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Development District, Guangzhou, China 510663

Telephone: +86 (0) 20 82155555 Report No.: GZEM181200539402

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TEST REPORT

Application No.: GZEM1812005394CR

Applicant: GMY LIGHTING TECHNOLOGY CO.,LTD.

Address of Applicant: No.328 Xinxing Road, Gonghe Town, Heshan City, Guangdong, China

Manufacturer:The same as applicantAddress of Manufacturer:The same as applicantFactory:The same as applicantAddress of Factory:The same as applicant

Equipment Under Test (EUT):

EUT Name: LED Filament Bulb

Model No.: A19YY-4.5D-Z01-XXZZ, A21YY-4.5D-Z01-XXZZ, A23YY-4.5D-Z01-XXZZ,

ST19YY-4.5D-Z01-XXZZ, ST21YY-4.5D-Z01-XXZZ, G25YY-4.5D-Z01-XXZZ,

G30YY-4.5D-Z01-XXZZ, G40YY-4.5D-Z01-XXZZ

(XX=00-99, ZZ=00-99, Y=A-Z). ¤

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Standard(s): 47 CFR Part 1.1307, Part 2.1093, KDB 447498

Date of Receipt: 2018-12-13

Date of Test: 2018-12-19 to 2019-01-15

Date of Issue: 2019-01-21

Test Result: Pass*

^{*} In the configuration tested, the EUT complied with the standards specified above.



Kobe Jian Lab Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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检验检测专用章

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Report No.: GZEM181200539402

Page: 2 of 12

	Revision Record							
Version Chapter Date Modifier Remark								
01		2019-01-21		Original				

Authorized for issue by:		
Tested By	Jackson_Yuan /Project Engineer	2018-12-19 to 2019-01-15 Date
	outrosis_ autrinojest _ngmeet	
Checked By	Riday Liu	2019-01-21
	Ricky_Liu /Reviewer	Date

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Report No.: GZEM181200539402

Page: 3 of 12

2 Test Summary

Radio Spectrum Technical Requirement								
Item	Item Standard Method Requirement Res							
RF Exposure	47 CFR Part 1.1307, Part 2.1093, KDB 447498	CFR 47 Part 2.1093	CFR 47 Part 2.1093	Pass				

¤ Declaration of EUT Family Grouping:

Model No.: A19YY-4.5D-Z01-XXZZ, A21YY-4.5D-Z01-XXZZ, A23YY-4.5D-Z01-XXZZ, ST19YY-4.5D-Z01-XXZZ, ST21YY-4.5D-Z01-XXZZ, G25YY-4.5D-Z01-XXZZ, G30YY-4.5D-Z01-XXZZ, G40YY-4.5D-Z01-XXZZ

(XX=00-99, ZZ=00-99, Y=A-Z)

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference on the appearance and rated power.

Therefore only one model A19CL-4.5D-Z01-2750 with maximum rated power was tested in this report.



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Report No.: GZEM181200539402

Page: 4 of 12

3 Contents

		Page
1	Cover Page	1
2	2 Test Summary	
3	3 Contents	2
4	General Information	5
	4.1 Details of E.U.T	Ę
	4.2 Description of Support Units	Ę
	4.3 Measurement Uncertainty	
	4.4 Test Location	
	4.5 Test Facility	
	4.6 Deviation from Standards	
	4.7 Abnormalities from Standard Conditions	8
5	5 Equipment List	9
6	Radio Spectrum Technical Requirement	10
	6.1 RF Exposure	10
	6.1.1 Test Requirement:	
	6.1.2 MPE Calculation Method	
	6.1.3 Calculated Result and Limit	
7	7 Photographs	12
	7.1 FLIT Constructional Details	



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Report No.: GZEM181200539402

Page: 5 of 12

4 General Information

4.1 Details of E.U.T.

Power Supply: AC 120 V, 60 Hz

Rated Power: 4.5W

Test Voltage: AC 120 V, 60 Hz

Cable: Cap E26 Antenna Gain 0 dBi

Antenna Type Integral Antenna

Channel Spacing 5MHz Number of Channels 15

Modulation Type O-QPSK

Operation Frequency 2405MHz to 2475MHz

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
DC power	ZHAOXIN	RXN-305D	REF. No.SEA2700

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	±5.5 x 10 ⁻⁸
2	Duty cycle	±0.57%
3	Occupied Bandwidth	±3%
4	RF Conducted power	±0.68dB
5	RF Power Density	±1.50dB
6	Conducted Spurious Emissions	±1.04dB
7	RF Radiated Power	±4.5dB (below 1GHz)
/	hr hadiated fower	±4.8dB (above 1GHz)
8	Padiated Spurious Emission Test	±4.5dB (30MHz-1GHz)
0	Radiated Spurious Emission Test	±4.8dB (1GHz-18GHz)
9	Temperature	±0.4℃
10	Humidity	±1.3%
11	Supply Voltages	±1.5%
12	Time	±3%

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Page: 6 of 12

4.4 Test Location

All tests were performed at:

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

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No tests were sub-contracted.



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Report No.: GZEM181200539402

Page: 7 of 12

4.5 Test Facility

The test 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 C-Tick mark as a result of our NVLAP accreditation.

● 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-CL01:2006 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

◆FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

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, Jul 13, 2017.

● Industry Canada (Registration No.: 4620B-1)

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

● VCCI (Registration No.: R-12460, C-12584, G-10449 and T-11179)

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The 10m Semi-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-10449 and T-11179 respectively.

● CBTL (Lab Code: TL129)

检验检测专用音 spection & Testing Services

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

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4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions



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Report No.: GZEM181200539402

Page: 9 of 12

Equipment List 5

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General used equipment							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
DMM	Fluke	73	EMC0006	2018-07-20	2019-07-19		
DMM	Fluke	73	EMC0007	2018-07-19	2019-07-18		

Conducted Peak Output Power							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
EXA Signal Analzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18		
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03		
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A		



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Report No.: GZEM181200539402

Page: 10 of 12

6 Radio Spectrum Technical Requirement

6.1 RF Exposure

6.1.1 Test Requirement:

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S)(mW/cm²)	Averaging Times E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100000			5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S)(mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	-		F/1500	30
1500-100000			1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density



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Report No.: GZEM181200539402

Page: 11 of 12

6.1.2 MPE Calculation Method

 $E (V/m) = (30*P*G)^{0.5}/d$ Power Density: $Pd(W/m^2) = E^2/377$

E=Electric Field (V/m)

P=Peak RF output Power (W)

G=EUT Antenna numeric gain (numeric)

d= Separation distance between radiator and human body (m)

The formula can be changed to

 $Pd = (30*P*G)/(377*d^2)$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

6.1.3 Calculated Result and Limit

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
2405	1.000	-22.745	0.005	0.000001	1	Complies
2445	1.000	-22.951	0.005	0.000001	1	Complies
2475	1.000	-22.392	0.006	0.000001	1	Complies

So the SAR report is not required.



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Report No.: GZEM181200539402

Page: 12 of 12

Photographs 7

EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for GZEM1812005394CR.

-- End of Report --



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