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TESTING  
CNAS L0446



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# Test Report

Verified code: 250370

Report No.: E202204024904-3

Customer: Chengdu Vantron Technology Co., Ltd.  
Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China 610045  
Sample Name: Wireless Module  
Sample Model: VT-ANT-257  
Receive Sample Date: Apr.02,2022  
Test Date: Apr.02,2022 ~ Apr.02,2022  
Reference Document: CFR 47, FCC Part 2.1093 Radio frequency radiation exposure evaluation: portable devices.  
Test Result: Pass

Prepared by: *Wen Wen*

Reviewed by: *Wu Haoting*

Approved by: *Xiao Liang*

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2022-04-02

GUANGZHOU GRG METROLOGY & TEST CO., LTD.

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5. Without the agreement of the laboratory, the client is not authorized to use the test results for unapproved propaganda.

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**REPORT ISSUED HISTORY**

<b>Report Version</b>	<b>Report No.</b>	<b>Description</b>	<b>Compile Date</b>
1.0	E202204024904-3	Original Issue	2022/04/02

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## 1. GENERAL DESCRIPTION OF DUT

### 1.1 APPLICANT

Name: Chengdu Vantron Technology Co., Ltd.  
Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China 610045

### 1.2 MANUFACTURER

Name: Chengdu Vantron Technology Co., Ltd.  
Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China 610045

### 1.3 FACTORY

Name: Chengdu Vantron Technology Co., Ltd.  
Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China 610045

### 1.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: Wireless Module  
Model No.: VT-ANT-257  
Adding Model: /  
Trade Name: Vantron  
FCC ID: 2AAGE-257  
Power Supply: DC 3V  
Frequency Range: 2450MHz~2457MHz  
Transmit Power: Peak: 95.52dBuV/m (Max.)  
Average: 66.65dBuV/m (Max.)  
Type of Modulation: GFSK  
Antenna Specification: PCB antenna with 0.8dBi gain (Max.)  
Temperature Range: -40 °C ~ +85 °C  
Hardware Version: V1.1  
Software Version: V1.1  
Sample No: E202204024904-0001  
Note: /

## 2. LABORATORY AND ACCREDITATIONS

### 2.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

Add.: No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District Shenzhen, 518110, People's Republic of China.

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### 2.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

**USA** A2LA (Certificate#:2861.01)

**China** CNAS (L0446)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

**Canada** ISED (Company Number: 24897, CAB identifier:CN0069)

**USA** FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.grgtest.com>

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### 3. EVALUATION METHOD

Exposure category: General population/uncontrolled environment  
 EUT Type: Production Unit  
 Device Type: Portable Device  
 Refer Standard: KDB 447498 D01 General RF Exposure Guidance v06  
 FCC Part 2 §2.1093

### 4. LIMITS FOR GENERAL POPULATION/UNCONTROLLEDEXPOSURE

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz and 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f \text{ (GHz)}}]$   
 $\leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where:

- f (GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

### 5. ESTIMATION RESULT

#### 5.1 POWER TEST RESULTS

Test Mode	Frequency (MHz)	Field Strength of Fundamental (dBuV/m)	Polarization
2.4GHz	2457	95.52	Peak

According to KDB 412172 D01 Determining ERP and EIRP format;  
 $\text{eirp} = \text{pt} \times \text{gt} = (\text{E} \times \text{d})^2 / 30$

Where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m,

d = measurement distance in meters (m),

So, For 2457MHz EIRP(mW) =  $(10^{(95.52-120)/20} \times 3)^2 / 30 \times 1000\text{mW} = 1.07\text{mW}$ ,

So  $(1.07\text{mW}/5\text{mm}) \times \sqrt{2.475\text{GHz}} = 0.34$ .

$0.34 < 3.0$  for 1-g SAR

#### 5.2 CONCLUSION

So the sar report is not required.

----- End of Report -----