

| Report No.:     | TW2212387-02E  |
|-----------------|--|
| Applicant:      | Eastern Times Technology Co.,Ltd   |
| Product:        | WIRDE/2.4G/BT GAMIN MOUSE  |
| Model No.:      | M994, M994W, DS-2957   |
| Trademark:      | REDRAGON   |
| Test Standards: | FCC Part 15.249  |
| Test result:    | It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10 & FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of electromagnetic compatibility |
| Approved By     |  |
| Terry Tong      |  |

Terry Tang

Manager

Dated:

January 13, 2023

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

## SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com



## **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

## CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of testing Laboratories.

## FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

## Industry Canada (IC) — Registration No.: 5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

## A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

## CAB identifier: CN0033

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#### 1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.
Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China
Telephone: (755) 83448688
Fax: (755) 83442996
Site on File with the Federal Communications Commission – United Sates
Registration Number: 744189
For 3m Anechoic Chamber
1.2 Applicant Details
Applicant: Eastern Times Technology Co.,Ltd

# Address:Building D, Nan An Industrial Area, Youganpu Village, Fenggang Town, Dongguan City,<br/>Guangdong, China.

Telephone: --Fax: --

#### 1.3 Description of EUT

| Product:                  | WIRDE/2.4G/BT GAMIN MOUSE   |
|---------------------------|---|
| Manufacturer:             | Eastern Times Technology Co.,Ltd  |
| Address:                  | Building D, Nan An Industrial Area, Youganpu Village, Fenggang Town,    |
|                           | Dongguan City, Guangdong, China.  |
| Trademark:                | REDRAGON  |
| Model Number:             | M994  |
| Additional Model Name     | M994W, DS-2957  |
| Rating:                   | DC5V, 260mA or DC3.7V, 35mA   |
| Battery                   | DC3.7V, 200mAh Li-ion battery   |
| Modulation Type:          | GFSK  |
| Operation Frequency:      | 2405-2475MHz  |
| Channel Number:           | 16  |
| Channel List (Unit: MHz): | 2405, 2463, 2441, 2426, 2408, 2466, 2445, 2422, 2414, 2471, 2459, 2436, |
|                           | 2419, 2475 2453, 2439   |
| Hardware Version:         | 2957 TX V3  |
| Software Version:         | 6C804314  |
| Serial No.:               | RDM99422111500972   |
| Antenna Designation       | PCB antenna with gain 2.34dBi maximum (Get from the antenna             |

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#### specification)

- 1.4 Submitted Sample: 2 pcs
- 1.5 Test Duration 2022-12-30 to 2023-01-13
- 1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB Radiated Emissions below 1GHz Uncertainty =4.7dB Radiated Emissions above 1GHz Uncertainty =6.0dB Conducted Power Uncertainty =6.0dB Occupied Channel Bandwidth Uncertainty =5% Conducted Emissions Uncertainty =3.6dB Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

#### 1.7 Test Engineer

Andy -Xing

The sample tested by

Print Name: Andy Xing

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| 2.0 Test Equipment |              |                  |              |              |            |
|--------------------|--------------|------------------|--------------|--------------|------------|
| Instrument Type    | Manufacturer | Model            | Serial No.   | Date of Cal. | Due Date   |
| ESPI Test Receiver | R&S          | ESPI 3           | 100379       | 2022-07-15   | 2023-07-14 |
| LISN               | R&S          | EZH3-Z5          | 100294       | 2022-07-18   | 2023-07-17 |
| LISN               | R&S          | EZH3-Z5          | 100253       | 2022-07-18   | 2023-07-17 |
| Impuls-Begrenzer   | R&S          | ESH3-Z2          | 100281       | 2022-07-18   | 2023-07-17 |
| Loop Antenna       | EMCO         | 6507             | 00078608     | 2022-07-18   | 2025-07-17 |
| Spectrum           | R&S          | FSIQ26           | 100292       | 2022-07-15   | 2023-07-14 |
| Horn Antenna       | A-INFO       | LB-180400-KF     | J211060660   | 2022-07-18   | 2025-07-17 |
| Horn Antenna       | R&S          | BBHA 9120D       | 9120D-631    | 2022-07-18   | 2024-07-17 |
| Power meter        | Anritsu      | ML2487A          | 6K00003613   | 2022-07-18   | 2023-07-17 |
| Power sensor       | Anritsu      | MA2491A          | 32263        | 2022-07-18   | 2023-07-17 |
| Bilog Antenna      | Schwarebeck  | VULB9163         | 9163/340     | 2022-07-18   | 2025-07-17 |
| 9*6*6 Anechoic     |              |                  | N/A          | 2022-07-26   | 2025-07-25 |
| EMI Test Receiver  | RS           | ESVB             | 826156/011   | 2022-07-15   | 2023-07-14 |
| EMI Test Receiver  | RS           | ESCS 30          | 834115/006   | 2022-07-15   | 2023-07-14 |
| Spectrum           | HP/Agilent   | E4407B           | MY50441392   | 2022-07-15   | 2023-07-14 |
| Spectrum           | RS           | FSP              | 1164.4391.38 | 2022-07-15   | 2023-07-14 |
| RF Cable           | Zhengdi      | ZT26-NJ-NJ-8M/FA |              | 2022-07-15   | 2023-07-14 |
| RF Cable           | Zhengdi      | 7m               |              | 2022-07-15   | 2023-07-14 |
| Pre-Amplifier      | Schwarebeck  | BBV9743          | #218         | 2022-07-15   | 2023-07-14 |
| Pre-Amplifier      | HP/Agilent   | 8449B            | 3008A00160   | 2022-07-15   | 2023-07-14 |
| LISN               | SCHAFFNER    | NNB42            | 00012        | 2022-08-18   | 2023-07-17 |
| ESPI Test Receiver | R&S          | ESPI 3           | 100379       | 2022-07-15   | 2023-07-14 |
| LISN               | R&S          | EZH3-Z5          | 100294       | 2022-07-18   | 2023-07-17 |

#### 2.2 Automation Test Software

For Conducted Emission Test

| Name   | Version           |  |
|--------|-------------------|--|
| EZ-EMC | Ver.EMC-CON 3A1.1 |  |

#### For Radiated Emissions

| Name  | Version |
|---|---------|
| EMI Test Software BL410-EV18.91                 | V18.905 |
| EMI Test Software BL410-EV18.806 High Frequency | V18.06  |

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#### **3.0** Technical Details

