



# Maximum Permissible Exposure Evaluation

**FCC ID: 2APRB-A012A-W**

## 1. Client Information

<b>Applicant</b>	:	Guangdong Juan Intelligent Technology Joint Stock Co., Ltd.
<b>Address</b>	:	THE FIRST AND SECOND FLOORS OF BUILDING 2 (PLANT NO. 2), WEST SIDE OF SHANXI VILLAGE, DASHI STREET, PANYU DISTRICT, GUANGZHOU, China
<b>Manufacturer</b>	:	Guangdong Juan Intelligent Technology Joint Stock Co., Ltd.
<b>Address</b>	:	THE FIRST AND SECOND FLOORS OF BUILDING 2 (PLANT NO. 2), WEST SIDE OF SHANXI VILLAGE, DASHI STREET, PANYU DISTRICT, GUANGZHOU, China

## 2. General Description of EUT

<b>EUT Name</b>	:	IP CAMERA
<b>Models No.</b>	:	A013A-W, A012A-W, A012A-G, A013A-G, BA012A-G, BA013A-G, 2P012A-W, 2P013A-W, 4P012A-W, A012A-W-EN, A012A-W-EN-JAIOT, A013A-W-EN, A013A-W-PRO, A013A-W-PRO-EN
<b>Model Different</b>	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is different sales customers.
<b>Product Description</b>	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11ax(HE20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz 802.11ax(HE40): 2422MHz~2452MHz U-NII-1: 5180MHz~5240MHz, U-NII-2A: 5260MHz~5320MHz U-NII-2C: 5500MHz~5700MHz U-NII-3: 5745MHz~5825MHz
<b>Power Rating</b>	:	Adapter (CS-0501000) Input: 100-240V, 50/60Hz~0.5A Max. Output: 5V/1A
<b>Software Version</b>	:	V4.8.6
<b>Hardware Version</b>	:	V100P4
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual
<b>Remark</b>	:	the evaluation report used the EUT(HC-C-202308-0224-01-01-2#).

## Method of Measurement for FCC

### 1. Max. Antenna Gain:

Band	Antenna Type	Antenna Gain(dBi)
2.4G Wi-Fi	FPC	3.26
U-NII-1		2.70
U-NII-2A		3.06
U-NII-2C		2.76
U-NII-3		2.62

### 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. 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:

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



**5. Test Result:**

Worst Maximum MPE Result							
Mode	N <sub>TX</sub>	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]
2.4G b	1	17.32	17±1	18	3.26	20	0.02659
2.4G g	1	13.87	13±1	14	3.26	20	0.01059
2.4G n20	1	12.10	12±1	13	3.26	20	0.00841
2.4G n40	1	12.06	12±1	13	3.26	20	0.00841
2.4G ax20	1	11.88	11±1	12	3.26	20	0.00668
2.4G ax40	1	11.96	11±1	12	3.26	20	0.00668
5G a	1	18.12	18±1	19	2.62	20	0.02888
5G n20	1	19.14	19±1	20	2.62	20	0.03636
5G n40	1	17.87	17±1	18	3.06	20	0.02539
5G ac20	1	19.41	19±1	20	2.62	20	0.03636
5G ac40	1	19.38	19±1	20	2.62	20	0.03636
5G ax20	1	17.78	17±1	18	3.06	20	0.02539
5G ax40	1	17.40	17±1	18	2.62	20	0.02295

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



**6. 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 2.4G WIFI &5G WIFI: 2412~2462MHz&5150~5825MHz

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

The worst MPE is calculated as  $0.03636\text{mW/cm}^2 < \text{limit } 1\text{mW/cm}^2$ . 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.

For a more detailed features description, please refer to the RF Test Report.

**7. Conclusion:**

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

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

