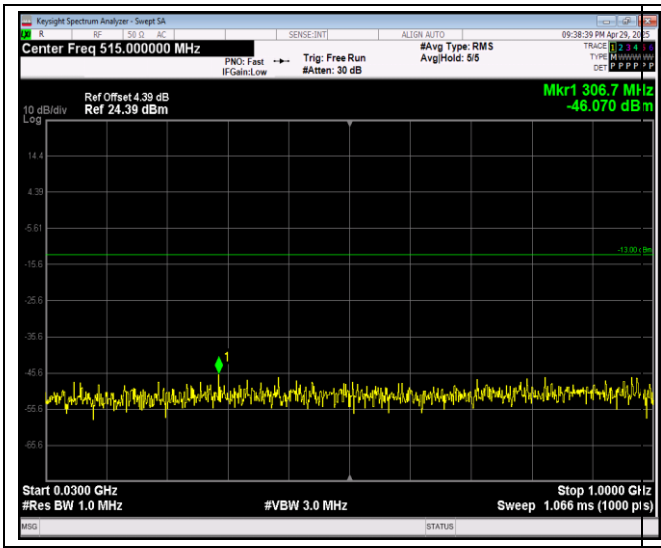
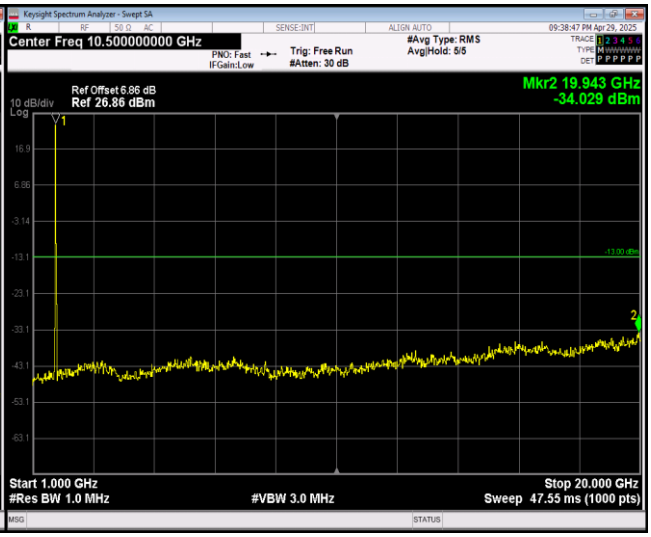
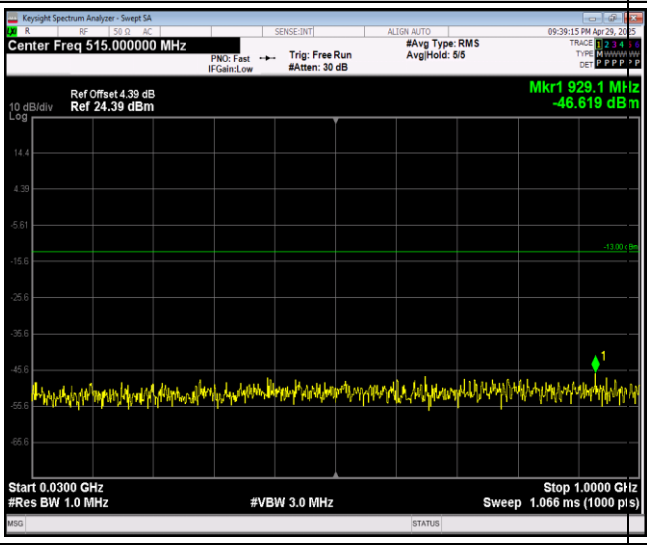


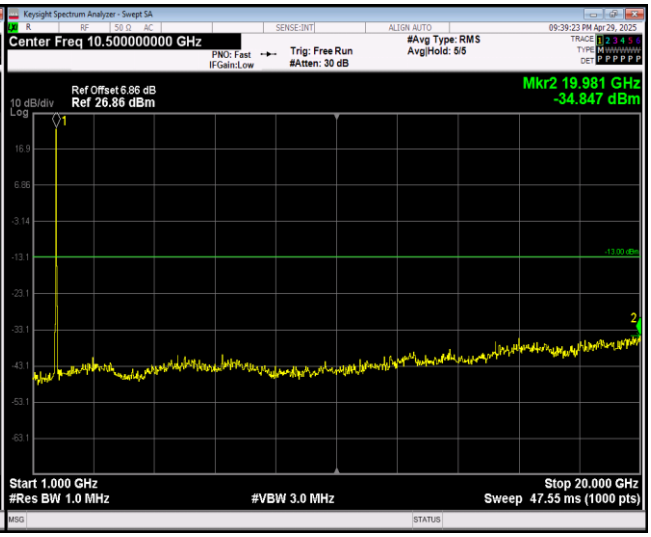
Band4-20MHz-16QAM-20300-1RB#0-Range1:30~1000MHz



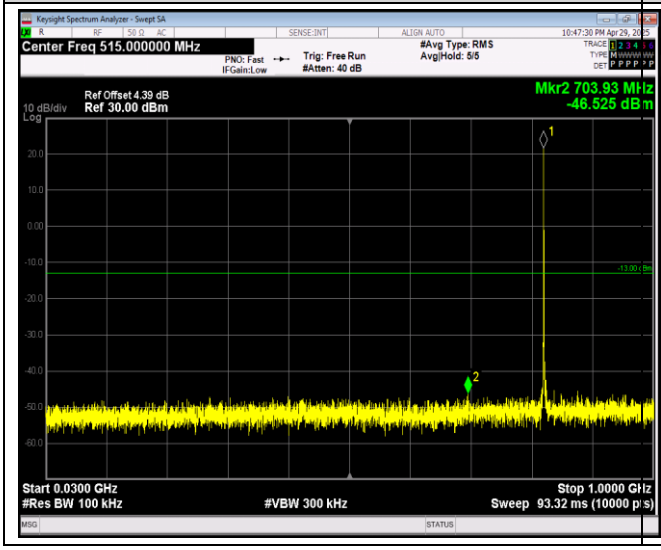
Band4-20MHz-16QAM-20300-1RB#0-Range2:1000~20000MHz

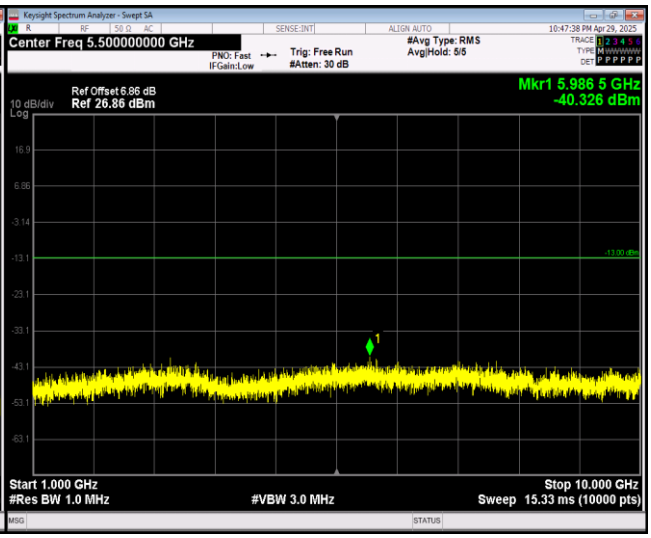


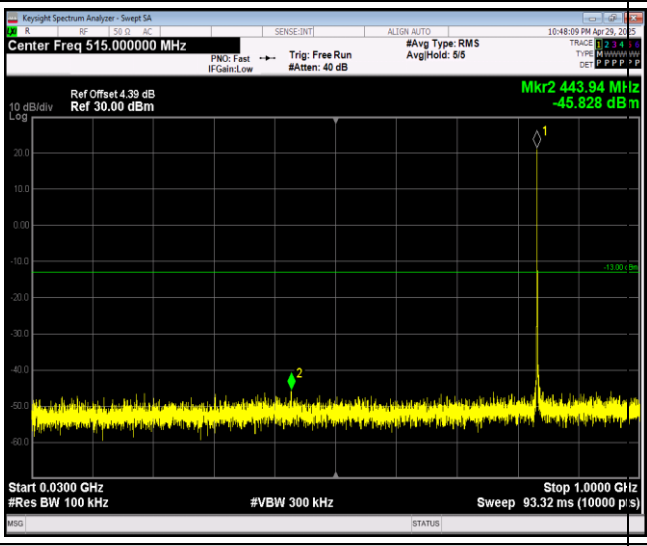
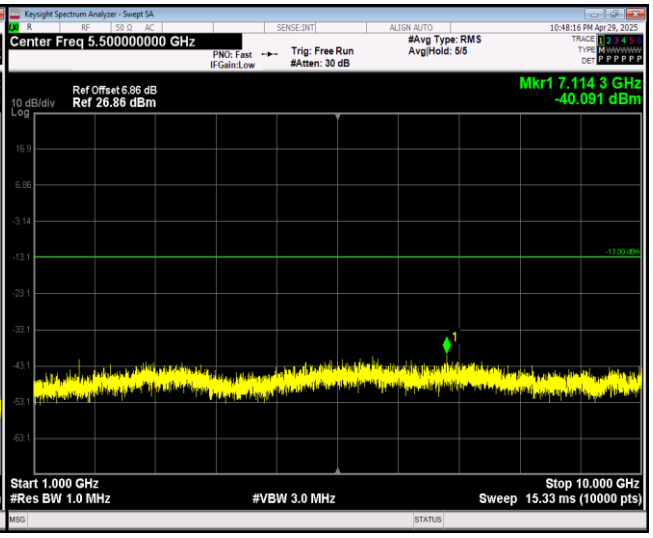
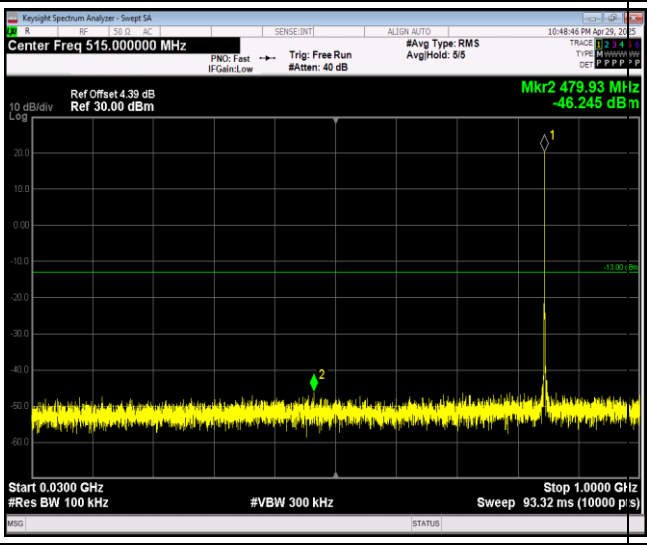
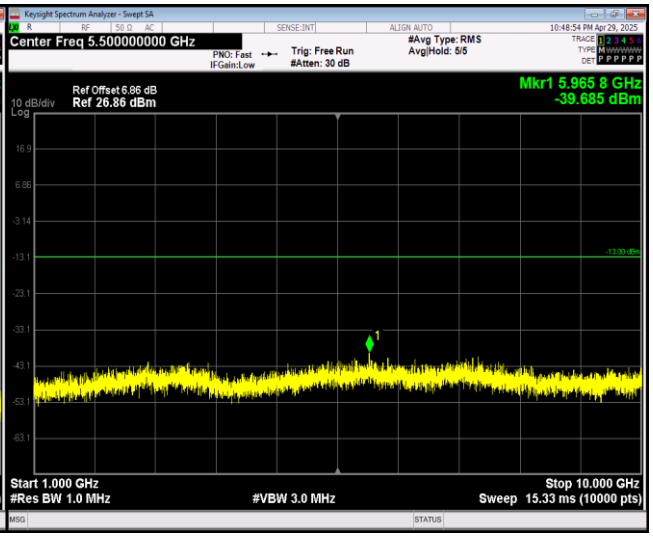
Band5-1.4MHz-QPSK-20407-1RB#0-Range1:30~1000MHz

