# FCC Test Report

| | | |
|---|---|---|
| **Report No.** | : | **1812C50131012502** |
| **Applicant** | : | **SprintRay Inc** |
| **Address** | : | **2710 Media Center Dr, Suite 100A, Los Angeles, CA 90065-1700, USA** |
| **Product Name** | : | **Midas** |
| **Report Date** | : | **2025-05-14** |

**Shenzhen Anbotek Compliance Laboratory Limited**

# Contents

# TEST REPORT

| | | |
|---|---|---|
| Applicant | : | SprintRay Inc |
| Manufacturer | : | Zhejiang Xunshi Technology Co., Ltd |
| Product Name | : | Midas |
| Model No. | : | SRP2304A |
| Trade Mark | : | SprintRay |
| Rating(s) | : | Input: 100-240VAC, 50/60Hz,140W |
| **Test Standard(s)** | : | **47 CFR Part 15E**<br>**ANSI C63.10-2020**<br>**KDB 789033 D02 General UNII Test Procedures New Rules v02r01**<br>**KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02**<br>**KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02**<br>**KDB 662911 D01 Multiple Transmitter Output v02r01** |

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements.
This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt: 2025-03-31

Date of Test: 2025-03-31 to 2025-04-15

Prepared By: Haidi Huang

(Haidi Huang)

Approved & Authorized Signer:

(Kingkong Jin)

# Revision History

| Report Version | Description | Issued Date |
|---|---|---|
| R00 | Original Issue. (Note 1) | 2025-01-16 |
| R01 | Original Issue. (Note 2) | 2025-05-14 |
| | | |

Note 1:
This is a Class II application which was based on the original report 18220WC40089602. The difference between the original device and current one described as following:

1. Change the wiring board in the EUT.
2. Change the Test Setup Photograph, External Photograph, Internal Photograph.
3. Change the Address of the Factory.

Based on the change, only Conducted emissions, Radiated spurious emissions were retested. Other tests were validated against the worst Modes of the original data.

Note 2:
This is a Class II application which was based on the original report 1812C40179312502. The difference between the original device and current one described as following:

1. Speakers are added to EUT.
2. Update a set of power supplies from a new power supply manufacturer.
3. Update internal photograph.

The changes are not related with the other RF parameters, only conducted emission and spurious emission(below 1GHz) were retested.

# 1. General Information

## 1.1. Client Information

| | | |
|---|---|---|
| Applicant | : | SprintRay Inc |
| Address | : | 2710 Media Center Dr, Suite 100A, Los Angeles, CA 90065-1700, USA |
| Manufacturer | : | Zhejiang Xunshi Technology Co., Ltd |
| Address | : | 4 / F, building 2, Qihang building, science and Technology Park, 586 Xihuan Road, Kebei Economic Development Zone, Keqiao District, Shaoxing City, China |
| Factory | : | Zhejiang Xunshi Technology Co., Ltd |
| Address | : | No.79 Shuguang Road, Kebei Industrial Zone, Qixian Sub-district, Keqiao District,Shaoxing, Zhejiang,312000, China |

## 1.2. Description of Device (EUT)

| | | |
|---|---|---|
| Product Name | : | Midas |
| Model No. | : | SRP2304A |
| Trade Mark | : | SprintRay |
| Test Power Supply | : | AC 120V/60Hz |
| Test Sample No. | : | 1-2-1(Normal Sample), 1-2-2(Engineering Sample) |
| Adapter | : | N/A |
| **RF Specification** | | |
| Operation Frequency | : | 802.11a/n(HT20)/ac(VHT20)/ax(HEW20):<br>U-NII Band 1: 5180MHz to 5240MHz;<br>U-NII Band 2A: 5260MHz to 5320MHz;<br>U-NII Band 2C: 5500MHz to 5700MHz;<br>U-NII Band 3: 5745MHz to 5825MHz;<br><br>802.11n(HT40)/ac(VHT40)/ax(HEW40):<br>U-NII Band 1: 5190MHz to 5230MHz;<br>U-NII Band 2A: 5270MHz to 5310MHz;<br>U-NII Band 2C: 5510MHz to 5670MHz;<br>U-NII Band 3: 5755MHz to 5795MHz;<br><br>802.11ac(VHT80)/ax(HEW80):<br>U-NII Band 1: 5210MHz;<br>U-NII Band 2A: 5290MHz;<br>U-NII Band 2C: 5530MHz to 5610MHz;<br>U-NII Band 3: 5775MHz |
| Number of Channel | : | 802.11a/n(HT20)/ac(VHT20)/ax(HEW20):<br>U-NII Band 1: 4;<br>U-NII Band 2A: 4;<br>U-NII Band 2C: 11;<br>U-NII Band 3: 5;<br><br>802.11n(HT40)/ac(VHT40)/ax(HEW40): |

| | | |
|---|---|---|
| | | U-NII Band 1: 2;<br>U-NII Band 2A: 2;<br>U-NII Band 2C: 5;<br>U-NII Band 3: 2;<br><br>802.11ac(VHT80)/ax(HEW80):<br>U-NII Band 1: 1;<br>U-NII Band 2A: 1;<br>U-NII Band 2C: 2;<br>U-NII Band 3: 1 |
| Modulation Type | : | 802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM);<br>802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM);<br>802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM);<br>802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) |
| Antenna Type | : | PCB Antenna |
| Antenna Gain(Peak) | : | WiFi 5.2G ANT1: 3.92dBi<br>WiFi 5.2G ANT2: 3.92dBi<br>WiFi 5.3G ANT1: 4dBi<br>WiFi 5.3G ANT2: 4dBi<br>WiFi 5.6G ANT1: 3.31dBi<br>WiFi 5.6G ANT2: 3.31dBi<br>WiFi 5.8G ANT1: 3.35dBi<br>WiFi 5.8G ANT2: 3.35dBi |
| Directional antenna gain | : | WiFi 5.2G: 6.93dBi<br>WiFi 5.3G: 7.01dBi<br>WiFi 5.6G: 6.32dBi<br>WiFi 5.8G: 6.36dBi |
| Device Type | : | ☐Outdoor AP ☐Indoor AP ☐Point-to-point AP<br>☒Client |
| TPC Function | : | ☐With TPC ☒Without TPC |
| DFS Type | : | ☒Slave without radar detection ☐Slave with radar detection<br>☐Master |
| **Remark:**<br>(1) All of the RF specification are provided by customer.<br>(2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.<br>(3) Only 802.11n(HT20)/ac(VHT20)/ax(HEW20), 802.11n(HT40)/ac(VHT40)/ax(HEW40) and 802.11ac(VHT80)/ax(HEW80)support MIMO.<br>(4) Directional gain = 10 log[(10$^{G1/20}$ + 10$^{G2/20}$)$^{2}$ /2] dBi | | |

## 1.3. Auxiliary Equipment Used During Test

| Title | Manufacturer | Model No. | Serial No. |
|---|---|---|---|
| -- | -- | -- | -- |

## 1.4. Operation channel list

Operation Band: U-NII Band 1

| Bandwidth: | 20MHz | Bandwidth: | 40MHz | Bandwidth: | 80MHz |
|---|---|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 36 | 5180 | 38 | 5190 | 42 | 5210 |
| 40 | 5200 | 46 | 5230 | / | / |
| 44 | 5220 | / | / | / | / |
| 48 | 5240 | / | / | / | / |

Operation Band: U-NII Band 2A

| Bandwidth: | 20MHz | Bandwidth: | 40MHz | Bandwidth: | 80MHz |
|---|---|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 52 | 5260 | 54 | 5270 | 58 | 5290 |
| 56 | 5280 | 62 | 5310 | / | / |
| 60 | 5300 | / | / | / | / |
| 64 | 5320 | / | / | / | / |

