

FCC PART 18
EMI MEASUREMENT AND TEST REPORT
For
FOSHAN ELECTRICAL AND LIGHTING CO.,LTD

15North FenJiang Road Foshan Guangdong China

FCC ID: P6CFSL0512

January 10, 2006

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: CFL
Test Engineer: Davis ma <i>Davis ma</i>	
Report Number: RSZ05121381	
Test Date: November 4, 2005	
Reviewed By: Chris Zeng <i>[Signature]</i>	
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Note: The test report is specially limited to the above company and this particular sample only.
It may not be duplicated without prior written consent of Bay Area Compliance Lab Corp.
(ShenZhen). This report must not be used by the client to claim product certification,
approval, or endorsement by NVLAP, NIST or any agency of the US Government.

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *FOSHAN ELECTRICAL AND LIGHTING CO.,LTD's* FCC ID: *P6C FSL0512*, model: F613(14)W, F611W, F609W, F607W or the "EUT" as referred to in this report is a CFL which measures approximately
F613 (14) W: 15.0cmL x 4.0cmW x 15.0cmH, F611W: 14.5cmL x 3.5cmW x 14.5cmH
F609W: 13.5cmL x 4.0cmW x 13.5cmH, F607W: 13.0cmL x 3.5cmW x 13.0cmH rated input voltage: 120V/60Hz

** The test data gathered are from production sample, serial number: 0511108, provided by the manufacturer*

Objective

The following test report is prepared on behalf of *FOSHAN ELECTRICAL AND LIGHTING 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 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 CISPR 16-1: 2002, radio disturbance and immunity measuring apparatus, and CISPR16-2: 2002, Method of measurement of disturbances and immunity.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Lab 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 Lab 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 Lab 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 line conducted test site criteria set forth in ANSI C63.4-2003.

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 Lab 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	1.2	Test Device	AC Power

