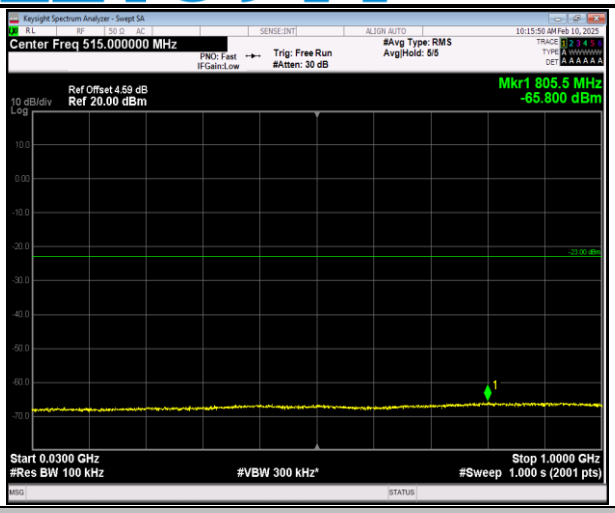
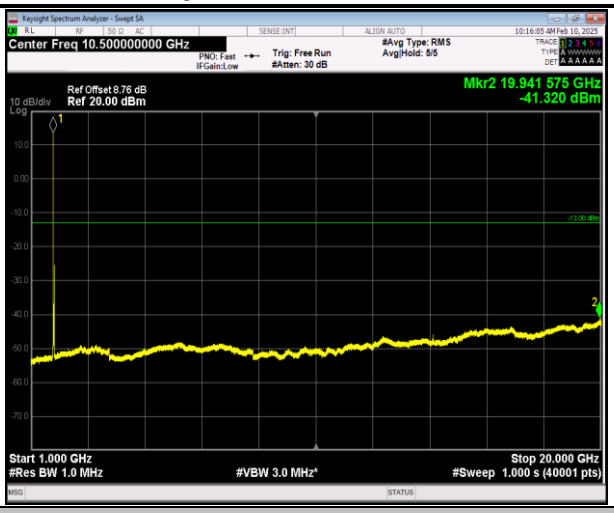
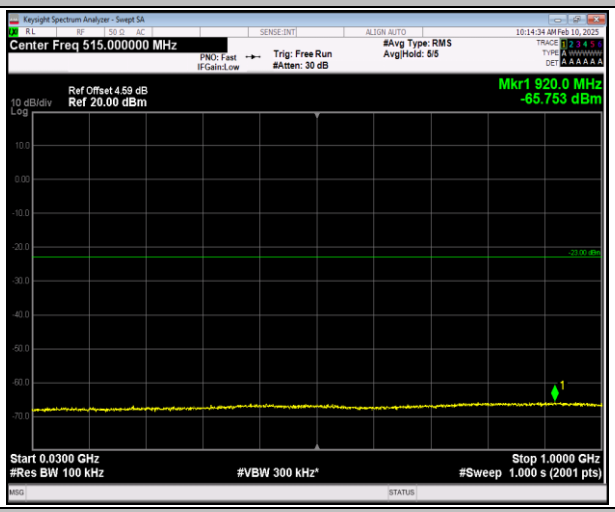


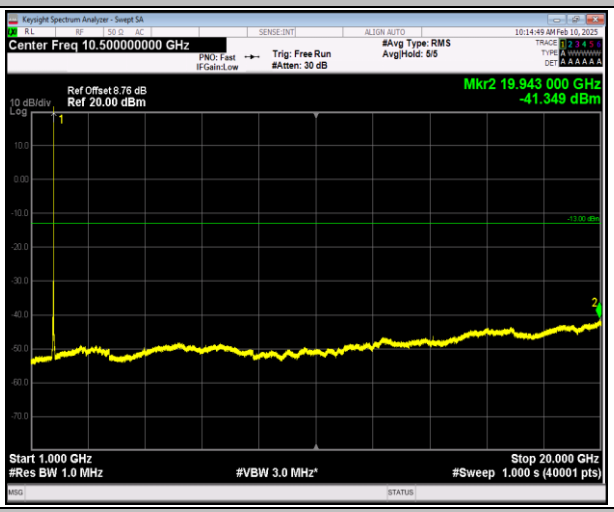
66-66-20MHz-20MHz-QPSK-QPSK-132323-132521-1RB#0-1RB#99-30~1000MHz-PASS



