# TEST REPORT

## CERTIFICATE OF CONFORMITY

| | |
|---|---|
| **Standard:** | **47 CFR FCC Part 15, Subpart E (Section 15.407)** |
| **Report No.:** | RFBEDV-WTW-P23030565-8 |
| **FCC ID:** | G95MGA5331 |
| **Product:** | WIFI Gateway |
| **Brand:** | Vantiva |
| **Test Model:** | MGA5331 |
| **Received Date:** | 2023/3/16 |
| **Test Date:** | 2023/4/10 ~ 2023/5/19 |
| **Issued Date:** | 2023/7/27 |
| **Applicant:** | Vantiva USA LLC |
| **Address:** | 4855 Peachtree Industrial Blvd. Suite 200 Norcross, Georgia 30092 |
| **Issued By:** | Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch<br>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 , **Date:** 2023/7/27

Jeremy Lin / Project Engineer

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Prepared by : Vera Huang / Specialist

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## Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| RFBEDV-WTW-P23030565-8 | Original Release | 2023/7/27 |

# 1 Certificate

| | |
|---|---|
| **Product:** | WIFI Gateway |
| **Brand:** | Vantiva |
| **Test Model:** | MGA5331 |
| **Sample Status:** | Engineering Sample |
| **Applicant:** | Vantiva USA LLC |
| **Test Date:** | 2023/4/10 ~ 2023/5/19 |
| **Standard:** | 47 CFR FCC Part 15, Subpart E (Section 15.407) |
| **Measurement procedure:** | ANSI C63.10-2013<br>KDB 789033 D02 General UNII Test Procedure New Rules v02r01<br>KDB 662911 D01 Multiple Transmitter Output v02r01<br>KDB 662911 D03 MIMO Antenna Gain Measurement v01 |

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)(2) | 26 dB Bandwidth | Pass | For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth. |
| 15.407(a)(1)<br>15.407(a)(2)<br>15.407(a)(3) | RF Output Power | Pass | Meet the requirement of limit. |
| 15.407(a)(1)<br>15.407(a)(2)<br>15.407(a)(3) | Power Spectral Density | Pass | Meet the requirement of limit. |
| 15.407(e) | 6 dB Bandwidth | Pass | Meet the requirement of limit.<br>(U-NII-3 Band only) |
| --- | Occupied Bandwidth | - | Reference only. |
| 15.407(g) | Frequency Stability | Pass | Meet the requirement of limit. |
| 15.407(b)(9) | AC Power Conducted Emissions | Pass | Minimum passing margin is -19.35 dB at 0.47800 MHz |
| 15.407(b)(9) | Unwanted Emissions below 1 GHz | Pass | Minimum passing margin is -2.3 dB at 299.66 MHz |
| 15.407(b) (1/10)<br>15.407(b) (2/10)<br>15.407(b) (3/10)<br>15.407(b) (4(i)/10) | Unwanted Emissions above 1 GHz | Pass | Minimum passing margin is -0.4 dB at 5725.00 MHz |
| 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>(±) |
|---|---|---|
| Occupied Bandwidth | - | 491.896 Hz |
| AC Power Conducted Emissions | 9 kHz ~ 30 MHz | 2.99 dB |
| Unwanted Emissions below 1 GHz | 9 kHz ~ 30 MHz | 3.59 dB |
| | 30 MHz ~ 1 GHz | 3.6 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 | WIFI Gateway |
| Brand | Vantiva |
| Test Model | MGA5331 |
| Status of EUT | Engineering sample |
| Power Supply Rating | Refer to Note |
| 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: 54/48/36/24/18/12/9/6Mbps<br>802.11n: up to 600Mbps<br>802.11ac: up to 3466.7Mbps<br>802.11ax: up to 4803.9Mbps |
| Operating Frequency | 5250 ~ 5320 MHz, 5500 ~ 5720 MHz |
| Number of Channel | 5250 ~ 5320 MHz:<br>802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4<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<br>5500 ~ 5720 MHz:<br>802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12<br>802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6<br>802.11ac (VHT80), 802.11ax (HE80): 3<br>802.11ac (VHT160), 802.11ax (HE160): 1 |
| Output Power | CDD mode:<br>5250 ~ 5320 MHz: 249.45 mW (23.97 dBm)<br>5500 ~ 5720 MHz: 240.328 mW (23.81 dBm)<br>Beamforming mode:<br>5250 ~ 5320 MHz: 249.45 mW (23.97 dBm)<br>5500 ~ 5720 MHz: 240.328 mW (23.81 dBm) |
| EUT Category | Indoor Access Point |

Note:

1. This report is issued as a supplementary report to BV CPS report no. RFBEDV-WTW-P23030565-1. The difference compared with original report is adding 5250 ~ 5320 MHz and 5500 ~ 5720 MHz by software.
2. The EUT uses following accessories.

| AC Adapter | | |
|---|---|---|
| Brand | Model | Specification |
| HONOR | ADS-42FI-12 12042EPCU-L | AC Input: 100-120V~ 50/60Hz 1.2A max.<br>DC Output: 12VDC, 3.5A, 42W<br>DC Output Cable: 1.5m, Non-Shielded |

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 Type | PCB | | | |
|---|---|---|---|---|
| Connector Type | ipex(MHF) | | | |
| Band | Max Gain (dBi) | | | |
| | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 5G Band 1 | 1.51 | -0.18 | 0.73 | -0.12 |
| 5G Band 2 | 1.03 | 1.28 | 2.03 | 0.09 |
| 5G Band 3 | 2.62 | -0.26 | 2.19 | 2.19 |
| 5G Band 4 | 0.47 | -0.29 | 2.81 | 0.47 |

| Band | Directional Gain (dBi) |
|---|---|
| 5G Band 1 | 5.6 |
| 5G Band 2 | 5.48 |
| 5G Band 3 | 6.01 |
| 5G Band 4 | 6.48 |

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

2. The EUT incorporates a MIMO function:

| 5 GHz Band | | |
|---|---|---|
| Modulation Mode | TX & RX Configuration | |
| 802.11a | 4TX | 4RX |
| 802.11n (HT20) | 4TX | 4RX |
| 802.11n (HT40) | 4TX | 4RX |
| 802.11ac (VHT20) | 4TX | 4RX |
| 802.11ac (VHT40) | 4TX | 4RX |
| 802.11ac (VHT80) | 4TX | 4RX |
| 802.11ac (VHT160) | 4TX | 4RX |
| 802.11ax (HE20) | 4TX | 4RX |
| 802.11ax (HE40) | 4TX | 4RX |
| 802.11ax (HE80) | 4TX | 4RX |
| 802.11ax (HE160) | 4TX | 4RX |

Note:

1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz, 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 more lower than it and investigated worst case to representative mode in test report.
4. The EUT device modulation technique OFDMA does not support partial RUs (resource units) and channel puncturing/bandwidth reduction mechanisms.

### 3.3 Channel List

**For 5250 ~ 5320 MHz**

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

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 52 | 5260 MHz | 60 | 5300 MHz |
| 56 | 5280 MHz | 64 | 5320 MHz |

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

| Channel | Frequency | Channel | Frequency |
|---|---|---|---|
| 54 | 5270 MHz | 62 | 5310 MHz |

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

| Channel | Frequency |
|---|---|
| 58 | 5290 MHz |

1 channels are provided for 802.11ac (VHT160), 802.11ax (HE160):

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

**For 5500 ~ 5720 MHz**

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

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

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

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

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

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

1 channels are provided for 802.11ac (VHT160), 802.11ax (HE160):

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

### 3.4 Test Mode Applicability and Tested Channel Detail

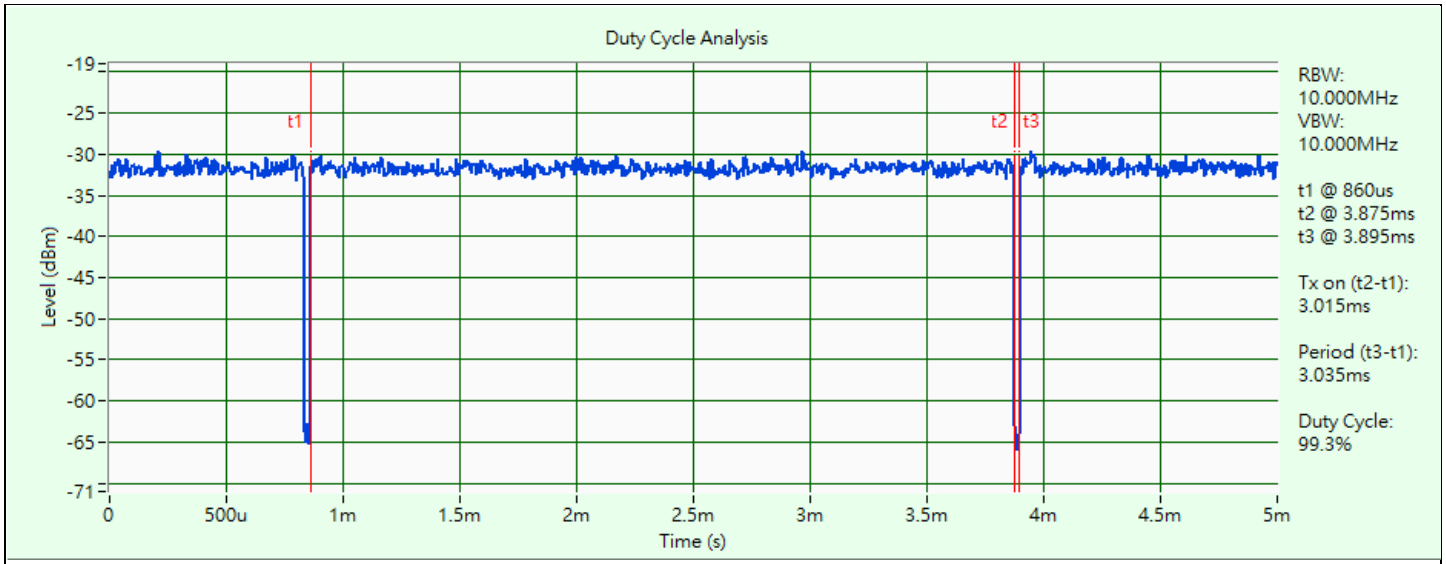
| | |
|---|---|
| Pre-Scan: | The EUT is designed to be positioned on the X-plane only. |

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

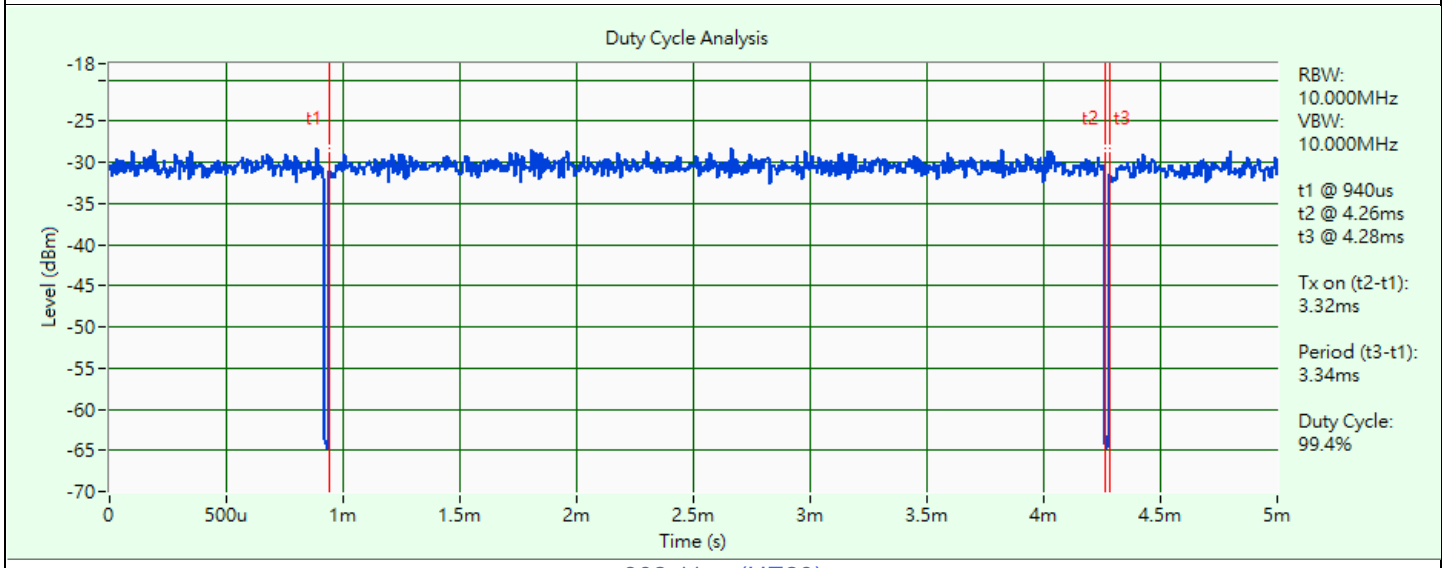
| Test Item | Mode | Signal Mode | Tested Channel | Modulation | Data Rate Parameter |
|---|---|---|---|---|---|
| 26 dB Bandwidth / Power Spectral Density / Occupied Bandwidth | 802.11a | CDD | 52, 60, 64, 100, 116, 140, 144 | BPSK | 6Mb/s |
| | 802.11ax (HE20) | CDD | 52, 60, 64, 100, 116, 140, 144 | BPSK | MCS0 |
| | 802.11ax (HE40) | CDD | 54, 62, 102, 110, 134, 142 | BPSK | MCS0 |
| | 802.11ax (HE80) | CDD | 58, 106, 122, 138 | BPSK | MCS0 |
| | 802.11ax (HE160) | CDD | 50, 114 | BPSK | MCS0 |
| RF Output Power | 802.11a | CDD | 52, 60, 64, 100, 116, 140, 144 | BPSK | 6Mb/s |
| | 802.11n (HT20) | CDD & Beamforming | 52, 60, 64, 100, 116, 140, 144 | BPSK | MCS0 |
| | 802.11n (HT40) | CDD & Beamforming | 54, 62, 102, 110, 134, 142 | BPSK | MCS0 |
| | 802.11ac (VHT20) | CDD & Beamforming | 52, 60, 64, 100, 116, 140, 144 | BPSK | MCS0 |
| | 802.11ac (VHT40) | CDD & Beamforming | 54, 62, 102, 110, 134, 142 | BPSK | MCS0 |
| | 802.11ac (VHT80) | CDD & Beamforming | 58, 106, 122, 138 | BPSK | MCS0 |
| | 802.11ac (VHT160) | CDD & Beamforming | 50, 114 | BPSK | MCS0 |
| | 802.11ax (HE20) | CDD & Beamforming | 52, 60, 64, 100, 116, 140, 144 | BPSK | MCS0 |
| | 802.11ax (HE40) | CDD & Beamforming | 54, 62, 102, 110, 134, 142 | BPSK | MCS0 |
| | 802.11ax (HE80) | CDD & Beamforming | 58, 106, 122, 138 | BPSK | MCS0 |
| | 802.11ax (HE160) | CDD & Beamforming | 50, 114 | BPSK | MCS0 |
| 6 dB Bandwidth | 802.11a | CDD | 144 | BPSK | 6Mb/s |
| | 802.11ax (HE20) | CDD | 144 | BPSK | MCS0 |
| | 802.11ax (HE40) | CDD | 142 | BPSK | MCS0 |
| | 802.11ax (HE80) | CDD | 138 | BPSK | MCS0 |
| Frequency Stability | 802.11a | - | 52 | un-modulation | - |
| AC Power Conducted Emissions | 802.11ax (HE40) | CDD | 62 | BPSK | MCS0 |
| Unwanted Emissions below 1 GHz | 802.11ax (HE40) | CDD | 62 | BPSK | MCS0 |
| Unwanted Emissions above 1 GHz | 802.11a | CDD | 52, 60, 64, 100, 116, 140, 144 | BPSK | 6Mb/s |
| | 802.11ax (HE20) | CDD | 52, 60, 64, 100, 116, 140, 144 | BPSK | MCS0 |
| | 802.11ax (HE40) | CDD | 54, 62, 102, 110, 134, 142 | BPSK | MCS0 |
| | 802.11ax (HE80) | CDD | 58, 106, 122, 138 | BPSK | MCS0 |
| | 802.11ax (HE160) | CDD | 50, 114 | BPSK | MCS0 |

### 3.5 Duty Cycle of Test Signal

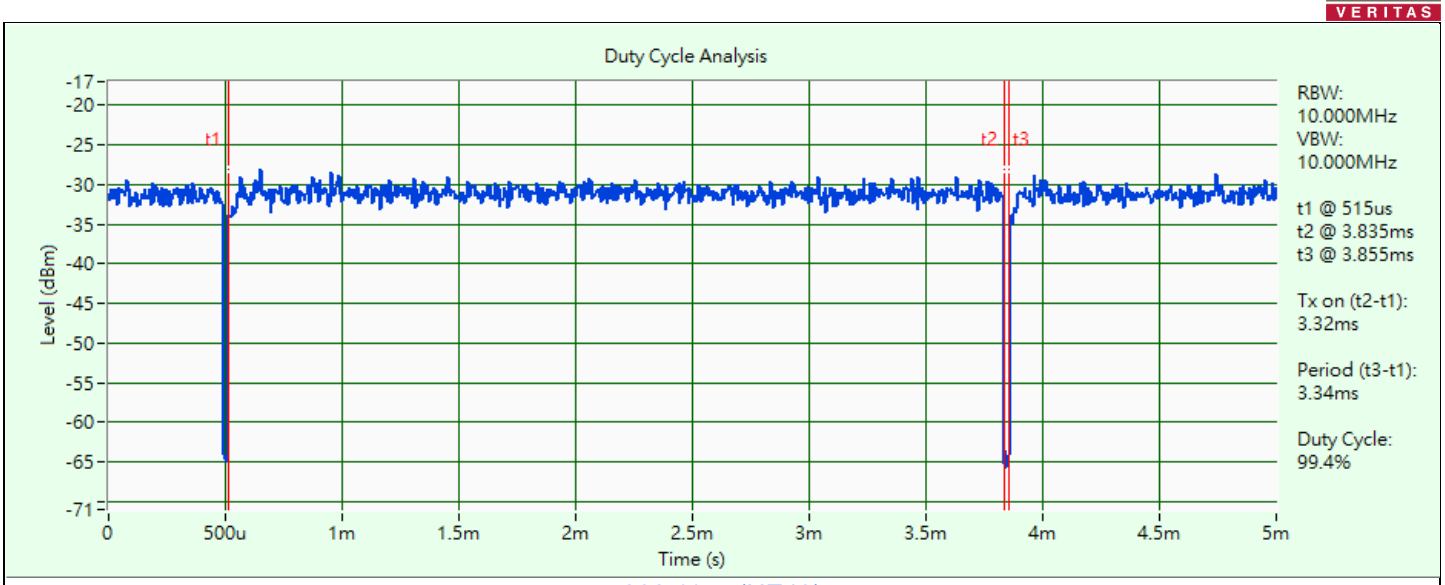
**802.11a:** Duty cycle = 3.015 ms / 3.035 ms x 100% = 99.3%
**802.11ax (HE20):** Duty cycle = 3.32 ms / 3.34 ms x 100% = 99.4%
**802.11ax (HE40):** Duty cycle = 3.32 ms / 3.34 ms x 100% = 99.4%
**802.11ax (HE80):** Duty cycle = 3.175 ms / 3.19 ms x 100% = 99.5%
**802.11ax (HE160):** Duty cycle = 3.005 ms / 3.025 ms x 100% = 99.3%



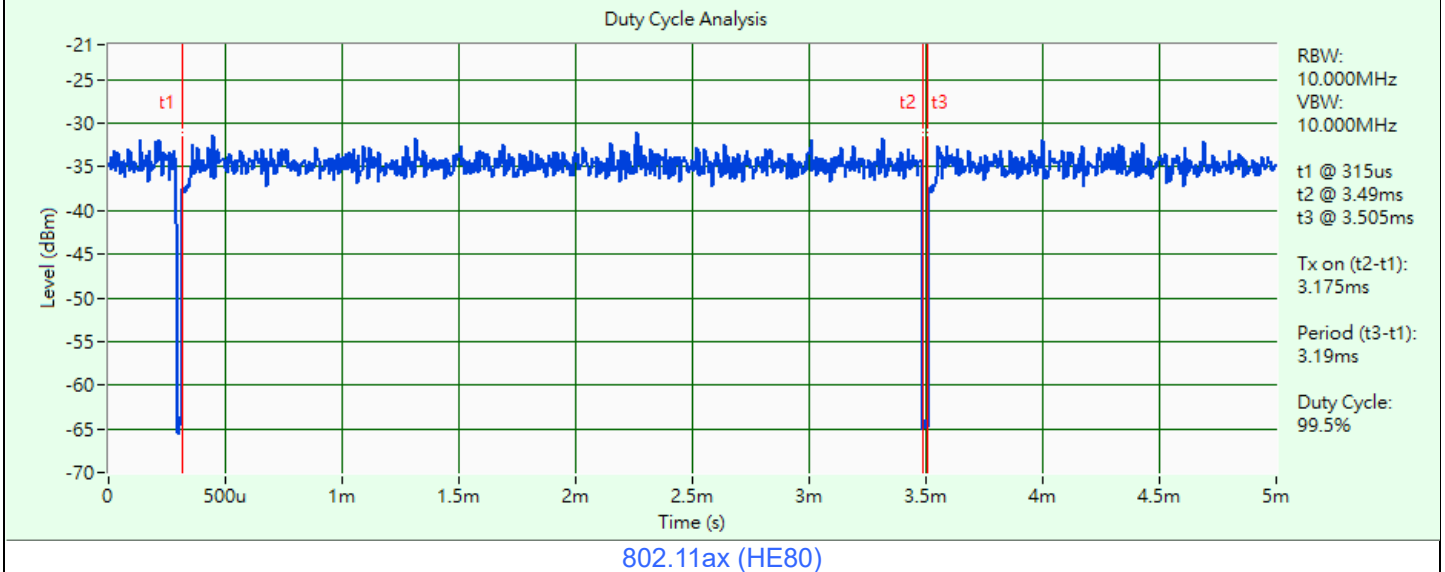

802.11a



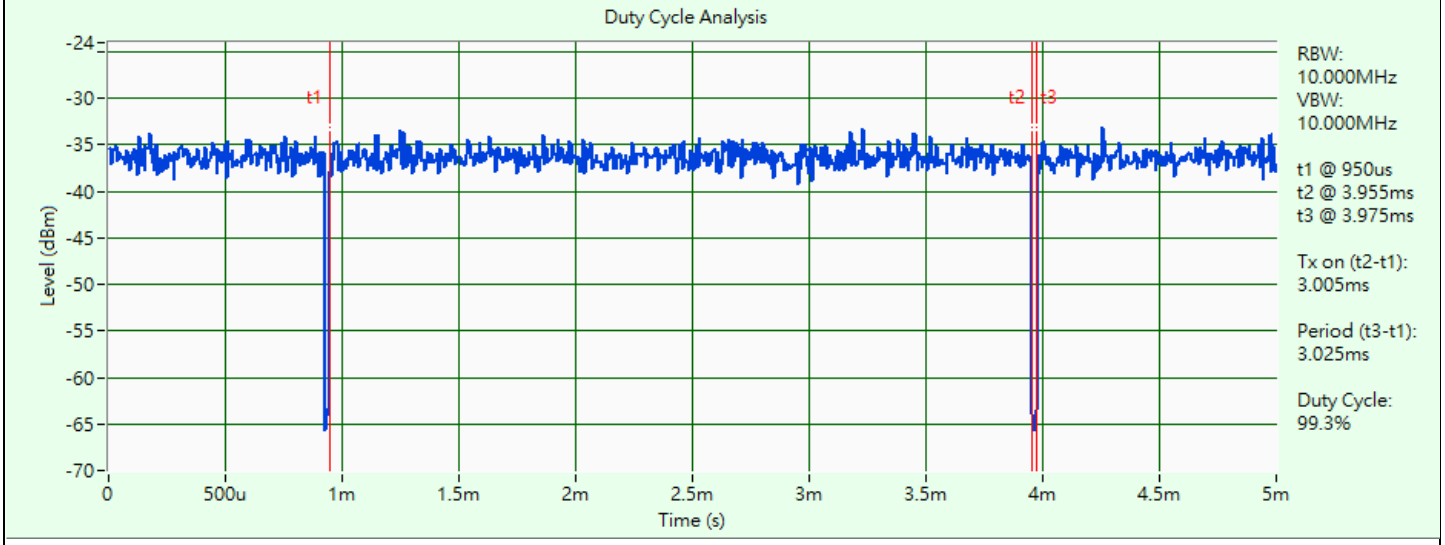

802.11ax (HE20)




802.11ax (HE40)




802.11ax (HE80)

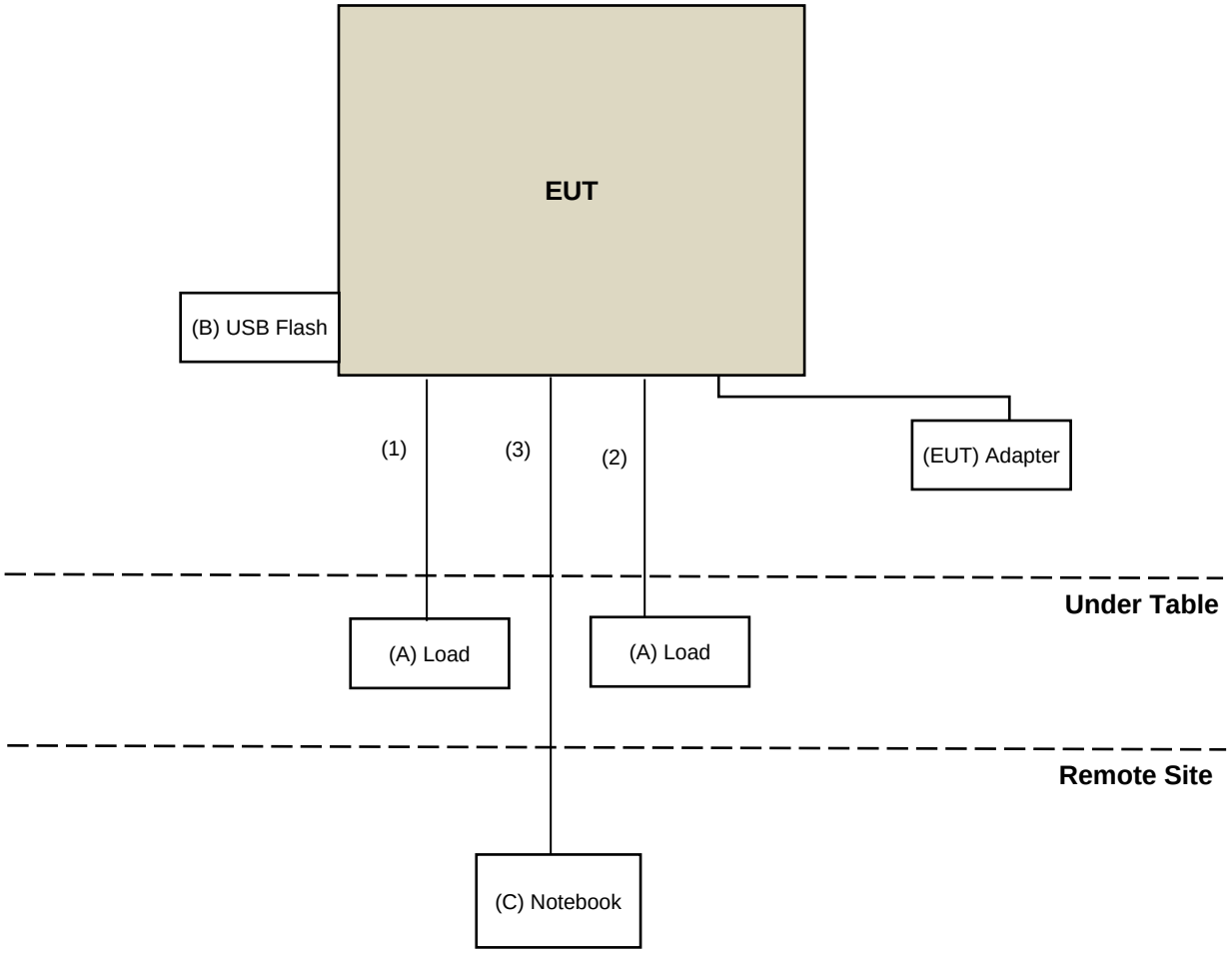



802.11ax (HE160)

### 3.6 Test Program Used and Operation Descriptions

Controlling software Mtool 3.2.1.5 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices




### 3.8 Configuration of Peripheral Devices and Cable Connections

| ID | Product | Brand | Model No. | Serial No. | FCC ID | Remarks |
|---|---|---|---|---|---|---|
| A | Load*2 | N/A | N/A | N/A | N/A | Provided by Lab |
| B | USB Flash | SanDisk | SDDDC3-032G | N/A | N/A | Provided by Lab |
| C | Notebook | Lenovo | X250ALT5 | PC06HPSE | N/A | Provided by Lab |

| ID | Cable Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks |
|---|---|---|---|---|---|---|
| 1 | RJ11 Cable | 1 | 1.5 | NO | 0 | Provided by Lab |
| 2 | RJ45 Cable | 4 | 1.5 | NO | 0 | Provided by Lab |
| 3 | RJ45 Cable | 1 | 10 | NO | 0 | 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 26 dB Bandwidth

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| Signal & Spectrum Analyzer<br>R&S | FSV3044 | 101105 | 2023/2/22 | 2024/2/21 |
| Software<br>BV | ADT_RF Test Software V6.6.5.4 | N/A | N/A | N/A |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/21 ~ 2023/5/19

## 4.2 RF Output Power

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| Signal & Spectrum Analyzer<br>R&S | FSV3044 | 101105 | 2023/2/22 | 2024/2/21 |
| Software<br>BV | ADT_RF Test Software V6.6.5.4 | N/A | N/A | N/A |
| USB Wideband Power Sensor<br>KEYSIGHT | U2021XA | MY55050005/MY55190004/ MY55190007/MY55210005 | 2022/7/13 | 2023/7/12 |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/21 ~ 2023/5/19

## 4.3 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

## 4.4 6 dB Bandwidth

Refer to section 4.1 to get information of the instruments.

## 4.5 Occupied Bandwidth

Refer to section 4.1 to get information of the instruments.

### 4.6 Frequency Stability

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| AC Power Supply<br>JIN YIH Technology | 6905S | 1720444 | N/A | N/A |
| Digital Multimeter<br>Fluke | 87-III | 70360742 | 2022/6/23 | 2023/6/22 |
| Signal & Spectrum Analyzer<br>R&S | FSV3044 | 101105 | 2023/2/22 | 2024/2/21 |
| Software<br>BV | ADT_RF Test Software V6.6.5.4 | N/A | N/A | N/A |
| Temperature & Humidity Chamber<br>Terchy | HRM-120RF | 931022 | 2022/12/27 | 2023/12/26 |

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/21 ~ 2023/5/19

### 4.7 AC Power Conducted Emissions

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| LISN<br>R&S | ESH3-Z5 | 100311 | 2022/9/12 | 2023/9/11 |
| LISN<br>ROHDE & SCHWARZ | ENV216 | 101826 | 2023/3/23 | 2024/3/22 |
| RF Coaxial Cable<br>WOKEN | 5D-FB | Cable-cond1-01 | 2023/1/7 | 2024/1/6 |
| Software<br>BVADT | BVADT_Cond_ V7.3.7.4 | N/A | N/A | N/A |
| Test Receiver<br>Rohde&Schwarz | ESCI | 100613 | 2022/12/5 | 2023/12/4 |
| V-LISN<br>Schwarzbeck | NNBL 8226-2 | 8226-142 | 2022/8/31 | 2023/8/30 |

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2023/5/17

### 4.8 Unwanted Emissions below 1 GHz

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| Antenna Tower &Turn<br>BV ADT | AT100 | AT93021705 | N/A | N/A |
| Bi_Log Antenna<br>Schwarbeck | VULB9168 | 9168-160 | 2022/10/20 | 2023/10/19 |
| Loop Antenna<br>EMCI | EM-6879 | 269 | 2022/9/19 | 2023/9/18 |
| Loop Antenna<br>TESEQ | HLA 6121 | 45745 | 2022/7/27 | 2023/7/26 |
| Pre-amplifier<br>EMCI | EMC001340 | 980201 | 2022/9/23 | 2023/9/22 |
| Preamplifier<br>Agilent | 8447D | 2944A10638 | 2022/5/14 | 2023/5/13 |
| RF Coaxial Cable<br>EMCI | 5D-NM-BM | 140903+140902 | 2023/1/7 | 2024/1/6 |
| RF Coaxial Cable<br>WOKEN | 8D-FB | Cable-CH9-01 | 2022/5/14 | 2023/5/13 |
| Software<br>BV ADT | ADT_Radiated_<br>V7.6.15.9.5 | N/A | N/A | N/A |
| Spectrum Analyzer<br>R&S | FSW43 | 101867 | 2022/12/30 | 2023/12/29 |
| Test Receiver<br>KEYSIGHT | N9038A | MY55420137 | 2022/4/27 | 2023/4/26 |
| 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 4.
2. Tested Date: 2023/4/13

### 4.9 Unwanted Emissions above 1 GHz

| Description<br>Manufacturer | Model No. | Serial No. | Calibrated Date | Calibrated Until |
|---|---|---|---|---|
| Antenna Tower &Turn<br>BV ADT | AT100 | AT93021705 | N/A | N/A |
| Boresight antenna tower fixture<br>BV | BAF-02 | 5 | N/A | N/A |
| Horn Antenna<br>Schwarzbeck | 9120D | 9120D-1169 | 2022/11/13 | 2023/11/12 |
| | BBHA 9170 | 9170-480 | 2022/11/13 | 2023/11/12 |
| | | BBHA9170243 | 2022/11/13 | 2023/11/12 |
| Pre-Ammlifier<br>EMCI | EMC 184045 | 980116 | 2022/10/1 | 2023/9/30 |
| Preamplifier<br>Agilent | 8449B | 3008A02367 | 2023/2/15 | 2024/2/14 |
| RF Coaxial Cable<br>EMCI | EMC102-KM-KM-600 | 150928 | 2022/7/9 | 2023/7/8 |
| | EMC102-KM-KM-3000 | 150929 | 2022/7/9 | 2023/7/8 |
| RF Coaxial Cable<br>HUBER+SUHNER | SUCOFLEX 104 | CABLE-CH9-(250795/4) | 2023/1/7 | 2024/1/6 |
| RF Coaxial Cable<br>HUBER+SUHNER&EMCI | SUCOFLEX 104&<br>EMC104-SM-SM8000 | CABLE-CH9-02<br>(248780+171006) | 2023/1/7 | 2024/1/6 |
| RF FLITER<br>MICRO-TRONICS | BRM17690 | 004 | 2023/1/11 | 2024/1/10 |
| | BRM50716 | 060 | 2023/1/11 | 2024/1/10 |
| Software<br>BV ADT | ADT_Radiated_<br>V7.6.15.9.5 | N/A | N/A | N/A |
| Spectrum Analyzer<br>R&S | FSW43 | 101867 | 2022/12/30 | 2023/12/29 |
| Test Receiver<br>KEYSIGHT | N9038A | MY55420137 | 2022/4/27 | 2023/4/26 |
| 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 4.
2. Tested Date: 2023/4/10 ~ 2023/4/12

# 5 Limits of Test Items

## 5.1 26 dB Bandwidth

The results are for reference only.