Operation Band: U-NII Band 2C

| Bandwidth: | 20MHz | Bandwidth: | 40MHz | Bandwidth: | 80MHz |
|---|---|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 100 | 5500 | 102 | 5510 | 106 | 5530 |
| 104 | 5520 | 110 | 5550 | 122 | 5610 |
| 108 | 5540 | 118 | 5590 | / | / |
| 112 | 5560 | 126 | 5630 | / | / |
| 116 | 5580 | 134 | 5670 | / | / |
| 120 | 5600 | / | / | / | / |
| 124 | 5620 | / | / | / | / |
| 128 | 5640 | / | / | / | / |
| 132 | 5660 | / | / | / | / |
| 136 | 5680 | / | / | / | / |
| 140 | 5700 | / | / | / | / |

Operation Band: U-NII Band 3

| Bandwidth: | 20MHz | Bandwidth: | 40MHz | Bandwidth: | 80MHz |
|---|---|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 149 | 5745 | 151 | 5755 | 155 | 5775 |
| 153 | 5765 | 159 | 5795 | / | / |
| 157 | 5785 | / | / | / | / |
| 161 | 5805 | / | / | / | / |
| 165 | 5825 | / | / | / | / |

## 1.5. Description of Test Modes

| Pretest Modes | Descriptions |
|---|---|
| TM1 | Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report. |
| TM2 | Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. |
| TM3 | Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. |
| TM4 | Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ax modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. |
| TM5 | Keep the EUT works in normal operating mode and connect to companion device |
| Note: 802.11ax mode only support full resource unit size. | |

## 1.6. Measurement Uncertainty

| Parameter | Uncertainty |
|---|---|
| Conducted emissions (AMN 150kHz~30MHz) | 3.4dB |
| Conducted Output Power | 0.76dB |
| Radiated emissions (Below 30MHz) | 3.53dB |
| The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. | |

## 1.7. Test Summary

| Test Items | Test Modes | Status |
|---|---|---|
| Conducted Emission at AC power line | Mode1,2,3,4 | P |
| Maximum conducted output power | Mode1,2,3,4 | P |
| Undesirable emission limits (below 1GHz) | Mode1,2,3,4 | P |
| Note:<br>P: Pass<br>N: N/A, not applicable | | |

## 1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

**FCC-Registration No.:434132**
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

**ISED-Registration No.: 8058A**
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

**Test Location**
Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

## 1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.
7. The data in this report will be synchronized with the corresponding national market supervision and management departments and cross-border e-commerce platforms as required by regulatory agencies.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

## 1.10. Test Equipment List

| Conducted Emission at AC power line | | | | | | |
|---|---|---|---|---|---|---|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal.Due Date |
| 1 | L.I.S.N. Artificial Mains Network | Rohde & Schwarz | ENV216 | 100055 | 2024-09-09 | 2025-09-08 |
| 2 | Three Phase V-type Artificial Power Network | CYBERTEK | EM5040DT | E215040DT001 | 2025-01-13 | 2026-01-12 |
| 3 | Software Name EZ-EMC | Farad Technology | ANB-03A | N/A | / | / |
| 4 | EMI Test Receiver(CE2#) | Rohde & Schwarz | ESPI3 | 100926 | 2024-09-09 | 2025-09-08 |

| Maximum conducted output power | | | | | | |
|---|---|---|---|---|---|---|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal.Due Date |
| 1 | Constant Temperature Humidity Chamber | ZHONGJIAN | ZJ-KHWS80B | N/A | 2023-10-16 | 2024-10-15 |
| | | | | | 2024-10-14 | 2025-10-13 |
| 2 | DC Power Supply | IVYTECH | IV3605 | 1804D360510 | 2023-10-20 | 2024-10-19 |
| | | | | | 2024-09-09 | 2025-09-08 |
| 3 | Spectrum Analyzer | Rohde & Schwarz | FSV40-N | 101792 | 2024-05-06 | 2025-05-05 |
| 4 | MXA Spectrum Analysis | KEYSIGHT | N9020A | MY50531823 | 2024-02-22 | 2025-02-21 |
| 5 | MXG RF Vector Signal Generator | Agilent | N5182A | MY47420647 | 2024-02-04 | 2025-02-03 |

| Undesirable emission limits (below 1GHz) | | | | | | |
|---|---|---|---|---|---|---|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal.Due Date |
| 1 | EMI Test Receiver(RE2/3#) | Rohde & Schwarz | ESR26 | 101481 | 2025-01-14 | 2026-01-13 |
| 2 | Pre-amplifier | SONOMA | 310N | 186860 | 2025-01-14 | 2026-01-13 |
| 3 | Bilog Broadband Antenna | Schwarzbeck | VULB9163 | 345 | 2022-10-23 | 2025-10-22 |
| 4 | Loop Antenna (9K-30M) | Schwarzbeck | FMZB1519B | 00053 | 2024-09-12 | 2025-09-11 |
| 5 | EMI Test Software EZ-EMC | SHURPLE | N/A | N/A | / | / |

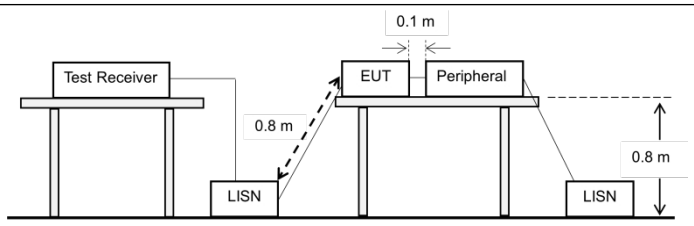
## 2. Conducted Emission at AC power line

| | |
|---|---|
| Test Requirement: | 47 CFR Part 15.207(a) |
| Test Limit: | Frequency of emission (MHz) / Conducted limit (dBμV): Quasi-peak / Average<br>0.15-0.5: 66 to 56* / 56 to 46*<br>0.5-5: 56 / 46<br>5-30: 60 / 50<br>*Decreases with the logarithm of the frequency. |
| Test Method: | ANSI C63.10-2020 section 6.2 |

### 2.1. EUT Operation

| | |
|---|---|
| Operating Environment: | |
| Test mode: | 1: 802.11a mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.<br>2: 802.11n mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.<br>3: 802.11ac mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.<br>4: 802.11ax mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ax modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. |

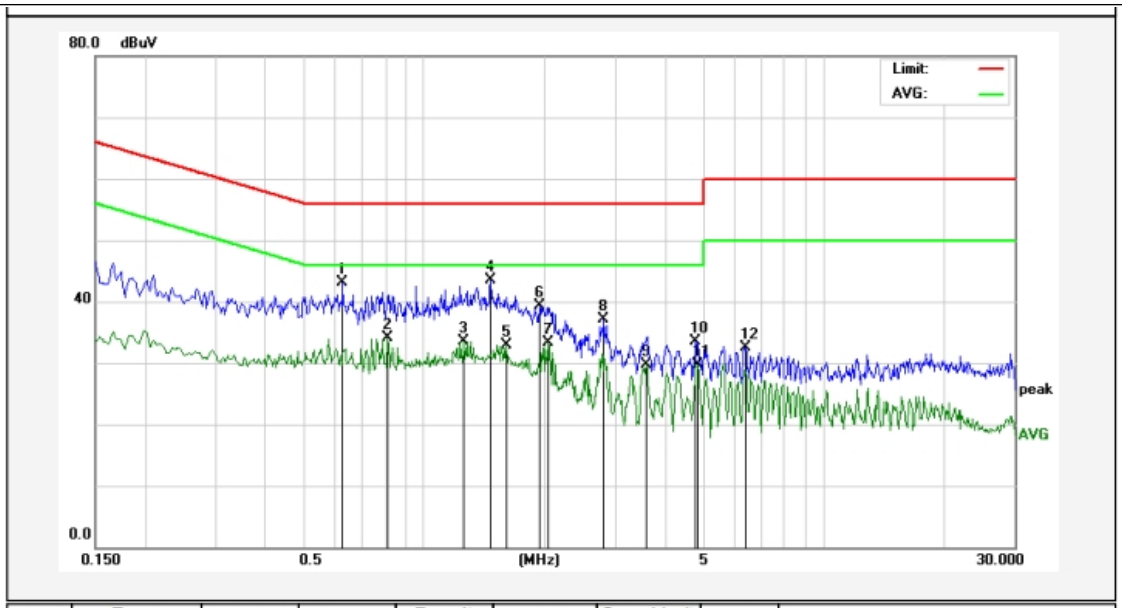
### 2.2. Test Setup



## 2.3. Test Data

| Temperature: | 24.7 °C | Humidity: | 48.1 % | Atmospheric Pressure: | 101 kPa |
|---|---|---|---|---|---|
| Test Power Supply: | AC 120V/60Hz | | | | |

