

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
47 CFR FCC Part 15, Subpart E (Section 15.407)

Report No.: RFBDDZ-WTW-P25050228-5

FCC ID: 2BNGH-B5438

Product: Board

Brand: N/A

Model No.: B5438

Received Date: 2025/5/12

Test Date: 2025/7/16 ~ 2025/7/21

Issued Date: 2025/7/31

Applicant: Harris Hill Products Inc

Address: 200 Park Ave South #1112 New York US 10003

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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FCC Registration / 788550 / TW0003

Designation Number:

Approved by: _____

Jeremy Lin

Date: _____

2025/7/31

Jeremy Lin / Project Engineer

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Prepared by : Lena Wang / Specialist

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Release Control Record

| Issue No. | Description | Date Issued |
|------------------------|-------------------|-------------|
| RFBDDZ-WTW-P25050228-5 | Original release. | 2025/7/31 |

1 Certificate

Product: Board

Brand: N/A

Test Model: B5438

Sample Status: Engineering sample

Applicant: Harris Hill Products Inc

Test Date: 2025/7/16 ~ 2025/7/21

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
47 CFR FCC Part 15, Subpart E (Section 15.407)

Measurement procedure: 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.

2 Summary of Test Results

| Standard / Clause | Test Item | Result | Remark |
|--|---------------------------------|--------|--------------------------------|
| 15.205 /15.209 /15.247(d) 15.205 /15.209 /15.247(d) 15.407(b)(9) | Unwanted Emissions below 1 GHz | Pass | Meet the requirement of limit. |
| 15.205 /15.209 /15.247(d) 15.205 /15.209 /15.247(d) 15.407(b) (1/2/3/4(i)/10) | Unwanted Emissions above 1 GHz | Pass | Meet the requirement of limit. |
| 15.247(d) | Conducted Out of Band Emissions | Pass | Meet the requirement of limit. |

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:

| Parameter | Specification | Uncertainty (±) |
|--|-----------------|--------------------|
| Radiated Spurious Emissions below 1GHz | 9 kHz ~ 30 MHz | 2.44 dB |
| | 30 MHz ~ 1 GHz | 2.95 dB |
| Radiated Spurious Emissions above 1GHz | 1 GHz ~ 18 GHz | 2.26 dB |
| | 18 GHz ~ 40 GHz | 1.94 dB |
| Conducted Out of Band Emissions | 9 kHz ~ 40 GHz | 2.79 dB |

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

| | | |
|-----------------------|--------|---|
| Product | Board | |
| Brand | N/A | |
| Test Model | B5438 | |
| Modulation Technology | BT-EDR | FHSS |
| | BT-LE | DTS |
| | WLAN | DSSS, OFDM, OFDMA |
| Operating Frequency | BT | 2.402 GHz ~ 2.48 GHz |
| | WLAN | 2.412 GHz ~ 2.462 GHz 5.18 GHz ~ 5.24 GHz 5.26 GHz ~ 5.32 GHz 5.5 GHz ~ 5.7 GHz 5.745 GHz ~ 5.825 GHz |

Note:

1. The EUT uses following accessories.

| Item | Brand | Model | Specification |
|---------------|---------|------------|---|
| Power Adapter | Chicony | A18-045N2A | AC Input : 100-240V, 1.4A, 50-60Hz (3pin, 0.9m) DC Output : 19V, 2.37A, 45W (1.45m, with a core) |

2. There are Bluetooth and WLAN (2.4 GHz & 5 GHz) technology used for the EUT.

3. 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.

