

FCC PART 18

EMI MEASUREMENT AND TEST REPORT

For

JIANGXI ELEGANT LIGHTING CO., LTD

No.731 Xihou street,Guixi city,Jiangxi,China

FCC ID: VGZSEMSCE01

Product Name: CFL

Model No: SCE-23W/SCE-20W/SEM-13W/SEM-9W

Sample
Received Date: Sep 07, 2007

Test
Performed Date: Sep 08, 2007

Test Engineer: James Tsai 

Reviewed By: Chris Zeng 

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Note: The test report is specially limited to the above company and the product model only, it may not be duplicated without prior written consent of Best Test Service (Shenzhen) Co., Ltd.

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The JIANGXI ELEGANT LIGHTING CO., LTD's model SCE-23W/SCE-20W/SEM-13W/SEM-9W or the "EUT" as referred to in this report are CFL, rated input voltage: AC 120V/60Hz.

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 JIANGXI ELEGANT LIGHTING 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.

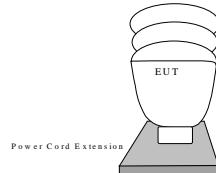
Schematics / Block Diagram

N/A.

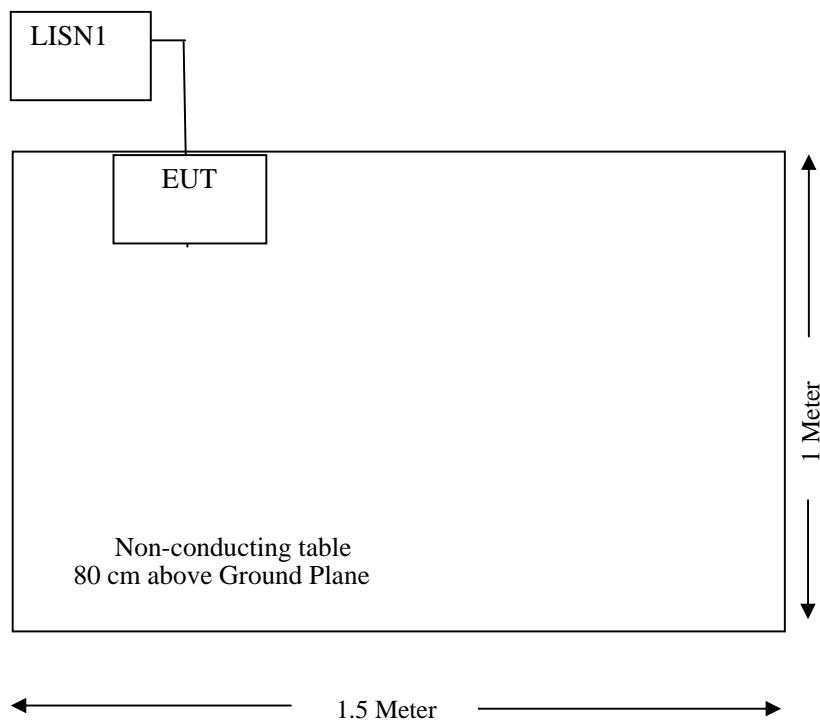
Equipment Modifications

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).

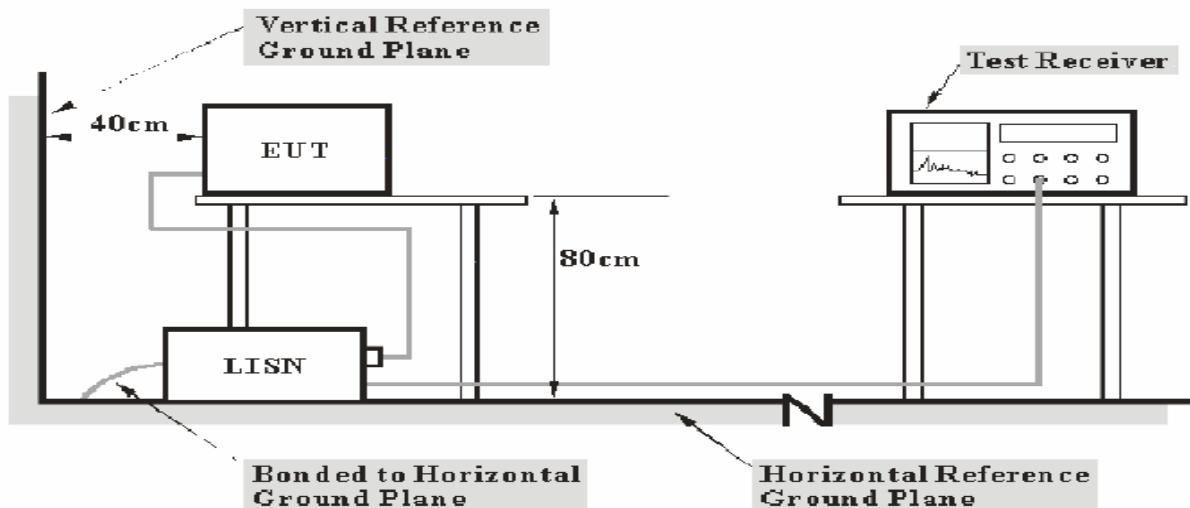
Frequency Range (MHz)	Max RF Voltage (uV)	Max RF Voltage (dBuV)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