## 5.2 RF Output Power

| Operation Band | EUT Category | Limit |
|---|---|---|
| U-NII-1 | Outdoor Access Point | 1 Watt (30 dBm)<br>(Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon) |
| | Fixed point-to-point Access Point | 1 Watt (30 dBm) |
| | Indoor Access Point | 1 Watt (30 dBm) |
| | Mobile and Portable client device | 250mW (24 dBm) |

| Operation Band | Limit |
|---|---|
| U-NII-2A | 250 mW (24 dBm) or 11 dBm+10 log B* |
| U-NII-2C | 250 mW (24 dBm) or 11 dBm+10 log B* |
| U-NII-3 | 1 Watt (30 dBm) |

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 D01 Multiple Transmitter Output 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 ≥ 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.

## 5.3 Power Spectral Density

| Operation Band | EUT Category | Limit |
|---|---|---|
| U-NII-1 | Outdoor Access Point | 17 dBm/MHz |
| | Fixed point-to-point Access Point | |
| | Indoor Access Point | |
| | Mobile and Portable client device | 11 dBm/MHz |

| Operation Band | Limit |
|---|---|
| U-NII-2A | 11 dBm/MHz |
| U-NII-2C | 11 dBm/MHz |
| U-NII-3 | 30 dBm/500 kHz |

## 5.4 6 dB Bandwidth

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

## 5.5 Occupied Bandwidth

The results are for reference only.

### 5.6 Frequency Stability

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

### 5.7 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.

### 5.8 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).

## 5.9 Unwanted Emissions above 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) |
|---|---|---|
| Above 960 | 500 | 3 |

Notes:

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

Limits of unwanted emission out of the restricted bands

| Applicable To | Limit | |
|---|---|---|
| 789033 D02 General UNII Test Procedure New Rules v02r01 | Field Strength at 3 m | |
| | PK: 74 (dBµV/m) | AV: 54 (dBµV/m) |

For transmitters operating in the 5.15-5.25 GHz band:

| Applicable To | EIRP Limit | Equivalent Field Strength at 3 m |
|---|---|---|
| 15.407(b)(1) | PK: -27 (dBm/MHz) | PK: 68.2 (dBµV/m) |

For transmitters operating in the 5.25-5.35 GHz band:

| Applicable To | EIRP Limit | Equivalent Field Strength at 3 m |
|---|---|---|
| 15.407(b)(2) | PK: -27 (dBm/MHz) | PK: 68.2 (dBµV/m) |

For transmitters operating in the 5.47-5.725 GHz band:

| Applicable To | EIRP Limit | Equivalent Field Strength at 3 m |
|---|---|---|
| 15.407(b)(3) | PK: -27 (dBm/MHz) | PK: 68.2 (dBµV/m) |

For transmitters operating in the 5.725-5.850 GHz band:

| Applicable To | EIRP Limit | Equivalent Field Strength at 3 m |
|---|---|---|
| 15.407(b)(4)(i) | PK: -27 (dBm/MHz) *1<br>PK: 10 (dBm/MHz) *2<br>PK: 15.6 (dBm/MHz) *3<br>PK: 27 (dBm/MHz) *4 | PK: 68.2 (dBµV/m) *1<br>PK: 105.2 (dBµV/m) *2<br>PK: 110.8 (dBµV/m) *3<br>PK: 122.2 (dBµV/m) *4 |
| *1 beyond 75 MHz or more above of the band edge.<br>*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.<br>*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.<br>*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. | | |

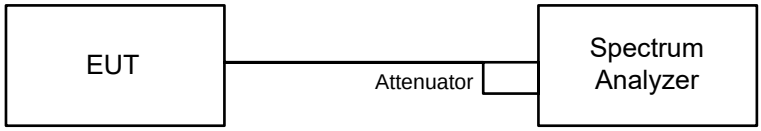
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

# 6 Test Arrangements

## 6.1 26 dB Bandwidth

### 6.1.1 Test Setup



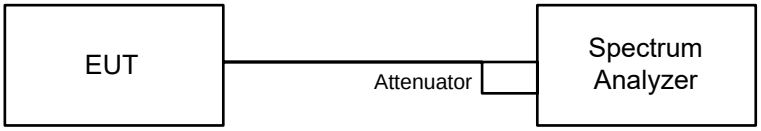

### 6.1.2 Test Procedure

a. Set RBW = approximately 1% of the emission bandwidth.
b. Set the VBW > RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

## 6.2 RF Output Power

6.2.1 Test Setup


**For channel straddling:**




6.2.2 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.

**For channel straddling:**

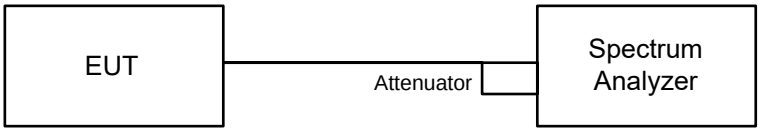
Method SA-1

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
c. Sweep points ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
d. Sweep time = auto, trigger set to “free run”.
e. Trace average at least 100 traces in power averaging mode.
f. Record the max value

Note: When measuring straddle channel power, use compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

## 6.3 Power Spectral Density

6.3.1 Test Setup




6.3.2 Test Procedure

**For specified measurement bandwidth 1 MHz:**
Method SA-1

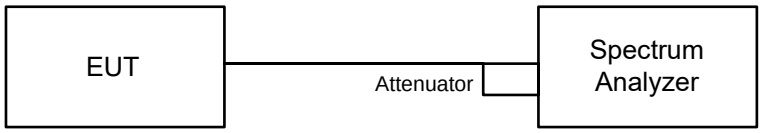
a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
c. Sweep points ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
d. Sweep time = auto, trigger set to “free run”.
e. Trace average at least 100 traces in power averaging mode.
f. Record the max value

**For specified measurement bandwidth 500 kHz:**
Method SA-1

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
c. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300 kHz)
d. Sweep points ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
e. Sweep time = auto, trigger set to “free run”.
f. Trace average at least 100 traces in power averaging mode.
g. Record the max value

## 6.4 6 dB Bandwidth

6.4.1 Test Setup

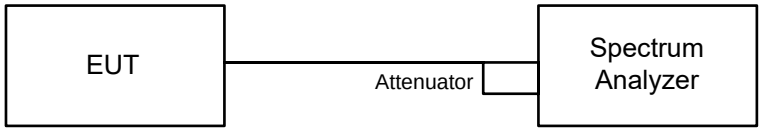



6.4.2 Test Procedure

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

## 6.5 Occupied Bandwidth

6.5.1 Test Setup

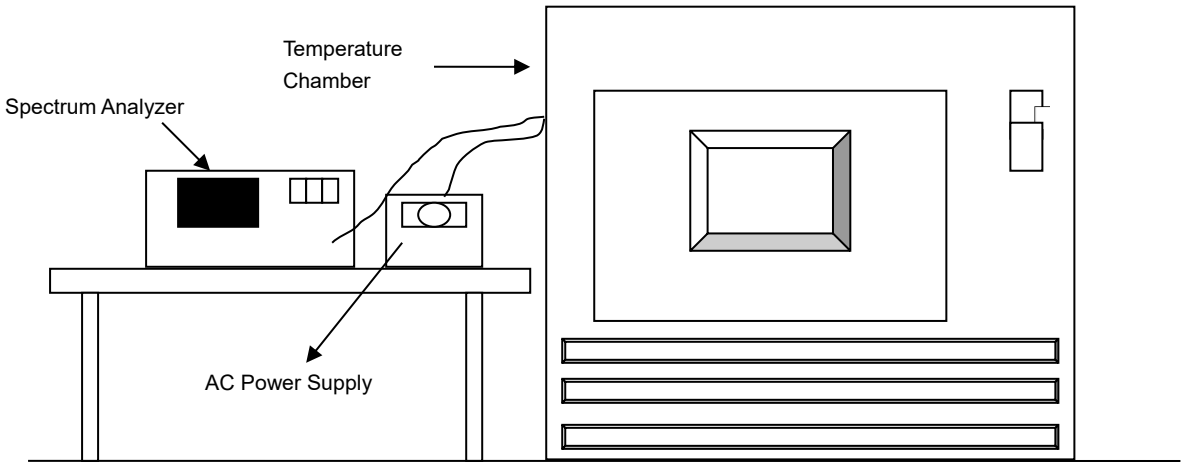



6.5.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to Sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

## 6.6 Frequency Stability

6.6.1 Test Setup

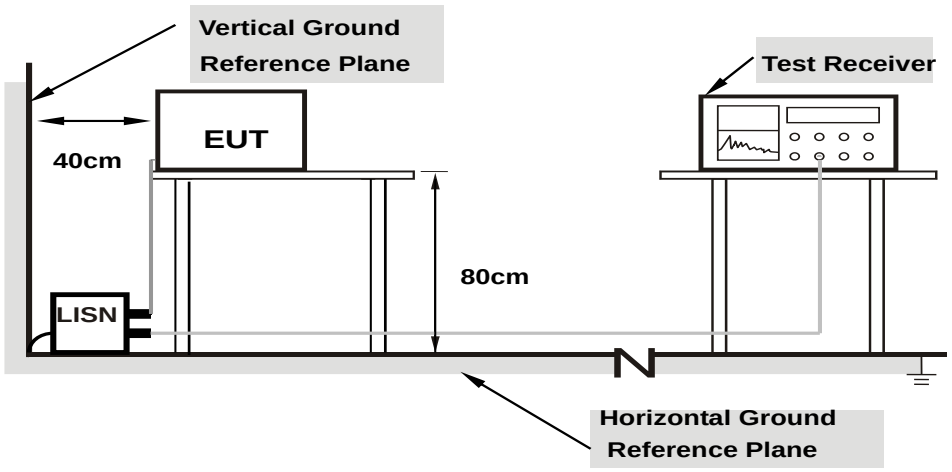



6.6.2 Test Procedure

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

## 6.7 AC Power Conducted Emissions

### 6.7.1 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).

### 6.7.2 Test Procedure

a. 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.

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

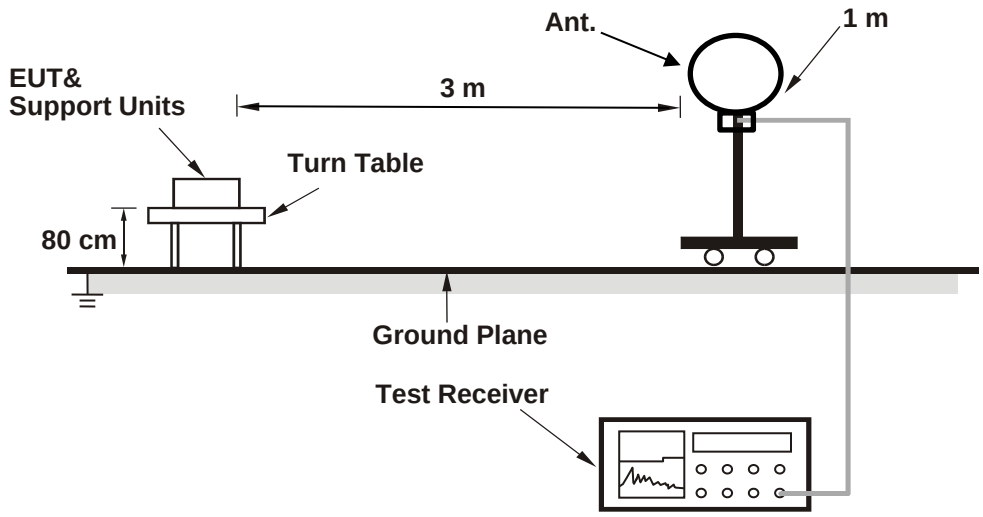
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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.

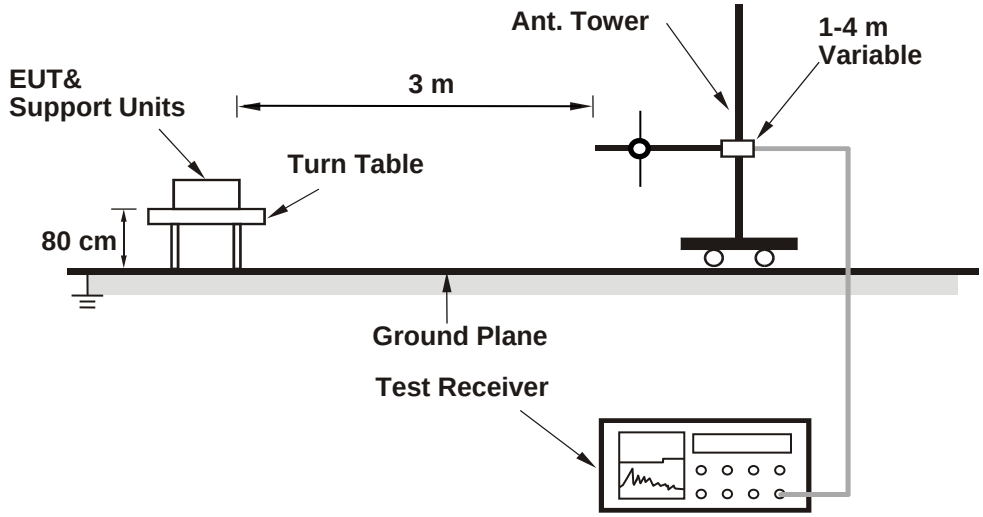
## 6.8 Unwanted Emissions below 1 GHz

6.8.1 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).

6.8.2 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.

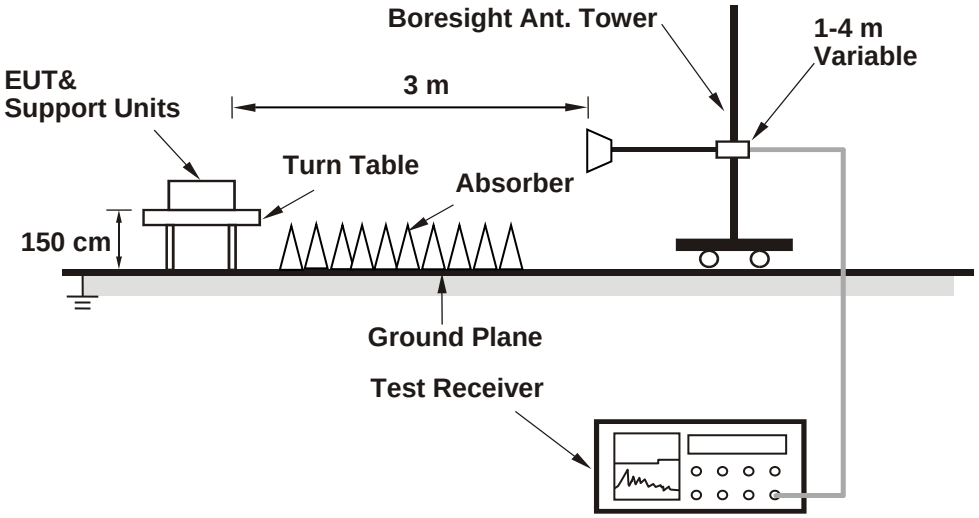
e. The test-receiver system was set to Quasi-peak(QP) detect function, Average(AV) detect function, Peak(PK) detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP), Average detection (AV), Peak detection (PK) at frequency (30MHz to 1 GHz).
2. All modes of operation were investigated and the worst-case emissions are reported.

## 6.9 Unwanted Emissions above 1 GHz

6.9.1 Test Setup




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

6.9.2 Test Procedure

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

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

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

d. 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 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:

1. 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.
2. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1 GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

# 7 Test Results of Test Item

## 7.1 26 dB Bandwidth

| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 23°C, 67% RH | Tested By: | Chris Lin / Wayne Lin |
|---|---|---|---|---|---|

**802.11a**

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 52 | 5260 | 21.94 | 21.87 | 21.83 | 21.83 |
| 60 | 5300 | 21.86 | 21.85 | 21.97 | 21.95 |
| 64 | 5320 | 25.48 | 23.17 | 26.46 | 23.27 |
| 100 | 5500 | 23.83 | 22.55 | 25.28 | 23.32 |
| 116 | 5580 | 21.93 | 21.75 | 21.80 | 21.83 |
| 140 | 5700 | 21.90 | 21.82 | 21.98 | 21.75 |
| 144 (U-NII-2C) | 5720 | 16.01 | 15.96 | 16.00 | 15.94 |
| 144 (U-NII-3) | 5720 | 5.91 | 6.00 | 5.89 | 5.87 |

| Determined Output Power Limit | | | | | |
|---|---|---|---|---|---|
| Channel Number | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) | | |
| 52 | 5260 | 21.83 | 24.39 | > | 24 |
| 60 | 5300 | 21.85 | 24.39 | > | 24 |
| 64 | 5320 | 23.17 | 24.64 | > | 24 |
| 100 | 5500 | 22.55 | 24.53 | > | 24 |
| 116 | 5580 | 21.75 | 24.37 | > | 24 |
| 140 | 5700 | 21.75 | 24.37 | > | 24 |
| 144 (U-NII-2C) | 5720 | 15.94 | 23.02 | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE20)

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 52 | 5260 | 21.99 | 22.07 | 21.86 | 21.97 |
| 60 | 5300 | 22.13 | 21.93 | 21.84 | 21.95 |
| 64 | 5320 | 26.17 | 26.07 | 27.51 | 28.20 |
| 100 | 5500 | 23.67 | 26.46 | 24.36 | 26.20 |
| 116 | 5580 | 22.03 | 22.08 | 22.14 | 21.95 |
| 140 | 5700 | 21.93 | 22.08 | 22.05 | 22.08 |
| 144 (U-NII-2C) | 5720 | 16.10 | 16.12 | 16.09 | 16.07 |
| 144 (U-NII-3) | 5720 | 5.99 | 6.05 | 6.00 | 6.02 |

| Determined Output Power Limit | | | | | |
|---|---|---|---|---|---|
| Channel Number | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) | | |
| 52 | 5260 | 21.86 | 24.39 | > | 24 |
| 60 | 5300 | 21.84 | 24.39 | > | 24 |
| 64 | 5320 | 26.07 | 25.16 | > | 24 |
| 100 | 5500 | 23.67 | 24.74 | > | 24 |
| 116 | 5580 | 21.95 | 24.41 | > | 24 |
| 140 | 5700 | 21.93 | 24.41 | > | 24 |
| 144 (U-NII-2C) | 5720 | 16.07 | 23.06 | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE40)

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 54 | 5270 | 42.10 | 41.93 | 41.87 | 41.89 |
| 62 | 5310 | 44.25 | 50.67 | 50.65 | 43.40 |
| 102 | 5510 | 43.93 | 50.13 | 50.19 | 44.23 |
| 110 | 5550 | 41.95 | 41.81 | 41.68 | 41.81 |
| 134 | 5670 | 42.03 | 41.80 | 42.00 | 41.82 |
| 142 (U-NII-2C) | 5710 | 36.08 | 36.02 | 36.22 | 35.96 |
| 142 (U-NII-3) | 5710 | 5.94 | 5.94 | 5.83 | 5.76 |

| Determined Output Power Limit | | | | | |
|---|---|---|---|---|---|
| Channel Number | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) | | |
| 54 | 5270 | 41.87 | 27.21 | > | 24 |
| 62 | 5310 | 43.40 | 27.37 | > | 24 |
| 102 | 5510 | 43.93 | 27.42 | > | 24 |
| 110 | 5550 | 41.68 | 27.19 | > | 24 |
| 134 | 5670 | 41.80 | 27.21 | > | 24 |
| 142 (U-NII-2C) | 5710 | 35.96 | 26.55 | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE80)

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 58 | 5290 | 87.79 | 87.56 | 93.41 | 85.40 |
| 106 | 5530 | 94.07 | 85.67 | 86.32 | 86.80 |
| 122 | 5610 | 82.97 | 82.80 | 82.71 | 83.26 |
| 138 (U-NII-2C) | 5690 | 76.76 | 76.63 | 76.63 | 76.85 |
| 138 (U-NII-3) | 5690 | 6.59 | 6.50 | 6.34 | 6.73 |

| Determined Output Power Limit | | | | | |
|---|---|---|---|---|---|
| Channel Number | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) | | |
| 58 | 5290 | 85.40 | 30.31 | > | 24 |
| 106 | 5530 | 85.67 | 30.32 | > | 24 |
| 122 | 5610 | 82.71 | 30.17 | > | 24 |
| 138 (U-NII-2C) | 5690 | 76.63 | 29.84 | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

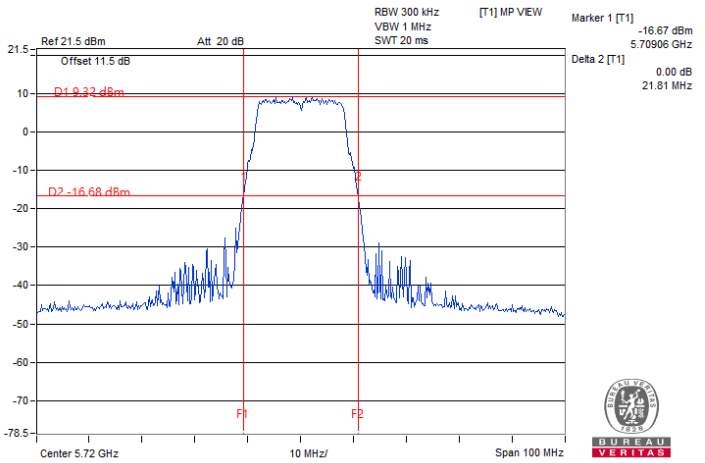
### 802.11ax (HE160)

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 50 (U-NII-1) | 5250 | 84.02 | 84.35 | 83.80 | 84.10 |
| 50 (U-NII-2A) | 5250 | 84.60 | 84.54 | 84.75 | 84.54 |
| 114 | 5570 | 168.55 | 169.59 | 168.63 | 168.65 |

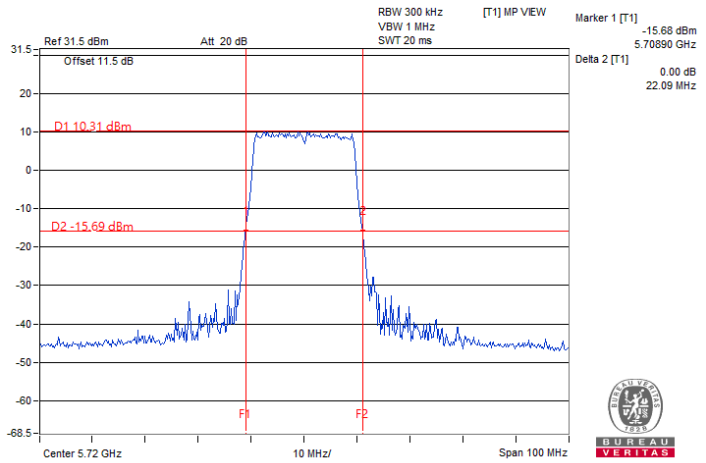
| Determined Output Power Limit | | | | | |
|---|---|---|---|---|---|
| Channel Number | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) | | |
| 50 (U-NII-2A) | 5250 | 84.54 | 30.27 | > | 24 |
| 114 | 5570 | 168.55 | 33.26 | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

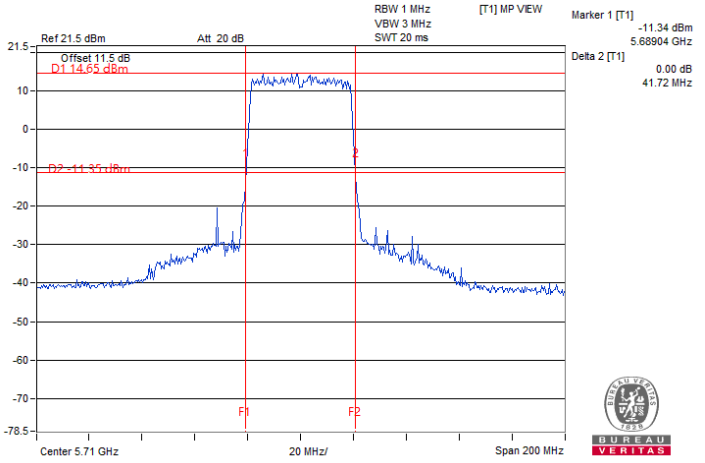
## Spectrum Plot of Minimum Value



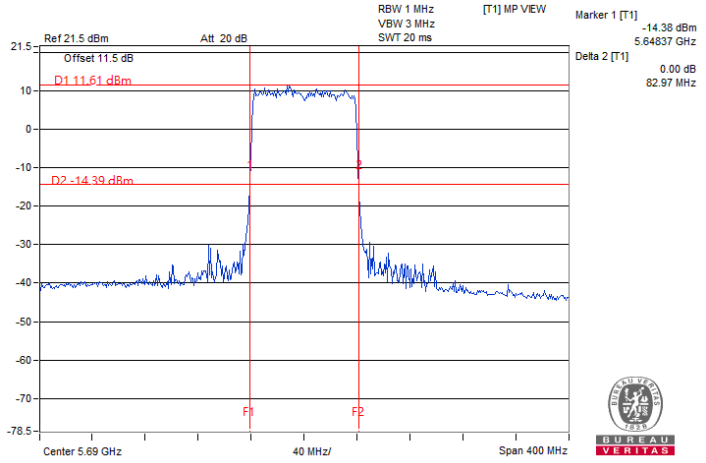

802.11a / Chain 3 : CH 144 (U-NII-3)



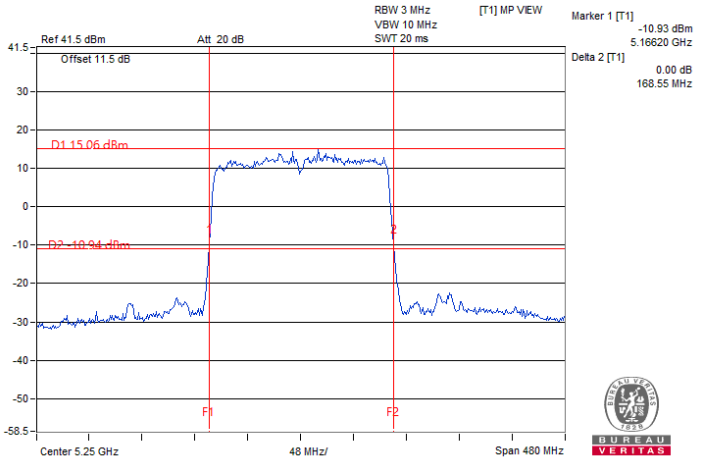

802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)




802.11ax (HE40) / Chain 3 : CH 142 (U-NII-3)




802.11ax (HE80) / Chain 2 : CH 138 (U-NII-3)




802.11ax (HE160) / Chain 2 : CH 50 (U-NII-1)

Notes:

1. For U-NII-2C straddle channel = 5725 MHz - Marker 1
2. For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz
3. For U-NII-1 straddle channel = 5250 MHz - Marker 1
4. For U-NII-2A straddle channel = Marker 1 + Delta 2 - 5250 MHz

## 7.2 RF Output Power

| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 23°C, 67% RH | Tested By: | Chris Lin / Wayne Lin |
|---|---|---|---|---|---|

