

FCC Test Report (Co-Located)

Report No.: RFBBQZ-WTW-P22040440-4

FCC ID: PY322100554

Test Model: WAX625

Received Date: Apr. 13, 2022

Test Date: May 09 ~ Jul. 08, 2022

Issued Date: Jul. 14, 2022

Applicant and Manufacturer: NETGEAR, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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33383, Taiwan

**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

| Issue No. | Description | Date Issued |
|------------------------|------------------|---------------|
| RFBBQZ-WTW-P22040440-4 | Original Release | Jul. 14, 2022 |

1 Certificate of Conformity

Product: Insight Managed WiFi 6 AX5400 Access Point

Brand: NETGEAR

Test Model: WAX625

Sample Status: Engineering Sample

Applicant: NETGEAR, Inc.

Test Date: May 09 ~ Jul. 08, 2022

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)

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 : Pettie Chen, **Date:** Jul. 14, 2022
Pettie Chen / Senior Specialist

Approved by : Jeremy Lin, **Date:** Jul. 14, 2022
Jeremy Lin / Senior Engineer

2 Summary of Test Results

| Applied Standard: | 47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407) | | |
|--|--|--------|--|
| FCC Clause | Test Item | Result | Remarks |
| 15.205 / 15.209 / 15.247(d) 15.407(b) (1/2/3/4(i/ii)/9) | Radiated Emissions | Pass | Meet the requirement of limit. Minimum passing margin is -2.2dB at 11670.00 MHz. |

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) (\pm) |
|--------------------------------|------------------|---|
| Radiated Emissions up to 1 GHz | 9kHz ~ 30MHz | 3.04 dB |
| | 30MHz ~ 200MHz | 3.63 dB |
| | 200MHz ~ 1000MHz | 3.64 dB |
| Radiated Emissions above 1 GHz | 1GHz ~ 18GHz | 2.29 dB |
| | 18GHz ~ 40GHz | 2.29 dB |

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

| | | |
|---------------------|--|---|
| Product | Insight Managed WiFi 6 AX5400 Access Point | |
| Brand | NETGEAR | |
| Test Model | WAX625 | |
| Sample Status | Engineering sample | |
| Power Supply Rating | 12Vdc (adapter) 55.5Vdc (PoE) | |
| Modulation Type | WLAN | CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA |
| Transfer Rate | WLAN | 802.11a: 54/48/36/24/18/12/9/6Mbps 802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n (2.4GHz Band): up to 400Mbps 802.11n (5GHz Band): up to 600Mbps 802.11ac (5GHz Band): up to 6933.3Mbps 802.11ax (2.4GHz Band): up to 573.5Mbps 802.11ax (5GHz Band): up to 4803.9Mbps |
| Operating Frequency | WLAN | 2.4GHz: 2412 ~ 2462MHz 5.0GHz: 5180 ~ 5240MHz, 5250 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz, 5845 ~ 5885MHz |
| Number of Channel | WLAN | 2412 ~ 2462MHz: 11 for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20) 7 for 802.11n (HT40), VHT40, 802.11ax (HE40) 5180 ~ 5320 MHz: 8 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 4 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 2 for 802.11ac (VHT80), 802.11ax (HE80) 1 for 802.11ac (VHT160), 802.11ax (HE160) 5500 ~ 5720MHz: 12 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 6 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 3 for 802.11ac (VHT80), 802.11ax (HE80) 1 for 802.11ac (VHT160), 802.11ax (HE160) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 2 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 1 for 802.11ac (VHT80), 802.11ax (HE80) 5845 ~ 5885 MHz: 3 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 2 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 1 for 802.11ac (VHT80), 802.11ax (HE80) 1 for 802.11ac (VHT160), 802.11ax (HE160) |

| | | |
|-------------------|---------------|---|
| Output Power | WLAN | CDD Mode: 2412 ~ 2462MHz: 868.090mW (Conducted Power) 5180 ~ 5250MHz: 820.163mW (Conducted Power) 5250 ~ 5320MHz: 224.986mW (Conducted Power) 5500 ~ 5720MHz: 242.282mW (Conducted Power) 5745 ~ 5825MHz: 856.781mW (Conducted Power) 5845 ~ 5885MHz: 977.237mW (EIRP) Beamforming Mode: 2412 ~ 2462MHz: 766.800mW (Conducted Power) 5180 ~ 5250MHz: 820.163mW (Conducted Power) 5250 ~ 5320MHz: 224.986mW (Conducted Power) 5500 ~ 5720MHz: 242.282mW (Conducted Power) 5745 ~ 5825MHz: 856.781mW (Conducted Power) 5845 ~ 5885MHz: 2716.439mW (EIRP) |
| Antenna Type | Refer to note | |
| Antenna Connector | Refer to note | |
| Accessory Device | Adapter | |
| Cable Supplied | NA | |

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

| 2.4G Band | | |
|-------------------|------------------|-------------|
| Modulation Mode | Beamforming Mode | TX Function |
| 802.11b | Not Support | 2TX |
| 802.11g | Not Support | 2TX |
| 802.11n (HT20) | Not Support | 2TX |
| 802.11n (HT40) | Not Support | 2TX |
| VHT20 | Support | 2TX |
| VHT40 | Support | 2TX |
| 802.11ax (HE20) | Support | 2TX |
| 802.11ax (HE40) | Support | 2TX |
| 5.0GHz | | |
| Modulation Mode | Beamforming Mode | TX Function |
| 802.11a | Not Support | 4TX |
| 802.11n (HT20) | Not Support | 4TX |
| 802.11n (HT40) | Not Support | 4TX |
| 802.11ac (VHT20) | Support | 4TX |
| 802.11ac (VHT40) | Support | 4TX |
| 802.11ac (VHT80) | Support | 4TX |
| 802.11ac (VHT160) | Support | 4TX |
| 802.11ax (HE20) | Support | 4TX |
| 802.11ax (HE40) | Support | 4TX |
| 802.11ax (HE80) | Support | 4TX |
| 802.11ax (HE160) | Support | 4TX |

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11n mode and HE20/HE40 on 802.11ax mode. The bandwidth and modulation are similar for VHT80/VHT160 on 802.11ac mode and HE80/HE160 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT uses following adapters and PoE.

