

Application for FCC Certificate
On Behalf of
FUJIAN JOINLUCK ELECTRONIC ENTERPRISE CO., LTD.

Energy Saving Lamp

Model No.: JLS 32W JLS 36W JLS 40W

FCC ID: N6AFJEE0215

Prepared For : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
CO., LTD.
Cangshan Industrial Area, Cangshan District,
Fuzhou, Fujian, China.

Prepared By : Audix Technology (Shanghai) Co., Ltd.
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Report No. : ACI-F02108
Date of Test : Nov 12, 2002
Date of Report : Nov 22, 2002

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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 : Energy Saving Lamp
(A) Model No.:
JLS 32W; JLS 36W; JLS 40W
(B) Power Supply: 120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 18 CONSUMER DEVICES (2000)
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 : Nov 12, 2002

Prepared by : Cathrin Yin 2002.11.26 Test Engineer :
CATHRIN YIN
(Assistant)

Cathrin Ye 2002.11.28
AUDIX CORFON YE
For and on behalf of
(Engineer)
Audix Technology (Shanghai) Co., Ltd.

Reviewer : Byron Kwo 2002.11.27 Approved Signatory : Alex Chiu 2002.11.27
BYRON KWO
(Supervisor) Authorized Signatory: CHIU
(Assistant Manager)

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test

Description : Energy Saving Lamp

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

Model Number : JLS 32W; JLS 36W; JLS 40W

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.

Test Model	Apparent Power (V • A)	Real Power (W)
JLS 32W	56.50	30.10
JLS 36W	60.60	31.80
JLS 40W	64.10	35.30

1.2 Description of Test Facility

Site Description : Sept. 17, 1998 file on
(Semi-Anechoic Chamber) Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3F 34Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai, China 200233.

NVLAP Lab Code : 200371-0

1.3 Measurement Uncertainty

Conducted Emission Uncertainty : $U = \pm 2.66\text{dB}$

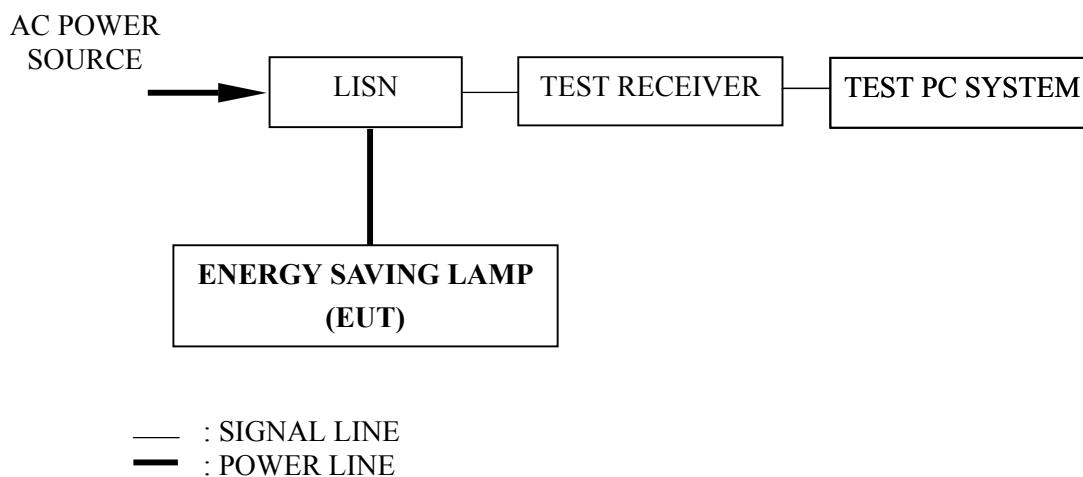
2 AC POWERLINE CONDUCTED EMISSION TEST

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	844077/007	Jun 03, 2002	1 Year
2.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-5	May 09, 2002	1 Year

2.2 Block Diagram of Test Setup



2.3 Conducted Emission Limits

Frequency (MHz)	Maximum RF Line Voltage	
	(μ V)	dB(μ V)
0.45 ~ 2.51	250	48
2.51 ~ 3	3000	70
3 ~ 30	250	48
NOTE 1 – RF Line Voltage dB (μ V) = 20 log RF Line Voltage (μ V) NOTE 2 – The tighter limits shall apply at the boundary between two frequency ranges.		

