FCC PART 18

EMI MEASUREMENT AND TEST REPORT

For

Shang Hai Ming Dai Electrics & Appliance Co., Ltd

2481jiatang Road, Jiading District, Shanghai City, China.

FCC ID: VCZMSGMHSG

Product Name:	Self-Ballasted Lamp
Model No:	MSG26W/MSG23W/MSG18W/ MHSG26W/MHSG18W/MHSG13W
Sample Received Date:	May 27 2007
Test Performed Date:	May 28, 2007
Test Engineer:	Paul Tan 
Reviewed By:	Chris Zeng 
Prepared By:	BEST Test Service (Shenzhen) Co., Ltd Flat 11E, Xinhaofang Building, 11018, Shennan Road, Nanshan District, Shenzhen, 518057, China Tel: +86-755-86182350 Fax: +86-755-86182353

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The Shang Hai Ming Dai Electrics & Appliance Co., Ltd 's model MSG26W/MSG23W/MSG18W/MHSG26W/MHSG18W/MHSG13Wor the "EUT" as referred to in this report is Self-Ballasted Lamp, 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 Shang Hai Ming Dai Electrics & Appliance 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.

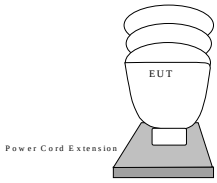
Schematics / Block Diagram

N/A.

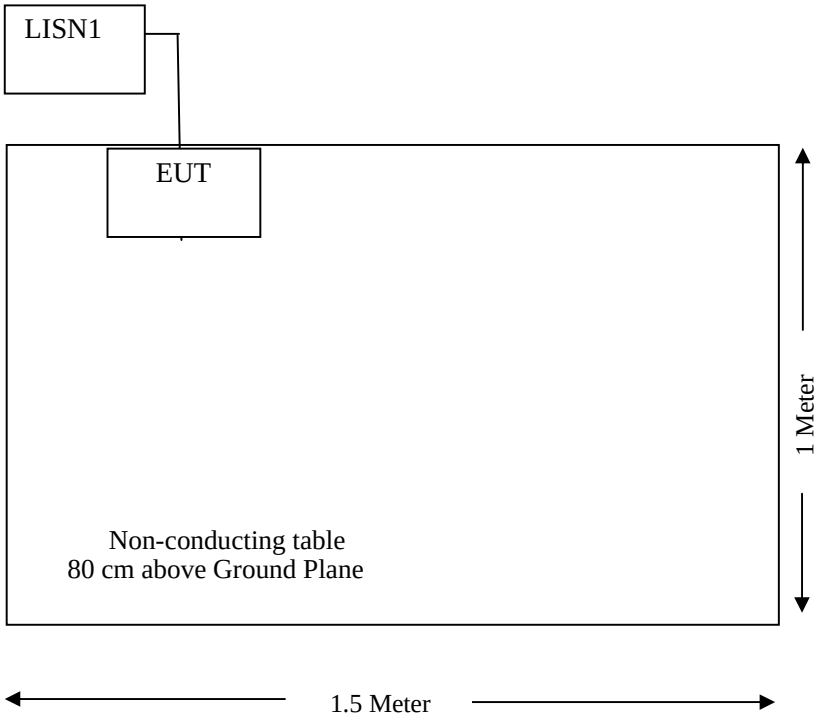
Equipment Modifications

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 µH/50 ohms line impedance stabilization network (LISN).

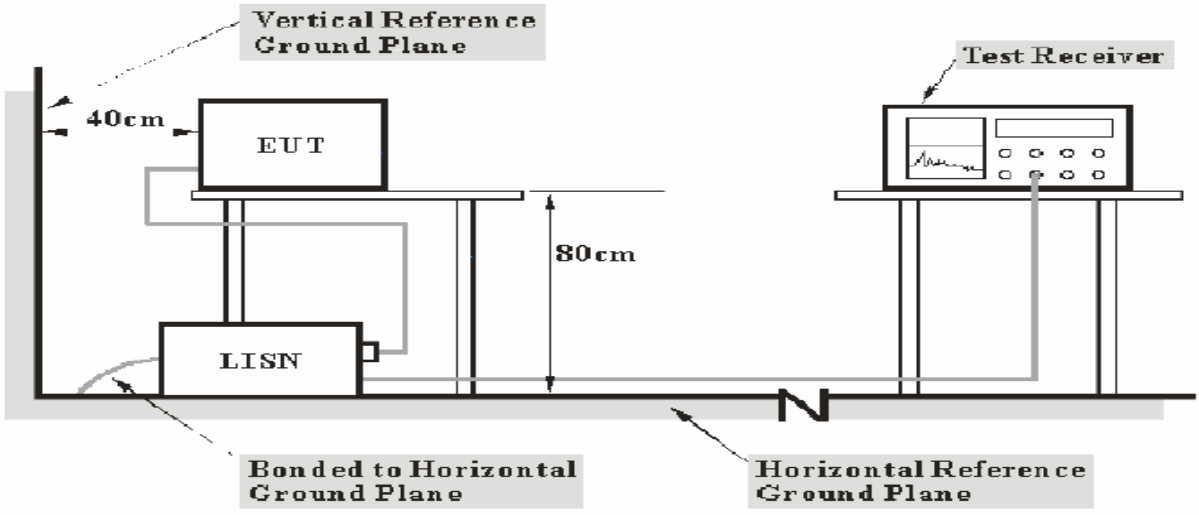
Frequency Range (MHz)	Max RF Voltage (uV)	Max RF Voltage (dBuV)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

