



# Maximum Permissible Exposure Evaluation

**FCC ID: 2APRB-Y03-W2**

## 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>               | : | WIFI CAMERA                                                                                                                                                                                                                                                                          |
| <b>Models No.</b>             | : | Y03-W2, JA-CA42                                                                                                                                                                                                                                                                      |
| <b>Model Different</b>        | : | All these models are identical in the same PCB, layout and electrical circuit, the only difference is Based on the needs of customers, the same product needs different models.                                                                                                      |
| <b>Product Description</b>    | : | Operation Frequency:<br>802.11b/g/n(HT20): 2412MHz~2462MHz<br>802.11ax(HE20): 2412MHz~2462MHz<br>802.11n(HT40): 2422MHz~2452MHz<br>802.11ax(HE40): 2422MHz~2452MHz<br>U-NII-1: 5180MHz~5240MHz<br>U-NII-2A: 5260MHz~5320MHz<br>U-NII-2C: 5500MHz~5700MHz<br>U-NII-3: 5745MHz~5825MHz |
| <b>Power Rating</b>           | : | Adapter(CS-0501000)<br>INPUT: 100-240V~50/60Hz 0.5A max<br>OUTPUT: DC 5V/1.0A                                                                                                                                                                                                        |
| <b>Software Version</b>       | : | V4.6.10.0                                                                                                                                                                                                                                                                            |
| <b>Hardware Version</b>       | : | V276                                                                                                                                                                                                                                                                                 |
| <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-202405-0316-01-01-2#).                                                                                                                                                                                                                       |



## Method of Measurement for FCC

### 1. Antenna Gain:

| Antenna   | Brand | Model Name | Type | Antenna Gain(dBi) |
|-----------|-------|------------|------|-------------------|
| 2.4G WIFI | N/A   | N/A        | FPC  | 2.40              |
| U-NII-1   | N/A   | N/A        | FPC  | 3.52              |
| U-NII-2A  | N/A   | N/A        | FPC  | 4.17              |
| U-NII-2C  | N/A   | N/A        | FPC  | 4.14              |
| U-NII-3   | N/A   | N/A        | FPC  | 3.49              |

### 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:

| 2.4G WiFi Worst Maximum MPE Result                                                                                            |                 |                |                                  |                          |                                      |                          |                         |                                                   |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------------------|--------------------------|--------------------------------------|--------------------------|-------------------------|---------------------------------------------------|
| Mode                                                                                                                          | N <sub>TX</sub> | Freq.<br>(MHz) | Conducted<br>Power(max)<br>(dBm) | Turn-up<br>Power<br>(dB) | Max tune up<br>power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power<br>Density<br>(mW/ cm <sup>2</sup> )<br>[S] |
| 802.11b                                                                                                                       | 1               | 2412           | 15.47                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2437           | 15.07                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2462           | 15.15                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
| 802.11g                                                                                                                       | 1               | 2412           | 15.58                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2437           | 15.61                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2462           | 15.61                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
| 802.11n<br>(HT20)                                                                                                             | 1               | 2412           | 15.45                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2437           | 15.66                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2462           | 15.43                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
| 802.11n<br>(HT40)                                                                                                             | 1               | 2422           | 15.00                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2437           | 15.52                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2452           | 15.55                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
| 802.11ax<br>(HE20)                                                                                                            | 1               | 2412           | 15.52                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2437           | 15.74                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2462           | 15.52                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
| 802.11ax<br>(HE40)                                                                                                            | 1               | 2422           | 15.15                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2437           | 15.73                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
|                                                                                                                               |                 | 2452           | 15.74                            | 15±1                     | 16                                   | 2.40                     | 20                      | 0.01376                                           |
| Note:<br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |                |                                  |                          |                                      |                          |                         |                                                   |





