

RF Exposure Evaluation

FCC ID: 2AK5Q-VKB

1. Client Information

Applicant : SHENZHEN MSD SCIENCE & TECHNOLOGY CO., LTD
Address : R3009, BLOCK C, SUNNY NEW GANXIAN, GONGMEN S RD, LO WU, SHENZHEN, CHINA
Manufacturer : SHENZHEN MSD SCIENCE & TECHNOLOGY CO., LTD
Address : R3009, BLOCK C, SUNNY NEW GANXIAN, GONGMEN S RD, LO WU, SHENZHEN, CHINA

2. General Description of EUT

EUT Name	:	Smart Bluetooth Bulb	
Models No.	:	VKB-005-E14, VKB-008-E12	
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 see note(3)
	:	RF Output Power:	2.92 dBm Conducted Power
	:	Antenna Gain:	-1 dBi PCB Antenna
	:	Modulation Type:	GFSK
	:	Bit Rate of Transmitter:	1Mbps(GFSK)
Power Rating	:	85-245VAC, 50/60Hz.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note:

More test information about the EUT please refer to the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 5 mm are determined by:

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] * $[\sqrt{f_{\text{GHz}}}] \leq 3.0$ for 1-g SAR

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] * $[\sqrt{f_{\text{GHz}}}] \leq 7.5.0$ for 10-g SAR

2. Calculation:

Test separation: 5mm						
Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	2.64	3±1	4	2.512	0.779	3.0
2.441	2.92	3±1	4	2.512	0.785	3.0
2.480	2.19	3±1	4	2.512	0.791	3.0

So standalone SAR measurements are not required.

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