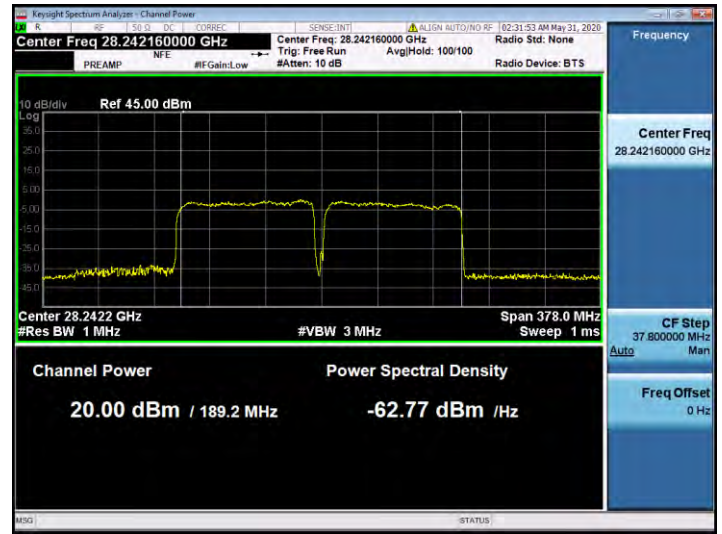
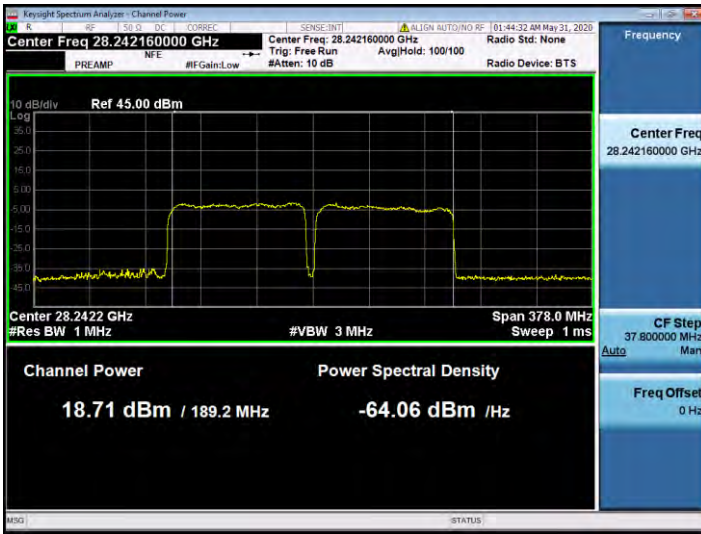
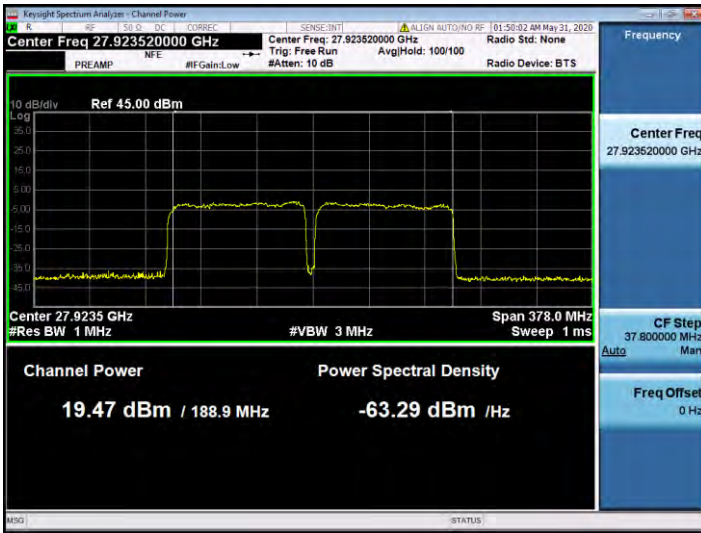
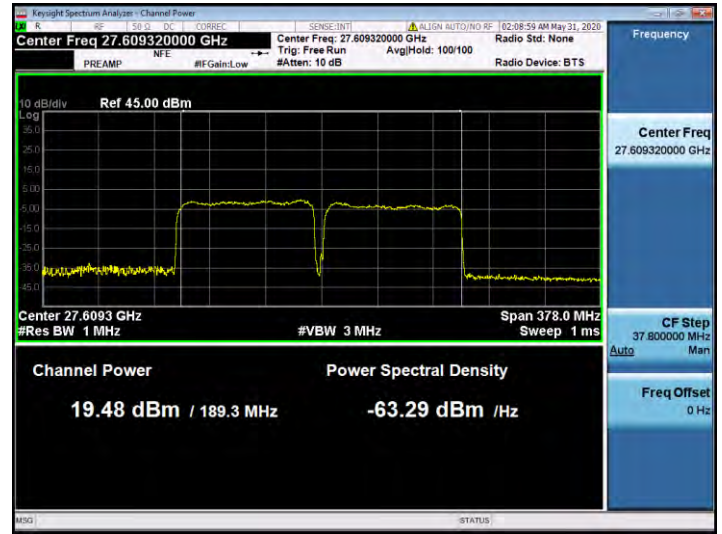
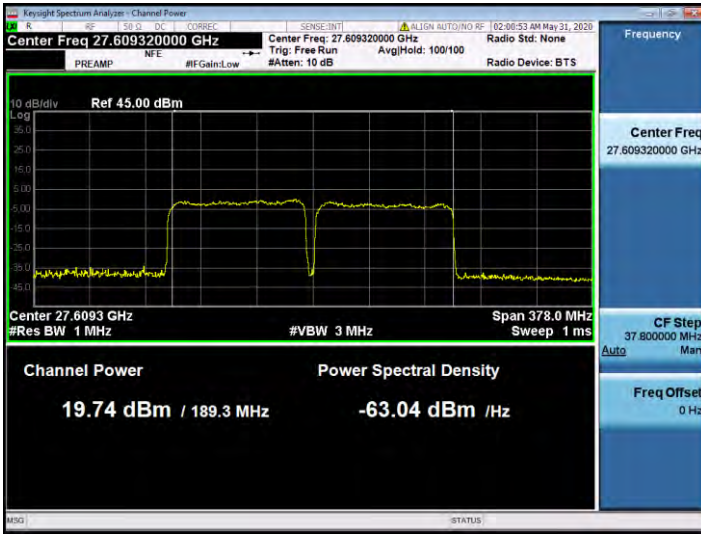
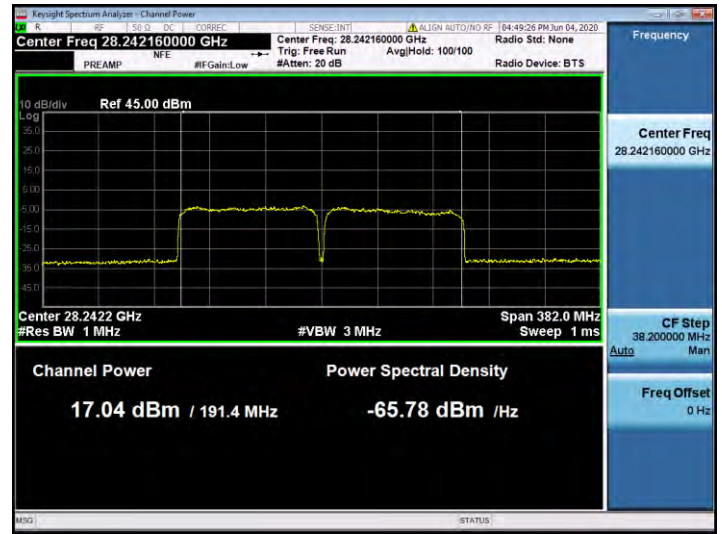
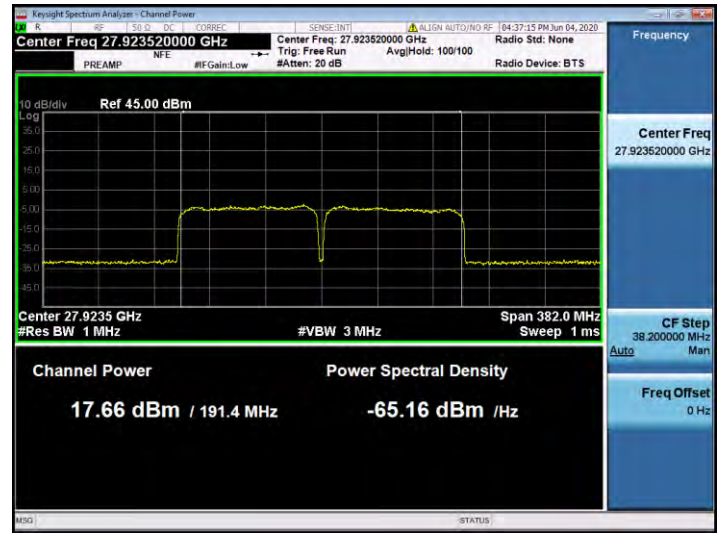
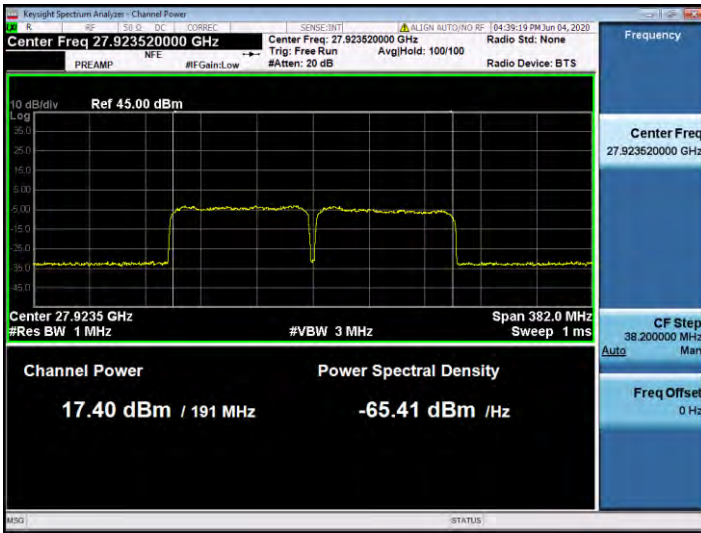


100 MHz, 2CC SISO



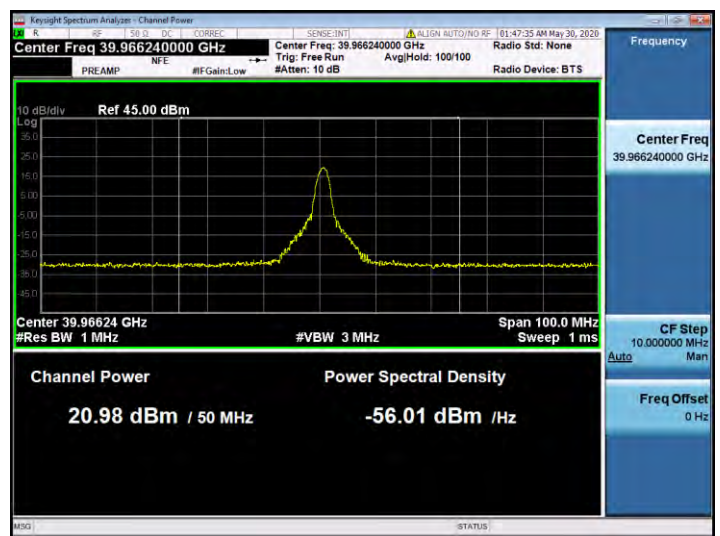
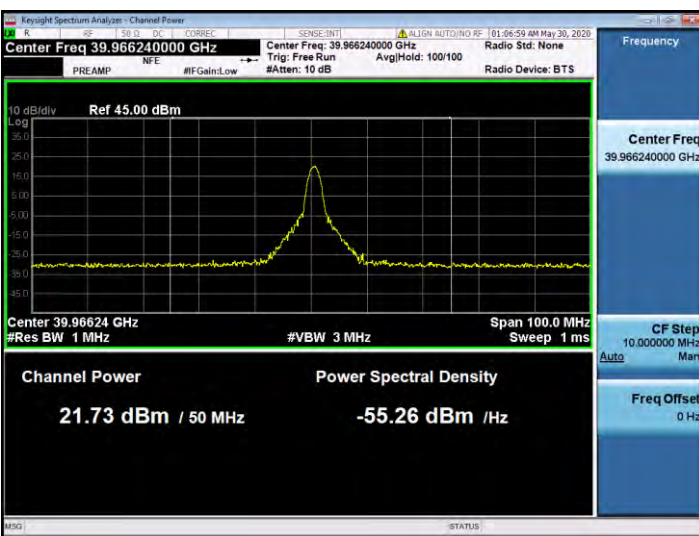
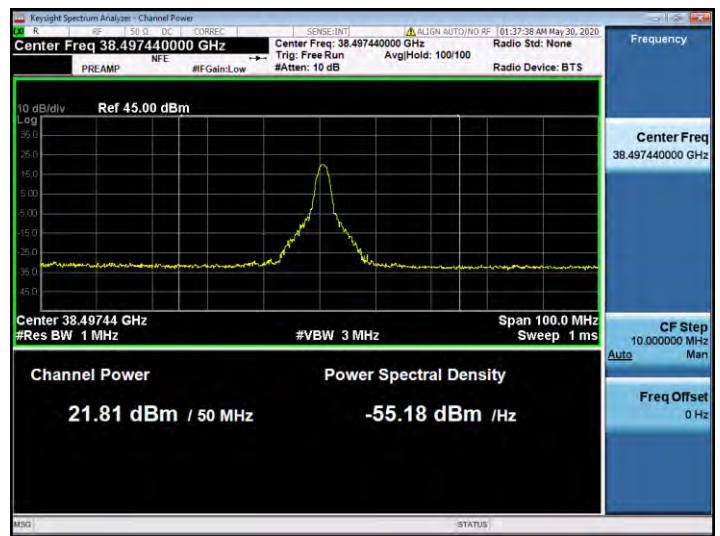
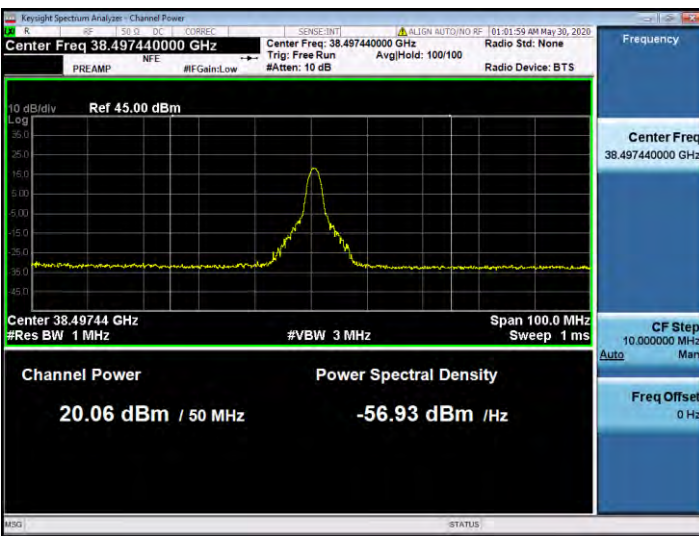
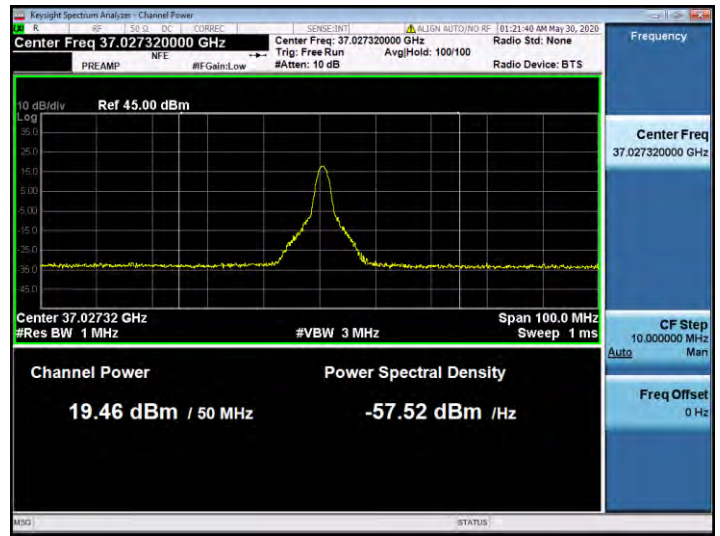
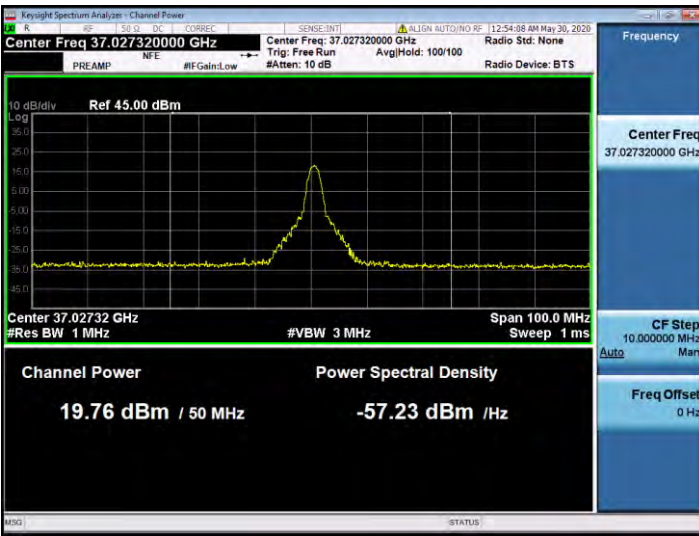
**100 MHz, 2CC MIMO**



