

Maximum Permissible Exposure Evaluation

FCC ID: 2AY9J-BC13-H

1. Client Information

Applicant	:	Guangzhou Juan IOT Technology Co.,Ltd.
Address	:	No.2 Plant, west side of Shanxi village, Dashi street, Panyu District, Guangzhou City, China
Manufacturer	:	Guangzhou Juan IOT Technology Co.,Ltd.
Address	:	No.2 Plant, west side of Shanxi village, Dashi street, Panyu District, Guangzhou City, China

2. General Description of EUT

EUT Name	:	Smart IP Camera with Battery
Models No.	:	(Please see the page of 2)
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is the model name.
Brand Name	:	N/A
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:15.837dBm 802.11g: 10.574dBm 802.11n (HT20): 9.917dBm 802.11n (HT40): 9.962dBm
	:	Antenna Gain: 3.5dBi Dipole Antenna
Power Rating	:	DC 5V from Type-C Port DC 3.7V by 5200mAh Li-ion battery DC 3.7V by 10400mAh Li-ion battery
Software Version	:	3.0.14
Hardware Version	:	HI3518EV300_V282P
Connecting I/O Port(S)	:	Please refer to the User's Manual
Remark	:	the MPE report used the EUT(TBBJ-20210112-08-02#).

Mode(s)

BC13-H, BA12-H, BP22-H, BC13-H-4G, BC13-A, BC13-A-4G, BP-HSD2030-W, BP-HSD2030-4G, BA13-A, BA13-4G, BA13-HB, ZC-IPC206, ZC-IPC209, ZC-IPC210, ZC-IPC208, ZC-IPC211, ZC-IPC216, ZC-IPC218, ZC-YT01, ZC-TY01, 80501, 80701, 80702, 80203, 80204, ZG3092M, S10, Q2, Q3, Q4, Q5, Q7, Z1, Z2, Z3, Z4, Z5, Z7, C22, STW-3 WIFI, STW-5L WIFI, STG-3L 4G, STD-1L WIFI, STG-4L 4G, SDW-1 WIFI, SDG-1 4G, SDW-2 WIFI, SDG-2 4G, SQW-1 WIFI, SQG-1 4G, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, F20, X1, X2, X3, X4, X5, X6, X7, X8, X9, X10, X11, X12, X13, X14, X15, X16, X17, X18, X19, X20, JA-BA12-H30W, JA-BC12-30W, JA-BA22-H30WSL-2W, JA-BPT2030-30WSL, GL-C10+, C10, C20, C30, C40, C50, C60, C10-TZ, C20-TZ, C30-TZ, C40-TZ, C50-TZ, C60-TZ, WTB503, WK-2C30TZ, WK-2C40TZ, WK-3C40TZ, WK-2TB503, WK-3TB503, TD703, WTD803, WTD903, BAT-WF-01, BAT-WF-02, BAT-WF-03, BAT-4G-01, BAT-4G-02, BAT-4G-03, CW-15, CW-16, CW-17, CW-18, CW-19, CW-20, CG-15, CG-16, CG-17, CG-18, CG-19, CG-20, NB-Jawifi, KL-MN02, KL-MN02-D, KL-MN06, KL-MN06-D, KL-MN06-4G, Q7H-JA, Q7S-JA, T-CL2007W3-WF33J, T-CL3007W3-WF33J, T-CL5007W3-WF33J, T-KL20042A-WF33J, T-KL30044A-WF33J, T-KL50044A-WF33J, JA-D300, JA-SM200, JA-T200, JA-T300, FS-DC005, FS-006, s01, s02J, S03J, HW-3304KIT30-H3, HW-3308KIT30-H3, HW-3304-H3-2, HW-3308-H3-2, HW-33B30-H3, HW-3304-H3-1, HW-3308-H3-1, HW-E4-1, HSD2031-SW, JA-HSD2031-4G, JA-PJ2431-DL-4G, HW-33VR30-2, HW-33MPT30, HW-33A30L, JA-CA43, s01, s02J, S03J, S04J, S05J, S06J, S07J, S08J, S09J, S10J, MWM031+MWL801, NK200-LP, DF201, C32, C31, JA-HSD2130-W, HSD2130-W.

MPE Calculations for WIFI

1. Antenna Gain:

PCB Antenna:3.5dBi.

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:

2.4G WiFi

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]	Limit of Power Density (mW/ cm ²) (S)
802.11B	15.837	15±1	16	3.5	20	0.01773	1
802.11G	10.574	10±1	11	3.5	20	0.00561	1
802.11N(HT20)	9.917	9±1	10	3.5	20	0.00445	1
802.11N(HT40)	9.962	9±1	10	3.5	20	0.004455	1

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/ cm²

The MPE is calculated as $0.01773mW / cm^2 < limit 1mW / cm^2$. 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.

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