

Application for FCC Certificate
On Behalf of

Shanghai Yaming Lighting Co., Ltd.

Self-Ballasted Lamps for General Lighting

Model No.: YPZ120/9-S • RR (RN、 RD) • D • U
YPZ120/11-S • RR (RN、 RD) • D • U

FCC ID: QAJYPZ120-1

Prepared For : Shanghai Yaming Lighting Co., Ltd.
1001 Jia Xin Road, Malu Town,
Jia Ding District, Shanghai, China

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

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

Report No. : ACI-F02032
Date of Test : Mar 05-06, 2002
Date of Report : Mar 28, 2002

TABLE OF CONTENTS

	Page
1 GENERAL INFORMATION.....	4
1.1 Description of Equipment Under Test.....	4
1.2 Description of Test Facility.....	4
1.3 Measurement Uncertainty	4
2 AC POWERLINE CONDUCTED EMISSION TEST	5
2.1 Test Equipment.....	5
2.2 Block Diagram of Test Setup	5
2.3 Conducted Emission Limits	5
2.4 Test Configuration.....	6
2.5 Operating Condition of EUT.....	6
2.6 Test Procedures	6
2.7 Test Results	7
3 FIELDSTRENGTH TEST	9
3.1 Test Equipment.....	9
3.2 Block Diagram of Test Setup	9
3.3 Test Configuration.....	9
3.4 Operating Condition of EUT.....	9
3.5 Test Procedure	10
3.6 Test Result.....	10

TEST REPORT FOR FCC CERTIFICATE

Applicant : Shanghai Yaming Lighting Co., Ltd.
Manufacturer : Shanghai Yaming Lighting Co., Ltd.
EUT Description : Self-Ballasted Lamps for General Lighting
(A) Model No.: YPZ120/9-S • RR (RN, RD) • D • U (B) Serial No.: E030103
YPZ120/11-S • RR (RN, RD) • D • U E030104
(C) 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 : Mar 05-06, 2002

Prepared by : Stella Tang 4/15/02 Test Engineer : LORENZO CHEN
STELLA TANG
(Assistant)

LORENZO CHEN
(Engineer)

Reviewer : Byron Kwo Approved Signatory : Alex Chiu 16APR17
BYRON KWOK
(Supervisor)

ALEX CHIU
(Assistant Manager)

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test

Description : Self-Ballasted Lamps for General Lighting

Type of EUT : Production Pre-product Pro-type

Model Number : YPZ120/9-S • RR (RN, RD) • D • U
YPZ120/11-S • RR (RN, RD) • D • U

Serial Number : E030103
E030104

Applicant : Shanghai Yaming Lighting Co., Ltd.
1001 Jia Xin Road, Malu Town,
Jia Ding District, Shanghai, China

Manufacturer : Shanghai Yaming Lighting Co., Ltd.
1001 Jia Xin Road, Malu Town,
Jia Ding District, Shanghai, China

Test Model	Apparent Power (V • A)	Real Power (W)
YPZ120/9-S	19.0	9.8
YPZ120/11-S	24.4	13.8