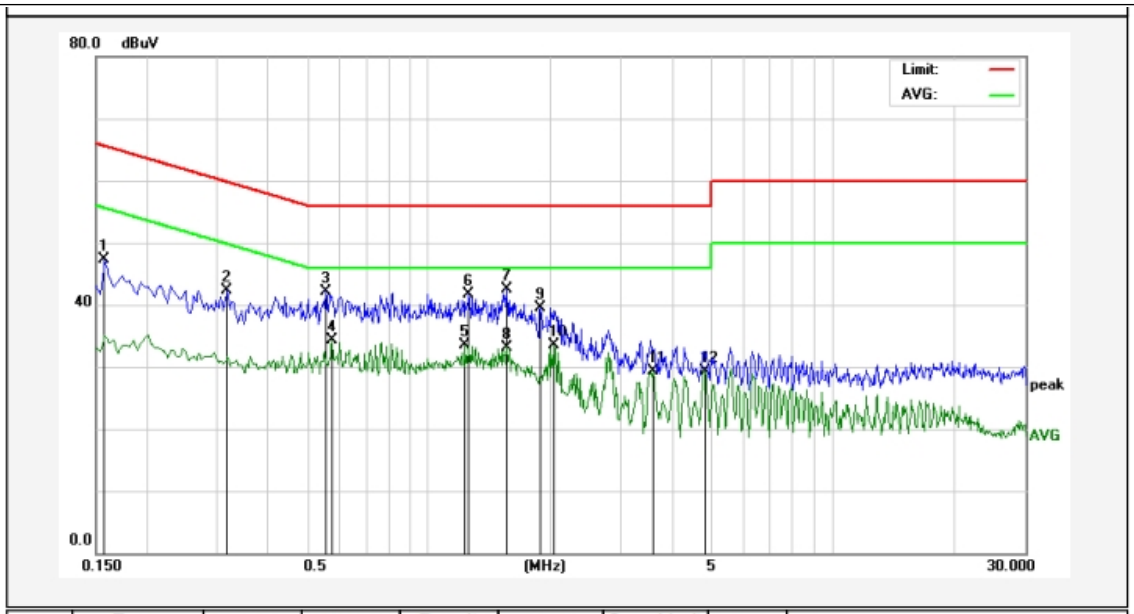
TM3 / Line: Line / Band: 5180-5240 MHz / BW: 40 / CH: L/ MIMO




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV) | Over Limit (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.6260 | 25.28 | 17.86 | 43.14 | 56.00 | -12.86 | QP | |
| 2 | 0.8100 | 16.23 | 17.86 | 34.09 | 46.00 | -11.91 | AVG | |
| 3 | 1.2579 | 15.76 | 17.84 | 33.60 | 46.00 | -12.40 | AVG | |
| 4 | 1.4700 | 25.73 | 17.84 | 43.57 | 56.00 | -12.43 | QP | |
| 5 | 1.6100 | 15.03 | 17.84 | 32.87 | 46.00 | -13.13 | AVG | |
| 6 | 1.9420 | 21.45 | 17.83 | 39.28 | 56.00 | -16.72 | QP | |
| 7 | 2.0340 | 15.41 | 17.83 | 33.24 | 46.00 | -12.76 | AVG | |
| 8 | 2.8100 | 19.20 | 17.84 | 37.04 | 56.00 | -18.96 | QP | |
| 9 | 3.5860 | 11.95 | 17.85 | 29.80 | 46.00 | -16.20 | AVG | |
| 10 | 4.7940 | 15.57 | 17.85 | 33.42 | 56.00 | -22.58 | QP | |
| 11 | 4.8420 | 11.91 | 17.85 | 29.76 | 46.00 | -16.24 | AVG | |
| 12 | 6.3700 | 14.70 | 17.86 | 32.56 | 60.00 | -27.44 | QP | |

| Temperature: | 24.7 °C | Humidity: | 48.1 % | Atmospheric Pressure: | 101 kPa |
|---|---|---|---|---|---|
| Test Power Supply: | AC 120V/60Hz | | | | |

TM3 / Line: Neutral / Band: 5180-5240 MHz / BW: 40 / CH: L/ MIMO




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV) | Over Limit (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.1580 | 29.44 | 17.83 | 47.27 | 65.56 | -18.29 | QP | |
| 2 | 0.3180 | 24.53 | 17.83 | 42.36 | 59.76 | -17.40 | QP | |
| 3 | 0.5580 | 24.34 | 17.86 | 42.20 | 56.00 | -13.80 | QP | |
| 4 | 0.5780 | 16.39 | 17.86 | 34.25 | 46.00 | -11.75 | AVG | |
| 5 | 1.2340 | 15.68 | 17.84 | 33.52 | 46.00 | -12.48 | AVG | |
| 6 | 1.2579 | 23.86 | 17.84 | 41.70 | 56.00 | -14.30 | QP | |
| 7 | 1.5620 | 24.62 | 17.84 | 42.46 | 56.00 | -13.54 | QP | |
| 8 | 1.5620 | 15.36 | 17.84 | 33.20 | 46.00 | -12.80 | AVG | |
| 9 | 1.8900 | 21.74 | 17.83 | 39.57 | 56.00 | -16.43 | QP | |
| 10 | 2.0340 | 15.77 | 17.83 | 33.60 | 46.00 | -12.40 | AVG | |
| 11 | 3.5860 | 11.39 | 17.85 | 29.24 | 46.00 | -16.76 | AVG | |
| 12 | 4.8420 | 11.45 | 17.85 | 29.30 | 46.00 | -16.70 | AVG | |

Note:
1. Only record the worst data (802.11ax(HEW20) MIMO) in the report.
2.Result(dBμV) = Reading(dBμV) + Factor(dB);
Over Limit(dB) = Result(dBμV) - Limit(dBμV)

# 3. Maximum conducted output power

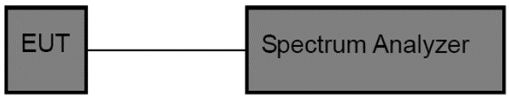
| | |
|---|---|
| Test Requirement: | 47 CFR Part 15.407(a)(1)(iv)<br>47 CFR Part 15.407(a)(2)<br>47 CFR Part 15.407(a)(3)(i) |
| Test Limit: | For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.<br>If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.<br><br>For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.<br>If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.<br><br>For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.<br>If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.<br>However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. |
| Test Method: | ANSI C63.10-2013, section 12.4 |
| Procedure: | Refer to ANSI C63.10-2020 section 12.4 |