4. Simultaneously transmission combination.

| Combination | Technology | | |
|-------------|--------------|------------|-----------|
| 1 | WLAN 2.4 GHz | WLAN 5 GHz | Bluetooth |

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

| Antenna NO. | RF Chain NO. | Brand | Model | Antenna Net Gain(dBi) | Frequency range | Antenna Type | Connector Type |
|-------------|--------------|----------------------------------|---------------|-----------------------|----------------------|--------------|----------------|
| BT | - | Advanced Wireless & Antenna INC. | ABF8P-100000A | 2.99 | 2.4 GHz ~ 2.4835 GHz | Dipole | ipex(MHF) |
| WIFI | 0 | Advanced Wireless & Antenna INC | ABF8P-100001A | 2.11 | 2.4 GHz ~ 2.4835 GHz | Dipole | ipex(MHF) |
| | | | | 2.86 | 5.15 GHz ~ 5.85 GHz | Dipole | ipex(MHF) |
| | 1 | | ABF8P-100002A | 2.57 | 2.4 GHz ~ 2.4835 GHz | Dipole | ipex(MHF) |
| | | | | 2.41 | 5.15 GHz ~ 5.85 GHz | Dipole | ipex(MHF) |

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

3.3 Test Mode Applicability and Tested Channel Detail

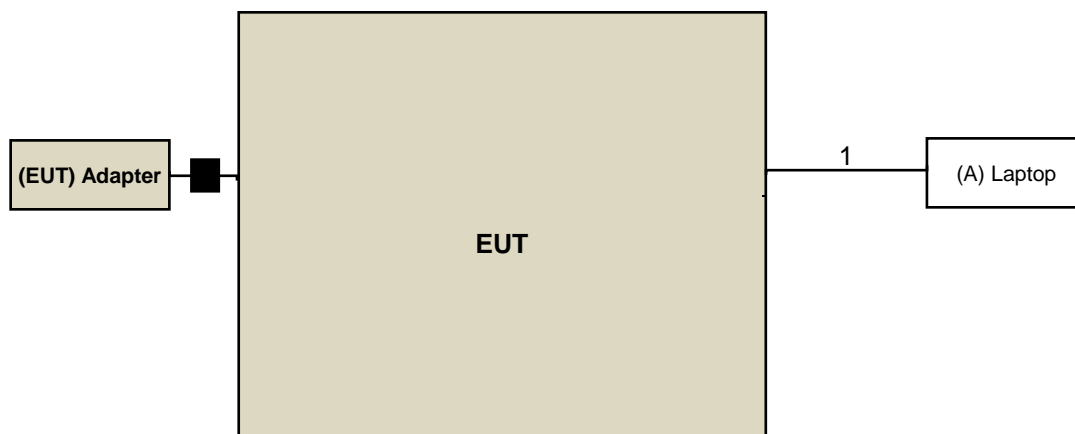
Following channel(s) was (were) selected for the final test as listed below:

| Test Item | Combination | Test Standard | Mode | Tested Channel |
|---------------------------------|-------------|----------------------|---------|----------------|
| Unwanted Emissions below 1 GHz | 1 | FCC 15.247_WLAN 2.4G | 802.11b | 6 |
| | | FCC 15.407_WLAN 5G | 802.11a | 48 |
| | | FCC 15.247_BT | 8DPSK | 0 |
| Unwanted Emissions above 1 GHz | 1 | FCC 15.247_WLAN 2.4G | 802.11b | 6 |
| | | FCC 15.407_WLAN 5G | 802.11a | 48 |
| | | FCC 15.247_BT | 8DPSK | 0 |
| Conducted Out of Band Emissions | 1 | FCC 15.247_WLAN 2.4G | 802.11b | 6 |
| | | FCC 15.407_WLAN 5G | 802.11a | 48 |

3.4 Test Program Used and Operation Descriptions

Controlling software ADB v4.2 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.5 Connection Diagram of EUT and Peripheral Devices



Under Table

Remote Site

3.6 Configuration of Peripheral Devices and Cable Connections

| ID | Product | Brand | Model No. | Serial No. | FCC ID | Remarks |
|----|---------|--------|-----------|------------|--------|-----------------|
| A | Laptop | Lenovo | L470 | PF0TALPX | N/A | Provided by Lab |

| ID | Cable Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks |
|----|----------------------|------|------------|--------------------|--------------|-----------------|
| 1 | USB typeC to A Cable | 1 | 1 | Y | N | Provided by Lab |