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

2.5.1 Setup the EUT as shown in Sec. 2.2.

2.5.2 Turn on the power of all equipment.

2.5.3 The EUT will be operated normally.

2.6 Test Procedures

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

The frequency range from 450 kHz to 30 MHz was checked.

The test mode (ON) was done on conducted test and the test results of the highest emissions are listed in Sec. 2.7.

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 : Energy Saving Lamp Temperature : 21.8°C

Model No. : JLS 32W Humidity : 53%

Test Mode : ON Date of Test : Nov 12, 2002

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.519	0.06	40.29	40.35	48.00	7.65
	0.677	0.03	40.50	40.53	48.00	7.47
	0.998	0.05	36.10	36.15	48.00	11.85
	1.675	0.05	29.95	30.00	48.00	18.00
	3.071	0.07	29.91	29.98	48.00	18.02
	20.382	0.61	13.26	13.87	48.00	34.13
VB	0.518	0.09	43.15	43.24	48.00	4.76
	0.758	0.08	40.29	40.37	48.00	7.63
	0.997	0.08	35.57	35.65	48.00	12.35
	1.996	0.10	31.31	31.41	48.00	16.59
	3.072	0.10	32.01	32.11	48.00	15.89
	14.527	0.30	14.02	14.32	48.00	33.68
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 0.518 MHz with corrected signal level of 43.24 dB (μV) (limit is 48.00 dB (μV)), when the VB of the EUT is connected to LISN.						

TEST ENGINEER: Coffon Ye
(COFFON YE)

EUT : Energy Saving Lamp Temperature : 21.8°C

Model No. : JLS 36W Humidity : 53%

Test Mode : ON Date of Test : Nov 12, 2002

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.508	0.06	42.17	42.23	48.00	5.77
	0.743	0.03	42.51	42.54	48.00	5.46
	1.056	0.05	37.80	37.85	48.00	10.15
	2.658	0.06	37.74	37.80	70.00	32.20
	5.669	0.09	26.37	26.46	48.00	21.54
	16.894	0.44	17.71	18.15	48.00	29.85
VB	0.507	0.09	43.47	43.56	48.00	4.44
	0.743	0.08	41.13	41.21	48.00	6.79
	1.056	0.08	37.80	37.88	48.00	10.12
	2.660	0.10	37.42	37.52	70.00	32.48
	6.139	0.10	25.92	26.02	48.00	21.98
	15.602	0.33	16.79	17.12	48.00	30.88
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 0.507 MHz with corrected signal level of 43.56 dB (μV) (limit is 48.00 dB (μV)), when the VB of the EUT is connected to LISN.						

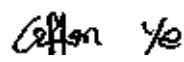
TEST ENGINEER: Coffon Ye
(COFFON YE)

EUT : Energy Saving Lamp Temperature : 21.8°C

Model No. : JLS 40W Humidity : 53%

Test Mode : ON Date of Test : Nov 12, 2002

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.596	0.04	39.89	39.93	48.00	8.07
	0.674	0.03	40.56	40.59	48.00	7.41
	1.074	0.05	37.07	37.12	48.00	10.88
	2.702	0.06	40.65	40.71	70.00	29.29
	5.768	0.09	24.39	24.48	48.00	23.52
	14.038	0.29	13.85	14.14	48.00	33.86
VB	0.517	0.09	41.35	41.44	48.00	6.56
	0.676	0.08	39.41	39.49	48.00	8.51
	0.915	0.08	37.94	38.02	48.00	9.98
	1.394	0.09	37.84	37.93	48.00	10.07
	2.788	0.10	40.72	40.82	70.00	29.18
	14.151	0.29	14.41	14.70	48.00	33.30
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 0.517 MHz with corrected signal level of 41.44 dB (μV) (limit is 48.00 dB (μV)), when the VB of the EUT is connected to LISN.						

