Application for FCC Certificate
On Behalf of
Fujian Joinluck Electronic Enterprise Co., Ltd.

Electronic Energy Saving Lamp

Model No.: JLS MINI 7W JLS MINI 9W
JLS MINI 11W JLS MINI 13W
JLS MINI 15W

FCC ID : N6AFJEE0109

Prepared For : Fujian Joinluck Electronic Enterprise Co., Ltd.
Cangshan Industrial Area, Cangshan District,
Fuzhou, Fujian, China

Prepared By : Audix Technology (Shanghai) Co., Ltd.
3 F 34 Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai, China 200233

Tel: +86-21-64955500
Fax: +86-21-64955491

Report No. : ACI-F01072
Date of Test : Aug 11, 2001
Date of Report : Aug 23, 2001

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TEST REPORT FOR FCC CERTIFICATE

Applicant	:	Fujian Joinluck Electronic Enterprise Co., Ltd.
Manufacturer	:	Fujian Joinluck Electronic Enterprise Co., Ltd.
EUT Description	:	Electronic Energy Saving Lamp

(A) Model No.: (B) Serial No.:

JLS MINI 7W	E072301
JLS MINI 9W	E072302
JLS MINI 11W	E072303
JLS MINI 13W	E072304
JLS MINI 15W	E072305

(C) Power Supply: 120V/60Hz

Test Procedure Used:

FCC RULES AND REGULATIONS PART 18 CONSUMER DEVICES (1998) AND MP-5/1986

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 18 RF Lighting Device limits both conducted emissions and field strength.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report must not be used by the applicant to claim product endorsement by NVLAP or any agency of the U.S. Government.

Date of Test : Aug 11, 2001

Prepared by : LOUISE LU (Assistant) Test Engineer : SOLON GONG (Engineer) For and on behalf of AUDIX TECHNOLOGY (SHANGHAI) CO.,LTD.

Reviewer : BYRON KWO (Supervisor) Approved Signatory : ALEX CHIU (Assistant Manager)

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test

Description : Electronic Energy Saving Lamp

Type of EUT : ☑ Production ☐ Pre-product ☐ Pro-type

Model Number : JLS MINI 7W, JLS MINI 9W, JLS MINI 11W
JLS MINI 13W, JLS MINI 15W

(All the above models have been tested. In this report, only the data of JLS MINI 7W, JLS MINI 11W, JLS MINI 15W are reported.)

Applicant : Fujian Joinluck Electronic Enterprise Co., Ltd.

Cangshan Industrial Area, Cangshan District,
Fuzhou, Fujian, China

Manufacturer : Fujian Joinluck Electronic Enterprise Co., Ltd.

Cangshan Industrial Area, Cangshan District,
Fuzhou, Fujian, China

M/N	INPUT POWER (VA)	OUTPUT POWER (W)
JLS MINI 7W	15.8	8.6
JLS MINI 9W	20.7	11.0
JLS MINI 11W	24.4	13.4
JLS MINI 13W	29.5	15.7
JLS MINI 15W	31.5	16.4

1.2 Description of Test Facility

Site Description (Semi-Anechoic Chamber)	:	Sept. 17, 1998 file on Federal Communications Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, USA
Name of Firm	:	Audix Technology (Shanghai) Co., Ltd.
Site Location	:	3 F 34 Bldg 680 Guiping Rd, Caohejing Hi-Tech Park, Shanghai, China 200233
NVLAP Lab Code	:	200371-0

1.3 Measurement Uncertainty

Conducted Emission Uncertainty : U = 2.66dB

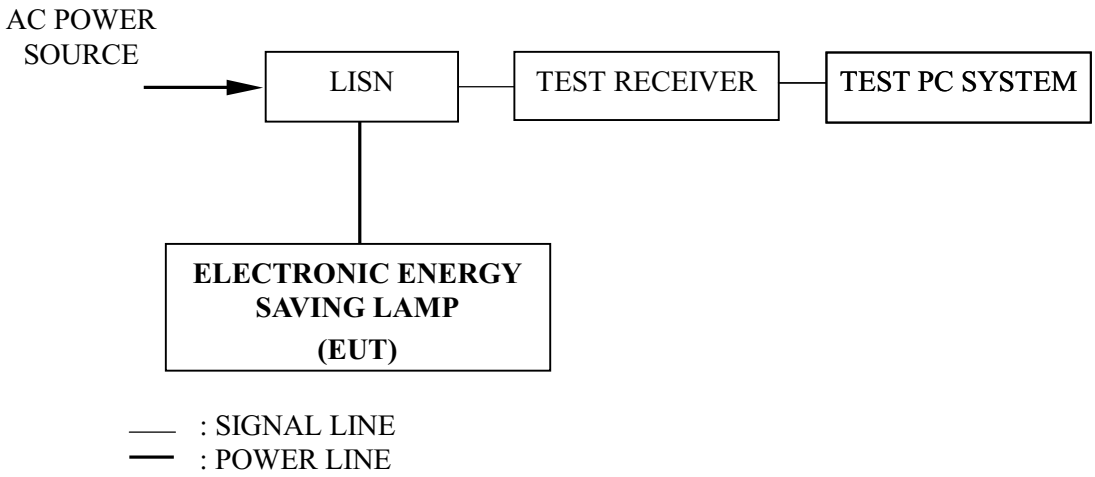
2 AC POWERLINE CONDUCTED EMISSION TEST

2.1 Test Equipment

The following test equipment are used during the powerline conducted emission test in a shielded room:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	844077/020	Apr 24, 2001	1 Year
2.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-5	May 08, 2001	1 Year

