

Maximum Permissible Exposure Evaluation

FCC ID: 2AKBP-Q9W

1. Client Information

Applicant	: Shenzhen Hysiry Technology Co., Ltd.
Address	: No.524, BLDG A, One square world NET Industry Park, Xia Wei Yuan Wan Li Hua Industrial Zone, XiXiang Street, BaoAn District, ShenZhen, China
Manufacturer	: Shenzhen Hysiry Technology Co., Ltd.
Address	: No.524, BLDG A, One square world NET Industry Park, Xia Wei Yuan Wan Li Hua Industrial Zone, XiXiang Street, BaoAn District, ShenZhen, China

2. General Description of EUT

EUT Name	: SMART LAMP
Models No.	: Q9W, Q9T
Model Different	: Power module, wireless module and the appearance of the same, the difference is the light color, and their can match three different lamp boards.
Product Description	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz
	RF Output Power: 802.11b: 14.65dBm 802.11g: 13.86dBm 802.11n (HT20): 12.91dBm
	Antenna Gain: 1dBi PCB Antenna
	Modulation Type: 802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)
Power Supply	: AC Voltage supplied
Power Rating	: Input: AC 100~240V,50/ 60Hz
SoftwareVersion	: N/A
Hardware Version	: N/A
Connecting I/ OPort(S)	: Please refer to the User's Manual

TB-RF-075-1.0

MPE Calculations for WIFI

1. Antenna Gain:

PCB Antenna: 1dBi.

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	14.65	14±1	15	1	20	0.00792
802.11g	13.86	13±1	14	1	20	0.00629
802.11n (HT20)	12.91	12±1	13	1	20	0.00500

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 $0.00792mW / cm^2 < limit 1mW / cm^2$. 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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