## **RF EXPOSURE REPORT**

| Applicant            |     | Ruijie Networks Co., Ltd.  |  |  |
|----------------------|-----|--|--|--|
| Address              | • • | Building 19, Juyuanzhou Industrial Park, No. 618 Jinshan<br>Road, Cangshan District, Fuzhou, Fujian, China   |  |  |
| Equipment under Test | ••• | Wireless Bridge  |  |  |
| Model No.            | :   | RG-AirMetro460G  |  |  |
| Trade Mark           | ).  |  |  |  |
| FCC ID               | •   | 2AX5J-AM460G   |  |  |
| Manufacturer         | •   | Ruijie Networks Co., Ltd.  |  |  |
| Address              | ••• | Building 19, Juyuanzhou Industrial Park, No. 618 Jinshan<br>Road, Cangshan District, Fuzhou, Fujian, China   |  |  |
| Report No.           |     | DDT-B24061821-1E05   |  |  |
| Issue Date           |     | Sep. 24, 2024  |  |  |
| Issued By            | :   | Tianjin Dongdian Testing Service Co., Ltd.   |  |  |
| Address              | -   | Building D-1, No. 19, Weisi Road, Microelectronics<br>Industrial Park Development Area, Tianjin, China. Tel:<br>+86-72-58038033, Email: ddt@dgddt.com,<br>http://www.ddttest.com |  |  |



# REPORT

## TABLE OF CONTENTS

|      | Test report declares     |   |
|------|--------------------------|---|
| 1.   | General information      | 5 |
| 1.1. | Description of Equipment | 5 |
| 1.2. | Assess laboratory        | 6 |
| 2.   | RF Exposure Evaluation   | 7 |
| 2.1. | Requirement              | 7 |
| 2.2. | Calculation method       | 7 |
| 2.3. | Estimation result        | 8 |

## TEST REPORT DECLARE

| : | Ruijie Networks Co., Ltd.  |
|---|--|
| : | Building 19, Juyuanzhou Industrial Park, No. 618 Jinshan Road,<br>Cangshan District, Fuzhou, Fujian, China |
| : | Wireless Bridge  |
| : | RG-AirMetro460G  |
| : | Ruíjie Ruíjie Reyee Reyee Reyee  |
|   | Ruijie Networks Co., Ltd.  |
|   | Building 19, Juyuanzhou Industrial Park, No. 618 Jinshan Road,<br>Cangshan District, Fuzhou, Fujian, China |
|   |  |

Standard Used: KDB447498 D01 General RF Exposure Guidance v06

#### We Declare:

The equipment described above is assessed by Tianjin Dongdian Testing Service Co-Lucand in the configuration assessed the equipment complied with the standards operating above. The assessed results are contained in this report and Tianjin Dongdian Testing Service Co., Lucand in assumed of full responsibility for the accuracy and completeness of the seases

After evaluation, our opinion is that the equipment In Accordance with above standard

| Report No:       | DDT-B24061821-1E05 |               |              | 检验检测专用章       |      |  |
|------------------|--------------------|---------------|--------------|---------------|------|--|
| Date of Receipt: | Sep. 02, 2024      | Date of Test: | Sep. 02, 202 | 4 - Sep 24, 2 | 2024 |  |

Prepared By:

Approved By:

Aaron Zhang

Sunny Zhang/Engineer

Aaron Zhang/Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Tianjin Dongdian Testing Service Co., Ltd. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

# **Revision History**

| Rev. | Revisions     | 0   | Issue Date    | Revised By |
|------|---------------|-----|---------------|------------|
|      | Initial issue | -Ar | Sep. 24, 2024 |            |
|      | DP'           | pP' | DR            | 1          |