2.2 Block Diagram of Test Setup



2.3 Conducted Emission Limits

Frequency (MHz)	Maximum RF Line Voltage	
	(μV)	dB(μV)
0.45 ~ 2.51	250	48
2.51 ~ 3	3000	70
3 ~ 30	250	48
NOTE 1 – RF Line Voltage dB(μV) = 20 log RF Line Voltage (μV)		

2.4 Test Configuration

The EUT (listed in Sec. 1.1) was installed as shown on Sec. 2.2 to meet FCC requirement and operating in a manner which tends to maximize its emission level in a normal application.

2.5 Operating Condition of EUT

The EUT was connected to the power mains through a Line Impedance Stabilization Network (LISN). This provided a 50 ohm coupling impedance for the measuring equipment.

Both sides of AC line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to MP-5/1986 during conducted emission test.

The bandwidth of Test Receiver ESHS10 was set at 10 kHz.

The frequency range from 450 kHz to 30 MHz was checked. The test mode (Lighting) was done on conducted emission test and the test results of the highest emissions are listed in Sec. 2.7.

2.6 Test Procedures

2.6.1 Setup the EUT as shown in Sec. 2.2.

2.6.2 Turn on the power of all equipment.

2.6.3 The EUT will be operated normally.

2.7 Test Results

< PASS >

The frequency and amplitude of the highest AC powerline conducted emissions relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

EUT	:	Electronic Energy Saving Lamp	Temperature :		21.8℃
Model No.	:	JLS MINI 7W	Humidity	:	53%
Test Mode	:	Lighting	Date of Test	:	Aug 11, 2001

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.502	0.31	40.00	40.31	48.00	7.69
	0.584	0.30	36.50	36.80	48.00	11.20
	0.627	0.30	30.00	30.30	48.00	17.70
	0.668	0.29	30.40	30.69	48.00	17.31
	0.714	0.29	31.70	31.99	48.00	16.01
	0.797	0.28	30.70	30.98	48.00	17.02
VB	**0.498**	**0.31**	**40.30**	**40.61**	**48.00**	**7.39**
	0.584	0.30	38.30	38.60	48.00	9.40
	0.668	0.29	35.20	35.49	48.00	12.51
	0.708	0.29	33.10	33.39	48.00	14.61
	0.790	0.28	31.80	32.08	48.00	15.92
	0.877	0.28	28.60	28.88	48.00	19.12

NOTE 1 – Emission Level = Meter Reading + Factor
NOTE 2 – Factor = Insertion Loss + Cable Loss
NOTE 3 – All reading are Quasi-Peak Values.
NOTE 4 – The worst emission is detected at 0.498 MHz with corrected signal level of 40.61 dB(μV) (limit is 48.00 dB(μV)), when the VB of the EUT is connected to LISN.

TEST ENGINEER: Solon Gong (SOLON GONG)

EUT	:	Electronic Energy Saving Lamp	Temperature :	21.8℃	
Model No.	:	JLS MINI 11W	Humidity :	53%	
Test Mode	:	Lighting	Date of Test :	Aug 11, 2001	

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.456	0.33	39.40	39.73	48.00	8.27
	0.502	0.31	31.00	31.31	48.00	16.69
	0.539	0.31	31.20	31.51	48.00	16.49
	0.622	0.30	27.50	27.80	48.00	20.20
	0.665	0.29	27.30	27.59	48.00	20.41
	0.723	0.29	29.20	29.49	48.00	18.51
VB	**0.450**	**0.33**	**40.50**	**40.83**	**48.00**	**7.17**
	0.494	0.31	39.20	39.51	48.00	8.49
	0.567	0.30	36.20	36.50	48.00	11.50
	0.651	0.29	37.10	37.39	48.00	10.61
	0.714	0.29	36.10	36.39	48.00	11.61
	0.807	0.28	35.20	35.48	48.00	12.52

NOTE 1 – Emission Level = Meter Reading + Factor
NOTE 2 – Factor = Insertion Loss + Cable Loss
NOTE 3 – All reading are Quasi-Peak Values.
NOTE 4 – The worst emission is detected at 0.450 MHz with corrected signal level of 40.83 dB(μV) (limit is 48.00 dB(μV)), when the VB of the EUT is connected to LISN.

