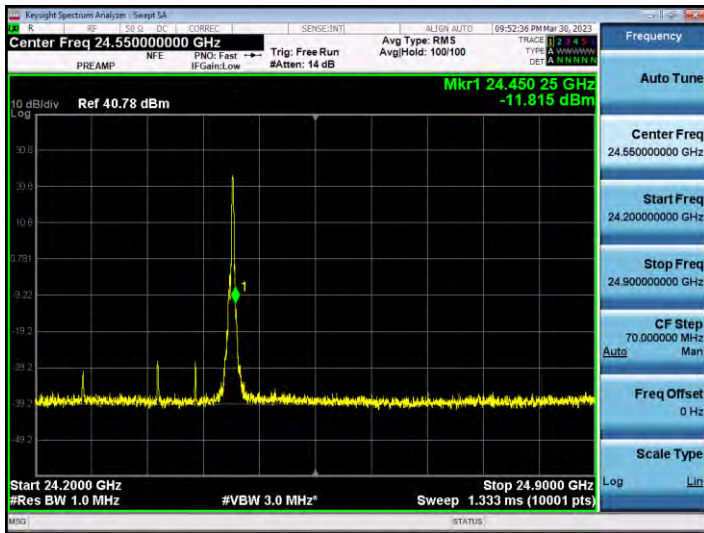
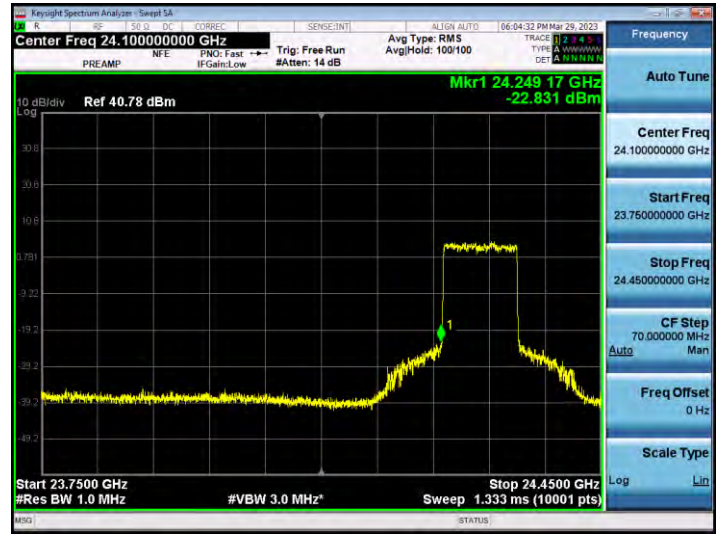
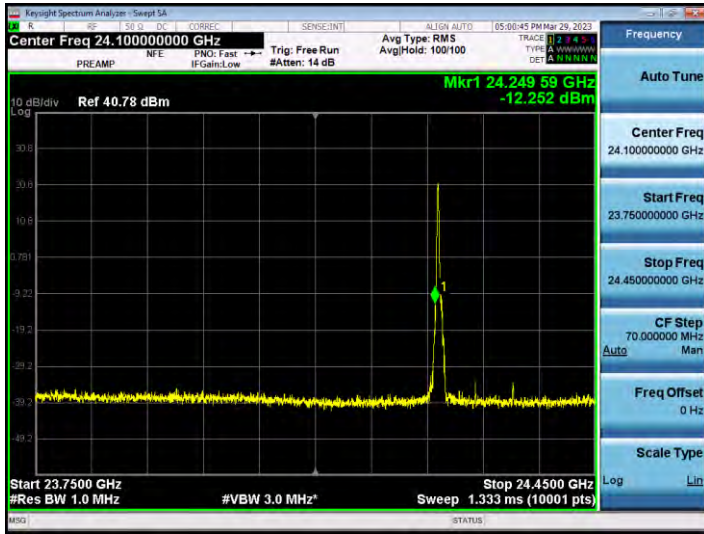
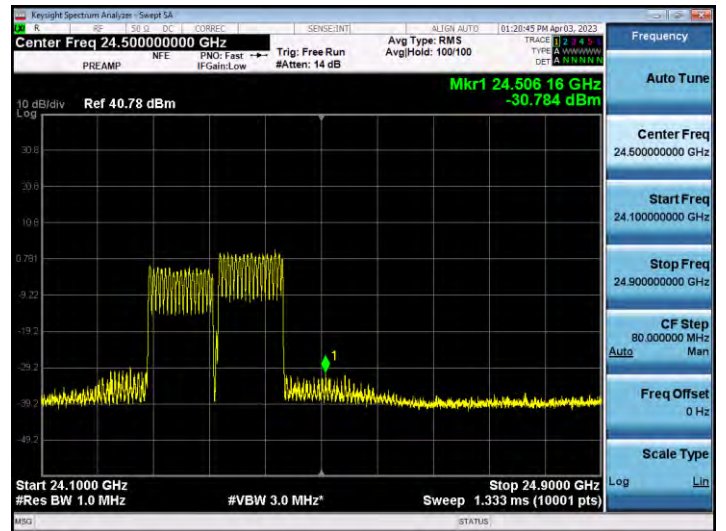
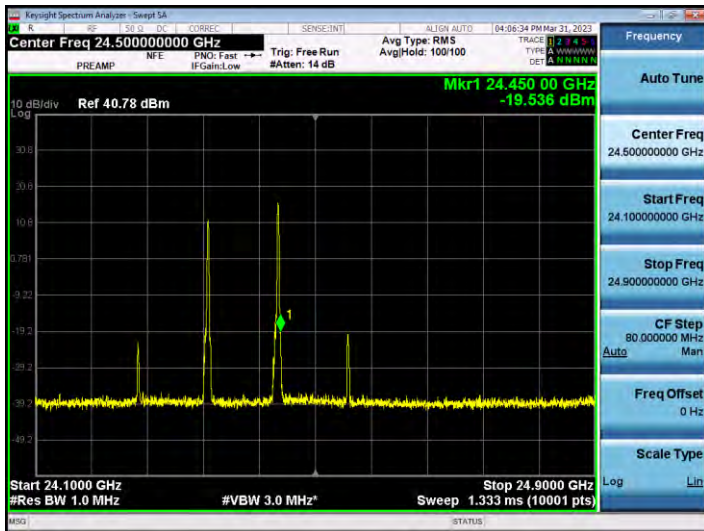
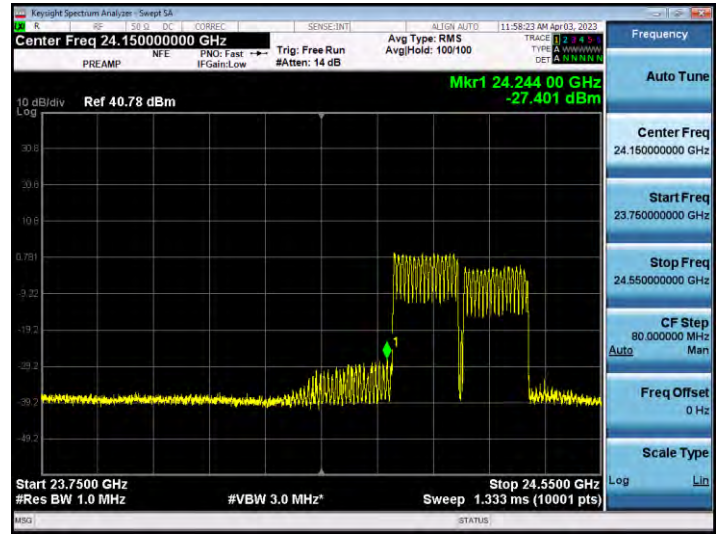
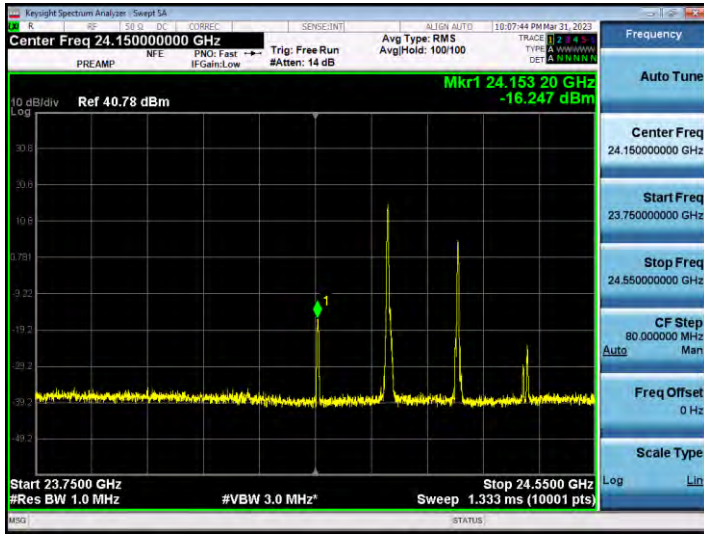


100 MHz, 1CC

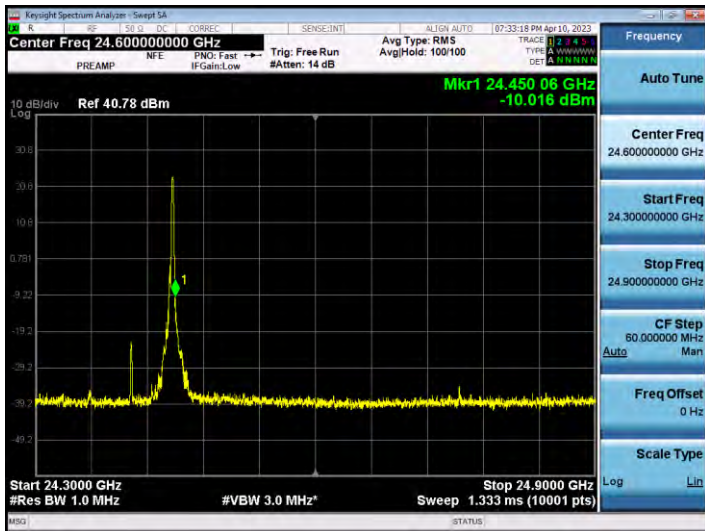
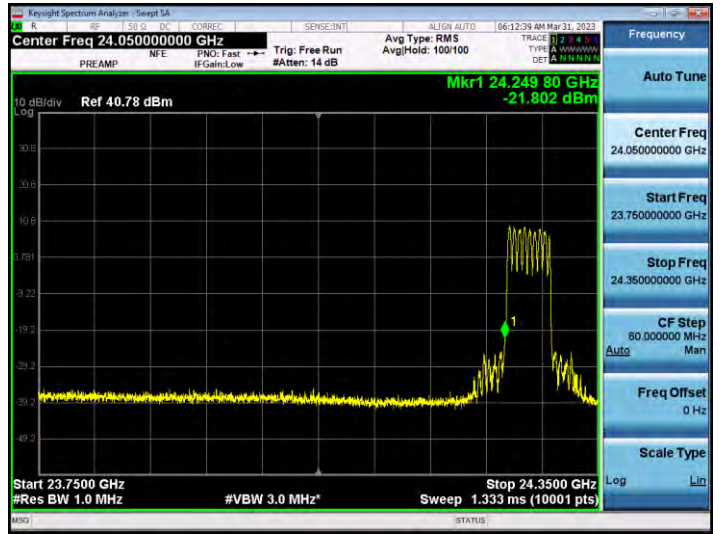
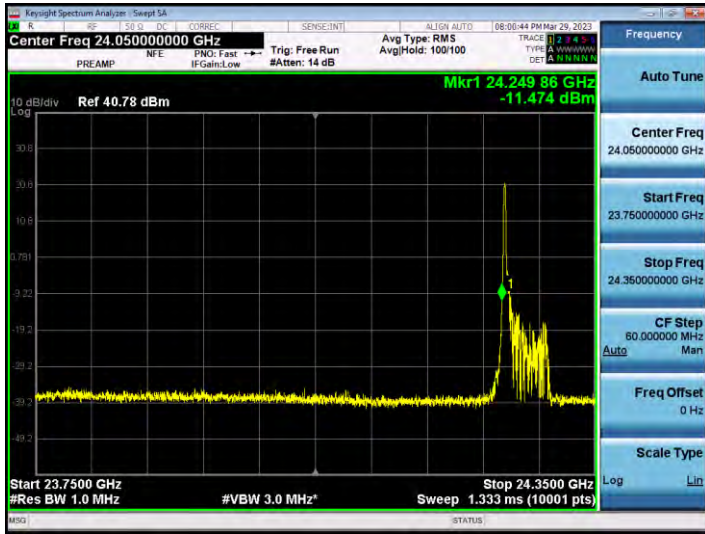


100 MHz, 2CC

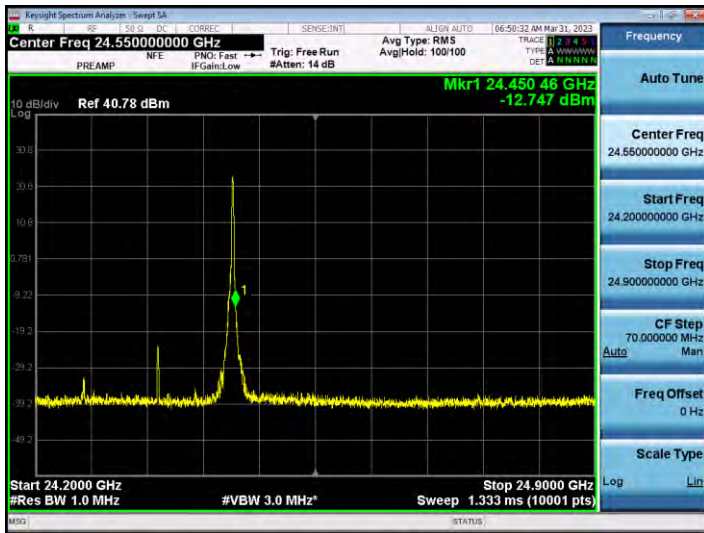
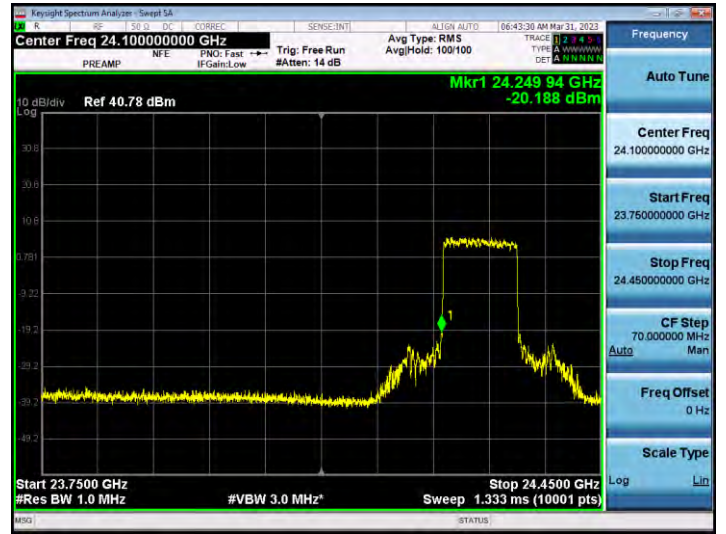
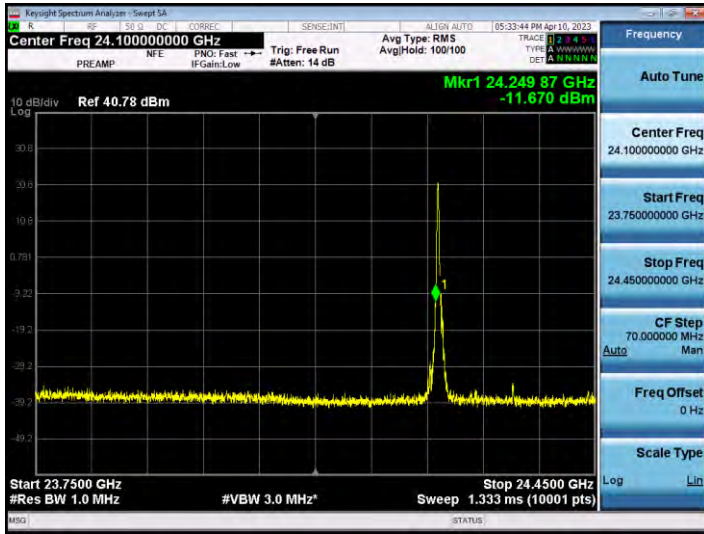


n258a Band Antenna 1 (L patch)

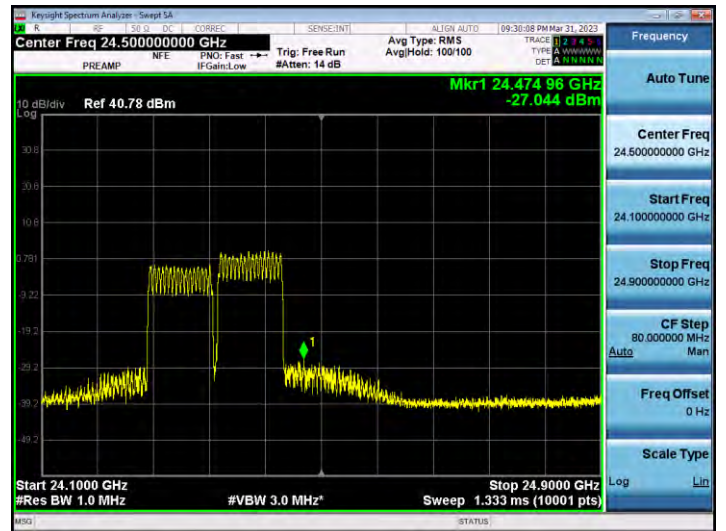
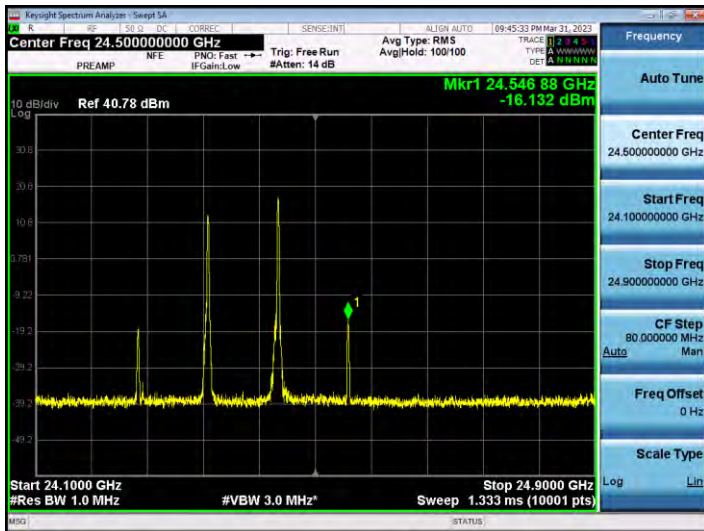
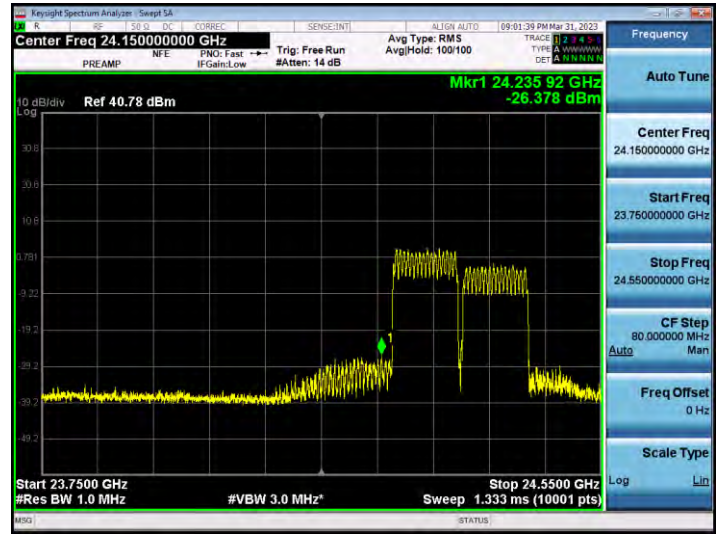
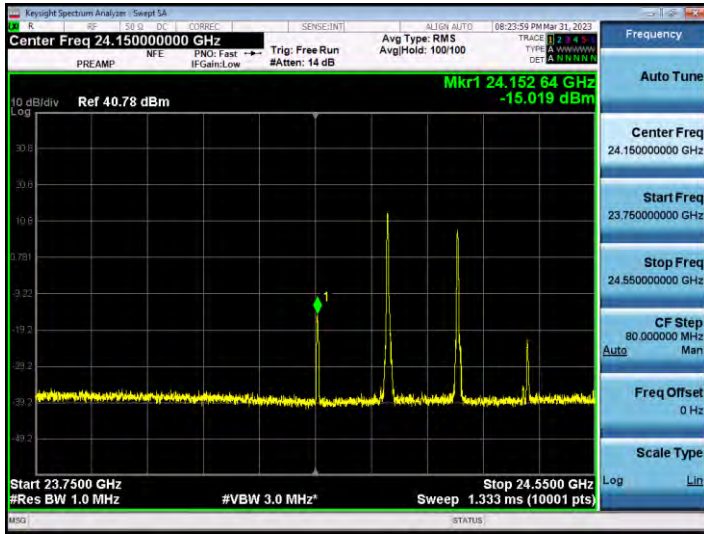
50 MHz, 1CC



