

Maximum Permissible Exposure Evaluation

FCC ID: 2APD7-XYTAR9820F12

1. Client Information

Applicant	:	Shenzhen Golden Vision Technology Development Co.,Ltd
Address	:	No.6 Baofu Road, Baolai industrial Park, Shang mu gu Village, Pinghu, Longgang District, Shenzhen, China
Manufacturer	:	Shenzhen Golden Vision Technology Development Co.,Ltd
Address	:	No.6 Baofu Road, Baolai industrial Park, Shang mu gu Village, Pinghu, Longgang District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Smart Camera	
Models No.	:	XY/TA-R9820-F12, see the page 2	
Model Different	:	All these models are the same PCB, layout and electrical circuit, the only difference is product appearance.	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
		RF Output Power:	802.11b: 9.42dBm 802.11g: 8.39dBm 802.11n (HT20): 8.25dBm 802.11n (HT40): 7.41dBm
		Antenna Gain:	3dBi PCB Antenna
		Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)
Power Supply	:	DC Voltage supplied by AC/DC adapter	
Power Rating	:	Input: DC5V 1A	
Software Version	:	90A /V5.1.34	
Hardware Version	:	V1.5	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

TB-RF-075-1.0

Model:

Model(s)			
XY/TA-R9820-F11,	XY/TA-R9820-F13,	XY/TA-R9820-F14,	XY/TA-R9820-K7,
XY/TA-R9820-K8,	XY/TA-R9820-K9,	XY/TA-R9820-K10,	XY/TA-R9820-Q11,
IPC-A3610-A111,	IPC/TA-A3610-XHR,	XY/TA-R9520-V8,	XY/TA-R9520-V9,
IPC-R9520-V7,	TA-A3410-R6,	IPC-C3310-R7,	XY-W102R,
TA-FD-BL6,	TA-FD-BL7,	TA-R9522-AFD	

MPE Calculations for WIFI

1. Antenna Gain:

PCB 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	9.42	9±1	10	3	20	0.00397
802.11g	8.39	8±1	9	3	20	0.00315
802.11n (HT20)	8.25	8±1	9	3	20	0.00315
802.11n (HT40)	7.41	7±1	8	3	20	0.00250

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 $0.00397 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{ mW} / \text{cm}^2$. 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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