

# TEST REPORT

## CERTIFICATE OF CONFORMITY

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

**Report No.:** RFBDIS-WTW-P24030044-2

**FCC ID:** U2M-IAP2300M

**Product:** AX3000 Indoor Ceiling/Wall Mount AP, AX1800 Dual Band PoE WiFi 6 Access Point

**Brand:** Senao, NETGEAR

**Model No.:** IAP2300M, WAX210 (Refer to item 3.1 for more details)

**Received Date:** 2024/3/3

**Test Date:** 2024/3/15 ~ 2024/4/3

**Issued Date:** 2024/6/19

**Applicant:** Senao Networks, Inc.

**Address:** 3F., No. 529, Zhongzheng Rd., Xindian Dist., New Taipei City, Taiwan

**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., Kewi Shan Dist., Taoyuan City 33383, Taiwan

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

Approved by: \_\_\_\_\_

Jeremy Lin

Jeremy Lin / Project Engineer

, Date: \_\_\_\_\_

2024/6/19

This test report consists of 64 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.

Prepared by : Pettie Chen / Senior Specialist



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

## Table of Contents

|                                                                     |           |
|---------------------------------------------------------------------|-----------|
| <b>Release Control Record .....</b>                                 | <b>4</b>  |
| <b>1 Certificate.....</b>                                           | <b>5</b>  |
| <b>2 Summary of Test Results .....</b>                              | <b>6</b>  |
| 2.1 Measurement Uncertainty .....                                   | 6         |
| 2.2 Supplementary Information .....                                 | 6         |
| <b>3 General Information .....</b>                                  | <b>7</b>  |
| 3.1 General Description of EUT .....                                | 7         |
| 3.2 Antenna Description of EUT .....                                | 8         |
| 3.3 Channel List.....                                               | 9         |
| 3.4 Test Mode Applicability and Tested Channel Detail.....          | 10        |
| 3.5 Duty Cycle of Test Signal.....                                  | 11        |
| 3.6 Test Program Used and Operation Descriptions .....              | 13        |
| 3.7 Connection Diagram of EUT and Peripheral Devices .....          | 13        |
| 3.8 Configuration of Peripheral Devices and Cable Connections ..... | 14        |
| <b>4 Test Instruments .....</b>                                     | <b>15</b> |
| 4.1 RF Output Power.....                                            | 15        |
| 4.2 Power Spectral Density .....                                    | 15        |
| 4.3 6 dB Bandwidth .....                                            | 15        |
| 4.4 Frequency Stability .....                                       | 15        |
| 4.5 AC Power Conducted Emissions .....                              | 16        |
| 4.6 Unwanted Emissions below 1 GHz .....                            | 17        |
| 4.7 Unwanted Emissions above 1 GHz.....                             | 18        |
| <b>5 Limits of Test Items.....</b>                                  | <b>19</b> |
| 5.1 RF Output Power.....                                            | 19        |
| 5.2 Power Spectral Density .....                                    | 19        |
| 5.3 6 dB Bandwidth .....                                            | 19        |
| 5.4 Frequency Stability .....                                       | 19        |
| 5.5 AC Power Conducted Emissions .....                              | 19        |
| 5.6 Unwanted Emissions below 1 GHz .....                            | 20        |
| 5.7 Unwanted Emissions above 1 GHz.....                             | 20        |
| <b>6 Test Arrangements.....</b>                                     | <b>21</b> |
| 6.1 RF Output Power.....                                            | 21        |
| 6.1.1 Test Setup .....                                              | 21        |
| 6.1.2 Test Procedure.....                                           | 21        |
| 6.2 Power Spectral Density .....                                    | 21        |
| 6.2.1 Test Setup .....                                              | 21        |
| 6.2.2 Test Procedure.....                                           | 21        |
| 6.3 6 dB Bandwidth .....                                            | 21        |
| 6.3.1 Test Setup .....                                              | 21        |
| 6.3.2 Test Procedure.....                                           | 21        |
| 6.4 Frequency Stability .....                                       | 22        |
| 6.4.1 Test Setup .....                                              | 22        |
| 6.4.2 Test Procedure.....                                           | 22        |
| 6.5 AC Power Conducted Emissions .....                              | 23        |
| 6.5.1 Test Setup .....                                              | 23        |
| 6.5.2 Test Procedure.....                                           | 23        |
| 6.6 Unwanted Emissions below 1 GHz .....                            | 24        |
| 6.6.1 Test Setup .....                                              | 24        |
| 6.6.2 Test Procedure.....                                           | 25        |
| 6.7 Unwanted Emissions above 1 GHz.....                             | 26        |
| 6.7.1 Test Setup .....                                              | 26        |
| 6.7.2 Test Procedure.....                                           | 26        |
| <b>7 Test Results of Test Item .....</b>                            | <b>27</b> |

|          |                                                      |           |
|----------|------------------------------------------------------|-----------|
| 7.1      | RF Output Power.....                                 | 27        |
| 7.2      | Power Spectral Density .....                         | 30        |
| 7.3      | 6 dB Bandwidth .....                                 | 33        |
| 7.4      | Frequency Stability .....                            | 35        |
| 7.5      | AC Power Conducted Emissions .....                   | 36        |
| 7.6      | Unwanted Emissions below 1 GHz .....                 | 42        |
| 7.7      | Unwanted Emissions above 1 GHz.....                  | 48        |
| <b>8</b> | <b>Pictures of Test Arrangements .....</b>           | <b>63</b> |
| <b>9</b> | <b>Information of the Testing Laboratories .....</b> | <b>64</b> |

Release Control Record

| Issue No.              | Description       | Date Issued |
|------------------------|-------------------|-------------|
| RFBDYS-WTW-P24030044-2 | Original release. | 2024/6/19   |

## 1 Certificate

**Product:** AX3000 Indoor Ceiling/Wall Mount AP, AX1800 Dual Band PoE WiFi 6 Access Point

**Brand:** Senao, NETGEAR

**Test Model:** IAP2300M, WAX210 (Refer to item 3.1 for more details)

**Sample Status:** Engineering sample

**Applicant:** Senao Networks, Inc.

**Test Date:** 2024/3/15 ~ 2024/4/3

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

**Measurement** ANSI C63.10-2013

**procedure:** KDB 291074 D02 EMC Measurement v01

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

| 47 CFR FCC Part 15, Subpart E (Section 15.407) |                                |        |                                                          |
|------------------------------------------------|--------------------------------|--------|----------------------------------------------------------|
| Clause                                         | Test Item                      | Result | Remark                                                   |
| 15.407(a)(3)                                   | RF Output Power                | Pass   | Meet the requirement of limit.                           |
| 15.407(a)(3)                                   | Power Spectral Density         | Pass   | Meet the requirement of limit.                           |
| 15.407(b)(9)                                   | AC Power Conducted Emissions   | Pass   | Minimum passing margin is -5.54 dB at 0.53265 MHz        |
| 15.407(b)(9)                                   | Unwanted Emissions below 1 GHz | Pass   | Minimum passing margin is -5.9 dB at 130.88 MHz          |
| 15.407(b)(5)<br>15.407(b)(10)                  | Unwanted Emissions above 1 GHz | Pass   | Minimum passing margin is -0.4 dB at 5650.00 MHz         |
| 15.407(e)                                      | 6 dB Bandwidth                 | Pass   | Meet the requirement of limit.                           |
| 15.407(g)                                      | Frequency Stability            | Pass   | Meet the requirement of limit.                           |
| 15.203                                         | Antenna Requirement            | Pass   | Antenna connector is ipex(MHF) 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                    | Specification   | Expanded Uncertainty (k=2)<br>(±) |
|--------------------------------|-----------------|-----------------------------------|
| RF Output Power                | -               | 1.371 dB                          |
| Power Spectral Density         | -               | 1.017 dB                          |
| 6 dB Bandwidth                 | -               | 206.5 Hz                          |
| AC Power Conducted Emissions   | 9 kHz ~ 30 MHz  | 2.88 dB                           |
| Unwanted Emissions below 1 GHz | 9 kHz ~ 30 MHz  | 3.59 dB                           |
|                                | 30 MHz ~ 1 GHz  | 3.64 dB                           |
| Unwanted Emissions above 1 GHz | 1 GHz ~ 18 GHz  | 2.29 dB                           |
|                                | 18 GHz ~ 40 GHz | 2.29 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               | AX3000 Indoor Ceiling/Wall Mount AP, AX1800 Dual Band PoE WiFi 6 Access Point                                                                                                                           |
| Brand                 | Senao, NETGEAR                                                                                                                                                                                          |
| Test Model            | IAP2300M, WAX210                                                                                                                                                                                        |
| Model Difference      | Refer to Note                                                                                                                                                                                           |
| Status of EUT         | Engineering sample                                                                                                                                                                                      |
| Power Supply Rating   | 12Vdc from adapter<br>54Vdc from PoE                                                                                                                                                                    |
| Modulation Type       | 64QAM, 16QAM, QPSK, BPSK for OFDM<br>256QAM for OFDM in 11ac mode<br>1024QAM for OFDMA in 11ax HE mode                                                                                                  |
| Modulation Technology | OFDM, OFDMA                                                                                                                                                                                             |
| Transfer Rate         | 802.11a: up to 54 Mbps<br>802.11n: up to 300 Mbps<br>802.11ac: up to 1733.3 Mbps<br>802.11ax: up to 2401.9 Mbps                                                                                         |
| Operating Frequency   | 5.815 GHz ~ 5.885 GHz                                                                                                                                                                                   |
| Number of Channel     | 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 3<br>802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2<br>802.11ac (VHT80), 802.11ax (HE80): 1<br>802.11ac (VHT160), 802.11ax (HE160): 1 |
| Output Power          | EIRP: 917.924 mW (29.63 dBm)                                                                                                                                                                            |
| EUT Category          | Indoor access point                                                                                                                                                                                     |

Note:

1. All models are listed as below.

| Product                                  | Brand   | Model    | Accessory | Difference             |
|------------------------------------------|---------|----------|-----------|------------------------|
| AX3000 Indoor Ceiling/Wall Mount AP      | Senao   | IAP2300M | NA        | For marketing purpose. |
| AX1800 Dual Band PoE WiFi 6 Access Point | NETGEAR | WAX210   | Adapter   |                        |

2. The EUT consumes power from the following adapter and PoE.

|                            |             |                       |
|----------------------------|-------------|-----------------------|
| AC Adapter 1*              | Brand       | NETGEAR               |
|                            | Model       | 2AAJ018FC             |
|                            | Part Number | 332-11612-02          |
|                            | AC Input    | 100-240V~50/60Hz 0.6A |
|                            | DC Output   | 12.0V = 1.5A 18.0W    |
| AC Adapter 2*              | Brand       | NETGEAR               |
|                            | Model       | ADS-18FQC-12 12018E   |
|                            | Part Number | 332-11703-01          |
|                            | AC Input    | 100-240V 50/60Hz 0.7A |
|                            | DC Output   | 12.0V = 1.5A 18.0W    |
| PoE<br>(Support Unit only) | Brand       | EnGenius              |
|                            | Model       | EPA5006GAT            |
|                            | AC Input    | 100-240VAC, 50-60Hz   |
|                            | DC Output   | 54V = 0.6A            |

\*The AC adapters are accessories for NETGEAR WAX210. For Senao IAP2300M, the AC adapters are support units only.

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.

### 3.2 Antenna Description of EUT

1. The antenna information is listed as below.

| Antenna No. | Gain (dBi) |          |          |          | Antenna Type | Connector Type |
|-------------|------------|----------|----------|----------|--------------|----------------|
|             | 5150 MHz   | 5500 MHz | 5850 MHz | 5900 MHz |              |                |
| ANT 1       | 4.0        | 3.4      | 4.2      | 4.1      | PIFA         | ipex(MHF)      |
| ANT 2       | 4.6        | 3.4      | 3.3      | 3.4      | Monopole     | ipex(MHF)      |

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

2. The EUT incorporates a MIMO function:

| 5.9 GHz Band      |                       |     |
|-------------------|-----------------------|-----|
| Modulation Mode   | TX & RX Configuration |     |
| 802.11a           | 2TX                   | 2RX |
| 802.11n (HT20)    | 2TX                   | 2RX |
| 802.11n (HT40)    | 2TX                   | 2RX |
| 802.11ac (VHT20)  | 2TX                   | 2RX |
| 802.11ac (VHT40)  | 2TX                   | 2RX |
| 802.11ac (VHT80)  | 2TX                   | 2RX |
| 802.11ac (VHT160) | 2TX                   | 2RX |
| 802.11ax (HE20)   | 2TX                   | 2RX |
| 802.11ax (HE40)   | 2TX                   | 2RX |
| 802.11ax (HE80)   | 2TX                   | 2RX |
| 802.11ax (HE160)  | 2TX                   | 2RX |

Note:

1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both modes 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, 160 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz, 160 MHz), therefore the manufacturer will control the power for 802.11n/ac mode is same as the 802.11ax mode or lower than it and investigated worst case to representative mode in test report.

### 3.3 Channel List

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  |

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

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

Note: \* U-NII-3 & -4 span channels.

### 3.4 Test Mode Applicability and Tested Channel Detail

|             |                                                                                                                                                                                                                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pre-Scan:   | 1. For Unwanted Emission (above 1GHz) items: AC Adapter/PoE. Pre-scan these modes and find the worst case as a representative test condition.<br>2. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition. |
| Worst Case: | 1. AC Adapter 1<br>2. Y-Axis                                                                                                                                                                                                                                                                       |

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

| Test Item                      | EUT Configure Mode | Mode                 | Signal Mode       | Tested Channel | Modulation  | Data Rate Parameter |
|--------------------------------|--------------------|----------------------|-------------------|----------------|-------------|---------------------|
| RF Output Power                | A                  | 802.11a              | CDD               | 169, 173, 177  | BPSK        | 6Mb/s               |
|                                |                    | 802.11ax (HE20)      | CDD & Beamforming | 169, 173, 177  | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE40)      | CDD & Beamforming | 167, 175       | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE80)      | CDD & Beamforming | 171            | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE160)     | CDD & Beamforming | 163            | BPSK        | MCS0                |
| Power Spectral Density         | A                  | 802.11a              | CDD               | 169, 173, 177  | BPSK        | 6Mb/s               |
|                                |                    | 802.11ax (HE20)      | CDD & Beamforming | 169, 173, 177  | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE40)      | CDD & Beamforming | 167, 175       | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE80)      | CDD & Beamforming | 171            | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE160)     | CDD & Beamforming | 163            | BPSK        | MCS0                |
| 6 dB Bandwidth                 | A                  | 802.11a              | CDD               | 169, 173, 177  | BPSK        | 6Mb/s               |
|                                |                    | 802.11ax (HE20)      | CDD               | 169, 173, 177  | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE40)      | CDD               | 167, 175       | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE80)      | CDD               | 171            | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE160)     | CDD               | 163            | BPSK        | MCS0                |
| Frequency Stability            | A                  | 802.11a              | -                 | 177            | unmodulated | -                   |
| AC Power Conducted Emissions   | A, B, C            | 802.11ax (HE80)      | CDD               | 171            | BPSK        | MCS0                |
| Unwanted Emissions below 1 GHz | A, B, C            | 802.11ax (HE80)      | CDD               | 171            | BPSK        | MCS0                |
| Unwanted Emissions above 1 GHz | A                  | 802.11a              | CDD               | 169, 173, 177  | BPSK        | 6Mb/s               |
|                                |                    | 802.11ax (HE20)      | CDD               | 169, 173, 177  | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE40)      | CDD               | 167, 175       | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE80)      | CDD               | 171            | BPSK        | MCS0                |
|                                |                    | 802.11ax (HE160)     | CDD               | 163            | BPSK        | MCS0                |
| EUT Configure Mode:            | A                  | Power from adapter 1 |                   |                |             |                     |
|                                | B                  | Power from adapter 2 |                   |                |             |                     |
|                                | C                  | Power from PoE       |                   |                |             |                     |

Note: Partial RU (resource unit), channel puncturing and bandwidth reduction mechanisms are not supported.

### 3.5 Duty Cycle of Test Signal

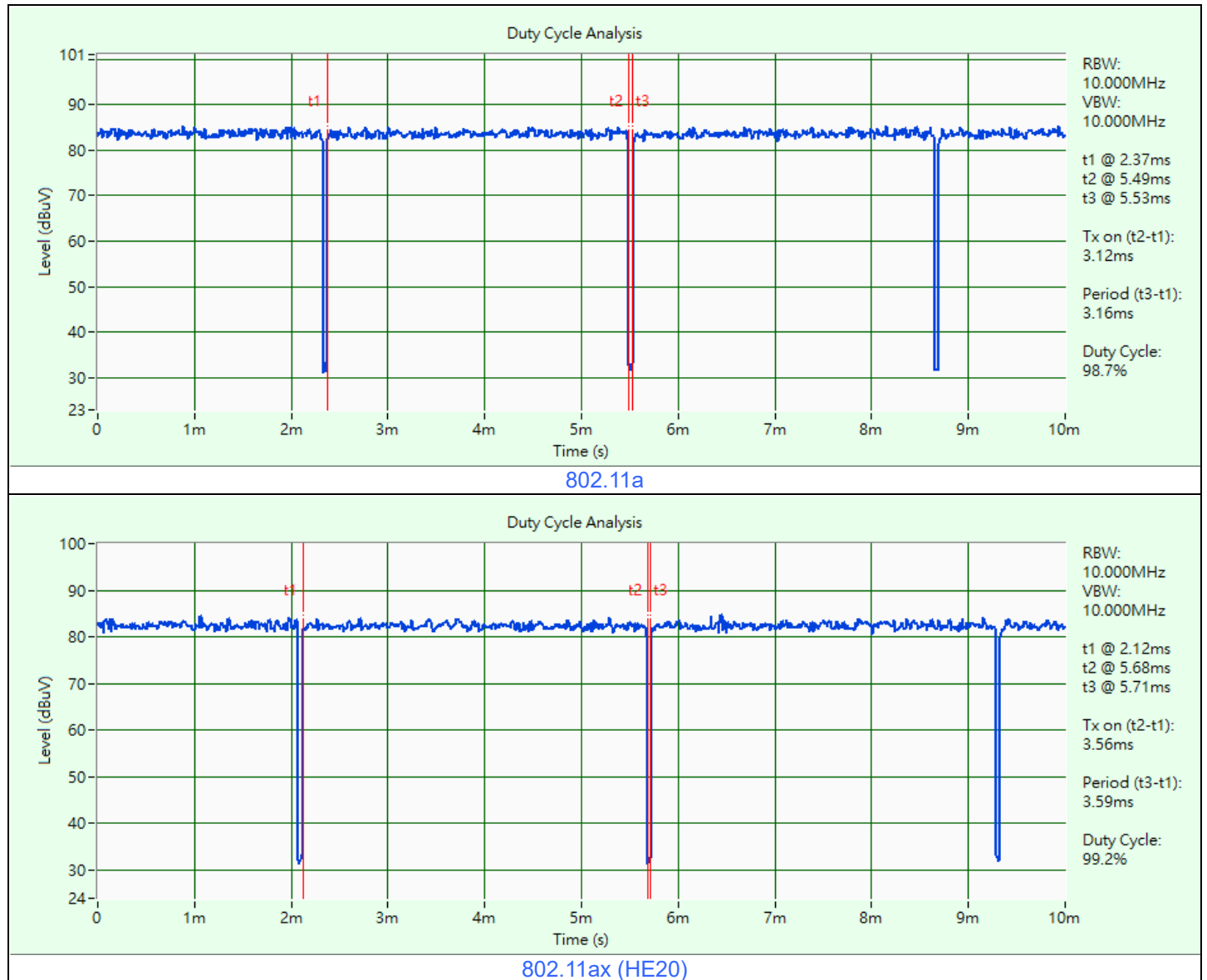
**802.11a:** Duty cycle = 3.12 ms / 3.16 ms x 100% = 98.7%

