FCC Test Report

Report No.:	RFBBQZ-WTW-P22060184-2
FCC ID:	PY322300569
Test Model:	WAX214v2
Received Date:	2022/6/8
Test Date:	2022/9/6 ~ 2022/9/22
Issued Date:	2022/10/3
Applicant and Manufacturer:	NETGEAR, INC.
Address:	350 East Plumeria Drive San Jose, CA 95134
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P22060184-2	Original release.	2022/10/3

1 Certificate of Conformity

Product:	WiFi 6 AX1800 Dual Band Access Point
Brand:	NETGEAR
Test Model:	WAX214v2
Sample Status:	Engineering sample
Applicant and Manufacturer:	NETGEAR, INC.
Test Date:	2022/9/6 ~ 2022/9/22
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10: 2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** 2022/10/3

Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** 2022/10/3

Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.02dB at 0.48191MHz.
15.407(b)(5)(9)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -0.7dB at 5643.10MHz.
15.407(a)(3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.403	Operational restrictions U-NII 4 devices	Pass	Declaration by applicant
15.203	Antenna Requirement	Pass	Antenna connector is IPEX not a standard connector.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	9 kHz ~ 30 MHz	2.99 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.60 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	WiFi 6 AX1800 Dual Band Access Point
Brand	NETGEAR
Test Model	WAX214v2
Status of EUT	Engineering sample
Power Supply Rating	12 Vdc (adapter) 55.5 Vdc (POE)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps 802.11ax: up to 1200 Mbps
Operating Frequency	5845 ~ 5885 MHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 3 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1
EIRP	CDD Mode: 30.88dBm (1224.616mW) Beamforming Mode: 33.53dBm (2254.239mW)
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note
Data Cable Supplied	NA

Note:

1. The EUT incorporates a MIMO function:

5 GHz Band		
Modulation Mode	Tx & Rx Configuration	
802.11a	2TX	3RX
802.11n (HT20)	2TX	3RX
802.11n (HT40)	2TX	3RX
802.11ac (VHT20)	2TX	3RX
802.11ac (VHT40)	2TX	3RX
802.11ac (VHT80)	2TX	3RX
802.11ax (HE20)	2TX	3RX
802.11ax (HE40)	2TX	3RX
802.11ax (HE80)	2TX	3RX

Note:

1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20 MHz / 40 MHz, 802.11ac mode for 20 MHz / 40 MHz / 80 MHz and 802.11ax mode for 20 MHz / 40 MHz / 80 MHz, therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report.

2. The EUT uses following accessories.

Adapter 1	
Brand	NETGEAR
Model	AD2076F10
Part Number	332-10993-02
Input Power	100-120 Vac, 50/60 Hz, 0.56 A
Output Power	12 Vdc, 1.5 A
DC cable	1.8m DC cable without core

Adapter 2	
Brand	NETGEAR
Model	ADS-18FQ-12 12018EPCU-L ADS-18FQ-12 12018EPC-L
Part Number	332-11523-02
Input Power	100-120 Vac, 60 Hz, Max. 0.7 A
Output Power	12 Vdc, 1.5 A
DC cable	1.8m DC cable without core

Adapter 3	
Brand	NETGEAR
Model	2AAJ018F 1
Part Number	332-11572-01
Input Power	100-120 Vac, 50/60 Hz, 0.6 A
Output Power	12.0 Vdc, 1.5 A
DC cable	1.83m DC cable without core

POE (for support unit only)	
Brand	BUFFALO
Model	BIJ-POE-1P2GH
Input Power	100-240 Vac, 1.1 A, 50/60 Hz
Output Power	55.5 Vdc, 0.54 A

3. The antenna information is listed as below.

Antenna Type	PIFA	
Connector Type	IPEX	
Antenna Gain(dBi)	Chain 0	Chain 1
5845 ~ 5885MHz	4.40	4.30

* The detailed antenna information, please refer to the Test report-Antenna Spec.pdf.

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

For 5845 ~ 5885 MHz

3 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency	Channel	Frequency
*169	5845 MHz	173	5865 MHz	177	5885 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
*167	5835 MHz	175	5875 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
*171	5855 MHz

Note: * Straddle channels.

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To					Description
	RE≥1G	RE<1G	IBE	PLC	APCM	
A	√	√	√	√	√	Powered by adapter 1
B	-	√	-	√	-	Powered by adapter 2
C	-	√	-	√	-	Powered by adapter 3
D	-	√	-	√	-	Powered by POE

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement
IBE: In-Band Emission (MASK)

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.
2. "-": Means no effect.

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
A	802.11a	5845-5885	169 to 177	169, 173, 177	OFDM	BPSK	6Mb/s
A	802.11ax (HE20)	5845-5885	169 to 177	169, 173, 177	OFDMA	BPSK	MCS0
A	802.11ax (HE40)	5835-5875	167 to 175	167, 175	OFDMA	BPSK	MCS0
A	802.11ax (HE80)	5855-5855	171	171	OFDMA	BPSK	MCS0

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
A, B, C, D	802.11ax (HE40)	5835-5875	167 to 175	167	OFDMA	BPSK	MCS0

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
A, B, C, D	802.11ax (HE40)	5835-5875	167 to 175	167	OFDMA	BPSK	MCS0

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
A	802.11a	5845-5885	169 to 177	169, 173, 177	OFDM	BPSK	6Mb/s
A	802.11ax (HE20)	5845-5885	169 to 177	169, 173, 177	OFDMA	BPSK	MCS0
A	802.11ax (HE40)	5835-5875	167 to 175	167, 175	OFDMA	BPSK	MCS0
A	802.11ax (HE80)	5855-5855	171	171	OFDMA	BPSK	MCS0

Test Condition:

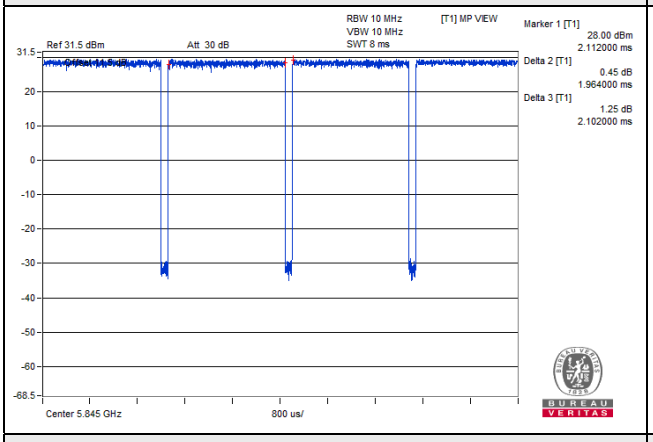
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 70% RH	120Vac, 60Hz	Luis Lee
RE<1G	23 deg. C, 66% RH	120Vac, 60Hz 55.5Vdc	Titan Hsu
PLC	23 deg. C, 66% RH	120Vac, 60Hz 55.5Vdc	Titan Hsu
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Chris Lin

3.3 Duty Cycle of Test Signal

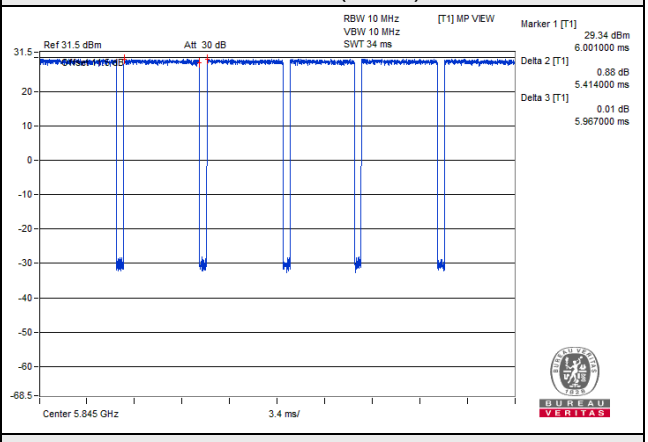
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 1.964/2.102 = 0.934, Duty factor = 10 * log (1/0.934) = 0.29
802.11ax (HE20): Duty cycle = 5.414/5.967 = 0.907, Duty factor = 10 * log (1/0.907) = 0.42
802.11ax (HE40): Duty cycle = 5.415/5.952 = 0.910, Duty factor = 10 * log (1/0.910) = 0.41
802.11ax (HE80): Duty cycle = 5.418/5.994 = 0.904, Duty factor = 10 * log (1/0.904) = 0.44

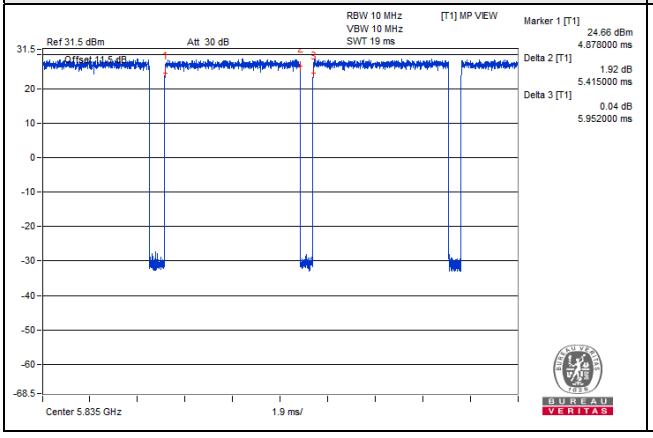
802.11a



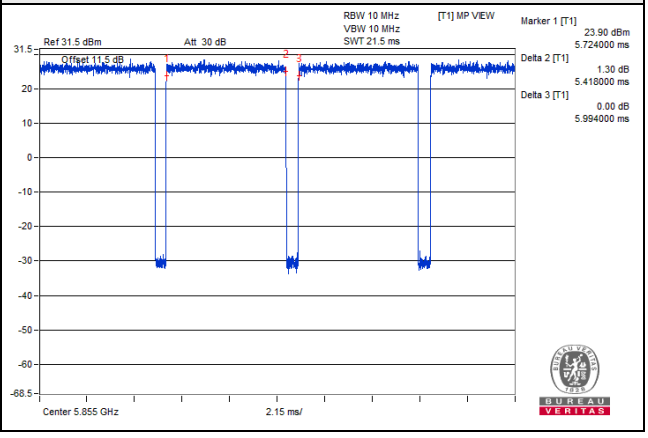
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



3.4 Description of Support Units

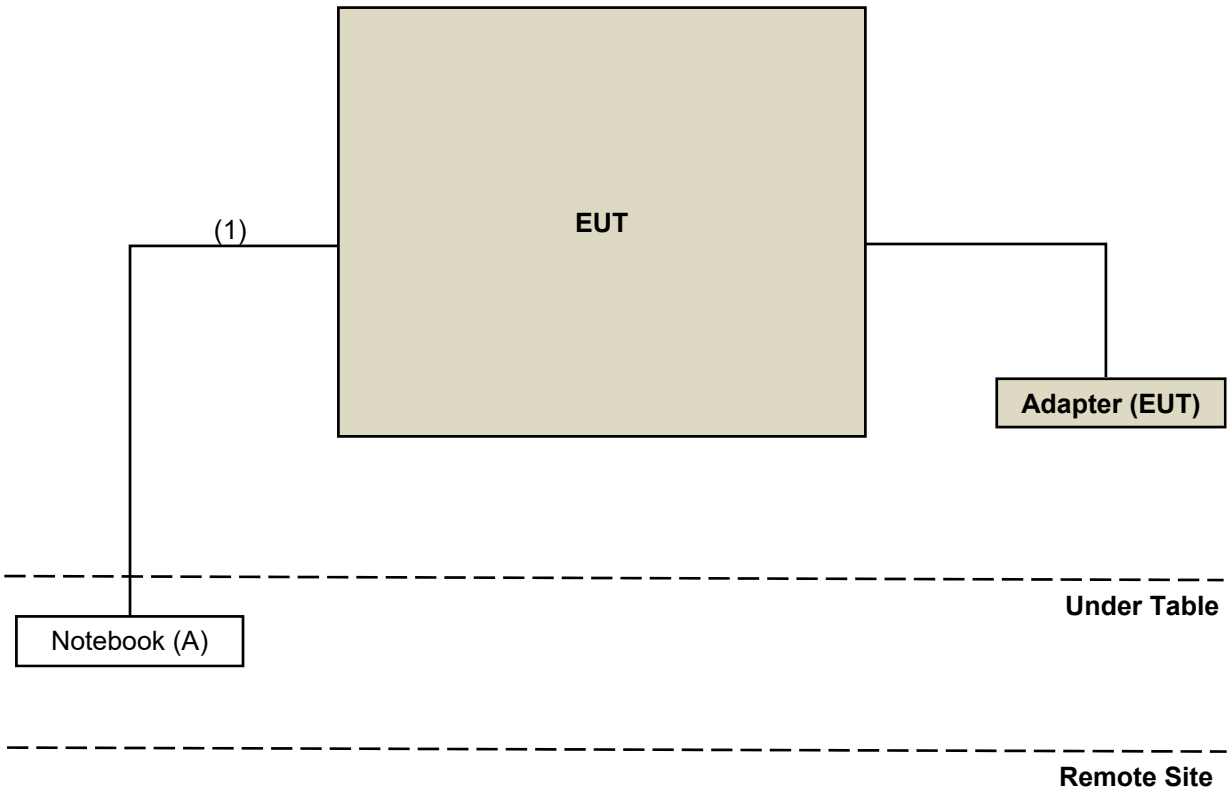
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook	DELL	E5430	2RL3YW1	N/A	Provided by Lab
B	POE	Buffalo	BIJ-POE-1P2GH	N/A	N/A	Supplied by applicant

