

FCC PART 18

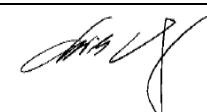
EMI MEASUREMENT AND TEST REPORT

For
Dongguan City Howin Decoration Products Co., Ltd

Xiaohe Industrial Area, Daojiao Town, Dongguang City, Guangdong, China.

FCC ID: **WG5E261326**

Jun 30 , 2009

Product Name:	CFL
Model No:	HW-E26-13W/HW-E26-26W
Sample Received Date:	Jun 10, 2008
Test Performed Date:	Jun 16, 2008
Test Engineer:	Paul Tan 
Reviewed By:	Chris Zeng 
Prepared By:	BEST Test Service Shenzhen Co., Ltd. C, 310-316, Huameiju Business Center, 82 Block, Baoan District, Shenzhen, China TEL: +86-755-28236006 FAX: +86-755-28236249 Email: certification@bestcert.cn

Note: This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of BEST Test Service Shenzhen Co., Ltd. This test report contains data that are not covered by NVLAP accreditation. This report **must not** be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

TABLE OF CONTENTS

GENERAL INFORMATION	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
TEST FACILITY.....	3
SYSTEM TEST CONFIGURATION.....	4
JUSTIFICATION.....	4
SCHEMATICS / BLOCK DIAGRAM.....	4
EQUIPMENT MODIFICATIONS	4
CONFIGURATION OF TEST SYSTEM	4
TEST SETUP BLOCK DIAGRAM.....	4
CONDUCTED EMISSIONS TEST DATA.....	5
APPLICABLE STANDARD.....	5
MEASUREMENT UNCERTAINTY	5
EUT SETUP	5
TEST EQUIPMENTS.....	6
TEST PROCEDURE	6
SUMMARY OF TEST RESULTS	6
CONDUCTED EMISSIONS TEST DATA AND PLOTS.....	6

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The Dongguan City Howin Decoration Products Co., Ltd's model HW-E26-13W/HW-E26-26W or the "EUT" as referred to in this report are CFL, rated input voltage: AC 120V/60Hz. operation frequency between 40 KHz to 60 KHz.

Model	HW-E26-13W	Electrical Power	13W
Model	HW-E26-26W	Electrical Power	26W

The test data was only good for the test sample. It may have deviation for other test sample.

Objective

The following test report is prepared on behalf of Dongguan City Howin Decoration Products Co., Ltd. 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 demonstrate compliance with FCC Part 18 limit requirements for Industrial, Scientific, and Medical Equipment.

Related Submittal(s)/Grant(s)

No Related Submittals.

Test Methodology

All measurements contained in this report were conducted with MP-5 1986, FCC Method of measurements of radio noise emission from Industrial, Scientific and Medical equipments.

Test Facility

All measurement facilities used to collect the data are located at Huatongwei Building, Keji Rd, 12 S, high-Tech Park, Nanshan District, Shenzhen, China.

The sites are constructed in conformance with the requirements of ANSI C63.7/634 and CISPR 22, The site was accredited by FCC (662850), A2LA(2243.01) and CNAL (L1225)

SYSTEM TEST CONFIGURATION

Justification

The EUT was tested under normal mode as used by a common (typical) user.