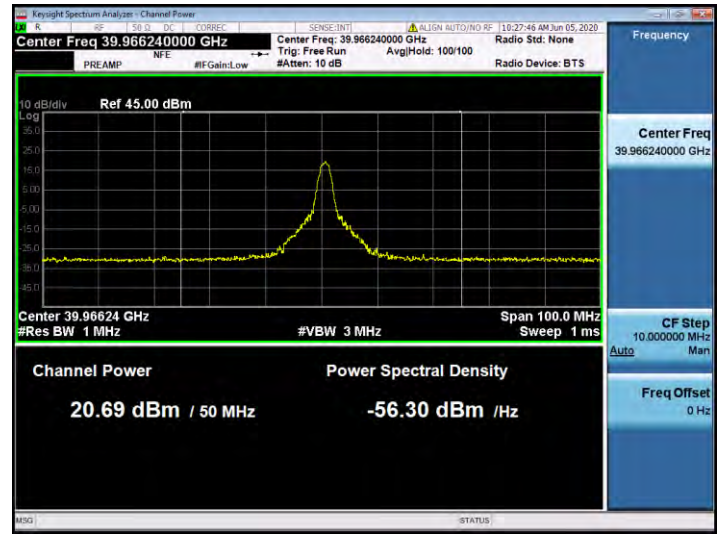
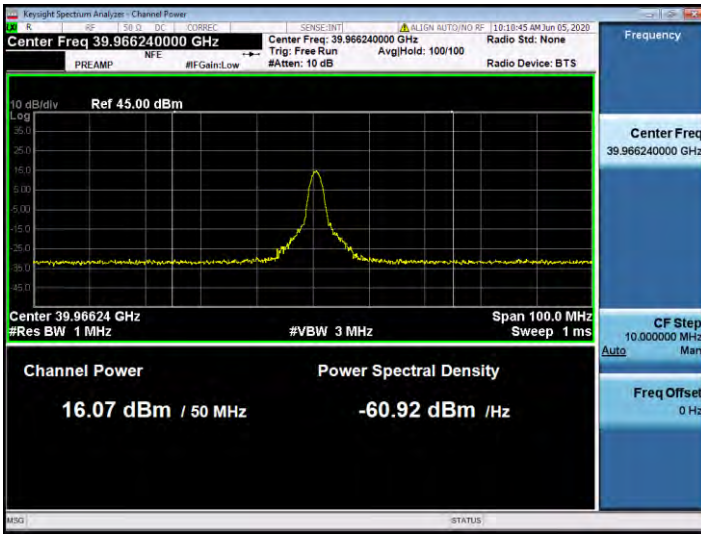
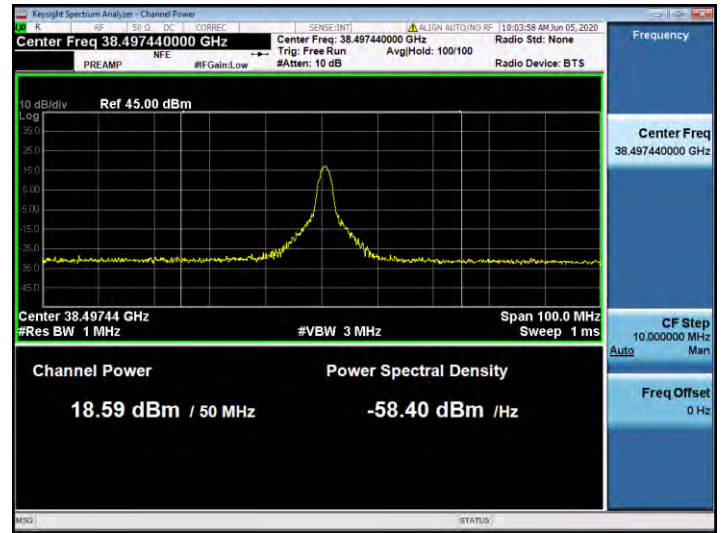
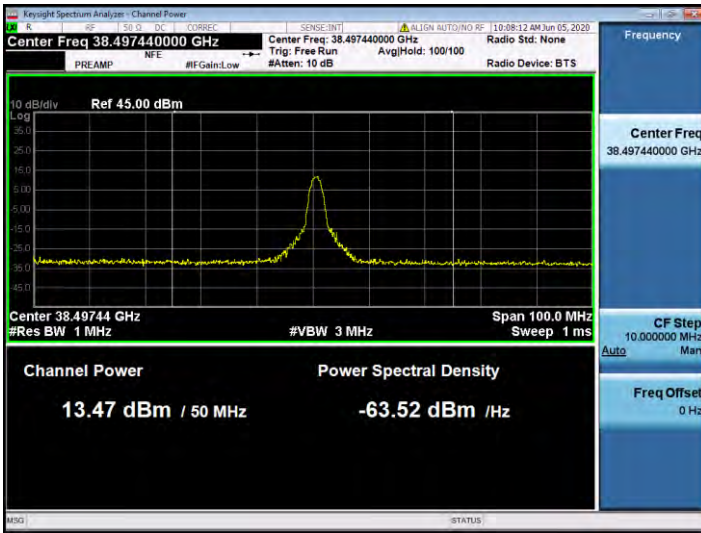
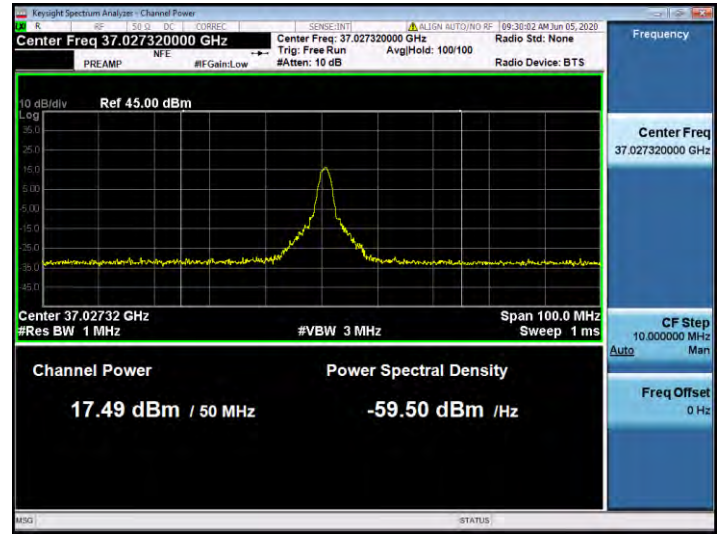
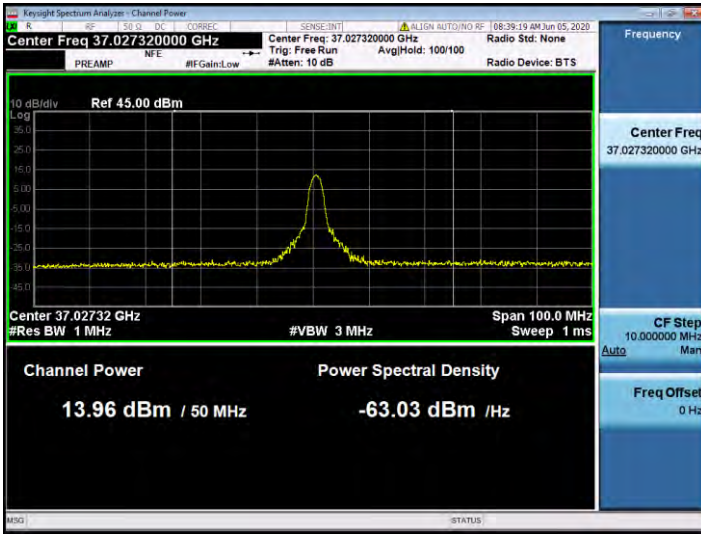


3. Antenna 0(L patch), n260

50 MHz, 1CC SISO

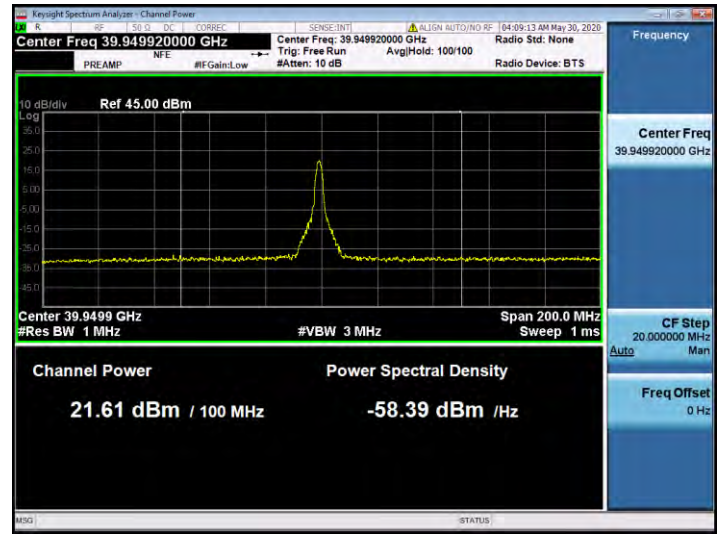
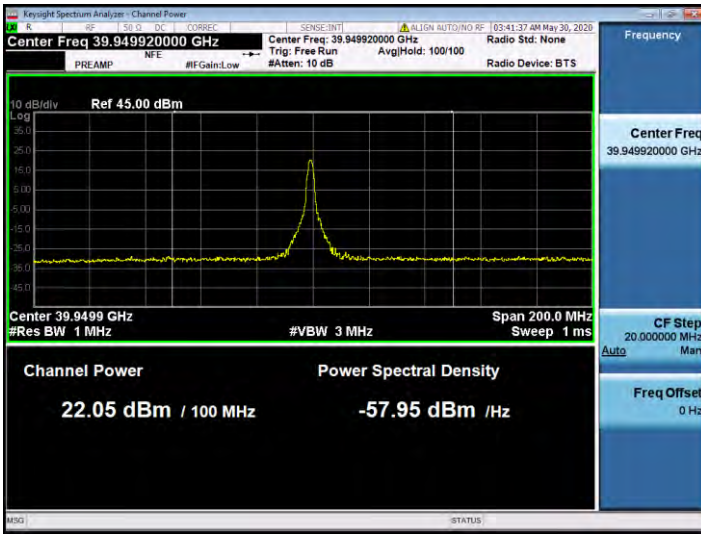
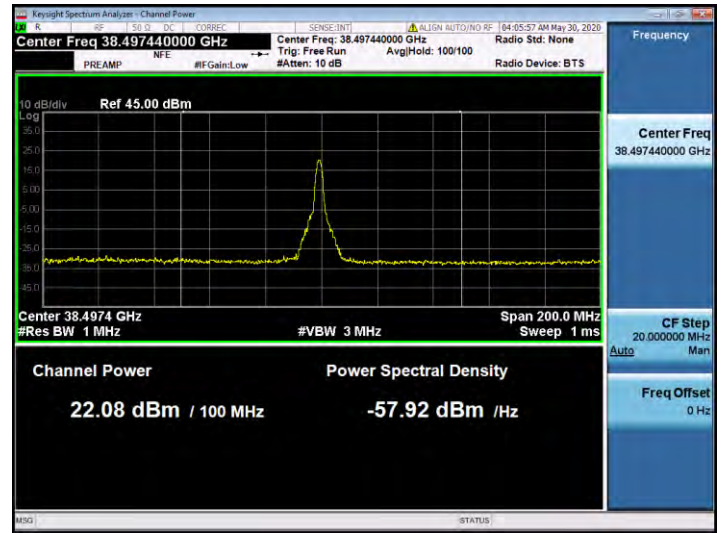
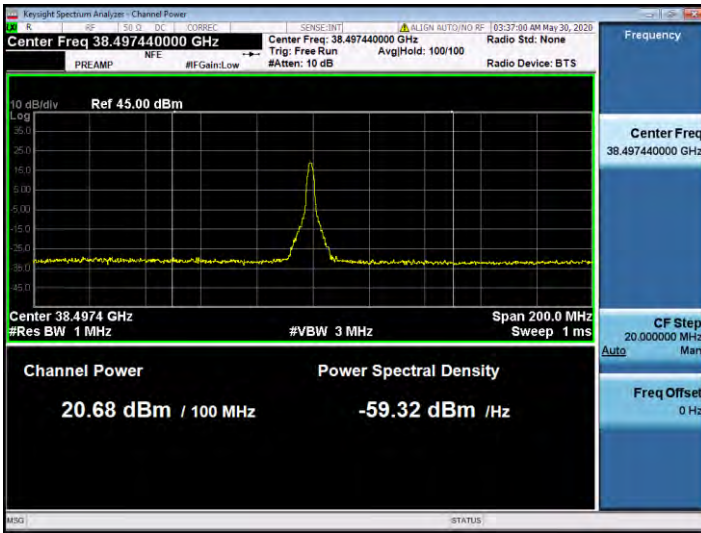
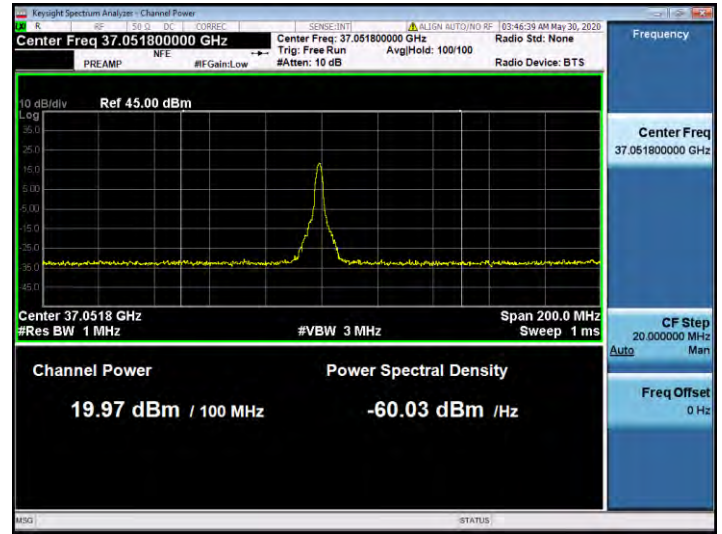
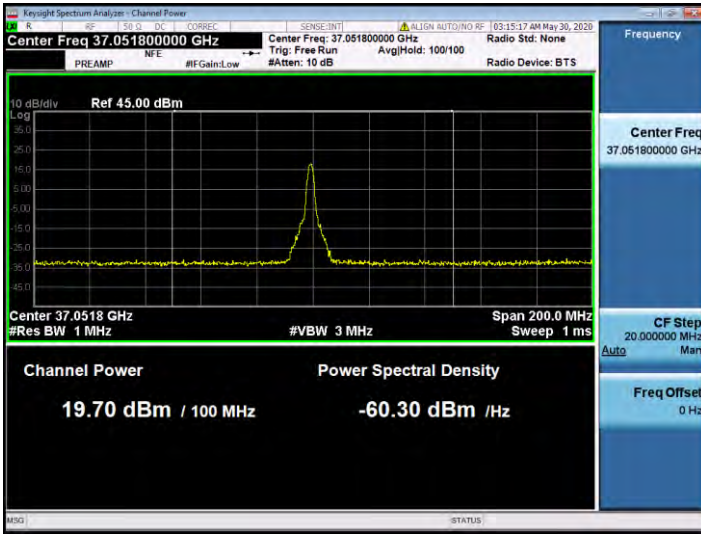