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 Unwanted Emissions below 1 GHz

| Description Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|-----------------------------------|------------------------------|---------------|--------------------|---------------------|
| Antenna Tower & Turn Max-Full | MFA-440H | AT93021705 | N/A | N/A |
| Bi_Log Antenna Schwarzbeck | VULB 9168 | 9168-472 | 2024/10/14 | 2025/10/13 |
| EXA Signal Analyzer Agilent | N9010A | MY52220207 | 2024/12/30 | 2025/12/29 |
| Loop Antenna TESEQ | HLA 6121 | 45745 | 2024/8/21 | 2025/8/20 |
| MXE EMI Receiver Agilent | N9038A | MY51210203 | 2024/8/27 | 2025/8/26 |
| Preamplifier EMCI | EMC 330H | 980112 | 2024/9/24 | 2025/9/23 |
| | EMC001340 | 980201 | 2024/9/24 | 2025/9/23 |
| RF Coaxial Cable Woken | 8D-FB | Cable-Ch10-01 | 2024/9/24 | 2025/9/23 |
| Software BV ADT | ADT_Radiated_ V7.6.15.9.5 | N/A | N/A | N/A |
| Turn Table Max-Full | MFT-201SS | N/A | N/A | N/A |
| Turn Table Controller Max-Full | MG-7802 | N/A | N/A | N/A |

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2025/7/17

4.2 Unwanted Emissions above 1 GHz

| Description Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---------------------------------------|------------------------------|-------------------------------|--------------------|---------------------|
| Antenna Tower & Turn Max-Full | MFA-440H | AT93021705 | N/A | N/A |
| Boresight antenna tower fixture BV | BAF-02 | 7 | N/A | N/A |
| EXA Signal Analyzer Agilent | N9010A | MY52220207 | 2024/12/30 | 2025/12/29 |
| Horn Antenna Schwarzbeck | BBHA 9120D | 9120D-969 | 2024/11/10 | 2025/11/9 |
| | BBHA 9170 | 148 | 2024/11/10 | 2025/11/9 |
| MXE EMI Receiver Agilent | N9038A | MY51210203 | 2024/8/27 | 2025/8/26 |
| Preamplifier EMCI | EMC 184045 | 980116 | 2024/9/24 | 2025/9/23 |
| | EMC118A45SE | 980809 | 2025/4/24 | 2026/4/23 |
| RF Coaxial Cable EMCI | EMC102-KM-KM-600 | 150928 | 2025/6/30 | 2026/6/29 |
| | EMC102-KM-KM-3000 | 150929 | 2025/6/30 | 2026/6/29 |
| | EMC104-SM-SM- 8000+3000 | 171005 | 2024/9/24 | 2025/9/23 |
| RF Coaxial Cable HUBER+SUHNER | SUCOFLEX 104 | EMC104-SM-SM- 1000(140807) | 2024/9/24 | 2025/9/23 |
| Software BV ADT | ADT_Radiated_ V7.6.15.9.5 | N/A | N/A | N/A |
| Turn Table Max-Full | MFT-201SS | N/A | N/A | N/A |
| Turn Table Controller Max-Full | MG-7802 | N/A | N/A | N/A |

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2025/7/16 ~ 2025/7/17

4.3 Conducted Out of Band Emissions

| Description Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|-----------------------------------|----------------------------------|-------------------|--------------------|---------------------|
| Fixed Attenuator Woken | 00800A1K01A-10 | 00800A1K01A-10-01 | 2025/5/23 | 2026/5/22 |
| Signal & Spectrum Analyzer R&S | FSV3044 | 101504 | 2025/6/18 | 2026/6/17 |
| Software BV | ADT_RF Test Software V7.6.5.4 | N/A | N/A | N/A |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/7/21

5 Limits of Test Items

5.1 Unwanted Emissions below 1 GHz

For FCC 15.247:

| 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 |

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

For FCC 15.407:

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 |

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.2 Unwanted Emissions above 1 GHz

For FCC 15.247:

| Frequencies (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| Above 960 | 500 | 3 |

Notes:

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 1000 MHz, 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 20 dB under any condition of modulation.

