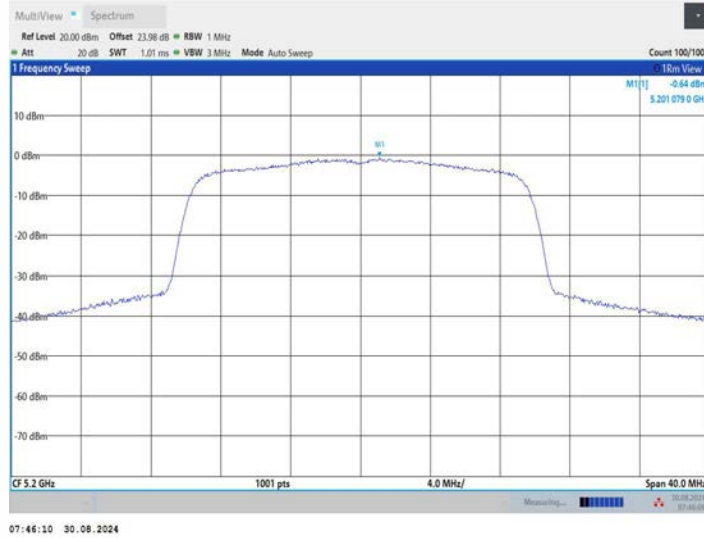
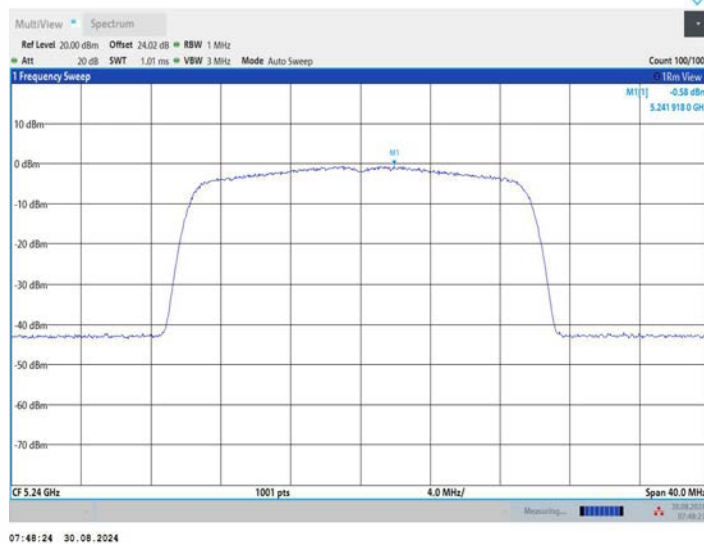
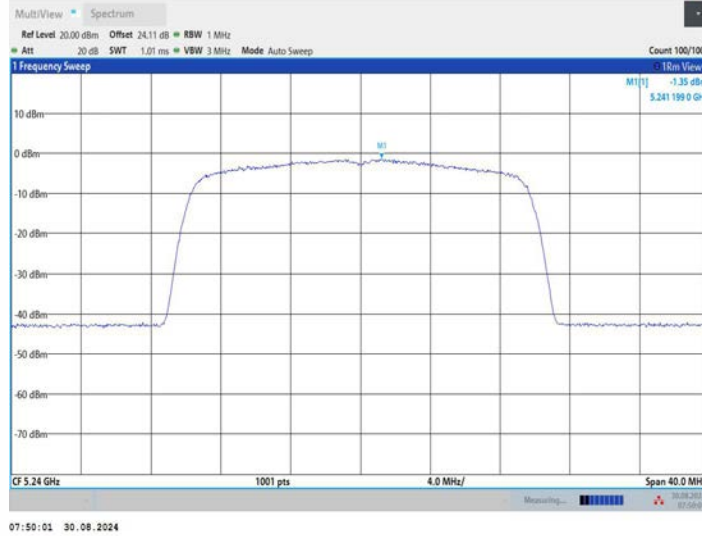




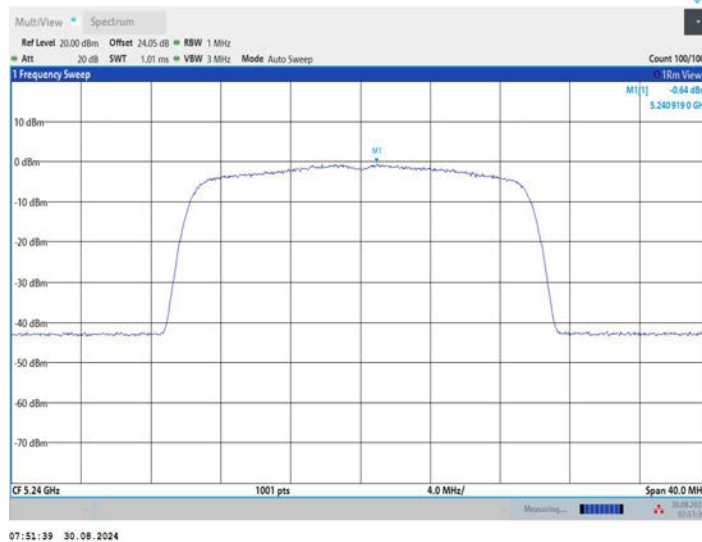
11BE20MIMO_Ant1_5240



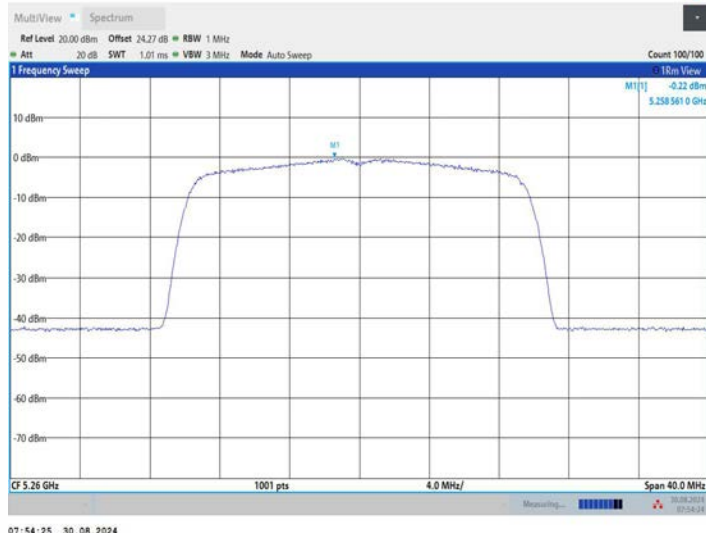
11BE20MIMO_Ant2_5240



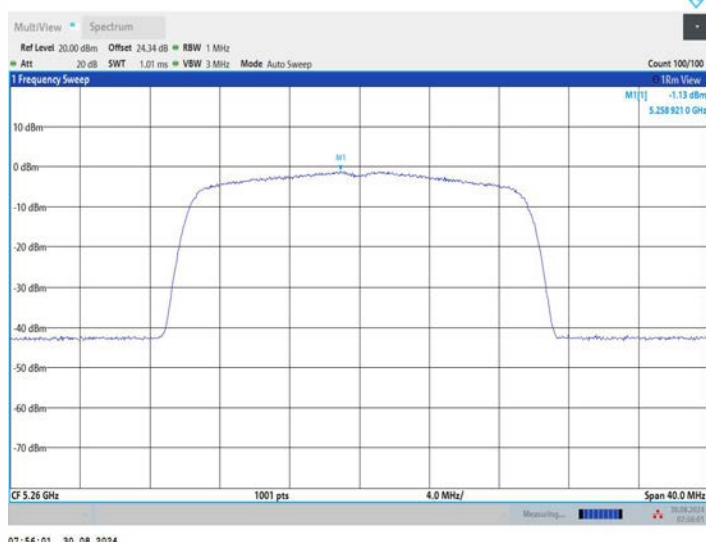
11BE20MIMO_Ant3_5240



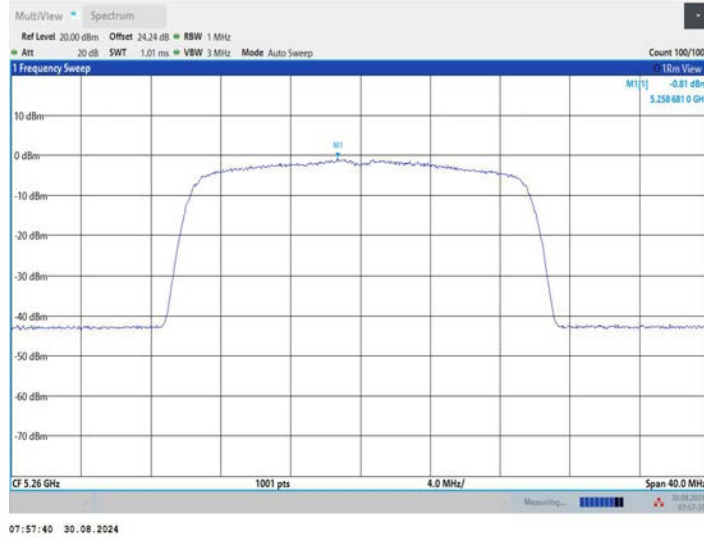
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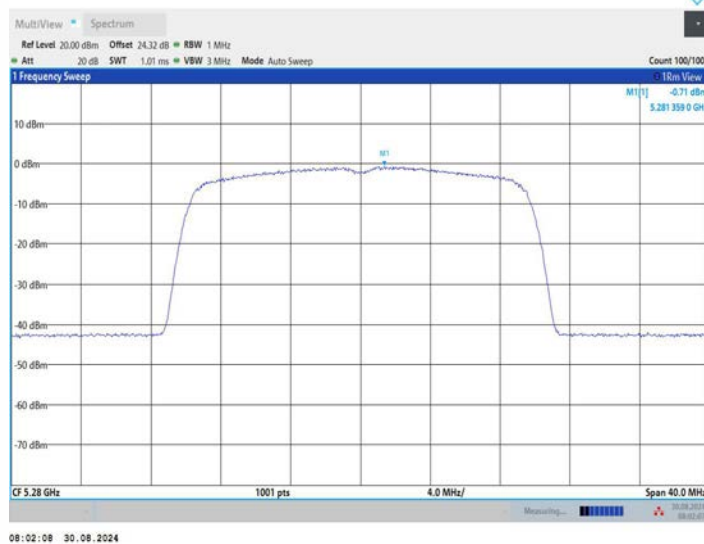
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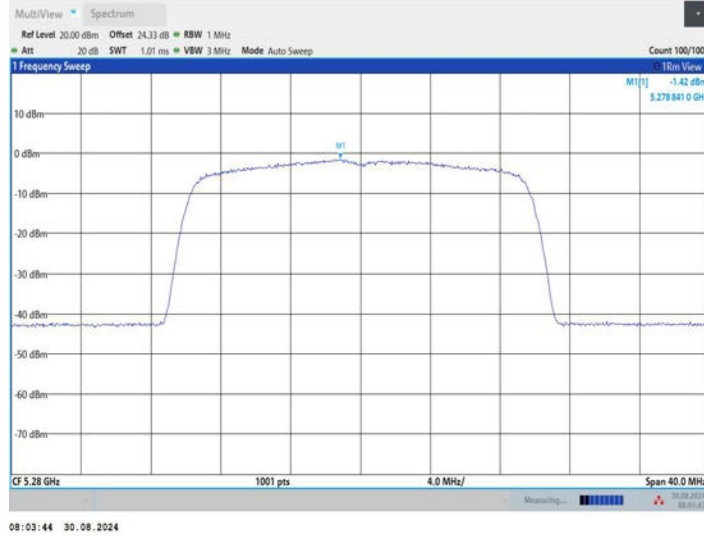
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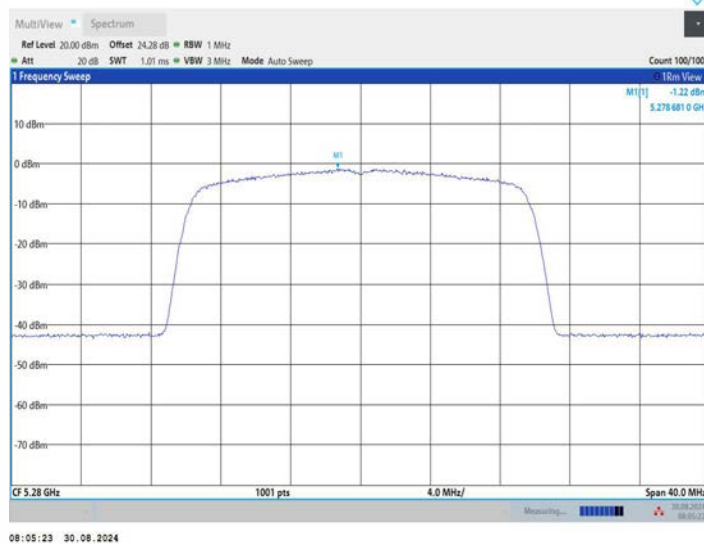
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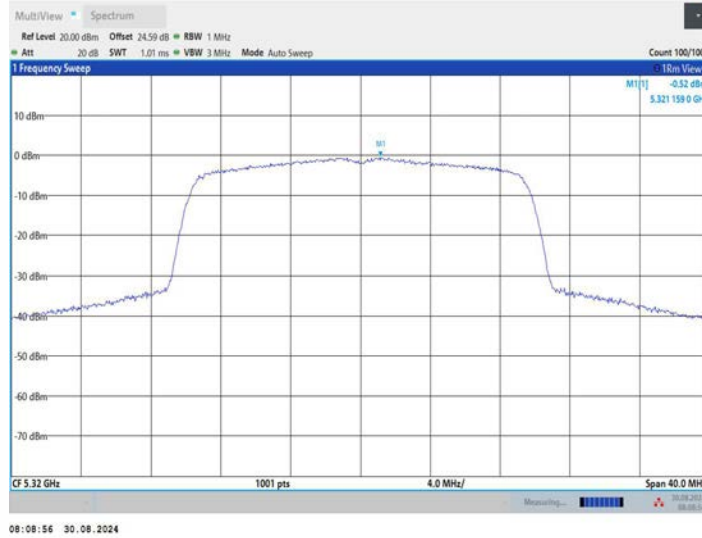
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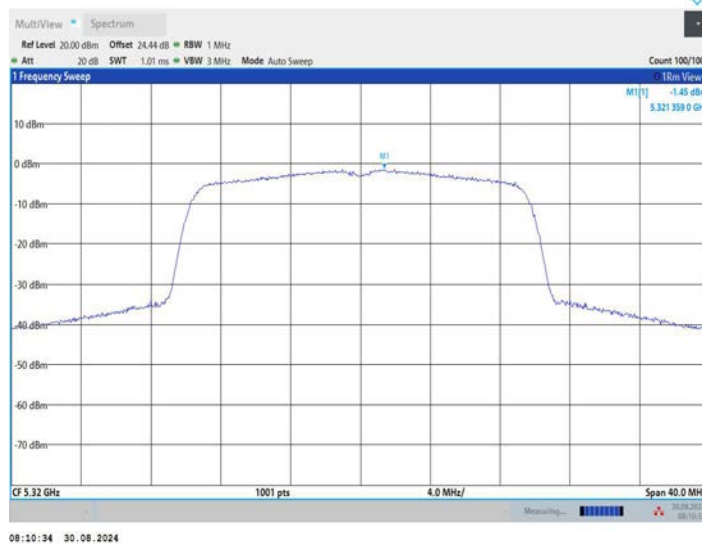
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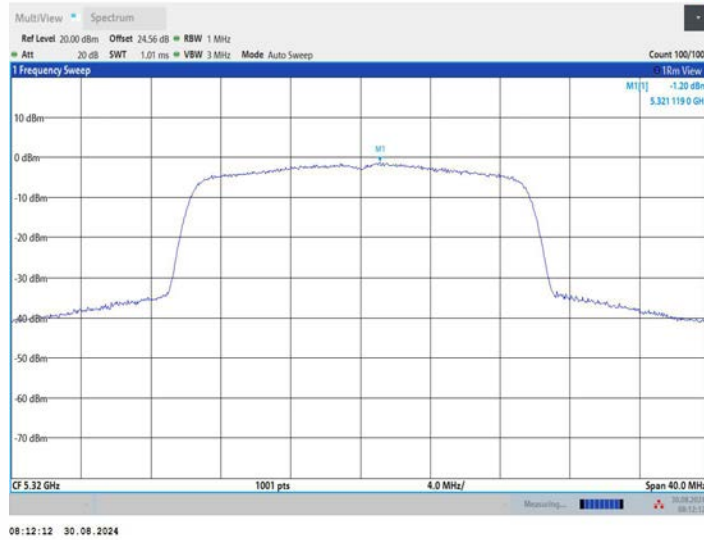
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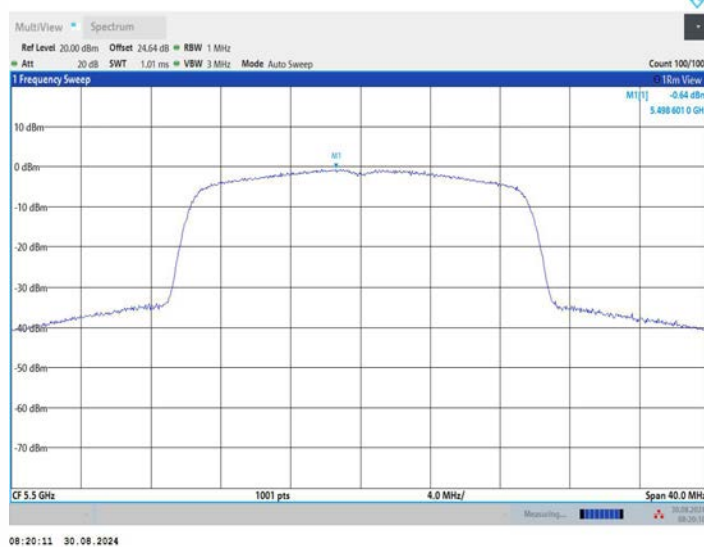
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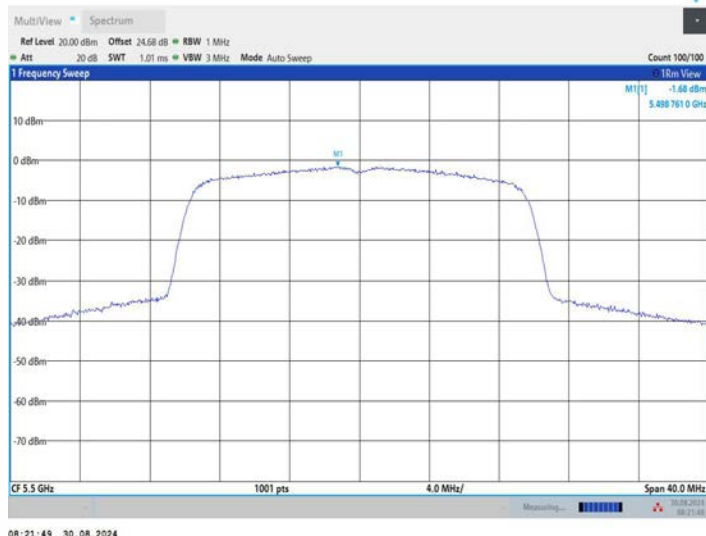
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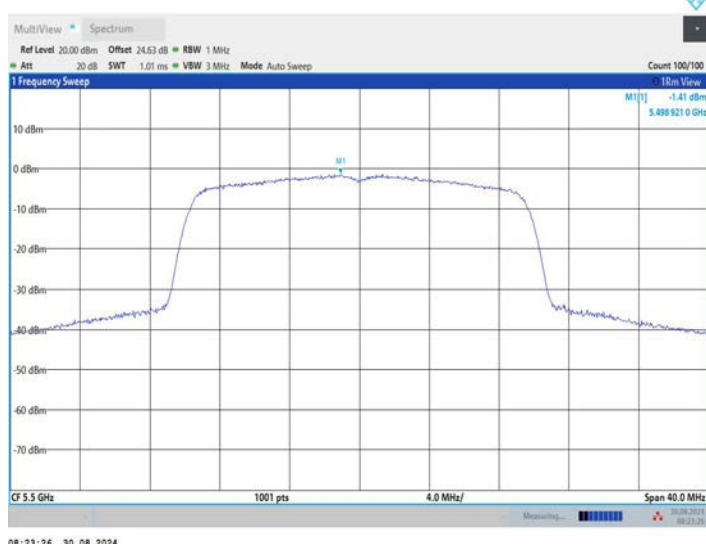
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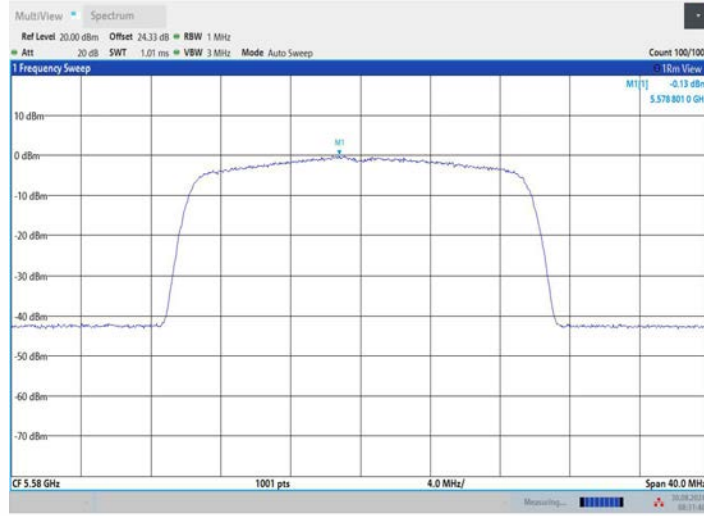
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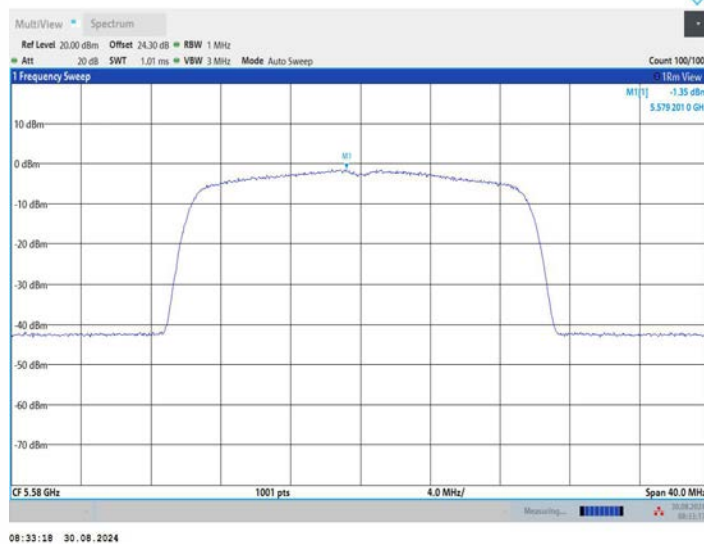
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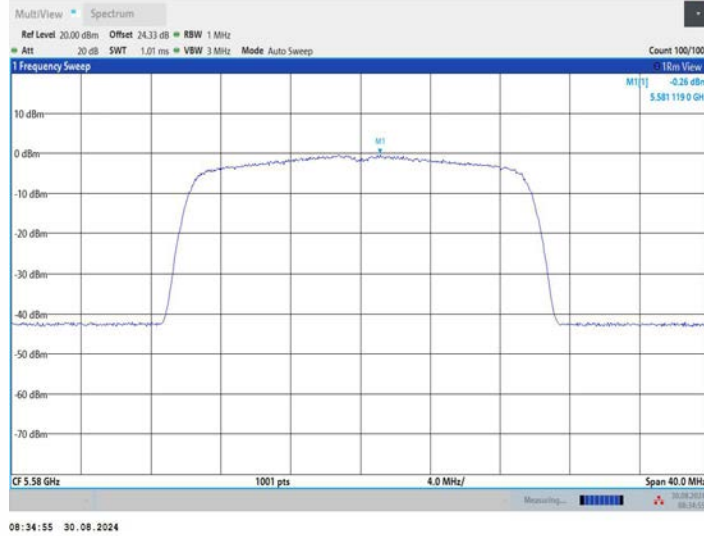
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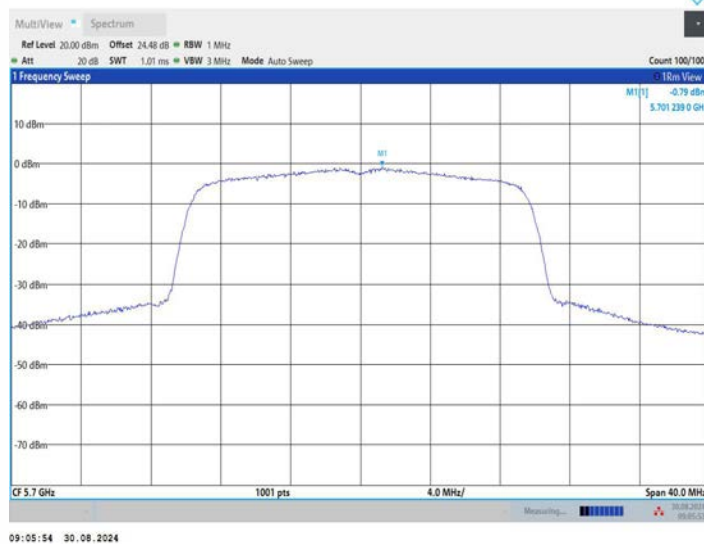
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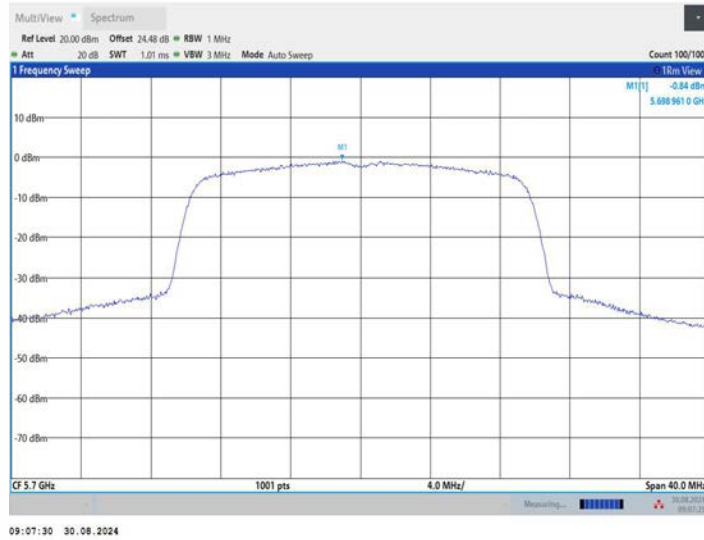
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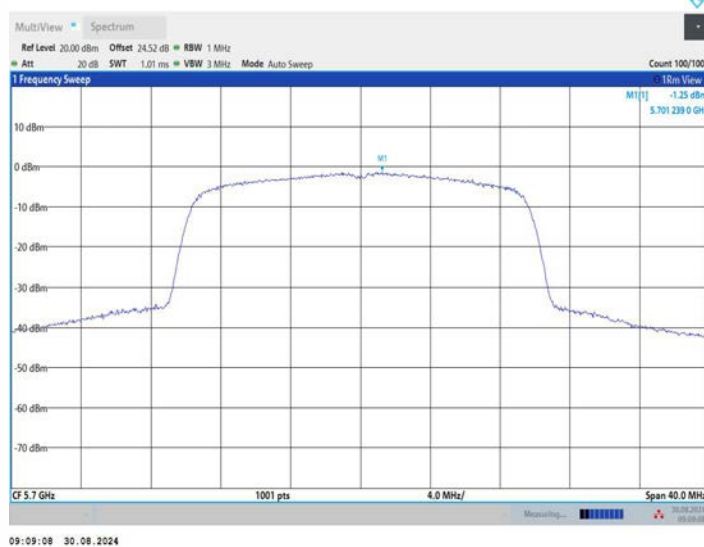
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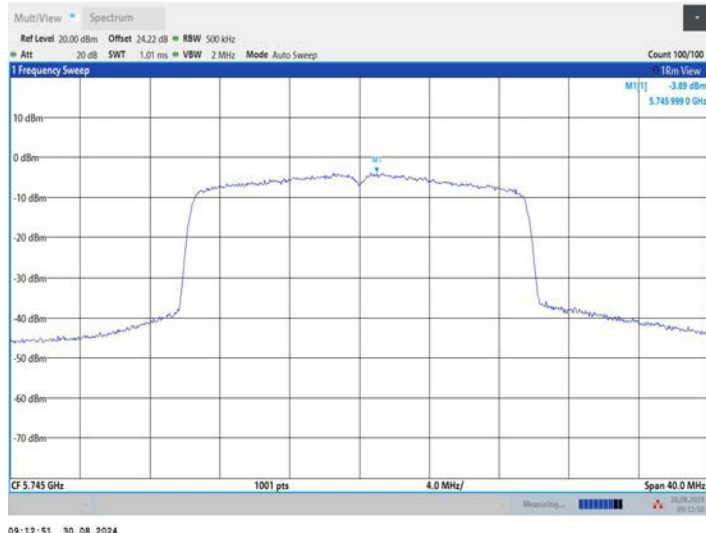
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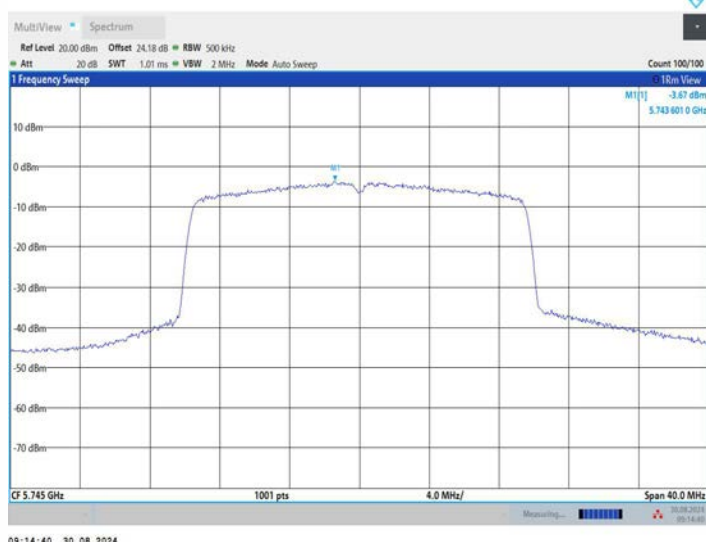
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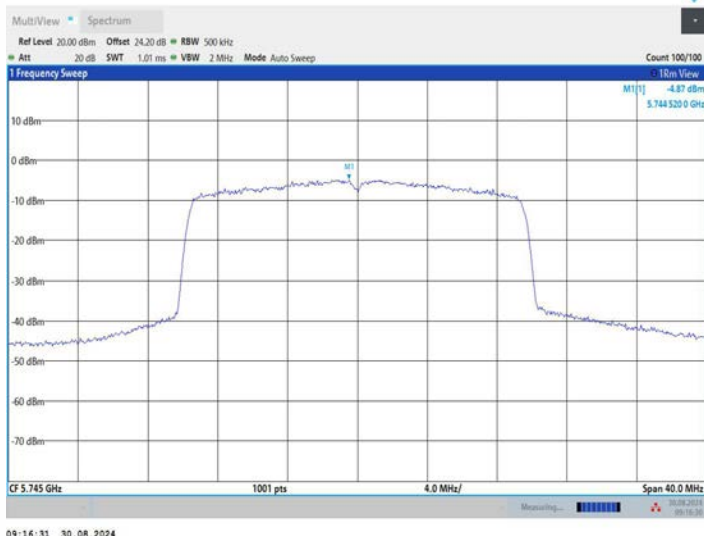
11BE20MIMO_Ant1_5745