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

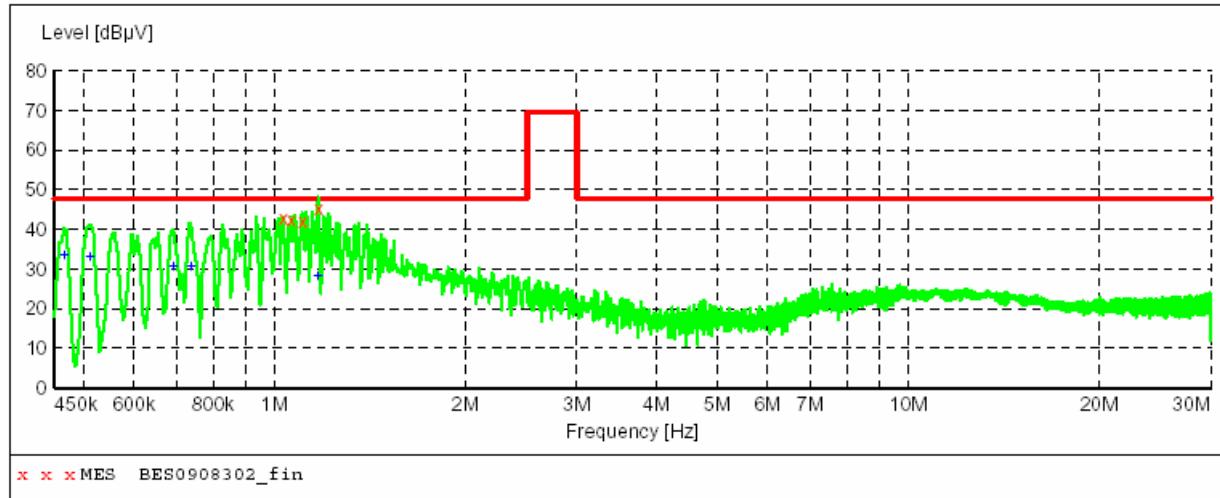
The EUT complied with the FCC 18 Conducted margin for industry, scientific and medical device, and with the worst margin reading of:

2.7 dB at 1.172 MHz in the live mode for SCE-23W
4.5 dB at 1.058 MHz in the live mode for SCE-20W
13.1 dB at 0.486 MHz in the Neutral mode for SEM-13W
2.8 dB at 0.47 MHz in the Neutral mode SEM-9W

Conducted Emissions Test Data and Plots

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

EUT: CFL M/N:SCE-23W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 3:52:00PM