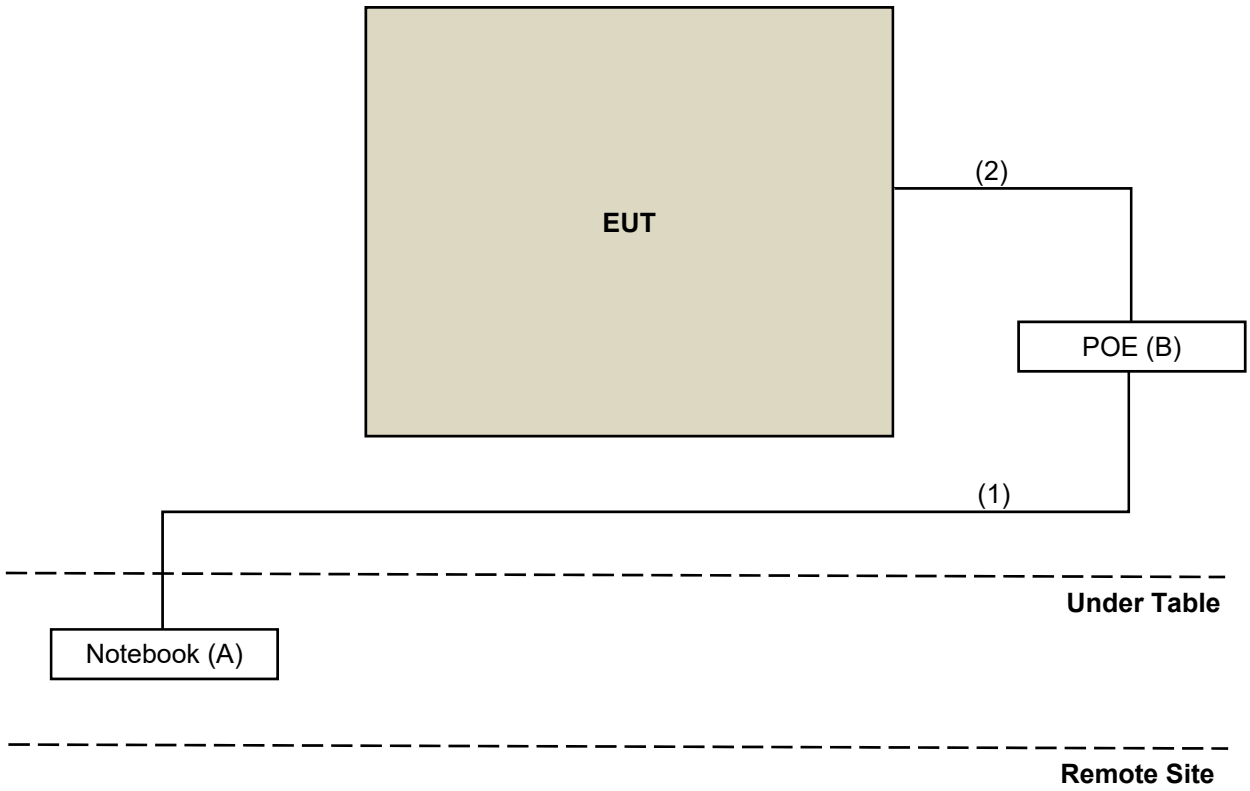
ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	10	N/A	N/A	N/A
2	RJ-45 Cable	1	1.5	N/A	N/A	N/A

3.4.1 Configuration of System under Test

Test Mode A, B, C



Test Mode D



3.5 General Description of Applied Standard

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

Test standard:
FCC Part 15, Subpart E (15.407)
ANSI C63.10:2013

All test items have been performed and recorded as per the above standards.

References Test Guidance:
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
KDB 291074 D02 EMC Measurement v01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of −7 dBm/MHz at or above 5.925 GHz.

(ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of −5 dBm/MHz and shall decrease linearly to an e.i.r.p. of −27 dBm/MHz at or above 5.925 GHz.

(iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of −27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

4.1.2 Test Instruments

Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Bi_Log Antenna Schwarbeck	VULB9168	9168-155	11/1/2021	10/31/2022
Loop Antenna TESEQ	HLA 6121	45745	7/27/2022	7/26/2023
Pre_Amplifier Agilent	8447D	2944A10631	5/14/2022	5/13/2023
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	1/15/2022	1/14/2023
	EMC102-KM-KM-600	150928	7/9/2022	7/8/2023
	EMC102-KM-KM-3000	150929	7/9/2022	7/8/2023
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101582	4/13/2022	4/12/2023
Test Receiver R&S	ESCI	100424	12/30/2021	12/29/2022
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HY - 966 chamber 3.
3. Tested Date: 2022/9/16.

Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170241	10/26/2021	10/25/2022
Pre-Ammlifier EMCI	EMC 184045	980116	10/5/2021	10/4/2022
Pre_Amplifier KEYSIGHT	83017A	MY53270295	5/14/2022	5/13/2023
RF cable HUBER+SUHNER	Sucoflex 104	MY 13380+295012/04	5/14/2022	5/13/2023
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	5/14/2022	5/13/2023
		CABLE-CH9-(250795/4)	1/15/2022	1/14/2023
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	1/15/2022	1/14/2023
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101582	4/13/2022	4/12/2023
Test Receiver R&S	ESCI	100424	12/30/2021	12/29/2022
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HY - 966 chamber 3.
3. Tested Date: Tested Date: 2022/9/6 ~ 2022/9/16.

4.1.3 Test Procedure

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

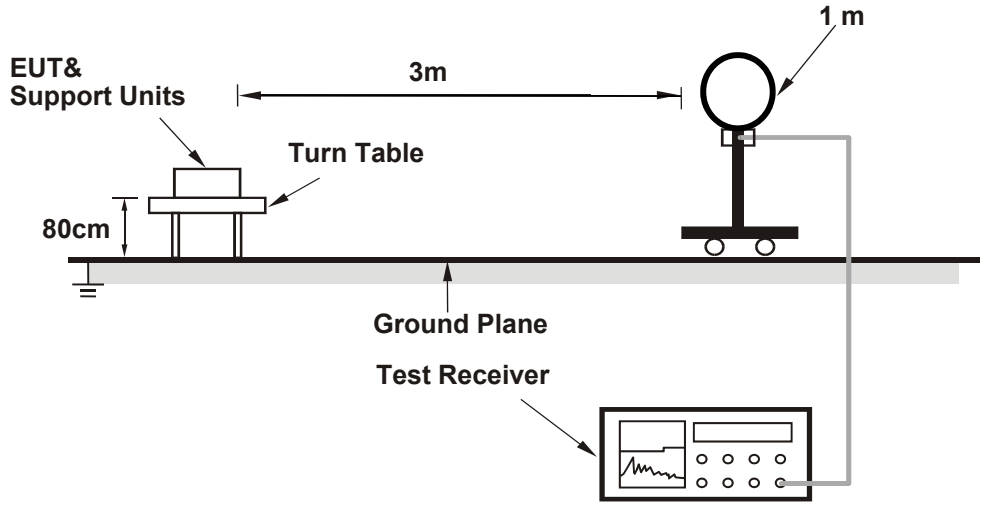
f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

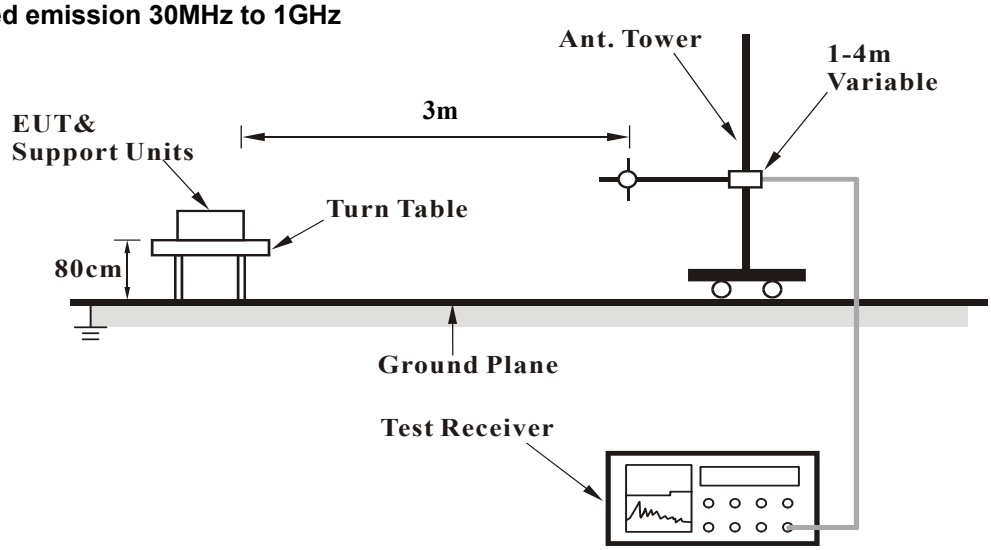
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Test Setup

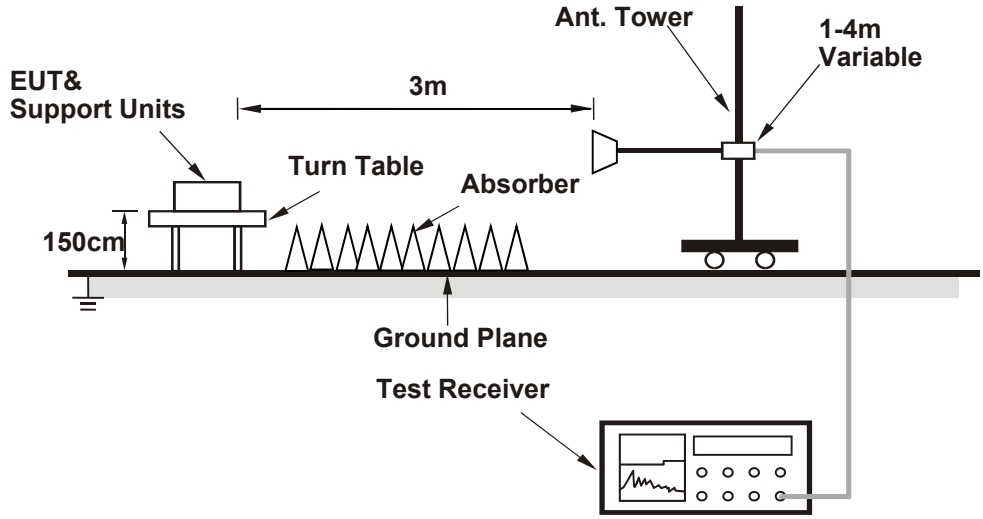
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.5 EUT Operating Condition

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".

4.1.6 Test Results

Above 1GHz data:

RF Mode	TX 802.11a	Channel	CH 169：5845 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5845.00	120.6 PK			2.69 H	348	76.6	44.0
2	*5845.00	111.4 AV			2.69 H	348	67.4	44.0
3	#5920.02	61.5 PK	91.8	-30.3	2.69 H	348	47.7	13.8
4	#5934.75	61.6 PK	88.2	-26.6	2.69 H	348	47.8	13.8
5	11690.00	65.6 PK	74.0	-8.4	1.73 H	264	42.5	23.1
6	11690.00	50.6 AV	54.0	-3.4	1.73 H	264	27.5	23.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5845.00	122.9 PK			1.10 V	11	78.9	44.0
2	*5845.00	113.2 AV			1.10 V	11	69.2	44.0
3	#5920.50	65.9 PK	91.5	-25.6	1.10 V	11	52.1	13.8
4	#5928.10	64.4 PK	88.2	-23.8	1.10 V	11	50.6	13.8
5	11690.00	66.0 PK	74.0	-8.0	2.19 V	307	42.9	23.1
6	11690.00	50.9 AV	54.0	-3.1	2.19 V	307	27.8	23.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	TX 802.11a	Channel	CH 173：5865 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5865.00	120.6 PK			2.69 H	349	76.6	44.0
2	*5865.00	110.9 AV			2.69 H	349	66.9	44.0
3	#5921.93	68.1 PK	90.4	-22.3	2.69 H	349	54.3	13.8
4	#5928.10	66.7 PK	88.2	-21.5	2.69 H	349	52.9	13.8
5	11730.00	65.2 PK	74.0	-8.8	1.89 H	258	42.3	22.9
6	11730.00	50.6 AV	54.0	-3.4	1.89 H	258	27.7	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5865.00	123.2 PK			1.12 V	9	79.2	44.0
2	*5865.00	113.4 AV			1.12 V	9	69.4	44.0
3	#5915.27	76.9 PK	95.3	-18.4	1.12 V	9	63.2	13.7
4	#5928.10	70.6 PK	88.2	-17.6	1.12 V	9	56.8	13.8
5	11730.00	65.8 PK	74.0	-8.2	2.17 V	304	42.9	22.9
6	11730.00	50.7 AV	54.0	-3.3	2.17 V	304	27.8	22.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11a	Channel	CH 177：5885 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5885.00	119.8 PK			2.69 H	11	75.7	44.1
2	*5885.00	110.6 AV			2.69 H	11	66.5	44.1
3	#5920.50	75.5 PK	91.5	-16.0	2.69 H	11	61.7	13.8
4	#5936.18	70.1 PK	88.2	-18.1	2.69 H	11	56.3	13.8
5	11770.00	65.5 PK	74.0	-8.5	1.79 H	263	42.9	22.6
6	11770.00	50.2 AV	54.0	-3.8	1.79 H	263	27.6	22.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5885.00	123.3 PK			1.07 V	8	79.2	44.1
2	*5885.00	113.6 AV			1.07 V	8	69.5	44.1
3	#5920.98	83.0 PK	91.1	-8.1	1.07 V	8	69.2	13.8
4	#5930.95	78.3 PK	88.2	-9.9	1.07 V	8	64.5	13.8
5	11770.00	65.7 PK	74.0	-8.3	2.23 V	315	43.1	22.6
6	11770.00	50.4 AV	54.0	-3.6	2.23 V	315	27.8	22.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 169：5845 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5845.00	122.6 PK			2.69 H	346	78.6	44.0
2	*5845.00	110.9 AV			2.69 H	346	66.9	44.0
3	#5919.07	66.2 PK	92.5	-26.3	2.69 H	346	52.5	13.7
4	#5930.95	64.6 PK	88.2	-23.6	2.69 H	346	50.8	13.8
5	11690.00	66.2 PK	74.0	-7.8	1.79 H	263	43.1	23.1
6	11690.00	50.9 AV	54.0	-3.1	1.79 H	263	27.8	23.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5845.00	125.9 PK			1.14 V	10	81.9	44.0
2	*5845.00	113.3 AV			1.14 V	10	69.3	44.0
3	#5920.50	71.7 PK	91.5	-19.8	1.14 V	10	57.9	13.8
4	#5930.00	71.0 PK	88.2	-17.2	1.14 V	10	57.2	13.8
5	11690.00	66.4 PK	74.0	-7.6	2.24 V	307	43.3	23.1
6	11690.00	51.2 AV	54.0	-2.8	2.24 V	307	28.1	23.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 173：5865 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5865.00	122.4 PK			2.68 H	344	78.4	44.0
2	*5865.00	110.7 AV			2.68 H	344	66.7	44.0
3	#5916.23	74.2 PK	94.6	-20.4	2.68 H	344	60.5	13.7
4	#5929.05	68.0 PK	88.2	-20.2	2.68 H	344	54.2	13.8
5	11730.00	65.8 PK	74.0	-8.2	1.78 H	261	42.9	22.9
6	11730.00	50.8 AV	54.0	-3.2	1.78 H	261	27.9	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5865.00	125.6 PK			1.09 V	7	81.6	44.0
2	*5865.00	113.1 AV			1.09 V	7	69.1	44.0
3	#5922.40	78.9 PK	90.1	-11.2	1.09 V	7	65.1	13.8
4	#5930.95	75.1 PK	88.2	-13.1	1.09 V	7	61.3	13.8
5	11730.00	65.9 PK	74.0	-8.1	2.23 V	312	43.0	22.9
6	11730.00	51.0 AV	54.0	-3.0	2.23 V	312	28.1	22.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE20)	Channel	CH 177：5885 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5885.00	122.2 PK			2.74 H	7	78.1	44.1
2	*5885.00	111.1 AV			2.74 H	7	67.0	44.1
3	#5920.50	81.0 PK	91.5	-10.5	2.74 H	7	67.2	13.8
4	#5930.00	78.1 PK	88.2	-10.1	2.74 H	7	64.3	13.8
5	11770.00	65.3 PK	74.0	-8.7	1.72 H	263	42.7	22.6
6	11770.00	50.2 AV	54.0	-3.8	1.72 H	263	27.6	22.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5885.00	125.3 PK			1.07 V	8	81.2	44.1
2	*5885.00	113.0 AV			1.07 V	8	68.9	44.1
3	#5920.50	85.7 PK	91.5	-5.8	1.07 V	8	71.9	13.8
4	#5928.10	82.3 PK	88.2	-5.9	1.07 V	8	68.5	13.8
5	11770.00	65.5 PK	74.0	-8.5	2.17 V	303	42.9	22.6
6	11770.00	50.4 AV	54.0	-3.6	2.17 V	303	27.8	22.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5835.00	122.5 PK			2.65 H	349	78.5	44.0
2	*5835.00	109.9 AV			2.65 H	349	65.9	44.0
3	#5920.02	77.2 PK	91.8	-14.6	2.65 H	349	63.4	13.8
4	#5929.52	75.5 PK	88.2	-12.7	2.65 H	349	61.7	13.8
5	11770.00	65.1 PK	74.0	-8.9	1.79 H	254	42.5	22.6
6	11770.00	50.2 AV	54.0	-3.8	1.79 H	254	27.6	22.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5835.00	124.1 PK			1.11 V	11	80.1	44.0
2	*5835.00	111.9 AV			1.11 V	11	67.9	44.0
3	#5920.50	82.9 PK	91.5	-8.6	1.11 V	11	69.1	13.8
4	#5932.85	81.6 PK	88.2	-6.6	1.11 V	11	67.8	13.8
5	11670.00	65.8 PK	74.0	-8.2	2.21 V	304	42.6	23.2
6	11670.00	50.8 AV	54.0	-3.2	2.21 V	304	27.6	23.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE40)	Channel	CH 175：5875 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5567.57	61.1 PK	68.2	-7.1	2.65 H	347	48.4	12.7
2	*5875.00	121.5 PK			2.65 H	347	77.5	44.0
3	*5875.00	109.1 AV			2.65 H	347	65.1	44.0
4	#5920.02	93.3 PK	111.8	-18.5	2.65 H	347	79.5	13.8
5	#5930.48	89.0 PK	108.2	-19.2	2.65 H	347	75.2	13.8
6	11750.00	65.0 PK	74.0	-9.0	1.77 H	279	42.3	22.7
7	11750.00	50.2 AV	54.0	-3.8	1.77 H	279	27.5	22.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5616.50	62.4 PK	68.2	-5.8	1.28 V	12	49.8	12.6
2	*5875.00	123.8 PK			1.28 V	12	79.8	44.0
3	*5875.00	111.5 AV			1.28 V	12	67.5	44.0
4	#5917.65	98.6 PK	113.6	-15.0	1.28 V	12	84.9	13.7
5	#5925.73	95.7 PK	108.2	-12.5	1.28 V	12	81.9	13.8
6	11750.00	65.2 PK	74.0	-8.8	2.16 V	323	42.5	22.7
7	11750.00	50.3 AV	54.0	-3.7	2.16 V	323	27.6	22.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	TX 802.11ax (HE80)	Channel	CH 171：5855 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5627.90	63.4 PK	68.2	-4.8	2.69 H	347	50.7	12.7
2	*5855.00	118.3 PK			2.65 H	347	74.3	44.0
3	*5855.00	106.2 AV			2.65 H	347	62.2	44.0
4	#5922.40	93.1 PK	110.1	-17.0	2.69 H	347	79.3	13.8
5	#5927.62	91.1 PK	108.2	-17.1	2.69 H	347	77.3	13.8
6	11710.00	65.0 PK	74.0	-9.0	1.93 H	242	42.1	22.9
7	11710.00	50.2 AV	54.0	-3.8	1.93 H	242	27.3	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**#5643.10**	**67.5 PK**	**68.2**	**-0.7**	**1.29 V**	**11**	**54.8**	**12.7**
2	*5855.00	120.1 PK			1.29 V	11	76.1	44.0
3	*5855.00	107.5 AV			1.29 V	11	63.5	44.0
4	#5920.50	98.1 PK	111.5	-13.4	1.29 V	11	84.3	13.8
5	#5927.62	95.9 PK	108.2	-12.3	1.29 V	11	82.1	13.8
6	11710.00	65.2 PK	74.0	-8.8	2.27 V	319	42.3	22.9
7	11710.00	50.3 AV	54.0	-3.7	2.27 V	319	27.4	22.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

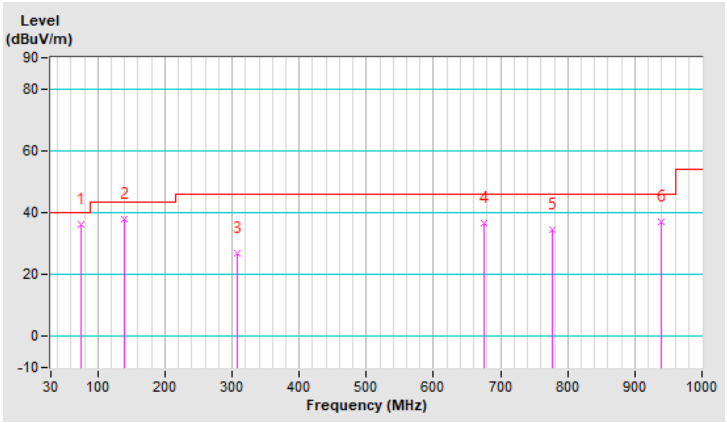
Below 1GHz Worst-Case Data:

RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	A

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74.62	36.2 QP	40.0	-3.8	1.00 H	18	47.7	-11.5
2	138.64	37.8 QP	43.5	-5.7	1.99 H	103	47.0	-9.2
3	307.42	26.9 QP	46.0	-19.1	1.99 H	6	34.1	-7.2
4	676.02	36.5 QP	46.0	-9.5	1.50 H	129	37.0	-0.5
5	776.90	34.3 QP	46.0	-11.7	1.50 H	16	31.9	2.4
6	939.86	37.2 QP	46.0	-8.8	1.99 H	6	31.2	6.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

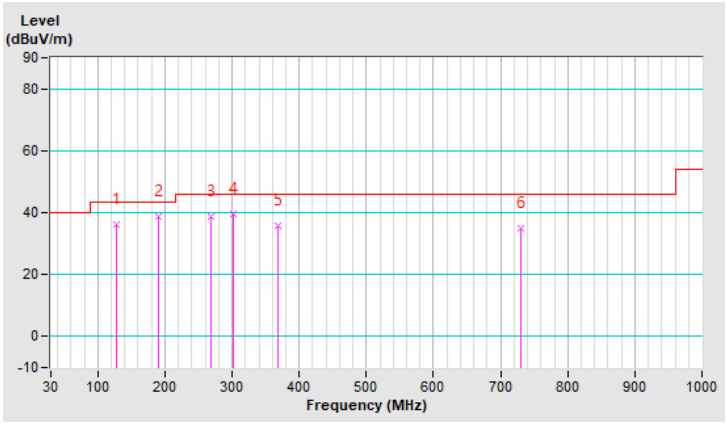


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	A

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	127.00	36.0 QP	43.5	-7.5	1.49 V	16	46.3	-10.3
2	191.02	38.6 QP	43.5	-4.9	1.49 V	188	49.7	-11.1
3	268.62	38.9 QP	46.0	-7.1	1.49 V	248	47.3	-8.4
4	301.60	39.5 QP	46.0	-6.5	1.49 V	69	46.8	-7.3
5	367.56	35.7 QP	46.0	-10.3	1.49 V	260	42.0	-6.3
6	730.34	35.0 QP	46.0	-11.0	1.00 V	230	34.0	1.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

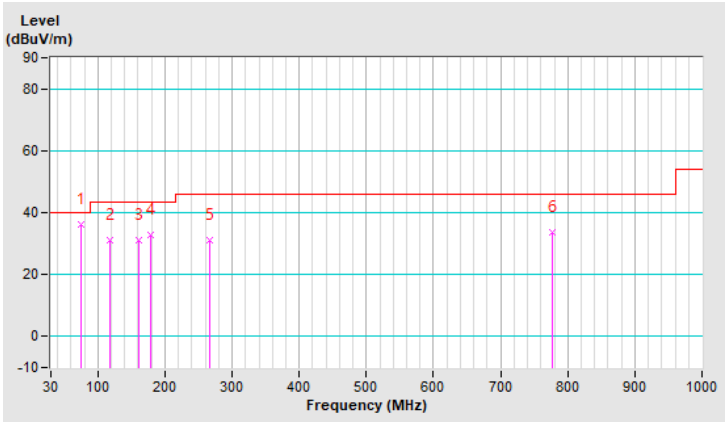


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	B

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74.62	36.2 QP	40.0	-3.8	1.01 H	5	47.7	-11.5
2	117.30	31.1 QP	43.5	-12.4	1.01 H	113	42.2	-11.1
3	161.92	31.1 QP	43.5	-12.4	1.50 H	294	39.6	-8.5
4	179.38	32.8 QP	43.5	-10.7	1.50 H	144	42.7	-9.9
5	266.68	31.0 QP	46.0	-15.0	1.50 H	91	39.5	-8.5
6	776.90	33.7 QP	46.0	-12.3	1.50 H	91	31.3	2.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

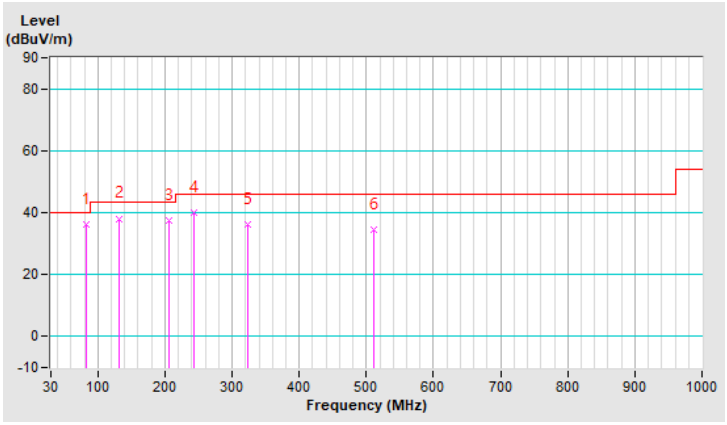


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	B

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	82.38	36.3 QP	40.0	-3.7	1.49 V	153	49.8	-13.5
2	130.88	38.1 QP	43.5	-5.4	1.49 V	153	48.0	-9.9
3	206.54	37.5 QP	43.5	-6.0	1.49 V	40	48.9	-11.4
4	243.40	39.9 QP	46.0	-6.1	1.49 V	217	49.3	-9.4
5	322.94	36.3 QP	46.0	-9.7	1.49 V	227	43.2	-6.9
6	511.12	34.4 QP	46.0	-11.6	1.49 V	79	38.4	-4.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