**802.11ax (HE20):** Duty cycle = 3.56 ms / 3.59 ms x 100% = 99.2%

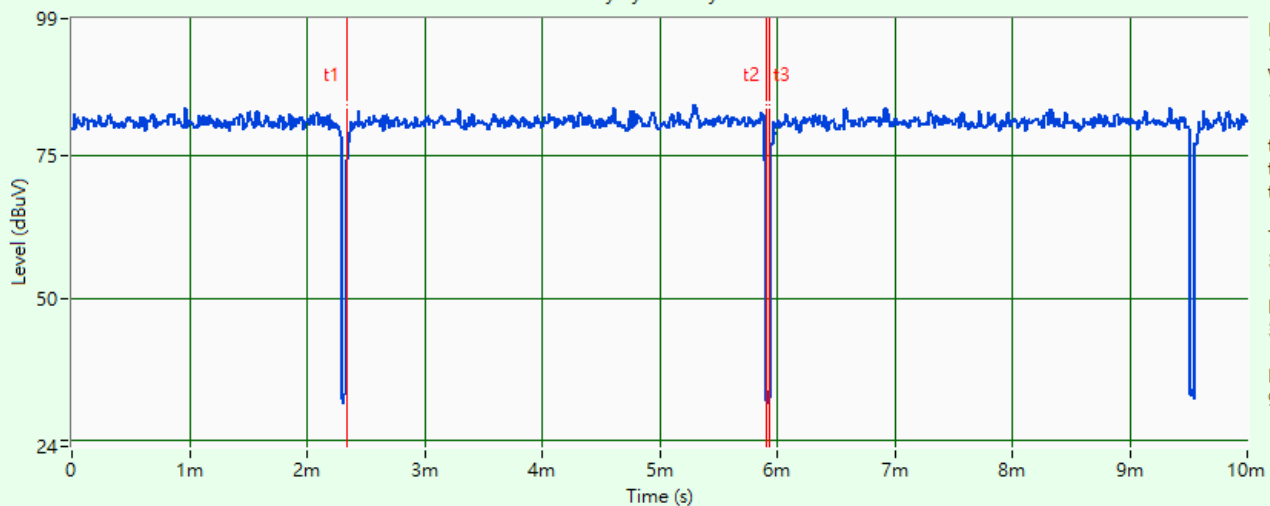
**802.11ax (HE40):** Duty cycle = 3.57 ms / 3.6 ms x 100% = 99.2%

**802.11ax (HE80):** Duty cycle = 4.74 ms / 4.755 ms x 100% = 99.7%

**802.11ax (HE160):** Duty cycle = 5.16 ms / 5.19 ms x 100% = 99.4%

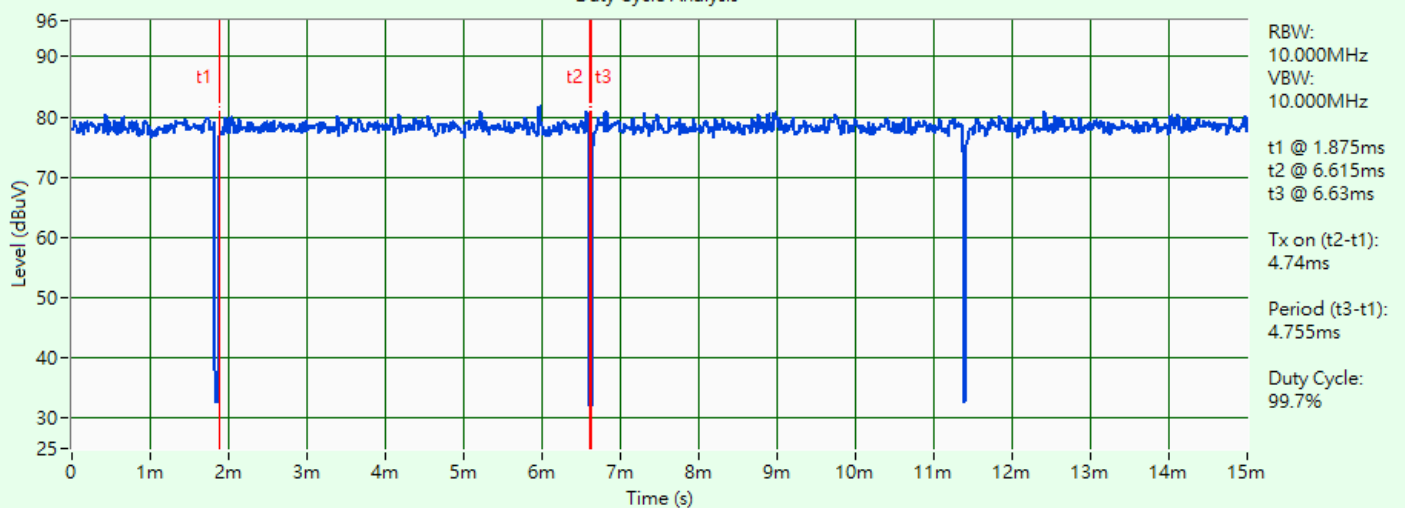


### Duty Cycle Analysis



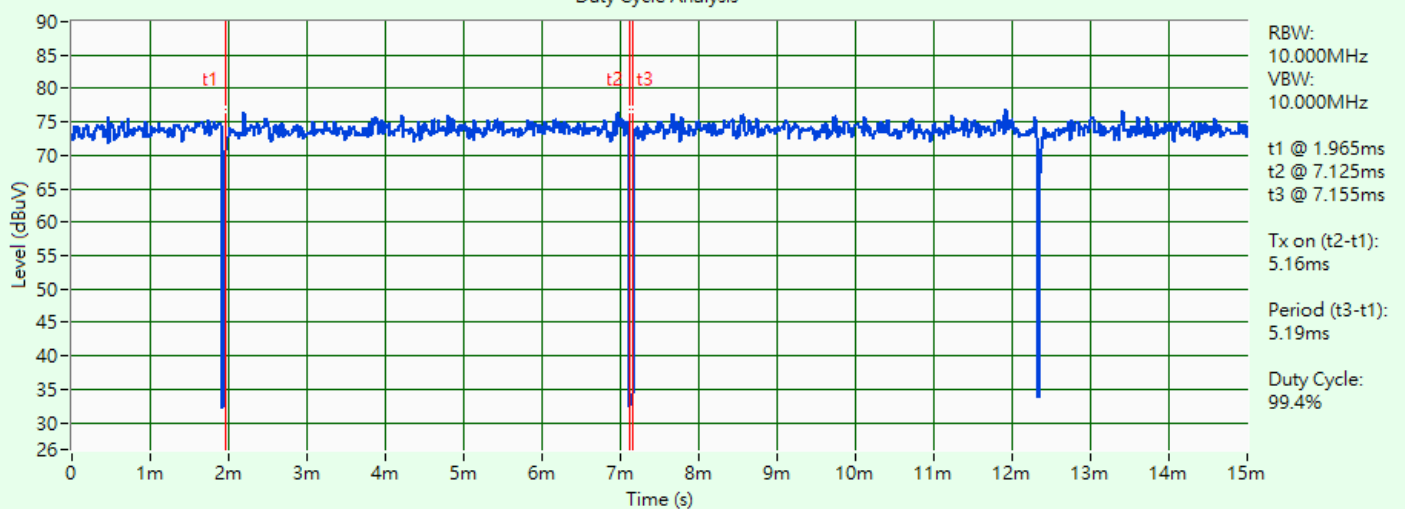
802.11ax (HE40)

### Duty Cycle Analysis



802.11ax (HE80)

### Duty Cycle Analysis



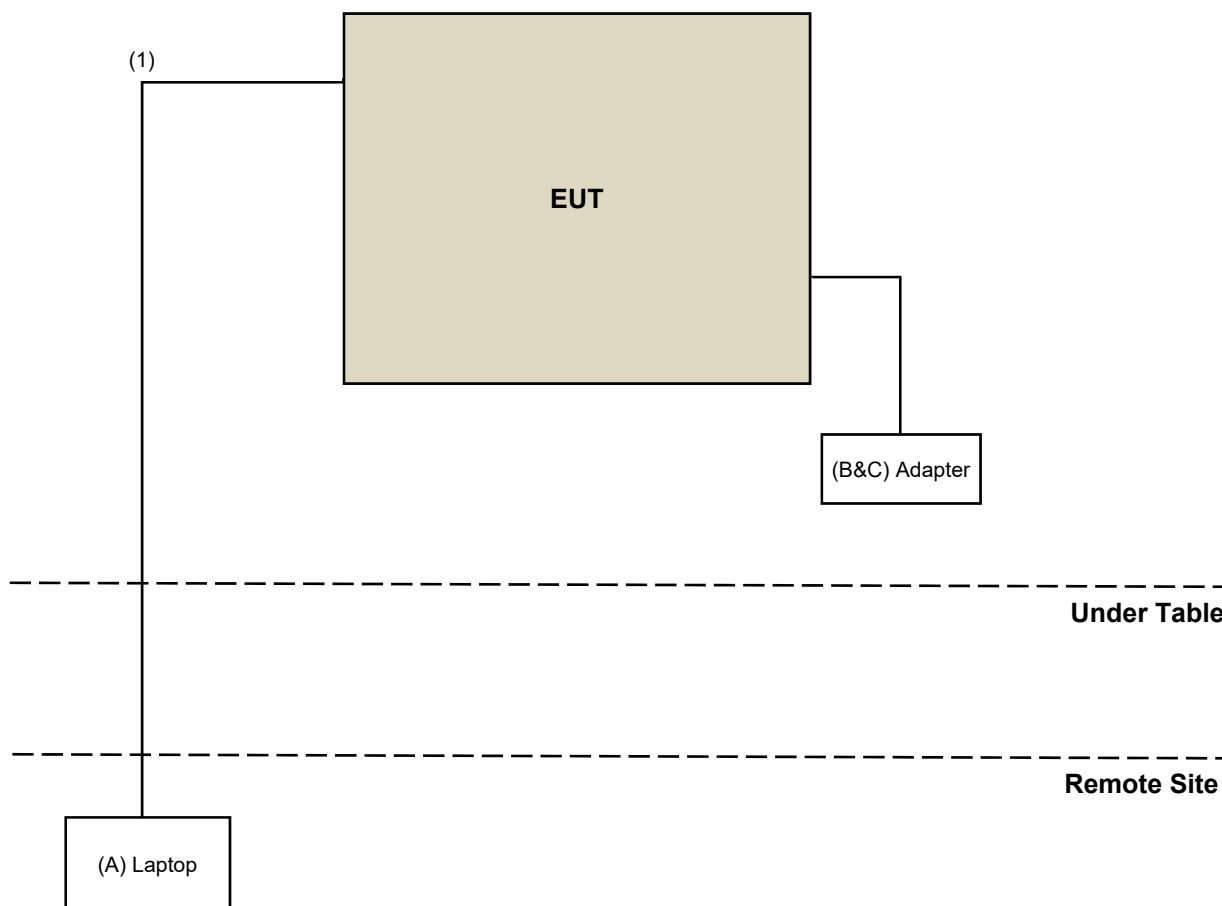
802.11ax (HE160)

### 3.6 Test Program Used and Operation Descriptions

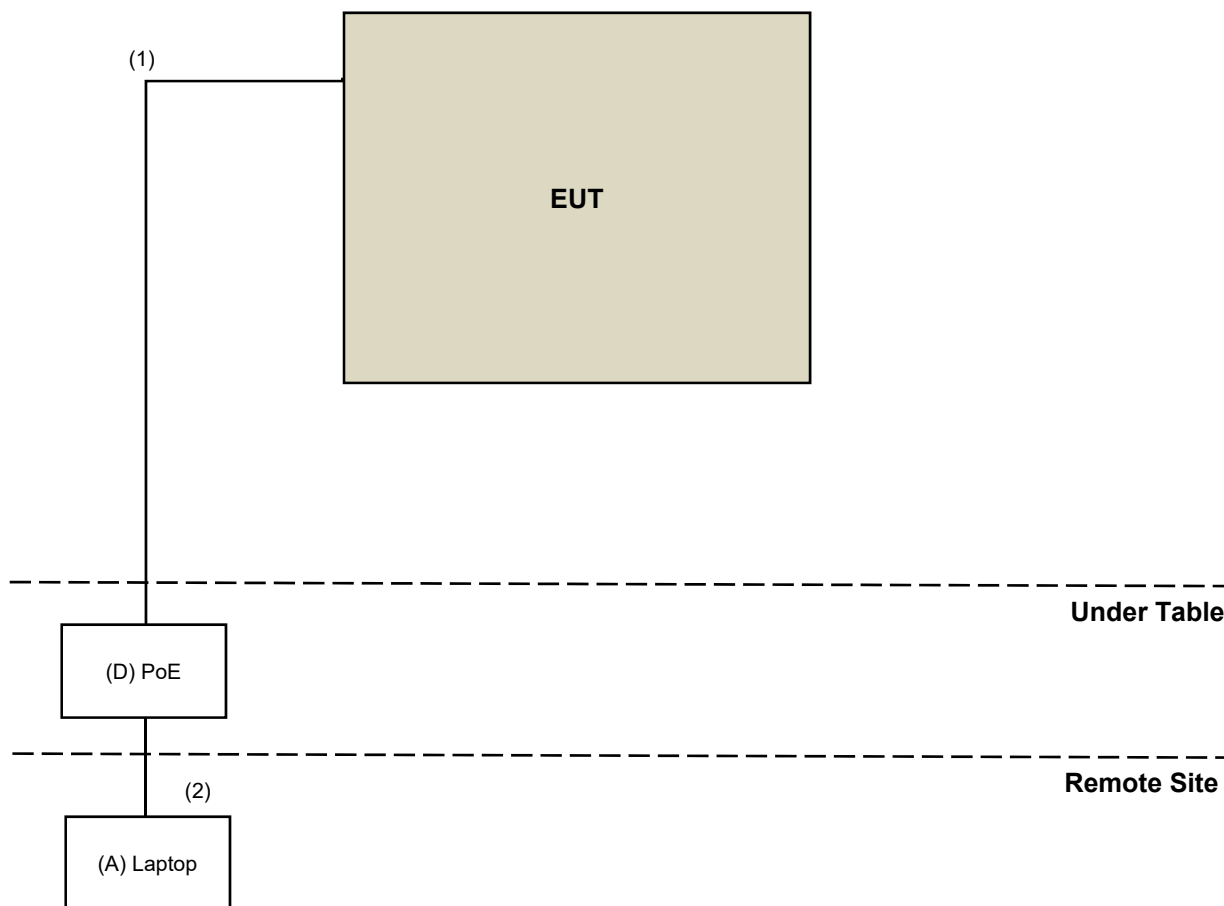
Controlling software MT7981 QA 0.0.2.78 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices

Test Mode A, B



## Mode C



### 3.8 Configuration of Peripheral Devices and Cable Connections

| ID | Product | Brand    | Model No.           | Serial No. | FCC ID | Remarks               |
|----|---------|----------|---------------------|------------|--------|-----------------------|
| A  | Laptop  | DELL     | E5430               | 2RL3YW1    | N/A    | Provided by Lab       |
| B  | Adapter | NETGEAR  | 2AAJ018FC           | N/A        | N/A    | Supplied by applicant |
| C  | Adapter | NETGEAR  | ADS-18FQC-12 12018E | N/A        | N/A    | Supplied by applicant |
| D  | PoE     | EnGenius | EPA5006GAT          | 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                  | N            | Provided by Lab |
| 2  | RJ-45 Cable        | 1    | 1.5        | N                  | 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 RF Output Power

| Description<br>Manufacturer       | Model No. | Serial No. | Calibrated<br>Date | Calibrated<br>Until |
|-----------------------------------|-----------|------------|--------------------|---------------------|
| Peak Power Analyzer<br>Keysight   | 8990B     | MY51000485 | 2024/1/21          | 2025/1/20           |
| Wideband Power Sensor<br>Keysight | N1923A    | MY58020002 | 2024/1/18          | 2025/1/17           |
|                                   |           | MY58140009 | 2024/1/18          | 2025/1/17           |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/3/31 ~ 2024/4/3

### 4.2 Power Spectral Density

| Description<br>Manufacturer       | Model No.                        | Serial No. | Calibrated<br>Date | Calibrated<br>Until |
|-----------------------------------|----------------------------------|------------|--------------------|---------------------|
| Signal & Spectrum Analyzer<br>R&S | FSV3044                          | 101504     | 2023/6/5           | 2024/6/4            |
| Software<br>BV                    | ADT_RF Test Software<br>V7.6.5.4 | N/A        | N/A                | N/A                 |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/3/31 ~ 2024/4/3

### 4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

### 4.4 Frequency Stability

| Description<br>Manufacturer              | Model No.                        | Serial No. | Calibrated<br>Date | Calibrated<br>Until |
|------------------------------------------|----------------------------------|------------|--------------------|---------------------|
| AC Power Supply<br>JIN YIH Technology    | 6905S                            | 1720444    | N/A                | N/A                 |
| Digital Multimeter<br>Fluke              | 87III                            | 70360742   | 2023/7/6           | 2024/7/5            |
| Signal & Spectrum Analyzer<br>R&S        | FSV3044                          | 101504     | 2023/6/5           | 2024/6/4            |
| Software<br>BV                           | ADT_RF Test Software<br>V7.6.5.4 | N/A        | N/A                | N/A                 |
| Temperature & Humidity Chamber<br>Terchy | HRM-120RF                        | 931022     | 2023/12/19         | 2024/12/18          |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/3/31 ~ 2024/4/3

#### 4.5 AC Power Conducted Emissions

| Description<br>Manufacturer                | Model No.               | Serial No.     | Calibrated<br>Date | Calibrated<br>Until |
|--------------------------------------------|-------------------------|----------------|--------------------|---------------------|
| 50 ohm terminal resistance<br>HUBER+SUHNER | E1-011315               | 13             | 2023/11/22         | 2024/11/21          |
| 50 ohm terminal resistance                 | E1-011279               | 04             | 2023/11/22         | 2024/11/21          |
|                                            | E1-011280               | 05             | 2023/11/22         | 2024/11/21          |
| DC-LISN<br>Schwarzbeck                     | NNBM 8126G              | 8126G-069      | 2023/11/7          | 2024/11/6           |
| EMI Test Receiver<br>R&S                   | ESCI                    | 100613         | 2023/12/4          | 2024/12/3           |
| Fixed Attenuator<br>Mini-Circuits          | HAT-10+                 | PAD-COND1-01   | 2024/1/6           | 2025/1/5            |
| LISN<br>R&S                                | ENV216                  | 101826         | 2023/3/23          | 2024/3/22           |
|                                            | ESH3-Z5                 | 100311         | 2023/9/6           | 2024/9/5            |
| RF Coaxial Cable<br>Woken                  | 5D-FB                   | Cable-cond1-01 | 2024/1/6           | 2025/1/5            |
| Software<br>BVADT                          | BVADT_Cond_<br>V7.4.1.0 | N/A            | N/A                | N/A                 |
| V-LISN<br>Schwarzbeck                      | NNBL 8226-2             | 8226-142       | 2023/8/31          | 2024/8/30           |