100 MHz, 1CC

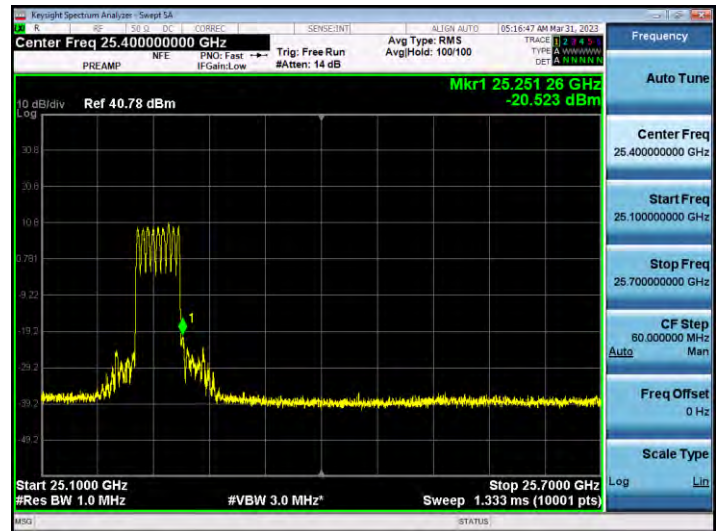
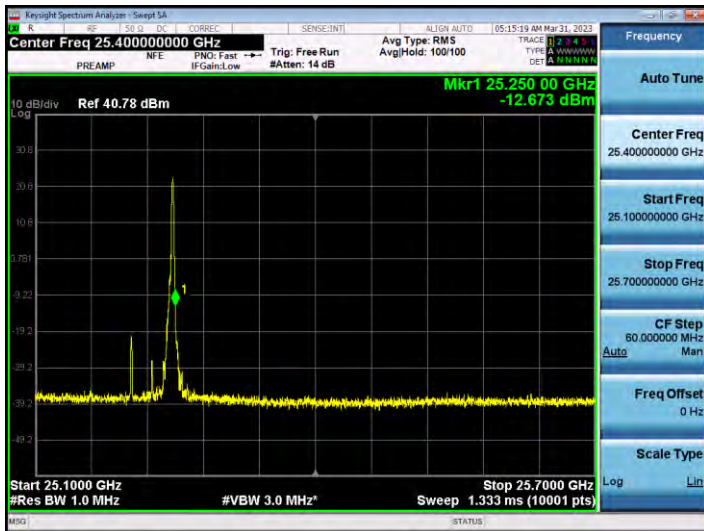
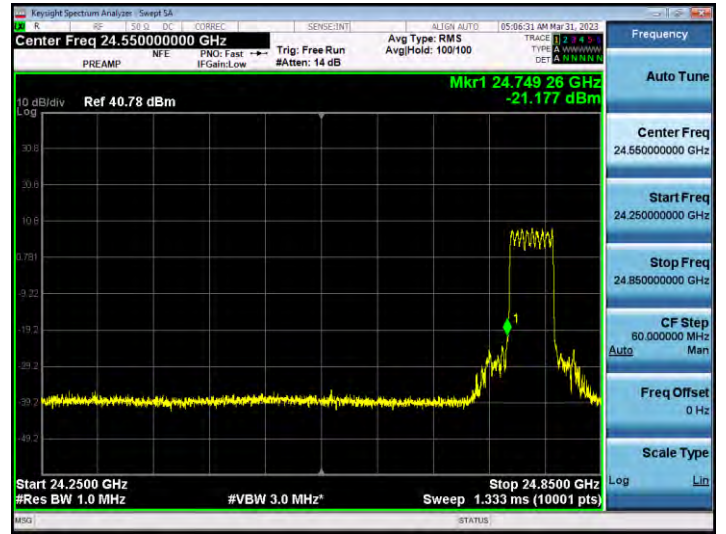
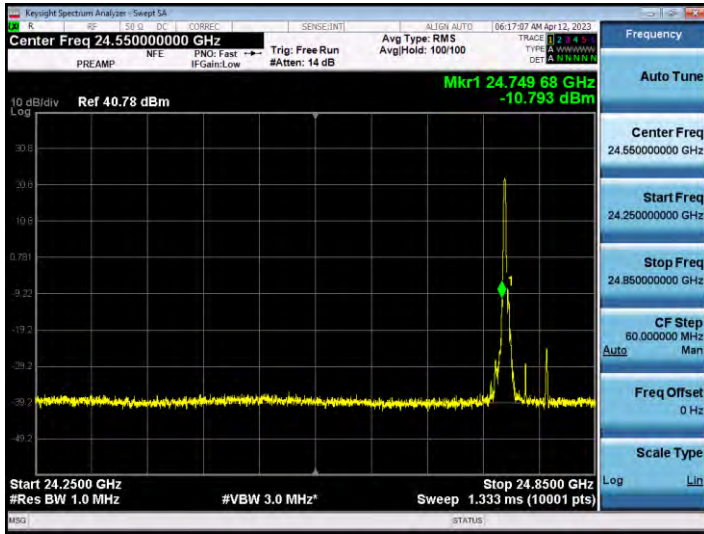


100 MHz, 2CC

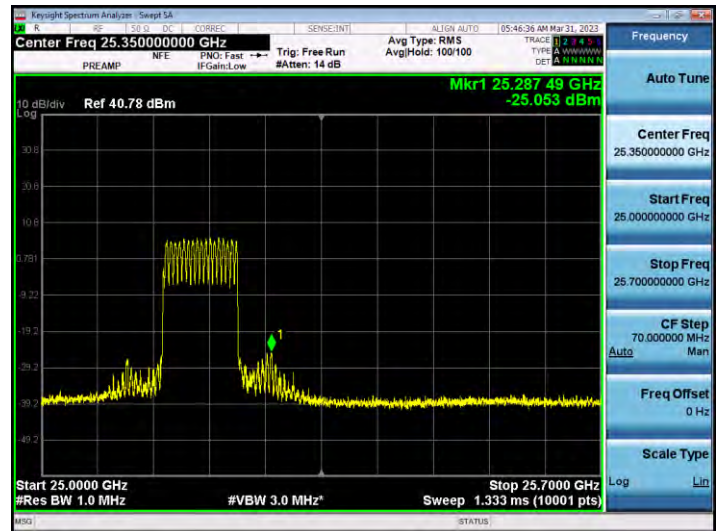
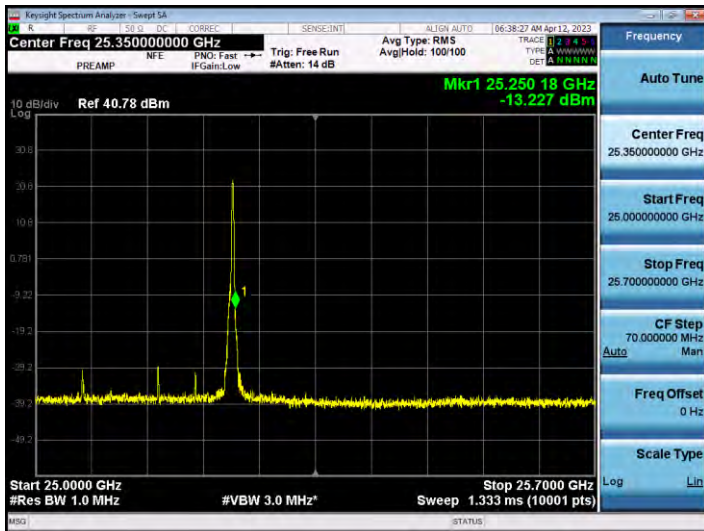
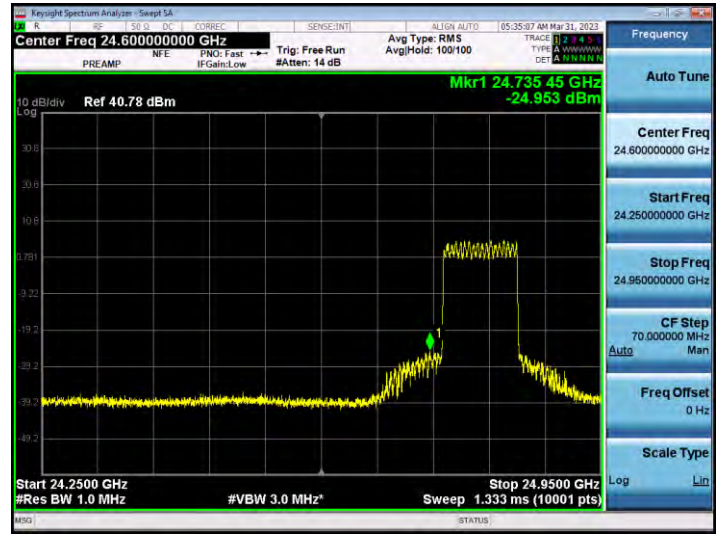
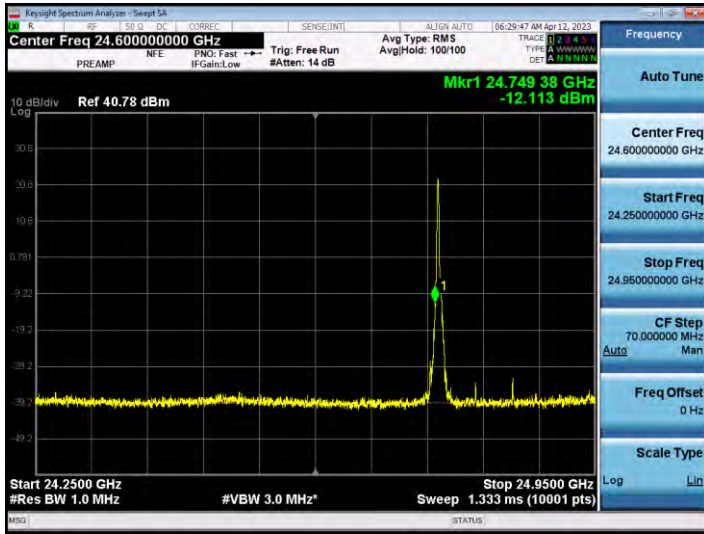


n258b Band Antenna 0 (K patch)

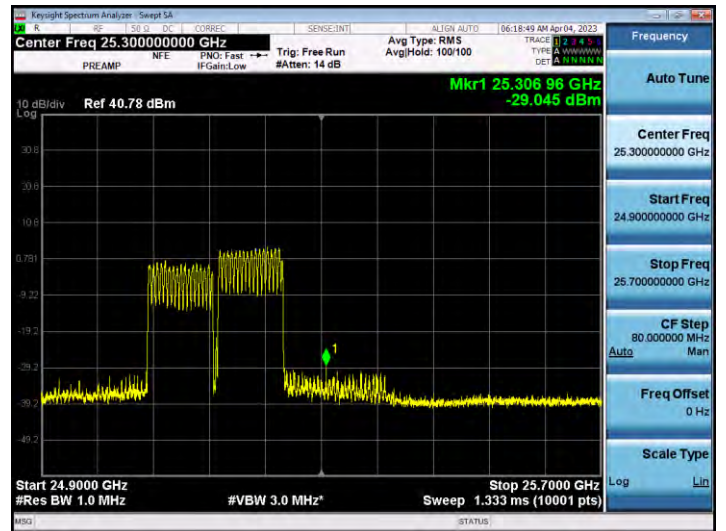
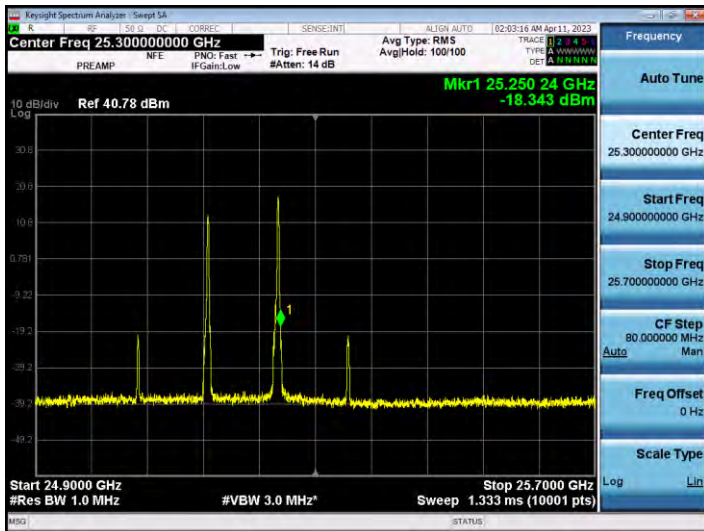
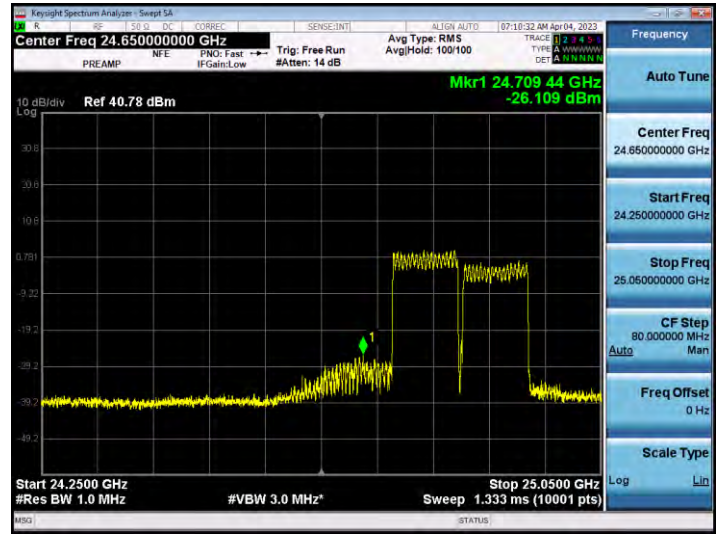
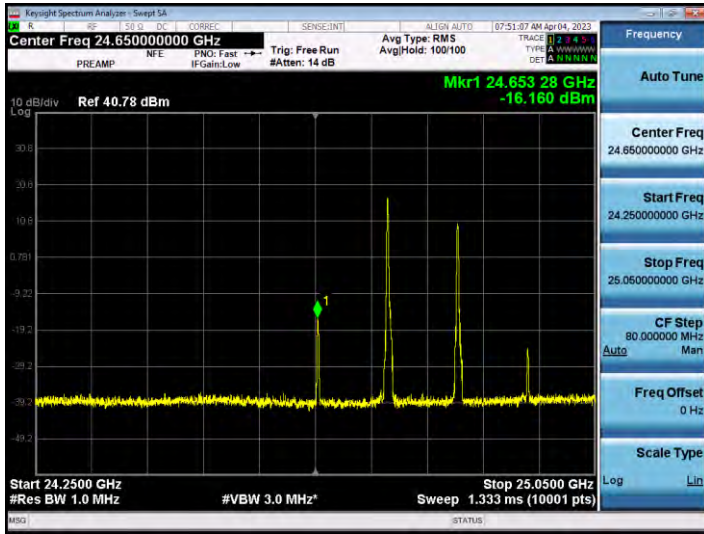
50 MHz, 1CC



100 MHz, 1CC

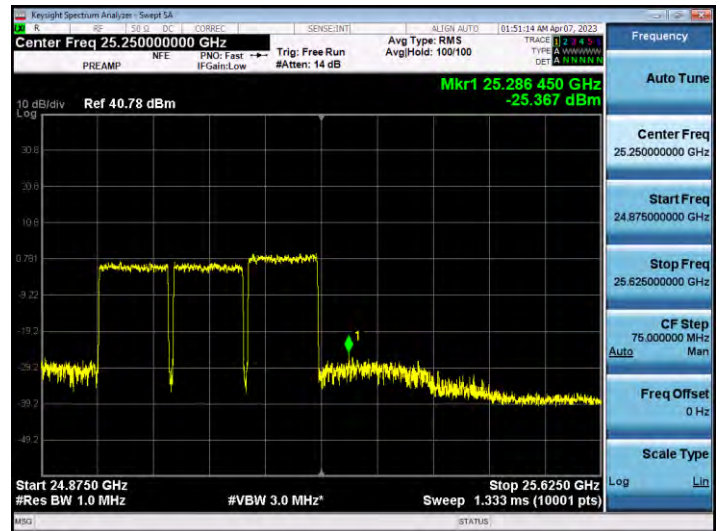
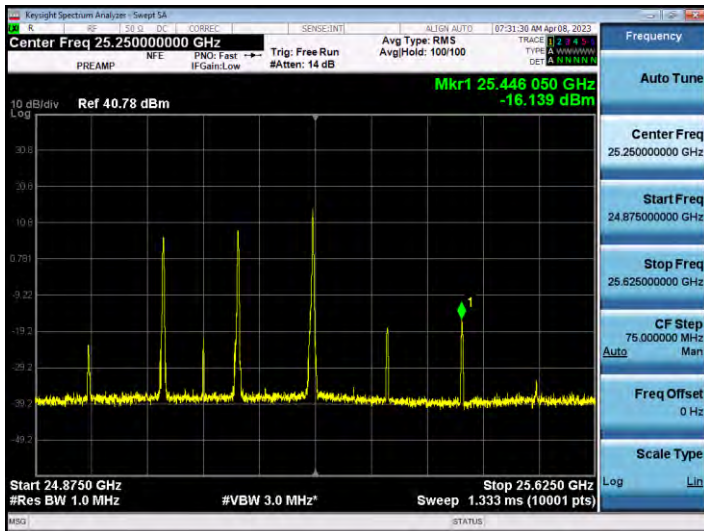
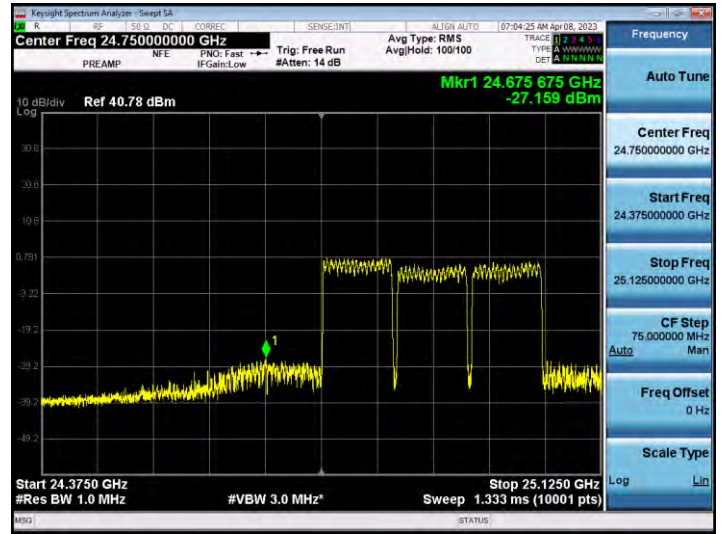
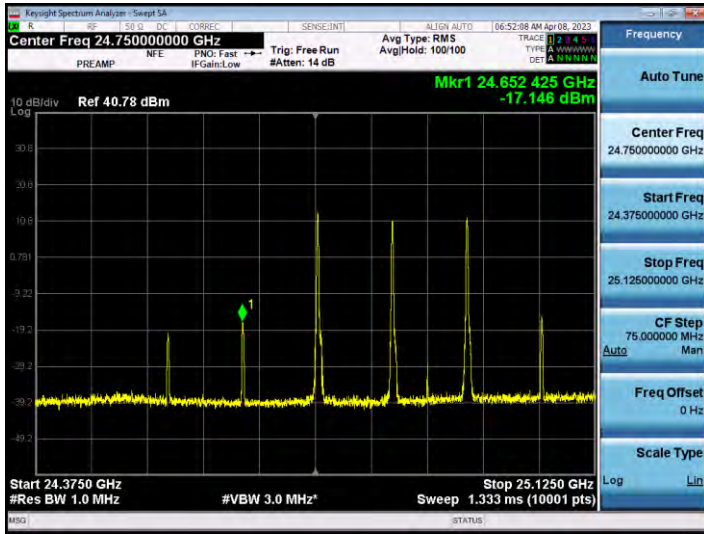


100 MHz, 2CC

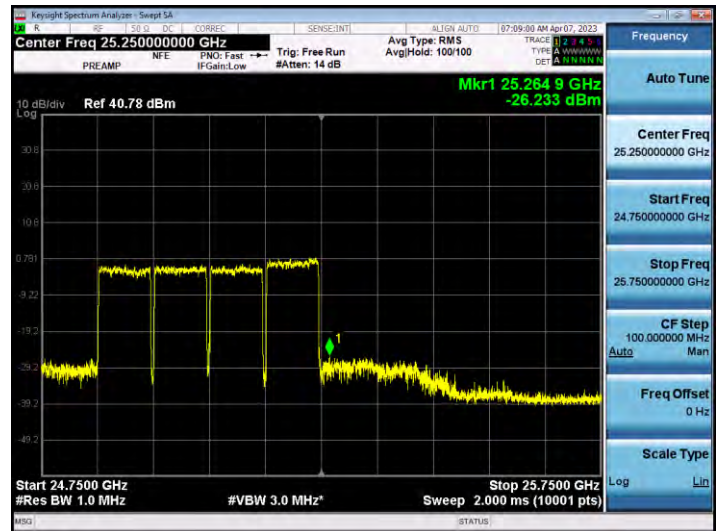
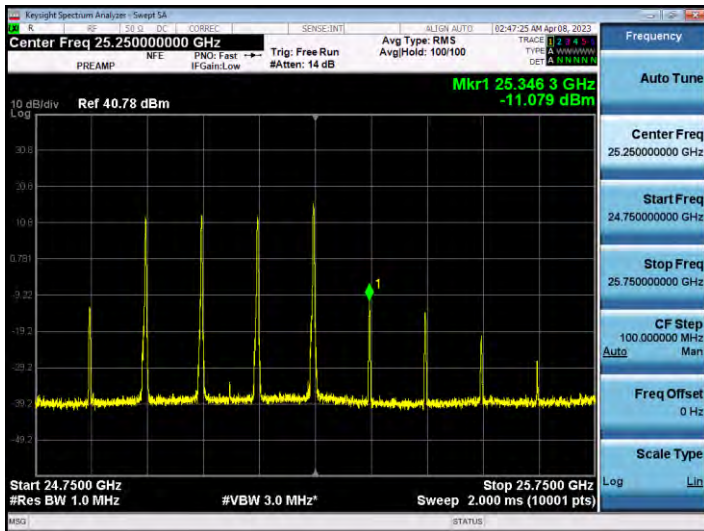
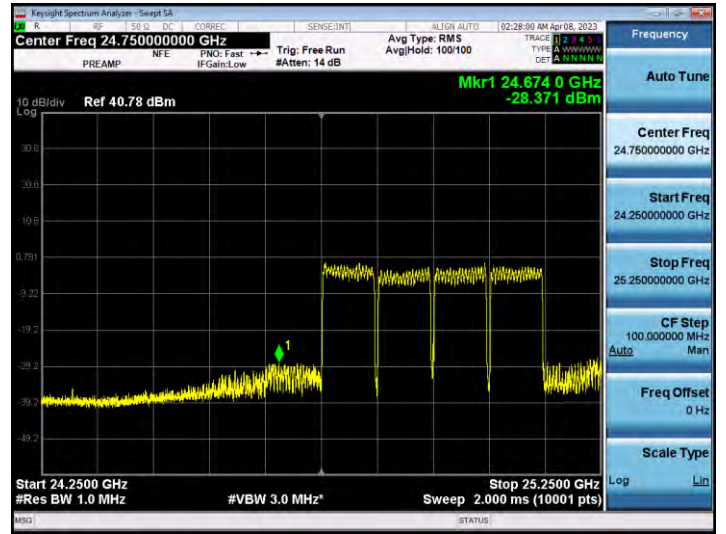
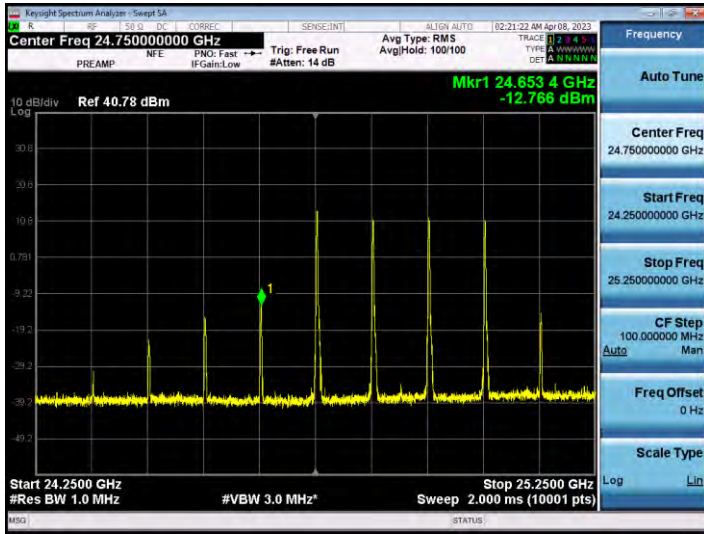