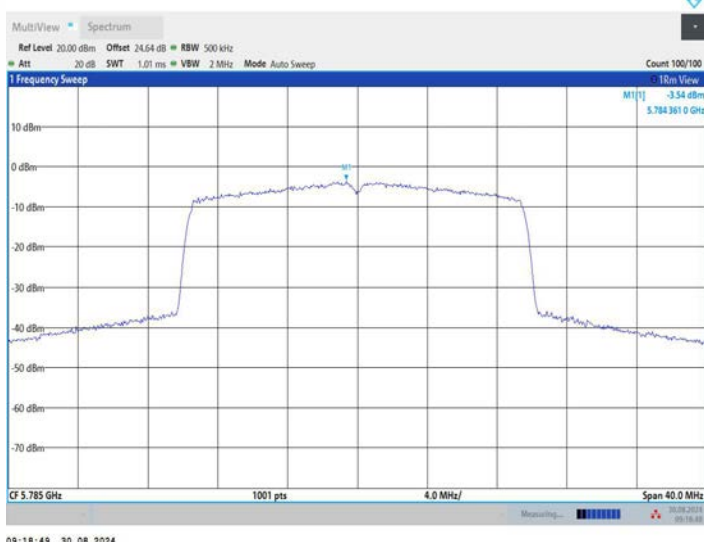
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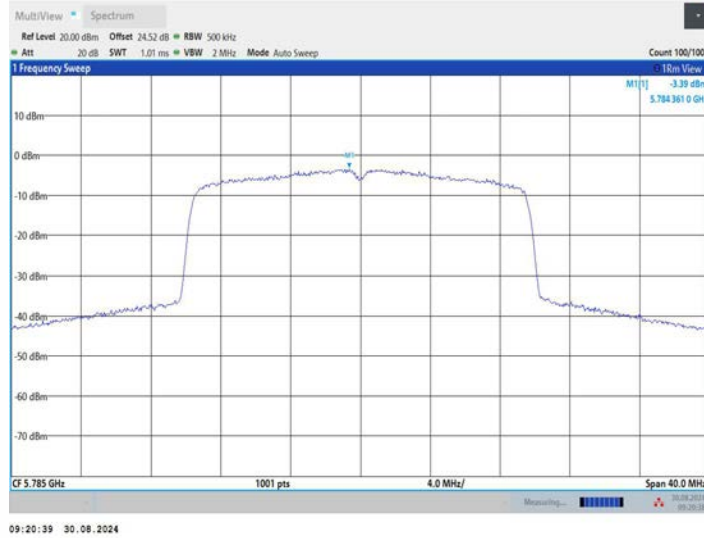
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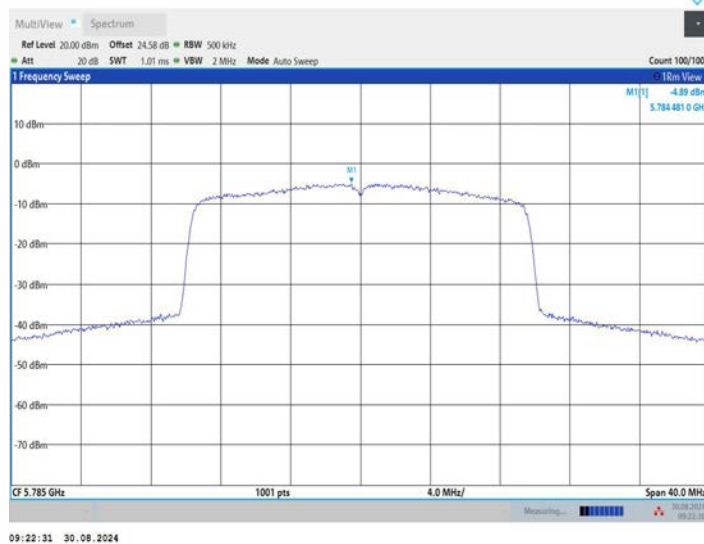
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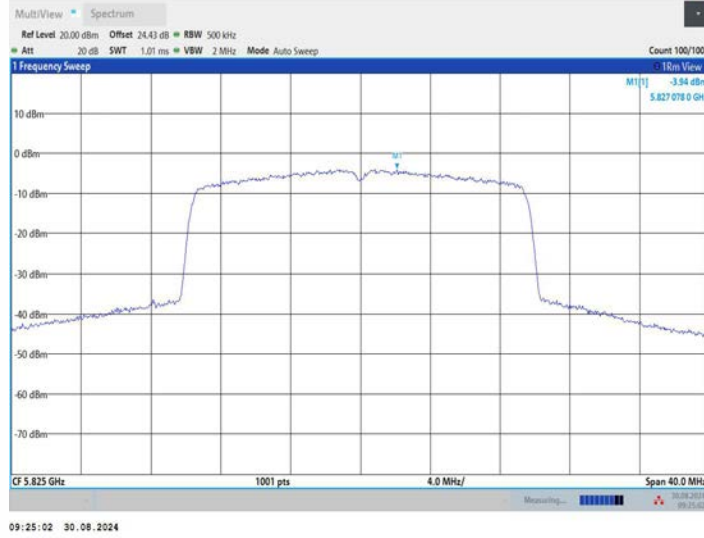
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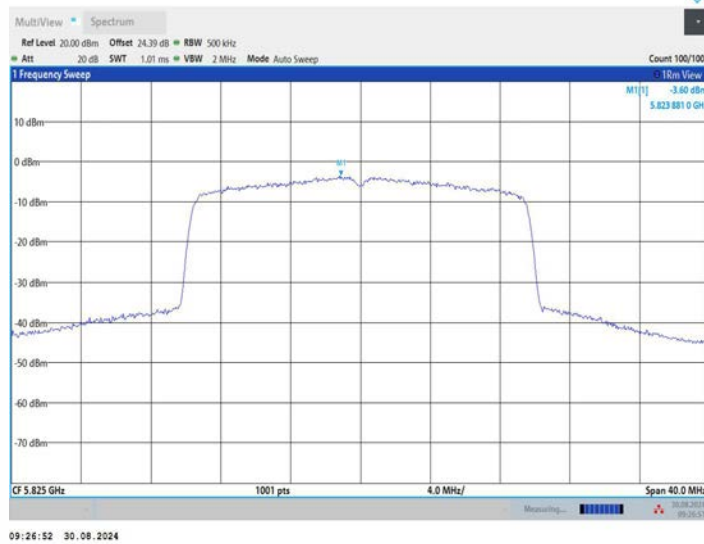
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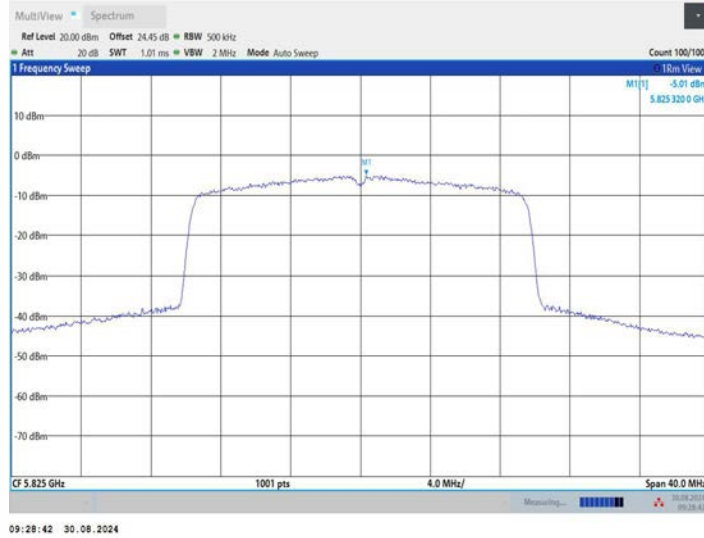
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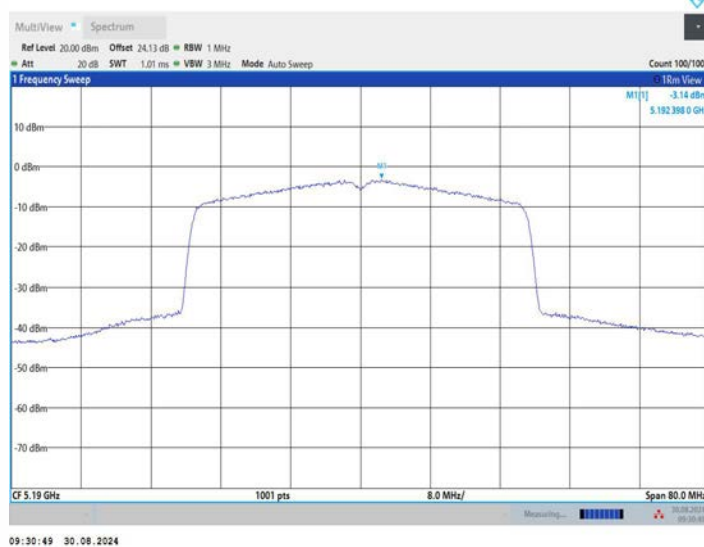
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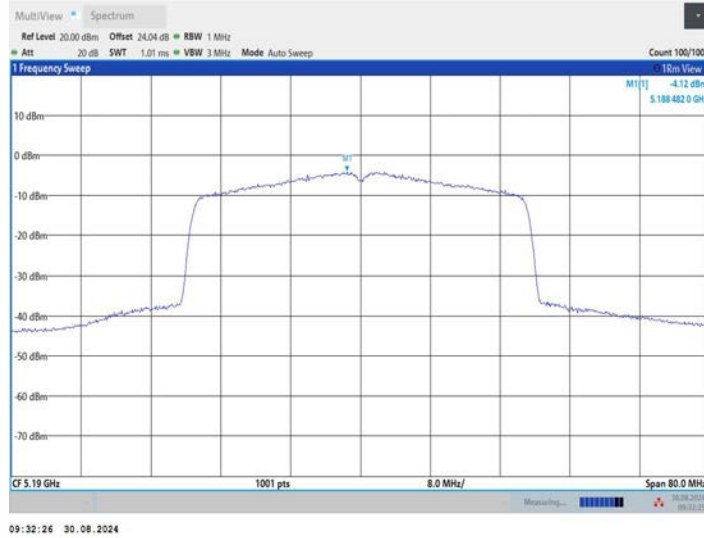
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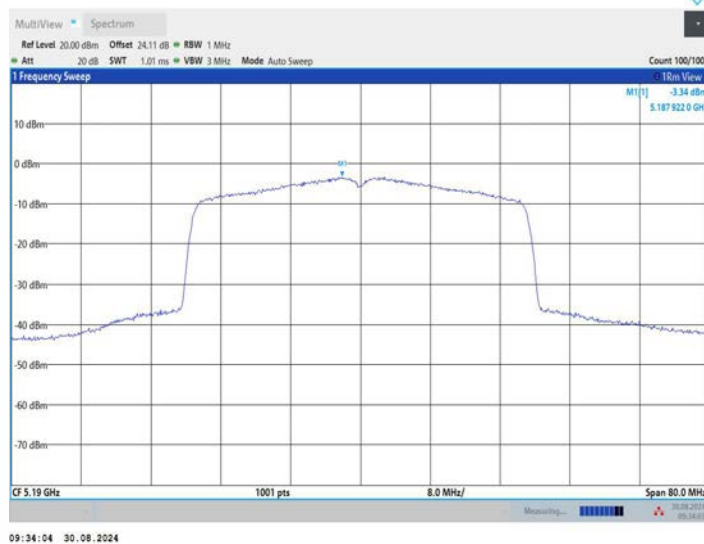
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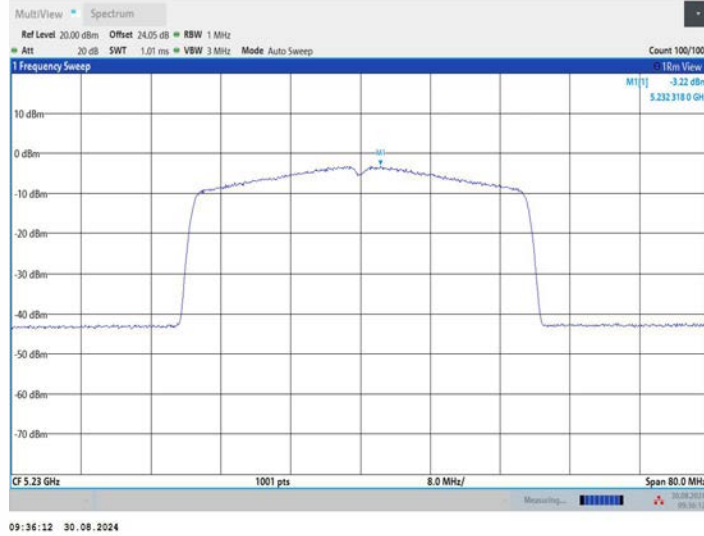
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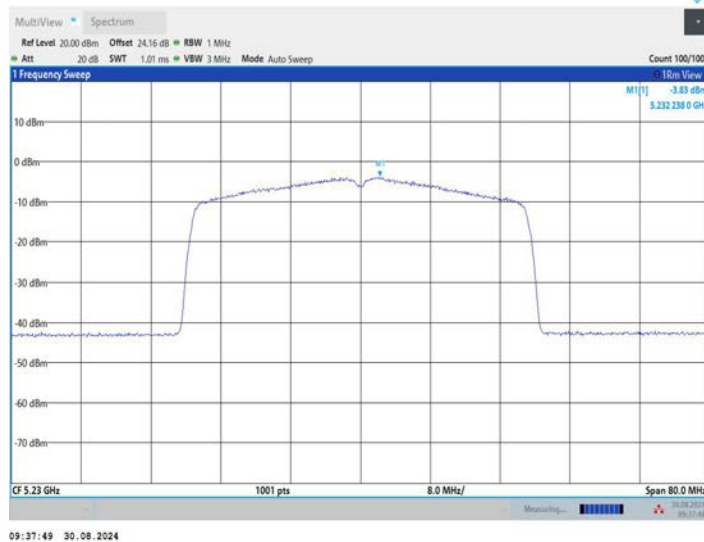
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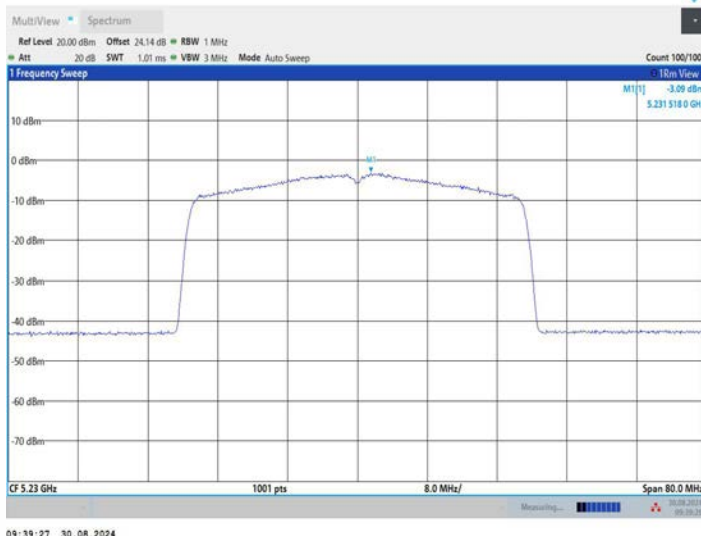
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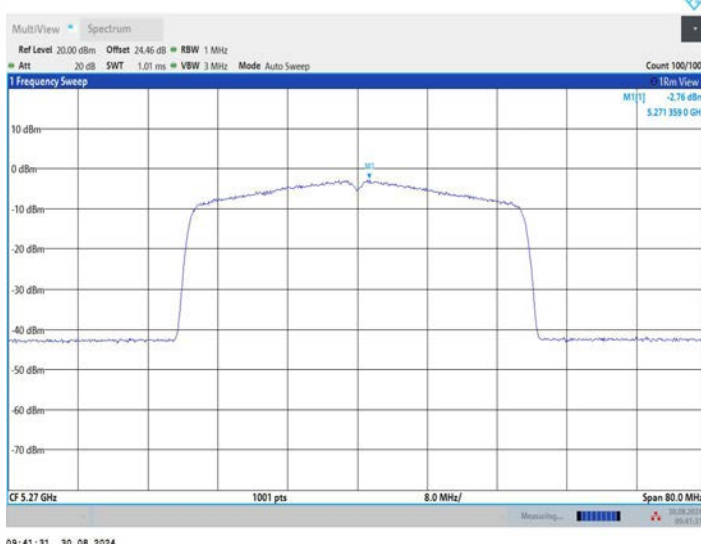
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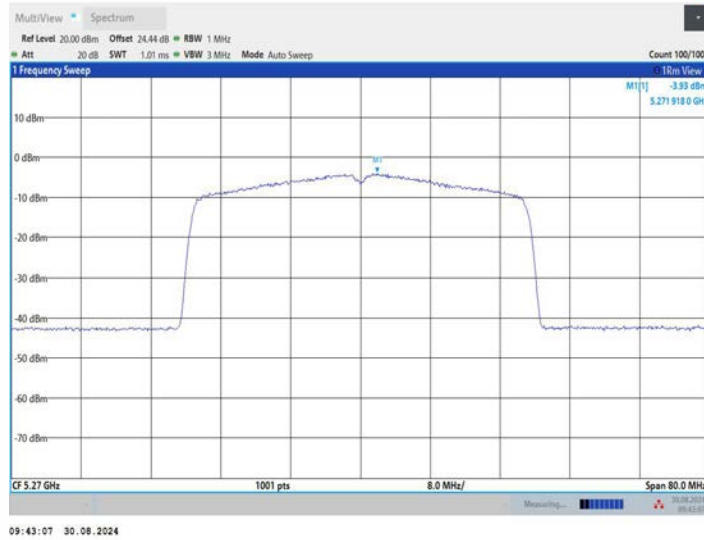
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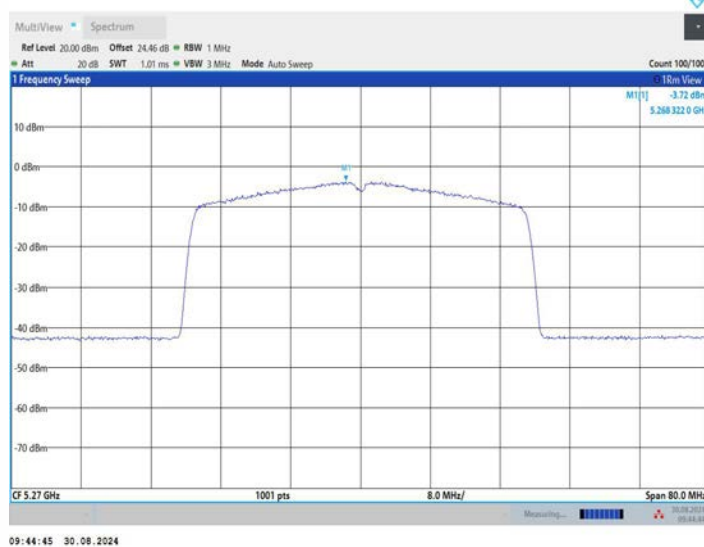
11BE40MIMO_Ant1_5270



