Appendix-A LTE Band 13

Effective (Isotropic) Radiated Power Output Data

Test Result

Ant8:

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	24.19	23.04	44.77	PASS
Band13	5MHz	QPSK	23205	25RB#0	23.36	22.21	44.77	PASS
Band13	5MHz	QPSK	23205	1RB#12	24.33	23.18	44.77	PASS
Band13	5MHz	QPSK	23205	1RB#24	24.25	23.1	44.77	PASS
Band13	5MHz	QPSK	23230	1RB#0	24.25	23.1	44.77	PASS
Band13	5MHz	QPSK	23230	25RB#0	23.33	22.18	44.77	PASS
Band13	5MHz	QPSK	23230	1RB#12	24.25	23.1	44.77	PASS
Band13	5MHz	QPSK	23230	1RB#24	24.08	22.93	44.77	PASS
Band13	5MHz	QPSK	23255	1RB#0	24.23	23.08	44.77	PASS
Band13	5MHz	QPSK	23255	25RB#0	23.19	22.04	44.77	PASS
Band13	5MHz	QPSK	23255	1RB#12	24.19	23.04	44.77	PASS
Band13	5MHz	QPSK	23255	1RB#24	24.13	22.98	44.77	PASS
Band13	5MHz	16QAM	23205	1RB#0	23.48	22.33	44.77	PASS
Band13	5MHz	16QAM	23205	25RB#0	22.37	21.22	44.77	PASS
Band13	5MHz	16QAM	23205	1RB#12	23.68	22.53	44.77	PASS
Band13	5MHz	16QAM	23205	1RB#24	23.70	22.55	44.77	PASS
Band13	5MHz	16QAM	23230	1RB#0	23.58	22.43	44.77	PASS
Band13	5MHz	16QAM	23230	25RB#0	22.32	21.17	44.77	PASS
Band13	5MHz	16QAM	23230	1RB#12	23.64	22.49	44.77	PASS
Band13	5MHz	16QAM	23230	1RB#24	23.50	22.35	44.77	PASS
Band13	5MHz	16QAM	23255	1RB#0	23.55	22.4	44.77	PASS
Band13	5MHz	16QAM	23255	25RB#0	22.18	21.03	44.77	PASS
Band13	5MHz	16QAM	23255	1RB#12	23.46	22.31	44.77	PASS
Band13	5MHz	16QAM	23255	1RB#24	23.27	22.12	44.77	PASS
Band13	5MHz	64QAM	23205	1RB#0	22.36	21.21	44.77	PASS
Band13	5MHz	64QAM	23205	25RB#0	21.22	20.07	44.77	PASS
Band13	5MHz	64QAM	23205	1RB#12	22.14	20.99	44.77	PASS
Band13	5MHz	64QAM	23205	1RB#24	22.19	21.04	44.77	PASS
Band13	5MHz	64QAM	23230	1RB#0	22.34	21.19	44.77	PASS
Band13	5MHz	64QAM	23230	25RB#0	21.09	19.94	44.77	PASS
Band13	5MHz	64QAM	23230	1RB#12	22.27	21.12	44.77	PASS
Band13	5MHz	64QAM	23230	1RB#24	22.24	21.09	44.77	PASS
Band13	5MHz	64QAM	23255	1RB#0	22.20	21.05	44.77	PASS
Band13	5MHz	64QAM	23255	25RB#0	21.05	19.9	44.77	PASS
Band13	5MHz	64QAM	23255	1RB#12	22.31	21.16	44.77	PASS
Band13	5MHz	64QAM	23255	1RB#24	22.17	21.02	44.77	PASS

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Band13	5MHz	256QAM	23205	1RB#0	19.24	18.09	44.77	PASS
Band13	5MHz	256QAM	23205	25RB#0	19.37	18.22	44.77	PASS
Band13	5MHz	256QAM	23205	1RB#12	19.50	18.35	44.77	PASS
Band13	5MHz	256QAM	23205	1RB#24	19.22	18.07	44.77	PASS
Band13	5MHz	256QAM	23230	1RB#0	19.63	18.48	44.77	PASS
Band13	5MHz	256QAM	23230	25RB#0	19.27	18.12	44.77	PASS
Band13	5MHz	256QAM	23230	1RB#12	19.38	18.23	44.77	PASS
Band13	5MHz	256QAM	23230	1RB#24	19.11	17.96	44.77	PASS
Band13	5MHz	256QAM	23255	1RB#0	19.56	18.41	44.77	PASS
Band13	5MHz	256QAM	23255	25RB#0	19.12	17.97	44.77	PASS
Band13	5MHz	256QAM	23255	1RB#12	19.41	18.26	44.77	PASS
Band13	5MHz	256QAM	23255	1RB#24	19.22	18.07	44.77	PASS
Band13	10MHz	QPSK	23230	1RB#0	24.26	23.11	44.77	PASS
Band13	10MHz	QPSK	23230	50RB#0	23.41	22.26	44.77	PASS
Band13	10MHz	QPSK	23230	1RB#24	24.23	23.08	44.77	PASS
Band13	10MHz	QPSK	23230	1RB#49	24.02	22.87	44.77	PASS
Band13	10MHz	16QAM	23230	1RB#0	23.39	22.24	44.77	PASS
Band13	10MHz	16QAM	23230	50RB#0	22.38	21.23	44.77	PASS
Band13	10MHz	16QAM	23230	1RB#24	23.40	22.25	44.77	PASS
Band13	10MHz	16QAM	23230	1RB#49	23.41	22.26	44.77	PASS
Band13	10MHz	64QAM	23230	1RB#0	22.41	21.26	44.77	PASS
Band13	10MHz	64QAM	23230	50RB#0	21.17	20.02	44.77	PASS
Band13	10MHz	64QAM	23230	1RB#24	22.33	21.18	44.77	PASS
Band13	10MHz	64QAM	23230	1RB#49	22.29	21.14	44.77	PASS
Band13	10MHz	256QAM	23230	1RB#0	19.38	18.23	44.77	PASS
Band13	10MHz	256QAM	23230	50RB#0	19.29	18.14	44.77	PASS
Band13	10MHz	256QAM	23230	1RB#24	19.41	18.26	44.77	PASS
Band13	10MHz	256QAM	23230	1RB#49	19.18	18.03	44.77	PASS

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Peak-to-Average Ratio(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dB)	Limit (dB)	Verdict
Band13	10MHz	QPSK	23230	100RB#0	5.02	13	PASS
Band13	10MHz	16QAM	23230	100RB#0	5.98	13	PASS
Band13	10MHz	64QAM	23230	100RB#0	5.92	13	PASS
Band13	10MHz	256QAM	23230	100RB#0	6.74	13	PASS

