# TEST REPORT

| | |
|---|---|
| Applicant: | Huike Shilian (Shenzhen) Electronics Co., Ltd |
| Address of Applicant: | 3th Floor, Building 6, Huike Industrial Park, Shilong Shequ, Shiyan, Baoan, Shenzhen |
| Manufacturer/Factory: | Huike Shilian (Shenzhen) Electronics Co., Ltd |
| Address of Manufacturer | 3th Floor, Building 6, Huike Industrial Park, Shilong Shequ, Shiyan, Baoan, Shenzhen |
| Product Name: | Smart Office Book |
| Model No.: | RT-EB-103C |
| Trade Mark: | N/A |
| FCC ID: | 2BDE2-RTEB103C |
| Applicable standards: | FCC CFR Title 47 Part 15 Subpart C Section 15.247 |
| Date of Test: | Oct.25, 2023-Nov.08, 2023 |
| Date of report issued: | Nov.09, 2023 |
| Test Result : | PASS * |

* In the configuration tested, the EUT complied with the standards specified above.

Remark:

The results shown in this test report refer only to the sample(s) tested , this test report cannot be reproduced, except in full without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

## Prepared By

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| Compiled by: | Reviewed by: | Approved by: |
|---|---|---|
| Carr Kang | Smith Chen | Smith Chen |
| Project Engineer | Project Manager | Authorized Signature |

| Report Revision History | | |
|---|---|---|
| Report No. | Description | Issue Date |
| ET-23101245E02 | Original | Nov.09, 2023 |
| | | |

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# 1. Test Summary

| Test Item | Section | Result | Test by |
|---|---|---|---|
| Antenna requirement | FCC part 15.203/15.247 (c) | Pass | / |
| AC Power Line Conducted Emission | FCC part 15.207 | Pass | Qiao Li |
| Conducted Peak Output Power | FCC part 15.247 (b)(3) | Pass | Yvan Fan |
| 6dB Bandwidth | FCC part 15.247 (a)(2) | Pass | Yvan Fan |
| Power Spectral Density | FCC part 15.247 (e) | Pass | Yvan Fan |
| Band Edge | FCC part 15.247(d) | Pass | Yvan Fan |
| Spurious Emission | FCC part 15.205/15.209 | Pass | Qiao Li |

*Remark: Test according to ANSI C63.10:2013*

*Pass: The EUT complies with the essential requirements in the standard.*

**Measurement Uncertainty**

| Test Item | Uncertainty Criterion | Measurement Uncertainty | Notes |
|---|---|---|---|
| Occupied Channel Bandwidth | ±5% | ±0.55% | (1) |
| RF output power, conducted | ±1.5dB | ±0.99dB | (1) |
| Power Spectral Density, conducted | ±3dB | ±0.61dB | (1) |
| Unwanted Emissions, conducted | ±3dB | ±0.64dB | (1) |
| AC Power Line Conducted Emission | ±6dB | ± 3.02 dB | (1) |
| Radiated emissions Below 1GHz | ±6dB | ±4.30 dB | (1) |
| Radiated emissions Above 1GHz | ±6dB | ±4.35 dB | (1) |
| Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%. | | | |

# 2. General Information

## 2.1 General Description of EUT

| | |
|---|---|
| Product Name: | Smart Office Book |
| Model No.: | RT-EB-103C |
| Test Model: | RT-EB-103C |
| Difference of model(s) | N/A |
| Hardware version: | N/A |
| Software version: | N/A |
| Sample(s) Status | Engineer sample |
| Channel numbers: | 802.11b/802.11g /802.11n(HT20): 11<br>802.11n(HT40):7 |
| Channel separation: | 5MHz |
| Modulation technology: | 802.11b: Direct Sequence Spread Spectrum (DSSS)<br>802.11g/802.11n(H20)/802.11n(HT40):<br>Orthogonal Frequency Division Multiplexing (OFDM) |
| Antenna Type: | FPCB antenna |
| Antenna gain: | 1.74 dBi(Declare by applicant)<br>Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information. |
| Battery: | DC 3.7V / 4000mAh |
| Power supply: | DC 3.7V from battery |

| Operation Frequency each of channel | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 1 | 2412MHz | 4 | 2427MHz | 7 | 2442MHz | 10 | 2457MHz |
| 2 | 2417MHz | 5 | 2432MHz | 8 | 2447MHz | 11 | 2462MHz |
| 3 | 2422MHz | 6 | 2437MHz | 9 | 2452MHz | | |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

| **Test channel** | **Frequency (MHz)** | |
|---|---|---|
| | 802.11b/802.11g/802.11n(HT20) | 802.11n(HT40) |
| Lowest channel | 2412MHz | 2422MHz |
| Middle channel | 2437MHz | 2437MHz |
| Highest channel | 2462MHz | 2452MHz |

## 2.2 Test mode

| | |
|---|---|
| Transmitting mode | Keep the EUT in continuously transmitting mode<br>EUT was test with maximum power control level. |
| *Remark: For battery operated equipment, the EUT was performed using a new DC 3.7V battery.* | |

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

| Mode | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) |
|---|---|---|---|---|
| Data rate | 1Mbps | 6Mbps | 6.5Mbps | 13Mbps |

## 2.3 Description of Support Units

| No. | Description | Manufacturer | Model | Serial Number |
|---|---|---|---|---|
| 1 | Adapter | Xiao mi | 5V/1A | / |

## 2.4 Deviation from Standards

None.

## 2.5 Abnormalities from Standard Conditions

None.

## 2.6 Test Facility

| | |
|---|---|
| Test laboratory: | Shenzhen ETR Standard Technology Co., Ltd. |
| CNAS Registration Number: | L11864 |
| A2LA Certificate Number: | 6640.01 |
| FCC Designation Number: | CN1326 |
| FCC Test Firm Registration: | 183064 |

## 2.7 Test Location

All tests were performed at:

| | |
|---|---|
| Laboratory location: | No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| Telephone: | +86 755 85259392 |
| Fax: | +86 755 27219460 |

## 2.8 Additional Instructions

| | |
|---|---|
| Test Software | System Engineering Mode |
| Power level setup | Default |

## 3. Test Instruments list

| Item | Equipment name | Manufacturer | Model | Serial No. | Calibration date | Due date |
|---|---|---|---|---|---|---|
| 1 | EMI Test Receiver | Rohde&schwarz | ESCI7 | 100605 | 2023.3.02 | 2024.3.01 |
| 2 | EMI Test Receiver | Rohde&schwarz | ESCI3 | 102696 | 2023.3.02 | 2024.3.01 |
| 3 | Loop Antenna | schwarabeck | FMZB 1519 B | FMZB 1519 B | 2022.3.11 | 2024.3.10 |
| 4 | Broadband antenna | schwarabeck | VULB9168 | 1064 | 2022.3.11 | 2024.3.10 |
| 5 | Horn antenna | schwarabeck | BBHA9120D | 9120D-1145 | 2022.3.11 | 2024.3.10 |
| 6 | amplifier | EMtrace | RP01A | 50117 | 2023.3.02 | 2024.3.01 |
| 7 | Artificial power network | schwarabeck | NSLK8127 | 8127483 | 2023.3.02 | 2024.3.01 |
| 8 | Artificial power network | ETS | 3186/2NM | 1132 | 2023.3.02 | 2024.3.01 |
| 9 | 10dB attenuator | HUBER+SUHNER | 10dB | / | 2023.3.02 | 2024.3.01 |
| 10 | amplifier | Space-Dtronics | EWLAN0118G-P40 | 19113001 | 2023.3.02 | 2024.3.01 |
| 11 | Filter | Xingbo | XBLBQ-GTA19 | 210410-3-1 | 2023.3.06 | 2024.3.05 |
| 12 | Spectrum analyzer | KEYSIGHT | N9020A | MY55370280 | 2023.3.02 | 2024.3.01 |
| 13 | Power detector box | MWRFtest | MW100-PSB | MW201020JYT | 2023.10.18 | 2024.10.17 |
| 14 | Power meter | Rohde&Schwarz | NRP-Z11 | 1138.3004.02-117725-vh | 2023.03.30 | 2024.3.29 |
| 15 | amplifier | SKET | LNPA_1840-50 (18-40GHz) | SK2019040302 | 2023.8.16 | 2024.8.15 |
| 16 | Horn antenna | schwarabeck | BBHA 9170 | 946 | 2022.3.11 | 2024.3.10 |
| 17 | Spectrum analyzer | Rohde&schwarz | FSU40 | 1166.1660K43 | 2023.8.16 | 2024.8.15 |

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

| Software Name | Manufacturer | Model | Version |
|---|---|---|---|
| RF test software | MWRFtest | MTS 8310 | V2.0.0.0 |
| Conducted test software | EZ-EMC | Farad | Ver.EMC-CON 3A1.1 |
| Radiated test software | EZ-EMC | Farad | Ver.FA-03A2 RE |

# 4. Test results and Measurement Data

## 4.1 Antenna requirement

| **Standard requirement:** | FCC Part15 C Section 15.203 /247(c) |
|---|---|
| **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>**15.247(c) (1)(i) requirement:**<br>(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi. | |
| **EUT Antenna:** | |
| *The antenna is FPCB antenna, the best case gain of the antenna is 1.74 dBi, reference to the appendix II for details.* | |

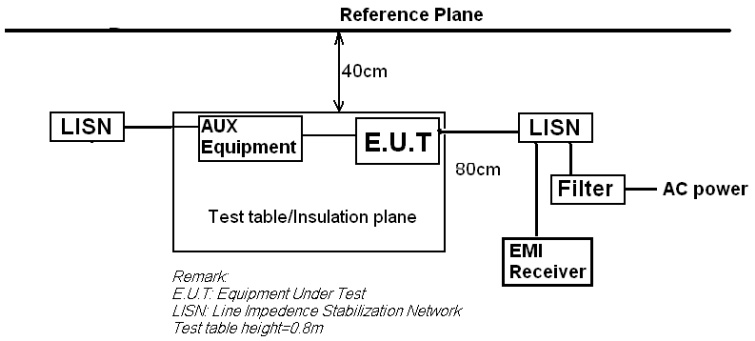
## 4.2 Conducted Emissions

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.207 |
| Test Method: | ANSI C63.10:2013 |
| Test Frequency Range: | 150KHz to 30MHz |
| Receiver setup: | RBW=9KHz, VBW=30KHz, Sweep time=auto |
| Limit: | |

| 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 setup:




Test procedure:

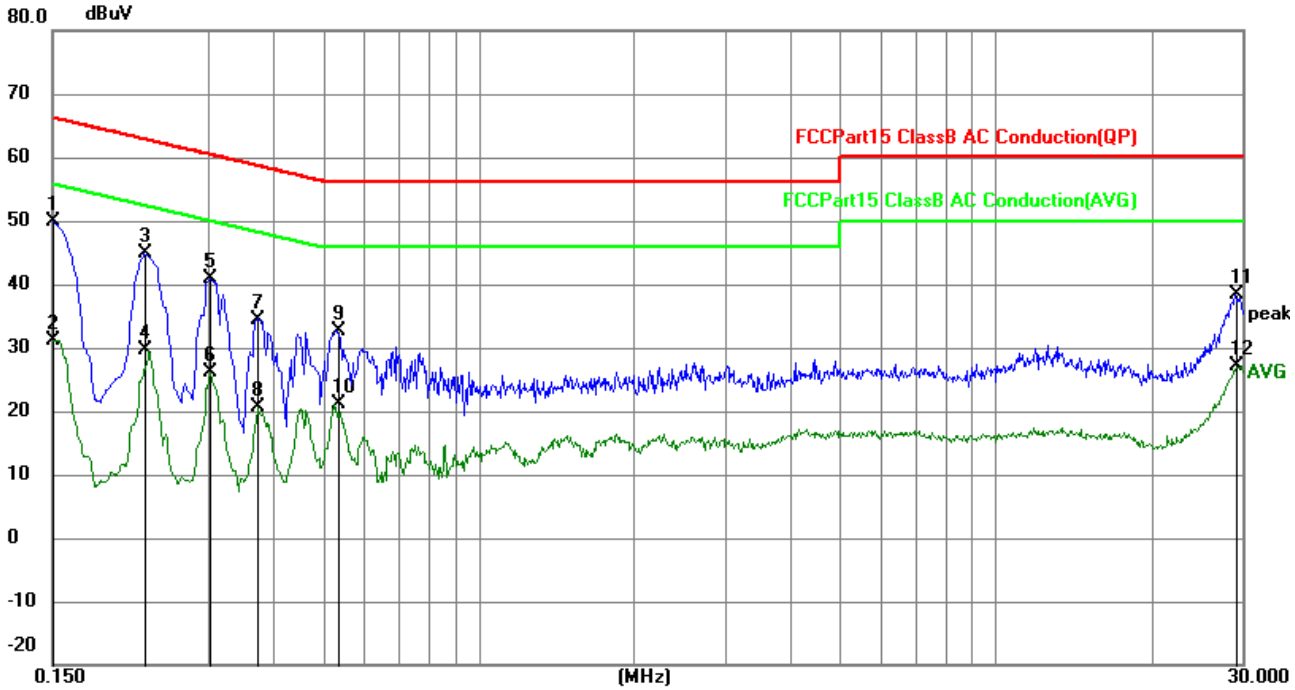
1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.

| | | | | | | |
|---|---|---|---|---|---|---|
| Test Instruments: | Refer to section 3.0 for details | | | | | |
| Test mode: | Refer to section 2.2 for details | | | | | |
| Test environment: | Temp.: | 25.2°C | Humid.: | 48% | Press.: | 1012mbar |
| Test voltage: | AC 120V, 60Hz | | | | | |
| Test results: | Pass | | | | | |

*Remark:*
*1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.*
*2. All mode have been tested, the report only shows the worst mode (802.11b 2412MHz)*

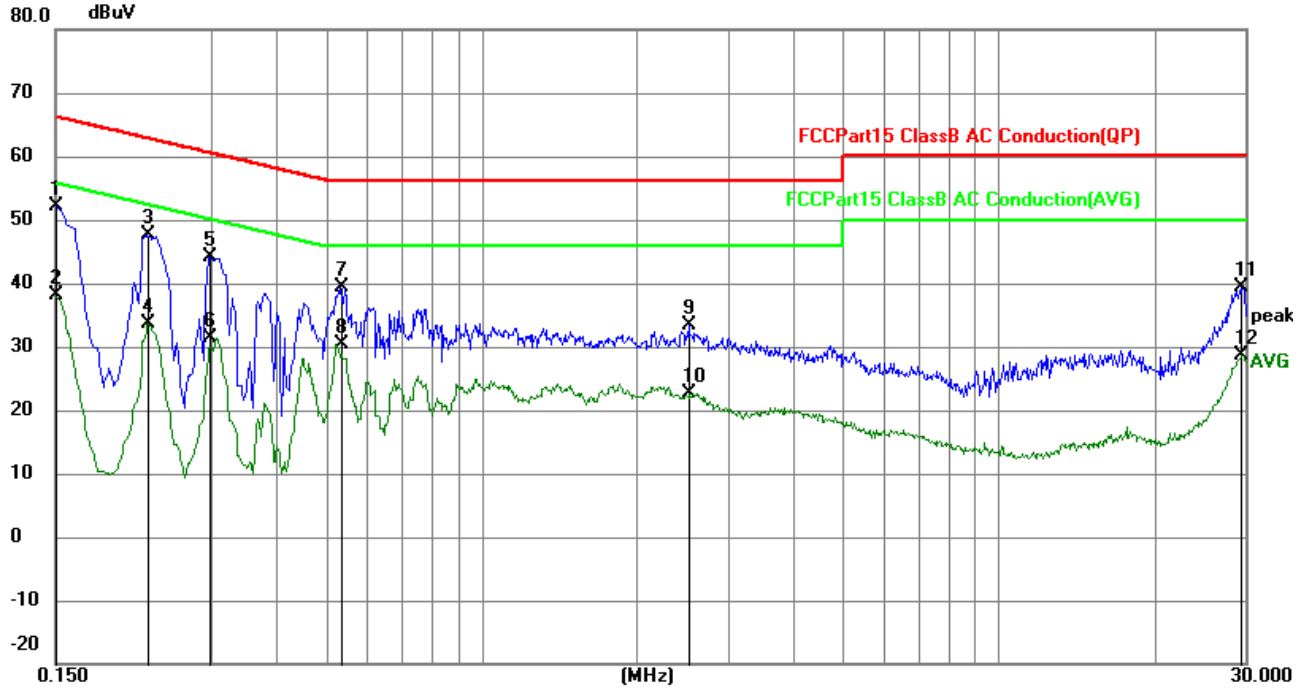
**Measurement Result**

**Line:**




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.1500 | 40.15 | 9.80 | 49.95 | 66.00 | -16.05 | QP |
| 2 | 0.1500 | 21.43 | 9.80 | 31.23 | 56.00 | -24.77 | AVG |
| 3 | 0.2265 | 35.03 | 9.82 | 44.85 | 62.58 | -17.73 | QP |
| 4 | 0.2265 | 19.79 | 9.82 | 29.61 | 52.58 | -22.97 | AVG |
| 5 | 0.3030 | 31.13 | 9.86 | 40.99 | 60.16 | -19.17 | QP |
| 6 | 0.3030 | 16.27 | 9.86 | 26.13 | 50.16 | -24.03 | AVG |
| 7 | 0.3751 | 24.60 | 9.89 | 34.49 | 58.39 | -23.90 | QP |
| 8 | 0.3751 | 10.62 | 9.89 | 20.51 | 48.39 | -27.88 | AVG |
| 9 | 0.5324 | 22.80 | 9.94 | 32.74 | 56.00 | -23.26 | QP |
| 10 | 0.5324 | 11.27 | 9.94 | 21.21 | 46.00 | -24.79 | AVG |
| 11 | 29.1435 | 28.78 | 9.51 | 38.29 | 60.00 | -21.71 | QP |
| 12 | 29.1435 | 17.53 | 9.51 | 27.04 | 50.00 | -22.96 | AVG |