| Adapter 1 | |
|--------------|---|
| Brand | NETGEAR |
| Model | ADS-40FPA-12 12030EPCU-L ADS-40FPA-12 12030EPC-L |
| P/N | 332-11584-02 |
| Input Power | 100~120 Vac; 60 MHz; Max. 1A |
| Output Power | 12Vdc; 2.5A |
| Power line | 1.8m cable without core |

| Adapter 2 | |
|--------------|------------------------------|
| Brand | NETGEAR |
| Model | AD2067F10 |
| P/N | 332-10944-02 |
| Input Power | 100~120 Vac; 60 MHz; Max. 1A |
| Output Power | 12Vdc; 2.5A |
| Power line | 1.8m cable without core |

| Adapter 3 | |
|--------------|------------------------------|
| Brand | NETGEAR |
| Model | 2ABL030F 1 |
| P/N | 332-10948-02 |
| Input Power | 100~120 Vac; 60 MHz; Max. 1A |
| Output Power | 12Vdc; 2.5A |
| Power line | 1.83m cable without core |

| PoE (Support Unit) | |
|--------------------|---------------------------|
| Brand | BUFFALO |
| Model | BIJ-POE-1P2GH |
| Input Power | 100~240Vac, 1.1A, 50/60Hz |
| Output Power | 55.5Vdc, 0.54A |

3. The antenna information is listed as below.

| | | | | |
|----------------|------------------------|--|--|--|
| Antenna Type | Dipole | | | |
| Connector Type | IPEX | | | |
| Antenna Gain | Directional Gain (dBi) | | | |
| 2400~2483.5MHz | 3.27 | | | |
| 5150~5250MHz | 6.02 | | | |
| 5250~5350MHz | 6.11 | | | |
| 5470~5725MHz | 6.15 | | | |
| 5725~5850MHz | 6.20 | | | |

| | | | | |
|-------------------|---------|---------|---------|---------|
| Antenna Type | Dipole | | | |
| Connector Type | IPEX | | | |
| Antenna Gain(dBi) | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 5845 ~ 5885MHz | 2.82 | 2.89 | 2.78 | 2.82 |

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

4. WLAN 2.4GHz & 5.0GHz technology can transmit at same time.

3.2 Description of Test Modes

For WLAN 2.4G:

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 1 | 2412MHz | 7 | 2442MHz |
| 2 | 2417MHz | 8 | 2447MHz |
| 3 | 2422MHz | 9 | 2452MHz |
| 4 | 2427MHz | 10 | 2457MHz |
| 5 | 2432MHz | 11 | 2462MHz |
| 6 | 2437MHz | | |

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

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 3 | 2422MHz | 7 | 2442MHz |
| 4 | 2427MHz | 8 | 2447MHz |
| 5 | 2432MHz | 9 | 2452MHz |
| 6 | 2437MHz | | |

For 5180 ~ 5320MHz:

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

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 36 | 5180 MHz | 44 | 5220 MHz |
| 40 | 5200 MHz | 48 | 5240 MHz |
| 52 | 5260 MHz | 60 | 5300 MHz |
| 56 | 5280 MHz | 64 | 5320 MHz |

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

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 38 | 5190 MHz | 46 | 5230 MHz |
| 54 | 5270 MHz | 62 | 5310 MHz |

2 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 42 | 5210MHz | 58 | 5290MHz |

1 channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

| Channel | Frequency |
|---------|-----------|
| 50 | 5250MHz |

For 5500 ~ 5720MHz:

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

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 100 | 5500 MHz | 124 | 5620 MHz |
| 104 | 5520 MHz | 128 | 5640 MHz |
| 108 | 5540 MHz | 132 | 5660 MHz |
| 112 | 5560 MHz | 136 | 5680 MHz |
| 116 | 5580 MHz | 140 | 5700 MHz |
| 120 | 5600 MHz | 144 | 5720 MHz |

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

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 102 | 5510 MHz | 126 | 5630 MHz |
| 110 | 5550 MHz | 134 | 5670 MHz |
| 118 | 5590 MHz | 142 | 5710 MHz |

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 106 | 5530 MHz | 138 | 5690 MHz |
| 122 | 5610 MHz | | |

1 channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

| Channel | Frequency |
|---------|-----------|
| 114 | 5570MHz |

For 5745 ~ 5825MHz:

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

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 149 | 5745MHz | 161 | 5805MHz |
| 153 | 5765MHz | 165 | 5825MHz |
| 157 | 5785MHz | | |

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

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 151 | 5755MHz | 159 | 5795MHz |

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

| Channel | Frequency |
|---------|-----------|
| 155 | 5775MHz |

For 5850 ~ 5895MHz:

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

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|------------|---------|-----------|---------|-----------|
| *169 | 5845.5 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 |

1 channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

| Channel | Frequency |
|---------|-----------|
| *163 | 5815 MHz |

Note: * Straddle channels.

3.2.1 Test Mode Applicability and Tested Channel Detail

| EUT Configure Mode | Applicable to | | Description |
|--------------------|---------------|-------|----------------------|
| | RE \geq 1G | RE<1G | |
| A | √ | √ | Power from adapter 1 |
| B | - | √ | Power from adapter 2 |
| C | - | √ | Power from adapter 3 |
| D | - | √ | Power from PoE |

Where RE \geq 1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

NOTE:

1. For radiated emission (below 1GHz) and power line conducted emission test items, the worst radiated emission mode was selected.
2. "-": means no effect.

Radiated Emission Test (Above 1 GHz):

- 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 | Freq. Range (MHz) | Available Channel | Tested Channel | Modulation Technology |
|--------------------|------------------------------|-------------------|-------------------|----------------|-----------------------|
| A | 802.11g + 802.11ax (HE40) | 2412-2462 | 1 to 11 | 6 + 167 | OFDM |
| | | 5835-5875 | 167 to 175 | | OFDMA |

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 | Freq. Range (MHz) | Available Channel | Tested Channel | Modulation Technology |
|--------------------|------------------------------|-------------------|-------------------|----------------|-----------------------|
| A, B, C, D | 802.11g + 802.11ax (HE40) | 2412-2462 | 1 to 11 | 6 + 167 | OFDM |
| | | 5835-5875 | 167 to 175 | | OFDMA |

Test Condition:

| Applicable to | Environmental Conditions | Input Power | Tested by |
|---------------|--------------------------|----------------|-----------|
| RE \geq 1G | 22 deg. C, 68% RH | 120 Vac, 60 Hz | Greg Lin |
| RE<1G | 23 deg. C, 66% RH | 120 Vac, 60 Hz | Greg Lin |

3.3 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 | E5410 | 1HC2XM1 | FCC DoC Approved | - |
| B. | Load | NA | NA | NA | NA | - |
| C. | PoE | BUFFALO | BIJ-POE-1P2GH | NA | NA | Provided by client |

