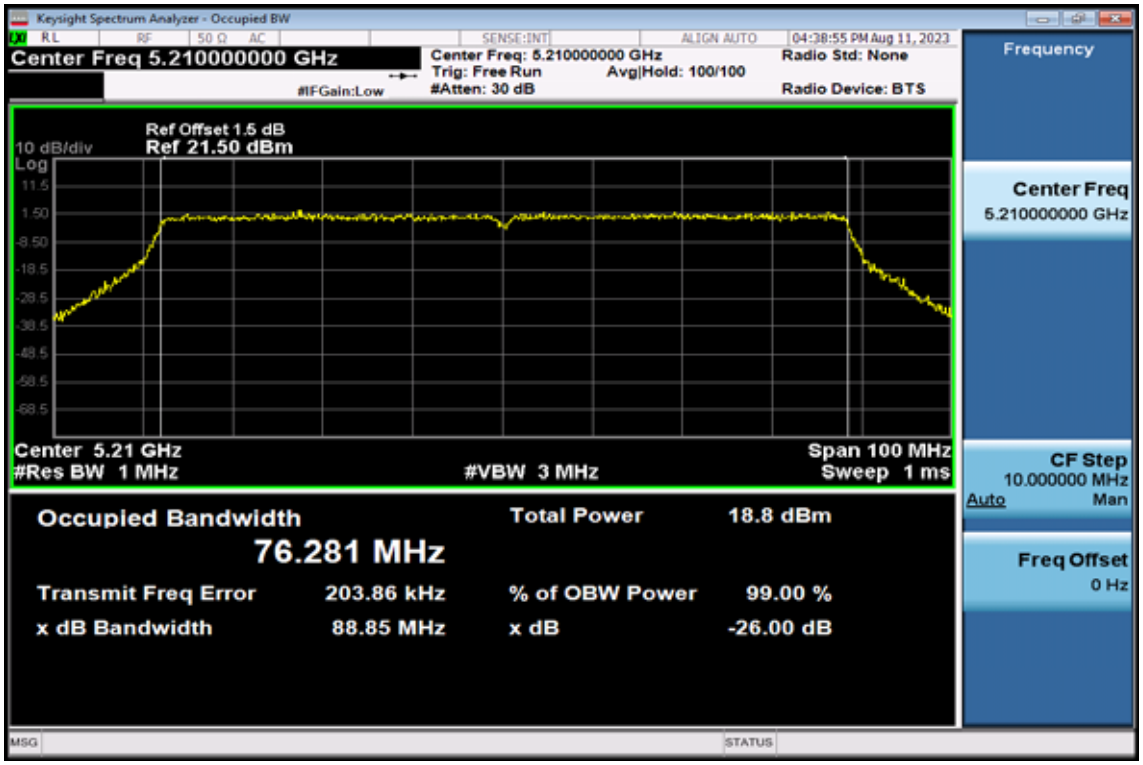
802.11 ac VHT80
26dB / 99% Band Width Test Data



8. 6dB Emission Bandwidth Measurement

8.1. Standard Applicable

According to §15.407 (e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

8.2. Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW=100kHz, VBW =300MHz, Span= 50MHz, Sweep=auto
4. Mark the peak frequency and –6dB (upper and lower) frequency.
5. Repeat above procedures until all frequency measured were complete.

Refer to section D of KDB Document: KDB 789033 D02 General UNII Test Procedures New Rules v01r03

8.3. Measurement Equipment Used:

Refer to section 6.3 for details.

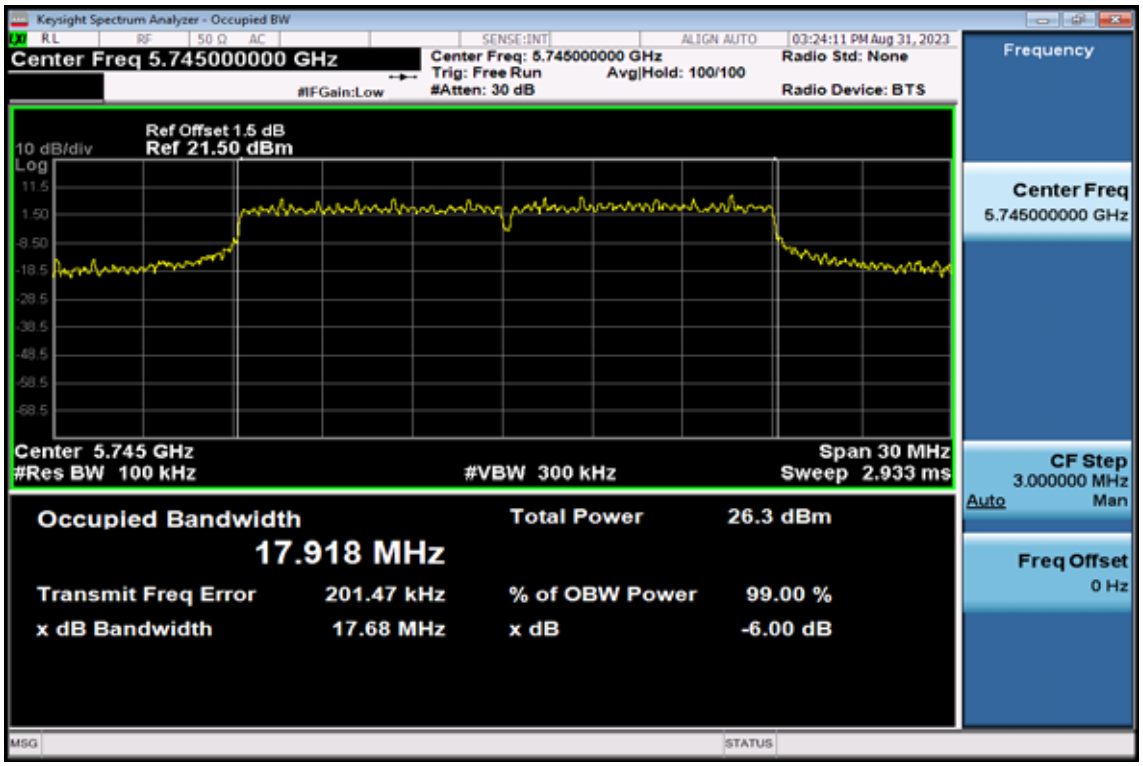
8.4. Test Set-up:

Refer to section 6.4 for details.

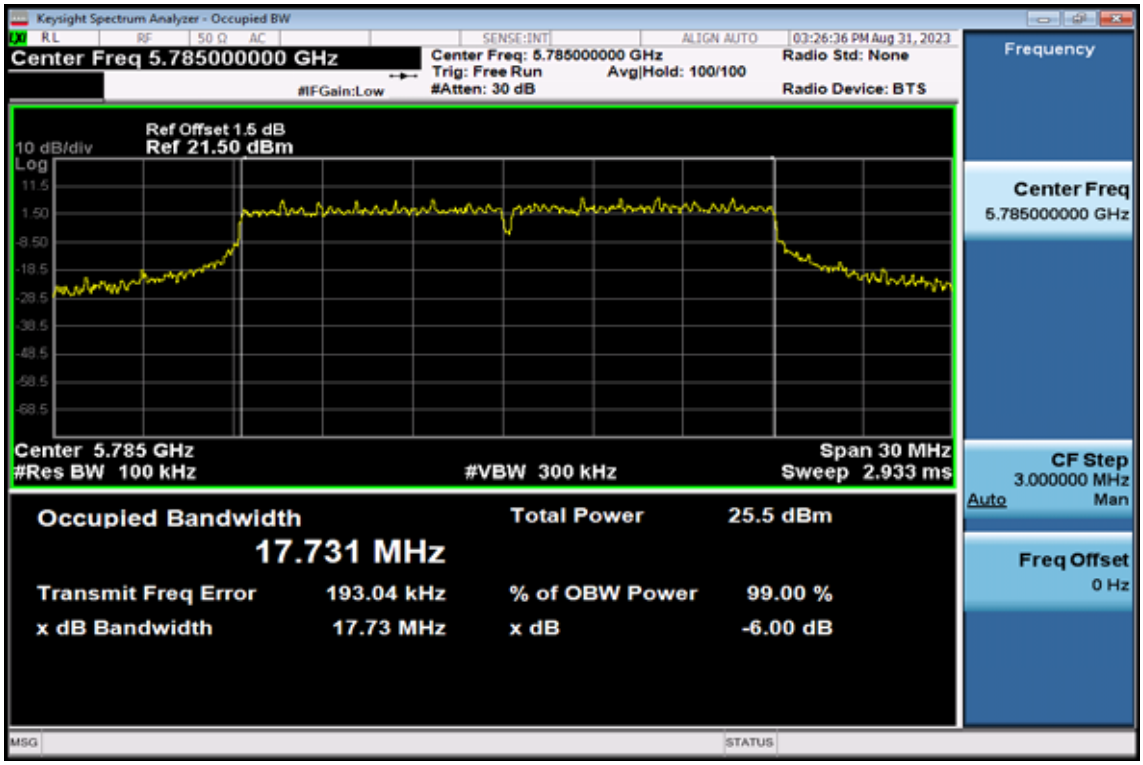
8.5. Measurement Result

Band	Mode	Frequency (MHz)	6dB Bandwidth (MHz)	99% OBW (MHz)	6dB BW Limit (kHz)
UNII-3	11a	5745	17.68	17.673	> 500
		5785	17.73	17.685	> 500
		5825	17.65	17.688	> 500
	HT20	5745	17.75	17.682	> 500
		5785	17.69	17.702	> 500
		5825	17.68	17.686	> 500
	HT40	5755	36.41	36.177	> 500
		5795	36.45	36.206	> 500
	VHT20	5745	17.70	17.684	> 500
		5785	17.71	17.702	> 500
		5825	17.72	17.708	> 500
	VHT40	5755	36.46	36.190	> 500
		5795	36.43	36.213	> 500
	VHT80	5775	76.50	75.803	> 500

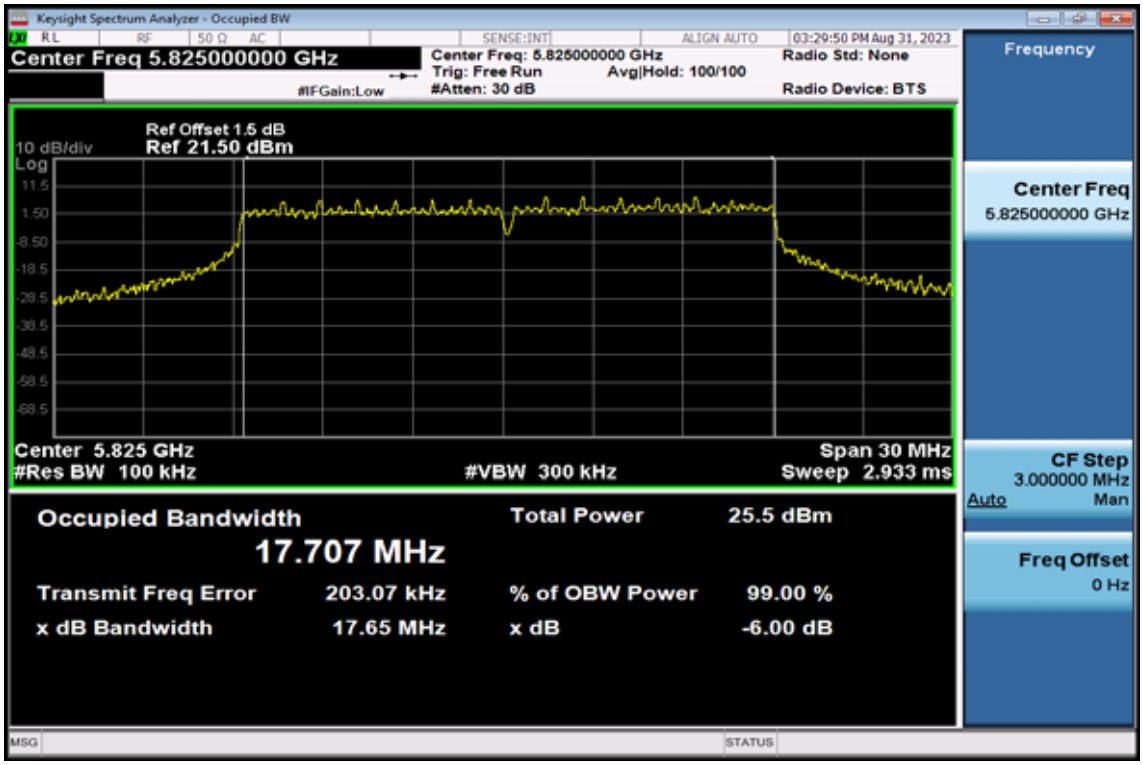
Band UNII-3
802.11a
6dB Band Width Test Data CH-Low



