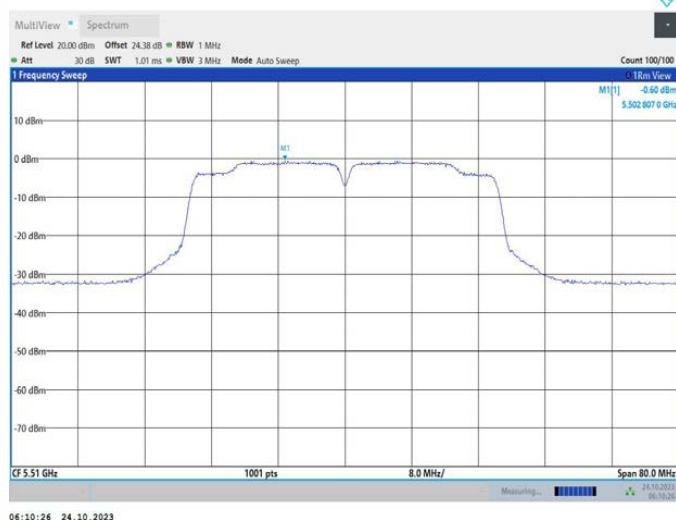
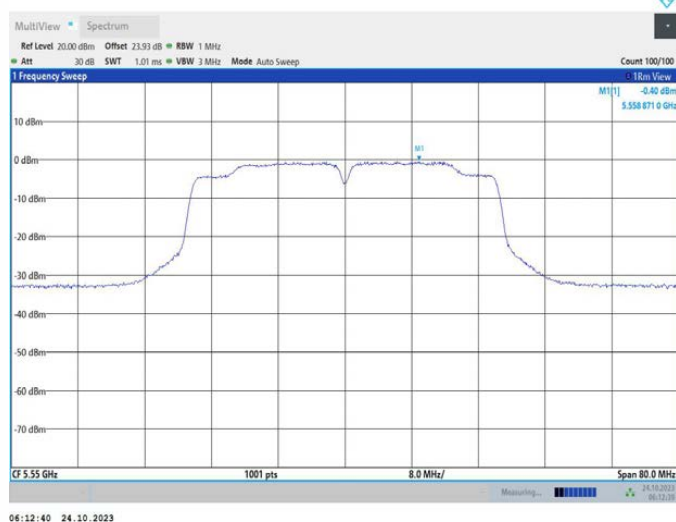


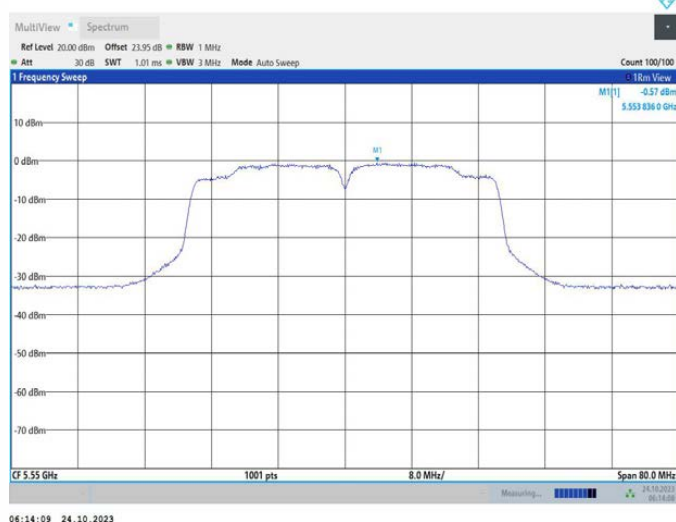
11AC40MIMO_Ant2_5510



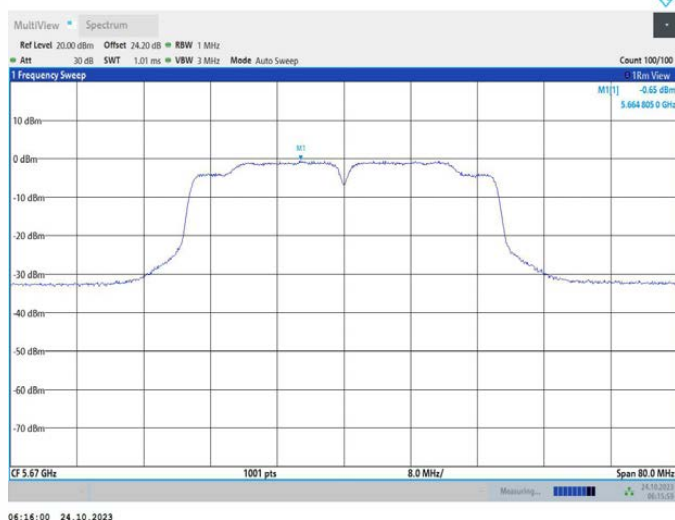
11AC40MIMO_Ant1_5550



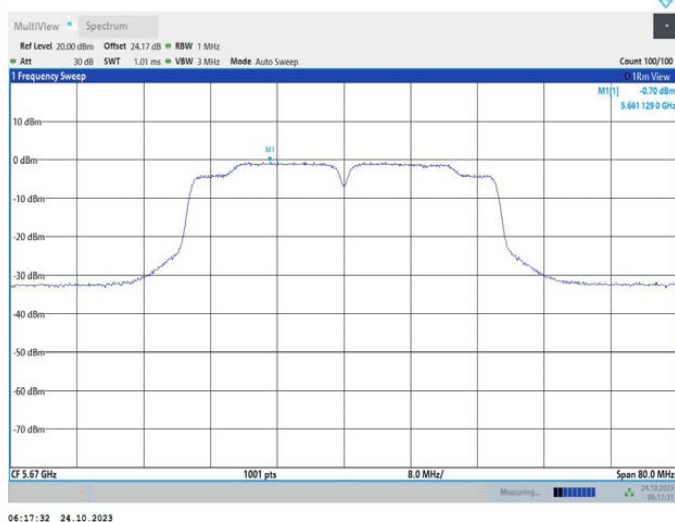
11AC40MIMO_Ant2_5550



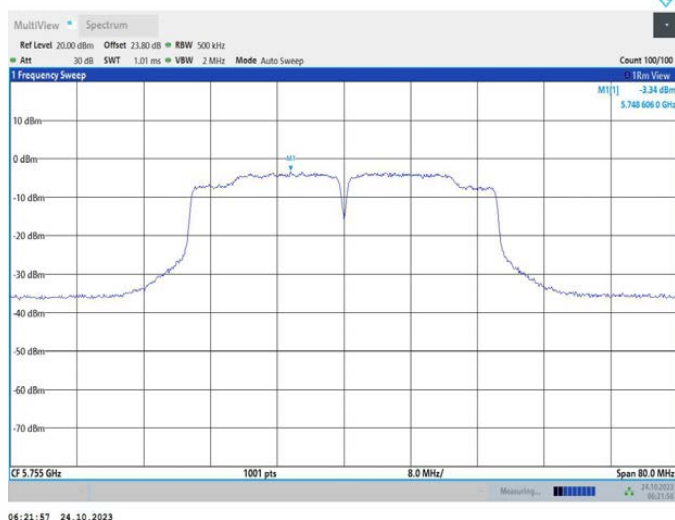
11AC40MIMO_Ant1_5670



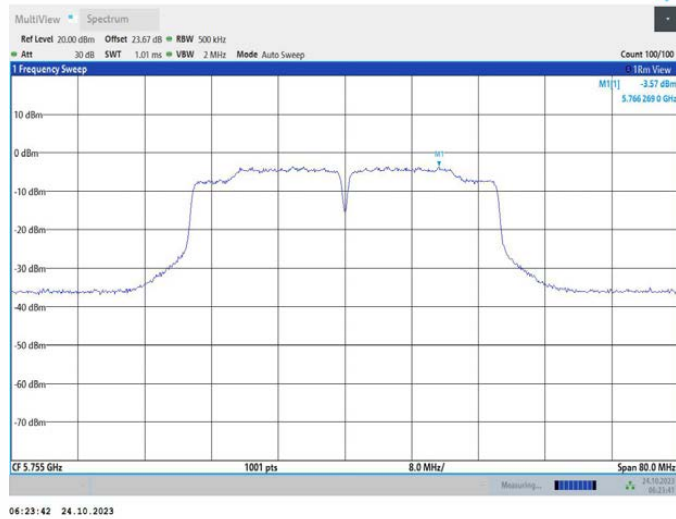
11AC40MIMO_Ant2_5670



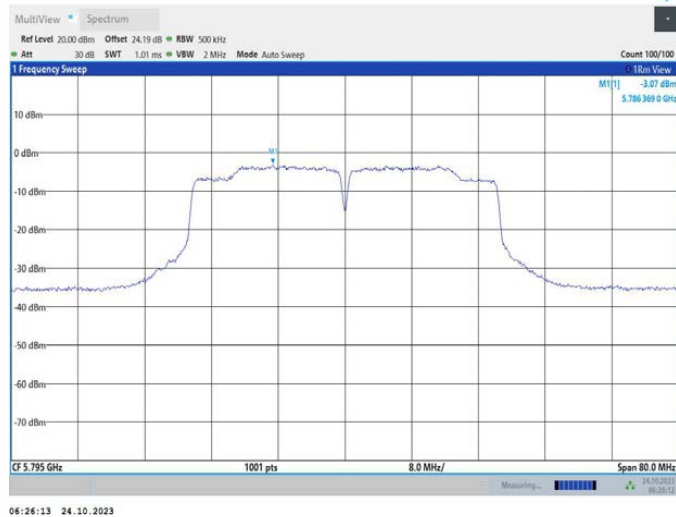
11AC40MIMO_Ant1_5755



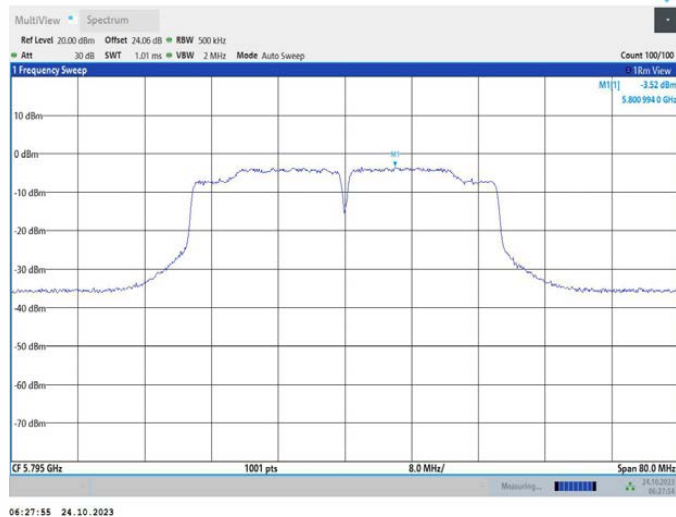
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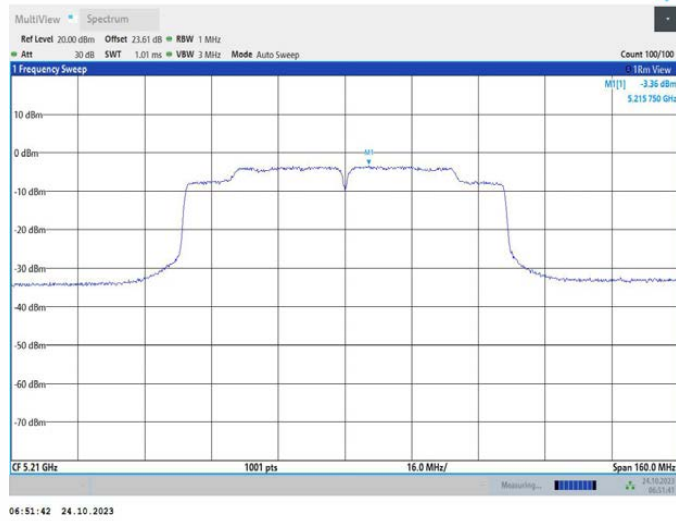
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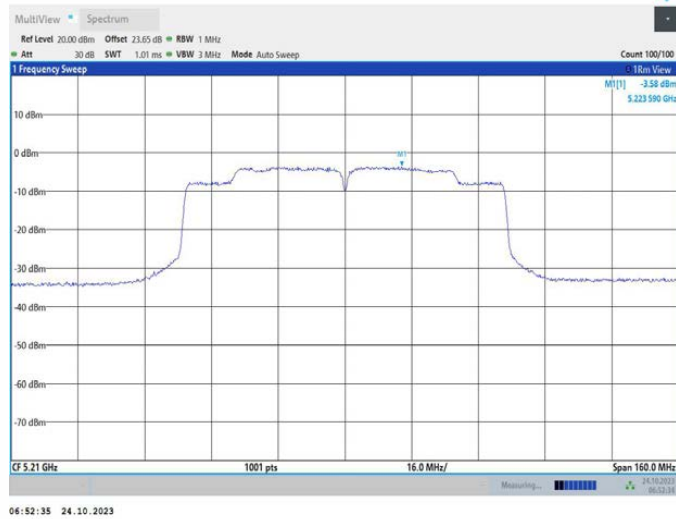
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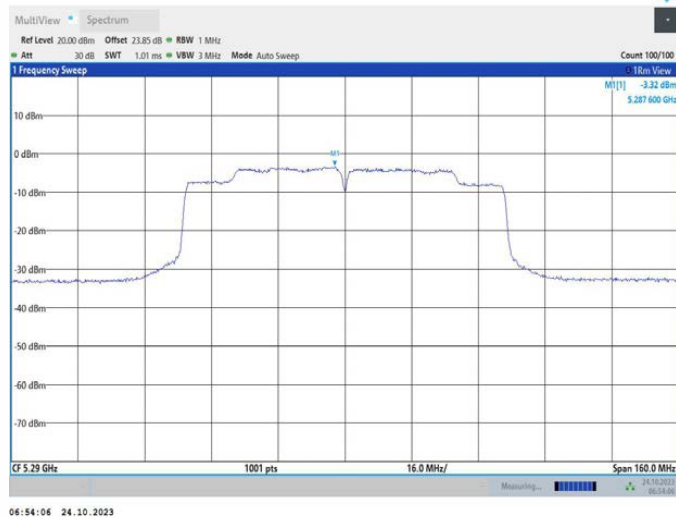
11AC80MIMO_Ant1_5210



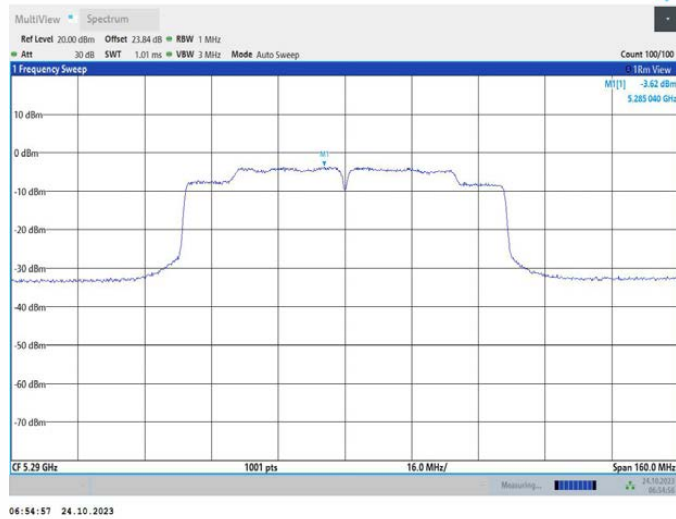
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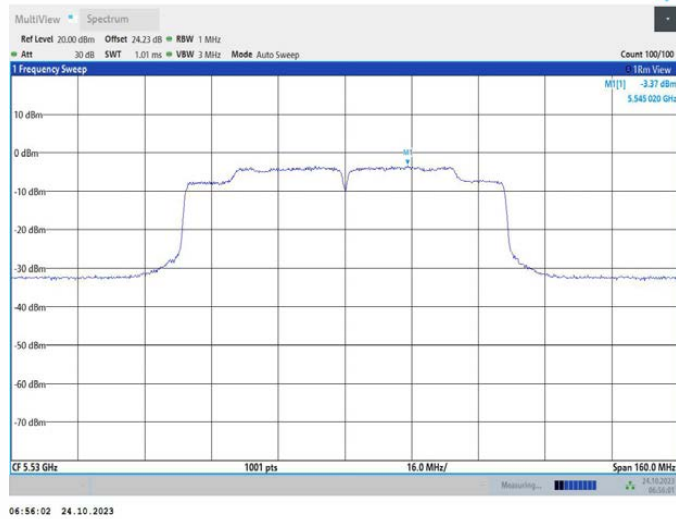
11AC80MIMO_Ant1_5290



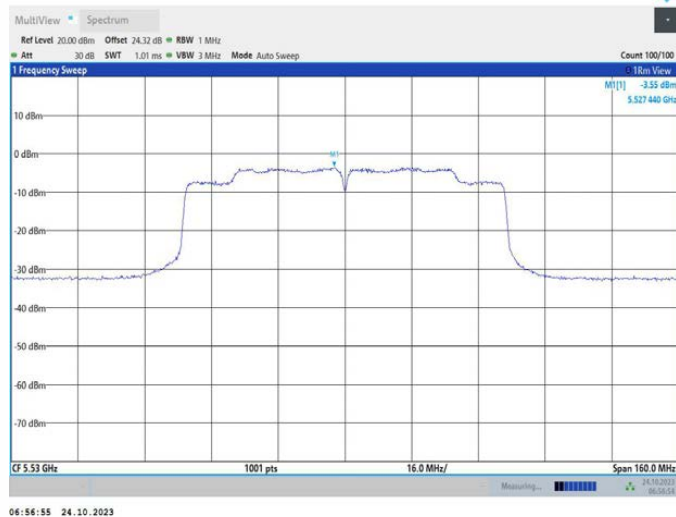
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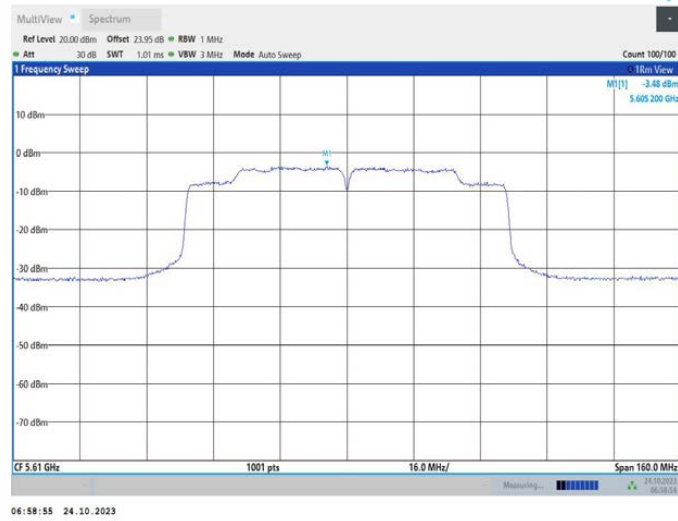
11AC80MIMO_Ant1_5530



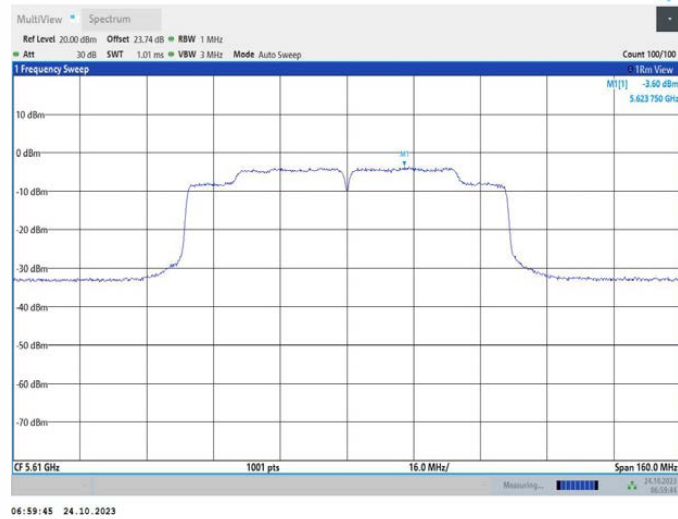
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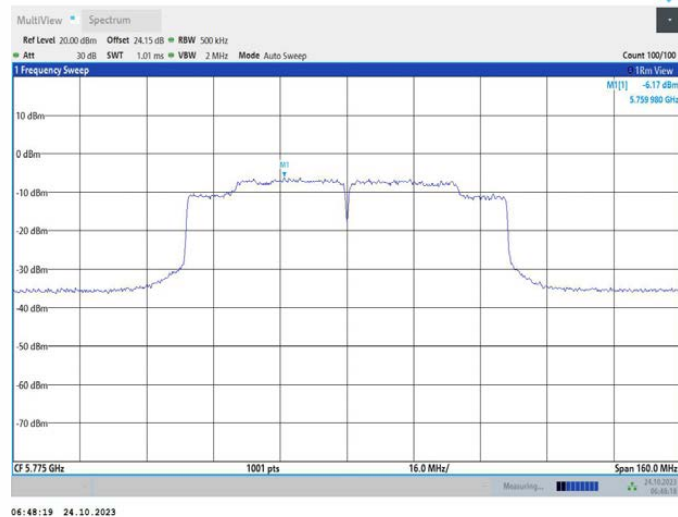
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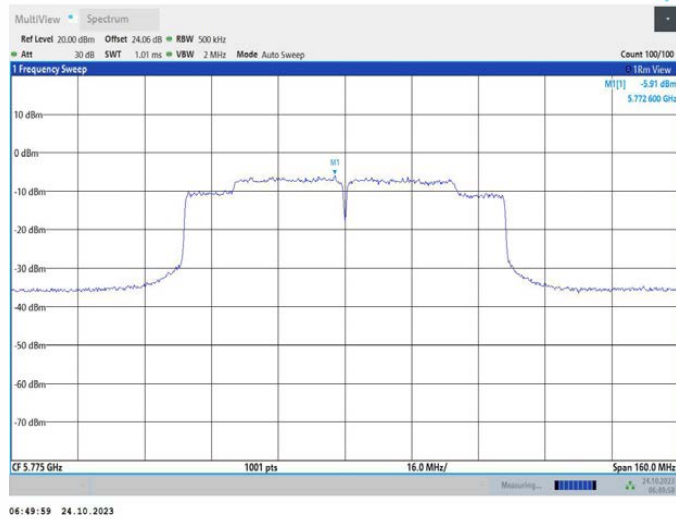
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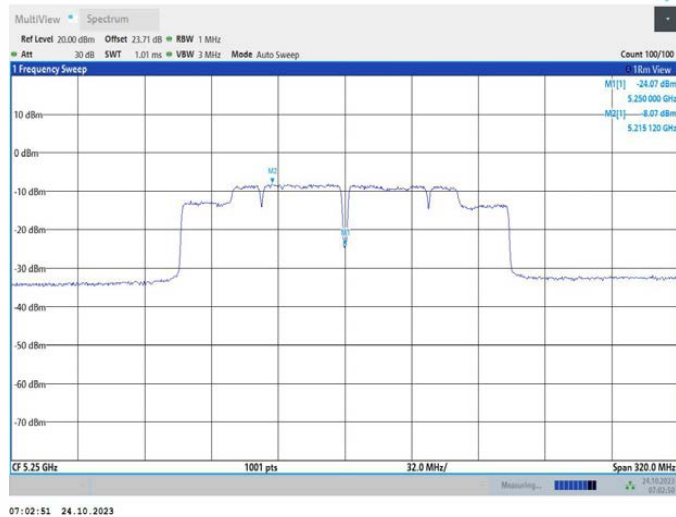
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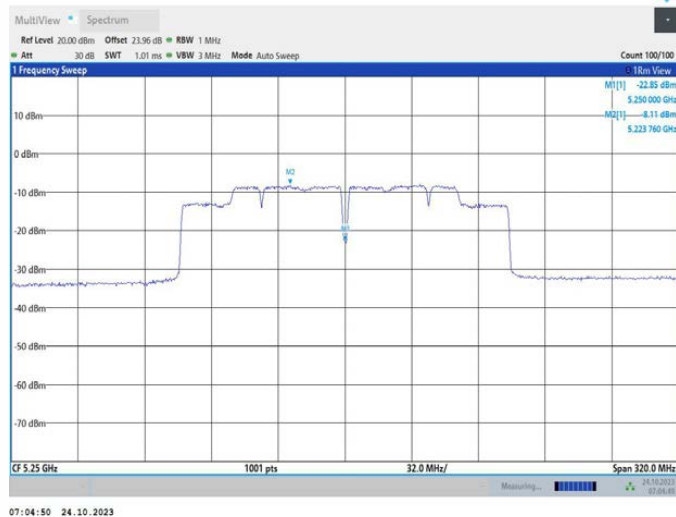
11AC80MIMO_Ant2_5775



