



Maximum Permissible Exposure Evaluation

FCC ID: 2A5OS-PT825

1. Client Information

Applicant	:	Shenzhen Tino Security Corp., LTD
Address	:	201, NO.7, HeDian Industry Park, FuMin Community, Fucheng Street, Longhua District, Shenzhen, China
Manufacturer	:	Shenzhen Tino Security Corp., LTD
Address	:	201, NO.7, HeDian Industry Park, FuMin Community, Fucheng Street, Longhua District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Smart PTZ Camera
Models No.	:	PT825, PT805, PT807, PT815, PT827, PT530, PT516, PT517 517, 530, 605, 608, 629, 631, 669, 805, 807, 815, 825, 827 CA42, CA43, CA45, CA47, CA48, CA49
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is model name.
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
	:	Antenna Gain: 2.62dBi External Antenna
Power Rating	:	Adapter:GA-1201000 Input: AC 100-240V~ 50/60Hz 0.6A Output: 12.0V---1000mA
Software Version	:	0.5.0
Hardware Version	:	CB140_C02_V2
Connecting I/O Port(S)	:	Please refer to the User's Manual
Remark	:	the evaluation report used the EUT(202210-0069-6-2#).

MPE Calculations for WIFI

1. Antenna Gain:

External Antenna: 2.62 dBi.

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

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	17.201	17±1	18	2.62	20	0.0229
		2437	17.406	17±1	18	2.62	20	0.0229
		2462	17.053	17±1	18	2.62	20	0.0229
802.11g	1	2412	16.778	17±1	18	2.62	20	0.0229
		2437	16.905	17±1	18	2.62	20	0.0229
		2462	16.552	17±1	18	2.62	20	0.0229
802.11n20	1	2412	16.304	16±1	17	2.62	20	0.0182
		2437	16.862	17±1	18	2.62	20	0.0229
		2462	16.666	17±1	18	2.62	20	0.0229
802.11n40	1	2422	16.833	17±1	18	2.62	20	0.0229
		2437	16.972	17±1	18	2.62	20	0.0229
		2452	16.863	17±1	18	2.62	20	0.0229

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 2.4GWiFi:2412~2462 MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as **0.0229 mW / cm² < limit 1mW / cm²**. 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.

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