11BE40MIMO_Ant2_5270



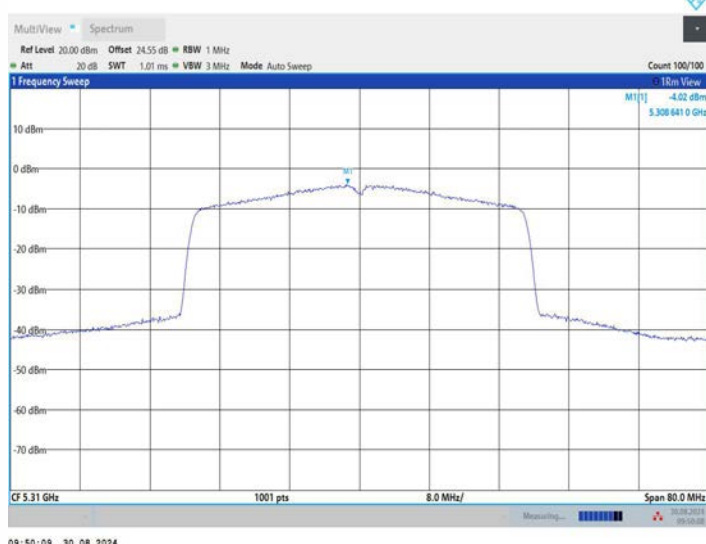
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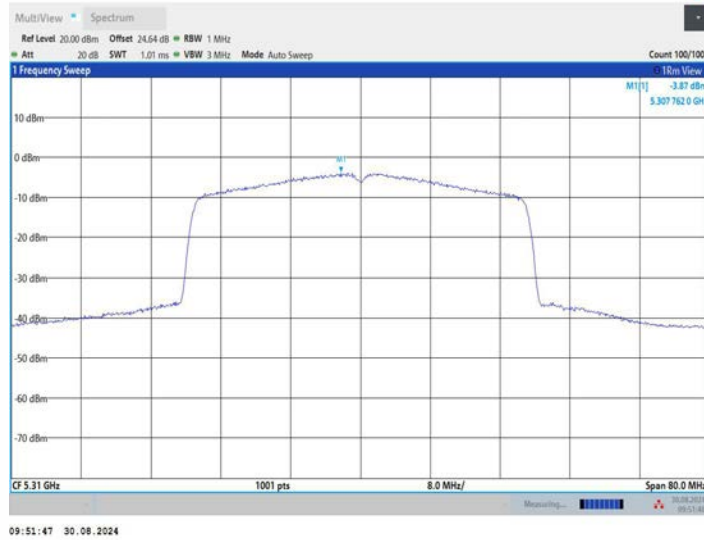
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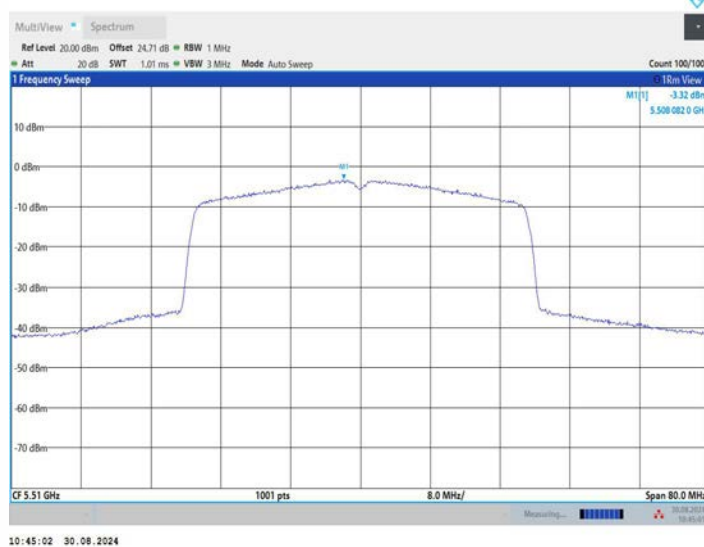
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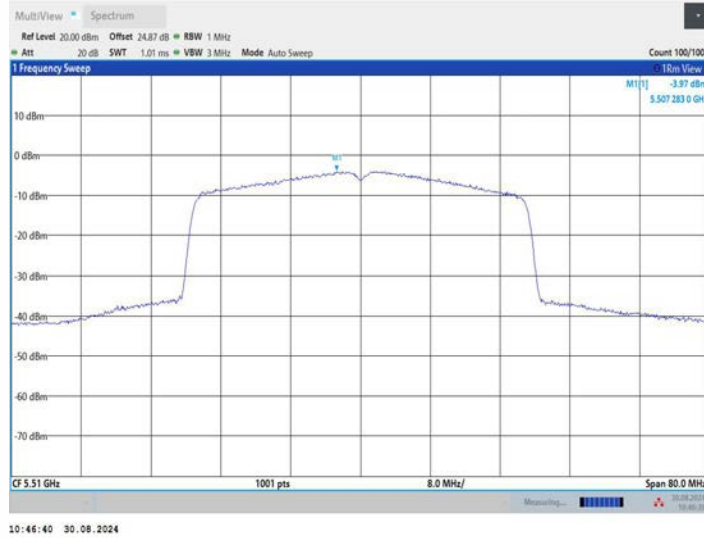
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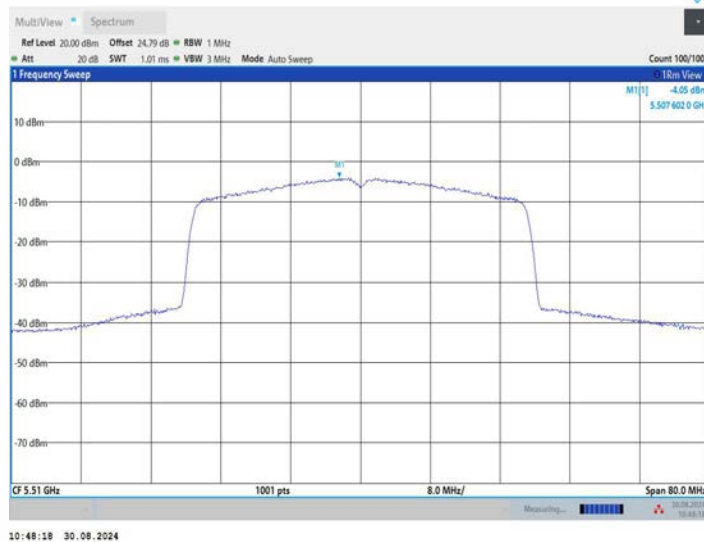
11BE40MIMO_Ant1_5510



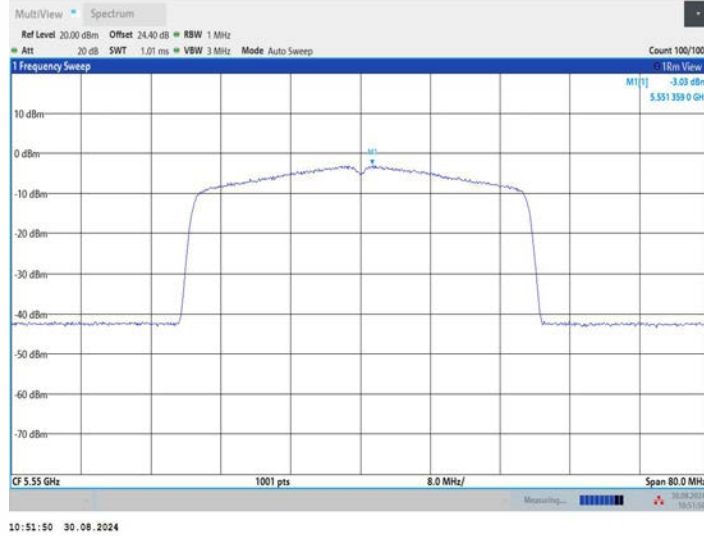
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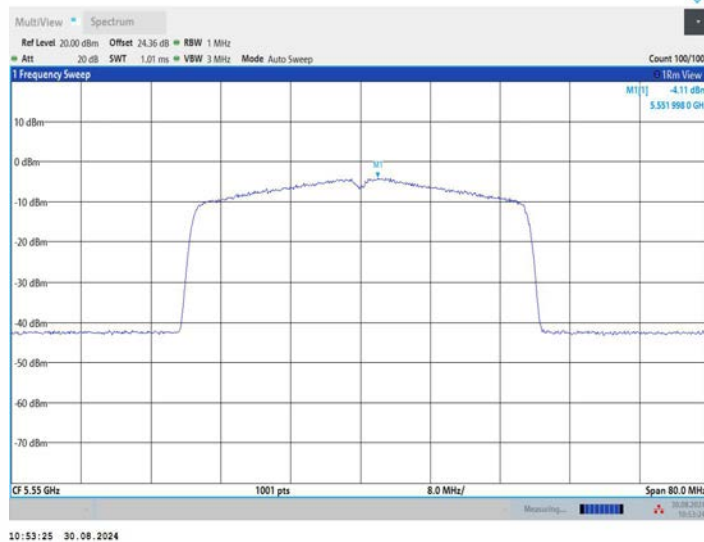
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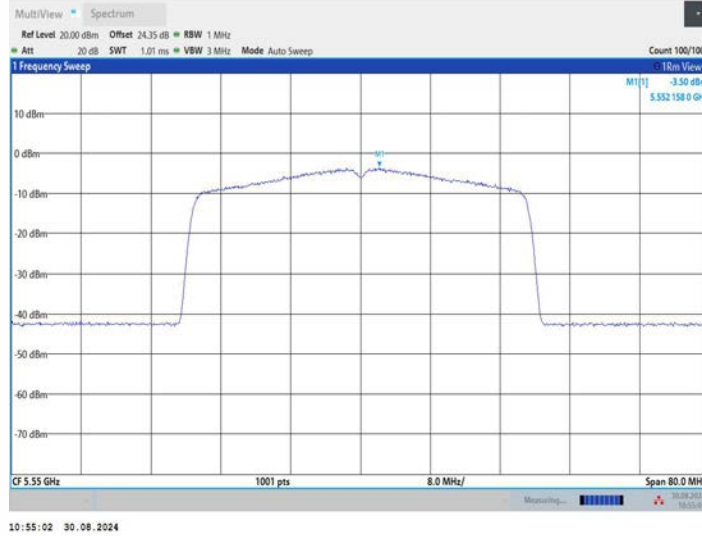
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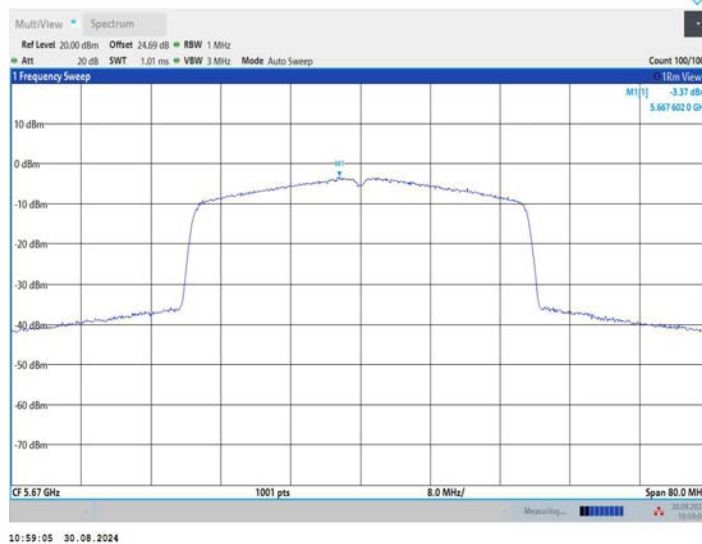
11BE40MIMO_Ant2_5550



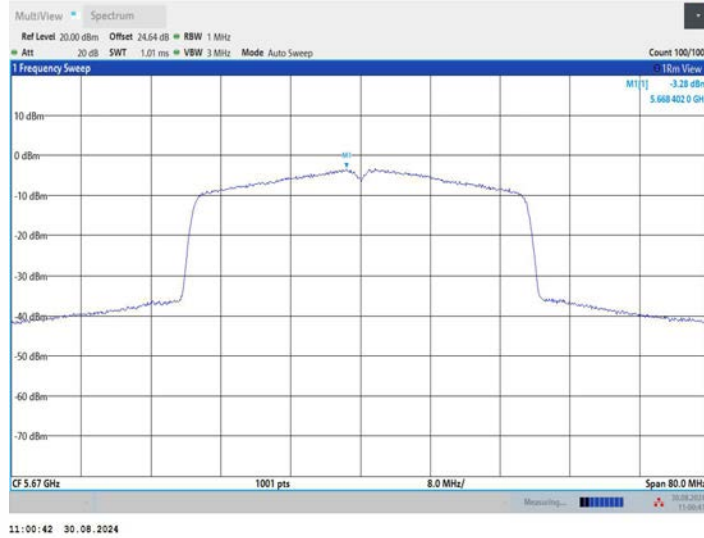
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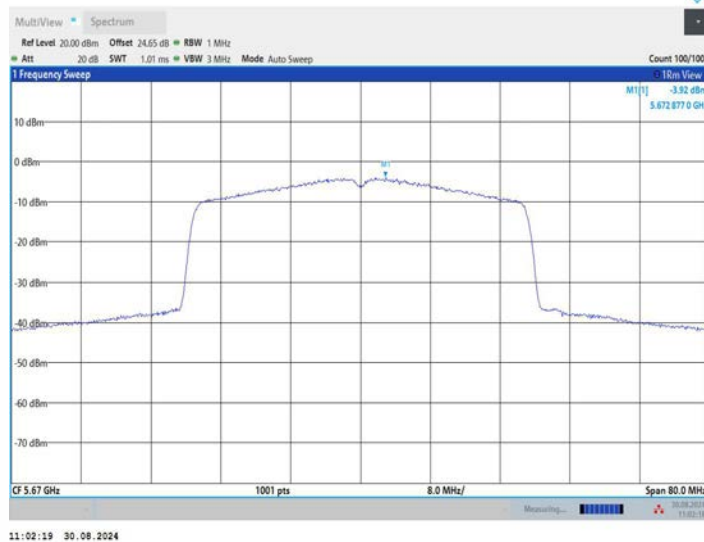
11BE40MIMO_Ant1_5670



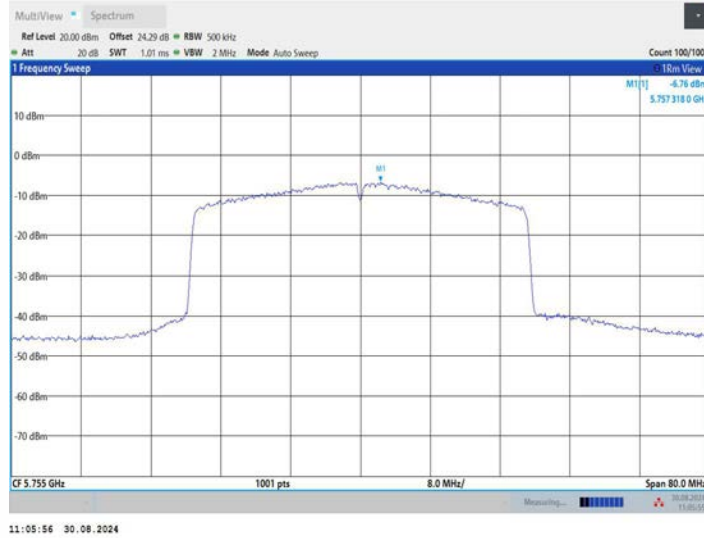
11BE40MIMO_Ant2_5670



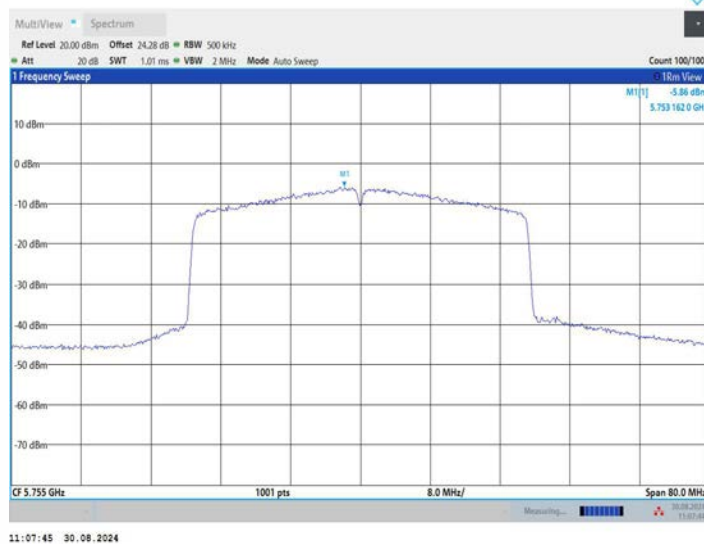
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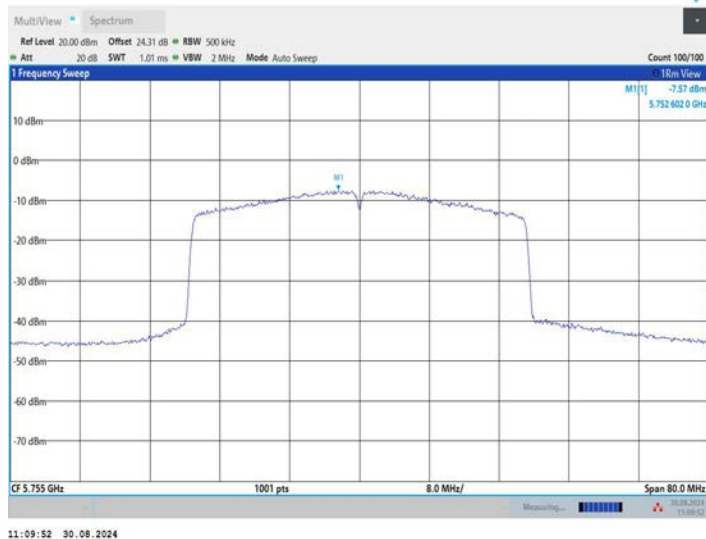
11BE40MIMO_Ant1_5755



