

**FCC PART 18**  
**EMI MEASUREMENT AND TEST REPORT**

For

**Super Trend Lighting Limited**

Rm 302-306, Hewlett Centre, 54 Hoi Yuen Road, Kwun Tong, Kowloon, H.K.

**FCC ID: N8WEU13GU**

August 26, 2006

|                                                                                                                                                                                                                                                     |                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>This Report Concerns:</b><br><input checked="" type="checkbox"/> Original Report                                                                                                                                                                 | <b>Equipment Type:</b><br>CFL |
| <b>Test Engineer:</b> Simon Mo <i>simon mo</i>                                                                                                                                                                                                      |                               |
| <b>Report Number:</b> RSZ06081952                                                                                                                                                                                                                   |                               |
| <b>Test Date:</b> August 23, 2006                                                                                                                                                                                                                   |                               |
| <b>Reviewed By:</b> EMC Manager: Boni Baniqued <i>[Signature]</i>                                                                                                                                                                                   |                               |
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**Note:** The test report is specially limited to the above company and this particular sample only.  
It may not be duplicated without prior written consent of Bay Area Compliance Lab Corp. (ShenZhen). This report **must not** be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government.

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## GENERAL INFORMATION

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### Product Description for Equipment under Test (EUT)

The *Super Trend Lighting Limited*'s model: *EU-13W-GU24*, or the "EUT" as referred to in this report is a CFL which measures approximately 9 cm L x 5 cm W x 5 cm H, rated input voltage: AC 120V/60Hz.

\* The test data gathered are from production sample, serial number: 0601107. Provided by the manufacturer, we received EUT on 2006-8-19.

### Objective

The following test report is prepared on behalf of *Super Trend Lighting Limited* in accordance with Part 2, Subpart J, and Part 18, Subparts A, B and C of the Federal Communication Commissions rules and regulations.

The objective of the manufacturer is to determine compliance with FCC Part 18 limits.

### Related Submittal(s)/Grant(s)

No related submittal(s).

### Test Methodology

All measurements contained in this report were conducted with MP-5, FCC Methods of Measurements of Radio Noise Emissions from ISM Equipment, February 1986. All measurement was performed at Bay Area Compliance Lab Corp. (ShenZhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

### Test Facility

The Test site used by Bay Area Compliance Lab Corp. (ShenZhen) to collect radiated and conducted emission measurement data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China.

Test site at Bay Area Compliance Lab Corp. (ShenZhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003 and FCC MP-5.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Lab Corp. (ShenZhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0). The current scope of accreditations can be found at <http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm>

**External I/O Cable**

| <b>Cable Description</b>       | <b>Length (M)</b> | <b>From/Port</b> | <b>To</b> |
|--------------------------------|-------------------|------------------|-----------|
| Unshielded Detachable AC Cable | 1.2               | EUT              | AC Power  |

## SYSTEM TEST CONFIGURATION

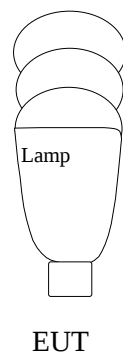
### Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

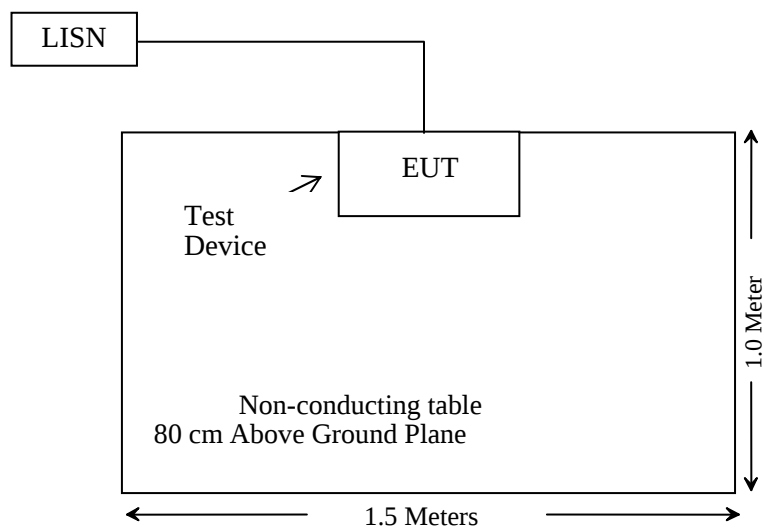
### Equipment Modifications

Bay Area Compliance Lab Corp. (Shenzhen) has not done any modification on the EUT.