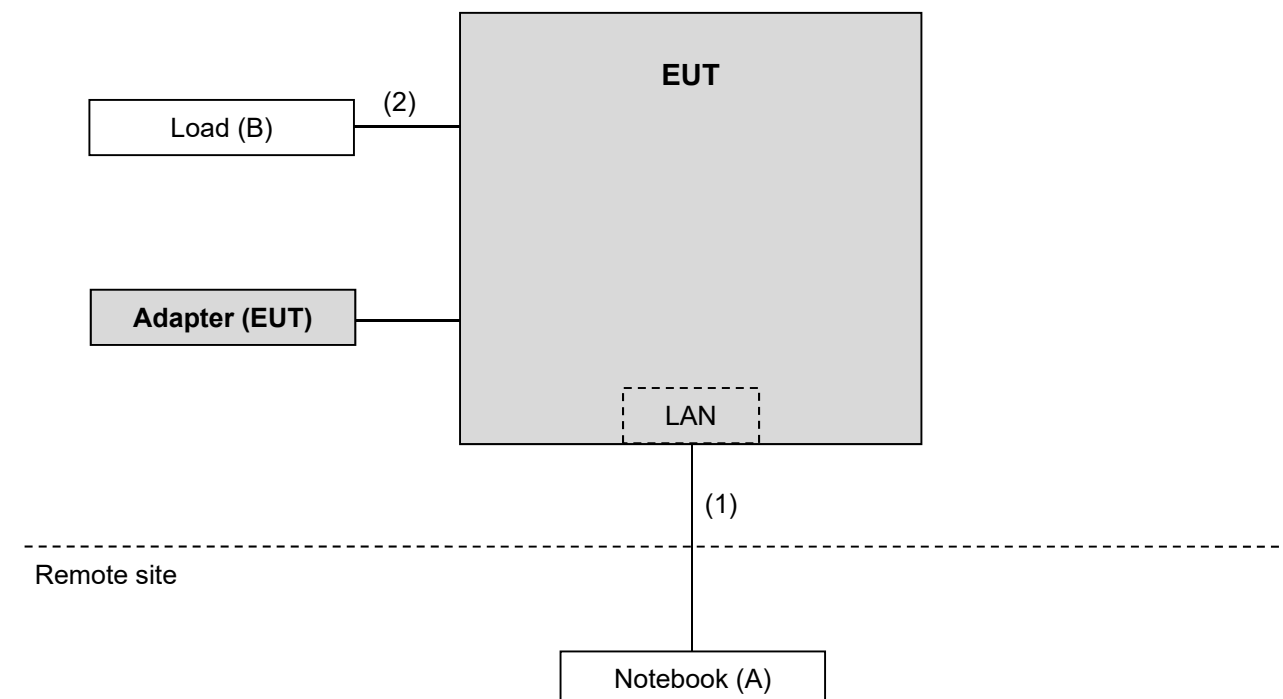
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

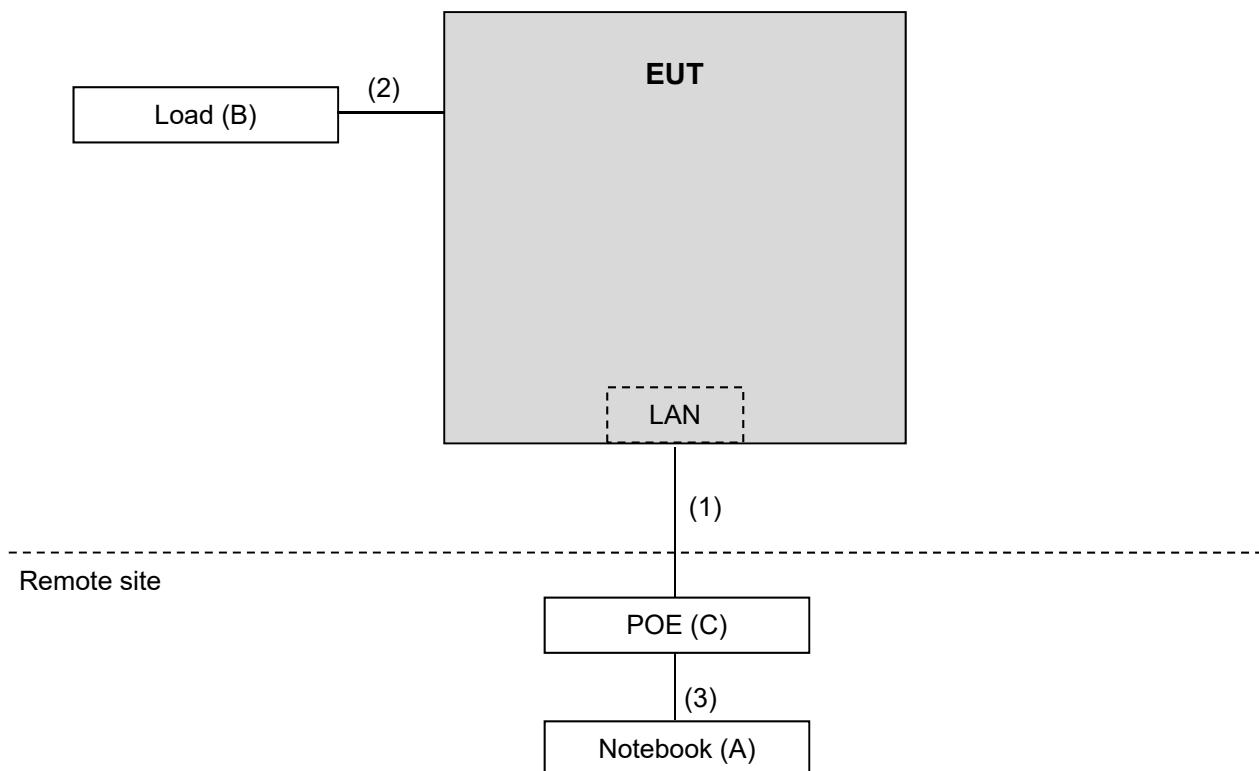
| ID | Cable Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks |
|----|--------------------|------|------------|--------------------|--------------|-------------|
| 1. | LAN cable | 1 | 10 | N | 0 | RJ45, Cat5e |
| 2. | LAN cable | 1 | 1.5 | N | 0 | RJ45, Cat5e |
| 3. | LAN cable | 1 | 1.5 | N | 0 | RJ45, Cat5e |