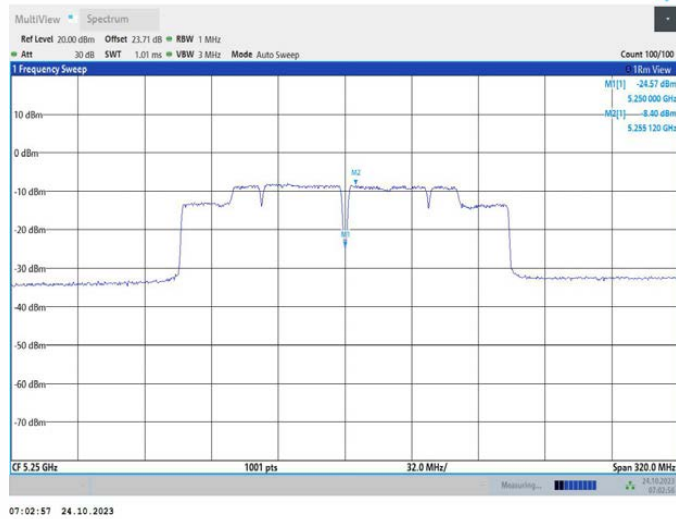
11AC160MIMO_Ant1_5250_UNII-1



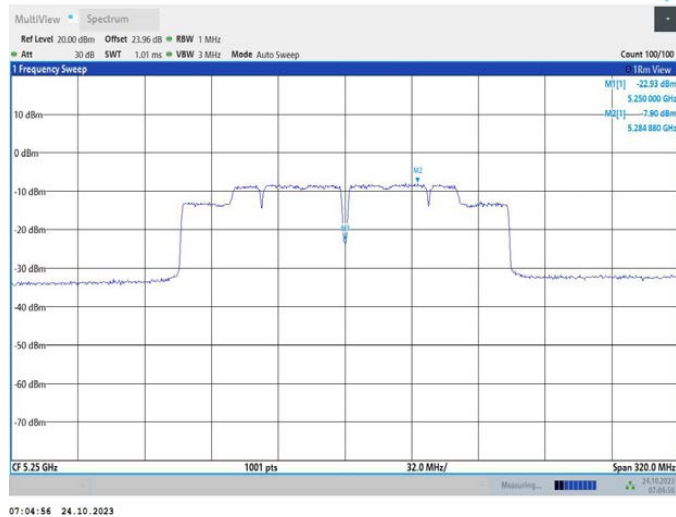
11AC160MIMO_Ant2_5250_UNII-1



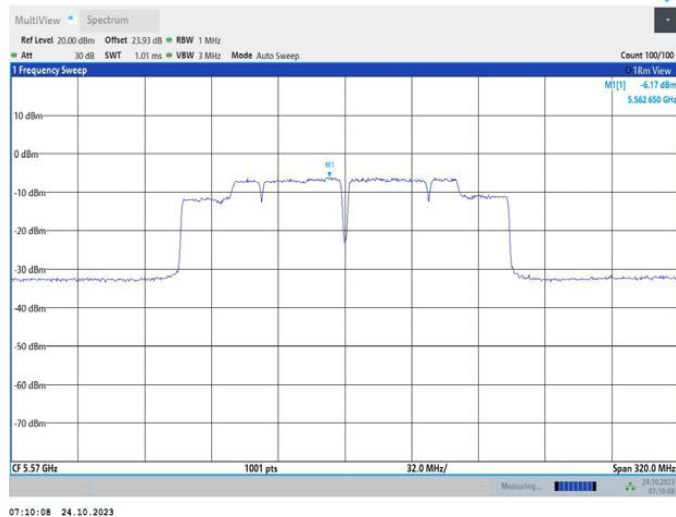
11AC160MIMO_Ant1_5250_UNII-2A



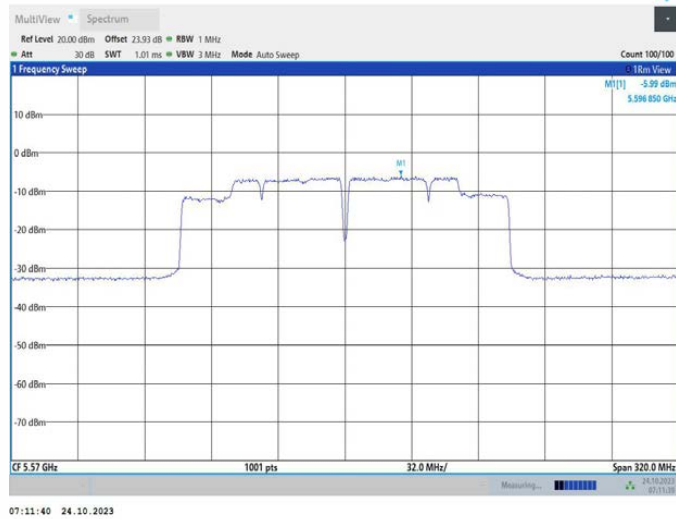
11AC160MIMO_Ant2_5250_UNII-2A



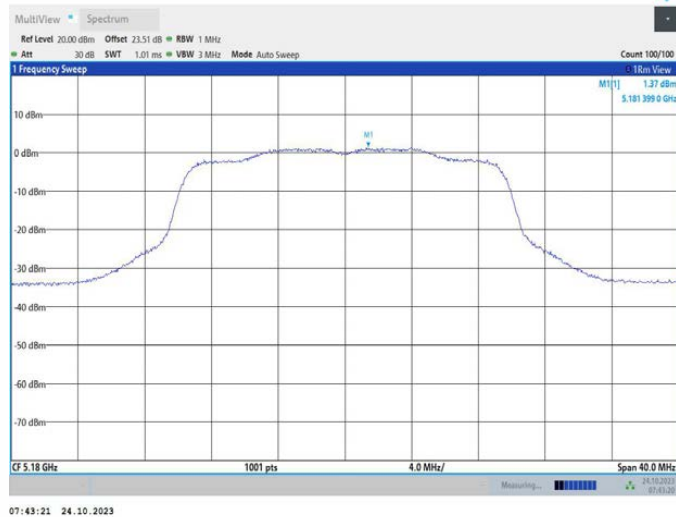
11AC160MIMO_Ant1_5570



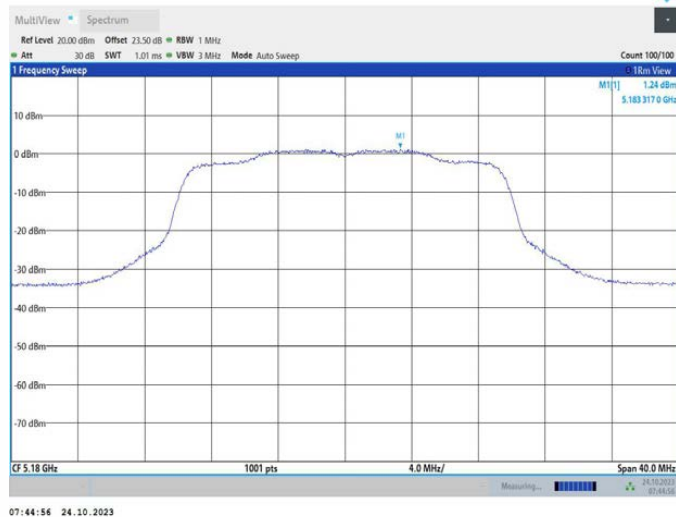
11AC160MIMO_Ant2_5570



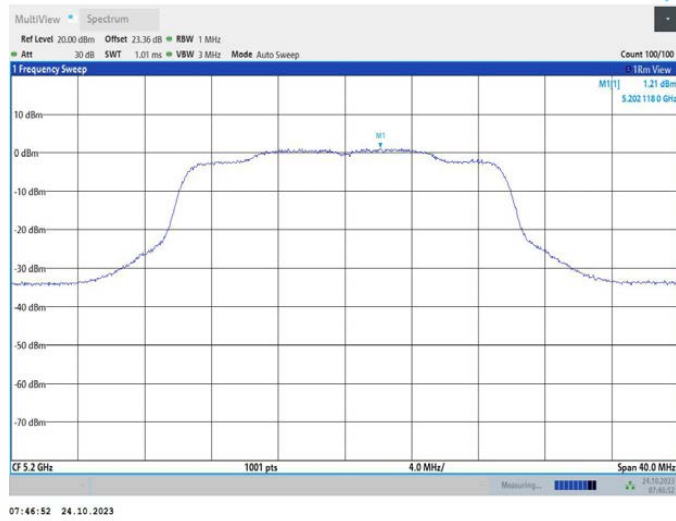
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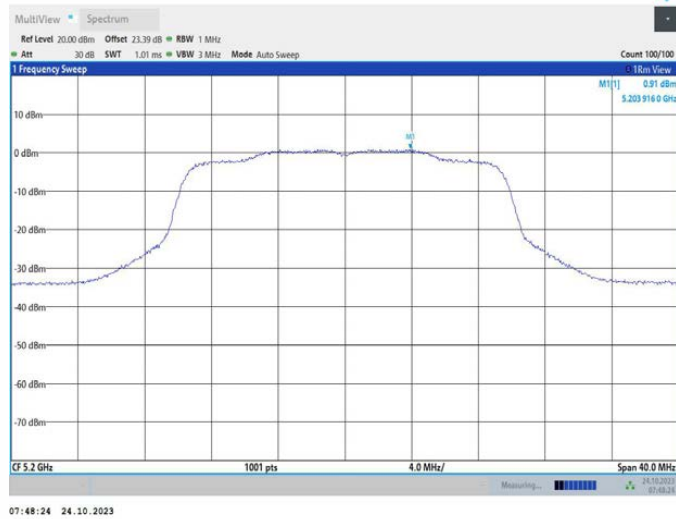
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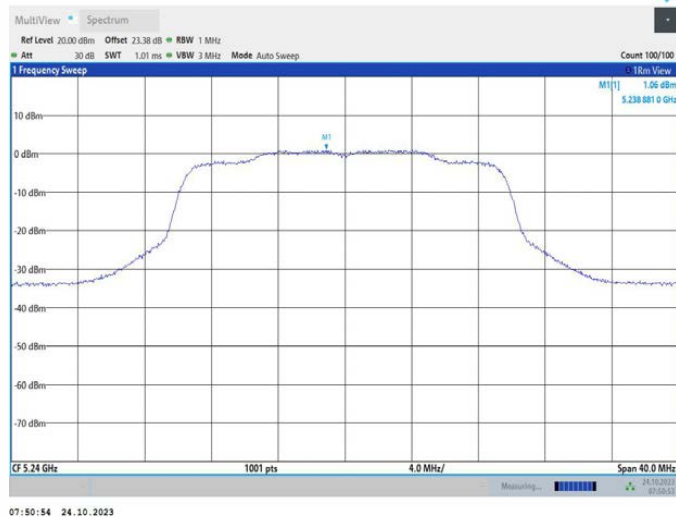
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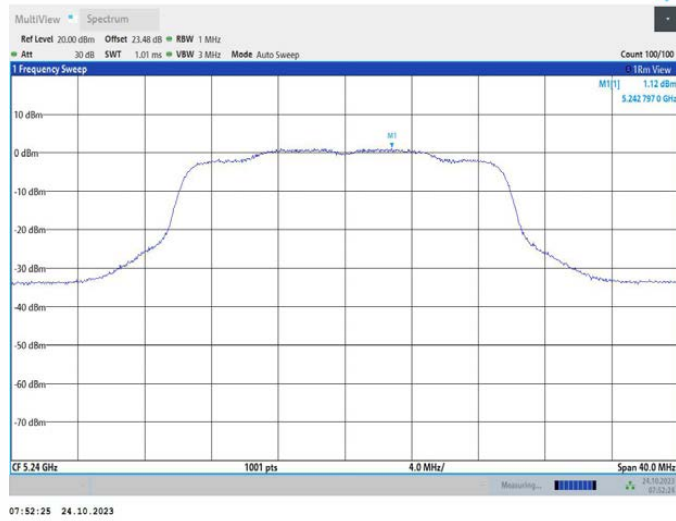
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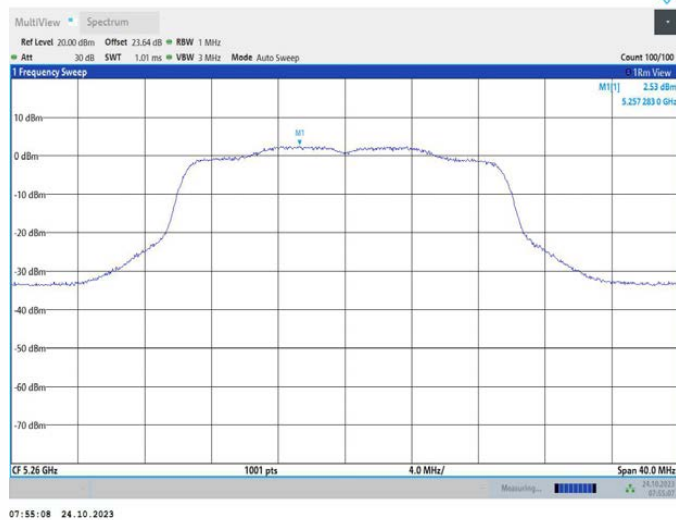
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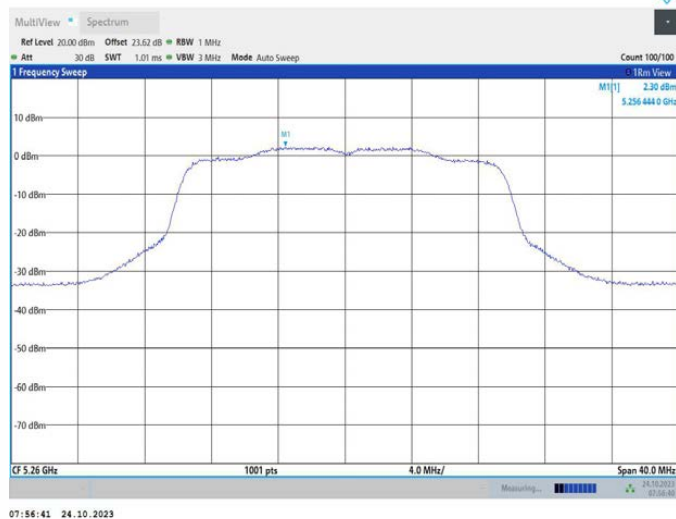
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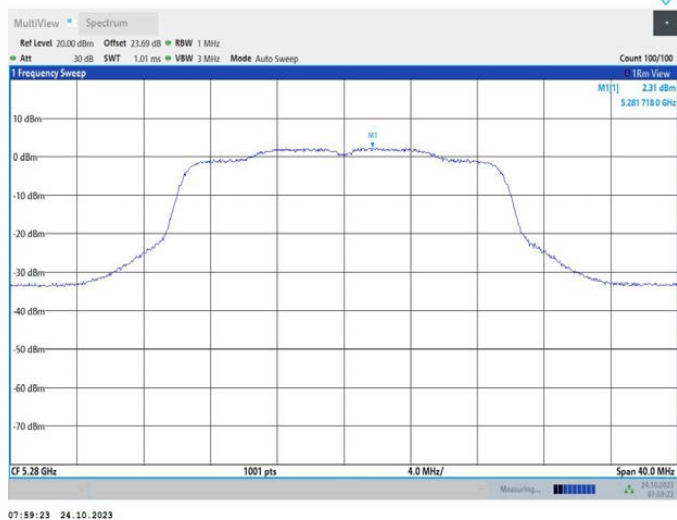
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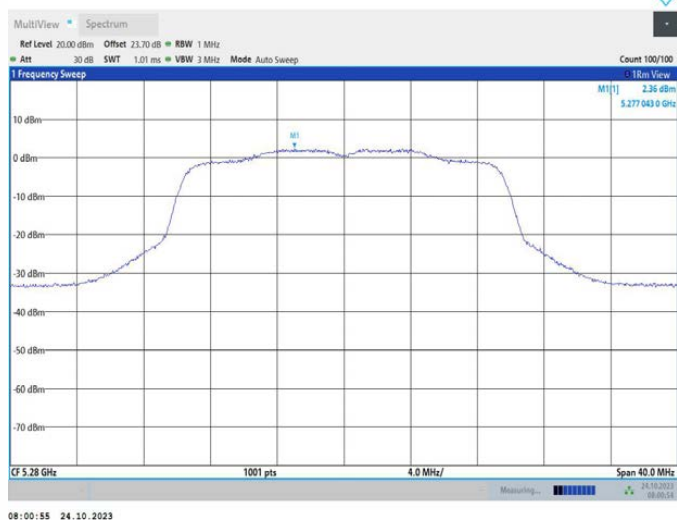
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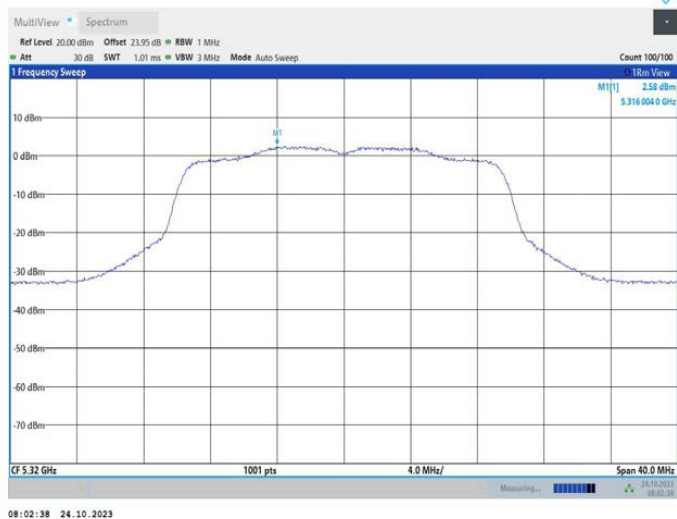
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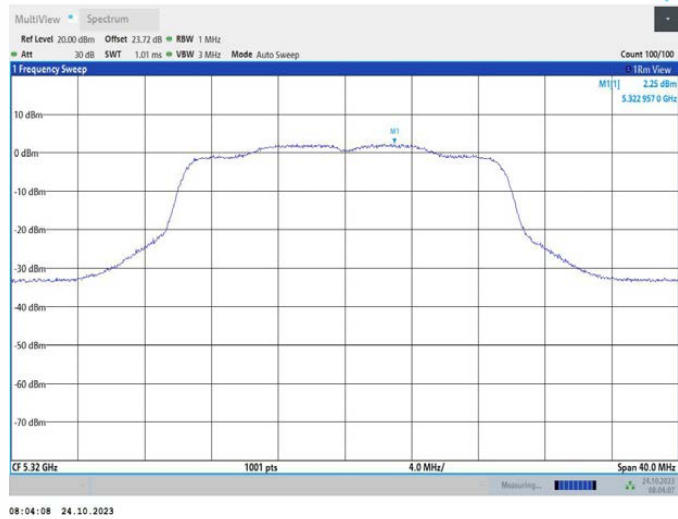
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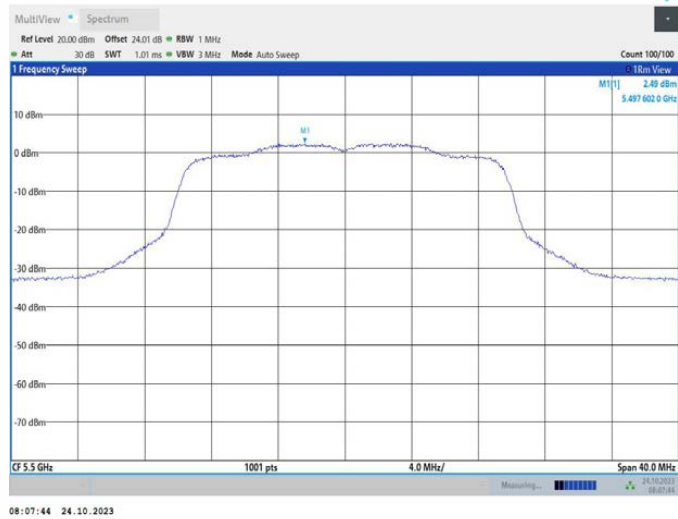
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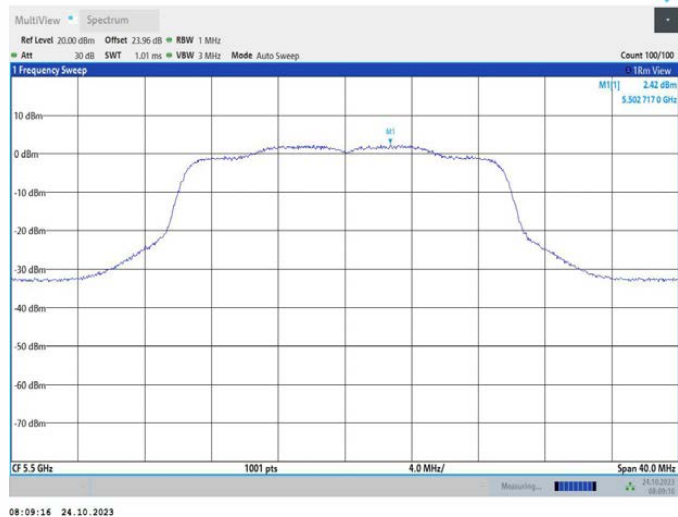