**Neutral:**

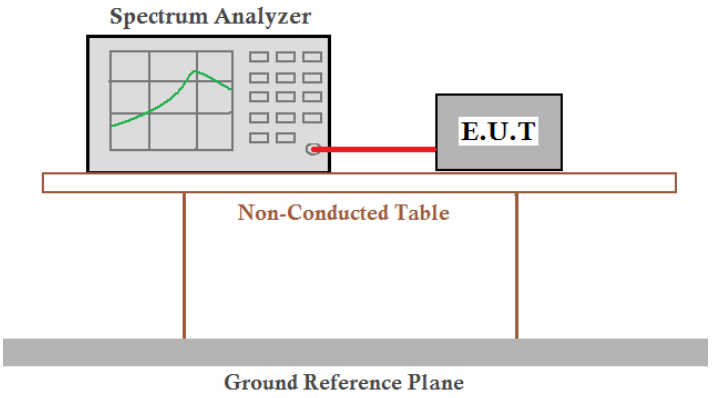



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.1500 | 42.38 | 9.80 | 52.18 | 66.00 | -13.82 | QP |
| 2 | 0.1500 | 28.31 | 9.80 | 38.11 | 56.00 | -17.89 | AVG |
| 3 | 0.2265 | 37.85 | 9.82 | 47.67 | 62.58 | -14.91 | QP |
| 4 | 0.2265 | 23.83 | 9.82 | 33.65 | 52.58 | -18.93 | AVG |
| 5 | 0.2985 | 34.37 | 9.84 | 44.21 | 60.28 | -16.07 | QP |
| 6 | 0.2985 | 21.45 | 9.84 | 31.29 | 50.28 | -18.99 | AVG |
| 7 | 0.5324 | 29.32 | 9.94 | 39.26 | 56.00 | -16.74 | QP |
| 8 | 0.5324 | 20.32 | 9.94 | 30.26 | 46.00 | -15.74 | AVG |
| 9 | 2.5260 | 23.58 | 9.85 | 33.43 | 56.00 | -22.57 | QP |
| 10 | 2.5260 | 12.69 | 9.85 | 22.54 | 46.00 | -23.46 | AVG |
| 11 | 29.4495 | 29.86 | 9.50 | 39.36 | 60.00 | -20.64 | QP |
| 12 | 29.4495 | 19.16 | 9.50 | 28.66 | 50.00 | -21.34 | AVG |

*Notes:*

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level =Receiver Read level + LISN Factor + Cable Loss
4. *If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.*

## 4.3 Duty cycle

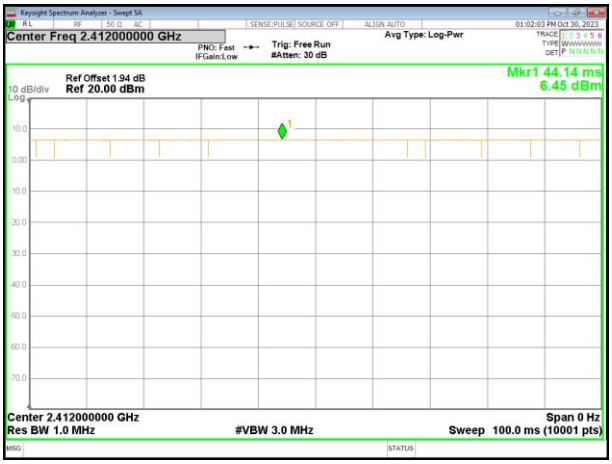
| | | |
|---|---|---|
| Test Method : | ANSI C63.10:2013 | |
| Limit: | / | |
| Test setup: |  | |
| Test Instruments: | Refer to section 3.0 for details | |
| Test mode: | Refer to section 2.2 for details | |
| Test environment: | Temp.: 26.2°C | Humid.: 51%RH |
| Test voltage: | DC 3.7V | |
| Test results: | Pass | |

**Measurement Result**

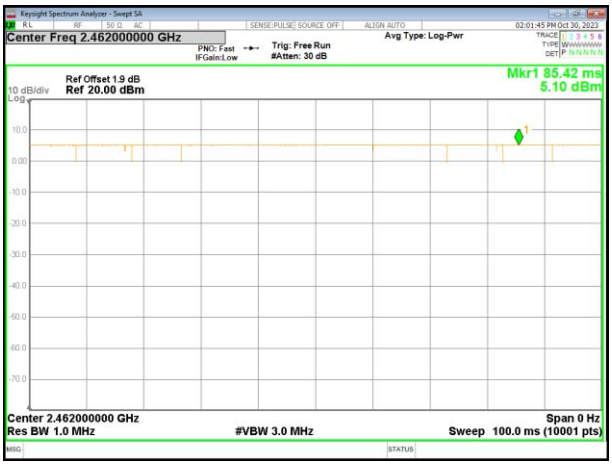
| Test CH | Duty cycle (%) | | | |
|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) |
| Lowest | 100 | 100 | 100 | 100 |
| Middle | 100 | 100 | 100 | 100 |
| Highest | 100 | 100 | 100 | 100 |

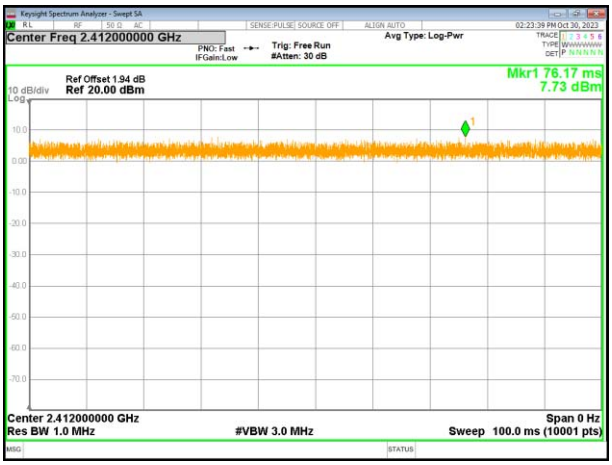
**Test plot as follows:**

| 802.11b | Lowest channel | 802.11b | Middle channel |
|---|---|---|---|

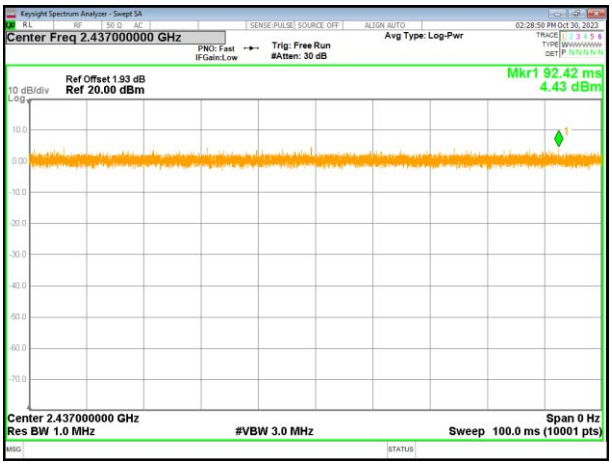


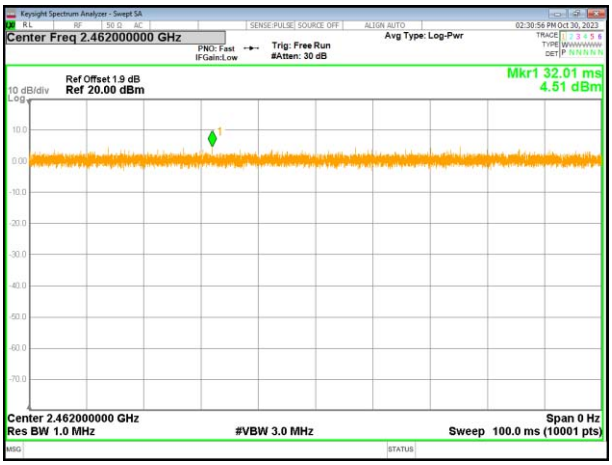
| 802.11b | Highest channel | 802.11g | Lowest channel |
|---|---|---|---|



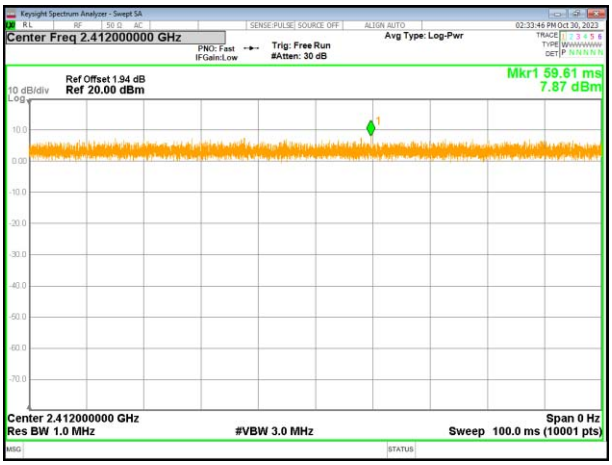



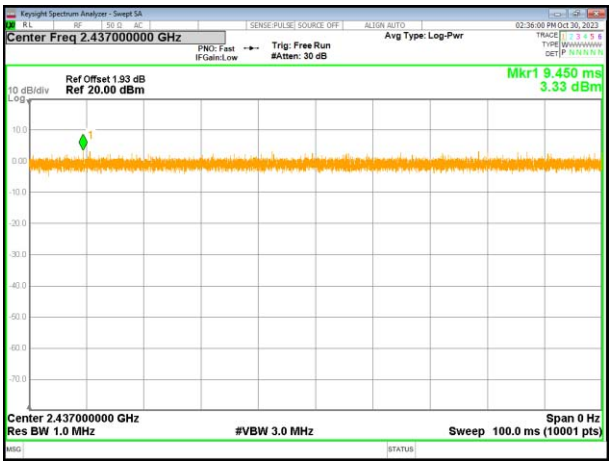

| 802.11g | Middle channel | 802.11g | Highest channel |
|---|---|---|---|



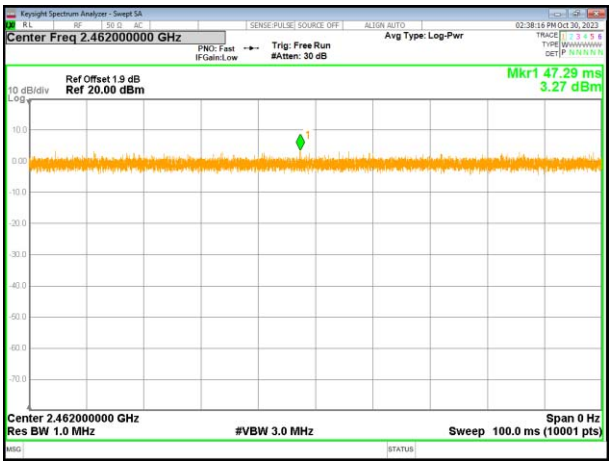



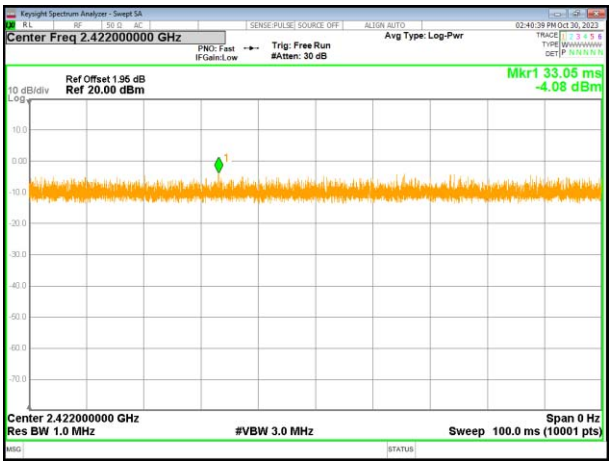
| 802.11n20 | Lowest channel | 802.1120 | Middle channel |
|---|---|---|---|



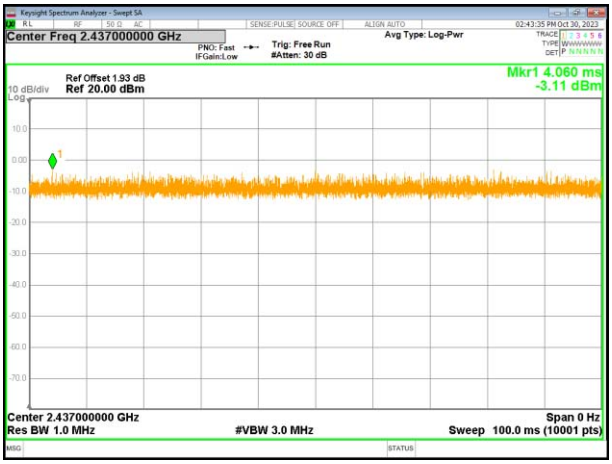



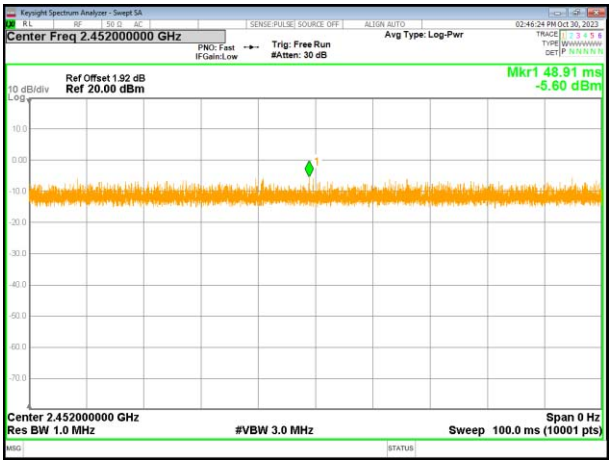

| 802.11n20 | Highest channel | 802.11n40 | Lowest channel |
|---|---|---|---|



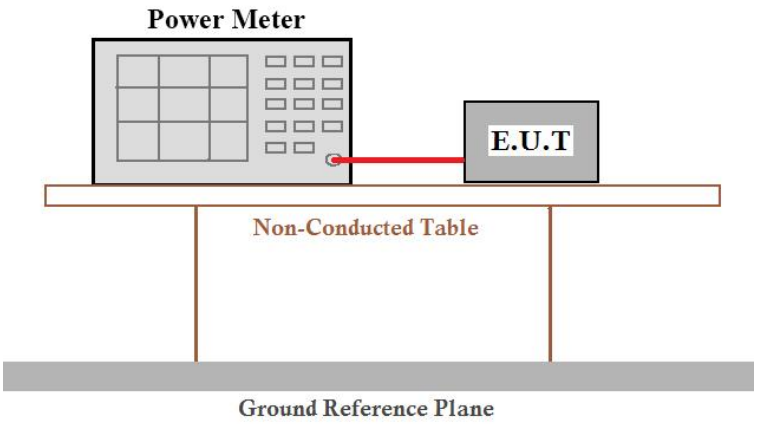




| 802.11n40 | Middle channel | 802.11n40 | Highest channel |
|---|---|---|---|



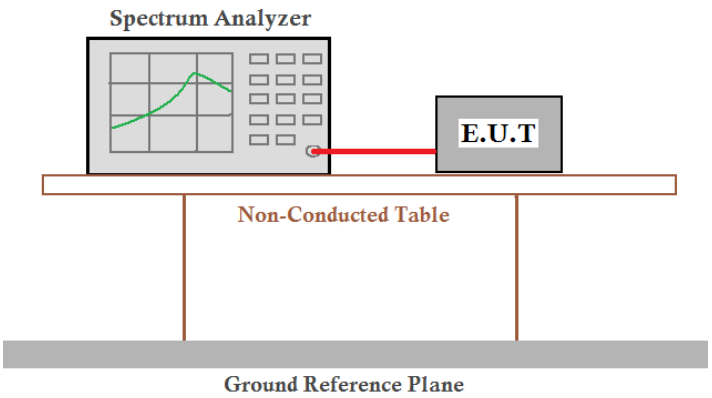
## 4.4 Conducted Output Power

| | | |
|---|---|---|
| Test Requirement : | FCC Part15 C Section 15.247 (b)(3) | |
| Test Method : | KDB 558074 D01 15.247 Meas Guidance v05r02 | |
| Limit: | 30dBm | |
| Test setup: |  | |
| Test Instruments: | Refer to section 3.0 for details | |
| Test mode: | Refer to section 2.2 for details | |
| Test environment: | Temp.: 26.2°C | Humid.: 51%RH |
| Test voltage: | DC 3.7V | |
| Test results: | Pass | |

**Measurement Result**

| Test CH | Output Power (dBm) | | | | Limit(dBm) | Result |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) | | |
| Lowest | 8.23 | 8.33 | 8.33 | 7.65 | 30.00 | Pass |
| Middle | 8.60 | 8.47 | 8.55 | 7.26 | | |
| Highest | 7.71 | 7.56 | 7.46 | 7.75 | | |

## 4.5 6dB Bandwidth & 99% Channel Bandwidth

| | | |
|---|---|---|
| Test Requirement : | FCC Part15 C Section 15.247 (a)(2) | |
| Test Method : | KDB 558074 D01 15.247 Meas Guidance v05r02 | |
| Limit: | >500KHz | |
| Test setup: |  | |
| Test Instruments: | Refer to section 3.0 for details | |
| Test mode: | Refer to section 2.2 for details | |
| Test environment: | Temp.: 26.2°C | Humid.: 51%RH |
| Test voltage: | DC 3.7V | |
| Test results: | Pass | |

