# TEST REPORT

| | | |
|---|---|---|
| Applicant | : | Mekotronics Co., Ltd |
| Address | : | Rm1103-1105, Hengrong Lifang Building, Baomin 2nd Rd, Baoan District, Shenzhen, Guangdong, China |
| Manufacturer | : | Mekotronics Co., Ltd |
| Address | : | Rm1103-1105, Hengrong Lifang Building, Baomin 2nd Rd, Baoan District, Shenzhen, Guangdong, China |
| Product Name | : | SparkBridge Media Player |
| Model Number | : | SR1AM201M |
| Trademark | : | N/A |
| FCC ID | : | 2AWPH-SR1AM201M |
| Test Date | : | Apr. 10, 2026 to Apr. 30, 2026 |
| Date of Report | : | Apr. 30, 2026 |
| Test Result | : | This device described above has been tested by BKC, and the test results show that the equipment under test (EUT) is in compliance with the Standard requirements. And it is applicable only to the tested sample identified in the report. |

Test Procedure Used:

Standards : FCC CFR47 Part 15 Section 15.407
ANSI C63.10:2020+Cor1:2023

Prepared by(Test Engineer):
Sten Huang

Reviewer(Supervisor):
Casey Wang

Approved(Manager):
Jerry Liao

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| Revision History of This Test Report | | |
|---|---|---|
| Report Number | Description | Issued Date |
| BKC26041841DE-4 | Initial Issue | 2026-04-30 |
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# 1. General Information

## 1.1.Description of Device (EUT)

| | | |
|---|---|---|
| EUT Name | : | SparkBridge Media Player |
| Model No. | : | SR1AM201M |
| Model Difference | : | N/A |
| Power supply | : | Input: AC 120V/60Hz<br>DC 5V from Adapter |
| Wi-Fi Specification | : | IEEE 802.11a/n/ac/ax |
| Operation frequency | : | IEEE 802.11a/n/ac/ax(20M): 5150MHz ~5250MHz/ 4 channel<br>IEEE 802.11n/ac/ax(40M): 5150MHz ~5250MHz/ 2 channel<br>IEEE 802.11ac(80M)/ax(80M): 5150MHz ~5250MHz/ 1 channel<br><br>IEEE 802.11a/n/ac(20M)/ax(20M): 5250MHz ~5350 MHz/ 4 channel<br>IEEE802.11n/ac(40M)/ax(40M): 5250MHz ~5350 MHz/ 2 channel<br>IEEE802.11ac(80M)/ax(80M): 5250MHz ~5350 MHz/ 1 channel<br><br>IEEE 802.11a/n/ac(20M)/ax(20M): 5470MHz ~5725 MHz/ 11 channel<br>IEEE802.11n/ac(40M)/ax(40M): 5470MHz ~5725 MHz/ 5 channel<br>IEEE802.11ac(80M)/ax(80M): 5470MHz ~5725 MHz/ 3 channel<br><br>IEEE 802.11a/n/ac(20M)/ax(20M): 5725MHz ~5850MHz/ 5 channel<br>IEEE 802.11n/ac(40M)/ax(40M): 5725MHz ~5850MHz/ 2 channel<br>IEEE 802.11ac(80M)/ax(80M): 5725MHz ~5850MHz/ 1 channel |
| Max. RF output power: | : | 3.45dBm |
| Modulation | : | Orthogonal Frequency Division Multiplexing(OFDM)/Orthogonal Frequency Division Multiple Access(OFDMA) |
| Antenna Type | : | Rubber antenna, Maximum Gain is 3.65 dBi |
| Device type | : | Slave Device(without Radar Detection) |

## 1.2.Channel List

| U-NII-1 (5.15-5.25GHz) | | | |
|---|---|---|---|
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 36 | 5180 | 38 | 5190 |
| 40 | 5200 | 42 | 5210 |
| 44 | 5220 | 46 | 5230 |
| 48 | 5240 | | |

| U-NII-2A (5.25-5.35GHz) | | | |
|---|---|---|---|
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 52 | 5260 | 54 | 5270 |
| 56 | 5280 | 58 | 5290 |
| 60 | 5300 | 62 | 5310 |

| | | | |
|---|---|---|---|
| 64 | 5320 | | |

| U-NII-2C (5.47-5.725GHz) | | | |
|---|---|---|---|
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 100 | 5500 | 102 | 5510 |
| 104 | 5520 | 106 | 5530 |
| 110 | 5550 | 108 | 5540 |
| 114 | 5570 | 112 | 5560 |
| 118 | 5590 | 116 | 5580 |
| 122 | 5610 | 120 | 5600 |
| 124 | 5620 | 126 | 5630 |
| 130 | 5650 | 128 | 5640 |
| 134 | 5670 | 132 | 5660 |
| 140 | 5700 | 136 | 5680 |

| U-NII-3 (5.725-5.85GHz) | | | |
|---|---|---|---|
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 149 | 5745 | 151 | 5755 |
| 153 | 5765 | 155 | 5775 |
| 157 | 5785 | 159 | 5795 |
| 161 | 5805 | 165 | 5825 |

## 1.3.Summary of test result

| RF PART | | |
|---|---|---|
| **Test Items** | **Test Requirement** | **Result** |
| 15.407(b), 15.209 | Radiated Spurious Emission | PASS |
| 15.207 | Conducted Emission | PASS |
| 15.407 (a)<br>15.407 (e) | 99% , 6dB and 26dB Bandwidth | PASS |
| 15.407 (a) | Maximum Conducted Output Power | PASS |
| 15.407(b), 15.205 | Band Edge | PASS |
| 15.407 (a) | Power Spectral Density | PASS |
| 15.407(g) | Frequency Stability | PASS |
| 15.203 | Antenna Requirement | PASS |
| Remark:<br>N/A is an abbreviation for Not Applicable.<br>Measurement Uncertainty is not taken into account for conformity statement | | |

## 1.4.Special Accessories and Auxiliary Equipment

| Description | Manufacturer | Model No. | Hardware Version | Software Version |
|---|---|---|---|---|
| Serial port board | / | / | / | / |
| Display | HP | 271V8 | / | / |
| Keyboard | HP | TPA-L001K | / | / |
| Mouse | HP | M260 | / | / |
| USB flash drive | Ugreen | HS-1 | | |

## 1.5.Test mode

The special RF test software was used to control EUT work in Continuous WIFI TX mode, and select test channel, wireless mode.

For 802.11a/n/ac(HT20)/ax(HEX20):

| channel | Frequency(MHz) | channel | Frequency(MHz) |
|---|---|---|---|
| 36 | 5180 | 40 | 5200 |
| 48 | 5240 | | |
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 52 | 5260 | 56 | 5280 |
| 64 | 5320 | | |
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 100 | 5500 | 120 | 5600 |
| 140 | 5700 | | |
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 149 | 5745 | 157 | 5785 |
| 165 | 5825 | | |

For 802.11n/ac(HT40)/ ac(HT80)/ ax(HEX40)/ ax(HEX80):

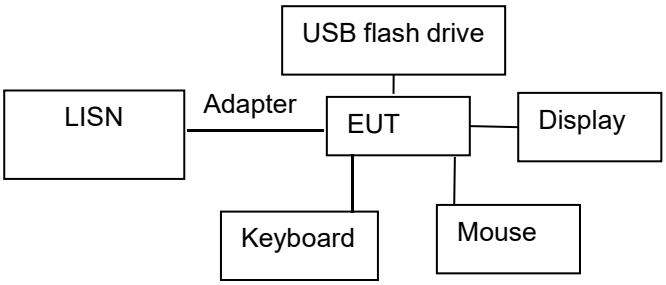
| channel | Frequency(MHz) | channel | Frequency(MHz) |
|---|---|---|---|
| 38 | 5190 | 42 | 5210 |
| 46 | 5230 | | |
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 54 | 5270 | 58 | 5290 |
| 62 | 5310 | | |
| **channel** | **Frequency(MHz)** | **channel** | **Frequency(MHz)** |
| 102 | 5510 | 106 | 5530 |
| 110 | 5550 | 118 | 5590 |
| 134 | 5670 | | |

| channel | Frequency(MHz) | channel | Frequency(MHz) |
|---|---|---|---|
| 151 | 5755 | 155 | 5775 |

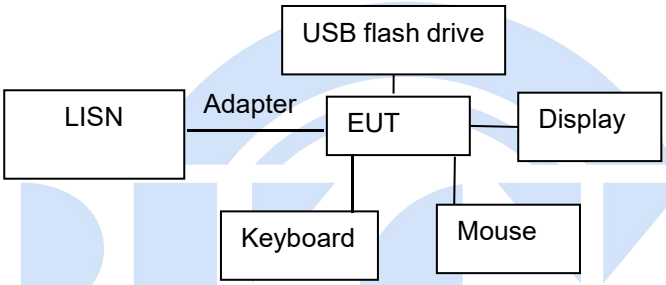
| | | | |
|---|---|---|---|
| 159 | 5795 | | |