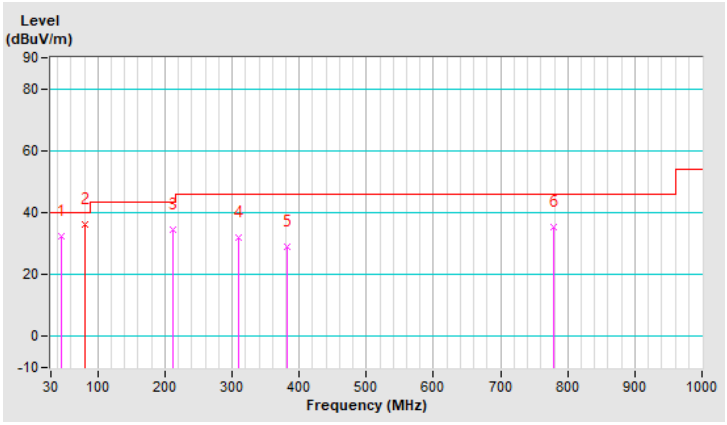


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	C

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	45.52	32.4 QP	40.0	-7.6	1.00 H	151	41.4	-9.0
2	81.02	36.2 QP	40.0	-3.8	1.00 H	109	49.5	-13.3
3	212.36	34.4 QP	43.5	-9.1	1.99 H	5	45.6	-11.2
4	309.36	31.9 QP	46.0	-14.1	1.49 H	156	39.0	-7.1
5	381.14	28.9 QP	46.0	-17.1	1.49 H	115	34.9	-6.0
6	778.84	35.4 QP	46.0	-10.6	1.00 H	136	33.0	2.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

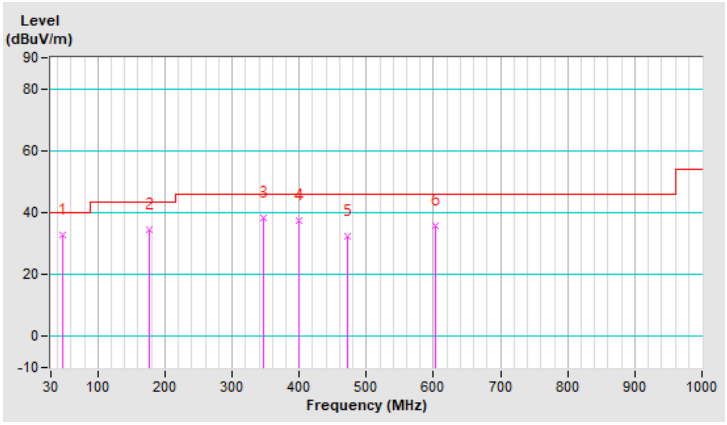


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	C

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	47.46	32.8 QP	40.0	-7.2	1.49 V	16	41.7	-8.9
2	177.44	34.5 QP	43.5	-9.0	1.00 V	48	44.1	-9.6
3	346.22	38.1 QP	46.0	-7.9	1.00 V	141	44.9	-6.8
4	400.54	37.4 QP	46.0	-8.6	1.00 V	16	43.4	-6.0
5	472.32	32.3 QP	46.0	-13.7	1.00 V	170	36.8	-4.5
6	602.30	35.6 QP	46.0	-10.4	1.00 V	124	37.3	-1.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

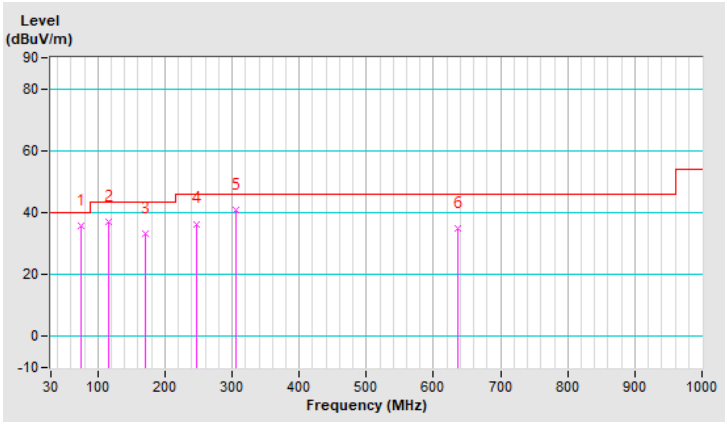


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	55.5 Vdc	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	D

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74.62	35.6 QP	40.0	-4.4	1.00 H	6	47.1	-11.5
2	115.36	36.9 QP	43.5	-6.6	1.49 H	153	48.2	-11.3
3	171.62	33.2 QP	43.5	-10.3	1.49 H	148	42.3	-9.1
4	247.28	36.4 QP	46.0	-9.6	1.49 H	188	45.6	-9.2
5	305.48	40.9 QP	46.0	-5.1	1.49 H	188	48.1	-7.2
6	635.28	35.1 QP	46.0	-10.9	1.49 H	154	36.2	-1.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

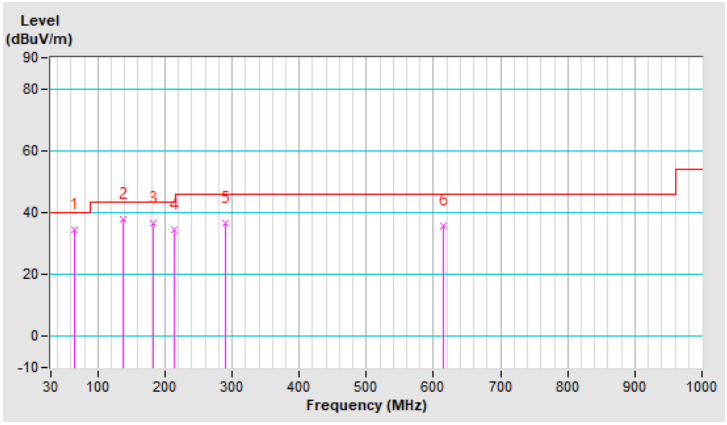


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	55.5 Vdc	Environmental Conditions	23°C, 66% RH
Tested By	Luis Lee	Test Mode	D

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	64.92	34.4 QP	40.0	-5.6	1.01 V	139	44.5	-10.1
2	136.70	37.8 QP	43.5	-5.7	1.01 V	88	47.1	-9.3
3	183.26	36.4 QP	43.5	-7.1	1.01 V	157	46.8	-10.4
4	214.30	34.7 QP	43.5	-8.8	1.01 V	147	45.9	-11.2
5	289.96	36.6 QP	46.0	-9.4	1.01 V	140	44.3	-7.7
6	613.94	35.8 QP	46.0	-10.2	1.01 V	153	37.1	-1.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
DC-LISN SCHWARZBECK MESS-ELETRONIK	NNBM 8126G	8126G-069	11/10/2021	11/9/2022
LISN R&S	ESH3-Z5	100220	11/25/2021	11/24/2022
LISN ROHDE & SCHWARZ	ENV216	101826	3/14/2022	3/13/2023
RF Coaxial Cable WOKEN	5D-FB	Cable-cond1-01	1/15/2022	1/14/2023
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver Rohde&Schwarz	ESCI	100613	12/3/2021	12/2/2022
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	8/31/2022	8/30/2023

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HY - Conduction 1.
3. The VCCI Site Registration No. is C-12040.
4. Tested Date: 2022/9/15 ~ 2022/9/16.

4.2.3 Test Procedures

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

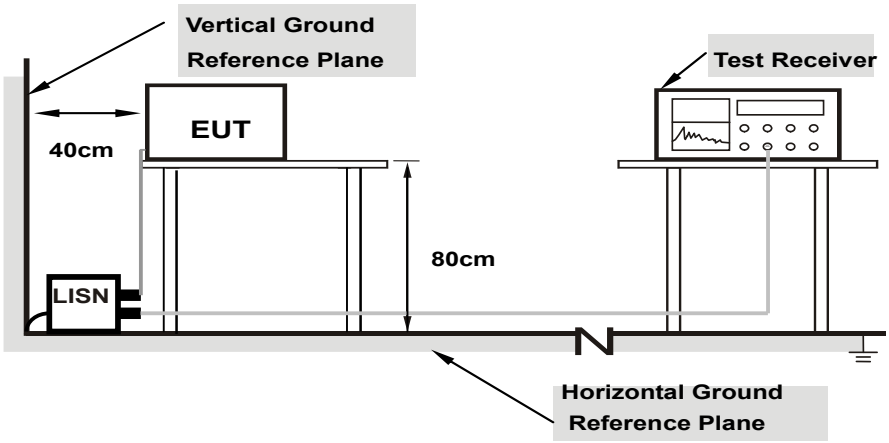
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

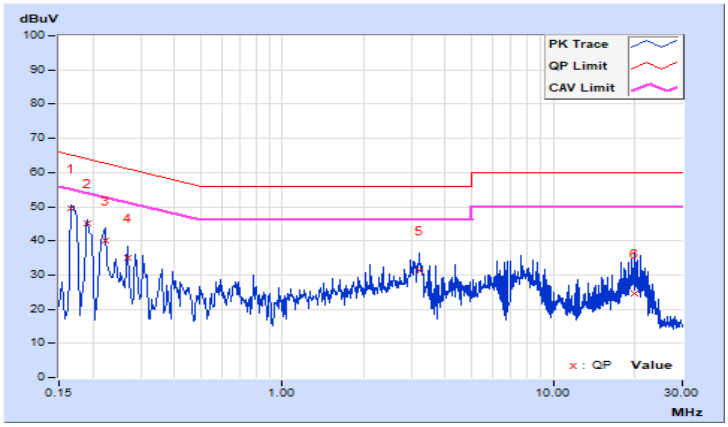
4.2.7 Test Results

RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	A

Phase Of Power : Line (L)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16600	9.69	39.87	22.59	49.56	32.28	65.16	55.16	-15.60	-22.88
2	0.19000	9.71	35.30	19.00	45.01	28.71	64.04	54.04	-19.03	-25.33
3	0.22200	9.73	30.41	17.41	40.14	27.14	62.74	52.74	-22.60	-25.60
4	0.26992	9.75	25.39	13.98	35.14	23.73	61.12	51.12	-25.98	-27.39
5	3.19800	9.93	21.39	14.42	31.32	24.35	56.00	46.00	-24.68	-21.65
6	19.89400	10.16	14.46	5.51	24.62	15.67	60.00	50.00	-35.38	-34.33

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

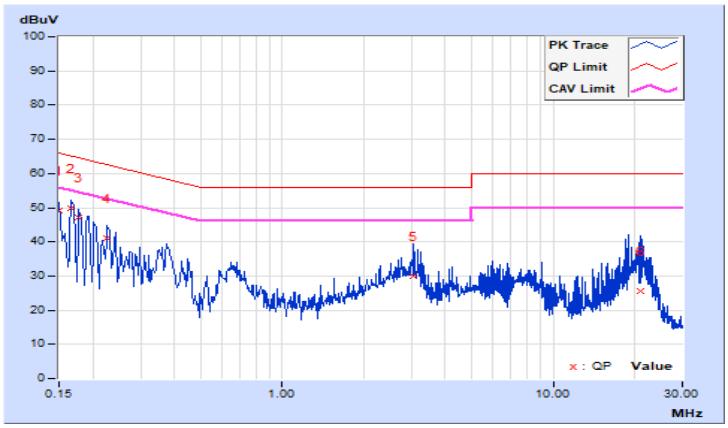


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	A

Phase Of Power : Neutral (N)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.68	39.58	26.80	49.26	36.48	66.00	56.00	-16.74	-19.52
2	0.16600	9.69	40.13	22.20	49.82	31.89	65.16	55.16	-15.34	-23.27
3	0.17800	9.70	37.60	19.63	47.30	29.33	64.58	54.58	-17.28	-25.25
4	0.22600	9.73	31.51	18.49	41.24	28.22	62.60	52.60	-21.36	-24.38
5	3.06200	9.95	20.04	13.12	29.99	23.07	56.00	46.00	-26.01	-22.93
6	20.93400	10.20	15.28	6.92	25.48	17.12	60.00	50.00	-34.52	-32.88

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

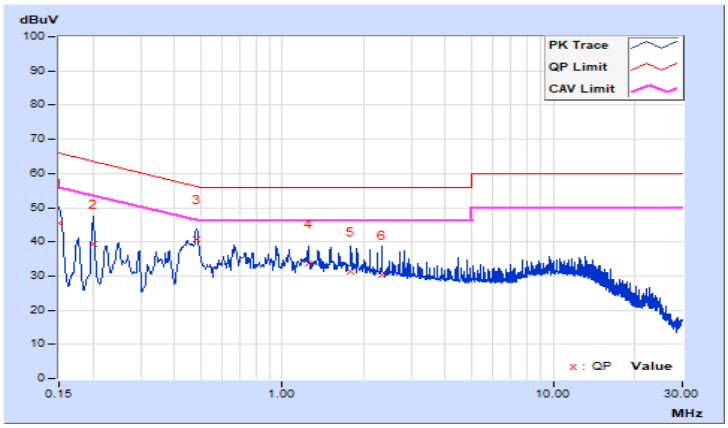


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	B

Phase Of Power : Line (L)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.68	35.81	23.40	45.49	33.08	66.00	56.00	-20.51	-22.92
2	0.20200	9.72	29.79	17.99	39.51	27.71	63.53	53.53	-24.02	-25.82
3	**0.48191**	**9.81**	**30.87**	**27.48**	**40.68**	**37.29**	**56.31**	**46.31**	**-15.63**	**-9.02**
4	1.24600	9.85	23.82	20.13	33.67	29.98	56.00	46.00	-22.33	-16.02
5	1.78600	9.89	21.40	17.98	31.29	27.87	56.00	46.00	-24.71	-18.13
6	2.32600	9.91	20.48	17.07	30.39	26.98	56.00	46.00	-25.61	-19.02