SYSTEM TEST CONFIGURATION

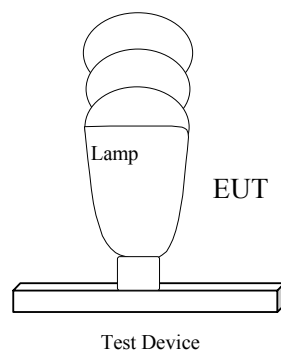
Justification

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

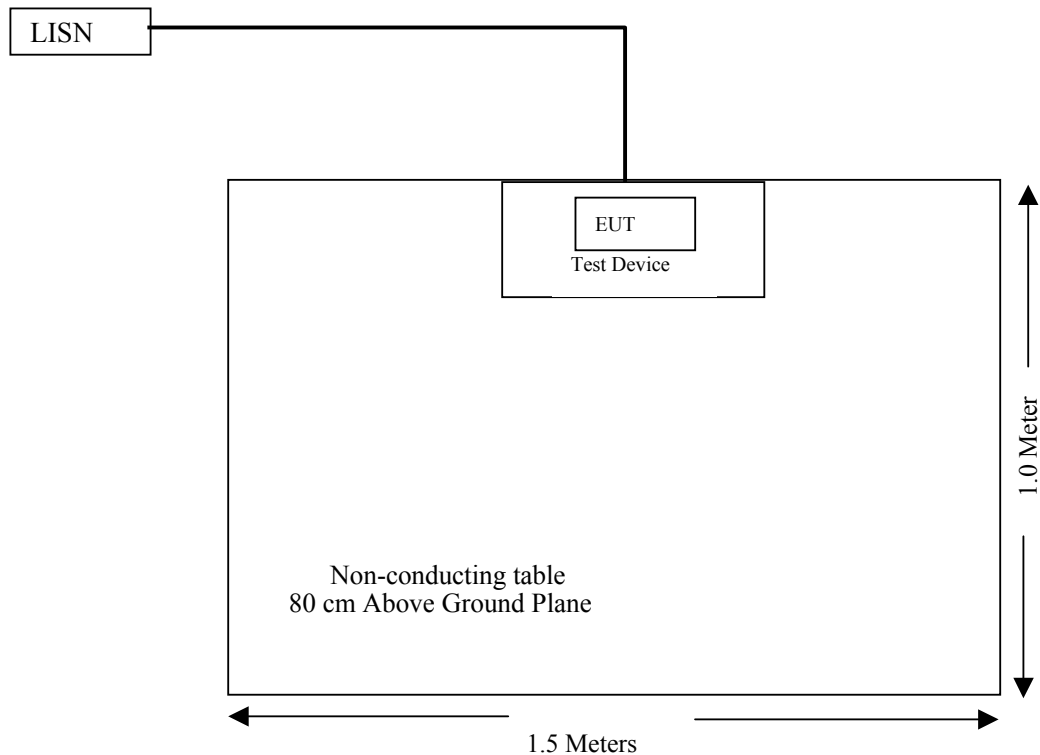
Equipment Modifications

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

Configuration of Test Setup



Block Diagram of Test Setup



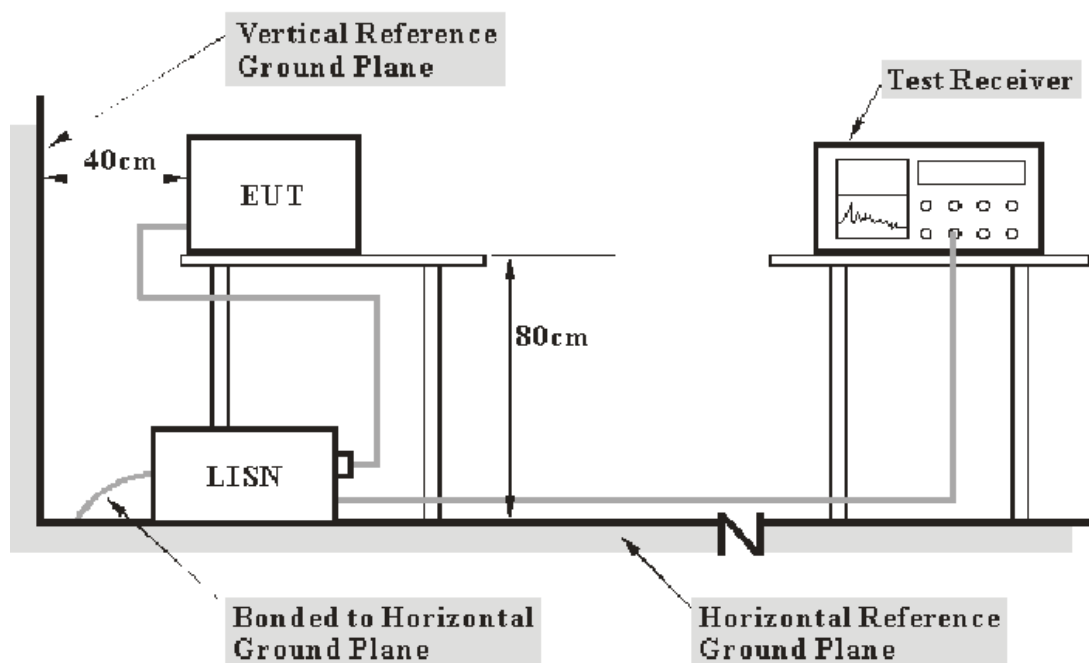
CONDUCTED EMISSION

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 Lab Corp. (ShenZhen) is $\pm 2.4\text{dB}$.

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 Test Device 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:

<i>Frequency Range</i>	<i>IFBW</i>
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	ESCS30	830245/006	2005-1-26	2006-1-26
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2005-2-28	2006-2-28

* Com-Power's LISN were used as the supporting equipment.

* **Statement of Traceability:** Bay Area Compliance Lab 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:

F613 (14) W: **-2.50 dB** at **0.470 MHz** in the **Neutral** conductor mode.

F611W: **-3.90 dB** at **0.515 MHz** in the **Line** conductor mode.

F609W: **-1.00 dB** at **0.505 MHz** in the **Neutral** conductor mode.

F607W: **-9.30 dB** at **0.645 MHz** in the **Neutral** conductor mode.

Test Data**Environmental Conditions**

Temperature:	26 ° C
Relative Humidity:	56%
ATM Pressure:	1000mbar

The testing was performed by Davis ma on 2005-11-4.

