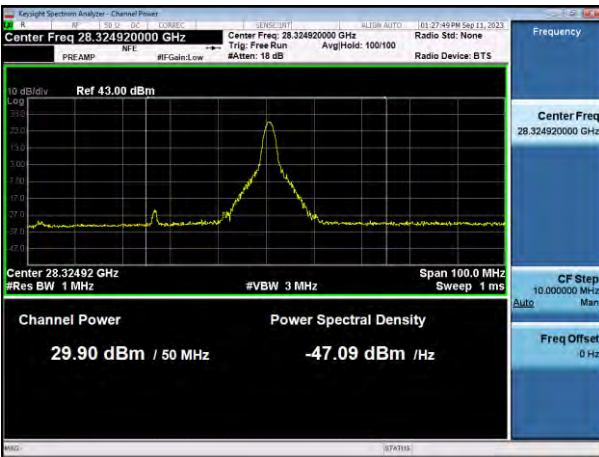
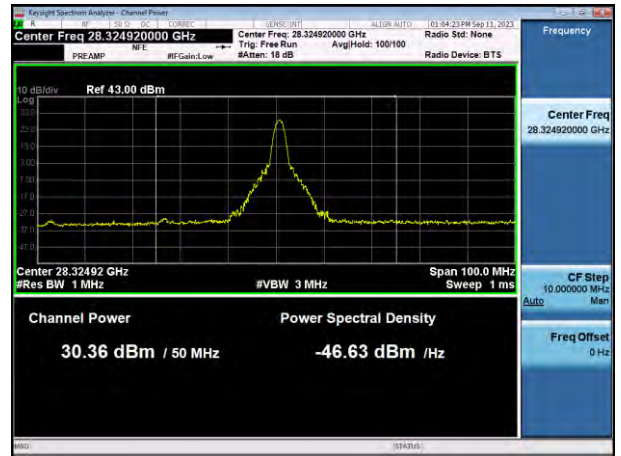
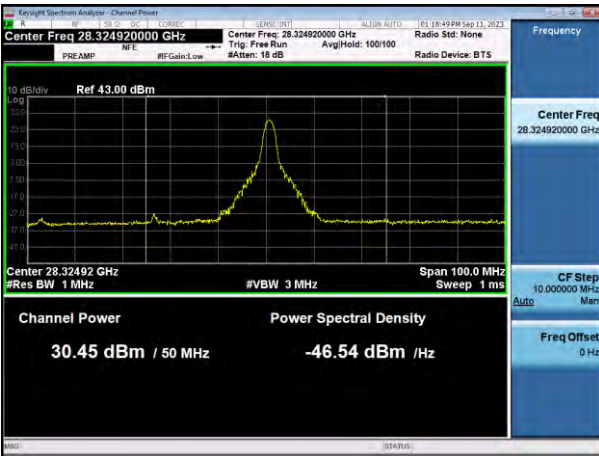
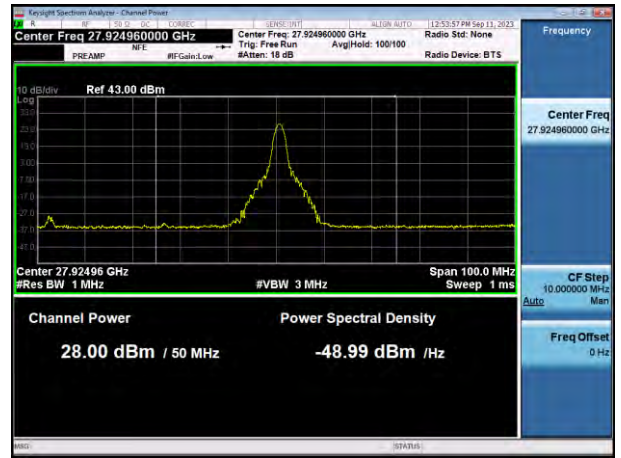
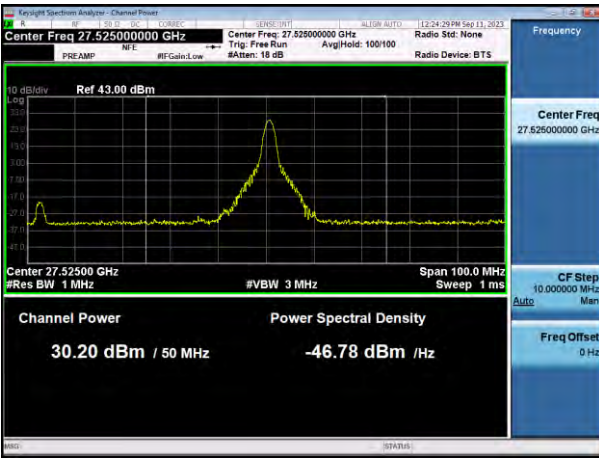
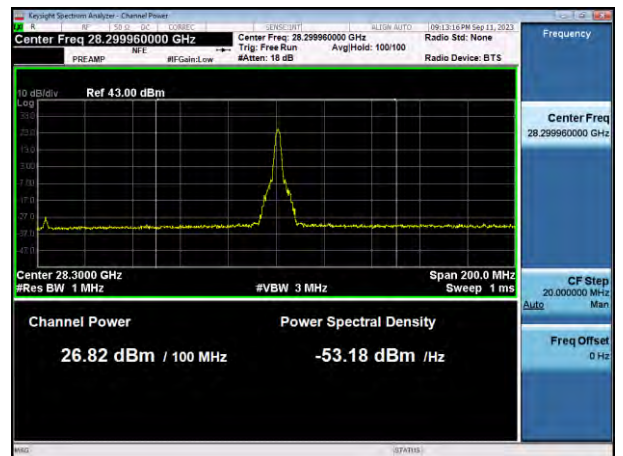
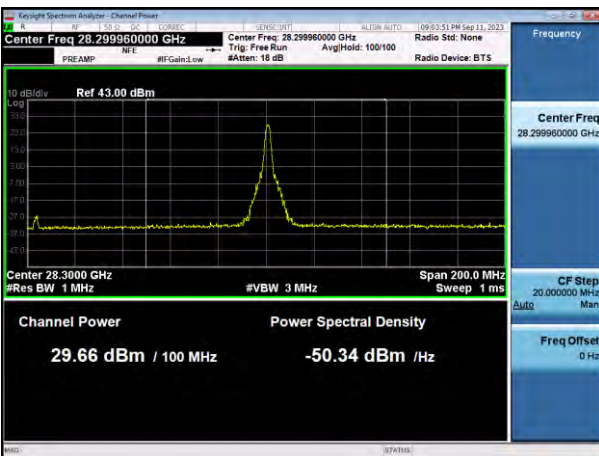
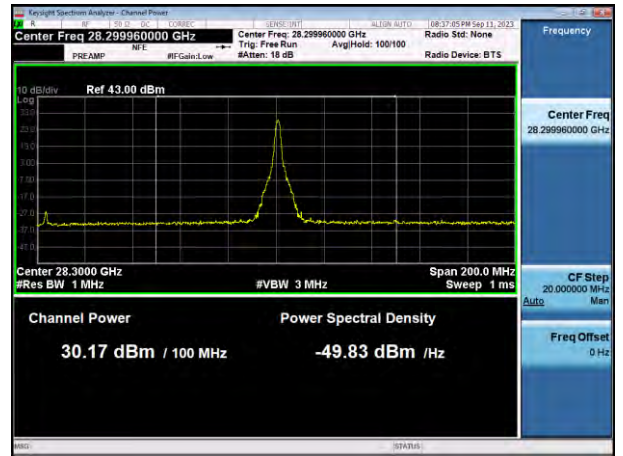
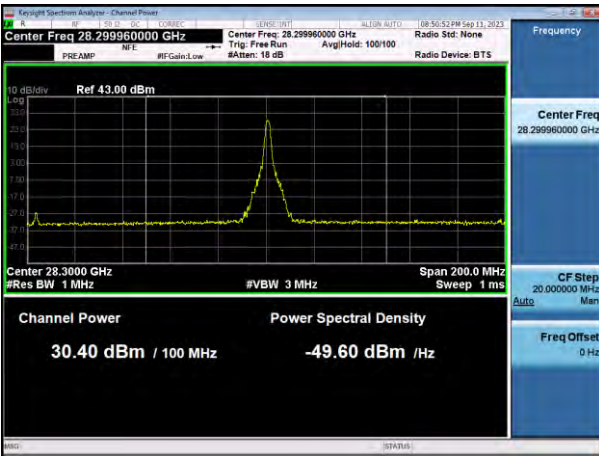
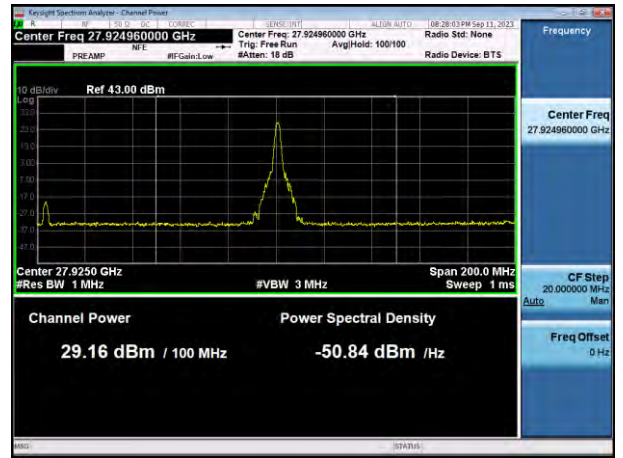
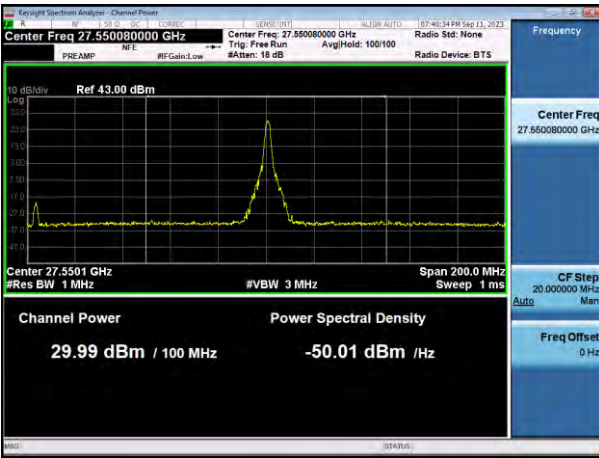


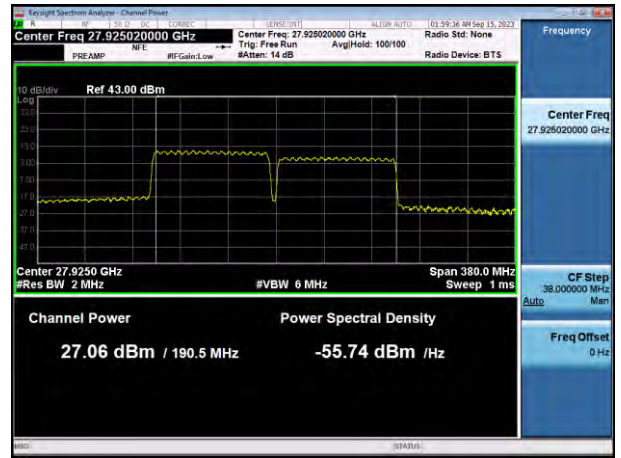
50 MHz, 1CC SISO Dual



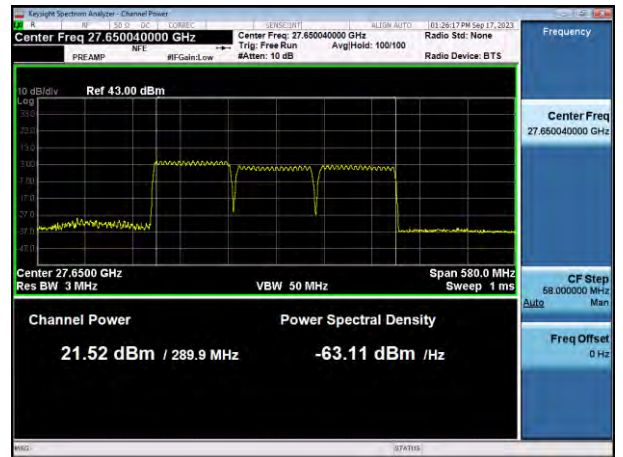
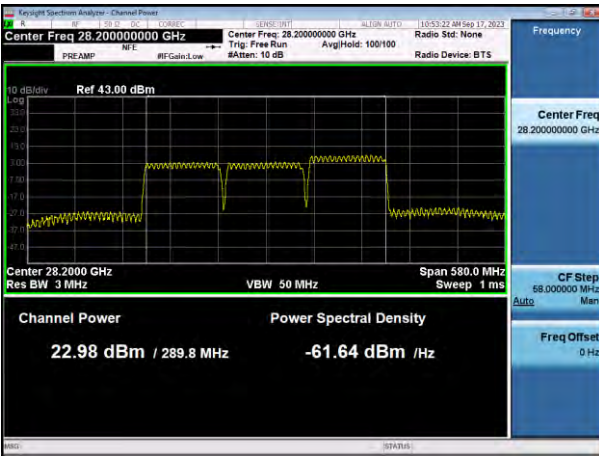
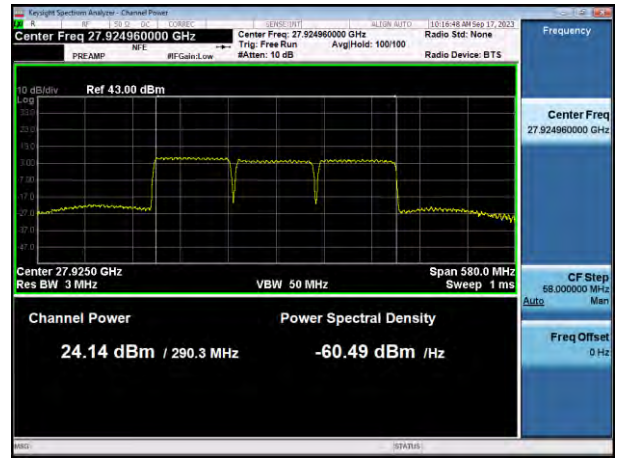
100 MHz, 1CC SISO Dual



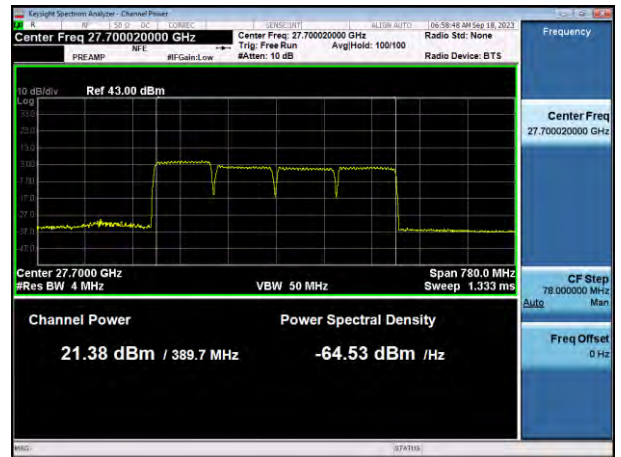
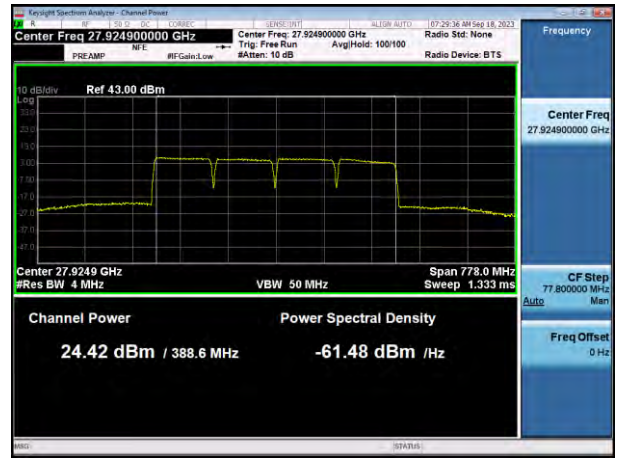
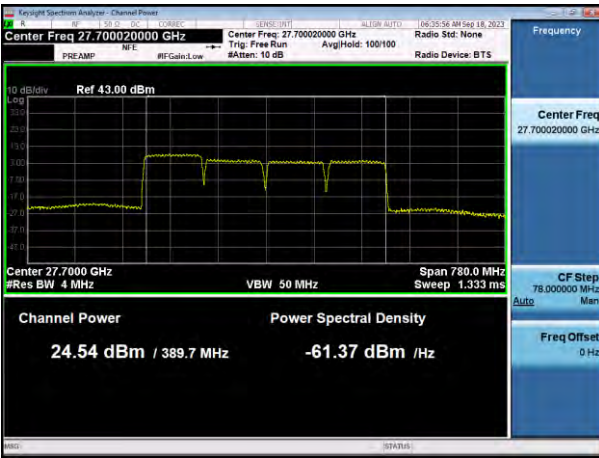
100 MHz, 2CC SISO Dual