### 802.11a

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 52 | 5260 | 17.45 | 17.37 | 17.81 | 17.53 | 227.185 | 23.56 | 24 | Pass |
| 60 | 5300 | 17.37 | 17.11 | 17.78 | 17.65 | 224.17 | 23.51 | 24 | Pass |
| 64 | 5320 | 17.12 | 17.23 | 17.96 | 17.52 | 223.378 | 23.49 | 24 | Pass |
| 100 | 5500 | 17.78 | 17.52 | 17.53 | 17.66 | 231.441 | 23.64 | 24 | Pass |
| 116 | 5580 | 17.68 | 17.32 | 17.43 | 17.58 | 225.179 | 23.53 | 24 | Pass |
| 140 | 5700 | 17.96 | 17.67 | 17.78 | 17.52 | 237.469 | 23.76 | 24 | Pass |
| *144 (U-NII-2C) | 5720 | 16.46 | 15.38 | 16.42 | 16.46 | 166.885 | 22.22 | 23.02 | Pass |
| *144 (U-NII-3) | 5720 | 10.15 | 9.08 | 10.12 | 10.18 | 39.146 | 15.93 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the directional gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the directional gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11n (HT20) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 52 | 5260 | 17.38 | 17.44 | 17.78 | 17.11 | 221.548 | 23.45 | 24 | Pass |
| 60 | 5300 | 17.42 | 17.45 | 17.72 | 17.35 | 224.279 | 23.51 | 24 | Pass |
| 64 | 5320 | 17.35 | 17.05 | 17.82 | 17.08 | 216.609 | 23.36 | 24 | Pass |
| 100 | 5500 | 17.91 | 17.61 | 17.64 | 17.11 | 228.959 | 23.60 | 24 | Pass |
| 116 | 5580 | 17.86 | 17.59 | 17.44 | 17.05 | 224.667 | 23.52 | 24 | Pass |
| 140 | 5700 | 16.91 | 16.82 | 17.22 | 17.08 | 200.948 | 23.03 | 24 | Pass |
| *144 (U-NII-2C) | 5720 | 16.00 | 15.48 | 15.90 | 15.75 | 151.617 | 21.81 | 23.06 | Pass |
| *144 (U-NII-3) | 5720 | 10.68 | 10.18 | 10.62 | 10.52 | 44.925 | 16.52 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the directional gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the directional gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11n (HT40) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 54 | 5270 | 17.61 | 17.38 | 17.67 | 17.95 | 233.231 | 23.68 | 24 | Pass |
| 62 | 5310 | 17.98 | 17.49 | 17.89 | 18.06 | 244.402 | 23.88 | 24 | Pass |
| 102 | 5510 | 18.13 | 17.69 | 17.24 | 17.26 | 229.939 | 23.62 | 24 | Pass |
| 110 | 5550 | 18.05 | 17.46 | 17.16 | 17.69 | 230.293 | 23.62 | 24 | Pass |
| 134 | 5670 | 18.04 | 17.62 | 17.25 | 17.22 | 227.301 | 23.57 | 24 | Pass |
| *142 (U-NII-2C) | 5710 | 16.90 | 16.75 | 16.60 | 16.76 | 189.426 | 22.77 | 24 | Pass |
| *142 (U-NII-3) | 5710 | 7.08 | 7.01 | 6.85 | 7.02 | 20.005 | 13.01 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the maximum gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the maximum gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ac (VHT20) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 52 | 5260 | 17.42 | 17.47 | 17.82 | 17.22 | 224.312 | 23.51 | 24 | Pass |
| 60 | 5300 | 17.48 | 17.49 | 17.77 | 17.49 | 228.027 | 23.58 | 24 | Pass |
| 64 | 5320 | 17.38 | 17.08 | 17.89 | 17.12 | 218.793 | 23.40 | 24 | Pass |
| 100 | 5500 | 17.94 | 17.66 | 17.68 | 17.23 | 232.033 | 23.66 | 24 | Pass |
| 116 | 5580 | 17.92 | 17.62 | 17.47 | 17.11 | 227.005 | 23.56 | 24 | Pass |
| 140 | 5700 | 16.95 | 16.88 | 17.29 | 17.12 | 203.4 | 23.08 | 24 | Pass |
| *144 (U-NII-2C) | 5720 | 16.03 | 15.52 | 15.92 | 15.78 | 152.66 | 21.84 | 23.06 | Pass |
| *144 (U-NII-3) | 5720 | 10.72 | 10.21 | 10.65 | 10.54 | 45.237 | 16.55 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the directional gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the directional gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ac (VHT40) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 54 | 5270 | 17.64 | 17.41 | 17.78 | 17.98 | 235.942 | 23.73 | 24 | Pass |
| 62 | 5310 | 18.04 | 17.53 | 17.92 | 18.11 | 246.962 | 23.93 | 24 | Pass |
| 102 | 5510 | 18.19 | 17.75 | 17.28 | 17.29 | 232.52 | 23.66 | 24 | Pass |
| 110 | 5550 | 18.11 | 17.48 | 17.19 | 17.72 | 232.206 | 23.66 | 24 | Pass |
| 134 | 5670 | 18.08 | 17.68 | 17.29 | 17.24 | 229.429 | 23.61 | 24 | Pass |
| *142 (U-NII-2C) | 5710 | 16.95 | 16.81 | 16.64 | 16.82 | 191.734 | 22.83 | 24 | Pass |
| *142 (U-NII-3) | 5710 | 7.14 | 7.05 | 6.90 | 7.08 | 20.249 | 13.06 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the maximum gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the maximum gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ac (VHT80) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 58 | 5290 | 17.28 | 17.42 | 17.94 | 17.98 | 233.7 | 23.69 | 24 | Pass |
| 106 | 5530 | 18.03 | 17.69 | 17.48 | 17.72 | 237.414 | 23.76 | 24 | Pass |
| 122 | 5610 | 17.75 | 17.82 | 17.11 | 17.62 | 229.314 | 23.60 | 24 | Pass |
| *138 (U-NII-2C) | 5690 | 17.28 | 17.02 | 16.94 | 16.98 | 203.126 | 23.08 | 24 | Pass |
| *138 (U-NII-3) | 5690 | 3.79 | 3.60 | 3.57 | 3.54 | 9.219 | 9.65 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the maximum gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the maximum gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ac (VHT160) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| *50 (U-NII-1) | 5250 | 14.50 | 14.12 | 13.85 | 14.30 | 105.188 | 20.22 | 30 | Pass |
| *50 (U-NII-2A) | 5250 | 14.96 | 14.70 | 14.50 | 14.86 | 119.648 | 20.78 | 24 | Pass |
| 114 | 5570 | 17.48 | 17.62 | 17.68 | 17.62 | 230.209 | 23.62 | 24 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 1.51 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ax (HE20) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 52 | 5260 | 17.46 | 17.53 | 17.86 | 17.25 | 226.525 | 23.55 | 24 | Pass |
| 60 | 5300 | 17.54 | 17.56 | 17.82 | 17.52 | 230.799 | 23.63 | 24 | Pass |
| 64 | 5320 | 17.42 | 17.13 | 17.96 | 17.15 | 221.247 | 23.45 | 24 | Pass |
| 100 | 5500 | 18.01 | 17.72 | 17.74 | 17.31 | 235.654 | 23.72 | 24 | Pass |
| 116 | 5580 | 17.98 | 17.67 | 17.52 | 17.22 | 230.502 | 23.63 | 24 | Pass |
| 140 | 5700 | 17.02 | 16.91 | 17.34 | 17.18 | 205.881 | 23.14 | 24 | Pass |
| *144 (U-NII-2C) | 5720 | 16.07 | 15.56 | 15.96 | 15.81 | 153.985 | 21.87 | 23.06 | Pass |
| *144 (U-NII-3) | 5720 | 10.77 | 10.24 | 10.69 | 10.57 | 45.633 | 16.59 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the directional gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the directional gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ax (HE40) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 54 | 5270 | 17.68 | 17.45 | 17.82 | 18.02 | 238.125 | 23.77 | 24 | Pass |
| 62 | 5310 | 18.11 | 17.54 | 17.96 | 18.16 | **249.45** | **23.97** | 24 | Pass |
| 102 | 5510 | 18.23 | 17.77 | 17.34 | 17.32 | 234.52 | 23.70 | 24 | Pass |
| 110 | 5550 | 18.14 | 17.55 | 17.24 | 17.78 | 234.994 | 23.71 | 24 | Pass |
| 134 | 5670 | 18.11 | 17.75 | 17.32 | 17.27 | 231.565 | 23.65 | 24 | Pass |
| *142 (U-NII-2C) | 5710 | 16.97 | 16.85 | 16.69 | 16.86 | 193.386 | 22.86 | 24 | Pass |
| *142 (U-NII-3) | 5710 | 7.19 | 7.11 | 6.94 | 7.11 | 20.46 | 13.11 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the maximum gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the maximum gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ax (HE80) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 58 | 5290 | 17.34 | 17.44 | 17.98 | 18.04 | 236.148 | 23.73 | 24 | Pass |
| 106 | 5530 | 18.11 | 17.72 | 17.54 | 17.76 | **240.328** | **23.81** | 24 | Pass |
| 122 | 5610 | 17.78 | 17.84 | 17.14 | 17.68 | 231.167 | 23.64 | 24 | Pass |
| *138 (U-NII-2C) | 5690 | 17.33 | 17.08 | 16.97 | 17.03 | 205.366 | 23.13 | 24 | Pass |
| *138 (U-NII-3) | 5690 | 3.84 | 3.65 | 3.61 | 3.58 | 9.315 | 9.69 | 30 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-2A, the maximum gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the maximum gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the maximum gain is 2.81 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11ax (HE160) CDD

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| *50 (U-NII-1) | 5250 | 14.55 | 14.17 | 13.93 | 14.35 | 106.576 | 20.28 | 30 | Pass |
| *50 (U-NII-2A) | 5250 | 15.00 | 14.77 | 14.54 | 14.92 | 121.105 | 20.83 | 24 | Pass |
| 114 | 5570 | 17.51 | 17.68 | 17.71 | 17.67 | 232.477 | 23.66 | 24 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the maximum gain of antennas.
3. For U-NII-1, the maximum gain is 1.51 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the maximum gain is 2.03 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the maximum gain is 2.62 dBi < 6 dBi, so the output power limit shall not be reduced.

## 802.11n (HT20) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 52 | 5260 | 17.38 | 17.44 | 17.78 | 17.11 | 221.548 | 23.45 | 24 | Pass |
| 60 | 5300 | 17.42 | 17.45 | 17.72 | 17.35 | 224.279 | 23.51 | 24 | Pass |
| 64 | 5320 | 17.35 | 17.05 | 17.82 | 17.08 | 216.609 | 23.36 | 24 | Pass |
| 100 | 5500 | 17.91 | 17.61 | 17.64 | 17.11 | 228.959 | 23.60 | 23.99 | Pass |
| 116 | 5580 | 17.86 | 17.59 | 17.44 | 17.05 | 224.667 | 23.52 | 23.99 | Pass |
| 140 | 5700 | 16.91 | 16.82 | 17.22 | 17.08 | 200.948 | 23.03 | 23.99 | Pass |
| *144 (U-NII-2C) | 5720 | 16.00 | 15.48 | 15.90 | 15.75 | 151.617 | 21.81 | 23.05 | Pass |
| *144 (U-NII-3) | 5720 | 10.68 | 10.18 | 10.62 | 10.52 | 44.925 | 16.52 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

## 802.11n (HT40) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 54 | 5270 | 17.61 | 17.38 | 17.67 | 17.95 | 233.231 | 23.68 | 24 | Pass |
| 62 | 5310 | 17.98 | 17.49 | 17.89 | 18.06 | 244.402 | 23.88 | 24 | Pass |
| 102 | 5510 | 18.13 | 17.69 | 17.24 | 17.26 | 229.939 | 23.62 | 23.99 | Pass |
| 110 | 5550 | 18.05 | 17.46 | 17.16 | 17.69 | 230.293 | 23.62 | 23.99 | Pass |
| 134 | 5670 | 18.04 | 17.62 | 17.25 | 17.22 | 227.301 | 23.57 | 23.99 | Pass |
| *142 (U-NII-2C) | 5710 | 16.90 | 16.75 | 16.60 | 16.76 | 189.426 | 22.77 | 23.99 | Pass |
| *142 (U-NII-3) | 5710 | 7.08 | 7.01 | 6.85 | 7.02 | 20.005 | 13.01 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

## 802.11ac (VHT20) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 52 | 5260 | 17.42 | 17.47 | 17.82 | 17.22 | 224.312 | 23.51 | 24 | Pass |
| 60 | 5300 | 17.48 | 17.49 | 17.77 | 17.49 | 228.027 | 23.58 | 24 | Pass |
| 64 | 5320 | 17.38 | 17.08 | 17.89 | 17.12 | 218.793 | 23.40 | 24 | Pass |
| 100 | 5500 | 17.94 | 17.66 | 17.68 | 17.23 | 232.033 | 23.66 | 23.99 | Pass |
| 116 | 5580 | 17.92 | 17.62 | 17.47 | 17.11 | 227.005 | 23.56 | 23.99 | Pass |
| 140 | 5700 | 16.95 | 16.88 | 17.29 | 17.12 | 203.4 | 23.08 | 23.99 | Pass |
| *144 (U-NII-2C) | 5720 | 16.03 | 15.52 | 15.92 | 15.78 | 152.66 | 21.84 | 23.05 | Pass |
| *144 (U-NII-3) | 5720 | 10.72 | 10.21 | 10.65 | 10.54 | 45.237 | 16.55 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

## 802.11ac (VHT40) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 54 | 5270 | 17.64 | 17.41 | 17.78 | 17.98 | 235.942 | 23.73 | 24 | Pass |
| 62 | 5310 | 18.04 | 17.53 | 17.92 | 18.11 | 246.962 | 23.93 | 24 | Pass |
| 102 | 5510 | 18.19 | 17.75 | 17.28 | 17.29 | 232.52 | 23.66 | 23.99 | Pass |
| 110 | 5550 | 18.11 | 17.48 | 17.19 | 17.72 | 232.206 | 23.66 | 23.99 | Pass |
| 134 | 5670 | 18.08 | 17.68 | 17.29 | 17.24 | 229.429 | 23.61 | 23.99 | Pass |
| *142 (U-NII-2C) | 5710 | 16.95 | 16.81 | 16.64 | 16.82 | 191.734 | 22.83 | 23.99 | Pass |
| *142 (U-NII-3) | 5710 | 7.14 | 7.05 | 6.90 | 7.08 | 20.249 | 13.06 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

## 802.11ac (VHT80) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 58 | 5290 | 17.28 | 17.42 | 17.94 | 17.98 | 233.7 | 23.69 | 24 | Pass |
| 106 | 5530 | 18.03 | 17.69 | 17.48 | 17.72 | 237.414 | 23.76 | 23.99 | Pass |
| 122 | 5610 | 17.75 | 17.82 | 17.11 | 17.62 | 229.314 | 23.60 | 23.99 | Pass |
| *138 (U-NII-2C) | 5690 | 17.28 | 17.02 | 16.94 | 16.98 | 203.126 | 23.08 | 23.99 | Pass |
| *138 (U-NII-3) | 5690 | 3.79 | 3.60 | 3.57 | 3.54 | 9.219 | 9.65 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

## 802.11ac (VHT160) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| *50 (U-NII-1) | 5250 | 14.50 | 14.12 | 13.85 | 14.30 | 105.188 | 20.22 | 30 | Pass |
| *50 (U-NII-2A) | 5250 | 14.96 | 14.70 | 14.50 | 14.86 | 119.648 | 20.78 | 24 | Pass |
| 114 | 5570 | 17.48 | 17.62 | 17.68 | 17.62 | 230.209 | 23.62 | 23.99 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].

## 802.11ax (HE20) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 52 | 5260 | 17.46 | 17.53 | 17.86 | 17.25 | 226.525 | 23.55 | 24 | Pass |
| 60 | 5300 | 17.54 | 17.56 | 17.82 | 17.52 | 230.799 | 23.63 | 24 | Pass |
| 64 | 5320 | 17.42 | 17.13 | 17.96 | 17.15 | 221.247 | 23.45 | 24 | Pass |
| 100 | 5500 | 18.01 | 17.72 | 17.74 | 17.31 | 235.654 | 23.72 | 23.99 | Pass |
| 116 | 5580 | 17.98 | 17.67 | 17.52 | 17.22 | 230.502 | 23.63 | 23.99 | Pass |
| 140 | 5700 | 17.02 | 16.91 | 17.34 | 17.18 | 205.881 | 23.14 | 23.99 | Pass |
| *144 (U-NII-2C) | 5720 | 16.07 | 15.56 | 15.96 | 15.81 | 153.985 | 21.87 | 23.05 | Pass |
| *144 (U-NII-3) | 5720 | 10.77 | 10.24 | 10.69 | 10.57 | 45.633 | 16.59 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

## 802.11ax (HE40) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 54 | 5270 | 17.68 | 17.45 | 17.82 | 18.02 | 238.125 | 23.77 | 24 | Pass |
| 62 | 5310 | 18.11 | 17.54 | 17.96 | 18.16 | **249.45** | **23.97** | 24 | Pass |
| 102 | 5510 | 18.23 | 17.77 | 17.34 | 17.32 | 234.52 | 23.70 | 23.99 | Pass |
| 110 | 5550 | 18.14 | 17.55 | 17.24 | 17.78 | 234.994 | 23.71 | 23.99 | Pass |
| 134 | 5670 | 18.11 | 17.75 | 17.32 | 17.27 | 231.565 | 23.65 | 23.99 | Pass |
| *142 (U-NII-2C) | 5710 | 16.97 | 16.85 | 16.69 | 16.86 | 193.386 | 22.86 | 23.99 | Pass |
| *142 (U-NII-3) | 5710 | 7.19 | 7.11 | 6.94 | 7.11 | 20.46 | 13.11 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

## 802.11ax (HE80) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 58 | 5290 | 17.34 | 17.44 | 17.98 | 18.04 | 236.148 | 23.73 | 24 | Pass |
| 106 | 5530 | 18.11 | 17.72 | 17.54 | 17.76 | **240.328** | **23.81** | 23.99 | Pass |
| 122 | 5610 | 17.78 | 17.84 | 17.14 | 17.68 | 231.167 | 23.64 | 23.99 | Pass |
| *138 (U-NII-2C) | 5690 | 17.33 | 17.08 | 16.97 | 17.03 | 205.366 | 23.13 | 23.99 | Pass |
| *138 (U-NII-3) | 5690 | 3.84 | 3.65 | 3.61 | 3.58 | 9.315 | 9.69 | 29.52 | Pass |

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].
5. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.48-6) = 29.52 dBm.

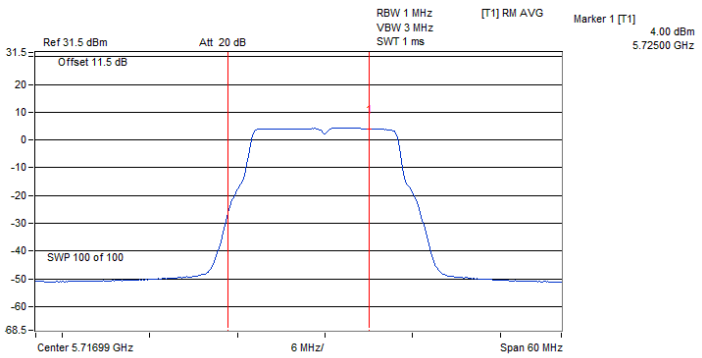
### 802.11ax (HE160) Beamforming

| Chan. | Chan. Freq. (MHz) | Average Power (dBm) | | | | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| *50 (U-NII-1) | 5250 | 14.55 | 14.17 | 13.93 | 14.35 | 106.576 | 20.28 | 30 | Pass |
| *50 (U-NII-2A) | 5250 | 15.00 | 14.77 | 14.54 | 14.92 | 121.105 | 20.83 | 24 | Pass |
| 114 | 5570 | 17.51 | 17.68 | 17.71 | 17.67 | 232.477 | 23.66 | 23.99 | Pass |

Notes:

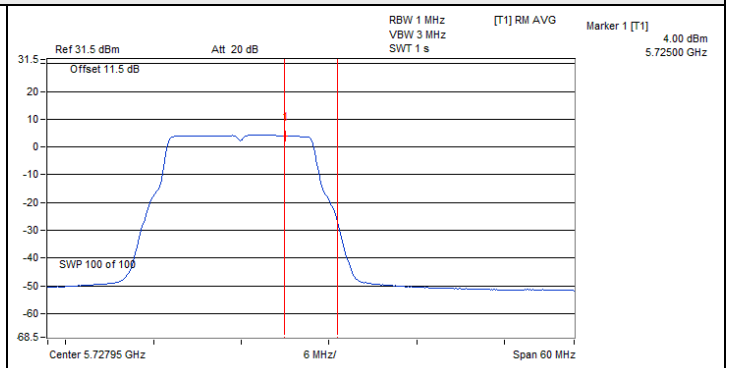
1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.01-6)].

## Spectrum Plot for channel straddling



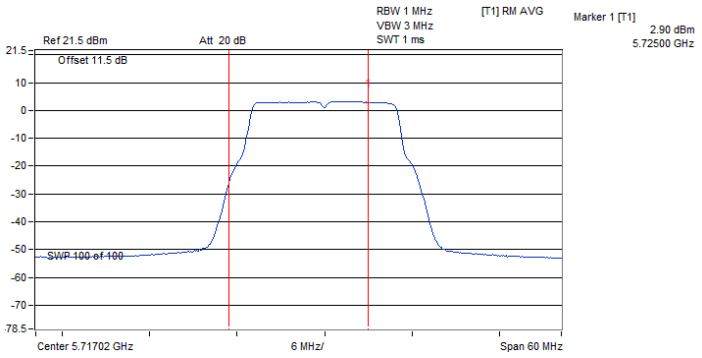

TX Channel Bandwidth 16.01 MHz Power 16.46 dBm

802.11a / Chain 0 : CH 144 (U-NII-2C)



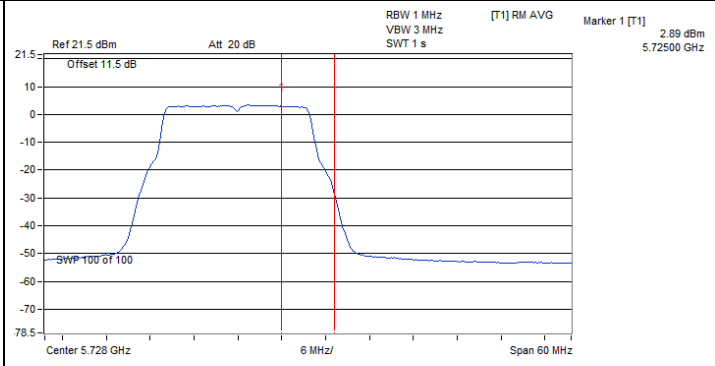

TX Channel Bandwidth 5.91 MHz Power 10.15 dBm

802.11a / Chain 0 : CH 144 (U-NII-3)



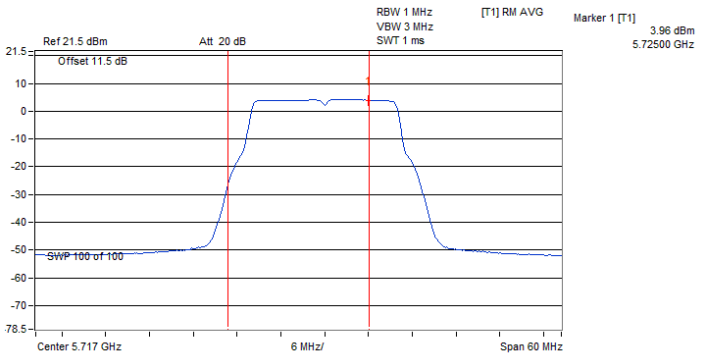

TX Channel Bandwidth 15.96 MHz Power 15.38 dBm

802.11a / Chain 1 : CH 144 (U-NII-2C)



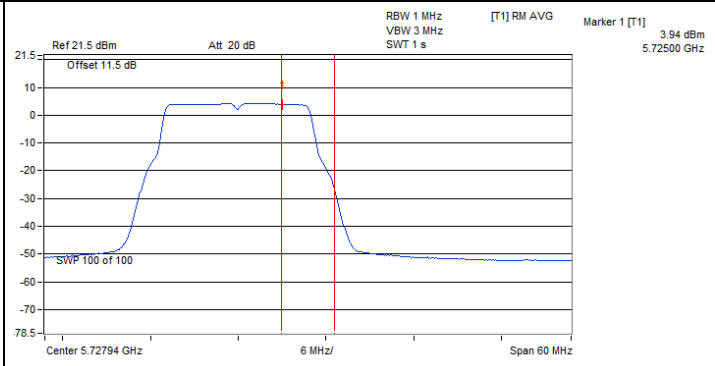

TX Channel Bandwidth 6 MHz Power 9.08 dBm

802.11a / Chain 1 : CH 144 (U-NII-3)




TX Channel Bandwidth 16 MHz Power 16.42 dBm

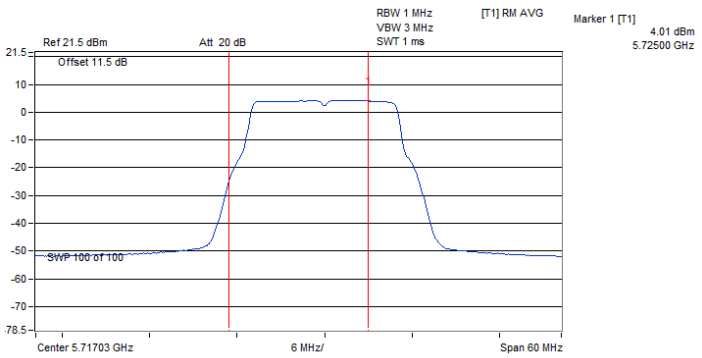
802.11a / Chain 2 : CH 144 (U-NII-2C)




TX Channel Bandwidth 5.89 MHz Power 10.12 dBm

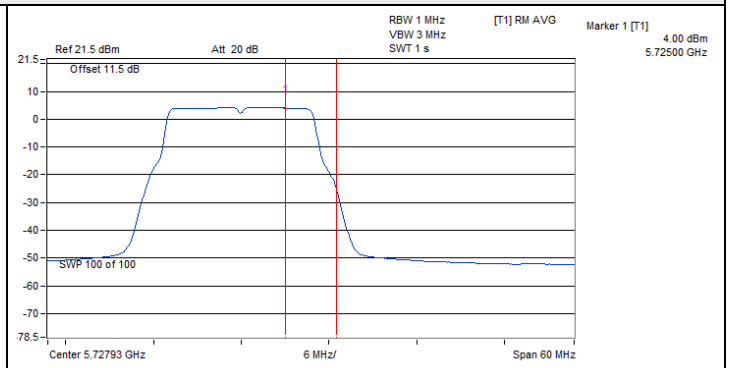
802.11a / Chain 2 : CH 144 (U-NII-3)

## Spectrum Plot for channel straddling



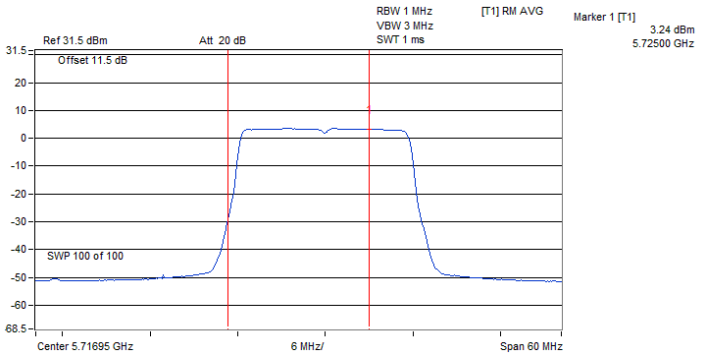

TX Channel Bandwidth 15.94 MHz Power 16.46 dBm

802.11a / Chain 3 : CH 144 (U-NII-2C)



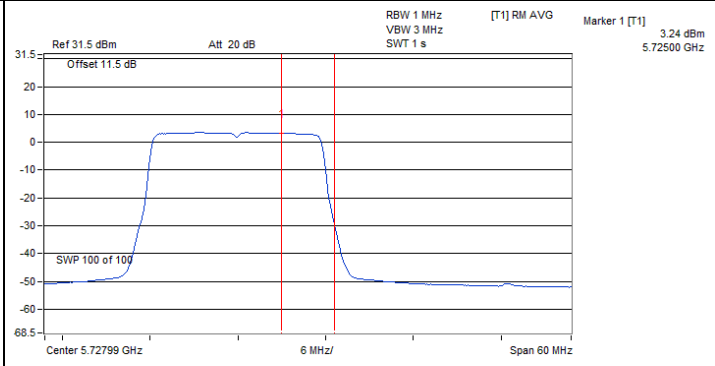

TX Channel Bandwidth 5.87 MHz Power 10.18 dBm

802.11a / Chain 3 : CH 144 (U-NII-3)



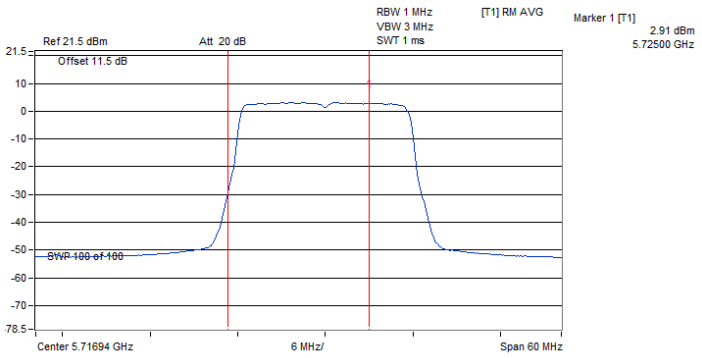

TX Channel Bandwidth 16.1 MHz Power 16.07 dBm

802.11ax (HE20) / Chain 0 : CH 144 (U-NII-2C)



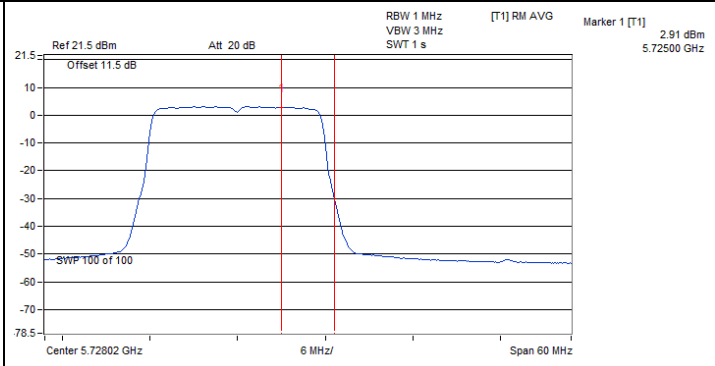

TX Channel Bandwidth 5.99 MHz Power 10.77 dBm

802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)




TX Channel Bandwidth 16.12 MHz Power 15.56 dBm

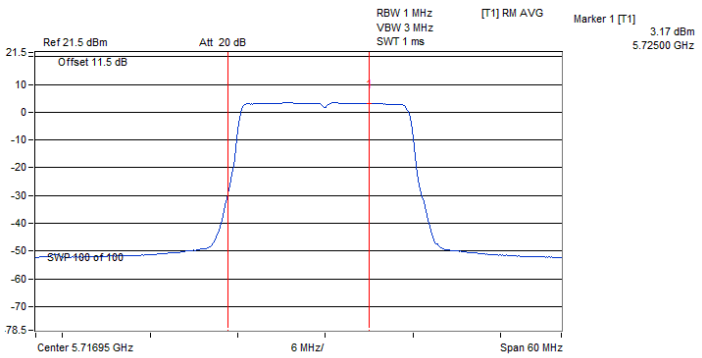
802.11ax (HE20) / Chain 1 : CH 144 (U-NII-2C)




TX Channel Bandwidth 6.05 MHz Power 10.24 dBm

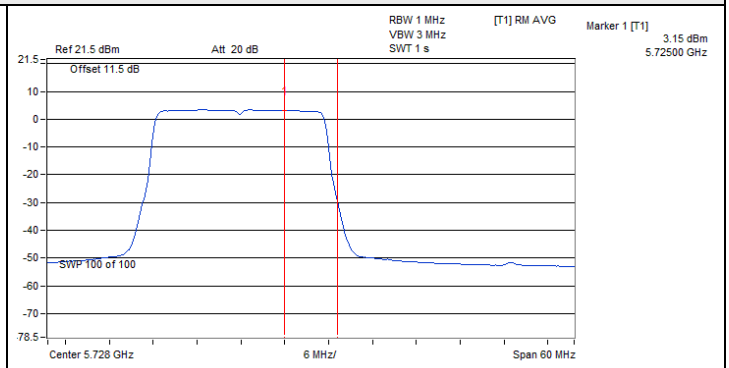
802.11ax (HE20) / Chain 1 : CH 144 (U-NII-3)

## Spectrum Plot for channel straddling



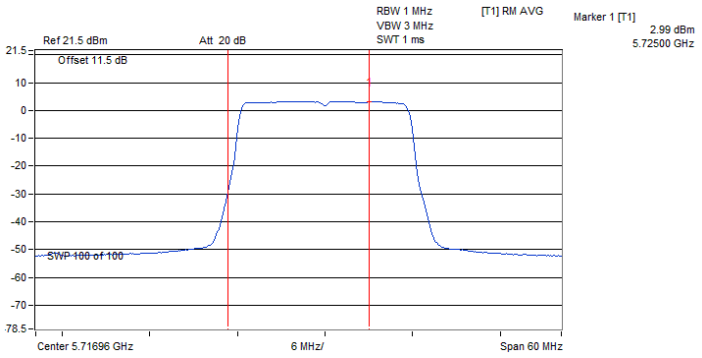

TX Channel Bandwidth 16.09 MHz Power 15.96 dBm

802.11ax (HE20) / Chain 2 : CH 144 (U-NII-2C)



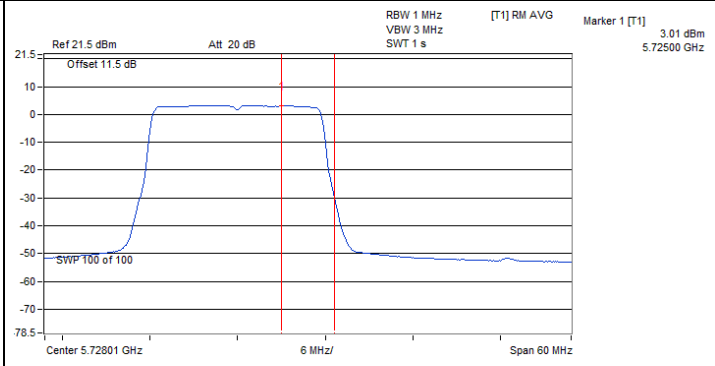

TX Channel Bandwidth 6 MHz Power 10.69 dBm

802.11ax (HE20) / Chain 2 : CH 144 (U-NII-3)



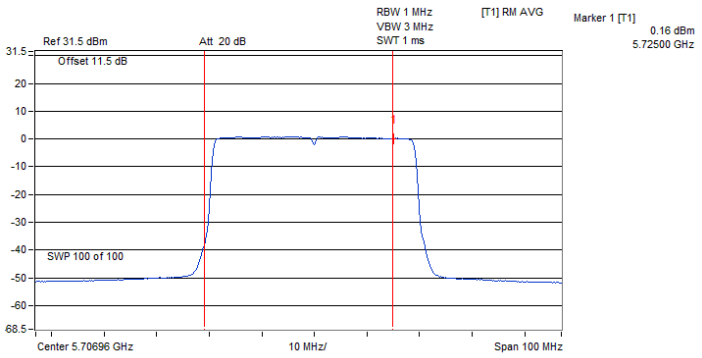

TX Channel Bandwidth 16.07 MHz Power 15.81 dBm

802.11ax (HE20) / Chain 3 : CH 144 (U-NII-2C)



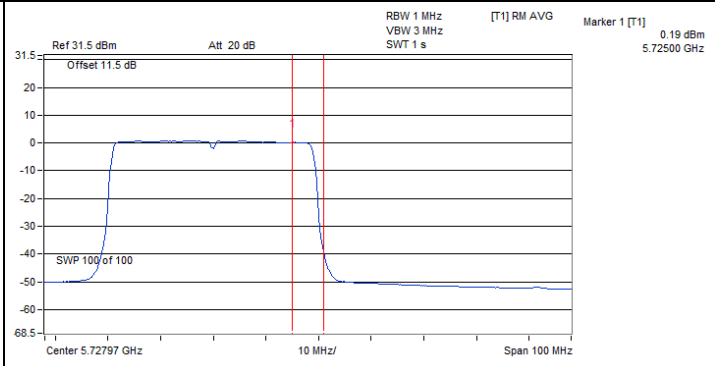

TX Channel Bandwidth 6.02 MHz Power 10.57 dBm

802.11ax (HE20) / Chain 3 : CH 144 (U-NII-3)




TX Channel Bandwidth 36.08 MHz Power 16.97 dBm

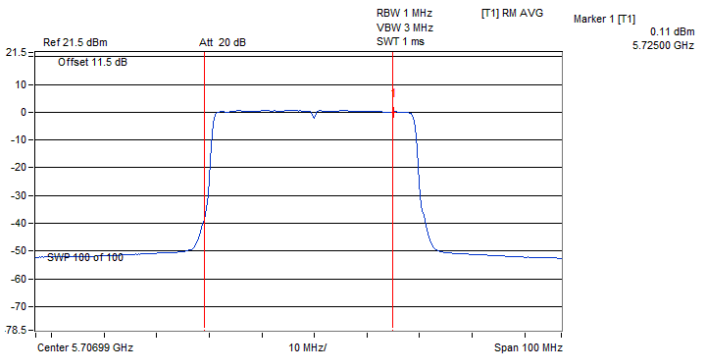
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-2C)




