Maximum Permissible Exposure Evaluation

FCC ID: 2BAFB-PL-100RGB

1. Client Information

Applicant	:	Dongguan City Tulifang Photographic Equipment Co., Ltd
Address	:	GD Modern International Exhibition Center Side, Houjie, Dongguan,Guangdong Province, China
Manufacturer	:	Dongguan City Tulifang Photographic Equipment Co., Ltd
Address	:	GD Modern International Exhibition Center Side, Houjie, Dongguan,Guangdong Province, China

2. General Description of EUT

EUT Name	:	LED photo/video light	
Models No.	:	PL-100RGB, PL-100B	
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is model name, brand name and product name.	
Brand Name	:	N/A	
Sample ID	:	HC-C-202407-0056-02-01	
Product Description	:	Operation Frequency:	Bluetooth (BLE): 2402MHz~2480MHz
Power Rating	:	Adapter:(GM95-190473-D) Input: 100-240V~, 50/60Hz 2.5A Output: 19.0V⎓4.73A	
Software Version	:	1.0	
Hardware Version	:	1.0	
Remark	:	The antenna gain provided by the manufacturer, the verified for the RF conduction test provided by TOBY test lab.	

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Method of Measurement for FCC

1. Max. Antenna Gain:

Mode	Antenna Type	Antenna Gain(dBi)
Bluetooth	PCB	2.5

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

Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0.
This means that:

∑ of MPE ratios ≤ 1.0

4. Test Result:

Worst MPE Result							
Test Mode	Frequency (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	Max. ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm^2) [S]
BLE 1M	2402	1.33	1±1	2	2.5	20	0.00056
	2440	1.154	1±1	2	2.5	20	0.00056
	2480	0.693	1±1	2	2.5	20	0.00056
BLE 2M	2402	1.498	1±1	2	2.5	20	0.00056
	2440	1.343	1±1	2	2.5	20	0.00056
	2480	0.838	1±1	2	2.5	20	0.00056
Note: The antenna gain used max. antenna gain							

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: 2402~2480MHz
MPE limit S: 1mW/ cm^2
The MPE is calculated as ***0.00056mW / 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.

-----END OF REPORT-----