100 MHz, 3CC SISO Dual

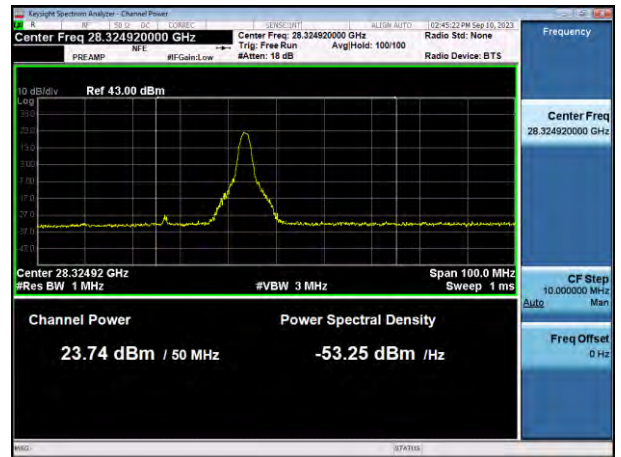
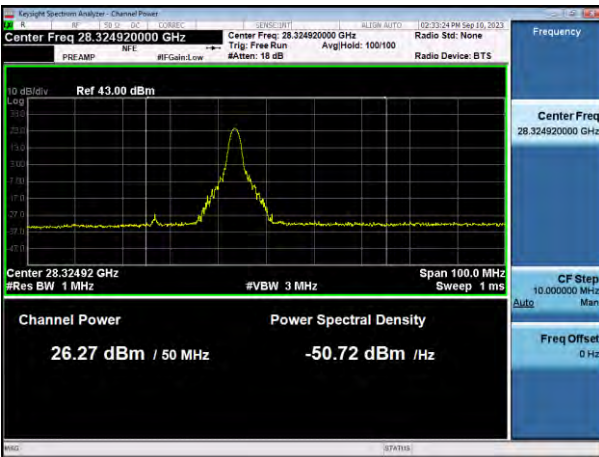
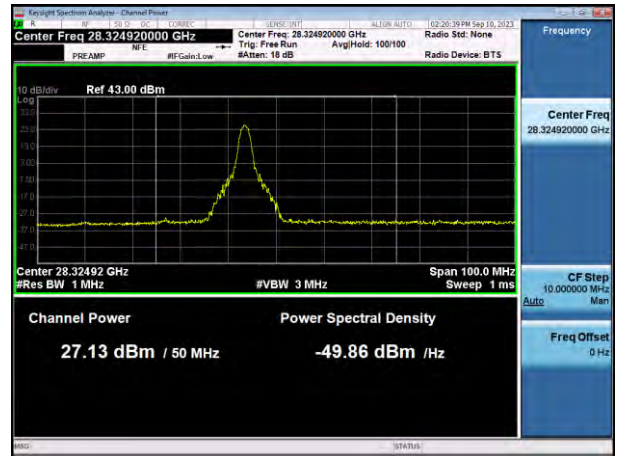
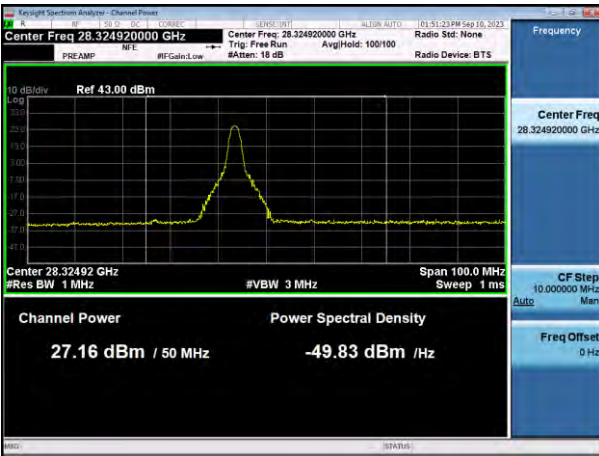
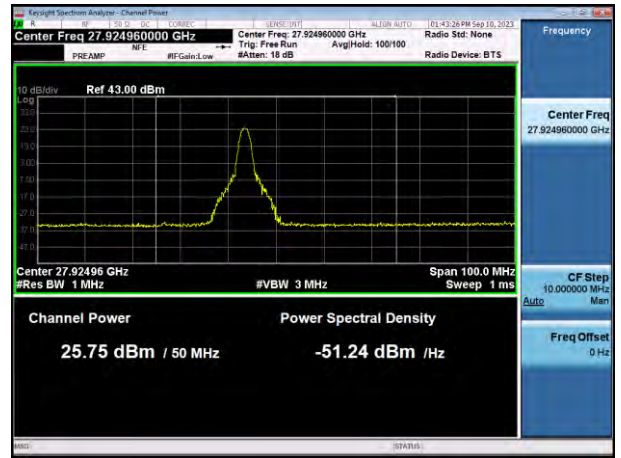
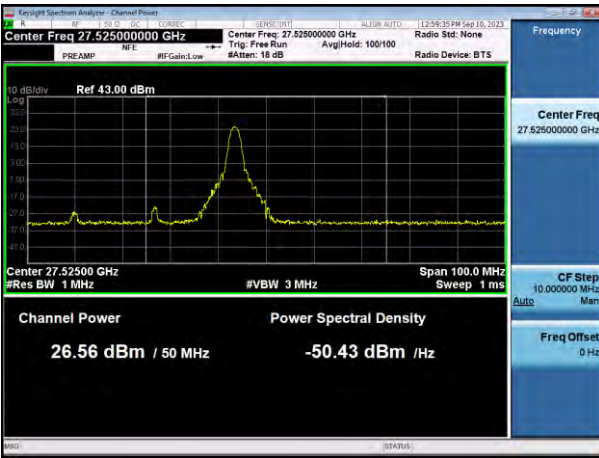


100 MHz, 4CC SISO Dual

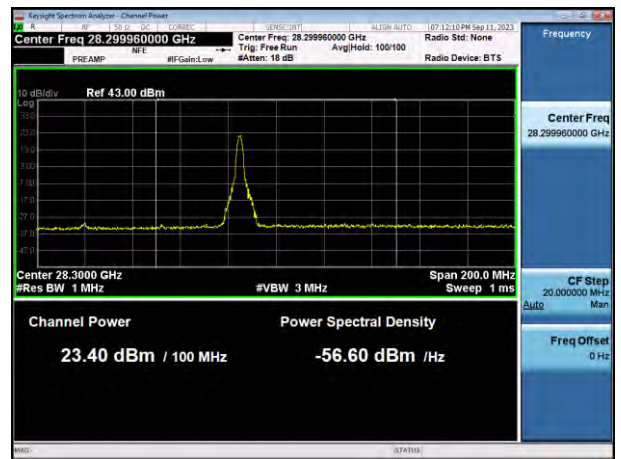
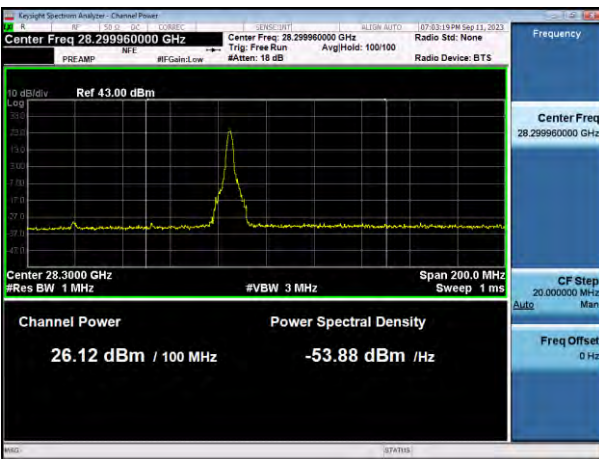
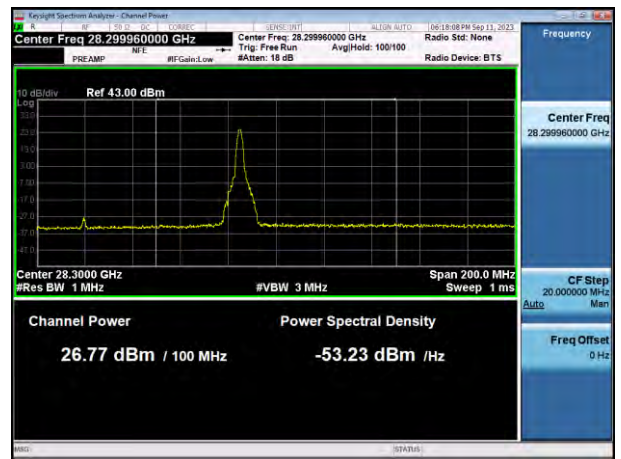
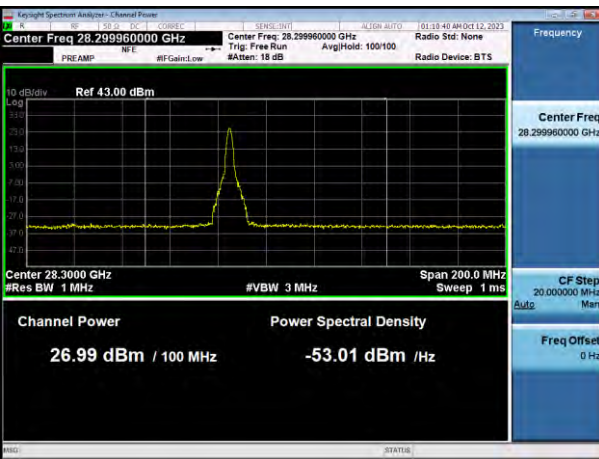
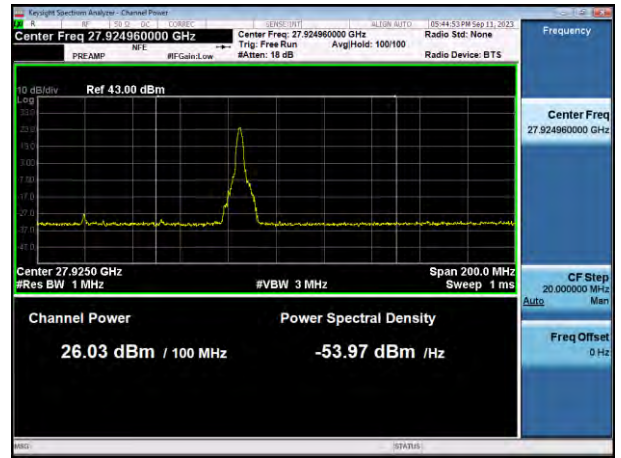
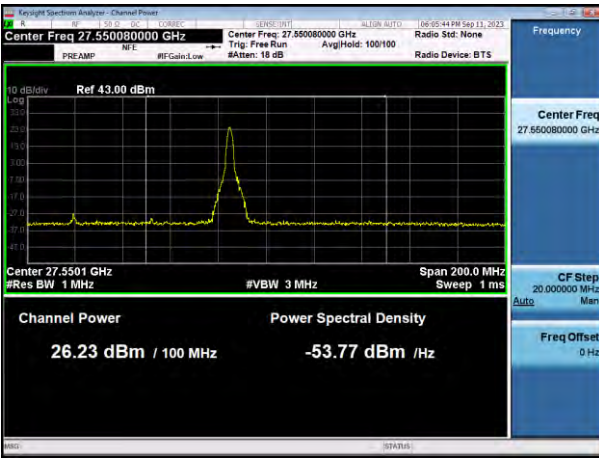


n261 Band Antenna 1 (N patch)

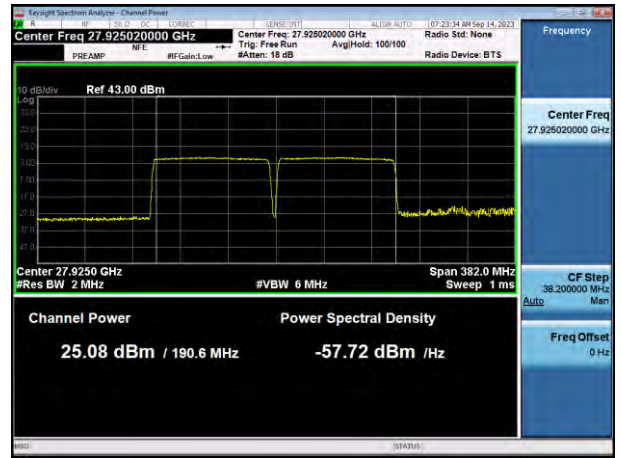
50 MHz, 1CC SISO



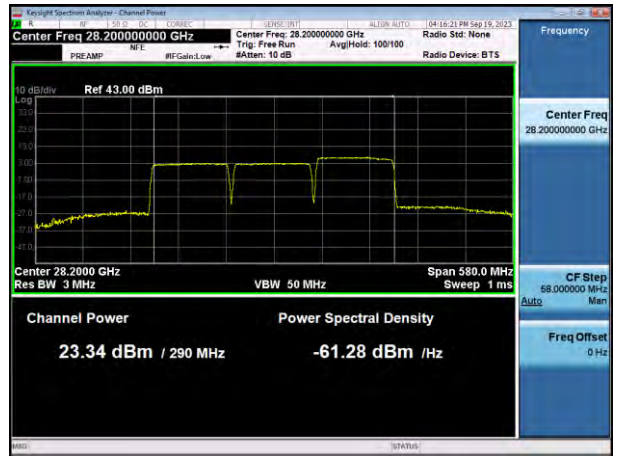
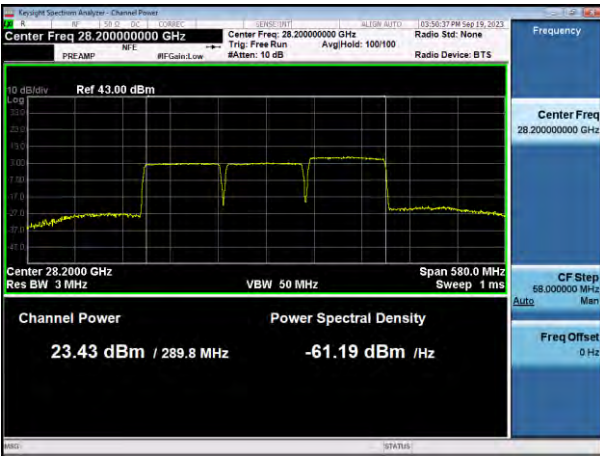
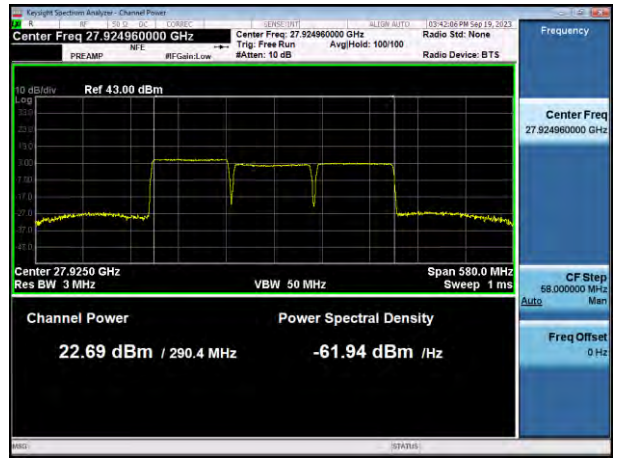
100 MHz, 1CC SISO



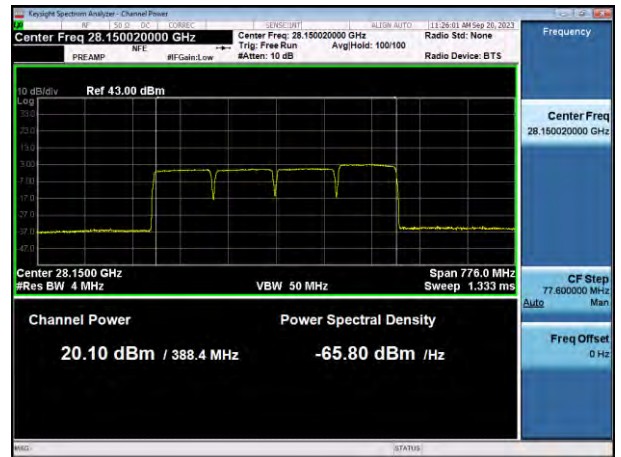
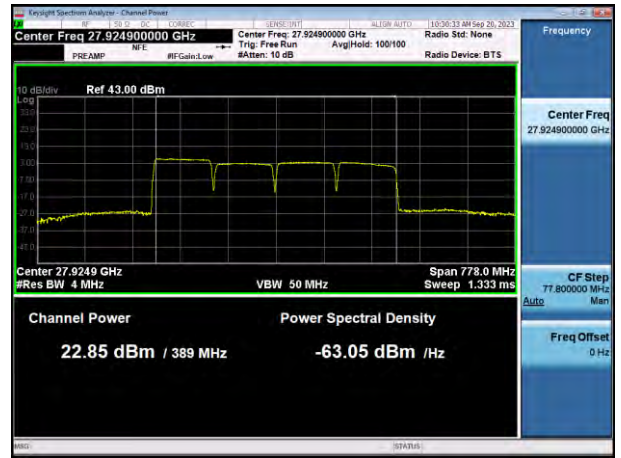
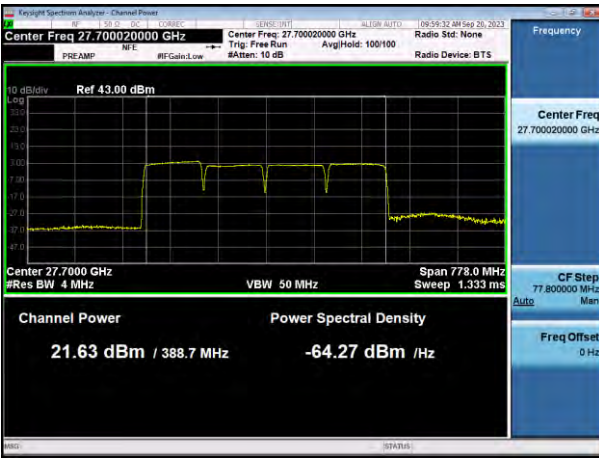
100 MHz, 2CC SISO