TX Channel Bandwidth 5.94 MHz Power 7.19 dBm

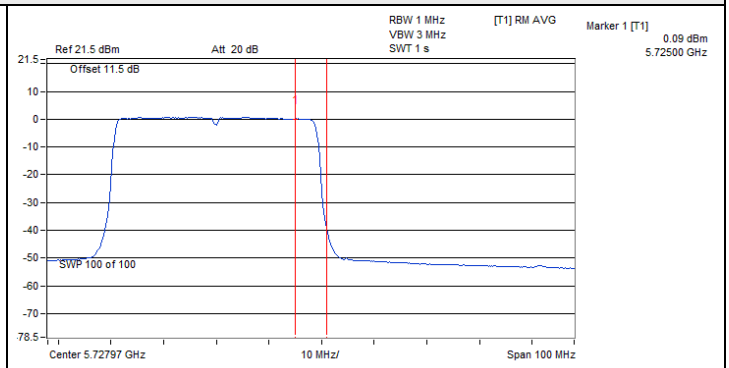
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)

## Spectrum Plot for channel straddling



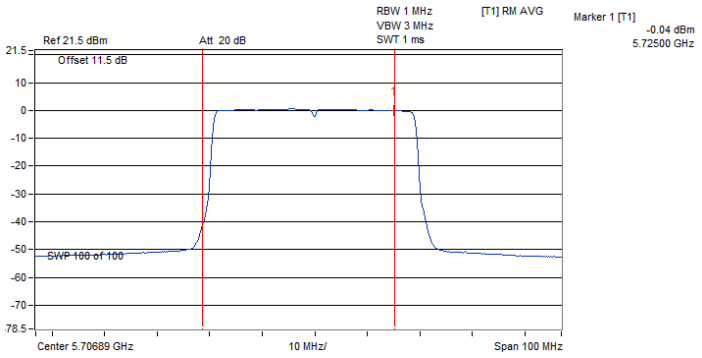

TX Channel Bandwidth 36.02 MHz Power 16.85 dBm

802.11ax (HE40) / Chain 1 : CH 142 (U-NII-2C)



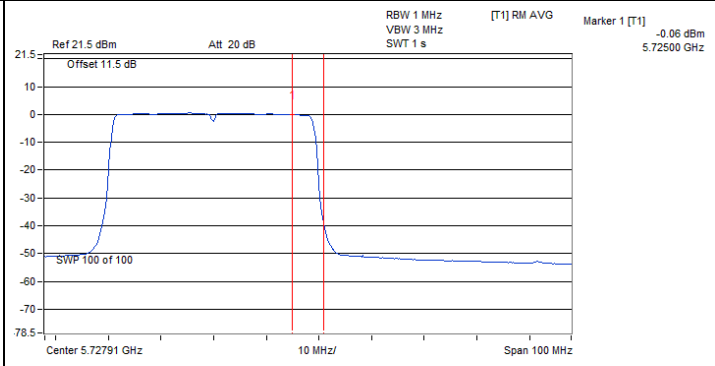

TX Channel Bandwidth 5.94 MHz Power 7.11 dBm

802.11ax (HE40) / Chain 1 : CH 142 (U-NII-3)



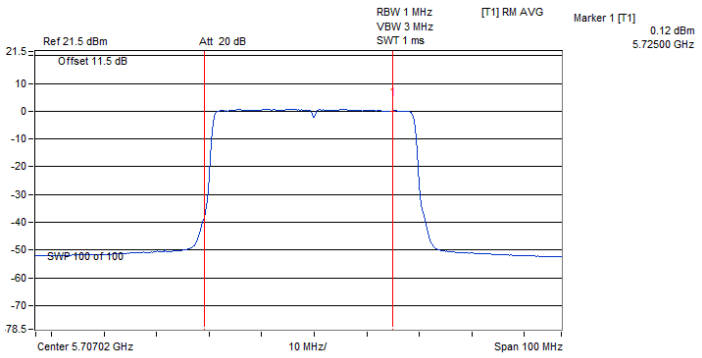

TX Channel Bandwidth 36.22 MHz Power 16.69 dBm

802.11ax (HE40) / Chain 2 : CH 142 (U-NII-2C)



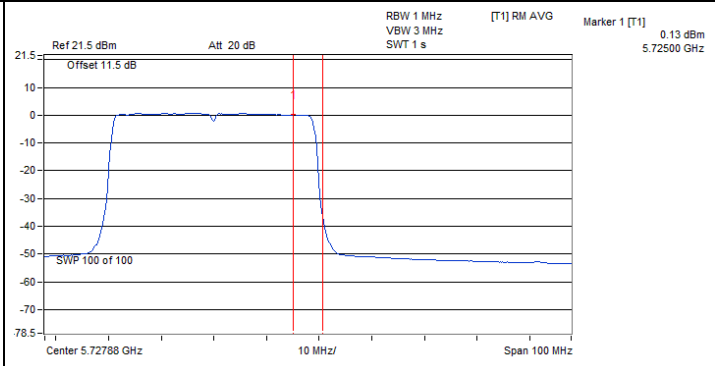

TX Channel Bandwidth 5.83 MHz Power 6.94 dBm

802.11ax (HE40) / Chain 2 : CH 142 (U-NII-3)




TX Channel Bandwidth 35.96 MHz Power 16.86 dBm

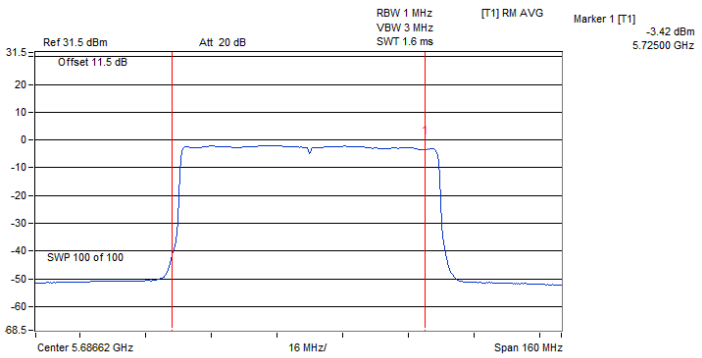
802.11ax (HE40) / Chain 3 : CH 142 (U-NII-2C)




TX Channel Bandwidth 5.76 MHz Power 7.11 dBm

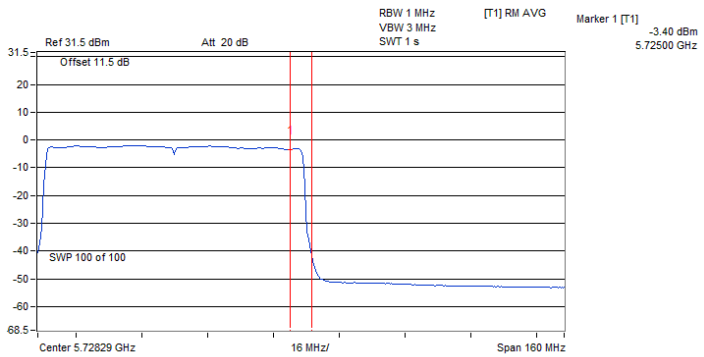
802.11ax (HE40) / Chain 3 : CH 142 (U-NII-3)

## Spectrum Plot for channel straddling



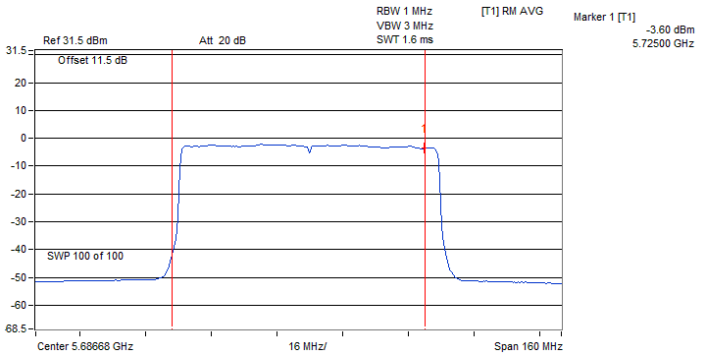

TX Channel Bandwidth 76.76 MHz Power 17.33 dBm

802.11ax (HE80) / Chain 0 : CH 138 (U-NII-2C)



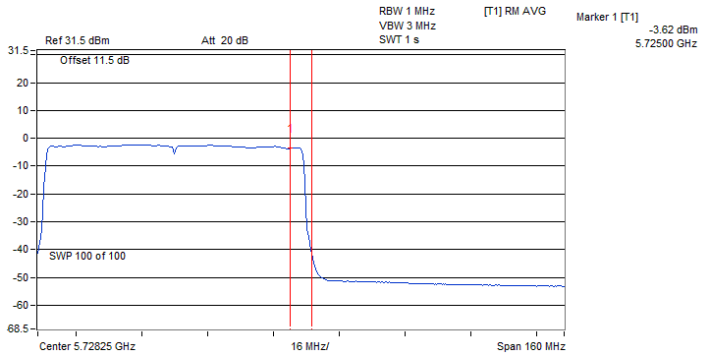

TX Channel Bandwidth 6.59 MHz Power 3.84 dBm

802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)



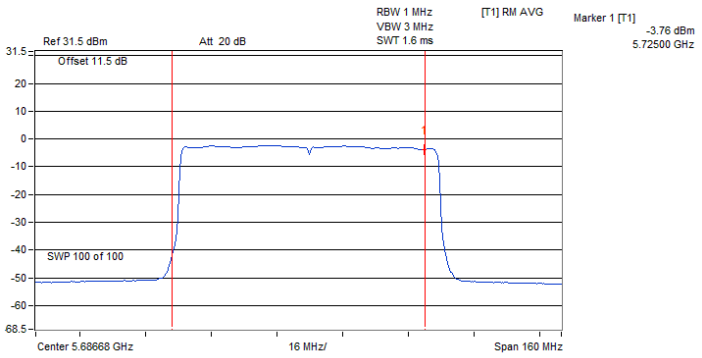

TX Channel Bandwidth 76.63 MHz Power 17.08 dBm

802.11ax (HE80) / Chain 1 : CH 138 (U-NII-2C)



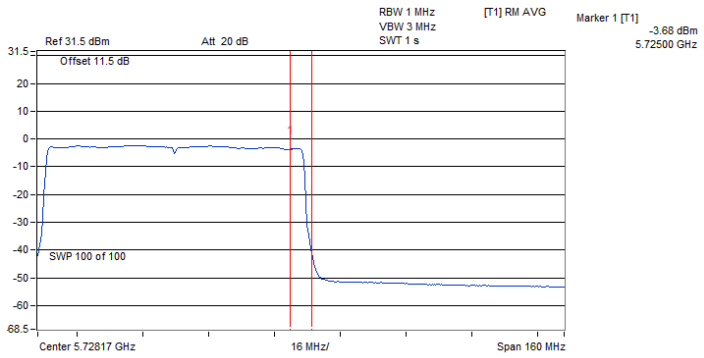

TX Channel Bandwidth 6.5 MHz Power 3.65 dBm

802.11ax (HE80) / Chain 1 : CH 138 (U-NII-3)




TX Channel Bandwidth 76.63 MHz Power 16.97 dBm

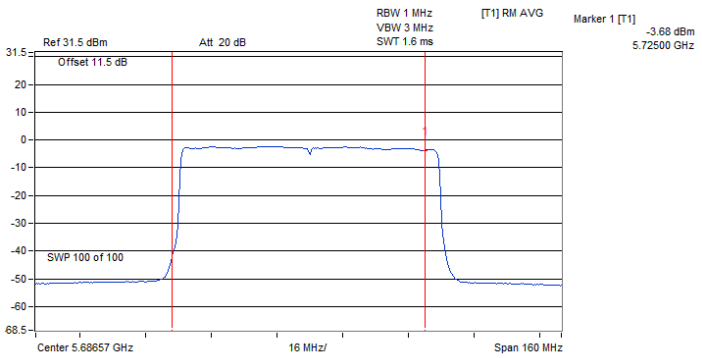
802.11ax (HE80) / Chain 2 : CH 138 (U-NII-2C)




TX Channel Bandwidth 6.34 MHz Power 3.61 dBm

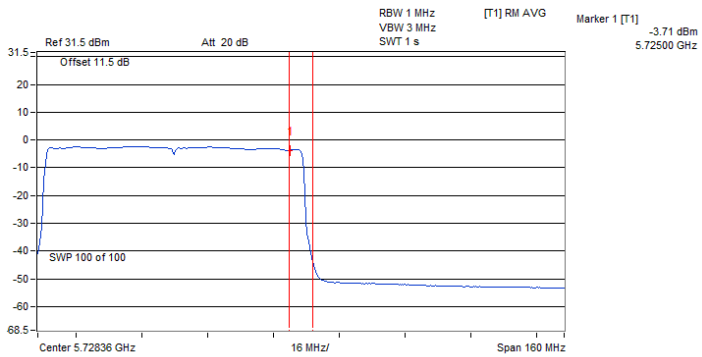
802.11ax (HE80) / Chain 2 : CH 138 (U-NII-3)

## Spectrum Plot for channel straddling



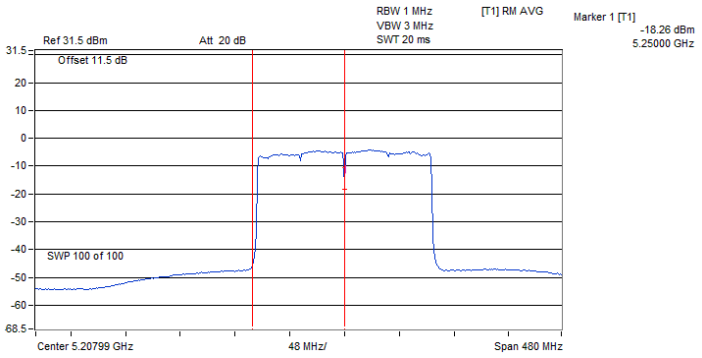

TX Channel Bandwidth 76.85 MHz Power 17.03 dBm

802.11ax (HE80) / Chain 3 : CH 138 (U-NII-2C)



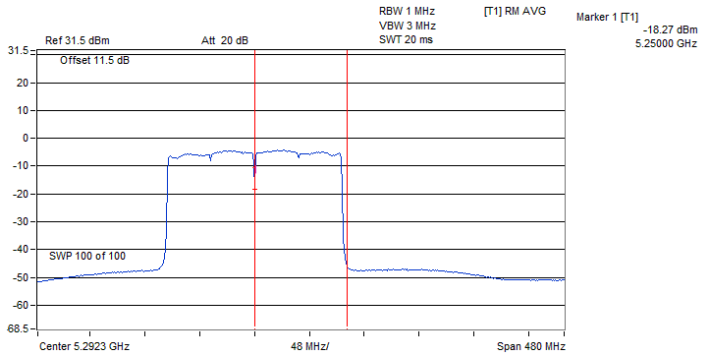

TX Channel Bandwidth 6.73 MHz Power 3.58 dBm

802.11ax (HE80) / Chain 3 : CH 138 (U-NII-3)



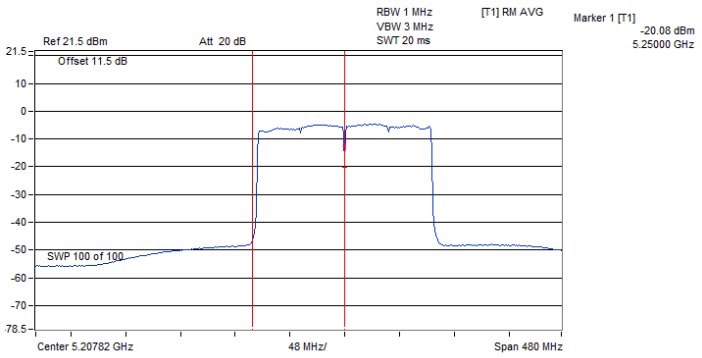

TX Channel Bandwidth 84.02 MHz Power 14.55 dBm

802.11ax (HE160) / Chain 0 : CH 50 (U-NII-1)



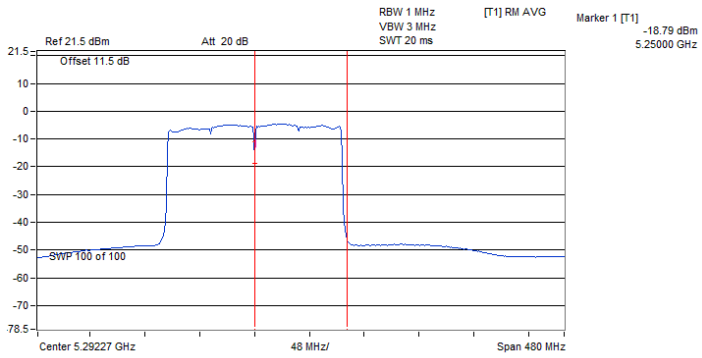

TX Channel Bandwidth 84.6 MHz Power 15 dBm

802.11ax (HE160) / Chain 0 : CH 50 (U-NII-2A)




TX Channel Bandwidth 84.35 MHz Power 14.17 dBm

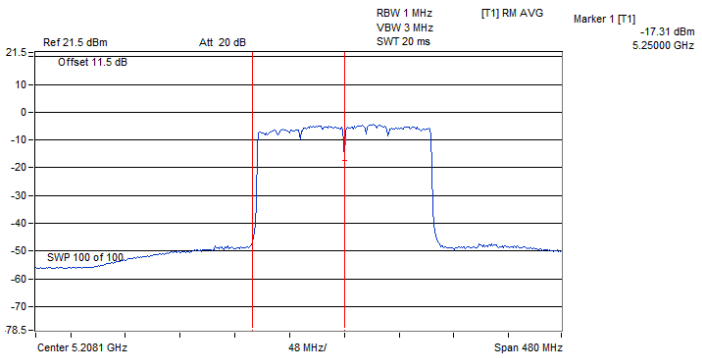
802.11ax (HE160) / Chain 1 : CH 50 (U-NII-1)




TX Channel Bandwidth 84.54 MHz Power 14.77 dBm

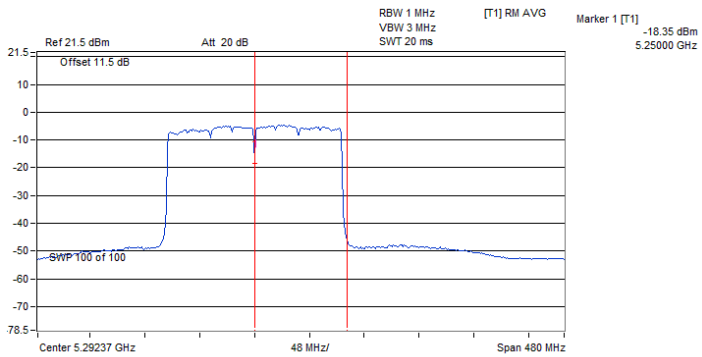
802.11ax (HE160) / Chain 1 : CH 50 (U-NII-2A)

## Spectrum Plot for channel straddling



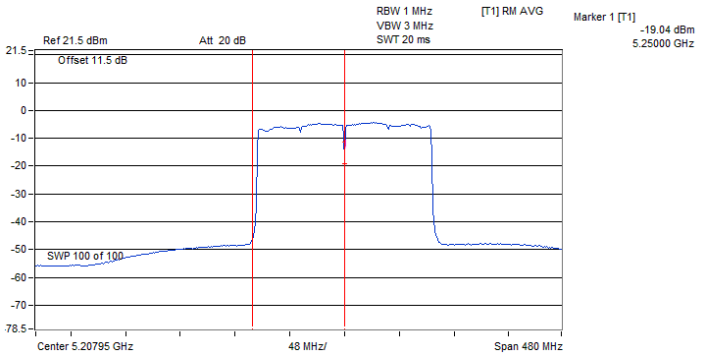

TX Channel Bandwidth 83.8 MHz Power 13.93 dBm

802.11ax (HE160) / Chain 2 : CH 50 (U-NII-1)



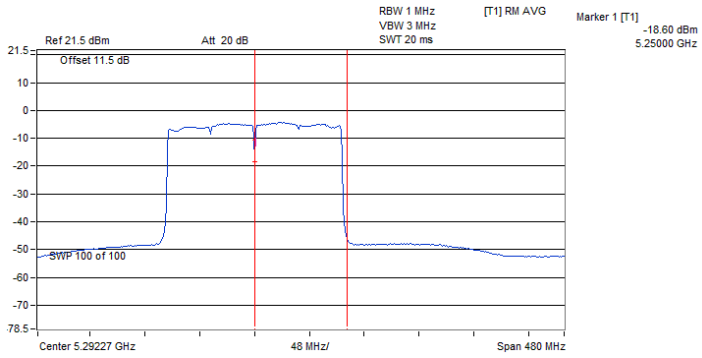

TX Channel Bandwidth 84.75 MHz Power 14.54 dBm

802.11ax (HE160) / Chain 2 : CH 50 (U-NII-2A)




TX Channel Bandwidth 84.1 MHz Power 14.35 dBm

802.11ax (HE160) / Chain 3 : CH 50 (U-NII-1)




TX Channel Bandwidth 84.54 MHz Power 14.92 dBm

802.11ax (HE160) / Chain 3 : CH 50 (U-NII-2A)

## 7.3 Power Spectral Density

| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 23°C, 67% RH | Tested By: | Chris Lin / Wayne Lin |
|---|---|---|---|---|---|

### 802.11a

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) | | | | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | |
| 52 | 5260 | 4.26 | 4.35 | 4.23 | 4.26 | 10.30 | 11 | Pass |
| 60 | 5300 | 4.24 | 4.40 | 4.35 | 4.38 | 10.36 | 11 | Pass |
| 64 | 5320 | 4.11 | 4.02 | 4.35 | 4.27 | 10.21 | 11 | Pass |
| 100 | 5500 | 4.53 | 4.49 | 4.39 | 4.42 | 10.48 | 10.99 | Pass |
| 116 | 5580 | 4.61 | 4.33 | 4.28 | 4.30 | 10.40 | 10.99 | Pass |
| 140 | 5700 | 4.85 | 4.59 | 4.54 | 4.31 | 10.60 | 10.99 | Pass |
| 144 (U-NII-2C) | 5720 | 4.86 | 4.45 | 4.46 | 4.40 | 10.57 | 10.99 | 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 is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the power density limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm/MHz.

### 802.11ax (HE20)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) | | | | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | |
| 52 | 5260 | 4.40 | 4.18 | 4.64 | 4.10 | 10.36 | 11 | Pass |
| 60 | 5300 | 4.23 | 4.42 | 4.70 | 4.28 | 10.43 | 11 | Pass |
| 64 | 5320 | 4.16 | 4.35 | 4.48 | 4.19 | 10.32 | 11 | Pass |
| 100 | 5500 | 4.90 | 4.63 | 4.84 | 4.29 | 10.69 | 10.99 | Pass |
| 116 | 5580 | 4.93 | 4.22 | 4.34 | 4.17 | 10.45 | 10.99 | Pass |
| 140 | 5700 | 3.93 | 3.55 | 4.49 | 4.41 | 10.13 | 10.99 | Pass |
| 144 (U-NII-2C) | 5720 | 4.63 | 4.10 | 4.46 | 4.30 | 10.40 | 10.99 | 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 is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the power density limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm/MHz.

### 802.11ax (HE40)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) | | | | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | |
| 54 | 5270 | 1.55 | 1.41 | 1.44 | 1.83 | 7.58 | 11 | Pass |
| 62 | 5310 | 2.01 | 1.41 | 1.60 | 2.12 | 7.82 | 11 | Pass |
| 102 | 5510 | 2.08 | 1.65 | 1.69 | 1.15 | 7.68 | 10.99 | Pass |
| 110 | 5550 | 2.11 | 1.40 | 1.09 | 1.62 | 7.59 | 10.99 | Pass |
| 134 | 5670 | 2.09 | 1.73 | 1.25 | 1.13 | 7.59 | 10.99 | Pass |
| 142 (U-NII-2C) | 5710 | 1.88 | 1.59 | 1.28 | 1.19 | 7.51 | 10.99 | 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 is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the power density limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm/MHz.

### 802.11ax (HE80)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) | | | | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | |
| 58 | 5290 | -1.62 | -1.63 | -1.22 | -1.22 | 4.60 | 11 | Pass |
| 106 | 5530 | -0.86 | -1.32 | -1.73 | -1.38 | 4.71 | 10.99 | Pass |
| 122 | 5610 | -1.36 | -1.23 | -1.75 | -1.66 | 4.53 | 10.99 | Pass |
| 138 (U-NII-2C) | 5690 | -1.53 | -1.24 | -1.91 | -1.67 | 4.44 | 10.99 | 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 is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the power density limit shall not be reduced.
4. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm/MHz.

## 802.11ax (HE160)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/MHz) | | | | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | |
| 50 (U-NII-1) | 5250 | -4.58 | -4.83 | -5.05 | -4.57 | 1.27 | 17 | Pass |
| 50 (U-NII-2A) | 5250 | -4.34 | -4.50 | -4.70 | -4.27 | 1.57 | 11 | Pass |
| 114 | 5570 | -4.42 | -4.72 | -3.50 | -4.49 | 1.76 | 10.99 | 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 is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 5.6 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 5.48 dBi < 6 dBi, so the power density limit shall not be reduced.
5. For U-NII-2C, the directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm/MHz.

### 802.11a

| Chan. | Chan. Freq. (MHz) | PSD (dBm/300kHz) | | | | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 144 (U-NII-3) | 5720 | -4.34 | -5.38 | -4.43 | -4.42 | 1.4 | 3.62 | 29.52 | Pass |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.48-6) = 29.52 dBm/500kHz.

### 802.11ax (HE20)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/300kHz) | | | | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 144 (U-NII-3) | 5720 | -5.95 | -5.58 | -5.91 | -6.01 | 0.16 | 2.38 | 29.52 | Pass |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.48-6) = 29.52 dBm/500kHz.

### 802.11ax (HE40)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/300kHz) | | | | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 142 (U-NII-3) | 5710 | -8.81 | -8.92 | -9.07 | -9.06 | -2.94 | -0.72 | 29.52 | Pass |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.48-6) = 29.52 dBm/500kHz.

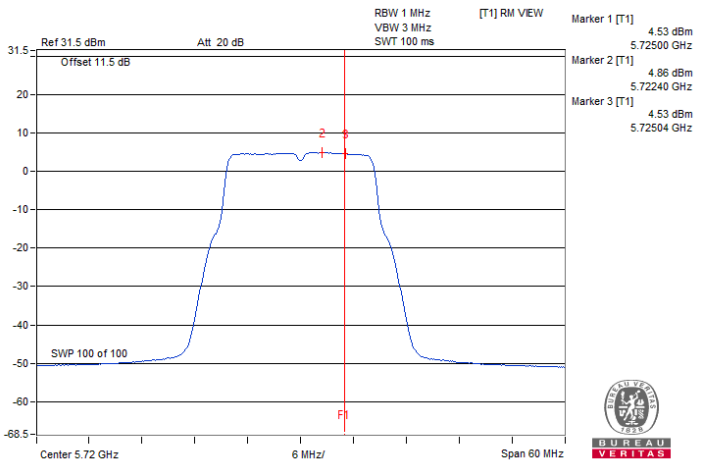
### 802.11ax (HE80)

| Chan. | Chan. Freq. (MHz) | PSD (dBm/300kHz) | | | | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | | | |
| 138 (U-NII-3) | 5690 | -12.55 | -12.71 | -12.64 | -12.60 | -6.6 | -4.38 | 29.52 | Pass |

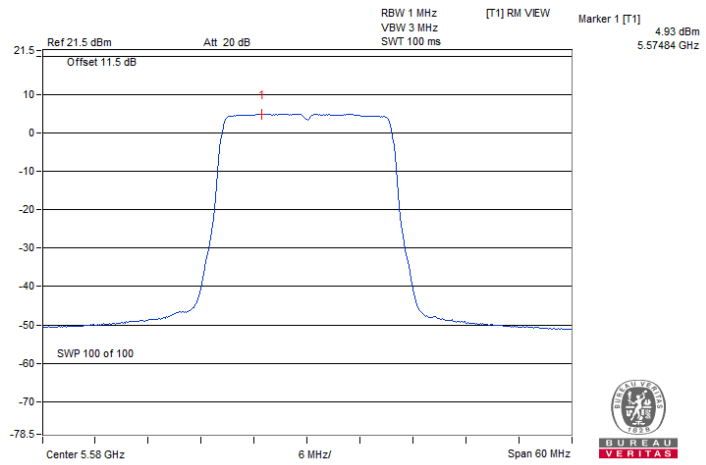
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 30-(6.48-6) = 29.52 dBm/500kHz.