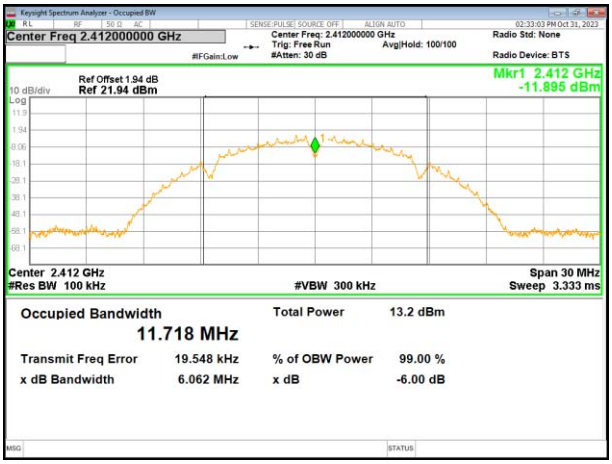
**Measurement Result**

| Test CH | 6dB Bandwidth (MHz) | | | | Limit(KHz) | Result |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) | | |
| Lowest | 6.062 | 11.29 | 11.41 | 19.40 | >500 | Pass |
| Middle | 8.031 | 16.37 | 17.69 | 36.58 | | |
| Highest | 7.077 | 11.65 | 11.51 | 17.29 | | |

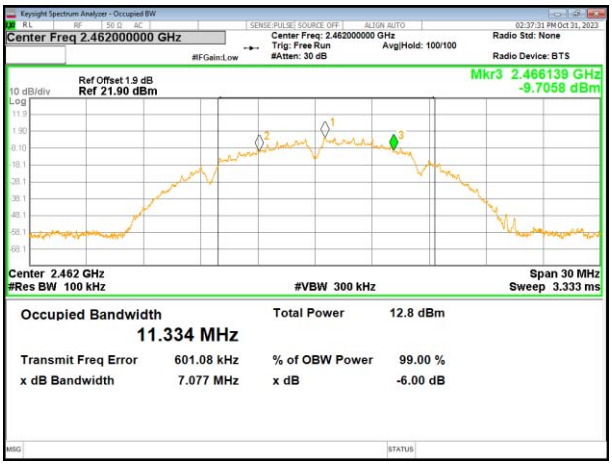
| Test CH | 99% Bandwidth (MHz) | | | | Limit | Result |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) | | |
| Lowest | 11.654 | 15.956 | 17.103 | 35.217 | / | Pass |
| Middle | 12.810 | 16.478 | 17.619 | 36.602 | | |
| Highest | 11.387 | 15.919 | 17.073 | 35.509 | | |

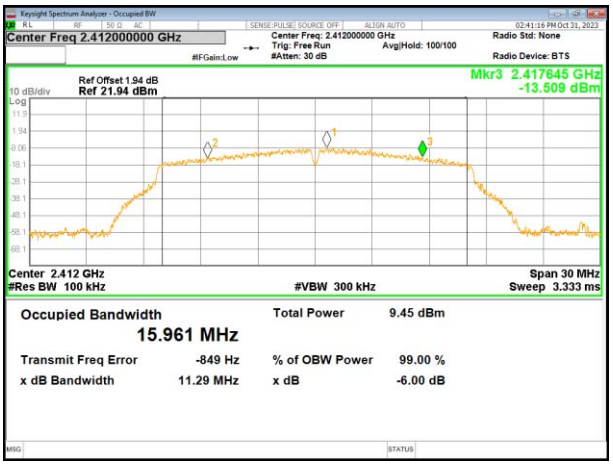
**Test plot as follows: -6 Bandwidth dB Test plot as follows**

| 802.11b | Lowest channel | 802.11b | Middle channel |
|---|---|---|---|

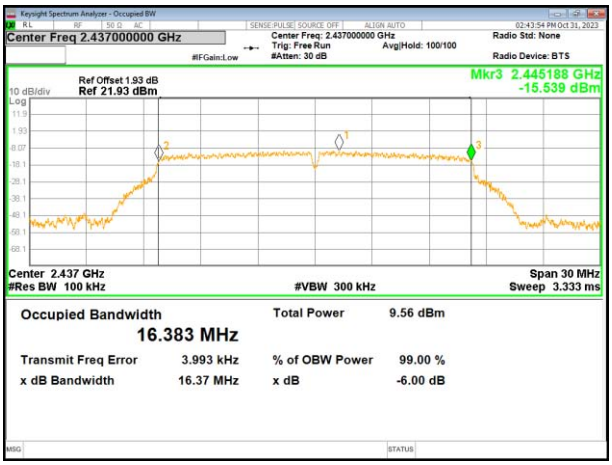


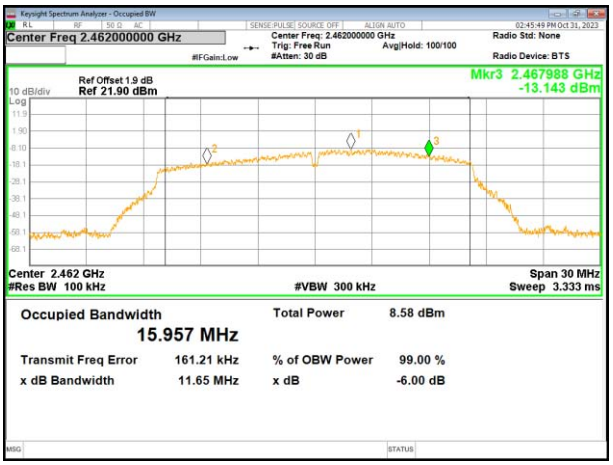
| 802.11b | Highest channel | 802.11g | Lowest channel |
|---|---|---|---|



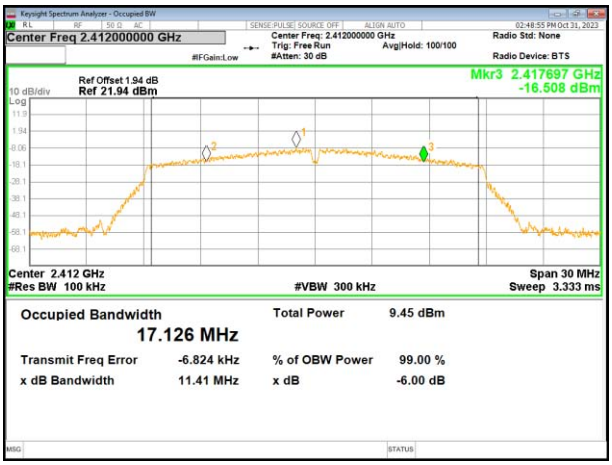



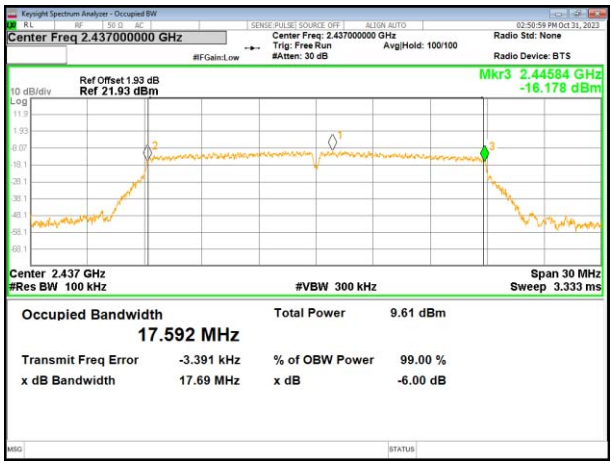

| 802.11g | Middle channel | 802.11g | Highest channel |
|---|---|---|---|



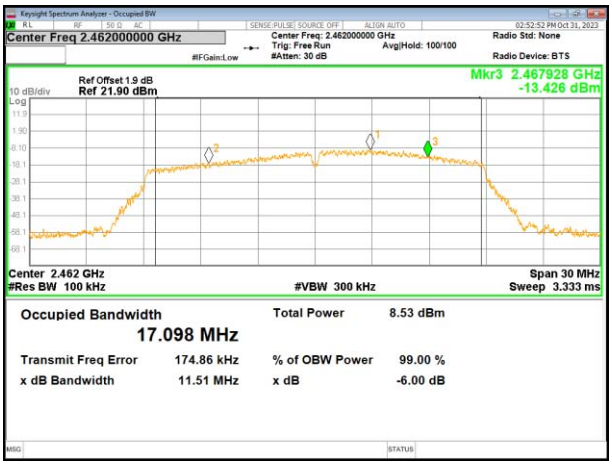



| 802.11n20 | Lowest channel | 802.1120 | Middle channel |
|---|---|---|---|

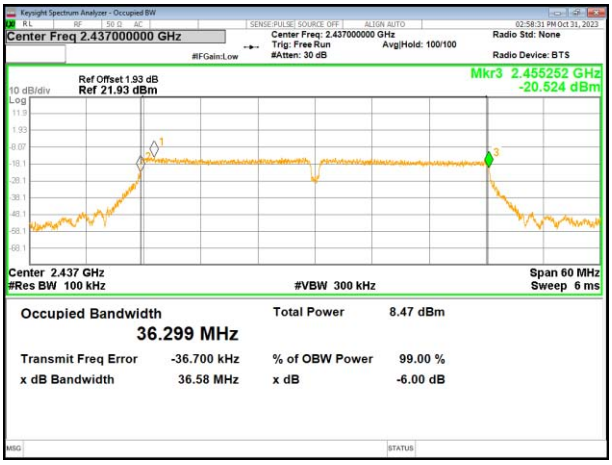


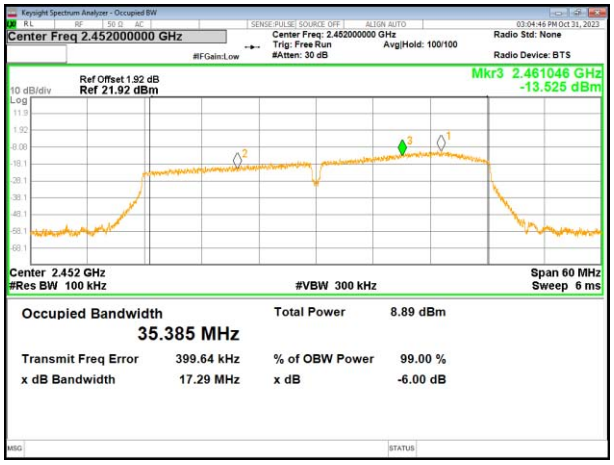




| 802.11n20 | Highest channel | 802.11n40 | Lowest channel |
|---|---|---|---|



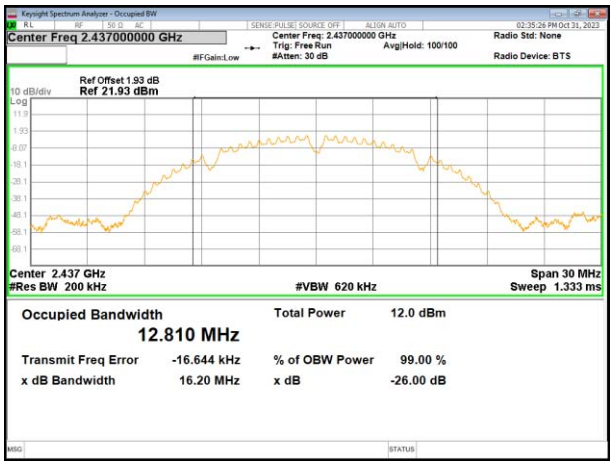
| 802.11n40 | Middle channel | 802.11n40 | Highest channel |
|---|---|---|---|



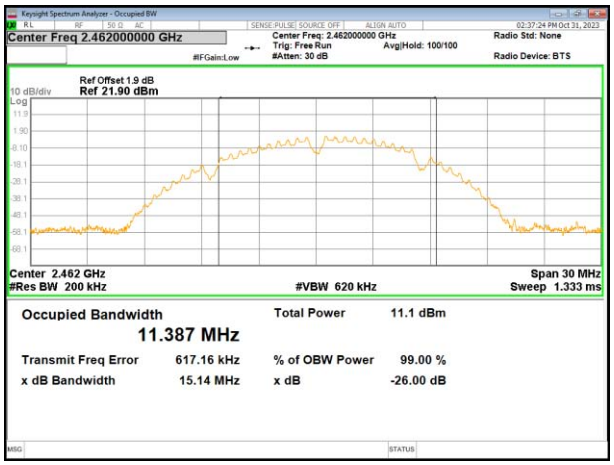



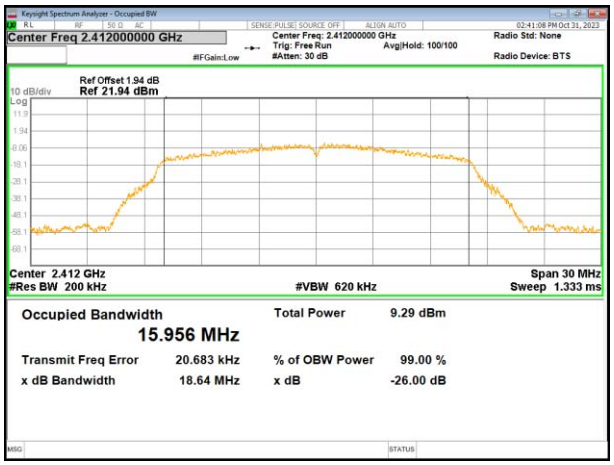
**Test plot as follows: 99% Bandwidth Test plot as follows**

| 802.11b | Lowest channel | 802.11b | Middle channel |
|---|---|---|---|

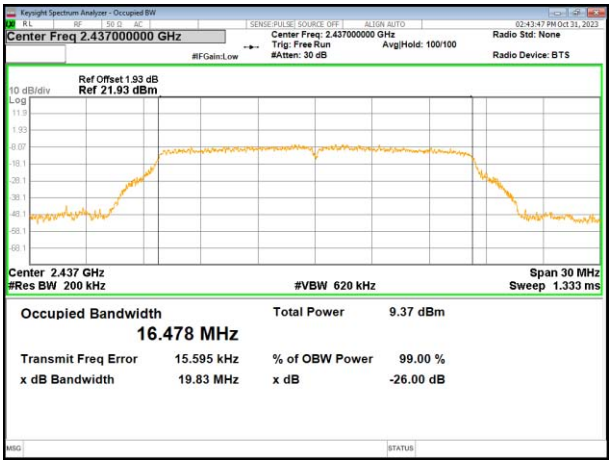


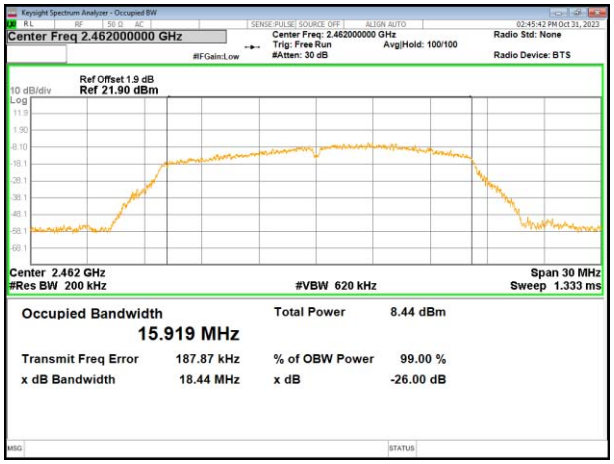

| 802.11b | Highest channel | 802.11g | Lowest channel |
|---|---|---|---|



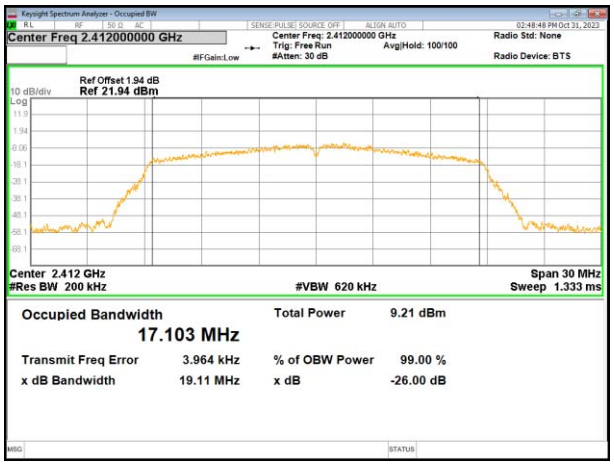



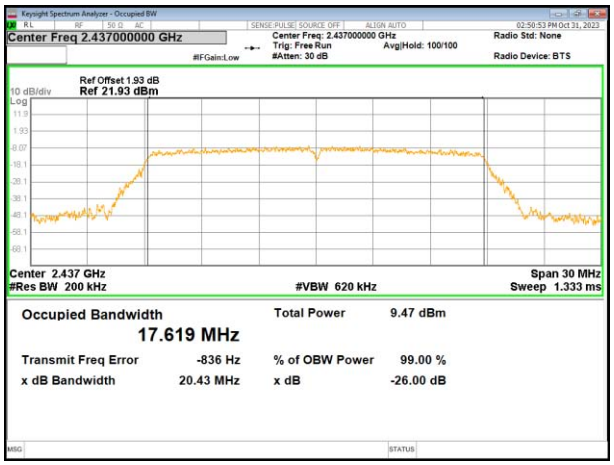

| 802.11g | Middle channel | 802.11g | Highest channel |
|---|---|---|---|



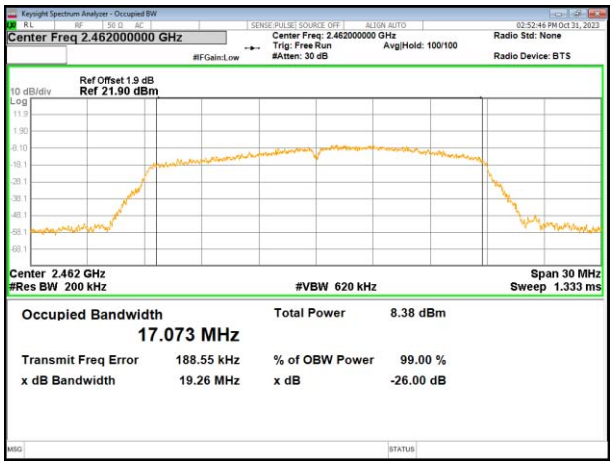



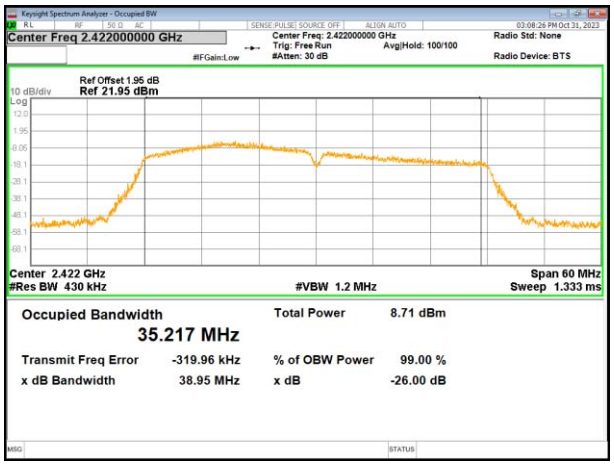
| 802.11n20 | Lowest channel | 802.1120 | Middle channel |
|---|---|---|---|



