

# Maximum Permissible Exposure Evaluation

## FCC ID: 2A3CE-AIBIRCARE

### 1. Client Information

<b>Applicant</b>	:	Longse Technology Limited
<b>Address</b>	:	No.18, Dongming 3rd Rd, Huangpu District, Guangzhou, Guangdong, China (510535)
<b>Manufacturer</b>	:	Longse Technology Limited
<b>Address</b>	:	No.18, Dongming 3rd Rd, Huangpu District, Guangzhou, Guangdong, China (510535)

### 2. General Description of EUT

<b>EUT Name</b>	:	BirdCare Feeder Camera
<b>Model(s) No.</b>	:	AI BirdCare, BirdCare Lite
<b>Model Difference</b>	:	All PCB boards and circuit diagrams are the same, the only difference is that names.
<b>Product Description</b>	:	Operation Frequency: Bluetooth 5.0(BLE): 2402MHz~2480MHz 802.11b/g/n(HT20): 2412MHz~2462MHz
<b>Power Supply</b>	:	Input: DC 5V, 1.5A DC 3.7V by 5200mAh Rechargeable Li-ion battery
<b>Software Version</b>	:	0.14.0
<b>Hardware Version</b>	:	CG623B_C01_V4
<b>Remark:</b> The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.		

**Note:** More test information about the EUT please refer the RF Test Report.

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## MPE Calculations for WIFI

### 1. Antenna Gain:

BLE PCB Antenna:0.5dBi.

2.4G WIFI Dipole Antenna :4.61dBi

### 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:**

Worst Maximum MPE Result								
2.4G WiFi								
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]
802.11 b	1	2412	17.353	17±1	18	4.61	20	0.0363
		2437	16.979	17±1	18	4.61	20	0.0363
		2462	17.267	17±1	18	4.61	20	0.0363
802.11 g	1	2412	14.087	14±1	15	4.61	20	0.0182
		2437	13.244	13±1	14	4.61	20	0.0144
		2462	13.091	13±1	14	4.61	20	0.0144
802.11 n20	1	2412	13.903	14±1	15	4.61	20	0.0182
		2437	13.201	13±1	14	4.61	20	0.0144
		2462	12.071	12±1	13	4.61	20	0.0115
BLE								
1Mbps	1	2402	-1.566	-2±1	-1	0.5	20	0.0002
	1	2440	-1.742	-2±1	-1	0.5	20	0.0002
	1	2480	-1.945	-2±1	-1	0.5	20	0.0002

**Note:**  
 (1) N<sub>TX</sub>= Number of Transmit Antennas  
 (2) 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

For BLE&2.4GWIFI

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

**6. Summary simultaneous transmission results**

WiFi and Bluetooth support simultaneous transmit the

WIFI MPE (Ratio)	BLE MPE (Ratio)	simultaneous MPE (Ratio)	MPE Limits (Ratio)
0.0363	0.0002	0.0365	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.

**-----END OF REPORT-----**