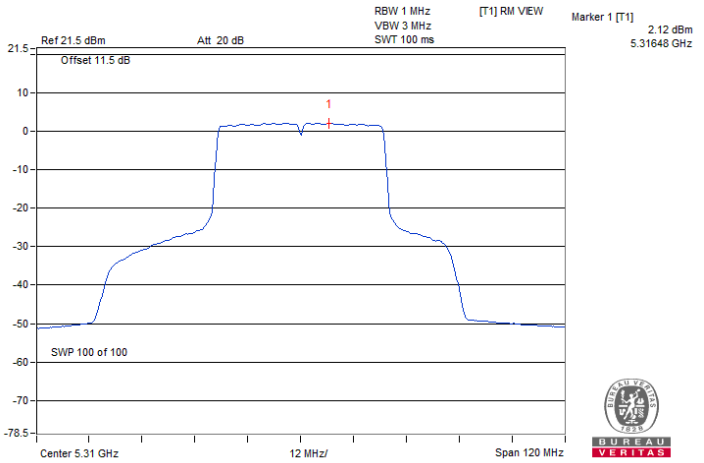
## Spectrum Plot of Maximum Value



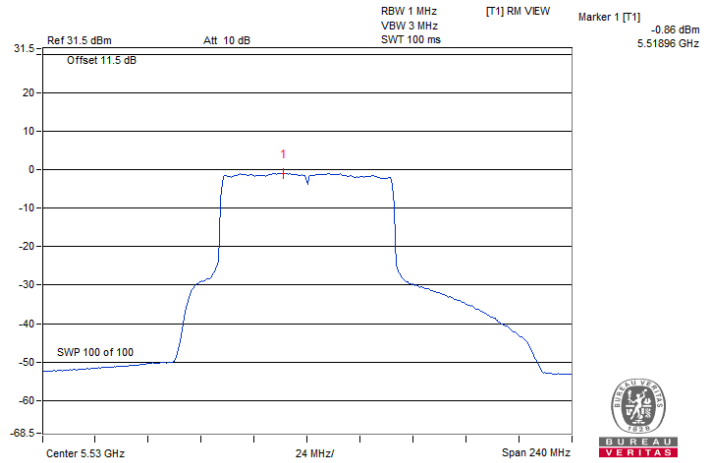

802.11a / Chain 0 : CH 144 (U-NII-2C)



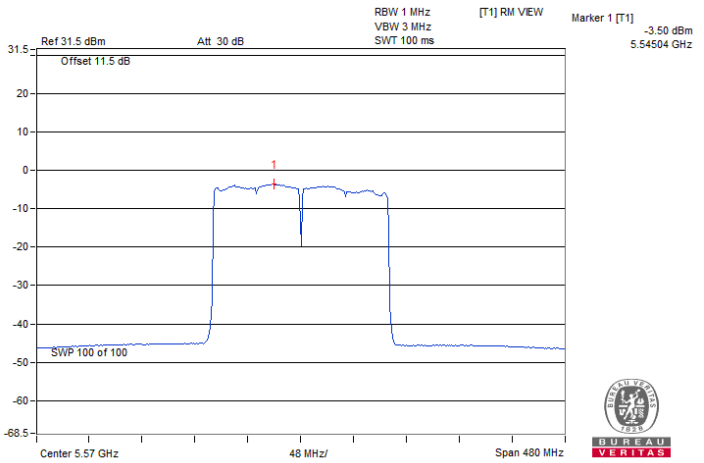

802.11ax (HE20) / Chain 0 : CH 116



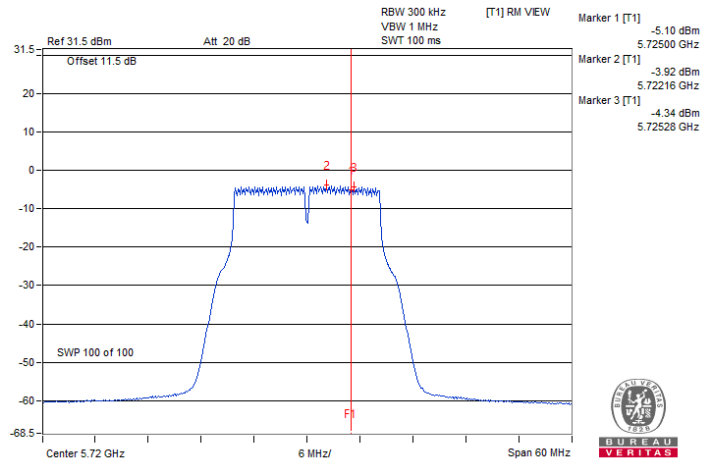

802.11ax (HE40) / Chain 3 : CH 62




802.11ax (HE80) / Chain 0 : CH 106

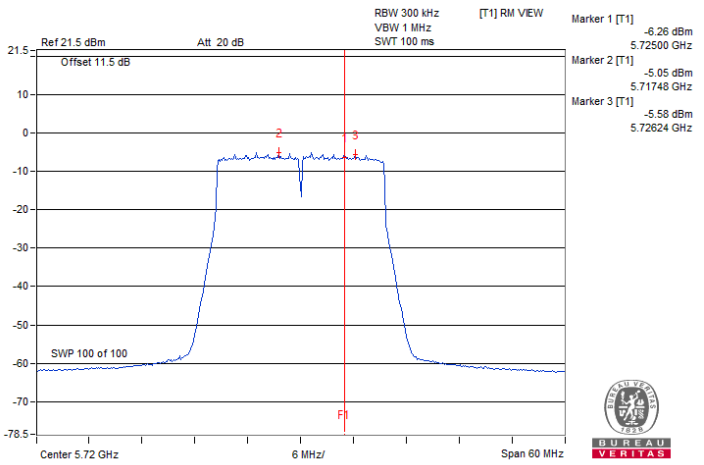



802.11ax (HE160) / Chain 2 : CH 114

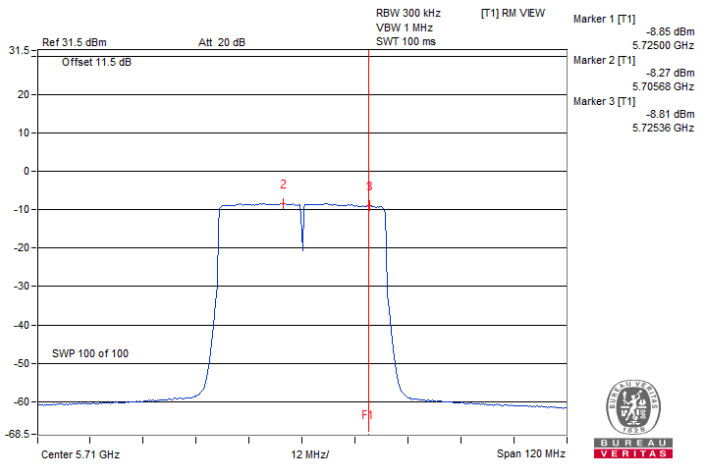



802.11a / Chain 0 : CH 144 (U-NII-3)

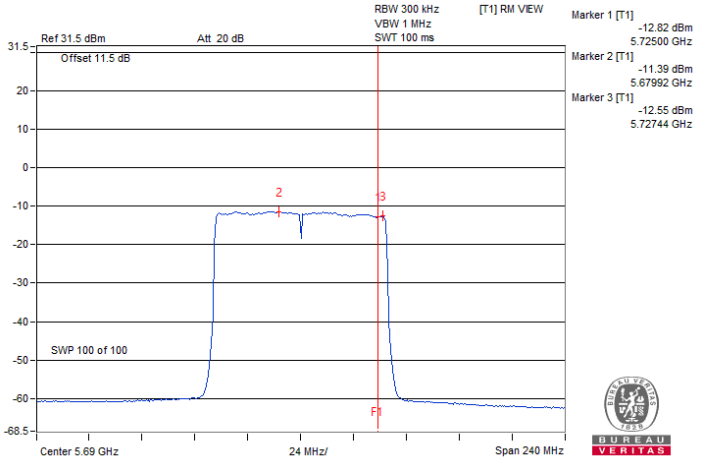
## Spectrum Plot of Maximum Value




802.11ax (HE20) / Chain 1 : CH 144 (U-NII-3)




802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)




802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

## 7.4 6 dB Bandwidth

| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 23°C, 67% RH | Tested By: | Chris Lin / Wayne Lin |
|---|---|---|---|---|---|

### 802.11a

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | | | | Minimum Limit (MHz) | Test Result |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | |
| 144 (U-NII-3) | 5720 | 3.15 | 3.15 | 3.16 | 3.16 | 0.5 | Pass |

### 802.11ax (HE20)

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | | | | Minimum Limit (MHz) | Test Result |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | |
| 144 (U-NII-3) | 5720 | 4.45 | 4.44 | 4.48 | 4.49 | 0.5 | Pass |

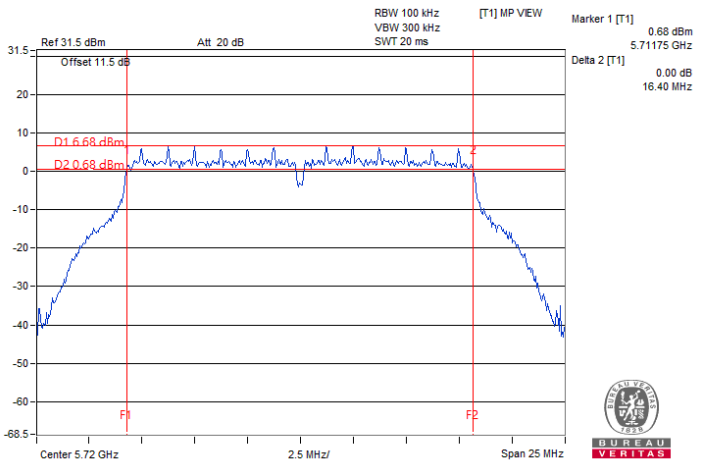
### 802.11ax (HE40)

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | | | | Minimum Limit (MHz) | Test Result |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | |
| 142 (U-NII-3) | 5710 | 3.97 | 3.85 | 3.91 | 3.87 | 0.5 | Pass |

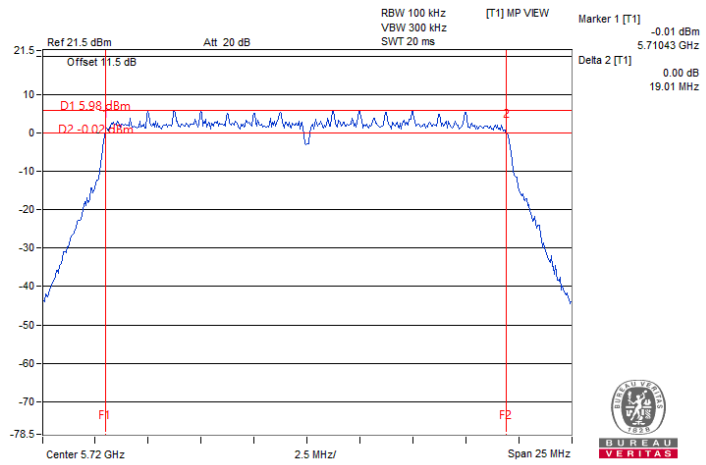
### 802.11ax (HE80)

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | | | | Minimum Limit (MHz) | Test Result |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 | | |
| 138 (U-NII-3) | 5690 | 3.65 | 3.94 | 4.02 | 3.82 | 0.5 | Pass |

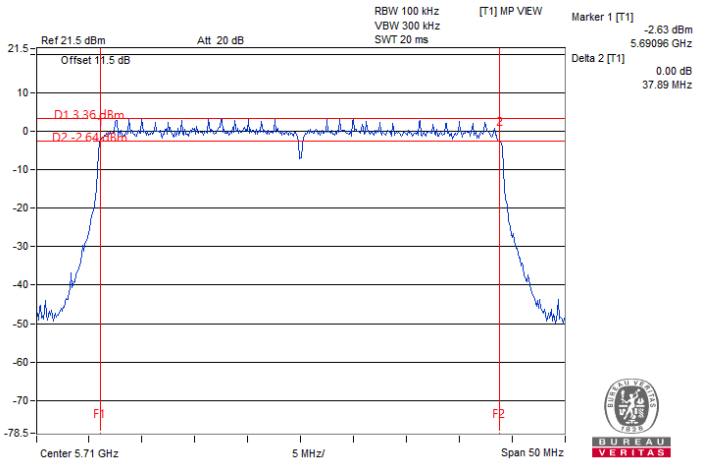
## Spectrum Plot of Minimum Value



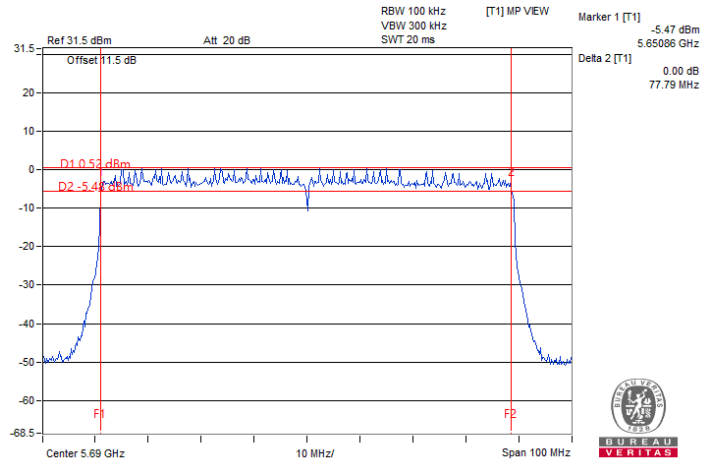

802.11a / Chain 0 : CH 144 (U-NII-3)




802.11ax (HE20) / Chain 1 : CH 144 (U-NII-3)




802.11ax (HE40) / Chain 1 : CH 142 (U-NII-3)




802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

Note: For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz

## 7.5 Occupied Bandwidth

| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 23°C, 67% RH | Tested By: | Chris Lin / Wayne Lin |
|---|---|---|---|---|---|

### 802.11a

| Channel | Frequency (MHz) | Occupied Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 52 | 5260 | 17.04 | 17.16 | 17.16 | 17.16 |
| 60 | 5300 | 17.04 | 17.04 | 17.04 | 17.16 |
| 64 | 5320 | 17.40 | 17.52 | 17.40 | 17.40 |
| 100 | 5500 | 17.40 | 17.16 | 17.40 | 17.28 |
| 116 | 5580 | 17.04 | 17.16 | 17.04 | 17.16 |
| 140 | 5700 | 17.16 | 17.16 | 17.16 | 17.16 |
| 144 (U-NII-2C) | 5720 | 13.52 | 13.64 | 13.64 | 13.64 |
| 144 (U-NII-3) | 5720 | 3.28 | 3.40 | 3.40 | 3.52 |

### 802.11ax (HE20)

| Channel | Frequency (MHz) | Occupied Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 52 | 5260 | 19.08 | 19.20 | 19.20 | 19.08 |
| 60 | 5300 | 19.08 | 19.20 | 19.20 | 19.08 |
| 64 | 5320 | 19.20 | 19.32 | 19.32 | 19.32 |
| 100 | 5500 | 19.20 | 19.32 | 19.32 | 19.32 |
| 116 | 5580 | 19.20 | 19.20 | 19.20 | 19.20 |
| 140 | 5700 | 19.20 | 19.20 | 19.20 | 19.20 |
| 144 (U-NII-2C) | 5720 | 14.72 | 14.60 | 14.72 | 14.72 |
| 144 (U-NII-3) | 5720 | 4.48 | 4.48 | 4.48 | 4.48 |

### 802.11ax (HE40)

| Channel | Frequency (MHz) | Occupied Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 54 | 5270 | 38.16 | 38.16 | 38.16 | 38.16 |
| 62 | 5310 | 38.16 | 38.16 | 38.16 | 38.16 |
| 102 | 5510 | 38.16 | 38.16 | 38.40 | 38.16 |
| 110 | 5550 | 37.92 | 37.92 | 37.92 | 37.92 |
| 134 | 5670 | 38.16 | 38.16 | 37.92 | 37.92 |
| 142 (U-NII-2C) | 5710 | 33.96 | 34.20 | 34.20 | 34.20 |
| 142 (U-NII-3) | 5710 | 3.72 | 3.72 | 3.72 | 3.96 |

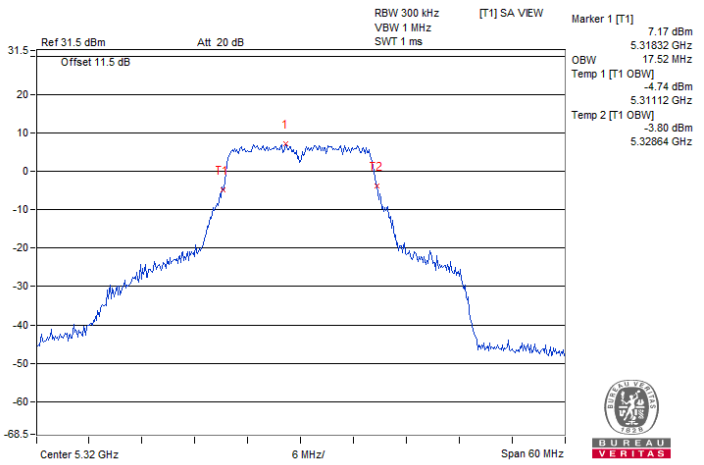
### 802.11ax (HE80)

| Channel | Frequency (MHz) | Occupied Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 58 | 5290 | 77.28 | 77.28 | 77.28 | 77.28 |
| 106 | 5530 | 77.28 | 77.28 | 77.76 | 77.28 |
| 122 | 5610 | 77.28 | 77.28 | 77.28 | 77.28 |
| 138 (U-NII-2C) | 5690 | 73.88 | 73.88 | 73.88 | 73.88 |
| 138 (U-NII-3) | 5690 | 3.40 | 3.40 | 3.40 | 3.40 |

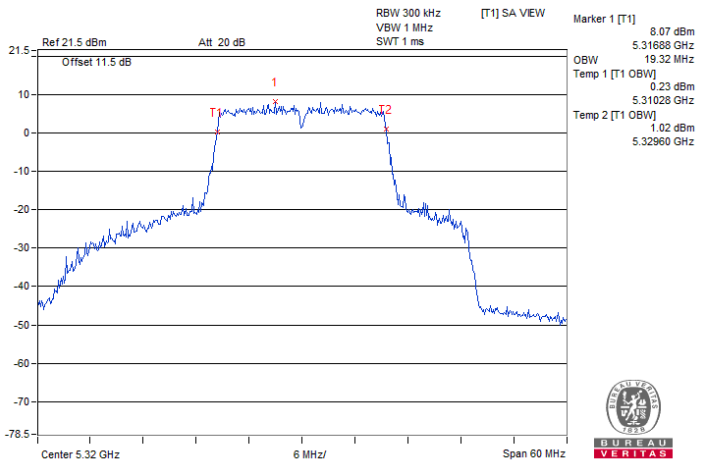
### 802.11ax (HE160)

| Channel | Frequency (MHz) | Occupied Bandwidth (MHz) | | | |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 3 |
| 50 (U-NII-1) | 5250 | 78.72 | 78.72 | 78.72 | 78.72 |
| 50 (U-NII-2A) | 5250 | 77.76 | 77.76 | 77.76 | 78.72 |
| 114 | 5570 | 156.48 | 156.48 | 156.48 | 156.48 |

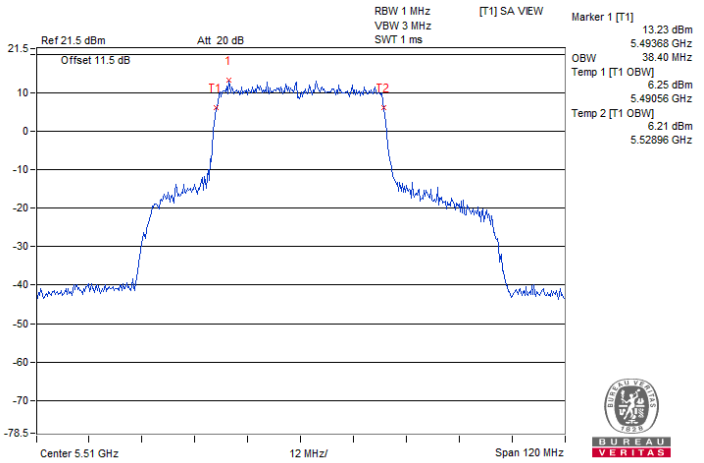
## Spectrum Plot of Maximum Value



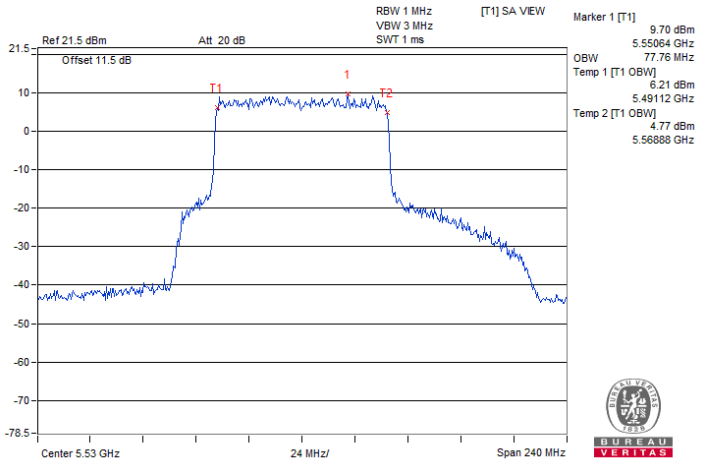

802.11a / Chain 1 : CH 64



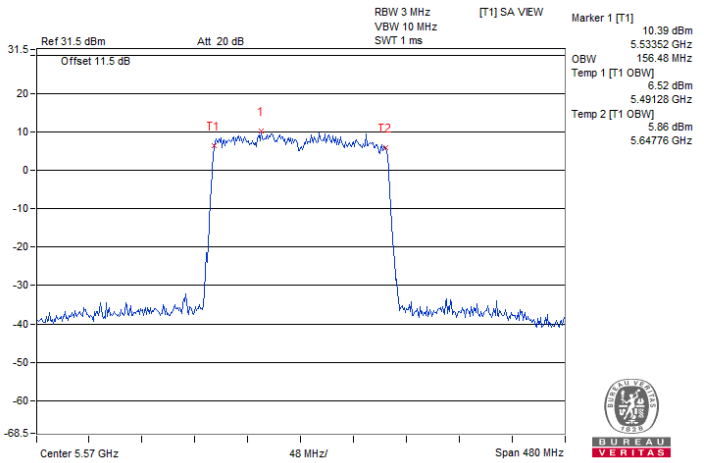

802.11ax (HE20) / Chain 1 : CH 64




802.11ax (HE40) / Chain 2 : CH 102




802.11ax (HE80) / Chain 2 : CH 106




802.11ax (HE160) / Chain 0 : CH 114

## 7.6 Frequency Stability

| Input Power: | 120 Vac, 60 Hz | Environmental Conditions: | 23°C, 67% RH | Tested By: | Chris Lin / Wayne Lin |
|---|---|---|---|---|---|

802.11a

| Frequency Stability Versus Temperature | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Operating Frequency: 5260 MHz | | | | | | | | | |
| Temp. (℃) | 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 | 5259.9802 | Pass | 5259.979 | Pass | 5259.9758 | Pass | 5259.9801 | Pass |
| 30 | 120 | 5260.0136 | Pass | 5260.0147 | Pass | 5260.0182 | Pass | 5260.0182 | Pass |
| 20 | 120 | 5260.0093 | Pass | 5260.012 | Pass | 5260.009 | Pass | 5260.0103 | Pass |
| 10 | 120 | 5260.0208 | Pass | 5260.0225 | Pass | 5260.0211 | Pass | 5260.0215 | Pass |
| 0 | 120 | 5259.9854 | Pass | 5259.9851 | Pass | 5259.9845 | Pass | 5259.9811 | Pass |

| Frequency Stability Versus Voltage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Operating Frequency: 5260 MHz | | | | | | | | | |
| Temp. (℃) | 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 | 5260.0005 | Pass | 5260.0027 | Pass | 5259.9988 | Pass | 5259.9994 | Pass |
| | 120 | 5260.0093 | Pass | 5260.012 | Pass | 5260.009 | Pass | 5260.0103 | Pass |
| | 102 | 5260.0037 | Pass | 5260.004 | Pass | 5260.0055 | Pass | 5260.0025 | Pass |

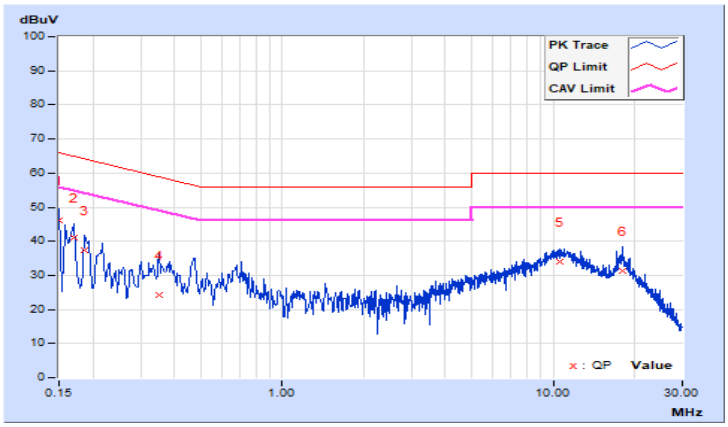
## 7.7 AC Power Conducted Emissions

| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE40) | Channel | CH 62：5310 MHz |
| Frequency Range | 150kHz ~ 30MHz | Detector Function & Resolution Bandwidth | Quasi-Peak (QP) / Average (AV), 9 kHz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Adair Peng | | |

| 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 | 0.15000 | 9.66 | 36.43 | 22.74 | 46.09 | 32.40 | 66.00 | 56.00 | -19.91 | -23.60 |
| 2 | 0.17000 | 9.68 | 31.46 | 16.80 | 41.14 | 26.48 | 64.96 | 54.96 | -23.82 | -28.48 |
| 3 | 0.18600 | 9.69 | 27.58 | 16.19 | 37.27 | 25.88 | 64.21 | 54.21 | -26.94 | -28.33 |
| 4 | 0.35000 | 9.77 | 14.41 | 5.05 | 24.18 | 14.82 | 58.96 | 48.96 | -34.78 | -34.14 |
| 5 | 10.61400 | 10.02 | 23.85 | 18.07 | 33.87 | 28.09 | 60.00 | 50.00 | -26.13 | -21.91 |
| 6 | 18.02200 | 10.06 | 21.30 | 14.97 | 31.36 | 25.03 | 60.00 | 50.00 | -28.64 | -24.97 |

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

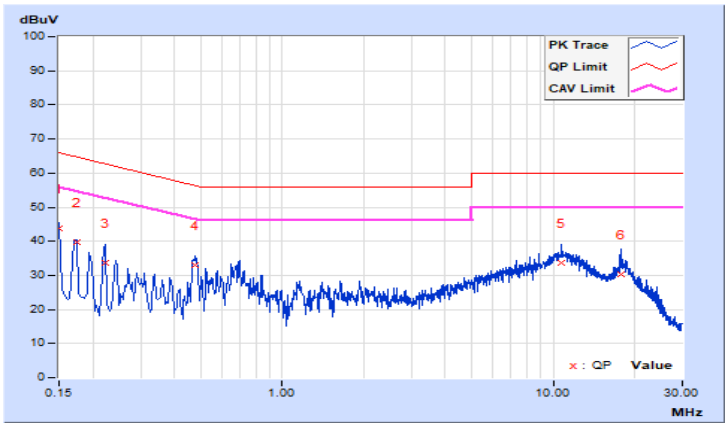


| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE40) | Channel | CH 62：5310 MHz |
| Frequency Range | 150kHz ~ 30MHz | Detector Function & Resolution Bandwidth | Quasi-Peak (QP) / Average (AV), 9 kHz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Adair Peng | | |

| 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 | 0.15000 | 9.66 | 34.22 | 20.29 | 43.88 | 29.95 | 66.00 | 56.00 | -22.12 | -26.05 |
| 2 | 0.17400 | 9.68 | 30.15 | 16.87 | 39.83 | 26.55 | 64.77 | 54.77 | -24.94 | -28.22 |
| 3 | 0.22200 | 9.71 | 24.04 | 9.66 | 33.75 | 19.37 | 62.74 | 52.74 | -28.99 | -33.37 |
| **4** | **0.47800** | **9.78** | **23.29** | **17.24** | **33.07** | **27.02** | **56.37** | **46.37** | **-23.30** | **-19.35** |
| 5 | 10.77400 | 10.07 | 23.47 | 17.68 | 33.54 | 27.75 | 60.00 | 50.00 | -26.46 | -22.25 |
| 6 | 17.73000 | 10.13 | 20.27 | 13.61 | 30.40 | 23.74 | 60.00 | 50.00 | -29.60 | -26.26 |

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



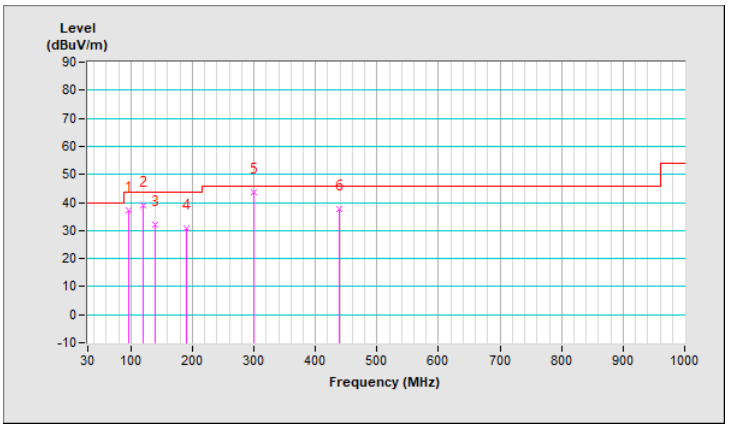
## 7.8 Unwanted Emissions below 1 GHz

| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE40) | Channel | CH 62：5310 MHz |
| Frequency Range | 9 kHz ~ 1 GHz | Detector Function & Bandwidth | (QP) RB = 120kHz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 21.6°C, 74.8% RH |
| Tested By | Rex Wang | | |

| 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 | 95.96 | 37.3 QP | 43.5 | -6.2 | 1.51 H | 19 | 51.4 | -14.1 |
| 2 | 119.24 | 38.9 QP | 43.5 | -4.6 | 1.01 H | 205 | 50.1 | -11.2 |
| 3 | 139.61 | 32.0 QP | 43.5 | -11.5 | 2.00 H | 287 | 41.2 | -9.2 |
| 4 | 191.02 | 30.7 QP | 43.5 | -12.8 | 1.51 H | 133 | 41.9 | -11.2 |
| **5** | **299.66** | **43.7 QP** | **46.0** | **-2.3** | **1.01 H** | **108** | **50.5** | **-6.8** |
| 6 | 438.37 | 37.7 QP | 46.0 | -8.3 | 1.51 H | 222 | 41.3 | -3.6 |

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

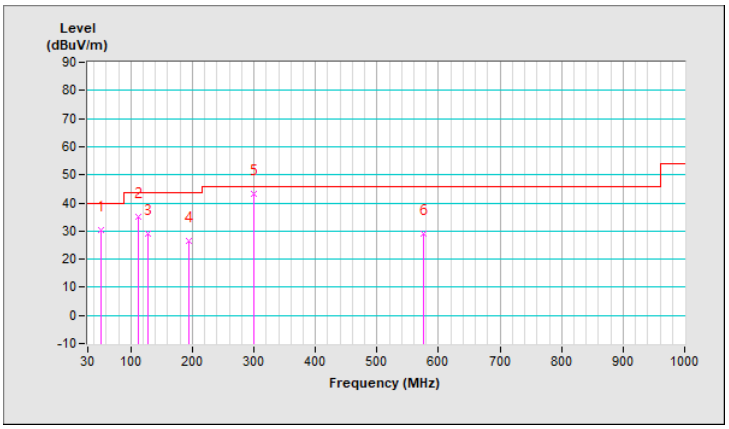


| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE40) | Channel | CH 62：5310 MHz |
| Frequency Range | 9 kHz ~ 1 GHz | Detector Function & Bandwidth | (QP) RB = 120kHz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 21.6°C, 74.8% RH |
| Tested By | Rex Wang | | |

| 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 | 51.34 | 30.2 QP | 40.0 | -9.8 | 1.51 V | 312 | 39.1 | -8.9 |
| 2 | 111.48 | 35.2 QP | 43.5 | -8.3 | 1.01 V | 5 | 47.1 | -11.9 |
| 3 | 127.97 | 29.2 QP | 43.5 | -14.3 | 1.01 V | 223 | 39.5 | -10.3 |
| 4 | 193.93 | 26.3 QP | 43.5 | -17.2 | 1.01 V | 224 | 37.7 | -11.4 |
| 5 | 299.66 | 43.2 QP | 46.0 | -2.8 | 1.51 V | 84 | 50.0 | -6.8 |
| 6 | 576.11 | 29.0 QP | 46.0 | -17.0 | 1.51 V | 81 | 30.0 | -1.0 |

Remarks:

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



## 7.9 Unwanted Emissions above 1 GHz

| | | | |
|---|---|---|---|
| RF Mode | 802.11a | Channel | CH 52：5260 MHz |
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5150.00 | 61.6 PK | 74.0 | -12.4 | 2.70 H | 117 | 40.6 | 21.0 |
| 2 | 5150.00 | 49.1 AV | 54.0 | -4.9 | 2.70 H | 117 | 28.1 | 21.0 |
| 3 | *5260.00 | 118.9 PK | | | 2.70 H | 117 | 78.1 | 40.8 |
| 4 | *5260.00 | 109.2 AV | | | 2.70 H | 117 | 68.4 | 40.8 |
| 5 | #10520.00 | 63.2 PK | 68.2 | -5.0 | 2.46 H | 102 | 38.2 | 25.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5150.00 | 60.8 PK | 74.0 | -13.2 | 2.22 V | 31 | 39.8 | 21.0 |
| 2 | 5150.00 | 48.5 AV | 54.0 | -5.5 | 2.22 V | 31 | 27.5 | 21.0 |
| 3 | *5260.00 | 115.4 PK | | | 2.22 V | 31 | 74.6 | 40.8 |
| 4 | *5260.00 | 104.9 AV | | | 2.22 V | 31 | 64.1 | 40.8 |
| 5 | #10520.00 | 62.8 PK | 68.2 | -5.4 | 1.89 V | 64 | 37.8 | 25.0 |

Remarks:

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

| RF Mode | 802.11a | Channel | CH 60：5300 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5300.00 | 118.9 PK | | | 2.82 H | 117 | 78.1 | 40.8 |
| 2 | *5300.00 | 109.1 AV | | | 2.82 H | 117 | 68.3 | 40.8 |
| 3 | 10600.00 | 62.7 PK | 74.0 | -11.3 | 2.55 H | 96 | 37.7 | 25.0 |
| 4 | 10600.00 | 49.5 AV | 54.0 | -4.5 | 2.55 H | 96 | 24.5 | 25.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5300.00 | 116.5 PK | | | 3.60 V | 4 | 75.7 | 40.8 |
| 2 | *5300.00 | 105.8 AV | | | 3.60 V | 4 | 65.0 | 40.8 |
| 3 | 10600.00 | 62.5 PK | 74.0 | -11.5 | 2.07 V | 52 | 37.5 | 25.0 |
| 4 | 10600.00 | 49.3 AV | 54.0 | -4.7 | 2.07 V | 52 | 24.3 | 25.0 |

Remarks:

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

| RF Mode | 802.11a | Channel | CH 64：5320 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5320.00 | 118.5 PK | | | 2.92 H | 110 | 77.6 | 40.9 |
| 2 | *5320.00 | 108.6 AV | | | 2.92 H | 110 | 67.7 | 40.9 |
| 3 | 5350.00 | 62.4 PK | 74.0 | -11.6 | 2.92 H | 110 | 41.4 | 21.0 |
| 4 | 5350.00 | 49.8 AV | 54.0 | -4.2 | 2.92 H | 110 | 28.8 | 21.0 |
| 5 | 10640.00 | 64.0 PK | 74.0 | -10.0 | 2.63 H | 105 | 38.3 | 25.7 |
| 6 | 10640.00 | 50.0 AV | 54.0 | -4.0 | 2.63 H | 105 | 24.3 | 25.7 |
| 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 | *5320.00 | 115.3 PK | | | 3.04 V | 8 | 74.4 | 40.9 |
| 2 | *5320.00 | 105.2 AV | | | 3.04 V | 8 | 64.3 | 40.9 |
| 3 | 5350.00 | 61.5 PK | 74.0 | -12.5 | 3.04 V | 8 | 40.5 | 21.0 |
| 4 | 5350.00 | 48.9 AV | 54.0 | -5.1 | 3.04 V | 8 | 27.9 | 21.0 |
| 5 | 10640.00 | 63.7 PK | 74.0 | -10.3 | 1.93 V | 64 | 38.0 | 25.7 |
| 6 | 10640.00 | 49.8 AV | 54.0 | -4.2 | 1.93 V | 64 | 24.1 | 25.7 |

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.

| RF Mode | 802.11a | Channel | CH 100：5500 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5460.00 | 62.2 PK | 74.0 | -11.8 | 2.49 H | 113 | 40.8 | 21.4 |
| 2 | 5460.00 | 49.4 AV | 54.0 | -4.6 | 2.49 H | 113 | 28.0 | 21.4 |
| 3 | #5470.00 | 64.8 PK | 68.2 | -3.4 | 2.49 H | 113 | 43.4 | 21.4 |
| 4 | *5500.00 | 118.4 PK | | | 2.49 H | 113 | 76.9 | 41.5 |
| 5 | *5500.00 | 108.5 AV | | | 2.49 H | 113 | 67.0 | 41.5 |
| 6 | 11000.00 | 63.4 PK | 74.0 | -10.6 | 2.43 H | 105 | 36.7 | 26.7 |
| 7 | 11000.00 | 49.9 AV | 54.0 | -4.1 | 2.43 H | 105 | 23.2 | 26.7 |
| 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 | 5460.00 | 61.7 PK | 74.0 | -12.3 | 3.26 V | 0 | 40.3 | 21.4 |
| 2 | 5460.00 | 49.0 AV | 54.0 | -5.0 | 3.26 V | 0 | 27.6 | 21.4 |
| 3 | #5470.00 | 63.0 PK | 68.2 | -5.2 | 3.26 V | 0 | 41.6 | 21.4 |
| 4 | *5500.00 | 114.8 PK | | | 3.26 V | 0 | 73.3 | 41.5 |
| 5 | *5500.00 | 104.8 AV | | | 3.26 V | 0 | 63.3 | 41.5 |
| 6 | 11000.00 | 63.1 PK | 74.0 | -10.9 | 1.99 V | 74 | 36.4 | 26.7 |
| 7 | 11000.00 | 49.7 AV | 54.0 | -4.3 | 1.99 V | 74 | 23.0 | 26.7 |