TEST ENGINEER: 
(COFFON YE)

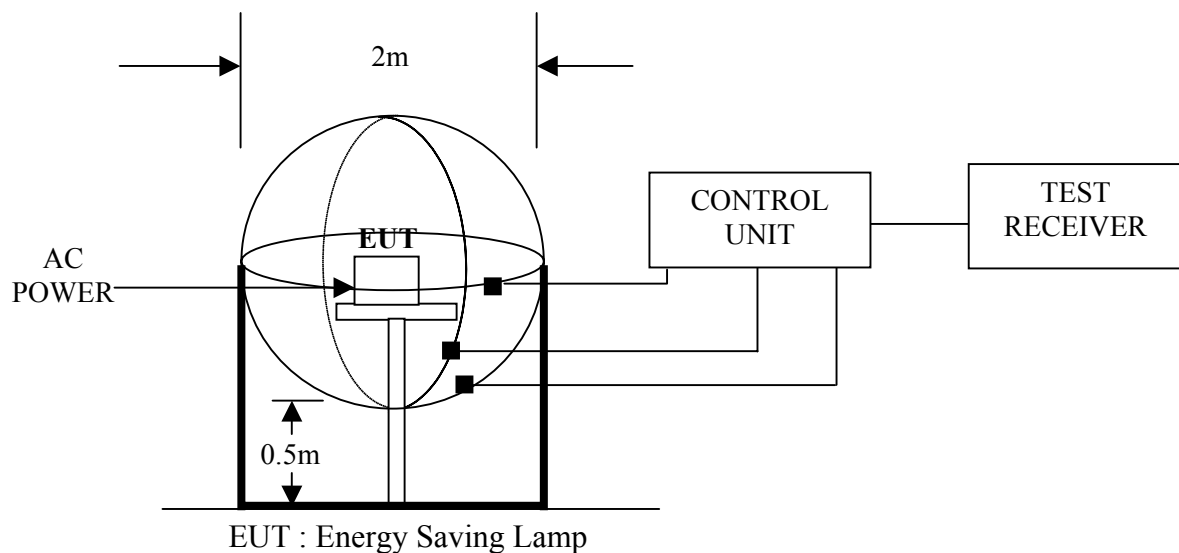
3 FIELDSTRENGTH TEST

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	Oct 29, 2002	1/2 Year
2.	Test Receiver	Rohde & Schwarz	ESHS10	844077/007	Jun 03, 2002	1 Year

3.2 Block Diagram of Test Setup



3.3 Test Configuration

The configuration of the EUT is same as those used in conducted emission test. Refer to Sec. 2.4, except the test setup replaced by Sec. 3.2.

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

The test mode (ON) 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.

