

FCC PART 18

EMI MEASUREMENT AND TEST REPORT

For
Shenzhen Shensco Pholighting Tech Co., Ltd

Building L, Jingtie Industry Park, Heao, Henggang, Longgang, Shenzhen, Guangdong, China

Brand Name: SHENSCO


Model No:

EBT08-432UH-MS1-00; EBT08-432H-MS1-00;

EBT08-332UH-MS1-00; EBT08-332H-MS1-00;

EBT08-232UH-MS1-00; EBT08-232H-MS1-00

FCC ID: T9NEBT08-01

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: Electronic Ballast
Test Engineer: Andy Zhou	
Report No.: BTR06093001-1	
Report Date: 2006-10-16	
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 Shenzhen Shensco Pholighting Tech Co., Ltd's model EBT08-432UH-MS1-00; EBT08-432H-MS1-00; EBT08-332UH-MS1-00; EBT08-332H-MS1-00; EBT08-232UH-MS1-00; EBT08-232H-MS1-00 or the "EUT" as referred to in this report is Electronic Ballast, which measures approximately is 15.0cmL x 6.0cmW x 6.0cmH, 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 Shenzhen Shensco Pholighting Tech 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.

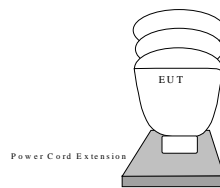
Schematics / Block Diagram

N/A.

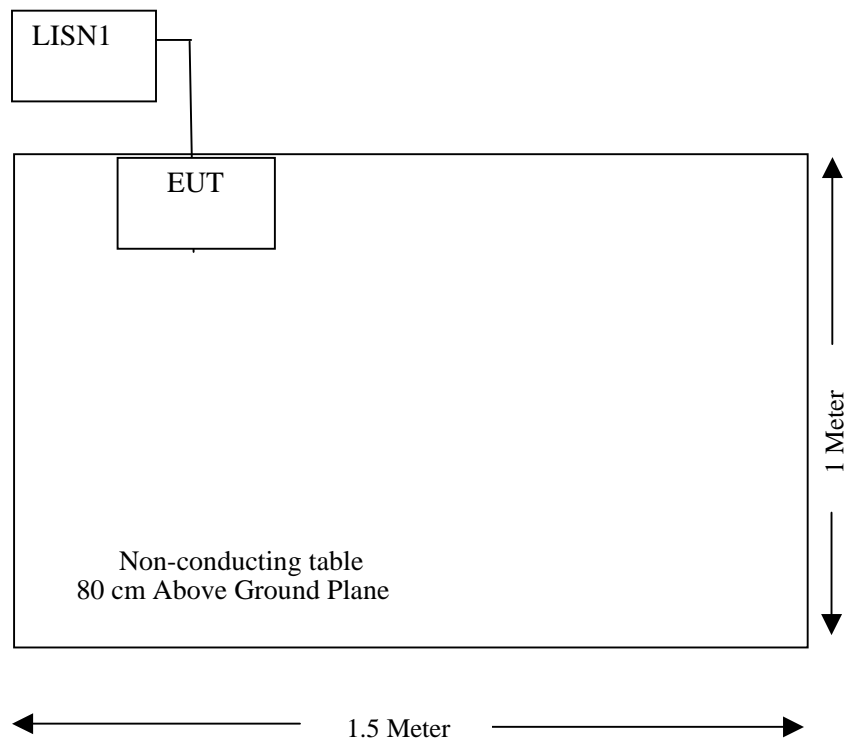
Equipment Modifications

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).

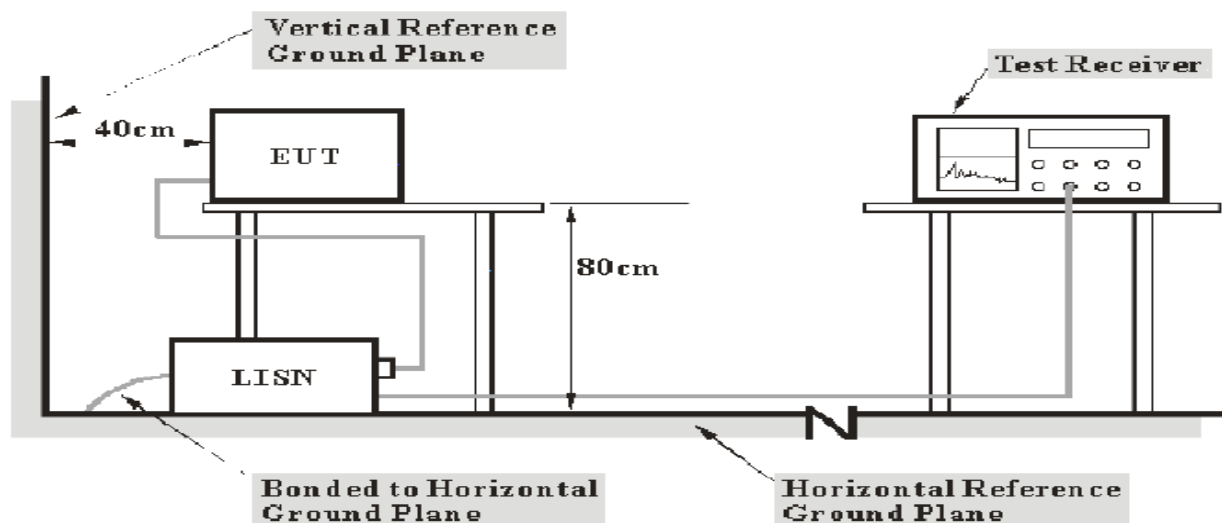
Frequency Range (MHz)	Max RF Voltage (μ V)	Max RF Voltage (dBuV)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