Remarks:

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

| RF Mode | 802.11a | Channel | CH 116：5580 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5580.00 | 119.5 PK | | | 2.93 H | 118 | 77.9 | 41.6 |
| 2 | *5580.00 | 109.1 AV | | | 2.93 H | 118 | 67.5 | 41.6 |
| 3 | 11160.00 | 63.0 PK | 74.0 | -11.0 | 2.55 H | 104 | 37.2 | 25.8 |
| 4 | 11160.00 | 49.4 AV | 54.0 | -4.6 | 2.55 H | 104 | 23.6 | 25.8 |
| 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 | *5580.00 | 114.6 PK | | | 3.76 V | 12 | 73.0 | 41.6 |
| 2 | *5580.00 | 105.0 AV | | | 3.76 V | 12 | 63.4 | 41.6 |
| 3 | 11160.00 | 62.7 PK | 74.0 | -11.3 | 2.05 V | 72 | 36.9 | 25.8 |
| 4 | 11160.00 | 49.1 AV | 54.0 | -4.9 | 2.05 V | 72 | 23.3 | 25.8 |

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.

| RF Mode | 802.11a | Channel | CH 140：5700 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5700.00 | 118.0 PK | | | 2.76 H | 115 | 76.3 | 41.7 |
| 2 | *5700.00 | 108.6 AV | | | 2.76 H | 115 | 66.9 | 41.7 |
| 3 | #5725.00 | 66.5 PK | 68.2 | -1.7 | 2.76 H | 115 | 44.3 | 22.2 |
| 4 | 11400.00 | 63.8 PK | 74.0 | -10.2 | 2.49 H | 106 | 36.8 | 27.0 |
| 5 | 11400.00 | 50.1 AV | 54.0 | -3.9 | 2.49 H | 106 | 23.1 | 27.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5700.00 | 115.2 PK | | | 3.16 V | 0 | 73.5 | 41.7 |
| 2 | *5700.00 | 105.0 AV | | | 3.16 V | 0 | 63.3 | 41.7 |
| 3 | #5725.00 | 63.2 PK | 68.2 | -5.0 | 3.16 V | 0 | 41.0 | 22.2 |
| 4 | 11400.00 | 63.5 PK | 74.0 | -10.5 | 1.98 V | 67 | 36.5 | 27.0 |
| 5 | 11400.00 | 49.8 AV | 54.0 | -4.2 | 1.98 V | 67 | 22.8 | 27.0 |

Remarks:

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

| RF Mode | 802.11a | Channel | CH 144：5720 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | #5470.00 | 61.6 PK | 68.2 | -6.6 | 2.74 H | 101 | 40.2 | 21.4 |
| 2 | *5720.00 | 118.8 PK | | | 2.74 H | 101 | 76.9 | 41.9 |
| 3 | *5720.00 | 108.9 AV | | | 2.74 H | 101 | 67.0 | 41.9 |
| 4 | #5850.00 | 63.5 PK | 68.2 | -4.7 | 2.74 H | 101 | 41.0 | 22.5 |
| 5 | 11440.00 | 63.8 PK | 74.0 | -10.2 | 2.44 H | 98 | 36.7 | 27.1 |
| 6 | 11440.00 | 49.7 AV | 54.0 | -4.3 | 2.44 H | 98 | 22.6 | 27.1 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | #5470.00 | 61.2 PK | 68.2 | -7.0 | 3.70 V | 13 | 39.8 | 21.4 |
| 2 | *5720.00 | 115.4 PK | | | 3.70 V | 13 | 73.5 | 41.9 |
| 3 | *5720.00 | 105.4 AV | | | 3.70 V | 13 | 63.5 | 41.9 |
| 4 | #5850.00 | 63.1 PK | 68.2 | -5.1 | 3.70 V | 13 | 40.6 | 22.5 |
| 5 | 11440.00 | 63.4 PK | 74.0 | -10.6 | 1.91 V | 68 | 36.3 | 27.1 |
| 6 | 11440.00 | 49.5 AV | 54.0 | -4.5 | 1.91 V | 68 | 22.4 | 27.1 |

Remarks:

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

| RF Mode | 802.11ax (HE20) | Channel | CH 52：5260 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5150.00 | 61.4 PK | 74.0 | -12.6 | 2.25 H | 108 | 40.4 | 21.0 |
| 2 | 5150.00 | 48.8 AV | 54.0 | -5.2 | 2.25 H | 108 | 27.8 | 21.0 |
| 3 | *5260.00 | 120.0 PK | | | 2.25 H | 108 | 79.2 | 40.8 |
| 4 | *5260.00 | 108.8 AV | | | 2.25 H | 108 | 68.0 | 40.8 |
| 5 | #10520.00 | 62.8 PK | 68.2 | -5.4 | 2.44 H | 103 | 37.8 | 25.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5150.00 | 60.9 PK | 74.0 | -13.1 | 3.41 V | 9 | 39.9 | 21.0 |
| 2 | 5150.00 | 48.5 AV | 54.0 | -5.5 | 3.41 V | 9 | 27.5 | 21.0 |
| 3 | *5260.00 | 117.9 PK | | | 3.41 V | 9 | 77.1 | 40.8 |
| 4 | *5260.00 | 105.4 AV | | | 3.41 V | 9 | 64.6 | 40.8 |
| 5 | #10520.00 | 62.5 PK | 68.2 | -5.7 | 2.06 V | 66 | 37.5 | 25.0 |

Remarks:

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

| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE20) | Channel | CH 60：5300 MHz |
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5300.00 | 120.8 PK | | | 2.31 H | 110 | 80.0 | 40.8 |
| 2 | *5300.00 | 108.7 AV | | | 2.31 H | 110 | 67.9 | 40.8 |
| 3 | 10600.00 | 62.9 PK | 74.0 | -11.1 | 2.47 H | 98 | 37.9 | 25.0 |
| 4 | 10600.00 | 49.6 AV | 54.0 | -4.4 | 2.47 H | 98 | 24.6 | 25.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5300.00 | 117.6 PK | | | 3.50 V | 16 | 76.8 | 40.8 |
| 2 | *5300.00 | 105.7 AV | | | 3.50 V | 16 | 64.9 | 40.8 |
| 3 | 10600.00 | 62.5 PK | 74.0 | -11.5 | 1.98 V | 75 | 37.5 | 25.0 |
| 4 | 10600.00 | 49.3 AV | 54.0 | -4.7 | 1.98 V | 75 | 24.3 | 25.0 |

Remarks:

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

| RF Mode | 802.11ax (HE20) | Channel | CH 64：5320 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5320.00 | 120.8 PK | | | 2.98 H | 107 | 79.9 | 40.9 |
| 2 | *5320.00 | 108.1 AV | | | 2.98 H | 107 | 67.2 | 40.9 |
| 3 | 5350.00 | 62.1 PK | 74.0 | -11.9 | 2.98 H | 107 | 41.1 | 21.0 |
| 4 | 5350.00 | 50.0 AV | 54.0 | -4.0 | 2.98 H | 107 | 29.0 | 21.0 |
| 5 | 10640.00 | 64.1 PK | 74.0 | -9.9 | 2.41 H | 95 | 38.4 | 25.7 |
| 6 | 10640.00 | 50.1 AV | 54.0 | -3.9 | 2.41 H | 95 | 24.4 | 25.7 |
| 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 | *5320.00 | 116.5 PK | | | 3.50 V | 11 | 75.6 | 40.9 |
| 2 | *5320.00 | 104.1 AV | | | 3.50 V | 11 | 63.2 | 40.9 |
| 3 | 5350.00 | 61.5 PK | 74.0 | -12.5 | 3.50 V | 11 | 40.5 | 21.0 |
| 4 | 5350.00 | 48.9 AV | 54.0 | -5.1 | 3.50 V | 11 | 27.9 | 21.0 |
| 5 | 10640.00 | 63.9 PK | 74.0 | -10.1 | 1.94 V | 68 | 38.2 | 25.7 |
| 6 | 10640.00 | 50.0 AV | 54.0 | -4.0 | 1.94 V | 68 | 24.3 | 25.7 |

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.

| RF Mode | 802.11ax (HE20) | Channel | CH 100：5500 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5460.00 | 62.7 PK | 74.0 | -11.3 | 2.56 H | 89 | 41.3 | 21.4 |
| 2 | 5460.00 | 50.0 AV | 54.0 | -4.0 | 2.56 H | 89 | 28.6 | 21.4 |
| 3 | #5470.00 | 64.2 PK | 68.2 | -4.0 | 2.56 H | 89 | 42.8 | 21.4 |
| 4 | *5500.00 | 118.3 PK | | | 2.56 H | 89 | 76.8 | 41.5 |
| 5 | *5500.00 | 106.6 AV | | | 2.56 H | 89 | 65.1 | 41.5 |
| 6 | 11000.00 | 63.5 PK | 74.0 | -10.5 | 2.43 H | 100 | 36.8 | 26.7 |
| 7 | 11000.00 | 49.1 AV | 54.0 | -4.9 | 2.43 H | 100 | 22.4 | 26.7 |
| 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 | 5460.00 | 62.2 PK | 74.0 | -11.8 | 3.97 V | 1 | 40.8 | 21.4 |
| 2 | 5460.00 | 49.3 AV | 54.0 | -4.7 | 3.97 V | 1 | 27.9 | 21.4 |
| 3 | #5470.00 | 63.2 PK | 68.2 | -5.0 | 3.97 V | 1 | 41.8 | 21.4 |
| 4 | *5500.00 | 117.2 PK | | | 3.97 V | 1 | 75.7 | 41.5 |
| 5 | *5500.00 | 105.0 AV | | | 3.97 V | 1 | 63.5 | 41.5 |
| 6 | 11000.00 | 63.2 PK | 74.0 | -10.8 | 2.11 V | 64 | 36.5 | 26.7 |
| 7 | 11000.00 | 48.9 AV | 54.0 | -5.1 | 2.11 V | 64 | 22.2 | 26.7 |

Remarks:

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

| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE20) | Channel | CH 116：5580 MHz |
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5580.00 | 119.8 PK | | | 2.62 H | 88 | 78.2 | 41.6 |
| 2 | *5580.00 | 107.0 AV | | | 2.62 H | 88 | 65.4 | 41.6 |
| 3 | 11160.00 | 62.4 PK | 74.0 | -11.6 | 2.47 H | 103 | 36.6 | 25.8 |
| 4 | 11160.00 | 49.3 AV | 54.0 | -4.7 | 2.47 H | 103 | 23.5 | 25.8 |
| 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 | *5580.00 | 119.1 PK | | | 3.92 V | 357 | 77.5 | 41.6 |
| 2 | *5580.00 | 106.2 AV | | | 3.92 V | 357 | 64.6 | 41.6 |
| 3 | 11160.00 | 62.1 PK | 74.0 | -11.9 | 1.89 V | 67 | 36.3 | 25.8 |
| 4 | 11160.00 | 49.0 AV | 54.0 | -5.0 | 1.89 V | 67 | 23.2 | 25.8 |

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.

| RF Mode | 802.11ax (HE20) | Channel | CH 140：5700 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5700.00 | 120.3 PK | | | 2.58 H | 92 | 78.6 | 41.7 |
| 2 | *5700.00 | 107.9 AV | | | 2.58 H | 92 | 66.2 | 41.7 |
| **3** | **#5725.00** | **67.8 PK** | **68.2** | **-0.4** | **2.58 H** | **92** | **45.6** | **22.2** |
| 4 | 11400.00 | 63.5 PK | 74.0 | -10.5 | 2.48 H | 106 | 36.5 | 27.0 |
| 5 | 11400.00 | 49.8 AV | 54.0 | -4.2 | 2.48 H | 106 | 22.8 | 27.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5700.00 | 118.1 PK | | | 3.83 V | 356 | 76.4 | 41.7 |
| 2 | *5700.00 | 106.0 AV | | | 3.83 V | 356 | 64.3 | 41.7 |
| 3 | #5725.00 | 67.2 PK | 68.2 | -1.0 | 3.83 V | 356 | 45.0 | 22.2 |
| 4 | 11400.00 | 63.3 PK | 74.0 | -10.7 | 1.97 V | 74 | 36.3 | 27.0 |
| 5 | 11400.00 | 49.6 AV | 54.0 | -4.4 | 1.97 V | 74 | 22.6 | 27.0 |

Remarks:

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

| RF Mode | 802.11ax (HE20) | Channel | CH 144：5720 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | #5470.00 | 62.0 PK | 68.2 | -6.2 | 2.82 H | 90 | 40.6 | 21.4 |
| 2 | *5720.00 | 119.9 PK | | | 2.82 H | 90 | 78.0 | 41.9 |
| 3 | *5720.00 | 107.3 AV | | | 2.82 H | 90 | 65.4 | 41.9 |
| 4 | #5850.00 | 63.3 PK | 68.2 | -4.9 | 2.82 H | 90 | 40.8 | 22.5 |
| 5 | 11440.00 | 64.3 PK | 74.0 | -9.7 | 2.45 H | 97 | 37.2 | 27.1 |
| 6 | 11440.00 | 49.7 AV | 54.0 | -4.3 | 2.45 H | 97 | 22.6 | 27.1 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | #5470.00 | 61.7 PK | 68.2 | -6.5 | 3.91 V | 352 | 40.3 | 21.4 |
| 2 | *5720.00 | 118.5 PK | | | 3.91 V | 352 | 76.6 | 41.9 |
| 3 | *5720.00 | 106.7 AV | | | 3.91 V | 352 | 64.8 | 41.9 |
| 4 | #5850.00 | 63.1 PK | 68.2 | -5.1 | 3.91 V | 352 | 40.6 | 22.5 |
| 5 | 11440.00 | 64.0 PK | 74.0 | -10.0 | 2.24 V | 72 | 36.9 | 27.1 |
| 6 | 11440.00 | 49.5 AV | 54.0 | -4.5 | 2.24 V | 72 | 22.4 | 27.1 |

Remarks:

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

| RF Mode | 802.11ax (HE40) | Channel | CH 54：5270 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5150.00 | 62.0 PK | 74.0 | -12.0 | 2.24 H | 107 | 41.0 | 21.0 |
| 2 | 5150.00 | 48.7 AV | 54.0 | -5.3 | 2.24 H | 107 | 27.7 | 21.0 |
| 3 | *5270.00 | 118.6 PK | | | 2.24 H | 107 | 77.8 | 40.8 |
| 4 | *5270.00 | 105.8 AV | | | 2.24 H | 107 | 65.0 | 40.8 |
| 5 | #10540.00 | 62.6 PK | 68.2 | -5.6 | 2.38 H | 104 | 37.5 | 25.1 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5150.00 | 61.1 PK | 74.0 | -12.9 | 3.52 V | 18 | 40.1 | 21.0 |
| 2 | 5150.00 | 48.4 AV | 54.0 | -5.6 | 3.52 V | 18 | 27.4 | 21.0 |
| 3 | *5270.00 | 115.2 PK | | | 3.52 V | 18 | 74.4 | 40.8 |
| 4 | *5270.00 | 102.6 AV | | | 3.52 V | 18 | 61.8 | 40.8 |
| 5 | #10540.00 | 62.4 PK | 68.2 | -5.8 | 2.00 V | 72 | 37.3 | 25.1 |

Remarks:

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

| RF Mode | 802.11ax (HE40) | Channel | CH 62：5310 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5310.00 | 116.6 PK | | | 2.21 H | 109 | 75.8 | 40.8 |
| 2 | *5310.00 | 104.8 AV | | | 2.21 H | 109 | 64.0 | 40.8 |
| 3 | 5350.00 | 63.5 PK | 74.0 | -10.5 | 2.21 H | 109 | 42.5 | 21.0 |
| 4 | 5350.00 | 51.4 AV | 54.0 | -2.6 | 2.21 H | 109 | 30.4 | 21.0 |
| 5 | 10620.00 | 63.7 PK | 74.0 | -10.3 | 2.48 H | 102 | 38.4 | 25.3 |
| 6 | 10620.00 | 49.5 AV | 54.0 | -4.5 | 2.48 H | 102 | 24.2 | 25.3 |
| 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 | *5310.00 | 113.9 PK | | | 3.49 V | 14 | 73.1 | 40.8 |
| 2 | *5310.00 | 101.7 AV | | | 3.49 V | 14 | 60.9 | 40.8 |
| 3 | 5350.00 | 61.3 PK | 74.0 | -12.7 | 3.49 V | 14 | 40.3 | 21.0 |
| 4 | 5350.00 | 49.1 AV | 54.0 | -4.9 | 3.49 V | 14 | 28.1 | 21.0 |
| 5 | 10620.00 | 63.4 PK | 74.0 | -10.6 | 1.89 V | 66 | 38.1 | 25.3 |
| 6 | 10620.00 | 49.3 AV | 54.0 | -4.7 | 1.89 V | 66 | 24.0 | 25.3 |

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.

| RF Mode | 802.11ax (HE40) | Channel | CH 102：5510 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5460.00 | 62.1 PK | 74.0 | -11.9 | 2.81 H | 100 | 40.7 | 21.4 |
| 2 | 5460.00 | 49.8 AV | 54.0 | -4.2 | 2.81 H | 100 | 28.4 | 21.4 |
| 3 | #5470.00 | 65.8 PK | 68.2 | -2.4 | 2.81 H | 100 | 44.4 | 21.4 |
| 4 | *5510.00 | 117.8 PK | | | 2.81 H | 100 | 76.3 | 41.5 |
| 5 | *5510.00 | 104.8 AV | | | 2.81 H | 100 | 63.3 | 41.5 |
| 6 | 11020.00 | 63.5 PK | 74.0 | -10.5 | 2.49 H | 104 | 36.8 | 26.7 |
| 7 | 11020.00 | 49.9 AV | 54.0 | -4.1 | 2.49 H | 104 | 23.2 | 26.7 |
| 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 | 5460.00 | 61.7 PK | 74.0 | -12.3 | 3.73 V | 0 | 40.3 | 21.4 |
| 2 | 5460.00 | 49.0 AV | 54.0 | -5.0 | 3.73 V | 0 | 27.6 | 21.4 |
| 3 | #5470.00 | 63.0 PK | 68.2 | -5.2 | 3.73 V | 0 | 41.6 | 21.4 |
| 4 | *5510.00 | 115.9 PK | | | 3.73 V | 0 | 74.4 | 41.5 |
| 5 | *5510.00 | 103.7 AV | | | 3.73 V | 0 | 62.2 | 41.5 |
| 6 | 11020.00 | 63.2 PK | 74.0 | -10.8 | 1.98 V | 74 | 36.5 | 26.7 |
| 7 | 11020.00 | 49.6 AV | 54.0 | -4.4 | 1.98 V | 74 | 22.9 | 26.7 |

Remarks:

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

| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE40) | Channel | CH 110：5550 MHz |
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5550.00 | 117.2 PK | | | 2.89 H | 100 | 75.7 | 41.5 |
| 2 | *5550.00 | 105.3 AV | | | 2.89 H | 100 | 63.8 | 41.5 |
| 3 | 11100.00 | 63.5 PK | 74.0 | -10.5 | 2.40 H | 93 | 37.3 | 26.2 |
| 4 | 11100.00 | 49.5 AV | 54.0 | -4.5 | 2.40 H | 93 | 23.3 | 26.2 |
| 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 | *5550.00 | 116.4 PK | | | 3.71 V | 358 | 74.9 | 41.5 |
| 2 | *5550.00 | 103.9 AV | | | 3.71 V | 358 | 62.4 | 41.5 |
| 3 | 11100.00 | 63.1 PK | 74.0 | -10.9 | 1.91 V | 69 | 36.9 | 26.2 |
| 4 | 11100.00 | 49.2 AV | 54.0 | -4.8 | 1.91 V | 69 | 23.0 | 26.2 |

Remarks:

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

| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE40) | Channel | CH 134：5670 MHz |
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5670.00 | 117.3 PK | | | 3.15 H | 101 | 75.6 | 41.7 |
| 2 | *5670.00 | 104.3 AV | | | 3.15 H | 101 | 62.6 | 41.7 |
| 3 | #5725.00 | 66.8 PK | 68.2 | -1.4 | 3.15 H | 101 | 44.6 | 22.2 |
| 4 | 11340.00 | 63.2 PK | 74.0 | -10.8 | 2.46 H | 94 | 36.8 | 26.4 |
| 5 | 11340.00 | 49.5 AV | 54.0 | -4.5 | 2.46 H | 94 | 23.1 | 26.4 |
| 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 | *5670.00 | 116.5 PK | | | 3.71 V | 358 | 74.8 | 41.7 |
| 2 | *5670.00 | 103.8 AV | | | 3.71 V | 358 | 62.1 | 41.7 |
| 3 | #5725.00 | 66.7 PK | 68.2 | -1.5 | 3.71 V | 358 | 44.5 | 22.2 |
| 4 | 11340.00 | 63.0 PK | 74.0 | -11.0 | 1.95 V | 64 | 36.6 | 26.4 |
| 5 | 11340.00 | 49.2 AV | 54.0 | -4.8 | 1.95 V | 64 | 22.8 | 26.4 |

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.

| RF Mode | 802.11ax (HE40) | Channel | CH 142：5710 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | #5470.00 | 62.1 PK | 68.2 | -6.1 | 2.92 H | 89 | 40.7 | 21.4 |
| 2 | *5710.00 | 117.4 PK | | | 2.92 H | 89 | 75.6 | 41.8 |
| 3 | *5710.00 | 104.4 AV | | | 2.92 H | 89 | 62.6 | 41.8 |
| 4 | #5850.00 | 63.9 PK | 68.2 | -4.3 | 2.92 H | 89 | 41.4 | 22.5 |
| 5 | 11420.00 | 63.7 PK | 74.0 | -10.3 | 2.47 H | 99 | 36.6 | 27.1 |
| 6 | 11420.00 | 49.8 AV | 54.0 | -4.2 | 2.47 H | 99 | 22.7 | 27.1 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | #5470.00 | 62.0 PK | 68.2 | -6.2 | 3.69 V | 350 | 40.6 | 21.4 |
| 2 | *5710.00 | 116.9 PK | | | 3.69 V | 350 | 75.1 | 41.8 |
| 3 | *5710.00 | 104.0 AV | | | 3.69 V | 350 | 62.2 | 41.8 |
| 4 | #5850.00 | 63.4 PK | 68.2 | -4.8 | 3.69 V | 350 | 40.9 | 22.5 |
| 5 | 11420.00 | 63.5 PK | 74.0 | -10.5 | 1.98 V | 70 | 36.4 | 27.1 |
| 6 | 11420.00 | 49.7 AV | 54.0 | -4.3 | 1.98 V | 70 | 22.6 | 27.1 |

Remarks:

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

| | | | |
|---|---|---|---|
| RF Mode | 802.11ax (HE80) | Channel | CH 58：5290 MHz |
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5290.00 | 114.6 PK | | | 3.13 H | 109 | 73.8 | 40.8 |
| 2 | *5290.00 | 102.1 AV | | | 3.13 H | 109 | 61.3 | 40.8 |
| 3 | 5350.00 | 63.5 PK | 74.0 | -10.5 | 3.13 H | 109 | 42.5 | 21.0 |
| 4 | 5350.00 | 50.6 AV | 54.0 | -3.4 | 3.13 H | 109 | 29.6 | 21.0 |
| 5 | #10580.00 | 63.0 PK | 68.2 | -5.2 | 2.53 H | 97 | 38.0 | 25.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | *5290.00 | 111.3 PK | | | 3.51 V | 4 | 70.5 | 40.8 |
| 2 | *5290.00 | 98.5 AV | | | 3.51 V | 4 | 57.7 | 40.8 |
| 3 | 5350.00 | 61.3 PK | 74.0 | -12.7 | 3.51 V | 4 | 40.3 | 21.0 |
| 4 | 5350.00 | 49.1 AV | 54.0 | -4.9 | 3.51 V | 4 | 28.1 | 21.0 |
| 5 | #10580.00 | 62.4 PK | 68.2 | -5.8 | 2.24 V | 72 | 37.4 | 25.0 |

Remarks:

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

| RF Mode | 802.11ax (HE80) | Channel | CH 106：5530 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5460.00 | 62.5 PK | 74.0 | -11.5 | 3.02 H | 100 | 41.1 | 21.4 |
| 2 | 5460.00 | 50.2 AV | 54.0 | -3.8 | 3.02 H | 100 | 28.8 | 21.4 |
| 3 | #5470.00 | 64.0 PK | 68.2 | -4.2 | 3.02 H | 100 | 42.6 | 21.4 |
| 4 | *5530.00 | 114.3 PK | | | 3.02 H | 100 | 72.8 | 41.5 |
| 5 | *5530.00 | 101.3 AV | | | 3.02 H | 100 | 59.8 | 41.5 |
| 6 | 11060.00 | 63.8 PK | 74.0 | -10.2 | 2.46 H | 104 | 37.4 | 26.4 |
| 7 | 11060.00 | 49.9 AV | 54.0 | -4.1 | 2.46 H | 104 | 23.5 | 26.4 |
| 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 | 5460.00 | 62.2 PK | 74.0 | -11.8 | 3.76 V | 358 | 40.8 | 21.4 |
| 2 | 5460.00 | 49.1 AV | 54.0 | -4.9 | 3.76 V | 358 | 27.7 | 21.4 |
| 3 | #5470.00 | 63.1 PK | 68.2 | -5.1 | 3.76 V | 358 | 41.7 | 21.4 |
| 4 | *5530.00 | 112.3 PK | | | 3.76 V | 358 | 70.8 | 41.5 |
| 5 | *5530.00 | 100.2 AV | | | 3.76 V | 358 | 58.7 | 41.5 |
| 6 | 11060.00 | 63.6 PK | 74.0 | -10.4 | 1.93 V | 66 | 37.2 | 26.4 |
| 7 | 11060.00 | 49.6 AV | 54.0 | -4.4 | 1.93 V | 66 | 23.2 | 26.4 |

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.

| RF Mode | 802.11ax (HE80) | Channel | CH 122：5610 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | *5610.00 | 113.0 PK | | | 2.92 H | 91 | 71.4 | 41.6 |
| 2 | *5610.00 | 101.1 AV | | | 2.92 H | 91 | 59.5 | 41.6 |
| 3 | #5725.00 | 63.8 PK | 68.2 | -4.4 | 2.92 H | 91 | 41.6 | 22.2 |
| 4 | 11220.00 | 63.1 PK | 74.0 | -10.9 | 2.52 H | 107 | 37.3 | 25.8 |
| 5 | 11220.00 | 49.4 AV | 54.0 | -4.6 | 2.52 H | 107 | 23.6 | 25.8 |
| 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 | *5610.00 | 112.4 PK | | | 3.75 V | 358 | 70.8 | 41.6 |
| 2 | *5610.00 | 100.3 AV | | | 3.75 V | 358 | 58.7 | 41.6 |
| 3 | #5725.00 | 63.6 PK | 68.2 | -4.6 | 3.75 V | 358 | 41.4 | 22.2 |
| 4 | 11220.00 | 62.7 PK | 74.0 | -11.3 | 1.96 V | 71 | 36.9 | 25.8 |
| 5 | 11220.00 | 49.2 AV | 54.0 | -4.8 | 1.96 V | 71 | 23.4 | 25.8 |

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.

| RF Mode | 802.11ax (HE80) | Channel | CH 138：5690 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | #5470.00 | 62.1 PK | 68.2 | -6.1 | 2.83 H | 93 | 40.7 | 21.4 |
| 2 | *5690.00 | 113.6 PK | | | 2.83 H | 93 | 71.9 | 41.7 |
| 3 | *5690.00 | 100.8 AV | | | 2.83 H | 93 | 59.1 | 41.7 |
| 4 | #5850.00 | 63.3 PK | 68.2 | -4.9 | 2.83 H | 93 | 40.8 | 22.5 |
| 5 | 11380.00 | 63.3 PK | 74.0 | -10.7 | 2.51 H | 102 | 36.5 | 26.8 |
| 6 | 11380.00 | 49.4 AV | 54.0 | -4.6 | 2.51 H | 102 | 22.6 | 26.8 |
| 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 | #5470.00 | 62.0 PK | 68.2 | -6.2 | 3.67 V | 0 | 40.6 | 21.4 |
| 2 | *5690.00 | 112.3 PK | | | 3.67 V | 0 | 70.6 | 41.7 |
| 3 | *5690.00 | 100.0 AV | | | 3.67 V | 0 | 58.3 | 41.7 |
| 4 | #5850.00 | 63.1 PK | 68.2 | -5.1 | 3.67 V | 0 | 40.6 | 22.5 |
| 5 | 11380.00 | 63.0 PK | 74.0 | -11.0 | 2.03 V | 69 | 36.2 | 26.8 |
| 6 | 11380.00 | 49.3 AV | 54.0 | -4.7 | 2.03 V | 69 | 22.5 | 26.8 |

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.

| RF Mode | 802.11ax (HE160) | Channel | CH 50：5250 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

| 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 | 5127.00 | 65.8 PK | 74.0 | -8.2 | 2.88 H | 104 | 44.8 | 21.0 |
| 2 | 5127.00 | 53.4 AV | 54.0 | -0.6 | 2.88 H | 104 | 32.4 | 21.0 |
| 3 | *5250.00 | 112.9 PK | | | 2.88 H | 104 | 72.1 | 40.8 |
| 4 | *5250.00 | 99.7 AV | | | 2.88 H | 104 | 58.9 | 40.8 |
| 5 | 5382.70 | 67.1 PK | 74.0 | -6.9 | 2.88 H | 104 | 45.8 | 21.3 |
| 6 | 5382.70 | 53.5 AV | 54.0 | -0.5 | 2.88 H | 104 | 32.2 | 21.3 |
| 7 | #10500.00 | 62.6 PK | 68.2 | -5.6 | 2.46 H | 92 | 37.6 | 25.0 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5150.00 | 64.7 PK | 74.0 | -9.3 | 3.51 V | 15 | 43.7 | 21.0 |
| 2 | 5150.00 | 51.9 AV | 54.0 | -2.1 | 3.51 V | 15 | 30.9 | 21.0 |
| 3 | *5250.00 | 109.2 PK | | | 3.51 V | 15 | 68.4 | 40.8 |
| 4 | *5250.00 | 96.4 AV | | | 3.51 V | 15 | 55.6 | 40.8 |
| 5 | 5350.00 | 66.5 PK | 74.0 | -7.5 | 3.51 V | 15 | 45.5 | 21.0 |
| 6 | 5350.00 | 50.9 AV | 54.0 | -3.1 | 3.51 V | 15 | 29.9 | 21.0 |
| 7 | #10500.00 | 62.4 PK | 68.2 | -5.8 | 1.96 V | 74 | 37.4 | 25.0 |

Remarks:

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

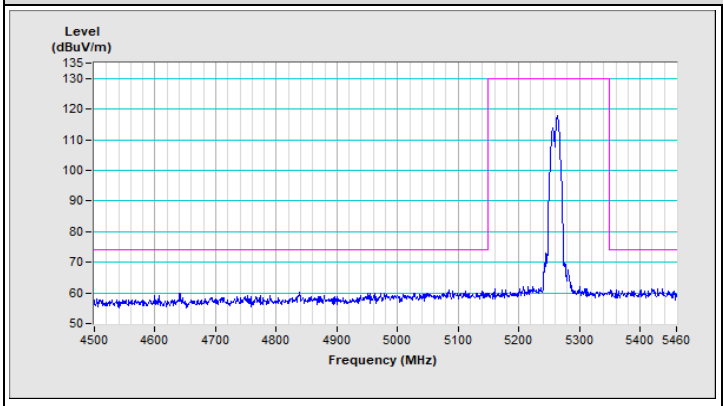
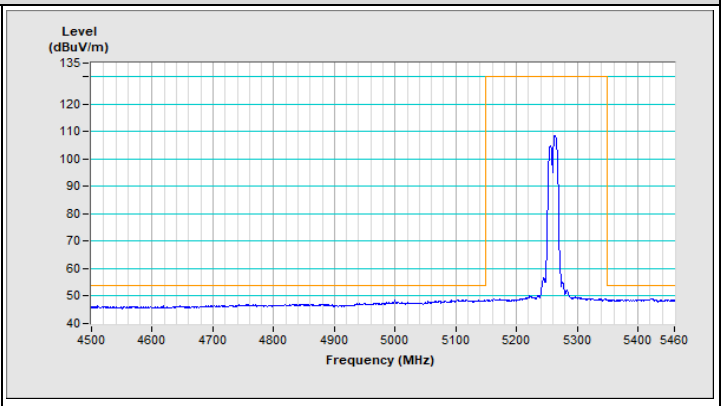
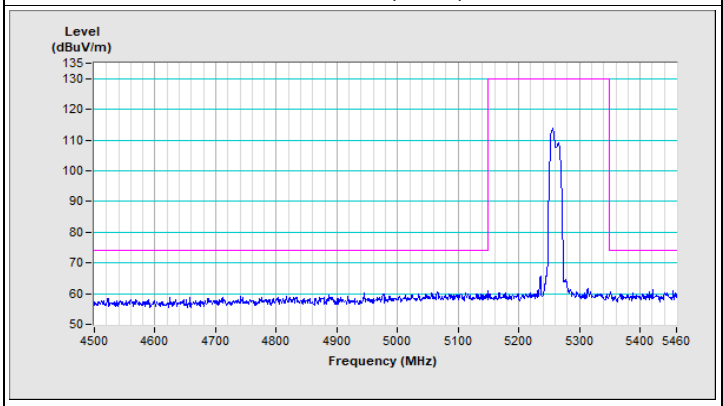
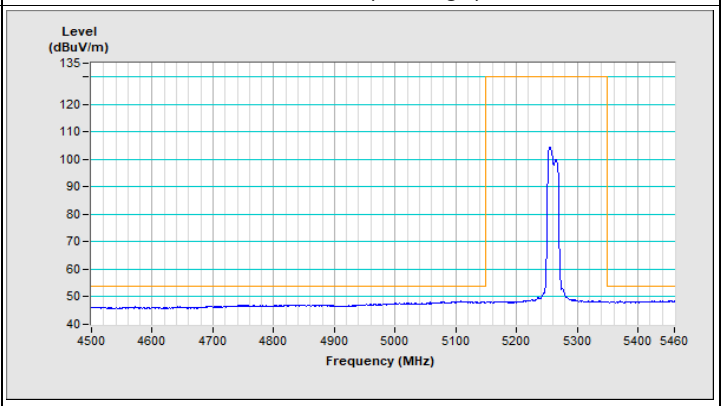
| RF Mode | 802.11ax (HE160) | Channel | CH 114：5570 MHz |
|---|---|---|---|
| Frequency Range | 1 GHz ~ 40 GHz | Detector Function & Bandwidth | (PK) RB = 1 MHz, VB = 3 MHz<br>(AV) RB = 1 MHz, VB = 10 Hz |
| Input Power | 120 Vac, 60 Hz | Environmental Conditions | 23°C, 67% RH |
| Tested By | Rex Wang | | |

