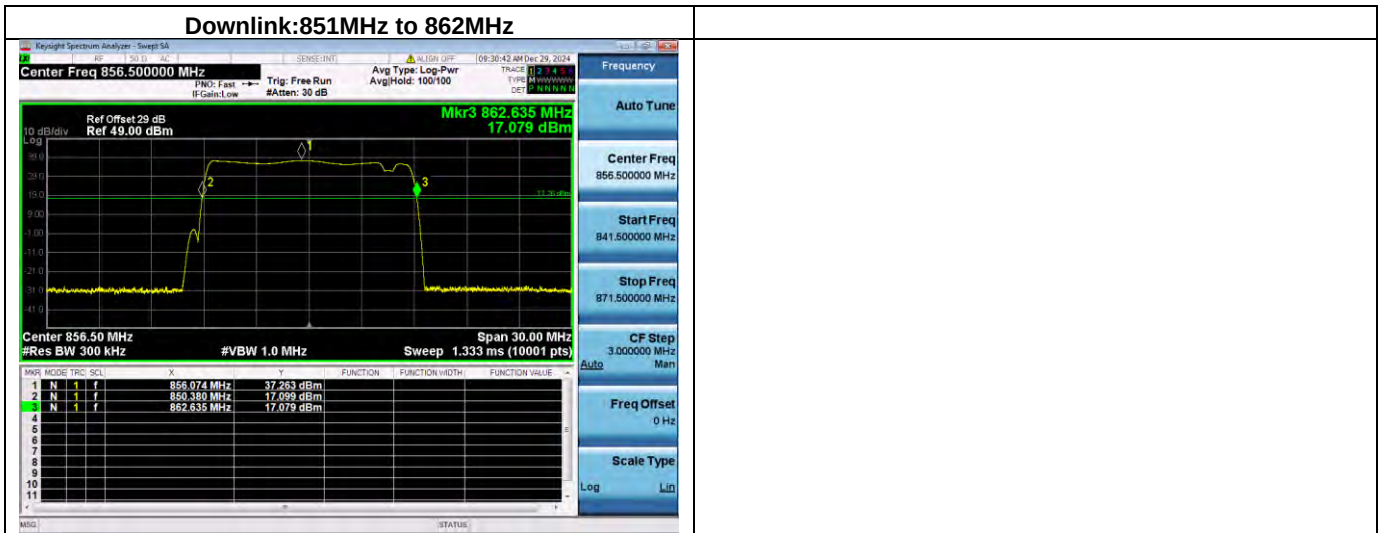


1. Out of band rejection



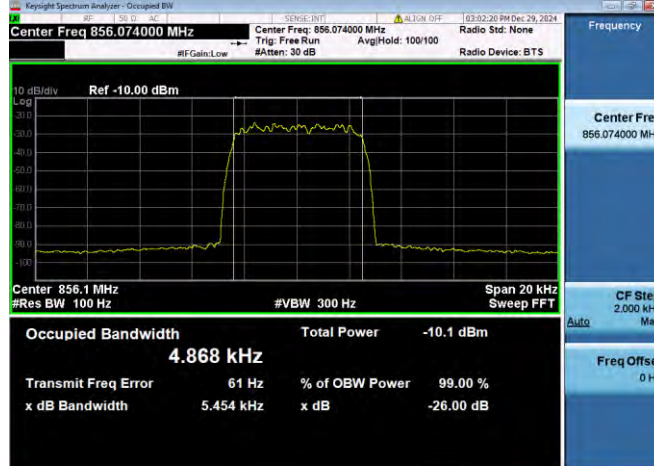
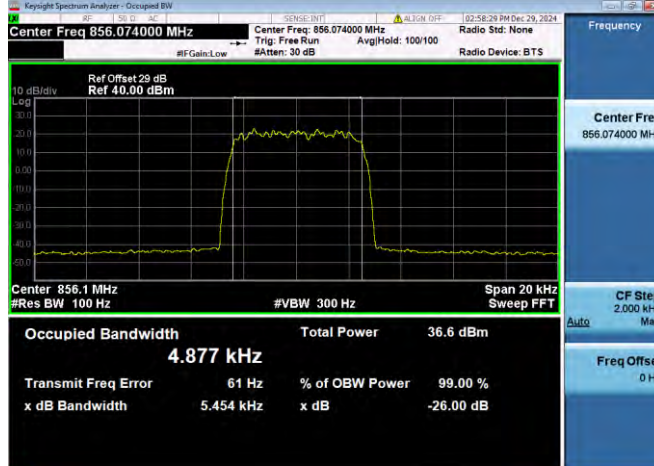
2. Input/output power and amplifier/booster gain

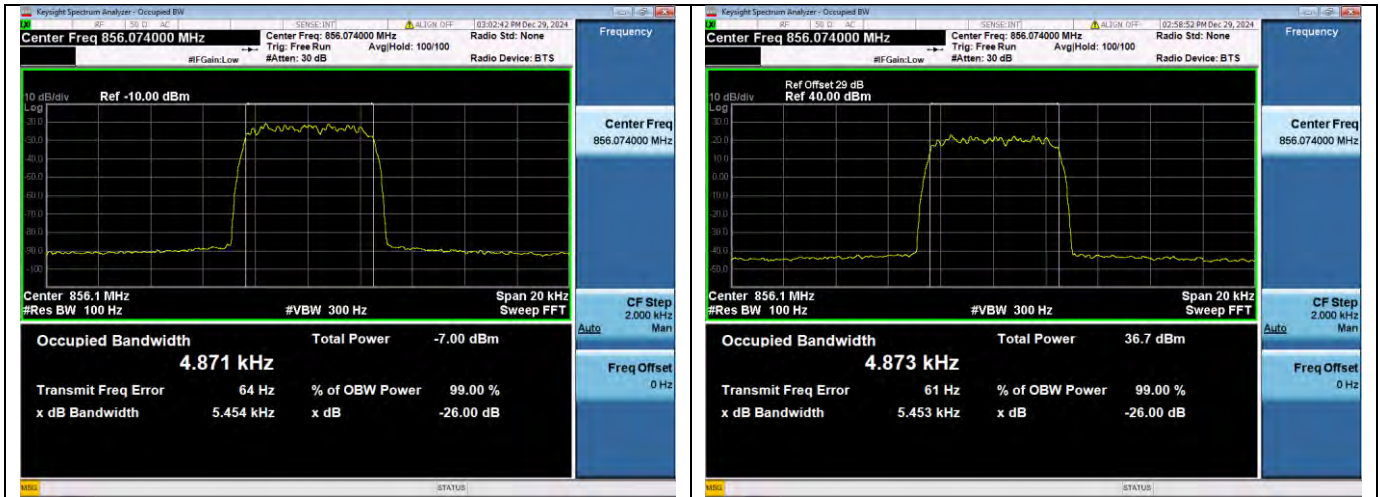
Mode	Operation Band	Frequency F0 (MHz)	Signal Type	Signal Level (dBm)	Input Power (dBm)	Output Power (dBm)	ERP (dBm)	Gain (dB)
Down link	851~862MHz	856.074	CW	Pre-AGC	-10	36.76	34.61	46.76
				3dB Above AGC	-7	36.76	34.61	/

Remark:

- The normal power is 37dBm and the measured output power which show in above table is within±1.0dB tolerance.
- $ERP(dBm) = \text{Total Output Power}(dBm) + \text{Antenna Gain}(dBi) - 2.15dB$. Antenna Gain is 0.0dBi.

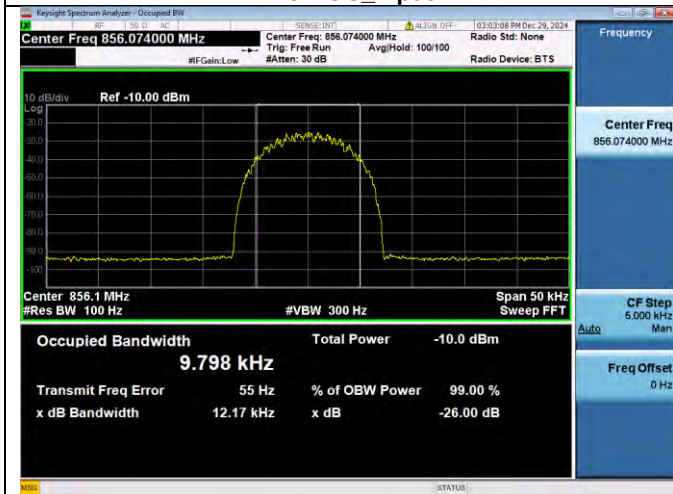
3 Input-versus-output signal comparison

Occupied Bandwidth				
Channel Spacing (KHz)	Test Frequency F0(MHz)	Signal Level	Signal Type	99%Occupied Channel Bandwidth (KHz)
6.25KHz (CQPSK)	856.074	Pre-AGC	Input	4.868
	856.074		Output	4.877
	856.074	3dB Above AGC	Input	4.871
	856.074		Output	4.873
12.5KHz (FM)	856.074	Pre-AGC	Input	9.798
	856.074		Output	9.814
	856.074	3dB Above AGC	Input	9.798
	856.074		Output	9.818
25KHz (TETRA)	856.074	Pre-AGC	Input	20.755
	856.074		Output	20.757
	856.074	3dB Above AGC	Input	20.751
	856.074		Output	20.753
6.25KHz CQPSK				
Pre-AGC Input		Pre-AGC Output		
				