#### 3.1 Summary of test results

| The EUT has been tested according to the following specifications: |                                     |        |          |  |
|--|-------------------------------------|--------|----------|--|
| Standard   | Test Type                           | Result | Notes    |  |
| FCC Part 15, Paragraph 15.203                                      | Antenna<br>Requirement              | Pass   | Complies |  |
| FCC Part 15, Paragraph 15.207                                      | Conducted<br>Emission Test          | Pass   | Complies |  |
| FCC Part 15 Subpart C Paragraph 15.249(a)<br>& 15.249(b) Limit     | Field Strength<br>of<br>Fundamental | Pass   | Complies |  |
| FCC Part 15, Paragraph 15.209                                      | Radiated<br>Emission Test           | Pass   | Complies |  |
| FCC Part 15 Subpart C Paragraph 15.249(d)<br>Limit                 | Band Edge<br>Test                   | Pass   | Complies |  |

#### **3.2** Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4 :2014 and ANSI C63.10 :2013

#### 4.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

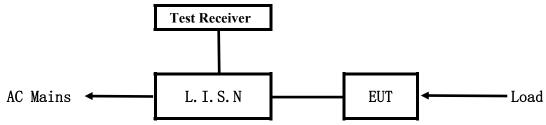
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#### 5. Power Line Conducted Emission Test

5.1 Schematics of the test

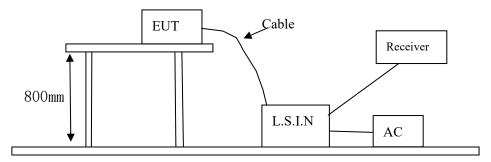


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2014. Test Voltage: 120V~, 60Hz

Block diagram of Test setup



5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.4-2014. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below. 16 channels are provided to the EUT

| A. | EUT |
|----|-----|
|    |     |

| Device              | Manufacturer             | Model        | FCC ID      |
|---------------------|--------------------------|--------------|-------------|
| WIRDE/2.4G/BT GAMIN | Eastern Times Technology | M994, M994W, |             |
| MOUSE               | Co.,Ltd                  | DS-2957      | TUVDS-2957A |

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B. Internal Device

| 2. |        |              |       |            |
|----|--------|--------------|-------|------------|
|    | Device | Manufacturer | Model | FCC ID/DOC |
|    | N/A    |              |       |            |

C. Peripherals

| Device       | Manufacturer | Model           | Rating                            |
|--------------|--------------|-----------------|-----------------------------------|
| Power Supply | KEYU         | KA23-0502000DEU | Input: 100-240V~, 50/60Hz, 0.35A; |
|              |              |                 | Output: DC5V, 2A                  |

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2014

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

#### 5.5 Power line conducted Emission Limit according to Paragraph 15.207

| Frequency         | Limits (dB µ V)  |               |  |  |
|-------------------|------------------|---------------|--|--|
| (MHz)             | Quasi-peak Level | Average Level |  |  |
| $0.15~\sim~0.50$  | 66.0~56.0*       | 56.0~46.0*    |  |  |
| $0.50~\sim~5.00$  | 56.0             | 46.0          |  |  |
| $5.00~\sim~30.00$ | 60.0             | 50.0          |  |  |

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

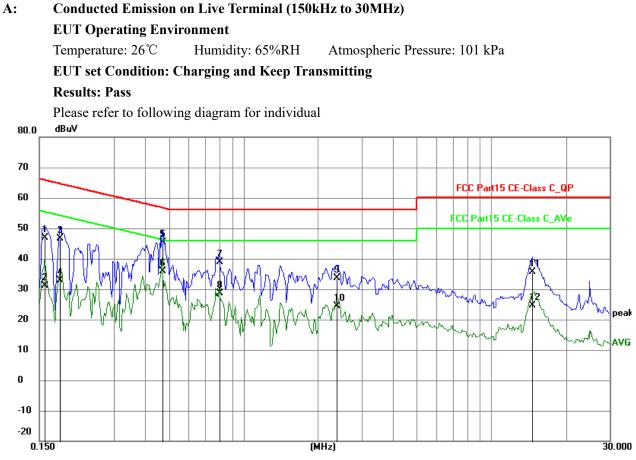
#### 5.6 Test Results:

Pass

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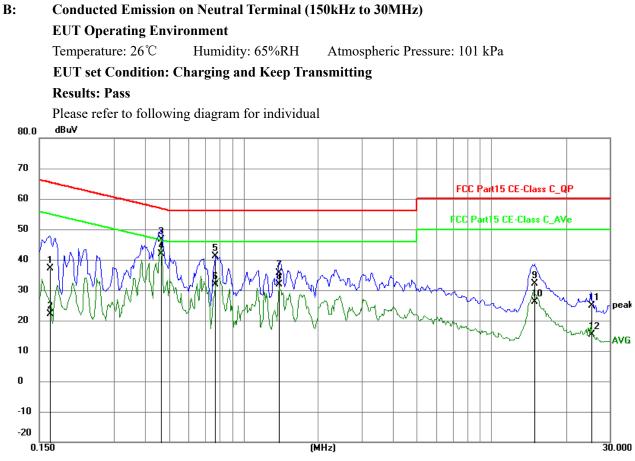


| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Factor<br>(dB) | Level<br>(dBuV)      | Limit<br>(dBuV) | Margin<br>(dB) | Detector | P/F |
|-----|--------------------|-------------------|----------------|----------------------|-----------------|----------------|----------|-----|
| 1   | 0.1578             | 37.11             | 9.78           | 46.89                | 65.58           | -18.69         | QP       | Ρ   |
| 2   | 0.1578             | 21.30             | 9.78           | 31.08                | 55.58           | -24.50         | AVG      | Ρ   |
| 3   | 0.1815             | 36.98             | 9.76           | 46.74                | 64.42           | -17.68         | QP       | Ρ   |
| 4   | 0.1815             | 23.14             | 9.76           | 32.90                | 54.42           | -21.52         | AVG      | Ρ   |
| 5   | 0.4698             | 35.56             | 9.77           | 45.33                | 56.52           | -11.19         | QP       | Ρ   |
| 6   | 0.4698             | 26.23             | 9.77           | 36.00                | 46.52           | -10.52         | AVG      | Ρ   |
| 7   | 0.7974             | 28.99             | 9.78           | 38.77                | 56.00           | -17.23         | QP       | Ρ   |
| 8   | 0.7974             | 18.97             | 9.78           | 28.75                | 46.00           | -17.25         | AVG      | Ρ   |
| 9   | 2.3769             | 23.86             | 9.82           | 33. <mark>6</mark> 8 | 56.00           | -22.32         | QP       | Ρ   |
| 10  | 2.3769             | 14.64             | 9.82           | 24.46                | 46.00           | -21.54         | AVG      | Ρ   |
| 11  | 14.6259            | 25.19             | 10.36          | 35.55                | 60.00           | -24.45         | QP       | Ρ   |
| 12  | 14.6259            | 14.32             | 10.36          | 24.68                | 50.00           | -25.32         | AVG      | Ρ   |