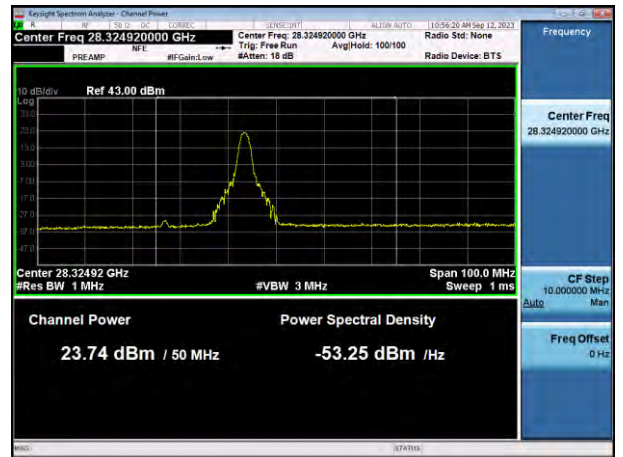
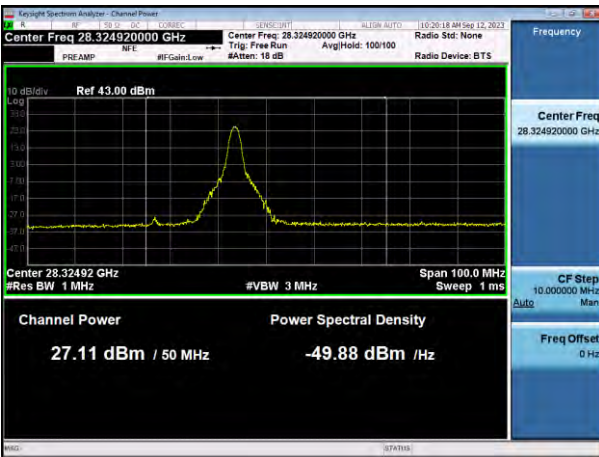
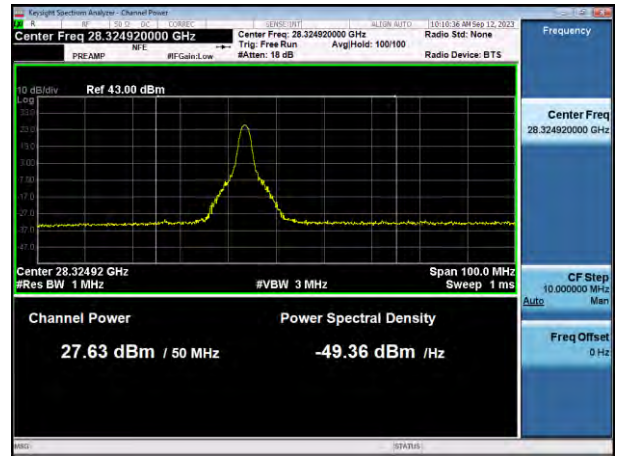
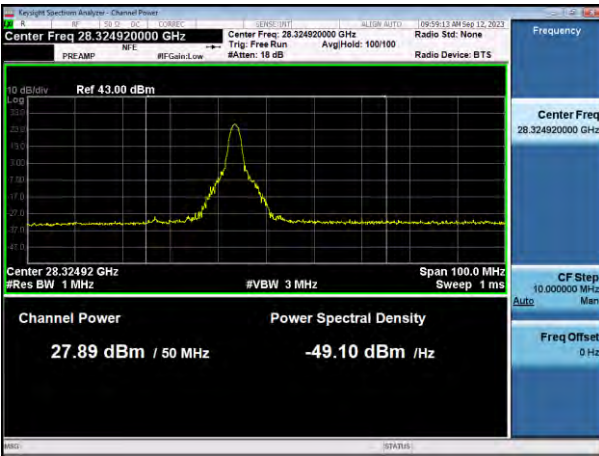
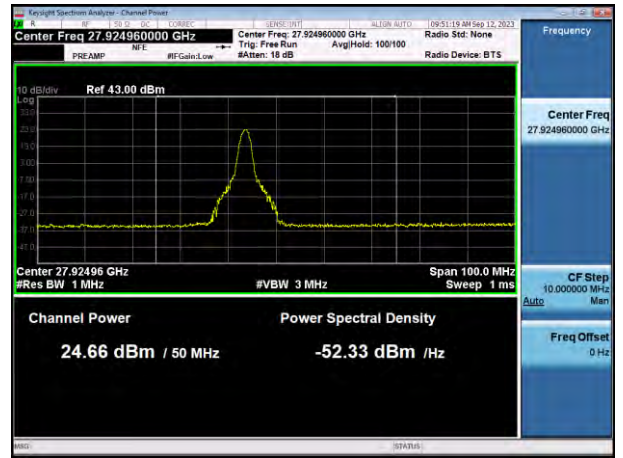
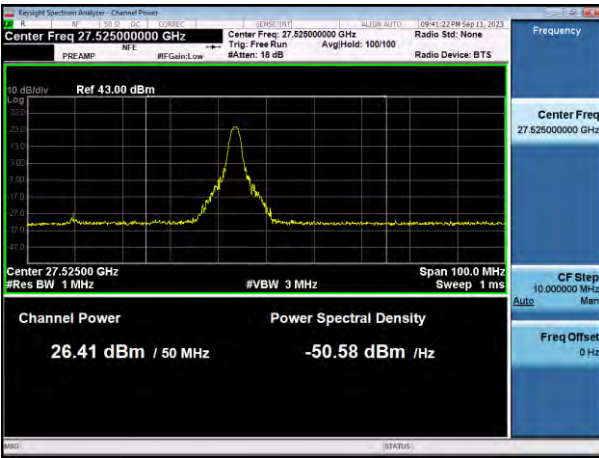
100 MHz, 3CC SISO



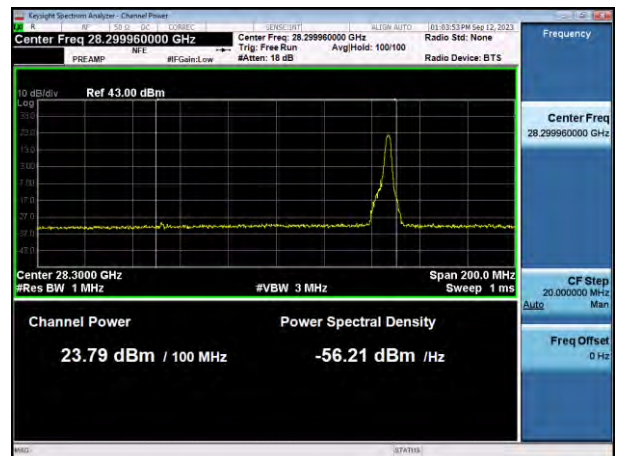
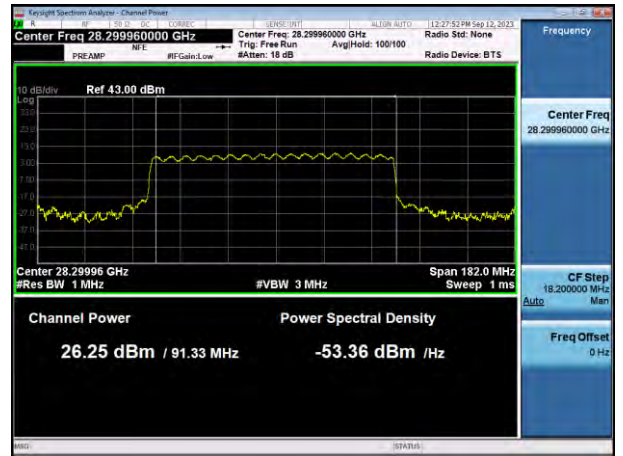
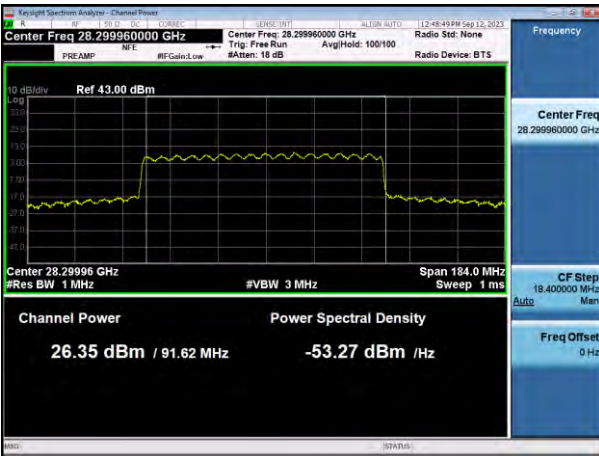
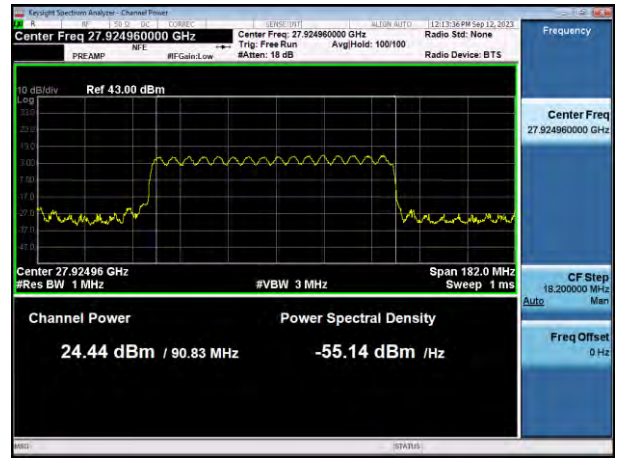
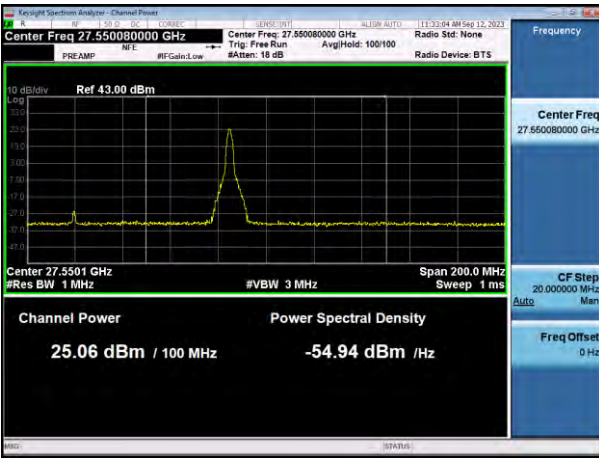
100 MHz, 4CC SISO



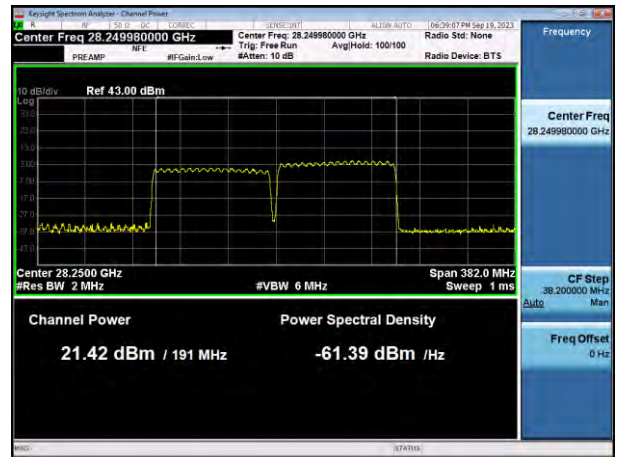
50 MHz, 1CC SISO Dual



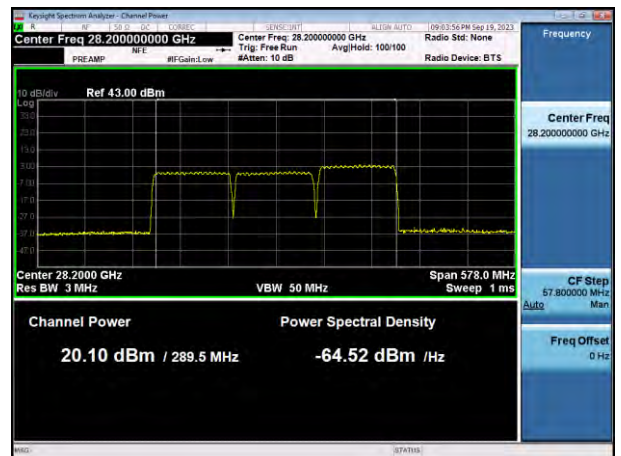
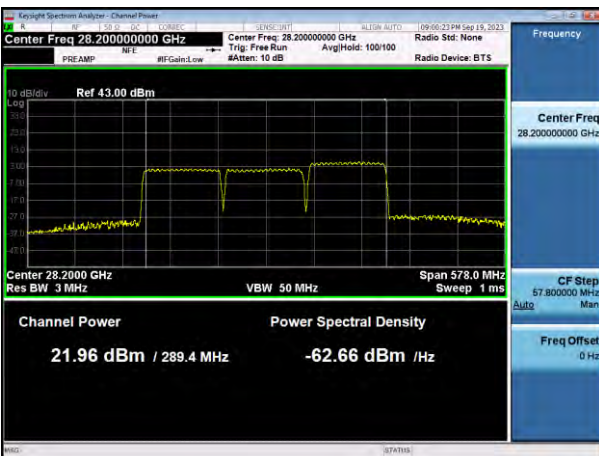
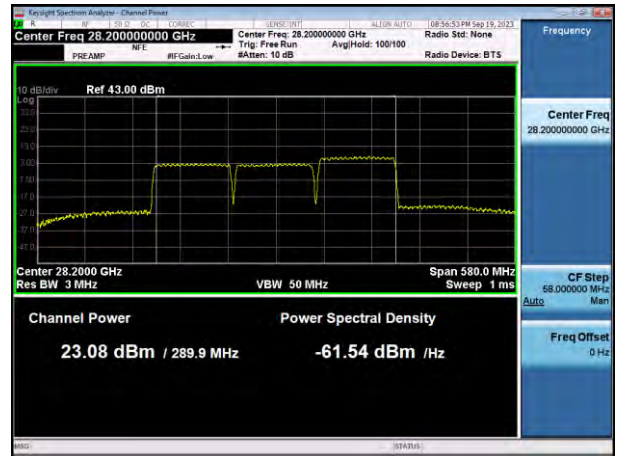
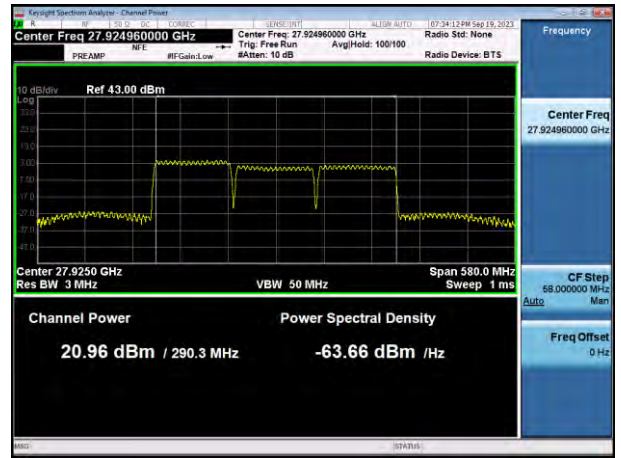
100 MHz, 1CC SISO Dual



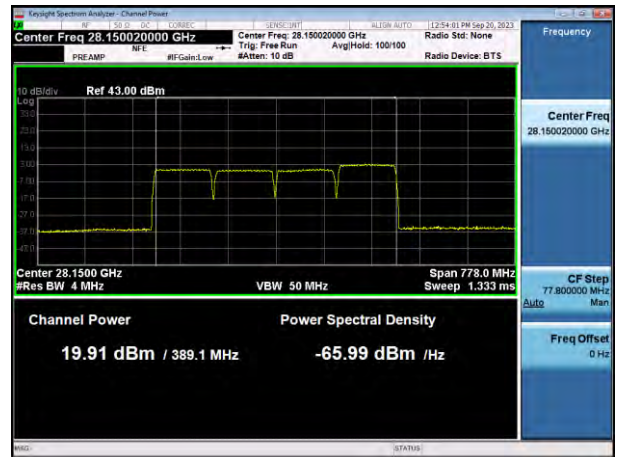
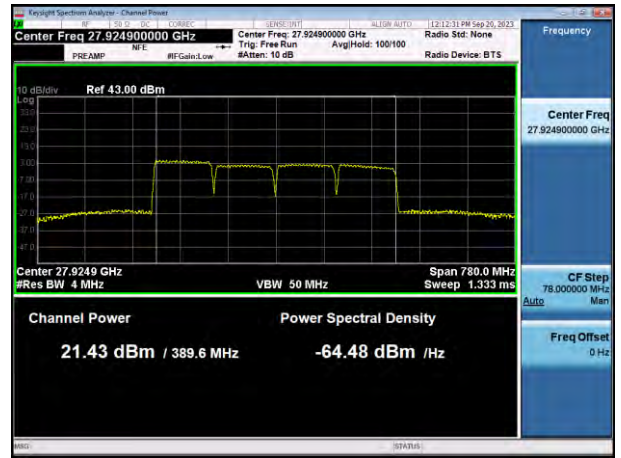
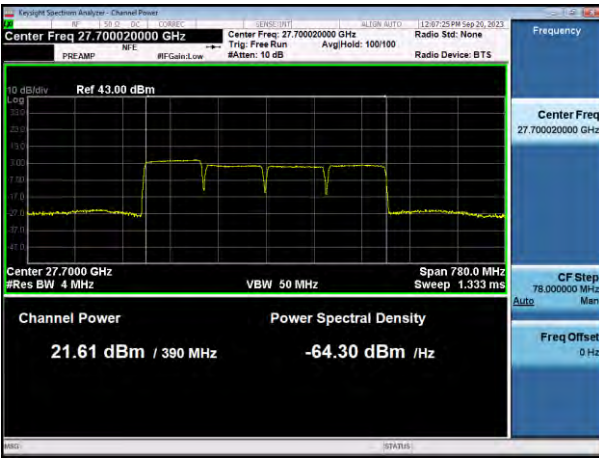
100 MHz, 2CC SISO Dual



100 MHz, 3CC SISO Dual



100 MHz, 4CC SISO Dual



5.3. BAND EDGE

Test Overview

All out of band emissions are measured in a radiated setup while the EUT is operating at maximum power, and at the appropriate frequencies. All modulations were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is -13dBm/1MHz. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.

FCC Rules

Test Requirements:

§ 30.203 Emission limits.

- (a) The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be -13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.
- (b)(1) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.
- (2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges as the design permits.
- (3) The measurements of emission power can be expressed in peak or average values.

Test Procedures:

The measurement is performed in accordance with Section 5.7.3 of ANSI C63.26.

5.7.3 Out-of-band unwanted emissions measurements

- a) Set the spectrum analyzer center frequency to the block, band, or channel edge frequency.
- b) Set the span wide enough to capture the fundamental emission closest to the authorized block or band edge, and to include all modulation products that spill into the immediately adjacent frequency band. In some cases, it may be possible to set the center frequency and span so as to encompass the fundamental emission and the unwanted out-of-band (band-edge) emissions on either side of the authorized block, band, or channel. This can be accomplished with a single (slow) sweep, if adequate overload protection and sufficient dynamic range can be maintained.
- c) Set the number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$.
- d) Sweep time should be auto for peak detection. For rms detection the sweep time should be set as

follows:

1), 2) Omitted

3) If the device cannot be configured to transmit continuously (duty cycle < 98%) and a free running sweep must be used, set the sweep time so that the averaging is performed over multiple on/off cycles by setting the sweep time > (number of points in sweep) × (transmitter period) (i.e., the transmit on-time + the off-time). The spectrum analyzer readings shall subsequently be corrected by $[10 \log (1/\text{duty cycle})]$. This assumes that the transmission period and duty cycle is relatively constant (duty cycle variation $\leq \pm 2\%$).