## 1.6.Block Diagram

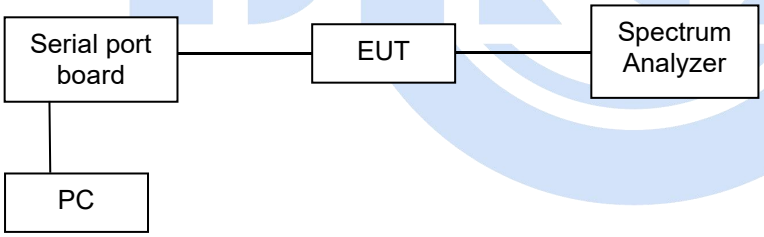
AC Power Line Conducted Emission




Radiated Emission




RF Conducted Test




## 1.7.Test Conditions

| Category | Normal Conditions | Extreme Conditions |
|---|---|---|
| Temperature range | 15-35℃ | N/A |
| Humidity range | 20-75% | N/A |
| Pressure range | 86-106kPa | N/A |
| Power supply | DC 5V | N/A |
| Note: N/A is an abbreviation for Not Applicable. | | |

## 1.8.Measurement Uncertainty (95% confidence levels, k=2)

| Item | MU | Remark |
|---|---|---|
| Uncertainty for radio frequency | ±7×10-8 | |
| Conducted Emissions (150kHz~30MHz) | ±2.54dB | |
| Radiated Emission(9KHz~30MHz) | ±1.6 dB | |
| Radiated Emission(30MHz~1GHz) | Vertical:±4.14dB<br>Horizontal:±4.25dB | |
| Radiated Emission(1GHz~6GHz) | ±3.9dB | |
| Radiated Emission(6GHz~18GHz) | ±4.3dB | |
| Radiated Emission(18GHz~40GHz) | ±3.38dB | |
| Uncertainty for conducted RF Power | ±0.20dB | |
| Conducted spurious emissions | ±0.24dB | |
| Uncertainty for temperature | 0.6℃ | |
| Uncertainty for humidity | 1% | |
| Bandwidth | ± 1.5 x 10-6 | |
| Time | ±2% | |
| Duty Cycle | ±2% | |
| Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95% | | |

## 1.9.Test Facility

| Site Description | | |
|---|---|---|
| Name of Firm | : | Shenzhen BKC Testing Co., Ltd. |
| Site Location | : | Room 103, 1/F, Huaya Building, Huaya Industrial Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China. |
| ISED CAB identifier | : | CN0188 |
| ISED Company Number | : | 34333 |
| FCC Designation Number | : | CN1416 |
| FCC Test Firm Registration Number | : | 701543 |

## 1.10.Test Equipment

Conducted Test Site

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until |
|---|---|---|---|---|---|---|
| 1 | LISN | R&S | ENV216 | 102762 | Mar. 10. 2026 | Mar. 09. 2027 |
| 2 | EMI Test Receiver | R&S | ESCI | 101424 | Mar. 10. 2026 | Mar. 09. 2027 |
| 3 | Rf cables | HTEC | HCE 2M-CE | N/A | Mar. 10. 2026 | Mar. 09. 2027 |
| 4 | Coupling/ Decoupling Network | Diamond | CX210 | N/A | Mar. 10. 2026 | Mar. 09. 2027 |
| 5 | CE Testing software | EZ | EZ-EMC | / | / | / |

Radiated Test Site(Below 1G and Above 1G)

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until |
|---|---|---|---|---|---|---|
| 1 | Antenna | Schwarzbeck | VULB 9168 | 01321 | Mar. 20. 2025 | Mar. 19. 2028 |
| 2 | EMI Test Receiver | R&S | ESRP | 101478 | Mar. 10. 2026 | Mar. 09. 2027 |
| 3 | Preamplifier | HP | 8447D | 2727A05345 | Mar. 10. 2026 | Mar. 09. 2027 |
| 4 | Double Ridged Broadband | SCHWARZBECK | BBHA 9120D | 02621 | Mar. 10. 2025 | Mar. 19. 2028 |
| 5 | Preamplifier | Schwarzbeck | BBV 9718D | 00041 | Mar. 10. 2026 | Mar. 09. 2027 |
| 6 | Rf cables | HUBER+SUHNER | 8M-RE | N/A | Mar. 10. 2026 | Mar. 09. 2027 |
| 7 | Rf cables | HUBER+SUHNER | 1.5M-RE | N/A | Mar. 10. 2026 | Mar. 09. 2027 |
| 8 | Rf cables | HUBER+SUHNER | 1.5M-AP-RE | N/A | Mar. 10. 2026 | Mar. 09. 2027 |
| 9 | Loop antenna | TESEQ | HLA6121 | 58357 | Mar. 09. 2026 | Mar. 10. 2027 |
| 10 | Spectrum analyzer | R&S | FSP40 | 200061 | Mar. 09. 2026 | Mar. 10. 2027 |
| 11 | Double Ridged Broadband Horn Antenna | COM-POWER | AH-1840 | 10100009 | Mar. 10. 2026 | Mar. 09. 2027 |
| 12 | Spectrum | Agilent | N9020A | MY50510311 | Mar. 10. 2026 | Mar. 09. 2027 |
| 13 | RE Testing software | EZ | EZ-EMC | / | | / |

RF Test Site

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until |
|---|---|---|---|---|---|---|
| 1 | Spectrum | Agilent | N9020A | MY50510311 | Mar. 09. 2025 | Mar. 10. 2026 |
| 2 | Vector source | Agilent | N5182A | MY47420223 | Mar. 09. 2025 | Mar. 10. 2026 |
| 3 | All instrument | Rohde & Schwarz | CMW 500 | 101131 | Mar. 09. 2025 | Mar. 10. 2026 |
| 4 | control unit | MW | MW100-RFCB | MW200411BK-34 | Mar. 09. 2025 | Mar. 10. 2026 |
| 5 | RF Testing software | MW | MTS 8310 | / | Mar. 09. 2025 | / |

Test software

| | |
|---|---|
| Software name | RF Testing software |
| Software version | 1.0.0.0 |
| Software name | RE Testing software |
| Software version | EMEC-03A2 RE+ |
| Software name | CE Testing software |
| Software version | EMEC-3A1+ |

Software Configuration Version

| | |
|---|---|
| Software name | sscom |
| Software version | 5.3.1 |

Power setting

| Channel | Power Level |
|---|---|
| Lowest | Default |
| Middle | Default |
| Highest | Default |

# 2. Conducted emission at the mains terminals test

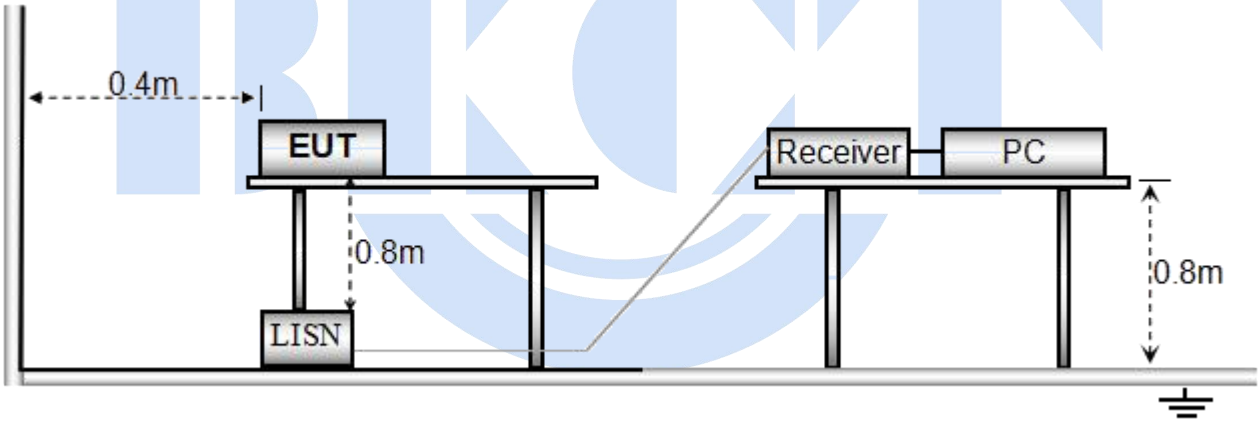
## 2.1.Limit

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.207 |
| Test Method: | ANSI C63.10:2020 |
| Test Frequency Range: | 150KHz to 30MHz |
| Receiver setup: | RBW=9KHz, VBW=30KHz, Sweep time=auto |

| Frequency MHz | | | Limits dB(μV) | |
|---|---|---|---|---|
| | | | Quasi-peak Level | Average Level |
| 0.15 | ~ | 0.50 | 66 ~ 56* | 56 ~ 46* |
| 0.50 | ~ | 5.00 | 56 | 46 |
| 5.00 | ~ | 30.00 | 60 | 50 |