3.3.1 Configuration of System under Test

Test Mode A, B, C



Test Mode D



3.4 General Description of Applied Standards

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 C (15.247)

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

| Applicable To | | Limit | |
|---|---|--|---|
| 789033 D02 General UNII Test Procedure New Rules v02r01 | | Field Strength at 3m | |
| | | PK: 74 (dBuV/m) | AV: 54 (dBuV/m) |
| Frequency Band | Applicable To | EIRP Limit | Equivalent Field Strength at 3m |
| 5150~5250 MHz | 15.407(b)(1) | PK: -27 (dBm/MHz) | PK: 68.2(dBuV/m) |
| 5250~5350 MHz | 15.407(b)(2) | | |
| 5470~5725 MHz | 15.407(b)(3) | | |
| 5725~5850 MHz | <input checked="" type="checkbox"/> 15.407(b)(4)(i) | PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4} | PK: 68.2(dBuV/m) ^{*1} PK: 105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK: 122.2 (dBuV/m) ^{*4} |
| ^{*1} beyond 75 MHz or more above of the band edge. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. | | ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. | |

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

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

4.1.2 Test Instruments

| Description & Manufacturer | Model No. | Serial No. | Cal. Date | Cal. Due |
|---|--------------------------|-----------------------|---------------|---------------|
| Test Receiver ROHDE & SCHWARZ | ESCI | 100424 | Dec. 30, 2021 | Dec. 29, 2022 |
| Spectrum Analyzer ROHDE & SCHWARZ | FSP40 | 100040 | Sep. 15, 2021 | Sep. 14, 2022 |
| BILOG Antenna SCHWARZBECK | VULB9168 | 9168-155 | Nov. 01, 2021 | Oct. 31, 2022 |
| HORN Antenna SCHWARZBECK | BBHA 9120D | 9120D-1170 | Nov. 14, 2021 | Nov. 13, 2022 |
| HORN Antenna SCHWARZBECK | BBHA 9170 | BBHA9170241 | Oct. 26, 2021 | Oct. 25, 2022 |
| Preamplifier Agilent (Below 1GHz) | 8447D | 2944A10631 | Jun. 05, 2021 | Jun. 04, 2022 |
| | | | May 14, 2022 | May 13, 2023 |
| Preamplifier KEYSIGHT (Above 1GHz) | 83017A | MY53270295 | Jun. 05, 2021 | Jun. 04, 2022 |
| | | | May 14, 2022 | May 13, 2023 |
| RF Coaxial Cable 57140938WOKEN With 5dB PAD | 8D-FB | Cable-CH4-01 | Jul. 24, 2021 | Jul. 23, 2022 |
| RF Coaxial Cable EMCI | EMC102-KM-KM-3000 | 150929 | Jul. 24, 2021 | Jul. 23, 2022 |
| RF Coaxial Cable EMCI | EMC102-KM-KM-600 | 150928 | Jul. 24, 2021 | Jul. 23, 2022 |
| RF signal cable HUBER+SUHNER | SUCOFLEX 104 | MY 13380+295012/04 | Jun. 05, 2021 | Jun. 04, 2022 |
| | | | May 14, 2022 | May 13, 2023 |
| RF signal cable HUBER+SUHNER | SUCOFLEX 104 | Cable-CH4-03 (250724) | Jun. 05, 2021 | Jun. 04, 2022 |
| | | | May 14, 2022 | May 13, 2023 |
| Software BV ADT | ADT_Radiated_V7.6.15.9.5 | NA | NA | NA |
| Antenna Tower inn-co GmbH | MA 4000 | 010303 | NA | NA |
| Antenna Tower Controller BV ADT | AT100 | AT93021703 | NA | NA |
| Turn Table BV ADT | TT100 | TT93021703 | NA | NA |
| Turn Table Controller BV ADT | SC100 | SC93021703 | NA | NA |
| Boresight Antenna Fixture | FBA-01 | FBA-SIP01 | NA | NA |
| Peak Power Analyzer KEYSIGHT | 8990B | MY51000485 | Jan. 18, 2022 | Jan. 17, 2023 |
| Wideband Power Sensor KEYSIGHT | N1923A | MY58140009 | Jan. 17, 2022 | Jan. 16, 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 HwaYa Chamber 4.

4.1.3 Test Procedures

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:

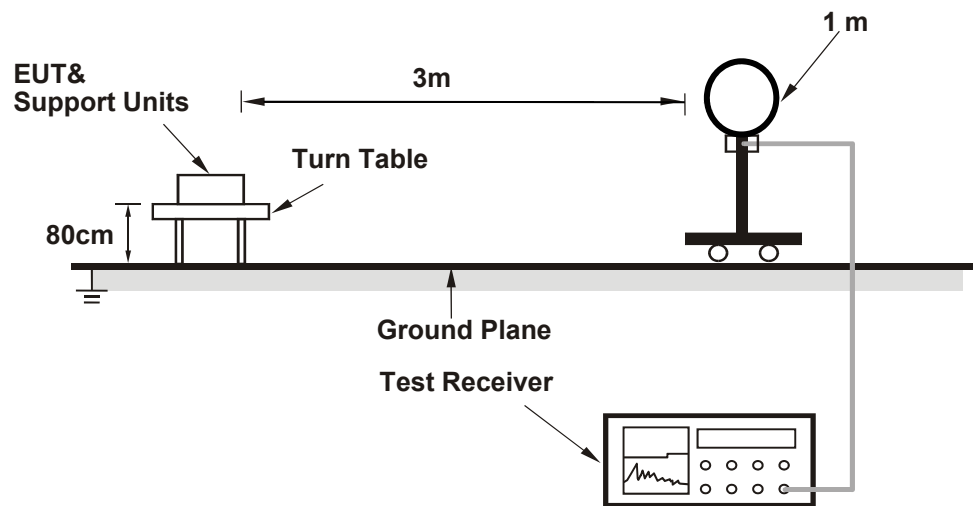
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. For WLAN device measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection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

