Lab Code: 200707-0

FCC PART 18
EMI MEASUREMENT AND TEST REPORT

For

Super Trend Lighting Limited

Rm 302-306, Hewlett Centre, 54 hoi Yuen Rosd, Kwun tong, Kowloon, H.K.

FCC ID: N8WTREND

November 3, 2006

This Report Concerns:	**Equipment Type:**
☒ Original Report	Energy Saving Lamp

Test Engineer:	Simon Mo
Report Number:	RSZ06081951
Test Date:	October 31, 2006
Reviewed By:	EMC Engineer: Boni Baniqued
Prepared By:	Bay Area Compliance Laboratory Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, GuangDong 518038, P.R.China Tel: +86-755-33320018 Fax: +86-755-33320008

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Super Trend Lighting Limited*'s model: EB-3W, EG-3W, EG-7W, EF-5W, EU-5W, or the "EUT" as referred to in this report is a *Energy Saving Lamp* which measures approximately
EB-3W: 11.0 cm L x 4.0 cm W,
EG-7W: 11.0 cm L x 6.0 cm W,
EF-5W: 12.0 cm L x 6.5 cm W,
EU-5W: 10.0 cm L x 4.2 cm W,
rated input voltage: AC 120V/60Hz.

* *The test data gathered are from production sample, serial number: 0601106, 0601112, 0601113, 0601114. Provided by the manufacturer, we received EUT on 2006-08-19.*

Objective

The following test report is prepared on behalf of *Super Trend Lighting 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 determine compliance with FCC Part 18 limits.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with MP-5, FCC Methods of Measurements of Radio Noise Emissions from ISM Equipment, February 1986. All measurements were performed at Bay Area Compliance Laboratory Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratory Corp. (Shenzhen) to collect radiated and conducted emission measurement data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, GuangDong 518038, P.R.China.

Test site at Bay Area Compliance Laboratory Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC Live conducted test site criteria set forth in ANSI C63.4-2003 and FCC MP-5.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratory Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0). The current scope of accreditations can be found at http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm

External I/O Cable

Cable Description	Length (M)	From/Port	To
Unshielded Detachable AC Cable	1.0	EUT	AC Power

SYSTEM TEST CONFIGURATION

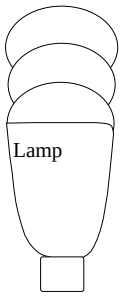
Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

Equipment Modifications

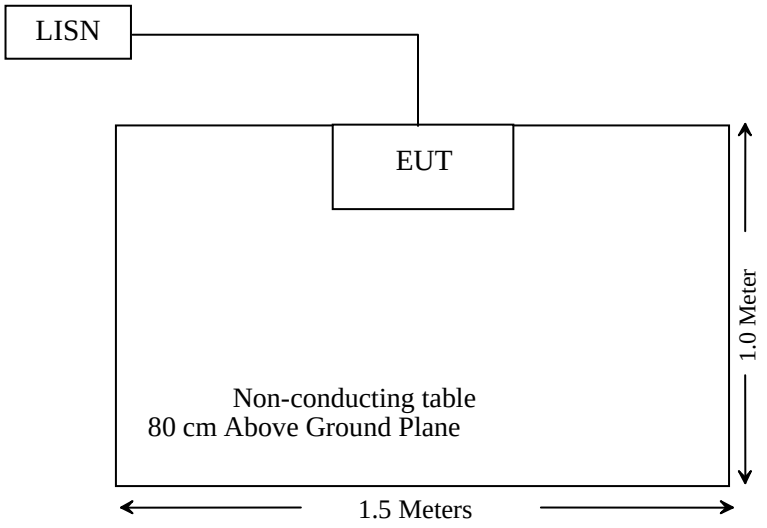
Bay Area Compliance Lab Corp. (Shenzhen) has not done any modification on the EUT.

Configuration of Test Setup



EUT

Block Diagram of Test Setup



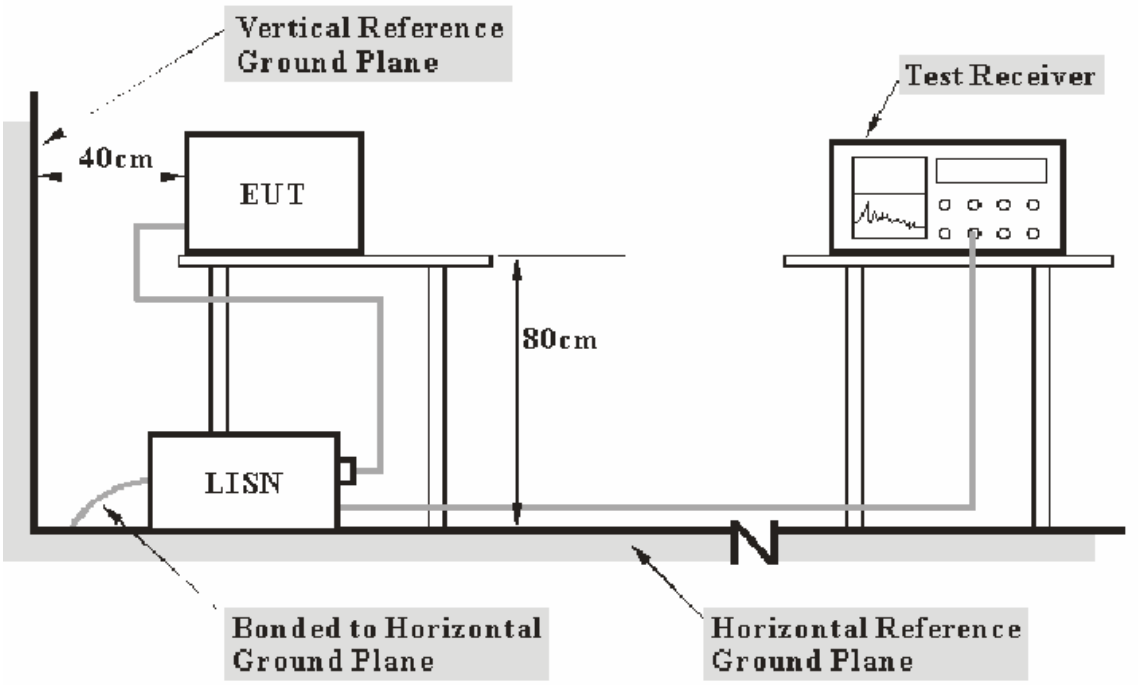
CONDUCTED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratory Corp. (Shenzhen) is ±2.4 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: 1986 measurement procedure. Specification used was with the FCC Part 18 limits.