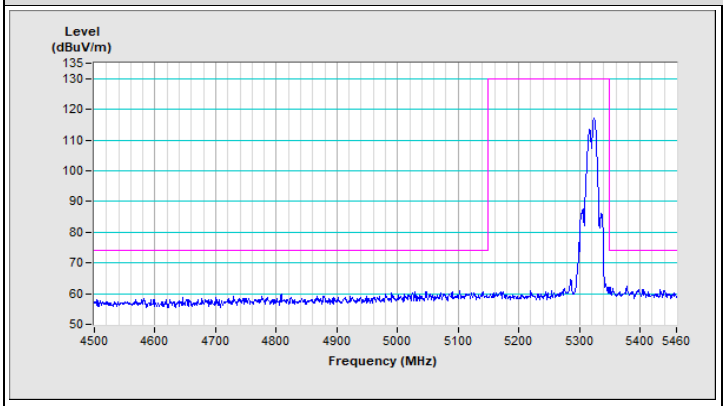
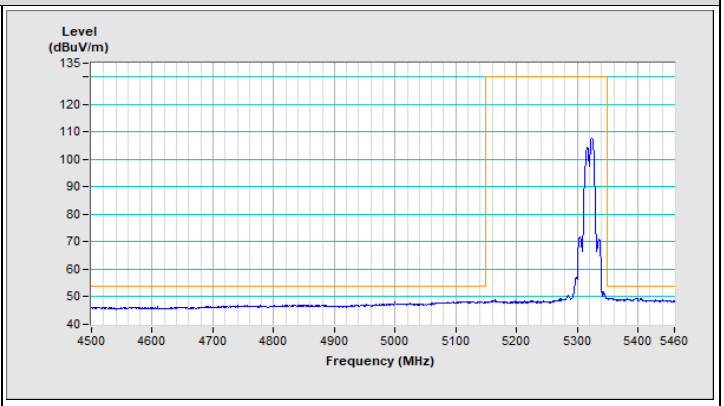
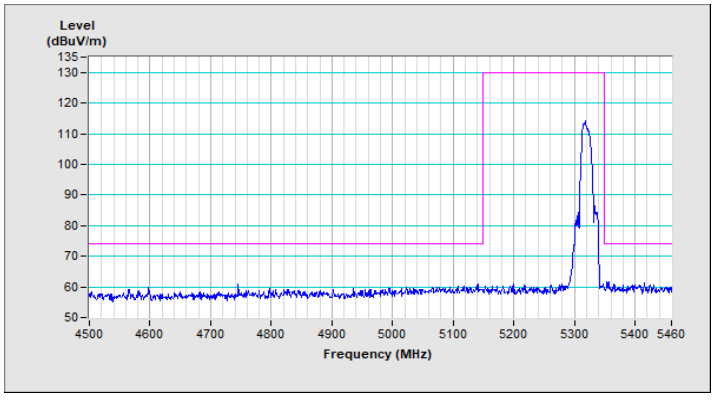
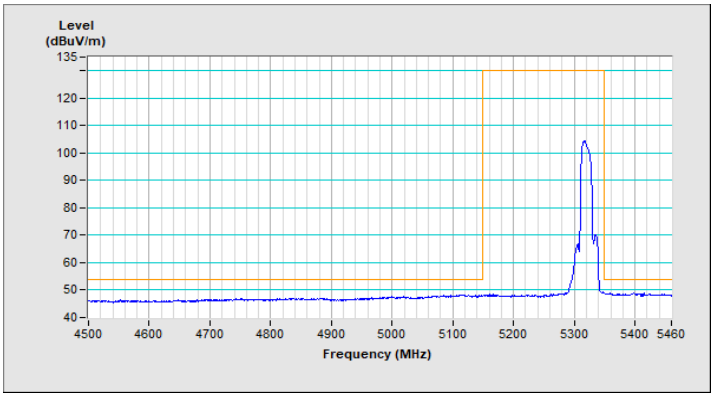
| Antenna Polarity & Test Distance : Horizontal at 3 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5400.00 | 65.6 PK | 74.0 | -8.4 | 2.62 H | 91 | 44.3 | 21.3 |
| 2 | 5400.00 | 52.8 AV | 54.0 | -1.2 | 2.62 H | 91 | 31.5 | 21.3 |
| 3 | #5470.00 | 67.2 PK | 68.2 | -1.0 | 2.62 H | 91 | 45.8 | 21.4 |
| 4 | *5570.00 | 110.2 PK | | | 2.62 H | 91 | 68.6 | 41.6 |
| 5 | *5570.00 | 97.8 AV | | | 2.62 H | 91 | 56.2 | 41.6 |
| 6 | #5725.00 | 66.4 PK | 68.2 | -1.8 | 2.62 H | 91 | 44.2 | 22.2 |
| 7 | 11140.00 | 63.5 PK | 74.0 | -10.5 | 2.45 H | 103 | 37.4 | 26.1 |
| 8 | 11140.00 | 49.6 AV | 54.0 | -4.4 | 2.45 H | 103 | 23.5 | 26.1 |
| Antenna Polarity & Test Distance : Vertical at 3 m | | | | | | | | |
| No | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1 | 5430.00 | 64.0 PK | 74.0 | -10.0 | 3.69 V | 0 | 42.6 | 21.4 |
| 2 | 5430.00 | 49.9 AV | 54.0 | -4.1 | 3.69 V | 0 | 28.5 | 21.4 |
| 3 | #5470.00 | 63.9 PK | 68.2 | -4.3 | 3.69 V | 0 | 42.5 | 21.4 |
| 4 | *5570.00 | 108.3 PK | | | 3.69 V | 0 | 66.7 | 41.6 |
| 5 | *5570.00 | 96.4 AV | | | 3.69 V | 0 | 54.8 | 41.6 |
| 6 | #5725.00 | 65.5 PK | 68.2 | -2.7 | 3.69 V | 0 | 43.3 | 22.2 |
| 7 | 11140.00 | 63.3 PK | 74.0 | -10.7 | 1.90 V | 73 | 37.2 | 26.1 |
| 8 | 11140.00 | 49.4 AV | 54.0 | -4.6 | 1.90 V | 73 | 23.3 | 26.1 |

Remarks:

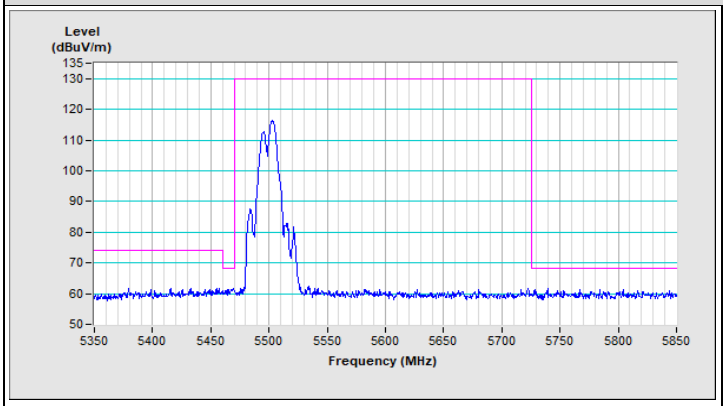
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

## Plot of Band Edge

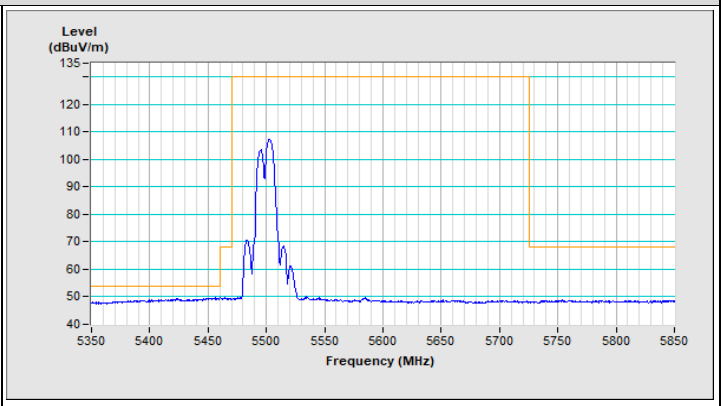
| 802.11a Channel 52 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

| 802.11a Channel 64 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

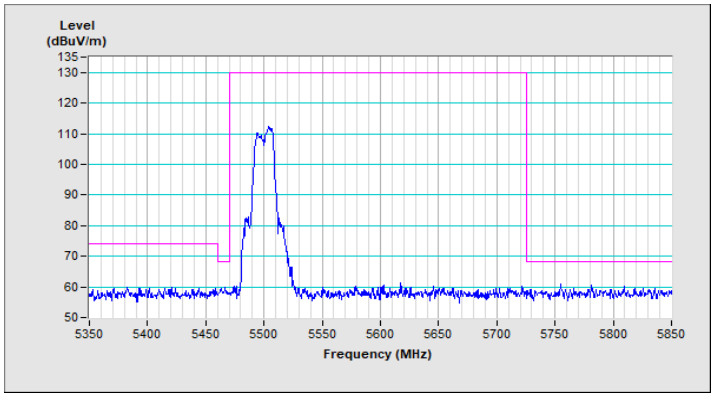
## 802.11a Channel 100



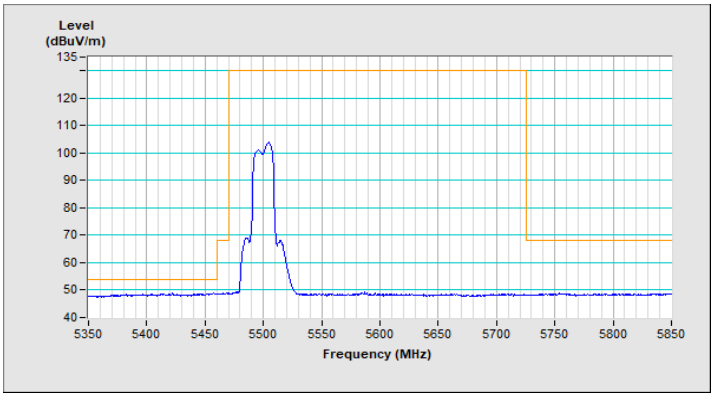

Horizontal (Peak)




Horizontal (Average)

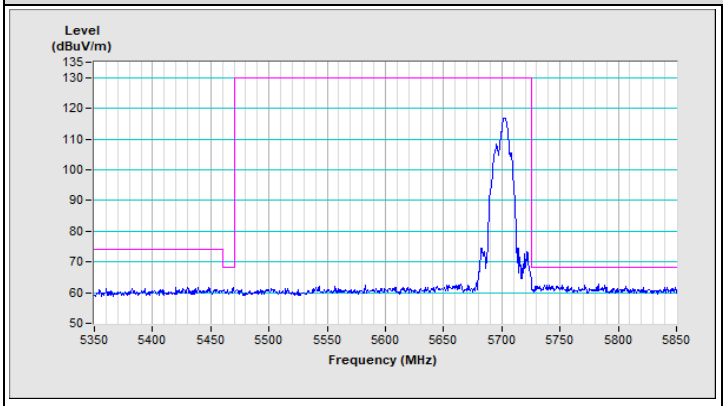



Vertical (Peak)

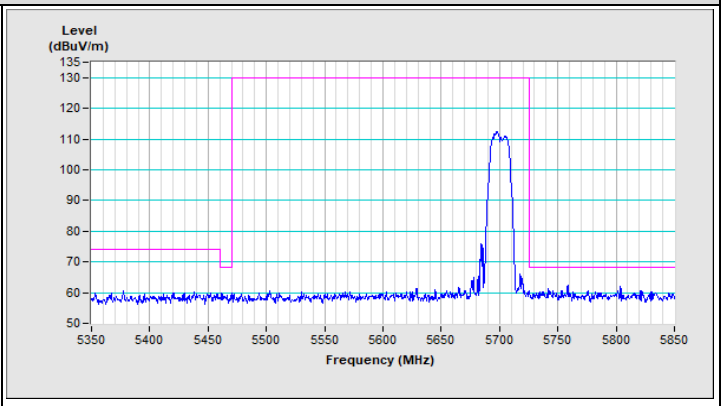



Vertical (Average)

## 802.11a Channel 140

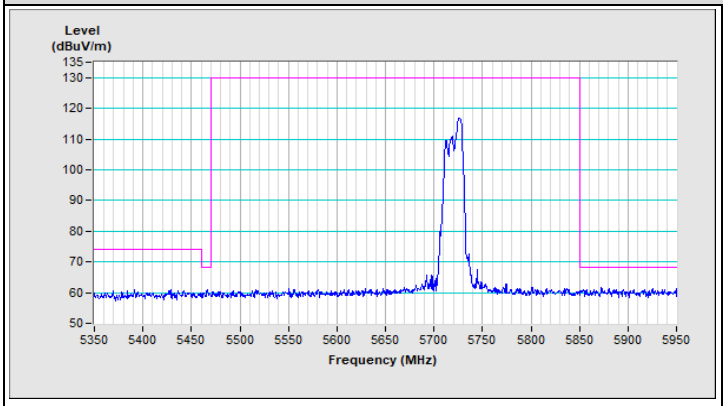



Horizontal (Peak)

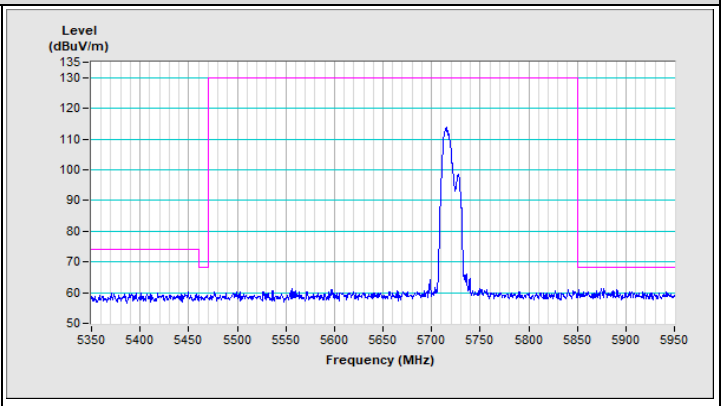



Vertical (Peak)

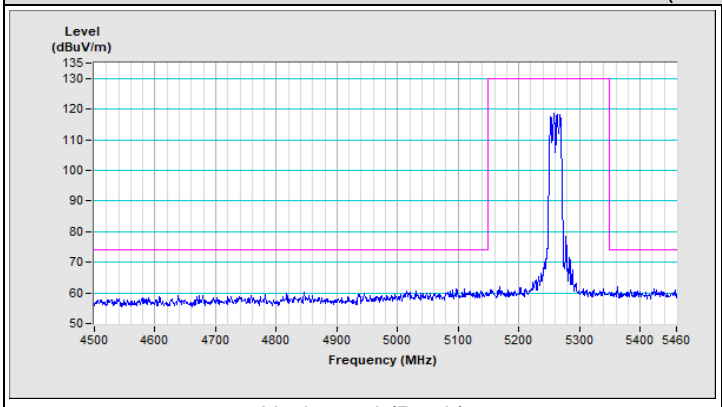
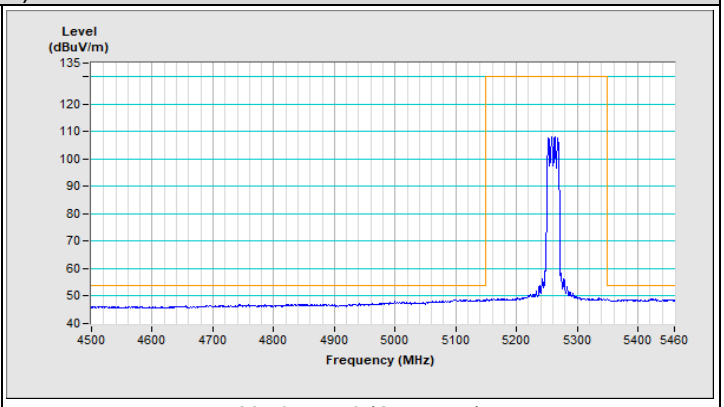
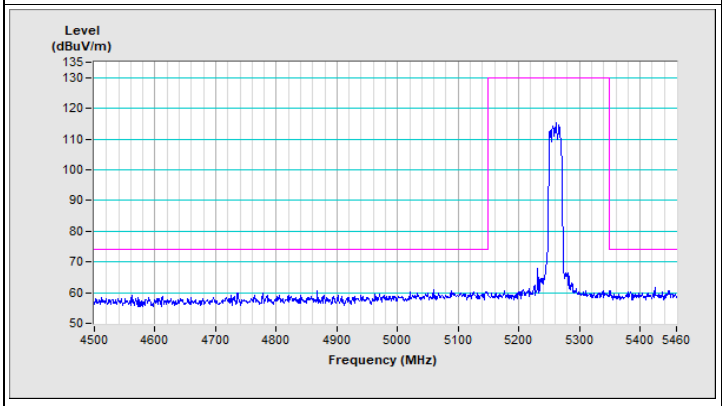
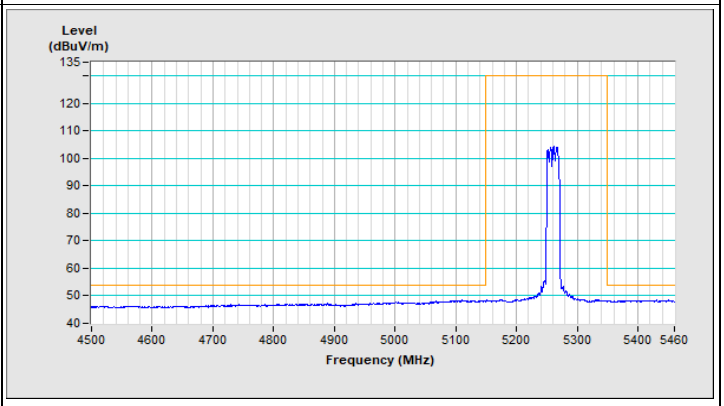
## 802.11a Channel 144

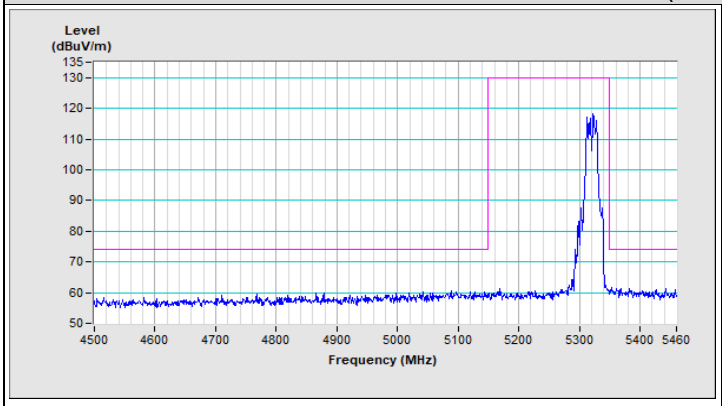
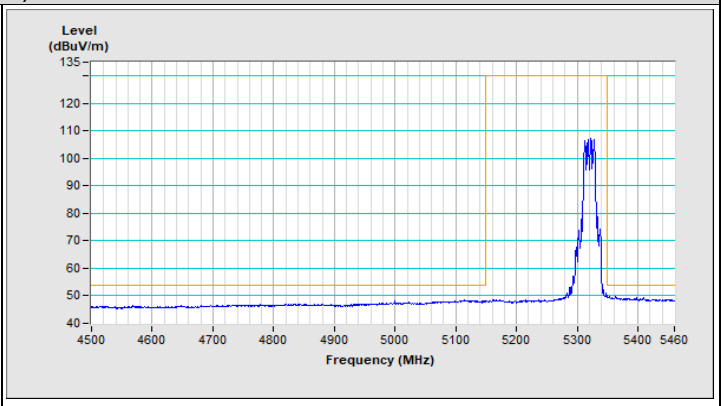
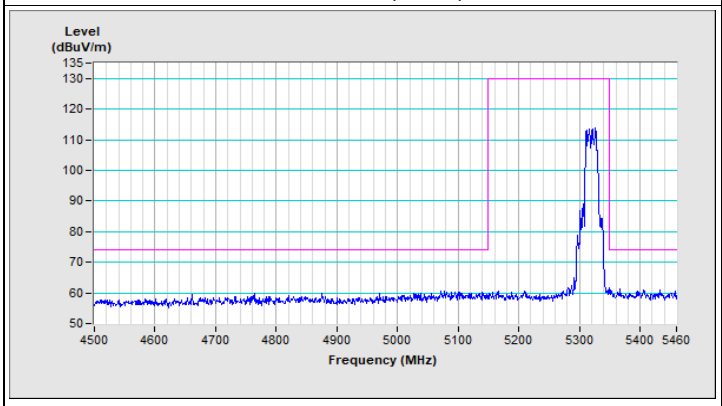
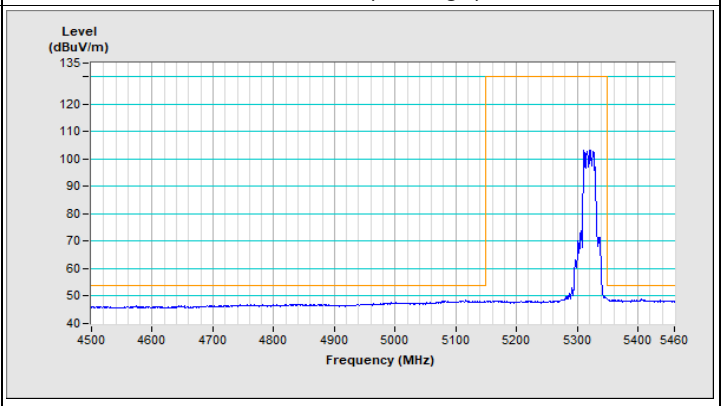



Horizontal (Peak)

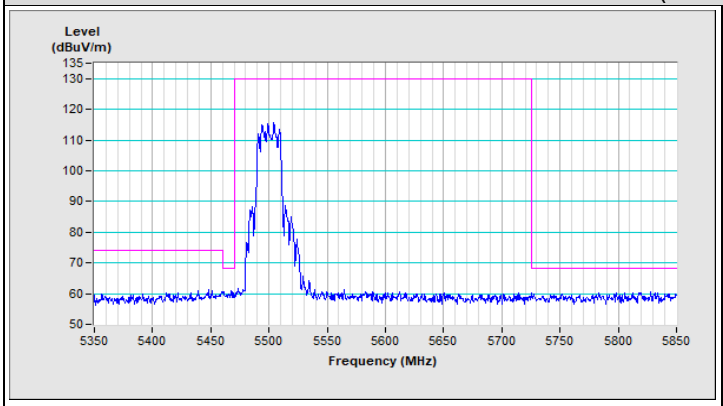



Vertical (Peak)

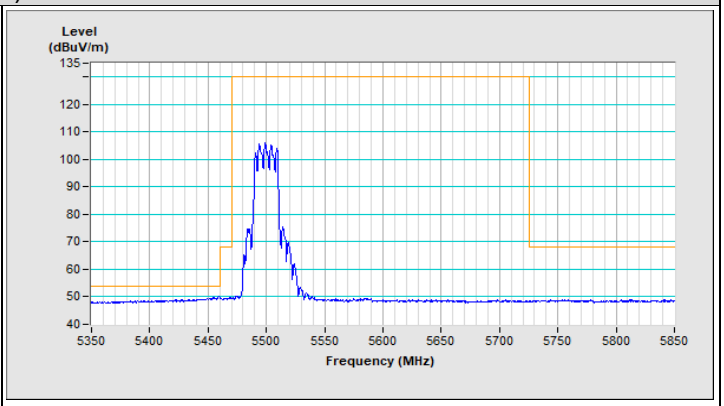
| 802.11ax (HE20) Channel 52 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

| 802.11ax (HE20) Channel 64 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

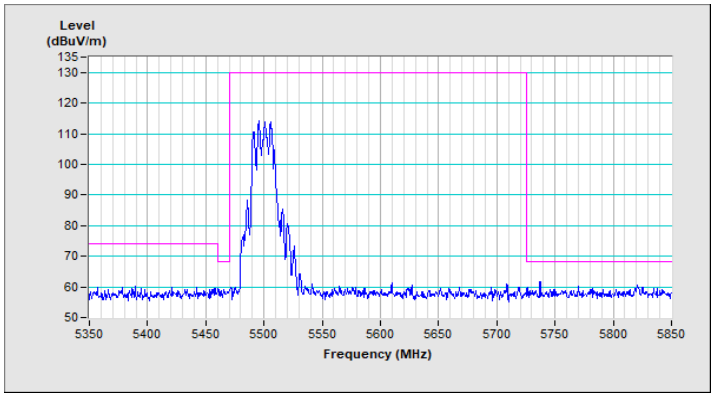
## 802.11ax (HE20) Channel 100



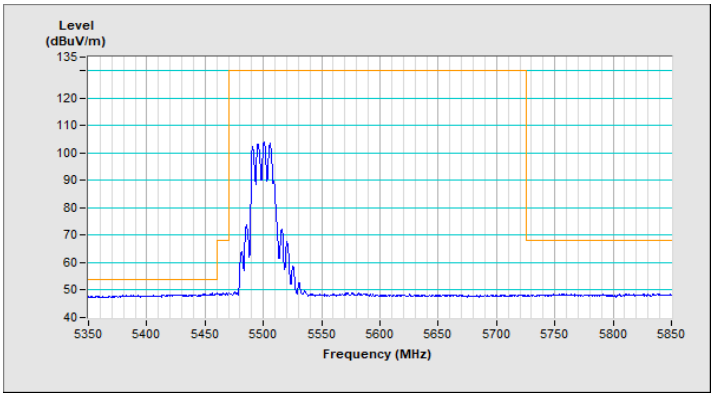

Horizontal (Peak)




Horizontal (Average)

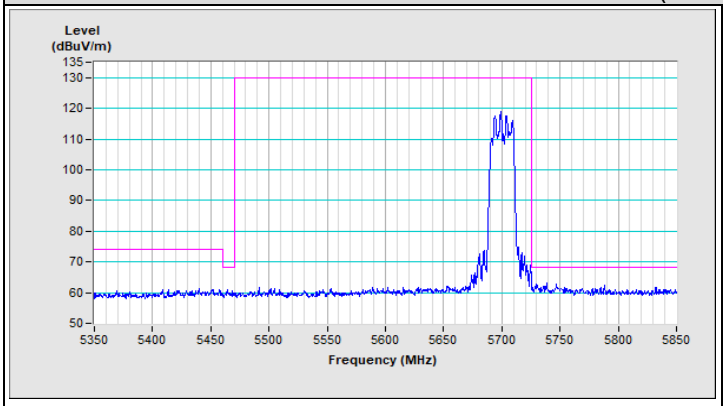



Vertical (Peak)

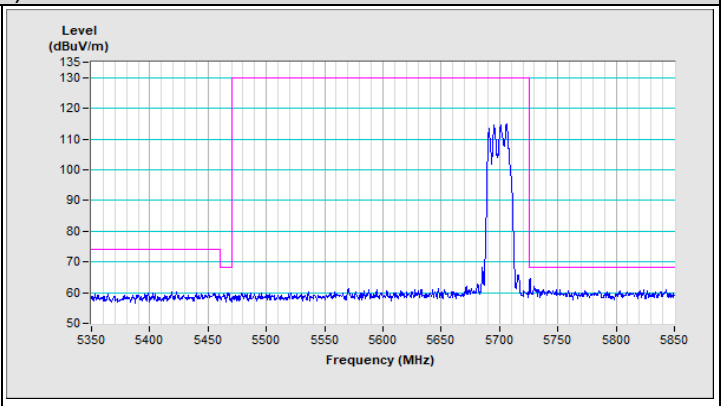



Vertical (Average)

## 802.11ax (HE20) Channel 140

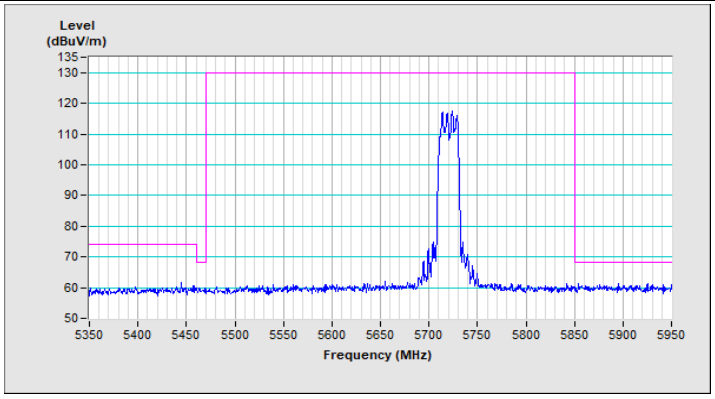



Horizontal (Peak)

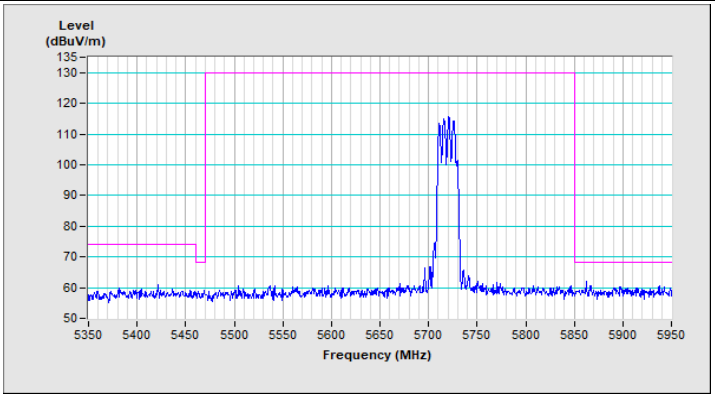



Vertical (Peak)