6dB Band Width Data CH-Mid

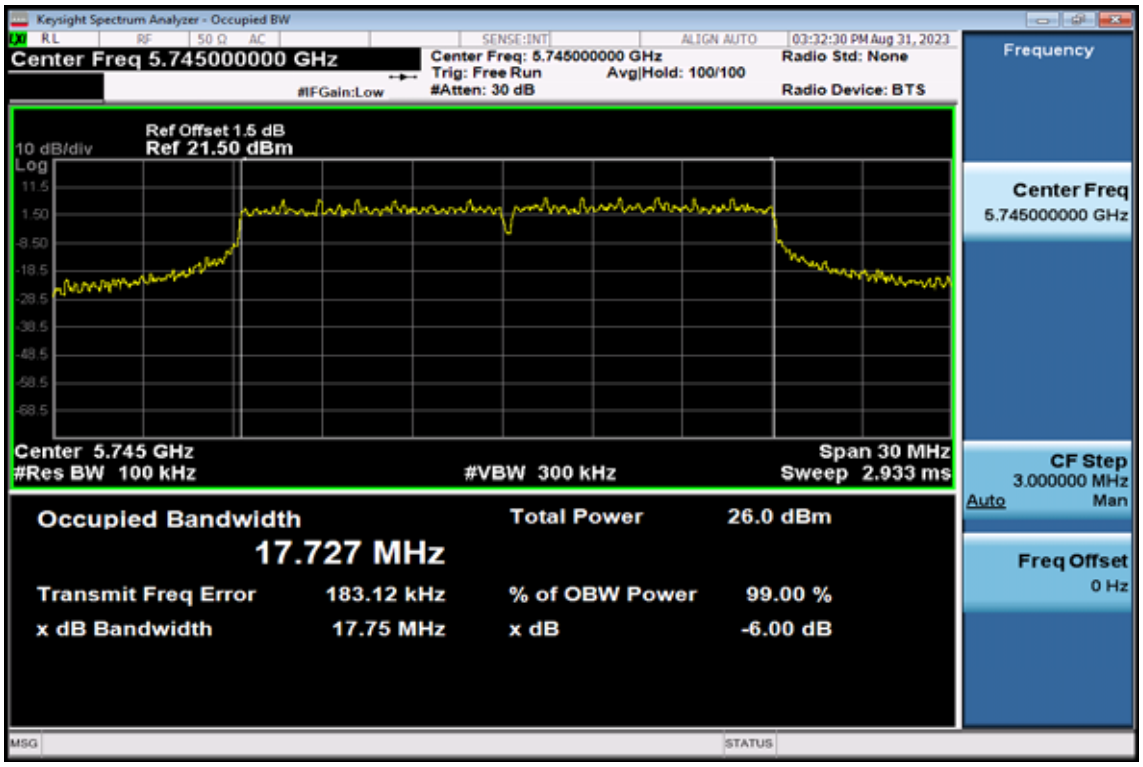


6dB Band Width Data CH-High

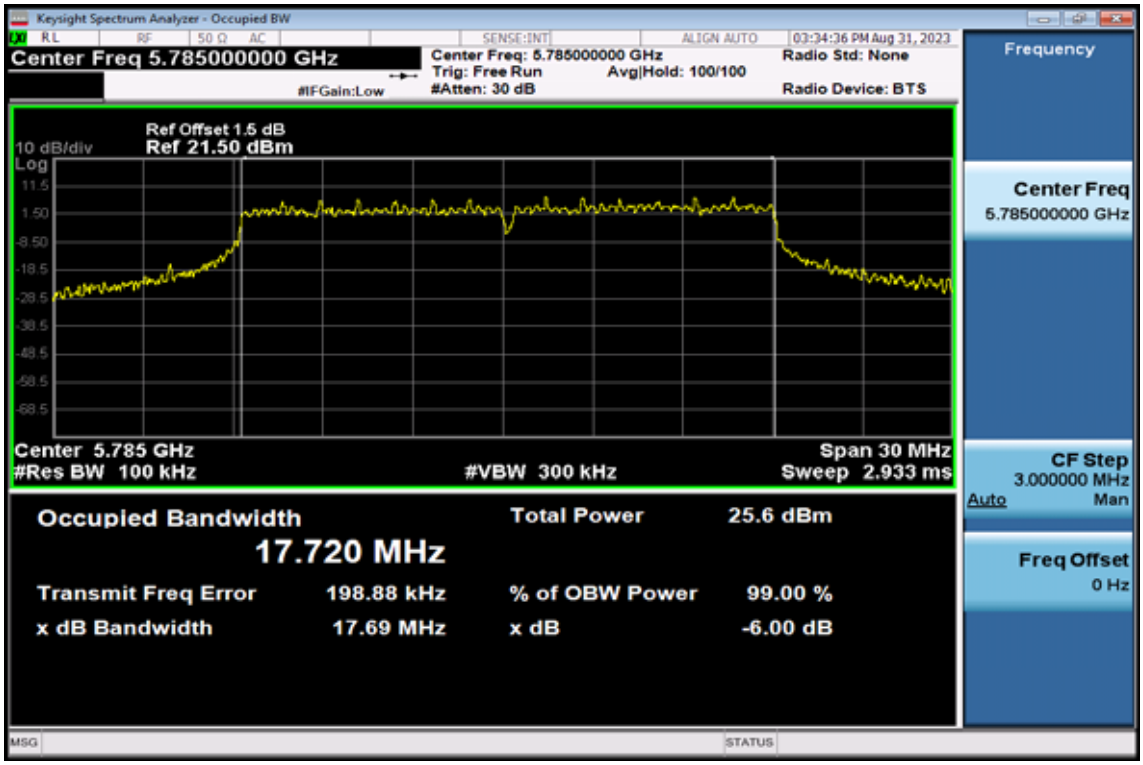


802.11n HT20

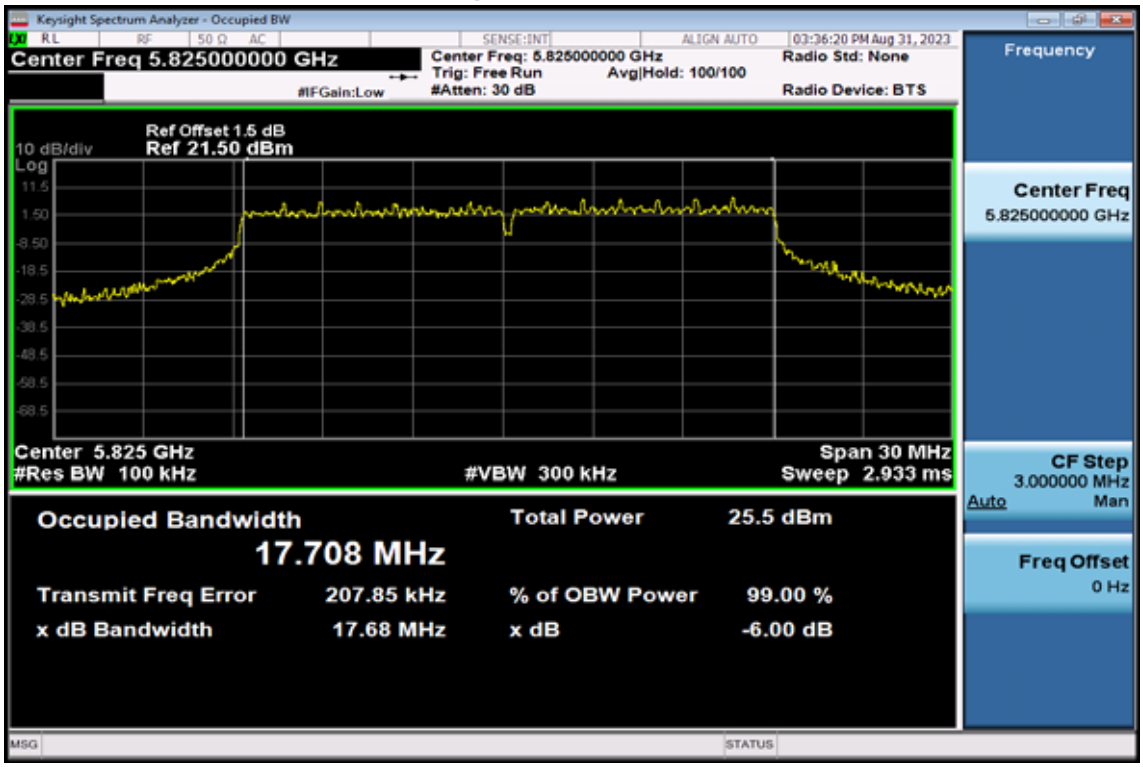
6dB Band Width Data CH-Low



6dB Band Width Data CH-Mid

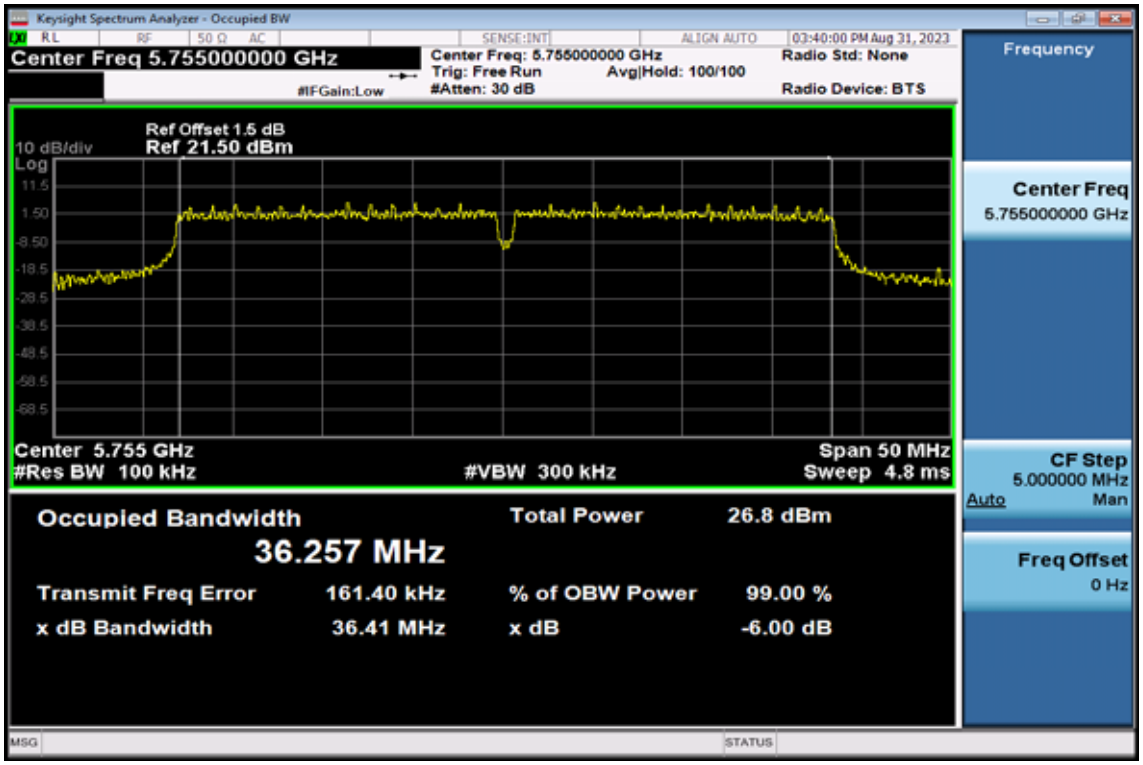


6dB Band Width Data CH-High

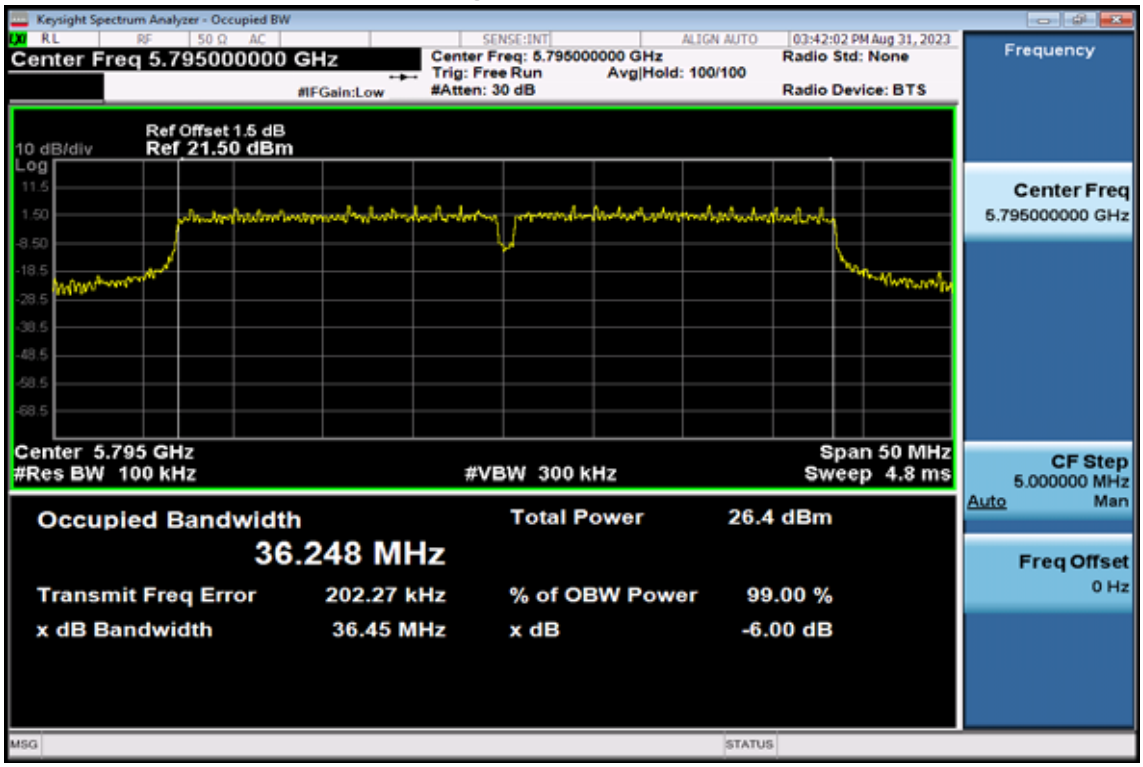


802.11n HT40

6dB Band Width Data CH-Low

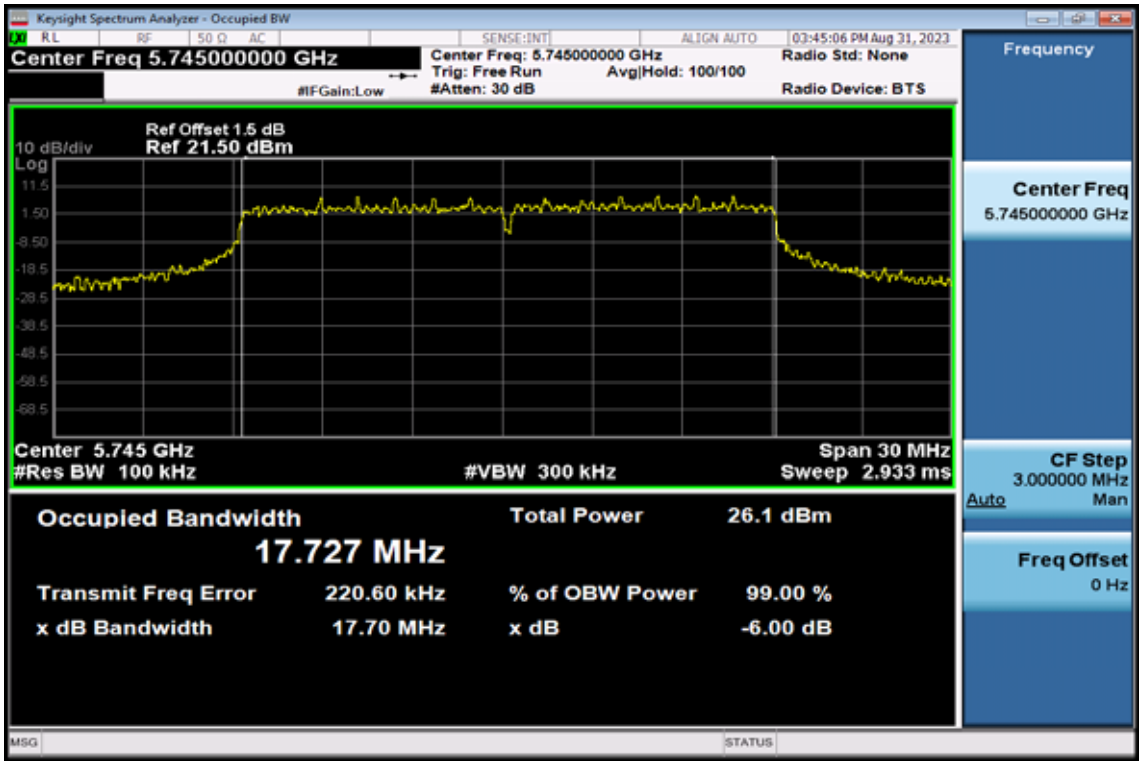


6dB Band Width Data CH-High

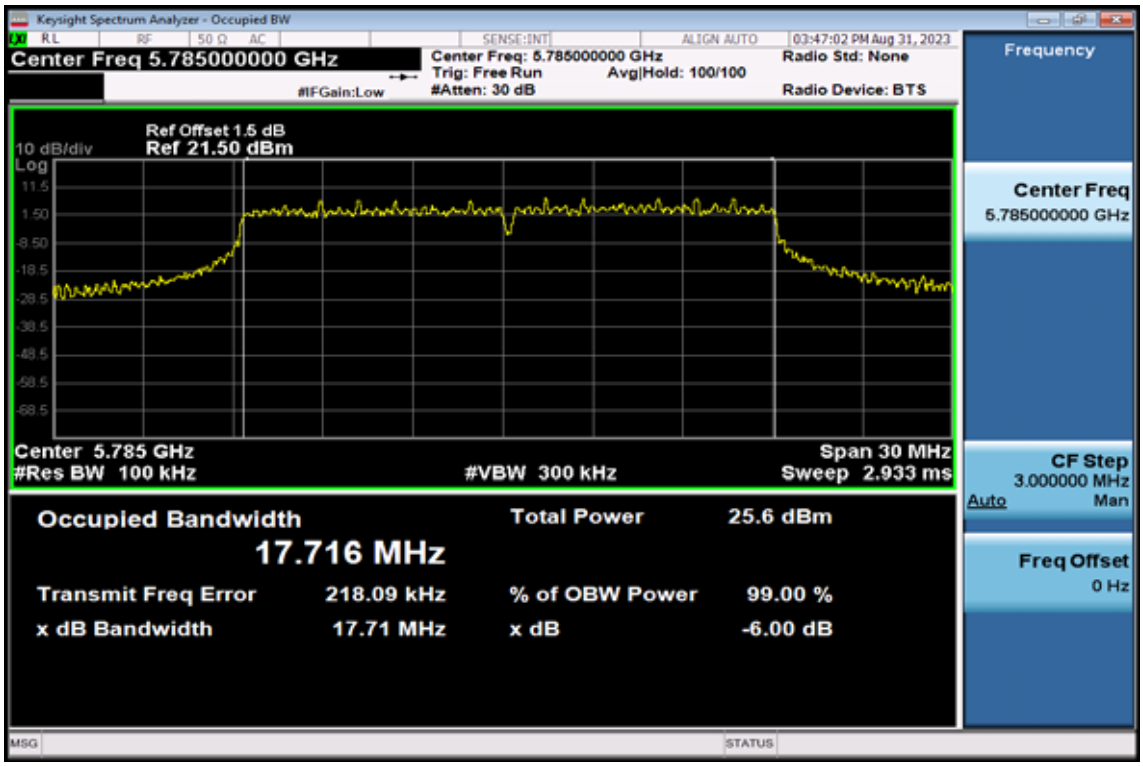


802.11ac VHT20

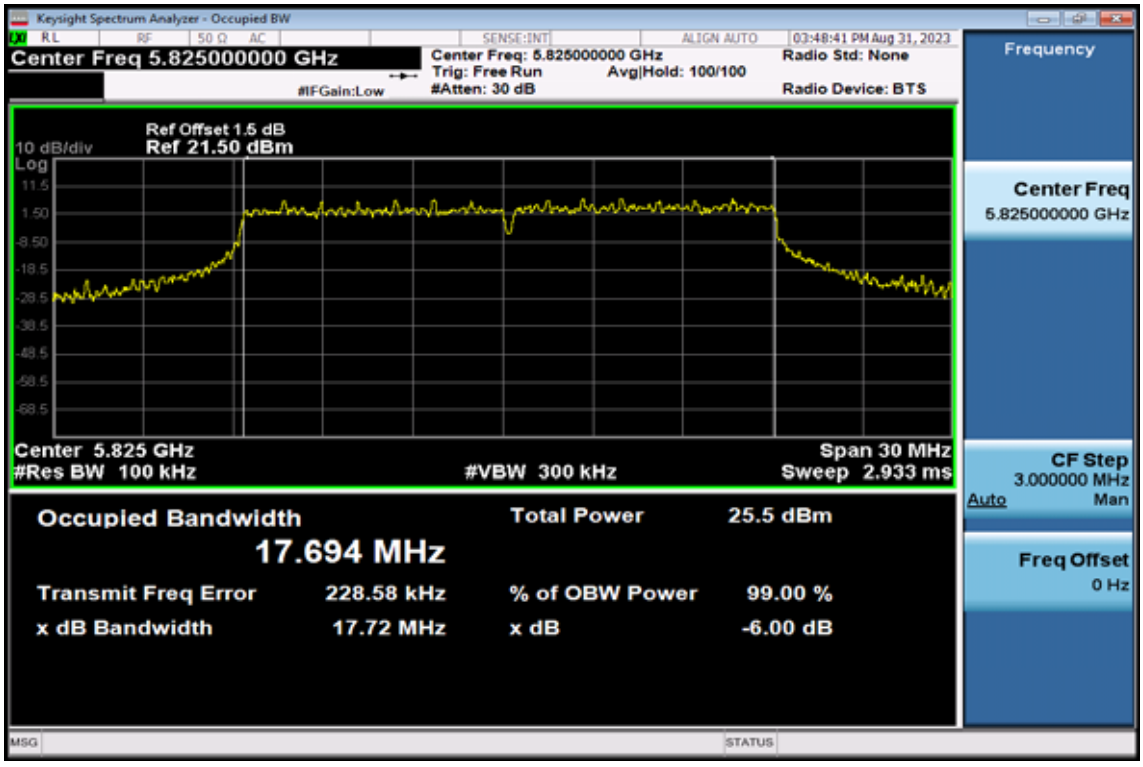
6dB Band Width Data CH-Low



6dB Band Width Data CH-Mid

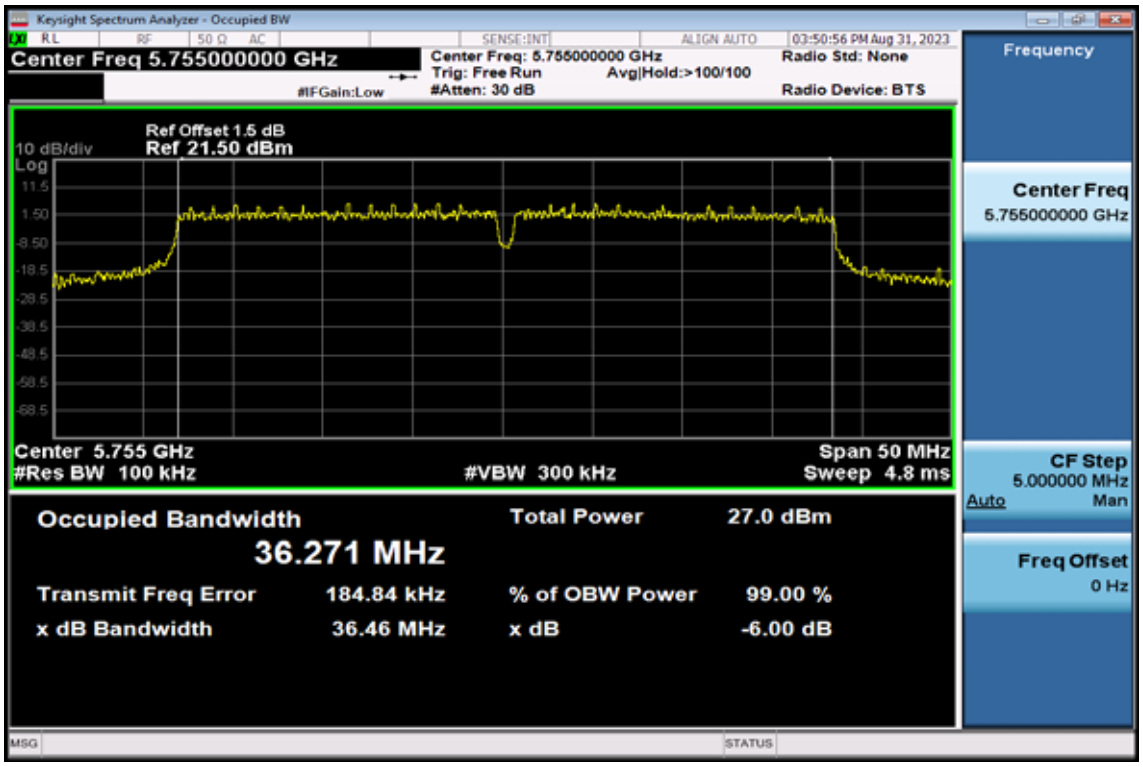


6dB Band Width Data CH-High

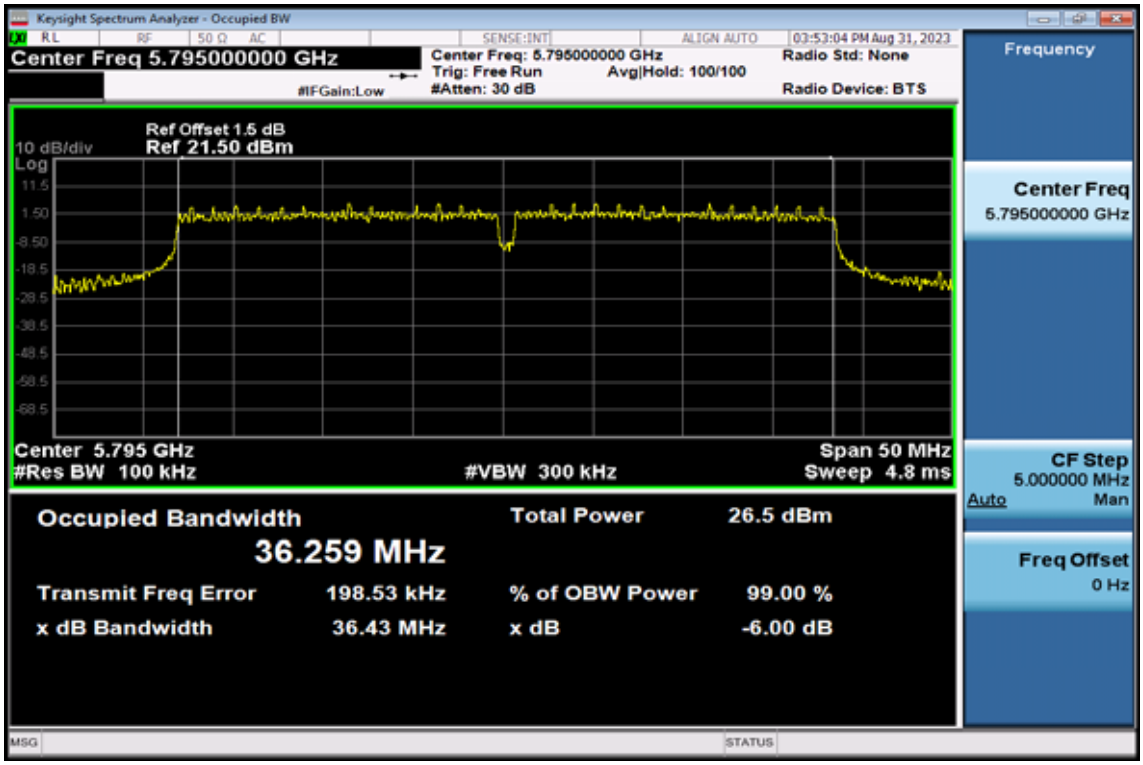


802.11ac VHT40

6dB Band Width Data CH-Low

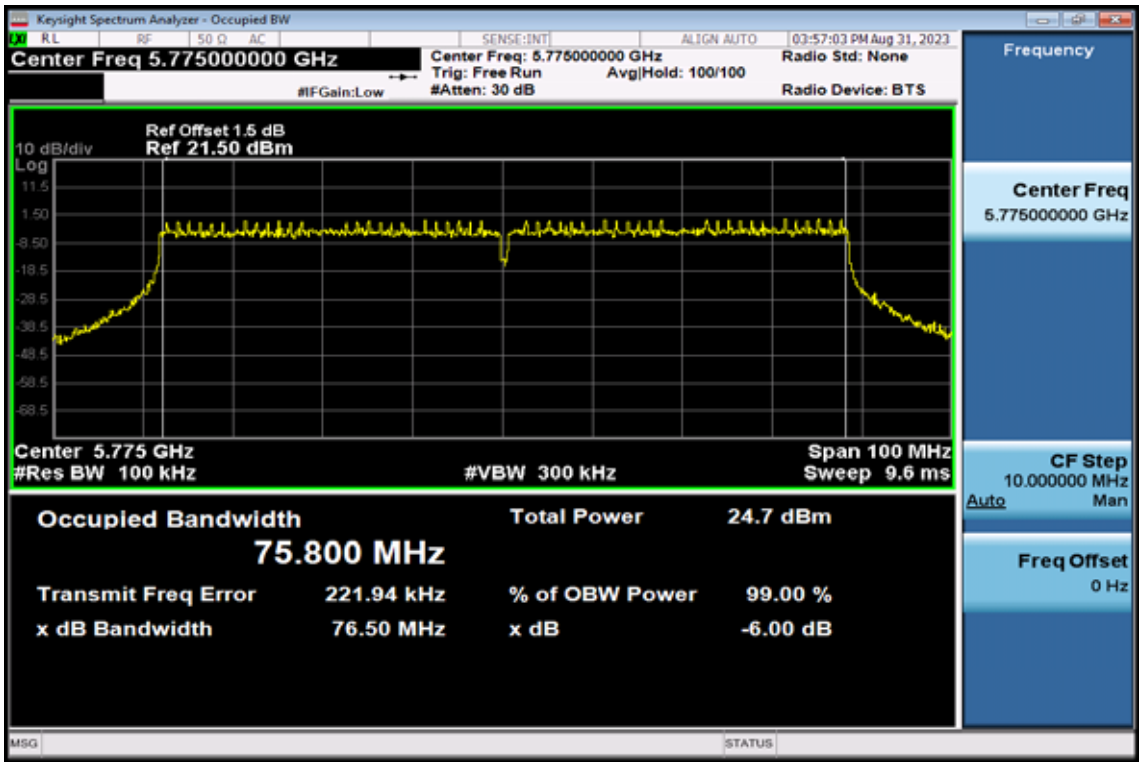


6dB Band Width Data CH-High



802.11 ac VHT80

6dB Band Width Data CH-Low



9. Undesirable emission – Radiated Measurement

9.1. Standard Applicable

According to §15.407(b), Undesirable Emission Limits: Except as shown in Paragraph (b)(7) of this section, the peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) 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.

(2) 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.

(3) 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.

(4) For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

(5) The above 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.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Section 15.207.