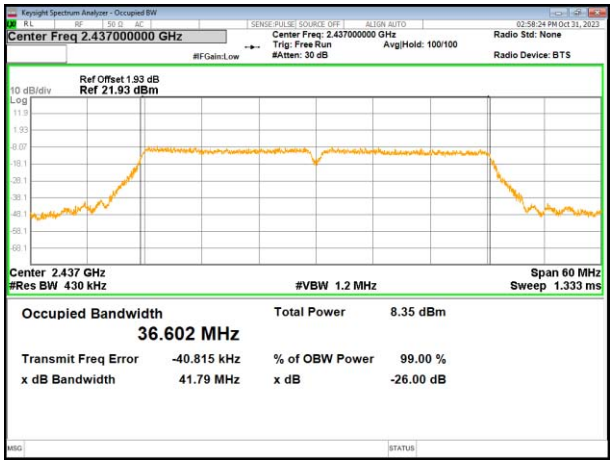



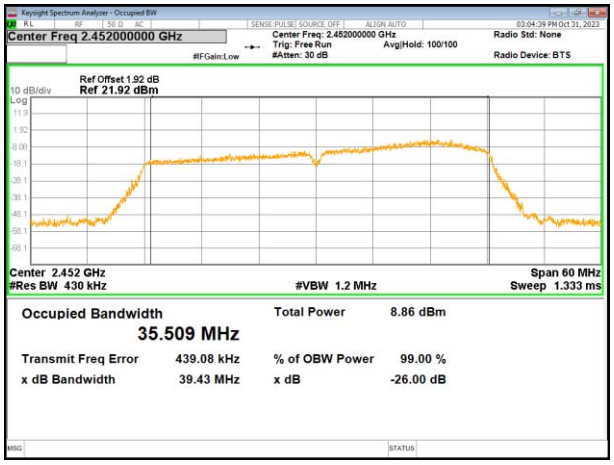

| 802.11n20 | Highest channel | 802.11n40 | Lowest channel |
|---|---|---|---|



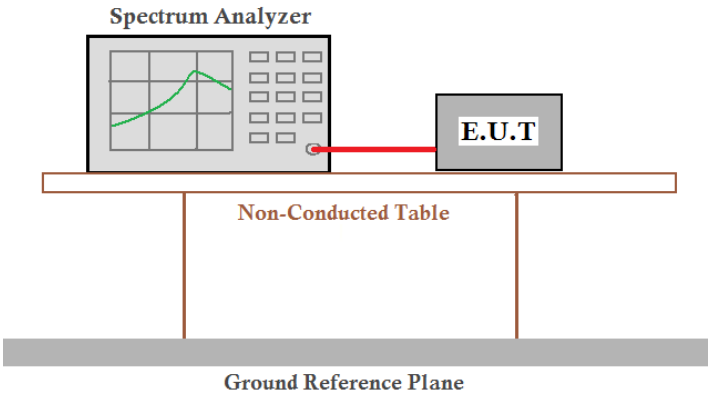




| 802.11n40 | Middle channel | 802.11n40 | Highest channel |
|---|---|---|---|



## 4.6 Power Spectral Density

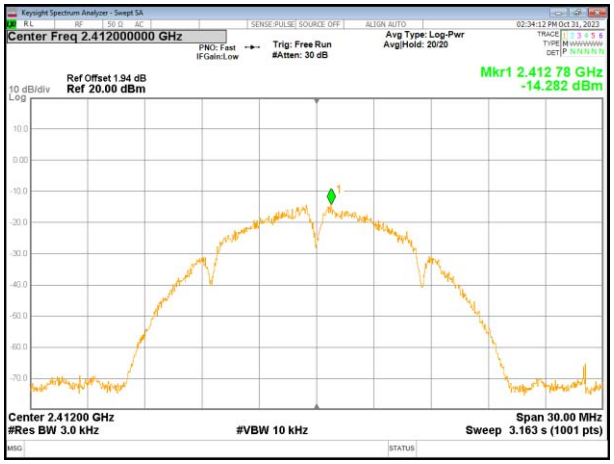
| | | |
|---|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (e) | |
| Test Method: | KDB 558074 D01 15.247 Meas Guidance v05r02 | |
| Limit: | 8dBm/3kHz | |
| Test setup: |  | |
| Test Instruments: | Refer to section 3.0 for details | |
| Test mode: | Refer to section 2.2 for details | |
| Test environment: | Temp.: 26.2°C | Humid.: 51%RH |
| Test voltage: | DC 3.7V | |
| Test results: | Pass | |

**Measurement Result**

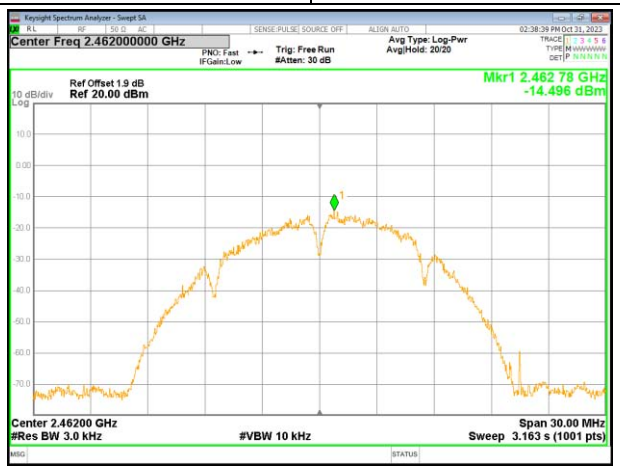
| Test CH | Power Spectral Density (dBm/3kHz) | | | | Limit (dBm/3kHz) | Result |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) | | |
| Lowest | -14.282 | -18.221 | -18.853 | -21.546 | 8.00 | Pass |
| Middle | -14.915 | -20.856 | -20.674 | -24.254 | | |
| Highest | -14.496 | -19.647 | -20.20 | -21.216 | | |

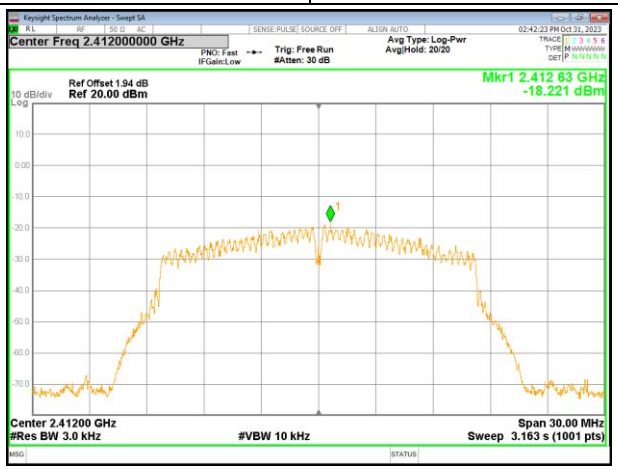
**Test plot as follows:**

| 802.11b | Lowest channel | 802.11b | Middle channel |
|---|---|---|---|

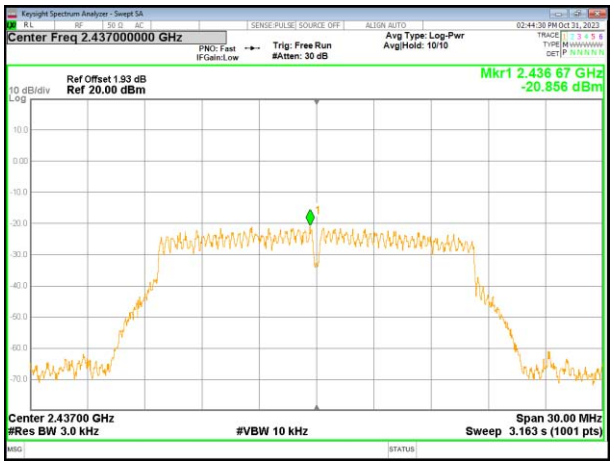


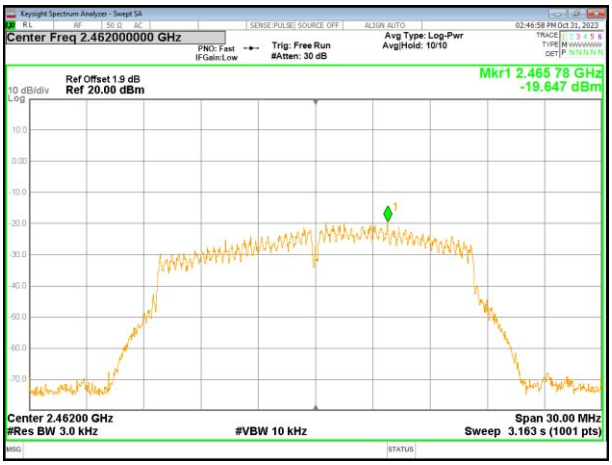
| 802.11b | Highest channel | 802.11g | Lowest channel |
|---|---|---|---|



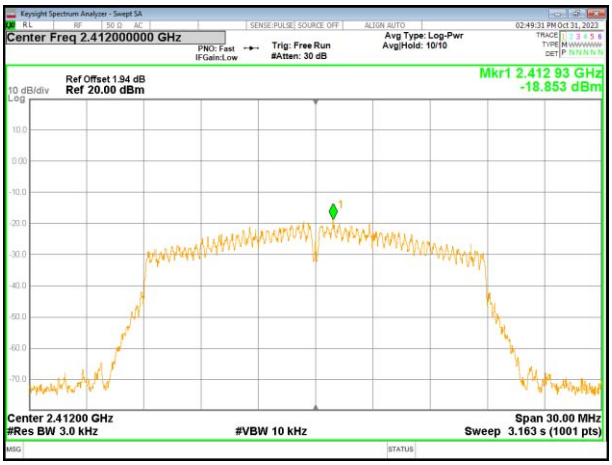



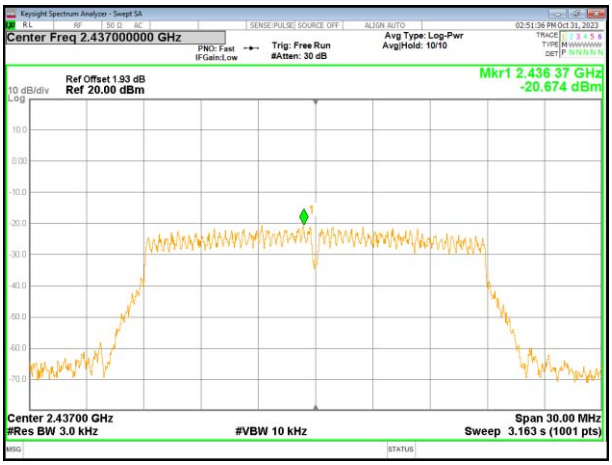

| 802.11g | Middle channel | 802.11g | Highest channel |
|---|---|---|---|



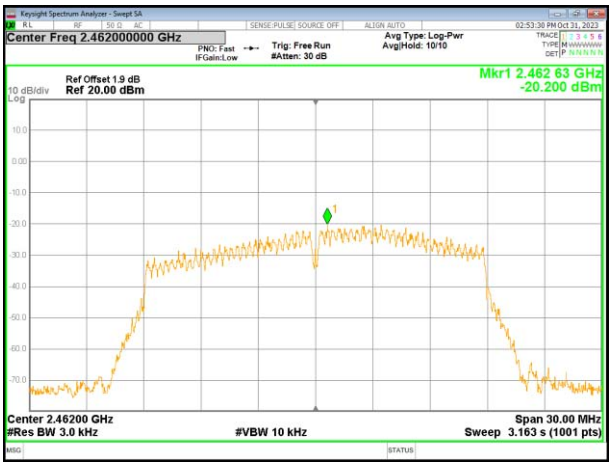



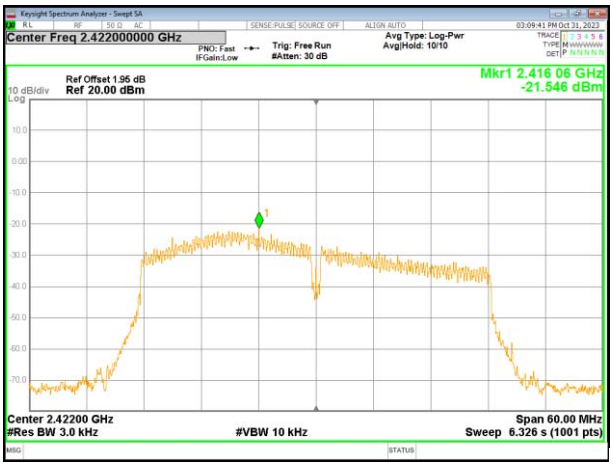
| 802.11n20 | Lowest channel | 802.11n20 | Middle channel |
|---|---|---|---|



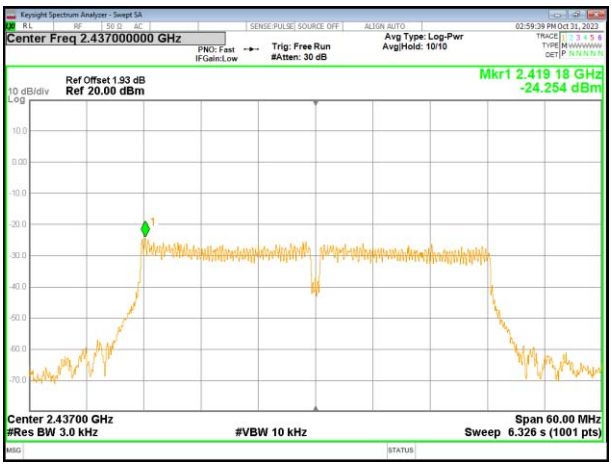



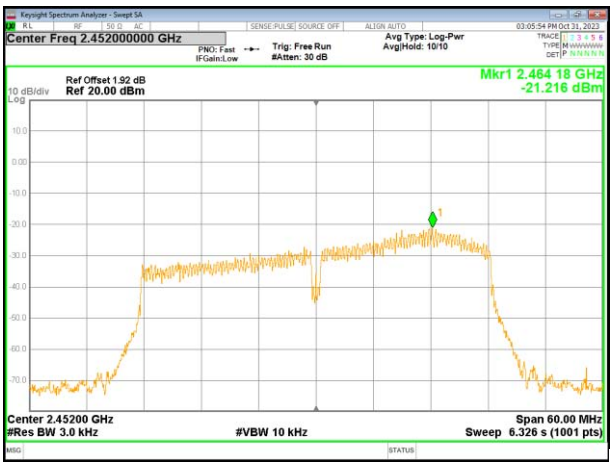

| 802.11n20 | Highest channel | 802.11n40 | Lowest channel |
|---|---|---|---|



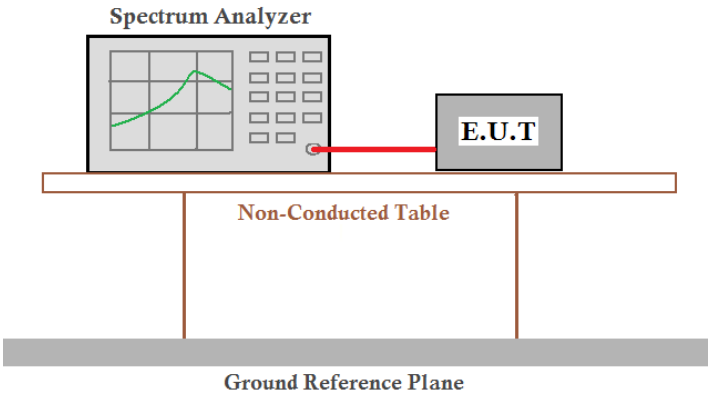

| 802.11n40 | Middle channel | 802.11n40 | Highest channel |
|---|---|---|---|



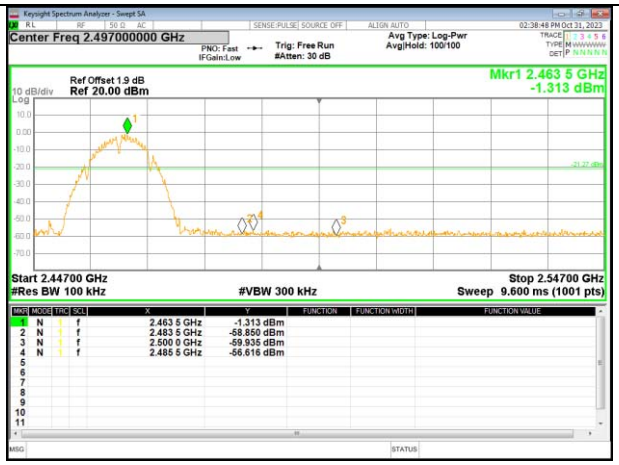



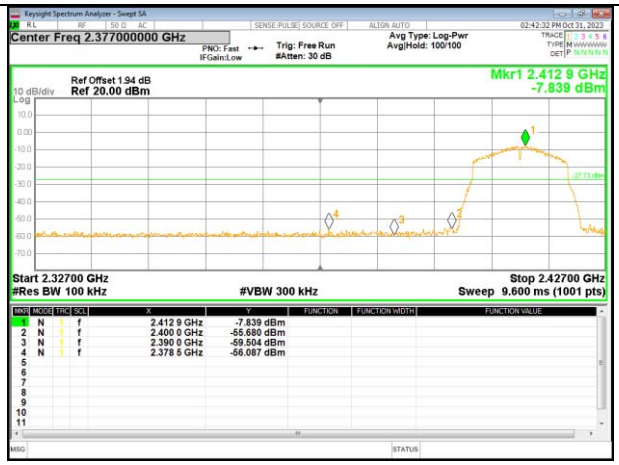
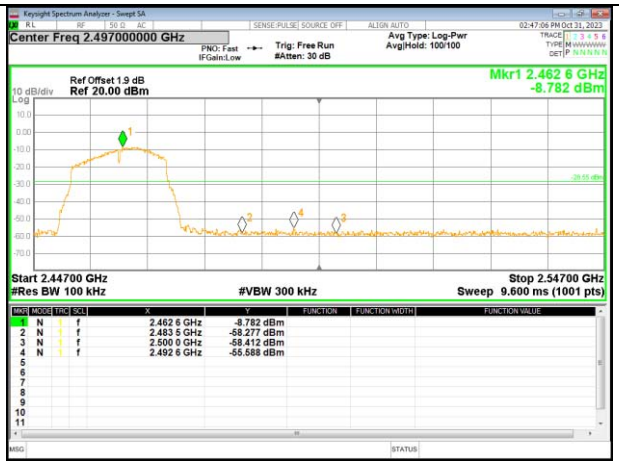
## 4.7 Band edges