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| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Factor<br>(dB) | Level<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Detector | P/F |
|-----|--------------------|-------------------|----------------|-----------------|-----------------|----------------|----------|-----|
| 1   | 0.1655             | 27.37             | 9.77           | 37.14           | 65.18           | -28.04         | QP       | Р   |
| 2   | 0.1655             | 12.33             | 9.77           | 22.10           | 55.18           | -33.08         | AVG      | Ρ   |
| 3   | 0.4659             | 36.83             | 9.77           | 46.60           | 56.59           | -9.99          | QP       | Ρ   |
| 4   | 0.4659             | 32.11             | 9.77           | 41.88           | 46.59           | -4.71          | AVG      | Ρ   |
| 5   | 0.7700             | 31.46             | 9.78           | 41.24           | 56.00           | -14.76         | QP       | Ρ   |
| 6   | 0.7700             | 22.10             | 9.78           | 31.88           | 46.00           | -14.12         | AVG      | Ρ   |
| 7   | 1.3902             | 25.94             | 9.79           | 35.73           | 56.00           | -20.27         | QP       | Ρ   |
| 8   | 1.3902             | 22.11             | 9.79           | 31.90           | 46.00           | -14.10         | AVG      | Р   |
| 9   | 14.9457            | 21.63             | 10.38          | 32.01           | 60.00           | -27.99         | QP       | Ρ   |
| 10  | 14.9457            | 15.77             | 10.38          | 26.15           | 50.00           | -23.85         | AVG      | Ρ   |
| 11  | 25.2259            | 13.98             | 11.00          | 24.98           | 60.00           | -35.02         | QP       | Р   |
| 12  | 25.2259            | 4.35              | 11.00          | 15.35           | 50.00           | -34.65         | AVG      | Ρ   |

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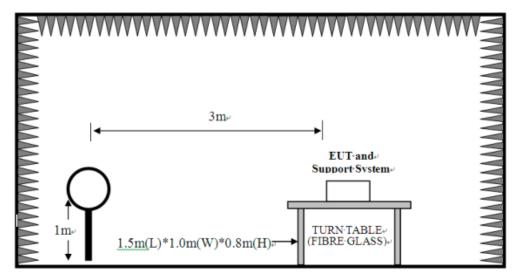


#### 6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz (Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

#### Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz

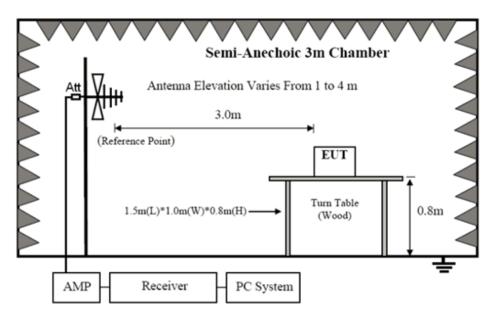


For radiated emissions from 30MHz to1GHz

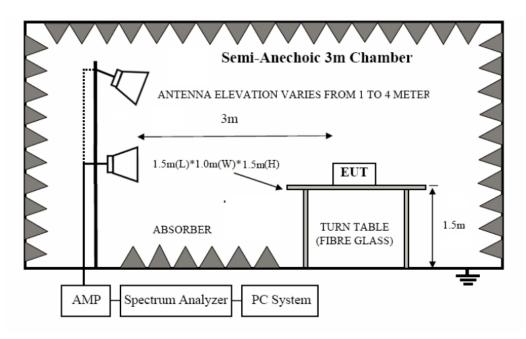
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For radiated emissions above 1GHz



- 6.2 Configuration of The EUT Same as section 5.3 of this report
- 6.3 EUT Operating Condition

Same as section 5.4 of this report.

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#### 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

#### A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

| Fundamental Frequency | Field Stre   | ength of Fundame | ntal (3m)  | Field S | trength of Harmo | nics (3m) |
|-----------------------|--------------|------------------|------------|---------|------------------|-----------|
| (MHz)                 | mV/m         | dBu              | V/m        | uV/m    | dBu              | V/m       |
| 2400-2483.5           | 50           | 94 (Average)     | 114 (Peak) | 500     | 54 (Average)     | 74 (Peak) |
| N 1 DEE 110           | (1 ( 1D I I) | 001 DE1/1        | (          | 1       |                  |           |

Note: 1. RF Field Strength (dBuV) =  $20 \log RF$  Voltage (uV)

2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

#### B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

| Frequency Range (MHz) | Distance (m) | Field strength (dB $\mu$ V/m)     |
|-----------------------|--------------|-----------------------------------|
| 0.009-0.490           | 3            | 20log(2400/F(kHz)) +40log (300/3) |
| 0.490-1.705           | 3            | 20log(24000/F(kHz)) +40log (30/3) |
| 1.705-30              | 3            | 69.5                              |
| 30-80                 | 3            | 40.0                              |
| 88-216                | 3            | 43.5                              |
| 216-960               | 3            | 46.0                              |
| Above 960             | 3            | 54.0                              |

Note:

e: 1. RF Voltage (dBuV) =  $20 \log \text{RF}$  Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.

5. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.

6. Battery full charged during tests.

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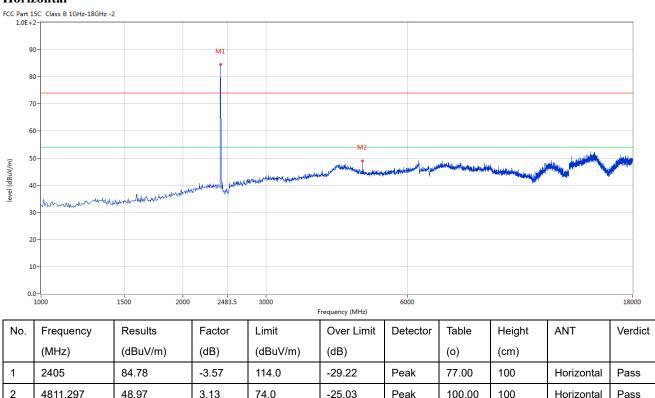
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## 6.5 Test resultA Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2405MHz

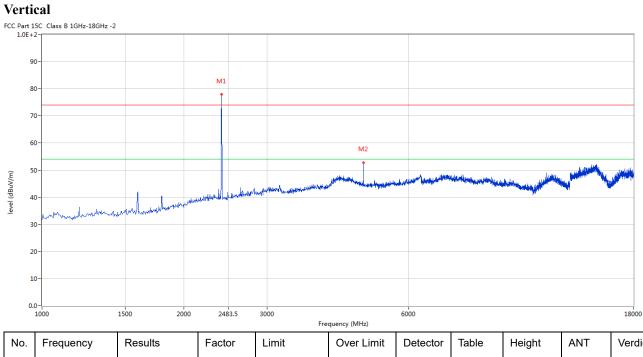
#### Horizontal



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| No | . Frequency | Results  | Factor | Limit    | Over Limit | Detector | Table  | Height | ANT      | Verdict |
|----|-------------|----------|--------|----------|------------|----------|--------|--------|----------|---------|
|    | (MHz)       | (dBuV/m) | (dB)   | (dBuV/m) | (dB)       |          | (o)    | (cm)   |          |         |
| 1  | 2405        | 78.20    | -3.57  | 114.0    | -35.80     | Peak     | 288.00 | 100    | Vertical | Pass    |
| 2  | 4811.297    | 52.80    | 3.13   | 74.0     | -21.20     | Peak     | 263.00 | 100    | Vertical | Pass    |