100 MHz, 3CC

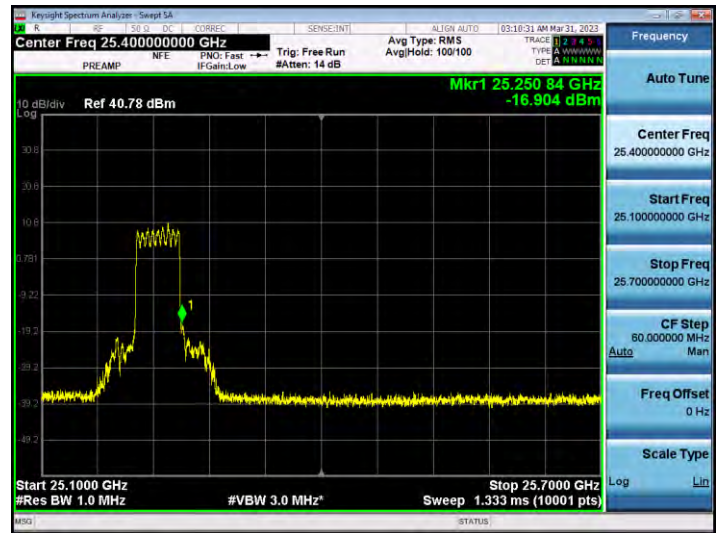
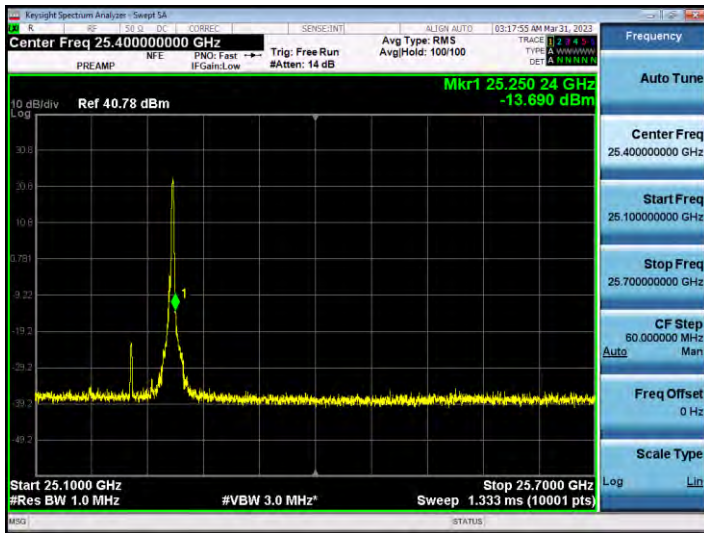
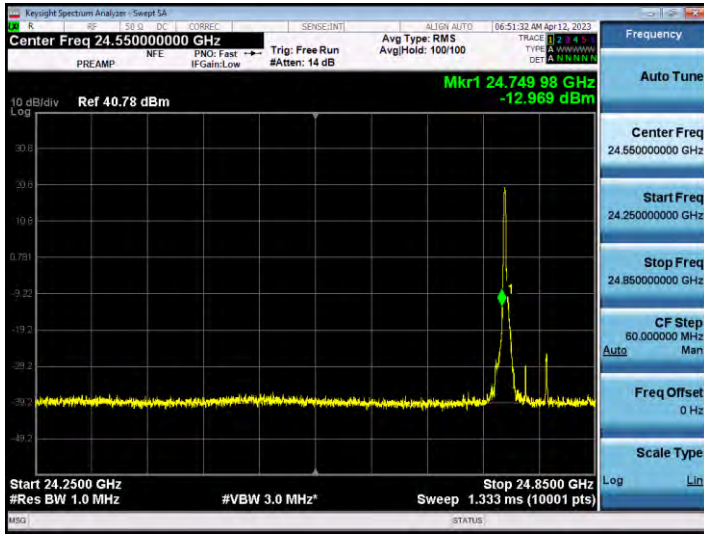


100 MHz, 4CC

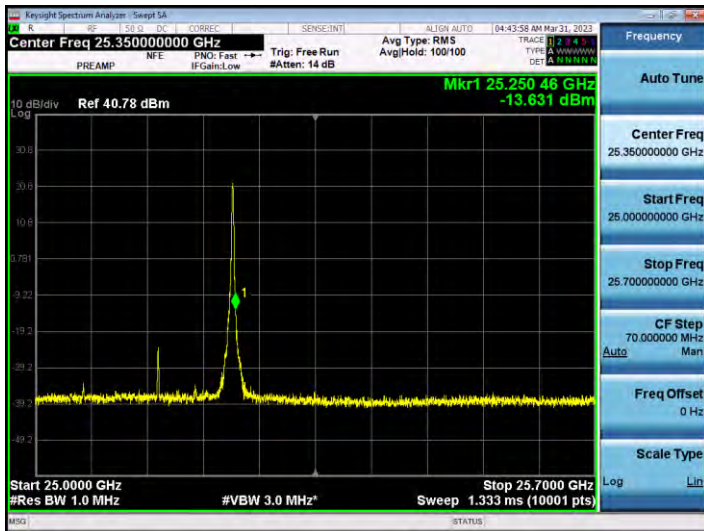
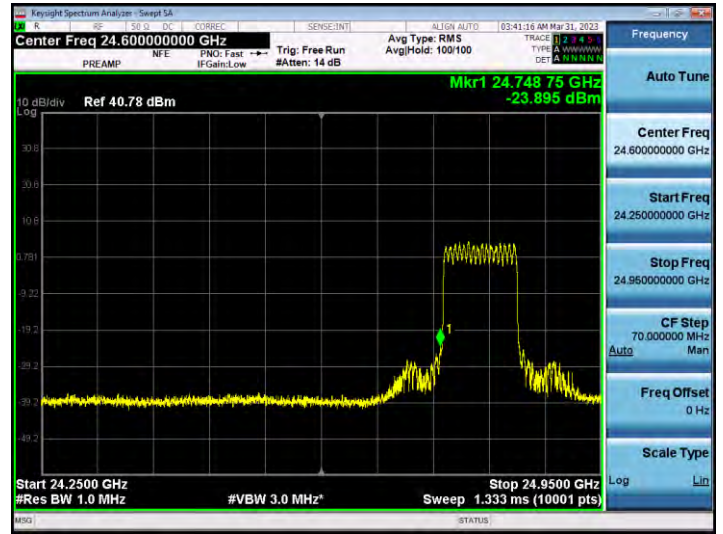
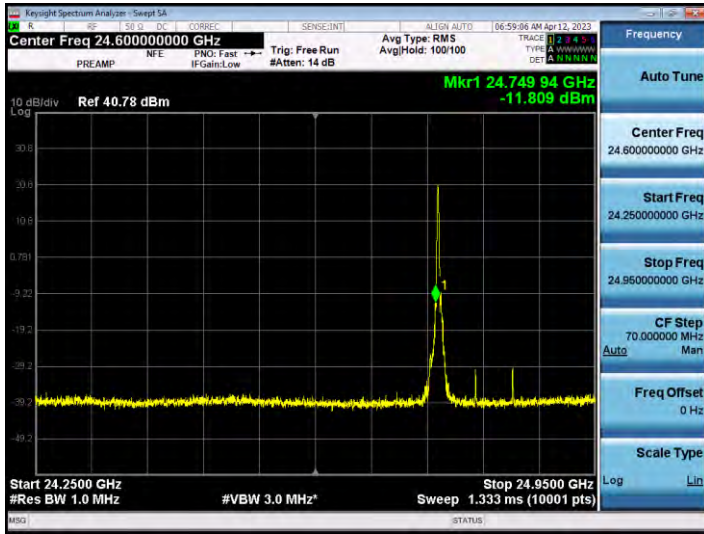


n258b Band Antenna 1 (L patch)

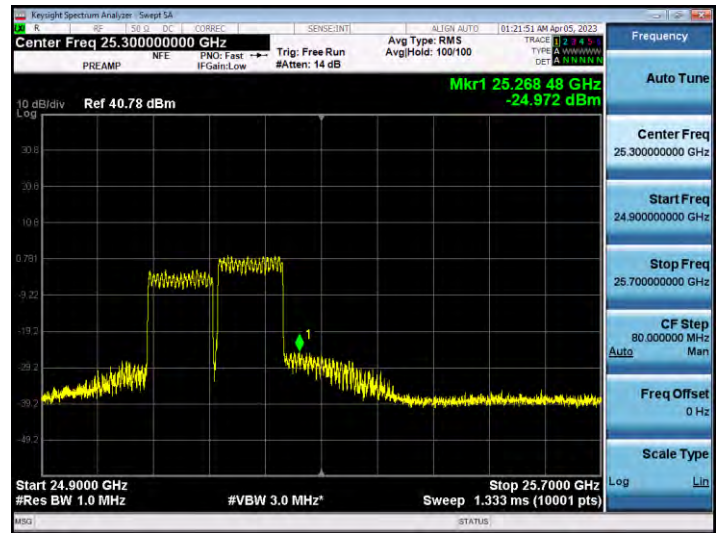
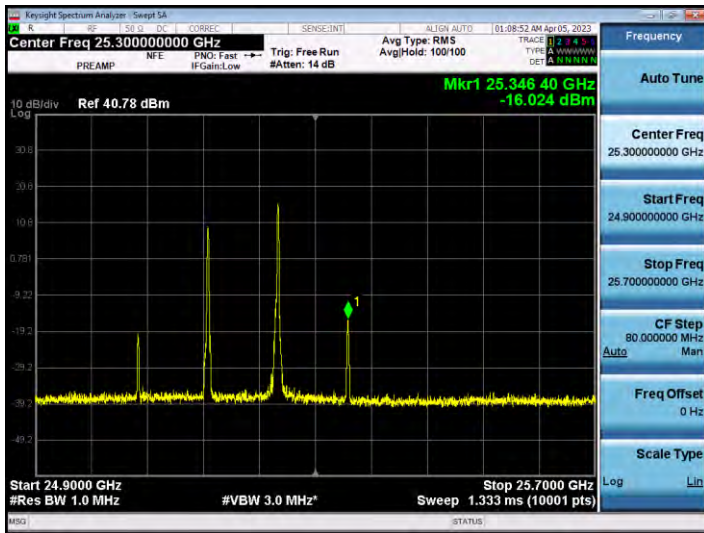
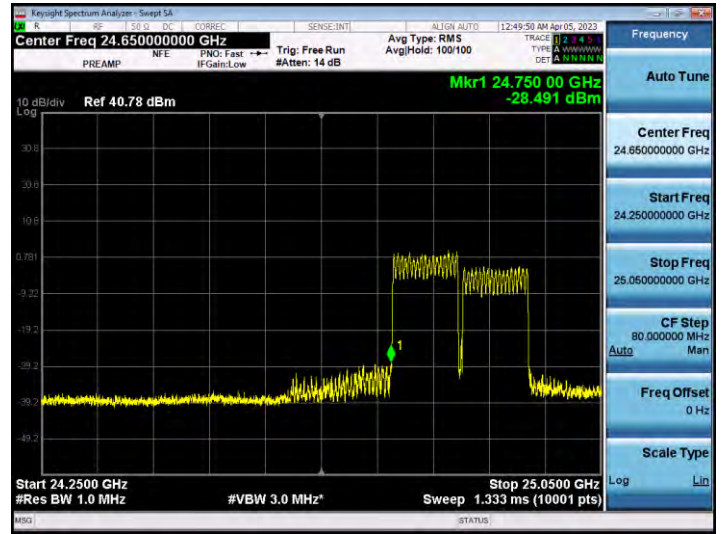
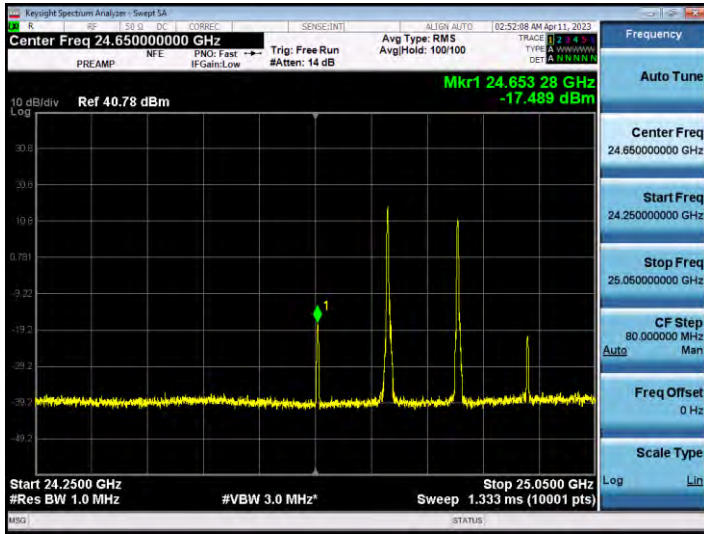
50 MHz, 1CC



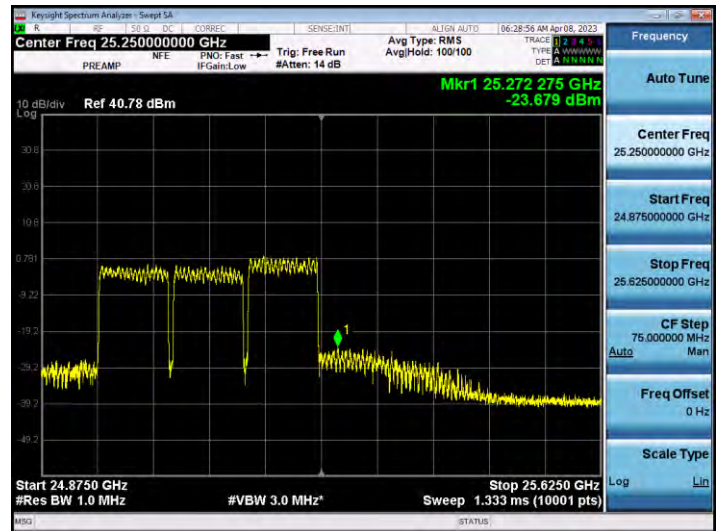
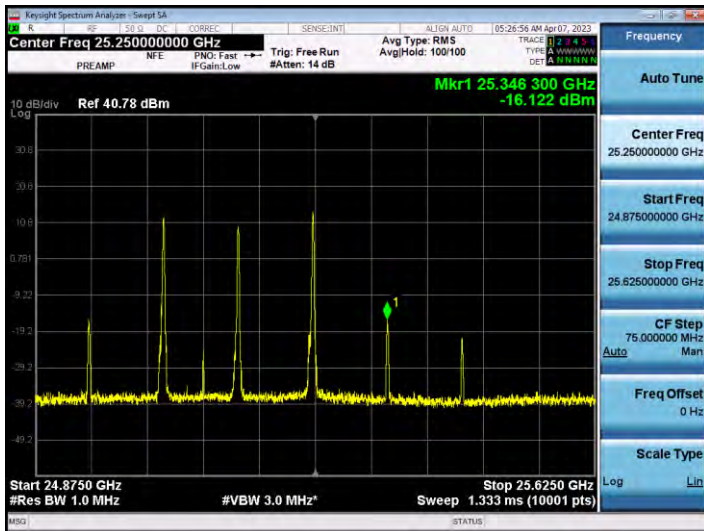
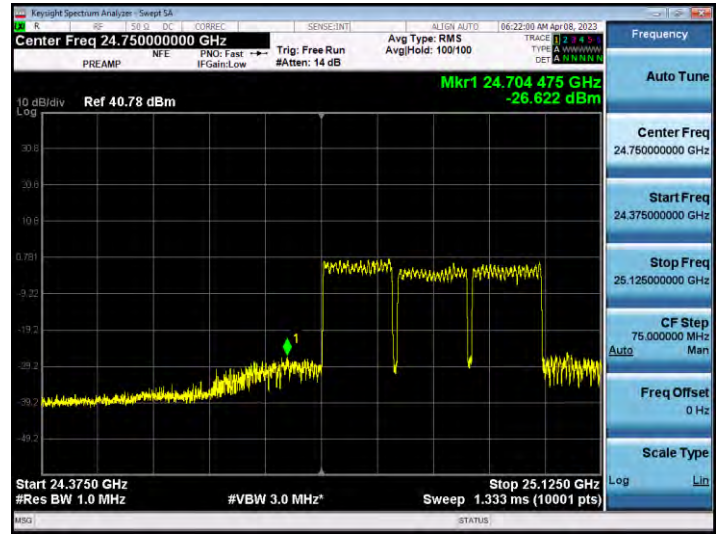
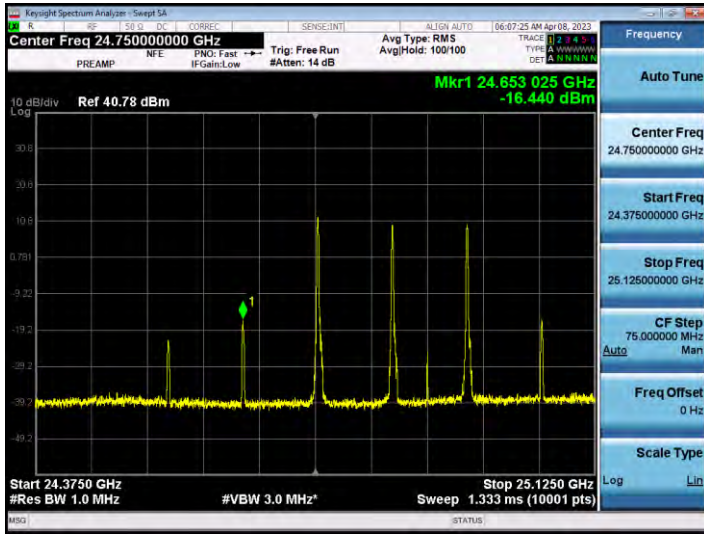
100 MHz, 1CC



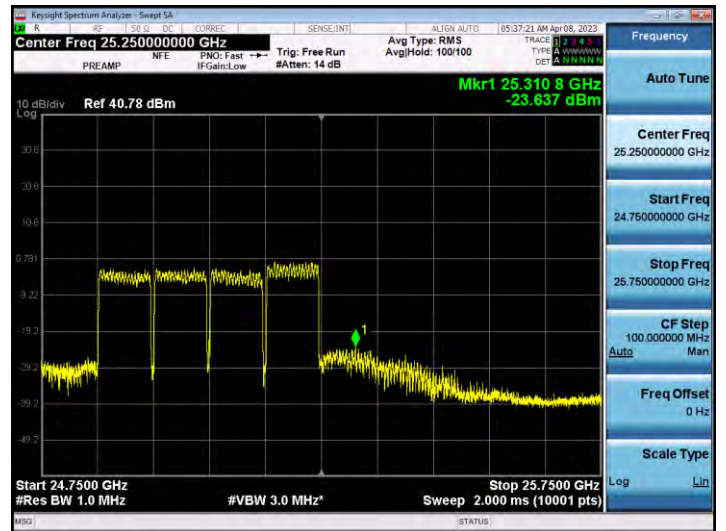
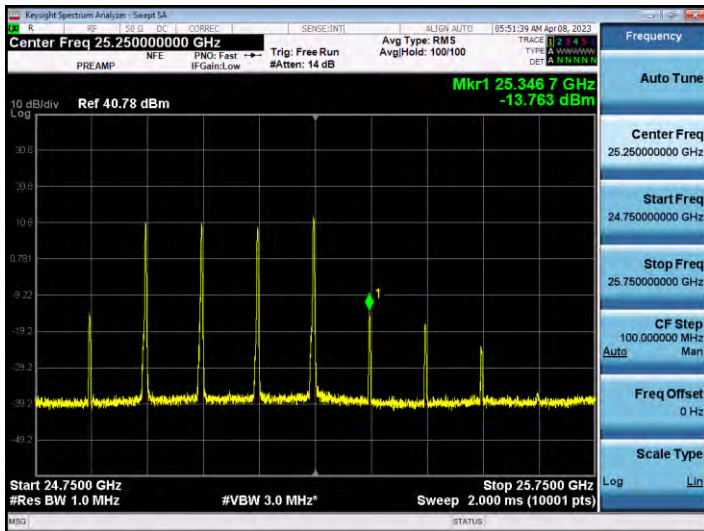
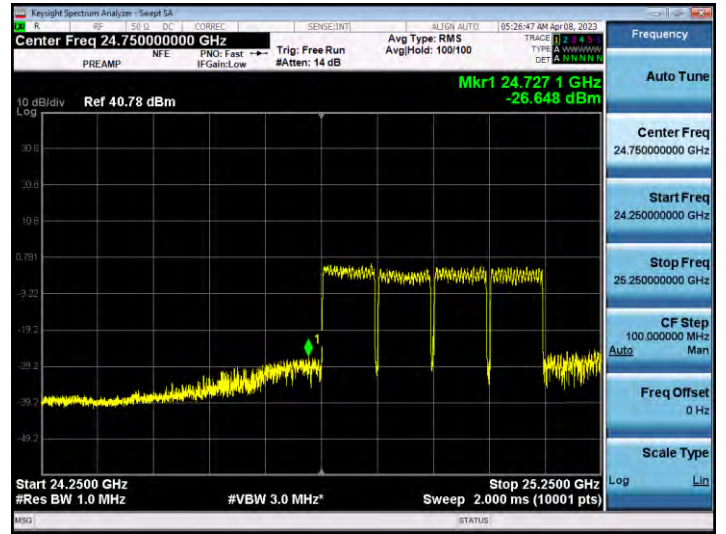
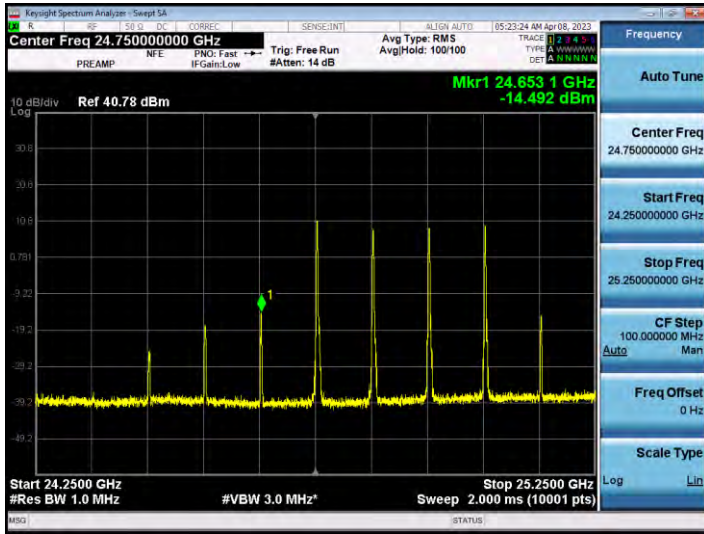
100 MHz, 2CC