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 (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 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	2006-08-05	2007-08-05
ROHDE & SCHWARZ	L.I.S.N	ESH2-Z5	100028	2006-08-05	2007-08-05
ROHDE & SCHWARZ	Pulse Limiter	ESHSZ2	100044	2006-08-05	2007-08-05

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 dBµV 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:

5.3 dBµV at **0.544 MHz** in the **Neutral** mode **for MHSG 26W**
8.0 dBµV at **0.466 MHz** in the **live** mode **for MHSG 18W**
2.0 dBµV at **0.722 MHz** in the **live** mode **for MHSG 13W**
5.6 dBµV at **2.006 MHz** in the **Neutral** mode **for MSG 26W**
8.2 dBµV at **0.762 MHz** in the **live** mode **for MSG 23W**
5.1 dBµV at **2.320 MHz** in the **live** mode **for MSG 18W**

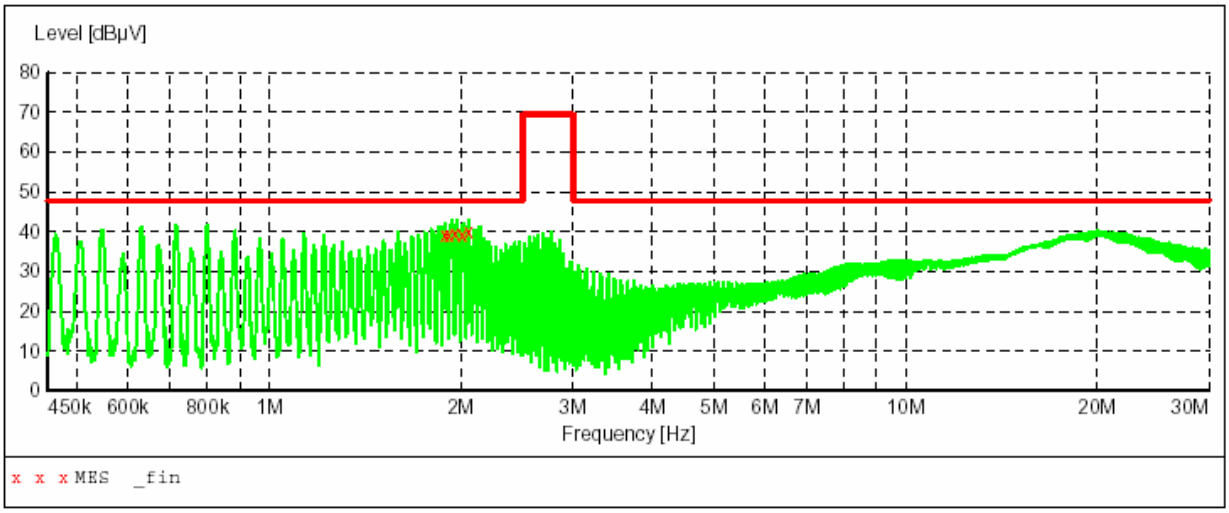
Conducted Emissions Test Data and Plots

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MHSG 26W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

