# Application for FCC Certificate
# On Behalf of
# Haining Honghui Energy-saving Lights Electric Equipment Co., Ltd.

## Fluorescent self-ballasted lamps

| | | |
|---|---|---|
| Model No.: | T2 HALF SPIRAL CFL - 13W | T2 HALF SPIRAL CFL - 18W |
| | T2 HALF SPIRAL CFL - 23W | T3 HALF SPIRAL CFL - 13W |
| | T3 HALF SPIRAL CFL - 18W | T3 HALF SPIRAL CFL - 23W |
| Serial No.: | E1201036-01/02 | E1201038-02/02 |
| | E1201040-02/02 | E1201037-02/02 |
| | E1201039-01/02 | E1201041-01/02 |

FCC ID : CNOHH1202

Prepared For : Haining Honghui Energy-saving Lights Electric Equipment Co., Ltd.
Sanlian Village of Xieqiao Town, Haining City,
Zhejiang Province, China

Prepared By : Audix Technology (Shanghai) Co., Ltd.
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Report No. : ACI-F12031
Date of Test : Jan 16 – Feb 20, 2012
Date of Report : Feb 29, 2012

# TABLE OF CONTENTS

Page

# TEST REPORT FOR FCC CERTIFICATE

| | | |
|---|---|---|
| Applicant | : | Haining Honghui Energy-saving Lights Electric Equipment Co., Ltd. |
| Manufacturer | : | Haining Honghui Energy-saving Lights Electric Equipment Co., Ltd. |
| EUT Description | : | Fluorescent self-ballasted lamps |
| | | (A) Model No. : Refer to Sec.2.1. |
| | | (B) Serial No. : Refer to Sec.2.1. |
| | | (C) Power Supply : 120V/60Hz |

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 18 SUBPART C RF LIGHTING DEVICES OCTOBER 2010 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 Subpart C (RF Lighting Devices) limits both radiated and conducted emissions.

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. This report shows that the EUT which was tested in 3m anechoic chamber on Jan 16 – Feb 20, 2012 is technically compliance with the FCC official limits also.

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 contains data that are not covered by the NVLAP accreditation.

This 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.

Date of Test : Jan 16 – Feb 20, 2012 Date of Report : Feb 29, 2012

Producer : Kathy Wang
KATHY WANG/ Assistant

Review : Dio Yang
DIO YANG / Assistant Manager

AUDIX® For and on behalf of
Audix Technology (Shanghai) Co., Ltd.

Signatory : Sammy Chen
Authorized Signature EMC SAMMY CHEN / Deputy Manager

# 1 SUMMARY OF STANDARDS AND RESULTS

## 1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

| Description / Test Item | Test Standard | Meets Limit | Results |
|---|---|---|---|
| **EMISSION** | | | |
| Conducted Disturbance at the Mains Terminals | FCC RULES AND REGULATIONS PART 18 SUBPART C OCTOBER 2010 AND MP-5/1986 | 18.307(c) Consumer Equipment | Pass |
| Magnetic Field Strength | FCC RULES AND REGULATIONS PART 18 SUBPART C OCTOBER 2010 AND MP-5/1986 | 18.305(b) Any type, Non-ISM Frequency | Pass |
| Radiated Emission | FCC RULES AND REGULATIONS PART 18 SUBPART C OCTOBER 2010 AND MP-5/1986 | 18.305(c) Consumer Equipment | Pass |

# 2 GENERAL INFORMATION

## 2.1 Description of Equipment Under Test

Description : Fluorescent self-ballasted lamps

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

| | | |
|---|---|---|
| Model No. | : | T2 HALF SPIRAL CFL - 13W |
| | | T2 HALF SPIRAL CFL - 18W |
| | | T2 HALF SPIRAL CFL - 23W |
| | | T3 HALF SPIRAL CFL - 13W |
| | | T3 HALF SPIRAL CFL - 18W |
| | | T3 HALF SPIRAL CFL - 23W |
| Serial No. | : | E1201036-01/02 |
| | | E1201038-02/02 |
| | | E1201040-02/02 |
| | | E1201037-02/02 |
| | | E1201039-01/02 |
| | | E1201041-01/02 |
| Rated Power | : | 13W |
| | | 18W |
| | | 23W |
| | | 13W |
| | | 18W |
| | | 23W |

Note : The above models are all the same except for the different Rated Power.

Applicant : Haining Honghui Energy-saving Lights Electric Equipment Co., Ltd.
Sanlian Village of Xieqiao Town, Haining City, Zhejiang Province, China

Manufacturer : Haining Honghui Energy-saving Lights Electric Equipment Co., Ltd.
Sanlian Village of Xieqiao Town, Haining City, Zhejiang Province, China

## 2.2 Description of Test Facility

| | | |
|---|---|---|
| Site Description (Semi-Anechoic Chamber) | : | Sept. 17, 1998 file on<br>Apr 29, 2009 Renewed<br>Federal Communications Commission<br>FCC Engineering Laboratory<br>7435 Oakland Mills Road<br>Columbia, MD 21046, USA |
| Name of Firm | : | Audix Technology (Shanghai) Co., Ltd. |
| Site Location | : | 3F 34Bldg 680 Guiping Rd,<br>Caohejing Hi-Tech Park,<br>Shanghai 200233, China |
| NVLAP Lab Code | : | 200371-0 |

## 2.3 Measurement Uncertainty

Conducted Emission Expanded Uncertainty: U = 3.38 dB

Radiated Emission Expanded Uncertainty (30-200MHz):

U = 4.58 dB (horizontal)

U = 4.70 dB (vertical)

Radiated Emission Expanded Uncertainty (200M-1GHz):

U = 4.84 dB (horizontal)

U = 4.70 dB (vertical)