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
ROHDE & SCHWARZ	EMI TEST RECEIVER	ESCS30	100038	2005-11-16
ROHDE & SCHWARZ	L.I.S.N	ESH2-Z5	100028	2005-11-16
ROHDE & SCHWARZ	Pulse Limiter	ESHSZ2	100044	2005-11-16

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:

6.5 dB μ V at 28.164 MHz in the live mode for EBT05-432UH-MS1-00

8.6 dB μ V at 0.545 MHz in the live mode for EBT05-432H-MS1-00

4.7 dB μ V at 0.4725 MHz in the live mode for EBT05-332UH-MS1-00

0.8 dB μ V at 0.5324 MHz in the live mode for EBT05-332H-MS1-00

8.6 dB μ V at 0.4613 MHz in the live mode for EBT05-232UH-MS1-00

12.3 dB μ V at 0.968 MHz in the live mode for EBT05-232H-MS1-00

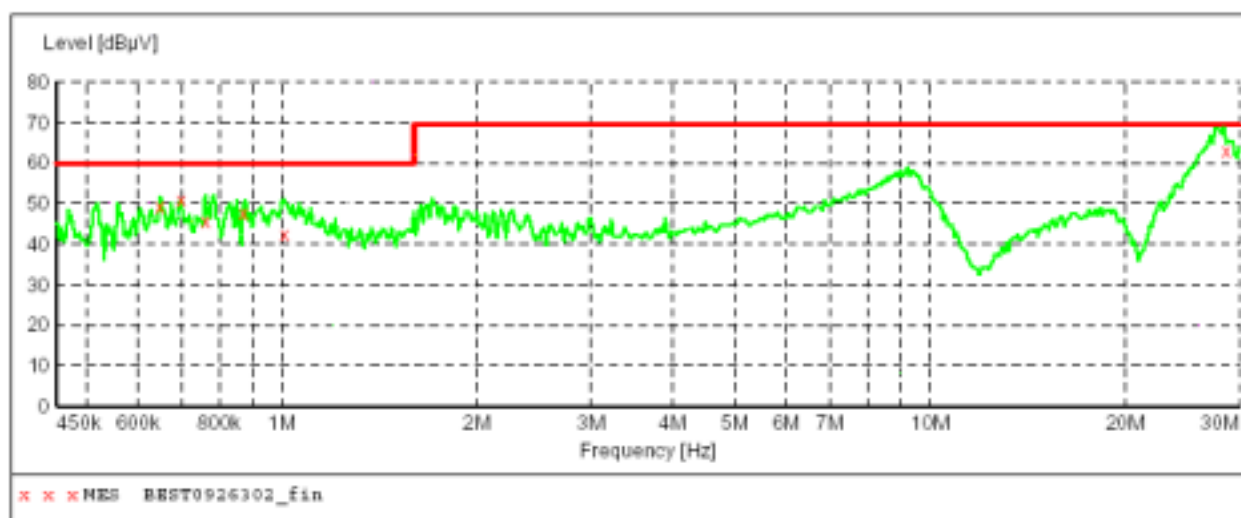
Conducted Emissions Test Data and Plots

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-432UH-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 7:42:44PM

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

Short Description: 150K-30M Voltage



MEASUREMENT RESULT:

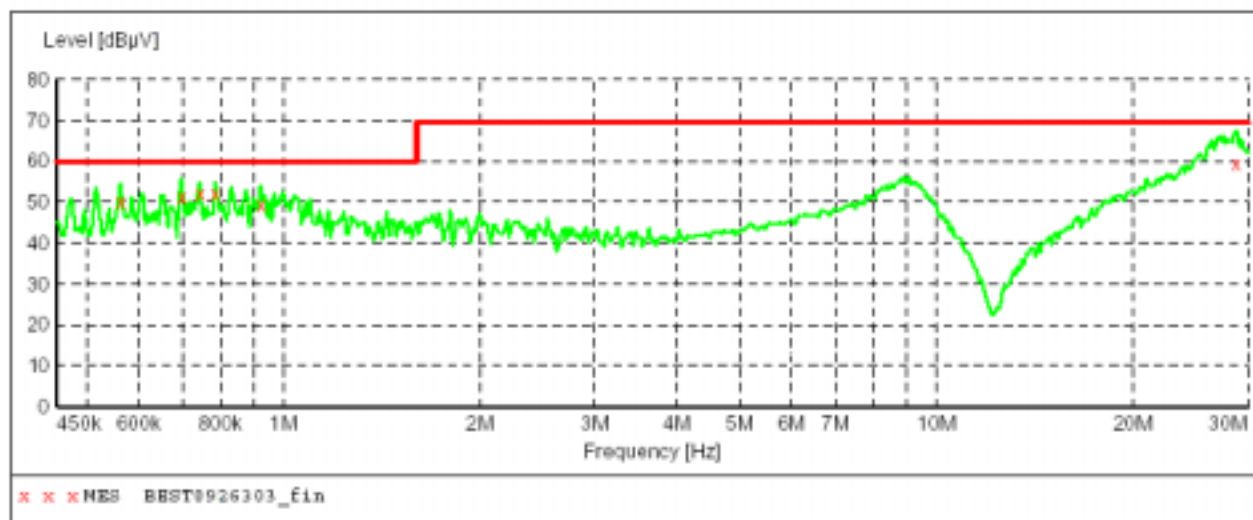
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.649868	49.40	10.1	60	10.6	QP	L1	GND
0.698181	51.10	10.1	60	8.9	QP	L1	GND
0.762149	45.50	10.1	60	14.5	QP	L1	GND
0.872700	47.50	10.1	60	12.5	QP	L1	GND
1.007294	42.60	10.2	60	17.4	QP	L1	GND
28.614211	63.00	11.6	70	6.5	QP	L1	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-432UH-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 7:46:59PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

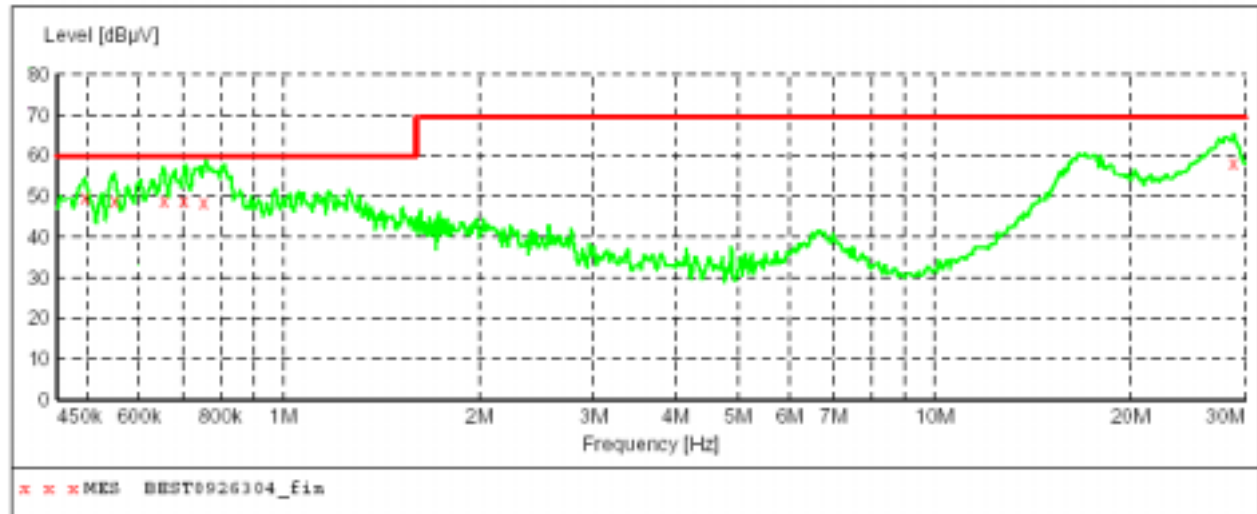
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.563039	50.30	10.1	60	9.7	QP	N	GND
0.698181	51.50	10.1	60	8.5	QP	N	GND
0.744146	52.10	10.1	60	7.9	QP	N	GND
0.786825	52.10	10.1	60	7.9	QP	N	GND
0.922764	49.30	10.2	60	10.7	QP	N	GND
28.843134	59.50	11.6	70	10.0	QP	N	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-432H-MS1-00
 Manufacturer: Shensco
 Operating Condition: ON
 Test Site: SHIELDED ROOM
 Operator: Andy
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 9/26/2006 / 7:59:44PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