## 1. General information

## 1.1. Description of Equipment

| EUT* Name   | : | Wireless Bridge  |
|---|---|--|
| Model Number  | : | RG-AirMetro460G  |
| EUT function description  | : | Please reference user manual of this device  |
| Power supply  | : | PoE Input 24V, 0.5A  |
| Radio Technology  | : | U-NII equipment  |
| Operation frequency 2.4G Band: 2412MHz-2462MHz   U-NII-1: 5180MHz-5240MHz   U-NII-2A: 5260 MHz-5320 MHz   U-NII-2C: 5500 MHz-5700 MHz   U-NII-1II: 5745MHz-5825MHz  |   | 2.4G Band: 2412MHz-2462MHz<br>U-NII-1: 5180MHz-5240MHz<br>U-NII-2A: 5260 MHz-5320 MHz<br>U-NII-2C: 5500 MHz-5700 MHz<br>U-NII-III: 5745MHz-5825MHz   |
| Modulation  |   | 256QAM, 64QAM, 16QAM, QPSK, BPSK   |
| Transmitter rate  | : | A mode: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>N mode: MCS0~MCS15<br>AC mode: MCS0~MCS9  |
| Antenna Type<br>Antenna Type<br>Directional Antenna:<br>PCB antenna, maximum PK gain: 2.53dBi for 2<br>U-NII-1: Antenna1:18.80dBi, Antenna2: 18.42c<br>U-NII-2A: Antenna1:18.85dBi, Antenna2: 18.46c<br>U-NII-2C: Antenna1:19.26dBi, Antenna2: 18.46c |   | Directional Antenna:<br>PCB antenna, maximum PK gain: 2.53dBi for 2.4G<br>U-NII-1: Antenna1:18.80dBi, Antenna2: 18.42dBi<br>U-NII-2A: Antenna1:18.85dBi, Antenna2: 18.07dBi<br>U-NII-2C: Antenna1:19.26dBi, Antenna2: 18.46dBi<br>U-NII-III: Antenna1:19.15dBi, Antenna2: 18.66dBi |
| Exposure category   | : | General population/uncontrolled environment  |
| Device Type   | : | Mobile Device  |
| Target power and tolerance  | : | 2.4G wifi: 18 $\pm$ 2dBm, 5G wifi: 10 $\pm$ 2dBm   |

#### 1.2. Assess laboratory

Tianjin Dongdian Testing Service Co., Ltd.

Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China.

Tel: +86-22-58038033, http://www.ddttest.com, Email: <u>ddt@dqddt.com</u> **NVLAP** (National Voluntary Laboratory Accreditation Program) CODE: 500036-0 **CNAS** (China National Accreditation Service for Conformity Assessment) CODE: L13402 **FCC** Designation Number: CN5004; FCC Test Firm Registration Number: 368676 **ISED** (Innovation, Science and Economic Development Canada) Company Number: 27768 Conformity Assessment Body Identifier: CN0125 **VCCI** Facility Registration Number: C-20089, T-20093, R-20125, G-20122

#### 2. **RF Exposure Evaluation**

#### 2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

| Limits for General | Population/Uncontrolled Exposure |
|--------------------|----------------------------------|
|--------------------|----------------------------------|

| (B) Limits for General Population / Uncontrolled Exposure |   |   |   |  |  |  |  |
|---|---|---|---|--|--|--|--|
| Frequency Range<br>(MHz)                                  | Electric Field<br>Strength (E)<br>(V/m) | Magnetic Field<br>Strength (H)<br>(A/m) | Power Density (S)<br>(mW/ cm <sup>2</sup> ) | Averaging Time<br> E  <sup>2</sup> , H  <sup>2</sup> or S<br>(minutes) |  |  |  |
| 0.3-1.34  | 614                                     | 1.63                                    | (100)*                                      | 30   |  |  |  |
| 1.34-30   | 824/f                                   | 2.19/f                                  | (180/f)*                                    | 30   |  |  |  |
| 30-300  | 27.5                                    | 0.073                                   | 0.2   | 30   |  |  |  |
| 300-1500  |   |   | F/1500                                      | 30   |  |  |  |
| 1500-100,000  |   |   | 1.0   | 30   |  |  |  |

Note: f = frequency in MHz; \*Plane-wave equivalent power density

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$
 Power Density:  $S(mW/cm^2) = \frac{E^2}{377}$ 

$$\mathbf{E} = \text{Electric field (V/m)}$$

P = Peak RF output power (mW)

- G = EUT Antenna numeric gain (numeric)=
- d = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \text{ or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

#### 2.3. Estimation result

| DV/        | Max. Tune Up | Output | Antenna | Antenna  | MPE                   | MPE                   |
|------------|--------------|--------|---------|----------|-----------------------|-----------------------|
| Worst Mode | power        | power  | Gain    | Gain     | Values                | Limit                 |
|            | (dBm)        | (mW)   | (dBi)   | (linear) | (mW/cm <sup>2</sup> ) | (mW/cm <sup>2</sup> ) |
| 2.4G wifi  | 20.00        | 100    | 2.53    | 1.79     | 0.0356                | ® 1                   |
| 5G wifi    | 12.00        | 15.849 | 19.26   | 84.33    | 0.2659                | 1                     |

Simultaneous:2.4G wifi+5G wifi=0.0356/1+0.2659/1=0.0315<1

Note: The estimation distance is 20 cm

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

**END OF REPORT**