| | |
|---|---|
| **Product Name: UC Phone** | **Report No: FCC022022-5527RF2** |
| **Product Model: CP-8832** | **Security Classification: Open** |
| **Version: V1.0** | **Total Page:195** |

# TIRT Testing Report

| Prepared By: | Checked By: | Approved By: | |
|---|---|---|---|
| Stone Tang | Randy Lv | Daniel Chen | |
| Stone Tang | Randy LV | Daniel chen | |

# FCC Radio Test Report

## FCC ID: LDK88322678

**This report concerns: Original Grant**

| | | |
|---|---|---|
| **Project No.** | : | 022022-5527 |
| **Equipment** | : | UC Phone |
| **Brand Name** | : | Cisco |
| **Test Model** | : | CP-8832 |
| **Series Model** | : | N/A |
| **Applicant** | : | Cisco Systems Inc |
| **Address** | : | 125 West Tasman Drive San Jose, CA 95134-1706 United States |
| **Manufacturer** | : | Cisco Systems Inc |
| **Address** | : | 125 West Tasman Drive San Jose, CA 95134-1706 United States |
| **Factory 1** | : | Shenzhen Fulian Fugui Precision Industry Co., Ltd. Communication & Network Solution Business Group |
| **Address 1** | : | 3/F, D10 Building, F8d Area Foxconn Science and Technology Industrial Park, East side of Min Qing Road, Longhua Street Longhua District, Shenzhen Guangdong 518109 China |
| **Factory 2** | : | Fuyu Precision Component Company Limited |
| **Address 2** | : | Lot M1 and Lot F, Quang Chau Industrial Park, Van Trung Commune, Viet Yen District, Bac Giang Province, 26171, Vietnam |
| **Date of Receipt** | : | 2022.06.24 |
| **Date of Test** | : | 2022.06.25 ~ 2022.10.17 |
| **Issued Date** | : | 2022.10.25 |
| **Report Version** | : | V1.0 |
| **Test Sample** | : | Engineering Sample No.: 20220624018684 |
| **Standard(s)** | : | FCC CFR Title 47, Part 15, Subpart E<br>FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01<br>ANSI C63.10-2013 |

- The test result referred exclusively to the presented test model /sample.
- Without written approval of TIRT Inc. the test report shall not reproduced except in full.

Add: 101,3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China

TEL: +86-0755-27087573

## Table of Contents Page

## Table of Contents Page

## Table of Contents Page

## REPORT ISSUED HISTORY

| Report No. | Version | Description | Issued Date | Note |
|---|---|---|---|---|
| FCC022022-5527RF2 | V1.0 | Original Report. | 2022.10.25 | Valid |

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC CFR Title 47, Part 15, Subpart E | | | | |
|---|---|---|---|---|
| **Standard(s) Section** | **Test Item** | **Test Result** | **Judgment** | **Remark** |
| 15.207<br>15.407(b) | AC Power Line Conducted Emissions | APPENDIX A | PASS | ------ |
| 15.407(b)<br>15.205(a)<br>15.209(a) | Radiated Emissions | APPENDIX B<br>APPENDIX C<br>APPENDIX D | PASS | ------ |
| 15.407(a)<br>15.407(e) | Bandwidth | APPENDIX E | PASS | ------ |
| 15.407(a) | Maximum Output Power | APPENDIX F | PASS | ------ |
| 15.407(a) | Power Spectral Density | APPENDIX G | PASS | ------ |
| 15.407(g) | Frequency Stability | APPENDIX H | PASS | ------ |
| 15.203 | Antenna Requirements | ------ | PASS | **NOTE (2)** |
| 15.407(c) | Automatically Discontinue Transmission | ------ | PASS | **NOTE (3)** |

Note:
(1) "N/A" denotes test is not applicable in this test report.
(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.
(3) During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.
(4) For UNII-1 this device was functioned as a
☐ Outdoor access point device
☐ Indoor access point device
☐ Fixed point-to-point access points device
☒ Client device

## 1.1 TEST FACILITY

| | |
|---|---|
| Company: | Beijing TIRT Technology Service Co.,Ltd Shenzhen |
| Address: | 101, 3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China |
| CNAS Registration Number: | CNAS L14158 |
| A2LA Registration Number: | 6049.01 |
| FCC Accredited Lab. Designation Number: | CN1309 |
| FCC Test Firm Registration Number: | 825524 |
| Telephone: | +86-0755-27087573 |

## 1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))
The TIRT measurement uncertainty as below table:

| Uncertainty | |
|---|---|
| Parameter | Uncertainty |
| Occupied Channel Bandwidth | ±142.12 KHz |
| RF power conducted | ±0.74 dB |
| RF power radiated | ±3.25dB |
| Spurious emissions, conducted | ±1.78dB |
| Spurious emissions, radiated (30MHz～1GHz) | ±4.6dB |
| Spurious emissions, radiated (1GHz ~ 18GHz) | ±4.9dB |
| Conduction Emissions(150kHz~30MHz) | ±3.1 dB |
| Humidity | ±4.6% |
| Temperature | ±0.7°C |
| Time | ±1.25% |

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

## 1.3 TEST ENVIRONMENT CONDITIONS

| Test Item | Temperature | Humidity | Test Voltage | Tested By |
|---|---|---|---|---|
| AC Power Line Conducted Emissions | 24°C | 51% | AC 120V/60Hz | Stone Tang |
| Radiated Emissions-9kHz to 30MHz | 25°C | 55% | PoE 48V | Stone Tang |
| Radiated Emissions-30MHz to 1000MHz | 24°C | 59% | PoE 48V | Stone Tang |
| Radiated Emissions-Above 1000 MHz | 25°C | 55% | PoE 48V | Stone Tang |
| Bandwidth | 23°C - 24°C | 58% - 61% | PoE 12V | Stone Tang |
| Maximum Output Power | 23.7°C - 24.4°C | 52.4% - 63.4% | PoE 12V | Stone Tang |
| Power Spectral Density | 23°C - 24°C | 58% - 61% | PoE 12V | Stone Tang |
| Frequency Stability | Normal & Extreme | 58% - 61% | Normal & Extreme | Stone Tang |

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

| | |
|---|---|
| Equipment | UC Phone |
| Brand Name | Cisco |
| Test Model | CP-8832 |
| Series Model | N/A |
| Model Difference(s) | N/A |
| Power Source | DC Voltage supplied from PoE Injector or AC adapter. |
| Power Rating | 1# Model: CP-8832-POE<br>I/P: 44V~55V ⎓ , 12.95W, 350mA<br>O/P: 5V ⎓ 2A or 12V ⎓ 1A<br>2# Model: AQ18A-59CFA<br>I/P: 100-240V~ 50-60Hz 0.5A<br>O/P: 5V ⎓ 3.0A or 9V ⎓ 2.0A or 12V ⎓ 1.5A or 15V ⎓ 1.2A<br>3# Model: AN18V-59CFA<br>I/P: 100-240V 0.5A 50-60Hz<br>O/P: 5.0V ⎓ 3.0A or 9.0V ⎓ 2.0A or 12.0V ⎓ 1.5A or 15.0V ⎓ 1.2A<br>4# Model: AN18V-59CB<br>I/P: 100-240V 50-60Hz 0.5A<br>O/P: 5V ⎓ 3A or 9V ⎓ 2A or 12V ⎓ 1.5A<br>5# Model: AN18A-59CB<br>I/P: 100-240V~ 50-60Hz 0.5A<br>O/P: 5V ⎓ 3A or 9V ⎓ 2A or 12V ⎓ 1.5A |
| Operation Frequency Band(s) | UNII-1: 5150 MHz ~ 5250 MHz<br>UNII-2A: 5250 MHz ~ 5350 MHz<br>UNII-2C: 5470 MHz ~ 5725 MHz<br>UNII-3: 5725 MHz ~ 5850 MHz |
| Modulation Type | IEEE 802.11a/n/ac: OFDM |
| Bit Rate of Transmitter | IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps<br>IEEE 802.11n: up to 150 Mbps<br>IEEE 802.11ac: up to 433.3 Mbps |
| Maximum Output Power_UNII-1 | IEEE 802.11ac(VHT20): 20.19 dBm (0.1045 W) |
| Maximum Output Power_UNII-2A | IEEE 802.11a: 20.56 dBm (0.1138 W) |
| Maximum Output Power_UNII-2C | IEEE 802.11ac(VHT40): 21.57 dBm (0.1435 W) |
| Maximum Output Power_UNII-3 | IEEE 802.11ac(VHT20): 21.34 dBm (0.1361 W) |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

| IEEE 802.11a<br>IEEE 802.11n(HT20)<br>IEEE 802.11ac(VHT20) | | IEEE 802.11n(HT40)<br>IEEE 802.11ac(VHT40) | | IEEE 802.11ac(VHT80) | |
|---|---|---|---|---|---|
| UNII-1 | | UNII-1 | | UNII-1 | |
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 36 | 5180 | 38 | 5190 | 42 | 5210 |
| 40 | 5200 | 46 | 5230 | | |
| 44 | 5220 | | | | |
| 48 | 5240 | | | | |

| IEEE 802.11a<br>IEEE 802.11n(HT20)<br>IEEE 802.11ac(VHT20) | | IEEE 802.11n(HT40)<br>IEEE 802.11ac(VHT40) | | IEEE 802.11ac(VHT80) | |
|---|---|---|---|---|---|
| UNII-2A | | UNII-2A | | UNII-2A | |
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 52 | 5260 | 54 | 5270 | 58 | 5290 |
| 56 | 5280 | 62 | 5310 | | |
| 60 | 5300 | | | | |
| 64 | 5320 | | | | |

| IEEE 802.11a<br>IEEE 802.11n(HT20)<br>IEEE 802.11ac(VHT20) | | IEEE 802.11n(HT40)<br>IEEE 802.11ac(VHT40) | | IEEE 802.11ac(VHT80) | |
|---|---|---|---|---|---|
| UNII-2C | | UNII-2C | | UNII-2C | |
| 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 | | | | |

| IEEE 802.11a<br>IEEE 802.11n(HT20)<br>IEEE 802.11ac(VHT20) | | IEEE 802.11n(HT40)<br>IEEE 802.11ac(VHT40) | | IEEE 802.11ac(VHT80) | |
|---|---|---|---|---|---|
| UNII-3 | | UNII-3 | | UNII-3 | |
| 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 | | | | |

3. Antenna Specification:

| Ant. | Brand | P/N | Antenna Type | Connector | Gain (dBi) |
|---|---|---|---|---|---|
| 1 | SAA Shanghai Amphenol Airwave | CI8226-15-000-R | PCB | IPEX | 4.8 |

Note:

1) The antenna gain is provided by the manufacturer.

## 2.2 TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

| Pretest Mode | Description |
|---|---|
| Mode 1 | TX A Mode Channel 36/40/48 (UNII-1) |
| Mode 2 | TX N(HT20) Mode Channel 36/40/48 (UNII-1) |
| Mode 3 | TX N(HT40) Mode Channel 38/46 (UNII-1) |
| Mode 4 | TX AC(VHT20) Mode Channel 36/40/48 (UNII-1) |
| Mode 5 | TX AC(VHT40) Mode Channel 38/46 (UNII-1) |
| Mode 6 | TX AC(VHT80) Mode Channel 42 (UNII-1) |
| Mode 7 | TX A Mode Channel 52/60/64 (UNII-2A) |
| Mode 8 | TX N(HT20) Mode Channel 52/60/64 (UNII-2A) |
| Mode 9 | TX N(HT40) Mode Channel 54/62 (UNII-2A) |
| Mode 10 | TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A) |
| Mode 11 | TX AC(VHT40) Mode Channel 54/62 (UNII-2A) |
| Mode 12 | TX AC(VHT80) Mode Channel 58 (UNII-2A) |
| Mode 13 | TX A Mode Channel 100/116/140 (UNII-2C) |
| Mode 14 | TX N(HT20) Mode Channel 100/116/140 (UNII-2C) |
| Mode 15 | TX N(HT40) Mode Channel 102/110/134 (UNII-2C) |
| Mode 16 | TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C) |
| Mode 17 | TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C) |
| Mode 18 | TX AC(VHT80) Mode Channel 106/122 (UNII-2C) |
| Mode 19 | TX A Mode Channel 149/157/165 (UNII-3) |
| Mode 20 | TX N(HT20) Mode Channel 149/157/165 (UNII-3) |
| Mode 21 | TX N(HT40) Mode Channel 151/159 (UNII-3) |
| Mode 22 | TX AC(VHT20) Mode Channel 149/157/165 (UNII-3) |
| Mode 23 | TX AC(VHT40) Mode Channel 151/159 (UNII-3) |
| Mode 24 | TX AC(VHT80) Mode Channel 155 (UNII-3) |
| Mode 25 | TX AC(VHT40) Mode Channel 110 (UNII-2C) |

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

| **AC power line conducted emissions test** | |
|---|---|
| Final Test Mode | Description |
| Mode 25 | TX AC(VHT40) Mode Channel 110 (UNII-2C) |

| **Radiated Emissions Test - Below 1GHz** | |
|---|---|
| Final Test Mode | Description |
| Mode 25 | TX AC(VHT40) Mode Channel 110 (UNII-2C) |

| Radiated Emissions Test - Above 1GHz | |
|---|---|
| Final Test Mode | Description |
| Mode 1 | TX A Mode Channel 36/40/48 (UNII-1) |
| Mode 4 | TX AC(VHT20) Mode Channel 36/40/48 (UNII-1) |
| Mode 5 | TX AC(VHT40) Mode Channel 38/46 (UNII-1) |
| Mode 6 | TX AC(VHT80) Mode Channel 42 (UNII-1) |
| Mode 7 | TX A Mode Channel 52/60/64 (UNII-2A) |
| Mode 10 | TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A) |
| Mode 11 | TX AC(VHT40) Mode Channel 54/62 (UNII-2A) |
| Mode 12 | TX AC(VHT80) Mode Channel 58 (UNII-2A) |
| Mode 13 | TX A Mode Channel 100/116/140 (UNII-2C) |
| Mode 16 | TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C) |
| Mode 17 | TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C) |
| Mode 18 | TX AC(VHT80) Mode Channel 106/122 (UNII-2C) |
| Mode 19 | TX A Mode Channel 149/157/165 (UNII-3) |
| Mode 22 | TX AC(VHT20) Mode Channel 149/157/165 (UNII-3) |
| Mode 23 | TX AC(VHT40) Mode Channel 151/159 (UNII-3) |
| Mode 24 | TX AC(VHT80) Mode Channel 155 (UNII-3) |

| Maximum Output Power Test | |
|---|---|
| Final Test Mode | Description |
| Mode 1 | TX A Mode Channel 36/40/48 (UNII-1) |
| Mode 2 | TX N(HT20) Mode Channel 36/40/48 (UNII-1) |
| Mode 3 | TX N(HT40) Mode Channel 38/46 (UNII-1) |
| Mode 4 | TX AC(VHT20) Mode Channel 36/40/48 (UNII-1) |
| Mode 5 | TX AC(VHT40) Mode Channel 38/46 (UNII-1) |
| Mode 6 | TX AC(VHT80) Mode Channel 42 (UNII-1) |
| Mode 7 | TX A Mode Channel 52/60/64 (UNII-2A) |
| Mode 8 | TX N(HT20) Mode Channel 52/60/64 (UNII-2A) |
| Mode 9 | TX N(HT40) Mode Channel 54/62 (UNII-2A) |
| Mode 10 | TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A) |
| Mode 11 | TX AC(VHT40) Mode Channel 54/62 (UNII-2A) |
| Mode 12 | TX AC(VHT80) Mode Channel 58 (UNII-2A) |
| Mode 13 | TX A Mode Channel 100/116/140 (UNII-2C) |
| Mode 14 | TX N(HT20) Mode Channel 100/116/140 (UNII-2C) |
| Mode 15 | TX N(HT40) Mode Channel 102/110/134 (UNII-2C) |
| Mode 16 | TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C) |
| Mode 17 | TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C) |
| Mode 18 | TX AC(VHT80) Mode Channel 106/122 (UNII-2C) |
| Mode 19 | TX A Mode Channel 149/157/165 (UNII-3) |
| Mode 20 | TX N(HT20) Mode Channel 149/157/165 (UNII-3) |
| Mode 21 | TX N(HT40) Mode Channel 151/159 (UNII-3) |
| Mode 22 | TX AC(VHT20) Mode Channel 149/157/165 (UNII-3) |
| Mode 23 | TX AC(VHT40) Mode Channel 151/159 (UNII-3) |
| Mode 24 | TX AC(VHT80) Mode Channel 155 (UNII-3) |

| Other Conducted Test | |
|---|---|
| Final Test Mode | Description |
| Mode 1 | TX A Mode Channel 36/40/48 (UNII-1) |
| Mode 4 | TX AC(VHT20) Mode Channel 36/40/48 (UNII-1) |
| Mode 5 | TX AC(VHT40) Mode Channel 38/46 (UNII-1) |
| Mode 6 | TX AC(VHT80) Mode Channel 42 (UNII-1) |
| Mode 7 | TX A Mode Channel 52/60/64 (UNII-2A) |
| Mode 10 | TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A) |
| Mode 11 | TX AC(VHT40) Mode Channel 54/62 (UNII-2A) |
| Mode 12 | TX AC(VHT80) Mode Channel 58 (UNII-2A) |
| Mode 13 | TX A Mode Channel 100/116/140 (UNII-2C) |
| Mode 16 | TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C) |
| Mode 17 | TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C) |
| Mode 18 | TX AC(VHT80) Mode Channel 106/122 (UNII-2C) |
| Mode 19 | TX A Mode Channel 149/157/165 (UNII-3) |
| Mode 22 | TX AC(VHT20) Mode Channel 149/157/165 (UNII-3) |
| Mode 23 | TX AC(VHT40) Mode Channel 151/159 (UNII-3) |
| Mode 24 | TX AC(VHT80) Mode Channel 155 (UNII-3) |

Note:
(1) For AC power line conducted emissions and radiated emission below 1 GHz test, the TX AC(VHT40) Mode Channel 110 is found to be the worst case and recorded.
(2) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz and 26.5GHz~40GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
(3) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
(4) The measurements for Output Power are tested, the worst case are IEEE 802.11a mode, IEEE 802.11ac(VHT20) mode, IEEE 802.11ac(VHT40) mode and IEEE 802.11ac(VHT80) mode, only the worst cases are documented for other test items.
(5) For AC power line conducted emissions and radiated emissions below 1 GHz test, all adapters had been pre-tested and in this report only recorded the worst case.
(6) For radiated emission above 1 GHz of Harmonic test: The polarization of Vertical and Horizontal are evaluated, the worst case is Horizontal and recorded.

## 2.3 PARAMETERS OF TEST SOFTWARE

| UNII-1 | | | |
|---|---|---|---|
| Test Software Version | IPOP V4.1 | | |
| Frequency (MHz) | 5180 | 5200 | 5240 |
| IEEE 802.11a | 55 | 80 | 70 |
| IEEE 802.11n(HT20) | 60 | 85 | 85 |
| IEEE 802.11ac(VHT20) | 60 | 85 | 85 |
| Frequency (MHz) | 5190 | 5230 | |
| IEEE 802.11n(HT40) | 60 | 65 | |
| IEEE 802.11ac(VHT40) | 60 | 65 | |
| Frequency (MHz) | 5210 | | |
| IEEE 802.11ac(VHT80) | 58 | | |

| UNII-2A | | | |
|---|---|---|---|
| Test Software Version | IPOP V4.1 | | |
| Frequency (MHz) | 5260 | 5300 | 5320 |
| IEEE 802.11a | 88 | 80 | 75 |
| IEEE 802.11n(HT20) | 87 | 86 | 73 |
| IEEE 802.11ac(VHT20) | 87 | 86 | 73 |
| Frequency (MHz) | 5270 | 5310 | |
| IEEE 802.11n(HT40) | 65 | 52 | |
| IEEE 802.11ac(VHT40) | 65 | 52 | |
| Frequency (MHz) | 5290 | | |
| IEEE 802.11ac(VHT80) | 55 | | |

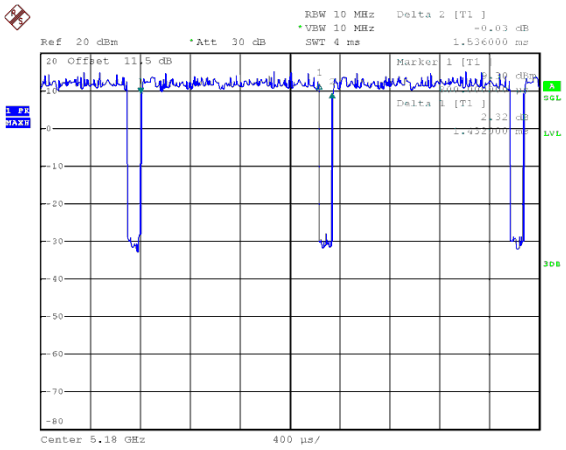
| UNII-2C | | | |
|---|---|---|---|
| Test Software Version | IPOP V4.1 | | |
| Frequency (MHz) | 5500 | 5580 | 5700 |
| IEEE 802.11a | 68 | 80 | 84 |
| IEEE 802.11n(HT20) | 75 | 80 | 82 |
| IEEE 802.11ac(VHT20) | 75 | 80 | 82 |
| Frequency (MHz) | 5510 | 5550 | 5670 |
| IEEE 802.11n(HT40) | 65 | 84 | 84 |
| IEEE 802.11ac(VHT40) | 65 | 84 | 84 |
| Frequency (MHz) | 5530 | 5610 | |
| IEEE 802.11ac(VHT80) | 63 | 80 | |

| UNII-3 | | | |
|---|---|---|---|
| Test Software Version | IPOP V4.1 | | |
| Frequency (MHz) | 5745 | 5785 | 5825 |
| IEEE 802.11a | 88 | 88 | 88 |
| IEEE 802.11n(HT20) | 90 | 90 | 90 |
| IEEE 802.11ac(VHT20) | 90 | 90 | 90 |
| Frequency (MHz) | 5755 | 5795 | |
| IEEE 802.11n(HT40) | 84 | 65 | |
| IEEE 802.11ac(VHT40) | 84 | 65 | |
| Frequency (MHz) | 5775 | | |
| IEEE 802.11ac(VHT80) | 81 | | |

## 2.4 DUTY CYCLE

If duty cycle is ≥ 98 %, duty factor is not required.
If duty cycle is < 98 %, duty factor shall be considered.
The output power = measured power + duty factor.
The power spectral density = measured power spectral density + duty factor.