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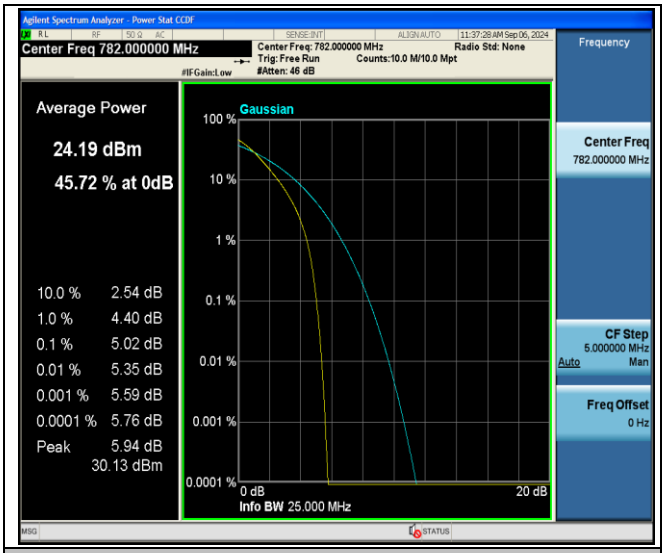
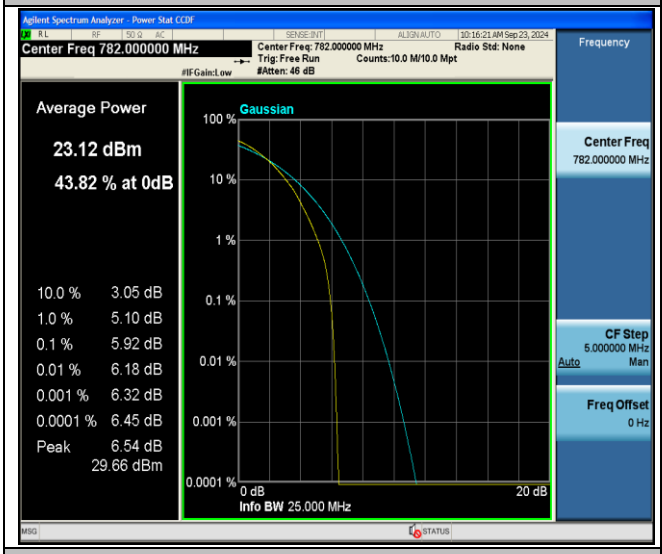
Test Graphs

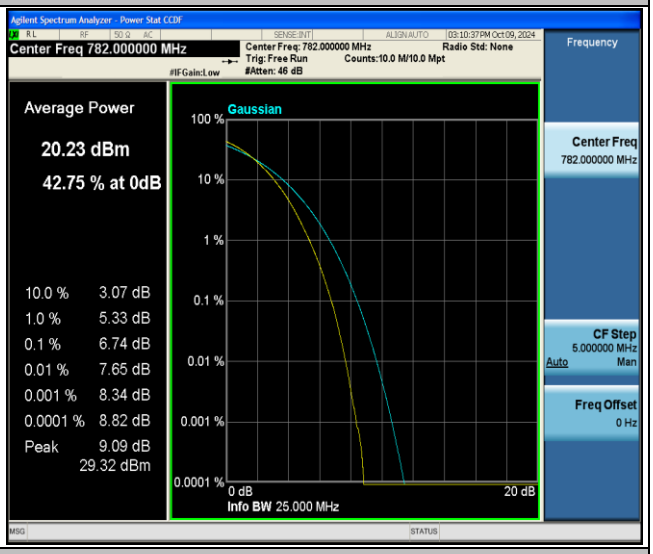


Band13-10MHz-QPSK-23230-100RB#0-PASS

Band13-10MHz-16QAM-23230-100RB#0-PASS



Band13-10MHz-64QAM-23230-100RB#0-PASS



Band13-10MHz-256QAM-23230-100RB#0-PASS

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26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	OBW (MHz)	26dB EBW (MHz)	Verdict
Band13	5MHz	QPSK	23205	25RB#0	4.4989	5.106	PASS
Band13	5MHz	QPSK	23230	25RB#0	4.5229	5.129	PASS
Band13	5MHz	QPSK	23255	25RB#0	4.4947	5.155	PASS
Band13	5MHz	16QAM	23205	25RB#0	4.4973	5.112	PASS
Band13	5MHz	16QAM	23230	25RB#0	4.5149	5.134	PASS
Band13	5MHz	16QAM	23255	25RB#0	4.4943	5.087	PASS
Band13	5MHz	64QAM	23205	25RB#0	4.4977	5.131	PASS
Band13	5MHz	64QAM	23230	25RB#0	4.5243	5.178	PASS
Band13	5MHz	64QAM	23255	25RB#0	4.4989	5.147	PASS
Band13	5MHz	256QAM	23205	25RB#0	4.5022	5.115	PASS
Band13	5MHz	256QAM	23230	25RB#0	4.5161	5.123	PASS
Band13	5MHz	256QAM	23255	25RB#0	4.4902	5.137	PASS
Band13	10MHz	QPSK	23230	50RB#0	8.9711	9.942	PASS
Band13	10MHz	16QAM	23230	50RB#0	8.9878	10.06	PASS
Band13	10MHz	64QAM	23230	50RB#0	8.9734	9.912	PASS
Band13	10MHz	256QAM	23230	50RB#0	8.8435	9.342	PASS