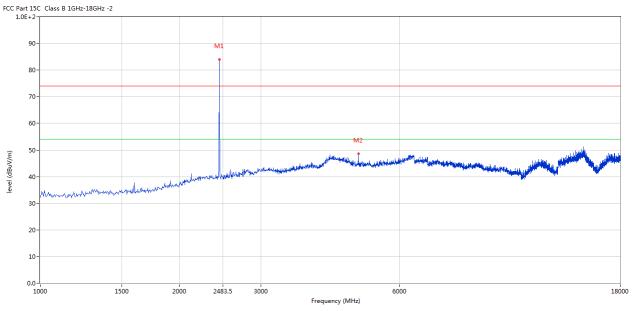
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#### Please refer to the following test plots for details: Middle Channel-2441MHz

#### Horizontal

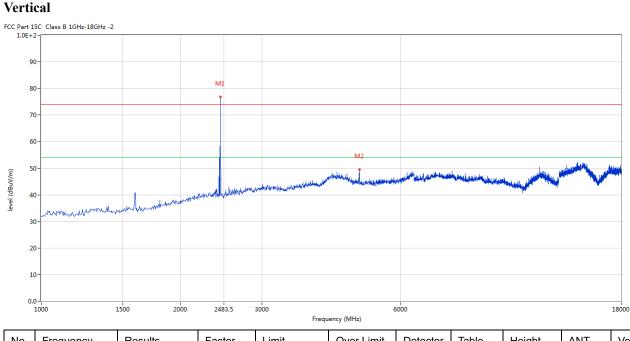


| No. | Frequency | Results  | Factor | Limit    | Over Limit | Detector | Table | Height | ANT        | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|-------|--------|------------|---------|
|     | (MHz)     | (dBuV/m) | (dB)   | (dBuV/m) | (dB)       |          | (o)   | (cm)   |            |         |
| 1   | 2441      | 84.04    | -3.57  | 114.0    | -29.96     | Peak     | 84.00 | 100    | Horizontal | Pass    |
| 2   | 4883.529  | 48.63    | 3.20   | 74.0     | -25.37     | Peak     | 78.00 | 100    | Horizontal | Pass    |

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| No. | Frequency | Results  | Factor | Limit    | Over Limit | Detector | Table  | Height | ANT      | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|----------|---------|
|     | (MHz)     | (dBuV/m) | (dB)   | (dBuV/m) | (dB)       |          | (o)    | (cm)   |          |         |
| 1   | 2441      | 76.92    | -3.57  | 114.0    | -37.08     | Peak     | 289.00 | 100    | Vertical | Pass    |
| 2   | 4883.529  | 49.56    | 3.20   | 74.0     | -24.44     | Peak     | 256.00 | 100    | Vertical | Pass    |

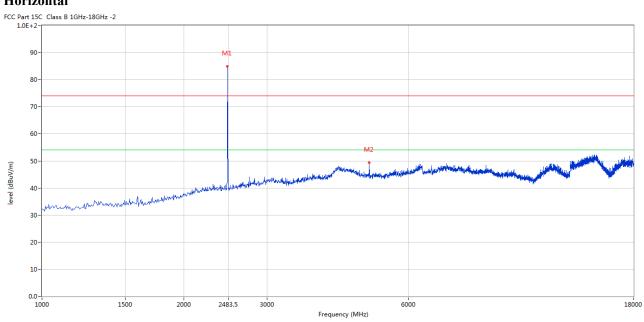
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#### Please refer to the following test plots for details: High Channel-2475MHz

#### Horizontal

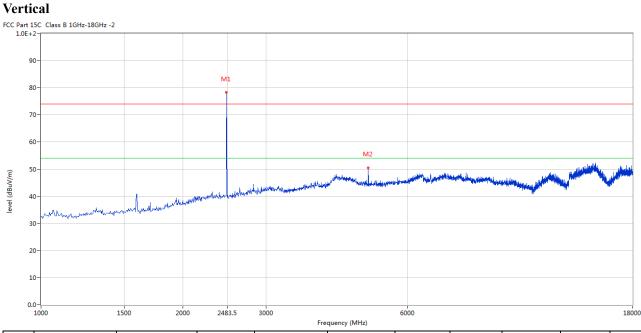


| No. | Frequency | Results  | Factor | Limit    | Over Limit | Detector | Table | Height | ANT        | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|-------|--------|------------|---------|
|     | (MHz)     | (dBuV/m) | (dB)   | (dBuV/m) | (dB)       |          | (0)   | (cm)   |            |         |
| 1   | 2475      | 85.08    | -3.57  | 114.0    | -38.92     | Peak     | 91.00 | 100    | Horizontal | Pass    |
| 2   | 4951.512  | 49.26    | 3.34   | 74.0     | -24.74     | Peak     | 80.00 | 100    | Horizontal | Pass    |

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| No. | Frequency | Results  | Factor | Limit    | Over Limit | Detector | Table  | Height | ANT      | Verdict | l |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|----------|---------|---|
|     | (MHz)     | (dBuV/m) | (dB)   | (dBuV/m) | (dB)       |          | (o)    | (cm)   |          |         | l |
| 1   | 2475      | 78.29    | -3.57  | 114.0    | -35.71     | Peak     | 283.00 | 100    | Vertical | Pass    |   |
| 2   | 4951.512  | 50.48    | 3.34   | 74.0     | -23.52     | Peak     | 261.00 | 100    | Vertical | Pass    | l |

Note: (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

(3) Margin=Emission-Limits

- (4) According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, it is only the floor noise. No necessary to take down.
- (6) the measured PK value less than the AV limit.