3dB Above Pre-AGC Input		3dB Above Pre-AGC Output		

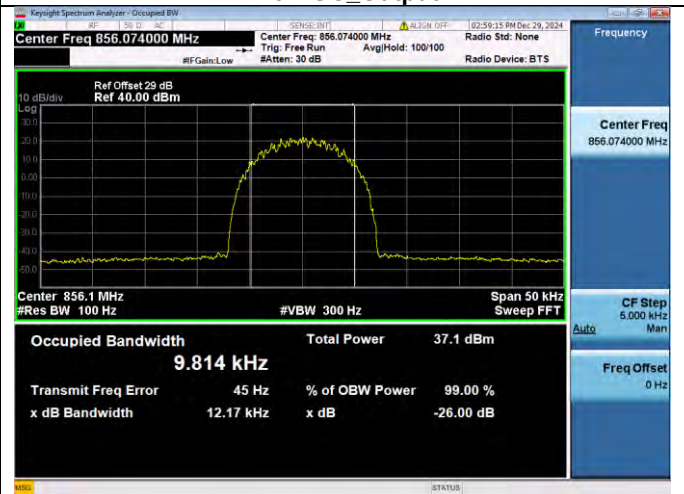


12.5KHz FM

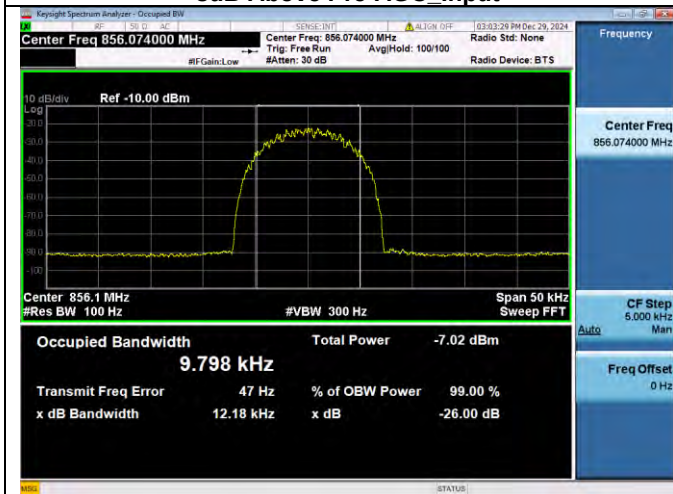
Pre-AGC Input



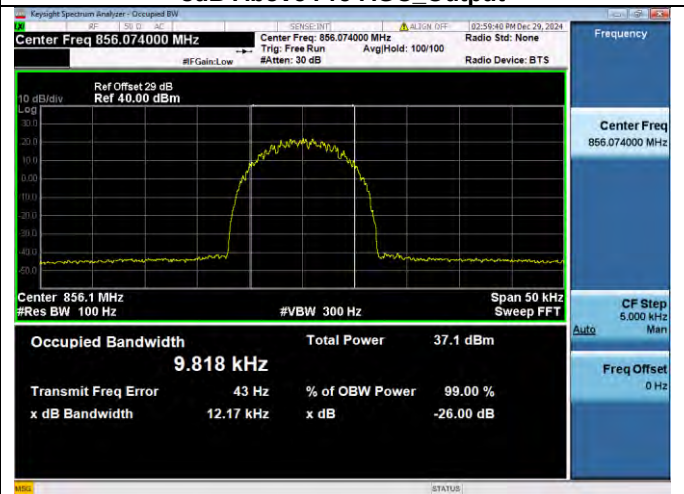
Pre-AGC Output



3dB Above Pre-AGC Input

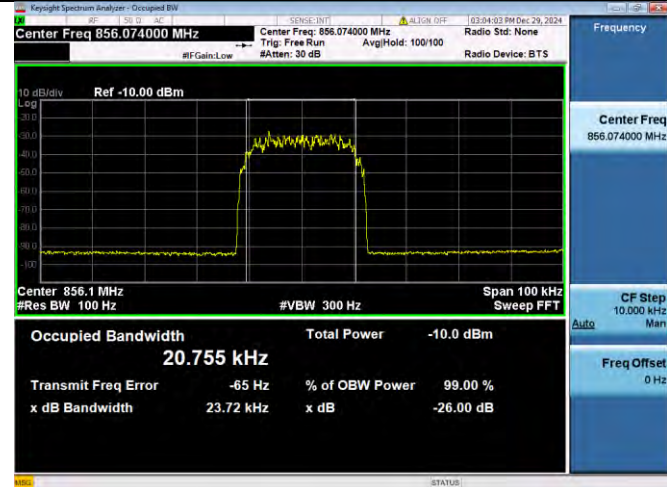


3dB Above Pre-AGC Output

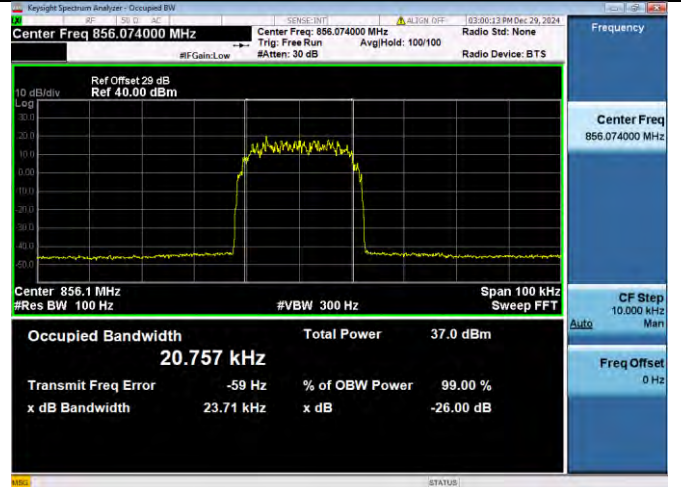


25KHz TETRA

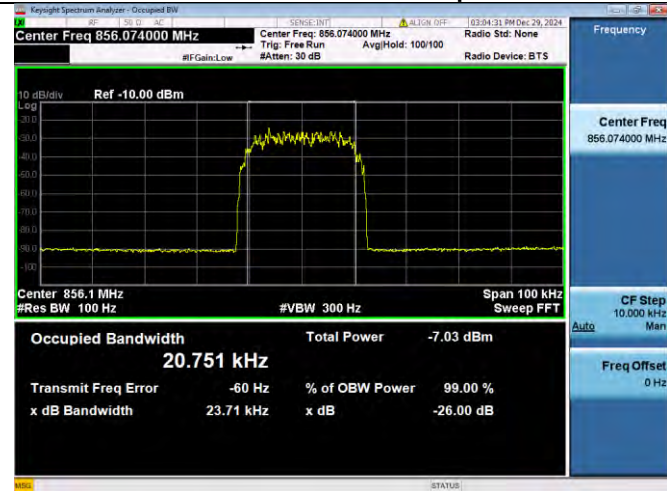
Pre-AGC_Input



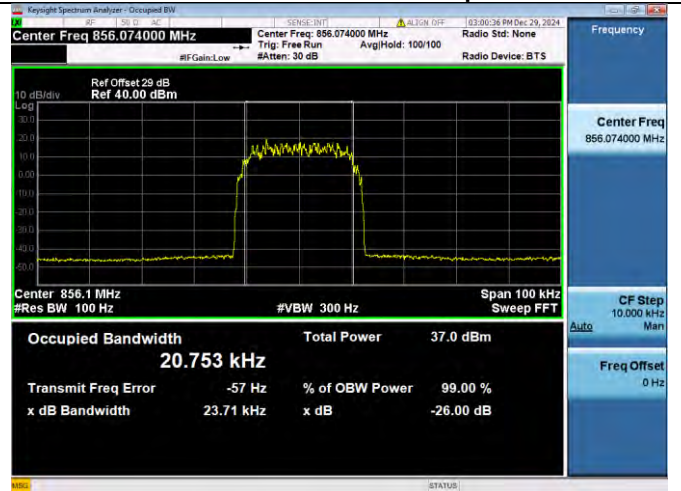
Pre-AGC_Output



3dB Above Pre-AGC_Input



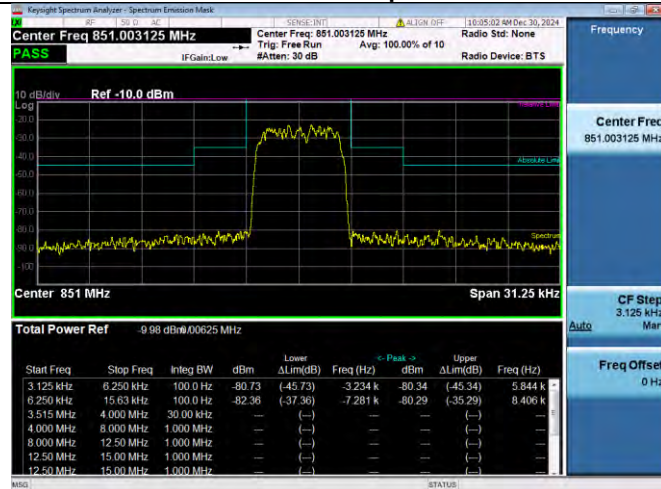
3dB Above Pre-AGC_Output



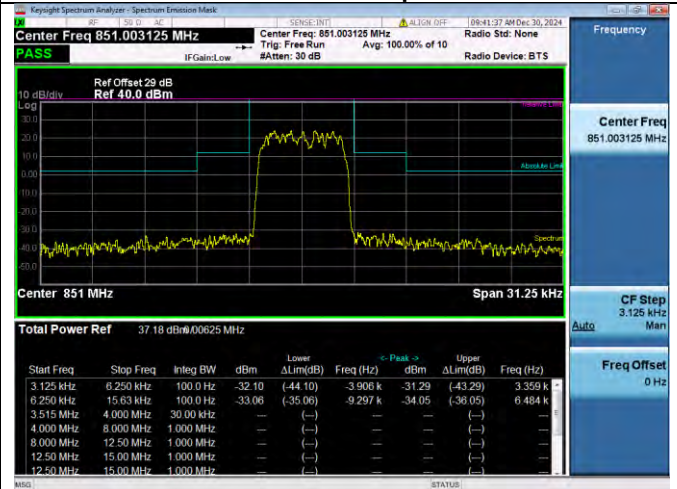
Emission masks				
Channel Spacing (KHz)	Channel	Signal Level	Signal Type	Result
6.25KHz (CQPSK)	Low	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
	Middle	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
	High	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
12.5KHz (FM)	Low	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
	Middle	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
	High	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
25KHz (TETRA)	Low	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
	Middle	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass
	High	Pre-AGC	Input	Pass
			Output	Pass
		3dB Above AGC	Input	Pass
			Output	Pass