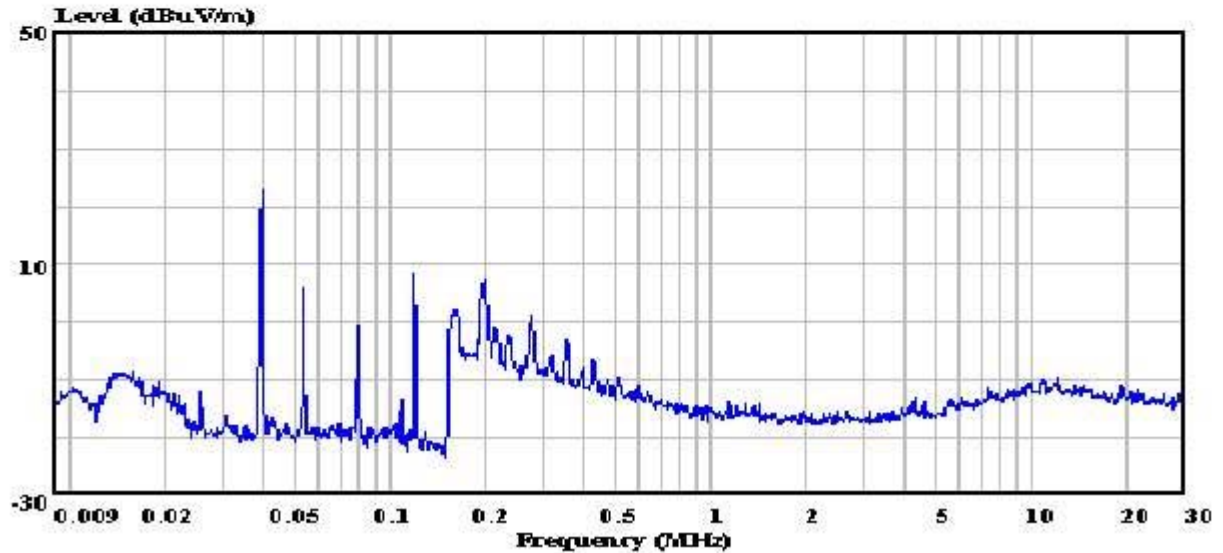


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aciemc@audix.com

Data#: 928 File#: C:\emivm\TEST\J\joinluck.emi

Date: 2002-11-12 Time: 21:01:36



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS32W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : A
Test Mode : ON
Test Engineer:

Cefan Ye

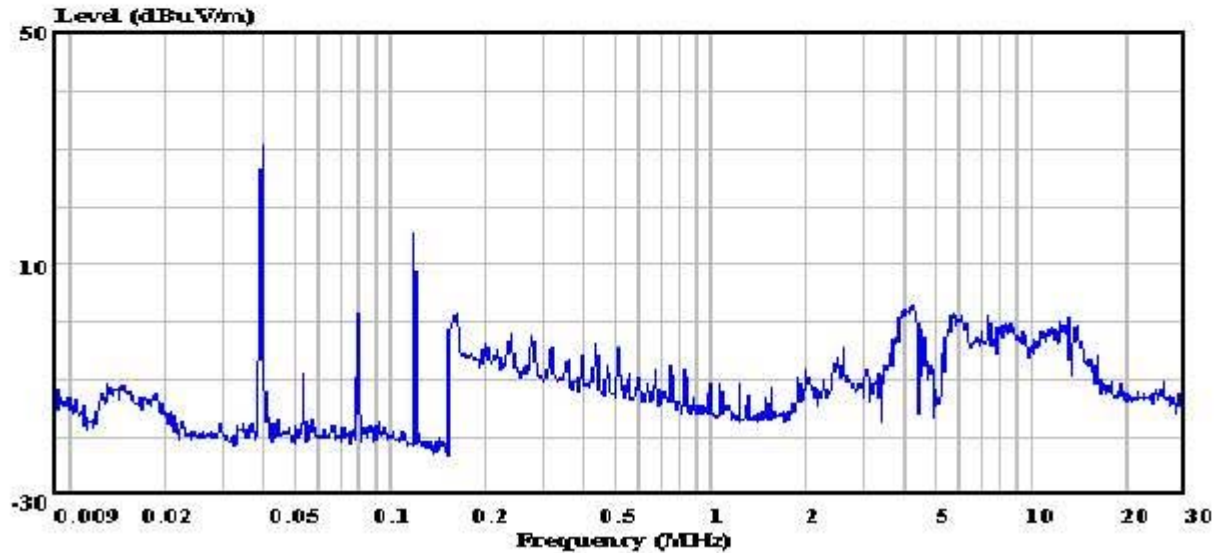


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Data#: 931 File#: C:\emivm\TEST\J\joinluck.emi

Date: 2002-11-12 Time: 21:04:21



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS32W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8°C 53%
Test Line : B
Test Mode : ON
Test Engineer: *Allen Ye*