### 5.2G WiFi Worst Maximum MPE Result

| Mode       | N <sub>TX</sub> | Freq.<br>(MHz) | Conducted<br>Power(max)<br>(dBm) | Turn-up<br>Power<br>(dB) | Max tune up<br>power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power<br>Density<br>(mW/cm <sup>2</sup> )<br>[S] |
|------------|-----------------|----------------|----------------------------------|--------------------------|--------------------------------------|--------------------------|-------------------------|--------------------------------------------------|
| 802.11a    | 1               | 5180           | 14.55                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |
|            |                 | 5200           | 14.33                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |
|            |                 | 5240           | 14.29                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |
| 802.11n20  | 1               | 5180           | 13.89                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
|            |                 | 5200           | 13.52                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
|            |                 | 5240           | 13.55                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
| 802.11n40  | 1               | 5190           | 13.34                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
|            |                 | 5230           | 13.82                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
| 802.11ac20 | 1               | 5180           | 13.71                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
|            |                 | 5200           | 13.42                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
|            |                 | 5240           | 13.45                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
| 802.11ac40 | 1               | 5190           | 13.89                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
|            |                 | 5230           | 13.14                            | 13±1                     | 14                                   | 3.52                     | 20                      | 0.01124                                          |
| 802.11ax20 | 1               | 5180           | 14.12                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |
|            |                 | 5200           | 14.25                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |
|            |                 | 5240           | 14.27                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |
| 802.11ax40 | 1               | 5190           | 14.30                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |
|            |                 | 5230           | 14.17                            | 14±1                     | 15                                   | 3.52                     | 20                      | 0.01415                                          |

#### Note:

N<sub>TX</sub>= Number of Transmit Antennas

RF Output power specifies that Maximum Conducted Peak Output Power.





| 5.3G WiFi Worst Maximum MPE Result                                                                                            |                 |                |                                  |                          |                                      |                          |                         |                                                  |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------------------|--------------------------|--------------------------------------|--------------------------|-------------------------|--------------------------------------------------|
| Mode                                                                                                                          | N <sub>TX</sub> | Freq.<br>(MHz) | Conducted<br>Power(max)<br>(dBm) | Turn-up<br>Power<br>(dB) | Max tune up<br>power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power<br>Density<br>(mW/cm <sup>2</sup> )<br>[S] |
| 802.11a                                                                                                                       | 1               | 5260           | 15.27                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
|                                                                                                                               |                 | 5280           | 15.88                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
|                                                                                                                               |                 | 5320           | 16.14                            | 16±1                     | 17                                   | 4.17                     | 20                      | 0.02605                                          |
| 802.11n20                                                                                                                     | 1               | 5260           | 14.43                            | 14±1                     | 15                                   | 4.17                     | 20                      | 0.01643                                          |
|                                                                                                                               |                 | 5280           | 14.74                            | 14±1                     | 15                                   | 4.17                     | 20                      | 0.01643                                          |
|                                                                                                                               |                 | 5320           | 15.21                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
| 802.11n40                                                                                                                     | 1               | 5270           | 14.88                            | 14±1                     | 15                                   | 4.17                     | 20                      | 0.01643                                          |
|                                                                                                                               |                 | 5310           | 14.87                            | 14±1                     | 15                                   | 4.17                     | 20                      | 0.01643                                          |
| 802.11ac20                                                                                                                    | 1               | 5260           | 14.33                            | 14±1                     | 15                                   | 4.17                     | 20                      | 0.01643                                          |
|                                                                                                                               |                 | 5280           | 14.65                            | 14±1                     | 15                                   | 4.17                     | 20                      | 0.01643                                          |
|                                                                                                                               |                 | 5320           | 15.13                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
| 802.11ac40                                                                                                                    | 1               | 5270           | 14.85                            | 14±1                     | 15                                   | 4.17                     | 20                      | 0.01643                                          |
|                                                                                                                               |                 | 5310           | 15.41                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
| 802.11ax20                                                                                                                    | 1               | 5260           | 15.09                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
|                                                                                                                               |                 | 5280           | 15.48                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
|                                                                                                                               |                 | 5320           | 16.03                            | 16±1                     | 17                                   | 4.17                     | 20                      | 0.02605                                          |
| 802.11ax40                                                                                                                    | 1               | 5270           | 15.66                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
|                                                                                                                               |                 | 5310           | 15.84                            | 15±1                     | 16                                   | 4.17                     | 20                      | 0.02069                                          |
| Note:<br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |                |                                  |                          |                                      |                          |                         |                                                  |