**50 MHz, 1CC MIMO**

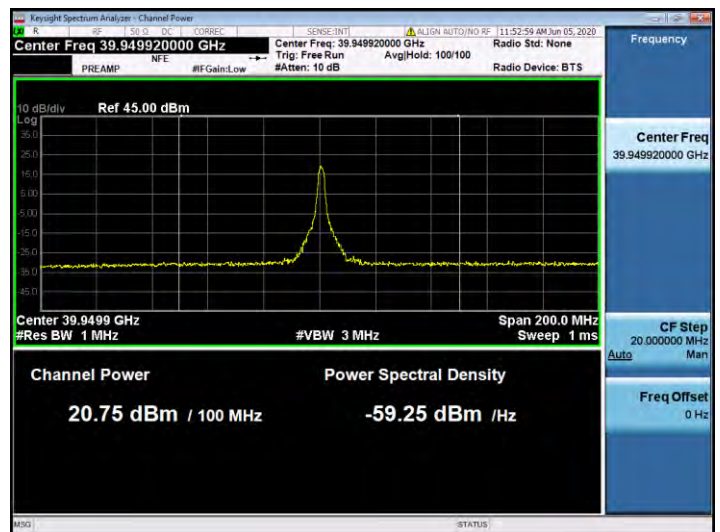
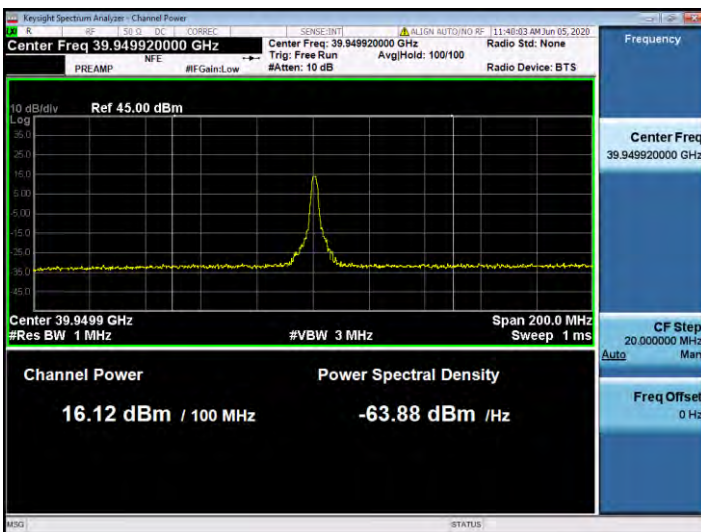
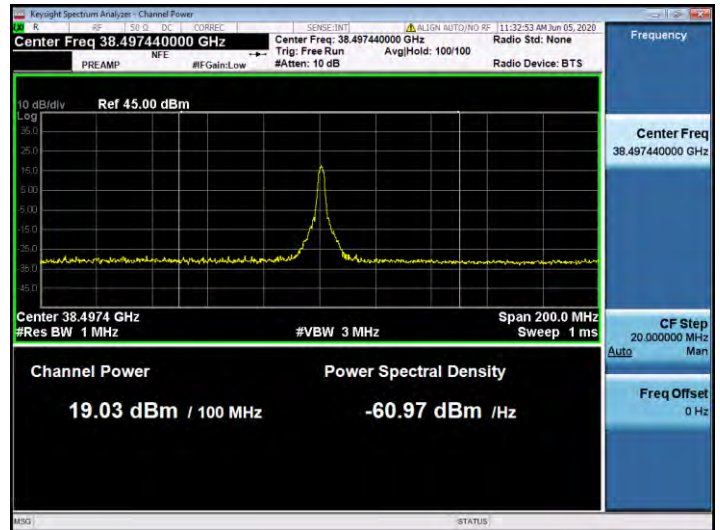
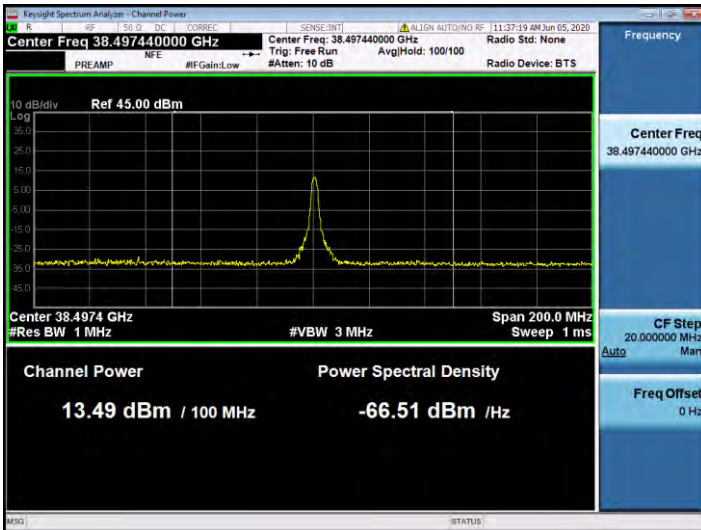
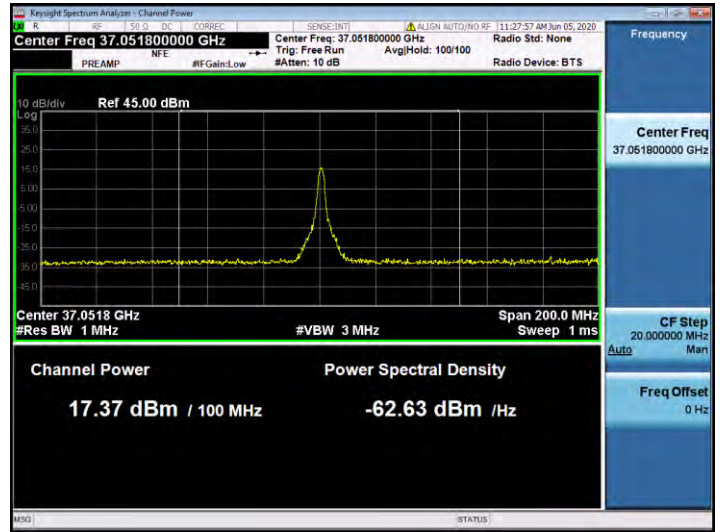
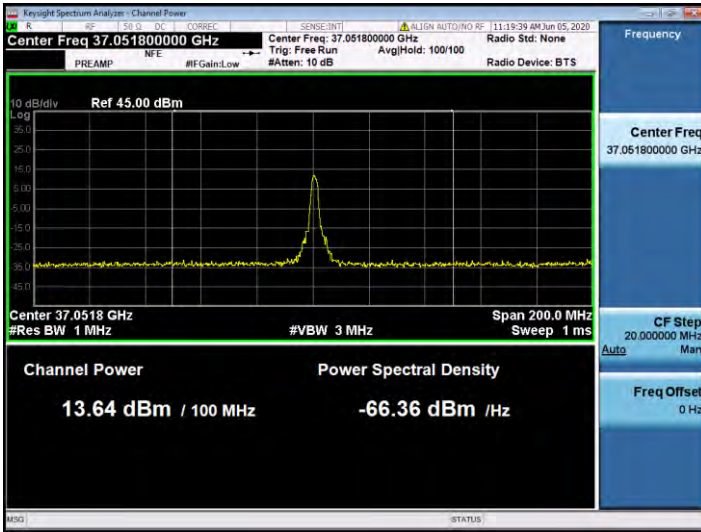




100 MHz, 1CC SISO

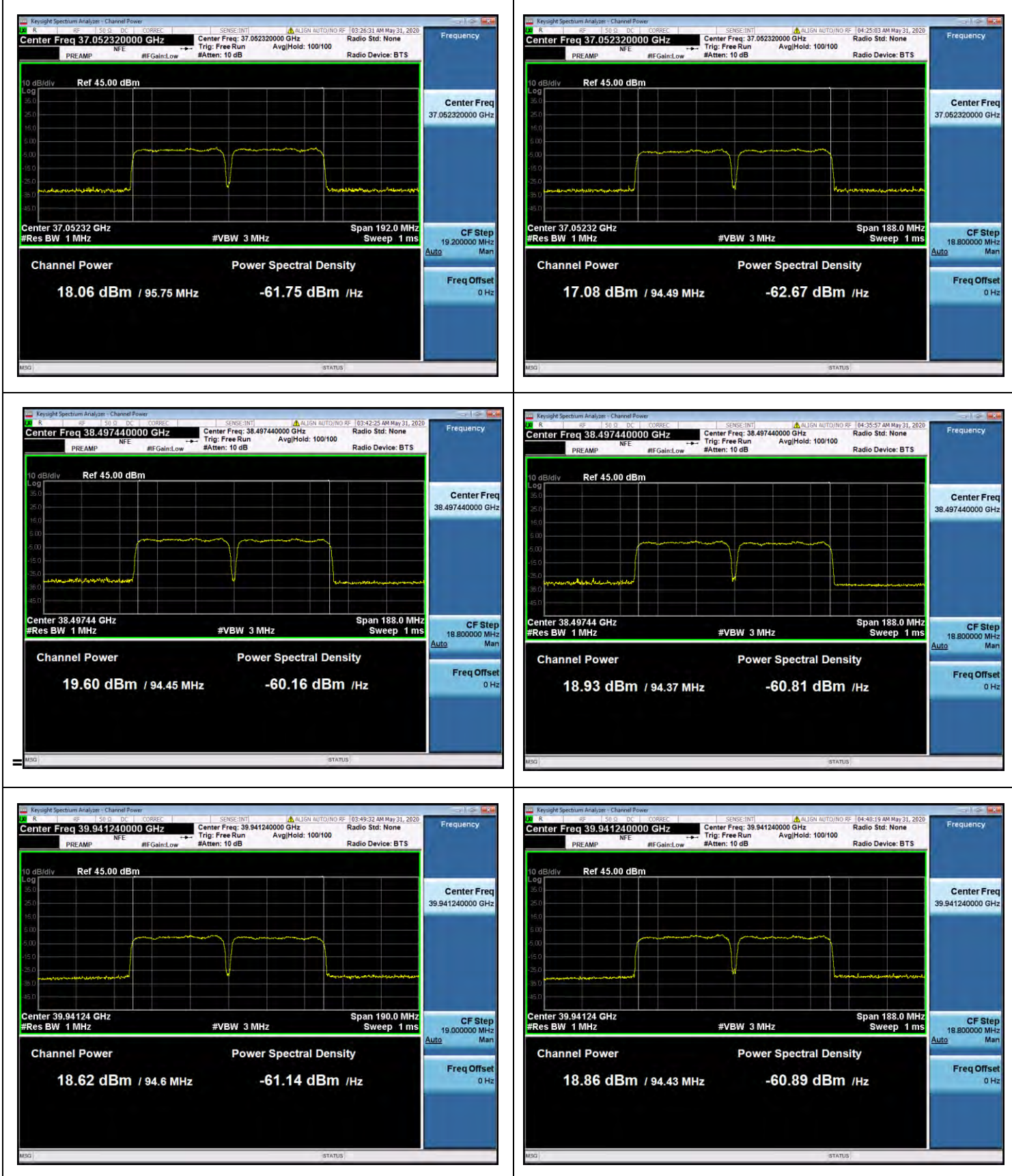


**100 MHz, 1CC MIMO**

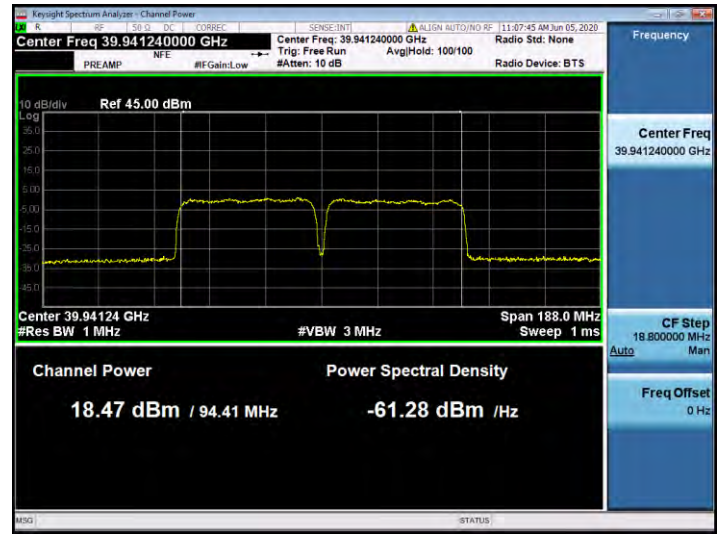
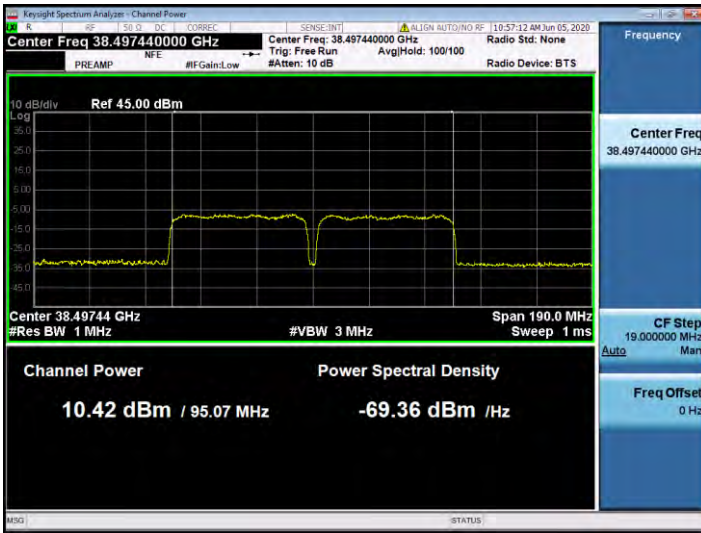
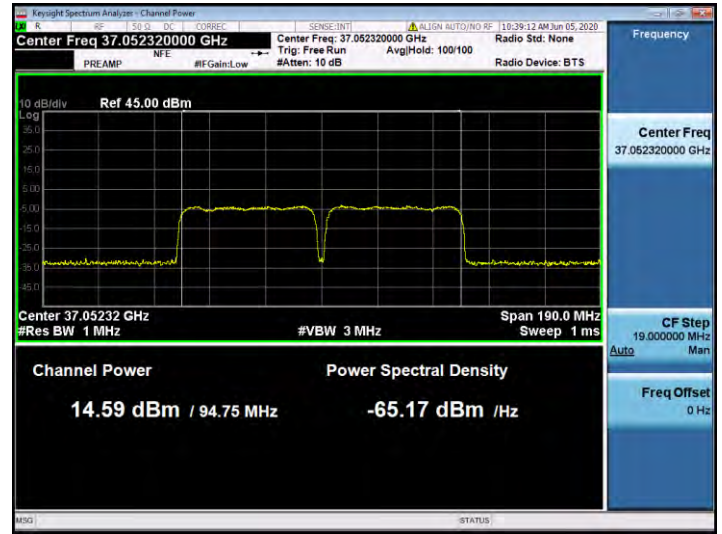
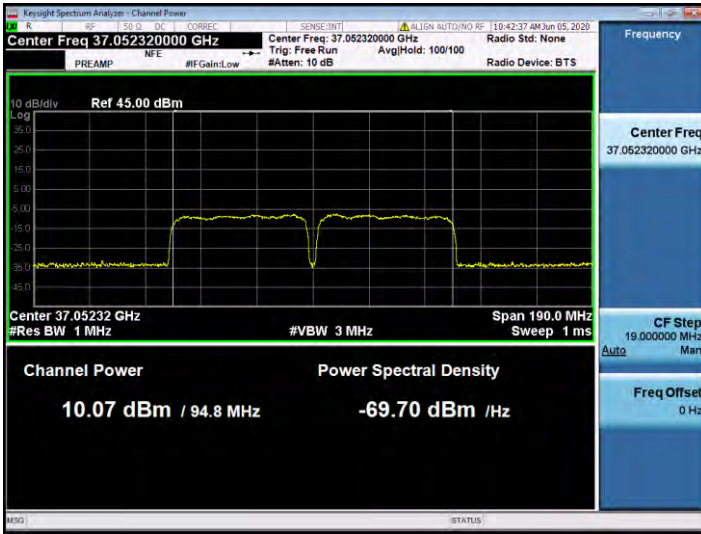




**50 MHz, 2CC SISO**

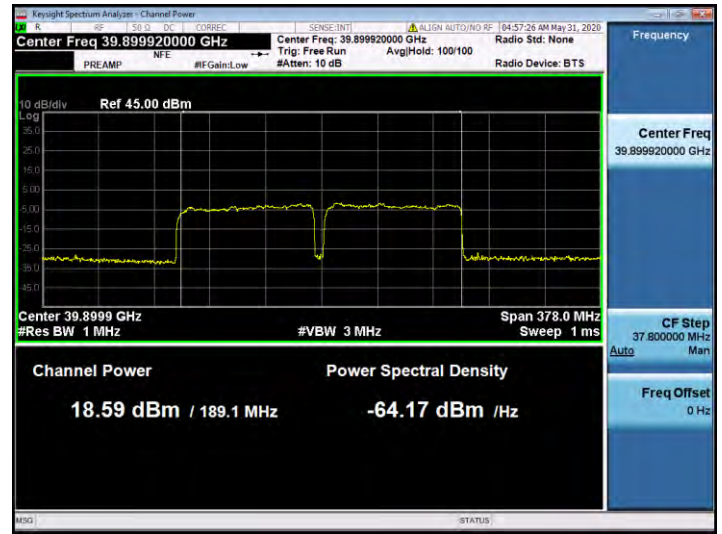
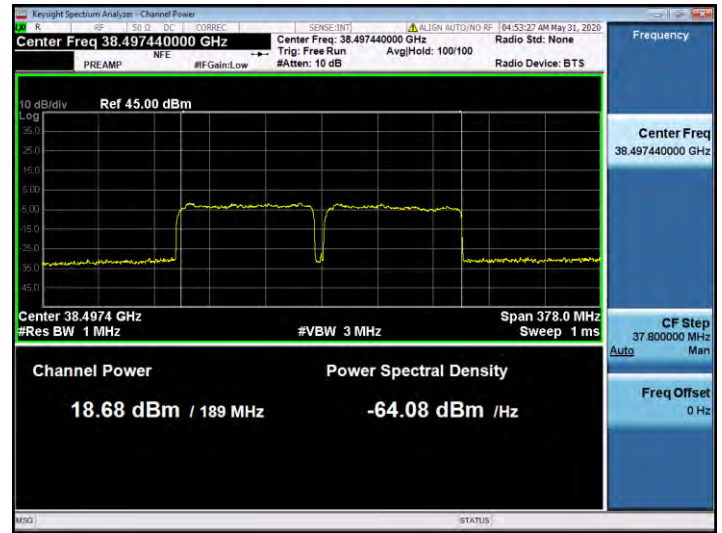
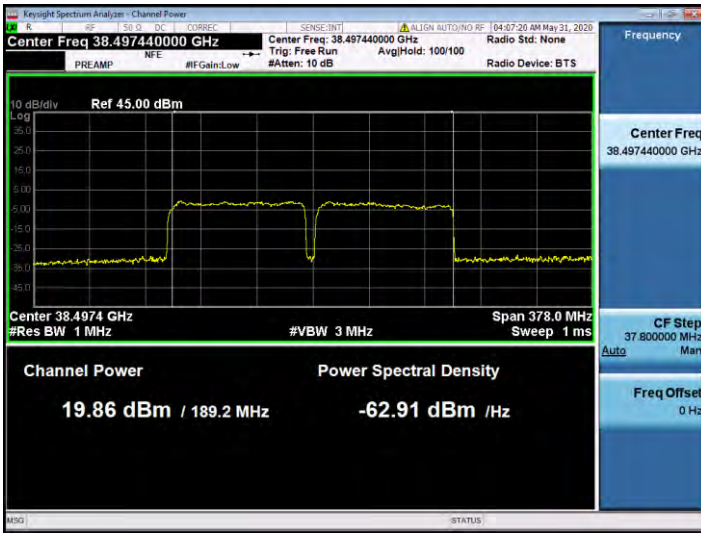
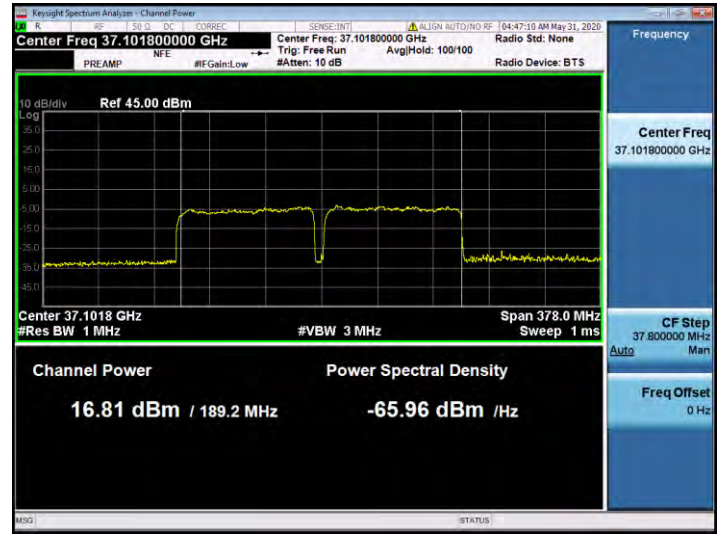
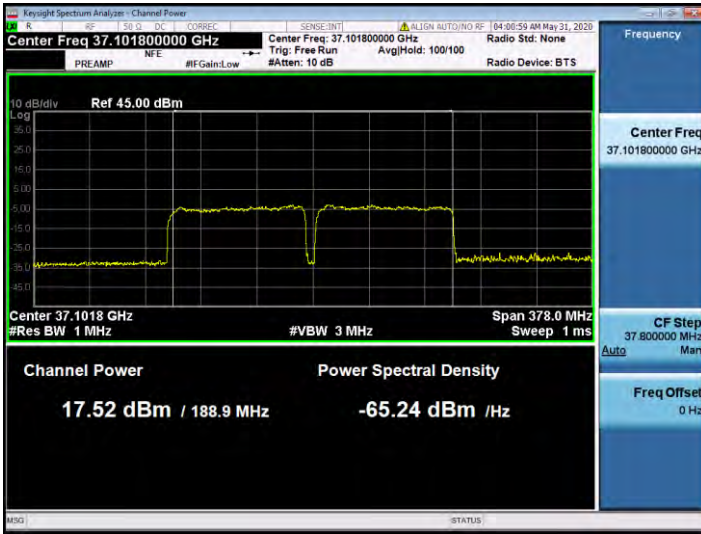


