

11AC20MIMO_Ant1 5745



11AC20MIMO_Ant2 5745



11AC20MIMO_Ant1 5785



11AC20MIMO_Ant2_5785



11AC20MIMO_Ant1_5825



11AC20MIMO_Ant2_5825



11AC40MIMO_Ant1 5190



11AC40MIMO_Ant2 5190



11AC40MIMO_Ant1 5230



11AC40MIMO_Ant2_5230



11AC40MIMO_Ant1_5270



11AC40MIMO_Ant2_5270



11AC40MIMO_Ant1 5310



11AC40MIMO_Ant2 5310



11AC40MIMO_Ant1 5510



11AC40MIMO_Ant2_5510



11AC40MIMO_Ant1_5550



11AC40MIMO_Ant2_5550



11AC40MIMO_Ant1 5670



11AC40MIMO_Ant2 5670



11AC40MIMO_Ant1 5755



11AC40MIMO_Ant2_5755

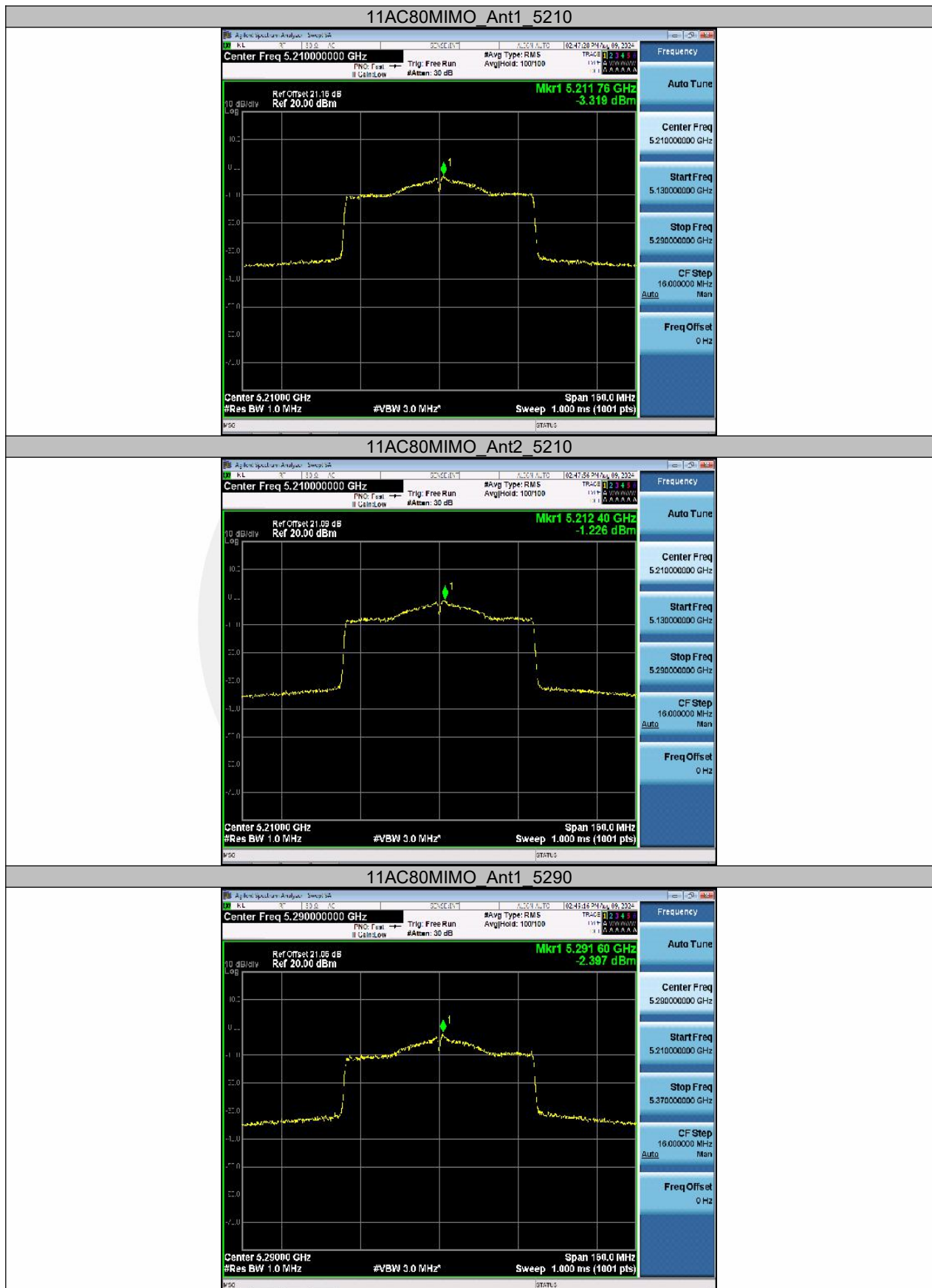


11AC40MIMO_Ant1_5795



11AC40MIMO_Ant2_5795





11AC80MIMO_Ant2_5290



11AC80MIMO_Ant1_5530



11AC80MIMO_Ant2_5530



11AC80MIMO_Ant1 5610



11AC80MIMO_Ant2 5610



11AC80MIMO_Ant1 5775



11AC80MIMO_Ant2_5775



11AX20MIMO_Ant1_5180



11AX20MIMO_Ant2_5180



11AX20MIMO_Ant1 5200



11AX20MIMO_Ant2 5200



11AX20MIMO_Ant1 5240



11AX20MIMO_Ant2_5240



11AX20MIMO_Ant1_5260



11AX20MIMO_Ant2_5260



11AX20MIMO_Ant1 5280



11AX20MIMO_Ant2 5280



11AX20MIMO_Ant1 5320



11AX20MIMO_Ant2_5320



11AX20MIMO_Ant1_5500



11AX20MIMO_Ant2_5500



11AX20MIMO_Ant1 5580



11AX20MIMO_Ant2 5580



11AX20MIMO_Ant1 5700



11AX20MIMO_Ant2_5700



11AX20MIMO_Ant1_5745



11AX20MIMO_Ant2_5745



11AX20MIMO_Ant1_5785



11AX20MIMO_Ant2_5785



11AX20MIMO_Ant1_5825



11AX20MIMO_Ant2_5825



11AX40MIMO_Ant1_5190



11AX40MIMO_Ant2_5190



11AX40MIMO_Ant1 5230



11AX40MIMO_Ant2 5230



11AX40MIMO_Ant1 5270



11AX40MIMO_Ant2_5270



11AX40MIMO_Ant1_5310



11AX40MIMO_Ant2_5310



11AX40MIMO_Ant1 5510



11AX40MIMO_Ant2 5510



11AX40MIMO_Ant1 5550



11AX40MIMO_Ant2_5550



11AX40MIMO_Ant1_5670



11AX40MIMO_Ant2_5670



11AX40MIMO_Ant1 5755



11AX40MIMO_Ant2 5755



11AX40MIMO_Ant1 5795



11AX40MIMO_Ant2_5795



11AX80MIMO_Ant1_5210



11AX80MIMO_Ant2_5210



11AX80MIMO_Ant1 5290

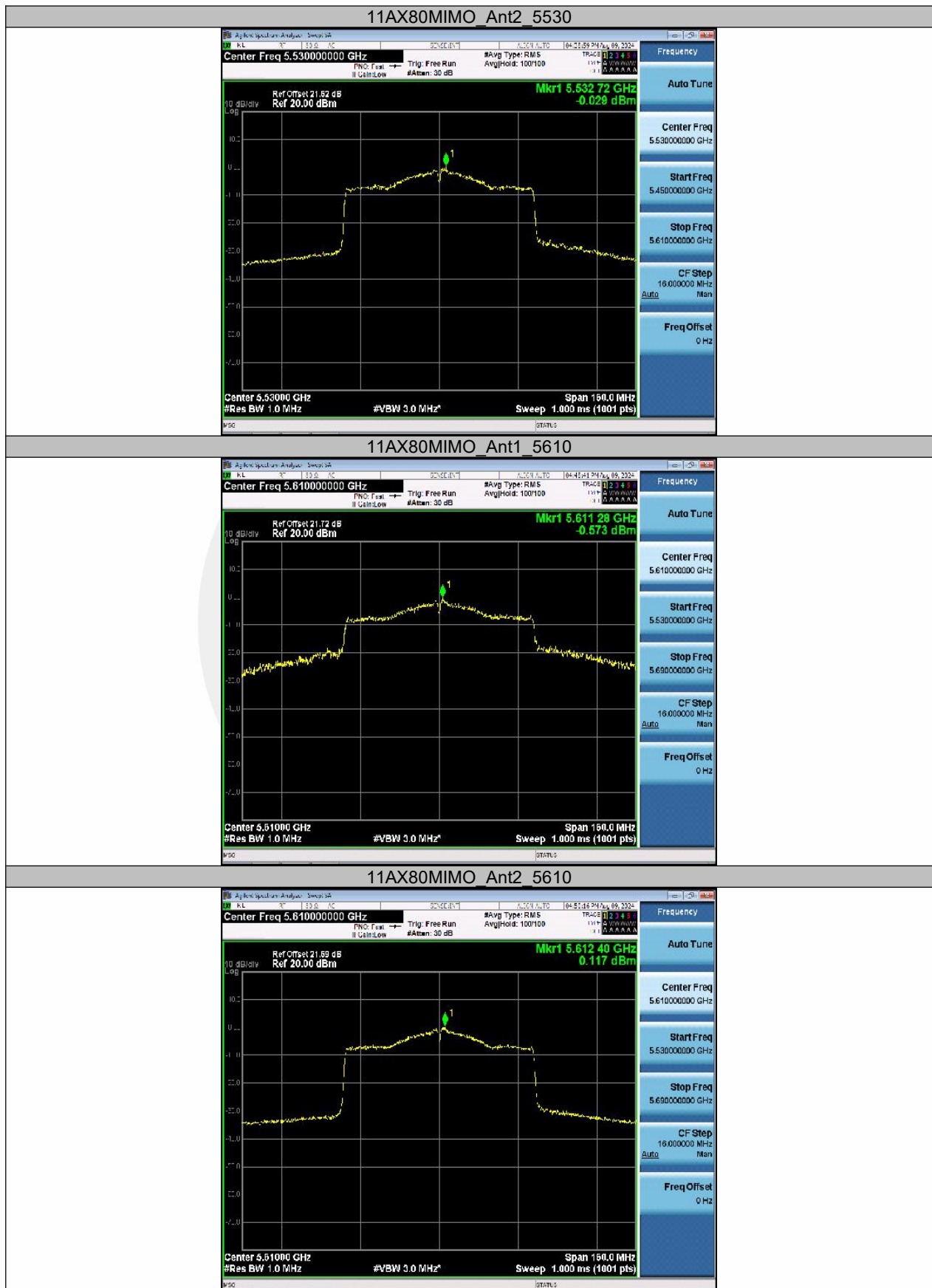


11AX80MIMO_Ant2 5290



11AX80MIMO_Ant1 5530





11AX80MIMO_Ant1_5775



11AX80MIMO_Ant2_5775



8.4 UNDESIRABLE RADIATED SPURIOUS EMISSION

8.4.1 Applicable Standard

According to FCC Part 15.407 (b)
According to 789033 D02 Section II(G)

8.4.2 Conformance Limit

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

Restricted Frequency(MHz)	Field Strength ($\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log ($\mu\text{V/m}$)	300
0.490-1.705	2400/F(KHz)	20 log ($\mu\text{V/m}$)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

The provisions of §15.205 apply to intentional radiators operating under this section, 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

- Remark:
1. Emission level in dBuV/m = $20 \log (\mu\text{V/m})$
 2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
 3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

8.4.3 Test Configuration

Test according to clause 6.2 radio frequency test setup 2.