### Conducted Emission Method

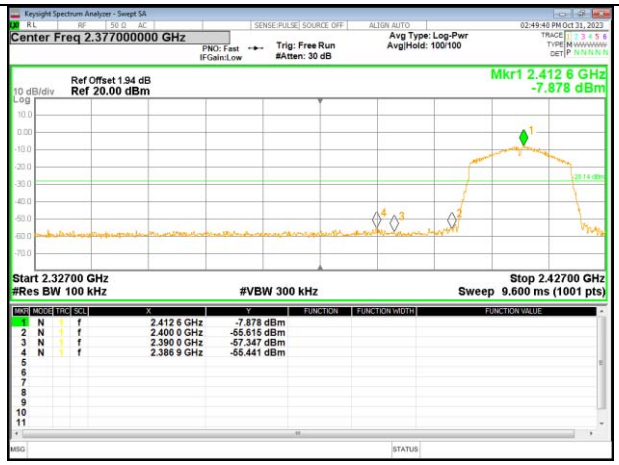
| | | |
|---|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (d), RSS-247 §5.2.b | |
| Test Method: | KDB 558074 D01 15.247 Meas Guidance v05r02 | |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. | |
| Test setup: |  | |
| Test Instruments: | Refer to section 3.0 for details | |
| Test mode: | Refer to section 2.2 for details | |
| Test environment: | Temp.: 26.2°C | Humid.: 51%RH |
| Test voltage: | DC 3.7V | |
| Test results: | Pass | |

**Test plot as follows:**

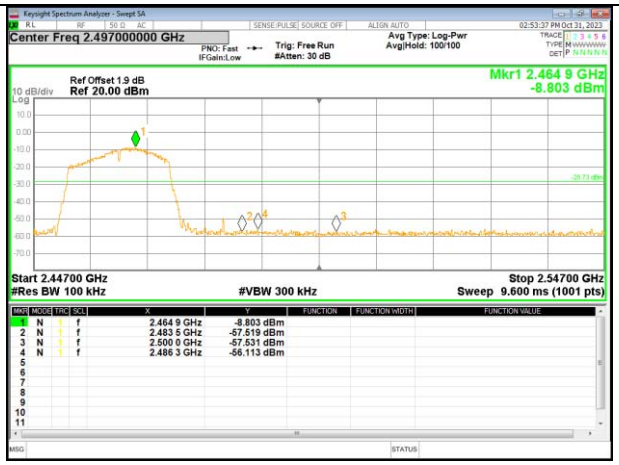
| Test mode: | 802.11b |
|---|---|
| |  |
| Lowest channel | Highest channel |

| Test mode: | 802.11g |
|---|---|
|  |  |
| Lowest channel | Highest channel |

| Test mode: | 802.11n20 |
|---|---|

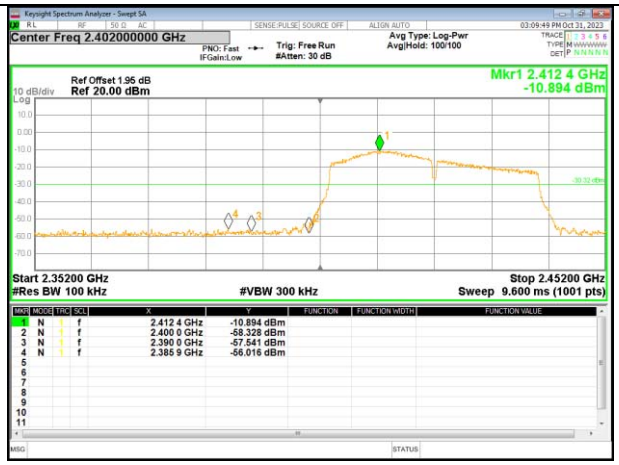



Lowest channel




Highest channel

| Test mode: | 802.11n40 |
|---|---|




Lowest channel

Highest channel

## Radiated Emission Method

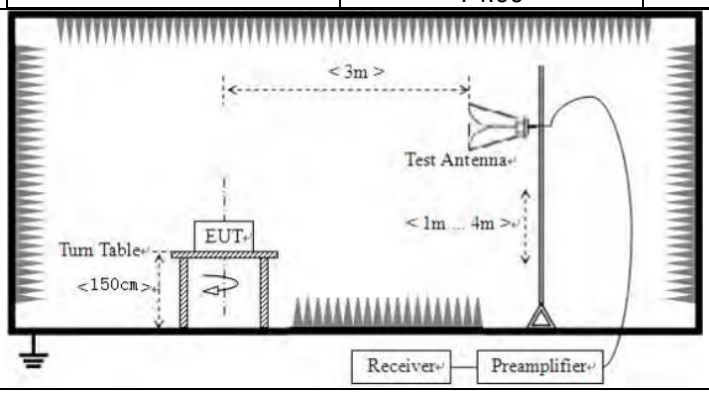
| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.209 and 15.205 |
| Test Method: | ANSI C63.10: 2013 |
| Test Frequency Range: | All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed. |
| Test site: | Measurement Distance: 3m |
| Receiver setup: | |

| Frequency | Detector | RBW | VBW | Value |
|---|---|---|---|---|
| Above 1GHz | Peak | 1MHz | 3MHz | Peak |
| | Average | 1MHz | 3MHz | Average |

Limit:

| Frequency | Limit (dBuV/m @3m) | Value |
|---|---|---|
| Above 1GHz | 54.00 | Average |
| | 74.00 | Peak |

Test setup:




Test Procedure:

1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
7. The radiation measurements are performed in X, Y, Z axis positioning. And found the Y axis positioning which it is worse case, only the test worst case mode is recorded in the report.

| | | |
|---|---|---|
| Test Instruments: | Refer to section 3.0 for details | |
| Test mode: | Refer to section 2.2 for details | |
| Test environment: | Temp.: 26.2°C | Humid.: 51%RH |
| Test voltage: | DC 3.7V | |
| Test results: | Pass | |

**Measurement data:**

| Test mode: | 802.11b | Test channel: | Lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 60.99 | 27.40 | 3.43 | 45.40 | 46.42 | 74.00 | -27.58 | Horizontal |
| 2390.00 | 63.67 | 27.10 | 3.43 | 45.40 | 48.80 | 74.00 | -25.20 | Horizontal |
| 2310.00 | 62.07 | 27.40 | 3.43 | 45.40 | 47.50 | 74.00 | -26.50 | Vertical |
| 2390.00 | 65.27 | 27.10 | 3.43 | 45.40 | 50.40 | 74.00 | -23.61 | Vertical |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 50.27 | 27.40 | 3.43 | 45.40 | 35.70 | 54.00 | -18.30 | Horizontal |
| 2390.00 | 53.25 | 27.10 | 3.43 | 45.40 | 38.38 | 54.00 | -15.62 | Horizontal |
| 2310.00 | 52.19 | 27.40 | 3.43 | 45.40 | 37.62 | 54.00 | -16.38 | Vertical |
| 2390.00 | 54.59 | 27.10 | 3.43 | 45.40 | 39.72 | 54.00 | -14.28 | Vertical |

| Test mode: | 802.11b | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 63.60 | 27.80 | 3.56 | 45.40 | 49.56 | 74.00 | -24.44 | Horizontal |
| 2500.00 | 60.14 | 27.80 | 3.56 | 45.40 | 46.10 | 74.00 | -27.90 | Horizontal |
| 2483.50 | 64.39 | 27.80 | 3.56 | 45.40 | 50.35 | 74.00 | -23.65 | Vertical |
| 2500.00 | 61.89 | 27.80 | 3.56 | 45.40 | 47.85 | 74.00 | -26.15 | Vertical |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 53.59 | 27.80 | 3.56 | 45.40 | 39.55 | 54.00 | -14.45 | Horizontal |
| 2500.00 | 51.54 | 27.80 | 3.56 | 45.40 | 37.50 | 54.00 | -16.50 | Horizontal |
| 2483.50 | 53.06 | 27.80 | 3.56 | 45.40 | 39.02 | 54.00 | -14.98 | Vertical |
| 2500.00 | 51.01 | 27.80 | 3.56 | 45.40 | 36.97 | 54.00 | -17.03 | Vertical |

*Remarks:*

1. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
2. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11g | Test channel: | Lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 61.71 | 27.40 | 3.43 | 45.40 | 47.14 | 74.00 | -26.86 | Horizontal |
| 2390.00 | 65.27 | 27.10 | 3.43 | 45.40 | 50.40 | 74.00 | -23.61 | Horizontal |
| 2310.00 | 61.09 | 27.40 | 3.43 | 45.40 | 46.52 | 74.00 | -27.48 | Vertical |
| 2390.00 | 64.13 | 27.10 | 3.43 | 45.40 | 49.26 | 74.00 | -24.74 | Vertical |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 51.68 | 27.40 | 3.43 | 45.40 | 37.11 | 54.00 | -16.89 | Horizontal |
| 2390.00 | 54.13 | 27.10 | 3.43 | 45.40 | 39.26 | 54.00 | -14.74 | Horizontal |
| 2310.00 | 51.39 | 27.40 | 3.43 | 45.40 | 36.82 | 54.00 | -17.18 | Vertical |
| 2390.00 | 54.40 | 27.10 | 3.43 | 45.40 | 39.53 | 54.00 | -14.47 | Vertical |

| Test mode: | 802.11g | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 63.96 | 27.80 | 3.56 | 45.40 | 49.92 | 74.00 | -24.08 | Horizontal |
| 2500.00 | 60.70 | 27.80 | 3.56 | 45.40 | 46.66 | 74.00 | -27.34 | Horizontal |
| 2483.50 | 64.21 | 27.80 | 3.56 | 45.40 | 50.17 | 74.00 | -23.83 | Vertical |
| 2500.00 | 60.95 | 27.80 | 3.56 | 45.40 | 46.91 | 74.00 | -27.09 | Vertical |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 54.99 | 27.80 | 3.56 | 45.40 | 40.95 | 54.00 | -13.05 | Horizontal |
| 2500.00 | 51.08 | 27.80 | 3.56 | 45.40 | 37.04 | 54.00 | -16.96 | Horizontal |
| 2483.50 | 53.72 | 27.80 | 3.56 | 45.40 | 39.68 | 54.00 | -14.32 | Vertical |
| 2500.00 | 50.23 | 27.80 | 3.56 | 45.40 | 36.19 | 54.00 | -17.81 | Vertical |

*Remarks:*

4. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
5. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
6. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT20) | Test channel: | Lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 60.74 | 27.40 | 3.43 | 45.40 | 46.17 | 74.00 | -27.83 | Horizontal |
| 2390.00 | 64.35 | 27.10 | 3.43 | 45.40 | 49.48 | 74.00 | -24.52 | Horizontal |
| 2310.00 | 61.47 | 27.40 | 3.43 | 45.40 | 46.90 | 74.00 | -27.10 | Vertical |
| 2390.00 | 65.17 | 27.10 | 3.43 | 45.40 | 50.30 | 74.00 | -23.70 | Vertical |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 50.48 | 27.40 | 3.43 | 45.40 | 35.91 | 54.00 | -18.09 | Horizontal |
| 2390.00 | 53.87 | 27.10 | 3.43 | 45.40 | 39.00 | 54.00 | -15.00 | Horizontal |
| 2310.00 | 49.32 | 27.40 | 3.43 | 45.40 | 34.75 | 54.00 | -19.25 | Vertical |
| 2390.00 | 54.05 | 27.10 | 3.43 | 45.40 | 39.18 | 54.00 | -14.82 | Vertical |

| Test mode: | 802.11n(HT20) | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 69.26 | 27.80 | 3.56 | 45.40 | 55.22 | 74.00 | -18.78 | Horizontal |
| 2500.00 | 65.50 | 27.80 | 3.56 | 45.40 | 51.46 | 74.00 | -22.54 | Horizontal |
| 2483.50 | 69.40 | 27.80 | 3.56 | 45.40 | 55.36 | 74.00 | -18.64 | Vertical |
| 2500.00 | 63.22 | 27.80 | 3.56 | 45.40 | 49.18 | 74.00 | -24.82 | Vertical |

Average value:

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 52.93 | 27.80 | 3.56 | 45.40 | 38.89 | 54.00 | -15.11 | Horizontal |
| 2500.00 | 51.20 | 27.80 | 3.56 | 45.40 | 37.16 | 54.00 | -16.84 | Horizontal |
| 2483.50 | 52.73 | 27.80 | 3.56 | 45.40 | 38.69 | 54.00 | -15.32 | Vertical |
| 2500.00 | 51.46 | 27.80 | 3.56 | 45.40 | 37.42 | 54.00 | -16.58 | Vertical |

*Remarks:*

7. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
8. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
9. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT40) | Test channel: | Lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 61.66 | 27.40 | 3.43 | 45.40 | 47.09 | 74.00 | -26.92 | Horizontal |
| 2390.00 | 65.29 | 27.10 | 3.43 | 45.40 | 50.42 | 74.00 | -23.58 | Horizontal |
| 2310.00 | 61.07 | 27.40 | 3.43 | 45.40 | 46.50 | 74.00 | -27.50 | Vertical |
| 2390.00 | 66.14 | 27.10 | 3.43 | 45.40 | 51.27 | 74.00 | -22.73 | Vertical |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2310.00 | 51.20 | 27.40 | 3.43 | 45.40 | 36.63 | 54.00 | -17.37 | Horizontal |
| 2390.00 | 54.23 | 27.10 | 3.43 | 45.40 | 39.36 | 54.00 | -14.64 | Horizontal |
| 2310.00 | 50.33 | 27.40 | 3.43 | 45.40 | 35.76 | 54.00 | -18.24 | Vertical |
| 2390.00 | 53.89 | 27.10 | 3.43 | 45.40 | 39.02 | 54.00 | -14.98 | Vertical |

| Test mode: | 802.11n(HT40) | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 68.64 | 27.80 | 3.56 | 45.40 | 54.60 | 74.00 | -19.40 | Horizontal |
| 2500.00 | 64.33 | 27.80 | 3.56 | 45.40 | 50.29 | 74.00 | -23.71 | Horizontal |
| 2483.50 | 69.50 | 27.80 | 3.56 | 45.40 | 55.46 | 74.00 | -18.54 | Vertical |
| 2500.00 | 62.91 | 27.80 | 3.56 | 45.40 | 48.87 | 74.00 | -25.13 | Vertical |

**Average value:**

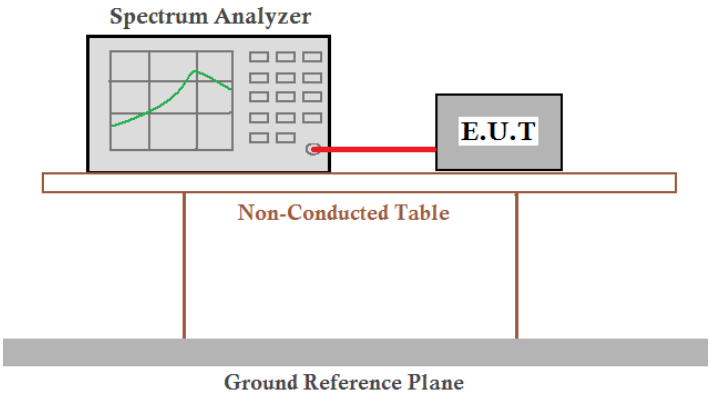
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
|---|---|---|---|---|---|---|---|---|
| 2483.50 | 53.68 | 27.80 | 3.56 | 45.40 | 39.64 | 54.00 | -14.36 | Horizontal |
| 2500.00 | 51.07 | 27.80 | 3.56 | 45.40 | 37.03 | 54.00 | -16.97 | Horizontal |
| 2483.50 | 52.37 | 27.80 | 3.56 | 45.40 | 38.33 | 54.00 | -15.67 | Vertical |
| 2500.00 | 50.47 | 27.80 | 3.56 | 45.40 | 36.43 | 54.00 | -17.57 | Vertical |