**50 MHz, 2CC MIMO**

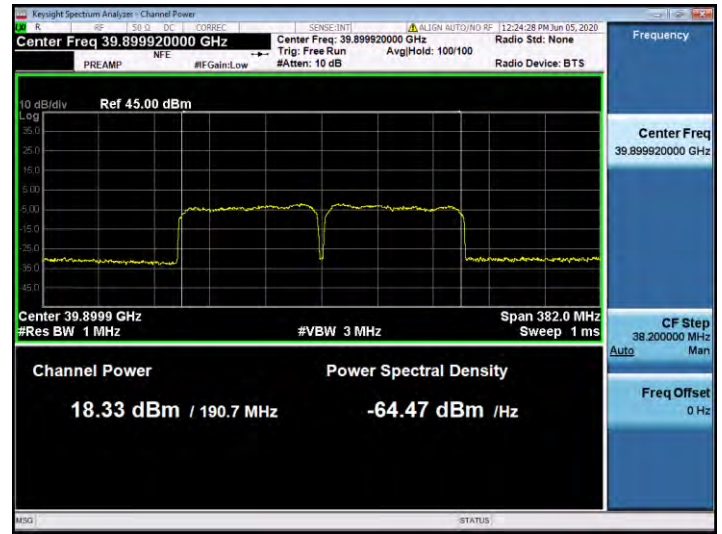
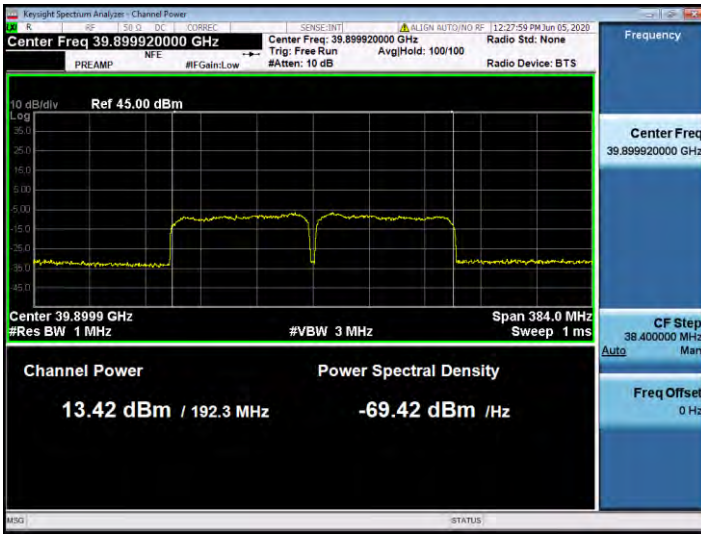
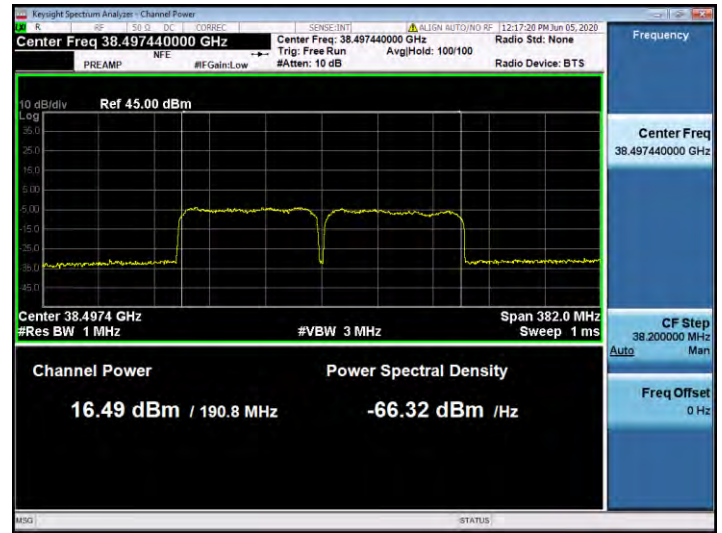
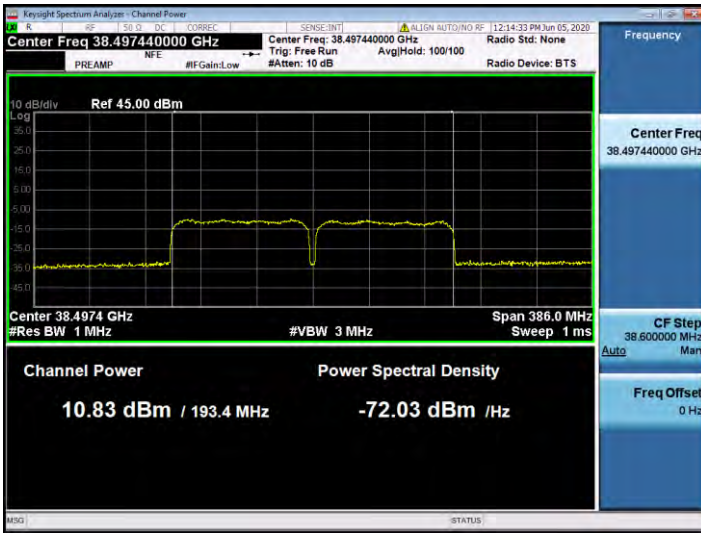
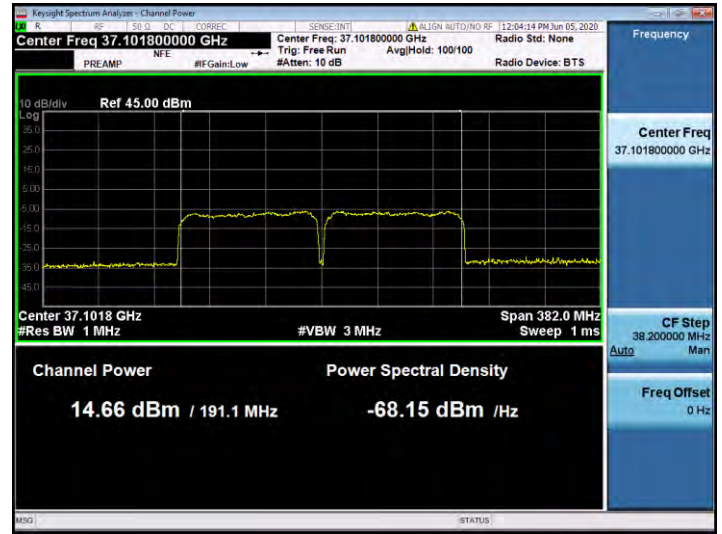
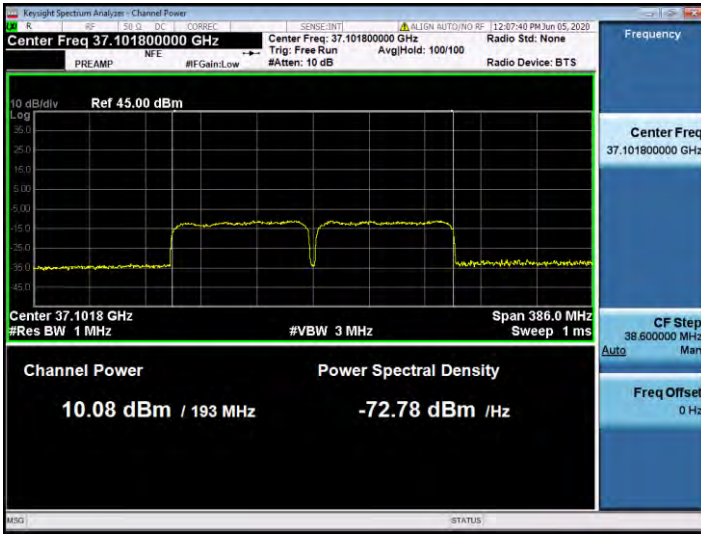




100 MHz, 2CC SISO



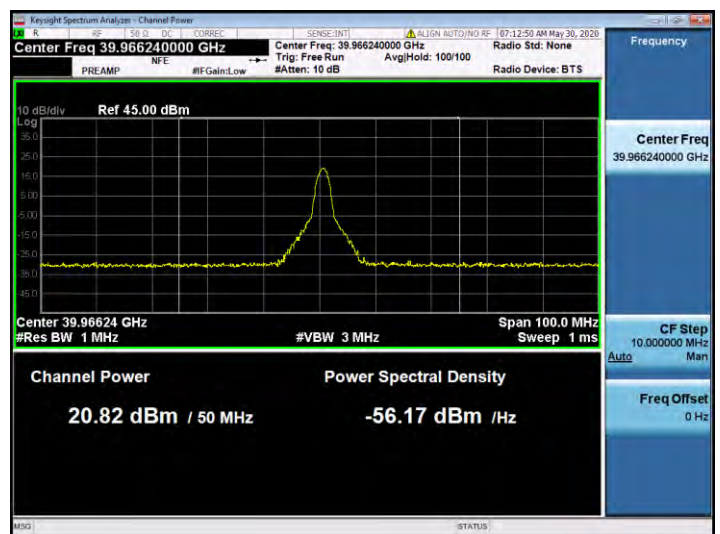
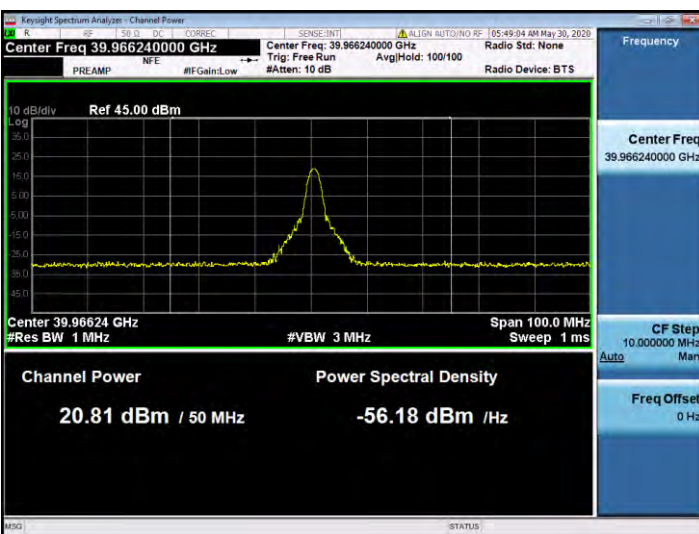
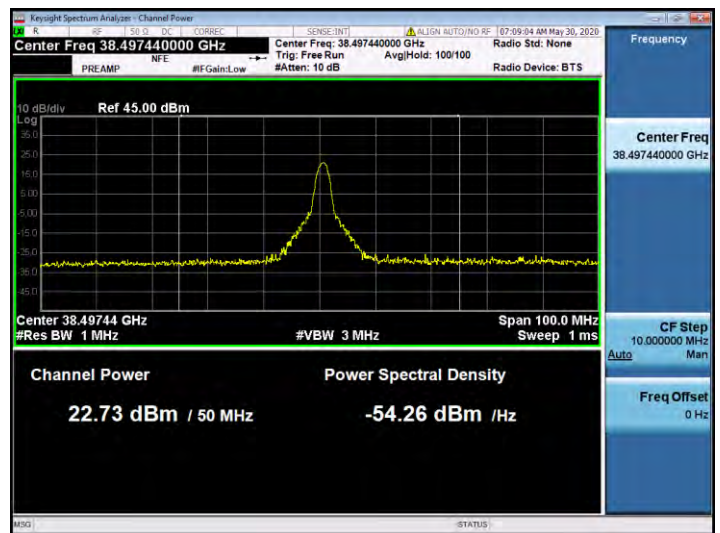
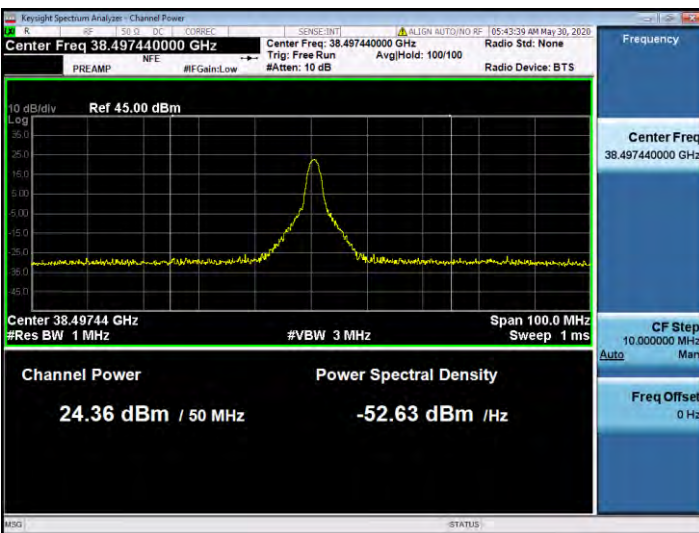
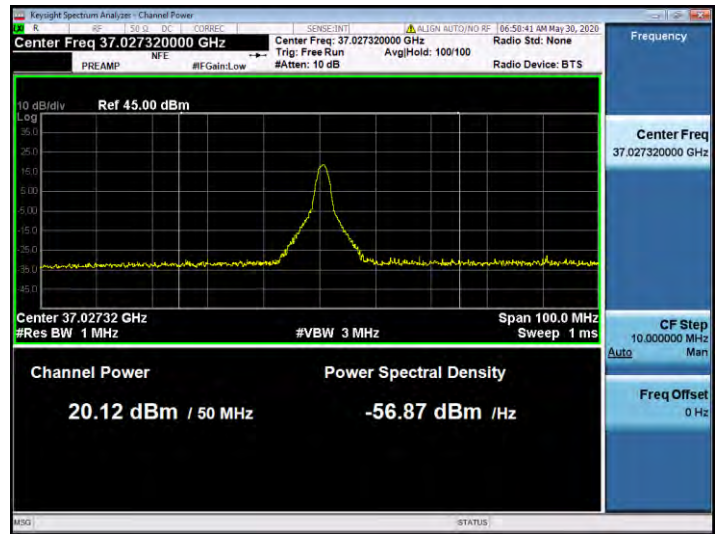
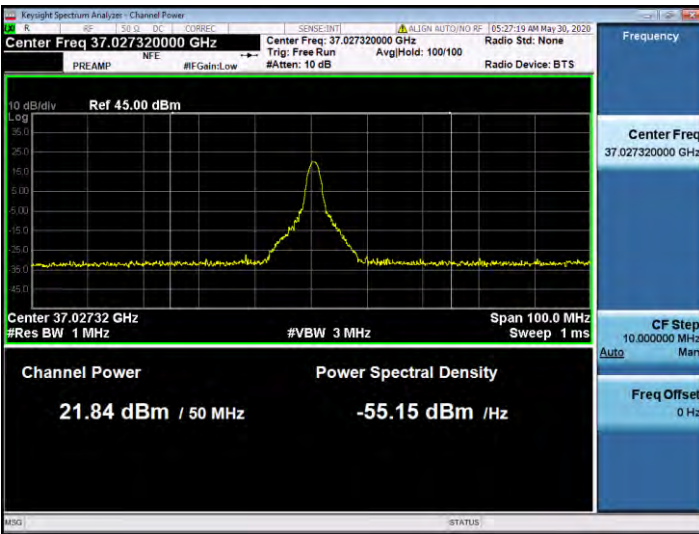
100 MHz, 2CC MIMO



