**Shenzhen GUOREN Certification Technology Service Co., Ltd.**

101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China

# FCC PART 15 SUBPART C TEST REPORT

## FCC PART 15 SUBPART E 15.407
## RSS-247 Issue 2 February 2017
## RSS-Gen Issue 5 March 2019

| | |
|---|---|
| **Report Reference No.....** : | **GRCTR220802006-04** |
| **FCC ID..... :** | **2A2KG-MCMP10211** |
| **IC..... :** | **27510-MCMP10211** |
| Compiled by ( position+printed name+signature).. : | Testing Engineer Jimmy Wang |
| Supervised by ( position+printed name+signature).. : | Project Engineer Kelley Zhang |
| Approved by ( position+printed name+signature).. : | Manager Sam Wang |
| Date of issue..... : | Sep. 02, 2022 |
| **Testing Laboratory Name**..... : | **Shenzhen GUOREN Certification Technology Service Co., Ltd.** |
| Address..... : | 101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China |
| **Applicant's name**..... : | **Mandoe Media Pty Ltd** |
| Address..... : | 1901/31 Market St Sydney 2000 Australia |
| **Test specification**..... **:** | |
| Standard..... : | **FCC Part 15 Subpart E 15.407**<br>**RSS-247 Issue 2 February 2017**<br>**RSS-Gen Issue 5 March 2019** |



| | |
|---|---|
| **Test item description.....:** | **Digital Advertising Media Player** |
| Trade Mark.....: | / |
| Manufacturer.....: | SHENZHEN AMEDIA TECHNOLOGY CO., LTD |
| Model/Type reference..... : | MCMP1021 |
| Listed Models ..... : | / |
| Modulation ..... : | OFDM |
| Frequency..... | From 5180MHz-5240MHz, 5745MHz-5825MHz |
| Ratings.....: | DC 5.0V from adapter |
| Result.....: | **PASS** |

# T E S T  R E P O R T

| | | |
|---|---|---|
| Equipment under Test | : | Digital Advertising Media Player |
| Model /Type | : | MCMP1021 |
| Listed Models | : | / |
| Applicant | : | **Mandoe Media Pty Ltd** |
| Address | : | 1901/31 Market St Sydney 2000 Australia |
| Manufacturer | : | **SHENZHEN AMEDIA TECHNOLOGY CO., LTD** |
| Address | : | No. 01, 2/F, A Plant, Block B, Minsheng Industrial Park, Longmei Road, Gaofeng Community, Dalang Office, Longhua District, Shenzhen, China |

| **Test Result**: | **PASS** |
|---|---|

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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# 1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15 Subpart E—Unlicensed National Information Infrastructure Devices
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices
KDB789033 D02: General UNII Test Procedures New Rules v01r02
Radio Standards Specification RSS-247, Issue 2: Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices, replaces RSS-247, Issue 1, dated May 2015.
Radio Standards Specification RSS-Gen, issue 5:, General Requirements for Compliance of Radio Apparatus replaces RSS-Gen, issue 4, dated November 2014.

# 2 SUMMARY

## 2.1 General Remarks

| | | |
|---|---|---|
| Date of receipt of test sample | : | Aug. 03, 2022 |
| | | |
| Testing commenced on | : | Aug. 03, 2022 |
| | | |
| Testing concluded on | : | Sep. 02, 2022 |

## 2.2 Product Description

| | | | | |
|---|---|---|---|---|
| Product Name: | Digital Advertising Media Player | | | |
| Model/Type reference: | MCMP1021 | | | |
| Listed Models: | / | | | |
| HVIN: | MCMP1021-1 | | | |
| Firmware Version: | V1.0 | | | |
| Hardware Version: | V1.0 | | | |
| Power supply: | DC 5.0V from adapter | | | |
| Adapter information: | M/N:FJ-SW1260502500DN<br>Input:AC 100-240V 50/60Hz MAX0.4A<br>Output:5V/2.5A | | | |
| Testing sample ID: | GRCTR220802006-1# (Engineer sample),<br>GRCTR220802006-2# (Normal sample) | | | |
| **WIFI** | | | | |
| Supported type: | 20MHz system | 40MHz system | 80MHz system | 160MHz system |
| | 802.11a<br>802.11n<br>802.11ac | 802.11n<br>802.11ac | 802.11ac | N/A |
| Operation frequency: | 5180MHz-5240MHz<br>5745MHz-5825MHz | 5190MHz-5230MHz<br>5755MHz-5795MHz | 5210MHz<br>5775MHz | N/A |
| Modulation: | OFDM | OFDM | OFDM | N/A |
| Channel number: | 9 | 4 | 2 | N/A |
| Channel separation: | 20MHz | 40MHz | 80MHz | N/A |
| Antenna type: | Internal antenna | | | |
| Antenna gain: | 3dBi for 5.2GWIFI, 2.98dBi for 5.8GWIFI | | | |
| Remark:*When the information provided by the customer was used to calculate test results, if the information provided by the customer is not accurate, shenzhen GUOREN Certification Technology Service Co., Ltd. does not assume any responsibility. | | | | |

## 2.3 Equipment Under Test

### Power supply system utilised

| | | | | | |
|---|---|---|---|---|---|
| Power supply voltage | : | ○ | 230V / 50 Hz | ○ | 120V / 60Hz |
| | | ○ | 12 V DC | ○ | 24 V DC |
| | | ● | Other (specified in blank below) | | |

DC 5V from adapter

## 2.4 Short description of the Equipment under Test (EUT)

This is a Digital Advertising Media Player.
For more details, refer to the user's manual of the EUT.

## 2.5 EUT operation mode

The Applicant provides communication tools software(RtlBluetoothMP) to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) and receiving mode for testing meet KDB558074 test requirement.

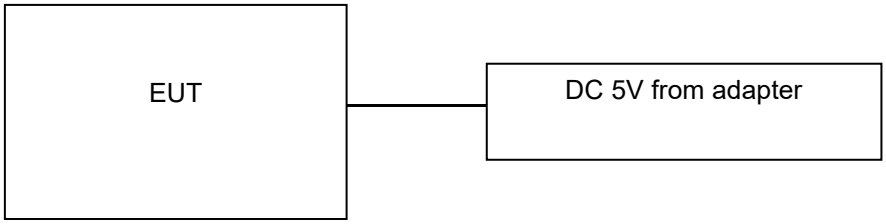
All test performed at the low, middle and high of operational frequency range of each mode.

Operation Frequency List WIFI on 5G Band：

| Operating band | 20MHz | | 40MHz | | 80MHz | |
|---|---|---|---|---|---|---|
| | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| U-NII 1 (5150MHz-5250MHz) | 36 | 5180 | 38 | 5190 | 42 | 5210 |
| | 40 | 5200 | | | | |
| | 44 | 5220 | 46 | 5230 | | |
| | 48 | 5240 | | | | |
| U-NII 3 (5725MHz-5850MHz) | 149 | 5745 | 151 | 5755 | 155 | 5775 |
| | 153 | 5765 | | | | |
| | 157 | 5785 | 159 | 5795 | | |
| | 161 | 5805 | | | | |
| | 165 | 5825 | -- | -- | -- | -- |

Note: The line display in gray is those Channels/Frequencies select to test in this report for each operation mode.