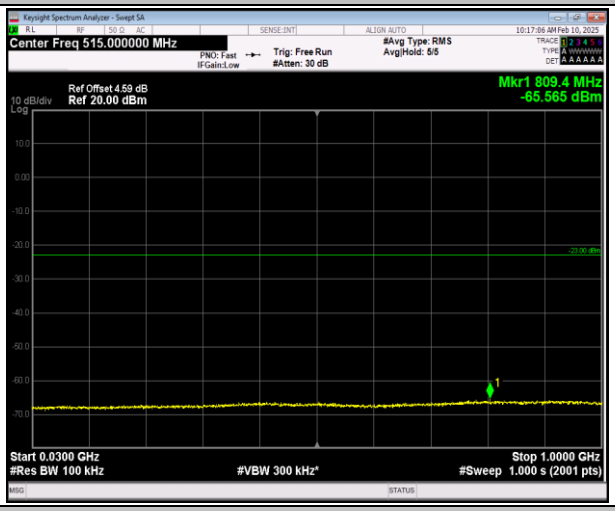
66-66-20MHz-20MHz-QPSK-QPSK-132323-132521-1RB#0-1RB#99-1000~20000MHz-PASS



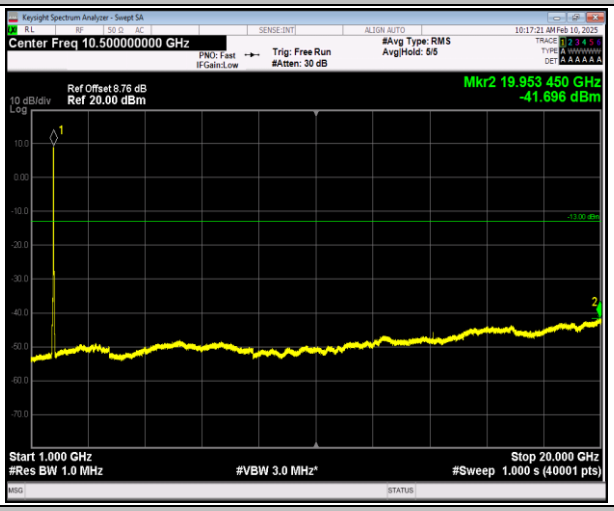
66-66-20MHz-20MHz-QPSK-QPSK-132323-132521-1RB#99-0RB#0-30~1000MHz-PASS



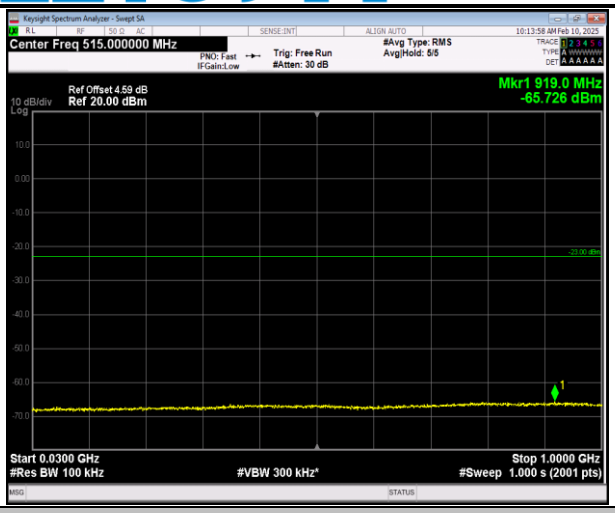
66-66-20MHz-20MHz-QPSK-QPSK-132323-132521-1RB#99-0RB#0-1000~20000MHz-PASS



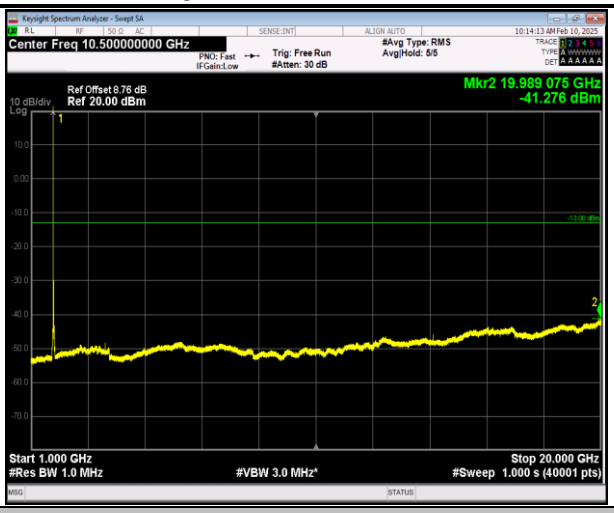
66-66-20MHz-20MHz-QPSK-QPSK-132323-132521-100RB#0-100RB#0-30~1000MHz-PASS