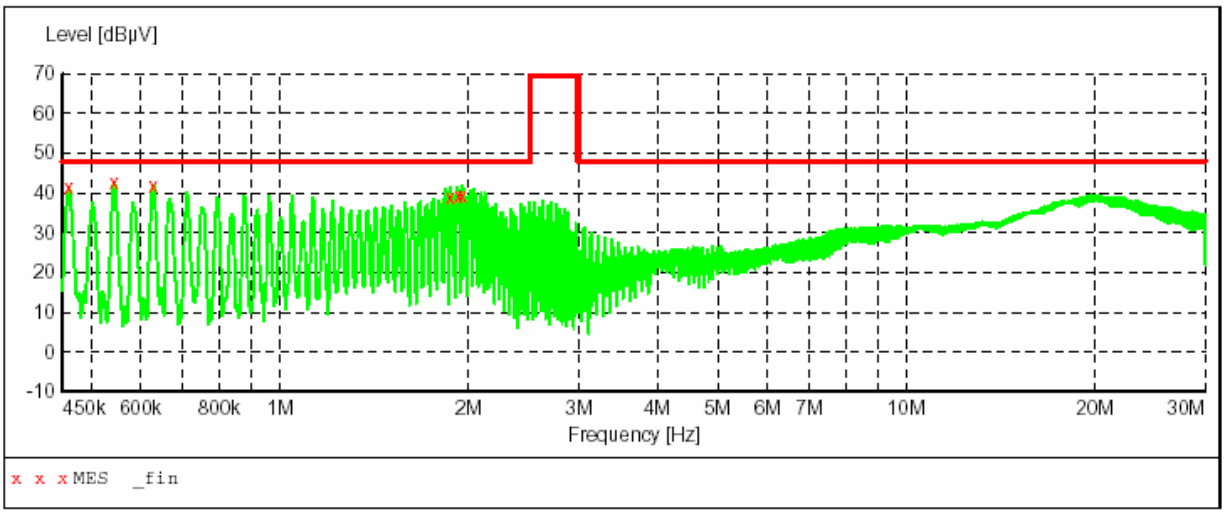
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
1.888000	39.00	10.2	48	8.9	QP	L1	GND
1.920000	39.20	10.2	48	8.7	QP	L1	GND
1.962000	39.50	10.2	48	8.4	QP	L1	GND
2.014000	39.00	10.2	48	8.9	QP	L1	GND
2.056000	40.00	10.2	48	7.9	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MHSG 26W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

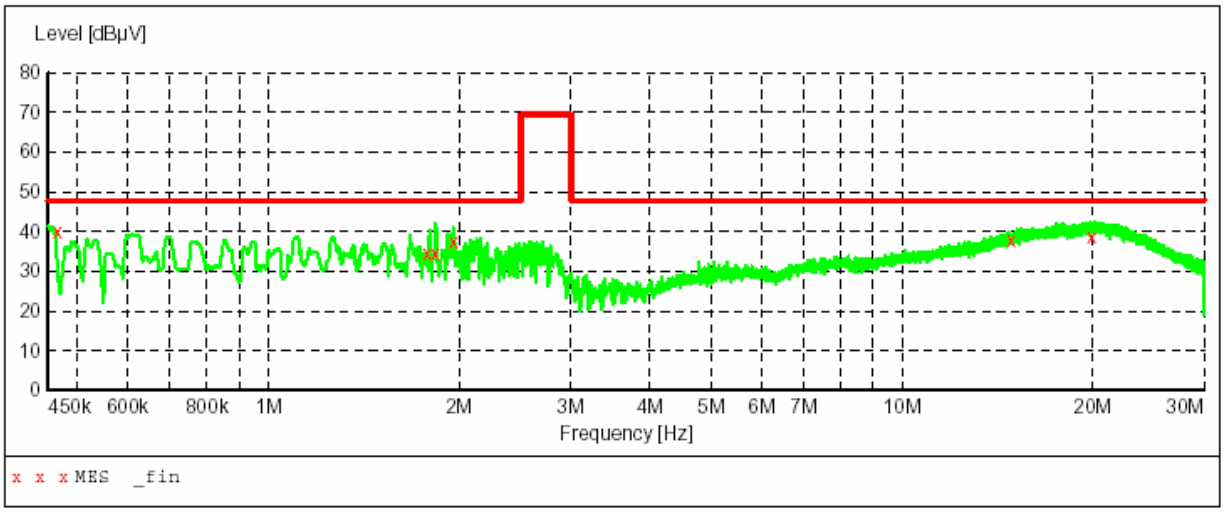
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.460000	41.30	10.1	48	6.6	QP	N	GND
0.544000	42.60	10.1	48	5.3	QP	N	GND
0.628000	41.70	10.1	48	6.2	QP	N	GND
1.872000	38.70	10.2	48	9.2	QP	N	GND
1.928000	39.20	10.2	48	8.7	QP	N	GND
1.956000	39.20	10.2	48	8.7	QP	N	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MHSG 18W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