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2024/3/20 ~ 2024/3/21

#### 4.6 Unwanted Emissions below 1 GHz

| Description<br>Manufacturer       | Model No.                    | Serial No.   | Calibrated<br>Date | Calibrated<br>Until |
|-----------------------------------|------------------------------|--------------|--------------------|---------------------|
| Antenna Tower<br>inn-co GmbH      | MA 4000                      | 010303       | N/A                | N/A                 |
| Bi_Log Antenna<br>Schwarzbeck     | VULB 9168                    | 9168-155     | 2023/10/13         | 2024/10/12          |
| EMI Test Receiver<br>R&S          | ESR3                         | 102782       | 2023/12/7          | 2024/12/6           |
| Loop Antenna<br>Electro-Metrics   | EM-6879                      | 269          | 2023/9/23          | 2024/9/22           |
| Loop Antenna<br>TESEQ             | HLA 6121                     | 45745        | 2023/8/8           | 2024/8/7            |
| Preamplifier<br>Agilent           | 8447D                        | 2944A10631   | 2023/5/7           | 2024/5/6            |
| Preamplifier<br>EMCI              | EMC001340                    | 980201       | 2023/9/27          | 2024/9/26           |
| RF Coaxial Cable<br>Woken         | 8D-FB                        | Cable-CH4-01 | 2023/7/8           | 2024/7/7            |
| Signal & Spectrum Analyzer<br>R&S | FSW43                        | 101582       | 2023/4/13          | 2024/4/12           |
| Software<br>BV ADT                | ADT_Radiated_<br>V7.6.15.9.5 | N/A          | N/A                | N/A                 |
| Turn Table<br>BV ADT              | TT100                        | TT93021705   | N/A                | N/A                 |
| Turn Table Controller<br>BV ADT   | SC100                        | SC93021705   | N/A                | N/A                 |

Notes:

1. The test was performed in HY - 966 chamber 3.
2. Tested Date: 2024/3/25

#### 4.7 Unwanted Emissions above 1 GHz

| Description<br>Manufacturer           | Model No.                    | Serial No.           | Calibrated<br>Date | Calibrated<br>Until |
|---------------------------------------|------------------------------|----------------------|--------------------|---------------------|
| Antenna Tower<br>inn-co GmbH          | MA 4000                      | 010303               | N/A                | N/A                 |
| Boresight antenna tower fixture<br>BV | BAF-02                       | 5                    | N/A                | N/A                 |
| EMI Test Receiver<br>R&S              | ESR3                         | 102782               | 2023/12/7          | 2024/12/6           |
| Horn Antenna<br>Schwarzbeck           | BBHA 9120D                   | 9120D-408            | 2023/11/12         | 2024/11/11          |
|                                       | BBHA 9170                    | 9170-480             | 2023/11/12         | 2024/11/11          |
|                                       |                              | BBHA9170241          | 2023/10/16         | 2024/10/15          |
|                                       |                              | BBHA9170243          | 2023/11/12         | 2024/11/11          |
| Preamplifier<br>EMCI                  | EMC 184045                   | 980116               | 2023/9/27          | 2024/9/26           |
| Preamplifier<br>Keysight              | 83017A                       | MY53270295           | 2023/5/7           | 2024/5/6            |
| RF Coaxial Cable<br>EMCI              | EMC102-KM-KM-600             | 150928               | 2023/7/8           | 2024/7/7            |
|                                       | EMC102-KM-KM-3000            | 150929               | 2023/7/8           | 2024/7/7            |
| RF Coaxial Cable<br>HUBER+SUHNER      | SUCOFLEX 104                 | Cable-CH4-03(250724) | 2023/5/7           | 2024/5/6            |
|                                       | Sucoflex 104                 | MY 13380+295012/04   | 2023/5/7           | 2024/5/6            |
| Signal & Spectrum Analyzer<br>R&S     | FSW43                        | 101582               | 2023/4/13          | 2024/4/12           |
| Software<br>BV ADT                    | ADT_Radiated_<br>V7.6.15.9.5 | N/A                  | N/A                | N/A                 |
| Turn Table<br>BV ADT                  | TT100                        | TT93021705           | N/A                | N/A                 |
| Turn Table Controller<br>BV ADT       | SC100                        | SC93021705           | N/A                | N/A                 |

#### Notes:

1. The test was performed in HY - 966 chamber 3.
2. Tested Date: 2024/3/15 ~ 2024/3/22

## 5 Limits of Test Items

### 5.1 RF Output Power

| Device Category                                                                   | Limit<br>(Max Average Power) |
|-----------------------------------------------------------------------------------|------------------------------|
| Indoor access point                                                               | EIRP 36 dBm                  |
| Subordinate device                                                                | EIRP 36 dBm                  |
| Client device                                                                     | EIRP 30 dBm                  |
| Note: For all U-NII-4 and U-NII-3 & -4 span channels shall met above EIRP values. |                              |

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

### 5.2 Power Spectral Density

| 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. |                 |

### 5.3 6 dB Bandwidth

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

### 5.4 Frequency Stability

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

### 5.5 AC Power Conducted Emissions

| 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      |

Notes:

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 0.50 MHz.

## 5.6 Unwanted Emissions below 1 GHz

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).

## 5.7 Unwanted Emissions above 1 GHz

- (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:**

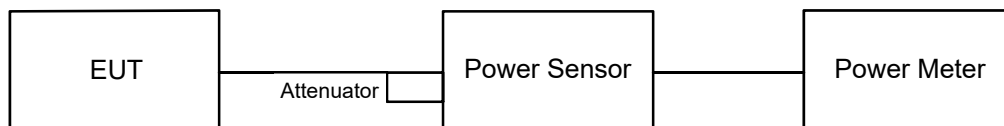
The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

## 6 Test Arrangements

### 6.1 RF Output Power

#### 6.1.1 Test Setup

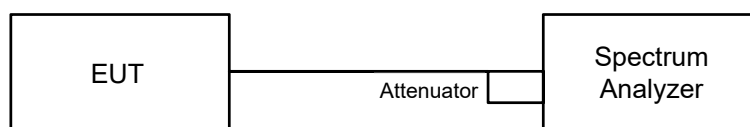


#### 6.1.2 Test Procedure

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to average. Duty factor is not added to measured value.

### 6.2 Power Spectral Density

#### 6.2.1 Test Setup



#### 6.2.2 Test Procedure

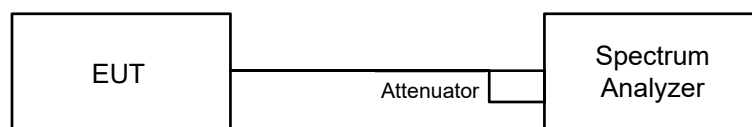
##### For specified measurement bandwidth 1 MHz:

Method SA-1

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW  $\geq$  3 MHz, Detector = RMS
- Sweep points  $\geq [2 \times \text{span} / \text{RBW}]$ . (This gives bin-to-bin spacing  $\leq \text{RBW} / 2$ , so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value

### 6.3 6 dB Bandwidth

#### 6.3.1 Test Setup

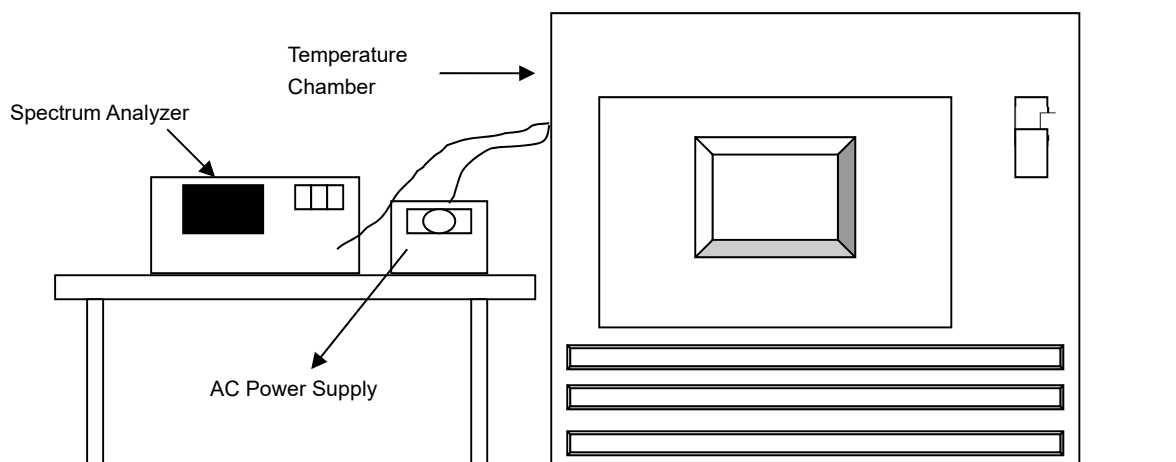


#### 6.3.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW)  $\geq 3 \times \text{RBW}$ , Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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.

## 6.4 Frequency Stability

### 6.4.1 Test Setup

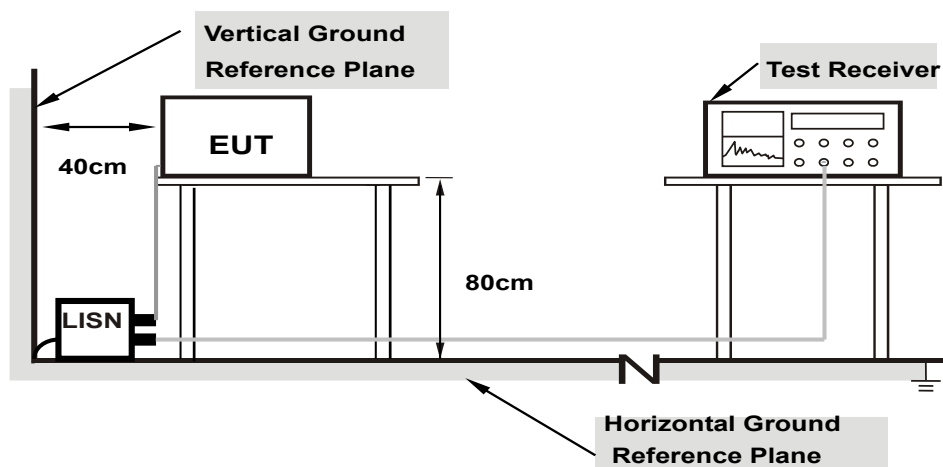


### 6.4.2 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- 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.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- 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.

## 6.5 AC Power Conducted Emissions

### 6.5.1 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).

### 6.5.2 Test Procedure

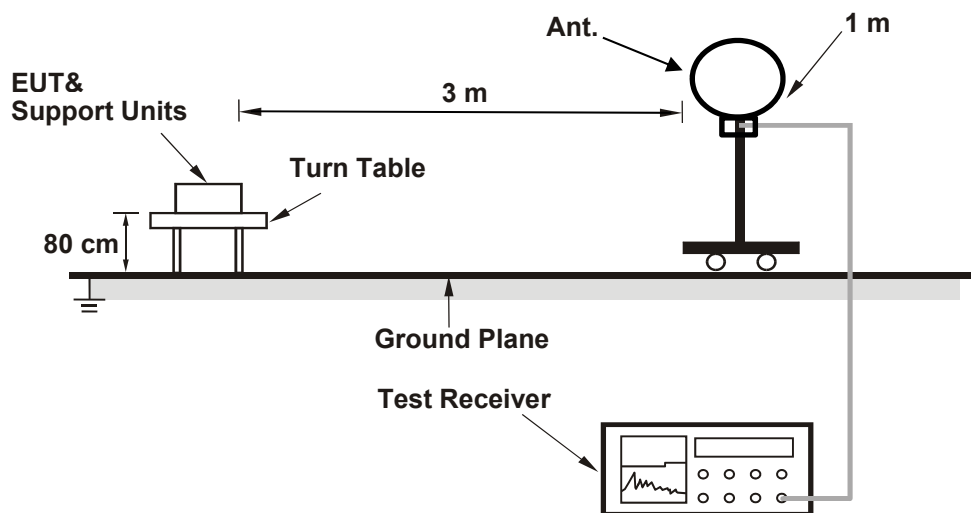
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

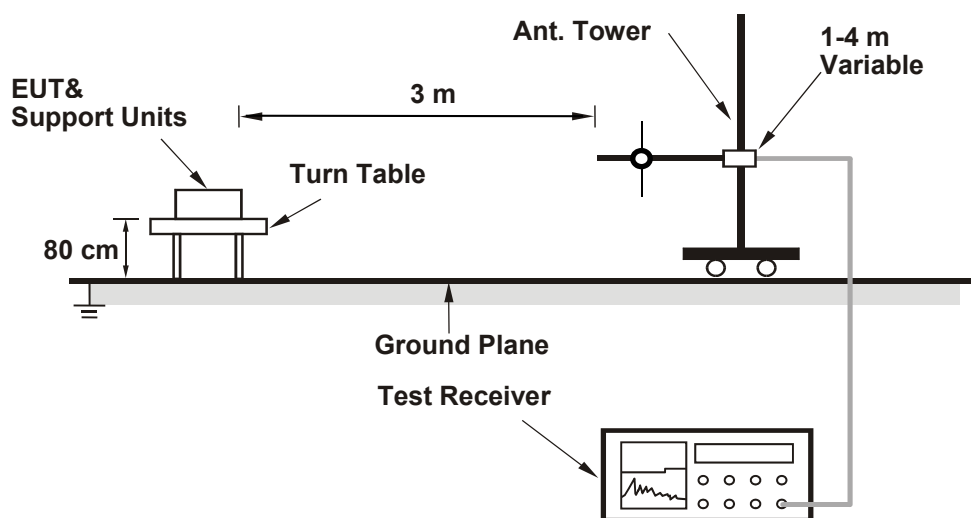
## 6.6 Unwanted Emissions below 1 GHz

### 6.6.1 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).

## 6.6.2 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

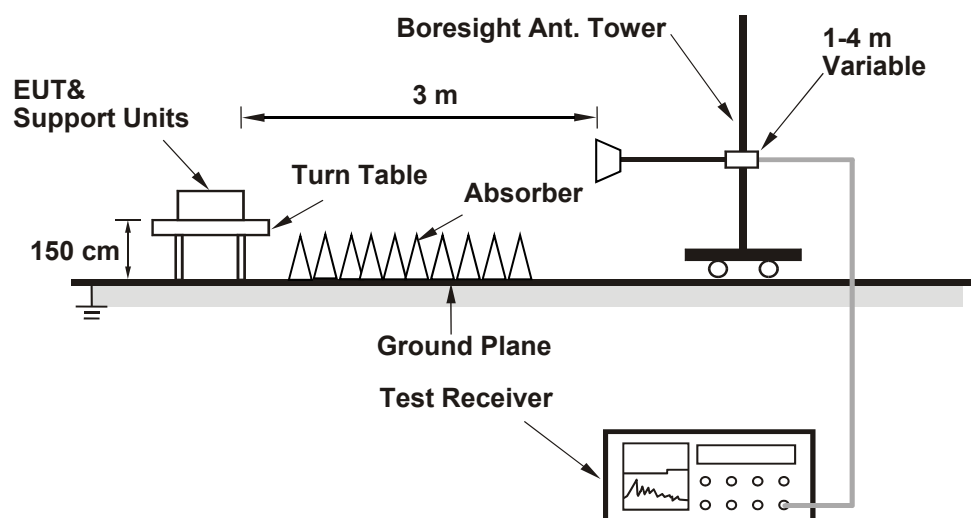
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

## 6.7 Unwanted Emissions above 1 GHz

### 6.7.1 Test Setup



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

### 6.7.2 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.
- All modes of operation were investigated and the worst-case emissions are reported.

## 7 Test Results of Test Item

### 7.1 RF Output Power

|              |                |                           |              |            |           |
|--------------|----------------|---------------------------|--------------|------------|-----------|
| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 25°C, 60% RH | Tested By: | Wayne Lin |
|--------------|----------------|---------------------------|--------------|------------|-----------|

#### 802.11a

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Maximum Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|--------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                    |           |            |                  |             |
| 169   | 5845              | 21.39               | 20.78   | 257.395          | 24.11             | 4.20               | 677.018   | 28.31      | 36               | Pass        |
| 173   | 5865              | 21.28               | 20.76   | 253.401          | 24.04             | 4.20               | 666.513   | 28.24      | 36               | Pass        |
| 177   | 5885              | 21.26               | 20.72   | 251.692          | 24.01             | 4.20               | 662.017   | 28.21      | 36               | Pass        |

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.2 dBi.

#### 802.11ax (HE20)

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Maximum Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|--------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                    |           |            |                  |             |
| 169   | 5845              | 21.63               | 21.79   | 296.554          | 24.72             | 4.20               | 780.016   | 28.92      | 36               | Pass        |
| 173   | 5865              | 21.73               | 21.86   | 302.398          | 24.81             | 4.20               | 795.388   | 29.01      | 36               | Pass        |
| 177   | 5885              | 21.56               | 21.87   | 297.034          | 24.73             | 4.20               | 781.279   | 28.93      | 36               | Pass        |

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.2 dBi.

#### 802.11ax (HE40)

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Maximum Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|--------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                    |           |            |                  |             |
| 167   | 5835              | 21.84               | 22.36   | 324.943          | 25.12             | 4.20               | 854.687   | 29.32      | 36               | Pass        |
| 175   | 5875              | 21.75               | 22.26   | 317.891          | 25.02             | 4.20               | 836.139   | 29.22      | 36               | Pass        |

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.2 dBi.

### 802.11ax (HE80)

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Maximum Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|--------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                    |           |            |                  |             |
| 171   | 5855              | 22.26               | 22.57   | 348.985          | 25.43             | 4.20               | 917.924   | 29.63      | 36               | Pass        |

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.2 dBi.

### 802.11ax (HE160)

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Maximum Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|--------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                    |           |            |                  |             |
| 163   | 5815              | 17.75               | 17.73   | 118.859          | 20.75             | 4.20               | 312.631   | 24.95      | 36               | Pass        |

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.2 dBi.

### 802.11ax (HE20) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Directional Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|------------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                        |           |            |                  |             |
| 169   | 5845              | 18.99               | 19.12   | 160.908          | 22.07             | 6.82                   | 773.709   | 28.89      | 36               | Pass        |
| 173   | 5865              | 19.05               | 19.17   | 162.956          | 22.12             | 6.82                   | 783.557   | 28.94      | 36               | Pass        |
| 177   | 5885              | 18.86               | 19.15   | 159.137          | 22.02             | 6.82                   | 765.193   | 28.84      | 36               | Pass        |

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
2. The directional gain is 6.82 dBi.

### 802.11ax (HE40) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Directional Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|------------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                        |           |            |                  |             |
| 167   | 5835              | 19.21               | 19.72   | 177.124          | 22.48             | 6.82                   | 851.682   | 29.3       | 36               | Pass        |
| 175   | 5875              | 19.05               | 19.55   | 170.51           | 22.32             | 6.82                   | 819.879   | 29.14      | 36               | Pass        |

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
2. The directional gain is 6.82 dBi.

### 802.11ax (HE80) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Directional Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|------------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                        |           |            |                  |             |
| 171   | 5855              | 19.62               | 19.93   | 190.023          | 22.79             | 6.82                   | 913.705   | 29.61      | 36               | Pass        |

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0/20}} + 10^{\text{Chain1/20}})^2 / 2]$
2. The directional gain is 6.82 dBi.

### 802.11ax (HE160) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Directional Gain (dBi) | EIRP (mW) | EIRP (dBm) | EIRP Limit (dBm) | Test Result |
|-------|-------------------|---------------------|---------|------------------|-------------------|------------------------|-----------|------------|------------------|-------------|
|       |                   | Chain 0             | Chain 1 |                  |                   |                        |           |            |                  |             |
| 163   | 5815              | 15.11               | 15.09   | 64.719           | 18.11             | 6.82                   | 311.194   | 24.93      | 36               | Pass        |

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0/20}} + 10^{\text{Chain1/20}})^2 / 2]$
2. The directional gain is 6.82 dBi.