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

## 2.2.Test Setup

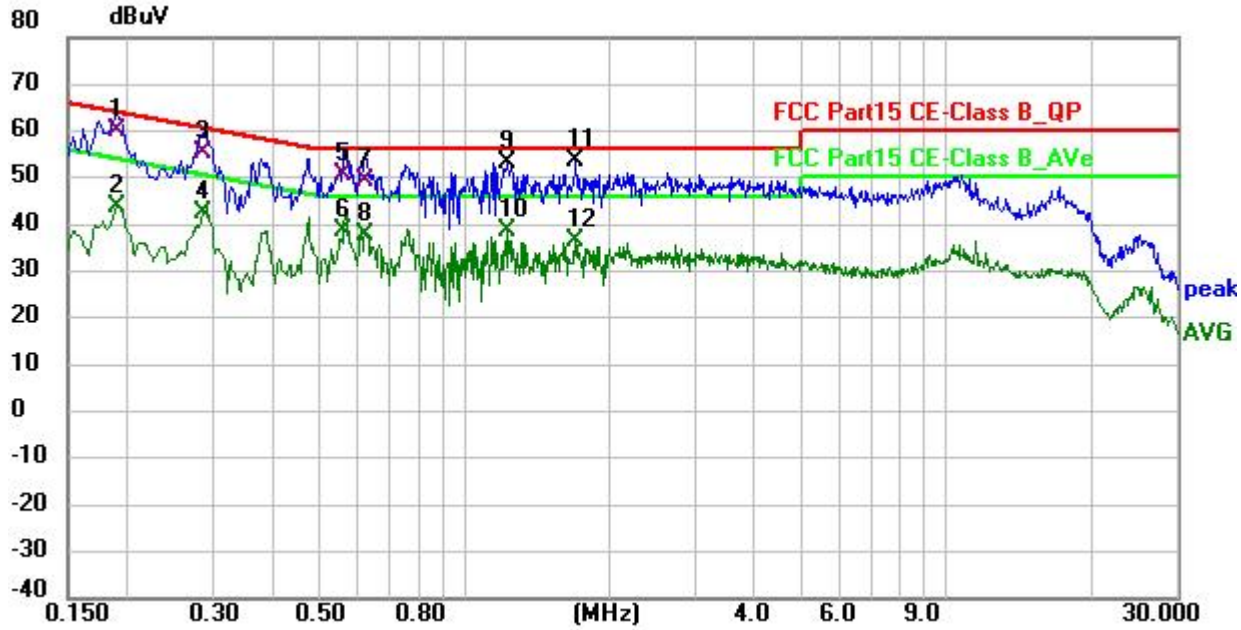



## 2.3.Test Procedure

1. The EUT was placed 0.1 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
2. 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.
3. 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.
4. LISN at least 80 cm from nearest part of EUT chassis.
5.For the actual test configuration, please refer to the related Item – EUT Test Photos.

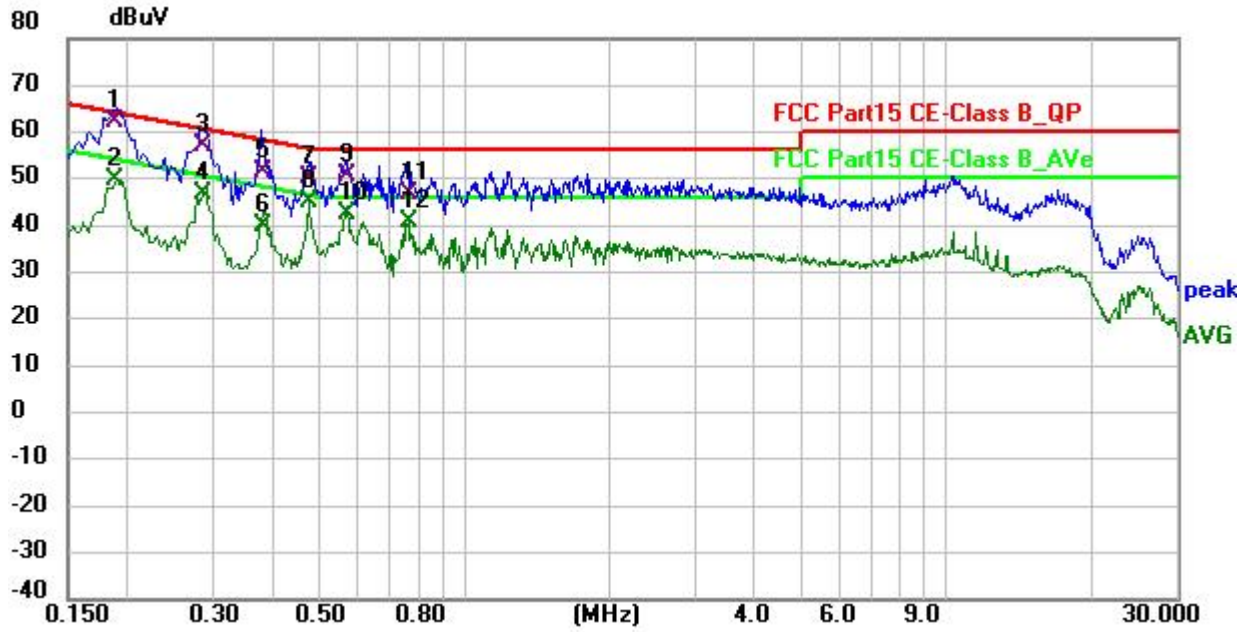
## 2.4.Test Result

| Conducted Emission At The Mains Terminals Test Data | | | |
|---|---|---|---|
| Temperature: | 25.1℃ | Relative Humidity: | 56% |
| Pressure: | 1008hPa | Phase : | Line |
| Test Voltage : | AC 120V/60Hz | Test Mode: | Working |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.1900 | 40.32 | 19.70 | 60.02 | 64.04 | -4.02 | QP |
| 2 | 0.1900 | 23.91 | 19.70 | 43.61 | 54.04 | -10.43 | AVG |
| 3 | 0.2860 | 35.82 | 19.68 | 55.50 | 60.64 | -5.14 | QP |
| 4 | 0.2860 | 22.65 | 19.68 | 42.33 | 50.64 | -8.31 | AVG |
| 5 | 0.5620 | 31.07 | 19.73 | 50.80 | 56.00 | -5.20 | QP |
| 6 | 0.5620 | 19.06 | 19.73 | 38.79 | 46.00 | -7.21 | AVG |
| 7 | 0.6220 | 29.50 | 19.80 | 49.30 | 56.00 | -6.70 | QP |
| 8 | 0.6220 | 17.91 | 19.80 | 37.71 | 46.00 | -8.29 | AVG |
| 9 | 1.2340 | 33.62 | 19.65 | 53.27 | 56.00 | -2.73 | peak |
| 10 | 1.2340 | 19.04 | 19.65 | 38.69 | 46.00 | -7.31 | AVG |
| 11 * | 1.7020 | 34.15 | 19.69 | 53.84 | 56.00 | -2.16 | peak |
| 12 | 1.7020 | 16.78 | 19.69 | 36.47 | 46.00 | -9.53 | AVG |

| Conducted Emission At The Mains Terminals Test Data | | | |
|---|---|---|---|
| Temperature: | 25.1℃ | Relative Humidity: | 56% |
| Pressure: | 1008hPa | Phase : | Neutral |
| Test Voltage : | AC 120V/60Hz | Test Mode: | Working |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.1883 | 42.59 | 19.70 | 62.29 | 64.11 | -1.82 | QP |
| 2 | 0.1883 | 30.10 | 19.70 | 49.80 | 54.11 | -4.31 | AVG |
| 3 | 0.2866 | 37.45 | 19.71 | 57.16 | 60.62 | -3.46 | QP |
| 4 | 0.2866 | 27.12 | 19.71 | 46.83 | 50.62 | -3.79 | AVG |
| 5 | 0.3806 | 31.95 | 19.73 | 51.68 | 58.27 | -6.59 | QP |
| 6 | 0.3806 | 20.40 | 19.73 | 40.13 | 48.27 | -8.14 | AVG |
| 7 | 0.4737 | 30.62 | 19.76 | 50.38 | 56.45 | -6.07 | QP |
| 8 * | 0.4737 | 25.43 | 19.76 | 45.19 | 46.45 | -1.26 | AVG |
| 9 | 0.5686 | 30.79 | 19.77 | 50.56 | 56.00 | -5.44 | QP |
| 10 | 0.5686 | 22.71 | 19.77 | 42.48 | 46.00 | -3.52 | AVG |
| 11 | 0.7656 | 27.07 | 19.79 | 46.86 | 56.00 | -9.14 | QP |
| 12 | 0.7656 | 20.94 | 19.79 | 40.73 | 46.00 | -5.27 | AVG |

Note:1.Level = Reading + factor; Margin = Level - Limit

2.Have pre-scan all test channel, found CH11(802.11b) which it was worst case, so only show the worst case’s data on this report.