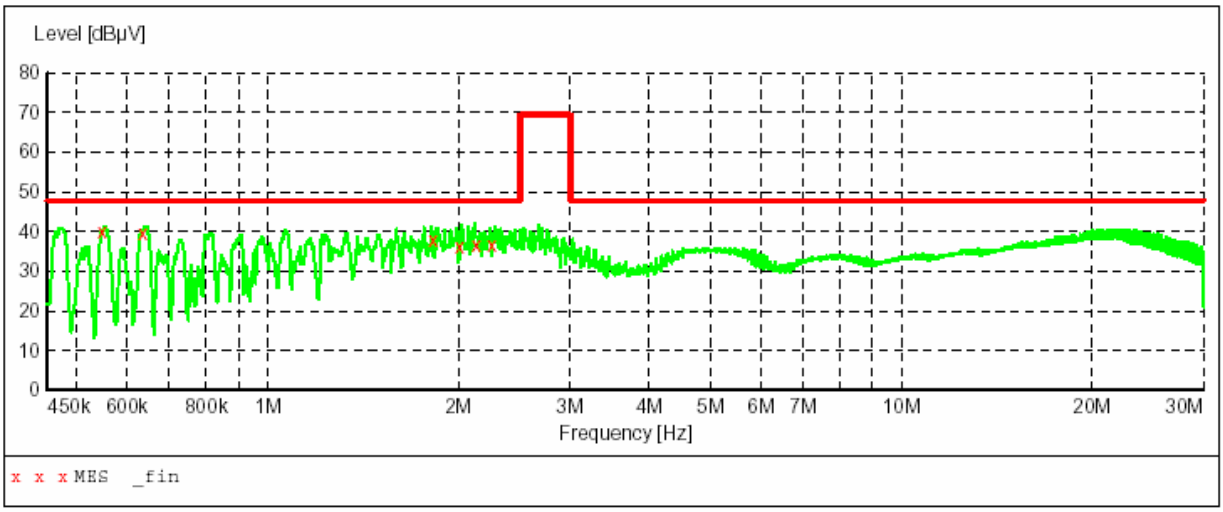
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.466000	39.90	10.1	48	8.0	QP	L1	GND
1.782000	34.30	10.2	48	13.6	QP	L1	GND
1.832000	34.40	10.2	48	13.5	QP	L1	GND
1.958000	37.20	10.2	48	10.7	QP	L1	GND
14.876000	37.90	10.6	48	10.0	QP	L1	GND
19.952000	38.80	11.1	48	9.1	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted LampM/N:MHSG 18W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