(7) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

§15.205- RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 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	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	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 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	([2])
13.36 - 13.41	322 - 335.4		

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209- RADIATED EMISSION LIMITS: GENERAL REQUIREMENTS

FCC PART 15.209

MEASURING DISTANCE OF 3 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

9.2. EUT Setup

1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.10: 2013
2. The EUT was put in the front of the test table. The host PC system was placed on the center of the back edge on the test table. The peripherals like modem, monitor printer, K/B, and mouse were placed on the side of the host PC system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The keyboard was placed directly in the front of the monitor, flushed with the front tabletop. The mouse was placed next to the Keyboard, flushed with the back of keyboard.
4. The spacing between the peripherals was 10 centimeters.
5. External I/O cables were draped along the edge of the test table and bundle when necessary.
6. The host PC system was connected with 120Vac/60Hz power source.

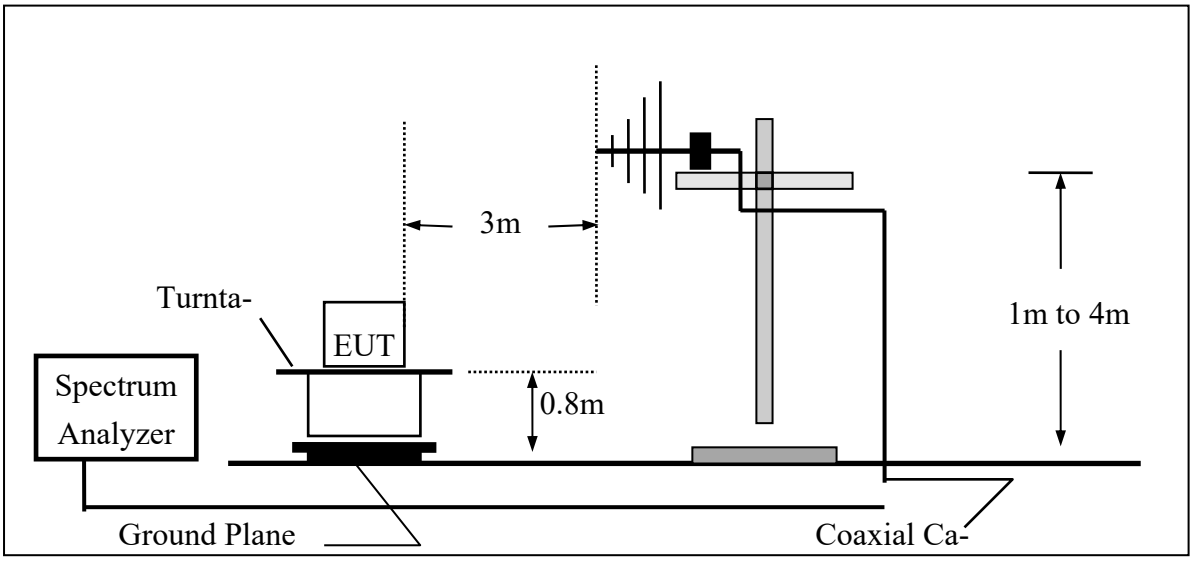
9.3. Measurement Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until all frequency measured were complete.