For FCC 15.407 transmitters operating in the 5.150-5.850 GHz band:

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) |
|-------------------|-----------------------------------|-------------------------------|
| Above 960 | 500 | 3 |

Notes:

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 1000 MHz, 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 20 dB 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 3 m | |
| | PK: 74 (dBμV/m) | AV: 54 (dBμV/m) |

| Applicable To | EIRP Limit | Equivalent Field Strength at 3 m |
|-----------------|---|---|
| 15.407(b)(1) | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m) * |
| 15.407(b)(2) | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m) * |
| 15.407(b)(3) | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m) * |
| 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 (dBμV/m) ^{*1} PK: 105.2 (dBμV/m) ^{*2} PK: 110.8 (dBμV/m) ^{*3} PK: 122.2 (dBμV/m) ^{*4} |

^{*1} beyond 75 MHz or more above of the band edge.

^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 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:

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

5.3 Conducted Out of Band Emissions

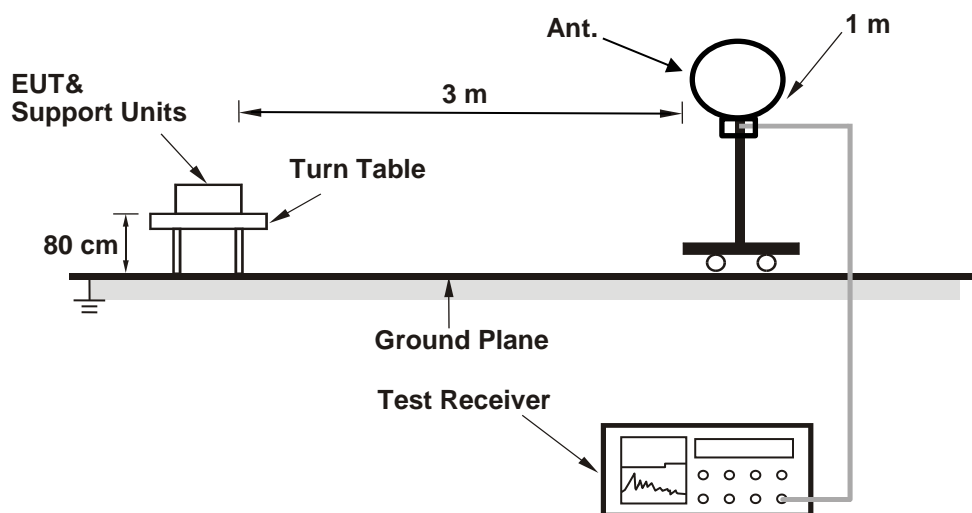
Below 30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

6 Test Arrangements

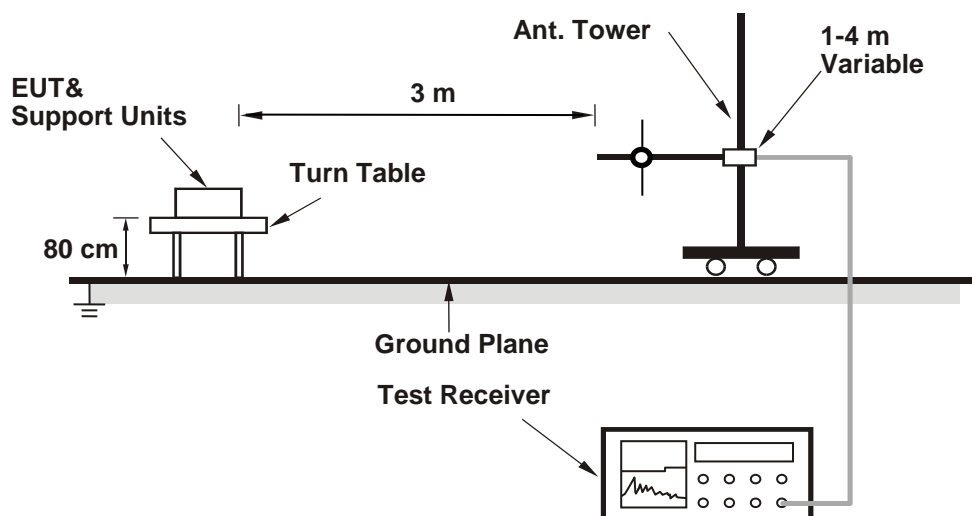
6.1 Unwanted Emissions below 1 GHz

6.1.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.1.2 Test Procedure

For Radiated emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 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. 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, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