6.25KHz CQPSK-Low

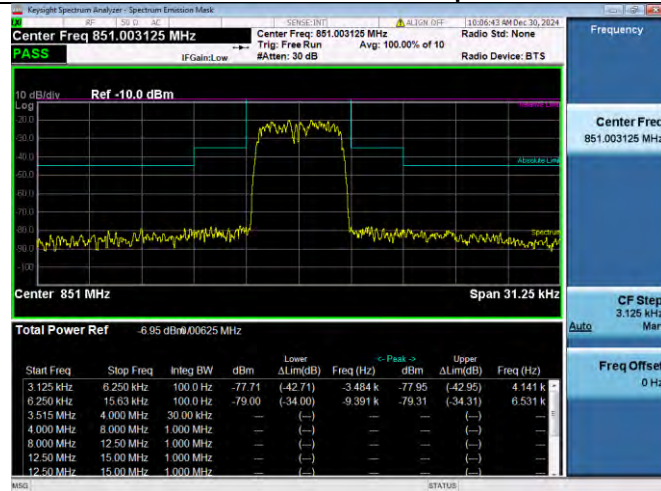
Pre-AGC_Input



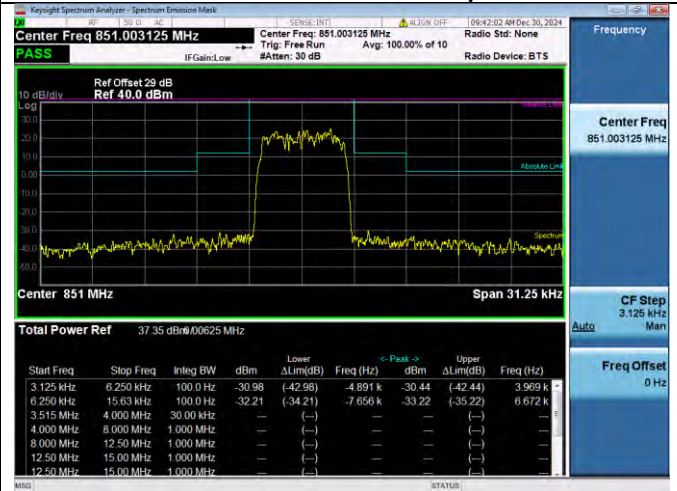
Pre-AGC_Output



3dB Above Pre-AGC_Input

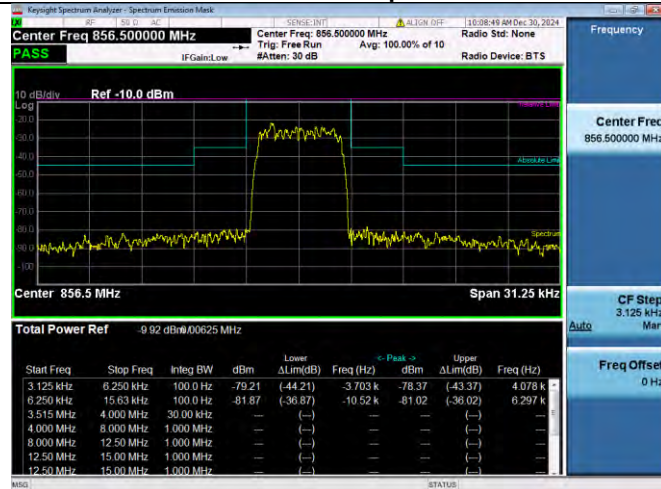


3dB Above Pre-AGC_Output

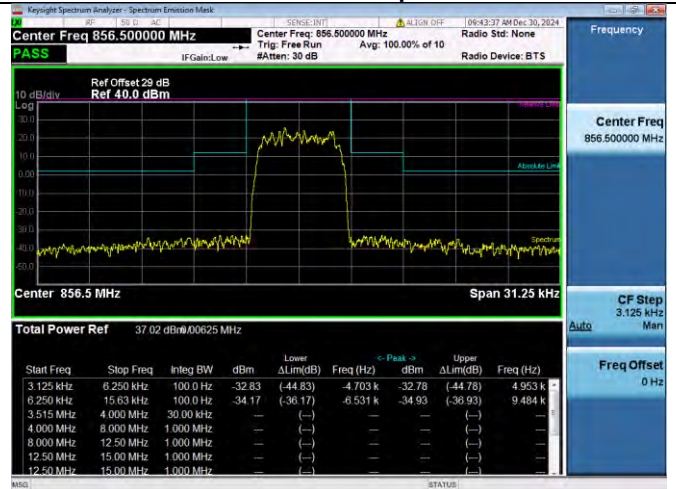


6.25KHz CQPSK-Middle

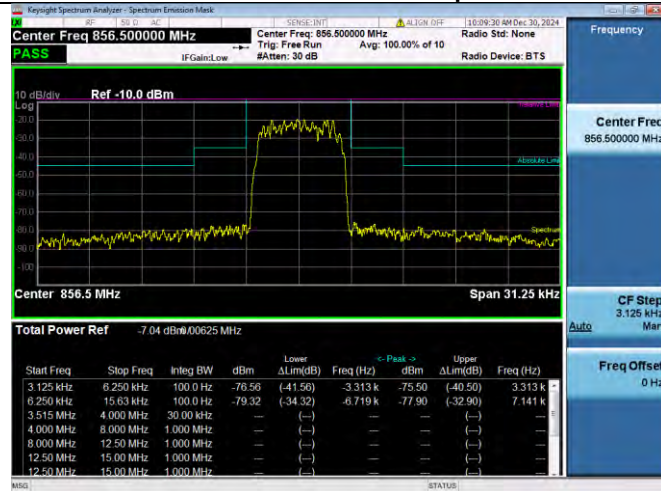
Pre-AGC_Input



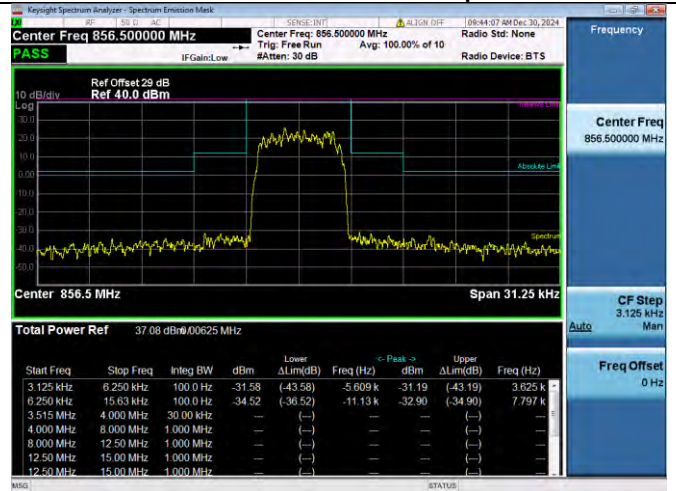
Pre-AGC_Output



3dB Above Pre-AGC_Input

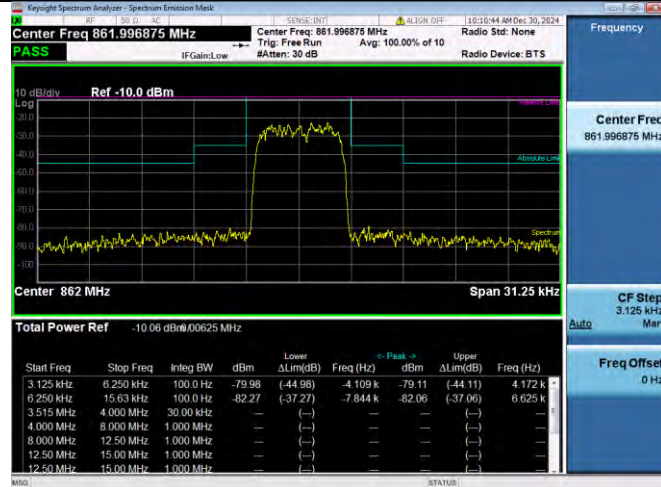


3dB Above Pre-AGC_Output

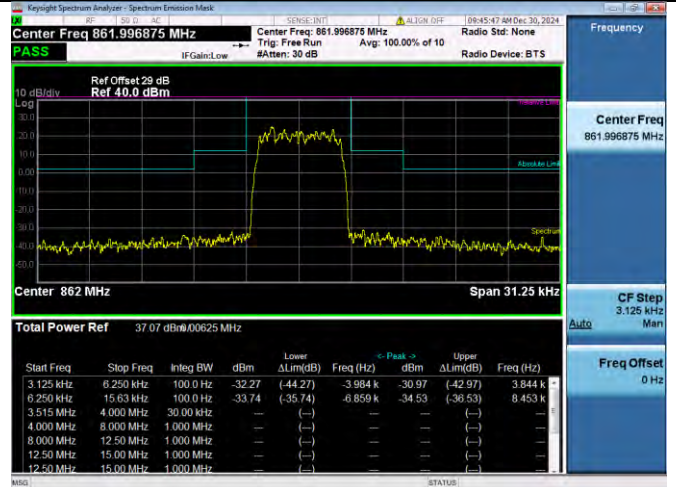


6.25KHz CQPSK-High

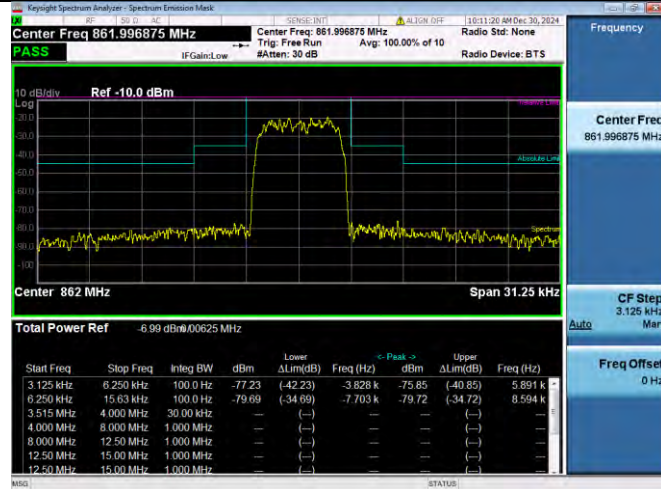
Pre-AGC_Input



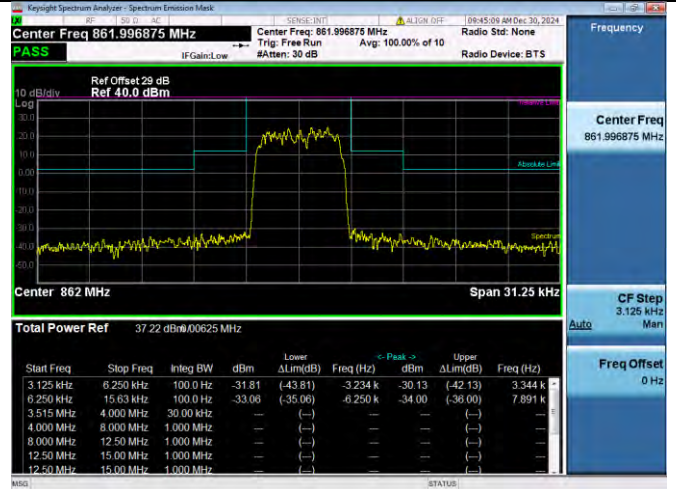
