



FCC PART 18

EMI MEASUREMENT AND TEST REPORT

For
Leedarson Lighting (Xiamen) Co., Ltd.
Caitang Industrial Zone, Lvling Road, Xiamen, China.

FCC ID: VRZREFLECTOR

February 23, 2009

Product Name:	<u>CFL</u>
Model No:	<u>PAR38A23/PAR30A15/R40A23/R30A15</u>
Sample Received Date:	<u>February 17, 2009</u>
Test Performed Date:	<u>February 22, 2009</u>
Test Engineer:	<u>Paul Tan</u> 
Reviewed By:	<u>Chris Zeng</u> 
Prepared By:	BEST Test Service (Shenzhen) Co., Ltd. C, 310-316, Huameiju Business Center, 82 Block, Baoan District, Shenzhen, 518133, China Tel: +86-755-28236006 Fax: +86-755-28236249

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 Leedarson Lighting (Xiamen) Co., Ltd. 's model PAR38A23/PAR30A15/R40A23/R30A15, or the "EUT" as referred to in this report is CFL, rated input voltage, operation frequency is between 40KHz to 50 KHz. Manufacture: Leedarson Lighting Co., Ltd. Address: Leedarson Industrial Park, Xintai Industrial Zone, Zhangzhou, Fujian, China

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 Leedarson Lighting (Xiamen) 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

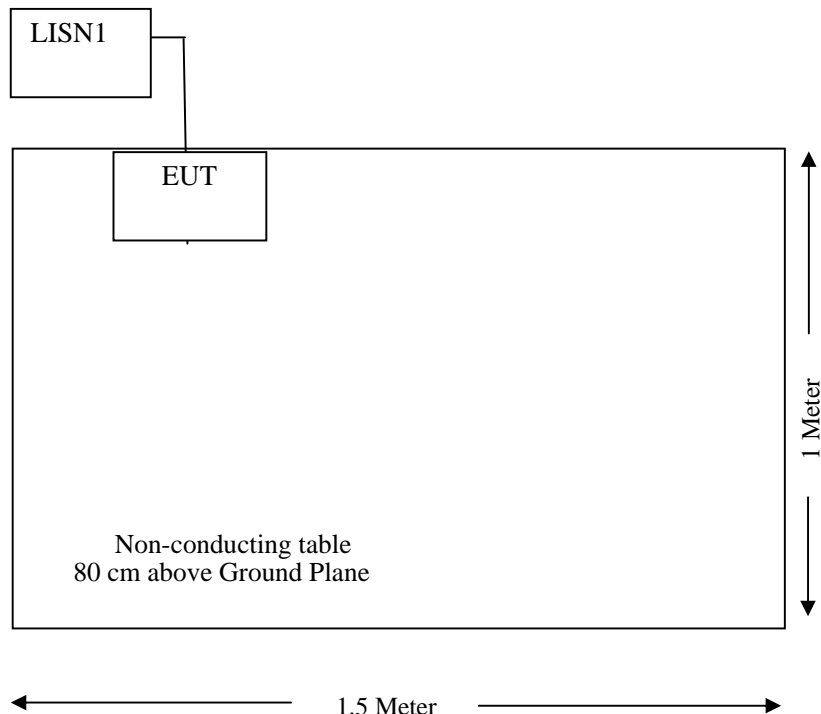
N/A

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).

