



Maximum Permissible Exposure Evaluation

FCC ID:2AKBP-BQ10CWM

1. Client Information

Applicant	:	Shenzhen Hysiry Technology Co., Ltd.
Address	:	2403D, 24th floor, coast huanqing building, no.24 futian road , xu town community, futian street, futian district, shenzhen
Manufacturer	:	Shenzhen Hysiry Technology Co., Ltd.
Address	:	2403D, 24th floor, coast huanqing building, no.24 futian road , xu town community, futian street, futian district, shenzhen

2. General Description of EUT (Equipment Under Test)

EUT Name	:	SMART BULB	
Model No.	:	BQ10CWM	
Series Model No.	:	BQ10WM,BQ10CM	
Product Description	:	Operation Frequency:	2402MHz~2480MHz
		Modulation Type:	GFSK
		Antenna Designation:	1.7dBi PCB Antenna
		Bluetooth version:	Bluetooth 5.0
		EIRP Power: (Average)	GFSK 1M:11.17dBm GFSK 2M:11.16dBm
Power Supply	:	AC Voltage Supplied.	
Power Rating	:	Input: AC 100V-240V~50/60Hz	
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: 1.7dBi

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)
BLE 1M	2402	11.167	30
	2442	10.911	
	2480	10.513	
BLE 2M	2402	11.160	
	2442	10.898	
	2480	10.497	

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]
BLE 1M	2402	11±1	12	1.48	20	0.00466
	2442	10±1	11	1.48	20	0.00370
	2480	10±1	11	1.48	20	0.00370
BLE 2M	2402	11±1	12	1.48	20	0.00466
	2442	10±1	11	1.48	20	0.00370
	2480	10±1	11	1.48	20	0.00370

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 BLE: 2402~2480 MHz

MPE limit S: 1mW/cm²

The MPE is calculated as 0.00466mW/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--