| 5.5G WiFi Worst Maximum MPE Result                                                                                            |                 |                |                                  |                          |                                      |                          |                         |                                                  |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------------------|--------------------------|--------------------------------------|--------------------------|-------------------------|--------------------------------------------------|
| Mode                                                                                                                          | N <sub>TX</sub> | Freq.<br>(MHz) | Conducted<br>Power(max)<br>(dBm) | Turn-up<br>Power<br>(dB) | Max tune up<br>power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power<br>Density<br>(mW/cm <sup>2</sup> )<br>[S] |
| 802.11a                                                                                                                       | 1               | 5500           | 14.94                            | 14±1                     | 15                                   | 4.14                     | 20                      | 0.01632                                          |
|                                                                                                                               |                 | 5580           | 14.36                            | 14±1                     | 15                                   | 4.14                     | 20                      | 0.01632                                          |
|                                                                                                                               |                 | 5700           | 16.68                            | 16±1                     | 17                                   | 4.14                     | 20                      | 0.02587                                          |
| 802.11n20                                                                                                                     | 1               | 5500           | 14.24                            | 14±1                     | 15                                   | 4.14                     | 20                      | 0.01632                                          |
|                                                                                                                               |                 | 5580           | 13.62                            | 13±1                     | 14                                   | 4.14                     | 20                      | 0.01296                                          |
|                                                                                                                               |                 | 5700           | 15.95                            | 15±1                     | 16                                   | 4.14                     | 20                      | 0.02055                                          |
| 802.11n40                                                                                                                     | 1               | 5510           | 12.76                            | 12±1                     | 13                                   | 4.14                     | 20                      | 0.01029                                          |
|                                                                                                                               |                 | 5550           | 15.18                            | 15±1                     | 16                                   | 4.14                     | 20                      | 0.02055                                          |
|                                                                                                                               |                 | 5670           | 16.26                            | 16±1                     | 17                                   | 4.14                     | 20                      | 0.02587                                          |
| 802.11ac20                                                                                                                    | 1               | 5500           | 14.88                            | 14±1                     | 15                                   | 4.14                     | 20                      | 0.01632                                          |
|                                                                                                                               |                 | 5580           | 13.58                            | 13±1                     | 14                                   | 4.14                     | 20                      | 0.01296                                          |
|                                                                                                                               |                 | 5700           | 15.92                            | 15±1                     | 16                                   | 4.14                     | 20                      | 0.02055                                          |
| 802.11ac40                                                                                                                    | 1               | 5510           | 14.19                            | 14±1                     | 15                                   | 4.14                     | 20                      | 0.01632                                          |
|                                                                                                                               |                 | 5550           | 15.14                            | 15±1                     | 16                                   | 4.14                     | 20                      | 0.02055                                          |
|                                                                                                                               |                 | 5670           | 16.79                            | 16±1                     | 17                                   | 4.14                     | 20                      | 0.02587                                          |
| 802.11ax20                                                                                                                    | 1               | 5500           | 14.54                            | 14±1                     | 15                                   | 4.14                     | 20                      | 0.01632                                          |
|                                                                                                                               |                 | 5580           | 13.99                            | 13±1                     | 14                                   | 4.14                     | 20                      | 0.01296                                          |
|                                                                                                                               |                 | 5700           | 16.74                            | 16±1                     | 17                                   | 4.14                     | 20                      | 0.02587                                          |
| 802.11ax40                                                                                                                    | 1               | 5510           | 14.67                            | 14±1                     | 15                                   | 4.14                     | 20                      | 0.01632                                          |
|                                                                                                                               |                 | 5550           | 15.85                            | 15±1                     | 16                                   | 4.14                     | 20                      | 0.02055                                          |
|                                                                                                                               |                 | 5670           | 16.66                            | 16±1                     | 17                                   | 4.14                     | 20                      | 0.02587                                          |
| Note:<br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |                |                                  |                          |                                      |                          |                         |                                                  |