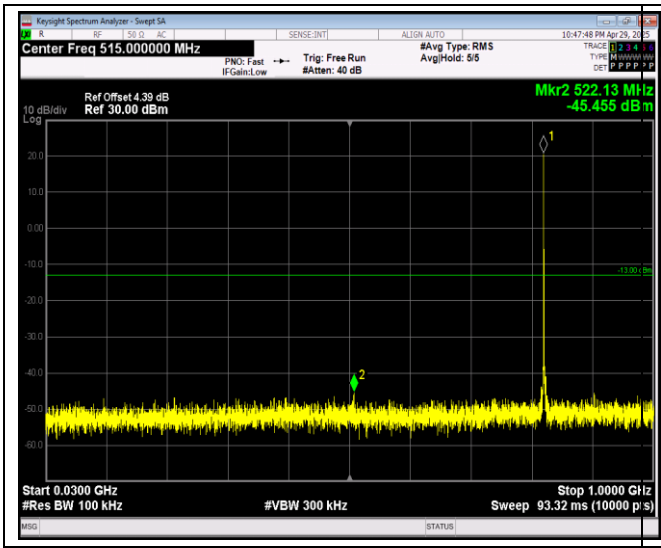


Band5-1.4MHz-QPSK-20407-1RB#0-Range2:1000~10000MHz

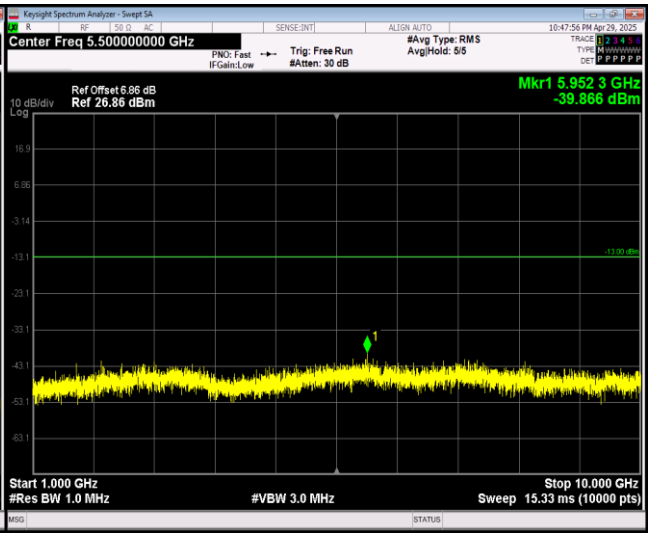




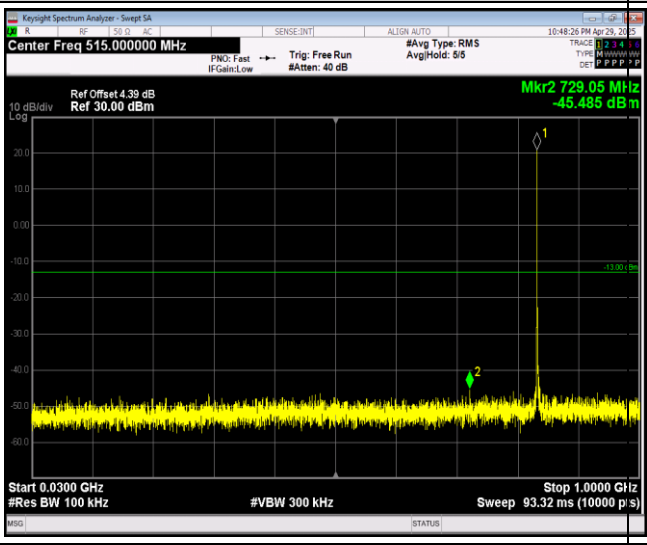
Band5-1.4MHz-QPSK-20525-1RB#0-Range1:30~1000MHz	Band5-1.4MHz-QPSK-20525-1RB#0-Range2:1000~10000MHz
	
Band5-1.4MHz-QPSK-20643-1RB#0-Range1:30~1000MHz	Band5-1.4MHz-QPSK-20643-1RB#0-Range2:1000~10000MHz
	
Band5-1.4MHz-16QAM-20407-1RB#0-Range1:30~1000MHz	Band5-1.4MHz-16QAM-20407-1RB#0-Range2:1000~10000MHz



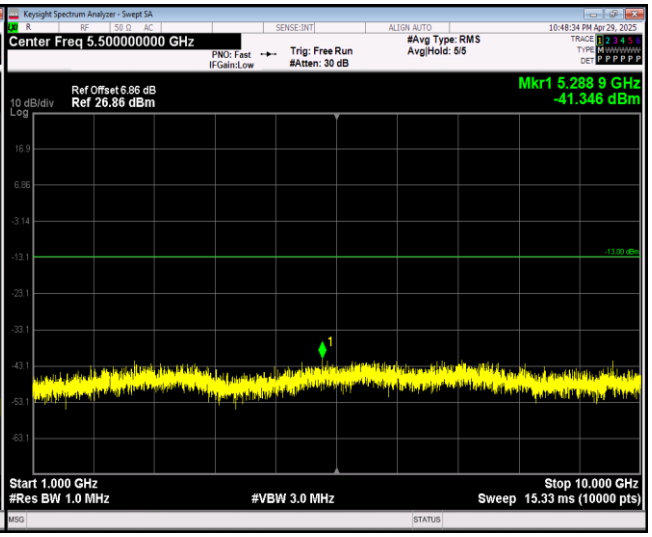
Band5-1.4MHz-16QAM-20525-1RB#0-Range1:30~1000MHz



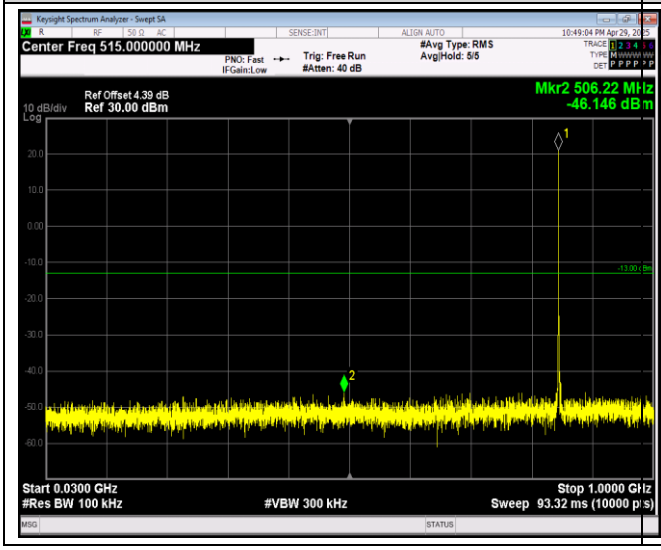
Band5-1.4MHz-16QAM-20525-1RB#0-Range2:1000~10000MHz

