



## **FCC RF EXPOSURE REPORT**

### **CERTIFICATION TEST REPORT**

*For*

**WIFI+BT Module**

**MODEL NUMBER: DCT1AR2701**

**FCC ID: 2AC23-DCT1A**

**REPORT NUMBER: 4790645253.2-1-RF-5**

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*Prepared for*

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Revision History

| Rev. | Issue Date       | Revisions     | Revised By |
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| V0   | January 30, 2023 | Initial Issue |            |



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## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD  
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### Manufacturer Information

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD  
Address: No.2, Jin-da Road, Huinan High-tech Industrial Park, Huizhou, Guangdong, China

### EUT Information

EUT Name: WIFI+BT Module  
Model: DCT1AR2701  
Brand: GSD  
Sample Received Date: November 17,2022  
Sample Status: Normal  
Sample ID: 5545378  
Date of Tested: November 17,2022 to January 30,2023

| APPLICABLE STANDARDS |              |
|----------------------|--------------|
| STANDARD             | TEST RESULTS |
| FCC 47CFR§2.1091     | PASS         |

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and KDB447498D01v06.

## 3. FACILITIES AND ACCREDITATION

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accreditation Certificate | <p><b>A2LA (Certificate No.: 4102.01)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p><b>ISED (Company No.: 21320)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793.<br/>Facility Name:<br/>Chamber D, the VCCI registration No. is G-20019 and R-20004<br/>Shielding Room B, the VCCI registration No. is C-20012 and T-20011</p> |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Note: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China.



## 4. REQUIREMENT

### LIMIT AND CALCULATION METHOD

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 0.2m 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

### RF EXPOSURE LIMIT

| Frequency Range (MHz) | E-field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (Minutes) |
|-----------------------|----------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------------------|
| 0.3 -- 1.34           | 614                        | 1.63                              | (100)*                                  | 30                                                                |
| 1.34 -- 30            | 824/f                      | 2.19/f                            | (180/f <sup>2</sup> )*                  | 30                                                                |
| 30 -- 300             | 27.5                       | 0.073                             | 0.2                                     | 30                                                                |
| 300 -- 1500           | --                         | --                                | f/1500                                  | 30                                                                |
| 1500 -- 100,000       | --                         | --                                | 1.0                                     | 30                                                                |

### CALCULATION METHOD

$$S = PG / 4\pi R^2$$

Where:

S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

**CALCULATED RESULTS**

| Worst Case |                   |              |               |                     |             |
|------------|-------------------|--------------|---------------|---------------------|-------------|
| Mode       | Max Tune Up Power | Antenna Gain | Power Density | Power Density Limit | Test Result |
|            | dBm               | dBi          | mW/cm2        | mW/cm2              | --          |
| BLE        | 8                 | 1.72         | 0.00187       | 1.0                 | Complies    |

| Worst Case |                   |              |               |                     |             |
|------------|-------------------|--------------|---------------|---------------------|-------------|
| Mode       | Max Tune Up Power | Antenna Gain | Power Density | Power Density Limit | Test Result |
|            | dBm               | dBi          | mW/cm2        | mW/cm2              | --          |
| BT         | 8                 | 1.72         | 0.00187       | 1.0                 | Complies    |

| Worst Case     |                   |              |               |                     |             |
|----------------|-------------------|--------------|---------------|---------------------|-------------|
| Mode           | Max Tune Up Power | Antenna Gain | Power Density | Power Density Limit | Test Result |
|                | dBm               | dBi          | mW/cm2        | mW/cm2              | --          |
| WIFI 2.4G SISO | 17                | 1.72         | 0.01482       | 1.0                 | Complies    |

| Worst Case   |                   |              |               |                     |             |
|--------------|-------------------|--------------|---------------|---------------------|-------------|
| Mode         | Max Tune Up Power | Antenna Gain | Power Density | Power Density Limit | Test Result |
|              | dBm               | dBi          | mW/cm2        | mW/cm2              | --          |
| WIFI 5G SISO | 16                | 2.57         | 0.01431       | 1.0                 | Complies    |



| Worst Case     |                   |                  |               |                     |             |
|----------------|-------------------|------------------|---------------|---------------------|-------------|
| Mode           | Max Tune Up Power | Directional Gain | Power Density | Power Density Limit | Test Result |
|                | dBm               | dBi              | mW/cm2        | mW/cm2              | --          |
| WIFI 2.4G MIMO | 18                | 1.72             | 0.01865       | 1.0                 | Complies    |

| Worst Case   |                   |                  |               |                     |             |
|--------------|-------------------|------------------|---------------|---------------------|-------------|
| Mode         | Max Tune Up Power | Directional Gain | Power Density | Power Density Limit | Test Result |
|              | dBm               | dBi              | mW/cm2        | mW/cm2              | --          |
| WIFI 5G MIMO | 18                | 2.57             | 0.02268       | 1.0                 | Complies    |

Note:

1. The Power comes from report operation description.
2. BT and WIFI cannot support simultaneous emission.
3. The minimum separation distance of the device is greater than 20 cm, and 20cm separation distance was set for calculation.
4. Calculate by WORST-CASE mode.

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**END OF REPORT**