4) Omitted

e) The test report shall include the plots of the measuring instrument display and the measured data.

- The TRP measurement is performed in accordance with Section 4.4.2.4 of KDB 842590 v01r02 (2021-04).

4.4.2.4 Spherical Grid Method

a) Measure the antenna dimensions, i.e., depth (d), width (w), and height (h) (see Figure A.1 in Appendix A). If the antenna dimensions are not accessible use the mechanical dimensions of the entire device.

b) Calculate the spherical and cylindrical diameters (D and D_{cyl}) using Equations (A.1) and (A.2) in Appendix A in KDB 842590 v01r02.

c) For the highest frequency (smallest wavelength) of the frequency band measured, calculate the reference angular steps $\Delta\theta_{\text{ref}}$ and $\Delta\theta_{\text{ref}}$ using Equations (A.3) and (A.4) in Appendix A in KDB 842590 v01r02.

d) Set the grid spatial sampling step $\Delta\theta \leq \Delta\theta_{\text{ref}}$ for the vertical angle and $\Delta\theta \leq \Delta\theta_{\text{ref}}$ for the horizontal angle.

e) For each emission frequency, measure the total EIRP (sum of two orthogonal polarizations) on the selected grid.

f) For each emission frequency, calculate the TRP using weighted angular average value using numerical integration as described in Appendix B in KDB 842590 v01r02.

g) Compare measured TRP with the applicable TRP limit to make a pass/fail decision.

Test Results:

n258a Band Antenna 0 (M patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO Dual	24275.04	Low	H+V	16QAM	H	1/0	-10.263*
		SISO	24275.04	Low	H	BPSK	H	32/0	-21.285
		SISO Dual	24424.92	High	H+V	BPSK	H	1/31	-13.163*
		SISO Dual	24424.92	High	H+V	16QAM	H	32/0	-11.965*
	100 MHz	SISO	24300.00	Low	H	QPSK	H	1/0	-14.913*
		SISO	24300.00	Low	H	BPSK	H	64/0	-21.214
		SISO Dual	24399.96	High	H+V	QPSK	H	1/65	-10.437*
		SISO Dual	24399.96	High	H+V	16QAM	H	64/0	-15.862*
2	100 MHz	SISO Dual	24350.04	Low	H+V	QPSK	H	1/0	-19.258
		SISO Dual	24350.04	Low	H+V	QPSK	H	64/0	-15.080
		SISO Dual	24350.04	High	H+V	QPSK	H	1/65	-17.990
		SISO Dual	24350.04	High	H+V	BPSK	H	64/0	-17.002

* Note : Limit: -5 dBm

n258a Band Antenna 1 (N patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO	24275.04	Low	V	16QAM	H	1/0	-10.941*
		SISO	24275.04	Low	V	QPSK	H	32/0	-18.301
		SISO	24424.92	High	V	64QAM	H	1/31	-12.070*
		SISO Dual	24424.92	High	H+V	QPSK	H	32/0	-15.470*
	100 MHz	SISO	24300.00	Low	V	BPSK	H	1/0	-10.997*
		SISO	24300.00	Low	V	QPSK	H	64/0	-20.505
		SISO	24399.96	High	V	16QAM	H	1/65	-13.963*
		SISO Dual	24399.96	High	H+V	QPSK	H	64/0	-19.267
2	100 MHz	SISO	24350.04	Low	V	64QAM	H	1/0	-16.996
		SISO Dual	24350.04	Low	H+V	BPSK	H	64/0	-16.363
		SISO	24350.04	High	V	64QAM	H	1/65	-17.327
		SISO Dual	24350.04	High	H+V	BPSK	H	64/0	-20.049

* Note : Limit: -5 dBm

n258b Band Antenna 0 (M patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO Dual	24775.08	Low	H+V	QPSK	H	1/0	-9.905*
		SISO Dual	24775.08	Low	H+V	BPSK	H	32/0	-19.642
		SISO Dual	25224.96	High	H+V	QPSK	H	1/31	-9.359*
		SISO Dual	25224.96	High	H+V	16QAM	H	32/0	-15.054*
	100 MHz	SISO Dual	24800.04	Low	H+V	BPSK	H	1/0	-12.517*
		SISO Dual	24800.04	Low	H+V	BPSK	H	64/0	-19.585
		SISO Dual	25200.00	High	H+V	16QAM	H	1/65	-8.749*
		SISO Dual	25200.00	High	H+V	16QAM	H	64/0	-18.058
2	100 MHz	SISO	24850.02	Low	H	64QAM	H	1/0	-17.960
		SISO Dual	24850.02	Low	H+V	BPSK	H	64/0	-18.295
		SISO Dual	25150.02	High	H+V	64QAM	H	1/65	-17.304
		SISO Dual	25150.02	High	H+V	QPSK	H	64/0	-20.955
3	100 MHz	SISO Dual	24900.00	Low	H+V	BPSK	H	1/0	-17.477
		SISO	24900.00	Low	V	BPSK	H	64/0	-30.152
		SISO Dual	25100.04	High	H+V	64QAM	H	1/65	-20.354
		SISO Dual	25100.04	High	H+V	QPSK	H	64/0	-27.990
4	100 MHz	SISO Dual	24949.98	Low	H+V	16QAM	H	1/0	-18.162
		SISO	24949.98	Low	V	BPSK	H	64/0	-29.465
		SISO Dual	25050.06	High	H+V	16QAM	H	1/65	-19.571
		SISO Dual	25050.06	High	H+V	QPSK	H	64/0	-27.081

* Note : Limit: -5 dBm

n258b Band Antenna 1 (N patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO Dual	24775.08	Low	H+V	16QAM	H	1/0	-13.220*
		SISO	24775.08	Low	V	BPSK	H	32/0	-22.927
		SISO	25224.96	High	H	BPSK	V	1/31	-15.113*
		SISO Dual	25224.96	High	H+V	QPSK	H	32/0	-19.673
	100 MHz	SISO	24800.04	Low	V	16QAM	H	1/0	-16.630
		SISO Dual	24800.04	Low	H+V	BPSK	H	64/0	-23.972
		SISO	25200	High	V	BPSK	H	1/65	-14.739*
		SISO Dual	25200	High	H+V	16QAM	H	64/0	-23.976
2	100 MHz	SISO	24850.02	Low	V	BPSK	H	1/0	-19.753
		SISO Dual	24850.02	Low	H+V	QPSK	H	64/0	-19.286
		SISO Dual	25150.02	High	H+V	64QAM	H	1/65	-17.743
		SISO Dual	25150.02	High	H+V	QPSK	H	64/0	-21.813
3	100 MHz	SISO	24900.00	Low	V	64QAM	H	1/0	-20.712
		SISO	24900.00	Low	V	BPSK	H	64/0	-33.997
		SISO Dual	25100.04	High	H+V	BPSK	H	1/65	-19.381
		SISO	25100.04	High	H	BPSK	V	64/0	-30.628
4	100 MHz	SISO	24949.98	Low	V	16QAM	H	1/0	-21.811
		SISO	24949.98	Low	V	BPSK	H	64/0	-33.485
		SISO	25050.06	High	V	QPSK	H	1/65	-22.363
		SISO	25050.06	High	H	BPSK	V	64/0	-30.531

* Note : Limit: -5 dBm

n260 Band Antenna 0 (M patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO Dual	37025.04	Low	H+V	BPSK	V	1/0	-11.993*
		SISO	37025.04	Low	H	BPSK	V	32/0	-20.815
		SISO	39975	High	H	16QAM	H	1/31	-9.255*
		SISO Dual	39975	High	H+V	16QAM	H	32/0	-11.085*
	100 MHz	SISO	37050.00	Low	H	16QAM	V	1/0	-14.104*
		SISO Dual	37050.00	Low	H+V	BPSK	V	64/0	-20.528
		SISO	39949.92	High	H	QPSK	H	1/65	-11.168*
		SISO Dual	39949.92	High	H+V	QPSK	H	64/0	-16.081
2	100 MHz	SISO Dual	37099.98	Low	H+V	BPSK	V	1/0	-16.129
		SISO Dual	37099.98	Low	H+V	BPSK	V	64/0	-18.465
		SISO Dual	39899.94	High	H+V	16QAM	H	1/65	-16.265
		SISO	39899.94	High	H	QPSK	H	64/0	-18.675
3	100 MHz	SISO Dual	37149.96	Low	H+V	16QAM	V	1/0	-17.839
		SISO	37149.96	Low	H	BPSK	V	64/0	-20.456
		SISO Dual	39849.96	High	H+V	BPSK	H	1/65	-19.468
		SISO	39849.96	High	H	BPSK	H	64/0	-20.113
4	100 MHz	SISO Dual	37199.94	Low	H+V	16QAM	V	1/0	-17.202
		SISO Dual	37199.94	Low	H+V	BPSK	V	64/0	-24.121
		SISO Dual	39799.98	High	H+V	QPSK	H	1/65	-18.987
		SISO Dual	39799.98	High	H+V	QPSK	H	64/0	-20.335

* Note : Limit: -5 dBm

n260 Band Antenna 1 (N patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO	37025.04	Low	V	QPSK	H	1/0	-9.337*
		SISO	37025.04	Low	V	BPSK	H	32/0	-21.702
		SISO	39975	High	H	16QAM	V	1/31	-10.856*
		SISO Dual	39975	High	H+V	BPSK	V	32/0	-16.981
	100 MHz	SISO	37050.00	Low	V	QPSK	H	1/0	-12.513*
		SISO	37050.00	Low	V	BPSK	H	64/0	-21.096*
		SISO	39949.92	High	H	QPSK	V	1/65	-11.270*
		SISO Dual	39949.92	High	H+V	BPSK	V	64/0	-18.508
2	100 MHz	SISO	37099.98	Low	H	BPSK	V	1/0	-16.231
		SISO	37099.98	Low	H	BPSK	V	64/0	-15.832
		SISO Dual	39899.94	High	H+V	64QAM	V	1/65	-15.736
		SISO Dual	39899.94	High	H+V	BPSK	V	64/0	-17.987
3	100 MHz	SISO	37149.96	Low	H	BPSK	V	1/0	-18.688
		SISO Dual	37149.96	Low	H+V	BPSK	H	64/0	-25.356
		SISO Dual	39849.96	High	H+V	64QAM	V	1/65	-16.496
		SISO Dual	39849.96	High	H+V	BPSK	V	64/0	-21.859
4	100 MHz	SISO Dual	37199.94	Low	H+V	BPSK	H	1/0	-17.951
		SISO Dual	37199.94	Low	H+V	BPSK	H	64/0	-22.871
		SISO Dual	39799.98	High	H+V	16QAM	V	1/65	-16.647
		SISO	39799.98	High	H	BPSK	V	64/0	-19.219

* Note : Limit: -5 dBm

n261 Band Antenna 0 (M patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO Dual	27525.00	Low	H+V	QPSK	V	1/0	-8.786 ^{※1}
		SISO Dual	27525.00	Low	H+V	BPSK	V	32/0	-16.026
		SISO	28324.92	High	H	16QAM	H	1/31	-9.837 ^{※1}
		SISO Dual	28324.92	High	H+V	QPSK	V	32/0	-12.604 ^{※1}
	100 MHz	SISO	27550.08	Low	H	16QAM	V	1/0	-12.004 ^{※1}
		SISO	27550.08	Low	H	BPSK	V	64/0	-19.006
		SISO Dual	28299.96	High	H+V	16QAM	V	1/65	-10.952 ^{※1}
		SISO Dual	28299.96	High	H+V	QPSK	V	64/0	-16.681
2	100 MHz	SISO Dual	27600.06	Low	H+V	16QAM	V	1/0	-16.914
		SISO Dual	27600.06	Low	H+V	BPSK	V	64/0	-10.540 ^{※2}
		SISO Dual	28249.98	High	H+V	16QAM	V	1/65	-16.582
		SISO Dual	28249.98	High	H+V	BPSK	V	64/0	-16.366
3	100 MHz	SISO Dual	27650.04	Low	H+V	QPSK	V	1/0	-16.627
		SISO Dual	27650.04	Low	H+V	16QAM	V	64/0	-14.501 ^{※1}
		SISO	28200	High	H	64QAM	H	1/65	-19.572
		SISO Dual	28200	High	H+V	BPSK	V	64/0	-22.155
4	100 MHz	SISO Dual	27700.02	Low	H+V	BPSK	V	1/0	-15.508
		SISO Dual	27700.02	Low	H+V	QPSK	V	64/0	-23.215
		SISO Dual	28150.02	High	H+V	QPSK	V	1/65	-17.414
		SISO Dual	28150.02	High	H+V	BPSK	V	64/0	-25.572

※1 Note : Limit: -5 dBm

※2 Note : TRP: -22.350 dBm

n261 Band Antenna 1 (N patch)

CCs active	BW	Mode	Frequency [MHz]	Channel	Beam Pol.	Modulation	Ant. Pol. [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	SISO Dual	27525.00	Low	H+V	16QAM	H	1/0	-10.882 ^{*1}
		SISO	27525.00	Low	V	BPSK	H	32/0	-18.404
		SISO Dual	28324.92	High	H+V	BPSK	V	1/31	-13.113 ^{*1}
		SISO Dual	28324.92	High	H+V	QPSK	V	32/0	-14.060 ^{*1}
	100 MHz	SISO	27550.08	Low	V	64QAM	H	1/0	-14.975 ^{*1}
		SISO	27550.08	Low	V	BPSK	H	64/0	-19.919
		SISO Dual	28299.96	High	H+V	64QAM	V	1/65	-15.018 ^{*1}
		SISO Dual	28299.96	High	H+V	QPSK	V	64/0	-15.845 ^{*1}
2	100 MHz	SISO Dual	27600.06	Low	H+V	64QAM	H	1/0	-18.002
		SISO Dual	27600.06	Low	H+V	BPSK	H	64/0	-13.202 ^{*2}
		SISO Dual	28249.98	High	H+V	BPSK	V	1/65	-19.789
		SISO Dual	28249.98	High	H+V	BPSK	V	64/0	-14.499 ^{*3}
3	100 MHz	SISO	27650.04	Low	V	BPSK	H	1/0	-18.512
		SISO	27650.04	Low	V	BPSK	H	64/0	-28.424
		SISO Dual	28200	High	H+V	16QAM	V	1/65	-20.590
		SISO Dual	28200	High	H+V	QPSK	V	64/0	-25.143
4	100 MHz	SISO Dual	27700.02	Low	H+V	BPSK	H	1/0	-20.578
		SISO Dual	27700.02	Low	H+V	BPSK	H	64/0	-27.961
		SISO Dual	28150.02	High	H+V	16QAM	V	1/65	-22.087
		SISO Dual	28150.02	High	H+V	QPSK	V	64/0	-24.905

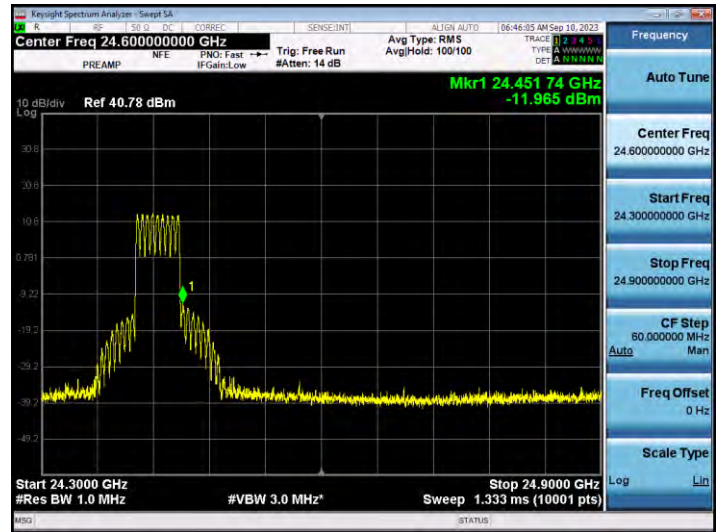
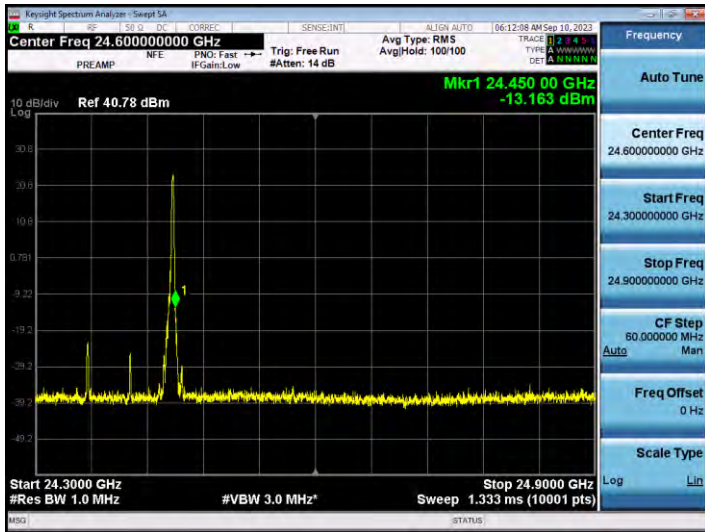
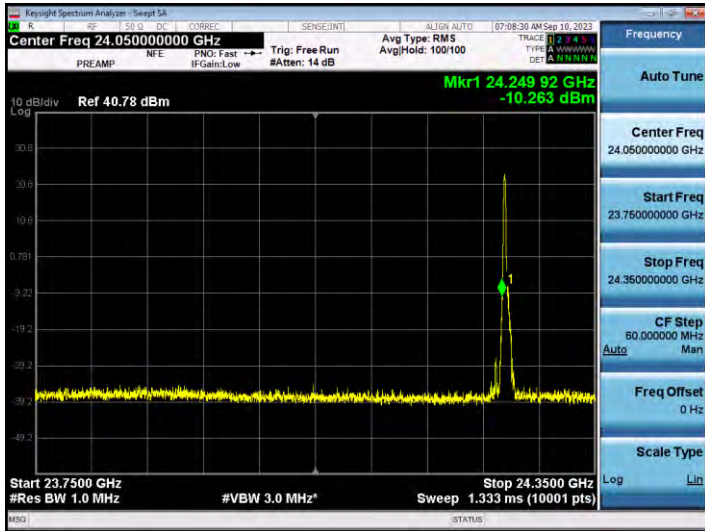
^{*1} Note : Limit: -5 dBm