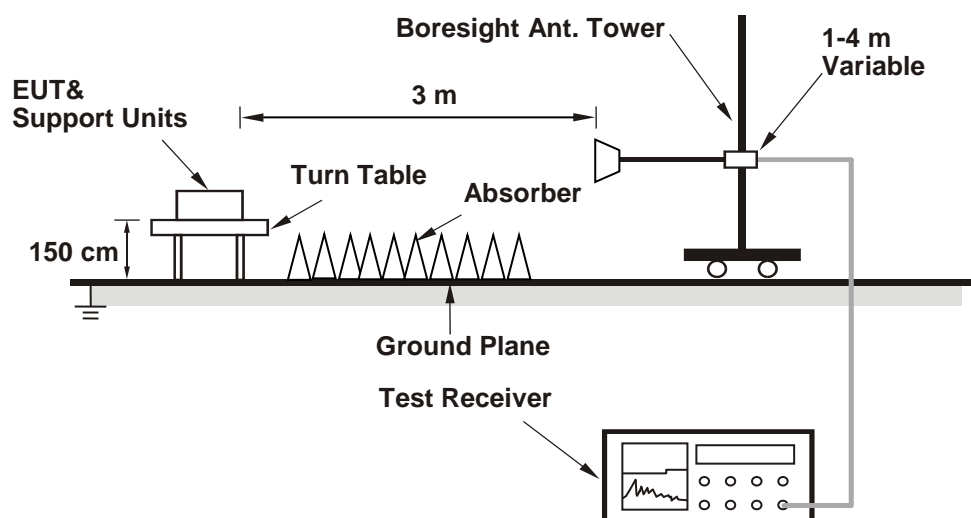
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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. 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.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.2 Unwanted Emissions above 1 GHz

6.2.1 Test Setup



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

6.2.2 Test Procedure

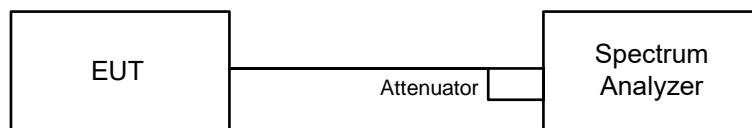
- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- The test-receiver system was set to peak and average detects 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.

Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- According to ANSI C63.10 section 6.6.4 and 4.1.4.2.2. For fundamental and harmonic signal measurement, according to ANSI C63.10 section 7.5, the average value = peak value + duty cycle correction factor. For duty cycle correction factor values, see the Test Signal Duty Cycle section in this report.
- All modes of operation were investigated and the worst-case emissions are reported.

6.3 Conducted Out of Band Emissions

6.3.1 Test Setup



6.3.2 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 OOB

- 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.

7 Test Results of Test Item

7.1 Unwanted Emissions below 1 GHz

FCC 15.407

FCC 15.247 WLAN 2.4G

FCC 15.247 BT

| | | | |
|-----------------|----------------|-------------------------------|--------------------------------|
| Combination | 1 | | |
| Frequency Range | 30 MHz ~ 1 GHz | Detector Function & Bandwidth | QP: RB=120 kHz, DET=Quasi-Peak |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 22 °C, 65% RH |
| Tested By | Thomas Cheng | | |