TEST ENGINEER: Solon Gong
(SOLON GONG)

EUT	:	Electronic Energy Saving Lamp	Temperature :	21.8℃	
Model No.	:	JLS MINI 15W	Humidity :	53%	
Test Mode	:	Lighting	Date of Test :	Aug 11, 2001	

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.471	0.32	36.70	37.02	48.00	10.98
	0.502	0.31	37.20	37.51	48.00	10.49
	0.599	0.30	37.40	37.70	48.00	10.30
	0.665	0.29	39.10	39.39	48.00	8.61
	0.767	0.28	37.10	37.38	48.00	10.62
	0.911	**0.28**	**40.50**	**40.78**	**48.00**	**7.22**
VB	0.467	0.32	36.20	36.52	48.00	11.48
	0.506	0.31	30.30	30.61	48.00	17.39
	0.553	0.30	32.90	33.20	48.00	14.80
	0.714	0.29	34.20	34.49	48.00	13.51
	0.803	0.28	35.80	36.08	48.00	11.92
	0.892	0.28	37.50	37.78	48.00	10.22

NOTE 1 – Emission Level = Meter Reading + Factor
NOTE 2 – Factor = Insertion Loss + Cable Loss
NOTE 3 – All reading are Quasi-Peak Values.
NOTE 4 – The worst emission is detected at 0.911 MHz with corrected signal level of 40.78 dB(μV) (limit is 48.00 dB(μV)), when the VA of the EUT is connected to LISN.

TEST ENGINEER: Solon Gong
(SOLON GONG)

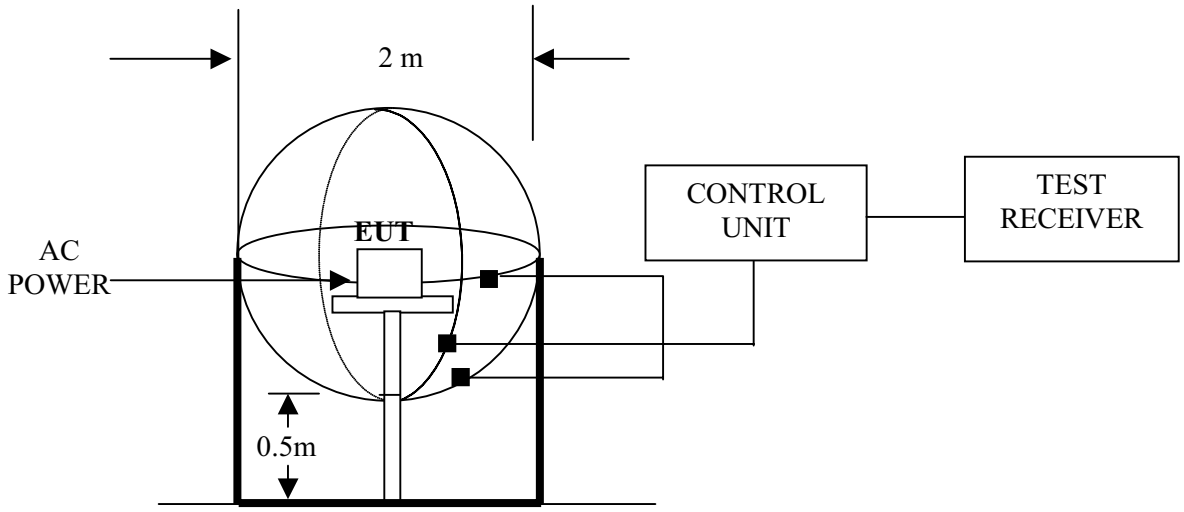
3 FIELD STRENGTH TEST

3.1 Test Equipment

The following test equipment are used during the field strength test in a shielded room:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Loop Antenna	Laplace	RF300	5001	May 05, 2001	1/2 Year
2.	Test Receiver	Rohde & Schwarz	ESHS10	844077/020	Apr 24, 2001	1 Year

3.2 Block Diagram of Test Setup



EUT : ELECTRONIC ENERGY SAVING LAMP

3.3 Test Configuration

The configuration of the EUT is same as those used in conducted emission test.

Refer to Sec. 2.4.

3.4 Operating Condition of EUT

Same as conducted emission test which is listed in Sec. 2.5, except the test setup replaced by Sec. 3.2.

3.5 Test Procedure

The EUT was placed on a wooden table, which is in the center of the loop antenna. The loop antenna is 0.5 meters above the ground. Each side had one sensor. The three sensors were through the control unit to connect the Test receiver, which receiving the emission and find out the maximum emission of each side of the loop antenna.

The bandwidth of R&S Test Receiver ESHS10 was set at 200 Hz from 9kHz to 150kHz and 10kHz from 150 kHz to 30 MHz.

The frequency range from 9 kHz to 30 MHz was checked.

The "ON" mode was done on field strength test and all the test results are listed in Sec. 3.6.

3.6 Test Result

<PASS>

Refer to the following pages.