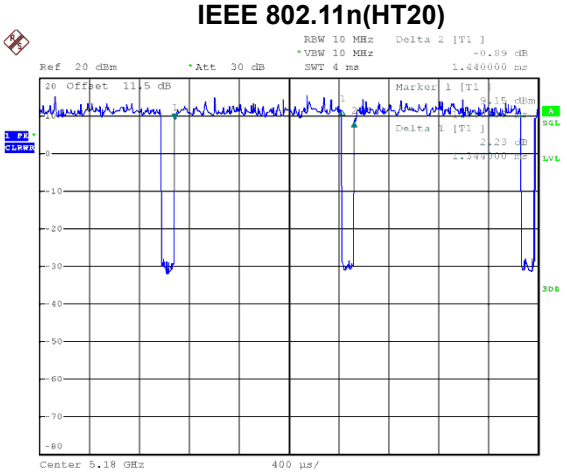
**IEEE 802.11a**




Date: 1.JUL.2022 12:32:32

Duty cycle = 1.432 ms / 1.536 ms = 93.23%
Duty Factor = 10 log(1 / Duty cycle) = 0.30

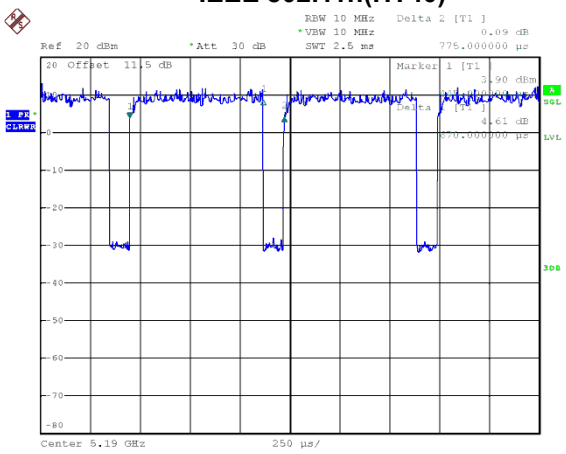
**IEEE 802.11n(HT20)**




Date: 1.JUL.2022 12:42:00

Duty cycle = 1.344 ms / 1.440 ms = 93.33%
Duty Factor = 10 log(1 / Duty cycle) = 0.30

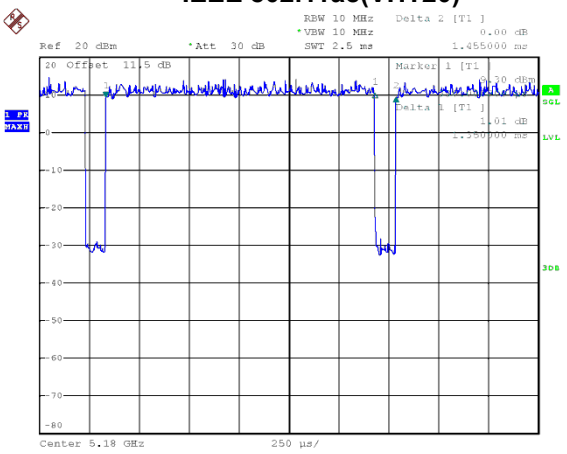
**IEEE 802.11n(HT40)**




Date: 1.JUL.2022 12:42:30

Duty cycle = 0.670 ms / 0.775 ms = 86.45%
Duty Factor = 10 log(1 / Duty cycle) = 0.63

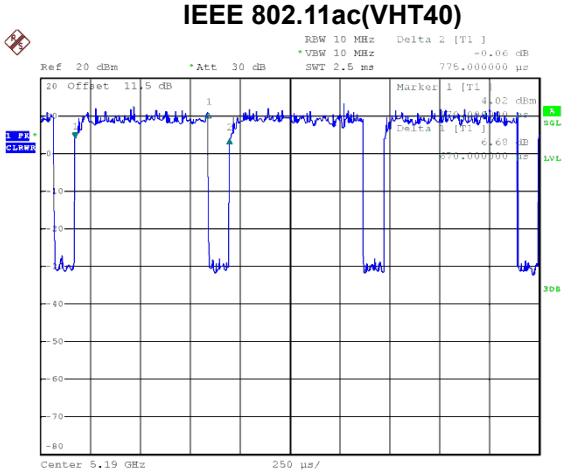
**IEEE 802.11ac(VHT20)**




Date: 1.JUL.2022 12:36:25

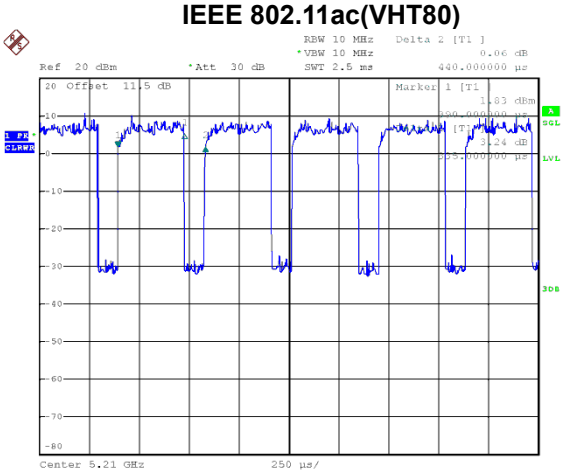
Duty cycle = 1.350 ms / 1.455 ms = 92.78%
Duty Factor = 10 log(1 / Duty cycle) = 0.33

**IEEE 802.11ac(VHT40)**




Duty cycle = 0.670 ms / 0.775 ms = 86.45%
Duty Factor = 10 log(1 / Duty cycle) = 0.63

**IEEE 802.11ac(VHT80)**




Duty cycle = 0.335 ms / 0.440 ms = 76.14%
Duty Factor = 10 log(1 / Duty cycle) = 1.18

NOTE:
For IEEE 802.11a:
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 698 Hz (Duty cycle < 98%).

For IEEE 802.11n(HT20):
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 744 Hz (Duty cycle < 98%).

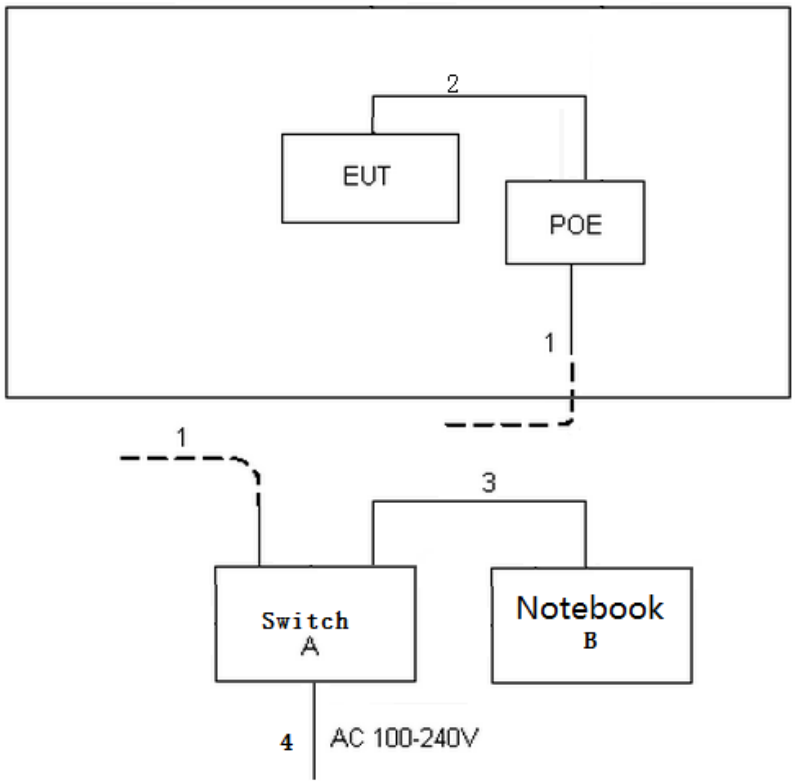
For IEEE 802.11n(HT40):
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1493 Hz (Duty cycle < 98%).

For IEEE 802.11ac(VHT20):
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 741 Hz (Duty cycle < 98%).

For IEEE 802.11ac(VHT40):
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1493 Hz (Duty cycle < 98%).

For IEEE 802.11ac(VHT80):
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2985 Hz (Duty cycle < 98%).

## 2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED




## 2.6 SUPPORT UNITS

| Item | Equipment | Brand | Model No. | Series No. |
|---|---|---|---|---|
| A | Switch | Cisco Systems | C1000-16P-2G-L | N/A |
| B | Control PC | Lenovo | L450 | N/A |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|---|---|---|---|---|
| 1 | RJ45 Cable | NO | NO | 10m |
| 2 | DC Cable | NO | NO | 1.8m |
| 3 | RJ45 Cable | NO | NO | 1.5m |
| 4 | AC Cable | NO | NO | 1.5m |

## 3. AC POWER LINE CONDUCTED EMISSIONS

### 3.1 LIMIT

| Frequency (MHz) | Limit (dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 - 0.5 | 66 to 56* | 56 to 46* |
| 0.5 - 5.0 | 56 | 46 |
| 5.0 - 30.0 | 60 | 50 |

NOTE:
(1) The tighter limit applies at the band edges.
(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

### 3.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

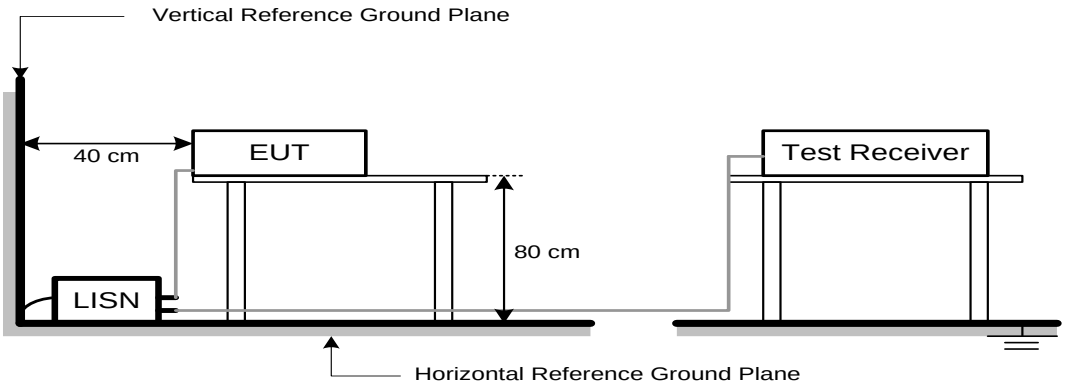
The following table is the setting of the receiver:

| Receiver Parameter | Setting |
|---|---|
| Start Frequency | 0.15 MHz |
| Stop Frequency | 30 MHz |
| IF Bandwidth | 9 kHz |

### 3.3 DEVIATION FROM TEST STANDARD

No deviation

## 3.4 TEST SETUP




## 3.5 EUT OPERATION CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.
The EUT was programmed to be in continuously transmitting/TX mode.

## 3.6 TEST RESULTS

Please refer to the APPENDIX A.

# 4. RADIATED EMISSIONS

## 4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

| Frequency (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 |

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS (Above 1000 MHz)

| Frequency (MHz) | EIRP Limit (dBm/MHz) | Equivalent Field Strength at 3m (dBμV/m) |
|---|---|---|
| 5150-5250 | -27 | 68.2 |
| 5250-5350 | -27 | 68.2 |
| 5470-5725 | -27 | 68.2 |
| 5725-5850 **NOTE (2)** | -27 | 68.2 |
| | 10 | 105.2 |
| | 15.6 | 110.8 |
| | 27 | 122.2 |

NOTE:

(1) 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)

(2) According to 15.407(b)(4)(i), all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

## 4.2 TEST PROCEDURE

a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. 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 find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1 GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1 GHz)
i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

The following table is the setting of the receiver:

| Spectrum Parameters | Setting |
|---|---|
| Start ~ Stop Frequency | 9 kHz~150 kHz for RBW 200 Hz |
| Start ~ Stop Frequency | 0.15 MHz~30 MHz for RBW 9 kHz |
| Start ~ Stop Frequency | 30 MHz~1000 MHz for RBW 100 kHz |

| Spectrum Parameters | Setting |
|---|---|
| Start Frequency | 1000 MHz |
| Stop Frequency | 10th carrier harmonic or 40 GHz, whichever is lower |
| RBW / VBW<br>(Emission in restricted band) | 1 MHz / 3 MHz for PK value<br>1 MHz / 1/T Hz for AVG value |

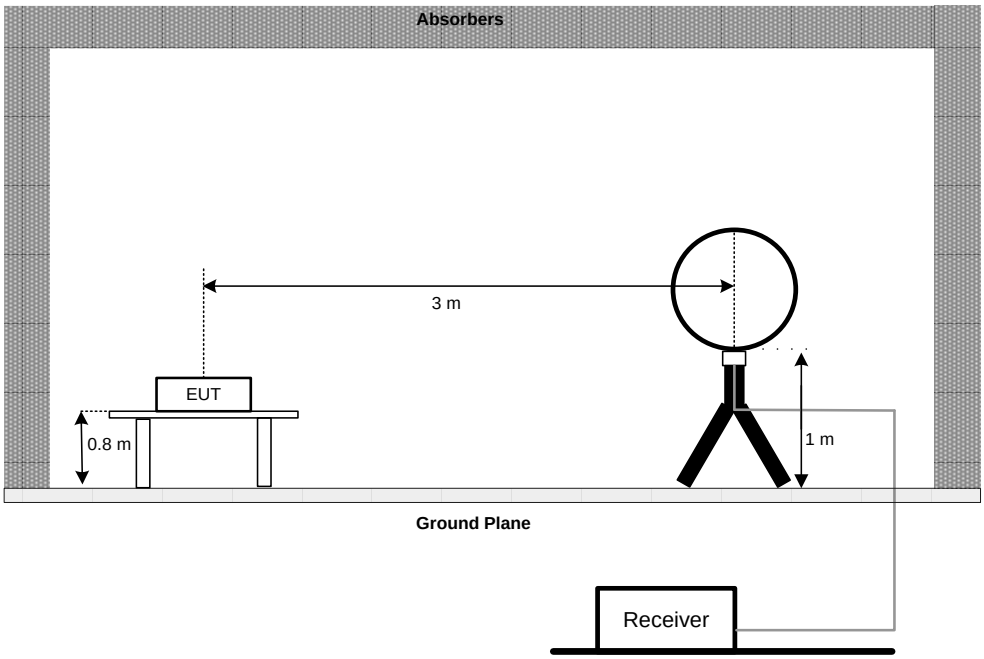
| Receiver Parameters | Setting |
|---|---|
| Start ~ Stop Frequency | 9 kHz~90 kHz for PK/AVG detector |
| Start ~ Stop Frequency | 90 kHz~110 kHz for QP detector |
| Start ~ Stop Frequency | 110 kHz~490 kHz for PK/AVG detector |
| Start ~ Stop Frequency | 490 kHz~30 MHz for QP detector |
| Start ~ Stop Frequency | 30 MHz~1000 MHz for QP detector |
| Start ~ Stop Frequency | 1 GHz~40 GHz for PK/AVG detector |

## 4.3 DEVIATION FROM TEST STANDARD

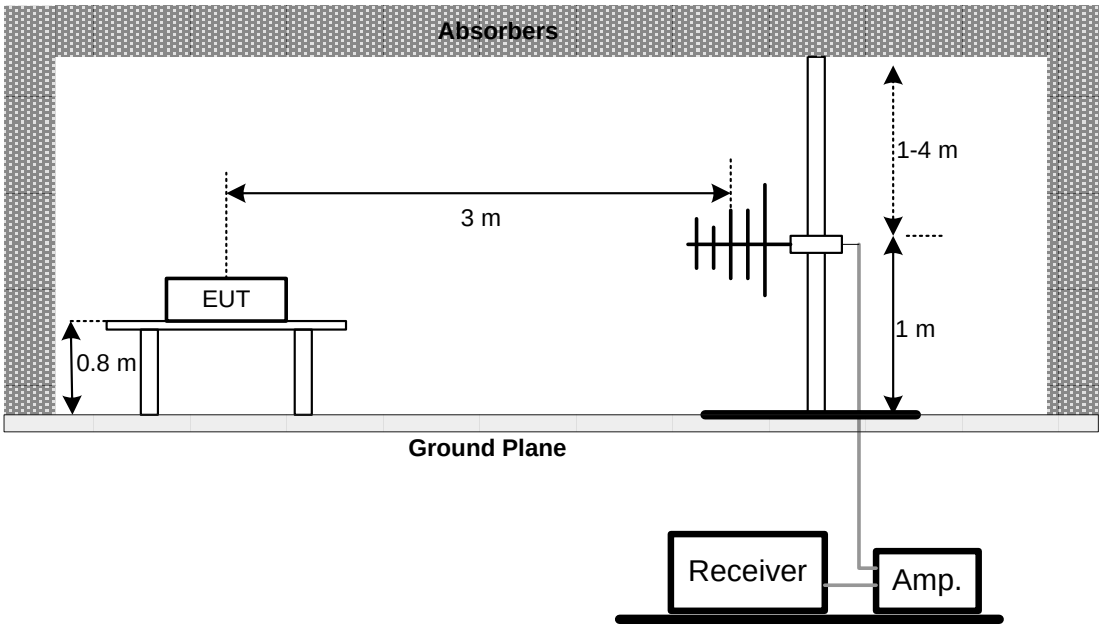
No deviation.

## 4.4 TEST SETUP

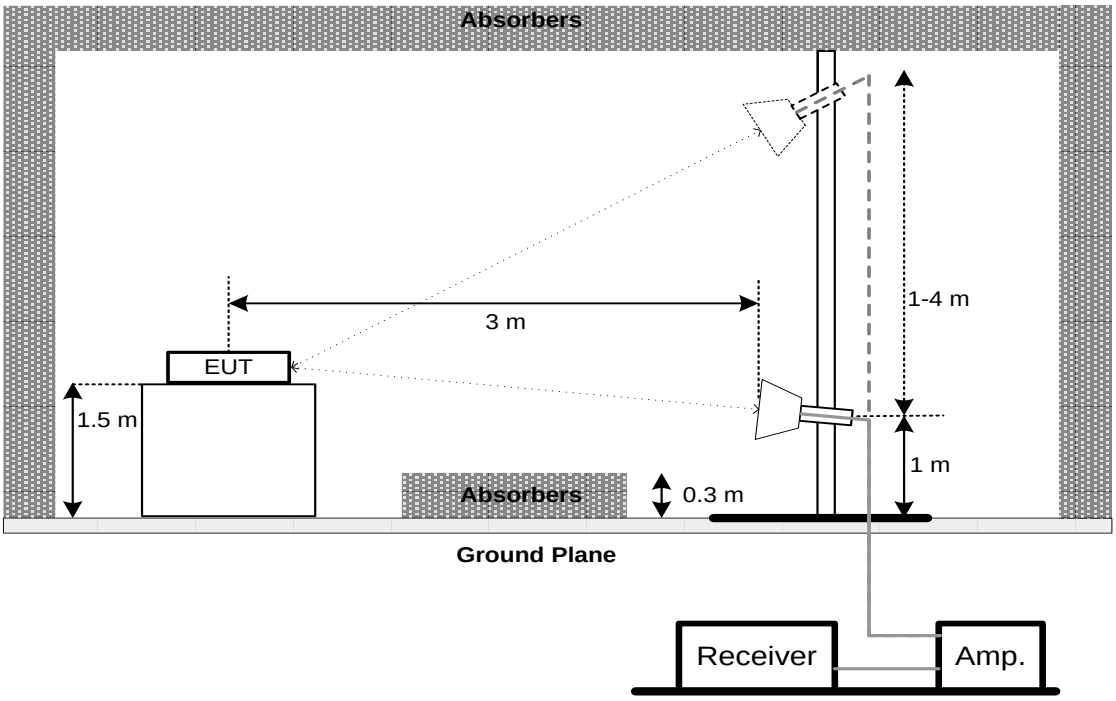
**9 kHz to 30 MHz**




**30 MHz to 1 GHz**



**Above 1 GHz**




## 4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

## 4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B.

Remark:

(1) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
(2) Limit line = specific limits (dBuV) + distance extrapolation factor.

## 4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

## 4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

## 5. BANDWIDTH

### 5.1 LIMIT

| Section | Test Item | Limit | Frequency Range (MHz) |
|---|---|---|---|
| FCC 15.407(a)<br>FCC 15.407(e) | 26 dB Bandwidth | - | 5150-5250 |
| | 26 dB Bandwidth | - | 5250-5350 |
| | 26 dB Bandwidth | - | 5470-5725 |
| | 6 dB Bandwidth | Minimum 500 kHz | 5725-5850 |

### 5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below

b. Spectrum Setting:

For UNII-1, UNII-2A, UNII-2C:

| Spectrum Parameter | Setting |
|---|---|
| Span Frequency | > 26 dB Bandwidth |
| RBW | Appromiximately 1% of the emission bandwidth |
| VBW | > RBW |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

For UNII-3:

| Spectrum Parameter | Setting |
|---|---|
| Span Frequency | > 6 dB Bandwidth |
| RBW | 100 kHz |
| VBW | 300 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

For 99% Occupied Bandwidth:

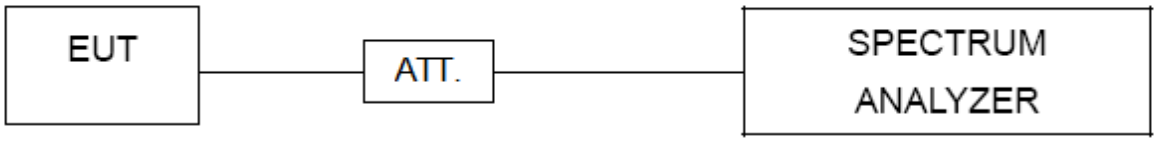
| Spectrum Parameter | Setting |
|---|---|
| Span Frequency | 1.5 times to 5 times the OBW |
| RBW | 1% to 5% of the OBW |
| VBW | ≥3*RBW |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

c. Measured the spectrum width with power higher than 26 dB / 6 dB below carrier.

### 5.3 DEVIATION FROM STANDARD

No deviation.

## 5.4 TEST SETUP




## 5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 5.6 TEST RESULTS

Please refer to the APPENDIX E.

# 6. MAXIMUM OUTPUT POWER

## 6.1 LIMIT

| Section | Test Item | Limit | Frequency Range (MHz) |
|---|---|---|---|
| FCC 15.407(a) | Maximum Output Power | AP device: 1 Watt (30 dBm)<br>Client device: 250 mW (23.98 dBm) | 5150-5250 |
| | | 250 mW (23.98 dBm) | 5250-5350 |
| | | 250 mW (23.98 dBm) | 5470-5725 |
| | | 1 Watt (30dBm) | 5725-5850 |

Note:

a. 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. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

b. 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 + 10log B, where B is the 26dB Bandwidth in megahertz.

## 6.2 TEST PROCEDURE

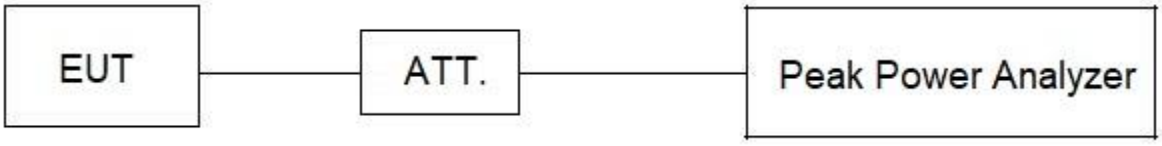
a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.

b. Test test was performed in accordance with method of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

## 6.3 DEVIATION FROM STANDARD

No deviation.

## 6.4 TEST SETUP




## 6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 6.6 TEST RESULTS

Please refer to the APPENDIX F.

# 7. POWER SPECTRAL DENSITY

## 7.1 LIMIT

| Section | Test Item | Limit | Frequency Range (MHz) |
|---|---|---|---|
| FCC 15.407(a) | Power Spectral Density | AP device: 17 dBm/MHz<br>Client device: 11 dBm/MHz | 5150-5250 |
| | | 11 dBm/MHz | 5250-5350 |
| | | 11 dBm/MHz | 5470-5725 |
| | | 30 dBm/500 kHz | 5725-5850 |

## 7.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b. Spectrum Setting:

For UNII-1, UNII-2A, UNII-2C:

| Spectrum Parameter | Setting |
|---|---|
| Span Frequency | Encompass the entire emissions bandwidth (EBW) of the signal |
| RBW | 1 MHz. |
| VBW | 3 MHz. |
| Detector | RMS |
| Trace average | 100 trace |
| Sweep Time | Auto |

For UNII-3:

| Spectrum Parameter | Setting |
|---|---|
| Span Frequency | Encompass the entire emissions bandwidth (EBW) of the signal |
| RBW | 100 kHz. |
| VBW | 300 kHz. |
| Detector | RMS |
| Trace average | 100 trace |
| Sweep Time | Auto |

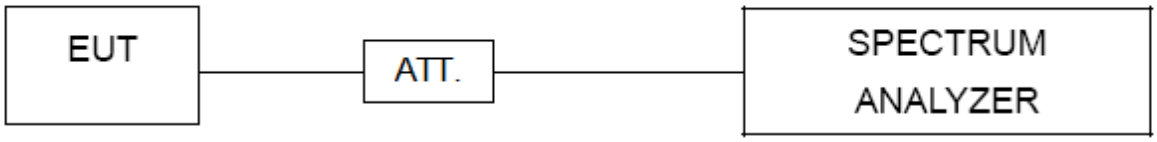
Note:

1. For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 100kHz and VBW at 300kHz if the spectrum analyzer does not have 500 kHz RBW. Then, add 10 log (500 kHz/100 kHz) to the measured result, i.e. 7 dB.
2. During the test of U-NII 3 PSD, the measurement result with RBW=100kHz has been added 7 dB by compensating offset. For example, the cable loss is 13 dB, and the final offset is 13 + 7 = 20 dB when RBW=100kHz is used.

## 7.3 DEVIATION FROM STANDARD

No deviation.

## 7.4 TEST SETUP




## 7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 7.6 TEST RESULTS

Please refer to the APPENDIX G.

# 8. FREQUENCY STABILITY

## 8.1 LIMIT

| Section | Test Item | Limit | Frequency Range (MHz) |
|---|---|---|---|
| FCC 15.407(g) | Frequency Stability | An emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual. | 5150-5250 |
| | | | 5250-5350 |
| | | | 5470-5725 |
| | | | 5725-5850 |

## 8.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b. Spectrum Setting:

| Spectrum Parameter | Setting |
|---|---|
| Span Frequency | Entire absence of modulation emissions bandwidth |
| RBW | 10 kHz |
| VBW | 10 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

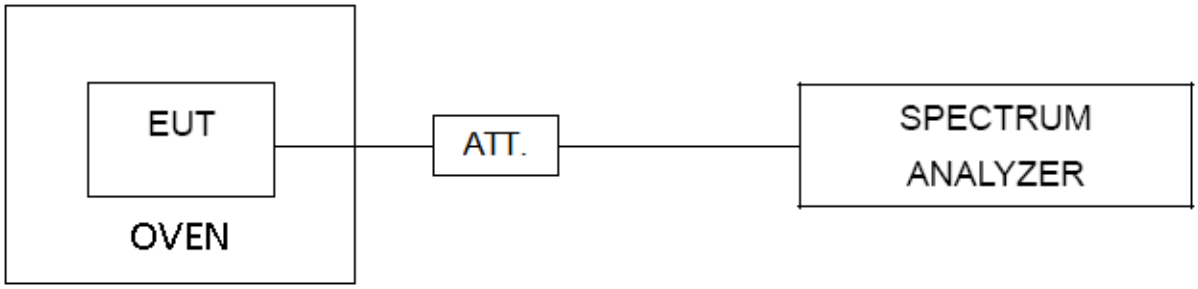
c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

d. User manual temperature is 0°C~40°C.