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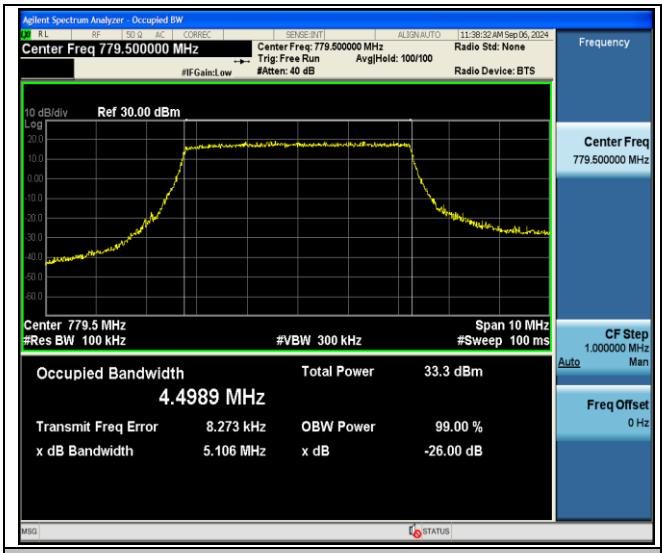
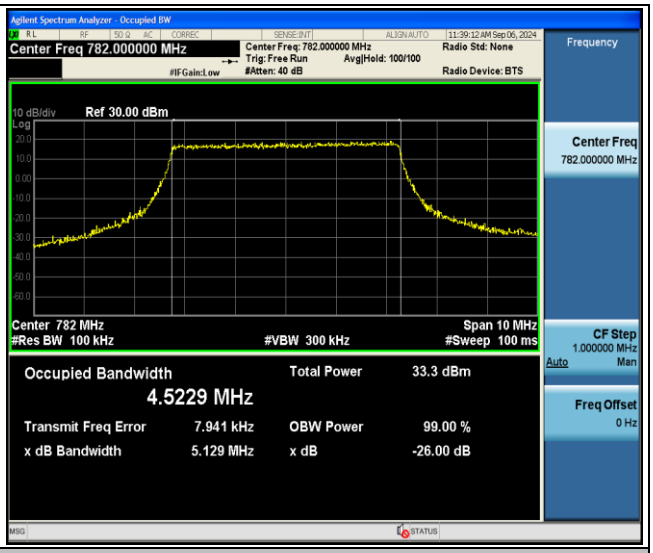
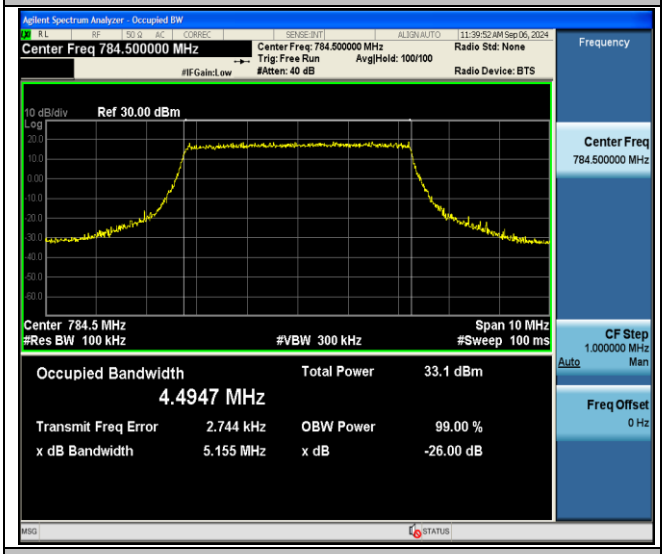
Test Graphs



