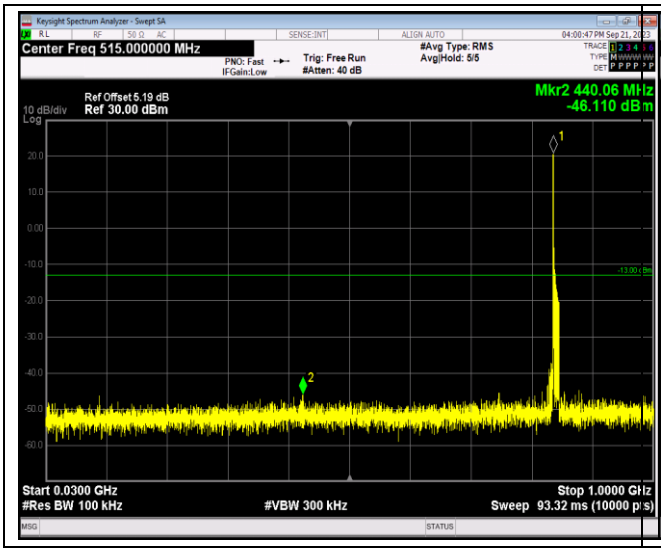
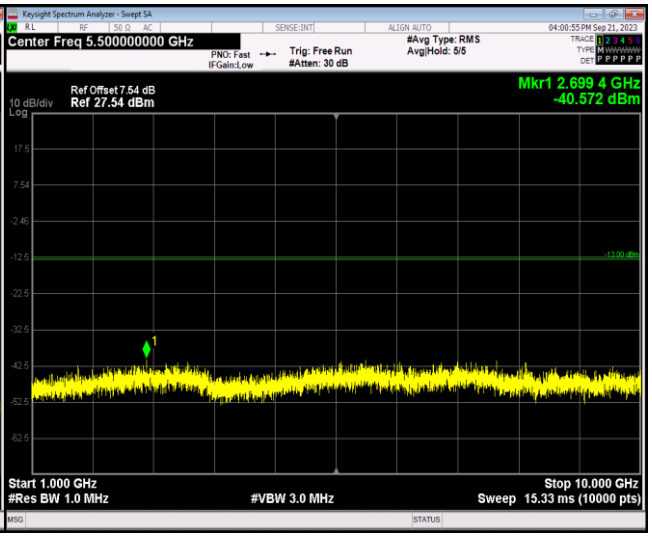
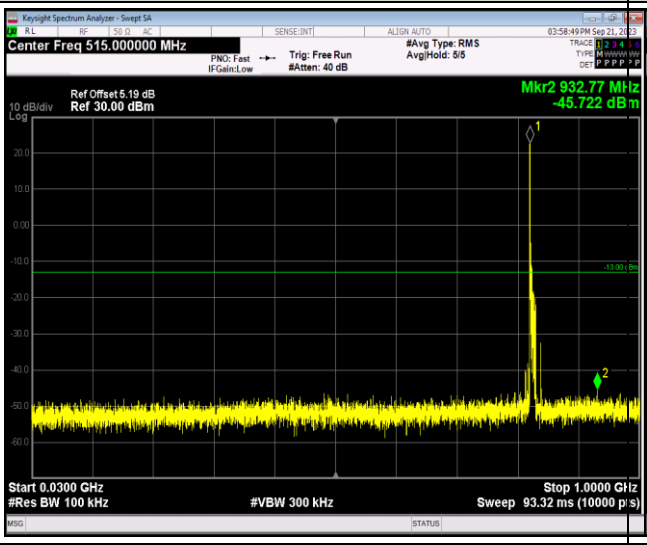
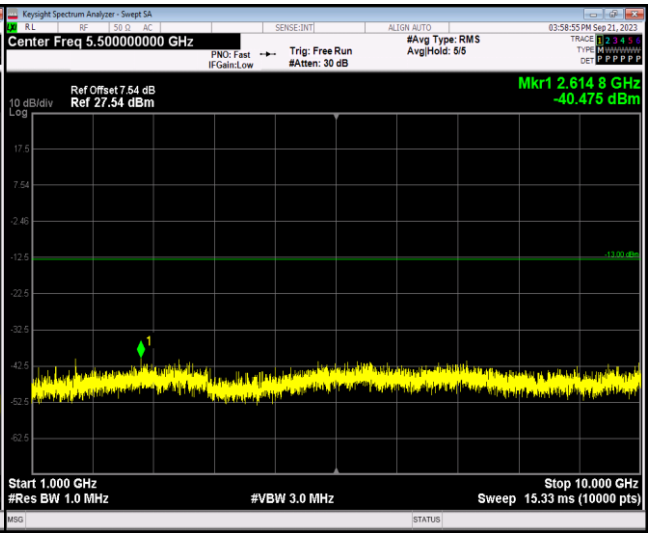


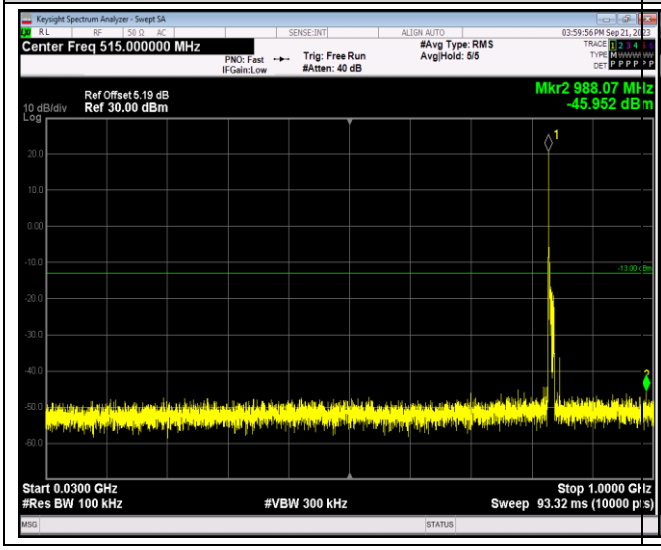


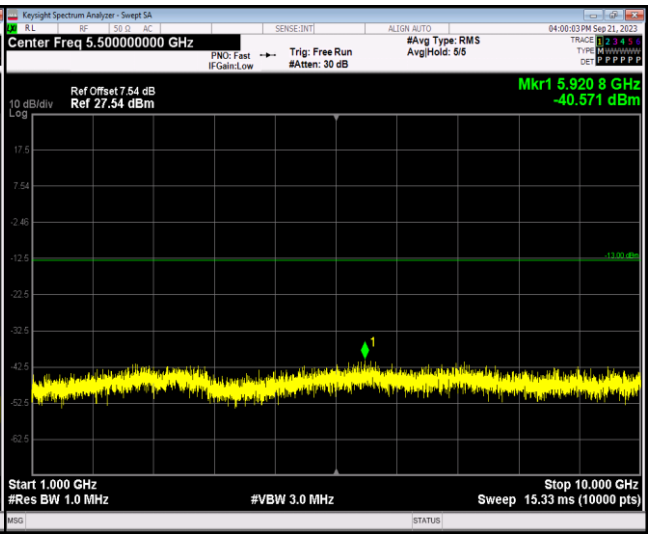
Band5-10MHz-16QAM-20450-1RB#0-Range1:30~1000MHz	Band5-10MHz-16QAM-20450-1RB#0-Range2:1000~10000MHz