# 3 CONDUCTED EMISSION TEST

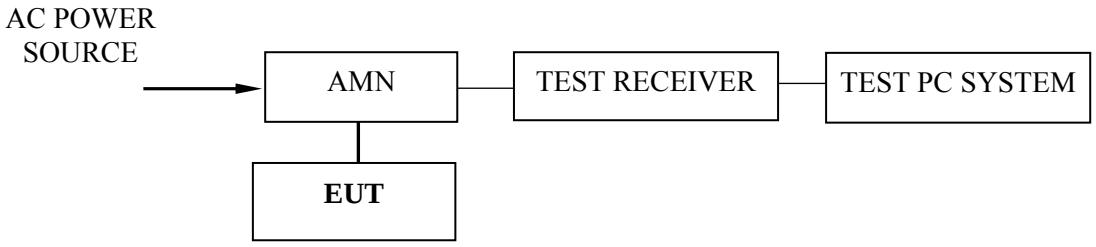
## 3.1 Test Equipment

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

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|---|
| 1. | Test Receiver | R&S | ESCI | 100841 | Mar 22, 2011 | Mar 22, 2012 |
| 2. | Artificial Mains Network (AMN) | R&S | ENV4200 | 100125 | Mar 22, 2011 | Mar 22, 2012 |
| 3. | 50 Ω Coaxial Switch | Anritsu | MP59B | 6200426389 | Sep 18, 2011 | Mar 18, 2012 |
| 4. | Software | Audix | E3 | SET00200 9804M592 | -- | -- |

## 3.2 Block Diagram of Test Setup

### 3.2.1 Conducted Disturbance Test Setup




—— : Signal Line
▬ : Power Line

## 3.3 Conducted Emission Limits (FCC Part 18 Consumer Equipment)

| Frequency (MHz) | | | Maximum RF Line Voltage | |
|---|---|---|---|---|
| | | | (μV) | dB(μV) |
| 0.45 | ~ | 2.51 | 250 | 48 |
| 2.51 | ~ | 3.0 | 3000 | 70 |
| 3.0 | ~ | 30 | 250 | 48 |

NOTE 1 – RF Line Voltage dB (μV) = 20 log RF Line Voltage (μV)
NOTE 2 – The tighter limits shall apply at the boundary between two frequency ranges.

## 3.4 Test Configuration

The EUT (listed in Sec.2.1) was installed as shown on Sec.3.2 to meet FCC requirement and operating in a manner that tends to maximize its emission level in a normal application.

## 3.5 Operating Condition of EUT

3.5.1 Setup the EUT as shown in Sec. 3.2.

3.5.2 Turn on the power of EUT.

3.5.3 The EUT will be operated normally.

3.5.4 Set the EUT on the lighting test mode, and then test.

## 3.6 Test Procedures

The EUT was connected to the power mains through a Artificial Mains Network (AMN). 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 I.F bandwidth of Test Receiver ESCI was set at 9 kHz.

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

The test modes were done on conducted test and the test results of the highest emissions are listed in Sec. 3.7.

## 3.7 Test Results

**< PASS >**

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

| Model Number | Test Mode | Data Page |
|---|---|---|
| T2 HALF SPIRAL CFL - 13W | Lighting | P9 |
| T2 HALF SPIRAL CFL - 18W | | P10 |
| T2 HALF SPIRAL CFL - 23W | | P11 |
| T3 HALF SPIRAL CFL - 13W | | P12 |
| T3 HALF SPIRAL CFL - 18W | | P13 |
| T3 HALF SPIRAL CFL - 23W | | P14 |

NOTE 1 – Factor = Cable Loss + AMN Factor.
NOTE 2 – Emission Level = Meter Reading + Factor.
NOTE 3 – All readings are Quasi-Peak values. (QP)
NOTE 4 – The worst case is for T2 HALF SPIRAL CFL - 13W model. The worst emission is detected at 0.465 MHz with corrected signal level of 45.19 dB (μV) (limit is 48.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ | |
| Model No. | : | T2 HALF SPIRAL CFL - 13W | Humidity : | 52%RH | |
| Serial No. | : | E1201036-01/02 | Date of Test : | Jan 16, 2012 | |
| Test Mode | : | Lighting | | | |

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| Line | 0.463 | 33.61 | 9.75 | 43.36 | 48.00 | 4.64 | QP |
| | 0.498 | 33.99 | 9.75 | 43.74 | 48.00 | 4.26 | |
| | 0.579 | 32.50 | 9.84 | 42.34 | 48.00 | 5.66 | |
| | 0.641 | 31.71 | 10.03 | 41.74 | 48.00 | 6.26 | |
| | 0.804 | 29.65 | 10.12 | 39.77 | 48.00 | 8.23 | |
| | 0.943 | 30.35 | 10.19 | 40.54 | 48.00 | 7.46 | |
| Neutral | **0.465** | **35.44** | **9.75** | **45.19** | **48.00** | **2.81** | QP |
| | 0.499 | 32.42 | 9.75 | 42.17 | 48.00 | 5.83 | |
| | 0.581 | 32.15 | 9.77 | 41.92 | 48.00 | 6.08 | |
| | 0.694 | 32.20 | 9.83 | 42.03 | 48.00 | 5.97 | |
| | 0.751 | 30.84 | 9.85 | 40.69 | 48.00 | 7.31 | |
| | 1.094 | 30.02 | 9.92 | 39.94 | 48.00 | 8.06 | |

TEST ENGINEER: WENCY YANG

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ | |
| Model No. | : | T2 HALF SPIRAL CFL - 18W | Humidity : | 52%RH | |
| Serial No. | : | E1201038-02/02 | Date of Test : | Jan 16, 2012 | |
| Test Mode | : | Lighting | | | |

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| Line | 0.461 | 39.59 | 0.31 | 39.90 | 48.00 | 8.10 | QP |
| | 0.573 | 37.78 | 0.33 | 38.11 | 48.00 | 9.89 | |
| | 0.739 | 43.87 | 0.40 | 44.27 | 48.00 | 3.73 | |
| | 0.779 | 39.14 | 0.39 | 39.53 | 48.00 | 8.47 | |
| | 0.933 | 37.52 | 0.37 | 37.89 | 48.00 | 10.11 | |
| | 1.129 | 34.66 | 0.37 | 35.03 | 48.00 | 12.97 | |
| Neutral | 0.471 | 40.54 | 0.24 | 40.78 | 48.00 | 7.22 | QP |
| | 0.679 | 41.33 | 0.28 | 41.61 | 48.00 | 6.39 | |
| | 0.735 | 43.64 | 0.30 | 43.94 | 48.00 | 4.06 | |
| | **0.790** | **44.69** | **0.33** | **45.02** | **48.00** | **2.98** | |
| | 0.899 | 41.46 | 0.42 | 41.88 | 48.00 | 6.12 | |
| | 1.000 | 39.25 | 0.44 | 39.69 | 48.00 | 8.31 | |