100 MHz, 3CC

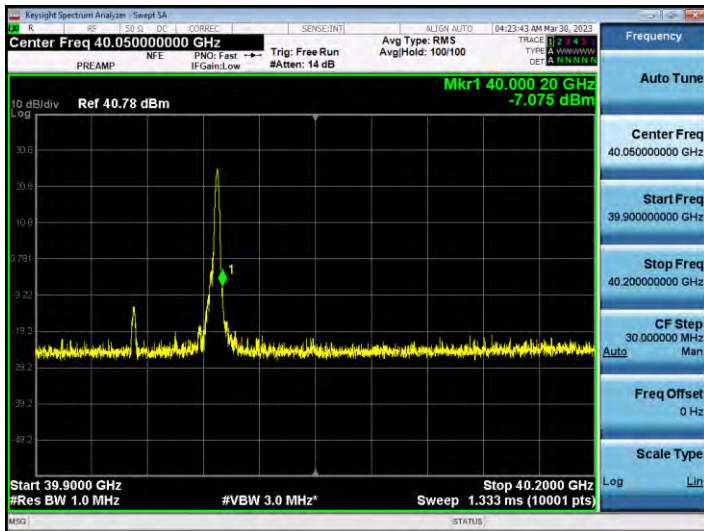
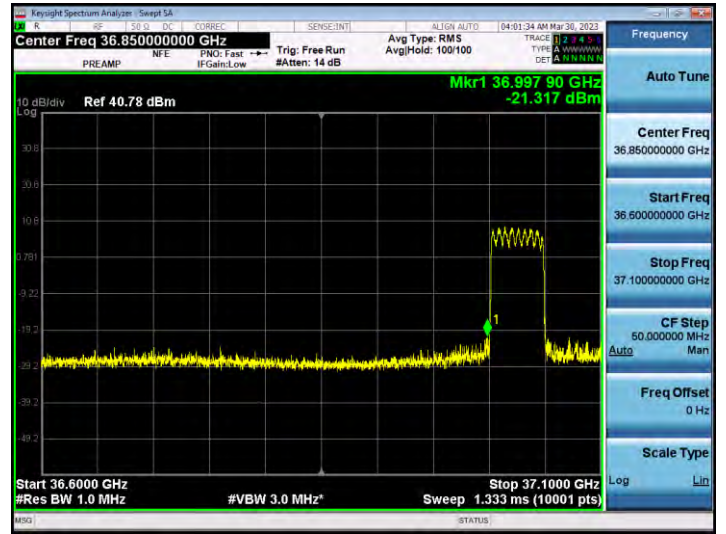
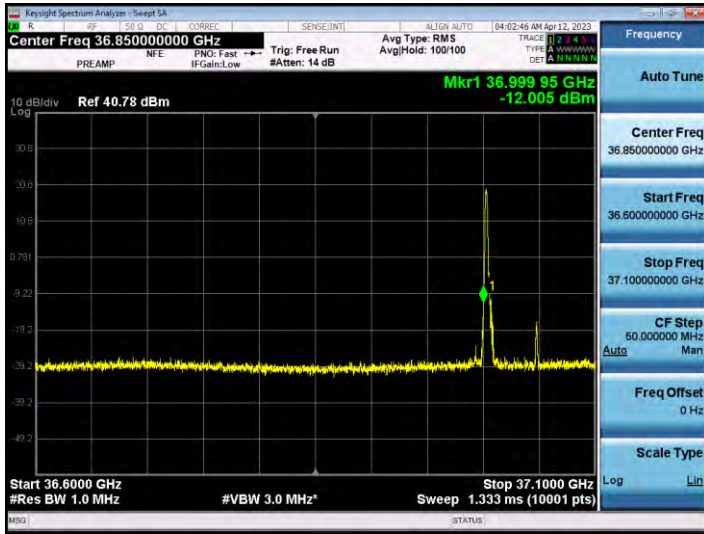


100 MHz, 4CC



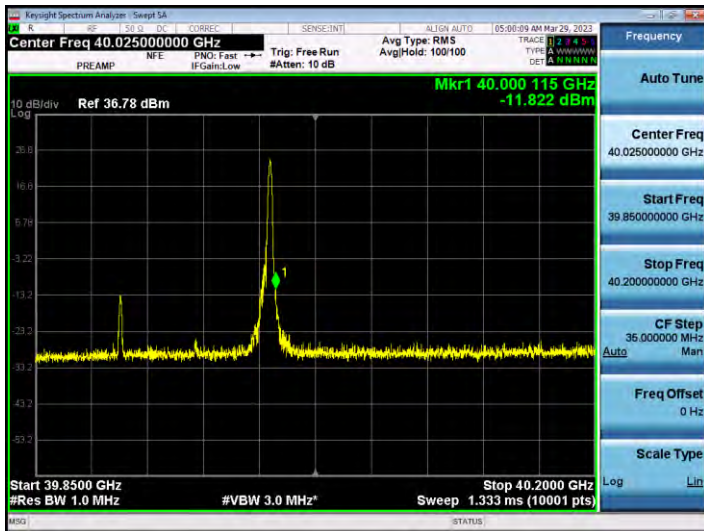
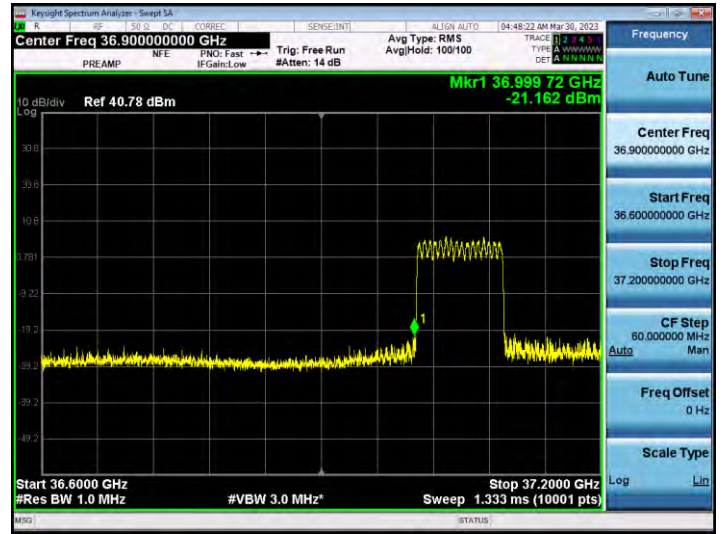
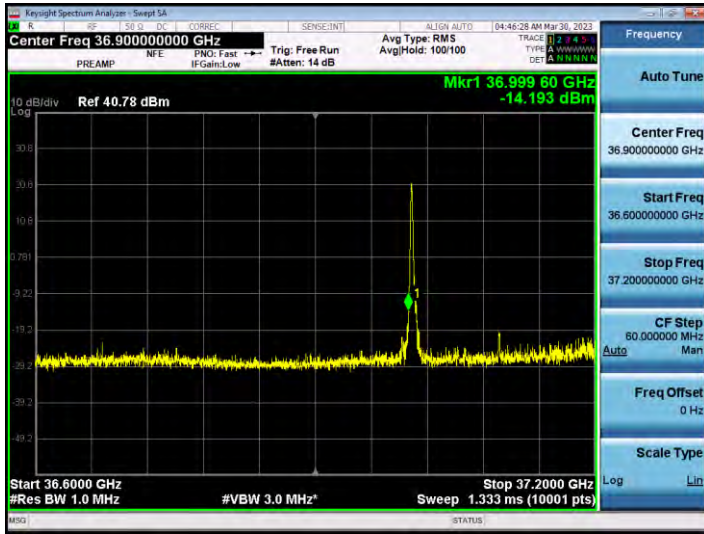
n260 Band Antenna 0 (K patch)

50 MHz, 1CC

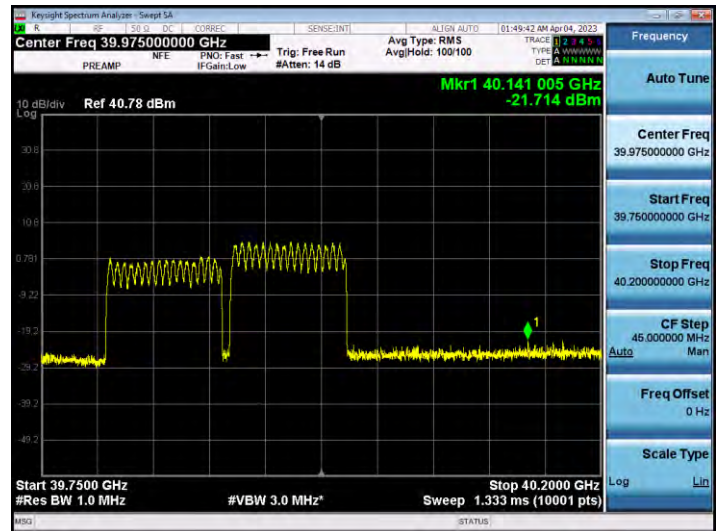
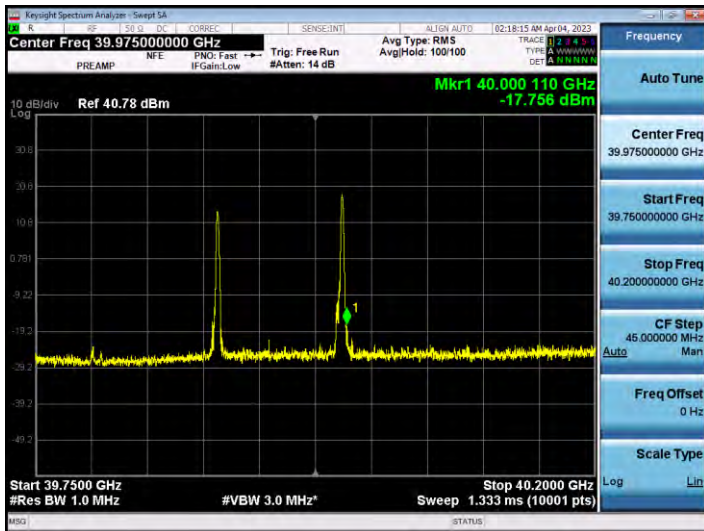
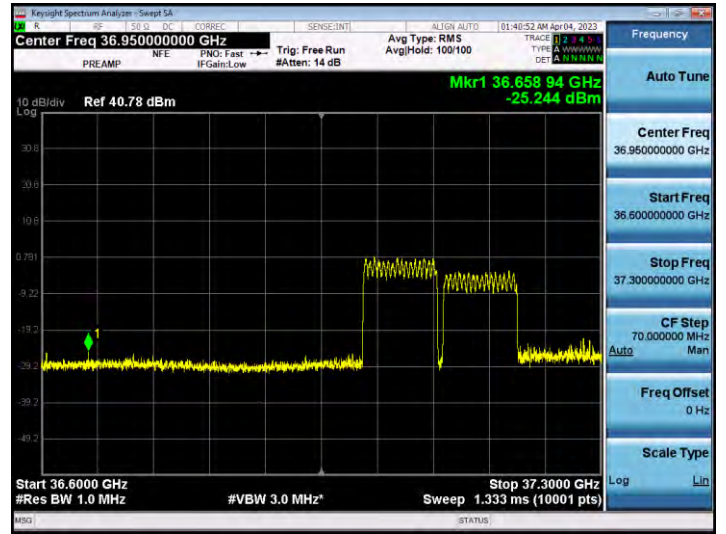
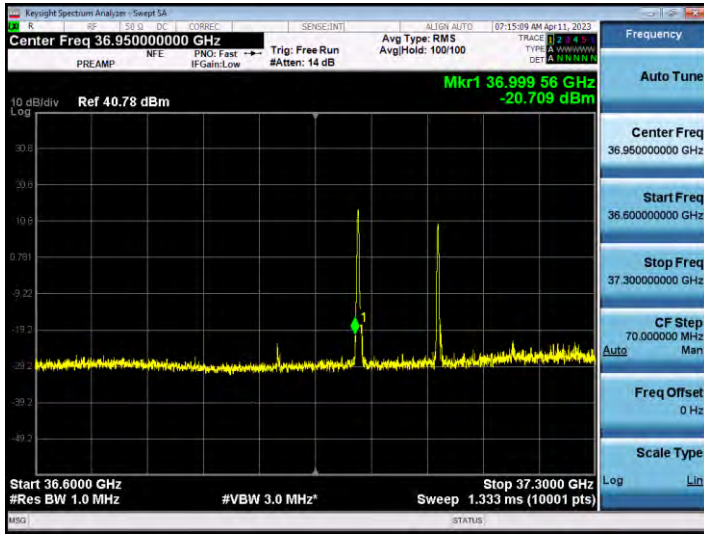




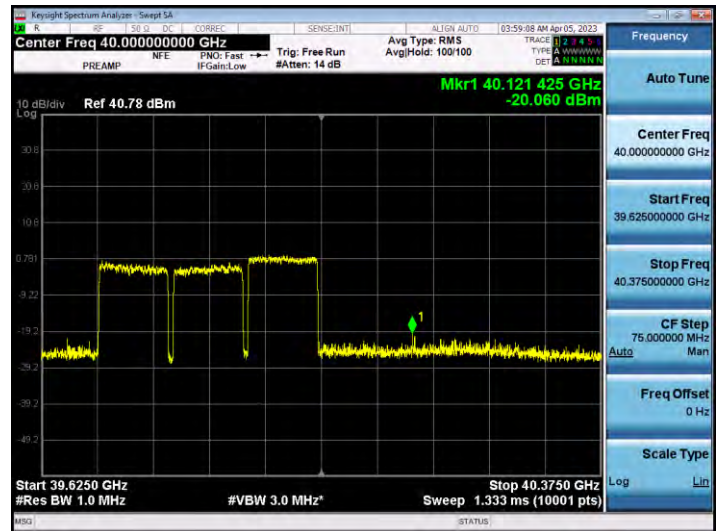
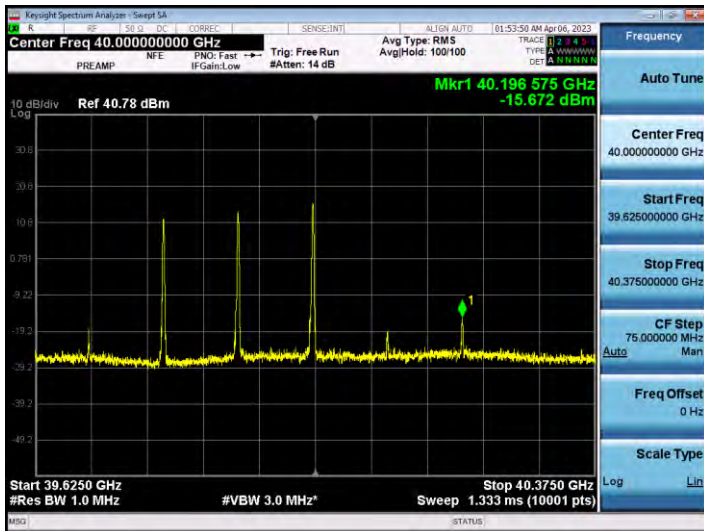
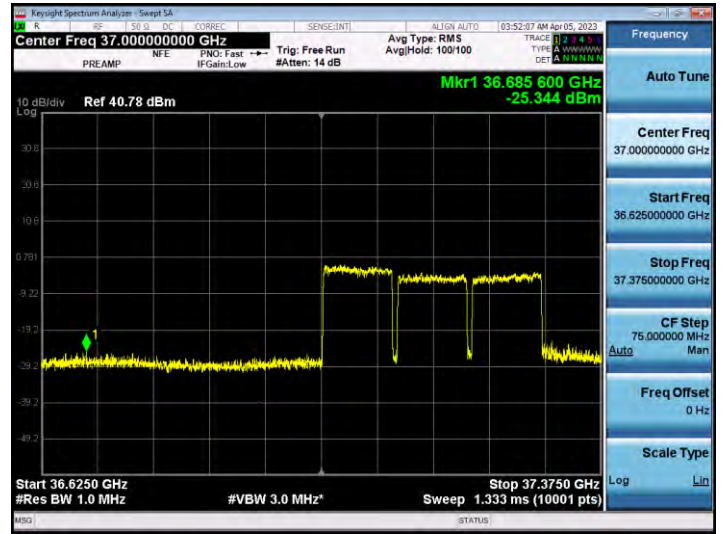
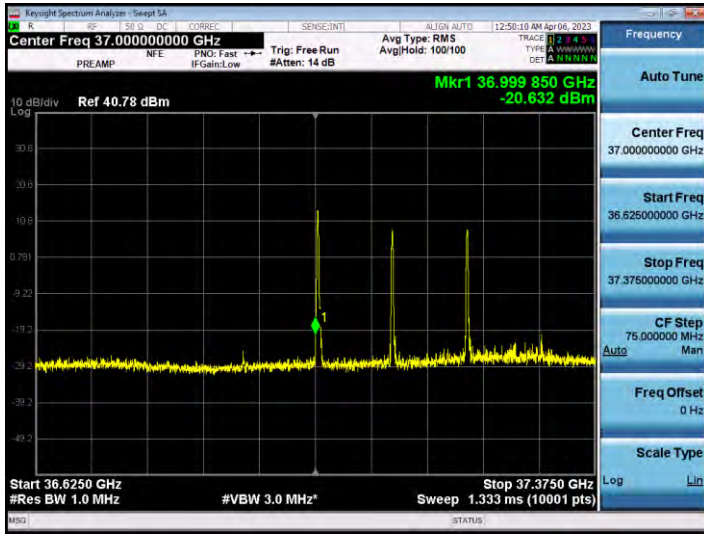
100 MHz, 1CC



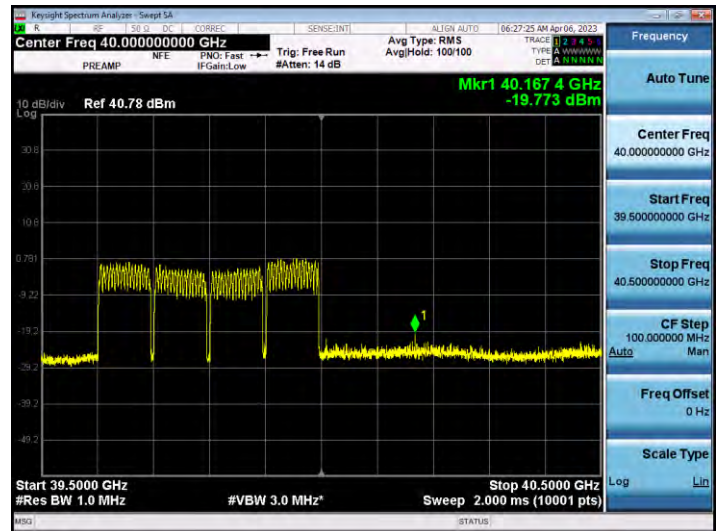
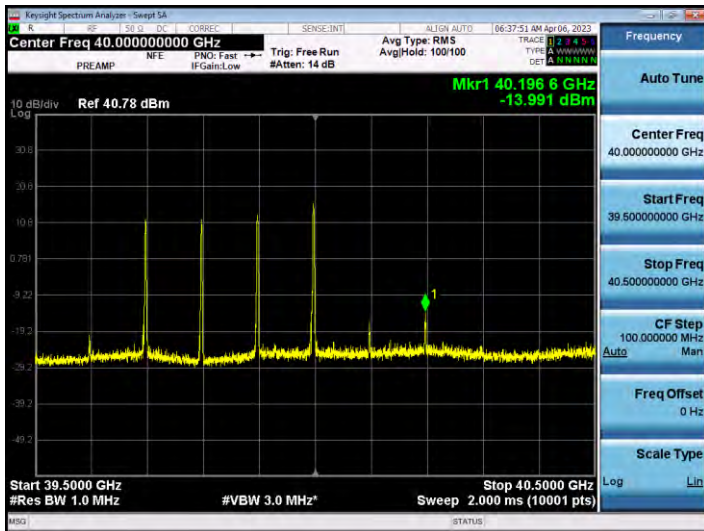
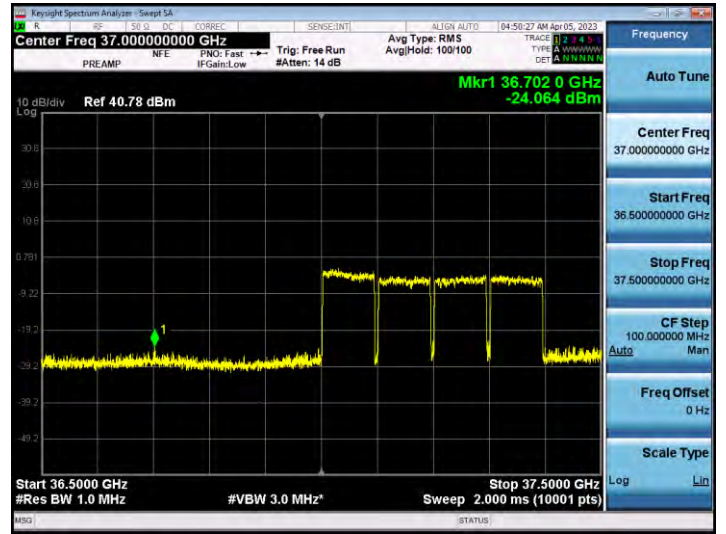
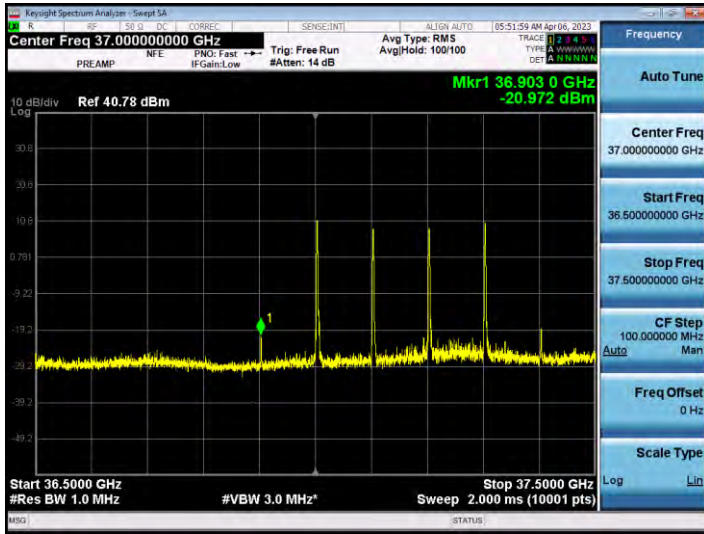
100 MHz, 2CC



100 MHz, 3CC

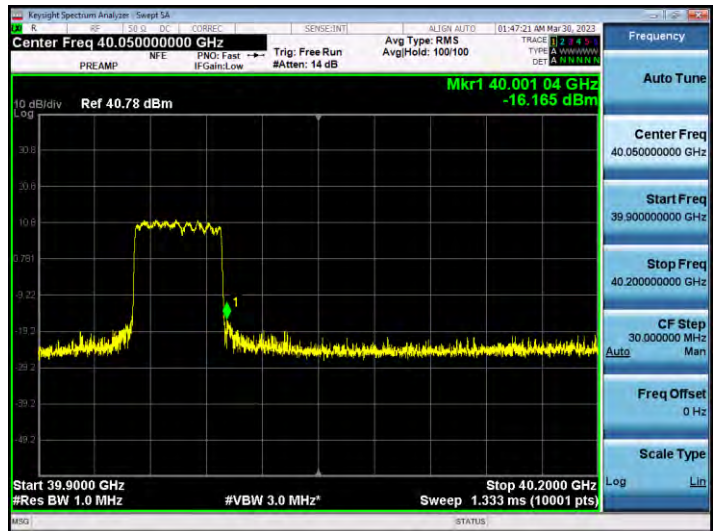
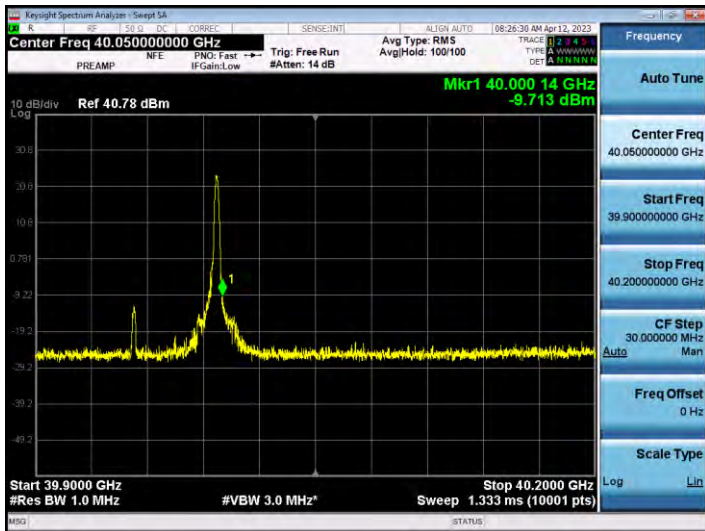
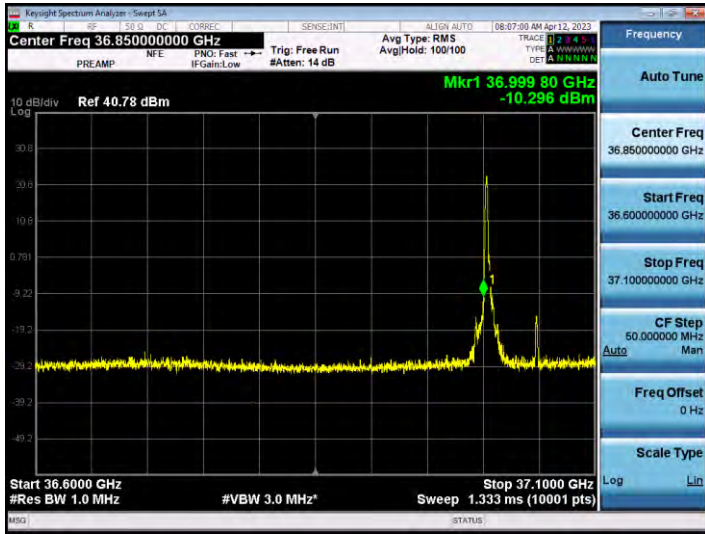