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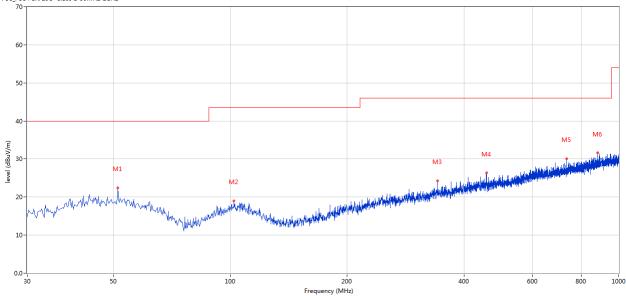
## B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

#### Results: Pass

Please refer to following diagram for individual

FCC\_FCC Part 15C Class B 30MHz-1GHz



| No. | Frequency | Results  | Factor | Limit    | Over Limit | Detector | Table  | Height | ANT        | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|------------|---------|
|     | (MHz)     | (dBuV/m) | (dB)   | (dBuV/m) | (dB)       |          | (o)    | (cm)   |            |         |
| 1   | 51.335    | 22.37    | -11.41 | 40.0     | -17.63     | Peak     | 360.00 | 100    | Horizontal | Pass    |
| 2   | 102.247   | 18.95    | -13.42 | 43.5     | -24.55     | Peak     | 223.00 | 100    | Horizontal | Pass    |
| 3   | 341.535   | 24.31    | -9.72  | 46.0     | -21.69     | Peak     | 178.00 | 100    | Horizontal | Pass    |
| 4   | 456.451   | 26.31    | -7.92  | 46.0     | -19.69     | Peak     | 267.00 | 100    | Horizontal | Pass    |
| 5   | 734.529   | 30.11    | -3.71  | 46.0     | -15.89     | Peak     | 147.00 | 100    | Horizontal | Pass    |
| 6   | 882.174   | 31.58    | -2.04  | 46.0     | -14.42     | Peak     | 121.00 | 100    | Horizontal | Pass    |

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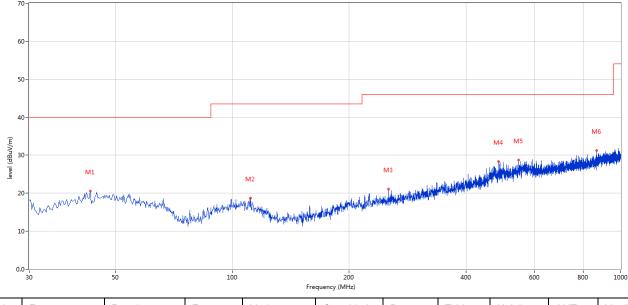
#### Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

#### Results: Pass

Please refer to following diagram for individual

FCC\_FCC Part 15C Class B 30MHz-1GHz



| No. | Frequency | Results  | Factor | Limit    | Over Limit | Detector | Table  | Height | ANT      | Verdict |
|-----|-----------|----------|--------|----------|------------|----------|--------|--------|----------|---------|
|     | (MHz)     | (dBuV/m) | (dB)   | (dBuV/m) | (dB)       |          | (o)    | (cm)   |          |         |
| 1   | 43.092    | 20.60    | -11.50 | 40.0     | -19.40     | Peak     | 7.00   | 100    | Vertical | Pass    |
| 2   | 111.460   | 18.66    | -13.72 | 43.5     | -24.84     | Peak     | 126.00 | 100    | Vertical | Pass    |
| 3   | 252.559   | 21.12    | -12.11 | 46.0     | -24.88     | Peak     | 51.00  | 100    | Vertical | Pass    |
| 4   | 484.816   | 28.40    | -7.29  | 46.0     | -17.60     | Peak     | 164.00 | 100    | Vertical | Pass    |
| 5   | 545.426   | 28.72    | -6.32  | 46.0     | -17.28     | Peak     | 13.00  | 100    | Vertical | Pass    |
| 6   | 867.871   | 31.30    | -2.31  | 46.0     | -14.70     | Peak     | 82.00  | 100    | Vertical | Pass    |

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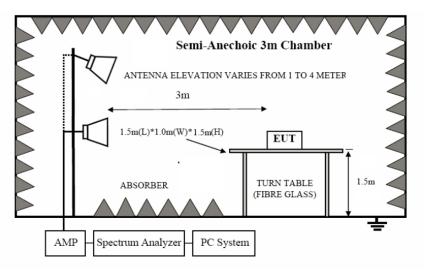


#### 7. Band Edge

#### 7.1 Test Method and test Procedure:

- The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

#### 7.2 Radiated Test Setup



For the actual test configuration, please refer to the related items - Photos of Testing

#### 7.3 Configuration of The EUT

Same as section 5.3 of this report

#### 7.4 EUT Operating Condition

Same as section 5.4 of this report.

