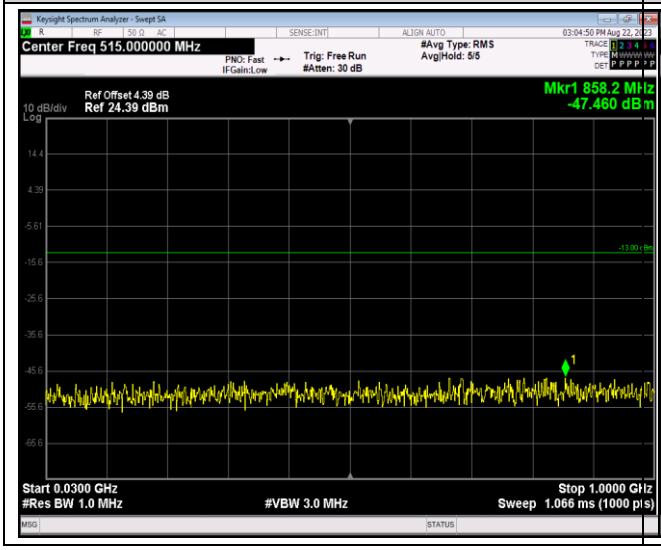
Band66-1.4MHz-16QAM-132322-1RB#0-Range2:1000~20000MHz

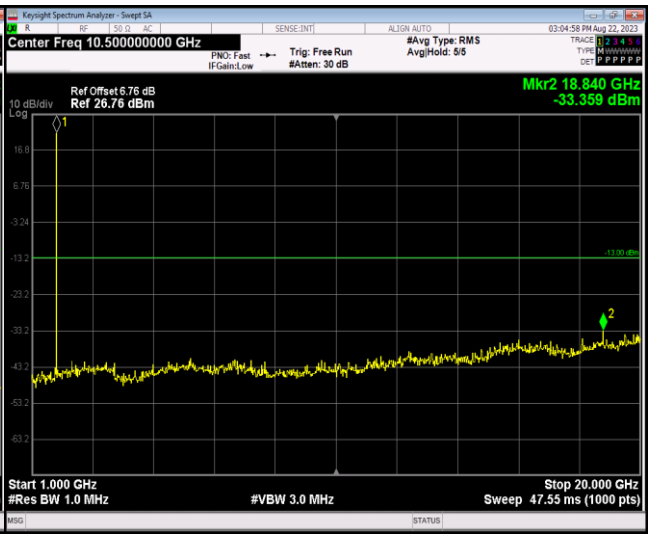


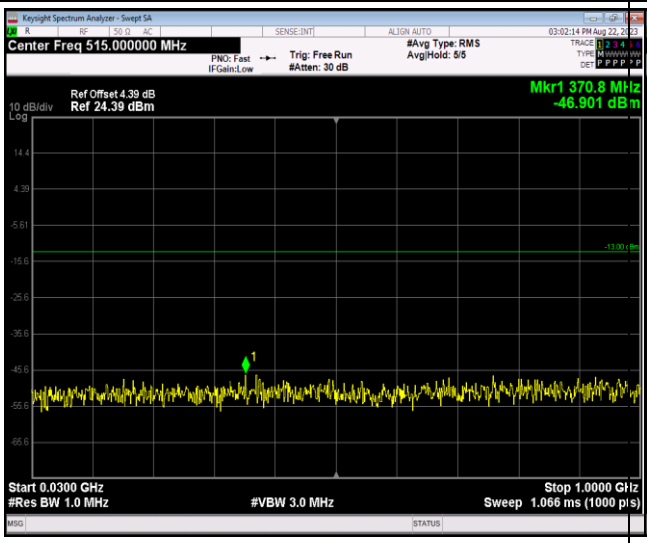
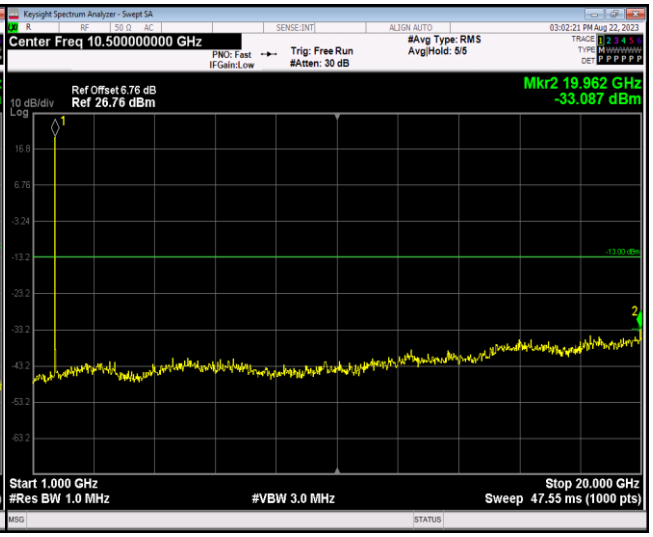
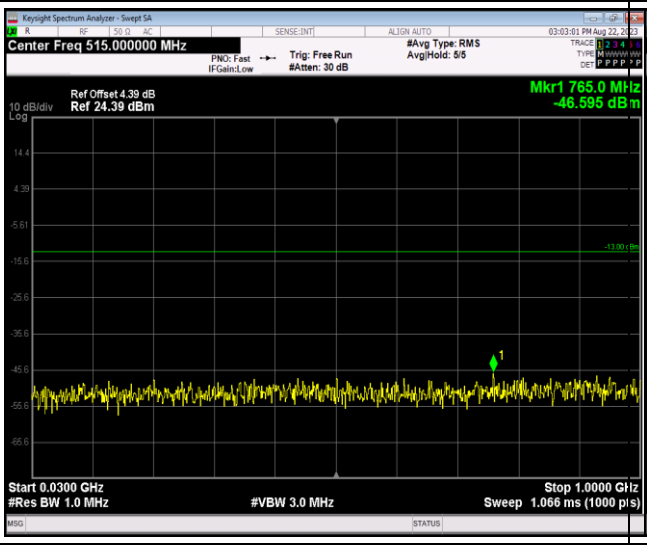
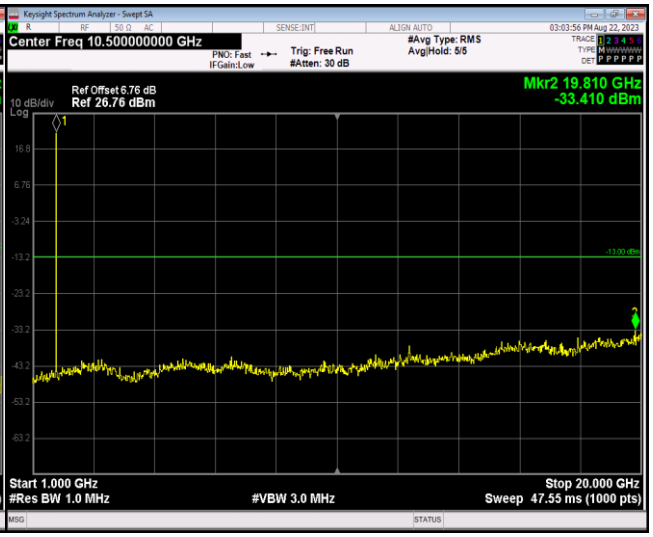
Band66-1.4MHz-16QAM-132665-1RB#0-Range1:30~1000MHz

