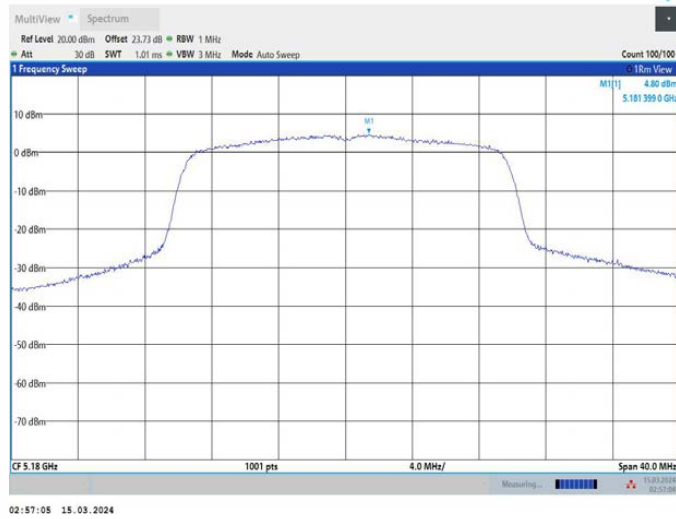
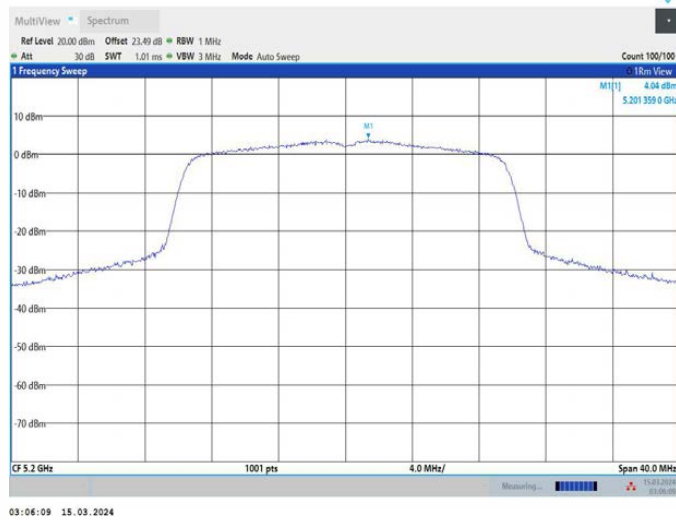


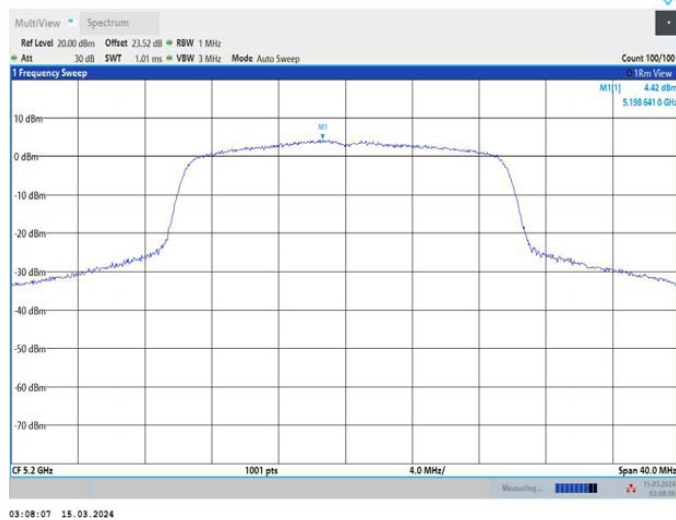
11AX20MIMO_Ant3_5180



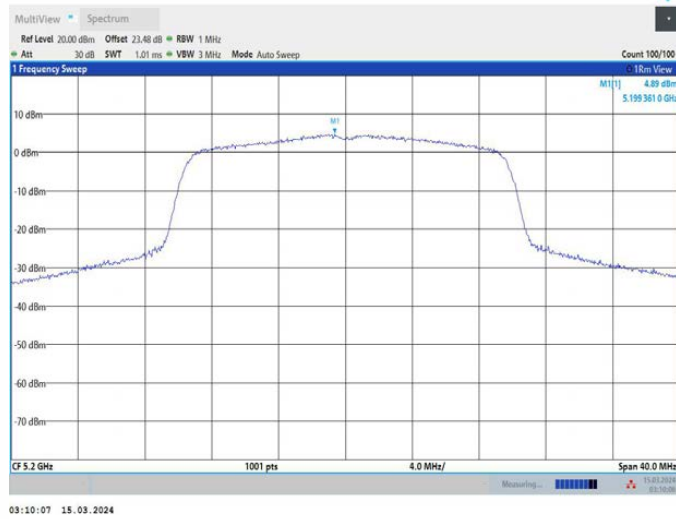
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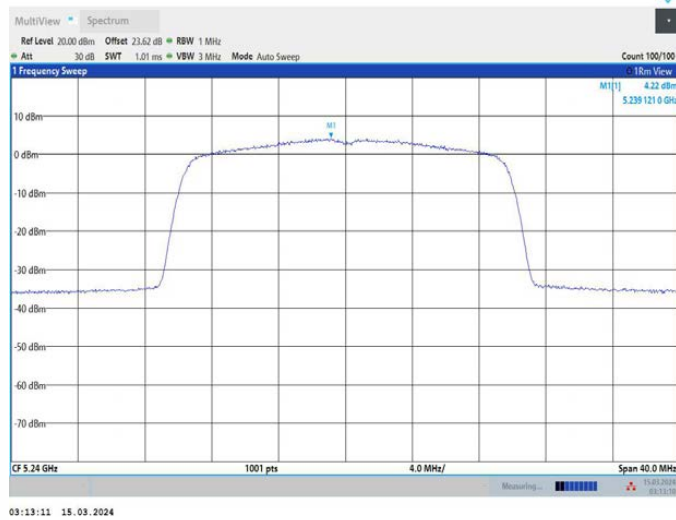
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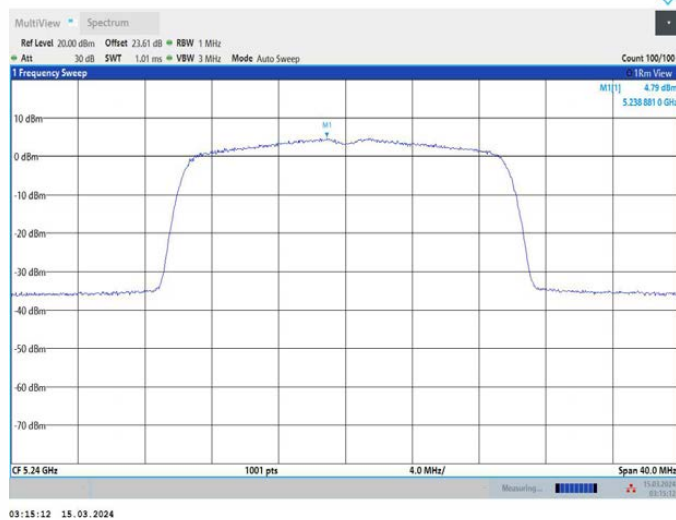
11AX20MIMO_Ant3_5200



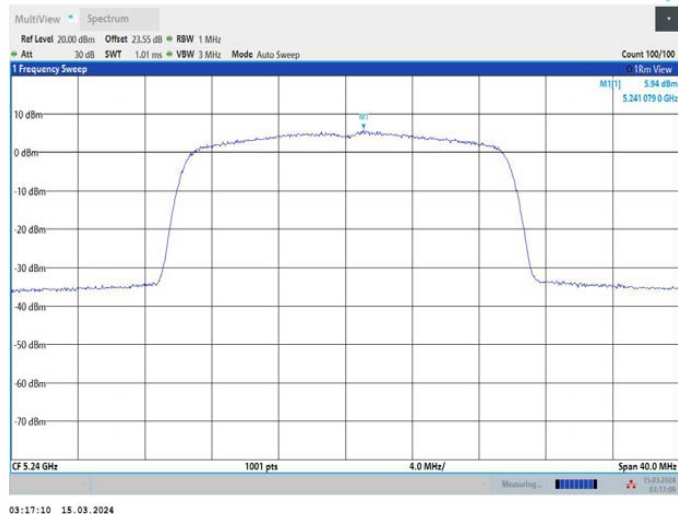
11AX20MIMO_Ant1_5240



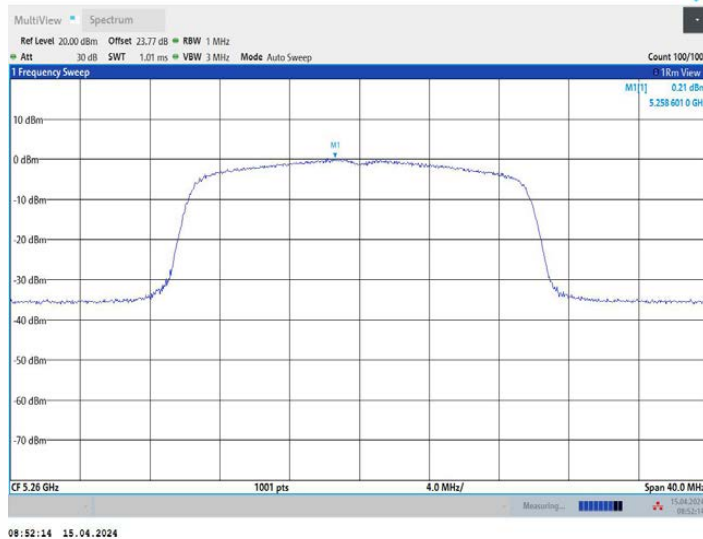
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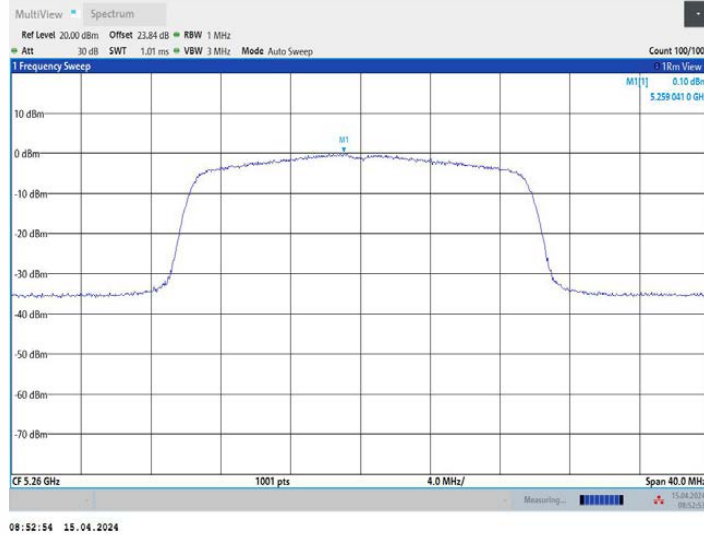
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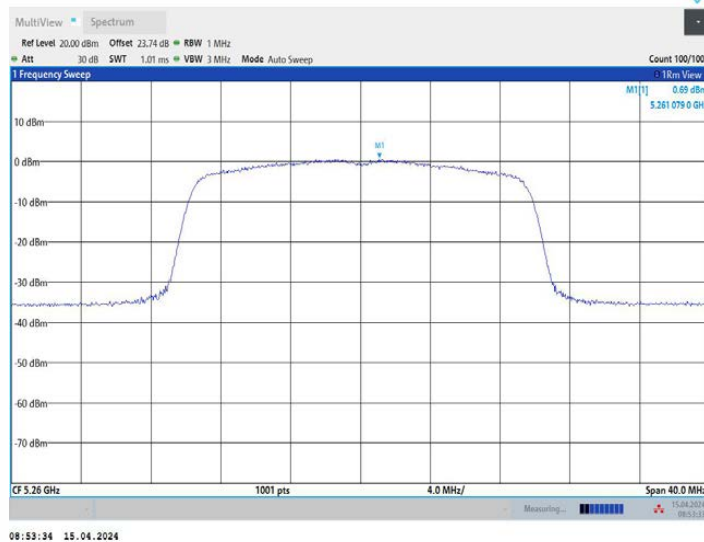
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11AX20MIMO_Ant2_5260



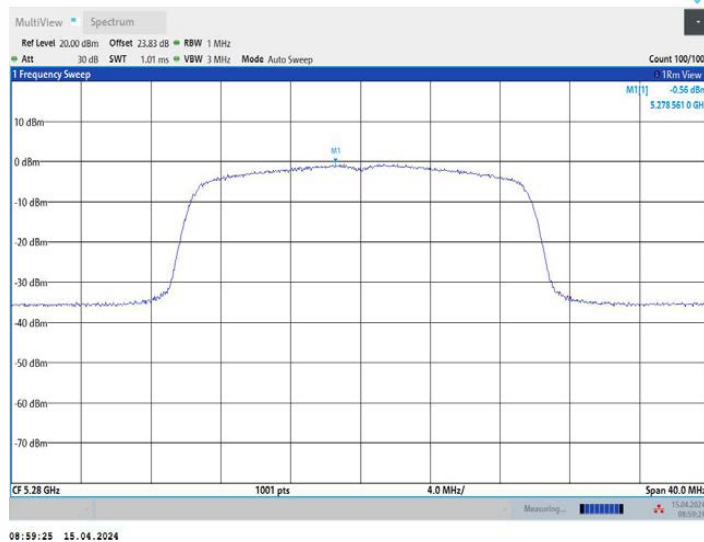
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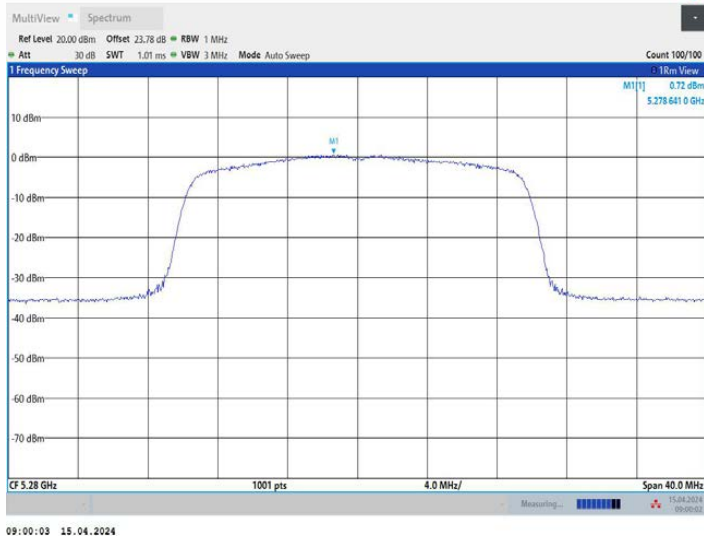
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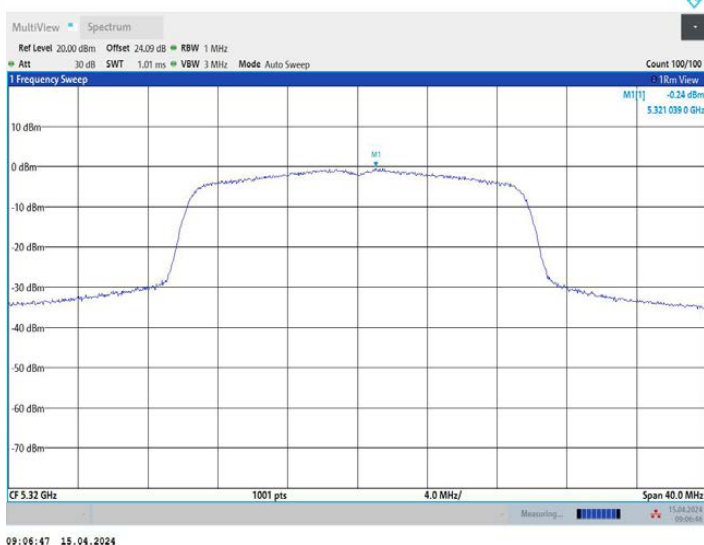
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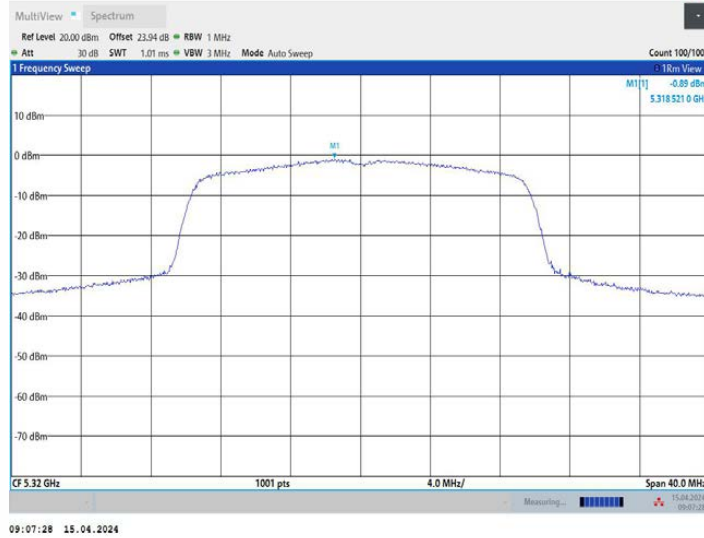
11AX20MIMO_Ant3_5280



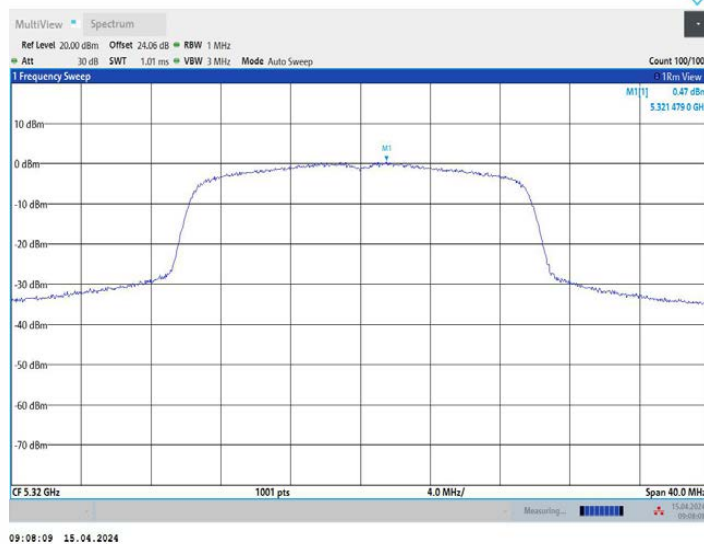
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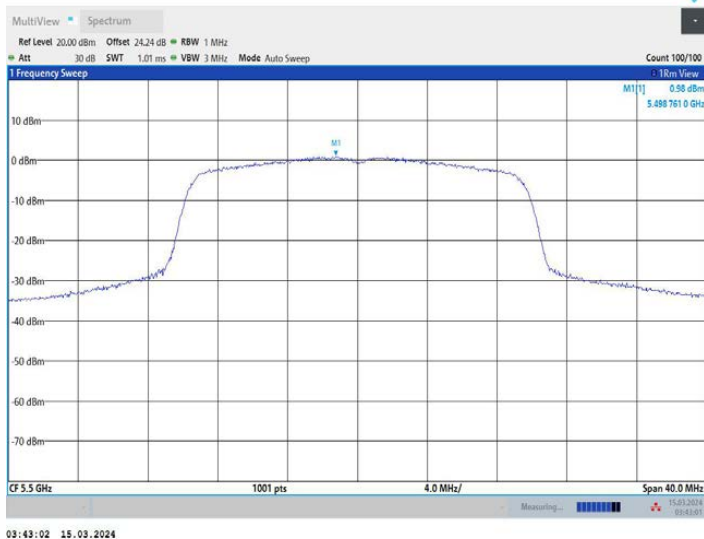
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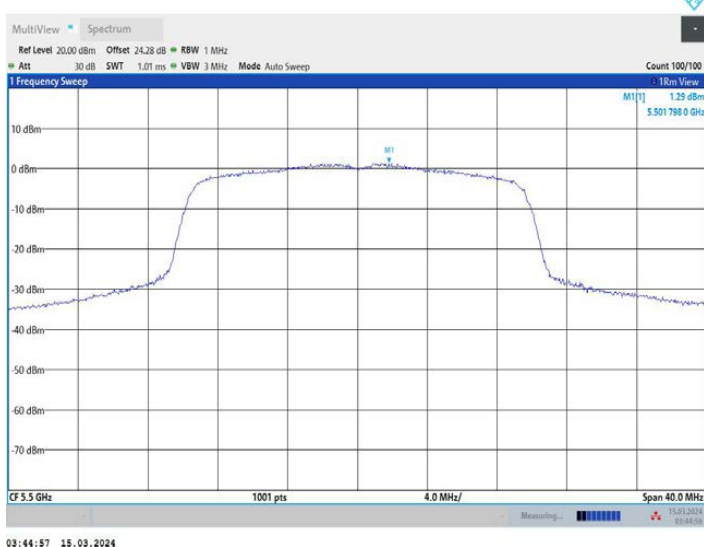
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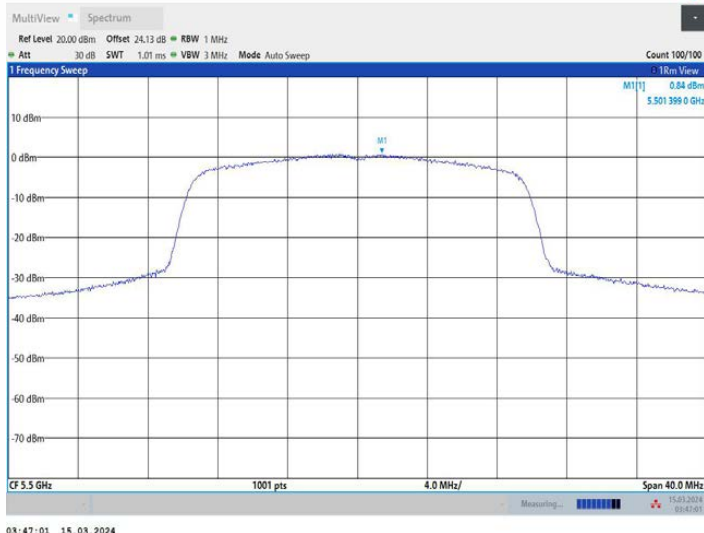
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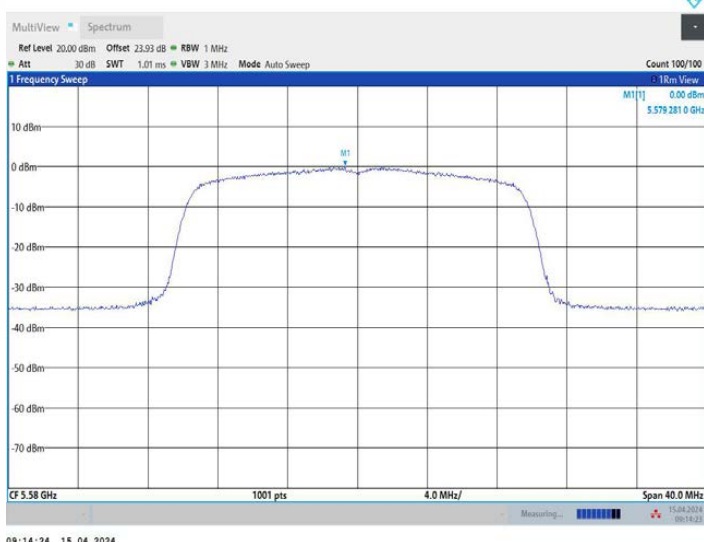
11AX20MIMO_Ant2_5500