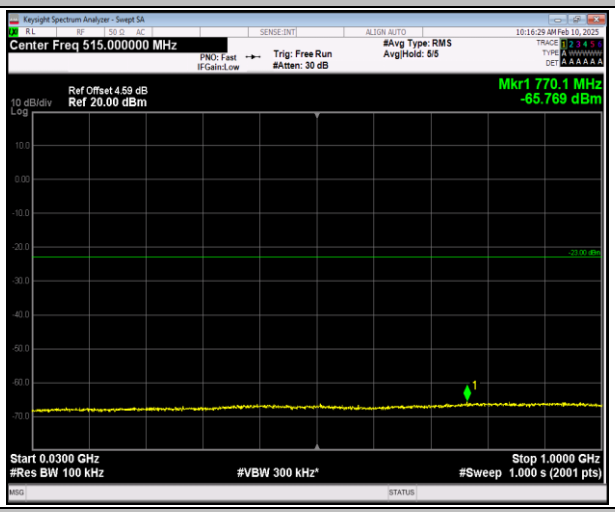
66-66-20MHz-20MHz-QPSK-QPSK-132323-132521-100RB#0-100RB#0-1000~20000MHz-PASS



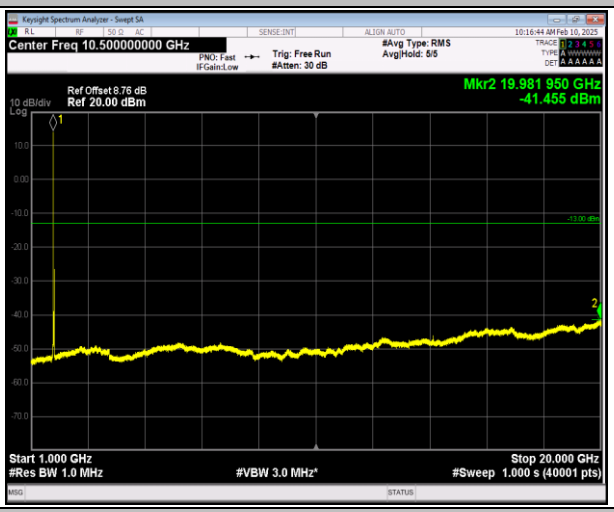
66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-1RB#0-0RB#0-30~1000MHz-PASS



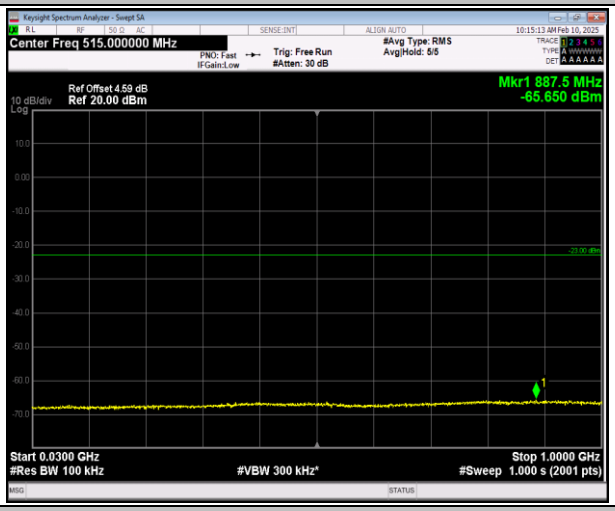
66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-1RB#0-0RB#0-1000~20000MHz-PASS



66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-1RB#0-1RB#99-30~1000MHz-PASS

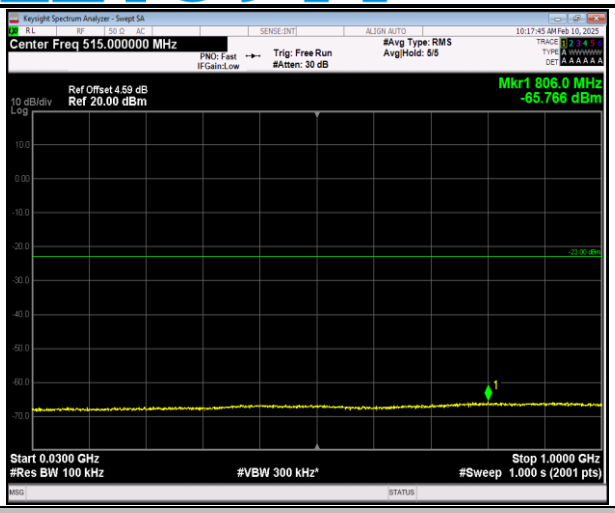


66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-1RB#0-1RB#99-1000~20000MHz-PASS