Pre-AGC_Output



3dB Above Pre-AGC_Input

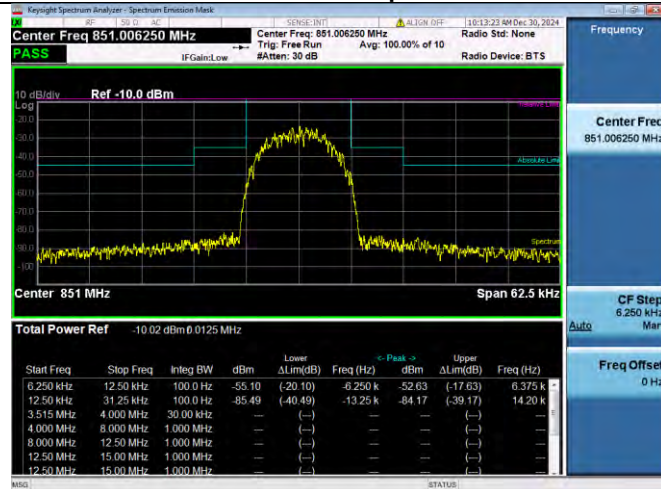


3dB Above Pre-AGC_Output

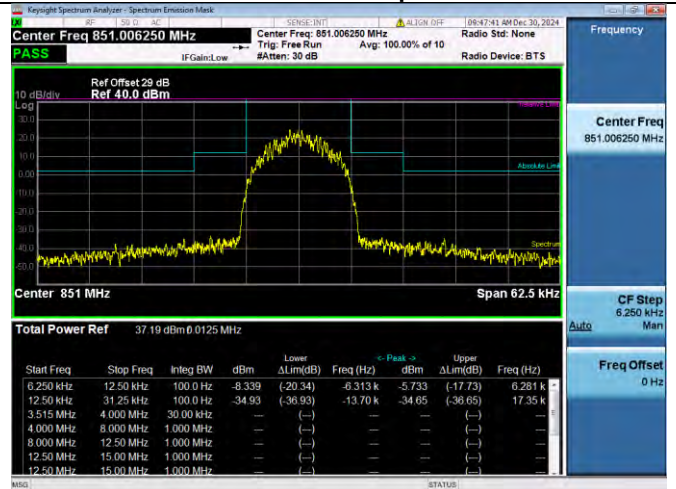


12.5KHz FM-Low

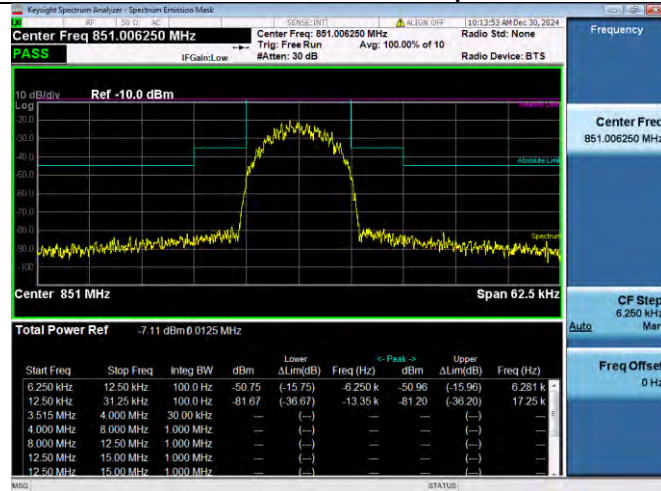
Pre-AGC Input



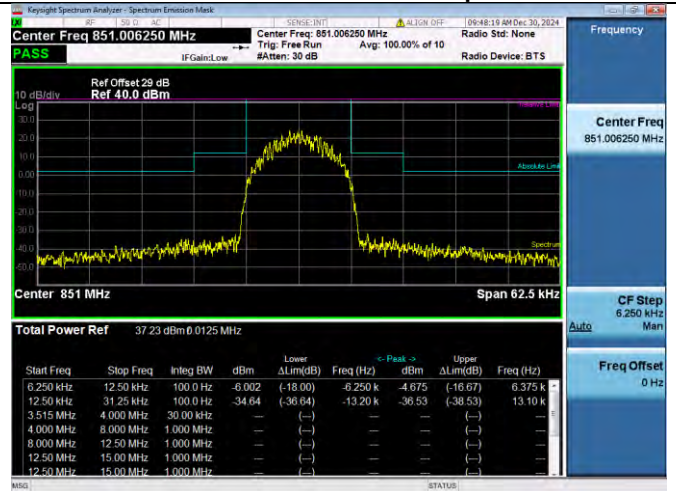
Pre-AGC Output



3dB Above Pre-AGC Input



3dB Above Pre-AGC Output

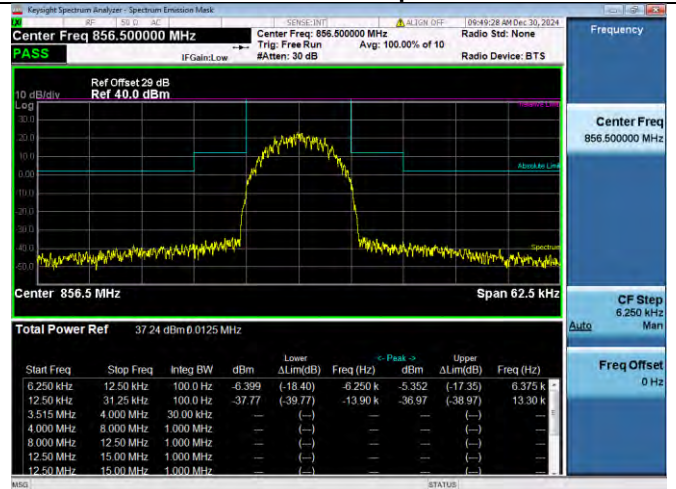


12.5KHz FM-Middle

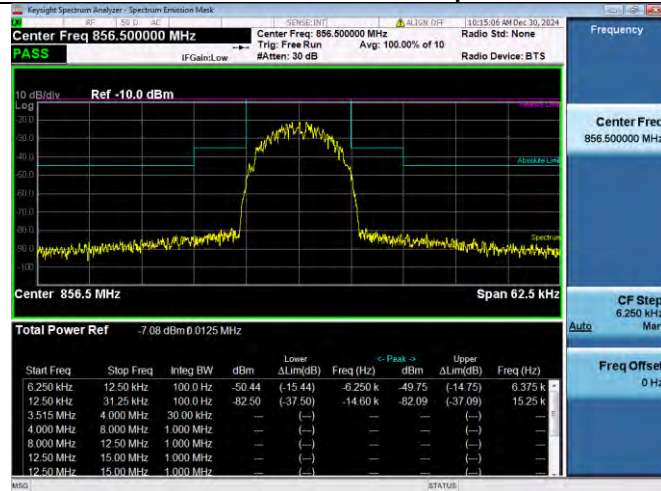
Pre-AGC_Input



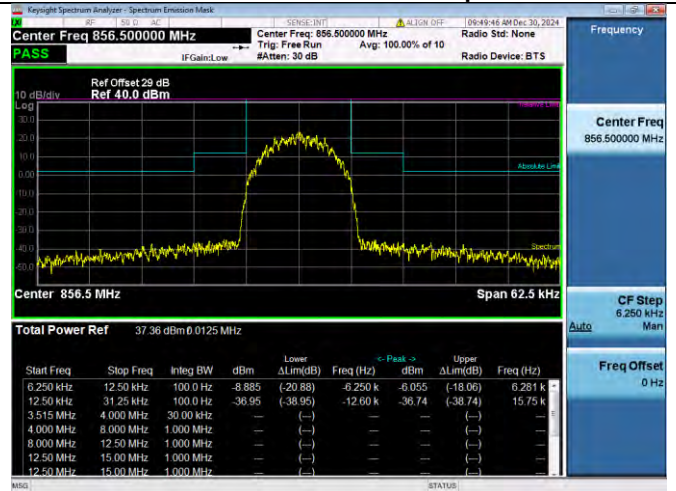
Pre-AGC_Output



3dB Above Pre-AGC_Input

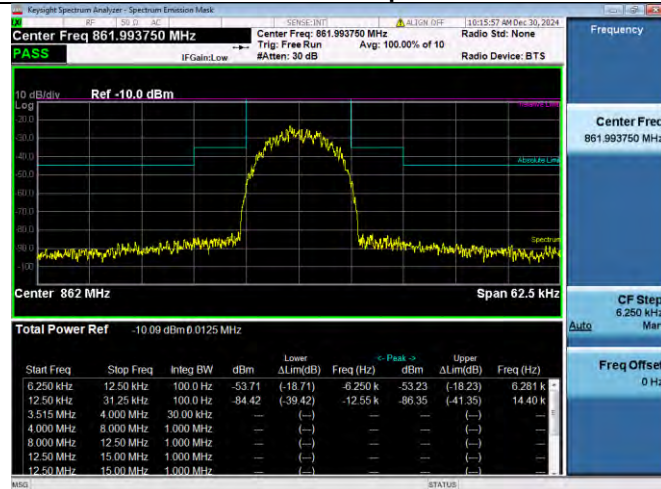


3dB Above Pre-AGC_Output

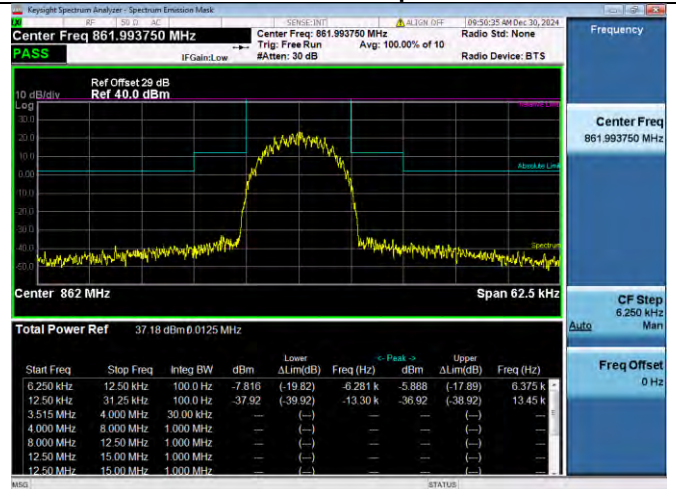


12.5KHz FM-High