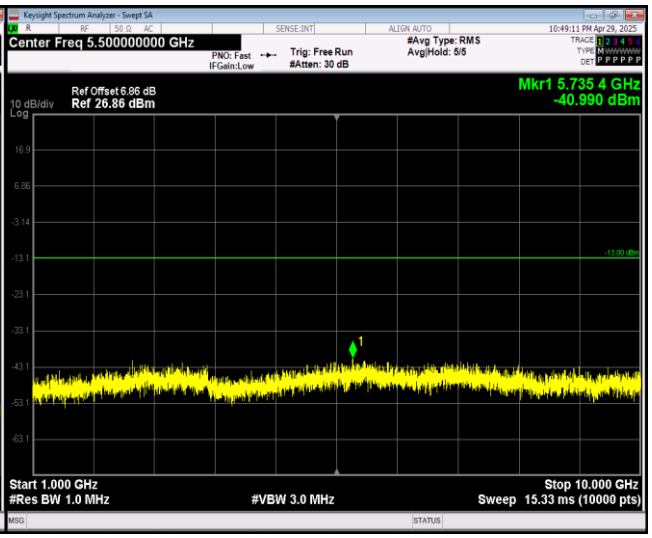


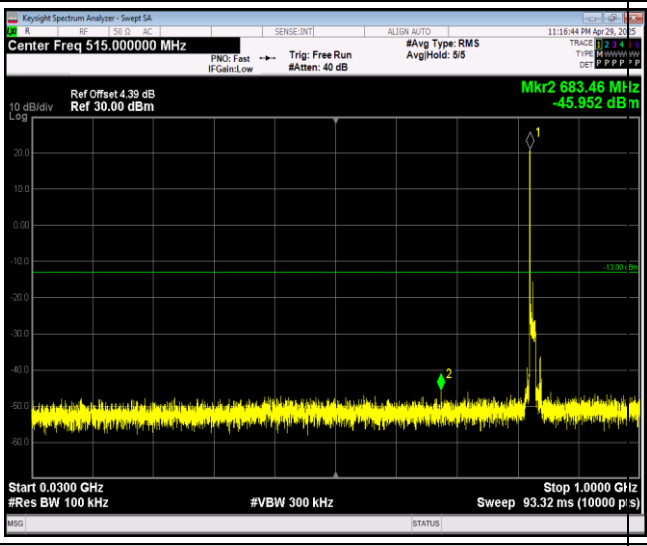
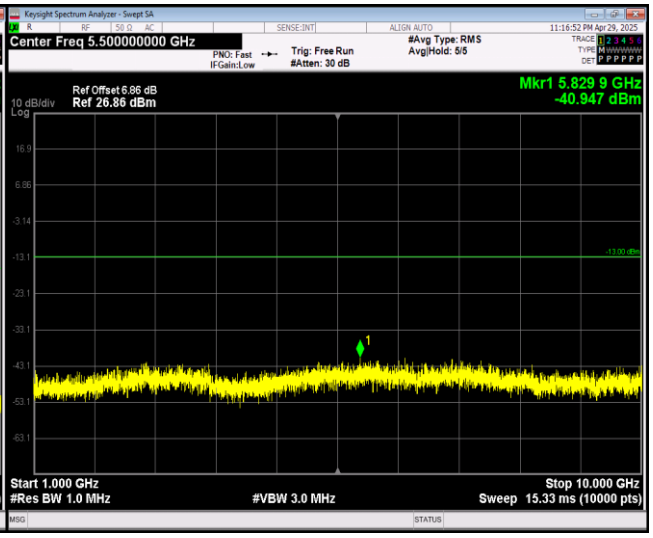
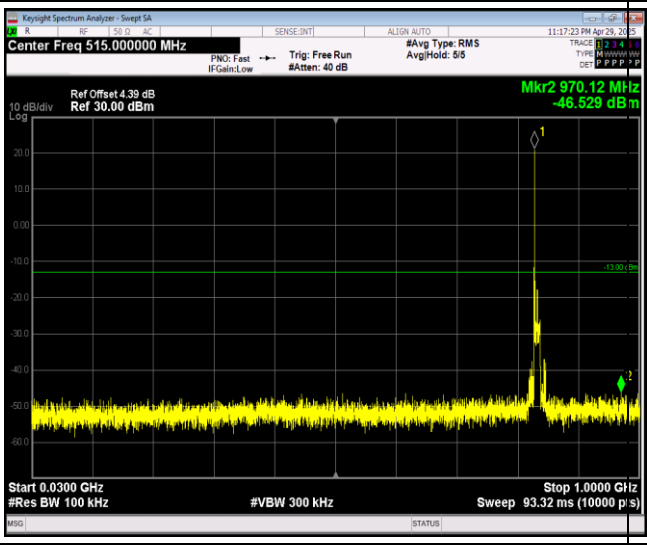
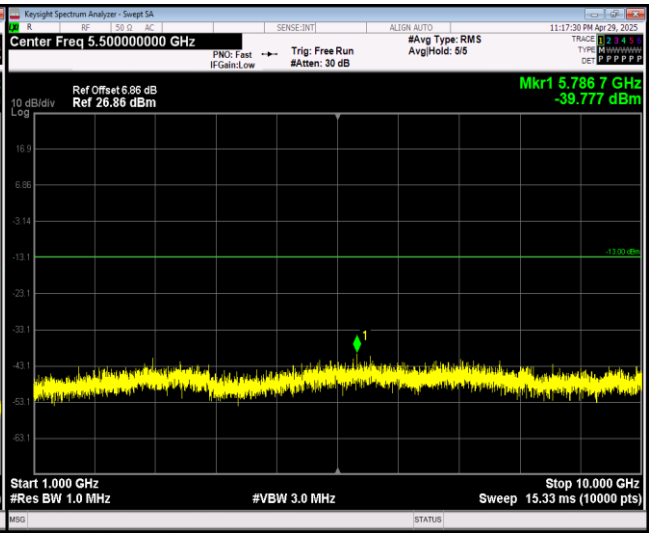
Band5-1.4MHz-16QAM-20643-1RB#0-Range1:30~1000MHz

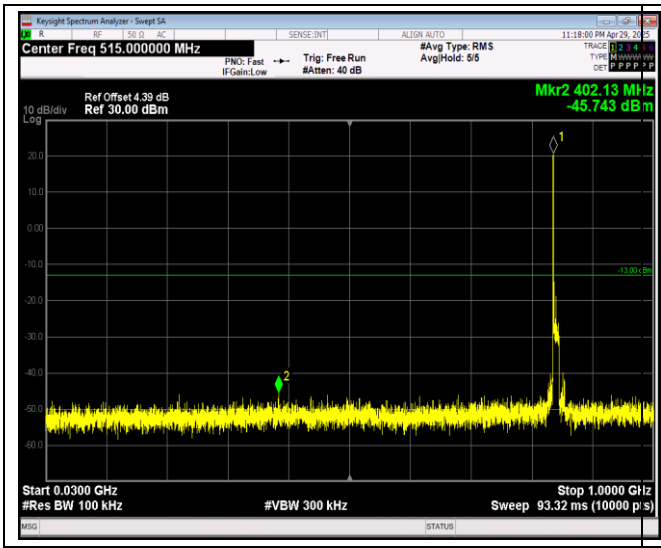


Band5-1.4MHz-16QAM-20643-1RB#0-Range2:1000~10000MHz

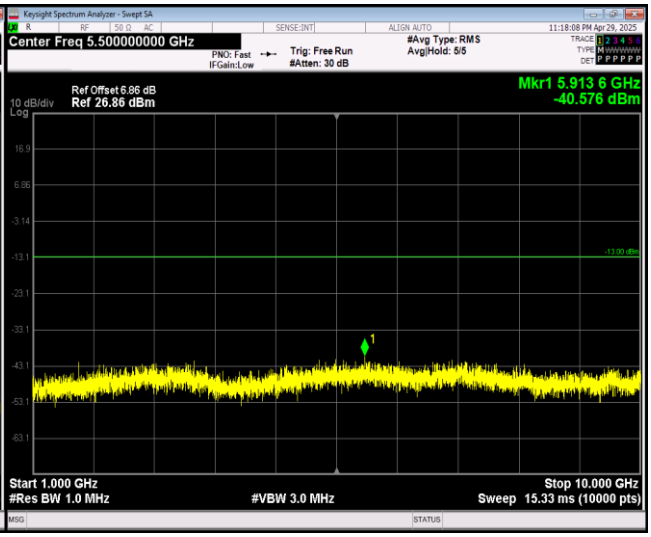




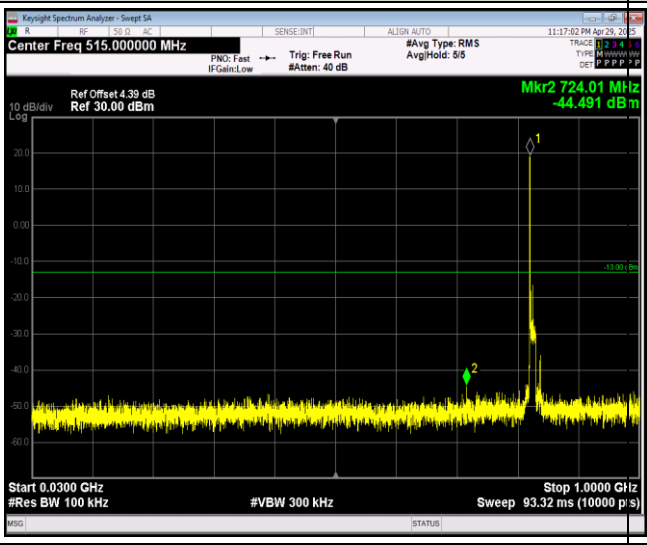
Band5-10MHz-QPSK-20450-1RB#0-Range1:30~1000MHz	Band5-10MHz-QPSK-20450-1RB#0-Range2:1000~10000MHz
	
Band5-10MHz-QPSK-20525-1RB#0-Range1:30~1000MHz	Band5-10MHz-QPSK-20525-1RB#0-Range2:1000~10000MHz
	
Band5-10MHz-QPSK-20600-1RB#0-Range1:30~1000MHz	Band5-10MHz-QPSK-20600-1RB#0-Range2:1000~10000MHz



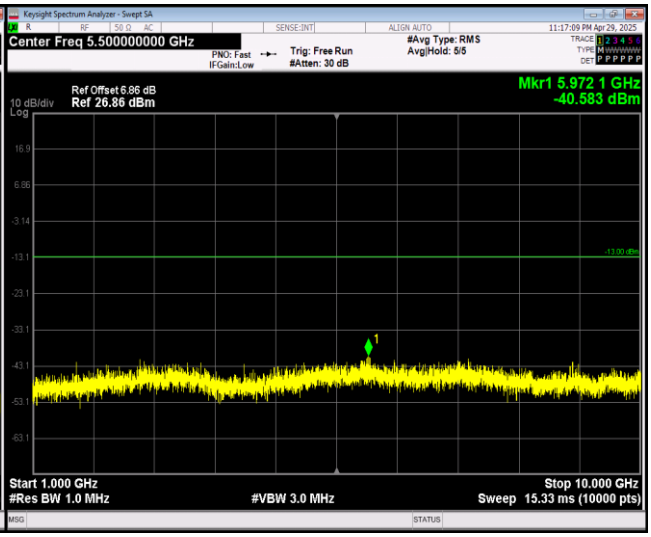
Band5-10MHz-16QAM-20450-1RB#0-Range1:30~1000MHz