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 : $U = \pm 2.66\text{dB}$

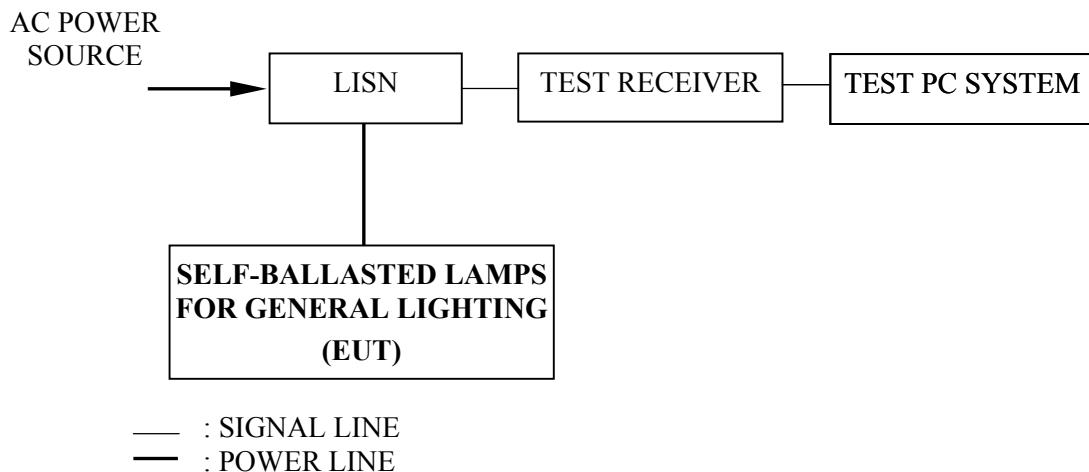
2 AC POWERLINE CONDUCTED EMISSION TEST

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	844077/020	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	
	(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	: <u>Self-Ballasted Lamps for General Lighting</u>	Temperature :	23°C
Model No.	: <u>YPZ120/9-S • RR (RN, RD) • D • U</u>	Humidity :	56%
Test Mode	: <u>ON</u>	Date of Test :	Mar 05, 2002

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(µV)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)
VA	0.478	0.32	38.70	39.02	48.00	8.98
	0.605	0.30	30.06	30.36	48.00	17.64
	0.653	0.29	32.43	32.72	48.00	15.28
	0.976	0.27	28.09	28.36	48.00	19.64
	1.068	0.27	29.78	30.05	48.00	17.95
	1.124	0.27	24.57	24.84	48.00	23.16
VB	0.480	0.32	34.01	34.33	48.00	13.67
	0.509	0.31	31.53	31.84	48.00	16.16
	0.562	0.30	32.18	32.48	48.00	15.52
	0.654	0.29	29.76	30.05	48.00	17.95
	0.976	0.27	28.35	28.62	48.00	19.38
	1.071	0.27	26.62	26.89	48.00	21.11
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 0.478 MHz with corrected signal level of 39.02dB(µV) (limit is 48.00 dB(µV)), when the VA of the EUT is connected to LISN.						

TEST ENGINEER: Lorenzo Chen
(LORENZO CHEN)

EUT : Self-Ballasted Lamps for General Lighting Temperature : 23°C

Model No. : YPZ120/11-S • RR (RN、RD) • D • U Humidity : 56%

Test Mode : ON Date of Test : Mar 05, 2002

Test Line	Frequency (MHz)	Factor (dB)	Meter Reading dB(μV)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.466	0.32	45.08	45.40	48.00	2.60
	0.569	0.30	43.10	43.40	48.00	4.60
	0.632	0.30	33.01	33.31	48.00	14.69
	0.786	0.28	33.21	33.49	48.00	14.51
	0.850	0.28	30.70	30.98	48.00	17.02
	1.067	0.27	29.08	29.35	48.00	18.65
VB	0.463	0.32	46.98	47.30	48.00	0.70
	0.567	0.30	45.25	45.55	48.00	2.45
	0.670	0.29	36.78	37.07	48.00	10.93
	0.773	0.28	35.13	35.41	48.00	12.59
	0.853	0.28	33.87	34.15	48.00	13.85
	0.946	0.27	28.65	28.92	48.00	19.08

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 0.456 MHz with corrected signal level of 40.05dB(μV) (limit is 48.00 dB(μV)), when the VA of the EUT is connected to LISN.

NOTE 5 – At the frequency 0.466MHz, 0.463MHz and 0.567MHz, the measured result is below the specification limit by a margin less than the measurement uncertainty, it is not therefore possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a higher probability that the product tested complies with the specification limit.

TEST ENGINEER: Lorenzo Chen
(LORENZO CHEN)