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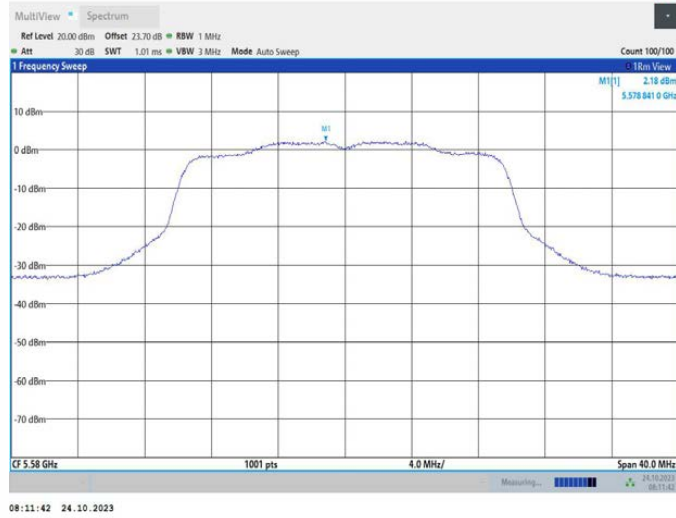
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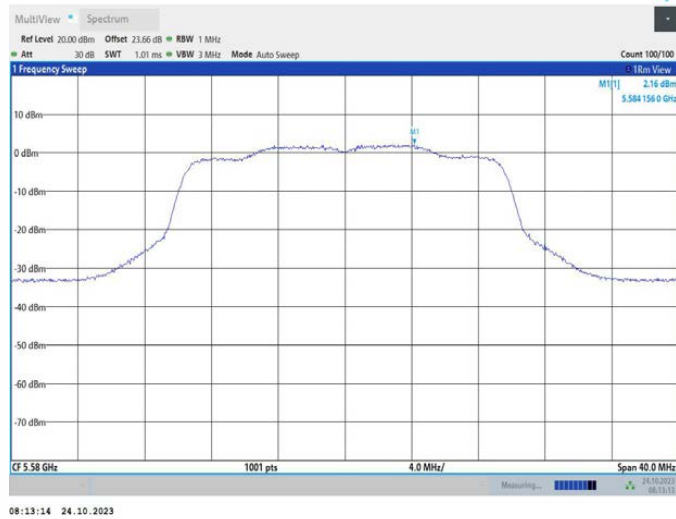
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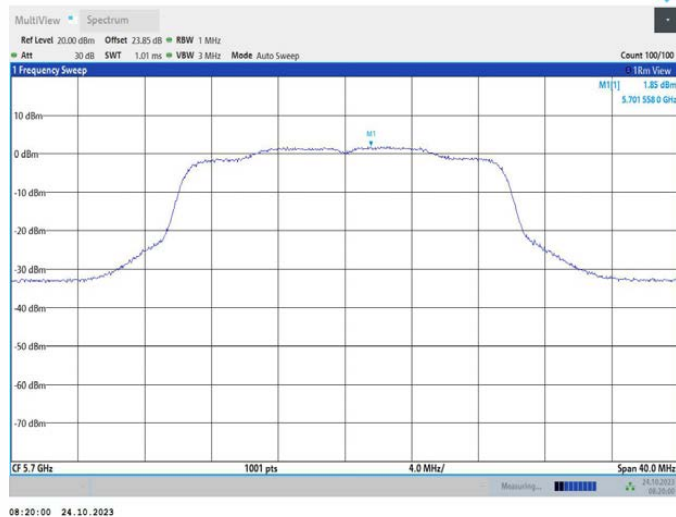
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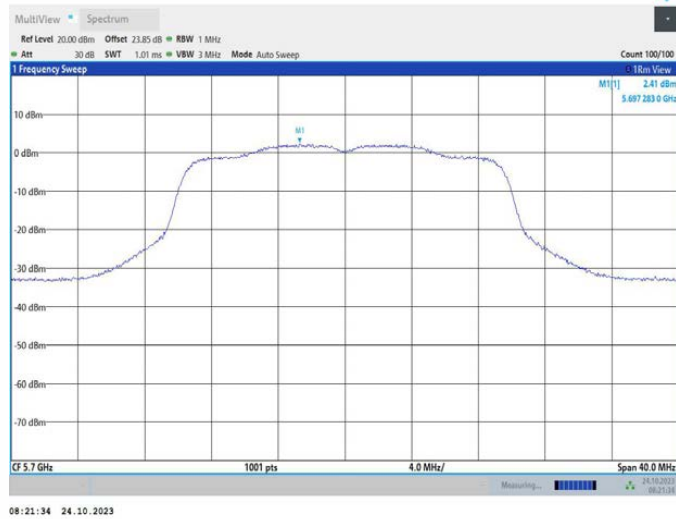
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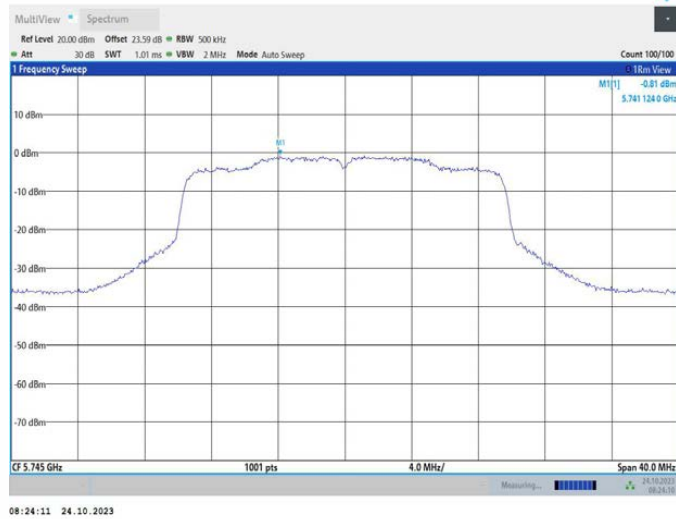
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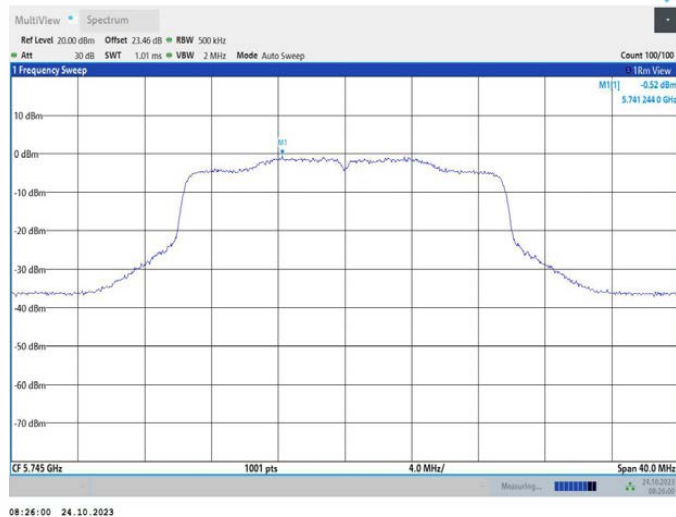
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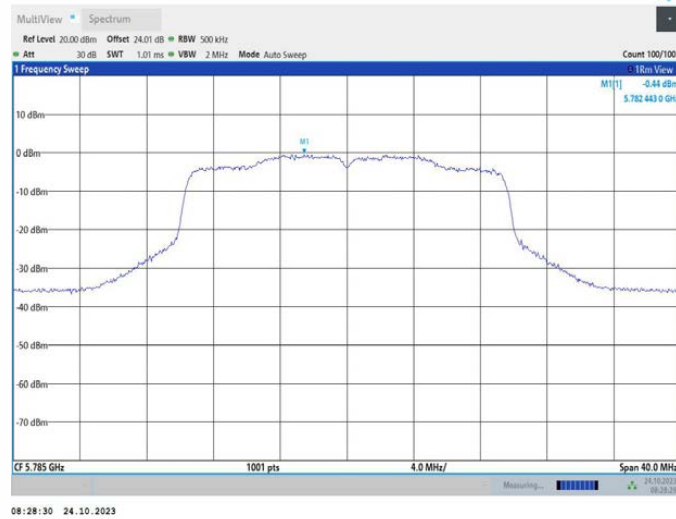
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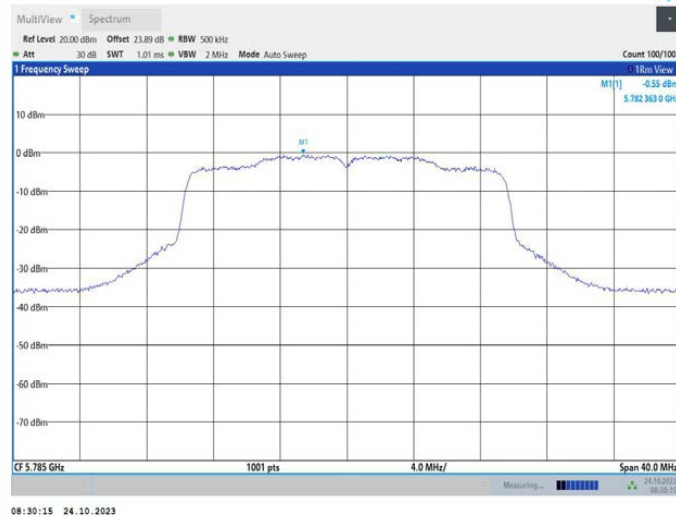
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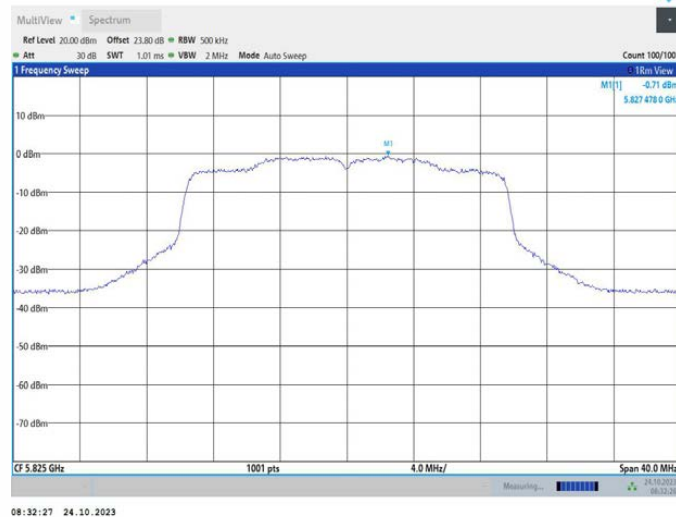
11AX20MIMO_Ant1_5785



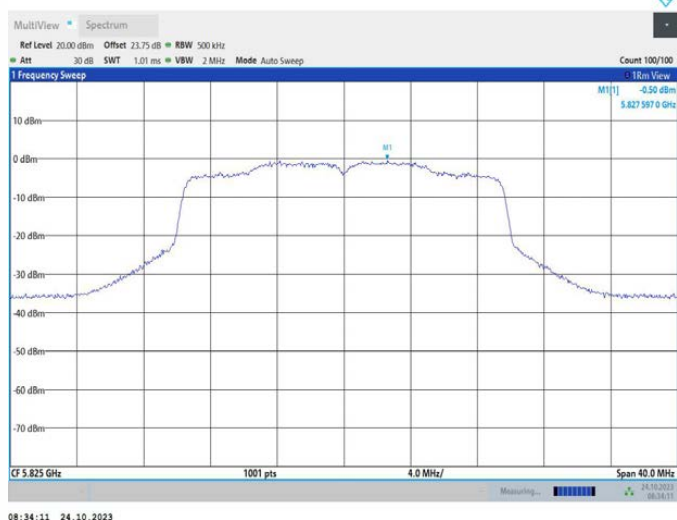
11AX20MIMO_Ant2_5785



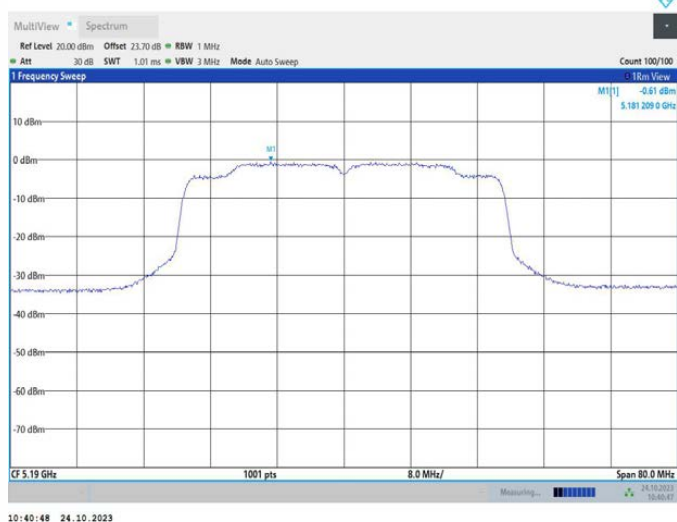
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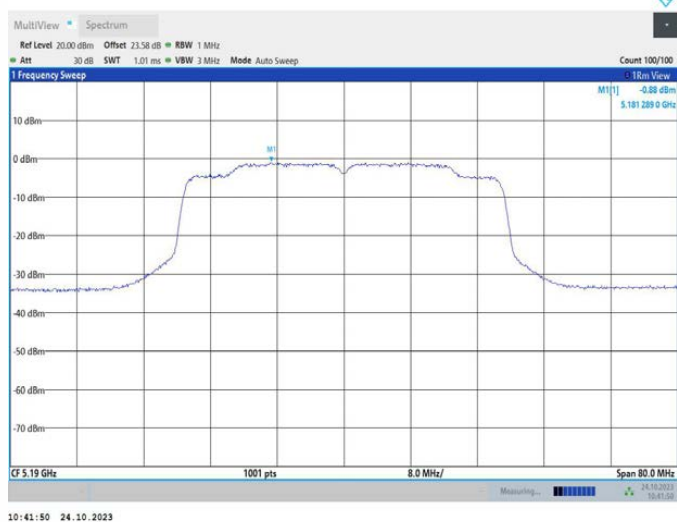
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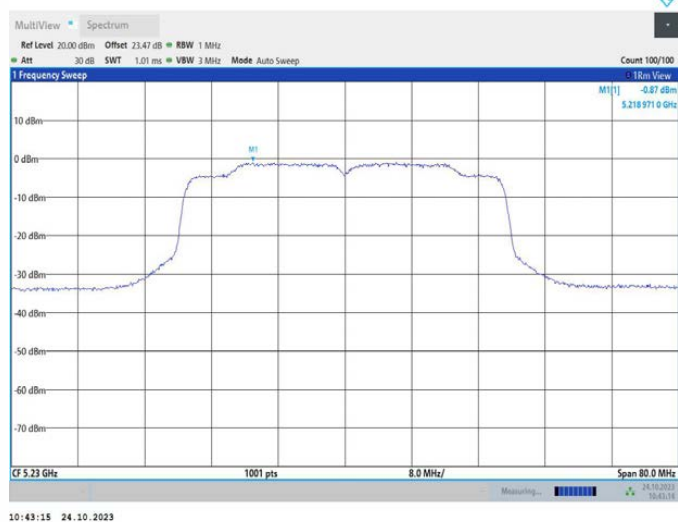
11AX40MIMO_Ant1_5190



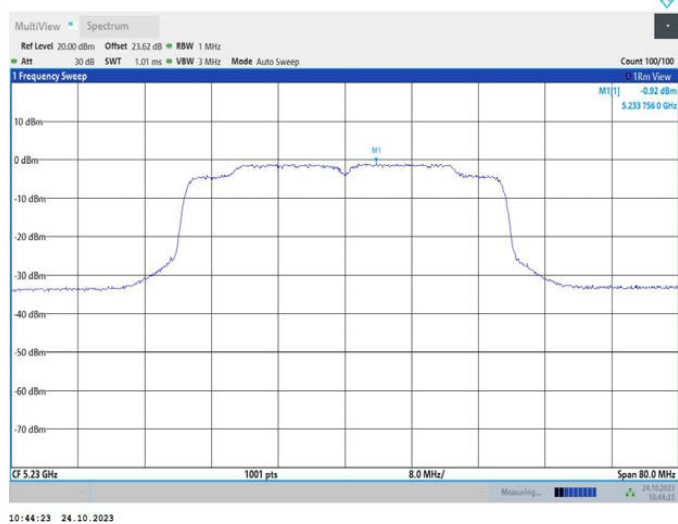
11AX40MIMO_Ant2_5190



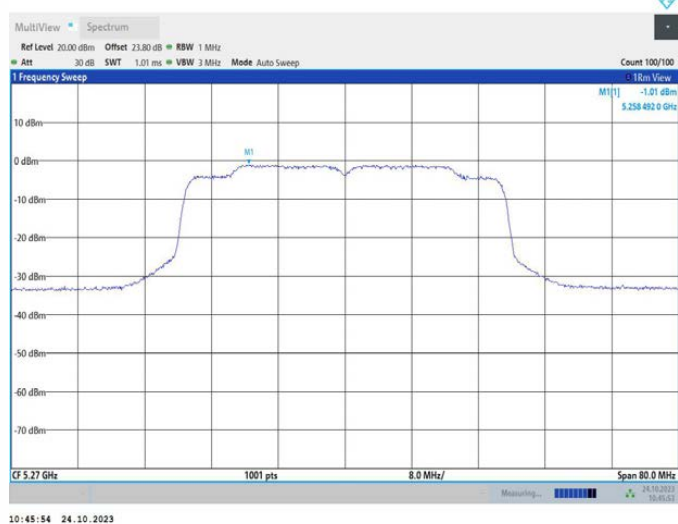
11AX40MIMO_Ant1_5230



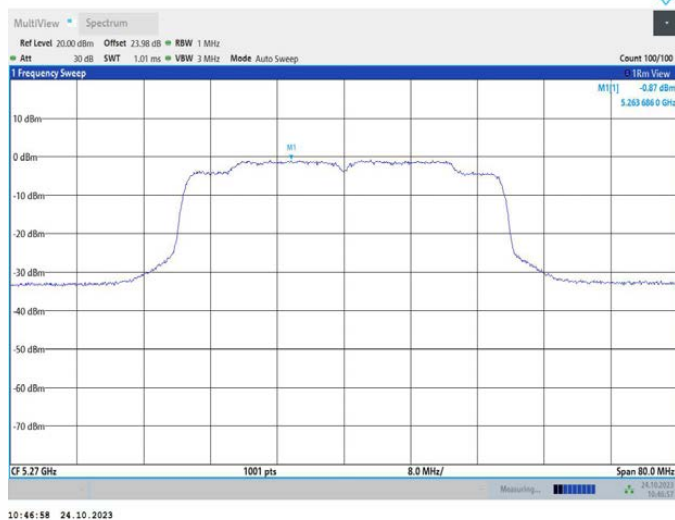
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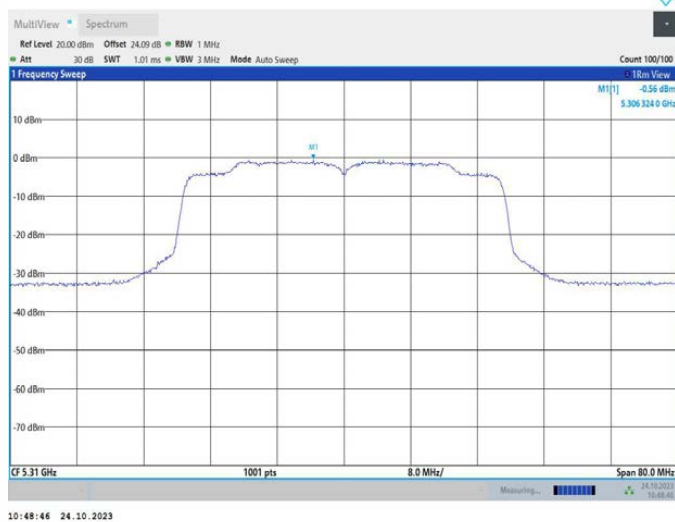
11AX40MIMO_Ant1_5270



