

Maximum Permissible Exposure Evaluation

FCC ID: 2AJOS-GU10

1. Client Information

Applicant : GUANGZHOU ADVANSOLUTION TECHNOLOGY CO.,LTD
Address : RM801, ZHONGMING BULIDING, LONGKOU WEST RD, TIANHE DISTRICT, GUANGZHOU, CHINA
Manufacturer : GUANGZHOU ADVANSOLUTION TECHNOLOGY CO.,LTD
Address : RM801, ZHONGMING BULIDING, LONGKOU WEST RD, TIANHE DISTRICT, GUANGZHOU, CHINA

2. General Description of EUT

EUT Name	:	GU10 LED SPOT LIGHT
Models No.	:	VKB-004-GU10, KP-GU10
Brand Name	:	KASA
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.
Product Description	:	Operation Frequency: Bluetooth 4.0(BLE): 2402MHz~2480MHz
	:	Number of Channel: Bluetooth 4.0(BLE): 40 channels <i>see note(3)</i>
	:	RF Output Power: 7.062 dBm Conducted Power
	:	Antenna Gain: 2 dBi PCB Antenna
	:	Modulation Type: GFSK
	:	Bit Rate of Transmitter: 1Mbps(GFSK)
Power Rating	:	AC 85~240V, 50/60Hz
Connecting I/O Port(S)	:	Please refer to the User's Manual
Note: More detail information about Equipment, please refer to User's manual, more information about the RF, please refer to test report.		

MPE Calculations

1. Antenna Gain:

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)
1	N/A	N/A	PCB Ant.	2

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: max tune up power

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]
GFSK	1	2402	7.062	7±1	8	2.0	20	0.00200
		2442	6.791	6±1	7	2.0	20	0.00158
		2480	6.907	6±1	7	2.0	20	0.00158

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 : 2.4G: 2402MHz~2480MHz

MPE limit S: 1 mW/ cm²

The MPE is calculated as 0.00200mW / cm² < limit 1 mW / cm².

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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