TEST ENGINEER: WENCY YANG

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ | |
| Model No. | : | T2 HALF SPIRAL CFL - 23W | Humidity : | 52%RH | |
| Serial No. | : | E1201040-02/02 | Date of Test : | Jan 16, 2012 | |
| Test Mode | : | Lighting | | | |

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| Line | 0.461 | 38.29 | 0.31 | 38.60 | 48.00 | 9.40 | QP |
| | 0.552 | 37.95 | 0.32 | 38.27 | 48.00 | 9.73 | |
| | 0.722 | 38.51 | 0.40 | 38.91 | 48.00 | 9.09 | |
| | 0.767 | 38.32 | 0.40 | 38.72 | 48.00 | 9.28 | |
| | 1.000 | 35.28 | 0.37 | 35.65 | 48.00 | 12.35 | |
| | 3.565 | 31.52 | 0.52 | 32.04 | 48.00 | 15.96 | |
| Neutral | 0.466 | 39.03 | 0.24 | 39.27 | 48.00 | 8.73 | QP |
| | 0.627 | 39.87 | 0.26 | 40.13 | 48.00 | 7.87 | |
| | **0.722** | **41.53** | **0.30** | **41.83** | **48.00** | **6.17** | |
| | 0.804 | 39.72 | 0.33 | 40.05 | 48.00 | 7.95 | |
| | 0.890 | 35.90 | 0.41 | 36.31 | 48.00 | 11.69 | |
| | 1.338 | 32.85 | 0.47 | 33.32 | 48.00 | 14.68 | |

TEST ENGINEER: WENCY YANG

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ | |
| Model No. | : | T3 HALF SPIRAL CFL - 13W | Humidity : | 52%RH | |
| Serial No. | : | E1201037-02/02 | Date of Test : | Jan 16, 2012 | |
| Test Mode | : | Lighting | | | |

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| Line | 0.456 | 26.99 | 9.75 | 36.74 | 48.00 | 11.26 | QP |
| | 0.485 | 28.75 | 9.75 | 38.50 | 48.00 | 9.50 | |
| | 0.568 | 26.99 | 9.82 | 36.81 | 48.00 | 11.19 | |
| | 0.754 | 27.93 | 10.09 | 38.02 | 48.00 | 9.98 | |
| | 0.919 | 26.00 | 10.19 | 36.19 | 48.00 | 11.81 | |
| | 1.078 | 25.93 | 10.20 | 36.13 | 48.00 | 11.87 | |
| Neutral | **0.487** | **31.10** | **9.75** | **40.85** | **48.00** | **7.15** | QP |
| | 0.541 | 28.30 | 9.76 | 38.06 | 48.00 | 9.94 | |
| | 0.761 | 28.44 | 9.85 | 38.29 | 48.00 | 9.71 | |
| | 1.038 | 27.13 | 9.92 | 37.05 | 48.00 | 10.95 | |
| | 1.202 | 27.07 | 9.93 | 37.00 | 48.00 | 11.00 | |
| | 1.807 | 25.40 | 10.01 | 35.41 | 48.00 | 12.59 | |

TEST ENGINEER: WENCY YANG

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ | |
| Model No. | : | T3 HALF SPIRAL CFL - 18W | Humidity : | 52%RH | |
| Serial No. | : | E1201039-01/02 | Date of Test : | Jan 16, 2012 | |
| Test Mode | : | Lighting | | | |

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| Line | 0.510 | 37.06 | 0.31 | 37.37 | 48.00 | 10.63 | QP |
| | 0.641 | 37.90 | 0.38 | 38.28 | 48.00 | 9.72 | |
| | **0.694** | **38.75** | **0.39** | **39.14** | **48.00** | **8.86** | |
| | 0.853 | 37.17 | 0.38 | 37.55 | 48.00 | 10.45 | |
| | 1.054 | 32.60 | 0.37 | 32.97 | 48.00 | 15.03 | |
| | 1.519 | 30.07 | 0.42 | 30.49 | 48.00 | 17.51 | |
| Neutral | 0.484 | 35.88 | 0.24 | 36.12 | 48.00 | 11.88 | QP |
| | 0.541 | 35.46 | 0.24 | 35.70 | 48.00 | 12.30 | |
| | 0.644 | 37.24 | 0.28 | 37.52 | 48.00 | 10.48 | |
| | 0.720 | 37.91 | 0.29 | 38.20 | 48.00 | 9.80 | |
| | 0.804 | 37.28 | 0.33 | 37.61 | 48.00 | 10.39 | |
| | 0.857 | 37.30 | 0.40 | 37.70 | 48.00 | 10.30 | |

TEST ENGINEER: WENCY YANG

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ | |
| Model No. | : | T3 HALF SPIRAL CFL - 23W | Humidity : | 52%RH | |
| Serial No. | : | E1201041-01/02 | Date of Test : | Jan 16, 2012 | |
| Test Mode | : | Lighting | | | |

| Test Line | Frequency (MHz) | Meter Reading dB(μV) | Factor (dB) | Emission Level dB(μV) | Limits dB(μV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| Line | 0.529 | 36.89 | 0.32 | 37.21 | 48.00 | 10.79 | QP |
| | 0.621 | 36.12 | 0.36 | 36.48 | 48.00 | 11.52 | |
| | 0.694 | 37.71 | 0.39 | 38.10 | 48.00 | 9.90 | |
| | **0.788** | **38.54** | **0.39** | **38.93** | **48.00** | **9.07** | |
| | 1.071 | 32.05 | 0.37 | 32.42 | 48.00 | 15.58 | |
| | 1.602 | 29.02 | 0.42 | 29.44 | 48.00 | 18.56 | |
| Neutral | 0.452 | 36.63 | 0.24 | 36.87 | 48.00 | 11.13 | QP |
| | 0.541 | 34.27 | 0.24 | 34.51 | 48.00 | 13.49 | |
| | 0.614 | 34.83 | 0.26 | 35.09 | 48.00 | 12.91 | |
| | 0.708 | 38.29 | 0.28 | 38.57 | 48.00 | 9.43 | |
| | 0.788 | 37.98 | 0.31 | 38.29 | 48.00 | 9.71 | |
| | 0.871 | 35.44 | 0.41 | 35.85 | 48.00 | 12.15 | |