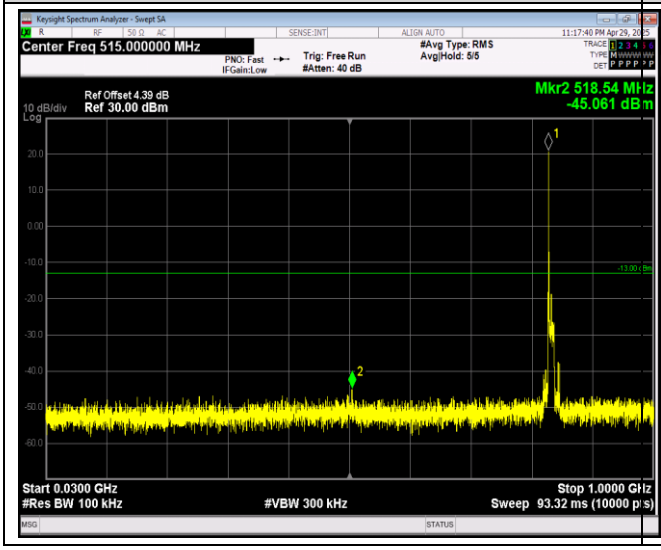
Band5-10MHz-16QAM-20450-1RB#0-Range2:1000~10000MHz

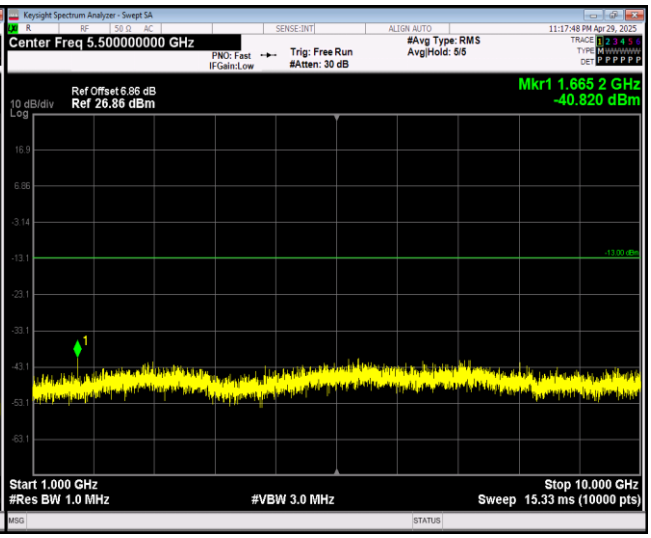


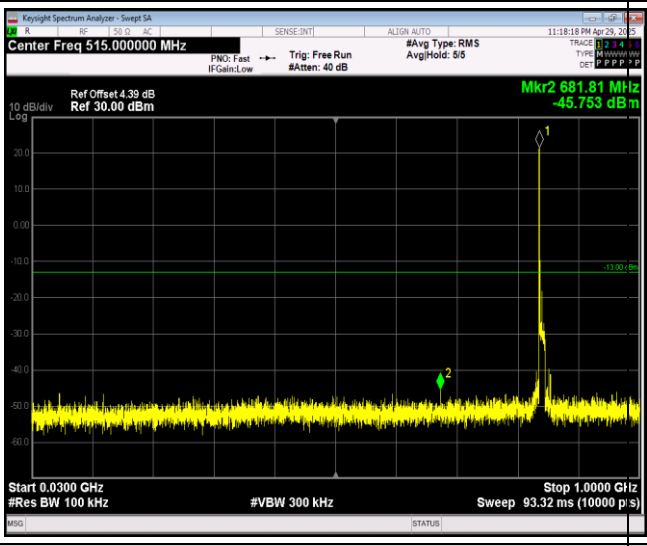
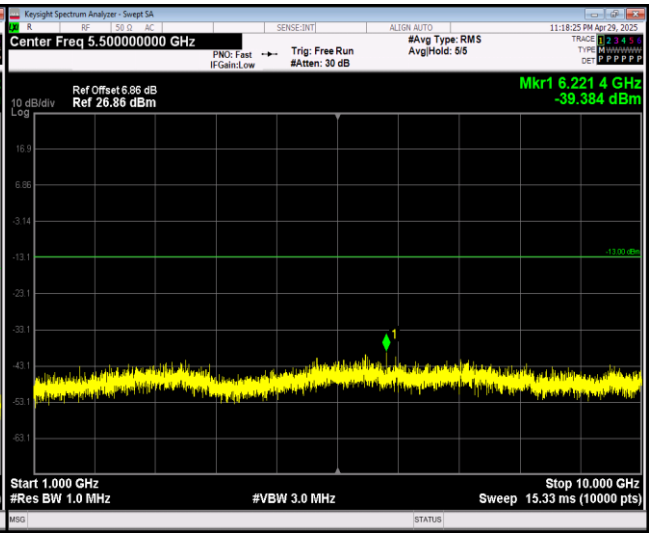
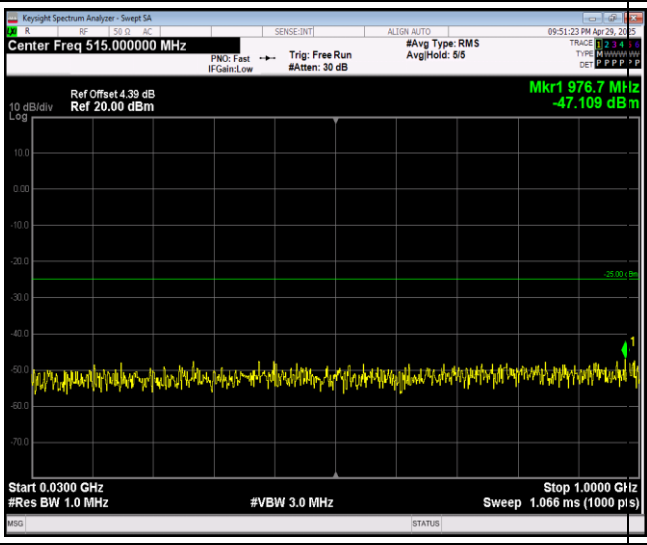
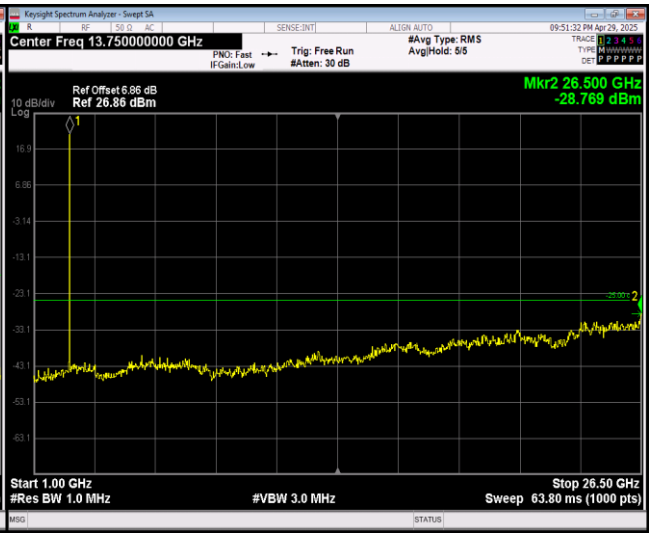
Band5-10MHz-16QAM-20525-1RB#0-Range1:30~1000MHz

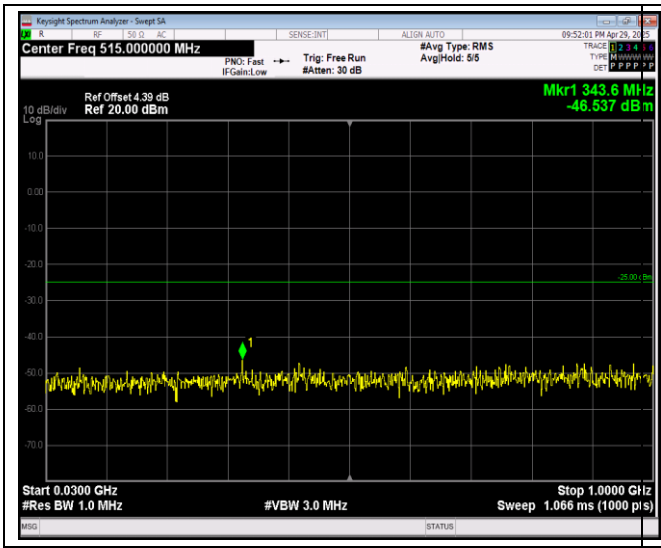


Band5-10MHz-16QAM-20525-1RB#0-Range2:1000~10000MHz



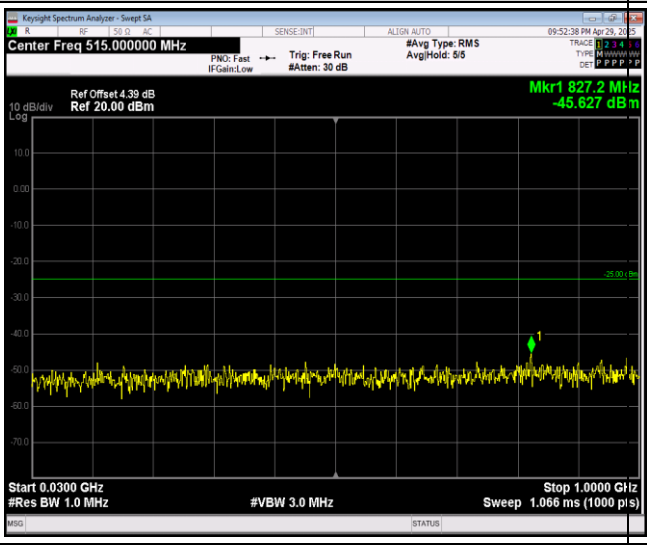


Band5-10MHz-16QAM-20600-1RB#0-Range1:30~1000MHz	Band5-10MHz-16QAM-20600-1RB#0-Range2:1000~10000MHz
	
