



FCC RF EXPOSURE REPORT

CERTIFICATION TEST REPORT

For

WIFI+BT Module

MODEL NUMBER: DCT85N2001

FCC ID: 2AC23-DCT85

IC: 12290A-DCT85

REPORT NUMBER: 4790014851.2-5

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Prepared for

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Prepared by

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Revision History

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V0	09/22/2021	Initial Issue	



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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD
Address: NO.75 Zhongkai Development Area, Huizhou, Guangdong China

Manufacturer Information

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD
Address: NO.75 Zhongkai Development Area, Huizhou, Guangdong China

EUT Information

EUT Name: WIFI+BT Module
Model: DCT85N2001
Brand: GSD
Sample Received Date: July 20, 2021
Sample Status: Normal
Sample ID: 4056488
Date of Tested: July 22, 2021~ September 16, 2021

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.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1187) 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 ISED (Company No.: 21320) 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. VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011) 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. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B, the VCCI registration No. is C-20012 and T-20011
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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 ²)	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/f ²)*	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	Output Power	Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm2	mW/cm2	--
BLE	5	2	0.00100	1.0	Complies

Worst Case					
Mode	Output Power	Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm2	mW/cm2	--
BT	9	2	0.00250	1.0	Complies

Worst Case (SISO)					
Mode	Tune-up Output Power	Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm2	mW/cm2	--
WIFI 2.4G Ant1	17	2	0.0158	1.0	Complies
WIFI 2.4G Ant2	17	2	0.0158	1.0	Complies

Worst Case (SISO)					
Mode	Tune-up Output Power	Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm2	mW/cm2	--
WIFI 5G Ant1	17	3	0.01989	1.0	Complies
WIFI 5G Ant2	17	3	0.01989	1.0	Complies



Worst Case (MIMO)					
Mode	Tune-up Output Power	Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm2	mW/cm2	--
WIFI 2.4G Ant1	13.50	2	0.0071	1.0	Complies
WIFI 2.4G Ant2	13.50	2	0.0071	1.0	Complies
Total Ratios: Ant1/1+Ant2/1=0.0142<1					Complies

Worst Case (MIMO)					
Mode	Tune-up Output Power	Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm2	mW/cm2	--
WIFI 5G Ant1	15.50	3	0.0141	1.0	Complies
WIFI 5G Ant2	14.50	3	0.0112	1.0	Complies
Total Ratios: Ant1/1+Ant2/1=0.0253<1					Complies

Note:

1. The Power comes from report operation description.
2. The EUT cannot support 2.4G & 5G simultaneous transmission..
3. The minimum separation distance of the device is greater than 20 cm.
3. Calculate by WORST-CASE mode.

END OF REPORT