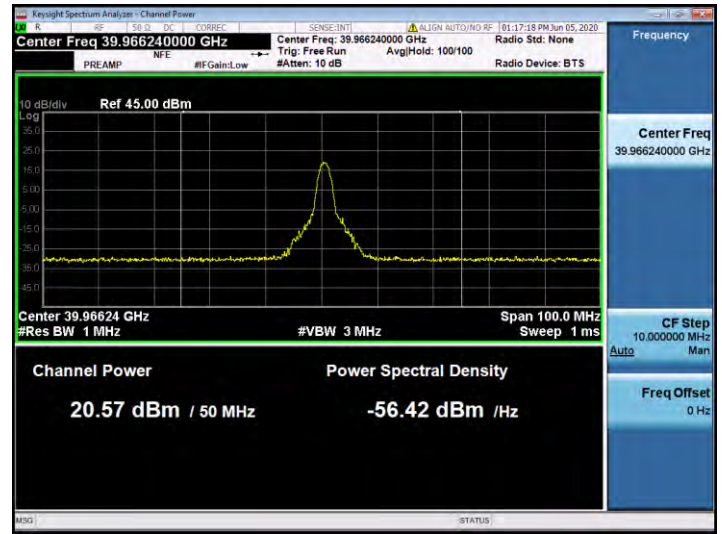
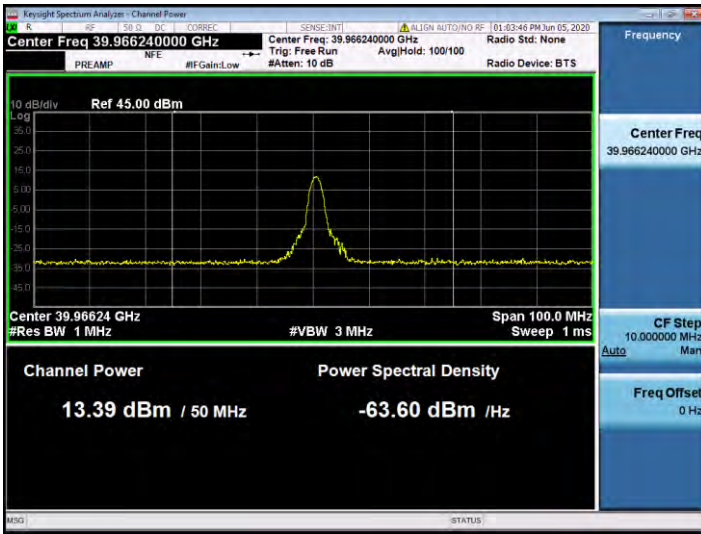
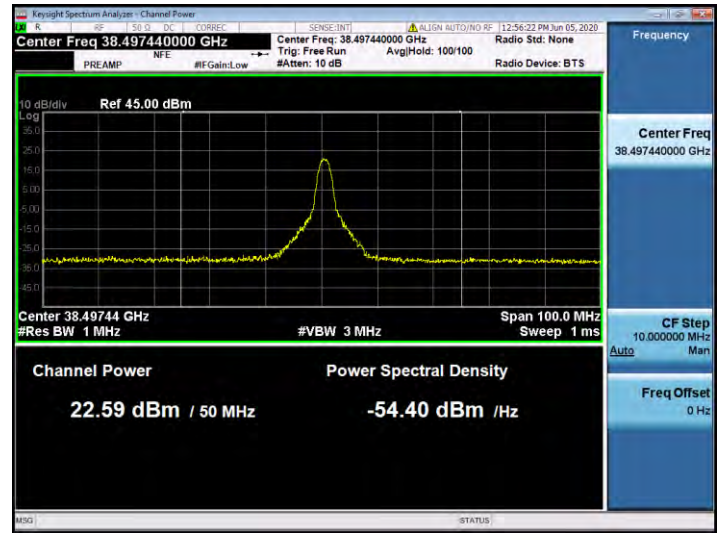
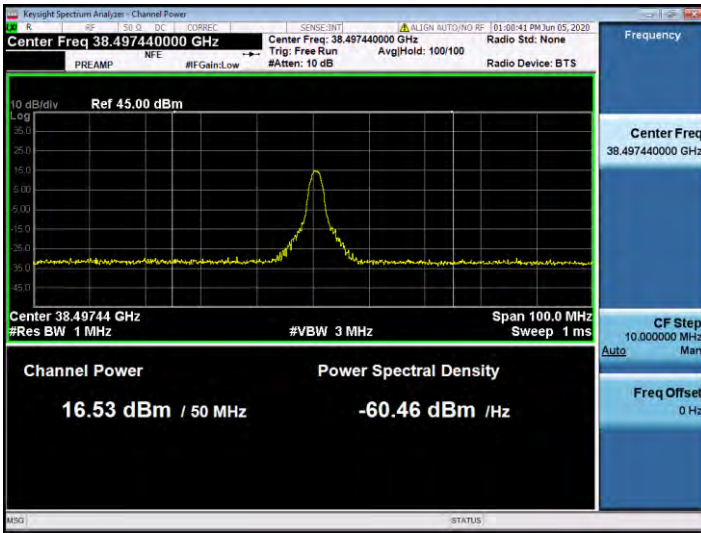
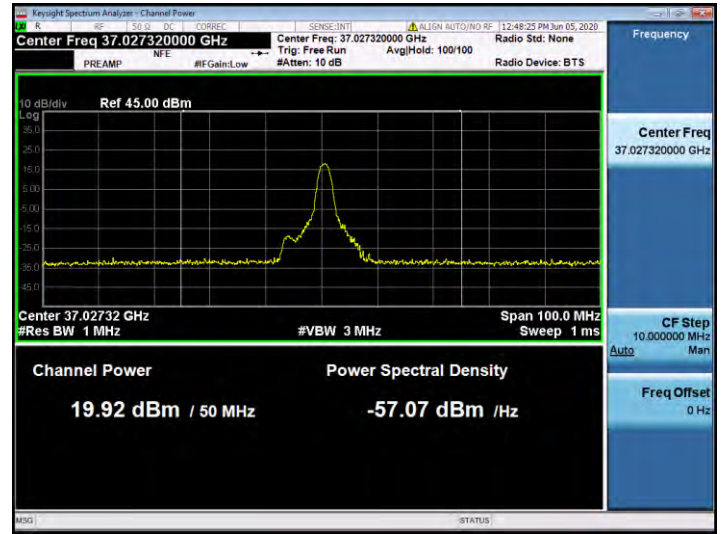
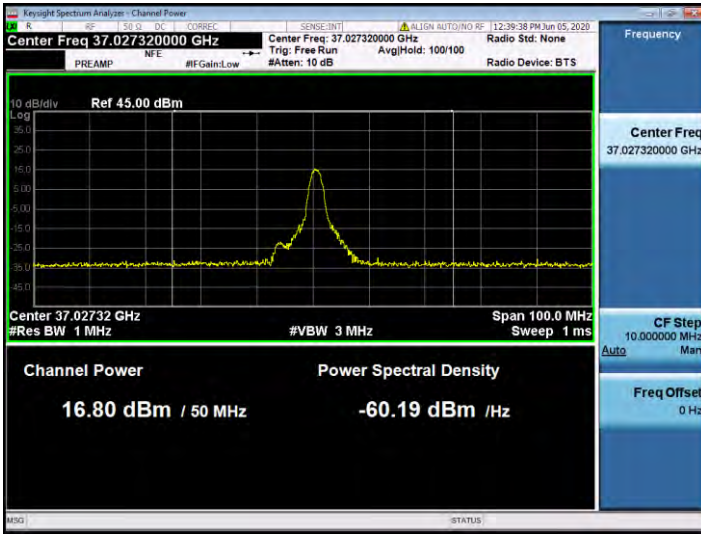


4. Antenna 1(K patch), n260

50 MHz, 1CC SISO

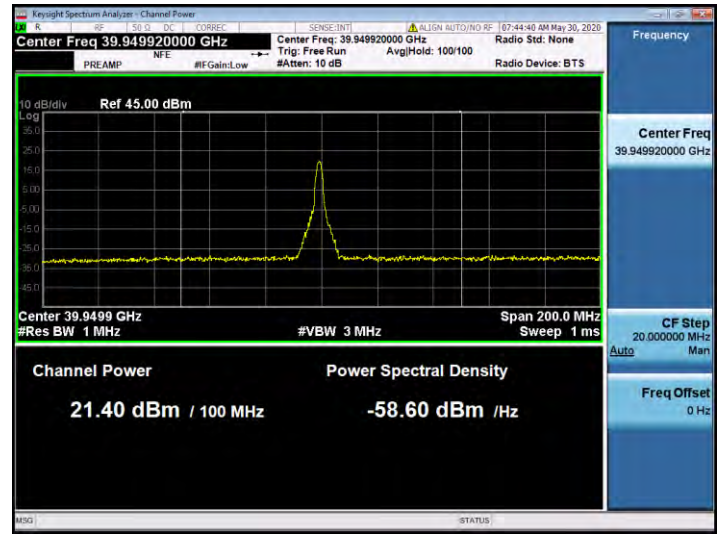
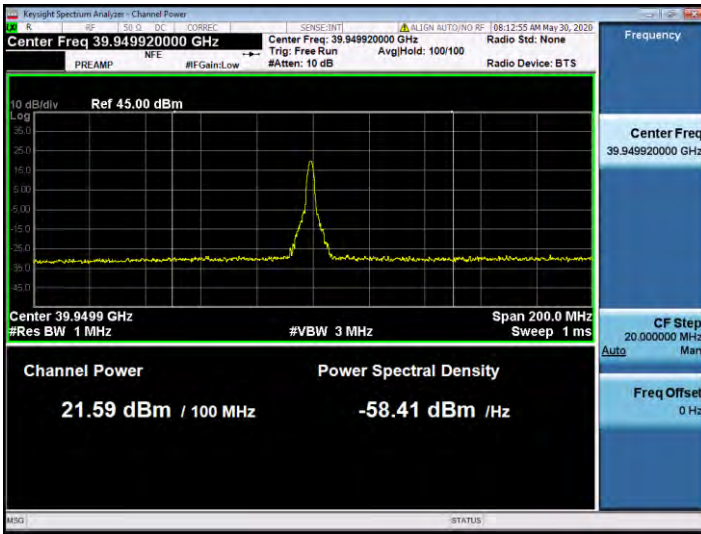
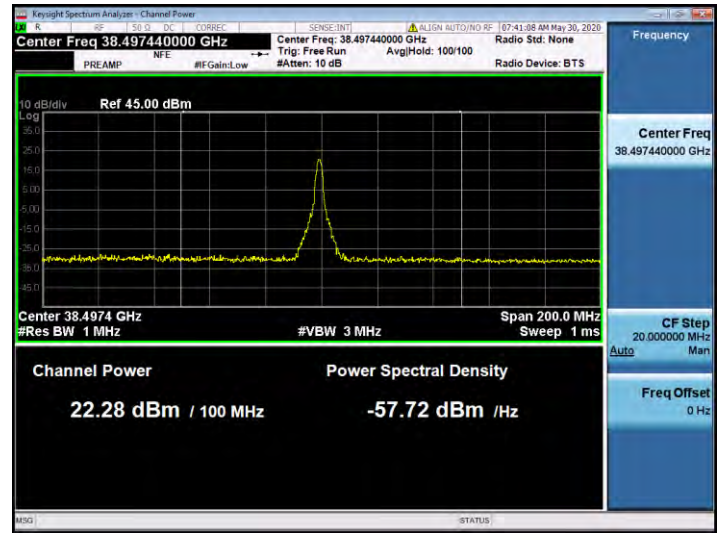
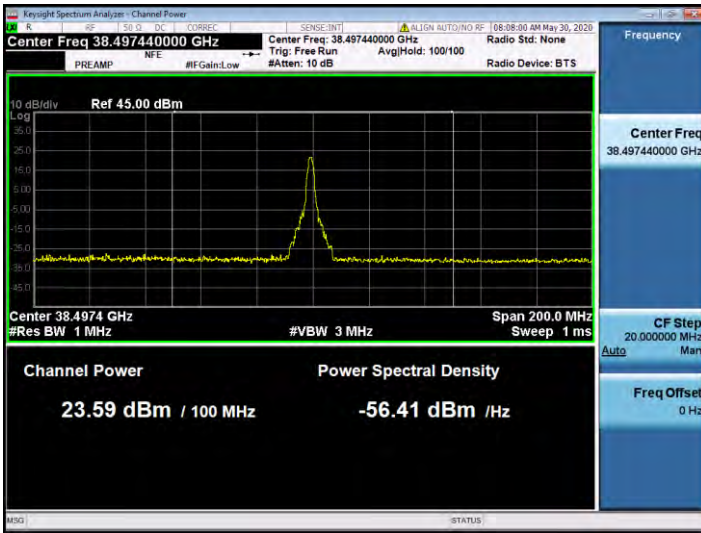
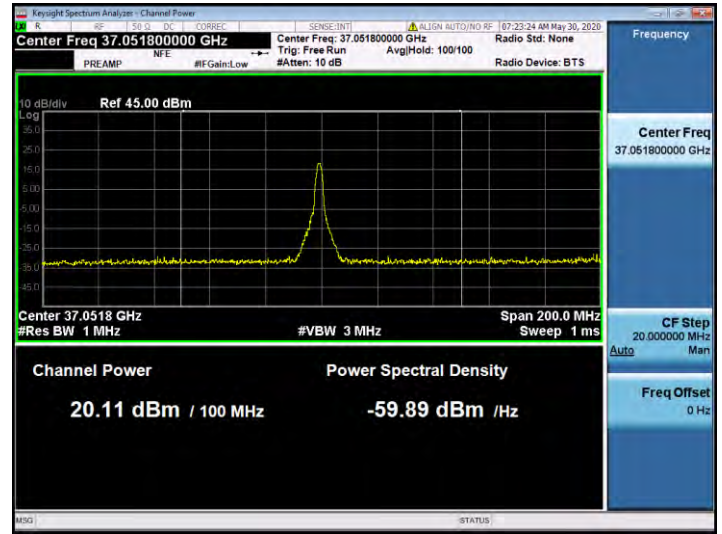
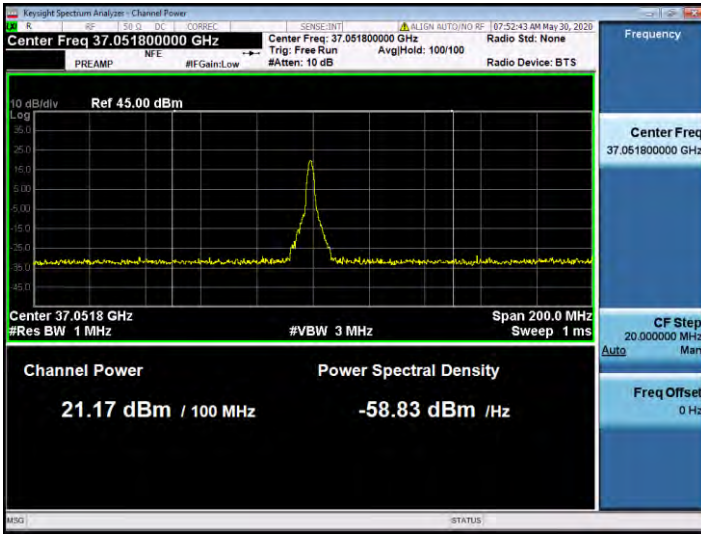


**50 MHz, 1CC MIMO**

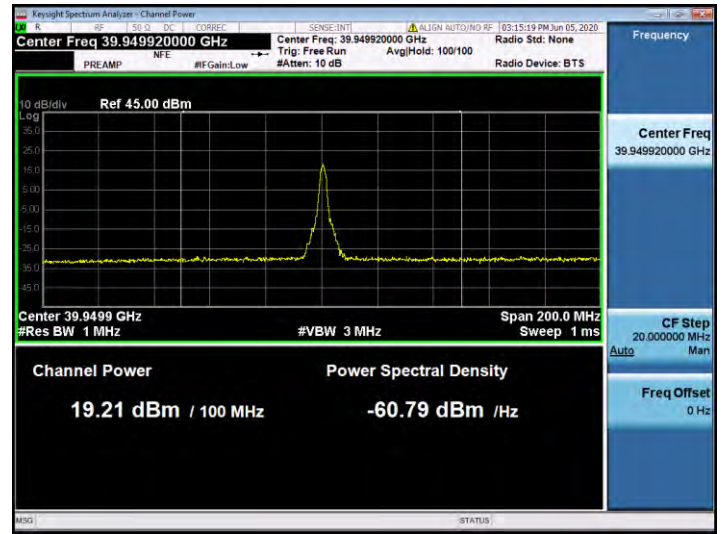
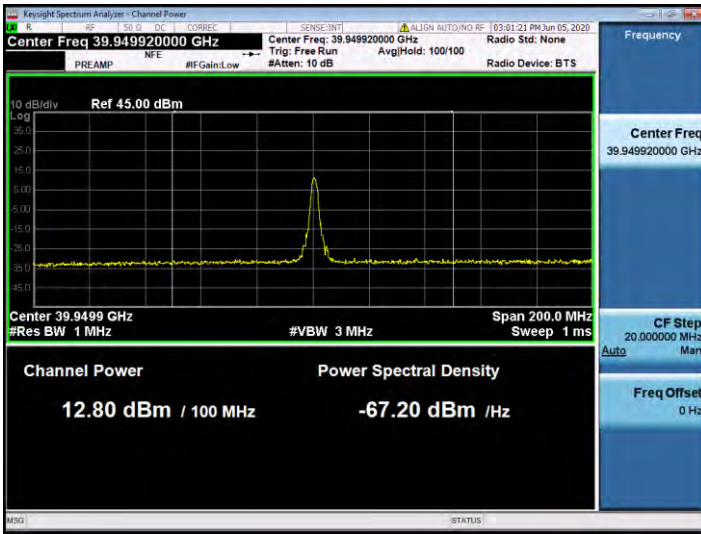
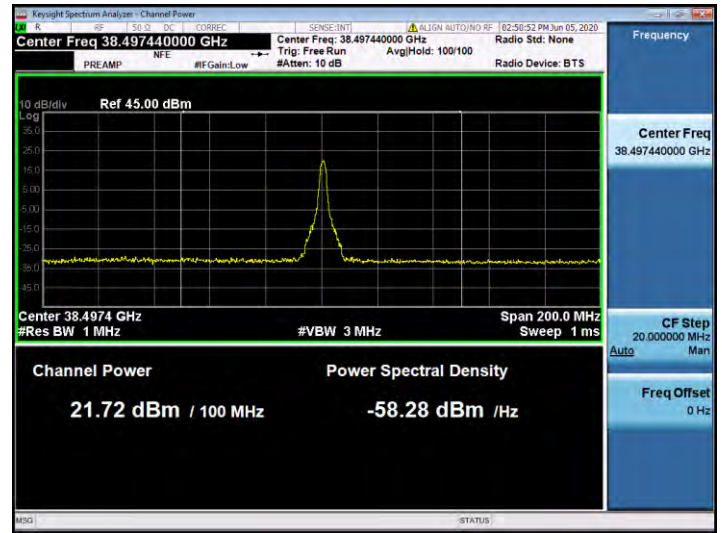
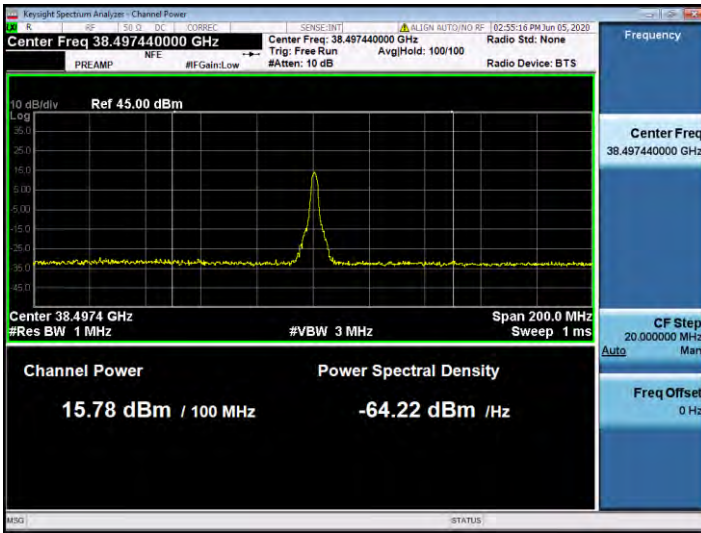
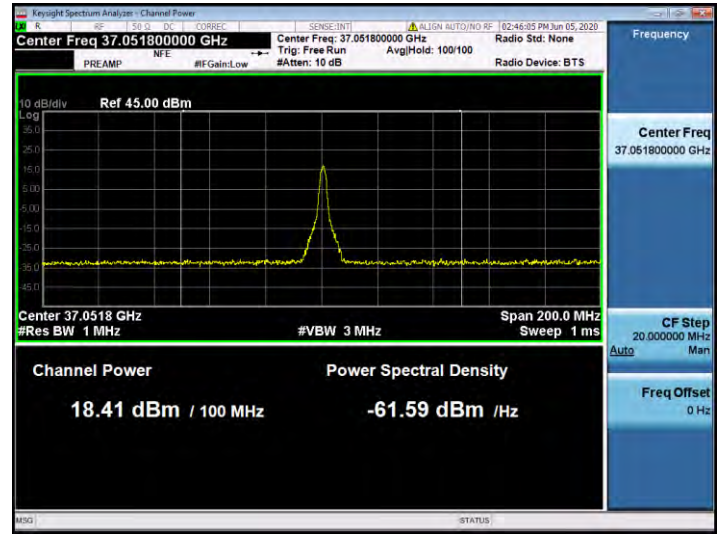
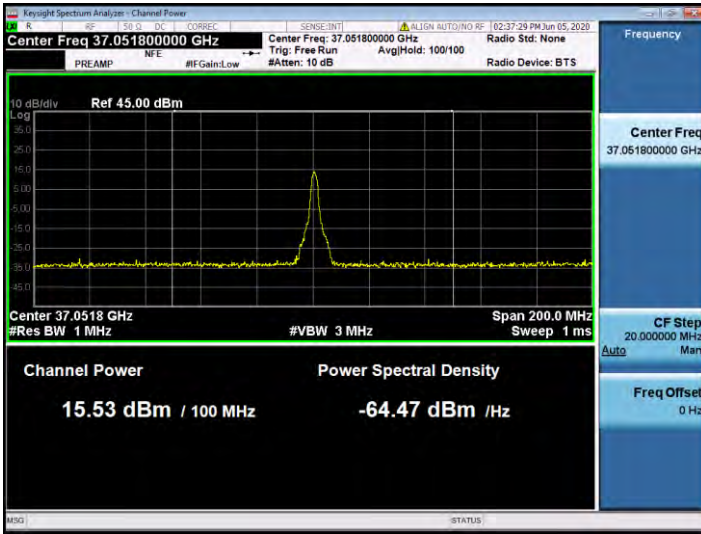