*Remarks:*

10. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
11. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
12. *Emissions more than 20 dB below the limit do not need to be reported.*

## 4.8 Spurious Emission

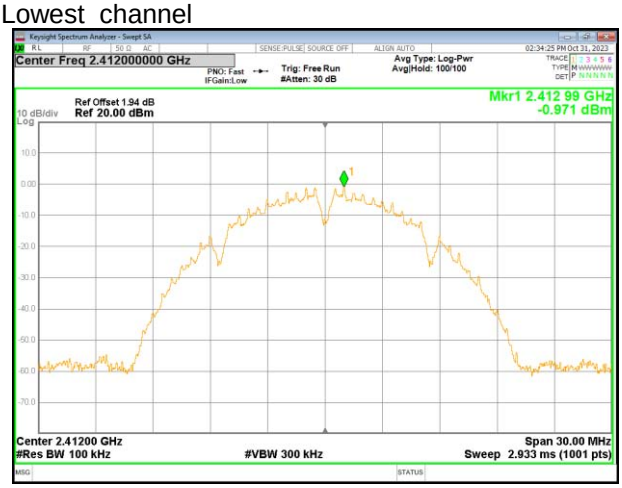
### Conducted Emission Method

| | | |
|---|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (d) | |
| Test Method: | KDB 558074 D01 15.247 Meas Guidance v05r02 | |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. | |
| Test setup: |  | |
| Test Instruments: | Refer to section 3.0 for details | |
| Test mode: | Refer to section 2.2 for details | |
| Test environment: | Temp.: 26.2°C | Humid.: 51%RH |
| Test voltage: | DC 3.7V | |
| Test results: | Pass | |

**Test plot as follows:**

802.11b

Lowest channel



30MHz~25GHz

Middle channel

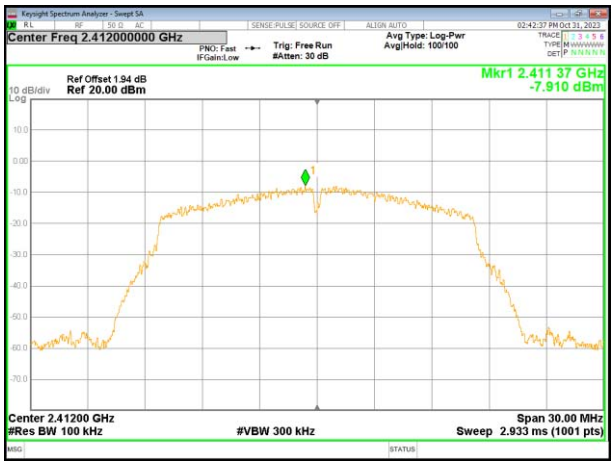
30MHz~25GHz

Highest channel

30MHz~25GHz

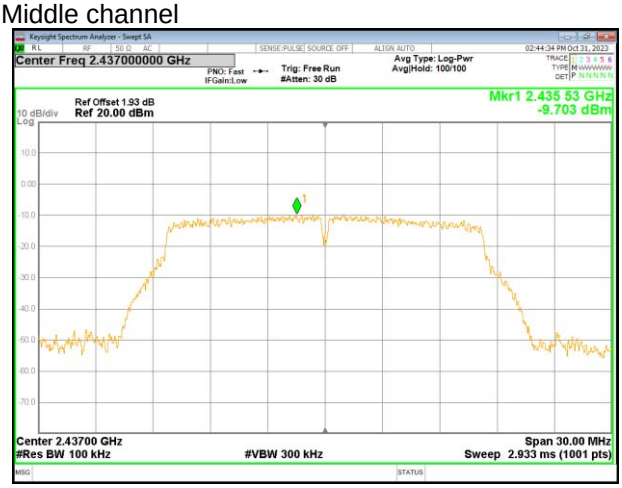
802.11g

Lowest channel



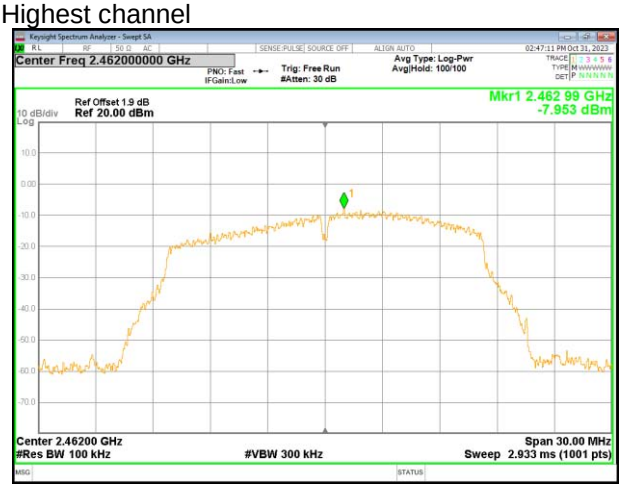
30MHz~25GHz

Middle channel



30MHz~25GHz

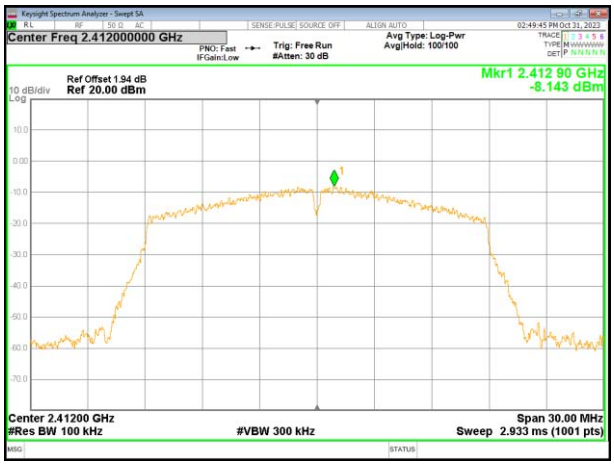
Highest channel



30MHz~25GHz

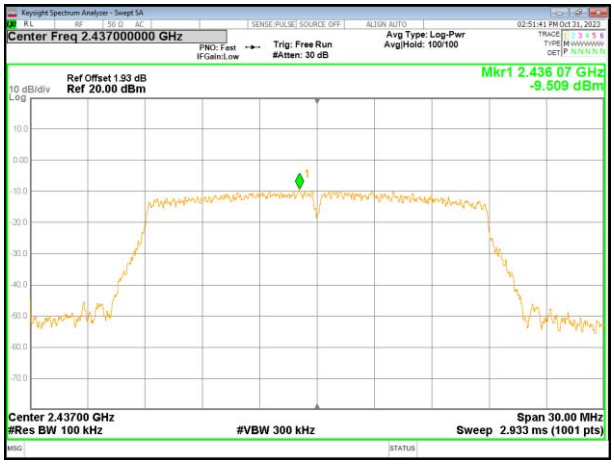
802.11n20

Lowest channel



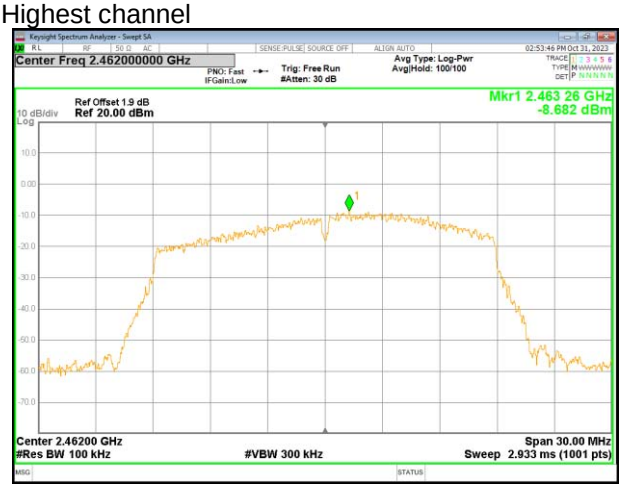
30MHz~25GHz

Middle channel



30MHz~25GHz

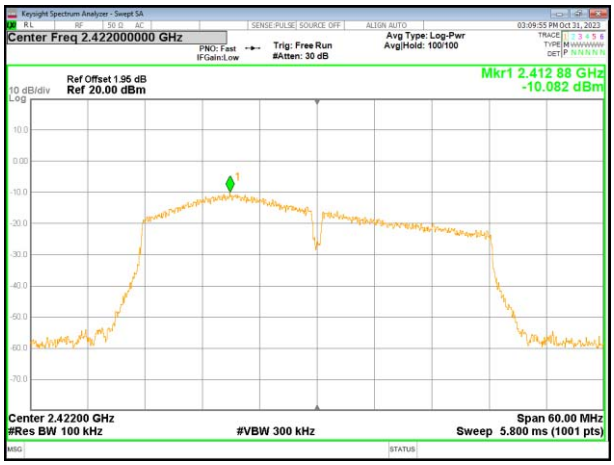
Highest channel



30MHz~25GHz

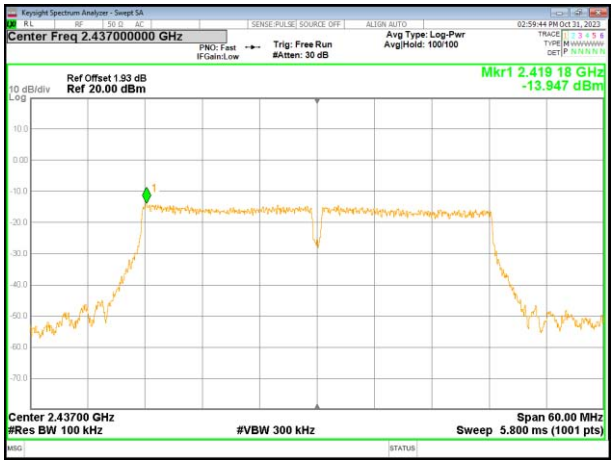
802.11n40

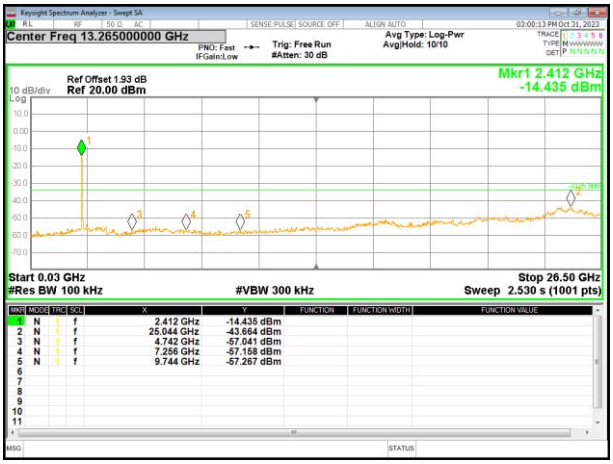
Lowest channel



30MHz~25GHz

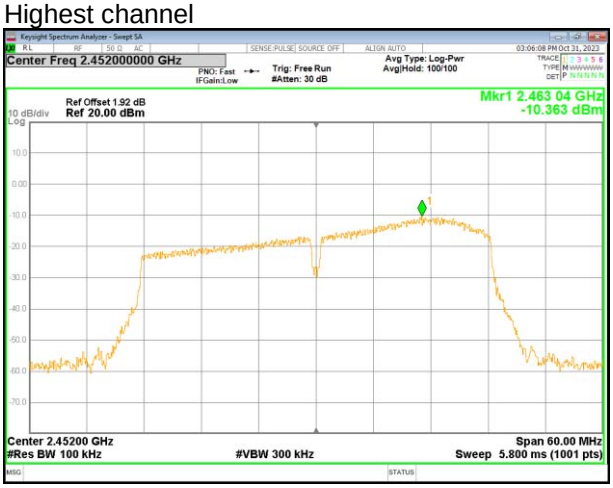
Middle channel




30MHz~25GHz

Highest channel



30MHz~25GHz

## Radiated Emission Method

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.209 |
| Test Method: | ANSI C63.10: 2013 |
| Test Frequency Range: | 9kHz to 25GHz |
| Test site: | Measurement Distance: 3m |

Receiver setup:

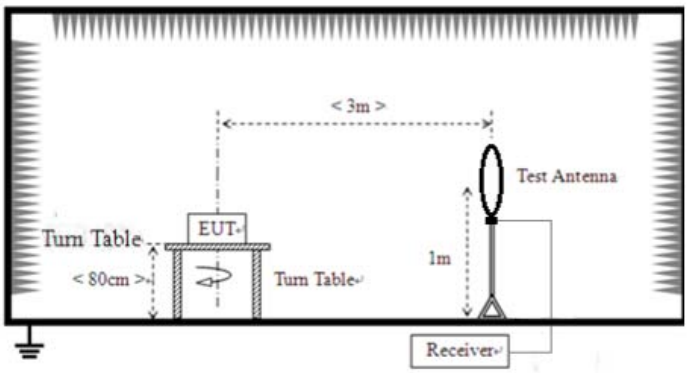
| Frequency | Detector | RBW | VBW | Value |
|---|---|---|---|---|
| 9KHz-150KHz | Quasi-peak | 200Hz | 600Hz | Quasi-peak |
| 150KHz-30MHz | Quasi-peak | 9KHz | 30KHz | Quasi-peak |
| 30MHz-1GHz | Quasi-peak | 120KHz | 300KHz | Quasi-peak |
| Above 1GHz | Peak | 1MHz | 3MHz | Peak |
| | Peak | 1MHz | 10Hz | Average |

Limit:

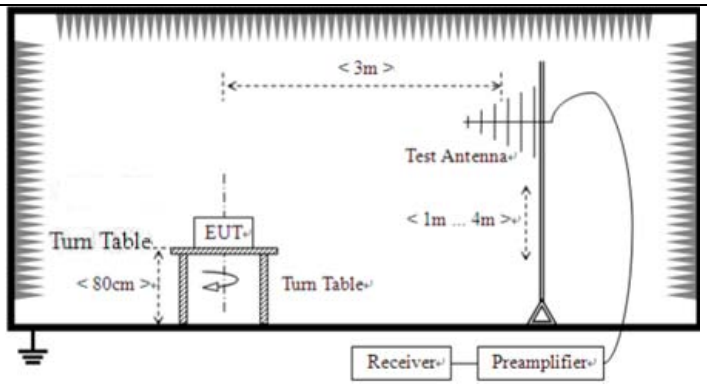
| Frequency | Limit (uV/m) | Value | Measurement Distance |
|---|---|---|---|
| 0.009MHz-0.490MHz | 2400/F(KHz) | QP | 300m |
| 0.490MHz-1.705MHz | 24000/F(KHz) | QP | 300m |
| 1.705MHz-30MHz | 30 | QP | 30m |
| 30MHz-88MHz | 100 | QP | 3m |
| 88MHz-216MHz | 150 | QP | |
| 216MHz-960MHz | 200 | QP | |
| 960MHz-1GHz | 500 | QP | |
| Above 1GHz | 500 | Average | |
| | 5000 | Peak | |

Test setup:

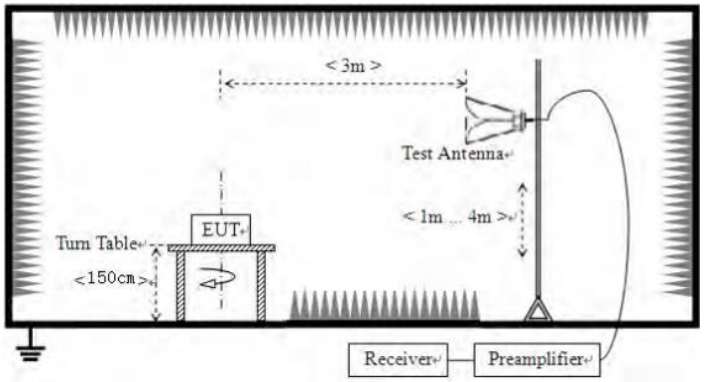
For radiated emissions from 9kHz to 30MHz




For radiated emissions from 30MHz to1GHz




For radiated emissions above 1GHz




| | |
|---|---|
| Test Procedure: | 1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.<br>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.<br>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.<br>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.<br>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.<br>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. |
| Test Instruments: | Refer to section 3.0 for details |
| Test mode: | Refer to section 2.2 for details |

| | | | | | | |
|---|---|---|---|---|---|---|
| Test environment: | Temp.: | 26.2°C | Humid.: | 51% | Press.: | 1012mbar |
| Test voltage: | DC 3.7V | | | | | |
| Test results: | Pass | | | | | |

*Remarks:*

1. *The report only shows the worst mode.*
2. *Pre-scan all kind of the place mode (X-axis, Y-(axis, Z-axis), and found the Y-axis which it is worse case.*