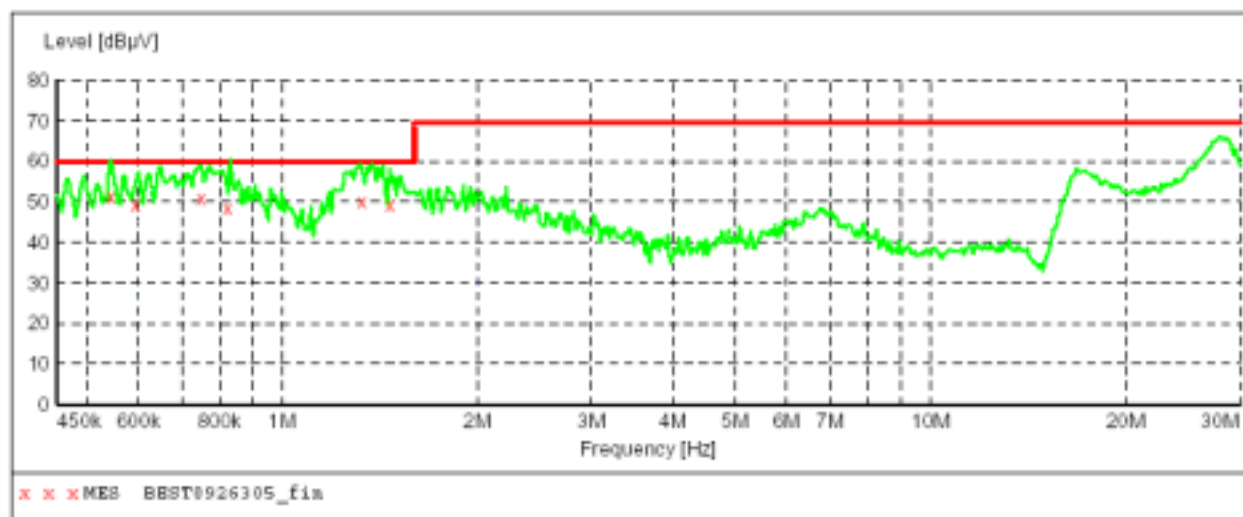
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.495644	49.70	10.1	60	10.3	QP	N	GND
0.549733	48.80	10.1	60	11.2	QP	N	GND
0.655069	48.80	10.1	60	11.2	QP	N	GND
0.703770	49.00	10.1	60	11.0	QP	N	GND
0.756100	48.60	10.1	60	11.4	QP	N	GND
28.843134	58.40	11.6	70	11.1	QP	N	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-432H-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:03:23PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

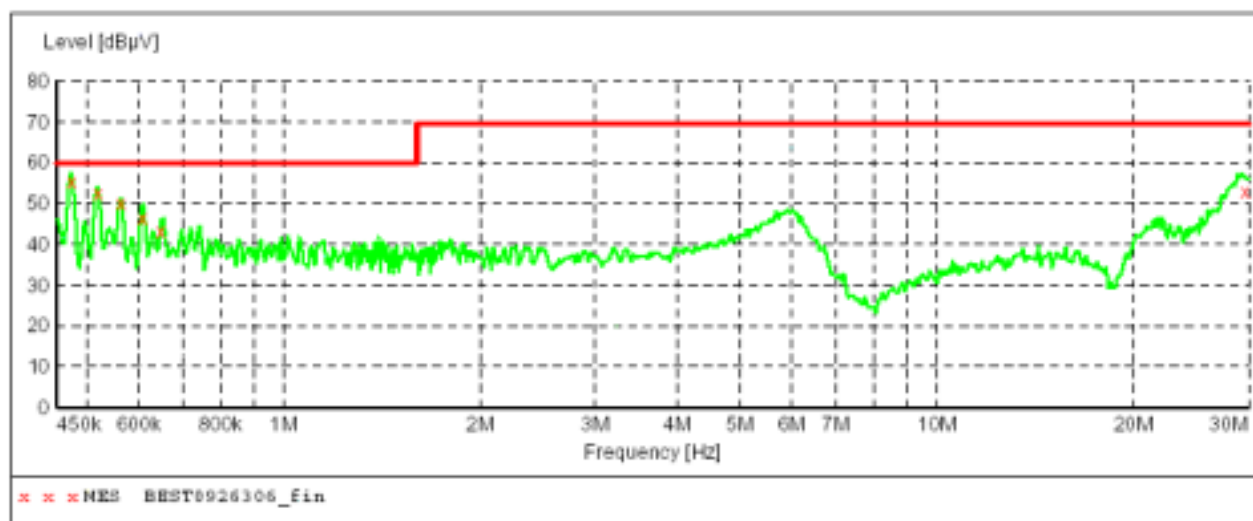
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.545368	51.40	10.1	60	8.6	QP	L1	GND
0.595330	49.40	10.1	60	10.6	QP	L1	GND
0.750093	50.70	10.1	60	9.3	QP	L1	GND
0.825360	48.50	10.1	60	11.5	QP	L1	GND
1.331300	50.20	10.2	60	9.8	QP	L1	GND
1.464876	49.20	10.2	60	10.8	QP	L1	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-332UH-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:09:02PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

