



Maximum Permissible Exposure Evaluation

FCC ID: 2A5OS-W05

1. Client Information

Applicant	:	Shenzhen Tino Security Corp., LTD
Address	:	201, No.7, HeDian Industry Park, FuMin Community, FuCheng Street, LongHua District, China
Manufacturer	:	Shenzhen Tino Security Corp., LTD
Address	:	201, No.7, HeDian Industry Park, FuMin Community, FuCheng Street, LongHua District, China

2. General Description of EUT

EUT Name	:	WIFI IP Camera
Models No.	:	JA-608AW-AI-30, W05-US3004-1T, W512-US3004-1T, W05-US-3MP, Q05-US-3MP, JA-608EW-AI-30, W128-4-608EW-AI-30-US, 8508W-4-608EW-AI-30-US, JA-R02-30W, JA-608AW-AI-30, TA-JA-608AW-AI-30, 8508W-4-608AW-AI-30, TA-8508W-4-608AW-AI-30, W128-4-608AW-AI-30, TA-W128-4-608AW-AI-30, JA-PTQ05-30W, TA-JA-PTQ05-30W, W1108-4xC102, W1108-4xC102-1T, W1108-4xC103, W1108-4xC103-1T, W1108-2xC103-2xC104-1T, C102, C103, C104, WPS2K84, KPTL84, K02PT, WP2K34, WZ3034, CP4
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is model name.
Brand Name	:	Techage, Misecu, Tinosec, Yeskamo
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
	Number of Channel:	802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels
	RF Output Power:	21.65dBm (Max)
	Antenna Gain:	3.0dBi Dipole Antenna
Power Rating	:	Input: DC 12V
Software Version	:	3.7.46.5710201
Hardware Version	:	8330-w
Connecting I/O Port(S)	:	Please refer to the User's Manual
Remark	:	the MPE report used the EUT-2(RW-C-202202-0223-1-2#).

MPE Calculations for Bluetooth

1. Antenna Gain:

Dipole Antenna: 3.0dBi.

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 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	17.40	17±1	18	3.0	20	0.0250
		2437	18.11	18±1	19	3.0	20	0.0315
		2462	18.31	18±1	19	3.0	20	0.0315
802.11g	1	2412	20.88	20±1	21	3.0	20	0.0499
		2437	21.02	21±1	22	3.0	20	0.0629
		2462	20.68	20±1	21	3.0	20	0.0499
802.11n20	1	2412	20.51	20±1	21	3.0	20	0.0499
		2437	21.26	21±1	22	3.0	20	0.0629
		2462	20.92	20±1	21	3.0	20	0.0499
802.11n40	1	2422	20.95	20±1	21	3.0	20	0.0499
	1	2437	21.47	21±1	22	3.0	20	0.0629
	1	2452	21.65	21±1	22	3.0	20	0.0629

Note:

N_{TX}= Number of Transmit Antennas

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 2.4 WIFI:2412~2462MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as **$0.0629\text{mW} / \text{cm}^2 < \text{limit } 1\text{mW} / \text{cm}^2$** . 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.

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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