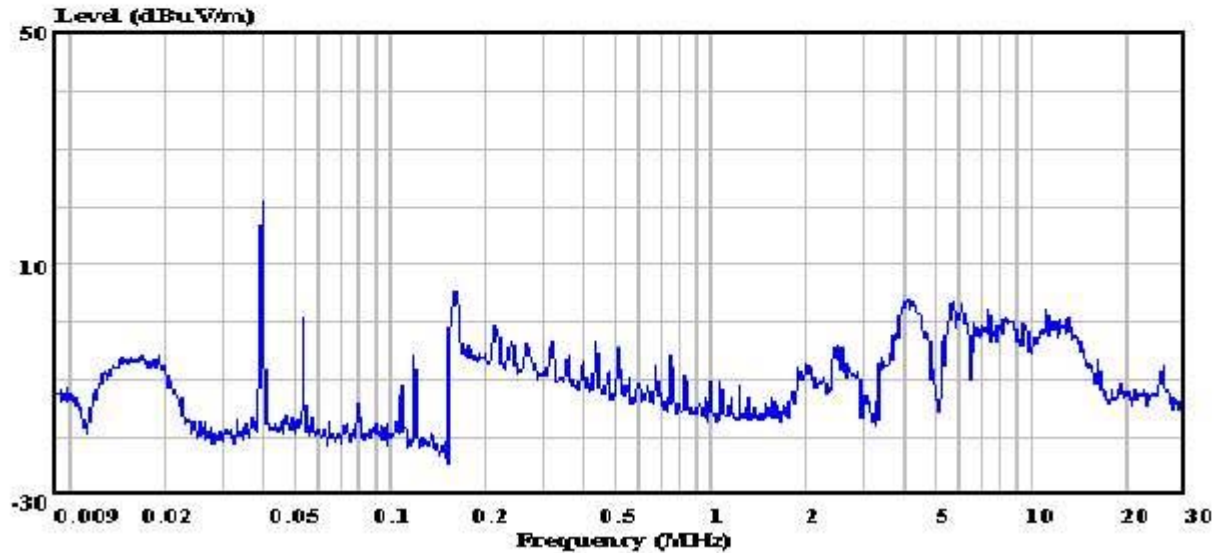


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Date: 2002-11-12 Time: 21:08:15



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS32W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : C
Test Mode : ON
Test Engineer: *Allen Ye*

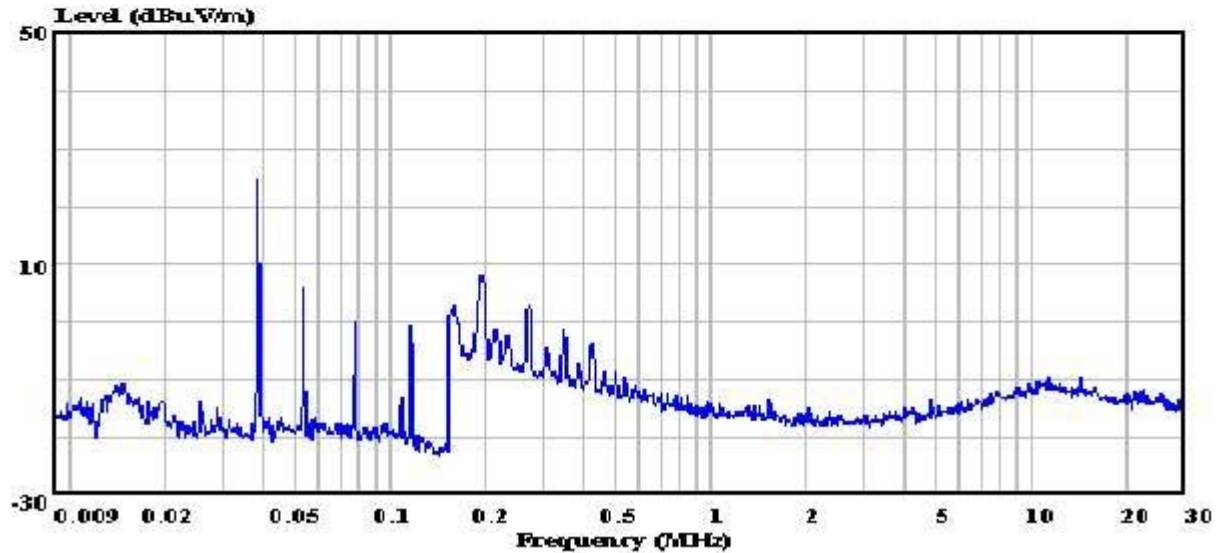


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Date: 2002-11-12 Time: 20:56:25



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS36W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : A
Test Mode : ON
Test Engineer: *Allen Ye*