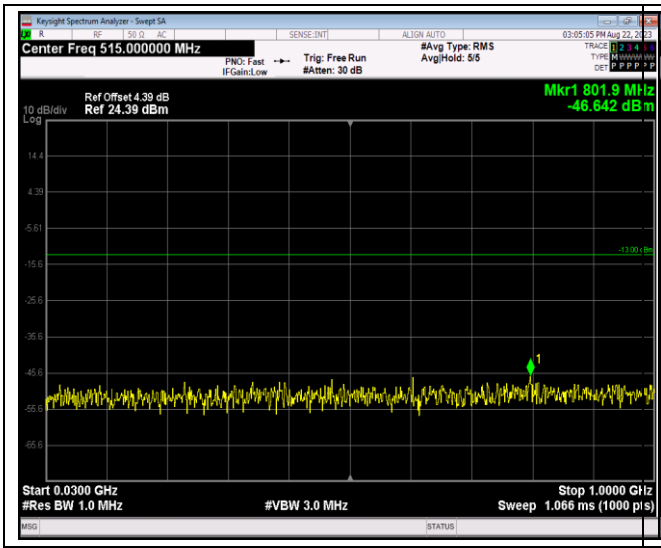


Band66-1.4MHz-16QAM-132665-1RB#0-Range2:1000~20000MHz



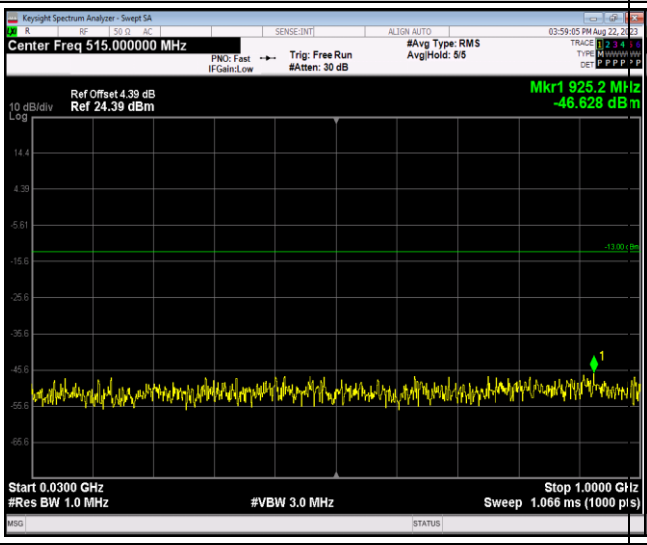


Band66-1.4MHz-64QAM-131979-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-64QAM-131979-1RB#0-Range2:1000~20000MHz
	
Band66-1.4MHz-64QAM-132322-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-64QAM-132322-1RB#0-Range2:1000~20000MHz
	
Band66-1.4MHz-64QAM-132665-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-64QAM-132665-1RB#0-Range2:1000~20000MHz

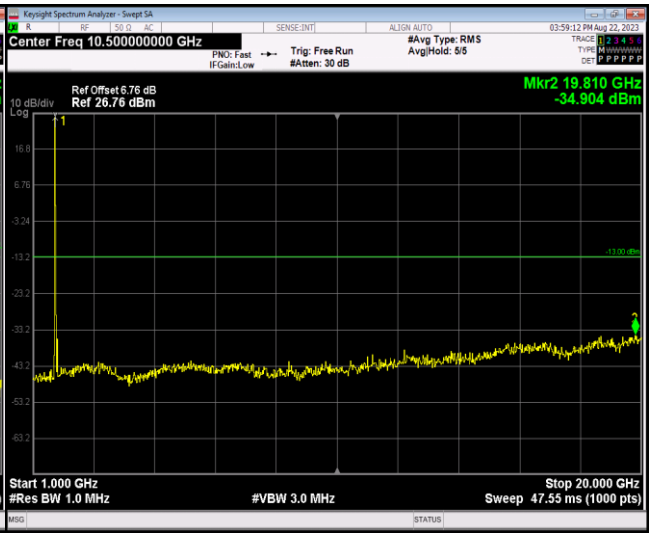


Band66-20MHz-QPSK-132072-1RB#0-Range1:30 ~1000MHz

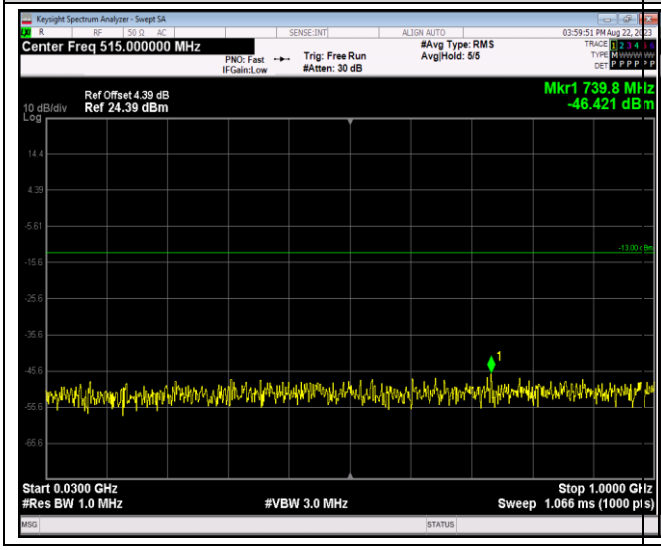
Band66-20MHz-QPSK-132072-1RB#0-Range2:1000~ 20000MHz