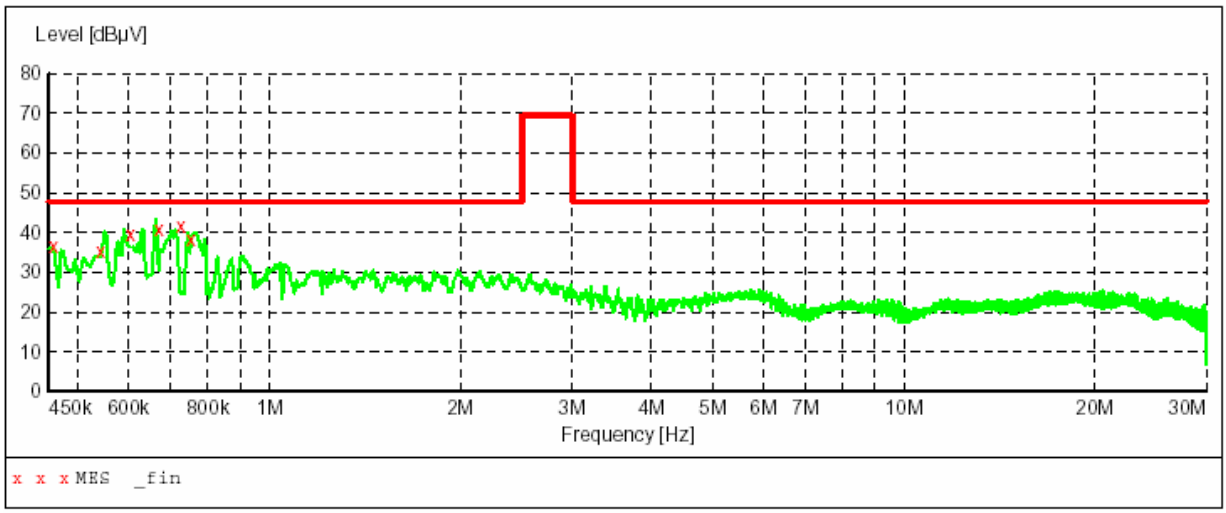
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.548000	39.80	10.1	48	8.1	QP	N	GND
0.636000	39.40	10.1	48	8.5	QP	N	GND
1.826000	37.70	10.2	48	10.2	QP	N	GND
2.012000	36.20	10.2	48	11.7	QP	N	GND
2.136000	36.50	10.2	48	11.4	QP	N	GND
2.266000	36.70	10.2	48	11.2	QP	N	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MHSG 13W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.458000	36.40	10.1	48	11.5	QP	N	GND
0.544000	35.20	10.1	48	12.7	QP	N	GND
0.604000	39.30	10.1	48	8.6	QP	N	GND
0.670000	40.60	10.1	48	7.3	QP	N	GND
0.726000	41.50	10.1	48	6.4	QP	N	GND
0.752000	38.30	10.1	48	9.6	QP	N	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MHSG 13W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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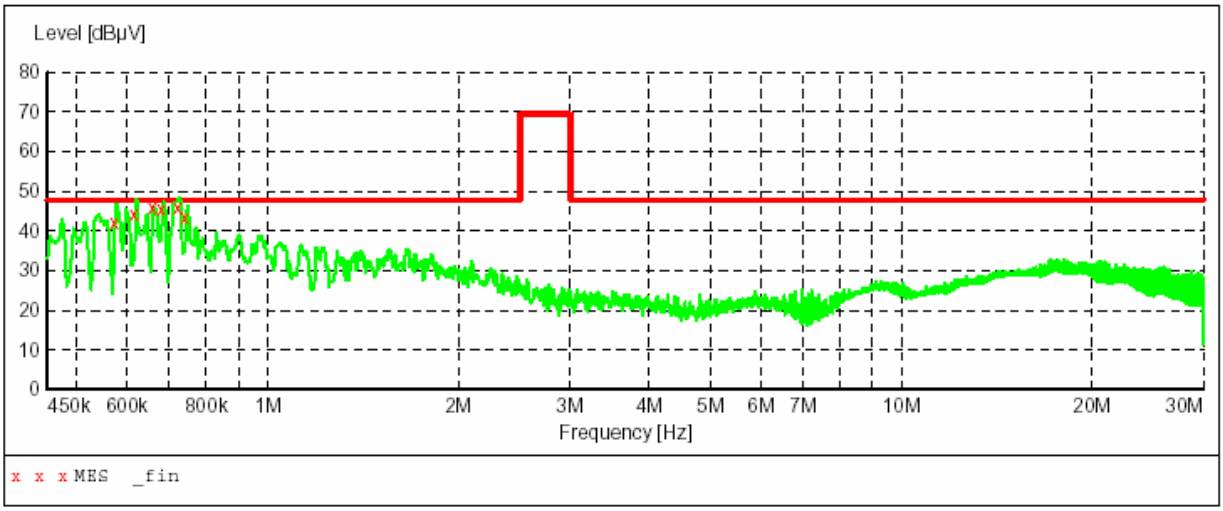


MEASUREMENT RESULT:

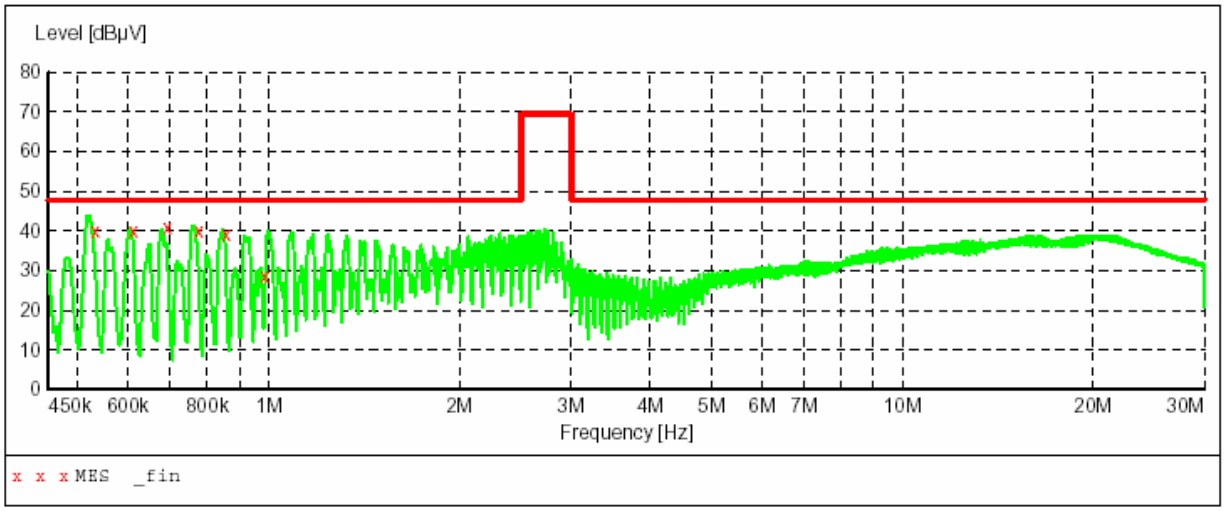
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.574000	41.80	10.1	48	6.1	QP	L1	GND
0.616000	44.10	10.1	48	3.8	QP	L1	GND
0.658000	45.70	10.1	48	2.2	QP	L1	GND
0.680000	45.30	10.1	48	2.6	QP	L1	GND
0.722000	45.90	10.1	48	2.0	QP	L1	GND
0.740000	43.40	10.1	48	4.5	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MSG 26W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