## 8.3 DEVIATION FROM STANDARD

No deviation.

## 8.4 TEST SETUP




## 8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 8.6 TEST RESULTS

Please refer to the APPENDIX H.

## 9. MEASUREMENT INSTRUMENTS LIST

| No. | Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|---|---|---|---|---|---|
| 1 | EMI Receiver | Rohde&Schwarz | ESCI | 1166.5950.03 | 2022/11/09 |
| 2 | AMN | Rohde&Schwarz | ENV216 | 3560.6550.05 | 2022/11/09 |
| 3 | AMN | Schwarzbeck | NSLK8127 | #829 | 2022/11/09 |
| 4 | ECSI RF IN RF Cable | Rohde&Schwarz | RP-X1 | N/A | 2022/11/09 |
| 5 | ECSI RF IN RF Cable | Rohde&Schwarz | Sapre sm | N/A | 2022/11/09 |
| 6 | EMI Receiver | Rohde&Schwarz | ESR7 | 102013 | 2022/11/09 |
| 7 | Spectrum analyzer | Rohde&Schwarz | FSV30 | 103741 | 2022/11/09 |
| 8 | Spectrum analyzer | KEYSIGHT | N9010A-44 | MY51440158 | 2022/11/09 |
| 9 | Integral Antenna | Schwarzbeck | VULB 9163 | VULB 9163-361 | 2022/11/20 |
| 10 | Integral Antenna | Schwarzbeck | BBHA 9120D | BBHA 9120D 1201 | 2022/11/20 |
| 11 | Integral Antenna | Schwarzbeck | BBHA 9170 | 9170#685 | 2022/11/20 |
| 12 | Preamplifier | Schwarzbeck | BBV9745 | #78 | 2022/11/09 |
| 13 | Preamplifier | Schwarzbeck | BBV9721 | 9721-019 | 2022/11/09 |
| 14 | Preamplifier | RF System/UK | TRLA-0101 80G50B | 22062101 | 2022/07/20 2023/07/20 |
| 15 | ECSI RF IN RF Cable | Rohde&Schwarz | AP-X1 | N/A | 2022/11/09 |
| 16 | ECSI RF IN RF Cable | HAOXUN | Z-108 | N/A | 2022/11/09 |
| 17 | RF Cable | ZDECL | ZT40-2.92J -2.92J-6M | 18124358 | 2022/07/20 2023/07/20 |
| 18 | Spectrum Analyzer | Agilent | N9010A | MY51440158 | 2022/11/09 |
| 19 | Spectrum Analyzer | Agilent | N9010A | MY52221119 | 2022/11/09 |
| 20 | EMI Receiver | Rohde&Schwarz | ESU | 100184 | 2022/07/20 2023/07/20 |
| 21 | Temp&Humidity Recorder | Anymetre | JR900 | N/A | 2022/11/03 |
| 22 | Temp&Humidity Chamber | ETOMA | NTH1100-30A | 16080628 | 2022/11/03 |
| 23 | Filter | STI | STI15-9845 | N/A | N/A |
| 24 | Filter | STI | 5.1G | N/A | N/A |
| 25 | Filter | STI | STI15-9845 | N/A | N/A |
| 26 | Testing Software | EZ-EMC | TW-03A2 | N/A | N/A |

Remark: “N/A” denotes no model name, serial no. or calibration specified.

“*” calibration period of equipment list is three year.

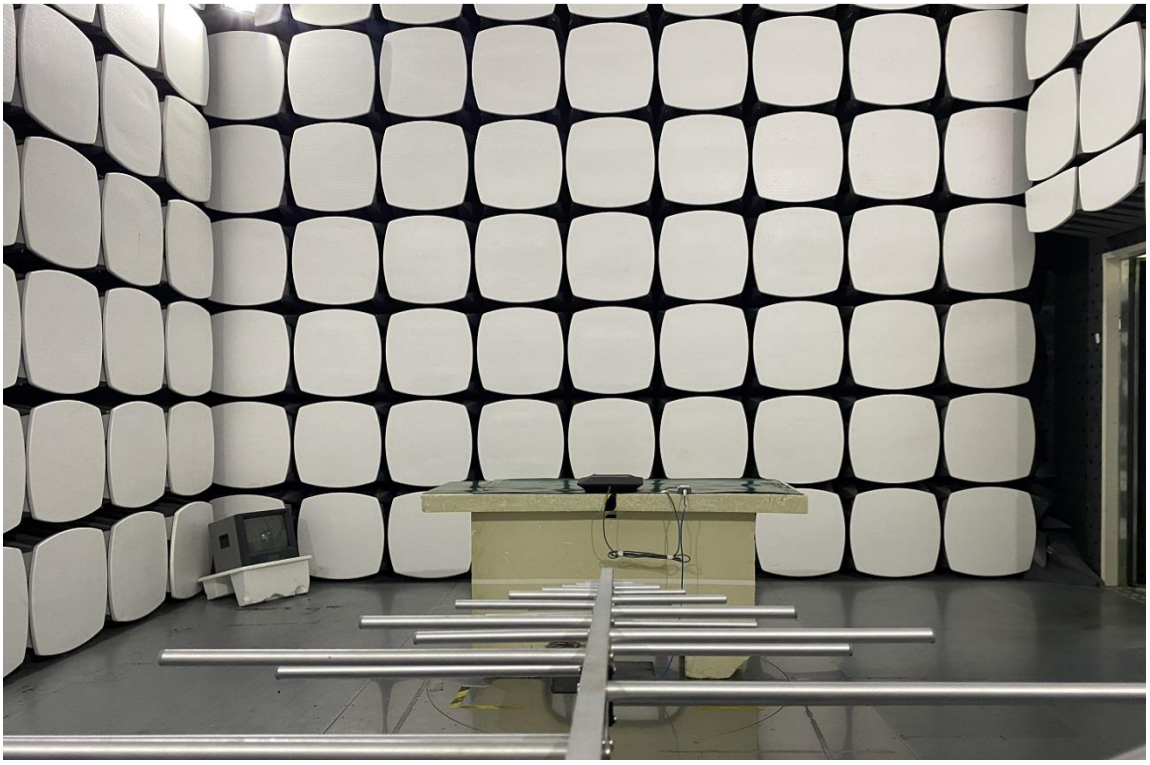
Except * item, all calibration period of equipment list is one year.

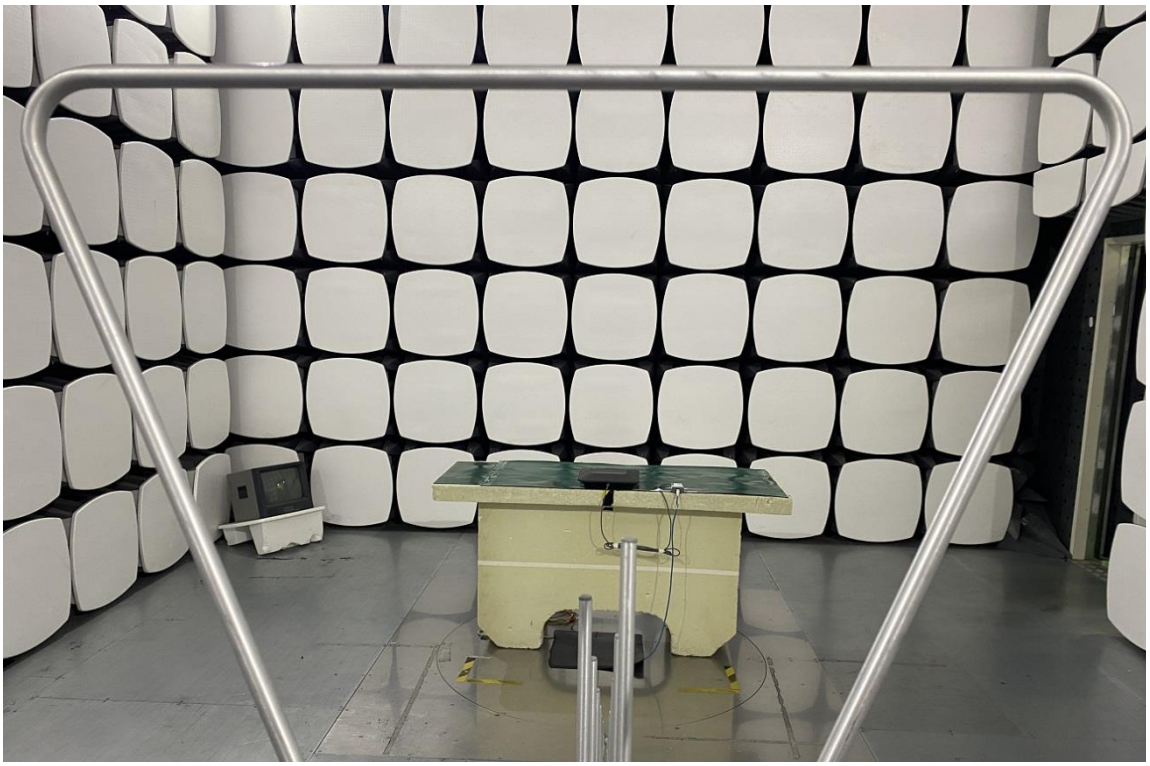
## 10. EUT TEST PHOTOS

**AC Power Line Conducted Emissions Test Photos**

**Radiated Emissions Test Photos**

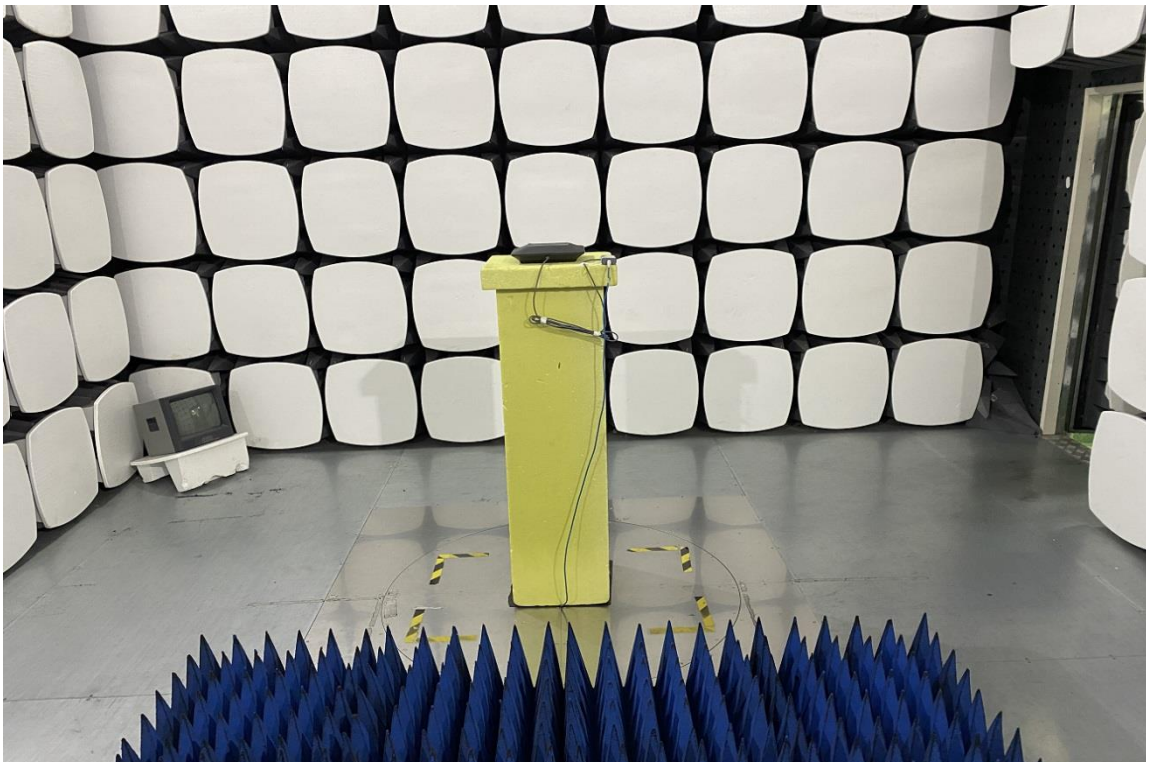
**30 MHz to 1 GHz**

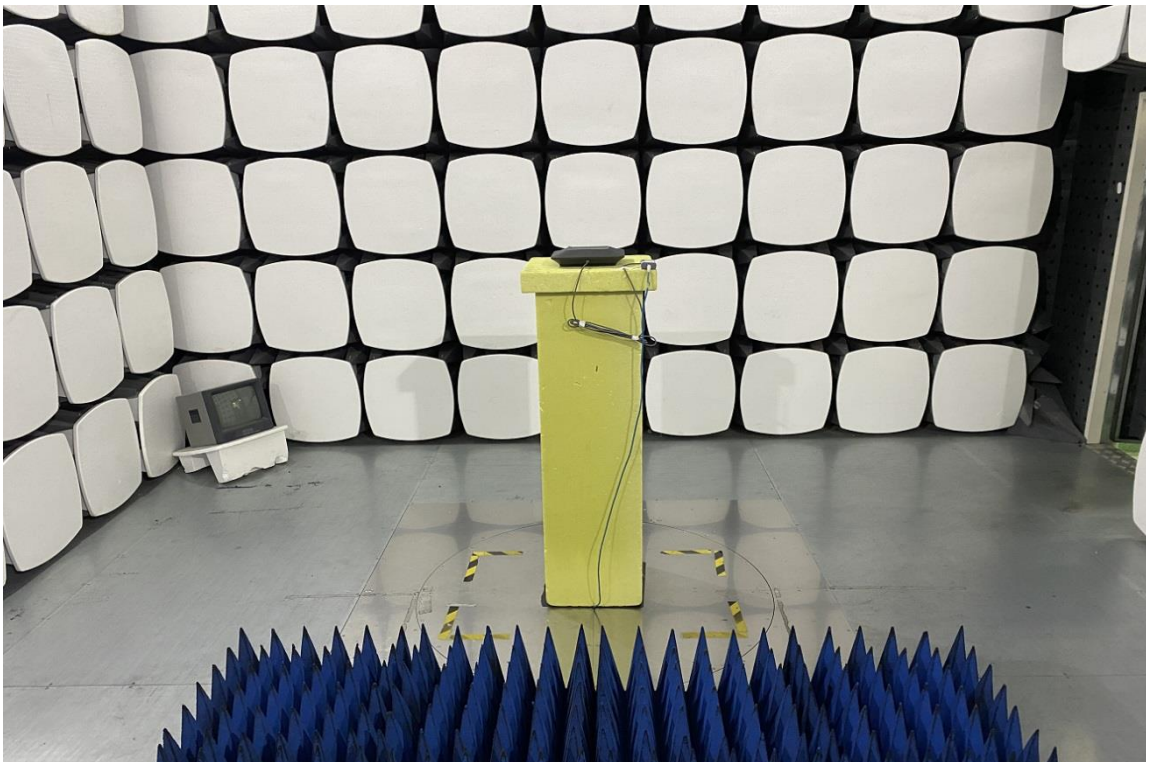




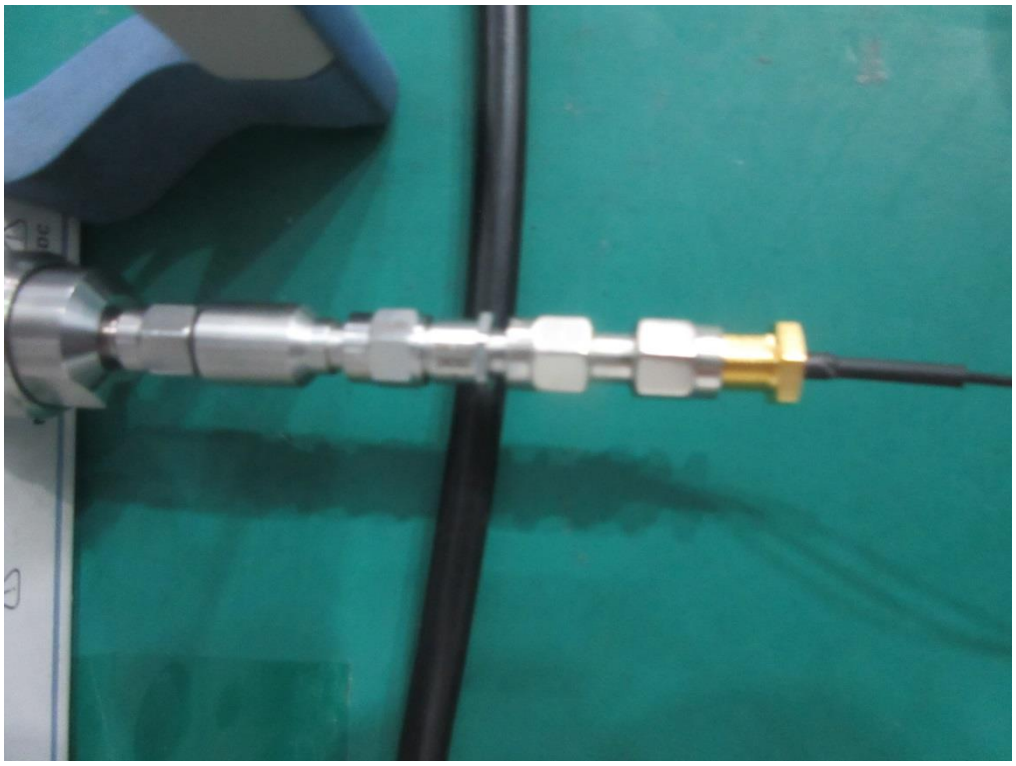
**Radiated Emissions Test Photos**

**Above 1 GHz**



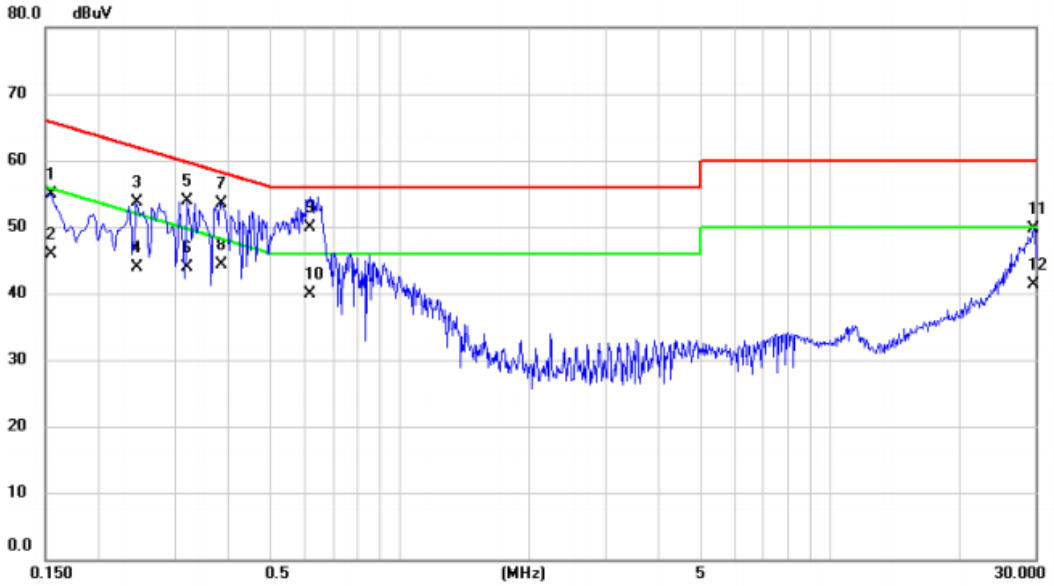


**Conducted Test Photos**



# APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

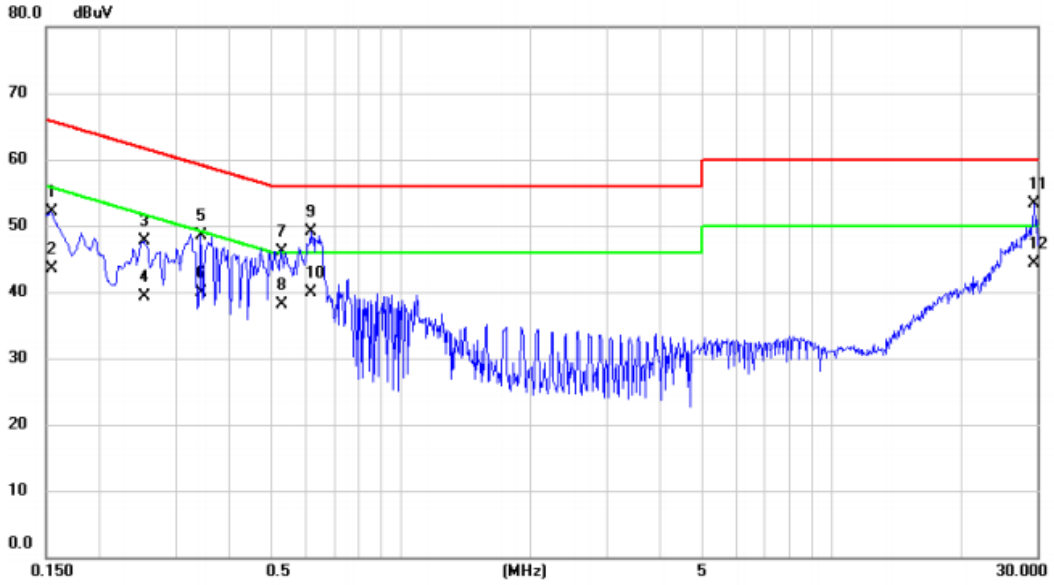
| Test Mode | TX AC(VHT40) Mode Channel 110 | Phase | Line |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1545 | 35.66 | 19.28 | 54.94 | 65.75 | -10.81 | QP | |
| 2 | | 0.1545 | 26.58 | 19.28 | 45.86 | 55.75 | -9.89 | AVG | |
| 3 | | 0.2445 | 34.45 | 19.32 | 53.77 | 61.94 | -8.17 | QP | |
| 4 | | 0.2445 | 24.58 | 19.32 | 43.90 | 51.94 | -8.04 | AVG | |
| 5 | | 0.3210 | 34.63 | 19.32 | 53.95 | 59.68 | -5.73 | QP | |
| 6 | | 0.3210 | 24.51 | 19.32 | 43.83 | 49.68 | -5.85 | AVG | |
| 7 | | 0.3840 | 34.25 | 19.33 | 53.58 | 58.19 | -4.61 | QP | |
| 8 | * | 0.3840 | 24.93 | 19.33 | 44.26 | 48.19 | -3.93 | AVG | |
| 9 | | 0.6180 | 30.62 | 19.37 | 49.99 | 56.00 | -6.01 | QP | |
| 10 | | 0.6180 | 20.52 | 19.37 | 39.89 | 46.00 | -6.11 | AVG | |
| 11 | | 29.6880 | 28.59 | 21.06 | 49.65 | 60.00 | -10.35 | QP | |
| 12 | | 29.6880 | 20.15 | 21.06 | 41.21 | 50.00 | -8.79 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.
(3) The test result has included the cable loss.

| Test Mode | TX AC(VHT40) Mode Channel 110 | Phase | Neutral |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1545 | 32.55 | 19.48 | 52.03 | 65.75 | -13.72 | QP | |
| 2 | | 0.1545 | 23.93 | 19.48 | 43.41 | 55.75 | -12.34 | AVG | |
| 3 | | 0.2535 | 28.14 | 19.48 | 47.62 | 61.64 | -14.02 | QP | |
| 4 | | 0.2535 | 19.87 | 19.48 | 39.35 | 51.64 | -12.29 | AVG | |
| 5 | | 0.3435 | 29.09 | 19.50 | 48.59 | 59.12 | -10.53 | QP | |
| 6 | | 0.3435 | 20.47 | 19.50 | 39.97 | 49.12 | -9.15 | AVG | |
| 7 | | 0.5280 | 26.62 | 19.58 | 46.20 | 56.00 | -9.80 | QP | |
| 8 | | 0.5280 | 18.62 | 19.58 | 38.20 | 46.00 | -7.80 | AVG | |
| 9 | | 0.6180 | 29.41 | 19.60 | 49.01 | 56.00 | -6.99 | QP | |
| 10 | | 0.6180 | 20.32 | 19.60 | 39.92 | 46.00 | -6.08 | AVG | |
| 11 | | 29.5620 | 32.58 | 20.76 | 53.34 | 60.00 | -6.66 | QP | |
| 12 | * | 29.5620 | 23.60 | 20.76 | 44.36 | 50.00 | -5.64 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.
(3) The test result has included the cable loss.

# APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

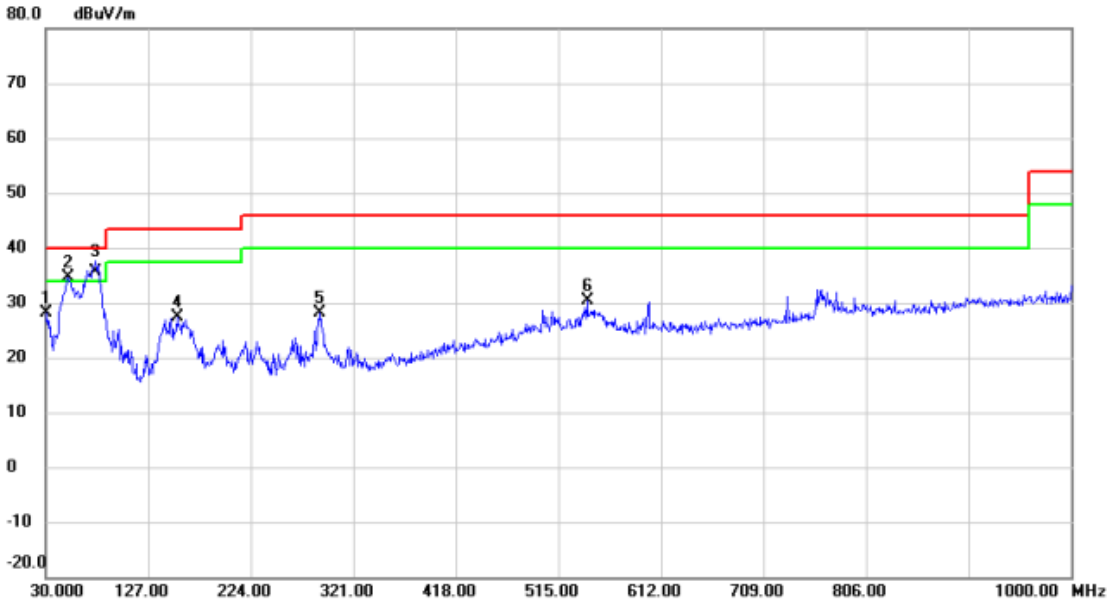
Radiated emission: 9KHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

# APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

| Test Mode | TX AC(VHT40) Mode Channel 110 | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 30.970 | 13.98 | 14.25 | 28.23 | 40.00 | -11.77 | peak | |
| 2 | ! | 51.340 | 19.93 | 14.61 | 34.54 | 40.00 | -5.46 | peak | |
| 3 | * | 77.530 | 20.82 | 14.73 | 35.55 | 40.00 | -4.45 | QP | |
| 4 | | 154.160 | 12.29 | 15.15 | 27.44 | 43.50 | -16.06 | peak | |
| 5 | | 289.960 | 10.34 | 17.70 | 28.04 | 46.00 | -17.96 | peak | |
| 6 | | 542.160 | 8.40 | 21.86 | 30.26 | 46.00 | -15.74 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

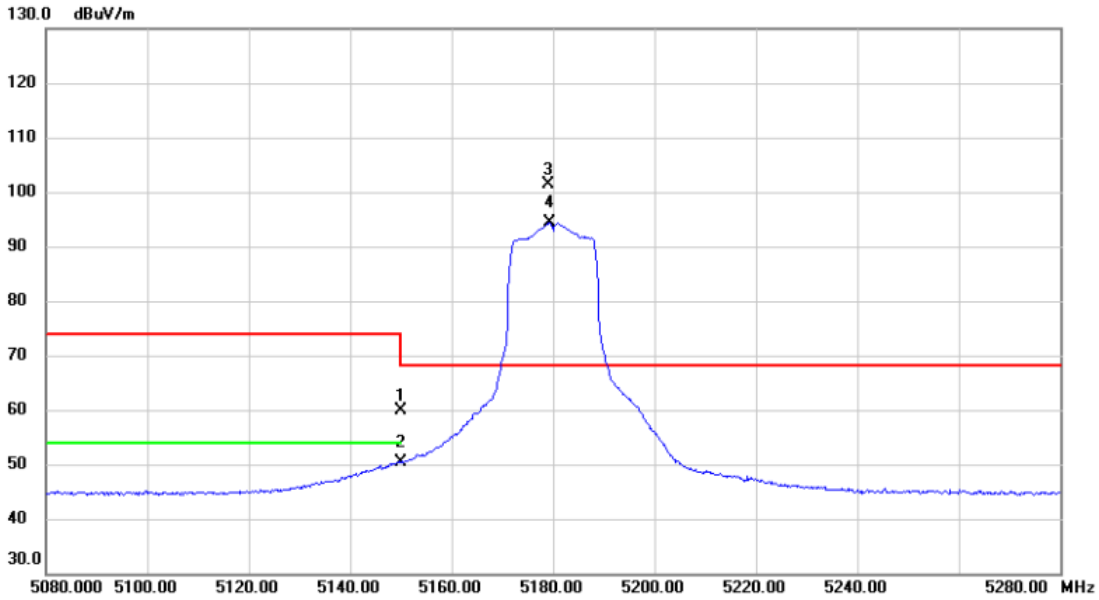
| Test Mode | TX AC(VHT40) Mode Channel 110 | Polarization | Horizontal |
|---|---|---|---|


| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 49.400 | 12.82 | 11.72 | 24.54 | 40.00 | -15.46 | peak | |
| 2 | * | 73.650 | 16.40 | 12.20 | 28.60 | 40.00 | -11.40 | peak | |
| 3 | | 143.490 | 12.09 | 13.20 | 25.29 | 43.50 | -18.21 | peak | |
| 4 | | 198.780 | 12.63 | 15.60 | 28.23 | 43.50 | -15.27 | peak | |
| 5 | | 288.990 | 15.69 | 17.70 | 33.39 | 46.00 | -12.61 | peak | |
| 6 | | 500.450 | 12.97 | 21.46 | 34.43 | 46.00 | -11.57 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

# APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

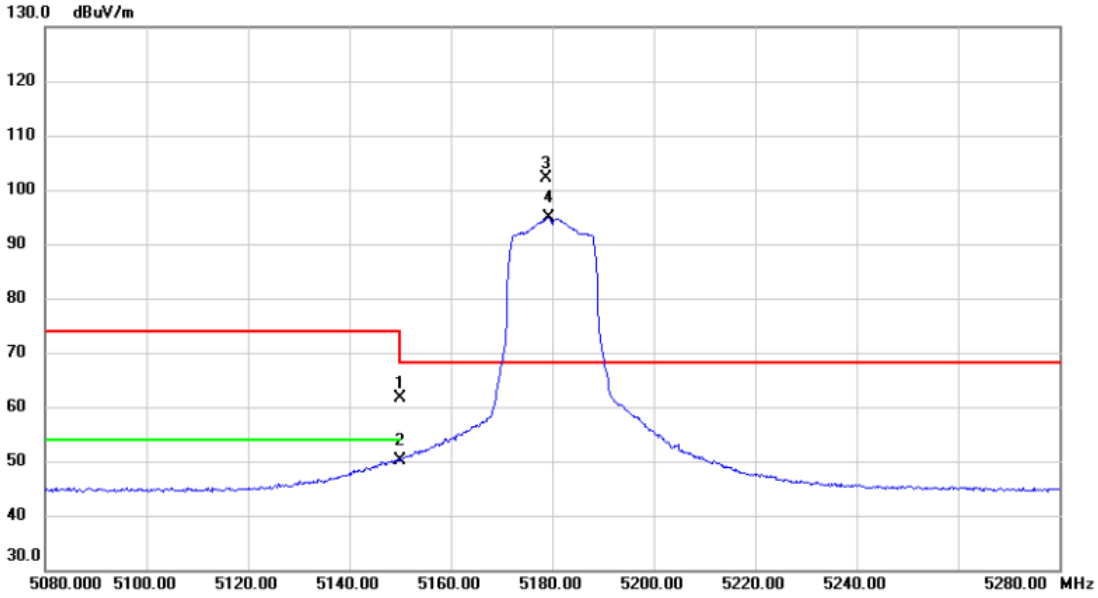
| Test Mode | UNII-1_TX A Mode 5180 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 19.73 | 40.22 | 59.95 | 74.00 | -14.05 | peak | |
| 2 | | 5150.000 | 10.24 | 40.22 | 50.46 | 54.00 | -3.54 | AVG | |
| 3 | * | 5179.200 | 61.00 | 40.28 | 101.28 | 68.20 | 33.08 | peak | No Limit |
| 4 | X | 5179.400 | 54.02 | 40.28 | 94.30 | 68.20 | 26.10 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

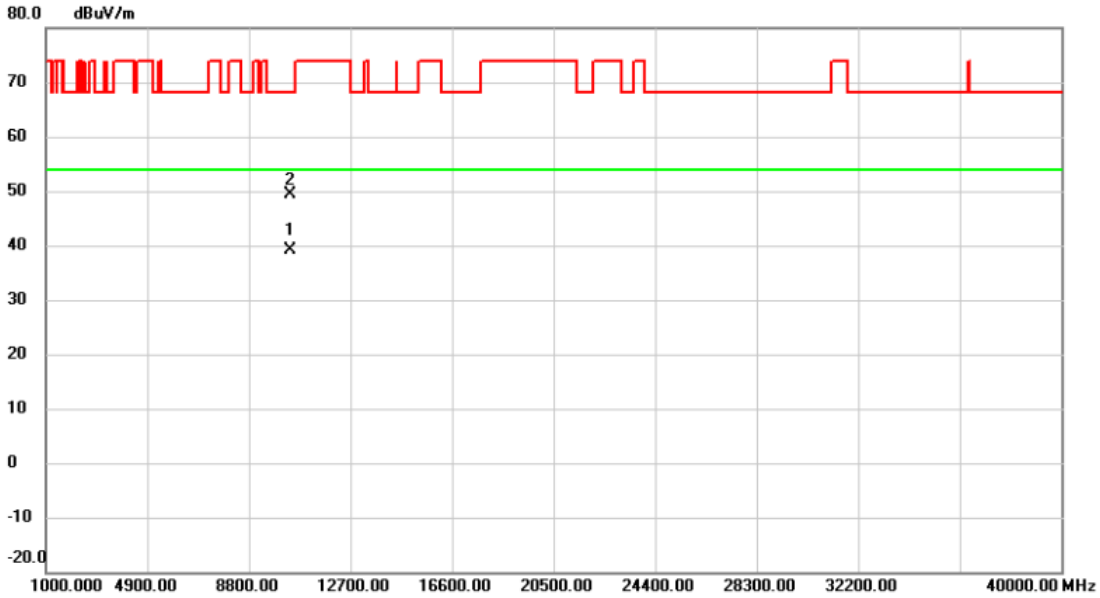
| Test Mode | UNII-1_TX A Mode 5180 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 21.44 | 40.22 | 61.66 | 74.00 | -12.34 | peak | |
| 2 | | 5150.000 | 9.96 | 40.22 | 50.18 | 54.00 | -3.82 | AVG | |
| 3 | * | 5178.800 | 61.75 | 40.28 | 102.03 | 68.20 | 33.83 | peak | No Limit |
| 4 | X | 5179.400 | 54.65 | 40.28 | 94.93 | 68.20 | 26.73 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

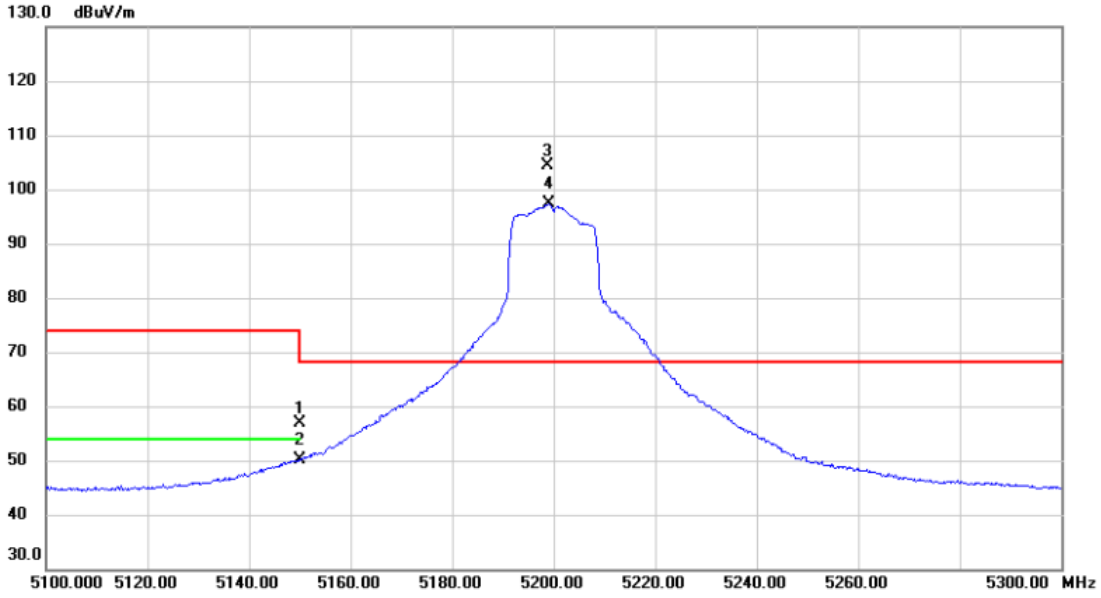
| Test Mode | UNII-1_TX A Mode 5180 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10361.810 | 41.22 | -2.12 | 39.10 | 54.00 | -14.90 | AVG | |
| 2 | | 10363.980 | 51.51 | -2.12 | 49.39 | 68.20 | -18.81 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

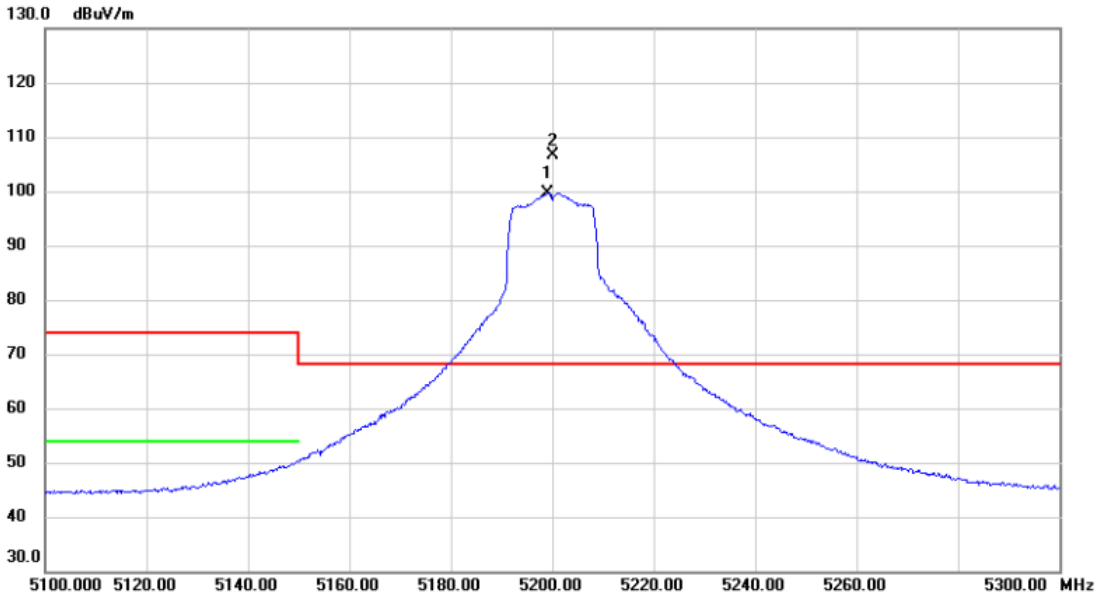
| Test Mode | UNII-1_TX A Mode 5200 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5149.867 | 16.76 | 40.22 | 56.98 | 74.00 | -17.02 | peak | |
| 2 | | 5149.867 | 9.82 | 40.22 | 50.04 | 54.00 | -3.96 | AVG | |
| 3 | * | 5198.800 | 64.04 | 40.31 | 104.35 | 68.20 | 36.15 | peak | No Limit |
| 4 | X | 5199.200 | 57.04 | 40.31 | 97.35 | 68.20 | 29.15 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

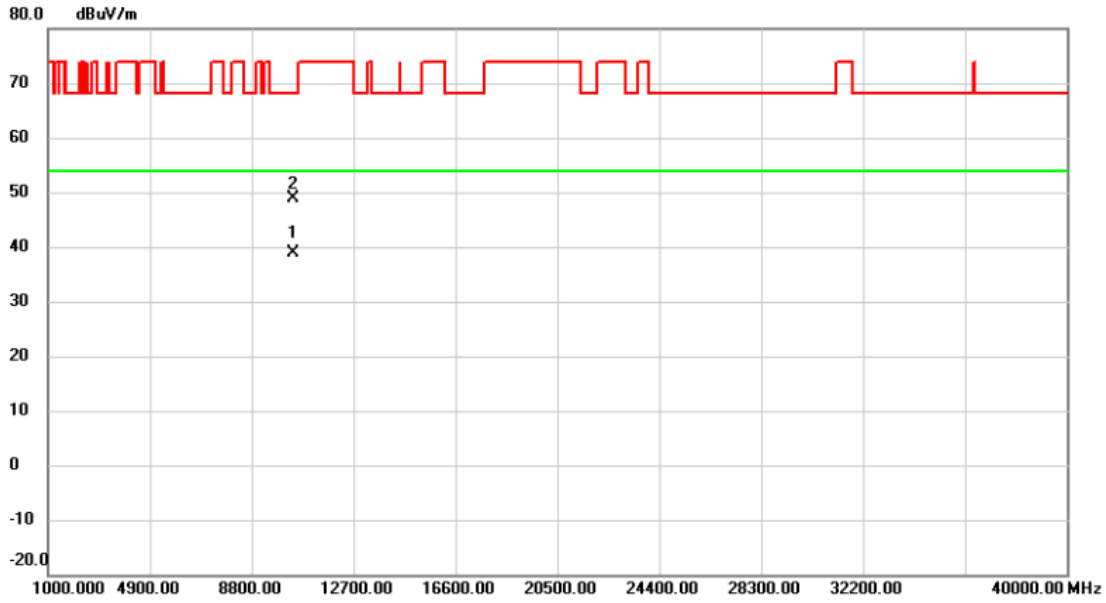
| Test Mode | UNII-1_TX A Mode 5200 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5199.000 | 59.42 | 40.31 | 99.73 | 68.20 | 31.53 | AVG | No Limit |
| 2 | * | 5200.200 | 66.24 | 40.31 | 106.55 | 68.20 | 38.35 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

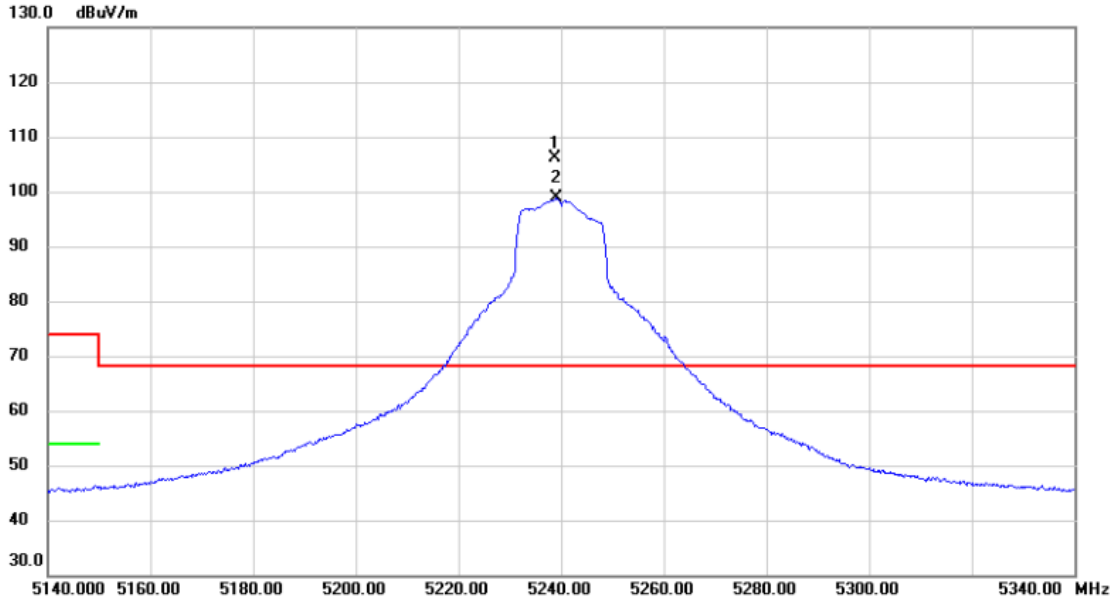
| Test Mode | UNII-1_TX A Mode 5200 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10399.160 | 40.93 | -2.05 | 38.88 | 54.00 | -15.12 | AVG | |
| 2 | | 10403.420 | 50.90 | -2.05 | 48.85 | 68.20 | -19.35 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

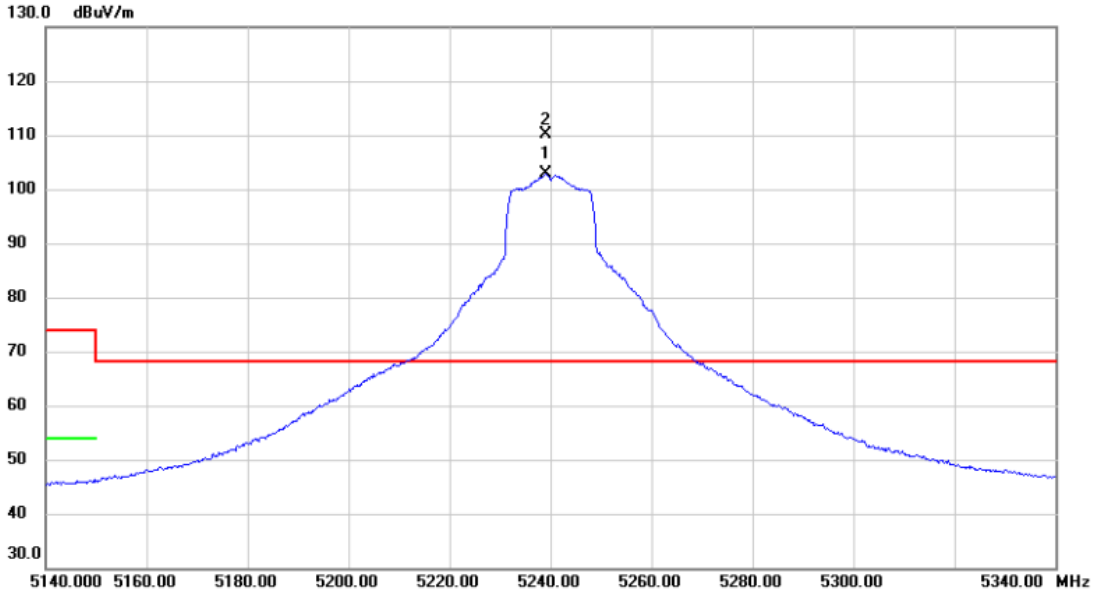
| Test Mode | UNII-1_TX A Mode 5240 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5238.800 | 65.79 | 40.38 | 106.17 | 68.20 | 37.97 | peak | No Limit |
| 2 | X | 5239.200 | 58.43 | 40.38 | 98.81 | 68.20 | 30.61 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