4.1.4 Deviation from Test Standard

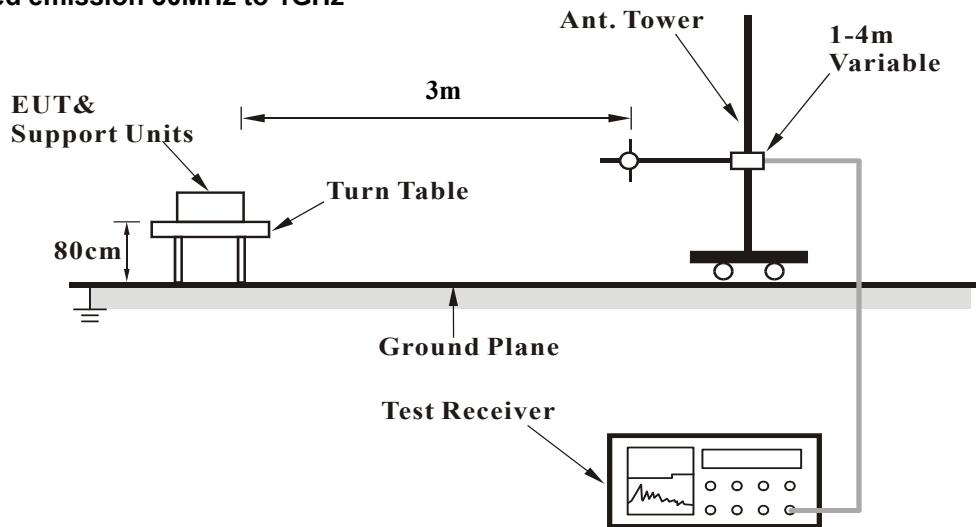
No deviation.

4.1.5 Test Setup

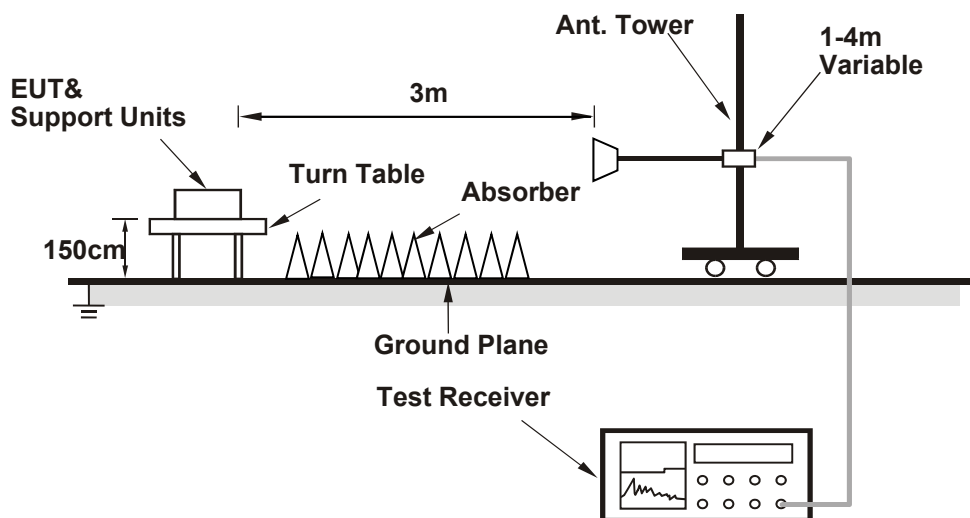
For Radiated emission below 30MHz



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).

4.1.6 EUT Operating Conditions

- 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.

4.1.7 Test Results

Above 1GHz Data:

802.11g + 802.11ax (HE40)

| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|---------------------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 1 GHz ~ 40 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Peak (PK) Average (AV) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

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 | *2437.00 | 121.4 PK | | | 2.12 H | 39 | 87.1 | 34.3 |
| 2 | *2437.00 | 111.8 AV | | | 2.12 H | 39 | 77.5 | 34.3 |
| 3 | 4874.00 | 51.7 PK | 74.0 | -22.3 | 2.18 H | 312 | 38.1 | 13.6 |
| 4 | 4874.00 | 38.9 AV | 54.0 | -15.1 | 2.18 H | 312 | 25.3 | 13.6 |
| 5 | *5835.00 | 124.9 PK | | | 1.20 H | 132 | 81.1 | 43.8 |
| 6 | *5835.00 | 113.0 AV | | | 1.20 H | 132 | 69.2 | 43.8 |
| 7 | #5911.48 | 87.2 PK | 98.1 | -10.9 | 1.20 H | 132 | 73.2 | 14.0 |
| 8 | #5932.37 | 81.3 PK | 88.2 | -6.9 | 1.20 H | 132 | 67.2 | 14.1 |
| 9 | 11670.00 | 66.0 PK | 74.0 | -8.0 | 2.54 H | 184 | 41.4 | 24.6 |
| 10 | 11670.00 | 51.8 AV | 54.0 | -2.2 | 2.54 H | 184 | 27.2 | 24.6 |

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 | *2437.00 | 116.7 PK | | | 3.47 V | 146 | 82.4 | 34.3 |
| 2 | *2437.00 | 107.1 AV | | | 3.47 V | 146 | 72.8 | 34.3 |
| 3 | 4874.00 | 51.5 PK | 74.0 | -22.5 | 2.08 V | 312 | 37.9 | 13.6 |
| 4 | 4874.00 | 39.4 AV | 54.0 | -14.6 | 2.08 V | 312 | 25.8 | 13.6 |
| 5 | *5835.00 | 120.9 PK | | | 3.85 V | 92 | 77.1 | 43.8 |
| 6 | *5835.00 | 108.3 AV | | | 3.85 V | 92 | 64.5 | 43.8 |
| 7 | #5917.65 | 81.6 PK | 93.6 | -12.0 | 3.85 V | 92 | 67.6 | 14.0 |
| 8 | #5933.32 | 76.0 PK | 88.2 | -12.2 | 3.85 V | 92 | 61.9 | 14.1 |
| 9 | 11670.00 | 65.4 PK | 74.0 | -8.6 | 2.21 V | 232 | 40.8 | 24.6 |
| 10 | 11670.00 | 51.2 AV | 54.0 | -2.8 | 2.21 V | 232 | 26.6 | 24.6 |

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.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz data