Test mode: On

Model: F613 (14) W

LINE CONDUCTED EMISSIONS				FCC PART 18	
Frequency MHz	Amplitude dBμV	Detector QP	Phase Line/Neutral	Limit dBμV	Margin dB
0.470	45.50	QP	Neutral	48.00	-2.50
0.755	45.50	QP	Neutral	48.00	-2.50
0.515	43.20	QP	Neutral	48.00	-4.80
0.540	43.00	QP	Line	48.00	-5.00
0.660	41.60	QP	Neutral	48.00	-6.40
0.630	41.40	QP	Line	48.00	-6.60
0.480	41.30	QP	Line	48.00	-6.70
0.560	40.50	QP	Neutral	48.00	-7.50
0.605	40.40	QP	Neutral	48.00	-7.60
0.720	40.00	QP	Line	48.00	-8.00
0.765	39.80	QP	Line	48.00	-8.20
0.575	39.30	QP	Line	48.00	-8.70

Model: F611W

LINE CONDUCTED EMISSIONS				FCC PART 18	
Frequency MHz	Amplitude dBμV	Detector QP	Phase Line/Neutral	Limit dBμV	Margin dB
0.515	44.10	QP	Line	48.00	-3.90
0.455	43.20	QP	Neutral	48.00	-4.80
0.540	42.60	QP	Neutral	48.00	-5.40
0.520	42.20	QP	Neutral	48.00	-5.80
0.565	42.10	QP	Neutral	48.00	-5.90
0.485	41.70	QP	Neutral	48.00	-6.30
0.455	39.80	QP	Line	48.00	-8.20
0.695	38.60	QP	Neutral	48.00	-9.40
0.550	38.50	QP	Line	48.00	-9.50
0.600	38.50	QP	Line	48.00	-9.50
0.640	37.00	QP	Line	48.00	-11.00
0.680	35.90	QP	Line	48.00	-12.10

Model: F609W

LINE CONDUCTED EMISSIONS				FCC PART 18	
Frequency MHz	Amplitude dBμV	Detector QP	Phase Line/Neutral	Limit dBμV	Margin dB
0.505	47.00	QP	Neutral	48.00	-1.00 *
0.550	42.90	QP	Neutral	48.00	-5.10
0.455	42.60	QP	Line	48.00	-5.40
0.470	42.50	QP	Neutral	48.00	-5.50
0.550	42.30	QP	Line	48.00	-5.70
0.505	42.00	QP	Line	48.00	-6.00
0.590	41.50	QP	Neutral	48.00	-6.50
0.685	40.70	QP	Line	48.00	-7.30
0.590	40.60	QP	Line	48.00	-7.40
0.635	39.90	QP	Line	48.00	-8.10
0.640	39.00	QP	Neutral	48.00	-9.00
0.685	38.70	QP	Neutral	48.00	-9.30

Model: F607W

LINE CONDUCTED EMISSIONS				FCC PART 18	
Frequency MHz	Amplitude dBμV	Detector QP	Phase Line/Neutral	Limit dBμV	Margin dB
0.645	38.70	QP	Neutral	48.00	-9.30
0.560	38.40	QP	Neutral	48.00	-9.60
0.495	38.20	QP	Neutral	48.00	-9.80
0.615	36.40	QP	Line	48.00	-11.60
0.640	36.40	QP	Line	48.00	-11.60
0.725	36.30	QP	Neutral	48.00	-11.70
0.490	35.50	QP	Line	48.00	-12.50
0.735	35.20	QP	Line	48.00	-12.80
0.910	34.90	QP	Neutral	48.00	-13.10
0.480	34.80	QP	Line	48.00	-13.20
0.575	33.30	QP	Line	48.00	-14.70
1.095	32.50	QP	Neutral	48.00	-15.50

* Within measurement uncertainty

Plot(s) of Test Data

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

Conducted Disturbance Test FCC Part 18

EUT: CFL M/N: F613W
 Manuf: Foshan
 Op Cond: ON
 Operator: Davis
 Test Spec: AC 120V/60Hz L
 Comment: Temp: 25
 Humi: 55%
 Date: 04. Nov 05 22:04