## 2.6 Block Diagram of Test Setup




## 2.7 Modifications

No modifications were implemented to meet testing criteria.

# 3 TEST ENVIRONMENT

## 3.1 Address of the test laboratory

**Shenzhen GUOREN Certification Technology Service Co., Ltd.**
101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China

## 3.2 Test Facility

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

**FCC-Registration No.: 920798 Designation Number: CN1304**

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

**A2LA-Lab Cert. No.: 6202.01**

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

**ISED#: 27264 CAB identifier: CN0115**
Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

**CNAS-Lab Code: L15631**
Shenzhen GUOREN Certification Technology Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories for the Competence of Testing and Calibration Laboratories.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

## 3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

| | |
|---|---|
| Normal Temperature | 15-35 ℃ |
| Relative Humidity | 30-60 % |
| Air Pressure | 950-1050mbar |

## 3.4 Test Description

| FCC 15.407<br>RSS 247 | | |
|---|---|---|
| FCC Part 15.207<br>RSS-Gen 8.8 | AC Power Conducted Emission | PASS |
| FCC Part 15.407(a)<br>RSS-247 6.2.1.2 | Emission Bandwidth(26dBm Bandwidth) | PASS Note1 |
| FCC Part 15.407(e)<br>RSS-247 6.2.4.1 | Minimum Emission Bandwidth(6dBm Bandwidth) | PASS Note2 |
| RSS-Gen 6.7 | Occupied Bandwidth(99%) | PASS |
| FCC Part 15.407(a)<br>RSS-247 6.2.1.1 | Maximum Conducted Output Power | PASS |
| FCC Part 15.407(a)<br>RSS-247 6.2.4.1 | Peak Power Spectral Density | PASS |
| FCC Part 15.407(g)<br>RSS-Gen 8.11 | Frequency Stability | PASS |
| FCC 15.407(b)&15.205<br>RSS-Gen 8.10&RSS-247 5.5 | Restricted Bands Requirement | PASS |
| FCC 15.209 &15.407(b)<br>RSS-Gen 8.9 & RSS 247 5.5 | Radiated Emissions | PASS |
| FCC Part 15.407(h)<br>RSS 247 6.3.1 | Dynamic Frequency Selection | N/A Note 3 |
| FCC Part 15.203/15.247(b)<br>RSS-Gen 6.8 | Antenna Requirement | PASS |

Note 1: Apply to U-NII 1, U-NII 2A, and U-NII 2C band.
Note 2: Apply to U-NII 3 band only.
Note 3: This device not work in DFS band.

**Data Rate Used:**
Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

| Test Items | Mode | Data Rate |
|---|---|---|
| Maximum Conducted Output Power<br>Power Spectral Density<br>Emission Bandwidth(26dBm Bandwidth)<br>Minimum Emission Bandwidth(6dBm Bandwidth)<br>Undesirable emission<br>Frequency Stability | 11a/OFDM | 6 Mbps |
| | 11n(20MHz),11ac(20MHz)/OFDM | 7.2 Mbps |
| | 11n(40MHz),11ac(40MHz)/OFDM | 15.0Mbps |
| | 11ac(80MHz)/OFDM | 65.0Mbps |

## 3.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen GUOREN Certification Technology Service Co., Ltd.quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen GUOREN Certification Technology Service Co., Ltd.:

| Test | Range | Measurement Uncertainty | Notes |
|---|---|---|---|
| Radiated Emission | 30~1000MHz | 4.06 dB | (1) |
| Radiated Emission | 1~18GHz | 5.14 dB | (1) |
| Radiated Emission | 18-40GHz | 5.38 dB | (1) |
| Conducted Disturbance | 0.15~30MHz | 2.14 dB | (1) |

