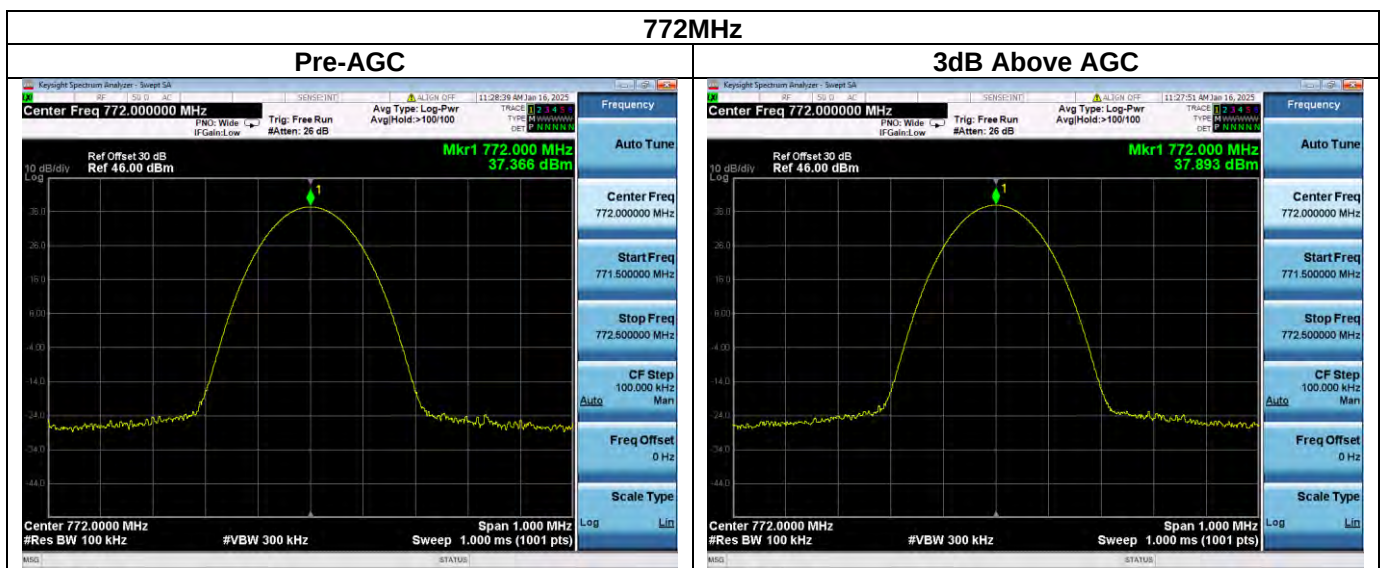


1. AGC threshold

Mode	Operation Band	Frequency F0 (MHz)	Signal Type	Signal Level (dBm)	Input Power (dBm)	Output Power (dBm)	ERP (dBm)	Booster gain (dB)
Down link	769~775MHz	772.000	CW	Pre-AGC	-10	37.366	35.216	47.366
				3dB Above AGC	-7	37.893	35.743	/

Remark:

- The normal power is 40dBm and the measured output power which show in above table is within±1.0dB tolerance.
- $ERP(dBm) = Total\ Output\ Power(dBm) + Antenna\ Gain(dBi) - 2.15dB$. Antenna Gain is 0.0dBi.

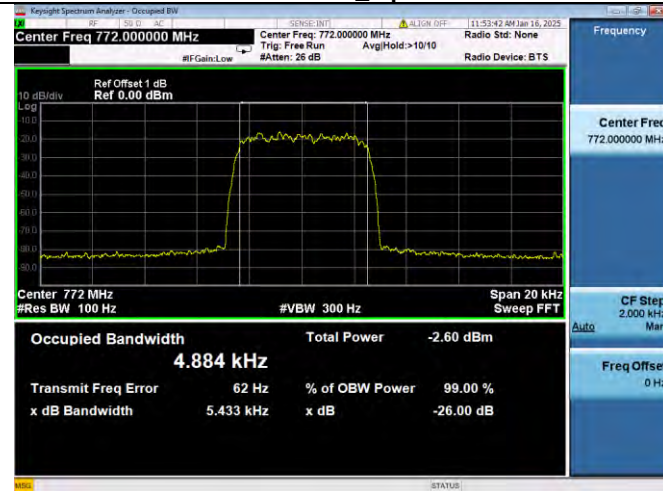


2. Occupied bandwidth

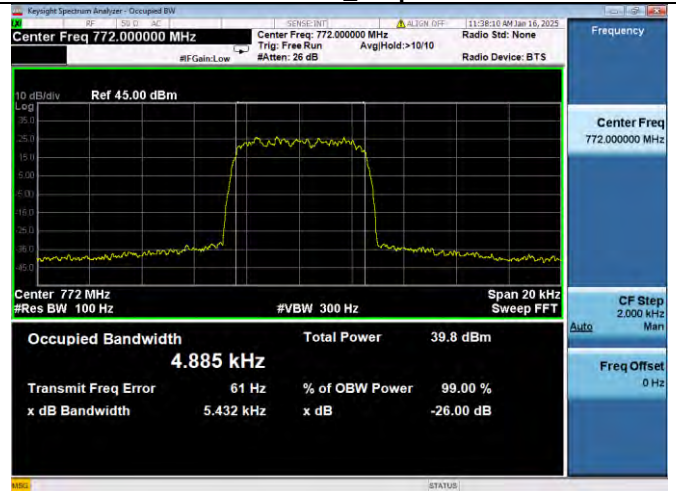
Occupied Bandwidth				
Channel Spacing (KHz)	Test Frequency F0(MHz)	Signal Level	Signal Type	99%Occupied Channel Bandwidth (KHz)
6.25KHz (CQPSK)	772.000	Pre-AGC	Input	4.884
	772.000		Output	4.885
	772.000	3dB Above AGC	Input	4.884
	772.000		Output	4.884
12.5KHz (FM)	772.000	Pre-AGC	Input	9.778
	772.000		Output	9.781
	772.000	3dB Above AGC	Input	9.778
	772.000		Output	9.779
25KHz (TETRA)	772.000	Pre-AGC	Input	20.974
	772.000		Output	20.985
	772.000	3dB Above AGC	Input	20.989
	772.000		Output	20.975