11AX20MIMO_Ant3_5500



11AX20MIMO_Ant1_5580



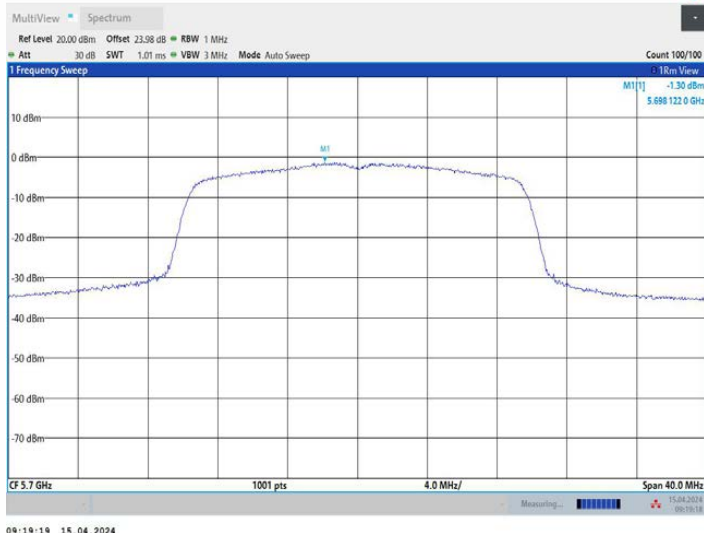
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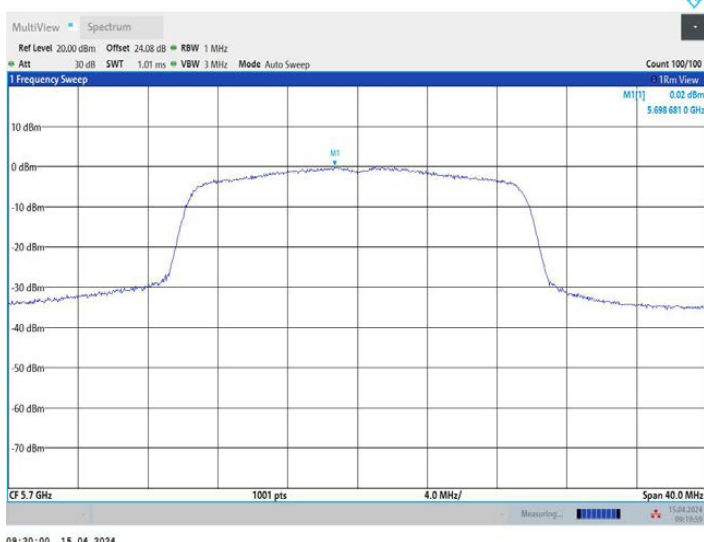
11AX20MIMO_Ant3_5580



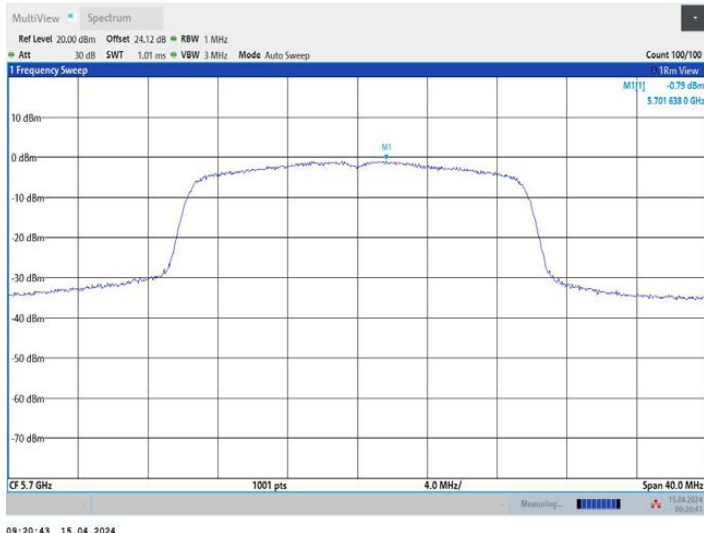
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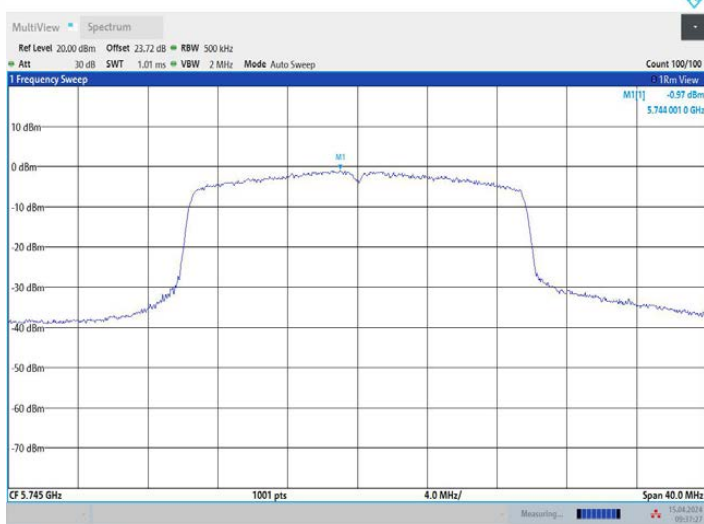
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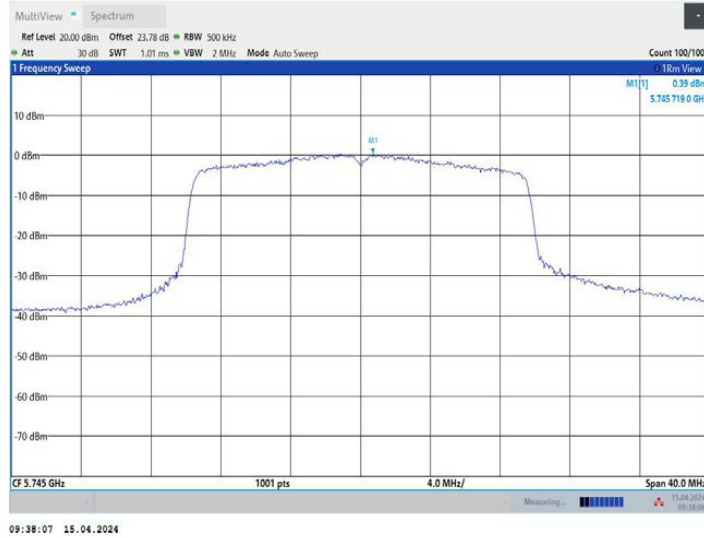
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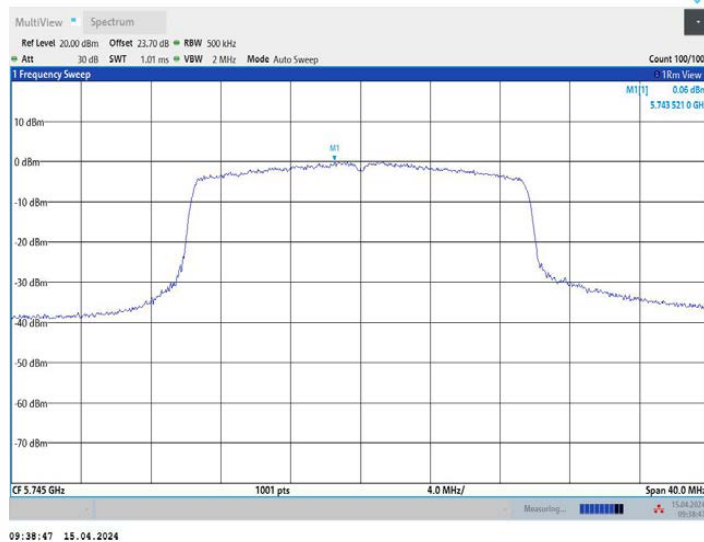
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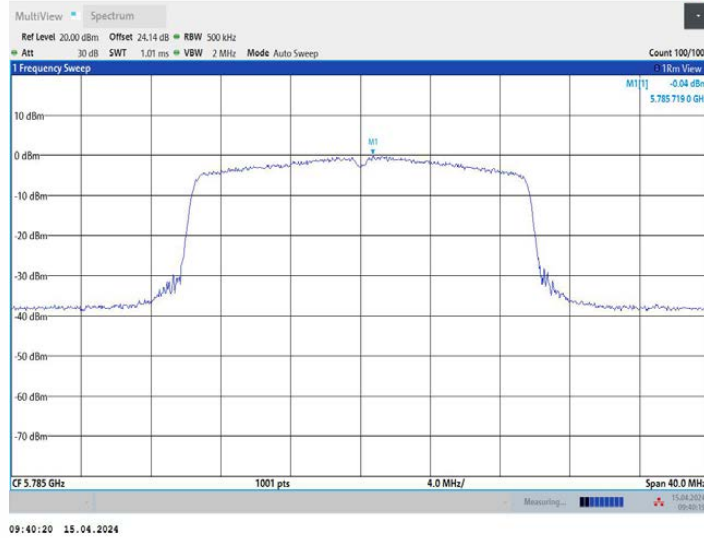
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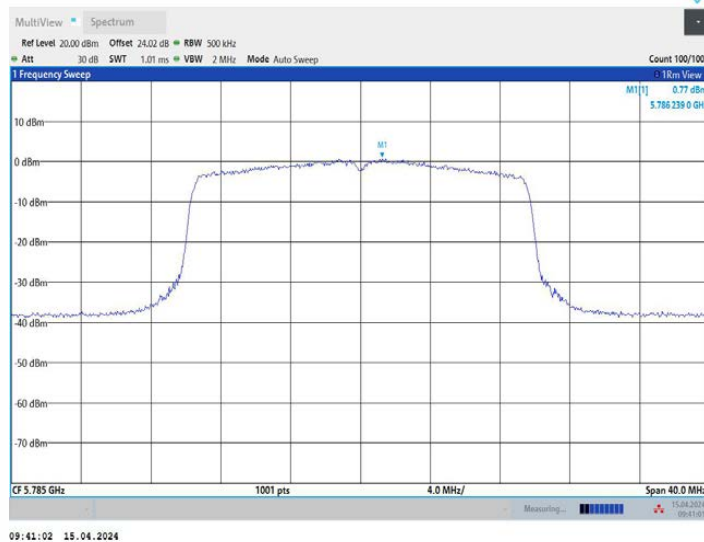
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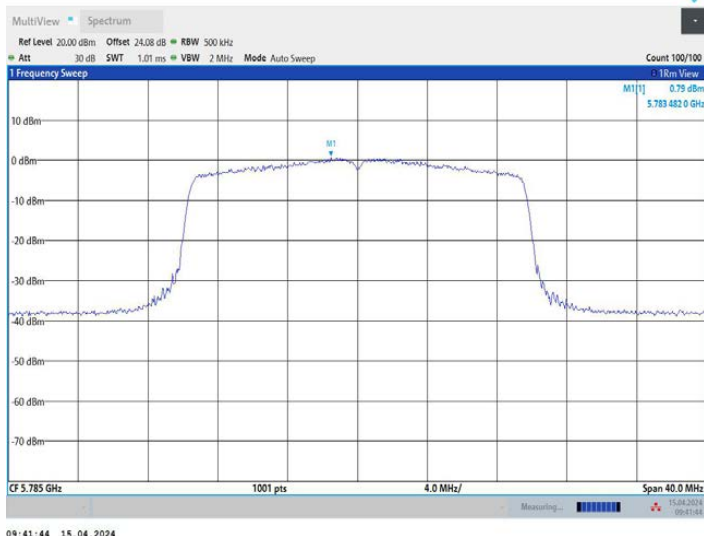
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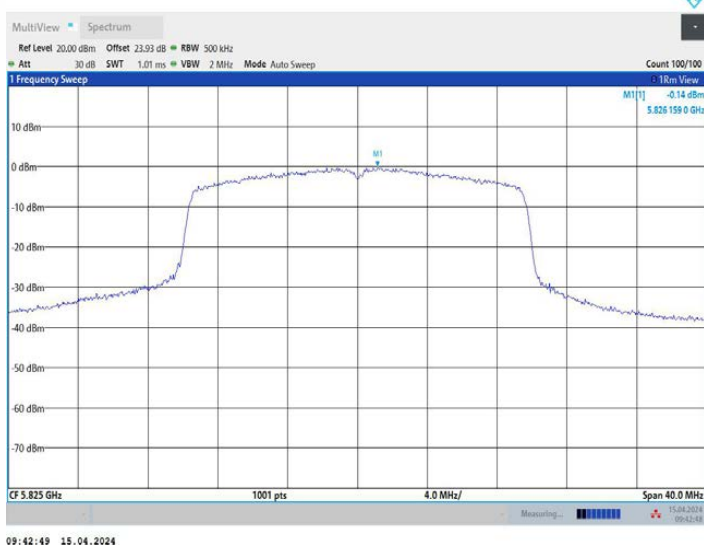
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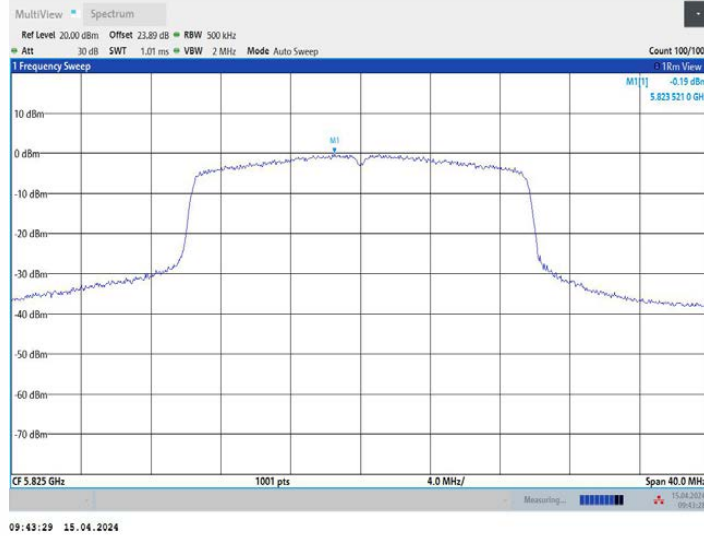
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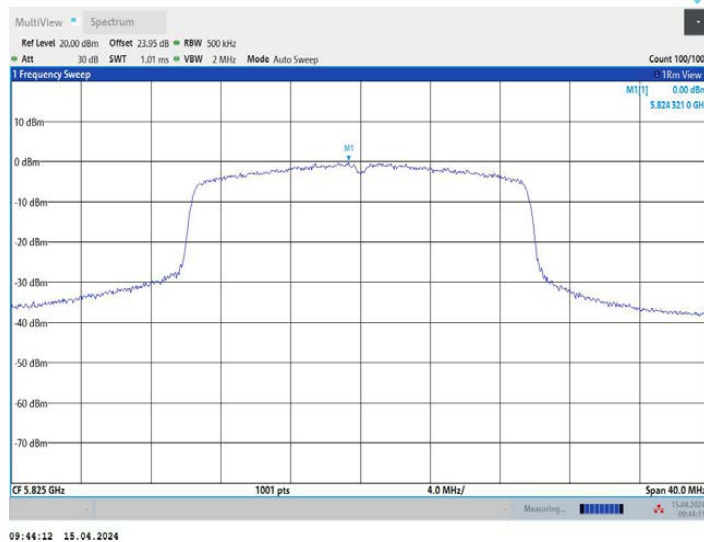
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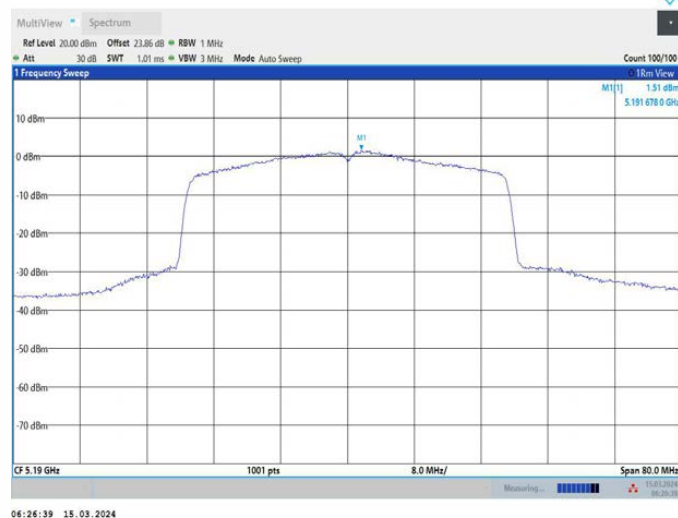
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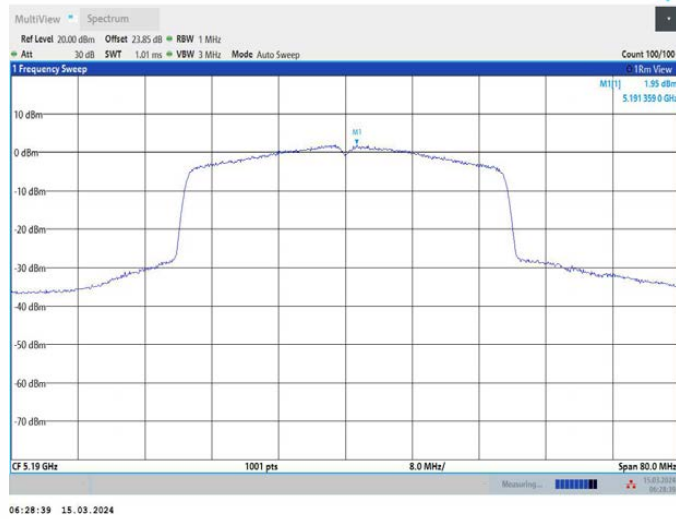
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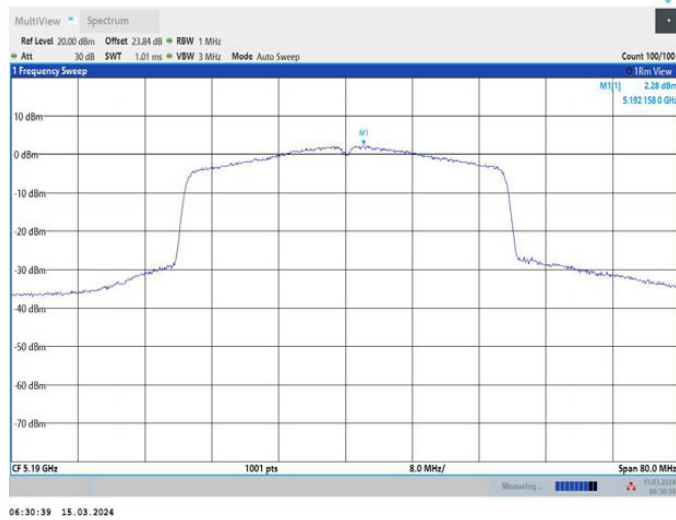
11AX40MIMO_Ant1_5190



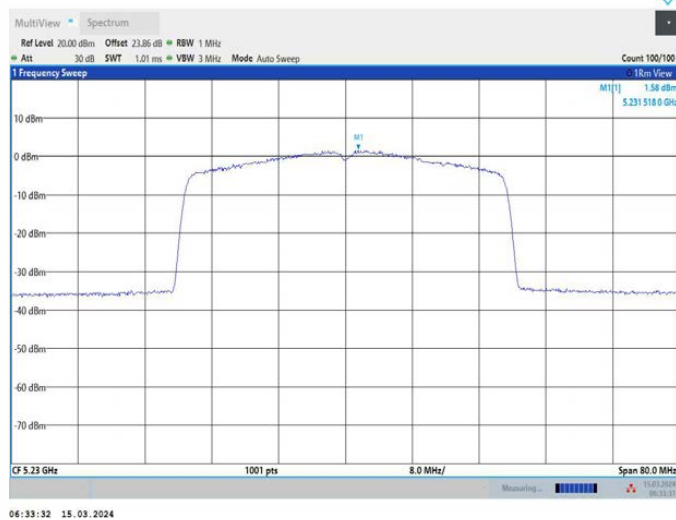
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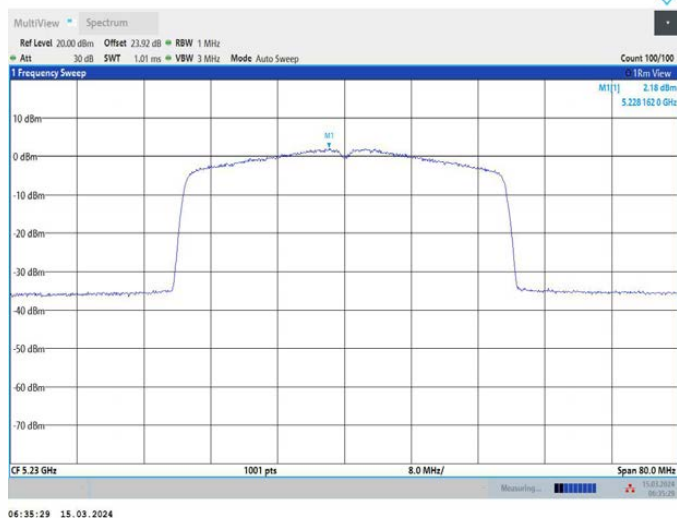
11AX40MIMO_Ant3_5190



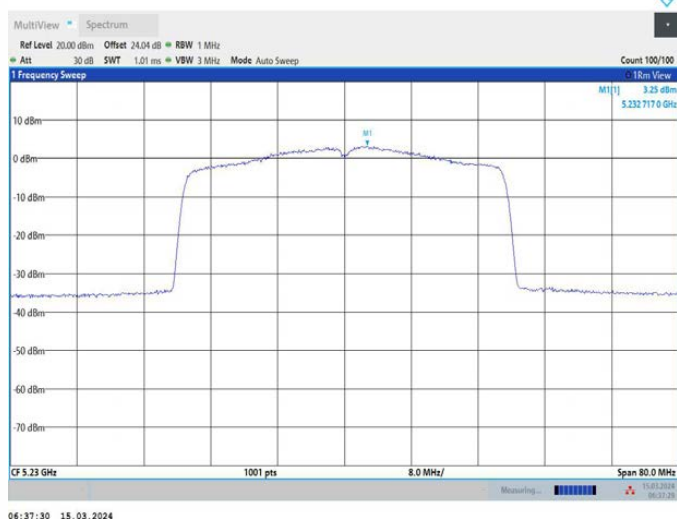
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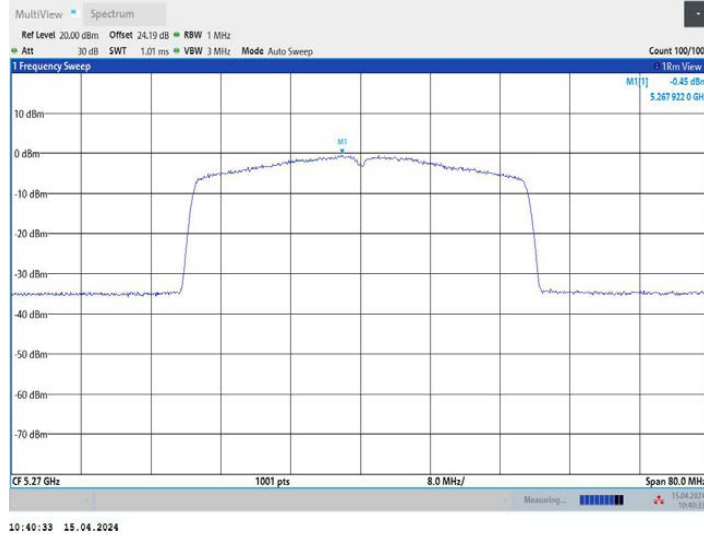
11AX40MIMO_Ant2_5230