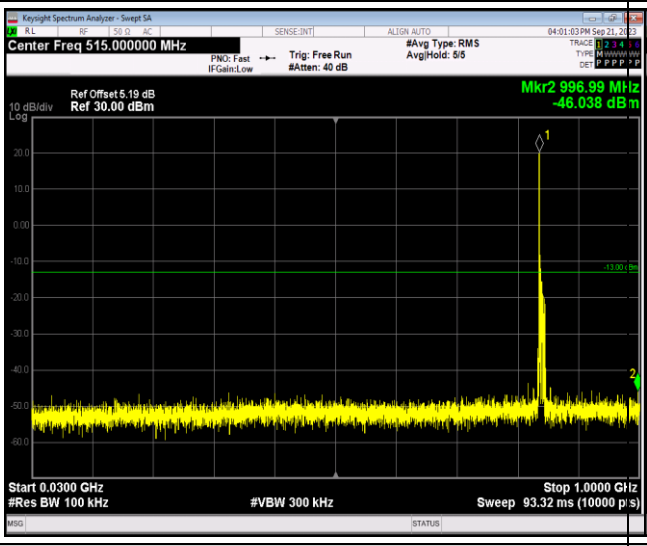
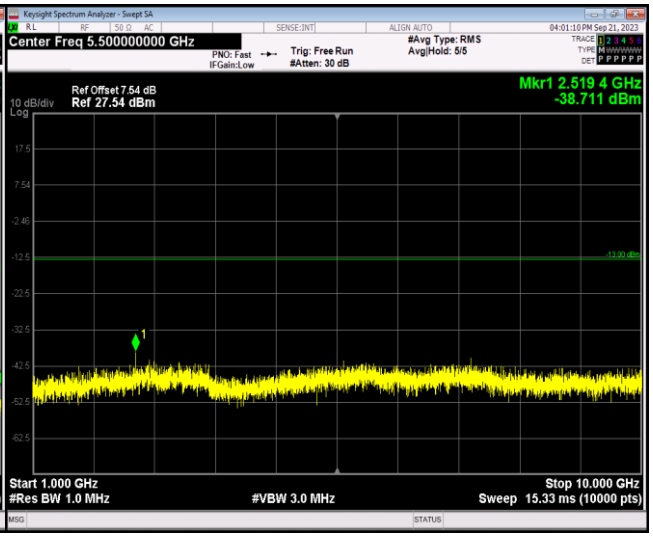
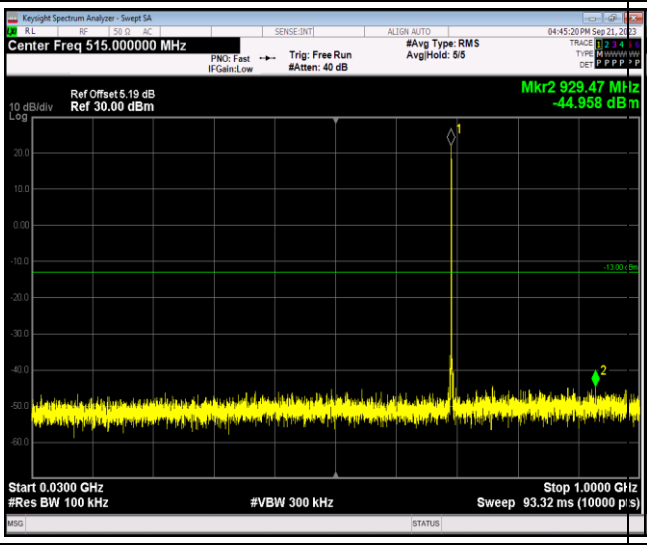
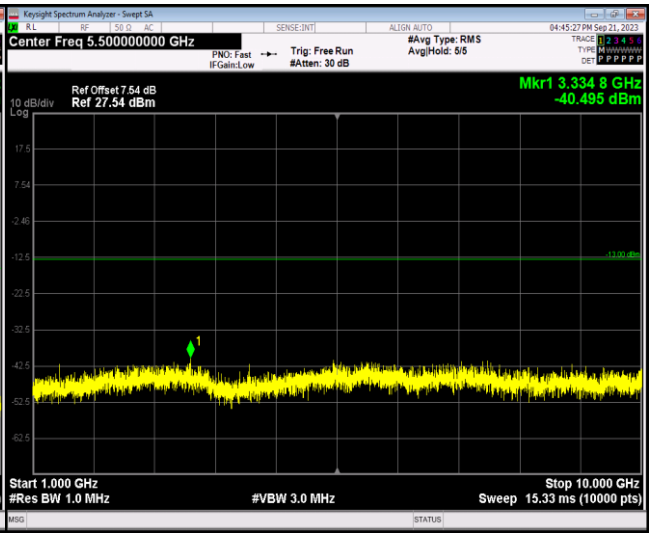


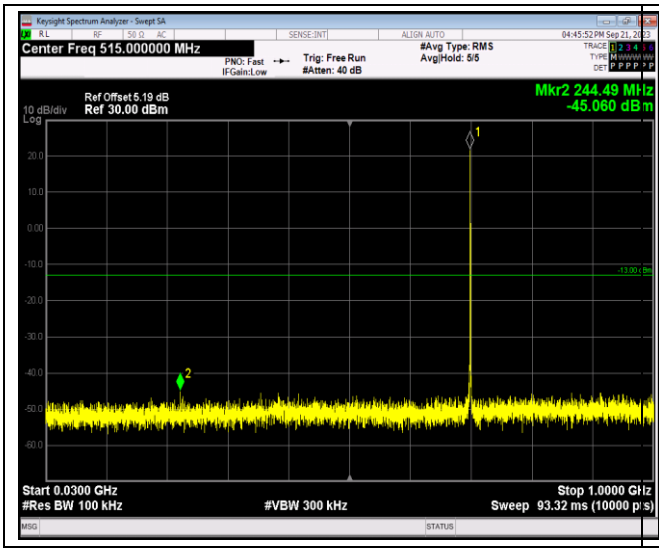


Band5-10MHz-16QAM-20525-1RB#0-Range1:30~1000MHz	Band5-10MHz-16QAM-20525-1RB#0-Range2:1000~10000MHz