Mode A

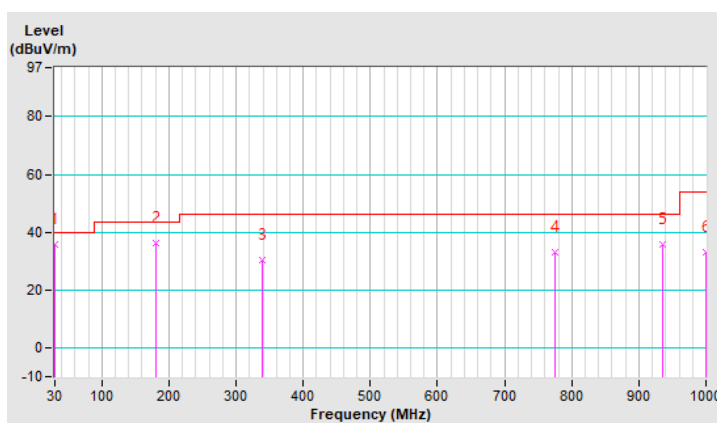
802.11g + 802.11ax (HE40)

| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 30.00 | 35.7 QP | 40.0 | -4.3 | 1.00 H | 137 | 45.9 | -10.2 |
| 2 | 181.32 | 36.1 QP | 43.5 | -7.4 | 1.99 H | 146 | 46.5 | -10.4 |
| 3 | 338.46 | 30.3 QP | 46.0 | -15.7 | 1.00 H | 281 | 37.2 | -6.9 |
| 4 | 774.96 | 33.2 QP | 46.0 | -12.8 | 1.00 H | 41 | 31.0 | 2.2 |
| 5 | 935.98 | 35.8 QP | 46.0 | -10.2 | 1.00 H | 244 | 30.4 | 5.4 |
| 6 | 1000.00 | 33.2 QP | 54.0 | -20.8 | 1.00 H | 44 | 26.6 | 6.6 |

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

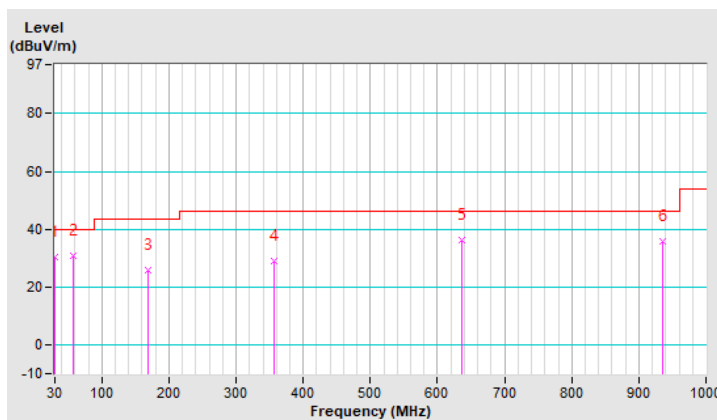


| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 30.00 | 30.4 QP | 40.0 | -9.6 | 1.50 V | 264 | 40.6 | -10.2 |
| 2 | 57.16 | 30.7 QP | 40.0 | -9.3 | 1.01 V | 347 | 39.8 | -9.1 |
| 3 | 169.68 | 25.6 QP | 43.5 | -17.9 | 1.01 V | 110 | 34.8 | -9.2 |
| 4 | 355.92 | 28.9 QP | 46.0 | -17.1 | 1.50 V | 213 | 35.5 | -6.6 |
| 5 | 635.28 | 36.3 QP | 46.0 | -9.7 | 1.01 V | 102 | 37.4 | -1.1 |
| 6 | 935.98 | 35.8 QP | 46.0 | -10.2 | 1.50 V | 283 | 30.4 | 5.4 |

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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



Mode B

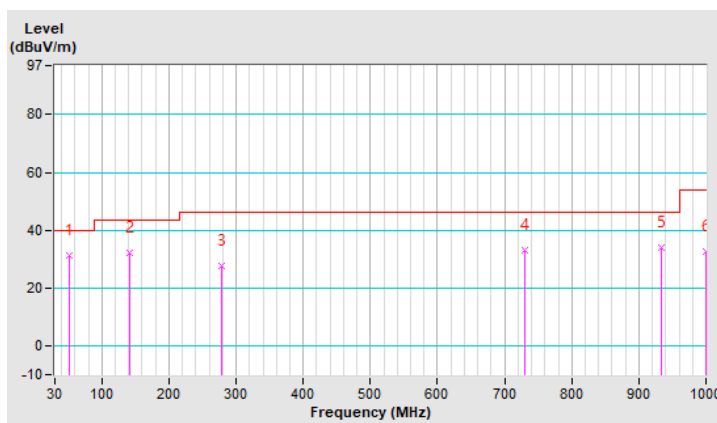
802.11g + 802.11ax (HE40)

| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 51.34 | 31.2 QP | 40.0 | -8.8 | 1.00 H | 6 | 39.7 | -8.5 |
| 2 | 140.58 | 32.1 QP | 43.5 | -11.4 | 1.49 H | 8 | 41.3 | -9.2 |
| 3 | 278.32 | 27.6 QP | 46.0 | -18.4 | 1.49 H | 334 | 35.7 | -8.1 |
| 4 | 730.34 | 33.0 QP | 46.0 | -13.0 | 1.49 H | 279 | 32.3 | 0.7 |
| 5 | 934.04 | 34.1 QP | 46.0 | -11.9 | 1.49 H | 223 | 28.8 | 5.3 |
| 6 | 1000.00 | 32.7 QP | 54.0 | -21.3 | 1.49 H | 127 | 26.1 | 6.6 |

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

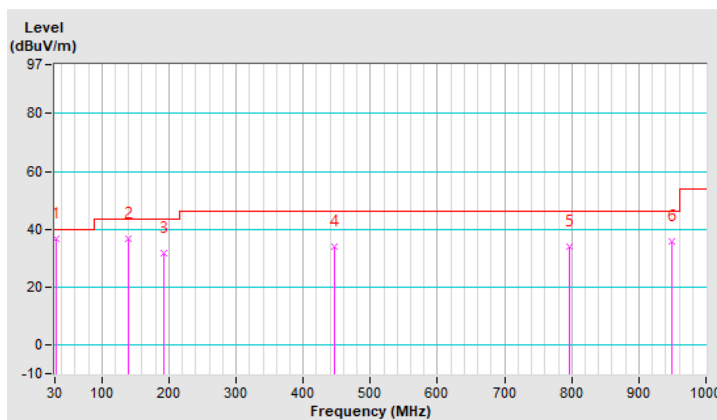


| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 31.94 | 36.7 QP | 40.0 | -3.3 | 1.49 V | 104 | 47.0 | -10.3 |
| 2 | 138.64 | 36.9 QP | 43.5 | -6.6 | 1.49 V | 104 | 46.2 | -9.3 |
| 3 | 192.96 | 31.5 QP | 43.5 | -12.0 | 1.00 V | 17 | 43.1 | -11.6 |
| 4 | 447.10 | 33.8 QP | 46.0 | -12.2 | 1.49 V | 106 | 38.6 | -4.8 |
| 5 | 796.30 | 33.8 QP | 46.0 | -12.2 | 2.00 V | 125 | 31.5 | 2.3 |
| 6 | 949.56 | 35.9 QP | 46.0 | -10.1 | 2.00 V | 125 | 30.3 | 5.6 |