| 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 | 61.04 | 22.0 QP | 40.0 | -18.0 | 1.50 H | 15 | 35.0 | -13.0 |
| 2 | 157.07 | 29.2 QP | 43.5 | -14.3 | 1.00 H | 133 | 41.4 | -12.2 |
| 3 | 167.74 | 28.6 QP | 43.5 | -14.9 | 1.00 H | 40 | 41.1 | -12.5 |
| 4 | 298.69 | 25.3 QP | 46.0 | -20.7 | 2.00 H | 208 | 36.9 | -11.6 |
| 5 | 556.71 | 32.1 QP | 46.0 | -13.9 | 1.00 H | 262 | 37.8 | -5.7 |
| 6 | 636.25 | 31.0 QP | 46.0 | -15.0 | 1.00 H | 105 | 34.8 | -3.8 |
| 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 | 46.49 | 29.8 QP | 40.0 | -10.2 | 2.00 V | 261 | 42.1 | -12.3 |
| 2 | 434.49 | 26.1 QP | 46.0 | -19.9 | 1.50 V | 73 | 34.1 | -8.0 |
| 3 | 587.75 | 33.6 QP | 46.0 | -12.4 | 1.00 V | 9 | 38.6 | -5.0 |
| 4 | 749.74 | 35.3 QP | 46.0 | -10.7 | 1.00 V | 18 | 36.2 | -0.9 |
| 5 | 897.18 | 33.0 QP | 46.0 | -13.0 | 2.00 V | 214 | 33.4 | -0.4 |
| 6 | 937.92 | 34.8 QP | 46.0 | -11.2 | 1.50 V | 17 | 34.4 | 0.4 |

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 frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

7.2 Unwanted Emissions above 1 GHz

FCC 15.407

| | | | |
|------------------------|----------------|--|--|
| Combination | 1 | | |
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 22 °C, 65% RH |
| Tested By | Thomas Cheng | | |

| 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 | *5240 | 118.0 PK | | | 1.05 H | 51 | 76.8 | 41.2 |
| 2 | *5240 | 107.6 AV | | | 1.05 H | 51 | 66.4 | 41.2 |
| 3 | 5350 | 61.0 PK | 74.0 | -13.0 | 1.05 H | 51 | 55.6 | 5.4 |
| 4 | 5350 | 47.9 AV | 54.0 | -6.1 | 1.05 H | 51 | 42.5 | 5.4 |
| 5 | #10480 | 65.6 PK | 68.2 | -2.6 | 3.42 H | 268 | 53.8 | 11.8 |
| 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 | *5240 | 111.5 PK | | | 1.51 V | 2 | 70.3 | 41.2 |
| 2 | *5240 | 101.9 AV | | | 1.51 V | 2 | 60.7 | 41.2 |
| 3 | 5350 | 58.3 PK | 74.0 | -15.7 | 1.51 V | 2 | 52.9 | 5.4 |
| 4 | 5350 | 45.5 AV | 54.0 | -8.5 | 1.51 V | 2 | 40.1 | 5.4 |
| 5 | #10480 | 66.7 PK | 68.2 | -1.5 | 1.10 V | 242 | 53.5 | 13.2 |

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.

FCC 15.247 WLAN 2.4G

| | | | |
|------------------------|----------------|--|--|
| Combination | 1 | | |
| Frequency Range | 1 GHz ~ 25 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 22 °C, 65% RH |
| Tested By | Thomas Cheng | | |

| 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 | 113.1 PK | | | 1.42 H | 93 | 77.8 | 35.3 |
| 2 | *2437 | 110.6 AV | | | 1.42 H | 93 | 75.3 | 35.3 |
| 3 | 4874 | 55.4 PK | 74.0 | -18.6 | 1.89 H | 241 | 43.4 | 12.0 |
| 4 | 4874 | 42.4 AV | 54.0 | -11.6 | 1.89 H | 241 | 30.4 | 12.0 |
| 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 | 106.9 PK | | | 1.06 V | 99 | 71.6 | 35.3 |
| 2 | *2437 | 104.3 AV | | | 1.06 V | 99 | 69.0 | 35.3 |
| 3 | 4874 | 55.3 PK | 74.0 | -18.7 | 2.61 V | 133 | 43.3 | 12.0 |
| 4 | 4874 | 42.2 AV | 54.0 | -11.8 | 2.61 V | 133 | 30.2 | 12.0 |