Band7-5MHz-QPSK-20775-1RB#0-Range1:30~1000MHz	Band7-5MHz-QPSK-20775-1RB#0-Range2:1000~26500MHz
	
Band7-5MHz-QPSK-21100-1RB#0-Range1:30~1000MHz	Band7-5MHz-QPSK-21100-1RB#0-Range2:1000~26500MHz

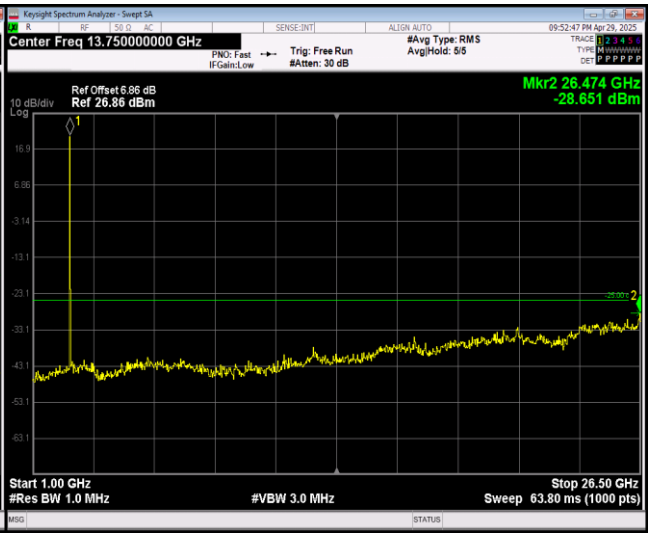


Band7-5MHz-QPSK-21425-1RB#0-Range1:30~1000MHz

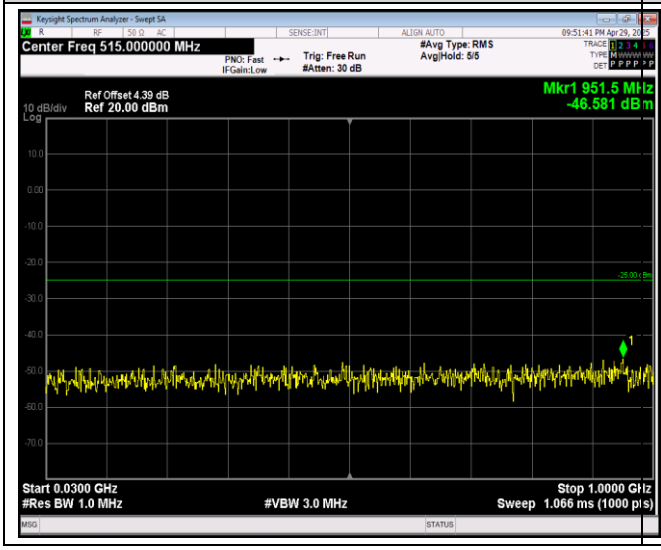
Band7-5MHz-QPSK-21425-1RB#0-Range2:1000~26500MHz

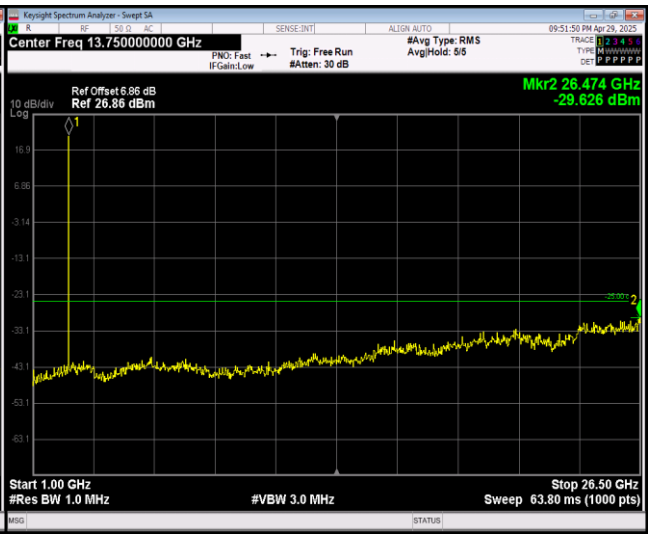


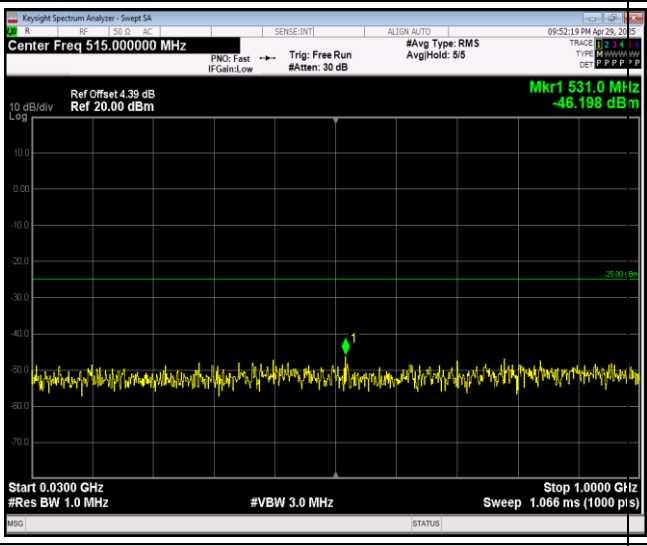
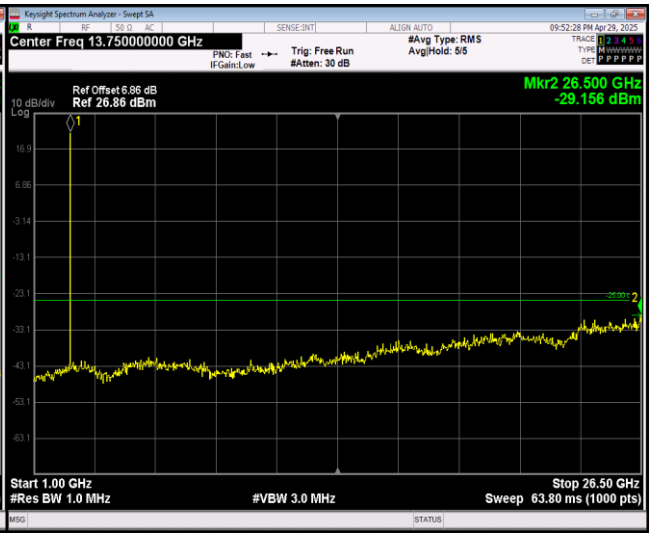
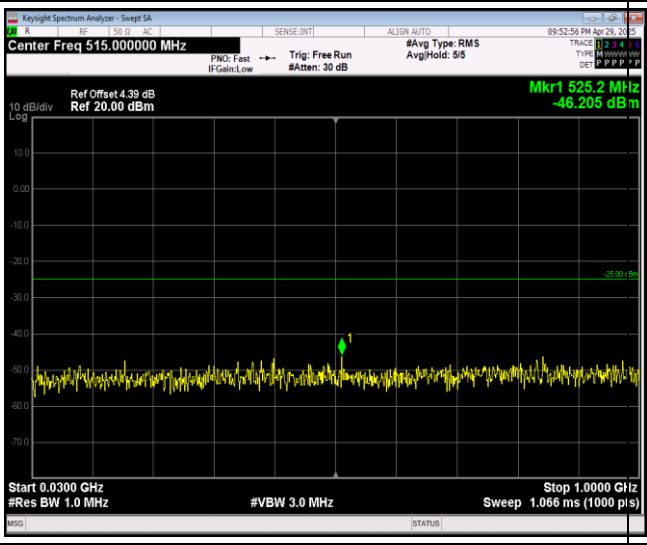
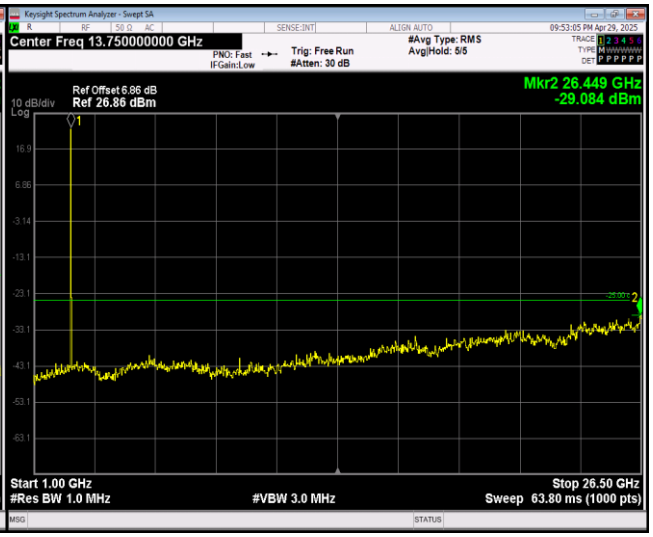
Band7-5MHz-16QAM-20775-1RB#0-Range1:30~1000MHz