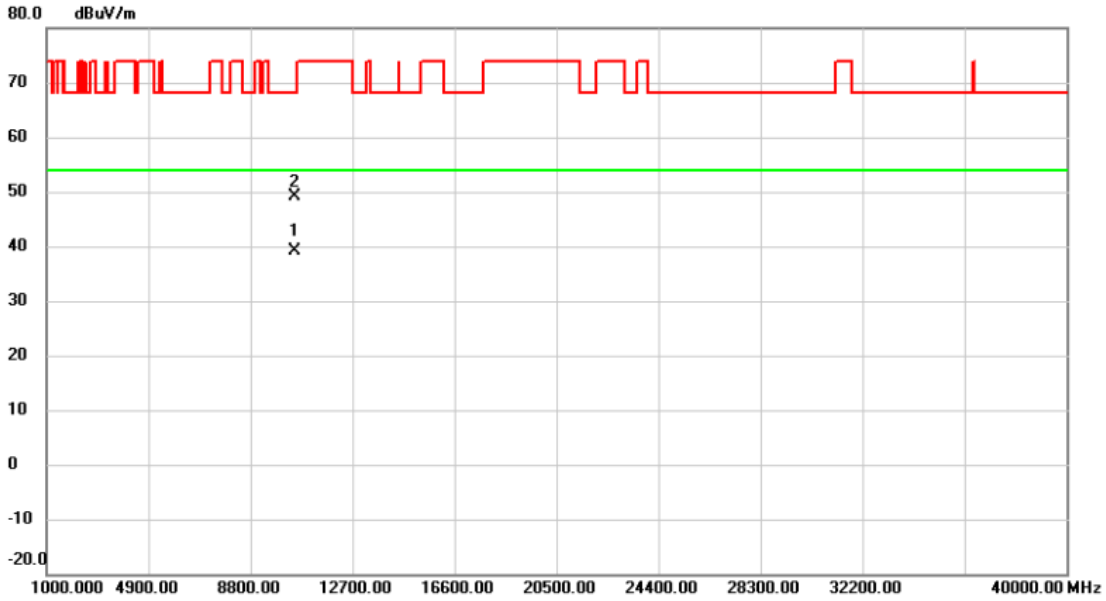
| Test Mode | UNII-1_TX A Mode 5240 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5239.000 | 62.39 | 40.38 | 102.77 | 68.20 | 34.57 | AVG | No Limit |
| 2 | * | 5239.200 | 69.76 | 40.38 | 110.14 | 68.20 | 41.94 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

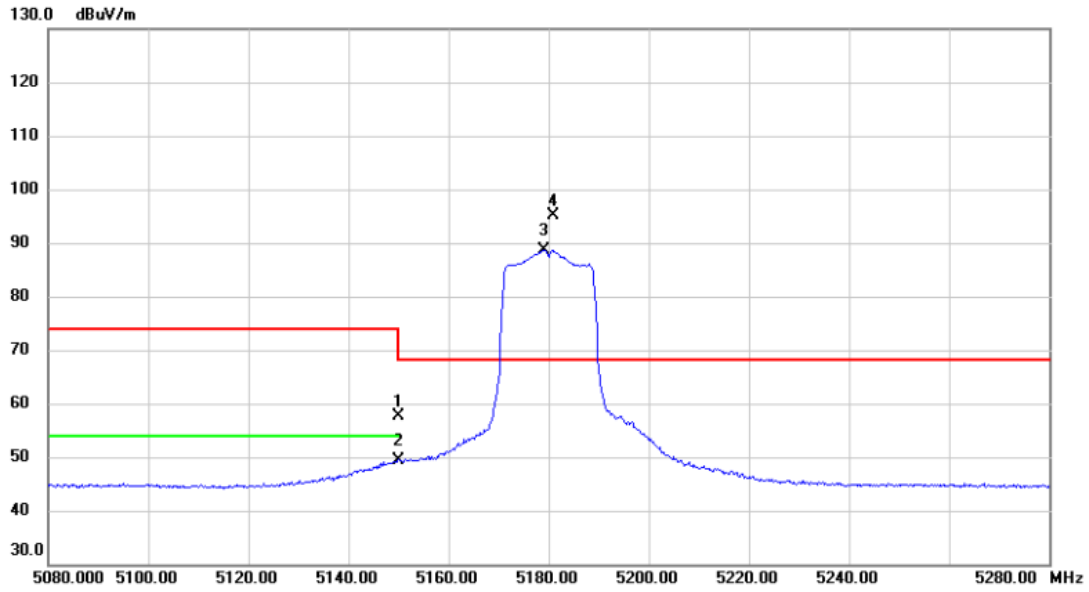
| Test Mode | UNII-1_TX A Mode 5240 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10476.150 | 41.16 | -1.94 | 39.22 | 54.00 | -14.78 | AVG | |
| 2 | | 10479.890 | 51.15 | -1.94 | 49.21 | 68.20 | -18.99 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

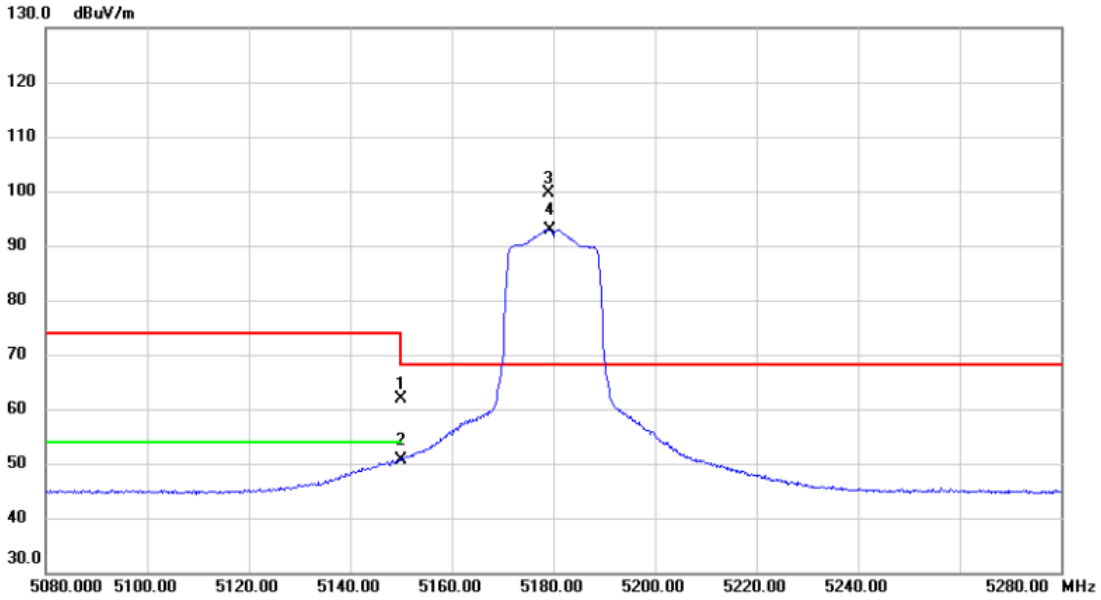
| Test Mode | UNII-1_TX AC(VHT20) Mode 5180 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 17.53 | 40.22 | 57.75 | 74.00 | -16.25 | peak | |
| 2 | | 5150.000 | 9.28 | 40.22 | 49.50 | 54.00 | -4.50 | AVG | |
| 3 | X | 5179.000 | 48.45 | 40.28 | 88.73 | 68.20 | 20.53 | AVG | No Limit |
| 4 | * | 5181.000 | 54.88 | 40.28 | 95.16 | 68.20 | 26.96 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

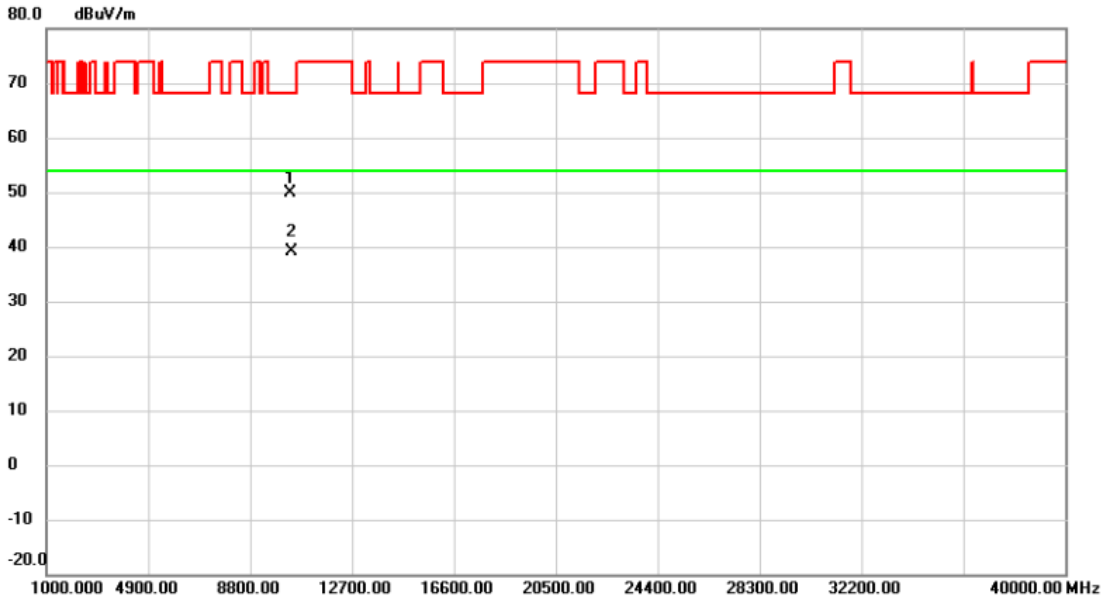
| Test Mode | UNII-1_TX AC(VHT20) Mode 5180 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 21.63 | 40.22 | 61.85 | 74.00 | -12.15 | peak | |
| 2 | | 5150.000 | 10.30 | 40.22 | 50.52 | 54.00 | -3.48 | AVG | |
| 3 | * | 5179.200 | 59.27 | 40.28 | 99.55 | 68.20 | 31.35 | peak | No Limit |
| 4 | X | 5179.400 | 52.69 | 40.28 | 92.97 | 68.20 | 24.77 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

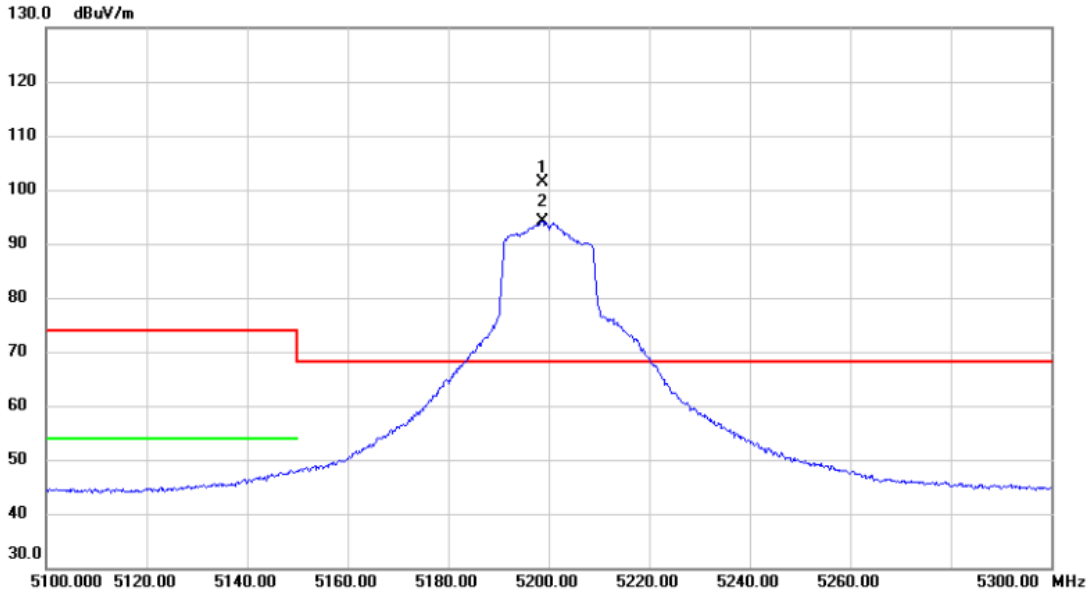
| Test Mode | UNII-1_TX AC(VHT20) Mode 5180 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 10359.080 | 52.12 | -2.12 | 50.00 | 68.20 | -18.20 | peak | |
| 2 | * | 10364.390 | 41.35 | -2.12 | 39.23 | 54.00 | -14.77 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

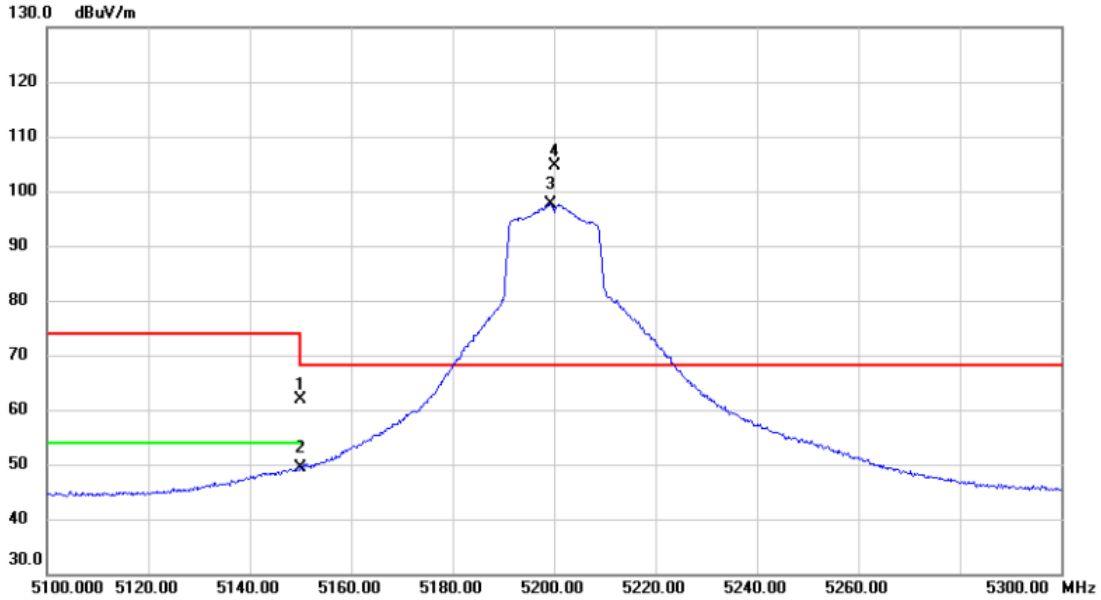
| Test Mode | UNII-1_TX AC(VHT20) Mode 5200 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5198.800 | 61.15 | 40.31 | 101.46 | 68.20 | 33.26 | peak | No Limit |
| 2 | X | 5198.800 | 53.76 | 40.31 | 94.07 | 68.20 | 25.87 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

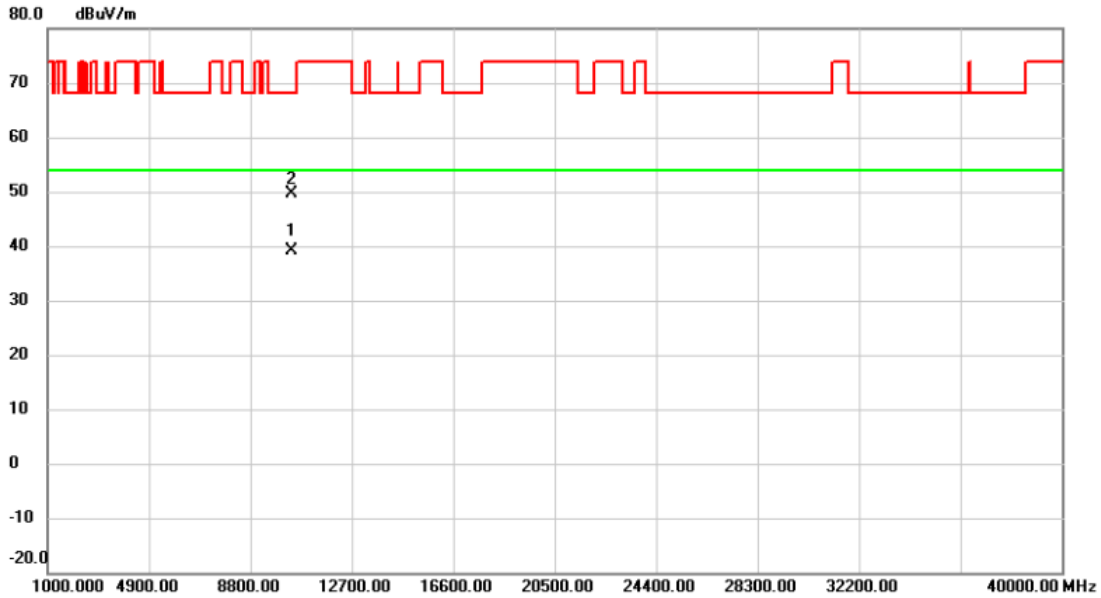
| Test Mode | UNII-1_TX AC(VHT20) Mode 5200 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 21.59 | 40.22 | 61.81 | 74.00 | -12.19 | peak | |
| 2 | | 5150.000 | 9.04 | 40.22 | 49.26 | 54.00 | -4.74 | AVG | |
| 3 | X | 5199.400 | 57.36 | 40.31 | 97.67 | 68.20 | 29.47 | AVG | No Limit |
| 4 | * | 5200.000 | 64.35 | 40.31 | 104.66 | 68.20 | 36.46 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

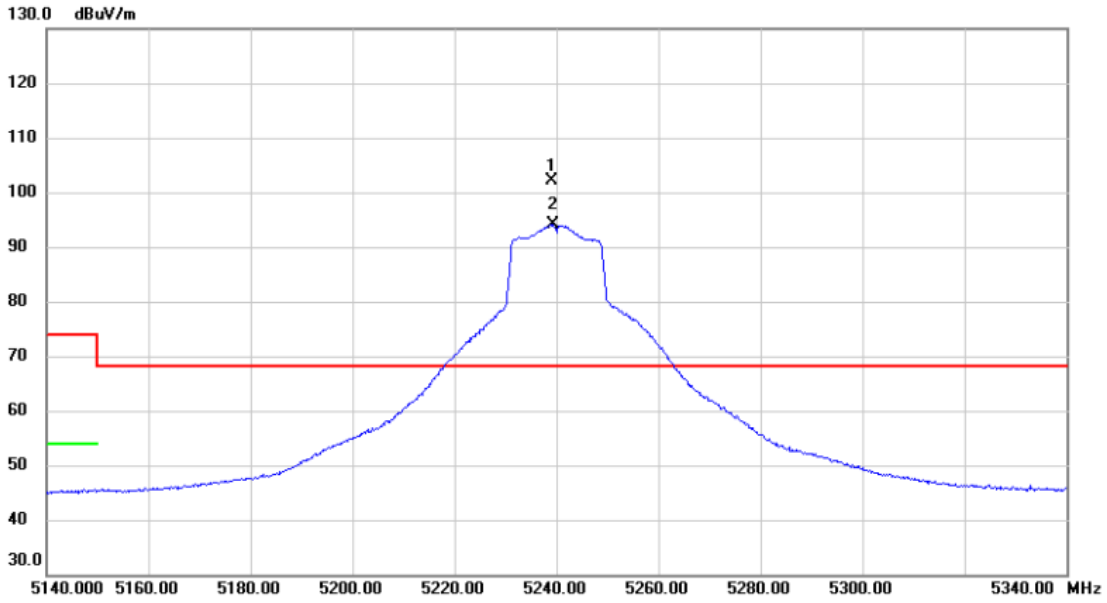
| Test Mode | UNII-1_TX AC(VHT20) Mode 5200 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10396.690 | 41.14 | -2.06 | 39.08 | 54.00 | -14.92 | AVG | |
| 2 | | 10400.910 | 51.58 | -2.05 | 49.53 | 68.20 | -18.67 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

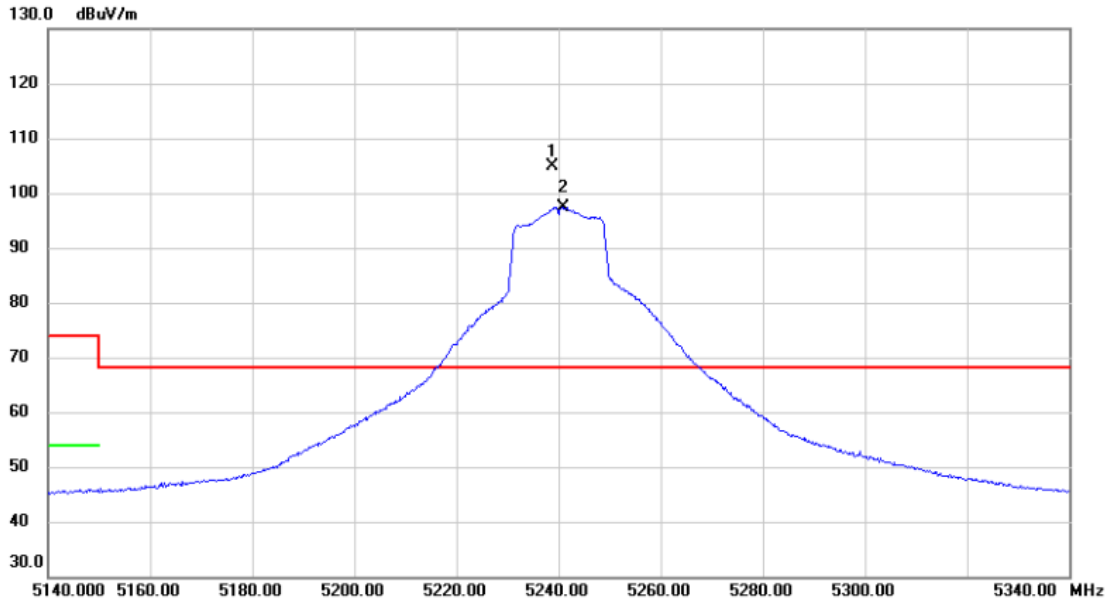
| Test Mode | UNII-1_TX AC(VHT20) Mode 5240 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5239.200 | 61.63 | 40.38 | 102.01 | 68.20 | 33.81 | peak | No Limit |
| 2 | X | 5239.400 | 53.81 | 40.38 | 94.19 | 68.20 | 25.99 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

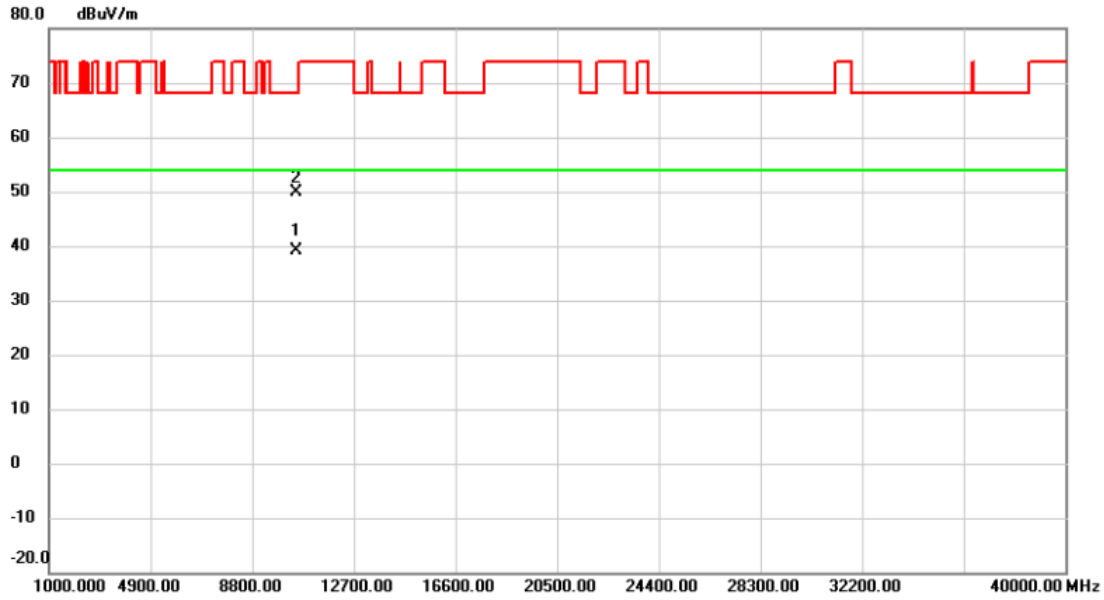
| Test Mode | UNII-1_TX AC(VHT20) Mode 5240 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5238.800 | 64.57 | 40.38 | 104.95 | 68.20 | 36.75 | peak | No Limit |
| 2 | X | 5240.800 | 57.08 | 40.39 | 97.47 | 68.20 | 29.27 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