## 3.1. EUT Operation

| Operating Environment: | |
|---|---|
| Test mode: | 1: 802.11a mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.<br>2: 802.11n mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.<br>3: 802.11ac mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.<br>4: 802.11ax mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ax modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only |

| | |
|---|---|
| | the data of worst case is recorded in the report. |

## 3.2. Test Setup




## 3.3. Test Data

| | | | | | |
|---|---|---|---|---|---|
| Temperature: | 24.6 °C | Humidity: | 46 % | Atmospheric Pressure: | 101 kPa |

| Test Mode | Antenna | Frequency[MHz] | Channel Power [dBm] | Duty Cycle [%] | DC Factor [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|---|---|---|---|---|---|---|---|---|
| 11A | Ant1 | 5180 | 13.31 | 93.29 | 0.30 | 13.61 | ≤23.98 | PASS |
| 11A | Ant2 | 5180 | 13.32 | 93.33 | 0.30 | 13.62 | ≤23.98 | PASS |
| 11A | Ant1 | 5200 | 13.08 | 93.33 | 0.30 | 13.38 | ≤23.98 | PASS |
| 11A | Ant2 | 5200 | 13.52 | 93.29 | 0.30 | 13.82 | ≤23.98 | PASS |
| 11A | Ant1 | 5240 | 13.12 | 93.33 | 0.30 | 13.42 | ≤23.98 | PASS |
| 11A | Ant2 | 5240 | 12.52 | 93.29 | 0.30 | 12.82 | ≤23.98 | PASS |
| 11A | Ant1 | 5260 | 13.23 | 93.33 | 0.30 | 13.53 | ≤23.98 | PASS |
| 11A | Ant2 | 5260 | 12.17 | 93.33 | 0.30 | 12.47 | ≤23.98 | PASS |
| 11A | Ant1 | 5300 | 12.68 | 93.33 | 0.30 | 12.98 | ≤23.98 | PASS |
| 11A | Ant2 | 5300 | 10.77 | 93.29 | 0.30 | 11.07 | ≤23.98 | PASS |
| 11A | Ant1 | 5320 | 12.45 | 93.29 | 0.30 | 12.75 | ≤23.98 | PASS |
| 11A | Ant2 | 5320 | 10.65 | 93.29 | 0.30 | 10.95 | ≤23.98 | PASS |
| 11A | Ant1 | 5500 | 14.28 | 93.29 | 0.30 | 14.58 | ≤23.98 | PASS |
| 11A | Ant2 | 5500 | 13.40 | 93.33 | 0.30 | 13.70 | ≤23.98 | PASS |
| 11A | Ant1 | 5580 | 12.47 | 93.96 | 0.27 | 12.74 | ≤23.98 | PASS |
| 11A | Ant2 | 5580 | 12.45 | 93.29 | 0.30 | 12.75 | ≤23.98 | PASS |
| 11A | Ant1 | 5700 | 12.11 | 93.29 | 0.30 | 12.41 | ≤23.98 | PASS |
| 11A | Ant2 | 5700 | 12.06 | 93.33 | 0.30 | 12.36 | ≤23.98 | PASS |
| 11A | Ant1 | 5745 | 13.24 | 93.96 | 0.27 | 13.51 | ≤30.00 | PASS |
| 11A | Ant2 | 5745 | 13.25 | 93.33 | 0.30 | 13.55 | ≤30.00 | PASS |
| 11A | Ant1 | 5785 | 13.68 | 93.29 | 0.30 | 13.98 | ≤30.00 | PASS |
| 11A | Ant2 | 5785 | 13.70 | 93.33 | 0.30 | 14.00 | ≤30.00 | PASS |
| 11A | Ant1 | 5825 | 13.90 | 93.29 | 0.30 | 14.20 | ≤30.00 | PASS |
| 11A | Ant2 | 5825 | 13.93 | 93.29 | 0.30 | 14.23 | ≤30.00 | PASS |
| 11N20MIMO | Ant1 | 5180 | 14.33 | 92.91 | 0.32 | 14.65 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5180 | 14.32 | 92.91 | 0.32 | 14.64 | ≤23.98 | PASS |
| 11N20MIMO | total | 5180 | --- | --- | --- | 17.66 | ≤23.05 | PASS |
| 11N20MIMO | Ant1 | 5200 | 14.14 | 92.91 | 0.32 | 14.46 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5200 | 14.19 | 92.91 | 0.32 | 14.51 | ≤23.98 | PASS |
| 11N20MIMO | total | 5200 | --- | --- | --- | 17.50 | ≤23.05 | PASS |
| 11N20MIMO | Ant1 | 5240 | 13.60 | 92.86 | 0.32 | 13.92 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5240 | 13.67 | 92.91 | 0.32 | 13.99 | ≤23.98 | PASS |
| 11N20MIMO | total | 5240 | --- | --- | --- | 16.97 | ≤23.05 | PASS |
| 11N20MIMO | Ant1 | 5260 | 12.82 | 92.91 | 0.32 | 13.14 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5260 | 12.83 | 92.91 | 0.32 | 13.15 | ≤23.98 | PASS |
| 11N20MIMO | total | 5260 | --- | --- | --- | 16.16 | ≤22.97 | PASS |
| 11N20MIMO | Ant1 | 5300 | 12.54 | 92.91 | 0.32 | 12.86 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5300 | 12.48 | 92.91 | 0.32 | 12.80 | ≤23.98 | PASS |
| 11N20MIMO | total | 5300 | --- | --- | --- | 15.84 | ≤22.97 | PASS |
| 11N20MIMO | Ant1 | 5320 | 12.37 | 92.91 | 0.32 | 12.69 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5320 | 12.36 | 92.86 | 0.32 | 12.68 | ≤23.98 | PASS |
| 11N20MIMO | total | 5320 | --- | --- | --- | 15.70 | ≤22.97 | PASS |
| 11N20MIMO | Ant1 | 5500 | 13.11 | 92.86 | 0.32 | 13.43 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5500 | 13.10 | 93.57 | 0.29 | 13.39 | ≤23.98 | PASS |
| 11N20MIMO | total | 5500 | --- | --- | --- | 16.42 | ≤23.66 | PASS |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11N20MIMO | Ant1 | 5580 | 12.22 | 92.86 | 0.32 | 12.54 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5580 | 12.28 | 92.86 | 0.32 | 12.60 | ≤23.98 | PASS |
| 11N20MIMO | total | 5580 | --- | --- | --- | 15.58 | ≤23.66 | PASS |
| 11N20MIMO | Ant1 | 5700 | 10.95 | 92.91 | 0.32 | 11.27 | ≤23.98 | PASS |
| 11N20MIMO | Ant2 | 5700 | 10.94 | 92.91 | 0.32 | 11.26 | ≤23.98 | PASS |
| 11N20MIMO | total | 5700 | --- | --- | --- | 14.28 | ≤23.66 | PASS |
| 11N20MIMO | Ant1 | 5745 | 13.09 | 92.91 | 0.32 | 13.41 | ≤30.00 | PASS |
| 11N20MIMO | Ant2 | 5745 | 13.12 | 92.86 | 0.32 | 13.44 | ≤30.00 | PASS |
| 11N20MIMO | total | 5745 | --- | --- | --- | 16.44 | ≤29.64 | PASS |
| 11N20MIMO | Ant1 | 5785 | 13.59 | 92.91 | 0.32 | 13.91 | ≤30.00 | PASS |
| 11N20MIMO | Ant2 | 5785 | 13.60 | 92.91 | 0.32 | 13.92 | ≤30.00 | PASS |
| 11N20MIMO | total | 5785 | --- | --- | --- | 16.93 | ≤29.64 | PASS |
| 11N20MIMO | Ant1 | 5825 | 13.75 | 92.91 | 0.32 | 14.07 | ≤30.00 | PASS |
| 11N20MIMO | Ant2 | 5825 | 13.80 | 92.91 | 0.32 | 14.12 | ≤30.00 | PASS |
| 11N20MIMO | total | 5825 | --- | --- | --- | 17.11 | ≤29.64 | PASS |
| 11N40MIMO | Ant1 | 5190 | 13.99 | 90.48 | 0.43 | 14.42 | ≤23.98 | PASS |
| 11N40MIMO | Ant2 | 5190 | 14.30 | 90.48 | 0.43 | 14.73 | ≤23.98 | PASS |
| 11N40MIMO | total | 5190 | --- | --- | --- | 17.59 | ≤23.05 | PASS |
| 11N40MIMO | Ant1 | 5230 | 13.62 | 90.38 | 0.44 | 14.06 | ≤23.98 | PASS |
| 11N40MIMO | Ant2 | 5230 | 13.73 | 90.38 | 0.44 | 14.17 | ≤23.98 | PASS |
| 11N40MIMO | total | 5230 | --- | --- | --- | 17.13 | ≤23.05 | PASS |
| 11N40MIMO | Ant1 | 5270 | 12.29 | 90.48 | 0.43 | 12.72 | ≤23.98 | PASS |
| 11N40MIMO | Ant2 | 5270 | 12.29 | 90.38 | 0.44 | 12.73 | ≤23.98 | PASS |
| 11N40MIMO | total | 5270 | --- | --- | --- | 15.74 | ≤22.97 | PASS |
| 11N40MIMO | Ant1 | 5310 | 11.77 | 90.38 | 0.44 | 12.21 | ≤23.98 | PASS |
| 11N40MIMO | Ant2 | 5310 | 11.72 | 90.38 | 0.44 | 12.16 | ≤23.98 | PASS |
| 11N40MIMO | total | 5310 | --- | --- | --- | 15.20 | ≤22.97 | PASS |
| 11N40MIMO | Ant1 | 5510 | 12.60 | 90.38 | 0.44 | 13.04 | ≤23.98 | PASS |
| 11N40MIMO | Ant2 | 5510 | 12.58 | 90.38 | 0.44 | 13.02 | ≤23.98 | PASS |
| 11N40MIMO | total | 5510 | --- | --- | --- | 16.04 | ≤23.66 | PASS |
| 11N40MIMO | Ant1 | 5550 | 12.01 | 90.48 | 0.43 | 12.44 | ≤23.98 | PASS |