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

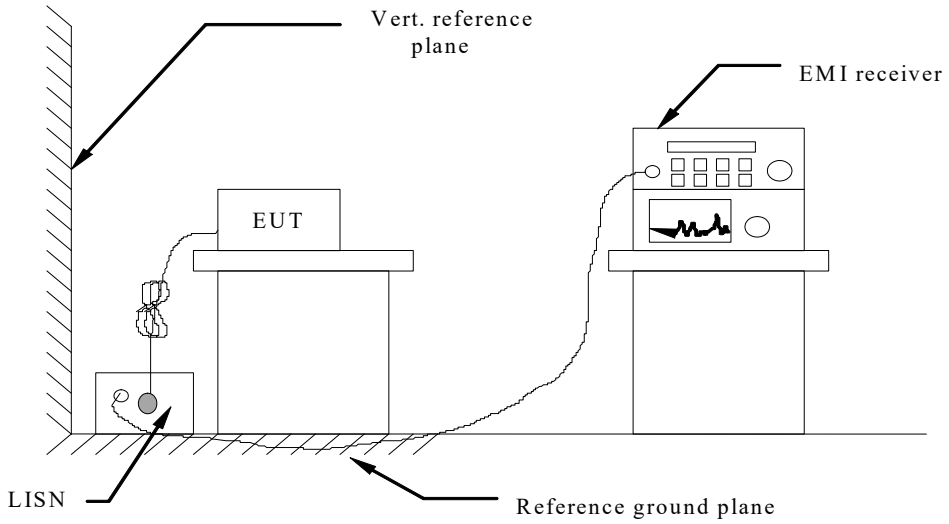
## 3.6 Equipments Used during the Test

| Test Equipment | Manufacturer | Model No. | Equipment No. | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| LISN | R&S | ENV216 | GRCTEE009 | 2021/10/30 | 2022/10/29 |
| LISN | R&S | ENV216 | GRCTEE010 | 2021/10/30 | 2022/10/29 |
| EMI Test Receiver | R&S | ESPI | GRCTEE017 | 2021/10/30 | 2022/10/29 |
| EMI Test Receiver | R&S | ESCI | GRCTEE008 | 2021/10/30 | 2022/10/29 |
| Spectrum Analyzer | Agilent | N9020A | GRCTEE002 | 2021/10/30 | 2022/10/29 |
| Spectrum Analyzer | R&S | FSP | GRCTEE003 | 2021/10/20 | 2022/10/19 |
| Vector Signal generator | Agilent | N5181A | GRCTEE007 | 2021/10/30 | 2022/10/29 |
| Analog Signal Generator | R&S | SML03 | GRCTEE006 | 2021/10/30 | 2022/10/29 |
| Climate Chamber | QIYA | LCD-9530 | GRCTES016 | 2021/10/30 | 2022/10/29 |
| Ultra-Broadband Antenna | Schwarzbeck | VULB9163 | GRCTEE018 | 2020/10/25 | 2023/10/24 |
| Horn Antenna | Schwarzbeck | BBHA 9120D | GRCTEE019 | 2020/10/25 | 2023/10/24 |
| Loop Antenna | Zhinan | ZN30900C | GRCTEE020 | 2020/10/25 | 2023/10/24 |
| Horn Antenna | Beijing Hangwei Dayang | OBH100400 | GRCTEE049 | 2021/1/18 | 2024/1/17 |
| Amplifier | Schwarzbeck | BBV 9745 | GRCTEE021 | 2021/10/30 | 2022/10/29 |
| Amplifier | Taiwan chengyi | EMC051845B | GRCTEE022 | 2021/10/30 | 2022/10/29 |
| Temperature/Humidity Meter | Huaguan | HG-308 | GRCTES037 | 2021/10/30 | 2022/10/29 |
| Directional coupler | NARDA | 4226-10 | GRCTEE004 | 2021/10/30 | 2022/10/29 |
| High-Pass Filter | XingBo | XBLBQ-GTA18 | GRCTEE053 | 2021/10/30 | 2022/10/29 |
| High-Pass Filter | XingBo | XBLBQ-GTA27 | GRCTEE054 | 2021/10/30 | 2022/10/29 |
| Automated filter bank | Tonscend | JS0806-F | GRCTEE055 | 2021/10/30 | 2022/10/29 |
| Power Sensor | Agilent | U2021XA | GRCTEE070 | 2021/10/30 | 2022/10/29 |
| EMI Test Software | ROHDE & SCHWARZ | ESK1-V1.71 | GRCTEE060 | N/A | N/A |
| EMI Test Software | Fera | EZ-EMC | GRCTEE061 | N/A | N/A |

# 4 TEST CONDITIONS AND RESULTS

## 4.1 AC Power Conducted Emission

**TEST CONFIGURATION**




**TEST PROCEDURE**

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
2 Support equipment, if needed, was placed as per ANSI C63.10-2013
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
4 The EUT received power from variable frequency power supply, the AC 120V/60Hz and AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT.The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

**AC Power Conducted Emission Limit**

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following：

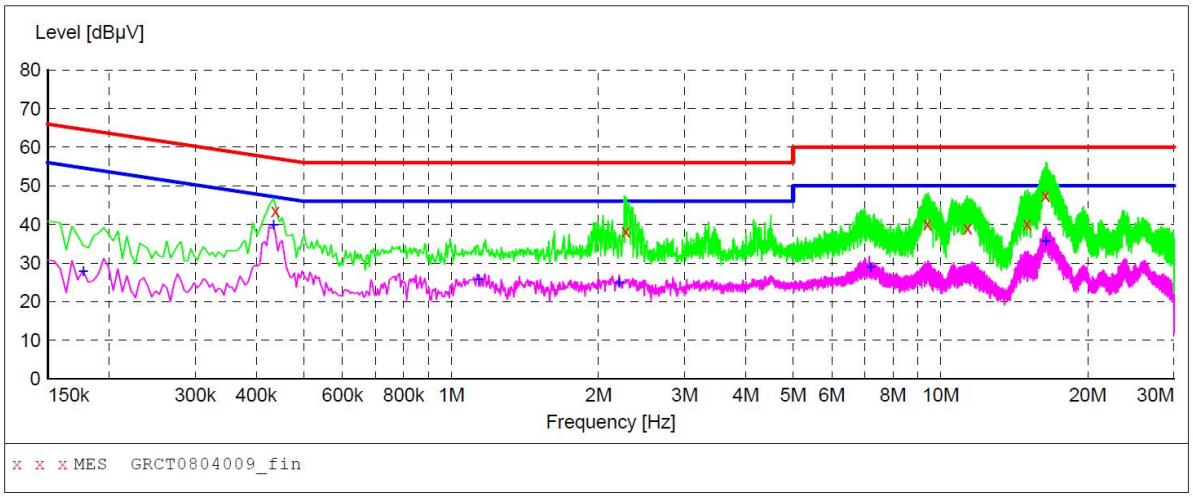
| Frequency range (MHz) | Limit (dBuV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |
| * Decreases with the logarithm of the frequency. | | |

**TEST RESULTS**

Remark:

1. All modes of 802.11a/ac/n were tested at Low, Middle, and High channel; only the worst result of 802.11a CH36 was reported as below:
2. Both 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz power supply have been tested, only the worst result of 120 VAC, 60 Hz was reported as below:

| Power supply: | DC 5V from Adapter AC 120V/60Hz | Polarization | L |
|---|---|---|---|




***MEASUREMENT RESULT: "GRCT0804009_fin"***

8/4/2022 3:15PM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.438000 | 43.60 | 9.7 | 57 | 13.5 | QP | L1 | GND |
| 2.278500 | 38.30 | 9.9 | 56 | 17.7 | QP | L1 | GND |
| 9.411000 | 40.20 | 10.1 | 60 | 19.8 | QP | L1 | GND |
| 11.364000 | 39.10 | 10.1 | 60 | 20.9 | QP | L1 | GND |
| 15.045000 | 40.10 | 10.2 | 60 | 19.9 | QP | L1 | GND |
| 16.386000 | 47.50 | 10.2 | 60 | 12.5 | QP | L1 | GND |

***MEASUREMENT RESULT: "GRCT0804009_fin2"***

8/4/2022 3:15PM

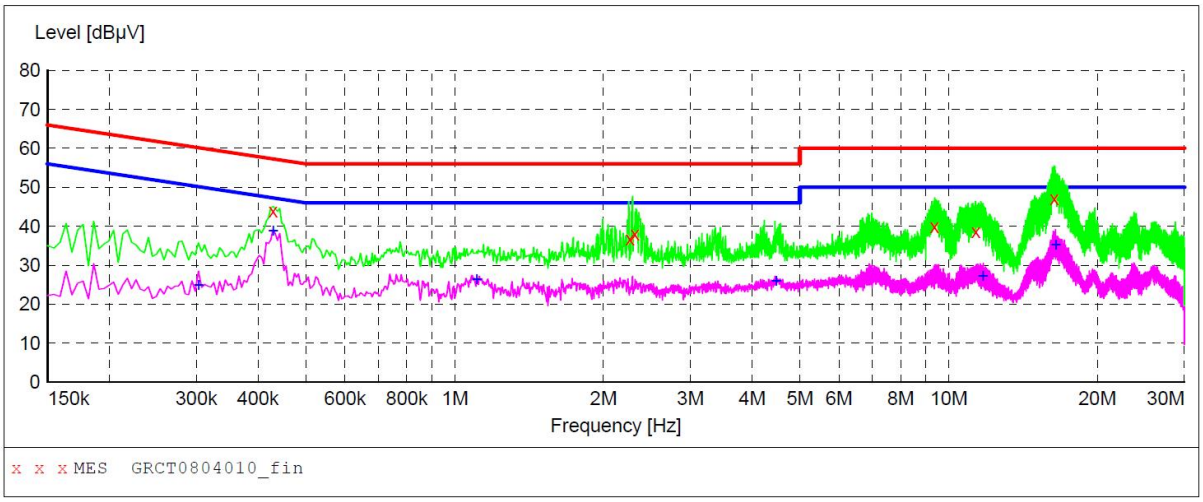
| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.177000 | 27.90 | 9.7 | 55 | 26.7 | AV | L1 | GND |
| 0.433500 | 39.90 | 9.7 | 47 | 7.3 | AV | L1 | GND |
| 1.140000 | 25.80 | 9.9 | 46 | 20.2 | AV | L1 | GND |
| 2.202000 | 25.00 | 9.9 | 46 | 21.0 | AV | L1 | GND |
| 7.188000 | 29.00 | 10.0 | 50 | 21.0 | AV | L1 | GND |
| 16.404000 | 35.80 | 10.2 | 50 | 14.2 | AV | L1 | GND |