100 MHz, 1CC SISO

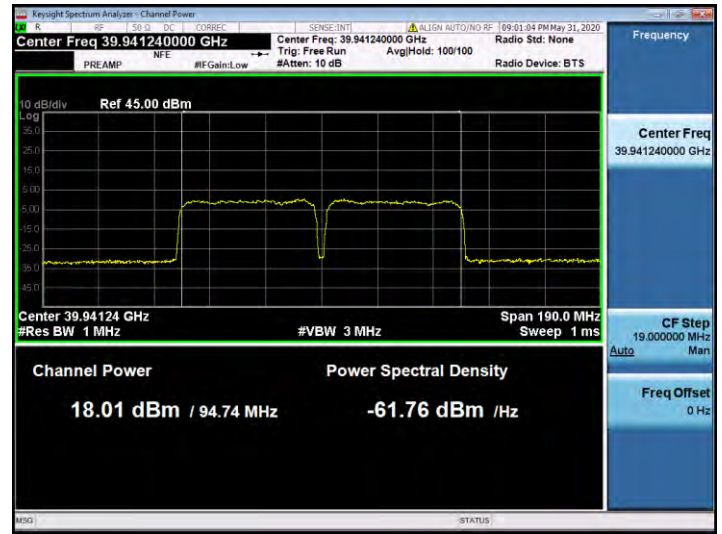
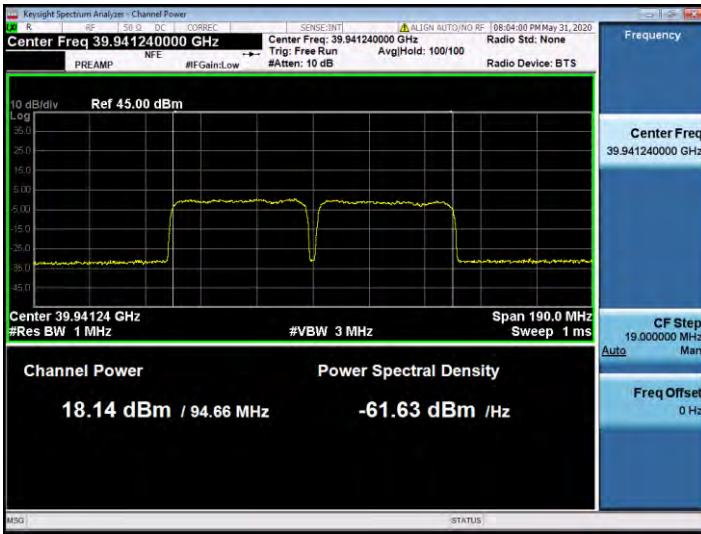
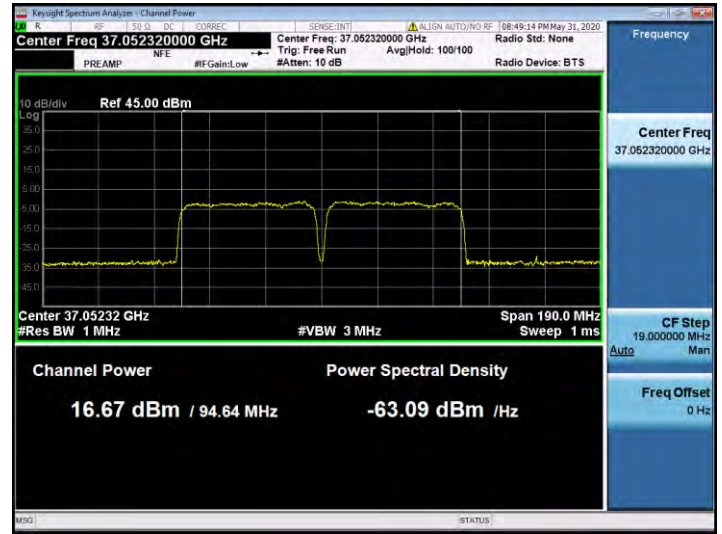
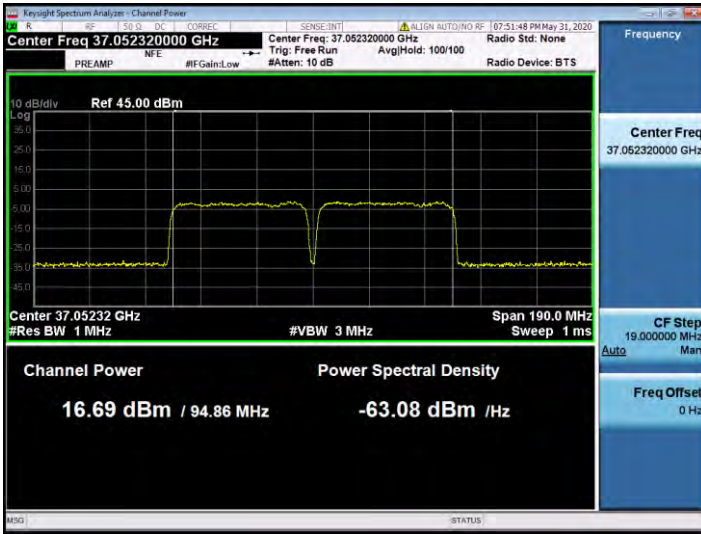


**100 MHz, 1CC MIMO**

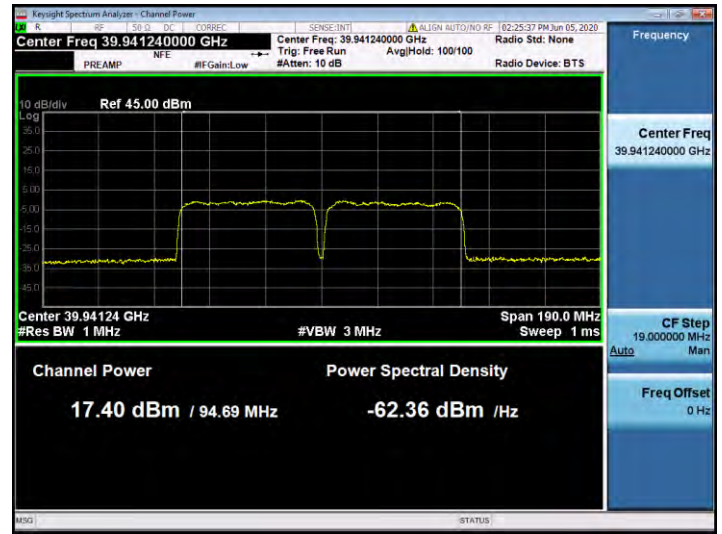
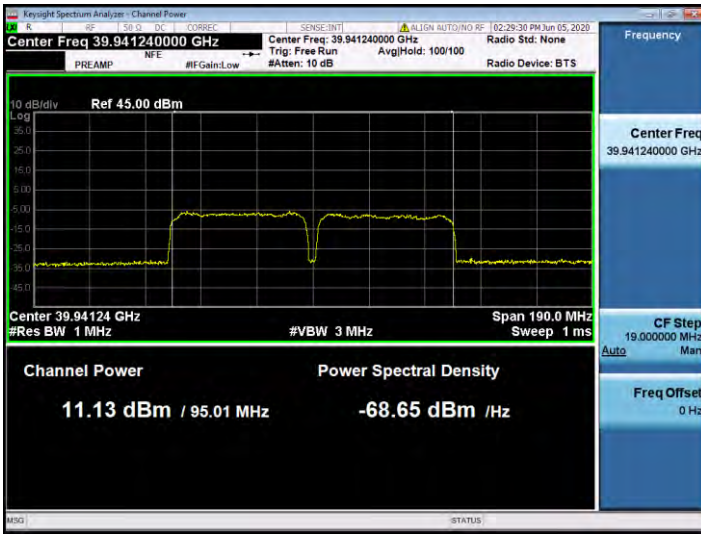
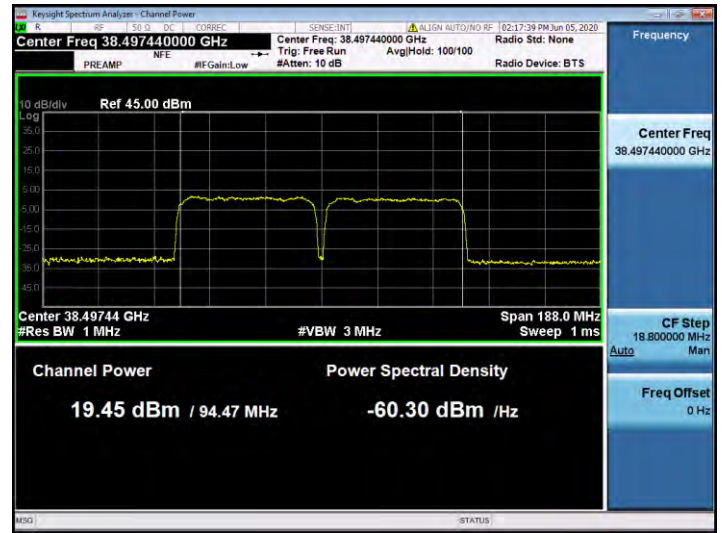
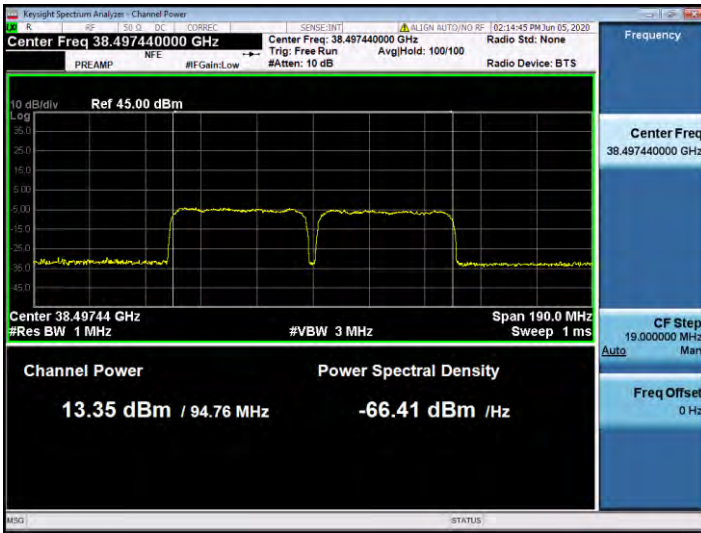
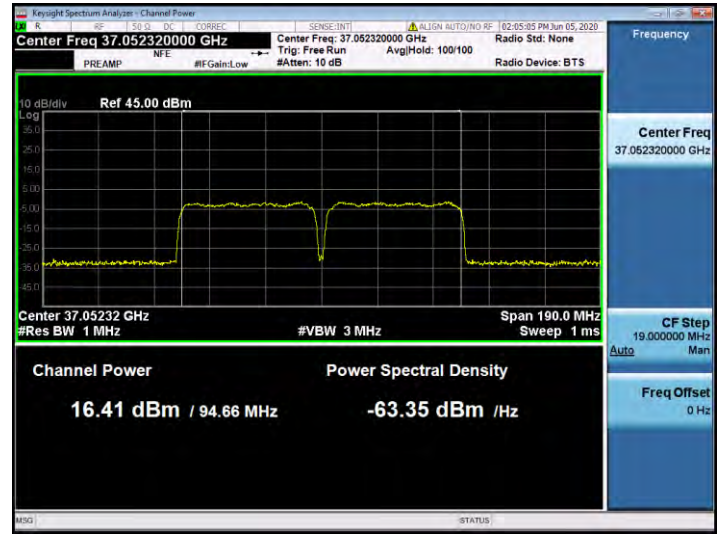
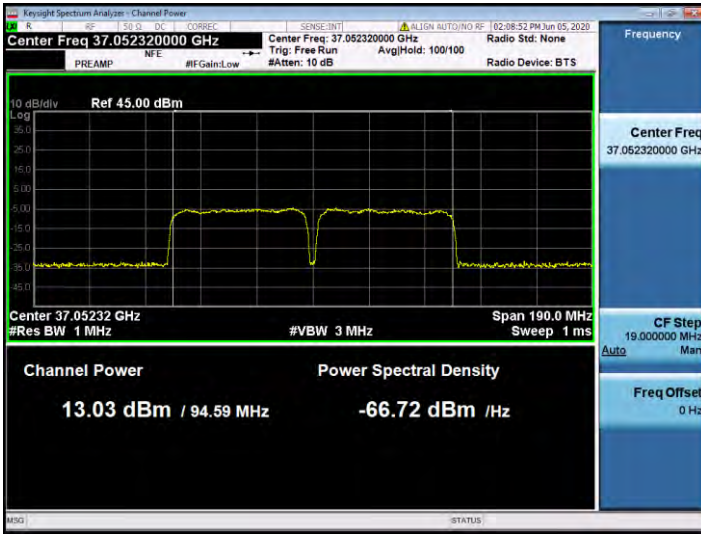