| 11N40MIMO | Ant2 | 5550 | 12.01 | 90.38 | 0.44 | 12.45 | ≤23.98 | PASS |
| 11N40MIMO | total | 5550 | --- | --- | --- | 15.46 | ≤23.66 | PASS |
| 11N40MIMO | Ant1 | 5670 | 10.51 | 90.38 | 0.44 | 10.95 | ≤23.98 | PASS |
| 11N40MIMO | Ant2 | 5670 | 10.57 | 90.38 | 0.44 | 11.01 | ≤23.98 | PASS |
| 11N40MIMO | total | 5670 | --- | --- | --- | 13.99 | ≤23.66 | PASS |
| 11N40MIMO | Ant1 | 5755 | 12.87 | 90.38 | 0.44 | 13.31 | ≤30.00 | PASS |
| 11N40MIMO | Ant2 | 5755 | 12.84 | 90.38 | 0.44 | 13.28 | ≤30.00 | PASS |
| 11N40MIMO | total | 5755 | --- | --- | --- | 16.31 | ≤29.64 | PASS |
| 11N40MIMO | Ant1 | 5795 | 13.46 | 90.38 | 0.44 | 13.90 | ≤30.00 | PASS |
| 11N40MIMO | Ant2 | 5795 | 13.41 | 90.38 | 0.44 | 13.85 | ≤30.00 | PASS |
| 11N40MIMO | total | 5795 | --- | --- | --- | 16.89 | ≤29.64 | PASS |
| 11AC20MIMO | Ant1 | 5180 | 14.55 | 92.91 | 0.32 | 14.87 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5180 | 14.51 | 92.96 | 0.32 | 14.83 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5180 | --- | --- | --- | 17.86 | ≤23.05 | PASS |
| 11AC20MIMO | Ant1 | 5200 | 14.33 | 92.91 | 0.32 | 14.65 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5200 | 14.31 | 92.91 | 0.32 | 14.63 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5200 | --- | --- | --- | 17.65 | ≤23.05 | PASS |
| 11AC20MIMO | Ant1 | 5240 | 13.80 | 92.96 | 0.32 | 14.12 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5240 | 13.81 | 92.96 | 0.32 | 14.13 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5240 | --- | --- | --- | 17.14 | ≤23.05 | PASS |
| 11AC20MIMO | Ant1 | 5260 | 12.78 | 92.91 | 0.32 | 13.10 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5260 | 12.80 | 92.91 | 0.32 | 13.12 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5260 | --- | --- | --- | 16.12 | ≤22.97 | PASS |
| 11AC20MIMO | Ant1 | 5300 | 12.60 | 92.91 | 0.32 | 12.92 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5300 | 12.61 | 92.96 | 0.32 | 12.93 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5300 | --- | --- | --- | 15.94 | ≤22.97 | PASS |
| 11AC20MIMO | Ant1 | 5320 | 12.31 | 92.91 | 0.32 | 12.63 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5320 | 12.33 | 92.91 | 0.32 | 12.65 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5320 | --- | --- | --- | 15.65 | ≤22.97 | PASS |
| 11AC20MIMO | Ant1 | 5500 | 13.20 | 92.91 | 0.32 | 13.52 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5500 | 13.07 | 92.96 | 0.32 | 13.39 | ≤23.98 | PASS |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11AC20MIMO | total | 5500 | --- | --- | --- | 16.47 | ≤23.66 | PASS |
| 11AC20MIMO | Ant1 | 5580 | 12.27 | 92.96 | 0.32 | 12.59 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5580 | 12.26 | 92.91 | 0.32 | 12.58 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5580 | --- | --- | --- | 15.60 | ≤23.66 | PASS |
| 11AC20MIMO | Ant1 | 5700 | 10.98 | 92.91 | 0.32 | 11.30 | ≤23.98 | PASS |
| 11AC20MIMO | Ant2 | 5700 | 10.97 | 92.96 | 0.32 | 11.29 | ≤23.98 | PASS |
| 11AC20MIMO | total | 5700 | --- | --- | --- | 14.31 | ≤23.66 | PASS |
| 11AC20MIMO | Ant1 | 5745 | 13.07 | 92.91 | 0.32 | 13.39 | ≤30.00 | PASS |
| 11AC20MIMO | Ant2 | 5745 | 13.10 | 92.96 | 0.32 | 13.42 | ≤30.00 | PASS |
| 11AC20MIMO | total | 5745 | --- | --- | --- | 16.42 | ≤29.64 | PASS |
| 11AC20MIMO | Ant1 | 5785 | 13.63 | 92.96 | 0.32 | 13.95 | ≤30.00 | PASS |
| 11AC20MIMO | Ant2 | 5785 | 13.69 | 92.91 | 0.32 | 14.01 | ≤30.00 | PASS |
| 11AC20MIMO | total | 5785 | --- | --- | --- | 16.99 | ≤29.64 | PASS |
| 11AC20MIMO | Ant1 | 5825 | 13.72 | 92.91 | 0.32 | 14.04 | ≤30.00 | PASS |
| 11AC20MIMO | Ant2 | 5825 | 13.71 | 92.96 | 0.32 | 14.03 | ≤30.00 | PASS |
| 11AC20MIMO | total | 5825 | --- | --- | --- | 17.05 | ≤29.64 | PASS |
| 11AC40MIMO | Ant1 | 5190 | 14.32 | 86.84 | 0.61 | 14.93 | ≤23.98 | PASS |
| 11AC40MIMO | Ant2 | 5190 | 14.31 | 86.84 | 0.61 | 14.92 | ≤23.98 | PASS |
| 11AC40MIMO | total | 5190 | --- | --- | --- | 17.94 | ≤23.05 | PASS |
| 11AC40MIMO | Ant1 | 5230 | 13.67 | 86.67 | 0.62 | 14.29 | ≤23.98 | PASS |
| 11AC40MIMO | Ant2 | 5230 | 13.67 | 86.84 | 0.61 | 14.28 | ≤23.98 | PASS |
| 11AC40MIMO | total | 5230 | --- | --- | --- | 17.30 | ≤23.05 | PASS |
| 11AC40MIMO | Ant1 | 5270 | 12.41 | 86.84 | 0.61 | 13.02 | ≤23.98 | PASS |
| 11AC40MIMO | Ant2 | 5270 | 12.38 | 86.84 | 0.61 | 12.99 | ≤23.98 | PASS |
| 11AC40MIMO | total | 5270 | --- | --- | --- | 16.02 | ≤22.97 | PASS |
| 11AC40MIMO | Ant1 | 5310 | 11.79 | 86.67 | 0.62 | 12.41 | ≤23.98 | PASS |
| 11AC40MIMO | Ant2 | 5310 | 11.81 | 86.84 | 0.61 | 12.42 | ≤23.98 | PASS |
| 11AC40MIMO | total | 5310 | --- | --- | --- | 15.43 | ≤22.97 | PASS |
| 11AC40MIMO | Ant1 | 5510 | 12.57 | 86.84 | 0.61 | 13.18 | ≤23.98 | PASS |
| 11AC40MIMO | Ant2 | 5510 | 12.59 | 86.84 | 0.61 | 13.20 | ≤23.98 | PASS |
| 11AC40MIMO | total | 5510 | --- | --- | --- | 16.20 | ≤23.66 | PASS |
| 11AC40MIMO | Ant1 | 5550 | 12.12 | 86.67 | 0.62 | 12.74 | ≤23.98 | PASS |
| 11AC40MIMO | Ant2 | 5550 | 12.09 | 86.84 | 0.61 | 12.70 | ≤23.98 | PASS |
| 11AC40MIMO | total | 5550 | --- | --- | --- | 15.73 | ≤23.66 | PASS |
| 11AC40MIMO | Ant1 | 5670 | 10.56 | 86.84 | 0.61 | 11.17 | ≤23.98 | PASS |
| 11AC40MIMO | Ant2 | 5670 | 10.56 | 86.84 | 0.61 | 11.17 | ≤23.98 | PASS |
| 11AC40MIMO | total | 5670 | --- | --- | --- | 14.18 | ≤23.66 | PASS |
| 11AC40MIMO | Ant1 | 5755 | 12.90 | 86.67 | 0.62 | 13.52 | ≤30.00 | PASS |
| 11AC40MIMO | Ant2 | 5755 | 12.92 | 86.84 | 0.61 | 13.53 | ≤30.00 | PASS |
| 11AC40MIMO | total | 5755 | --- | --- | --- | 16.54 | ≤29.64 | PASS |
| 11AC40MIMO | Ant1 | 5795 | 13.46 | 86.84 | 0.61 | 14.07 | ≤30.00 | PASS |
| 11AC40MIMO | Ant2 | 5795 | 13.44 | 86.84 | 0.61 | 14.05 | ≤30.00 | PASS |
| 11AC40MIMO | total | 5795 | --- | --- | --- | 17.07 | ≤29.64 | PASS |
| 11AC80MIMO | Ant1 | 5210 | 13.85 | 76.74 | 1.15 | 15.00 | ≤23.98 | PASS |
| 11AC80MIMO | Ant2 | 5210 | 13.88 | 76.19 | 1.18 | 15.06 | ≤23.98 | PASS |
| 11AC80MIMO | total | 5210 | --- | --- | --- | 18.04 | ≤23.05 | PASS |
| 11AC80MIMO | Ant1 | 5290 | 12.31 | 76.19 | 1.18 | 13.49 | ≤23.98 | PASS |
| 11AC80MIMO | Ant2 | 5290 | 12.26 | 76.19 | 1.18 | 13.44 | ≤23.98 | PASS |
| 11AC80MIMO | total | 5290 | --- | --- | --- | 16.48 | ≤22.97 | PASS |
| 11AC80MIMO | Ant1 | 5530 | 12.80 | 76.19 | 1.18 | 13.98 | ≤23.98 | PASS |
| 11AC80MIMO | Ant2 | 5530 | 12.78 | 76.74 | 1.15 | 13.93 | ≤23.98 | PASS |
| 11AC80MIMO | total | 5530 | --- | --- | --- | 16.97 | ≤23.66 | PASS |
| 11AC80MIMO | Ant1 | 5610 | 11.45 | 76.19 | 1.18 | 12.63 | ≤23.98 | PASS |