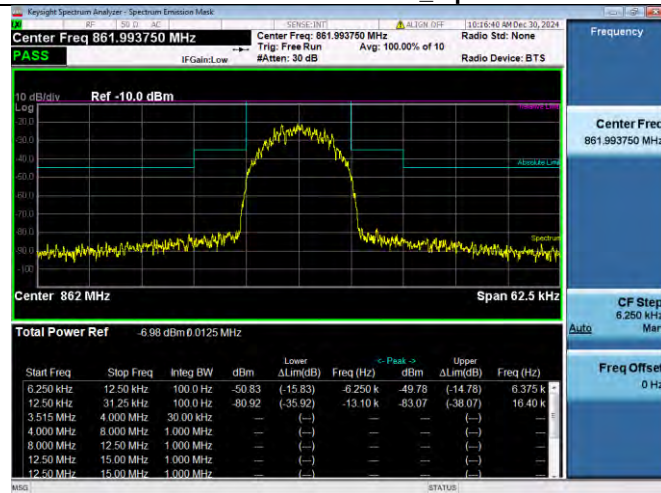
Pre-AGC_Input



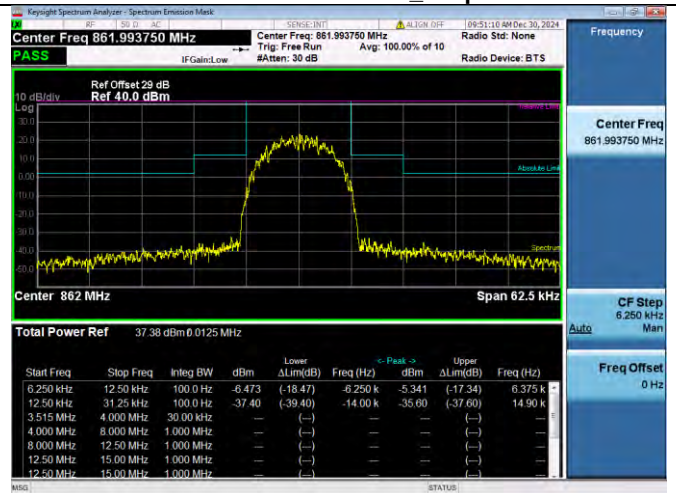
Pre-AGC_Output



3dB Above Pre-AGC_Input

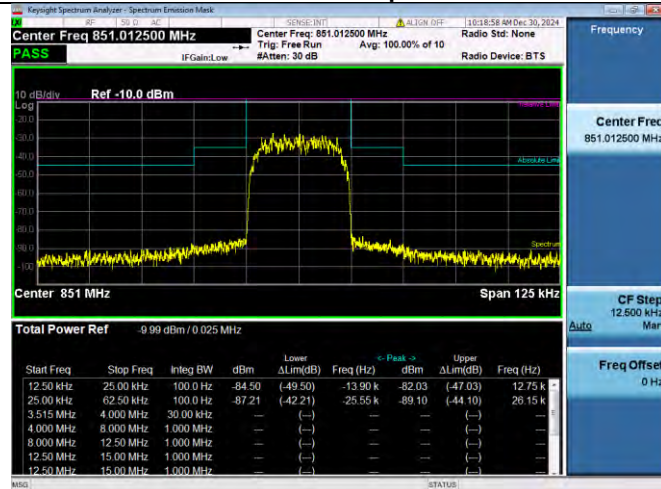


3dB Above Pre-AGC_Output

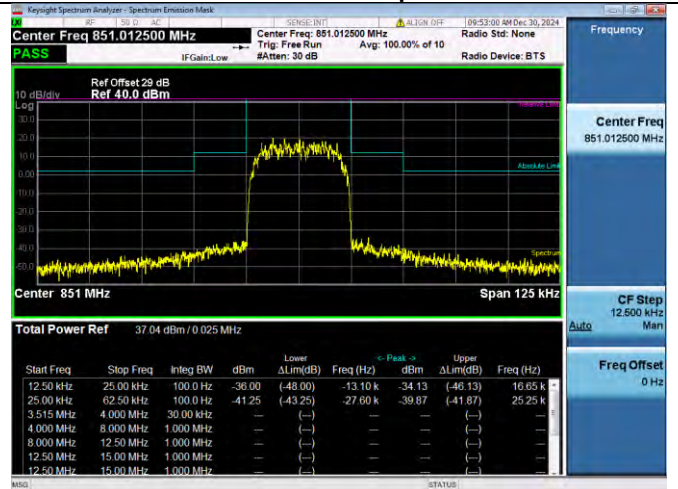


25KHz TETRA-Low

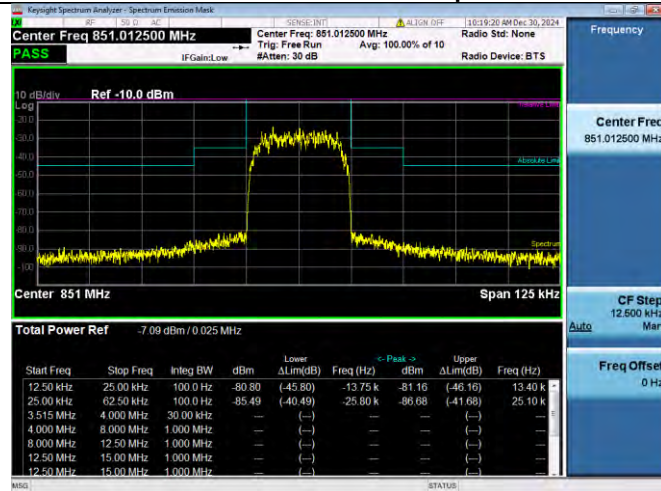
Pre-AGC Input



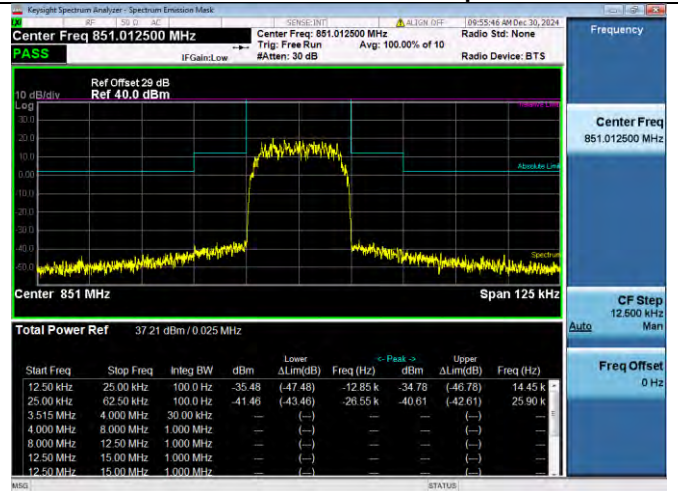
Pre-AGC Output



3dB Above Pre-AGC Input

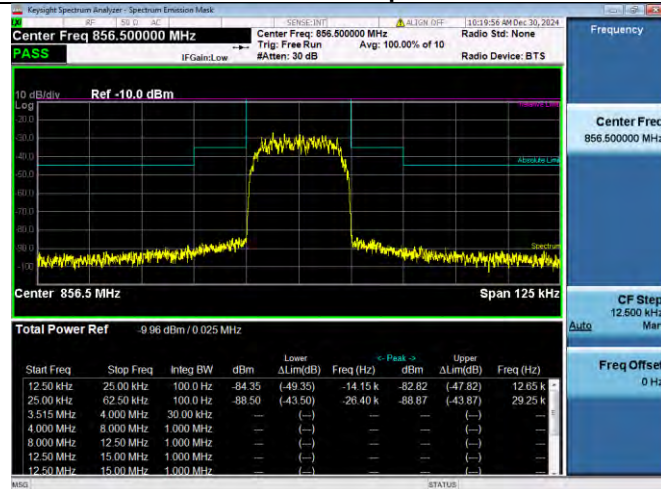


3dB Above Pre-AGC Output

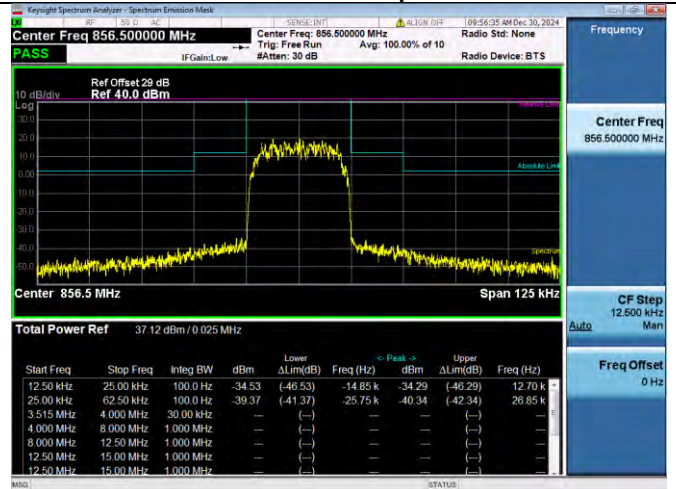


25KHz TETRA-Middle

Pre-AGC Input



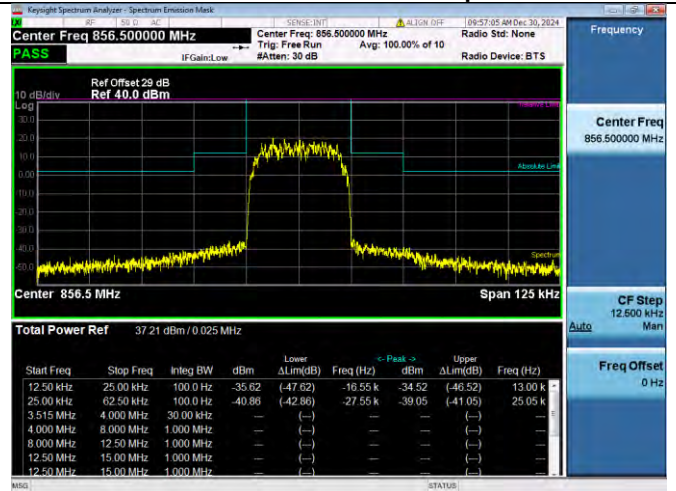
Pre-AGC Output



3dB Above Pre-AGC Input

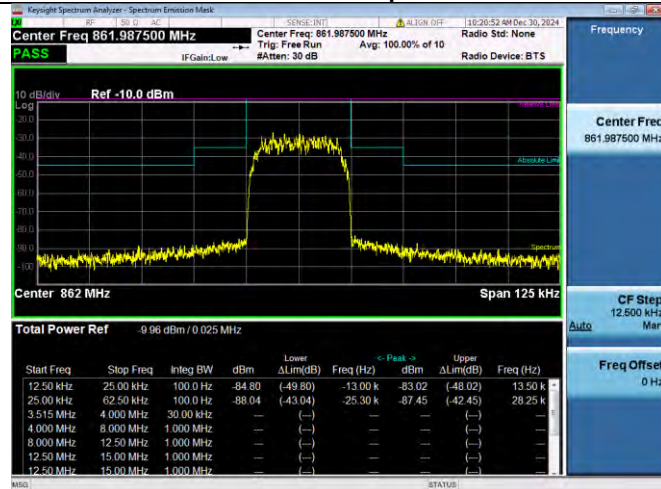