# 3. Radiated Spurious Emissions

## 3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.407
Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018; ANSI C63.10:2020
Test Result: PASS
Measurement Distance: 3m

| Frequency | Detector | RBW | VBW | Value |
|---|---|---|---|---|
| 9KHz-150KHz | Quasi-peak | 200Hz | 600Hz | Quasi-peak |
| 150KHz-30MHz | Quasi-peak | 9KHz | 30KHz | Quasi-peak |
| 30MHz-1GHz | Quasi-peak | 100KHz | 300KHz | Quasi-peak |
| Above 1GHz | Peak | 1MHz | 3MHz | Peak |
| | Peak | 1MHz | 10Hz | Average |

Limit:

| Frequency (MHz) | Field Strength | | Field Strength Limit at 3m Measurement Dist | |
|---|---|---|---|---|
| | uV/m | Distance (m) | uV/m | dBuV/m |
| 0.009 ~ 0.490 | 2400/F(kHz) | 300 | 10000 * 2400/F(kHz) | 20log(2400/F(kHz)) + 80 |
| 0.490 ~ 1.705 | 24000/F(kHz) | 30 | 100 * 24000/F(kHz) | 20log(24000/F(kHz)) + 40 |
| 1.705 ~ 30 | 30 | 30 | 100 * 30 | 20log(30) + 40 |
| 30 ~ 88 | 100 | 3 | 100 | 20log(100) |
| 88 ~ 216 | 150 | 3 | 150 | 20log(150) |
| 216 ~ 960 | 200 | 3 | 200 | 20log(200) |
| Above 960 | 500 | 3 | 500 | 20log(500) |

Undesirable emission limits

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27

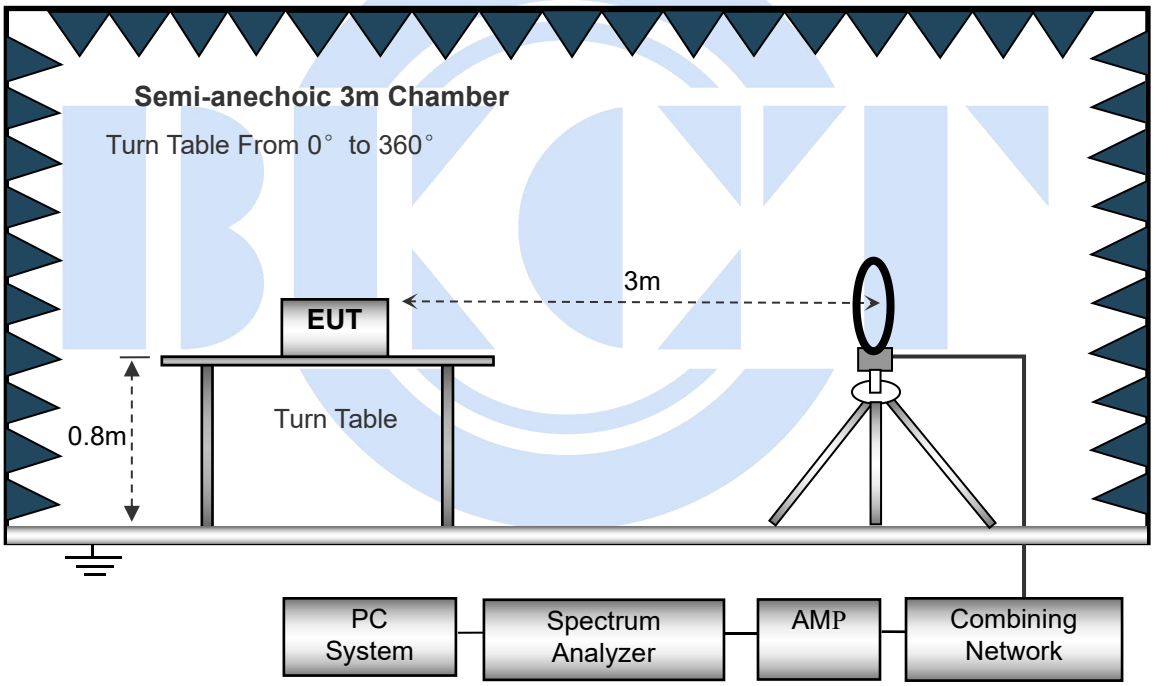
dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge

| Requirement | Limit(EIRP) | Limit (Field strength at 3m) |
|---|---|---|
| 15.407(b)(1) | PK:-27(dBm/MHz) | PK:68.2(dBμV/m) |
| 15.407(b)(2) | | |
| 15.407(b)(3) | | |
| 15.407(b)(4) | | |

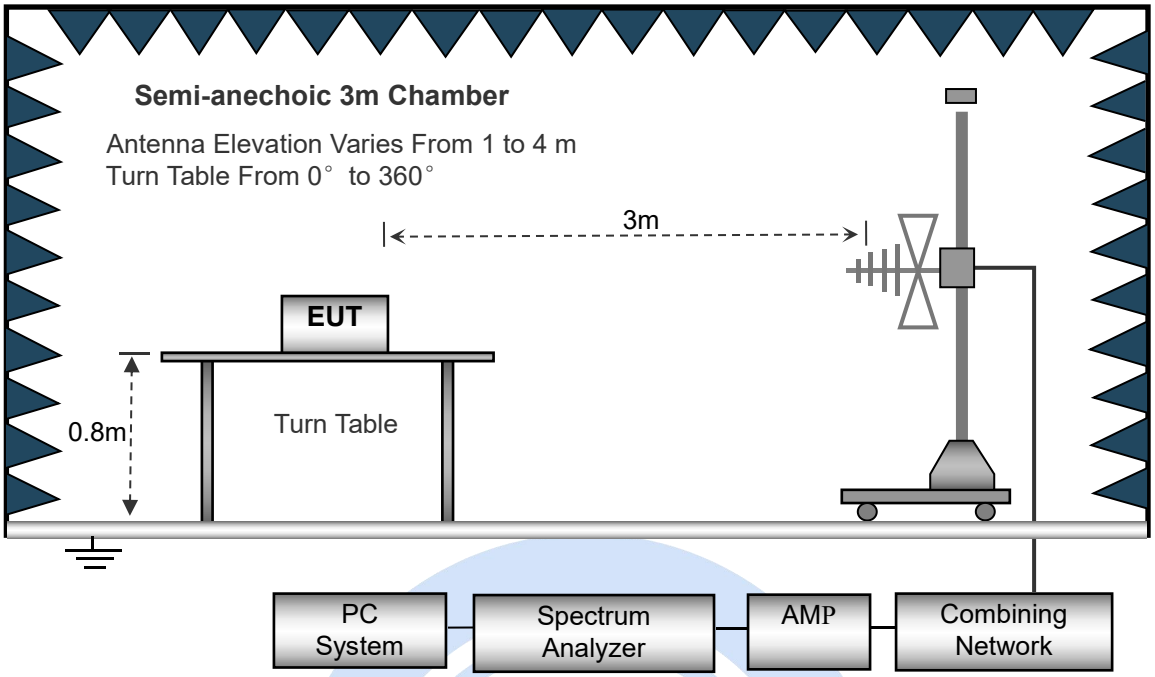
## 3.2.Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

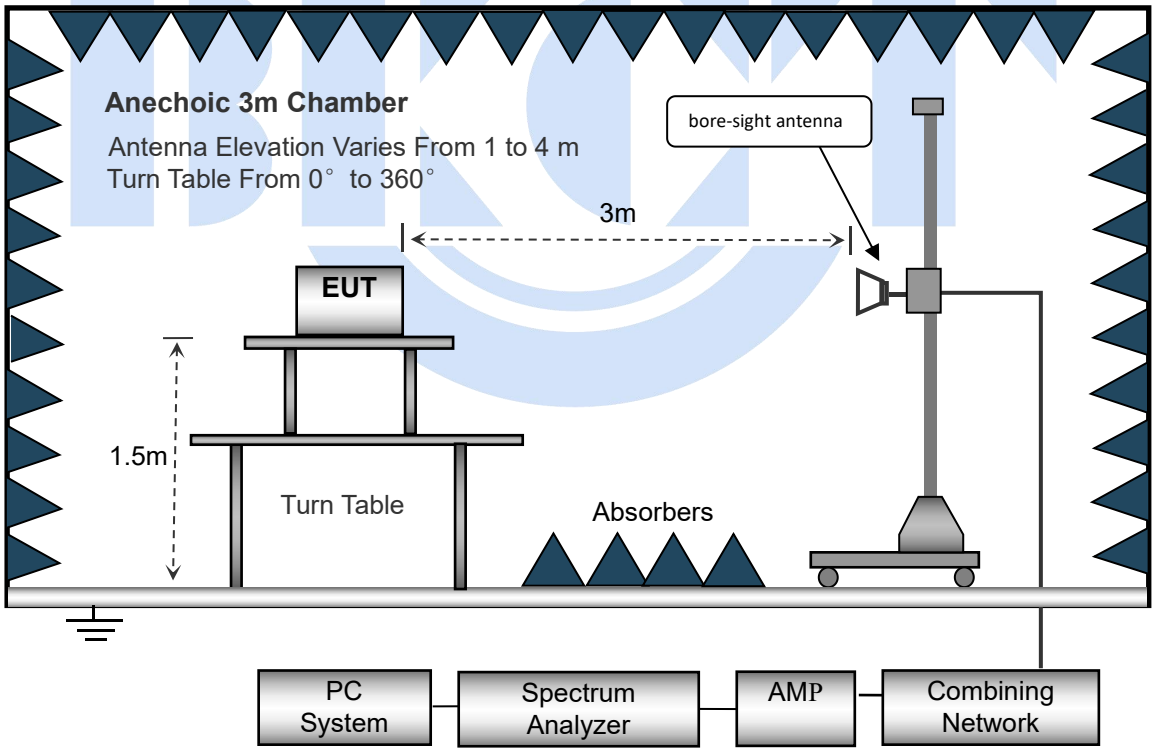
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.