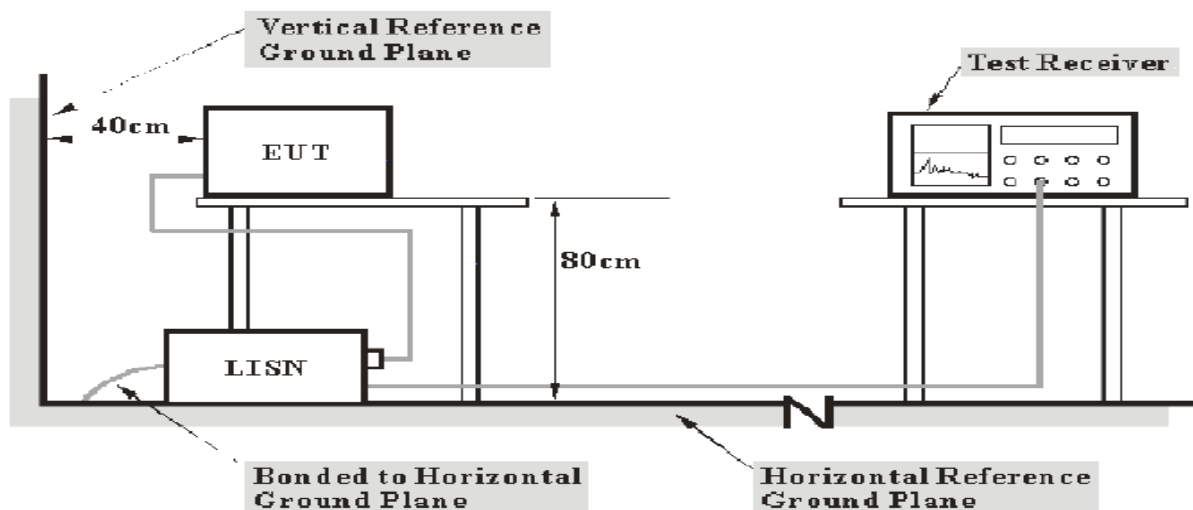
Frequency Range (MHz)	Max RF Voltage (μ V)	Max RF Voltage (dB μ V)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

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, and 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	2008-08-05	2009-08-05
ROHDE & SCHWARZ	L.I.S.N	ESH2-Z5	100028	2008-08-05	2009-08-05
ROHDE & SCHWARZ	Pulse Limiter	ESHSZ2	100044	2008-08-05	2009-08-05

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.

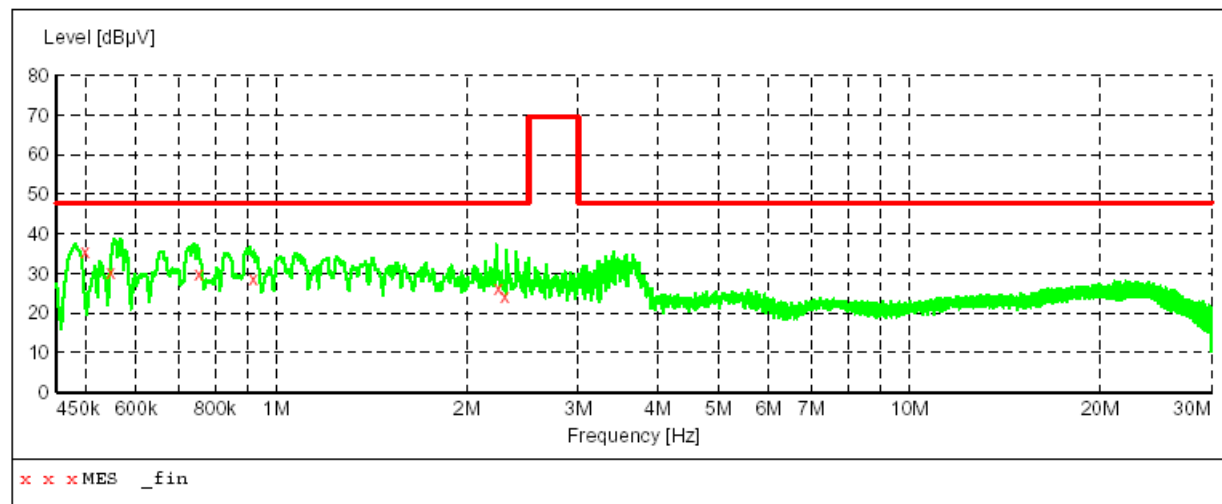
Conducted Emissions Test Data and Plots

BEST Test Service Shenzhen Co., Ltd**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:PAR38A23
Manufacturer: Leedarson
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