| 5.8G WiFi Worst Maximum MPE Result                                                                                            |                 |                |                                  |                          |                                      |                          |                         |                                                  |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------------------|--------------------------|--------------------------------------|--------------------------|-------------------------|--------------------------------------------------|
| Mode                                                                                                                          | N <sub>TX</sub> | Freq.<br>(MHz) | Conducted<br>Power(max)<br>(dBm) | Turn-up<br>Power<br>(dB) | Max tune up<br>power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power<br>Density<br>(mW/cm <sup>2</sup> )<br>[S] |
| 802.11a                                                                                                                       | 1               | 5745           | 16.13                            | 16±1                     | 17                                   | 3.49                     | 20                      | 0.02227                                          |
|                                                                                                                               |                 | 5785           | 14.41                            | 14±1                     | 15                                   | 3.49                     | 20                      | 0.01405                                          |
|                                                                                                                               |                 | 5825           | 12.51                            | 12±1                     | 13                                   | 3.49                     | 20                      | 0.00887                                          |
| 802.11n20                                                                                                                     | 1               | 5745           | 15.39                            | 15±1                     | 16                                   | 3.49                     | 20                      | 0.01769                                          |
|                                                                                                                               |                 | 5785           | 14.19                            | 14±1                     | 15                                   | 3.49                     | 20                      | 0.01405                                          |
|                                                                                                                               |                 | 5825           | 11.87                            | 11±1                     | 12                                   | 3.49                     | 20                      | 0.00704                                          |
| 802.11n40                                                                                                                     | 1               | 5755           | 14.89                            | 14±1                     | 15                                   | 3.49                     | 20                      | 0.01405                                          |
|                                                                                                                               |                 | 5795           | 13.01                            | 13±1                     | 14                                   | 3.49                     | 20                      | 0.01116                                          |
| 802.11ac20                                                                                                                    | 1               | 5745           | 15.41                            | 15±1                     | 16                                   | 3.49                     | 20                      | 0.01769                                          |
|                                                                                                                               |                 | 5785           | 13.60                            | 13±1                     | 14                                   | 3.49                     | 20                      | 0.01116                                          |
|                                                                                                                               |                 | 5825           | 11.81                            | 11±1                     | 12                                   | 3.49                     | 20                      | 0.00704                                          |
| 802.11ac40                                                                                                                    | 1               | 5755           | 14.79                            | 14±1                     | 15                                   | 3.49                     | 20                      | 0.01405                                          |
|                                                                                                                               |                 | 5795           | 12.98                            | 12±1                     | 13                                   | 3.49                     | 20                      | 0.00887                                          |
| 802.11ax20                                                                                                                    | 1               | 5745           | 16.68                            | 16±1                     | 17                                   | 3.49                     | 20                      | 0.02227                                          |
|                                                                                                                               |                 | 5785           | 14.56                            | 14±1                     | 15                                   | 3.49                     | 20                      | 0.01405                                          |
|                                                                                                                               |                 | 5825           | 12.68                            | 12±1                     | 13                                   | 3.49                     | 20                      | 0.00887                                          |
| 802.11ax40                                                                                                                    | 1               | 5755           | 15.72                            | 15±1                     | 16                                   | 3.49                     | 20                      | 0.01769                                          |
|                                                                                                                               |                 | 5795           | 14.07                            | 14±1                     | 15                                   | 3.49                     | 20                      | 0.01405                                          |
| Note:<br>N <sub>TX</sub> = Number of Transmit Antennas<br>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&5G WIFI: 2412MHz~2462MHz&5180MHz~5825MHz

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

The worst MPE is calculated as **0.02605mW/cm<sup>2</sup> < limit 1mW/cm<sup>2</sup>**. 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.

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

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.

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