### Configuration of Test Setup



### Block Diagram of Test Setup



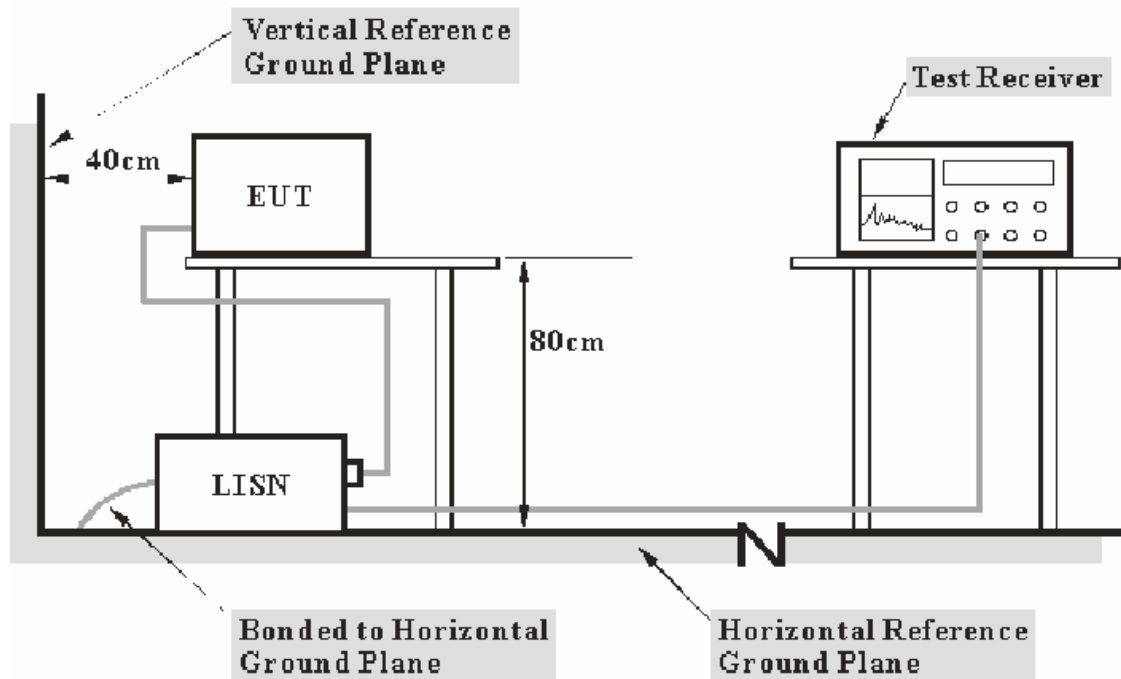
## CONDUCTED EMISSION

### Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Lab Corp. (ShenZhen) is  $\pm 2.4$  dB.

### EUT Setup



- Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with MP-5: 1986 measurement procedure. Specification used was with the FCC Part 18 limits.

The EUT was connected to a 120 VAC/ 60Hz power source.

## EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

| <b><i>Frequency Range</i></b> | <b><i>IFBW</i></b> |
|-------------------------------|--------------------|
| 150 kHz – 30 MHz              | 9 kHz              |

## Test Equipment List and Details

| <b>Manufacturer</b> | <b>Description</b> | <b>Model</b> | <b>Serial Number</b>  | <b>Calibration Date</b> | <b>Calibration Due Date</b> |
|---------------------|--------------------|--------------|-----------------------|-------------------------|-----------------------------|
| Com-Power           | L.I.S.N.           | LI-200       | 12005                 | N/A                     | N/A                         |
| Com-Power           | L.I.S.N.           | LI-200       | 12008                 | N/A                     | N/A                         |
| Rohde & Schwarz     | EMI Test Receiver  | ESCS30       | DE25330 or 830245/006 | 2006-1-26               | 2007-1-26                   |
| Rohde & Schwarz     | L.I.S.N.           | ESH2-Z5      | 892107/021            | 2006-3-1                | 2007-3-1                    |

\* Com-Power's LISN were used as the supporting equipment.

\* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

## Test Procedure

During the conducted emission test, the EUT power cord was connected to the outlet of the LISN.

Maximizing procedure were performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak detection mode.

## Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 18, with the worst margin reading of:

**-5.30 dB at 0.450 MHz** in the **Live** conductor mode.

**Test Data****Environmental Conditions**

|                    |         |
|--------------------|---------|
| Temperature:       | 26° C   |
| Relative Humidity: | 54%     |
| ATM Pressure:      | 940mbar |

Testing was performed by Simon Mo on 2006-8-23.