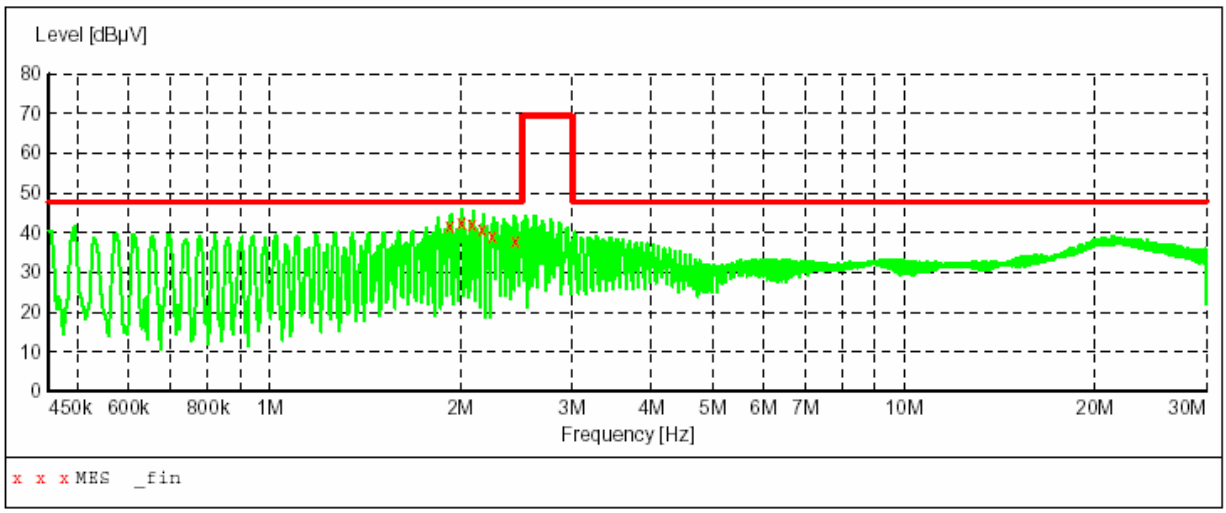
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.534000	39.70	10.1	48	8.2	QP	L1	GND
0.612000	39.70	10.1	48	8.2	QP	L1	GND
0.694000	40.70	10.1	48	7.2	QP	L1	GND
0.776000	40.10	10.1	48	7.8	QP	L1	GND
0.858000	39.10	10.1	48	8.8	QP	L1	GND
0.986000	28.60	10.2	48	19.3	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MSG 26W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

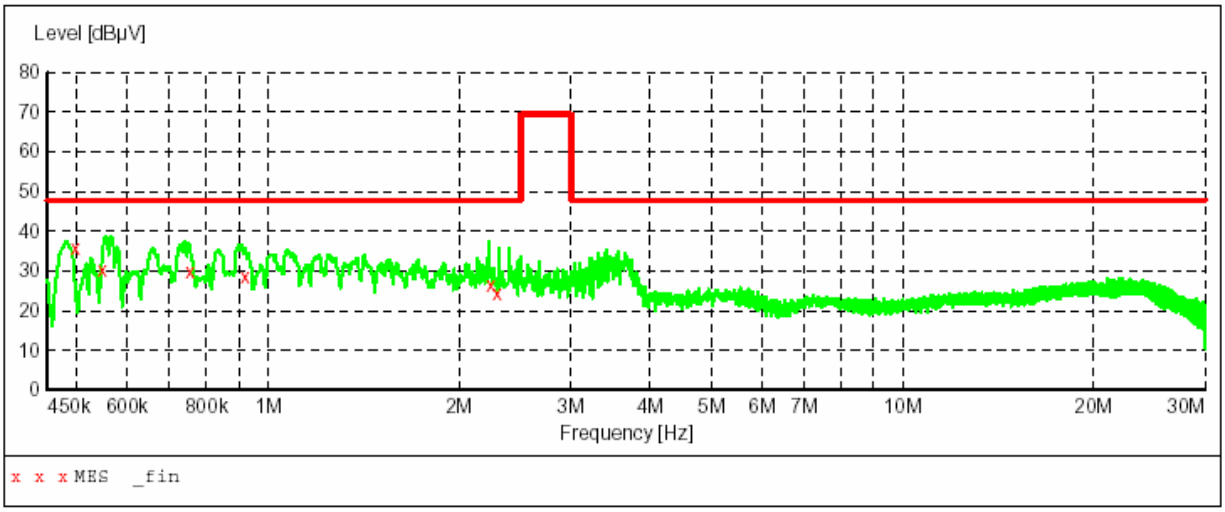
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
1.924000	41.40	10.2	48	6.5	QP	N	GND
2.006000	42.30	10.2	48	5.6	QP	N	GND
2.088000	42.10	10.2	48	5.8	QP	N	GND
2.170000	40.90	10.2	48	7.0	QP	N	GND
2.252000	39.00	10.2	48	8.9	QP	N	GND
2.438000	37.90	10.2	48	10.0	QP	N	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MSG 23W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