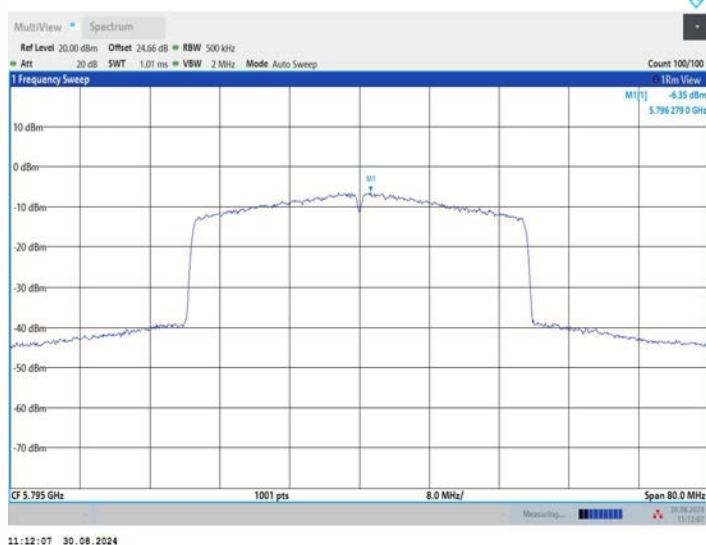
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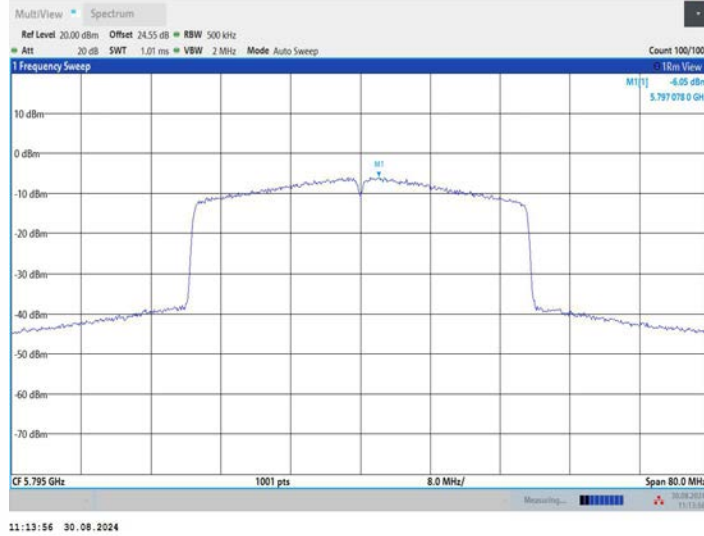
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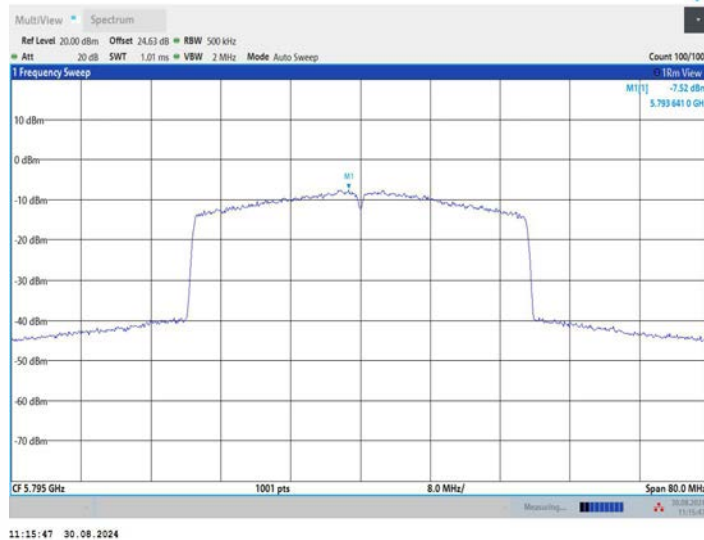
11BE40MIMO_Ant1_5795



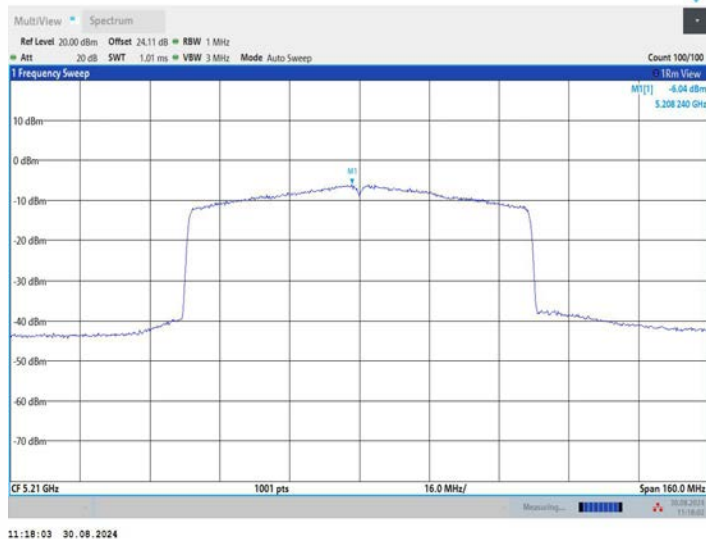
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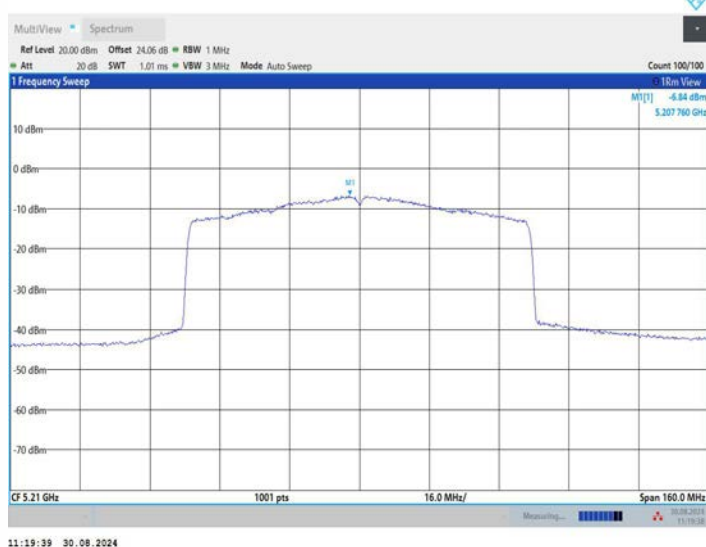
11BE40MIMO_Ant3_5795



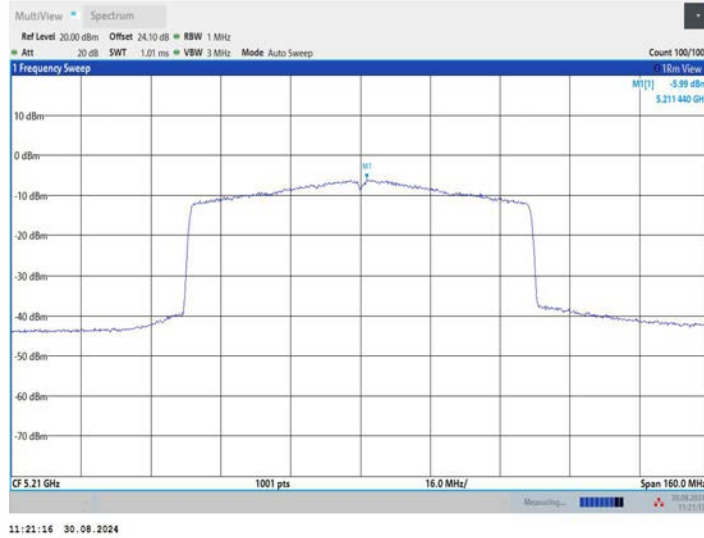
11BE80MIMO_Ant1_5210



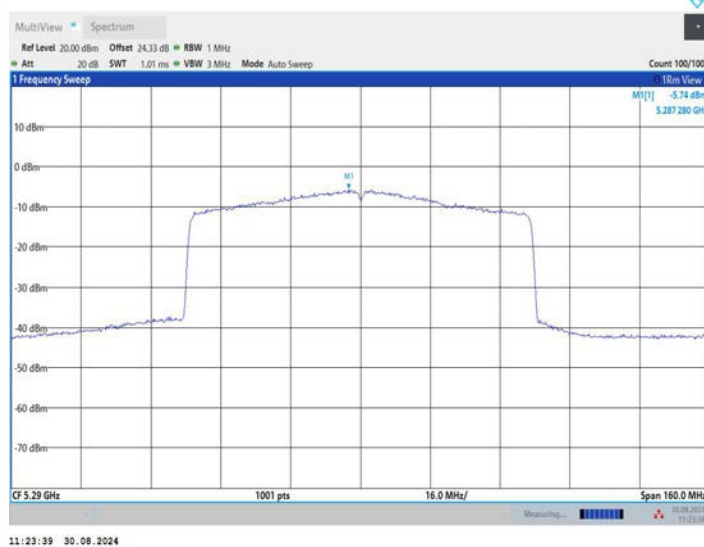
11BE80MIMO_Ant2_5210



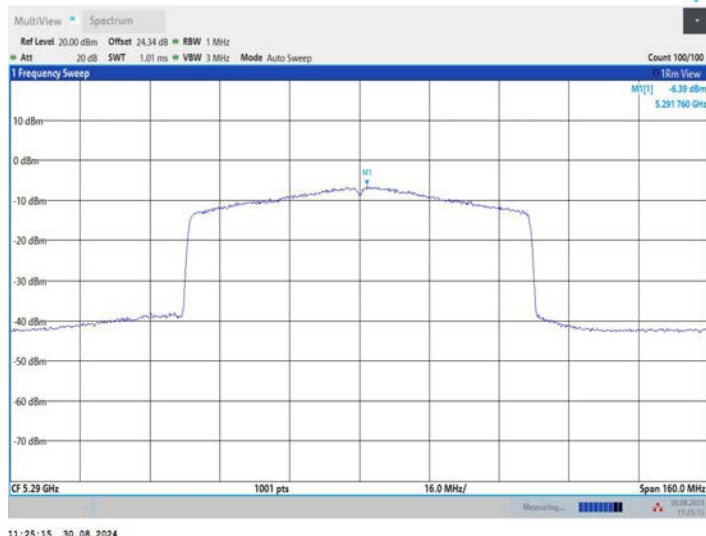
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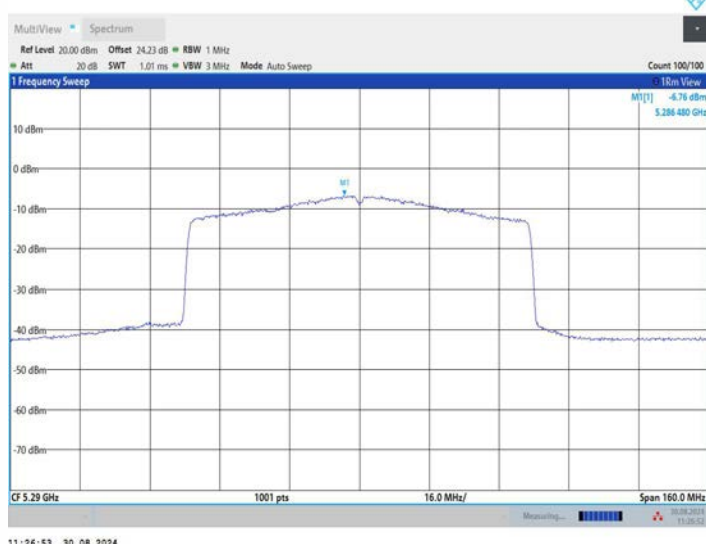
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11BE80MIMO_Ant2_5290



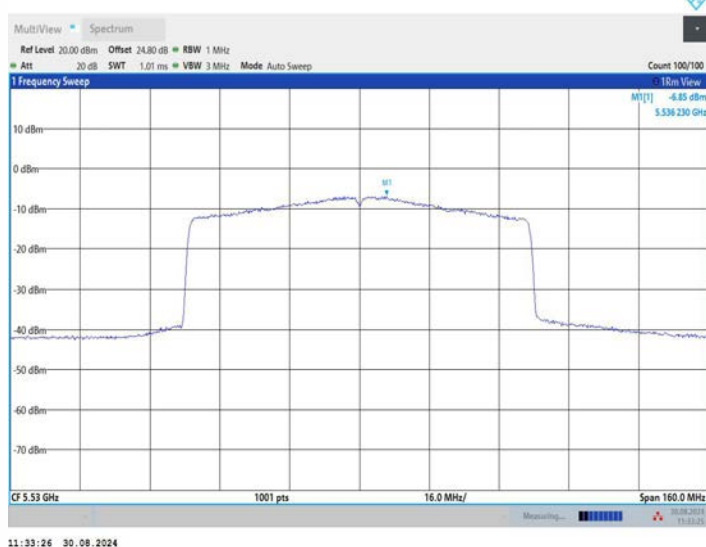
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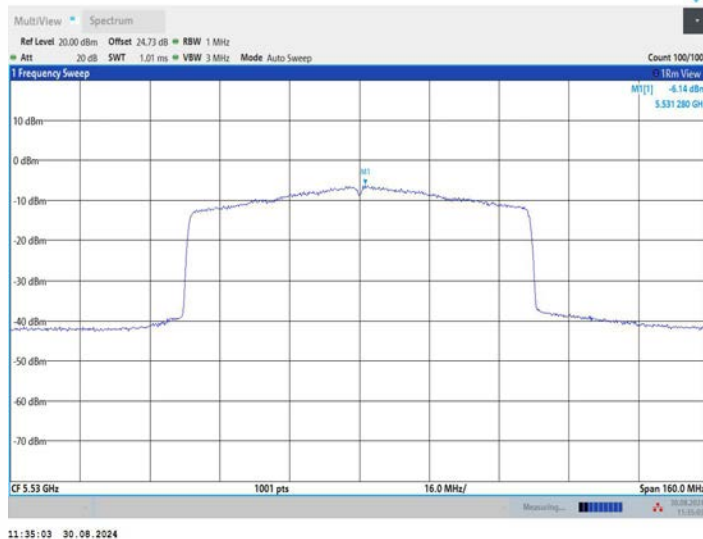
11BE80MIMO_Ant1_5530



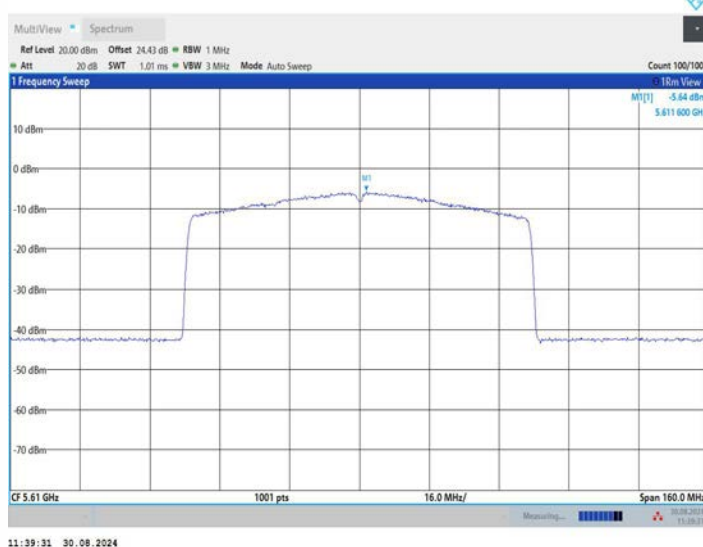
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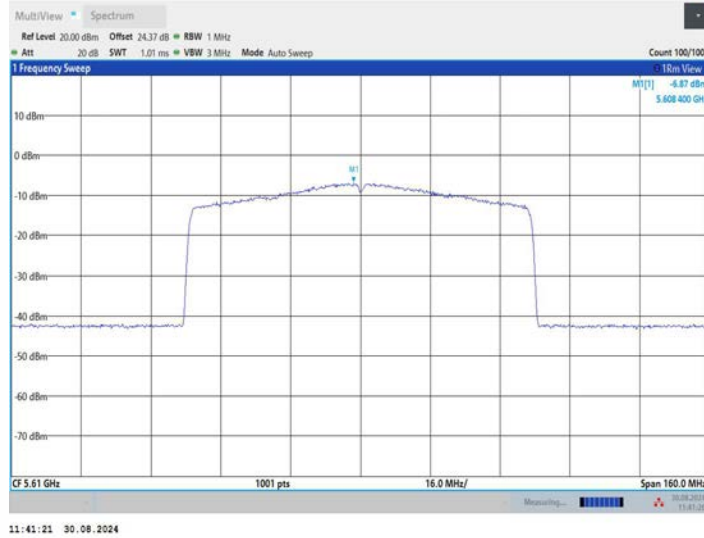
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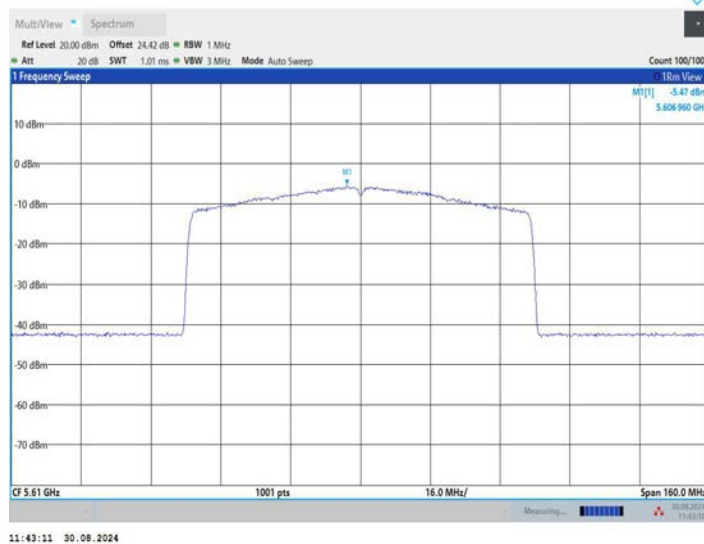
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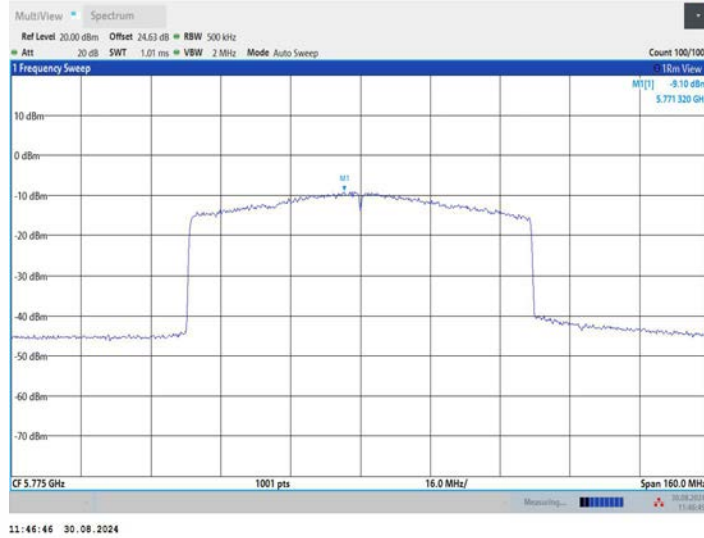
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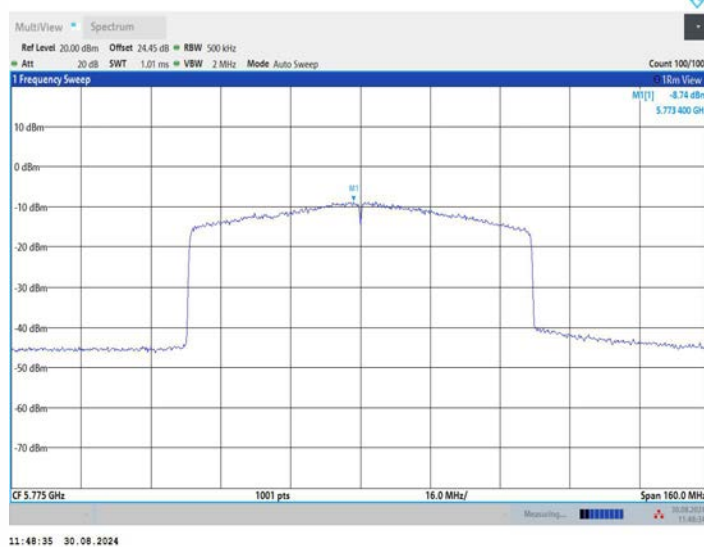
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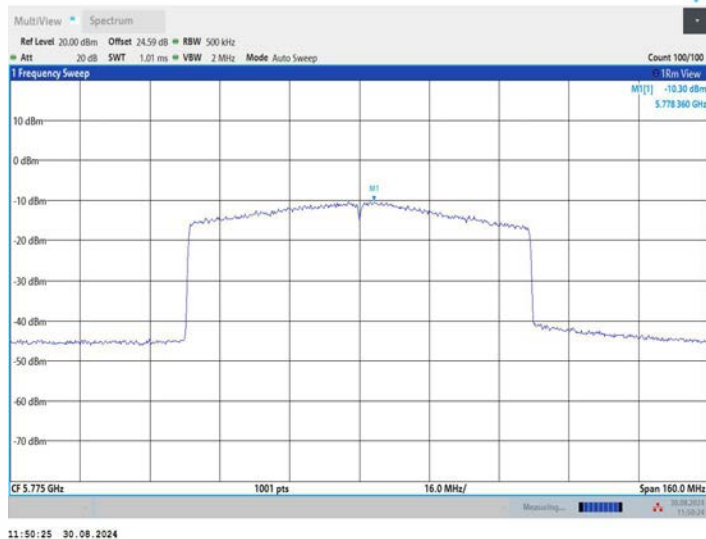
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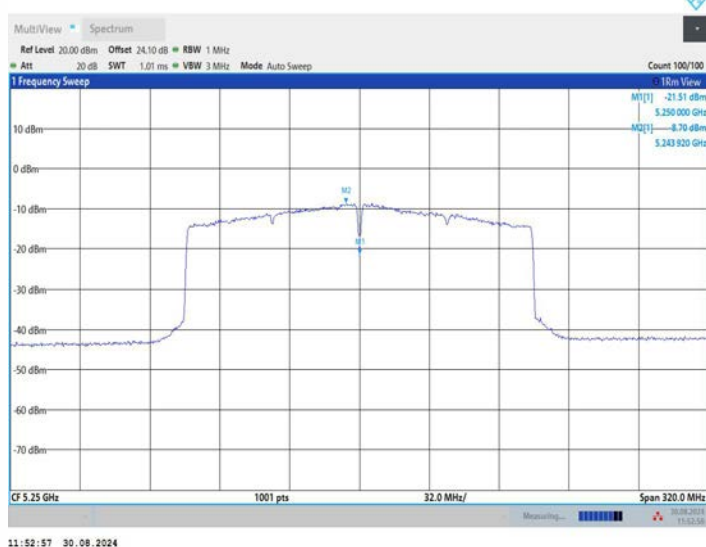
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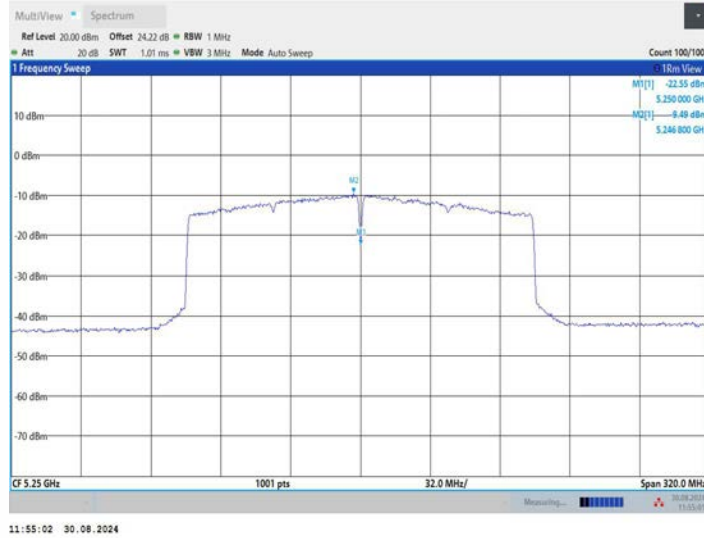
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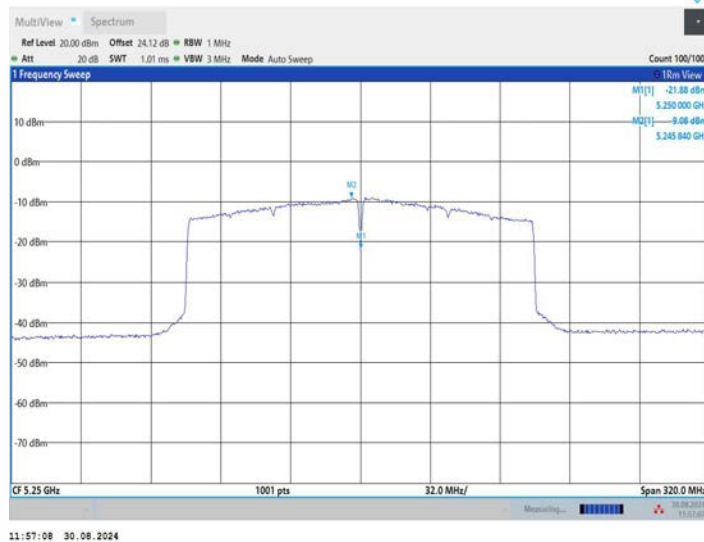
11BE160MIMO_Ant1_5250_UNII-1