8.4.4 Test Procedure

■ Unwanted Emissions Measurements below 1000 MHz

Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

The EUT was placed on a turn table which is 0.8m above ground plane.

And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

Repeat above procedures until all frequency measured was complete.

We use software control the EUT, Let EUT hopping on and transmit with highest power, All the modes have been tested and the worst result was reported.

Use the following spectrum analyzer settings:

Set RBW = 120kHz for $f < 1 \text{ GHz}$ (30MHz to 1GHz), 200Hz for $f < 150\text{KHz}$ (9KHz to 150KHz), 9KHz for $f < 30\text{MHz}$ (150KHz to 30KHz).

Set the VBW > RBW.

Detector = Peak.

Trace mode = max hold.

Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.

Repeat above procedures until all frequency measured was complete.

■ Unwanted Maximum peak Emissions Measurements above 1000 MHz

Maximum emission levels are measured by setting the analyzer as follows:

RBW = 1 MHz.

VBW $\geq$ 3 MHz.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

■ Unwanted Average Emissions Measurements above 1000 MHz

Method VB (Averaging using reduced video bandwidth): Alternative method.

RBW = 1 MHz.

Video bandwidth. • If the EUT is configured to transmit with duty cycle $\geq$ 98 percent, set $\text{VBW} \leq \text{RBW}/100$ (i.e., 10 kHz) but not less than 10 Hz.

• If the EUT duty cycle is $<$ 98 percent, set $\text{VBW} \geq 1/T$, where T is defined in section II.B.1.a).

Video bandwidth mode or display mode • The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).

• As an alternative, the analyzer may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of $1/x$, where x is the duty cycle. For example, use at least 200 traces if the duty cycle is 25 percent. (If a specific emission is demonstrated to be continuous—i.e., 100 percent duty cycle—rather than turning on and off with the transmit cycle, at least 50 traces shall be averaged).

■ Band edge measurements.

Unwanted band-edge emissions may be measured using either of the special band-edge measurement techniques (the marker-delta or integration methods) described below. Note that the marker-delta method is primarily a radiated measurement technique that requires the 99% occupied bandwidth edge to be within 2 MHz of the authorized band edge, whereas the integration method can be used in either a radiated or conducted measurement without any special requirement with regards to the displacement of the unwanted emission(s) relative to the authorized bandwidth.

Marker-Delta Method.

The marker-delta method, as described in ANSI C63.10, can be used to perform measurements of the radiated unwanted emissions level of emissions provided that the 99% occupied bandwidth of the fundamental is within 2 MHz of the authorized band-edge.

8.4.5 Test Results

Temperature : 25°C
Humidity : 60 %

ATM Pressure:: 1011 mbar
Test Engineer: CZF

- ☒ For Undesirable radiated Spurious Emission in U-NII – 1
 - ☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)
- All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11n(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8704.85	V	65.19	-30.04	-27	3.04
9852.92	V	66.55	-28.68	-27	1.68
14020.0	V	67.12	-28.11	-27	1.11
9487.24	H	64.95	-30.28	-27	3.28
11995.9	H	67.07	-28.16	-27	1.16
17659.8	H	67.95	-27.28	-27	0.28

Test mode: 802.11n(20) Frequency(MHz): 5200

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9011.00	V	64.98	-30.25	-27	3.25
11366.6	V	66.49	-28.74	-27	1.74
17846.9	V	67.89	-27.34	-27	0.34
9019.50	H	65.56	-29.67	-27	2.67
11545.2	H	66.71	-28.52	-27	1.52
16086.5	H	67.87	-27.36	-27	0.36

Test mode: 802.11n(20) Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7505.75	V	60.53	-34.7	-27	7.7
9810.40	V	66.15	-29.08	-27	2.08
17787.3	V	67.66	-27.57	-27	0.57
8704.85	H	64.19	-31.04	-27	4.04
12735.8	H	66.09	-29.14	-27	2.14
17617.3	H	66.51	-28.72	-27	1.72

MIMO:

Test mode: 802.11n(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8703.4600	V	65.06	-30.17	-27	3.17
9851.5300	V	66.39	-28.84	-27	1.84
14021.2800	V	67.09	-28.14	-27	1.14
9498.9300	H	64.87	-30.36	-27	3.36
12007.5900	H	66.86	-28.37	-27	1.37
17671.4900	H	67.79	-27.44	-27	0.44

Test mode: 802.11n(20) Frequency(MHz): 5200

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9009.6100	V	64.85	-30.38	-27	3.38
11365.2100	V	66.33	-28.90	-27	1.90
17848.1800	V	67.86	-27.37	-27	0.37
9031.1900	H	65.48	-29.75	-27	2.75
11556.8900	H	66.5	-28.73	-27	1.73
16098.1900	H	67.71	-27.52	-27	0.52

Test mode: 802.11n(20) Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7504.3600	V	60.4	-34.83	-27	7.83
9809.0100	V	65.99	-29.24	-27	2.24
17788.5800	V	67.63	-27.60	-27	0.60
8716.5400	H	64.11	-31.12	-27	4.12
12747.4900	H	65.88	-29.35	-27	2.35
17628.9900	H	66.35	-28.88	-27	1.88

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

ANT1:

Test mode: 802.11n(20)		Frequency(MHz): 5180			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8704.85	V	65.19	74.00	8.81	Peak
9852.92	V	66.55	74.00	7.45	Peak
14020.0	V	67.12	74.00	6.88	Peak
8704.85	V	47.24	54.00	6.76	Avg
9852.92	V	43.83	54.00	10.17	Avg
14020.0	V	44.49	54.00	9.51	Avg
9487.24	H	64.95	74.00	9.05	Peak
11995.9	H	67.07	74.00	6.93	Peak
17659.8	H	67.95	74.00	6.05	Peak
9487.24	H	46.43	54.00	7.57	Avg
11995.9	H	45.53	54.00	8.47	Avg
17659.8	H	45.91	54.00	8.09	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9011.00	V	64.98	74.00	9.02	Peak
11366.6	V	66.49	74.00	7.51	Peak
17846.9	V	67.89	74.00	6.11	Peak
9011.00	V	47.17	54.00	6.83	Avg
11366.6	V	45.83	54.00	8.17	Avg
17846.9	V	47.13	54.00	6.87	Avg
9019.50	H	65.56	74.00	8.44	Peak
11545.2	H	66.71	74.00	7.29	Peak
16086.5	H	67.87	74.00	6.13	Peak
9019.50	H	47.90	54.00	6.10	Avg
11545.2	H	46.10	54.00	7.90	Avg
16086.5	H	42.15	54.00	11.85	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7505.75	V	60.53	74.00	13.47	Peak
9810.40	V	66.15	74.00	7.85	Peak
17787.3	V	67.66	74.00	6.34	Peak
7505.75	V	42.15	54.00	11.85	Avg
9810.40	V	43.21	54.00	10.79	Avg
17787.3	V	47.75	54.00	6.25	Avg
8704.85	H	64.19	74.00	9.81	Peak
12735.8	H	66.09	74.00	7.91	Peak
17617.3	H	66.51	74.00	7.49	Peak
8704.85	H	47.29	54.00	6.71	Avg
12735.8	H	47.23	54.00	6.77	Avg
17617.3	H	47.50	54.00	6.50	Avg

MIMO:

Test mode: 802.11n(20)		Frequency(MHz): 5180			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8703.4600	V	65.06	74.00	8.94	Peak
9851.5300	V	66.39	74.00	7.61	Peak
14021.2800	V	67.09	74.00	6.91	Peak
8706.1300	V	47.22	54.00	6.78	Avg
9850.6700	V	43.57	54.00	10.43	Avg
14017.7500	V	44.30	54.00	9.70	Avg
9498.9300	H	64.87	74.00	9.13	Peak
12007.5900	H	66.86	74.00	7.14	Peak
17671.4900	H	67.79	74.00	6.21	Peak
9498.9300	H	46.29	54.00	7.71	Avg
11992.5900	H	45.35	54.00	8.65	Avg
17656.4900	H	45.78	54.00	8.22	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9009.6100	V	64.85	74.00	9.15	Peak
11365.2100	V	66.33	74.00	7.67	Peak
17848.1800	V	67.86	74.00	6.14	Peak
9012.2800	V	47.15	54.00	6.85	Avg
11364.3500	V	45.57	54.00	8.43	Avg
17844.6500	V	46.94	54.00	7.06	Avg
9031.1900	H	65.48	74.00	8.52	Peak
11556.8900	H	66.50	74.00	7.50	Peak
16098.1900	H	67.71	74.00	6.29	Peak
9031.1900	H	47.76	54.00	6.24	Avg
11541.8900	H	45.92	54.00	8.08	Avg
16083.1900	H	42.02	54.00	11.98	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7504.3600	V	60.40	74.00	13.60	Peak
9809.0100	V	65.99	74.00	8.01	Peak
17788.5800	V	67.63	74.00	6.37	Peak
7507.0300	V	42.13	54.00	11.87	Avg
9808.1500	V	42.95	54.00	11.05	Avg
17785.0500	V	47.56	54.00	6.44	Avg
8716.5400	H	64.11	74.00	9.89	Peak
12747.4900	H	65.88	74.00	8.12	Peak
17628.9900	H	66.35	74.00	7.65	Peak
8716.5400	H	47.15	54.00	6.85	Avg
12732.4900	H	47.05	54.00	6.95	Avg
17613.9900	H	47.37	54.00	6.63	Avg

- Note:** (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

● ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode: 802.11AX(HT20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5137.65	V	55.75	-39.48	-27	Pass
5132.04	H	55.59	-39.64	-27	Pass

Test mode: 802.11AX(HT20) Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5351.48	V	56.58	-38.65	-27	Pass
5360.69	H	56.36	-38.87	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
 d is the measurement distance in 3 meters

Test mode: 802.11AX(HT20) Frequency(MHz): 5180

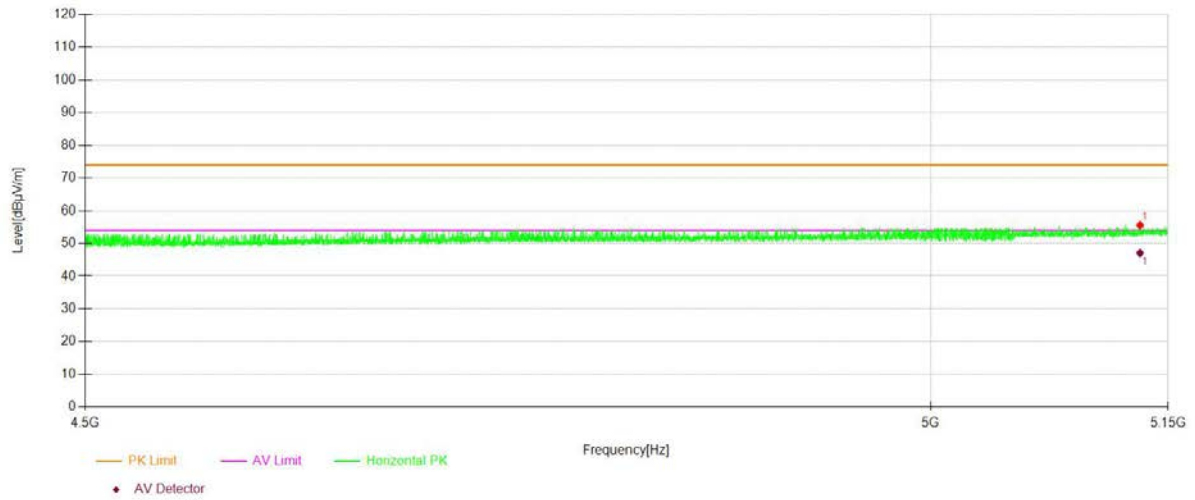
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5137.65	V	55.75	74.00	18.25	Peak
5137.65	V	47.36	54.00	6.64	Avg
5132.04	H	55.59	74.00	18.41	Peak
5132.04	H	47.07	54.00	6.93	Avg

