

Maximum Permissible Exposure Evaluation

FCC ID: 2AKU3SWSC-580W

1. Client Information

Applicant : Shenzhen Dexin Industrial Co., Ltd.
Address : 3 Floor, E Building, Yunfeng Road, No.23, Guanghao Industrial Zones, Longhua District, Shenzhen, China.
Manufacturer : Shenzhen Jieshilian Industrial Co., Ltd.
Address : 2 Floor, No.270 Buiding, Dashuikengjuling Industrial Zone, Guanlan, Longhua Diserict, Shenzhen, China.

2. General Description of EUT

EUT Name	:	Wireless network HD camera	
Models No.	:	WSC-580W	
Model Difference	:	N/A	
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 <i>see note(3)</i> 802.11n(HT40): 7 channels <i>see note(3)</i>
	:	RF Output Power:	802.11b: 18.36 dBm 802.11g: 15.99 dBm 802.11n (HT20): 15.06 dBm 802.11n (HT40): 15.02 dBm
	:	Antenna Gain:	3.5 dBi Dipole Antenna
	:	Modulation Type:	802.11b: DSSS(CCK, QPSK, BPSK) 802.11g: OFDM 802.11n: OFDM
	:	Bit Rate of Transmitter:	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps
	:	DC Voltage by the Host System. DC Voltage Supply from AC/DC Adapter	

TB-RF-075-1.0

Power Rating	:	DC 5.0 by the Host System. Input: AC 100-240 V~50/60Hz—0.3 A Output: DC 5.0 V—1500mA
Connecting I/O Port(S)	:	Please refer to the User's Manual
Note: More information about the RF function, please refer the RF test reports.		

MPE Calculations for WIFI

1. Antenna Gain:

Dipole Antenna: 3.5 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:

Worst Maximum 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	17.80	18±1	19	3.5	20	0.0354
		2437	17.60	18±1	19	3.5	20	0.0354
		2462	18.36	18±1	19	3.5	20	0.0354
802.11g	1	2412	15.81	16±1	17	3.5	20	0.0223
		2437	15.98	16±1	17	3.5	20	0.0223
		2462	15.99	16±1	17	3.5	20	0.0223
802.11n (HT20)	1	2412	14.82	15±1	16	3.5	20	0.0141
		2437	14.73	15±1	16	3.5	20	0.0141
		2462	15.06	15±1	16	3.5	20	0.0141
802.11n (HT40)	1	2422	14.85	15±1	16	3.5	20	0.0141
		2437	14.70	15±1	16	3.5	20	0.0141
		2452	15.02	15±1	16	3.5	20	0.0141

Note:

(1) N_{TX}= Number of Transmit Antennas

(2) 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 802.11b/g/n (2412~2462 MHz)

MPE limit S: 1 mW/ cm²

The MPE is calculated as $0.0354 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{ mW} / \text{cm}^2$. 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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