| 11AC80MIMO | Ant2 | 5610 | 11.54 | 76.19 | 1.18 | 12.72 | ≤23.98 | PASS |
| 11AC80MIMO | total | 5610 | --- | --- | --- | 15.69 | ≤23.66 | PASS |
| 11AC80MIMO | Ant1 | 5775 | 13.08 | 76.19 | 1.18 | 14.26 | ≤30.00 | PASS |
| 11AC80MIMO | Ant2 | 5775 | 13.04 | 76.19 | 1.18 | 14.22 | ≤30.00 | PASS |
| 11AC80MIMO | total | 5775 | --- | --- | --- | 17.25 | ≤29.64 | PASS |
| 11AX20MIMO | Ant1 | 5180 | 14.97 | 91.07 | 0.41 | 15.38 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5180 | 14.94 | 91.07 | 0.41 | 15.35 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5180 | --- | --- | --- | 18.38 | ≤23.05 | PASS |
| 11AX20MIMO | Ant1 | 5200 | 14.75 | 73.38 | 1.34 | 16.09 | ≤23.98 | PASS |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11AX20MIMO | Ant2 | 5200 | 14.64 | 91.07 | 0.41 | 15.05 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5200 | --- | --- | --- | 18.61 | ≤23.05 | PASS |
| 11AX20MIMO | Ant1 | 5240 | 14.29 | 91.07 | 0.41 | 14.70 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5240 | 14.40 | 91.07 | 0.41 | 14.81 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5240 | --- | --- | --- | 17.77 | ≤23.05 | PASS |
| 11AX20MIMO | Ant1 | 5260 | 13.86 | 91.07 | 0.41 | 14.27 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5260 | 13.87 | 91.07 | 0.41 | 14.28 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5260 | --- | --- | --- | 17.29 | ≤22.97 | PASS |
| 11AX20MIMO | Ant1 | 5300 | 13.56 | 91.07 | 0.41 | 13.97 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5300 | 13.57 | 91.07 | 0.41 | 13.98 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5300 | --- | --- | --- | 16.99 | ≤22.97 | PASS |
| 11AX20MIMO | Ant1 | 5320 | 13.58 | 91.89 | 0.37 | 13.95 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5320 | 13.51 | 91.07 | 0.41 | 13.92 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5320 | --- | --- | --- | 16.95 | ≤22.97 | PASS |
| 11AX20MIMO | Ant1 | 5500 | 14.44 | 91.07 | 0.41 | 14.85 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5500 | 14.41 | 91.07 | 0.41 | 14.82 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5500 | --- | --- | --- | 17.85 | ≤23.66 | PASS |
| 11AX20MIMO | Ant1 | 5580 | 13.46 | 91.89 | 0.37 | 13.83 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5580 | 13.56 | 91.89 | 0.37 | 13.93 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5580 | --- | --- | --- | 16.89 | ≤23.66 | PASS |
| 11AX20MIMO | Ant1 | 5700 | 12.06 | 91.89 | 0.37 | 12.43 | ≤23.98 | PASS |
| 11AX20MIMO | Ant2 | 5700 | 12.12 | 91.07 | 0.41 | 12.53 | ≤23.98 | PASS |
| 11AX20MIMO | total | 5700 | --- | --- | --- | 15.49 | ≤23.66 | PASS |
| 11AX20MIMO | Ant1 | 5745 | 14.23 | 91.07 | 0.41 | 14.64 | ≤30.00 | PASS |
| 11AX20MIMO | Ant2 | 5745 | 14.31 | 91.07 | 0.41 | 14.72 | ≤30.00 | PASS |
| 11AX20MIMO | total | 5745 | --- | --- | --- | 17.69 | ≤29.64 | PASS |
| 11AX20MIMO | Ant1 | 5785 | 15.00 | 91.89 | 0.37 | 15.37 | ≤30.00 | PASS |
| 11AX20MIMO | Ant2 | 5785 | 14.98 | 91.07 | 0.41 | 15.39 | ≤30.00 | PASS |
| 11AX20MIMO | total | 5785 | --- | --- | --- | 18.39 | ≤29.64 | PASS |
| 11AX20MIMO | Ant1 | 5825 | 14.99 | 91.07 | 0.41 | 15.40 | ≤30.00 | PASS |
| 11AX20MIMO | Ant2 | 5825 | 15.02 | 91.07 | 0.41 | 15.43 | ≤30.00 | PASS |
| 11AX20MIMO | total | 5825 | --- | --- | --- | 18.43 | ≤29.64 | PASS |
| 11AX40MIMO | Ant1 | 5190 | 13.57 | 84.38 | 0.74 | 14.31 | ≤23.98 | PASS |
| 11AX40MIMO | Ant2 | 5190 | 13.69 | 84.38 | 0.74 | 14.43 | ≤23.98 | PASS |
| 11AX40MIMO | total | 5190 | --- | --- | --- | 17.38 | ≤23.05 | PASS |
| 11AX40MIMO | Ant1 | 5230 | 12.75 | 84.38 | 0.74 | 13.49 | ≤23.98 | PASS |
| 11AX40MIMO | Ant2 | 5230 | 12.88 | 84.38 | 0.74 | 13.62 | ≤23.98 | PASS |
| 11AX40MIMO | total | 5230 | --- | --- | --- | 16.57 | ≤23.05 | PASS |
| 11AX40MIMO | Ant1 | 5270 | 13.55 | 84.38 | 0.74 | 14.29 | ≤23.98 | PASS |
| 11AX40MIMO | Ant2 | 5270 | 13.55 | 84.38 | 0.74 | 14.29 | ≤23.98 | PASS |
| 11AX40MIMO | total | 5270 | --- | --- | --- | 17.30 | ≤22.97 | PASS |
| 11AX40MIMO | Ant1 | 5310 | 12.93 | 84.38 | 0.74 | 13.67 | ≤23.98 | PASS |
| 11AX40MIMO | Ant2 | 5310 | 13.05 | 84.38 | 0.74 | 13.79 | ≤23.98 | PASS |
| 11AX40MIMO | total | 5310 | --- | --- | --- | 16.74 | ≤22.97 | PASS |
| 11AX40MIMO | Ant1 | 5510 | 13.92 | 84.38 | 0.74 | 14.66 | ≤23.98 | PASS |
| 11AX40MIMO | Ant2 | 5510 | 13.90 | 84.38 | 0.74 | 14.64 | ≤23.98 | PASS |
| 11AX40MIMO | total | 5510 | --- | --- | --- | 17.66 | ≤23.66 | PASS |
| 11AX40MIMO | Ant1 | 5550 | 13.37 | 84.38 | 0.74 | 14.11 | ≤23.98 | PASS |
| 11AX40MIMO | Ant2 | 5550 | 13.35 | 84.38 | 0.74 | 14.09 | ≤23.98 | PASS |
| 11AX40MIMO | total | 5550 | --- | --- | --- | 17.11 | ≤23.66 | PASS |
| 11AX40MIMO | Ant1 | 5670 | 11.80 | 84.38 | 0.74 | 12.54 | ≤23.98 | PASS |
| 11AX40MIMO | Ant2 | 5670 | 11.86 | 84.38 | 0.74 | 12.60 | ≤23.98 | PASS |
| 11AX40MIMO | total | 5670 | --- | --- | --- | 15.58 | ≤23.66 | PASS |
| 11AX40MIMO | Ant1 | 5755 | 14.19 | 84.38 | 0.74 | 14.93 | ≤30.00 | PASS |
| 11AX40MIMO | Ant2 | 5755 | 14.18 | 84.38 | 0.74 | 14.92 | ≤30.00 | PASS |
| 11AX40MIMO | total | 5755 | --- | --- | --- | 17.94 | ≤29.64 | PASS |
| 11AX40MIMO | Ant1 | 5795 | 14.71 | 84.38 | 0.74 | 15.45 | ≤30.00 | PASS |
| 11AX40MIMO | Ant2 | 5795 | 14.73 | 84.38 | 0.74 | 15.47 | ≤30.00 | PASS |
| 11AX40MIMO | total | 5795 | --- | --- | --- | 18.47 | ≤29.64 | PASS |
| 11AX80MIMO | Ant1 | 5210 | 12.97 | 74.36 | 1.29 | 14.26 | ≤23.98 | PASS |
| 11AX80MIMO | Ant2 | 5210 | 12.95 | 74.36 | 1.29 | 14.24 | ≤23.98 | PASS |
| 11AX80MIMO | total | 5210 | --- | --- | --- | 17.26 | ≤23.05 | PASS |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11AX80MIMO | Ant1 | 5290 | 13.54 | 74.36 | 1.29 | 14.83 | ≤23.98 | PASS |
| 11AX80MIMO | Ant2 | 5290 | 13.55 | 74.36 | 1.29 | 14.84 | ≤23.98 | PASS |
| 11AX80MIMO | total | 5290 | --- | --- | --- | 17.85 | ≤22.97 | PASS |
| 11AX80MIMO | Ant1 | 5530 | 12.98 | 74.36 | 1.29 | 14.27 | ≤23.98 | PASS |
| 11AX80MIMO | Ant2 | 5530 | 12.91 | 74.36 | 1.29 | 14.20 | ≤23.98 | PASS |
| 11AX80MIMO | total | 5530 | --- | --- | --- | 17.25 | ≤23.66 | PASS |
| 11AX80MIMO | Ant1 | 5610 | 11.64 | 74.36 | 1.29 | 12.93 | ≤23.98 | PASS |
| 11AX80MIMO | Ant2 | 5610 | 11.66 | 74.36 | 1.29 | 12.95 | ≤23.98 | PASS |
| 11AX80MIMO | total | 5610 | --- | --- | --- | 15.95 | ≤23.66 | PASS |
| 11AX80MIMO | Ant1 | 5775 | 14.23 | 74.36 | 1.29 | 15.52 | ≤30.00 | PASS |
| 11AX80MIMO | Ant2 | 5775 | 14.19 | 74.36 | 1.29 | 15.48 | ≤30.00 | PASS |
| 11AX80MIMO | total | 5775 | --- | --- | --- | 18.51 | ≤29.64 | PASS |