6.25KHz CQPSK

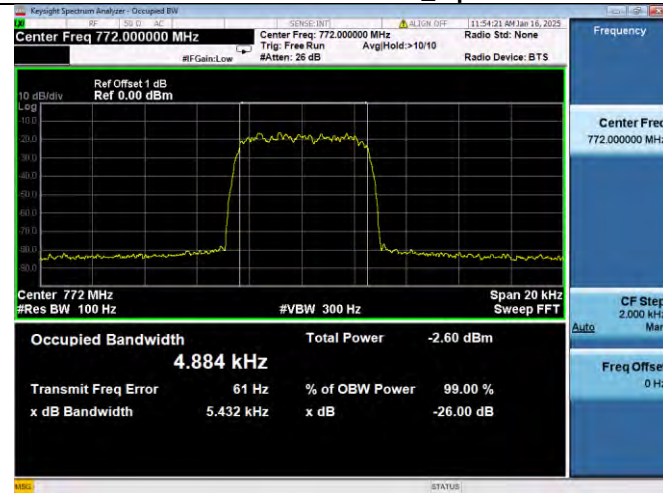
Pre-AGC_Input



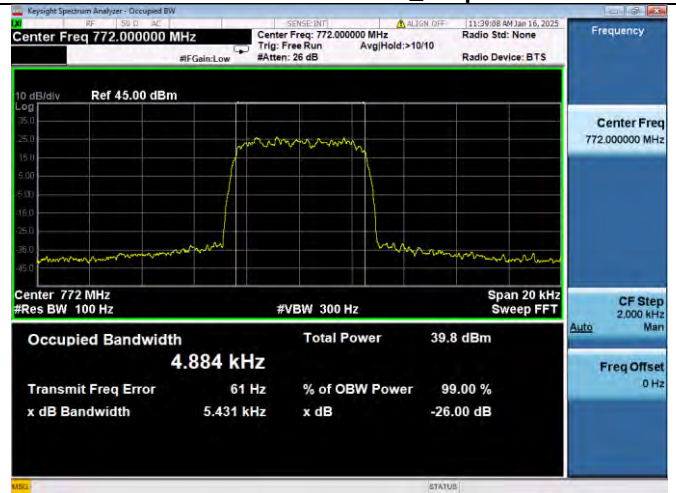
Pre-AGC_Output



3dB Above Pre-AGC_Input

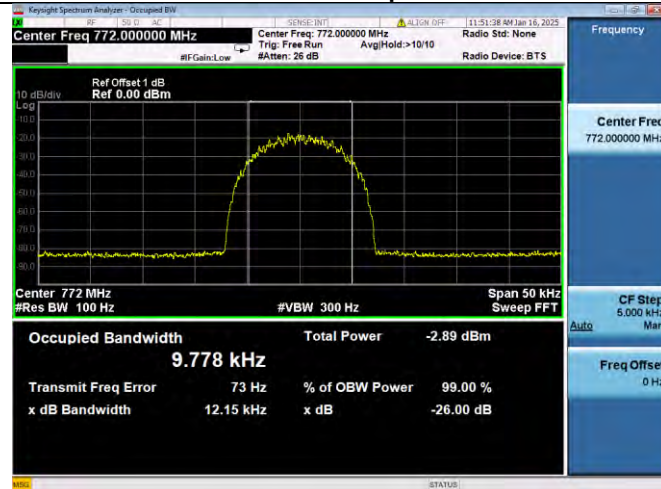


3dB Above Pre-AGC_Output

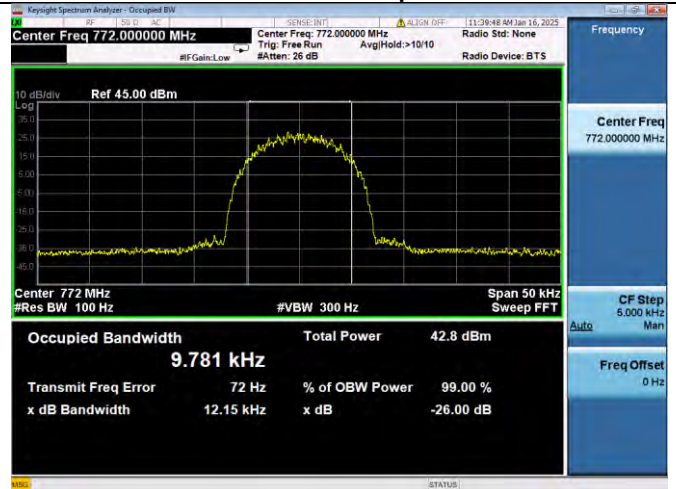


12.5KHz FM

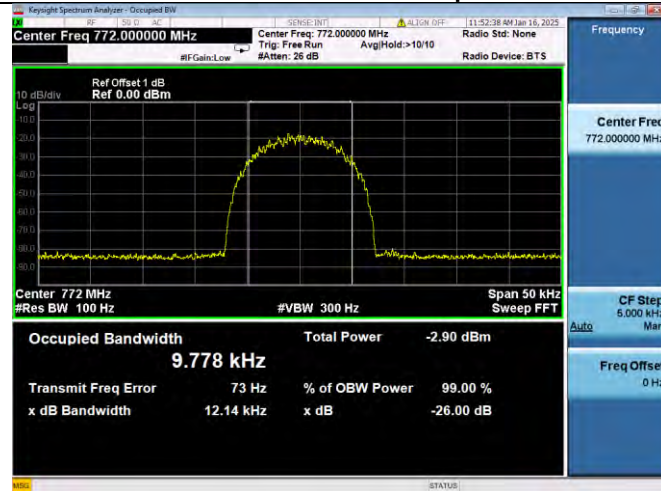
Pre-AGC_Input



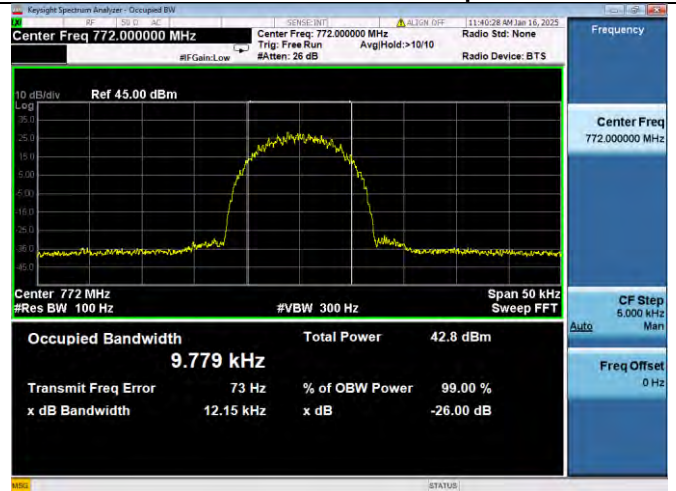
Pre-AGC_Output



3dB Above Pre-AGC_Input

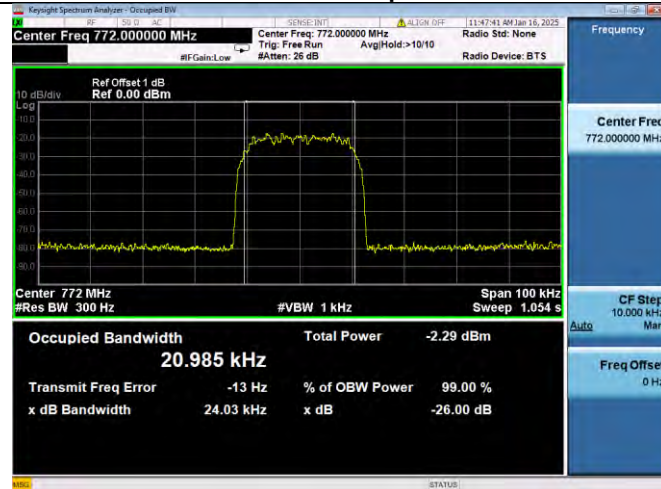


3dB Above Pre-AGC_Output

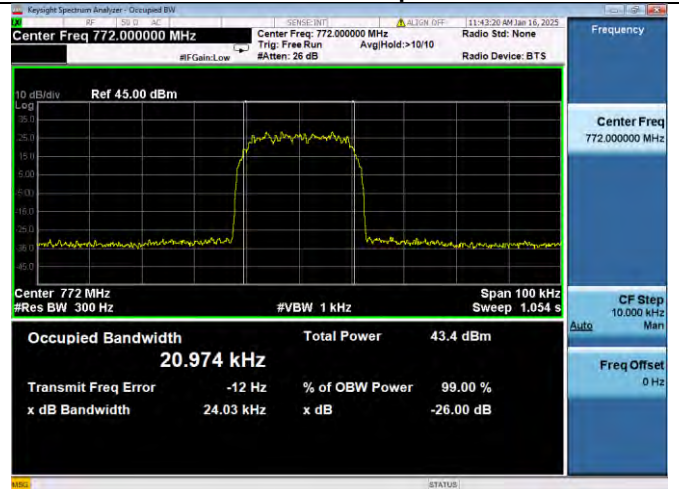


25KHz TETRA

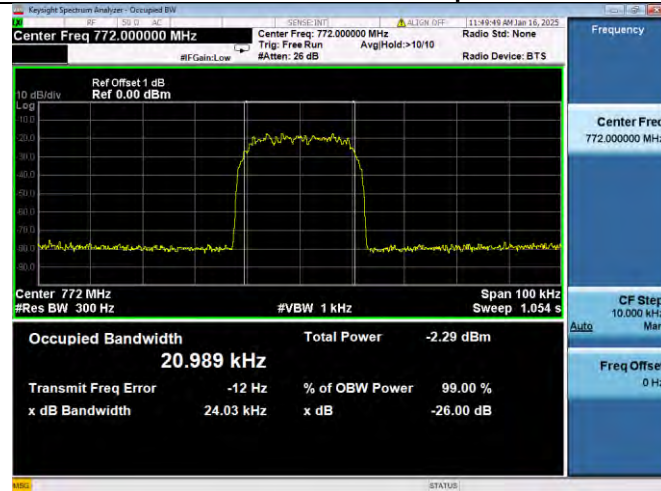
Pre-AGC_Input



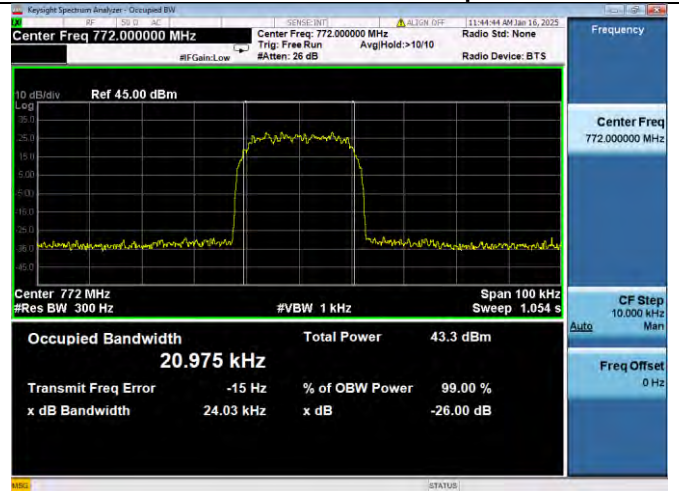
Pre-AGC_Output



3dB Above Pre-AGC_Input



3dB Above Pre-AGC_Output

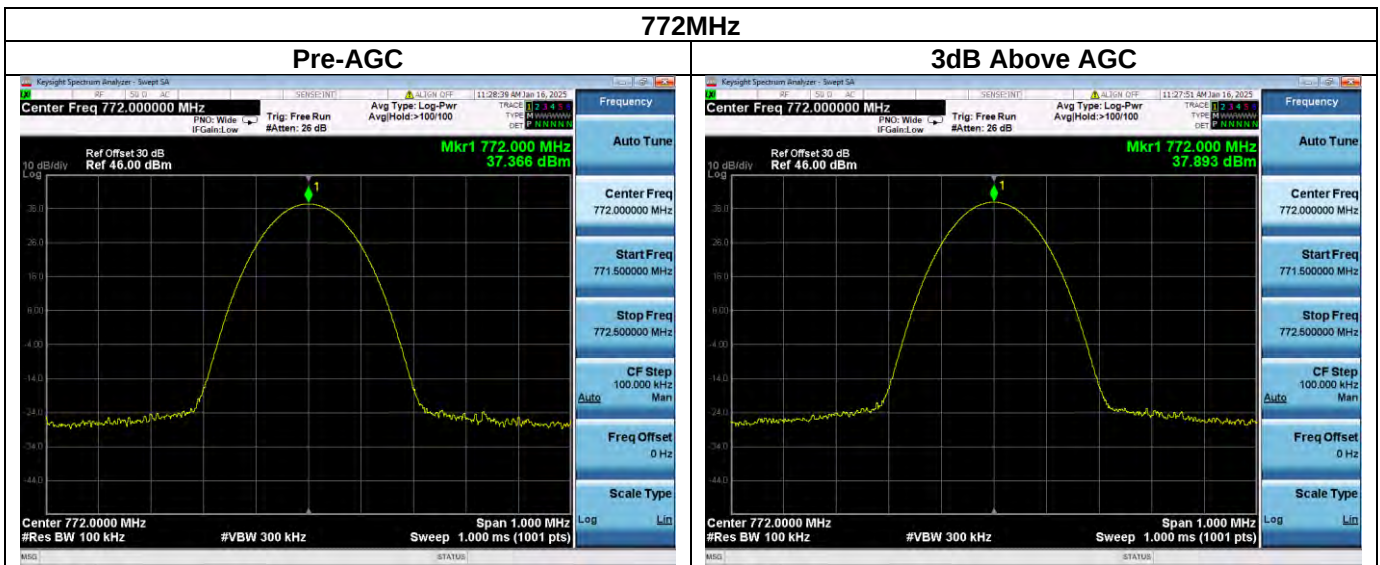


3 Output power at RF antenna connector

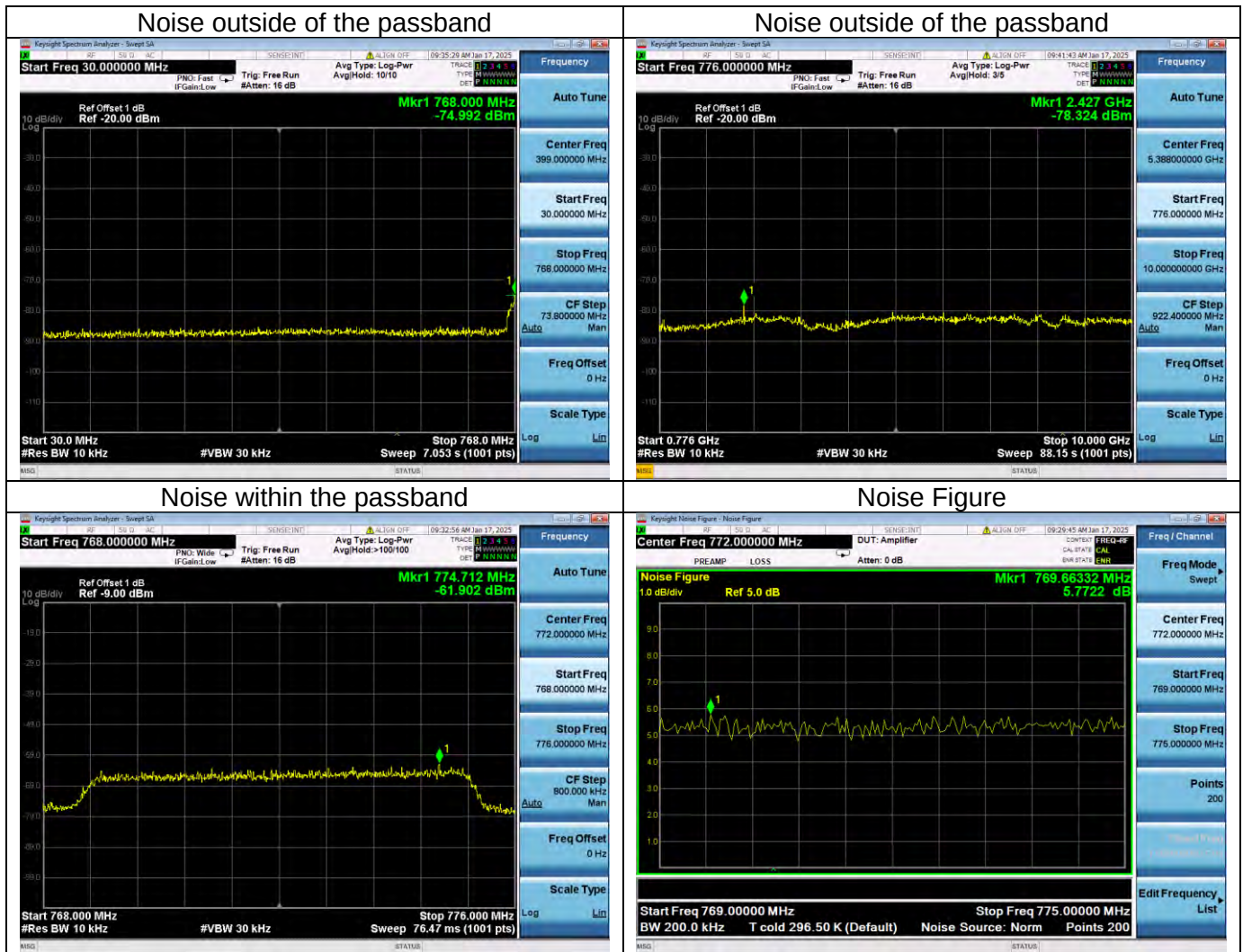
Mode	Operation Band	Frequency F0 (MHz)	Signal Type	Signal Level (dBm)	Output Power (dBm)	ERP (dBm)
Down link	769~775MHz	772.000	CW	Pre-AGC	37.366	35.216
				3dB Above AGC	37.893	35.743

Remake:

- The normal power is 40dBm 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.



