

### FCC IC RF EXPOSURE REPORT

For

#### WIFI+BT module

**MODEL NUMBER: WCT0LR2201J** 

FCC ID: 2AC23-WCT0LR2201J IC: 12290A-WCT0LR220AJ

REPORT NUMBER: 4788196596.1-5

ISSUE DATE: November 30, 2017

### Prepared for

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### Prepared by

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# 1. ATTESTATION OF TEST RESULTS

**Applicant Information** 

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD

Address: HuaXing RD,NO 2,ZhongKai High Technology Development

Area, Huizhou, Guangdong, China

**Manufacturer Information** 

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD

Address: HuaXing RD,NO 2,ZhongKai High Technology Development

Area, Huizhou, Guangdong, China

**EUT Description** 

Product Name WIFI+BT module

Brand Name GSD

Model Name WCT0LR2201J

Sample ID 1220986 Sample Status Good

Sample Received date October 20, 2017

Date Tested October 23~November 23, 2017

#### APPLICABLE STANDARDS

**STANDARD** 

**TEST RESULTS** 

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FCC 47CFR§2.1091 KDB-447498 D01 V06 Complies

Tested By: Checked By:

Kebo Zhang Engineer

kelo. zhang

Shawn Wen Laboratory Leader

Shemmy les

Approved By:

Stephen Guo

Laboratory Manager

Sephenbus

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 447498 D01 General RF Exposure Guidance v06.

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# 3. FACILITIES AND ACCREDITATION

Test Location	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Address	Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China
Accreditation Certificate	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. The Certificate Registration Number is 4102.01. UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The Designation Number is CN1187. UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320.

Note: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites.

## 4. REQUIREMENT

#### **LIMIT**

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure								
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time $ E ^2$ , $ H ^2$ or S (minutes)				
0.3-1.34	614	1.63	(100)*	30				
1.34-30	824/f	2.19/f	(180/f2)*	30				
30-300	27.5	0.073	0.2	30				
300-1500	-		f/150	30				
1500-100,000			1.0	30				

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Note 1: f = frequency in MHz, \* means Plane-wave equivalent power density

Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Note 3: The limit value 1.0mW/cm<sup>2</sup> is available for this EUT.

### **MPE CALCULATION METHOD**

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

where: S = power density (in appropriate units, e.g. mW/ cm2)

P = power input to the antenna (in appropriate units, e.g., mW)

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 (appropriate units, e.g., cm)

# **CALCULATED RESULTS**

# Radio Frequency Radiation Exposure Evaluation

Bluetooth (Worst case)								
Operating	Output Power	Tune up tolerance	Max. Tune up Power	Antenna Gain		Power density	Limit	
Mode	(mW)	(dBm)	(dBm)	(dBi)	(num)	(mW/ cm <sup>2</sup> )	LIIIII	
BT4.1+EDR	2.512	3±1	4	3.24	2.109	0.0011	1	
BT4.2 LE	3.981	5±1	6	3.24	2.109	0.0017	1	

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WIFI2.4G (Worst case)							
Operating	Output Power	Tune up tolerance	Max. Tune up Power	Antenna Gain		Power density	Limit
Mode	(mW)	(dBm)	(dBm)	(dBi)	(num)	(mW/ cm²)	LIIIII
802.11b	50.119	16±1	17	3.24	2.109	0.0167	1
802.11g	31.623	14±1	15	3.24	2.109	0.0133	1
802.11n20 - ANT 1	25.119	13±1	14	3.24	2.109	0.0105	1
802.11n20 – ANT 2	25.119	13±1	14	3.24	2.109	0.0105	1
802.11n20 – ANT1 + 2 (MIMO)	39.811	15±1	16	3.24	2.109	0.0167	1
802.11n40 - ANT 1	25.119	13±1	14	3.24	2.109	0.0105	1
802.11n40 – ANT 2	25.119	13±1	14	3.24	2.109	0.0105	1
802.11n40 – ANT1 + 2 (MIMO)	39.811	15±1	16	3.24	2.109	0.0167	1

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(ANT1 + 2)

**MIMO** 

25.119

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14

4.97

3.141

0.0157

1

13±1

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802.11ac80 - ANT 1	12.590	10±1	11	4.97	3.141	0.0079	1
802.11ac80 - ANT 2	12.590	10±1	11	4.97	3.141	0.0079	1
802.11ac80 (ANT 1 + 2) MIMO	25.119	13±1	14	4.97	3.141	0.0157	1

Note: the calculated distance is 20cm.

# **END OF REPORT**