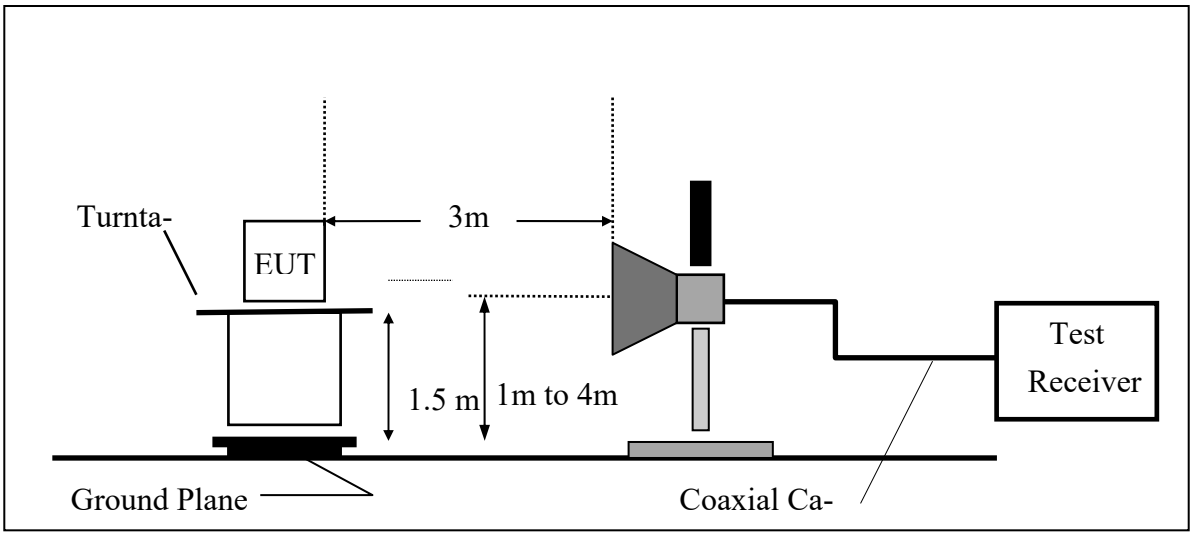
Refer to section F of KDB Document: KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

9.4. Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



9.5. Measurement Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Chamber 19	Spectrum analyzer	R&S	FSV40	101919	08/16/2022	08/16/2023
Chamber 19	EMI Receiver	R&S	ESR3	102461	05/08/2023	05/08/2024
Chamber 19	Loop Antenna	EM	EM-6879	271	10/05/2022	10/05/2023
Chamber 19	Bilog Antenna (30MHz-1GHz)	Schwarzbeck	VULB9168 w 6dB Att.	9168-736	03/09/2023	03/09/2024
Chamber 19	Horn antenna (1GHz-18GHz)	ETS	3117	00218718	10/12/2022	10/12/2023
Chamber 19	Horn antenna (18GHz-26GHz)	Com-power	AH-826	081001	11/24/2022	11/24/2023
Chamber 19	Horn antenna (26GHz-40GHz)	Com-power	AH-640	100A	03/25/2023	03/25/2024
Chamber 19	Preamplifier (9kHz-3GHz)	EM	EM330	060822	01/05/2023	01/05/2024
Chamber 19	Preamplifier (1GHz-26GHz)	HP	8449B	3008A02471	10/26/2022	10/26/2023
Chamber 19	Preamplifier (26GHz-40GHz)	MITEQ	JS4-26004000-27-5A	818471	05/04/2023	05/04/2024
Chamber 19	RF Cable (100kHz-26.5GHz)	Huber Suhner	Sucoflex 104A	MY1394/4A & 50886/4A	09/02/2022	09/02/2023
Chamber 19	RF Cable (18GHz-40GHz)	HUBER SUHNER	Sucoflex 102	27963/2&37421/2	11/23/2022	11/23/2023
Chamber 19	Signal Generator	Anritsu	MG3692A	20311	12/29/2022	12/29/2023
Chamber 19	Test Software	Audix	E3 Ver:6.120203b	N/A	N/A	N/A

9.6. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

9.7. Measurement Result

Refer to attach tabular data sheets.

NOTE:

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 100kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz. And RBW 1MHz for frequency above 1GHz.

Radiated Spurious Emission Measurement Result (below 1GHz)
(Band UNII-1 / Band UNII-2A, 802.11a mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	66.86	48.33	-11.74	36.59	40.00	-3.41	Peak	VERTICAL
2	141.55	41.75	-10.13	31.62	43.50	-11.88	Peak	VERTICAL
3	167.74	43.91	-9.98	33.93	43.50	-9.57	Peak	VERTICAL
4	211.39	45.77	-12.74	33.03	43.50	-10.47	Peak	VERTICAL
5	303.54	44.29	-9.12	35.17	46.00	-10.83	Peak	VERTICAL
6	435.46	34.15	-5.08	29.07	46.00	-16.93	Peak	VERTICAL
1	66.86	48.77	-11.74	37.03	40.00	-2.97	Peak	HORIZONTAL
2	166.77	42.29	-10.00	32.29	43.50	-11.21	Peak	HORIZONTAL
3	299.66	40.70	-9.14	31.56	46.00	-14.44	Peak	HORIZONTAL
4	390.84	37.29	-6.56	30.73	46.00	-15.27	Peak	HORIZONTAL
5	530.52	31.81	-3.21	28.60	46.00	-17.40	Peak	HORIZONTAL
6	659.53	30.27	-0.50	29.77	46.00	-16.23	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
2 Measuring frequencies from the lowest internal frequency to the 1GHz.
3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	70.74	45.35	-12.52	32.83	40.00	-7.17	Peak	VERTICAL
2	141.55	42.05	-10.13	31.92	43.50	-11.58	Peak	VERTICAL
3	184.23	45.10	-11.83	33.27	43.50	-10.23	Peak	VERTICAL
4	301.60	45.82	-9.12	36.70	46.00	-9.30	Peak	VERTICAL
5	421.88	33.90	-5.61	28.29	46.00	-17.71	Peak	VERTICAL
6	863.23	31.32	2.34	33.66	46.00	-12.34	Peak	VERTICAL
1	65.89	48.85	-11.69	37.16	40.00	-2.84	Peak	HORIZONTAL
2	157.07	43.28	-9.99	33.29	43.50	-10.21	Peak	HORIZONTAL
3	297.72	41.57	-9.19	32.38	46.00	-13.62	Peak	HORIZONTAL
4	393.75	37.71	-6.50	31.21	46.00	-14.79	Peak	HORIZONTAL
5	500.45	32.58	-3.92	28.66	46.00	-17.34	Peak	HORIZONTAL
6	729.37	34.54	0.72	35.26	46.00	-10.74	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	79.47	46.72	-14.21	32.51	40.00	-7.49	Peak	VERTICAL
2	165.80	43.33	-9.88	33.45	43.50	-10.05	Peak	VERTICAL
3	303.54	44.02	-9.12	34.90	46.00	-11.10	Peak	VERTICAL
4	435.46	34.32	-5.08	29.24	46.00	-16.76	Peak	VERTICAL
5	530.52	32.38	-3.21	29.17	46.00	-16.83	Peak	VERTICAL
6	737.13	32.33	0.97	33.30	46.00	-12.70	Peak	VERTICAL
1	64.92	48.09	-11.23	36.86	40.00	-3.14	Peak	HORIZONTAL
2	165.80	44.31	-9.88	34.43	43.50	-9.07	Peak	HORIZONTAL
3	292.87	42.40	-9.26	33.14	46.00	-12.86	Peak	HORIZONTAL
4	389.87	36.68	-6.58	30.10	46.00	-15.90	Peak	HORIZONTAL
5	627.52	29.66	-0.98	28.68	46.00	-17.32	Peak	HORIZONTAL
6	735.19	33.27	0.88	34.15	46.00	-11.85	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

(Band UNII-1, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	76.56	46.12	-13.49	32.63	40.00	-7.37	Peak	VERTICAL
2	170.65	48.01	-10.08	37.93	43.50	-5.57	Peak	VERTICAL
3	215.27	47.96	-12.73	35.23	43.50	-8.27	Peak	VERTICAL
4	277.35	43.13	-9.67	33.46	46.00	-12.54	Peak	VERTICAL
5	336.52	41.01	-8.08	32.93	46.00	-13.07	Peak	VERTICAL
6	500.45	33.83	-3.92	29.91	46.00	-16.09	Peak	VERTICAL
1	62.01	44.95	-10.67	34.28	40.00	-5.72	Peak	HORIZONTAL
2	164.83	45.60	-9.94	35.66	43.50	-7.84	Peak	HORIZONTAL
3	296.75	40.77	-9.20	31.57	46.00	-14.43	Peak	HORIZONTAL
4	390.84	39.75	-6.56	33.19	46.00	-12.81	Peak	HORIZONTAL
5	500.45	32.86	-3.92	28.94	46.00	-17.06	Peak	HORIZONTAL
6	600.36	30.90	-1.33	29.57	46.00	-16.43	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	75.59	46.24	-13.35	32.89	40.00	-7.11	Peak	VERTICAL
2	167.74	47.46	-9.98	37.48	43.50	-6.02	Peak	VERTICAL
3	211.39	47.83	-12.74	35.09	43.50	-8.41	Peak	VERTICAL
4	293.84	42.02	-9.26	32.76	46.00	-13.24	Peak	VERTICAL
5	332.64	41.32	-8.09	33.23	46.00	-12.77	Peak	VERTICAL
6	500.45	35.11	-3.92	31.19	46.00	-14.81	Peak	VERTICAL
1	64.92	45.16	-11.23	33.93	40.00	-6.07	Peak	HORIZONTAL
2	163.86	45.41	-9.86	35.55	43.50	-7.95	Peak	HORIZONTAL
3	298.69	41.08	-9.16	31.92	46.00	-14.08	Peak	HORIZONTAL
4	392.78	38.44	-6.52	31.92	46.00	-14.08	Peak	HORIZONTAL
5	500.45	32.37	-3.92	28.45	46.00	-17.55	Peak	HORIZONTAL
6	750.71	30.25	1.36	31.61	46.00	-14.39	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	79.47	46.62	-14.21	32.41	40.00	-7.59	Peak	VERTICAL
2	137.67	42.91	-10.63	32.28	43.50	-11.22	Peak	VERTICAL
3	167.74	43.80	-9.98	33.82	43.50	-9.68	Peak	VERTICAL
4	210.42	47.24	-12.75	34.49	43.50	-9.01	Peak	VERTICAL
5	302.57	45.00	-9.12	35.88	46.00	-10.12	Peak	VERTICAL
6	600.36	32.28	-1.33	30.95	46.00	-15.05	Peak	VERTICAL
1	66.86	48.27	-11.74	36.53	40.00	-3.47	Peak	HORIZONTAL
2	166.77	41.80	-10.00	31.80	43.50	-11.70	Peak	HORIZONTAL
3	292.87	41.00	-9.26	31.74	46.00	-14.26	Peak	HORIZONTAL
4	391.81	36.44	-6.54	29.90	46.00	-16.10	Peak	HORIZONTAL
5	676.99	29.43	-0.30	29.13	46.00	-16.87	Peak	HORIZONTAL
6	782.72	29.28	1.50	30.78	46.00	-15.22	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

(Band UNII-1, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	84.32	48.01	-15.54	32.47	40.00	-7.53	Peak	VERTICAL
2	166.77	47.29	-10.00	37.29	43.50	-6.21	Peak	VERTICAL
3	214.30	48.11	-12.73	35.38	43.50	-8.12	Peak	VERTICAL
4	290.93	41.42	-9.27	32.15	46.00	-13.85	Peak	VERTICAL
5	337.49	40.92	-8.08	32.84	46.00	-13.16	Peak	VERTICAL
6	500.45	35.17	-3.92	31.25	46.00	-14.75	Peak	VERTICAL
1	65.89	45.87	-11.69	34.18	40.00	-5.82	Peak	HORIZONTAL
2	164.83	43.88	-9.94	33.94	43.50	-9.56	Peak	HORIZONTAL
3	297.72	40.57	-9.19	31.38	46.00	-14.62	Peak	HORIZONTAL
4	338.46	40.10	-8.07	32.03	46.00	-13.97	Peak	HORIZONTAL
5	389.87	38.95	-6.58	32.37	46.00	-13.63	Peak	HORIZONTAL
6	500.45	32.50	-3.92	28.58	46.00	-17.42	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	49.25	-15.65	33.60	40.00	-6.40	Peak	VERTICAL
2	168.71	47.46	-9.95	37.51	43.50	-5.99	Peak	VERTICAL
3	224.97	48.11	-12.87	35.24	46.00	-10.76	Peak	VERTICAL
4	284.14	42.30	-9.42	32.88	46.00	-13.12	Peak	VERTICAL
5	335.55	42.54	-8.08	34.46	46.00	-11.54	Peak	VERTICAL
6	600.36	33.15	-1.33	31.82	46.00	-14.18	Peak	VERTICAL
1	66.86	44.90	-11.74	33.16	40.00	-6.84	Peak	HORIZONTAL
2	161.92	44.12	-9.97	34.15	43.50	-9.35	Peak	HORIZONTAL
3	299.66	40.29	-9.14	31.15	46.00	-14.85	Peak	HORIZONTAL
4	339.43	39.56	-8.07	31.49	46.00	-14.51	Peak	HORIZONTAL
5	392.78	37.42	-6.52	30.90	46.00	-15.10	Peak	HORIZONTAL
6	631.40	29.42	-0.89	28.53	46.00	-17.47	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)
(Band UNII-1, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	48.99	-15.65	33.34	40.00	-6.66	Peak	VERTICAL
2	168.71	48.32	-9.95	38.37	43.50	-5.13	Peak	VERTICAL
3	224.97	47.47	-12.87	34.60	46.00	-11.40	Peak	VERTICAL
4	288.99	42.06	-9.29	32.77	46.00	-13.23	Peak	VERTICAL
5	336.52	40.99	-8.08	32.91	46.00	-13.09	Peak	VERTICAL
6	500.45	34.25	-3.92	30.33	46.00	-15.67	Peak	VERTICAL
1	66.86	45.49	-11.74	33.75	40.00	-6.25	Peak	HORIZONTAL
2	164.83	45.57	-9.94	35.63	43.50	-7.87	Peak	HORIZONTAL
3	252.13	40.83	-10.80	30.03	46.00	-15.97	Peak	HORIZONTAL
4	304.51	42.34	-9.11	33.23	46.00	-12.77	Peak	HORIZONTAL
5	392.78	38.66	-6.52	32.14	46.00	-13.86	Peak	HORIZONTAL
6	500.45	33.12	-3.92	29.20	46.00	-16.80	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
2 Measuring frequencies from the lowest internal frequency to the 1GHz.
3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)
(Band UNII-3, 802.11a mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	48.34	-15.65	32.69	40.00	-7.31	Peak	VERTICAL
2	169.68	46.87	-10.08	36.79	43.50	-6.71	Peak	VERTICAL
3	225.94	47.66	-12.81	34.85	46.00	-11.15	Peak	VERTICAL
4	334.58	41.73	-8.08	33.65	46.00	-12.35	Peak	VERTICAL
5	500.45	35.03	-3.92	31.11	46.00	-14.89	Peak	VERTICAL
6	600.36	31.86	-1.33	30.53	46.00	-15.47	Peak	VERTICAL
1	63.95	45.02	-10.96	34.06	40.00	-5.94	Peak	HORIZONTAL
2	163.86	47.43	-9.86	37.57	43.50	-5.93	Peak	HORIZONTAL
3	337.49	40.14	-8.08	32.06	46.00	-13.94	Peak	HORIZONTAL
4	389.87	38.91	-6.58	32.33	46.00	-13.67	Peak	HORIZONTAL
5	500.45	32.23	-3.92	28.31	46.00	-17.69	Peak	HORIZONTAL
6	684.75	29.91	-0.11	29.80	46.00	-16.20	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
2 Measuring frequencies from the lowest internal frequency to the 1GHz.
3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	74.62	45.87	-13.30	32.57	40.00	-7.43	Peak	VERTICAL
2	168.71	47.02	-9.95	37.07	43.50	-6.43	Peak	VERTICAL
3	224.97	47.68	-12.87	34.81	46.00	-11.19	Peak	VERTICAL
4	277.35	42.53	-9.67	32.86	46.00	-13.14	Peak	VERTICAL
5	337.49	41.07	-8.08	32.99	46.00	-13.01	Peak	VERTICAL
6	500.45	34.17	-3.92	30.25	46.00	-15.75	Peak	VERTICAL
1	66.86	45.39	-11.74	33.65	40.00	-6.35	Peak	HORIZONTAL
2	161.92	46.39	-9.97	36.42	43.50	-7.08	Peak	HORIZONTAL
3	335.55	39.81	-8.08	31.73	46.00	-14.27	Peak	HORIZONTAL
4	389.87	39.70	-6.58	33.12	46.00	-12.88	Peak	HORIZONTAL
5	500.45	34.14	-3.92	30.22	46.00	-15.78	Peak	HORIZONTAL
6	673.11	29.51	-0.36	29.15	46.00	-16.85	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	48.80	-15.65	33.15	40.00	-6.85	Peak	VERTICAL
2	167.74	47.29	-9.98	37.31	43.50	-6.19	Peak	VERTICAL
3	211.39	48.82	-12.74	36.08	43.50	-7.42	Peak	VERTICAL
4	291.90	41.74	-9.26	32.48	46.00	-13.52	Peak	VERTICAL
5	332.64	41.39	-8.09	33.30	46.00	-12.70	Peak	VERTICAL
6	500.45	34.11	-3.92	30.19	46.00	-15.81	Peak	VERTICAL
1	65.89	46.96	-11.69	35.27	40.00	-4.73	Peak	HORIZONTAL
2	166.77	47.03	-10.00	37.03	43.50	-6.47	Peak	HORIZONTAL
3	295.78	40.53	-9.22	31.31	46.00	-14.69	Peak	HORIZONTAL
4	339.43	39.73	-8.07	31.66	46.00	-14.34	Peak	HORIZONTAL
5	390.84	38.79	-6.56	32.23	46.00	-13.77	Peak	HORIZONTAL
6	750.71	29.80	1.36	31.16	46.00	-14.84	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