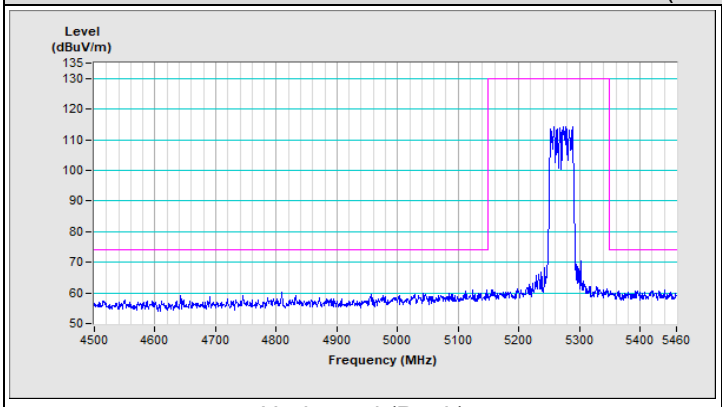
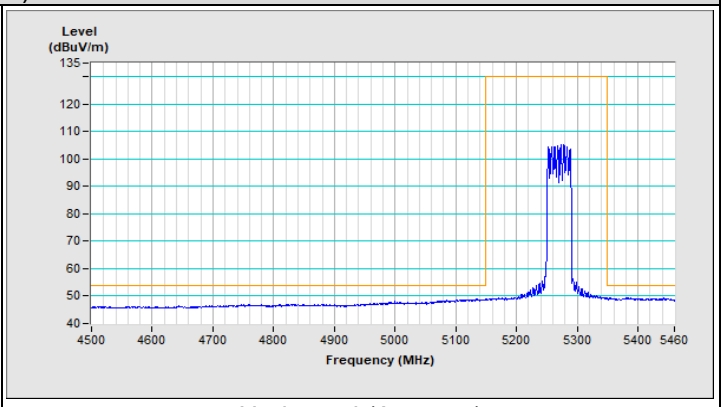
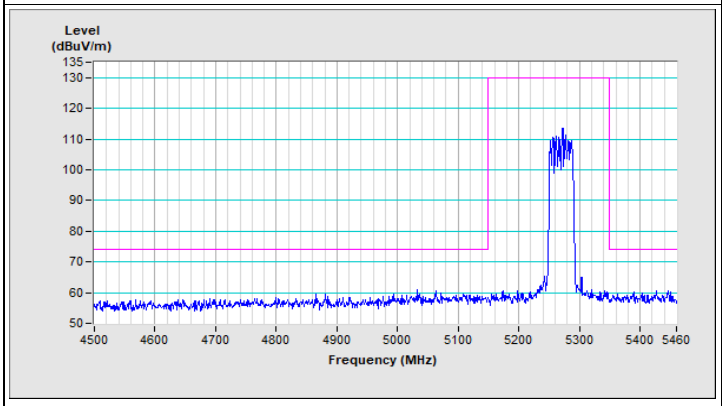
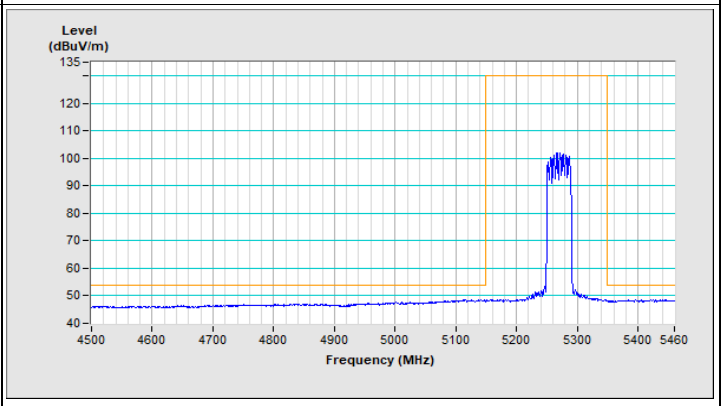
## 802.11ax (HE20) Channel 144

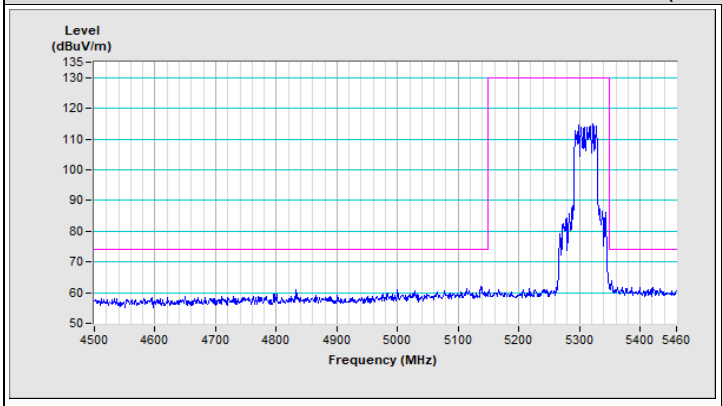
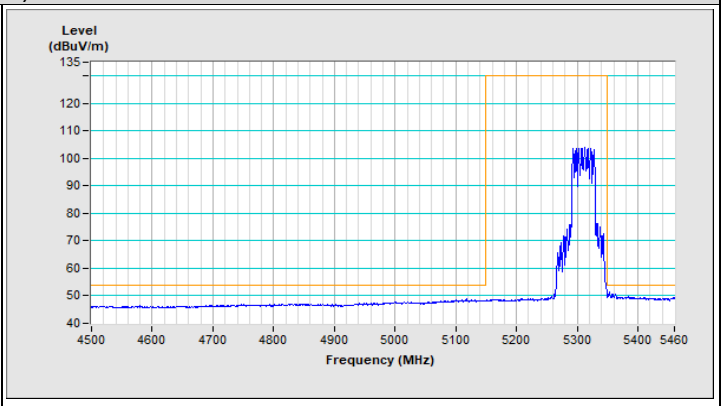
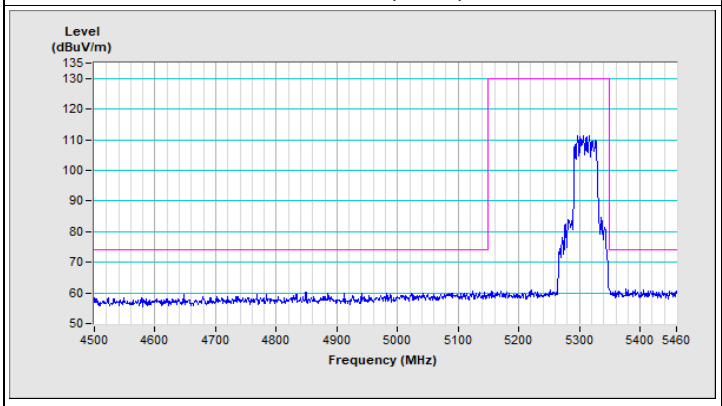
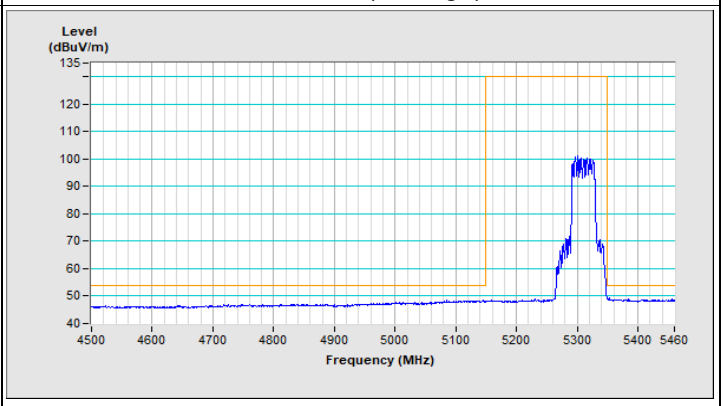



Horizontal (Peak)

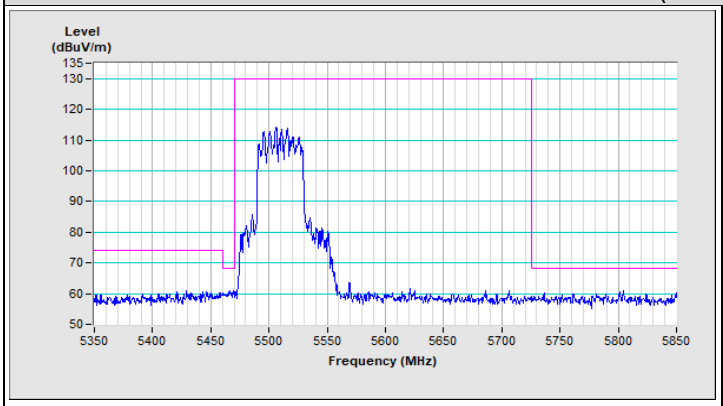



Vertical (Peak)

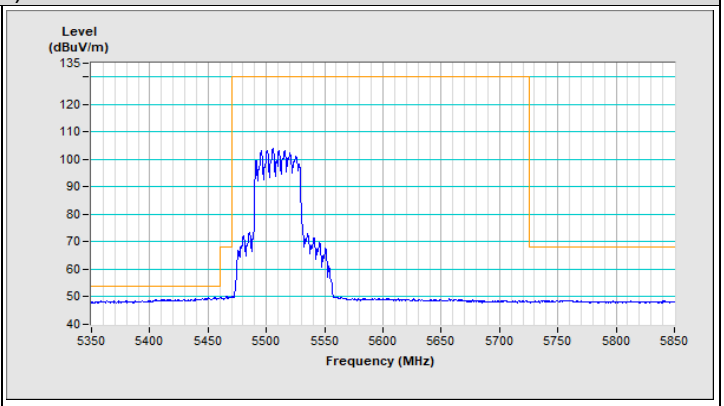
| 802.11ax (HE40) Channel 54 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

| 802.11ax (HE40) Channel 62 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

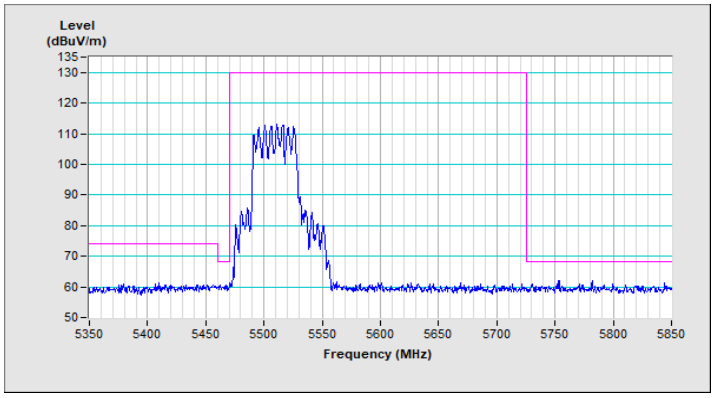
## 802.11ax (HE40) Channel 102



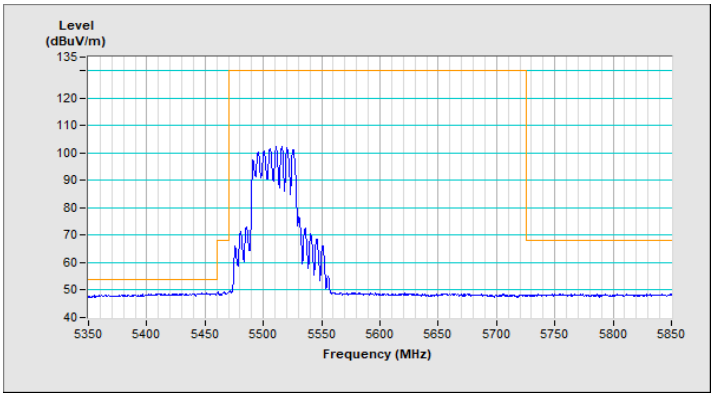

Horizontal (Peak)




Horizontal (Average)

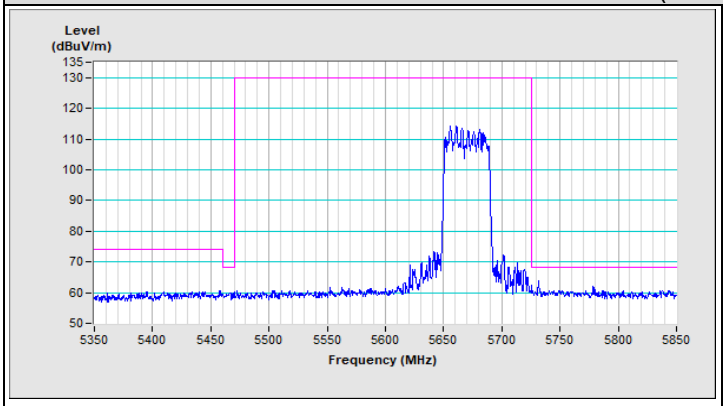



Vertical (Peak)

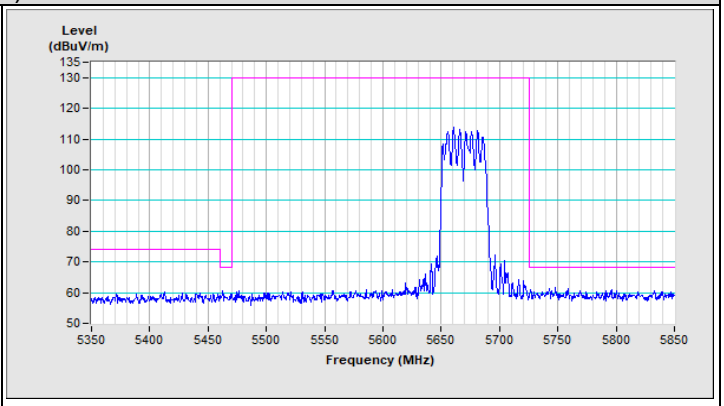



Vertical (Average)

## 802.11ax (HE40) Channel 134

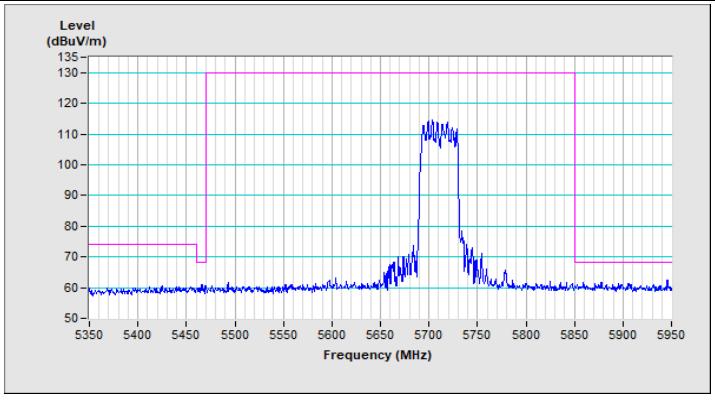



Horizontal (Peak)

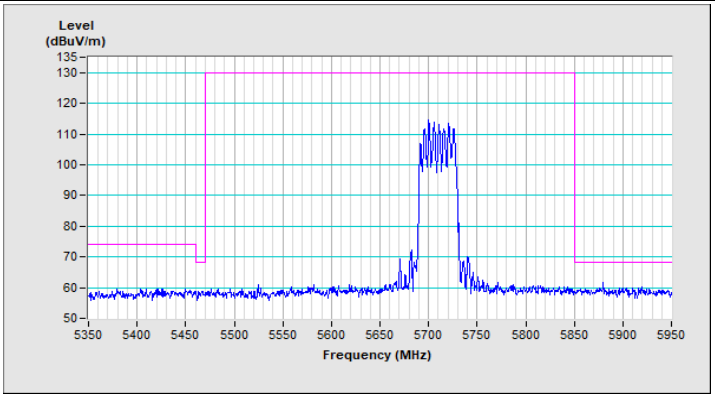



Vertical (Peak)

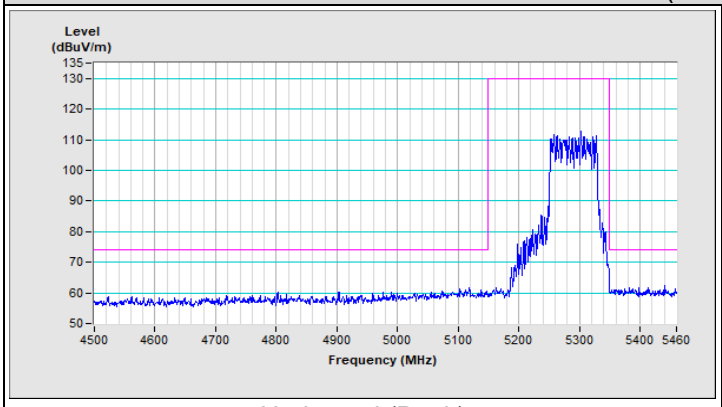
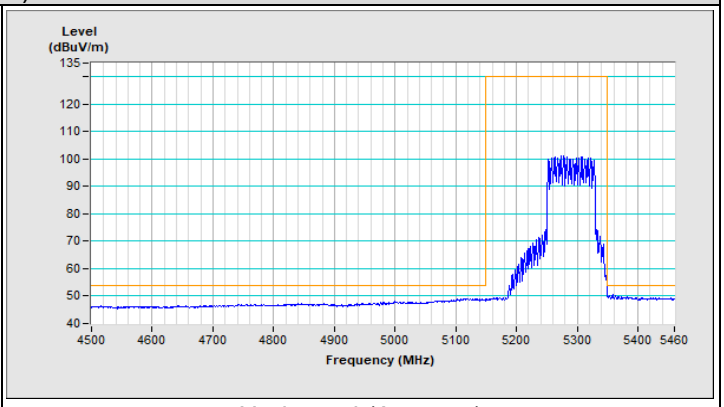
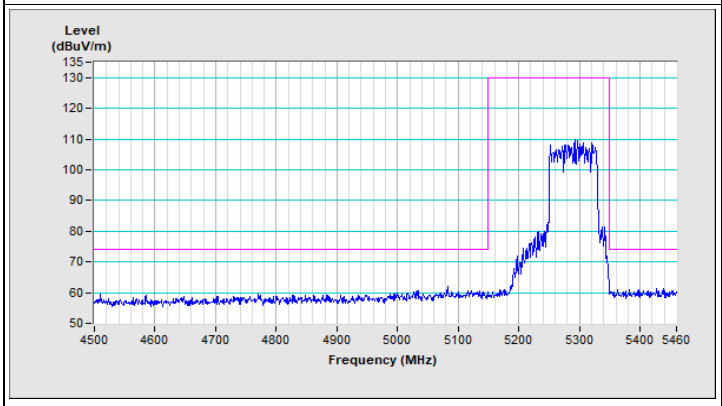
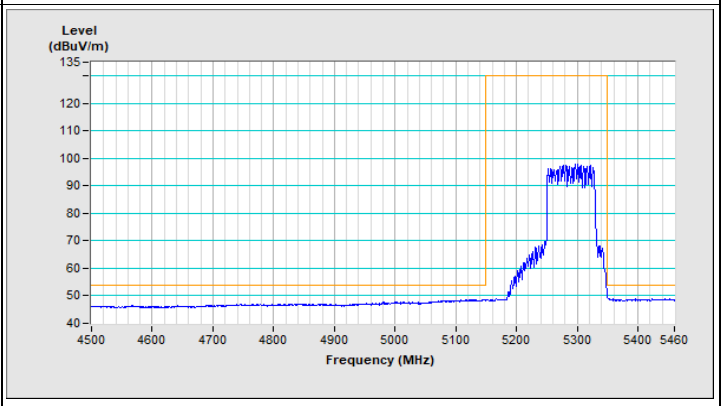
## 802.11ax (HE40) Channel 142

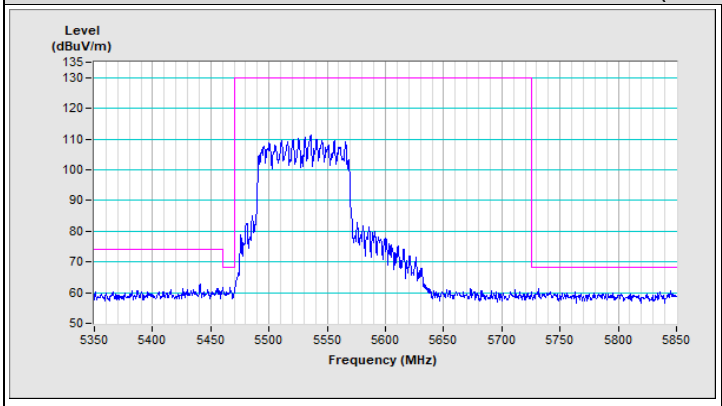
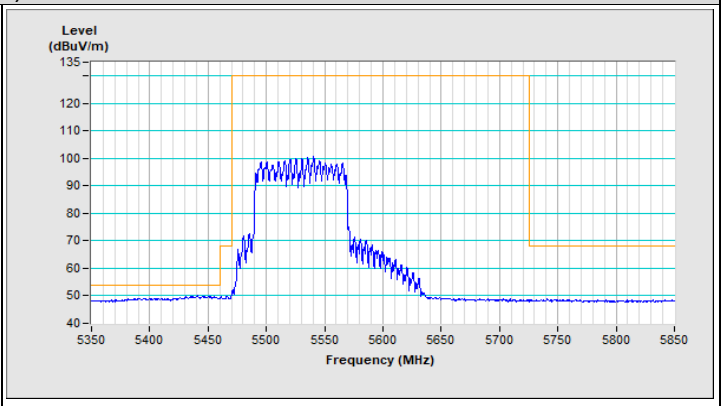
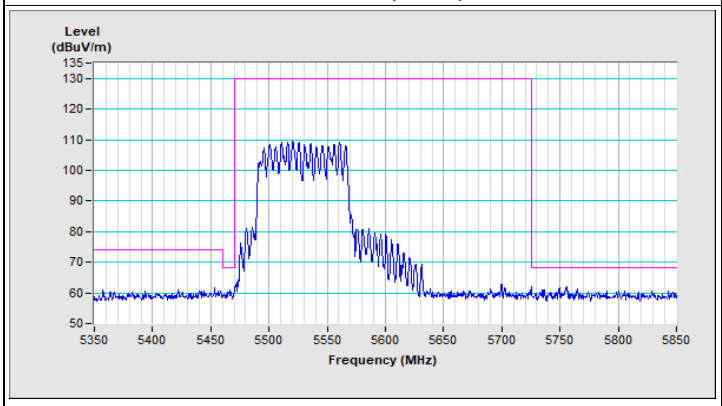
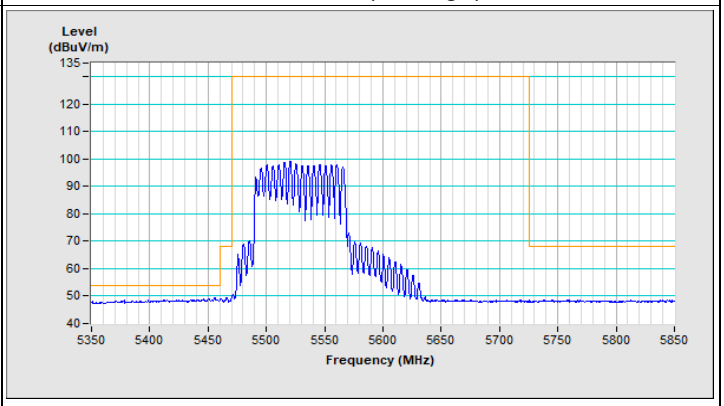


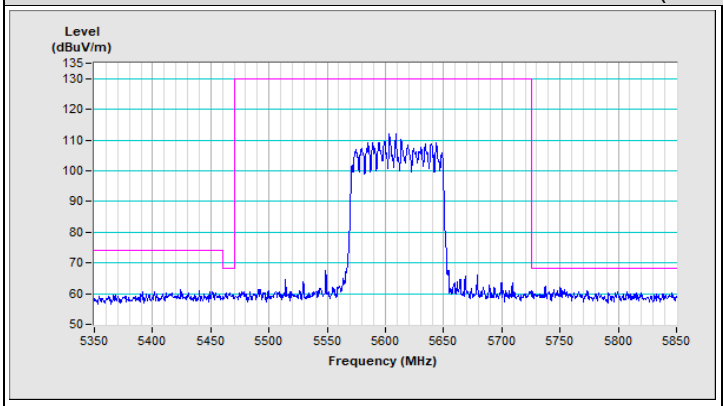
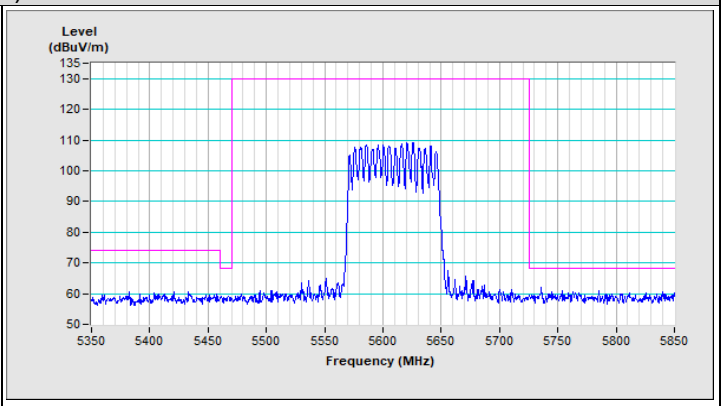

Horizontal (Peak)

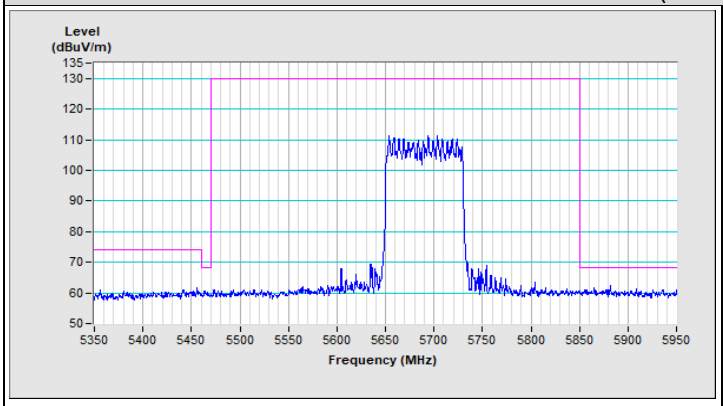
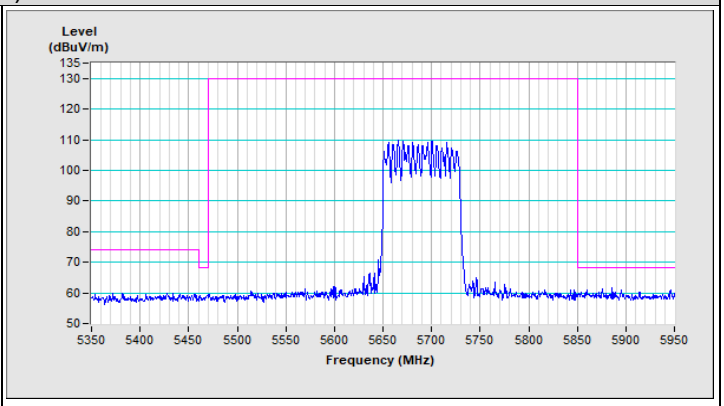


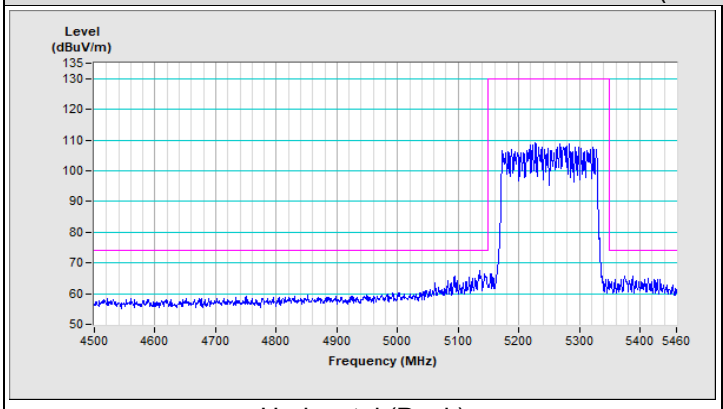
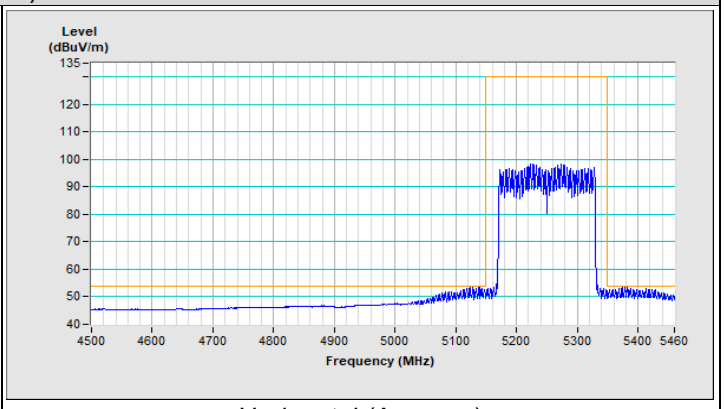
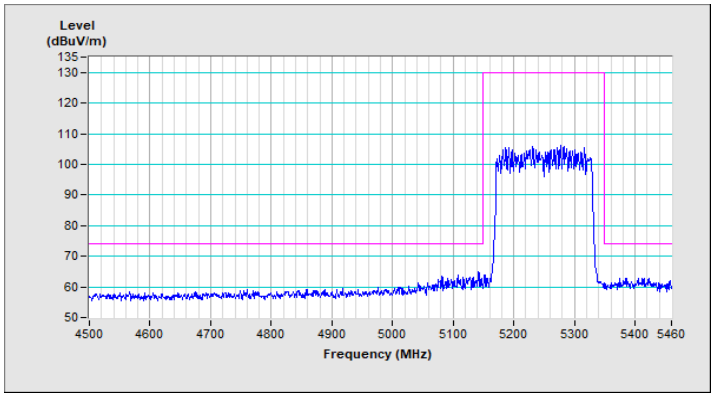
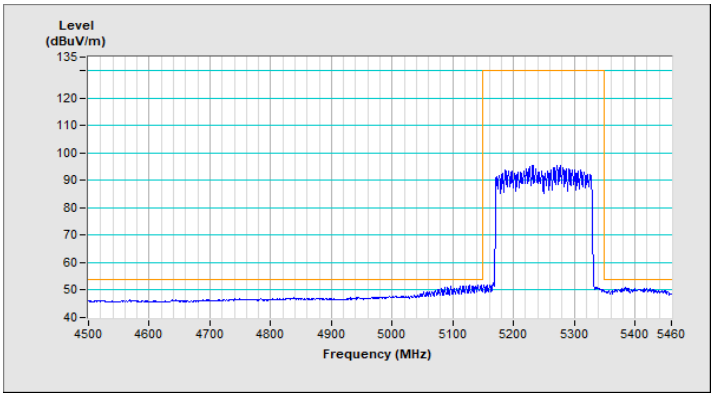

Vertical (Peak)

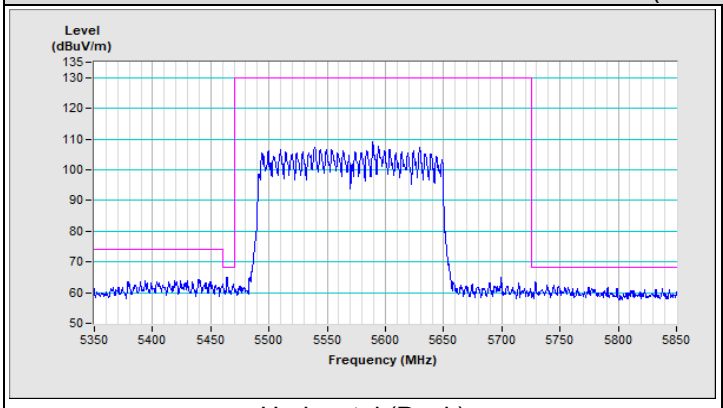
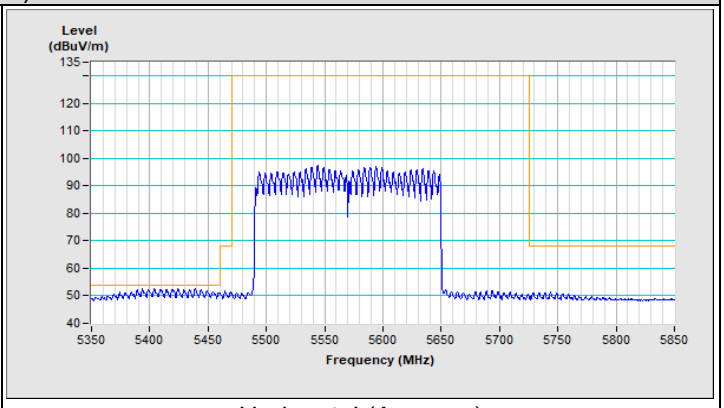
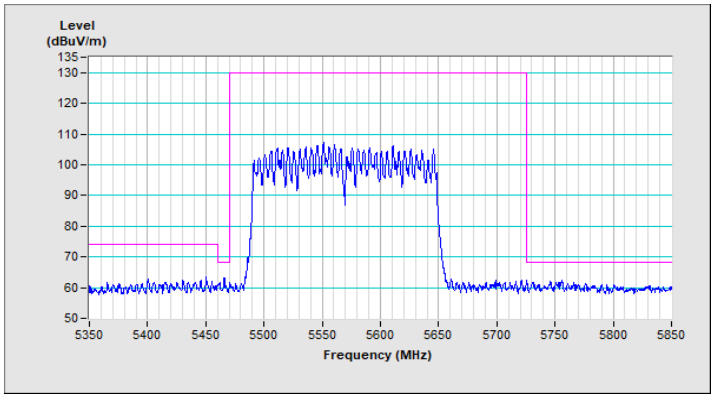
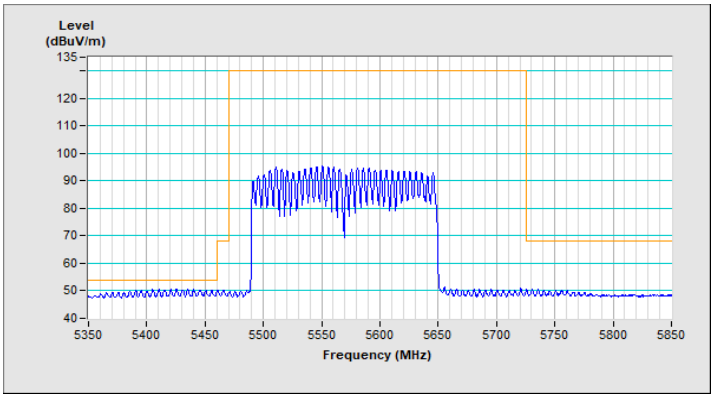
| 802.11ax (HE80) Channel 58 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

| 802.11ax (HE80) Channel 106 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

| 802.11ax (HE80) Channel 122 | |
|---|---|
|  |  |
| Horizontal (Peak) | Vertical (Peak) |

| 802.11ax (HE80) Channel 138 | |
|---|---|
|  |  |
| Horizontal (Peak) | Vertical (Peak) |

| 802.11ax (HE160) Channel 50 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

| 802.11ax (HE160) Channel 114 | |
|---|---|
|  |  |
| Horizontal (Peak) | Horizontal (Average) |
|  |  |
| Vertical (Peak) | Vertical (Average) |

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

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