The EUT was connected to a 120 VAC/ 60Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 450 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IFBW***
450 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12008	N/A	N/A
Rohde & Schwarz	EMI Test Receiver	ESCI	100028	2006-8-17	2007-8-17
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2006-2-28	2007-2-28

***** Com-Power's LISN were used as the supporting equipment.
*** Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the EUT power cord was connected to the outlet of the LISN.

Maximizing procedure were performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 18, with the worst margin reading of:

EB-3W: **-12.00 dB** at **0.806 MHz** in the **Live** conductor mode.
EG-3W: **-12.70 dB** at **0.624 MHz** in the **Live** conductor mode.
EG-7W: **-10.30 dB** at **0.454 MHz** in the **Live** conductor mode.
EF-5W: **-14.10 dB** at **0.806 MHz** in the **Live** conductor mode.
EU-5W: **-11.90 dB** at **0.524 MHz** in the **Live** conductor mode.

Test Data

Environmental Conditions

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	940mbar

Testing was performed by Simon Moon 2006-10-31.

Test mode: On

Model: EB-3W

LIVE CONDUCTED EMISSIONS					FCC Part 18		
Frequency	Amplitude	Detector		Phase	Limit (dBµV)		Margin
MHz	(dBµV)	QP	AV	Neutral/Live	QP	AV	dB
0.540	33.60	QP	*	Line	48.00	N/A	-14.40
0.455	32.60	QP	*	Neutral	48.00	N/A	-15.40
0.810	30.00	QP	*	Line	48.00	N/A	-18.00
0.710	29.60	QP	*	Neutral	48.00	N/A	-18.40
19.870	28.60	QP	*	Neutral	48.00	N/A	-19.40
19.855	28.10	QP	*	Line	48.00	N/A	-19.90
1.150	26.90	QP	*	Line	48.00	N/A	-21.10
1.075	25.70	QP	*	Neutral	48.00	N/A	-22.30
12.800	19.80	QP	*	Line	48.00	N/A	-28.20
11.920	19.40	QP	*	Neutral	48.00	N/A	-28.60
7.310	17.10	QP	*	Line	48.00	N/A	-30.90
5.750	14.50	QP	*	Neutral	48.00	N/A	-33.50

Model: EG-3W

LIVE CONDUCTED EMISSIONS					FCC Part 18		
Frequency	Amplitude	Detector		Phase	Limit (dBµV)		Margin
MHz	(dBµV)	QP	AV	Neutral/Live	QP	AV	dB
0.490	42.10	QP	*	Neutral	48.00	N/A	-5.90
0.740	40.00	QP	*	Neutral	48.00	N/A	-8.00
3.830	34.40	QP	*	Neutral	48.00	N/A	-13.60
1.150	33.80	QP	*	Neutral	48.00	N/A	-14.20
3.300	32.90	QP	*	Line	48.00	N/A	-15.10
0.520	29.80	QP	*	Line	48.00	N/A	-18.20
19.850	29.00	QP	*	Neutral	48.00	N/A	-19.00
20.100	28.10	QP	*	Line	48.00	N/A	-19.90
0.735	27.70	QP	*	Line	48.00	N/A	-20.30
1.990	20.60	QP	*	Line	48.00	N/A	-27.40
6.730	20.30	QP	*	Line	48.00	N/A	-27.70
7.665	20.10	QP	*	Neutral	48.00	N/A	-27.90

Model: EG-7W

Live Conducted Emissions					FCC Part 18		
Frequency MHz	Amplitude (dBµV)	Detector QP	Detector AV	Phase Neutral/Live	Limit (dBµV) QP	Limit (dBµV) AV	Margin dB
0.450	39.60	QP	*	Line	48.00	N/A	-8.40
0.540	38.80	QP	*	Neutral	48.00	N/A	-9.20
0.725	34.70	QP	*	Line	48.00	N/A	-13.30
19.765	27.80	QP	*	Neutral	48.00	N/A	-20.20
19.830	27.80	QP	*	Line	48.00	N/A	-20.20
2.795	27.00	QP	*	Line	48.00	N/A	-21.00
1.460	25.40	QP	*	Line	48.00	N/A	-22.60
0.945	25.30	QP	*	Neutral	48.00	N/A	-22.70
9.515	21.00	QP	*	Neutral	48.00	N/A	-27.00
9.390	20.70	QP	*	Line	48.00	N/A	-27.30
1.545	20.20	QP	*	Neutral	48.00	N/A	-27.80
5.340	15.30	QP	*	Neutral	48.00	N/A	-32.70

Model: EF-5W

Live Conducted Emissions					FCC Part 18		
Frequency MHz	Amplitude (dBµV)	Detector QP	Detector AV	Phase Neutral/Live	Limit (dBµV) QP	Limit (dBµV) AV	Margin dB
0.485	36.60	QP	*	Neutral	48.00	N/A	-11.40
0.450	36.50	QP	*	Line	48.00	N/A	-11.50
0.730	34.90	QP	*	Neutral	48.00	N/A	-13.10
1.120	33.00	QP	*	Neutral	48.00	N/A	-15.00
0.740	32.50	QP	*	Line	48.00	N/A	-15.50
19.780	29.00	QP	*	Neutral	48.00	N/A	-19.00
19.805	28.50	QP	*	Line	48.00	N/A	-19.50
11.245	21.50	QP	*	Line	48.00	N/A	-26.50
12.355	19.50	QP	*	Neutral	48.00	N/A	-28.50
6.035	17.40	QP	*	Line	48.00	N/A	-30.60
5.410	16.80	QP	*	Neutral	48.00	N/A	-31.20
1.480	16.70	QP	*	Line	48.00	N/A	-31.30