(Band UNII-3, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	48.88	-15.65	33.23	40.00	-6.77	Peak	VERTICAL
2	167.74	46.70	-9.98	36.72	43.50	-6.78	Peak	VERTICAL
3	214.30	49.43	-12.73	36.70	43.50	-6.80	Peak	VERTICAL
4	288.99	42.86	-9.29	33.57	46.00	-12.43	Peak	VERTICAL
5	337.49	41.66	-8.08	33.58	46.00	-12.42	Peak	VERTICAL
6	600.36	32.65	-1.33	31.32	46.00	-14.68	Peak	VERTICAL
1	65.89	44.95	-11.69	33.26	40.00	-6.74	Peak	HORIZONTAL
2	161.92	48.16	-9.97	38.19	43.50	-5.31	Peak	HORIZONTAL
3	278.32	39.11	-9.65	29.46	46.00	-16.54	Peak	HORIZONTAL
4	390.84	37.98	-6.56	31.42	46.00	-14.58	Peak	HORIZONTAL
5	500.45	32.93	-3.92	29.01	46.00	-16.99	Peak	HORIZONTAL
6	730.34	31.66	0.76	32.42	46.00	-13.58	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	49.50	-15.65	33.85	40.00	-6.15	Peak	VERTICAL
2	168.71	47.91	-9.95	37.96	43.50	-5.54	Peak	VERTICAL
3	215.27	48.24	-12.73	35.51	43.50	-7.99	Peak	VERTICAL
4	278.32	42.59	-9.65	32.94	46.00	-13.06	Peak	VERTICAL
5	334.58	41.45	-8.08	33.37	46.00	-12.63	Peak	VERTICAL
6	500.45	34.80	-3.92	30.88	46.00	-15.12	Peak	VERTICAL
1	66.86	45.90	-11.74	34.16	40.00	-5.84	Peak	HORIZONTAL
2	152.22	43.94	-9.87	34.07	43.50	-9.43	Peak	HORIZONTAL
3	262.80	41.16	-10.32	30.84	46.00	-15.16	Peak	HORIZONTAL
4	339.43	39.22	-8.07	31.15	46.00	-14.85	Peak	HORIZONTAL
5	390.84	38.47	-6.56	31.91	46.00	-14.09	Peak	HORIZONTAL
6	750.71	30.99	1.36	32.35	46.00	-13.65	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	48.56	-15.65	32.91	40.00	-7.09	Peak	VERTICAL
2	167.74	48.11	-9.98	38.13	43.50	-5.37	Peak	VERTICAL
3	210.42	46.91	-12.75	34.16	43.50	-9.34	Peak	VERTICAL
4	289.96	41.74	-9.27	32.47	46.00	-13.53	Peak	VERTICAL
5	336.52	41.23	-8.08	33.15	46.00	-12.85	Peak	VERTICAL
6	532.46	33.43	-3.20	30.23	46.00	-15.77	Peak	VERTICAL
1	65.89	45.50	-11.69	33.81	40.00	-6.19	Peak	HORIZONTAL
2	160.95	46.15	-9.98	36.17	43.50	-7.33	Peak	HORIZONTAL
3	263.77	39.51	-10.25	29.26	46.00	-16.74	Peak	HORIZONTAL
4	330.70	39.67	-8.11	31.56	46.00	-14.44	Peak	HORIZONTAL
5	385.02	37.88	-6.70	31.18	46.00	-14.82	Peak	HORIZONTAL
6	500.45	33.63	-3.92	29.71	46.00	-16.29	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)
(Band UNII-3, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	85.29	49.02	-15.65	33.37	40.00	-6.63	Peak	VERTICAL
2	169.68	48.78	-10.08	38.70	43.50	-4.80	Peak	VERTICAL
3	224.97	47.84	-12.87	34.97	46.00	-11.03	Peak	VERTICAL
4	421.88	35.05	-5.61	29.44	46.00	-16.56	Peak	VERTICAL
5	500.45	33.75	-3.92	29.83	46.00	-16.17	Peak	VERTICAL
6	600.36	32.09	-1.33	30.76	46.00	-15.24	Peak	VERTICAL
1	65.89	45.28	-11.69	33.59	40.00	-6.41	Peak	HORIZONTAL
2	169.68	44.59	-10.08	34.51	43.50	-8.99	Peak	HORIZONTAL
3	303.54	39.95	-9.12	30.83	46.00	-15.17	Peak	HORIZONTAL
4	334.58	39.62	-8.08	31.54	46.00	-14.46	Peak	HORIZONTAL
5	387.93	38.37	-6.63	31.74	46.00	-14.26	Peak	HORIZONTAL
6	750.71	29.89	1.36	31.25	46.00	-14.75	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
2 Measuring frequencies from the lowest internal frequency to the 1GHz.
3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	86.26	48.37	-15.96	32.41	40.00	-7.59	Peak	VERTICAL
2	170.65	47.86	-10.08	37.78	43.50	-5.72	Peak	VERTICAL
3	214.30	48.97	-12.73	36.24	43.50	-7.26	Peak	VERTICAL
4	288.02	42.83	-9.32	33.51	46.00	-12.49	Peak	VERTICAL
5	334.58	41.28	-8.08	33.20	46.00	-12.80	Peak	VERTICAL
6	732.28	34.51	0.82	35.33	46.00	-10.67	Peak	VERTICAL
1	65.89	46.55	-11.69	34.86	40.00	-5.14	Peak	HORIZONTAL
2	160.95	44.25	-9.98	34.27	43.50	-9.23	Peak	HORIZONTAL
3	290.93	40.21	-9.27	30.94	46.00	-15.06	Peak	HORIZONTAL
4	339.43	39.60	-8.07	31.53	46.00	-14.47	Peak	HORIZONTAL
5	389.87	38.56	-6.58	31.98	46.00	-14.02	Peak	HORIZONTAL
6	500.45	32.56	-3.92	28.64	46.00	-17.36	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.

2 Measuring frequencies from the lowest internal frequency to the 1GHz.

3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP

4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (below 1GHz)
(Band UNII-3, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	74.62	46.68	-13.30	33.38	40.00	-6.62	Peak	VERTICAL
2	169.68	47.92	-10.08	37.84	43.50	-5.66	Peak	VERTICAL
3	212.36	47.59	-12.74	34.85	43.50	-8.65	Peak	VERTICAL
4	337.49	41.97	-8.08	33.89	46.00	-12.11	Peak	VERTICAL
5	422.85	34.39	-5.59	28.80	46.00	-17.20	Peak	VERTICAL
6	500.45	34.54	-3.92	30.62	46.00	-15.38	Peak	VERTICAL
1	65.89	46.66	-11.69	34.97	40.00	-5.03	Peak	HORIZONTAL
2	168.71	44.87	-9.95	34.92	43.50	-8.58	Peak	HORIZONTAL
3	260.86	38.99	-10.45	28.54	46.00	-17.46	Peak	HORIZONTAL
4	339.43	40.31	-8.07	32.24	46.00	-13.76	Peak	HORIZONTAL
5	391.81	38.21	-6.54	31.67	46.00	-14.33	Peak	HORIZONTAL
6	500.45	32.33	-3.92	28.41	46.00	-17.59	Peak	HORIZONTAL

Remark:

1 The measured emissions between 9kHz to 30MHz are 20dB lower against the limit, so the result is not recorded in the report.
2 Measuring frequencies from the lowest internal frequency to the 1GHz.
3 Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
4 Measurement result within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-1, 802.11a mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10360.00	30.28	13.71	43.99	68.20	-24.21	Peak	VERTICAL
2	15540.00	32.91	19.03	51.94	74.00	-22.06	Peak	VERTICAL
1	10360.00	30.15	13.71	43.86	68.20	-24.34	Peak	HORIZONTAL
2	15540.00	31.30	19.02	50.32	74.00	-23.68	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10400.00	32.17	13.80	45.97	68.20	-22.23	Peak	VERTICAL
2	15600.00	31.92	18.98	50.90	74.00	-23.10	Peak	VERTICAL
1	10400.00	31.71	13.80	45.51	68.20	-22.69	Peak	HORIZONTAL
2	15600.00	32.23	18.98	51.21	74.00	-22.79	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10480.00	30.07	14.00	44.07	68.20	-24.13	Peak	VERTICAL
2	15720.00	33.15	19.11	52.26	74.00	-21.74	Peak	VERTICAL
1	10480.00	30.84	14.00	44.84	68.20	-23.36	Peak	HORIZONTAL
2	15720.00	31.93	19.11	51.04	74.00	-22.96	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-1, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10360.00	31.83	13.71	45.54	68.20	-22.66	Peak	VERTICAL
2	15540.00	32.96	19.03	51.99	74.00	-22.01	Peak	VERTICAL
1	10360.00	32.17	13.71	45.88	68.20	-22.32	Peak	HORIZONTAL
2	15540.00	33.79	19.03	52.82	74.00	-21.18	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10400.00	31.77	13.80	45.57	68.20	-22.63	Peak	VERTICAL
2	15600.00	32.07	18.98	51.05	74.00	-22.95	Peak	VERTICAL
1	10400.00	31.47	13.80	45.27	68.20	-22.93	Peak	HORIZONTAL
2	15600.00	33.09	18.98	52.07	74.00	-21.93	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10480.00	31.69	14.00	45.69	68.20	-22.51	Peak	VERTICAL
2	15720.00	32.43	19.11	51.54	74.00	-22.46	Peak	VERTICAL
1	10480.00	31.57	14.00	45.57	68.20	-22.63	Peak	HORIZONTAL
2	15720.00	32.93	19.11	52.04	74.00	-21.96	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-1, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10380.00	33.24	13.75	46.99	68.20	-21.21	Peak	VERTICAL
2	15570.00	32.47	19.00	51.47	74.00	-22.53	Peak	VERTICAL
1	10380.00	31.38	13.75	45.13	68.20	-23.07	Peak	HORIZONTAL
2	15570.00	33.28	19.00	52.28	74.00	-21.72	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10460.00	31.36	13.95	45.31	68.20	-22.89	Peak	VERTICAL
2	15690.00	32.76	19.01	51.77	74.00	-22.23	Peak	VERTICAL
1	10460.00	31.02	13.95	44.97	68.20	-23.23	Peak	HORIZONTAL
2	15690.00	33.32	19.01	52.33	74.00	-21.67	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-1, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	10420.00	32.23	13.85	46.08	68.20	-22.12	Peak	VERTICAL
2	15630.00	31.98	19.00	50.98	74.00	-23.02	Peak	VERTICAL
1	10420.00	31.61	13.85	45.46	68.20	-22.74	Peak	HORIZONTAL
2	15630.00	31.98	19.00	50.98	74.00	-23.02	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-3, 802.11a mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11490.00	30.64	15.52	46.16	74.00	-27.84	Peak	VERTICAL
2	17235.00	31.10	21.65	52.75	68.20	-15.45	Peak	VERTICAL
1	11490.00	29.61	15.52	45.13	74.00	-28.87	Peak	HORIZONTAL
2	17235.00	31.29	21.65	52.94	68.20	-15.26	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11570.00	30.76	15.69	46.45	74.00	-27.55	Peak	VERTICAL
2	17355.00	31.34	21.94	53.28	68.20	-14.92	Peak	VERTICAL
1	11570.00	31.58	15.69	47.27	74.00	-26.73	Peak	HORIZONTAL
2	17355.00	32.13	21.94	54.07	68.20	-14.13	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11650.00	31.35	15.83	47.18	74.00	-26.82	Peak	VERTICAL
2	17475.00	31.47	22.23	53.70	68.20	-14.50	Peak	VERTICAL
1	11650.00	30.72	15.83	46.55	74.00	-27.45	Peak	HORIZONTAL
2	17475.00	30.58	22.23	52.81	68.20	-15.39	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-3, 802.11n HT20 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11490.00	29.56	15.52	45.08	74.00	-28.92	Peak	VERTICAL
2	17235.00	32.05	21.65	53.70	68.20	-14.50	Peak	VERTICAL
1	11490.00	30.34	15.52	45.86	74.00	-28.14	Peak	HORIZONTAL
2	17235.00	31.73	21.65	53.38	68.20	-14.82	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Mid	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11570.00	30.23	15.69	45.92	74.00	-28.08	Peak	VERTICAL
2	17355.00	32.07	21.94	54.01	68.20	-14.19	Peak	VERTICAL
1	11570.00	30.49	15.69	46.18	74.00	-27.82	Peak	HORIZONTAL
2	17355.00	32.28	21.94	54.22	68.20	-13.98	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11650.00	30.77	15.83	46.60	74.00	-27.40	Peak	VERTICAL
2	17475.00	31.79	22.23	54.02	68.20	-14.18	Peak	VERTICAL
1	11650.00	31.58	15.83	47.41	74.00	-26.59	Peak	HORIZONTAL
2	17475.00	31.81	22.23	54.04	68.20	-14.16	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-3, 802.11n HT40 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11510.00	29.64	15.55	45.19	74.00	-28.81	Peak	VERTICAL
2	17265.00	31.68	21.76	53.44	68.20	-14.76	Peak	VERTICAL
1	11510.00	30.02	15.55	45.57	74.00	-28.43	Peak	HORIZONTAL
2	17265.00	32.19	21.76	53.95	68.20	-14.25	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH High	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11590.00	31.44	15.74	47.18	74.00	-26.82	Peak	VERTICAL
2	17385.00	32.89	21.97	54.86	68.20	-13.34	Peak	VERTICAL
1	11590.00	30.75	15.74	46.49	74.00	-27.51	Peak	HORIZONTAL
2	17385.00	32.68	21.97	54.65	68.20	-13.55	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiated Spurious Emission Measurement Result (above 1GHz)

(Band UNII-3, 802.11ac VHT80 mode)

Operation Mode	TX MODE	Test Date	2023/08/24
Channel Number	CH Low	Test By	Kevin
Temperature	25 ℃	Humidity	60 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	11550.00	31.09	15.64	46.73	74.00	-27.27	Peak	VERTICAL
2	17325.00	31.81	21.89	53.70	68.20	-14.50	Peak	VERTICAL
1	11550.00	30.69	15.64	46.33	74.00	-27.67	Peak	HORIZONTAL
2	17325.00	31.14	21.89	53.03	68.20	-15.17	Peak	HORIZONTAL

Remark:

1 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

2 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Band Edges test (Band UNII-1, 802.11a mode) -Radiated

Operation Mode	TX CH Low	Test Date	2023/08/24
Channel Number	5180 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4985.07	41.12	7.71	48.83	54.00	-5.17	Average	VERTICAL
2	4985.07	52.23	7.71	59.94	74.00	-14.06	Peak	VERTICAL
3	5150.00	39.10	7.88	46.98	54.00	-7.02	Average	VERTICAL
4	5150.00	51.86	7.88	59.74	68.20	-8.46	Peak	VERTICAL
5	5187.93	106.60	8.06	114.66	F	--	Peak	VERTICAL
1	4933.32	41.31	7.57	48.88	54.00	-5.12	Average	HORIZONTAL
2	4933.32	52.28	7.57	59.85	74.00	-14.15	Peak	HORIZONTAL
3	5150.00	39.11	7.88	46.99	54.00	-7.01	Average	HORIZONTAL
4	5150.00	50.71	7.88	58.59	68.20	-9.61	Peak	HORIZONTAL
5	5185.17	92.40	8.05	100.45	F	--	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.

Operation Mode	TX CH High	Test Date	2023/08/24
Channel Number	5320MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5247.38	107.27	8.26	115.53	F	--	Peak	VERTICAL
2	5350.00	39.36	8.34	47.70	54.00	-6.30	Average	VERTICAL
3	5350.00	49.58	8.34	57.92	68.20	-10.28	Peak	VERTICAL
4	5396.76	39.76	8.47	48.23	54.00	-5.77	Average	VERTICAL
5	5396.76	51.61	8.47	60.08	74.00	-13.92	Peak	VERTICAL
1	5242.98	89.76	8.24	98.00	F	--	Peak	HORIZONTAL
2	5350.00	39.43	8.34	47.77	54.00	-6.23	Average	HORIZONTAL
3	5350.00	50.09	8.34	58.43	68.20	-9.77	Peak	HORIZONTAL
4	5384.66	41.93	8.45	50.38	54.00	-3.62	Average	HORIZONTAL
5	5384.66	52.61	8.45	61.06	74.00	-12.94	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 1kHz, Sweep time= 200 ms.