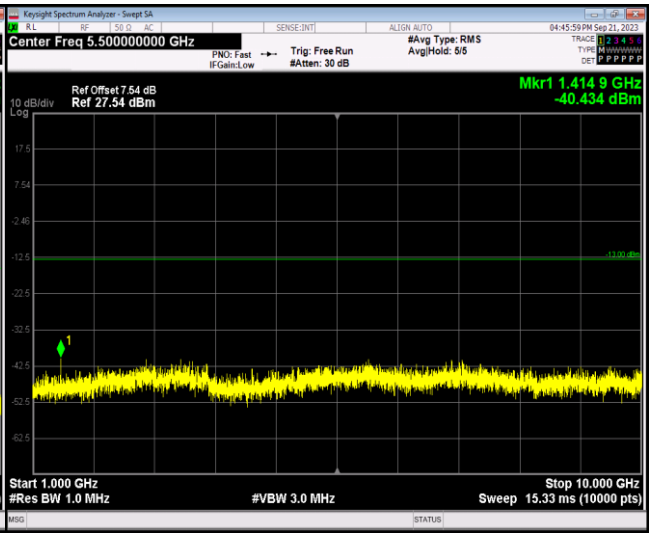




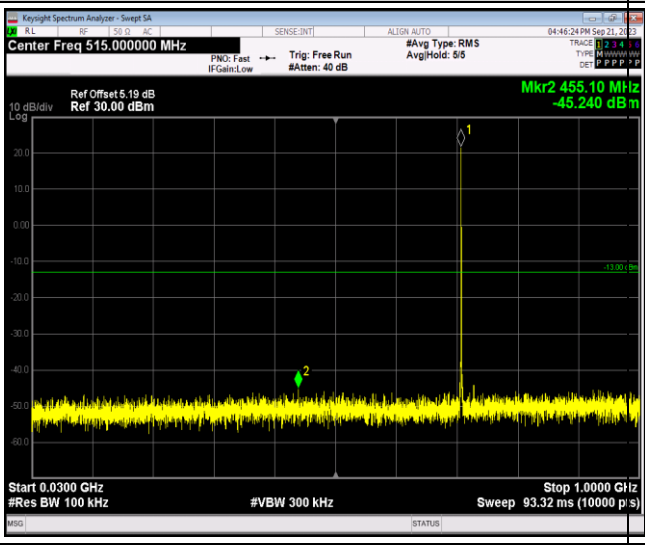
Band5-10MHz-16QAM-20600-1RB#0-Range1:30~1000MHz	Band5-10MHz-16QAM-20600-1RB#0-Range2:1000~10000MHz
	
Band12-1.4MHz-QPSK-23017-1RB#0-Range1:30~1000MHz	Band12-1.4MHz-QPSK-23017-1RB#0-Range2:1000~10000MHz
	
Band12-1.4MHz-QPSK-23095-1RB#0-Range1:30~1000MHz	Band12-1.4MHz-QPSK-23095-1RB#0-Range2:1000~10000MHz



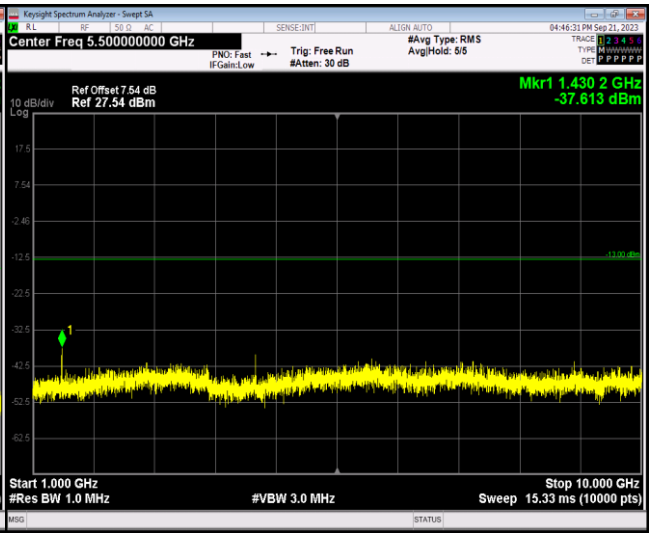
Band12-1.4MHz-QPSK-23173-1RB#0-Range1:30~1000MHz



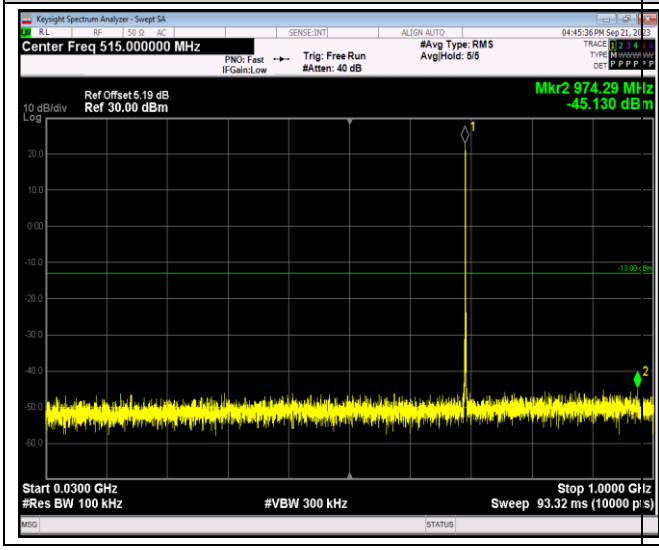
Band12-1.4MHz-QPSK-23173-1RB#0-Range2:1000~10000MHz