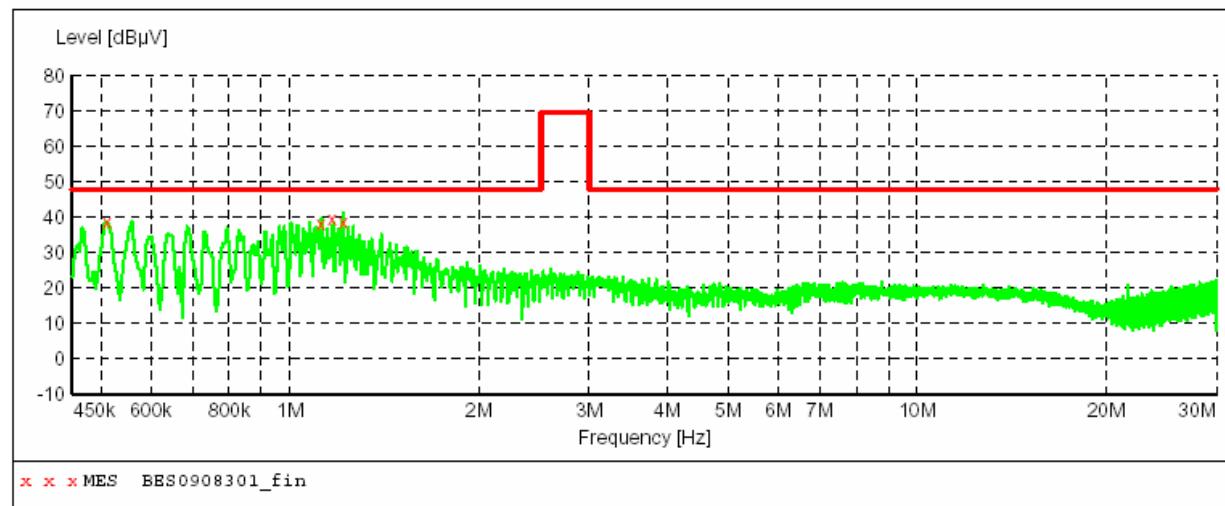
SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage**MEASUREMENT RESULT: "BES0908302_fin"**

9/8/2007 3:54PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
1.034000	42.90	10.2	48	5.0	QP	L1	GND
1.064000	42.60	10.2	48	5.3	QP	L1	GND
1.106000	41.90	10.2	48	6.0	QP	L1	GND
1.172000	45.20	10.2	48	2.7	QP	L1	GND

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

EUT: CFL M/N:SCE-23W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 3:47:19PM

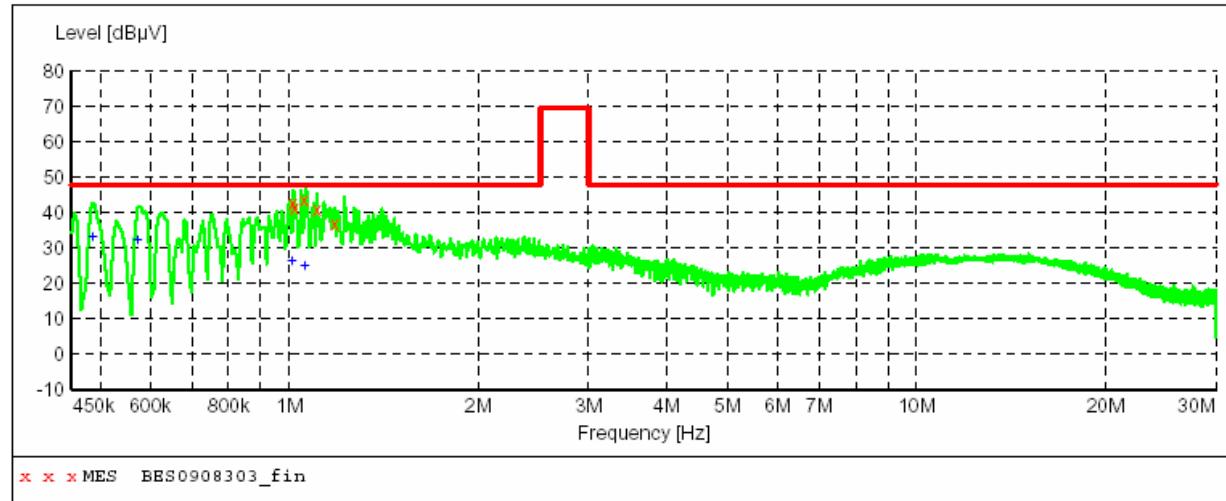
SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage**MEASUREMENT RESULT: "BES0908301_fin"**

9/8/2007 3:49PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.512000	38.60	10.1	48	9.3	QP	N	GND
1.118000	38.30	10.2	48	9.6	QP	N	GND
1.166000	39.60	10.2	48	8.3	QP	N	GND
1.214000	38.50	10.2	48	9.4	QP	N	GND

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

EUT: CFL M/N:SCE-20W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 3:55:33PM