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

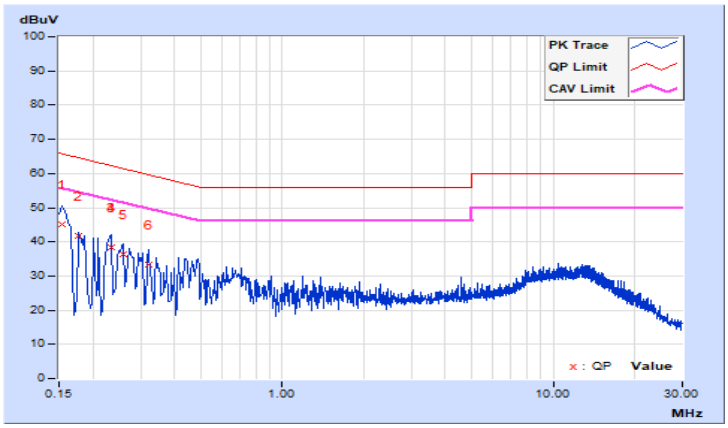


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	B

Phase Of Power : Neutral (N)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.68	35.42	20.33	45.10	30.01	65.78	55.78	-20.68	-25.77
2	0.17800	9.70	32.01	17.61	41.71	27.31	64.58	54.58	-22.87	-27.27
3	0.23351	9.74	28.71	15.61	38.45	25.35	62.32	52.32	-23.87	-26.97
4	0.23351	9.74	28.56	15.48	38.30	25.22	62.32	52.32	-24.02	-27.10
5	0.25800	9.75	26.74	15.09	36.49	24.84	61.50	51.50	-25.01	-26.66
6	0.32200	9.77	23.41	10.46	33.18	20.23	59.66	49.66	-26.48	-29.43

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

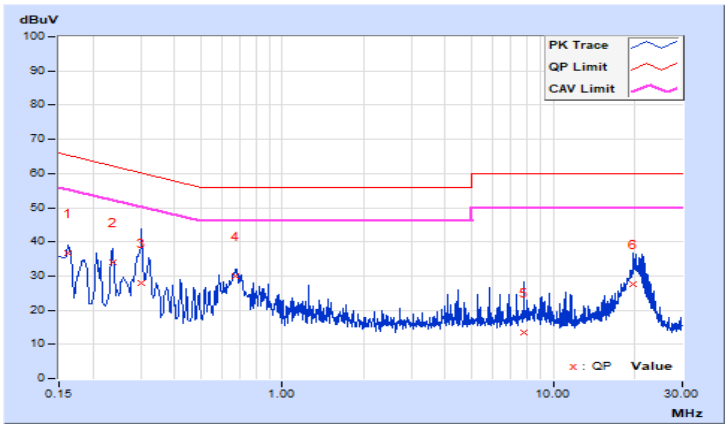


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	C

Phase Of Power : Line (L)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16190	9.69	26.94	17.09	36.63	26.78	65.37	55.37	-28.74	-28.59
2	0.23786	9.74	24.32	14.11	34.06	23.85	62.17	52.17	-28.11	-28.32
3	0.30200	9.76	18.13	8.64	27.89	18.40	60.19	50.19	-32.30	-31.79
4	0.66987	9.82	20.20	13.74	30.02	23.56	56.00	46.00	-25.98	-22.44
5	7.80600	10.02	3.52	1.05	13.54	11.07	60.00	50.00	-46.46	-38.93
6	19.70200	10.16	17.39	11.01	27.55	21.17	60.00	50.00	-32.45	-28.83

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

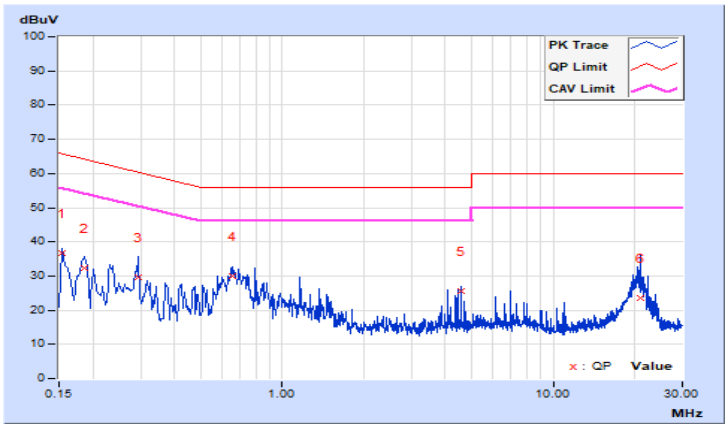


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	C

Phase Of Power : Neutral (N)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.68	26.91	12.73	36.59	22.41	65.78	55.78	-29.19	-33.37
2	0.18600	9.71	22.53	13.42	32.24	23.13	64.21	54.21	-31.97	-31.08
3	0.29400	9.76	19.92	15.17	29.68	24.93	60.41	50.41	-30.73	-25.48
4	0.65800	9.83	20.14	14.12	29.97	23.95	56.00	46.00	-26.03	-22.05
5	4.57400	9.98	15.57	1.55	25.55	11.53	56.00	46.00	-30.45	-34.47
6	20.99400	10.20	13.38	6.52	23.58	16.72	60.00	50.00	-36.42	-33.28

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

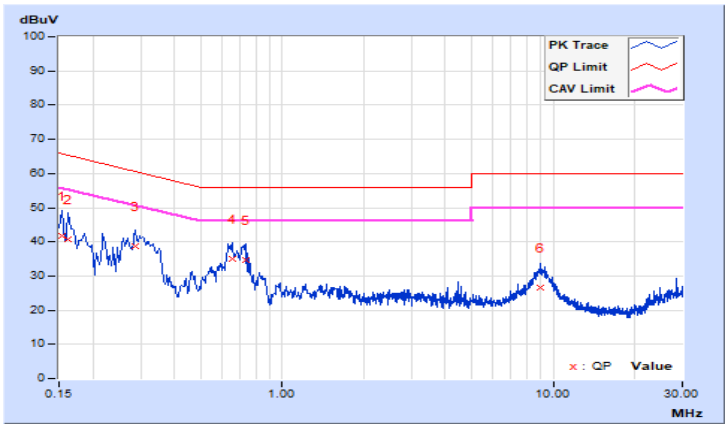


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	55.5 Vdc	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	D

Phase Of Power : Line (L)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.68	32.03	16.71	41.71	26.39	65.78	55.78	-24.07	-29.39
2	0.16200	9.69	31.18	15.89	40.87	25.58	65.36	55.36	-24.49	-29.78
3	0.28600	9.75	29.06	20.38	38.81	30.13	60.64	50.64	-21.83	-20.51
4	0.65400	9.82	25.24	15.90	35.06	25.72	56.00	46.00	-20.94	-20.28
5	0.73000	9.82	24.92	14.52	34.74	24.34	56.00	46.00	-21.26	-21.66
6	9.02200	10.04	16.53	10.51	26.57	20.55	60.00	50.00	-33.43	-29.45

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

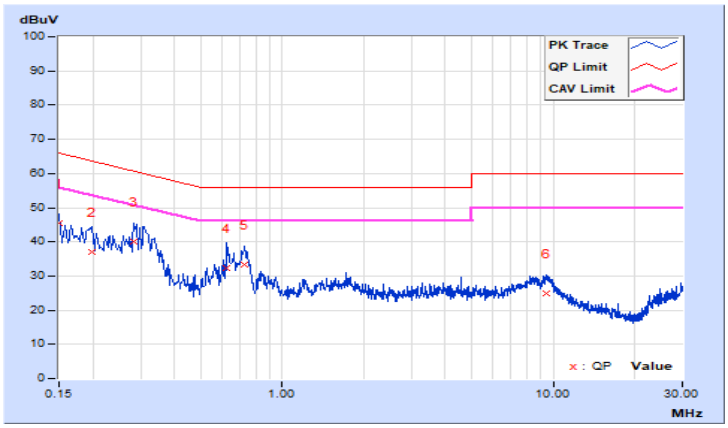


RF Mode	TX 802.11ax (HE40)	Channel	CH 167：5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	55.5 Vdc	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu	Test Mode	D

Phase Of Power : Neutral (N)										
No	Frequency	Correction Factor	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
	(MHz)	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.68	35.61	17.34	45.29	27.02	66.00	56.00	-20.71	-28.98
2	0.19780	9.72	27.18	11.37	36.90	21.09	63.70	53.70	-26.80	-32.61
3	0.28200	9.76	30.39	18.67	40.15	28.43	60.76	50.76	-20.61	-22.33
4	0.62600	9.83	22.35	10.70	32.18	20.53	56.00	46.00	-23.82	-25.47
5	0.72600	9.84	23.52	13.61	33.36	23.45	56.00	46.00	-22.64	-22.55
6	9.41400	10.05	14.79	8.91	24.84	18.96	60.00	50.00	-35.16	-31.04

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

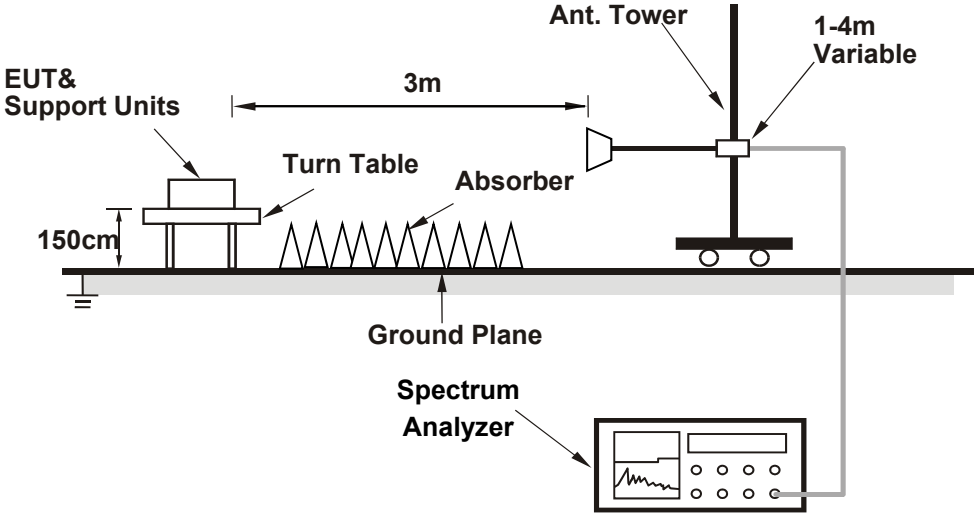


4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Device Category		Limit (Max Average Power)
☒	Indoor access point	EIRP 36 dBm
☐	Subordinate device	EIRP 36 dBm
☐	Client device	EIRP 30 dBm

4.3.2 Test Setup



4.3.3 Test Instruments

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170241	10/26/2021	10/25/2022
Pre-Ammlifier EMCI	EMC 184045	980116	10/5/2021	10/4/2022
Pre_Amplifier KEYSIGHT	83017A	MY53270295	5/14/2022	5/13/2023
RF cable HUBER+SUHNER	Sucoflex 104	MY 13380+295012/04	5/14/2022	5/13/2023
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	5/14/2022	5/13/2023
		CABLE-CH9-(250795/4)	1/15/2022	1/14/2023
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	1/15/2022	1/14/2023
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101582	4/13/2022	4/12/2023
Test Receiver R&S	ESCI	100424	12/30/2021	12/29/2022
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HY - 966 chamber 3.
3. Tested Date: 2022/9/21 ~ 2022/9/22.

4.3.4 Test Procedure

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP level.

e. Follow ANSI 63.10 and KDB 412172 D01 v01r01, EIRP Value (dBm) = Field Strength Value (dBμV/m) + Correction Factor @ 3m.

f. Correction Factor (dB) @ 3m = 20log(D) − 104.7; where D is the measurement distance @3m=-95.23dB

Note: Spectrum analyzer setting as below:

Method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3. Sweep points ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
6. Record the max value and add 10 log (1/duty cycle).

4.3.5 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.6 Test Result

802.11a

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
169	5845	123.67	-95.23	698.232	28.44	36.00	Pass
173	5865	123.85	-95.23	727.780	28.62	36.00	Pass
177	5885	123.98	-95.23	749.894	28.75	36.00	Pass

802.11ax (HE20)

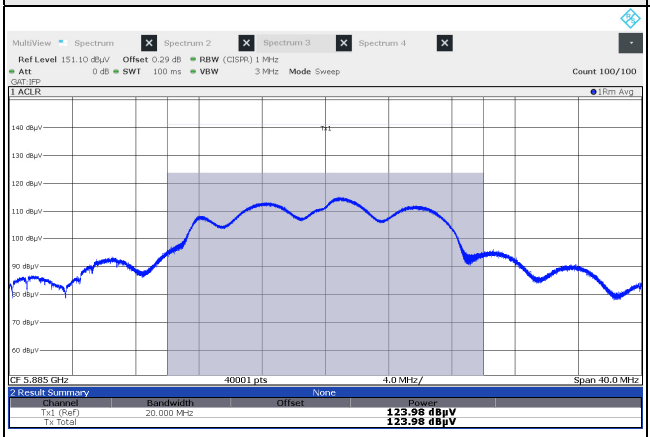
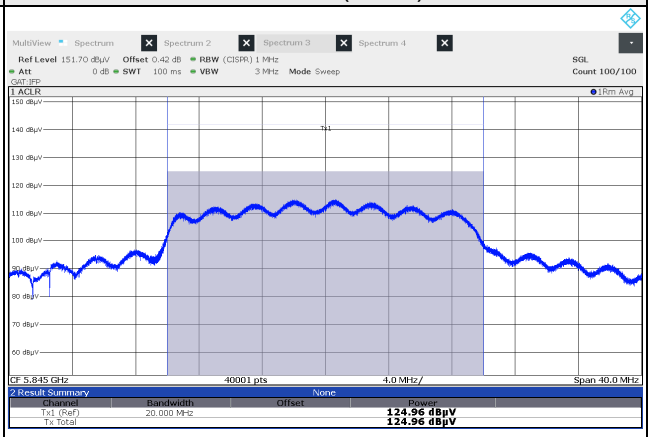
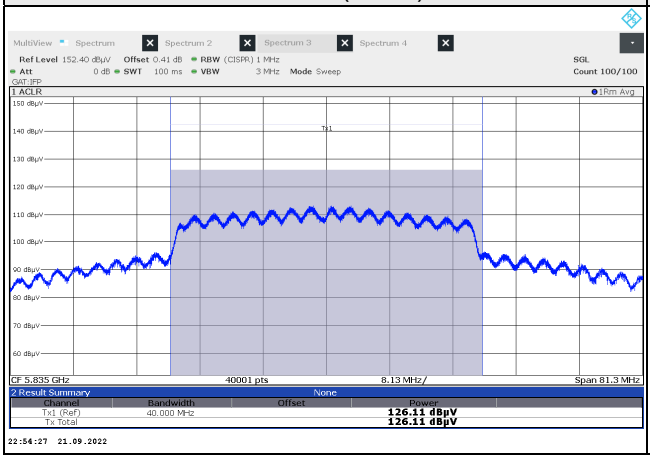
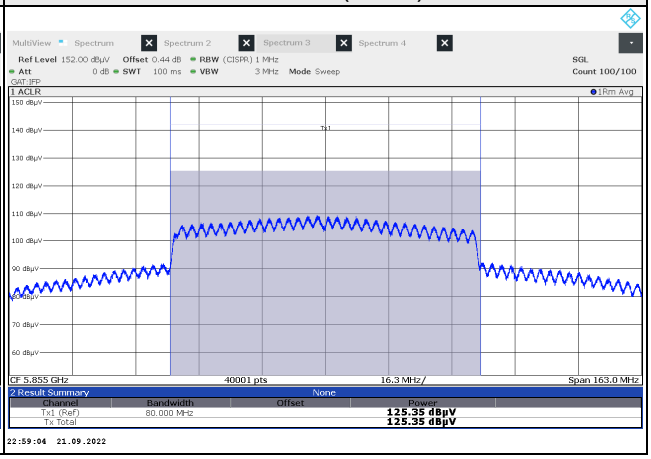
Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
169	5845	124.96	-95.23	939.723	29.73	36.00	Pass
173	5865	124.63	-95.23	870.964	29.40	36.00	Pass
177	5885	124.59	-95.23	862.979	29.36	36.00	Pass