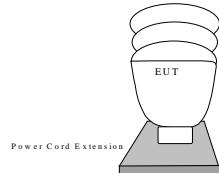
Schematics / Block Diagram

N/A

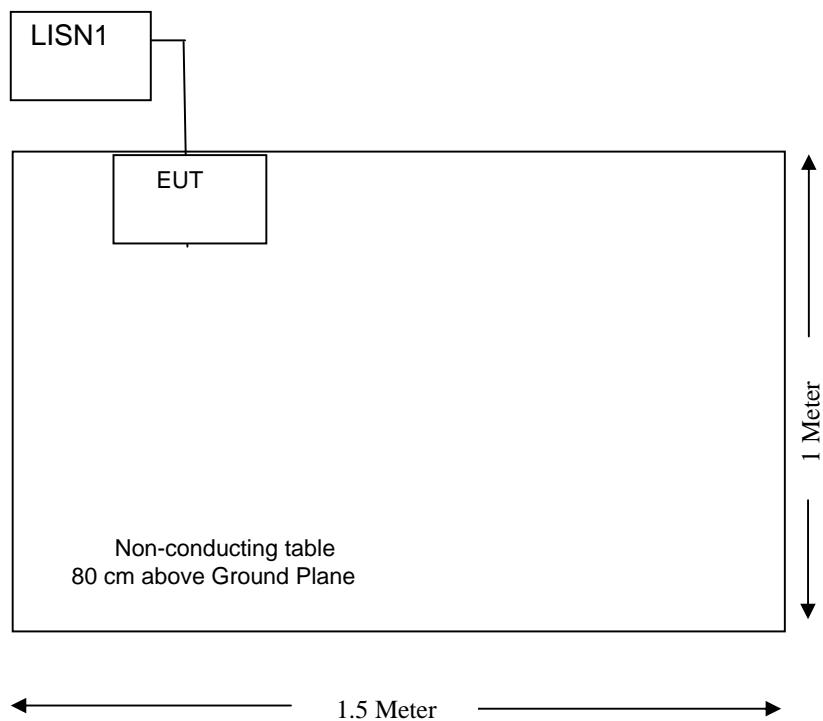
Equipment Modifications

No modifications were made by BEST TEST SERVICE (SHENZHEN) CO., LTD. to ensure the EUT to comply with the application limits and requirements.

Configuration of Test System



Test Setup Block Diagram



CONDUCTED EMISSIONS TEST DATA

Applicable Standard

For the following equipment, when designed to be connected to the public utility (AC) power line the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies shall not exceed the limits in the following tables. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal using a 50 μ H/50 ohms line impedance stabilization network (LISN).

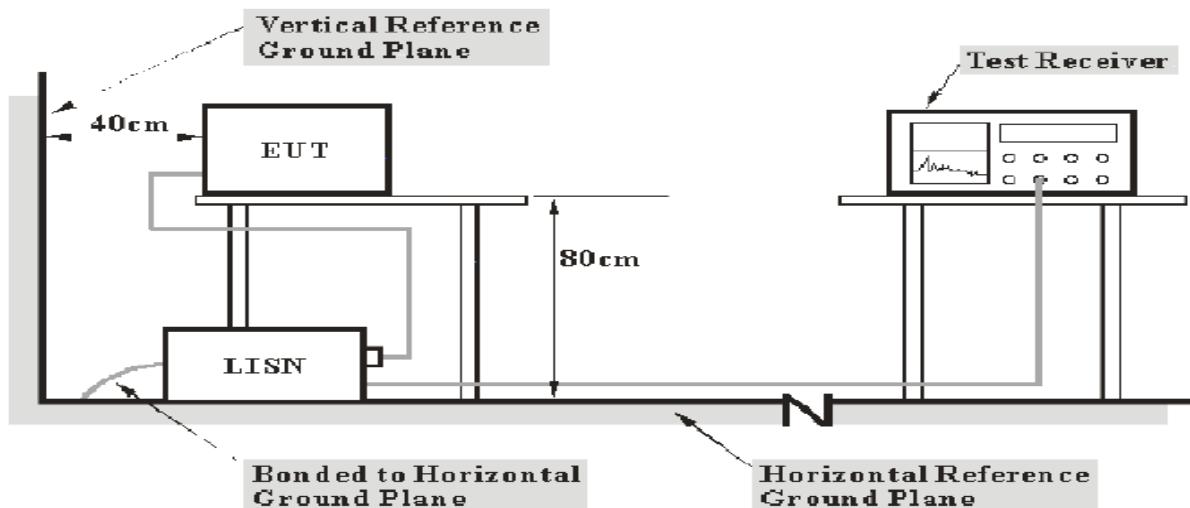
Frequency Range (MHz)	Max RF Voltage (uV)	Max RF Voltage (dBuV)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMI. The factors contributing to uncertainties are EMI Test Receiver, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMI Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BEST TEST SERVICE (SHENZHEN) CO., LTD. is ± 2.0 dB.