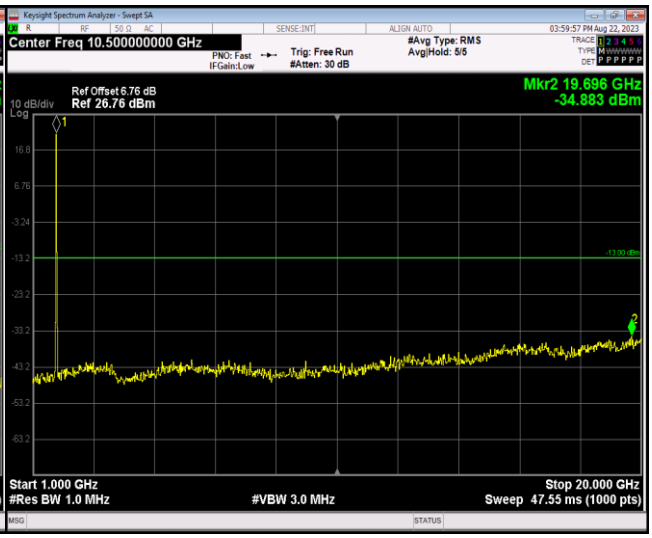


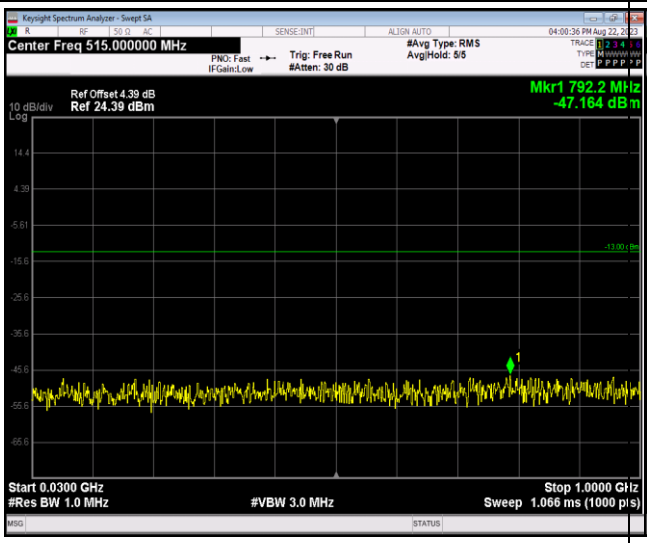
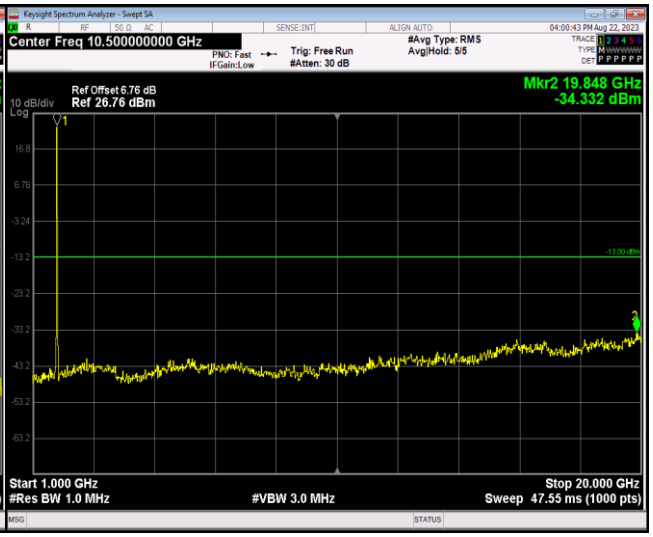
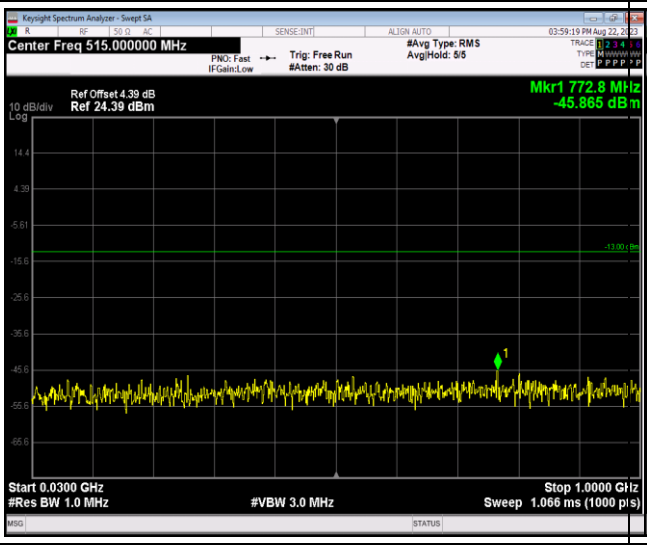
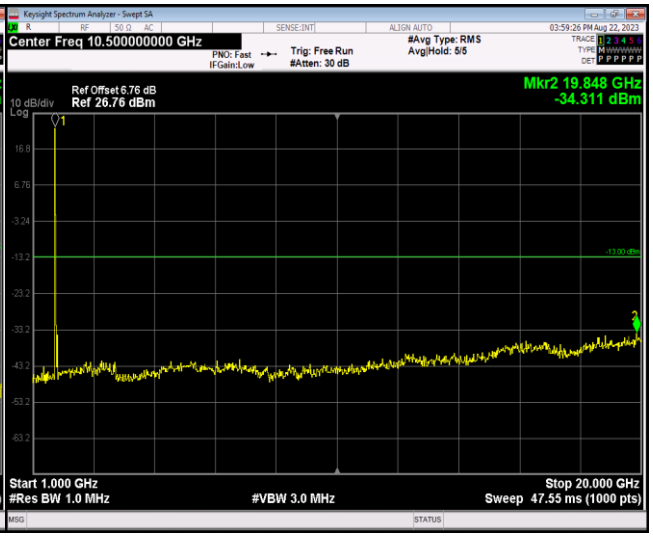
Band66-20MHz-QPSK-132322-1RB#0-Range1:30 ~1000MHz

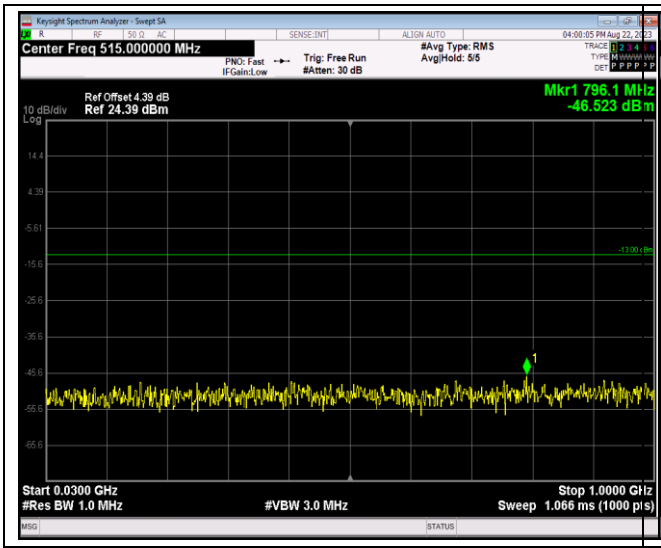


Band66-20MHz-QPSK-132322-1RB#0-Range2:1000~ 20000MHz

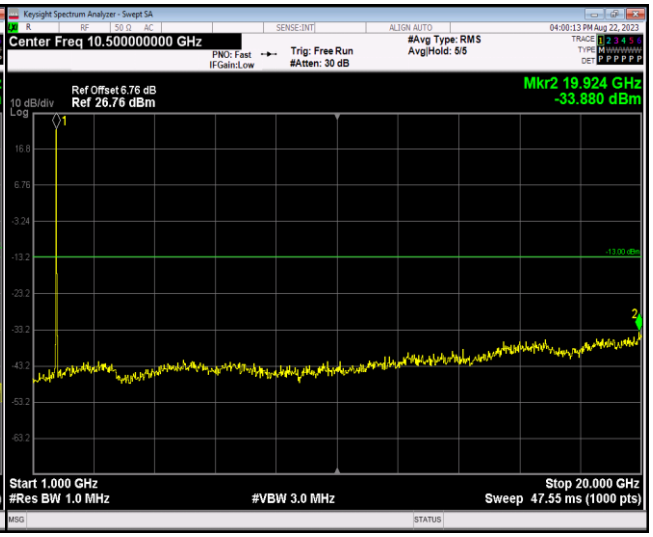




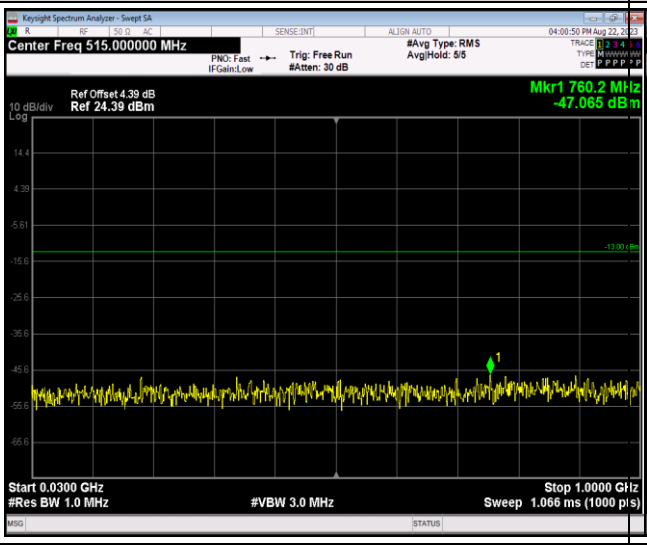
Band66-20MHz-QPSK-132572-1RB#0-Range1:30~1000MHz	Band66-20MHz-QPSK-132572-1RB#0-Range2:1000~20000MHz
	
Band66-20MHz-16QAM-132072-1RB#0-Range1:30~1000MHz	Band66-20MHz-16QAM-132072-1RB#0-Range2:1000~20000MHz
	
Band66-20MHz-16QAM-132322-1RB#0-Range1:30~1000MHz	Band66-20MHz-16QAM-132322-1RB#0-Range2:1000~20000MHz



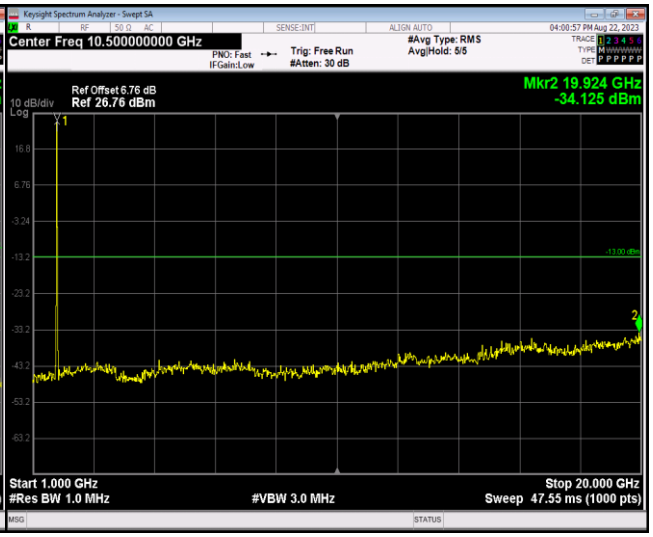
Band66-20MHz-16QAM-132572-1RB#0-Range1:30~1000MHz