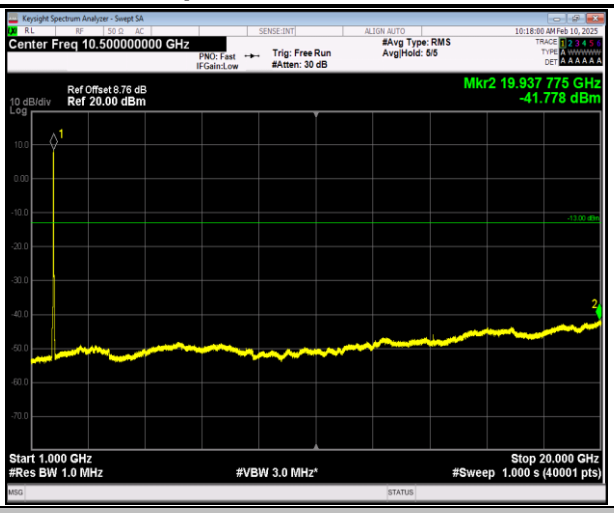


66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-1RB#99-0RB#0-30~1000MHz-PASS

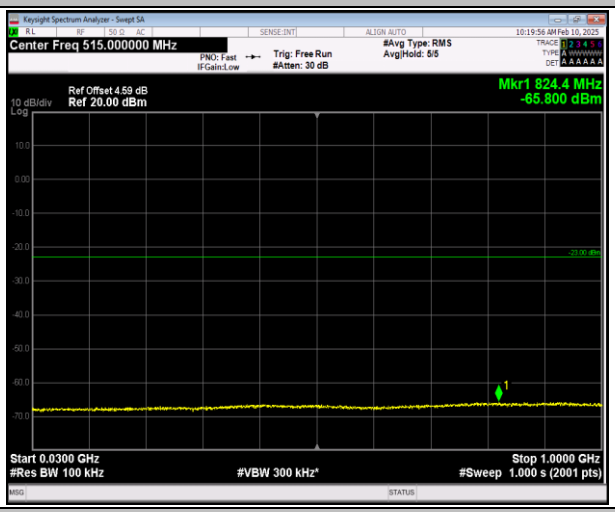
66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-1RB#99-0RB#0-1000~20000MHz-PASS



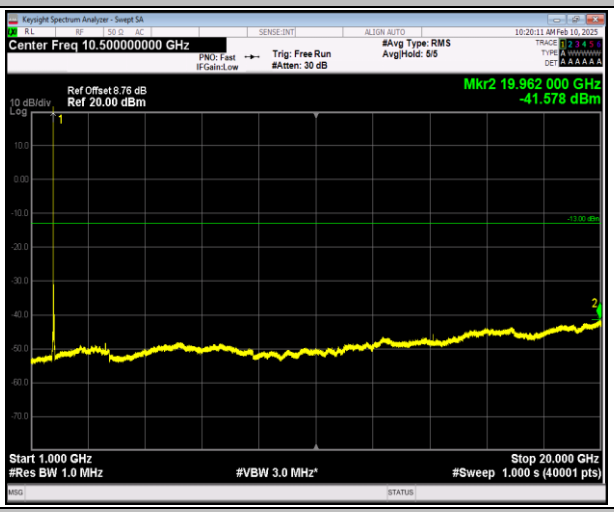
66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-100RB#0-100RB#0-30~1000MHz-PASS



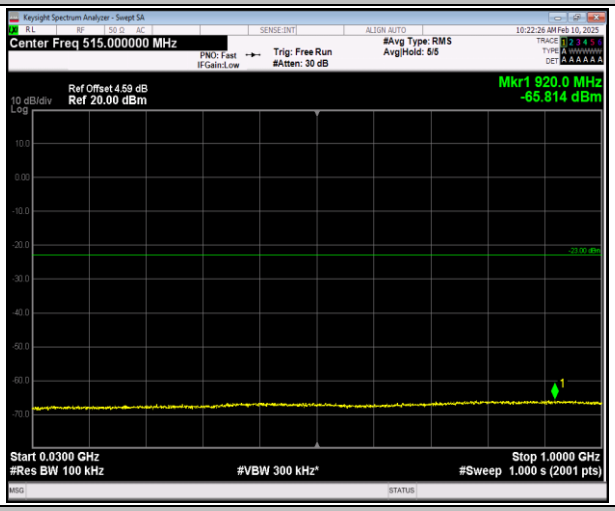
66-66-20MHz-20MHz-16QAM-16QAM-132323-132521-100RB#0-100RB#0-1000~20000MHz-PASS



66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-1RB#0-0RB#0-30~1000MHz-PASS