Note:1).Level (dBµV)= Reading (dBµV)+ Transducer (dB)

2). Transducer (dB)=insertion loss of LISN (dB) + Cable loss (dB)

3). Margin(dB) = Limit (dBµV) - Level (dBµV)

| Power supply: | DC 5V from Adapter AC 120V/60Hz | Polarization | N |
|---|---|---|---|




***MEASUREMENT RESULT: "GRCT0804010_fin"***

8/4/2022 3:18PM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.429000 | 44.00 | 9.7 | 57 | 13.3 | QP | N | GND |
| 2.265000 | 36.90 | 9.9 | 56 | 19.1 | QP | N | GND |
| 2.319000 | 38.10 | 9.9 | 56 | 17.9 | QP | N | GND |
| 9.357000 | 39.90 | 10.1 | 60 | 20.1 | QP | N | GND |
| 11.350500 | 38.60 | 10.1 | 60 | 21.4 | QP | N | GND |
| 16.381500 | 47.20 | 10.2 | 60 | 12.8 | QP | N | GND |

***MEASUREMENT RESULT: "GRCT0804010_fin2"***

8/4/2022 3:18PM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.303000 | 25.00 | 9.7 | 50 | 25.2 | AV | N | GND |
| 0.429000 | 39.00 | 9.7 | 47 | 8.3 | AV | N | GND |
| 1.108500 | 26.40 | 9.9 | 46 | 19.6 | AV | N | GND |
| 4.479000 | 26.10 | 10.0 | 46 | 19.9 | AV | N | GND |
| 11.715000 | 27.20 | 10.1 | 50 | 22.8 | AV | N | GND |
| 16.462500 | 35.40 | 10.2 | 50 | 14.6 | AV | N | GND |

Note:1).Level (dBµV)= Reading (dBµV)+ Transducer (dB)

2). Transducer (dB)=insertion loss of LISN (dB) + Cable loss (dB)

3). Margin(dB) = Limit (dBµV) - Level (dBµV)

## 4.2 Radiated Emissions

**Limit**

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.

**Undesirable emission limits**

| Requirement | Limit(EIRP) | Limit (Field strength at 3m) Note1 |
|---|---|---|
| 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) | | |

Note1: 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)

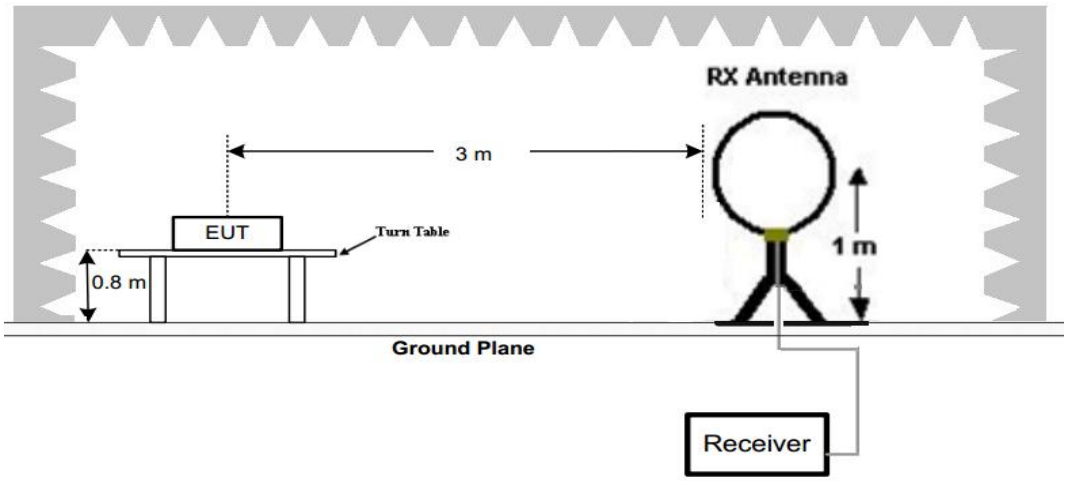
(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209
(6)In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

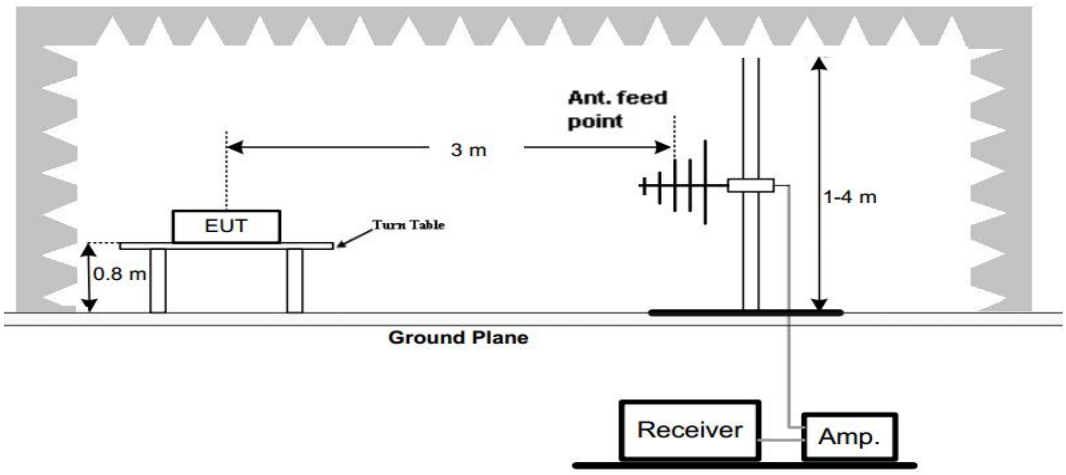
| Frequency (MHz) | Distance (Meters) | Radiated (dBμV/m) | Radiated (μV/m) |
|---|---|---|---|
| 0.009-0.49 | 3 | 20log(2400/F(KHz))+40log(300/3) | 2400/F(KHz) |
| 0.49-1.705 | 3 | 20log(24000/F(KHz))+ 40log(30/3) | 24000/F(KHz) |
| 1.705-30 | 3 | 20log(30)+ 40log(30/3) | 30 |
| 30-88 | 3 | 40.0 | 100 |
| 88-216 | 3 | 43.5 | 150 |
| 216-960 | 3 | 46.0 | 200 |
| Above 960 | 3 | 54.0 | 500 |