11AX40MIMO_Ant2_5270



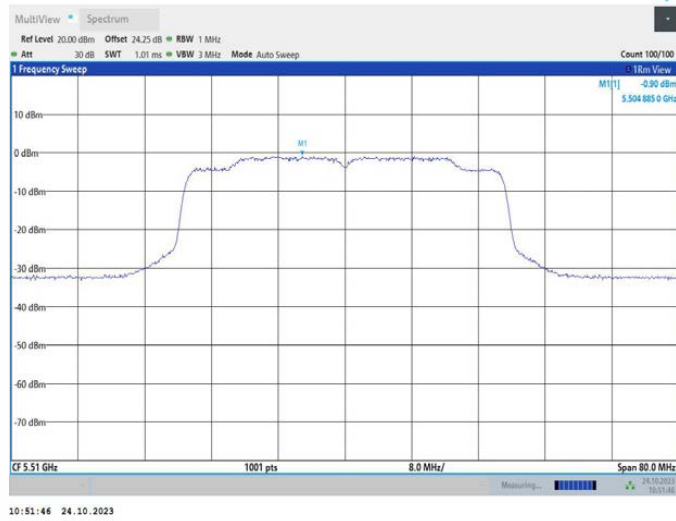
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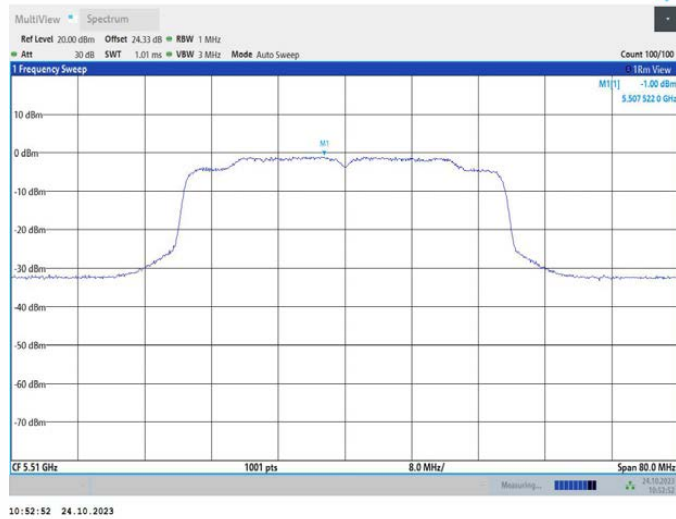
11AX40MIMO_Ant2_5310



11AX40MIMO_Ant1_5510



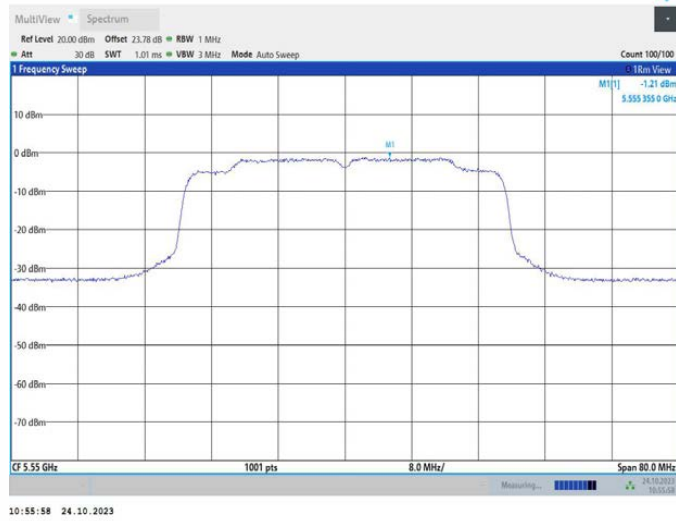
11AX40MIMO_Ant2_5510



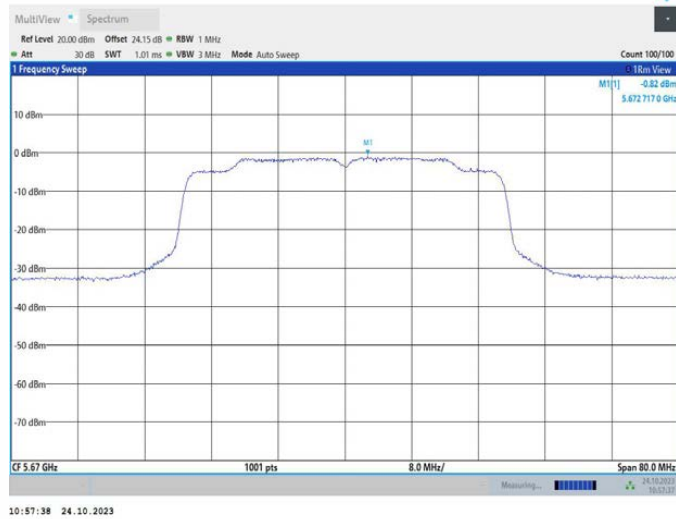
11AX40MIMO_Ant1_5550



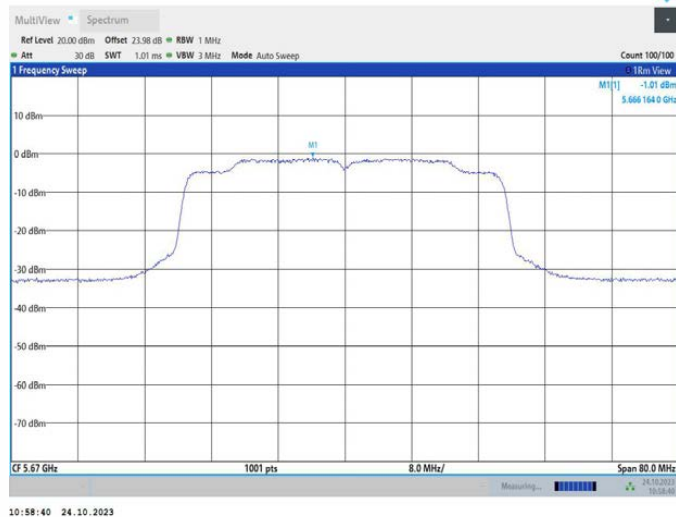
11AX40MIMO_Ant2_5550



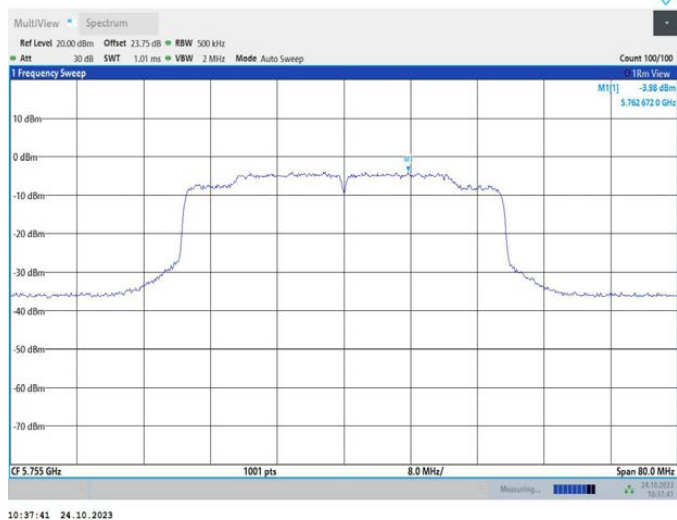
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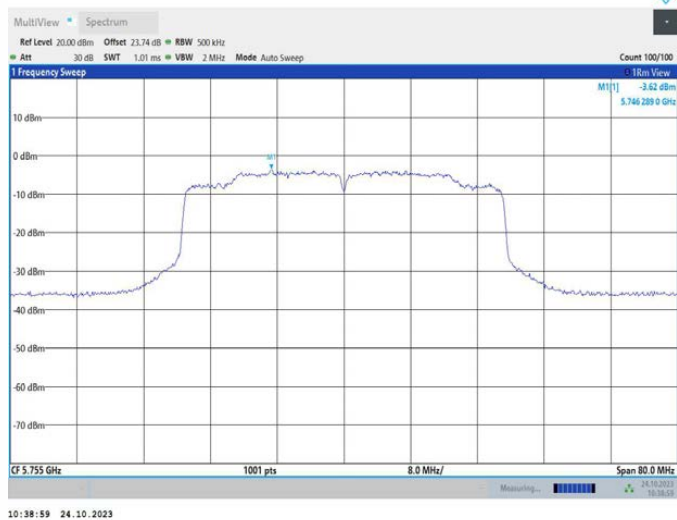
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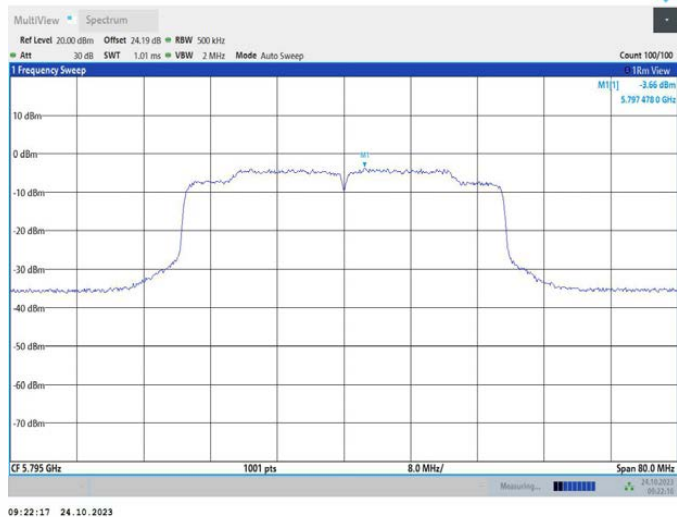
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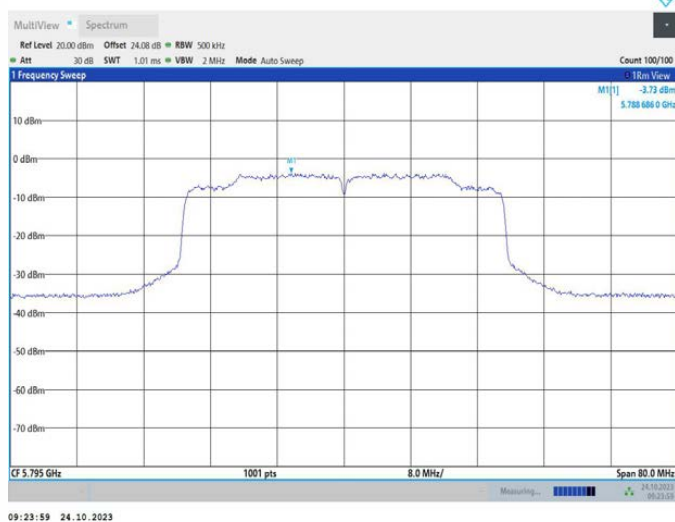
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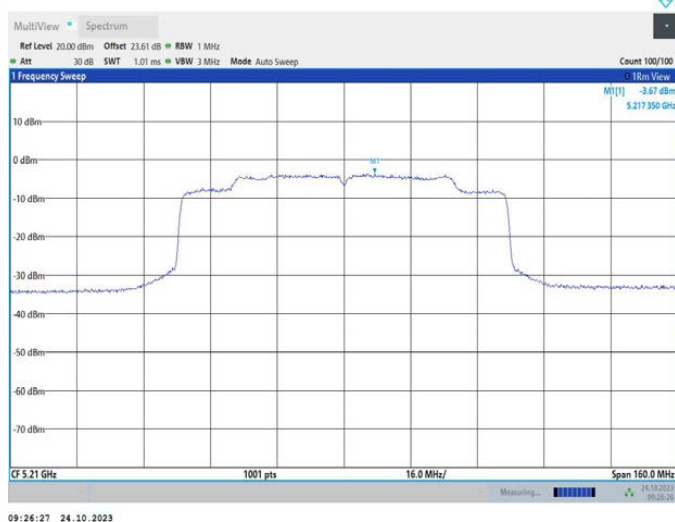
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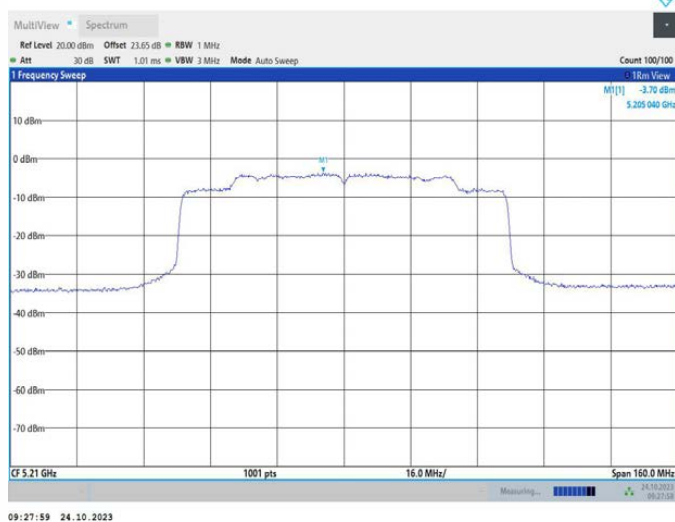
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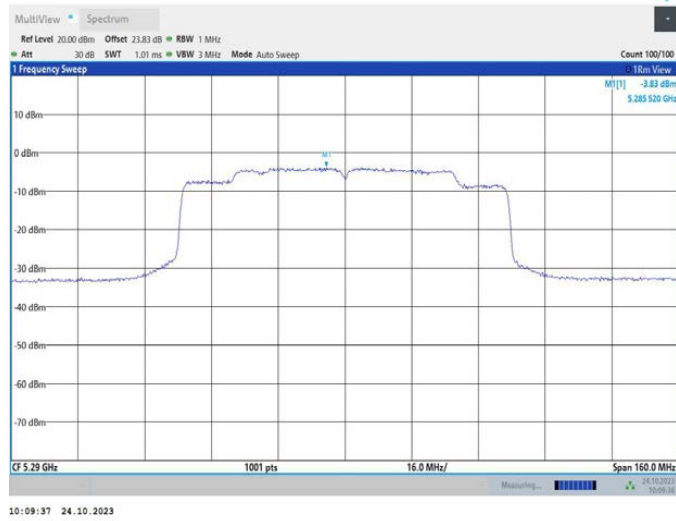
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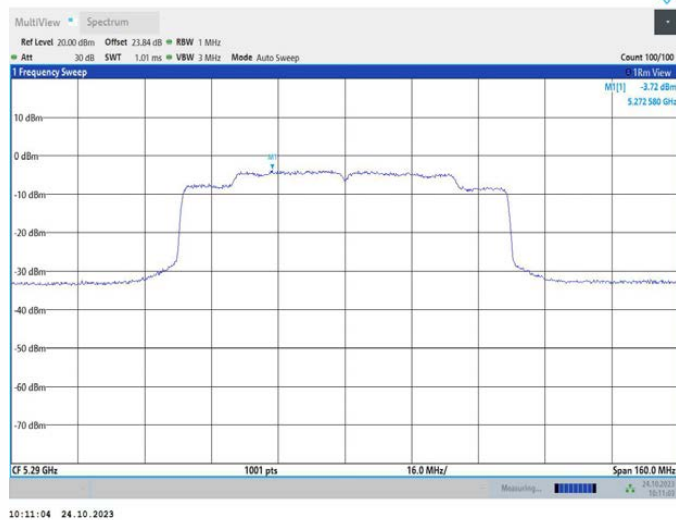
11AX80MIMO_Ant2_5210



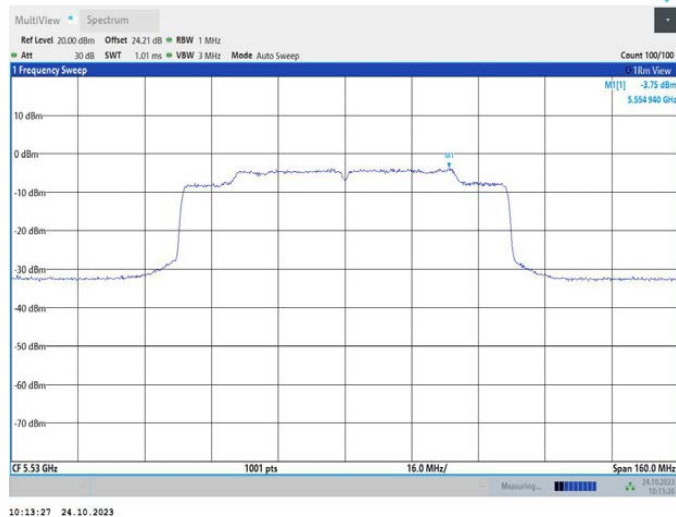
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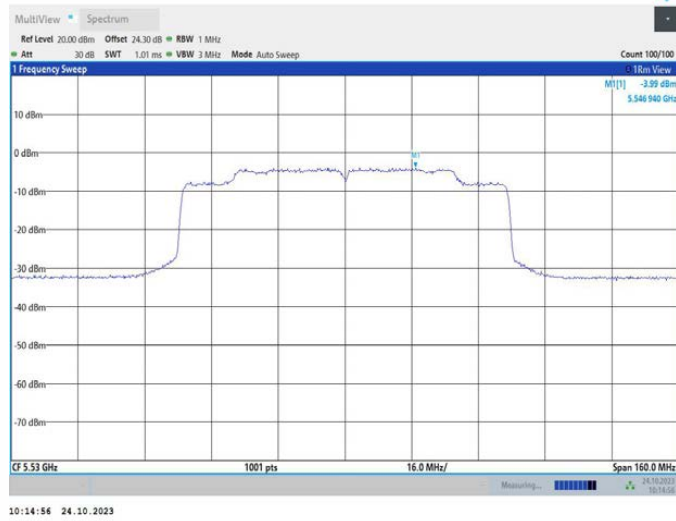
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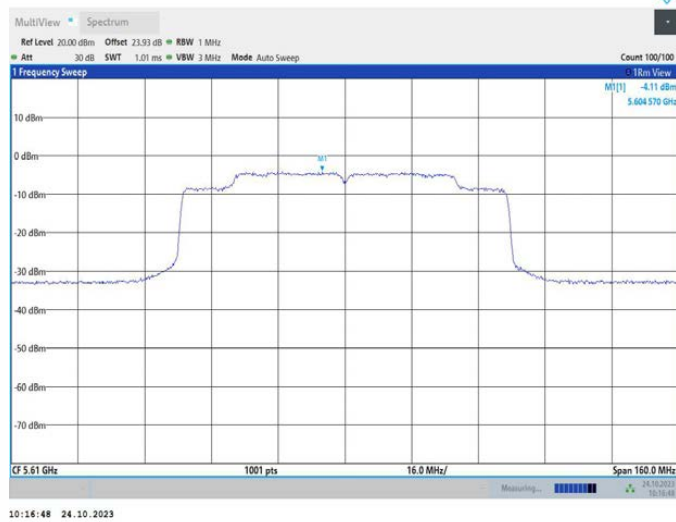
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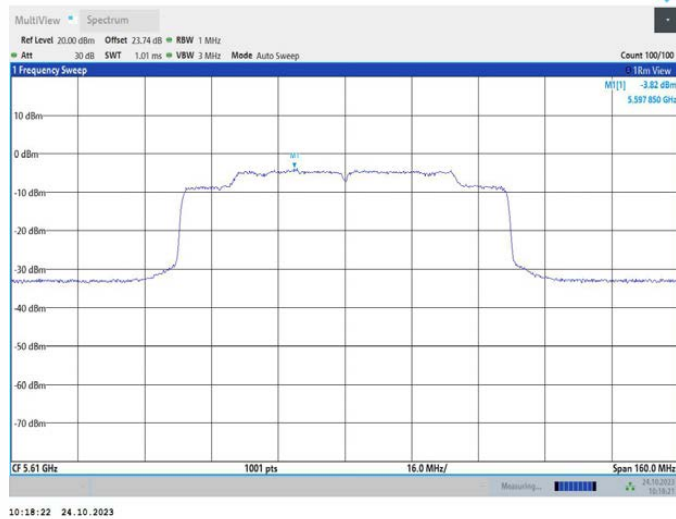
11AX80MIMO_Ant2_5530



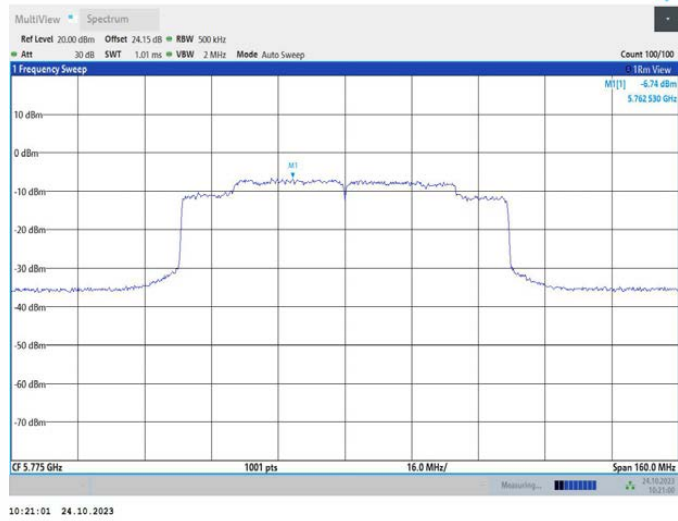
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11AX80MIMO_Ant2_5610