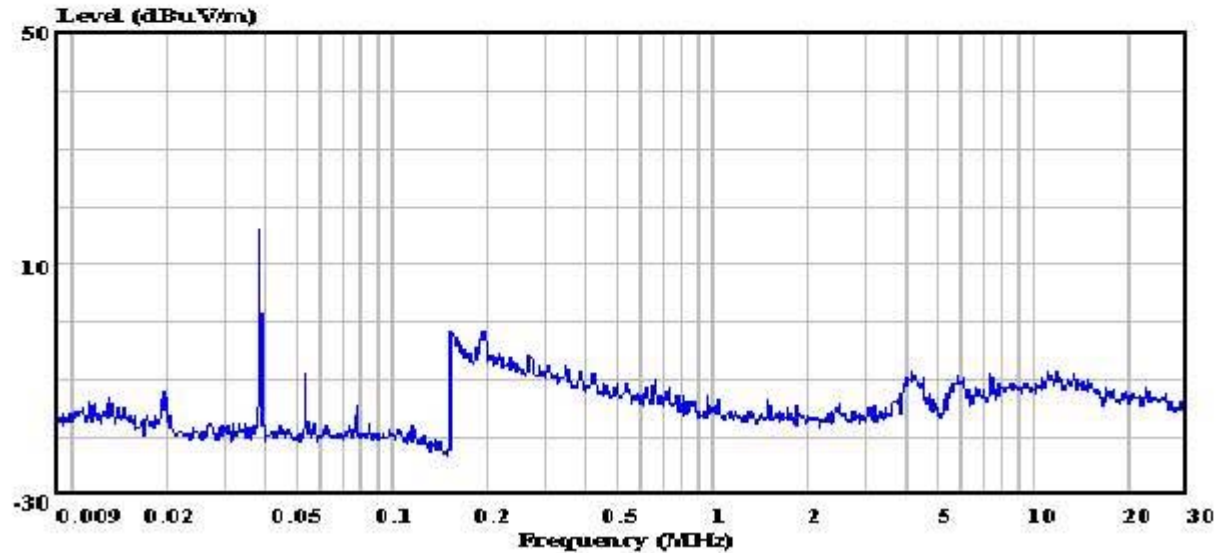


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Data#: 922 File#: C:\emivm\TEST\J\joinluck.emi

Date: 2002-11-12 Time: 20:53:34



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS36W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : B
Test Mode : ON
Test Engineer: *Allen Ye*

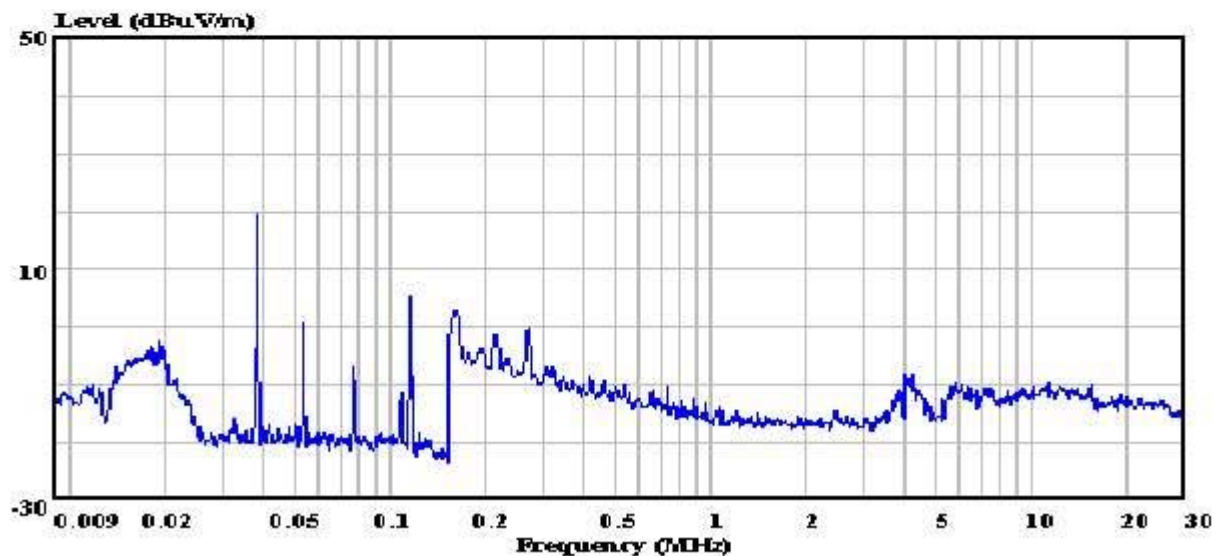


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Data#: 919 File#: C:\emivm\TEST\J\joinluck.emi