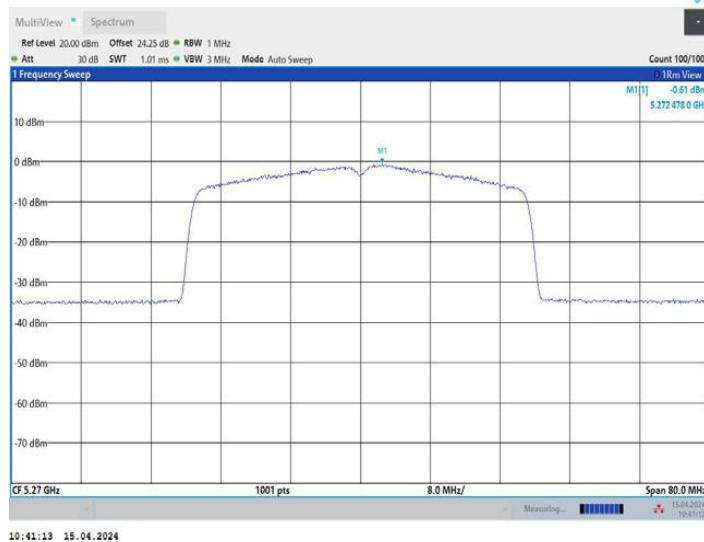
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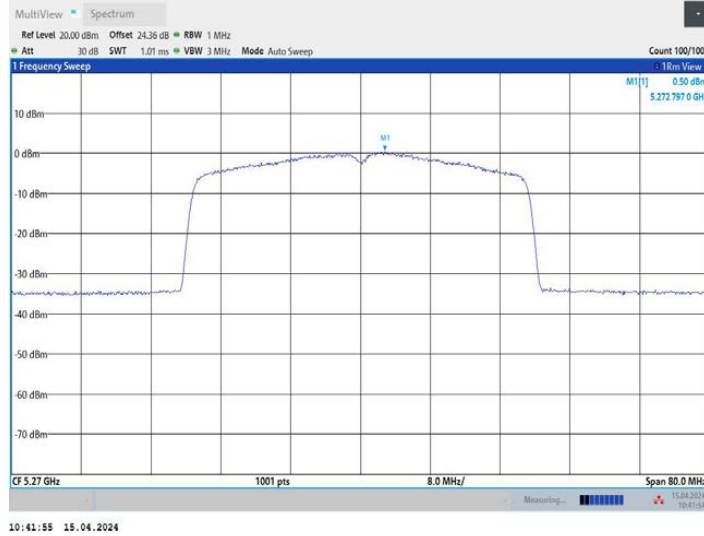
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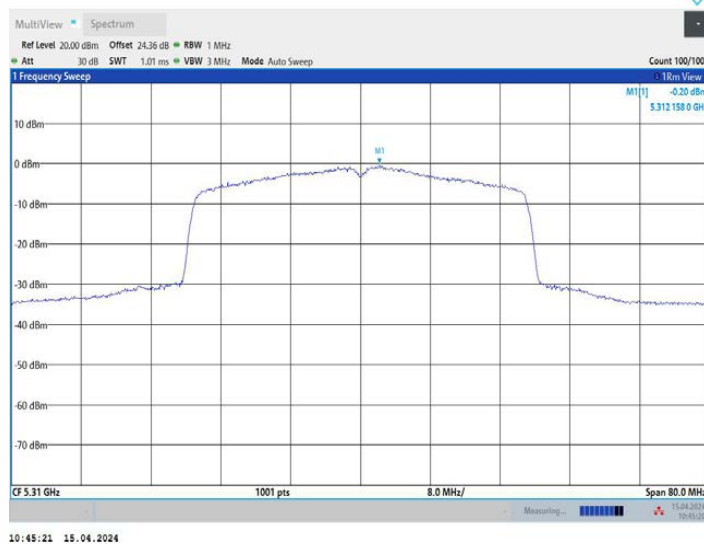
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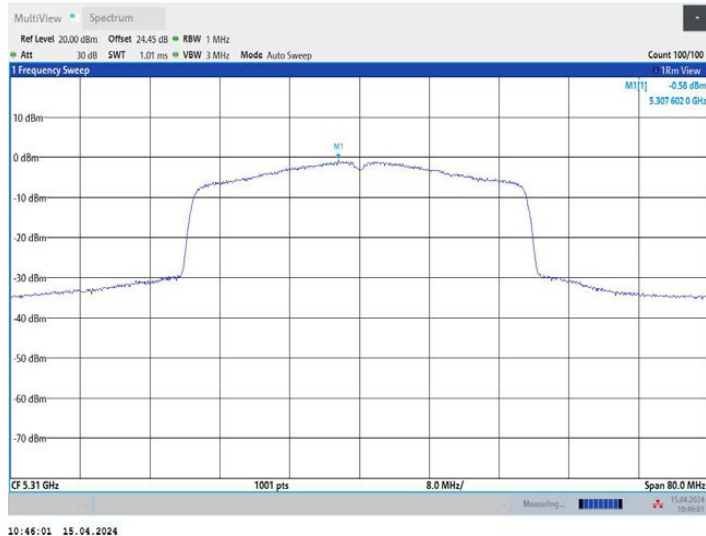
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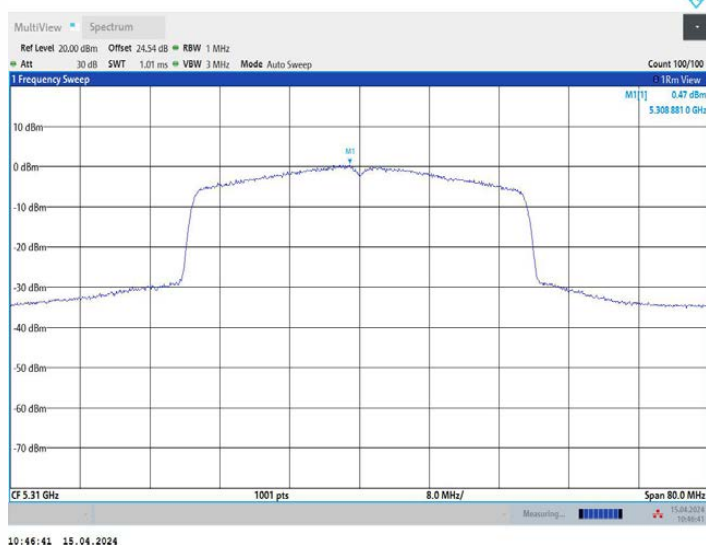
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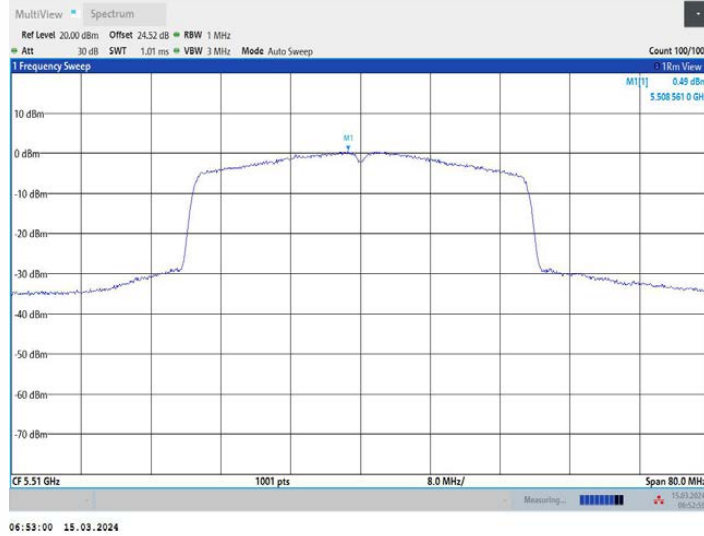
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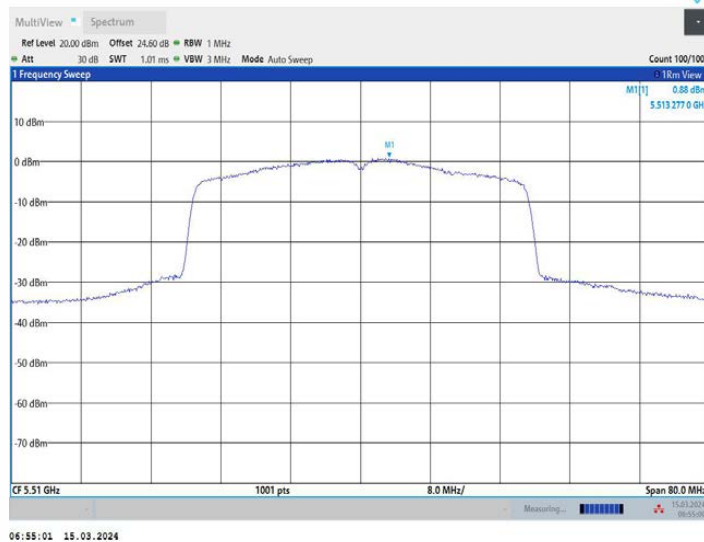
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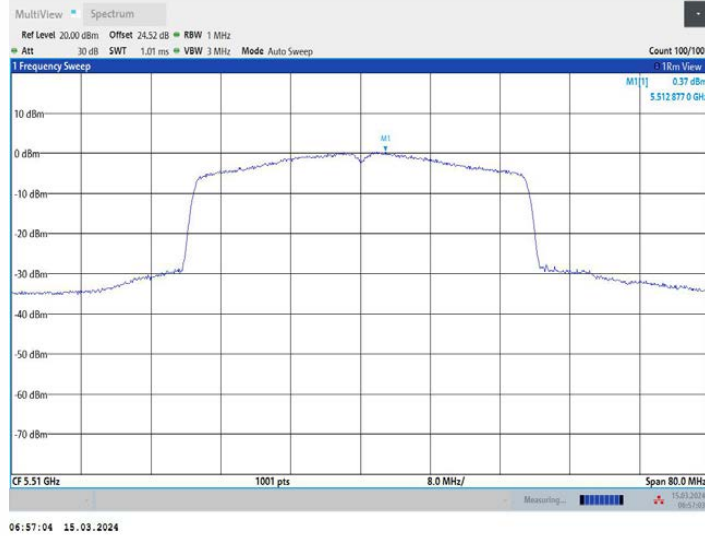
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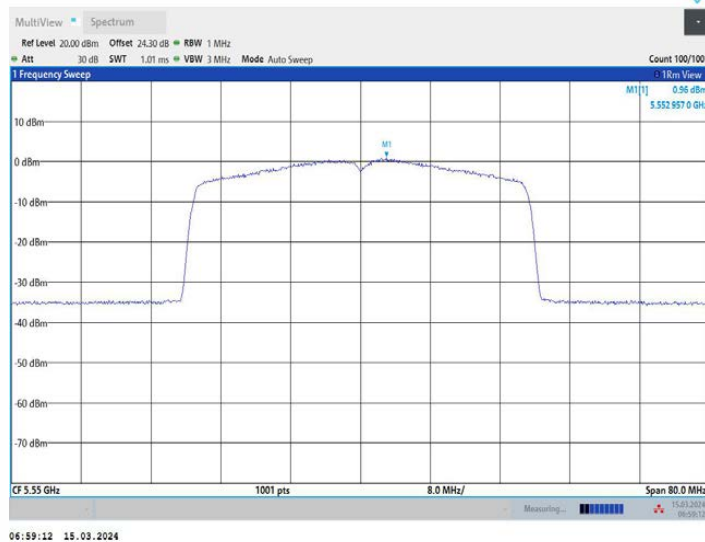
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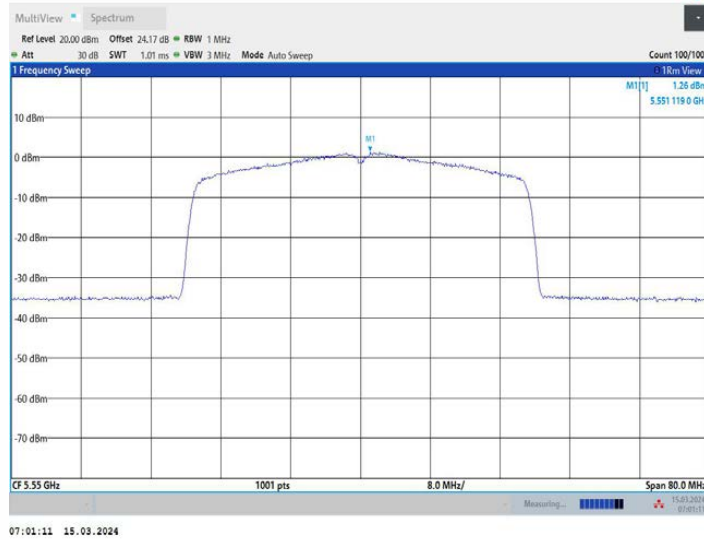
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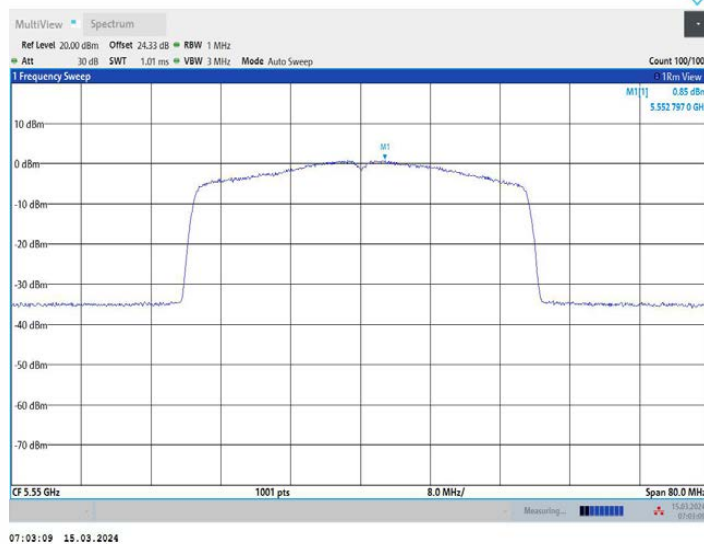
11AX40MIMO_Ant1_5550