**TEST CONFIGURATION**

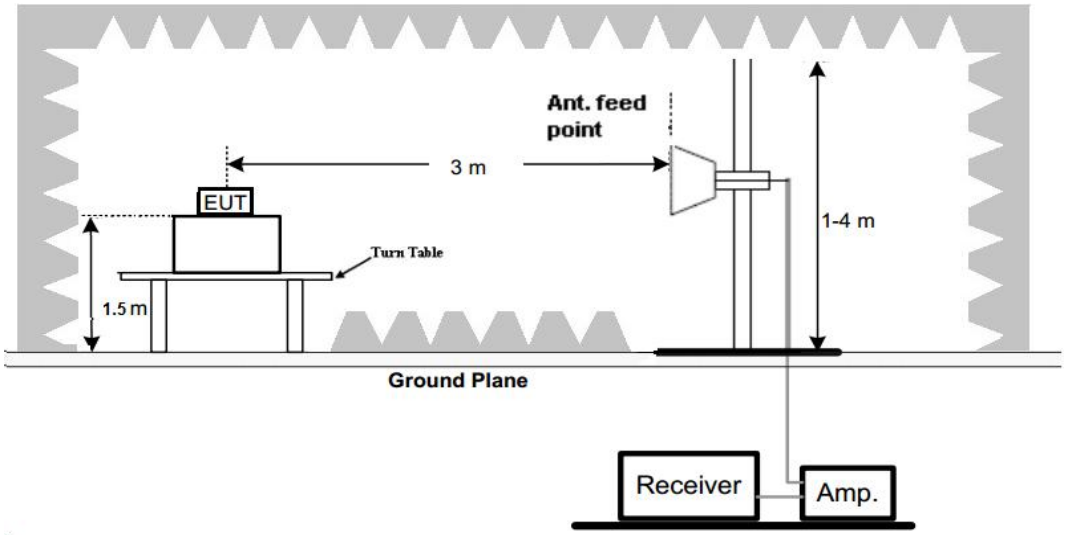
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz




(B) Radiated Emission Test Set-Up, Frequency below 1000MHz




(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



**Test Procedure**

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 9KHz to 40GHz.
6. The distance between test antenna and EUT as following table states:

| Test Frequency range | Test Antenna Type | Test Distance |
|---|---|---|
| 9KHz-30MHz | Active Loop Antenna | 3 |
| 30MHz-1GHz | Bilog Antenna | 3 |
| 1GHz-18GHz | Horn Antenna | 3 |
| 18GHz-25GHz | Horn Anternna | 1 |

7. Setting test receiver/spectrum as following table states:

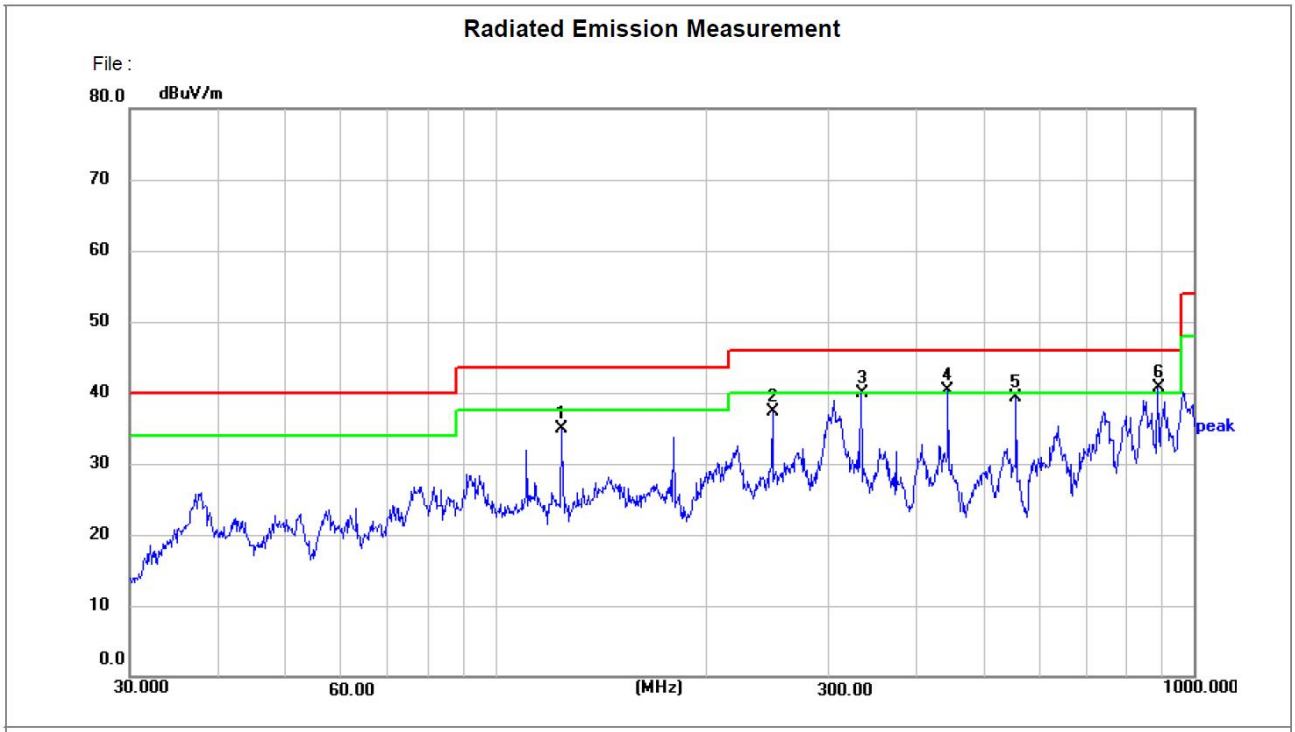
| Test Frequency range | Test Receiver/Spectrum Setting | Detector |
|---|---|---|
| 9KHz-150KHz | RBW=200Hz/VBW=3KHz,Sweep time=Auto | QP |
| 150KHz-30MHz | RBW=9KHz/VBW=100KHz,Sweep time=Auto | QP |
| 30MHz-1GHz | RBW=120KHz/VBW=1000KHz,Sweep time=Auto | QP |
| 1GHz-40GHz | Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto<br>Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto | Peak |

**TEST RESULTS**

Remark:
1. This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.
2. All 802.11a/ 802.11ac(HT20) /802.11ac(HT40) /802.11ac(HT80) / 802.11n (HT20) / 802.11n (HT40) modes have been tested for below 1GHz test, only the worst case 802.11n (HT20) low channel of U-NII 1 band was recorded.
3. All 802.11a/ 802.11ac(HT20) /802.11ac(HT40) /802.11ac(HT80) / 802.11n (HT20) / 802.11n (HT40) modes have been tested for above 1GHz test, only the worst case 802.11n (HT20) was recorded.
4. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9 KHz to 30MHz and not recorded in this report.

