



RF EXPOSURE EVALUATION REPORT

Application No.: GZCR2106020533LM
Applicant: DOREL JUVENILE GROUP
Address of Applicant: 2525 State Street Columbus Indiana, 47201-7494, United States
Manufacturer: GRACE (NINGBO) LIGHTING CO., LTD
Address of Manufacturer: No.3, Building 1, No.818, Qiming Road, Yinzhou district, Ningbo, Zhejiang
Factory: Shengzhou Zhitong Electronic Co., Ltd
Address of Factory: Building 2, No.8 Dacheng Road, Economic Development Zone, Shengzhou City Zhejiang Province, China
Equipment Under Test (EUT):
EUT Name: Under Crib Smart Light
Model No.: IH552
Trade Mark: Safety 1ST
Standard(s) : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2021-07-01
Date of Evaluation: 2021-07-12 to 2021-07-12
Date of Issue: 2021-07-16

Evaluation Result:	Pass*
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* In the configuration evaluated, the EUT complied with the standards specified above.

Kobe Jian
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-07-16		Original

Authorized for issue by:				
Tested By		Kevin Zhang		
		Kevin Zhang /Project Engineer		
Reviewed By		Ricky Liu		
		Ricky Liu/Reviewer		

2 Evaluation Summary

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
RF Exposure	47 CFR Part 1.1307	KDB447498D01 General RF Exposure Guidance v06	47 CFR Part 1.1310	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

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4 General Information

4.1 Details of E.U.T.

Power supply: DC 5,0 V powered by AC/DC adapter as below:
Option 1:
Model: TEKA-UCA10US
Input: AC 100-240 V, 50/60 Hz, 0.2 A Max
Output: DC 5.0 V, 1.0 A
Option 2:
Model: JK050100-S37USVU
Input: AC 100-240 V, 50/60 Hz, 0.5 A Max
Output: DC 5.0 V, 1000 mA
Cable(s): USB power cable with electronic controller
Function: Under Crib Smart Light with Wi-Fi & BT function
BT BLE: 2402MHz to 2480MHz
Operation Frequency: 802.11b/g/n(HT20): 2412MHz to 2462MHz;
802.11n(HT40): 2422MHz to 2452MHz
BT BLE: GFSK
Modulation Type: 802.11b: DSSS (CCK, DQPSK, DBPSK);
802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
BT BLE: 40
Number of Channels: 802.11b/g/n(HT20):11;
802.11n(HT40):7
Channel Spacing: 2MHz for BT BLE
5MHz for 802.11b/g/n(HT20)/802.11n(HT40)
Antenna Type: PCB Antenna
Antenna Gain: 1.5 dBi declared by applicant
Hardware Version: R_Light bell_RGBWC USB1.3
Firmware Version: SV01
Testing Software: WiFiTestTool(V1.5.2).exe
Sample NO.: M1
Power Setting: 20 dBm for Wi-Fi & 5 dBm for BT can not be changed by user

4.2 Evaluating Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

Tel: +86 20 82155555

Fax: +86 20 82075059

No tests were sub-contracted.



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4.3 Facility

The facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.4 Deviation from Standards

None

4.5 Abnormalities from Standard Conditions

None



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5 Technical Requirements Specification

5.1 RF Exposure Evaluation

5.1.1 Limit & Test Method

According to FCC Part1.1310: 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 Part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			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 ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30
f = frequency in MHz				
* = Plane-wave equivalent power density				

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

S = power density (mW/cm²)

P = the net power delivered to the antenna (mW)

G = gain of the antenna in linear scale

d = distance between observation point and center of the radiator (cm)



5.1.2 Conclusion

Normal use condition
for Distance between antenna and body: 20cm declared by applicant
Antenna Gain: 1.5 dBi

For Bluetooth BLE

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2402	1.413	4.71	2.958	0.00083	1	Complies
2440	1.413	3.73	2.360	0.00066	1	Complies
2480	1.413	5.54	3.581	0.00101	1	Complies

For 2.4 GHz Wi-Fi

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
11B						
2412	1.413	19.93	98.401	0.02765	1	Complies
2442	1.413	20.12	102.802	0.02889	1	Complies
2462	1.413	20.82	120.781	0.03394	1	Complies
11G						
2412	1.413	20.56	113.763	0.03197	1	Complies
2442	1.413	19.35	86.099	0.02419	1	Complies
2462	1.413	19.8	95.499	0.02684	1	Complies
11N20						
2412	1.413	17.17	52.119	0.01465	1	Complies
2442	1.413	16.01	39.902	0.01121	1	Complies
2462	1.413	16.58	45.499	0.01279	1	Complies
11N40						
2422	1.413	17.69	58.749	0.01651	1	Complies
2442	1.413	15.75	37.584	0.01056	1	Complies
2452	1.413	15.65	36.728	0.01032	1	Complies

The Bluetooth and Wi-Fi can be transmitted together, the result is

$$0.03394/1 + 0.00101/1 = 0.03495 < 1.0$$

So SAR report is not required.

Note: Refer to report No. GZCR210602053302 for EUT test Max Conducted Peak Output Power value.



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6 EUT Constructional Details (EUT Photos)

Refer to external and internal photos for GZCR2106020533LM

- End of the Report -