#### 7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least

50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

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#### 7.6 Test Result

| -                             | Product:  | WIRDE/2  | 2.4G/BT G.   | AMIN MOUS   | SE                                  | Polarity   | Y                     |                       | Horizontal                                      |                       |
|-------------------------------|---|--|--|---|-------------------------------------|--|-----------------------|-----------------------|---|-----------------------|
|                               | Mode  | Ke   | eeping Tran  | smitting  |                                     | Test Volta   | age                   |                       | DC3.7V  |                       |
| Te                            | mperature   |  | 24 deg.  | С,  |                                     | Humidit  | ty                    |                       | 56% RH  |                       |
| Τe                            | est Result:                                       |  | Pass   |   |                                     |  |                       |                       |   |                       |
| C Part 1<br>1.0E+             | 15C Class B 1GHz-18GHz<br>2-                      | -2   |  |   |                                     |  |                       |                       |   | _                     |
| 9                             | 10-   |  |  |   |                                     |  |                       | M1                    |   | _                     |
|                               |   |  |  |   |                                     |  |                       | $\wedge$              |   |                       |
|                               |   |  |  |   |                                     |  |                       |                       |   |                       |
| 7                             | /0 -  |  |  |   |                                     |  |                       |                       |   |                       |
| 6                             | i0 -  |  |  |   |                                     |  |                       |                       |   |                       |
|                               |   |  |  |   |                                     |  |                       |                       |   |                       |
| . 5                           | i0 -  |  |  |   |                                     |  |                       | -                     |   | _                     |
| . 5<br>. 4                    |   | nine dan sida dan kun di meringa l <mark>i</mark> bera da si in nine kun | udur y collemati dadi sere atana nigi Murju  | álána vezelenel in arvar seriga klora   | M3                                  |  | 112                   |                       | and the second standard standard                | Page 4                |
| . 4                           |   | nin davikjelan opti knjeljela i svije daviken                            | nder verlan af det som staten igt Merte  | álhantur felezaktar a szereszteresztereszteresztereszteresztereszteresztereszteresztereszteresztereszteresztere | Ma                                  | , Loti III ( Lot di adria  | 12<br>1               |                       | derstadern vir dersneder aberderschafteringer   | ** <b>*</b> *         |
| , 4<br>3                      | 10 - <mark>1944 - Andele Mandele Mandele A</mark> | nin davilajim and navivalitati an infrancia                              | alan orthonyl delser delan of the fa   | ส์สี่งสารารูปแอส์โองเราสีระบาร์กะไปเห   | n sile sin line s                   | , here here the state of the st | 12                    |                       | de sistemation annalis alesta substantia        | ₩.                    |
| 4                             | 10 - white any data management of p<br>10 -       | ien berlätten om hærten före til forste sift närder                      | dar volkand bissen datar hei kurja   | ส์ส่งกระจะกุฎขาญชี้โดงแรงชีรเวอารู้จะกังระบ   | nissionale User, a Markan           | Lovillille Lovie de Lovie  | 112                   |                       | ngénura uni dada daring                         | 144-1                 |
| 4                             | 10 - white any data management of p<br>10 -       | nlendavitektansyndertavitekteratorif heteratori                          | ala a collecte de la | ákeren a faran er fara en frankjour   |                                     | leviliti.le. a. puo  | lstalling             |                       | <del>ใกล้มีความสาวเป็น อันประให้เราไป</del><br> |                       |
| 4<br>3<br>2<br>1              | 10 - white any data management of p<br>10 -       | nten dan staffan sonde staff van de steffense de sjefn dan de se         | alan artistasi dala artistasi dala ng Karis  |   |                                     | s lavilit la da da da se   | hat a line            |                       |   | 2420                  |
| 4<br>3<br>2<br>1<br>0.        | 0   |  |  | Fre   | squency (MHz)                       |  |                       |                       |   | 2420                  |
| 4<br>3<br>2<br>1              | 0   | Results  | Factor   | Fre   | equency (MHz)<br>Over Limit         | Detector   | Table                 | Height                |   | 2420                  |
| 3<br>2<br>1<br>0.<br>No.      | 0   | Results<br>(dBuV/m)  | Factor<br>(dB)   | Fre<br>Limit<br>(dBuV/m)  | equency (MHz)<br>Over Limit<br>(dB) | Detector   | Table<br>(o)          | Height<br>(cm)        | ANT   | 2420<br>Verdic        |
| 4<br>3<br>2<br>1<br>0.<br>No. | 0   | Results<br>(dBuV/m)<br>84.67   | Factor<br>(dB)<br>-3.57  | Free<br>Limit<br>(dBuV/m)<br>74.0   | Over Limit<br>(dB)<br>10.67         | Detector<br>Peak   | Table<br>(o)<br>77.00 | Height<br>(cm)<br>100 | ANT<br>Horizontal                               | 2420<br>Verdic<br>N/A |
| 3<br>2<br>1<br>0.<br>No.      | 0   | Results<br>(dBuV/m)  | Factor<br>(dB)   | Fre<br>Limit<br>(dBuV/m)  | equency (MHz)<br>Over Limit<br>(dB) | Detector   | Table<br>(o)          | Height<br>(cm)        | ANT   | 2420<br>Verdic        |

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| Product:                       |   | WIRDE/2.4G/BT GAMIN MOUSE  |  |   |   | Detector         |                        | Vertical                     |   |                               |  |  |
|--------------------------------|---|--|--|---|---|------------------|------------------------|------------------------------|---|-------------------------------|--|--|
| Mode                           |   | Keeping Transmitting   |  |   |   | Test Voltage     |                        | DC3.7V                       |   |                               |  |  |
| Temperature                    |   |  | 24 deg. C,   |   |   |                  | ity                    | ty 56% RH                    |   |                               |  |  |
| Te                             | est Result:   |  | Pass   |   |   |                  |                        |                              |   |                               |  |  |
| C Part 1<br>1.0E+              | 15C Class B 1GHz-18GHz  | -2   |  |   |   |                  |                        |                              |   |                               |  |  |
| g                              | 90-   |  |  |   |   |                  |                        |                              |   |                               |  |  |
| 8                              | 30 -  |  |  |   |   |                  |                        | M1                           |   |                               |  |  |
| -                              | 70-   |  |  |   |   |                  |                        | $\wedge$ —                   |   |                               |  |  |
|                                | /0-   |  |  |   |   |                  | A                      |                              |   |                               |  |  |
| 6                              | 50 -  |  |  |   |   | MS               |                        |                              |   |                               |  |  |
| . 5                            | 50-   |  |  |   | M4  | CIMI             | L /                    |                              |   |                               |  |  |
|                                | , "I dra stala "da ka ku da shi ka ku da shi ka ku da shi ka ka ku da shi ka k |  |  |   |   |                  |                        |                              |   |                               |  |  |
|                                |   | and an a second  | 1  | a contra c  | s - La a Jones III  |                  | N 1942 /               | h                            |   |                               |  |  |
| 4                              | 10- market Miller of and the Area   | Allahadhar Hashardh an Instachtar d  | here have been a stand with the stand | ajimentataphadapatentaadaa                                    |   |                  |                        | h weight                     | den hale selfing findel                     | line the table                |  |  |
| . 4                            | 10  | milabelhherbehenderaderik  | her Atlaher dates to a free  | alalaan kakal dala daga ka                                    | ing the part of the second    |                  |                        | hant                         | lig van de geleka felder an gekeneder be    | alin a start after            |  |  |
| 3                              |   | Alahika kubati wala walayi   | barbelderedetar babar  | stinetatifistelsebeitsebe                                     | h in the second |                  | <b>W.K</b> ,           | Kuntt                        | kerne karlet tolk her se nati k             | iliter at the design of the   |  |  |
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| 4                              | 30-   | elleliketherkeriteriterit  | her bilder taken   | ajilaarkada yheeska kuudha kuudha ahaa                        | keeddaladalad dalaa   |                  | <b>Wil</b> ew,/        | hand hand                    | ite on the late to be from the second shift | dige the design of the        |  |  |
| 4<br>3<br>2<br>1               | 20-   | adiski kolonisovi avivitati  | herebishiredatus testan  | sjilantat (todostoda)   | hendisin dala dalam   |                  | Milipuy/               |                              | de, och alde ville och ande be              | 2420                          |  |  |
| 4<br>3<br>2<br>1               | 20 -<br>10 -<br>2350  | elle belle beste en la realisette et la re |  | sitionistatatiskiidiinimiisoha<br>Fi                          | requency (MHz)  |                  |                        |                              | 44444                                       |                               |  |  |
| 4<br>3<br>2<br>1               | 20 -<br>10 -  | Results  | Factor   | Filedatatatata<br>Filedatatatatatatatatatatatatatatatatatatat | requency (MHz)  | Detector         | Table                  | Height                       | ANT   | 2420                          |  |  |
| 4<br>3<br>2<br>1               | 20 -<br>10 -<br>2350  |  |  |   |   | Detector         | Table<br>(o)           |                              |   | 2420                          |  |  |
| 4<br>3<br>1<br>0<br><b>No.</b> | 30-<br>20-<br>.0-<br>.2350<br>Frequency   | Results  | Factor   | Limit   | Over Limit  | Detector<br>Peak |                        | Height                       |   | 2420                          |  |  |
| 4<br>3<br>2<br>1               | 20-<br>22-<br>2350<br>Frequency<br>(MHz)  | Results<br>(dBuV/m)  | Factor<br>(dB)   | Limit<br>(dBuV/m)   | Over Limit<br>(dB)  |                  | (0)                    | Height<br>(cm)               | ANT   | 2420<br>Verdic                |  |  |
| 4<br>2<br>1<br>0<br>No.        | 30-<br>10-<br>2350<br>Frequency<br>(MHz)<br>2404.779  | Results<br>(dBuV/m)<br>78.04   | Factor<br>(dB)<br>-3.57  | Limit<br>(dBuV/m)<br>74.0                                     | Over Limit<br>(dB)<br>4.04  | Peak             | (o)<br>287.00          | Height<br>(cm)<br>100        | ANT<br>Vertical                             | 2420<br>Verdic                |  |  |
| 4<br>2<br>1<br>0<br>No.        | an-<br>an-<br>an-<br>an-<br>an-<br>an-<br>an-<br>an-  | Results<br>(dBuV/m)<br>78.04<br>38.15  | Factor<br>(dB)<br>-3.57<br>-3.57   | Limit<br>(dBuV/m)<br>74.0<br>74.0                             | Over Limit<br>(dB)<br>4.04<br>-35.85  | Peak<br>Peak     | (o)<br>287.00<br>75.00 | Height<br>(cm)<br>100<br>100 | ANT<br>Vertical<br>Vertical                 | 2420<br>Verdic<br>N/A<br>Pass |  |  |