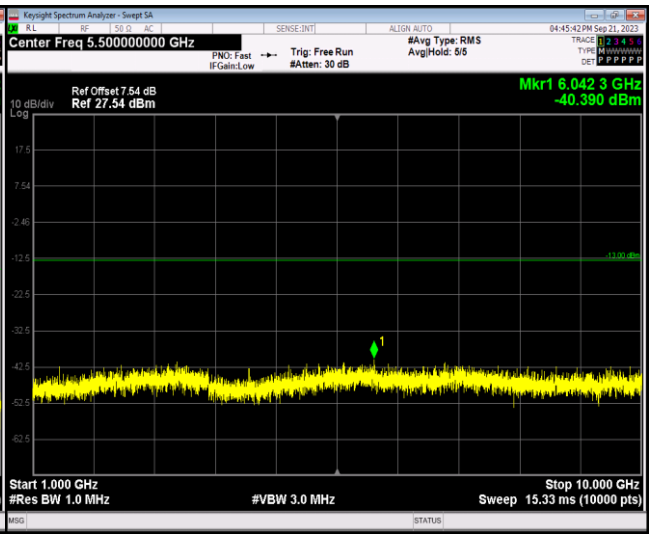


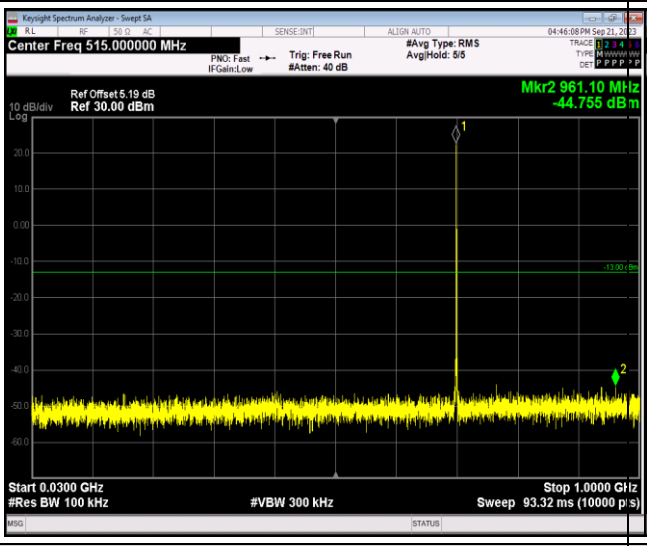
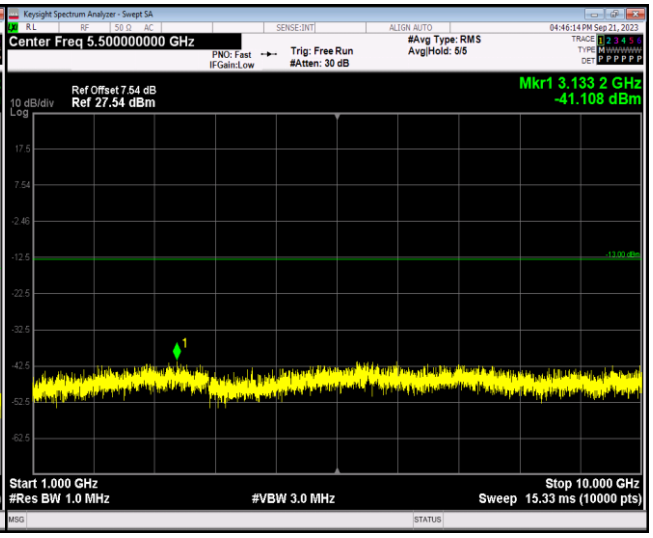
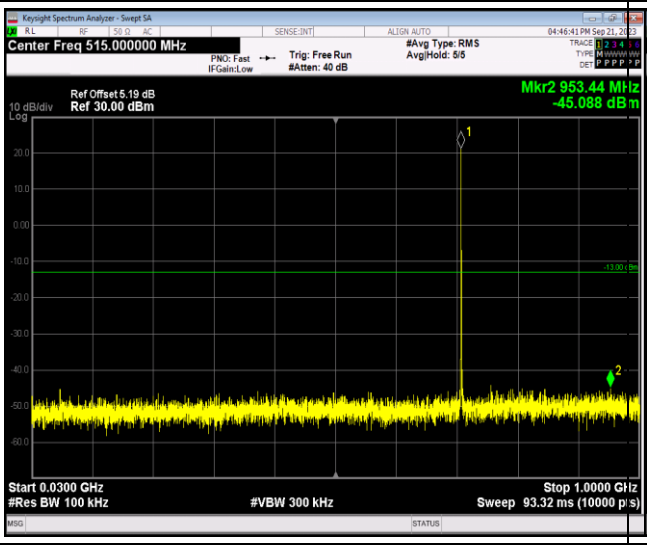
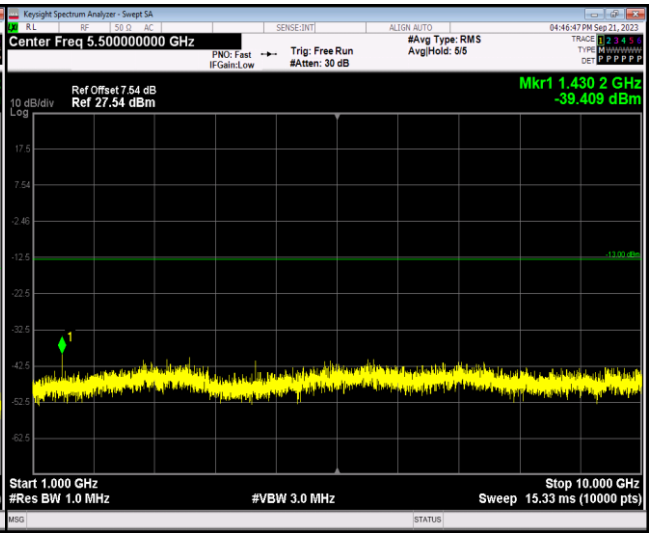
Band12-1.4MHz-16QAM-23017-1RB#0-Range1:30~1000MHz