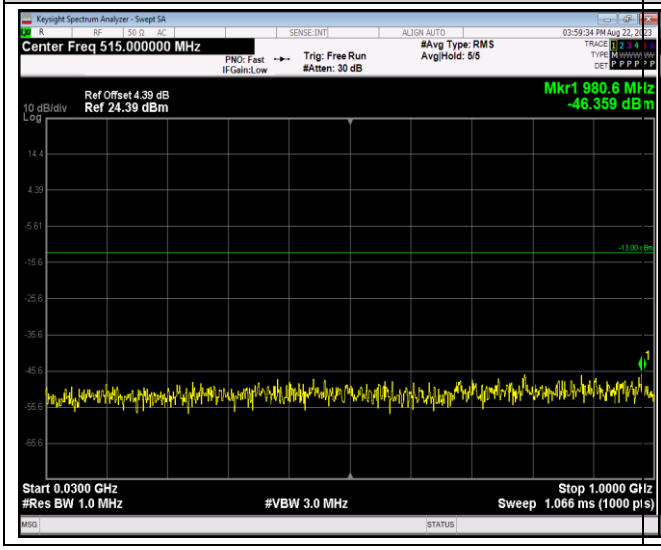
Band66-20MHz-16QAM-132572-1RB#0-Range2:1000~20000MHz

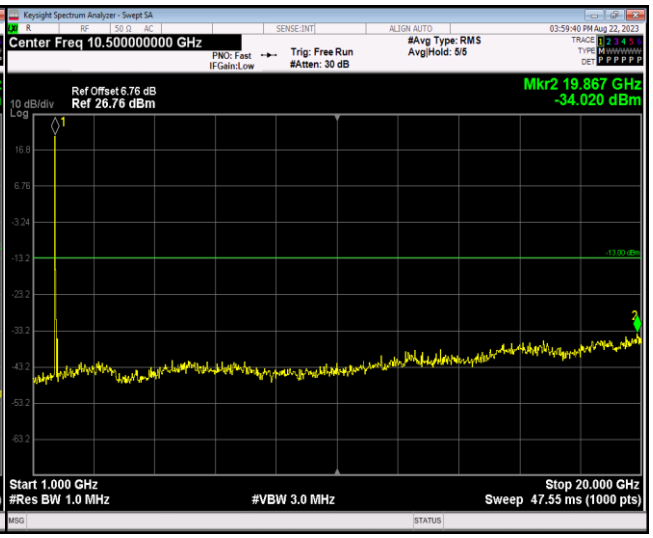


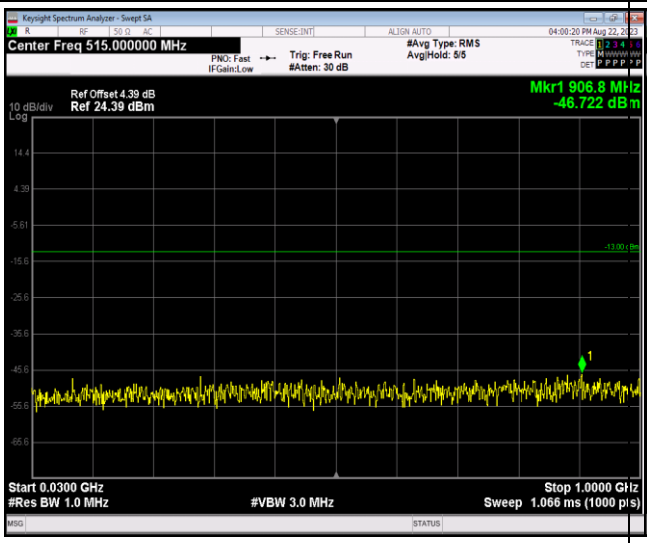
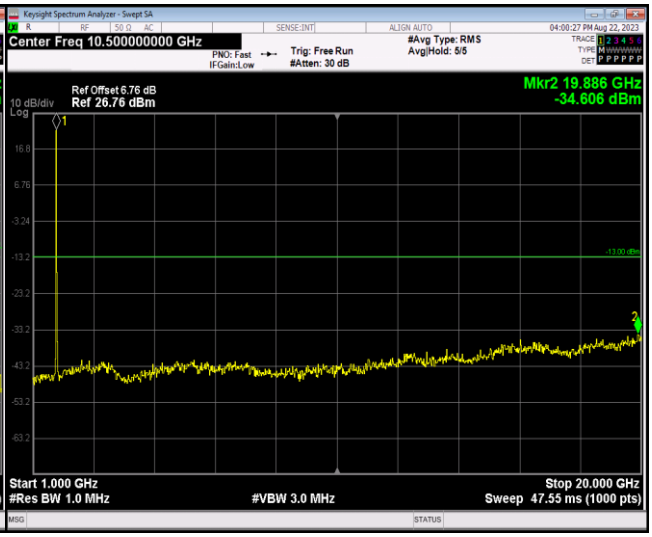
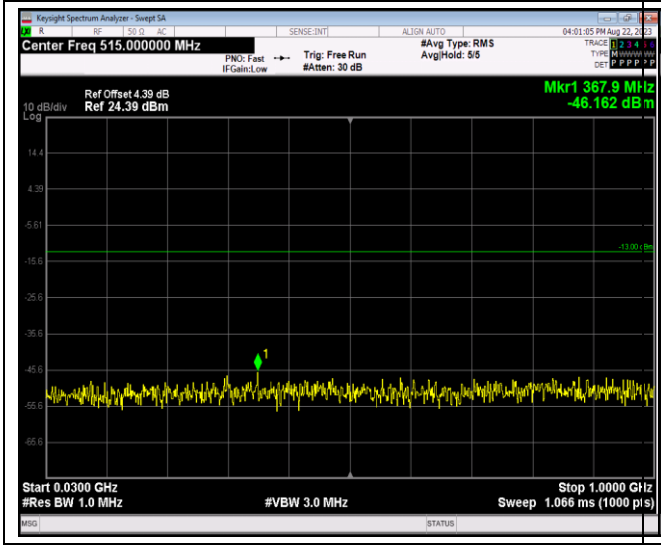
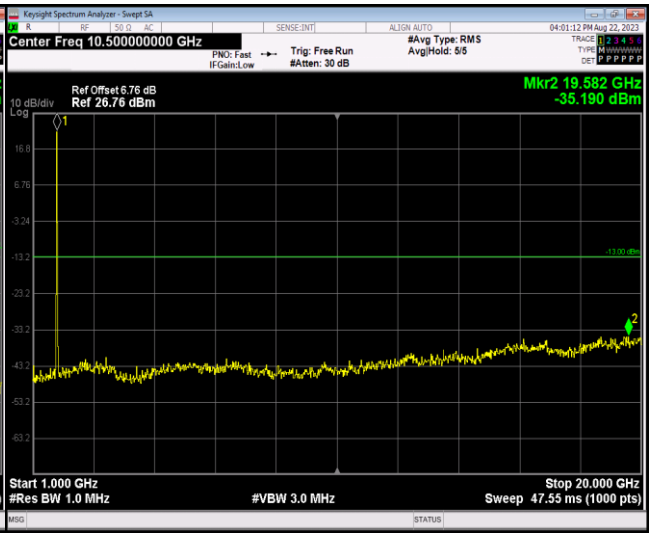
Band66-20MHz-64QAM-132072-1RB#0-Range1:30~1000MHz



Band66-20MHz-64QAM-132072-1RB#0-Range2:1000~20000MHz





Band66-20MHz-64QAM-132322-1RB#0-Range1:30~1000MHz	Band66-20MHz-64QAM-132322-1RB#0-Range2:1000~20000MHz
	
Band66-20MHz-64QAM-132572-1RB#0-Range1:30~1000MHz	Band66-20MHz-64QAM-132572-1RB#0-Range2:1000~20000MHz
	