## 7.2 Power Spectral Density

|              |                |                           |              |            |           |
|--------------|----------------|---------------------------|--------------|------------|-----------|
| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 25°C, 60% RH | Tested By: | Wayne Lin |
|--------------|----------------|---------------------------|--------------|------------|-----------|

### 802.11a

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Directional Gain (dBi) | EIRP PSD (dBm/MHz) | EIRP PSD Limit (dBm/MHz) | Test Result |
|-------|-------------------|---------------|---------|---------------------|------------------------|--------------------|--------------------------|-------------|
|       |                   | Chain 0       | Chain 1 |                     |                        |                    |                          |             |
| 169   | 5845              | 8.43          | 8.64    | 11.55               | 6.82                   | 18.37              | 20                       | Pass        |
| 173   | 5865              | 8.53          | 8.62    | 11.59               | 6.82                   | 18.41              | 20                       | Pass        |
| 177   | 5885              | 8.61          | 8.91    | 11.77               | 6.82                   | 18.59              | 20                       | Pass        |

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- The directional gain is 6.82 dBi.

### 802.11ax (HE20)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Directional Gain (dBi) | EIRP PSD (dBm/MHz) | EIRP PSD Limit (dBm/MHz) | Test Result |
|-------|-------------------|---------------|---------|---------------------|------------------------|--------------------|--------------------------|-------------|
|       |                   | Chain 0       | Chain 1 |                     |                        |                    |                          |             |
| 169   | 5845              | 8.45          | 8.61    | 11.54               | 6.82                   | 18.36              | 20                       | Pass        |
| 173   | 5865              | 8.55          | 8.68    | 11.63               | 6.82                   | 18.45              | 20                       | Pass        |
| 177   | 5885              | 8.38          | 8.69    | 11.55               | 6.82                   | 18.37              | 20                       | Pass        |

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- The directional gain is 6.82 dBi.

### 802.11ax (HE40)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Directional Gain (dBi) | EIRP PSD (dBm/MHz) | EIRP PSD Limit (dBm/MHz) | Test Result |
|-------|-------------------|---------------|---------|---------------------|------------------------|--------------------|--------------------------|-------------|
|       |                   | Chain 0       | Chain 1 |                     |                        |                    |                          |             |
| 167   | 5835              | 6.14          | 6.97    | 9.59                | 6.82                   | 16.41              | 20                       | Pass        |
| 175   | 5875              | 6.14          | 6.81    | 9.50                | 6.82                   | 16.32              | 20                       | Pass        |

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- The directional gain is 6.82 dBi.

### 802.11ax (HE80)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Directional Gain (dBi) | EIRP PSD (dBm/MHz) | EIRP PSD Limit (dBm/MHz) | Test Result |
|-------|-------------------|---------------|---------|---------------------|------------------------|--------------------|--------------------------|-------------|
|       |                   | Chain 0       | Chain 1 |                     |                        |                    |                          |             |
| 171   | 5855              | 3.72          | 4.14    | 6.95                | 6.82                   | 13.77              | 20                       | Pass        |

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 6.82 dBi.

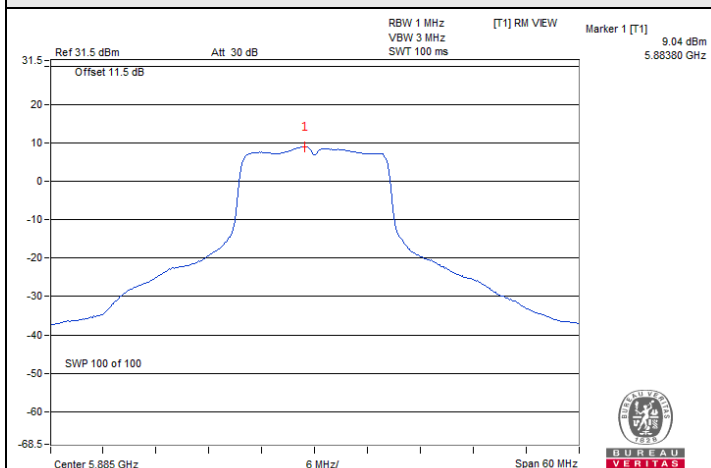
### 802.11ax (HE160)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Directional Gain (dBi) | EIRP PSD (dBm/MHz) | EIRP PSD Limit (dBm/MHz) | Test Result |
|-------|-------------------|---------------|---------|---------------------|------------------------|--------------------|--------------------------|-------------|
|       |                   | Chain 0       | Chain 1 |                     |                        |                    |                          |             |
| 163   | 5815              | -2.97         | -2.99   | 0.03                | 6.82                   | 6.85               | 20                       | Pass        |

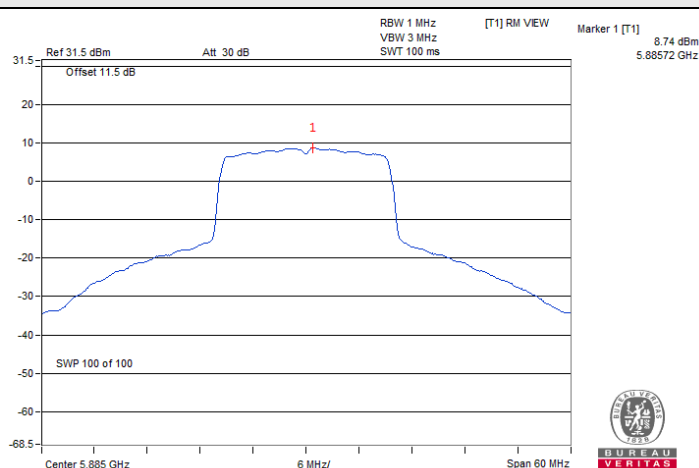
Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 6.82 dBi.

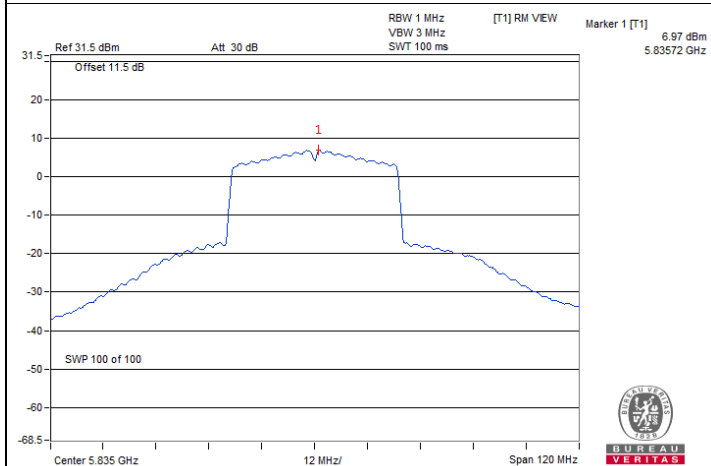
# Spectrum Plot of Maximum Value



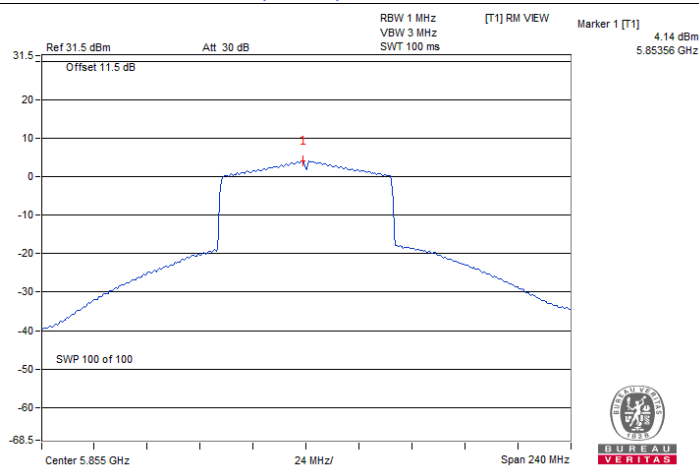
802.11a / Chain 1 : CH 177



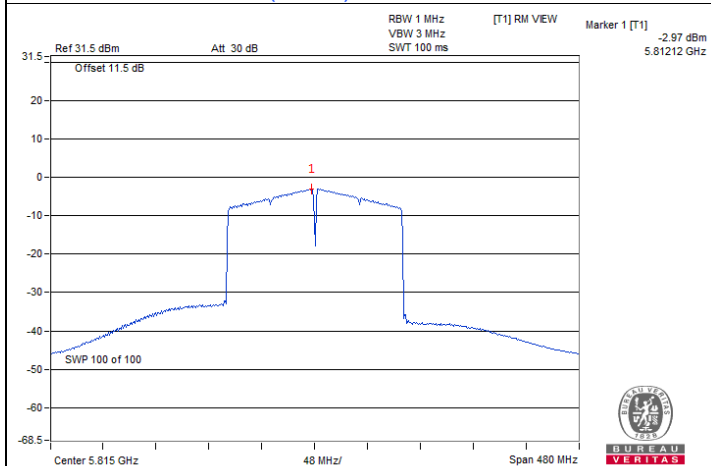
802.11ax (HE20) / Chain 1 : CH 177



802.11ax (HE40) / Chain 1 : CH 167



802.11ax (HE80) / Chain 1 : CH 171



802.11ax (HE160) / Chain 0 : CH 163

### 7.3 6 dB Bandwidth

|              |                |                           |              |            |           |
|--------------|----------------|---------------------------|--------------|------------|-----------|
| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 25°C, 60% RH | Tested By: | Wayne Lin |
|--------------|----------------|---------------------------|--------------|------------|-----------|

#### 802.11a

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 169     | 5845            | 16.33               | 16.32   | 0.5                 | Pass        |
| 173     | 5865            | 16.37               | 16.38   | 0.5                 | Pass        |
| 177     | 5885            | 16.35               | 16.37   | 0.5                 | Pass        |

#### 802.11ax (HE20)

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 169     | 5845            | 18.88               | 18.73   | 0.5                 | Pass        |
| 173     | 5865            | 18.95               | 18.86   | 0.5                 | Pass        |
| 177     | 5885            | 18.81               | 18.92   | 0.5                 | Pass        |

#### 802.11ax (HE40)

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 167     | 5835            | 35.61               | 35.90   | 0.5                 | Pass        |
| 175     | 5875            | 35.98               | 35.26   | 0.5                 | Pass        |

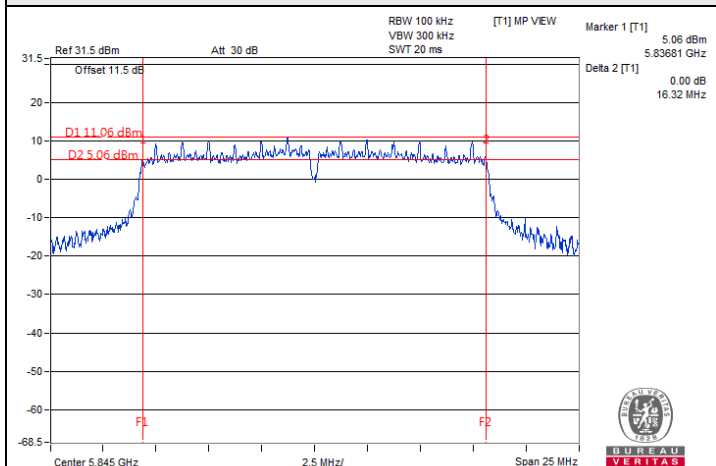
#### 802.11ax (HE80)

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 171     | 5855            | 75.51               | 75.40   | 0.5                 | Pass        |

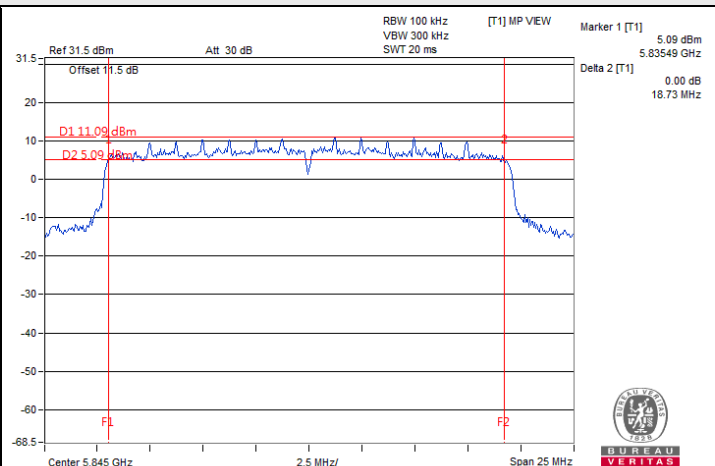
#### 802.11ax (HE160)

| Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------|-----------------|---------------------|---------|---------------------|-------------|
|         |                 | Chain 0             | Chain 1 |                     |             |
| 163     | 5815            | 154.14              | 140.54  | 0.5                 | Pass        |

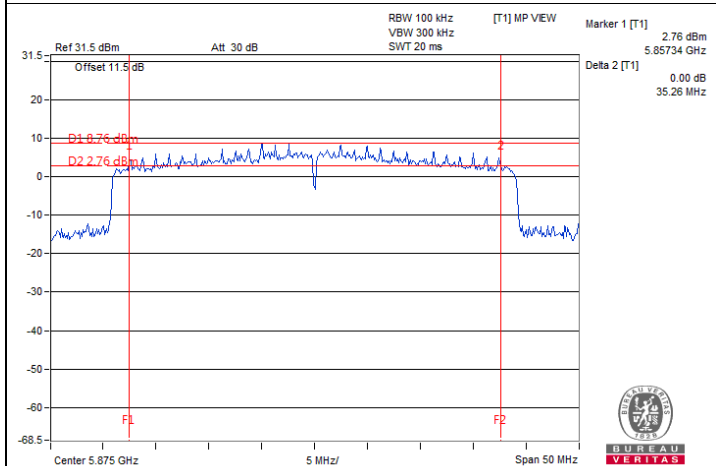
## Spectrum Plot of Minimum Value



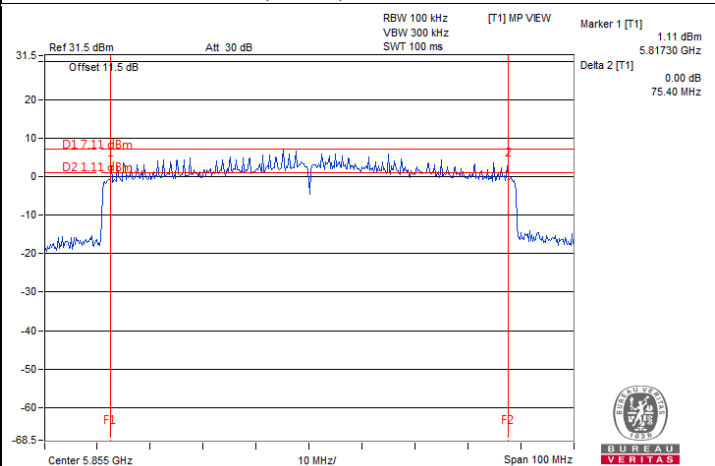
802.11a / Chain 1 : CH 169



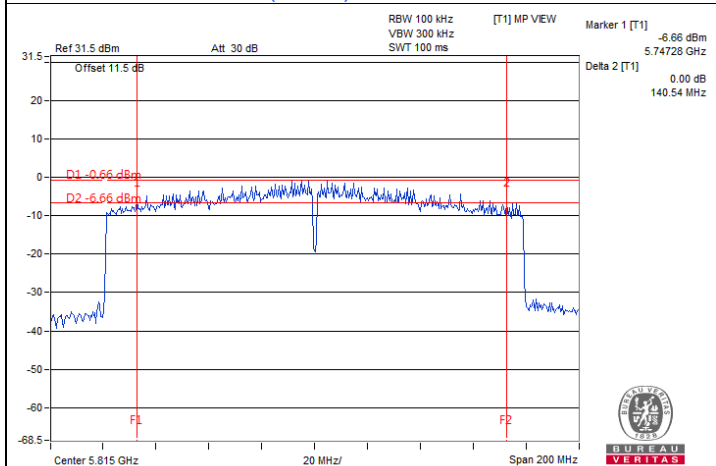
802.11ax (HE20) / Chain 1 : CH 169



802.11ax (HE40) / Chain 1 : CH 175



802.11ax (HE80) / Chain 1 : CH 171



802.11ax (HE160) / Chain 1 : CH 163

#### 7.4 Frequency Stability

|              |                |                           |              |            |           |
|--------------|----------------|---------------------------|--------------|------------|-----------|
| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 25°C, 60% RH | Tested By: | Wayne Lin |
|--------------|----------------|---------------------------|--------------|------------|-----------|

| Frequency Stability Versus Temperature |                    |                          |             |                          |             |                          |             |                          |             |
|----------------------------------------|--------------------|--------------------------|-------------|--------------------------|-------------|--------------------------|-------------|--------------------------|-------------|
| Operating Frequency: 5885 MHz          |                    |                          |             |                          |             |                          |             |                          |             |
| Temp. (°C)                             | Power Supply (Vac) | 0 Minute                 |             | 2 Minutes                |             | 5 Minutes                |             | 10 Minutes               |             |
|                                        |                    | Measured Frequency (MHz) | Test Result | Measured Frequency (MHz) | Test Result | Measured Frequency (MHz) | Test Result | Measured Frequency (MHz) | Test Result |
| 40                                     | 120                | 5884.9911                | Pass        | 5884.9922                | Pass        | 5884.9916                | Pass        | 5884.989                 | Pass        |
| 30                                     | 120                | 5885.0011                | Pass        | 5884.9969                | Pass        | 5884.9991                | Pass        | 5884.9984                | Pass        |
| 20                                     | 120                | 5884.983                 | Pass        | 5884.984                 | Pass        | 5884.9841                | Pass        | 5884.9839                | Pass        |
| 10                                     | 120                | 5884.9743                | Pass        | 5884.9735                | Pass        | 5884.9707                | Pass        | 5884.9742                | Pass        |
| 0                                      | 120                | 5885.031                 | Pass        | 5885.027                 | Pass        | 5885.0274                | Pass        | 5885.0277                | Pass        |

| Frequency Stability Versus Voltage |                    |                          |             |                          |             |                          |             |                          |             |
|------------------------------------|--------------------|--------------------------|-------------|--------------------------|-------------|--------------------------|-------------|--------------------------|-------------|
| Operating Frequency: 5885 MHz      |                    |                          |             |                          |             |                          |             |                          |             |
| Temp. (°C)                         | Power Supply (Vac) | 0 Minute                 |             | 2 Minutes                |             | 5 Minutes                |             | 10 Minutes               |             |
|                                    |                    | Measured Frequency (MHz) | Test Result | Measured Frequency (MHz) | Test Result | Measured Frequency (MHz) | Test Result | Measured Frequency (MHz) | Test Result |
| 20                                 | 138                | 5884.9782                | Pass        | 5884.974                 | Pass        | 5884.9791                | Pass        | 5884.9766                | Pass        |
|                                    | 120                | 5884.983                 | Pass        | 5884.984                 | Pass        | 5884.9841                | Pass        | 5884.9839                | Pass        |
|                                    | 102                | 5884.9714                | Pass        | 5884.9737                | Pass        | 5884.9711                | Pass        | 5884.9716                | Pass        |