Model: EU-5W

LIVE CONDUCTED EMISSIONS					FCC Part 18		
Frequency	Amplitude	Detector		Phase	Limit (dBμV)		Margin
MHz	(dBμV)	QP	AV	Neutral/Live	QP	AV	dB
0.485	39.90	QP	*	Line	48.00	48.00	-8.10
0.735	35.40	QP	*	Line	48.00	48.00	-12.60
0.520	31.50	QP	*	Neutral	48.00	48.00	-16.50
1.170	30.40	QP	*	Line	48.00	48.00	-17.60
19.805	28.90	QP	*	Line	48.00	48.00	-19.10
19.975	28.00	QP	*	Neutral	48.00	48.00	-20.00
0.995	23.60	QP	*	Neutral	48.00	48.00	-24.40
12.970	20.00	QP	*	Neutral	48.00	48.00	-28.00
11.245	19.90	QP	*	Line	48.00	48.00	-28.10
6.125	17.80	QP	*	Neutral	48.00	48.00	-30.20
6.250	16.50	QP	*	Line	48.00	48.00	-31.50
1.690	15.60	QP	*	Neutral	48.00	48.00	-32.40

.**REMARKS:**

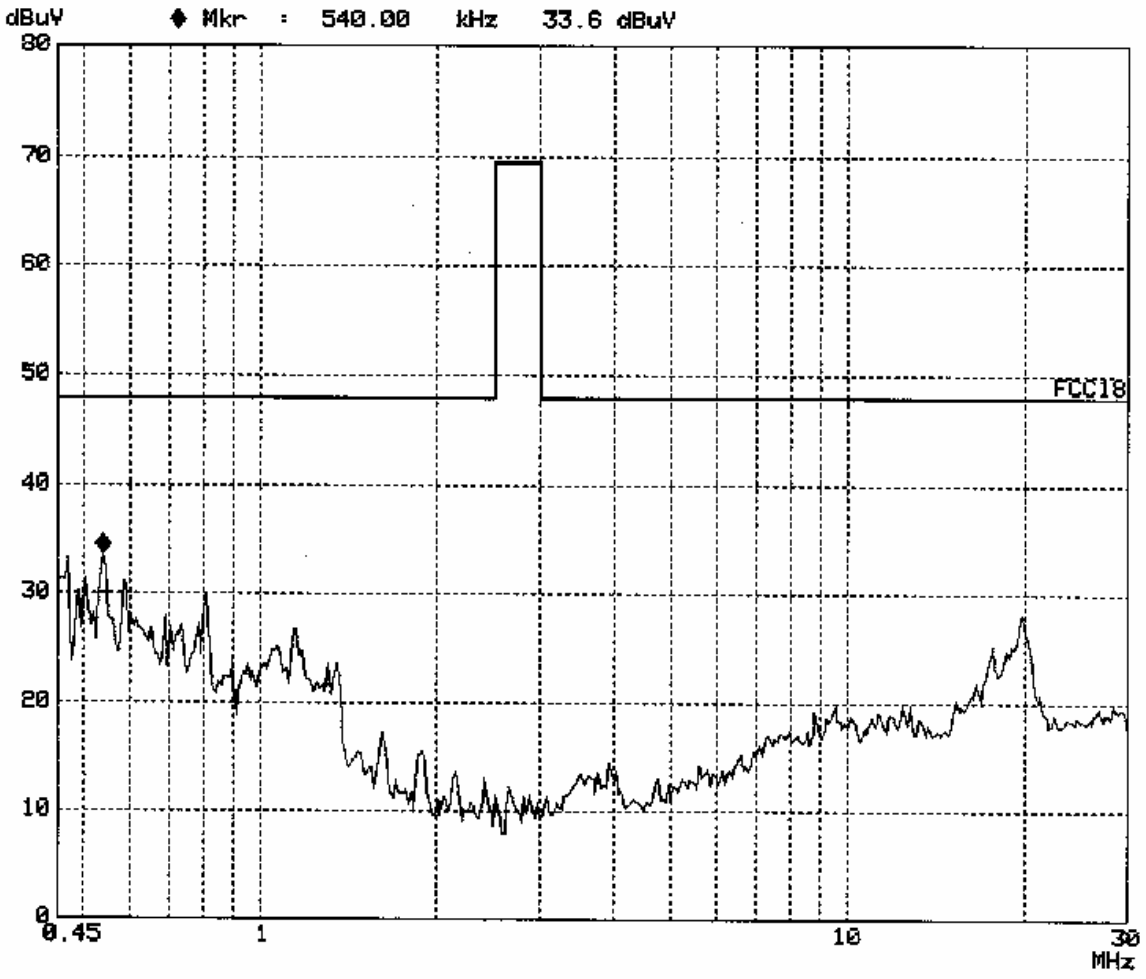
1. If the data table appeared symbol "*" means the value was too low and the QP value is under the limit for Average, so the Average level value had been omitted.

Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference..