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
167	5835	126.11	-95.23	1224.616	30.88	36.00	Pass
175	5875	125.88	-95.23	1161.449	30.65	36.00	Pass

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
171	5855	125.35	-95.23	1028.016	30.12	36.00	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

802.11ax (HE20) Beamforming

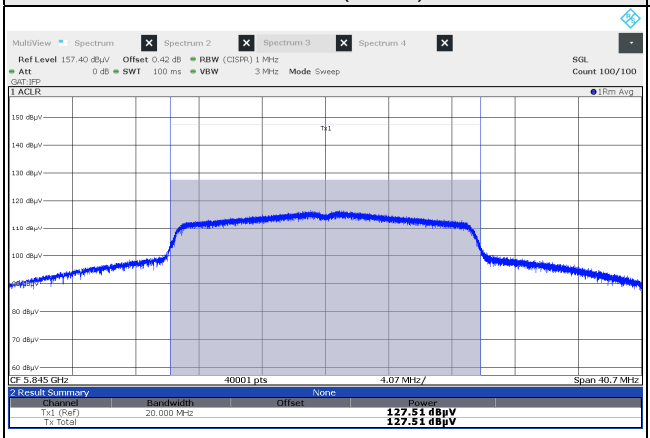
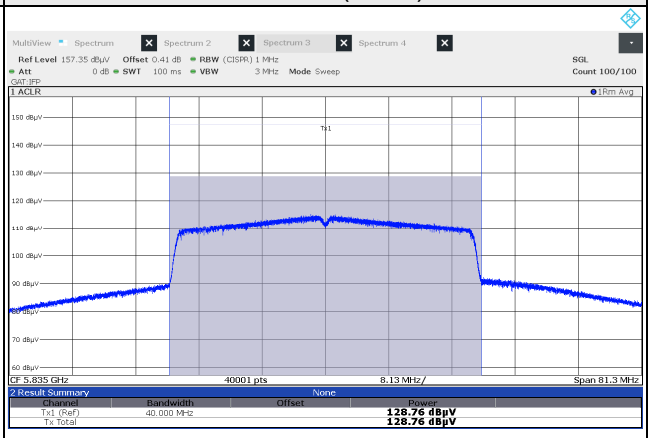
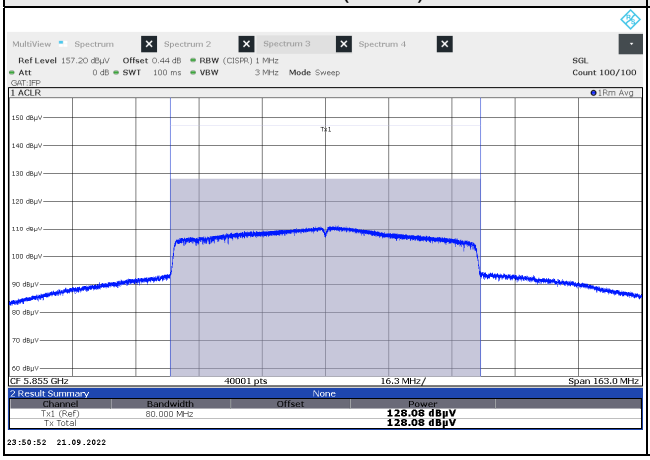
Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
169	5845	127.51	-95.23	1690.441	32.28	36.00	Pass
173	5865	127.38	-95.23	1640.590	32.15	36.00	Pass
177	5885	127.32	-95.23	1618.080	32.09	36.00	Pass

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
167	5835	128.76	-95.23	2254.239	33.53	36.00	Pass
175	5875	128.59	-95.23	2167.704	33.36	36.00	Pass

802.11ax (HE80) Beamforming

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
171	5855	128.08	-95.23	1927.525	32.85	36.00	Pass

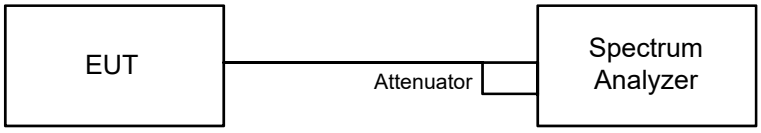
Spectrum Plot of Worst Value	
802.11ax (HE20)	802.11ax (HE40)
	
802.11ax (HE80)	
	

4.4 6dB Bandwidth Measurement

4.4.1 Limits of Emission Bandwidth Measurement

Within the 5.725-5.850GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

4.4.2 Test Setup



4.4.3 Test Instruments

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Oven room.
3. Tested Date: 2022/9/17.

4.4.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.4.5 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
169	5845	15.11	15.14	0.50	Pass
173	5865	15.14	15.14	0.50	Pass
177	5885	15.07	13.86	0.50	Pass

802.11ax (HE20)

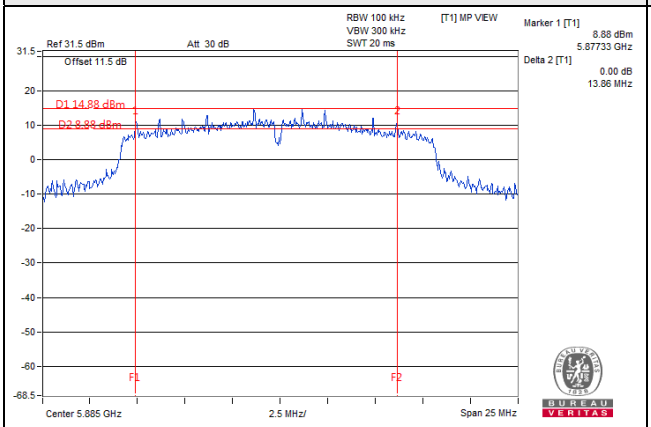
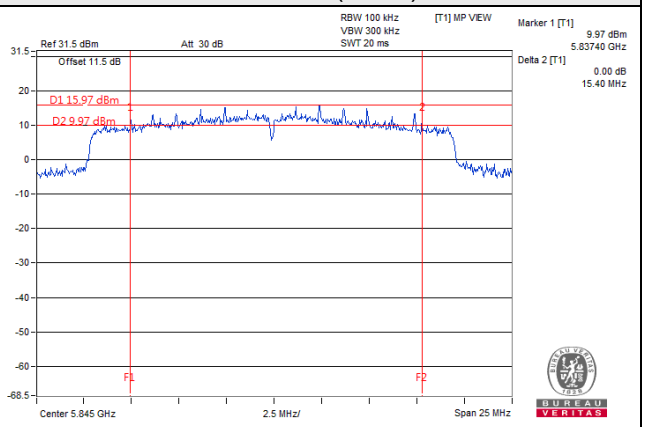
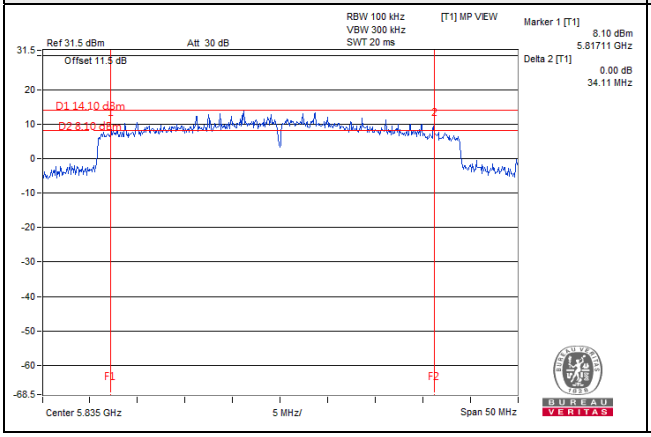
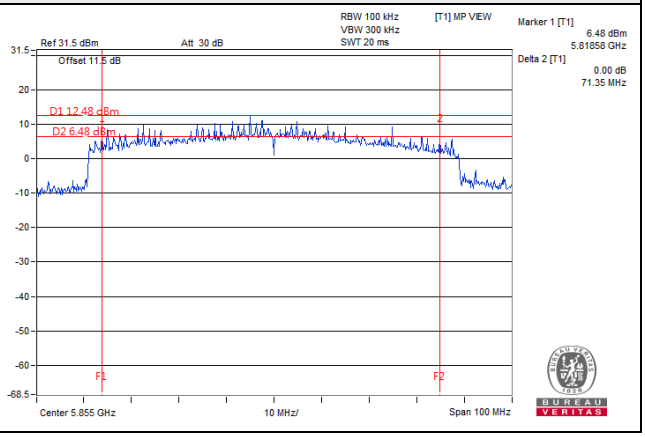
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
169	5845	15.44	15.40	0.50	Pass
173	5865	16.00	17.50	0.50	Pass
177	5885	17.00	16.54	0.50	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
167	5835	36.48	34.11	0.50	Pass
175	5875	35.67	35.05	0.50	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
171	5855	71.36	71.35	0.50	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

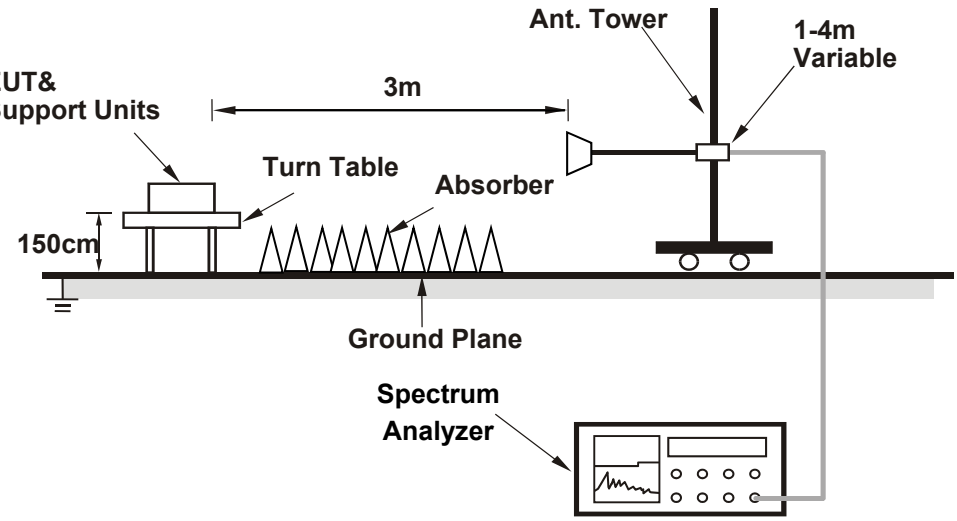
4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Device Category		Limit
☒	Indoor access point	EIRP 20 dBm/MHz
☐	Subordinate device	EIRP 20 dBm/MHz
☐	Client device	EIRP 14 dBm/MHz

Note: For all U-NII-4 and U-NII-3 & -4 span channels shall met above EIRP values.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.3.3 to get information of above instrument.

4.5.4 Test Procedure

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP level.

e. Follow ANSI 63.10 and KDB 412172 D01 v01r01, EIRP Value (dBm) = Field Strength Value (dBμV/m) + Correction Factor @ 3m.

f. Correction Factor (dB) @ 3m = 20log(D) − 104.7; where D is the measurement distance @3m=-95.23dB

Note: Spectrum analyzer setting as below:

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Sweep time = auto, trigger set to “free run” (duty cycle ≥ 98 percent); Set video trigger (duty cycle < 98 percent).

d. Trace average at least 100 traces in power averaging mode.

e. Record the max value and add 10 log (1/duty cycle).

4.5.5 EUT Operating Condition

Same as Item 4.3.6.