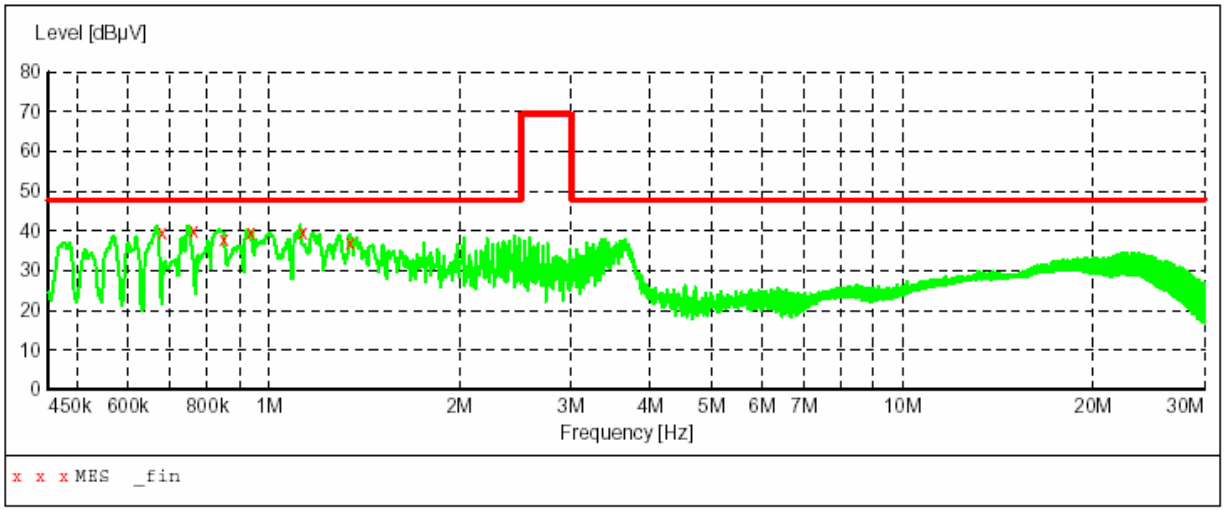
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.498000	35.50	10.1	48	12.4	QP	N	GND
0.548000	30.20	10.1	48	17.7	QP	N	GND
0.756000	29.70	10.1	48	18.2	QP	N	GND
0.920000	28.60	10.1	48	19.3	QP	N	GND
2.248000	26.20	10.2	48	21.7	QP	N	GND
2.296000	24.30	10.2	48	23.6	QP	N	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MSG 23W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