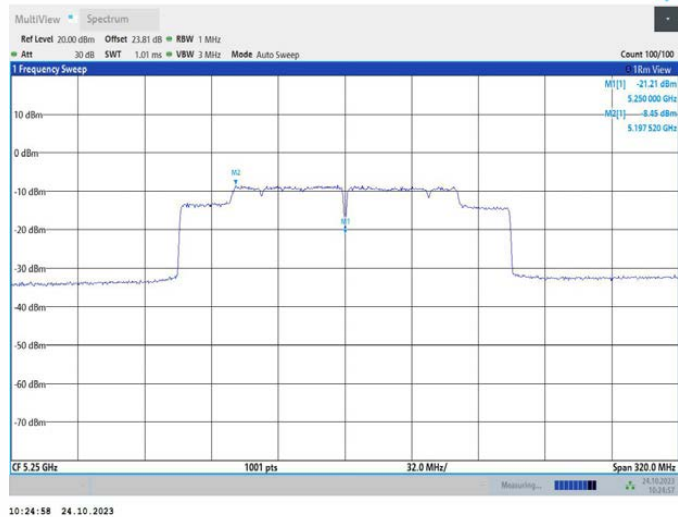
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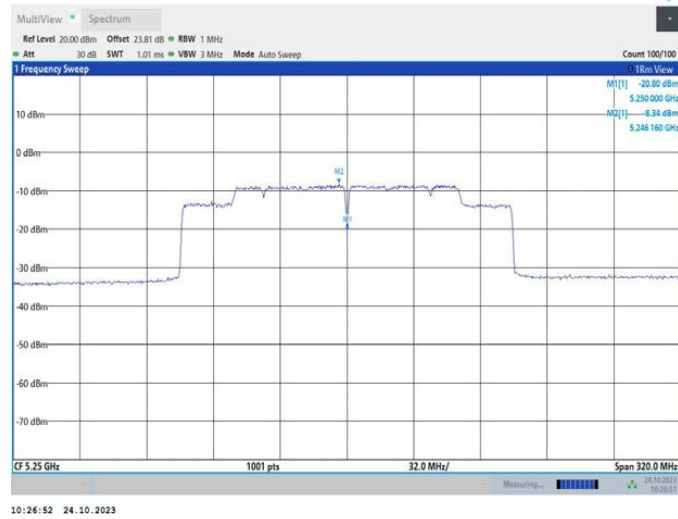
11AX80MIMO_Ant2_5775



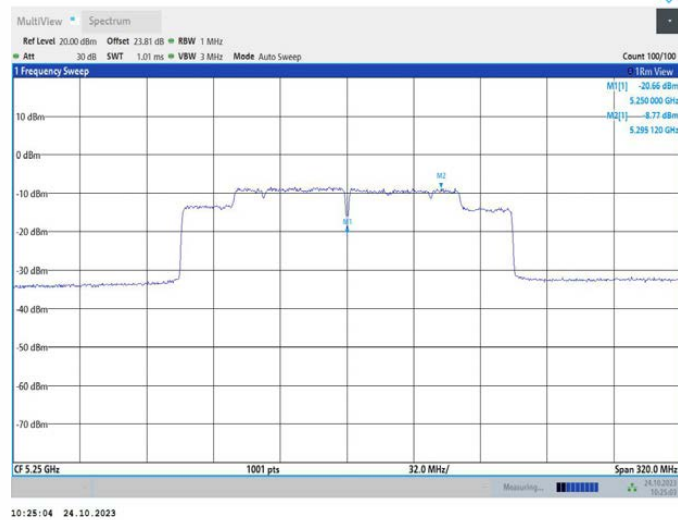
11AX160MIMO_Ant1_5250_UNII-1



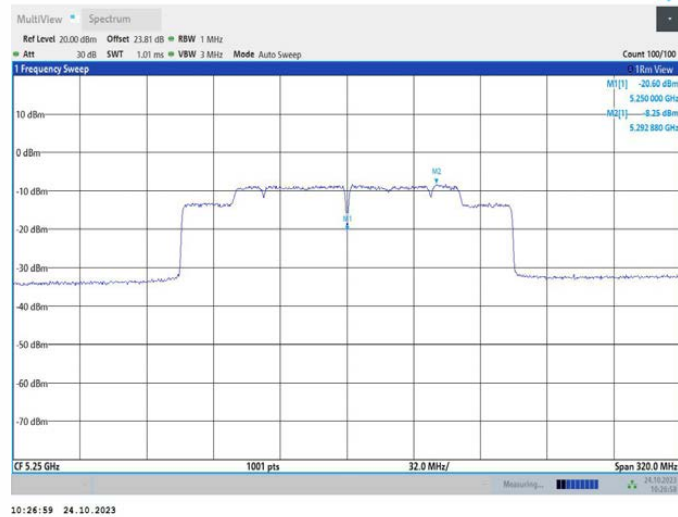
11AX160MIMO_Ant2_5250_UNII-1



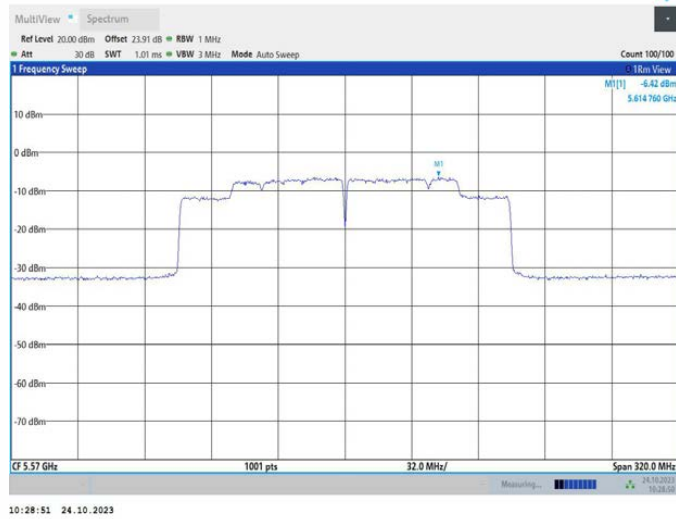
11AX160MIMO_Ant1_5250_UNII-2A



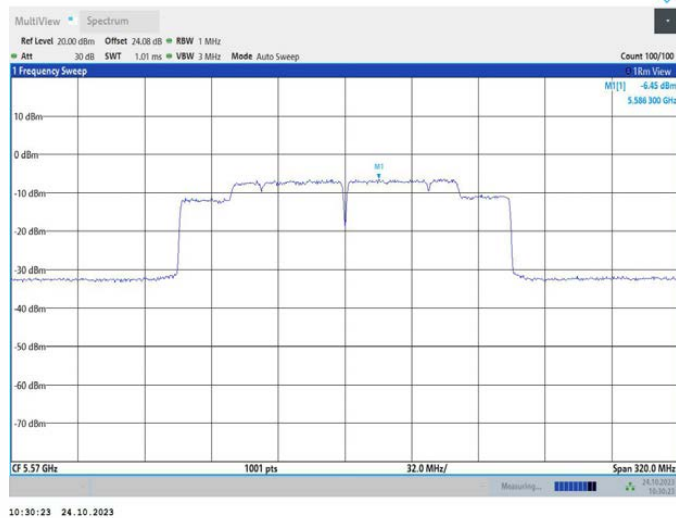
11AX160MIMO_Ant2_5250_UNII-2A



11AX160MIMO_Ant1_5570



11AX160MIMO_Ant2_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 $\text{dBuV/m} = 20 \log (\mu\text{V/m})$
 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

Pass

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

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 ANT1 and MIMO as below:

ANT1:

Test mode: 802.11a Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11516.2	V	60.87	-34.36	-27	7.36
14685	V	64.91	-30.32	-27	3.32
17617.5	V	67.79	-27.44	-27	0.44
11520	H	61.32	-33.91	-27	6.91
14557.5	H	64.67	-30.56	-27	3.56
17960.6	H	67.96	-27.27	-27	0.27

Test mode: 802.11a Frequency(MHz): 5200

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11505	V	61.66	-33.57	-27	6.57
14568.7	V	64.86	-30.37	-27	3.37
17625	V	67.97	-27.26	-27	0.26
11505	H	61.60	-33.63	-27	6.63
14651.2	H	64.82	-30.41	-27	3.41
17608.1	H	67.02	-28.21	-27	1.21

Test mode: 802.11a Frequency(MHz): 5240

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11518.1	V	61.38	-33.85	-27	6.85
14581.8	V	65.56	-29.67	-27	2.67
17615.6	V	67.31	-27.92	-27	0.92
11499.3	H	61.82	-33.41	-27	6.41
14851.8	H	65.50	-29.73	-27	2.73
17610	H	67.51	-27.72	-27	0.72

MIMO:

Test mode: 802.11a Frequency(MHz): 5180					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11514.81	V	60.74	-34.49	-27	7.49
17618.78	V	67.76	-27.47	-27	0.47
14682.75	V	46.7	-48.53	-27	21.53
11531.69	H	61.24	-33.99	-27	6.99
17972.29	H	67.8	-27.43	-27	0.43
14554.19	H	46.84	-48.39	-27	21.39

Test mode: 802.11a Frequency(MHz): 5200					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11503.61	V	61.53	-33.70	-27	6.70
17626.28	V	67.94	-27.29	-27	0.29
14566.50	V	47.13	-48.10	-27	21.10
11516.69	H	61.52	-33.71	-27	6.71
17619.79	H	66.86	-28.37	-27	1.37
14647.94	H	47.05	-48.18	-27	21.18

Test mode: 802.11a Frequency(MHz): 5240					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11516.71	V	61.25	-33.98	-27	6.98
17616.88	V	67.28	-27.95	-27	0.95
14579.62	V	47.64	-47.59	-27	20.59
11510.99	H	61.74	-33.49	-27	6.49
17621.69	H	67.35	-27.88	-27	0.88
14848.56	H	45.05	-50.18	-27	23.18

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: 802.11a		Frequency(MHz): 5180			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11516.2	V	60.87	74.00	13.13	peak
14685	V	64.91	74.00	9.09	peak
17617.5	V	67.79	74.00	6.21	peak
11516.25	V	47.53	54.00	6.47	AVG
14685	V	46.96	54.00	7.04	AVG
17617.5	V	49.68	54.00	4.32	AVG
11520	H	61.32	74.00	12.68	peak
14557.5	H	64.67	74.00	9.33	peak
17960.6	H	67.96	74.00	6.04	peak
11520	H	47.47	54.00	6.53	AVG
14557.5	H	47.02	54.00	6.98	AVG
17960.62	H	47.87	54.00	6.13	AVG

Test mode: 802.11a		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11505	V	61.66	74.00	12.34	peak
14568.7	V	64.86	74.00	9.14	peak
17625	V	67.97	74.00	6.03	peak
11505	V	47.82	54.00	6.18	AVG
14568.75	V	47.39	54.00	6.61	AVG
17625	V	49.55	54.00	4.45	AVG
11505	H	61.60	74.00	12.40	peak
14651.2	H	64.82	74.00	9.18	peak
17608.1	H	67.02	74.00	6.98	peak
11505	H	48.42	54.00	5.58	AVG
14651.25	H	47.23	54.00	6.77	AVG
17608.12	H	50.10	54.00	3.90	AVG

Test mode: 802.11a		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11518.1	V	61.38	74.00	12.62	peak
14581.8	V	65.56	74.00	8.44	peak
17615.6	V	67.31	74.00	6.69	peak
11518.12	V	47.51	54.00	6.49	AVG
14581.87	V	47.90	54.00	6.10	AVG
17615.62	V	50.19	54.00	3.81	AVG
11499.3	H	61.82	74.00	12.18	peak
14851.8	H	65.50	74.00	8.50	peak
17610	H	67.51	74.00	6.49	peak
11499.37	H	48.54	54.00	5.46	AVG
14851.87	H	45.23	54.00	8.77	AVG
17610	H	50.04	54.00	3.96	AVG

MIMO:

Test mode: 802.11a		Frequency(MHz): 5180			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11514.810	V	60.74	74.00	13.26	peak
14683.610	V	64.75	74.00	9.25	peak
17618.780	V	67.76	74.00	6.24	peak
11517.530	V	47.51	54.00	6.49	AVG
14682.750	V	46.7	54.00	7.3	AVG
17615.250	V	49.49	54.00	4.51	AVG
11531.690	H	61.24	74.00	12.76	peak
14569.190	H	64.46	74.00	9.54	peak
17972.290	H	67.8	74.00	6.2	peak
11531.690	H	47.33	54.00	6.67	AVG
14554.190	H	46.84	54.00	7.16	AVG
17957.310	H	47.74	54.00	6.26	AVG

Test mode: 802.11a		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11503.610	V	61.53	74.00	12.47	peak
14567.310	V	64.7	74.00	9.3	peak
17626.280	V	67.94	74.00	6.06	peak
11506.280	V	47.8	54.00	6.2	AVG
14566.500	V	47.13	54.00	6.87	AVG
17622.750	V	49.36	54.00	4.64	AVG
11516.690	H	61.52	74.00	12.48	peak
14662.890	H	64.61	74.00	9.39	peak
17619.790	H	66.86	74.00	7.14	peak
11516.690	H	48.28	54.00	5.72	AVG
14647.940	H	47.05	54.00	6.95	AVG
17604.810	H	49.97	54.00	4.03	AVG

Test mode: 802.11a		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11516.710	V	61.25	74.00	12.75	peak
14580.410	V	65.4	74.00	8.6	peak
17616.880	V	67.28	74.00	6.72	peak
11519.400	V	47.49	54.00	6.51	AVG
14579.620	V	47.64	54.00	6.36	AVG
17613.370	V	50	54.00	4	AVG
11510.990	H	61.74	74.00	12.26	peak
14863.490	H	65.29	74.00	8.71	peak
17621.690	H	67.35	74.00	6.65	peak
11511.060	H	48.4	54.00	5.6	AVG
14848.560	H	45.05	54.00	8.95	AVG
17606.690	H	49.91	54.00	4.09	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: 802.11ac(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5015.53	H	54.90	-40.33	-27	Pass
5007.56	V	54.42	-40.81	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5389.44	H	52.99	-42.24	-27	Pass
5406.08	V	53.02	-42.21	-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: 802.11ac(20) Frequency(MHz): 5180

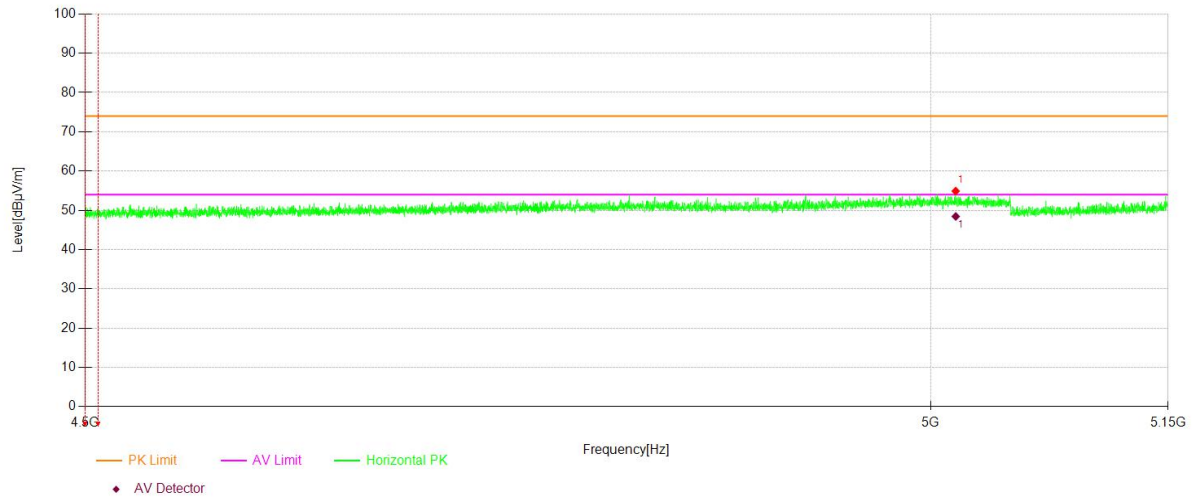
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5007.56	V	54.42	74.00	19.58	peak
5007.56	V	47.97	54.00	6.03	AVG
5015.53	H	54.90	74.00	19.10	peak
5015.53	H	48.45	54.00	5.55	AVG

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

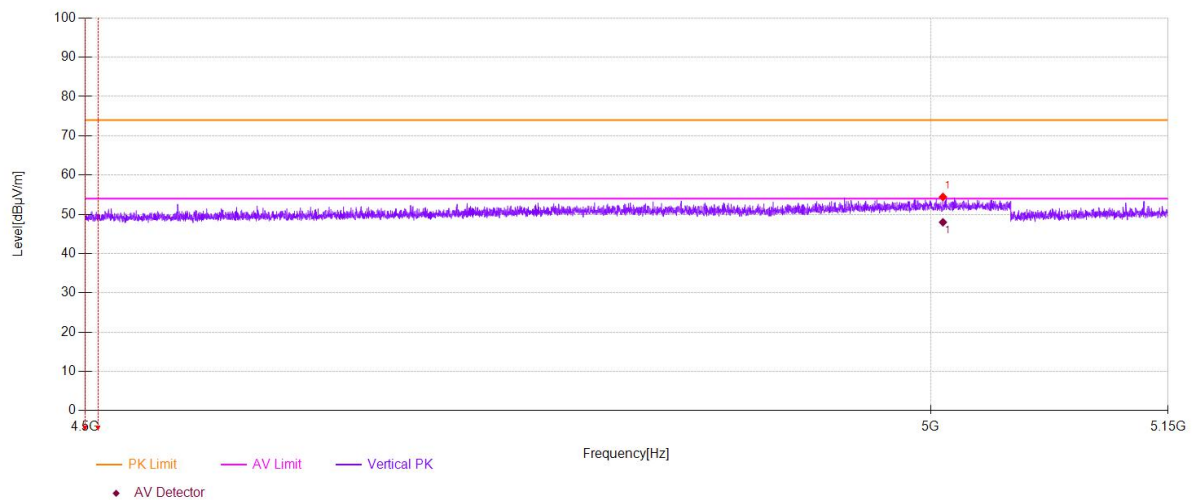
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5406.08	V	53.02	74.00	20.98	peak
5406.08	V	49.24	54.00	4.76	AVG
5389.44	H	52.99	74.00	21.01	peak
5389.44	H	48.97	54.00	5.03	AVG

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.

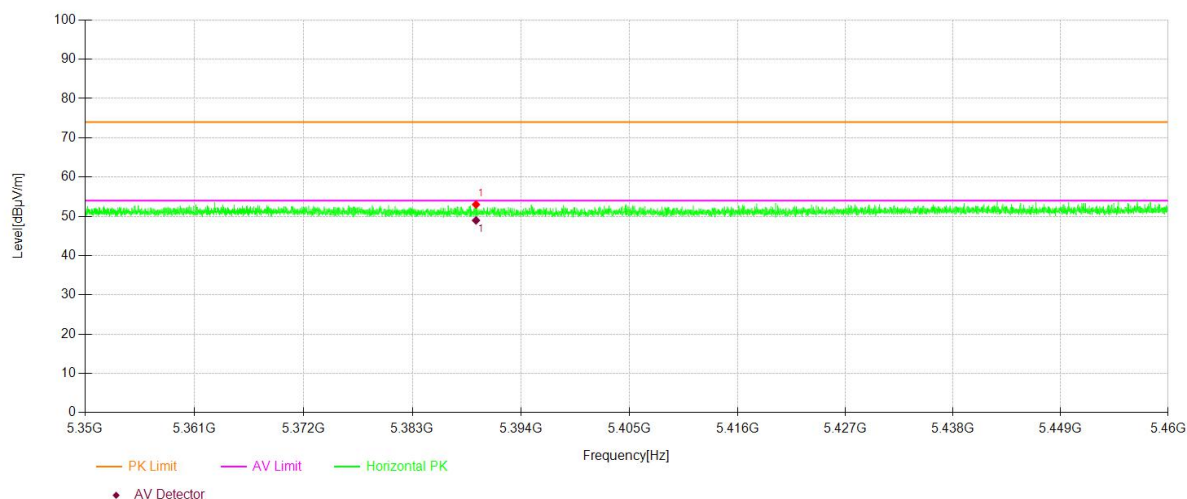
U-NII - 1				
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)			
	☐ 802.11a	☒ 802.11ac(HT20)	☐ 802.11n(HT40)	
	☒ 5180	☐ 5200	☐ 5240	Ant.Pol H



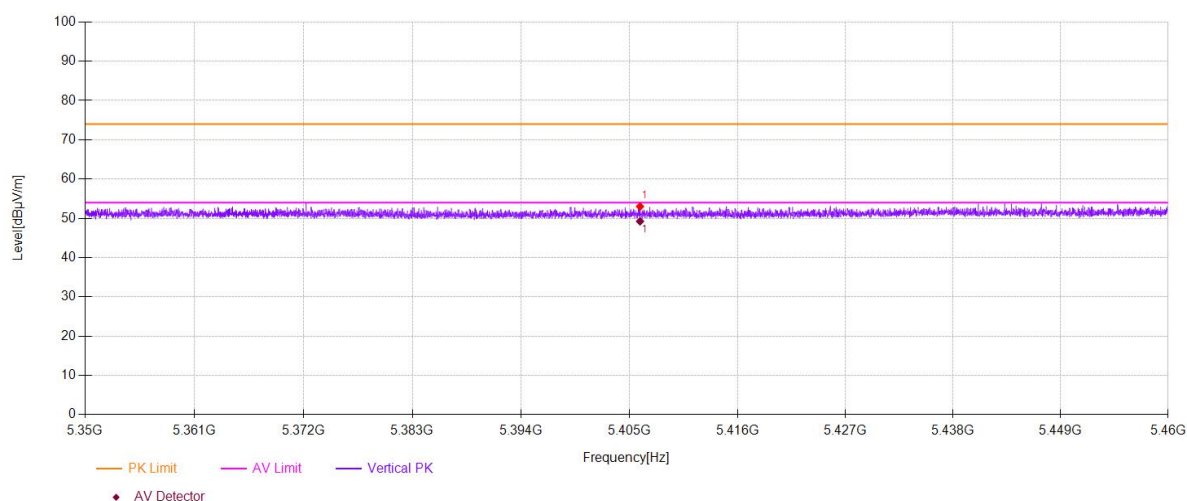
U-NII - 1				
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)			
	☐ 802.11a	☒ 802.11ac(HT20)	☐ 802.11n(HT40)	
	☒ 5180	☐ 5200	☐ 5240	Ant.Pol V