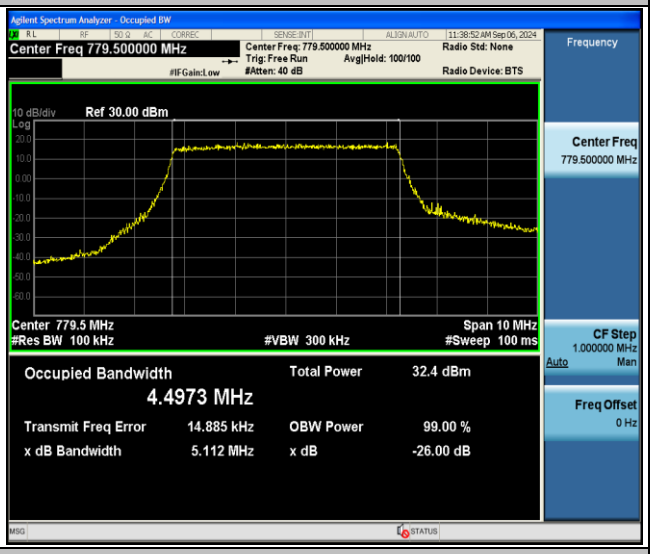
Band13-5MHz-QPSK-23205-25RB#0-PASS



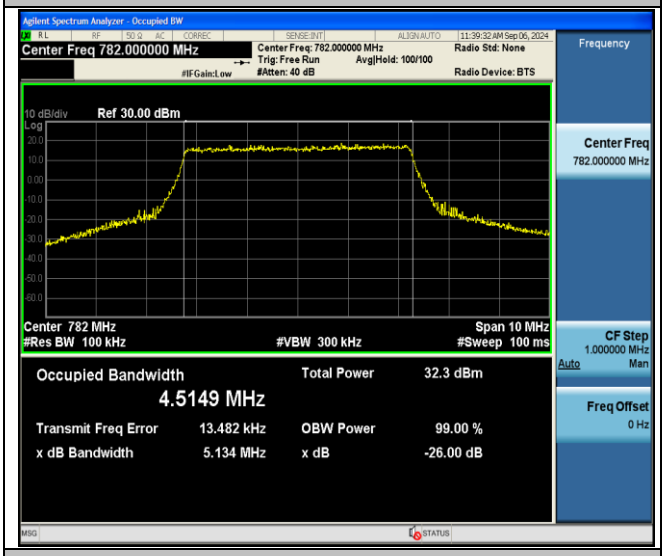
Band13-5MHz-QPSK-23230-25RB#0-PASS



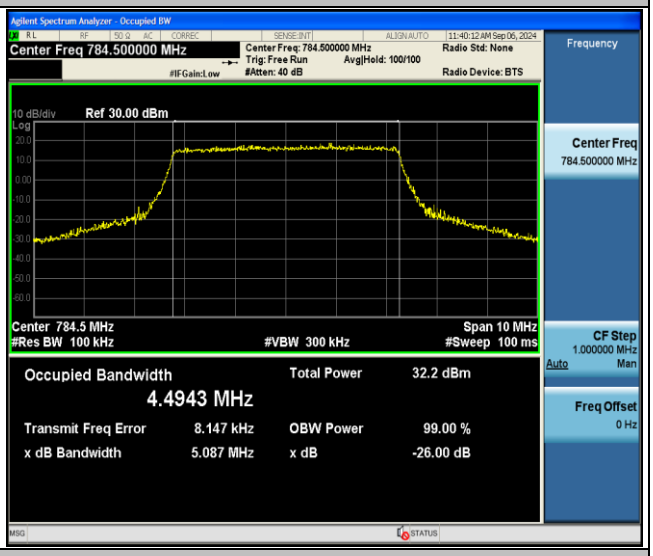
Band13-5MHz-QPSK-23255-25RB#0-PASS



Band13-5MHz-16QAM-23205-25RB#0-PASS



Band13-5MHz-16QAM-23230-25RB#0-PASS



Band13-5MHz-16QAM-23255-25RB#0-PASS

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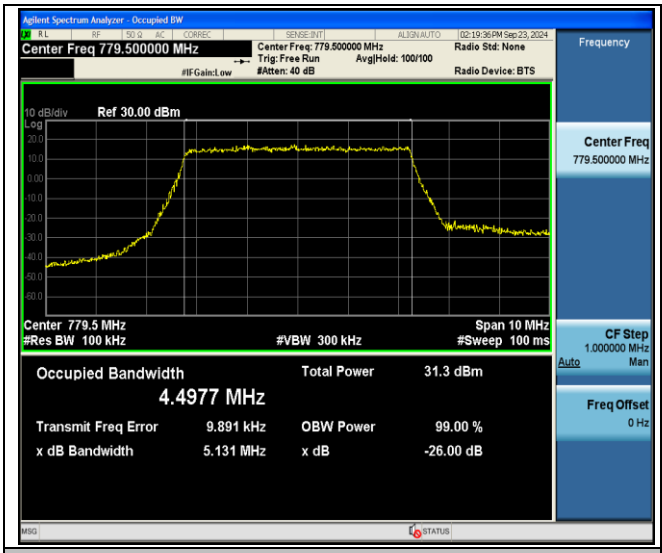
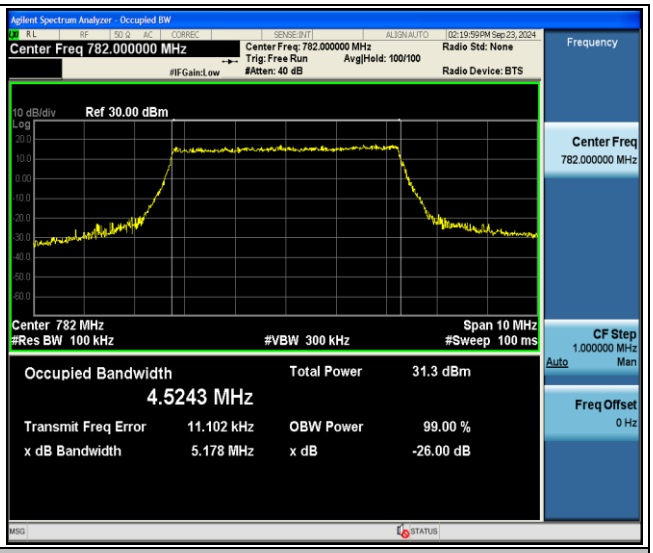
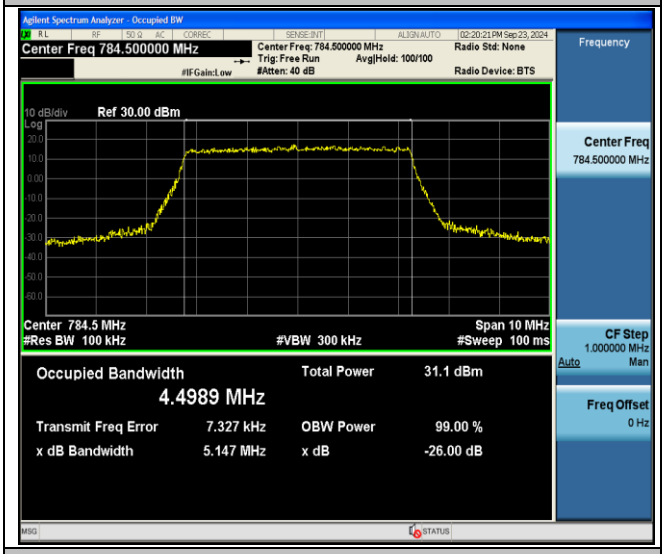