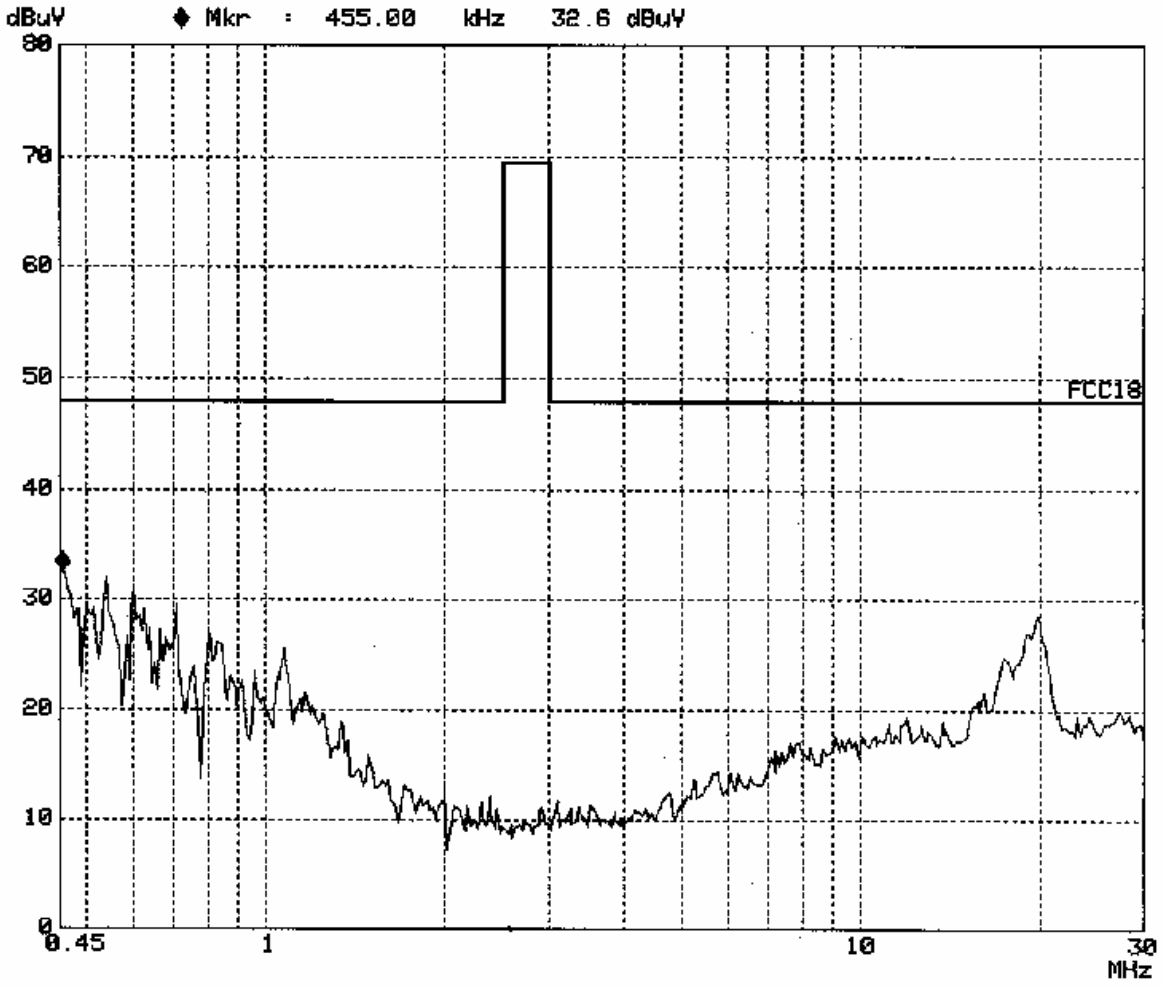
Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EB3W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz L
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 23:06



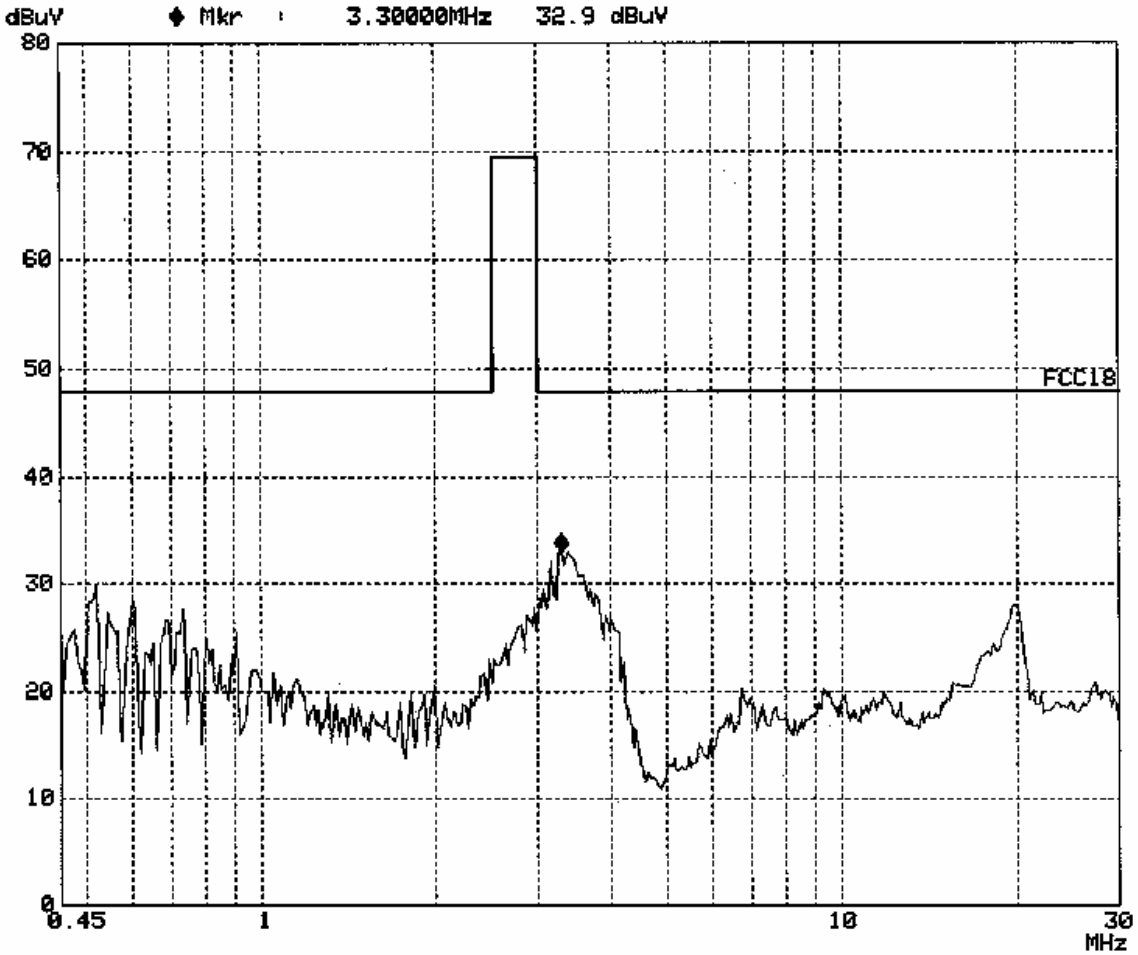
Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EB3W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz N
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 22:57