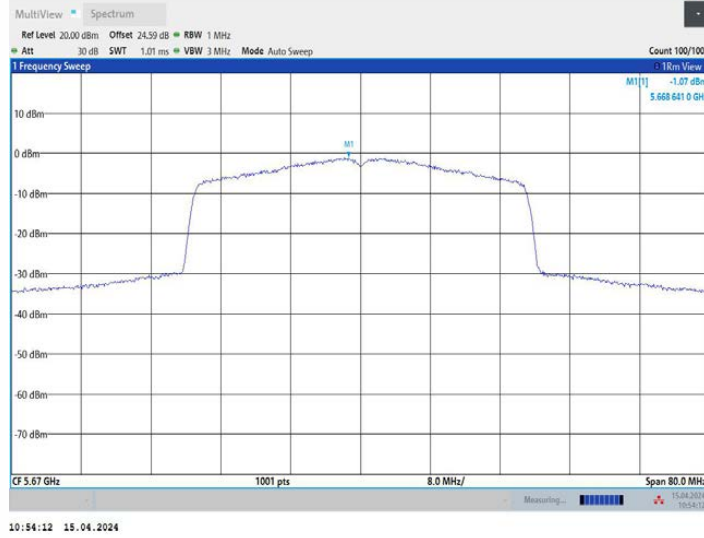
11AX40MIMO_Ant2_5550



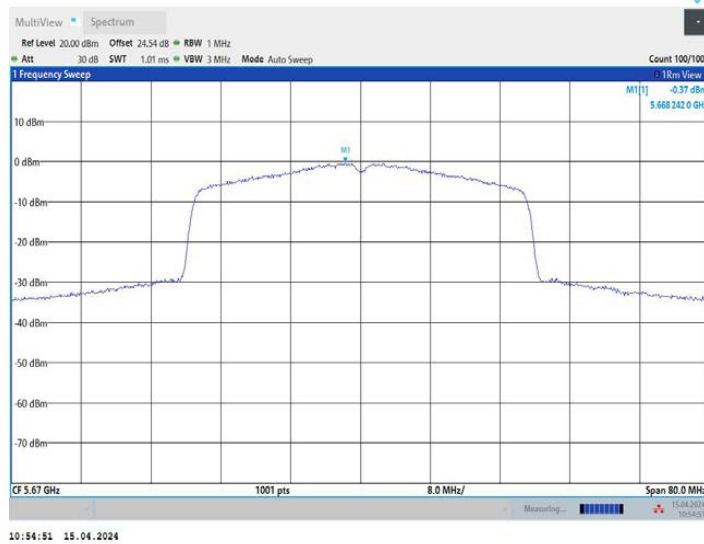
11AX40MIMO_Ant3_5550



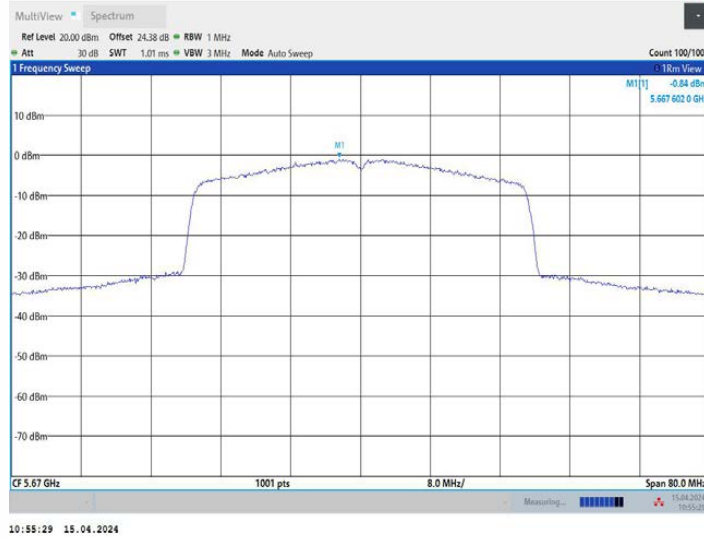
11AX40MIMO_Ant1_5670



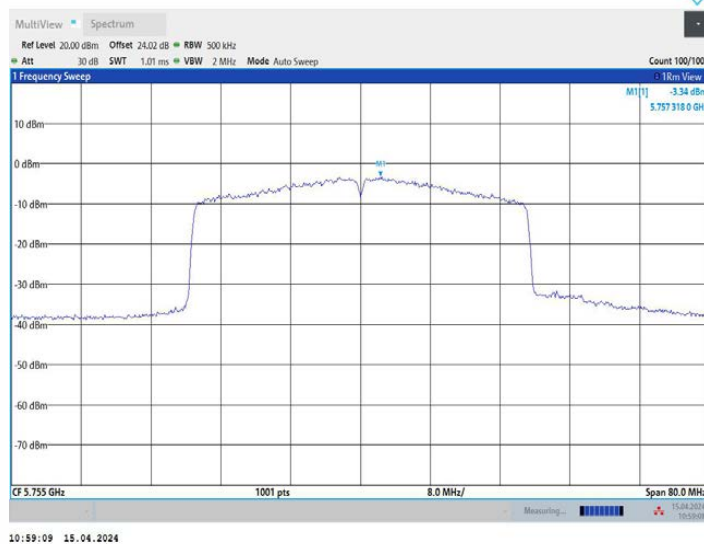
11AX40MIMO_Ant2_5670



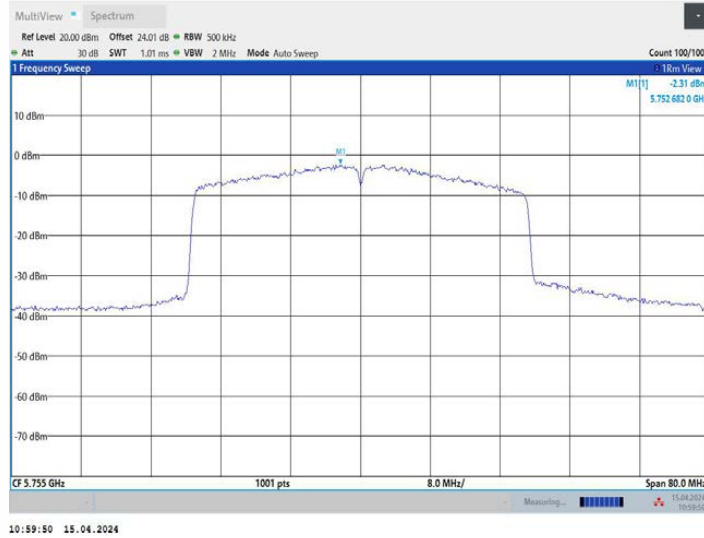
11AX40MIMO_Ant3_5670



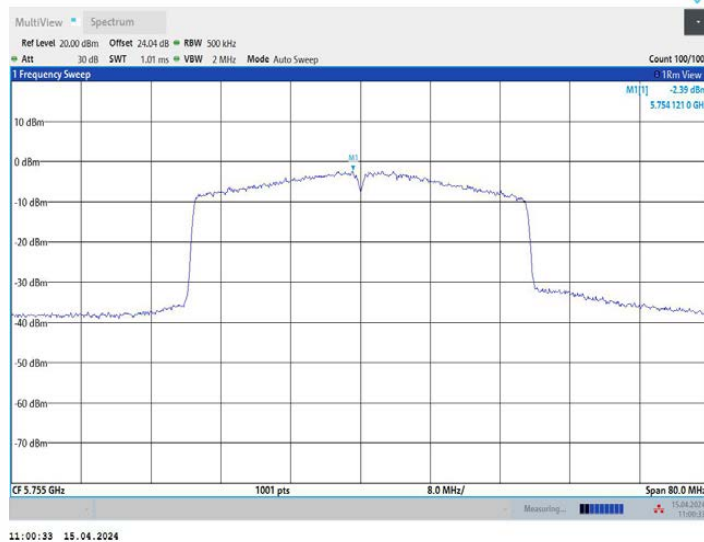
11AX40MIMO_Ant1_5755



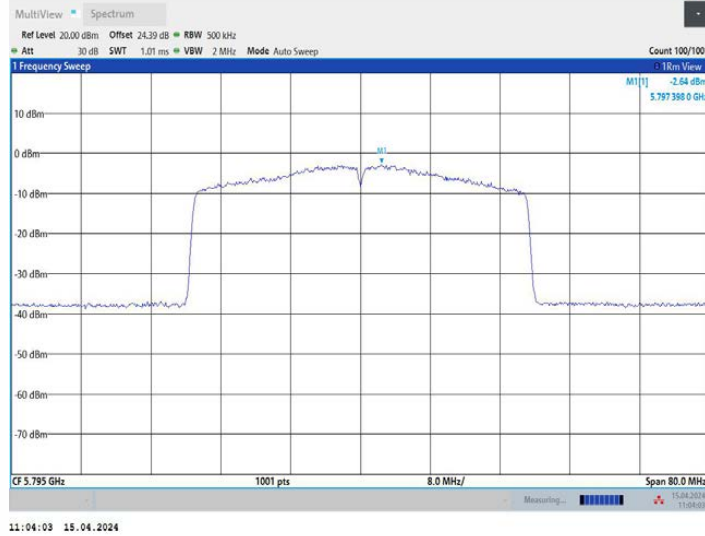
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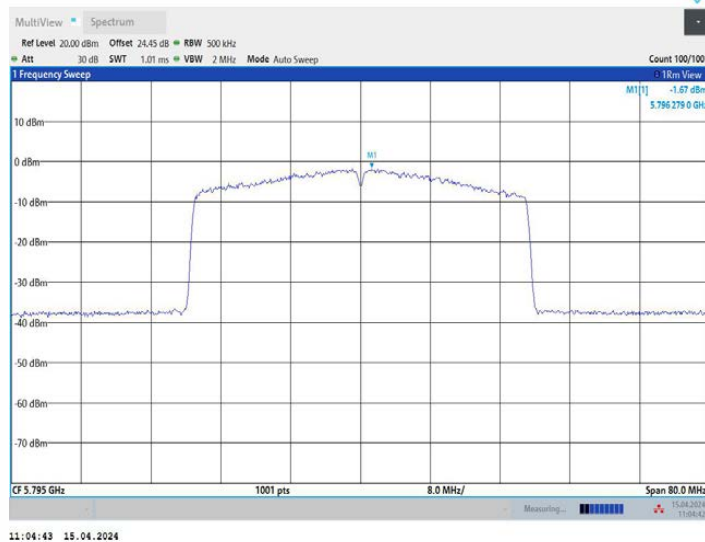
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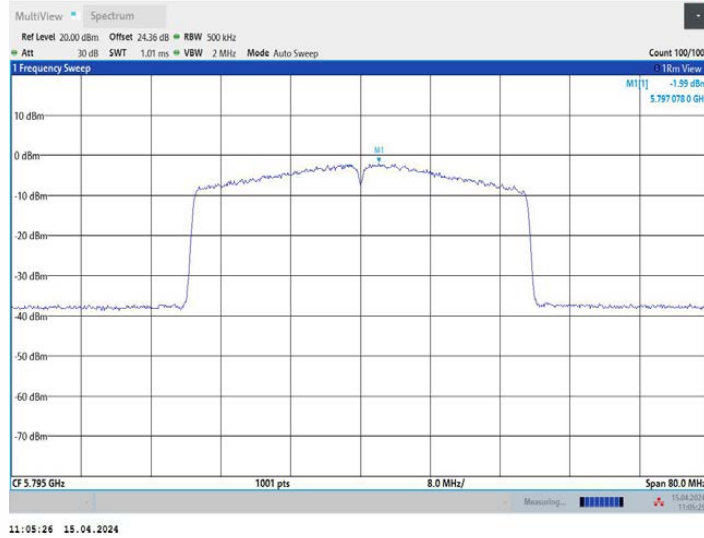
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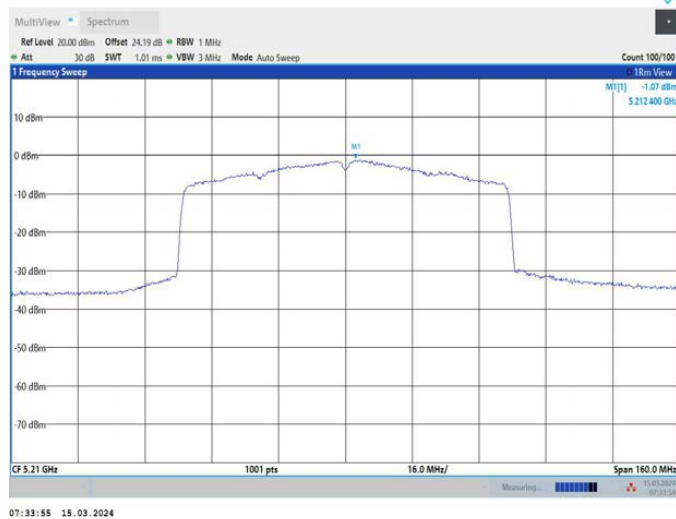
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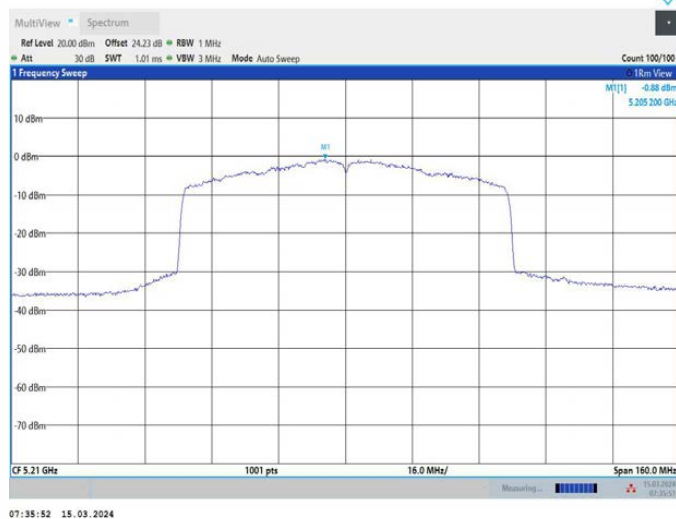
11AX40MIMO_Ant3_5795



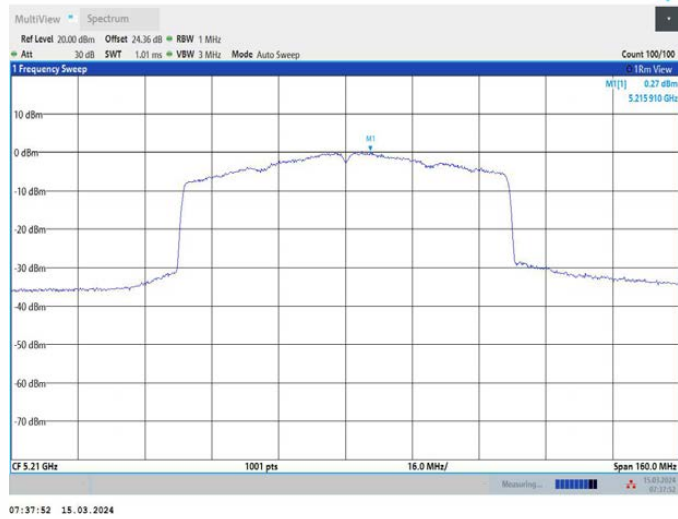
11AX80MIMO_Ant1_5210



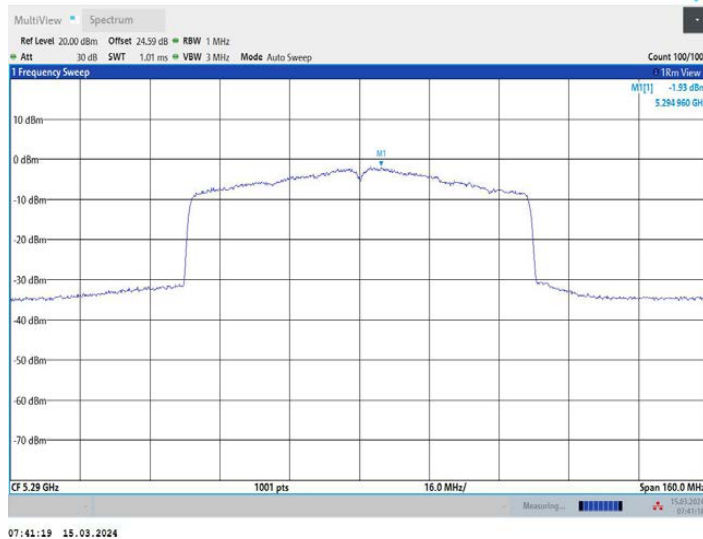
11AX80MIMO_Ant2_5210



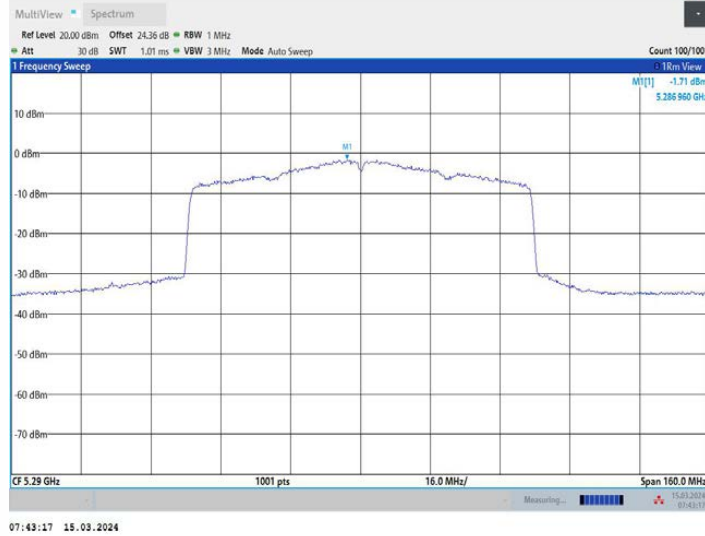
11AX80MIMO_Ant3_5210



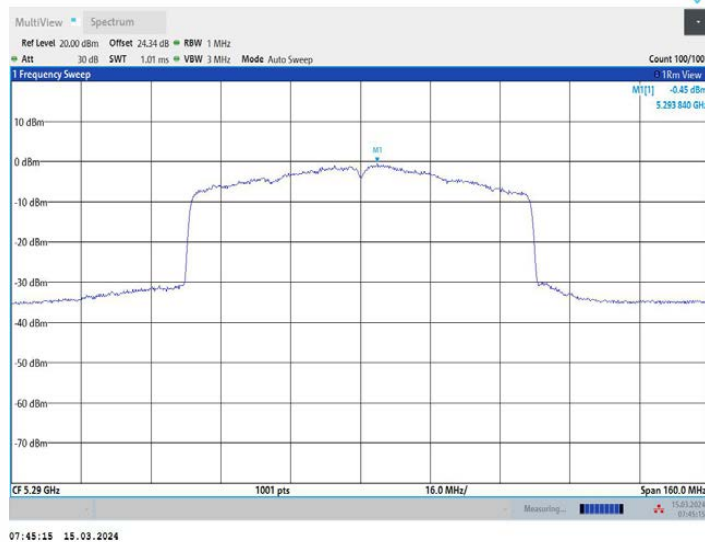
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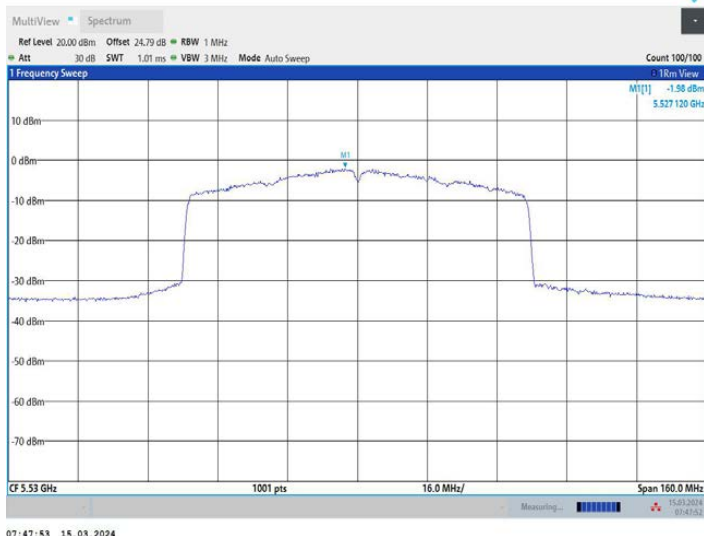
11AX80MIMO_Ant2_5290



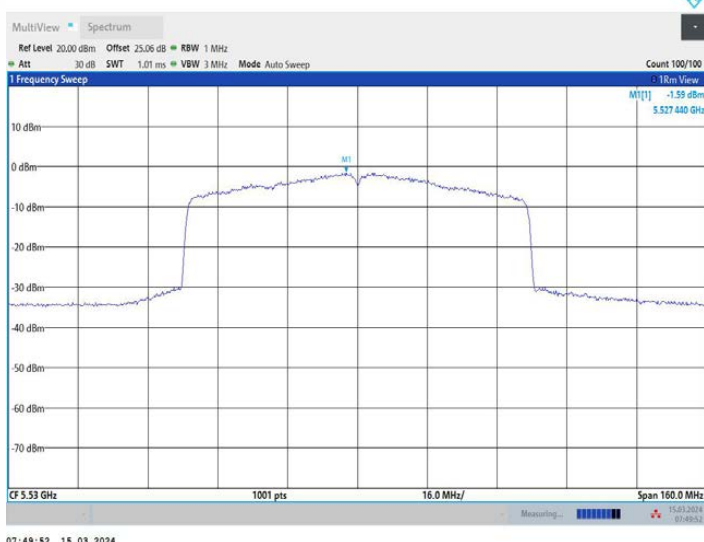
11AX80MIMO_Ant3_5290



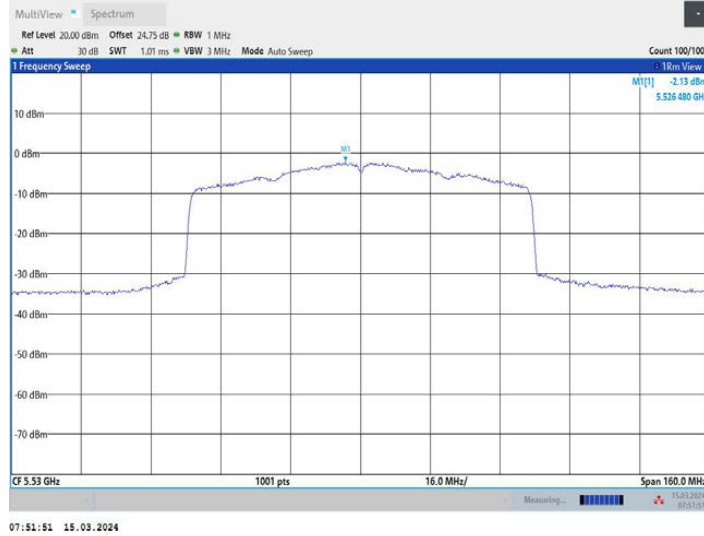
11AX80MIMO_Ant1_5530



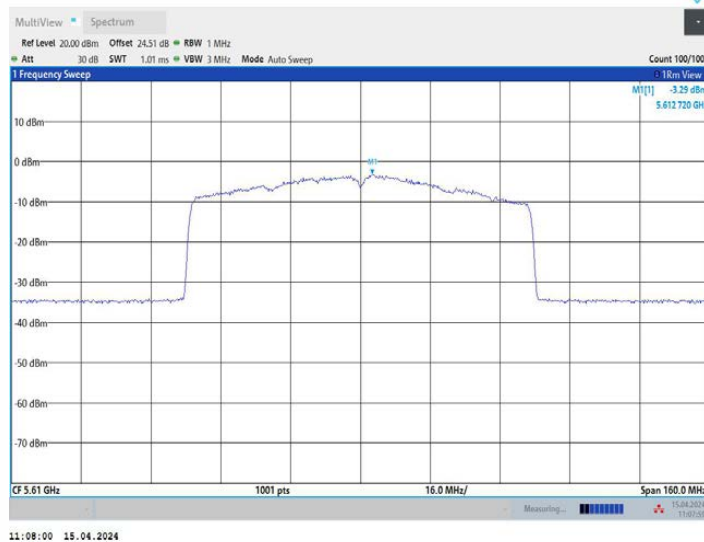
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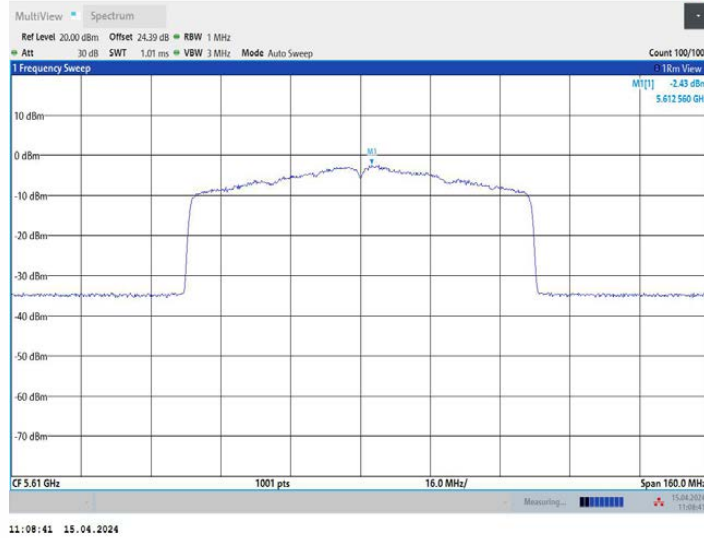
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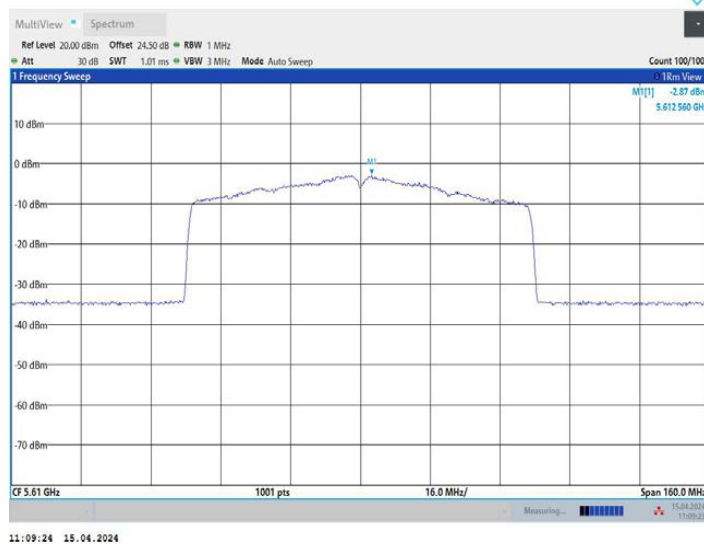
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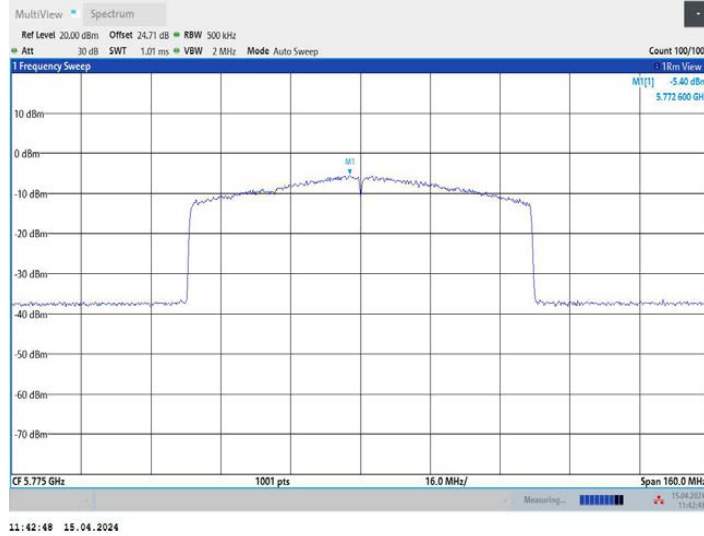
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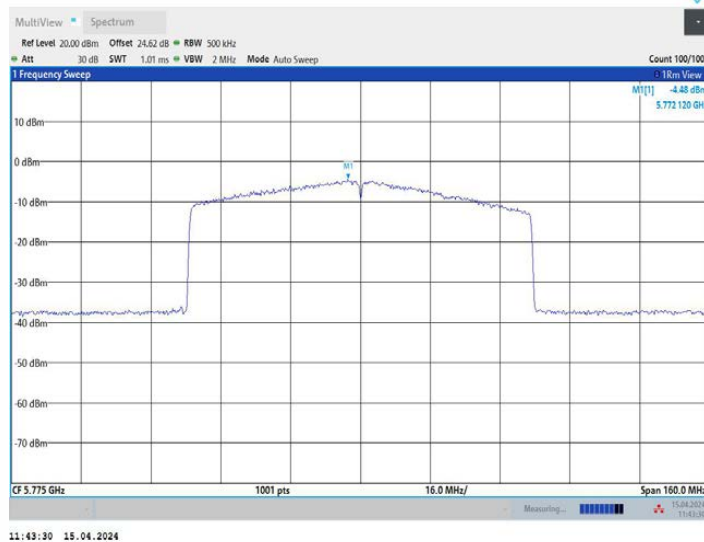
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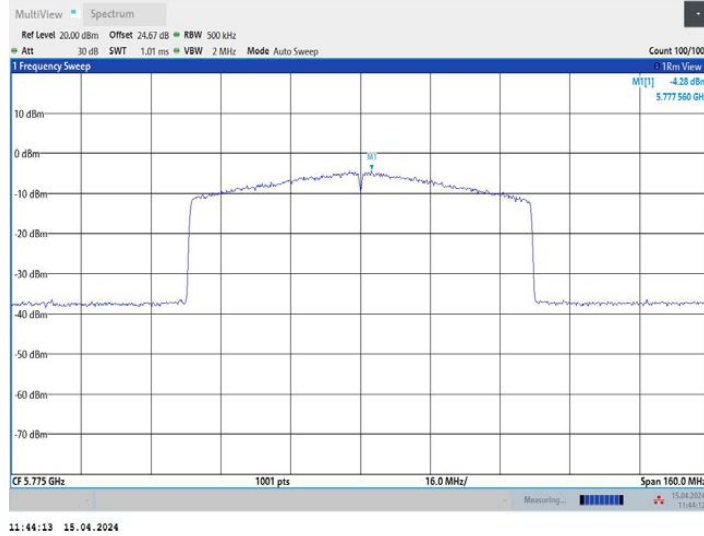
11AX80MIMO_Ant1_5775