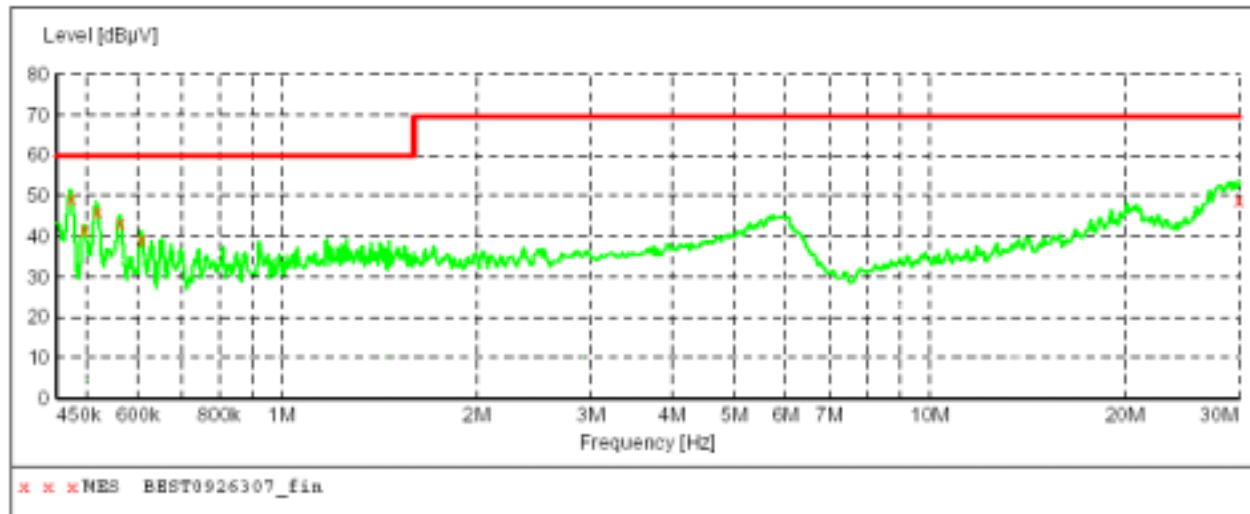
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.472500	55.30	10.1	60	4.7	QP	L1	GND
0.519916	52.40	10.1	60	7.6	QP	L1	GND
0.563039	49.90	10.1	60	10.1	QP	L1	GND
0.609739	46.40	10.1	60	13.6	QP	L1	GND
0.649870	43.40	10.1	60	16.6	QP	L1	GND
29.540920	52.90	11.7	70	16.6	QP	L1	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-332UH-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:12:10PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

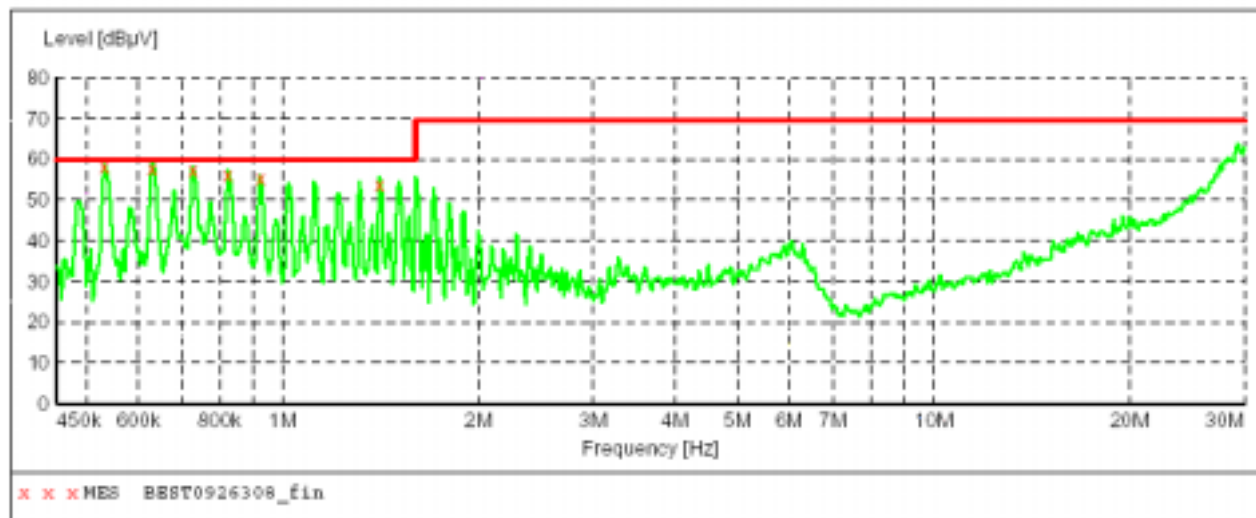
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.472500	49.50	10.1	60	10.5	QP	N	GND
0.495644	41.50	10.1	60	18.5	QP	N	GND
0.519910	45.90	10.1	60	14.1	QP	N	GND
0.563039	43.30	10.1	60	16.7	QP	N	GND
0.609740	39.20	10.1	60	20.8	QP	N	GND
30.000000	48.80	11.7	70	20.7	QP	N	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-332H-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:16:23PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