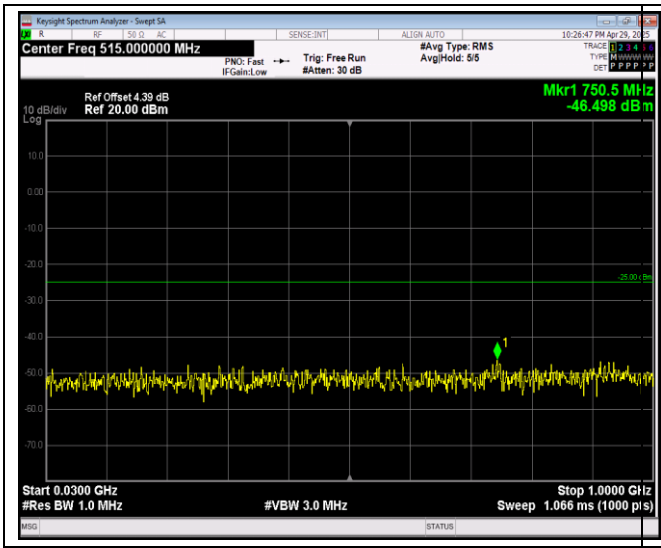


Band7-5MHz-16QAM-20775-1RB#0-Range2:1000~26500MHz

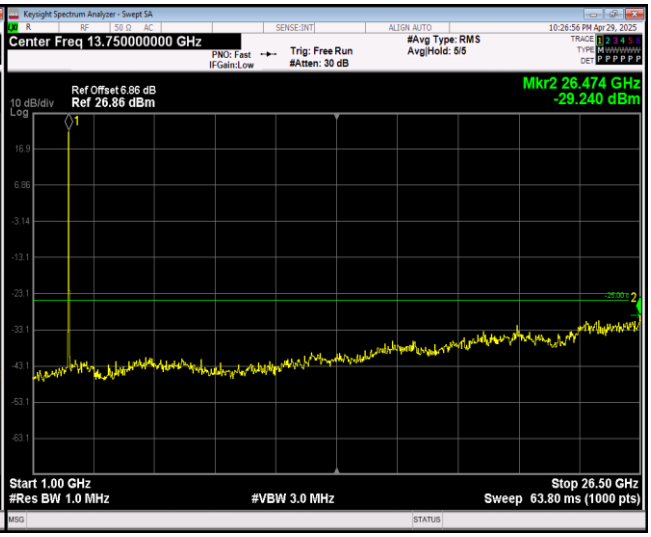




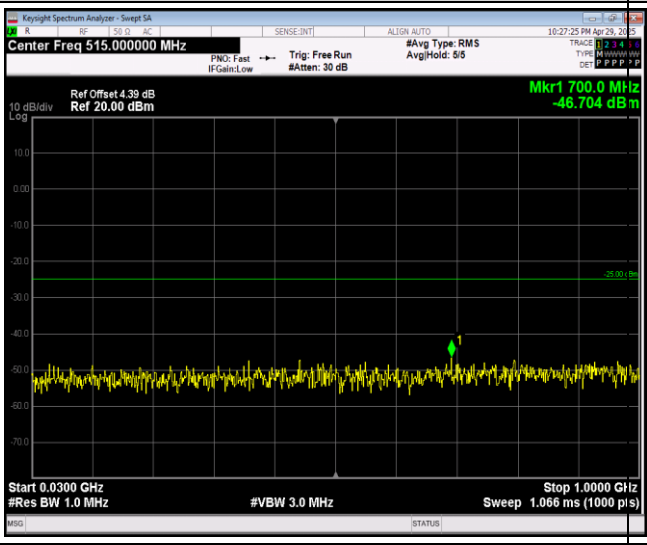
Band7-5MHz-16QAM-21100-1RB#0-Range1:30~1000MHz	Band7-5MHz-16QAM-21100-1RB#0-Range2:1000~26500MHz
	
Band7-5MHz-16QAM-21425-1RB#0-Range1:30~1000MHz	Band7-5MHz-16QAM-21425-1RB#0-Range2:1000~26500MHz
	
Band7-20MHz-QPSK-20850-1RB#0-Range1:30~1000MHz	Band7-20MHz-QPSK-20850-1RB#0-Range2:1000~26500MHz



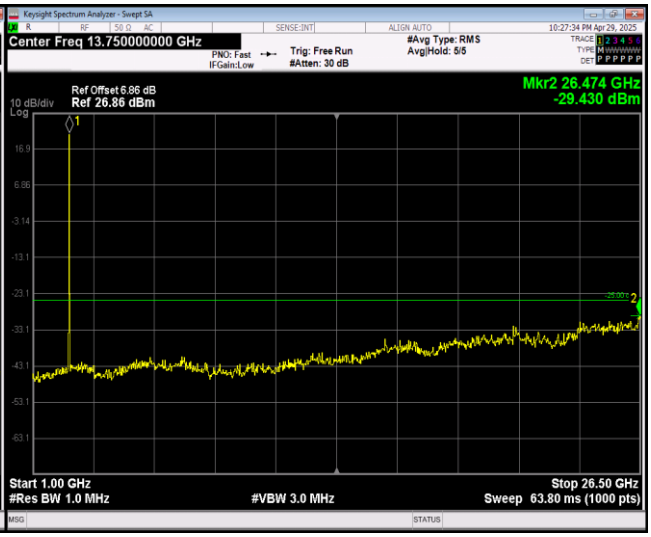
Band7-20MHz-QPSK-21100-1RB#0-Range1:30~1000MHz



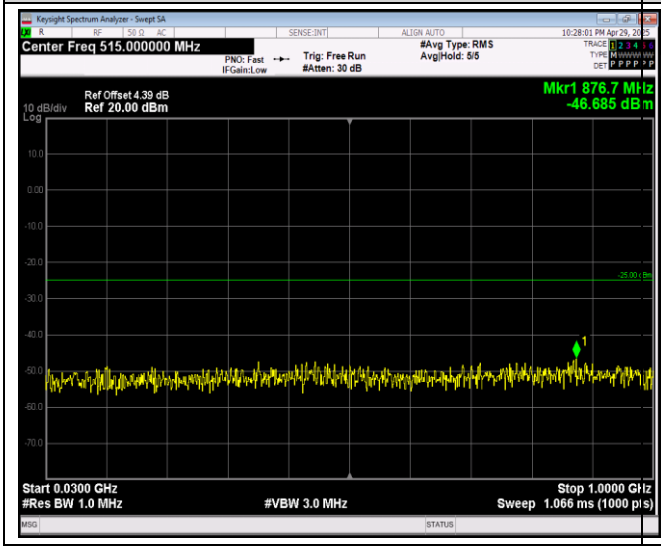
Band7-20MHz-QPSK-21100-1RB#0-Range2:1000~26500MHz

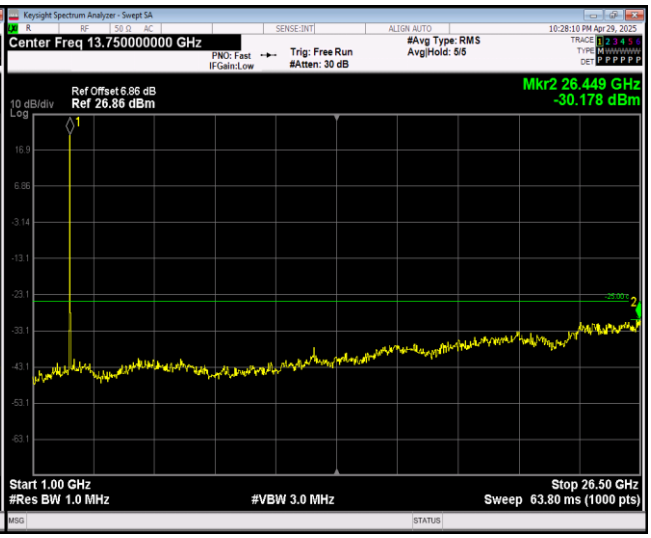


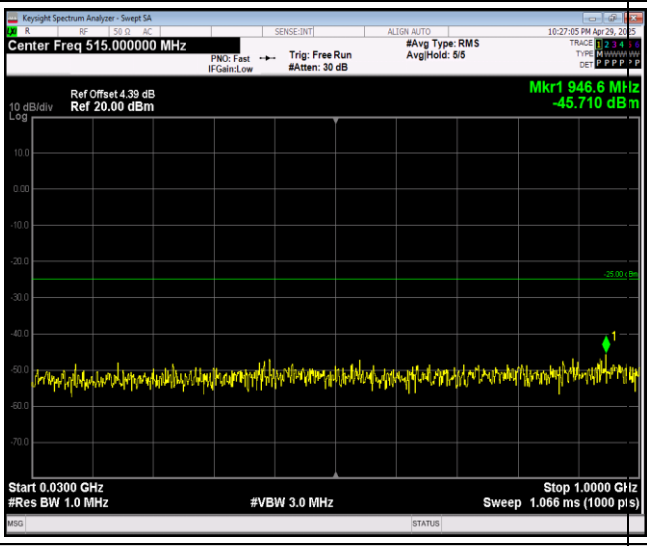
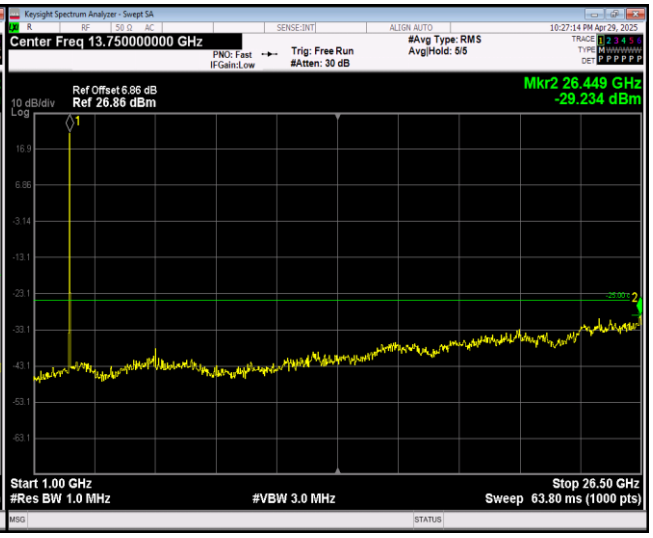
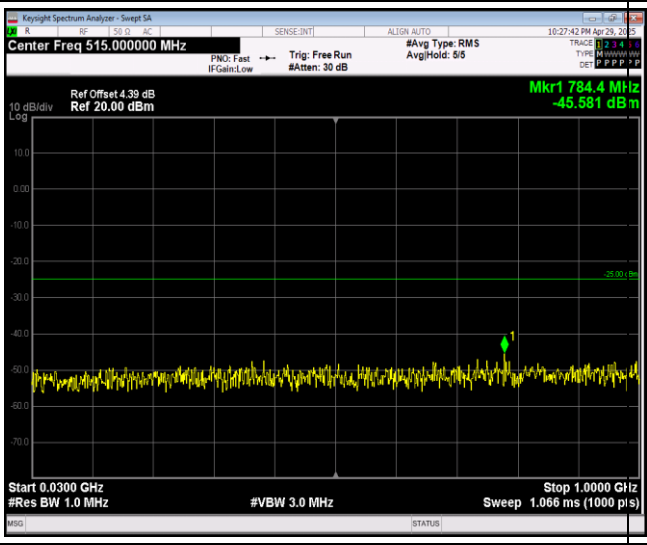
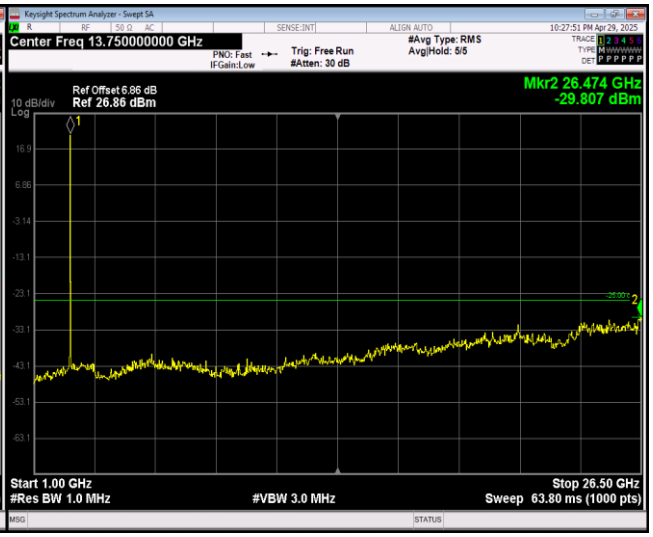
Band7-20MHz-QPSK-21350-1RB#0-Range1:30~1000MHz