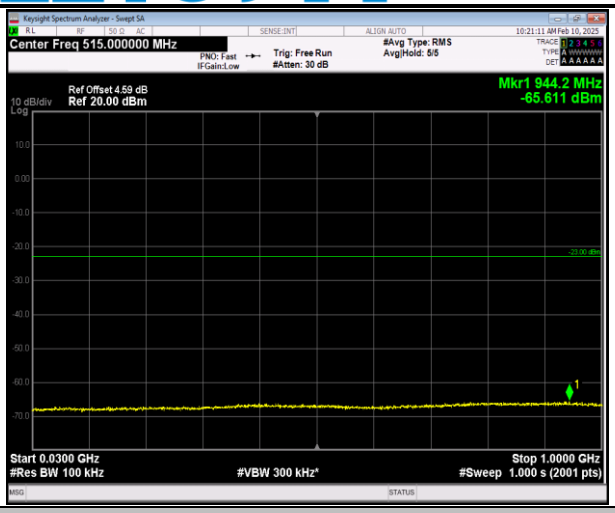


66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-1RB#0-0RB#0-1000~20000MHz-PASS

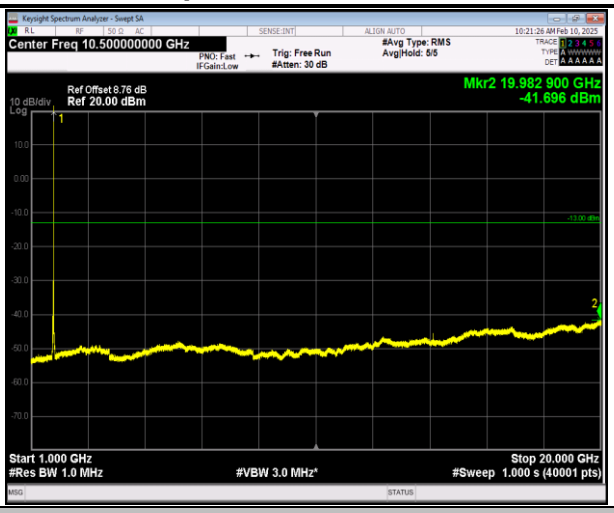


66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-1RB#0-1RB#99-30~1000MHz-PASS

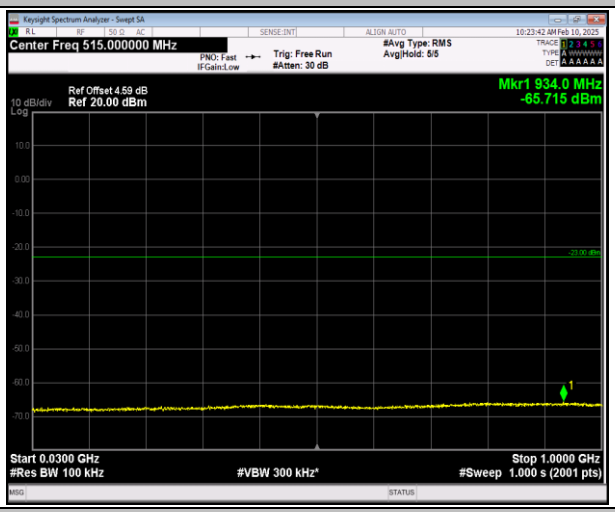
66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-1RB#0-1RB#99-1000~20000MHz-PASS



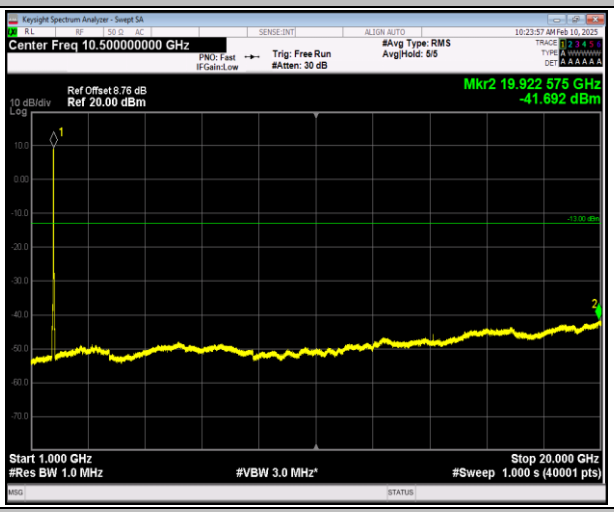
66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-1RB #99-0RB#0-30~1000MHz-PASS



