

# Maximum Permissible Exposure Evaluation

## FCC ID: 2AUDF-CG625X

### 1. Client Information

<b>Applicant</b>	:	Shenzhen ADDX Innovation Technology co., LTD.
<b>Address</b>	:	NO.2902, Building 9A-1.Shenzhen Bay Technology and Ecological Park, Nanshan District, Shenzhen, China
<b>Manufacturer</b>	:	Shenzhen ADDX Innovation Technology co., LTD.
<b>Address</b>	:	NO.2902, Building 9A-1.Shenzhen Bay Technology and Ecological Park, Nanshan District, Shenzhen, China

### 2. General Description of EUT

<b>EUT Name</b>	:	Smart Battery Camera	
<b>Models No.</b>	:	CG6, CG3A, SRS300	
<b>Model Different</b>	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is that model names.	
<b>Product Description</b>	:	Operation Frequency:	Bluetooth 5.0(BLE): 2402MHz~2480MHz 2.4G Wi-Fi: 2412MHz~2462MHz
		Antenna Gain:	-2.485dBi Shrapnel Antenna For WIFI 0.5dBi PCB Antenna For BLE
<b>Power Rating</b>	:	Input: DC 5V, 1.5A	
<b>Li-ion Polymer Battery</b>	:	3.6V by 4400mAh Rechargeable Li-ion battery	
<b>Software Version</b>	:	V1.14.0	
<b>Hardware Version</b>	:	CG625_C01_V1	
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual	
<b>Remark:</b>			
(1) The antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.			
(2) The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.			

## MPE Calculations for WIFI

**1. EUT Operation Condition:**

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

**2. 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

**3. Simultaneous transmission MPE Considerations**

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is  $\leq 1.0$ .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$

**4. Test Result:**

**worst reported.**

BLE MPE Result								
Mode	N <sub>TX</sub>	Freq. (MHz)	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]
BLE (1Mbps)	1	2402	2.959	3±1	4	-2.485	20	0.0003
		2440	3.592	4±1	5	-2.485	20	0.0004
		2480	4.222	4±1	5	-2.485	20	0.0004

**Note:**  
 N<sub>TX</sub>= Number of Transmit Antennas  
 RF Output power specifies that Maximum Conducted Peak Output Power.

2.4G Wi-Fi MPE Result								
Mode	N <sub>TX</sub>	Freq. (MHz)	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	1	2412	16.71	17±1	18	-2.485	20	0.0071
		2437	17.11	17±1	18	-2.485	20	0.0071
		2462	16.15	16±1	17	-2.485	20	0.0056
802.11g	1	2412	15.35	15±1	16	-2.485	20	0.0045
		2437	15.26	15±1	16	-2.485	20	0.0045
		2462	14.73	15±1	16	-2.485	20	0.0045
802.11n20	1	2412	15	15±1	16	-2.485	20	0.0045
		2437	14.72	15±1	16	-2.485	20	0.0045
		2462	14.21	14±1	15	-2.485	20	0.0036

**Note:**  
 N<sub>TX</sub>= Number of Transmit Antennas  
 RF Output power specifies that Maximum Conducted Peak Output Power.

**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

**6. Summary simultaneous transmission results**

Wi-Fi and Bluetooth support simultaneous transmit the

Wi-Fi MPE (Ratio)	BLE MPE (Ratio)	simultaneous MPE (Ratio)	MPE Limits (Ratio)
0.0071	0.0004	0.0075	1.0000

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.

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