100 MHz, 4CC

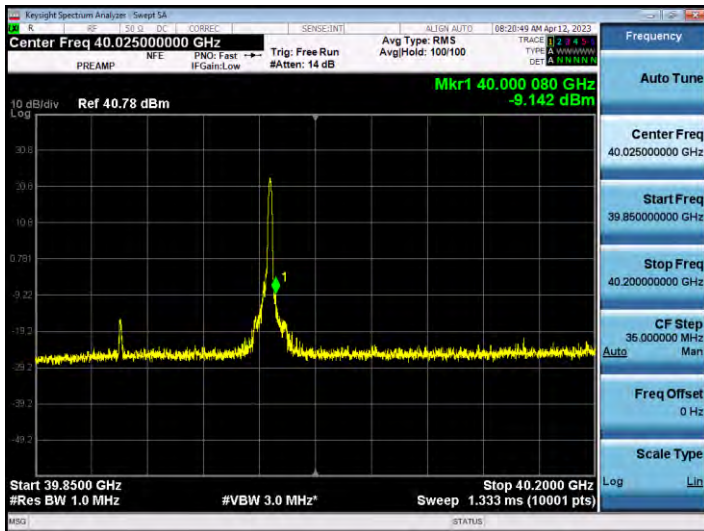
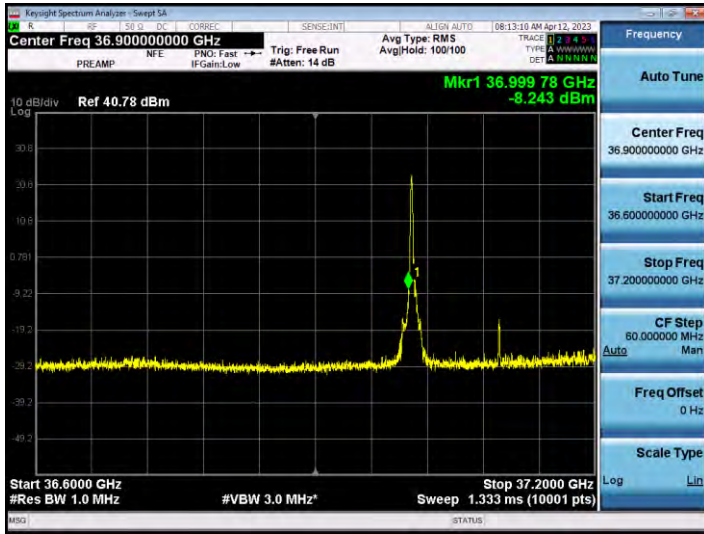


n260 Band Antenna 1 (L patch)

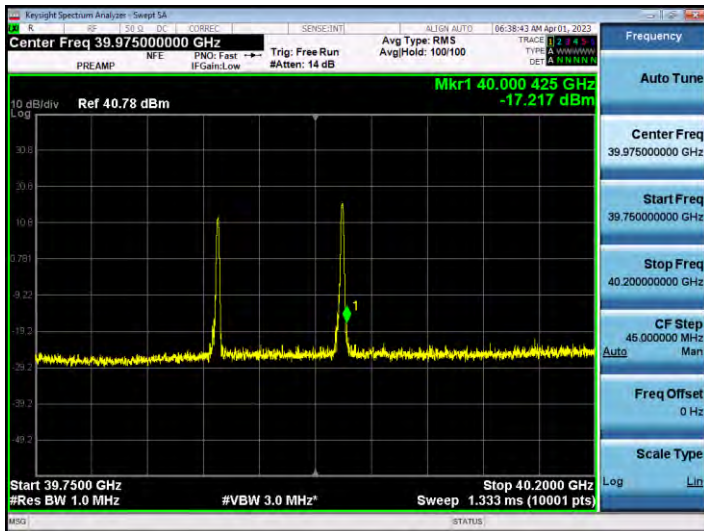
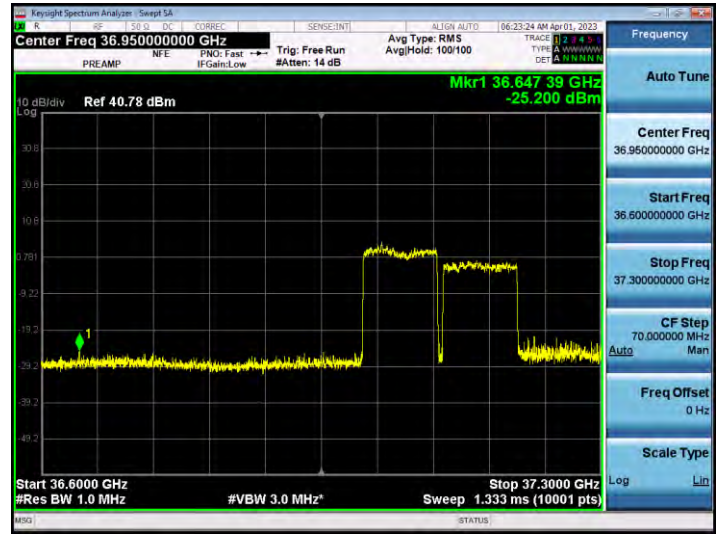
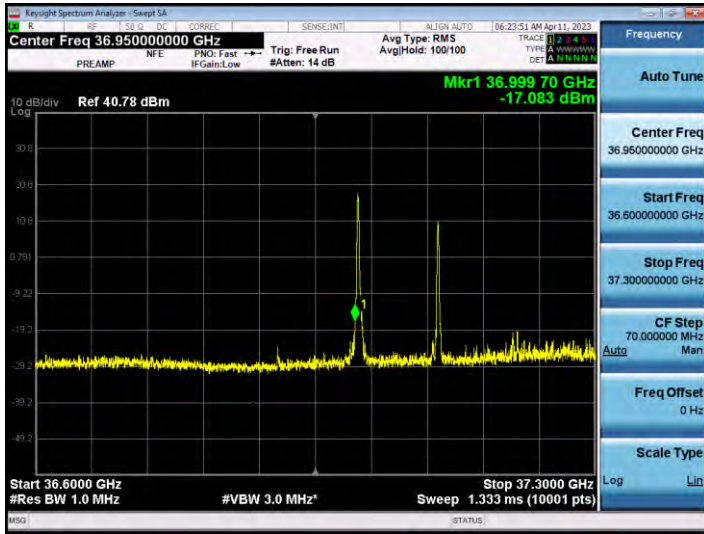
50 MHz, 1CC



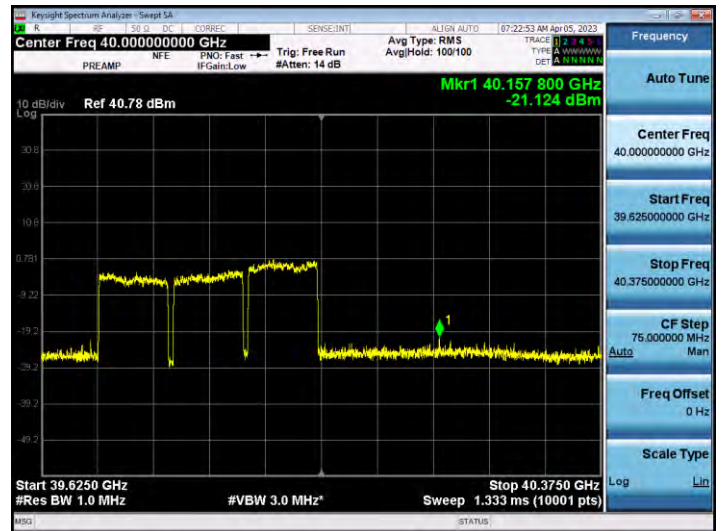
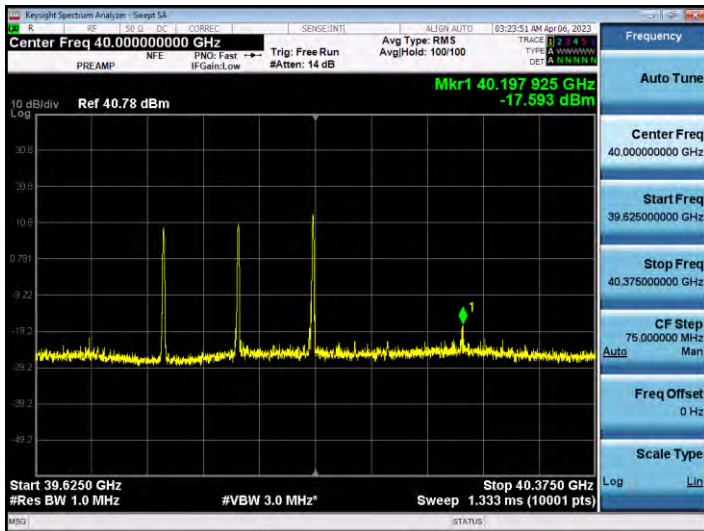
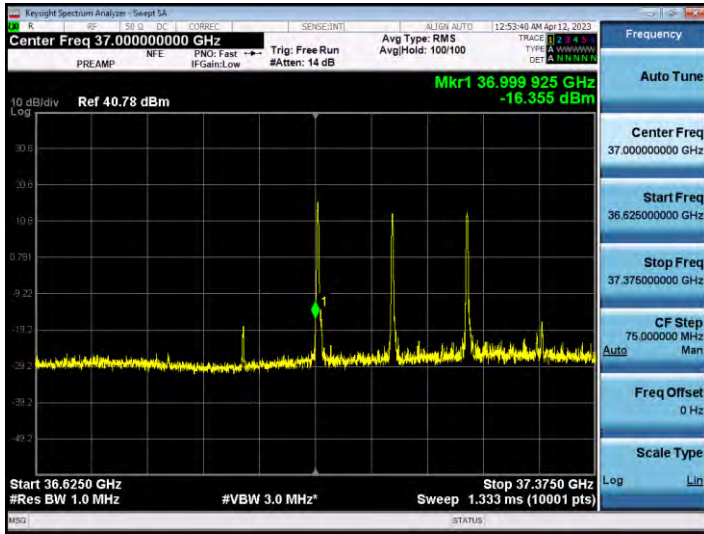
100 MHz, 1CC



100 MHz, 2CC

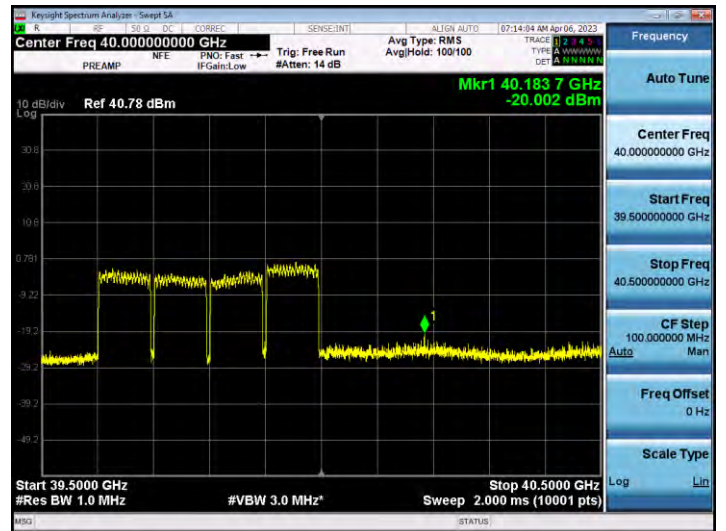
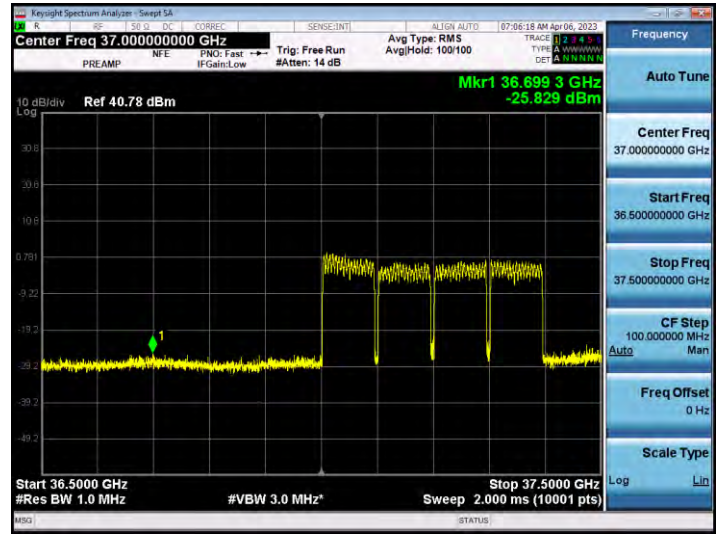
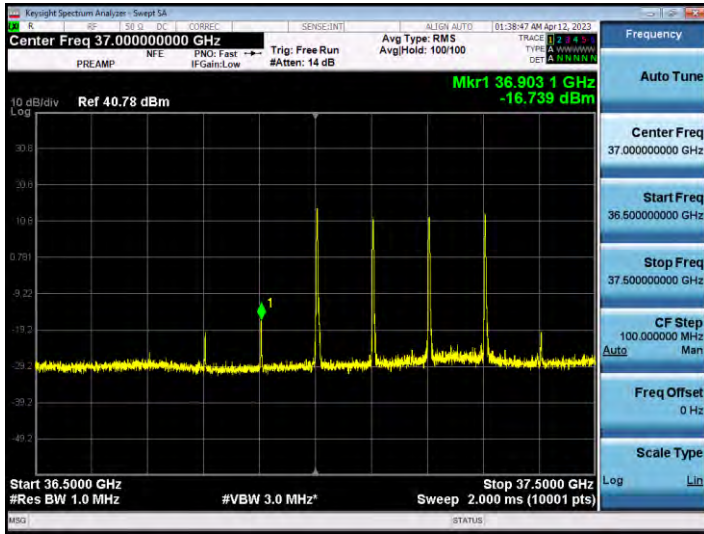


100 MHz, 3CC



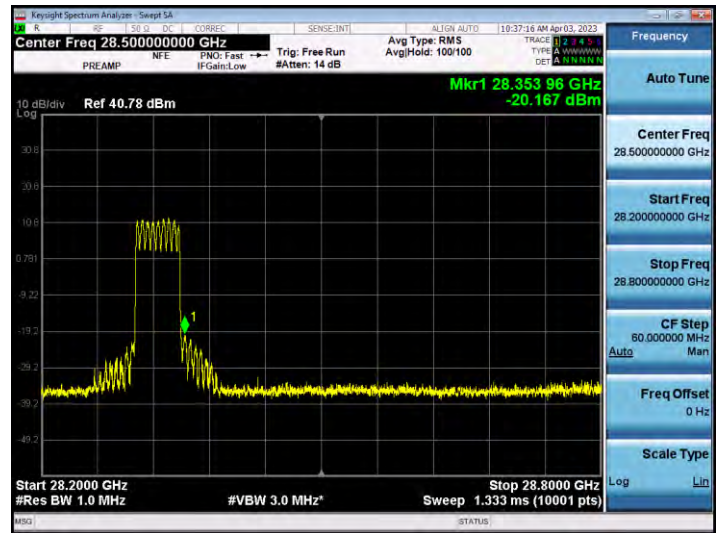
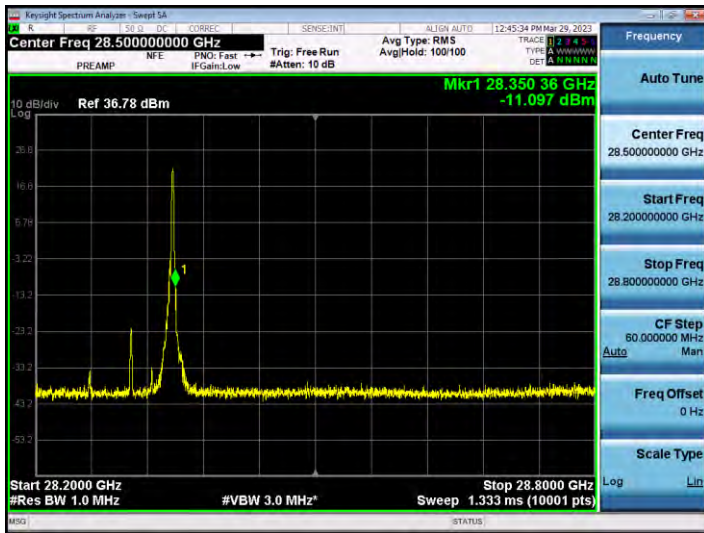
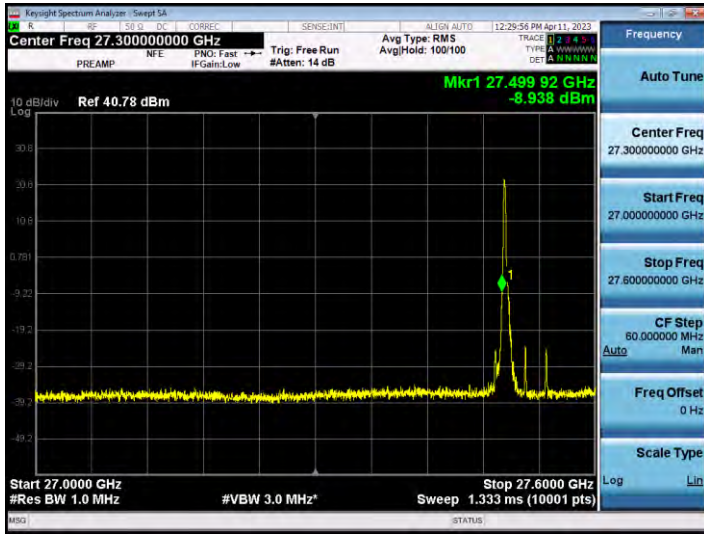


100 MHz, 4CC

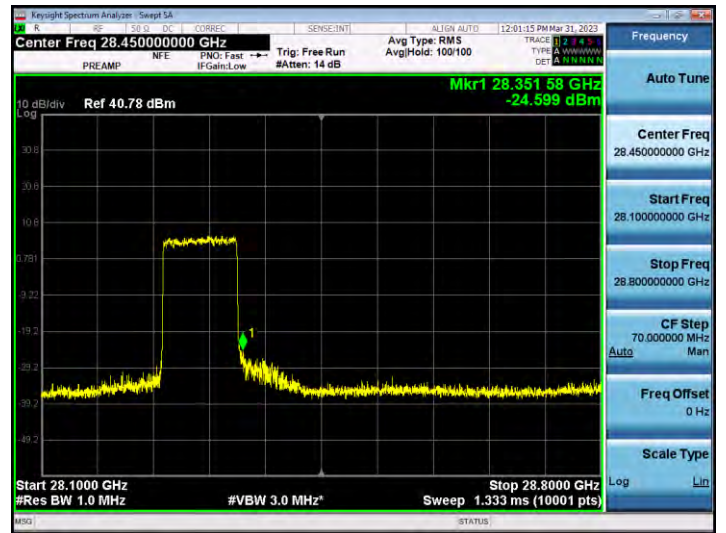
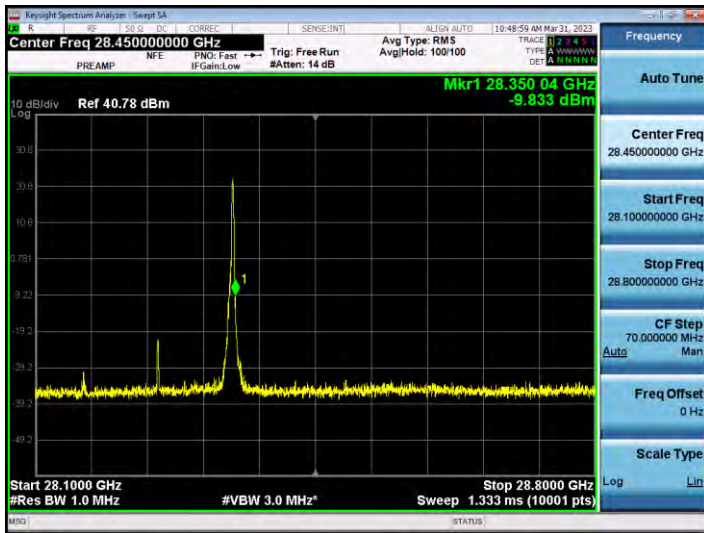
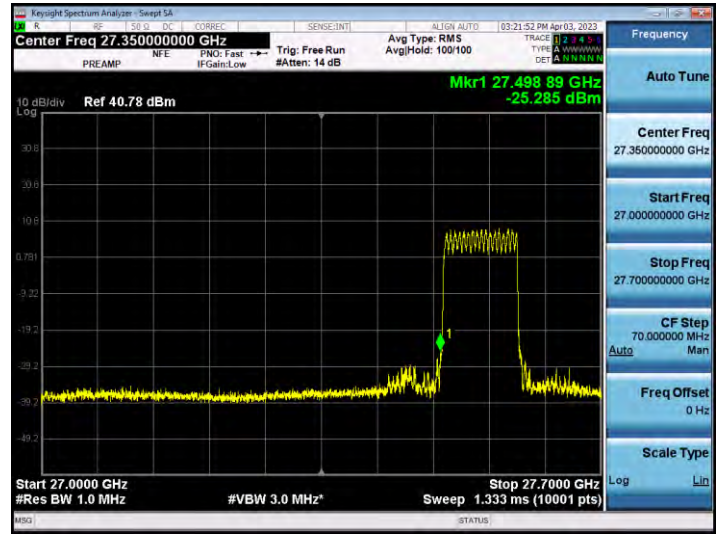
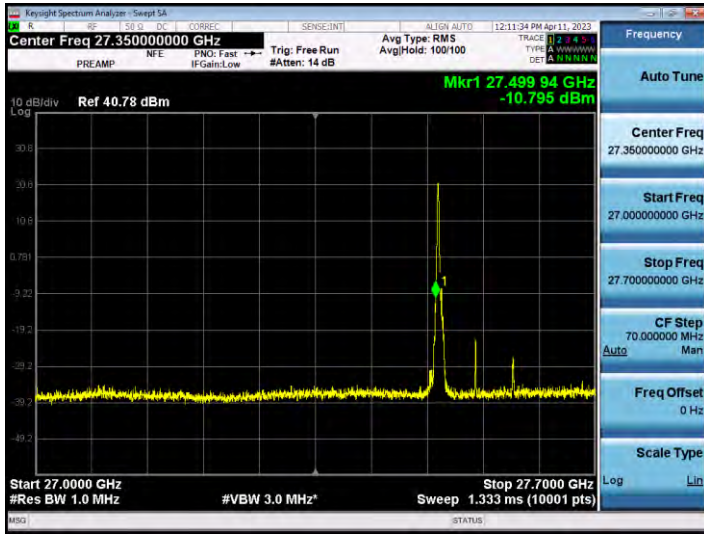


n261 Band Antenna 0 (K patch)

