

Maximum Permissible Exposure Evaluation

FCC ID: 2ATUJ-TV618ZD2MP

1. Client Information

Applicant	:	Shenzhen Trisvision Technology Co.,Ltd.
Address	:	Chuangzeshi Science Park, 81 Xincun, Songyuanxia Community Center, Guanhu Street, Longhua District, Shenzhen, China
Manufacturer	:	Shenzhen Trisvision Technology Co.,Ltd.
Address	:	Chuangzeshi Science Park, 81 Xincun, Songyuanxia Community Center, Guanhu Street, Longhua District, Shenzhen, China

2. General Description of EUT

EUT Name	:	IP Camera
Models No.	:	TV-618ZD-2MP, see NOTE(1)
Model Different	:	All models are in the same PCB layout interior structure and electrical circuits, The only difference is model name for commercial purpose.
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
	RF Output Power:	802.11b: 16.90dBm 802.11g: 15.63dBm 802.11n (HT20): 14.91dBm 802.11n (HT40):14.08dBm
	Antenna Gain:	5dBi FPC Antenna
	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)
Power Supply	:	DC Voltage by AC/DC Adapter supplied(model:SAN-05015)
Power Rating	:	Input: DC 5V1.5A
Software Version	:	V3.4.1.1212
Hardware Version	:	BK-38-2.0-V1

TB-RF-075-1.0

Connecting Port(S)	I/O	:	Please refer to the User's Manual
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NOTE:

(1) Model(s)

Series Model No.				
TV-982-2MP,	TV-962-2MP,	TV-622-2MP,	TV-6024H-2MP,	TV-6025H-2MP,
TV-6026H-2MP,	TV-6124H-2MP,	TV-228ZD-2MP,	TV-308ZD-2MP,	TV-266ZD-2MP,
TV-268ZD-2MP,	TV-288ZD-2MP,	TV-298ZD-2MP,	TV-238ZD-2MP,	TV-218ZD-2MP,
TV-9825A-2MP,	TV-9825B-2MP,	TV-K520-2MP-AJ,	TV-K530-2MP-AJ,	
TV-Q2-2MP-AJ				

MPE Calculations for WIFI

1. Antenna Gain:

FPC Antenna: 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:

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	16.90	17±1	18	5	20	0.03970
802.11g	15.63	15±1	16	5	20	0.02505
802.11n (HT20)	14.91	15±1	16	5	20	0.02505
802.11n (HT40)	14.08	14±1	15	5	20	0.01989

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:2412~2462 MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.03970\text{mW} / \text{cm}^2 < \text{limit } 1\text{mW} / \text{cm}^2$. 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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