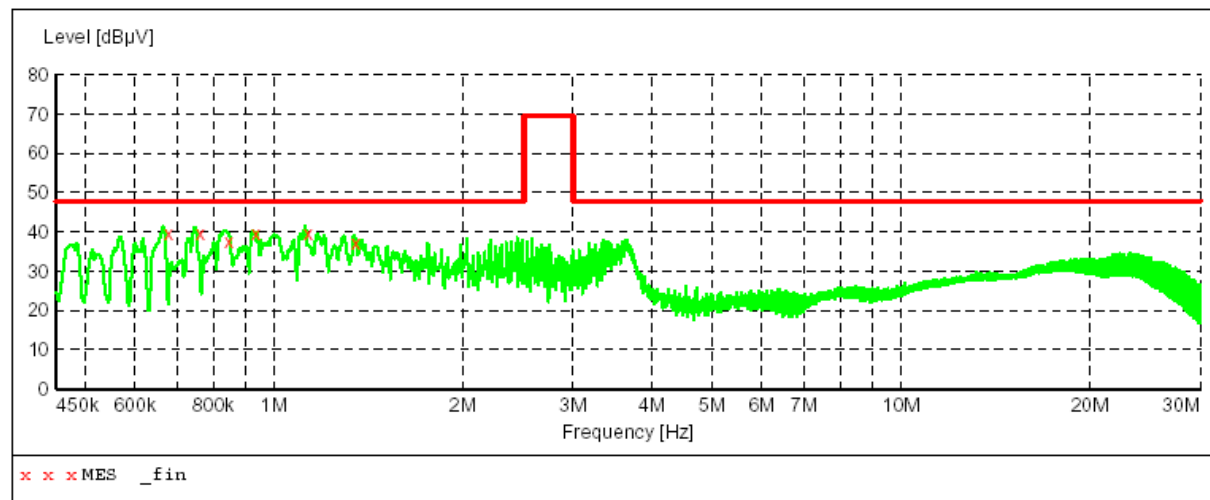
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.498000	35.50	10.1	48	12.4	QP	N	GND
0.548000	30.20	10.1	48	17.7	QP	N	GND
0.756000	29.70	10.1	48	18.2	QP	N	GND
0.920000	28.60	10.1	48	19.3	QP	N	GND
2.248000	26.20	10.2	48	21.7	QP	N	GND
2.296000	24.30	10.2	48	23.6	QP	N	GND

BEST Test Service Shenzhen Co., Ltd**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:PAR38A23
Manufacturer: Leedarson
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

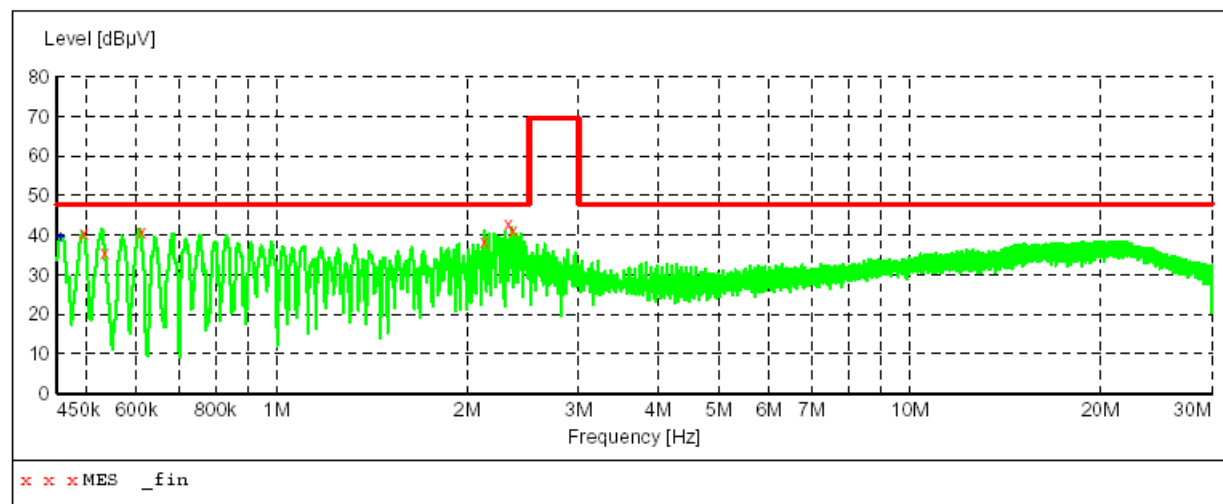
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.680000	39.50	10.1	48	8.4	QP	L1	GND
0.762000	39.70	10.1	48	8.2	QP	L1	GND
0.850000	37.70	10.1	48	10.2	QP	L1	GND
0.936000	39.40	10.1	48	8.5	QP	L1	GND
1.132000	39.40	10.2	48	8.5	QP	L1	GND
1.348000	37.00	10.2	48	10.9	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:R40A23
Manufacturer: Leedarson
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