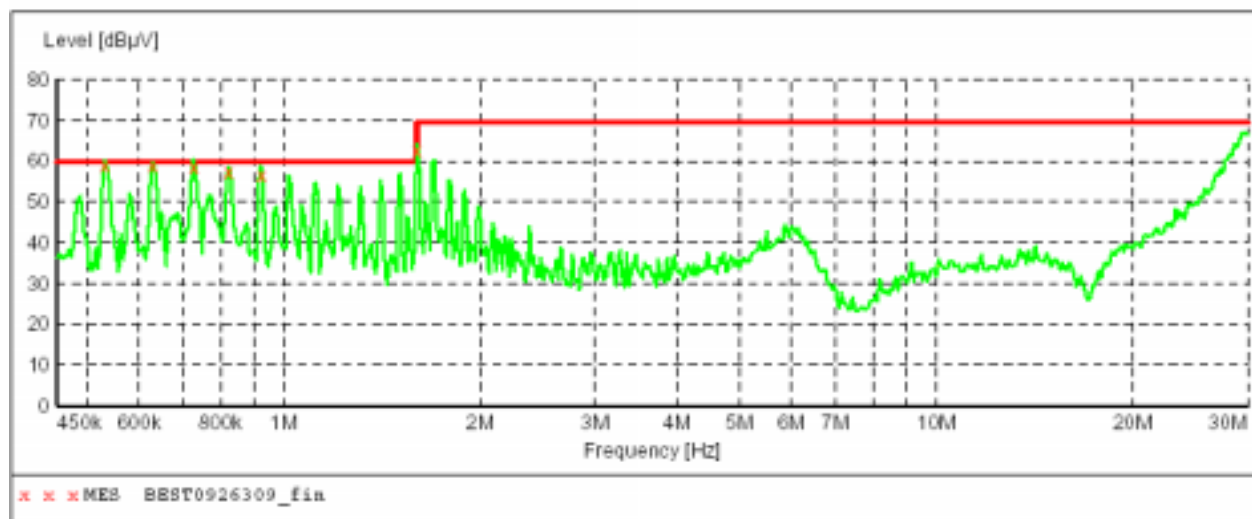
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.532486	58.20	10.1	60	1.8	QP	N	GND
0.629480	57.90	10.1	60	2.1	QP	N	GND
0.726566	57.30	10.1	60	2.7	QP	N	GND
0.825360	56.10	10.1	60	3.9	QP	N	GND
0.922764	55.50	10.2	60	4.5	QP	N	GND
1.407662	53.80	10.2	60	6.2	QP	N	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-332H-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:19:31PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

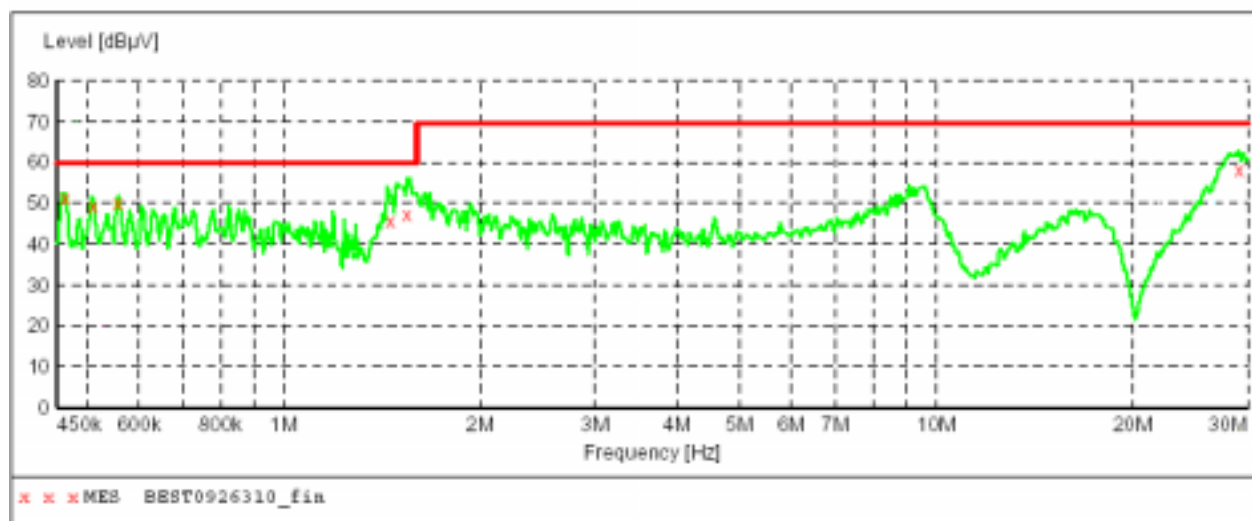
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.532486	59.20	10.1	60	0.8	QP	L1	GND
0.629486	59.20	10.1	60	0.8	QP	L1	GND
0.726566	58.70	10.1	60	1.3	QP	L1	GND
0.825360	57.30	10.1	60	2.7	QP	L1	GND
0.922764	56.70	10.2	60	3.3	QP	L1	GND
1.602013	62.50	10.2	70	7.5	QP	L1	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-232UH-MS1-00
 Manufacturer: Shensco
 Operating Condition: ON
 Test Site: SHIELDED ROOM
 Operator: Andy
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 9/26/2006 / 8:23:33PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