## 7.5 AC Power Conducted Emissions

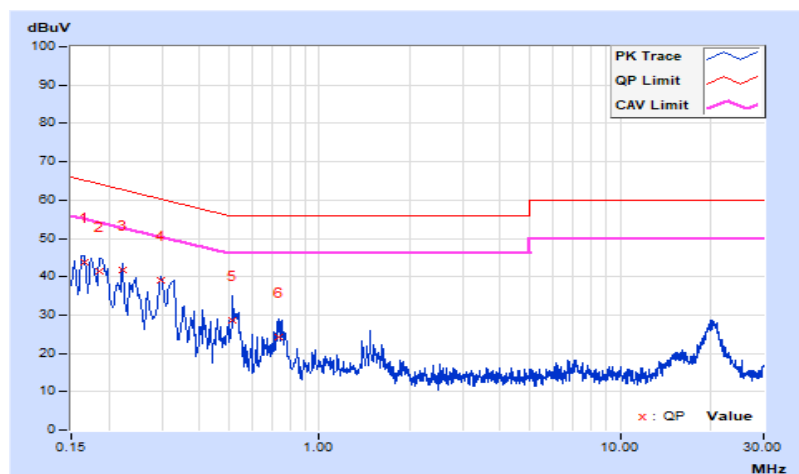
### Test Mode A

|                 |                  |                                          |                                       |
|-----------------|------------------|------------------------------------------|---------------------------------------|
| RF Mode         | 802.11ax (HE80)  | Channel                                  | CH 171 : 5855 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                 | 24°C, 70% RH                          |
| Tested By       | Luis Lee         |                                          |                                       |

| Phase Of Power : Line (L) |                 |                        |                      |       |                       |       |              |       |             |        |
|---------------------------|-----------------|------------------------|----------------------|-------|-----------------------|-------|--------------|-------|-------------|--------|
| No                        | Frequency (MHz) | Correction Factor (dB) | Reading Value (dBuV) |       | Emission Level (dBuV) |       | Limit (dBuV) |       | Margin (dB) |        |
|                           |                 |                        | Q.P.                 | AV.   | Q.P.                  | AV.   | Q.P.         | AV.   | Q.P.        | AV.    |
| 1                         | 0.16535         | 9.69                   | 33.94                | 24.44 | 43.63                 | 34.13 | 65.19        | 55.19 | -21.56      | -21.06 |
| 2                         | 0.18600         | 9.69                   | 31.84                | 23.06 | 41.53                 | 32.75 | 64.21        | 54.21 | -22.68      | -21.46 |
| 3                         | 0.22200         | 9.71                   | 31.92                | 23.74 | 41.63                 | 33.45 | 62.74        | 52.74 | -21.11      | -19.29 |
| 4                         | 0.29800         | 9.76                   | 29.38                | 25.51 | 39.14                 | 35.27 | 60.30        | 50.30 | -21.16      | -15.03 |
| 5                         | 0.51400         | 9.83                   | 18.85                | 7.06  | 28.68                 | 16.89 | 56.00        | 46.00 | -27.32      | -29.11 |
| 6                         | 0.73000         | 9.84                   | 14.39                | 8.69  | 24.23                 | 18.53 | 56.00        | 46.00 | -31.77      | -27.47 |

#### 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

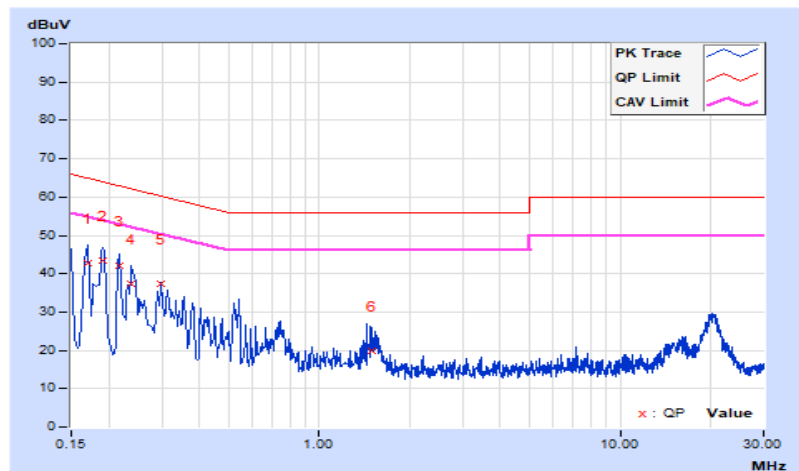


|                 |                  |                                          |                                       |
|-----------------|------------------|------------------------------------------|---------------------------------------|
| RF Mode         | 802.11ax (HE80)  | Channel                                  | CH 171 : 5855 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                 | 24°C, 70% RH                          |
| Tested By       | Luis Lee         |                                          |                                       |

| Phase Of Power : Neutral (N) |                 |                        |                      |       |                       |       |              |       |             |        |
|------------------------------|-----------------|------------------------|----------------------|-------|-----------------------|-------|--------------|-------|-------------|--------|
| No                           | Frequency (MHz) | Correction Factor (dB) | Reading Value (dBuV) |       | Emission Level (dBuV) |       | Limit (dBuV) |       | Margin (dB) |        |
|                              |                 |                        | Q.P.                 | AV.   | Q.P.                  | AV.   | Q.P.         | AV.   | Q.P.        | AV.    |
| 1                            | 0.17000         | 9.69                   | 33.18                | 19.31 | 42.87                 | 29.00 | 64.96        | 54.96 | -22.09      | -25.96 |
| 2                            | 0.19000         | 9.70                   | 33.63                | 21.00 | 43.33                 | 30.70 | 64.04        | 54.04 | -20.71      | -23.34 |
| 3                            | 0.21748         | 9.71                   | 32.44                | 17.60 | 42.15                 | 27.31 | 62.91        | 52.91 | -20.76      | -25.60 |
| 4                            | 0.23800         | 9.73                   | 27.75                | 17.75 | 37.48                 | 27.48 | 62.17        | 52.17 | -24.69      | -24.69 |
| 5                            | 0.29800         | 9.77                   | 27.52                | 21.35 | 37.29                 | 31.12 | 60.30        | 50.30 | -23.01      | -19.18 |
| 6                            | 1.49000         | 9.92                   | 9.87                 | 1.89  | 19.79                 | 11.81 | 56.00        | 46.00 | -36.21      | -34.19 |

#### 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



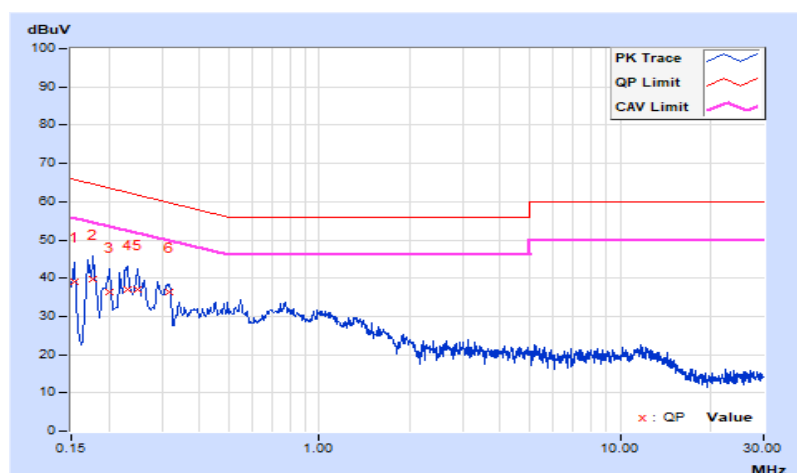
## Test Mode B

|                 |                  |                                          |                                       |
|-----------------|------------------|------------------------------------------|---------------------------------------|
| RF Mode         | 802.11ax (HE80)  | Channel                                  | CH 171 : 5855 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                 | 24°C, 70% RH                          |
| Tested By       | Luis Lee         |                                          |                                       |

| Phase Of Power : Line (L) |                 |                        |                      |       |                       |       |              |       |             |        |
|---------------------------|-----------------|------------------------|----------------------|-------|-----------------------|-------|--------------|-------|-------------|--------|
| No                        | Frequency (MHz) | Correction Factor (dB) | Reading Value (dBuV) |       | Emission Level (dBuV) |       | Limit (dBuV) |       | Margin (dB) |        |
|                           |                 |                        | Q.P.                 | AV.   | Q.P.                  | AV.   | Q.P.         | AV.   | Q.P.        | AV.    |
| 1                         | 0.15400         | 9.68                   | 29.36                | 10.92 | 39.04                 | 20.60 | 65.78        | 55.78 | -26.74      | -35.18 |
| 2                         | 0.17800         | 9.69                   | 30.16                | 20.28 | 39.85                 | 29.97 | 64.58        | 54.58 | -24.73      | -24.61 |
| 3                         | 0.20200         | 9.70                   | 26.83                | 10.13 | 36.53                 | 19.83 | 63.53        | 53.53 | -27.00      | -33.70 |
| 4                         | 0.22985         | 9.72                   | 27.38                | 16.52 | 37.10                 | 26.24 | 62.46        | 52.46 | -25.36      | -26.22 |
| 5                         | 0.25000         | 9.73                   | 27.22                | 17.41 | 36.95                 | 27.14 | 61.76        | 51.76 | -24.81      | -24.62 |
| 6                         | 0.31800         | 9.77                   | 26.68                | 17.77 | 36.45                 | 27.54 | 59.76        | 49.76 | -23.31      | -22.22 |

### 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

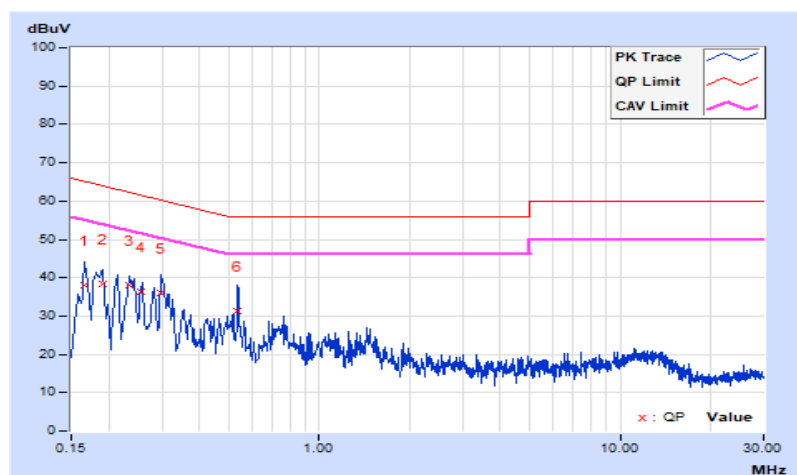


|                 |                  |                                          |                                       |
|-----------------|------------------|------------------------------------------|---------------------------------------|
| RF Mode         | 802.11ax (HE80)  | Channel                                  | CH 171 : 5855 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                 | 24°C, 70% RH                          |
| Tested By       | Luis Lee         |                                          |                                       |

| Phase Of Power : Neutral (N) |                 |                        |                      |       |                       |       |              |       |             |        |
|------------------------------|-----------------|------------------------|----------------------|-------|-----------------------|-------|--------------|-------|-------------|--------|
| No                           | Frequency (MHz) | Correction Factor (dB) | Reading Value (dBuV) |       | Emission Level (dBuV) |       | Limit (dBuV) |       | Margin (dB) |        |
|                              |                 |                        | Q.P.                 | AV.   | Q.P.                  | AV.   | Q.P.         | AV.   | Q.P.        | AV.    |
| 1                            | 0.16600         | 9.69                   | 28.46                | 8.89  | 38.15                 | 18.58 | 65.16        | 55.16 | -27.01      | -36.58 |
| 2                            | 0.19000         | 9.70                   | 28.75                | 17.43 | 38.45                 | 27.13 | 64.04        | 54.04 | -25.59      | -26.91 |
| 3                            | 0.23400         | 9.72                   | 28.19                | 17.56 | 37.91                 | 27.28 | 62.31        | 52.31 | -24.40      | -25.03 |
| 4                            | 0.25674         | 9.74                   | 26.66                | 14.42 | 36.40                 | 24.16 | 61.54        | 51.54 | -25.14      | -27.38 |
| 5                            | 0.29800         | 9.77                   | 26.42                | 15.32 | 36.19                 | 25.09 | 60.30        | 50.30 | -24.11      | -25.21 |
| 6                            | 0.53400         | 9.85                   | 21.46                | 7.83  | 31.31                 | 17.68 | 56.00        | 46.00 | -24.69      | -28.32 |

#### 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



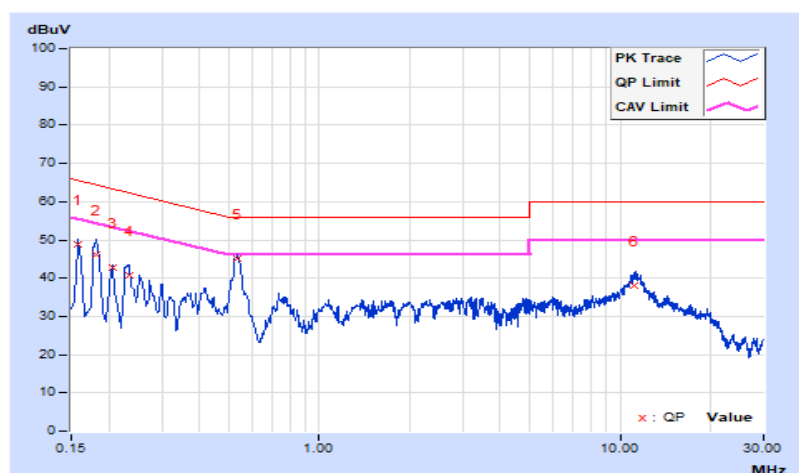
## Test Mode C

|                 |                  |                                          |                                       |
|-----------------|------------------|------------------------------------------|---------------------------------------|
| RF Mode         | 802.11ax (HE80)  | Channel                                  | CH 171 : 5855 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, 70% RH                          |
| Tested By       | Luis Lee         |                                          |                                       |

| Phase Of Power : Line (L) |                 |                        |                      |       |                       |       |              |       |             |        |
|---------------------------|-----------------|------------------------|----------------------|-------|-----------------------|-------|--------------|-------|-------------|--------|
| No                        | Frequency (MHz) | Correction Factor (dB) | Reading Value (dBuV) |       | Emission Level (dBuV) |       | Limit (dBuV) |       | Margin (dB) |        |
|                           |                 |                        | Q.P.                 | AV.   | Q.P.                  | AV.   | Q.P.         | AV.   | Q.P.        | AV.    |
| 1                         | 0.15800         | 9.63                   | 39.08                | 22.41 | 48.71                 | 32.04 | 65.57        | 55.57 | -16.86      | -23.53 |
| 2                         | 0.18180         | 9.64                   | 36.55                | 23.45 | 46.19                 | 33.09 | 64.40        | 54.40 | -18.21      | -21.31 |
| 3                         | 0.20600         | 9.64                   | 33.10                | 19.21 | 42.74                 | 28.85 | 63.37        | 53.37 | -20.63      | -24.52 |
| 4                         | 0.23290         | 9.65                   | 31.10                | 19.87 | 40.75                 | 29.52 | 62.35        | 52.35 | -21.60      | -22.83 |
| 5                         | 0.53265         | 9.68                   | 35.53                | 30.78 | 45.21                 | 40.46 | 56.00        | 46.00 | -10.79      | -5.54  |
| 6                         | 11.09400        | 9.80                   | 28.40                | 23.04 | 38.20                 | 32.84 | 60.00        | 50.00 | -21.80      | -17.16 |

### 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

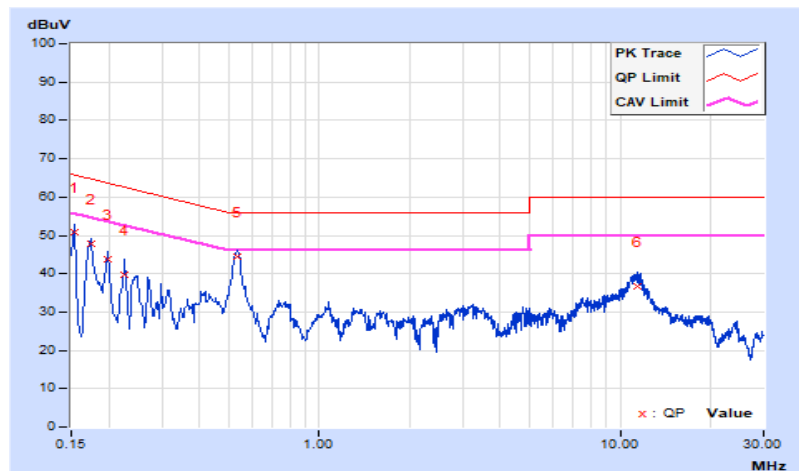


|                 |                  |                                          |                                       |
|-----------------|------------------|------------------------------------------|---------------------------------------|
| RF Mode         | 802.11ax (HE80)  | Channel                                  | CH 171 : 5855 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, 70% RH                          |
| Tested By       | Luis Lee         |                                          |                                       |

| Phase Of Power : Neutral (N) |                 |                        |                      |       |                       |       |              |       |             |        |
|------------------------------|-----------------|------------------------|----------------------|-------|-----------------------|-------|--------------|-------|-------------|--------|
| No                           | Frequency (MHz) | Correction Factor (dB) | Reading Value (dBuV) |       | Emission Level (dBuV) |       | Limit (dBuV) |       | Margin (dB) |        |
|                              |                 |                        | Q.P.                 | AV.   | Q.P.                  | AV.   | Q.P.         | AV.   | Q.P.        | AV.    |
| 1                            | 0.15400         | 9.63                   | 41.22                | 23.66 | 50.85                 | 33.29 | 65.78        | 55.78 | -14.93      | -22.49 |
| 2                            | 0.17384         | 9.63                   | 38.02                | 23.49 | 47.65                 | 33.12 | 64.77        | 54.77 | -17.12      | -21.65 |
| 3                            | 0.19800         | 9.64                   | 34.04                | 17.13 | 43.68                 | 26.77 | 63.69        | 53.69 | -20.01      | -26.92 |
| 4                            | 0.22600         | 9.65                   | 30.11                | 15.28 | 39.76                 | 24.93 | 62.60        | 52.60 | -22.84      | -27.67 |
| 5                            | 0.53400         | 9.69                   | 34.89                | 30.54 | 44.58                 | 40.23 | 56.00        | 46.00 | -11.42      | -5.77  |
| 6                            | 11.36200        | 9.83                   | 26.72                | 21.29 | 36.55                 | 31.12 | 60.00        | 50.00 | -23.45      | -18.88 |

#### 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



## 7.6 Unwanted Emissions below 1 GHz

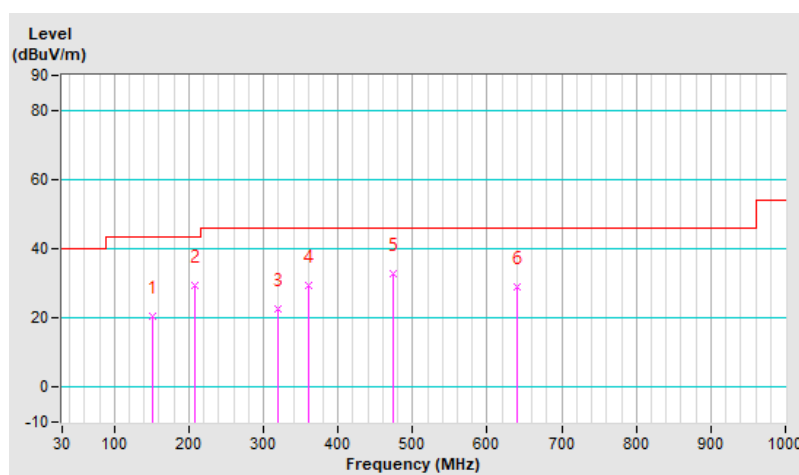
### Test Mode A

|                 |                 |                               |                               |
|-----------------|-----------------|-------------------------------|-------------------------------|
| RF Mode         | 802.11ax (HE80) | Channel                       | CH 171 : 5855 MHz             |
| Frequency Range | 30 MHz ~ 1 GHz  | Detector Function & Bandwidth | QP: RB=120kHz, DET=Quasi-Peak |
| Input Power     | 120 Vac, 60 Hz  | Environmental Conditions      | 23°C, 66% 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                                                    | 151.25          | 20.7 QP                 | 43.5           | -22.8       | 1.49 H             | 286                  | 29.3             | -8.6                     |
| 2                                                    | 208.48          | 29.3 QP                 | 43.5           | -14.2       | 1.01 H             | 141                  | 40.7             | -11.4                    |
| 3                                                    | 320.03          | 22.7 QP                 | 46.0           | -23.3       | 1.01 H             | 249                  | 29.6             | -6.9                     |
| 4                                                    | 359.80          | 29.5 QP                 | 46.0           | -16.5       | 1.01 H             | 235                  | 36.0             | -6.5                     |
| 5                                                    | 474.26          | 32.8 QP                 | 46.0           | -13.2       | 1.01 H             | 350                  | 37.0             | -4.2                     |
| 6                                                    | 640.13          | 28.9 QP                 | 46.0           | -17.1       | 1.49 H             | 306                  | 29.5             | -0.6                     |