^{*2} Note : TRP: -22.796 dBm

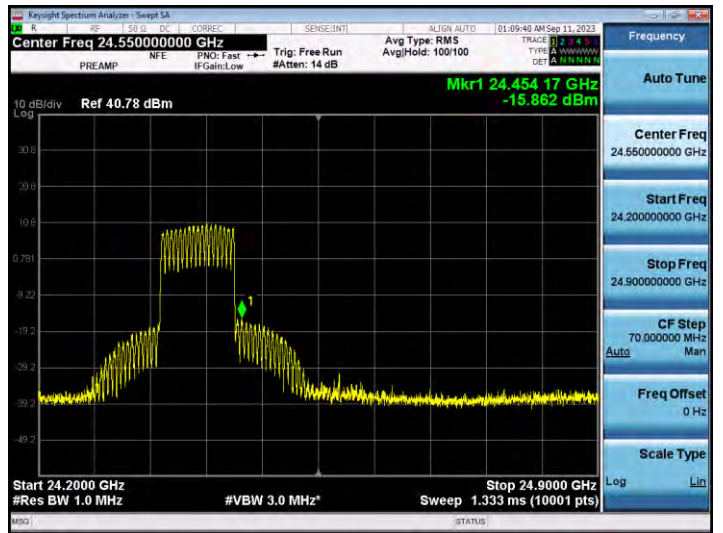
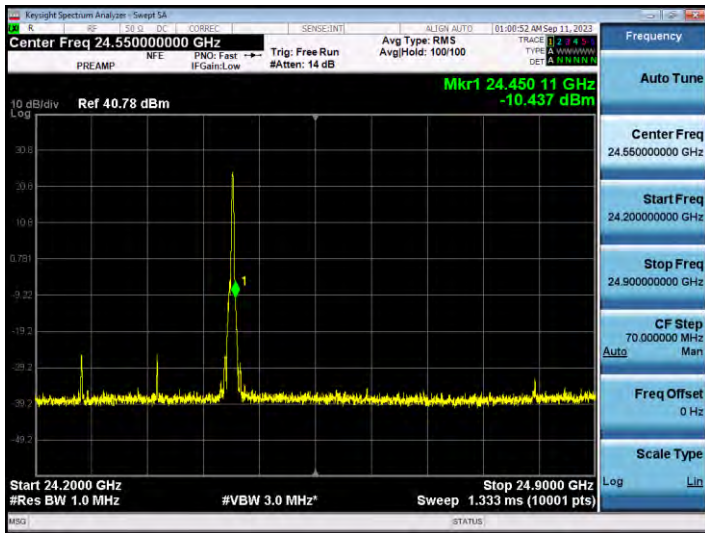
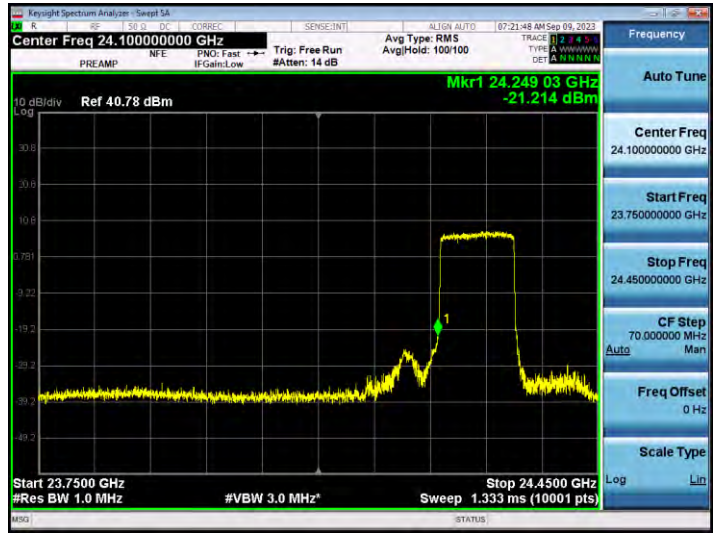
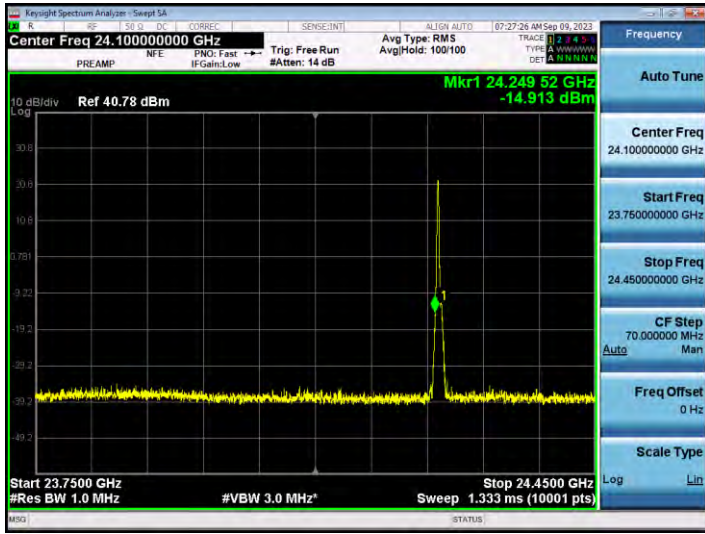
^{*3} Note : TRP: -23.752 dBm

Plot data of Band Edge
n258a Band Antenna 0 (M patch)

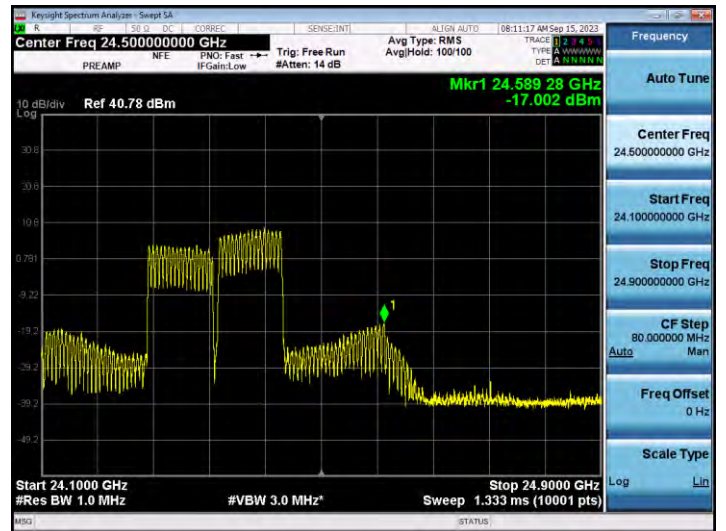
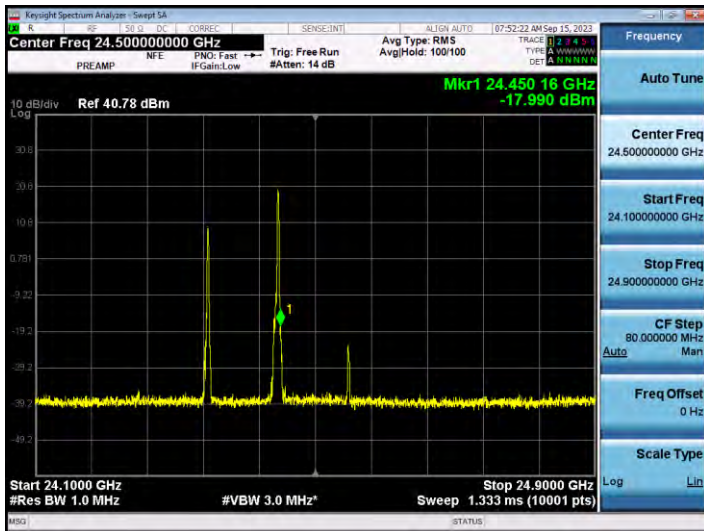
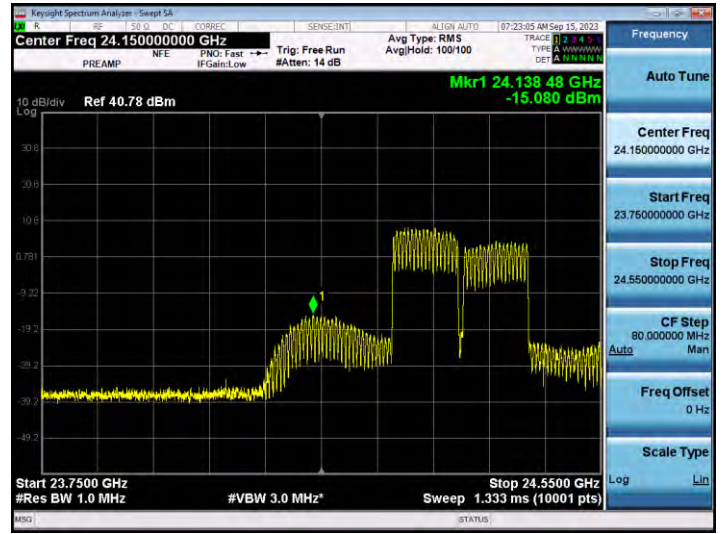
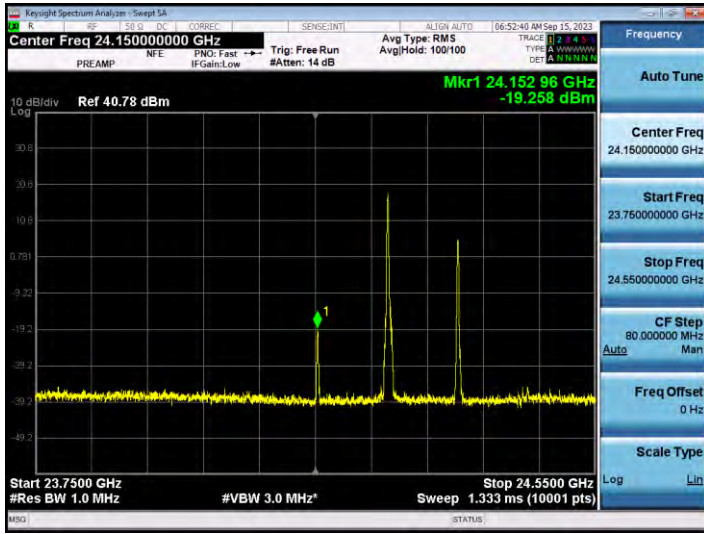
50 MHz, 1CC



100 MHz, 1CC

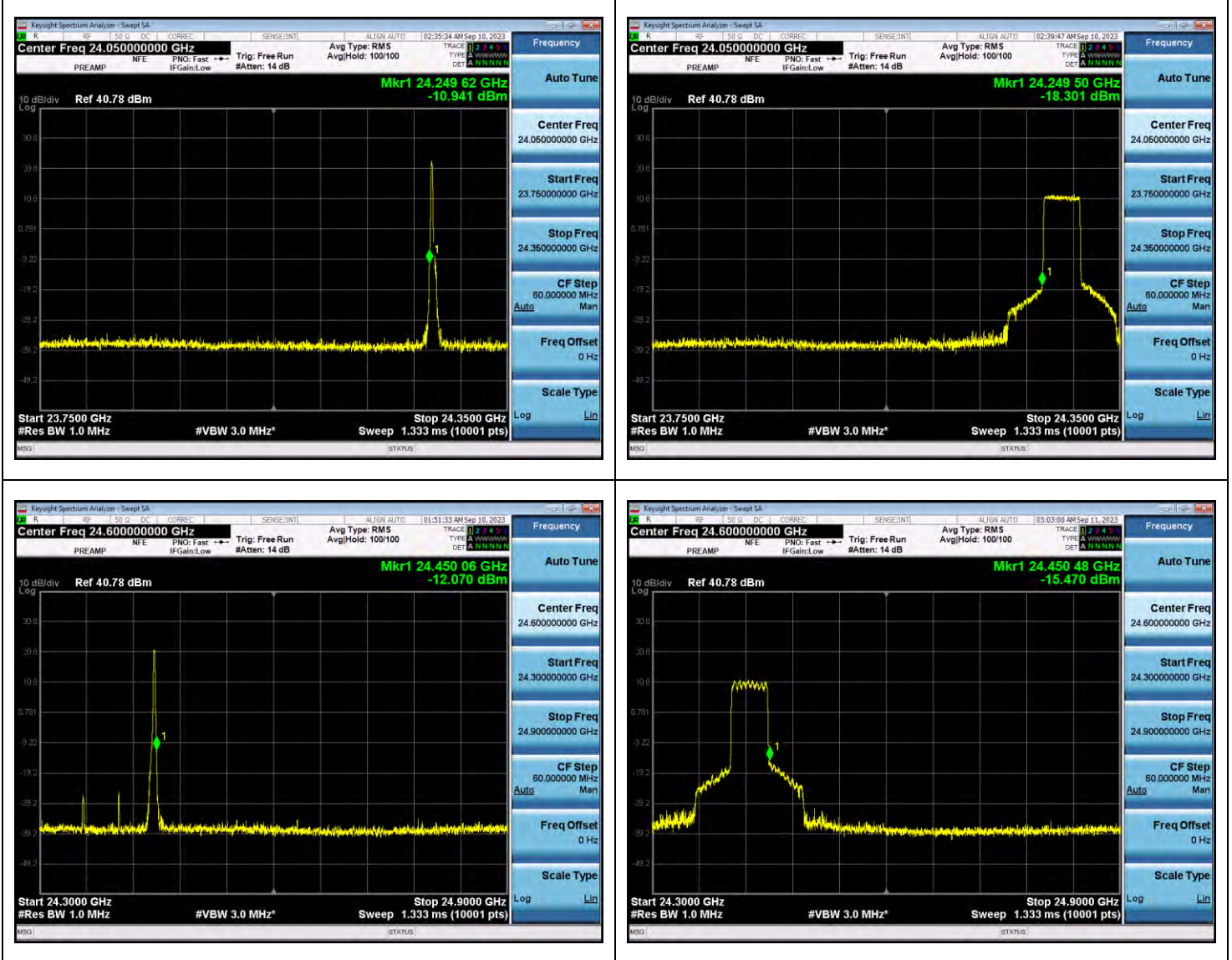


100 MHz, 2CC

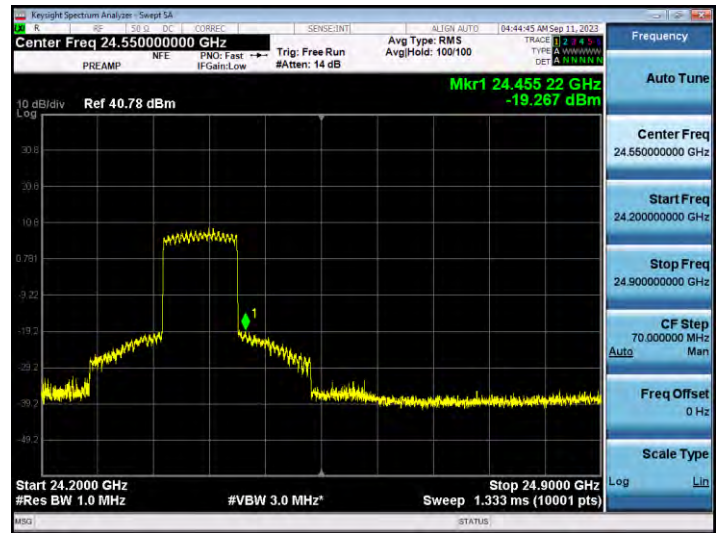
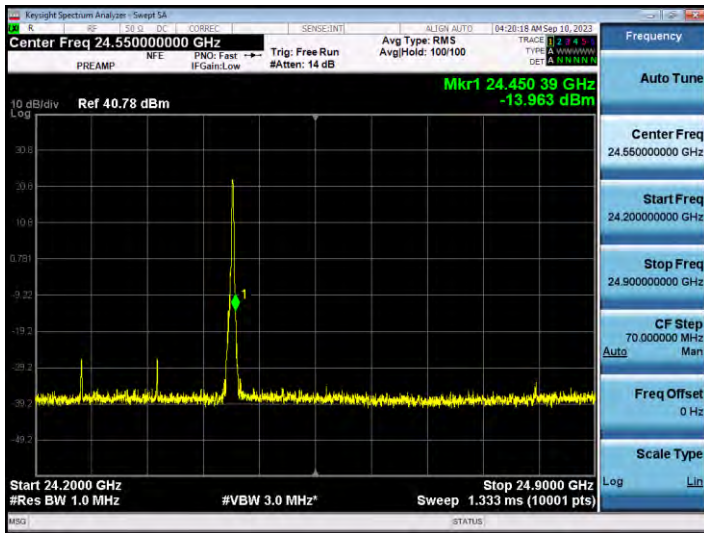
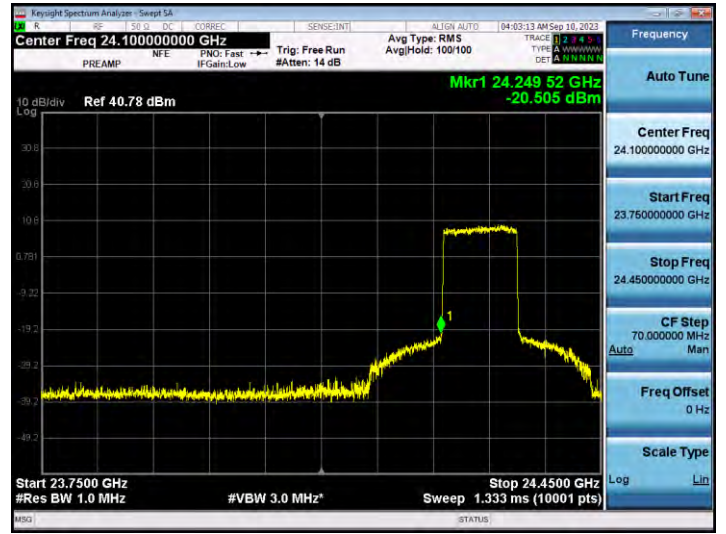
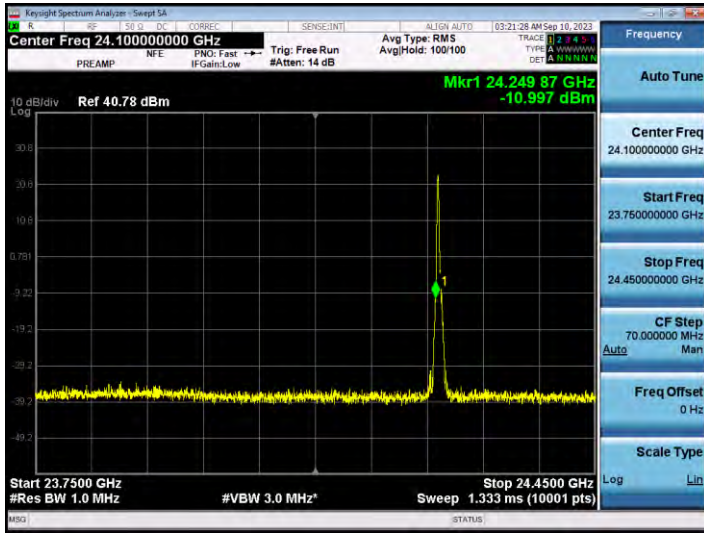


n258a Band Antenna 1 (N patch)

