

# Maximum Permissible Exposure Evaluation

**FCC ID: 2AQI7-CZU101**

## 1. Client Information

<b>Applicant</b>	:	SHENZHEN HUANGJINTAI ELECTRONICS CO., LTD.
<b>Address</b>	:	7 Floor, Bldg4, Hanhaida Hi-tech Industrial Park, Baoshan Road, Tianliao, Guangming New District, Shenzhen, China.
<b>Manufacturer</b>	:	SHENZHEN HUANGJINTAI ELECTRONICS CO., LTD.
<b>Address</b>	:	7 Floor, Bldg4, Hanhaida Hi-tech Industrial Park, Baoshan Road, Tianliao, Guangming New District, Shenzhen, China.

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***TB-RF-075-1.0***

## 2. General Description of EUT

<b>EUT Name</b>	:	WiFi Smart Plug
<b>Models No.</b>	:	CZ-U101, CZ-U102, CZ-U103, CZ-U201, CZ-U202, CZ-U203, CZ-E101, CZ-E102, CZ-E103, CZ-E201, CZ-E202, CZ-E203, CZ-K101, CZ-K102, CZ-K103, CZ-K201, CZ-K202, CZ-K203, CZ-C101, CZ-C102, CZ-C103, CZ-C201, CZ-C202, CZ-C203, DZ-01, DZ-02, DZ-03, KG-01, KG-02, KG-03, LED-01, LED-02, LED-03, HY-01, HY-02, HY-03
<b>Model Difference</b>	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance and color.
<b>Product Description</b>	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz
	RF Output Power:	802.11b: 15.81dBm 802.11g: 10.71dBm 802.11n (HT20): 9.76dBm
	Antenna Gain:	1dBi PCB Antenna
<b>Power Supply</b>	:	AC Voltage Supply from 120V/60Hz.
<b>Power Rating</b>	:	Input: AC 100V-240V 50/60Hz Output: 15A maximum load (MAX:3600W)
<b>Software Version</b>	:	N/A
<b>Hardware Version</b>	:	N/A
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual

## MPE Calculations for WIFI

### 1. Antenna Gain:

PCB Antenna: 1dBi.

### 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

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

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 <sup>2</sup> ) [S]
802.11b	15.81	15±1	16	1	20	0.00997
802.11g	10.71	10±1	11	1	20	0.00315
802.11n (HT20)	9.76	9±1	10	1	20	0.00250

**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 <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

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

MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as  $0.00997 \text{mW/cm}^2 < \text{limit } 1\text{mW/cm}^2$ . 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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