**For 30MHz-1GHz**

Horizontal




Site LAB
Limit: FCC Part15 RE-Class B_30-1000MHz
EUT:
M/N: MCMP1021
Mode:
Note:

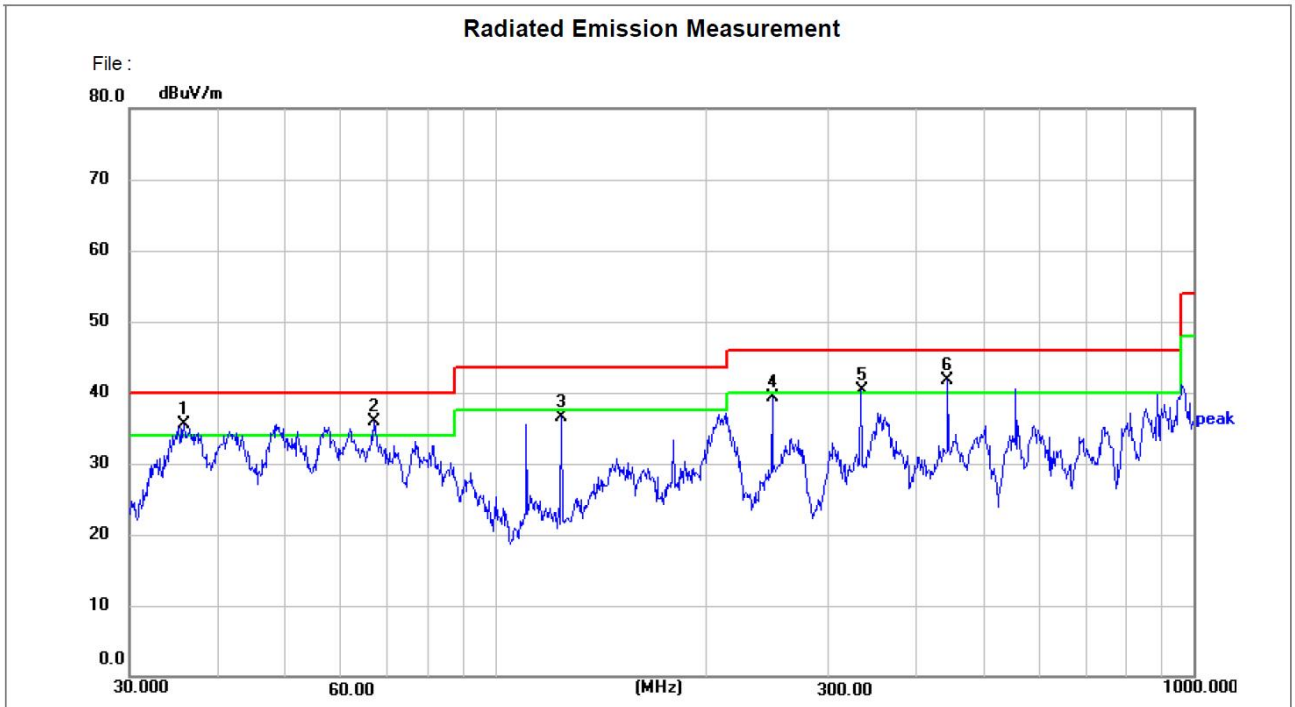
Polarization: ***Horizontal***
Power: AC120V/60Hz
Distance: 3m

Temperature: 24.5(C)
Humidity: 52 %

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg.) | P/F | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 124.5690 | 56.77 | -21.77 | 35.00 | 43.50 | -8.50 | peak | | | P | |
| 2 | 249.4250 | 55.65 | -18.28 | 37.37 | 46.00 | -8.63 | peak | | | P | |
| 3 | 333.6867 | 56.47 | -16.57 | 39.90 | 46.00 | -6.10 | peak | | | P | |
| 4 ! | 444.8514 | 55.06 | -14.71 | 40.35 | 46.00 | -5.65 | peak | | | P | |
| 5 | 556.7743 | 52.52 | -13.15 | 39.37 | 46.00 | -6.63 | peak | | | P | |
| 6 * | 887.6098 | 48.13 | -7.52 | 40.61 | 46.00 | -5.39 | peak | | | P | |

Note:1).Level (dBμV/m)= Reading (dBμV)+ Factor (dB/m)
2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)
3). Margin(dB) = Limit (dBμV/m) - Level (dBμV/m)

Vertical




Site LAB
Limit: FCC Part15 RE-Class B_30-1000MHz
EUT:
M/N: MCMP1021
Mode:
Note:

Polarization: *Vertical*
Power: AC120V/60Hz
Distance: 3m

Temperature: 24.5(C)
Humidity: 52 %

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg.) | P/F | Remark |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 ! | 35.8746 | 55.12 | -19.57 | 35.55 | 40.00 | -4.45 | peak | | | P | |
| 2 * | 67.2021 | 56.43 | -20.54 | 35.89 | 40.00 | -4.11 | peak | | | P | |
| 3 | 124.5690 | 58.33 | -21.77 | 36.56 | 43.50 | -6.94 | peak | | | P | |
| 4 | 249.4250 | 57.68 | -18.28 | 39.40 | 46.00 | -6.60 | peak | | | P | |
| 5 ! | 333.6867 | 56.83 | -16.57 | 40.26 | 46.00 | -5.74 | peak | | | P | |
| 6 ! | 444.8514 | 56.49 | -14.71 | 41.78 | 46.00 | -4.22 | peak | | | P | |

Note:1).Level (dBμV/m)= Reading (dBμV)+ Factor (dB/m)
2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)
3). Margin(dB) = Limit (dBμV/m) - Level (dBμV/m)

***For 1GHz to 40GHz***

Note: All 802.11a /802.11ac (HT20) /802.11ac (HT40) /802.11ac (HT80) / 802.11n (HT20) /802.11n (HT40) modes have been tested for above 1GHz test, only the worst case 802.11n (HT20) was recorded.