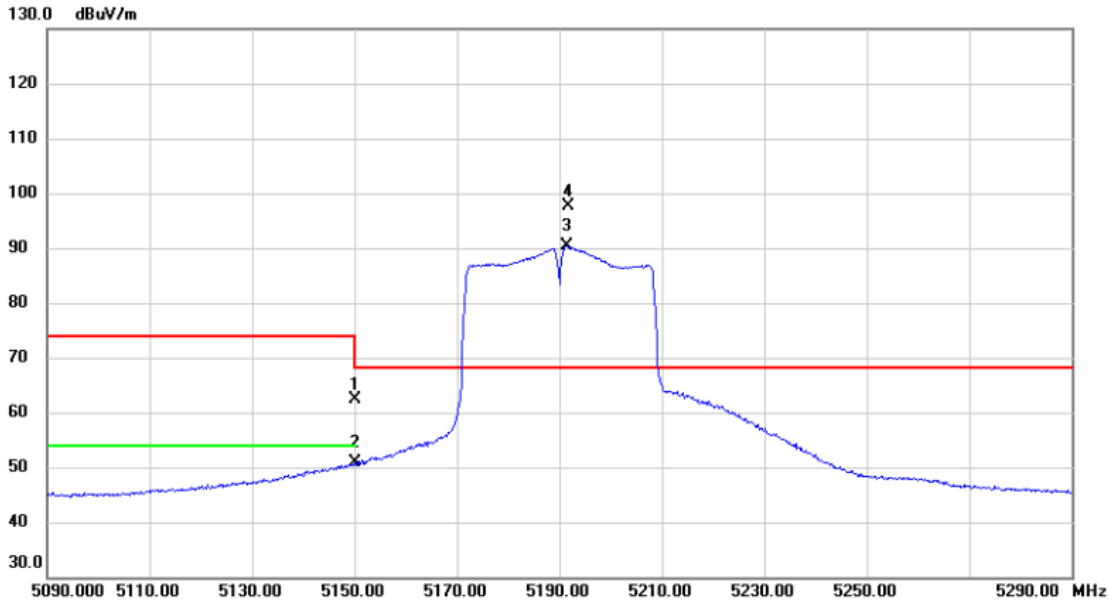
| Test Mode | UNII-1_TX AC(VHT20) Mode 5240 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10475.840 | 41.10 | -1.94 | 39.16 | 54.00 | -14.84 | AVG | |
| 2 | | 10478.980 | 51.88 | -1.94 | 49.94 | 68.20 | -18.26 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

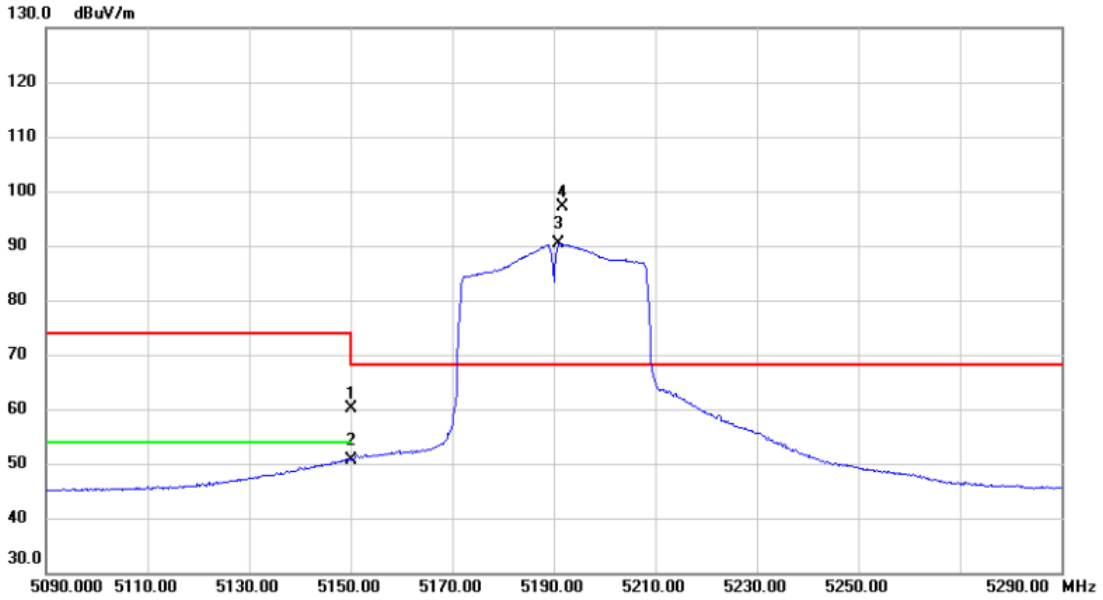
| Test Mode | UNII-1_TX AC(VHT40) Mode 5190 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 22.08 | 40.22 | 62.30 | 74.00 | -11.70 | peak | |
| 2 | | 5150.000 | 10.60 | 40.22 | 50.82 | 54.00 | -3.18 | AVG | |
| 3 | X | 5191.400 | 50.09 | 40.29 | 90.38 | 68.20 | 22.18 | AVG | No Limit |
| 4 | * | 5191.800 | 57.30 | 40.30 | 97.60 | 68.20 | 29.40 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

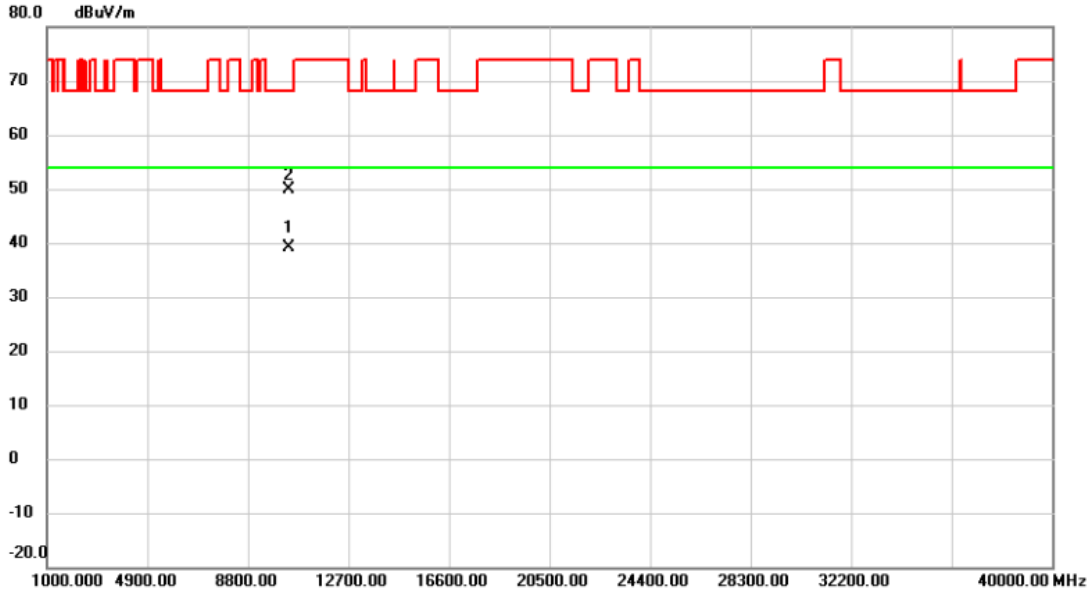
| Test Mode | UNII-1_TX AC(VHT40) Mode 5190 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 20.02 | 40.22 | 60.24 | 74.00 | -13.76 | peak | |
| 2 | | 5150.000 | 10.51 | 40.22 | 50.73 | 54.00 | -3.27 | AVG | |
| 3 | X | 5191.000 | 50.07 | 40.29 | 90.36 | 68.20 | 22.16 | AVG | No Limit |
| 4 | * | 5191.800 | 56.81 | 40.30 | 97.11 | 68.20 | 28.91 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

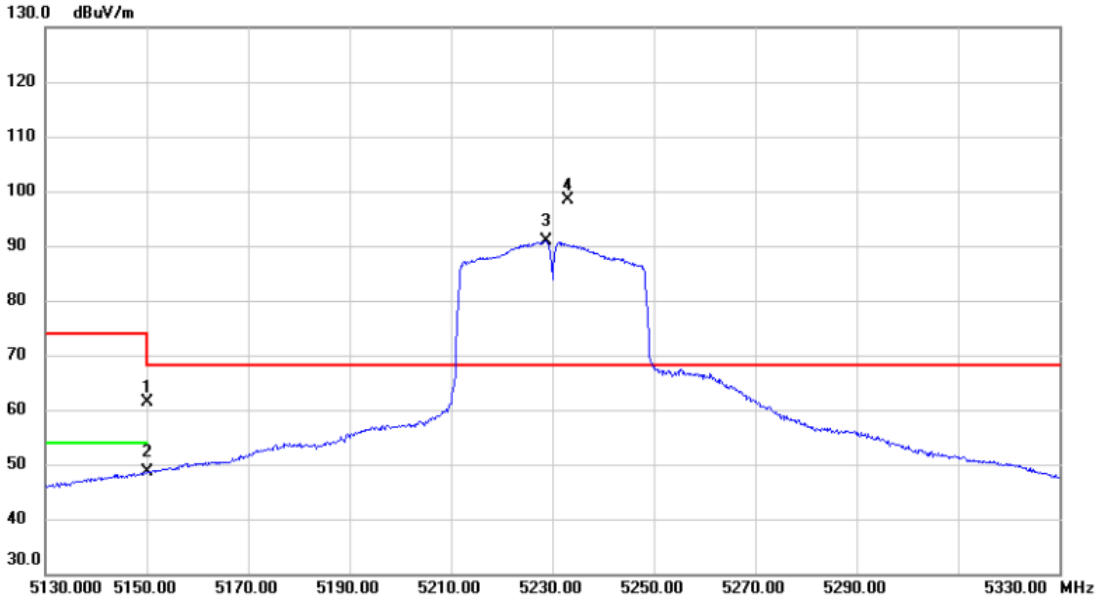
| Test Mode | UNII-1_TX AC(VHT40) Mode 5190 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10375.460 | 41.28 | -2.09 | 39.19 | 54.00 | -14.81 | AVG | |
| 2 | | 10381.760 | 51.98 | -2.07 | 49.91 | 68.20 | -18.29 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

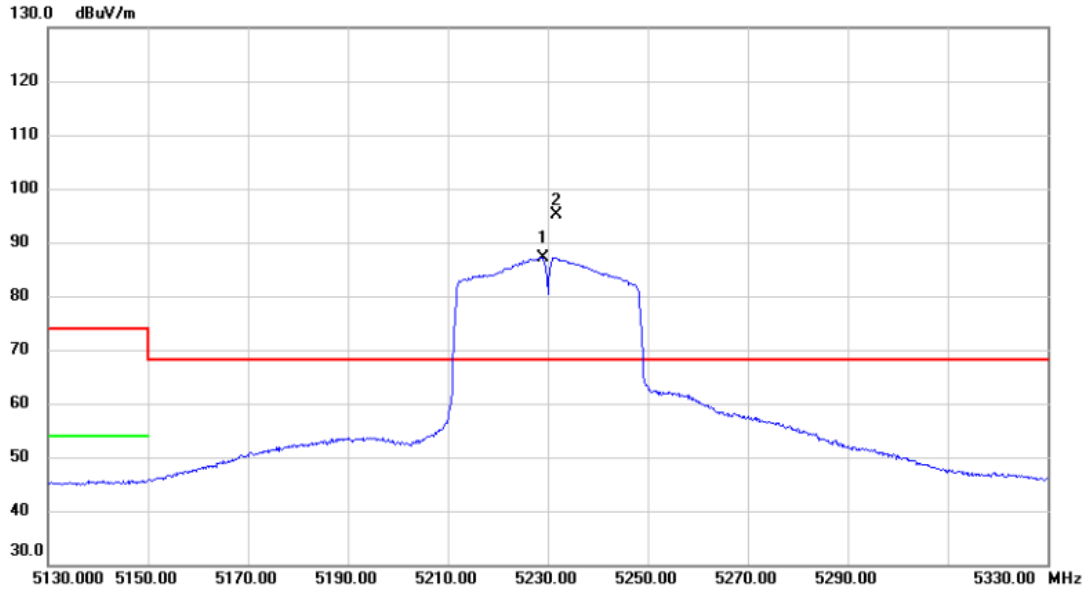
| Test Mode | UNII-1_TX AC(VHT40) Mode 5230 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 21.13 | 40.22 | 61.35 | 74.00 | -12.65 | peak | |
| 2 | | 5150.000 | 8.42 | 40.22 | 48.64 | 54.00 | -5.36 | AVG | |
| 3 | X | 5228.800 | 50.58 | 40.37 | 90.95 | 68.20 | 22.75 | AVG | No Limit |
| 4 | * | 5233.000 | 57.90 | 40.38 | 98.28 | 68.20 | 30.08 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

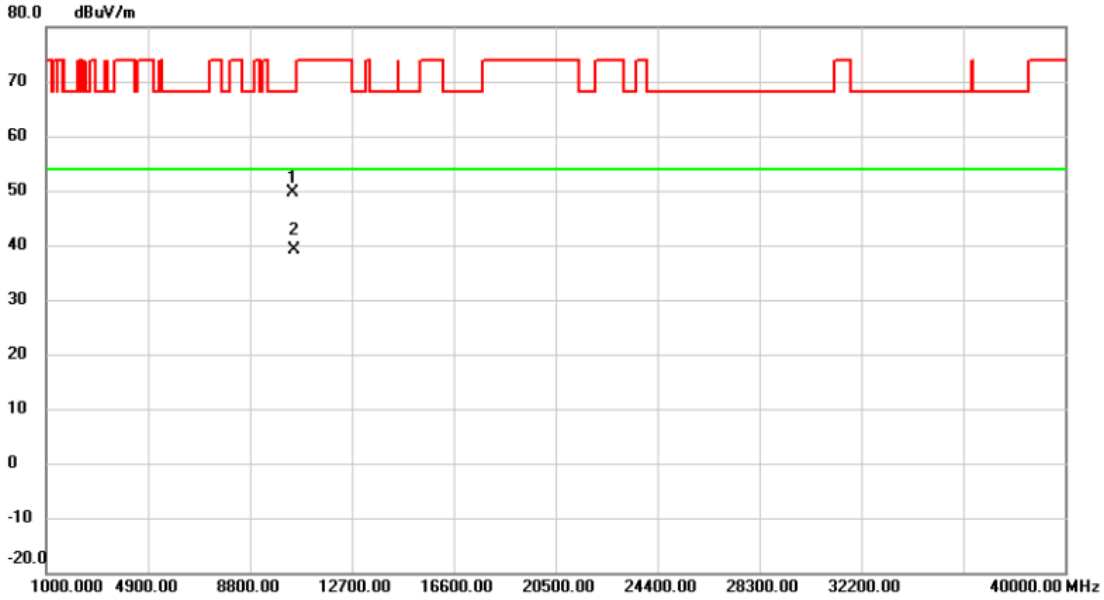
| Test Mode | UNII-1_TX AC(VHT40) Mode 5230 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5229.000 | 46.82 | 40.37 | 87.19 | 68.20 | 18.99 | AVG | No Limit |
| 2 | * | 5231.600 | 54.78 | 40.37 | 95.15 | 68.20 | 26.95 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

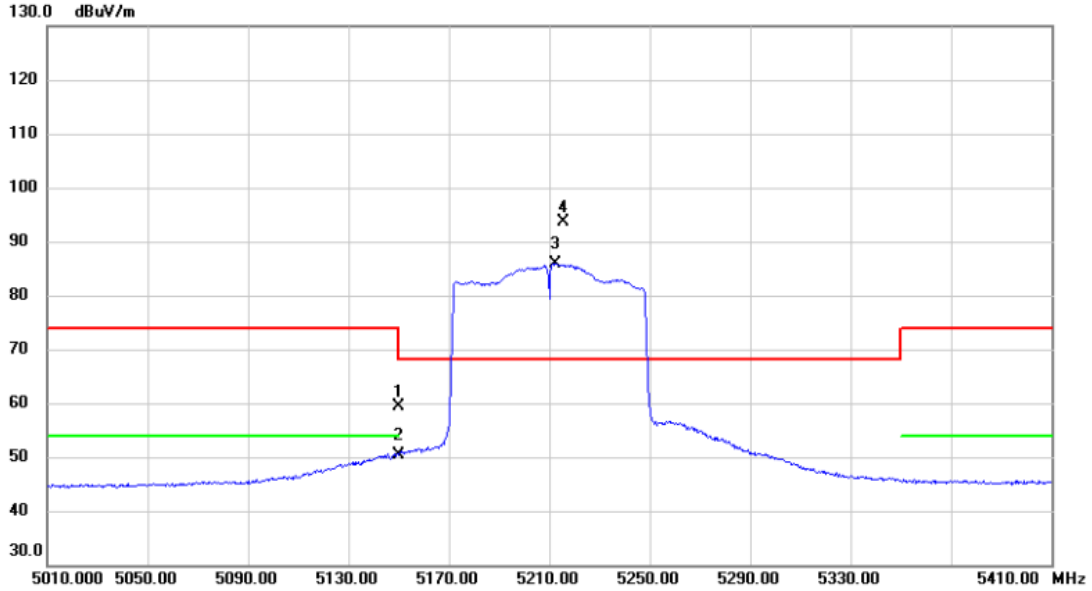
| Test Mode | UNII-1_TX AC(VHT40) Mode 5230 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 10463.710 | 51.54 | -1.96 | 49.58 | 68.20 | -18.62 | peak | |
| 2 | * | 10464.690 | 41.01 | -1.96 | 39.05 | 54.00 | -14.95 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

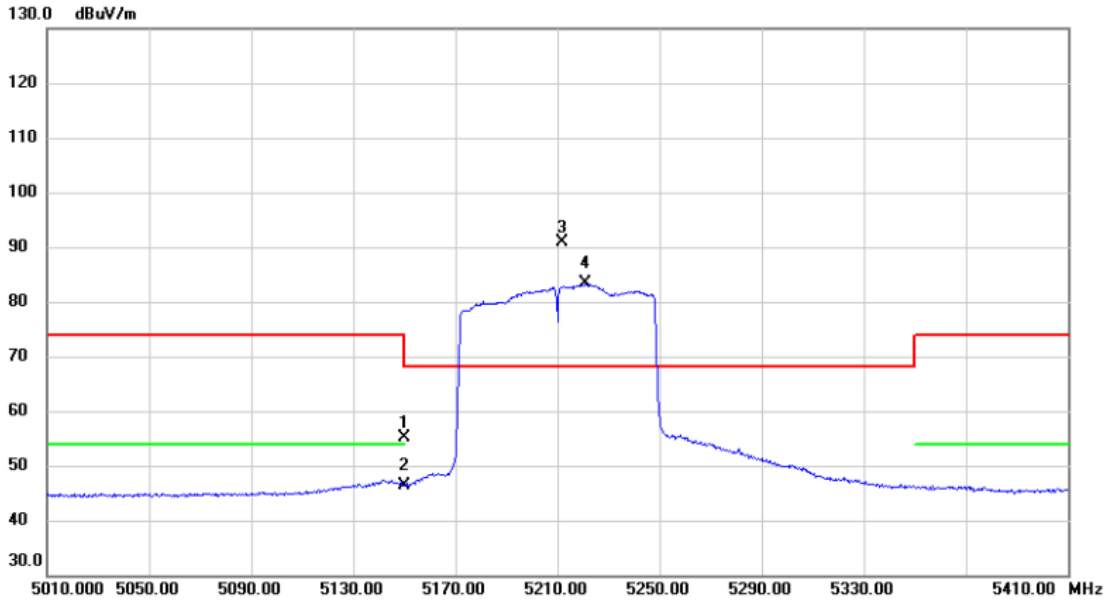
| Test Mode | UNII-1_TX AC(VHT80) Mode 5210 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 19.18 | 40.22 | 59.40 | 74.00 | -14.60 | peak | |
| 2 | | 5150.000 | 10.16 | 40.22 | 50.38 | 54.00 | -3.62 | AVG | |
| 3 | X | 5212.400 | 45.49 | 40.34 | 85.83 | 68.20 | 17.63 | AVG | No Limit |
| 4 | * | 5215.600 | 53.30 | 40.34 | 93.64 | 68.20 | 25.44 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

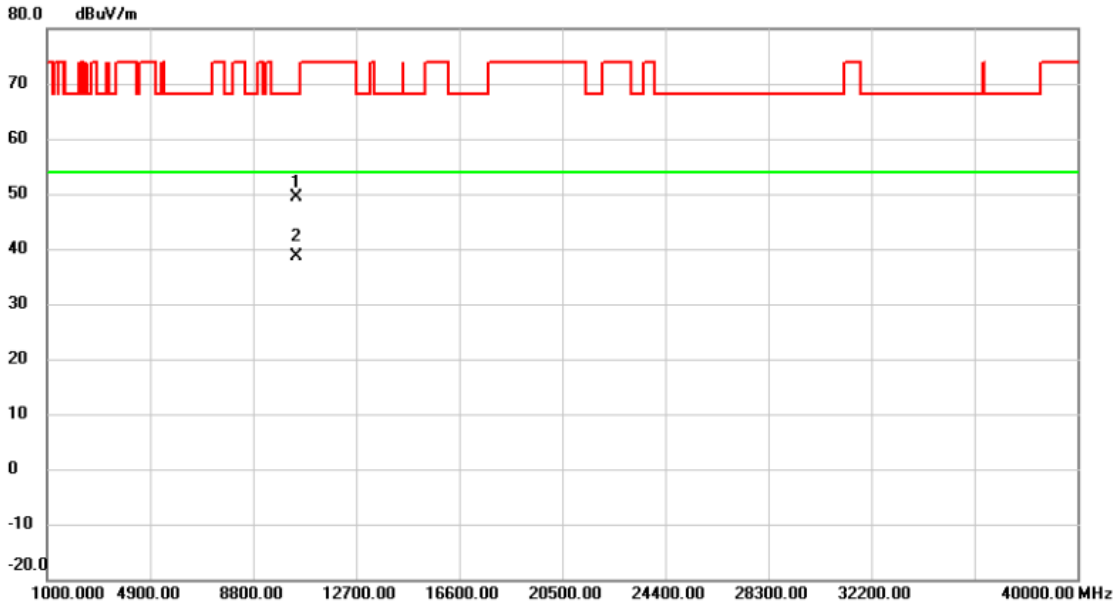
| Test Mode | UNII-1_TX AC(VHT80) Mode 5210 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5150.000 | 15.02 | 40.22 | 55.24 | 74.00 | -18.76 | peak | |
| 2 | | 5150.000 | 6.22 | 40.22 | 46.44 | 54.00 | -7.56 | AVG | |
| 3 | * | 5211.600 | 50.61 | 40.34 | 90.95 | 68.20 | 22.75 | peak | No Limit |
| 4 | X | 5221.200 | 43.02 | 40.35 | 83.37 | 68.20 | 15.17 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

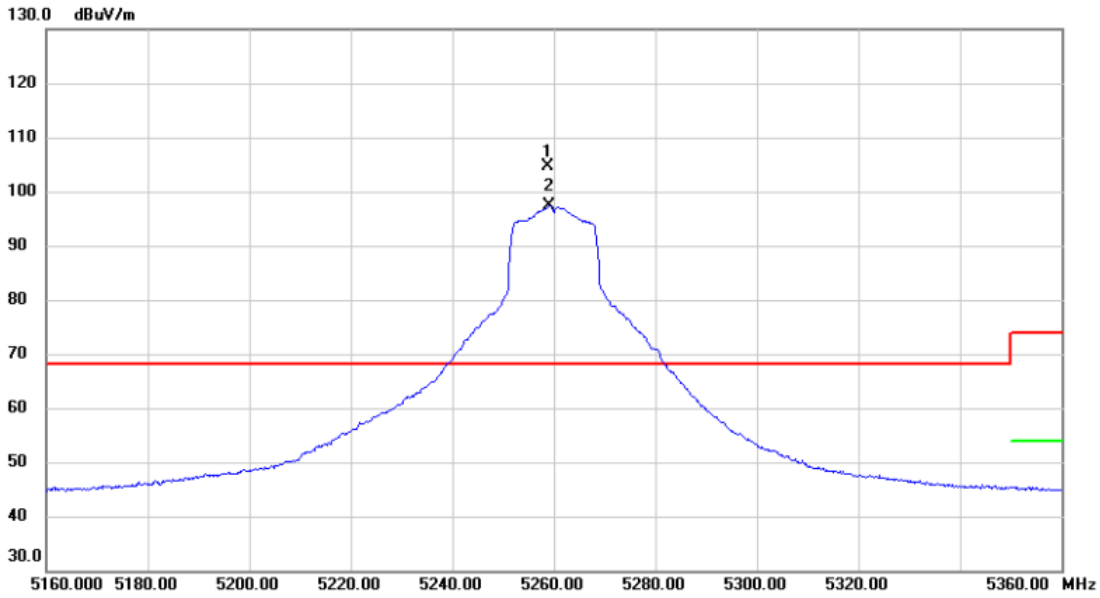
| Test Mode | UNII-1_TX AC(VHT80) Mode 5210 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 10420.610 | 51.39 | -2.02 | 49.37 | 68.20 | -18.83 | peak | |
| 2 | * | 10423.560 | 40.57 | -2.02 | 38.55 | 54.00 | -15.45 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