Band Edges test (Band UNII-1, 802.11n HT20 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2023/08/24
Channel Number	5180 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5134.11	40.12	7.80	47.92	54.00	-6.08	Average	VERTICAL
2	5134.11	53.19	7.80	60.99	74.00	-13.01	Peak	VERTICAL
3	5150.00	40.81	7.88	48.69	54.00	-5.31	Average	VERTICAL
4	5150.00	53.80	7.88	61.68	68.20	-6.52	Peak	VERTICAL
5	5186.55	107.15	8.06	115.21	F	--	Peak	VERTICAL
1	5011.98	37.92	7.76	45.68	54.00	-8.32	Average	HORIZONTAL
2	5011.98	51.92	7.76	59.68	74.00	-14.32	Peak	HORIZONTAL
3	5149.98	37.51	7.88	45.39	54.00	-8.61	Average	HORIZONTAL
4	5149.98	50.54	7.88	58.42	74.00	-15.58	Peak	HORIZONTAL
5	5184.48	91.68	8.05	99.73	F	--	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.

Operation Mode	TX CH High	Test Date	2023/08/24
Channel Number	5320MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5243.20	103.79	8.24	112.03	F	--	Peak	VERTICAL
2	5350.00	37.06	8.34	45.40	54.00	-8.60	Average	VERTICAL
3	5350.00	50.29	8.34	58.63	68.20	-9.57	Peak	VERTICAL
4	5411.50	39.88	8.49	48.37	54.00	-5.63	Average	VERTICAL
5	5411.50	52.72	8.49	61.21	74.00	-12.79	Peak	VERTICAL
1	5245.18	91.03	8.26	99.29	F	--	Peak	HORIZONTAL
2	5350.00	36.28	8.34	44.62	54.00	-9.38	Average	HORIZONTAL
3	5350.00	49.28	8.34	57.62	68.20	-10.58	Peak	HORIZONTAL
4	5430.64	38.97	8.52	47.49	54.00	-6.51	Average	HORIZONTAL
5	5430.64	51.97	8.52	60.49	74.00	-13.51	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.

Band Edges test (Band UNII-1, 802.11n HT40 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2023/08/24
Channel Number	5190 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5013.33	42.02	7.76	49.78	54.00	-4.22	Average	VERTICAL
2	5013.33	53.13	7.76	60.89	74.00	-13.11	Peak	VERTICAL
3	5150.00	41.24	7.88	49.12	54.00	-4.88	Average	VERTICAL
4	5150.00	52.96	7.88	60.84	68.20	-7.36	Peak	VERTICAL
5	5197.22	102.42	8.11	110.53	F	--	Peak	VERTICAL
1	5045.99	40.13	7.79	47.92	54.00	-6.08	Average	HORIZONTAL
2	5045.99	52.13	7.79	59.92	74.00	-14.08	Peak	HORIZONTAL
3	5150.00	38.42	7.88	46.30	54.00	-7.70	Average	HORIZONTAL
4	5150.00	50.41	7.88	58.29	68.20	-9.91	Peak	HORIZONTAL
5	5192.96	89.77	8.09	97.86	F	--	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.

Operation Mode	TX CH High	Test Date	2023/08/24
Channel Number	5310MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5221.28	101.30	8.18	109.48	F	--	Peak	VERTICAL
2	5350.00	36.85	8.34	45.19	54.00	-8.81	Average	VERTICAL
3	5350.00	49.68	8.34	58.02	68.20	-10.18	Peak	VERTICAL
4	5392.88	39.86	8.47	48.33	54.00	-5.67	Average	VERTICAL
5	5392.88	52.30	8.47	60.77	74.00	-13.23	Peak	VERTICAL
1	5235.20	87.57	8.22	95.79	F	--	Peak	HORIZONTAL
2	5350.00	36.06	8.34	44.40	54.00	-9.60	Average	HORIZONTAL
3	5350.00	49.07	8.34	57.41	68.20	-10.79	Peak	HORIZONTAL
4	5438.48	40.32	8.52	48.84	54.00	-5.16	Average	HORIZONTAL
5	5438.48	52.59	8.52	61.11	74.00	-12.89	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.

Band Edges test (Band UNII-1, 802.11ac VHT80 mode) -Radiated

Operation Mode	TX CH Low	Test Date	2023/08/24
Channel Number	5210 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5134.50	42.32	7.81	50.13	54.00	-3.87	Average	VERTICAL
2	5134.50	53.30	7.81	61.11	74.00	-12.89	Peak	VERTICAL
3	5150.00	42.07	7.88	49.95	54.00	-4.05	Average	VERTICAL
4	5150.00	52.37	7.88	60.25	68.20	-7.95	Peak	VERTICAL
5	5198.25	97.94	8.11	106.05	F	--	Peak	VERTICAL
1	5037.75	41.51	7.79	49.30	54.00	-4.70	Average	HORIZONTAL
2	5037.75	51.60	7.79	59.39	74.00	-14.61	Peak	HORIZONTAL
3	5150.00	40.35	7.88	48.23	54.00	-5.77	Average	HORIZONTAL
4	5150.00	51.05	7.88	58.93	68.20	-9.27	Peak	HORIZONTAL
5	5222.25	85.85	8.18	94.03	F	--	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.

Operation Mode	TX CH High	Test Date	2023/08/24
Channel Number	5290MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

No	Freq MHz	Reading dBuV	Factor dB	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	5181.20	98.10	8.02	106.12	F	--	Peak	VERTICAL
2	5350.00	39.24	8.34	47.58	54.00	-6.42	Average	VERTICAL
3	5350.00	50.51	8.34	58.85	68.20	-9.35	Peak	VERTICAL
4	5412.20	41.22	8.49	49.71	54.00	-4.29	Average	VERTICAL
5	5412.20	52.23	8.49	60.72	74.00	-13.28	Peak	VERTICAL
1	5220.40	83.51	8.18	91.69	F	--	Peak	HORIZONTAL
2	5350.00	39.23	8.34	47.57	54.00	-6.43	Average	HORIZONTAL
3	5350.00	49.17	8.34	57.51	68.20	-10.69	Peak	HORIZONTAL
4	5414.44	41.37	8.51	49.88	54.00	-4.12	Average	HORIZONTAL
5	5414.44	51.59	8.51	60.10	74.00	-13.90	Peak	HORIZONTAL

Remark:

1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency

2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.

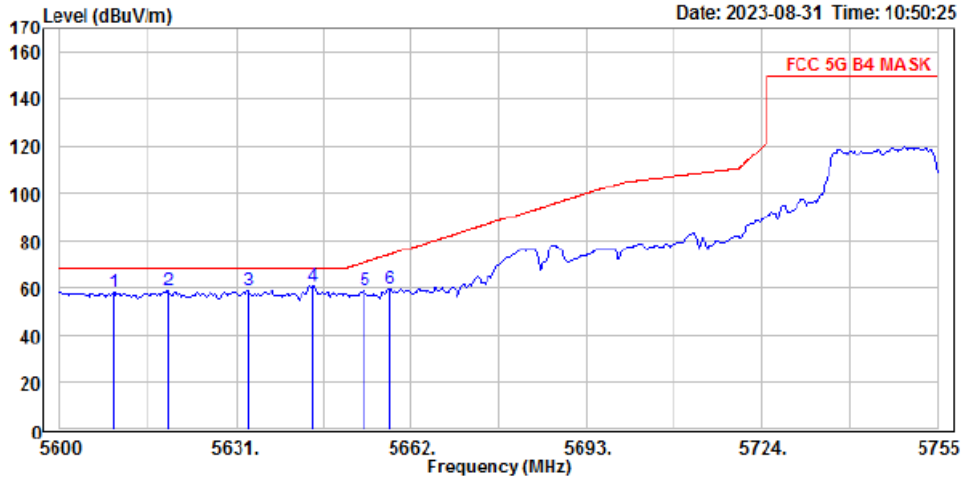
3 Measurement of data within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4 Spectrum Peak mode IF bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.

5 Spectrum AV mode if bandwidth Setting : 1GHz- 40GHz, RBW= 1MHz, VBW ≥ 1/Ton, Sweep time= 200 ms.

Band Edges test (Band UNII-3, 802.11a mode) –Radiated

Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5745 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %

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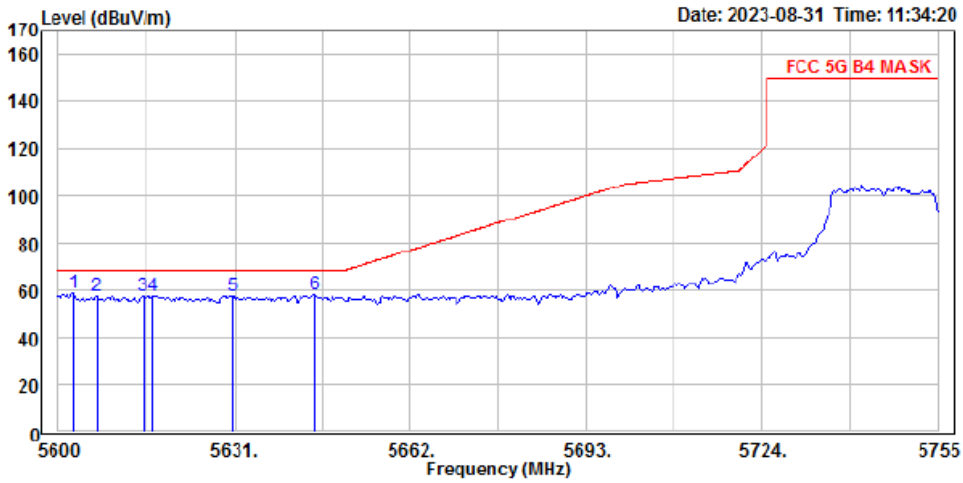
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
         : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT      :
Mode     : 5G Mask B4 a Mode Low Ch
Note     :
```

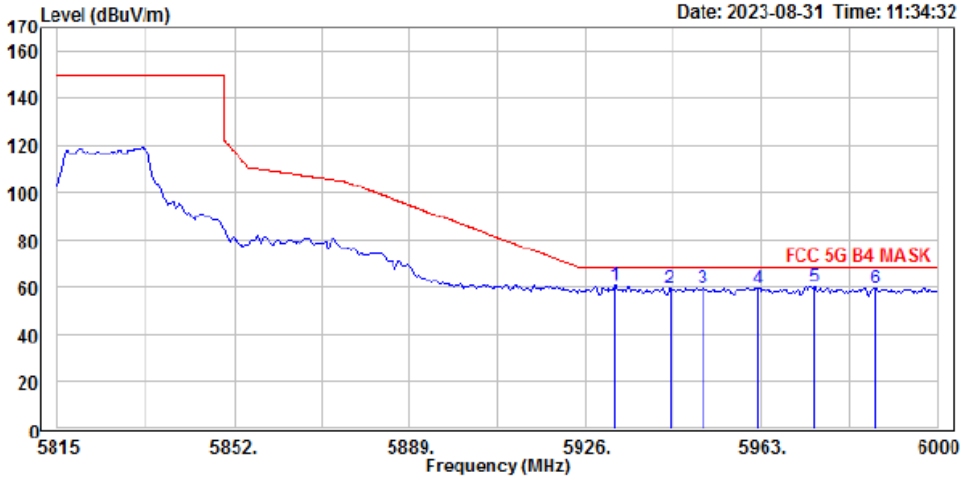
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5609.210	50.35	7.60	57.95	68.20	-10.25	Vertical
2	5619.094	51.02	7.56	58.58	68.20	-9.62	Vertical
3	5633.247	51.00	7.52	58.52	68.20	-9.68	Vertical
4 PP	5644.703	53.34	7.48	60.82	68.20	-7.38	Vertical
5	5653.688	51.66	7.48	59.14	70.94	-11.80	Vertical
6	5658.181	52.17	7.49	59.66	74.28	-14.62	Vertical



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 a Mode Low Ch
Note :

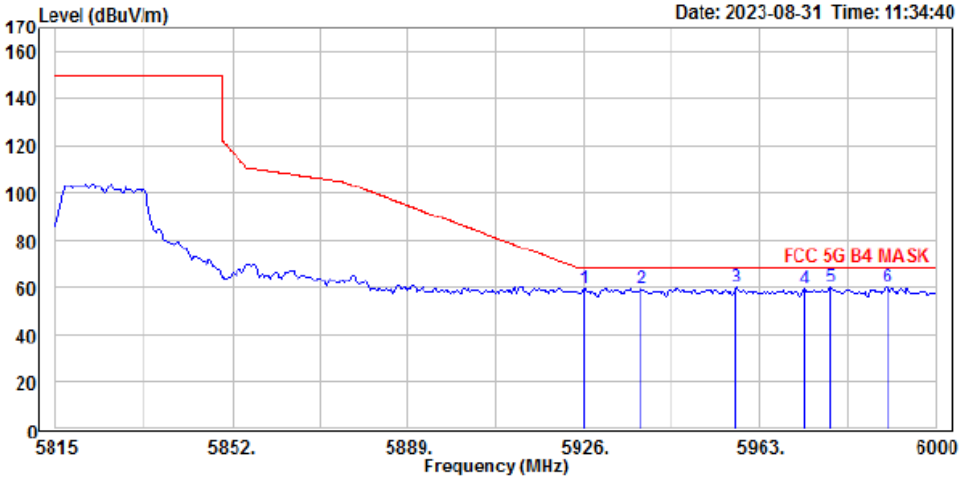
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 PP	5602.471	51.27	7.62	58.89	68.20	-9.31	Horizontal
2	5606.739	49.91	7.60	57.51	68.20	-10.69	Horizontal
3	5614.826	50.10	7.58	57.68	68.20	-10.52	Horizontal
4	5616.623	49.92	7.57	57.49	68.20	-10.71	Horizontal
5	5630.551	50.15	7.53	57.68	68.20	-10.52	Horizontal
6	5645.152	50.67	7.48	58.15	68.20	-10.05	Horizontal

Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5825MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 a Mode High Ch
Note :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 PP	5932.435	52.82	7.98	60.80	68.20	-7.40	Vertical
2	5943.696	51.56	7.96	59.52	68.20	-8.68	Vertical
3	5950.667	51.51	7.95	59.46	68.20	-8.74	Vertical
4	5962.196	51.63	7.98	59.61	68.20	-8.59	Vertical
5	5974.261	52.06	8.01	60.07	68.20	-8.13	Vertical
6	5987.130	51.37	8.04	59.41	68.20	-8.79	Vertical

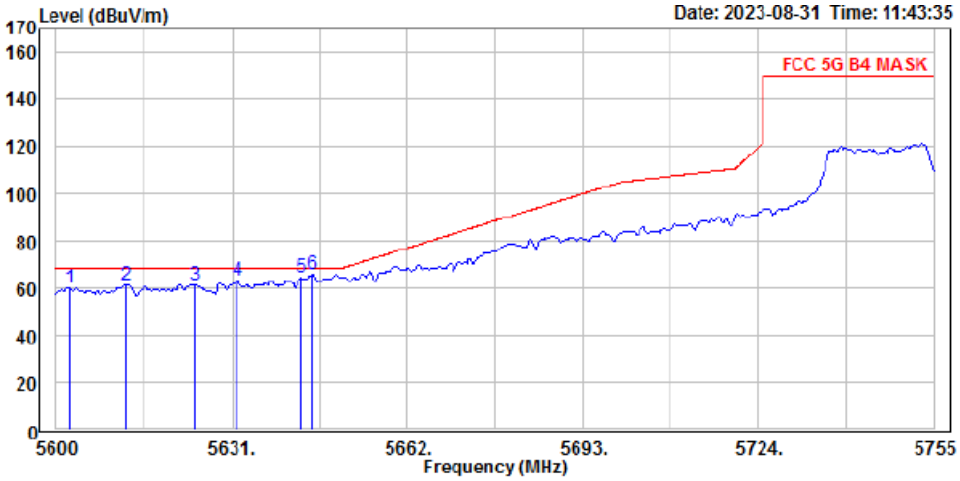


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 a Mode High Ch
Note :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5926.268	51.77	7.98	59.75	68.20	-8.45	Horizontal
2	5938.065	51.59	7.96	59.55	68.20	-8.65	Horizontal
3	5958.174	51.82	7.98	59.80	68.20	-8.40	Horizontal
4	5972.384	51.16	8.00	59.16	68.20	-9.04	Horizontal
5	5978.015	51.80	8.02	59.82	68.20	-8.38	Horizontal
6 PP	5989.812	52.06	8.05	60.11	68.20	-8.09	Horizontal

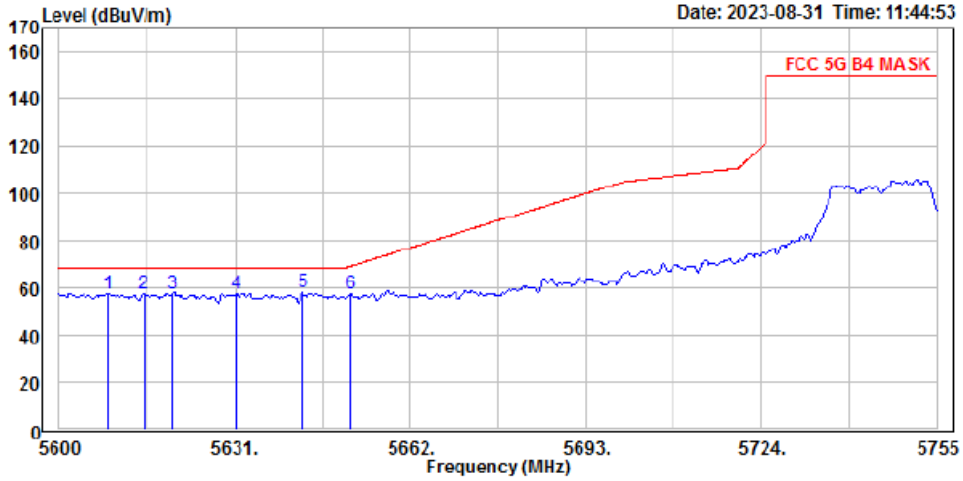
Band Edges test (Band UNII-3, 802.11n HT20 mode) –Radiated

Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5745 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %




```
Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
         : RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT      :
Mode     : 5G Mask B4 HT20 Mode Low Ch
Note     :
```

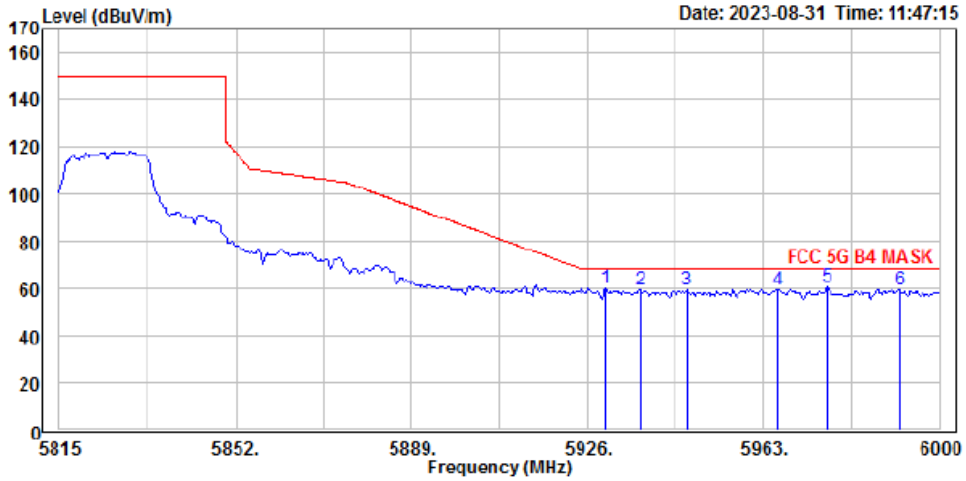
		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		5602.247	52.74	7.62	60.36	68.20	-7.84	Vertical
2		5612.355	53.81	7.59	61.40	68.20	-6.80	Vertical
3		5624.485	53.80	7.55	61.35	68.20	-6.85	Vertical
4		5631.898	55.63	7.52	63.15	68.20	-5.05	Vertical
5		5643.355	56.88	7.49	64.37	68.20	-3.83	Vertical
6	PP	5645.152	58.23	7.48	65.71	68.20	-2.49	Vertical



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 HT20 Mode Low Ch
Note :

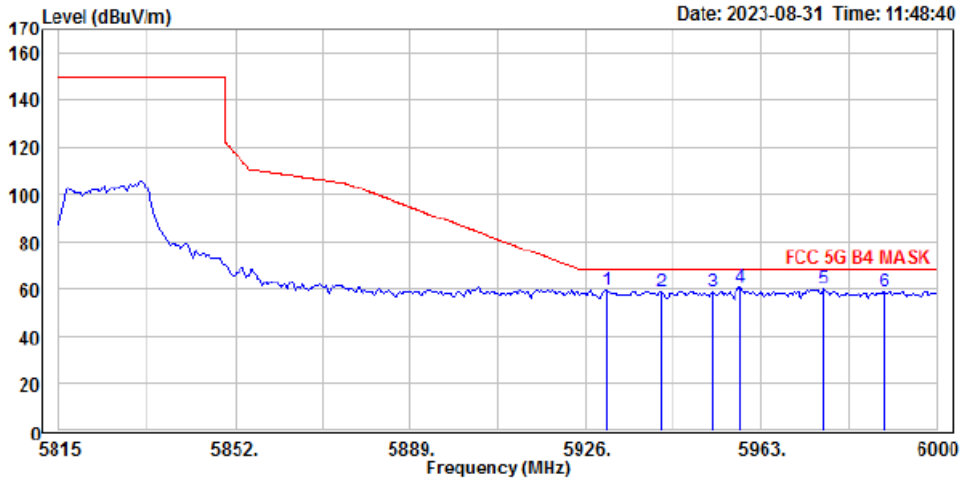
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5608.536	50.05	7.60	57.65	68.20	-10.55	Horizontal
2	5614.826	49.77	7.58	57.35	68.20	-10.85	Horizontal
3	5619.768	49.98	7.56	57.54	68.20	-10.66	Horizontal
4	5631.225	50.02	7.53	57.55	68.20	-10.65	Horizontal
5 PP	5642.906	50.74	7.49	58.23	68.20	-9.97	Horizontal
6	5651.442	50.19	7.48	57.67	69.27	-11.60	Horizontal

Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5825 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 HT20 Mode High Ch
Note :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5929.753	52.07	7.98	60.05	68.20	-8.15	Vertical
2	5936.993	51.68	7.97	59.65	68.20	-8.55	Vertical
3	5946.913	51.51	7.96	59.47	68.20	-8.73	Vertical
4	5965.949	51.45	7.99	59.44	68.20	-8.76	Vertical
5 PP	5976.406	52.49	8.01	60.50	68.20	-7.70	Vertical
6	5991.688	51.50	8.05	59.55	68.20	-8.65	Vertical

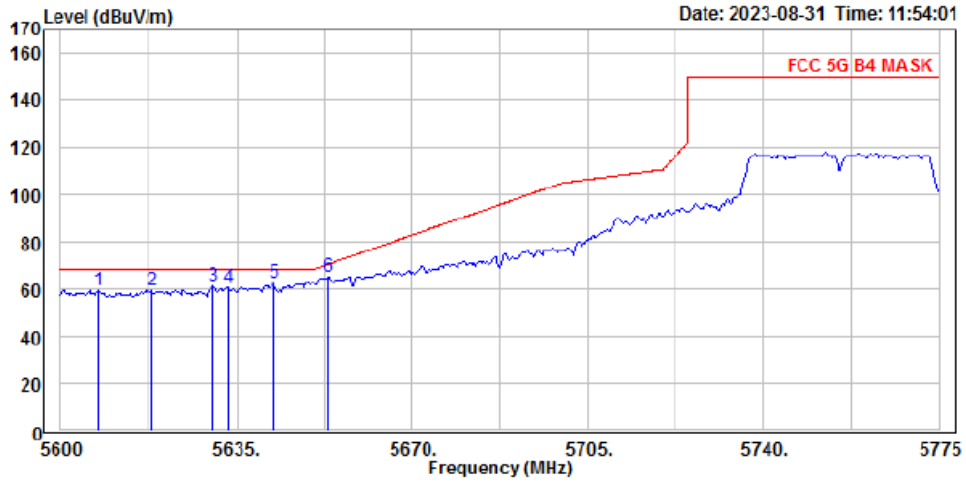


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 HT20 Mode High Ch
Note :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5930.290	51.41	7.98	59.39	68.20	-8.81	Horizontal
2	5941.819	51.01	7.96	58.97	68.20	-9.23	Horizontal
3	5952.812	50.88	7.96	58.84	68.20	-9.36	Horizontal
4 PP	5958.710	52.58	7.98	60.56	68.20	-7.64	Horizontal
5	5976.138	52.10	8.01	60.11	68.20	-8.09	Horizontal
6	5989.007	50.82	8.05	58.87	68.20	-9.33	Horizontal

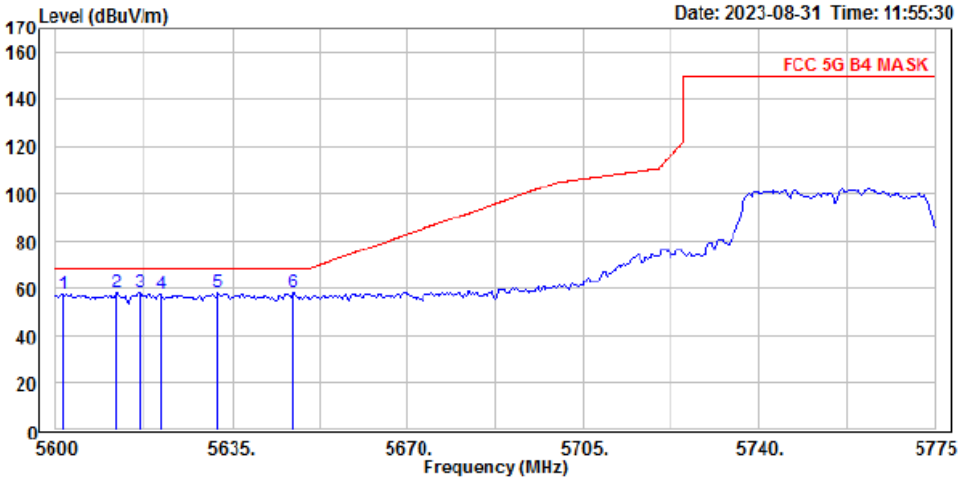
Band Edges test (Band UNII-3, 802.11n HT40 mode) –Radiated

Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5755 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 HT40 Mode Low Ch
Note :

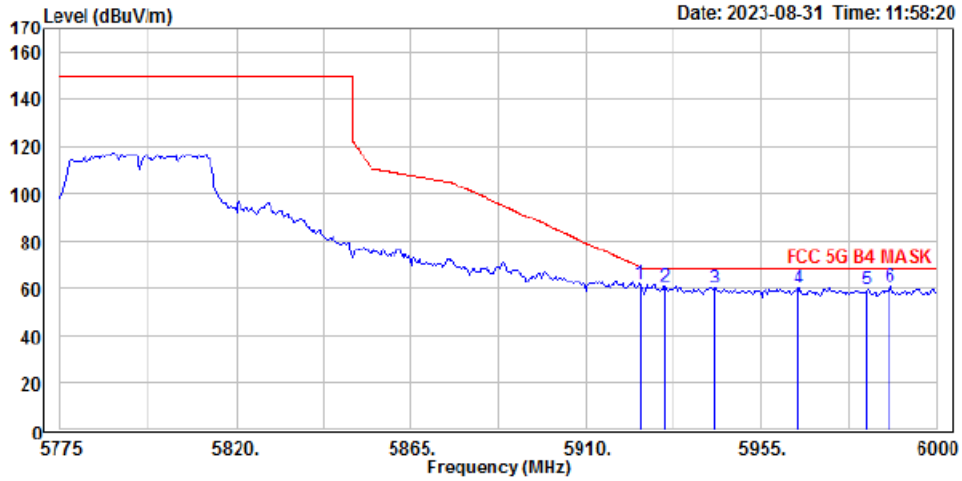
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5607.355	51.72	7.60	59.32	68.20	-8.88	Vertical
2	5618.007	52.20	7.57	59.77	68.20	-8.43	Vertical
3	5630.181	53.70	7.53	61.23	68.20	-6.97	Vertical
4	5633.225	53.52	7.52	61.04	68.20	-7.16	Vertical
5 PP	5642.355	55.46	7.49	62.95	68.20	-5.25	Vertical
6	5653.261	57.74	7.48	65.22	70.62	-5.40	Vertical



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 HT40 Mode Low Ch
Note :

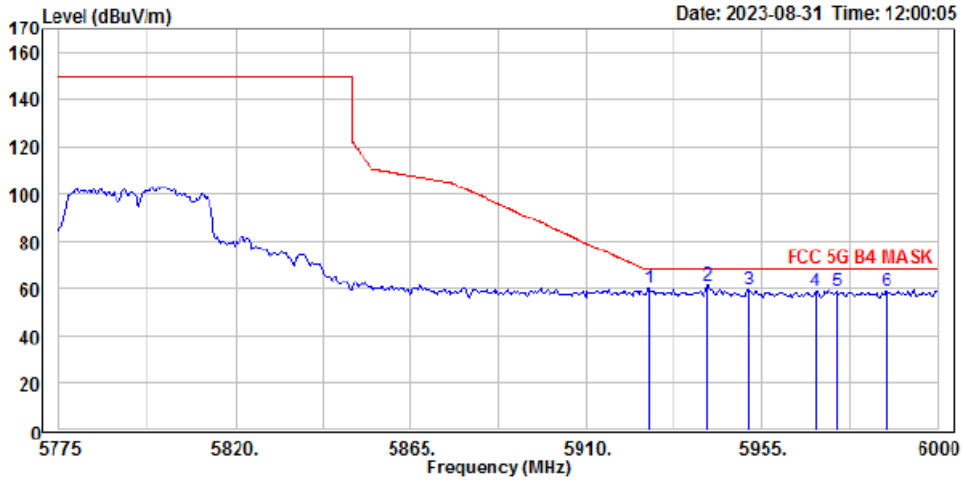
		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		5601.268	49.73	7.62	57.35	68.20	-10.85	Horizontal
2		5612.174	50.76	7.59	58.35	68.20	-9.85	Horizontal
3	PP	5616.485	50.86	7.57	58.43	68.20	-9.77	Horizontal
4		5620.797	49.73	7.56	57.29	68.20	-10.91	Horizontal
5		5632.210	50.36	7.52	57.88	68.20	-10.32	Horizontal
6		5647.174	50.54	7.47	58.01	68.20	-10.19	Horizontal

Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5795MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 HT40 Mode High Ch
Note :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1 PP	5923.696	53.77	7.98	61.75	69.16	-7.41	Vertical
2	5930.217	52.66	7.98	60.64	68.20	-7.56	Vertical
3	5943.261	52.38	7.96	60.34	68.20	-7.86	Vertical
4	5964.457	51.98	7.99	59.97	68.20	-8.23	Vertical
5	5982.391	51.40	8.03	59.43	68.20	-8.77	Vertical
6	5988.261	52.62	8.05	60.67	68.20	-7.53	Vertical

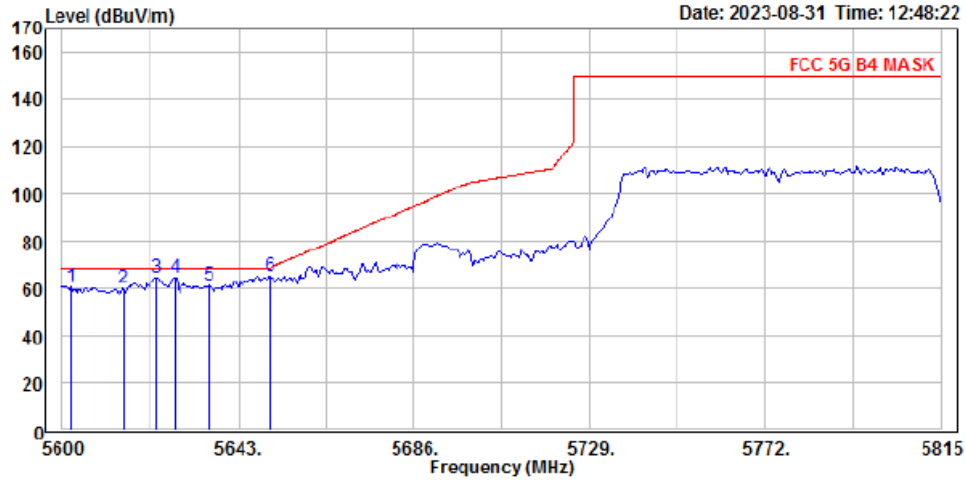


Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 HT40 Mode High Ch
Note :

		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		5926.304	52.30	7.98	60.28	68.20	-7.92	Horizontal
2	PP	5941.304	53.42	7.96	61.38	68.20	-6.82	Horizontal
3		5951.739	51.55	7.95	59.50	68.20	-8.70	Horizontal
4		5968.696	50.80	8.01	58.81	68.20	-9.39	Horizontal
5		5974.239	50.74	8.01	58.75	68.20	-9.45	Horizontal
6		5986.957	51.06	8.04	59.10	68.20	-9.10	Horizontal

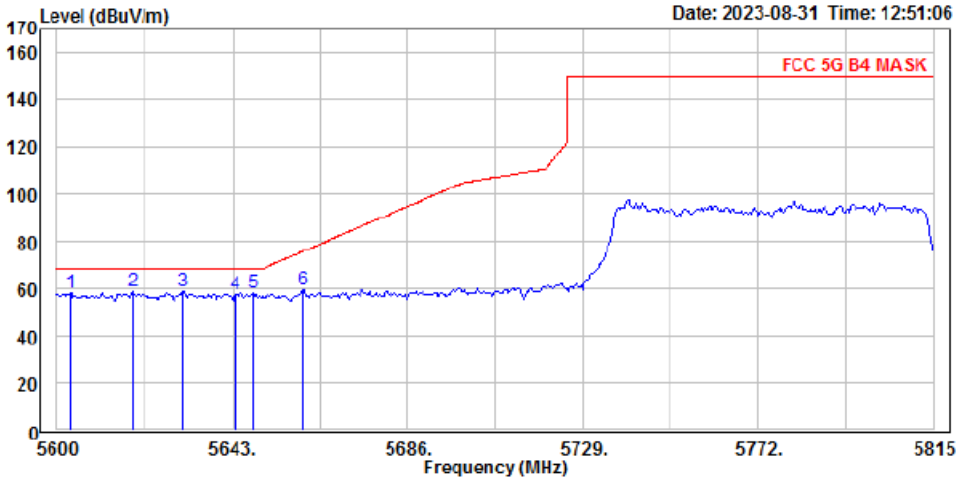
Band Edges test (Band UNII-3, 802.11ac VHT80 mode) –Radiated

Operation Mode	TX CH Low	Test Date	2022/11/08
Channel Number	5775 MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 AC80 Mode Low
Note :

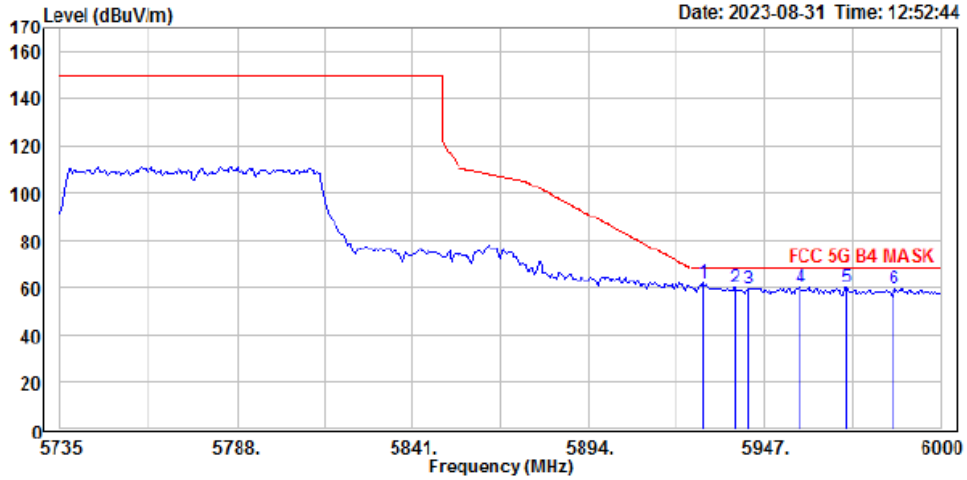
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5602.181	52.88	7.62	60.50	68.20	-7.70	Vertical
2	5614.957	52.47	7.58	60.05	68.20	-8.15	Vertical
3 PP	5623.058	57.34	7.56	64.90	68.20	-3.30	Vertical
4	5627.420	57.27	7.54	64.81	68.20	-3.39	Vertical
5	5635.833	53.67	7.52	61.19	68.20	-7.01	Vertical
6	5650.790	57.76	7.47	65.23	68.79	-3.56	Vertical



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 AC80 Mode Low
Note :

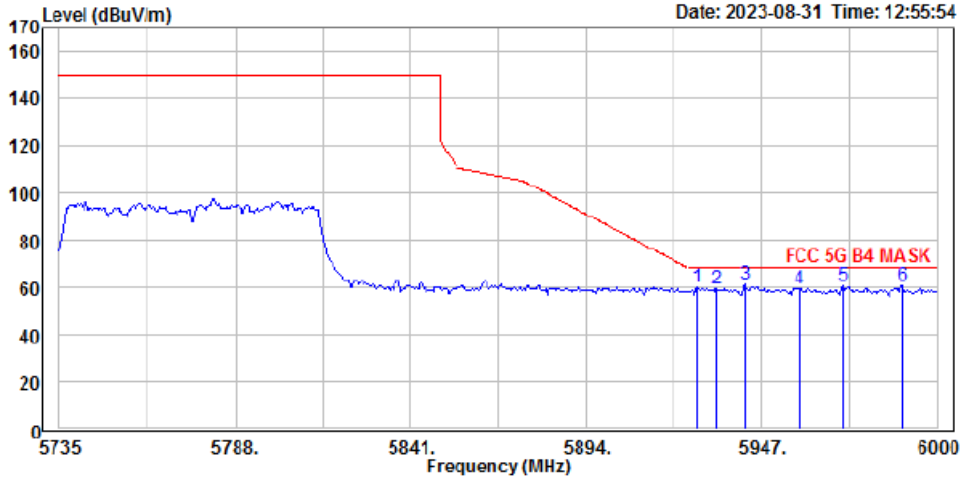
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5603.116	50.46	7.62	58.08	68.20	-10.12	Horizontal
2	5618.384	51.08	7.57	58.65	68.20	-9.55	Horizontal
3 PP	5630.848	51.21	7.53	58.74	68.20	-9.46	Horizontal
4	5643.623	50.26	7.49	57.75	68.20	-10.45	Horizontal
5	5647.985	50.44	7.48	57.92	68.20	-10.28	Horizontal
6	5660.449	51.86	7.51	59.37	75.96	-16.59	Horizontal

Operation Mode	TX CH High	Test Date	2022/11/08
Channel Number	5775MHz	Test By	Kevin
Temperature	25 ℃	Humidity	65 %



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 V 1-18G.csv Vertical
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 AC80 Mode High
Note :

		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	PP	5928.181	54.05	7.97	62.02	68.20	-6.18	Vertical
2		5938.167	52.33	7.96	60.29	68.20	-7.91	Vertical
3		5942.007	51.64	7.96	59.60	68.20	-8.60	Vertical