#### 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 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.

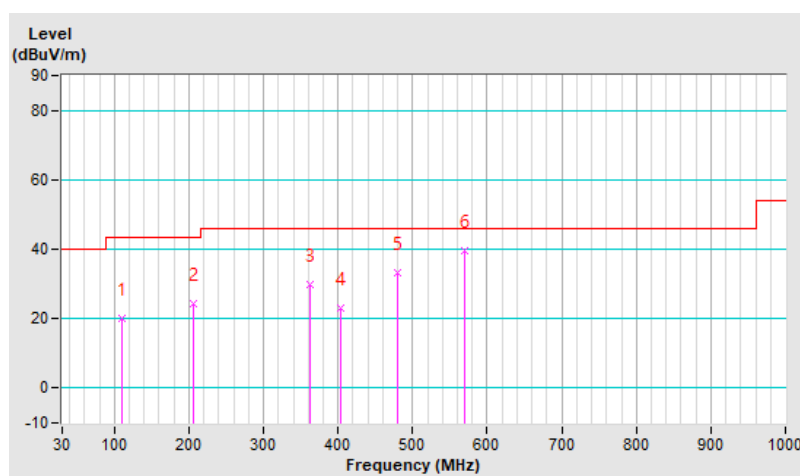


|                 |                 |                               |                               |
|-----------------|-----------------|-------------------------------|-------------------------------|
| RF Mode         | 802.11ax (HE80) | Channel                       | CH 171 : 5855 MHz             |
| Frequency Range | 30 MHz ~ 1 GHz  | Detector Function & Bandwidth | QP: RB=120kHz, DET=Quasi-Peak |
| Input Power     | 120 Vac, 60 Hz  | Environmental Conditions      | 23°C, 66% RH                  |
| Tested By       | Luis Lee        |                               |                               |

| 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                                                  | 110.51          | 20.1 QP                 | 43.5           | -23.4       | 1.49 V             | 184                  | 31.9             | -11.8                    |
| 2                                                  | 206.54          | 24.4 QP                 | 43.5           | -19.1       | 1.00 V             | 328                  | 35.9             | -11.5                    |
| 3                                                  | 362.71          | 29.9 QP                 | 46.0           | -16.1       | 1.49 V             | 303                  | 36.3             | -6.4                     |
| 4                                                  | 403.45          | 23.0 QP                 | 46.0           | -23.0       | 1.00 V             | 237                  | 28.7             | -5.7                     |
| 5                                                  | 480.08          | 33.1 QP                 | 46.0           | -12.9       | 1.00 V             | 159                  | 37.4             | -4.3                     |
| 6                                                  | 570.29          | 39.7 QP                 | 46.0           | -6.3        | 1.00 V             | 163                  | 42.2             | -2.5                     |

#### 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.



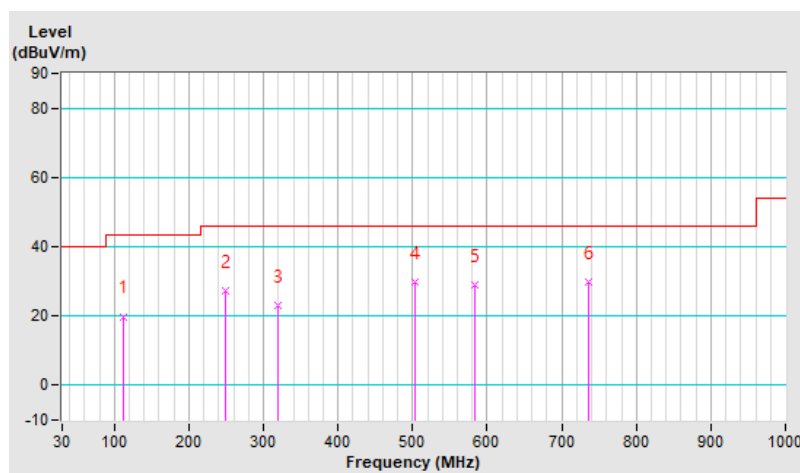
## Test Mode B

|                        |                 |                                          |                               |
|------------------------|-----------------|------------------------------------------|-------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE80) | <b>Channel</b>                           | CH 171 : 5855 MHz             |
| <b>Frequency Range</b> | 30 MHz ~ 1 GHz  | <b>Detector Function &amp; Bandwidth</b> | QP: RB=120kHz, DET=Quasi-Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                  |
| <b>Tested By</b>       | 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                                                    | 111.48          | 19.9 QP                 | 43.5           | -23.6       | 1.01 H             | 145                  | 31.6             | -11.7                    |
| 2                                                    | 248.25          | 27.3 QP                 | 46.0           | -18.7       | 1.01 H             | 285                  | 36.6             | -9.3                     |
| 3                                                    | 320.03          | 23.0 QP                 | 46.0           | -23.0       | 1.01 H             | 111                  | 29.9             | -6.9                     |
| 4                                                    | 502.39          | 30.0 QP                 | 46.0           | -16.0       | 1.01 H             | 176                  | 33.9             | -3.9                     |
| 5                                                    | 583.87          | 28.9 QP                 | 46.0           | -17.1       | 1.01 H             | 301                  | 30.8             | -1.9                     |
| 6                                                    | 736.16          | 30.0 QP                 | 46.0           | -16.0       | 1.49 H             | 324                  | 28.5             | 1.5                      |

### 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.

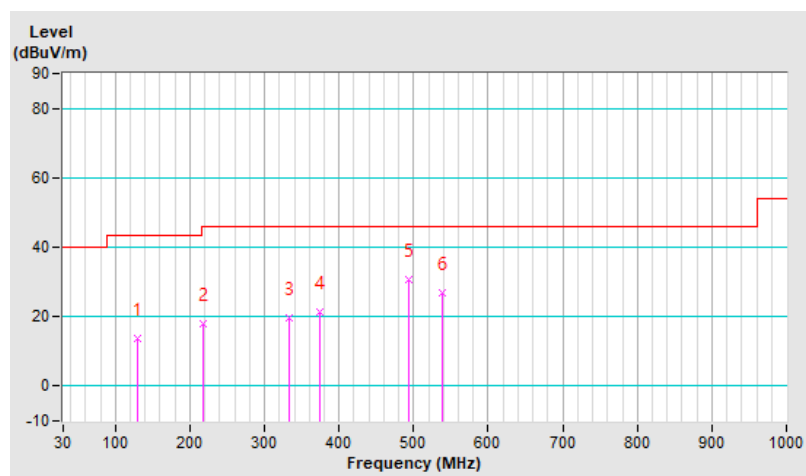


|                 |                 |                               |                               |
|-----------------|-----------------|-------------------------------|-------------------------------|
| RF Mode         | 802.11ax (HE80) | Channel                       | CH 171 : 5855 MHz             |
| Frequency Range | 30 MHz ~ 1 GHz  | Detector Function & Bandwidth | QP: RB=120kHz, DET=Quasi-Peak |
| Input Power     | 120 Vac, 60 Hz  | Environmental Conditions      | 23°C, 66% RH                  |
| Tested By       | Luis Lee        |                               |                               |

| 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                                                  | 128.94          | 13.8 QP                 | 43.5           | -29.7       | 1.49 V             | 3                    | 24.0             | -10.2                    |
| 2                                                  | 217.21          | 18.0 QP                 | 46.0           | -28.0       | 1.49 V             | 235                  | 29.3             | -11.3                    |
| 3                                                  | 333.61          | 19.5 QP                 | 46.0           | -26.5       | 1.49 V             | 150                  | 26.3             | -6.8                     |
| 4                                                  | 373.38          | 21.2 QP                 | 46.0           | -24.8       | 1.49 V             | 346                  | 27.2             | -6.0                     |
| 5                                                  | 492.69          | 30.6 QP                 | 46.0           | -15.4       | 1.00 V             | 156                  | 34.6             | -4.0                     |
| 6                                                  | 538.28          | 26.9 QP                 | 46.0           | -19.1       | 1.00 V             | 339                  | 30.1             | -3.2                     |

**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 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.



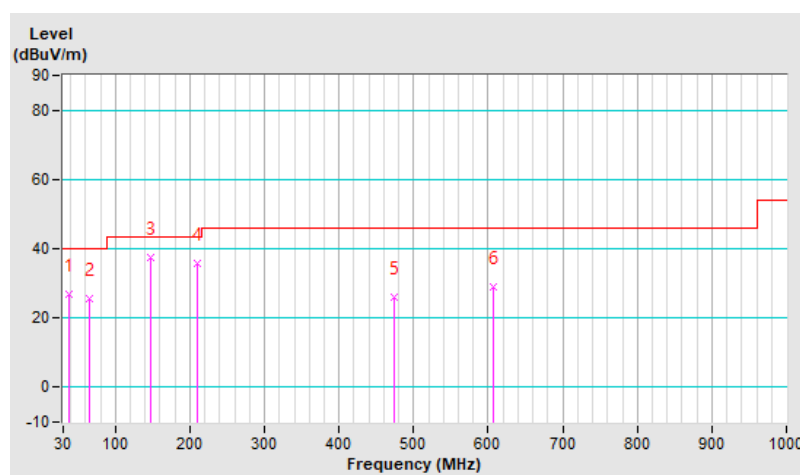
## Test Mode C

|                        |                 |                                          |                               |
|------------------------|-----------------|------------------------------------------|-------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE80) | <b>Channel</b>                           | CH 171 : 5855 MHz             |
| <b>Frequency Range</b> | 30 MHz ~ 1 GHz  | <b>Detector Function &amp; Bandwidth</b> | QP: RB=120kHz, DET=Quasi-Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                  |
| <b>Tested By</b>       | 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                                                    | 38.73           | 26.8 QP                 | 40.0           | -13.2       | 1.01 H             | 191                  | 36.2             | -9.4                     |
| 2                                                    | 65.89           | 25.7 QP                 | 40.0           | -14.3       | 1.01 H             | 110                  | 35.8             | -10.1                    |
| 3                                                    | 146.40          | 37.4 QP                 | 43.5           | -6.1        | 1.01 H             | 284                  | 46.0             | -8.6                     |
| 4                                                    | 210.42          | 35.6 QP                 | 43.5           | -7.9        | 1.50 H             | 152                  | 47.0             | -11.4                    |
| 5                                                    | 474.26          | 26.1 QP                 | 46.0           | -19.9       | 1.50 H             | 150                  | 30.3             | -4.2                     |
| 6                                                    | 607.15          | 28.9 QP                 | 46.0           | -17.1       | 1.01 H             | 59                   | 29.9             | -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 frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

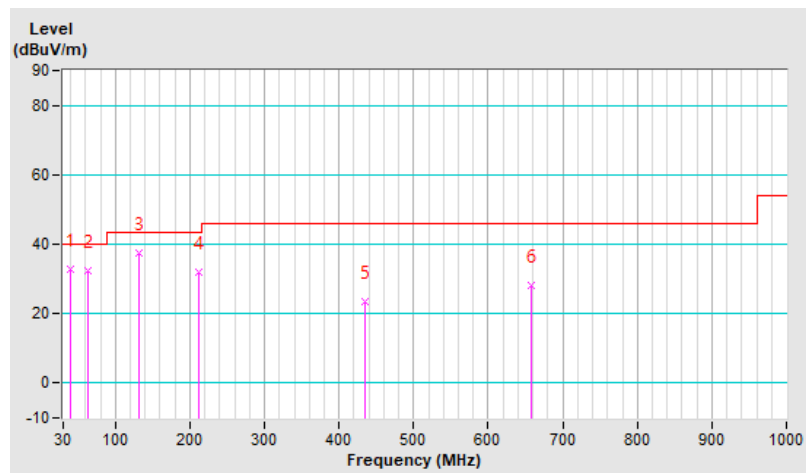


|                 |                 |                               |                               |
|-----------------|-----------------|-------------------------------|-------------------------------|
| RF Mode         | 802.11ax (HE80) | Channel                       | CH 171 : 5855 MHz             |
| Frequency Range | 30 MHz ~ 1 GHz  | Detector Function & Bandwidth | QP: RB=120kHz, DET=Quasi-Peak |
| Input Power     | 120 Vac, 60 Hz  | Environmental Conditions      | 23°C, 66% RH                  |
| Tested By       | Luis Lee        |                               |                               |

| 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                                                  | 40.67           | 32.6 QP                 | 40.0           | -7.4        | 1.49 V             | 18                   | 41.8             | -9.2                     |
| 2                                                  | 62.98           | 32.3 QP                 | 40.0           | -7.7        | 1.49 V             | 18                   | 41.7             | -9.4                     |
| 3                                                  | 130.88          | 37.6 QP                 | 43.5           | -5.9        | 1.49 V             | 86                   | 47.5             | -9.9                     |
| 4                                                  | 212.36          | 32.1 QP                 | 43.5           | -11.4       | 1.49 V             | 205                  | 43.5             | -11.4                    |
| 5                                                  | 435.46          | 23.6 QP                 | 46.0           | -22.4       | 1.00 V             | 241                  | 28.5             | -4.9                     |
| 6                                                  | 658.56          | 28.2 QP                 | 46.0           | -17.8       | 1.49 V             | 357                  | 28.7             | -0.5                     |

#### 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.



## 7.7 Unwanted Emissions above 1 GHz

|                        |                |                                          |                                                                      |
|------------------------|----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11a        | <b>Channel</b>                           | CH 169 : 5845 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | TitanHSU       |                                          |                                                                      |

| 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                                                    | #5650.00        | 60.8 PK                 | 68.2           | -7.4        | 1.30 H             | 140                  | 47.5             | 13.3                     |
| 2                                                    | *5845.00        | 116.1 PK                |                |             | 1.30 H             | 140                  | 71.4             | 44.7                     |
| 3                                                    | *5845.00        | 106.6 AV                |                |             | 1.30 H             | 140                  | 61.9             | 44.7                     |
| 4                                                    | #5895.00        | 70.0 PK                 | 110.2          | -40.2       | 1.30 H             | 140                  | 56.0             | 14.0                     |
| 5                                                    | #5925.00        | 61.8 PK                 | 88.2           | -26.4       | 1.30 H             | 140                  | 47.7             | 14.1                     |
| 6                                                    | 11690.00        | 62.2 PK                 | 74.0           | -11.8       | 1.84 H             | 47                   | 39.6             | 22.6                     |
| 7                                                    | 11690.00        | 49.4 AV                 | 54.0           | -4.6        | 1.84 H             | 47                   | 26.8             | 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                                                  | #5650.00        | 60.9 PK                 | 68.2           | -7.3        | 1.85 V             | 335                  | 47.6             | 13.3                     |
| 2                                                  | *5845.00        | 117.7 PK                |                |             | 1.85 V             | 335                  | 73.0             | 44.7                     |
| 3                                                  | *5845.00        | 108.1 AV                |                |             | 1.85 V             | 335                  | 63.4             | 44.7                     |
| 4                                                  | #5895.00        | 74.5 PK                 | 110.2          | -35.7       | 1.85 V             | 335                  | 60.5             | 14.0                     |
| 5                                                  | #5925.00        | 63.4 PK                 | 88.2           | -24.8       | 1.85 V             | 335                  | 49.3             | 14.1                     |
| 6                                                  | 11690.00        | 62.6 PK                 | 74.0           | -11.4       | 1.75 V             | 52                   | 40.0             | 22.6                     |
| 7                                                  | 11690.00        | 49.8 AV                 | 54.0           | -4.2        | 1.75 V             | 52                   | 27.2             | 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.

|                        |                |                                          |                                                                      |
|------------------------|----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11a        | <b>Channel</b>                           | CH 173 : 5865 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 60.2 PK                 | 68.2           | -8.0        | 1.29 H             | 141                  | 46.9             | 13.3                     |
| 2                                                    | *5865.00        | 116.2 PK                |                |             | 1.29 H             | 141                  | 71.5             | 44.7                     |
| 3                                                    | *5865.00        | 106.8 AV                |                |             | 1.29 H             | 141                  | 62.1             | 44.7                     |
| 4                                                    | #5895.00        | 77.9 PK                 | 110.2          | -32.3       | 1.29 H             | 141                  | 63.9             | 14.0                     |
| 5                                                    | #5925.00        | 65.9 PK                 | 88.2           | -22.3       | 1.29 H             | 141                  | 51.8             | 14.1                     |
| 6                                                    | 11730.00        | 62.0 PK                 | 74.0           | -12.0       | 1.86 H             | 51                   | 39.7             | 22.3                     |
| 7                                                    | 11730.00        | 49.3 AV                 | 54.0           | -4.7        | 1.86 H             | 51                   | 27.0             | 22.3                     |
| 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                                                    | #5650.00        | 60.8 PK                 | 68.2           | -7.4        | 1.77 V             | 326                  | 47.5             | 13.3                     |
| 2                                                    | *5865.00        | 118.0 PK                |                |             | 1.77 V             | 326                  | 73.3             | 44.7                     |
| 3                                                    | *5865.00        | 108.0 AV                |                |             | 1.77 V             | 326                  | 63.3             | 44.7                     |
| 4                                                    | #5895.00        | 79.0 PK                 | 110.2          | -31.2       | 1.77 V             | 326                  | 65.0             | 14.0                     |
| 5                                                    | #5925.00        | 68.1 PK                 | 88.2           | -20.1       | 1.77 V             | 326                  | 54.0             | 14.1                     |
| 6                                                    | 11730.00        | 62.1 PK                 | 74.0           | -11.9       | 1.77 V             | 56                   | 39.8             | 22.3                     |
| 7                                                    | 11730.00        | 49.5 AV                 | 54.0           | -4.5        | 1.77 V             | 56                   | 27.2             | 22.3                     |

**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.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

|                        |                |                                          |                                                                      |
|------------------------|----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11a        | <b>Channel</b>                           | CH 177 : 5885 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 59.8 PK                 | 68.2           | -8.4        | 1.29 H             | 141                  | 46.5             | 13.3                     |
| 2                                                    | *5885.00        | 116.0 PK                |                |             | 1.29 H             | 141                  | 71.3             | 44.7                     |
| 3                                                    | *5885.00        | 106.7 AV                |                |             | 1.29 H             | 141                  | 62.0             | 44.7                     |
| 4                                                    | #5895.00        | 98.2 PK                 | 110.2          | -12.0       | 1.29 H             | 141                  | 84.2             | 14.0                     |
| 5                                                    | #5925.00        | 72.6 PK                 | 88.2           | -15.6       | 1.29 H             | 141                  | 58.5             | 14.1                     |
| 6                                                    | 11770.00        | 61.5 PK                 | 74.0           | -12.5       | 1.77 H             | 58                   | 39.7             | 21.8                     |
| 7                                                    | 11770.00        | 48.8 AV                 | 54.0           | -5.2        | 1.77 H             | 58                   | 27.0             | 21.8                     |
| 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                                                    | #5650.00        | 60.3 PK                 | 68.2           | -7.9        | 1.67 V             | 326                  | 47.0             | 13.3                     |
| 2                                                    | *5885.00        | 117.5 PK                |                |             | 1.67 V             | 326                  | 72.8             | 44.7                     |
| 3                                                    | *5885.00        | 107.8 AV                |                |             | 1.67 V             | 326                  | 63.1             | 44.7                     |
| 4                                                    | #5895.00        | 98.9 PK                 | 110.2          | -11.3       | 1.67 V             | 326                  | 84.9             | 14.0                     |
| 5                                                    | #5925.00        | 73.6 PK                 | 88.2           | -14.6       | 1.67 V             | 326                  | 59.5             | 14.1                     |
| 6                                                    | 11770.00        | 61.6 PK                 | 74.0           | -12.4       | 1.75 V             | 61                   | 39.8             | 21.8                     |
| 7                                                    | 11770.00        | 48.9 AV                 | 54.0           | -5.1        | 1.75 V             | 61                   | 27.1             | 21.8                     |