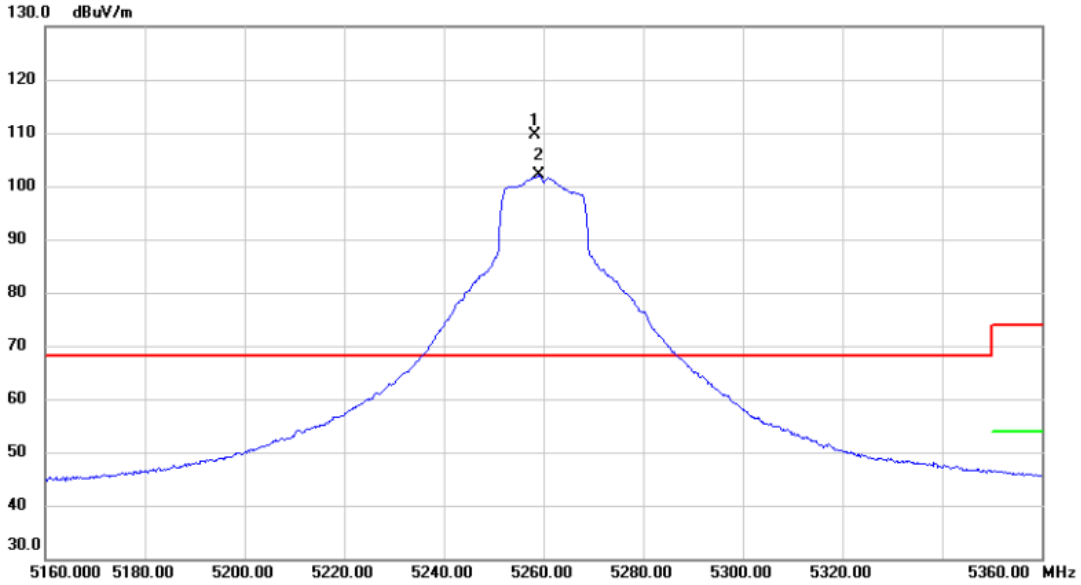
| Test Mode | UNII-2A_TX A Mode 5260 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5258.800 | 64.10 | 40.43 | 104.53 | 68.20 | 36.33 | peak | No Limit |
| 2 | X | 5259.200 | 56.94 | 40.43 | 97.37 | 68.20 | 29.17 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

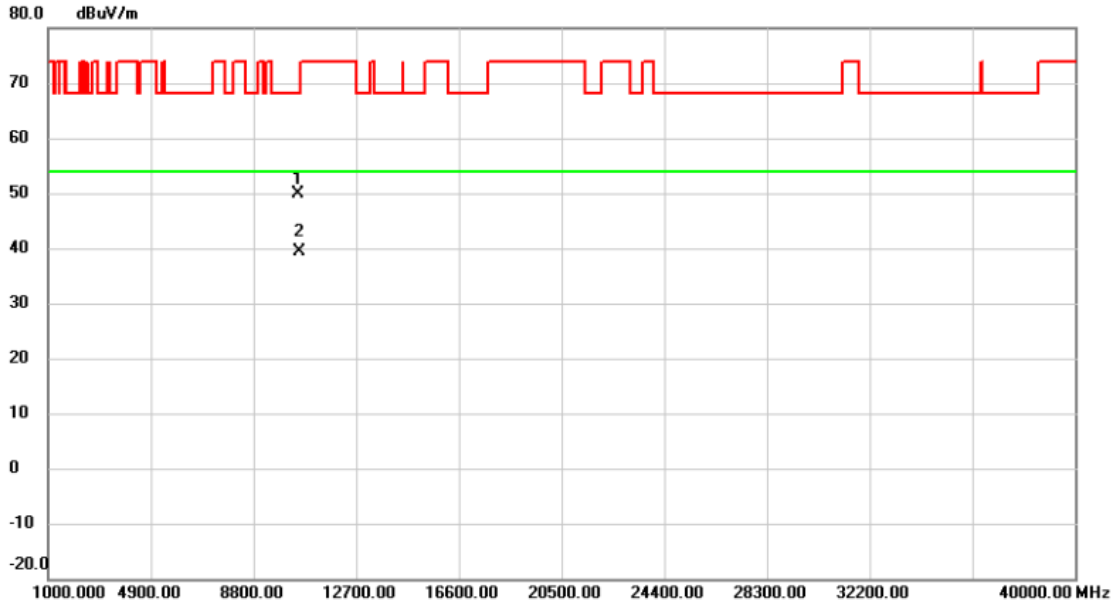
| Test Mode | UNII-2A_TX A Mode 5260 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5258.400 | 69.16 | 40.43 | 109.59 | 68.20 | 41.39 | peak | No Limit |
| 2 | X | 5259.200 | 61.60 | 40.43 | 102.03 | 68.20 | 33.83 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

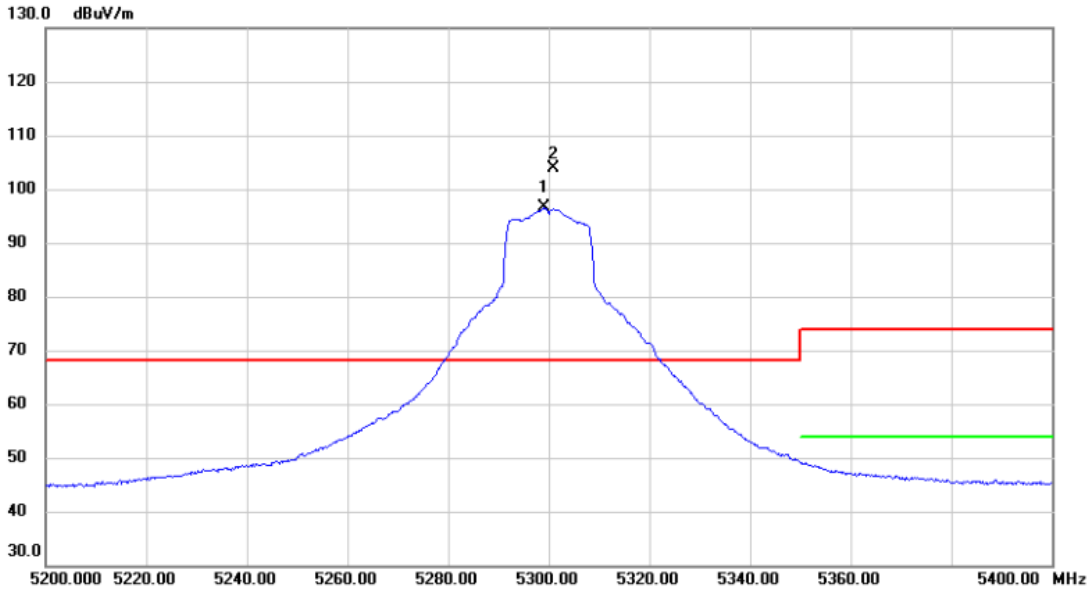
| Test Mode | UNII-2A_TX A Mode 5260 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 10515.030 | 51.79 | -1.87 | 49.92 | 68.20 | -18.28 | peak | |
| 2 | * | 10516.430 | 41.30 | -1.87 | 39.43 | 54.00 | -14.57 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

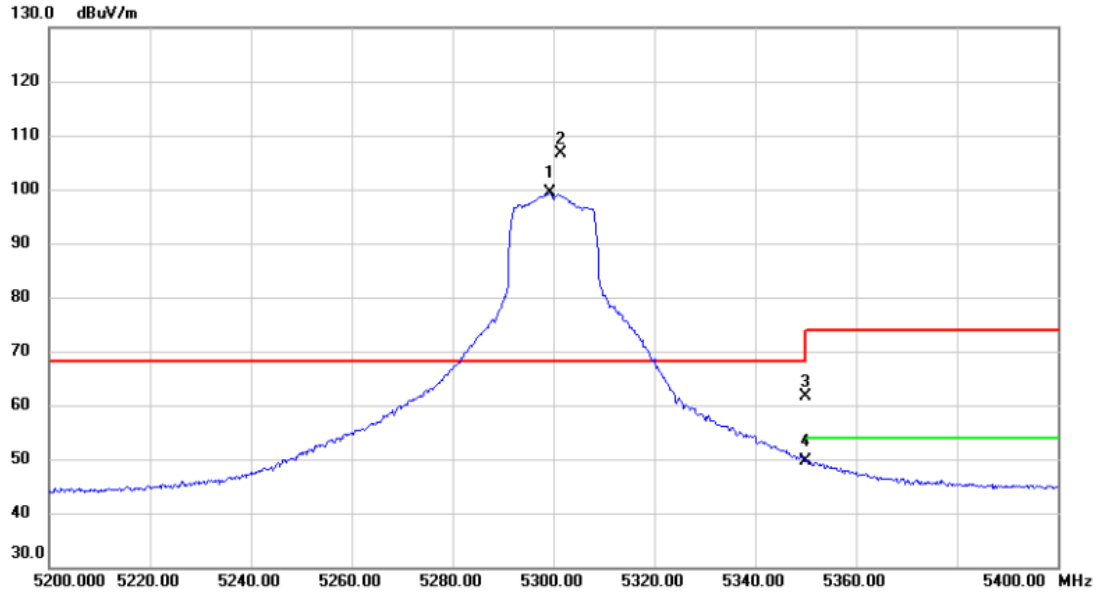
| Test Mode | UNII-2A_TX A Mode 5300 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5299.000 | 56.03 | 40.50 | 96.53 | 68.20 | 28.33 | AVG | No Limit |
| 2 | * | 5300.800 | 63.41 | 40.50 | 103.91 | 68.20 | 35.71 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

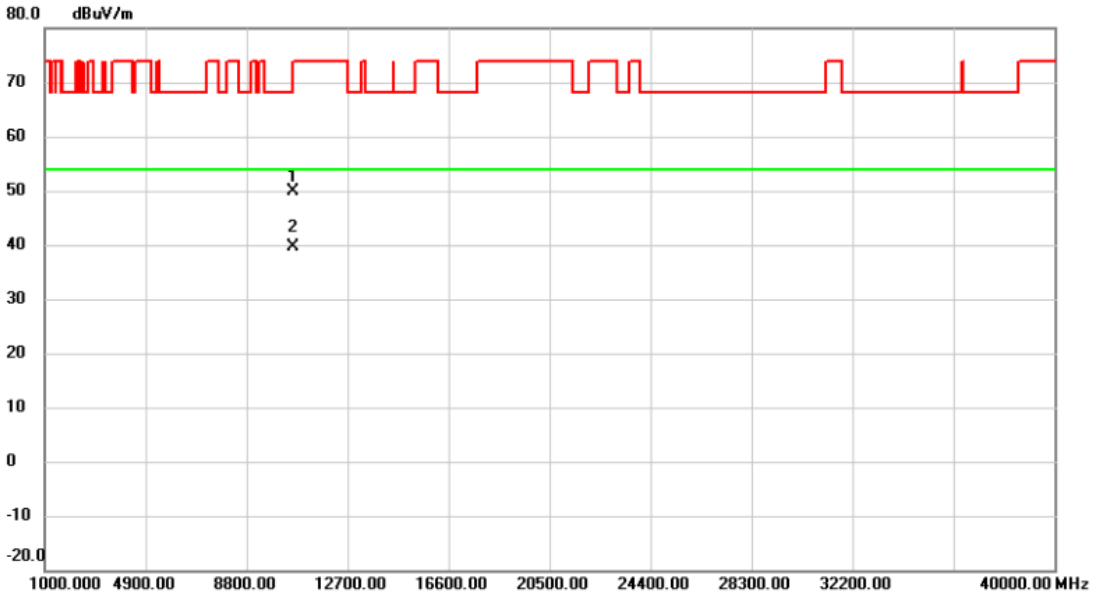
| Test Mode | UNII-2A_TX A Mode 5300 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5299.400 | 58.79 | 40.50 | 99.29 | 68.20 | 31.09 | AVG | No Limit |
| 2 | * | 5301.400 | 66.01 | 40.50 | 106.51 | 68.20 | 38.31 | peak | No Limit |
| 3 | | 5350.000 | 20.97 | 40.59 | 61.56 | 74.00 | -12.44 | peak | |
| 4 | | 5350.000 | 9.14 | 40.59 | 49.73 | 54.00 | -4.27 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

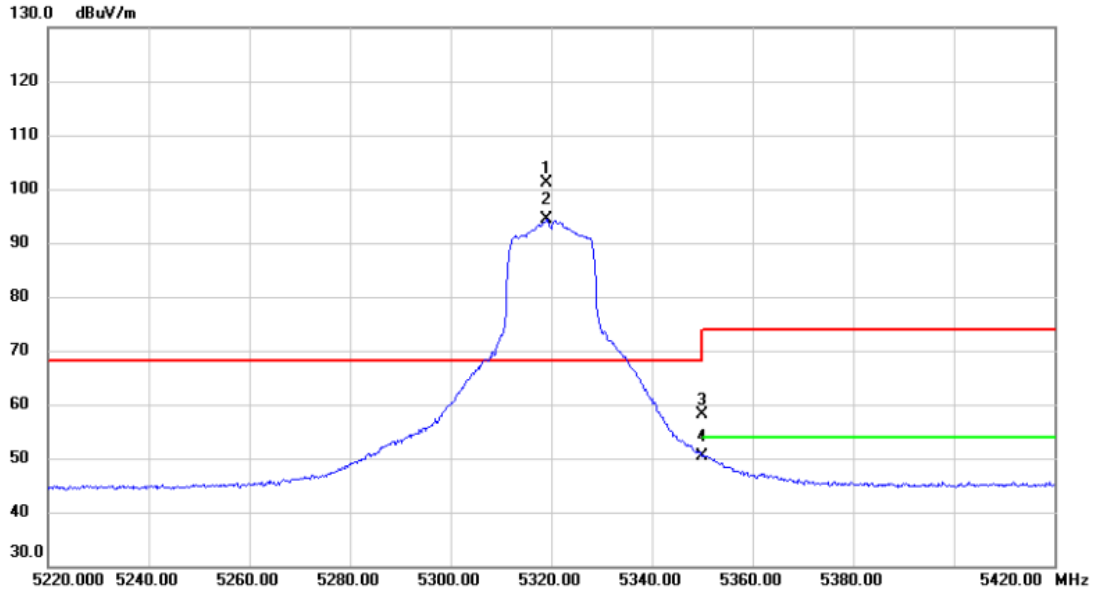
| Test Mode | UNII-2A_TX A Mode 5300 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 10596.910 | 51.52 | -1.69 | 49.83 | 68.20 | -18.37 | peak | |
| 2 | * | 10599.450 | 41.37 | -1.69 | 39.68 | 54.00 | -14.32 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

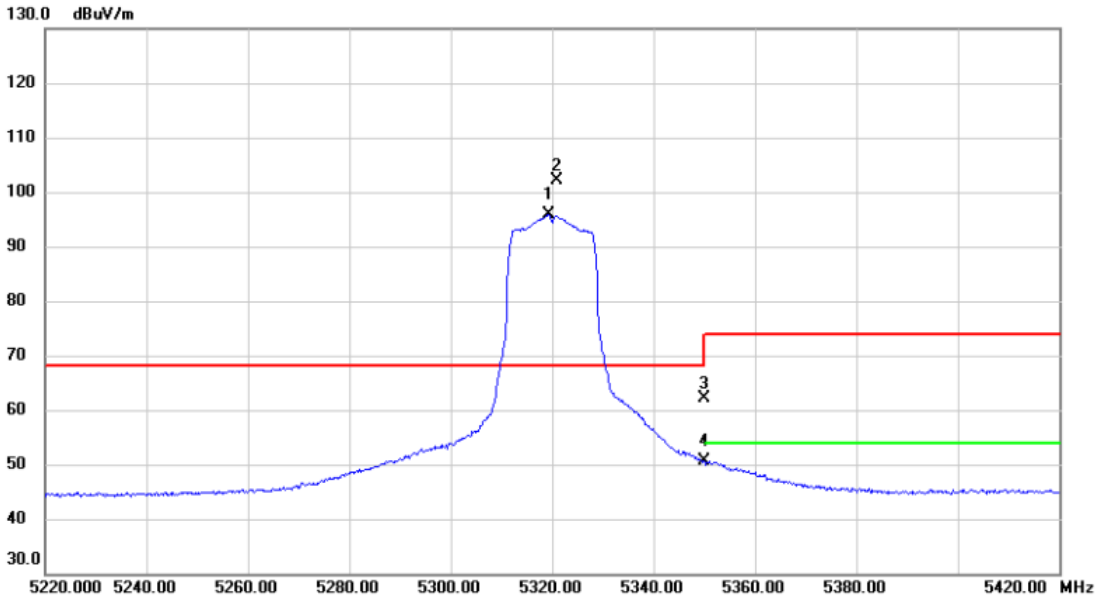
| Test Mode | UNII-2A_TX A Mode 5320 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5319.000 | 60.70 | 40.54 | 101.24 | 68.20 | 33.04 | peak | No Limit |
| 2 | X | 5319.200 | 53.85 | 40.54 | 94.39 | 68.20 | 26.19 | AVG | No Limit |
| 3 | | 5350.000 | 17.47 | 40.59 | 58.06 | 74.00 | -15.94 | peak | |
| 4 | | 5350.000 | 9.72 | 40.59 | 50.31 | 54.00 | -3.69 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

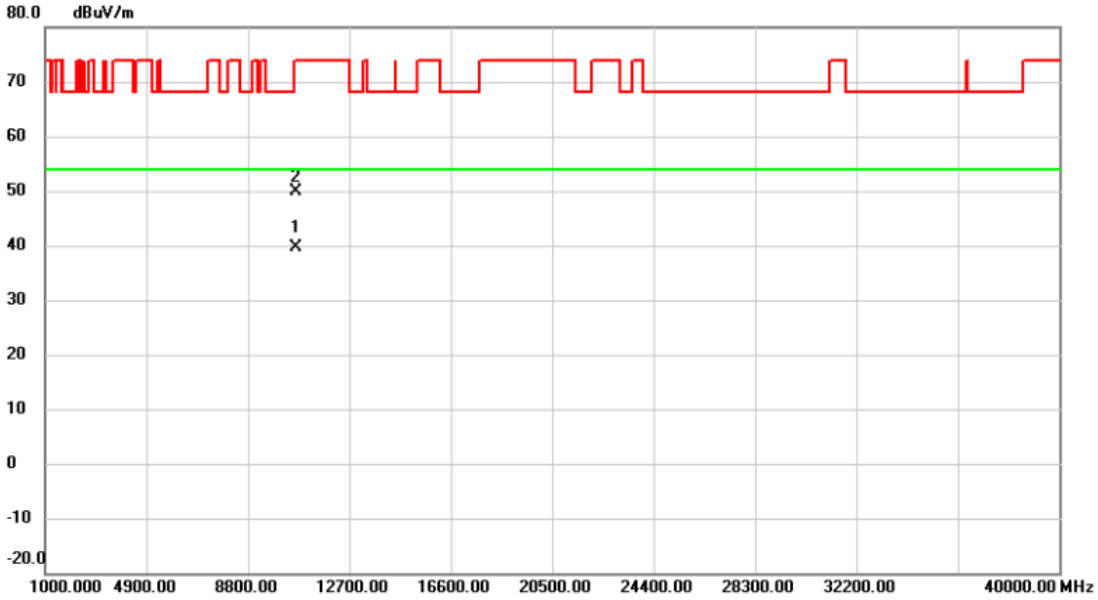
| Test Mode | UNII-2A_TX A Mode 5320 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5319.400 | 55.26 | 40.54 | 95.80 | 68.20 | 27.60 | AVG | No Limit |
| 2 | * | 5320.800 | 61.59 | 40.54 | 102.13 | 68.20 | 33.93 | peak | No Limit |
| 3 | | 5350.000 | 21.65 | 40.59 | 62.24 | 74.00 | -11.76 | peak | |
| 4 | | 5350.000 | 10.04 | 40.59 | 50.63 | 54.00 | -3.37 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

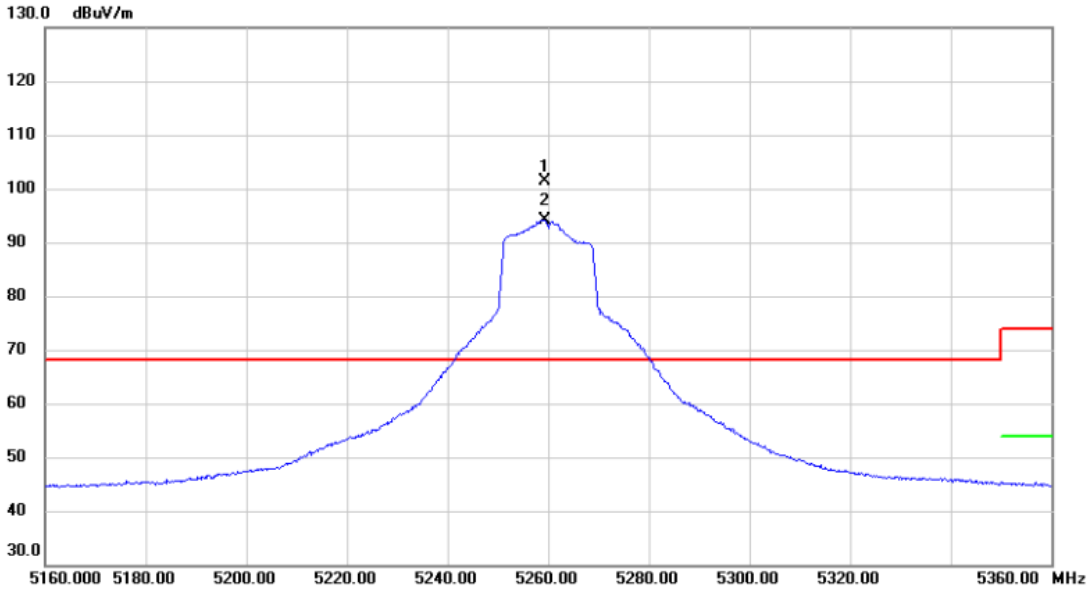
| Test Mode | UNII-2A_TX A Mode 5320 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10636.130 | 41.13 | -1.60 | 39.53 | 54.00 | -14.47 | AVG | |
| 2 | | 10643.020 | 51.50 | -1.59 | 49.91 | 74.00 | -24.09 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

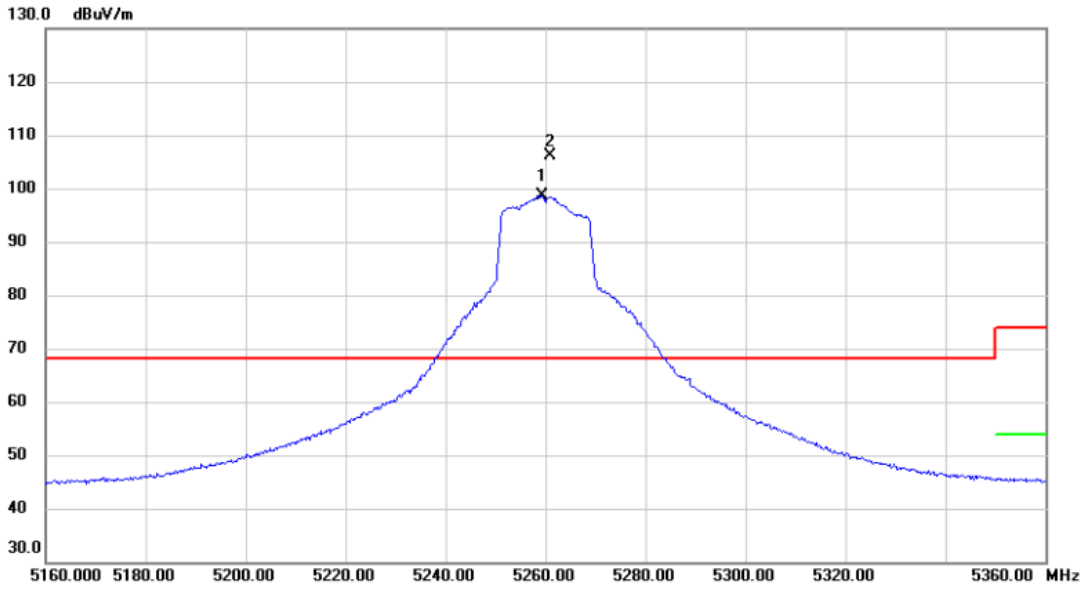
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5260 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5259.400 | 61.04 | 40.43 | 101.47 | 68.20 | 33.27 | peak | No Limit |
| 2 | X | 5259.400 | 53.75 | 40.43 | 94.18 | 68.20 | 25.98 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