Test mode: 802.11AX(HT20) Frequency(MHz): 5240

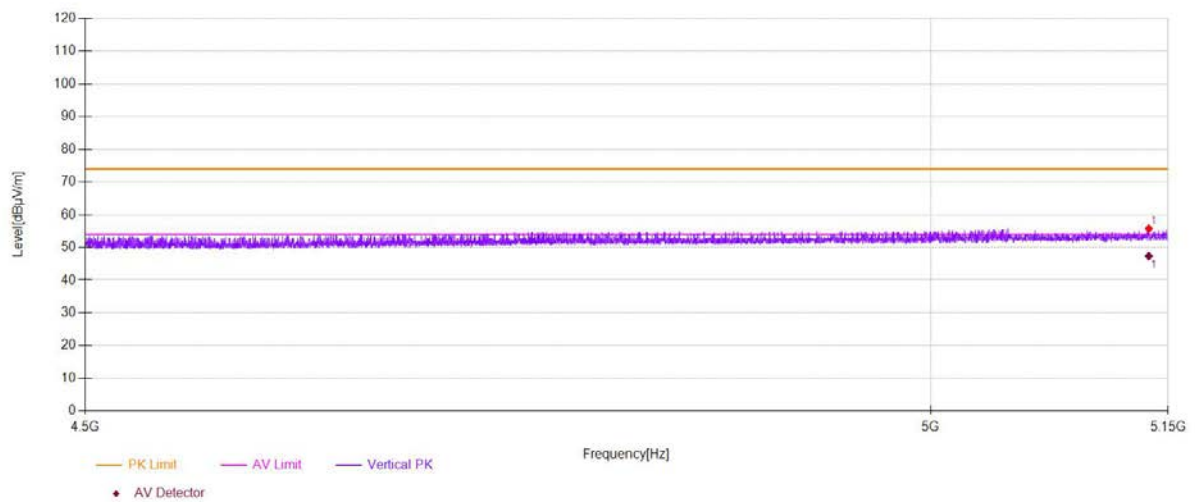
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5351.48	V	56.58	74.00	17.42	Peak
5351.48	V	46.75	54.00	7.25	Avg
5360.69	H	56.36	74.00	17.64	Peak
5360.69	H	47.42	54.00	6.58	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

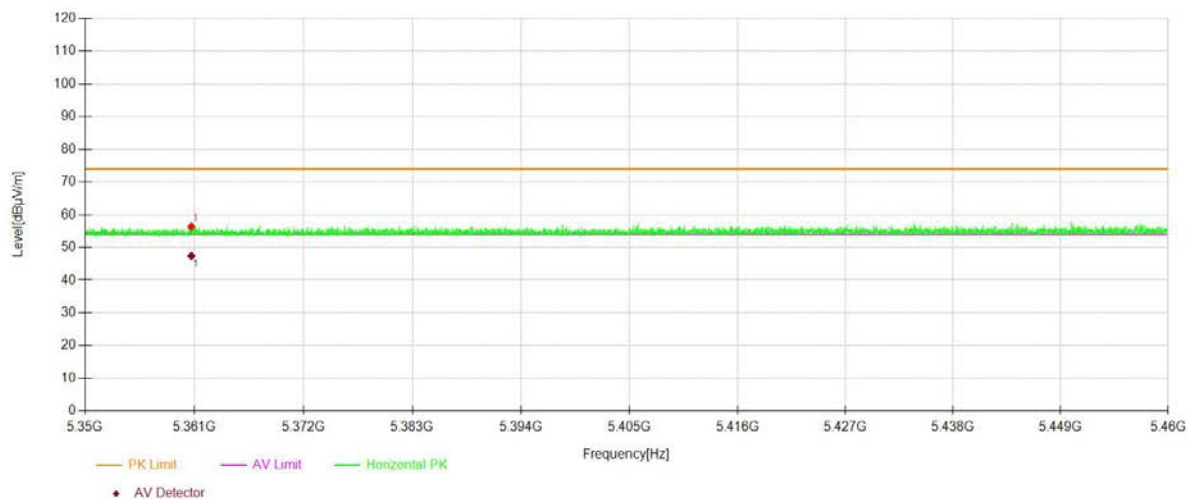
Test Model U-NII - 1
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11n(HT40)
☒ 5180 ☐ 5200 ☐ 5240 Ant.Pol H



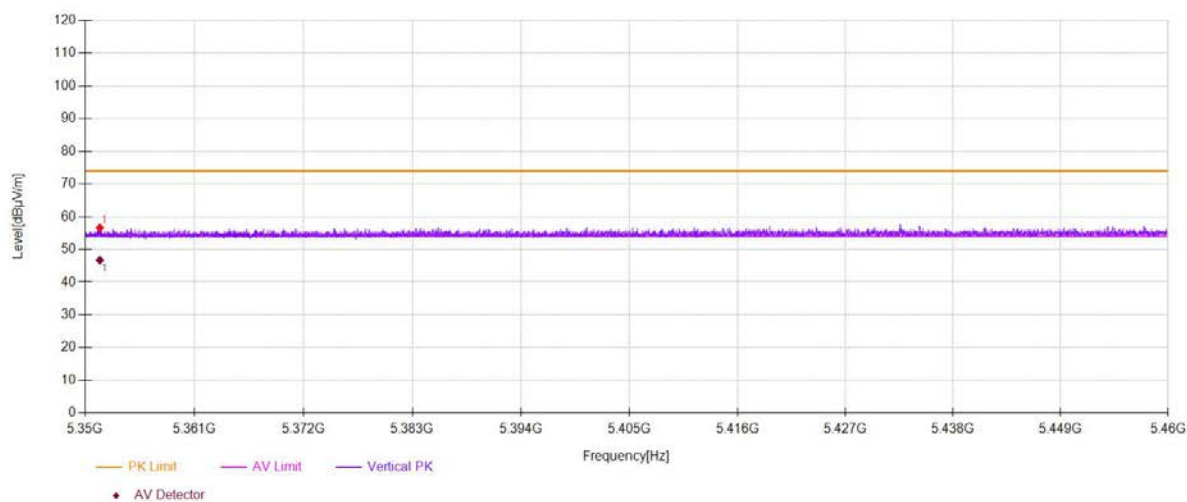
Test Model U-NII - 1
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11n(HT40)
☒ 5180 ☐ 5200 ☐ 5240 Ant.Pol V



U-NII - 1			
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)		
	☐ 802.11a	☒ 802.11AX(HT20)	☐ 802.11n(HT40)
	☐ 5180	☐ 5200	☒ 5240
			Ant.Pol H



U-NII - 1			
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)		
	☐ 802.11a	☒ 802.11n(HT20)	☐ 802.11n(HT40)
	☐ 5180	☐ 5200	☒ 5240
			Ant.Pol V



- ☒ For Undesirable radiated Spurious Emission in U-NII -2A
- ☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11AX(HT20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8976.98	V	65.44	-29.79	-27	2.79
10830.9	V	66.64	-28.59	-27	1.59
16078.0	V	67.35	-27.88	-27	0.88
9036.51	H	65.10	-30.13	-27	3.13
11978.9	H	66.81	-28.42	-27	1.42
14955.4	H	67.09	-28.14	-27	1.14

Test mode: 802.11AX(HT20) Frequency(MHz): 5280

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8645.32	V	64.67	-30.56	-27	3.56
12038.5	V	66.75	-28.48	-27	1.48
16732.8	V	67.25	-27.98	-27	0.98
8679.33	H	65.23	-30	-27	3
11485.7	H	66.47	-28.76	-27	1.76
16698.8	H	66.91	-28.32	-27	1.32

Test mode: 802.11AX(HT20) Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8696.34	V	65.25	-29.98	-27	2.98
13637.3	V	67.59	-27.64	-27	0.64
17540.7	V	67.32	-27.91	-27	0.91
8713.35	H	64.83	-30.4	-27	3.4
10533.2	H	65.36	-29.87	-27	2.87
15678.3	H	66.35	-28.88	-27	1.88

MIMO:

Test mode: 802.11AX(HT20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8975.5900	V	65.31	-29.92	-27	2.92
10829.5100	V	66.48	-28.75	-27	1.75
16079.2800	V	67.32	-27.91	-27	0.91
9048.2000	H	65.02	-30.21	-27	3.21
11990.5900	H	66.6	-28.63	-27	1.63
14967.0900	H	66.93	-28.30	-27	1.30

Test mode: 802.11AX(HT20) Frequency(MHz): 5280

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8643.9300	V	64.54	-30.69	-27	3.69
12037.1100	V	66.59	-28.64	-27	1.64
16734.0800	V	67.22	-28.01	-27	1.01
8691.0200	H	65.15	-30.08	-27	3.08
11497.3900	H	66.26	-28.97	-27	1.97
16710.4900	H	66.75	-28.48	-27	1.48

Test mode: 802.11AX(HT20) Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8694.9500	V	65.12	-30.11	-27	3.11
13635.9100	V	67.43	-27.80	-27	0.80
17541.9800	V	67.29	-27.94	-27	0.94
8725.0400	H	64.75	-30.48	-27	3.48
10544.8900	H	65.15	-30.08	-27	3.08
15689.9900	H	66.19	-29.04	-27	2.04

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

ANT2:

Test mode: 802.11n(20)		Frequency(MHz): 5260			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8976.98	V	65.44	74.00	8.56	Peak
10830.9	V	66.64	74.00	7.36	Peak
16078.0	V	67.35	74.00	6.65	Peak
8976.98	V	47.95	54.00	6.05	Avg
10830.9	V	46.28	54.00	7.72	Avg
16078.0	V	44.73	54.00	9.27	Avg
9036.51	H	65.10	74.00	8.90	Peak
11978.9	H	66.81	74.00	7.19	Peak
14955.4	H	67.09	74.00	6.91	Peak
9036.51	H	47.51	54.00	6.49	Avg
11978.9	H	46.39	54.00	7.61	Avg
14955.4	H	42.82	54.00	11.18	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8645.32	V	64.67	74.00	9.33	Peak
12038.5	V	66.75	74.00	7.25	Peak
16732.8	V	67.25	74.00	6.75	Peak
8645.32	V	45.61	54.00	8.39	Avg
12038.5	V	45.81	54.00	8.19	Avg
16732.8	V	44.50	54.00	9.50	Avg
8679.33	H	65.23	74.00	8.77	Peak
11485.7	H	66.47	74.00	7.53	Peak
16698.8	H	66.91	74.00	7.09	Peak
8679.33	H	46.72	54.00	7.28	Avg
11485.7	H	46.41	54.00	7.59	Avg
16698.8	H	44.59	54.00	9.41	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8696.34	V	65.25	74.00	8.75	Peak
13637.3	V	67.59	74.00	6.41	Peak
17540.7	V	67.32	74.00	6.68	Peak
8696.34	V	47.27	54.00	6.73	Avg
13637.3	V	46.78	54.00	7.22	Avg
17540.7	V	46.49	54.00	7.51	Avg
8713.35	H	64.83	74.00	9.17	Peak
10533.2	H	65.36	74.00	8.64	Peak
15678.3	H	66.35	74.00	7.65	Peak
8713.35	H	47.07	54.00	6.93	Avg
10533.2	H	45.52	54.00	8.48	Avg
15678.3	H	42.79	54.00	11.21	Avg