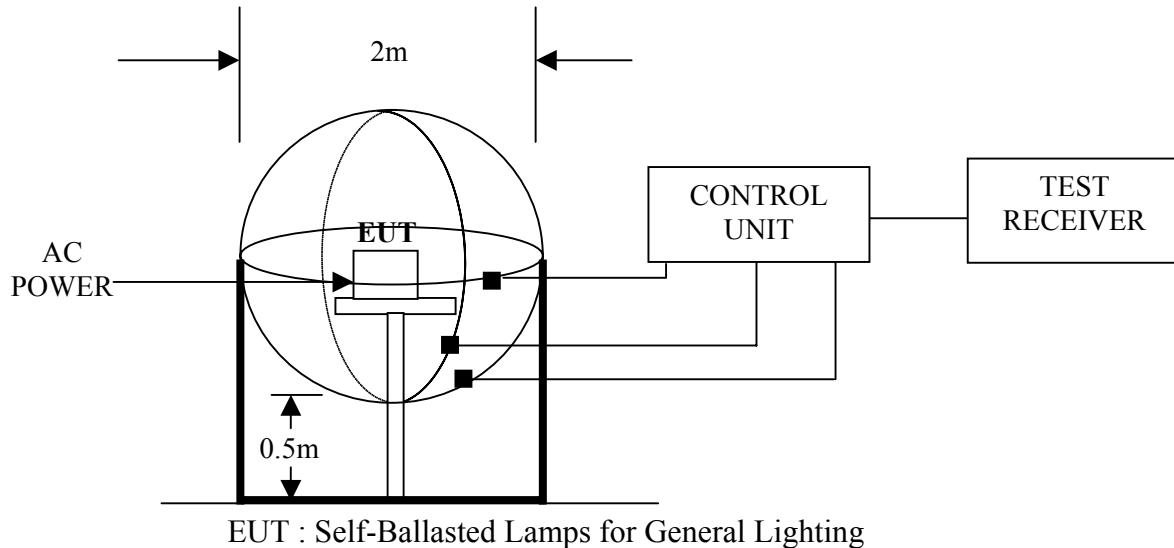
3 FIELDSTRENGTH TEST

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 25, 2001	1/2 Year
2.	Test Receiver	Rohde & Schwarz	ESHS10	844077/020	Apr 24, 2001	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.

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>

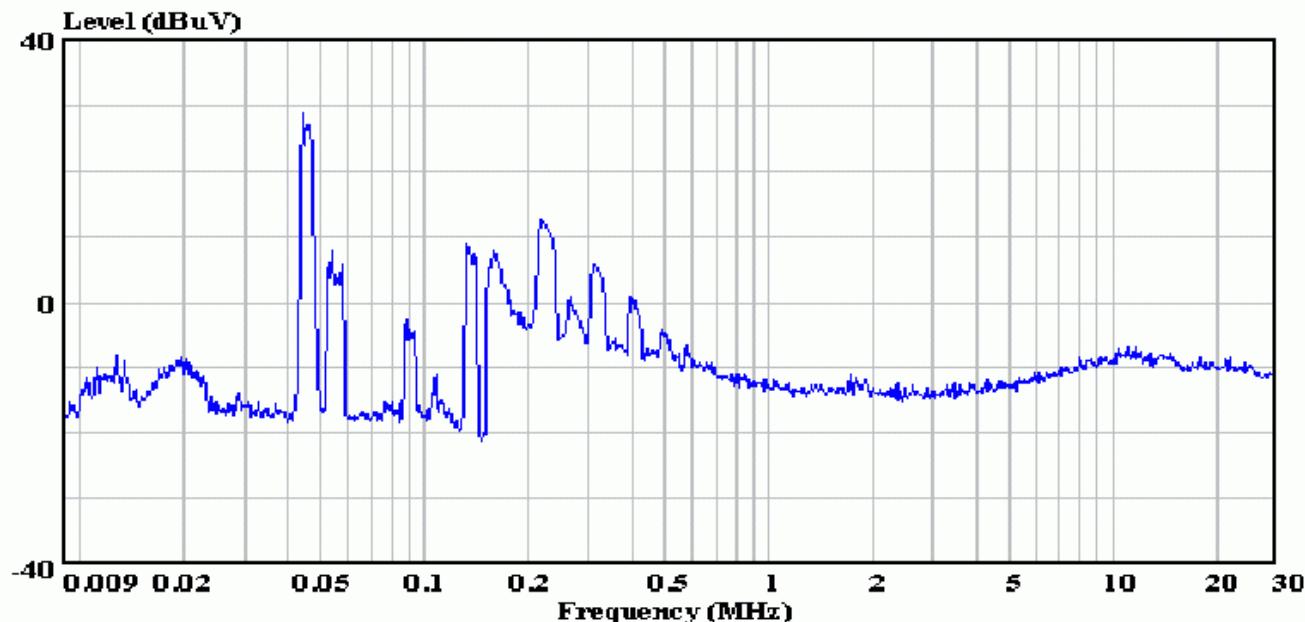
Refer to the following pages.