For JLS MINI 7W:

Audix Technology (Shanghai) Co., Ltd.
敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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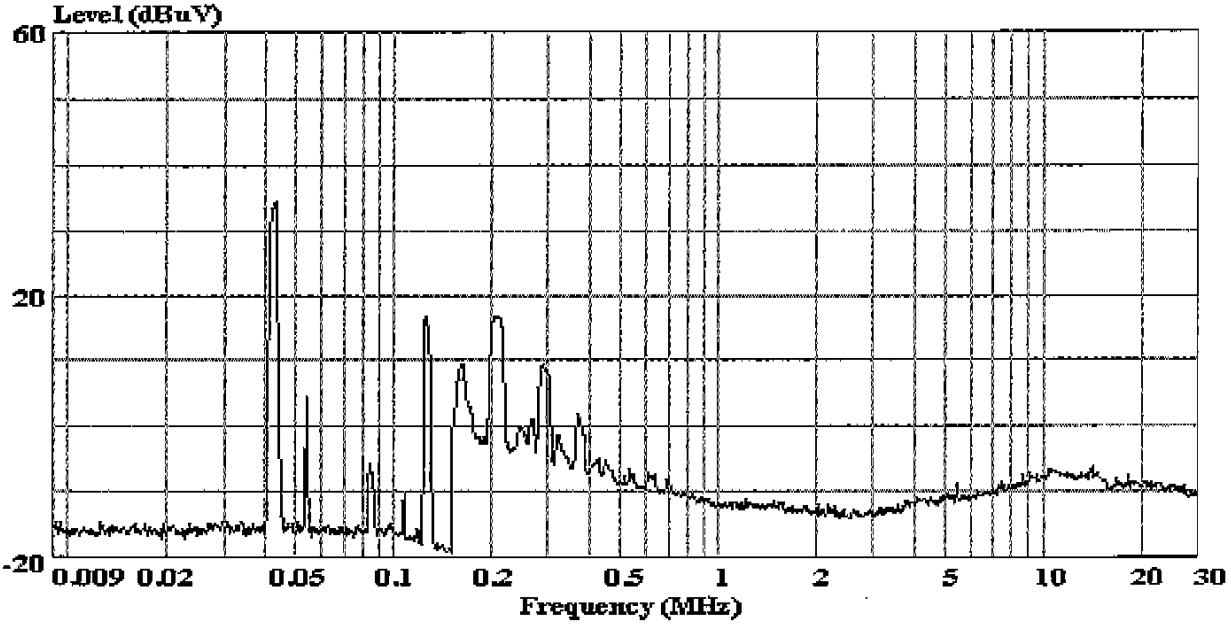

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Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 7W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : A
Test Mode : Lighting
Test Engineer: solon

solon

S/N : E07230 1

Audix Technology (Shanghai) Co.,Ltd.
敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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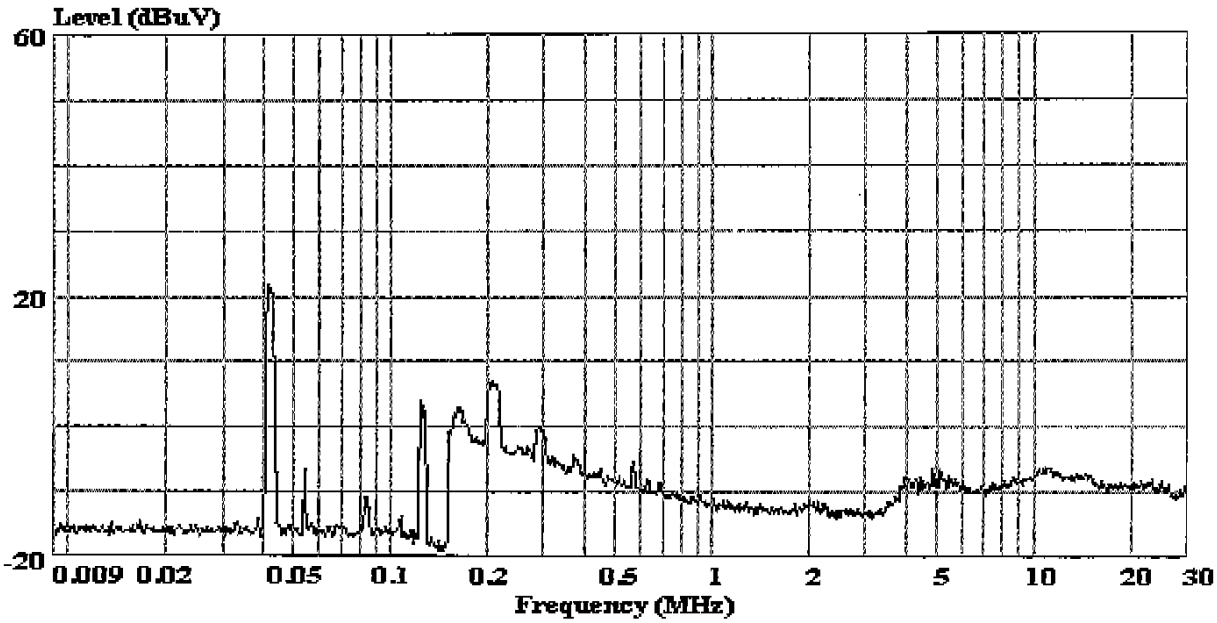

Site : audix-aci
Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 7W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : B
Test Mode : Lighting
Test Engineer: solon
solon

S/N : E07230)