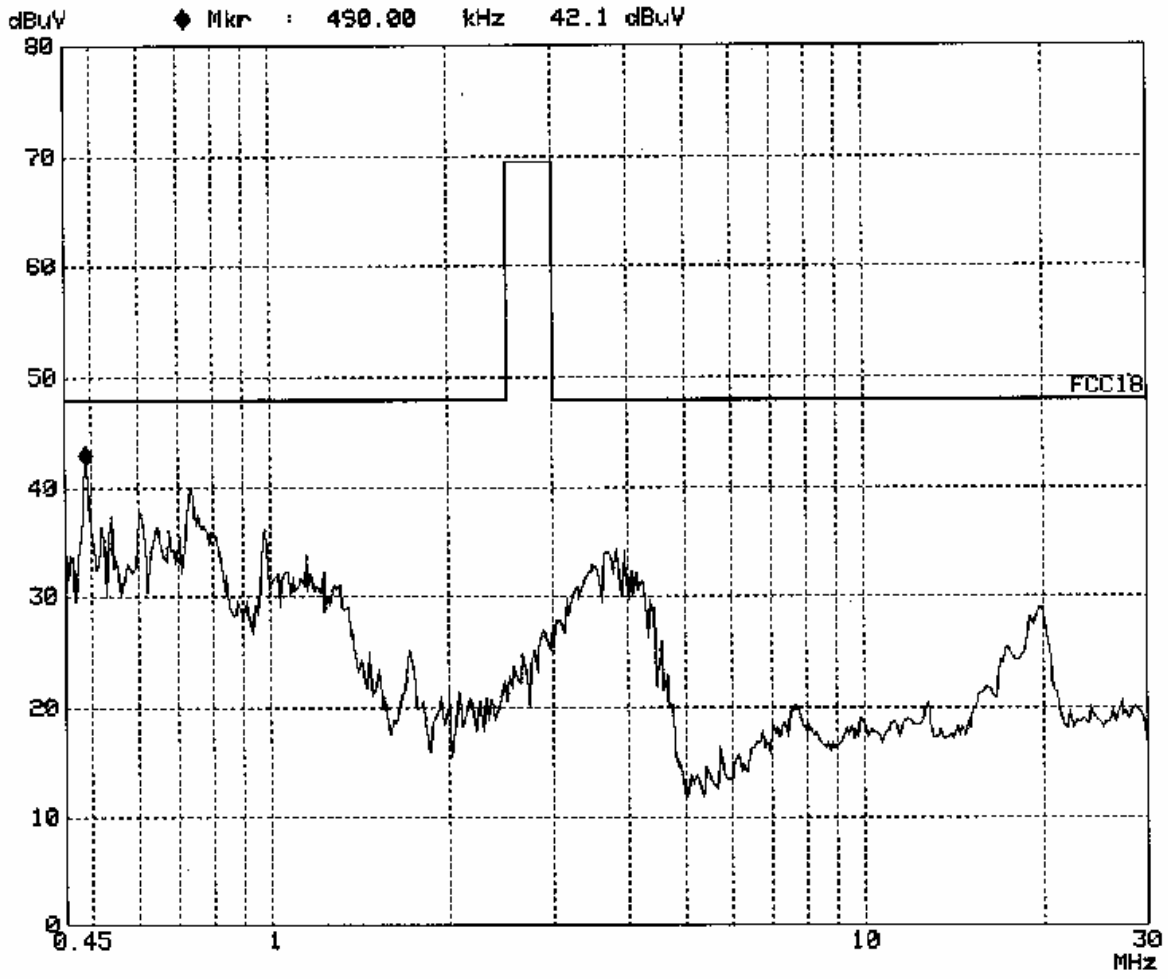
Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EG3W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz L
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 20:42