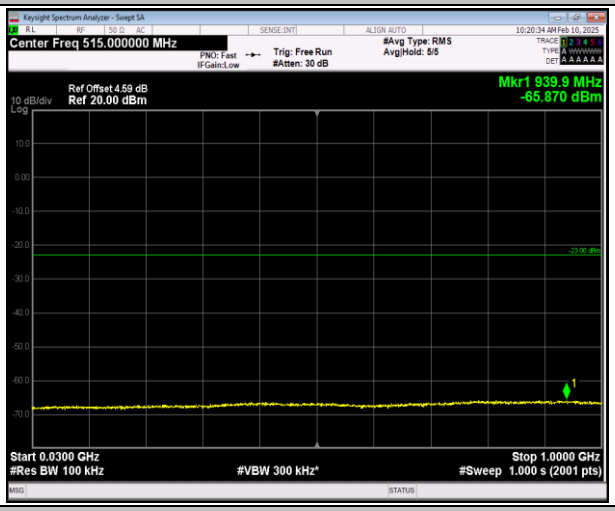
66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-1RB#99-0RB#0-1000~20000MHz-PASS



66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-100RB#0-100RB#0-30~1000MHz-PASS

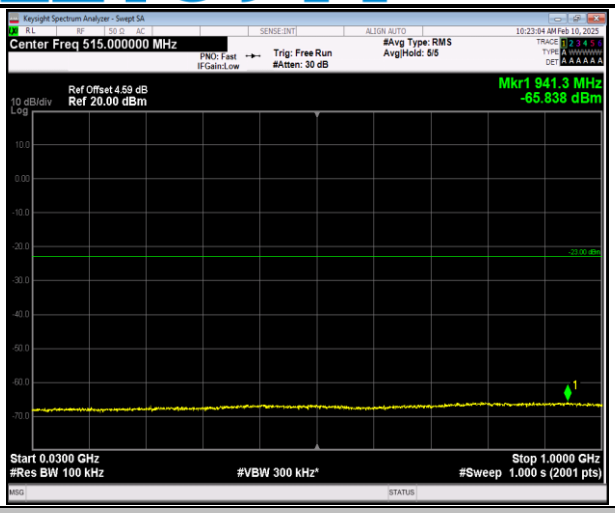


66-66-20MHz-20MHz-QPSK-QPSK-132374-132572-100RB#0-100RB#0-1000~20000MHz-PASS



66-66-20MHz-20MHz-16QAM-16QAM-132374-132572-1RB#0-0RB#0-30~1000MHz-PASS

66-66-20MHz-20MHz-16QAM-16QAM-132374-132572-1RB#0-0RB#0-1000~20000MHz-PASS



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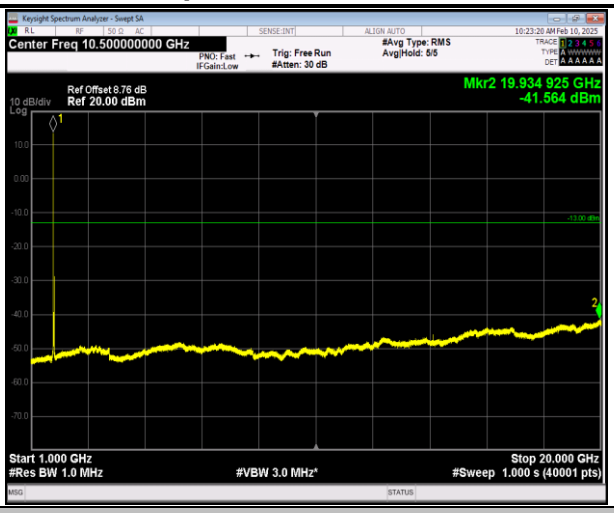
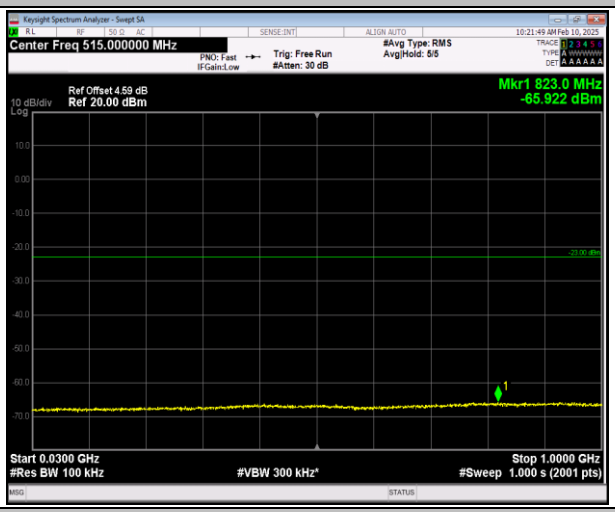
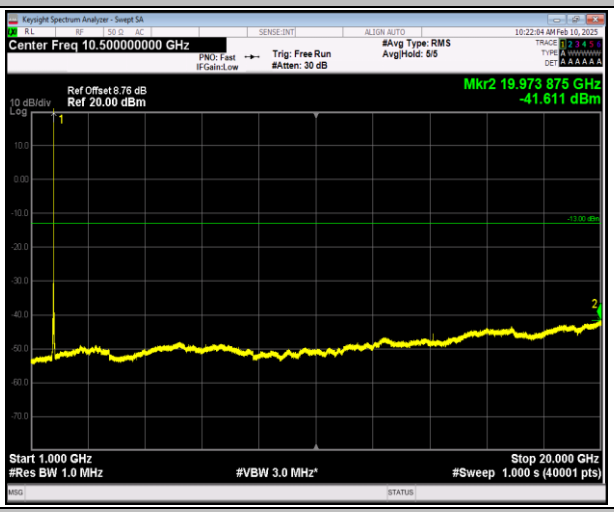