**50 MHz, 2CC SISO**

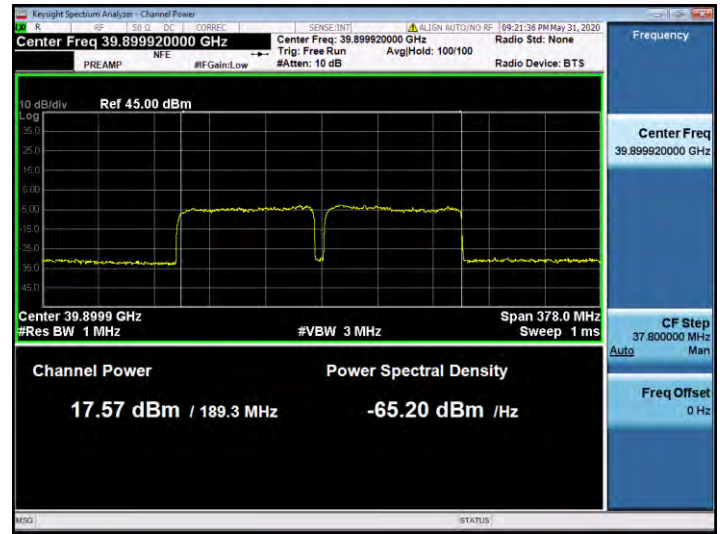
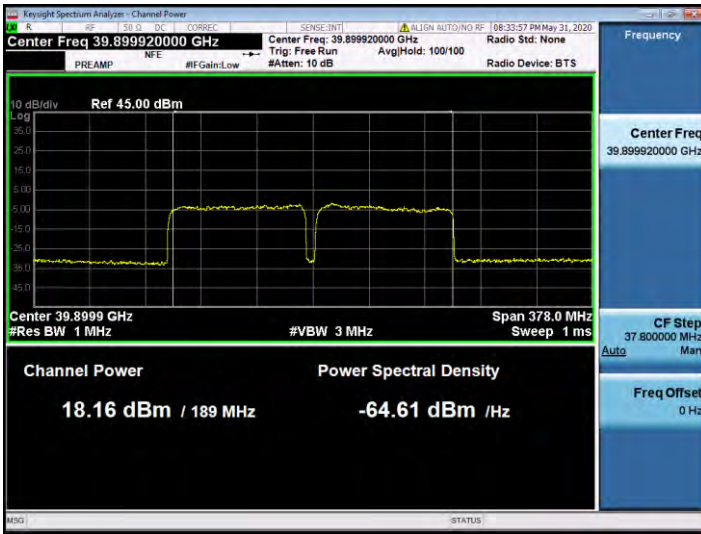
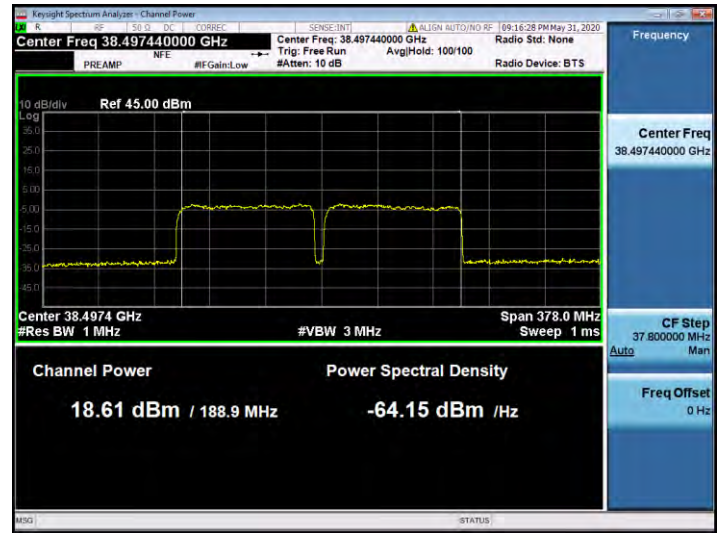
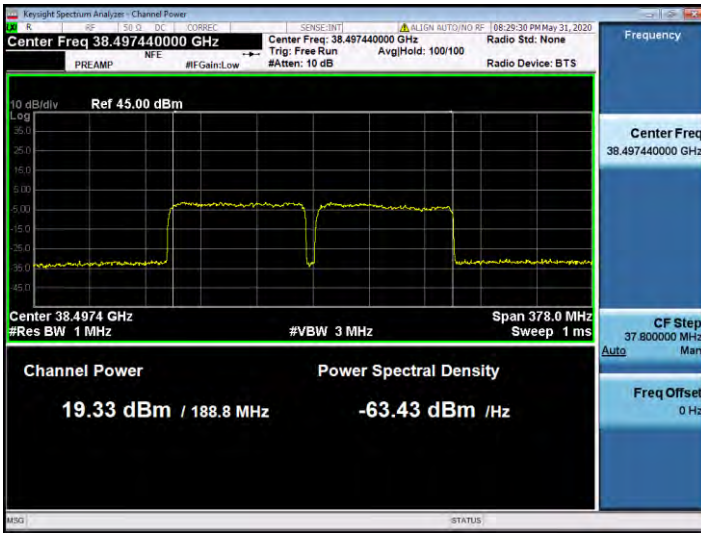
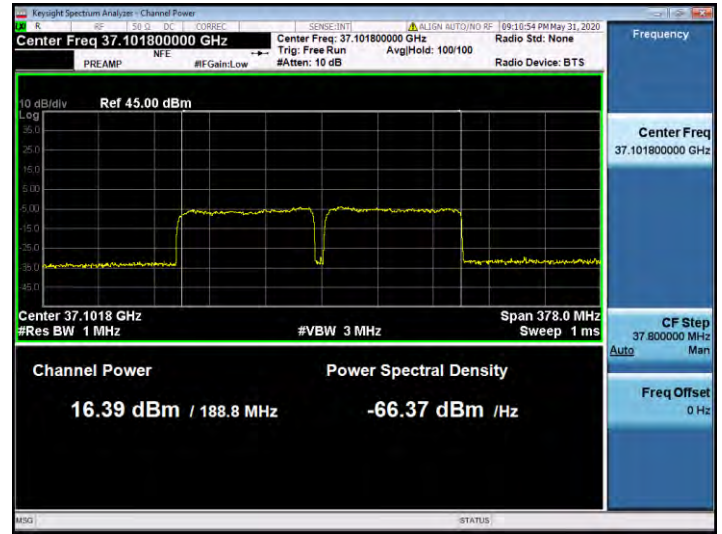
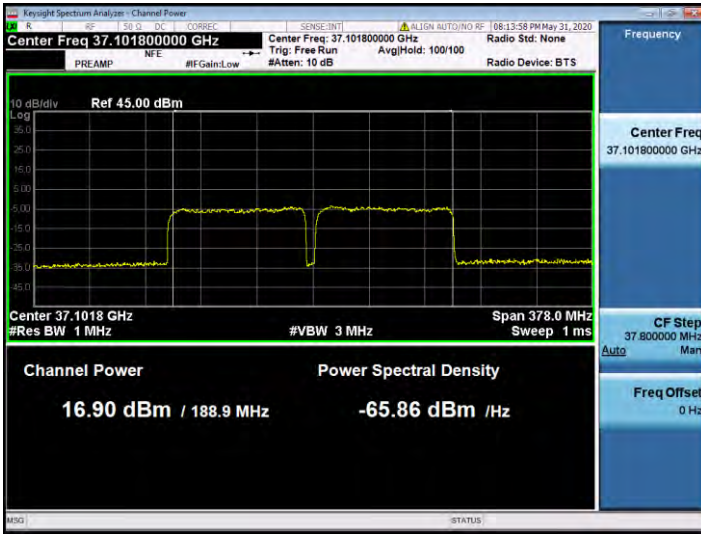


**50 MHz, 2CC MIMO**

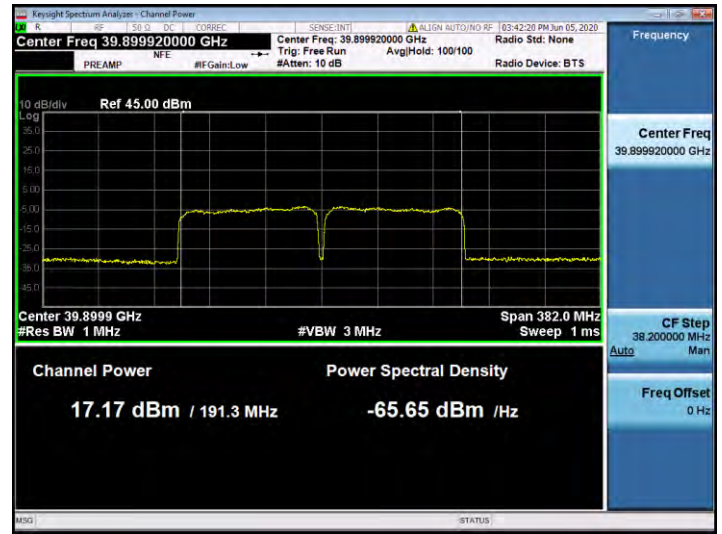
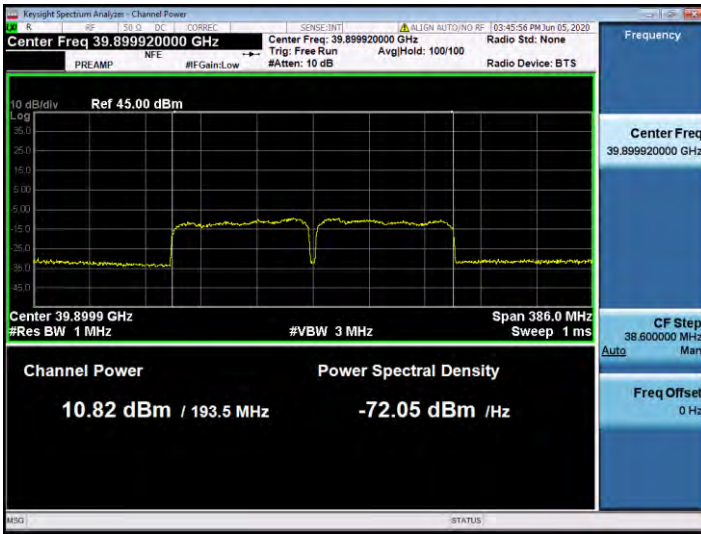
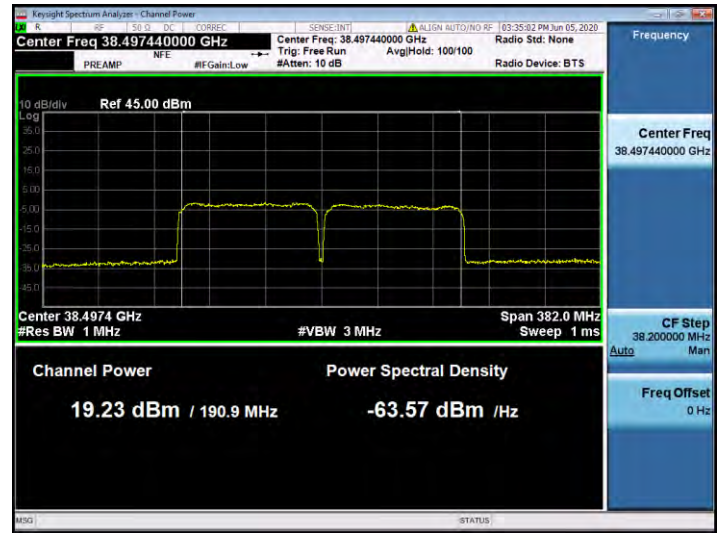
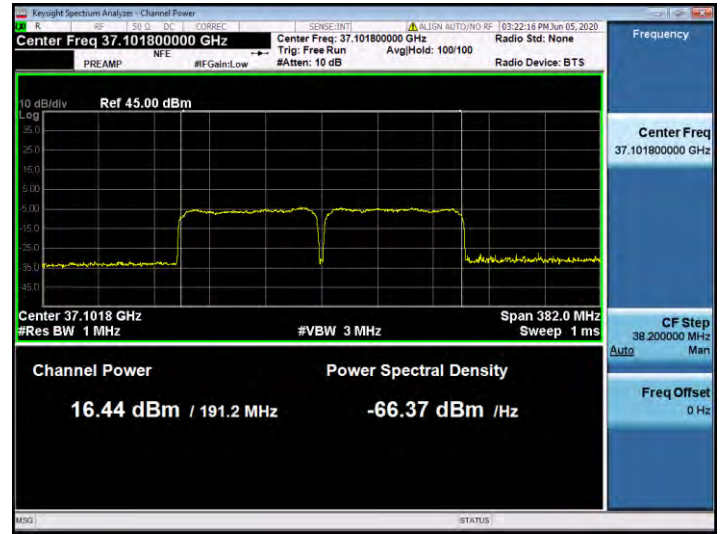
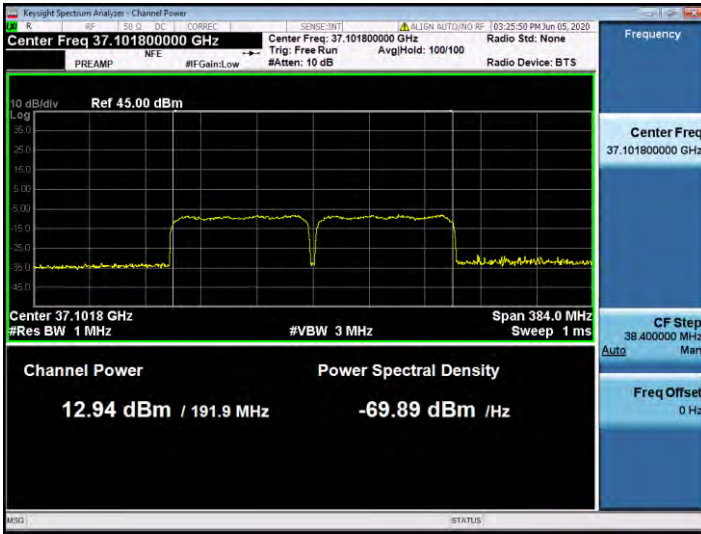




100 MHz, 2CC SISO



100 MHz, 2CC MIMO





## 5.4. 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/duty cycle)]. This assumes that the transmission period and duty cycle is relatively constant (duty cycle variation ≤ ±2%).

4) Omitted

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

f) See Annex I for example emission mask plots.



**Test Results:**

**Antenna 0(L patch), n261**

**SISO**

CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	27534.84	Low	H	BPSK	V	1/16	-24.839
		27534.84	Low	V	BPSK	V	1/16	-37.548
		28319.52	High	H	QPSK	V	1/16	-29.078
		28319.52	High	V	BPSK	V	1/16	-36.262
	100 MHz	27559.32	Low	H	BPSK	V	1/32	-23.662
		27559.32	Low	V	BPSK	V	1/32	-36.297
		28292.16	High	H	BPSK	V	1/32	-27.601
		28292.16	High	V	BPSK	V	1/32	-36.603
2	50 MHz	27559.84	Low	H	QPSK	V	32/0	-30.187
		27559.84	Low	V	QPSK	V	32/0	-31.966
		28294.52	High	H	QPSK	V	32/0	-33.911
		28294.52	High	V	QPSK	V	32/0	-33.513
	100 MHz	27609.32	Low	H	BPSK	V	32/32	-28.787
		27609.32	Low	V	QPSK	V	64/0	-32.298
		28242.16	High	H	BPSK	V	32/0	-35.927
		28242.16	High	V	QPSK	V	32/0	-33.970

**MIMO**

CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]	SUM [dBm]
1	50 MHz	27534.84	Low	MIMO	QPSK	H	1/0	-31.533	-30.727
		27534.84	Low	MIMO	QPSK	V		-38.436	
		27534.84	Low	MIMO	QPSK	H	32/0	-31.658	-27.151
		27534.84	Low	MIMO	QPSK	V		-29.051	
		28319.52	High	MIMO	QPSK	H	1/31	-31.744	-27.495
		28319.52	High	MIMO	QPSK	V		-29.542	
		28319.52	High	MIMO	QPSK	H	32/0	-26.656	-23.398
		28319.52	High	MIMO	QPSK	V		-26.174	
	100 MHz	27559.32	Low	MIMO	QPSK	H	1/0	-34.866	-33.415
		27559.32	Low	MIMO	QPSK	V		-38.881	
		27559.32	Low	MIMO	QPSK	H	66/0	-34.401	-29.605
		27559.32	Low	MIMO	QPSK	V		-31.354	
		28292.16	High	MIMO	QPSK	H	1/65	-38.374	-32.660
		28292.16	High	MIMO	QPSK	V		-34.016	
		28292.16	High	MIMO	QPSK	H	66/0	-30.572	-26.291
		28292.16	High	MIMO	QPSK	V		-28.320	
2	50 MHz	27559.84	Low	MIMO	QPSK	H	1/0	-39.013	-26.358
		27559.84	Low	MIMO	QPSK	V		-26.600	
		27559.84	Low	MIMO	QPSK	H	32/0	-39.446	-34.278
		27559.84	Low	MIMO	QPSK	V		-35.853	
		28294.52	High	MIMO	QPSK	H	1/31	-32.412	-26.215
		28294.52	High	MIMO	QPSK	V		-27.407	
		28294.52	High	MIMO	QPSK	H	32/0	-35.406	-32.056
		28294.52	High	MIMO	QPSK	V		-34.752	
	100 MHz	27609.32	Low	MIMO	QPSK	H	1/0	-39.178	-29.145
		27609.32	Low	MIMO	QPSK	V		-29.599	
		27609.32	Low	MIMO	QPSK	H	66/0	-39.270	-34.414
		27609.32	Low	MIMO	QPSK	V		-36.133	
		28242.16	High	MIMO	QPSK	H	1/65	-36.731	-31.454
		28242.16	High	MIMO	QPSK	V		-32.983	
		28242.16	High	MIMO	QPSK	H	66/0	-38.786	-35.014
		28242.16	High	MIMO	QPSK	V		-37.377	



**Antenna 1(K patch), n261**

**SISO**

CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	27534.84	Low	H	BPSK	V	1/16	-26.153
		27534.84	Low	V	BPSK	V	1/16	-35.952
		28319.52	High	H	BPSK	V	1/16	-30.920
		28319.52	High	V	BPSK	V	1/16	-35.206
	100 MHz	27559.32	Low	H	BPSK	V	1/32	-25.556
		27559.32	Low	V	BPSK	V	1/32	-37.193
		28292.16	High	H	BPSK	V	1/32	-30.848
		28292.16	High	V	BPSK	V	1/32	-37.448
2	50 MHz	27559.84	Low	H	QPSK	V	32/0	-33.488
		27559.84	Low	V	QPSK	V	32/0	-30.347
		28294.52	High	H	QPSK	V	32/0	-35.385
		28294.52	High	V	QPSK	V	32/0	-33.117
	100 MHz	27609.32	Low	H	QPSK	V	64/0	-33.635
		27609.32	Low	V	QPSK	V	64/0	-31.585
		28242.16	High	H	QPSK	V	64/0	-36.537
		28242.16	High	V	QPSK	V	64/0	-36.367

**MIMO**

CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]	SUM [dBm]
1	50 MHz	27534.84	Low	MIMO	QPSK	H	1/0	-35.329	-33.375
		27534.84	Low	MIMO	QPSK	V		-37.784	
		27534.84	Low	MIMO	QPSK	H	32/0	-27.536	-25.051
		27534.84	Low	MIMO	QPSK	V		-28.660	
		28319.52	High	MIMO	QPSK	H	1/31	-38.369	-34.978
		28319.52	High	MIMO	QPSK	V		-37.639	
		28319.52	High	MIMO	QPSK	H	32/0	-29.385	-25.914
		28319.52	High	MIMO	QPSK	V		-28.508	
	100 MHz	27559.32	Low	MIMO	QPSK	H	1/0	-35.140	-33.794
		27559.32	Low	MIMO	QPSK	V		-39.537	
		27559.32	Low	MIMO	QPSK	H	66/0	-31.192	-29.578
		27559.32	Low	MIMO	QPSK	V		-34.660	
		28292.16	High	MIMO	QPSK	H	1/65	-38.868	-35.077
		28292.16	High	MIMO	QPSK	V		-37.425	
		28292.16	High	MIMO	QPSK	H	66/0	-31.479	-28.217
		28292.16	High	MIMO	QPSK	V		-30.989	
2	50 MHz	27559.84	Low	MIMO	QPSK	H	1/0	-30.226	-23.919
		27559.84	Low	MIMO	QPSK	V		-25.077	
		27559.84	Low	MIMO	QPSK	H	32/0	-35.935	-32.209
		27559.84	Low	MIMO	QPSK	V		-34.605	
		28294.52	High	MIMO	QPSK	H	1/31	-38.299	-28.666
		28294.52	High	MIMO	QPSK	V		-29.166	
		28294.52	High	MIMO	QPSK	H	32/0	-38.705	-35.148
		28294.52	High	MIMO	QPSK	V		-37.672	
	100 MHz	27609.32	Low	MIMO	QPSK	H	1/0	-32.944	-26.233
		27609.32	Low	MIMO	QPSK	V		-27.275	
		27609.32	Low	MIMO	QPSK	H	66/0	-37.291	-33.757
		27609.32	Low	MIMO	QPSK	V		-36.300	
		28242.16	High	MIMO	QPSK	H	1/65	-38.616	-34.206
		28242.16	High	MIMO	QPSK	V		-36.160	
		28242.16	High	MIMO	QPSK	H	66/0	-37.966	-34.984
		28242.16	High	MIMO	QPSK	V		-38.022	