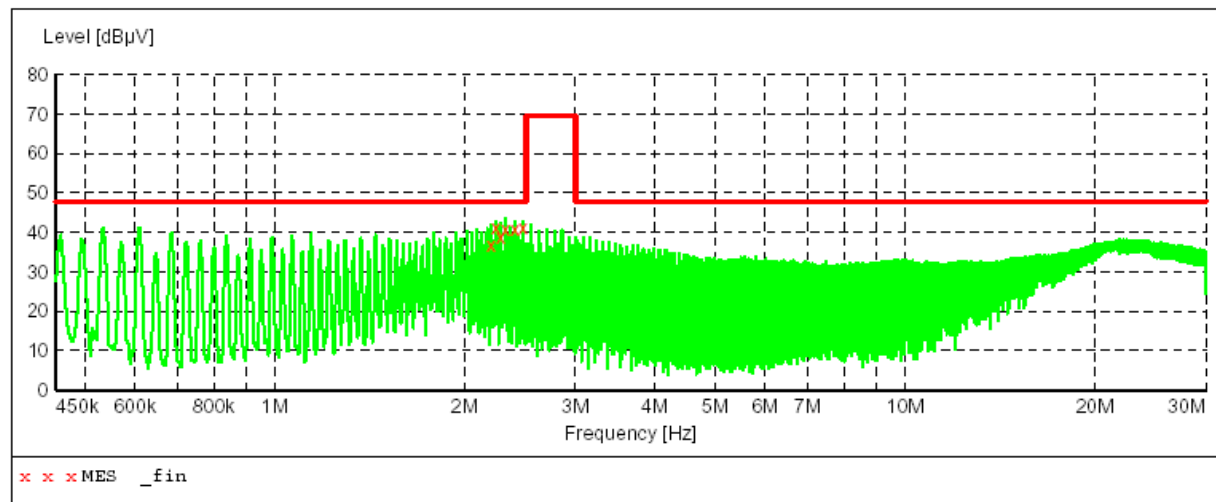
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.496000	40.40	10.1	48	7.5	QP	L1	GND
0.534000	35.50	10.1	48	12.4	QP	L1	GND
0.610000	41.00	10.1	48	6.9	QP	L1	GND
2.132000	38.30	10.2	48	9.6	QP	L1	GND
2.320000	42.80	10.2	48	5.1	QP	L1	GND
2.364000	41.30	10.2	48	6.6	QP	L1	GND

BEST Test Service Shenzhen Co., Ltd**Voltage Mains Test FCC PART 18**

EUT: CFL M/N:R40A23
Manufacturer: Leedarson
Operating Condition: ON
Test Site: SHIELDED ROOM
Operator: Paul
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

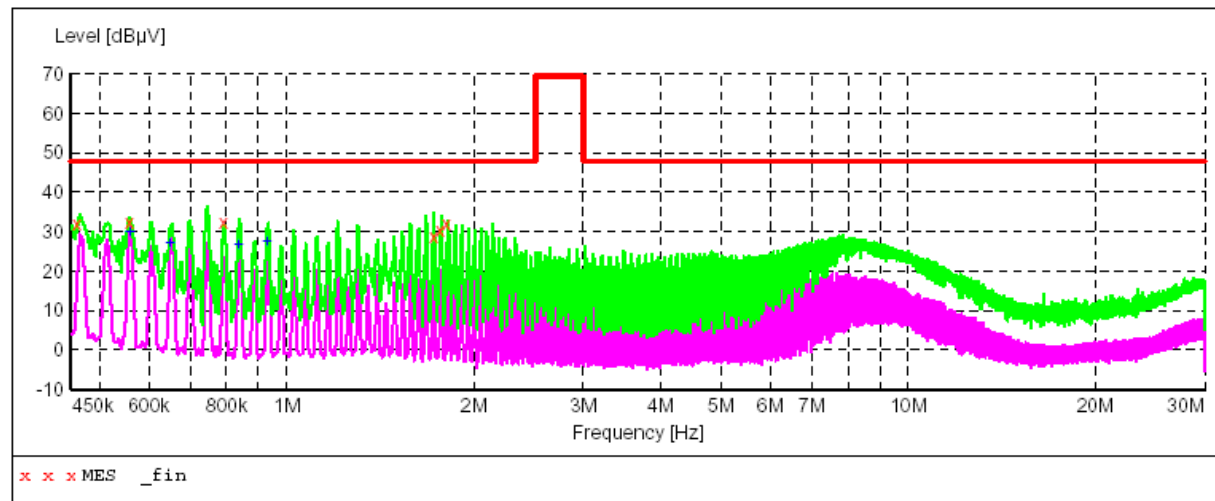
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
2.202000	36.70	10.2	48	11.2	QP	N	GND
2.244000	41.20	10.2	48	6.7	QP	N	GND
2.282000	38.60	10.2	48	9.3	QP	N	GND
2.322000	41.00	10.2	48	6.9	QP	N	GND
2.398000	40.90	10.2	48	7.0	QP	N	GND
2.472000	41.40	10.2	48	6.5	QP	N	GND