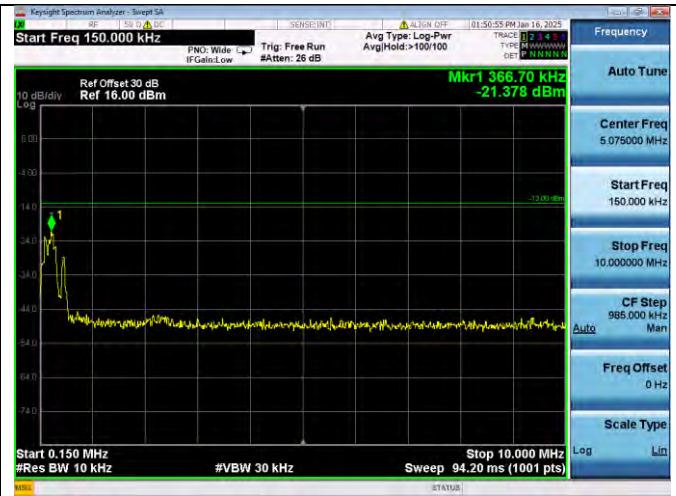
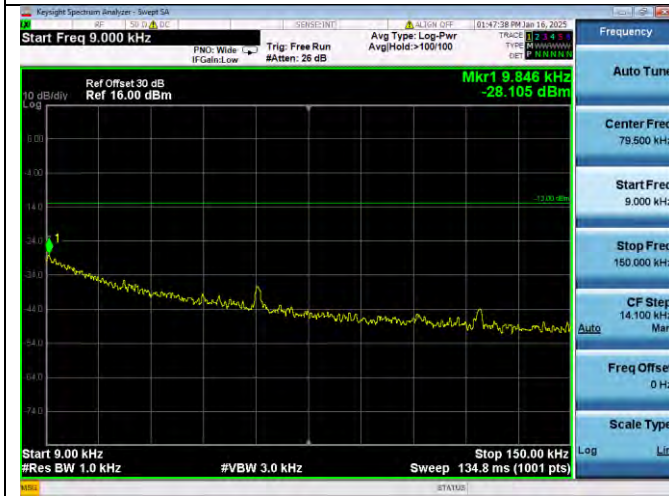
4. Noise Figure



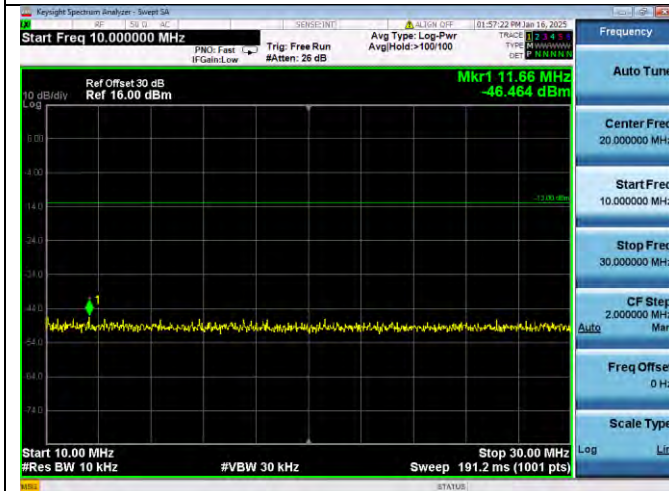
5. Spurious emissions at RF antenna connector

Channel	Frequency Range (MHz)	Worst Test Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
LCH	0.009~0.15	-28.105	-13.00	-15.105	Pass
	0.15~10	-21.378	-13.00	-8.378	Pass
	10~30	-46.464	-13.00	-33.464	Pass
	30~1000	-33.443	-13.00	-20.443	Pass
	1000~10000	-29.896	-13.00	-16.896	Pass
MCH	0.009~0.15	-29.196	-13.00	-16.196	Pass
	0.15~10	-19.934	-13.00	-6.934	Pass
	10~30	-46.393	-13.00	-33.393	Pass
	30~1000	-33.690	-13.00	-20.690	Pass
	1000~10000	-31.038	-13.00	-18.038	Pass
HCH	0.009~0.15	-28.656	-13.00	-15.656	Pass
	0.15~10	-22.199	-13.00	-9.199	Pass
	10 - 30	-46.363	-13.00	-33.363	Pass
	30 - 1000	-33.690	-13.00	-20.690	Pass
	1000 - 10000	-31.038	-13.00	-18.038	Pass

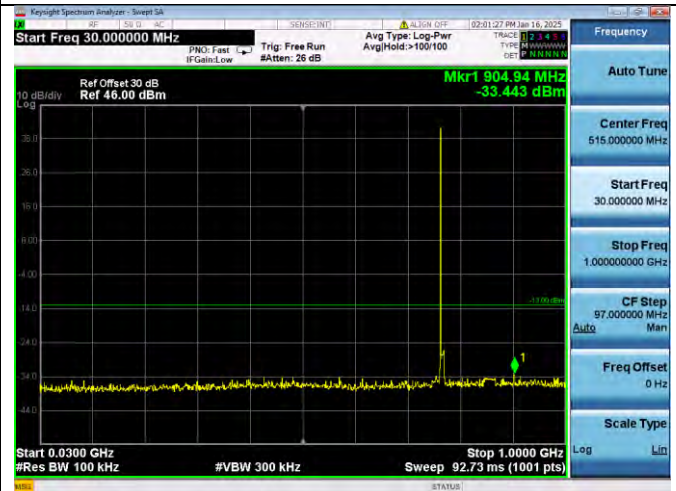
LCH



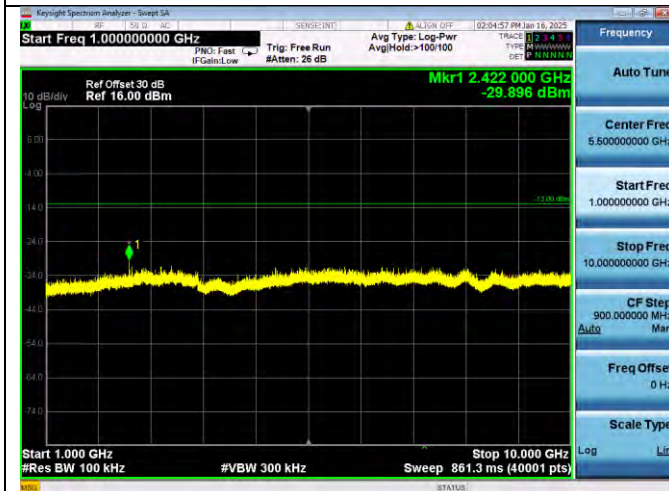
9KHz-150KHz



15KHz-10MHz



10MHz-30MHz

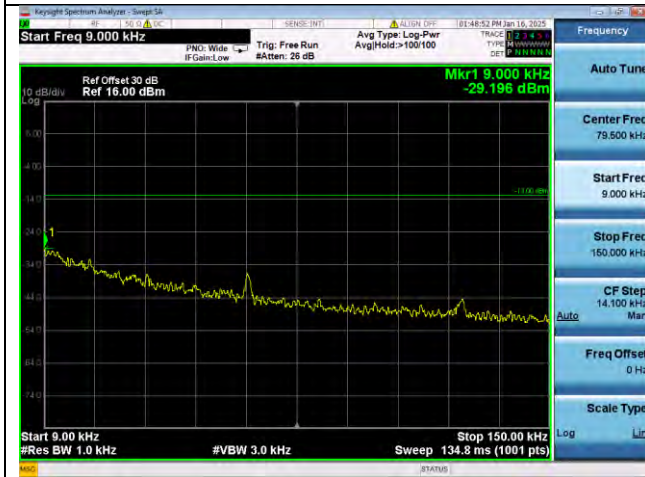


30MHz-1000MHz

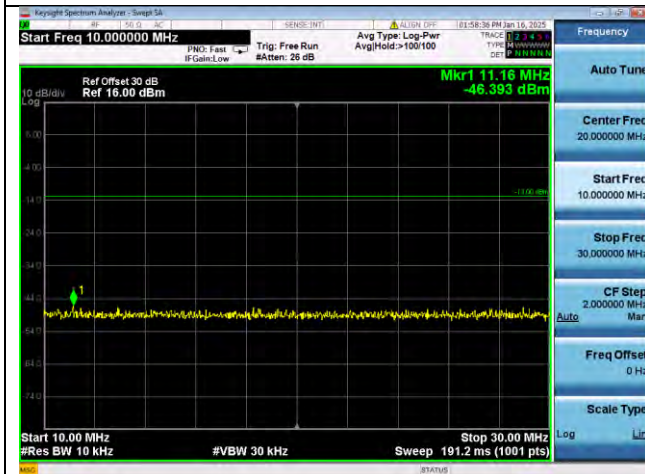


1000MHz-10000MHz

MCH



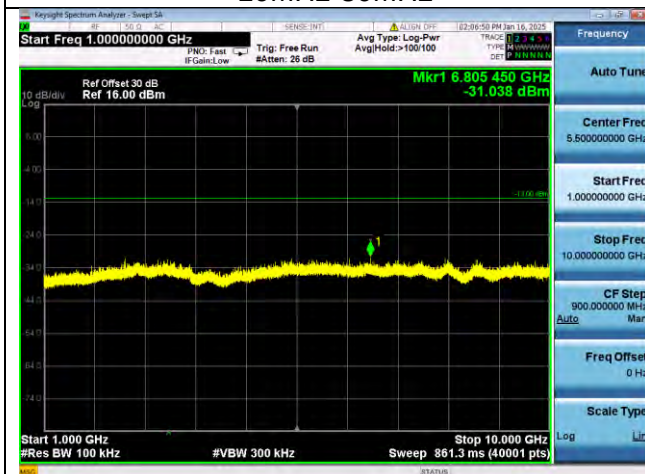
9KHz-150KHz



15KHz-10MHz



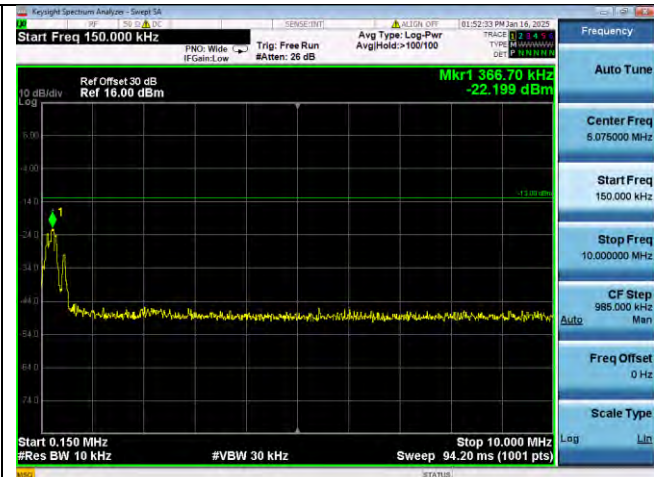
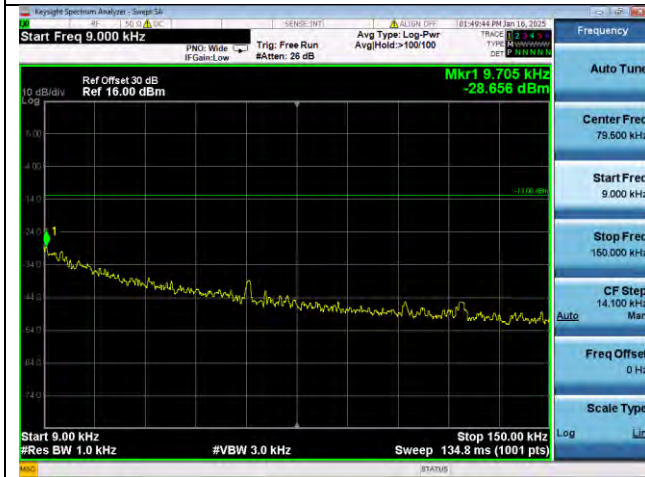
10MHz-30MHz