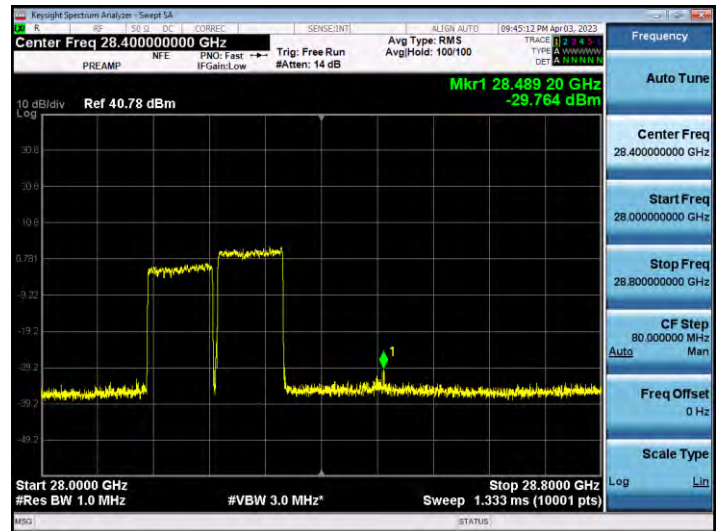
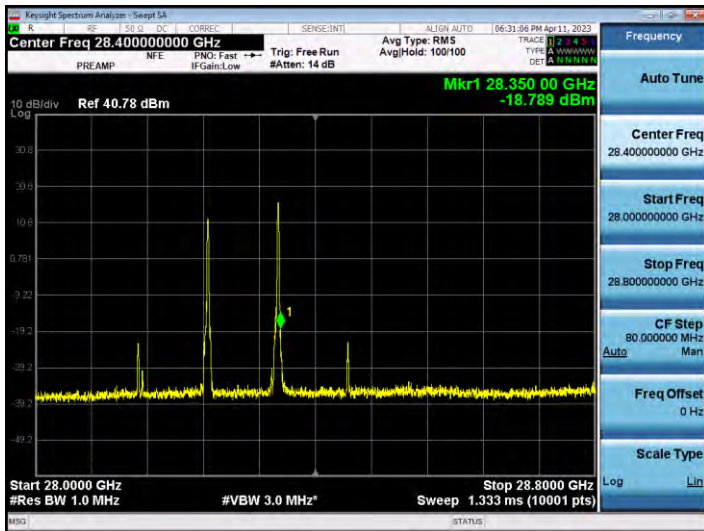
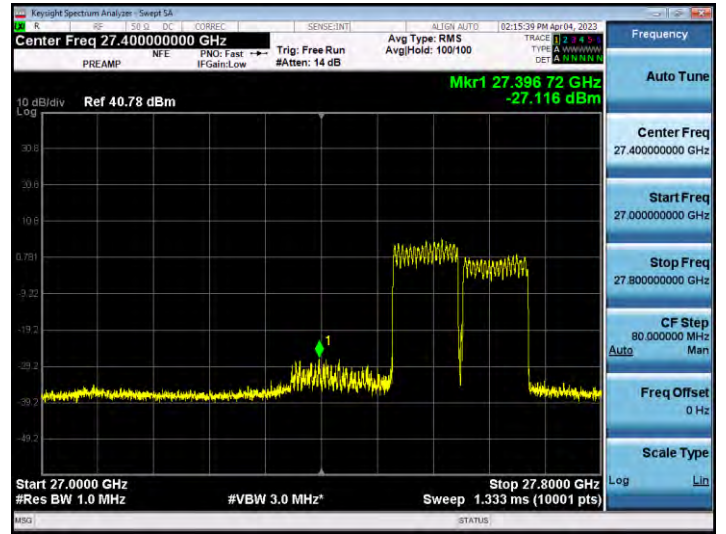
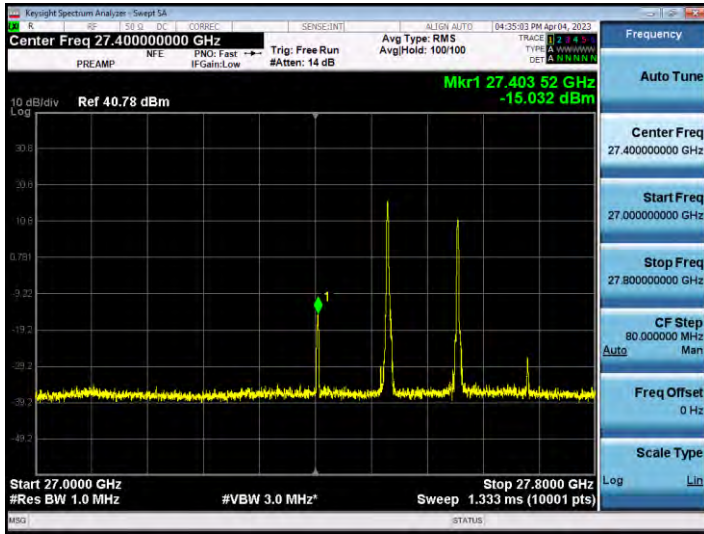
50 MHz, 1CC



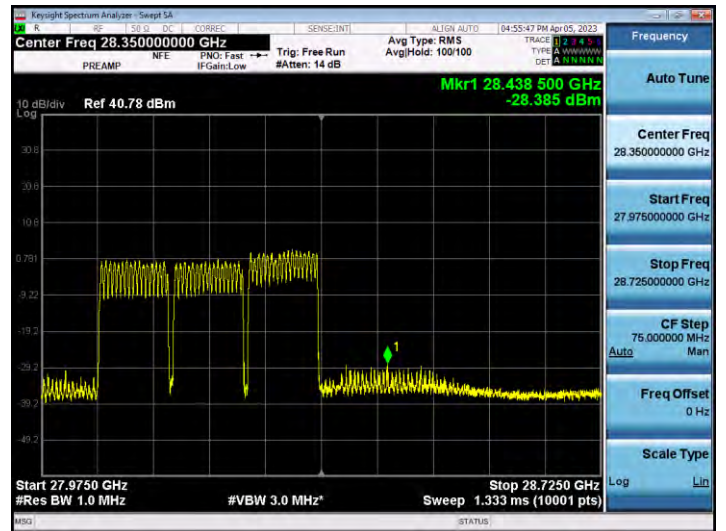
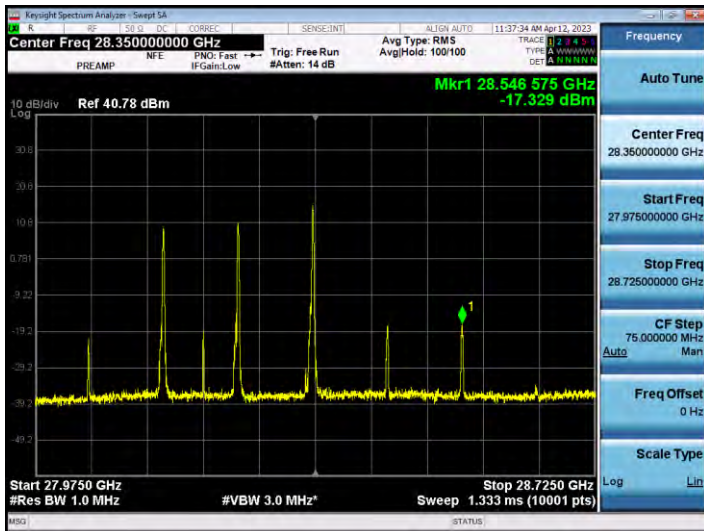
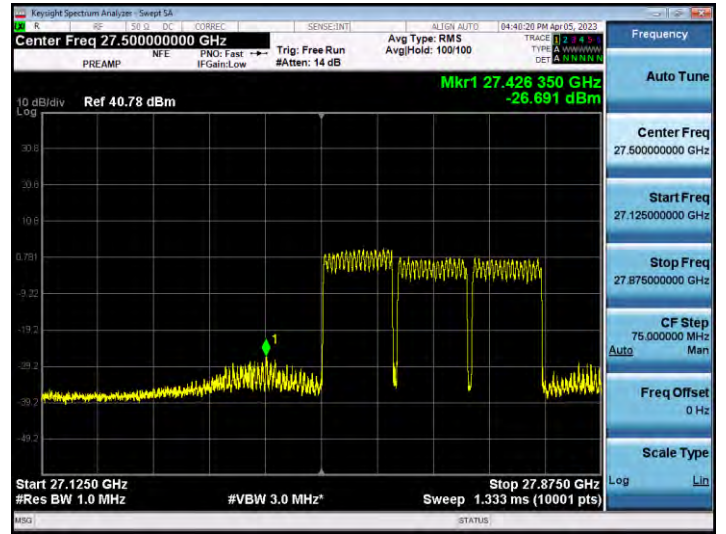
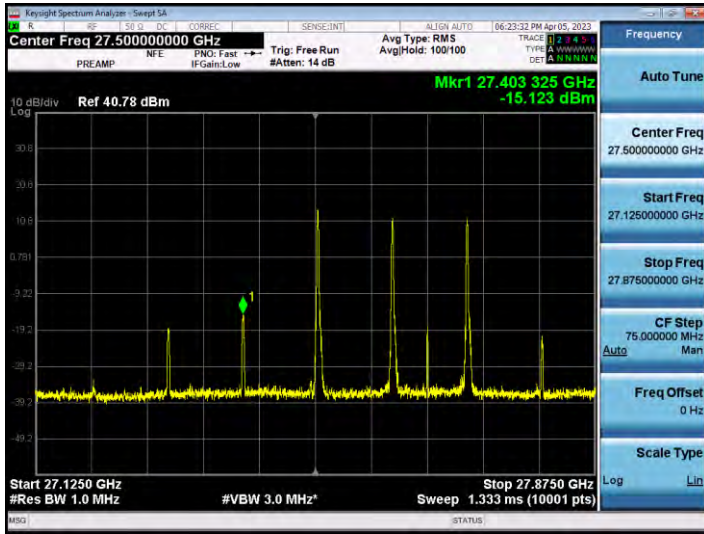
100 MHz, 1CC



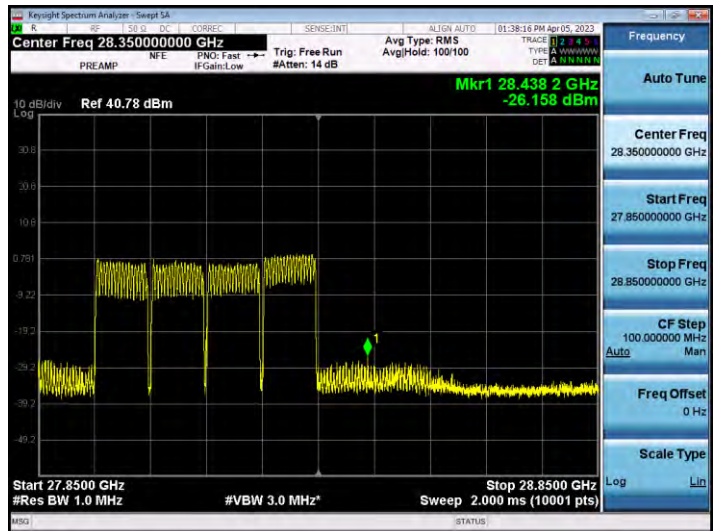
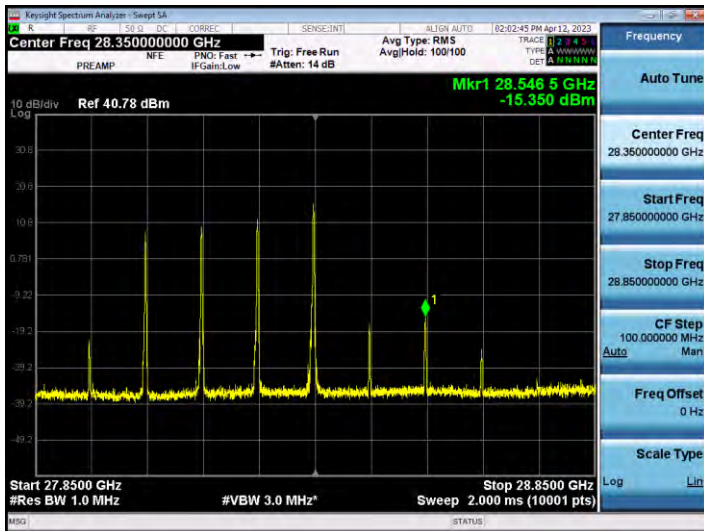
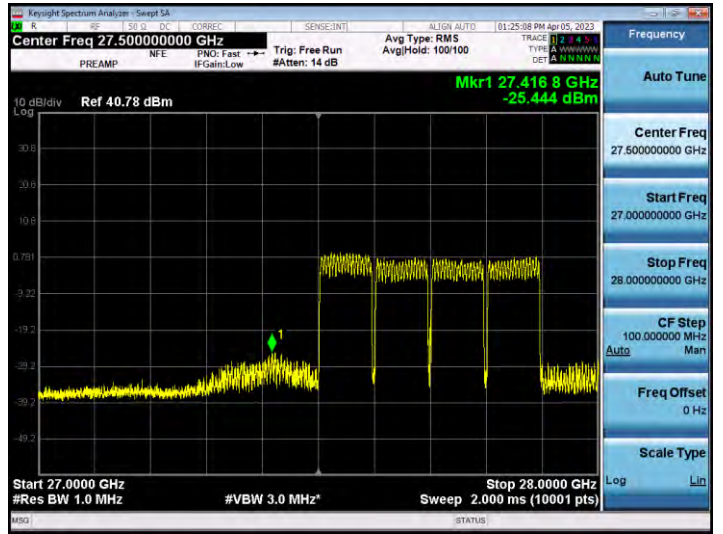
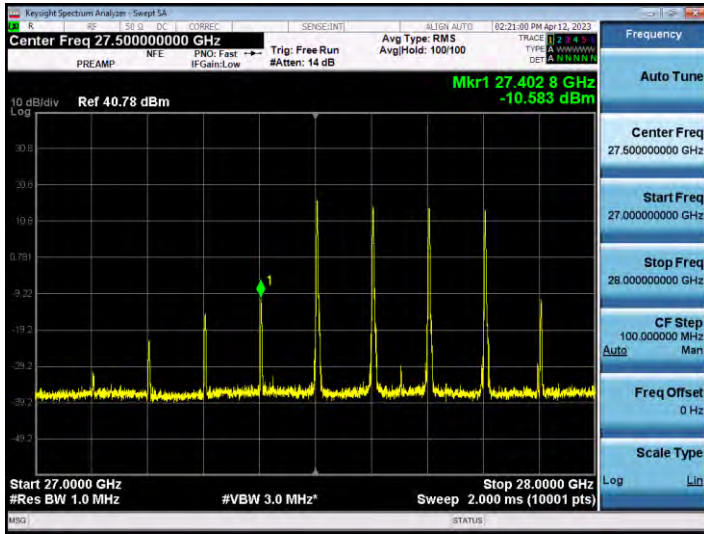
100 MHz, 2CC



100 MHz, 3CC

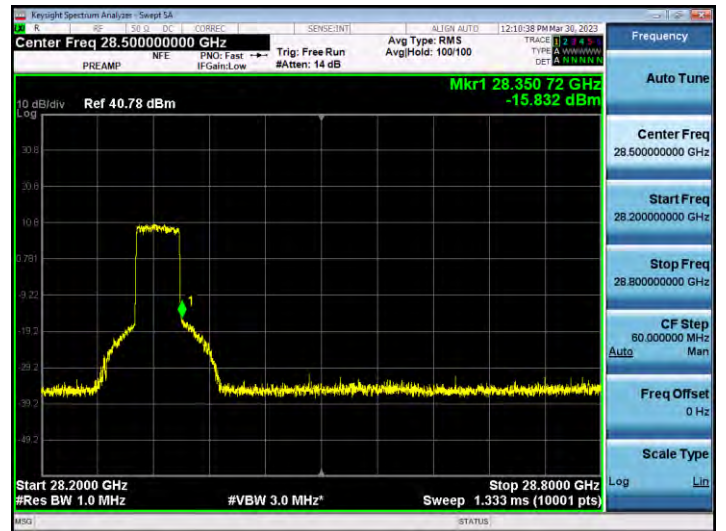
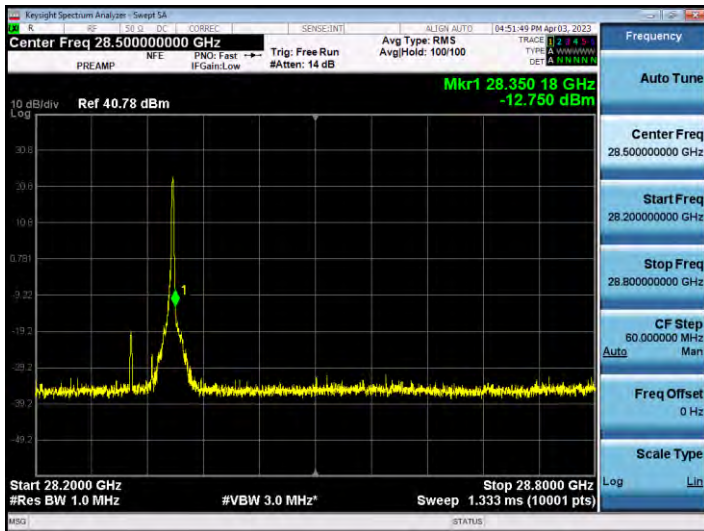
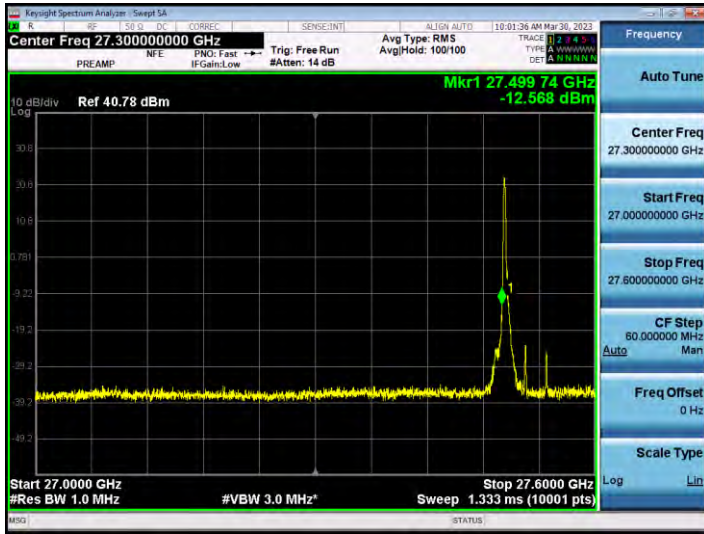


100 MHz, 4CC

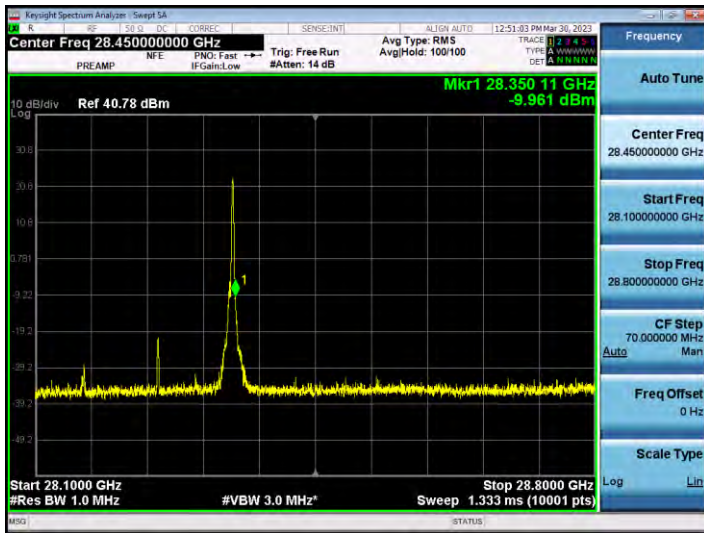
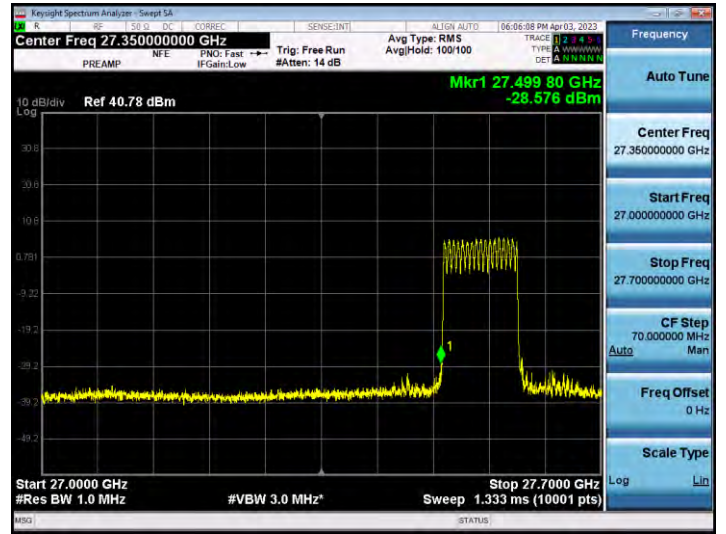
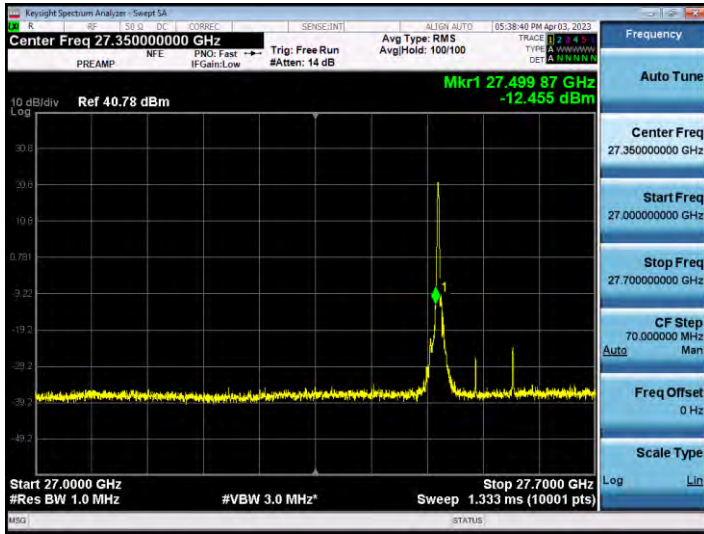


n261 Band Antenna 1 (L patch)

