



## RF TEST REPORT

**Report Reference No.....** : MAX25070059P01-R01RF**FCC ID.....** : 2BQVK-YDD-31BCompiled by  
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**Applicant's name.....** : Zhongshan YONGJI Lighting Technology Co.,Ltd

Address.....: Floor2, A Block, NO.460 Road, Donganbeilu Cao'er Village, Guzhen Town, Zhongshan City, Guangdong Province, China

**Test specification.....** :

Standard.....: KDB 447498 D01 General RF Exposure Guidance v06

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**Equipment description.....** : 2.4G Bluetooth light strip

Trade Mark.....: N/A

Manufacturer.....: Zhongshan YONGJI Lighting Technology Co.,Ltd

Model/Type reference.....: YDD-31B

YDD-31BA-1W, YDD-31BA-2B, YDD-31BA-2W, YDD-31BB-1B,

YDD-31BB-1W, YDD-31BB-2B, YDD-31BB-2W, YDD-31BC-1B,

Listed Models ..... : YDD-31BC-1W, YDD-31BC-2B, YDD-31BC-2W, YDD-31BC-1B, YDD-31BD-03W, YDD-31BD-1B, YDD-31BD-1W, YDD-31BD-2B, YDD-31BD-2W, YDD-32BE-03B, YDD-32BE-03W

Modulation .....: GFSK

Frequency.....: From 2402MHz to 2480MHz

Rating.....: DC 5V by USB port

Result.....: **PASS**



## RF Exposure Evaluation

### Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

According to KDB 447498 D01 General RF Exposure Guidance v06, Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition(s), listed below, is (are) satisfied.

#### Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

**Pd** = power density in mW/cm<sup>2</sup>, **Pout** = output power to antenna in mW;

**G** = gain of antenna in linear scale, **Pi** = 3.1416;

**R** = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.



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### Test Result of RF Exposure Evaluation

Bluetooth BLE

Channel	Frequency (MHz)	Output power to antenna (dBm)	Output power to antenna (mW)	Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
GFSK	2402	1.526	1.42	0.00028	1.0	PASS
	2440	1.635	1.46	0.00029	1.0	PASS
	2480	1.862	1.54	0.00031	1.0	PASS

Remark: antenna gain= 0dBi

Conclusion: No SAR is required.