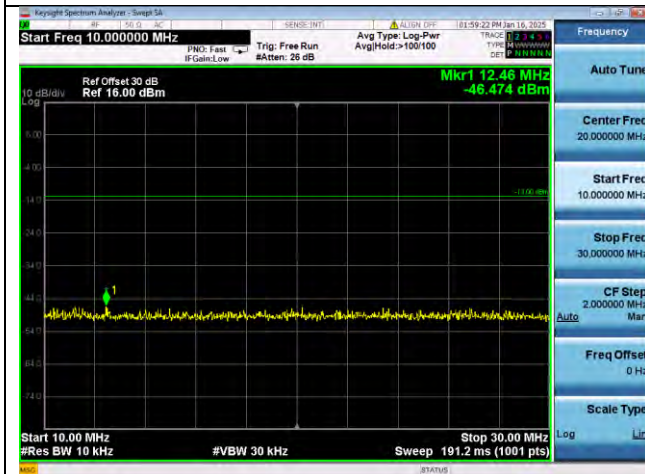
30MHz-1000MHz

1000MHz-10000MHz

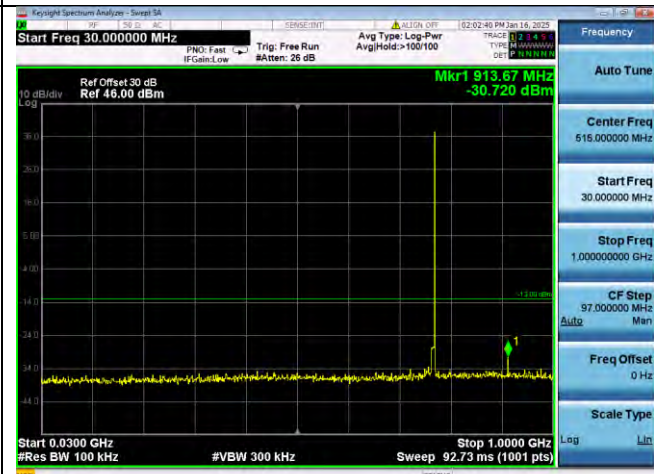
HCH



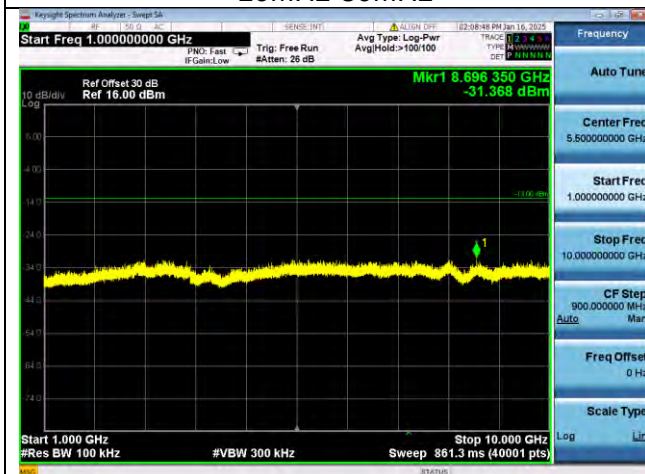
9KHz-150KHz



150KHz-10MHz



10MHz-30MHz



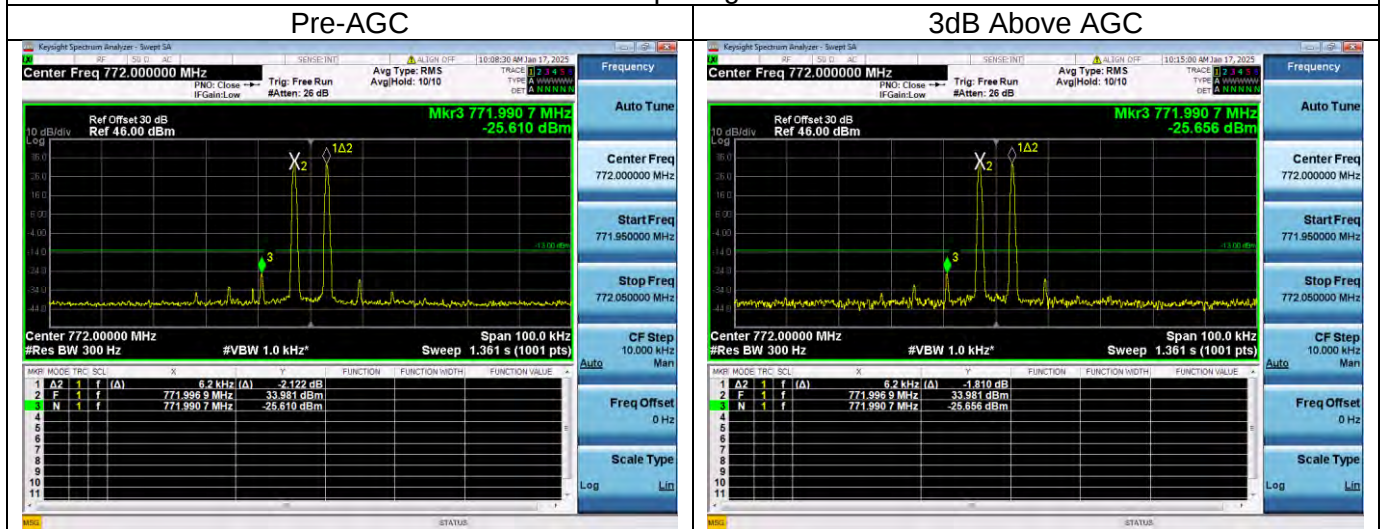
30MHz-1000MHz

1000MHz-10000MHz

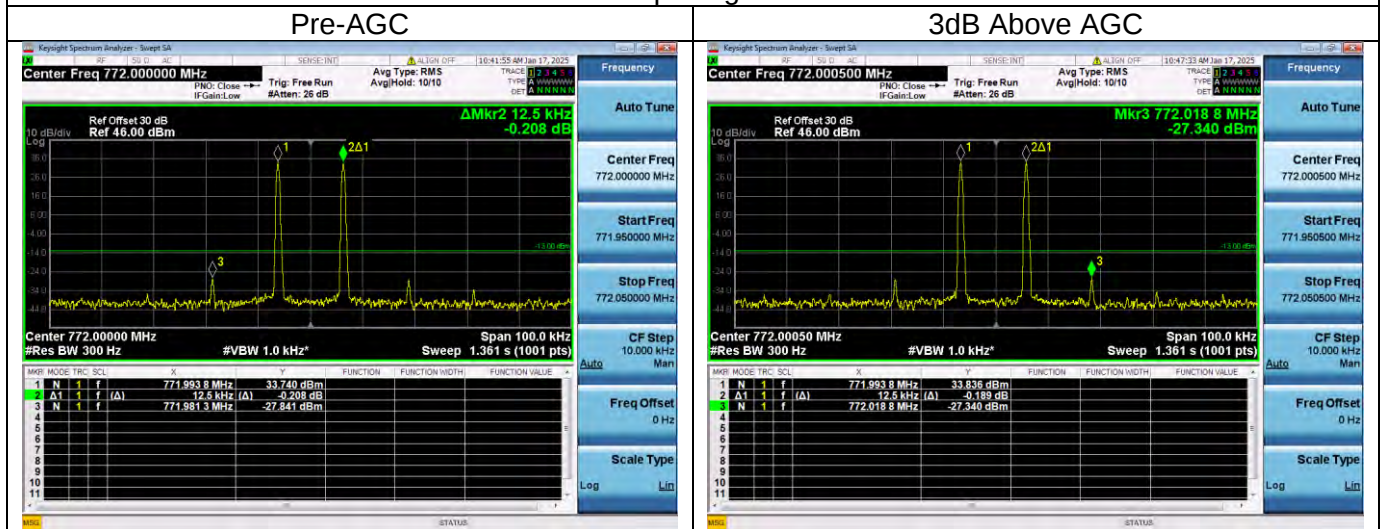
6. Spurious emissions at RF antenna connector: (Intermodulation)

Channel Spacing (KHz)	Signal Level	Worst Test Level (dBm)	Limit (dBm)	Result
6.25KHz	Pre-AGC	-25.610	-13	Pass
	3dB Above AGC	-25.656	-13	Pass
12.5KHz	Pre-AGC	-27.841	-13	Pass
	3dB Above AGC	-27.340	-13	Pass
25KHz	Pre-AGC	-28.278	-13	Pass
	3dB Above AGC	-27.555	-13	Pass