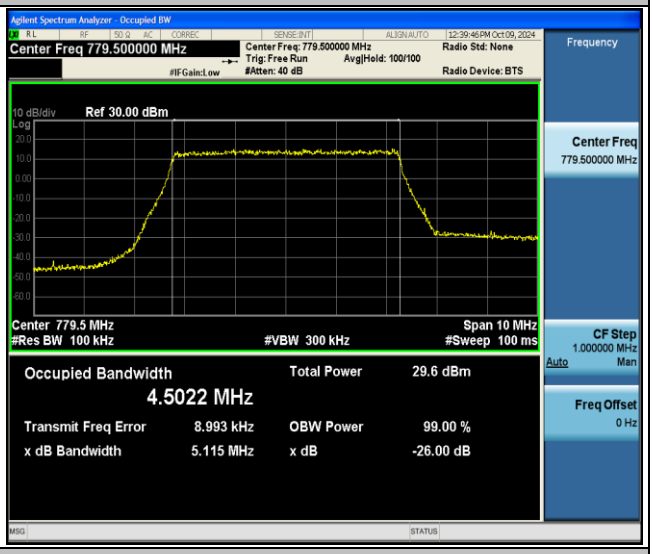
Band13-5MHz-64QAM-23205-25RB#0-PASS



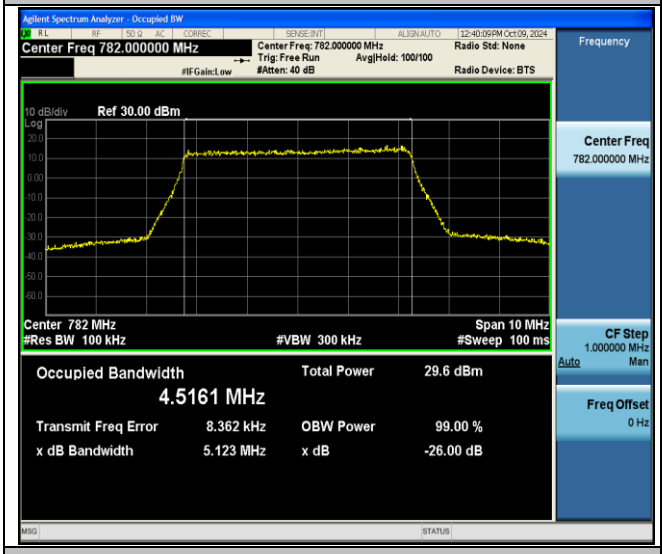
Band13-5MHz-64QAM-23230-25RB#0-PASS



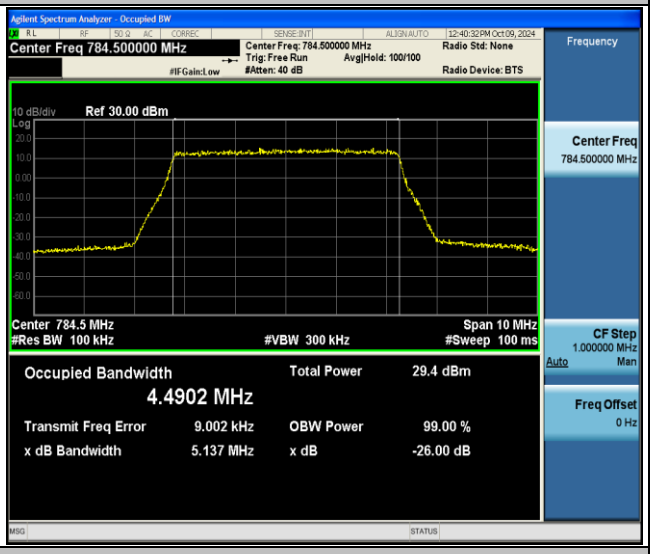
Band13-5MHz-64QAM-23255-25RB#0-PASS



Band13-5MHz-256QAM-23205-25RB#0-PASS



Band13-5MHz-256QAM-23230-25RB#0-PASS



Band13-5MHz-256QAM-23255-25RB#0-PASS

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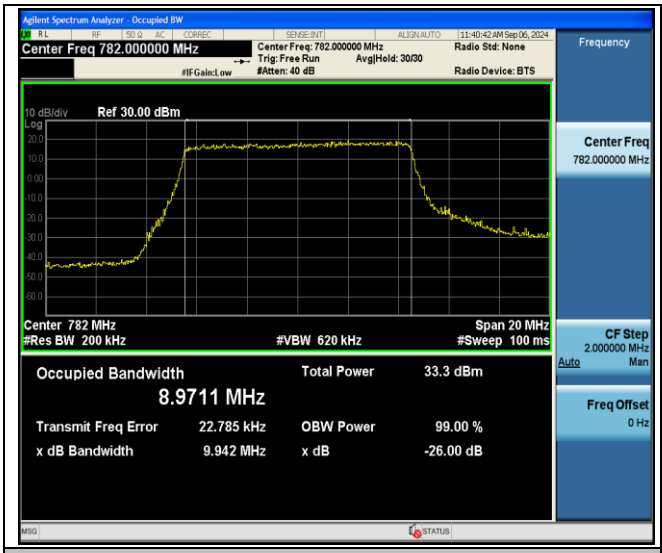
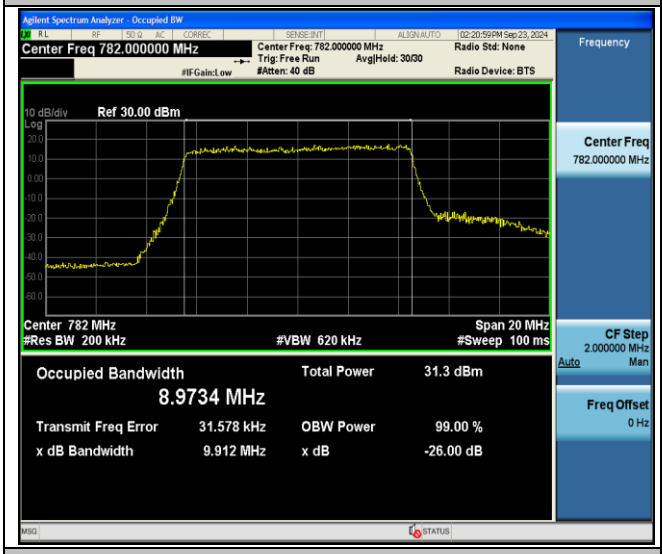


Band13-10MHz-QPSK-23230-50RB#0-PASS

Band13-10MHz-16QAM-23230-50RB#0-PASS



Band13-10MHz-64QAM-23230-50RB#0-PASS

Band13-10MHz-256QAM-23230-50RB#0-PASS

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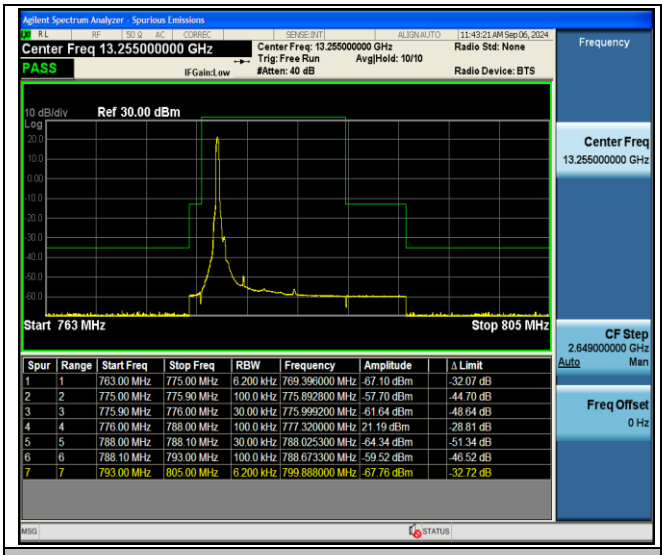
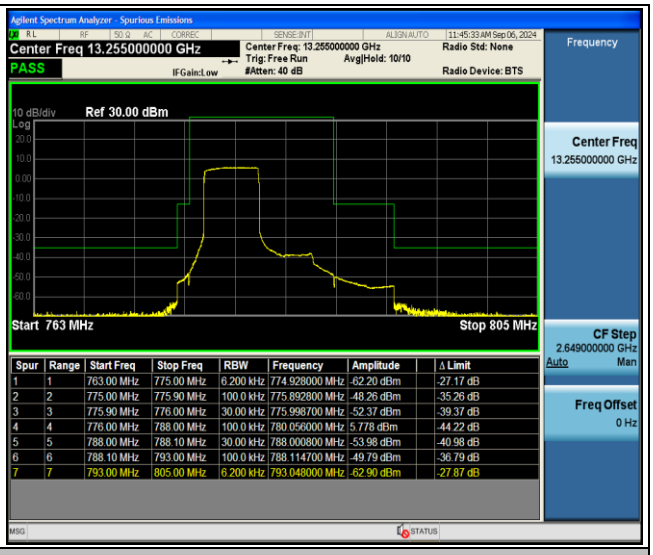
Band Edge