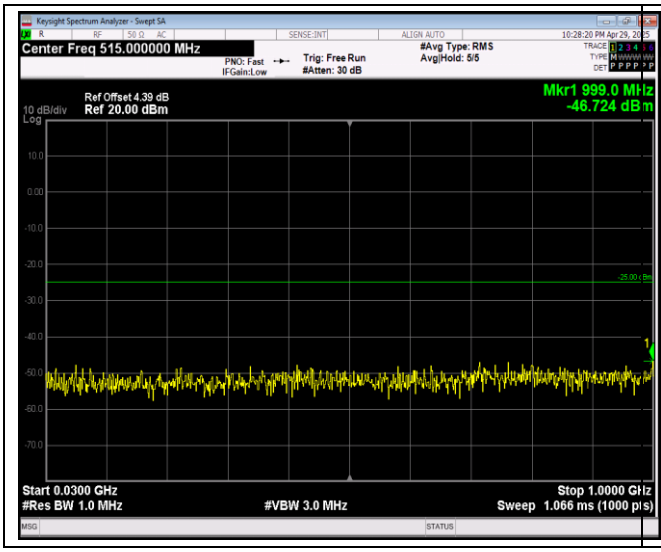


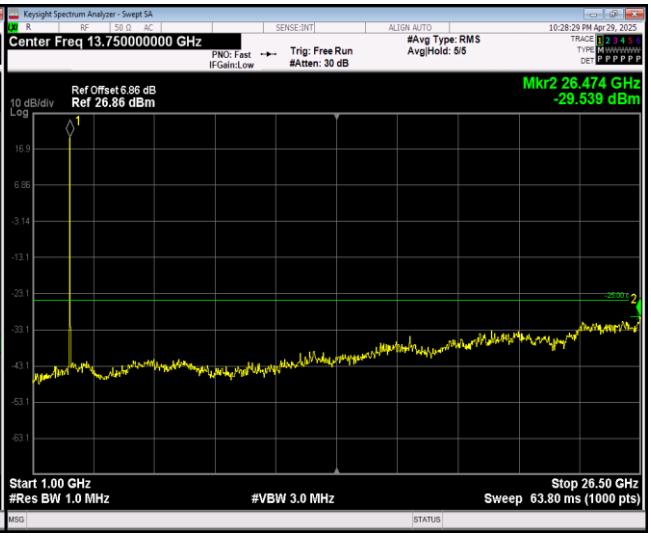
Band7-20MHz-QPSK-21350-1RB#0-Range2:1000~26500MHz





Band7-20MHz-16QAM-20850-1RB#0-Range1:30~1000MHz	Band7-20MHz-16QAM-20850-1RB#0-Range2:1000~26500MHz
	
Band7-20MHz-16QAM-21100-1RB#0-Range1:30~1000MHz	Band7-20MHz-16QAM-21100-1RB#0-Range2:1000~26500MHz
	
Band7-20MHz-16QAM-21350-1RB#0-Range1:30~1000MHz	Band7-20MHz-16QAM-21350-1RB#0-Range2:1000~26500MHz


Keysight Spectrum Analyzer - Swept SA
Center Freq 515.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 5/5
10:28:20 PM Apr 29, 2025
Ref Offset 4.39 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 999.0 MHz
-46.724 dBm
Start 0.0300 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 1.0000 GHz
Sweep 1.066 ms (1000 pts)


Keysight Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 5/5
10:28:29 PM Apr 29, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 26.86 dBm
Log
Mkr2 26.474 GHz
-29.539 dBm
Start 1.00 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 26.50 GHz
Sweep 63.80 ms (1000 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					
3.70	-30	47.49	0.025261	Within authorized band for Band 2	Pass
	-20	21.87	0.011633		
	-10	28.75	0.015293		
	0	23.26	0.012372		
	10	-27.88	-0.014830		
	20	-66.19	-0.035207		
	30	-61.01	-0.032452		
	40	28.97	0.015410		
	50	23.09	0.012282		
16QAM					
3.70	-30	44.90	0.023883	Within authorized band for Band 2	Pass
	-20	39.14	0.020819		
	-10	32.93	0.017516		
	0	-29.88	-0.015894		
	10	-38.42	-0.020436		
	20	-57.52	-0.030596		
	30	-76.76	-0.040830		
	40	39.22	0.020862		
	50	-60.20	-0.032021		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.40	35.05	0.018644	Within authorized band for Band 2	Pass
	3.70	56.18	0.029883		
	4.20	-51.53	-0.027410		
16QAM					
25	3.40	-22.44	-0.011936	Within authorized band for Band 2	Pass
	3.70	44.10	0.023457		
	4.20	63.74	0.033904		
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					
3.70	-30	-51.43	-0.029685	Within authorized band for Band 4	Pass
	-20	-57.54	-0.033212		
	-10	58.61	0.033830		
	0	-45.28	-0.026136		
	10	-50.13	-0.028935		
	20	26.35	0.015209		
	30	-29.85	-0.017229		
	40	-29.61	-0.017091		
	50	30.61	0.017668		
16QAM					
3.70	-30	-43.90	-0.025339	Within authorized band for Band 4	Pass
	-20	-37.89	-0.021870		
	-10	-26.78	-0.015457		
	0	43.52	0.025120		
	10	-51.53	-0.029743		
	20	23.83	0.013755		
	30	-25.55	-0.014747		
	40	-54.80	-0.031631		
	50	30.28	0.017478		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.40	-38.84	-0.022418	Within authorized band for Band 4	Pass
	3.70	25.71	0.014840		
	4.20	-22.19	-0.012808		
16QAM					
25	3.40	-26.05	-0.015036	Within authorized band for Band 4	Pass
	3.70	-36.08	-0.020825		
	4.20	32.04	0.018494		
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					
3.70	-30	-22.82	-0.027280	±2.5	Pass
	-20	30.58	0.036557		
	-10	16.31	0.019498		
	0	-11.60	-0.013867		
	10	-33.12	-0.039594		
	20	33.85	0.040466		
	30	-24.22	-0.028954		
	40	21.37	0.025547		
	50	21.86	0.026133		
16QAM					
3.70	-30	-17.62	-0.021064	±2.5	Pass
	-20	-13.05	-0.015601		
	-10	21.69	0.025929		
	0	23.43	0.028010		
	10	-25.16	-0.030078		
	20	-22.04	-0.026348		
	30	15.52	0.018553		
	40	-16.06	-0.019199		
	50	-27.28	-0.032612		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.40	33.57	0.040132	±2.5	Pass
	3.70	28.68	0.034286		
	4.20	21.34	0.025511		
16QAM					
25	3.40	-37.34	-0.044638	±2.5	Pass
	3.70	31.76	0.037968		
	4.20	-20.69	-0.024734		
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					
3.70	-30	67.58	0.026659	Within authorized band for Band 7	Pass
	-20	38.24	0.015085		
	-10	-47.28	-0.018651		
	0	-48.19	-0.019010		
	10	71.68	0.028276		
	20	-67.28	-0.026540		
	30	-25.45	-0.010039		
	40	-52.86	-0.020852		
	50	-78.71	-0.031049		
16QAM					
3.70	-30	-68.82	-0.027148	Within authorized band for Band 7	Pass
	-20	-41.70	-0.016450		
	-10	38.85	0.015325		
	0	65.72	0.025925		
	10	29.74	0.011732		
	20	-60.64	-0.023921		
	30	-33.59	-0.013250		
	40	-61.96	-0.024442		
	50	-45.89	-0.018103		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.40	-46.88	-0.018493	Within authorized band for Band 7	Pass
	3.70	66.26	0.026138		
	4.20	72.47	0.028588		
16QAM					
25	3.40	-65.29	-0.025755	Within authorized band for Band 7	Pass
	3.70	-47.44	-0.018714		
	4.20	-145.00	-0.057199		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