4.5.6 Test Results

802.11a

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
169	5845	115.02	-95.23	19.79	20.00	Pass
173	5865	115.11	-95.23	19.88	20.00	Pass
177	5885	115.21	-95.23	19.98	20.00	Pass

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
169	5845	115.04	-95.23	19.81	20.00	Pass
173	5865	115.03	-95.23	19.80	20.00	Pass
177	5885	115.02	-95.23	19.79	20.00	Pass

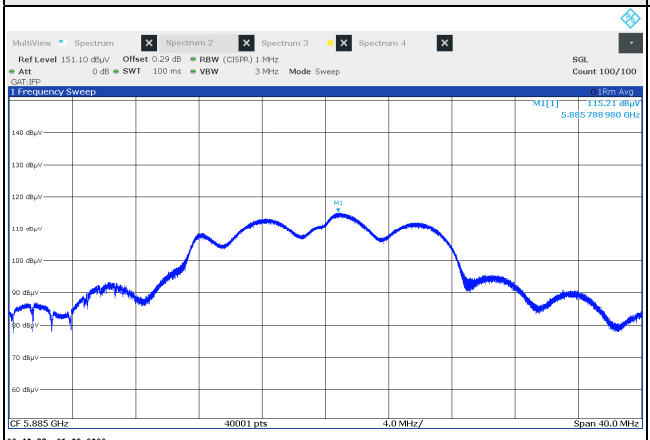
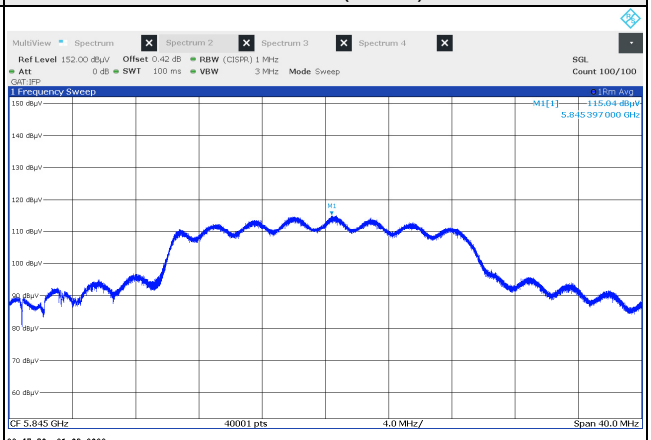
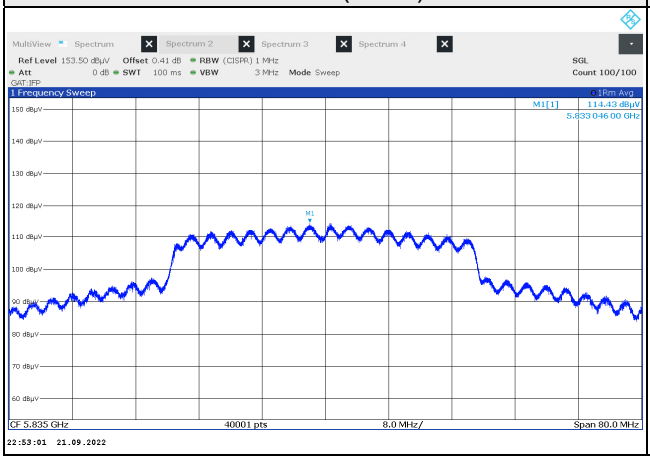
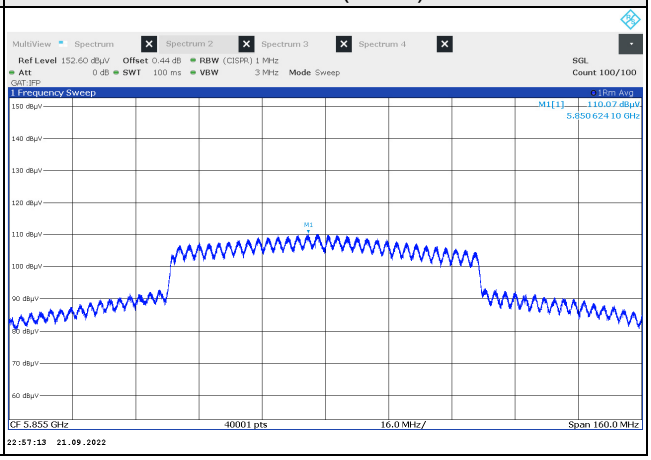
802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
167	5835	114.43	-95.23	19.20	20.00	Pass
175	5875	114.41	-95.23	19.18	20.00	Pass

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
171	5855	110.07	-95.23	14.84	20.00	Pass

*The duty factor is included in the field strength.

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
169	5845	115.02	-95.23	19.79	20.00	Pass
173	5865	115.01	-95.23	19.78	20.00	Pass
177	5885	114.98	-95.23	19.75	20.00	Pass

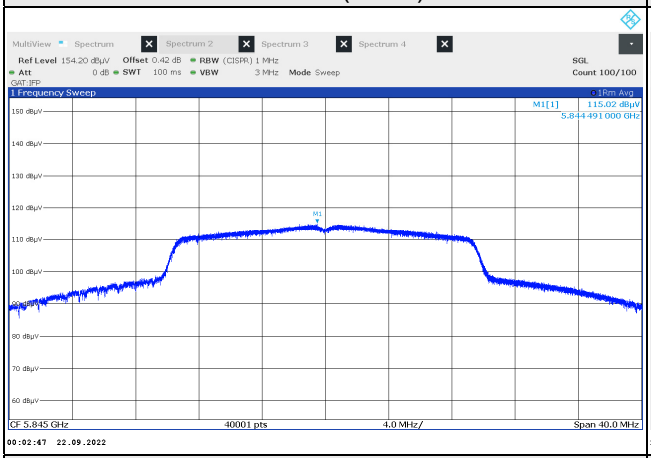
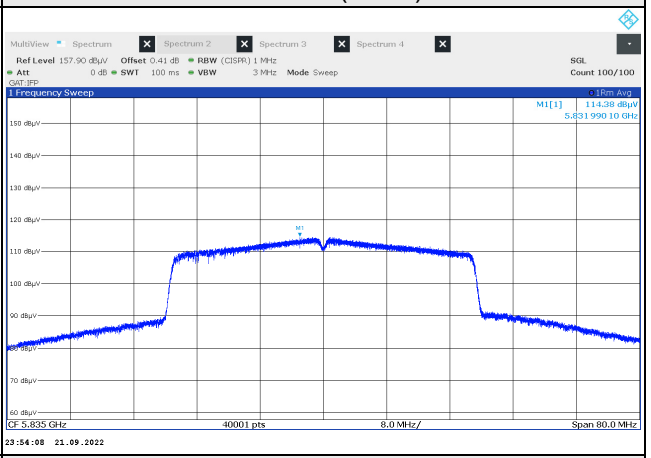
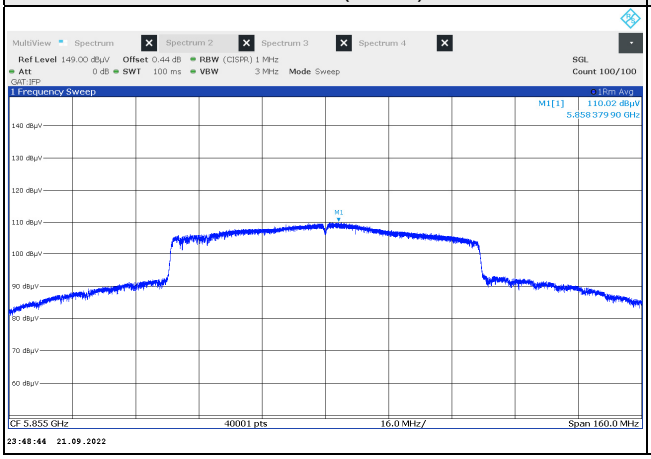
802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
167	5835	114.38	-95.23	19.15	20.00	Pass
175	5875	114.35	-95.23	19.12	20.00	Pass

802.11ax (HE80) Beamforming

Chan.	Chan. Freq. (MHz)	Field Strength (dBuV/m)	Correction Factor (dB)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Pass / Fail
171	5855	110.02	-95.23	14.79	20.00	Pass

*The duty factor is included in the field strength.

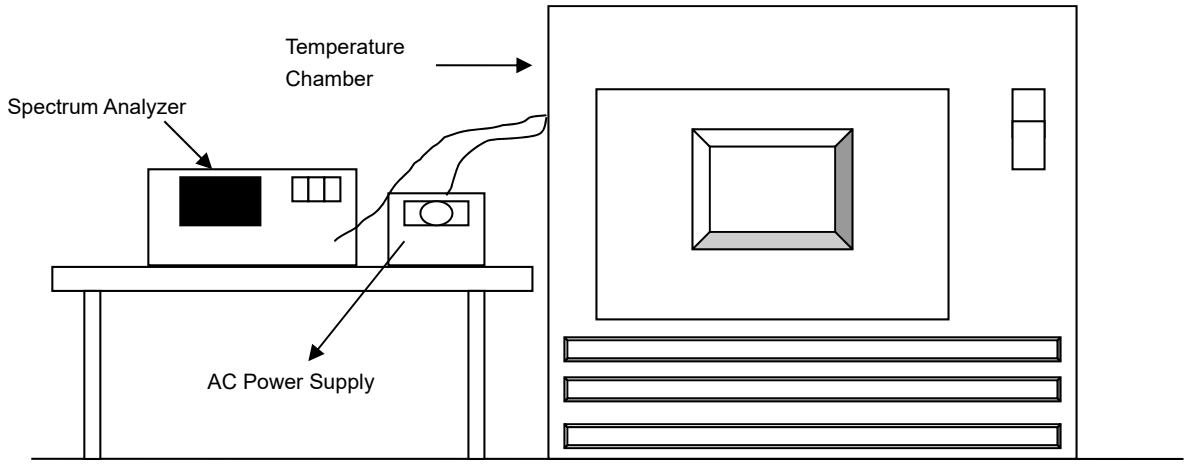
Spectrum Plot of Worst Value	
802.11ax (HE20)	802.11ax (HE40)
	
802.11ax (HE80)	
	

4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.6.2 Test Setup



4.6.3 Test Instruments

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
AC Power Source ExTech	CFW-105	E000603	N/A	N/A
Digital Multimeter Fluke	87-III	70360742	2022/6/23	2023/6/22
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	2022/1/3	2023/1/2

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Oven room.
3. Tested Date: 2022/9/17.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed..
f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.6 Test Results

802.11a

Frequency Stability Versus Temp.									
Operating Frequency: 5885MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	120	5885.0067	Pass	5885.0078	Pass	5885.0072	Pass	5885.0062	Pass
30	120	5885.028	Pass	5885.0303	Pass	5885.0266	Pass	5885.0318	Pass
20	120	5885.0168	Pass	5885.0179	Pass	5885.0179	Pass	5885.0177	Pass
10	120	5885.0082	Pass	5885.0074	Pass	5885.0082	Pass	5885.0117	Pass
0	120	5884.9807	Pass	5884.9825	Pass	5884.9829	Pass	5884.9832	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5885MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5885.0185	Pass	5885.0143	Pass	5885.0135	Pass	5885.0176	Pass
	120	5885.0168	Pass	5885.0179	Pass	5885.0179	Pass	5885.0177	Pass
	102	5885.0152	Pass	5885.0175	Pass	5885.0149	Pass	5885.0154	Pass

4.7 Operational Restrictions for U-NII 4 Devices

4.7.1 Limits of Operational Restrictions for U-NII 4 Devices

☒ (1) Indoor Access Point.
An access point that operates in the 5.850-5.895 GHz, is supplied power from a wired connection, has an integrated antenna, is not battery powered, and does not have a weatherized enclosure. Indoor access point devices must bear the following statement in a conspicuous location on the device and in the user's manual: FCC regulations restrict operation of this device to indoor use only.

☐ (2) Subordinate Device.
A subordinate device that operates in the 5.850-5.895 GHz band under the control of an Indoor Access Point, is supplied power from a wired connection, has an integrated antenna, is not battery powered, does not have a weatherized enclosure, and does not have a direct connection to the internet. Subordinate devices must not be used to connect devices between separate buildings or structures. Subordinate devices must be authorized under certification procedures in part 2 of this chapter. Modules may not be certified as subordinate devices.