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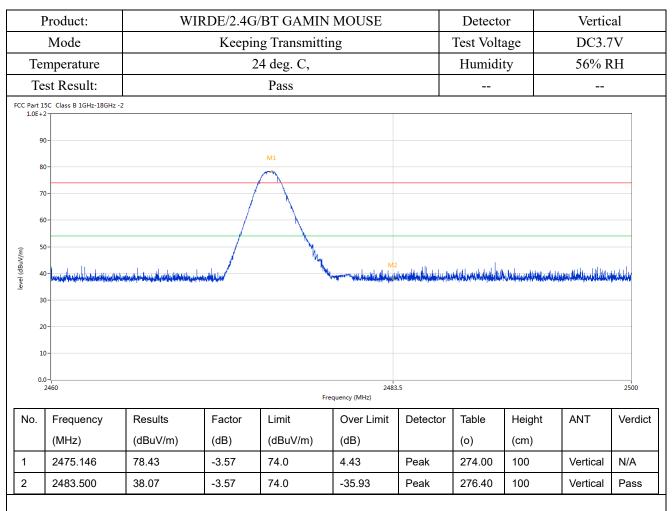


|   | Product:  | WI                               | RDE/2.4G/            | BT GAMIN          | MOUSE  |   | Polari                      | Horizo                             | ntal                        |                |
|---|---|----------------------------------|----------------------|-------------------|--|---|-----------------------------|------------------------------------|-----------------------------|----------------|
|   | Mode  |                                  | Keeping Transmitting |                   |  |   |                             | Test Voltage                       |                             | 7V             |
| Temperature                             |   |                                  | 24 deg. C,           |                   |  |   |                             | Humidity                           |                             | RH             |
| Τ¢                                      | est Result:                                     |                                  | Pass                 |                   |  |   |                             |                                    |                             |                |
| CC Part 1<br>1.0E+                      | 15C Class B 1GHz-18GHz                          | -2                               |                      |                   |  |   |                             |                                    |                             |                |
| 8                                       | 10 -<br>  |                                  | /                    | MI                |  |   |                             |                                    |                             |                |
| (III) 5<br>4<br>3                       | 50 -<br>10 - white, wilder to see Augus<br>10 - | degene fordnine en driftenske in | Instrumed            | h h               | L. March Mar | M2<br>Mining shares being being being           | alklapislaripine.pine.pikie | ระจะไปสุดรูรเห็นสู้หมือไหร่งหรู่ใน | ustigenischedernheinnen mei | ufferieff, ene |
| (m (10<br>level (dgn//m)<br>3<br>2<br>1 | 10  | Results                          | Factor               | Limit             |  | M2<br>Multi Market Market<br>2483.5<br>Detector | Table                       |                                    | ANT                         | 2500           |
| (W/\\nng<br>4<br>3<br>2<br>1<br>0       | 10 - <mark></mark>                              |                                  | Factor<br>(dB)       | Limit<br>(dBuV/m) | Frequency (MHz)  | 2483.5  |                             | Height                             |                             |                |
| (W/\\nng<br>4<br>3<br>2<br>1<br>0       | 10  | Results                          |                      |                   | Frequency (MHz)  | 2483.5  | Table                       | Height                             |                             | 2500<br>Verdic |

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Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.

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#### 8.0 Antenna Requirement

#### **Applicable Standard**

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 shall be considered sufficient to comply with the provisions of this section.

This product has a PCB antenna. The antenna gain is 2.34dBi Max. It fulfills the requirement of this section. Test Result: Pass

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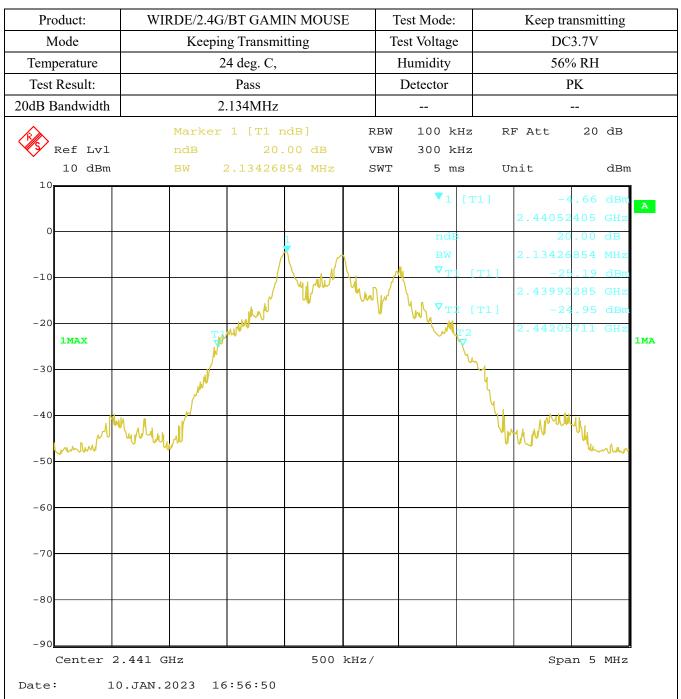