50 MHz, 1CC

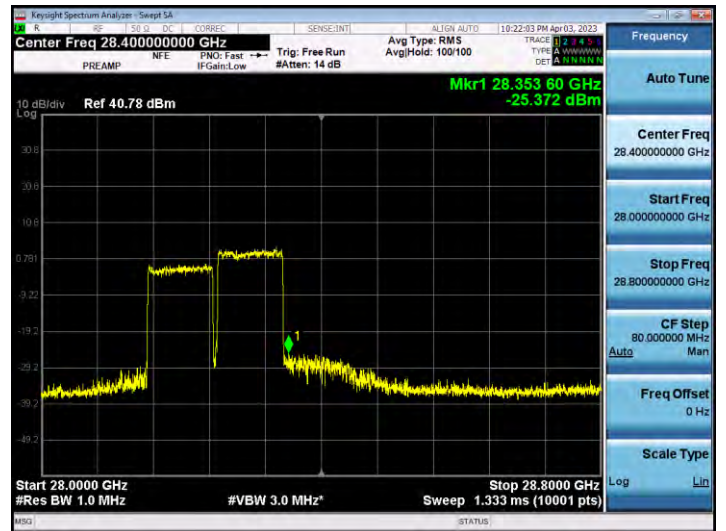
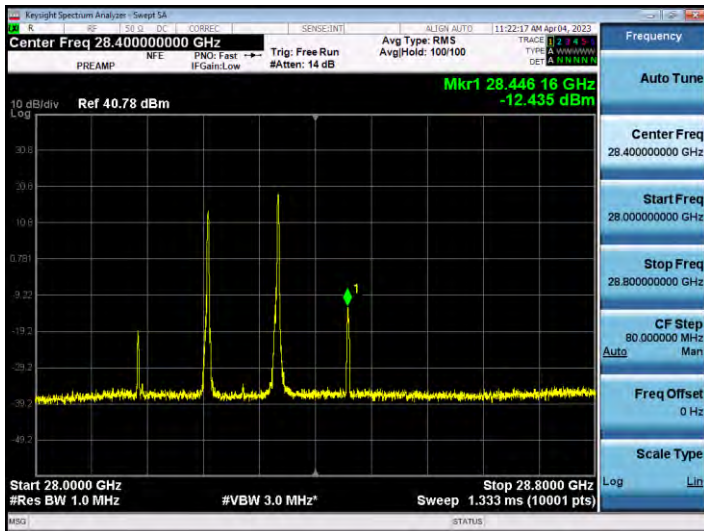
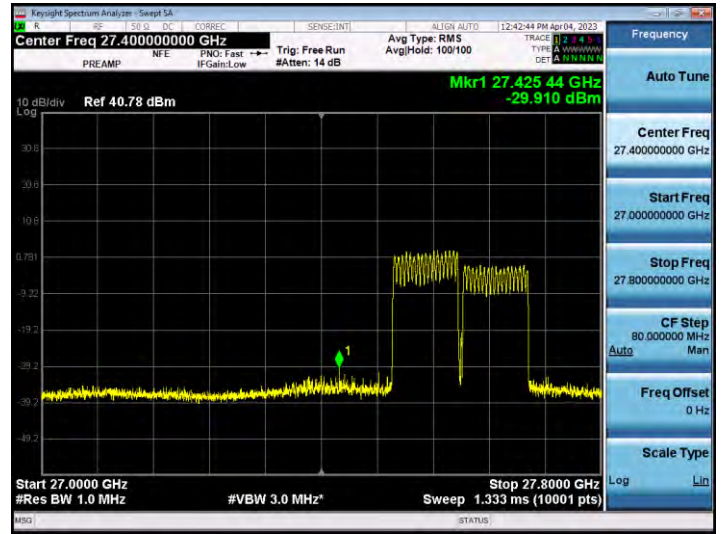
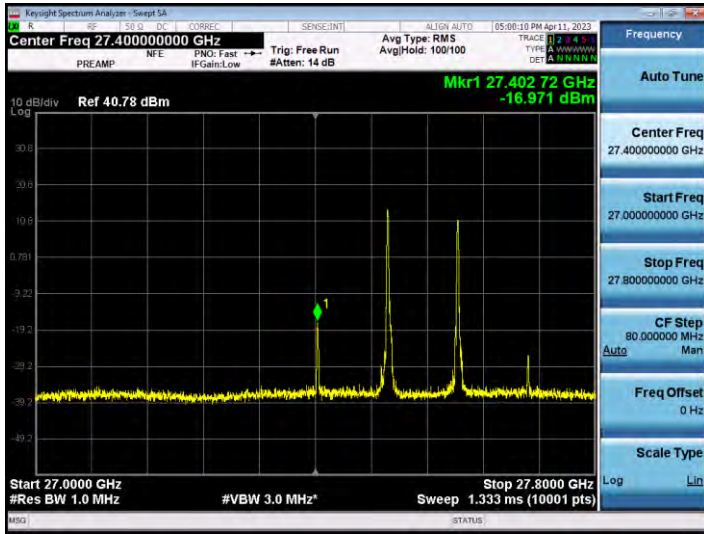


100 MHz, 1CC

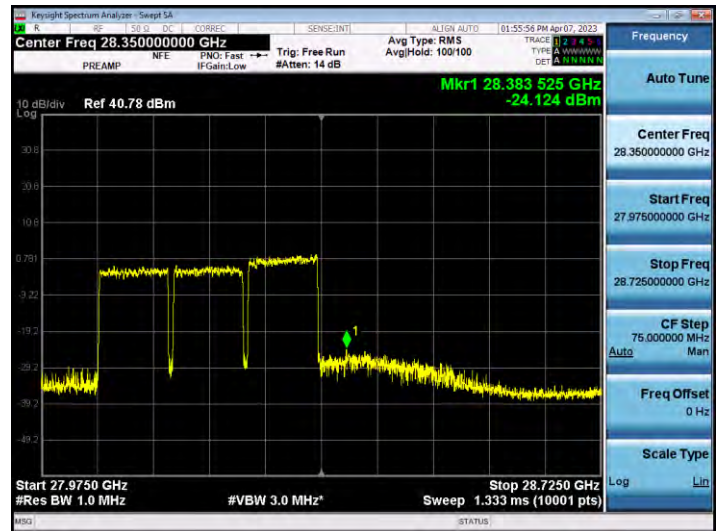
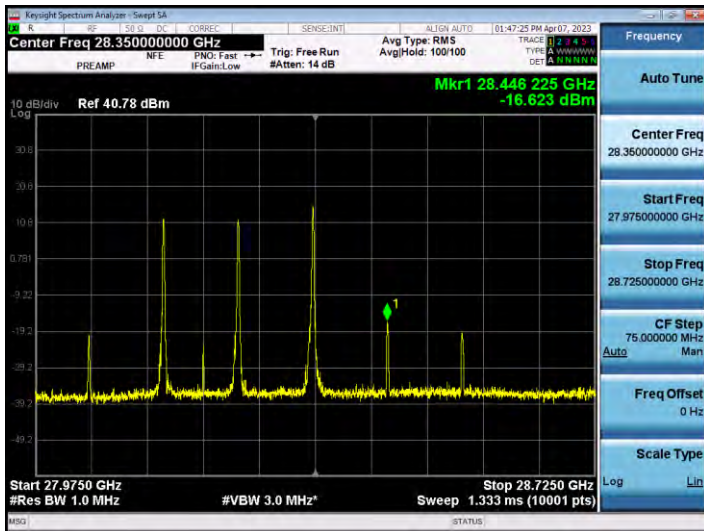
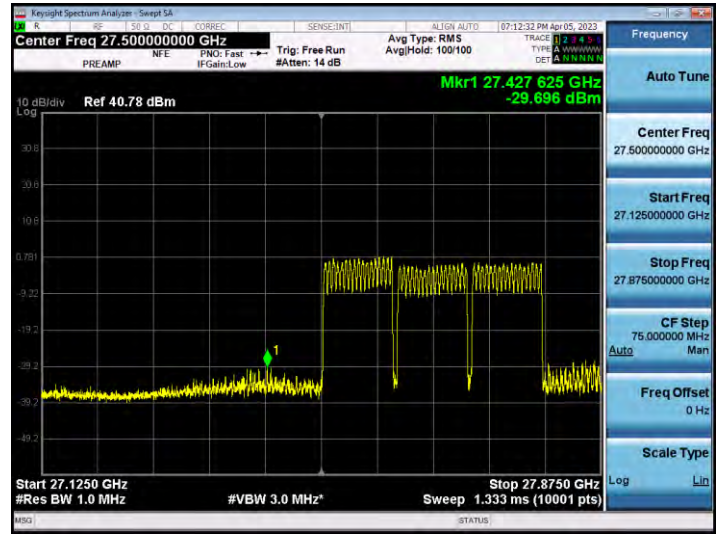
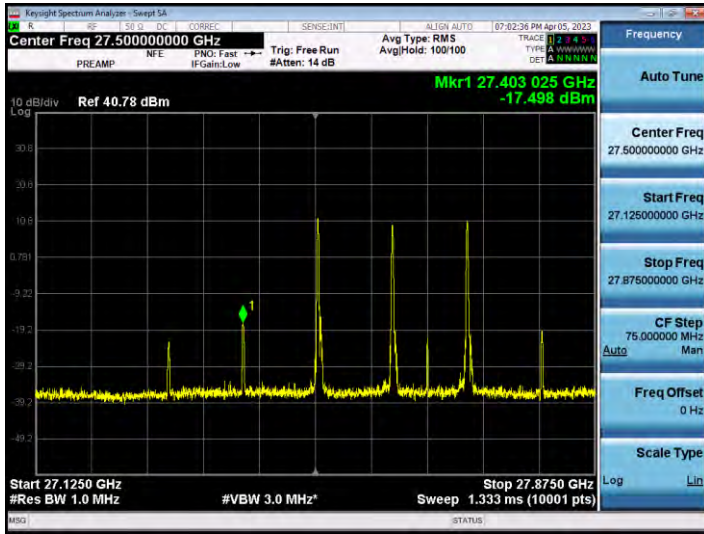




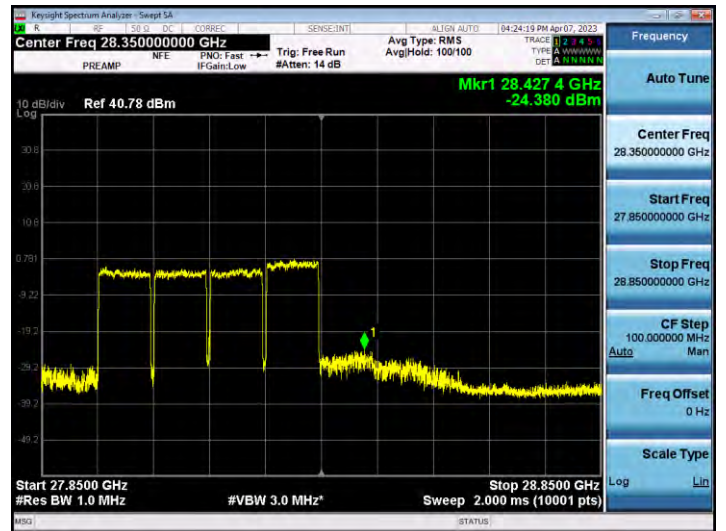
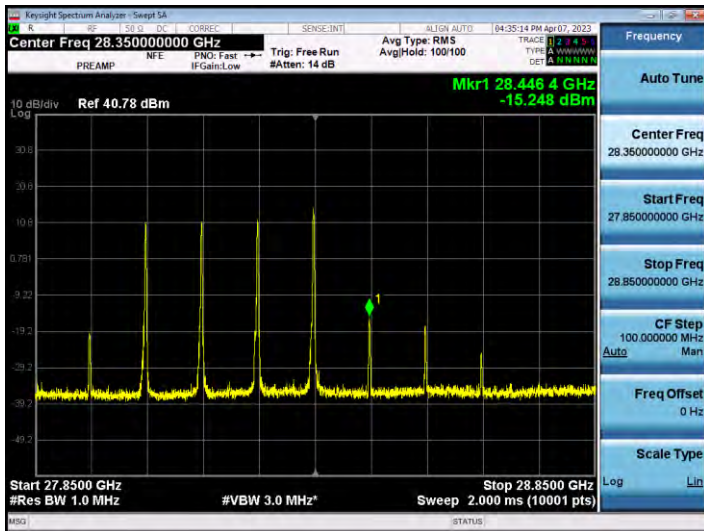
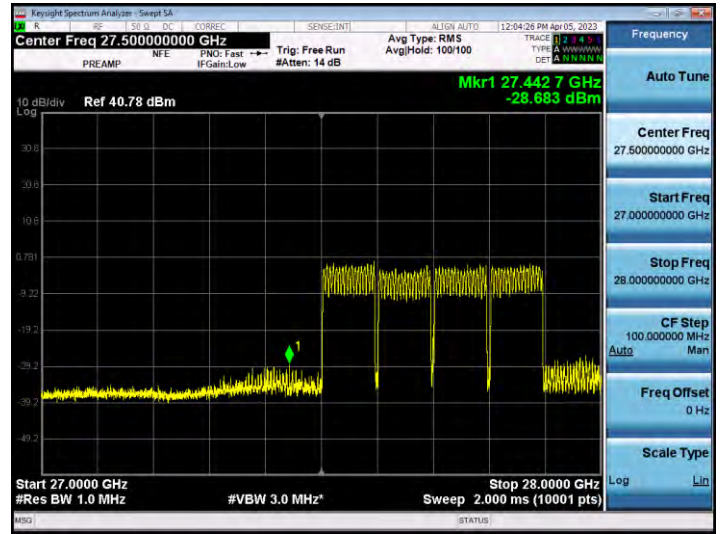
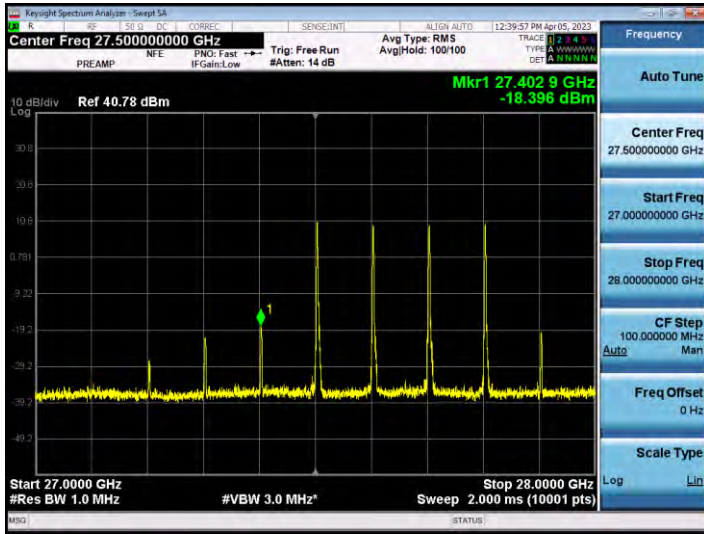
100 MHz, 2CC



100 MHz, 3CC



100 MHz, 4CC



## 5.4. RADIATED SPURIOUS EMISSIONS

### Test Overview

The test frequency range is from 9 kHz to 200GHz. All out of band emissions are measured in a radiated test 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 conductive power or total radiated power of any emissions outside a licensee's frequency block shall be -13dBm/1MHz.

### 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.

### EIRP Test Procedures:

The measurement is performed in accordance with Section 5.7.4 of ANSI C63.26.

#### 5.7.4 Spurious unwanted emission measurements

- a) Set the spectrum analyzer start frequency to the lowest frequency generated by the EUT, without going below 9 kHz, and the stop frequency to the lower frequency covered by the measurements previously performed in 5.7.3. As an alternative, the stop frequency can be set to the value specified in 5.1.1, depending on the EUT operating range, if the resulting plot can clearly demonstrate compliance for all frequencies not addressed by the out-of-band emissions measurements performed as per 5.7.3.
- b) When using an average power (rms) detector, ensure that the number of points in the sweep  $\geq 2 \times (\text{span} / \text{RBW})$ . This may require that the measurement range defined by the start and stop frequencies be subdivided, depending on the spectrum analyzer capabilities. This requirement does not apply to peak-detected power measurements. When average power is specified by the applicable regulation, a peak-

detector can be utilized for preliminary measurements to accommodate wider frequency spans. Any emissions found in the preliminary measurement to exceed the applicable limit(s) shall be further examined using a power averaging (rms) detector with the minimum number of measurement points as defined above.

c) The sweep time should be set to auto-couple for performing peak-detector measurements. For measurements that use a power averaging (rms) detector, the sweep time shall be set as described for out-of-band emissions measurements in item d) of 5.7.3.

d) Identify and measure the highest spurious emission levels in each frequency range. It is not necessary to re-measure the out-of-band emissions as a part of this test. Record the frequencies and amplitudes corresponding to the measured emissions and capture the data plots.

e) Repeat step b) through step d) for the upper spurious emission frequency range if not already captured by a wide span measurement performed as per the alternative provided in step a). The upper frequency for this measurement is defined in 5.1.1 as a function of the EUT operating range.

f) Compare the results with the corresponding limit in the applicable regulation.

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

#### TRP Test Procedures:

The measurement is performed in accordance with Section 4.4.3.3.2 of KDB 842590 v01r02 (2021-04).

a) Align the EUT with a chosen xy-plane and the xz-plane of the antenna measurement coordinate system.

NOTE 1 For harmonics and spurious emission frequencies which are beamforming as identified in exploratory scan, it may be required to align the orthogonal cuts to include the peak based on exploratory scans.

b) Measure the EUT dimensions, i.e., depth (d), width (w), and height (h); see Figure A.1 in Appendix A.

c) Calculate the spherical and cylindrical diameters (D and D<sub>cy</sub>) using Equations (A.1) and (A.2) (see Appendix A).

d) For the highest frequency (smallest wavelength) of the frequency band measured, calculate the reference angular steps  $\Delta\theta_{ref}$  and  $\Delta\phi_{ref}$  using Equations (A.3) and (A.4).

e) Set the grid spatial sampling step  $\Delta\theta \leq \Delta\theta_{ref}$  for the vertical angle and  $\Delta\phi \leq \Delta\phi_{ref}$  for the horizontal cut.

f) For each emission frequency, measure the EIRP (as a sum of two orthogonal polarizations) at each spatial sampling step on the selected grid.

g) For each emission frequency, calculate the average EIRP for both the cuts separately, and then take the average of these two average values.

h) Add 2 dB as a correction factor to the averaged value computed in step g).

i) If the TRP limit is exceeded, a third orthogonal cut in the yz-plane and using the  $\Delta\theta$  angular step, can be added. Now, calculate the average values in all three cuts separately, and then take the average value of these three average values.

j) Add 1.5 dB as a correction factor to the averaged value computed in step i).

k) Evaluate the pass/fail decision by comparing TRP from step h) or step j) against the applicable TRP limit.

**Note:**

1. Spurious emission test is performed up to 200 GHz(up to 100 GHz for n261) frequency according to section 5.1.1 of ANSI C63.26 -2015.
2. Measurement distance is applied far field condition on page 17.
3. All RSE's were measured with 1CC. It was determined that adding more CC's causes the overall amplitude of just 1CC to decrease, therefore, 1CC is the worst case for the purposes of spurious emissions measurements.
4. All RSE's were investigated in EN-DC mode and with 802.11 chipset active. It was determined that there is no new emission introduced by EN-DC mode, or the 802.11 chipset. For EN-DC mode, n261 uses LTE B2, B5, B12, B13, B48 and B66, n260 uses LTE B2, B5, B12, B13, B14, B30, B48 and B66 and n258 uses LTE B2 and B66.
5. Additionally, this device supports anchor bands operating in FR1 spectrum. The n261 band uses NR Bands n2, n5, n25, n41, n48, n66, and n77 as anchor bands. The n260 band uses NR Bands n2, n5, n12, n25, n30, n41, n48, n66 and n77 as anchor bands. The n258 band uses NR Bands n25, n41, n66 and n77 as anchor bands.
6. LTE and FR1 anchor bands supports default configuration. There was no discernible difference in the spurious emission levels when using different LTE and NR FR1 anchor bands. Thus, FR1 Band n66 was used as a representative anchor band for ENDC and NR-DC investigations.
7. All factors except spectrum analyzer level are applied as correction factor each band in the analyzer and calculated in tabular data.  
In this test, AFCL factor consists of antenna factor, cable loss, mixer loss, amplifier gain and duty correction. Emissions value is first converted by distance factor as follow.

*Converted value (dBm) = Measured Value (dBuV) + 20 LOG(D)-104.77*

*Final spurious emissions result is calculated as follows.*

*Spurious Emissions = Converted Value (dBm) + AFCL*

8. Measurement RBW correction factor(Reference RBW : 1 MHz)  
The measured value in table is included the RBW correction factor.

*10log(Reference RBW/Measured RBW)*

*In case of 1 kHz RBW, correction factor is 30 dB.*

*In case of 10 kHz RBW, correction factor is 20 dB.*

*In case of 100 kHz RBW, correction factor is 10 dB.*

#### 9. Calculations

The RSE EIRP level is taken directly from the spectrum analyzer which includes the appropriate antenna factors, cable losses, and harmonic mixer conversion losses.