TEST ENGINEER: WENCY YANG

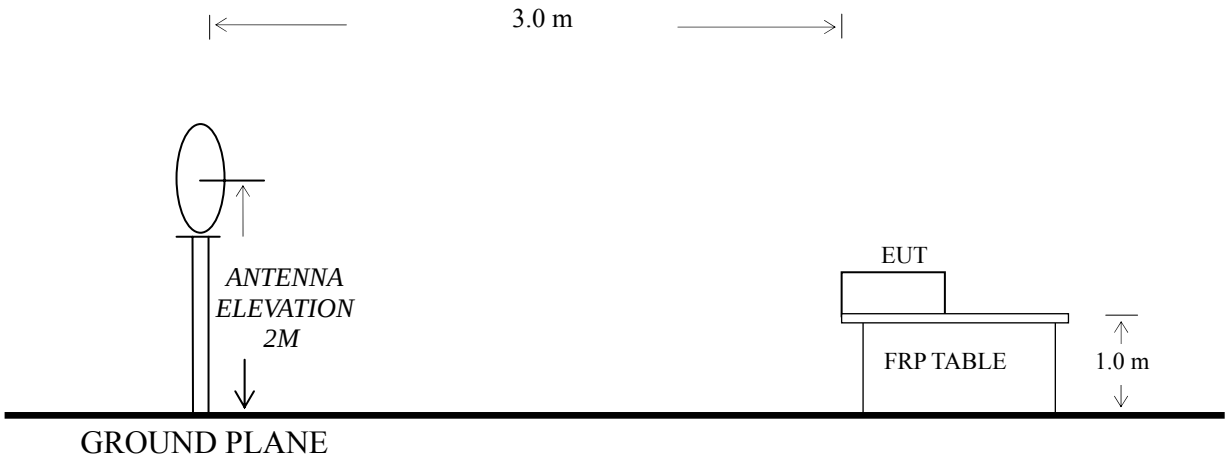
# 4 MAGNETIC FIELD EMISSION TEST

## 4.1 Test Equipment

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

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|---|
| 1. | Loop Antenna | Schaffner | HLA6120 | 1193 | Jun 12, 2011 | Jun 12, 2012 |
| 2. | Test Receiver | R&S | ESHS10 | 830223/007 | Mar 22, 2011 | Mar 22, 2012 |
| 3. | 50Ω Coaxial Switch | ANRITSU | MP59B | 6200426390 | Sep 18, 2011 | Mar 18, 2012 |
| 4. | Software | Audix | E3 | SET00200 9912M295-2 | -- | -- |

## 4.2 Block Diagram of Test Setup



## 4.3 Magnetic Field Emission Limit (FCC Part 18 305(b))

All emanations from Non-ISM frequency devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

| Frequency (MHz) | Distance (m) | Field Strength Limits (μV/m) | Converted Field Strength Limits By 3 Meters Measuring Distance dB (μV/m) |
|---|---|---|---|
| 0.009~30 | 300 | 15 | 63.5 |
| NOTE 1 - Distance refers to the distance in meters between the test antenna and the closed point of any part of the EUT.<br>NOTE 2 - Audix Technology (Shanghai) Co., Ltd. only has a 3 meters Semi-anechoic Chamber to do the radiated disturbance test, therefore, Audix Shanghai used 3 meters measuring distance and converted limits to judge the EUT compliance with or not. | | | |

## 4.4 Test Configuration

The FCC part 18 regulations test method must be used to find the maximum emission during Radiated Emission test.

The configuration of the EUT is same as used in conducted emission test. Please Refer to Section 3.4.

## 4.5 Operating Condition of EUT

4.5.1 Setup the EUT as shown on Section 4.2.

4.5.2 Turn on the power of all equipments.

4.5.3 Let the EUT work in test mode and test it.

## 4.6 Test Procedures

The EUT was placed on a table, which is 1.0 meter above ground. Measurements are performed at distance 3.0m with a 0.6m loop antenna as described in 2.2.4 of MP-5. The antenna shall be with the lower edge of the loop at height 2m above the floor.

The bandwidth setting on the test receiver (R&S Test Receiver ESHS10) is 200Hz from 9kHz to 150kHz and 10kHz from 150kHz to 30MHz. The EUT is tested in a semi-anechoic chamber.

All the test results are attached within Sec. 4.7.

## 4.7 Test Results

<**PASS**>

Refer to the following pages.

| Model Number | Test Mode | Data Page |
|---|---|---|
| T2 HALF SPIRAL CFL - 13W | Lighting | P18 |
| T2 HALF SPIRAL CFL - 18W | | P19 |
| T2 HALF SPIRAL CFL - 23W | | P20 |
| T3 HALF SPIRAL CFL - 13W | | P21 |
| T3 HALF SPIRAL CFL - 18W | | P22 |
| T3 HALF SPIRAL CFL - 23W | | P23 |

NOTE 1 – Factor = Antenna Factor + Cable Loss
Emission Level = Meter Reading + Factor
NOTE 2 – All reading are Quasi-Peak Values.
NOTE 3 – The worst case is for T2 HALF SPIRAL CFL - 18W model number. The worst emission at horizontal polarization was detected at 0.010 MHz with corrected signal level of 50.60 dB (μV/m) (limit is 63.50 dB (μV/m)). The worst emission at vertical polarization was detected at 0.012 MHz with corrected signal level of 52.79 dB (μV/m) (limit is 63.50 dB (μV/m)).