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Audix Technology (Shanghai) Co., Ltd.
敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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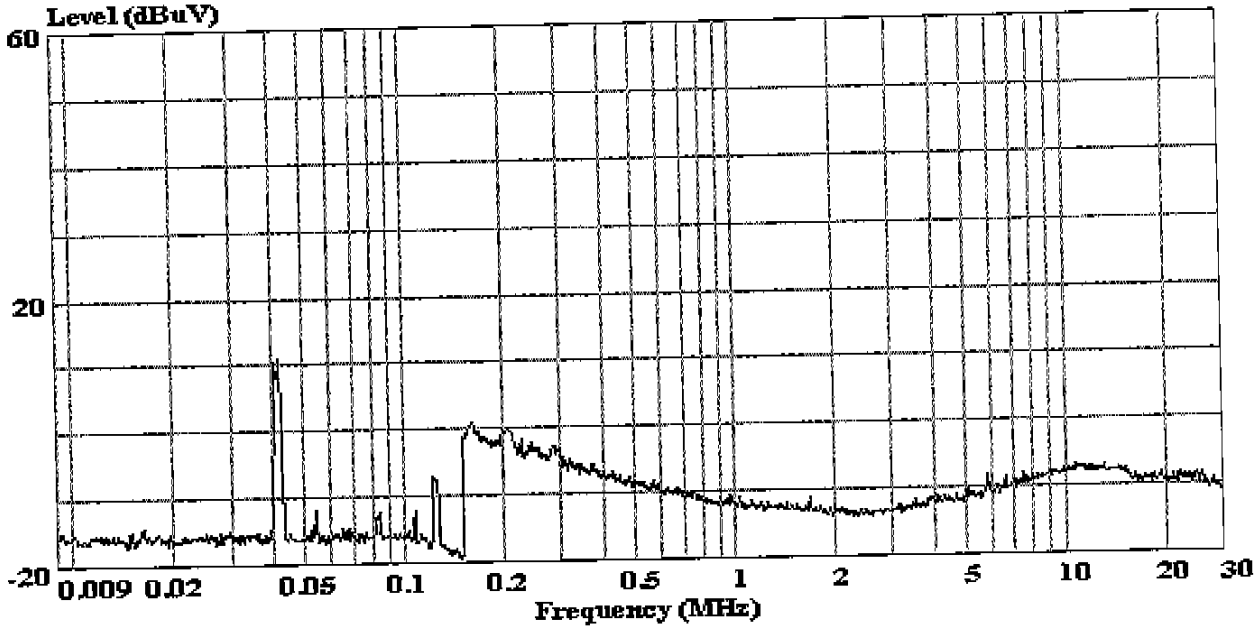

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Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 7W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : C
Test Mode : Lighting
Test Engineer: solon

Solon

S/N : E07230|

For JLS MINI 11W:

Audix Technology (Shanghai) Co., Ltd.
敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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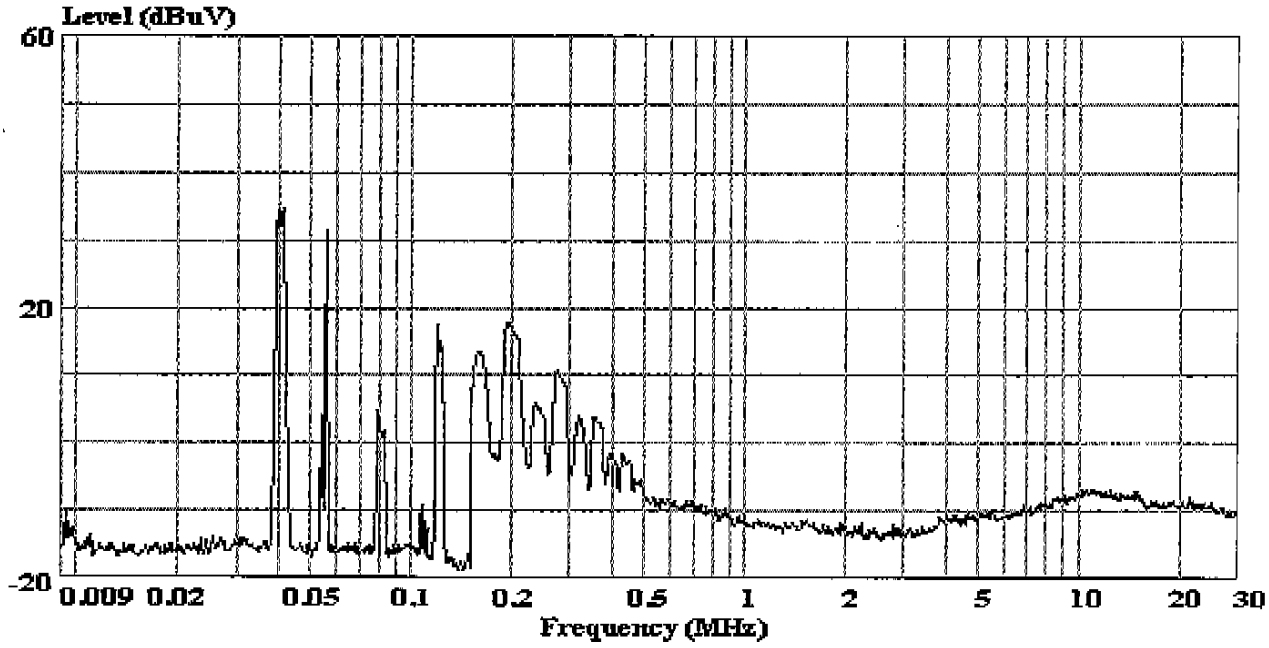