☐ (3) Client Device.
A client device whose transmissions are generally under the control of an access point and is not capable of initiating a network

4.7.2 Test Setup

N/A

4.7.3 Test Instruments

N/A

4.7.4 Test Procedure

N/A

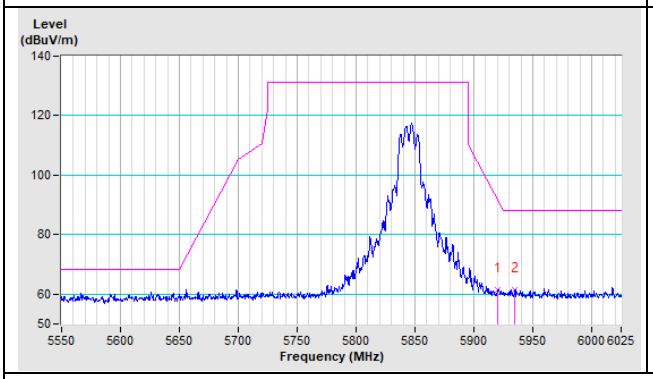
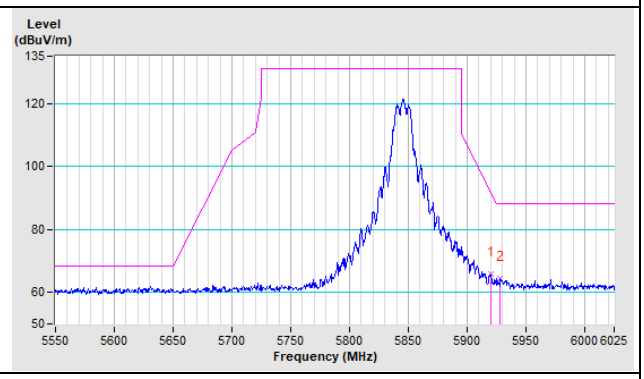
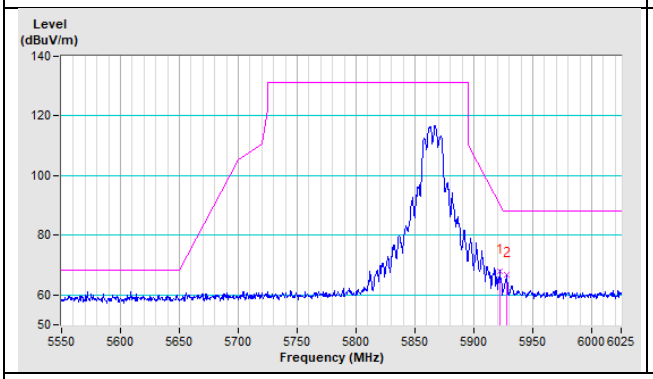
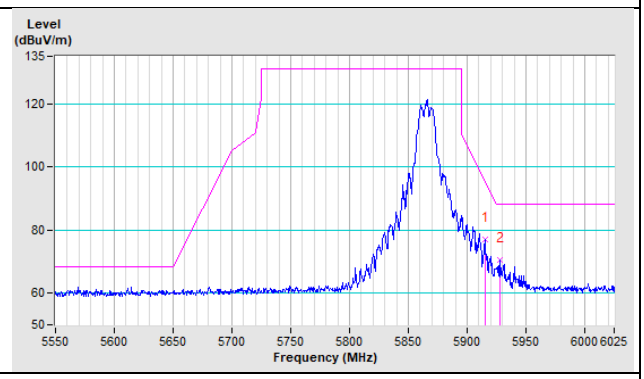
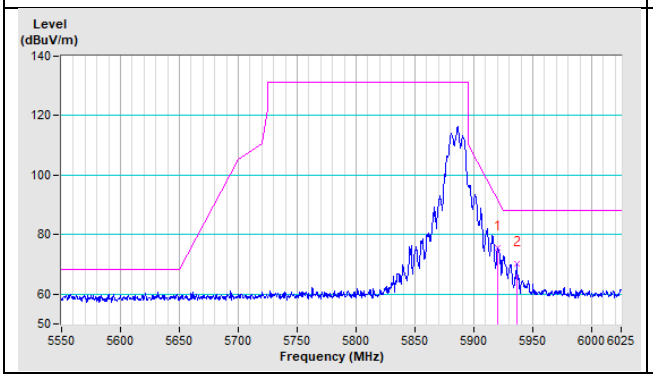
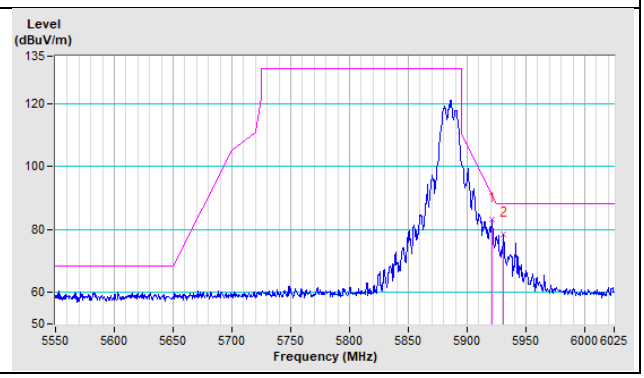
4.7.5 Test Results

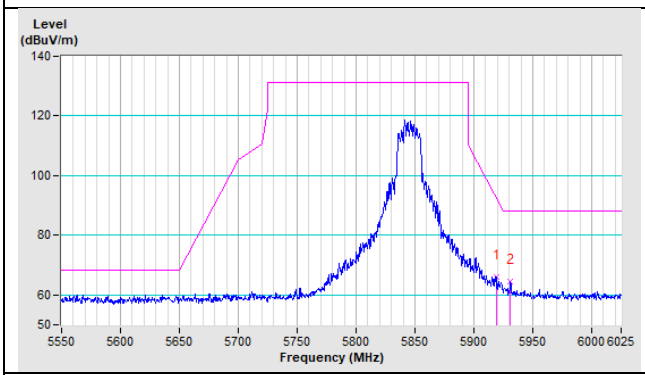
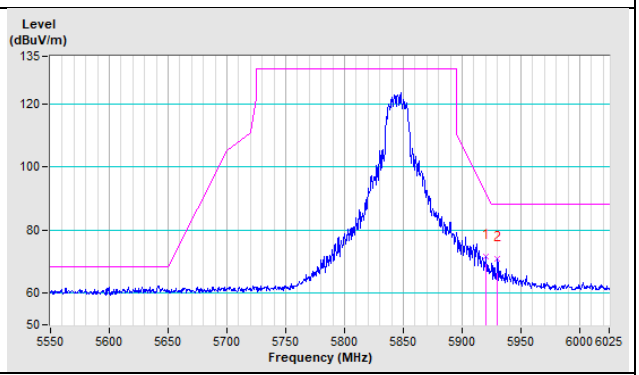
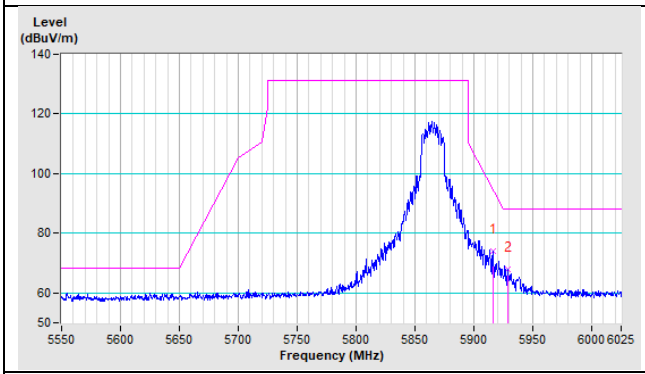
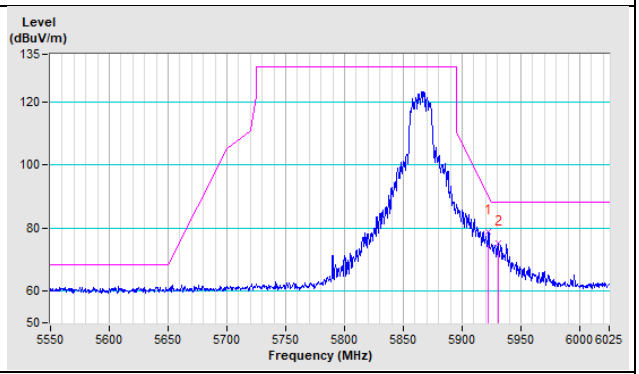
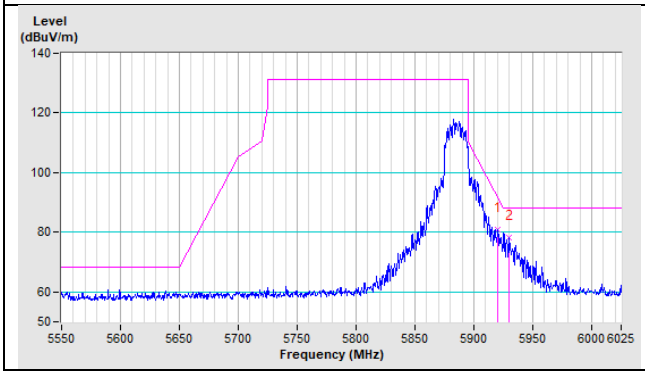
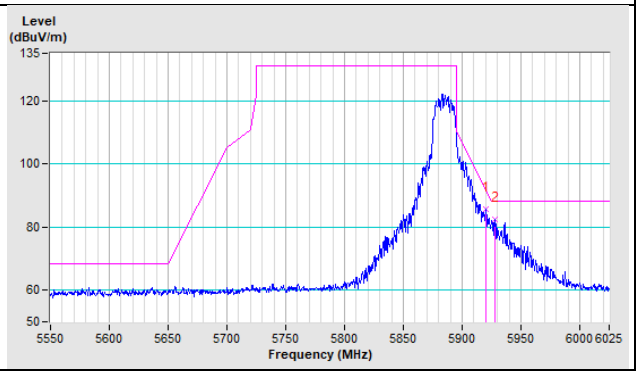
Device is an Indoor Access Point, all restrictions are meet the §15.403 requirements. Please refer to the Attestation letter exhibit supplied within this application.

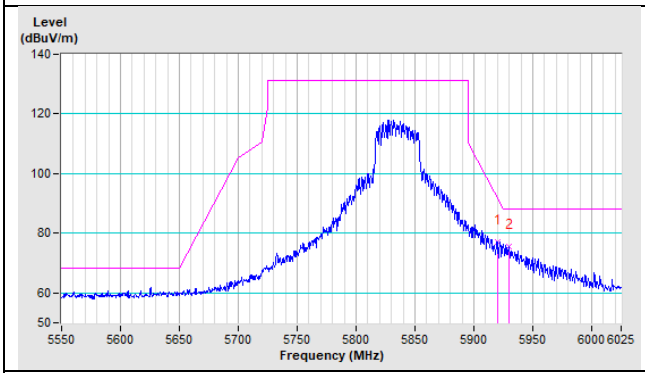
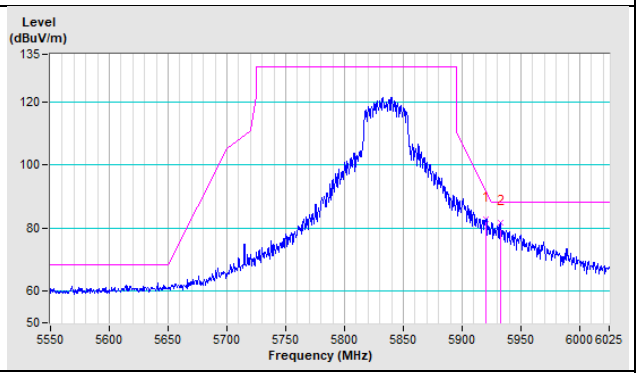
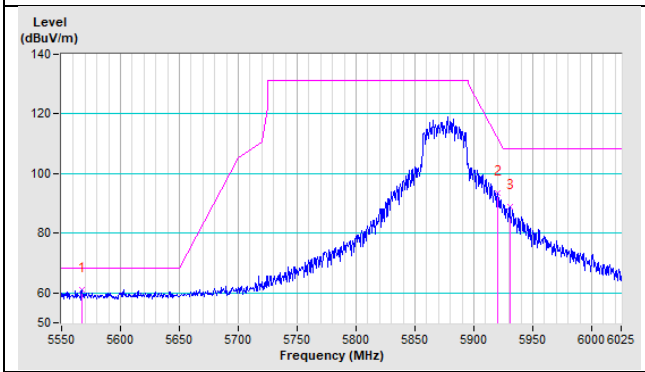
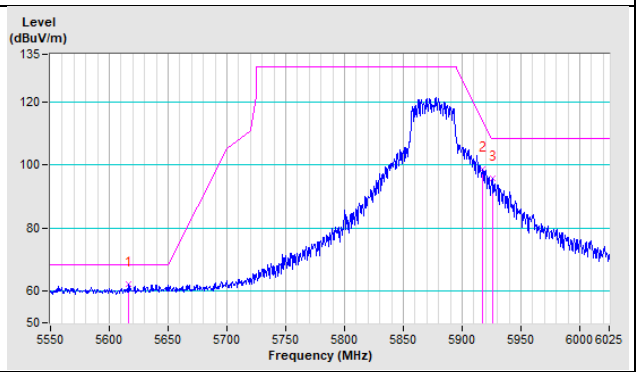
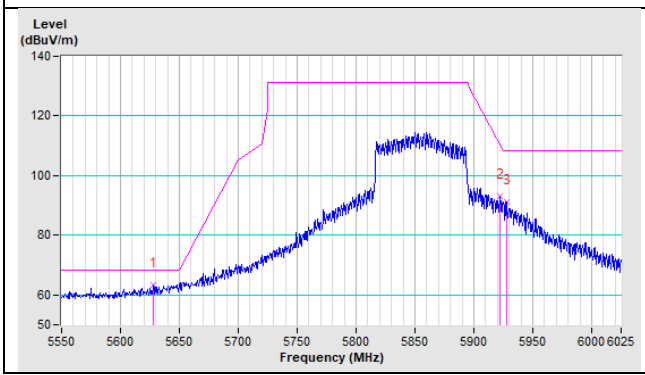
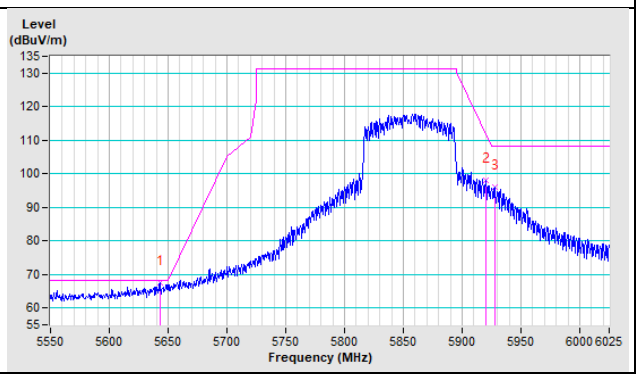
5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Annex A – Band Edge Measurement

802.11a CH 169：5845 MHz	
Horizontal	Vertical
	
802.11a CH 173：5865 MHz	
Horizontal	Vertical
	
802.11a CH 177：5885 MHz	
Horizontal	Vertical
	

802.11ax (HE20) CH 169：5845 MHz	
Horizontal	Vertical
	
802.11ax (HE20) CH 173：5865 MHz	
Horizontal	Vertical
	
802.11ax (HE20) CH 177：5885 MHz	
Horizontal	Vertical
	

802.11ax (HE40) CH 167：5835 MHz	
Horizontal	Vertical
	
802.11ax (HE40) CH 175：5875 MHz	
Horizontal	Vertical
	
802.11ax (HE80) CH 171：5855 MHz	
Horizontal	Vertical
	

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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