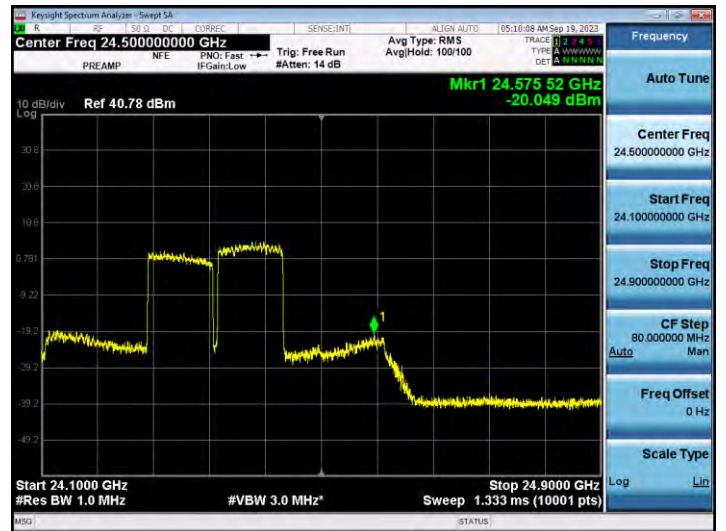
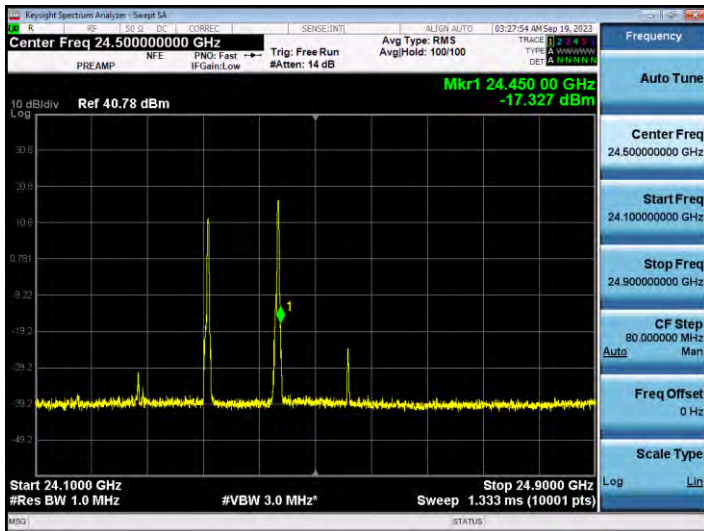
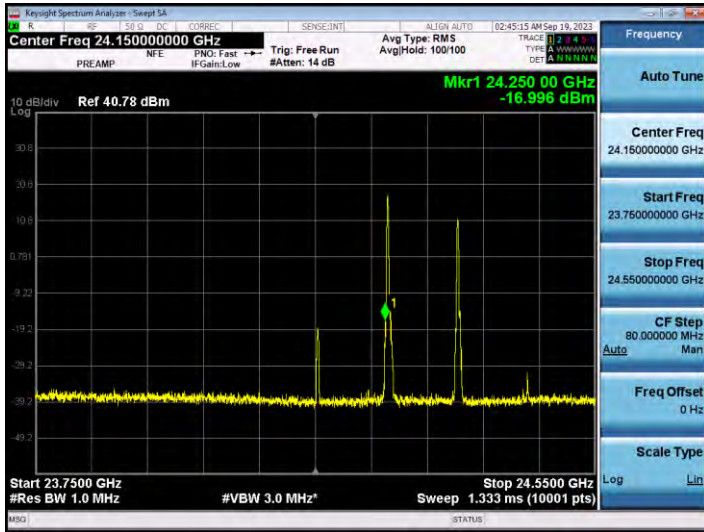
50 MHz, 1CC



100 MHz, 1CC

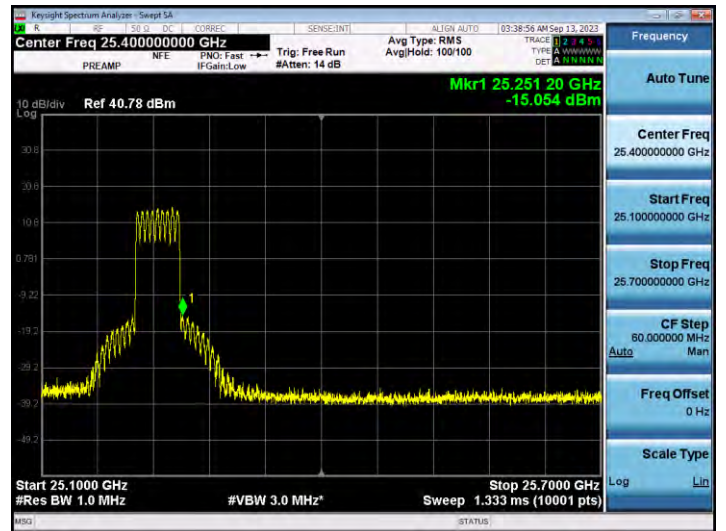
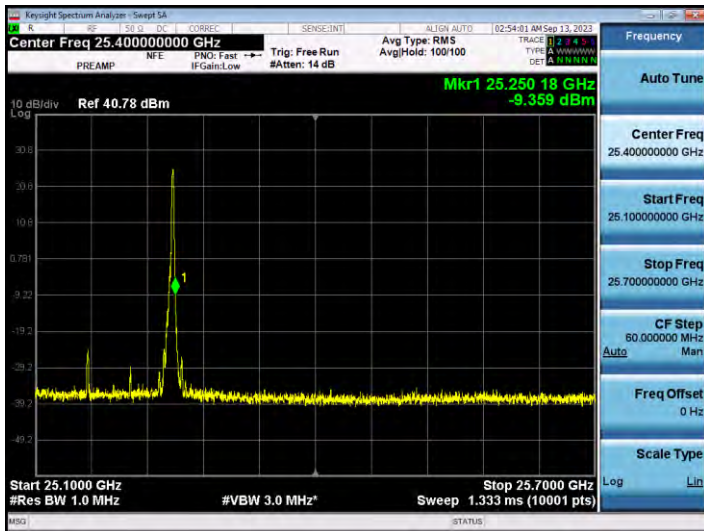
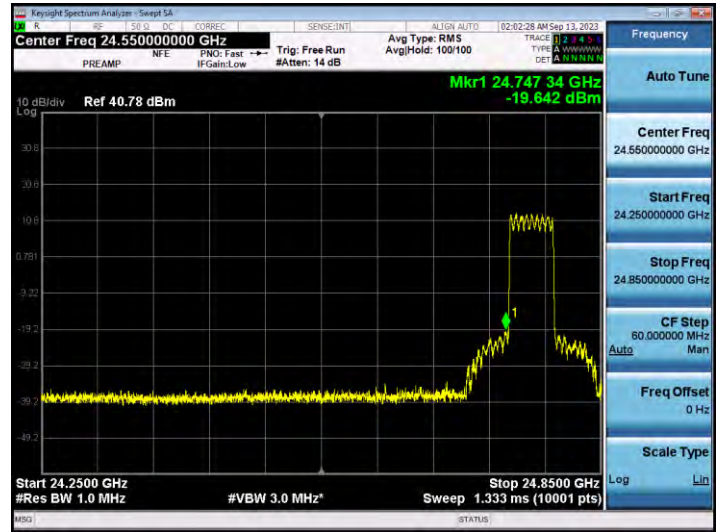
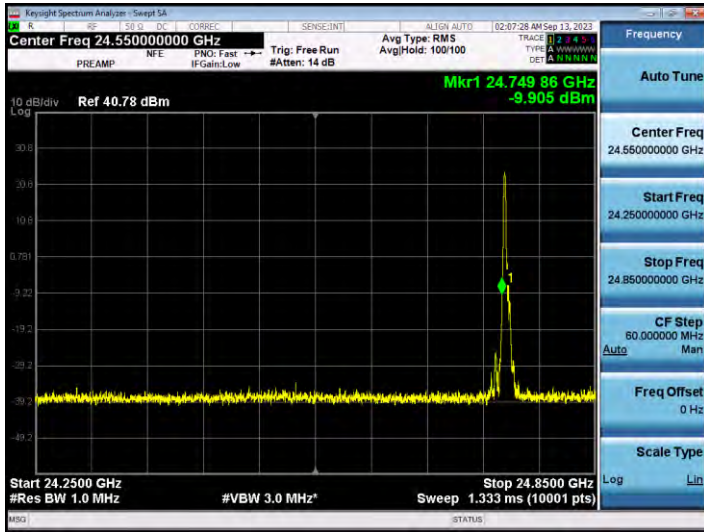


100 MHz, 2CC

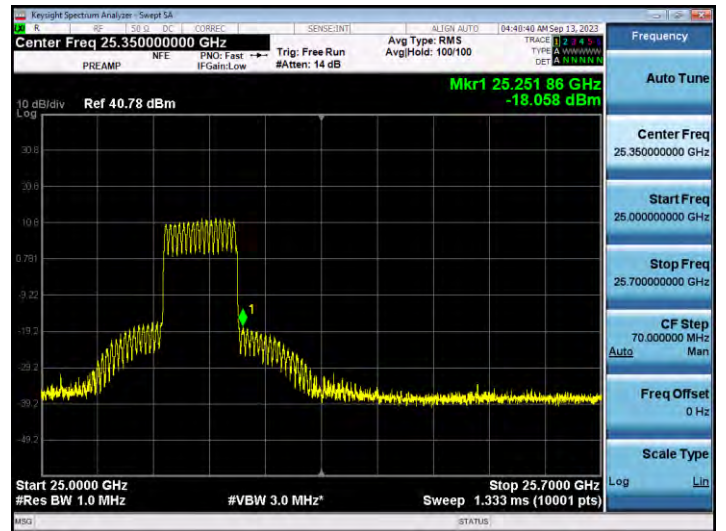
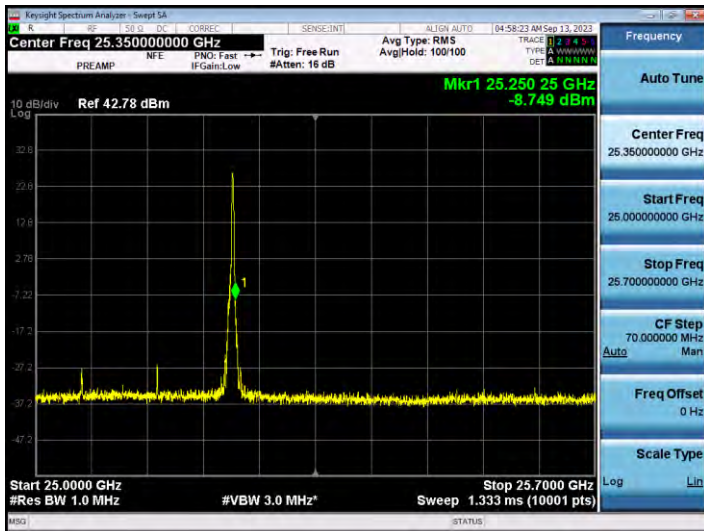
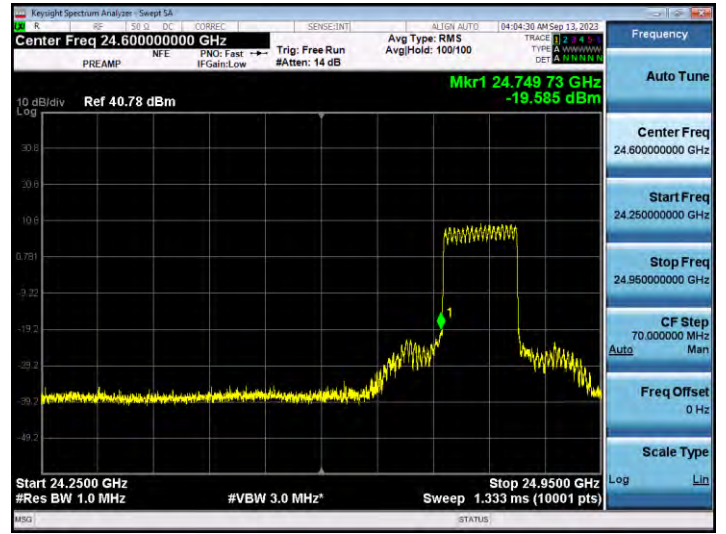
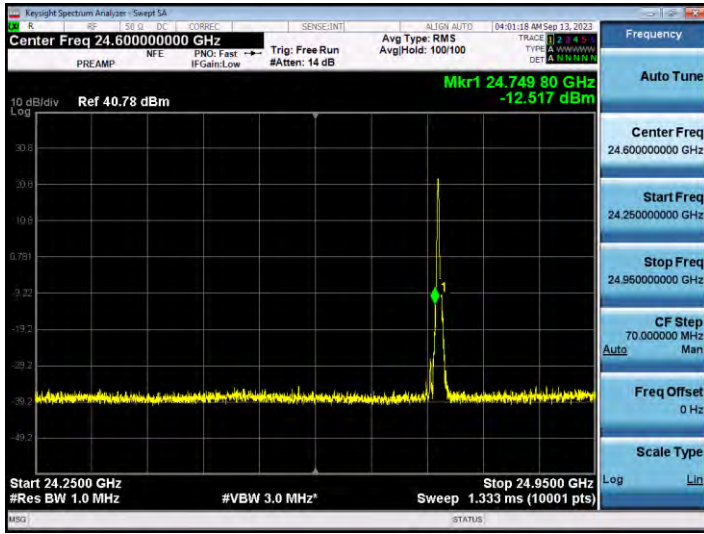


n258b Band Antenna 0 (M patch)

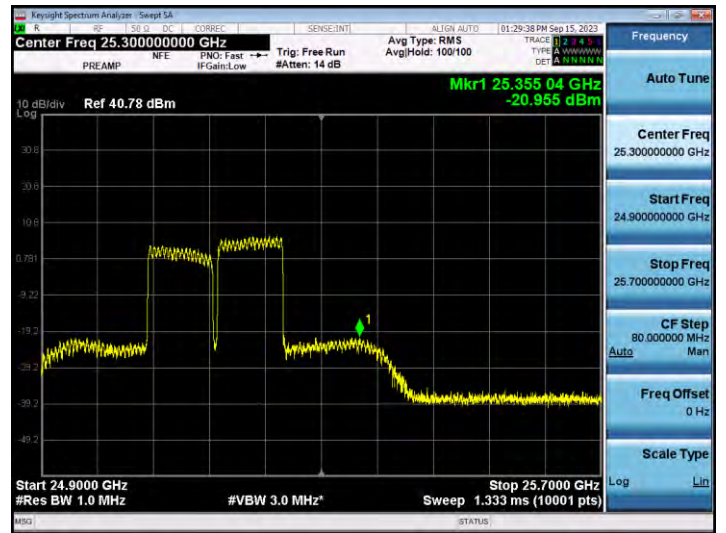
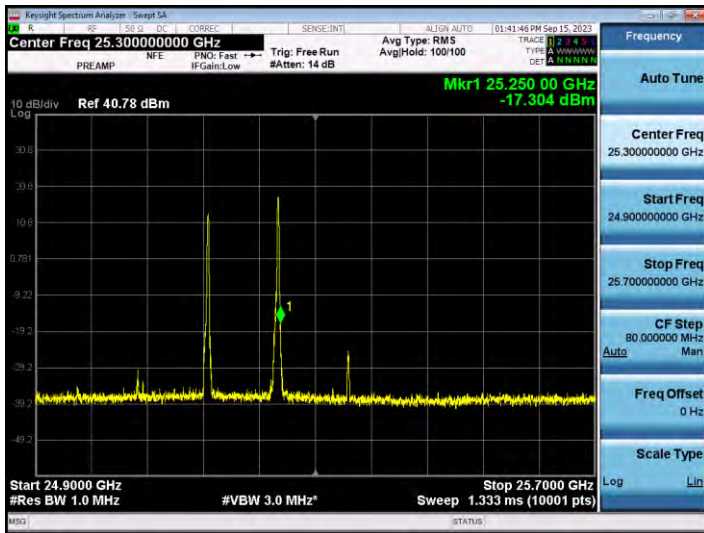
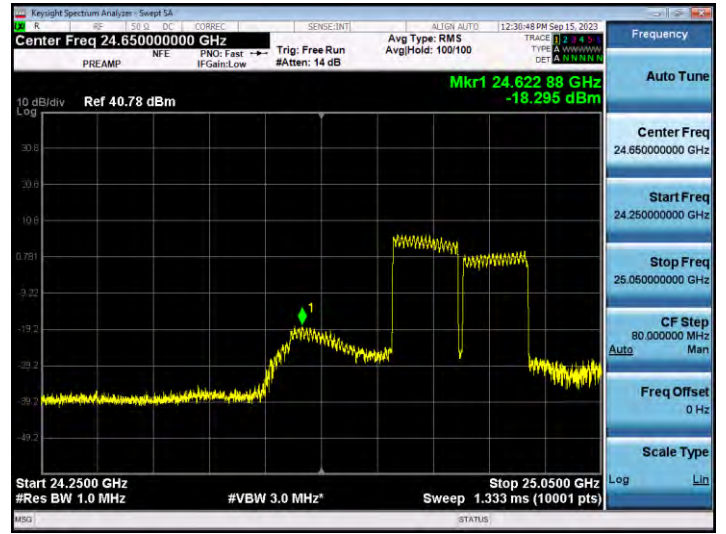
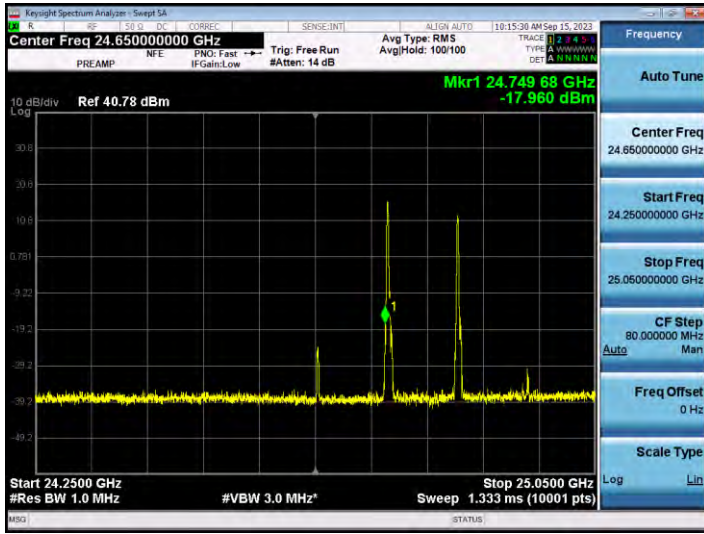
50 MHz, 1CC



