

Maximum Permissible Exposure Evaluation

FCC ID: 2APRB-PJ2421

1. Client Information

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

2. General Description of EUT

| | | |
|----------------------------|----------------------|--|
| EUT Name | : | IP Camera |
| Models No. | : | JA-PJ2421-DL-W (Please see the Annex) |
| Model Different | : | All these models are in the same PCB, layout and electrical circuit, the only difference is model. |
| Product Description | Operation Frequency: | 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz |
| | Max Output Power: | 802.11b: 17.09dBm |
| | Antenna Gain: | 3dBi Reverse SMA Antenna |
| | Modulation Type: | 802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM) |
| Power Supply | : | DC 12 Voltage by AC/DC Adapter supplied |
| Software Version | : | V2.2.40 |
| Hardware Version | : | V103 |

MPE Calculations for WIFI

1. Antenna Gain:

Reverse SMA Antenna: 3dBi.

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:

| Mode | 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 | 17.09 | 17±1 | 18 | 3 | 20 | 0.025046 |
| 802.11g | 15.94 | 15±1 | 16 | 3 | 20 | 0.015803 |
| 802.11n (HT20) | 15.96 | 15±1 | 16 | 3 | 20 | 0.015803 |
| 802.11n (HT40) | 13.56 | 13±1 | 14 | 3 | 20 | 0.009971 |

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 802.11b/g/n(HT20):2412~2462 MHz

802.11n(HT40): 2422MHz~2452MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.025046\text{mW} / \text{cm}^2 < \text{limit } 1\text{mW} / \text{cm}^2$. 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.

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