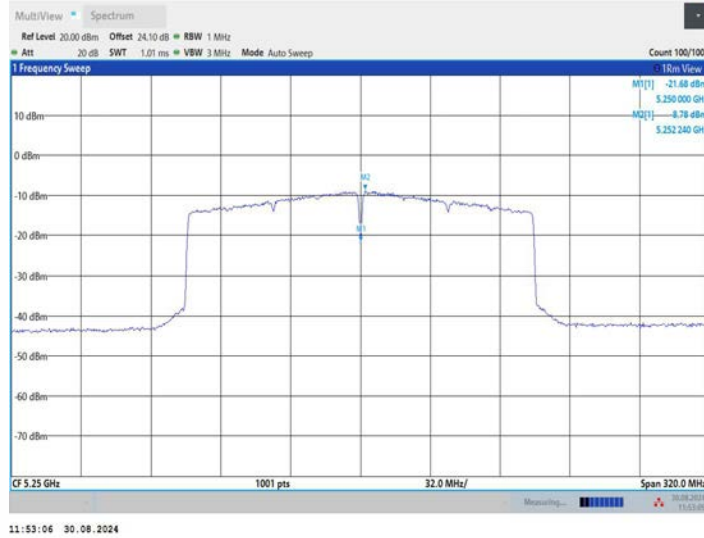
11BE160MIMO_Ant2_5250_UNII-1



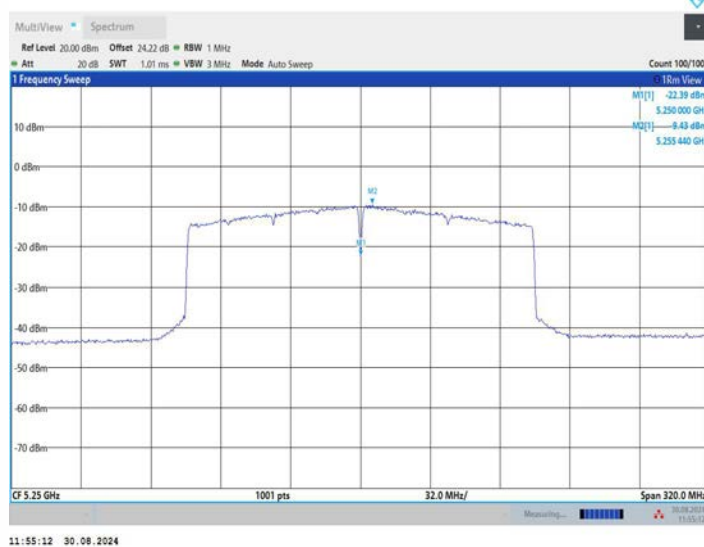
11BE160MIMO_Ant3_5250_UNII-1



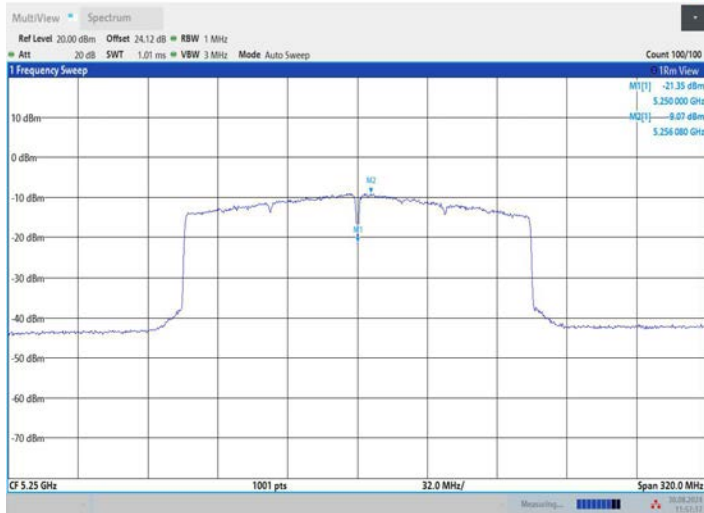
11BE160MIMO_Ant1_5250_UNII-2A



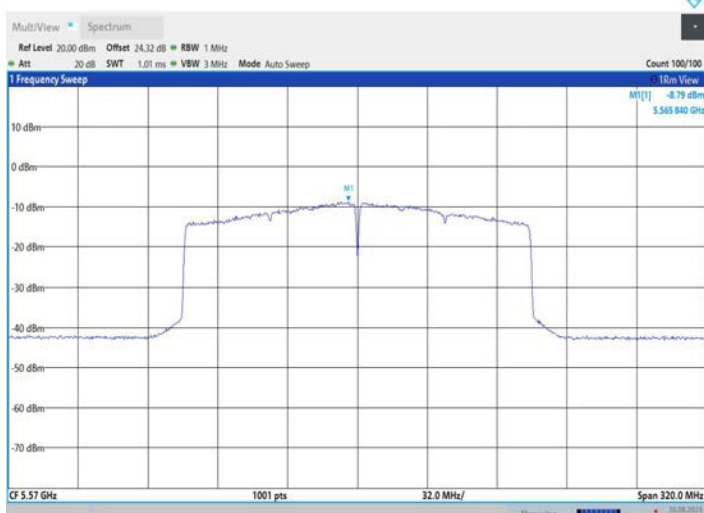
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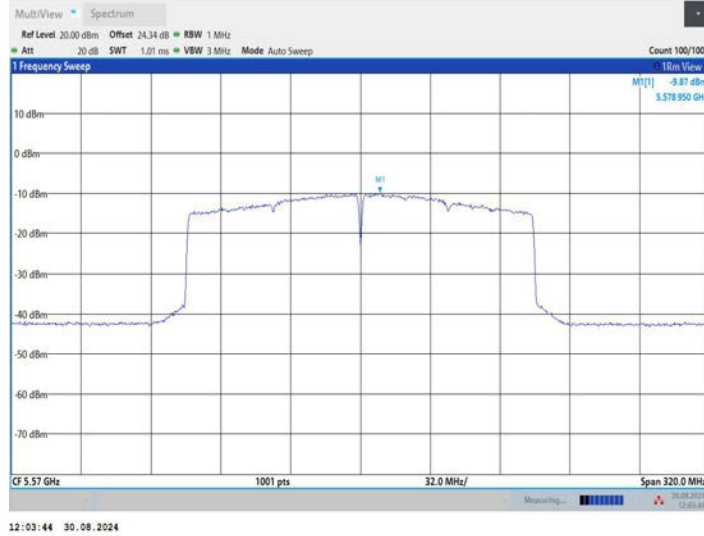
11BE160MIMO_Ant3_5250_UNII-2A



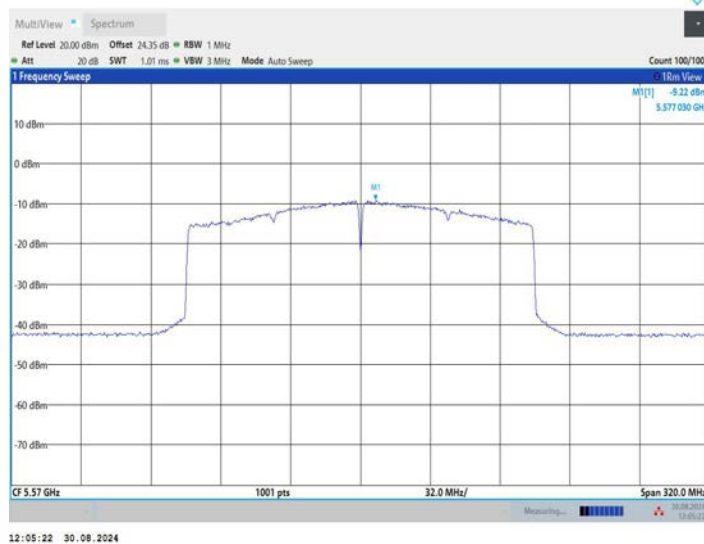
11BE160MIMO_Ant1_5570



11BE160MIMO_Ant2_5570



11BE160MIMO_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 $VBW \leq RBW/100$ (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

Temperature : 25°C
Humidity : 60 %

ATM Pressure:: 1011 mbar
Test Engineer: CZF

- ☒ For Undesirable radiated Spurious Emission in U-NII – 1
 - ☒ Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)
- All of the configurations or modes are tested, the data of the worst case is recorded in the report.
Highest gain of each antenna and highest output power is ANT2 and MIMO as below:

ANT2:

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)
8738.8694	V	64.68	-30.55	-27	3.55
9895.4477	V	66.4	-28.83	-27	1.83
16282.1411	V	67.67	-27.56	-27	0.56
8696.3482	H	65.13	-30.10	-27	3.10
12276.6383	H	66.97	-28.26	-27	1.26
17600.3002	H	67.72	-27.51	-27	0.51

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)
8968.4842	V	65.54	-29.69	-27	2.69
11868.4342	V	66.83	-28.40	-27	1.40
17608.8044	V	67.98	-27.25	-27	0.25
8687.8439	H	65.26	-29.97	-27	2.97
11987.4937	H	65.61	-29.62	-27	2.62
17115.5578	H	67.09	-28.14	-27	1.14

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)
8662.3312	V	64.76	-30.47	-27	3.47
11468.7344	V	65.22	-30.01	-27	3.01
17846.9235	V	67.5	-27.73	-27	0.73
9725.3627	H	66.3	-28.93	-27	1.93
12684.8424	H	67.09	-28.14	-27	1.14
17566.2831	H	67.96	-27.27	-27	0.27

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)
8737.4794	V	64.55	-30.68	-27	3.68
9894.0577	V	66.24	-28.99	-27	1.99
16283.4211	V	67.64	-27.59	-27	0.59
8708.0382	H	65.05	-30.18	-27	3.18
12288.3283	H	66.76	-28.47	-27	1.47
17611.9902	H	67.56	-27.67	-27	0.67

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)
8967.0942	V	65.41	-29.82	-27	2.82
11867.0442	V	66.67	-28.56	-27	1.56
17610.0844	V	67.95	-27.28	-27	0.28
8699.5339	H	65.18	-30.05	-27	3.05
11999.1837	H	65.4	-29.83	-27	2.83
17127.2478	H	66.93	-28.30	-27	1.30

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)
8660.9412	V	64.63	-30.60	-27	3.60
11467.3444	V	65.06	-30.17	-27	3.17
17848.2035	V	67.47	-27.76	-27	0.76
9737.0527	H	66.22	-29.01	-27	2.01
12696.5324	H	66.88	-28.35	-27	1.35
17577.9731	H	67.8	-27.43	-27	0.43

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

ANT2:

Test mode: 802.11n(20)		Frequency(MHz): 5180			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8738.8694	V	64.68	74.00	9.32	Peak
9895.4477	V	66.40	74.00	7.60	Peak
16282.1411	V	67.67	74.00	6.33	Peak
8738.8694	V	46.68	54.00	7.32	Avg
9895.4477	V	44.62	54.00	9.38	Avg
16282.1411	V	46.96	54.00	7.04	Avg
8696.3482	H	65.13	74.00	8.87	Peak
12276.6383	H	66.97	74.00	7.03	Peak
17600.3002	H	67.72	74.00	6.28	Peak
8696.3482	H	47.25	54.00	6.75	Avg
12276.6383	H	46.71	54.00	7.29	Avg
17600.3002	H	47.16	54.00	6.84	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8968.4842	V	65.54	74.00	8.46	Peak
11868.4342	V	66.83	74.00	7.17	Peak
17608.8044	V	67.98	74.00	6.02	Peak
8968.4842	V	47.87	54.00	6.13	Avg
11868.4342	V	45.79	54.00	8.21	Avg
17608.8044	V	47.11	54.00	6.89	Avg
8687.8439	H	65.26	74.00	8.74	Peak
11987.4937	H	65.61	74.00	8.39	Peak
17115.5578	H	67.09	74.00	6.91	Peak
8687.8439	H	47.00	54.00	7.00	Avg
11987.4937	H	46.03	54.00	7.97	Avg
17115.5578	H	46.11	54.00	7.89	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8662.3312	V	64.76	74.00	9.24	Peak
11468.7344	V	65.22	74.00	8.78	Peak
17846.9235	V	67.50	74.00	6.50	Peak
8662.3312	V	46.16	54.00	7.84	Avg
11468.7344	V	46.21	54.00	7.79	Avg
17846.9235	V	45.37	54.00	8.63	Avg
9725.3627	H	66.30	74.00	7.70	Peak
12684.8424	H	67.09	74.00	6.91	Peak
17566.2831	H	67.96	74.00	6.04	Peak
9725.3627	H	47.89	54.00	6.11	Avg
12684.8424	H	47.45	54.00	6.55	Avg
17566.2831	H	46.94	54.00	7.06	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
8737.4794	V	64.55	74.00	9.45	Peak
9894.0577	V	66.24	74.00	7.76	Peak
16283.4211	V	67.64	74.00	6.36	Peak
8740.1494	V	46.66	54.00	7.34	Avg
9893.1977	V	44.36	54.00	9.64	Avg
16279.8911	V	46.77	54.00	7.23	Avg
8708.0382	H	65.05	74.00	8.95	Peak
12288.3283	H	66.76	74.00	7.24	Peak
17611.9902	H	67.56	74.00	6.44	Peak
8708.0382	H	47.11	54.00	6.89	Avg
12273.3283	H	46.53	54.00	7.47	Avg
17596.9902	H	47.03	54.00	6.97	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5200			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8967.0942	V	65.41	74.00	8.59	Peak
11867.0442	V	66.67	74.00	7.33	Peak
17610.0844	V	67.95	74.00	6.05	Peak
8969.7642	V	47.85	54.00	6.15	Avg
11866.1842	V	45.53	54.00	8.47	Avg
17606.5544	V	46.92	54.00	7.08	Avg
8699.5339	H	65.18	74.00	8.82	Peak
11999.1837	H	65.40	74.00	8.60	Peak
17127.2478	H	66.93	74.00	7.07	Peak
8699.5339	H	46.86	54.00	7.14	Avg
11984.1837	H	45.85	54.00	8.15	Avg
17112.2478	H	45.98	54.00	8.02	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5240			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8660.9412	V	64.63	74.00	9.37	Peak
11467.3444	V	65.06	74.00	8.94	Peak
17848.2035	V	67.47	74.00	6.53	Peak
8663.6112	V	46.14	54.00	7.86	Avg
11466.4844	V	45.95	54.00	8.05	Avg
17844.6735	V	45.18	54.00	8.82	Avg
9737.0527	H	66.22	74.00	7.78	Peak
12696.5324	H	66.88	74.00	7.12	Peak
17577.9731	H	67.80	74.00	6.20	Peak
9737.0527	H	47.75	54.00	6.25	Avg
12681.5324	H	47.27	54.00	6.73	Avg
17562.9731	H	46.81	54.00	7.19	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: 802.11n(20) Frequency(MHz): 5180

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5108.48	V	55.76	-39.47	-27	Pass
5136.75	H	55.79	-39.44	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5358.33	V	56.4	-38.83	-27	Pass
5353.32	H	56.49	-38.74	-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: 802.11n(20) Frequency(MHz): 5180

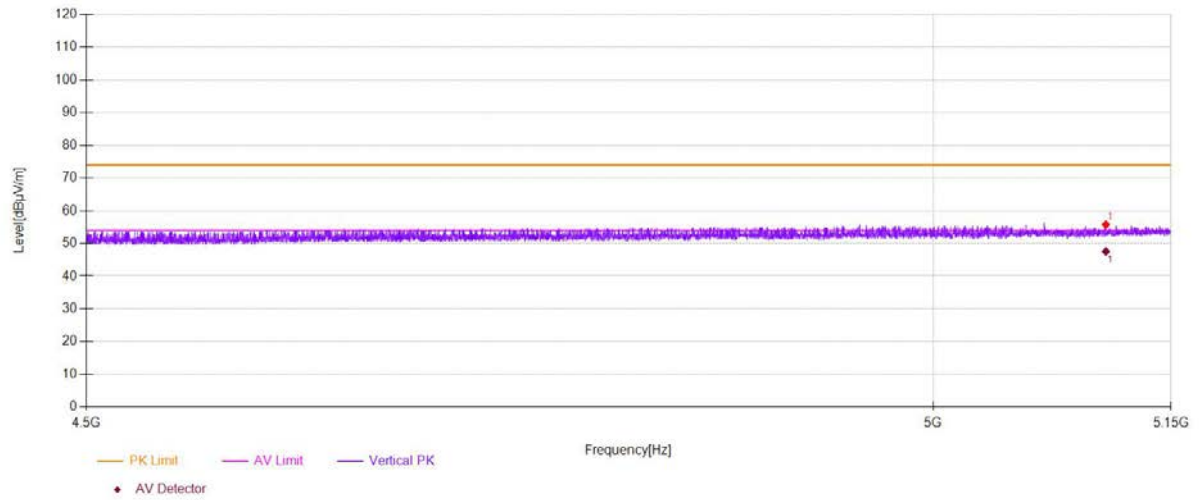
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5108.48	V	55.76	74.00	18.24	Peak
5108.48	V	47.56	54.00	6.44	Avg
5136.75	H	55.79	74.00	18.21	Peak
5136.75	H	47.37	54.00	6.63	Avg

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

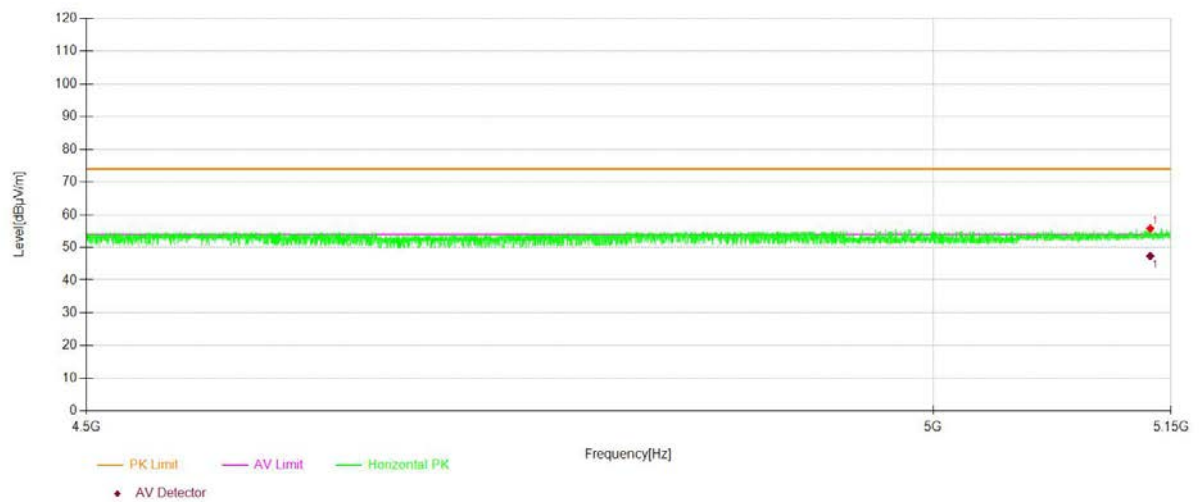
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5358.33	V	56.40	74.00	17.60	Peak
5358.33	V	47.82	54.00	6.18	Avg
5353.32	H	56.49	74.00	17.51	Peak
5353.32	H	47.43	54.00	6.57	Avg

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.