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T2 HALF SPIRAL CFL - 13W | Humidity : | 52%RH |
| Serial No. | : | E1201036-01/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | **0.021** | **31.34** | **20.99** | **0.06** | **52.39** | **63.50** | **11.11** |
| | 0.151 | 21.04 | 19.70 | 0.06 | 40.80 | 63.50 | 22.70 |
| | 0.719 | 22.76 | 19.51 | 0.06 | 42.33 | 63.50 | 21.17 |
| | 1.981 | 12.78 | 19.99 | 0.25 | 33.02 | 63.50 | 30.48 |
| | 3.330 | 12.46 | 19.83 | 0.43 | 32.72 | 63.50 | 30.78 |
| | 9.715 | 12.45 | 20.46 | 0.55 | 33.46 | 63.50 | 30.04 |
| Vertical | **0.010** | **27.17** | **20.91** | **0.06** | **48.14** | **63.50** | **15.36** |
| | 0.031 | 18.74 | 20.80 | 0.06 | 39.60 | 63.50 | 23.90 |
| | 1.783 | 13.66 | 19.88 | 0.22 | 33.76 | 63.50 | 29.74 |
| | 3.641 | 12.80 | 19.76 | 0.45 | 33.01 | 63.50 | 30.49 |
| | 5.374 | 12.55 | 19.68 | 0.53 | 32.76 | 63.50 | 30.74 |
| | 9.105 | 12.76 | 20.39 | 0.55 | 33.70 | 63.50 | 29.80 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T2 HALF SPIRAL CFL - 18W | Humidity : | 52%RH |
| Serial No. | : | E1201038-02/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | **0.010** | **29.62** | **20.92** | **0.06** | **50.60** | **63.50** | **12.90** |
| | 0.047 | 15.88 | 20.62 | 0.06 | 36.56 | 63.50 | 26.94 |
| | 0.079 | 9.76 | 20.01 | 0.06 | 29.83 | 63.50 | 33.67 |
| | 0.825 | 14.07 | 19.40 | 0.06 | 33.53 | 63.50 | 29.97 |
| | 2.507 | 12.80 | 19.94 | 0.34 | 33.08 | 63.50 | 30.42 |
| | 14.693 | 11.49 | 19.84 | 0.60 | 31.93 | 63.50 | 31.57 |
| Vertical | 0.009 | 31.19 | 20.90 | 0.06 | 52.15 | 63.50 | 11.35 |
| | **0.012** | **31.79** | **20.94** | **0.06** | **52.79** | **63.50** | **10.71** |
| | 0.041 | 19.30 | 20.67 | 0.06 | 40.03 | 63.50 | 23.47 |
| | 1.480 | 12.90 | 19.66 | 0.16 | 32.72 | 63.50 | 30.78 |
| | 3.791 | 12.62 | 19.74 | 0.46 | 32.82 | 63.50 | 30.68 |
| | 11.061 | 12.21 | 20.34 | 0.56 | 33.11 | 63.50 | 30.39 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T2 HALF SPIRAL CFL - 23W | Humidity : | 52%RH |
| Serial No. | : | E1201040-02/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | **0.010** | **27.93** | **20.91** | **0.06** | **48.90** | **63.50** | **14.60** |
| | 0.021 | 25.34 | 20.99 | 0.06 | 46.39 | 63.50 | 17.11 |
| | 0.038 | 7.13 | 20.70 | 0.06 | 27.89 | 63.50 | 35.61 |
| | 0.719 | 16.76 | 19.51 | 0.06 | 36.33 | 63.50 | 27.17 |
| | 2.901 | 6.44 | 19.91 | 0.38 | 26.73 | 63.50 | 36.77 |
| | 9.715 | 6.45 | 20.46 | 0.55 | 27.46 | 63.50 | 36.04 |
| Vertical | 0.010 | 21.17 | 20.91 | 0.06 | 42.14 | 63.50 | 21.36 |
| | **0.020** | **31.22** | **20.99** | **0.06** | **52.27** | **63.50** | **11.23** |
| | 0.162 | 18.12 | 19.69 | 0.06 | 37.87 | 63.50 | 25.63 |
| | 0.696 | 17.97 | 19.52 | 0.06 | 37.55 | 63.50 | 25.95 |
| | 2.697 | 6.40 | 19.92 | 0.36 | 26.68 | 63.50 | 36.82 |
| | 9.105 | 6.76 | 20.39 | 0.55 | 27.70 | 63.50 | 35.80 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T3 HALF SPIRAL CFL - 13W | Humidity : | 52%RH |
| Serial No. | : | E1201037-02/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | **0.020** | **27.29** | **20.99** | **0.06** | **48.34** | **63.50** | **15.16** |
| | 0.047 | 10.88 | 20.62 | 0.06 | 31.56 | 63.50 | 31.94 |
| | 0.261 | 28.26 | 19.60 | 0.06 | 47.92 | 63.50 | 15.58 |
| | 0.445 | 9.37 | 19.60 | 0.06 | 29.03 | 63.50 | 34.47 |
| | 2.507 | 7.80 | 19.94 | 0.34 | 28.08 | 63.50 | 35.42 |
| | 8.743 | 7.96 | 20.34 | 0.55 | 28.85 | 63.50 | 34.65 |
| Vertical | **0.012** | **23.79** | **20.94** | **0.06** | **44.79** | **63.50** | **18.71** |
| | 0.041 | 11.30 | 20.67 | 0.06 | 32.03 | 63.50 | 31.47 |
| | 0.460 | 7.22 | 19.60 | 0.06 | 26.88 | 63.50 | 36.62 |
| | 1.480 | 4.90 | 19.66 | 0.16 | 24.72 | 63.50 | 38.78 |
| | 3.791 | 4.62 | 19.74 | 0.46 | 24.82 | 63.50 | 38.68 |
| | 11.061 | 4.21 | 20.34 | 0.56 | 25.11 | 63.50 | 38.39 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T3 HALF SPIRAL CFL - 18W | Humidity : | 52%RH |
| Serial No. | : | E1201039-01/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | **0.010** | **28.93** | **20.91** | **0.06** | **49.90** | **63.50** | **13.60** |
| | 0.021 | 26.34 | 20.99 | 0.06 | 47.39 | 63.50 | 16.11 |
| | 0.370 | 11.67 | 19.60 | 0.06 | 31.33 | 63.50 | 32.17 |
| | 0.719 | 17.76 | 19.51 | 0.06 | 37.33 | 63.50 | 26.17 |
| | 2.653 | 7.36 | 19.93 | 0.35 | 27.64 | 63.50 | 35.86 |
| | 9.715 | 7.45 | 20.46 | 0.55 | 28.46 | 63.50 | 35.04 |
| Vertical | **0.010** | **21.17** | **20.91** | **0.06** | **42.14** | **63.50** | **21.36** |
| | 0.696 | 17.97 | 19.52 | 0.06 | 37.55 | 63.50 | 25.95 |
| | 1.160 | 7.91 | 19.35 | 0.10 | 27.36 | 63.50 | 36.14 |
| | 1.783 | 7.66 | 19.88 | 0.22 | 27.76 | 63.50 | 35.74 |
| | 5.374 | 6.55 | 19.68 | 0.53 | 26.76 | 63.50 | 36.74 |
| | 10.536 | 5.56 | 20.42 | 0.56 | 26.54 | 63.50 | 36.96 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T3 HALF SPIRAL CFL - 23W | Humidity : | 52%RH |
| Serial No. | : | E1201041-01/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | 0.010 | 22.62 | 20.92 | 0.06 | 43.60 | 63.50 | 19.90 |
| | **0.020** | **25.29** | **20.99** | **0.06** | **46.34** | **63.50** | **17.16** |
| | 0.261 | 26.26 | 19.60 | 0.06 | 45.92 | 63.50 | 17.58 |
| | 0.361 | 17.88 | 19.60 | 0.06 | 37.54 | 63.50 | 25.96 |
| | 1.061 | 6.34 | 19.26 | 0.07 | 25.67 | 63.50 | 37.83 |
| | 4.532 | 5.70 | 19.65 | 0.51 | 25.86 | 63.50 | 37.64 |
| Vertical | **0.020** | **30.51** | **20.99** | **0.06** | **51.56** | **63.50** | **11.94** |
| | 0.696 | 14.41 | 19.52 | 0.06 | 33.99 | 63.50 | 29.51 |
| | 1.480 | 5.90 | 19.66 | 0.16 | 25.72 | 63.50 | 37.78 |
| | 3.791 | 5.62 | 19.74 | 0.46 | 25.82 | 63.50 | 37.68 |
| | 7.616 | 5.53 | 20.16 | 0.54 | 26.23 | 63.50 | 37.27 |
| | 22.954 | 4.59 | 20.72 | 0.71 | 26.02 | 63.50 | 37.48 |