4		5957.753	52.36	7.98	60.34	68.20	-7.86	Vertical
5		5971.580	52.00	8.00	60.00	68.20	-8.20	Vertical
6		5986.174	51.44	8.04	59.48	68.20	-8.72	Vertical



Condition: limit\FCC\FCC 5G B4 MASK.csv 3m factor\966 3117 H 1-18G.csv Horizonta
: RBW:1000kHz VBW:3000kHz SWT:Auto DET:Positive
EUT :
Mode : 5G Mask B4 AC80 Mode High
Note :

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Pol/Phase
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	5927.413	52.04	7.98	60.02	68.20	-8.18	Horizontal
2	5933.558	51.52	7.97	59.49	68.20	-8.71	Horizontal
3 PP	5942.007	53.41	7.96	61.37	68.20	-6.83	Horizontal
4	5958.522	51.38	7.98	59.36	68.20	-8.84	Horizontal
5	5971.580	52.45	8.00	60.45	68.20	-7.75	Horizontal
6	5989.630	52.94	8.05	60.99	68.20	-7.21	Horizontal

10. Transmission in the Absence of Data

10.1. Standard Applicable

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

10.2. Result:

Pass, the device is compliance with 802.11 a/ b/g/n ac standard, the short control signal is appear during no transmission period.

11. Antenna Requirement

11.1. Standard Applicable

According to §15.203, Antenna requirement.

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 Sections 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 Section 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.

11.2. Antenna Connected Construction

The directional gins of antenna used for transmitting is below table, and the antenna connector is designed with unique type RF connector and no consideration of replacement. Please see EUT photo and antenna spec. for details.

Antenna Designation:

	Antenna Type	Brand	Model	Peak Gain	Frequency Range	Connector Type
1	Dipole Antenna	ARISTOTLE	RFA-25-T42-U-M70	2.6dBi 5dBi	2400-2500 MHz 5150-5875 MHz	N/A

12. TPC and DFS Measurement

12.1. TPC: Standard Applicable

According to §15.407(h)(1), Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

12.2. DFS: Standard Applicable

According to §15.407(h)(2), Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection.

13.2.1. Limit

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Slave	Client(without radar detection)	Client(with radar detection)
Non-occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required
U-NII Detection Band-width	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Slave	Client(without radar detection)	Client(with radar detection)
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmis-sion Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes

Refer to KDB Number: 905462 APPENDIX B COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5.25-5.35 GHz AND 5.47-5.725 GHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION.

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.	

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 80% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows:

- For the Short Pulse Radar Test Signals this instant is the end of the *Burst*.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar *Burst* generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the *Radar Waveform*.

Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Table 5: Radar Test Waveforms

Short Pulse Radar

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. For Short Pulse Radar Type 1, the same waveform is used a minimum of 30 times. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms

Long Pulse Radar

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per *Burst*	Number of *Bursts*	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Frequency Hopping Radar

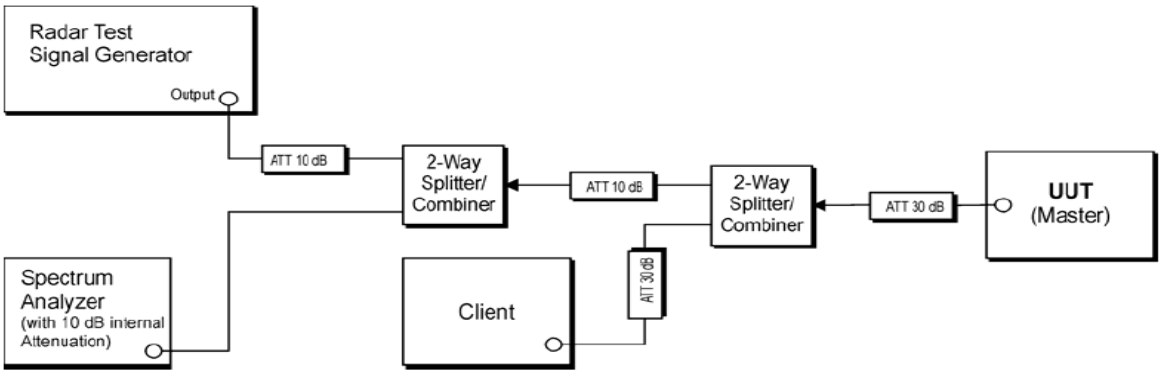
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	.333	300	70%	30

For the Frequency Hopping Radar Type, the same *Burst* parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm: 3

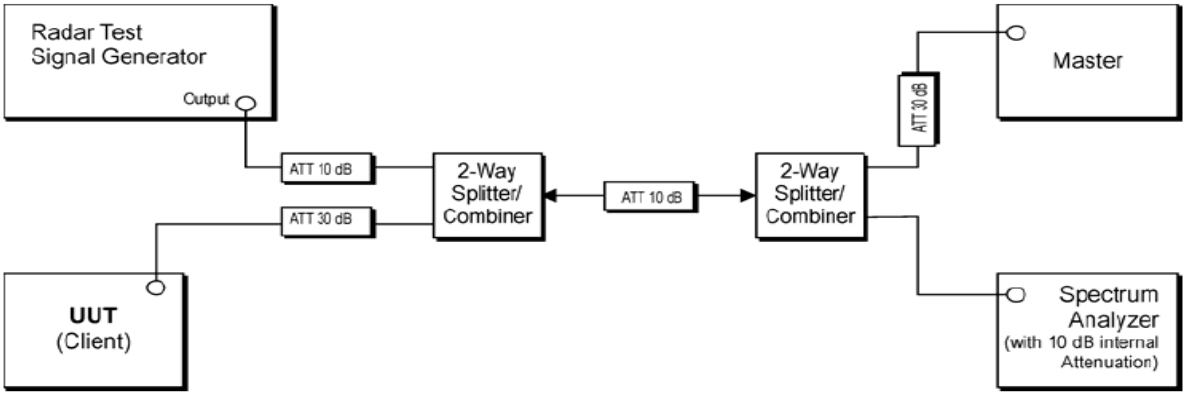
The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

13.2.2. Test Setup

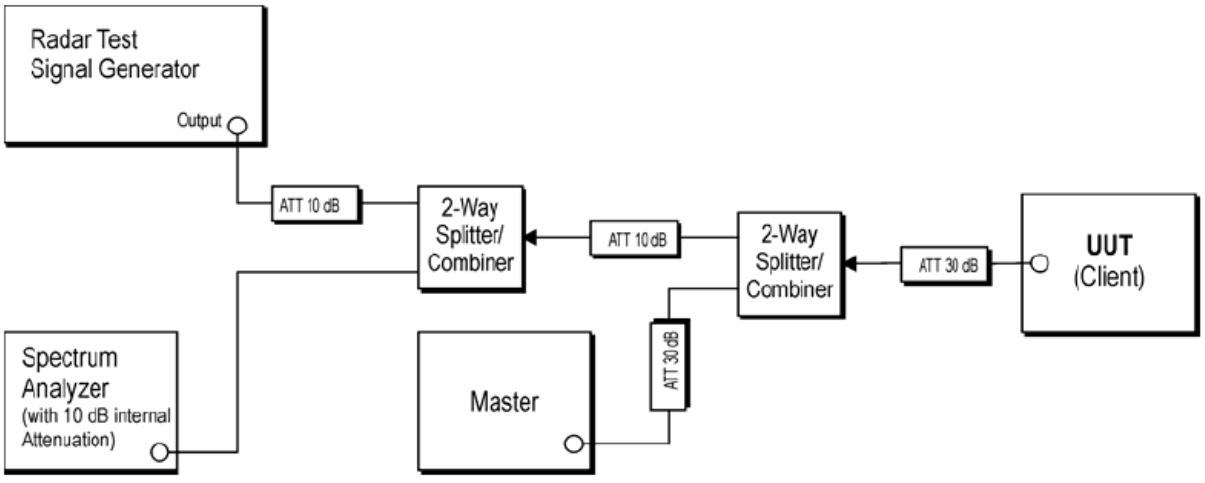
Setup for Master with injection at the Master



Setup for Client with injection at the Master



Setup for Client with injection at the Client



Note: device under test are configured with AP as IP based by streaming MPEG video, 30 frames per seconds

12.3. Test Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted (DFS)	AP Router	Synology	RT1900ac	15B0N3N369502	NA	NA
Conducted (DFS)	USB Adapter	D-Link	DWA-182	QBYS1D8000073	NA	NA
Conducted (DFS)	Direction Coupler	Krytar	1821S	1461	NA	NA
Conducted (DFS)	Splitter	Mini-Circuits	ZN2PD-63-S	UU97201111	NA	NA
Conducted (DFS)	Attenuator	Woken	Watt-65m3502	11051601	NA	NA
Conducted (DFS)	Cable	Draka	NA	NA	NA	NA
Conducted (TS8997)	Wideband Radio Comm. Tester	R&S	CMW500	168811	09/22/2022	09/22/2023
Conducted (TS8997)	UP/DOWN converter	R&S	CMW-Z800A	100566	12/22/2022	12/22/2023
Conducted (TS8997)	Signal Generator	R&S	SMB100A	183701	01/18/2023	01/18/2024
Conducted (TS8997)	Vector Signal Generator	R&S	SMM100A	101908	11/23/2022	11/23/2023
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/22/2022	09/22/2023
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/21/2022	09/21/2023
Conducted (TS8997)	Test Software	R&S	EMC32 Ver:11.60.00	NA	NA	NA

12.3.1. Description of EUT :

EUT operates over the 5250-5350MHz and 5470-5725MHz ranges and EUT is a slave device (client equipment) w/o radar detection and DFS capability.

The EUT utilizes the 802.11n architecture, with a nominal channel bandwidth of 80MHz WLAN traffic is generated by streaming the mpeg file from the master to slave in full monitor video mode using the media player.

The rated output power of the master unit is >23dBm(EIRP).therefore the required interference threshold level is -64dBm. The master device as employed for the applicable DFS test is router whose FCC ID= YOR-RT1900AC for Synology

12.4. Test results

N/A