***U-NII 1 & 802.11n (HT20) Mode (above 1GHz)***

| Tested Channel | Frequency (MHz) | Emission Level (dBuV/m) | Detector Mode | ANT Pol | Limit (dBuV/m) | Margin (dB) | Raw Value (dBuV) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre amplifier (dB) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5150.00 | 53.74 | PK | H | 68.20 | 14.46 | 72.64 | 29.91 | 5.87 | 54.68 | -18.90 |
| 36.00 | 5150.00 | 46.35 | AV | H | 54.00 | 7.65 | 65.25 | 29.91 | 5.87 | 54.68 | -18.90 |
| (5180MHz) | 10360.00 | 52.83 | PK | H | 68.20 | 15.37 | 59.75 | 37.62 | 10.02 | 54.56 | -6.92 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 40.00 | 10400.00 | 53.54 | PK | H | 68.20 | 14.66 | 59.96 | 37.81 | 10.14 | 54.37 | -6.42 |
| (5200MHz) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 48.00 | 5350.50 | 50.46 | PK | H | 68.20 | 17.74 | 69.03 | 30.24 | 5.93 | 54.74 | -18.57 |
| (5240MHz) | 10480.00 | 51.29 | PK | H | 68.20 | 16.91 | 57.81 | 37.95 | 10.17 | 54.64 | -6.52 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| Tested Channel | Frequency (MHz) | Emission Level (dBuV/m) | Detector Mode | ANT Pol | Limit (dBuV/m) | Margin (dB) | Raw Value (dBuV) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre amplifier (dB) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5150.00 | 53.67 | PK | V | 68.20 | 14.53 | 72.57 | 29.91 | 5.87 | 54.68 | -18.90 |
| 36.00 | 5150.00 | 45.28 | AV | V | 54.00 | 8.72 | 64.18 | 29.91 | 5.87 | 54.68 | -18.90 |
| (5180MHz) | 10360.00 | 50.54 | PK | V | 68.20 | 17.66 | 57.46 | 37.62 | 10.02 | 54.56 | -6.92 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 40.00 | 10400.00 | 51.62 | PK | V | 68.20 | 16.58 | 58.04 | 37.81 | 10.14 | 54.37 | -6.42 |
| (5200MHz) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 48.00 | 5350.50 | 50.87 | PK | V | 68.20 | 17.33 | 69.44 | 30.24 | 5.93 | 54.74 | -18.57 |
| (5240MHz) | 10480.00 | 51.03 | PK | V | 68.20 | 17.17 | 57.55 | 37.95 | 10.17 | 54.64 | -6.52 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

***U-NII 3 & 802.11n (HT20) Mode (above 1GHz)***

| Tested Channel | Frequency (MHz) | Emission Level (dBuV/m) | Detector Mode | ANT Pol | Limit (dBuV/m) | Margin (dB) | Raw Value (dBuV) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre amplifier (dB) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5720.00 | 53.51 | PK | H | 68.20 | 14.69 | 71.38 | 30.82 | 6.02 | 54.71 | -17.87 |
| 149.00 | 5720.00 | 46.37 | AV | H | 54.00 | 7.63 | 64.24 | 30.82 | 6.02 | 54.71 | -17.87 |
| (5745MHz) | 11490.00 | 50.43 | PK | H | 68.20 | 17.77 | 55.18 | 39.23 | 10.83 | 54.81 | -4.75 |
| | -- | -- | -- | -- | -- | -- | | -- | -- | -- | -- |
| 157.00 | 11570.00 | 50.67 | PK | H | 68.20 | 17.53 | 55.12 | 39.34 | 10.96 | 54.75 | -4.45 |
| (5785MHz) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 165.00 | 5855.00 | 51.88 | PK | H | 68.20 | 16.32 | 69.42 | 30.94 | 6.15 | 54.63 | -17.54 |
| (5825MHz) | 11650.00 | 51.62 | PK | H | 68.20 | 16.58 | 55.33 | 39.42 | 11.15 | 54.28 | -3.71 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| Tested Channel | Frequency (MHz) | Emission Level (dBuV/m) | Detector Mode | ANT Pol | Limit (dBuV/m) | Margin (dB) | Raw Value (dBuV) | Antenna Factor (dB/m) | Cable Factor (dB) | Pre amplifier (dB) | Correction Factor (dB/m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5720.00 | 54.66 | PK | V | 68.20 | 13.54 | 72.53 | 30.82 | 6.02 | 54.71 | -17.87 |
| 149.00 | 5720.00 | 47.53 | AV | V | 54.00 | 6.47 | 65.40 | 30.82 | 6.02 | 54.71 | -17.87 |
| (5745MHz) | 11490.00 | 51.85 | PK | V | 68.20 | 16.35 | 56.60 | 39.23 | 10.83 | 54.81 | -4.75 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 157.00 | 11570.00 | 51.04 | PK | V | 68.20 | 17.16 | 55.49 | 39.34 | 10.96 | 54.75 | -4.45 |
| (5785MHz) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 165.00 | 5855.00 | 51.37 | PK | V | 68.20 | 16.83 | 68.91 | 30.94 | 6.15 | 54.63 | -17.54 |
| (5825MHz) | 11650.00 | 50.88 | PK | V | 68.20 | 17.32 | 54.59 | 39.42 | 11.15 | 54.28 | -3.71 |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. -- Mean the other emission levels were very low against the limit.
5. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.
6. Worst case data at 6Mbps at IEEE 802.11a, MCS0 at IEEE 802.11n HT20, IEEE 802.11n HT40, IEEE 802.11ac VHT20 ,IEEE 802.11ac VHT40 and IEEE 802.11ac VHT80.

## 4.3 Maximum Conducted Average Output Power

**Limit**

**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 conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

(ii) For an indoor 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.

(iii) For fixed point-to-point access points 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.

(iv) 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.

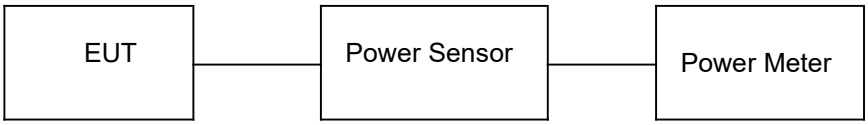
**For the 5.25-5.35 GHz and 5.47-5.725 GHz bands**, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

**For the band 5.725-5.85 GHz**, the maximum conducted output power over the frequency band of operation shall not exceed 1 W

**Test Procedure**

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power sensor.

**Test Configuration**



**Test Results**

**U-NII 1**

| Type | Channel | Output power (dBm) | Antenna gain(dBi) | EIRP (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|
| 802.11a | 36 | 9.42 | 3.00 | 12.42 | 23.98 | Pass |
| | 40 | 9.73 | 3.00 | 12.73 | | |
| | 48 | 9.28 | 3.00 | 12.28 | | |
| 802.11n(HT20) | 36 | 9.51 | 3.00 | 12.51 | 23.98 | Pass |
| | 40 | 9.77 | 3.00 | 12.77 | | |
| | 48 | 9.36 | 3.00 | 12.36 | | |
| 802.11n(HT40) | 38 | 7.28 | 3.00 | 10.28 | 23.98 | Pass |
| | 46 | 7.54 | 3.00 | 10.54 | | |
| 802.11ac(HT20) | 36 | 9.61 | 3.00 | 12.61 | 23.98 | Pass |
| | 40 | 9.45 | 3.00 | 12.45 | | |
| | 48 | 9.83 | 3.00 | 12.83 | | |
| 802.11ac(HT40) | 38 | 7.56 | 3.00 | 10.56 | 23.98 | Pass |
| | 46 | 7.72 | 3.00 | 10.72 | | |
| 802.11ac(HT80) | 42 | 4.81 | 3.00 | 7.81 | 23.98 | Pass |