Test Model U-NII - 1
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☒ 802.11 ac(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 ac(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:		802.11a		Frequency(MHz):		5260	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
11512.5	V	61.22	-34.01	-27	7.01		
14638.1	V	66.23	-29	-27	2		
17610	V	67.89	-27.34	-27	0.34		
11512.5	H	61.30	-33.93	-27	6.93		
14805	H	64.81	-30.42	-27	3.42		
17641.8	H	67.96	-27.27	-27	0.27		

Test mode:		802.11a		Frequency(MHz):		5280	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
11508.7	V	62.20	-33.03	-27	6.03		
14653.1	V	65.35	-29.88	-27	2.88		
17619.3	V	67.97	-27.26	-27	0.26		
11486.2	H	61.61	-33.62	-27	6.62		
14628.7	H	65.27	-29.96	-27	2.96		
17604.3	H	67.74	-27.49	-27	0.49		

Test mode:		802.11a		Frequency(MHz):		5320	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
11511.2	V	61.60	-33.63	-27	6.63		
14802.4	V	63.84	-31.39	-27	4.39		
17523.7	V	67.11	-28.12	-27	1.12		
11502.7	H	60.77	-34.46	-27	7.46		
14504.7	H	63.73	-31.5	-27	4.5		
17982.9	H	67.12	-28.11	-27	1.11		

MIMO:

Test mode: 802.11a Frequency(MHz): 5260					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11511.11	V	61.09	-34.14	-27	7.14
17611.28	V	67.86	-27.37	-27	0.37
14635.87	V	47.38	-47.85	-27	20.85
11524.19	H	61.22	-34.01	-27	7.01
17653.56	H	67.8	-27.43	-27	0.43
14801.69	H	45.5	-49.73	-27	22.73

Test mode: 802.11a Frequency(MHz): 5280					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11507.31	V	62.07	-33.16	-27	6.16
17620.58	V	67.94	-27.29	-27	0.29
14650.87	V	47.15	-48.08	-27	21.08
11497.89	H	61.53	-33.70	-27	6.70
17615.99	H	67.58	-27.65	-27	0.65
14625.44	H	47.65	-47.58	-27	20.58

Test mode: 802.11a Frequency(MHz): 5320					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11509.81	V	61.47	-33.76	-27	6.76
17524.98	V	67.08	-28.15	-27	1.15
14800.15	V	44.7	-50.53	-27	23.53
11514.39	H	60.69	-34.54	-27	7.54
17994.59	H	66.96	-28.27	-27	1.27
14501.44	H	45.58	-49.65	-27	22.65

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: 802.11a		Frequency(MHz): 5260			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11512.5	V	61.22	74.00	12.78	peak
14638.1	V	66.23	74.00	7.77	peak
17610	V	67.89	74.00	6.11	peak
11512.5	V	48.26	54.00	5.74	AVG
14638.12	V	47.64	54.00	6.36	AVG
17610	V	50.04	54.00	3.96	AVG
11512.5	H	61.30	74.00	12.70	peak
14805	H	64.81	74.00	9.19	peak
17641.87	H	67.96	74.00	6.04	peak
11512.5	H	47.64	54.00	6.36	AVG
14805	H	45.68	54.00	8.32	AVG
17641.87	H	49.03	54.00	4.97	AVG

Test mode: 802.11a		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11508.7	V	62.20	74.00	11.80	peak
14653.1	V	65.35	74.00	8.65	peak
17619.3	V	67.97	74.00	6.03	peak
11508.75	V	48.00	54.00	6.00	AVG
14653.12	V	47.41	54.00	6.59	AVG
17619.37	V	49.74	54.00	4.26	AVG
11486.2	H	61.61	74.00	12.39	peak
14628.7	H	65.27	74.00	8.73	peak
17604.3	H	67.74	74.00	6.26	peak
11486.25	H	47.71	54.00	6.29	AVG
14628.75	H	47.83	54.00	6.17	AVG
17604.37	H	50.22	54.00	3.78	AVG

Test mode: 802.11a		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11511.2	V	61.60	74.00	12.40	peak
14802.4	V	63.84	74.00	10.16	peak
17523.7	V	67.11	74.00	6.89	peak
11511.25	V	46.92	54.00	7.08	AVG
14802.40	V	44.96	54.00	9.04	AVG
17523.76	V	46.37	54.00	7.63	AVG
11502.7	H	60.77	74.00	13.23	peak
14504.7	H	63.73	74.00	10.27	peak
17982.9	H	67.12	74.00	6.88	peak
11502.75	H	46.94	54.00	7.06	AVG
14504.75	H	45.76	54.00	8.24	AVG
17982.99	H	44.82	54.00	9.18	AVG

MIMO:

Test mode: 802.11a		Frequency(MHz): 5260			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11511.110	V	61.09	74.00	12.91	peak
14636.710	V	66.07	74.00	7.93	peak
17611.280	V	67.86	74.00	6.14	peak
11513.780	V	48.24	54.00	5.76	AVG
14635.870	V	47.38	54.00	6.62	AVG
17607.750	V	49.85	54.00	4.15	AVG
11524.190	H	61.22	74.00	12.78	peak
14816.690	H	64.6	74.00	9.4	peak
17653.560	H	67.8	74.00	6.2	peak
11524.190	H	47.5	54.00	6.5	AVG
14801.690	H	45.5	54.00	8.5	AVG
17638.560	H	48.9	54.00	5.1	AVG

Test mode: 802.11a		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11507.310	V	62.07	74.00	11.93	peak
14651.710	V	65.19	74.00	8.81	peak
17620.580	V	67.94	74.00	6.06	peak
11510.030	V	47.98	54.00	6.02	AVG
14650.870	V	47.15	54.00	6.85	AVG
17617.120	V	49.55	54.00	4.45	AVG
11497.890	H	61.53	74.00	12.47	peak
14640.390	H	65.06	74.00	8.94	peak
17615.990	H	67.58	74.00	6.42	peak
11497.940	H	47.57	54.00	6.43	AVG
14625.440	H	47.65	54.00	6.35	AVG
17601.060	H	50.09	54.00	3.91	AVG

Test mode: 802.11a		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11509.810	V	61.47	74.00	12.53	peak
14801.010	V	63.68	74.00	10.32	peak
17524.980	V	67.08	74.00	6.92	peak
11512.530	V	46.9	54.00	7.1	AVG
14800.150	V	44.7	54.00	9.3	AVG
17521.510	V	46.18	54.00	7.82	AVG
11514.390	H	60.69	74.00	13.31	peak
14516.390	H	63.52	74.00	10.48	peak
17994.590	H	66.96	74.00	7.04	peak
11514.440	H	46.8	54.00	7.2	AVG
14501.440	H	45.58	54.00	8.42	AVG
17979.680	H	44.69	54.00	9.31	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.

● ☒ Undesirable radiated Undesirable radiated Spurious Emission in Band Edge

Test mode: 802.11ac(20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
4981.56	H	54.75	-40.48	-27	Pass
5047.38	V	54.34	-40.89	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5350.12	H	56.02	-39.21	-27	Pass
5357.49	V	53.33	-41.9	-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: 802.11ac(20) Frequency(MHz): 5260

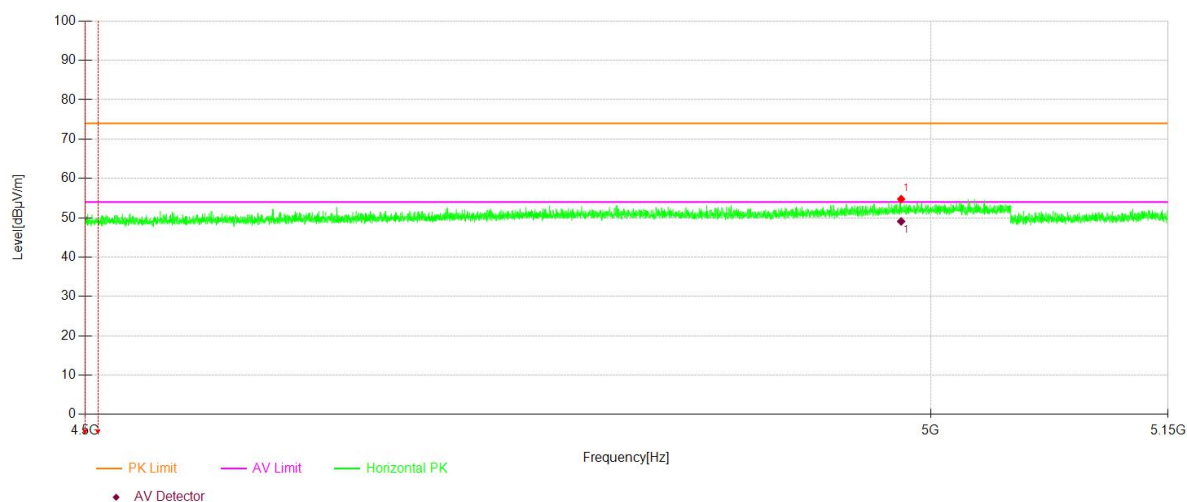
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5047.38	V	54.34	74.00	19.66	peak
5047.38	V	49.26	54.00	4.74	AVG
4981.56	H	54.75	74.00	19.25	peak
4981.56	H	49.08	54.00	4.92	AVG

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

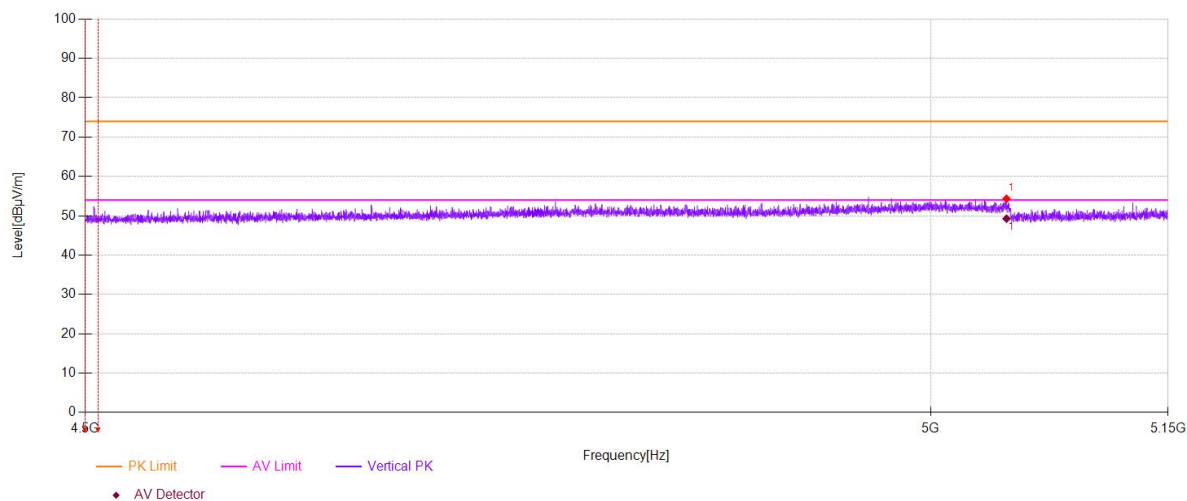
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5357.49	V	53.33	74.00	20.67	peak
5357.49	V	49.23	54.00	4.77	AVG
5350.12	H	56.02	74.00	17.98	peak
5350.12	H	49.82	54.00	4.18	AVG

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.

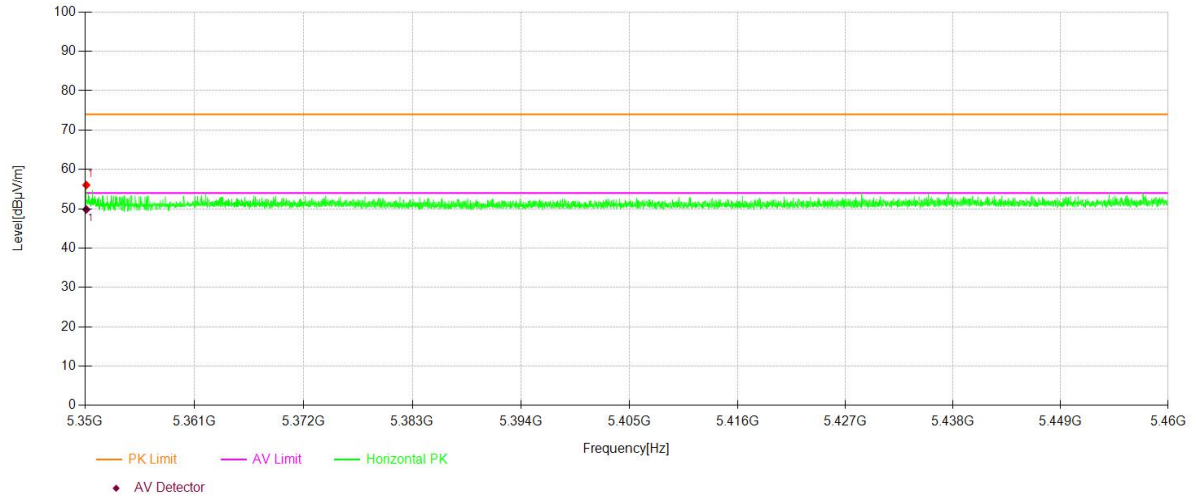
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol H



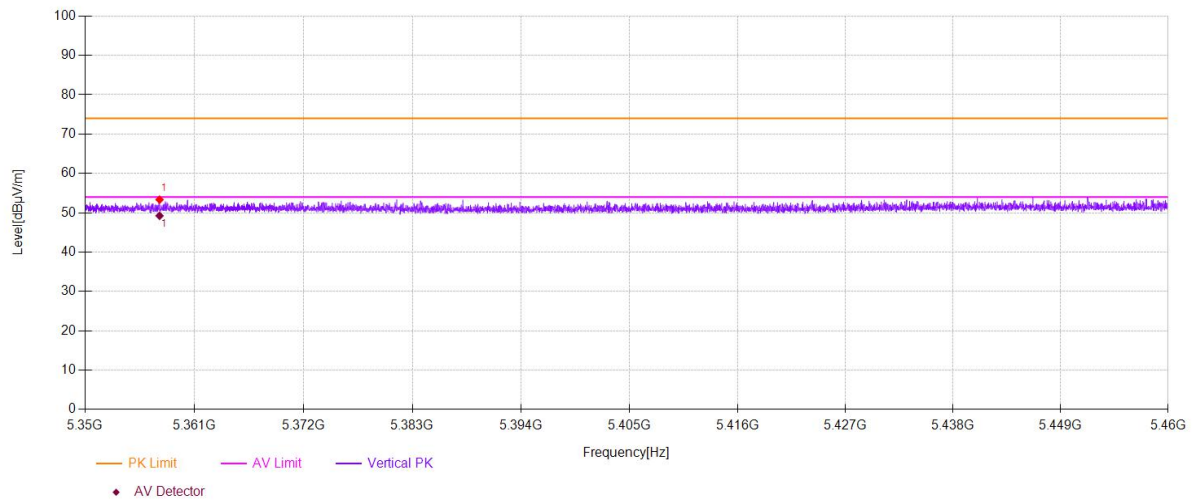
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol V



Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(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 ☐ 802.11n(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: 802.11a Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11570.7	V	60.80	-34.43	-27	7.43
14598.2	V	63.51	-31.72	-27	4.72
17506.7	V	67.40	-27.83	-27	0.83
11545.2	H	60.90	-34.33	-27	7.33
14802.4	H	63.72	-31.51	-27	4.51
17957.4	H	68.18	-27.05	-27	0.05

Test mode: 802.11a Frequency(MHz): 5580

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11630.3	V	60.91	-34.32	-27	7.32
14581.2	V	64.30	-30.93	-27	3.93
17498.2	V	67.86	-27.37	-27	0.37
11494.2	H	60.98	-34.25	-27	7.25
14564.2	H	63.80	-31.43	-27	4.43
17489.7	H	67.34	-27.89	-27	0.89

Test mode: 802.11a Frequency(MHz): 5700

Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11519.7	V	61.03	-34.2	-27	7.2
14530.2	V	63.63	-31.6	-27	4.6
17481.2	V	67.72	-27.51	-27	0.51
11511.2	H	60.90	-34.33	-27	7.33
14623.8	H	63.54	-31.69	-27	4.69
17506.7	H	67.53	-27.7	-27	0.7

MIMO:

Test mode: 802.11a Frequency(MHz): 5500					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11569.31	V	60.67	-34.56	-27	7.56
17507.98	V	67.37	-27.86	-27	0.86
14596.04	V	46.76	-48.47	-27	21.47
11556.89	H	60.82	-34.41	-27	7.41
17969.09	H	68.02	-27.21	-27	0.21
14799.09	H	44.67	-50.56	-27	23.56

Test mode: 802.11a Frequency(MHz): 5580					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11628.91	V	60.78	-34.45	-27	7.45
17499.48	V	67.83	-27.40	-27	0.40
14579.04	V	46.42	-48.81	-27	21.81
11505.89	H	60.9	-34.33	-27	7.33
17501.39	H	67.18	-28.05	-27	1.05
14560.97	H	46.26	-48.97	-27	21.97

Test mode: 802.11a Frequency(MHz): 5700					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11518.31	V	60.9	-34.33	-27	7.33
17482.48	V	67.69	-27.54	-27	0.54
14528.01	V	46.08	-49.15	-27	22.15
11522.89	H	60.82	-34.41	-27	7.41
17518.39	H	67.37	-27.86	-27	0.86
14620.50	H	46.29	-48.94	-27	21.94

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: 802.11a		Frequency(MHz): 5500			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11570.7	V	60.80	74.00	13.20	peak
14598.2	V	63.51	74.00	10.49	peak
17506.7	V	67.40	74.00	6.60	peak
11570.78	V	46.60	54.00	7.40	AVG
14598.29	V	47.02	54.00	6.98	AVG
17506.75	V	46.90	54.00	7.10	AVG
11545.2	H	60.90	74.00	13.10	peak
14802.4	H	63.72	74.00	10.28	peak
17957.4	H	68.18	74.00	5.82	peak
11545.27	H	46.76	54.00	7.24	AVG
14802.40	H	44.85	54.00	9.15	AVG
17957.47	H	45.08	54.00	8.92	AVG

Test mode: 802.11a		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11630.3	V	60.91	74.00	13.09	peak
14581.2	V	64.30	74.00	9.70	peak
17498.2	V	67.86	74.00	6.14	peak
11630.31	V	46.39	54.00	7.61	AVG
14581.29	V	46.68	54.00	7.32	AVG
17498.24	V	46.91	54.00	7.09	AVG
11494.2	H	60.98	74.00	13.02	peak
14564.2	H	63.80	74.00	10.20	peak
17489.7	H	67.34	74.00	6.66	peak
11494.24	H	46.92	54.00	7.08	AVG
14564.28	H	46.44	54.00	7.56	AVG
17489.74	H	46.61	54.00	7.39	AVG

Test mode: 802.11a		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11519.7	V	61.03	74.00	12.97	peak
14530.2	V	63.63	74.00	10.37	peak
17481.2	V	67.72	74.00	6.28	peak
11519.75	V	47.18	54.00	6.82	AVG
14530.26	V	46.34	54.00	7.66	AVG
17481.24	V	46.15	54.00	7.85	AVG
11511.2	H	60.90	74.00	13.10	peak
14623.8	H	63.54	74.00	10.46	peak
17506.7	H	67.53	74.00	6.47	peak
11511.25	H	46.89	54.00	7.11	AVG
14623.81	H	46.47	54.00	7.53	AVG
17506.75	H	47.00	54.00	7.00	AVG

MIMO:

Test mode: 802.11a		Frequency(MHz): 5500			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11569.310	V	60.67	74.00	13.33	peak
14596.810	V	63.35	74.00	10.65	peak
17507.980	V	67.37	74.00	6.63	peak
11572.060	V	46.58	54.00	7.42	AVG
14596.040	V	46.76	54.00	7.24	AVG
17504.500	V	46.71	54.00	7.29	AVG
11556.890	H	60.82	74.00	13.18	peak
14814.090	H	63.51	74.00	10.49	peak
17969.090	H	68.02	74.00	5.98	peak
11556.960	H	46.62	54.00	7.38	AVG
14799.090	H	44.67	54.00	9.33	AVG
17954.160	H	44.95	54.00	9.05	AVG

Test mode: 802.11a		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11628.910	V	60.78	74.00	13.22	peak
14579.810	V	64.14	74.00	9.86	peak
17499.480	V	67.83	74.00	6.17	peak
11631.590	V	46.37	54.00	7.63	AVG
14579.040	V	46.42	54.00	7.58	AVG
17495.990	V	46.72	54.00	7.28	AVG
11505.890	H	60.9	74.00	13.1	peak
14575.890	H	63.59	74.00	10.41	peak
17501.390	H	67.18	74.00	6.82	peak
11505.930	H	46.78	54.00	7.22	AVG
14560.970	H	46.26	54.00	7.74	AVG
17486.430	H	46.48	54.00	7.52	AVG

Test mode: 802.11a		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11518.310	V	60.9	74.00	13.1	peak
14528.810	V	63.47	74.00	10.53	peak
17482.480	V	67.69	74.00	6.31	peak
11521.030	V	47.16	54.00	6.84	AVG
14528.010	V	46.08	54.00	7.92	AVG
17478.990	V	45.96	54.00	8.04	AVG
11522.890	H	60.82	74.00	13.18	peak
14635.490	H	63.33	74.00	10.67	peak
17518.390	H	67.37	74.00	6.63	peak
11522.940	H	46.75	54.00	7.25	AVG
14620.500	H	46.29	54.00	7.71	AVG
17503.440	H	46.87	54.00	7.13	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: 802.11ac(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
4991.56	H	54.54	-40.69	-27	Pass
5016.1	V	54.41	-40.82	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5355.5	H	53.56	-41.67	-27	Pass
5380.99	V	53.31	-41.92	-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: 802.11ac(20) Frequency(MHz): 5500

