

# Maximum Permissible Exposure Evaluation

**FCC ID: 2AXEK-X80**

## 1. Client Information

<b>Applicant</b>	:	SHENZHEN GENERAL TECHNOLOGY CO., LTD
<b>Address</b>	:	Floor 1-3, Building A, NO.11 Xiantian Road, Longgang District, Shenzhen, China 518000
<b>Manufacturer</b>	:	SHENZHEN GENERAL TECHNOLOGY CO., LTD
<b>Address</b>	:	Floor 1-3, Building A, NO.11 Xiantian Road, Longgang District, Shenzhen, China 518000

## 2. General Description of EUT

<b>EUT Name</b>	:	Wireless Smart Battery Camera
<b>Models No.</b>	:	X80, X86, X87
<b>Model Different</b>	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is model name.
<b>Product Description</b>	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz
	:	Number of Channel: 802.11b/g/n(HT20):11 channels
	:	RF Output Power: 802.11b: 18.204dBm(MAX)
	:	Antenna Gain: 2dBi FPC Antenna
<b>Power Rating</b>	:	Input: DC 5V Output: DC 3.7V by 5000 mAh Rechargeable Li-ion battery
<b>Software Version</b>	:	0.3.0 (30e217)
<b>Hardware Version</b>	:	CG522-V1
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual
<b>Remark</b>	:	the evaluation report used the EUT(20210828-01-02#).

**MPE Calculations for WIFI**

**1. Antenna Gain:**

FPC Antenna:2dBi.

**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:**

**2.4G WiFi**

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]	Limit of Power Density (mW/ cm <sup>2</sup> ) (S)
802.11B	17.170	17±1	18	2	20	0.01989	1
802.11G	18.204	18±1	19	2	20	0.02505	1
802.11N(HT20)	18.100	18±1	19	2	20	0.02505	1

**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 2.4WIFI:2412~2462 MHz

MPE limit S:  $1\text{mW}/\text{cm}^2$

The MPE is calculated as  $0.02505\text{mW}/\text{cm}^2 < \text{limit } 1\text{mW}/\text{cm}^2$ . 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.

**6. Conclusion:**

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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