



Maximum Permissible Exposure Evaluation

FCC ID:2AQNX-SL02

1. Client Information

Applicant	:	Shenzhen Longtour Photology Co., Ltd.
Address	:	202,Ying'an Building,Shangtang Intersection Minzhi Ave., Minzhi St., Longhua New Dist., Shenzhen, China
Manufacturer	:	Shenzhen Longtour Photology Co., Ltd.
Address	:	202,Ying'an Building,Shangtang Intersection Minzhi Ave., Minzhi St., Longhua New Dist., Shenzhen, China

2. General Description of EUT (Equipment Under Test)

EUT Name	:	Controller(Smart Light Strip)	
Model No.	:	SL02, SL07, SL08, SL09, SL10	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20):2412MHz~2462MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels see note(3)
		Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)
		Antenna Gain:	2dBi PCB Antenna
		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
		RF Output Power:	802.11b: 15.90dBm 802.11g: 18.22dBm 802.11n (HT20): 18.24dBm
Power Supply	:	AC Voltage Supplied.	
Power Rating	:	Input: 100V-240V~50/60Hz, 0.6A Max Output:12V= 1.5A	
Software Version	:	V1.0	
Hardware Version	:	V1.0	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Remark:

All these models are the same PCB, layout and electrical circuit, the difference is only to distinguish different sales areas of different customers, the model name is different.

MPE Calculations for

1. Antenna Gain:

PCB Antenna: 2.0dBi

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	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
802.11b	2412	15.895	30
	2437	15.297	
	2462	15.079	
802.11g	2412	17.267	
	2437	18.024	
	2462	18.217	
802.11n (HT20)	2412	17.073	
	2437	17.843	
	2462	18.235	

Mode	Channel Frequency(MHz)	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	2412	15±1	16	1.58	20	0.01255
	2437	15±1	16	1.58	20	0.01255
	2462	15±1	16	1.58	20	0.01255
802.11g	2412	17±1	18	1.58	20	0.01990
	2437	18±1	19	1.58	20	0.02505
	2462	18±1	19	1.58	20	0.02505
802.11g	2412	17±1	18	1.58	20	0.01990
	2437	17±1	18	1.58	20	0.01990
	2462	18±1	19	1.58	20	0.02505

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/cm²)
300-1,500	F/1500
1,500-100,000	1,0

For 802.11 b/g/n: 2412~2462 MHz

MPE limit S: 1mW/cm²

The MPE is calculated as 0.02505mW/cm²<1mW/cm². So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20 cm 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.

--End of Report--