MIMO:

Test mode: 802.11n(20)		Frequency(MHz): 5260			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8975.5900	V	65.31	74.00	8.69	Peak
10829.5100	V	66.48	74.00	7.52	Peak
16079.2800	V	67.32	74.00	6.68	Peak
8978.2600	V	47.93	54.00	6.07	Avg
10828.6500	V	46.02	54.00	7.98	Avg
16075.7500	V	44.54	54.00	9.46	Avg
9048.2000	H	65.02	74.00	8.98	Peak
11990.5900	H	66.60	74.00	7.40	Peak
14967.0900	H	66.93	74.00	7.07	Peak
9048.2000	H	47.37	54.00	6.63	Avg
11975.5900	H	46.21	54.00	7.79	Avg
14952.0900	H	42.69	54.00	11.31	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8643.9300	V	64.54	74.00	9.46	Peak
12037.1100	V	66.59	74.00	7.41	Peak
16734.0800	V	67.22	74.00	6.78	Peak
8646.6000	V	45.59	54.00	8.41	Avg
12036.2500	V	45.55	54.00	8.45	Avg
16730.5500	V	44.31	54.00	9.69	Avg
8691.0200	H	65.15	74.00	8.85	Peak
11497.3900	H	66.26	74.00	7.74	Peak
16710.4900	H	66.75	74.00	7.25	Peak
8691.0200	H	46.58	54.00	7.42	Avg
11482.3900	H	46.23	54.00	7.77	Avg
16695.4900	H	44.46	54.00	9.54	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8694.9500	V	65.12	74.00	8.88	Peak
13635.9100	V	67.43	74.00	6.57	Peak
17541.9800	V	67.29	74.00	6.71	Peak
8697.6200	V	47.25	54.00	6.75	Avg
13635.0500	V	46.52	54.00	7.48	Avg
17538.4500	V	46.30	54.00	7.70	Avg
8725.0400	H	64.75	74.00	9.25	Peak
10544.8900	H	65.15	74.00	8.85	Peak
15689.9900	H	66.19	74.00	7.81	Peak
8725.0400	H	46.93	54.00	7.07	Avg
10529.8900	H	45.34	54.00	8.66	Avg
15674.9900	H	42.66	54.00	11.34	Avg

- Note:** (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

● ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode: 802.11AX(HT20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5142.52	V	65.47	-29.76	-27	Pass
5113.11	H	65.34	-29.89	-27	Pass

Test mode: 802.11AX(HT20) Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5360.40	V	66.13	-29.1	-27	Pass
5358.60	H	66.39	-28.84	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
 d is the measurement distance in 3 meters

Test mode: 802.11AX(HT20) Frequency(MHz): 5260

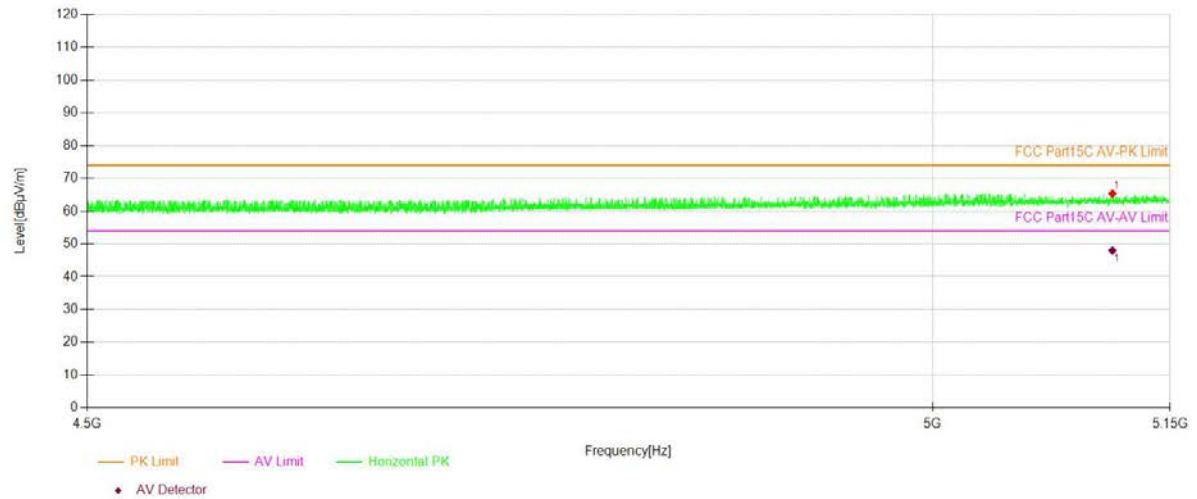
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5142.52	V	65.47	74.00	8.53	Peak
5142.52	V	47.20	54.00	6.80	Avg
5113.11	H	65.34	74.00	8.66	Peak
5113.11	H	47.96	54.00	6.04	Avg

Test mode: 802.11AX(HT20) Frequency(MHz): 5320

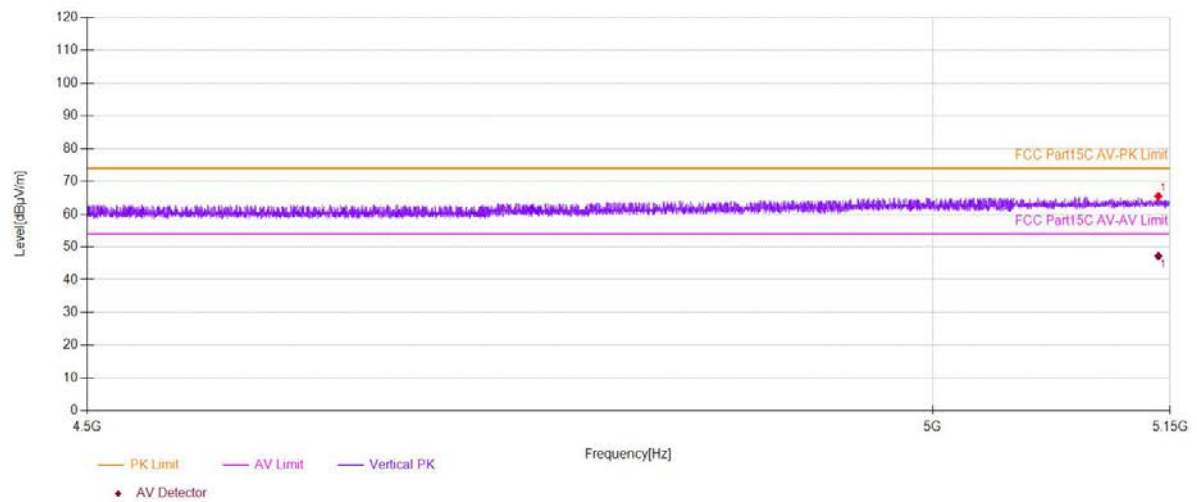
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5360.40	V	66.13	74.00	7.87	Peak
5360.40	V	47.25	54.00	6.75	Avg
5358.60	H	66.39	74.00	7.61	Peak
5358.60	H	47.02	54.00	6.98	Avg

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 (3) Correct Factor= Ant_F + Cab_L - Preamp
 (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

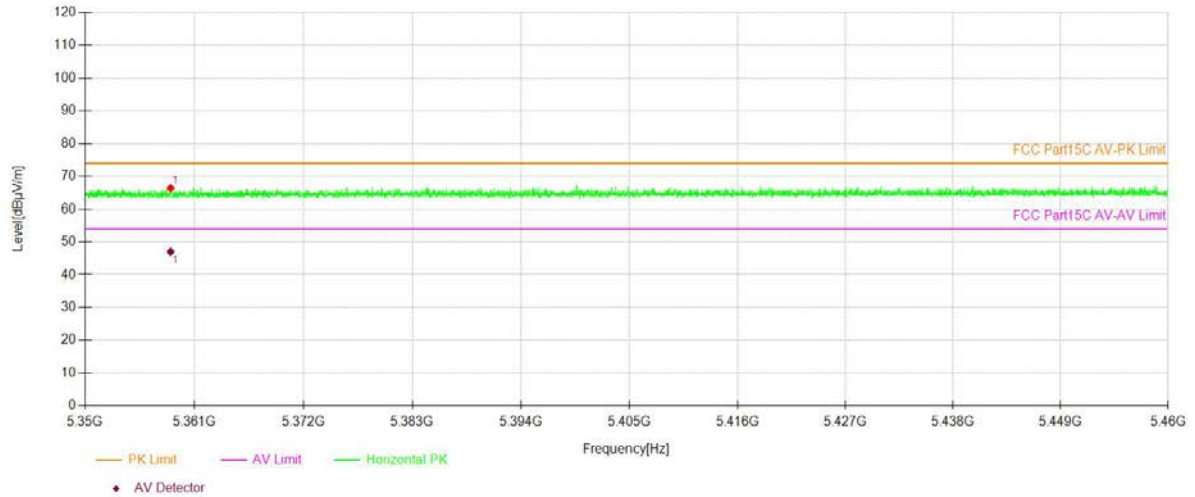
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol H



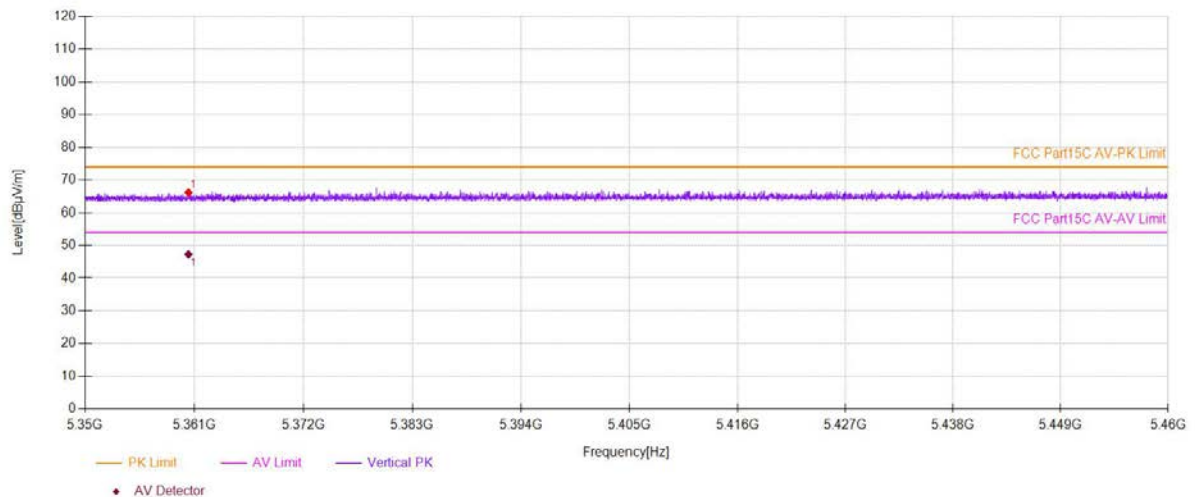
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol V



Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☐ 5260 ☐ 5300 ☒ 5320 Ant.Pol H



Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☐ 5260 ☐ 5300 ☒ 5320 Ant.Pol V



- ☒ For Undesirable radiated Spurious Emission in U-NII -2C
 - ☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)
- All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11n(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8679.33	V	65.14	-30.09	-27	3.09
10167.5	V	65.77	-29.46	-27	2.46
15584.7	V	67.65	-27.58	-27	0.58
8670.83	H	64.63	-30.6	-27	3.6
9997.49	H	66.00	-29.23	-27	2.23
13849.9	H	67.36	-27.87	-27	0.87

Test mode: 802.11n(20) Frequency(MHz): 5580

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8704.85	V	64.34	-30.89	-27	3.89
10133.5	V	65.93	-29.3	-27	2.3
17948.9	V	67.35	-27.88	-27	0.88
9002.50	H	64.78	-30.45	-27	3.45
12225.6	H	66.71	-28.52	-27	1.52
16690.3	H	67.69	-27.54	-27	0.54

Test mode: 802.11n(20) Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6935.96	V	59.29	-35.94	-27	8.94
8738.86	V	65.68	-29.55	-27	2.55
13577.7	V	67.12	-28.11	-27	1.11
8619.80	H	63.94	-31.29	-27	4.29
13212.1	H	66.36	-28.87	-27	1.87
17940.4	H	66.87	-28.36	-27	1.36

MIMO:

Test mode: 802.11n(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8677.9400	V	65.01	-30.22	-27	3.22
10166.1100	V	65.61	-29.62	-27	2.62
15585.9800	V	67.62	-27.61	-27	0.61
8682.5200	H	64.55	-30.68	-27	3.68
10009.1800	H	65.79	-29.44	-27	2.44
13861.5900	H	67.2	-28.03	-27	1.03

Test mode: 802.11n(20) Frequency(MHz): 5580

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8703.4600	V	64.21	-31.02	-27	4.02
10132.1100	V	65.77	-29.46	-27	2.46
17950.1800	V	67.32	-27.91	-27	0.91
9014.1900	H	64.7	-30.53	-27	3.53
12237.2900	H	66.5	-28.73	-27	1.73
16701.9900	H	67.53	-27.70	-27	0.70

Test mode: 802.11n(20) Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
6934.5700	V	59.16	-36.07	-27	9.07
8737.4700	V	65.52	-29.71	-27	2.71
13578.9800	V	67.09	-28.14	-27	1.14
8631.4900	H	63.86	-31.37	-27	4.37
13223.7900	H	66.15	-29.08	-27	2.08
17952.0900	H	66.71	-28.52	-27	1.52

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

ANT1:

Test mode: 802.11n(20)		Frequency(MHz): 5500			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8679.33	V	65.14	74.00	8.86	Peak
10167.5	V	65.77	74.00	8.23	Peak
15584.7	V	67.65	74.00	6.35	Peak
8679.33	V	46.82	54.00	7.18	Avg
10167.5	V	44.89	54.00	9.11	Avg
15584.7	V	42.67	54.00	11.33	Avg
8670.83	H	64.63	74.00	9.37	Peak
9997.49	H	66.00	74.00	8.00	Peak
13849.9	H	67.36	74.00	6.64	Peak
8670.83	H	46.69	54.00	7.31	Avg
9997.49	H	45.06	54.00	8.94	Avg
13849.9	H	43.21	54.00	10.79	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8704.85	V	64.34	74.00	9.66	Peak
10133.5	V	65.93	74.00	8.07	Peak
17948.9	V	67.35	74.00	6.65	Peak
8704.85	V	47.54	54.00	6.46	Avg
10133.5	V	45.06	54.00	8.94	Avg
17948.9	V	47.01	54.00	6.99	Avg
9002.50	H	64.78	74.00	9.22	Peak
12225.6	H	66.71	74.00	7.29	Peak
16690.3	H	67.69	74.00	6.31	Peak
9002.50	H	47.47	54.00	6.53	Avg
12225.6	H	46.27	54.00	7.73	Avg
16690.3	H	44.45	54.00	9.55	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
6935.96	V	59.29	74.00	14.71	Peak
8738.86	V	65.68	74.00	8.32	Peak
13577.7	V	67.12	74.00	6.88	Peak
6935.96	V	40.57	54.00	13.43	Avg
8738.86	V	42.12	54.00	11.88	Avg
13577.7	V	41.88	54.00	12.12	Avg
8619.80	H	63.94	74.00	10.06	Peak
13212.1	H	66.36	74.00	7.64	Peak
17940.4	H	66.87	74.00	7.13	Peak
8619.80	H	44.40	54.00	9.60	Avg
13212.1	H	47.22	54.00	6.78	Avg
17940.4	H	47.04	54.00	6.96	Avg

MIMO:

Test mode: 802.11n(20)		Frequency(MHz): 5500			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8677.9400	V	65.01	74.00	8.99	Peak
10166.1100	V	65.61	74.00	8.39	Peak
15585.9800	V	67.62	74.00	6.38	Peak
8680.6100	V	46.80	54.00	7.20	Avg
10165.2500	V	44.63	54.00	9.37	Avg
15582.4500	V	42.48	54.00	11.52	Avg
8682.5200	H	64.55	74.00	9.45	Peak
10009.1800	H	65.79	74.00	8.21	Peak
13861.5900	H	67.20	74.00	6.80	Peak
8682.5200	H	46.55	54.00	7.45	Avg
9994.1800	H	44.88	54.00	9.12	Avg
13846.5900	H	43.08	54.00	10.92	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8703.4600	V	64.21	74.00	9.79	Peak
10132.1100	V	65.77	74.00	8.23	Peak
17950.1800	V	67.32	74.00	6.68	Peak
8706.1300	V	47.52	54.00	6.48	Avg
10131.2500	V	44.80	54.00	9.20	Avg
17946.6500	V	46.82	54.00	7.18	Avg
9014.1900	H	64.70	74.00	9.30	Peak
12237.2900	H	66.50	74.00	7.50	Peak
16701.9900	H	67.53	74.00	6.47	Peak
9014.1900	H	47.33	54.00	6.67	Avg
12222.2900	H	46.09	54.00	7.91	Avg
16686.9900	H	44.32	54.00	9.68	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
6934.5700	V	59.16	74.00	14.84	Peak
8737.4700	V	65.52	74.00	8.48	Peak
13578.9800	V	67.09	74.00	6.91	Peak
6937.2400	V	40.55	54.00	13.45	Avg
8736.6100	V	41.86	54.00	12.14	Avg
13575.4500	V	41.69	54.00	12.31	Avg
8631.4900	H	63.86	74.00	10.14	Peak
13223.7900	H	66.15	74.00	7.85	Peak
17952.0900	H	66.71	74.00	7.29	Peak
8631.4900	H	44.26	54.00	9.74	Avg
13208.7900	H	47.04	54.00	6.96	Avg
17937.0900	H	46.91	54.00	7.09	Avg

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 - (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 - (3) Correct Factor= Ant_F + Cab_L - Preamp
 - (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

● ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode: 802.11AX(HT20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5467.6125	V	56.89	-38.34	-27	Pass
5464.6938	H	56.56	-38.67	-27	Pass

Test mode: 802.11AX(HT20) Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5729.5812	V	58.15	-37.08	-27	Pass
5728.6688	H	57.42	-37.81	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).

(2) Emission Level= Reading Level+Correct Factor +Cable Loss.

(3) Correct Factor= Ant_F + Cab_L - Preamp

(4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

Test mode: 802.11AX(HT20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5467.61	V	56.89	74.00	17.11	Peak
5467.61	V	47.75	54.00	6.25	Avg
5464.69	H	56.56	74.00	17.44	Peak
5464.69	H	47.26	54.00	6.74	Avg

Test mode: 802.11AX(HT20) Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5729.58	V	58.15	74.00	15.85	Peak
5729.58	V	47.60	54.00	6.40	Avg
5728.66	H	57.42	74.00	16.58	Peak
5728.66	H	47.69	54.00	6.31	Avg

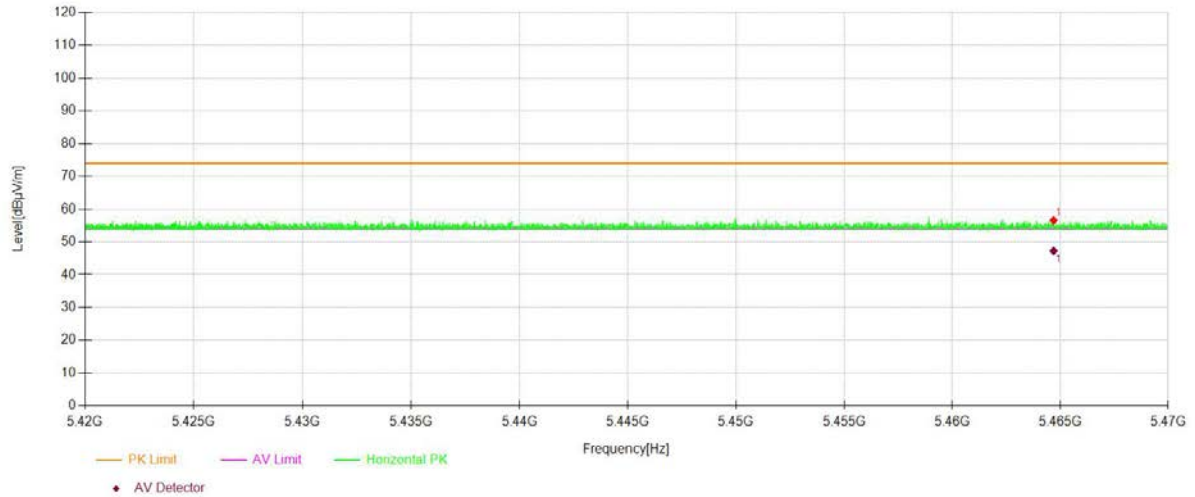
Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).

(2) Emission Level= Reading Level+Correct Factor +Cable Loss.

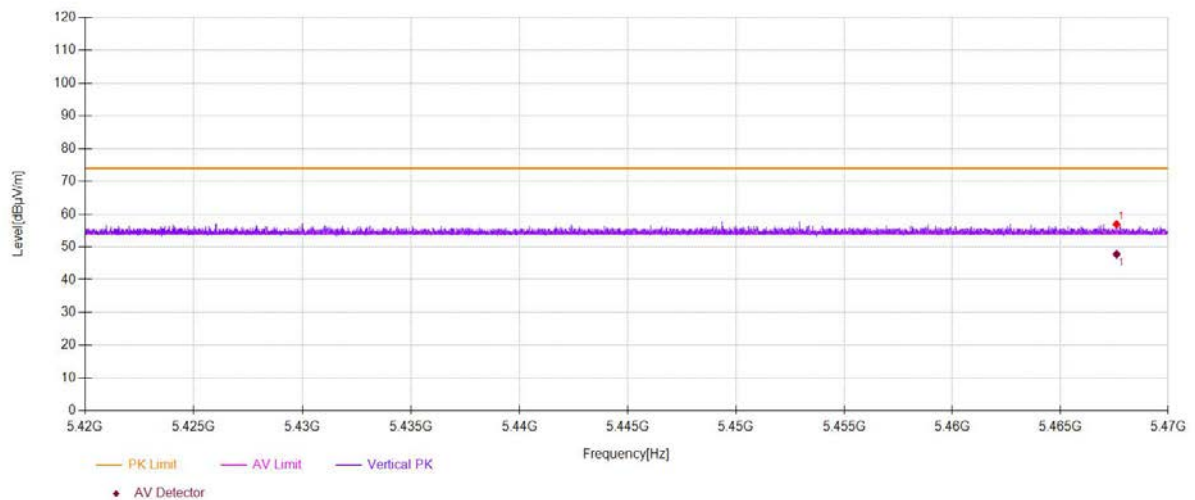
(3) Correct Factor= Ant_F + Cab_L - Preamp

(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

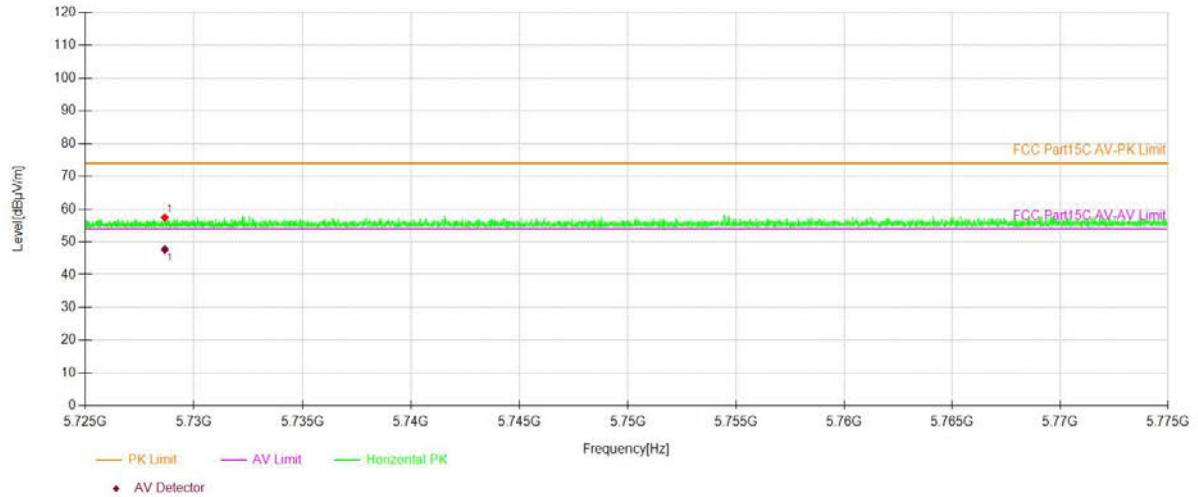
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol H



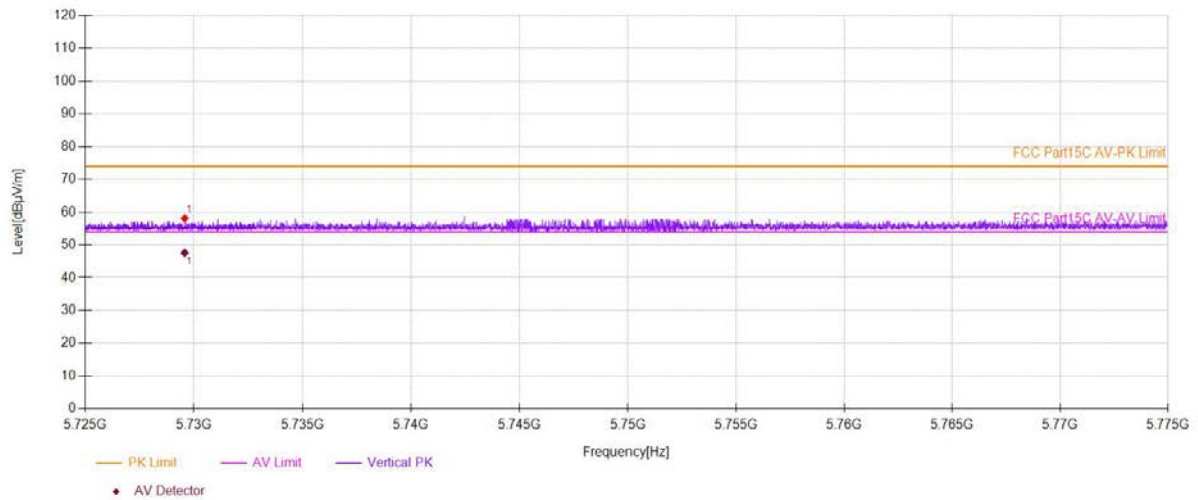
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol V



Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☐ 5500 ☐ 5580 ☒ 5700 Ant.Pol H



Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11 ac (VHT20)
☐ 5500 ☐ 5580 ☒ 5700 Ant.Pol V



- ☒ For Undesirable radiated Spurious Emission in U-NII -3
- ☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT1 and MIMO as below:

ANT1:

Test mode: 802.11n(20) Frequency(MHz): 5745

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9002.50	V	64.73	-30.5	-27	3.5
11919.4	V	67.06	-28.17	-27	1.17
16664.8	V	67.29	-27.94	-27	0.94
8670.83	H	64.62	-30.61	-27	3.61
10533.2	H	66.07	-29.16	-27	2.16
15678.3	H	67.79	-27.44	-27	0.44

Test mode: 802.11n(20) Frequency(MHz): 5785

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7913.95	V	63.37	-31.86	-27	4.86
9971.98	V	66.87	-28.36	-27	1.36
13229.1	V	67.67	-27.56	-27	0.56
9784.89	H	65.59	-29.64	-27	2.64
13025.0	H	65.73	-29.5	-27	2.5
17693.8	H	67.06	-28.17	-27	1.17

Test mode: 802.11n(20) Frequency(MHz): 5825

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9019.50	V	65.01	-30.22	-27	3.22
12055.5	V	66.02	-29.21	-27	2.21
14309.1	V	67.41	-27.82	-27	0.82
9657.32	H	65.88	-29.35	-27	2.35
12744.3	H	67.82	-27.41	-27	0.41
17974.4	H	67.74	-27.49	-27	0.49

MIMO:

Test mode: 802.11n(20) Frequency(MHz): 5745

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9001.1100	V	64.6	-30.63	-27	3.63
11918.0100	V	66.9	-28.33	-27	1.33
16666.0800	V	67.26	-27.97	-27	0.97
8682.5200	H	64.54	-30.69	-27	3.69
10544.8900	H	65.86	-29.37	-27	2.37
15689.9900	H	67.63	-27.60	-27	0.60

Test mode: 802.11n(20) Frequency(MHz): 5785

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
7912.5600	V	63.24	-31.99	-27	4.99
9970.5900	V	66.71	-28.52	-27	1.52
13230.3800	V	67.64	-27.59	-27	0.59
9796.5800	H	65.51	-29.72	-27	2.72
13036.6900	H	65.52	-29.71	-27	2.71
17705.4900	H	66.9	-28.33	-27	1.33

Test mode: 802.11n(20) Frequency(MHz): 5825

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9018.1100	V	64.88	-30.35	-27	3.35
12054.1100	V	65.86	-29.37	-27	2.37
14310.3800	V	67.38	-27.85	-27	0.85
9669.0100	H	65.8	-29.43	-27	2.43
12755.9900	H	67.61	-27.62	-27	0.62
17986.0900	H	67.58	-27.65	-27	0.65

Note: (1) All Readings are Peak Value (VBW=3MHz) and AV Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

ANT1:

Test mode: 802.11n(20)		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9002.50	V	64.73	74.00	9.27	Peak
11919.4	V	67.06	74.00	6.94	Peak
16664.8	V	67.29	74.00	6.71	Peak
9002.50	V	47.37	54.00	6.63	Avg
11919.4	V	45.94	54.00	8.06	Avg
16664.8	V	46.72	54.00	7.28	Avg
8670.83	H	64.62	74.00	9.38	Peak
10533.2	H	66.07	74.00	7.93	Peak
15678.3	H	67.79	74.00	6.21	Peak
8670.83	H	46.43	54.00	7.57	Avg
10533.2	H	45.58	54.00	8.42	Avg
15678.3	H	46.06	54.00	7.94	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7913.95	V	63.37	74.00	10.63	Peak
9971.98	V	66.87	74.00	7.13	Peak
13229.1	V	67.67	74.00	6.33	Peak
7913.95	V	42.86	54.00	11.14	Avg
9971.98	V	44.79	54.00	9.21	Avg
13229.1	V	46.47	54.00	7.53	Avg
9784.89	H	65.59	74.00	8.41	Peak
13025.0	H	65.73	74.00	8.27	Peak
17693.8	H	67.06	74.00	6.94	Peak
9784.89	H	47.65	54.00	6.35	Avg
13025.0	H	45.66	54.00	8.34	Avg
17693.8	H	47.77	54.00	6.23	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9019.50	V	65.01	74.00	8.99	Peak
12055.5	V	66.02	74.00	7.98	Peak
14309.1	V	67.41	74.00	6.59	Peak
9019.50	V	47.23	54.00	6.77	Avg
12055.5	V	45.95	54.00	8.05	Avg
14309.1	V	47.67	54.00	6.33	Avg
9657.32	H	65.88	74.00	8.12	Peak
12744.3	H	67.82	74.00	6.18	Peak
17974.4	H	67.74	74.00	6.26	Peak
9657.32	H	45.91	54.00	8.09	Avg
12744.3	H	47.78	54.00	6.22	Avg
17974.4	H	47.17	54.00	6.83	Avg

MIMO:

Test mode: 802.11n(20)		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9001.1100	V	64.60	74.00	9.40	Peak
11918.0100	V	66.90	74.00	7.10	Peak
16666.0800	V	67.26	74.00	6.74	Peak
9003.7800	V	47.35	54.00	6.65	Avg
11917.1500	V	45.68	54.00	8.32	Avg
16662.5500	V	46.53	54.00	7.47	Avg
8682.5200	H	64.54	74.00	9.46	Peak
10544.8900	H	65.86	74.00	8.14	Peak
15689.9900	H	67.63	74.00	6.37	Peak
8682.5200	H	46.29	54.00	7.71	Avg
10529.8900	H	45.40	54.00	8.60	Avg
15674.9900	H	45.93	54.00	8.07	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
7912.5600	V	63.24	74.00	10.76	Peak
9970.5900	V	66.71	74.00	7.29	Peak
13230.3800	V	67.64	74.00	6.36	Peak
7915.2300	V	42.84	54.00	11.16	Avg
9969.7300	V	44.53	54.00	9.47	Avg
13226.8500	V	46.28	54.00	7.72	Avg
9796.5800	H	65.51	74.00	8.49	Peak
13036.6900	H	65.52	74.00	8.48	Peak
17705.4900	H	66.90	74.00	7.10	Peak
9796.5800	H	47.51	54.00	6.49	Avg
13021.6900	H	45.48	54.00	8.52	Avg
17690.4900	H	47.64	54.00	6.36	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9018.1100	V	64.88	74.00	9.12	Peak
12054.1100	V	65.86	74.00	8.14	Peak
14310.3800	V	67.38	74.00	6.62	Peak
9020.7800	V	47.21	54.00	6.79	Avg
12053.2500	V	45.69	54.00	8.31	Avg
14306.8500	V	47.48	54.00	6.52	Avg
9669.0100	H	65.80	74.00	8.20	Peak
12755.9900	H	67.61	74.00	6.39	Peak
17986.0900	H	67.58	74.00	6.42	Peak
9669.0100	H	45.77	54.00	8.23	Avg
12740.9900	H	47.60	54.00	6.40	Avg
17971.0900	H	47.04	54.00	6.96	Avg

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 - (2) Emission Level= Reading Level+Correct Factor +Cable Loss.
 - (3) Correct Factor= Ant_F + Cab_L - Preamp
 - (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

- ☒ Undesirable radiated Spurious Emission in band edge

Test mode:		802.11AX(HT20)		Frequency:		5745	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict		
5717.87	V	57.98	-37.25	-27	PASS		
5720.68	H	57.18	-38.05	-27	PASS		

Test mode:		802.11AX(HT20)		Frequency:		5825	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict		
5856.81	V	58.28	-36.95	-27	PASS		
5858.94	H	58.00	-37.23	-27	PASS		

Note: (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).