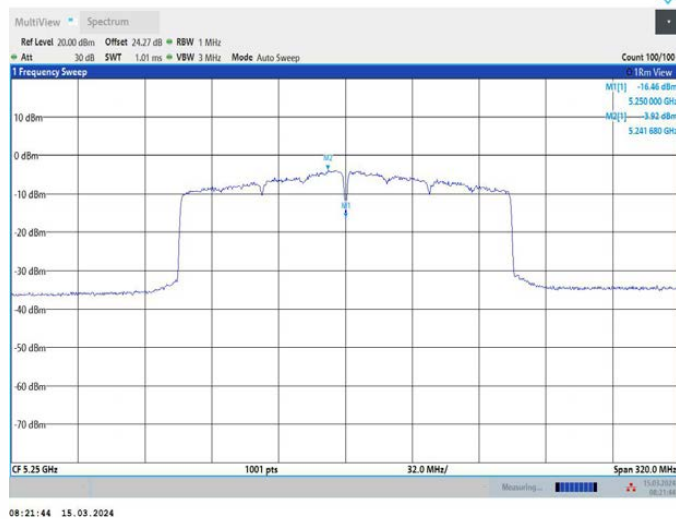
11AX80MIMO_Ant2_5775



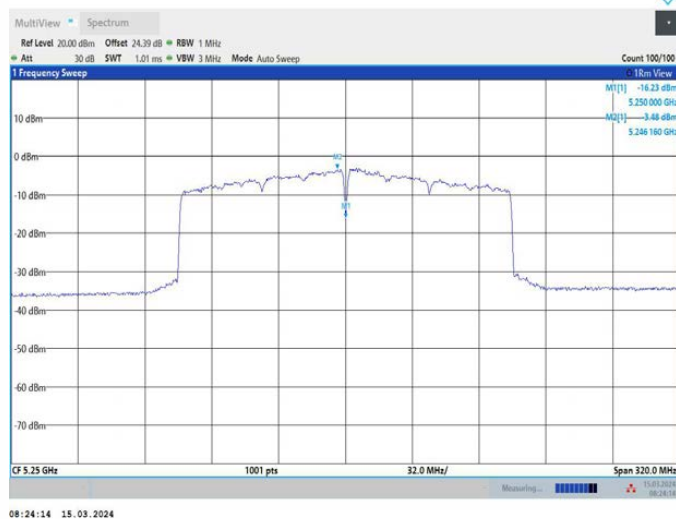
11AX80MIMO_Ant3_5775



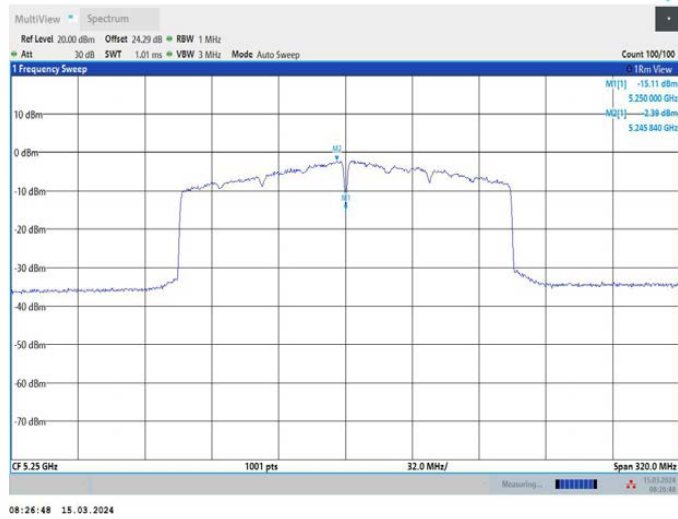
11AX160MIMO_Ant1_5250_UNII-1



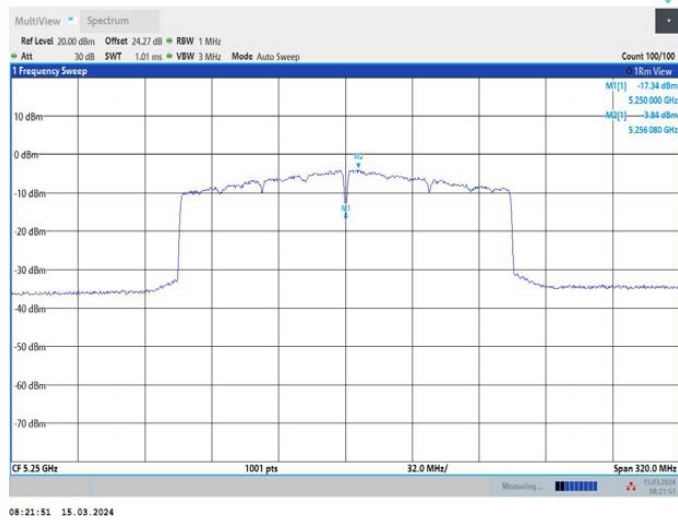
11AX160MIMO_Ant2_5250_UNII-1



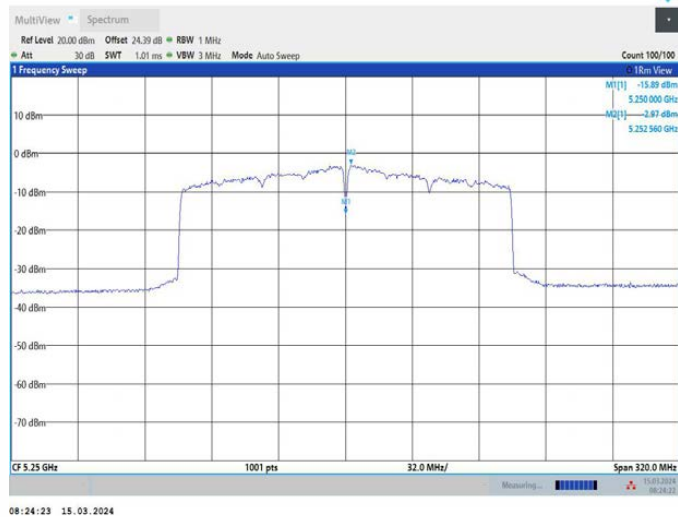
11AX160MIMO_Ant3_5250_UNII-1



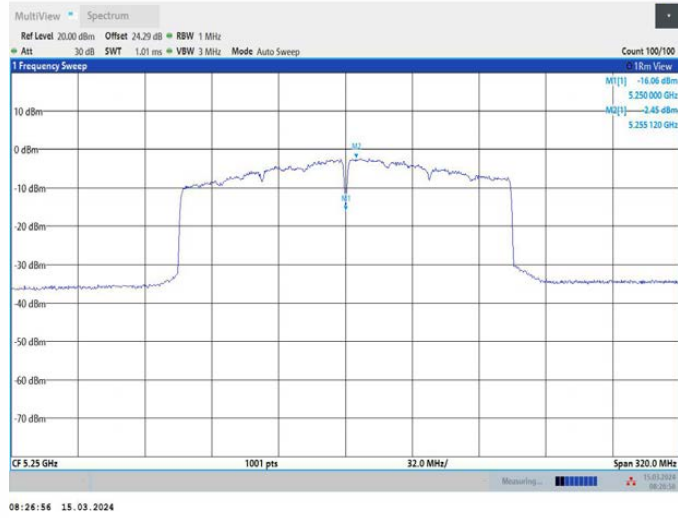
11AX160MIMO_Ant1_5250_UNII-2A



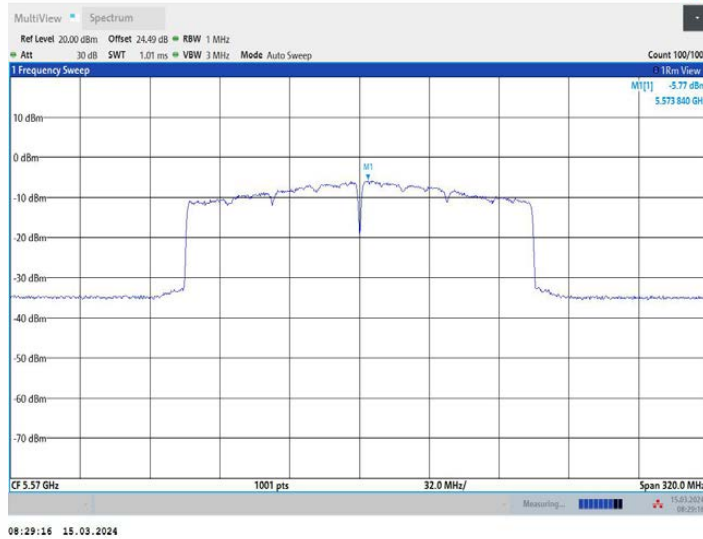
11AX160MIMO_Ant2_5250_UNII-2A



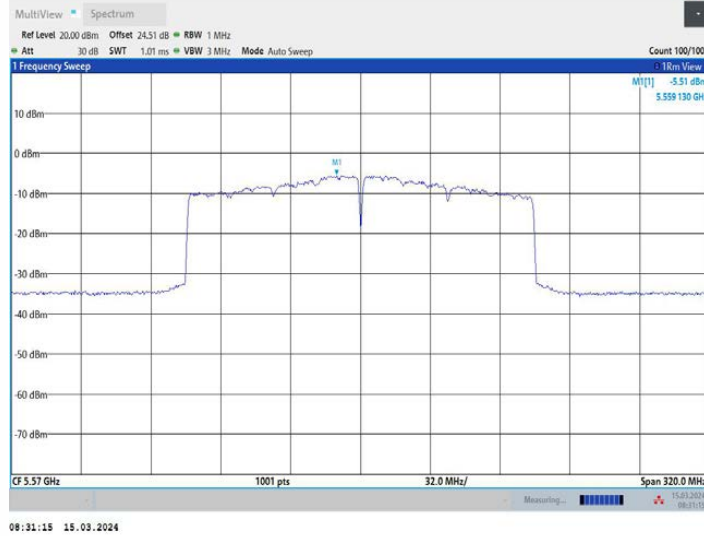
11AX160MIMO_Ant3_5250_UNII-2A



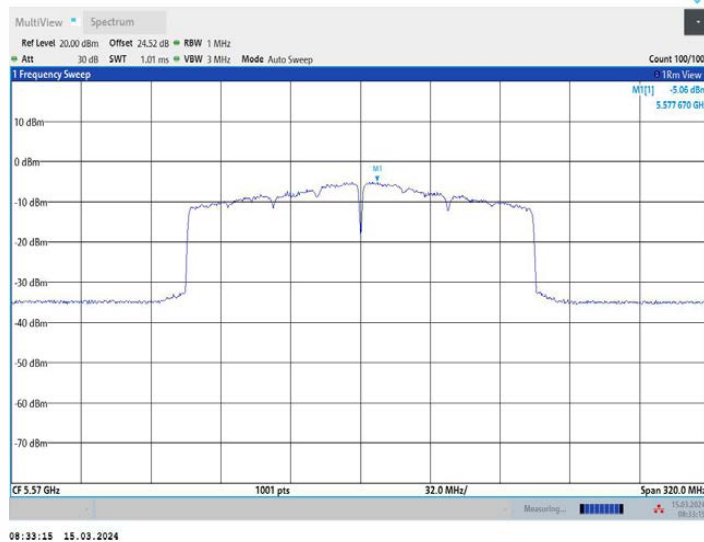
11AX160MIMO_Ant1_5570



11AX160MIMO_Ant2_5570



11AX160MIMO_Ant3_5570



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 (uV/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 $f < 1$ GHz(30MHz to 1GHz), 200Hz for $f < 150$ KHz(9KHz to 150KHz), 9KHz for $f < 30$ 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 VBW RBW/100 (i.e., 10 kHz) but not less than 10 Hz.

• If the EUT duty cycle is < 98 percent, set 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

Pass

Temperature :	25 °C	ATM Pressure:	1011 mbar
Humidity :	60 %	Test Engineer:	CZF

All of the configurations or modes are tested, the data of the worst case is recorded as below.

☒ 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 ANT3 and MIMO as below:

ANT3:

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)
11392.1	V	59.75	-35.48	-27	8.48
14249.6	V	61.47	-33.76	-27	6.76
17515.2	V	65.61	-29.62	-27	2.62
10677.8	H	59.12	-36.11	-27	9.11
13764.8	H	60.86	-34.37	-27	7.37
17489.7	H	66.16	-29.07	-27	2.07

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)
10677.8	V	59.21	-36.02	-27	9.02
14521.7	V	62.87	-32.36	-27	5.36
17515.2	V	65.84	-29.39	-27	2.39
11485.7	H	59.69	-35.54	-27	8.54
14598.2	H	61.60	-33.63	-27	6.63
17489.7	H	66.49	-28.74	-27	1.74

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)
10677.8	V	58.83	-36.4	-27	9.4
13781.8	V	61.15	-34.08	-27	7.08
17489.7	V	66.08	-29.15	-27	2.15
8024.51	H	54.56	-40.67	-27	13.67
11400.7	H	59.86	-35.37	-27	8.37
17489.7	H	66.38	-28.85	-27	1.85

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)
11390.71	V	59.62	-35.61	-27	8.61
14248.21	V	61.31	-33.92	-27	6.92
17516.48	V	65.58	-29.65	-27	2.65
10689.49	H	59.04	-36.19	-27	9.19
13776.49	H	60.65	-34.58	-27	7.58
17501.39	H	66	-29.23	-27	2.23

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)
10676.41	V	59.08	-36.15	-27	9.15
14520.31	V	62.71	-32.52	-27	5.52
17516.48	V	65.81	-29.42	-27	2.42
11497.39	H	59.61	-35.62	-27	8.62
14609.89	H	61.39	-33.84	-27	6.84
17501.39	H	66.33	-28.90	-27	1.90

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)
10676.41	V	58.7	-36.53	-27	9.53
13780.41	V	60.99	-34.24	-27	7.24
17490.98	V	66.05	-29.18	-27	2.18
8036.20	H	54.48	-40.75	-27	13.75
11412.39	H	59.65	-35.58	-27	8.58
17501.39	H	66.22	-29.01	-27	2.01

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

ANT3:

Test mode: 802.11N(20)		Frequency(MHz): 5180			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11392.1	V	59.75	74.00	14.25	peak
14249.6	V	61.47	74.00	12.53	peak
17515.2	V	65.61	74.00	8.39	peak
11392.19	V	40.45	54.00	13.55	AVG
14249.62	V	41.65	54.00	12.35	AVG
17515.25	V	43.63	54.00	10.37	AVG
10677.8	H	59.12	74.00	14.88	peak
13764.8	H	60.86	74.00	13.14	peak
17489.7	H	66.16	74.00	7.84	peak
10677.83	H	41.72	54.00	12.28	AVG
13764.88	H	39.72	54.00	14.28	AVG
17489.74	H	43.47	54.00	10.53	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10677.8	V	59.21	74.00	14.79	peak
14521.7	V	62.87	74.00	11.13	peak
17515.2	V	65.84	74.00	8.16	peak
10677.83	V	42.53	54.00	11.47	AVG
14521.76	V	43.05	54.00	10.95	AVG
17515.25	V	43.96	54.00	10.04	AVG
11485.7	H	59.69	74.00	14.31	peak
14598.2	H	61.60	74.00	12.40	peak
17489.7	H	66.49	74.00	7.51	peak
11485.74	H	40.96	54.00	13.04	AVG
14598.29	H	43.73	54.00	10.27	AVG
17489.74	H	43.64	54.00	10.36	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10677.8	V	58.83	74.00	15.17	peak
13781.8	V	61.15	74.00	12.85	peak
17489.7	V	66.08	74.00	7.92	peak
10677.83	V	42.99	54.00	11.01	AVG
13781.89	V	39.93	54.00	14.07	AVG
17489.74	V	43.52	54.00	10.48	AVG
8024.51	H	54.56	74.00	19.44	peak
11400.7	H	59.86	74.00	14.14	peak
17489.7	H	66.38	74.00	7.62	peak
8024.51	H	34.27	54.00	19.73	AVG
11400.70	H	37.67	54.00	16.33	AVG
17489.74	H	43.83	54.00	10.17	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
11390.710	V	59.62	74.00	14.38	peak
14248.210	V	61.31	74.00	12.69	peak
17516.480	V	65.58	74.00	8.42	peak
11393.470	V	40.43	54.00	13.57	AVG
14247.370	V	41.39	54.00	12.61	AVG
17513.000	V	43.44	54.00	10.56	AVG
10689.490	H	59.04	74.00	14.96	peak
13776.490	H	60.65	74.00	13.35	peak
17501.390	H	66	74.00	8	peak
10689.520	H	41.58	54.00	12.42	AVG
13761.570	H	39.54	54.00	14.46	AVG
17486.430	H	43.34	54.00	10.66	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10676.410	V	59.08	74.00	14.92	peak
14520.310	V	62.71	74.00	11.29	peak
17516.480	V	65.81	74.00	8.19	peak
10679.110	V	42.51	54.00	11.49	AVG
14519.510	V	42.79	54.00	11.21	AVG
17513.000	V	43.77	54.00	10.23	AVG
11497.390	H	59.61	74.00	14.39	peak
14609.890	H	61.39	74.00	12.61	peak
17501.390	H	66.33	74.00	7.67	peak
11497.430	H	40.82	54.00	13.18	AVG
14594.980	H	43.55	54.00	10.45	AVG
17486.430	H	43.51	54.00	10.49	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10676.410	V	58.7	74.00	15.3	peak
13780.410	V	60.99	74.00	13.01	peak
17490.980	V	66.05	74.00	7.95	peak
10679.110	V	42.97	54.00	11.03	AVG
13779.640	V	39.67	54.00	14.33	AVG
17487.490	V	43.33	54.00	10.67	AVG
8036.200	H	54.48	74.00	19.52	peak
11412.390	H	59.65	74.00	14.35	peak
17501.390	H	66.22	74.00	7.78	peak
8036.200	H	34.13	54.00	19.87	AVG
11397.390	H	37.49	54.00	16.51	AVG
17486.430	H	43.7	54.00	10.3	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(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5003.66	H	55.02	-40.21	-27	Pass
5008.86	V	55.05	-40.18	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5415.61	H	55.18	-40.05	-27	Pass
5425.41	V	54.24	-40.99	-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(20) Frequency(MHz): 5180

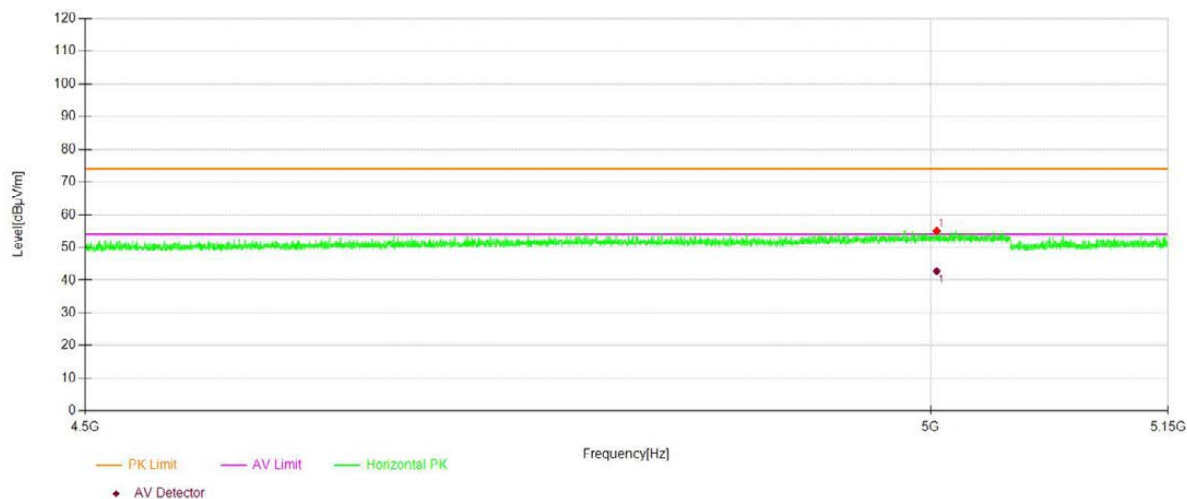
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5008.86	V	55.05	74.00	18.95	peak
5008.86	V	43.83	54.00	10.17	AVG
5003.66	H	55.02	74.00	18.98	peak
5003.66	H	42.74	54.00	11.26	AVG

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

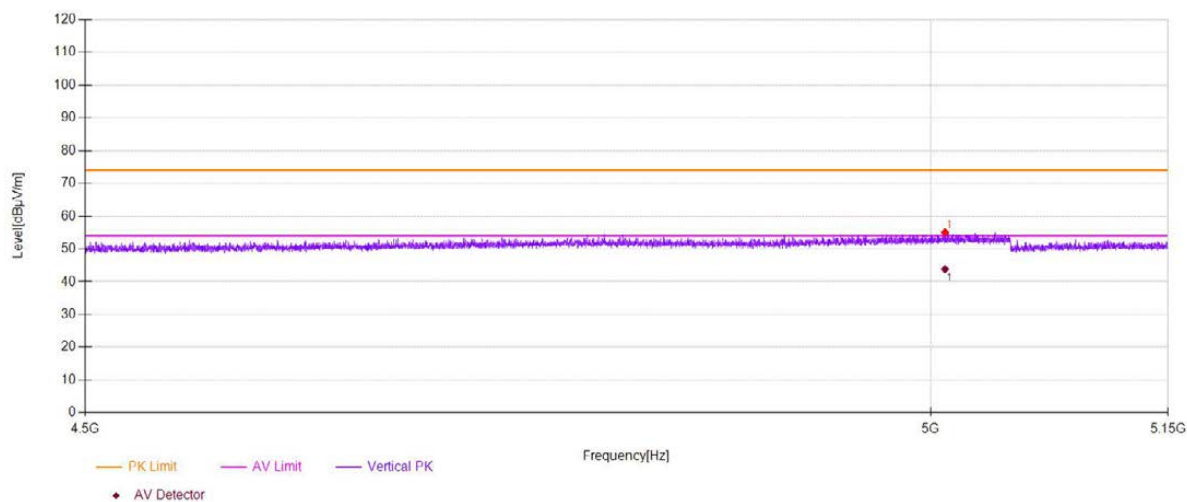
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5425.41	V	54.24	74.00	19.76	peak
5425.41	V	44.16	54.00	9.84	AVG
5415.61	H	55.18	74.00	18.82	peak
5415.61	H	43.06	54.00	10.94	AVG

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.