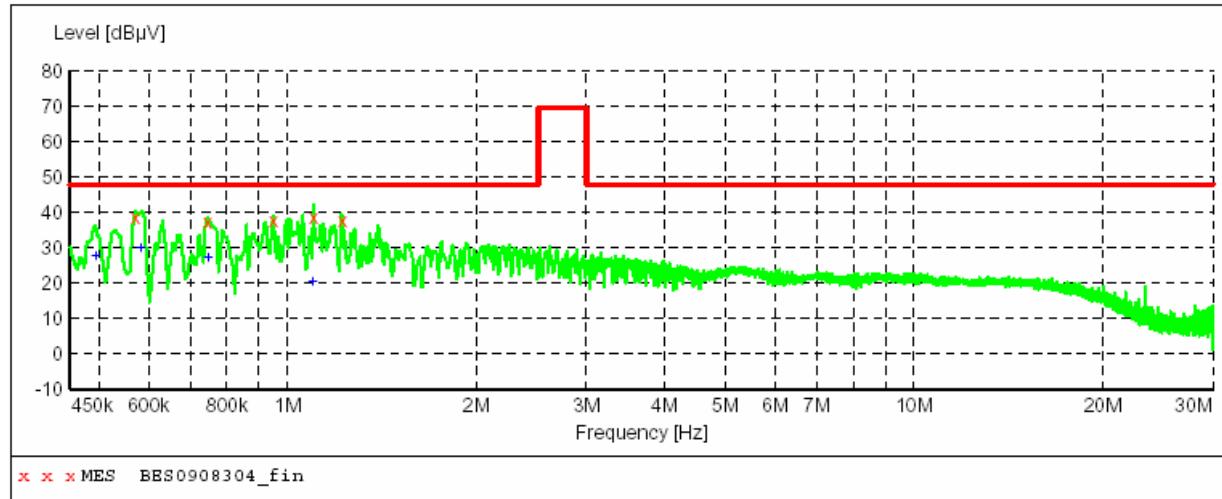
SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage**MEASUREMENT RESULT: "BES0908303_fin"**

9/8/2007 3:57PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
1.010000	42.80	10.2	48	5.1	QP	L1	GND
1.016000	41.40	10.2	48	6.5	QP	L1	GND
1.058000	43.40	10.2	48	4.5	QP	L1	GND
1.106000	40.90	10.2	48	7.0	QP	L1	GND
1.178000	36.60	10.2	48	11.3	QP	L1	GND

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

EUT: CFL M/N:SCE-20W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 3:58:16PM

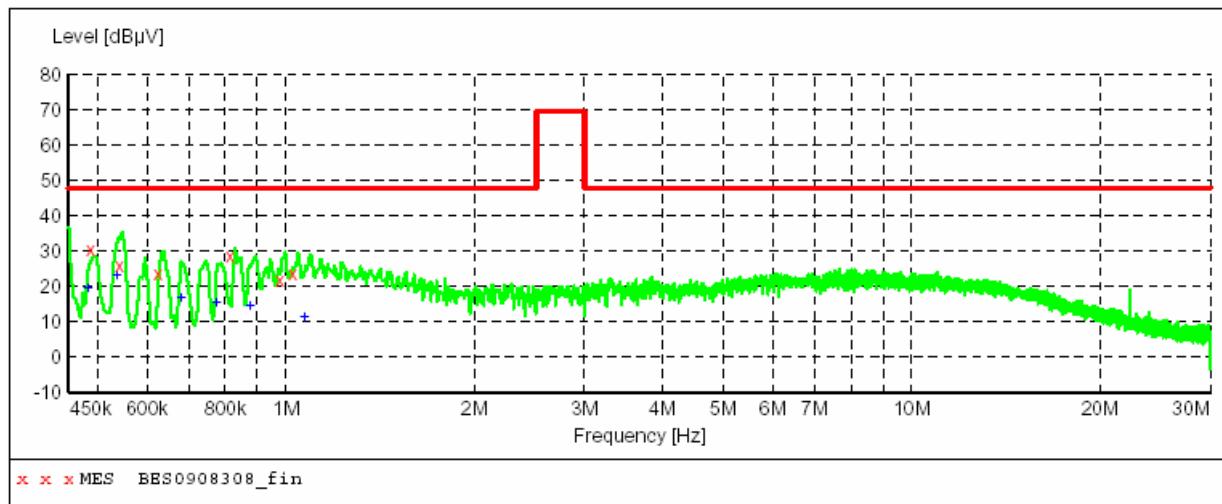
SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage**MEASUREMENT RESULT: "BES0908304_fin"**