Channel Spacing: 6.25KHz

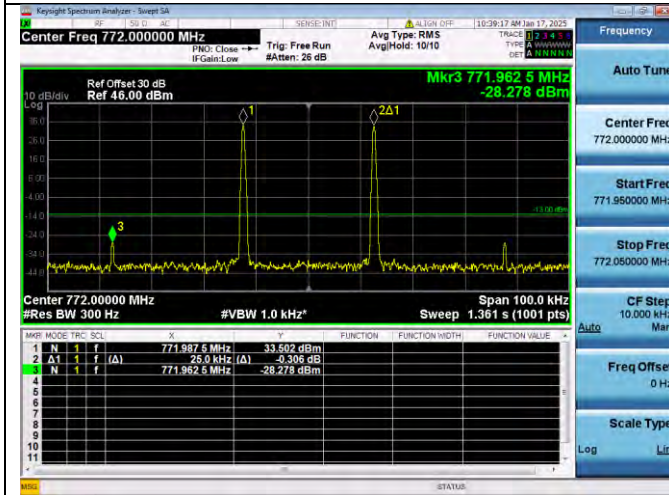


Channel Spacing: 12.5KHz

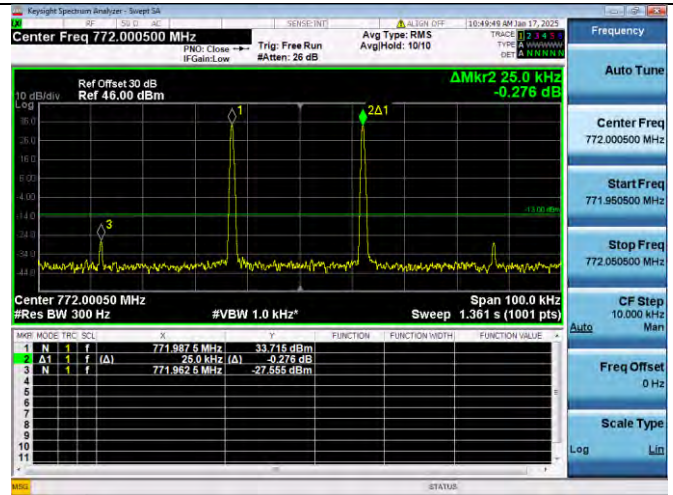


Channel Spacing: 25KHz

Pre-AGC

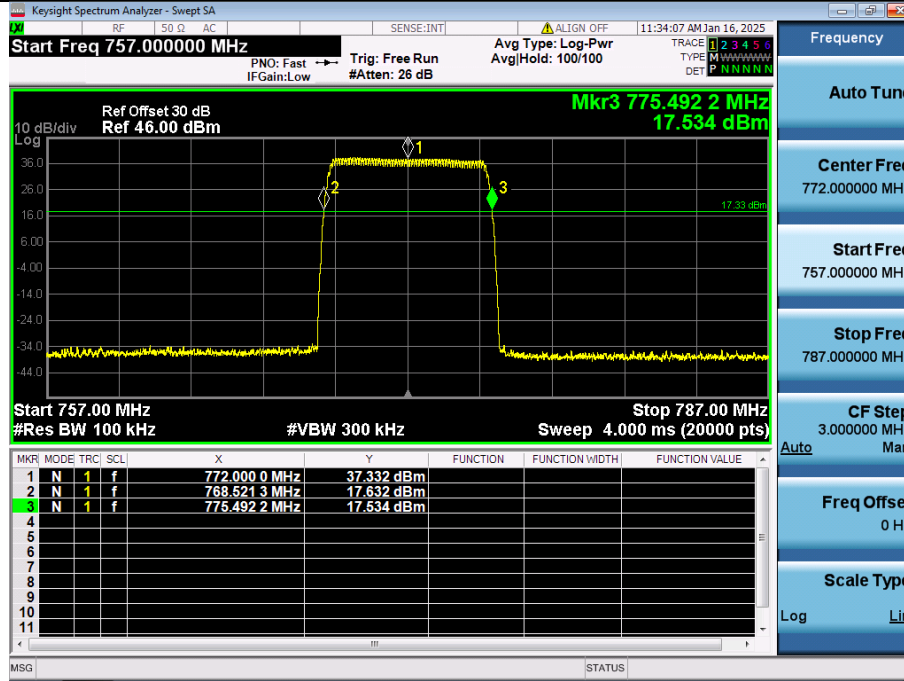


3dB Above AGC



7. Out of Band Rejection

Downlink:769MHz to 775MHz



8. Radiated Spurious Emissions

769MHz-775MHz-Low Channel					
Frequency	Spurious Emission Polarization and Level		Limit	Over Limit	Verdict
MHz	Polarization	dBm	dBm	dB	
83.65	Horizontal	-56.35	-13	-43.35	Pass
311.81	Horizontal	-57.31	-13	-44.31	Pass
622.47	Horizontal	-54.37	-13	-41.37	Pass
1899.67	Horizontal	-52.22	-13	-39.22	Pass
6181.79	Horizontal	-53.04	-13	-40.04	Pass
9855.73	Horizontal	-36.68	-13	-23.68	Pass
119.11	Vertical	-56.59	-13	-43.59	Pass
297.92	Vertical	-54.91	-13	-41.91	Pass
594.95	Vertical	-53.91	-13	-40.91	Pass
1910.56	Vertical	-54.70	-13	-41.70	Pass
6191.01	Vertical	-47.94	-13	-34.94	Pass
9835.84	Vertical	-39.88	-13	-26.88	Pass

769MHz-775MHz-Middle Channel					
Frequency	Spurious Emission Polarization and Level		Limit	Over Limit	Verdict
MHz	Polarization	dBm	dBm	dB	
102.51	Horizontal	-60.91	-13	-47.91	Pass
340.21	Horizontal	-51.89	-13	-38.89	Pass
600.72	Horizontal	-52.36	-13	-39.36	Pass
1909.78	Horizontal	-51.19	-13	-38.19	Pass
6171.54	Horizontal	-49.51	-13	-36.51	Pass
9837.17	Horizontal	-42.32	-13	-29.32	Pass
121.77	Vertical	-58.03	-13	-45.03	Pass
332.13	Vertical	-52.19	-13	-39.19	Pass
595.86	Vertical	-51.81	-13	-38.81	Pass
1904.37	Vertical	-54.02	-13	-41.02	Pass
6156.30	Vertical	-51.25	-13	-38.25	Pass
9839.15	Vertical	-43.78	-13	-30.78	Pass

769MHz-775MHz-High Channel					
Frequency	Spurious Emission Polarization and Level		Limit	Over Limit	Verdict
MHz	Polarization	dBm	dBm	dB	
100.64	Horizontal	-58.23	-13	-45.23	Pass
324.44	Horizontal	-57.02	-13	-44.02	Pass
621.03	Horizontal	-47.45	-13	-34.45	Pass
1881.70	Horizontal	-50.13	-13	-37.13	Pass
6185.04	Horizontal	-49.98	-13	-36.98	Pass
9860.79	Horizontal	-38.47	-13	-25.47	Pass
94.93	Vertical	-56.41	-13	-43.41	Pass
345.19	Vertical	-55.30	-13	-42.30	Pass
596.56	Vertical	-47.26	-13	-34.26	Pass
1918.19	Vertical	-48.35	-13	-35.35	Pass
6179.12	Vertical	-50.84	-13	-37.84	Pass
9842.52	Vertical	-38.86	-13	-25.86	Pass

1559MHz-1610MHz					
Channel	Spurious Emission Polarization and Level		Limit	Over Limit	Verdict
	Polarization	dBm	dBm	dB	
Low	Horizontal	-57.91	-50	-7.91	Pass
	Vertical	-69.58	-50	-19.58	Pass
Middle	Horizontal	-65.53	-50	-15.53	Pass
	Vertical	-63.62	-50	-13.62	Pass
High	Horizontal	-58.79	-50	-8.79	Pass
	Vertical	-60.03	-50	-10.03	Pass

8. Frequency Stability

Frequency Stability vs temperature:

Test for 769MHz to 775MHz (middle channel=772MHz)

Channel (MHz)	Temperature (°C)	Voltage (V ac)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
Middle	55	120	6	0.0078	0.1
	50	120	3	0.0039	0.1
	40	120	7	0.0091	0.1
	30	120	8	0.0104	0.1
	20	120	2	0.0026	0.1
	10	120	8	0.0104	0.1
	0	120	4	0.0052	0.1
	-10	120	3	0.0039	0.1
	-20	120	8	0.0104	0.1
	-30	120	5	0.0065	0.1
	-40	120	6	0.0078	0.1

Frequency Stability vs voltage:

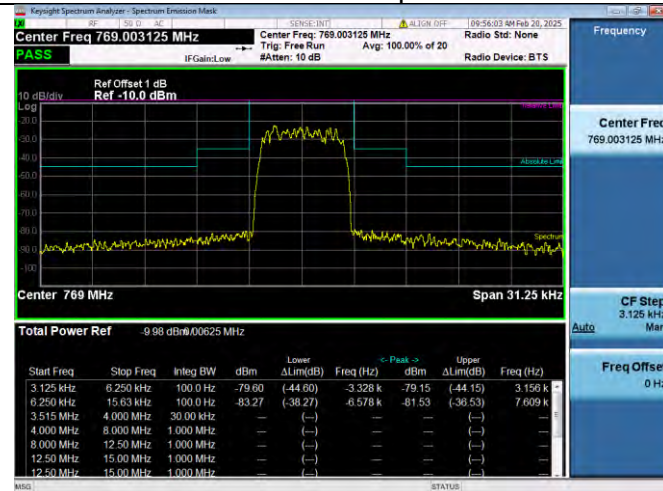
Channel Bandwidth (kHz)	Voltage (V ac)	Temperature (°C)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
Middle	102	20	8	0.0104	0.1
	120	20	4	0.0052	0.1
	138	20	2	0.0026	0.1

9. Emissions mask

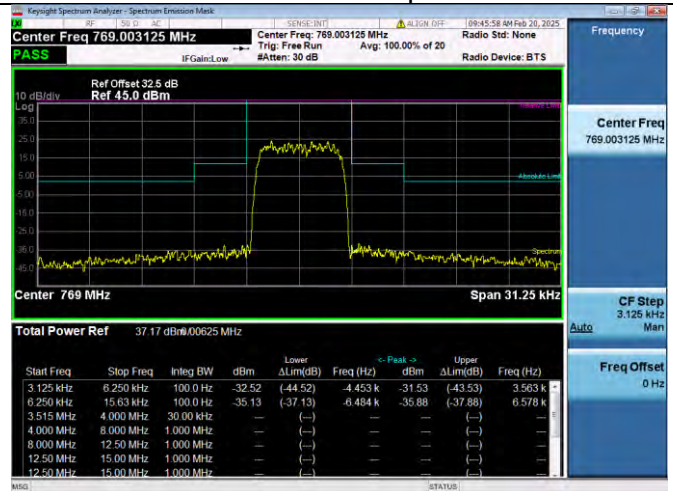
Channel Spacing (KHz)	Signal Level	Test Channel (MHz)	Signal Type	Result
6.25KHz	Pre-AGC	769.003125	Input	Pass
			Output	
	3dB Above AGC		Input	Pass
			Output	
	Pre-AGC	772	Output	Pass
			Input	
	3dB Above AGC		Output	Pass
			Output	
	Pre-AGC	774.996875	Input	Pass
			Output	
	3dB Above AGC		Output	Pass
			Input	
12.5KHz	Pre-AGC	769.00625	Output	Pass
			Output	
	3dB Above AGC		Input	Pass
			Output	
	Pre-AGC	772	Output	Pass
			Input	
	3dB Above AGC		Output	Pass
			Output	
	Pre-AGC	774.99375	Input	Pass
			Output	
	3dB Above AGC		Output	Pass
			Input	
25KHz	Pre-AGC	769.0125	Output	Pass
			Output	
	3dB Above AGC		Input	Pass
			Output	
	Pre-AGC	772	Output	Pass
			Input	
	3dB Above AGC		Output	Pass
			Output	
	Pre-AGC	774.9875	Input	Pass
			Output	
	3dB Above AGC		Output	Pass
			Input	