EUT Setup



Note:

1. Support units were connected to second LISN.
2. Both of LISNs (AMIN) 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 measurement procedure. The specification used was the FCC Part 18 limits. The EUT was connected to the power cord extension and placed on the left of the back edge on the test table. The power cord extension was connected with 120 VAC/60 Hz power source.

Test Equipments

Manufacturer	Description	Model	Serial Number	Cal. Date	Cal. Due.Date
ROHDE & SCHWARZ	EMI TEST RECEIVER	ESCS30	100038	2007-08-05	2008-08-05
ROHDE & SCHWARZ	L.I.S.N	ESH2-Z5	100028	2007-08-05	2008-08-05
ROHDE & SCHWARZ	Pulse Limiter	ESHSZ2	100044	2007-08-05	2008-08-05

Statement of traceability: BEST attests that all calibrations have been performed per the CNAL /A2LA requirements, traceable to NIM China

Test Procedure

During the conducted emission test, the power cord of the power cord extension was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions to ensure that the EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within 4 dB μ V of specification limits). Quasi-peak readings are distinguished with a "Qp". The EUT was tested under the normal modes during the final qualification test to represent the worst-case results.

Summary of Test Results

Pass

The EUT complied with the FCC 18 Conducted margin for industry, scientific and medical device, and with the worst margin reading of:

4.8 dB μ V at 0.0.508 MHz in the Neutral mode for HW-E26-13W

4.5 dB μ V at 0.884 MHz in the live mode for HW-E26-26W

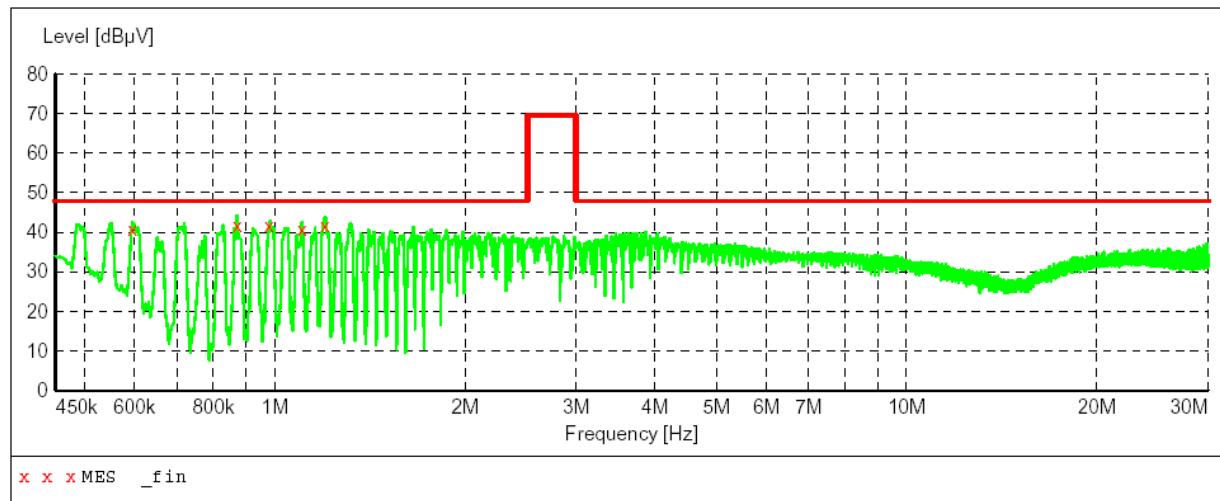
Conducted Emissions Test Data and Plots

BEST TEST SERVICE SHENZHEN CO., LTD**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:HW-E26-26W
Manufacturer: Howin
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 06/23/2009