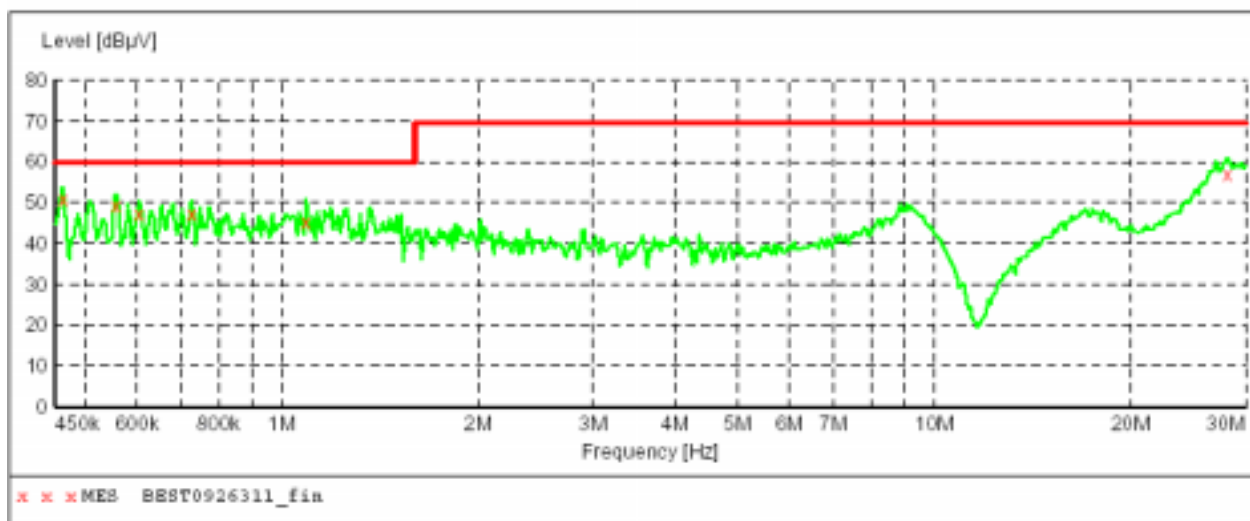
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.461341	51.40	10.1	60	8.6	QP	L1	GND
0.511690	49.40	10.1	60	10.6	QP	L1	GND
0.558563	50.10	10.1	60	9.9	QP	L1	GND
1.453250	45.80	10.2	60	14.2	QP	L1	GND
1.548913	47.30	10.2	60	12.7	QP	L1	GND
29.073875	58.20	11.6	70	11.3	QP	L1	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-232UH-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:26:43PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