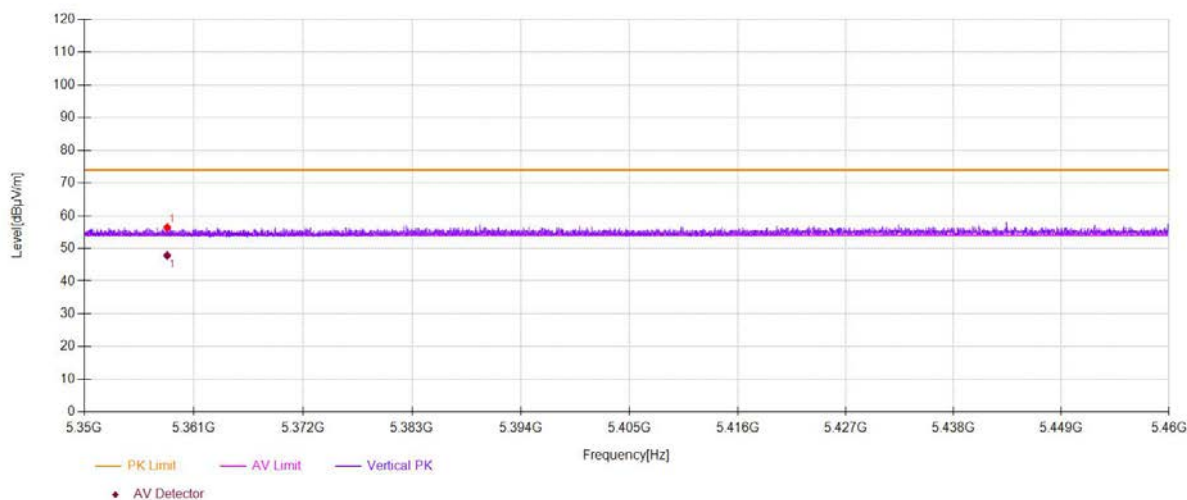
U-NII - 1				
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)			
	☐ 802.11a	☒ 802.11n(HT20)	☐ 802.11n(HT40)	
	☒ 5180	☐ 5200	☐ 5240	Ant.Pol V



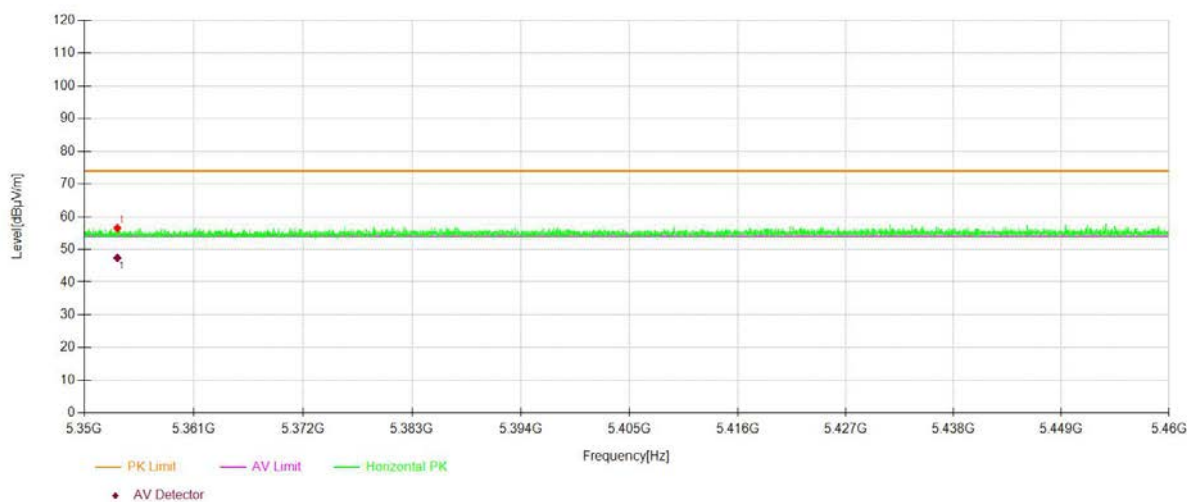
U-NII - 1				
Test Model	Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)			
	☐ 802.11a	☒ 802.11n(HT20)	☐ 802.11n(HT40)	
	☒ 5180	☐ 5200	☐ 5240	Ant.Pol H



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



- ☒ 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 ANT2 and MIMO as below:

ANT2:

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)
9011.0055	V	65.22	-30.01	-27	3.01
10516.2581	V	66.82	-28.41	-27	1.41
17736.3682	V	67.85	-27.38	-27	0.38
8704.8524	H	66.07	-29.16	-27	2.16
11732.3662	H	67.61	-27.62	-27	0.62
17855.4277	H	67.9	-27.33	-27	0.33

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)
8441.2206	V	64.39	-30.84	-27	3.84
11094.5473	V	66.28	-28.95	-27	1.95
16656.3282	V	67.91	-27.32	-27	0.32
8670.8354	H	66.06	-29.17	-27	2.17
10439.7199	H	67.4	-27.83	-27	0.83
17098.5493	H	67.88	-27.35	-27	0.35

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)
9028.0140	V	65.85	-29.38	-27	2.38
11468.7344	V	65.56	-29.67	-27	2.67
16044.0220	V	66.48	-28.75	-27	1.75
9852.9265	H	66.28	-28.95	-27	1.95
11791.8959	H	66.4	-28.83	-27	1.83
15924.9625	H	67.23	-28.00	-27	1.00

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)
9009.6155	V	65.09	-30.14	-27	3.14
10514.8681	V	66.66	-28.57	-27	1.57
17737.6482	V	67.82	-27.41	-27	0.41
8716.5424	H	65.99	-29.24	-27	2.24
11744.0562	H	67.4	-27.83	-27	0.83
17867.1177	H	67.74	-27.49	-27	0.49

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)
8439.8306	V	64.26	-30.97	-27	3.97
11093.1573	V	66.12	-29.11	-27	2.11
16657.6082	V	67.88	-27.35	-27	0.35
8682.5254	H	65.98	-29.25	-27	2.25
10451.4099	H	67.19	-28.04	-27	1.04
17110.2393	H	67.72	-27.51	-27	0.51

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)
9026.6240	V	65.72	-29.51	-27	2.51
11467.3444	V	65.4	-29.83	-27	2.83
16045.3020	V	66.45	-28.78	-27	1.78
9864.6165	H	66.2	-29.03	-27	2.03
11803.5859	H	66.19	-29.04	-27	2.04
15936.6525	H	67.07	-28.16	-27	1.16

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

ANT2:

Test mode: 802.11n(20)		Frequency(MHz): 5260			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9011.0055	V	65.22	74.00	8.78	Peak
10516.2581	V	66.82	74.00	7.18	Peak
17736.3682	V	67.85	74.00	6.15	Peak
9011.0055	V	47.41	54.00	6.59	Avg
10516.2581	V	45.56	54.00	8.44	Avg
17736.3682	V	47.46	54.00	6.54	Avg
8704.8524	H	66.07	74.00	7.93	Peak
11732.3662	H	67.61	74.00	6.39	Peak
17855.4277	H	67.90	74.00	6.10	Peak
8704.8524	H	47.34	54.00	6.66	Avg
11732.3662	H	45.71	54.00	8.29	Avg
17855.4277	H	47.08	54.00	6.92	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8441.2206	V	64.39	74.00	9.61	Peak
11094.5473	V	66.28	74.00	7.72	Peak
16656.3282	V	67.91	74.00	6.09	Peak
8441.2206	V	44.78	54.00	9.22	Avg
11094.5473	V	46.38	54.00	7.62	Avg
16656.3282	V	43.48	54.00	10.52	Avg
8670.8354	H	66.06	74.00	7.94	Peak
10439.7199	H	67.40	74.00	6.60	Peak
17098.5493	H	67.88	74.00	6.12	Peak
8670.8354	H	46.72	54.00	7.28	Avg
10439.7199	H	44.86	54.00	9.14	Avg
17098.5493	H	45.20	54.00	8.80	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9028.014	V	65.85	74.00	8.15	Peak
11468.7344	V	65.56	74.00	8.44	Peak
16044.022	V	66.48	74.00	7.52	Peak
9028.014	V	48.00	54.00	6.00	Avg
11468.7344	V	46.36	54.00	7.64	Avg
16044.022	V	45.08	54.00	8.92	Avg
9852.9265	H	66.28	74.00	7.72	Peak
11791.8959	H	66.40	74.00	7.60	Peak
15924.9625	H	67.23	74.00	6.77	Peak
9852.9265	H	47.54	54.00	6.46	Avg
11791.8959	H	45.29	54.00	8.71	Avg
15924.9625	H	46.47	54.00	7.53	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
9009.6155	V	65.09	74.00	8.91	Peak
10514.8681	V	66.66	74.00	7.34	Peak
17737.6482	V	67.82	74.00	6.18	Peak
9012.2855	V	47.39	54.00	6.61	Avg
10514.0081	V	45.30	54.00	8.70	Avg
17734.1182	V	47.27	54.00	6.73	Avg
8716.5424	H	65.99	74.00	8.01	Peak
11744.0562	H	67.40	74.00	6.60	Peak
17867.1177	H	67.74	74.00	6.26	Peak
8716.5424	H	47.20	54.00	6.80	Avg
11729.0562	H	45.53	54.00	8.47	Avg
17852.1177	H	46.95	54.00	7.05	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5280			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8439.8306	V	64.26	74.00	9.74	Peak
11093.1573	V	66.12	74.00	7.88	Peak
16657.6082	V	67.88	74.00	6.12	Peak
8442.5006	V	44.76	54.00	9.24	Avg
11092.2973	V	46.12	54.00	7.88	Avg
16654.0782	V	43.29	54.00	10.71	Avg
8682.5254	H	65.98	74.00	8.02	Peak
10451.4099	H	67.19	74.00	6.81	Peak
17110.2393	H	67.72	74.00	6.28	Peak
8682.5254	H	46.58	54.00	7.42	Avg
10436.4099	H	44.68	54.00	9.32	Avg
17095.2393	H	45.07	54.00	8.93	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5320			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
9026.6240	V	65.72	74.00	8.28	Peak
11467.3444	V	65.40	74.00	8.60	Peak
16045.3020	V	66.45	74.00	7.55	Peak
9029.2940	V	47.98	54.00	6.02	Avg
11466.4844	V	46.10	54.00	7.90	Avg
16041.7720	V	44.89	54.00	9.11	Avg
9864.6165	H	66.20	74.00	7.80	Peak
11803.5859	H	66.19	74.00	7.81	Peak
15936.6525	H	67.07	74.00	6.93	Peak
9864.6165	H	47.40	54.00	6.60	Avg
11788.5859	H	45.11	54.00	8.89	Avg
15921.6525	H	46.34	54.00	7.66	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: 802.11n(20) Frequency(MHz): 5260

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5083.05	V	65.28	-29.95	-27	Pass
5139.68	H	66.01	-29.22	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5360.49	V	66.64	-28.59	-27	Pass
5356.24	H	66.48	-28.75	-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: 802.11n(20) Frequency(MHz): 5260

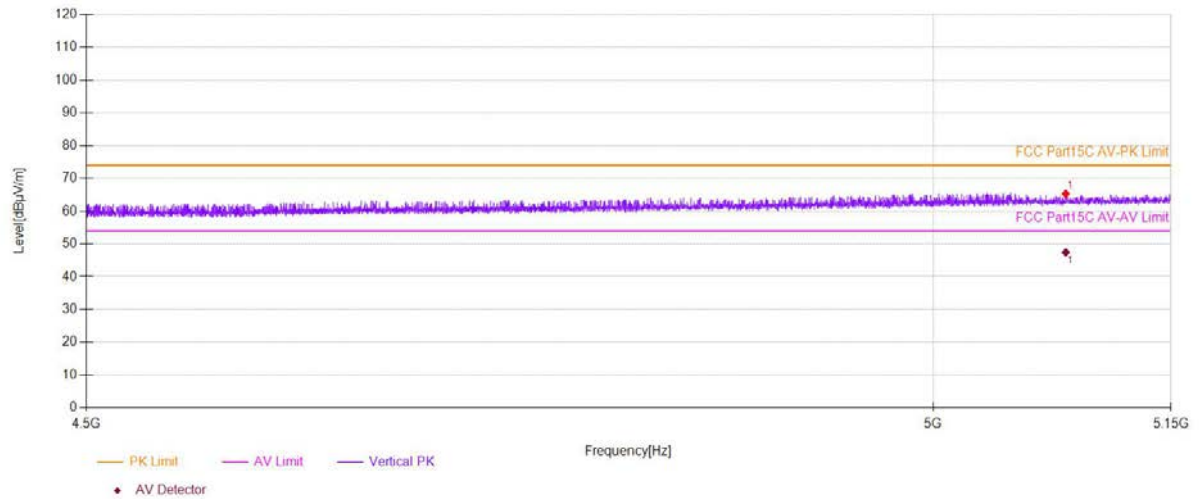
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5083.05	V	65.28	74.00	8.72	Peak
5083.05	V	47.44	54.00	6.56	Avg
5139.68	H	66.01	74.00	7.99	Peak
5139.68	H	46.91	54.00	7.09	Avg

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

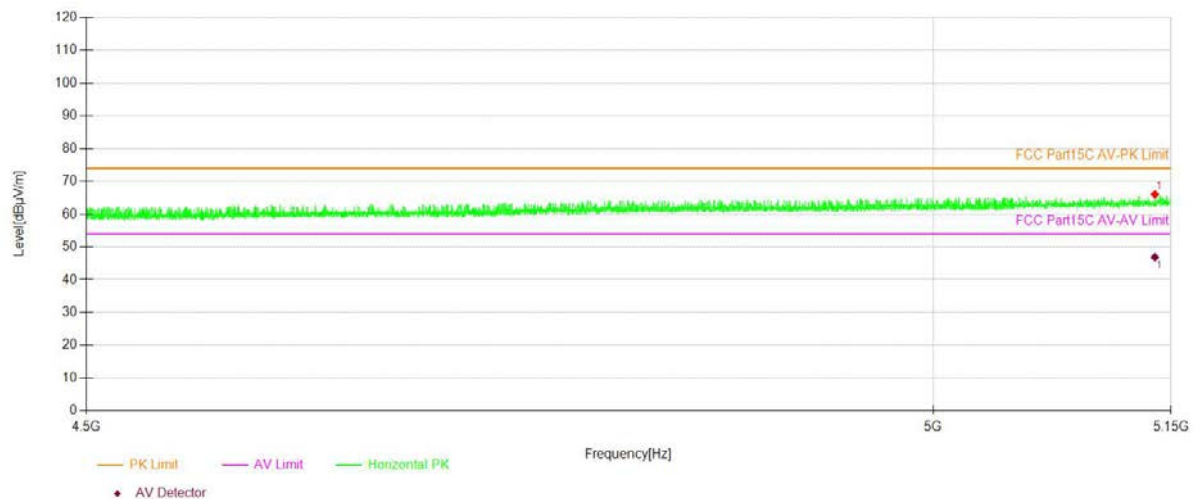
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5360.49	V	66.64	74.00	7.36	Peak
5360.49	V	47.65	54.00	6.35	Avg
5356.24	H	66.48	74.00	7.52	Peak
5356.24	H	47.44	54.00	6.56	Avg

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.

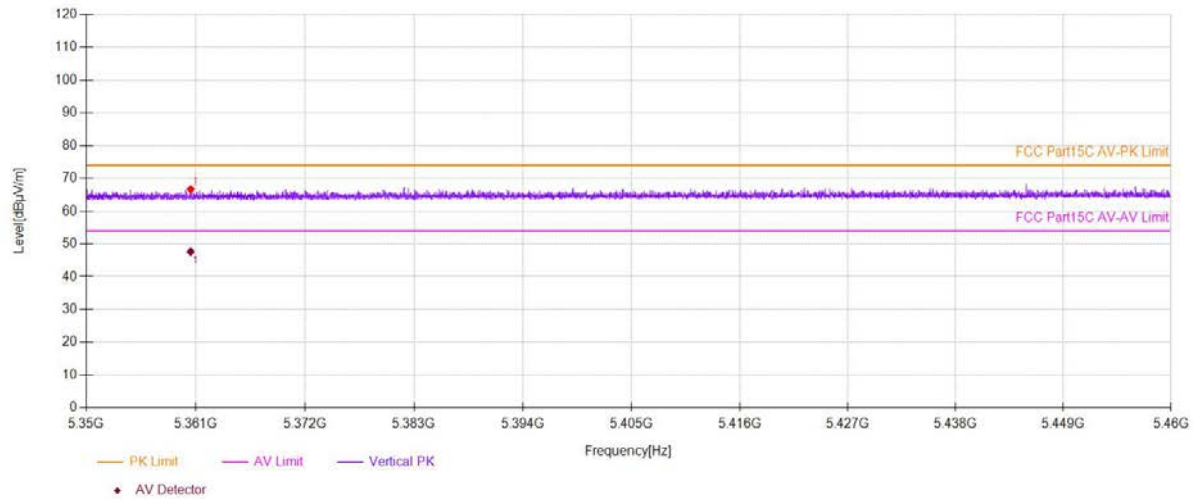
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11 ac (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol V



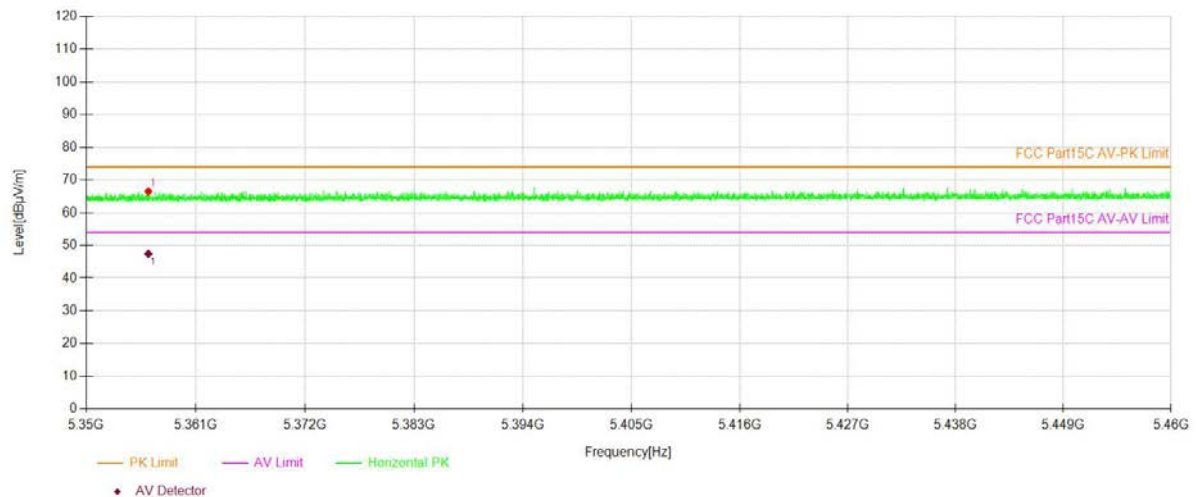
Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11 ac (VHT20)
☒ 5260 ☐ 5300 ☐ 5320 Ant.Pol H



Test Model U-NII -2A
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 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



- ☒ 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 ANT2 and MIMO as below:

ANT2:

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)
8696.3482	V	65.62	-29.61	-27	2.61
11596.2981	V	67.09	-28.14	-27	1.14
16911.4557	V	67.66	-27.57	-27	0.57
8704.8524	H	66.28	-28.95	-27	1.95
10524.7624	H	67.05	-28.18	-27	1.18
14598.2992	H	67.92	-27.31	-27	0.31

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)
8007.5038	V	63.75	-31.48	-27	4.48
10966.9835	V	67.34	-27.89	-27	0.89
17498.2491	V	67.67	-27.56	-27	0.56
9019.5098	H	64.66	-30.57	-27	3.57
11757.8789	H	66.54	-28.69	-27	1.69
17889.4447	H	67.36	-27.87	-27	0.87

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)
8696.3482	V	65.56	-29.67	-27	2.67
11426.2131	V	67.6	-27.63	-27	0.63
17659.8299	V	67.56	-27.67	-27	0.67
9385.1926	H	65.97	-29.26	-27	2.26
12769.8849	H	66.86	-28.37	-27	1.37
17583.2916	H	67.83	-27.40	-27	0.40

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)
8694.9582	V	65.49	-29.74	-27	2.74
11594.9081	V	66.93	-28.30	-27	1.30
16912.7357	V	67.63	-27.60	-27	0.60
8716.5424	H	66.2	-29.03	-27	2.03
10536.4524	H	66.84	-28.39	-27	1.39
14609.9892	H	67.76	-27.47	-27	0.47

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)
8006.1138	V	63.62	-31.61	-27	4.61
10965.5935	V	67.18	-28.05	-27	1.05
17499.5291	V	67.64	-27.59	-27	0.59
9031.1998	H	64.58	-30.65	-27	3.65
11769.5689	H	66.33	-28.90	-27	1.90
17901.1347	H	67.2	-28.03	-27	1.03

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)
8694.9582	V	65.43	-29.80	-27	2.80
11424.8231	V	67.44	-27.79	-27	0.79
17661.1099	V	67.53	-27.70	-27	0.70
9396.8826	H	65.89	-29.34	-27	2.34
12781.5749	H	66.65	-28.58	-27	1.58
17594.9816	H	67.67	-27.56	-27	0.56

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

ANT2:

Test mode: 802.11n(20)		Frequency(MHz): 5500			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8696.3482	V	65.62	74.00	8.38	Peak
11596.2981	V	67.09	74.00	6.91	Peak
16911.4557	V	67.66	74.00	6.34	Peak
8696.3482	V	47.54	54.00	6.46	Avg
11596.2981	V	45.61	54.00	8.39	Avg
16911.4557	V	44.21	54.00	9.79	Avg
8704.8524	H	66.28	74.00	7.72	Peak
10524.7624	H	67.05	74.00	6.95	Peak
14598.2992	H	67.92	74.00	6.08	Peak
8704.8524	H	47.52	54.00	6.48	Avg
10524.7624	H	45.65	54.00	8.35	Avg
14598.2992	H	46.15	54.00	7.85	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8007.5038	V	63.75	74.00	10.25	Peak
10966.9835	V	67.34	74.00	6.66	Peak
17498.2491	V	67.67	74.00	6.33	Peak
8007.5038	V	43.83	54.00	10.17	Avg
10966.9835	V	46.94	54.00	7.06	Avg
17498.2491	V	45.45	54.00	8.55	Avg
9019.5098	H	64.66	74.00	9.34	Peak
11757.8789	H	66.54	74.00	7.46	Peak
17889.4447	H	67.36	74.00	6.64	Peak
9019.5098	H	47.99	54.00	6.01	Avg
11757.8789	H	45.44	54.00	8.56	Avg
17889.4447	H	46.88	54.00	7.12	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8696.3482	V	65.56	74.00	8.44	Peak
11426.2131	V	67.60	74.00	6.40	Peak
17659.8299	V	67.56	74.00	6.44	Peak
8696.3482	V	47.54	54.00	6.46	Avg
11426.2131	V	46.37	54.00	7.63	Avg
17659.8299	V	47.26	54.00	6.74	Avg
9385.1926	H	65.97	74.00	8.03	Peak
12769.8849	H	66.86	74.00	7.14	Peak
17583.2916	H	67.83	74.00	6.17	Peak
9385.1926	H	46.49	54.00	7.51	Avg
12769.8849	H	47.97	54.00	6.03	Avg
17583.2916	H	46.80	54.00	7.20	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
8694.9582	V	65.49	74.00	8.51	Peak
11594.9081	V	66.93	74.00	7.07	Peak
16912.7357	V	67.63	74.00	6.37	Peak
8697.6282	V	47.52	54.00	6.48	Avg
11594.0481	V	45.35	54.00	8.65	Avg
16909.2057	V	44.02	54.00	9.98	Avg
8716.5424	H	66.20	74.00	7.80	Peak
10536.4524	H	66.84	74.00	7.16	Peak
14609.9892	H	67.76	74.00	6.24	Peak
8716.5424	H	47.38	54.00	6.62	Avg
10521.4524	H	45.47	54.00	8.53	Avg
14594.9892	H	46.02	54.00	7.98	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5580			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8006.1138	V	63.62	74.00	10.38	Peak
10965.5935	V	67.18	74.00	6.82	Peak
17499.5291	V	67.64	74.00	6.36	Peak
8008.7838	V	43.81	54.00	10.19	Avg
10964.7335	V	46.68	54.00	7.32	Avg
17495.9991	V	45.26	54.00	8.74	Avg
9031.1998	H	64.58	74.00	9.42	Peak
11769.5689	H	66.33	74.00	7.67	Peak
17901.1347	H	67.20	74.00	6.80	Peak
9031.1998	H	47.85	54.00	6.15	Avg
11754.5689	H	45.26	54.00	8.74	Avg
17886.1347	H	46.75	54.00	7.25	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5700			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8694.9582	V	65.43	74.00	8.57	Peak
11424.8231	V	67.44	74.00	6.56	Peak
17661.1099	V	67.53	74.00	6.47	Peak
8697.6282	V	47.52	54.00	6.48	Avg
11423.9631	V	46.11	54.00	7.89	Avg
17657.5799	V	47.07	54.00	6.93	Avg
9396.8826	H	65.89	74.00	8.11	Peak
12781.5749	H	66.65	74.00	7.35	Peak
17594.9816	H	67.67	74.00	6.33	Peak
9396.8826	H	46.35	54.00	7.65	Avg
12766.5749	H	47.79	54.00	6.21	Avg
17579.9816	H	46.67	54.00	7.33	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: 802.11n(20) Frequency(MHz): 5500