Test mode: On

| Frequency<br>MHz | LINE CONDUCTED EMISSIONS |          |    |                       | FCC Part 18        |     |              |
|------------------|--------------------------|----------|----|-----------------------|--------------------|-----|--------------|
|                  | Amplitude<br>dB $\mu$ V  | Detector |    | Phase<br>Neutral/Live | Limit (dB $\mu$ V) |     | Margin<br>dB |
|                  |                          | QP       | AV |                       | QP                 | AV  |              |
| 0.450            | 42.70                    | QP       | *  | Live                  | 48.00              | N/A | -5.30        |
| 0.450            | 42.50                    | QP       | *  | Neutral               | 48.00              | N/A | -5.50        |
| 0.740            | 39.20                    | QP       | *  | Neutral               | 48.00              | N/A | -8.80        |
| 0.750            | 36.90                    | QP       | *  | Live                  | 48.00              | N/A | -11.10       |
| 1.435            | 32.70                    | QP       | *  | Neutral               | 48.00              | N/A | -15.30       |
| 1.385            | 30.10                    | QP       | *  | Live                  | 48.00              | N/A | -17.90       |
| 4.845            | 24.30                    | QP       | *  | Neutral               | 48.00              | N/A | -23.70       |
| 7.525            | 22.70                    | QP       | *  | Live                  | 48.00              | N/A | -25.30       |
| 23.020           | 22.20                    | QP       | *  | Live                  | 48.00              | N/A | -25.80       |
| 13.565           | 18.60                    | QP       | *  | Neutral               | 48.00              | N/A | -29.40       |
| 2.745            | 28.50                    | QP       | *  | Neutral               | 69.00              | N/A | -40.50       |
| 2.755            | 28.10                    | QP       | *  | Live                  | 69.00              | N/A | -40.90       |

**.REMARKS:**

1. If the data table appeared symbol “\*” means the value was too low and the QP value is under the limit for Average, so the Average level value had been omitted.

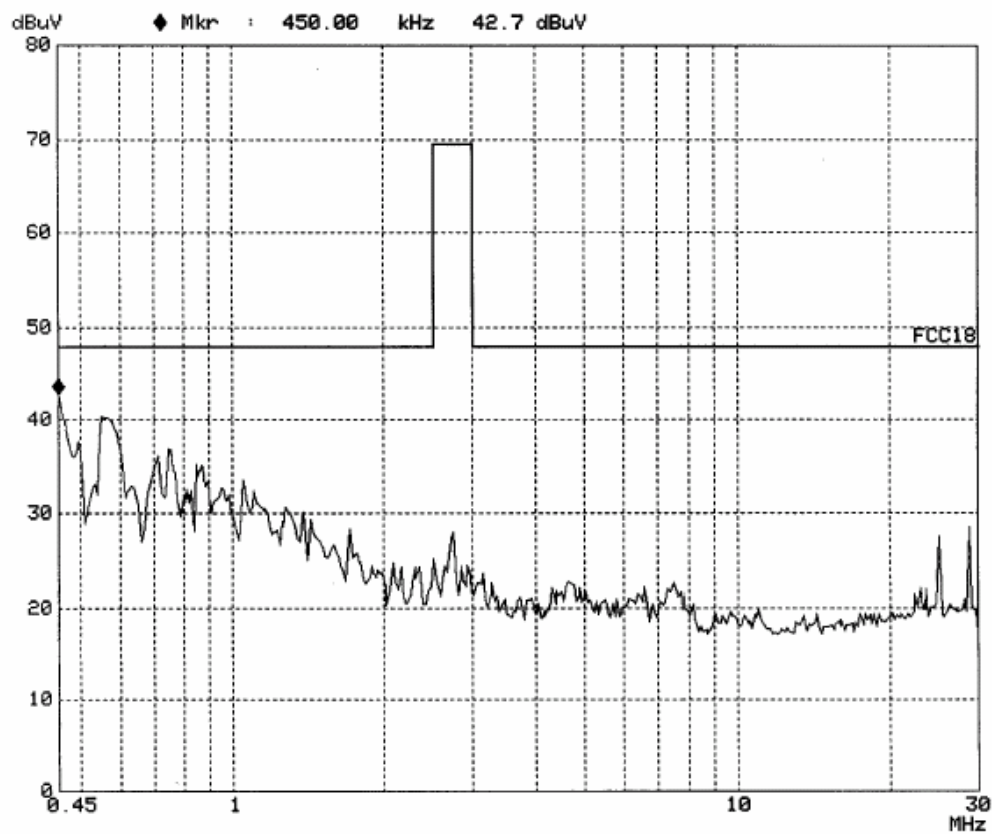
**Plot(s) of Test Data**

Plot(s) of Test Data is presented hereinafter as reference..

# conducted disturbance test

FCC18 ID

EUT: CFL  
Manuf: SUPER TREND LIGHTING  
Op Cond: ON  
Operator: SIMON  
Test Spec: AC 120V/60Hz L  
Comment: Temp:27 Humi:60%  
Date: 23. Aug 06 20:33



conducted disturbance test  
FCC18 ID

EUT: CFL  
Manuf: SUPER TREND LIGHTING  
Op Cond: ON  
Operator: SIMON  
Test Spec: AC 120V/60Hz N  
Comment: Temp:27 Humi:60%  
Date: 23. Aug 06 20:08