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

EUT: CFL M/N:PAR30A15
Manufacturer: Leedarson
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: Chris
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

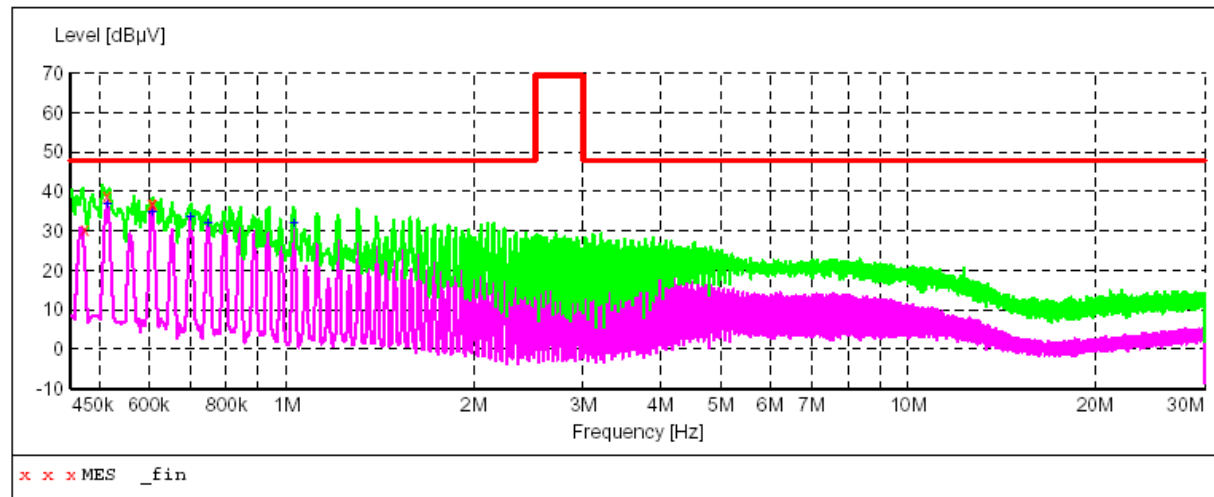
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.460500	31.80	10.6	48	16.1	QP	L1	GND
0.559500	32.60	10.6	48	15.3	QP	L1	GND
0.789000	32.50	10.6	48	15.4	QP	L1	GND
1.720500	28.60	10.7	48	19.3	QP	L1	GND
1.765500	30.50	10.7	48	17.4	QP	L1	GND
1.810500	31.90	10.7	48	16.0	QP	L1	GND

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

EUT: CFL M/N:PAR30A15
Manufacturer: Leedarson
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: Chris
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