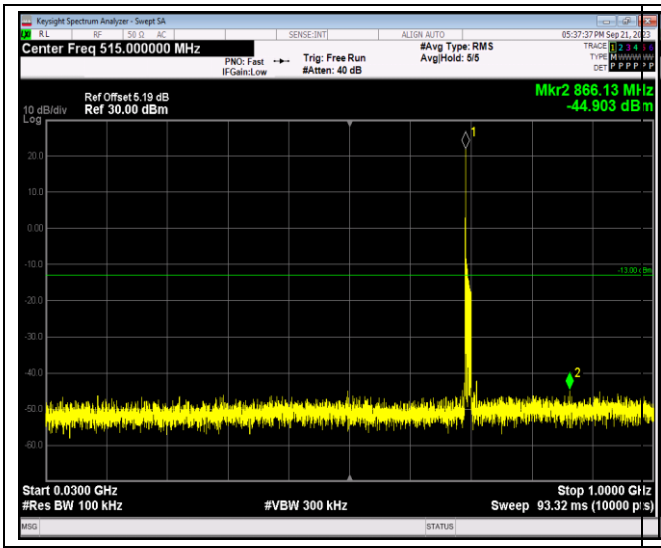


Band12-1.4MHz-16QAM-23017-1RB#0-Range2:1000~10000MHz

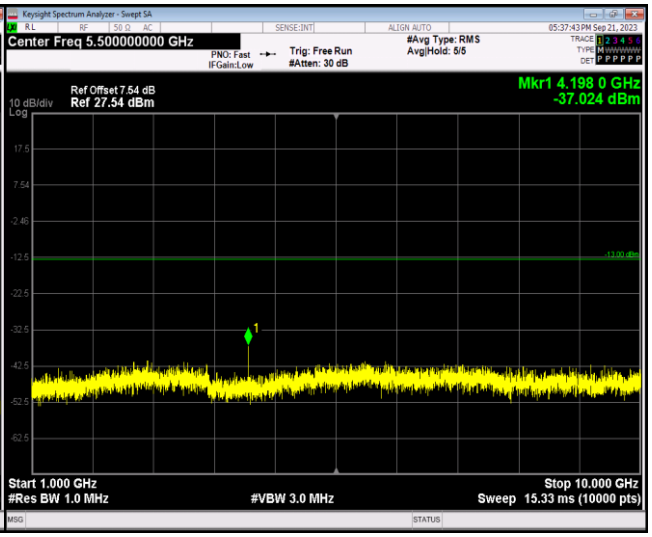




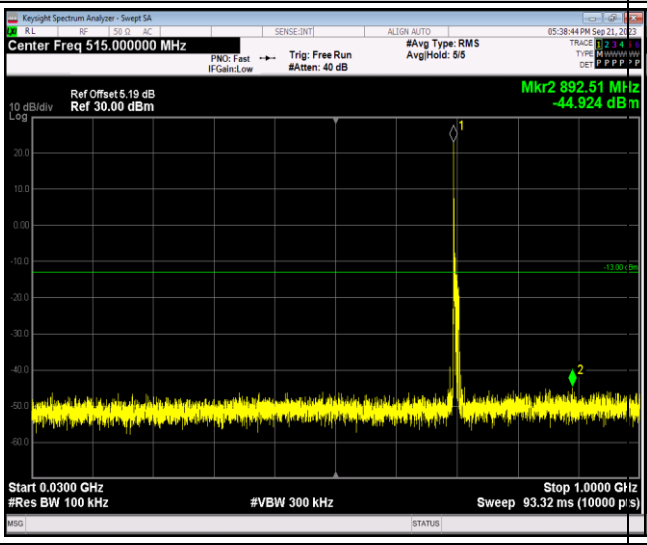
Band12-1.4MHz-16QAM-23095-1RB#0-Range1:30~1000MHz	Band12-1.4MHz-16QAM-23095-1RB#0-Range2:1000~10000MHz
	
Band12-1.4MHz-16QAM-23173-1RB#0-Range1:30~1000MHz	Band12-1.4MHz-16QAM-23173-1RB#0-Range2:1000~10000MHz
	
Band12-10MHz-QPSK-23060-1RB#0-Range1:30~1000MHz	Band12-10MHz-QPSK-23060-1RB#0-Range2:1000~10000MHz



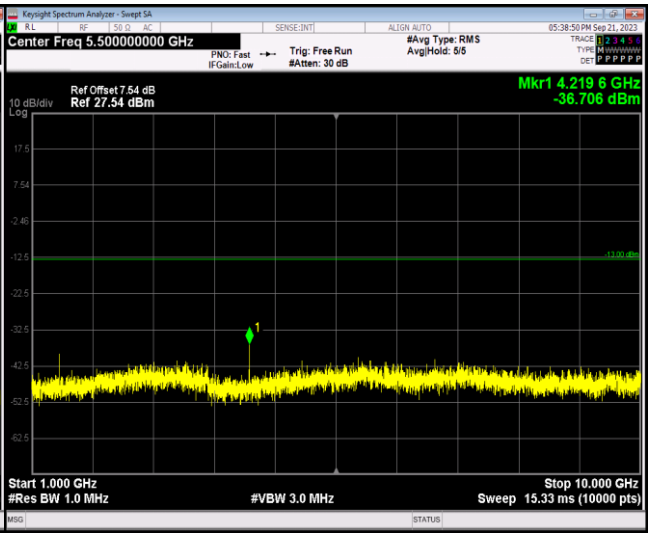
Band12-10MHz-QPSK-23095-1RB#0-Range1:30~1000MHz



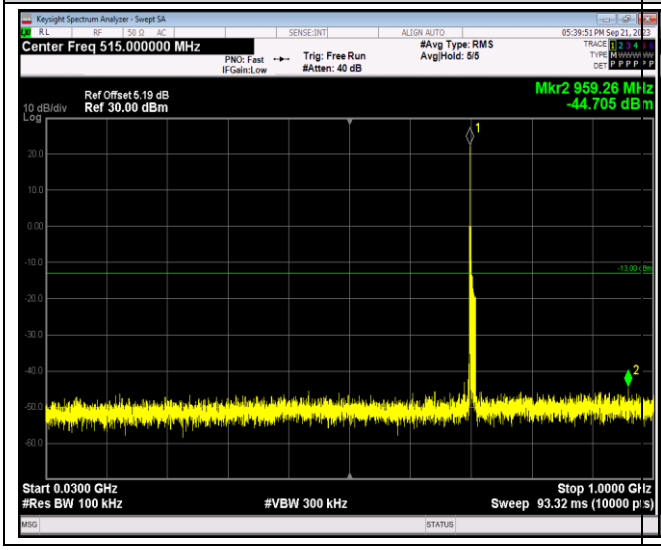
Band12-10MHz-QPSK-23095-1RB#0-Range2:1000~10000MHz



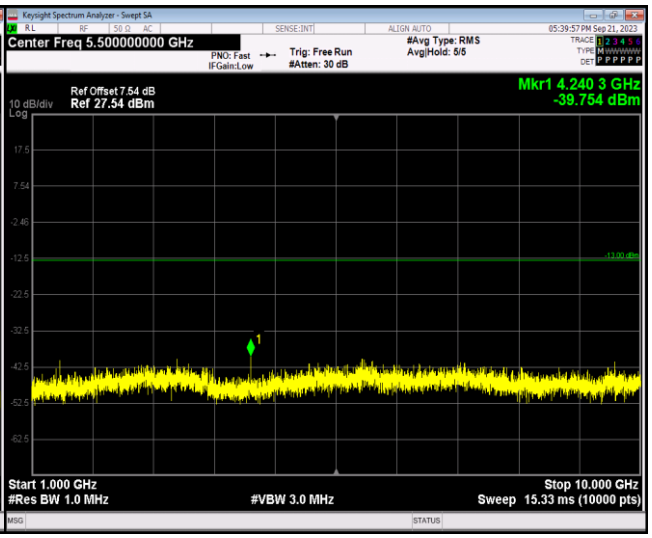
Band12-10MHz-QPSK-23130-1RB#0-Range1:30~1000MHz