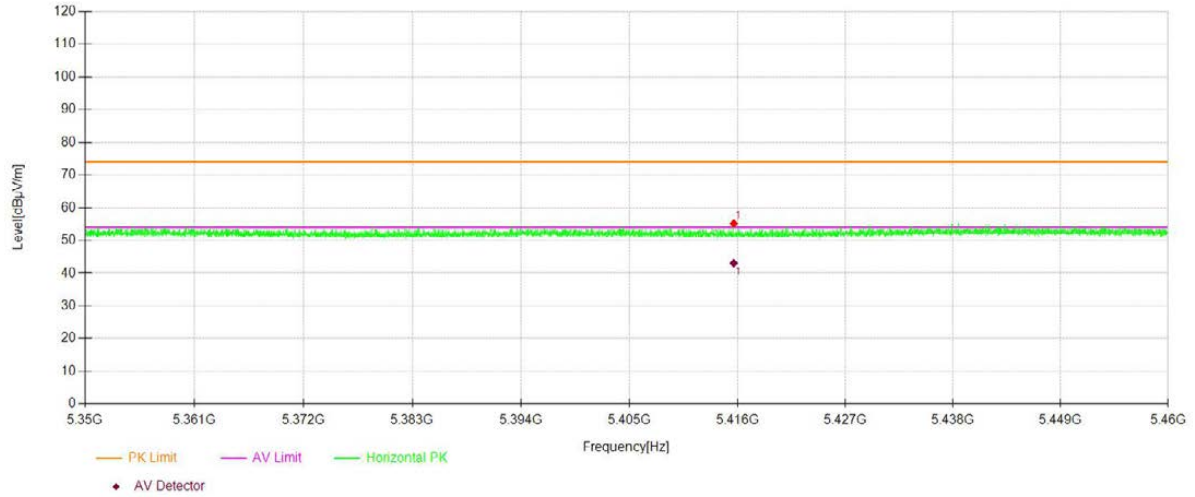
Test Model U-NII - 1
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11ax(HT20) ☐ 802.11n(HT40)
☒ 5180 ☐ 5200 ☐ 5240 Ant.Pol H



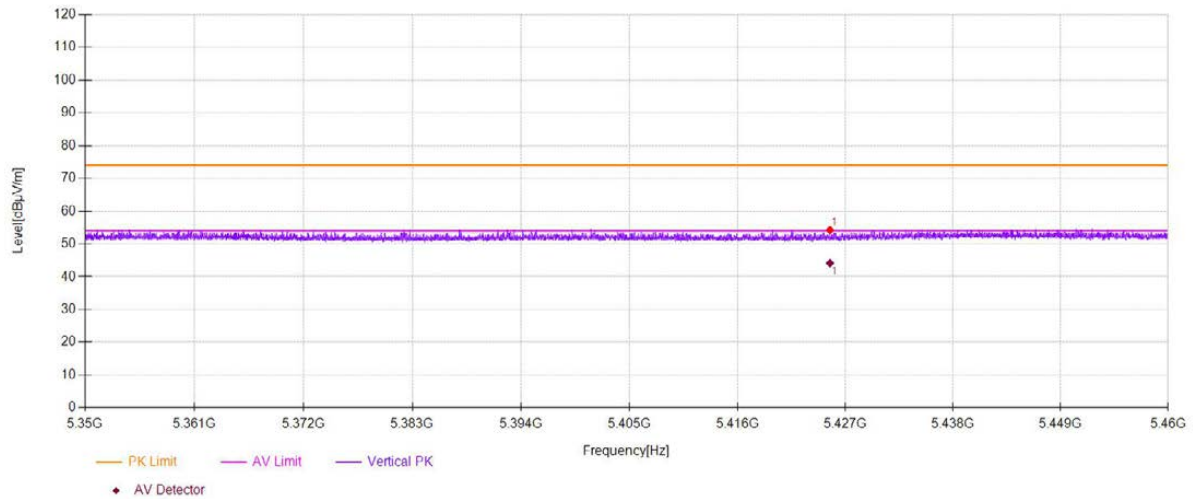
Test Model U-NII - 1
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11ax(HT20) ☐ 802.11n(HT40)
☒ 5180 ☐ 5200 ☐ 5240 Ant.Pol V



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



Test Model U-NII - 1
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☒ 802.11 ax(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 ANT3 and MIMO as below:

ANT3:

Test mode:		802.11N(20)		Frequency(MHz):		5260	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
9810.40	V	57.69	-37.54	-27	10.54		
14062.5	V	60.32	-34.91	-27	7.91		
17489.7	V	65.86	-29.37	-27	2.37		
8900.45	H	57.29	-37.94	-27	10.94		
12523.2	H	58.99	-36.24	-27	9.24		
17498.2	H	66.01	-29.22	-27	2.22		

Test mode:		802.11N(20)		Frequency(MHz):		5280	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
8883.44	V	56.71	-38.52	-27	11.52		
13212.1	V	60.21	-35.02	-27	8.02		
17498.2	V	66.57	-28.66	-27	1.66		
12115.0	H	58.39	-36.84	-27	9.84		
14555.7	H	61.88	-33.35	-27	6.35		
17498.2	H	65.96	-29.27	-27	2.27		

Test mode:		802.11N(20)		Frequency(MHz):		5320	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
9504.25	V	56.05	-39.18	-27	12.18		
12429.7	V	59.13	-36.1	-27	9.1		
17498.2	V	66.53	-28.7	-27	1.7		
11545.2	H	59.76	-35.47	-27	8.47		
16460.7	H	61.53	-33.7	-27	6.7		
17498.2	H	66.72	-28.51	-27	1.51		

MIMO:

Test mode: 802.11N(20) Frequency(MHz): 5260					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9809.01	V	57.56	-37.67	-27	10.67
14061.11	V	60.16	-35.07	-27	8.07
17490.98	V	65.83	-29.40	-27	2.40
8912.14	H	57.21	-38.02	-27	11.02
12534.89	H	58.78	-36.45	-27	9.45
17509.89	H	65.85	-29.38	-27	2.38

Test mode: 802.11N(20) Frequency(MHz): 5280					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8882.05	V	56.58	-38.65	-27	11.65
13210.71	V	60.05	-35.18	-27	8.18
17499.48	V	66.54	-28.69	-27	1.69
12126.69	H	58.31	-36.92	-27	9.92
14567.39	H	61.67	-33.56	-27	6.56
17509.89	H	65.8	-29.43	-27	2.43

Test mode: 802.11N(20) Frequency(MHz): 5320					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9502.86	V	55.92	-39.31	-27	12.31
12428.31	V	58.97	-36.26	-27	9.26
17499.48	V	66.5	-28.73	-27	1.73
11556.89	H	59.68	-35.55	-27	8.55
16472.39	H	61.32	-33.91	-27	6.91
17509.89	H	66.56	-28.67	-27	1.67

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

ANT3:

Test mode: 802.11N(20)		Frequency(MHz): 5260			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9810.40	V	57.69	74.00	16.31	peak
14062.5	V	60.32	74.00	13.68	peak
17489.7	V	65.86	74.00	8.14	peak
9810.405	V	37.64	54.00	16.36	AVG
14062.53	V	40.57	54.00	13.43	AVG
17489.74	V	43.45	54.00	10.55	AVG
8900.45	H	57.29	74.00	16.71	peak
12523.2	H	58.99	74.00	15.01	peak
17498.2	H	66.01	74.00	7.99	peak
8900.450	H	37.23	54.00	16.77	AVG
12523.26	H	40.13	54.00	13.87	AVG
17498.24	H	44.46	54.00	9.54	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8883.44	V	56.71	74.00	17.29	peak
13212.1	V	60.21	74.00	13.79	peak
17498.2	V	66.57	74.00	7.43	peak
8883.441	V	36.63	54.00	17.37	AVG
13212.10	V	40.51	54.00	13.49	AVG
17498.24	V	44.16	54.00	9.84	AVG
12115.0	H	58.39	74.00	15.61	peak
14555.7	H	61.88	74.00	12.12	peak
17498.2	H	65.96	74.00	8.04	peak
12115.05	H	41.27	54.00	12.73	AVG
14555.77	H	42.93	54.00	11.07	AVG
17498.24	H	43.72	54.00	10.28	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9504.25	V	56.05	74.00	17.95	peak
12429.7	V	59.13	74.00	14.87	peak
17498.2	V	66.53	74.00	7.47	peak
9504.25	V	36.91	54.00	17.09	AVG
12429.71	V	40.52	54.00	13.48	AVG
17498.24	V	44.45	54.00	9.55	AVG
11545.2	H	59.76	74.00	14.24	peak
16460.7	H	61.53	74.00	12.47	peak
17498.2	H	66.72	74.00	7.28	peak
11545.27	H	40.83	54.00	13.17	AVG
16460.73	H	42.14	54.00	11.86	AVG
17498.24	H	44.21	54.00	9.79	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
9809.010	V	57.56	74.00	16.44	peak
14061.110	V	60.16	74.00	13.84	peak
17490.980	V	65.83	74.00	8.17	peak
9811.685	V	37.62	54.00	16.38	AVG
14060.280	V	40.31	54.00	13.69	AVG
17487.490	V	43.26	54.00	10.74	AVG
8912.140	H	57.21	74.00	16.79	peak
12534.890	H	58.78	74.00	15.22	peak
17509.890	H	65.85	74.00	8.15	peak
8912.140	H	37.09	54.00	16.91	AVG
12519.950	H	39.95	54.00	14.05	AVG
17494.930	H	44.33	54.00	9.67	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8882.050	V	56.58	74.00	17.42	peak
13210.710	V	60.05	74.00	13.95	peak
17499.480	V	66.54	74.00	7.46	peak
8884.721	V	36.61	54.00	17.39	AVG
13209.850	V	40.25	54.00	13.75	AVG
17495.990	V	43.97	54.00	10.03	AVG
12126.690	H	58.31	74.00	15.69	peak
14567.390	H	61.67	74.00	12.33	peak
17509.890	H	65.8	74.00	8.2	peak
12126.740	H	41.13	54.00	12.87	AVG
14552.460	H	42.75	54.00	11.25	AVG
17494.930	H	43.59	54.00	10.41	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9502.860	V	55.92	74.00	18.08	peak
12428.310	V	58.97	74.00	15.03	peak
17499.480	V	66.5	74.00	7.5	peak
9505.530	V	36.89	54.00	17.11	AVG
12427.460	V	40.26	54.00	13.74	AVG
17495.990	V	44.26	54.00	9.74	AVG
11556.890	H	59.68	74.00	14.32	peak
16472.390	H	61.32	74.00	12.68	peak
17509.890	H	66.56	74.00	7.44	peak
11556.960	H	40.69	54.00	13.31	AVG
16457.420	H	41.96	54.00	12.04	AVG
17494.930	H	44.08	54.00	9.92	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(20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
4979.45	H	55.16	-40.07	-27	Pass
4922.25	V	56.46	-38.77	-27	Pass

Test mode: 802.11 ax(20) Frequency(MHz): 5320

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5417.89	H	54.91	-40.32	-27	Pass
5361.17	V	54.19	-41.04	-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(20) Frequency(MHz): 5260

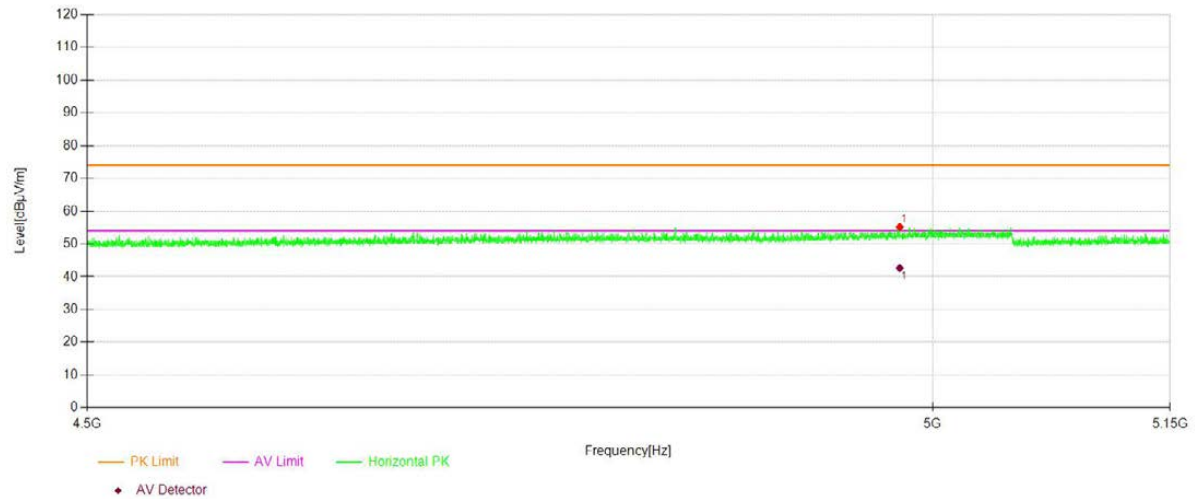
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
4922.25	V	56.46	74.00	17.54	peak
4922.25	V	43.45	54.00	10.55	AVG
4979.45	H	55.16	74.00	18.84	peak
4979.45	H	42.66	54.00	11.34	AVG

Test mode: 802.11ax(20) Frequency(MHz): 5320

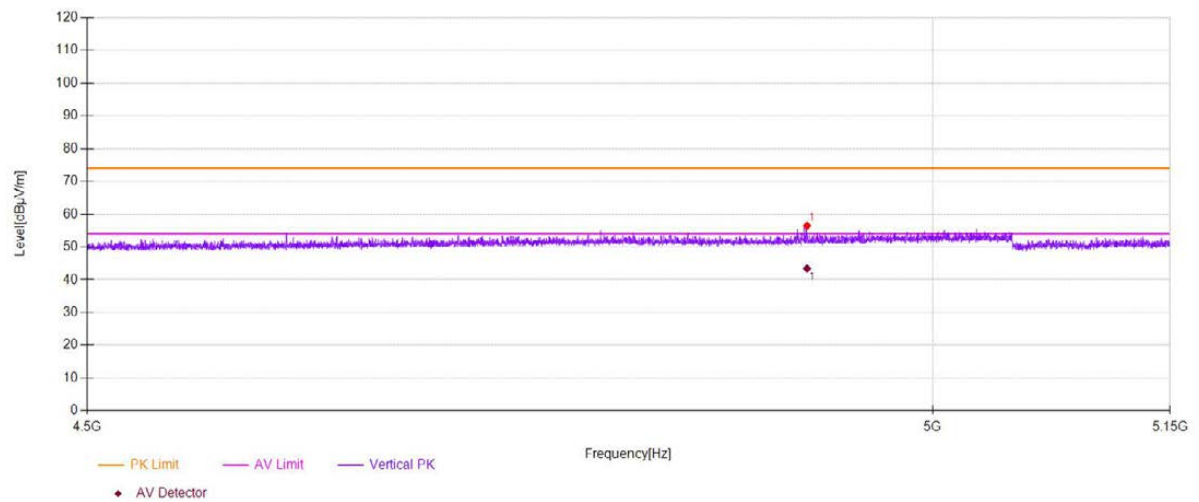
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5361.17	V	54.19	74.00	19.81	peak
5361.17	V	44.20	54.00	9.80	AVG
5417.89	H	54.91	74.00	19.09	peak
5417.89	H	44.10	54.00	9.90	AVG

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.

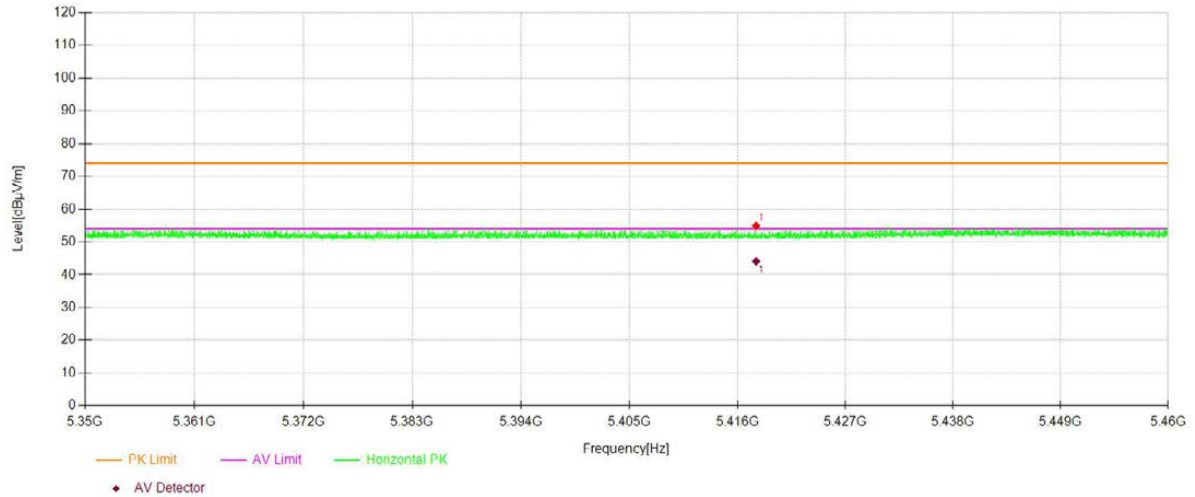
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol H



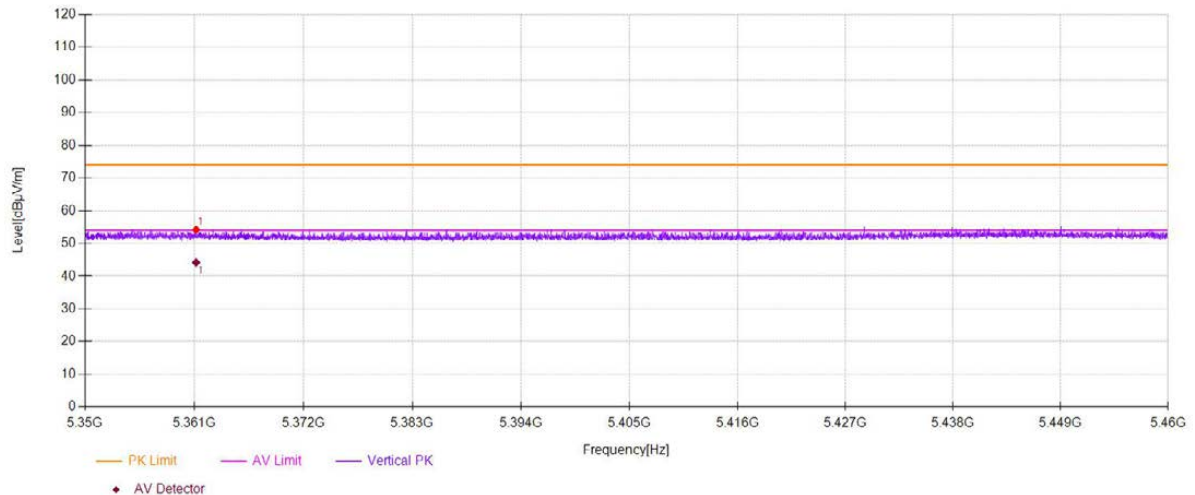
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol V



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



Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (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 ANT3 and MIMO as below:

ANT3:

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)		
10669.3	V	59.85	-35.38	-27	8.38		
15168.0	V	62.09	-33.14	-27	6.14		
17506.7	V	65.96	-29.27	-27	2.27		
11375.1	H	58.96	-36.27	-27	9.27		
14632.3	H	61.74	-33.49	-27	6.49		
17515.2	H	65.75	-29.48	-27	2.48		

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)		
9198.09	V	56.67	-38.56	-27	11.56		
13790.3	V	60.60	-34.63	-27	7.63		
17515.2	V	66.21	-29.02	-27	2.02		
11528.2	H	59.35	-35.88	-27	8.88		
14241.1	H	61.25	-33.98	-27	6.98		
17498.2	H	65.96	-29.27	-27	2.27		

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)		
12778.3	V	59.22	-36.01	-27	9.01		
14649.3	V	62.18	-33.05	-27	6.05		
17515.2	V	65.61	-29.62	-27	2.62		
9878.43	H	57.83	-37.4	-27	10.4		
13144.0	H	59.51	-35.72	-27	8.72		
17030.5	H	64.68	-30.55	-27	3.55		

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)
10667.91	V	59.72	-35.51	-27	8.51
15166.61	V	61.93	-33.30	-27	6.30
17507.98	V	65.93	-29.30	-27	2.30
11386.79	H	58.88	-36.35	-27	9.35
14643.99	H	61.53	-33.70	-27	6.70
17526.89	H	65.59	-29.64	-27	2.64

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)
9196.70	V	56.54	-38.69	-27	11.69
13788.91	V	60.44	-34.79	-27	7.79
17516.48	V	66.18	-29.05	-27	2.05
11539.89	H	59.27	-35.96	-27	8.96
14252.79	H	61.04	-34.19	-27	7.19
17509.89	H	65.8	-29.43	-27	2.43

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)
12776.91	V	59.09	-36.14	-27	9.14
14647.91	V	62.02	-33.21	-27	6.21
17516.48	V	65.58	-29.65	-27	2.65
9890.12	H	57.75	-37.48	-27	10.48
13155.69	H	59.3	-35.93	-27	8.93
17042.19	H	64.52	-30.71	-27	3.71

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

ANT3:

Test mode: 802.11N(20)		Frequency(MHz): 5500			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10669.3	V	59.85	74.00	14.15	peak
15168.0	V	62.09	74.00	11.91	peak
17506.7	V	65.96	74.00	8.04	peak
10669.33	V	41.66	54.00	12.34	AVG
15168.08	V	41.36	54.00	12.64	AVG
17506.75	V	44.13	54.00	9.87	AVG
11375.1	H	58.96	74.00	15.04	peak
14632.3	H	61.74	74.00	12.26	peak
17515.2	H	65.75	74.00	8.25	peak
11375.18	H	40.37	54.00	13.63	AVG
14632.31	H	42.64	54.00	11.36	AVG
17515.25	H	44.13	54.00	9.87	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9198.09	V	56.67	74.00	17.33	peak
13790.3	V	60.60	74.00	13.40	peak
17515.2	V	66.21	74.00	7.79	peak
9198.099	V	36.59	54.00	17.41	AVG
13790.39	V	40.64	54.00	13.36	AVG
17515.25	V	43.67	54.00	10.33	AVG
11528.2	H	59.35	74.00	14.65	peak
14241.1	H	61.25	74.00	12.75	peak
17498.2	H	65.96	74.00	8.04	peak
11528.26	H	41.17	54.00	12.83	AVG
14241.12	H	42.13	54.00	11.87	AVG
17498.24	H	44.16	54.00	9.84	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
12778.3	V	59.22	74.00	14.78	peak
14649.3	V	62.18	74.00	11.82	peak
17515.2	V	65.61	74.00	8.39	peak
12778.38	V	44.06	54.00	9.94	AVG
14649.32	V	42.77	54.00	11.23	AVG
17515.25	V	43.23	54.00	10.77	AVG
9878.43	H	57.83	74.00	16.17	peak
13144.0	H	59.51	74.00	14.49	peak
17030.5	H	64.68	74.00	9.32	peak
9878.439	H	38.99	54.00	15.01	AVG
13144.07	H	40.30	54.00	13.70	AVG
17030.51	H	43.27	54.00	10.73	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
10667.910	V	59.72	74.00	14.28	peak
15166.610	V	61.93	74.00	12.07	peak
17507.980	V	65.93	74.00	8.07	peak
10670.610	V	41.64	54.00	12.36	AVG
15165.830	V	41.1	54.00	12.9	AVG
17504.500	V	43.94	54.00	10.06	AVG
11386.790	H	58.88	74.00	15.12	peak
14643.990	H	61.53	74.00	12.47	peak
17526.890	H	65.59	74.00	8.41	peak
11386.870	H	40.23	54.00	13.77	AVG
14629.000	H	42.46	54.00	11.54	AVG
17511.940	H	44	54.00	10	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9196.700	V	56.54	74.00	17.46	peak
13788.910	V	60.44	74.00	13.56	peak
17516.480	V	66.18	74.00	7.82	peak
9199.379	V	36.57	54.00	17.43	AVG
13788.140	V	40.38	54.00	13.62	AVG
17513.000	V	43.48	54.00	10.52	AVG
11539.890	H	59.27	74.00	14.73	peak
14252.790	H	61.04	74.00	12.96	peak
17509.890	H	65.8	74.00	8.2	peak
11539.950	H	41.03	54.00	12.97	AVG
14237.810	H	41.95	54.00	12.05	AVG
17494.930	H	44.03	54.00	9.97	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
12776.910	V	59.09	74.00	14.91	peak
14647.910	V	62.02	74.00	11.98	peak
17516.480	V	65.58	74.00	8.42	peak
12779.660	V	44.04	54.00	9.96	AVG
14647.070	V	42.51	54.00	11.49	AVG
17513.000	V	43.04	54.00	10.96	AVG
9890.120	H	57.75	74.00	16.25	peak
13155.690	H	59.3	74.00	14.7	peak
17042.190	H	64.52	74.00	9.48	peak
9890.129	H	38.85	54.00	15.15	AVG
13140.760	H	40.12	54.00	13.88	AVG
17027.200	H	43.14	54.00	10.86	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(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5460.66	H	54.98	-40.25	-27	Pass
5468.01	V	54.70	-40.53	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5728.52	H	55.42	-39.81	-27	Pass
5728.98	V	55.62	-39.61	-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(20) Frequency(MHz): 5500