TEST ENGINEER: RAVEN JIN

# 5 RADIATED EMISSION TEST

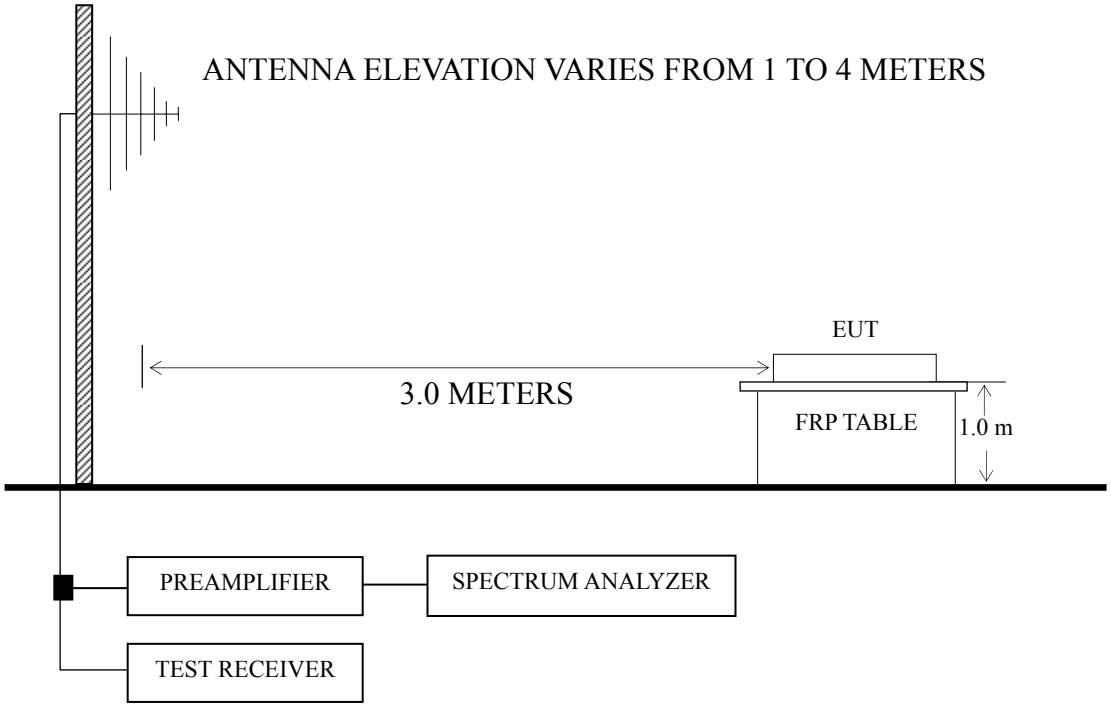
## 5.1 Test Equipment

The following test equipments are used during the radiated emission test in a semi-anechoic chamber:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|---|
| 1. | Test Receiver | R&S | ESVS10 | 844594/001 | Mar 22, 2011 | Mar 22, 2012 |
| 2. | Preamplifier | Agilent | 8447D | 2944A10548 | Sep 18, 2011 | Mar 18, 2012 |
| 3. | Bi-log Antenna | TESEQ | CBL6112D | 23192 | Dec 01, 2011 | Dec 01, 2012 |
| 4. | Spectrum | Agilent | E7405A | MY45106600 | Mar 22, 2011 | Mar 22, 2012 |
| 5. | Software | Audix | E3 | SET00200 9912M295-2 | -- | -- |