| Product:     | WIRDE/2.4G/BT GAMIN MOUSE                  |          |                               |      | Test Mode:                           |                     | Keep transmitting      |         |                    |   |
|--------------|--|----------|-------------------------------|------|--------------------------------------|---------------------|------------------------|---------|--------------------|---|
| Mode         | Keeping Transmitting<br>24 deg. C,<br>Pass |          |                               |      | Test Voltage<br>Humidity<br>Detector |                     | DC3.7V<br>56% RH<br>PK |         |                    |   |
| Temperature  |  |          |                               |      |                                      |                     |                        |         |                    |   |
| Test Result: |  |          |                               |      |                                      |                     |                        |         |                    |   |
| dB Bandwidth | 2.104MHz                                   |          |                               |      |                                      |                     |                        |         |                    |   |
| Ref Lvl      | Marker 1 [T1 ndB]                          |          |                               |      | RBW 100 k<br>7BW 300 k               |                     |                        |         | 20 dB              |   |
| 10 dBm       | ndB<br>BW                                  | 2.104208 |                               |      | WT                                   | 500 M               |                        | nit     | dBm                | 1 |
| 10           |  |          |                               |      |                                      | ▼1                  | [T1]                   | -5      | .95 dBm<br>503 GHz |   |
| 0            |  |          |                               |      |                                      | ndB                 |                        | 20      | .00 dB             |   |
|              |  |          |                               |      |                                      | BW<br>▼⊤1           | [T1]                   | 2.10420 | 842 MHz            |   |
| -10          |  | Í        | $\langle \mathcal{N} \rangle$ | Je h | 1                                    | ų į                 | 1 + + 1                | 2.40394 |                    |   |
|              |  |          |                               |      | $\sim$                               | VI. <sup>▼</sup> T2 | [T1]                   | -26     | .01 dBm            | 0 |
| -20<br>1MAX  | T  | - AV     |                               |      |                                      | hu                  | 72<br>V                | 2.40604 | 709 GHz            | 1 |
| -30          |  |          |                               |      |                                      |                     | ۲.                     |         |                    |   |
| uhunt        | Manuel                                     |          |                               |      |                                      |                     | ×                      | mm      | Murry              |   |
| -50          |  |          |                               |      |                                      |                     |                        |         |                    |   |
| 60           |  |          |                               |      |                                      |                     |                        |         |                    |   |
| 70           |  |          |                               |      |                                      |                     |                        |         |                    |   |
| -80          |  |          |                               |      |                                      |                     |                        |         |                    |   |
| -90          |  |          |                               |      |                                      |                     |                        |         |                    |   |
| Center 2.4   | 05 GHz                                     |          | 500                           | kHz/ |                                      |                     |                        | Spa     | an 5 MHz           |   |

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| Product:       | WIRDE/2.4G    | BT GAMIN MOUS  | E Te               | est Mode:        | Keep transmitting      |                        |  |
|----------------|---------------|----------------|--------------------|------------------|------------------------|------------------------|--|
| Mode           | Keepin        | g Transmitting | Те                 | st Voltage       | DC3.7V<br>56% RH<br>PK |                        |  |
| Temperature    | 2             | 4 deg. C,      | H                  | Iumidity         |                        |                        |  |
| Test Result:   |               | Pass           | I                  | Detector         |                        |                        |  |
| 20dB Bandwidth | 2             | .124MHz        |                    |                  |                        |                        |  |
| Ref Lvl        | Marker<br>ndB | RBW<br>VBW     | 100 kHz<br>300 kHz |                  | 20 dB                  |                        |  |
| 10 dBm         | BW 2          | SWT            | 5 ms               | Unit             | dBm                    |                        |  |
| 10             |               |                |                    | <b>1</b> [       | <b>T1]</b>             | 2.83 dBm               |  |
| 0              |               | 7              |                    |                  | 2.47453                |                        |  |
| 0              |               |                |                    | ndB<br>BW        | 20                     | 0.00 dB<br>4850 MHz    |  |
| -10            |               |                |                    |                  | [T1] -2                | 2.24 dBm               |  |
|                |               | and the second |                    | ~_ <sub>T2</sub> | 2.47394<br>[T1] -2     | 1289 GHz<br>3.01 dBm   |  |
| -20            |               |                |                    |                  | 2.4760                 | 5713 GHz<br><b>1MA</b> |  |
| -30            |               |                |                    |                  | Y                      |                        |  |
|                |               |                |                    |                  |                        |                        |  |
| -40            | we when       |                |                    |                  | WWW Col                | and when the start     |  |
| -50            |               |                |                    |                  |                        |                        |  |
| -60            |               |                |                    |                  |                        |                        |  |
|                |               |                |                    |                  |                        |                        |  |
| -70            |               |                |                    |                  |                        |                        |  |
| -80            |               |                |                    |                  |                        |                        |  |
| -90            |               |                |                    |                  |                        |                        |  |
| Center 2       | .475 GHz      | 500            | kHz/               |                  | Spa                    | an 5 MHz               |  |
| Date: 10       | ).JAN.2023 17 | :43:24         |                    |                  |                        |                        |  |

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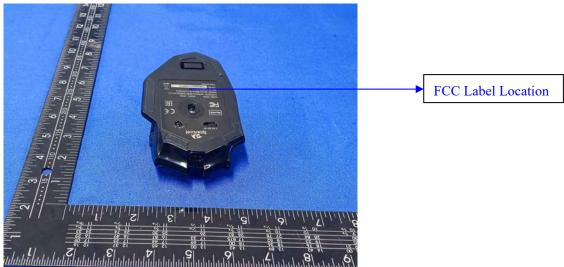
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#### 10.0 FCC ID Label

#### FCC ID: TUVDS-2957A

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

#### **Mark Location:**



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#### 11.0 Photo of testing

11.1 Conducted test View--

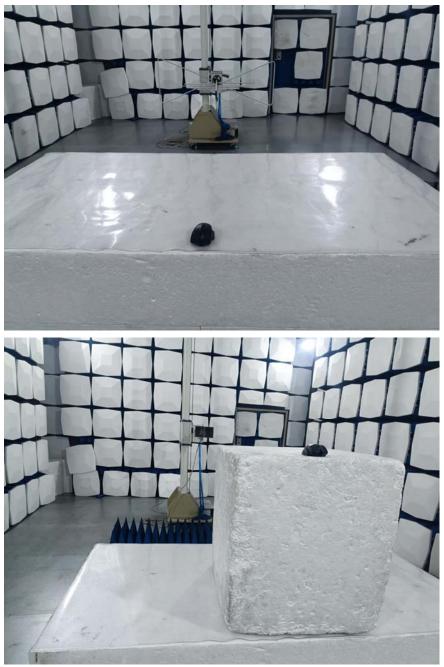


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Radiated emission test view



## 11.2 Photographs – EUT Please refer test report TW2212387-01E

#### --End of the Report--

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