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Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 11W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : A
Test Mode : Lighting
Test Engineer: solon

solon

S/N : E01/2303

Audix Technology (Shanghai) Co.,Ltd.
敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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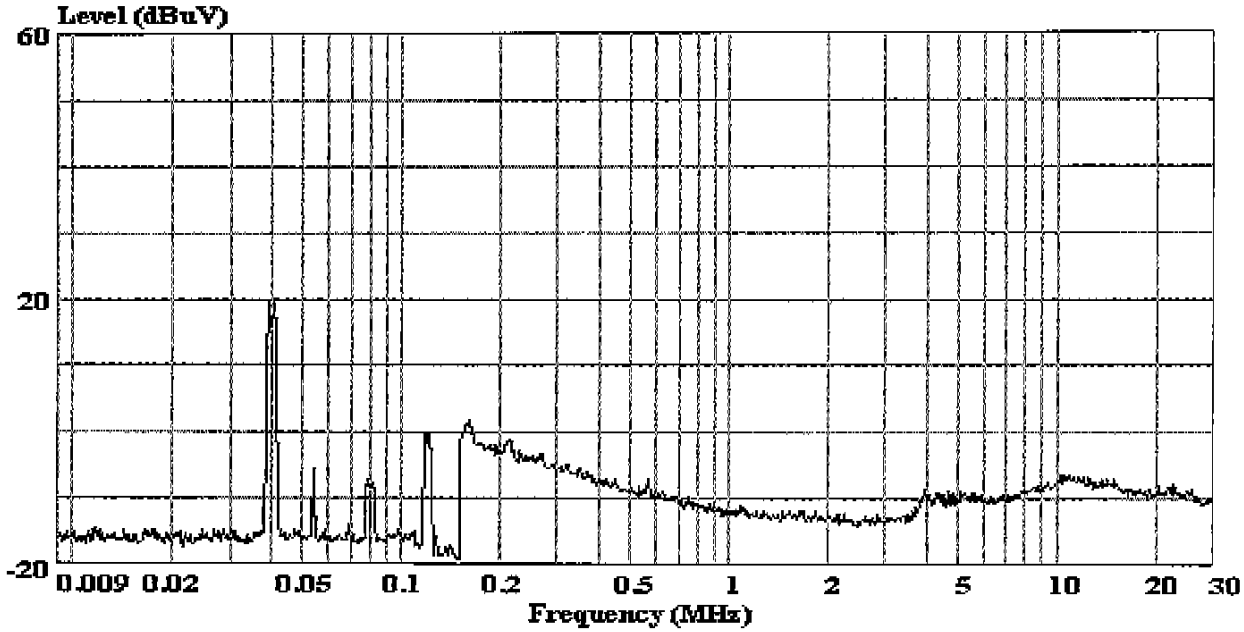

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Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 11W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : B
Test Mode : Lighting
Test Engineer: solon

S/N So Lon
: E072303

Audix Technology (Shanghai) Co., Ltd.
敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
CacHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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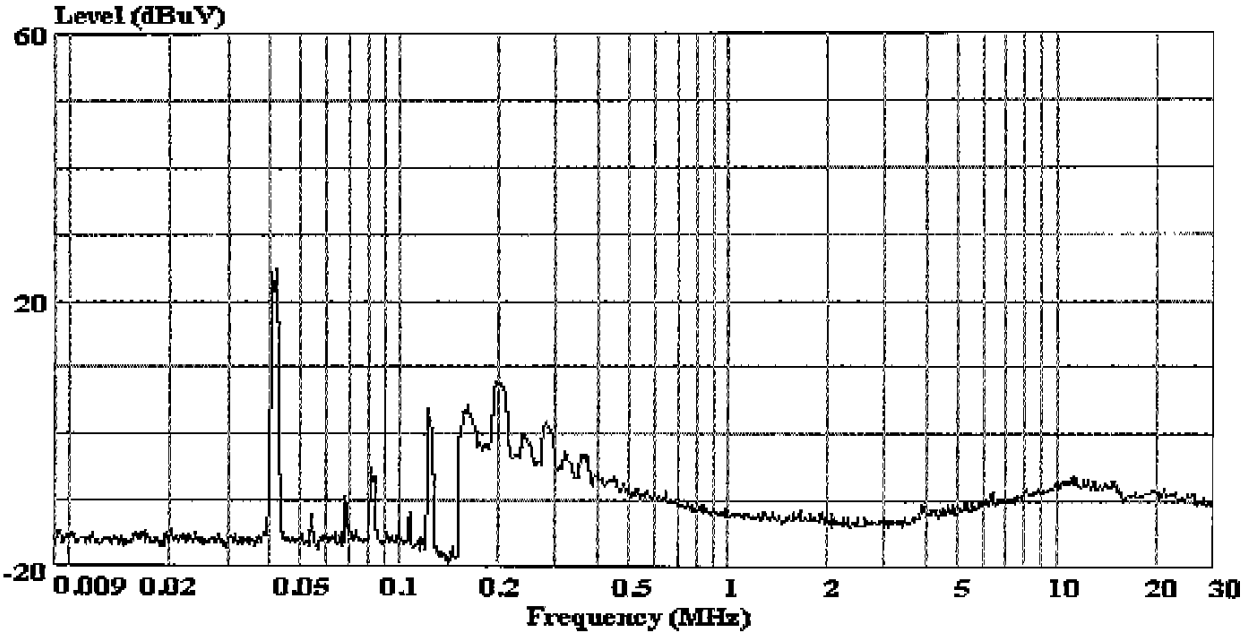