10. In case of 9 kHz to 30 MHz, the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.

11. All modes of operation were investigated and the worst case configuration results are reported.

- Mode : Stand alone, Simultaneous transmission scenarios

- Worst case : Stand alone

10. Corrcction Factor

30 MHz - 1 GHz		1 GHz - 18 GHz		18 GHz - 40 GHz		40 GHz - 200 GHz	
Freq. (MHz)	AFCL (dB)	Freq. (MHz)	AFCL (dB)	Freq. (GHz)	AFCL (dB)	Freq. (GHz)	AFCL (dB)
30	-20.24	1000	-11.51	18	-9.33	40	56.26
40	-19.11	1500	-9.29	18.5	-8.79	45	55.32
50	-18.50	2000	-8.12	19	-8.95	50	56.85
60	-19.27	2500	-6.33	19.5	-8.91	55	58.13
70	-20.61	3000	-5.12	20	-8.70	60	61.87
80	-23.55	3500	-4.53	20.5	-8.37	60	57.36
90	-24.10	4000	-3.07	21	-8.17	65	58.44
100	-23.08	4500	-1.41	21.5	-7.81	70	59.03
150	-18.21	5000	0.16	22	-7.72	75	57.51
200	-21.70	5500	0.71	22.5	-7.32	80	61.11
250	-19.61	6000	1.97	23	-7.09	85	59.67
300	-17.82	6500	3.73	23.5	-7.20	90	59.73
350	-16.84	7000	5.52	24	-6.78	90	58.87
400	-15.59	7500	6.99	24.5	-6.72	95	61.77
450	-14.02	8000	8.03	25	-6.12	100	61.28
500	-13.27	8500	8.52	25.5	-7.20	105	60.93
550	-12.48	9000	9.69	26	-7.05	110	63.67
600	-11.14	9500	10.86	26.5	-6.61	115	61.66
650	-10.39	10000	11.78	27	-7.29	120	63.02
700	-9.78	10500	12.76	27.5	-8.26	125	62.86
750	-8.48	11000	13.38	28	-8.33	130	62.95
800	-7.69	11500	13.36	28.5	-7.75	135	63.85
850	-6.93	12000	12.30	29	-7.22	140	63.36
900	-6.03	12500	11.99	29.5	-7.30	140	67.17
950	-4.71	13000	12.41	30	-6.59	145	64.24
1000	-3.82	13500	14.89	30.5	-6.53	150	65.71
-	-	14000	15.54	31	-4.90	155	63.68
-	-	14500	14.87	31.5	-5.91	160	64.04
-	-	15000	12.08	32	-5.45	165	64.62
-	-	15500	11.48	32.5	-5.35	170	67.85
-	-	16000	12.25	33	-5.12	175	65.65
-	-	16500	13.79	33.5	-4.97	180	65.25
-	-	17000	16.23	34	-4.63	185	67.16



30 MHz - 1 GHz		1 GHz - 18 GHz		18 GHz - 40 GHz		40 GHz - 200 GHz	
Freq. (MHz)	AFCL (dB)	Freq. (MHz)	AFCL (dB)	Freq. (GHz)	AFCL (dB)	Freq. (GHz)	AFCL (dB)
-	-	17500	19.04	34.5	-4.10	190	66.69
-	-	18000	25.39	35	-4.33	195	65.33
-	-	-	-	35.5	-3.24	200	66.83
-	-	-	-	36	-3.95	-	-
-	-	-	-	36.5	-3.15	-	-
-	-	-	-	37	-1.44	-	-
-	-	-	-	37.5	-1.87	-	-
-	-	-	-	38	-0.98	-	-
-	-	-	-	38.5	0.34	-	-
-	-	-	-	39	3.01	-	-
-	-	-	-	39.5	3.94	-	-
-	-	-	-	40	5.27	-	-

\*Correction Factor= Antenna Factor + Cable Loss – Amp. Gain + (Harmonic Mixer Conversion Loss)

**Test Results: Tabular Data of Radiated Spurious Emissions**  
**DFT-s OFDM (SISO or SISO Dual)**

**1. n258a**

30 MHz ~ 1 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	24275.04	Low	H+V	BPSK	1/16	V	26.130	3	-69.098
			24350.04	Mid	H+V	BPSK	1/16	V	26.786	3	-68.442
			24424.92	High	H+V	BPSK	1/16	V	27.122	3	-68.106
1	1	50	24275.04	Low	H+V	BPSK	1/16	H	24.213	3	-71.015
		100	24350.04	Mid	H+V	BPSK	1/33	V	26.351	3	-68.877
		50	24424.92	High	H+V	QPSK	1/16	V	26.071	3	-69.157

1 GHz ~ 18 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	24275.04	Low	H+V	BPSK	1/16	H	68.183	3	-27.045
			24350.04	Mid	H+V	BPSK	1/16	V	67.939	3	-27.289
			24424.92	High	H+V	BPSK	1/16	H	67.631	3	-27.597
1	1	50	24275.04	Low	H+V	BPSK	1/16	H	67.499	3	-27.729
		100	24350.04	Mid	H+V	BPSK	1/33	H	67.433	3	-27.795
		50	24424.92	High	H+V	QPSK	1/16	V	67.562	3	-27.666

18 GHz ~ 23.75 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	24275.04	Low	H+V	BPSK	1/16	H	58.607	3	-36.621
			24350.04	Mid	H+V	BPSK	1/16	V	54.863	3	-40.365
			24424.92	High	H+V	BPSK	1/16	V	54.244	3	-40.984
1	1	50	24275.04	Low	H+V	BPSK	1/16	V	54.897	3	-40.331
		100	24350.04	Mid	H+V	BPSK	1/33	V	52.440	3	-42.788
		50	24424.92	High	H+V	QPSK	1/16	V	50.618	3	-44.610

24.90 GHz ~ 40 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	24275.04	Low	H+V	BPSK	1/16	V	64.957	3	-30.271
			24350.04	Mid	H+V	BPSK	1/16	V	63.779	3	-31.449
			24424.92	High	H+V	BPSK	1/16	H	61.645	3	-33.583
1	1	50	24275.04	Low	H+V	BPSK	1/16	V	59.108	3	-36.120
		100	24350.04	Mid	H+V	BPSK	1/33	V	58.871	3	-36.357
		50	24424.92	High	H+V	QPSK	1/16	V	58.647	3	-36.581

40 GHz ~ 60 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	24275.04	Low	H+V	BPSK	1/16	H	73.780	1.5	-27.468
			24350.04	Mid	H+V	BPSK	1/16	H	72.790	1.5	-28.458
			24424.92	High	H+V	BPSK	1/16	H	76.040	1.5	-25.208
1	1	50	24275.04	Low	H+V	BPSK	1/16	H	81.790	1.5	-19.458
		100	24350.04	Mid	H+V	BPSK	1/33	H	80.680	1.5	-20.568
		50	24424.92	High	H+V	QPSK	1/16	H	81.860	1.5	-19.388

60 GHz ~ 90 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	24275.04	Low	H+V	BPSK	1/16	V	85.420	1	-19.350
			24350.04	Mid	H+V	BPSK	1/16	H	84.870	1	-19.900
			24424.92	High	H+V	BPSK	1/16	H	86.020	1	-18.750
1	1	50	24275.04	Low	H+V	BPSK	1/16	H	84.937	1	-19.833
		100	24350.04	Mid	H+V	BPSK	1/33	H	82.925	1	-21.845
		50	24424.92	High	H+V	QPSK	1/16	H	85.337	1	-19.433

90 GHz ~ 100 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	24275.04	Low	H+V	BPSK	1/16	H	75.340	1	-29.430
			24350.04	Mid	H+V	BPSK	1/16	H	74.520	1	-30.250
			24424.92	High	H+V	BPSK	1/16	V	76.150	1	-28.620
1	1	50	24275.04	Low	H+V	BPSK	1/16	V	76.600	1	-28.170
		100	24350.04	Mid	H+V	BPSK	1/33	H	74.400	1	-30.370
		50	24424.92	High	H+V	QPSK	1/16	V	73.970	1	-30.800

2. n258b

30 MHz ~ 1 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	24800.04	Low	H+V	BPSK	1/33	V	28.652	3	-66.576
		50	24999.96	Mid	H+V	BPSK	1/16	V	26.726	3	-68.502
		50	25224.96	High	H	BPSK	1/16	V	28.292	3	-66.936
1	1	100	24800.04	Low	H+V	BPSK	1/33	V	25.206	3	-70.022
		100	24999.96	Mid	H	QPSK	1/33	V	27.511	3	-67.717
		50	25224.96	High	H	BPSK	1/16	V	26.217	3	-69.011

1 GHz ~ 18 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	24800.04	Low	H+V	BPSK	1/33	V	67.309	3	-27.919
		50	24999.96	Mid	H+V	BPSK	1/16	V	67.509	3	-27.719
		50	25224.96	High	H	BPSK	1/16	H	67.417	3	-27.811
1	1	100	24800.04	Low	H+V	BPSK	1/33	V	67.297	3	-27.931
		100	24999.96	Mid	H	QPSK	1/33	V	68.232	3	-26.996
		50	25224.96	High	H	BPSK	1/16	V	67.393	3	-27.835

18 GHz ~ 24.25 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	24800.04	Low	H+V	BPSK	1/33	V	54.265	3	-40.963
		50	24999.96	Mid	H+V	BPSK	1/16	V	54.055	3	-41.173
		50	25224.96	High	H	BPSK	1/16	V	56.002	3	-39.226
1	1	100	24800.04	Low	H+V	BPSK	1/33	V	52.820	3	-42.408
		100	24999.96	Mid	H	QPSK	1/33	V	53.333	3	-41.895
		50	25224.96	High	H	BPSK	1/16	V	50.657	3	-44.571

25.70 GHz ~ 40 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	24800.04	Low	H+V	BPSK	1/33	V	67.225	3	-28.003
		50	24999.96	Mid	H+V	BPSK	1/16	V	62.730	3	-32.498
		50	25224.96	High	H	BPSK	1/16	V	65.321	3	-29.907
1	1	100	24800.04	Low	H+V	BPSK	1/33	V	63.925	3	-31.303
		100	24999.96	Mid	H	QPSK	1/33	V	55.259	3	-39.969
		50	25224.96	High	H	BPSK	1/16	H	62.897	3	-32.331

40 GHz ~ 60 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	24800.04	Low	H+V	BPSK	1/33	H	73.950	1.5	-27.298
		50	24999.96	Mid	H+V	BPSK	1/16	V	74.150	1.5	-27.098
		50	25224.96	High	H	BPSK	1/16	V	73.410	1.5	-27.838
1	1	100	24800.04	Low	H+V	BPSK	1/33	V	75.700	1.5	-25.548
		100	24999.96	Mid	H	QPSK	1/33	H	74.970	1.5	-26.278
		50	25224.96	High	H	BPSK	1/16	H	76.030	1.5	-25.218

60 GHz ~ 90 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	24800.04	Low	H+V	BPSK	1/33	H	84.630	1	-20.140
		50	24999.96	Mid	H+V	BPSK	1/16	H	85.700	1	-19.070
		50	25224.96	High	H	BPSK	1/16	H	80.120	1	-24.650
1	1	100	24800.04	Low	H+V	BPSK	1/33	H	87.479	1	-17.291
		100	24999.96	Mid	H	QPSK	1/33	H	85.510	1	-19.260
		50	25224.96	High	H	BPSK	1/16	H	92.565 <sup>※1</sup>	1	-12.205 <sup>※1</sup>

※1 Note : TRP: -18.521 dBm



90 GHz ~ 100 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	24800.04	Low	H+V	BPSK	1/33	H	74.420	1	-30.350
		50	24999.96	Mid	H+V	BPSK	1/16	H	74.280	1	-30.490
		50	25224.96	High	H	BPSK	1/16	V	74.490	1	-30.280
1	1	100	24800.04	Low	H+V	BPSK	1/33	H	74.570	1	-30.200
		100	24999.96	Mid	H	QPSK	1/33	H	73.970	1	-30.800
		50	25224.96	High	H	BPSK	1/16	V	73.440	1	-31.330

3. n260

30 MHz ~ 1 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	V	26.737	3	-68.491
		50	38499.96	Mid	H	QPSK	1/16	V	25.915	3	-69.313
		100	39949.92	High	H+V	QPSK	1/33	V	27.959	3	-67.269
1	1	50	37025.04	Low	H+V	BPSK	1/16	V	27.179	3	-68.049
		50	38499.96	Mid	H+V	BPSK	1/16	V	26.924	3	-68.304
		100	39949.92	High	H+V	BPSK	1/33	V	26.869	3	-68.359

1 GHz ~ 18 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	V	67.983	3	-27.245
		50	38499.96	Mid	H	QPSK	1/16	H	66.888	3	-28.340
		100	39949.92	High	H+V	QPSK	1/33	V	67.903	3	-27.325
1	1	50	37025.04	Low	H+V	BPSK	1/16	V	66.950	3	-28.278
		50	38499.96	Mid	H+V	BPSK	1/16	H	67.868	3	-27.360
		100	39949.92	High	H+V	BPSK	1/33	V	67.939	3	-27.289

18 GHz ~ 36.6 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	V	58.455	3	-36.773
		50	38499.96	Mid	H	QPSK	1/16	H	57.652	3	-37.576
		100	39949.92	High	H+V	QPSK	1/33	H	57.700	3	-37.528
1	1	50	37025.04	Low	H+V	BPSK	1/16	V	58.039	3	-37.189
		50	38499.96	Mid	H+V	BPSK	1/16	V	58.358	3	-36.870
		100	39949.92	High	H+V	BPSK	1/33	H	62.967	3	-32.261

40.20 GHz ~ 60 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	H	78.70	1.5	-22.548
		50	38499.96	Mid	H	QPSK	1/16	H	78.96	1.5	-22.288
		100	39949.92	High	H+V	QPSK	1/33	V	75.51	1.5	-25.738
1	1	50	37025.04	Low	H+V	BPSK	1/16	V	71.77	1.5	-29.478
		50	38499.96	Mid	H+V	BPSK	1/16	H	83.89	1.5	-17.358
		100	39949.92	High	H+V	BPSK	1/33	H	80.52	1.5	-20.728

60 GHz ~ 90 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	H	71.280	1	-33.490
		50	38499.96	Mid	H	QPSK	1/16	V	71.470	1	-33.300
		100	39949.92	High	H+V	QPSK	1/33	V	72.440	1	-32.330
1	1	50	37025.04	Low	H+V	BPSK	1/16	V	72.180	1	-32.590
		50	38499.96	Mid	H+V	BPSK	1/16	H	71.340	1	-33.430
		100	39949.92	High	H+V	BPSK	1/33	V	71.510	1	-33.260

90 GHz ~ 140 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	H	82.970	1	-21.800
		50	38499.96	Mid	H	QPSK	1/16	H	75.400	1	-29.370
		100	39949.92	High	H+V	QPSK	1/33	V	75.200	1	-29.570
1	1	50	37025.04	Low	H+V	BPSK	1/16	H	85.000	1	-19.770
		50	38499.96	Mid	H+V	BPSK	1/16	V	87.210	1	-17.560
		100	39949.92	High	H+V	BPSK	1/33	V	79.120	1	-25.650

140 GHz ~ 170 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	V	79.490	0.5	-31.301
		50	38499.96	Mid	H	QPSK	1/16	H	80.830	0.5	-29.961
		100	39949.92	High	H+V	QPSK	1/33	H	79.910	0.5	-30.881
1	1	50	37025.04	Low	H+V	BPSK	1/16	V	79.520	0.5	-31.271
		50	38499.96	Mid	H+V	BPSK	1/16	H	79.190	0.5	-31.601
		100	39949.92	High	H+V	BPSK	1/33	H	80.200	0.5	-30.591

170 GHz ~ 200 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	50	37025.04	Low	H+V	BPSK	1/16	H	81.830	0.5	-28.961
		50	38499.96	Mid	H	QPSK	1/16	V	80.340	0.5	-30.451
		100	39949.92	High	H+V	QPSK	1/33	V	81.070	0.5	-29.721
1	1	50	37025.04	Low	H+V	BPSK	1/16	H	80.810	0.5	-29.981
		50	38499.96	Mid	H+V	BPSK	1/16	H	79.920	0.5	-30.871
		100	39949.92	High	H+V	BPSK	1/33	V	80.440	0.5	-30.351

4. n261

30 MHz ~ 1 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	27550.08	Low	H+V	BPSK	1/33	V	27.656	3	-67.572
			27924.96	Mid	H+V	BPSK	1/33	V	25.691	3	-69.537
			28299.96	High	H+V	BPSK	1/33	V	26.982	3	-68.246
1	1		27550.08	Low	H	BPSK	1/33	V	28.299	3	-66.929
			27924.96	Mid	H	BPSK	1/33	V	27.758	3	-67.470
			28299.96	High	H	BPSK	1/33	V	27.261	3	-67.967

1 GHz ~ 18 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	27550.08	Low	H+V	BPSK	1/33	H	67.994	3	-27.234
			27924.96	Mid	H+V	BPSK	1/33	H	67.328	3	-27.900
			28299.96	High	H+V	BPSK	1/33	H	67.998	3	-27.230
1	1		27550.08	Low	H	BPSK	1/33	H	67.068	3	-28.160
			27924.96	Mid	H	BPSK	1/33	V	66.988	3	-28.240
			28299.96	High	H	BPSK	1/33	H	67.662	3	-27.566

18 GHz ~ 27 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	27550.08	Low	H+V	BPSK	1/33	V	60.495	3	-34.733
			27924.96	Mid	H+V	BPSK	1/33	V	52.760	3	-42.468
			28299.96	High	H+V	BPSK	1/33	H	51.104	3	-44.124
1	1		27550.08	Low	H	BPSK	1/33	V	56.817	3	-38.411
			27924.96	Mid	H	BPSK	1/33	H	51.142	3	-44.086
			28299.96	High	H	BPSK	1/33	V	51.062	3	-44.166

28.8 GHz ~ 40 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	27550.08	Low	H+V	BPSK	1/33	V	61.955	3	-33.273
			27924.96	Mid	H+V	BPSK	1/33	H	62.490	3	-32.738
			28299.96	High	H+V	BPSK	1/33	H	62.705	3	-32.523
1	1		27550.08	Low	H	BPSK	1/33	V	62.649	3	-32.579
			27924.96	Mid	H	BPSK	1/33	H	62.752	3	-32.476
			28299.96	High	H	BPSK	1/33	H	62.552	3	-32.676

40 GHz ~ 60 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	27550.08	Low	H+V	BPSK	1/33	H	78.210	1.5	-23.038
			27924.96	Mid	H+V	BPSK	1/33	V	78.344	1.5	-22.904
			28299.96	High	H+V	BPSK	1/33	H	83.610	1.5	-17.638
1	1		27550.08	Low	H	BPSK	1/33	H	83.850	1.5	-17.398
			27924.96	Mid	H	BPSK	1/33	H	84.600	1.5	-16.648
			28299.96	High	H	BPSK	1/33	H	82.676	1.5	-18.572

60 GHz ~ 90 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	27550.08	Low	H+V	BPSK	1/33	H	81.490	1	-23.280
			27924.96	Mid	H+V	BPSK	1/33	V	87.360	1	-17.410
			28299.96	High	H+V	BPSK	1/33	V	79.580	1	-25.190
1	1		27550.08	Low	H	BPSK	1/33	H	72.940	1	-31.830
			27924.96	Mid	H	BPSK	1/33	H	83.020	1	-21.750
			28299.96	High	H	BPSK	1/33	H	86.660	1	-18.110

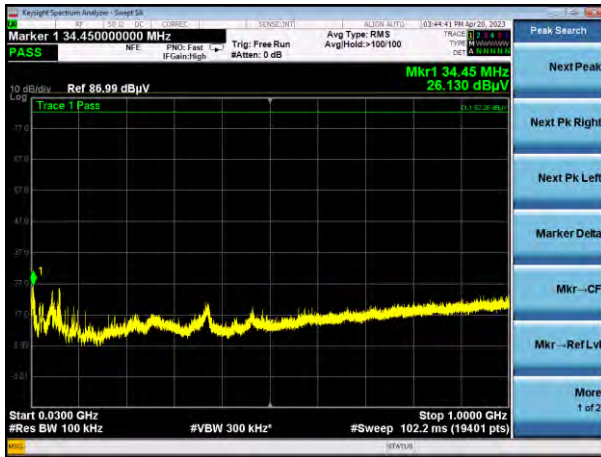


90 GHz ~ 100 GHz											
Ant. Patch	CCs active	BW [MHz]	Frequency [MHz]	Channel	Beam Pol.	Modulation	RB Size/Offset	Ant. Pol. [H/V]	Measured Value (dBuV)	Distance (m)	Conversion Value Result (dBm)
0	1	100	27550.08	Low	H+V	BPSK	1/33	V	74.000	1	-30.770
			27924.96	Mid	H+V	BPSK	1/33	H	74.790	1	-29.980
			28299.96	High	H+V	BPSK	1/33	V	75.090	1	-29.680
1	1		27550.08	Low	H	BPSK	1/33	H	74.030	1	-30.740
			27924.96	Mid	H	BPSK	1/33	H	73.870	1	-30.900
			28299.96	High	H	BPSK	1/33	V	73.600	1	-31.170

**DFT-s OFDM (SISO or SISO Dual)**  
**Plot data of Radiated Spurious Emissions**

**n258a, 30 MHz ~ 1 GHz**

**Antenna 0 (K patch)**  
**Low Channel**



**Antenna 1 (L patch)**  
**Low Channel**



**Middle Channel**



**Middle Channel**



**High Channel**



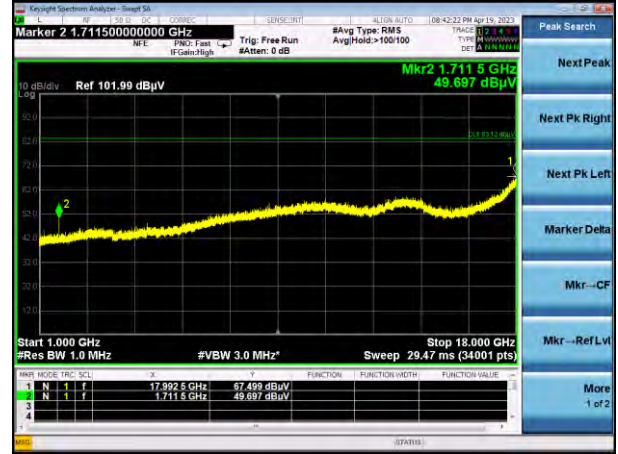
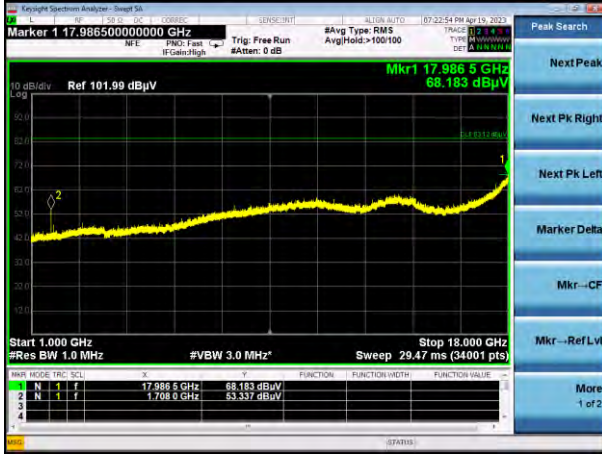
**High Channel**



n258a, 1 GHz ~ 18 GHz

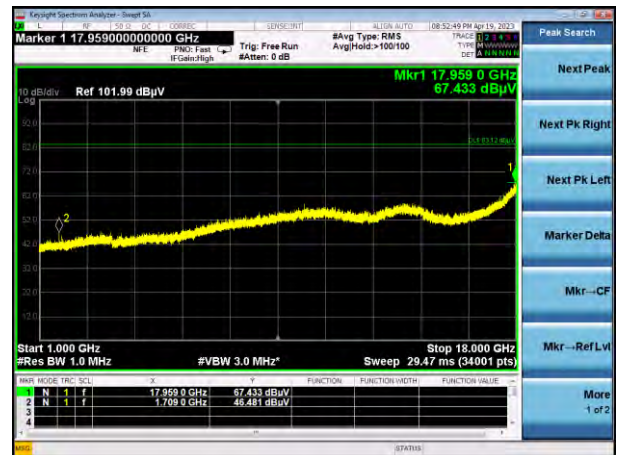
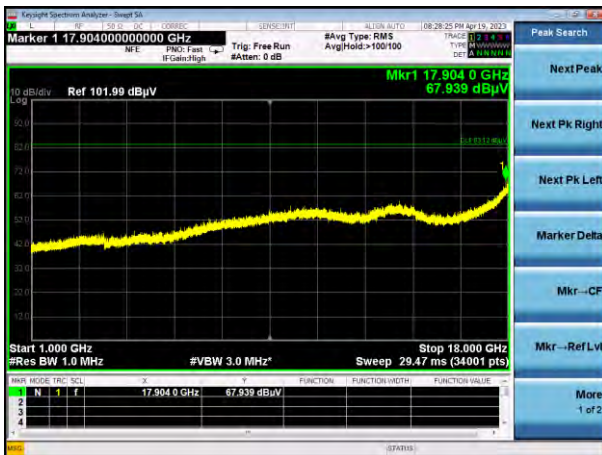
Antenna 0 (K patch)  
Low Channel

Antenna 1 (L patch)  
Low Channel



Middle Channel

Middle Channel



High Channel

High Channel