Channel Spacing: 6.25KHz Channel: 769.003125MHz

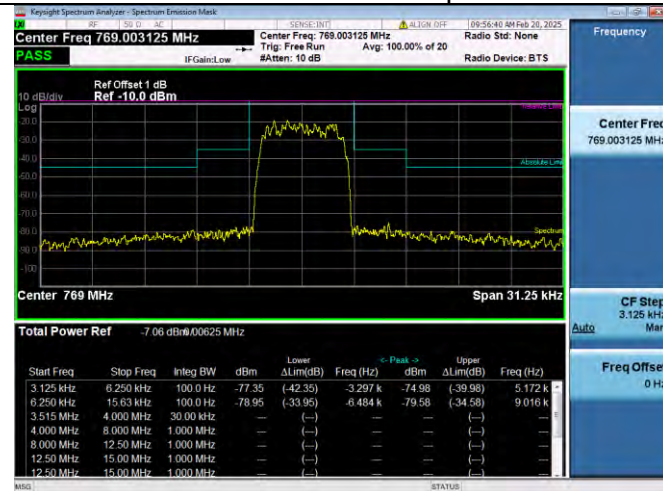
Pre-AGC-Input



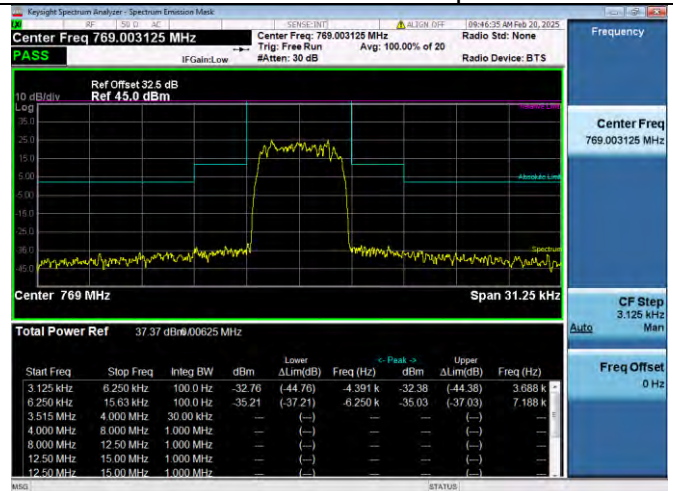
Pre-AGC-Output



3dB Above AGC-Input

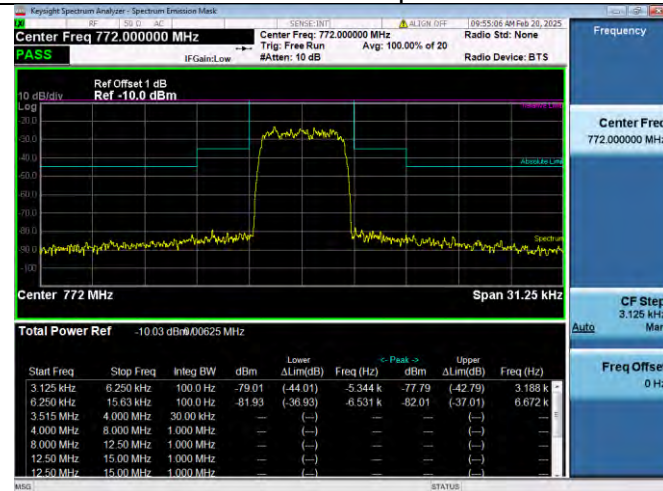


3dB Above AGC-Output

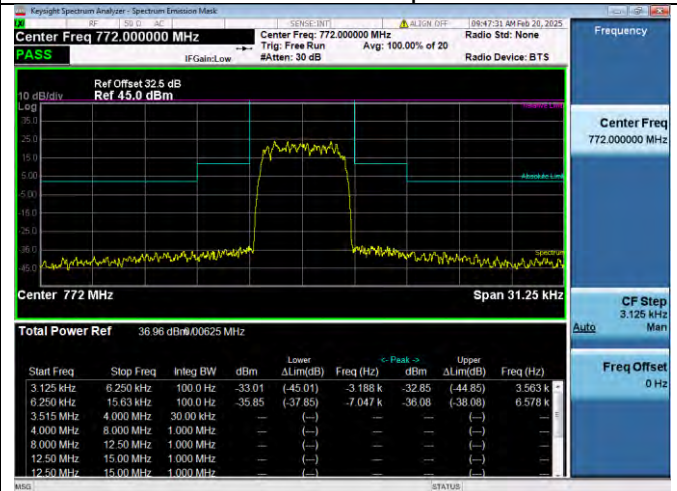


Channel Spacing: 6.25KHz Channel: 772MHz

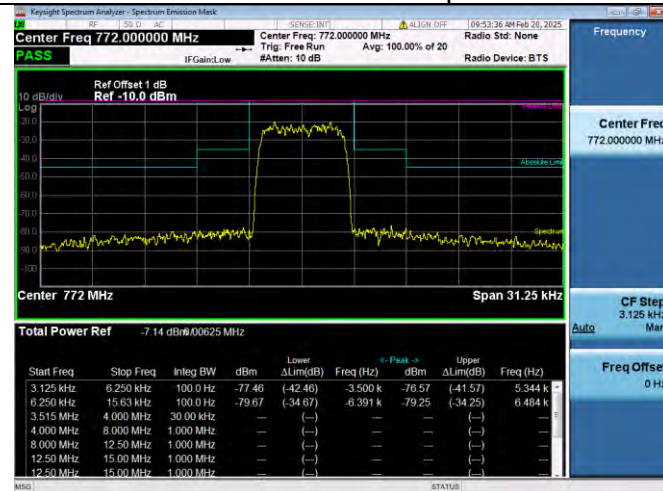
Pre-AGC-Input



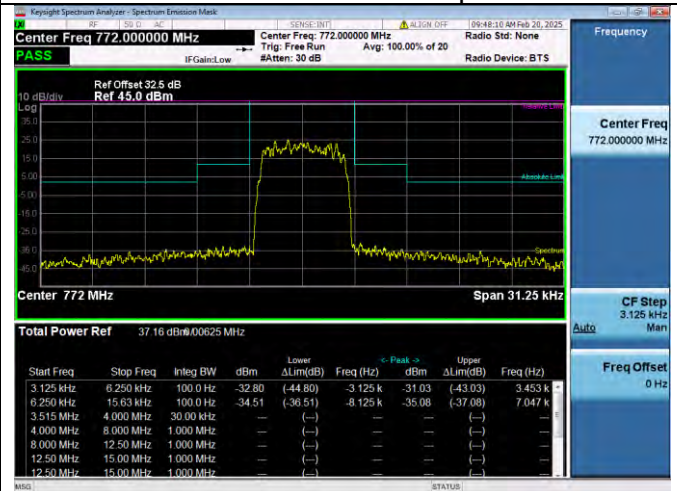
Pre-AGC-Output



3dB Above AGC-Input

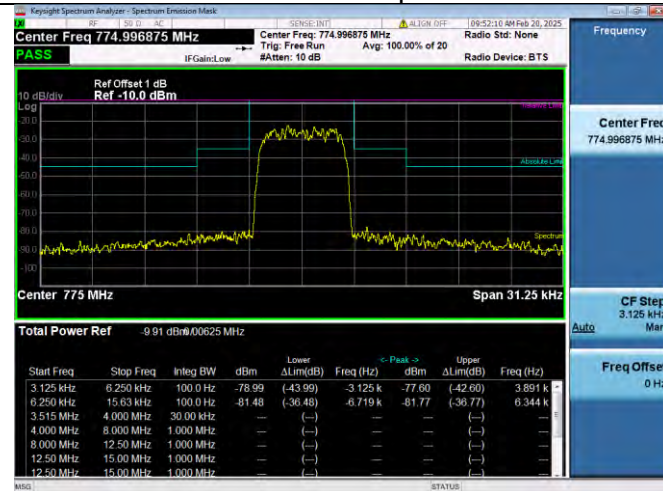


3dB Above AGC-Output

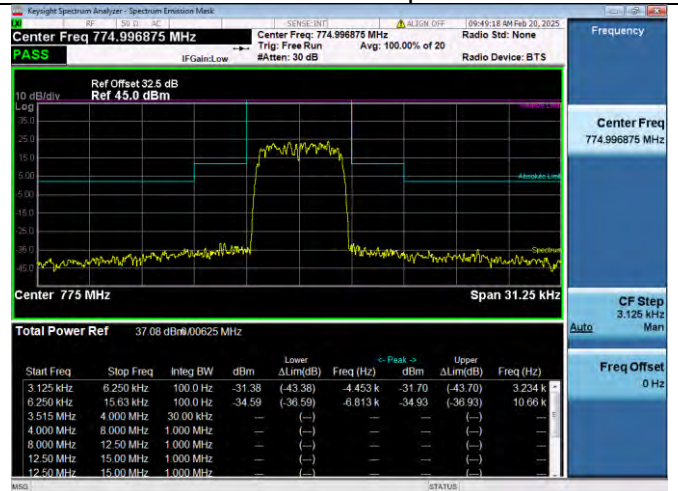


Channel Spacing: 6.25KHz Channel: 774.996875MHz

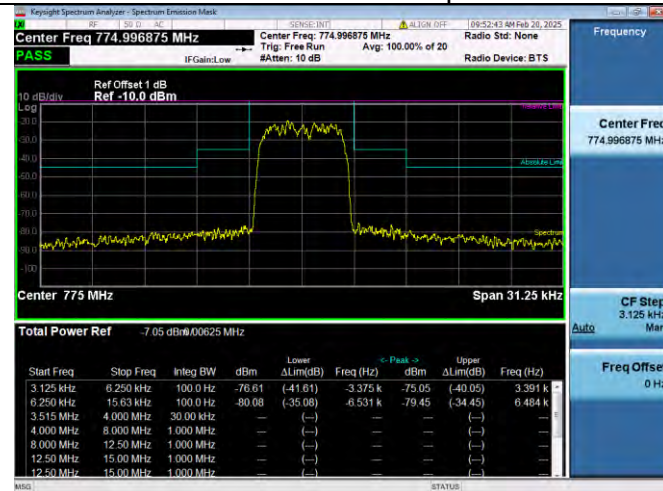
Pre-AGC-Input



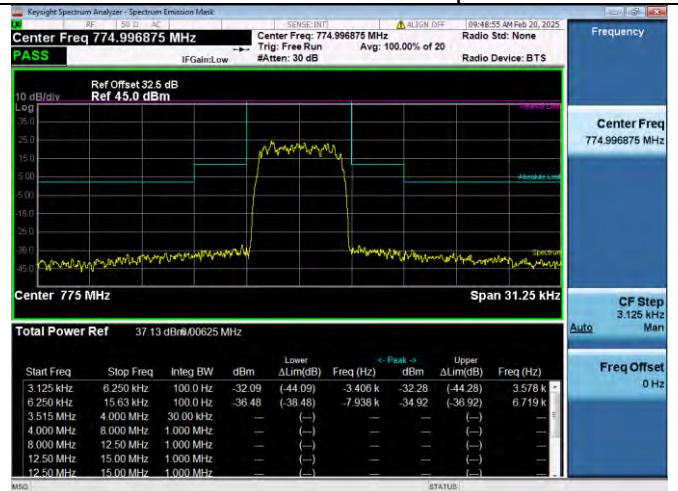
Pre-AGC-Output



3dB Above AGC-Input

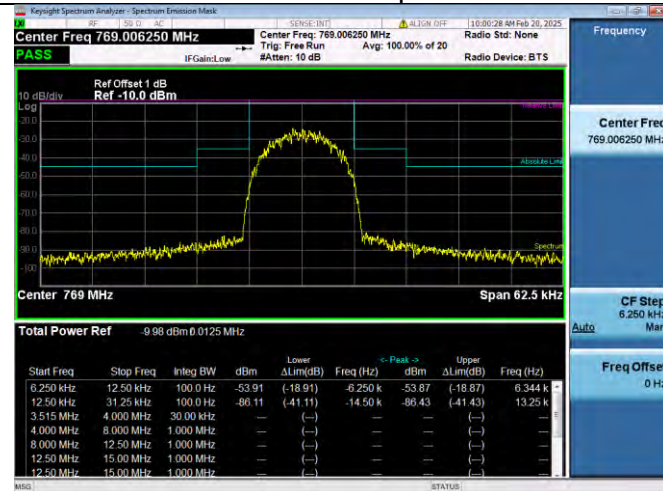


3dB Above AGC-Output

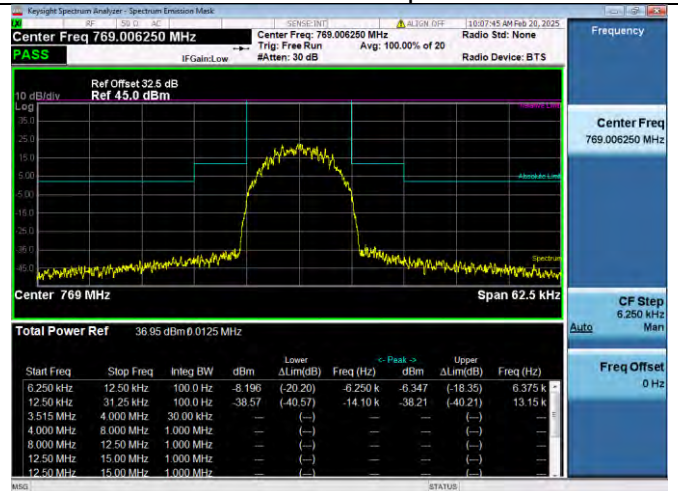


Channel Spacing: 12.5 KHz Channel: 769.00625 MHz

Pre-AGC-Input



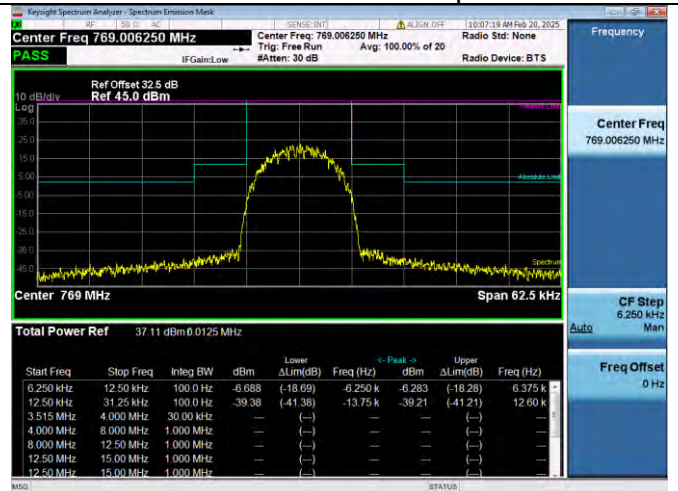
Pre-AGC-Output



3dB Above AGC-Input

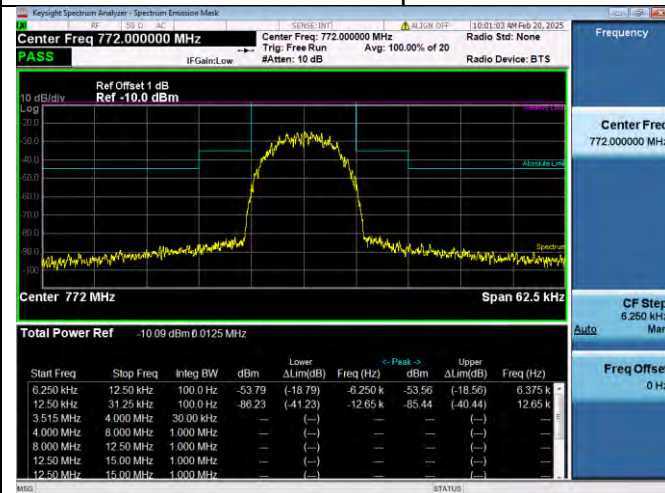


3dB Above AGC-Output

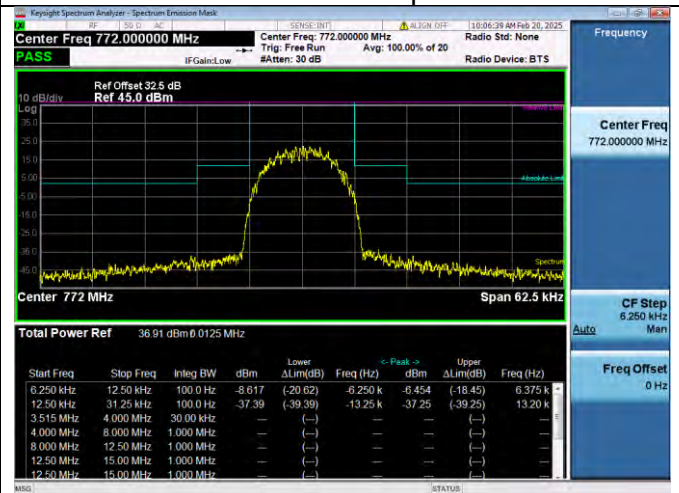


Channel Spacing: 12.5KHz Channel: 772MHz

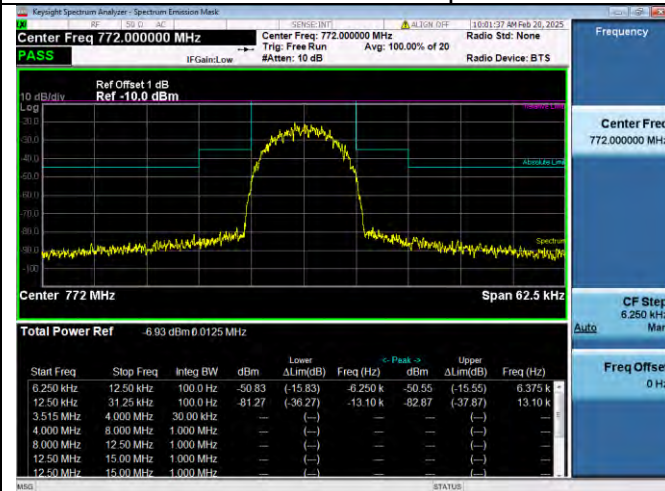
Pre-AGC-Input



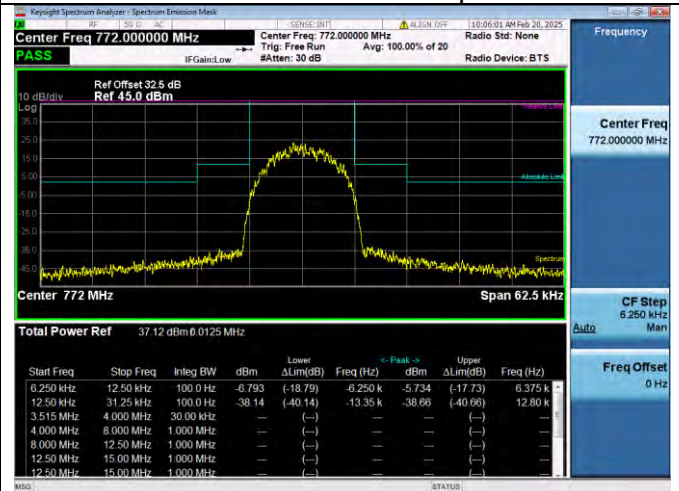
Pre-AGC-Output



3dB Above AGC-Input

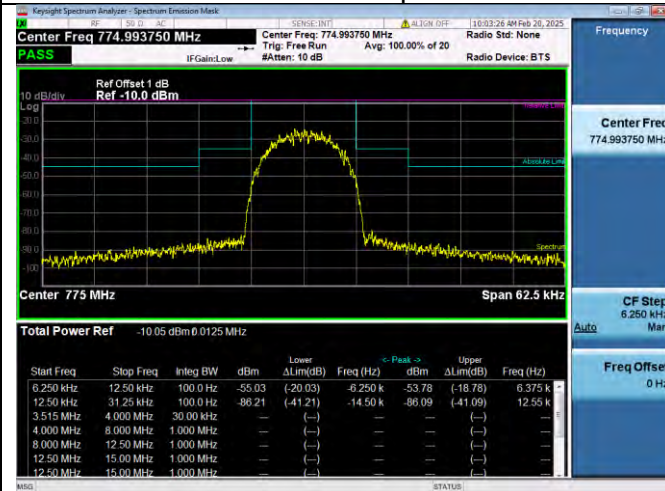


3dB Above AGC-Output

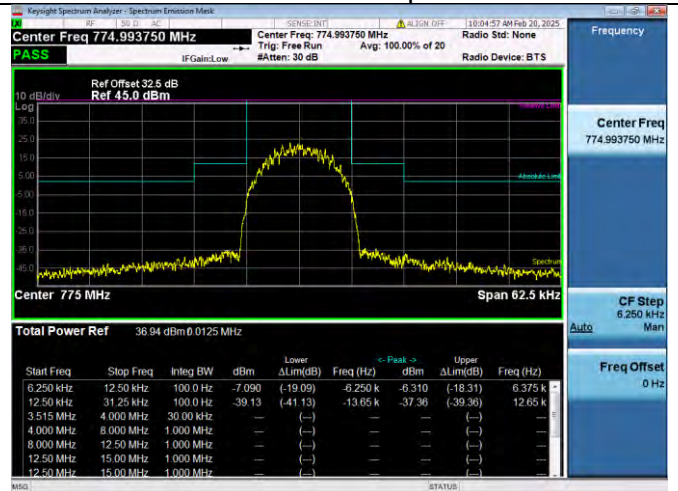


Channel Spacing: 12.5KHz Channel: 774.99375MHz

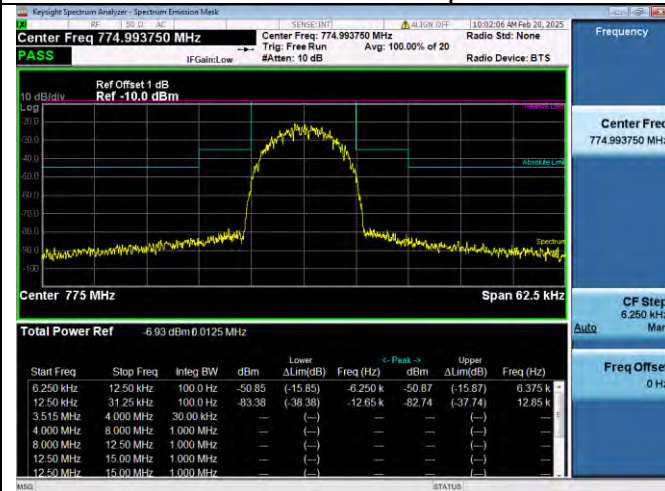
Pre-AGC-Input



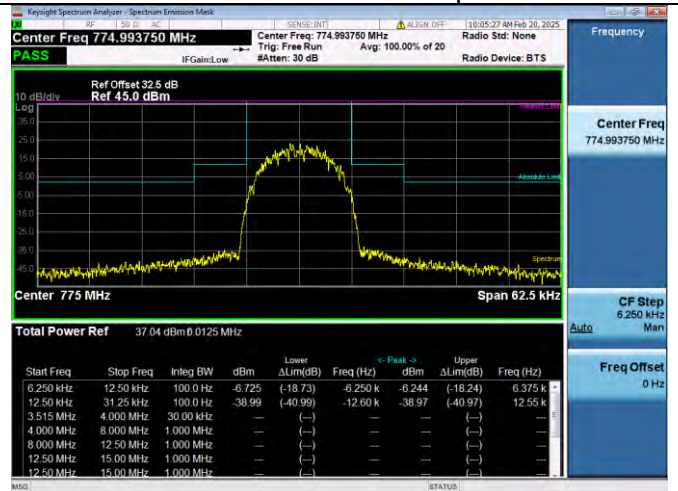
Pre-AGC-Output



3dB Above AGC-Input

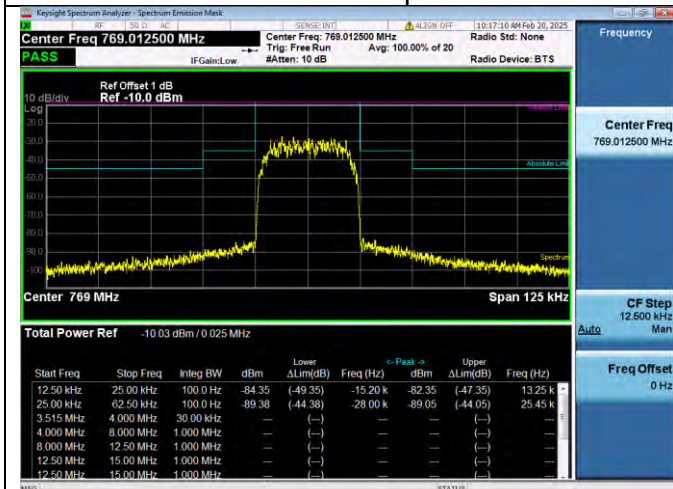


3dB Above AGC-Output

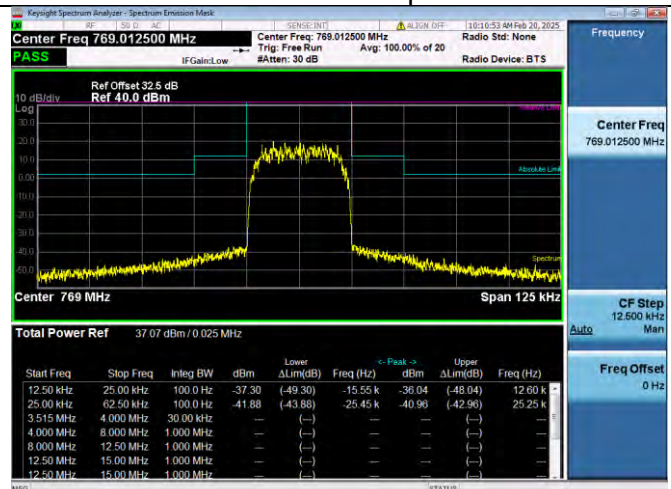


Channel Spacing: 25KHz Channel: 769.0125MHz

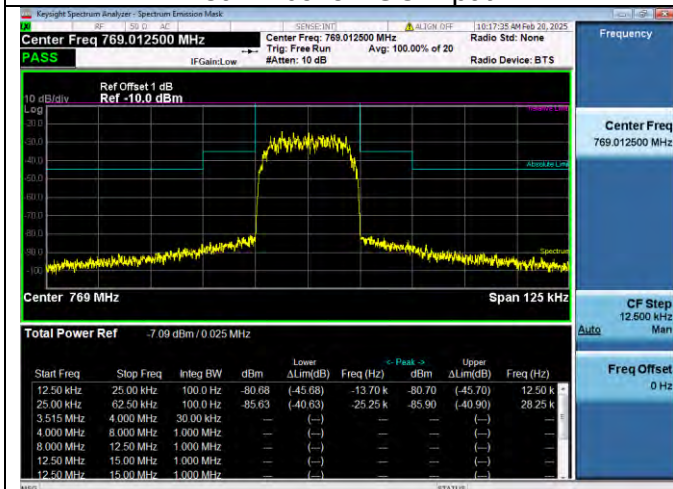
Pre-AGC-Input



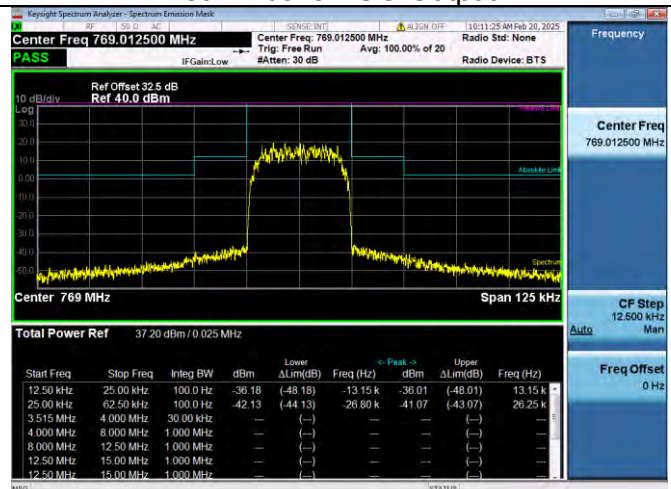
Pre-AGC-Output



3dB Above AGC-Input

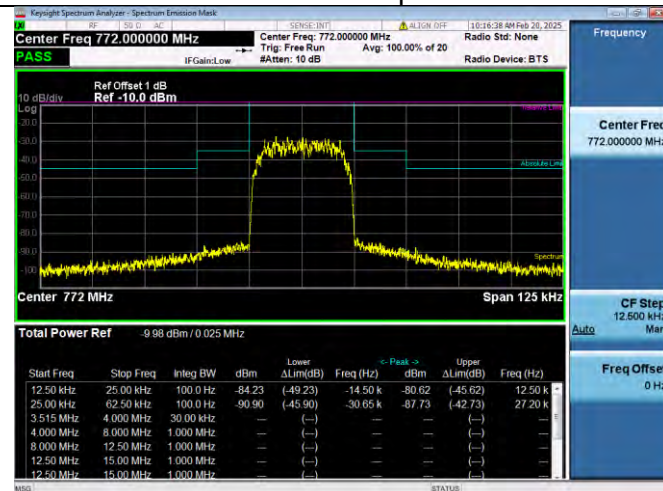


3dB Above AGC-Output

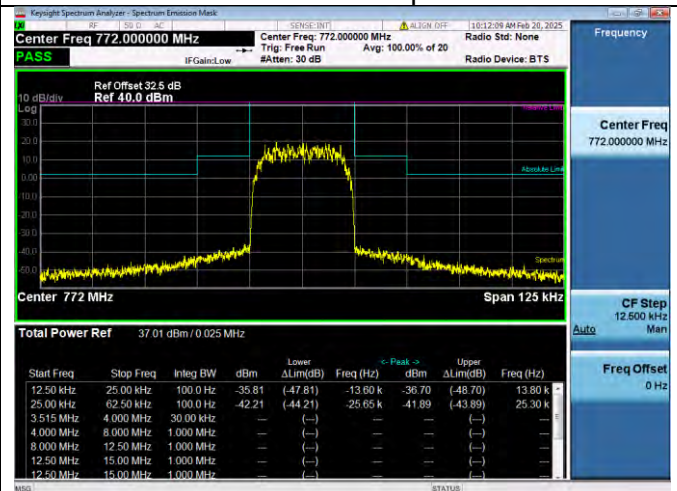


Channel Spacing: 25KHz Channel: 772MHz

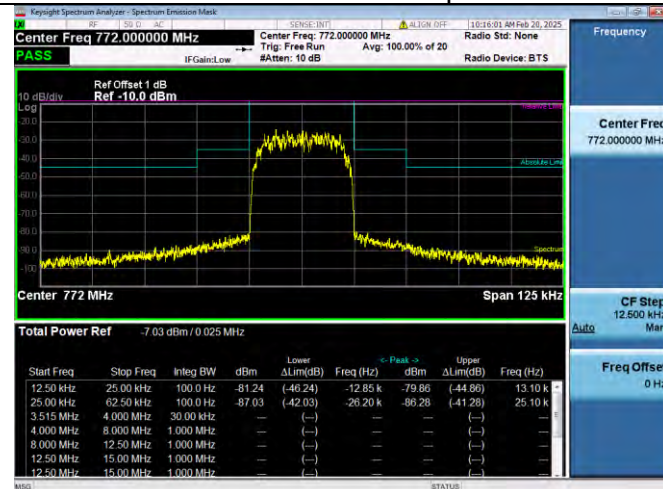
Pre-AGC-Input



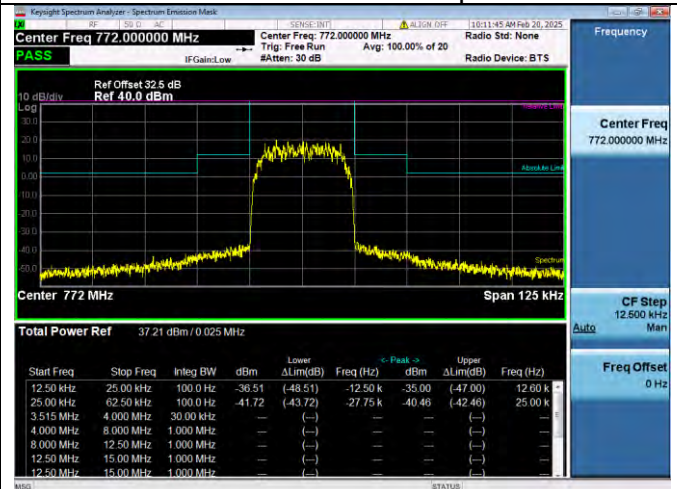
Pre-AGC-Output



3dB Above AGC-Input

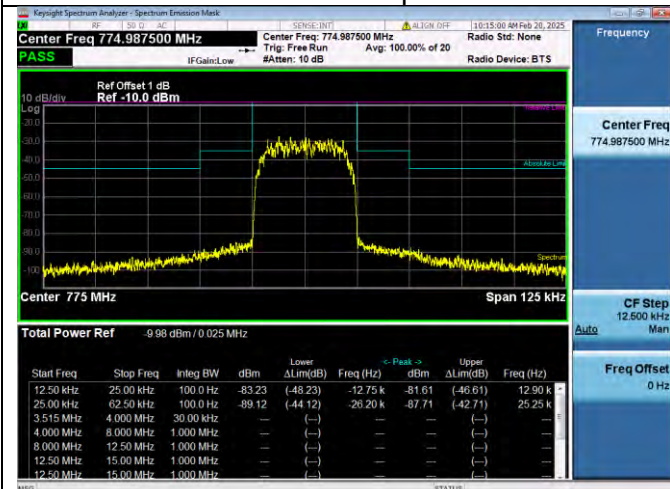


3dB Above AGC-Output

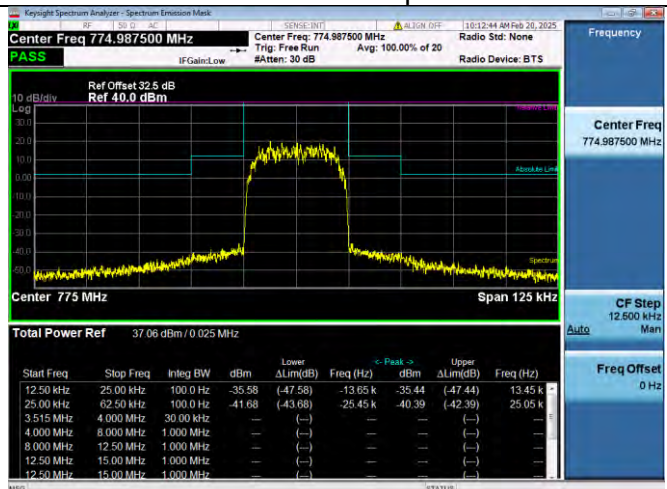


Channel Spacing: 25KHz Channel: 774.9875MHz

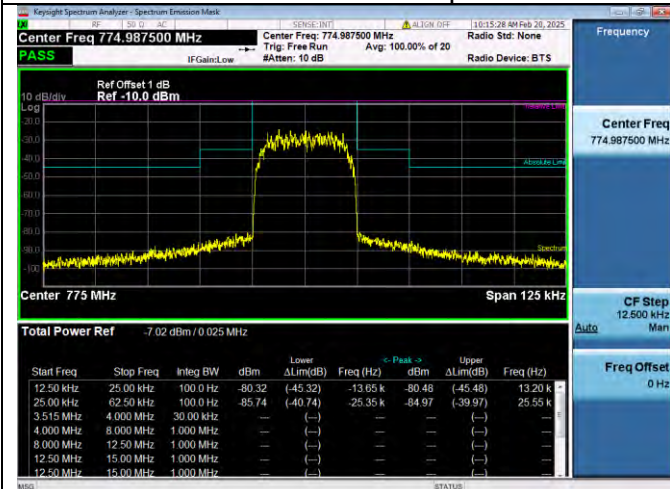
Pre-AGC-Input



Pre-AGC-Output



3dB Above AGC-Input



3dB Above AGC-Output