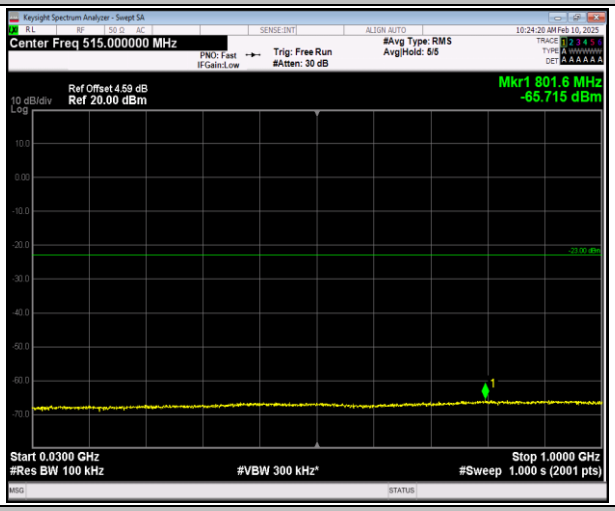
66-66-20MHz-20MHz-16QAM-16QAM-132374-132572-1RB#0-1RB#99-1000~20000MHz-PASS



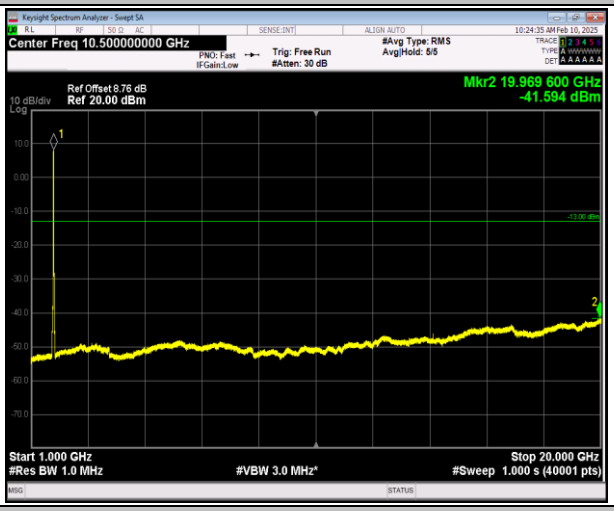
66-66-20MHz-20MHz-16QAM-16QAM-132374-132572-1RB#99-0RB#0-30~1000MHz-PASS



66-66-20MHz-20MHz-16QAM-16QAM-132374-132572-1RB#99-0RB#0-1000~20000MHz-PASS



66-66-20MHz-20MHz-16QAM-16QAM-132374-132572-100RB#0-100RB#0-30~1000MHz-PASS



66-66-20MHz-20MHz-16QAM-16QAM-132374-132572-100RB#0-100RB#0-1000~20000MHz-PASS

Appendix F: Frequency Stability

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	VN	NT	17410.00	6.867850	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	VL	NT	-1390.00	-0.548323	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	VH	NT	4670.00	1.842209	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	VN	NT	13200.00	5.207101	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	VL	NT	22310.00	8.800789	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	VH	NT	990.00	0.390533	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	VN	NT	-48180.00	-18.566474	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	VL	NT	-30710.00	-11.834297	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	VH	NT	-30470.00	-11.741811	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	VN	NT	-41480.00	-15.984586	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	VL	NT	-44510.00	-17.152216	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	VH	NT	-50200.00	-19.344894	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	VN	NT	-2400.00	-0.925569	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	VL	NT	-70190.00	-27.069032	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	VH	NT	-20950.00	-8.079445	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	VN	NT	-53240.00	-20.532202	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	VL	NT	-38340.00	-14.785962	±NA	PASS