Test Graphs



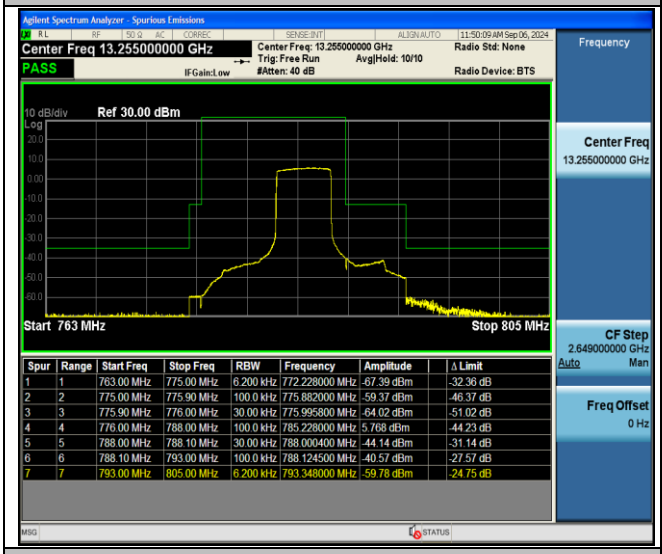
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	763.00 MHz	775.00 MHz	6.200 kHz	769.396000 MHz	-67.10 dBm	-32.07 dB
2	2	775.00 MHz	775.90 MHz	100.0 kHz	775.892800 MHz	-57.70 dBm	-44.70 dB
3	3	775.90 MHz	776.00 MHz	30.00 kHz	775.999200 MHz	-61.64 dBm	-48.64 dB
4	4	776.00 MHz	788.00 MHz	100.0 kHz	777.320000 MHz	21.19 dBm	-28.81 dB
5	5	788.00 MHz	788.10 MHz	30.00 kHz	788.025300 MHz	-64.34 dBm	-51.34 dB
6	6	788.10 MHz	793.00 MHz	100.0 kHz	788.673300 MHz	-59.52 dBm	-46.52 dB
7	7	793.00 MHz	805.00 MHz	6.200 kHz	799.888000 MHz	-67.76 dBm	-32.72 dB

Band13-5MHz-QPSK-23205-1RB#0-PASS



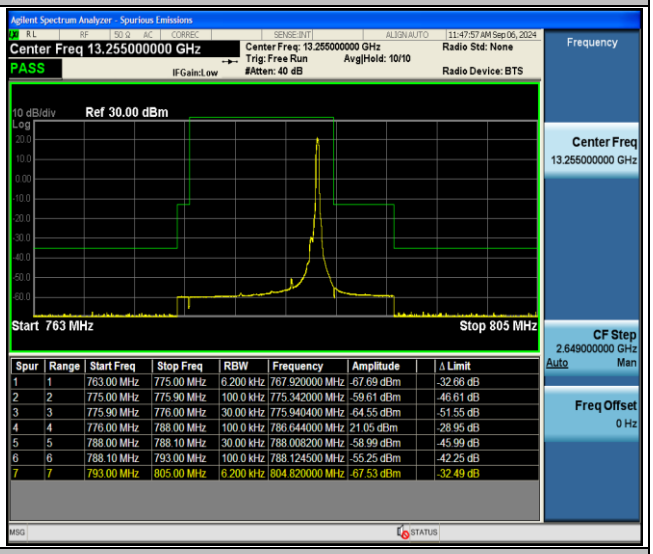
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	763.00 MHz	775.00 MHz	6.200 kHz	774.928000 MHz	-62.20 dBm	-27.17 dB
2	2	775.00 MHz	775.90 MHz	100.0 kHz	775.892800 MHz	-48.26 dBm	-35.26 dB
3	3	775.90 MHz	776.00 MHz	30.00 kHz	775.998700 MHz	-52.37 dBm	-39.37 dB
4	4	776.00 MHz	788.00 MHz	100.0 kHz	780.056000 MHz	5.778 dBm	-44.22 dB
5	5	788.00 MHz	788.10 MHz	30.00 kHz	788.000800 MHz	-53.98 dBm	-40.98 dB
6	6	788.10 MHz	793.00 MHz	100.0 kHz	788.114700 MHz	-49.79 dBm	-36.79 dB
7	7	793.00 MHz	805.00 MHz	6.200 kHz	793.048000 MHz	-62.90 dBm	-27.87 dB

Band13-5MHz-QPSK-23205-25RB#0-PASS



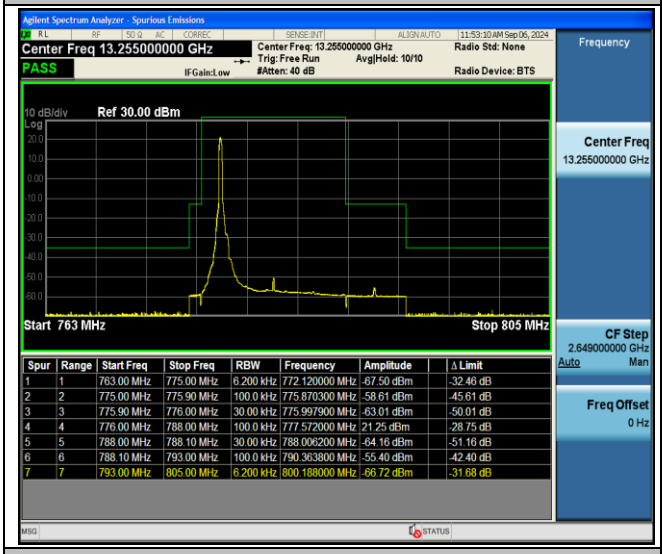
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	763.00 MHz	775.00 MHz	6.200 kHz	772.228000 MHz	-67.39 dBm	-32.36 dB
2	2	775.00 MHz	775.90 MHz	100.0 kHz	775.882000 MHz	-59.37 dBm	-46.37 dB
3	3	775.90 MHz	776.00 MHz	30.00 kHz	775.995800 MHz	-64.02 dBm	-51.02 dB
4	4	776.00 MHz	788.00 MHz	100.0 kHz	785.228000 MHz	5.768 dBm	-44.23 dB
5	5	788.00 MHz	788.10 MHz	30.00 kHz	788.000400 MHz	-44.14 dBm	-31.14 dB
6	6	788.10 MHz	793.00 MHz	100.0 kHz	788.124500 MHz	-40.57 dBm	-27.57 dB
7	7	793.00 MHz	805.00 MHz	6.200 kHz	793.348000 MHz	-59.78 dBm	-24.75 dB