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5466.43	V	56.86	-38.37	-27	Pass
5468.65	H	57.23	-38.00	-27	Pass

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

Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5727.58	V	57.17	-38.06	-27	Pass
5727.41	H	57.76	-37.47	-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: 802.11n(20) Frequency(MHz): 5500

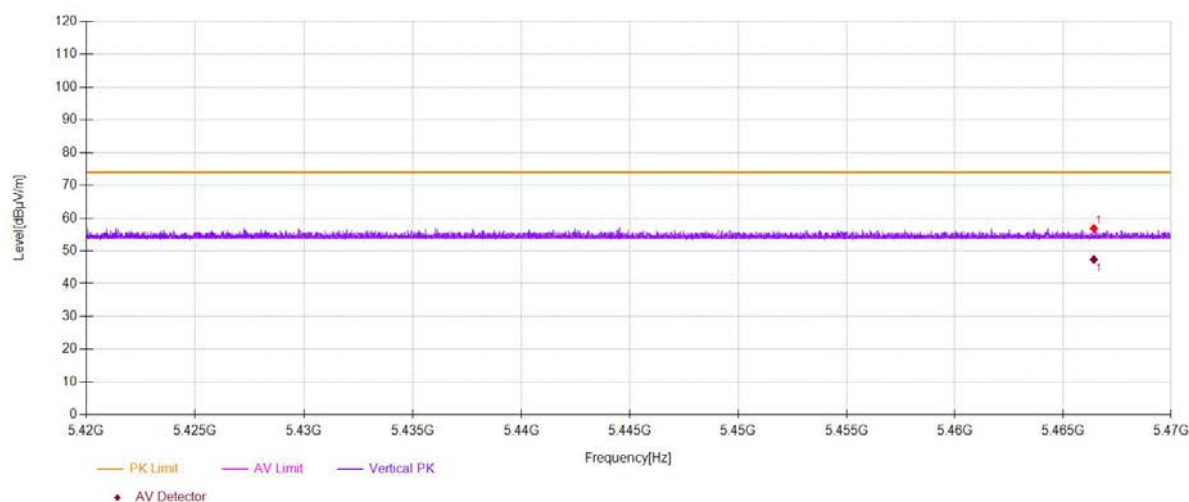
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5466.43	V	56.86	74.00	17.14	Peak
5466.43	V	47.39	54.00	6.61	Avg
5468.65	H	57.23	74.00	16.77	Peak
5468.65	H	46.92	54.00	7.08	Avg

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

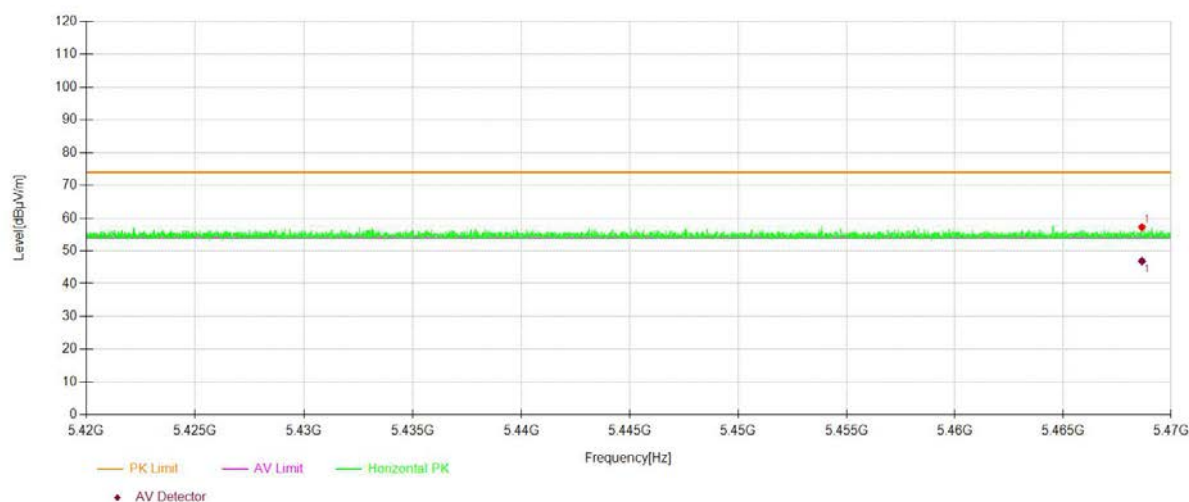
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
5727.58	V	57.17	74.00	16.83	Peak
5727.58	V	47.55	54.00	6.45	Avg
5727.41	H	57.76	74.00	16.24	Peak
5727.41	H	47.69	54.00	6.31	Avg

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

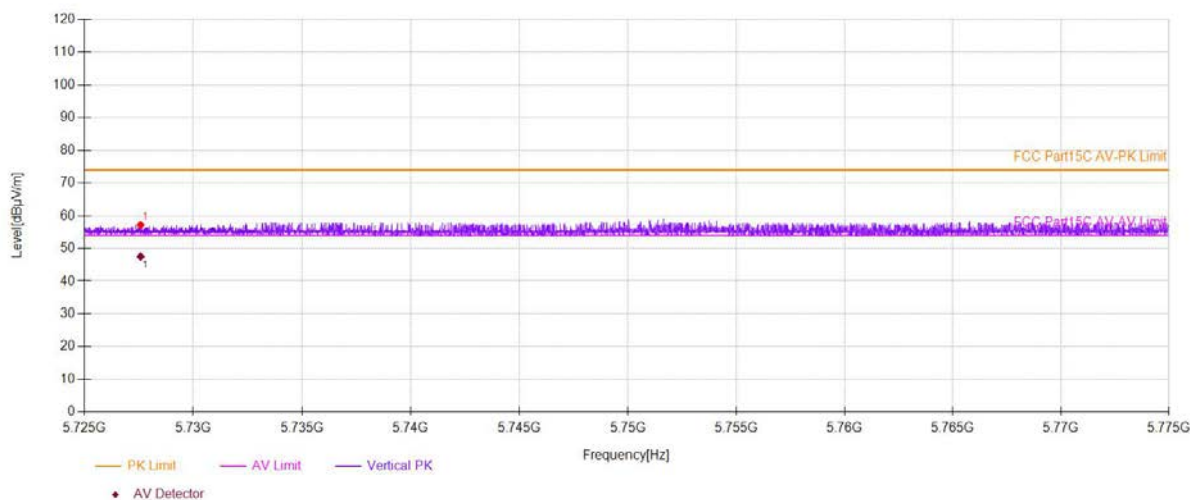
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11 ac (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol V



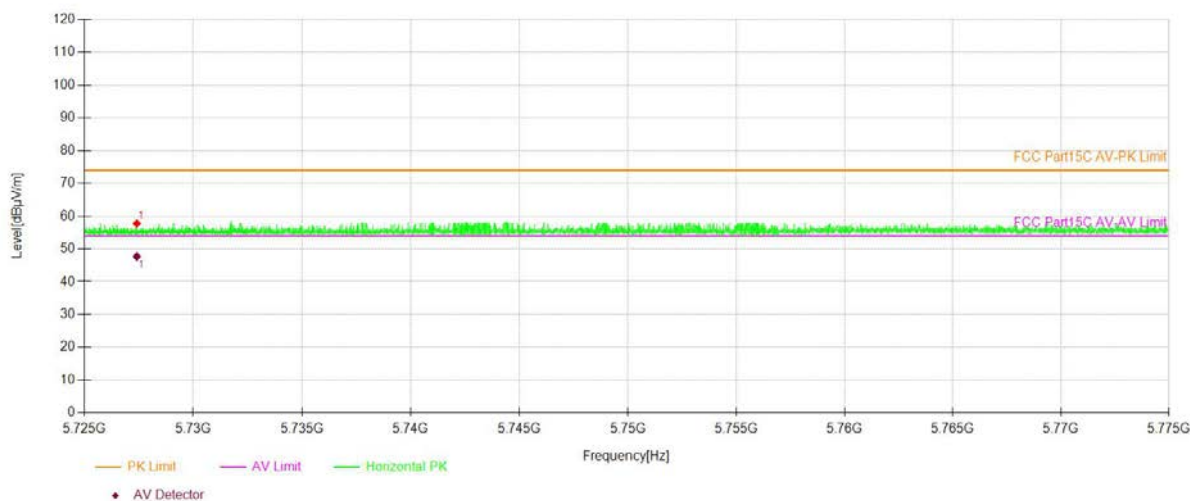
Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5100-5150MHz)
☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11 ac (VHT20)
☒ 5500 ☐ 5580 ☐ 5700 Ant.Pol H



Test Model U-NII -2C
Undesirable radiated Spurious Emission in Restricted Band (5350-5400MHz)
☐ 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



- ☒ 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 ANT2 and MIMO as below:

ANT2:

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)
8730.3652	V	64.91	-30.32	-27	3.32
11825.9130	V	66.4	-28.83	-27	1.83
15831.4157	V	67.03	-28.20	-27	1.20
8679.3397	H	65.37	-29.86	-27	2.86
11970.4852	H	67.27	-27.96	-27	0.96
17217.6088	H	67.75	-27.48	-27	0.48

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)
8679.3397	V	65.4	-29.83	-27	2.83
11052.0260	V	66.06	-29.17	-27	2.17
15295.6478	V	67.57	-27.66	-27	0.66
9657.3287	H	65.73	-29.50	-27	2.50
12208.6043	H	66.76	-28.47	-27	1.47
17005.0025	H	67.79	-27.44	-27	0.44

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)
8976.9885	V	65.27	-29.96	-27	2.96
11783.3917	V	66.92	-28.31	-27	1.31
17039.0195	V	67.89	-27.34	-27	0.34
8772.8864	H	65.73	-29.50	-27	2.50
11681.3407	H	66.69	-28.54	-27	1.54
16392.6963	H	67.48	-27.75	-27	0.75

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)
8728.9752	V	64.78	-30.45	-27	3.45
11824.5230	V	66.24	-28.99	-27	1.99
15832.6957	V	67	-28.23	-27	1.23
8691.0297	H	65.29	-29.94	-27	2.94
11982.1752	H	67.06	-28.17	-27	1.17
17229.2988	H	67.59	-27.64	-27	0.64

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)
8677.9497	V	65.27	-29.96	-27	2.96
11050.6360	V	65.9	-29.33	-27	2.33
15296.9278	V	67.54	-27.69	-27	0.69
9669.0187	H	65.65	-29.58	-27	2.58
12220.2943	H	66.55	-28.68	-27	1.68
17016.6925	H	67.63	-27.60	-27	0.60

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)
8975.5985	V	65.14	-30.09	-27	3.09
11782.0017	V	66.76	-28.47	-27	1.47
17040.2995	V	67.86	-27.37	-27	0.37
8784.5764	H	65.65	-29.58	-27	2.58
11693.0307	H	66.48	-28.75	-27	1.75
16404.3863	H	67.32	-27.91	-27	0.91

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

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

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

d is the measurement distance in 3 meters

ANT2:

Test mode: 802.11n(20)		Frequency(MHz): 5745			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8730.3652	V	64.91	74.00	9.09	Peak
11825.913	V	66.40	74.00	7.60	Peak
15831.4157	V	67.03	74.00	6.97	Peak
8730.3652	V	46.41	54.00	7.59	Avg
11825.913	V	46.11	54.00	7.89	Avg
15831.4157	V	45.69	54.00	8.31	Avg
8679.3397	H	65.37	74.00	8.63	Peak
11970.4852	H	67.27	74.00	6.73	Peak
17217.6088	H	67.75	74.00	6.25	Peak
8679.3397	H	46.77	54.00	7.23	Avg
11970.4852	H	45.72	54.00	8.28	Avg
17217.6088	H	46.11	54.00	7.89	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8679.3397	V	65.40	74.00	8.60	Peak
11052.026	V	66.06	74.00	7.94	Peak
15295.6478	V	67.57	74.00	6.43	Peak
8679.3397	V	46.67	54.00	7.33	Avg
11052.026	V	46.86	54.00	7.14	Avg
15295.6478	V	45.92	54.00	8.08	Avg
9657.3287	H	65.73	74.00	8.27	Peak
12208.6043	H	66.76	74.00	7.24	Peak
17005.0025	H	67.79	74.00	6.21	Peak
9657.3287	H	47.59	54.00	6.41	Avg
12208.6043	H	45.86	54.00	8.14	Avg
17005.0025	H	45.70	54.00	8.30	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8976.9885	V	65.27	74.00	8.73	Peak
11783.3917	V	66.92	74.00	7.08	Peak
17039.0195	V	67.89	74.00	6.11	Peak
8976.9885	V	47.10	54.00	6.90	Avg
11783.3917	V	45.47	54.00	8.53	Avg
17039.0195	V	45.66	54.00	8.34	Avg
8772.8864	H	65.73	74.00	8.27	Peak
11681.3407	H	66.69	74.00	7.31	Peak
16392.6963	H	67.48	74.00	6.52	Peak
8772.8864	H	45.91	54.00	8.09	Avg
11681.3407	H	46.02	54.00	7.98	Avg
16392.6963	H	44.22	54.00	9.78	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
8728.9752	V	64.78	74.00	9.22	Peak
11824.5230	V	66.24	74.00	7.76	Peak
15832.6957	V	67.00	74.00	7.00	Peak
8731.6452	V	46.39	54.00	7.61	Avg
11823.6630	V	45.85	54.00	8.15	Avg
15829.1657	V	45.50	54.00	8.50	Avg
8691.0297	H	65.29	74.00	8.71	Peak
11982.1752	H	67.06	74.00	6.94	Peak
17229.2988	H	67.59	74.00	6.41	Peak
8691.0297	H	46.63	54.00	7.37	Avg
11967.1752	H	45.54	54.00	8.46	Avg
17214.2988	H	45.98	54.00	8.02	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5785			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8677.9497	V	65.27	74.00	8.73	Peak
11050.6360	V	65.90	74.00	8.10	Peak
15296.9278	V	67.54	74.00	6.46	Peak
8680.6197	V	46.65	54.00	7.35	Avg
11049.7760	V	46.60	54.00	7.40	Avg
15293.3978	V	45.73	54.00	8.27	Avg
9669.0187	H	65.65	74.00	8.35	Peak
12220.2943	H	66.55	74.00	7.45	Peak
17016.6925	H	67.63	74.00	6.37	Peak
9669.0187	H	47.45	54.00	6.55	Avg
12205.2943	H	45.68	54.00	8.32	Avg
17001.6925	H	45.57	54.00	8.43	Avg

Test mode: 802.11n(20)		Frequency(MHz): 5825			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)	Limit 3m(dBuV/m)	Over(dB)	Detector
8975.5985	V	65.14	74.00	8.86	Peak
11782.0017	V	66.76	74.00	7.24	Peak
17040.2995	V	67.86	74.00	6.14	Peak
8978.2685	V	47.08	54.00	6.92	Avg
11781.1417	V	45.21	54.00	8.79	Avg
17036.7695	V	45.47	54.00	8.53	Avg
8784.5764	H	65.65	74.00	8.35	Peak
11693.0307	H	66.48	74.00	7.52	Peak
16404.3863	H	67.32	74.00	6.68	Peak
8784.5764	H	45.77	54.00	8.23	Avg
11678.0307	H	45.84	54.00	8.16	Avg
16389.3863	H	44.09	54.00	9.91	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:		802.11n(20)	Frequency:		5745
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5719.49	V	57.28	-37.95	-27.00	PASS
5721.81	H	57.99	-37.24	-27.00	PASS

Test mode:		802.11n(20)	Frequency:		5825
Freq. (MHz)	Ant.Pol. H/V	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5850.12	V	57.98	-37.25	-27.00	PASS
5853.18	H	58.22	-37.01	-27.00	PASS

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

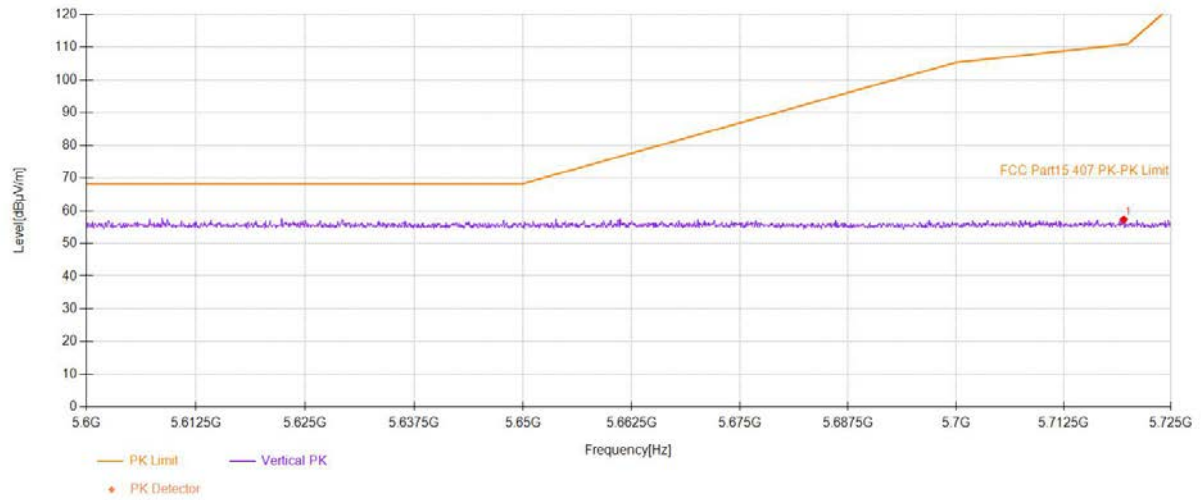
(2) Emission Level= Reading Level+Correct Factor +Cable Loss.

(3) Correct Factor= Ant_F + Cab_L - Preamp

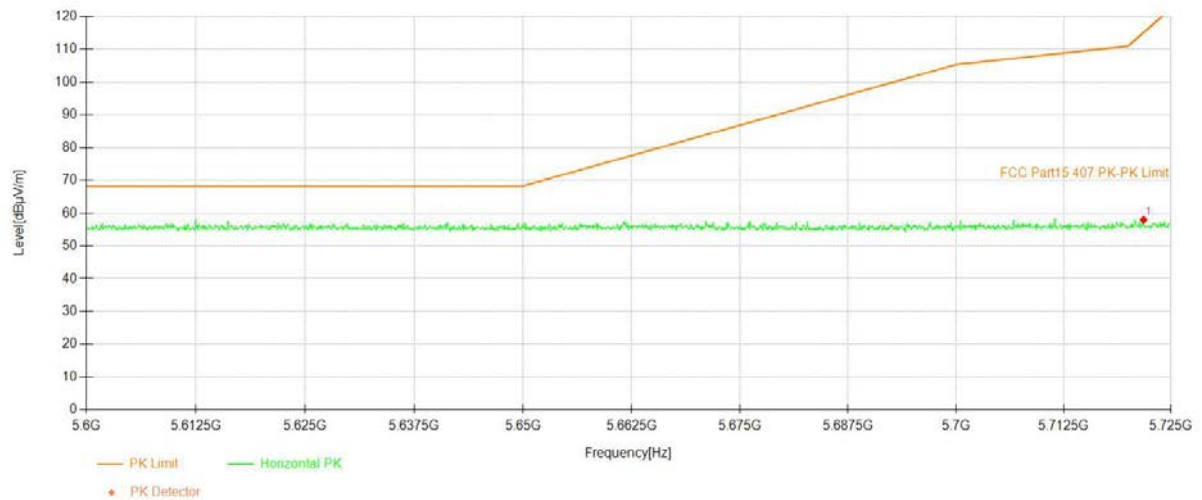
(4) EIRP[dBm] = E[dBuV/m] + 20 log(d[meters]) - 104.77

d is the measurement distance in 3 meters

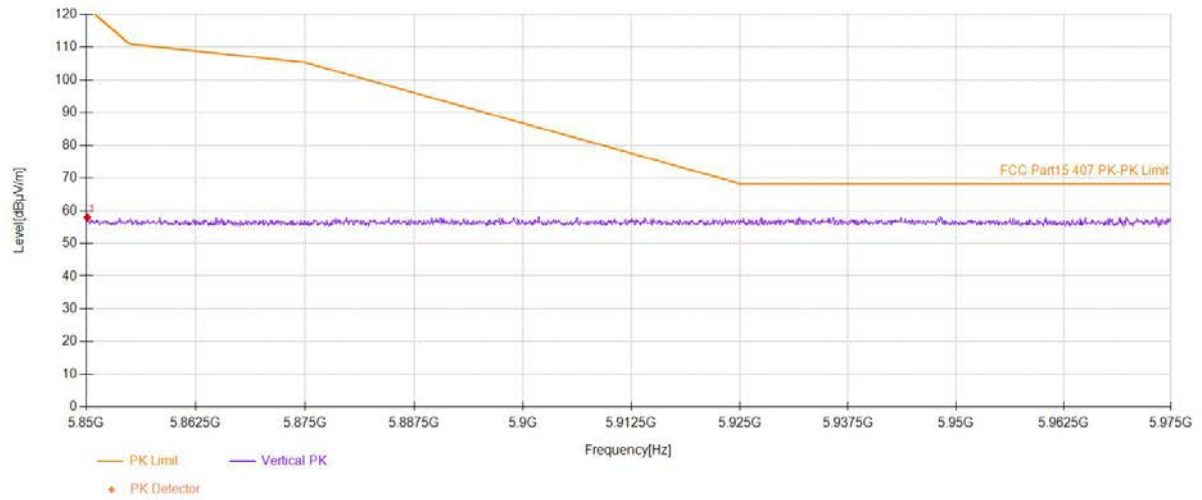
Test Model U-NII -3
Undesirable radiated ☐ 802.11a Undesirable radiated ☒ 5745 Spurious Emission in Band Edge ☐ 802.11n(HT40)
Ant.Pol V