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



Mode C

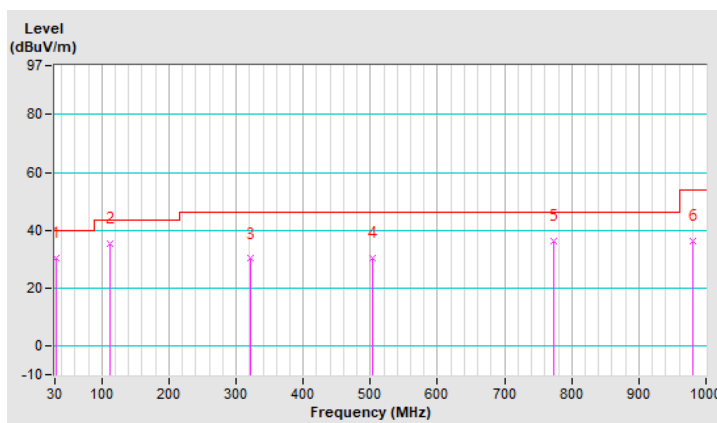
802.11g + 802.11ax (HE40)

| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 31.04 | 30.5 QP | 40.0 | -9.5 | 1.49 H | 100 | 41.0 | -10.5 |
| 2 | 111.48 | 35.4 QP | 43.5 | -8.1 | 1.49 H | 99 | 47.3 | -11.9 |
| 3 | 321.00 | 30.1 QP | 46.0 | -15.9 | 1.49 H | 105 | 37.1 | -7.0 |
| 4 | 503.36 | 30.5 QP | 46.0 | -15.5 | 1.49 H | 97 | 34.3 | -3.8 |
| 5 | 773.02 | 36.3 QP | 46.0 | -9.7 | 1.00 H | 4 | 34.2 | 2.1 |
| 6 | 980.60 | 36.2 QP | 54.0 | -17.8 | 1.49 H | 304 | 30.1 | 6.1 |

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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

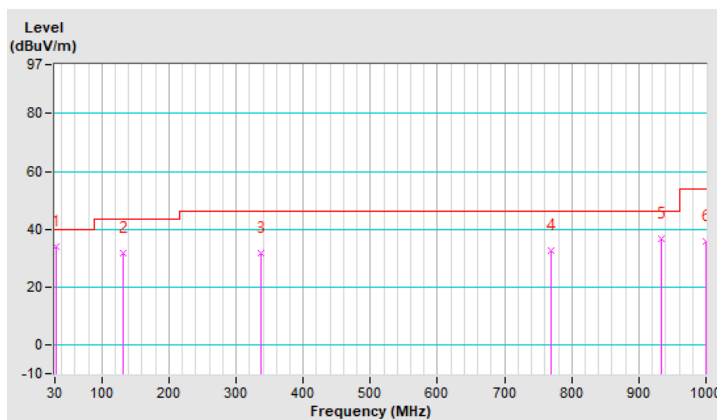


| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 31.94 | 34.0 QP | 40.0 | -6.0 | 1.49 V | 343 | 44.3 | -10.3 |
| 2 | 130.88 | 31.6 QP | 43.5 | -11.9 | 1.00 V | 14 | 41.8 | -10.2 |
| 3 | 336.52 | 31.7 QP | 46.0 | -14.3 | 1.00 V | 181 | 38.6 | -6.9 |
| 4 | 769.14 | 32.8 QP | 46.0 | -13.2 | 1.00 V | 345 | 30.8 | 2.0 |
| 5 | 934.04 | 36.6 QP | 46.0 | -9.4 | 1.00 V | 343 | 31.3 | 5.3 |
| 6 | 1000.00 | 35.9 QP | 54.0 | -18.1 | 1.99 V | 346 | 29.3 | 6.6 |

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



Mode D

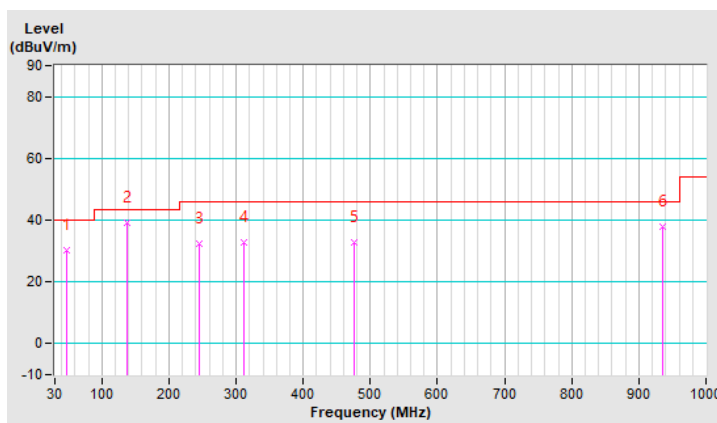
802.11g + 802.11ax (HE40)

| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 47.46 | 30.4 QP | 40.0 | -9.6 | 1.49 H | 101 | 39.1 | -8.7 |
| 2 | 136.70 | 39.2 QP | 43.5 | -4.3 | 1.00 H | 271 | 48.6 | -9.4 |
| 3 | 245.34 | 32.5 QP | 46.0 | -13.5 | 1.99 H | 218 | 42.2 | -9.7 |
| 4 | 311.30 | 32.8 QP | 46.0 | -13.2 | 1.00 H | 276 | 40.2 | -7.4 |
| 5 | 476.20 | 32.9 QP | 46.0 | -13.1 | 1.49 H | 30 | 37.3 | -4.4 |
| 6 | 935.98 | 37.9 QP | 46.0 | -8.1 | 1.49 H | 194 | 32.5 | 5.4 |

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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