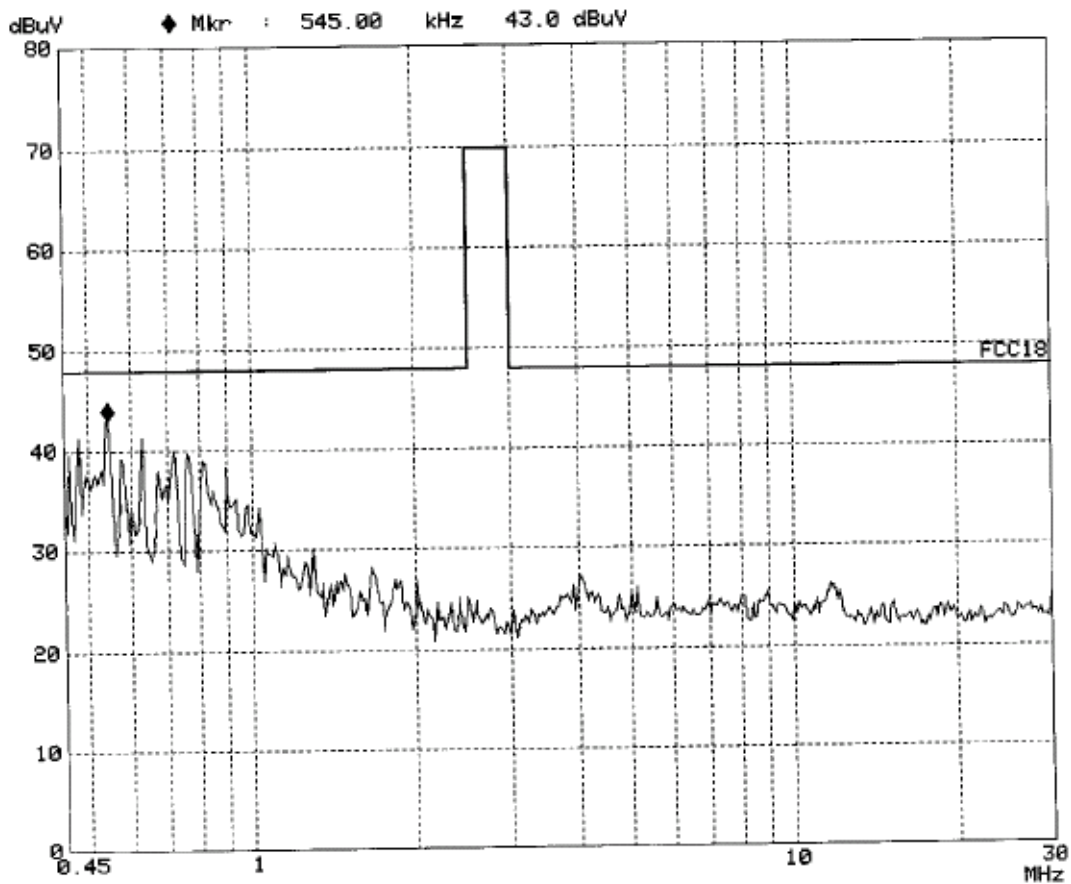
Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
450k	30M	5k	9k	PK	10ms AUTO	LN OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP

Meas Time: 1 s
 Subranges: 25
 Acc Margin: 6dB



Conducted Disturbance Test FCC Part 18

EUT: CFL M/N:F613W
 Manuf: Foshan
 Op Cond: ON
 Operator: Davis
 Test Spec: AC 120V/60Hz N
 Comment: Temp:25
 Humi:55%
 Date: 04. Nov 05 21:47

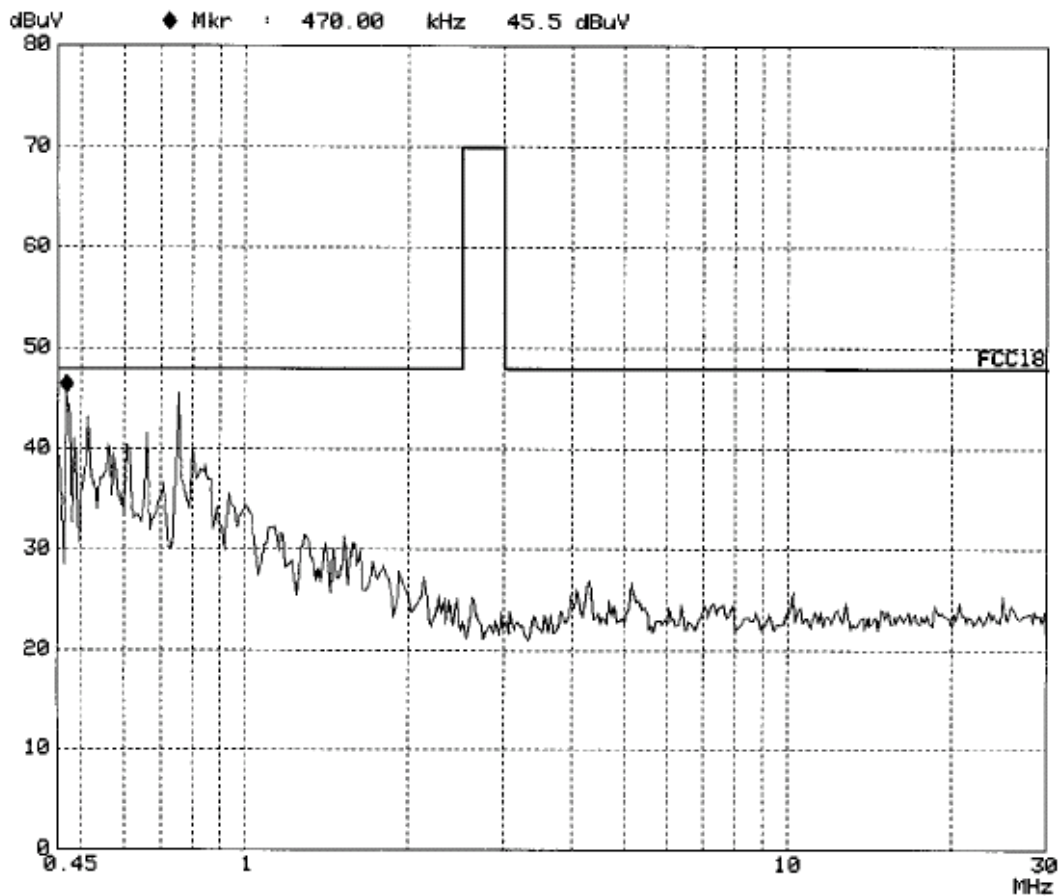
Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
450k	30M	5k	9k	PK	10ms AUTO LN	OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP

Meas Time: 1 s
 Subranges: 25
 Acc Margin: 6dB



Conducted Disturbance Test FCC Part 18

EUT: CFL M/N: P611W
Manuf: Foshan
Op Cond: ON
Operator: Davis
Test Spec: AC 120V/60Hz N
Comment: Temp: 25
Humi: 55%
Date: 05. Nov 05 09:16

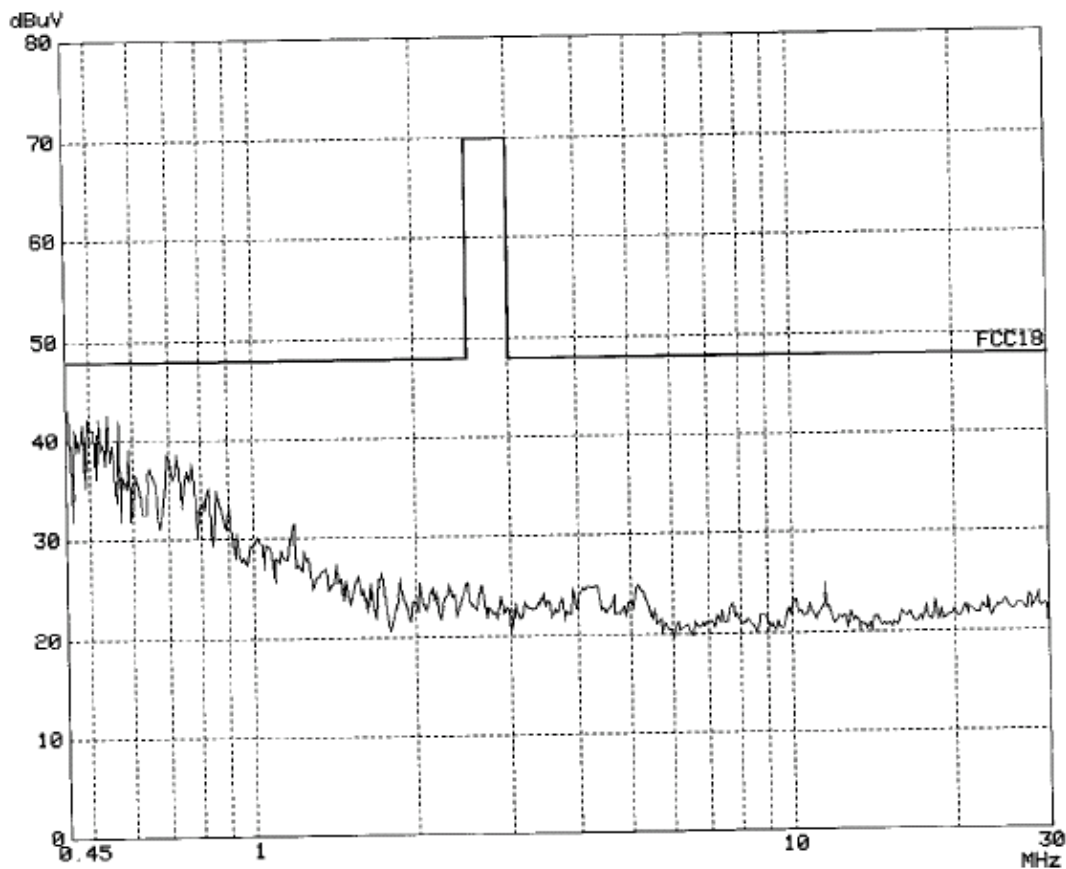
Scan Settings (1 Range)