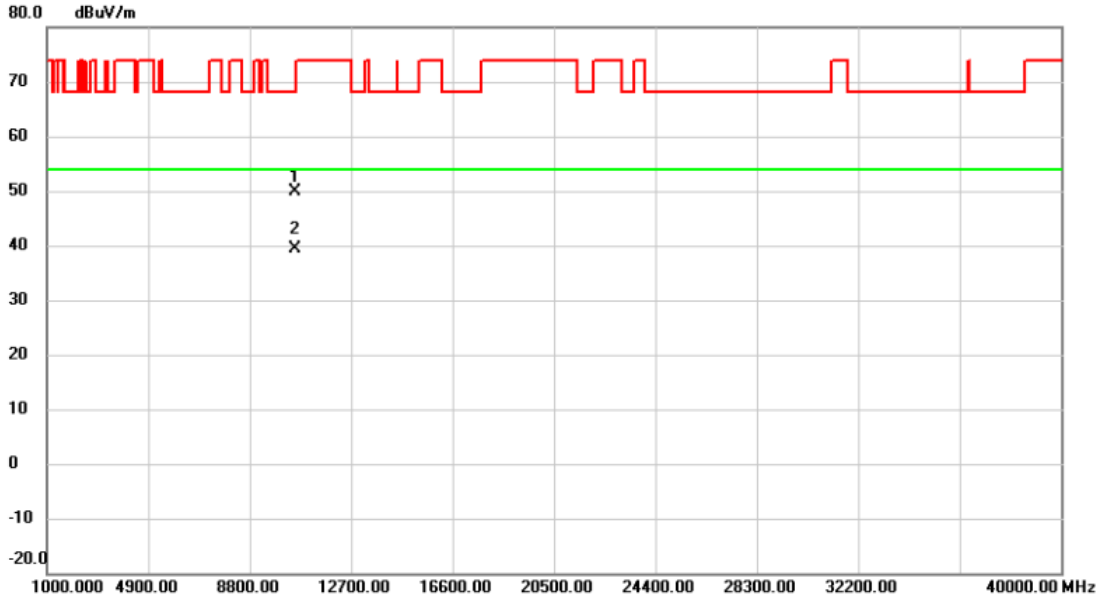
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5260 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5259.400 | 58.25 | 40.43 | 98.68 | 68.20 | 30.48 | AVG | No Limit |
| 2 | * | 5261.000 | 65.76 | 40.43 | 106.19 | 68.20 | 37.99 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

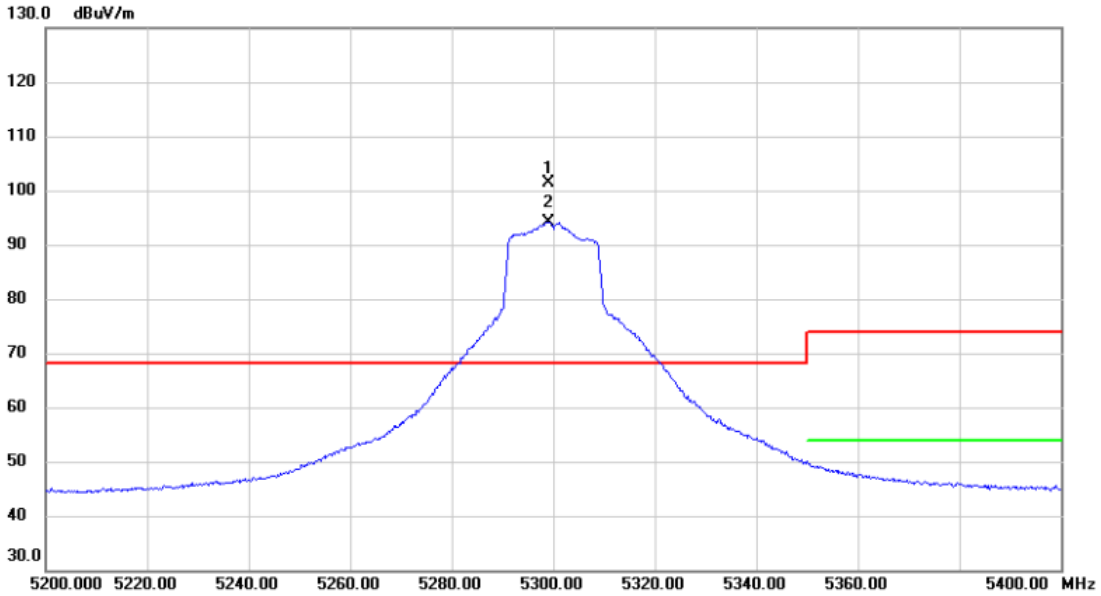
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5260 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 10516.200 | 51.63 | -1.87 | 49.76 | 68.20 | -18.44 | peak | |
| 2 | * | 10516.660 | 41.13 | -1.87 | 39.26 | 54.00 | -14.74 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

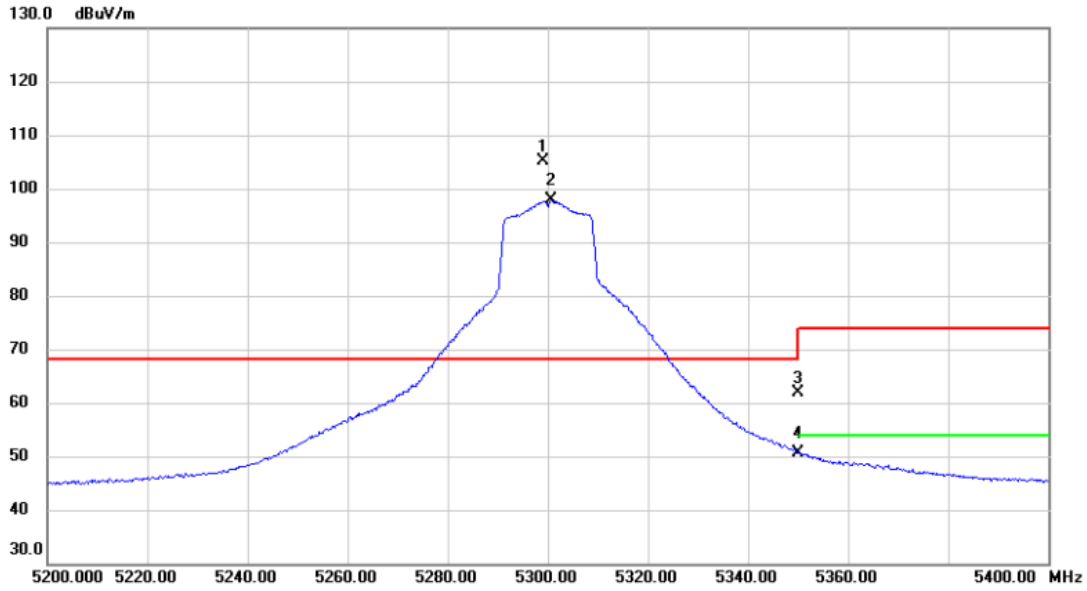
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5300 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5299.200 | 60.84 | 40.50 | 101.34 | 68.20 | 33.14 | peak | No Limit |
| 2 | X | 5299.200 | 53.72 | 40.50 | 94.22 | 68.20 | 26.02 | AVG | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

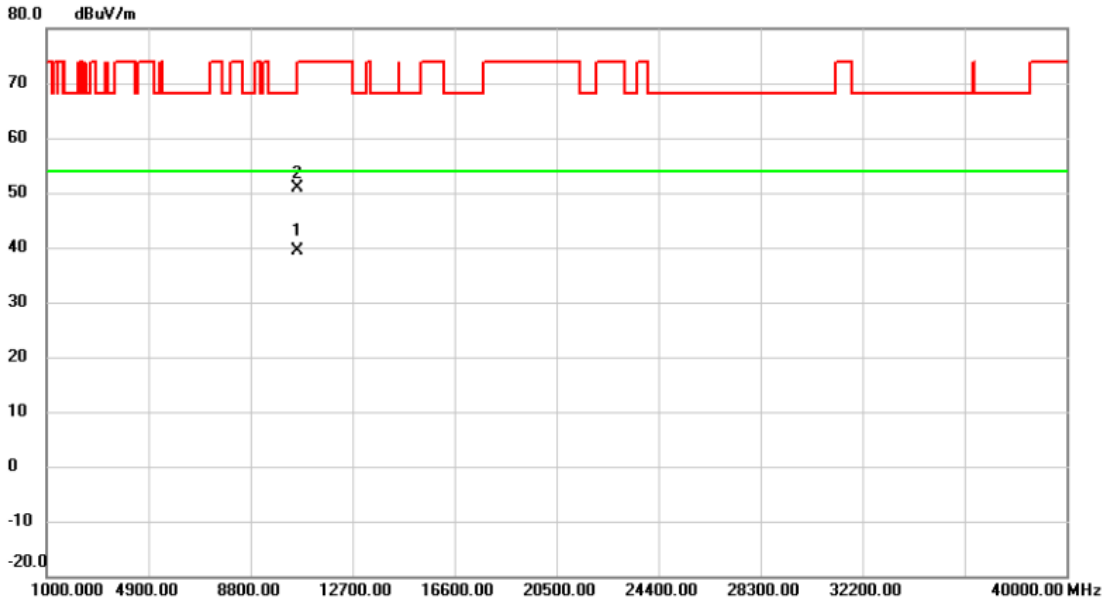
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5300 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5299.000 | 64.58 | 40.50 | 105.08 | 68.20 | 36.88 | peak | No Limit |
| 2 | X | 5300.600 | 57.30 | 40.50 | 97.80 | 68.20 | 29.60 | AVG | No Limit |
| 3 | | 5350.000 | 21.22 | 40.59 | 61.81 | 74.00 | -12.19 | peak | |
| 4 | | 5350.000 | 10.06 | 40.59 | 50.65 | 54.00 | -3.35 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

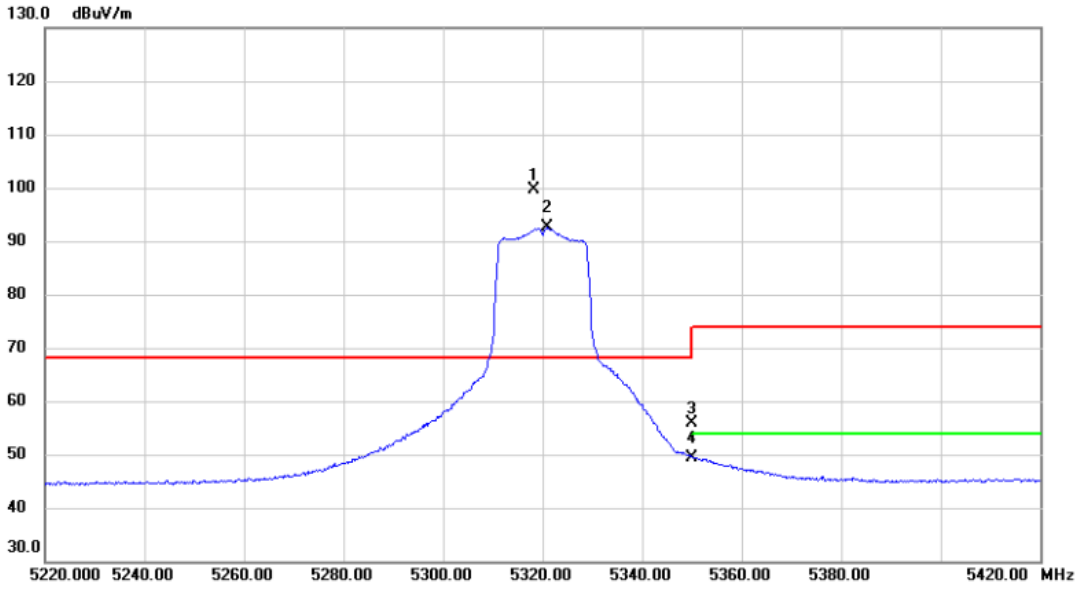
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5300 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10600.720 | 41.08 | -1.69 | 39.39 | 54.00 | -14.61 | AVG | |
| 2 | | 10602.060 | 52.47 | -1.68 | 50.79 | 74.00 | -23.21 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

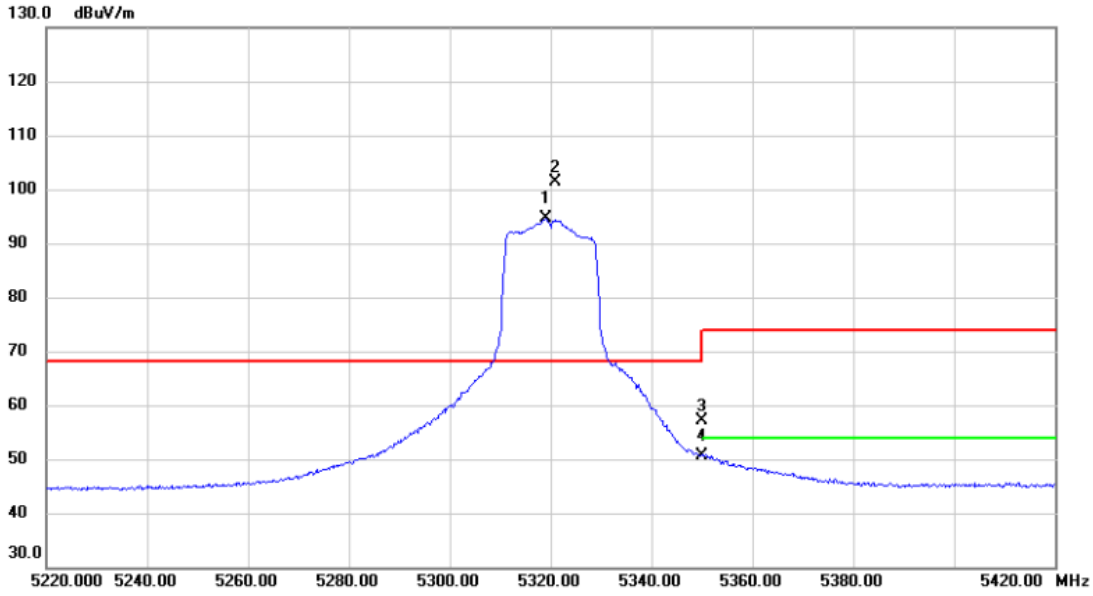
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5320 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 5318.200 | 58.99 | 40.53 | 99.52 | 68.20 | 31.32 | peak | No Limit |
| 2 | X | 5321.000 | 51.98 | 40.54 | 92.52 | 68.20 | 24.32 | AVG | No Limit |
| 3 | | 5350.000 | 15.36 | 40.59 | 55.95 | 74.00 | -18.05 | peak | |
| 4 | | 5350.000 | 8.91 | 40.59 | 49.50 | 54.00 | -4.50 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

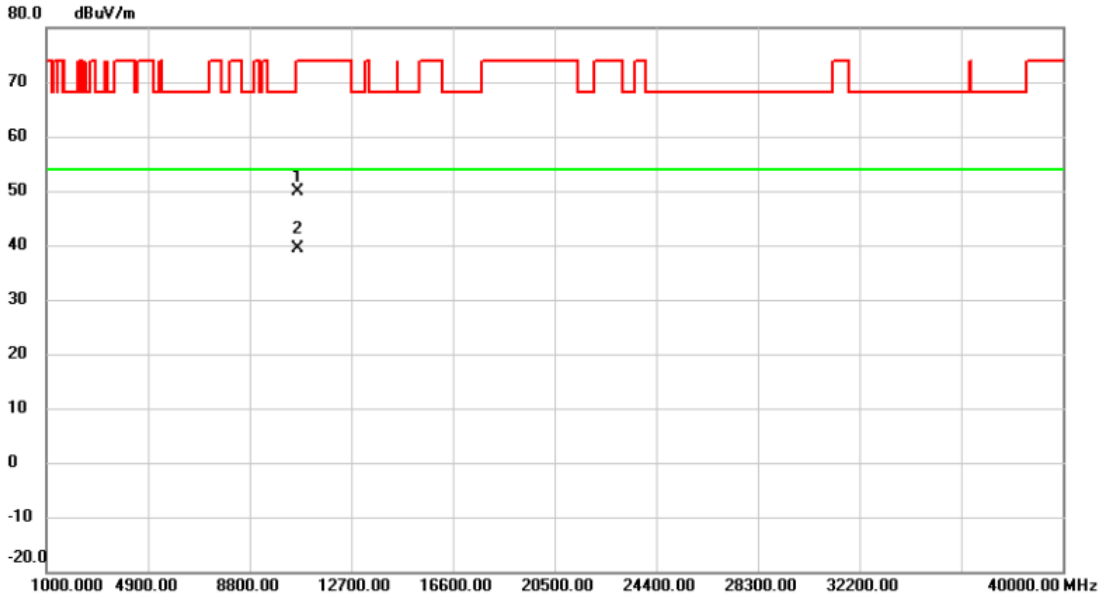
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5320 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5319.200 | 54.01 | 40.54 | 94.55 | 68.20 | 26.35 | AVG | No Limit |
| 2 | * | 5321.000 | 60.77 | 40.54 | 101.31 | 68.20 | 33.11 | peak | No Limit |
| 3 | | 5350.000 | 16.66 | 40.59 | 57.25 | 74.00 | -16.75 | peak | |
| 4 | | 5350.000 | 10.16 | 40.59 | 50.75 | 54.00 | -3.25 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

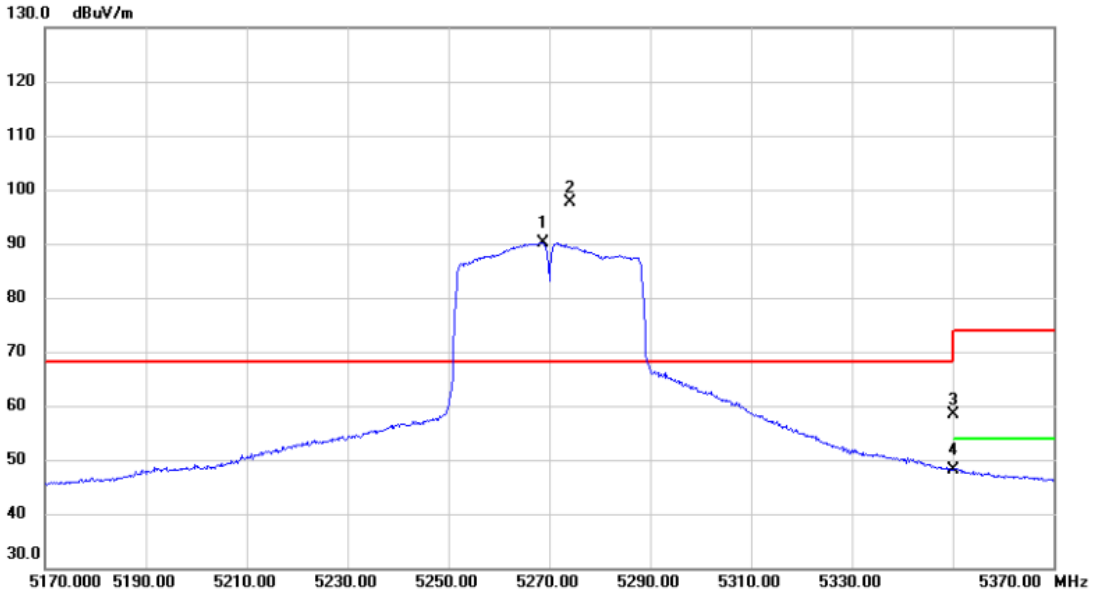
| Test Mode | UNII-2A_TX AC(VHT20) Mode 5320 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 10635.160 | 51.44 | -1.61 | 49.83 | 74.00 | -24.17 | peak | |
| 2 | * | 10641.030 | 40.91 | -1.59 | 39.32 | 54.00 | -14.68 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

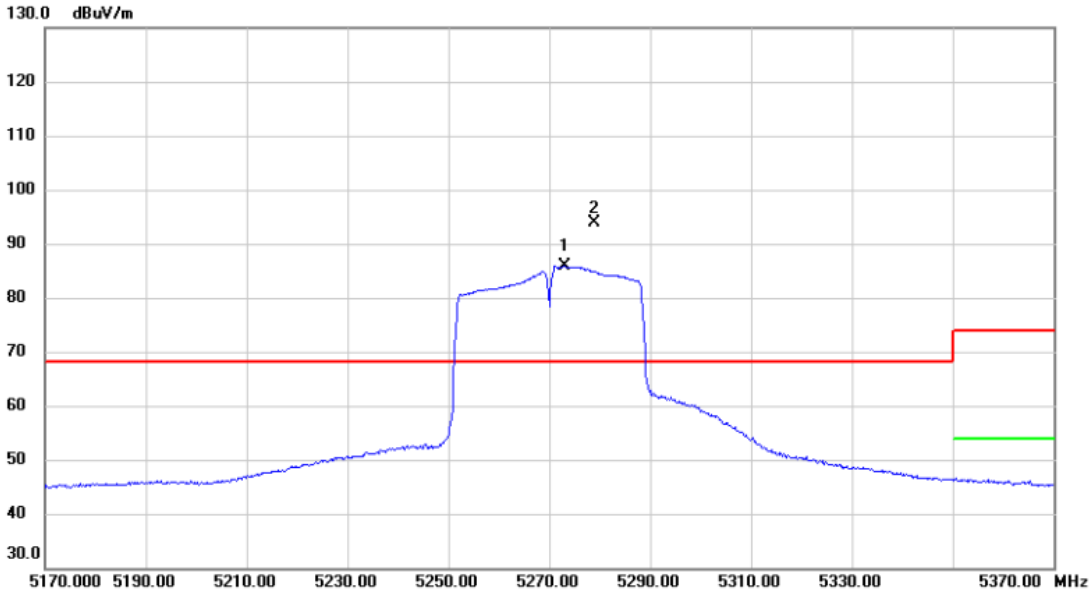
| Test Mode | UNII-2A_TX AC(VHT40) Mode 5270 MHz | Polarization | Vertical |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5268.800 | 49.73 | 40.44 | 90.17 | 68.20 | 21.97 | AVG | No Limit |
| 2 | * | 5274.200 | 57.24 | 40.45 | 97.69 | 68.20 | 29.49 | peak | No Limit |
| 3 | | 5350.000 | 17.84 | 40.59 | 58.43 | 74.00 | -15.57 | peak | |
| 4 | | 5350.000 | 7.55 | 40.59 | 48.14 | 54.00 | -5.86 | AVG | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

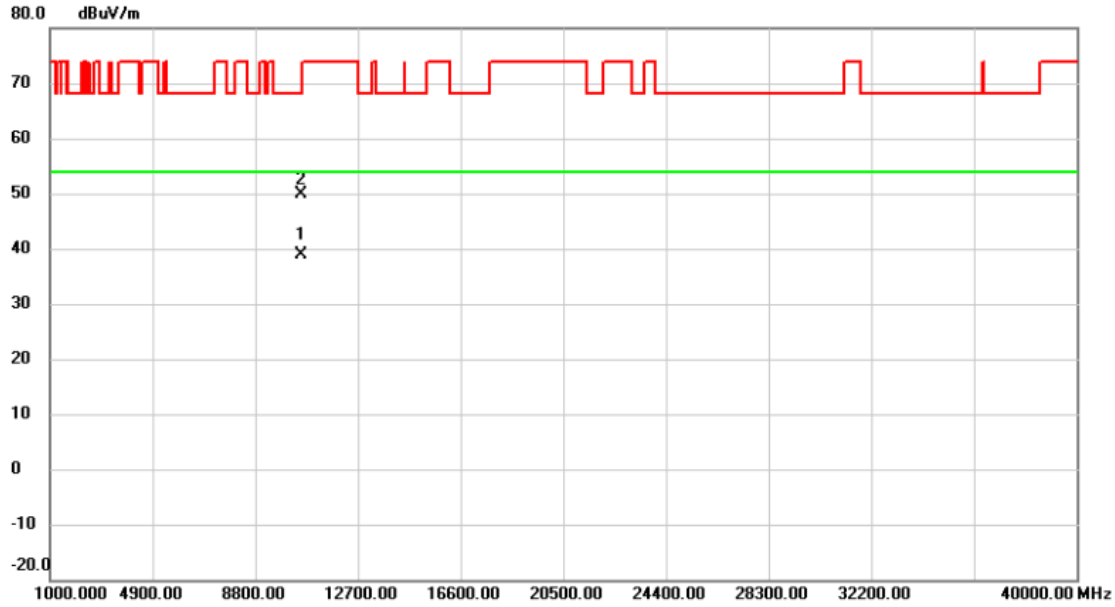
| Test Mode | UNII-2A_TX AC(VHT40) Mode 5270 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | X | 5273.000 | 45.44 | 40.45 | 85.89 | 68.20 | 17.69 | AVG | No Limit |
| 2 | * | 5279.000 | 53.46 | 40.46 | 93.92 | 68.20 | 25.72 | peak | No Limit |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

| Test Mode | UNII-2A_TX AC(VHT40) Mode 5270 MHz | Polarization | Horizontal |
|---|---|---|---|




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 10539.380 | 40.79 | -1.81 | 38.98 | 54.00 | -15.02 | AVG | |
| 2 | | 10542.580 | 51.73 | -1.81 | 49.92 | 68.20 | -18.28 | peak | |

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.