9/8/2007 4:00PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.572000	38.60	10.1	48	9.3	QP	N	GND
0.746000	37.30	10.1	48	10.6	QP	N	GND
0.950000	37.90	10.2	48	10.0	QP	N	GND
1.100000	38.60	10.2	48	9.3	QP	N	GND
1.220000	37.60	10.2	48	10.3	QP	N	GND

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

EUT: CFL M/N:SEM-13W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 4:10:20PM

SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage**MEASUREMENT RESULT: "BES0908308_fin"**

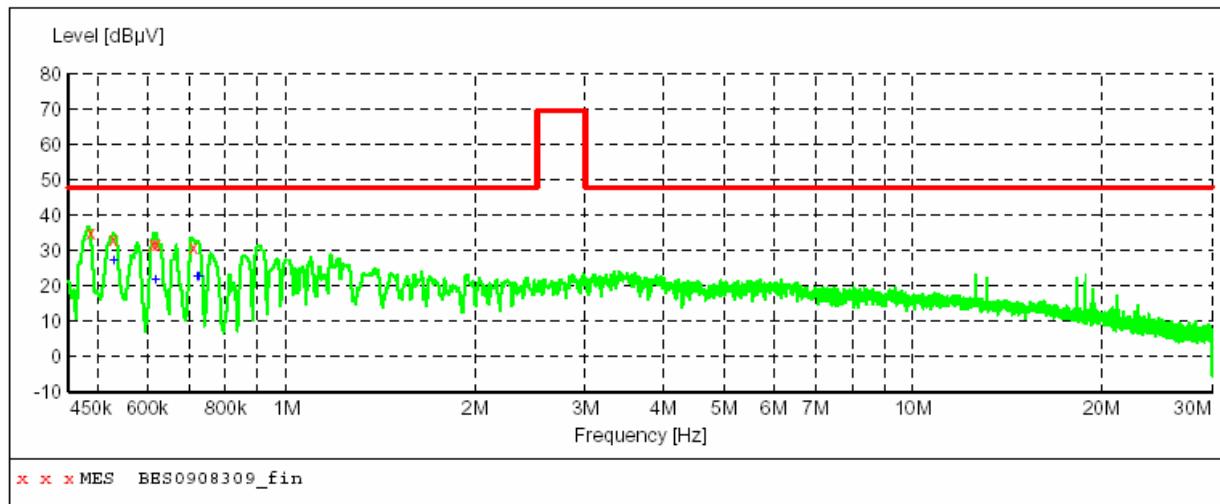
9/8/2007 4:12PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.486000	30.60	10.1	48	17.3	QP	L1	GND
0.542000	25.90	10.1	48	22.0	QP	L1	GND
0.626000	23.80	10.1	48	24.1	QP	L1	GND
0.812000	28.80	10.1	48	19.1	QP	L1	GND
0.980000	22.00	10.2	48	25.9	QP	L1	GND
1.022000	23.50	10.2	48	24.4	QP	L1	GND

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

EUT: CFL M/N:SEM-13W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 4:13:00PM

SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0908309_fin"**

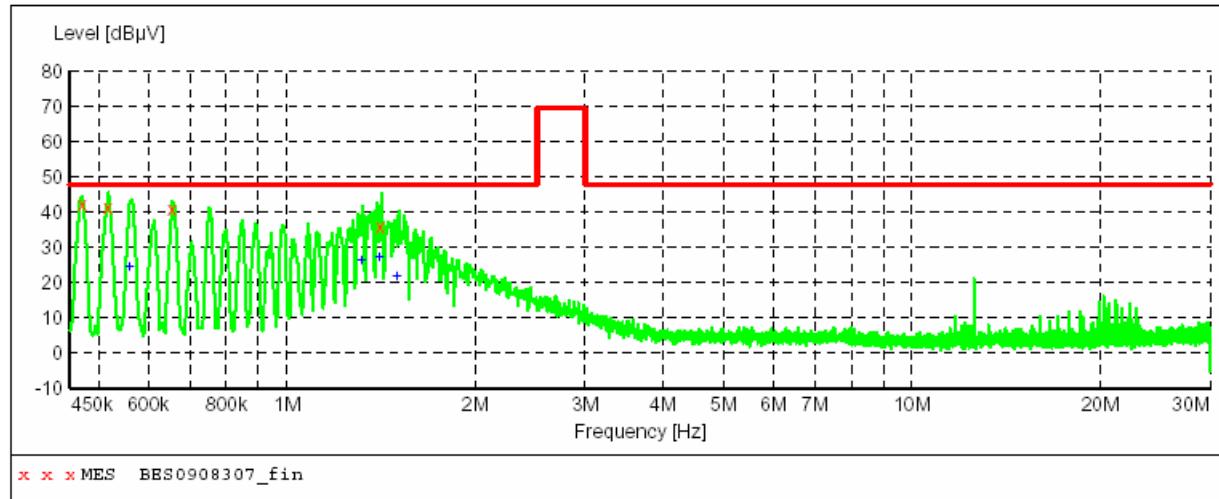
9/8/2007 4:15PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.486000	34.80	10.1	48	13.1	QP	N	GND
0.530000	33.20	10.1	48	14.7	QP	N	GND
0.614000	31.70	10.1	48	16.2	QP	N	GND
0.620000	31.60	10.1	48	16.3	QP	N	GND
0.710000	31.10	10.1	48	16.8	QP	N	GND

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

EUT: CFL M/N:SEM-9W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 4:07:00PM

SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0908307_fin"**

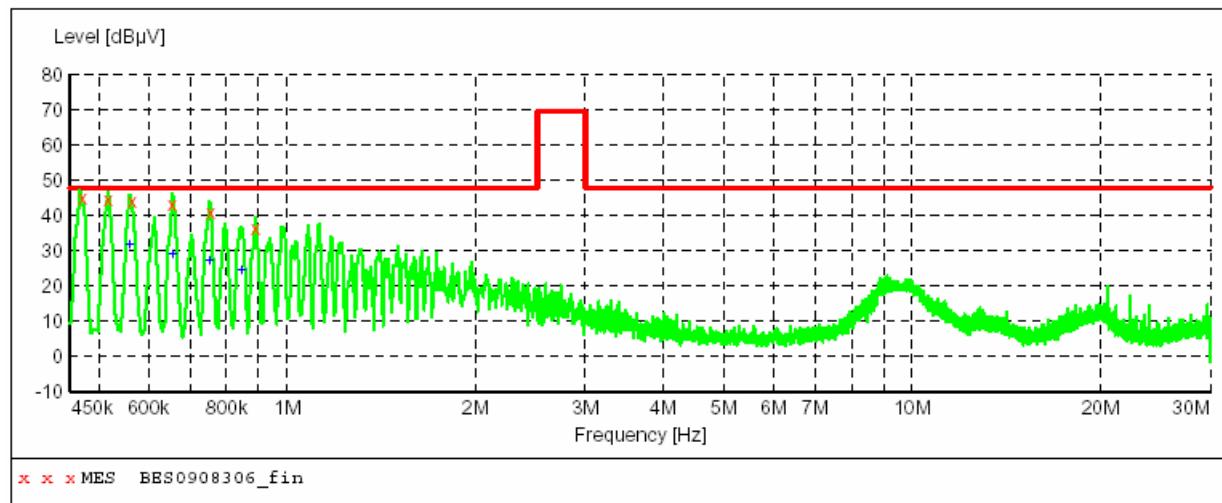
9/8/2007 4:09PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.470000	42.10	10.1	48	5.8	QP	L1	GND
0.518000	41.30	10.1	48	6.6	QP	L1	GND
0.656000	40.90	10.1	48	7.0	QP	L1	GND
1.406000	35.90	10.2	48	12.0	QP	L1	GND

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

EUT: CFL M/N:SEM-9W
Manufacturer: ELEGANT
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: BYRON
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/8/2007 / 4:04:13PM

SCAN TABLE: "Voltage (9K-30M) FIN"
Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0908306_fin"**

9/8/2007 4:06PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.470000	45.10	10.1	48	2.8	QP	N	GND
0.518000	44.70	10.1	48	3.2	QP	N	GND
0.566000	44.30	10.1	48	3.6	QP	N	GND
0.656000	43.00	10.1	48	4.9	QP	N	GND
0.752000	40.70	10.1	48	7.2	QP	N	GND
0.890000	36.20	10.1	48	11.7	QP	N	GND