Audix Technology (Shanghai) Co., Ltd.
敦吉電子(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
aciemc@audix.com

Data#: 62 File#: D:\EMIVM\TEST\Y\yaming.EMI Date: 2002-03-06 Time: 20:22:15



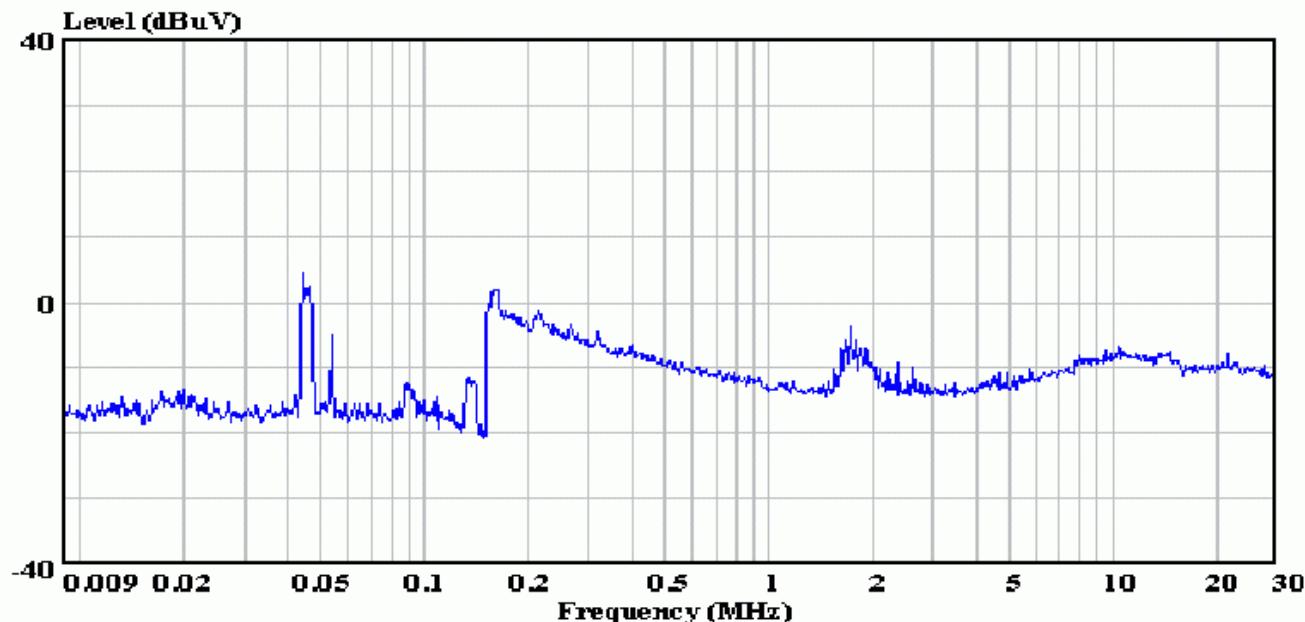
Site : audix-aci Conducted Emission
Condition :
Project No. : AOE-000103
Applicant : SHANGHAI YAMING LIGHTING CO., LTD
EUT : SELF-BALLASTED LAMPS
M/N : YPZ120/9-S • RR (RN, RD) • D • U
S/N : E030103
Power Supply : 120V/60Hz
Ambient : 23°C 56%RH
Test line : A
Test Mode : ON
Test Engineer:



Audix Technology (Shanghai) Co., Ltd.
敦吉電子(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
aciemc@audix.com