3dB Above Pre-AGC Output

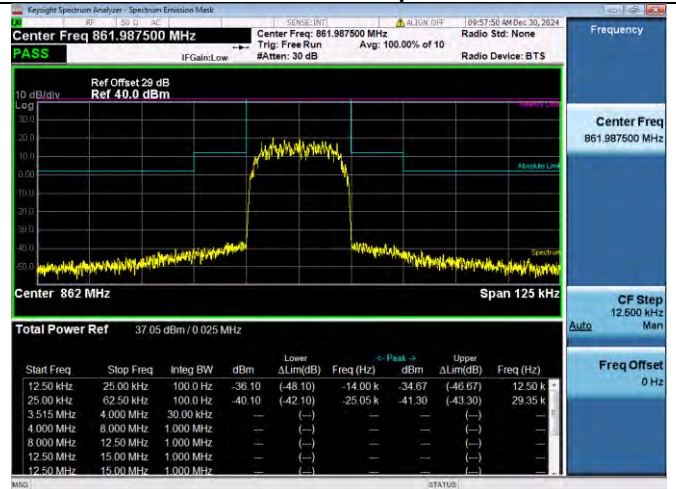


25KHz TETRA-High

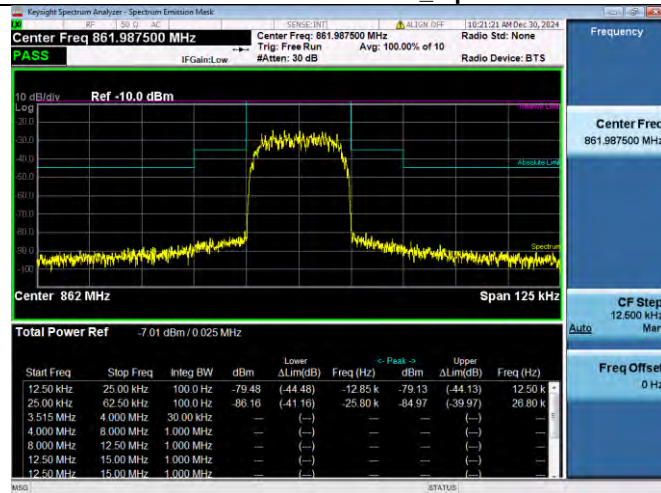
Pre-AGC_Input



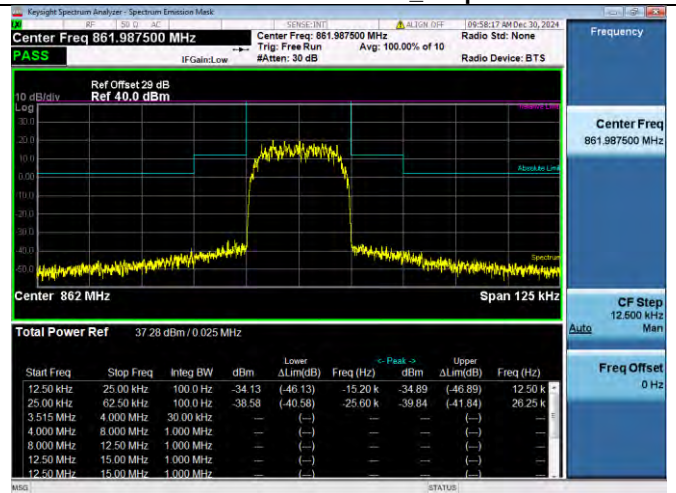
Pre-AGC_Output



3dB Above Pre-AGC_Input



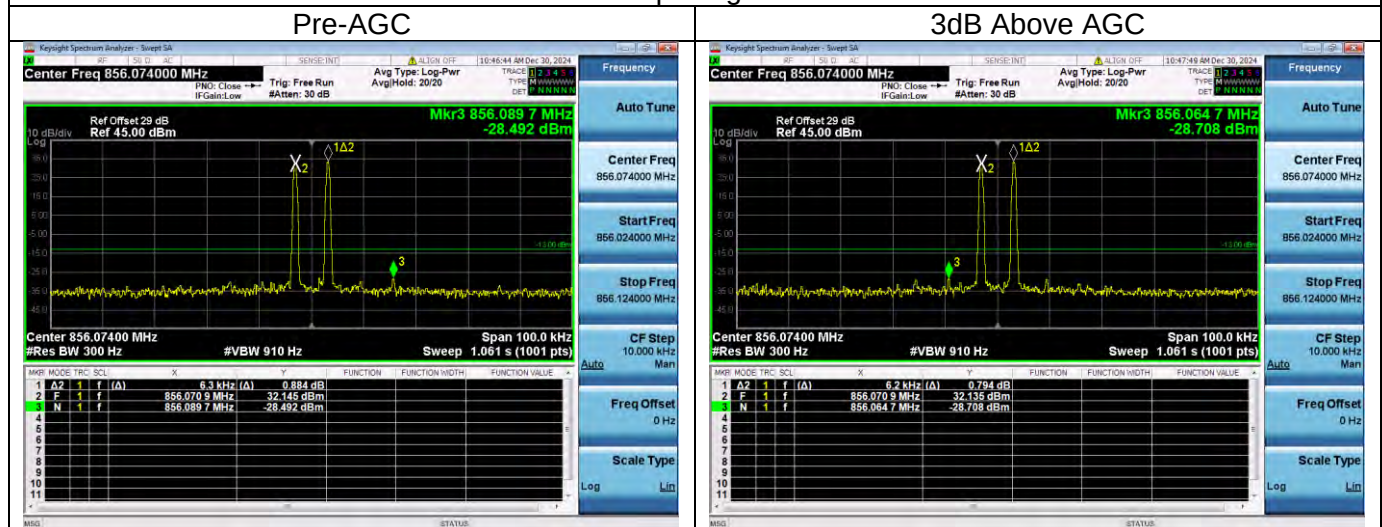
3dB Above Pre-AGC_Output



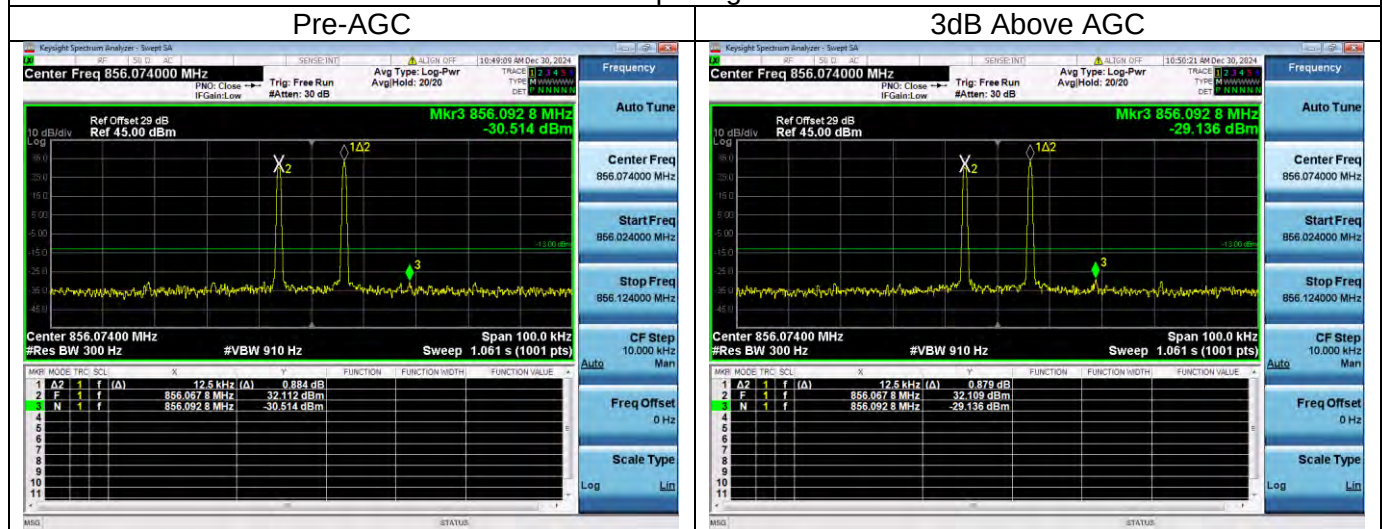
4. out of Band/out of block (including intermodulation)

Channel Spacing (KHz)	Signal Level	Worst Test Level (dBm)	Limit (dBm)	Result
6.25KHz	Pre-AGC	-16.856	-13	Pass
	3dB Above AGC	-16.764	-13	Pass
12.5KHz	Pre-AGC	-16.995	-13	Pass
	3dB Above AGC	-16.853	-13	Pass
25KHz	Pre-AGC	-16.879	-13	Pass
	3dB Above AGC	-16.899	-13	Pass

