

RF Exposure Evaluation Report

Product : WIFI+BT Module
Trade mark : GSD
Model/Type reference : WCT1BR2201D, WCT1BR2701T
Serial Number : N/A
Report Number : EED32K00249905
FCC ID : 2AC23-WCT1B
Date of Issue : Nov. 16, 2018
47 CFR Part 1.1307
Test Standards : 47 CFR Part 1.1310
KDB447498D01v06
Test result : PASS

Prepared for:

Hui Zhou Gaoshengda Technology Co., LTD
No. 75 Zhongkai Development Area Huizhou, Guangdong, China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385



Tested By:

Peter

Peter

Reviewed by:

Tom - chen

Tom chen

Date:

Nov. 16, 2018

Compiled by:

Kevin Lan

Kevin Lan

Approved by:

Kevin Yang

Kevin yang

Check No.:3096372854

2 Version

| Version No. | Date | Description |
|-------------|---------------|-------------|
| 00 | Nov. 16, 2018 | Original |
| | | |
| | | |

3 Contents

| | Page |
|--|----------|
| 1 COVER PAGE | 1 |
| 2 VERSION | 2 |
| 3 CONTENTS | 3 |
| 4 GENERAL INFORMATION | 4 |
| 4.1 CLIENT INFORMATION..... | 4 |
| 4.2 GENERAL DESCRIPTION OF EUT..... | 4 |
| 4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD..... | 4 |
| 4.4 TEST LOCATION..... | 5 |
| 4.5 DEVIATION FROM STANDARDS..... | 5 |
| 4.6 ABNORMALITIES FROM STANDARD CONDITIONS..... | 5 |
| 4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER..... | 5 |
| 5 RF EXPOSURE EVALUATION | 6 |
| 5.1 RF EXPOSURE COMPLIANCE REQUIREMENT..... | 6 |
| 5.1.1 Limits..... | 6 |
| 5.1.2 Test Procedure..... | 7 |
| 5.1.3 EUT RF Exposure Evaluation..... | 7 |
| PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS | 8 |

4 General Information

4.1 Client Information

| | |
|--------------------------|--|
| Applicant: | Hui Zhou Gaoshengda Technology Co., LTD |
| Address of Applicant: | No. 75 Zhongkai Development Area Huizhou,Guangdong,China |
| Manufacturer: | Hui Zhou Gaoshengda Technology Co., LTD |
| Address of Manufacturer: | No. 75 Zhongkai Development Area Huizhou,Guangdong,China |
| Factory: | Hui Zhou Gaoshengda Technology Co., LTD |
| Address of Factory: | No. 75 Zhongkai Development Area Huizhou,Guangdong,China |

4.2 General Description of EUT

| | |
|---------------------------------|--|
| Product Name: | WIFI+BT Module |
| Model No.(EUT): | WCT1BR2201D, WCT1BR2701T |
| Test Model No.: | WCT1BR2701T |
| Trade Mark: | GSD |
| EUT Supports Radios application | BT 4.2 Dual mode, 2402-2480MHz 2.4G WiFi, 802.11b/g/n(20MHz)/n(40MHz), 2412-2462MHz 5G WiFi, 802.11a/n(HT20)/n(HT40)/ac(HT20)/ac(HT40)/ac(HT80) 5G WiFi, 5150-5250MHz; 5725-5850MHz |

4.3 Product Specification subjective to this standard

| | |
|--|--|
| Frequency Range: | BT 4.2 Dual mode, 2402-2480MHz 2.4G WiFi, 802.11b/g/n(20MHz)/n(40MHz), 2412-2462MHz 5G WiFi, 802.11a/n(HT20)/n(HT40)/ac(HT20)/ac(HT40)/ac(HT80) 5G WiFi, 5150-5250MHz; 5725-5850MHz |
| Antenna Type: | PIFA Antenna |
| Antenna gain: | BT: 2.72dBi, 2.4G WiFi: 2.72dBi, 5G WiFi: 4.57dBi |
| Sample Type: | mobile production |
| Firmware version of the sample: | V1.0(manufacturer declare) |
| Hardware version of the sample: | V1.0(manufacturer declare) |
| Power Supply: | DC 3.3V |
| Conducted Peak Output Power: | 17.08dBm The Conducted Peak Output Power data refer to the report EED32K00249901, EED32K00249902, EED32K00249903, EED32K00249904 |
| Sample Received Date: | Sep. 12, 2018 |
| Sample tested Date: | Sep. 12, 2018 to Nov. 14, 2018 |
| <p>The tested sample(s) and the sample information are provided by the client.</p> <p>Model No.: WCT1BR2201D, WCT1BR2701T</p> <p>Only the model WCT1BR2701T was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being of the antenna connection.</p> | |

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm ²) | Averaging time (minutes) |
|--|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposures | | | | |
| 0.3–3.0 | 614 | 1.63 | *(100) | 6 |
| 3.0–30 | 1842/f | 4.89/f | *(900/f ²) | 6 |
| 30–300 | 61.4 | 0.163 | 1.0 | 6 |
| 300–1500 | | | f/300 | 6 |
| 1500–100,000 | | | 5 | 6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3–1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34–30 | 824/f | 2.19/f | *(180/f ²) | 30 |
| 30–300 | 27.5 | 0.073 | 0.2 | 30 |
| 300–1500 | | | f/1500 | 30 |
| 1500–100,000 | | | 1.0 | 30 |

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

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

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limits, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 2.72dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

| Channel | Frequency (MHz) | Max Conducted Peak Output Power(dBm) | Gain (dBi) | EIRP* (dBm) | EIRP (mW) | R (cm) | S (mW/cm ²) | Limit (mW/cm ²) | Result |
|---------|-----------------|--------------------------------------|------------|-------------|-----------|--------|-------------------------|-----------------------------|--------|
| Highest | 2462 | 17.08 | 2.72 | 19.80 | 95.50 | 20 | 0.019 | 1.0 | Pass |

Note: Refer to report No. EED32K00249901, EED32K00249902, EED32K00249903, EED32K00249904 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32K00249901 for EUT external and internal photos.

*** End of Report ***

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.