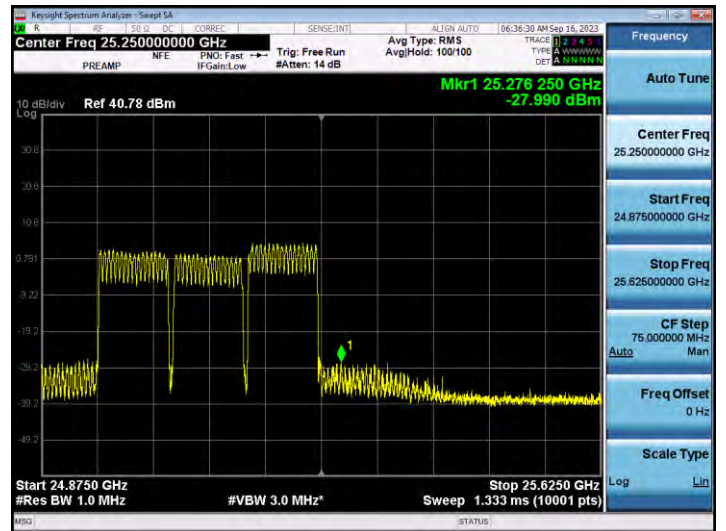
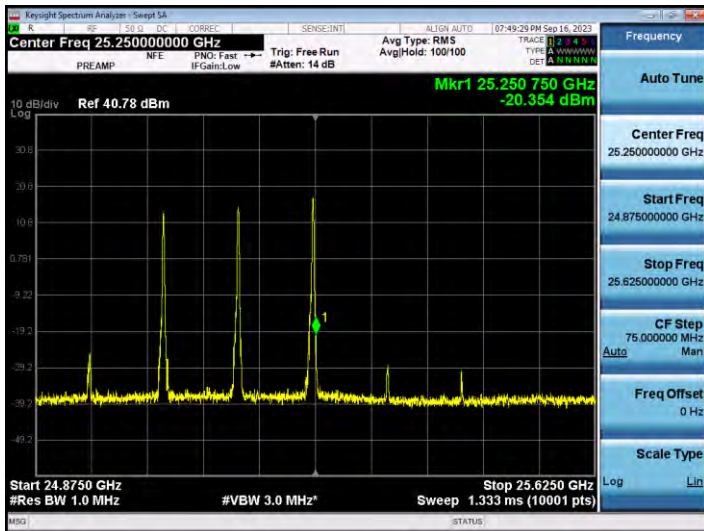
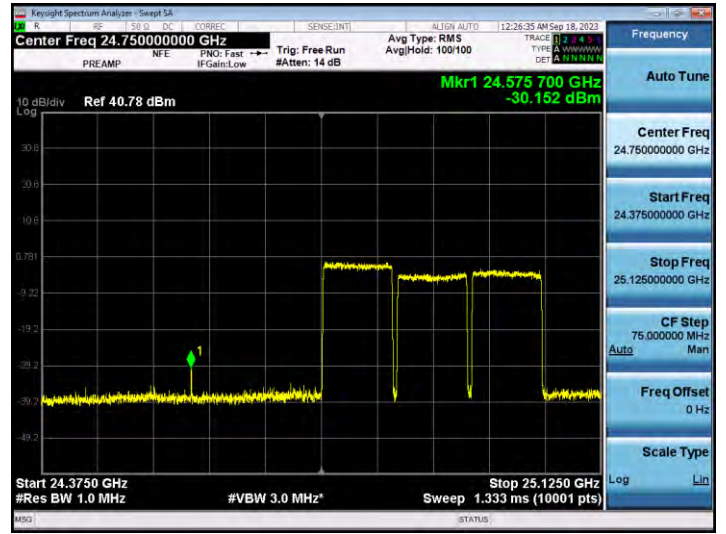
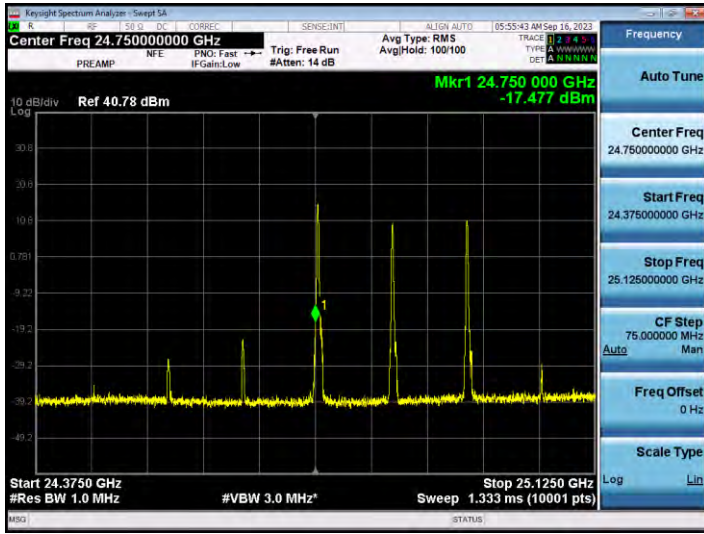
100 MHz, 1CC



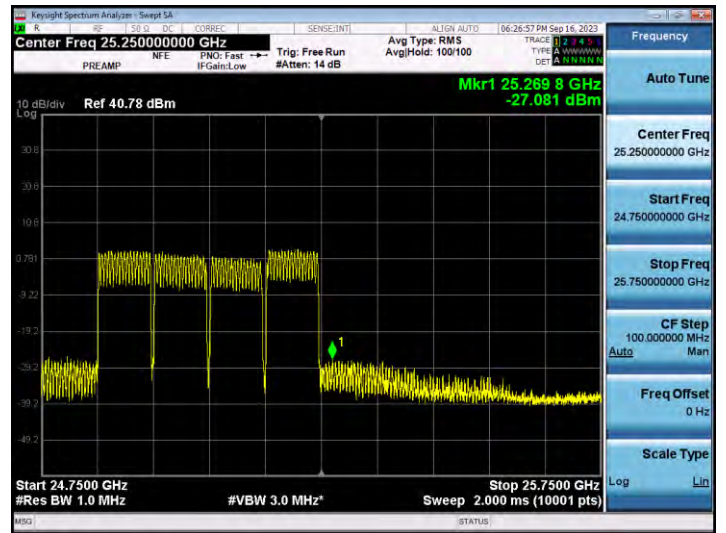
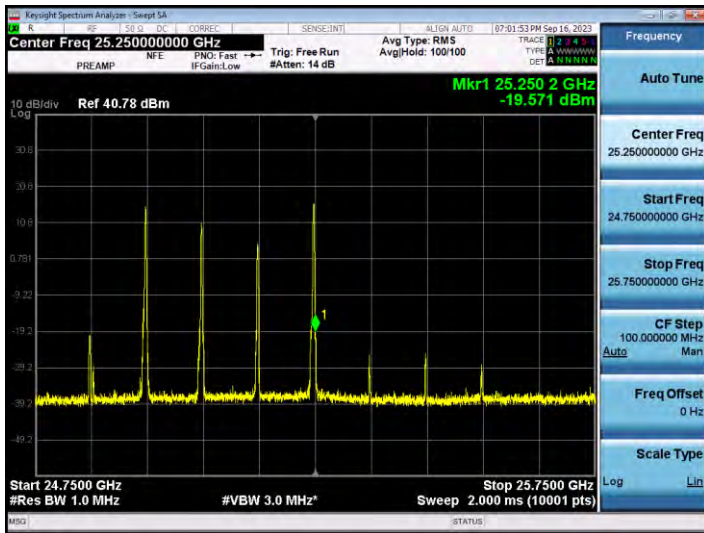
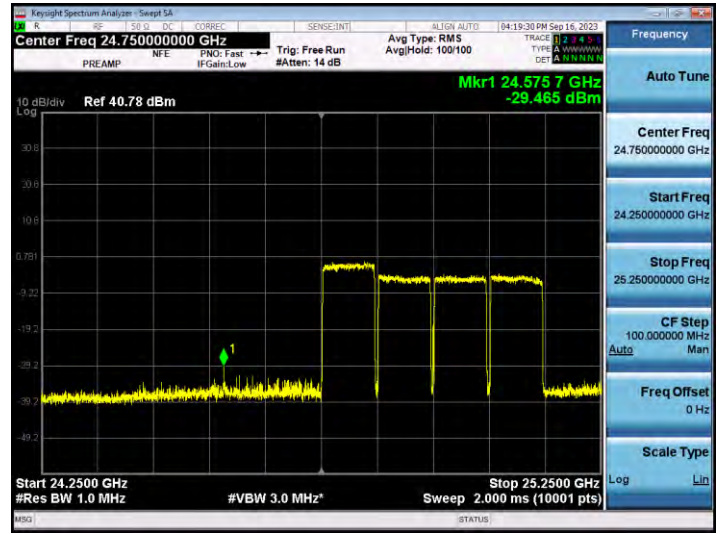
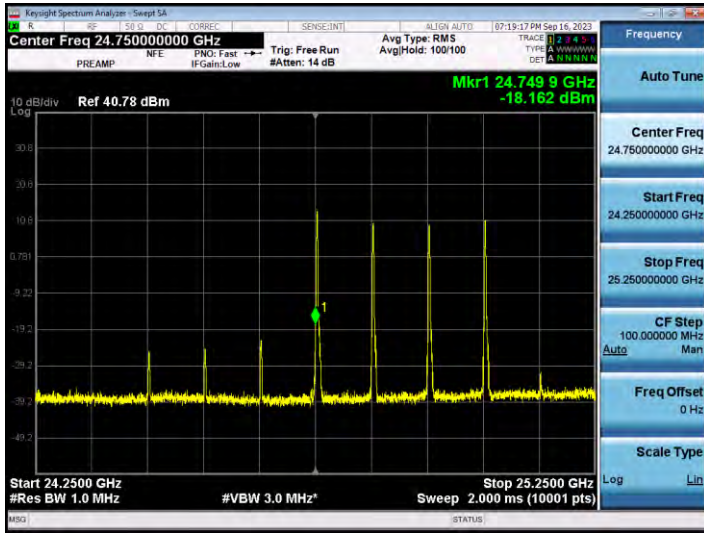
100 MHz, 2CC



100 MHz, 3CC

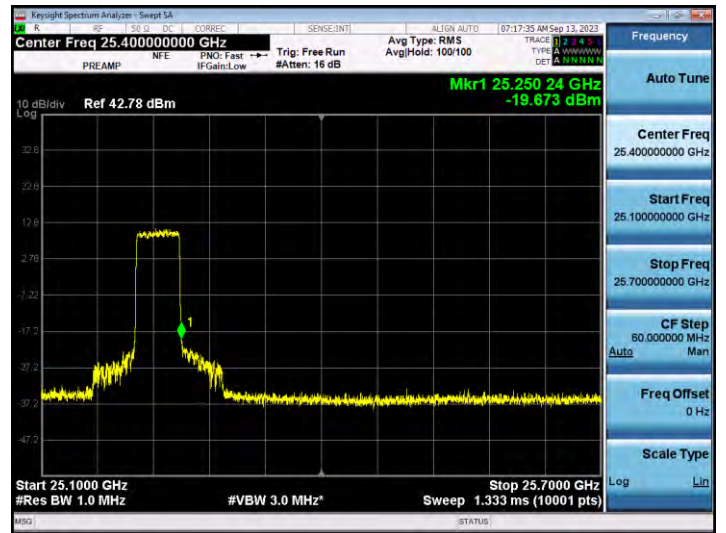
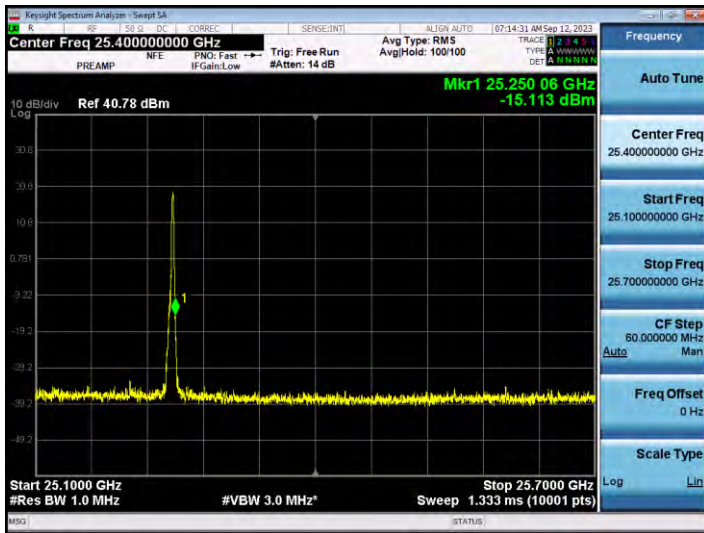
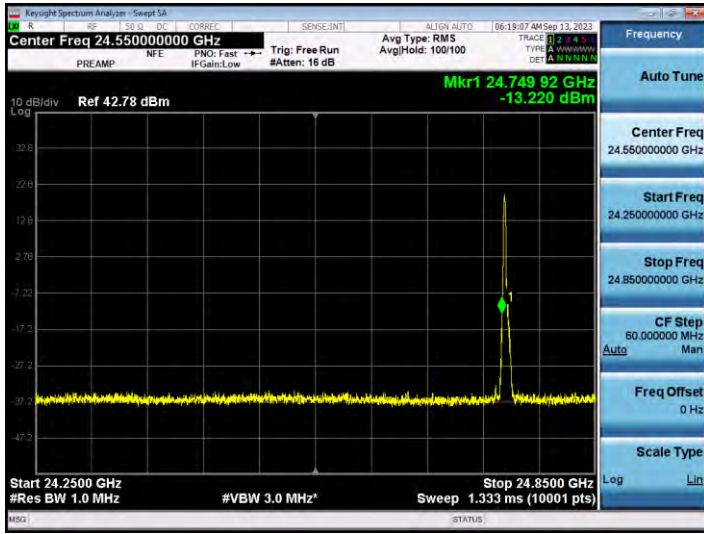