The test setup for emission measurement above 1 GHz.



## 3.3.Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.

2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.

3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.

4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

6. Repeat above procedures until the measurements for all frequencies are complete.

7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.

## 3.4.Test Result

Test Frequency: 9KHz~30MHz

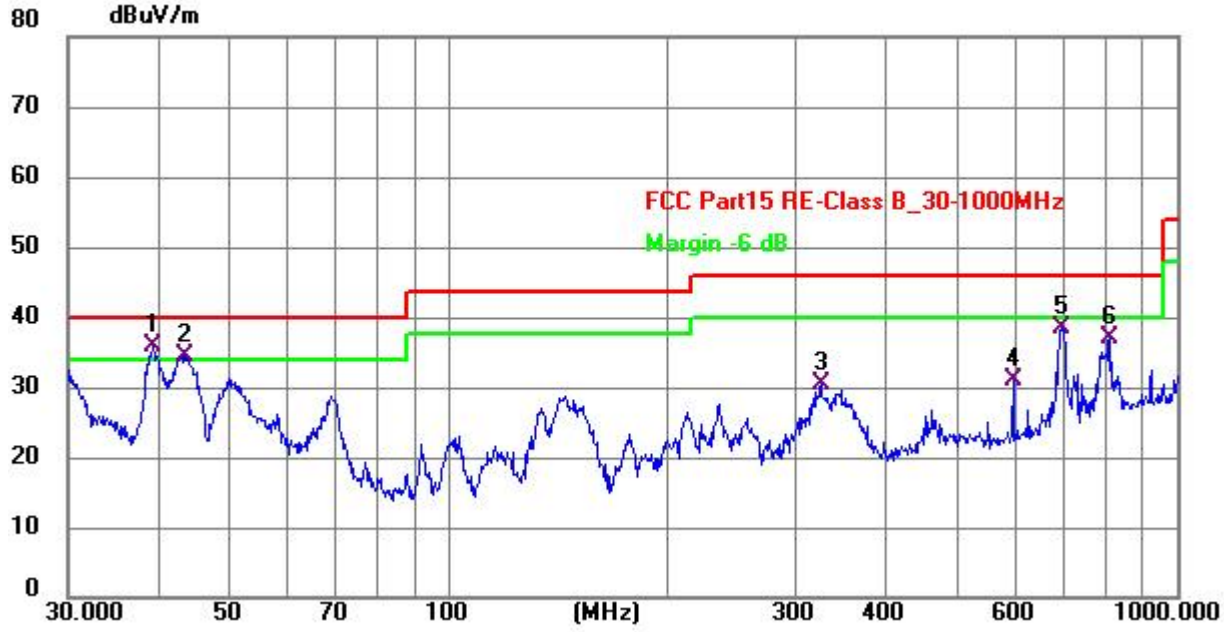
The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 1GHz

| Radiation Emission Test Data | | | |
|---|---|---|---|
| Temperature: | 25.1℃ | Relative Humidity: | 56% |
| Pressure: | 1008hPa | Phase : | Horizontal |
| Test Voltage : | AC 120V | Test Mode | Working |


| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 144.8418 | 34.17 | -13.57 | 20.60 | 43.50 | -22.90 | QP |
| 2 | 220.6171 | 35.13 | -10.88 | 24.25 | 46.00 | -21.75 | QP |
| 3 | 345.5952 | 40.01 | -9.12 | 30.89 | 46.00 | -15.11 | QP |
| 4 | 689.5644 | 42.79 | -3.87 | 38.92 | 46.00 | -7.08 | QP |
| 5 | 922.5157 | 39.11 | -0.23 | 38.88 | 46.00 | -7.12 | QP |
| 6 | 962.1623 | 37.67 | 0.16 | 37.83 | 54.00 | -16.17 | QP |

| Radiation Emission Test Data | | | |
|---|---|---|---|
| Temperature: | 25.1℃ | Relative Humidity: | 56% |
| Pressure: | 1008hPa | Phase : | Vertical |
| Test Voltage : | AC 120V | Test Mode | 802.11b CH11 |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 39.1616 | 46.81 | -10.95 | 35.86 | 40.00 | -4.14 | QP |
| 2 | 43.5057 | 44.59 | -10.11 | 34.48 | 40.00 | -5.52 | QP |
| 3 | 324.4561 | 39.74 | -9.38 | 30.36 | 46.00 | -15.64 | QP |
| 4 | 595.1329 | 36.78 | -5.68 | 31.10 | 46.00 | -14.90 | QP |
| 5 | 694.4174 | 42.19 | -3.82 | 38.37 | 46.00 | -7.63 | QP |
| 6 | 807.4291 | 38.55 | -1.67 | 36.88 | 46.00 | -9.12 | QP |

Note:

1.Level = Reading + factor; Margin = Level - Limit

2.Have pre-scan all test channel, found 802.11b CH11 which it was worst case, so only show the worst case’s data on this report.

U-NII-1 802.11a

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel:5180MHz | | | | | | | | | |
| V | 10360.00 | 50.25 | 30.55 | 5.77 | 24.66 | 50.13 | 68.2 | -18.07 | PK |
| V | 15540.00 | 51.48 | 30.33 | 6.32 | 24.55 | 52.02 | 68.2 | -16.18 | PK |
| V | 20720.00 | 52.03 | 30.85 | 7.45 | 24.69 | 53.32 | 68.2 | -14.88 | PK |
| V | 25900.00 | 51.51 | 31.02 | 8.99 | 25.57 | 55.05 | 68.2 | -13.15 | PK |
| H | 10360.00 | 49.74 | 30.55 | 5.77 | 24.66 | 49.62 | 68.2 | -18.58 | PK |
| H | 15540.00 | 52.93 | 30.33 | 6.32 | 24.55 | 53.47 | 68.2 | -14.73 | PK |
| H | 41440.00 | 54.50 | 30.85 | 7.45 | 24.69 | 55.79 | 68.2 | -12.41 | PK |
| H | 25900.00 | 51.98 | 31.02 | 8.99 | 25.57 | 55.52 | 68.2 | -12.68 | PK |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| Middle Channel:5200MHz | | | | | | | | | |
| V | 10400.00 | 54.28 | 30.55 | 5.77 | 24.66 | 54.16 | 68.2 | -14.04 | PK |
| V | 15600.00 | 51.37 | 30.33 | 6.32 | 24.55 | 51.91 | 68.2 | -16.29 | PK |
| V | 20800.00 | 54.58 | 30.85 | 7.45 | 24.69 | 55.87 | 68.2 | -12.33 | PK |
| V | 26000.00 | 52.60 | 31.02 | 8.99 | 25.57 | 56.14 | 68.2 | -12.06 | PK |
| H | 10400.00 | 50.36 | 30.55 | 5.77 | 24.66 | 50.24 | 68.2 | -17.96 | PK |
| H | 15600.00 | 53.70 | 30.33 | 6.32 | 24.55 | 54.24 | 68.2 | -13.96 | PK |
| H | 41600.00 | 52.44 | 30.85 | 7.45 | 24.69 | 53.73 | 68.2 | -14.47 | PK |
| H | 26000.00 | 50.76 | 31.02 | 8.99 | 25.57 | 54.30 | 68.2 | -13.90 | PK |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| High Channel:5230MHz | | | | | | | | | |
| V | 10480.00 | 53.22 | 30.55 | 5.77 | 24.66 | 53.10 | 68.2 | -15.10 | PK |
| V | 15720.00 | 53.38 | 30.33 | 6.32 | 24.55 | 53.92 | 68.2 | -14.28 | PK |
| V | 20960.00 | 50.31 | 30.85 | 7.45 | 24.69 | 51.60 | 68.2 | -16.60 | PK |
| V | 26200.00 | 50.71 | 31.02 | 8.99 | 25.57 | 54.25 | 68.2 | -13.95 | PK |
| H | 10480.00 | 54.64 | 30.55 | 5.77 | 24.66 | 54.52 | 68.2 | -13.68 | PK |
| H | 15720.00 | 52.29 | 30.33 | 6.32 | 24.55 | 52.83 | 68.2 | -15.37 | PK |
| H | 41920.00 | 54.35 | 30.85 | 7.45 | 24.69 | 55.64 | 68.2 | -12.56 | PK |
| H | 26200.00 | 53.24 | 31.02 | 8.99 | 25.57 | 56.78 | 68.2 | -11.42 | PK |