Note: For pre-scan, the result is equal to original, so the original data is referenced.

## 4. Undesirable emission limits (below 1GHz)

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15.407(b)(9)</td></tr>
<tr><td>Test Limit:</td><td>Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.<br><br>Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:
<table>
<tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr>
<tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100 **</td><td>3</td></tr>
<tr><td>88-216</td><td>150 **</td><td>3</td></tr>
<tr><td>216-960</td><td>200 **</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.<br>In the emission table above, the tighter limit applies at the band edges.<br>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2020, section 12.7.4, 12.7.5</td></tr>
<tr><td>Procedure:</td><td>Below 1GHz:<br>a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.<br>b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.<br>c. The antenna height 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.<br>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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.<br>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.<br>f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.<br>g. Test the EUT in the lowest channel, the middle channel, the Highest channel.</td></tr>
</table>

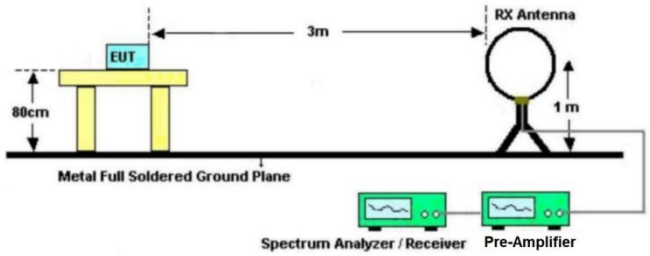
| | |
|---|---|
| | h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.<br>i. Repeat above procedures until all frequencies measured was complete.<br>Remark:<br>1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor<br>2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.<br>3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.<br><br>Above 1GHz:<br>a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.<br>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.<br>c. The antenna height 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.<br>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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.<br>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.<br>f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.<br>g. Test the EUT in the lowest channel, the middle channel, the Highest channel.<br>h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.<br>i. Repeat above procedures until all frequencies measured was complete.<br>Remark:<br>1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor<br>2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.<br>3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.<br>4. The disturbance above 18GHz were very low and the harmonics were the |