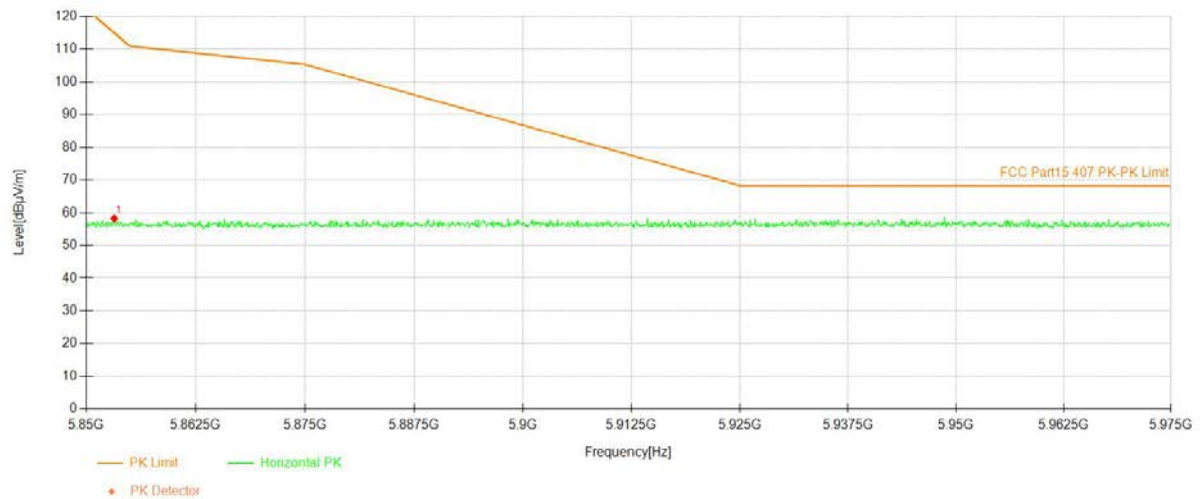
Test Model U-NII -3
Undesirable radiated ☐ 802.11a Undesirable radiated ☒ 5745 Spurious Emission in Band Edge ☐ 802.11n(HT40)
Ant.Pol H



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

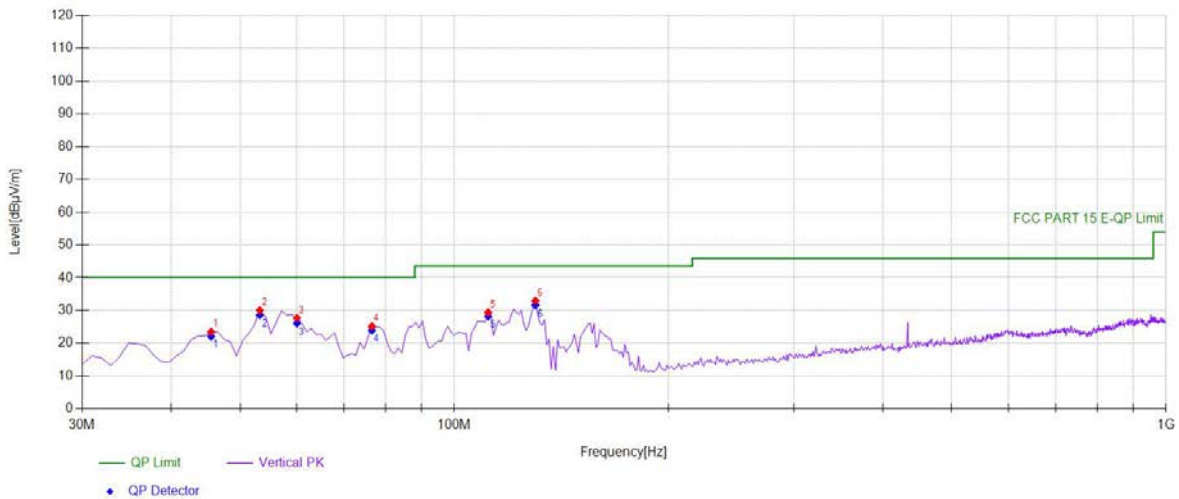


Test Model U-NII -3
 Undesirable radiated Undesirable radiated Spurious Emission in Band Edge
☐ 802.11a ☒ 802.11n(HT20) ☐ 802.11n(HT40)
☒ 5825 Ant.Pol H



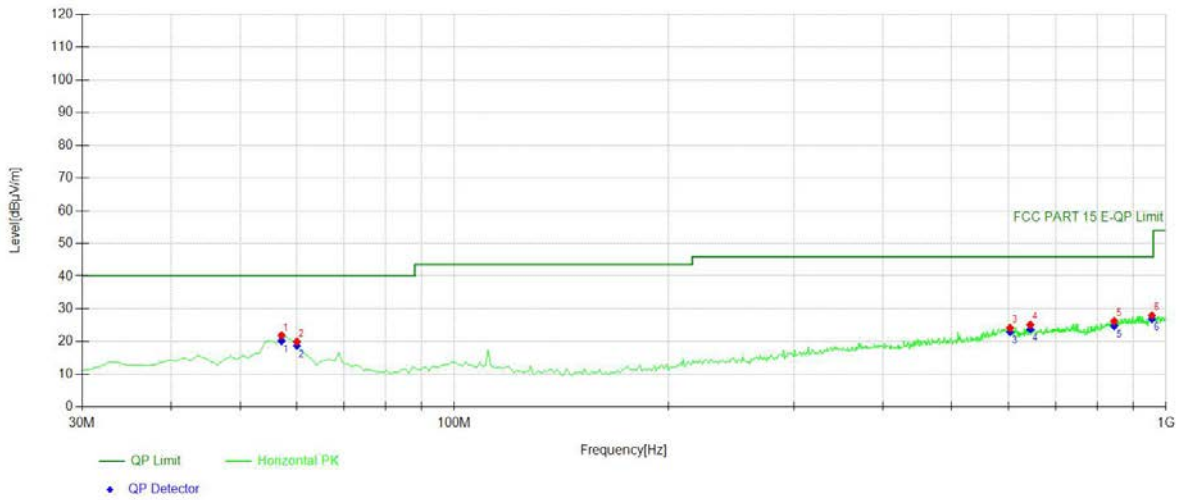
- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)
All of the configurations or modes are tested, the data of the worst case is recorded in the report.

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



Suspected Data List

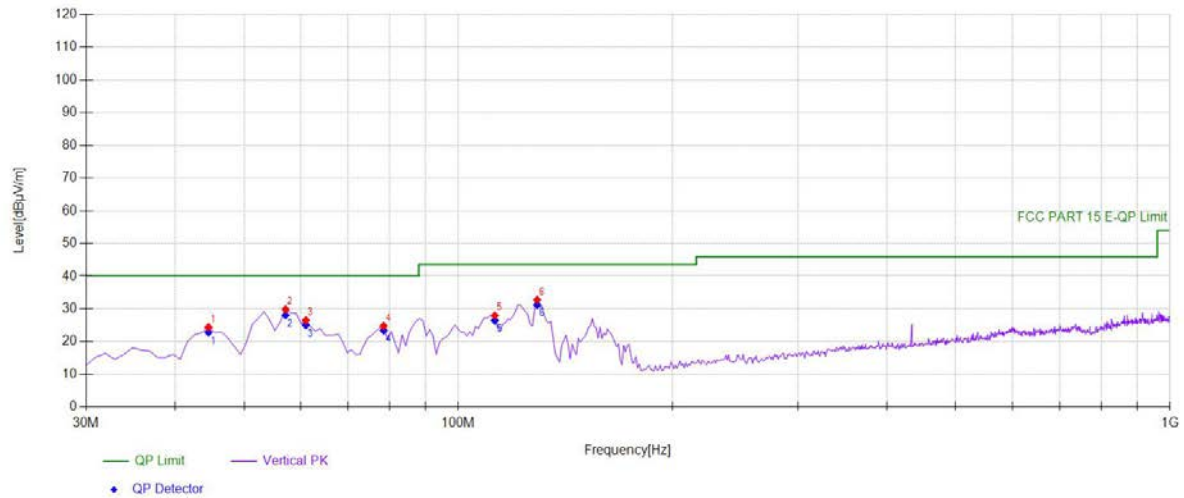
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	45.5355	40.13	-16.64	23.49	PK	40.00	16.51	Vertical
2	53.3033	46.46	-16.44	30.02	PK	40.00	9.98	Vertical
3	60.1001	45.03	-17.33	27.70	PK	40.00	12.30	Vertical
4	76.6066	44.88	-19.69	25.19	PK	40.00	14.81	Vertical
5	111.561	47.30	-17.88	29.42	PK	43.50	14.08	Vertical
6	130.01	52.15	-19.15	33.00	PK	43.50	10.50	Vertical



Suspected Data List

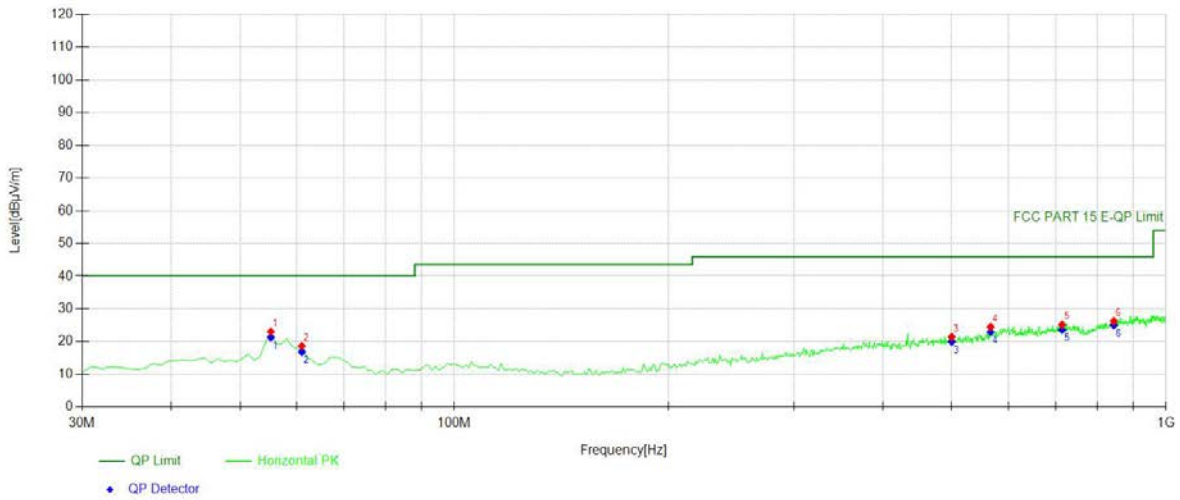
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	57.1872	38.82	-16.94	21.88	PK	40.00	18.12	Horizontal
2	60.1001	37.33	-17.33	20.00	PK	40.00	20.00	Horizontal
3	603.843	30.84	-6.65	24.19	PK	46.00	21.81	Horizontal
4	644.624	32.55	-7.37	25.18	PK	46.00	20.82	Horizontal
5	845.615	30.60	-4.38	26.22	PK	46.00	19.78	Horizontal
6	955.335	30.64	-2.63	28.01	PK	46.00	17.99	Horizontal

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



Suspected Data List

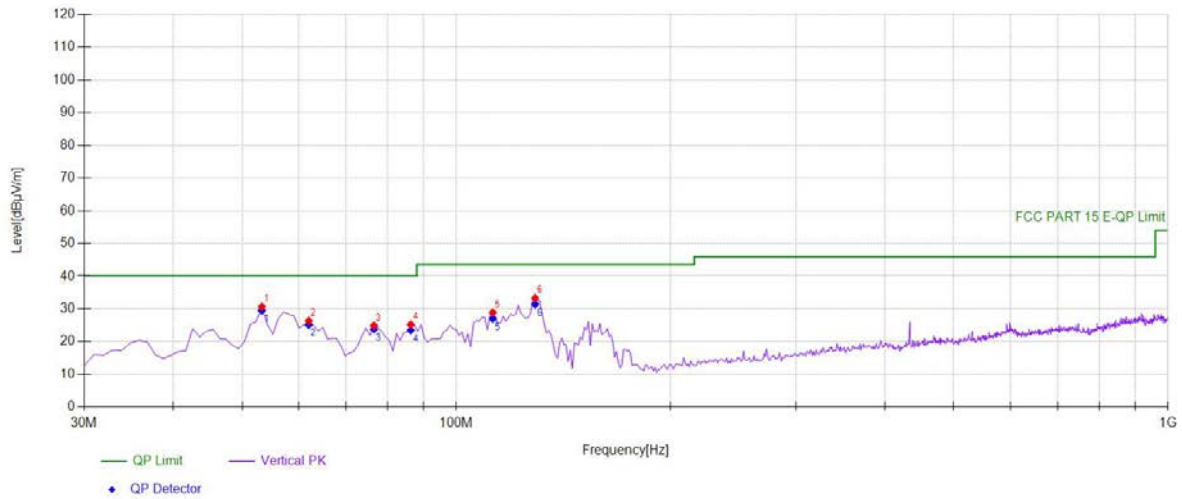
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	44.5646	41.17	-16.77	24.40	PK	40.00	15.60	Vertical
2	57.1872	46.77	-16.94	29.83	PK	40.00	10.17	Vertical
3	61.0711	43.92	-17.46	26.46	PK	40.00	13.54	Vertical
4	78.5485	44.75	-19.98	24.77	PK	40.00	15.23	Vertical
5	112.532	45.93	-17.96	27.97	PK	43.50	15.53	Vertical
6	129.039	51.85	-19.09	32.76	PK	43.50	10.74	Vertical



Suspected Data List

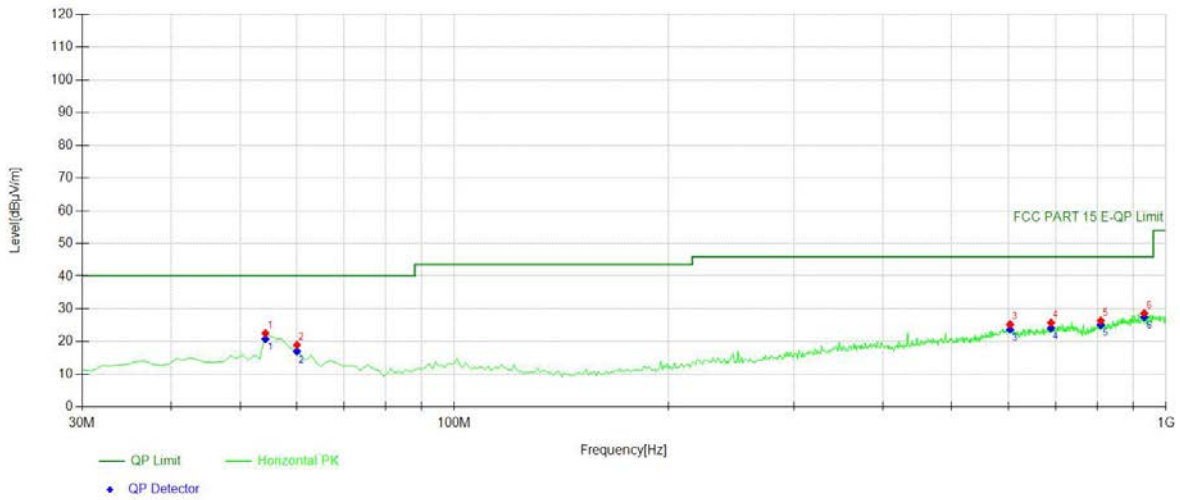
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	55.2452	39.74	-16.69	23.05	PK	40.00	16.95	Horizontal
2	61.0711	36.10	-17.46	18.64	PK	40.00	21.36	Horizontal
3	499.95	31.47	-10.06	21.41	PK	46.00	24.59	Horizontal
4	566.946	32.71	-8.19	24.52	PK	46.00	21.48	Horizontal
5	714.534	31.28	-6.10	25.18	PK	46.00	20.82	Horizontal
6	844.644	30.63	-4.42	26.21	PK	46.00	19.79	Horizontal

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



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	53.3033	47.06	-16.44	30.62	PK	40.00	9.38	Vertical
2	62.042	43.86	-17.60	26.26	PK	40.00	13.74	Vertical
3	76.6066	44.59	-19.69	24.90	PK	40.00	15.10	Vertical
4	86.3163	44.45	-19.23	25.22	PK	40.00	14.78	Vertical
5	112.532	46.87	-17.96	28.91	PK	43.50	14.59	Vertical
6	129.039	52.39	-19.09	33.30	PK	43.50	10.20	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	39.14	-16.56	22.58	PK	40.00	17.42	Horizontal
2	60.1001	36.26	-17.33	18.93	PK	40.00	21.07	Horizontal
3	603.843	31.93	-6.65	25.28	PK	46.00	20.72	Horizontal
4	689.289	32.25	-6.55	25.70	PK	46.00	20.30	Horizontal
5	809.689	31.56	-5.24	26.32	PK	46.00	19.68	Horizontal
6	932.032	31.95	-3.28	28.67	PK	46.00	17.33	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

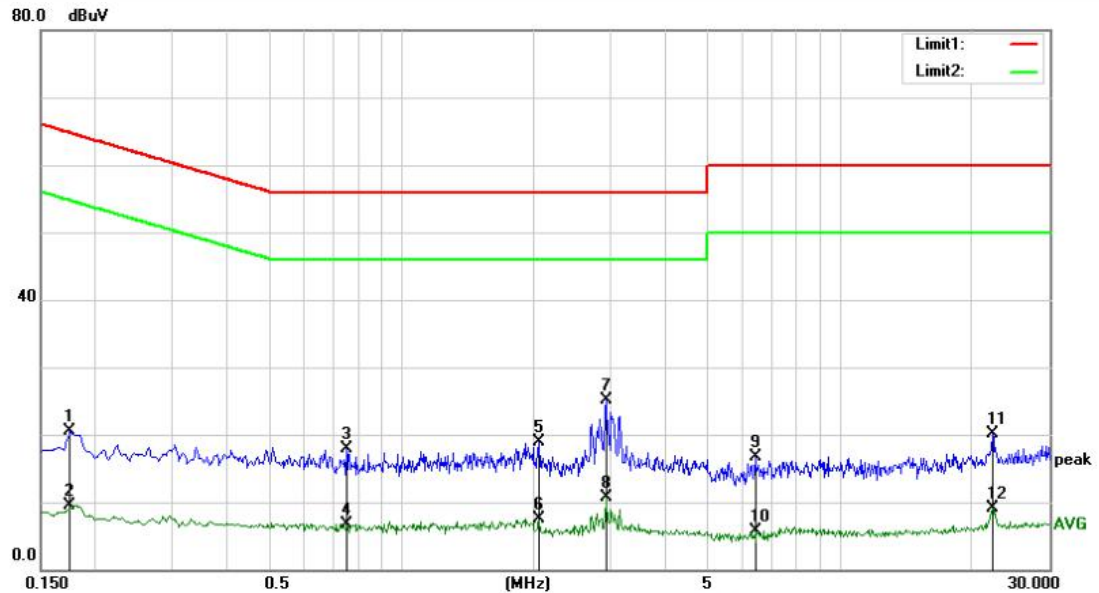
The EUT was placed on a table which is 0.8m above ground plane.
 Maximum procedure was performed on the highest emissions to ensure EUT compliance.
 Repeat above procedures until all frequency measured were complete.

8.5.5 Test Results

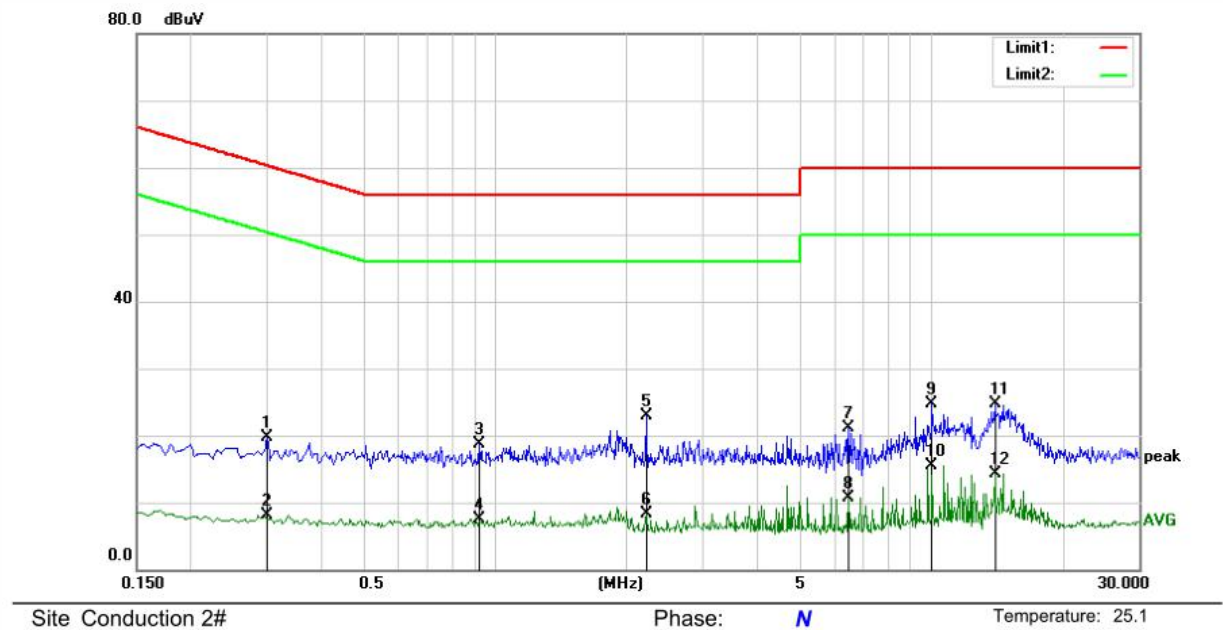
Temperature :	25.1℃	ATM Pressure::	1011 mbar
Humidity :	45 %	Test Engineer:	XZC

Pass

The all voltage have been tested, and the worst result recorded was report as below.



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1750	9.84	10.66	20.50	64.72	-44.22	QP	
2		0.1750	-1.11	10.66	9.55	54.72	-45.17	AVG	
3		0.7500	7.35	10.65	18.00	56.00	-38.00	QP	
4		0.7500	-3.87	10.65	6.78	46.00	-39.22	AVG	
5		2.0550	8.21	10.64	18.85	56.00	-37.15	QP	
6		2.0550	-3.05	10.64	7.59	46.00	-38.41	AVG	
7	*	2.9300	14.48	10.55	25.03	56.00	-30.97	QP	
8		2.9300	0.15	10.55	10.70	46.00	-35.30	AVG	
9		6.4050	6.26	10.43	16.69	60.00	-43.31	QP	
10		6.4050	-4.73	10.43	5.70	50.00	-44.30	AVG	
11		22.2550	8.83	11.21	20.04	60.00	-39.96	QP	
12		22.2550	-2.01	11.21	9.20	50.00	-40.80	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

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

PASS

The EUT is integrated antenna, Ant1: 5.30dBi, Ant2: 6.28dBi, Ant3: 2.57dBi.

- ☒ 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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