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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-3.22	-0.001713	Within authorized band for Band 2	Pass
	-20	-25.01	-0.013303		
	-10	11.40	0.006064		
	0	-11.07	-0.005888		
	10	-21.79	-0.011590		
	20	-32.79	-0.017441		
	30	-40.53	-0.021559		
	40	-31.37	-0.016686		
	50	-23.46	-0.012479		
16QAM					
3.85	-30	41.36	0.022000	Within authorized band for Band 2	Pass
	-20	23.62	0.012564		
	-10	51.71	0.027505		
	0	13.98	0.007436		
	10	17.70	0.009415		
	20	34.03	0.018101		
	30	43.12	0.022936		
	40	41.57	0.022112		
	50	21.87	0.011633		
64QAM					
3.85	-30	49.31	0.026229	Within authorized band for Band 2	Pass
	-20	52.63	0.027995		
	-10	47.29	0.025154		
	0	40.25	0.021410		
	10	26.42	0.014053		
	20	11.66	0.006202		
	30	-14.95	-0.007952		
	40	-31.93	-0.016984		
	50	-14.92	-0.007936		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	49.60	0.026383	Within authorized band for Band 2	Pass
	3.85	56.23	0.029910		
	4.40	27.52	0.014638		
16QAM					
25	3.50	4.42	0.002351	Within authorized band for Band 2	Pass
	3.85	-20.94	-0.011138		
	4.40	20.74	0.011032		
64QAM					
25	3.50	22.20	0.011809	Within authorized band for Band 2	Pass
	3.85	19.78	0.010521		
	4.40	35.39	0.018824		
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	-45.30	-0.017870	Within authorized band for Band 7	Pass
	-20	-20.89	-0.008241		
	-10	-44.40	-0.017515		
	0	-35.20	-0.013886		
	10	-41.76	-0.016473		
	20	-42.73	-0.016856		
	30	-9.33	-0.003680		
	40	-23.63	-0.009321		
	50	-42.40	-0.016726		
16QAM					
3.85	-30	13.59	0.005361	Within authorized band for Band 7	Pass
	-20	24.39	0.009621		
	-10	31.90	0.012584		
	0	42.92	0.016931		
	10	-3.18	-0.001254		
	20	19.31	0.007617		
	30	24.30	0.009586		
	40	21.03	0.008296		
	50	36.31	0.014323		
64QAM					
3.85	-30	-6.41	-0.002529	Within authorized band for Band 7	Pass
	-20	27.54	0.010864		
	-10	51.94	0.020489		
	0	34.63	0.013661		
	10	47.29	0.018655		
	20	20.79	0.008201		
	30	38.09	0.015026		
	40	45.39	0.017905		
	50	56.52	0.022296		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	6.24	0.002462	Within authorized band for Band 7	Pass
	3.85	41.03	0.016185		
	4.40	-10.97	-0.004327		
16QAM					
25	3.50	-48.22	-0.019022	Within authorized band for Band 7	Pass
	3.85	-45.39	-0.017905		
	4.40	-20.43	-0.008059		
64QAM					
25	3.50	52.94	0.020884	Within authorized band for Band 7	Pass
	3.85	35.05	0.013826		
	4.40	47.49	0.018734		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 26(Part90) part:

Reference Frequency: LTE Band 26 (10MHz) Middle channel=26740 Frequency=819.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	3.85	0.004701	±2.5	Pass
	-20	-4.02	-0.004908		
	-10	-8.47	-0.010342		
	0	-12.43	-0.015177		
	10	-16.87	-0.020598		
	20	-22.87	-0.027924		
	30	-27.41	-0.033468		
	40	-31.74	-0.038755		
	50	-33.35	-0.040720		
16QAM					
3.85	-30	-22.39	-0.027338	±2.5	Pass
	-20	-16.35	-0.019963		
	-10	-11.87	-0.014493		
	0	-7.77	-0.009487		
	10	-6.01	-0.007338		
	20	-3.83	-0.004676		
	30	-1.92	-0.002344		
	40	1.99	0.002430		
	50	1.32	0.001612		
64QAM					
3.85	-30	21.06	0.025714	±2.5	Pass
	-20	25.79	0.031490		
	-10	31.59	0.038571		
	0	34.42	0.042027		
	10	37.44	0.045714		
	20	41.69	0.050904		
	30	42.07	0.051368		
	40	44.16	0.053919		
	50	47.21	0.057643		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	9.73	0.011880	±2.5	Pass
	3.85	6.51	0.007949		
	4.40	5.81	0.007094		
16QAM					
25	3.50	-32.53	-0.039719	±2.5	Pass
	3.85	-37.25	-0.045482		
	4.40	-27.12	-0.033114		
64QAM					
25	3.50	6.57	0.008022	±2.5	Pass
	3.85	2.39	0.002918		
	4.40	13.45	0.016422		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 26(Part22) part:

Reference Frequency: LTE Band 26 (10MHz) Middle channel=26915 Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-46.11	-0.055123	±2.5	Pass
	-20	-18.95	-0.022654		
	-10	-37.22	-0.044495		
	0	-50.48	-0.060347		
	10	-11.67	-0.013951		
	20	-21.36	-0.025535		
	30	-31.01	-0.037071		
	40	-42.21	-0.050460		
	50	3.08	0.003682		
16QAM					
3.85	-30	3.79	0.004531	±2.5	Pass
	-20	4.63	0.005535		
	-10	7.52	0.008990		
	0	10.53	0.012588		
	10	14.73	0.017609		
	20	16.92	0.020227		
	30	17.82	0.021303		
	40	18.47	0.022080		
	50	17.28	0.020658		
64QAM					
3.85	-30	29.68	0.035481	±2.5	Pass
	-20	35.06	0.041913		
	-10	38.08	0.045523		
	0	40.90	0.048894		
	10	43.49	0.051990		
	20	46.09	0.055099		
	30	-3.96	-0.004734		
	40	3.56	0.004256		
	50	5.42	0.006479		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	6.78	0.008105	±2.5	Pass
	3.85	15.32	0.018314		
	4.40	-21.10	-0.025224		
16QAM					
25	3.50	-5.55	-0.006635	±2.5	Pass
	3.85	-5.25	-0.006276		
	4.40	-1.50	-0.001793		
64QAM					
25	3.50	19.57	0.023395	±2.5	Pass
	3.85	16.72	0.019988		
	4.40	23.73	0.028368		
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	-23.53	-0.009067	Within authorized band for Band 41	Pass
	-20	-33.75	-0.013006		
	-10	-51.24	-0.019746		
	0	-4.59	-0.001769		
	10	-23.95	-0.009229		
	20	-8.21	-0.003164		
	30	-13.33	-0.005137		
	40	-57.91	-0.022316		
	50	9.33	0.003595		
16QAM					
3.85	-30	-23.53	-0.009067	Within authorized band for Band 41	Pass
	-20	-33.75	-0.013006		
	-10	-51.24	-0.019746		
	0	-4.59	-0.001769		
	10	-23.95	-0.009229		
	20	-8.21	-0.003164		
	30	-13.33	-0.005137		
	40	-57.91	-0.022316		
	50	9.33	0.003595		
64QAM					
3.85	-30	43.64	0.016817	Within authorized band for Band 41	Pass
	-20	28.65	0.011040		
	-10	50.74	0.019553		
	0	10.13	0.003904		
	10	26.42	0.010181		
	20	39.63	0.015272		
	30	51.28	0.019761		
	40	-10.41	-0.004012		
	50	-4.56	-0.001757		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-12.29	-0.004736	Within authorized band for Band 41	Pass
	3.85	38.94	0.015006		
	4.40	-11.17	-0.004304		
16QAM					
25	3.50	-50.53	-0.019472	Within authorized band for Band41	Pass
	3.85	-51.97	-0.020027		
	4.40	10.13	0.003904		
64QAM					
25	3.50	30.91	0.011911	Within authorized band for Band41	Pass
	3.85	-10.51	-0.004050		
	4.40	16.45	0.006339		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-24.60	-0.014097	Within authorized band for Band 66	Pass
	-20	-34.23	-0.019616		
	-10	-40.80	-0.023381		
	0	-38.28	-0.021937		
	10	-29.93	-0.017152		
	20	-45.86	-0.026281		
	30	-18.37	-0.010527		
	40	-40.24	-0.023060		
	50	-45.66	-0.026166		
16QAM					
3.85	-30	33.56	0.019232	Within authorized band for Band 66	Pass
	-20	-17.52	-0.010040		
	-10	-21.76	-0.012470		
	0	-14.98	-0.008585		
	10	-14.69	-0.008418		
	20	-3.93	-0.002252		
	30	-9.04	-0.005181		
	40	-6.90	-0.003954		
	50	3.96	0.002269		
64QAM					
3.85	-30	26.01	0.014905	Within authorized band for Band 66	Pass
	-20	15.35	0.008797		
	-10	34.15	0.019570		
	0	4.49	0.002573		
	10	21.56	0.012355		
	20	26.38	0.015117		
	30	33.17	0.019009		
	40	-9.28	-0.005318		
	50	4.25	0.002436		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-4.82	-0.002762	Within authorized band for Band 66	Pass
	3.85	12.59	0.007215		
	4.40	-40.93	-0.023456		
16QAM					
25	3.50	15.52	0.008894	Within authorized band for Band 66	Pass
	3.85	9.93	0.005691		
	4.40	19.05	0.010917		
64QAM					
25	3.50	19.96	0.011438	Within authorized band for Band 66	Pass
	3.85	4.86	0.002785		
	4.40	40.71	0.023330		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