100 MHz, 4CC

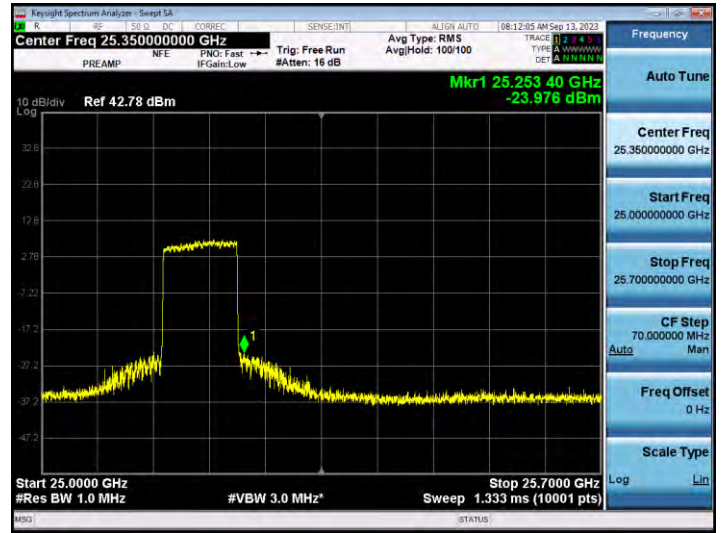
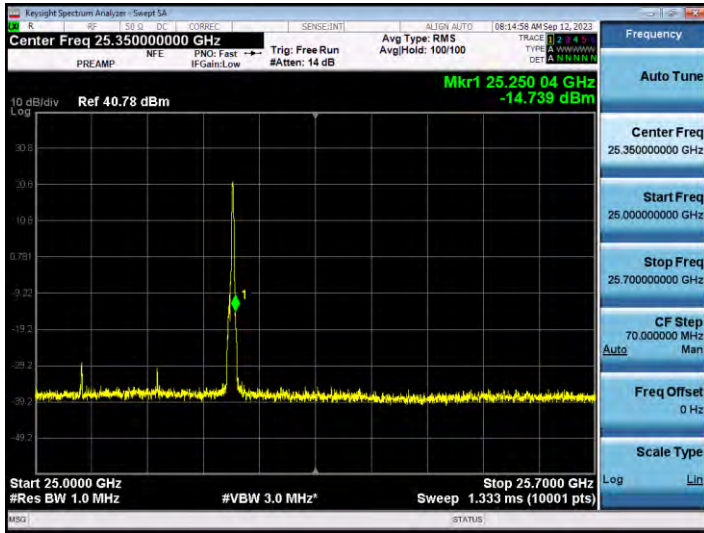
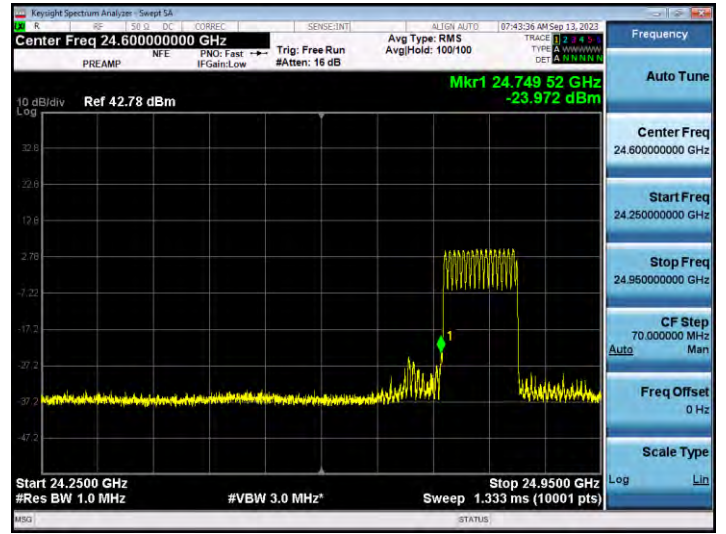
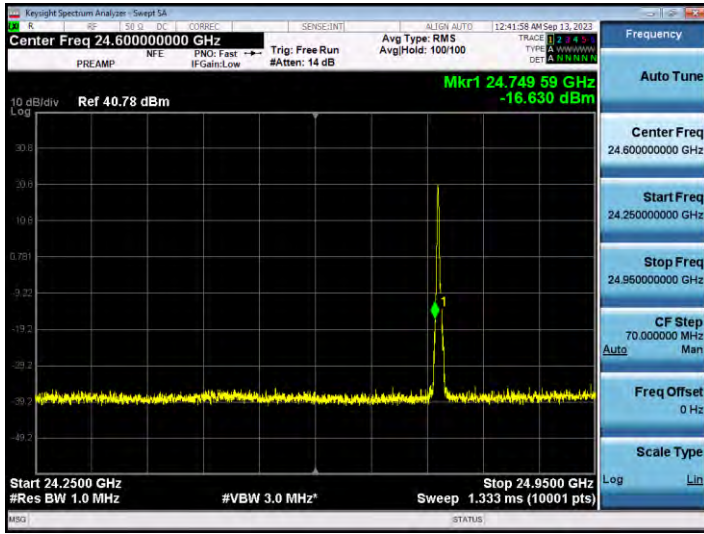


n258b Band Antenna 1 (N patch)

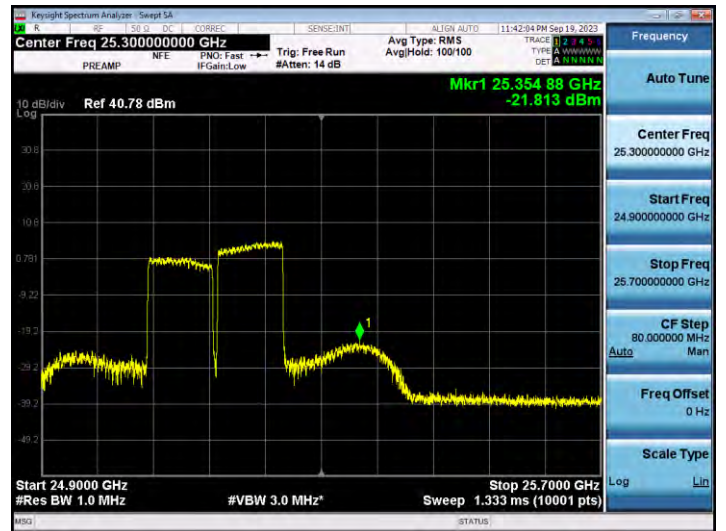
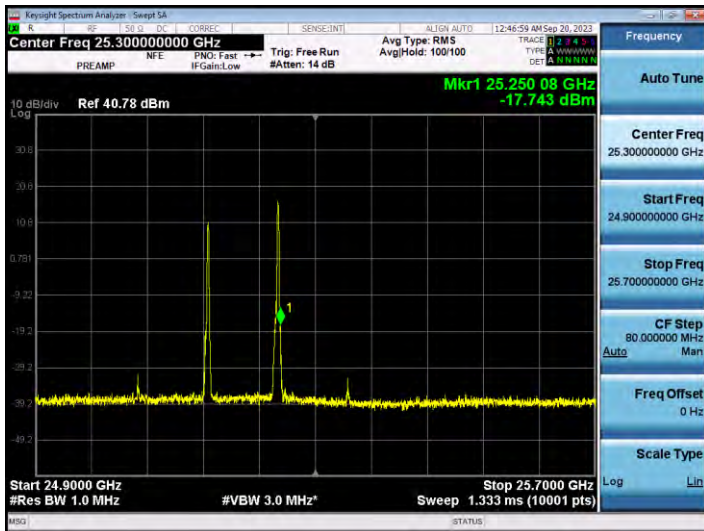
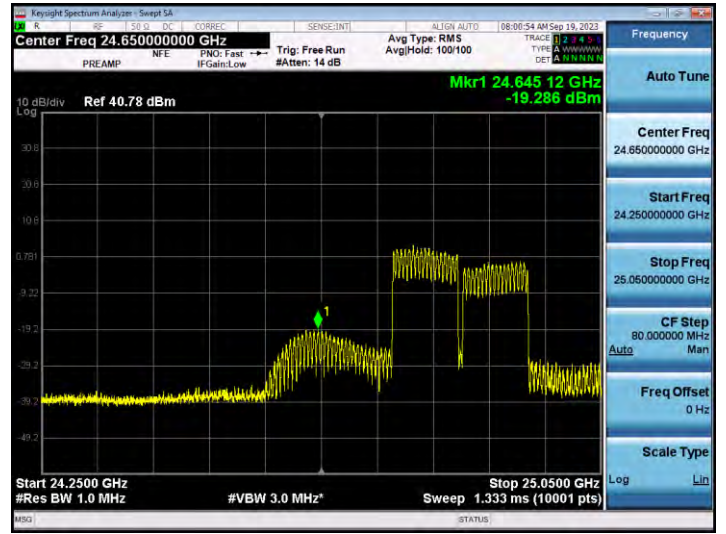
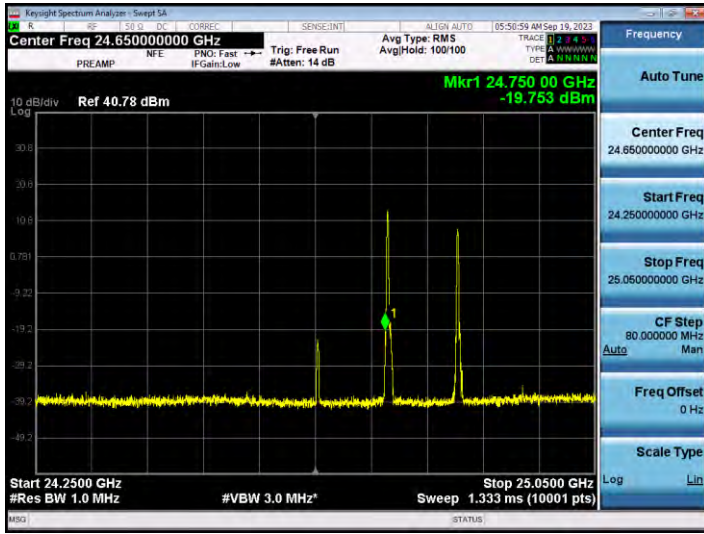
50 MHz, 1CC



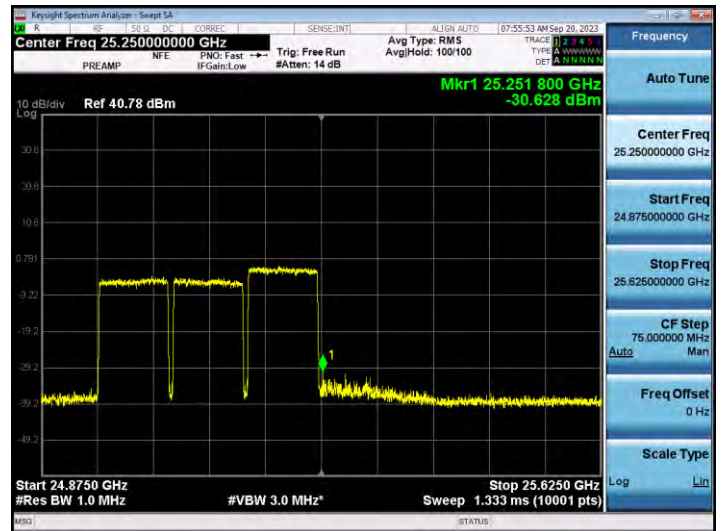
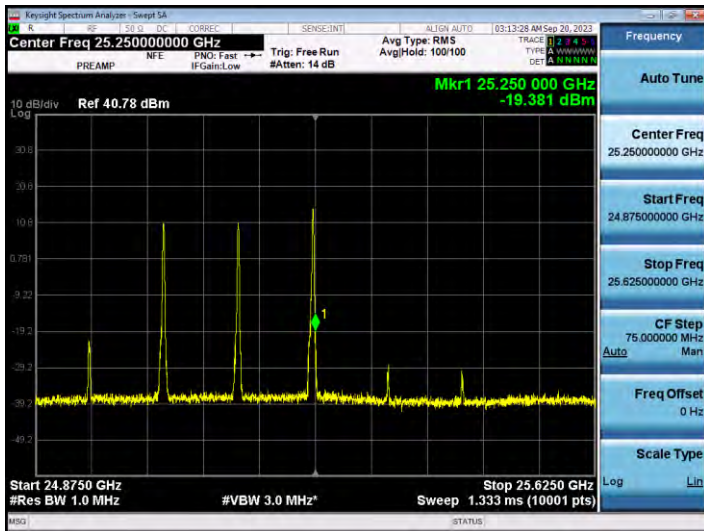
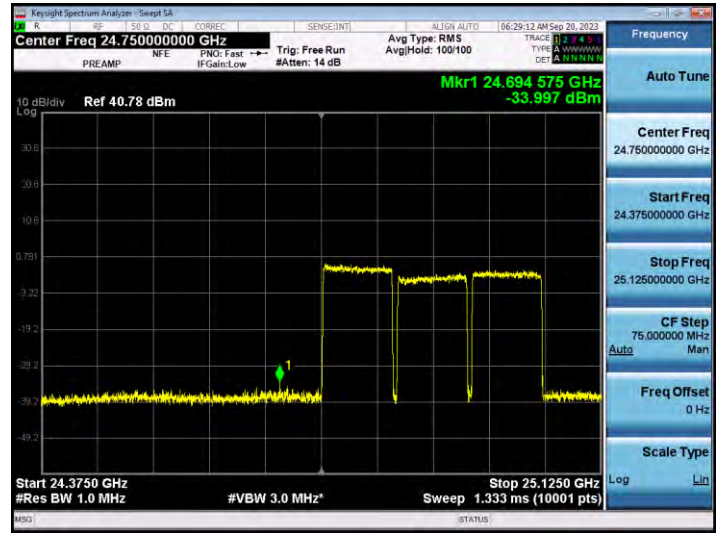
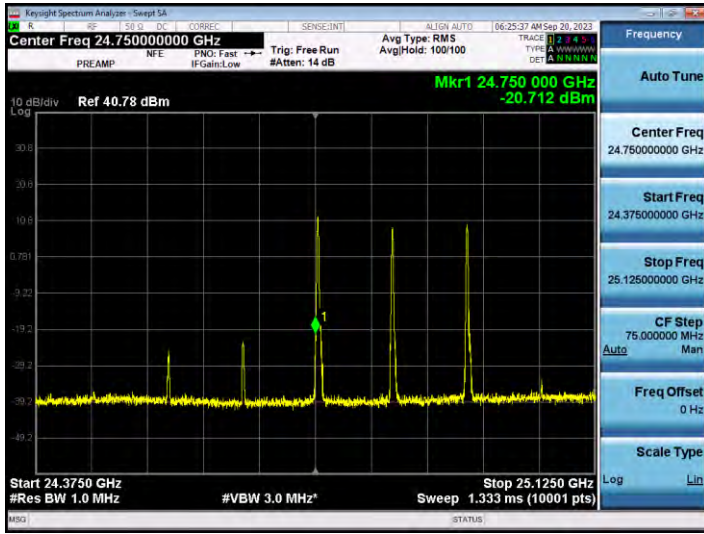
100 MHz, 1CC



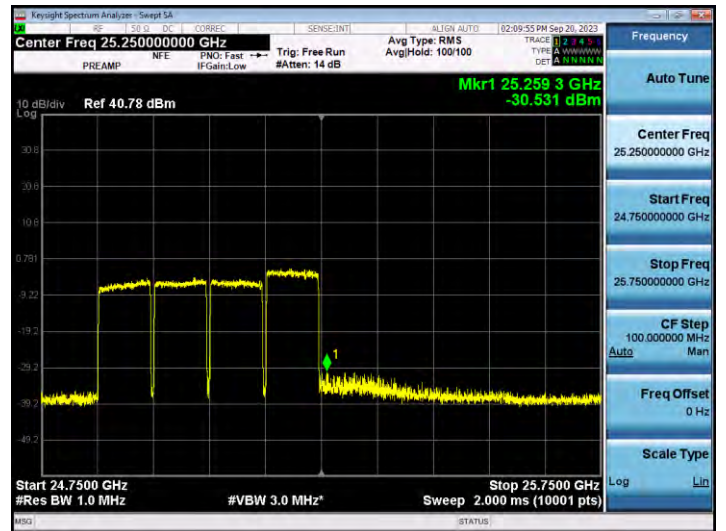
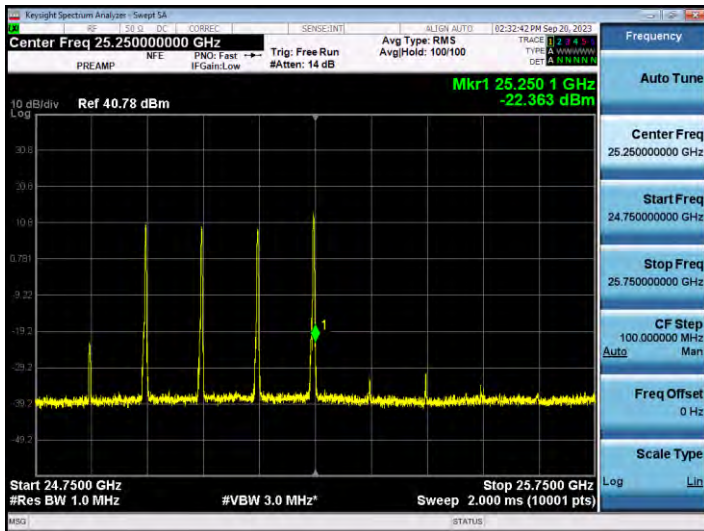
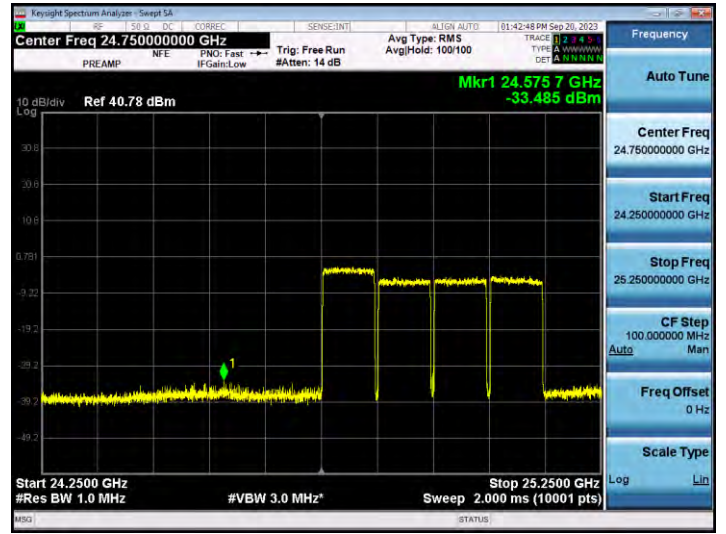
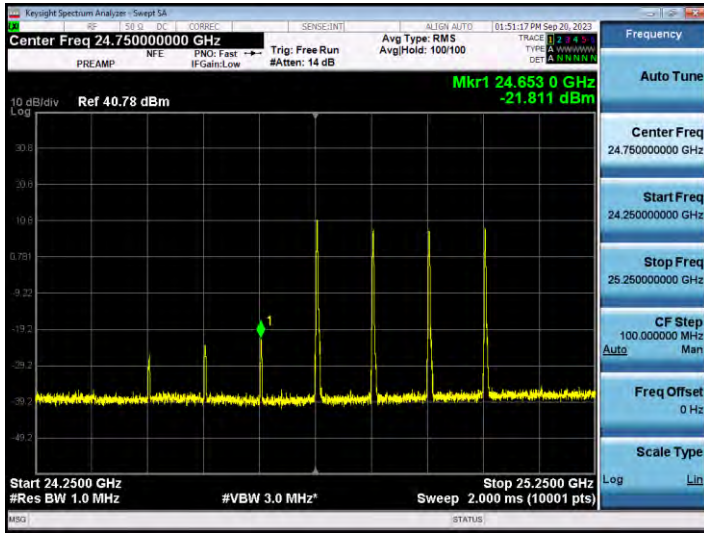
100 MHz, 2CC



100 MHz, 3CC



100 MHz, 4CC



n260 Band Antenna 0 (M patch)

50 MHz, 1CC