## 5.2 Block Diagram of Test Setup

### 5.2.1 Radiated emission test setup




■ : 50 ohm Coaxial Switch

## 5.3 Radiated Emission Limit (FCC Part 18.305(c) Consumer Equipment)

| Frequency (MHz) | Distance (m) | Field strength limits | | Converted Field Strength Limits By 3 Meters Measuring Distance |
|---|---|---|---|---|
| | | (μV/m) | dB (μV/m) | dB (μV/m) |
| 30 ~ 88 | 30 | 10 | 20.0 | 40.0 |
| 88 ~ 216 | 30 | 15 | 23.5 | 43.5 |
| 216 ~ 1000 | 30 | 20 | 26.0 | 46.0 |

NOTE 1 - The lower limit shall apply at the transition frequency.
NOTE 2 - Measuring distance of 30 m is a primary requirement. However, 3 m (instead of 30 m) distance maybe allowed. In this case, the limits with measuring distance of 3 m shall be the above limit value increased 20lg(30/3)=20dB.
NOTE 3 - 1 μV/m is regarded as 0 dBμV/m.

## 5.4 Test Configuration

The configuration of the EUT and peripherals are same as those used in conducted emission test.

Please refer to Sec.3.4.

## 5.5 Operating Condition of EUT

Same as conducted emission test which is listed in Sec.3.5, except for the test setup replaced by Sec.5.2.

## 5.6 Test Procedures

The EUT was placed on a turntable that is 1.0 meter above ground. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (Calibrated Bilog Antenna) was used as receiving antenna. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to FCC MP-5: 1986 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESVS10 was set at 120 kHz.

The frequency range from 30 MHz to 1000 MHz was checked.

The test mode was done on radiated disturbance test and all the test results are listed in Sec.5.7.

## 5.7 Test Results

**<PASS>**

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

| Model Number | Test Mode | Data Page |
|---|---|---|
| T2 HALF SPIRAL CFL - 13W | Lighting | P27 |
| T2 HALF SPIRAL CFL - 18W | | P28 |
| T2 HALF SPIRAL CFL - 23W | | P29 |
| T3 HALF SPIRAL CFL - 13W | | P30 |
| T3 HALF SPIRAL CFL - 18W | | P31 |
| T3 HALF SPIRAL CFL - 23W | | P32 |

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading.

NOTE 2 – The emission levels that are 20dB below the official limit are not reported.

NOTE 3 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

NOTE 4 – The worst case is for T2 HALF SPIRAL CFL - 13W model. The worst emission at horizontal polarization was detected at 158.040 MHz with corrected signal level of 33.37 dB (μV/m) (limit is 43.50 dB (μV/m)), when the antenna was 1.60 m height and the turntable was at 25°. The worst emission at vertical polarization was detected at 38.730 MHz with corrected signal level of 33.28 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.50 m height and the turntable was at 200°.