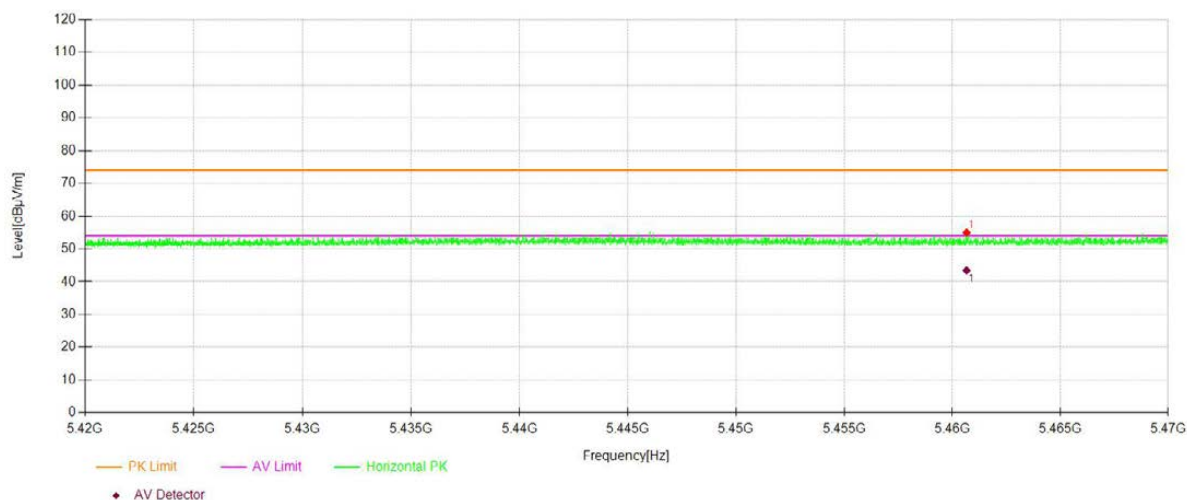
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5468.01	V	54.70	74.00	19.30	peak
5468.01	V	44.70	54.00	9.30	AVG
5460.66	H	54.98	74.00	19.02	peak
5460.66	H	43.47	54.00	10.53	AVG

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

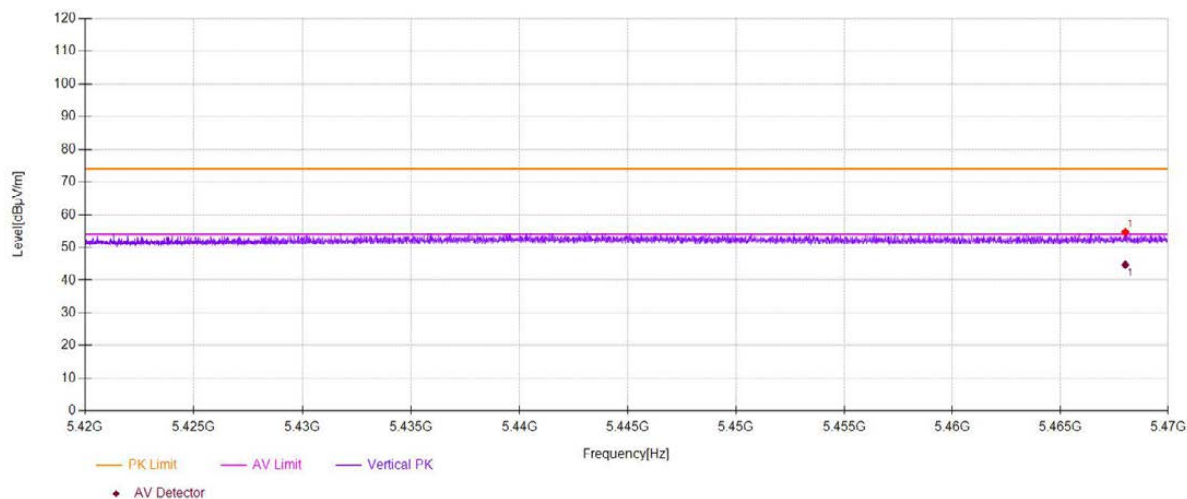
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5728.98	V	55.62	74.00	18.38	peak
5728.98	V	44.76	54.00	9.24	AVG
5728.52	H	55.42	74.00	18.58	peak
5728.52	H	44.75	54.00	9.25	AVG

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.

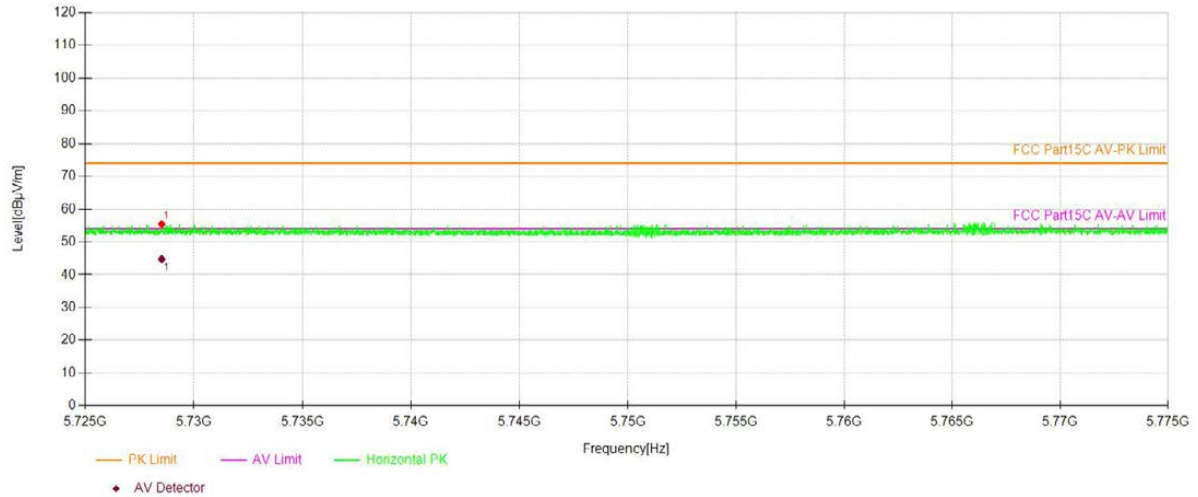
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol H



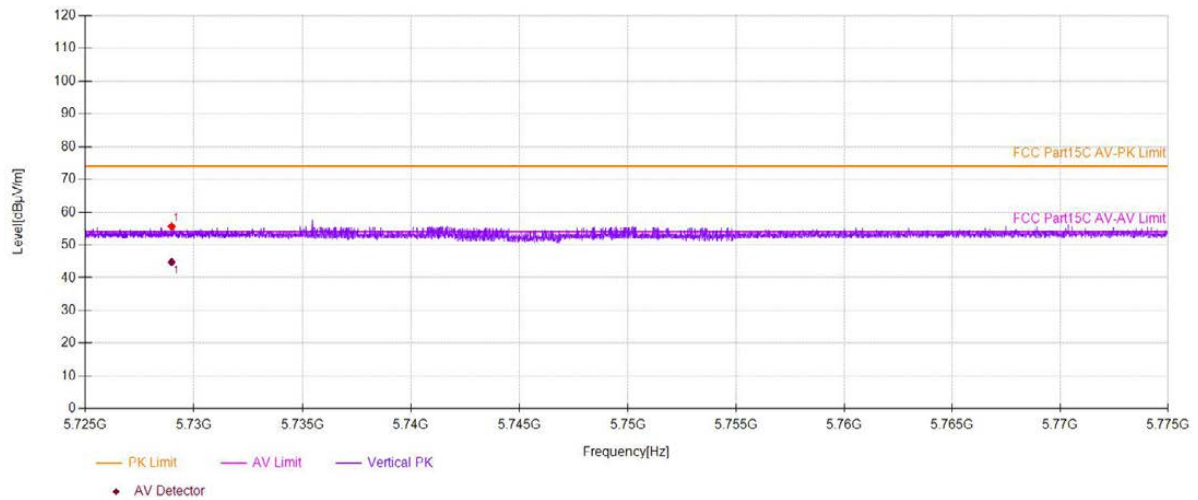
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol V



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



Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (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 ANT3 and MIMO as below:

ANT3:

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)		
9529.76	V	56.69	-38.54	-27	11.54		
13781.8	V	60.60	-34.63	-27	7.63		
17498.2	V	65.87	-29.36	-27	2.36		
11477.2	H	58.85	-36.38	-27	9.38		
14249.6	H	60.59	-34.64	-27	7.64		
17506.7	H	65.67	-29.56	-27	2.56		

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)		
10082.5	V	58.97	-36.26	-27	9.26		
14589.7	V	60.89	-34.34	-27	7.34		
17498.2	V	65.32	-29.91	-27	2.91		
11494.2	H	59.53	-35.7	-27	8.7		
13161.0	H	59.35	-35.88	-27	8.88		
16996.4	H	64.96	-30.27	-27	3.27		

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)		
10771.3	V	58.73	-36.5	-27	9.5		
13798.8	V	60.58	-34.65	-27	7.65		
17005.0	V	66.55	-28.68	-27	1.68		
11485.7	H	59.46	-35.77	-27	8.77		
15465.7	H	62.21	-33.02	-27	6.02		
17498.2	H	65.68	-29.55	-27	2.55		

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)
9528.37	V	56.56	-38.67	-27	11.67
13780.41	V	60.44	-34.79	-27	7.79
17499.48	V	65.84	-29.39	-27	2.39
11488.89	H	58.77	-36.46	-27	9.46
14261.29	H	60.38	-34.85	-27	7.85
17518.39	H	65.51	-29.72	-27	2.72

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)
10081.11	V	58.84	-36.39	-27	9.39
14588.31	V	60.73	-34.50	-27	7.50
17499.48	V	65.29	-29.94	-27	2.94
11505.89	H	59.45	-35.78	-27	8.78
13172.69	H	59.14	-36.09	-27	9.09
17008.09	H	64.8	-30.43	-27	3.43

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)
10769.91	V	58.6	-36.63	-27	9.63
13797.41	V	60.42	-34.81	-27	7.81
17006.28	V	66.52	-28.71	-27	1.71
11497.39	H	59.38	-35.85	-27	8.85
15477.39	H	62	-33.23	-27	6.23
17509.89	H	65.52	-29.71	-27	2.71

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

ANT3:

Test mode: 802.11N(20)		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9529.76	V	56.69	74.00	17.31	peak
13781.8	V	60.60	74.00	13.40	peak
17498.2	V	65.87	74.00	8.13	peak
9529.764	V	38.10	54.00	15.90	AVG
13781.89	V	40.74	54.00	13.26	AVG
17498.24	V	43.78	54.00	10.22	AVG
11477.2	H	58.85	74.00	15.15	peak
14249.6	H	60.59	74.00	13.41	peak
17506.7	H	65.67	74.00	8.33	peak
11477.23	H	40.84	54.00	13.16	AVG
14249.62	H	42.35	54.00	11.65	AVG
17506.75	H	43.98	54.00	10.02	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10082.5	V	58.97	74.00	15.03	peak
14589.7	V	60.89	74.00	13.11	peak
17498.2	V	65.32	74.00	8.68	peak
10082.54	V	40.44	54.00	13.56	AVG
14589.79	V	43.95	54.00	10.05	AVG
17498.24	V	43.69	54.00	10.31	AVG
11494.2	H	59.53	74.00	14.47	peak
13161.0	H	59.35	74.00	14.65	peak
16996.4	H	64.96	74.00	9.04	peak
11494.24	H	42.70	54.00	11.30	AVG
13161.08	H	40.71	54.00	13.29	AVG
16996.49	H	43.89	54.00	10.11	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10771.3	V	58.73	74.00	15.27	peak
13798.8	V	60.58	74.00	13.42	peak
17005.0	V	66.55	74.00	7.45	peak
10771.38	V	41.93	54.00	12.07	AVG
13798.89	V	40.68	54.00	13.32	AVG
17005.00	V	43.93	54.00	10.07	AVG
11485.7	H	59.46	74.00	14.54	peak
15465.7	H	62.21	74.00	11.79	peak
17498.2	H	65.68	74.00	8.32	peak
11485.74	H	41.39	54.00	12.61	AVG
15465.73	H	40.75	54.00	13.25	AVG
17498.24	H	44.48	54.00	9.52	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
9528.370	V	56.56	74.00	17.44	peak
13780.410	V	60.44	74.00	13.56	peak
17499.480	V	65.84	74.00	8.16	peak
9531.044	V	38.08	54.00	15.92	AVG
13779.640	V	40.48	54.00	13.52	AVG
17495.990	V	43.59	54.00	10.41	AVG
11488.890	H	58.77	74.00	15.23	peak
14261.290	H	60.38	74.00	13.62	peak
17518.390	H	65.51	74.00	8.49	peak
11488.920	H	40.7	54.00	13.3	AVG
14246.310	H	42.17	54.00	11.83	AVG
17503.440	H	43.85	54.00	10.15	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10081.110	V	58.84	74.00	15.16	peak
14588.310	V	60.73	74.00	13.27	peak
17499.480	V	65.29	74.00	8.71	peak
10083.820	V	40.42	54.00	13.58	AVG
14587.540	V	43.69	54.00	10.31	AVG
17495.990	V	43.5	54.00	10.5	AVG
11505.890	H	59.45	74.00	14.55	peak
13172.690	H	59.14	74.00	14.86	peak
17008.090	H	64.8	74.00	9.2	peak
11505.930	H	42.56	54.00	11.44	AVG
13157.770	H	40.53	54.00	13.47	AVG
16993.180	H	43.76	54.00	10.24	AVG

Test mode: 802.11N(20)		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10769.910	V	58.6	74.00	15.4	peak
13797.410	V	60.42	74.00	13.58	peak
17006.280	V	66.52	74.00	7.48	peak
10772.660	V	41.91	54.00	12.09	AVG
13796.640	V	40.42	54.00	13.58	AVG
17002.750	V	43.74	54.00	10.26	AVG
11497.390	H	59.38	74.00	14.62	peak
15477.390	H	62	74.00	12	peak
17509.890	H	65.52	74.00	8.48	peak
11497.430	H	41.25	54.00	12.75	AVG
15462.420	H	40.57	54.00	13.43	AVG
17494.930	H	44.35	54.00	9.65	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(20)		Frequency:		5745	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict		
5723.12	H	54.91	-40.32	-27	PASS		
5721.12	V	55.49	-39.74	-27	PASS		

Test mode:		802.11ax(20)		Frequency:		5825	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict		
5857.12	H	55.24	-39.99	-27	PASS		
5851.06	V	55.20	-40.03	-27	PASS		

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

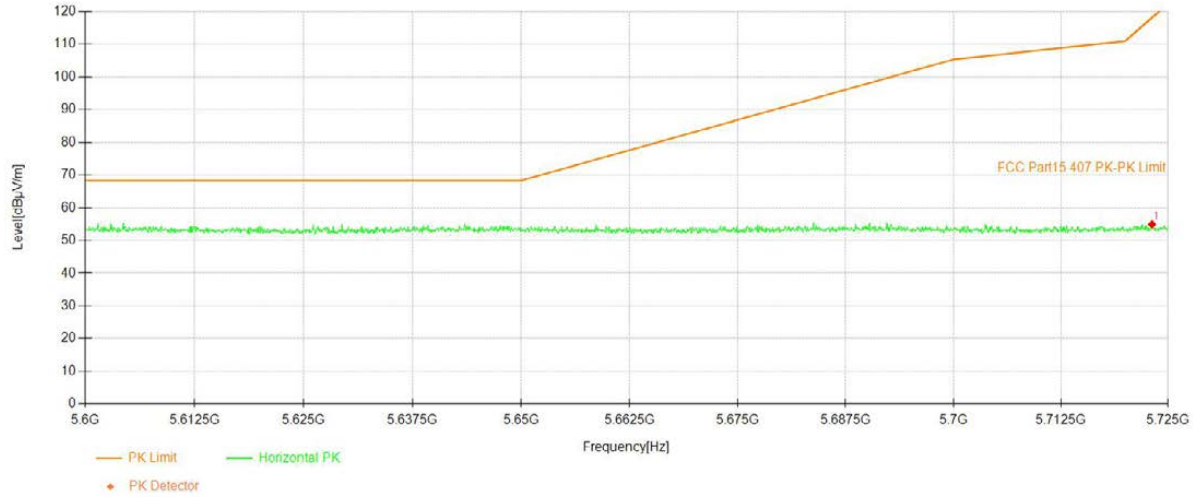
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.

(3) Correct Factor= Ant_F + Cab_L - Preamp

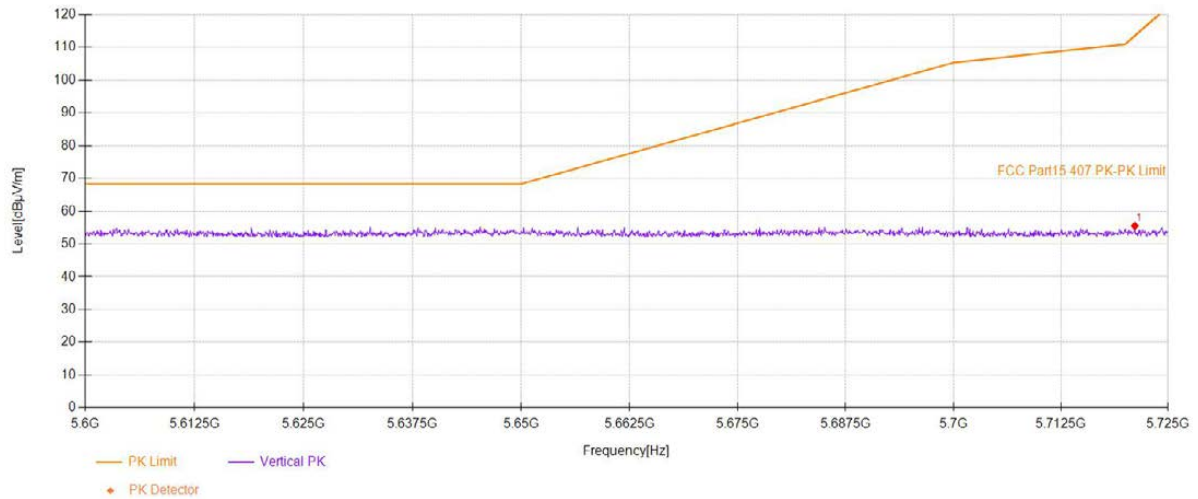
(4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

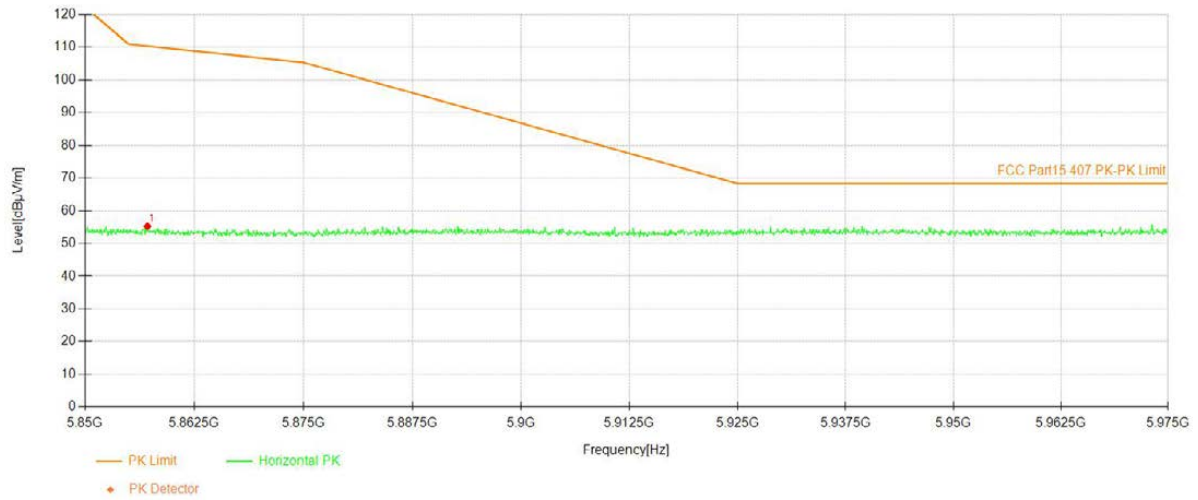
Test Model U-NII -3
 Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5745 Ant.Pol H



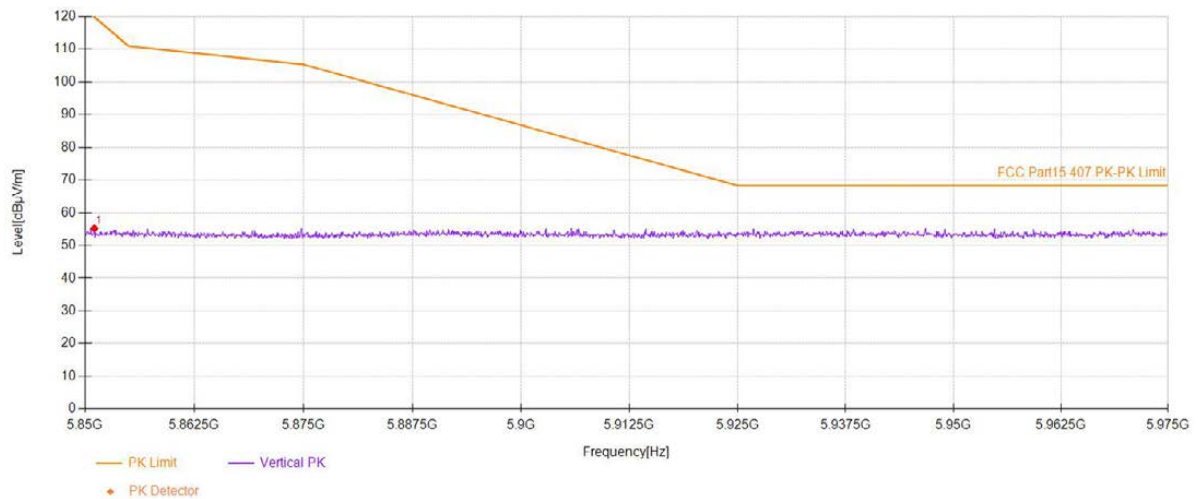
Test Model U-NII -3
 Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5745 Ant.Pol V



Test Model U-NII -3
Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5825 Ant.Pol H