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

FCC 15.247 BT

| | | | |
|------------------------|----------------|--|---|
| Combination | 1 | | |
| Frequency Range | 1 GHz ~ 25 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 22.3 °C, 65.2% RH |
| Tested By | Thomas Cheng | | |

| 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 | 2390 | 60.6 PK | 74.0 | -13.4 | 3.15 H | 260 | 25.3 | 35.3 |
| 2 | 2390 | 46.8 AV | 54.0 | -7.2 | 3.15 H | 260 | 11.5 | 35.3 |
| 3 | *2402 | 114.8 PK | | | 3.15 H | 260 | 79.5 | 35.3 |
| 4 | *2402 | 84.3 AV | | | 3.15 H | 260 | 49.0 | 35.3 |
| 5 | 4804 | 53.0 PK | 74.0 | -21.0 | 1.86 H | 224 | 41.4 | 11.6 |
| 6 | 4804 | 22.5 AV | 54.0 | -31.5 | 1.86 H | 224 | 10.9 | 11.6 |
| 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 | 2390 | 60.4 PK | 74.0 | -13.6 | 2.02 V | 78 | 25.1 | 35.3 |
| 2 | 2390 | 46.7 AV | 54.0 | -7.3 | 2.02 V | 78 | 11.4 | 35.3 |
| 3 | *2402 | 105.7 PK | | | 2.02 V | 78 | 70.4 | 35.3 |
| 4 | *2402 | 75.2 AV | | | 2.02 V | 78 | 39.9 | 35.3 |
| 5 | 4804 | 52.4 PK | 74.0 | -21.6 | 1.51 V | 171 | 40.8 | 11.6 |
| 6 | 4804 | 21.9 AV | 54.0 | -32.1 | 1.51 V | 171 | 10.3 | 11.6 |

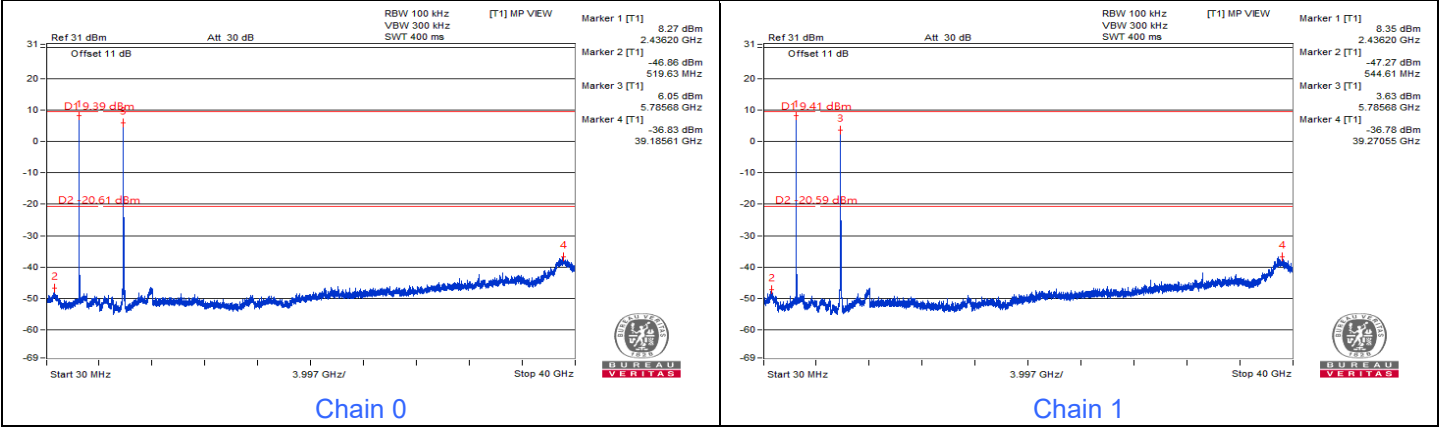
Remarks:

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.

7.3 Conducted Out of Band Emissions

| | | | | | |
|--------------|----------------|---------------------------|--------------|------------|-------|
| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 24°C, 64% RH | Tested By: | Match |
|--------------|----------------|---------------------------|--------------|------------|-------|

Combination 1



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 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.

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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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