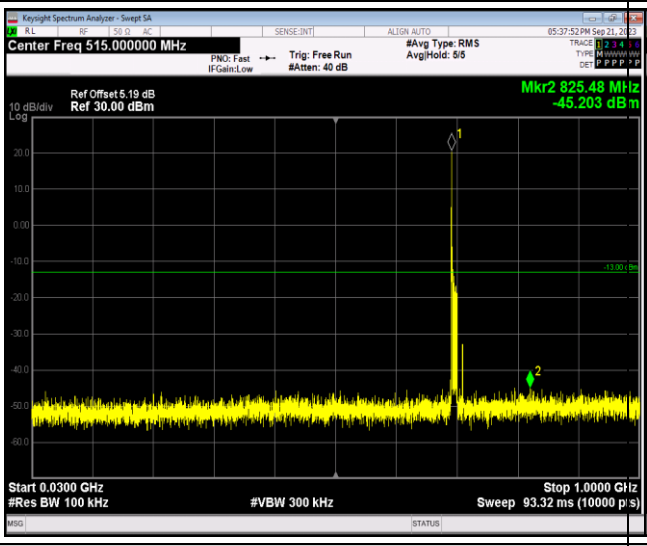
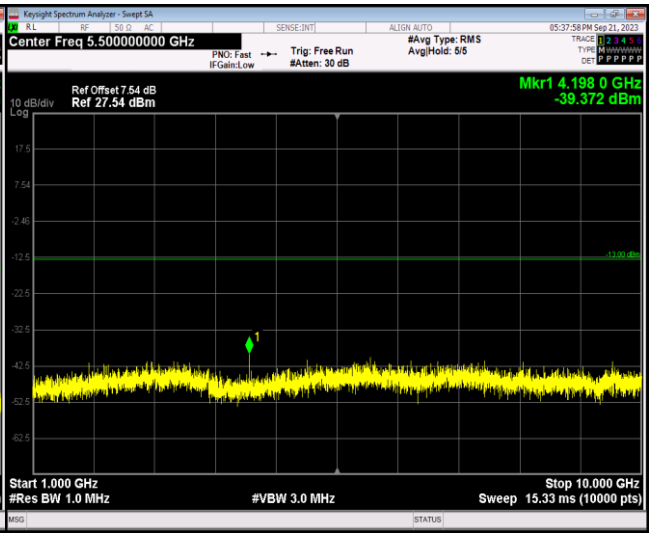
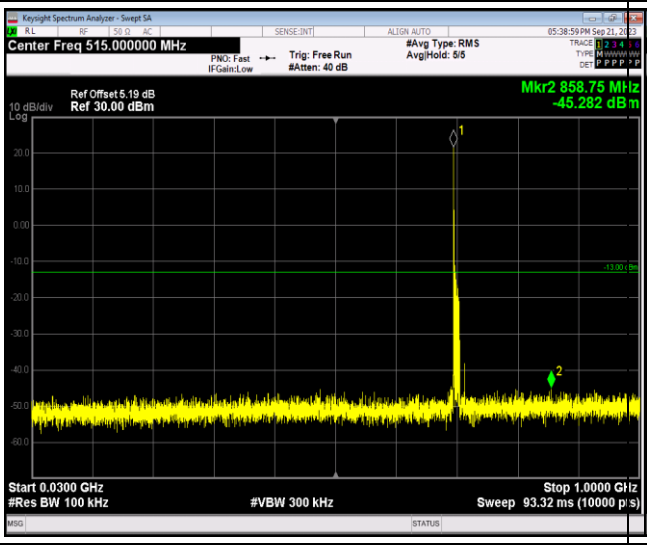
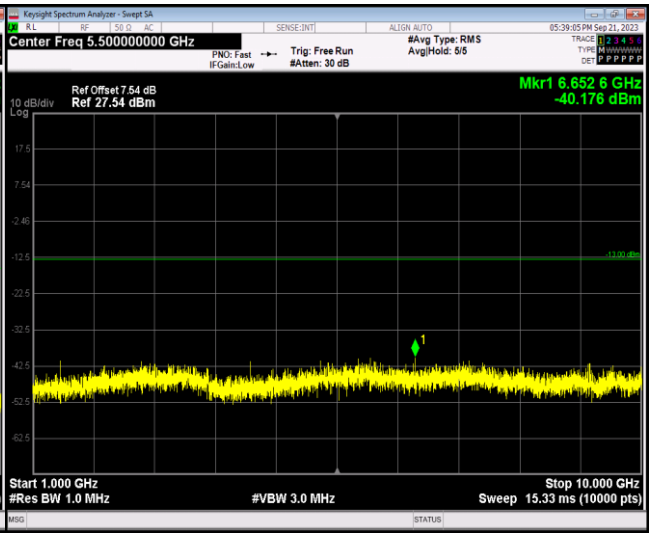
Band12-10MHz-QPSK-23130-1RB#0-Range2:1000~10000MHz

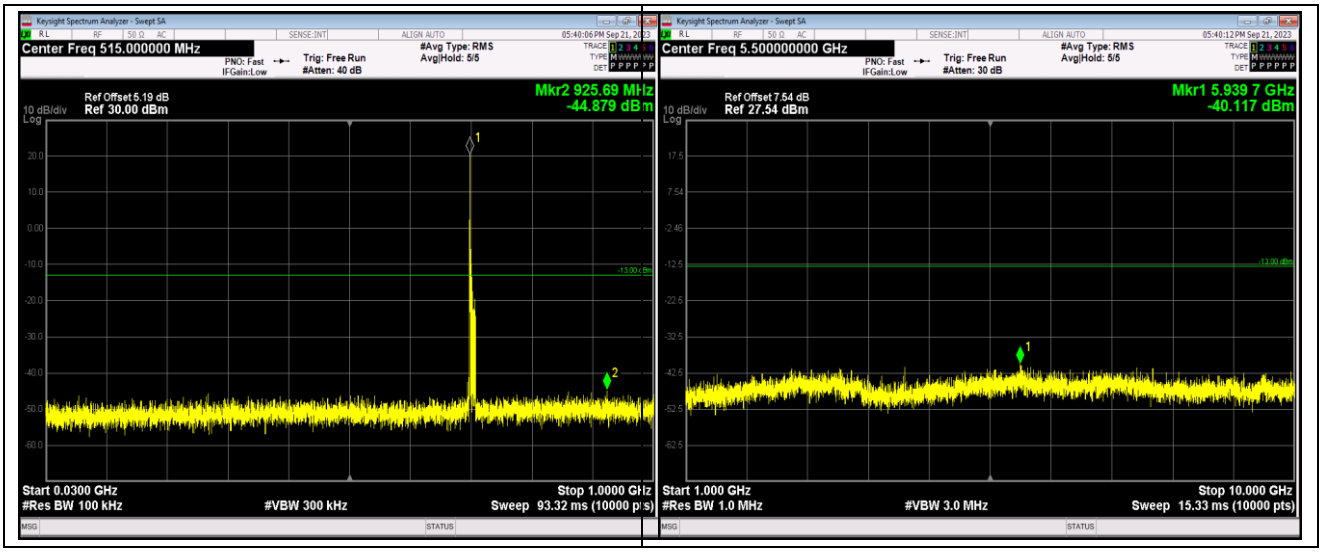


Band12-10MHz-QPSK-23155-1RB#0-Range1:30~1000MHz



Band12-10MHz-QPSK-23155-1RB#0-Range2:1000~10000MHz

Band12-10MHz-16QAM-23060-1RB#0-Range1:30~1000MHz	Band12-10MHz-16QAM-23060-1RB#0-Range2:1000~10000MHz
	