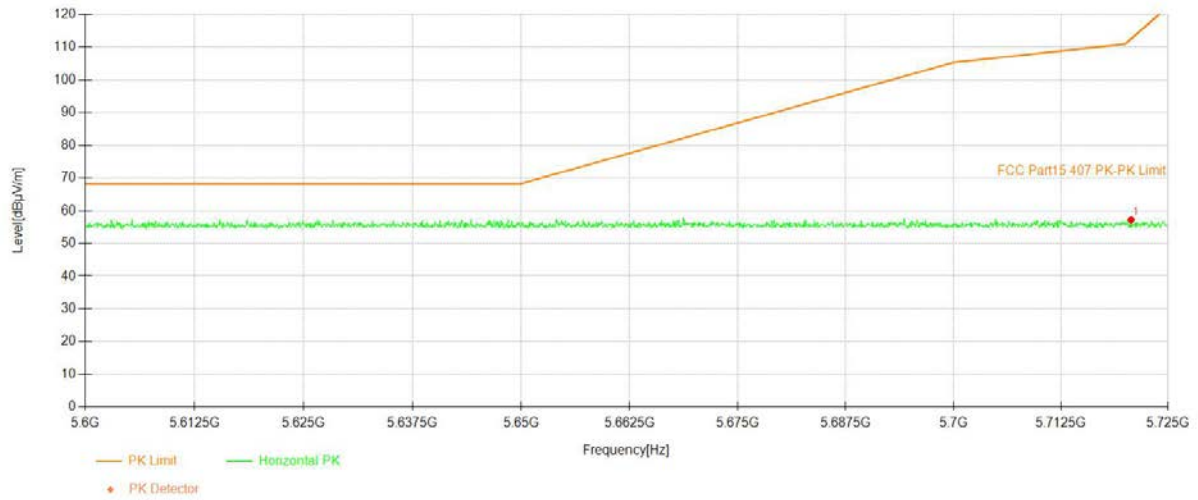
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.

(3) Correct Factor= Ant_F + Cab_L - Preamp

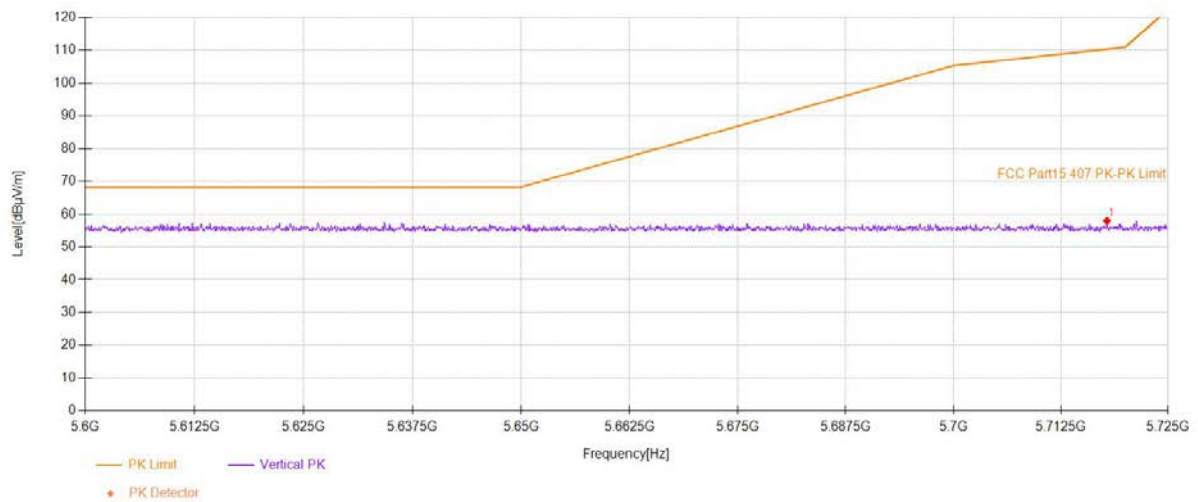
(4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

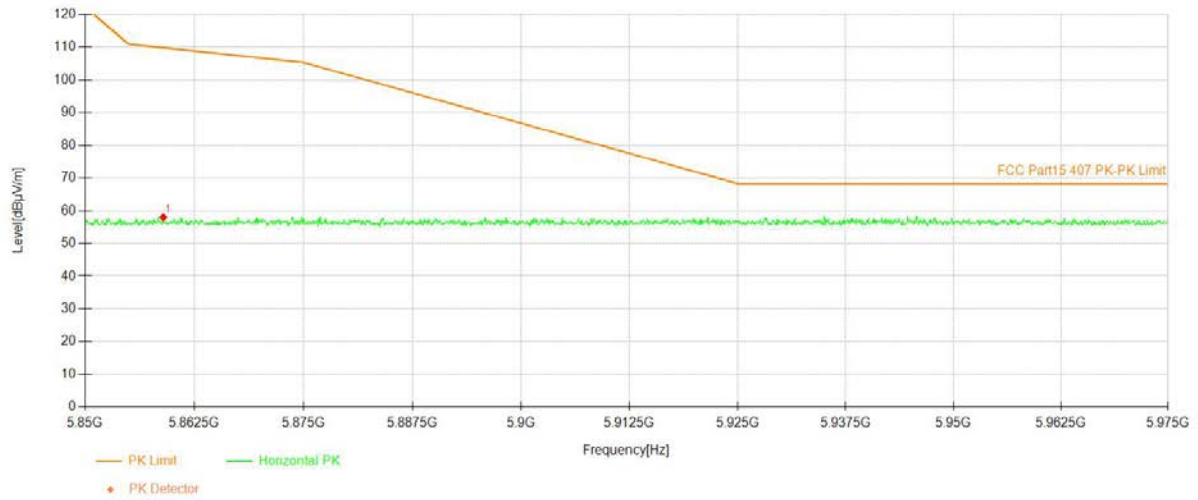
Test Model U-NII -3
 Undesirable radiated ☐ 802.11a Undesirable radiated ☒ 802.11AX(HT20) Spurious Emission in Band Edge ☐ 802.11n(HT40)
☒ 5745 Ant.Pol H



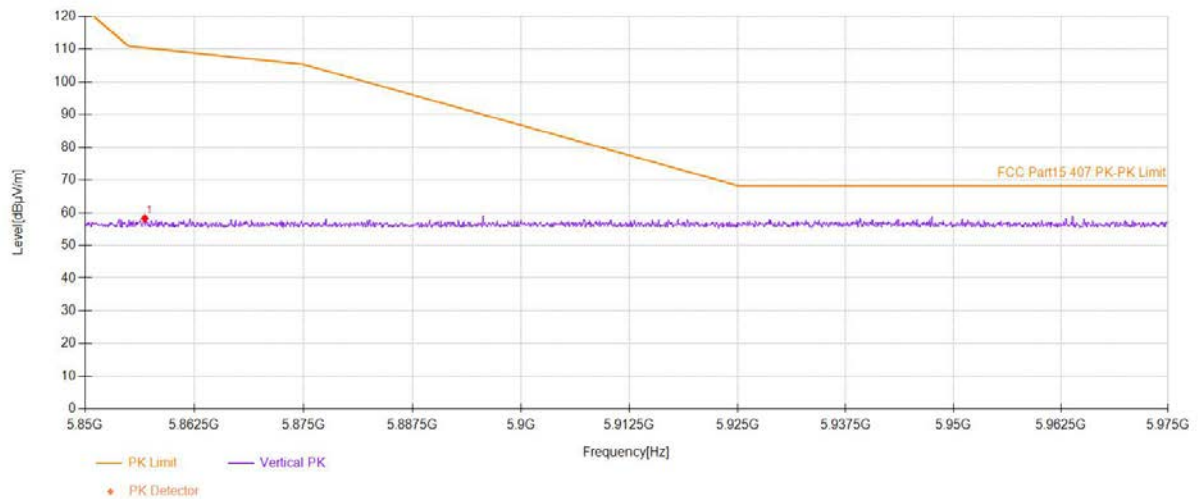
Test Model U-NII -3
 Undesirable radiated ☐ 802.11a Undesirable radiated ☒ 802.11AX(HT20) Spurious Emission in Band Edge ☐ 802.11n(HT40)
☒ 5745 Ant.Pol V



Test Model U-NII -3
Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11n(HT40)
☒ 5825 Ant.Pol H

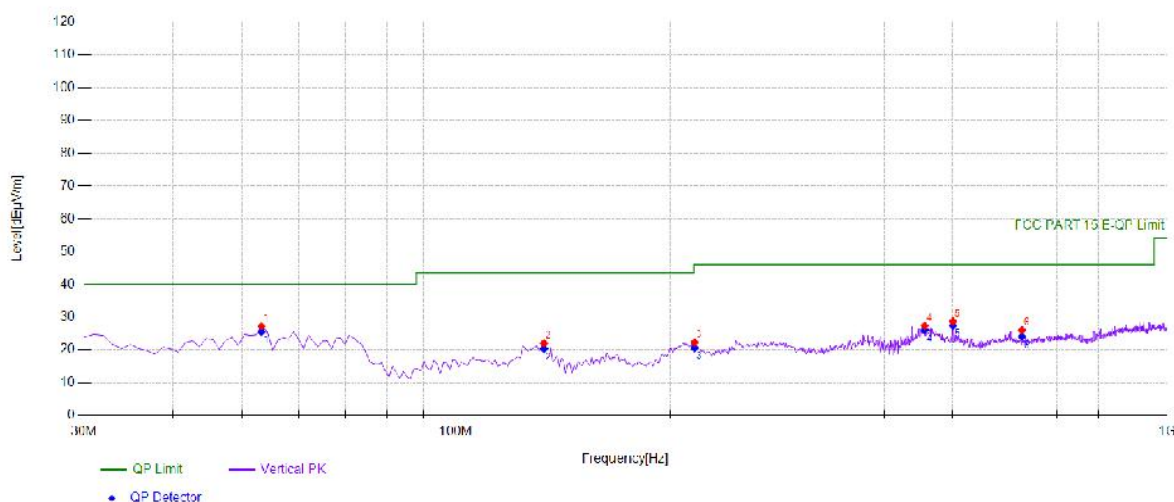


Test Model U-NII -3
Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☒ 802.11AX(HT20) ☐ 802.11n(HT40)
☒ 5825 Ant.Pol V



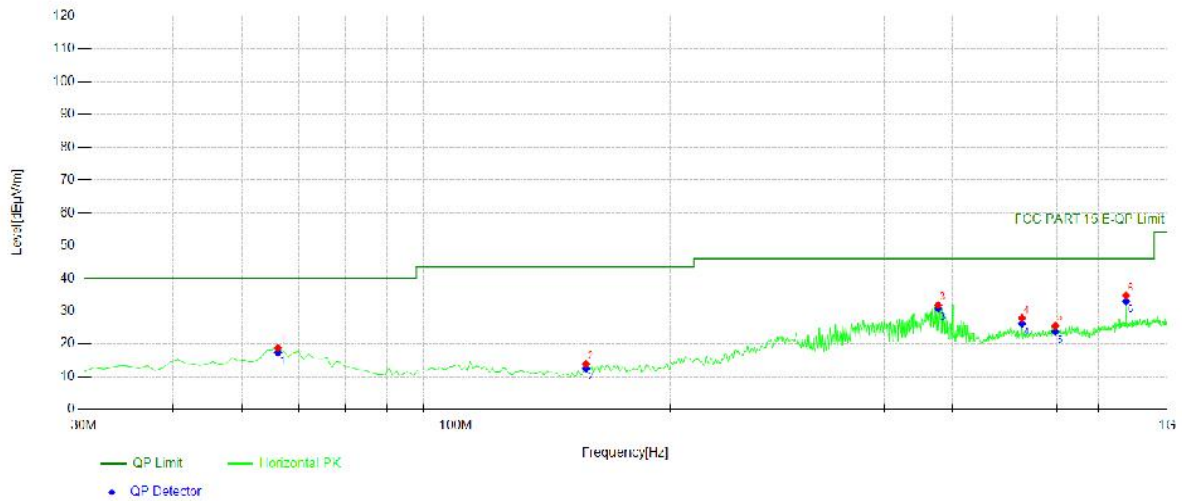
- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)
All of the configurations or modes are tested, the data of the worst case is recorded in the report.