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| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel:5260MHz | | | | | | | | | |
| V | 10520.00 | 52.47 | 30.55 | 5.77 | 24.66 | 52.35 | 68.2 | -15.85 | PK |
| V | 15780.00 | 53.24 | 30.33 | 6.32 | 24.55 | 53.78 | 68.2 | -14.42 | PK |
| V | 21040.00 | 53.68 | 30.85 | 7.45 | 24.69 | 54.97 | 68.2 | -13.23 | PK |
| V | 26300.00 | 51.07 | 31.02 | 8.99 | 25.57 | 54.61 | 68.2 | -13.59 | PK |
| H | 10520.00 | 51.95 | 30.55 | 5.77 | 24.66 | 51.83 | 68.2 | -16.37 | PK |
| H | 15780.00 | 52.65 | 30.33 | 6.32 | 24.55 | 53.19 | 68.2 | -15.01 | PK |
| H | 42080.00 | 53.29 | 30.85 | 7.45 | 24.69 | 54.58 | 68.2 | -13.62 | PK |
| H | 26300.00 | 49.65 | 31.02 | 8.99 | 25.57 | 53.19 | 68.2 | -15.01 | PK |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| Middle Channel:5280MHz | | | | | | | | | |
| V | 10560.00 | 53.03 | 30.55 | 5.77 | 24.66 | 52.91 | 68.2 | -15.29 | PK |
| V | 15840.00 | 51.65 | 30.33 | 6.32 | 24.55 | 52.19 | 68.2 | -16.01 | PK |
| V | 21120.00 | 52.83 | 30.85 | 7.45 | 24.69 | 54.12 | 68.2 | -14.08 | PK |
| V | 26400.00 | 50.31 | 31.02 | 8.99 | 25.57 | 53.85 | 68.2 | -14.35 | PK |
| H | 10560.00 | 50.93 | 30.55 | 5.77 | 24.66 | 50.81 | 68.2 | -17.39 | PK |
| H | 15840.00 | 52.49 | 30.33 | 6.32 | 24.55 | 53.03 | 68.2 | -15.17 | PK |
| H | 42240.00 | 52.19 | 30.85 | 7.45 | 24.69 | 53.48 | 68.2 | -14.72 | PK |
| H | 26400.00 | 50.77 | 31.02 | 8.99 | 25.57 | 54.31 | 68.2 | -13.89 | PK |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| High Channel:5230MHz | | | | | | | | | |
| V | 10640.00 | 51.63 | 30.55 | 5.77 | 24.66 | 51.51 | 68.2 | -16.69 | PK |
| V | 15960.00 | 53.93 | 30.33 | 6.32 | 24.55 | 54.47 | 68.2 | -13.73 | PK |
| V | 21280.00 | 53.82 | 30.85 | 7.45 | 24.69 | 55.11 | 68.2 | -13.09 | PK |
| V | 26600.00 | 50.44 | 31.02 | 8.99 | 25.57 | 53.98 | 68.2 | -14.22 | PK |
| H | 10640.00 | 51.26 | 30.55 | 5.77 | 24.66 | 51.14 | 68.2 | -17.06 | PK |
| H | 15960.00 | 54.24 | 30.33 | 6.32 | 24.55 | 54.78 | 68.2 | -13.42 | PK |
| H | 42560.00 | 53.22 | 30.85 | 7.45 | 24.69 | 54.51 | 68.2 | -13.69 | PK |
| H | 26600.00 | 52.05 | 31.02 | 8.99 | 25.57 | 55.59 | 68.2 | -12.61 | PK |

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| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel:5500MHz | | | | | | | | | |
| V | 11000.00 | 53.97 | 30.55 | 5.77 | 24.66 | 53.85 | 68.2 | -14.35 | PK |
| V | 16500.00 | 51.37 | 30.33 | 6.32 | 24.55 | 51.91 | 68.2 | -16.29 | PK |
| V | 22000.00 | 53.31 | 30.85 | 7.45 | 24.69 | 54.60 | 68.2 | -13.60 | PK |
| V | 27500.00 | 52.57 | 31.02 | 8.99 | 25.57 | 56.11 | 68.2 | -12.09 | PK |
| H | 11000.00 | 53.60 | 30.55 | 5.77 | 24.66 | 53.48 | 68.2 | -14.72 | PK |
| H | 16500.00 | 50.80 | 30.33 | 6.32 | 24.55 | 51.34 | 68.2 | -16.86 | PK |
| H | 44000.00 | 54.29 | 30.85 | 7.45 | 24.69 | 55.58 | 68.2 | -12.62 | PK |
| H | 27500.00 | 50.18 | 31.02 | 8.99 | 25.57 | 53.72 | 68.2 | -14.48 | PK |
| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
| Middle Channel:5600MHz | | | | | | | | | |
| V | 11200.00 | 52.42 | 30.55 | 5.77 | 24.66 | 52.30 | 68.2 | -15.90 | PK |
| V | 16800.00 | 54.14 | 30.33 | 6.32 | 24.55 | 54.68 | 68.2 | -13.52 | PK |
| V | 22400.00 | 50.78 | 30.85 | 7.45 | 24.69 | 52.07 | 68.2 | -16.13 | PK |
| V | 28000.00 | 49.99 | 31.02 | 8.99 | 25.57 | 53.53 | 68.2 | -14.67 | PK |
| H | 11200.00 | 54.46 | 30.55 | 5.77 | 24.66 | 54.34 | 68.2 | -13.86 | PK |
| H | 16800.00 | 49.98 | 30.33 | 6.32 | 24.55 | 50.52 | 68.2 | -17.68 | PK |
| H | 44800.00 | 50.22 | 30.85 | 7.45 | 24.69 | 51.51 | 68.2 | -16.69 | PK |
| H | 28000.00 | 50.45 | 31.02 | 8.99 | 25.57 | 53.99 | 68.2 | -14.21 | PK |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| High Channel:5700MHz | | | | | | | | | |
| V | 11400.00 | 53.58 | 30.55 | 5.77 | 24.66 | 53.46 | 68.2 | -14.74 | PK |
| V | 17100.00 | 53.51 | 30.33 | 6.32 | 24.55 | 54.05 | 68.2 | -14.15 | PK |
| V | 22800.00 | 53.60 | 30.85 | 7.45 | 24.69 | 54.89 | 68.2 | -13.31 | PK |
| V | 28500.00 | 54.00 | 31.02 | 8.99 | 25.57 | 57.54 | 68.2 | -10.66 | PK |
| H | 11400.00 | 50.99 | 30.55 | 5.77 | 24.66 | 50.87 | 68.2 | -17.33 | PK |
| H | 17100.00 | 53.07 | 30.33 | 6.32 | 24.55 | 53.61 | 68.2 | -14.59 | PK |
| H | 45600.00 | 50.13 | 30.85 | 7.45 | 24.69 | 51.42 | 68.2 | -16.78 | PK |
| H | 28500.00 | 50.51 | 31.02 | 8.99 | 25.57 | 54.05 | 68.2 | -14.15 | PK |

