

Maximum Permissible Exposure Evaluation

FCC ID: 2ARQT-GD-DC5

1. Client Information

Applicant	:	Shenzhen Yichen Ecommerce Co., LTD
Address	:	No.15 A401, He Bei He Tang Guang Xin Cun Ban Tian Rd., Long Gang District Shenzhen, Guangdong China
Manufacturer	:	Shenzhen Yichen Ecommerce Co., LTD
Address	:	No.15 A401, He Bei He Tang Guang Xin Cun Ban Tian Rd., Long Gang District Shenzhen, Guangdong China

TB-RF-075-1.0

2. General Description of EUT

EUT Name	:	Wi-Fi SMART GARAGE DOOR OPENER	
Models No.	:	GD-DC5	
Model Difference	:	N/A	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz
		Max Output Power:	WIFI: 16.75dBm
		Antenna Gain:	3.0dBi PCB Antenna
Power Supply	:	DC Voltage supplied	
Power Rating	:	DC 5V	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

MPE Calculations for WIFI

1. Antenna Gain:

PCB Antenna: 3.0dBi.

2. EUT Operation Condition:

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

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

S: power density

P: power input to the 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

4. Test Result:

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
802.11b	16.75	16±1	17	3.0	20	0.019904
802.11g	14.79	15±1	16	3.0	20	0.015811
802.11n (HT20)	13.45	14±1	15	3.0	20	0.012559

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

For 802.11b/g/n:2412~2462 MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.019904 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{ mW} / \text{cm}^2$. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

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