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T2 HALF SPIRAL CFL - 13W | Humidity : | 52%RH |
| Serial No. | : | E1201036-01/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | 51.340 | 7.94 | 8.58 | 0.95 | 17.47 | 40.00 | 22.53 |
| | 82.380 | 4.91 | 10.67 | 1.63 | 17.21 | 40.00 | 22.79 |
| | **158.040** | **20.82** | **10.28** | **2.27** | **33.37** | **43.50** | **10.13** |
| | 242.430 | 7.70 | 11.65 | 2.58 | 21.93 | 46.00 | 24.07 |
| | 465.530 | 4.20 | 17.19 | 3.17 | 24.56 | 46.00 | 21.44 |
| | 662.440 | 4.88 | 19.04 | 3.60 | 27.52 | 46.00 | 18.48 |
| Vertical | **38.730** | **19.02** | **13.40** | **0.86** | **33.28** | **40.00** | **6.72** |
| | 48.430 | 20.08 | 9.02 | 0.90 | 30.00 | 40.00 | 10.00 |
| | 61.040 | 14.54 | 9.21 | 1.21 | 24.96 | 40.00 | 15.04 |
| | 92.080 | 12.59 | 11.08 | 1.75 | 25.42 | 43.50 | 18.08 |
| | 158.040 | 15.00 | 10.28 | 2.27 | 27.55 | 43.50 | 15.95 |
| | 528.580 | 5.00 | 17.77 | 3.33 | 26.10 | 46.00 | 19.90 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T2 HALF SPIRAL CFL - 18W | Humidity : | 52%RH |
| Serial No. | : | E1201038-02/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | 30.970 | 9.75 | 17.78 | 0.81 | 28.34 | 40.00 | 11.66 |
| | 51.340 | 14.94 | 8.58 | 0.95 | 24.47 | 40.00 | 15.53 |
| | 82.380 | 13.91 | 10.67 | 1.63 | 26.21 | 40.00 | 13.79 |
| | **158.040** | **21.82** | **10.28** | **2.27** | **34.37** | **43.50** | **9.13** |
| | 305.480 | 12.48 | 13.87 | 2.77 | 29.12 | 46.00 | 16.88 |
| | 662.440 | 7.88 | 19.04 | 3.60 | 30.52 | 46.00 | 15.48 |
| Vertical | 38.730 | 14.02 | 13.40 | 0.86 | 28.28 | 40.00 | 11.72 |
| | 48.430 | 16.08 | 9.02 | 0.90 | 26.00 | 40.00 | 14.00 |
| | 92.080 | 18.59 | 11.08 | 1.75 | 31.42 | 43.50 | 12.08 |
| | **158.040** | **21.00** | **10.28** | **2.27** | **33.55** | **43.50** | **9.95** |
| | 363.680 | 9.22 | 15.49 | 2.91 | 27.62 | 46.00 | 18.38 |
| | 528.580 | 7.00 | 17.77 | 3.33 | 28.10 | 46.00 | 17.90 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T2 HALF SPIRAL CFL - 23W | Humidity : | 52%RH |
| Serial No. | : | E1201040-02/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | 51.340 | 7.94 | 8.58 | 0.95 | 17.47 | 40.00 | 22.53 |
| | 82.380 | 4.91 | 10.67 | 1.63 | 17.21 | 40.00 | 22.79 |
| | **158.040** | **14.82** | **10.28** | **2.27** | **27.37** | **43.50** | **16.13** |
| | 242.430 | 7.70 | 11.65 | 2.58 | 21.93 | 46.00 | 24.07 |
| | 465.530 | 4.20 | 17.19 | 3.17 | 24.56 | 46.00 | 21.44 |
| | 662.440 | 4.88 | 19.04 | 3.60 | 27.52 | 46.00 | 18.48 |
| Vertical | **38.730** | **16.02** | **13.40** | **0.86** | **30.28** | **40.00** | **9.72** |
| | 48.430 | 20.08 | 9.02 | 0.90 | 30.00 | 40.00 | 10.00 |
| | 61.040 | 14.54 | 9.21 | 1.21 | 24.96 | 40.00 | 15.04 |
| | 92.080 | 12.59 | 11.08 | 1.75 | 25.42 | 43.50 | 18.08 |
| | 158.040 | 15.00 | 10.28 | 2.27 | 27.55 | 43.50 | 15.95 |
| | 528.580 | 5.00 | 17.77 | 3.33 | 26.10 | 46.00 | 19.90 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T3 HALF SPIRAL CFL - 13W | Humidity : | 52%RH |
| Serial No. | : | E1201037-02/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | 30.970 | 9.75 | 17.78 | 0.81 | 28.34 | 40.00 | 11.66 |
| | 51.340 | 14.94 | 8.58 | 0.95 | 24.47 | 40.00 | 15.53 |
| | 82.380 | 13.91 | 10.67 | 1.63 | 26.21 | 40.00 | 13.79 |
| | **158.040** | **21.82** | **10.28** | **2.27** | **34.37** | **43.50** | **9.13** |
| | 305.480 | 12.48 | 13.87 | 2.77 | 29.12 | 46.00 | 16.88 |
| | 662.440 | 7.88 | 19.04 | 3.60 | 30.52 | 46.00 | 15.48 |
| Vertical | 38.730 | 14.02 | 13.40 | 0.86 | 28.28 | 40.00 | 11.72 |
| | 48.430 | 16.08 | 9.02 | 0.90 | 26.00 | 40.00 | 14.00 |
| | 92.080 | 18.59 | 11.08 | 1.75 | 31.42 | 43.50 | 12.08 |
| | **158.040** | **21.00** | **10.28** | **2.27** | **33.55** | **43.50** | **9.95** |
| | 363.680 | 9.22 | 15.49 | 2.91 | 27.62 | 46.00 | 18.38 |
| | 528.580 | 7.00 | 17.77 | 3.33 | 28.10 | 46.00 | 17.90 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T3 HALF SPIRAL CFL - 18W | Humidity : | 52%RH |
| Serial No. | : | E1201039-01/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | 96.930 | 14.82 | 11.24 | 1.82 | 27.88 | 43.50 | 15.62 |
| | 153.190 | 11.22 | 10.36 | 2.24 | 23.82 | 43.50 | 19.68 |
| | 290.930 | 10.51 | 13.46 | 2.74 | 26.71 | 46.00 | 19.29 |
| | 366.590 | 10.17 | 15.57 | 2.92 | 28.66 | 46.00 | 17.34 |
| | **528.580** | **11.07** | **17.77** | **3.33** | **32.17** | **46.00** | **13.83** |
| | 735.190 | 4.79 | 19.90 | 3.78 | 28.47 | 46.00 | 17.53 |
| Vertical | **56.190** | **21.69** | **8.88** | **1.08** | **31.65** | **40.00** | **8.35** |
| | 70.740 | 16.87 | 9.93 | 1.43 | 28.23 | 40.00 | 11.77 |
| | 206.540 | 9.12 | 10.04 | 2.45 | 21.61 | 43.50 | 21.89 |
| | 381.140 | 6.85 | 15.90 | 2.95 | 25.70 | 46.00 | 20.30 |
| | 528.580 | 5.72 | 17.77 | 3.33 | 26.82 | 46.00 | 19.18 |
| | 834.130 | 5.78 | 20.49 | 4.22 | 30.49 | 46.00 | 15.51 |

TEST ENGINEER: RAVEN JIN

| | | | | | |
|---|---|---|---|---|---|
| EUT | : | Fluorescent self-ballasted lamps | Temperature : | 22℃ |
| Model No. | : | T3 HALF SPIRAL CFL - 23W | Humidity : | 52%RH |
| Serial No. | : | E1201041-01/02 | Date of Test : | Feb 20, 2012 |
| Test Mode | : | Lighting | | |

| Polarization | Frequency (MHz) | Meter Reading dB (μV) | Antenna Factor (dB/m) | Cable Loss (dB) | Emission Level dB (μV/m) | Limits dB (μV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| Horizontal | 33.880 | 7.11 | 16.26 | 0.83 | 24.20 | 40.00 | 15.80 |
| | 53.280 | 14.51 | 8.70 | 1.01 | 24.22 | 40.00 | 15.78 |
| | **70.740** | **20.09** | **9.93** | **1.43** | **31.45** | **40.00** | **8.55** |
| | 177.440 | 8.02 | 10.02 | 2.35 | 20.39 | 43.50 | 23.11 |
| | 324.880 | 9.25 | 14.38 | 2.82 | 26.45 | 46.00 | 19.55 |
| | 531.490 | 5.08 | 17.78 | 3.33 | 26.19 | 46.00 | 19.81 |
| Vertical | **33.880** | **13.92** | **16.26** | **0.83** | **31.01** | **40.00** | **8.99** |
| | 162.890 | 12.68 | 10.21 | 2.29 | 25.18 | 43.50 | 18.32 |
| | 281.230 | 15.51 | 13.17 | 2.70 | 31.38 | 46.00 | 14.62 |
| | 322.940 | 11.40 | 14.34 | 2.82 | 28.56 | 46.00 | 17.44 |
| | 528.580 | 10.63 | 17.77 | 3.33 | 31.73 | 46.00 | 14.27 |
| | 769.140 | 4.85 | 20.27 | 3.84 | 28.96 | 46.00 | 17.04 |

TEST ENGINEER: RAVEN JIN

# 6 DEVIATION TO TEST SPECIFICATIONS

None.