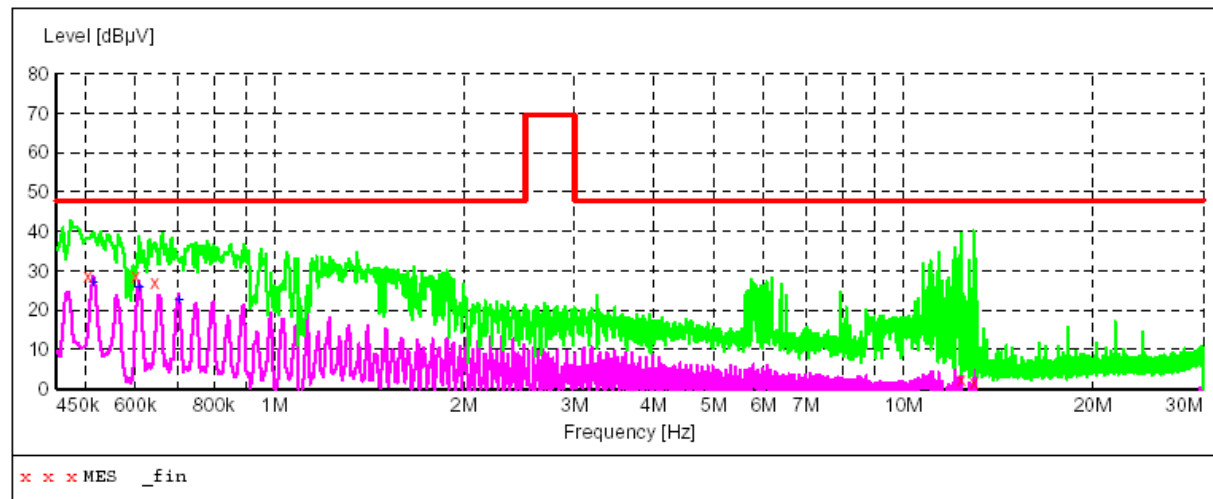
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.474000	30.30	10.6	48	17.6	QP	N	GND
0.514500	38.80	10.6	48	9.1	QP	N	GND
0.604500	36.80	10.6	48	11.1	QP	N	GND
0.609000	36.90	10.6	48	11.0	QP	N	GND

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

EUT: CFL M/N:R30A15
Manufacturer: Leedarson
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: Chris
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

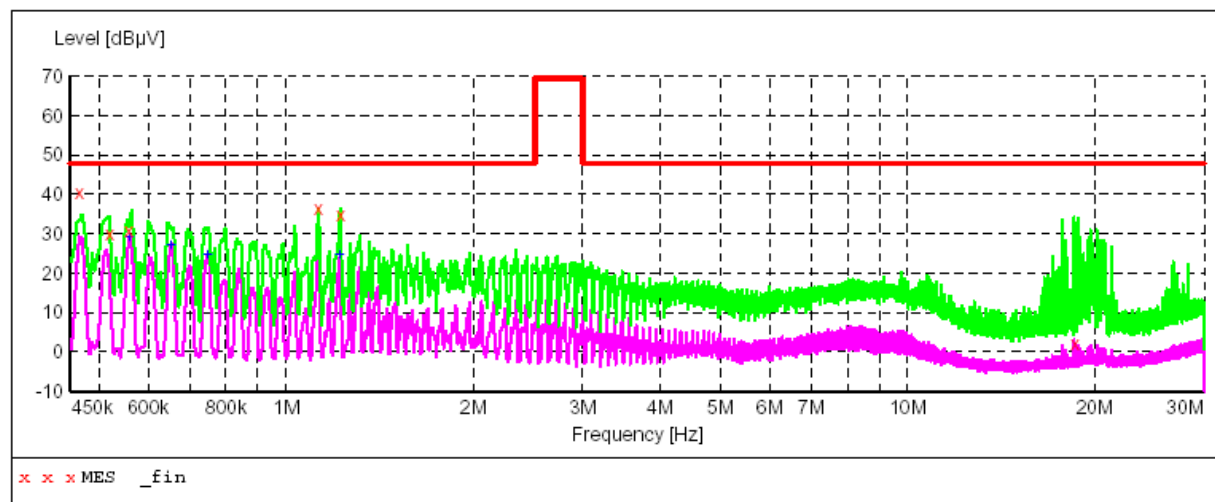
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.505500	28.80	10.6	48	19.1	QP	N	GND
0.600000	28.90	10.6	48	19.0	QP	N	GND
0.645000	27.30	10.6	48	20.6	QP	N	GND
12.327000	2.40	11.0	48	45.5	QP	N	GND
12.943500	1.50	11.0	48	46.4	QP	N	GND

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

EUT: CFL M/N:R30A15
Manufacturer: Leedarson
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: Chris
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 2/22/2009

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
0.465000	40.60	10.6	48	7.3	QP	L1	GND
0.519000	29.80	10.6	48	18.1	QP	L1	GND
0.559500	30.90	10.6	48	17.0	QP	L1	GND
1.126500	36.60	10.7	48	11.3	QP	L1	GND
1.221000	34.90	10.7	48	13.0	QP	L1	GND
18.568500	2.10	11.2	48	45.8	QP	L1	GND