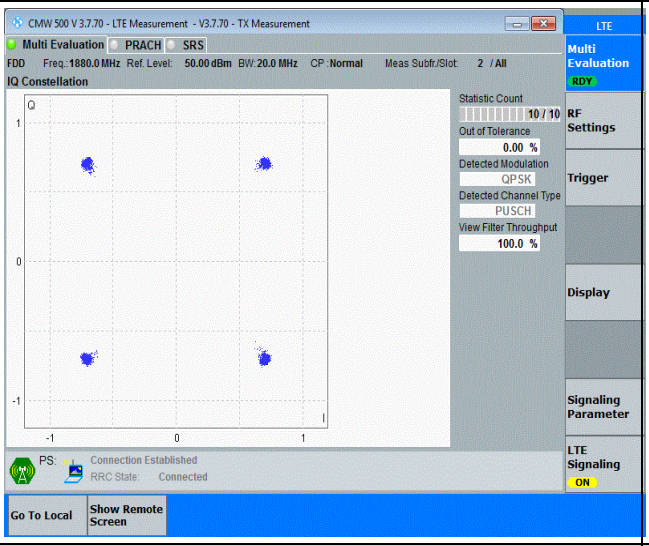
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band2	20MHz	64QAM	18900	100RB#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
Band26	10MHz	QPSK	26740	50RB#0	PASS	PASS
Band26	10MHz	16QAM	26740	50RB#0	PASS	PASS
Band26	10MHz	64QAM	26740	50RB#0	PASS	PASS
Band26	15MHz	QPSK	26915	75RB#0	PASS	PASS
Band26	15MHz	16QAM	26915	75RB#0	PASS	PASS
Band26	15MHz	64QAM	26915	75RB#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

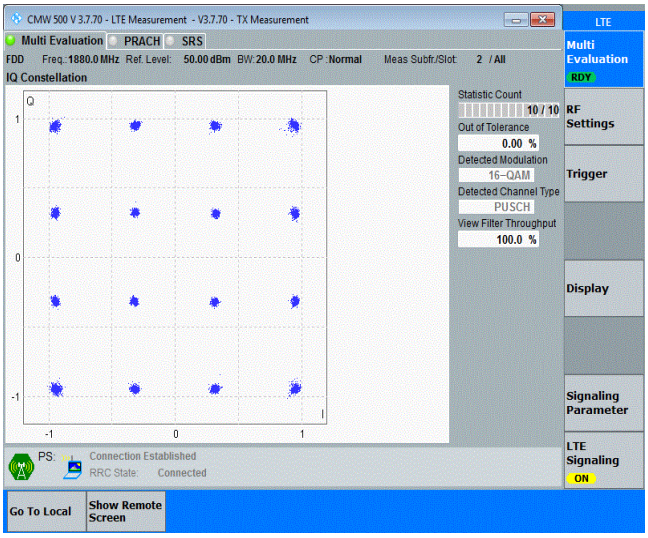
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

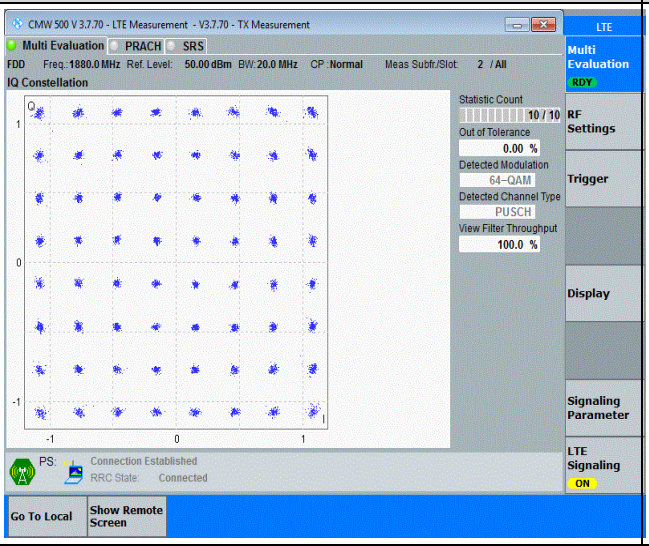
Band2-20MHz-QPSK-18900-100RB#0



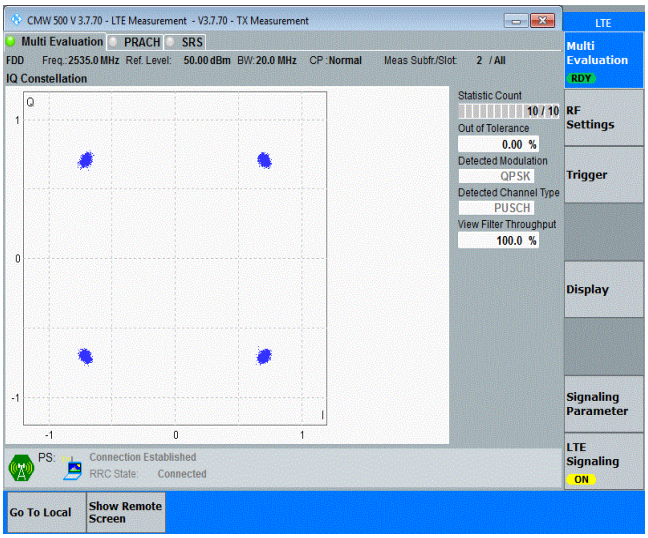
Band2-20MHz-16QAM-18900-100RB#0



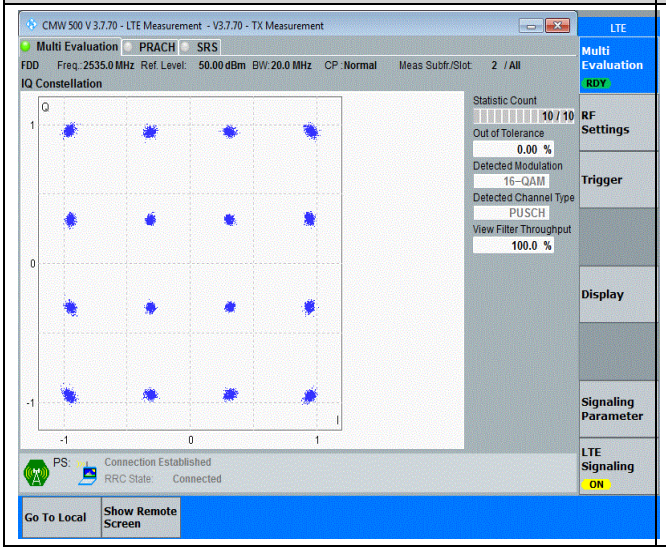
Band2-20MHz-64QAM-18900-100RB#0



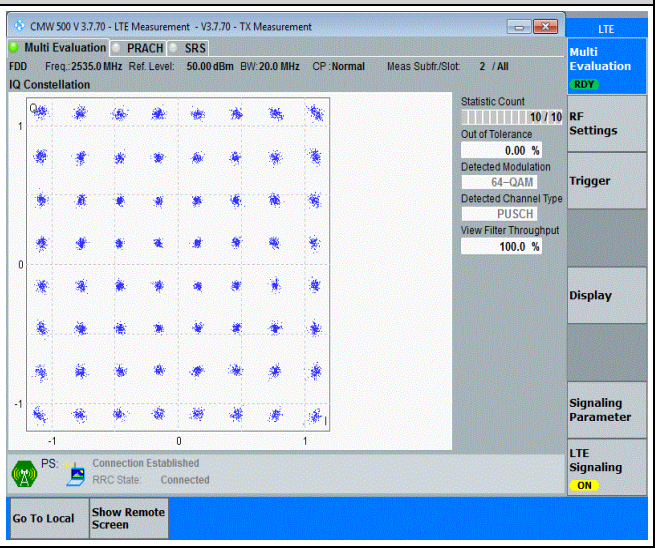
Band7-20MHz-QPSK-21100-100RB#0



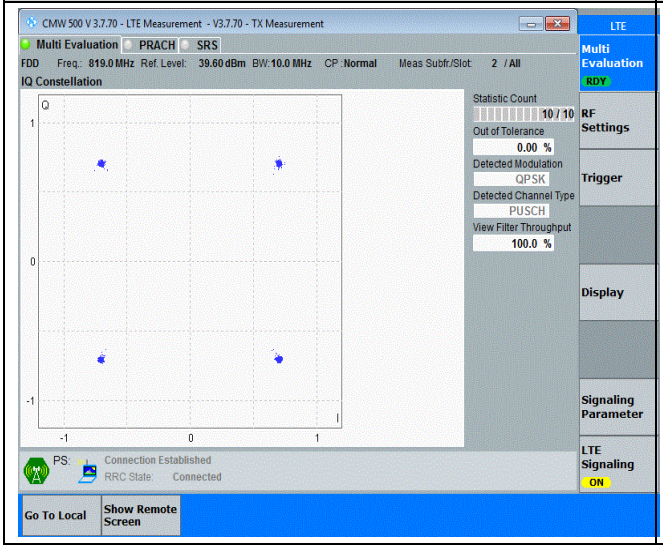
Band7-20MHz-16QAM-21100-100RB#0



Band7-20MHz-64QAM-21100-100RB#0



Band26-10MHz-QPSK-26740-50RB#0



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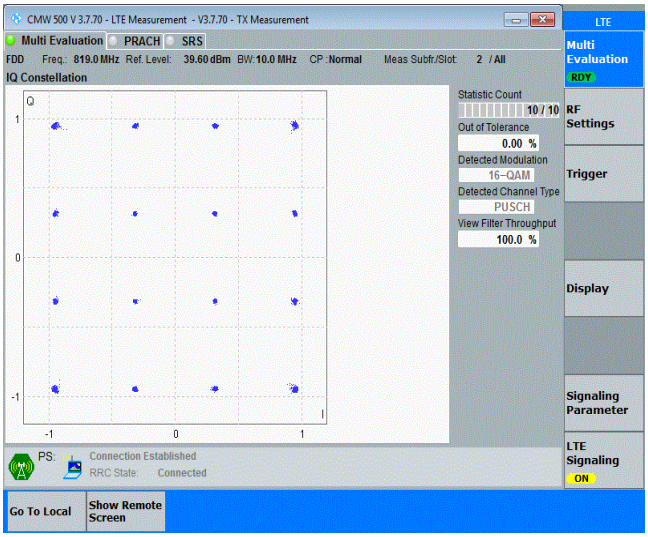
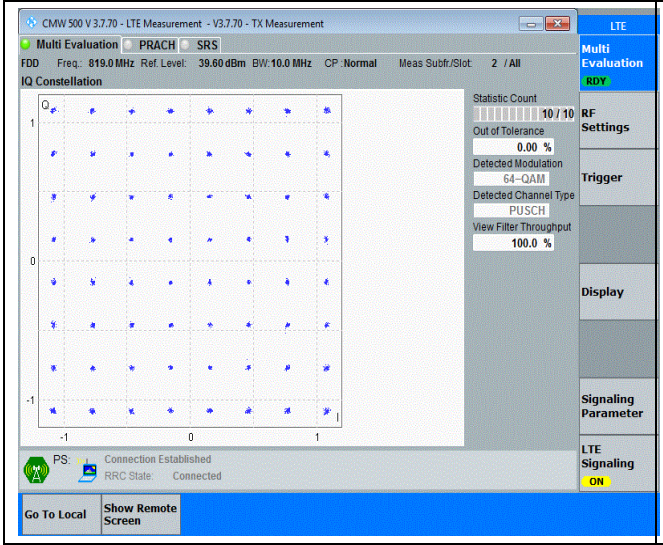
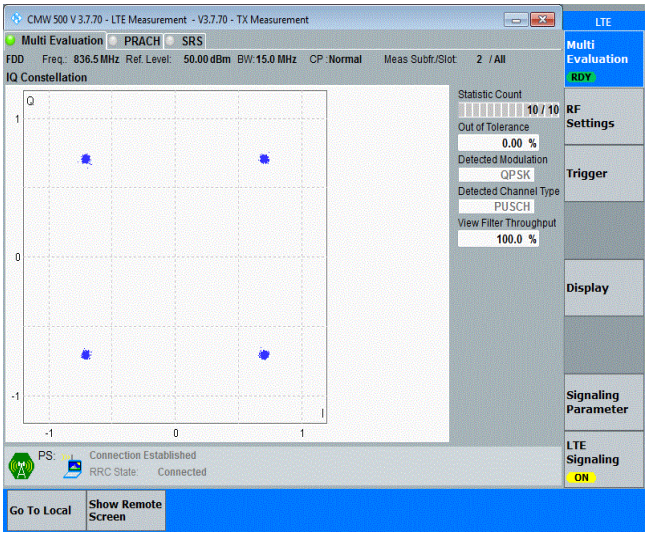