Band13-5MHz-QPSK-23255-25RB#0-PASS



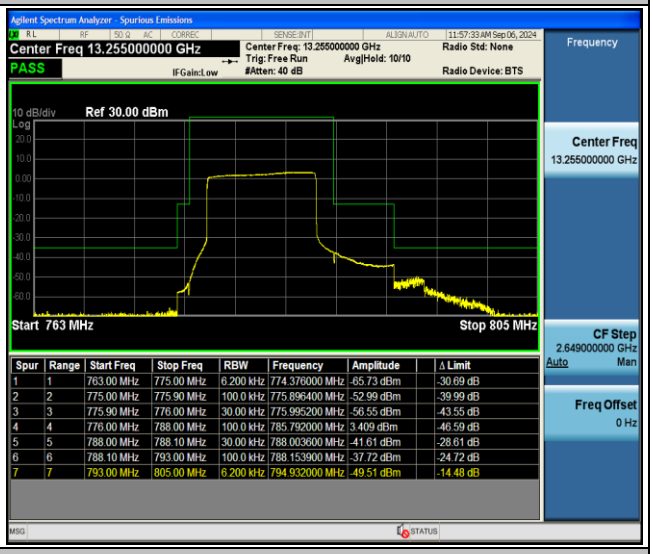
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	763.00 MHz	775.00 MHz	6.200 kHz	767.920000 MHz	-67.69 dBm	-32.66 dB
2	2	775.00 MHz	775.90 MHz	100.0 kHz	775.342000 MHz	-59.61 dBm	-46.61 dB
3	3	775.90 MHz	776.00 MHz	30.00 kHz	775.940400 MHz	-64.55 dBm	-51.55 dB
4	4	776.00 MHz	788.00 MHz	100.0 kHz	786.644000 MHz	21.05 dBm	-28.95 dB
5	5	788.00 MHz	788.10 MHz	30.00 kHz	788.008200 MHz	-58.99 dBm	-45.99 dB
6	6	788.10 MHz	793.00 MHz	100.0 kHz	788.124500 MHz	-55.25 dBm	-42.25 dB
7	7	793.00 MHz	805.00 MHz	6.200 kHz	804.820000 MHz	-67.53 dBm	-32.49 dB

Band13-5MHz-QPSK-23255-1RB#24-PASS



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	763.00 MHz	775.00 MHz	6.200 kHz	772.120000 MHz	-67.50 dBm	-32.46 dB
2	2	775.00 MHz	775.90 MHz	100.0 kHz	775.870300 MHz	-58.61 dBm	-45.61 dB
3	3	775.90 MHz	776.00 MHz	30.00 kHz	775.997900 MHz	-63.01 dBm	-50.01 dB
4	4	776.00 MHz	788.00 MHz	100.0 kHz	777.572000 MHz	21.25 dBm	-28.75 dB
5	5	788.00 MHz	788.10 MHz	30.00 kHz	788.006200 MHz	-64.16 dBm	-51.16 dB
6	6	788.10 MHz	793.00 MHz	100.0 kHz	790.363800 MHz	-55.40 dBm	-42.40 dB
7	7	793.00 MHz	805.00 MHz	6.200 kHz	800.188000 MHz	-66.72 dBm	-31.68 dB

Band13-10MHz-QPSK-23230-1RB#0-PASS



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	763.00 MHz	775.00 MHz	6.200 kHz	774.376000 MHz	-65.73 dBm	-30.69 dB
2	2	775.00 MHz	775.90 MHz	100.0 kHz	775.896400 MHz	-52.99 dBm	-39.99 dB
3	3	775.90 MHz	776.00 MHz	30.00 kHz	775.995200 MHz	-56.55 dBm	-43.55 dB
4	4	776.00 MHz	788.00 MHz	100.0 kHz	785.792000 MHz	3.409 dBm	-46.59 dB
5	5	788.00 MHz	788.10 MHz	30.00 kHz	788.003600 MHz	-41.61 dBm	-28.61 dB
6	6	788.10 MHz	793.00 MHz	100.0 kHz	788.153900 MHz	-37.72 dBm	-24.72 dB
7	7	793.00 MHz	805.00 MHz	6.200 kHz	794.932000 MHz	-49.51 dBm	-14.48 dB

Band13-10MHz-QPSK-23230-50RB#0-PASS

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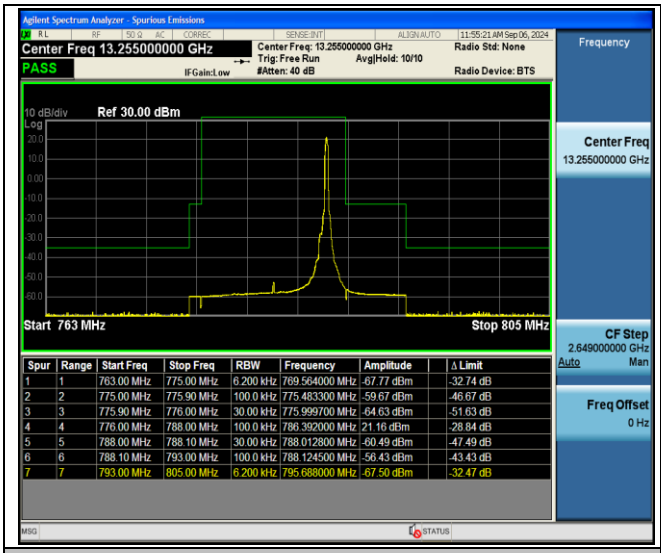