**U-NII 3**

| Type | Channel | Output power (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|
| 802.11a | 149 | 9.35 | 30.00 | Pass |
| | 157 | 9.26 | | |
| | 165 | 9.48 | | |
| 802.11n(HT20) | 149 | 9.63 | 30.00 | Pass |
| | 157 | 9.51 | | |
| | 165 | 9.49 | | |
| 802.11n(HT40) | 151 | 7.47 | 30.00 | Pass |
| | 159 | 7.82 | | |
| 802.11ac(HT20) | 149 | 9.57 | 30.00 | Pass |
| | 157 | 9.64 | | |
| | 165 | 9.48 | | |
| 802.11ac(HT40) | 151 | 7.21 | 30.00 | Pass |
| | 159 | 7.35 | | |
| 802.11ac(HT80) | 155 | 4.62 | 30.00 | Pass |

## 4.4 Power Spectral Density

**Limit**

(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 MHz band.[note1]

(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 MHz band.[note1]

(iii) For fixed point-to-point access points operating in the band 5.15 - 5.25 GHz, transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.

(iv) For mobile and portable client devices in the 5.15 - 5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 MHz band. [note1]

(2) For the 5.25 - 5.35 GHz and 5.47 - 5.725 GHz bands, the peak power spectral density shall not exceed 11 dBm in any 1 MHz band. [note1]

(3) For the band 5.725 - 5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500 kHz band. [note1, note2]

Note1: If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note2: 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.

**Test Procedure**

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW = 1MHz for U-NII 1, U-NII 2A, U-NII C band and 510KHz for U-NII 3 band.
3. Set the VBW ≥ 3× RBW.
4. Set the span to encompass the entire EBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum power level.

**Test Configuration**

**Test Results**

| Type | Bands | Channel | Power Spectral Density (dBm/MHz) | Antenna gain(dBi) | EIRP Power Spectral Density (dBm/MHz) | Limit (dBm/MHz) | Result |
|---|---|---|---|---|---|---|---|
| 802.11a | U-NII 1 | 36 | -2.032 | 3.00 | 0.968 | 10 | Pass |
| | | 40 | -2.217 | 3.00 | 0.783 | | |
| | | 48 | -3.081 | 3.00 | -0.081 | | |
| 802.11n (HT20) | U-NII 1 | 36 | -1.926 | 3.00 | 1.074 | | |
| | | 40 | -2.398 | 3.00 | 0.602 | | |
| | | 48 | -3.198 | 3.00 | -0.198 | | |
| 802.11n (HT40) | U-NII 1 | 38 | -5.241 | 3.00 | -2.241 | | |
| | | 46 | -5.863 | 3.00 | -2.863 | | |
| 802.11ac (HT20) | U-NII 1 | 36 | -1.995 | 3.00 | 1.005 | | |
| | | 40 | -2.443 | 3.00 | 0.557 | | |
| | | 48 | -3.784 | 3.00 | -0.784 | | |
| 802.11ac (HT40) | U-NII 1 | 38 | -5.352 | 3.00 | -2.352 | | |
| | | 46 | -6.394 | 3.00 | -3.394 | | |
| 802.11ac (HT80) | U-NII 1 | 42 | -8.956 | 3.00 | -5.956 | | |

| Type | Bands | Channel | Power Spectral Density (dBm/MHz) | Limit (dBm/MHz) | Result |
|---|---|---|---|---|---|
| 802.11a | U-NII 1 | 36 | -2.032 | 11 | Pass |
| | | 40 | -2.217 | | |
| | | 48 | -3.081 | | |
| 802.11n (HT20) | U-NII 1 | 36 | -1.926 | | |
| | | 40 | -2.398 | | |
| | | 48 | -3.198 | | |
| 802.11n (HT40) | U-NII 1 | 38 | -5.241 | | |
| | | 46 | -5.863 | | |
| 802.11ac (HT20) | U-NII 1 | 36 | -1.995 | | |
| | | 40 | -2.443 | | |
| | | 48 | -3.784 | | |
| 802.11ac (HT40) | U-NII 1 | 38 | -5.352 | | |
| | | 46 | -6.394 | | |
| 802.11ac (HT80) | U-NII 1 | 42 | -8.956 | | |

Remark: P.S.D(dBm/500KHz)= P.S.D(dBm/510KHz)+10 log (500 kHz/510KHz)..

Test plot as follows

*802.11a*

| *U-NII 1* | *U-NII 3* |
|---|---|
|  |  |
| *CH36* | *CH149* |
|  |  |
| *CH40* | *CH157* |
|  |  |
| *CH48* | *CH165* |

802.11n(HT20)

| U-NII 1 | U-NII 3 |
| --- | --- |
|  |  |
| CH36 | CH149 |
|  |  |
| CH40 | CH157 |
|  |  |
| CH48 | CH165 |

802.11n(HT40)

U-NII 1


CH38

U-NII 3


CH151


CH46


CH159

802.11ac(HT20)

U-NII 1


CH36


CH40


CH48

U-NII 3


CH149


CH157


CH165

802.11ac(HT40)

U-NII 1


CH38

U-NII 3


CH151


CH46


CH159

802.11ac(HT80)

U-NII 1


CH42

U-NII 3


CH155

## 4.5 Emission Bandwidth (26dB Bandwidth&99%Bandwidth)

**Limit**

N/A

**Test Procedure**

1. Set resolution bandwidth (RBW) = approximately 1 % of the EBW.
2. Set the video bandwidth (VBW) > RBW.
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW / EBW ratio is approximately 1 %.

**Test Configuration**


**Test Results**

| Type | Bands | Channel | 26dB Bandwidth (MHz) | 99%Bandwidth (MHz) | Limit (MHz) | Result |
|---|---|---|---|---|---|---|
| 802.11a | U-NII 1 | 36 | 22.39 | 16.747 | N/A | Pass |
| | | 40 | 21.81 | 16.722 | | |
| | | 48 | 21.92 | 16.717 | | |
| 802.11n(HT20) | U-NII 1 | 36 | 22.48 | 17.815 | | |
| | | 40 | 23.89 | 17.801 | | |
| | | 48 | 25.37 | 17.876 | | |
| 802.11n(HT40) | U-NII 1 | 38 | 48.06 | 36.325 | | |
| | | 46 | 48.12 | 36.399 | | |
| 802.11ac(HT20) | U-NII 1 | 36 | 24.75 | 17.884 | | |
| | | 40 | 23.33 | 17.890 | | |
| | | 48 | 23.61 | 17.862 | | |
| 802.11ac(HT40) | U-NII 1 | 38 | 49.28 | 36.340 | | |
| | | 46 | 56.46 | 36.505 | | |
| 802.11ac(HT80) | U-NII 1 | 42 | 90.30 | 75.734 | | |