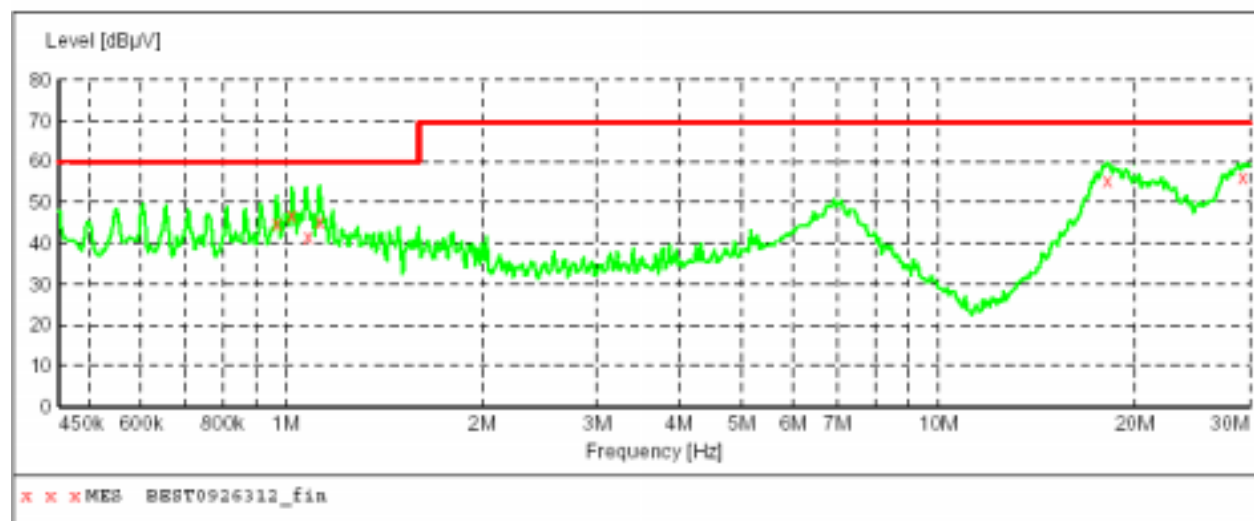
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.461341	50.70	10.1	60	9.3	QP	N	GND
0.558563	49.30	10.1	60	10.7	QP	N	GND
0.604901	47.30	10.1	60	12.7	QP	N	GND
0.726566	47.30	10.1	60	12.7	QP	N	GND
1.090837	45.30	10.2	60	14.7	QP	N	GND
28.161827	56.80	11.6	70	12.7	QP	N	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-232H-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:30:59PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

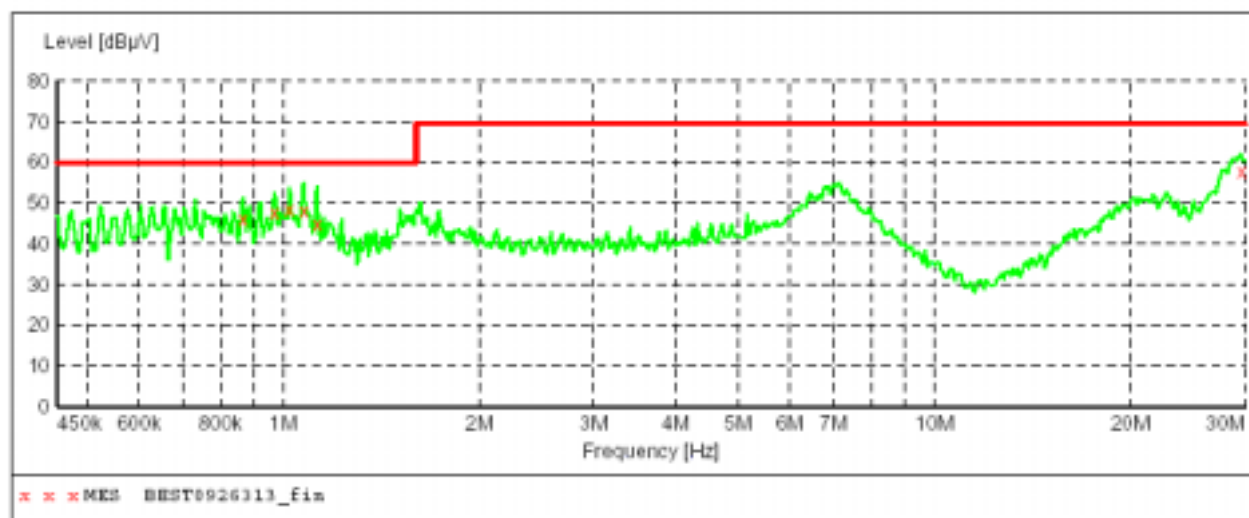
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.967952	45.00	10.2	60	15.0	QP	N	GND
1.023473	46.70	10.2	60	13.3	QP	N	GND
1.082180	41.60	10.2	60	18.4	QP	N	GND
1.126168	45.10	10.2	60	14.9	QP	N	GND
18.169019	55.30	11.2	70	14.2	QP	N	GND
29.306470	56.00	11.7	70	13.5	QP	N	GND

Voltage Mains FCC 18 NON-CONSUMER

EUT: Electronic Ballast M/N:EBT08-232H-MS1-00
Manufacturer: Shensco
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Andy
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 9/26/2006 / 8:34:09PM

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.865781	46.10	10.1	60	13.9	QP	L1	GND
0.967952	47.70	10.2	60	12.3	QP	L1	GND
1.023473	48.30	10.2	60	11.7	QP	L1	GND
1.073591	48.20	10.2	60	11.8	QP	L1	GND
1.126168	44.70	10.2	60	15.3	QP	L1	GND
29.540922	57.70	11.7	70	11.8	QP	L1	GND