U-NII-3 802.11a

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| Low Channel:5745MHz | | | | | | | | | |
| V | 11490.00 | 51.43 | 30.55 | 5.77 | 24.66 | 51.31 | 68.2 | -16.89 | PK |
| V | 17235.00 | 52.09 | 30.33 | 6.32 | 24.55 | 52.63 | 68.2 | -15.57 | PK |
| V | 22980.00 | 52.88 | 30.85 | 7.45 | 24.69 | 54.17 | 68.2 | -14.03 | PK |
| V | 28725.00 | 52.56 | 31.02 | 8.99 | 25.57 | 56.10 | 68.2 | -12.10 | PK |
| H | 11490.00 | 51.70 | 30.55 | 5.77 | 24.66 | 51.58 | 68.2 | -16.62 | PK |
| H | 17235.00 | 52.21 | 30.33 | 6.32 | 24.55 | 52.75 | 68.2 | -15.45 | PK |
| H | 45960.00 | 53.52 | 30.85 | 7.45 | 24.69 | 54.81 | 68.2 | -13.39 | PK |
| H | 28725.00 | 51.26 | 31.02 | 8.99 | 25.57 | 54.80 | 68.2 | -13.40 | PK |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| Middle Channel:5785MHz | | | | | | | | | |
| V | 11570.00 | 51.49 | 30.55 | 5.77 | 24.66 | 51.37 | 68.2 | -16.83 | PK |
| V | 17355.00 | 52.57 | 30.33 | 6.32 | 24.55 | 53.11 | 68.2 | -15.09 | PK |
| V | 23140.00 | 52.34 | 30.85 | 7.45 | 24.69 | 53.63 | 68.2 | -14.57 | PK |
| V | 28925.00 | 52.34 | 31.02 | 8.99 | 25.57 | 55.88 | 68.2 | -12.32 | PK |
| H | 11570.00 | 54.08 | 30.55 | 5.77 | 24.66 | 53.96 | 68.2 | -14.24 | PK |
| H | 17355.00 | 51.27 | 30.33 | 6.32 | 24.55 | 51.81 | 68.2 | -16.39 | PK |
| H | 46280.00 | 52.51 | 30.85 | 7.45 | 24.69 | 53.80 | 68.2 | -14.40 | PK |
| H | 28925.00 | 50.57 | 31.02 | 8.99 | 25.57 | 54.11 | 68.2 | -14.09 | PK |

| Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|---|---|
| High Channel:5825MHz | | | | | | | | | |
| V | 11650.00 | 50.50 | 30.55 | 5.77 | 24.66 | 50.38 | 68.2 | -17.82 | PK |
| V | 17475.00 | 50.50 | 30.33 | 6.32 | 24.55 | 51.04 | 68.2 | -17.16 | PK |
| V | 23300.00 | 52.26 | 30.85 | 7.45 | 24.69 | 53.55 | 68.2 | -14.65 | PK |
| V | 29125.00 | 52.51 | 31.02 | 8.99 | 25.57 | 56.05 | 68.2 | -12.15 | PK |
| H | 11650.00 | 51.98 | 30.55 | 5.77 | 24.66 | 51.86 | 68.2 | -16.34 | PK |
| H | 17475.00 | 53.47 | 30.33 | 6.32 | 24.55 | 54.01 | 68.2 | -14.19 | PK |
| H | 46600.00 | 51.47 | 30.85 | 7.45 | 24.69 | 52.76 | 68.2 | -15.44 | PK |
| H | 29125.00 | 50.48 | 31.02 | 8.99 | 25.57 | 54.02 | 68.2 | -14.18 | PK |

Remark:
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. 2.Test results reached 40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
4. The worst mode is 802.11a, only the worst data is recorded.

Restrict Band EMISSION MEASUREMENT

U-NII-1

| | Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m) | Margin(dBuV/m) | Detector Type | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11a | Low Channel: 5500MHz | | | | | | | | | | |
| | H | 5150 | 53.94 | 30.22 | 4.85 | 23.98 | 52.55 | 74.00 | -21.45 | PK | PASS |
| | H | 5150 | 43.72 | 30.22 | 4.85 | 23.98 | 42.33 | 54.00 | -11.67 | AV | PASS |
| | H | 5145 | 54.64 | 30.22 | 4.85 | 23.98 | 53.25 | 74.00 | -20.75 | PK | PASS |
| | H | 5145 | 44.16 | 30.22 | 4.85 | 23.98 | 42.77 | 54.00 | -11.23 | AV | PASS |
| | V | 5150 | 52.65 | 30.22 | 4.85 | 23.98 | 51.26 | 74.00 | -22.74 | PK | PASS |
| | V | 5150 | 44.09 | 30.22 | 4.85 | 23.98 | 42.70 | 54.00 | -11.3 | AV | PASS |
| | V | 5145 | 54.53 | 30.22 | 4.85 | 23.98 | 53.14 | 74.00 | -20.86 | PK | PASS |
| | V | 5145 | 44.56 | 30.22 | 4.85 | 23.98 | 43.17 | 54.00 | -10.83 | AV | PASS |
| | High Channel: 5700MHz | | | | | | | | | | |
| | H | 5350 | 52.97 | 30.22 | 4.85 | 23.98 | 51.58 | 74.00 | -22.42 | PK | PASS |
| | H | 5350 | 43.72 | 30.22 | 4.85 | 23.98 | 42.33 | 54.00 | -11.67 | AV | PASS |
| | H | 5370 | 53.94 | 30.22 | 4.85 | 23.98 | 52.55 | 74.00 | -21.45 | PK | PASS |
| | H | 5370 | 44.00 | 30.22 | 4.85 | 23.98 | 42.61 | 54.00 | -11.39 | AV | PASS |
| | V | 5350 | 53.92 | 30.22 | 4.85 | 23.98 | 52.53 | 74.00 | -21.47 | PK | PASS |
| | V | 5350 | 43.83 | 30.22 | 4.85 | 23.98 | 42.44 | 54.00 | -11.56 | AV | PASS |
| | V | 5370 | 53.84 | 30.22 | 4.85 | 23.98 | 52.45 | 74.00 | -21.55 | PK | PASS |
| | V | 5370 | 44.09 | 30.22 | 4.85 | 23.98 | 42.70 | 54.00 | -11.3 | AV | PASS |

U-NII-2A

| | Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m) | Margin(dBuV/m) | Detector Type | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11a | Low Channel: 5500MHz | | | | | | | | | | |
| | H | 5150 | 54.14 | 30.22 | 4.85 | 23.98 | 52.75 | 74.00 | -21.25 | PK | PASS |
| | H | 5150 | 44.30 | 30.22 | 4.85 | 23.98 | 42.91 | 54.00 | -11.09 | AV | PASS |
| | H | 5145 | 53.12 | 30.22 | 4.85 | 23.98 | 51.73 | 74.00 | -22.27 | PK | PASS |
| | H | 5145 | 43.63 | 30.22 | 4.85 | 23.98 | 42.24 | 54.00 | -11.76 | AV | PASS |
| | V | 5150 | 54.58 | 30.22 | 4.85 | 23.98 | 53.19 | 74.00 | -20.81 | PK | PASS |
| | V | 5150 | 44.19 | 30.22 | 4.85 | 23.98 | 42.80 | 54.00 | -11.2 | AV | PASS |
| | V | 5145 | 53.51 | 30.22 | 4.85 | 23.98 | 52.12 | 74.00 | -21.88 | PK | PASS |
| | V | 5145 | 43.92 | 30.22 | 4.85 | 23.98 | 42.53 | 54.00 | -11.47 | AV | PASS |
| | High Channel: 5700MHz | | | | | | | | | | |
| | H | 5350 | 53.71 | 30.22 | 4.85 | 23.98 | 52.32 | 74.00 | -21.68 | PK | PASS |
| | H | 5350 | 44.64 | 30.22 | 4.85 | 23.98 | 43.25 | 54.00 | -10.75 | AV | PASS |
| | H | 5370 | 53.38 | 30.22 | 4.85 | 23.98 | 51.99 | 74.00 | -22.01 | PK | PASS |
| | H | 5370 | 44.35 | 30.22 | 4.85 | 23.98 | 42.96 | 54.00 | -11.04 | AV | PASS |
| | V | 5350 | 53.87 | 30.22 | 4.85 | 23.98 | 52.48 | 74.00 | -21.52 | PK | PASS |
| | V | 5350 | 43.76 | 30.22 | 4.85 | 23.98 | 42.37 | 54.00 | -11.63 | AV | PASS |
| | V | 5370 | 53.14 | 30.22 | 4.85 | 23.98 | 51.75 | 74.00 | -22.25 | PK | PASS |
| | V | 5370 | 44.11 | 30.22 | 4.85 | 23.98 | 42.72 | 54.00 | -11.28 | AV | PASS |

U-NII-2C

| | Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m) | Margin(dBuV/m) | Detector Type | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11a | Low Channel: 5500MHz | | | | | | | | | | |
| | H | 5470 | 53.96 | 30.22 | 4.85 | 23.98 | 52.57 | 74.00 | -21.43 | PK | PASS |
| | H | 5470 | 43.87 | 30.22 | 4.85 | 23.98 | 42.48 | 54.00 | -11.52 | AV | PASS |
| | H | 5465 | 53.39 | 30.22 | 4.85 | 23.98 | 52.00 | 74.00 | -22 | PK | PASS |
| | H | 5465 | 44.49 | 30.22 | 4.85 | 23.98 | 43.10 | 54.00 | -10.9 | AV | PASS |
| | V | 5470 | 54.62 | 30.22 | 4.85 | 23.98 | 53.23 | 74.00 | -20.77 | PK | PASS |
| | V | 5470 | 43.86 | 30.22 | 4.85 | 23.98 | 42.47 | 54.00 | -11.53 | AV | PASS |
| | V | 5465 | 53.47 | 30.22 | 4.85 | 23.98 | 52.08 | 74.00 | -21.92 | PK | PASS |
| | V | 5465 | 44.64 | 30.22 | 4.85 | 23.98 | 43.25 | 54.00 | -10.75 | AV | PASS |
| | High Channel: 5700MHz | | | | | | | | | | |
| | H | 5725 | 52.83 | 30.22 | 4.85 | 23.98 | 51.44 | 74.00 | -22.56 | PK | PASS |
| | H | 5725 | 44.53 | 30.22 | 4.85 | 23.98 | 43.14 | 54.00 | -10.86 | AV | PASS |
| | H | 5730 | 54.25 | 30.22 | 4.85 | 23.98 | 52.86 | 74.00 | -21.14 | PK | PASS |
| | H | 5730 | 44.47 | 30.22 | 4.85 | 23.98 | 43.08 | 54.00 | -10.92 | AV | PASS |
| | V | 5725 | 52.91 | 30.22 | 4.85 | 23.98 | 51.52 | 74.00 | -22.48 | PK | PASS |
| | V | 5725 | 44.55 | 30.22 | 4.85 | 23.98 | 43.16 | 54.00 | -10.84 | AV | PASS |
| | V | 5730 | 52.97 | 30.22 | 4.85 | 23.98 | 51.58 | 74.00 | -22.42 | PK | PASS |
| | V | 5730 | 44.40 | 30.22 | 4.85 | 23.98 | 43.01 | 54.00 | -10.99 | AV | PASS |