Band13-10MHz-QPSK-23230-1RB#49-PASS

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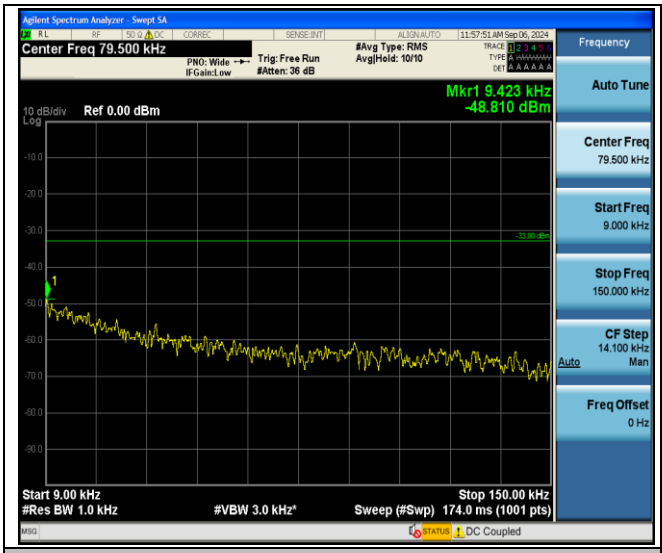
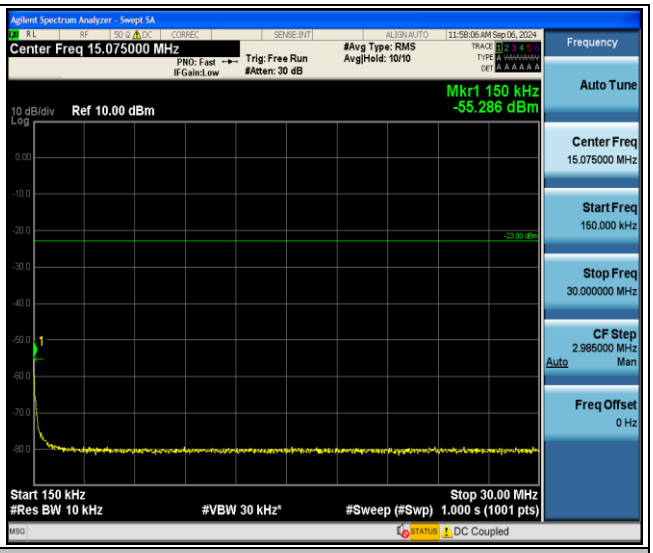
Conducted Spurious Emission

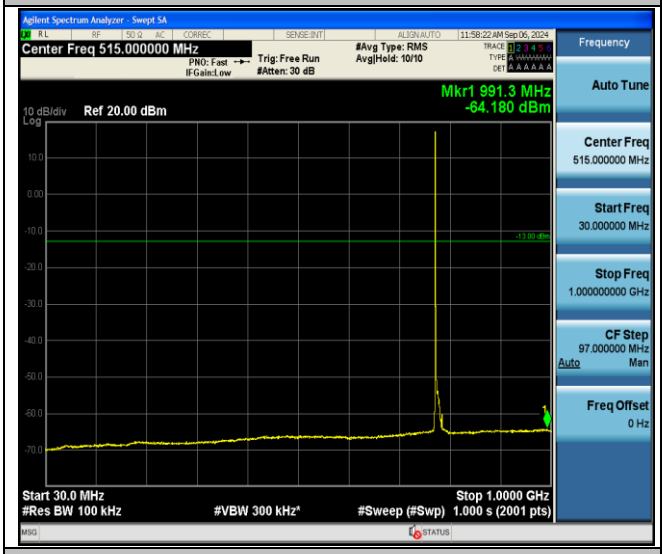
Test Graphs



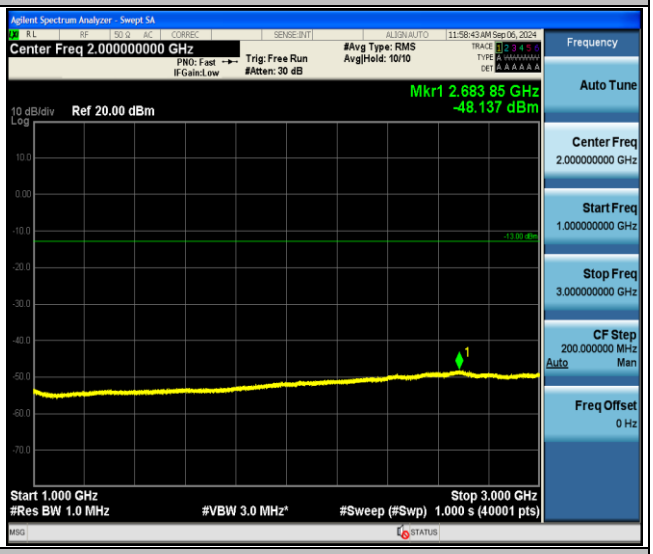
Band13-10MHz-QPSK-23230-1RB#0-0.009~0.15-PASS



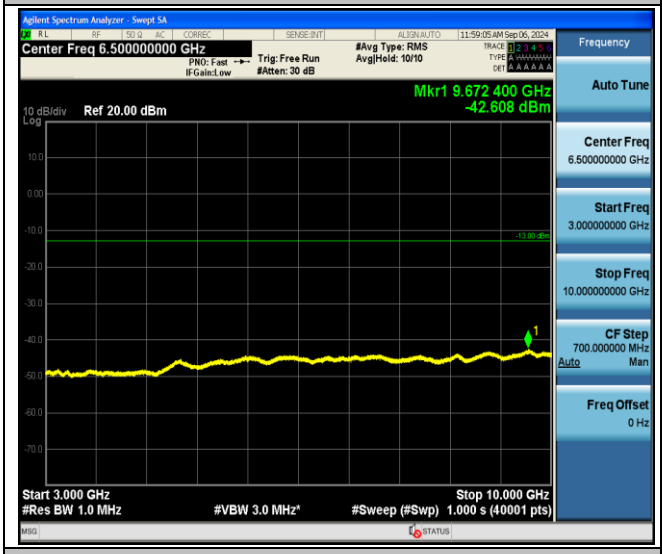
Band13-10MHz-QPSK-23230-1RB#0-0.15~30-PASS



Band13-10MHz-QPSK-23230-1RB#0-30~1000-PASS



Band13-10MHz-QPSK-23230-1RB#0-1000~3000-PASS



Band13-10MHz-QPSK-23230-1RB#0-3000~10000-PASS

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Frequency Stability

Test Result

Voltage									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Verdict
Band13	10MHz	QPSK	23230	100RB#0	VN	NT	0.10	0.000128	PASS
Band13	10MHz	QPSK	23230	100RB#0	VL	NT	-0.50	-0.000639	PASS
Band13	10MHz	QPSK	23230	100RB#0	VH	NT	-2.30	-0.002941	PASS

Temperature									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Verdict
Band13	10MHz	QPSK	23230	100RB#0	NV	-30	0.10	0.000128	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	-20	1.90	0.002430	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	-10	0.30	0.000384	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	0	0.10	0.000128	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	10	-1.00	-0.001279	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	20	-0.20	-0.000256	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	30	0.80	0.001023	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	40	2.10	0.002685	PASS
Band13	10MHz	QPSK	23230	100RB#0	NV	50	0.90	0.001151	PASS

~The End~

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