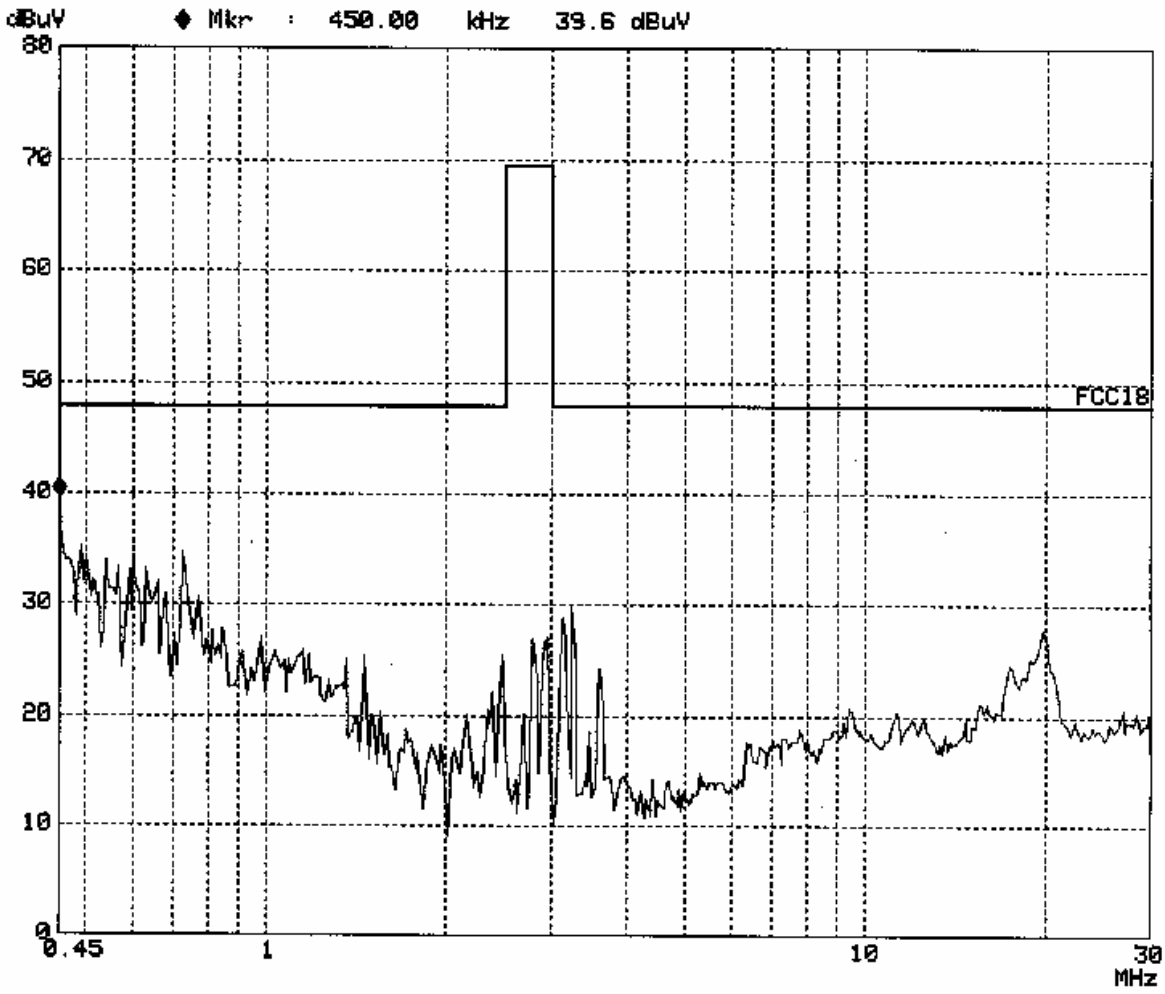
Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EG3W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz N
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 20:18



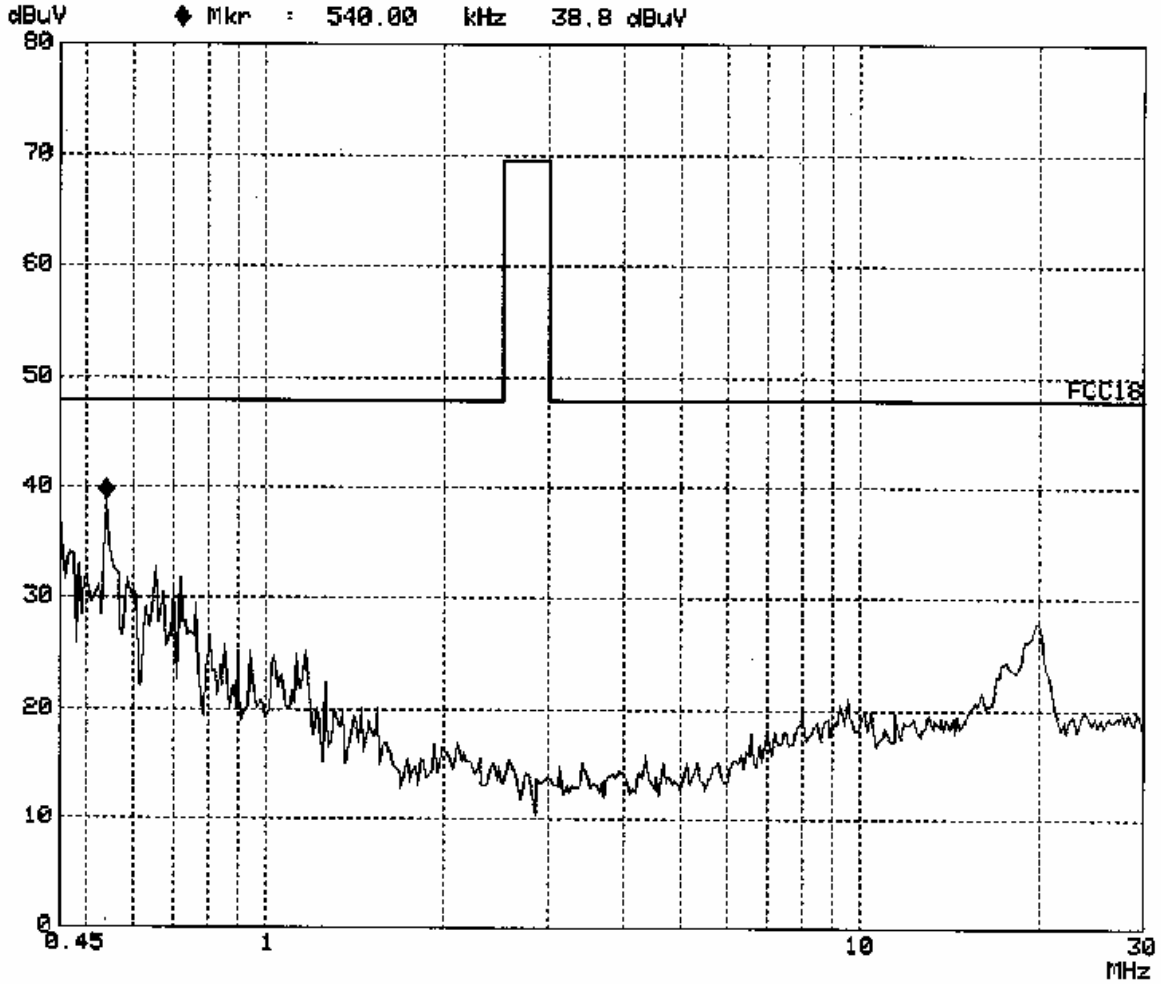
Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EG7W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz L
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 22:46