U-NII-3

| | Polar (H/V) | Frequency (MHz) | Meter Reading (dBuV) | Pre-amplifier (dB) | Cable Loss (dB) | Antenna Factor (dB/m) | Emission level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | Detector Type | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11a | Low Channel: 5745MHz | | | | | | | | | | |
| | H | 5725 | 54.21 | 30.22 | 4.85 | 23.98 | 52.82 | 125.26 | -72.44 | PK | PASS |
| | H | 5725 | 44.70 | 30.22 | 4.85 | 23.98 | 43.31 | 125.26 | -81.95 | AV | PASS |
| | H | 5720 | 53.59 | 30.22 | 4.85 | 23.98 | 52.20 | 110.86 | -58.66 | PK | PASS |
| | H | 5720 | 44.10 | 30.22 | 4.85 | 23.98 | 42.71 | 110.86 | -68.15 | AV | PASS |
| | V | 5725 | 54.13 | 30.22 | 4.85 | 23.98 | 52.74 | 125.26 | -72.52 | PK | PASS |
| | V | 5725 | 44.14 | 30.22 | 4.85 | 23.98 | 42.75 | 125.26 | -82.51 | AV | PASS |
| | V | 5720 | 52.86 | 30.22 | 4.85 | 23.98 | 51.47 | 110.86 | -59.39 | PK | PASS |
| | V | 5720 | 43.78 | 30.22 | 4.85 | 23.98 | 42.39 | 110.86 | -68.47 | AV | PASS |
| | High Channel: 5825MHz | | | | | | | | | | |
| | H | 5850 | 53.95 | 30.22 | 4.85 | 23.98 | 52.56 | 110.86 | -58.3 | PK | PASS |
| | H | 5850 | 44.33 | 30.22 | 4.85 | 23.98 | 42.94 | 110.86 | -67.92 | AV | PASS |
| | H | 5850 | 54.30 | 30.22 | 4.85 | 23.98 | 52.91 | 125.26 | -72.35 | PK | PASS |
| | H | 5850 | 44.20 | 30.22 | 4.85 | 23.98 | 42.81 | 125.26 | -82.45 | AV | PASS |
| | V | 5855 | 53.18 | 30.22 | 4.85 | 23.98 | 51.79 | 110.86 | -59.07 | PK | PASS |
| | V | 5855 | 43.86 | 30.22 | 4.85 | 23.98 | 42.47 | 110.86 | -68.39 | AV | PASS |
| | V | 5855 | 53.24 | 30.22 | 4.85 | 23.98 | 51.85 | 125.26 | -73.41 | PK | PASS |
| | V | 5855 | 43.85 | 30.22 | 4.85 | 23.98 | 42.46 | 125.26 | -82.8 | AV | PASS |

**Remark:**

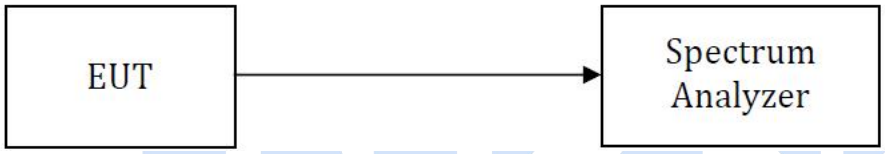
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit
2. Test results reached 40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
3. All the modes have tested and recorded the worst mode(802.11a) in the report

# 4. Maximum Peak Output Power

## 4.1.Limit

According to FCC §15.407
For an outdoor access point operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
For the band 5.725–5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.
For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

## 4.2.Test Setup




## 4.3.Test Procedure

The EUT was directly connected to the Power meter
1. Device Configuration
If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).
The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.
b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.
2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)
Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).
a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:
• The EUT transmits continuously (or with a duty cycle ≥ 98 percent).
• Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.
(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.

(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.
b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(ii) Set RBW = 1 MHz.
(iii) Set VBW ≥ 3 MHz.
(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(v) Sweep time = auto.
(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

## 4.4.Test Result

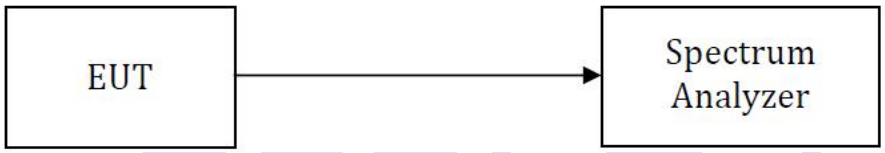
Please see the attachment for WIFI 5G data.

# 5. -26 dB Bandwidth,-6dB Bandwidth and 99% Bandwidth Measurement

## 5.1.Limit

| | |
|---|---|
| Test Standard | FCC Part15 C Section 15.407 |
| | The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth. |

## 5.2.Test Setup




## 5.3.Test Procedure

a) Set RBW = approximately 1 % of the EBW.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.
The following procedure shall be used for measuring (99 %) power bandwidth:
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

## 5.4.Test Result

Please see the attachment for WIFI 5G data.

# 6. Power Spectral density

## 6.1.Limit

According to FCC § 15.407(3), KDB 789033 D02 General UNII Test Procedures New Rules v02r01

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 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.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. 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.

(iv) For client devices in the 5.15-5.25 GHz band, 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.

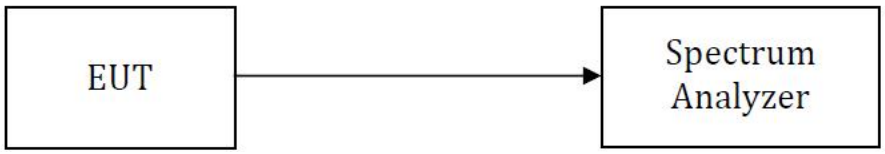
(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 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.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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. 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.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

For the band 5.725-5.85 GHz,the maximum power spectral density shall not exceed 30 dBm in any 500 kHz band.

## 6.2.Test Setup




## 6.3.Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above,
2. The testing follows FCC KDB 789033 D02.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
4. For U-NII1, U-NII-2A, U-NII-2C Band:
Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
For U-NII-3 Band:
Set RBW=510 kHz, VBW=3*RBW, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
5. User the cursor on spectrum to peak search the highest level of trace
6. Record the max. reading and add 10 log(1/duty cycle).

## 6.4.Test Result

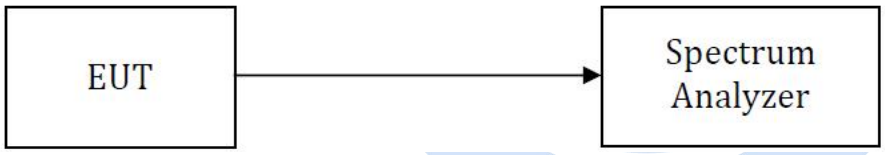
Please see the attachment for WIFI 5G data.

# 7. Out of Band Emissions and Spurious Emission

## 7.1.Limit

According to FCC §15.407(b)
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.
Devices shall comply with the following:
All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or
All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text “for indoor use only.”
Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:
27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 Bm/MHz at 5 MHz above or below the band edges;
15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

## 7.2.Test Setup




## 7.3.Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

## 7.4.Test Result

Please see the attachment for WIFI 5G data.

# 8. Antenna Requirement

| | |
|---|---|
| Test Standard | FCC Part15 Section 15.203 |

| | |
|---|---|
| Requirement | 1) 15.203 requirement:<br>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.<br><br>The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable , when the transmitter is equipped with any antenna type, selected from this list.<br>For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).<br>When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.<br>The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.<br>For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:<br>Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.<br>This product meets the relevant requirements |

## Test Photographs

Please see the attachment for Test Photographs.

## Appendix I: Photos of the EUT

Please see the attachment for External Photographs and Internal Photographs