Site : audix-aci
Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 11W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : C
Test Mode : Lighting
Test Engineer: solon

solon

S/N : E072703

For JLS MINI 15W:

Audix Technology (Shanghai) Co., Ltd.
敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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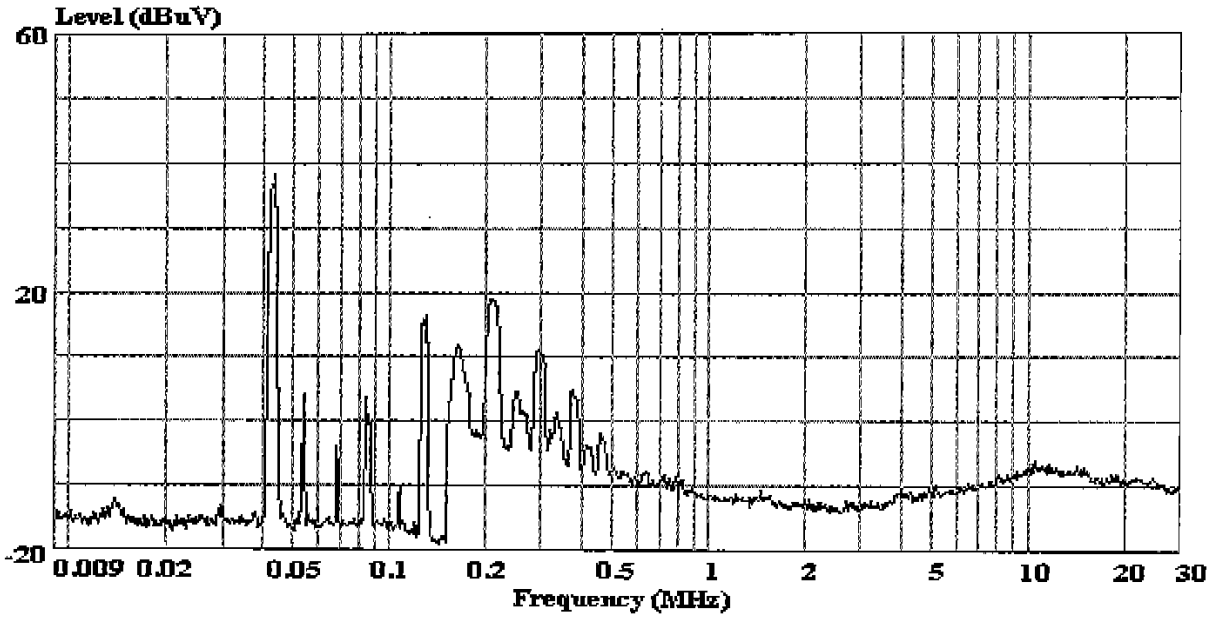

Site : audix-aci
Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 15W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : A
Test Mode : Lighting
Test Engineer: solon

Solon
S/N : E072305

Audix Technology (Shanghai) Co., Ltd.
敖吉電子(上海)有限公司

3F #34Bldg, No.680 GuiPing Rd.,
CaoHeJing Hi-Tech Park,
Shanghai, China
Tel:+86-21-64955500
Fax:+86-21-64955491
audixaci@8848.net