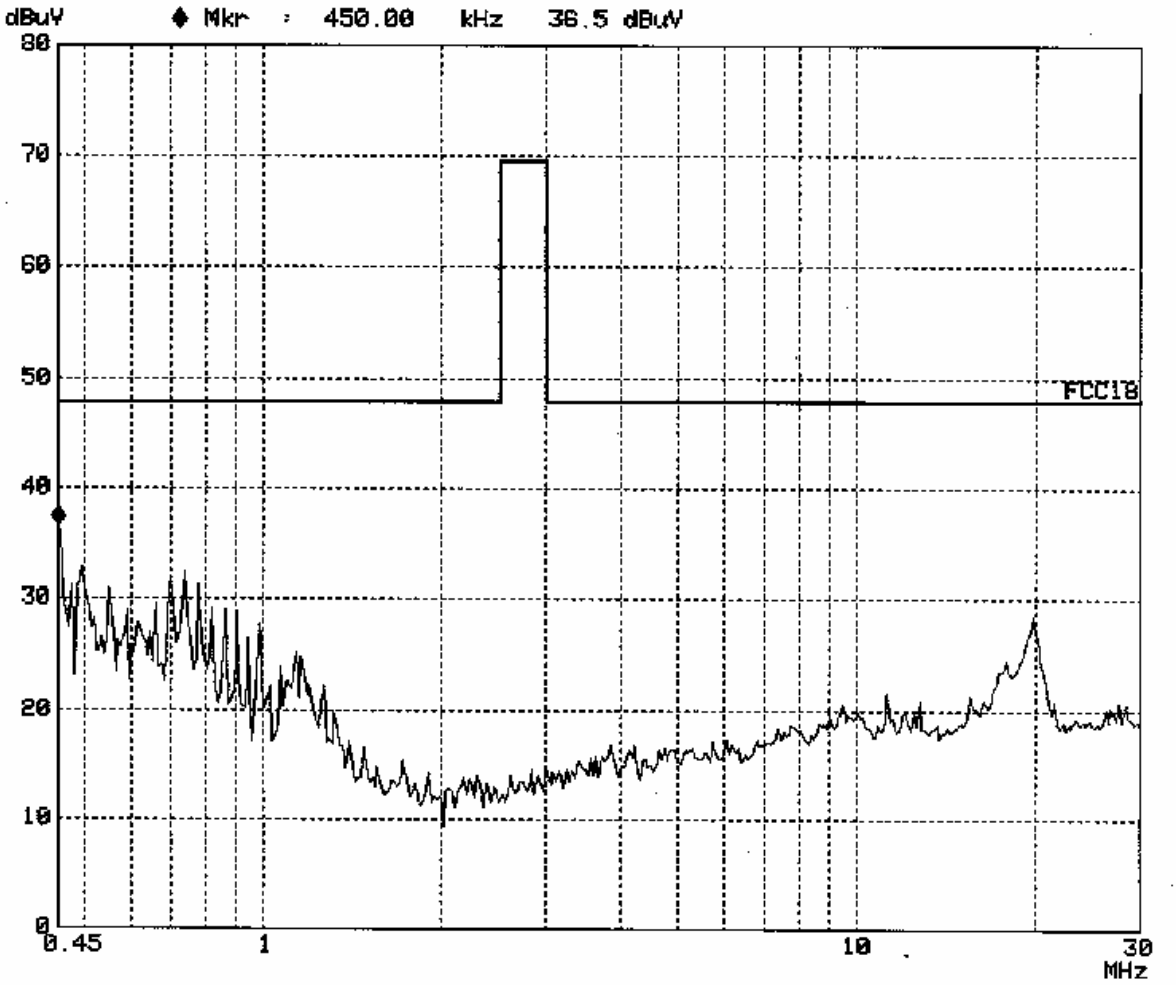
Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EG7W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz N
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 22:19



Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EF5W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz L
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 21:23



Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EF5W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
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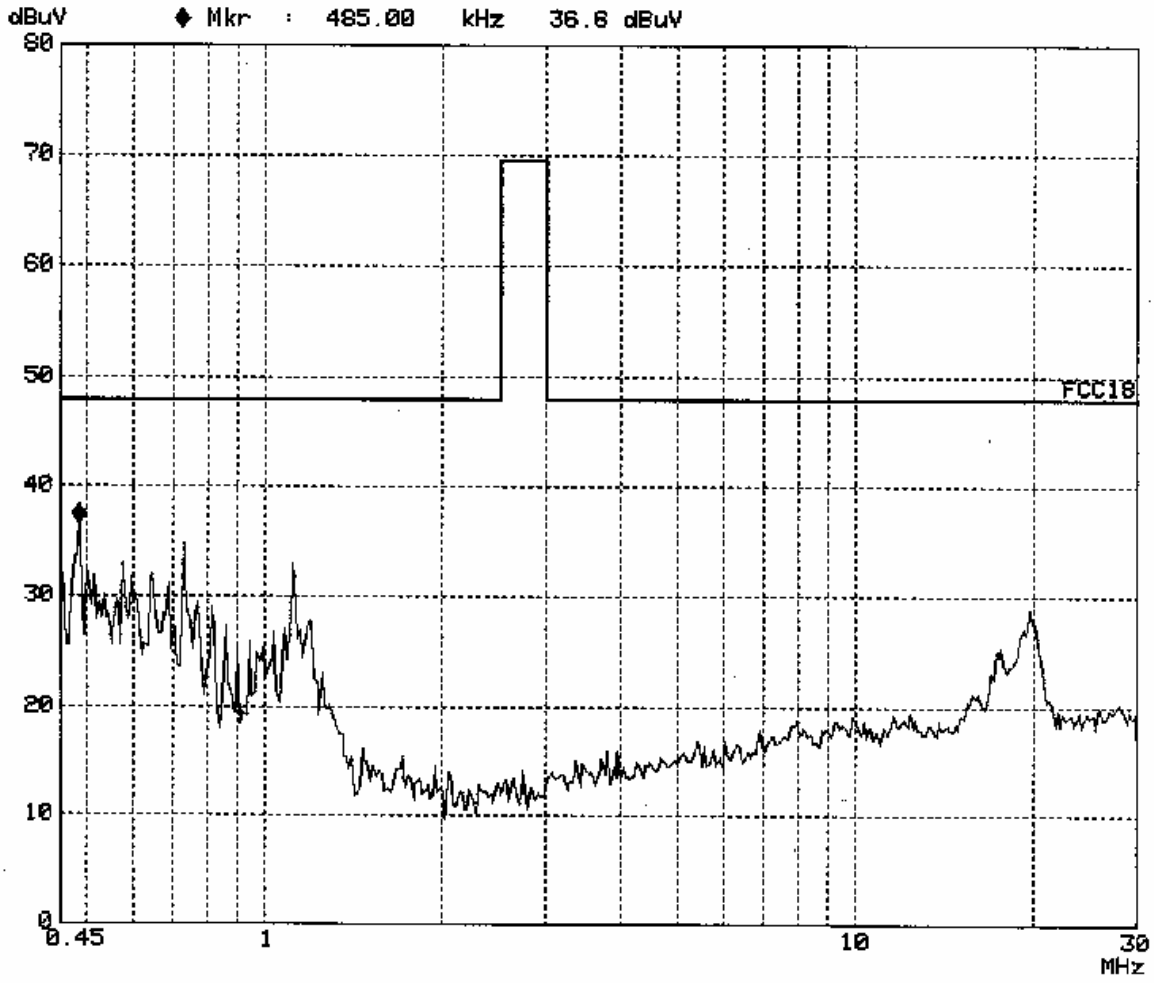
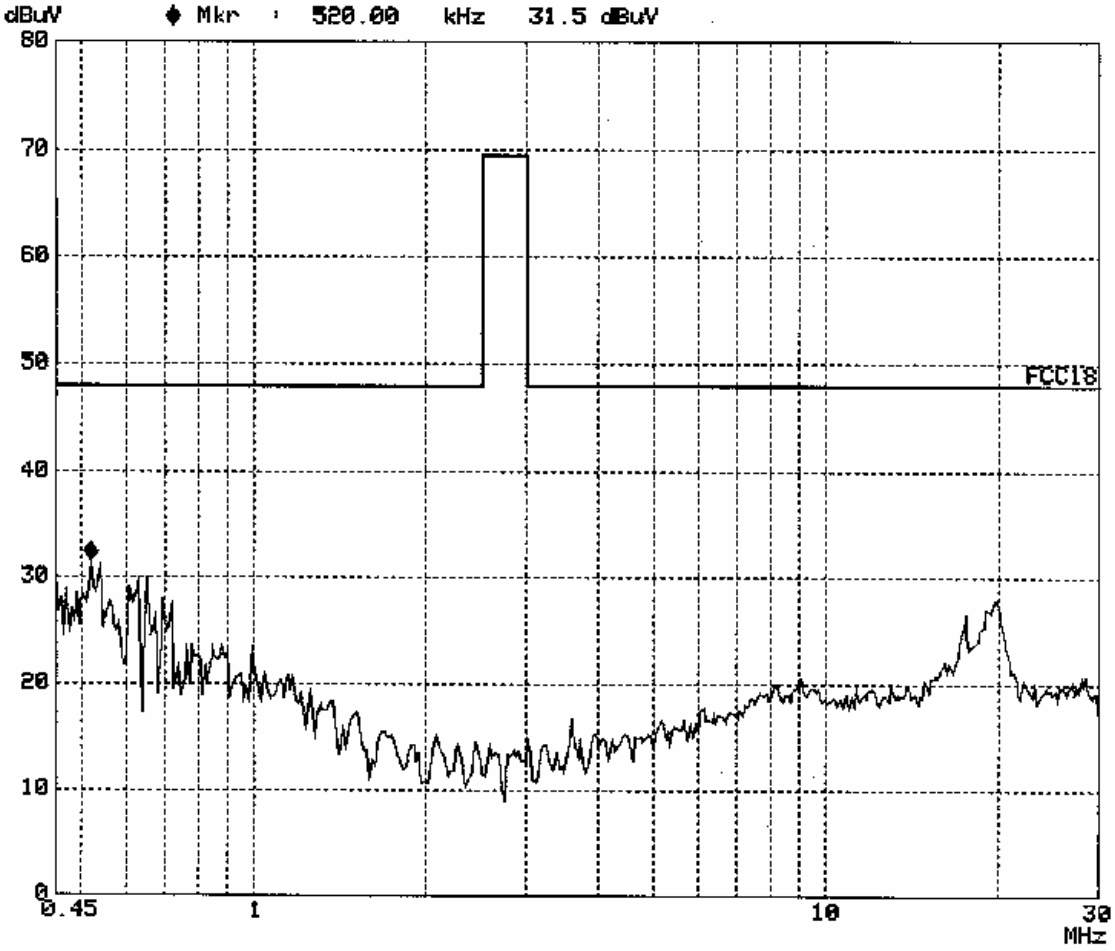


Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EU5W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz N
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 21:43



Conducted Emission Test
FCC 18 ID

EUT:	CFL M/N:EU5W
Manuf:	SUPER TREND LIGHTING
Op Cond:	ON
Operator:	SIMON
Test Spec:	AC 120V/60Hz L
Comment:	Temp:25'C Humi:60%
Date:	31. Oct 06 21:56