

# Maximum Permissible Exposure Evaluation

## FCC ID:2APRB-BWNIP-2TA-BS3

### 1. Client Information

<b>Applicant</b>	:	Guangzhou Juan Intelligent Tech Joint Stock Co.,Ltd
<b>Address</b>	:	No.2 Plant, West of Shanxi country, Dashi street, Guangzhou, China
<b>Manufacturer</b>	:	Guangzhou Juan Intelligent Tech Joint Stock Co.,Ltd
<b>Address</b>	:	No.2 Plant, West of Shanxi country, Dashi street, Guangzhou, China

### 2. General Description of EUT

<b>EUT Name</b>	:	Smart IP Camera with Battery	
<b>Models No.</b>	:	BWNIP-2TA-BS-V3, BWNIP2	
<b>Brand Name</b>	:	NIGHT OWL	
<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: 17.715dBm 802.11g: 16.791dBm 802.11n (HT20): 16.65dBm
		Antenna Gain:	2.5dBi Internal Antenna
<b>Power Rating</b>	:	For Adapter: Input: 100-240V~ Output:5V---	
<b>Software Version</b>	:	BWNIP-2TA-BS-V3_20210707	
<b>Hardware Version</b>	:	AK3918EV330L_V200	
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual	
<b>Remark</b>	:	the MPE report used the EUT (20210628-06_1-2#).	



## MPE Calculations for WIFI

### 1. Antenna Gain:

FPC Antenna:2.5dBi.

### 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								
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	17.715	18±1	19	2.5	20	0.02812
		2437	16.675	17±1	18	2.5	20	0.0223
		2462	15.169	15±1	16	2.5	20	0.0141
802.11g	1	2412	16.791	16±1	17	2.5	20	0.01774
		2437	15.533	16±1	17	2.5	20	0.0177
		2462	14.068	14±1	15	2.5	20	0.0112
802.11n(HT20)	1	2412	16.65	17±1	18	2.5	20	0.002233
		2437	16.074	16±1	17	2.5	20	0.0177
		2462	15.062	15±1	16	2.5	20	0.0141

**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 2.4WIFI:2412~2462 MHz

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

The MPE is calculated as  $0.02812 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{mW} / \text{cm}^2$ . 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.

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