Data#: 63 File#: D:\EMIVM\TEST\Y\yaming.EMI Date: 2002-03-06 Time: 20:21:11



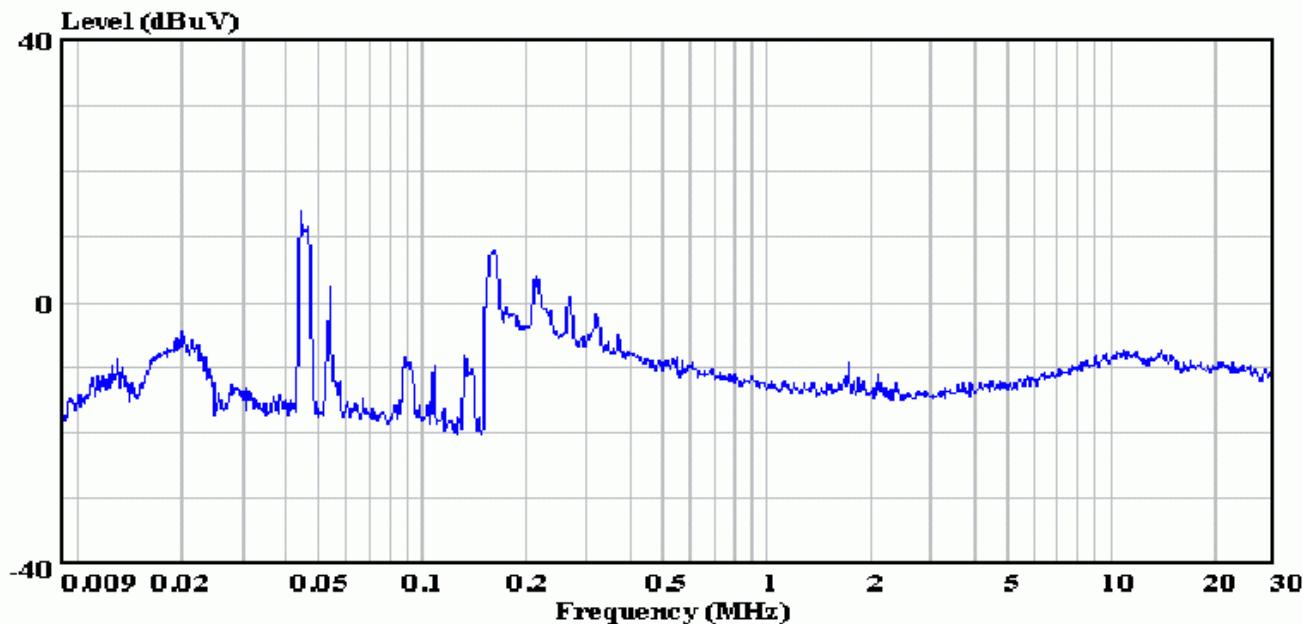
Site : audix-aci Conducted Emission
Condition :
Project No. : AOE-000103
Applicant : SHANGHAI YAMING LIGHTING CO., LTD
EUT : SELF-BALLASTED LAMPS
M/N : YPZ120/9-S • RR (RN, RD) • D • U
S/N : E030103
Power Supply : 120V/60Hz
Ambient : 23°C 56%RH
Test line : B
Test Mode : ON
Test Engineer:



Audix Technology (Shanghai) Co., Ltd.
敦吉電子(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
aciemc@audix.com

Data#: 64 File#: D:\EMIVM\TEST\Y\yaming.EMI Date: 2002-03-06 Time: 20:20:06



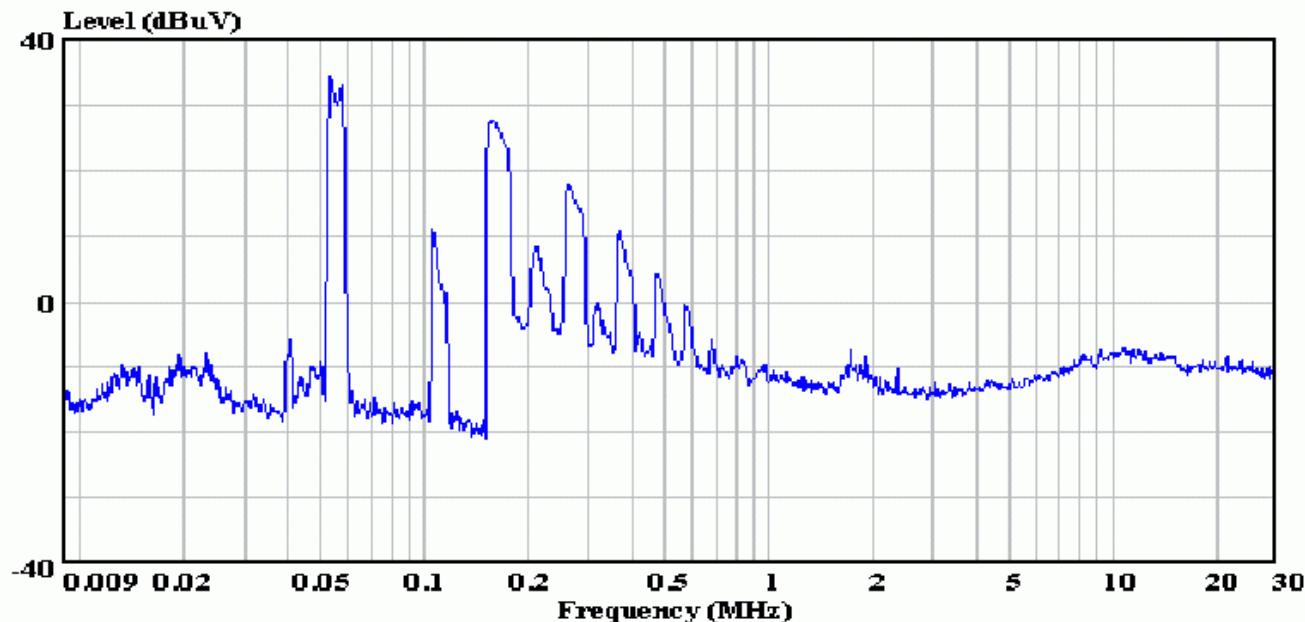
Site : audix-aci Conducted Emission
Condition :
Project No. : AOE-000103
Applicant : SHANGHAI YAMING LIGHTING CO., LTD
EUT : SELF-BALLASTED LAMPS
M/N : YPZ120/9-S • RR (RN, RD) • D • U
S/N : E030103
Power Supply : 120V/60Hz
Ambient : 23°C 56%RH
Test line : C
Test Mode : ON
Test Engineer:



Audix Technology (Shanghai) Co., Ltd.
敦吉電子(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
aciemc@audix.com

Data#: 67 File#: D:\EMIVM\TEST\Y\yaming.EMI Date: 2002-03-06 Time: 20:27:01



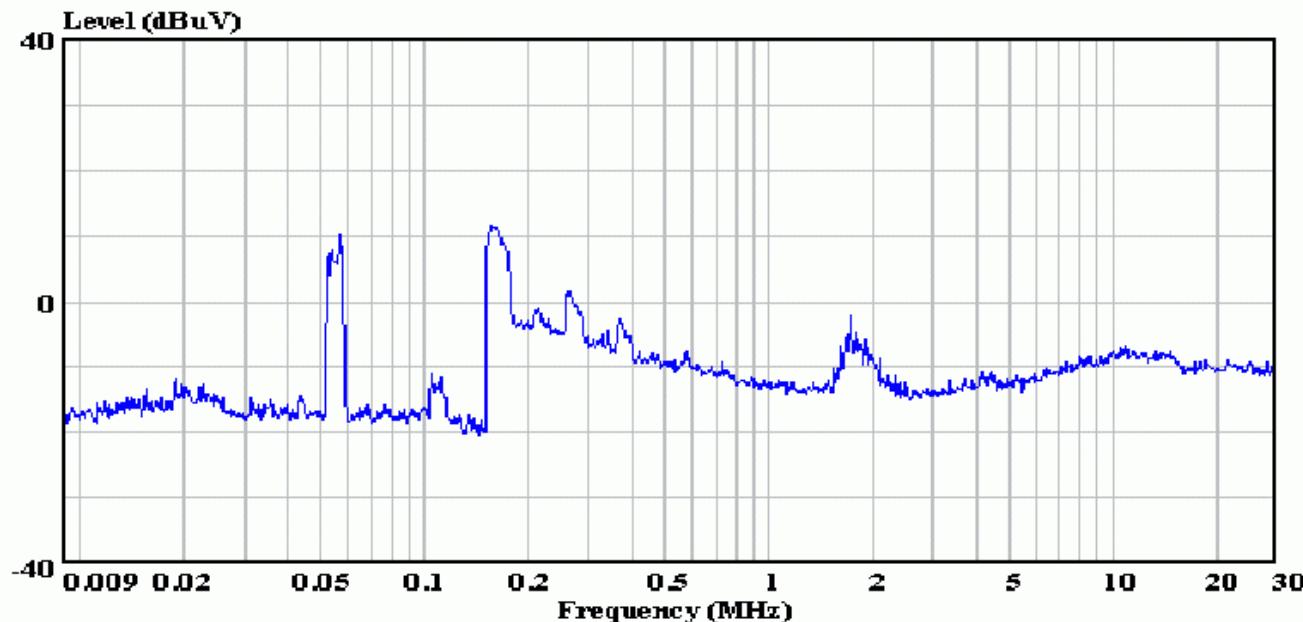
Site : audix-aci Conducted Emission
Condition :
Project No. : AOE-000103
Applicant : SHANGHAI YAMING LIGHTING CO., LTD
EUT : SELF-BALLASTED LAMPS
M/N : YPZ120/11-S • RR (RN, RD) • D • U
S/N : E030104
Power Supply : 120V/60Hz
Ambient : 23°C 56%RH
Test line : A
Test Mode : ON
Test Engineer:



Audix Technology (Shanghai) Co., Ltd.
敦吉電子(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
aciemc@audix.com

Data#: 70 File#: D:\EMIVM\TEST\Y\yaming.EMI Date: 2002-03-06 Time: 20:29:08



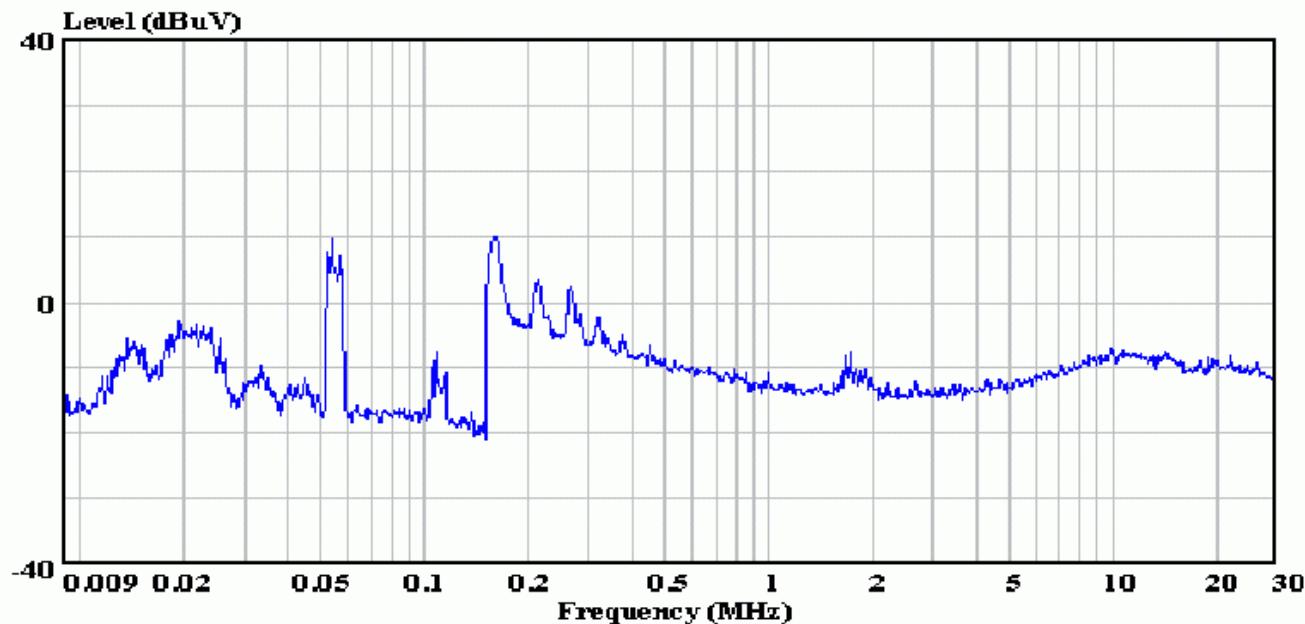
Site : audix-aci Conducted Emission
Condition :
Project No. : AOE-000103
Applicant : SHANGHAI YAMING LIGHTING CO., LTD
EUT : SELF-BALLASTED LAMPS
M/N : YPZ120/11-S • RR (RN, RD) • D • U
S/N : E030104
Power Supply : 120V/60Hz
Ambient : 23°C 56%RH
Test line : B
Test Mode : ON
Test Engineer:



Audix Technology (Shanghai) Co., Ltd.
敦吉電子(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
aciemc@audix.com

Data#: 73 File#: D:\EMIVM\TEST\Y\yaming.EMI Date: 2002-03-06 Time: 20:30:59



Site : audix-aci Conducted Emission
Condition :
Project No. : AOE-000103
Applicant : SHANGHAI YAMING LIGHTING CO., LTD
EUT : SELF-BALLASTED LAMPS
M/N : YPZ120/11-S • RR (RN, RD) • D • U
S/N : E030104
Power Supply : 120V/60Hz
Ambient : 23°C 56%RH
Test line : C
Test Mode : ON
Test Engineer: