

# FCC PART 18

## EMI MEASUREMENT AND TEST REPORT

for

### Homelite Limited

Building 1, No 319, Jiugan Rd, Sijing Town, Songjiang District, Shanghai

## FCC ID: WSUBFRD1108

Nov 09, 2011

Product Name:	CFL
Model No:	HLFD15W; HLFD18W; HLFD23W; HLFDR15W; HLT4S12/20/26W; HLT4S15/26/40W; HLFR13W; HLGU11W
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Report No.:	BTR66.180.10.030.26
Sample Received Date:	Oct 07, 2011
Test Performed Date:	Nov 01, 2011 to Nov 04, 2011
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BEST

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

The Homelite Limited's model HLF15W; HLF18W; HLF23W; HLF15W; HLT4S12/20/26W; HLT4S15/26/40W; HLF13W; HLG11W 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	HLF15W	Electrical Power	15W
Model	HLF18W	Electrical Power	18W
Model	HLF23W	Electrical Power	23W
Model	HLF15W	Electrical Power	15W
Model	HLT4S12/20/26W	Electrical Power	12W/20W/26W
Model	HLT4S15/26/40W	Electrical Power	15W/26W/40W
Model	HLF13W	Electrical Power	13W
Model	HLG11W	Electrical Power	11W

*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.

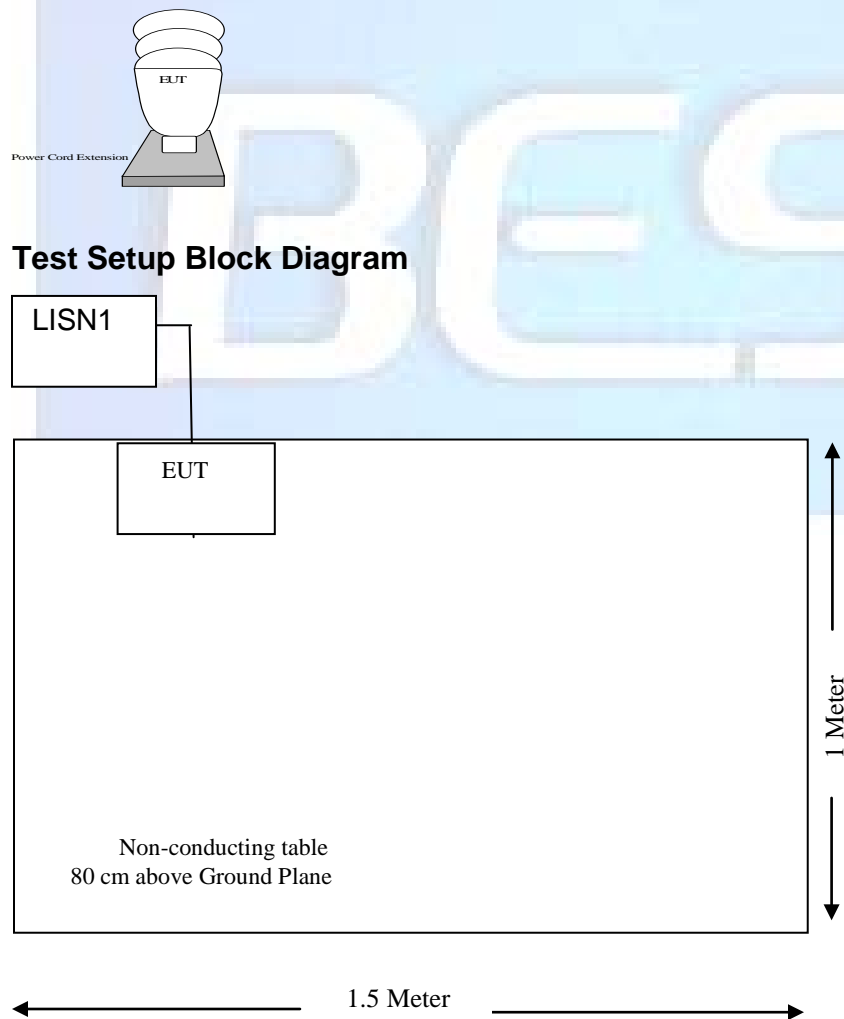
### Schematics / Block Diagram

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



## 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  $\mu$ H/50 ohms line impedance stabilization network (LISN).

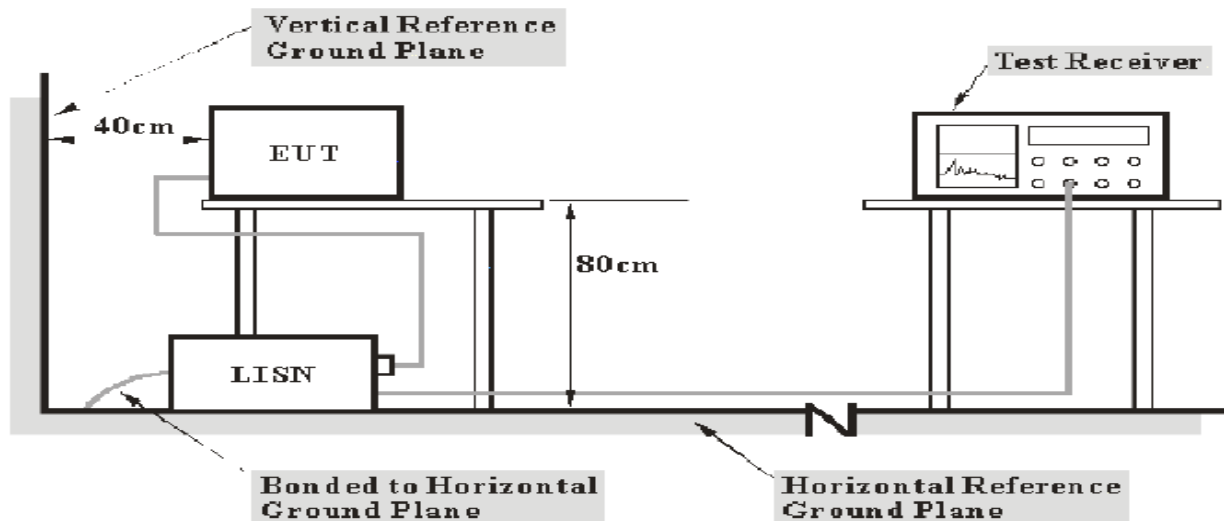
Frequency Range (MHz)	Max RF Voltage ( $\mu$ V)	Max RF Voltage (dB $\mu$ V)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

### 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, the best estimate of the uncertainty of any conducted emissions measurement at BEST TEST SERVICE Shenzhen CO., LTD. is  $\pm 2.0$  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	2011-08-05	2012-08-05
ROHDE & SCHWARZ	L.I.S.N	ESH2-Z5	100028	2011-08-05	2012-08-05
ROHDE & SCHWARZ	Pulse Limiter	ESHSZ2	100044	2011-08-05	2012-08-05

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 $\mu$ V of specification limits). Quasi-peak readings are distinguished with a "Qp".

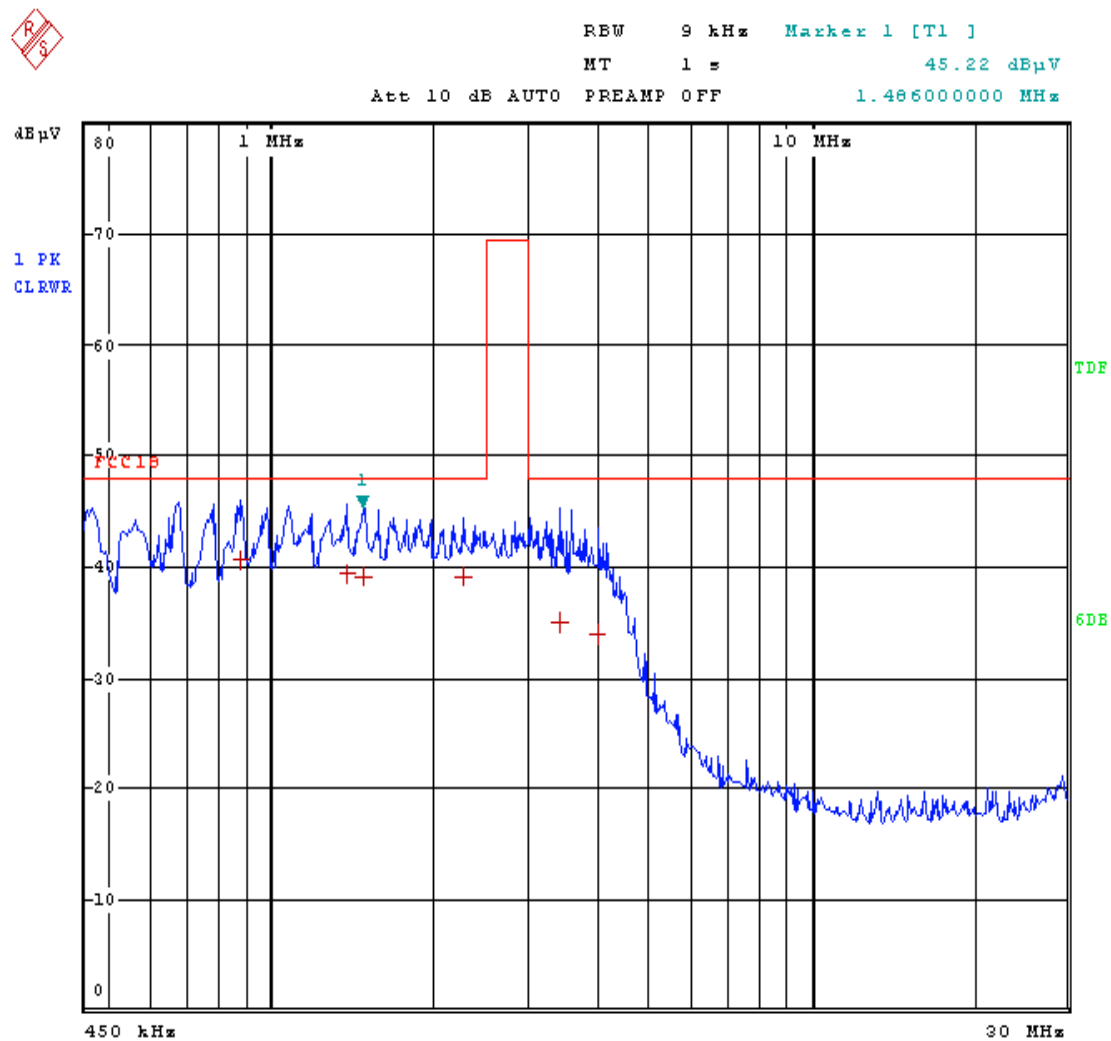
The EUT was tested under the normal modes during the final qualification test to represent the worst-case results.

## 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



Manuf: Homelite M/N: HLFD18W MOME: ON POWER: L AC 120V/6

0Hz

Date: 4.NOV.2011 16:09:36

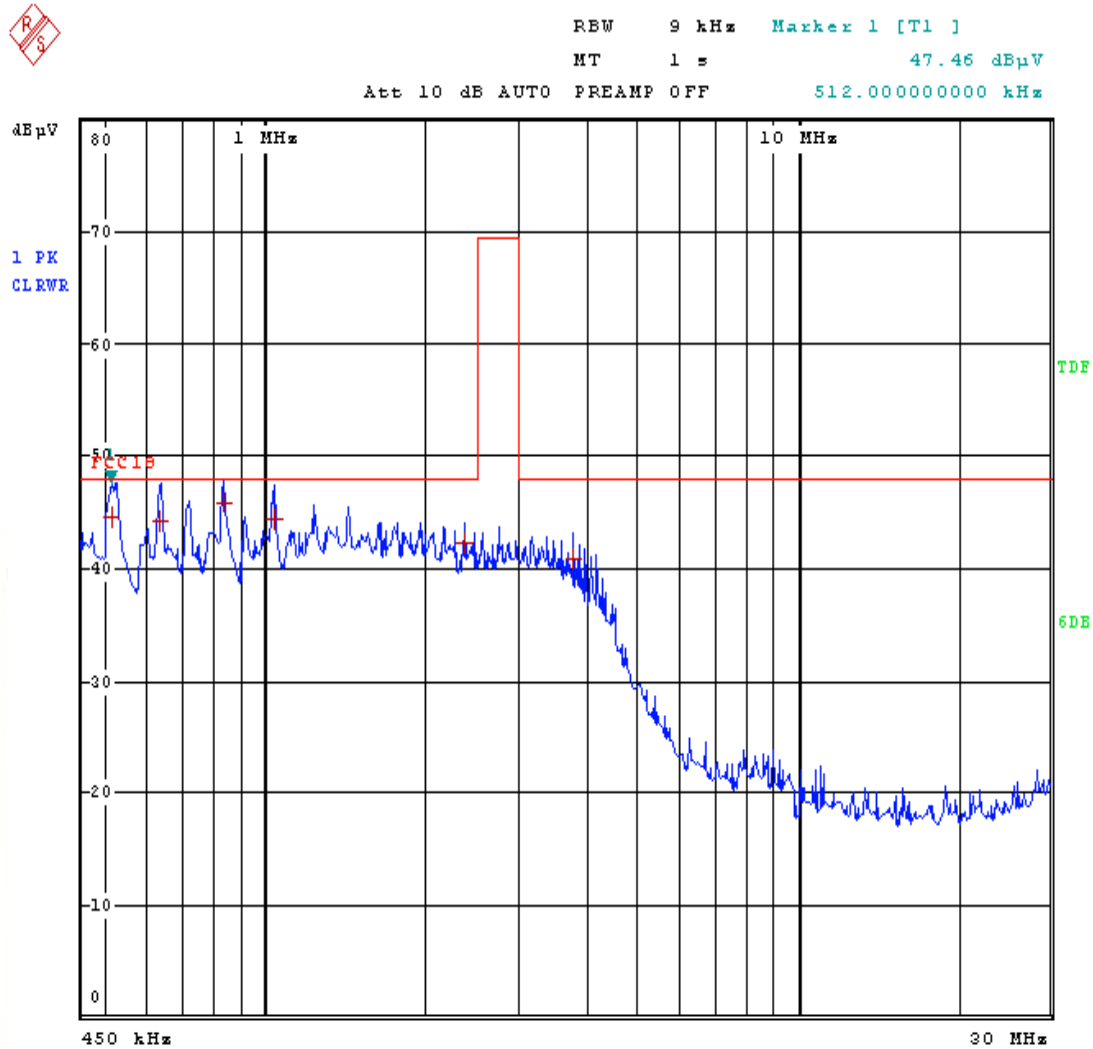
EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	878 kHz	40.67	-7.32
1 Quasi Peak	1.388 MHz	39.30	-8.69
1 Quasi Peak	1.486 MHz	39.22	-8.77
1 Quasi Peak	2.28 MHz	39.22	-8.77
1 Quasi Peak	3.42 MHz	34.90	-13.09
1 Quasi Peak	4.015 MHz	33.81	-14.18

Manuf: Homelite M/N: HLPD18W MOME: ON POWER: L AC 120V/6

0Hz

Date: 4.NOV.2011 16:09:24





Manuf: Homelite M/N: HLF18W MOME: ON POWER: N AC 120V/6

0Hz

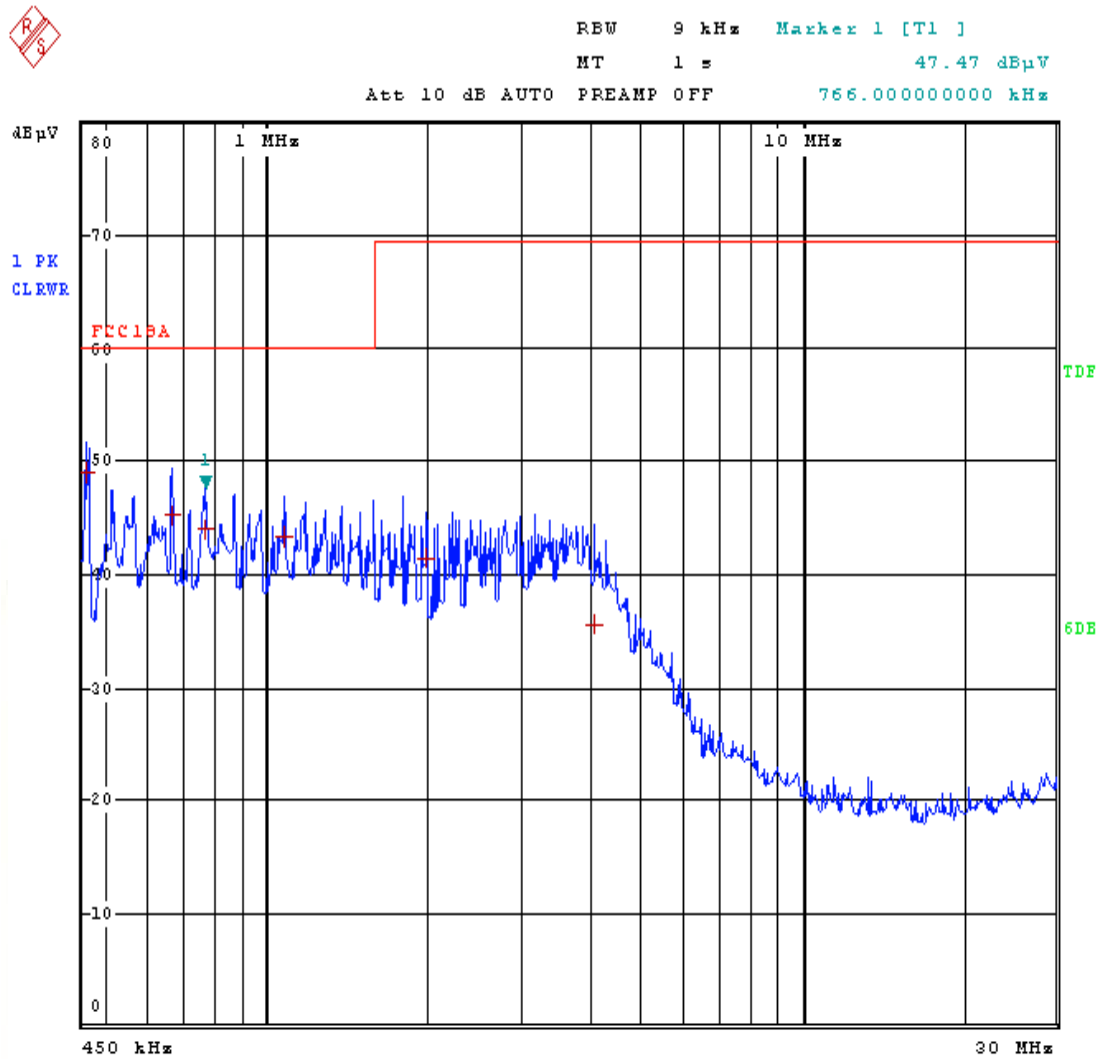
Date: 4.NOV.2011 16:11:47

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	512 kHz	44.53	-3.46
1 Quasi Peak	634 kHz	44.18	-3.81
1 Quasi Peak	838 kHz	45.95	-2.04
1 Quasi Peak	1.036 MHz	44.38	-3.61
1 Quasi Peak	2.365 MHz	42.21	-5.78
1 Quasi Peak	3.795 MHz	40.86	-7.13

Manuf:Homelite M/N:HLFD18W MOM:ON POWER:N AC 120V/6

0Hz

Date: 4.NOV.2011 16:11:37



Manuf:Homelite M/N:HLFD23W MOME:ON POWER:N AC 120V/6

0Hz

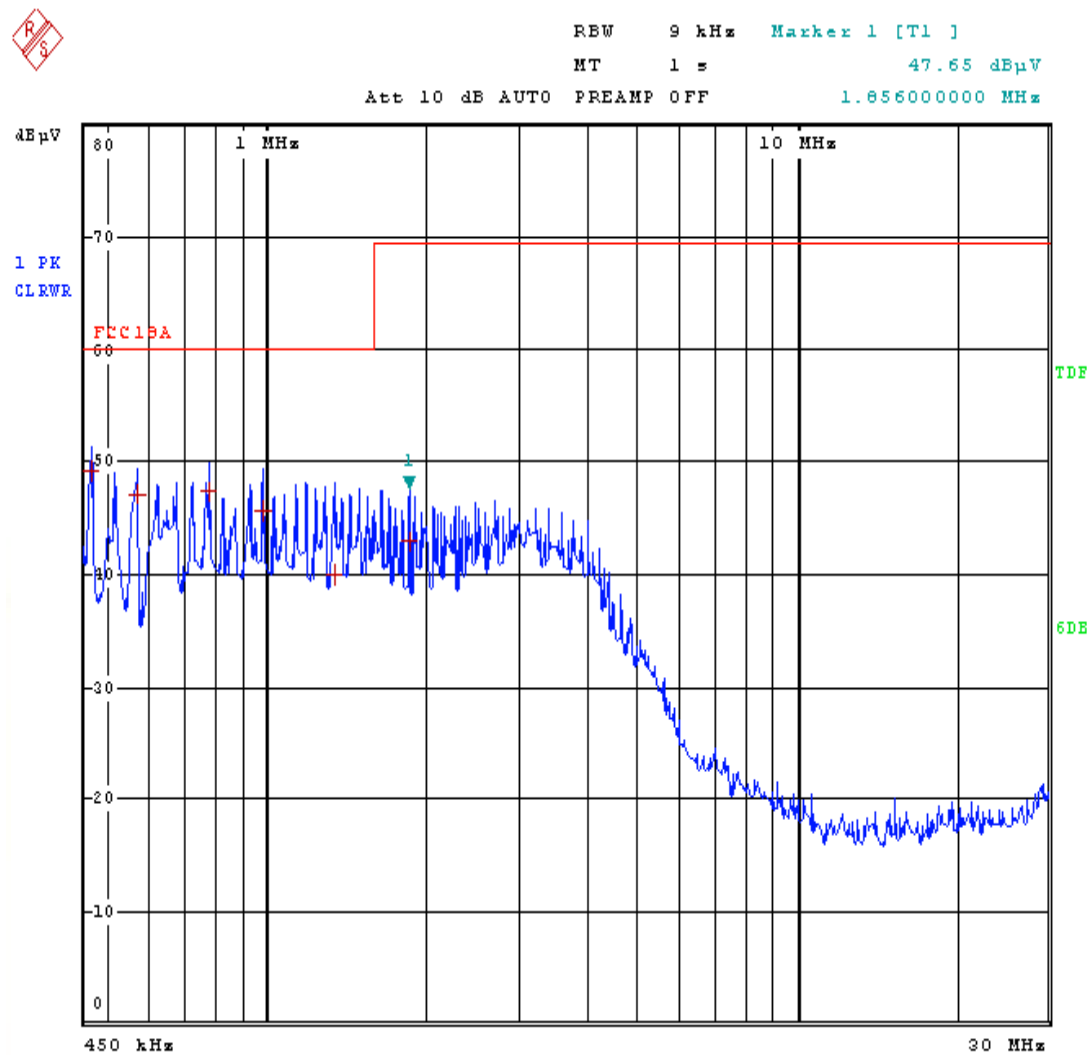
Date: 4.NOV.2011 16:19:23

EDIT PEAR LIST (Final Measurement Results)			
Trace1:	FCC18A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	460 kHz	49.09	-10.90
1 Quasi Peak	664 kHz	45.21	-14.78
1 Quasi Peak	766 kHz	43.93	-16.06
1 Quasi Peak	1.08 MHz	43.37	-16.62
1 Quasi Peak	1.996 MHz	41.44	-28.06
1 Quasi Peak	4.1 MHz	35.64	-33.85

Manuf:Homelite M/N:HLFD23W MOME:ON POWER:N AC 120V/6

0Hz

Date: 4.NOV.2011 16:19:12



Manuf: Homelite      M/N: HLFD23W      MOME: ON      POWER: L AC 120V/6

0 Hz

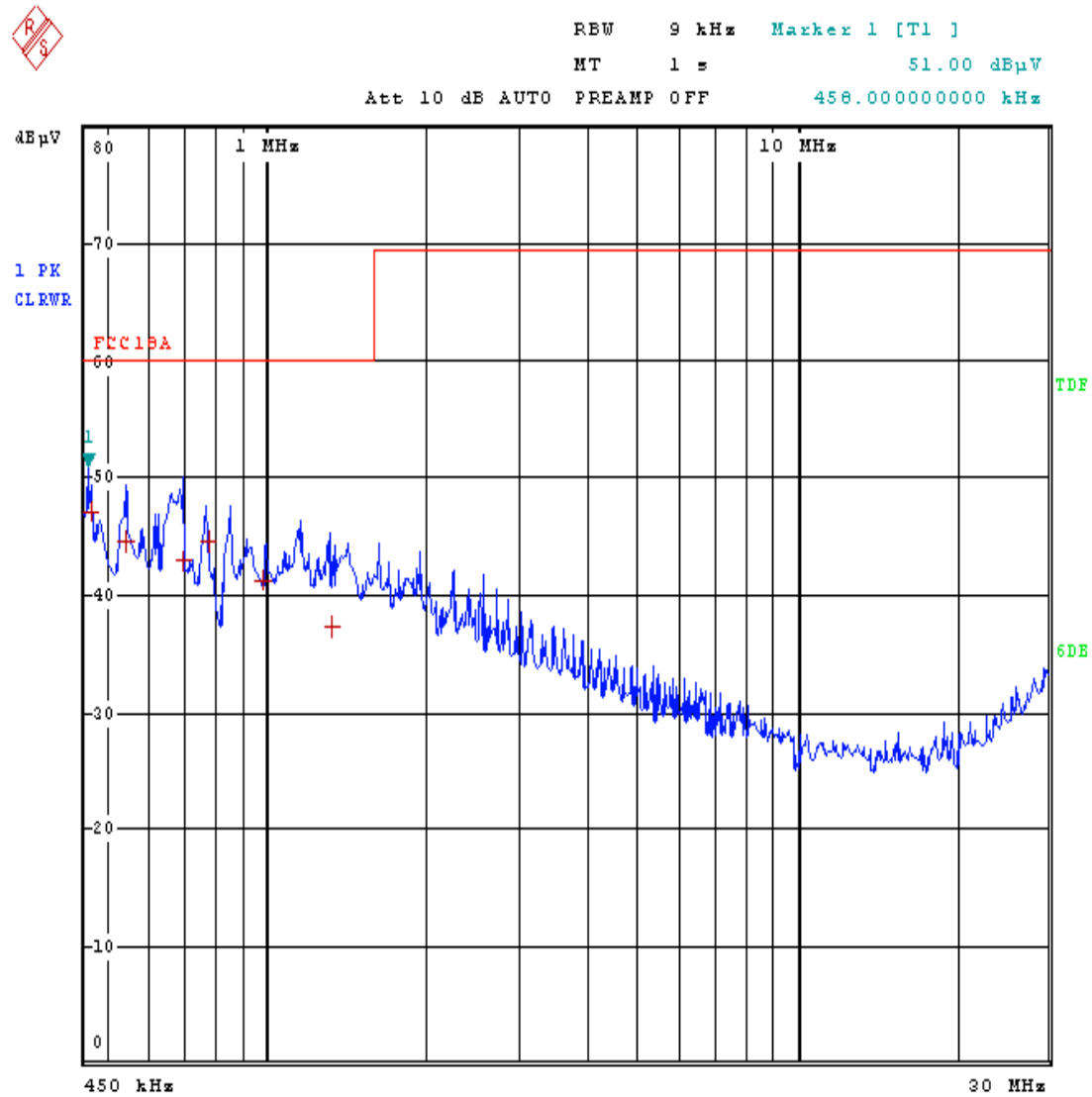
Date: 4.NOV.2011 16:22:26

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	464 kHz	49.18	-10.81
1 Quasi Peak	566 kHz	47.19	-12.80
1 Quasi Peak	774 kHz	47.45	-12.54
1 Quasi Peak	978 kHz	45.64	-14.36
1 Quasi Peak	1.336 MHz	40.06	-19.93
1 Quasi Peak	1.856 MHz	42.90	-26.59

Manuf:Homelite M/N:HLFD23W MOME:ON POWER:L AC 120V/6

0Hz

Date: 4.NOV.2011 16:22:16



Manuf:Homelite M/N:HLFD15W MOME:ON POWER:L AC 120V/6

0Hz

Date: 4.NOV.2011 16:27:22

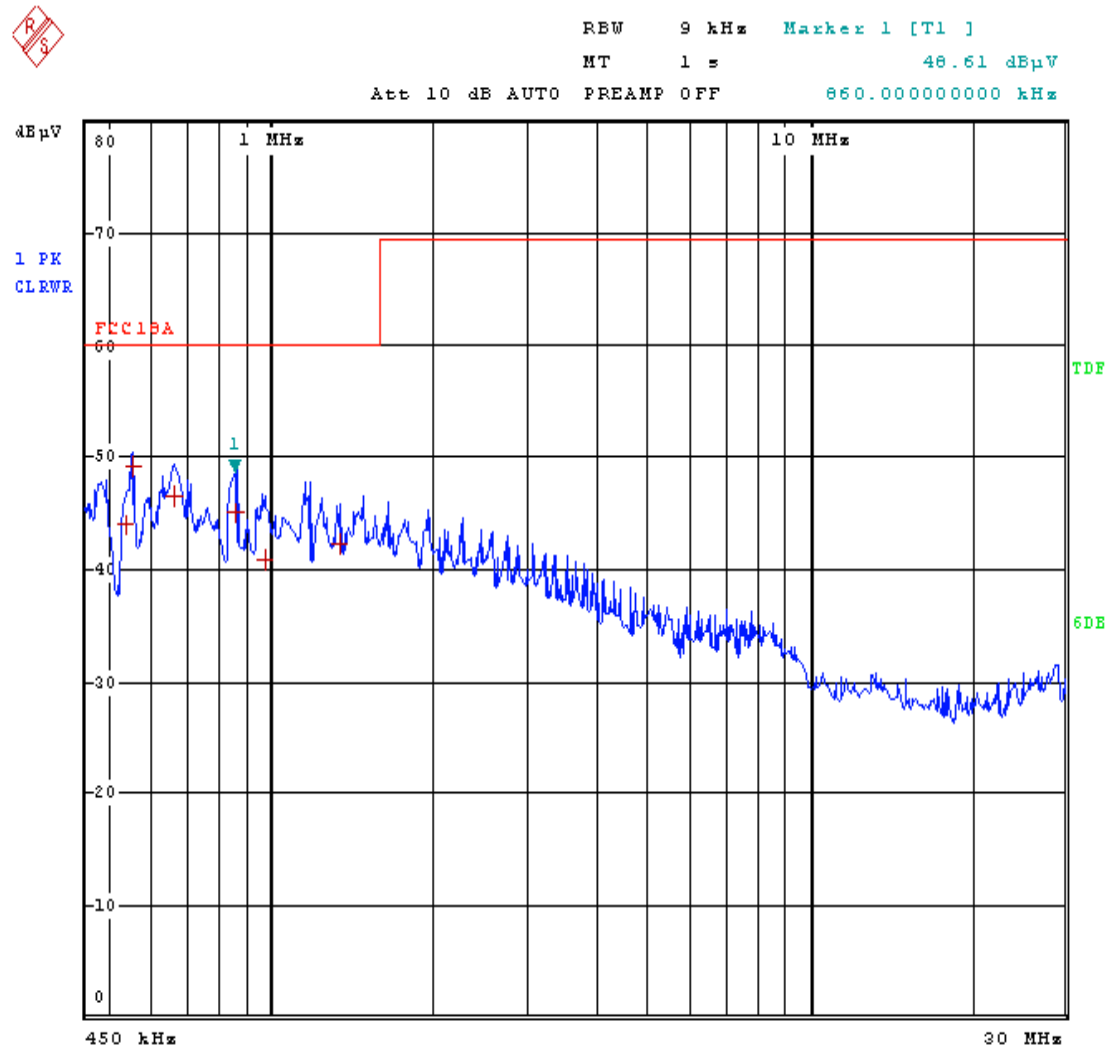
EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC16A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	464 kHz	47.24	-12.75
1 Quasi Peak	538 kHz	44.60	-15.39
1 Quasi Peak	692 kHz	42.92	-17.07
1 Quasi Peak	774 kHz	44.61	-15.38
1 Quasi Peak	978 kHz	41.29	-18.70
1 Quasi Peak	1.336 MHz	37.20	-22.79

Manuf:Homelite M/N:HLFD15W MOME:ON POWER:L AC 120V/6

0Hz

Date: 4.NOV.2011 16:27:06





Manuf:Homelite M/N:HLFD15W MOME:ON POWER:N AC 120V/6

0 Hz

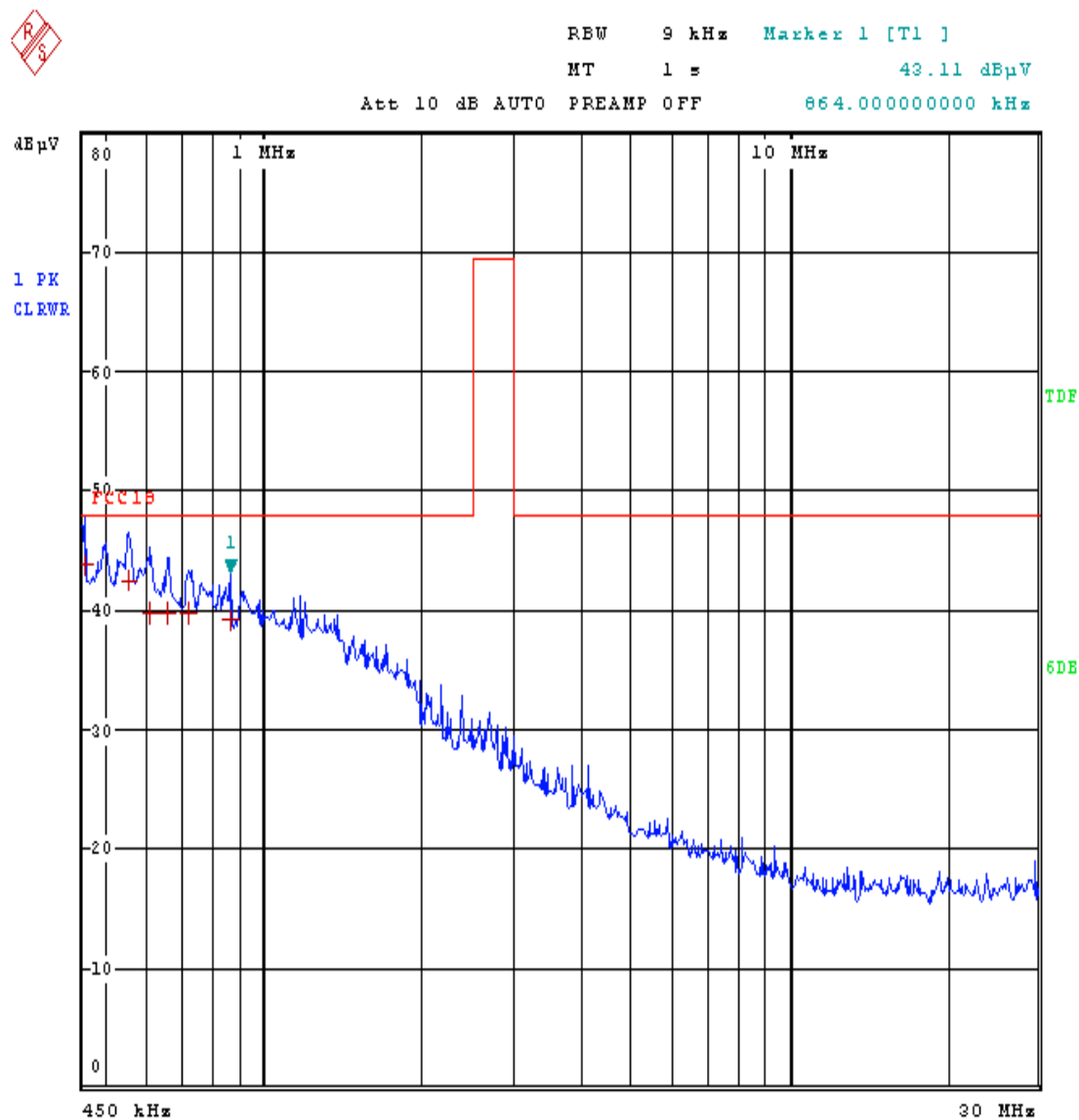
Date: 4.NOV.2011 16:30:02

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	538 kHz	43.93	-16.06
1 Quasi Peak	552 kHz	49.33	-10.66
1 Quasi Peak	662 kHz	46.44	-13.55
1 Quasi Peak	860 kHz	45.00	-14.99
1 Quasi Peak	978 kHz	40.81	-19.18
1 Quasi Peak	1.336 MHz	42.31	-17.68

Manuf: Homelite      M/N: HLF15W      MOME: ON      POWER: N AC 120V/6

0Hz

Date: 4.NOV.2011 16:29:50



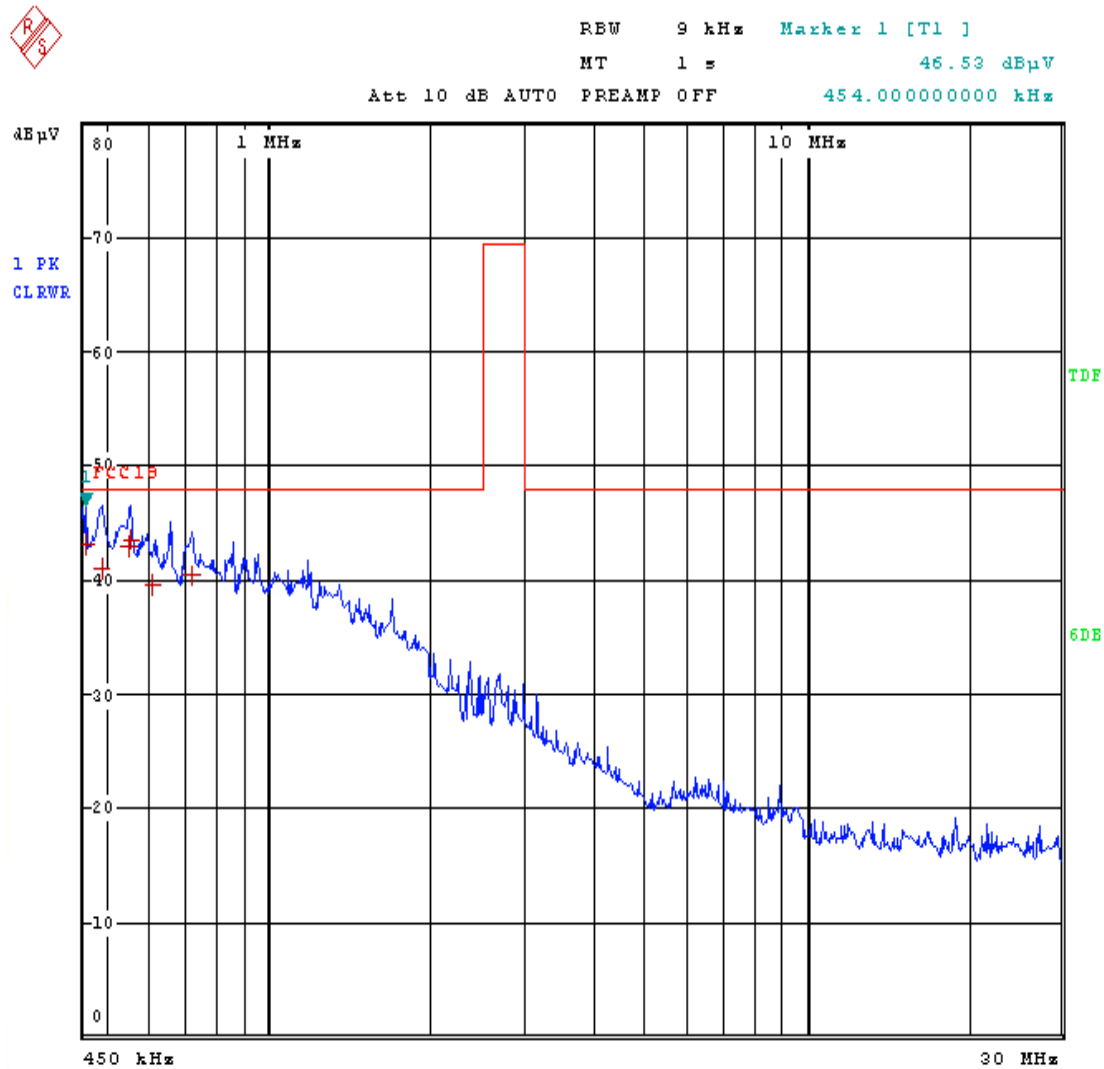
Manuf:Homelite M/N:HLFDR15W MOME:ON POWER:L 120V/60Hz

Date: 4.NOV.2011 16:52:03

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	454 kHz	43.74	-4.25
1 Quasi Peak	552 kHz	42.41	-5.58
1 Quasi Peak	606 kHz	39.69	-8.30
1 Quasi Peak	654 kHz	39.88	-8.11
1 Quasi Peak	720 kHz	39.69	-8.30
1 Quasi Peak	864 kHz	39.16	-8.83

Manuf:Homelite M/N:HLFDR15W MOME:ON POWER:L 120V/60Hz

Date: 4.NOV.2011 16:51:50



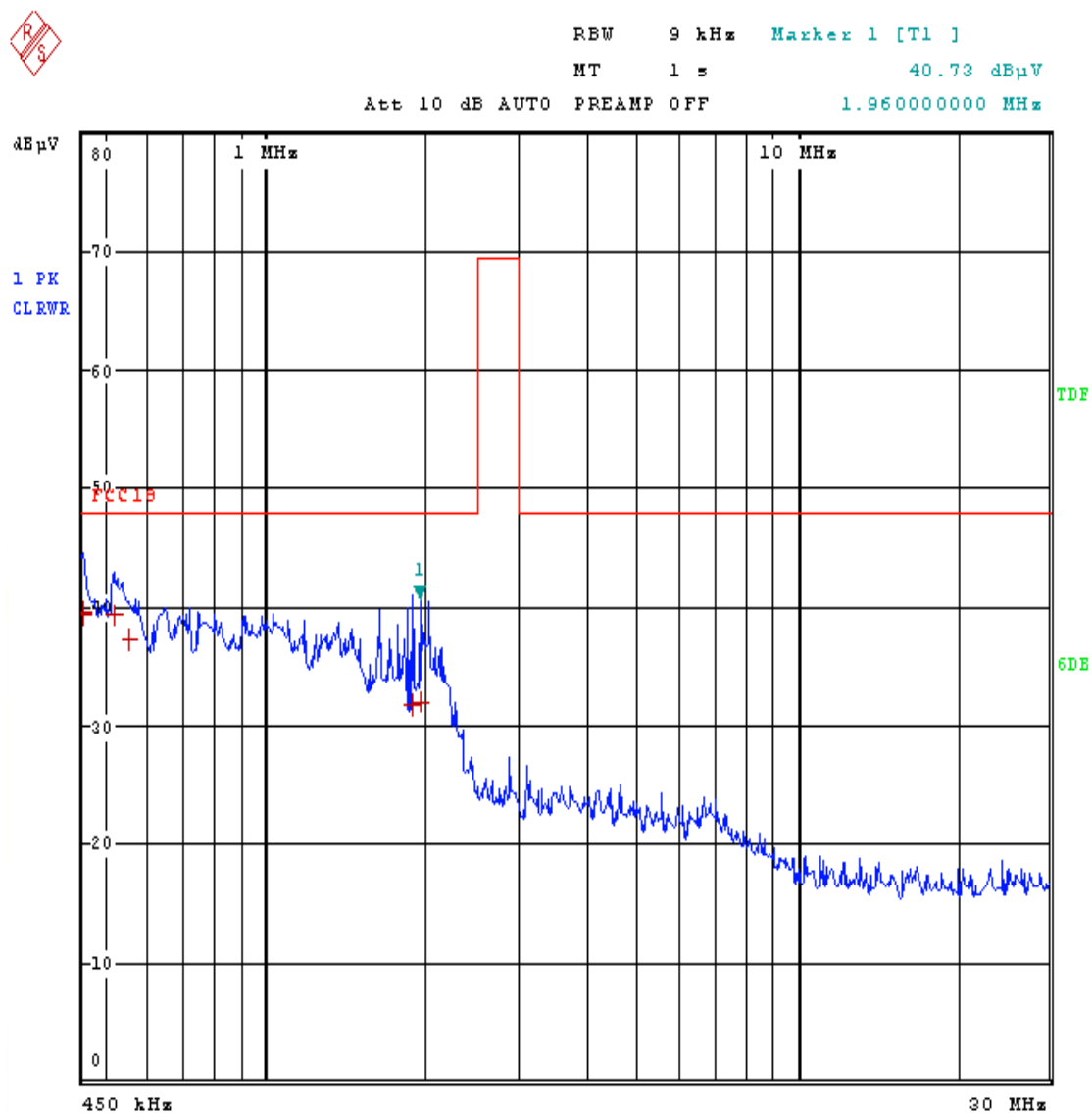
Manuf: Homelite M/N: HLFDR15W MOME: ON POWER: N 120V/60Hz

Date: 4.NOV.2011 16:54:34

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	454 kHz	43.06	-4.93
1 Quasi Peak	486 kHz	41.14	-6.85
1 Quasi Peak	552 kHz	42.97	-5.02
1 Quasi Peak	554 kHz	43.56	-4.43
1 Quasi Peak	606 kHz	39.64	-8.35
1 Quasi Peak	720 kHz	40.33	-7.66

Manuf:Homelite M/N:HLFDR15W MOME:ON POWER:N 120V/60Hz

Date: 4.NOV.2011 16:54:24



Manuf: Homelite      M/N: HLFR13W    MOME: ON    POWER: N    120V/60Hz

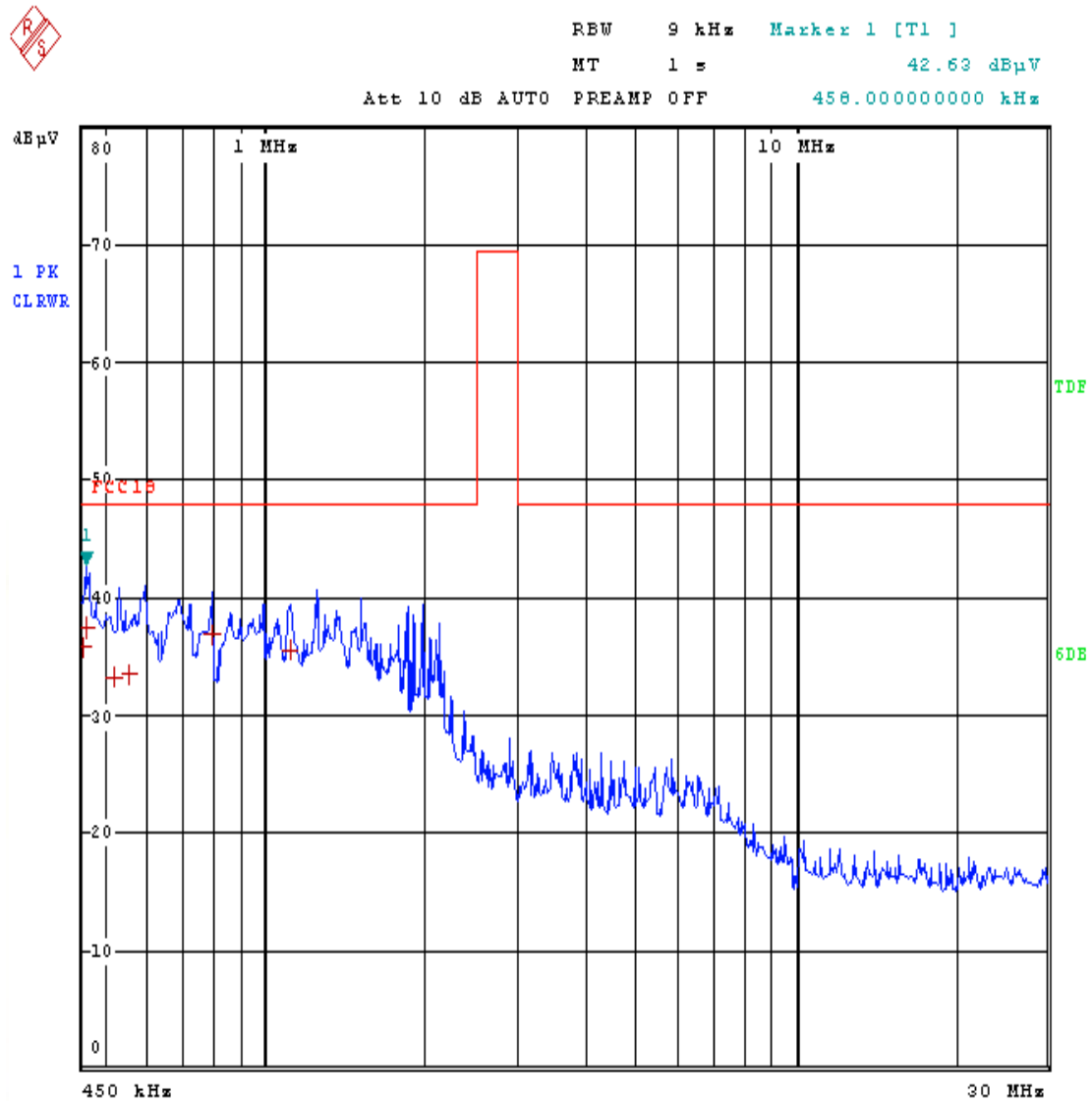
Date: 4.NOV.2011 16:58:15

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC16		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	452 kHz	39.39	-8.60
1 Quasi Peak	454 kHz	39.65	-8.34
1 Quasi Peak	516 kHz	39.45	-8.54
1 Quasi Peak	554 kHz	37.28	-10.71
1 Quasi Peak	1.694 MHz	31.81	-16.18
1 Quasi Peak	1.96 MHz	31.96	-16.03

Manuf:Homelite M/N:HLFR13W MOME:ON POWER:N 120V/60Hz

Date: 4.NOV.2011 16:58:06





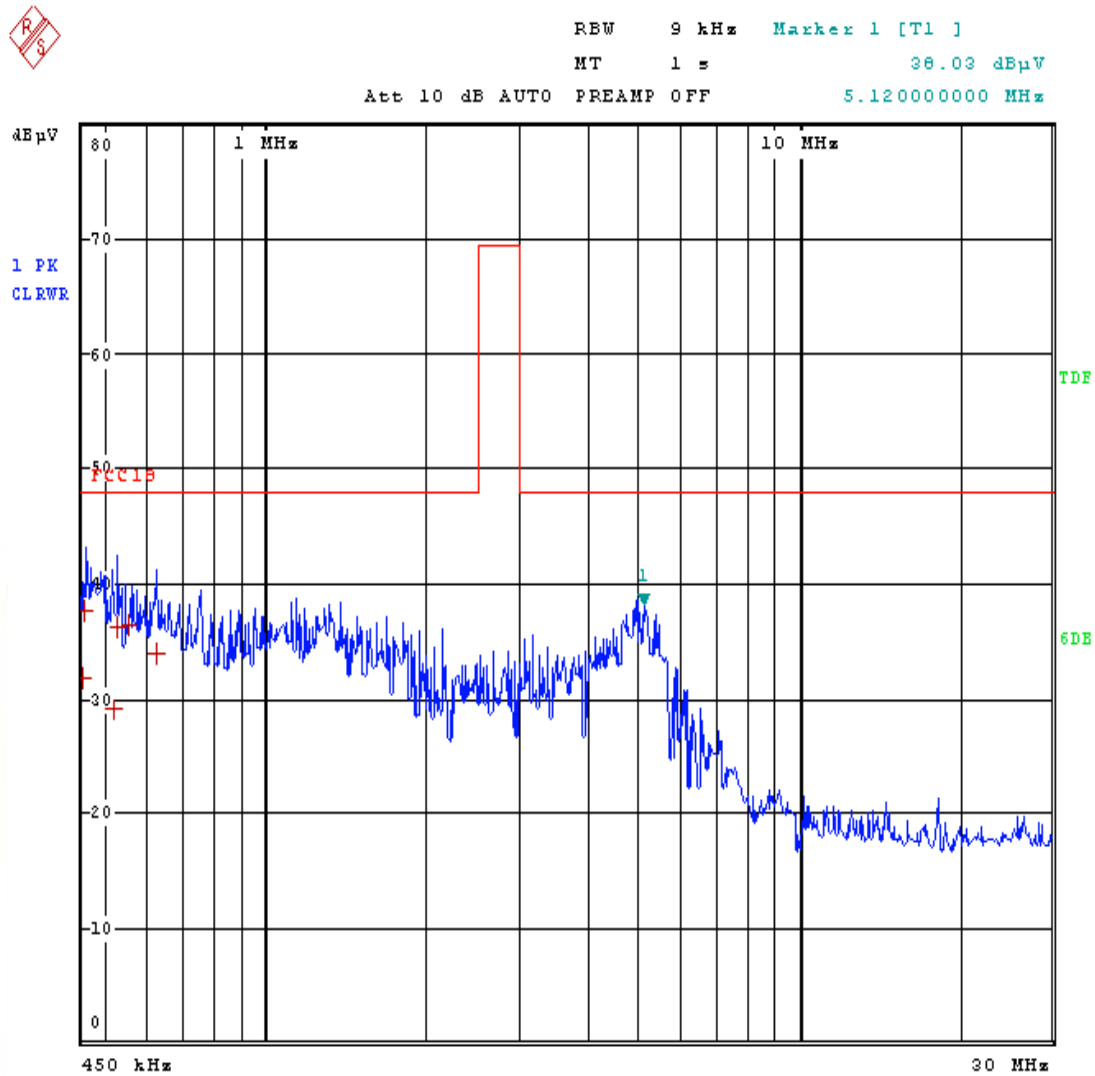
Manuf: Homelite M/N: HLFR13W MOME: ON POWER: L 120V/60Hz

Date: 4.NOV.2011 17:00:46

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	452 kHz	35.72	-12.27
1 Quasi Peak	458 kHz	37.54	-10.45
1 Quasi Peak	516 kHz	33.32	-14.67
1 Quasi Peak	554 kHz	33.53	-14.46
1 Quasi Peak	794 kHz	36.06	-11.13
1 Quasi Peak	1.112 MHz	35.67	-12.32

Manuf:Homelite M/N:HLFR13W MOME:ON POWER:L 120V/60Hz

Date: 4.NOV.2011 17:00:37



Manuf:Homelite M/N:HOME LITE HLT4S12/20/26W

MOME:ON

POWER:L 120V/60Hz

Date: 4.NOV.2011 17:04:35

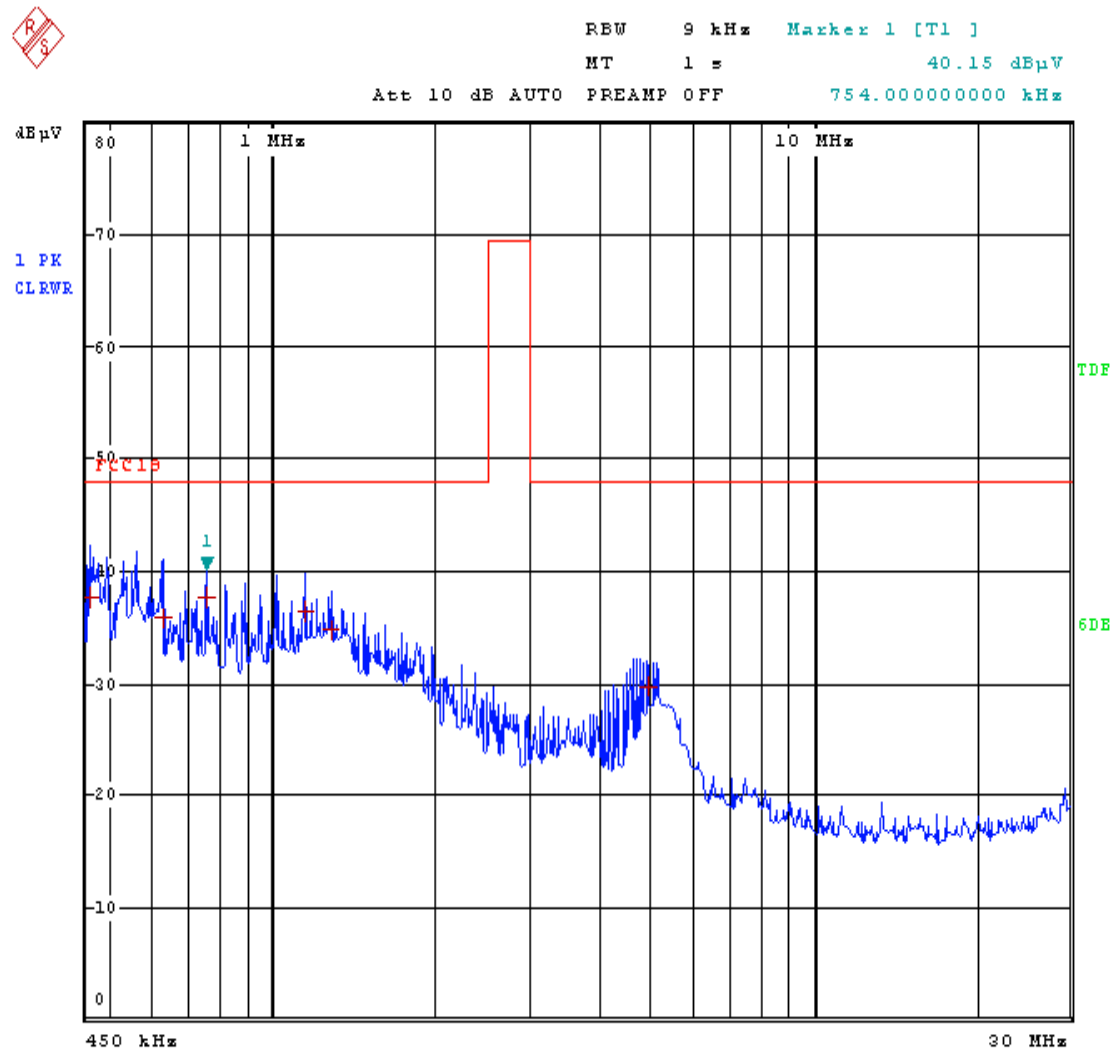
EDIT PEAK LIST (Final Measurement Results)				
Trace1:	FCC18			
Trace2:	---			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBμV	DELTA	LIMIT dB
1 Quasi Peak	452 kHz	31.71	-16.28	
1 Quasi Peak	458 kHz	37.78	-10.21	
1 Quasi Peak	516 kHz	29.12	-18.87	
1 Quasi Peak	524 kHz	36.20	-11.79	
1 Quasi Peak	554 kHz	36.42	-11.57	
1 Quasi Peak	620 kHz	33.89	-14.10	

Manuf:Homelite M/N:HOME LITE HLT4S12/20/26W

MOME:ON

POWER:L 120V/60Hz

Date: 4.NOV.2011 17:04:25



Manuf:Homelite M/N:HOME LITE HLT4S12/20/26W MOME:ON

POWER:N 120V/60Hz

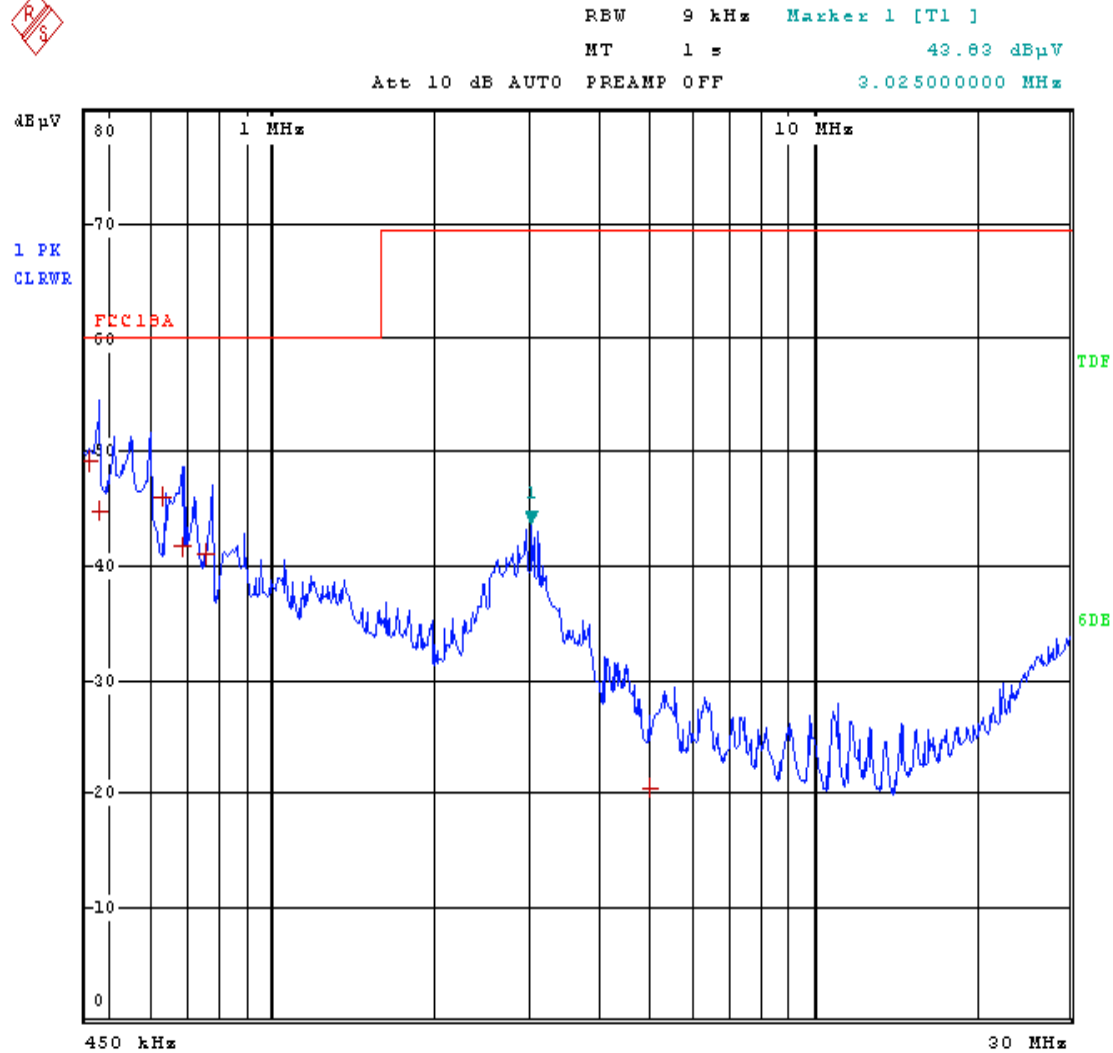
Date: 4.NOV.2011 17:07:09

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	458 kHz	37.64	-10.35
1 Quasi Peak	626 kHz	35.75	-12.25
1 Quasi Peak	754 kHz	37.59	-10.40
1 Quasi Peak	1.148 MHz	36.37	-11.62
1 Quasi Peak	1.28 MHz	34.79	-13.20
1 Quasi Peak	4.98 MHz	29.69	-18.30

Manuf:Homelite M/N:HOME LITE HLT4S12/20/26W MOME:ON

POWER:N 120V/60Hz

Date: 4.NOV.2011 17:06:59



Manuf:Homelite M/N:HOME LITE HLT4S15/26/40W MOME:ON

POWER:N 120V/60Hz

Date: 4.NOV.2011 17:11:00

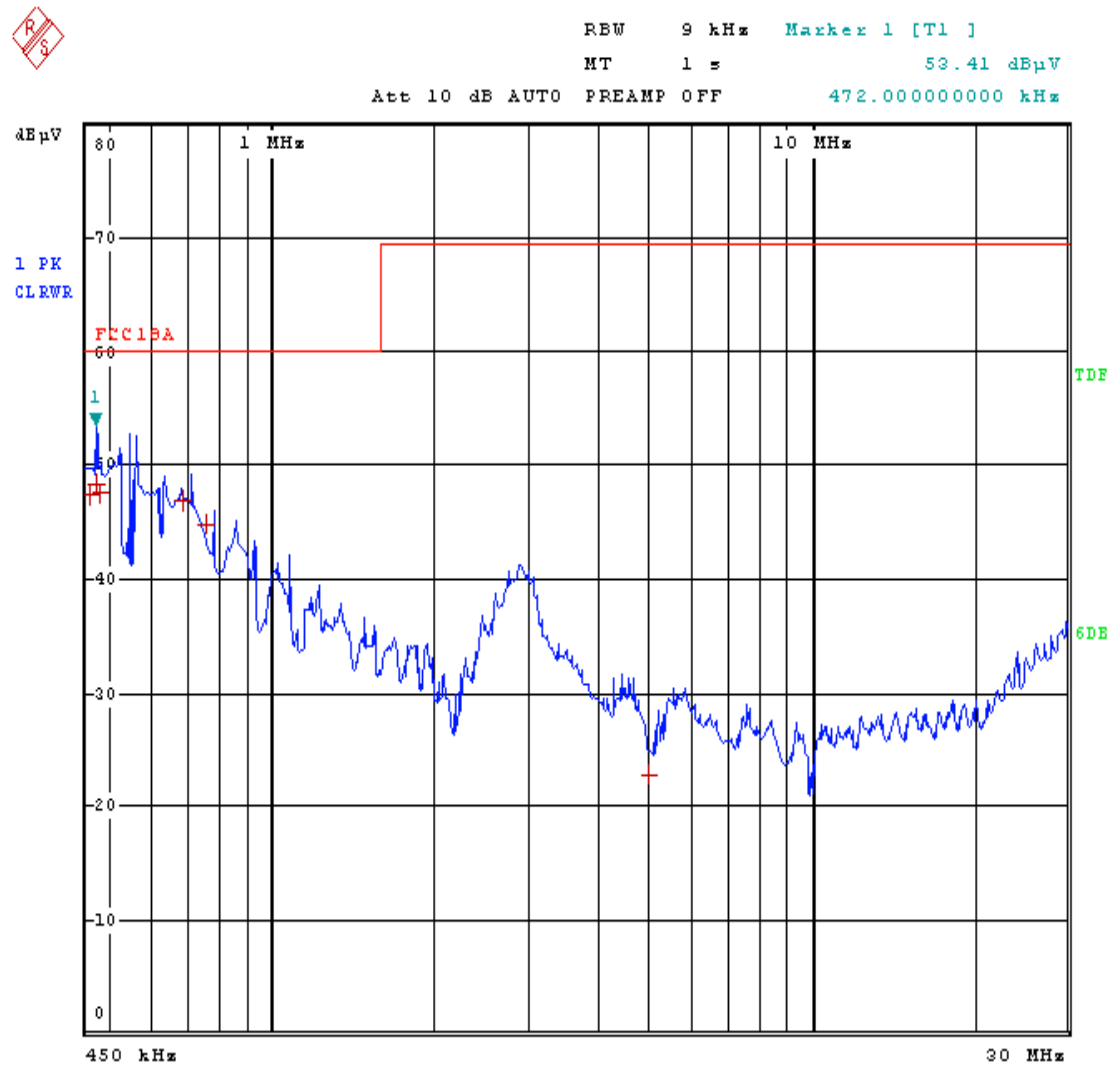
EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	458 kHz	49.14	-10.85
1 Quasi Peak	480 kHz	44.92	-15.07
1 Quasi Peak	626 kHz	46.04	-13.95
1 Quasi Peak	684 kHz	41.68	-18.31
1 Quasi Peak	754 kHz	41.02	-18.97
1 Quasi Peak	4.98 MHz	20.57	-48.93

Manuf:Homelite M/N:HOME LITE HLT4S15/26/40W MOME:ON

POWER:N 120V/60Hz

Date: 4.NOV.2011 17:10:51





Manuf:Homelite M/N:HOME LITE HLT4S15/26/40W MOME:ON

POWER:L 120V/60Hz

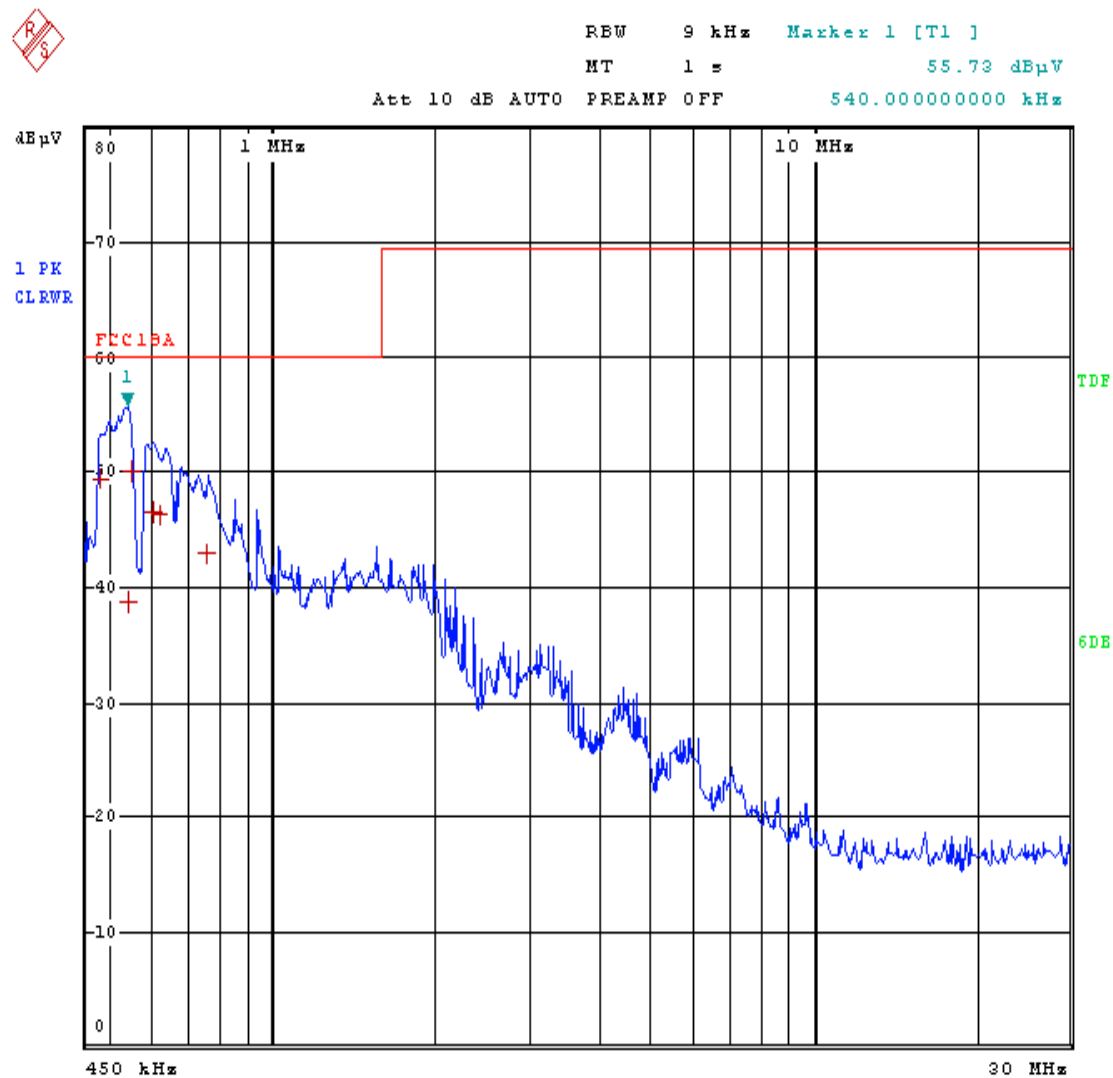
Date: 4.NOV.2011 17:13:21

EDIT PEAR LIST (Final Measurement Results)			
Trace1:	FCC18A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	458 kHz	47.44	-12.55
1 Quasi Peak	472 kHz	48.32	-11.67
1 Quasi Peak	480 kHz	47.54	-12.46
1 Quasi Peak	684 kHz	46.83	-13.16
1 Quasi Peak	754 kHz	44.76	-15.23
1 Quasi Peak	4.98 MHz	22.82	-46.67

Manuf: Homelite      M/N: HOME LITE HLT4S15/26/40W      MOME: ON

POWER: 120V/60Hz

Date: 4.NOV.2011 17:13:01



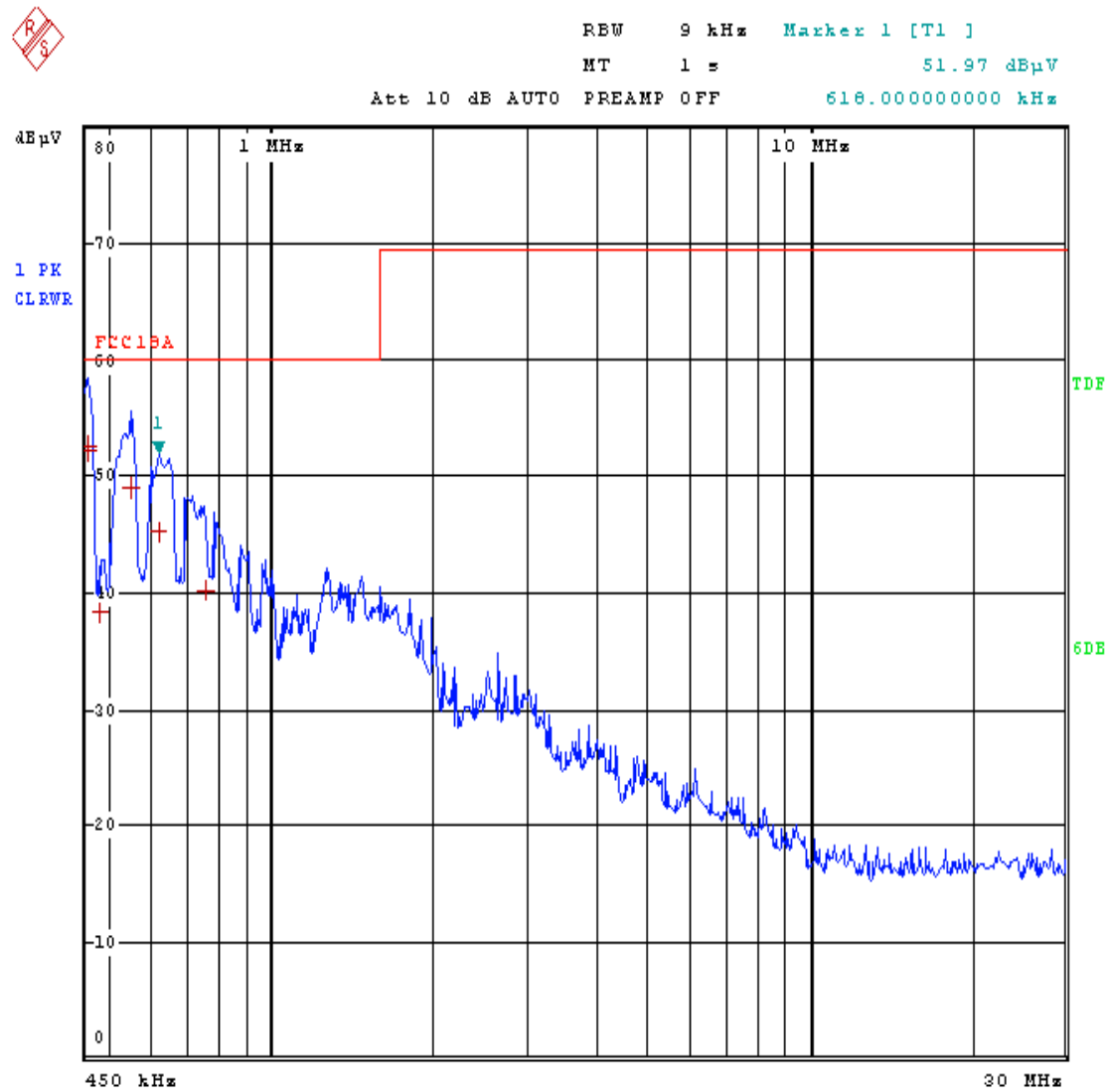
Manuf:Homelite M/N:HOME LITE HLGU11W MOME:ON POWER:L

120V/60Hz

Date: 4.NOV.2011 17:23:47

EDIT PEAR LIST (Final Measurement Results)			
Trace1:	FCC18A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	480 kHz	49.44	-10.55
1 Quasi Peak	540 kHz	38.66	-21.33
1 Quasi Peak	548 kHz	50.13	-9.66
1 Quasi Peak	604 kHz	46.46	-13.53
1 Quasi Peak	618 kHz	46.25	-13.74
1 Quasi Peak	754 kHz	42.94	-17.05

Manuf:Homelite      M/N:HOME LITE HLGU11W      MOME:ON      POWER:L  
120V/60Hz  
Date: 4.NOV.2011    17:23:37



Manuf:Homelite M/N:HOME LITE HLGU11W MOME:ON POWER:N

120V/60Hz

Date: 4.NOV.2011 17:20:46

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC18A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	456 kHz	52.58	-7.41
1 Quasi Peak	458 kHz	52.18	-7.81
1 Quasi Peak	480 kHz	38.36	-21.63
1 Quasi Peak	548 kHz	49.00	-10.99
1 Quasi Peak	618 kHz	45.18	-14.81
1 Quasi Peak	754 kHz	40.30	-19.69

Manuf:Homelite M/N:HOME LITE HLGU11W MOME:ON POWER:N

120V/60Hz

Date: 4.NOV.2011 17:20:37