**Antenna 0(L patch), n260**

**SISO**

CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	37027.32	Low	H	QPSK	V	1/16	-30.624
		37027.32	Low	V	QPSK	V	1/16	-30.806
		39966.24	High	H	QPSK	V	1/16	-26.950
		39966.24	High	V	QPSK	V	1/16	-26.119
	100 MHz	37051.80	Low	H	BPSK	V	1/32	-29.498
		37051.80	Low	V	BPSK	V	1/32	-30.243
		39949.92	High	H	BPSK	V	1/32	-24.954
		39949.92	High	V	BPSK	V	1/32	-25.672
2	50 MHz	37052.32	Low	H	BPSK	V	32/0	-27.915
		37052.32	Low	V	BPSK	V	32/0	-26.933
		39941.24	High	H	BPSK	V	32/0	-24.606
		39941.24	High	V	BPSK	V	32/0	-24.615
	100 MHz	37101.80	Low	H	BPSK	V	64/0	-30.092
		37101.80	Low	V	BPSK	V	64/0	-29.698
		39899.92	High	H	BPSK	V	64/0	-24.431
		39899.92	High	V	BPSK	V	64/0	-25.378

**MIMO**

CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]	SUM [dBm]
1	50 MHz	37027.32	Low	MIMO	QPSK	H	1/0	-28.462	-24.183
		37027.32	Low	MIMO	QPSK	V		-26.213	
		37027.32	Low	MIMO	QPSK	H	32/0	-31.128	-26.001
		37027.32	Low	MIMO	QPSK	V		-27.595	
		39966.24	High	MIMO	QPSK	H	1/31	-27.503	-23.621
		39966.24	High	MIMO	QPSK	V		-25.906	
		39966.24	High	MIMO	QPSK	H	32/0	-27.611	-23.517
		39966.24	High	MIMO	QPSK	V		-25.660	
	100 MHz	37051.80	Low	MIMO	QPSK	H	1/0	-26.217	-21.348
		37051.80	Low	MIMO	QPSK	V		-23.061	
		37051.80	Low	MIMO	QPSK	H	66/0	-31.072	-26.585
		37051.80	Low	MIMO	QPSK	V		-28.495	
		39949.92	High	MIMO	QPSK	H	1/65	-21.578	-14.816
		39949.92	High	MIMO	QPSK	V		-15.844	
39949.92		High	MIMO	QPSK	H	66/0	-27.397	-23.785	
39949.92		High	MIMO	QPSK	V		-26.267		
2	50 MHz	37052.32	Low	MIMO	QPSK	H	1/0	-31.416	-28.018
		37052.32	Low	MIMO	QPSK	V		-30.673	
		37052.32	Low	MIMO	QPSK	H	32/0	-31.523	-28.023
		37052.32	Low	MIMO	QPSK	V		-30.593	
		39941.24	High	MIMO	QPSK	H	1/31	-26.778	-23.661
		39941.24	High	MIMO	QPSK	V		-26.568	
		39941.24	High	MIMO	QPSK	H	32/0	-26.546	-23.486
		39941.24	High	MIMO	QPSK	V		-26.448	
	100 MHz	37101.80	Low	MIMO	QPSK	H	1/0	-31.260	-27.996
		37101.80	Low	MIMO	QPSK	V		-30.766	
		37101.80	Low	MIMO	QPSK	H	66/0	-31.171	-28.260
		37101.80	Low	MIMO	QPSK	V		-31.372	
		39899.92	High	MIMO	QPSK	H	1/65	-28.375	-23.862
		39899.92	High	MIMO	QPSK	V		-25.758	
39899.92		High	MIMO	QPSK	H	66/0	-27.976	-23.662	
39899.92		High	MIMO	QPSK	V		-25.671		



**Antenna 1(K patch), n260**

**SISO**

CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]
1	50 MHz	37027.32	Low	H	QPSK	V	1/16	-28.762
		37027.32	Low	V	BPSK	V	1/16	-27.758
		39966.24	High	H	QPSK	V	1/16	-24.113
		39966.24	High	V	BPSK	V	1/16	-24.865
	100 MHz	37051.80	Low	H	QPSK	V	1/32	-28.902
		37051.80	Low	V	BPSK	V	1/32	-28.648
		39949.92	High	H	QPSK	V	1/32	-25.198
		39949.92	High	V	BPSK	V	1/32	-25.363
2	50 MHz	37052.32	Low	H	BPSK	V	32/0	-30.607
		37052.32	Low	V	BPSK	V	32/0	-29.303
		39941.24	High	H	BPSK	V	32/0	-28.256
		39941.24	High	V	BPSK	V	32/0	-26.976
	100 MHz	37101.80	Low	H	BPSK	V	64/0	-30.589
		37101.80	Low	V	BPSK	V	64/0	-31.193
		39899.92	High	H	BPSK	V	64/0	-26.655
		39899.92	High	V	BPSK	V	64/0	-27.777

**MIMO**

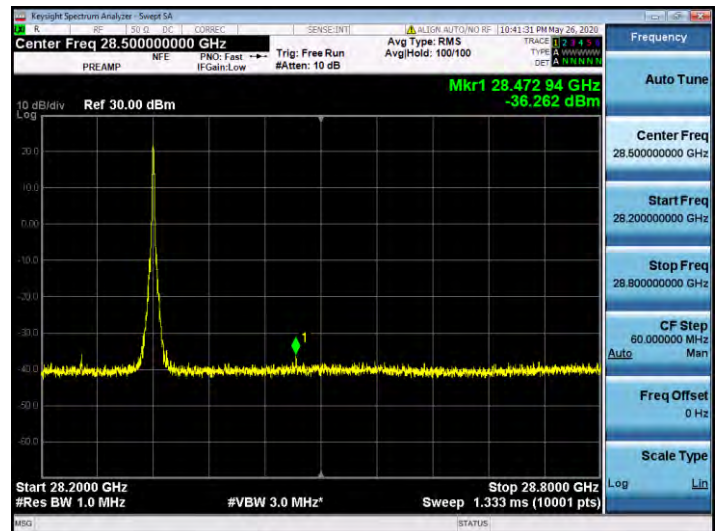
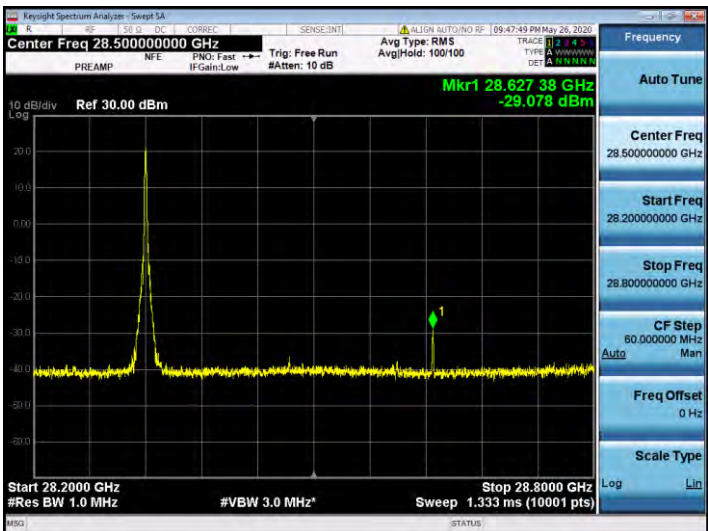
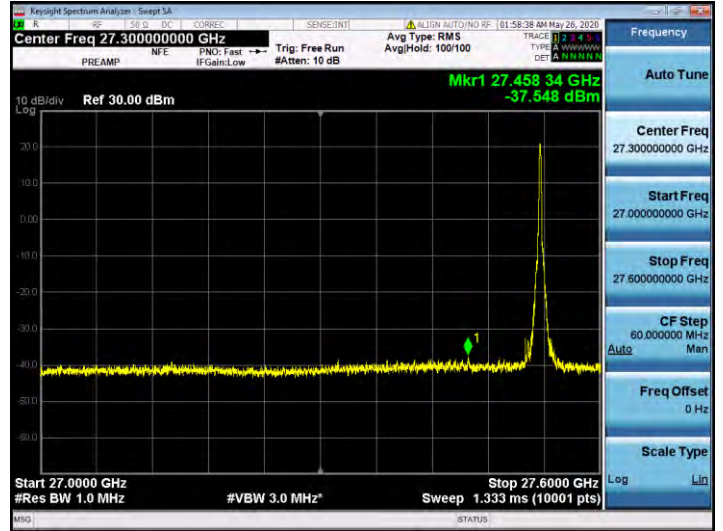
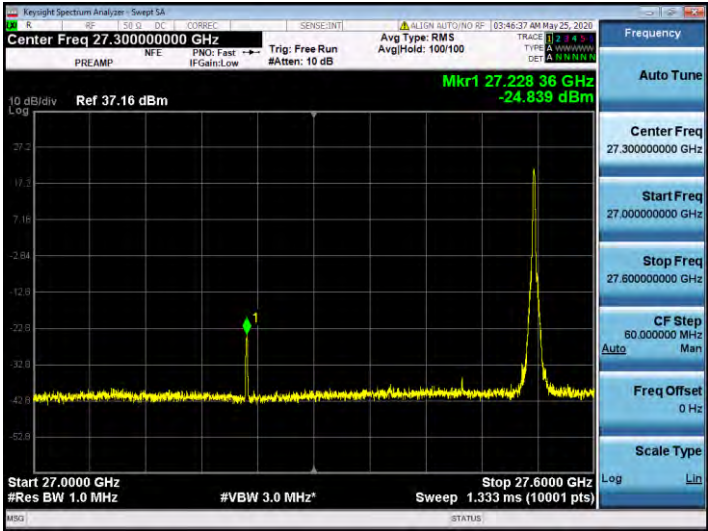
CCs active	BW	Frequency [MHz]	Channel	Beam Pol	Modulation	Ant. Pol [H/V]	RB Size/Offset	Band Edge [dBm]	SUM [dBm]
1	50 MHz	37027.32	Low	MIMO	QPSK	H	1/0	-30.412	-26.309
		37027.32	Low	MIMO	QPSK	V		-28.447	
		37027.32	Low	MIMO	QPSK	H	32/0	-29.330	-23.703
		37027.32	Low	MIMO	QPSK	V		-25.092	
		39966.24	High	MIMO	QPSK	H	1/31	-28.405	-23.867
		39966.24	High	MIMO	QPSK	V		-25.749	
		39966.24	High	MIMO	QPSK	H	32/0	-27.846	-24.250
		39966.24	High	MIMO	QPSK	V		-26.744	
	100 MHz	37051.80	Low	MIMO	QPSK	H	1/0	-30.245	-26.571
		37051.80	Low	MIMO	QPSK	V		-29.005	
		37051.80	Low	MIMO	QPSK	H	66/0	-30.230	-25.636
		37051.80	Low	MIMO	QPSK	V		-27.488	
		39949.92	High	MIMO	QPSK	H	1/65	-22.529	-18.966
		39949.92	High	MIMO	QPSK	V		-21.486	
39949.92		High	MIMO	QPSK	H	66/0	-28.044	-23.973	
39949.92		High	MIMO	QPSK	V		-26.132		
2	50 MHz	37052.32	Low	MIMO	QPSK	H	1/0	-30.196	-27.344
		37052.32	Low	MIMO	QPSK	V		-30.519	
		37052.32	Low	MIMO	QPSK	H	32/0	-31.477	-27.823
		37052.32	Low	MIMO	QPSK	V		-30.272	
		39941.24	High	MIMO	QPSK	H	1/31	-27.750	-24.044
		39941.24	High	MIMO	QPSK	V		-26.455	
		39941.24	High	MIMO	QPSK	H	32/0	-27.907	-23.788
		39941.24	High	MIMO	QPSK	V		-25.916	
	100 MHz	37101.80	Low	MIMO	QPSK	H	1/0	-30.735	-27.581
		37101.80	Low	MIMO	QPSK	V		-30.453	
		37101.80	Low	MIMO	QPSK	H	66/0	-30.820	-27.656
		37101.80	Low	MIMO	QPSK	V		-30.518	
		39899.92	High	MIMO	QPSK	H	1/65	-28.358	-23.727
		39899.92	High	MIMO	QPSK	V		-25.559	
39899.92		High	MIMO	QPSK	H	66/0	-27.769	-23.707	
39899.92		High	MIMO	QPSK	V		-25.872		



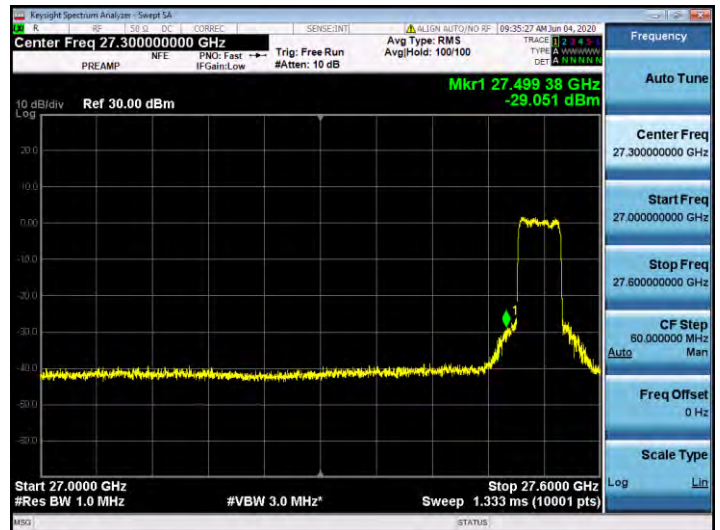
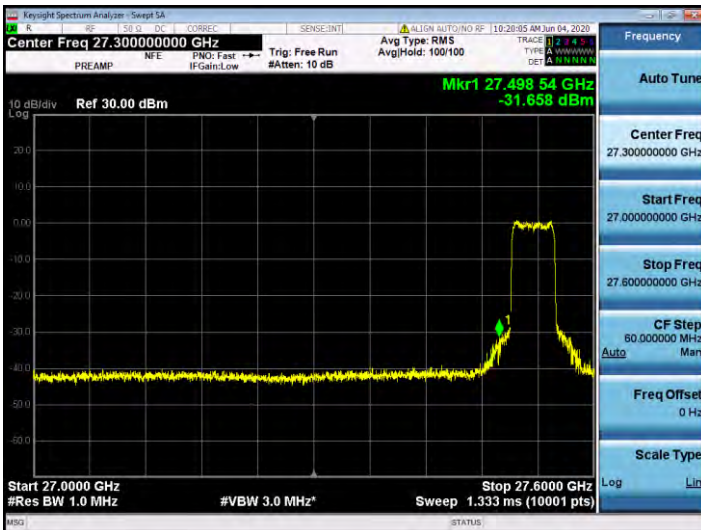
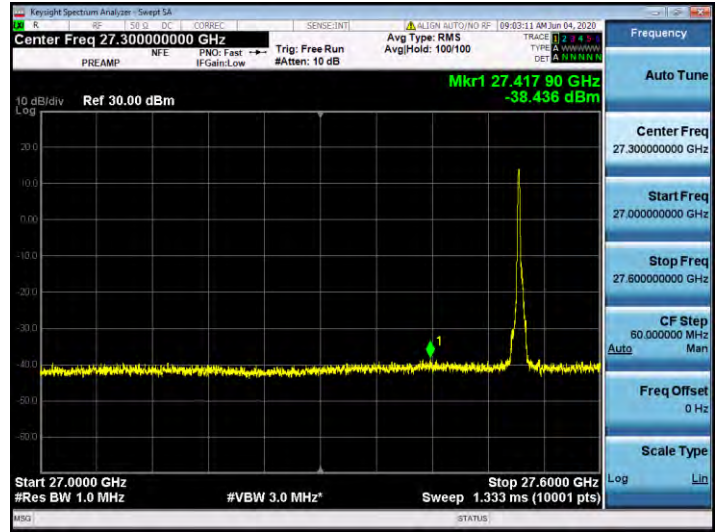
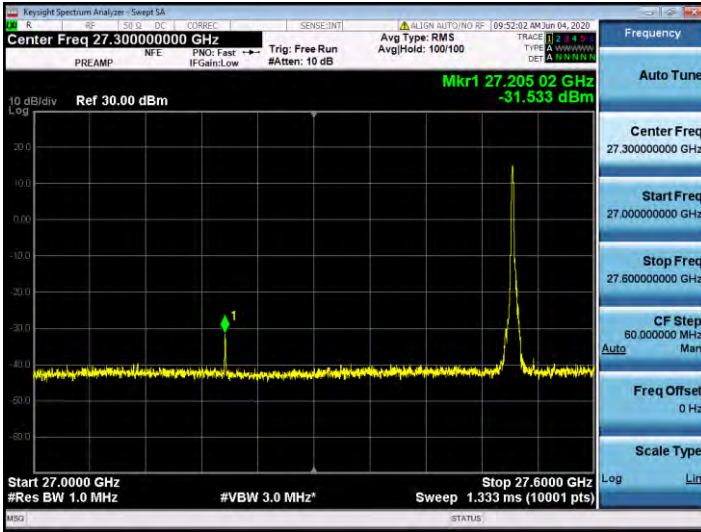
Plot data of Band Edge

1. Antenna 0(L patch), n261

50 MHz, 1CC SISO



50 MHz, 1CC MIMO





**50 MHz, 1CC MIMO**