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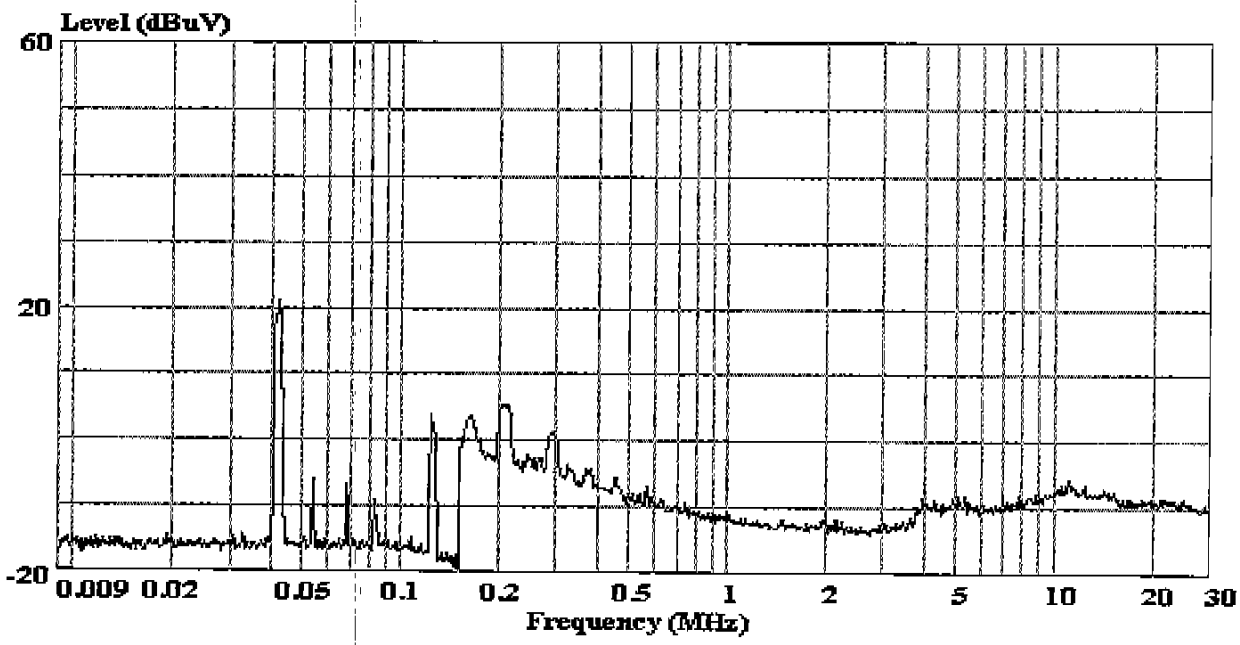

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Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 15W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : B
Test Mode : Lighting
Test Engineer: solon

solon

S/N : E072305

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敖吉電子(上海)有限公司

3F #34Bldg. No.680 GuiPing Rd.,
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Fax:+86-21-64955491
audixaci@8848.net

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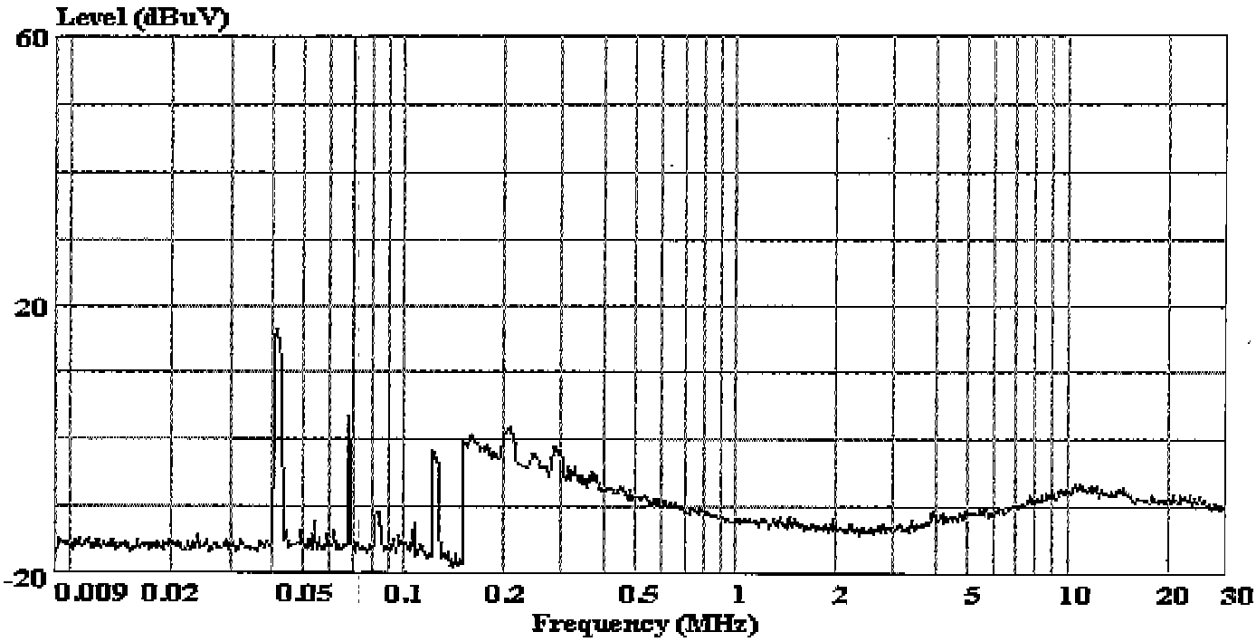

Site : audix-aci
Condition :
Project No. : AQE-000069
Applicant : Fujian Joinluck Electronic enterprise
: Co.,Ltd
EUT : Electronic Energy Saving Lamp
M/N : JLS MINI 15W
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : C
Test Mode : Lighting
Test Engineer: solon

Solon

S/N : E07230S