SCAN TABLE: "FCC 18 LIGHT FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

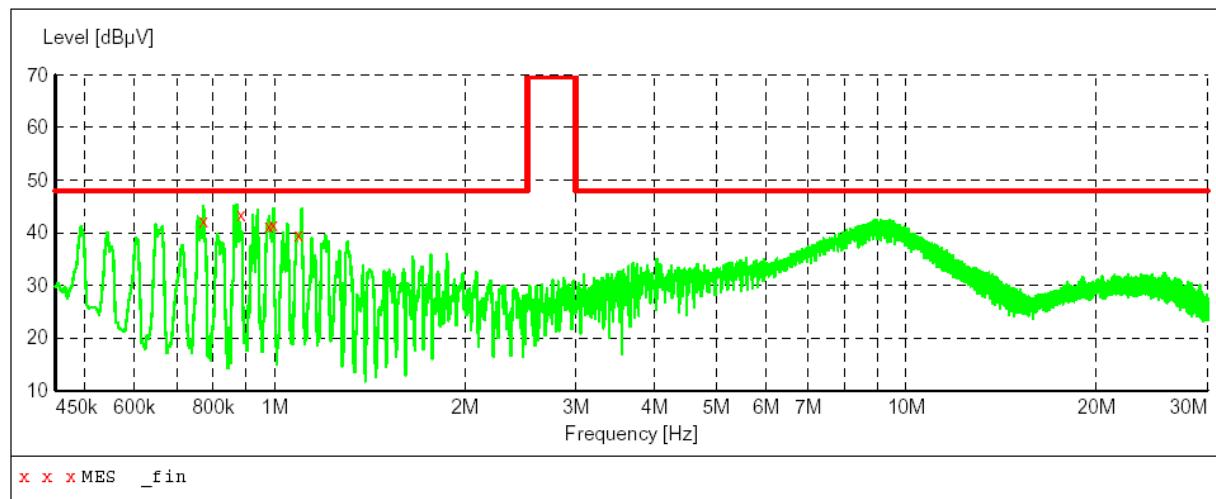
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.596000	40.60	10.4	48	7.3	QP	N	GND
0.872000	41.70	10.4	48	6.2	QP	N	GND
0.980000	41.70	10.5	48	6.2	QP	N	GND
1.104000	40.80	10.5	48	7.1	QP	N	GND
1.200000	41.80	10.5	48	6.1	QP	N	GND

BEST TEST SERVICE SHENZHEN CO., LTD**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:HW-E26-26W
 Manufacturer: Howin
 Operating Condition: ON
 Test Site: 3# SHIELDED ROOM
 Operator: BYRON
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 06/23/2009

SCAN TABLE: "FCC 18 LIGHT FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

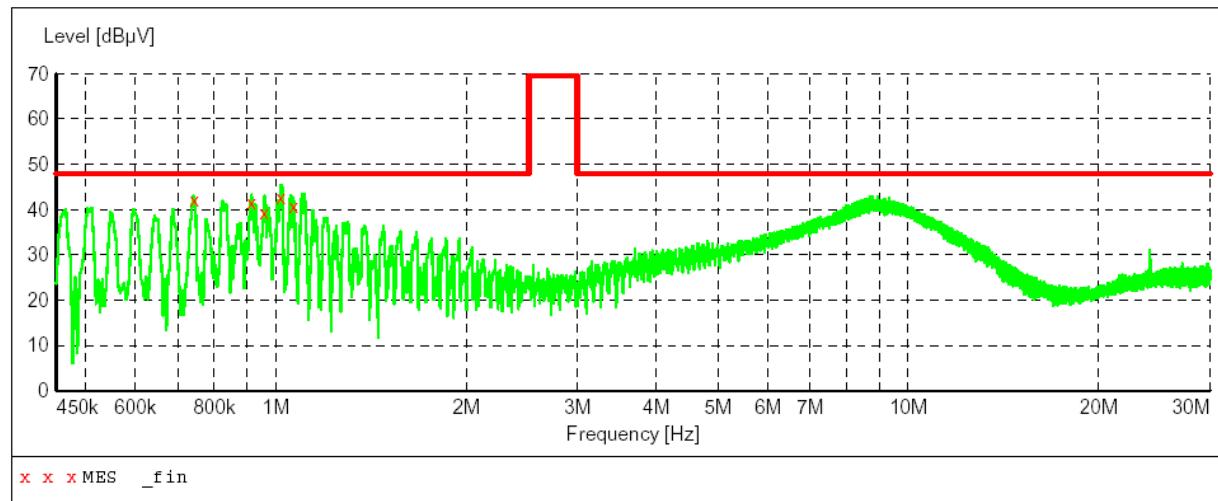
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.772000	42.20	10.4	48	5.7	QP	L1	GND
0.884000	43.40	10.4	48	4.5	QP	L1	GND
0.980000	41.30	10.5	48	6.6	QP	L1	GND
0.996000	41.50	10.5	48	6.4	QP	L1	GND
1.092000	39.50	10.5	48	8.4	QP	L1	GND