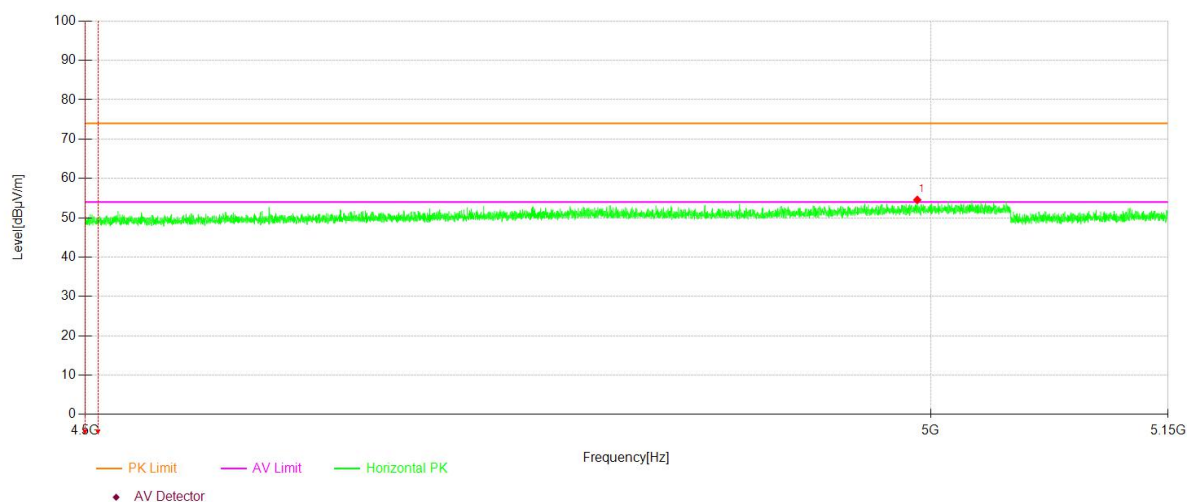
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5016.1	V	54.41	74.00	19.59	peak
5016.1	V	48.25	54.00	5.75	AVG
4991.56	H	54.54	74.00	19.46	peak
4991.56	H	49.85	54.00	4.15	AVG

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

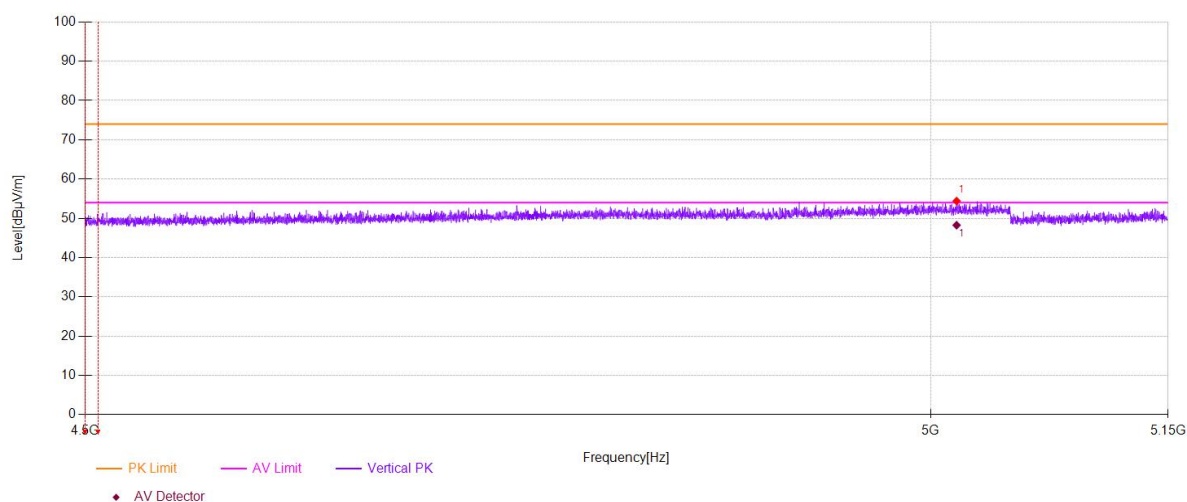
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5380.99	V	53.31	74.00	20.69	peak
5380.99	V	48.58	54.00	5.42	AVG
5355.5	H	53.56	74.00	20.44	peak
5355.5	H	49.24	54.00	4.76	AVG

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.

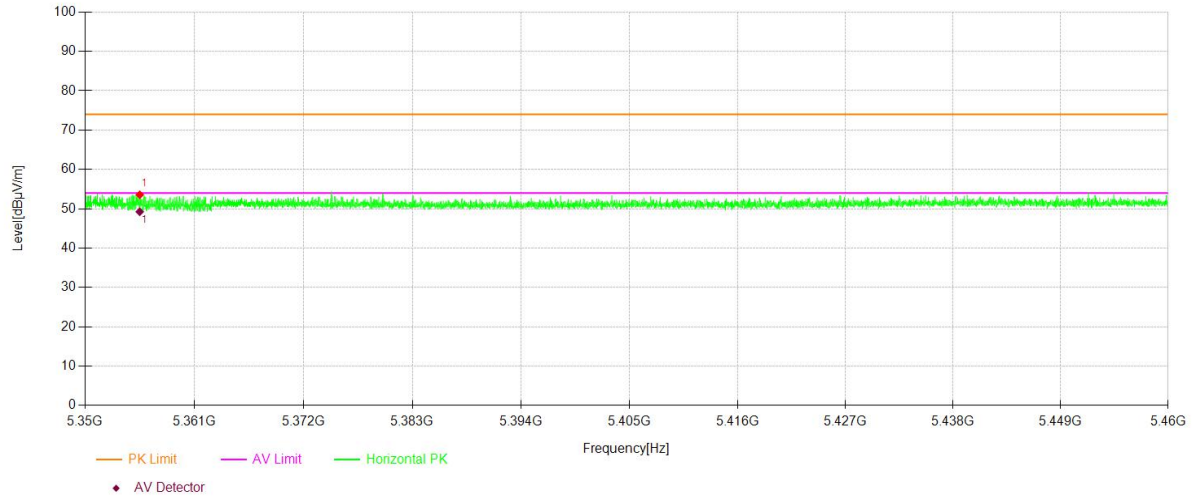
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol H



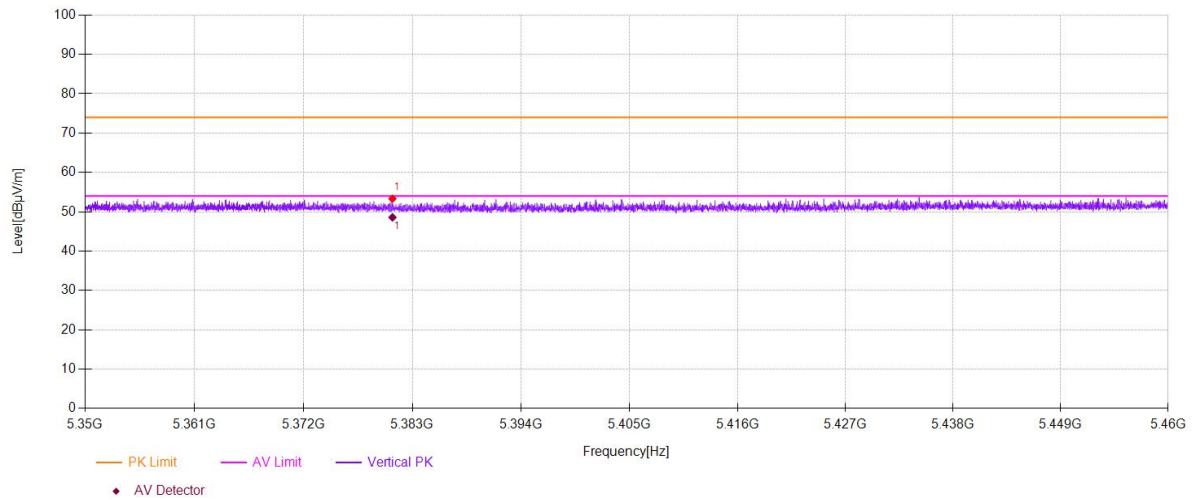
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol V



Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 802.11a ☐ 802.11n(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 ☐ 802.11n(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:		802.11a		Frequency(MHz):		5745	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
11511.2	V	60.90	-34.33	-27	7.33		
14555.7	V	63.35	-31.88	-27	4.88		
17498.2	V	67.84	-27.39	-27	0.39		
11545.2	H	60.79	-34.44	-27	7.44		
14853.4	H	63.75	-31.48	-27	4.48		
17489.7	H	67.28	-27.95	-27	0.95		

Test mode:		802.11a		Frequency(MHz):		5785	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
11536.7	V	60.90	-34.33	-27	7.33		
14589.7	V	63.03	-32.2	-27	5.2		
17481.2	V	67.75	-27.48	-27	0.48		
11613.3	H	60.96	-34.27	-27	7.27		
14657.8	H	63.34	-31.89	-27	4.89		
17948.9	H	67.56	-27.67	-27	0.67		

Test mode:		802.11a		Frequency(MHz):		5825	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)		
10728.8	V	61.64	-33.59	-27	6.59		
15117.0	V	63.27	-31.96	-27	4.96		
17498.2	V	67.40	-27.83	-27	0.83		
11103.0	H	60.99	-34.24	-27	7.24		
14725.8	H	63.75	-31.48	-27	4.48		
17523.7	H	67.66	-27.57	-27	0.57		

MIMO:

Test mode: 802.11a Frequency(MHz): 5745					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11509.81	V	60.77	-34.46	-27	7.46
17499.48	V	67.81	-27.42	-27	0.42
14553.52	V	46.07	-49.16	-27	22.16
11556.89	H	60.71	-34.52	-27	7.52
17501.39	H	67.12	-28.11	-27	1.11
14850.11	H	44.42	-50.81	-27	23.81

Test mode: 802.11a Frequency(MHz): 5785					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
11535.31	V	60.77	-34.46	-27	7.46
17482.48	V	67.72	-27.51	-27	0.51
14587.54	V	46.64	-48.59	-27	21.59
11624.99	H	60.88	-34.35	-27	7.35
17960.59	H	67.4	-27.83	-27	0.83
14654.51	H	46.04	-49.19	-27	22.19

Test mode: 802.11a Frequency(MHz): 5825					
Freq. (MHz)	Ant.Pol. H/V	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
10727.41	V	61.51	-33.72	-27	6.72
17499.48	V	67.37	-27.86	-27	0.86
15114.80	V	43.82	-51.41	-27	24.41
11114.69	H	60.91	-34.32	-27	7.32
17535.39	H	67.5	-27.73	-27	0.73
14722.55	H	44.66	-50.57	-27	23.57

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: 802.11a		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11511.2	V	60.90	74.00	13.10	peak
14555.7	V	63.35	74.00	10.65	peak
17498.2	V	67.84	74.00	6.16	peak
11511.25	V	46.90	54.00	7.10	AVG
14555.77	V	46.33	54.00	7.67	AVG
17498.24	V	47.02	54.00	6.98	AVG
11545.2	H	60.79	74.00	13.21	peak
14853.4	H	63.75	74.00	10.25	peak
17489.7	H	67.28	74.00	6.72	peak
11545.27	H	46.74	54.00	7.26	AVG
14853.42	H	44.60	54.00	9.40	AVG
17489.74	H	46.64	54.00	7.36	AVG

Test mode: 802.11a		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11536.7	V	60.90	74.00	13.10	peak
14589.7	V	63.03	74.00	10.97	peak
17481.2	V	67.75	74.00	6.25	peak
11536.76	V	46.78	54.00	7.22	AVG
14589.79	V	46.90	54.00	7.10	AVG
17481.24	V	46.25	54.00	7.75	AVG
11613.3	H	60.96	74.00	13.04	peak
14657.8	H	63.34	74.00	10.66	peak
17948.9	H	67.56	74.00	6.44	peak
11613.30	H	46.55	54.00	7.45	AVG
14657.82	H	46.22	54.00	7.78	AVG
17948.97	H	44.52	54.00	9.48	AVG

Test mode: 802.11a		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10728.8	V	61.64	74.00	12.36	peak
15117.0	V	63.27	74.00	10.73	peak
17498.2	V	67.40	74.00	6.60	peak
10728.86	V	47.47	54.00	6.53	AVG
15117.05	V	44.08	54.00	9.92	AVG
17498.24	V	46.99	54.00	7.01	AVG
11103.0	H	60.99	74.00	13.01	peak
14725.8	H	63.75	74.00	10.25	peak
17523.7	H	67.66	74.00	6.34	peak
11103.05	H	46.31	54.00	7.69	AVG
14725.86	H	44.84	54.00	9.16	AVG
17523.76	H	46.49	54.00	7.51	AVG

MIMO:

Test mode: 802.11a		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11509.810	V	60.77	74.00	13.23	peak
14554.310	V	63.19	74.00	10.81	peak
17499.480	V	67.81	74.00	6.19	peak
11512.530	V	46.88	54.00	7.12	AVG
14553.520	V	46.07	54.00	7.93	AVG
17495.990	V	46.83	54.00	7.17	AVG
11556.890	H	60.71	74.00	13.29	peak
14865.090	H	63.54	74.00	10.46	peak
17501.390	H	67.12	74.00	6.88	peak
11556.960	H	46.6	54.00	7.4	AVG
14850.110	H	44.42	54.00	9.58	AVG
17486.430	H	46.51	54.00	7.49	AVG

Test mode: 802.11a		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
11535.310	V	60.77	74.00	13.23	peak
14588.310	V	62.87	74.00	11.13	peak
17482.480	V	67.72	74.00	6.28	peak
11538.040	V	46.76	54.00	7.24	AVG
14587.540	V	46.64	54.00	7.36	AVG
17478.990	V	46.06	54.00	7.94	AVG
11624.990	H	60.88	74.00	13.12	peak
14669.490	H	63.13	74.00	10.87	peak
17960.590	H	67.4	74.00	6.6	peak
11624.990	H	46.41	54.00	7.59	AVG
14654.510	H	46.04	54.00	7.96	AVG
17945.660	H	44.39	54.00	9.61	AVG

Test mode: 802.11a		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
10727.410	V	61.51	74.00	12.49	peak
15115.610	V	63.11	74.00	10.89	peak
17499.480	V	67.37	74.00	6.63	peak
10730.140	V	47.45	54.00	6.55	AVG
15114.800	V	43.82	54.00	10.18	AVG
17495.990	V	46.8	54.00	7.2	AVG
11114.690	H	60.91	74.00	13.09	peak
14737.490	H	63.54	74.00	10.46	peak
17535.390	H	67.5	74.00	6.5	peak
11114.740	H	46.17	54.00	7.83	AVG
14722.550	H	44.66	54.00	9.34	AVG
17520.450	H	46.36	54.00	7.64	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:		802.11ac(20)		Frequency:		5745	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict		
5724.31	H	64.42	-30.81	-27.00	PASS		
5723.81	V	57.23	-38	-27.00	PASS		

Test mode:		802.11ac(20)		Frequency:		5825	
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict		
5870.44	H	54.75	-40.48	-27.00	PASS		
5851.75	V	53.89	-41.34	-27.00	PASS		

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

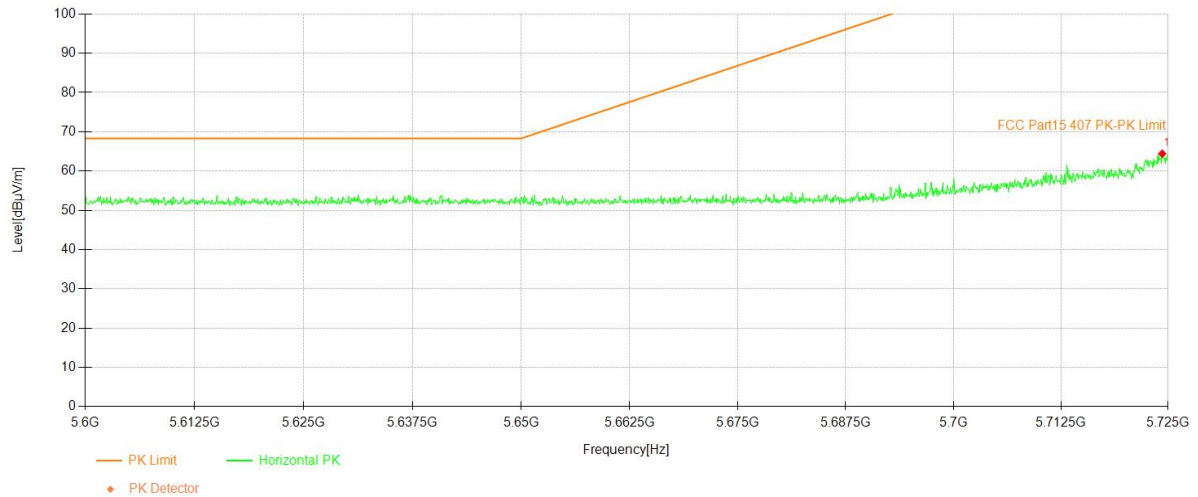
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.

(3) Correct Factor= Ant_F + Cab_L - Preamp

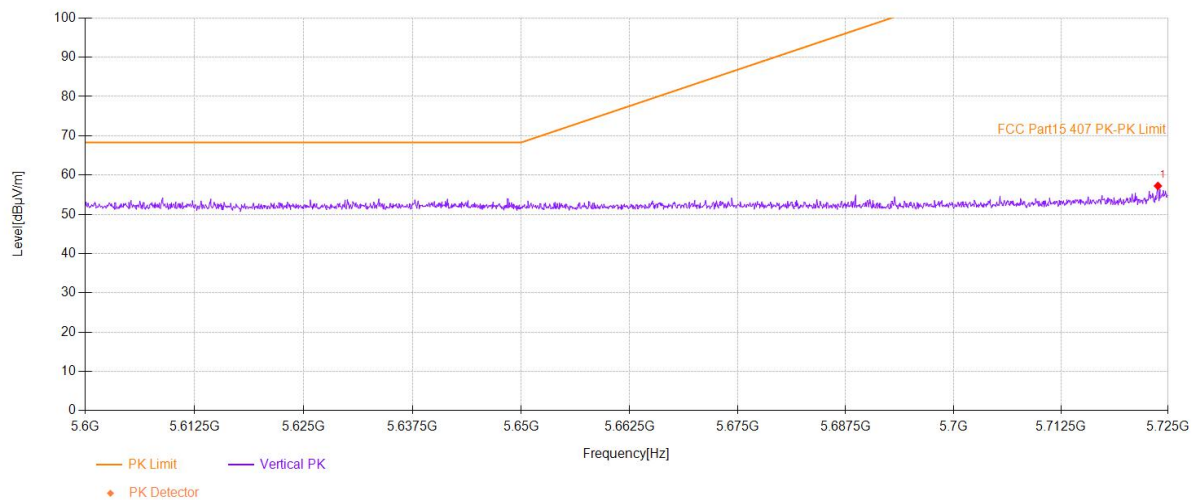
(4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

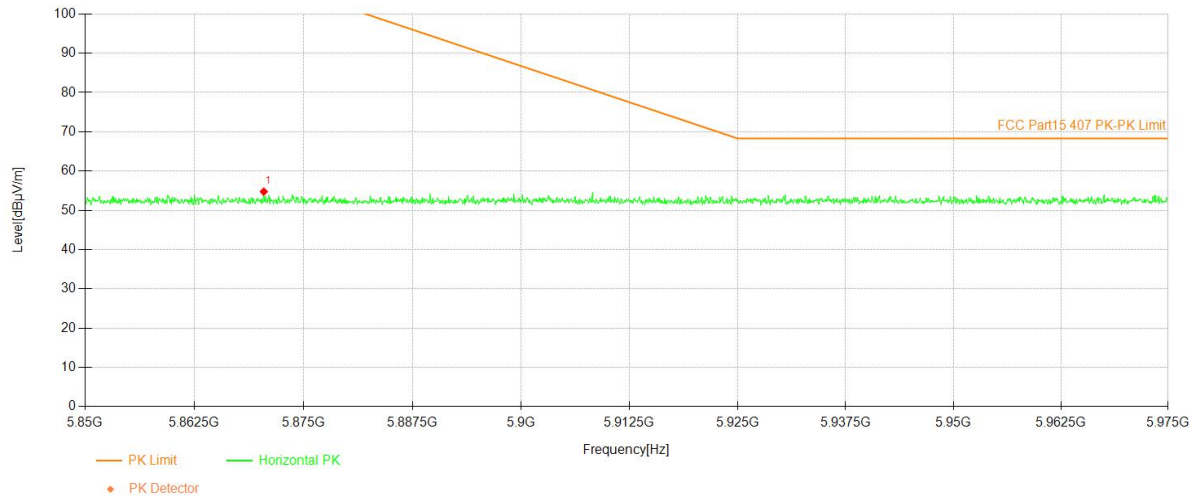
Test Model U-NII -3
 Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5745 Ant.Pol H



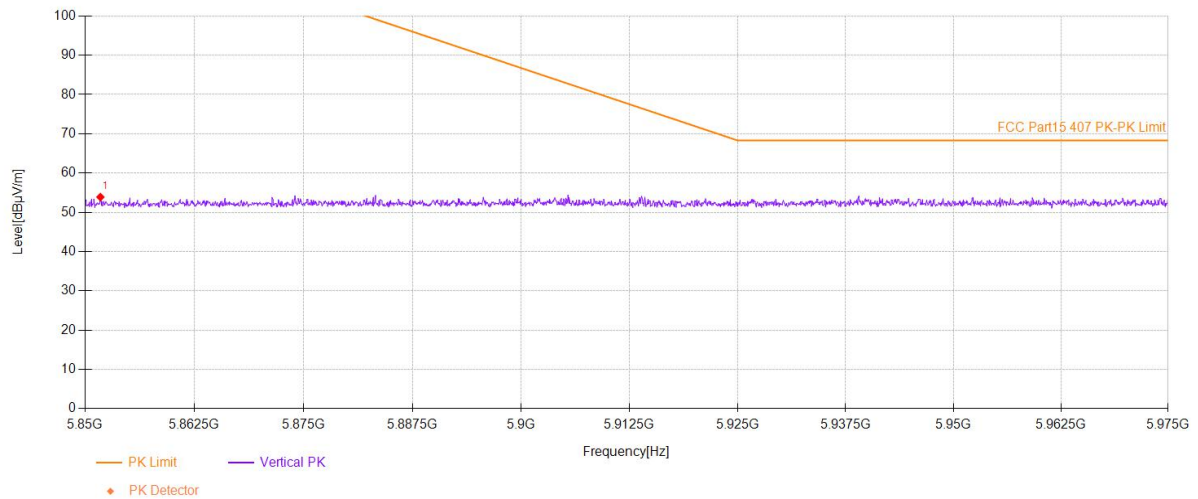
Test Model U-NII -3
 Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5745 Ant.Pol V