41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	VH	NT	-19480.00	-7.512534	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	VN	NT	7340.00	4.182336	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	VL	NT	2150.00	1.225071	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	VH	NT	8000.00	4.558405	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	VN	NT	-33180.00	-18.905983	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	VL	NT	-24680.00	-14.062678	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	VH	NT	-20590.00	-11.732194	±NA	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	-30	4540.00	1.790927	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	-20	2300.00	0.907298	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	-10	-120.00	-0.047337	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	0	6140.00	2.422091	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	10	12290.00	4.848126	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	20	-10800.00	-4.260355	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	30	8420.00	3.321499	±NA	PASS
7-7	20MHz-20MHz	QPSK-QPSK	21001-21199	100RB#0-100RB#0	NV	40	-510.00	-0.201183	±NA	PASS
7-7	20MHz-	QPSK-Q	21001-	100RB#0-	NV	50	14060.00	5.546351	±NA	PASS

	20MHz	PSK	21199	100RB#0						
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	-30	8450.00	3.333333	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	-20	18130.00	7.151874	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	-10	13530.00	5.337278	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	0	14240.00	5.617357	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	10	15690.00	6.189349	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	20	18220.00	7.187377	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	30	9090.00	3.585799	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	40	23660.00	9.333333	±NA	PASS
7-7	20MHz-20MHz	16QAM-16QAM	21001-21199	100RB#0-100RB#0	NV	50	18070.00	7.128205	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	-30	-30210.00	-11.641618	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	-20	-30390.00	-11.710983	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	-10	-47040.00	-18.127168	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	0	-31420.00	-12.107900	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	10	-30510.00	-11.757225	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	20	-47110.00	-18.154143	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	30	-30330.00	-11.687861	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	40	-45720.00	-17.618497	±NA	PASS
38-38	20MHz-20MHz	QPSK-QPSK	37901-38099	100RB#0-100RB#0	NV	50	-30510.00	-11.757225	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	-30	-42890.00	-16.527938	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	-20	-40800.00	-15.722543	±NA	PASS
38-38	20MHz-	16QAM-	37901-	100RB#0-	NV	-10	-44610.00	-17.190751	±NA	PASS

	20MHz	16QAM	38099	100RB#0						
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	0	-43750.00	-16.859345	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	10	-50520.00	-19.468208	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	20	-43550.00	-16.782274	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	30	-40830.00	-15.734104	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	40	-51010.00	-19.657033	±NA	PASS
38-38	20MHz-20MHz	16QAM-16QAM	37901-38099	100RB#0-100RB#0	NV	50	-41680.00	-16.061657	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	-30	-43040.00	-16.598535	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	-20	-31290.00	-12.067104	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	-10	-20180.00	-7.782491	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	0	-20540.00	-7.921327	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	10	-35090.00	-13.532588	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	20	-12910.00	-4.978789	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	30	-62980.00	-24.288469	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	40	-7910.00	-3.050521	±NA	PASS
41-41	20MHz-20MHz	QPSK-QPSK	40521-40719	100RB#0-100RB#0	NV	50	-52530.00	-20.258388	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	-30	-54320.00	-20.948708	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	-20	-51100.00	-19.706903	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	-10	-65540.00	-25.275742	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	0	-75540.00	-29.132279	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	10	-43090.00	-16.617817	±NA	PASS
41-41	20MHz-	16QAM-	40521-	100RB#0-	NV	20	-52110.00	-20.096413	±NA	PASS

	20MHz	16QAM	40719	100RB#0						
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	30	-32960.00	-12.711145	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	40	-49750.00	-19.186271	±NA	PASS
41-41	20MHz-20MHz	16QAM-16QAM	40521-40719	100RB#0-100RB#0	NV	50	-27070.00	-10.439645	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	-30	3510.00	2.000000	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	-20	6500.00	3.703704	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	-10	-1430.00	-0.814815	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	0	-3860.00	-2.199430	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	10	1360.00	0.774929	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	20	-120.00	-0.068376	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	30	-440.00	-0.250712	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	40	-5280.00	-3.008547	±NA	PASS
66-66	20MHz-20MHz	QPSK-QPSK	132323-132521	100RB#0-100RB#0	NV	50	11110.00	6.330484	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	-30	-27990.00	-15.948718	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	-20	-25530.00	-14.547009	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-1325	100RB#0-100RB#0	NV	-10	-20590.00	-11.732194	±NA	PASS

			21							
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	0	-20860.00	-11.886040	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	10	-29380.00	-16.740741	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	20	-14230.00	-8.108262	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	30	-17010.00	-9.692308	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	40	-16290.00	-9.282051	±NA	PASS
66-66	20MHz-20MHz	16QAM-16QAM	132323-132521	100RB#0-100RB#0	NV	50	-23520.00	-13.401709	±NA	PASS