Date: 2002-11-12 Time: 20:51:13



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS36W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : C
Test Mode : ON
Test Engineer:

Allen Ye

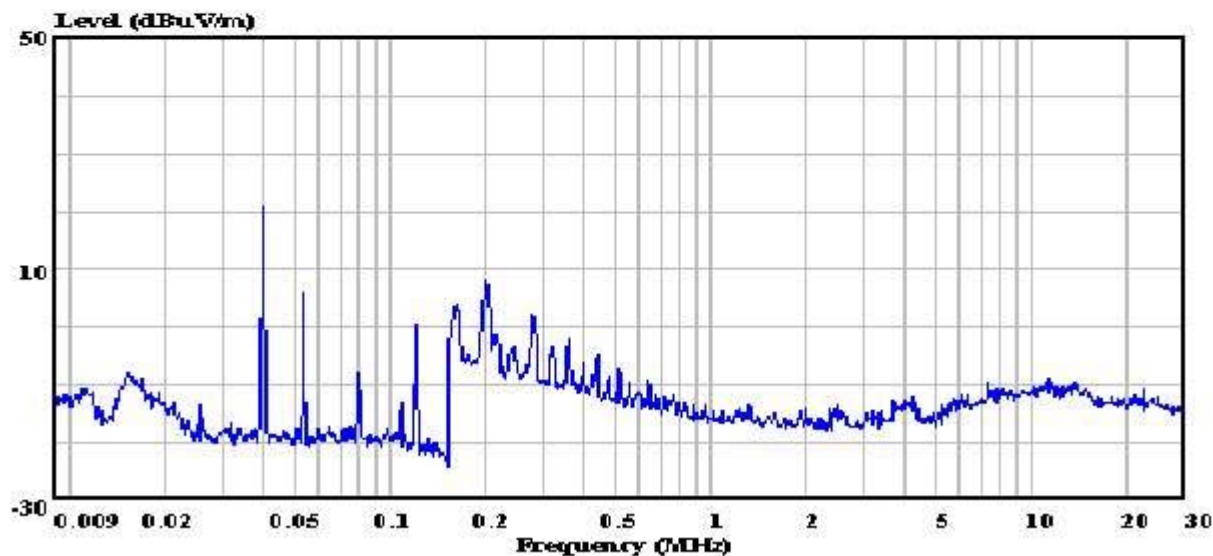


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Data#: 910 File#: C:\emivm\TEST\J\joinluck.emi

Date: 2002-11-12 Time: 19:48:52



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS40W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : A
Test Mode : ON
Test Engineer:

Allen Ye

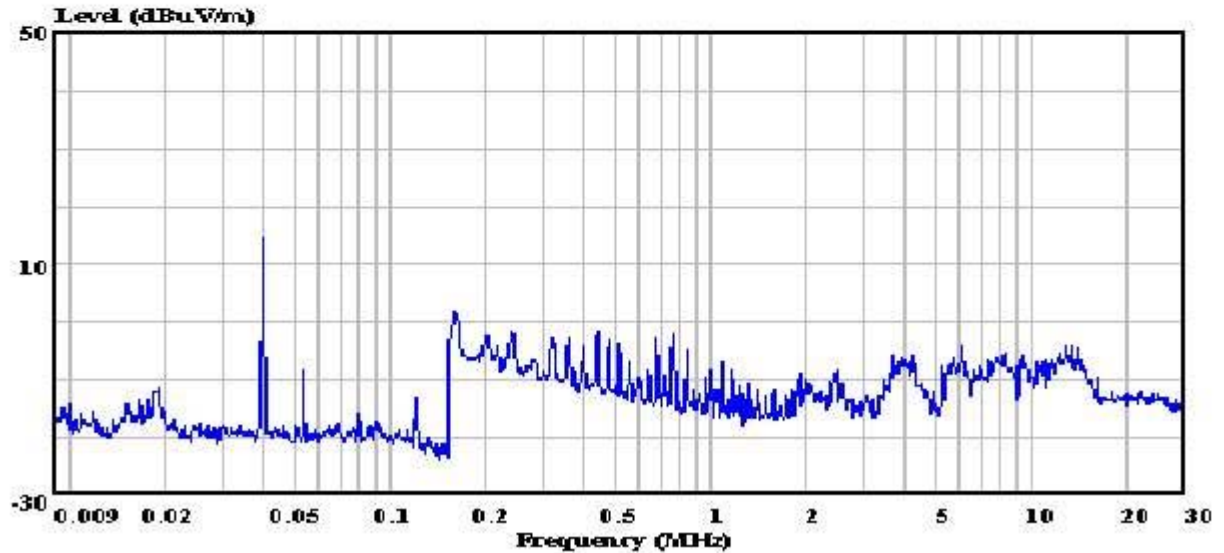


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Data#: 913 File#: C:\emivm\TEST\J\joinluck.emi

Date: 2002-11-12 Time: 19:53:22



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS40W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : B
Test Mode : ON
Test Engineer: *Allen Ye*

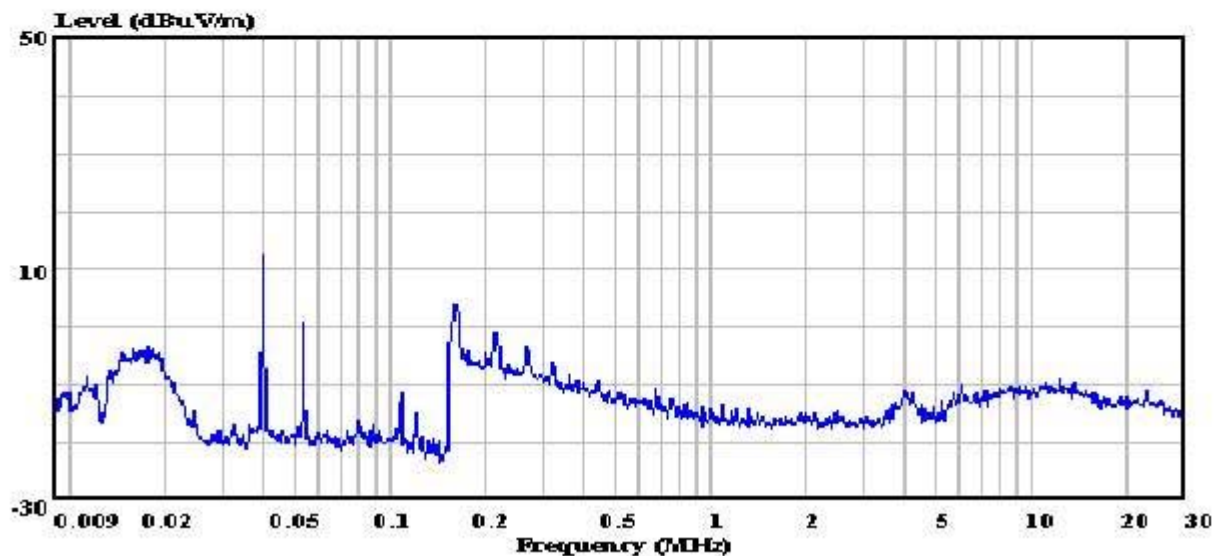


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Data#: 916 File#: C:\emivm\TEST\J\joinluck.emi

Date: 2002-11-12 Time: 19:56:23



Site : Conducted Emission
Condition :
Project No. : AOE-000280
Applicant : FUJIAN JOINLUCK ELECTRONIC ENTERPRISE
: CO.,LTD
EUT : Energy Saving Lamp
M/N : JLS40W
S/N :
Power Supply : 120V/60Hz
Ambient : 21.8'C 53%
Test Line : C
Test Mode : ON
Test Engineer:

Cellan Ye