**Measurement data:**

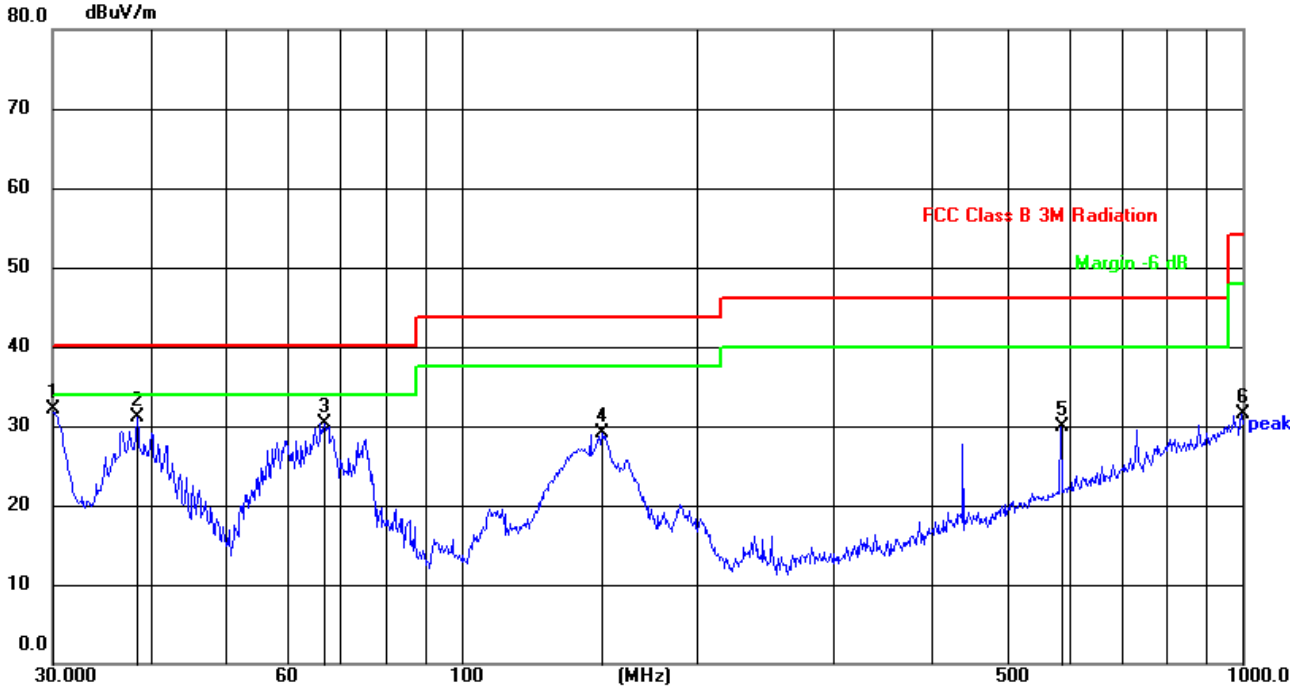
■ **9kHz~30MHz**

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

■ **Below 1GHz**

*All mode has been tested, the report only shows the worst mode (802.11b 2437MHz).*

**Vertical:**



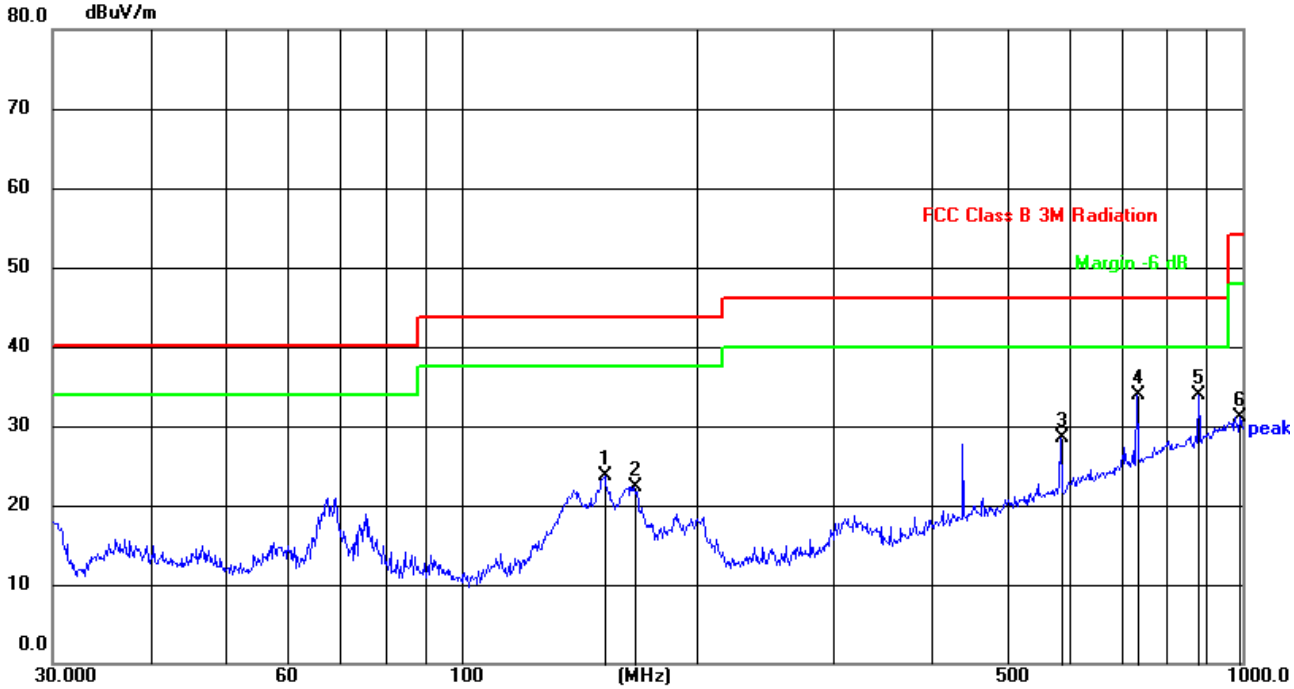

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 30.0000 | 54.86 | -22.77 | 32.09 | 40.00 | -7.91 | QP |
| 2 | 38.4809 | 52.30 | -21.18 | 31.12 | 40.00 | -8.88 | QP |
| 3 | 66.7325 | 54.02 | -23.63 | 30.39 | 40.00 | -9.61 | QP |
| 4 | 151.5972 | 49.63 | -20.51 | 29.12 | 43.50 | -14.38 | QP |
| 5 | 584.7895 | 41.92 | -12.09 | 29.83 | 46.00 | -16.17 | QP |
| 6 | 996.4996 | 34.87 | -3.39 | 31.48 | 54.00 | -22.52 | QP |

*Remarks:*

*Level =Receiver Reading + Factor*

*Factor= Antenna Factor + Cable Factor – Preamplifier Factor*

**Horizontal:**




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 152.6641 | 44.21 | -20.52 | 23.69 | 43.50 | -19.81 | QP |
| 2 | 166.6514 | 43.12 | -20.83 | 22.29 | 43.50 | -21.21 | QP |
| 3 | 584.7895 | 40.54 | -12.09 | 28.45 | 46.00 | -17.55 | QP |
| 4 | 731.9203 | 42.36 | -8.47 | 33.89 | 46.00 | -12.11 | QP |
| 5 | 878.3214 | 39.63 | -5.81 | 33.82 | 46.00 | -12.18 | QP |
| 6 | 993.0114 | 34.58 | -3.42 | 31.16 | 54.00 | -22.84 | QP |

*Remarks:*

*Level =Receiver Reading + Factor*

*Factor= Antenna Factor + Cable Factor – Preamplifier Factor*

■ **Above 1GHz**

| Test mode: | 802.11b | Test channel: | Lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4824.00 | 52.74 | 32.80 | 5.96 | 45.70 | 45.80 | 74.00 | -28.20 | Vertical |
| 7236.00 | 51.50 | 36.20 | 6.93 | 45.80 | 48.83 | 74.00 | -25.17 | Vertical |
| 9648.00 | 50.85 | 38.40 | 8.02 | 46.20 | 51.07 | 74.00 | -22.93 | Vertical |
| 12060.00 | * | | | | | 74.00 | | Vertical |
| 14472.00 | * | | | | | 74.00 | | Vertical |
| 16884.00 | * | | | | | 74.00 | | Vertical |
| 4824.00 | 53.30 | 32.10 | 5.96 | 45.50 | 45.86 | 74.00 | -28.14 | Horizontal |
| 7236.00 | 52.26 | 36.60 | 6.93 | 45.60 | 50.19 | 74.00 | -23.81 | Horizontal |
| 9648.00 | 50.97 | 38.60 | 8.02 | 46.20 | 51.39 | 74.00 | -22.61 | Horizontal |
| 12060.00 | * | | | | | 74.00 | | Horizontal |
| 14472.00 | * | | | | | 74.00 | | Horizontal |
| 16884.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4824.00 | 43.78 | 32.10 | 5.96 | 45.50 | 36.34 | 54.00 | -17.66 | Vertical |
| 7236.00 | 42.20 | 36.60 | 6.93 | 45.60 | 40.13 | 54.00 | -13.87 | Vertical |
| 9648.00 | 40.19 | 38.60 | 8.02 | 46.20 | 40.61 | 54.00 | -13.40 | Vertical |
| 12060.00 | * | | | | | 54.00 | | Vertical |
| 14472.00 | * | | | | | 54.00 | | Vertical |
| 16884.00 | * | | | | | 54.00 | | Vertical |
| 4824.00 | 44.35 | 32.10 | 5.96 | 45.50 | 36.91 | 54.00 | -17.09 | Horizontal |
| 7236.00 | 42.09 | 36.60 | 6.93 | 45.60 | 40.02 | 54.00 | -13.98 | Horizontal |
| 9648.00 | 40.25 | 38.60 | 8.02 | 46.20 | 40.67 | 54.00 | -13.33 | Horizontal |
| 12060.00 | * | | | | | 54.00 | | Horizontal |
| 14472.00 | * | | | | | 54.00 | | Horizontal |
| 16884.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Level = Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11b | Test channel: | Middle |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 54.25 | 32.40 | 5.96 | 45.50 | 47.11 | 74.00 | -26.90 | Vertical |
| 7311.00 | 52.09 | 36.60 | 6.93 | 45.60 | 50.02 | 74.00 | -23.98 | Vertical |
| 9748.00 | 51.18 | 38.00 | 8.02 | 46.20 | 51.00 | 74.00 | -23.00 | Vertical |
| 12185.00 | * | | | | | 74.00 | | Vertical |
| 14622.00 | * | | | | | 74.00 | | Vertical |
| 17059.00 | * | | | | | 74.00 | | Vertical |
| 4874.00 | 53.94 | 32.40 | 5.96 | 45.50 | 46.80 | 74.00 | -27.20 | Horizontal |
| 7311.00 | 53.12 | 36.60 | 6.93 | 45.60 | 51.05 | 74.00 | -22.95 | Horizontal |
| 9748.00 | 50.27 | 38.00 | 8.02 | 46.20 | 50.09 | 74.00 | -23.91 | Horizontal |
| 12185.00 | * | | | | | 74.00 | | Horizontal |
| 14622.00 | * | | | | | 74.00 | | Horizontal |
| 17059.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 44.24 | 32.40 | 5.96 | 45.50 | 37.10 | 54.00 | -16.90 | Vertical |
| 7311.00 | 41.42 | 36.60 | 6.93 | 45.60 | 39.35 | 54.00 | -14.65 | Vertical |
| 9748.00 | 40.66 | 38.00 | 8.02 | 46.20 | 40.48 | 54.00 | -13.52 | Vertical |
| 12185.00 | * | | | | | 54.00 | | Vertical |
| 14622.00 | * | | | | | 54.00 | | Vertical |
| 17059.00 | * | | | | | 54.00 | | Vertical |
| 4874.00 | 44.32 | 32.40 | 5.96 | 45.50 | 37.18 | 54.00 | -16.82 | Horizontal |
| 7311.00 | 42.03 | 36.60 | 6.93 | 45.60 | 39.96 | 54.00 | -14.04 | Horizontal |
| 9748.00 | 39.91 | 38.00 | 8.02 | 46.20 | 39.73 | 54.00 | -14.27 | Horizontal |
| 12185.00 | * | | | | | 54.00 | | Horizontal |
| 14622.00 | * | | | | | 54.00 | | Horizontal |
| 17059.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11b | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4924.00 | 53.76 | 32.80 | 5.96 | 45.70 | 46.82 | 74.00 | -27.18 | Vertical |
| 7386.00 | 51.47 | 36.40 | 6.93 | 45.80 | 49.00 | 74.00 | -25.00 | Vertical |
| 9848.00 | 50.35 | 38.20 | 8.02 | 46.20 | 50.37 | 74.00 | -23.63 | Vertical |
| 12310.00 | * | | | | | 74.00 | | Vertical |
| 14772.00 | * | | | | | 74.00 | | Vertical |
| 17234.00 | * | | | | | 74.00 | | Vertical |
| 4924.00 | 53.13 | 32.80 | 5.96 | 45.70 | 46.19 | 74.00 | -27.81 | Horizontal |
| 7386.00 | 50.69 | 36.40 | 6.93 | 45.80 | 48.22 | 74.00 | -25.78 | Horizontal |
| 9848.00 | 50.56 | 38.20 | 8.02 | 46.20 | 50.58 | 74.00 | -23.42 | Horizontal |
| 12310.00 | * | | | | | 74.00 | | Horizontal |
| 14772.00 | * | | | | | 74.00 | | Horizontal |
| 17234.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4924.00 | 43.98 | 32.80 | 5.96 | 45.70 | 37.04 | 54.00 | -16.96 | Vertical |
| 7386.00 | 41.71 | 36.40 | 6.93 | 45.80 | 39.24 | 54.00 | -14.76 | Vertical |
| 9848.00 | 40.59 | 38.20 | 8.02 | 46.20 | 40.61 | 54.00 | -13.39 | Vertical |
| 12310.00 | * | | | | | 54.00 | | Vertical |
| 14772.00 | * | | | | | 54.00 | | Vertical |
| 17234.00 | * | | | | | 54.00 | | Vertical |
| 4924.00 | 43.53 | 32.80 | 5.96 | 45.70 | 36.59 | 54.00 | -17.41 | Horizontal |
| 7386.00 | 43.30 | 36.40 | 6.93 | 45.80 | 40.83 | 54.00 | -13.17 | Horizontal |
| 9848.00 | 40.08 | 38.20 | 8.02 | 46.20 | 40.10 | 54.00 | -13.90 | Horizontal |
| 12310.00 | * | | | | | 54.00 | | Horizontal |
| 14772.00 | * | | | | | 54.00 | | Horizontal |
| 17234.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11g | Test channel: | lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4824.00 | 54.78 | 32.10 | 5.96 | 45.50 | 47.34 | 74.00 | -26.66 | Vertical |
| 7236.00 | 53.12 | 36.60 | 6.93 | 45.60 | 51.05 | 74.00 | -22.95 | Vertical |
| 9648.00 | 51.04 | 38.60 | 8.02 | 46.20 | 51.46 | 74.00 | -22.54 | Vertical |
| 12060.00 | * | | | | | 74.00 | | Vertical |
| 14472.00 | * | | | | | 74.00 | | Vertical |
| 16884.00 | * | | | | | 74.00 | | Vertical |
| 4824.00 | 53.94 | 32.10 | 5.96 | 45.50 | 46.50 | 74.00 | -27.50 | Horizontal |
| 7236.00 | 52.54 | 36.60 | 6.93 | 45.60 | 50.47 | 74.00 | -23.53 | Horizontal |
| 9648.00 | 50.78 | 38.60 | 8.02 | 46.20 | 51.20 | 74.00 | -22.80 | Horizontal |
| 12060.00 | * | | | | | 74.00 | | Horizontal |
| 14472.00 | * | | | | | 74.00 | | Horizontal |
| 16884.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4824.00 | 45.09 | 32.10 | 5.96 | 40.02 | 43.13 | 54.00 | -10.87 | Vertical |
| 7236.00 | 42.36 | 36.60 | 6.93 | 42.52 | 43.37 | 54.00 | -10.63 | Vertical |
| 9648.00 | 40.88 | 38.60 | 8.02 | 43.45 | 44.05 | 54.00 | -9.95 | Vertical |
| 12060.00 | * | | | | | 54.00 | | Vertical |
| 14472.00 | * | | | | | 54.00 | | Vertical |
| 16884.00 | * | | | | | 54.00 | | Vertica |
| 4824.00 | 44.37 | 32.10 | 5.96 | 40.02 | 42.41 | 54.00 | -11.59 | Horizontal |
| 7236.00 | 41.76 | 36.60 | 6.93 | 42.52 | 42.77 | 54.00 | -11.23 | Horizontal |
| 9648.00 | 40.49 | 38.60 | 8.02 | 43.45 | 43.66 | 54.00 | -10.34 | Horizontal |
| 12060.00 | * | | | | | 54.00 | | Horizontal |
| 14472.00 | * | | | | | 54.00 | | Horizontal |
| 16884.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11g | Test channel: | Middle |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 54.81 | 32.40 | 5.96 | 45.50 | 47.67 | 74.00 | -26.33 | Vertical |
| 7311.00 | 52.23 | 36.60 | 6.93 | 45.60 | 50.16 | 74.00 | -23.84 | Vertical |
| 9748.00 | 52.03 | 38.00 | 8.02 | 46.20 | 51.85 | 74.00 | -22.15 | Vertical |
| 12185.00 | * | | | | | 74.00 | | Vertical |
| 14622.00 | * | | | | | 74.00 | | Vertical |
| 17059.00 | * | | | | | 74.00 | | Vertical |
| 4874.00 | 54.45 | 32.40 | 5.96 | 45.50 | 47.31 | 74.00 | -26.69 | Horizontal |
| 7311.00 | 52.61 | 36.60 | 6.93 | 45.60 | 50.54 | 74.00 | -23.46 | Horizontal |
| 9748.00 | 51.17 | 38.00 | 8.02 | 46.20 | 50.99 | 74.00 | -23.01 | Horizontal |
| 12185.00 | * | | | | | 74.00 | | Horizontal |
| 14622.00 | * | | | | | 74.00 | | Horizontal |
| 17059.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 43.79 | 32.40 | 5.96 | 45.50 | 36.65 | 54.00 | -17.35 | Vertical |
| 7311.00 | 42.39 | 36.60 | 6.93 | 45.60 | 40.32 | 54.00 | -13.68 | Vertical |
| 9748.00 | 39.96 | 38.00 | 8.02 | 46.20 | 39.78 | 54.00 | -14.22 | Vertical |
| 12185.00 | * | | | | | 54.00 | | Vertical |
| 14622.00 | * | | | | | 54.00 | | Vertical |
| 17059.00 | * | | | | | 54.00 | | Vertical |
| 4874.00 | 45.30 | 32.40 | 5.96 | 45.50 | 38.16 | 54.00 | -15.84 | Horizontal |
| 7311.00 | 40.78 | 36.60 | 6.93 | 45.60 | 38.71 | 54.00 | -15.29 | Horizontal |
| 9748.00 | 41.09 | 38.00 | 8.02 | 46.20 | 40.91 | 54.00 | -13.09 | Horizontal |
| 12185.00 | * | | | | | 54.00 | | Horizontal |
| 14622.00 | * | | | | | 54.00 | | Horizontal |
| 17059.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11g | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4924.00 | 54.40 | 32.80 | 5.96 | 45.70 | 47.46 | 74.00 | -26.54 | Vertical |
| 7386.00 | 52.58 | 36.40 | 6.93 | 45.80 | 50.11 | 74.00 | -23.89 | Vertical |
| 9848.00 | 50.75 | 38.20 | 8.02 | 46.20 | 50.77 | 74.00 | -23.23 | Vertical |
| 12310.00 | * | | | | | 74.00 | | Vertical |
| 14772.00 | * | | | | | 74.00 | | Vertical |
| 17234.00 | * | | | | | 74.00 | | Vertical |
| 4924.00 | 53.96 | 32.80 | 5.96 | 45.70 | 47.02 | 74.00 | -26.98 | Horizontal |
| 7386.00 | 53.13 | 36.40 | 6.93 | 45.80 | 50.66 | 74.00 | -23.34 | Horizontal |
| 9848.00 | 51.39 | 38.20 | 8.02 | 46.20 | 51.41 | 74.00 | -22.59 | Horizontal |
| 12310.00 | * | | | | | 74.00 | | Horizontal |
| 14772.00 | * | | | | | 74.00 | | Horizontal |
| 17234.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4924.00 | 44.43 | 32.80 | 5.96 | 45.70 | 37.49 | 54.00 | -16.51 | Vertical |
| 7386.00 | 41.74 | 36.40 | 6.93 | 45.80 | 39.27 | 54.00 | -14.73 | Vertical |
| 9848.00 | 41.00 | 38.20 | 8.02 | 46.20 | 41.02 | 54.00 | -12.98 | Vertical |
| 12310.00 | * | | | | | 54.00 | | Vertical |
| 14772.00 | * | | | | | 54.00 | | Vertical |
| 17234.00 | * | | | | | 54.00 | | Vertical |
| 4924.00 | 46.81 | 32.80 | 5.96 | 45.70 | 39.87 | 54.00 | -14.13 | Horizontal |
| 7386.00 | 41.40 | 36.40 | 6.93 | 45.80 | 38.93 | 54.00 | -15.07 | Horizontal |
| 9848.00 | 41.80 | 38.20 | 8.02 | 46.20 | 41.82 | 54.00 | -12.18 | Horizontal |
| 12310.00 | * | | | | | 54.00 | | Horizontal |
| 14772.00 | * | | | | | 54.00 | | Horizontal |
| 17234.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT20) | Test channel: | Lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4824.00 | 54.45 | 32.10 | 5.96 | 45.50 | 47.01 | 74.00 | -26.99 | Vertical |
| 7236.00 | 51.51 | 36.60 | 6.93 | 45.60 | 49.44 | 74.00 | -24.56 | Vertical |
| 9648.00 | 50.39 | 38.60 | 8.02 | 46.20 | 50.81 | 74.00 | -23.19 | Vertical |
| 12060.00 | * | | | | | 74.00 | | Vertical |
| 14472.00 | * | | | | | 74.00 | | Vertical |
| 16884.00 | * | | | | | 74.00 | | Vertical |
| 4824.00 | 54.70 | 32.10 | 5.96 | 45.50 | 47.26 | 74.00 | -26.74 | Horizontal |
| 7236.00 | 51.57 | 36.60 | 6.93 | 45.60 | 49.50 | 74.00 | -24.50 | Horizontal |
| 9648.00 | 51.01 | 38.60 | 8.02 | 46.20 | 51.43 | 74.00 | -22.57 | Horizontal |
| 12060.00 | * | | | | | 74.00 | | Horizontal |
| 14472.00 | * | | | | | 74.00 | | Horizontal |
| 16884.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4824.00 | 44.94 | 32.10 | 5.96 | 45.50 | 37.50 | 54.00 | -16.51 | Vertical |
| 7236.00 | 43.04 | 36.60 | 6.93 | 45.60 | 40.97 | 54.00 | -13.03 | Vertical |
| 9648.00 | 41.79 | 38.60 | 8.02 | 46.20 | 42.21 | 54.00 | -11.79 | Vertical |
| 12060.00 | * | | | | | 54.00 | | Vertical |
| 14472.00 | * | | | | | 54.00 | | Vertical |
| 16884.00 | * | | | | | 54.00 | | Vertical |
| 4824.00 | 45.70 | 32.10 | 5.96 | 45.50 | 38.26 | 54.00 | -15.75 | Horizontal |
| 7236.00 | 42.16 | 36.60 | 6.93 | 45.60 | 40.09 | 54.00 | -13.91 | Horizontal |
| 9648.00 | 38.97 | 38.60 | 8.02 | 46.20 | 39.39 | 54.00 | -14.61 | Horizontal |
| 12060.00 | * | | | | | 54.00 | | Horizontal |
| 14472.00 | * | | | | | 54.00 | | Horizontal |
| 16884.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT20) | Test channel: | Middle |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 54.67 | 32.10 | 5.96 | 45.50 | 47.23 | 74.00 | -26.77 | Vertical |
| 7311.00 | 51.82 | 36.60 | 6.93 | 45.60 | 49.75 | 74.00 | -24.25 | Vertical |
| 9748.00 | 48.86 | 38.60 | 8.02 | 46.20 | 49.28 | 74.00 | -24.72 | Vertical |
| 12185.00 | * | | | | | 74.00 | | Vertical |
| 14622.00 | * | | | | | 74.00 | | Vertical |
| 17059.00 | * | | | | | 74.00 | | Vertical |
| 4874.00 | 53.87 | 32.10 | 5.96 | 45.50 | 46.43 | 74.00 | -27.58 | Horizontal |
| 7311.00 | 51.55 | 36.60 | 6.93 | 45.60 | 49.48 | 74.00 | -24.52 | Horizontal |
| 9748.00 | 48.92 | 38.60 | 8.02 | 46.20 | 49.34 | 74.00 | -24.66 | Horizontal |
| 12185.00 | * | | | | | 74.00 | | Horizontal |
| 14622.00 | * | | | | | 74.00 | | Horizontal |
| 17059.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 43.99 | 32.10 | 5.96 | 45.50 | 36.55 | 54.00 | -17.45 | Vertical |
| 7311.00 | 40.33 | 36.60 | 6.93 | 45.60 | 38.26 | 54.00 | -15.74 | Vertical |
| 9748.00 | 37.88 | 38.60 | 8.02 | 46.20 | 38.30 | 54.00 | -15.70 | Vertical |
| 12185.00 | * | | | | | 54.00 | | Vertical |
| 14622.00 | * | | | | | 54.00 | | Vertical |
| 17059.00 | * | | | | | 54.00 | | Vertical |
| 4874.00 | 44.52 | 32.10 | 5.96 | 45.50 | 37.08 | 54.00 | -16.92 | Horizontal |
| 7311.00 | 41.19 | 36.60 | 6.93 | 45.60 | 39.12 | 54.00 | -14.88 | Horizontal |
| 9748.00 | 38.42 | 38.60 | 8.02 | 46.20 | 38.84 | 54.00 | -15.16 | Horizontal |
| 12185.00 | * | | | | | 54.00 | | Horizontal |
| 14622.00 | * | | | | | 54.00 | | Horizontal |
| 17059.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT20) | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4924.00 | 53.83 | 32.10 | 5.96 | 45.50 | 46.39 | 74.00 | -27.61 | Vertical |
| 7386.00 | 51.24 | 36.60 | 6.93 | 45.60 | 49.17 | 74.00 | -24.83 | Vertical |
| 9848.00 | 50.45 | 38.60 | 8.02 | 46.20 | 50.87 | 74.00 | -23.14 | Vertical |
| 12310.00 | * | | | | | 74.00 | | Vertical |
| 14772.00 | * | | | | | 74.00 | | Vertical |
| 17234.00 | * | | | | | 74.00 | | Vertical |
| 4924.00 | 53.49 | 32.80 | 5.96 | 45.70 | 46.55 | 74.00 | -27.46 | Horizontal |
| 7386.00 | 50.33 | 36.40 | 6.93 | 45.80 | 47.86 | 74.00 | -26.14 | Horizontal |
| 9848.00 | 48.47 | 38.20 | 8.02 | 46.20 | 48.49 | 74.00 | -25.51 | Horizontal |
| 12310.00 | * | | | | | 74.00 | | Horizontal |
| 14772.00 | * | | | | | 74.00 | | Horizontal |
| 17234.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4924.00 | 43.76 | 32.80 | 5.96 | 45.70 | 36.82 | 54.00 | -17.18 | Vertical |
| 7386.00 | 40.19 | 36.40 | 6.93 | 45.80 | 37.72 | 54.00 | -16.28 | Vertical |
| 9848.00 | 38.45 | 38.20 | 8.02 | 46.20 | 38.47 | 54.00 | -15.53 | Vertical |
| 12310.00 | * | | | | | 54.00 | | Vertical |
| 14772.00 | * | | | | | 54.00 | | Vertical |
| 17234.00 | * | | | | | 54.00 | | Vertical |
| 4924.00 | 43.34 | 32.80 | 5.96 | 45.70 | 36.40 | 54.00 | -17.60 | Horizontal |
| 7386.00 | 40.77 | 36.40 | 6.93 | 45.80 | 38.30 | 54.00 | -15.70 | Horizontal |
| 9848.00 | 38.18 | 38.20 | 8.02 | 46.20 | 38.20 | 54.00 | -15.80 | Horizontal |
| 12310.00 | * | | | | | 54.00 | | Horizontal |
| 14772.00 | * | | | | | 54.00 | | Horizontal |
| 17234.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