Channel Spacing: 6.25KHz

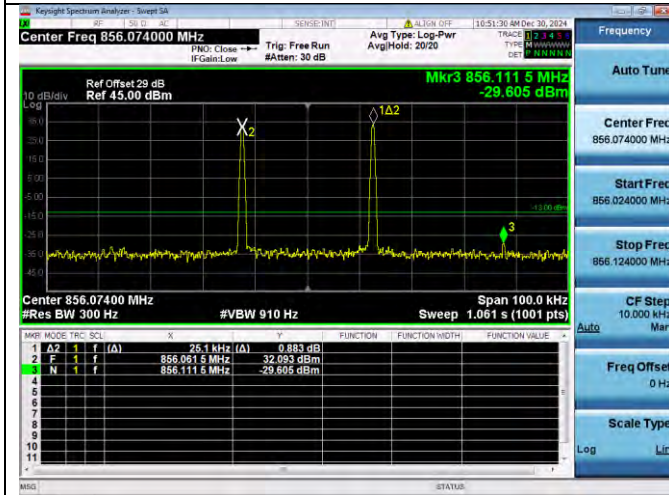


Channel Spacing: 12.5KHz

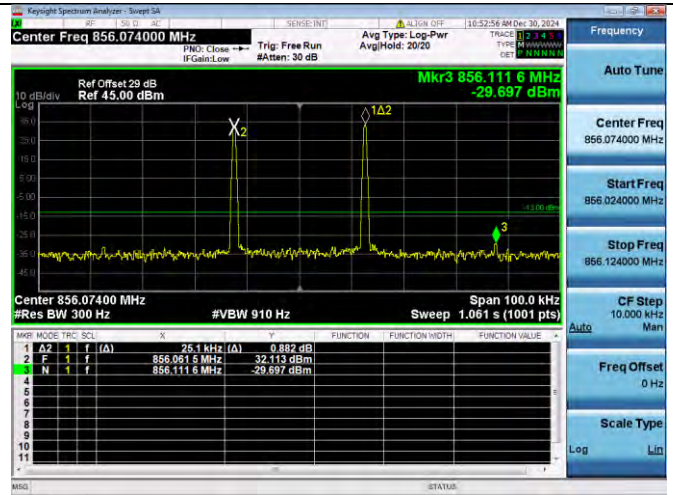


Channel Spacing: 25KHz

Pre-AGC



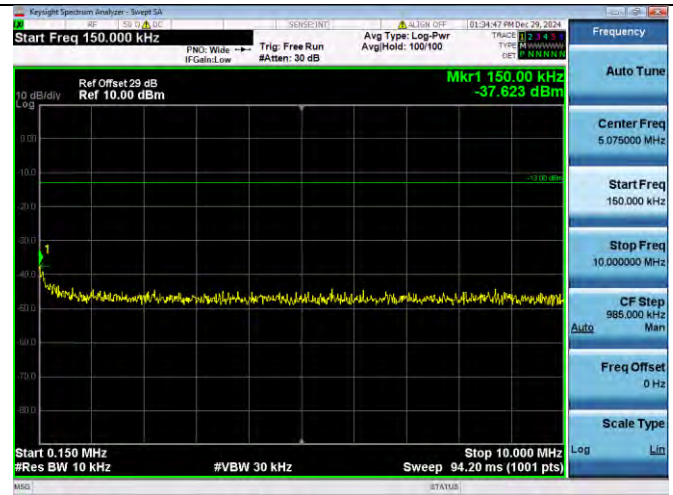
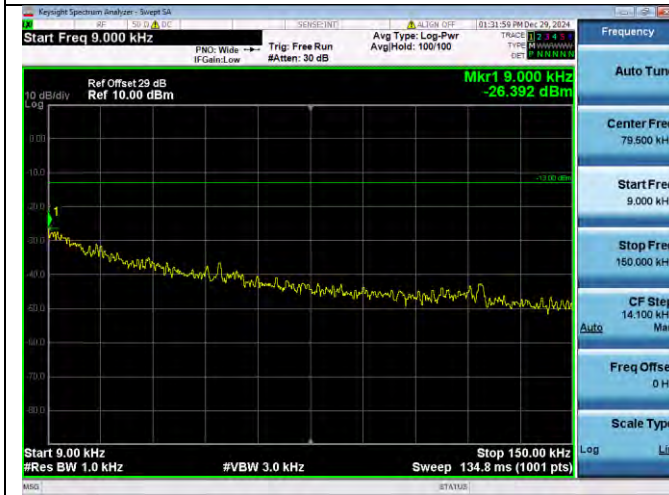
3dB Above AGC



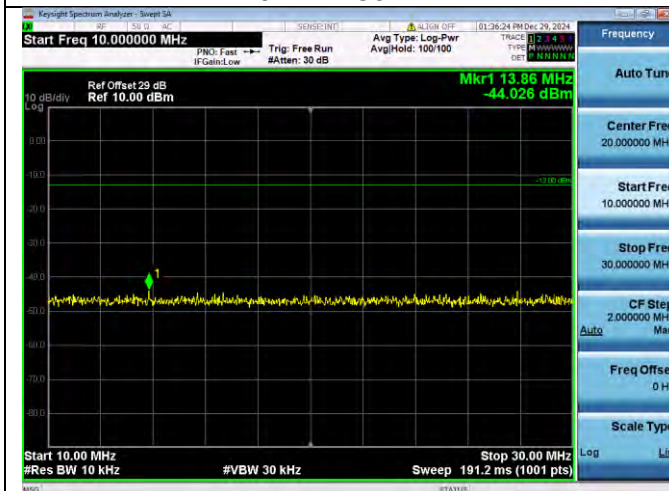
5. Conducted Spurious Emissions

Channel	Frequency Range (MHz)	Worst Test Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
LCH	0.009~0.15	-26.39	-13.00	-13.39	Pass
	0.15~10	-37.62	-13.00	-24.62	Pass
	10~30	-44.03	-13.00	-31.03	Pass
	30~1000	-32.02	-13.00	-19.02	Pass
	1000~10000	-29.13	-13.00	-16.13	Pass
MCH	0.009~0.15	-26.26	-13.00	-13.26	Pass
	0.15~10	-37.54	-13.00	-24.54	Pass
	10~30	-43.79	-13.00	-30.79	Pass
	30~1000	-32.90	-13.00	-19.90	Pass
	1000~10000	-29.03	-13.00	-16.03	Pass
HCH	0.009~0.15	-27.19	-13.00	-14.19	Pass
	0.15~10	-38.75	-13.00	-25.75	Pass
	10 - 30	-43.87	-13.00	-30.87	Pass
	30 - 1000	-32.81	-13.00	-19.81	Pass
	1000 - 10000	-28.85	-13.00	-15.85	Pass