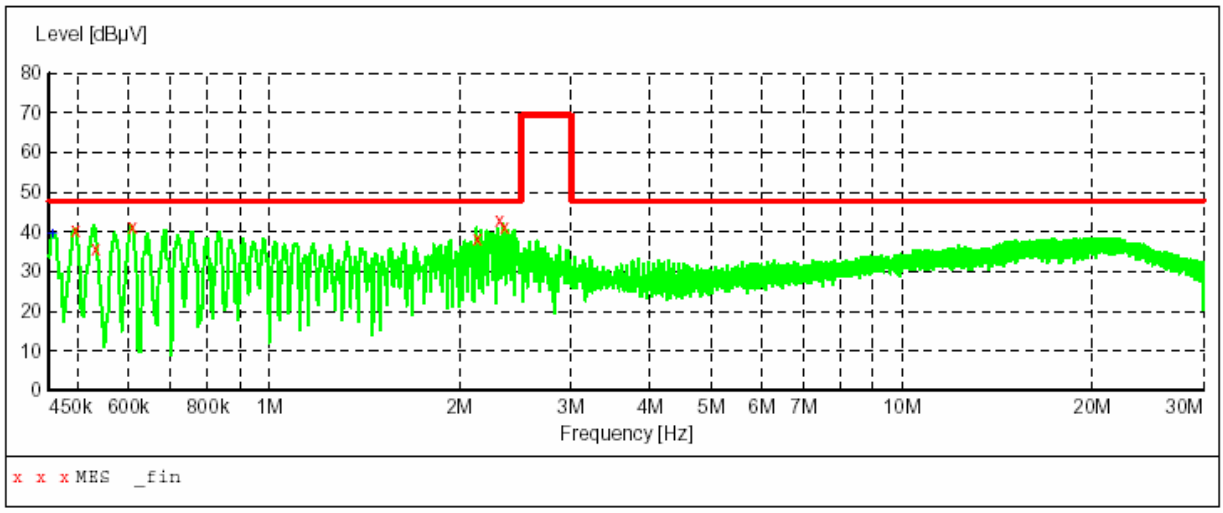
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.680000	39.50	10.1	48	8.4	QP	L1	GND
0.762000	39.70	10.1	48	8.2	QP	L1	GND
0.850000	37.70	10.1	48	10.2	QP	L1	GND
0.936000	39.40	10.1	48	8.5	QP	L1	GND
1.132000	39.40	10.2	48	8.5	QP	L1	GND
1.348000	37.00	10.2	48	10.9	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MSG 18W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

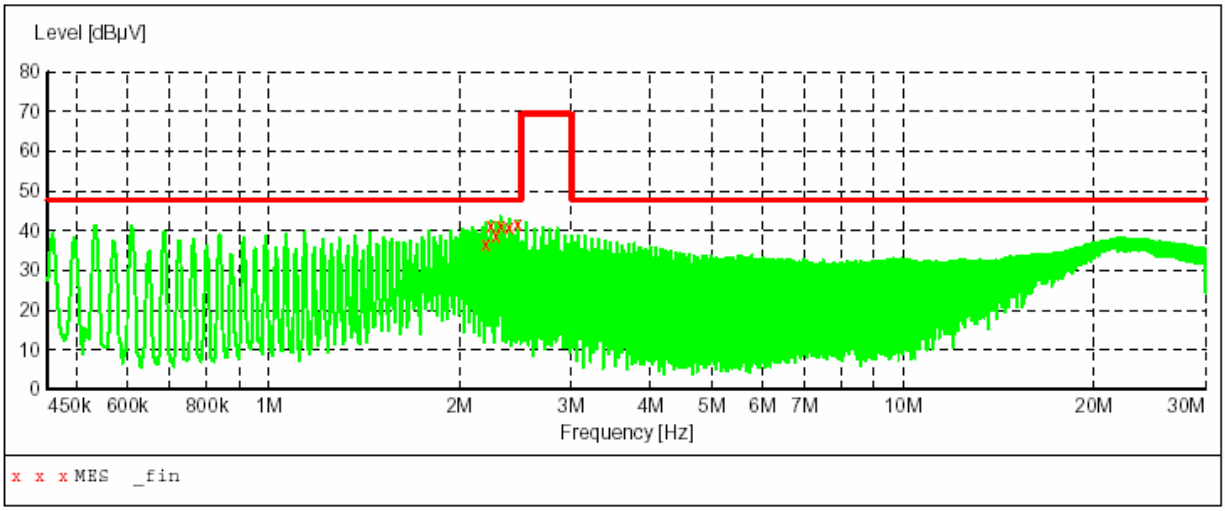
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.496000	40.40	10.1	48	7.5	QP	L1	GND
0.534000	35.50	10.1	48	12.4	QP	L1	GND
0.610000	41.00	10.1	48	6.9	QP	L1	GND
2.132000	38.30	10.2	48	9.6	QP	L1	GND
2.320000	42.80	10.2	48	5.1	QP	L1	GND
2.364000	41.30	10.2	48	6.6	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd

Voltage Mains Test FCC PART 18

EUT: Self-Ballasted Lamp M/N:MSG 18W
Manufacturer: Ming Dai
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 5/28/2007

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



MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
2.202000	36.70	10.2	48	11.2	QP	N	GND
2.244000	41.20	10.2	48	6.7	QP	N	GND
2.282000	38.60	10.2	48	9.3	QP	N	GND
2.322000	41.00	10.2	48	6.9	QP	N	GND
2.398000	40.90	10.2	48	7.0	QP	N	GND
2.472000	41.40	10.2	48	6.5	QP	N	GND