Test mode: 802.11A(20) Frequency(MHz): 5180



Suspected Data List

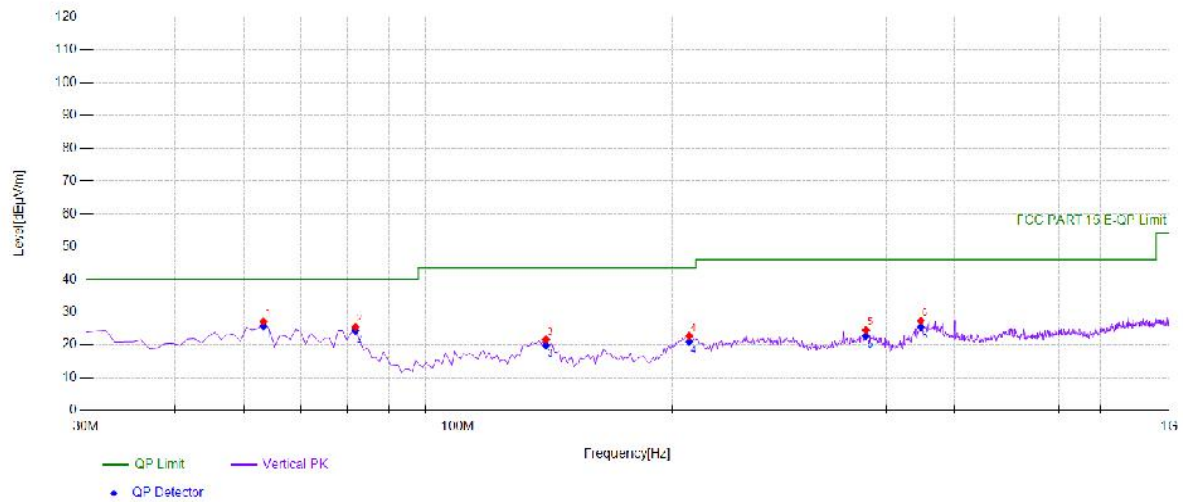
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	53.3033	43.61	-16.44	27.17	PK	40.00	12.83	Vertical
2	132.922	41.33	-19.31	22.02	PK	43.50	21.48	Vertical
3	216.426	38.78	-16.52	22.26	PK	46.00	23.74	Vertical
4	456.256	37.82	-10.48	27.34	PK	46.00	18.66	Vertical
5	499.95	38.76	-10.06	28.70	PK	46.00	17.30	Vertical
6	625.205	33.58	-7.60	25.98	PK	46.00	20.02	Vertical



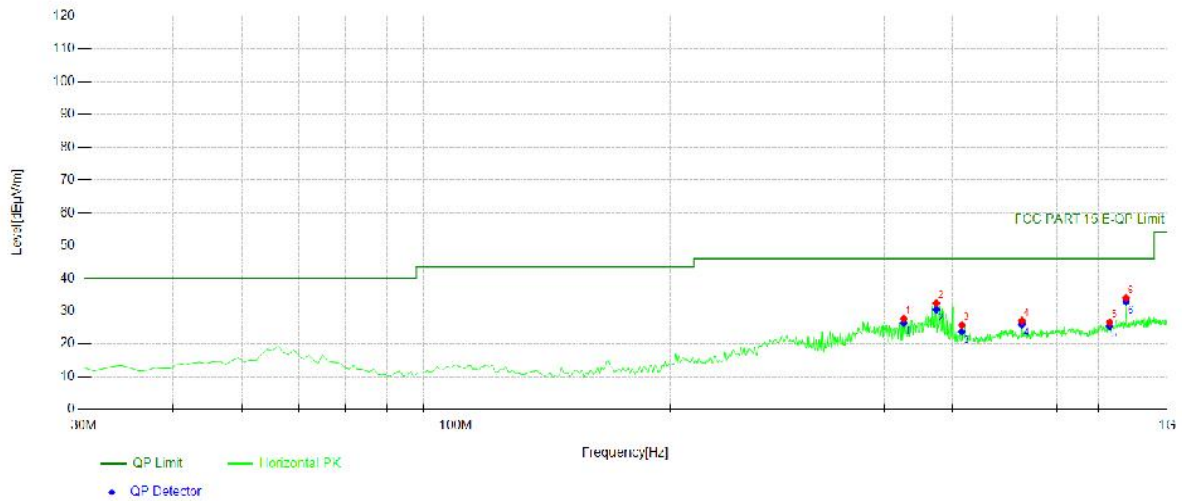
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	56.2162	35.52	-16.81	18.71	PK	40.00	21.29	Horizontal
2	152.342	33.36	-19.49	13.87	PK	43.50	29.63	Horizontal
3	476.646	41.96	-10.12	31.84	PK	46.00	14.16	Horizontal
4	625.205	35.45	-7.60	27.85	PK	46.00	18.15	Horizontal
5	696.086	31.76	-6.30	25.46	PK	46.00	20.54	Horizontal
6	875.715	38.44	-3.72	34.72	PK	46.00	11.28	Horizontal

Test mode: 802.11A(20) Frequency(MHz): 5200



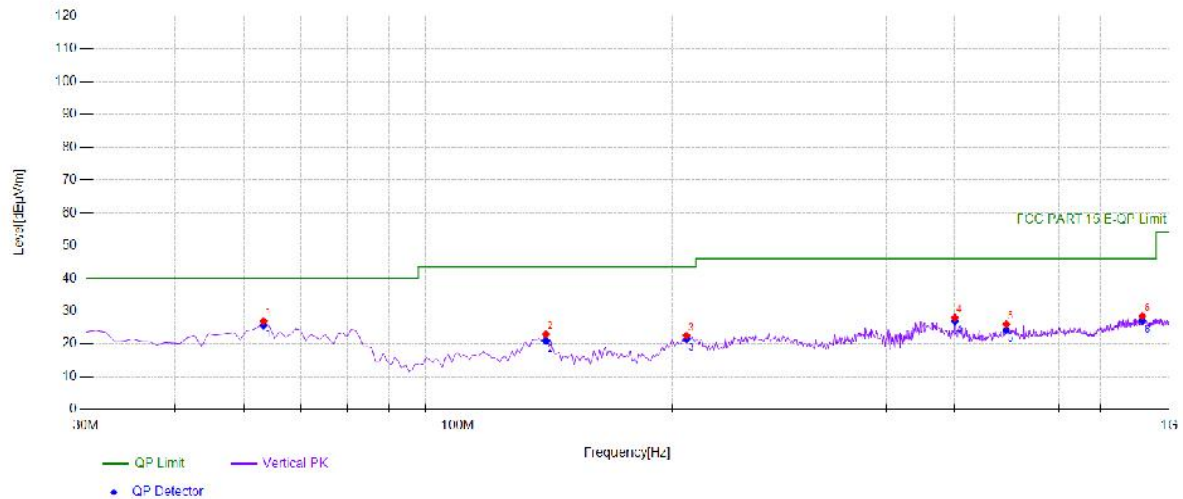
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	53.3033	43.56	-16.44	27.12	PK	40.00	12.88	Vertical
2	71.7518	44.40	-18.96	25.44	PK	40.00	14.56	Vertical
3	132.922	40.90	-19.31	21.59	PK	43.50	21.91	Vertical
4	211.571	39.55	-16.84	22.71	PK	43.50	20.79	Vertical
5	374.694	36.31	-11.82	24.49	PK	46.00	21.51	Vertical
6	447.517	38.17	-10.81	27.36	PK	46.00	18.64	Vertical



Suspected Data List

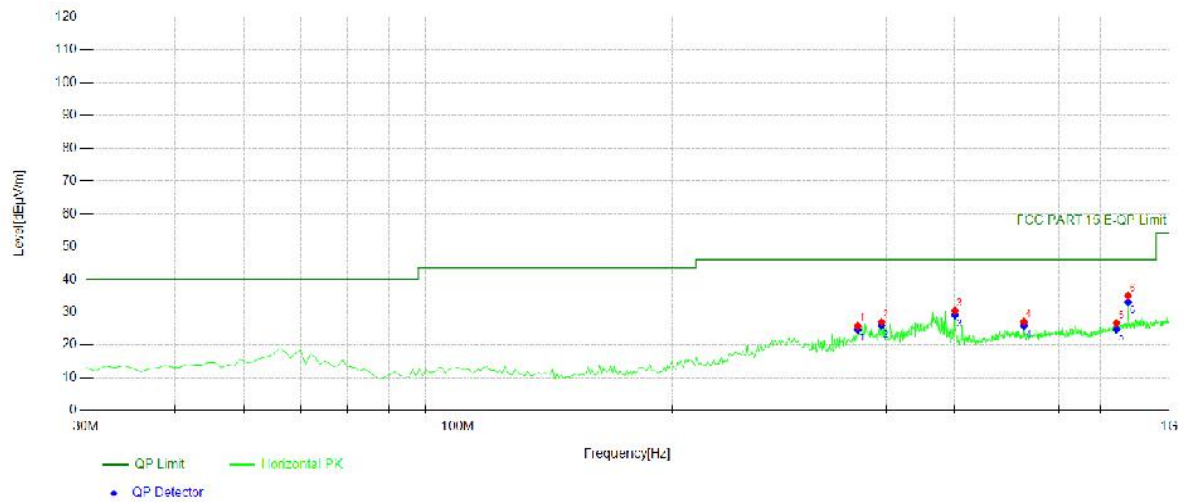
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	426.156	39.31	-11.60	27.71	PK	46.00	18.29	Horizontal
2	473.733	42.61	-10.17	32.44	PK	46.00	13.56	Horizontal
3	514.514	35.48	-9.78	25.70	PK	46.00	20.30	Horizontal
4	625.205	34.64	-7.60	27.04	PK	46.00	18.96	Horizontal
5	830.080	31.44	-4.92	26.52	PK	46.00	19.48	Horizontal
6	875.715	37.71	-3.72	33.99	PK	46.00	12.01	Horizontal

Test mode: 802.11A(20) Frequency(MHz): 5240



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	53.3033	43.40	-16.44	26.96	PK	40.00	13.04	Vertical
2	132.922	42.22	-19.31	22.91	PK	43.50	20.59	Vertical
3	209.629	39.51	-16.95	22.56	PK	43.50	20.94	Vertical
4	499.95	38.06	-10.06	28.00	PK	46.00	18.00	Vertical
5	590.250	32.92	-6.93	25.99	PK	46.00	20.01	Vertical
6	917.467	31.48	-2.99	28.49	PK	46.00	17.51	Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	364.985	37.87	-12.17	25.70	PK	46.00	20.30	Horizontal
2	394.114	38.32	-11.40	26.92	PK	46.00	19.08	Horizontal
3	499.95	40.45	-10.06	30.39	PK	46.00	15.61	Horizontal
4	625.205	34.65	-7.60	27.05	PK	46.00	18.95	Horizontal
5	843.673	31.11	-4.47	26.64	PK	46.00	19.36	Horizontal
6	875.715	38.69	-3.72	34.97	PK	46.00	11.03	Horizontal