*1 Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*

*2 "*", means this data is the too weak instrument of signal is unable to test.*

*3. Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT40) | Test channel: | Lowest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4844.00 | 53.30 | 32.10 | 5.96 | 45.50 | 45.86 | 74.00 | -28.15 | Vertical |
| 7266.00 | 50.11 | 36.80 | 6.93 | 45.60 | 48.24 | 74.00 | -25.76 | Vertical |
| 9688.00 | 52.29 | 38.10 | 8.02 | 46.20 | 52.21 | 74.00 | -21.79 | Vertical |
| 12060.00 | * | | | | | 74.00 | | Vertical |
| 14472.00 | * | | | | | 74.00 | | Vertical |
| 16884.00 | * | | | | | 74.00 | | Vertical |
| 4844.00 | 53.74 | 32.10 | 5.96 | 45.50 | 46.30 | 74.00 | -27.70 | Horizontal |
| 7266.00 | 49.71 | 36.80 | 6.93 | 45.60 | 47.84 | 74.00 | -26.16 | Horizontal |
| 9688.00 | 49.02 | 38.10 | 8.02 | 46.20 | 48.94 | 74.00 | -25.06 | Horizontal |
| 12060.00 | * | | | | | 74.00 | | Horizontal |
| 14472.00 | * | | | | | 74.00 | | Horizontal |
| 16884.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4844.00 | 44.07 | 32.10 | 5.96 | 45.50 | 36.63 | 54.00 | -17.37 | Vertical |
| 7266.00 | 40.94 | 36.80 | 6.93 | 45.60 | 39.07 | 54.00 | -14.93 | Vertical |
| 9688.00 | 41.42 | 38.10 | 8.02 | 46.20 | 41.34 | 54.00 | -12.66 | Vertical |
| 12060.00 | * | | | | | 54.00 | | Vertical |
| 14472.00 | * | | | | | 54.00 | | Vertical |
| 16884.00 | * | | | | | 54.00 | | Vertical |
| 4844.00 | 44.56 | 32.10 | 5.96 | 45.50 | 37.12 | 54.00 | -16.89 | Horizontal |
| 7266.00 | 43.44 | 36.80 | 6.93 | 45.60 | 41.57 | 54.00 | -12.43 | Horizontal |
| 9688.00 | 38.34 | 38.10 | 8.02 | 46.20 | 38.26 | 54.00 | -15.74 | Horizontal |
| 12060.00 | * | | | | | 54.00 | | Horizontal |
| 14472.00 | * | | | | | 54.00 | | Horizontal |
| 16884.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT40) | Test channel: | Middle |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 53.72 | 32.10 | 5.96 | 45.50 | 46.28 | 74.00 | -27.72 | Vertical |
| 7311.00 | 52.83 | 36.60 | 6.93 | 45.60 | 50.76 | 74.00 | -23.24 | Vertical |
| 9748.00 | 51.48 | 38.60 | 8.02 | 46.20 | 51.90 | 74.00 | -22.10 | Vertical |
| 12185.00 | * | | | | | 74.00 | | Vertical |
| 14622.00 | * | | | | | 74.00 | | Vertical |
| 17059.00 | * | | | | | 74.00 | | Vertical |
| 4874.00 | 53.28 | 32.10 | 5.96 | 45.50 | 45.84 | 74.00 | -28.16 | Horizontal |
| 7311.00 | 49.74 | 36.60 | 6.93 | 45.60 | 47.67 | 74.00 | -26.33 | Horizontal |
| 9748.00 | 50.64 | 38.60 | 8.02 | 46.20 | 51.06 | 74.00 | -22.95 | Horizontal |
| 12185.00 | * | | | | | 74.00 | | Horizontal |
| 14622.00 | * | | | | | 74.00 | | Horizontal |
| 17059.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4874.00 | 43.98 | 32.10 | 5.96 | 45.50 | 36.54 | 54.00 | -17.46 | Vertical |
| 7311.00 | 43.03 | 36.60 | 6.93 | 45.60 | 40.96 | 54.00 | -13.04 | Vertical |
| 9748.00 | 38.75 | 38.60 | 8.02 | 46.20 | 39.17 | 54.00 | -14.83 | Vertical |
| 12185.00 | * | | | | | 54.00 | | Vertical |
| 14622.00 | * | | | | | 54.00 | | Vertical |
| 17059.00 | * | | | | | 54.00 | | Vertical |
| 4874.00 | 43.05 | 32.10 | 5.96 | 45.50 | 35.61 | 54.00 | -18.39 | Horizontal |
| 7311.00 | 42.08 | 36.60 | 6.93 | 45.60 | 40.01 | 54.00 | -13.99 | Horizontal |
| 9748.00 | 38.10 | 38.60 | 8.02 | 46.20 | 38.52 | 54.00 | -15.48 | Horizontal |
| 12185.00 | * | | | | | 54.00 | | Horizontal |
| 14622.00 | * | | | | | 54.00 | | Horizontal |
| 17059.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *Emissions more than 20 dB below the limit do not need to be reported.*

| Test mode: | 802.11n(HT40) | Test channel: | Highest |
|---|---|---|---|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4904.00 | 52.82 | 32.80 | 5.96 | 45.70 | 45.88 | 74.00 | -28.12 | Vertical |
| 7356.00 | 53.59 | 36.20 | 6.93 | 45.80 | 50.92 | 74.00 | -23.08 | Vertical |
| 9808.00 | 48.57 | 38.40 | 8.02 | 46.20 | 48.79 | 74.00 | -25.21 | Vertical |
| 12310.00 | * | | | | | 74.00 | | Vertical |
| 14772.00 | * | | | | | 74.00 | | Vertical |
| 17234.00 | * | | | | | 74.00 | | Vertical |
| 4904.00 | 52.07 | 32.80 | 5.96 | 45.70 | 45.13 | 74.00 | -28.87 | Horizontal |
| 7356.00 | 51.30 | 36.20 | 6.93 | 45.80 | 48.63 | 74.00 | -25.37 | Horizontal |
| 9808.00 | 48.11 | 38.40 | 8.02 | 46.20 | 48.33 | 74.00 | -25.67 | Horizontal |
| 12310.00 | * | | | | | 74.00 | | Horizontal |
| 14772.00 | * | | | | | 74.00 | | Horizontal |
| 17234.00 | * | | | | | 74.00 | | Horizontal |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4904.00 | 44.04 | 32.80 | 5.96 | 45.70 | 37.10 | 54.00 | -16.90 | Vertical |
| 7356.00 | 41.62 | 36.20 | 6.93 | 45.80 | 38.95 | 54.00 | -15.05 | Vertical |
| 9808.00 | 40.00 | 38.40 | 8.02 | 46.20 | 40.22 | 54.00 | -13.78 | Vertical |
| 12310.00 | * | | | | | 54.00 | | Vertical |
| 14772.00 | * | | | | | 54.00 | | Vertical |
| 17234.00 | * | | | | | 54.00 | | Vertical |
| 4904.00 | 43.03 | 32.80 | 5.96 | 45.70 | 36.09 | 54.00 | -17.91 | Horizontal |
| 7356.00 | 41.88 | 36.20 | 6.93 | 45.80 | 39.21 | 54.00 | -14.79 | Horizontal |
| 9808.00 | 40.06 | 38.40 | 8.02 | 46.20 | 40.28 | 54.00 | -13.72 | Horizontal |
| 12310.00 | * | | | | | 54.00 | | Horizontal |
| 14772.00 | * | | | | | 54.00 | | Horizontal |
| 17234.00 | * | | | | | 54.00 | | Horizontal |

*Remark:*

*1 Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*

*2 "*", means this data is the too weak instrument of signal is unable to test.*

*3. Emissions more than 20 dB below the limit do not need to be reported.*

## 5. Test Setup Photo

Reference to the **appendix I** for details.

## 6. EUT Constructional Details

Reference to the **appendix II** for details.

------End------