**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.

|                        |                 |                                          |                                                                      |
|------------------------|-----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE20) | <b>Channel</b>                           | CH 169 : 5845 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz  | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 61.3 PK                 | 68.2           | -6.9        | 1.28 H             | 139                  | 48.0             | 13.3                     |
| 2                                                    | *5845.00        | 117.8 PK                |                |             | 1.28 H             | 139                  | 73.1             | 44.7                     |
| 3                                                    | *5845.00        | 105.7 AV                |                |             | 1.28 H             | 139                  | 61.0             | 44.7                     |
| 4                                                    | #5895.00        | 68.4 PK                 | 110.2          | -41.8       | 1.28 H             | 139                  | 54.4             | 14.0                     |
| 5                                                    | #5925.00        | 62.4 PK                 | 88.2           | -25.8       | 1.28 H             | 139                  | 48.3             | 14.1                     |
| 6                                                    | 11690.00        | 62.0 PK                 | 74.0           | -12.0       | 1.89 H             | 55                   | 39.4             | 22.6                     |
| 7                                                    | 11690.00        | 49.2 AV                 | 54.0           | -4.8        | 1.89 H             | 55                   | 26.6             | 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                                                    | #5650.00        | 61.5 PK                 | 68.2           | -6.7        | 1.70 V             | 328                  | 48.2             | 13.3                     |
| 2                                                    | *5845.00        | 119.1 PK                |                |             | 1.70 V             | 328                  | 74.4             | 44.7                     |
| 3                                                    | *5845.00        | 106.5 AV                |                |             | 1.70 V             | 328                  | 61.8             | 44.7                     |
| 4                                                    | #5895.00        | 70.0 PK                 | 110.2          | -40.2       | 1.70 V             | 328                  | 56.0             | 14.0                     |
| 5                                                    | #5925.00        | 63.5 PK                 | 88.2           | -24.7       | 1.70 V             | 328                  | 49.4             | 14.1                     |
| 6                                                    | 11690.00        | 62.2 PK                 | 74.0           | -11.8       | 1.72 V             | 58                   | 39.6             | 22.6                     |
| 7                                                    | 11690.00        | 49.5 AV                 | 54.0           | -4.5        | 1.72 V             | 58                   | 26.9             | 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.

|                        |                 |                                          |                                                                      |
|------------------------|-----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE20) | <b>Channel</b>                           | CH 173 : 5865 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz  | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 60.1 PK                 | 68.2           | -8.1        | 1.24 H             | 140                  | 46.8             | 13.3                     |
| 2                                                    | *5865.00        | 117.6 PK                |                |             | 1.24 H             | 140                  | 72.9             | 44.7                     |
| 3                                                    | *5865.00        | 105.4 AV                |                |             | 1.24 H             | 140                  | 60.7             | 44.7                     |
| 4                                                    | #5895.00        | 78.6 PK                 | 110.2          | -31.6       | 1.24 H             | 140                  | 64.6             | 14.0                     |
| 5                                                    | #5925.00        | 68.5 PK                 | 88.2           | -19.7       | 1.24 H             | 140                  | 54.4             | 14.1                     |
| 6                                                    | 11730.00        | 61.8 PK                 | 74.0           | -12.2       | 1.34 H             | 55                   | 39.5             | 22.3                     |
| 7                                                    | 11730.00        | 48.9 AV                 | 54.0           | -5.1        | 1.34 H             | 55                   | 26.6             | 22.3                     |
| 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                                                    | #5650.00        | 60.3 PK                 | 68.2           | -7.9        | 1.70 V             | 326                  | 47.0             | 13.3                     |
| 2                                                    | *5865.00        | 119.1 PK                |                |             | 1.70 V             | 326                  | 74.4             | 44.7                     |
| 3                                                    | *5865.00        | 106.0 AV                |                |             | 1.70 V             | 326                  | 61.3             | 44.7                     |
| 4                                                    | #5895.00        | 82.0 PK                 | 110.2          | -28.2       | 1.70 V             | 326                  | 68.0             | 14.0                     |
| 5                                                    | #5925.00        | 69.0 PK                 | 88.2           | -19.2       | 1.70 V             | 326                  | 54.9             | 14.1                     |
| 6                                                    | 11730.00        | 61.9 PK                 | 74.0           | -12.1       | 1.75 V             | 57                   | 39.6             | 22.3                     |
| 7                                                    | 11730.00        | 49.1 AV                 | 54.0           | -4.9        | 1.75 V             | 57                   | 26.8             | 22.3                     |

**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.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

|                        |                 |                                          |                                                                      |
|------------------------|-----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE20) | <b>Channel</b>                           | CH 177 : 5885 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz  | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 59.5 PK                 | 68.2           | -8.7        | 1.30 H             | 141                  | 46.2             | 13.3                     |
| 2                                                    | *5885.00        | 117.1 PK                |                |             | 1.30 H             | 141                  | 72.4             | 44.7                     |
| 3                                                    | *5885.00        | 104.9 AV                |                |             | 1.30 H             | 141                  | 60.2             | 44.7                     |
| 4                                                    | #5895.00        | 99.2 PK                 | 110.2          | -11.0       | 1.30 H             | 141                  | 85.2             | 14.0                     |
| 5                                                    | #5925.00        | 72.9 PK                 | 88.2           | -15.3       | 1.30 H             | 141                  | 58.8             | 14.1                     |
| 6                                                    | 11770.00        | 61.3 PK                 | 74.0           | -12.7       | 1.36 H             | 29                   | 39.5             | 21.8                     |
| 7                                                    | 11770.00        | 48.5 AV                 | 54.0           | -5.5        | 1.36 H             | 29                   | 26.7             | 21.8                     |
| 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                                                    | #5650.00        | 60.2 PK                 | 68.2           | -8.0        | 1.51 V             | 323                  | 46.9             | 13.3                     |
| 2                                                    | *5885.00        | 118.7 PK                |                |             | 1.51 V             | 323                  | 74.0             | 44.7                     |
| 3                                                    | *5885.00        | 106.0 AV                |                |             | 1.51 V             | 323                  | 61.3             | 44.7                     |
| 4                                                    | #5895.00        | 101.0 PK                | 110.2          | -9.2        | 1.51 V             | 323                  | 87.0             | 14.0                     |
| 5                                                    | #5925.00        | 74.8 PK                 | 88.2           | -13.4       | 1.51 V             | 323                  | 60.7             | 14.1                     |
| 6                                                    | 11770.00        | 61.4 PK                 | 74.0           | -12.6       | 1.79 V             | 62                   | 39.6             | 21.8                     |
| 7                                                    | 11770.00        | 48.7 AV                 | 54.0           | -5.3        | 1.79 V             | 62                   | 26.9             | 21.8                     |

**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.

|                        |                 |                                          |                                                                      |
|------------------------|-----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE40) | <b>Channel</b>                           | CH 167 : 5835 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz  | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 60.0 PK                 | 68.2           | -8.2        | 1.30 H             | 140                  | 46.7             | 13.3                     |
| 2                                                    | *5835.00        | 114.9 PK                |                |             | 1.30 H             | 140                  | 70.2             | 44.7                     |
| 3                                                    | *5835.00        | 103.2 AV                |                |             | 1.30 H             | 140                  | 58.5             | 44.7                     |
| 4                                                    | #5895.00        | 72.7 PK                 | 110.2          | -37.5       | 1.30 H             | 140                  | 58.7             | 14.0                     |
| 5                                                    | #5925.00        | 65.5 PK                 | 88.2           | -22.7       | 1.30 H             | 140                  | 51.4             | 14.1                     |
| 6                                                    | 11670.00        | 61.5 PK                 | 74.0           | -12.5       | 1.41 H             | 21                   | 39.0             | 22.5                     |
| 7                                                    | 11670.00        | 48.8 AV                 | 54.0           | -5.2        | 1.41 H             | 21                   | 26.3             | 22.5                     |
| 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                                                    | #5650.00        | 60.1 PK                 | 68.2           | -8.1        | 1.74 V             | 334                  | 46.8             | 13.3                     |
| 2                                                    | *5835.00        | 116.2 PK                |                |             | 1.74 V             | 334                  | 71.5             | 44.7                     |
| 3                                                    | *5835.00        | 104.1 AV                |                |             | 1.74 V             | 334                  | 59.4             | 44.7                     |
| 4                                                    | #5895.00        | 74.2 PK                 | 110.2          | -36.0       | 1.74 V             | 334                  | 60.2             | 14.0                     |
| 5                                                    | #5925.00        | 69.0 PK                 | 88.2           | -19.2       | 1.74 V             | 334                  | 54.9             | 14.1                     |
| 6                                                    | 11670.00        | 61.7 PK                 | 74.0           | -12.3       | 1.72 V             | 58                   | 39.2             | 22.5                     |
| 7                                                    | 11670.00        | 49.0 AV                 | 54.0           | -5.0        | 1.72 V             | 58                   | 26.5             | 22.5                     |

**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.

|                        |                 |                                          |                                                                      |
|------------------------|-----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE40) | <b>Channel</b>                           | CH 175 : 5875 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz  | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 60.5 PK                 | 68.2           | -7.7        | 1.26 H             | 141                  | 47.2             | 13.3                     |
| 2                                                    | *5875.00        | 114.9 PK                |                |             | 1.26 H             | 141                  | 70.2             | 44.7                     |
| 3                                                    | *5875.00        | 103.0 AV                |                |             | 1.26 H             | 141                  | 58.3             | 44.7                     |
| 4                                                    | #5895.00        | 92.6 PK                 | 110.2          | -17.6       | 1.26 H             | 141                  | 78.6             | 14.0                     |
| 5                                                    | #5925.00        | 77.3 PK                 | 88.2           | -10.9       | 1.26 H             | 141                  | 63.2             | 14.1                     |
| 6                                                    | 11750.00        | 61.0 PK                 | 74.0           | -13.0       | 1.52 H             | 41                   | 39.1             | 21.9                     |
| 7                                                    | 11750.00        | 48.4 AV                 | 54.0           | -5.6        | 1.52 H             | 41                   | 26.5             | 21.9                     |
| 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                                                    | #5650.00        | 61.3 PK                 | 68.2           | -6.9        | 1.79 V             | 324                  | 48.0             | 13.3                     |
| 2                                                    | *5875.00        | 115.6 PK                |                |             | 1.79 V             | 324                  | 70.9             | 44.7                     |
| 3                                                    | *5875.00        | 103.5 AV                |                |             | 1.79 V             | 324                  | 58.8             | 44.7                     |
| 4                                                    | #5895.00        | 93.3 PK                 | 110.2          | -16.9       | 1.79 V             | 324                  | 79.3             | 14.0                     |
| 5                                                    | #5925.00        | 78.8 PK                 | 88.2           | -9.4        | 1.79 V             | 324                  | 64.7             | 14.1                     |
| 6                                                    | 11750.00        | 61.2 PK                 | 74.0           | -12.8       | 1.71 V             | 66                   | 39.3             | 21.9                     |
| 7                                                    | 11750.00        | 48.5 AV                 | 54.0           | -5.5        | 1.71 V             | 66                   | 26.6             | 21.9                     |

**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.

|                        |                 |                                          |                                                                      |
|------------------------|-----------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE80) | <b>Channel</b>                           | CH 171 : 5855 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz  | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz  | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | 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                                                    | #5650.00        | 60.5 PK                 | 68.2           | -7.7        | 1.30 H             | 140                  | 47.2             | 13.3                     |
| 2                                                    | *5855.00        | 112.7 PK                |                |             | 1.30 H             | 140                  | 68.0             | 44.7                     |
| 3                                                    | *5855.00        | 100.4 AV                |                |             | 1.30 H             | 140                  | 55.7             | 44.7                     |
| 4                                                    | #5895.00        | 88.0 PK                 | 110.2          | -22.2       | 1.30 H             | 140                  | 74.0             | 14.0                     |
| 5                                                    | #5925.00        | 82.6 PK                 | 88.2           | -5.6        | 1.30 H             | 140                  | 68.5             | 14.1                     |
| 6                                                    | 11710.00        | 61.4 PK                 | 74.0           | -12.6       | 1.58 H             | 60                   | 39.0             | 22.4                     |
| 7                                                    | 11710.00        | 48.7 AV                 | 54.0           | -5.3        | 1.58 H             | 60                   | 26.3             | 22.4                     |
| 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                                                    | #5650.00        | 61.3 PK                 | 68.2           | -6.9        | 1.49 V             | 338                  | 48.0             | 13.3                     |
| 2                                                    | *5855.00        | 113.3 PK                |                |             | 1.49 V             | 338                  | 68.6             | 44.7                     |
| 3                                                    | *5855.00        | 100.8 AV                |                |             | 1.49 V             | 338                  | 56.1             | 44.7                     |
| 4                                                    | #5895.00        | 91.4 PK                 | 110.2          | -18.8       | 1.49 V             | 338                  | 77.4             | 14.0                     |
| 5                                                    | #5925.00        | 86.6 PK                 | 88.2           | -1.6        | 1.49 V             | 338                  | 72.5             | 14.1                     |
| 6                                                    | 11710.00        | 61.6 PK                 | 74.0           | -12.4       | 1.77 V             | 62                   | 39.2             | 22.4                     |
| 7                                                    | 11710.00        | 48.9 AV                 | 54.0           | -5.1        | 1.77 V             | 62                   | 26.5             | 22.4                     |

**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.
5. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

|                        |                  |                                          |                                                                      |
|------------------------|------------------|------------------------------------------|----------------------------------------------------------------------|
| <b>RF Mode</b>         | 802.11ax (HE160) | <b>Channel</b>                           | CH 163 : 5815 MHz                                                    |
| <b>Frequency Range</b> | 1 GHz ~ 40 GHz   | <b>Detector Function &amp; Bandwidth</b> | PK: RB=1 MHz, VB=3 MHz, DET=Peak<br>AV: RB=1 MHz, VB=10 Hz, DET=Peak |
| <b>Input Power</b>     | 120 Vac, 60 Hz   | <b>Environmental Conditions</b>          | 23°C, 66% RH                                                         |
| <b>Tested By</b>       | Luis Lee         |                                          |                                                                      |

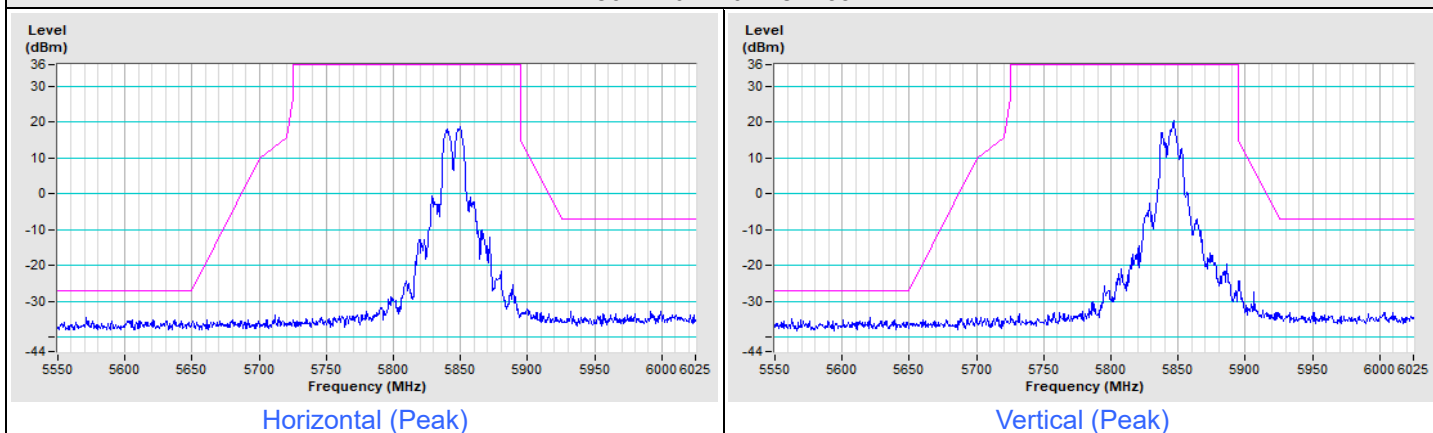
| Antenna Polarity & Test Distance : Horizontal at 3 m |                 |                         |                |             |                    |                      |                  |                          |
|------------------------------------------------------|-----------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 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                                                    | #5650.00        | 65.4 PK                 | 68.2           | -2.8        | 1.30 H             | 140                  | 52.1             | 13.3                     |
| 2                                                    | *5815.00        | 106.3 PK                |                |             | 1.30 H             | 140                  | 61.5             | 44.8                     |
| 3                                                    | *5815.00        | 93.7 AV                 |                |             | 1.30 H             | 140                  | 48.9             | 44.8                     |
| 4                                                    | #5895.00        | 70.3 PK                 | 110.2          | -39.9       | 1.30 H             | 140                  | 56.3             | 14.0                     |
| 5                                                    | #5925.00        | 67.5 PK                 | 88.2           | -20.7       | 1.30 H             | 140                  | 53.4             | 14.1                     |
| 6                                                    | 11630.00        | 61.6 PK                 | 74.0           | -12.4       | 1.23 H             | 19                   | 38.9             | 22.7                     |
| 7                                                    | 11630.00        | 48.4 AV                 | 54.0           | -5.6        | 1.23 H             | 19                   | 25.7             | 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                                                    | #5650.00        | 67.8 PK                 | 68.2           | -0.4        | 1.68 V             | 331                  | 54.5             | 13.3                     |
| 2                                                    | *5815.00        | 106.9 PK                |                |             | 1.68 V             | 331                  | 62.1             | 44.8                     |
| 3                                                    | *5815.00        | 94.6 AV                 |                |             | 1.68 V             | 331                  | 49.8             | 44.8                     |
| 4                                                    | #5895.00        | 71.2 PK                 | 110.2          | -39.0       | 1.68 V             | 331                  | 57.2             | 14.0                     |
| 5                                                    | #5925.00        | 68.3 PK                 | 88.2           | -19.9       | 1.68 V             | 331                  | 54.2             | 14.1                     |
| 6                                                    | 11630.00        | 61.7 PK                 | 74.0           | -12.3       | 1.70 V             | 59                   | 39.0             | 22.7                     |
| 7                                                    | 11630.00        | 48.6 AV                 | 54.0           | -5.4        | 1.70 V             | 59                   | 25.9             | 22.7                     |