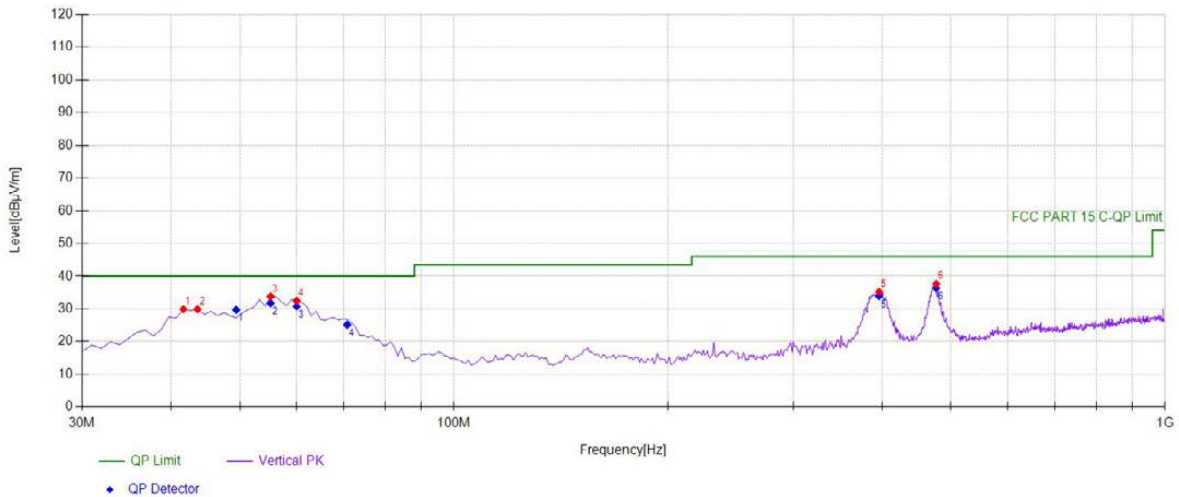
Test Model U-NII -3
Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ax (VHT20)
☒ 5825 Ant.Pol V



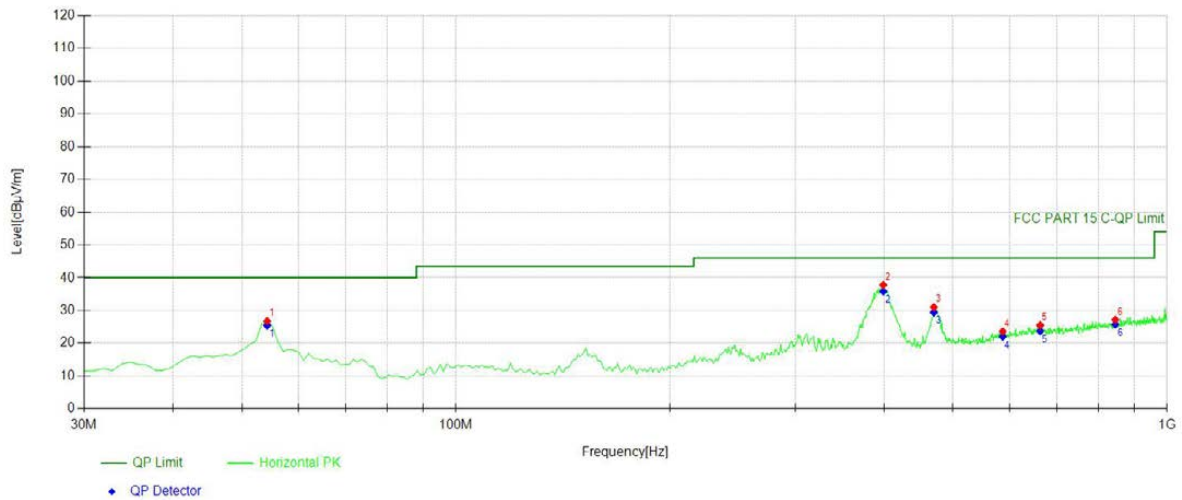
Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

All of the configurations or modes are tested, the data of the worst case is recorded as below.

Test mode: 802.11a Frequency(MHz): 5180



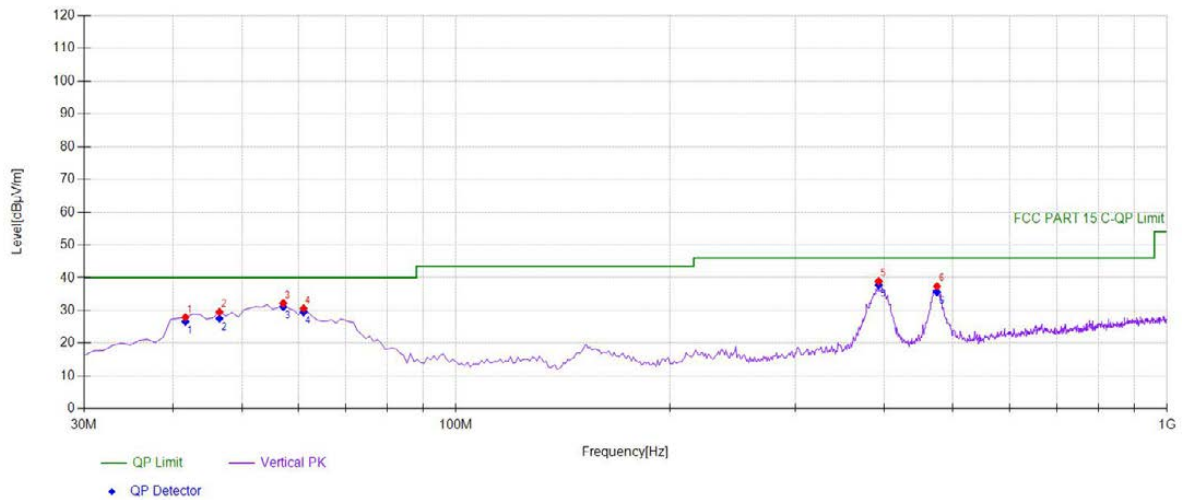
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	41.6517	47.71	-17.80	29.91	PK	40.00	10.09	Vertical
2	43.5936	47.56	-17.66	29.90	PK	40.00	10.10	Vertical
3	55.2452	51.68	-17.91	33.77	PK	40.00	6.23	Vertical
4	60.1001	51.00	-18.56	32.44	PK	40.00	7.56	Vertical
5	396.056	47.01	-11.81	35.20	PK	46.00	10.80	Vertical
6	476.646	47.63	-9.99	37.64	PK	46.00	8.36	Vertical



Suspected Data List

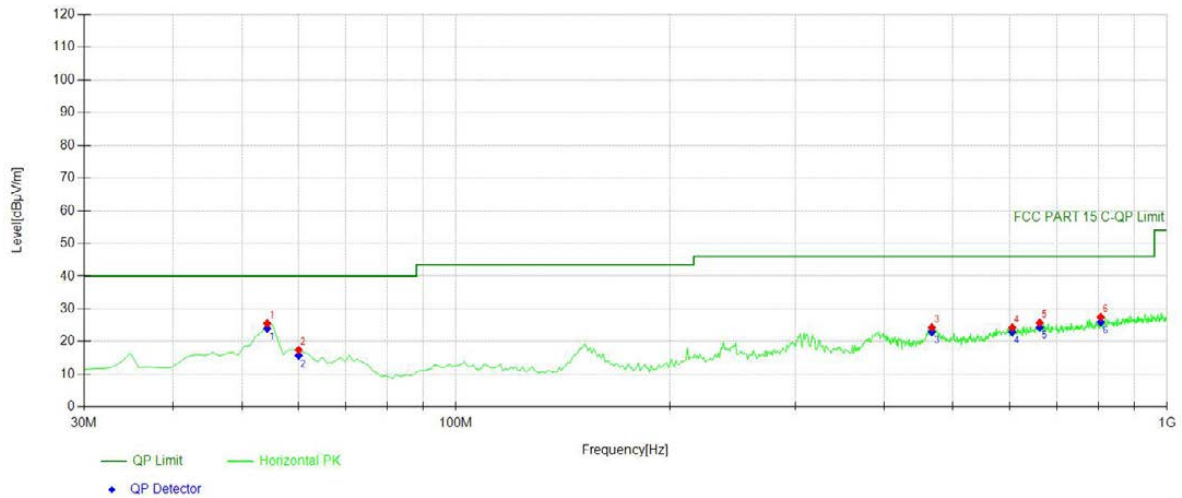
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	54.2743	44.53	-17.78	26.75	PK	40.00	13.25	Horizontal
2	398.969	49.60	-11.79	37.81	PK	46.00	8.19	Horizontal
3	469.849	41.47	-10.43	31.04	PK	46.00	14.96	Horizontal
4	587.337	30.78	-7.14	23.64	PK	46.00	22.36	Horizontal
5	663.073	31.61	-6.14	25.47	PK	46.00	20.53	Horizontal
6	845.615	30.98	-3.83	27.15	PK	46.00	18.85	Horizontal

Test mode: 802.11a Frequency(MHz): 5200



Suspected Data List

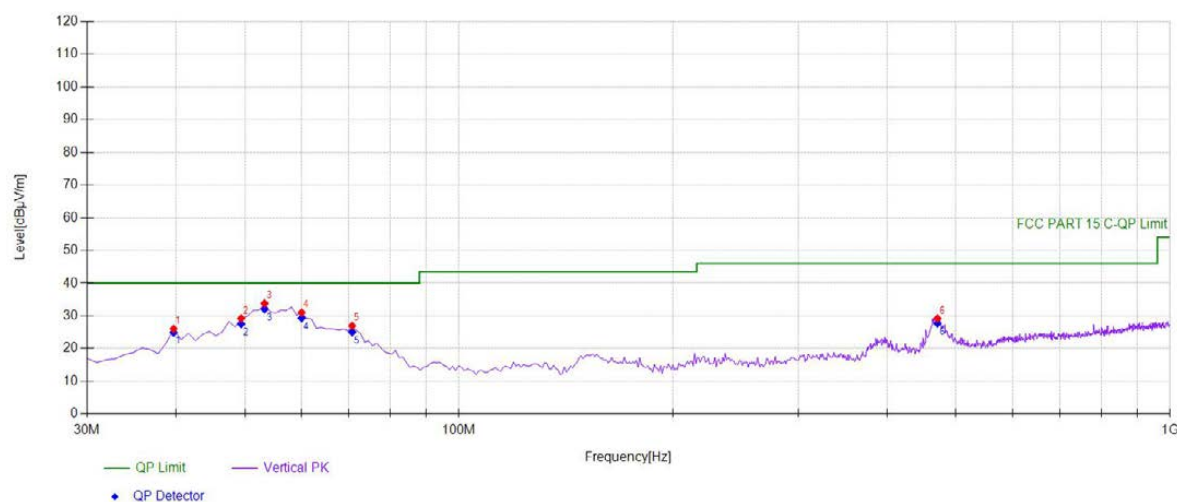
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	41.6517	45.71	-17.80	27.91	PK	40.00	12.09	Vertical
2	46.5065	46.99	-17.45	29.54	PK	40.00	10.46	Vertical
3	57.1872	50.40	-18.16	32.24	PK	40.00	7.76	Vertical
4	61.0711	49.34	-18.70	30.64	PK	40.00	9.36	Vertical
5	393.143	50.72	-11.82	38.90	PK	46.00	7.10	Vertical
6	474.704	47.51	-10.12	37.39	PK	46.00	8.61	Vertical



Suspected Data List

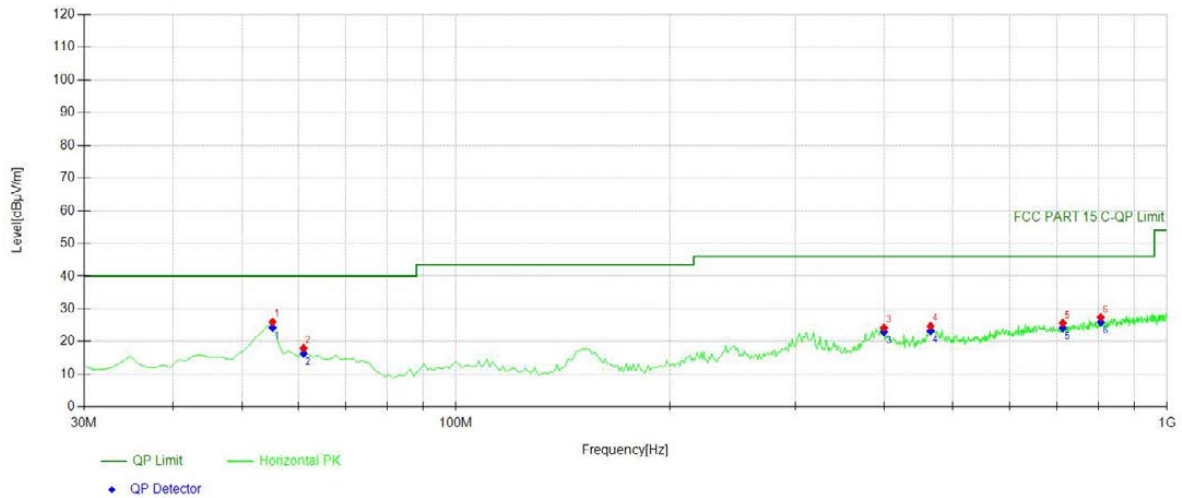
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	54.2743	43.33	-17.78	25.55	PK	40.00	14.45	Horizontal
2	60.1001	36.02	-18.56	17.46	PK	40.00	22.54	Horizontal
3	466.936	34.94	-10.61	24.33	PK	46.00	21.67	Horizontal
4	605.785	31.42	-7.11	24.31	PK	46.00	21.69	Horizontal
5	662.102	31.87	-6.13	25.74	PK	46.00	20.26	Horizontal
6	806.776	31.85	-4.37	27.48	PK	46.00	18.52	Horizontal

Test mode: 802.11a 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	39.7097	43.94	-17.93	26.01	PK	40.00	13.99	Vertical
2	49.4194	46.47	-17.25	29.22	PK	40.00	10.78	Vertical
3	53.3033	51.45	-17.65	33.80	PK	40.00	6.20	Vertical
4	60.1001	49.60	-18.56	31.04	PK	40.00	8.96	Vertical
5	70.7808	47.04	-20.08	26.96	PK	40.00	13.04	Vertical
6	470.820	39.58	-10.37	29.21	PK	46.00	16.79	Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	55.2452	43.91	-17.91	26.00	PK	40.00	14.00	Horizontal
2	61.0711	36.73	-18.70	18.03	PK	40.00	21.97	Horizontal
3	399.939	36.05	-11.79	24.26	PK	46.00	21.74	Horizontal
4	464.995	35.46	-10.73	24.73	PK	46.00	21.27	Horizontal
5	713.563	31.50	-5.83	25.67	PK	46.00	20.33	Horizontal
6	806.776	31.79	-4.37	27.42	PK	46.00	18.58	Horizontal

8.5 POWER LINE CONDUCTED EMISSIONS

8.5.1 Applicable Standard

According to FCC Part 15.207(a)

8.5.2 Conformance Limit

Frequency(MHz)	Conducted Emission Limit	
	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

8.5.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

8.5.4 Test Procedure

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

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

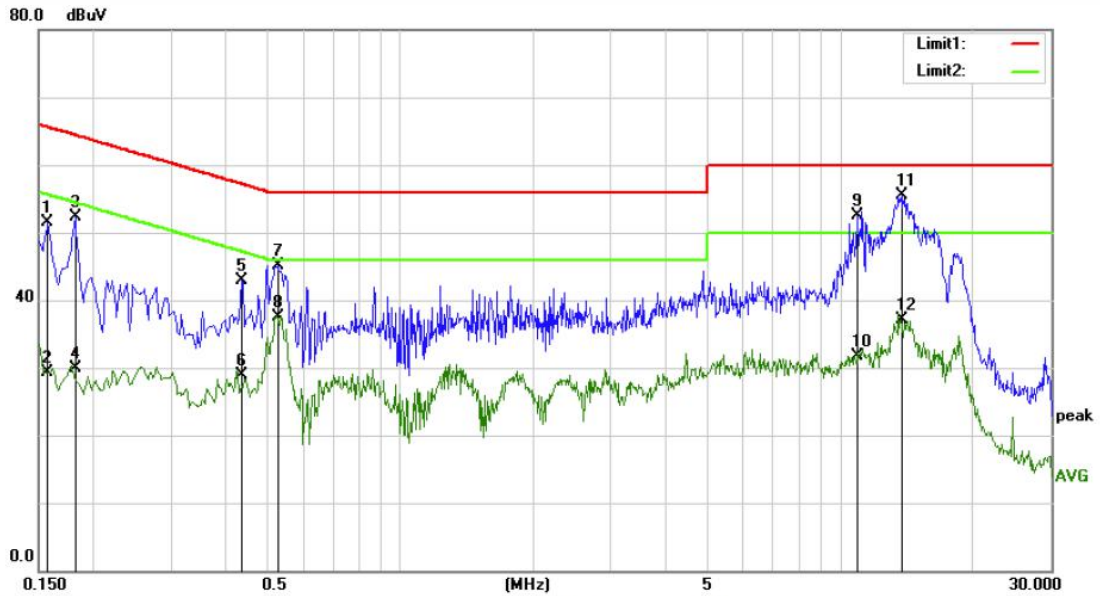
Repeat above procedures until all frequency measured were complete.

8.5.5 Test Results

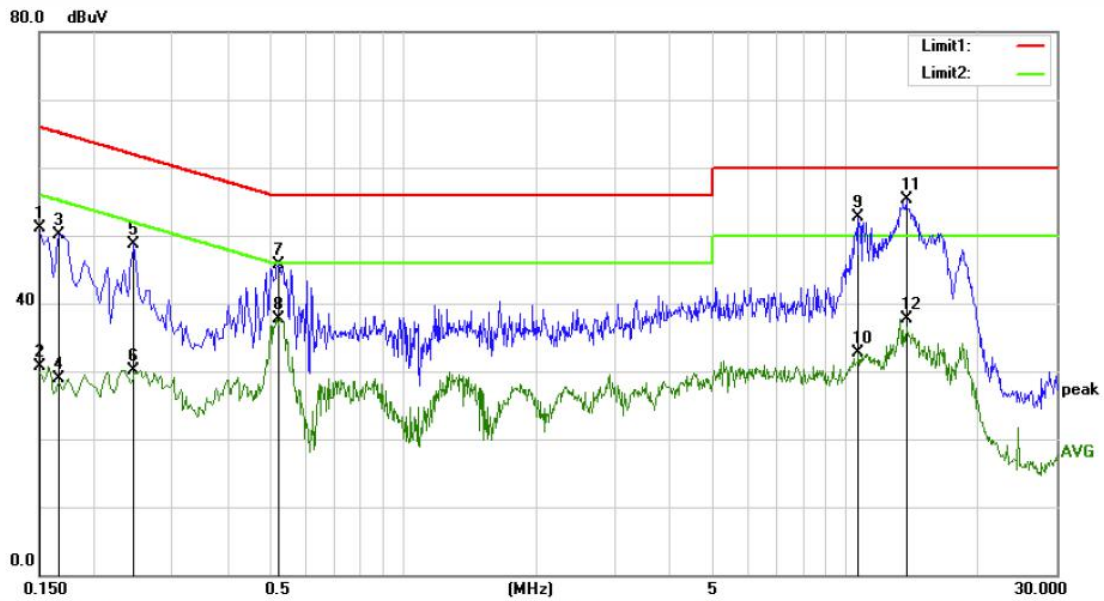
Pass

Temperature :	20.8°C	ATM Pressure:	1011 mbar
Humidity :	61%	Test Engineer:	WAP

All of the configurations or modes are tested, the data of the worst case is recorded as below.



Site Conduction #1				Phase: L1		Temperature: 20.8		
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1580	41.97	9.60	51.57	65.57	-14.00	QP
2		0.1580	19.65	9.60	29.25	55.57	-26.32	AVG
3		0.1820	42.35	9.89	52.24	64.39	-12.15	QP
4		0.1820	20.09	9.89	29.98	54.39	-24.41	AVG
5		0.4340	33.11	9.77	42.88	57.18	-14.30	QP
6		0.4340	19.17	9.77	28.94	47.18	-18.24	AVG
7		0.5260	35.50	9.67	45.17	56.00	-10.83	QP
8		0.5260	27.93	9.67	37.60	46.00	-8.40	AVG
9		10.9220	42.49	10.02	52.51	60.00	-7.49	QP
10		10.9220	21.70	10.02	31.72	50.00	-18.28	AVG
11	*	13.7300	45.53	9.95	55.48	60.00	-4.52	QP
12		13.7300	27.22	9.95	37.17	50.00	-12.83	AVG



Site Conduction #1				Phase: N		Temperature: 20.8		
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1500	41.69	9.51	51.20	66.00	-14.80	QP
2		0.1500	21.13	9.51	30.64	56.00	-25.36	AVG
3		0.1660	40.50	9.70	50.20	65.16	-14.96	QP
4		0.1660	19.23	9.70	28.93	55.16	-26.23	AVG
5		0.2460	38.73	10.07	48.80	61.89	-13.09	QP
6		0.2460	19.96	10.07	30.03	51.89	-21.86	AVG
7		0.5220	36.03	9.67	45.70	56.00	-10.30	QP
8		0.5220	28.11	9.67	37.78	46.00	-8.22	AVG
9		10.7220	42.66	10.03	52.69	60.00	-7.31	QP
10		10.7220	22.68	10.03	32.71	50.00	-17.29	AVG
11	*	13.7540	45.35	9.96	55.31	60.00	-4.69	QP
12		13.7540	27.72	9.96	37.68	50.00	-12.32	AVG

8.6 ANTENNA APPLICATION

8.6.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 15.203	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

8.6.2 Result

PASS

Temperature : 25°C ATM Pressure: 1011 mbar
Humidity : 60 % Test Engineer: XXH

The EUT is integrated antenna, the antenna gain as below:

Ant1: 6.38dBi, Ant2: 6.11dBi, Ant3: 6.50dBi

- ☒ Antennas use a permanently attached antenna which is not replaceable.
- ☐ Not using a standard antenna jack or electrical connector for antenna replacement
- ☐ The antenna has to be professionally installed (please provide method of installation)

Which in accordance to section 15.203, please refer to the internal photos.

Detail of factor for radiated emission:

Frequency(MHz)	Ant_F(dB)	Cab_L(dB)	Preamp(dB)	Correct Factor(dB)
0.009	20.6	0.03	\	20.63
0.15	20.7	0.1	\	20.8
1	20.9	0.15	\	21.05
10	20.1	0.28	\	20.38
30	18.8	0.45	\	19.25
30	11.7	0.62	27.9	-15.58
100	12.5	1.02	27.8	-14.28
300	12.9	1.91	27.5	-12.69
600	19.2	2.92	27	-4.88
800	21.1	3.54	26.6	-1.96
1000	22.3	4.17	26.2	0.27
1000	25.6	1.76	41.4	-14.04
3000	28.9	3.27	43.2	-11.03
5000	31.1	4.2	44.6	-9.3
8000	36.2	5.95	44.7	-2.55
10000	38.4	6.3	43.9	0.8
12000	38.5	7.14	42.3	3.34
15000	40.2	8.15	41.4	6.95
18000	45.4	9.02	41.3	13.12
18000	37.9	1.81	47.9	-8.19
21000	37.9	1.95	48.7	-8.85
25000	39.3	2.01	42.8	-1.49
28000	39.6	2.16	46.0	-4.24
31000	41.2	2.24	44.5	-1.06
34000	41.5	2.29	46.6	-2.81
37000	43.8	2.30	46.4	-0.3
40000	43.2	2.50	42.2	3.5

--- End of Report ---

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