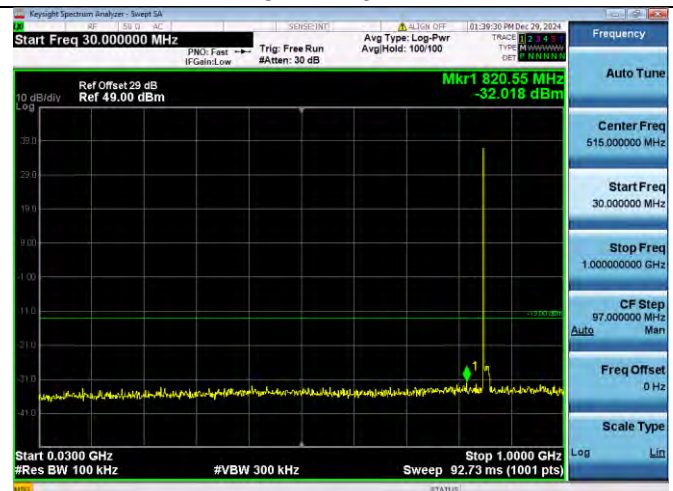
LCH



9KHz-150KHz



15KHz-10MHz



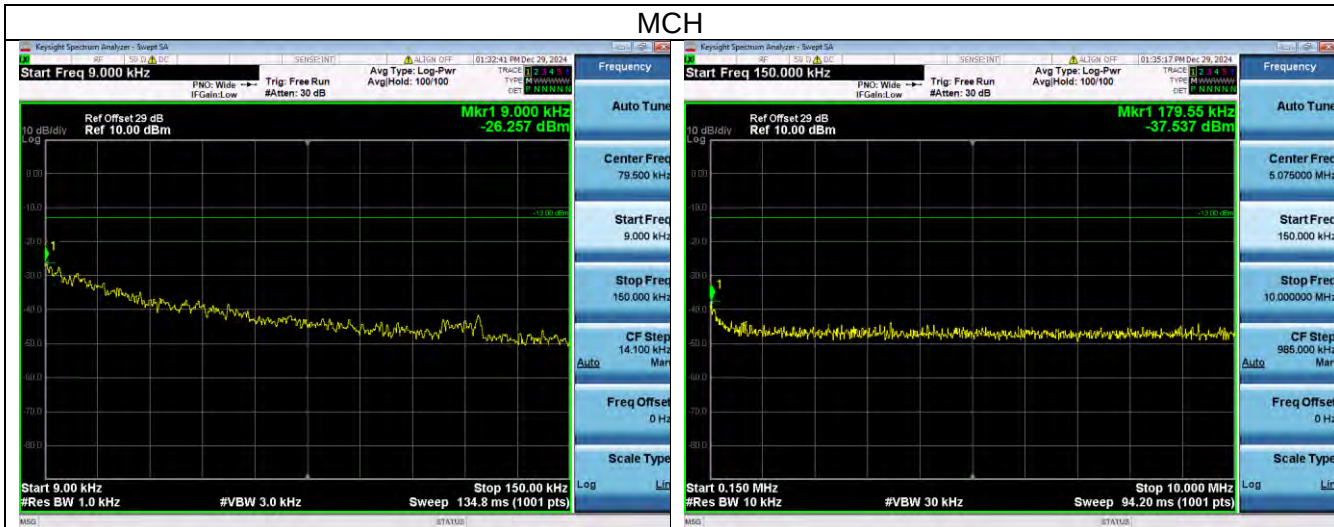
10MHz-30MHz



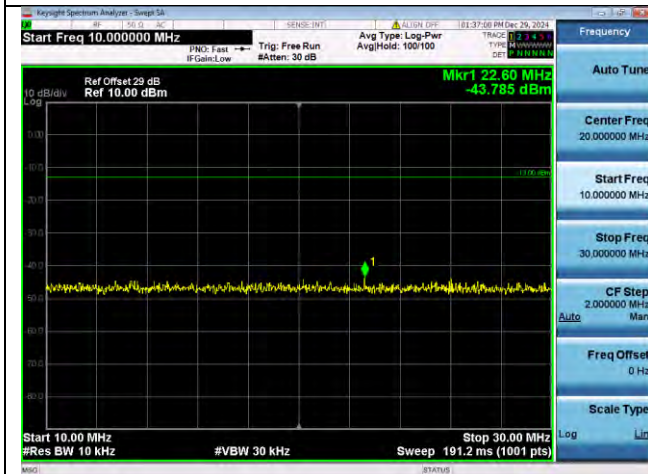
30MHz-1000MHz

1000MHz-6000MHz

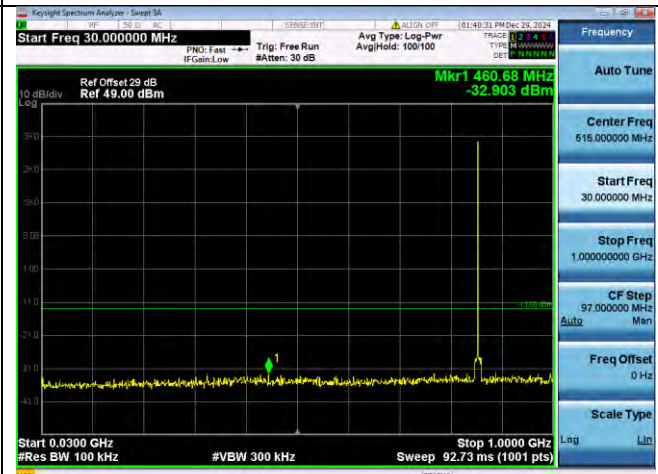
MCH



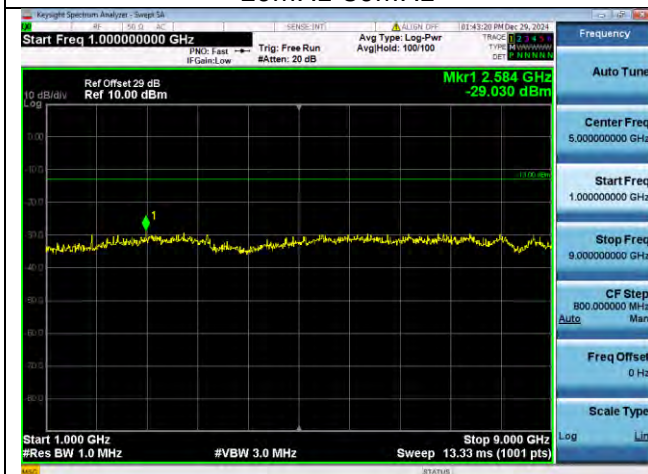
9KHz-150KHz



15KHz-10MHz



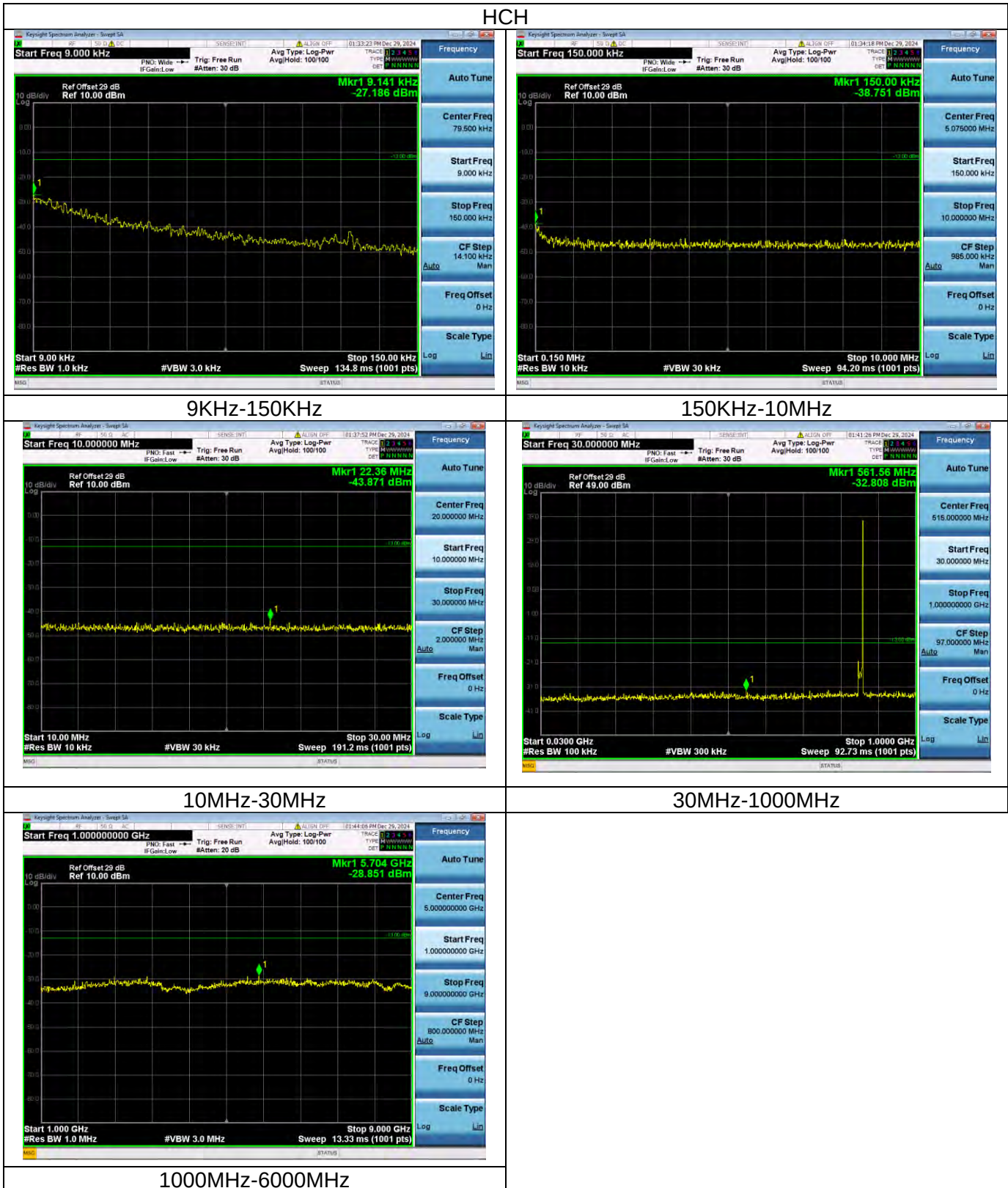
10MHz-30MHz



30MHz-1000MHz

1000MHz-6000MHz

HCH



6. Radiated Spurious Emissions

851MHz-862MHz-Low Channel					
Frequency	Spurious Emission Polarization and Level		Limit	Over Limit	Verdict
MHz	Polarization	dBm	dBm	dB	
144.64	Horizontal	-55.02	-13	-42.02	Pass
262.26	Horizontal	-61.69	-13	-48.69	Pass
569.62	Horizontal	-59.31	-13	-46.31	Pass
1817.58	Horizontal	-48.15	-13	-35.15	Pass
4746.84	Horizontal	-46.70	-13	-33.70	Pass
7902.59	Horizontal	-42.76	-13	-29.76	Pass
153.32	Vertical	-50.62	-13	-37.62	Pass
461.22	Vertical	-54.85	-13	-41.85	Pass
940.79	Vertical	-59.52	-13	-46.52	Pass
3062.82	Vertical	-34.42	-13	-21.42	Pass
5393.37	Vertical	-38.28	-13	-25.28	Pass
7490.39	Vertical	-44.49	-13	-31.49	Pass

851MHz-862MHz-Middle Channel					
Frequency	Spurious Emission Polarization and Level		Limit	Over Limit	Verdict
MHz	Polarization	dBm	dBm	dB	
134.46	Horizontal	-58.39	-13	-45.39	Pass
484.21	Horizontal	-53.92	-13	-40.92	Pass
985.91	Horizontal	-50.64	-13	-37.64	Pass
1459.45	Horizontal	-42.36	-13	-29.36	Pass
5099.95	Horizontal	-42.11	-13	-29.11	Pass
7904.85	Horizontal	-35.04	-13	-22.04	Pass
118.73	Vertical	-59.03	-13	-46.03	Pass
222.21	Vertical	-52.05	-13	-39.05	Pass
671.84	Vertical	-62.84	-13	-49.84	Pass
3210.89	Vertical	-46.40	-13	-33.40	Pass
5248.86	Vertical	-47.08	-13	-34.08	Pass
6736.96	Vertical	-40.60	-13	-27.60	Pass

851MHz-862MHz-High Channel					
Frequency	Spurious Emission Polarization and Level		Limit	Over Limit	Verdict
MHz	Polarization	dBm	dBm	dB	
118.86	Horizontal	-53.85	-13	-40.85	Pass
528.31	Horizontal	-53.95	-13	-40.95	Pass
701.69	Horizontal	-50.59	-13	-37.59	Pass
2035.00	Horizontal	-46.92	-13	-33.92	Pass
6095.21	Horizontal	-38.21	-13	-25.21	Pass
8561.39	Horizontal	-40.98	-13	-27.98	Pass
74.64	Vertical	-53.78	-13	-40.78	Pass
270.23	Vertical	-58.43	-13	-45.43	Pass
790.92	Vertical	-53.11	-13	-40.11	Pass
2253.35	Vertical	-40.15	-13	-27.15	Pass
4205.36	Vertical	-40.95	-13	-27.95	Pass
7871.15	Vertical	-34.62	-13	-21.62	Pass

7. Frequency Stability

Frequency Stability vs temperature:

Channel Bandwidth(KHz)	Temperature (°C)	Voltage (V ac)	Frequency Error(Hz)	Tolerance (ppm)	Limit(ppm)
6.25KHz	55	120	5	0.0058	0.1
	50	120	2	0.0023	0.1
	40	120	6	0.0070	0.1
	30	120	3	0.0035	0.1
	20	120	8	0.0093	0.1
	10	120	5	0.0058	0.1
	0	120	7	0.0082	0.1
	-10	120	2	0.0023	0.1
	-20	120	9	0.0105	0.1
	-30	120	6	0.0070	0.1
	-40	120	8	0.0093	0.1
12.5KHz	55	120	5	0.0058	0.1
	50	120	2	0.0023	0.1
	40	120	4	0.0047	0.1
	30	120	3	0.0035	0.1
	20	120	7	0.0082	0.1
	10	120	6	0.0070	0.1
	0	120	4	0.0047	0.1
	-10	120	8	0.0093	0.1
	-20	120	2	0.0023	0.1
	-30	120	9	0.0105	0.1
	-40	120	6	0.0070	0.1
25KHz	55	120	4	0.0047	0.1
	50	120	8	0.0093	0.1
	40	120	7	0.0082	0.1
	30	120	4	0.0047	0.1
	20	120	8	0.0093	0.1
	10	120	2	0.0023	0.1
	0	120	3	0.0035	0.1
	-10	120	5	0.0058	0.1
	-20	120	7	0.0082	0.1
	-30	120	9	0.0105	0.1
	-40	120	2	0.0023	0.1

Frequency Stability vs voltage:

Channel Bandwidth(KHz)	Voltage (V ac)	Temperature (°C)	Frequency Error(Hz)	Tolerance (ppm)	Limit(ppm)
6.25KHz	102	20	2	0.0023	0.1
	120	20	4	0.0047	0.1
	138	20	6	0.0070	0.1
12.5KHz	102	20	3	0.0035	0.1
	120	20	5	0.0058	0.1
	138	20	7	0.0082	0.1
25KHz	102	20	9	0.0105	0.1
	120	20	4	0.0047	0.1
	138	20	5	0.0058	0.1

8. Noise