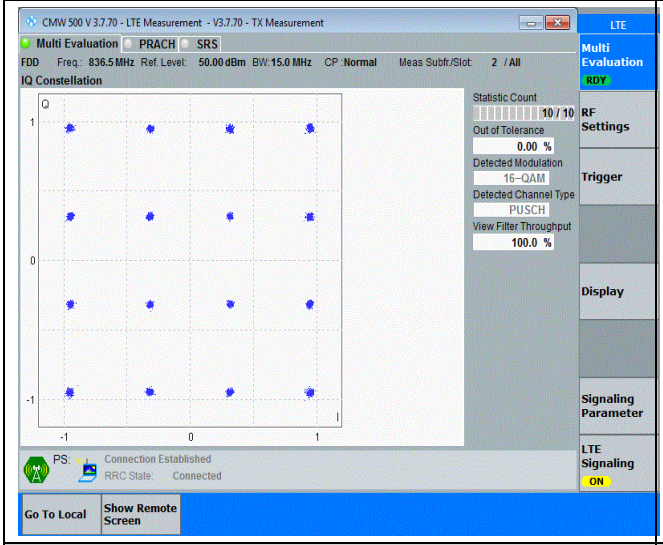
Band26-10MHz-64QAM-26740-50RB#0



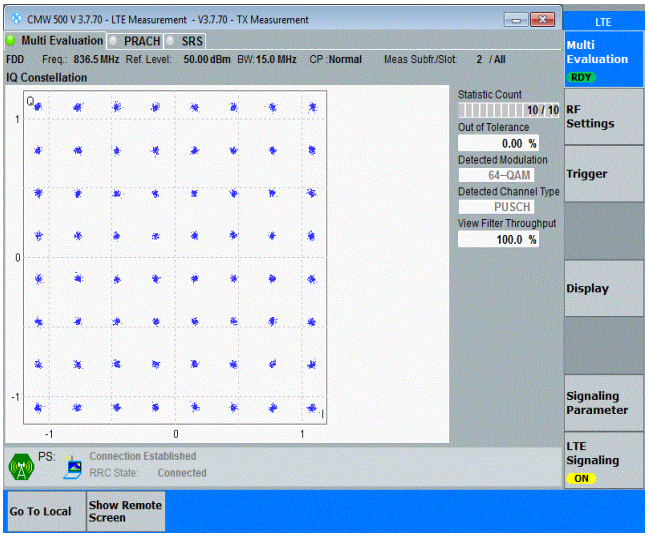
Band26-15MHz-QPSK-26915-75RB#0



Band26-15MHz-16QAM-26915-75RB#0

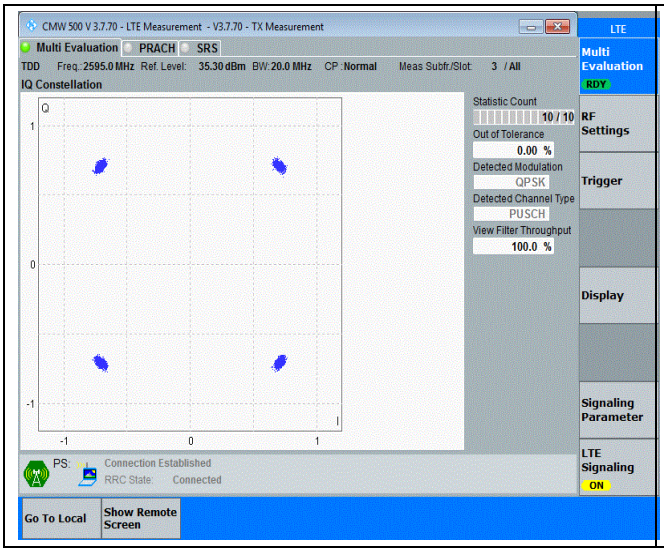


Band26-15MHz-64QAM-26915-75RB#0

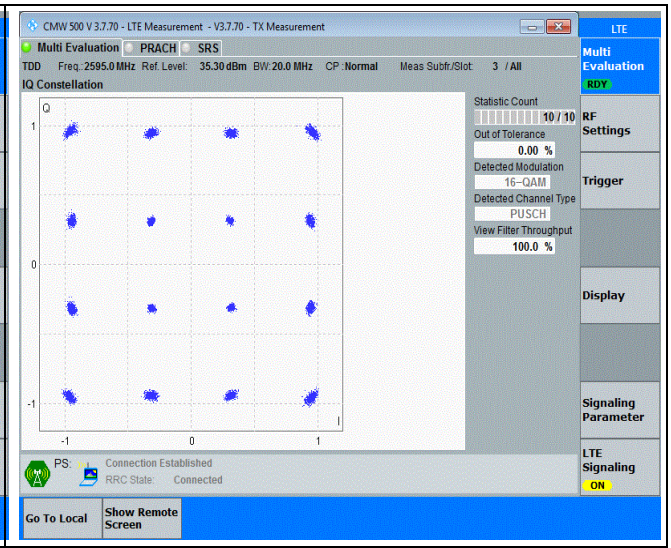


Band41-20MHz-QPSK-40640-100RB#0

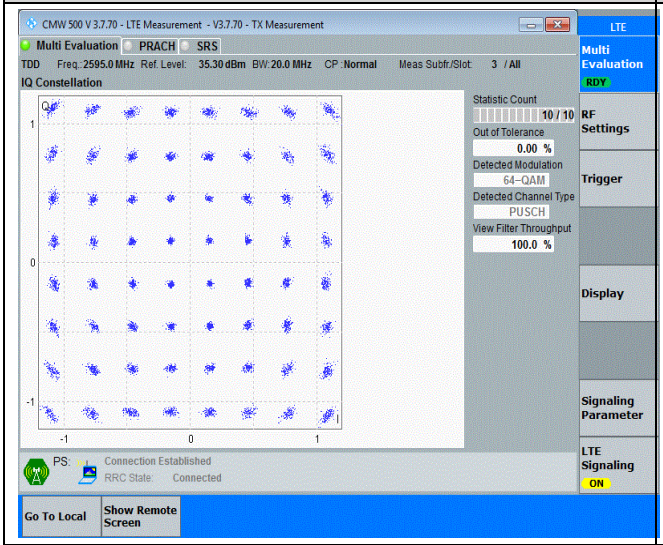
Band41-20MHz-16QAM-40640-100RB#0



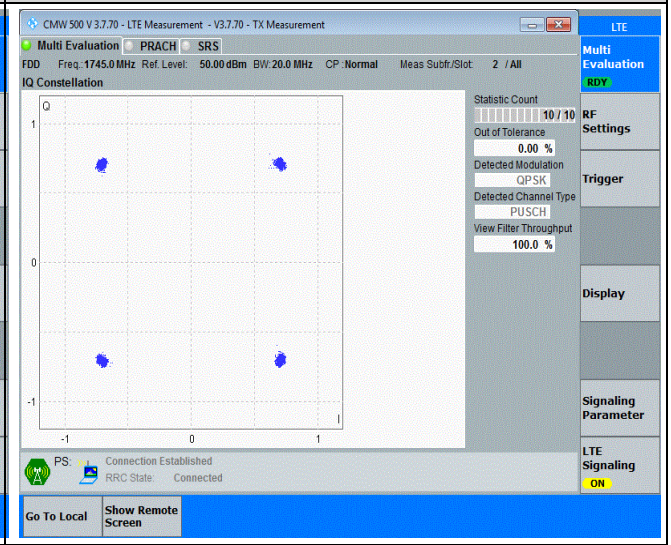
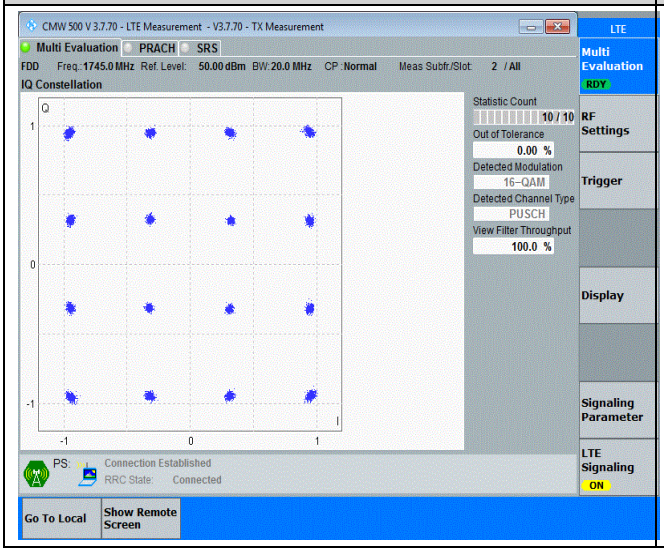
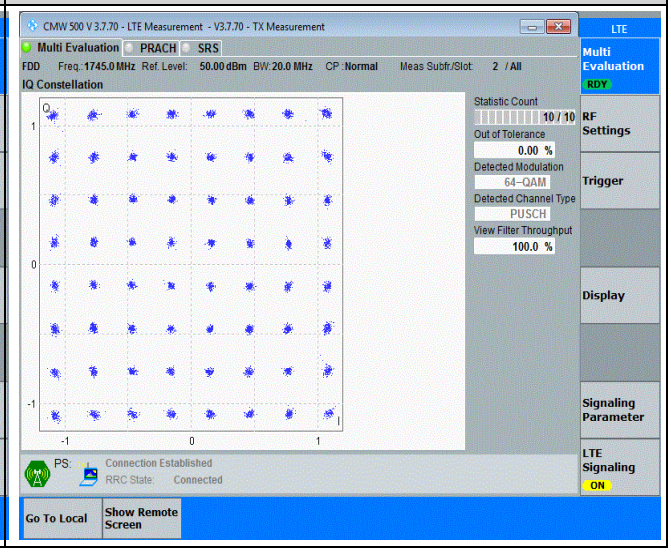
Band41-20MHz-64QAM-40640-100RB#0



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



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



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