BEST TEST SERVICE SHENZHEN CO., LTD**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:HW-E26-13W
 Manufacturer: Howin
 Operating Condition: ON
 Test Site: 3# SHIELDED ROOM
 Operator: BYRON
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 06/23/2009

SCAN TABLE: "FCC 18 LIGHT FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

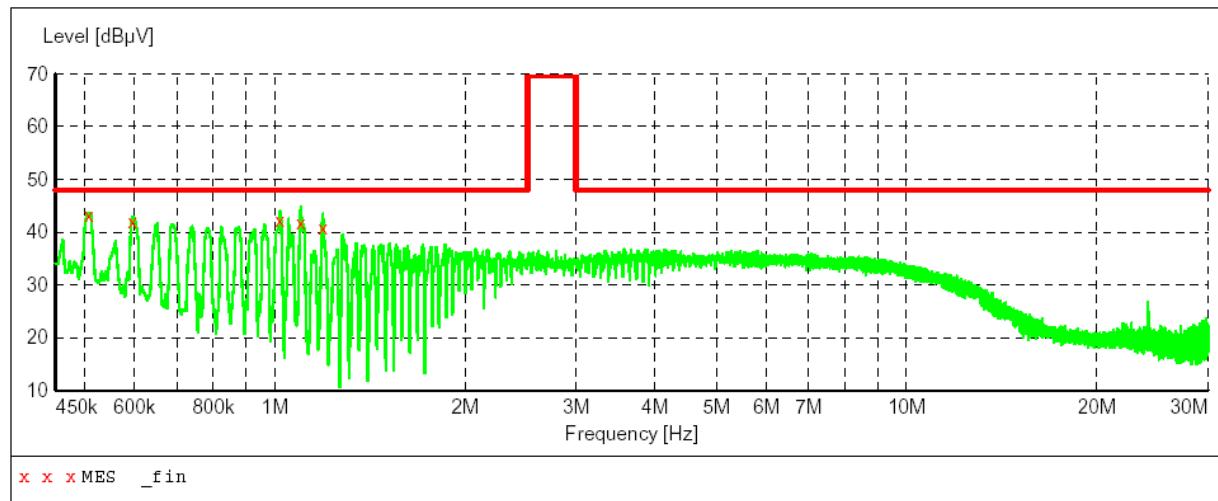
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.744000	42.00	10.4	48	5.9	QP	L1	GND
0.916000	41.50	10.4	48	6.4	QP	L1	GND
0.960000	39.30	10.5	48	8.6	QP	L1	GND
1.020000	42.80	10.5	48	5.1	QP	L1	GND
1.068000	40.80	10.5	48	7.1	QP	L1	GND

BEST TEST SERVICE SHENZHEN CO., LTD**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:HW-E26-13W
Manufacturer: Howin
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 06/23/2009

SCAN TABLE: "FCC 18 LIGHT FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.508000	43.10	10.4	48	4.8	QP	N	GND
0.596000	42.10	10.4	48	5.8	QP	N	GND
1.020000	42.30	10.5	48	5.6	QP	N	GND
1.100000	41.80	10.5	48	6.1	QP	N	GND
1.192000	40.90	10.5	48	7.0	QP	N	GND