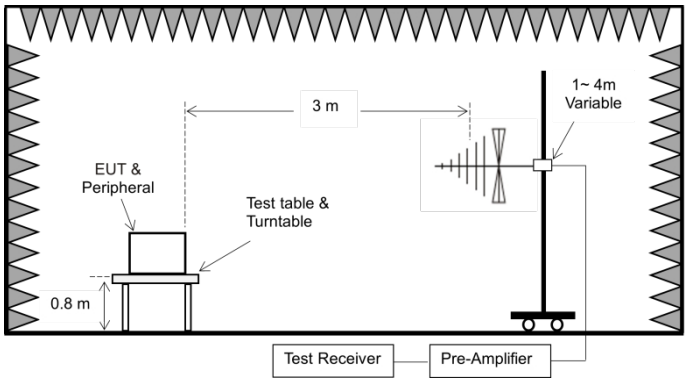
| | |
|---|---|
| | highest point could be found when testing, so only the above harmonics had been displayed. |

## 4.1. EUT Operation

| Operating Environment: | |
|---|---|
| Test mode: | 1: 802.11a mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.<br>2: 802.11n mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.<br>3: 802.11ac mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.<br>4: 802.11ax mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ax modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report. |

## 4.2. Test Setup



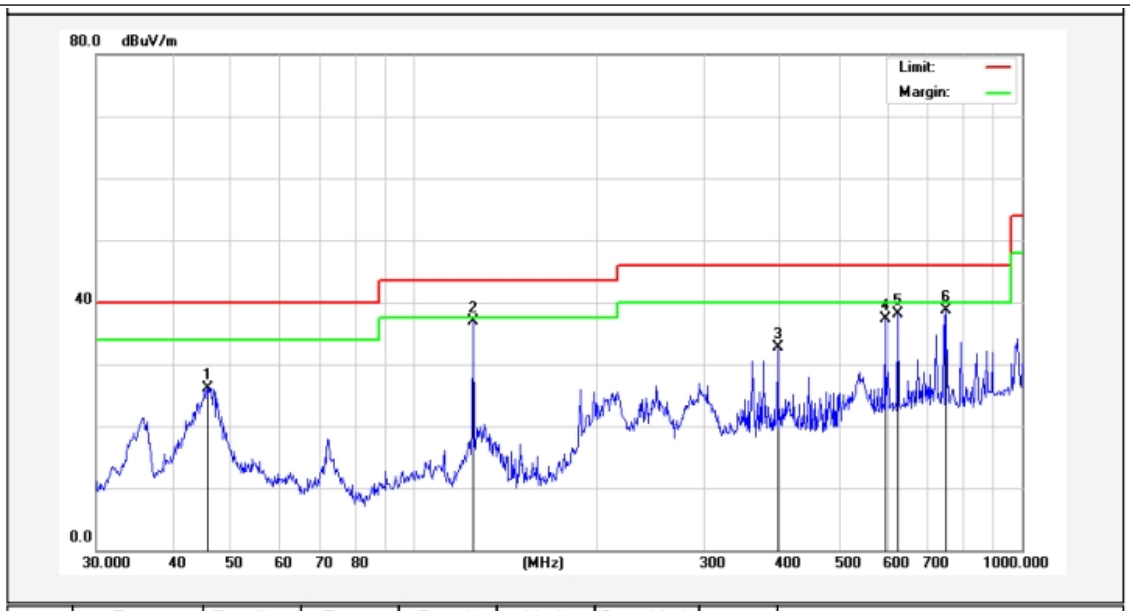



### 4.3. Test Data

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

| Temperature: | 24.6 °C | Humidity: | 46 % | Atmospheric Pressure: | 101 kPa |
|---|---|---|---|---|---|
| Test Power Supply: | AC 120V/60Hz | | | | |

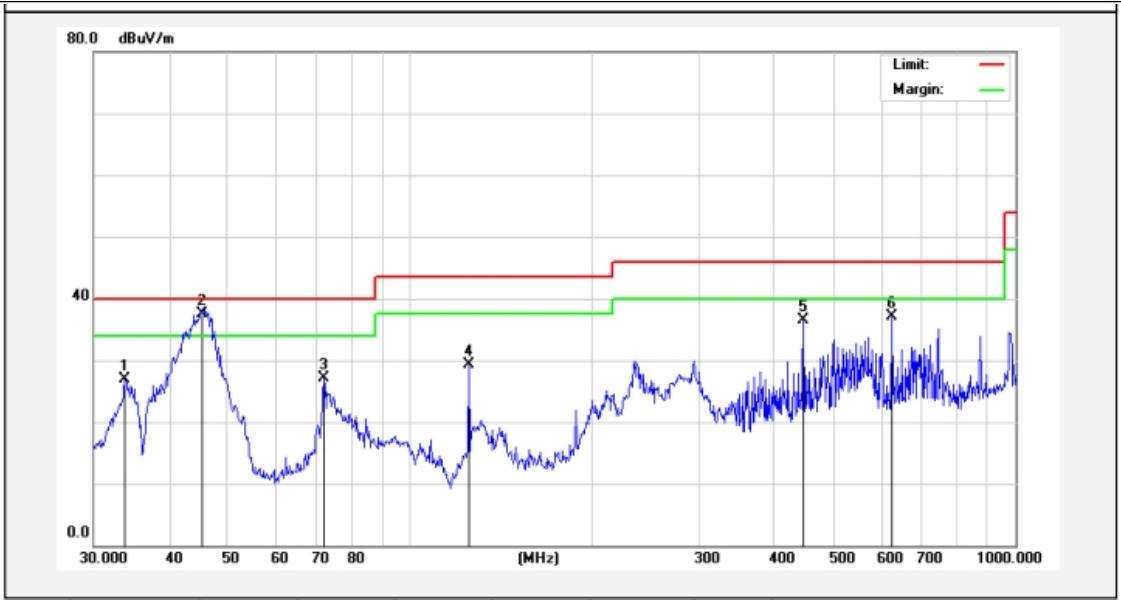
TM3 / Polarization: Horizontal / Band: 5180-5240 MHz / BW: 40 / CH: L/ MIMO




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 45.6948 | 42.91 | -16.72 | 26.19 | 40.00 | -13.81 | QP | |
| 2 | 125.0066 | 58.53 | -21.65 | 36.88 | 43.50 | -6.62 | QP | |
| 3 | 396.2415 | 46.45 | -13.84 | 32.61 | 46.00 | -13.39 | QP | |
| 4 | 595.1329 | 47.01 | -9.79 | 37.22 | 46.00 | -8.78 | QP | |
| 5 | 625.0780 | 47.53 | -9.44 | 38.09 | 46.00 | -7.91 | QP | |
| 6 | 750.1083 | 47.09 | -8.33 | 38.76 | 46.00 | -7.24 | QP | |

| Temperature: | 24.6 °C | Humidity: | 46 % | Atmospheric Pressure: | 101 kPa |
|---|---|---|---|---|---|
| Test Power Supply: | AC 120V/60Hz | | | | |

TM3 / Polarization: Vertical / Band: 5180-5240 MHz / BW: 40 / CH: L/ MIMO




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 33.7986 | 45.63 | -18.80 | 26.83 | 40.00 | -13.17 | QP | |
| 2 | 45.2948 | 54.22 | -16.66 | 37.56 | 40.00 | -2.44 | QP | |
| 3 | 72.0843 | 49.55 | -22.36 | 27.19 | 40.00 | -12.81 | QP | |
| 4 | 125.0066 | 50.90 | -21.65 | 29.25 | 43.50 | -14.25 | QP | |
| 5 | 446.4141 | 49.18 | -12.63 | 36.55 | 46.00 | -9.45 | QP | |
| 6 | 625.0780 | 46.53 | -9.44 | 37.09 | 46.00 | -8.91 | QP | |

Note:
1. Only record the worst data (802.11ax(HEW20) MIMO) in the report.
2. Result(dBμV/m) = Reading(dBμV) + Factor(dB/m);
Over Limit(dB) = Result(dBμV/m) - Limit(dBμV/m)

## APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

## APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

## APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

---------- End of Report ----------