Maximum Permissible Exposure Evaluation

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

1. Client Information

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

2. General Description of EUT

EUT Name	:	Smart IP Camera with Battery	
Models No.	:	BWNIP-2TA-BS-V3, BWNIP2	
Brand Name	:	NIGHT OWL	
Product Description	:	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
Power Rating	:	For Adapter: Input: 100-240V~ Output:5V⎓	
Software Version	:	BWNIP-2TA-BS-V3_20210707	
Hardware Version	:	AK3918EV330L_V200	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	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_{TX}	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^2) [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_{TX}= 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^2)
300-1,500	F/1500
1,500-100,000	1.0

For 2.4WIFI:2412~2462 MHz

MPE limit S: 1mW/ cm^2

The MPE is calculated as **0.02812 *mW / cm² < limit 1mW / cm²***. 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-----