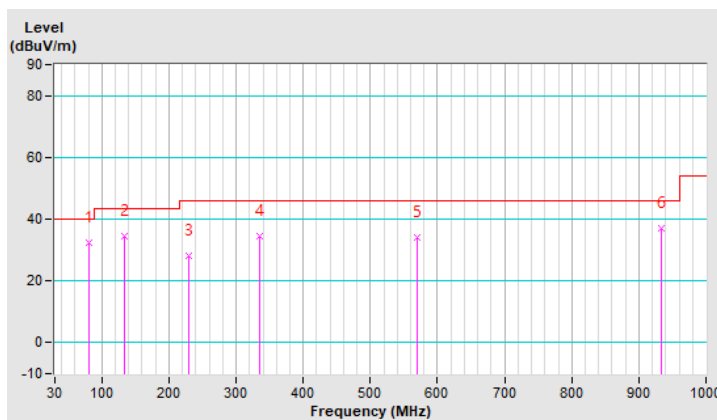


| EUT Test Condition | | Measurement Detail | |
|--------------------------|--------------------|--------------------|-----------------|
| Channel | Ch 6 + Ch 167 | Frequency Range | 9kHz ~ 1 GHz |
| Input Power | 120 Vac, 60 Hz | Detector Function | Quasi-peak (QP) |
| Environmental Conditions | 23 deg. C, 66 % RH | Tested By | Greg Lin |

| 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 | 80.44 | 32.4 QP | 40.0 | -7.6 | 1.01 V | 144 | 45.6 | -13.2 |
| 2 | 132.82 | 34.3 QP | 43.5 | -9.2 | 1.25 V | 147 | 44.1 | -9.8 |
| 3 | 229.82 | 28.0 QP | 46.0 | -18.0 | 1.01 V | 147 | 39.3 | -11.3 |
| 4 | 334.58 | 34.7 QP | 46.0 | -11.3 | 1.50 V | 145 | 41.6 | -6.9 |
| 5 | 569.32 | 33.9 QP | 46.0 | -12.1 | 1.01 V | 80 | 36.9 | -3.0 |
| 6 | 934.04 | 37.1 QP | 46.0 | -8.9 | 1.01 V | 144 | 31.8 | 5.3 |

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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

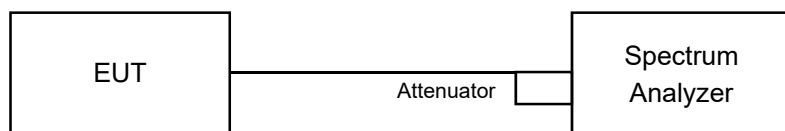


4.2 Conducted Out of Band Emission Measurement

4.2.1 Limits of Conducted Out of Band Emission Measurement

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedure

MEASUREMENT PROCEDURE REF

- Set the RBW = 100 kHz.
- Set the VBW \geq 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

- Set RBW = 100 kHz.
- Set VBW \geq 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

4.2.5 Deviation from Test Standard

No deviation.

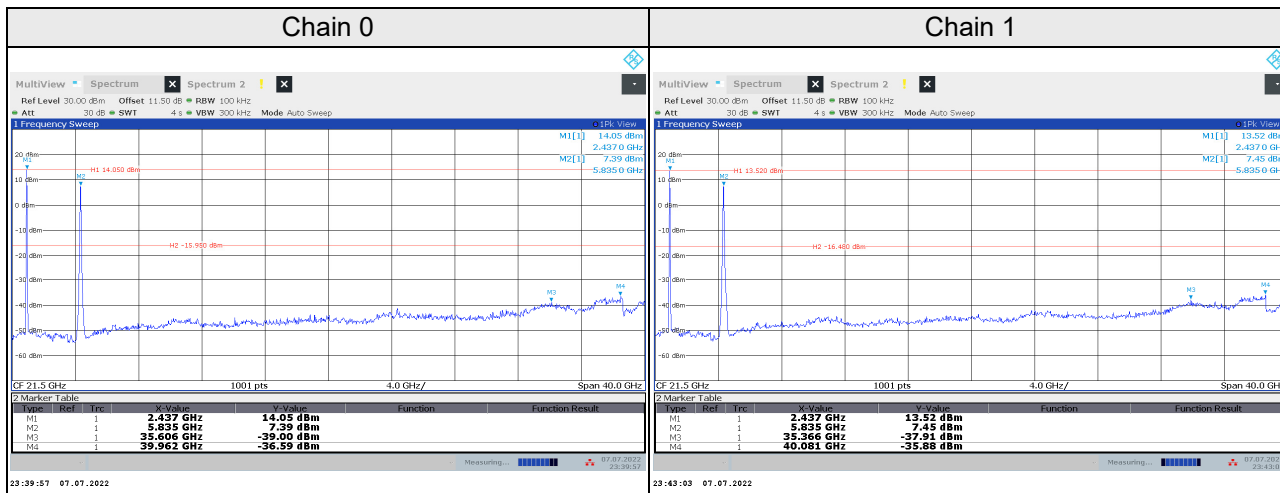
4.2.6 EUT Operating Condition

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

4.2.7 Test Results

The spectrum plots are attached on the following pages. H1 line indicates the highest level, and H2 line indicates the 30dB offset below H1. It shows compliance with the requirement.

802.11g + 802.11ax (HE40)

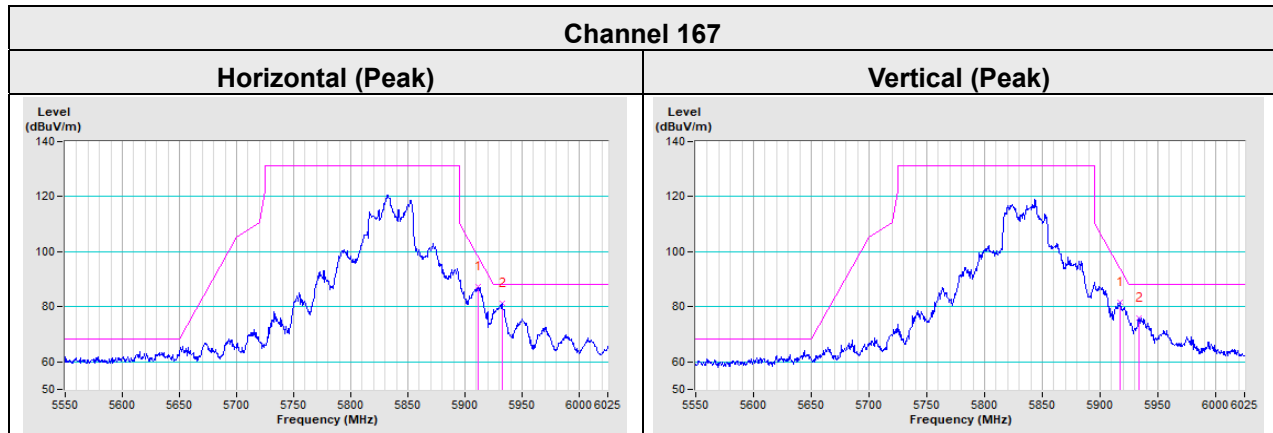


5 Pictures of Test Arrangements

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

Annex A – Band Edge Measurement

802.11ax (HE40)



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 and approved according to ISO/IEC 17025.

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

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