Band12-10MHz-16QAM-23095-1RB#0-Range1:30~1000MHz	Band12-10MHz-16QAM-23095-1RB#0-Range2:1000~10000MHz
	
Band12-10MHz-16QAM-23130-1RB#0-Range1:30~1000MHz	Band12-10MHz-16QAM-23130-1RB#0-Range2:1000~10000MHz


Keysight Spectrum Analyzer - Swept SA
Center Freq 515.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 5/5
05:40:06 PM Sep 21, 2023
Ref Offset 5.19 dB
10 dB/div
Ref 30.00 dBm
Mkr2 925.69 MHz
-44.879 dBm
-13.00 dBm
Start 0.0300 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 93.32 ms (10000 pts)
Keysight Spectrum Analyzer - Swept SA
Center Freq 5.500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 5/5
05:40:12 PM Sep 21, 2023
Ref Offset 7.54 dB
10 dB/div
Ref 27.54 dBm
Mkr1 5.939 7 GHz
-40.117 dBm
-12.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 10.000 GHz
Sweep 15.33 ms (10000 pts)

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					
3.7	-30	-58.21	-0.030963	Within authorized band for Band 2	Pass
	-20	-49.95	-0.026569		
	-10	-37.88	-0.020149		
	0	-23.25	-0.012367		
	10	-42.63	-0.022676		
	20	-49.61	-0.026388		
	30	-7.21	-0.003835		
	40	-15.46	-0.008223		
	50	-62.18	-0.033074		
16QAM					
3.7	-30	-17.42	-0.009266	Within authorized band for Band 2	Pass
	-20	-39.38	-0.020947		
	-10	-22.07	-0.011739		
	0	-37.87	-0.020144		
	10	-20.67	-0.010995		
	20	-39.63	-0.021080		
	30	-64.62	-0.034372		
	40	-19.74	-0.010500		
	50	-37.77	-0.020090		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	2.75	-40.54	-0.021564	Within authorized band for Band 2	Pass
	3.7	-41.31	-0.021973		
	4.2	-56.56	-0.030085		
16QAM					
25	2.75	-40.80	-0.021702	Within authorized band for Band 2	Pass
	3.7	-15.71	-0.008356		
	4.2	-15.92	-0.008468		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.7	-30	13.83	0.007983	Within authorized band for Band 4	Pass
	-20	43.99	0.025391		
	-10	27.91	0.016110		
	0	-20.00	-0.011544		
	10	16.41	0.009472		
	20	39.24	0.022649		
	30	19.37	0.011180		
	40	30.11	0.017380		
	50	41.01	0.023671		
16QAM					
3.7	-30	27.72	0.016000	Within authorized band for Band 4	Pass
	-20	33.66	0.019429		
	-10	41.11	0.023729		
	0	-8.84	-0.005102		
	10	-18.22	-0.010517		
	20	-8.40	-0.004848		
	30	7.00	0.004040		
	40	11.16	0.006442		
	50	22.87	0.013201		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	2.75	22.86	0.013195	Within authorized band for Band 4	Pass
	3.7	6.45	0.003723		
	4.2	40.61	0.023440		
16QAM					
25	2.75	38.52	0.022234	Within authorized band for Band 4	Pass
	3.7	21.39	0.012346		
	4.2	48.95	0.028254		
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=20525 Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.7	-30	-46.73	-0.055864	±2.5	Pass
	-20	-25.32	-0.030269		
	-10	-42.06	-0.050281		
	0	-41.70	-0.049851		
	10	-45.00	-0.053796		
	20	-41.28	-0.049348		
	30	-42.26	-0.050520		
	40	-28.05	-0.033533		
	50	-14.35	-0.017155		
16QAM					
3.7	-30	-22.40	-0.026778	±2.5	Pass
	-20	-41.56	-0.049683		
	-10	-7.27	-0.008691		
	0	-25.41	-0.030377		
	10	-41.21	-0.049265		
	20	-8.83	-0.010556		
	30	-21.62	-0.025846		
	40	-34.16	-0.040837		
	50	-7.24	-0.008655		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	2.75	10.20	0.012194	±2.5	Pass
	3.7	4.16	0.004973		
	4.2	8.03	0.009600		
16QAM					
25	2.75	-6.19	-0.008749	±2.5	Pass
	3.7	-48.44	-0.068466		
	4.2	-15.89	-0.022459		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 Frequency=707.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.7	-30	-21.59	-0.030516	Within authorized band for Band 12	Pass
	-20	-25.09	-0.035463		
	-10	-27.54	-0.038926		
	0	-26.55	-0.037527		
	10	-32.24	-0.045569		
	20	-32.33	-0.045696		
	30	-31.30	-0.044240		
	40	-32.97	-0.046601		
	50	-34.93	-0.049371		
16QAM					
3.7	-30	-29.31	-0.041428	Within authorized band for Band 12	Pass
	-20	-28.78	-0.040678		
	-10	-28.21	-0.039873		
	0	-29.50	-0.041696		
	10	-30.41	-0.042982		
	20	-31.80	-0.044947		
	30	-30.77	-0.043491		
	40	-29.31	-0.041428		
	50	-28.67	-0.040523		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	2.75	-6.19	-0.008749	Within authorized band for Band 12	Pass
	3.7	-48.44	-0.068466		
	4.2	-15.89	-0.022459		
16QAM					
25	2.75	-30.74	-0.043449	Within authorized band for Band 12	Pass
	3.7	-31.33	-0.044283		
	4.2	-29.15	-0.041201		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