**Remarks:**

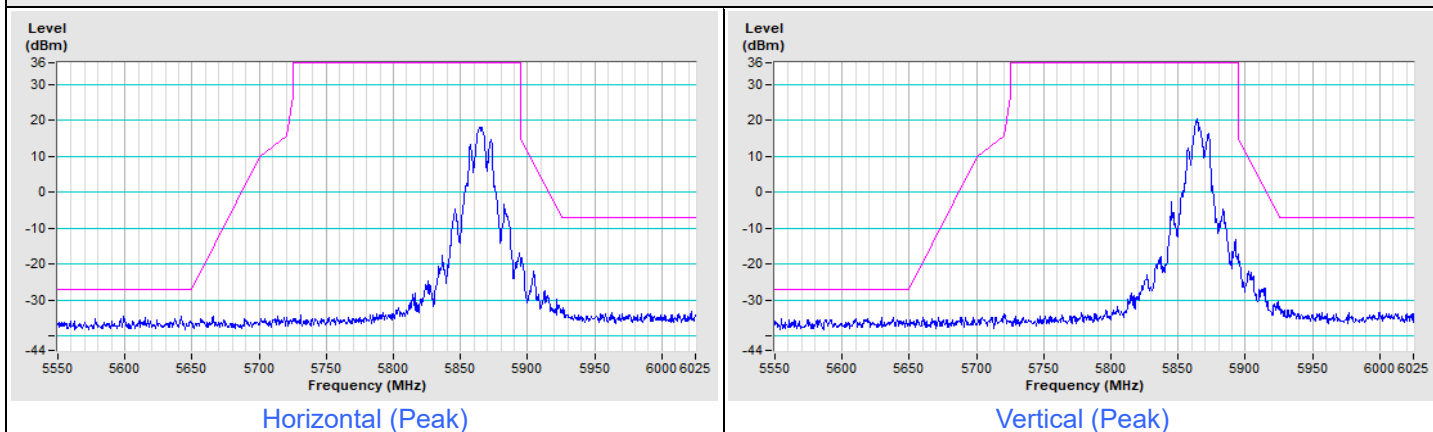
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency,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

|                 |                      |                               |                                  |
|-----------------|----------------------|-------------------------------|----------------------------------|
| Frequency Range | 5.55 GHz ~ 6.025 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak |
|-----------------|----------------------|-------------------------------|----------------------------------|

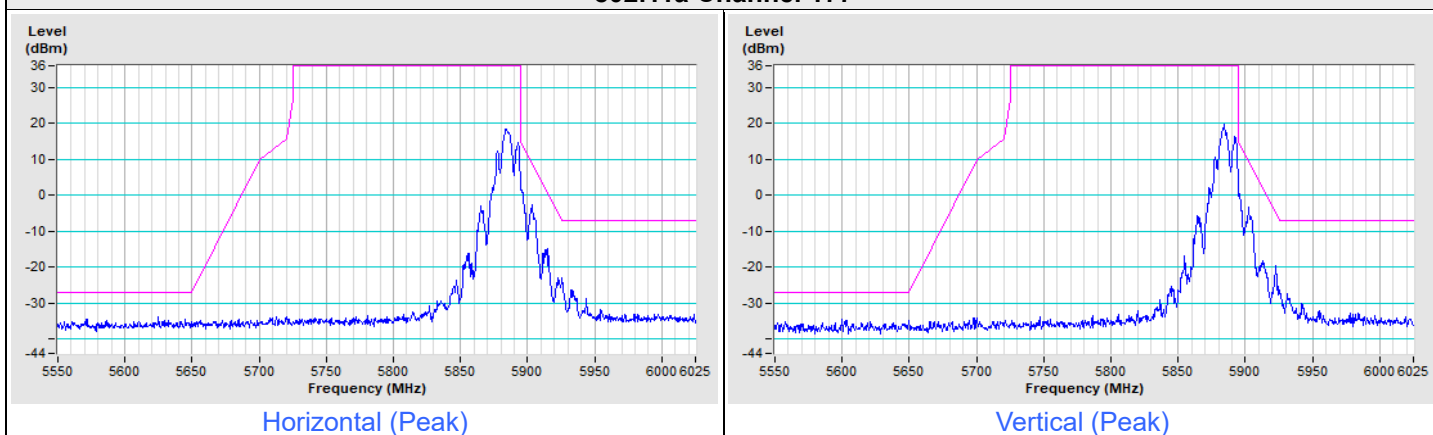
### 802.11a Channel 169



### 802.11a Channel 173

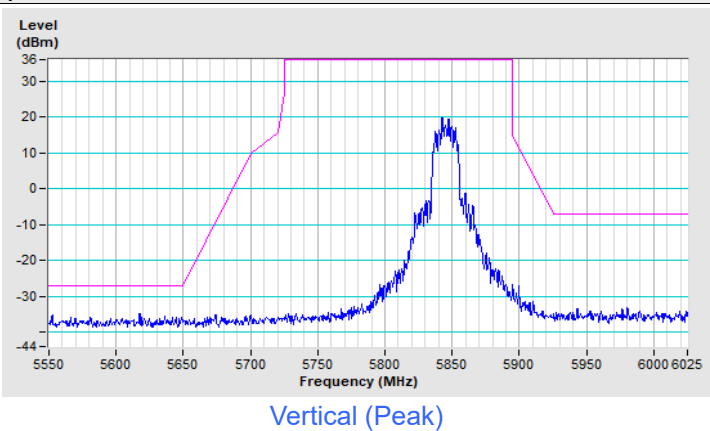
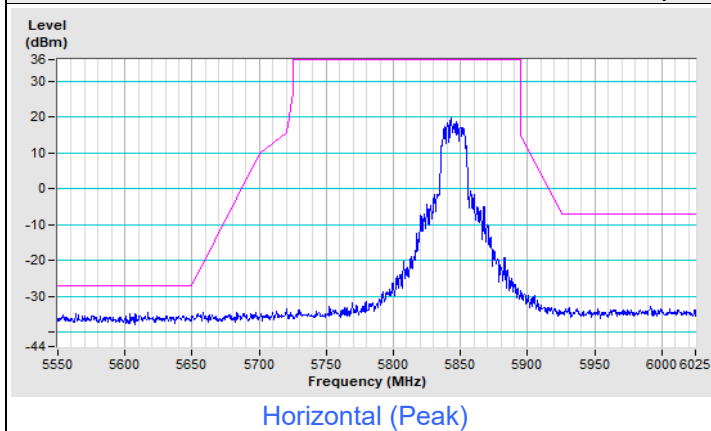


### 802.11a Channel 177

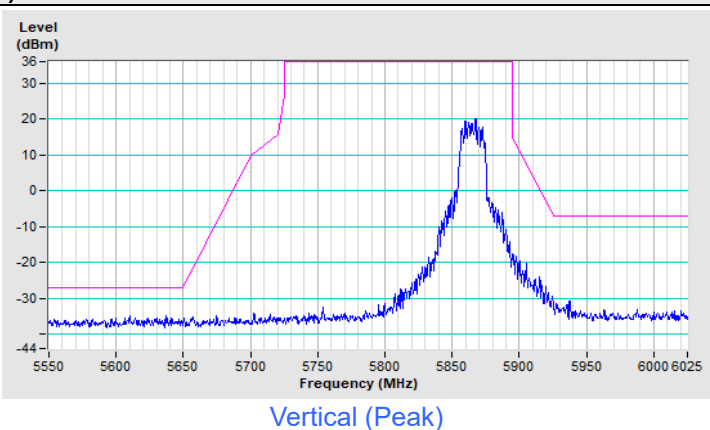
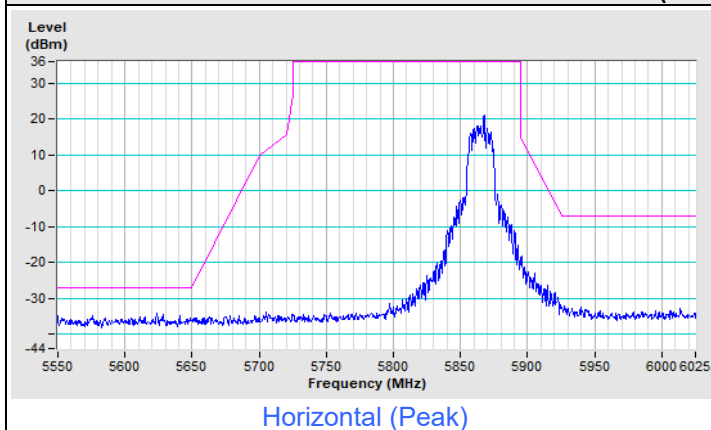


|                 |                      |                               |                                  |
|-----------------|----------------------|-------------------------------|----------------------------------|
| Frequency Range | 5.55 GHz ~ 6.025 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak |
|-----------------|----------------------|-------------------------------|----------------------------------|

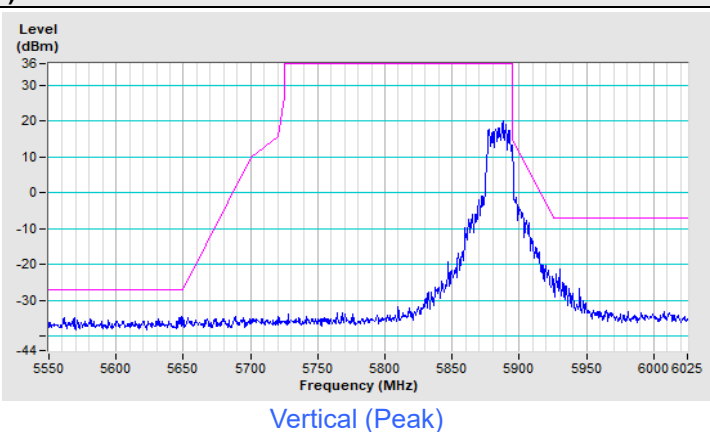
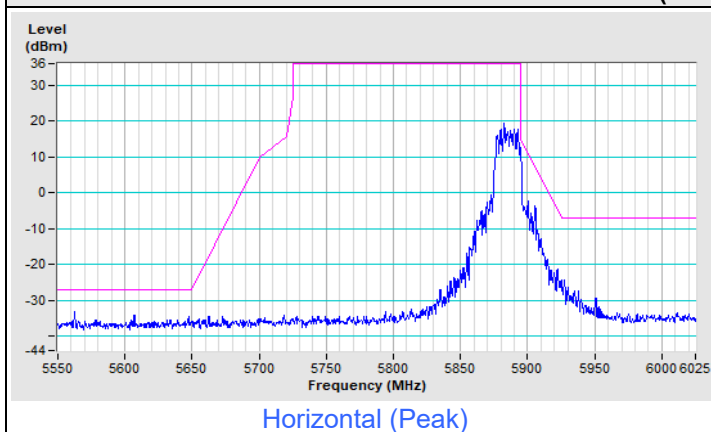
### 802.11ax (HE20) Channel 169



### 802.11ax (HE20) Channel 173

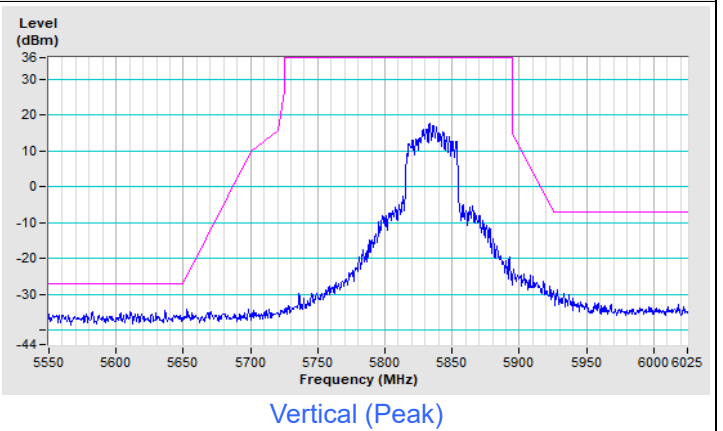
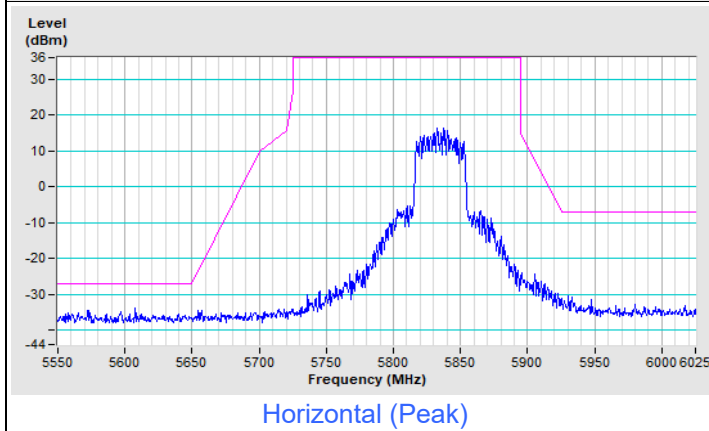


### 802.11ax (HE20) Channel 177

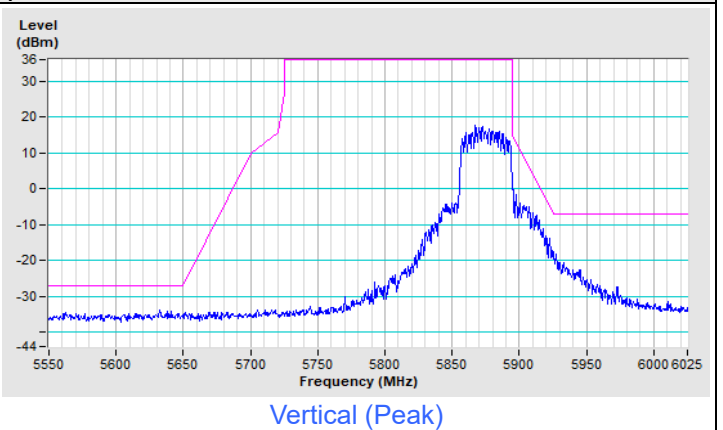
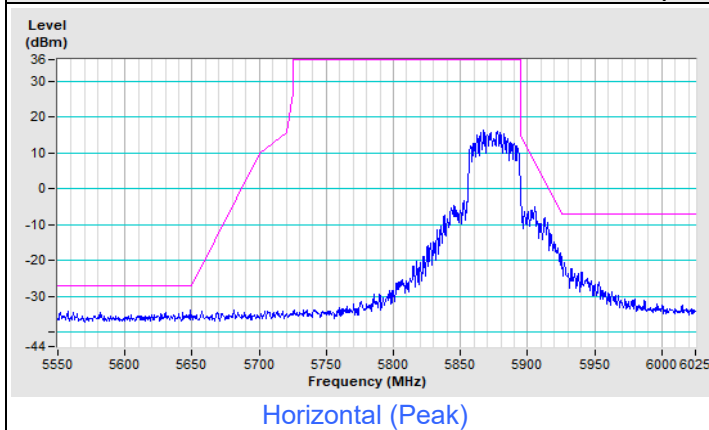


|                 |                      |                               |                                  |
|-----------------|----------------------|-------------------------------|----------------------------------|
| Frequency Range | 5.55 GHz ~ 6.025 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak |
|-----------------|----------------------|-------------------------------|----------------------------------|

### 802.11ax (HE40) Channel 167

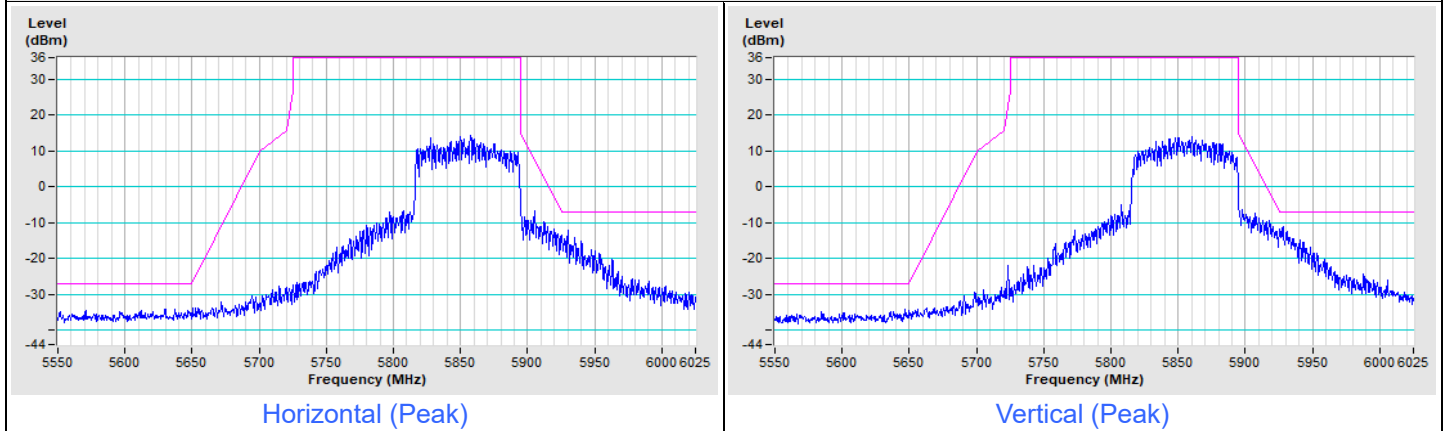


### 802.11ax (HE40) Channel 175



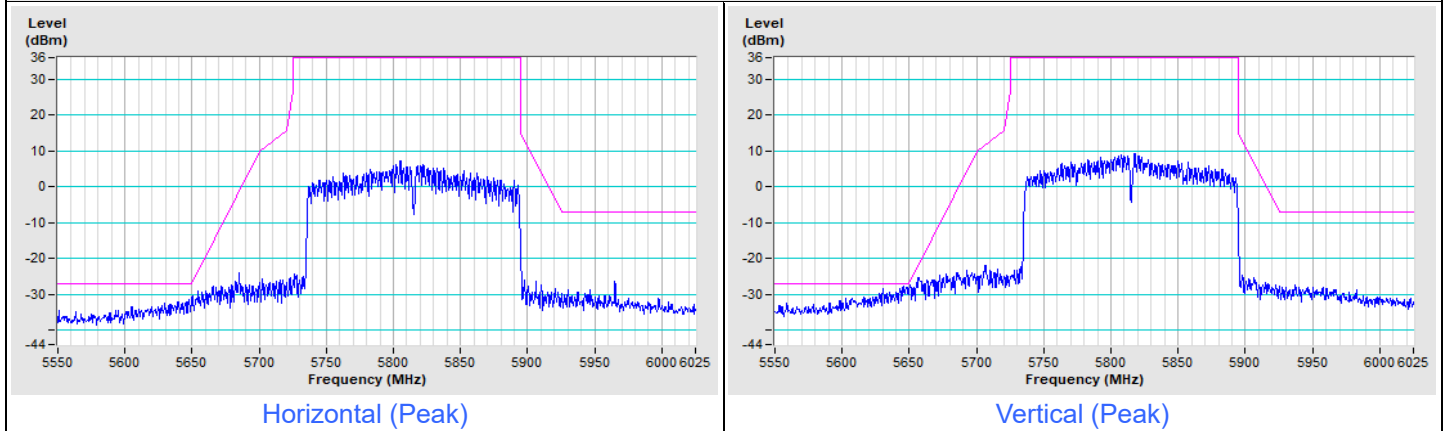
|                 |                      |                               |                                  |
|-----------------|----------------------|-------------------------------|----------------------------------|
| Frequency Range | 5.55 GHz ~ 6.025 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak |
|-----------------|----------------------|-------------------------------|----------------------------------|

### 802.11ax (HE80) Channel 171



|                 |                      |                               |                                  |
|-----------------|----------------------|-------------------------------|----------------------------------|
| Frequency Range | 5.55 GHz ~ 6.025 GHz | Detector Function & Bandwidth | PK: RB=1 MHz, VB=3 MHz, DET=Peak |
|-----------------|----------------------|-------------------------------|----------------------------------|

### 802.11ax (HE160) Channel 163



## 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.

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

**Lin Kou EMC/RF Lab**

Tel: 886-2-26052180

Fax: 886-2-26051924

**Hsin Chu EMC/RF/Telecom Lab**

Tel: 886-3-6668565

Fax: 886-3-6668323

**Hwa Ya EMC/RF/Safety Lab**

Tel: 886-3-3183232

Fax: 886-3-3270892

**Email:** [service.adt@bureauveritas.com](mailto:service.adt@bureauveritas.com)

**Web Site:** <http://ee.bureauveritas.com.tw>

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

--- END ---