

FCC PART 18

EMI MEASUREMENT AND TEST REPORT

for

Homelite Limited

No.319 Jiugan Rd, Sijing Town, Songjiang District, Shanghai, China. 201601

FCC ID: WSUBT31011

Sep 14, 2010

Product Name:	CFL
Model No:	HLDT3G16W,HLDT3S13W,HLDT3S18W,HLDT3S23W,HLDT3R16W, HLDT3A16W, HLT3G3019W
Sample	
Received Date:	July 25, 2010
Test	
Performed Date:	July 30, 2010
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NVLAP LAB CODE 200770-Q

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The Homelite Limited's model HLDT3G16W, HLDT3S13W, HLDT3S18W, HLDT3S23W, HLDT3R16W, HLDT3A16W, HLT3G3019W or the "EUT" as referred to in this report is CFL, rated input voltage: AC 120V/60Hz, operation frequency between 40 KHz to 60 KHz.

Model	HLDT3G16W	Electrical Power	16W
Model	HLDT3S13W	Electrical Power	13W
Model	HLDT3S18W	Electrical Power	18W
Model	HLDT3S23W	Electrical Power	23W
Model	HLDT3R16W	Electrical Power	16W
Model	HLDT3A16W	Electrical Power	16W
Model	HLDT3G3019W	Electrical Power	19W

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 Homelite Limited. 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.

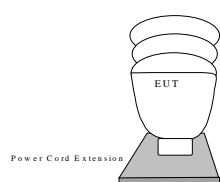
Schematics / Block Diagram

N/A.

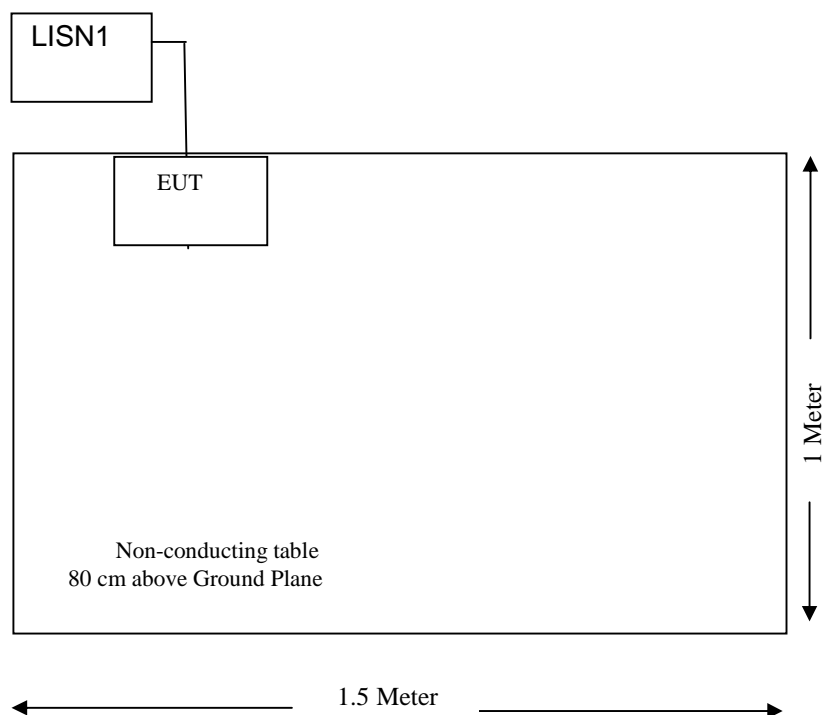
Equipment Modifications

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).

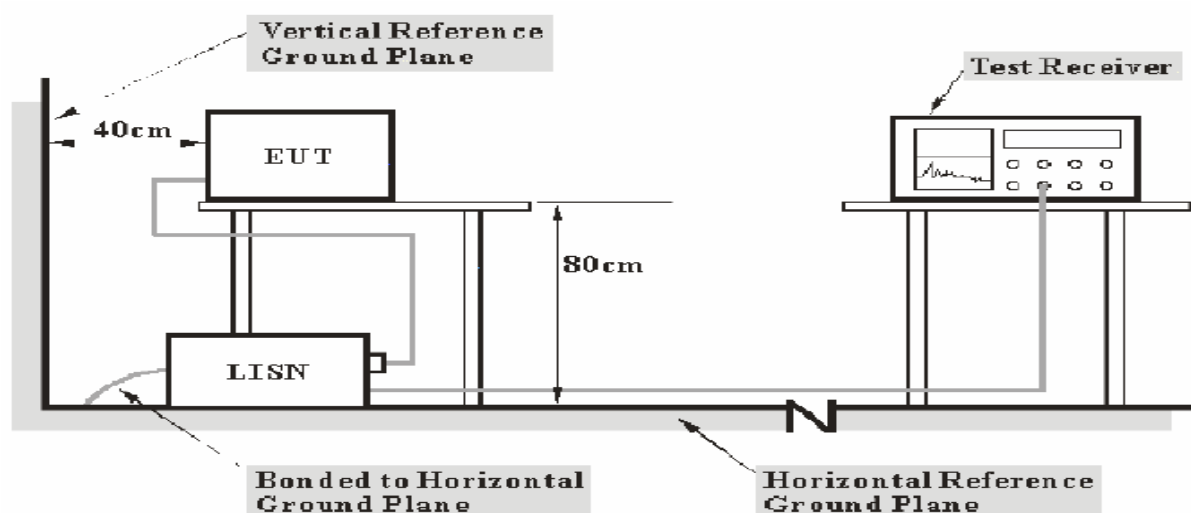
Frequency Range (MHz)	Max RF Voltage (μ V)	Max RF Voltage (dBuV)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

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	Cal. Due. Date
ROHDE & SCHWARZ	EMI TEST RECEIVER	ESCS30	100038	2010-08-05	2011-08-05
ROHDE & SCHWARZ	L.I.S.N	ESH2-Z5	100028	2010-08-05	2011-08-05
ROHDE & SCHWARZ	Pulse Limiter	ESHSZ2	100044	2010-08-05	2011-08-05

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

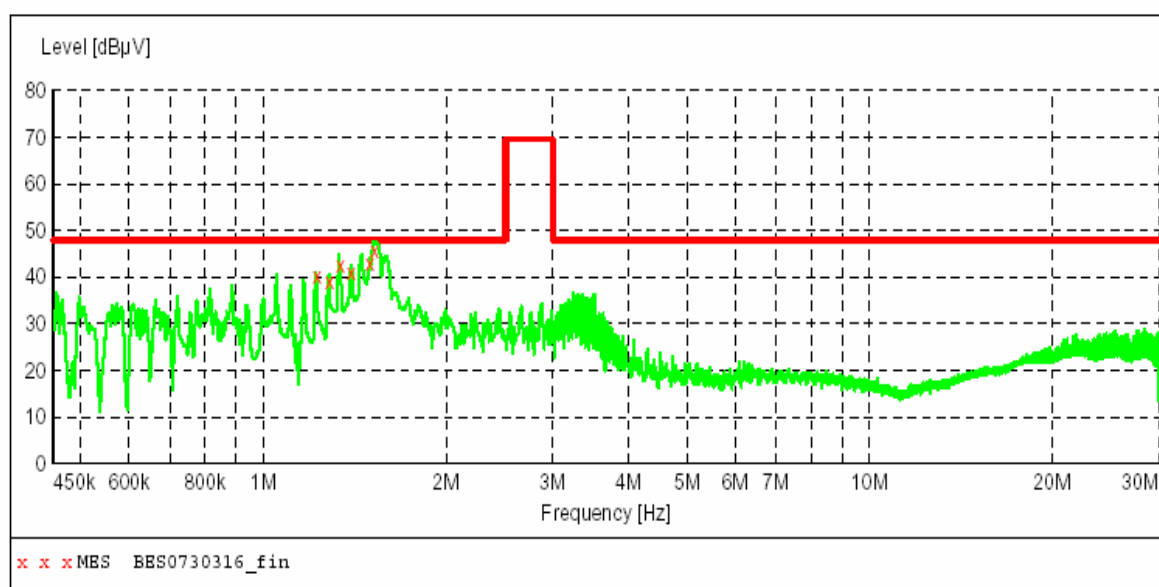
The EUT complied with the FCC 18 Conducted margin for industry, scientific and medical device, and with the worst margin reading of:

Conducted Emissions Test Data and Plots**BEST TEST SERVICE SHENZHEN CO.,LTD****Voltage Mains Test FCC Part 18**

EUT: CFL M/N:HLDT3A16W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730316_fin"**

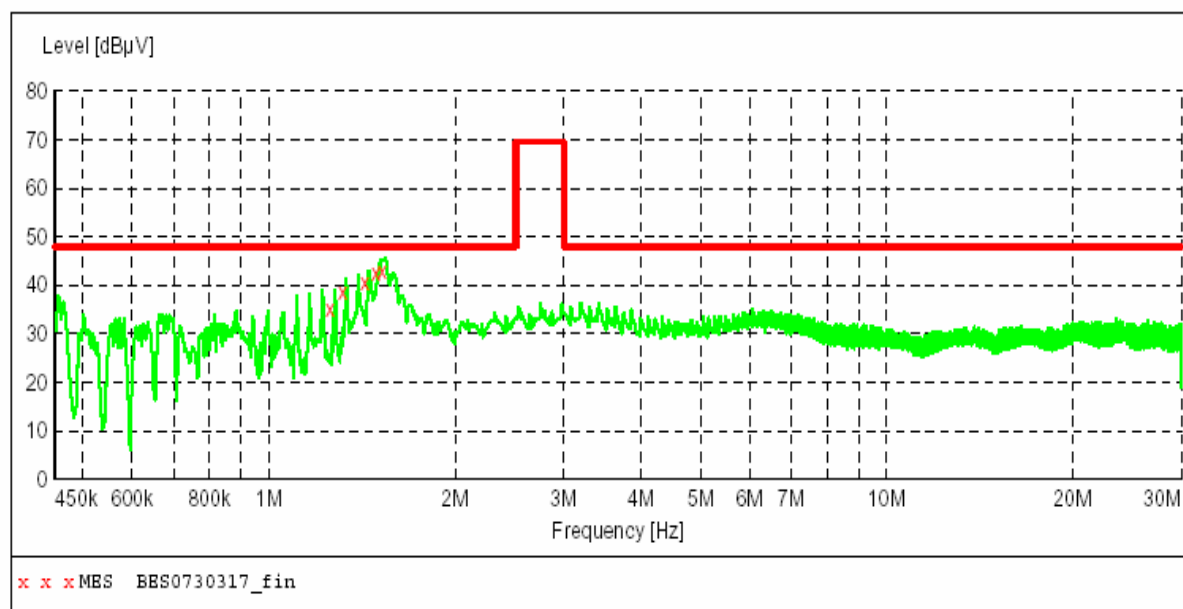
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
1.221000	40.10	10.2	48	7.8	QP	L1	GND
1.279500	38.80	10.2	48	9.1	QP	L1	GND
1.333500	42.30	10.2	48	5.6	QP	L1	GND
1.396500	40.80	10.2	48	7.1	QP	L1	GND
1.495500	42.90	10.2	48	5.0	QP	L1	GND
1.527000	45.60	10.2	48	2.3	QP	L1	GND

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

EUT: CFL M/N:HLDT3A16W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730317_fin"**

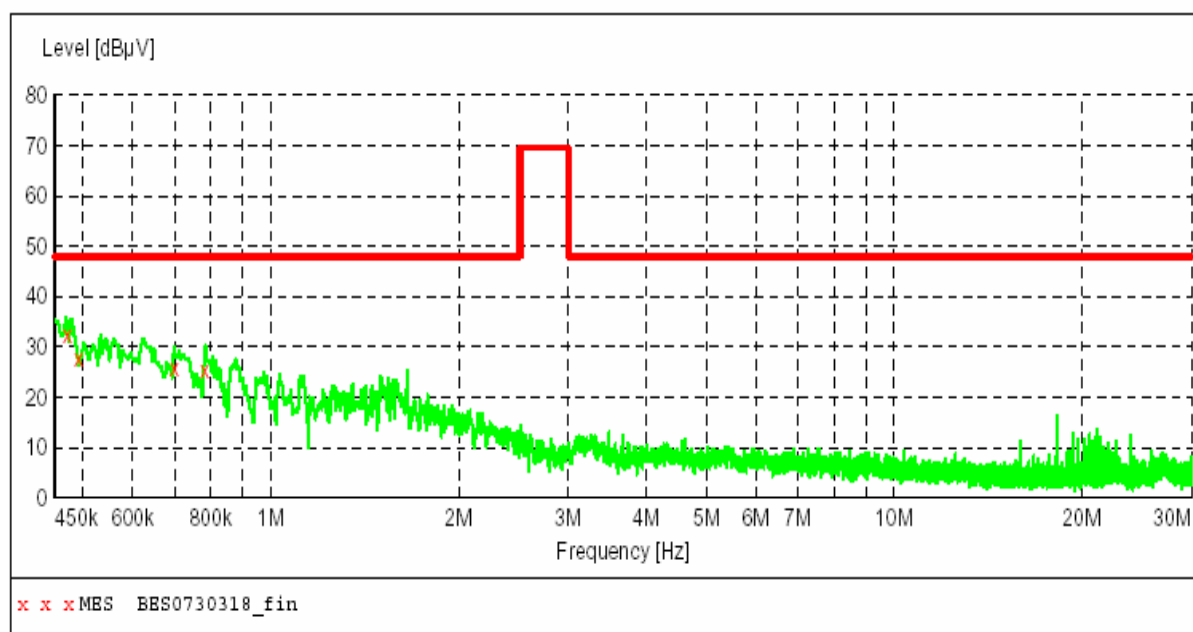
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
1.257000	35.10	10.2	48	12.8	QP	N	GND
1.311000	38.70	10.2	48	9.2	QP	N	GND
1.428000	40.70	10.2	48	7.2	QP	N	GND
1.491000	42.40	10.2	48	5.5	QP	N	GND
1.527000	43.00	10.2	48	4.9	QP	N	GND

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

EUT: CFL M/N:HLDT3G16W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730318_fin"**

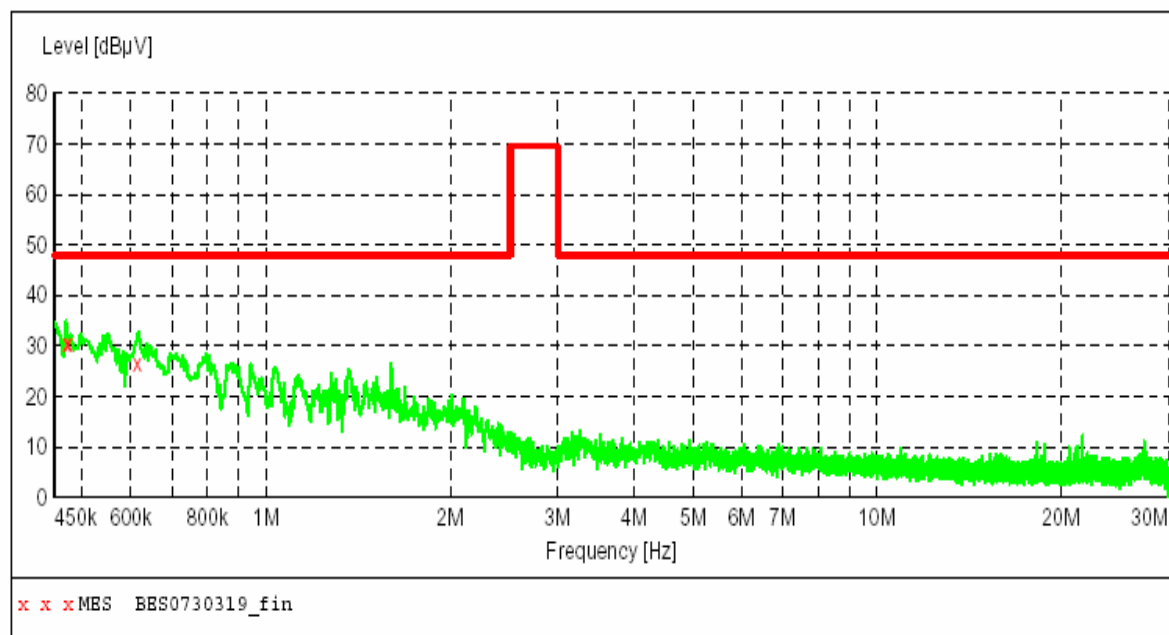
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.469500	32.30	10.1	48	15.6	QP	L1	GND
0.492000	27.70	10.1	48	20.2	QP	L1	GND
0.699000	25.80	10.1	48	22.1	QP	L1	GND
0.780000	25.40	10.1	48	22.5	QP	L1	GND

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

EUT: CFL M/N:HLDT3G16W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730319_fin"**

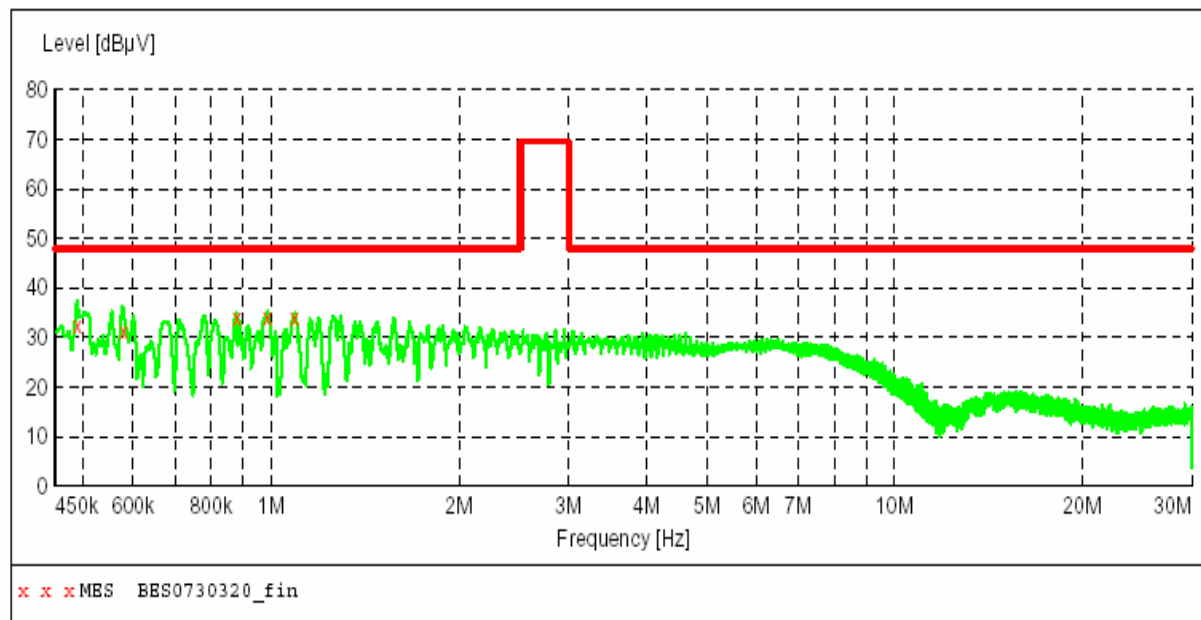
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.469500	30.50	10.1	48	17.4	QP	N	GND
0.474000	30.40	10.1	48	17.5	QP	N	GND
0.613500	26.30	10.1	48	21.6	QP	N	GND

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

EUT: CFL M/N:HLDT3R16W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730320_fin"**

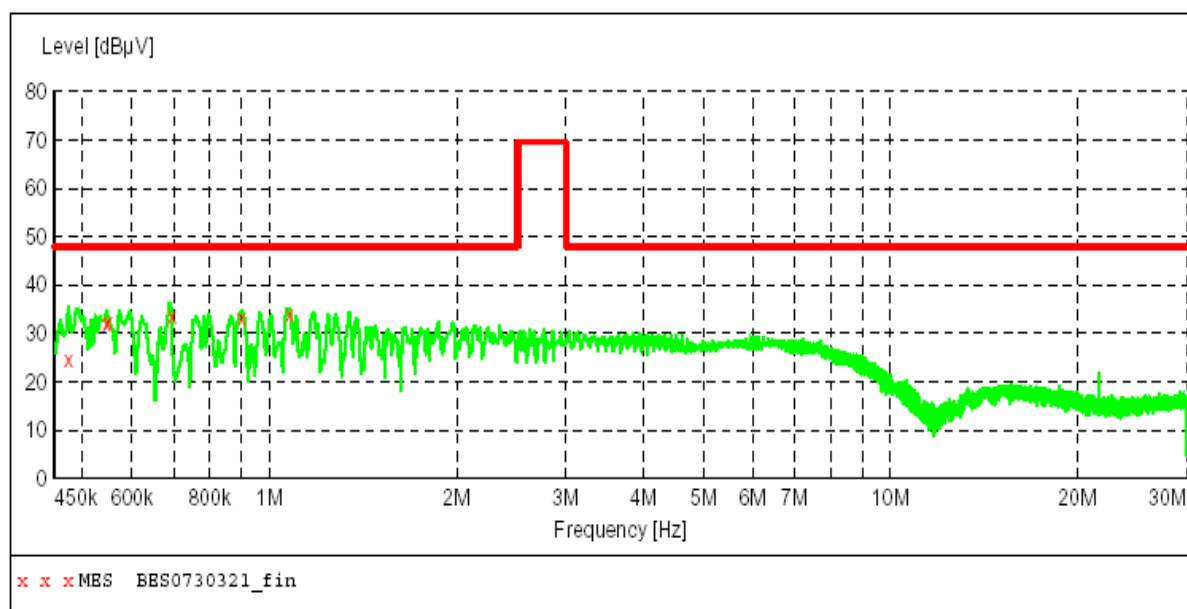
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.487500	32.30	10.1	48	15.6	QP	N	GND
0.577500	31.10	10.1	48	16.8	QP	N	GND
0.879000	34.00	10.1	48	13.9	QP	N	GND
0.982500	33.90	10.2	48	14.0	QP	N	GND
1.090500	33.70	10.2	48	14.2	QP	N	GND

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

EUT: CFL M/N:HLDT3R16W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730321_fin"**

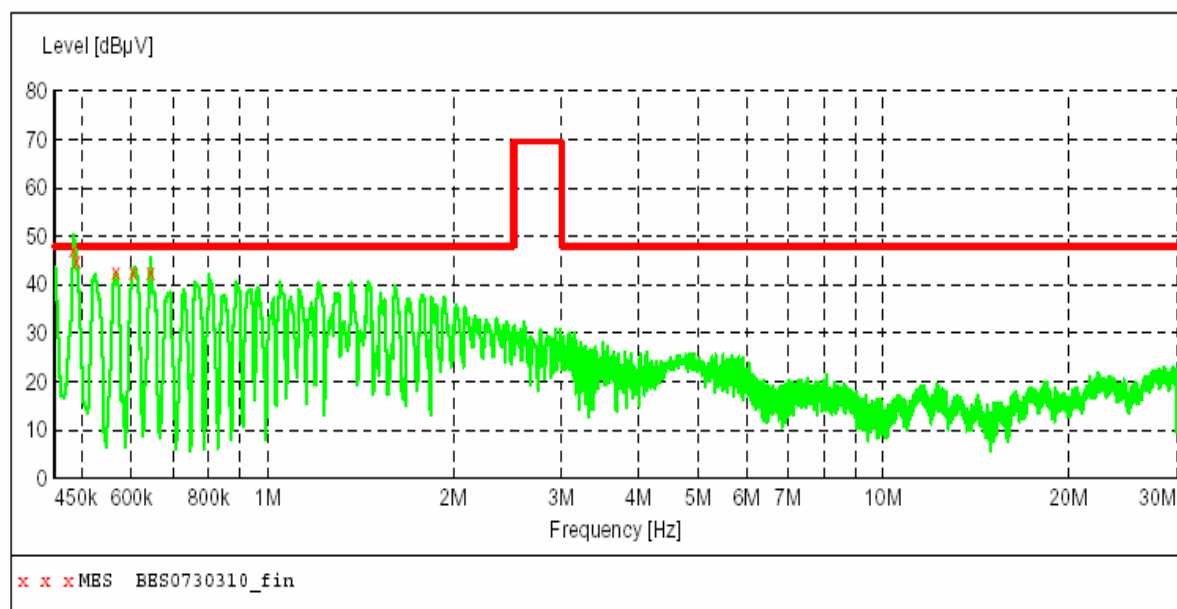
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.474000	24.70	10.1	48	23.2	QP	L1	GND
0.546000	32.10	10.1	48	15.8	QP	L1	GND
0.550500	32.20	10.1	48	15.7	QP	L1	GND
0.694500	33.50	10.1	48	14.4	QP	L1	GND
0.901500	33.20	10.1	48	14.7	QP	L1	GND
1.072500	33.90	10.2	48	14.0	QP	L1	GND

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

EUT: CFL M/N:HLDT3S13W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730310_fin"**

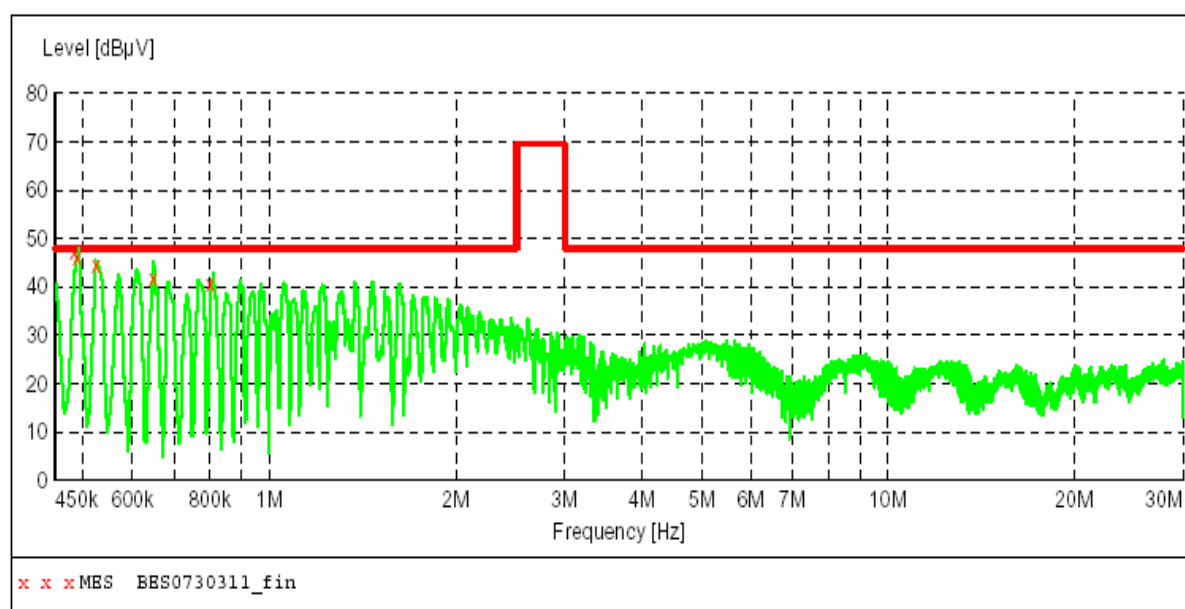
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.483000	47.10	10.1	48	0.8	QP	N	GND
0.487500	44.90	10.1	48	3.0	QP	N	GND
0.564000	42.30	10.1	48	5.6	QP	N	GND
0.604500	42.50	10.1	48	5.4	QP	N	GND
0.645000	42.30	10.1	48	5.6	QP	N	GND

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

EUT: CFL M/N:HLDT3S13W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730311_fin"**

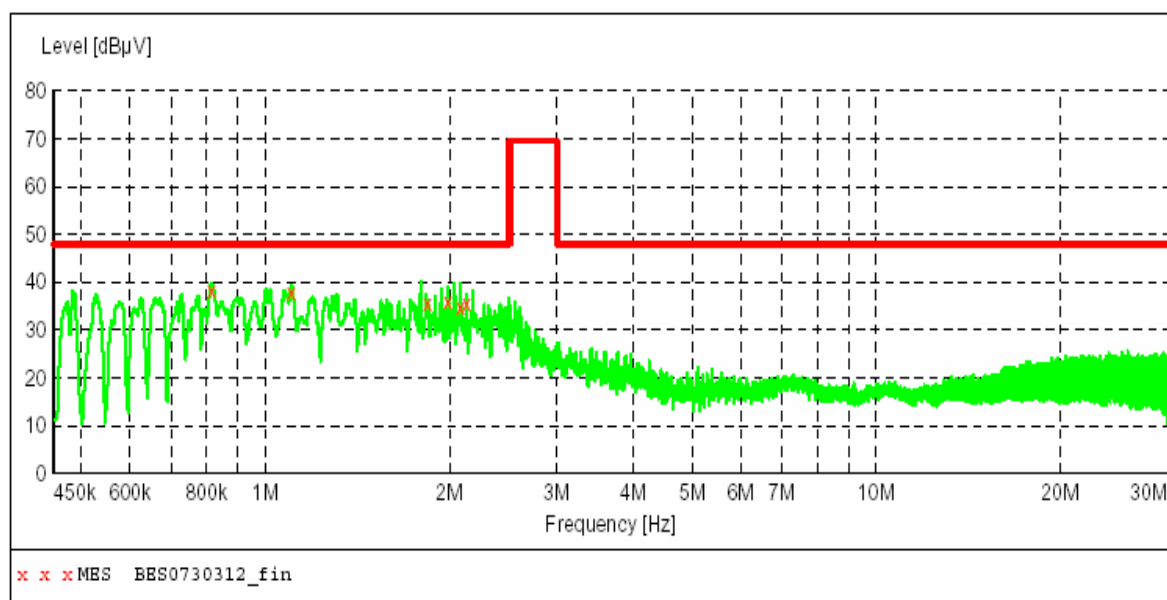
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.483000	47.10	10.1	48	0.8	QP	L1	GND
0.487500	46.00	10.1	48	1.9	QP	L1	GND
0.523500	44.50	10.1	48	3.4	QP	L1	GND
0.649500	41.70	10.1	48	6.2	QP	L1	GND
0.802500	40.70	10.1	48	7.2	QP	L1	GND

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

EUT: CFL M/N:HLDT3S18W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730312_fin"**

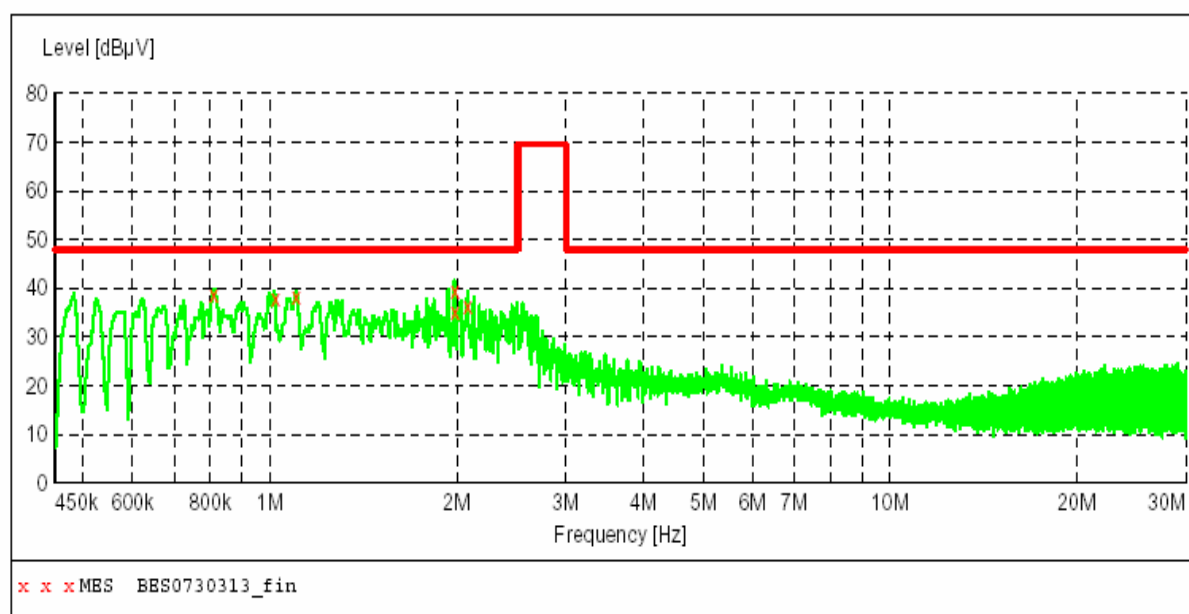
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.816000	38.20	10.1	48	9.7	QP	L1	GND
1.104000	37.70	10.2	48	10.2	QP	L1	GND
1.837500	35.30	10.2	48	12.6	QP	L1	GND
1.986000	36.00	10.2	48	11.9	QP	L1	GND
2.080500	34.50	10.2	48	13.4	QP	L1	GND
2.125500	35.40	10.2	48	12.5	QP	L1	GND

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

EUT: CFL M/N:HLDT3S18W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730313_fin"**

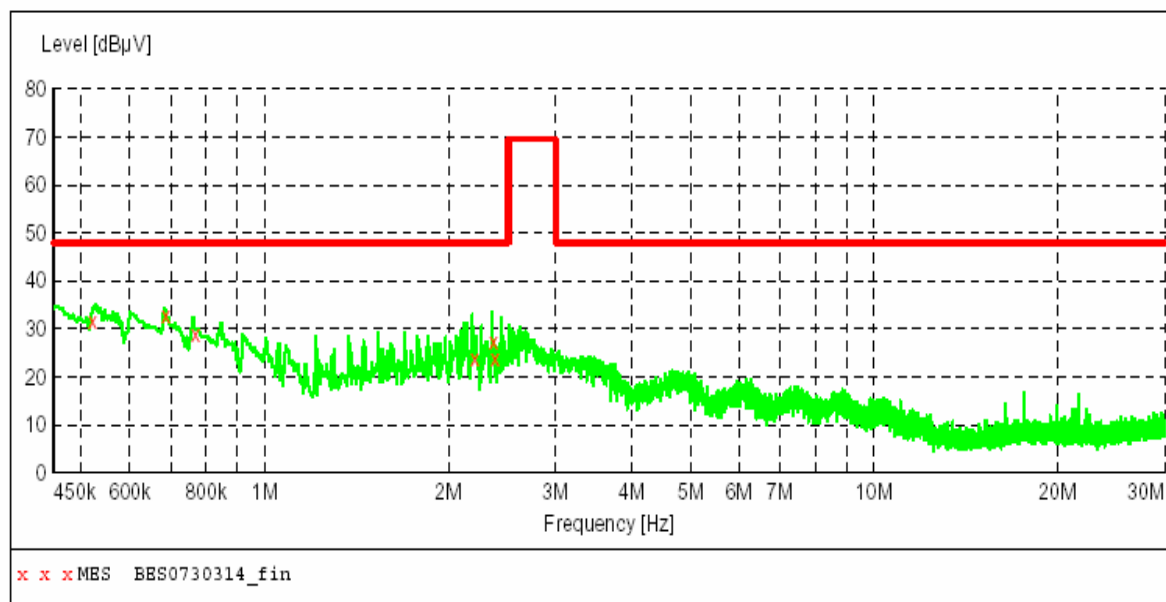
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.811500	38.70	10.1	48	9.2	QP	N	GND
1.018500	37.70	10.2	48	10.2	QP	N	GND
1.104000	38.10	10.2	48	9.8	QP	N	GND
1.981500	35.10	10.2	48	12.8	QP	N	GND
1.986000	39.30	10.2	48	8.6	QP	N	GND
2.080500	36.20	10.2	48	11.7	QP	N	GND

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

EUT: CFL M/N:HLDT3S23W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730314_fin"**

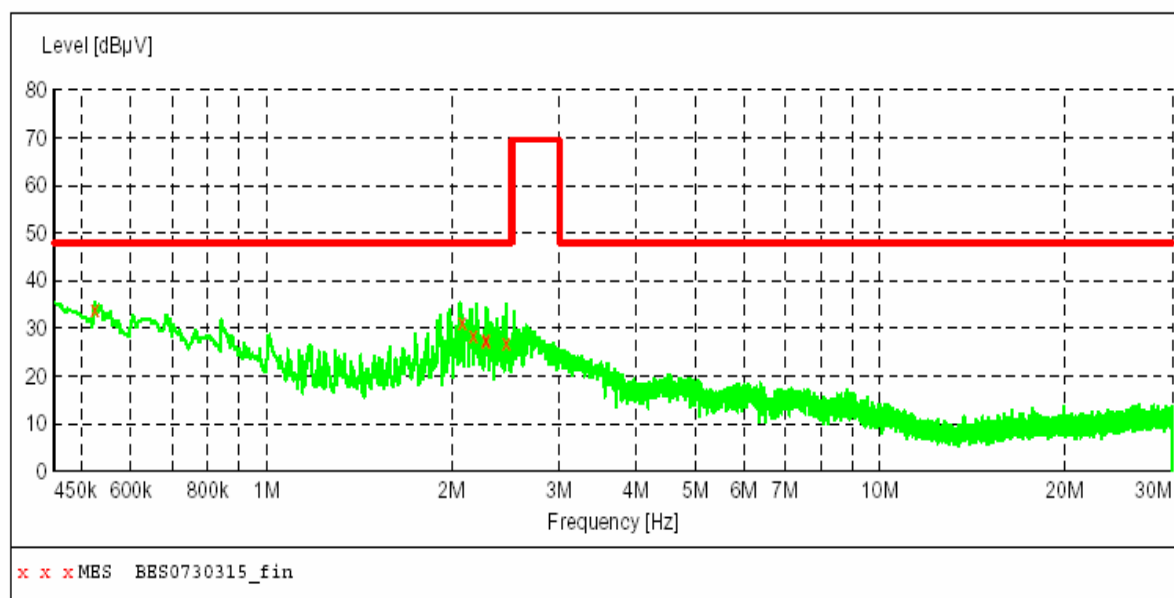
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.519000	31.70	10.1	48	16.2	QP	N	GND
0.685500	32.70	10.1	48	15.2	QP	N	GND
0.766500	28.90	10.1	48	19.0	QP	N	GND
2.206500	23.80	10.2	48	24.1	QP	N	GND
2.364000	27.40	10.2	48	20.5	QP	N	GND
2.377500	23.70	10.2	48	24.2	QP	N	GND

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

EUT: CFL M/N:HLDT3S23W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730315_fin"**

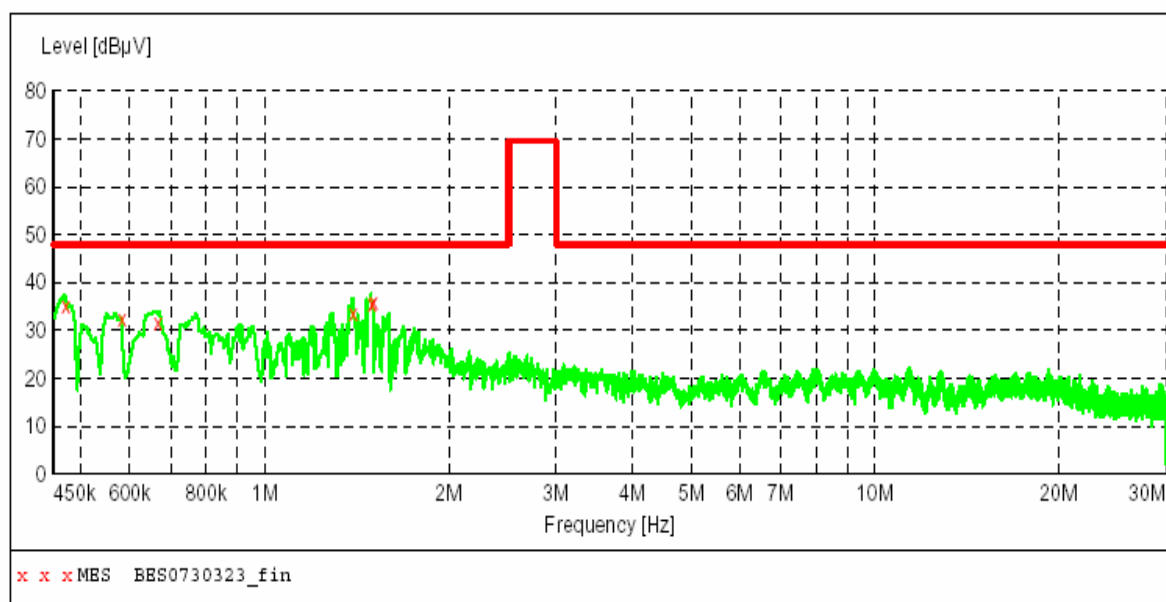
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.523500	34.00	10.1	48	13.9	QP	L1	GND
2.076000	31.10	10.2	48	16.8	QP	L1	GND
2.166000	28.40	10.2	48	19.5	QP	L1	GND
2.274000	27.10	10.2	48	20.8	QP	L1	GND
2.278500	27.60	10.2	48	20.3	QP	L1	GND
2.449500	26.90	10.2	48	21.0	QP	L1	GND

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

EUT: CFL M/N:HLT3G3019W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730323_fin"**

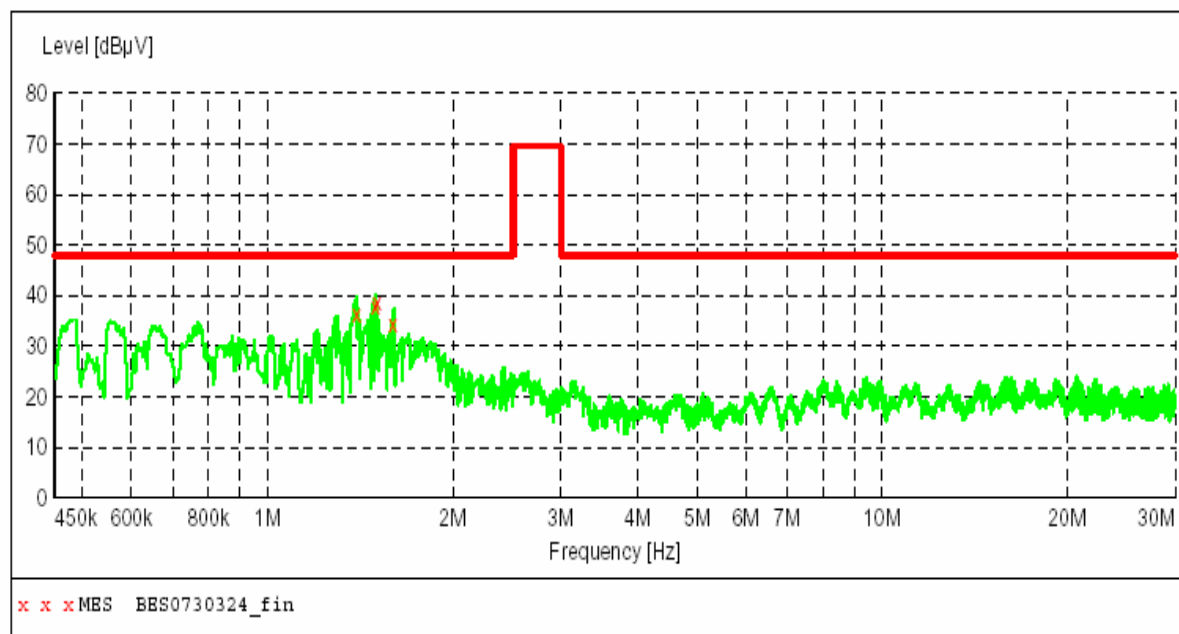
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.469500	35.20	10.1	48	12.7	QP	L1	GND
0.582000	32.20	10.1	48	15.7	QP	L1	GND
0.667500	31.70	10.1	48	16.2	QP	L1	GND
1.396500	33.50	10.2	48	14.4	QP	L1	GND
1.495500	35.40	10.2	48	12.5	QP	L1	GND
1.504500	35.80	10.2	48	12.1	QP	L1	GND

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

EUT: CFL M/N:HLT3G3019W
Manufacturer: Homelite
Operating Condition: ON
Test Site: 3# SHIELDED ROOM
Operator: GENE
Test Specification: AC 120V/60Hz
Comment:
Start of Test: 7/30/2010

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "BES0730324_fin"**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
1.396500	36.10	10.2	48	11.8	QP	N	GND
1.500000	37.70	10.2	48	10.2	QP	N	GND
1.504500	38.60	10.2	48	9.3	QP	N	GND
1.594500	34.20	10.2	48	13.7	QP	N	GND