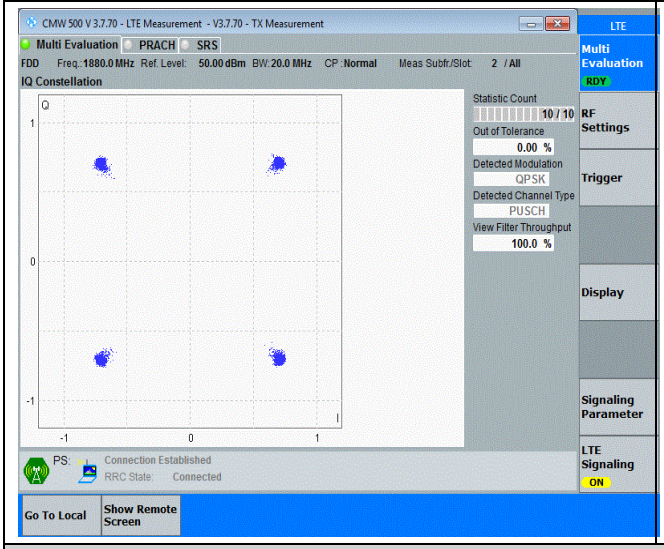
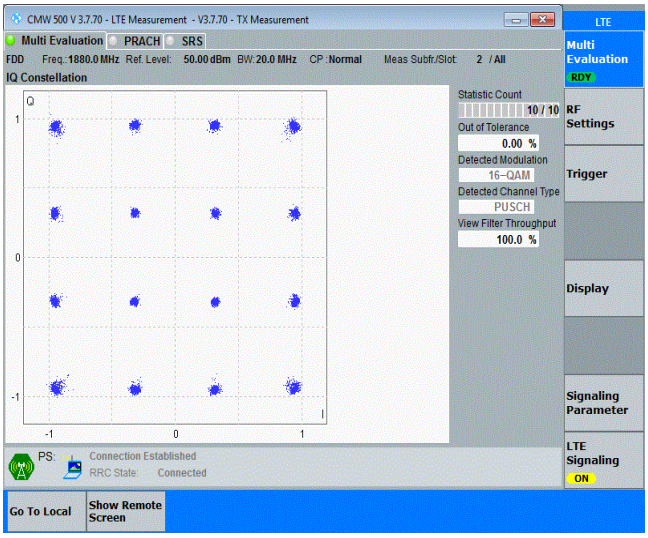
Appendix G: Modulation Characteristics

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
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#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
	
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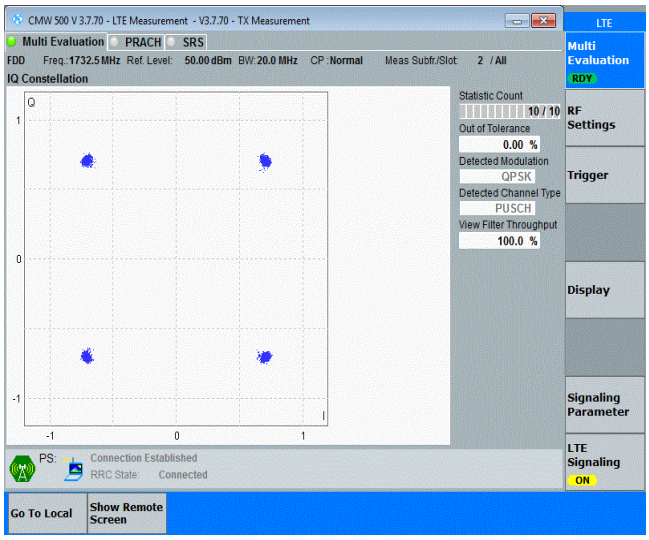	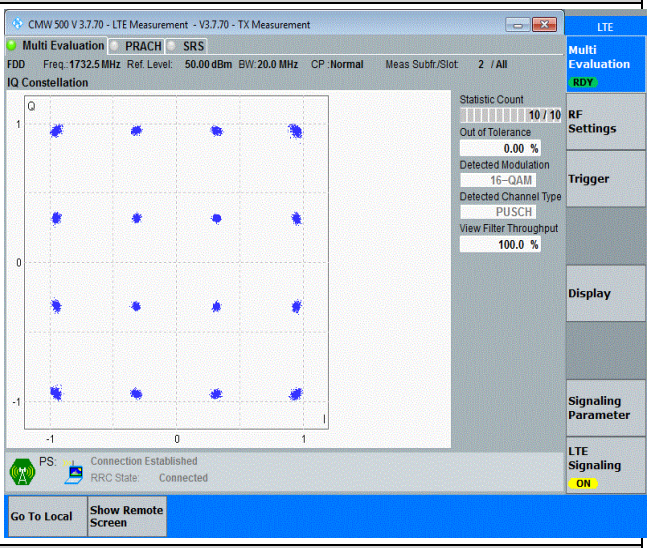
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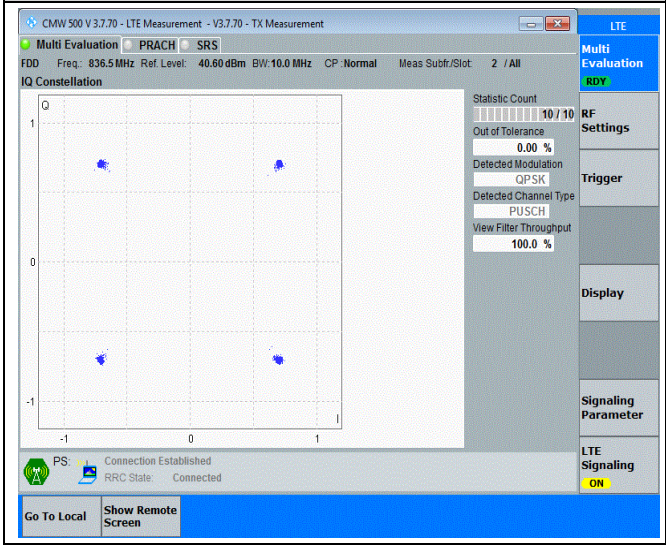	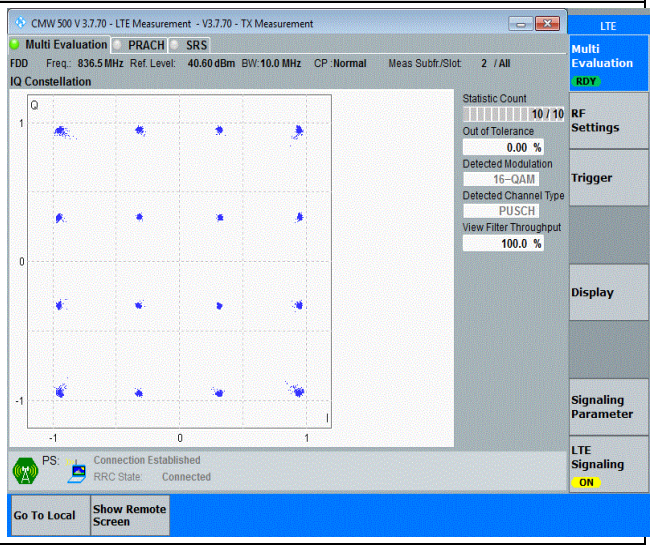

Band12-10MHz-QPSK-23095-50RB#0	Band12-10MHz-16QAM-23095-50RB#0