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



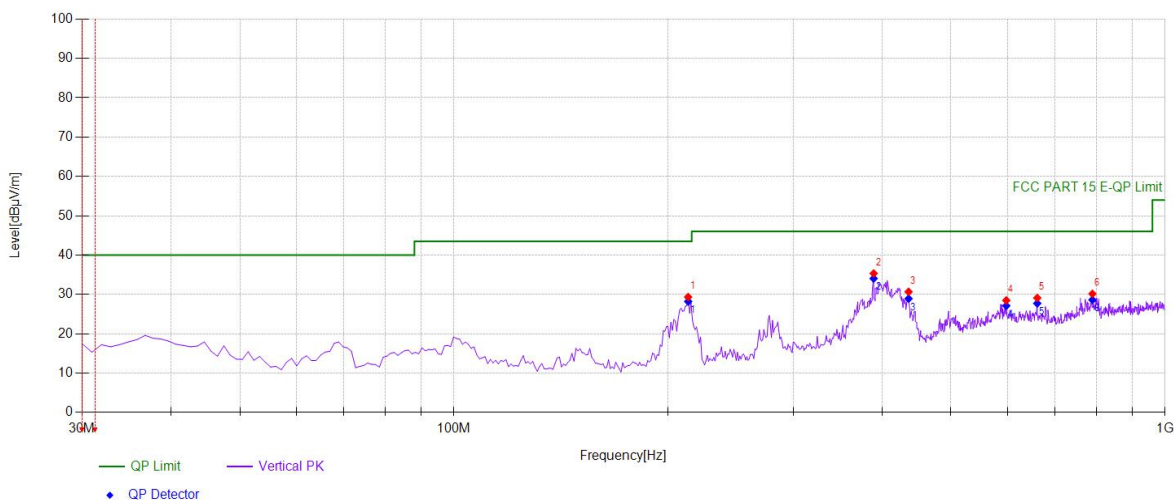
Test Model U-NII -3
Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☐ 802.11n(HT20) ☒ 802.11 ac (VHT20)
☒ 5825 Ant.Pol V



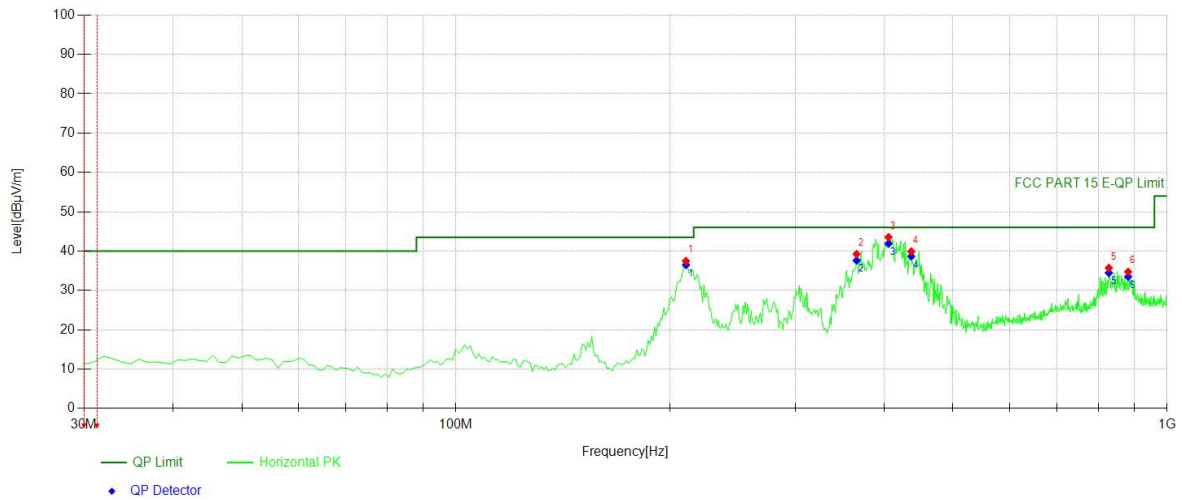
Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

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



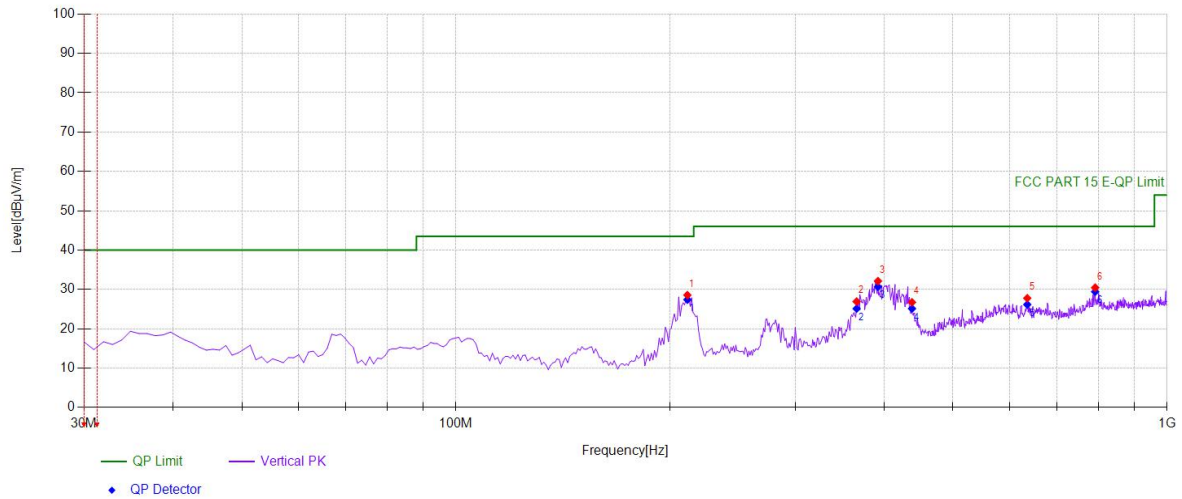
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	213.513	46.46	-17.12	29.34	PK	43.50	14.16	Vertical
2	389.259	47.17	-11.83	35.34	PK	46.00	10.66	Vertical
3	435.865	41.96	-11.29	30.67	PK	46.00	15.33	Vertical
4	598.018	35.63	-7.14	28.49	PK	46.00	17.51	Vertical
5	661.131	35.24	-6.14	29.10	PK	46.00	16.90	Vertical
6	790.270	34.68	-4.52	30.16	PK	46.00	15.84	Vertical



Suspected Data List

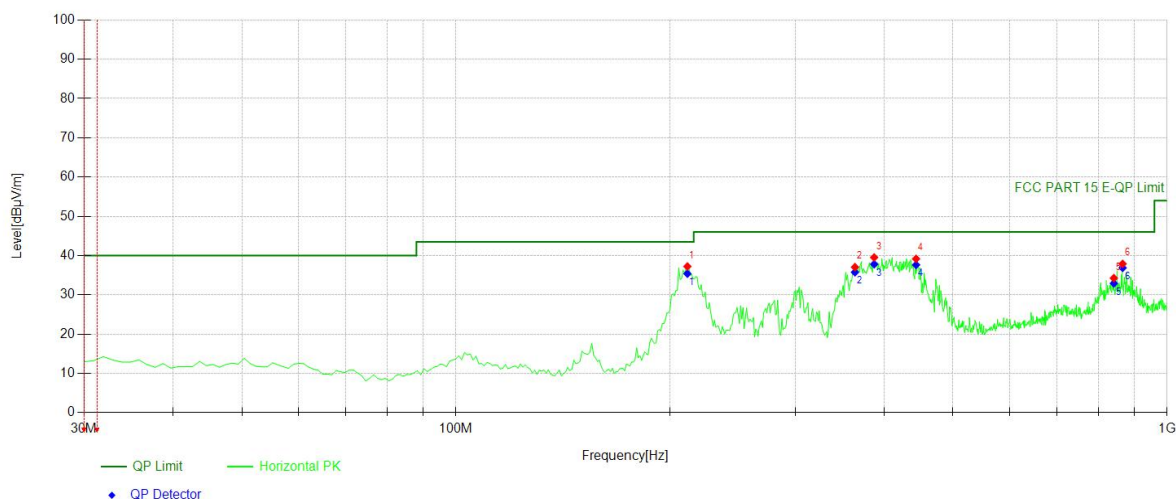
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	210.600	54.62	-17.13	37.49	PK	43.50	6.01	Horizontal
2	365.956	52.20	-12.96	39.24	PK	46.00	6.76	Horizontal
3	405.765	55.33	-11.78	43.55	PK	46.00	2.45	Horizontal
4	436.836	51.18	-11.27	39.91	PK	46.00	6.09	Horizontal
5	828.138	39.87	-4.15	35.72	PK	46.00	10.28	Horizontal
6	881.541	37.69	-2.96	34.73	PK	46.00	11.27	Horizontal

Test mode: 802.11a Frequency(MHz): 5200



Suspected Data List

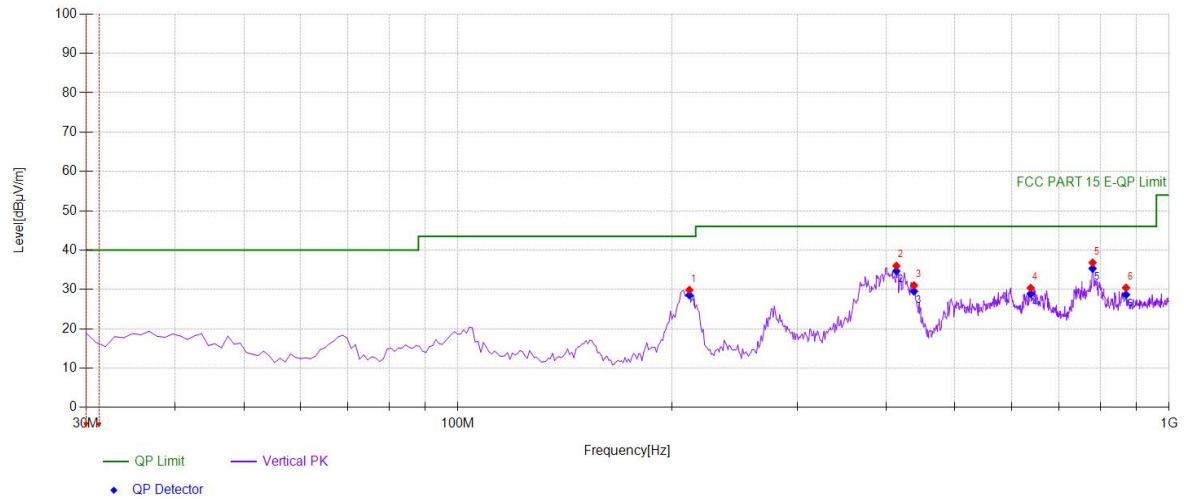
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	211.571	45.70	-17.13	28.57	PK	43.50	14.93	Vertical
2	365.956	39.88	-12.96	26.92	PK	46.00	19.08	Vertical
3	392.172	43.94	-11.82	32.12	PK	46.00	13.88	Vertical
4	437.807	37.97	-11.23	26.74	PK	46.00	19.26	Vertical
5	635.885	34.21	-6.44	27.77	PK	46.00	18.23	Vertical
6	792.212	34.97	-4.50	30.47	PK	46.00	15.53	Vertical



Suspected Data List

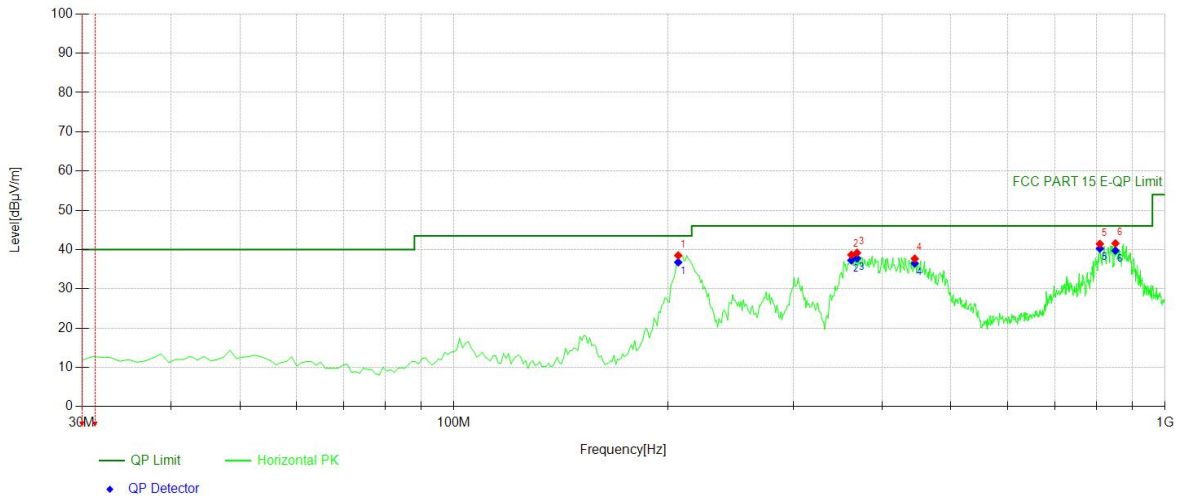
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	211.571	54.37	-17.13	37.24	PK	43.50	6.26	Horizontal
2	364.014	50.18	-13.12	37.06	PK	46.00	8.94	Horizontal
3	387.317	51.36	-11.83	39.53	PK	46.00	6.47	Horizontal
4	443.633	50.34	-11.16	39.18	PK	46.00	6.82	Horizontal
5	841.731	38.11	-3.85	34.26	PK	46.00	11.74	Horizontal
6	866.006	41.52	-3.61	37.91	PK	46.00	8.09	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	211.571	46.99	-17.13	29.86	PK	43.50	13.64	Vertical
2	413.533	47.77	-11.77	36.00	PK	46.00	10.00	Vertical
3	437.807	42.23	-11.23	31.00	PK	46.00	15.00	Vertical
4	638.798	36.68	-6.31	30.37	PK	46.00	15.63	Vertical
5	780.560	41.42	-4.61	36.81	PK	46.00	9.19	Vertical
6	869.889	33.90	-3.47	30.43	PK	46.00	15.57	Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	206.716	55.64	-17.13	38.51	PK	43.50	4.99	Horizontal
2	362.072	51.95	-13.27	38.68	PK	46.00	7.32	Horizontal
3	368.868	51.90	-12.73	39.17	PK	46.00	6.83	Horizontal
4	444.604	48.84	-11.16	37.68	PK	46.00	8.32	Horizontal
5	809.689	45.79	-4.34	41.45	PK	46.00	4.55	Horizontal
6	851.441	45.38	-3.80	41.58	PK	46.00	4.42	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.

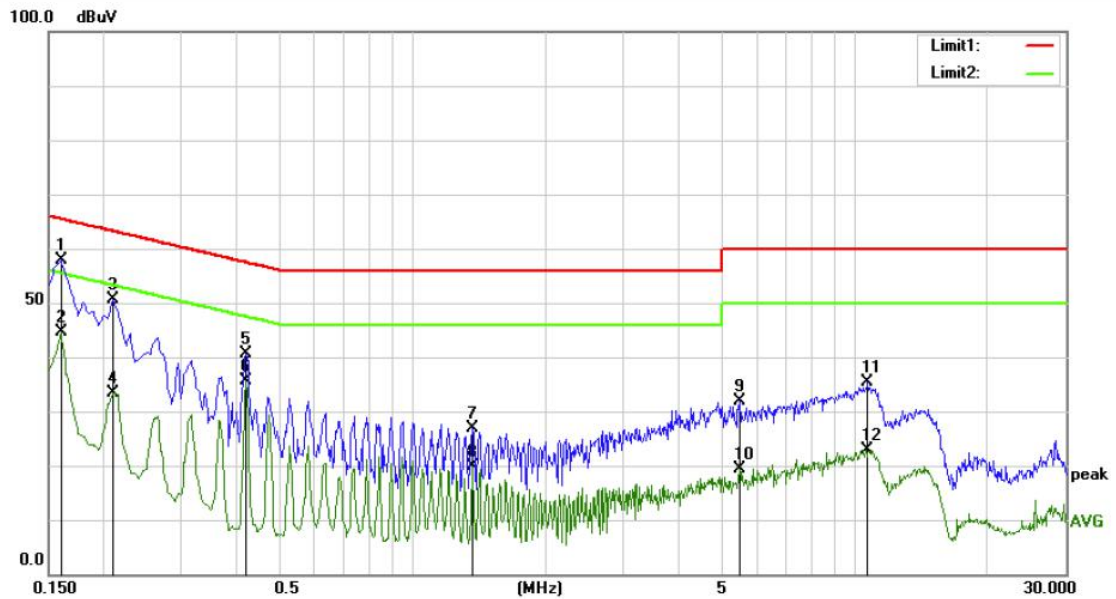
Repeat above procedures until all frequency measured were complete.

8.5.5 Test Results

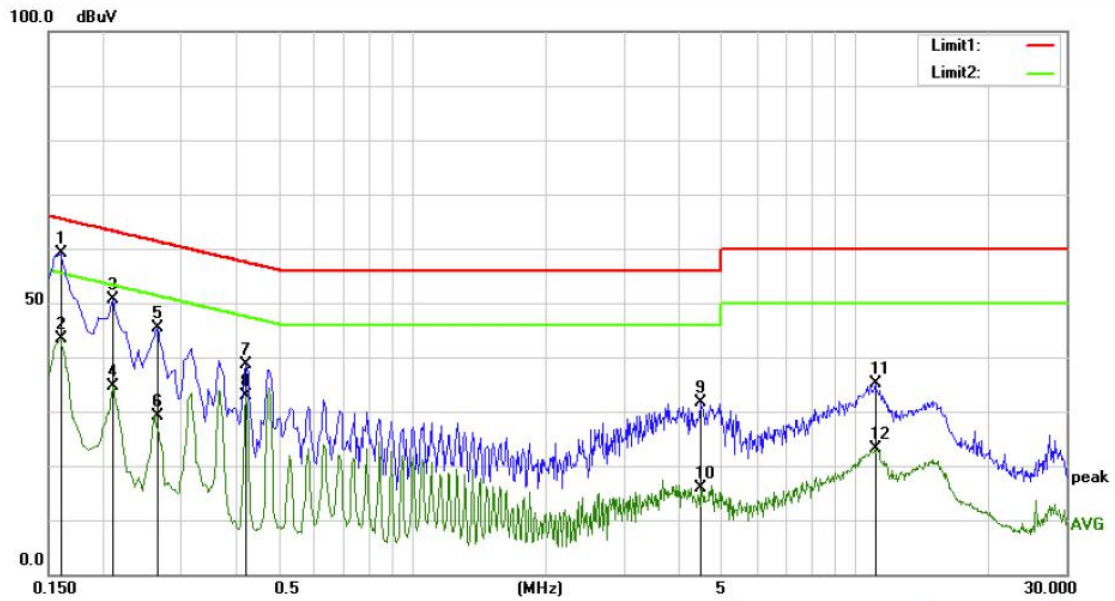
Pass

Temperature :	21.9°C	ATM Pressure:	1011 mbar
Humidity :	58 %	Test Engineer:	CSL

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



Site Conduction #1				Phase: N		Temperature: 21.9		
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector Comment
1	*	0.1600	48.05	9.82	57.87	65.46	-7.59	QP
2		0.1600	34.73	9.82	44.55	55.46	-10.91	AVG
3		0.2100	40.58	10.00	50.58	63.21	-12.63	QP
4		0.2100	23.36	10.00	33.36	53.21	-19.85	AVG
5		0.4200	30.65	9.86	40.51	57.45	-16.94	QP
6		0.4200	25.73	9.86	35.59	47.45	-11.86	AVG
7		1.3700	16.99	9.88	26.87	56.00	-29.13	QP
8		1.3700	10.02	9.88	19.90	46.00	-26.10	AVG
9		5.5050	21.97	9.91	31.88	60.00	-28.12	QP
10		5.5050	9.41	9.91	19.32	50.00	-30.68	AVG
11		10.7300	25.25	10.01	35.26	60.00	-24.74	QP
12		10.7300	12.93	10.01	22.94	50.00	-27.06	AVG



Site Conduction #1 Phase: **L1** Temperature: 21.9

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1600	49.23	9.82	59.05	65.46	-6.41	QP	
2		0.1600	33.59	9.82	43.41	55.46	-12.05	AVG	
3		0.2100	40.51	10.00	50.51	63.21	-12.70	QP	
4		0.2100	24.53	10.00	34.53	53.21	-18.68	AVG	
5		0.2650	35.39	10.01	45.40	61.27	-15.87	QP	
6		0.2650	19.23	10.01	29.24	51.27	-22.03	AVG	
7		0.4200	28.65	9.86	38.51	57.45	-18.94	QP	
8		0.4200	22.95	9.86	32.81	47.45	-14.64	AVG	
9		4.4750	21.84	9.88	31.72	56.00	-24.28	QP	
10		4.4750	6.10	9.88	15.98	46.00	-30.02	AVG	
11		11.1300	25.08	10.00	35.08	60.00	-24.92	QP	
12		11.1300	13.08	10.00	23.08	50.00	-26.92	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: 4.81 dBi, Ant2: 4.76dBi

- ☒ 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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