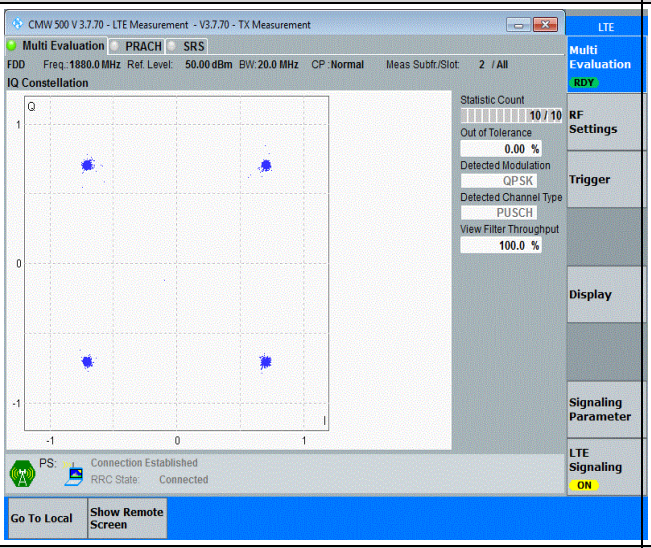
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	27RB#0	PASS	PASS
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	27RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	27RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	27RB#0	PASS	PASS

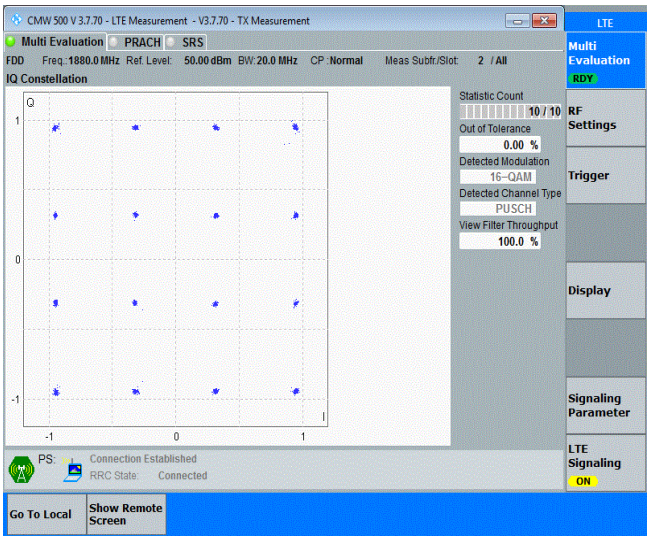
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

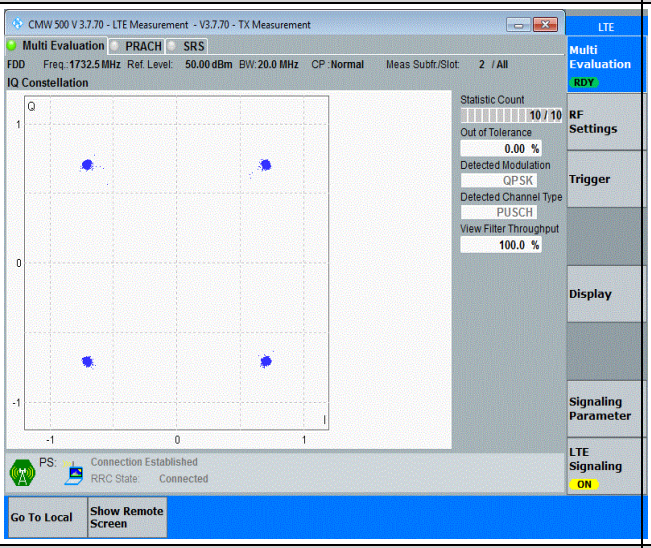
Band2-20MHz-QPSK-18900-100RB#0



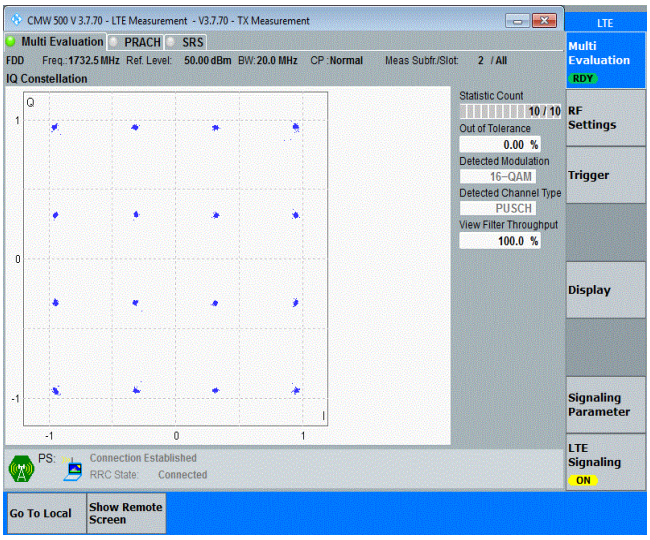
Band2-20MHz-16QAM-18900-27RB#0



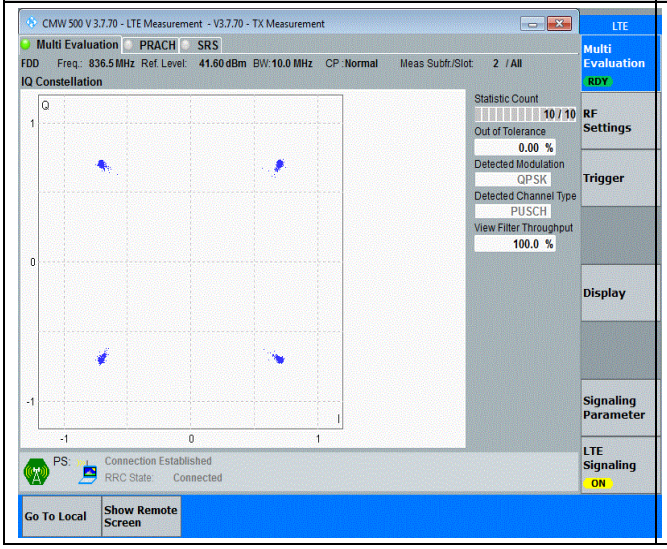
Band4-20MHz-QPSK-20175-100RB#0



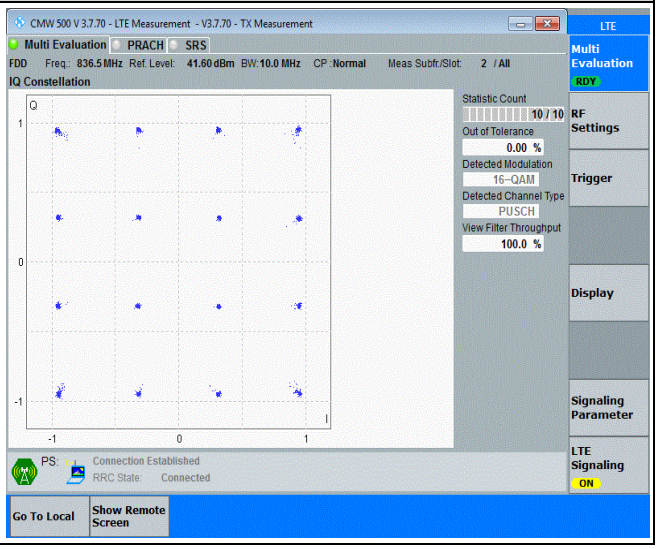
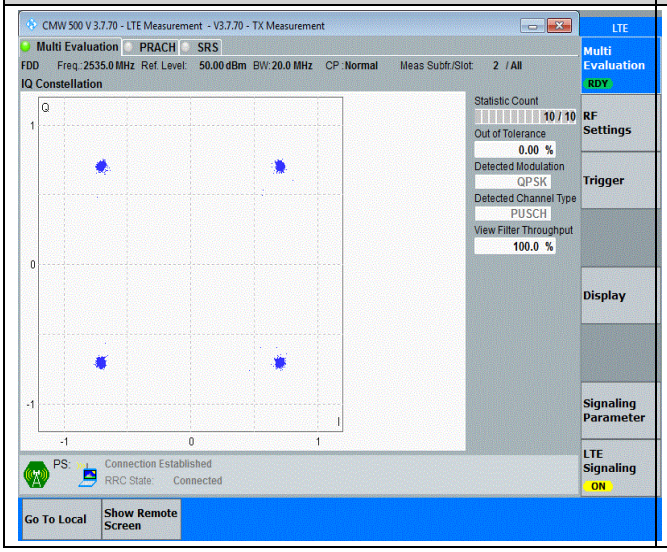
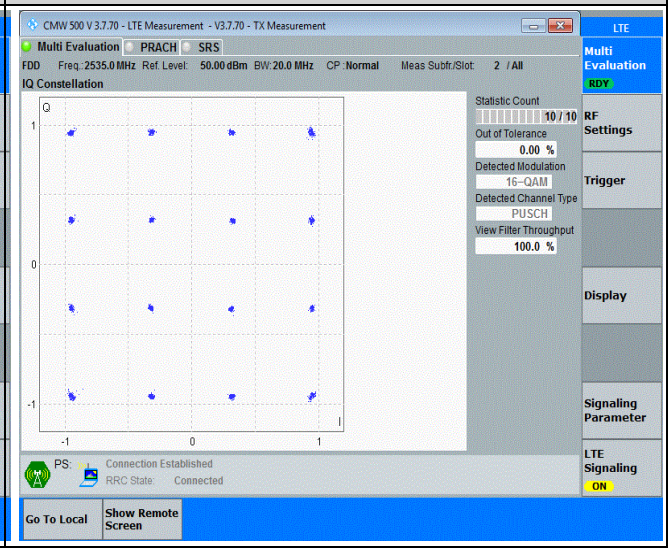
Band4-20MHz-16QAM-20175-27RB#0



Band5-10MHz-QPSK-20525-50RB#0



Band5-10MHz-16QAM-20525-27RB#0



Band7-20MHz-QPSK-21100-100RB#0	Band7-20MHz-16QAM-21100-27RB#0