----- Frequencies -----			----- Receiver Settings -----				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
450k	30M	5k	9k	PK	10ms	AUTO LN	OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP

Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



Conducted Disturbance Test FCC Part 18

EUT: CFL
 Manuf: Foshan
 Op Cond: ON
 Operator: Davis
 Test Spec: AC 120V/60Hz L
 Comment: Temp:25
 Humi:55%
 Date: 05. Nov 05 09:21

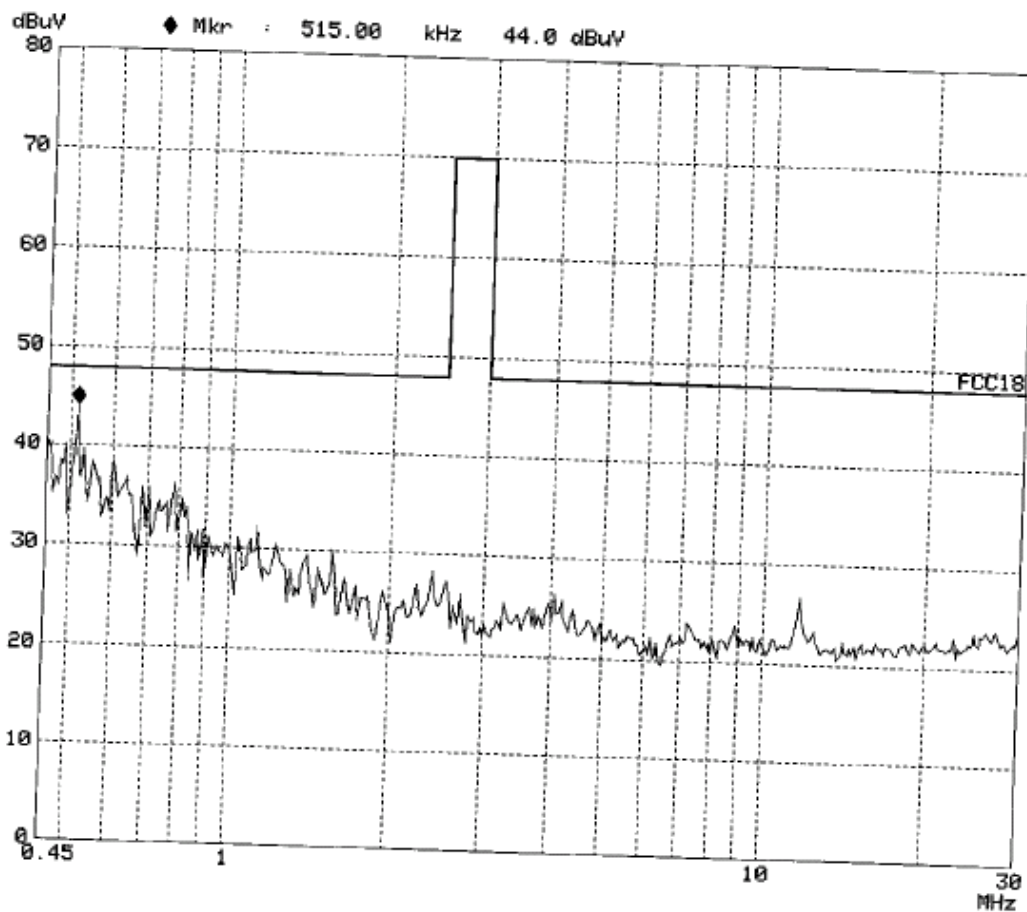
Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
450k	30M	5k	9k	PK	10ms AUTO LN	OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP

Meas Time: 1 s
 Subranges: 25
 Acc Margin: 6dB



Conducted Disturbance Test FCC Part 18

EUT: CFL M/N: F609W
 Manuf: Foshan
 Op Cond: ON
 Operator: Davis
 Test Spec: AC 120V/60Hz L
 Comment: Temp: 25
 Humi: 55%
 Date: 04. Nov 05 23:41

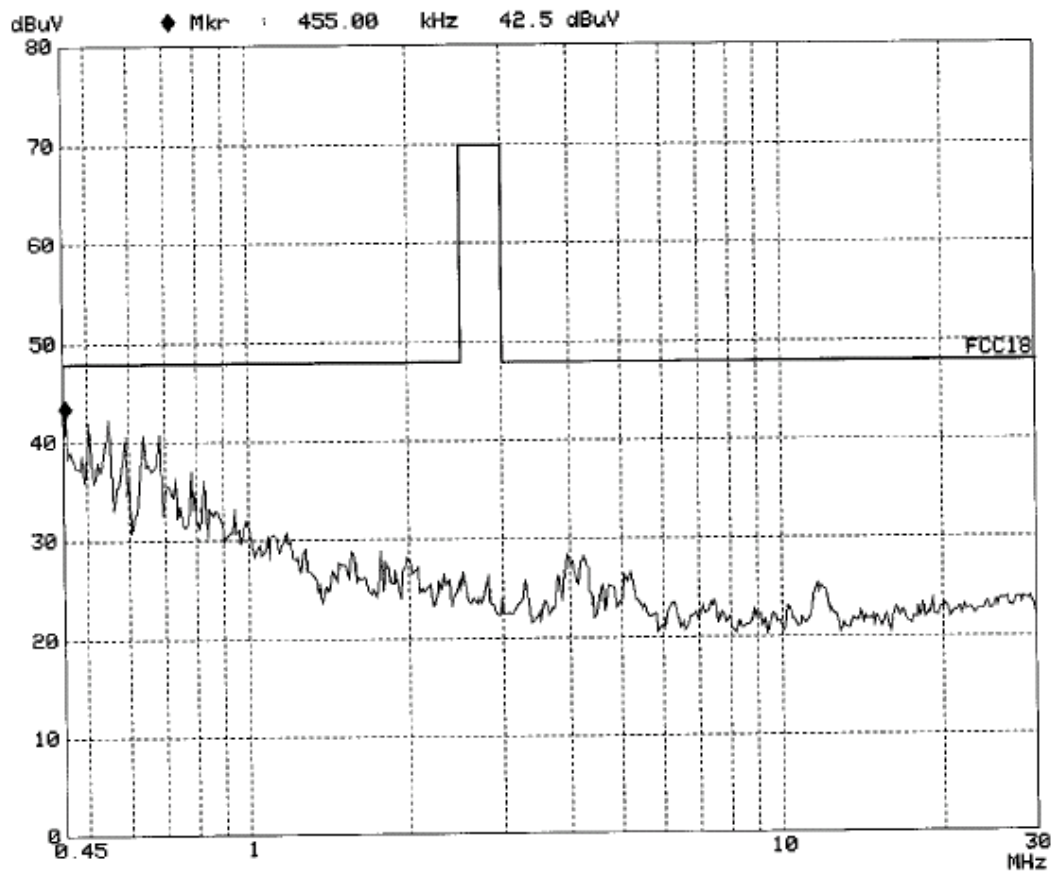
Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
450k	30M	5k	9k	PK	10ms AUTO	LN OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP

Meas Time: 1 s
 Subranges: 25
 Acc Margin: 6dB



Conducted Disturbance Test FCC Part 18

EUT: CFL M/N: F609W
Manuf: Foshan
Op Cond: ON
Operator: Davis
Test Spec: AC 120V/60Hz N
Comment: Temp: 25
Humi: 55%
Date: 04. Nov 05 23:47

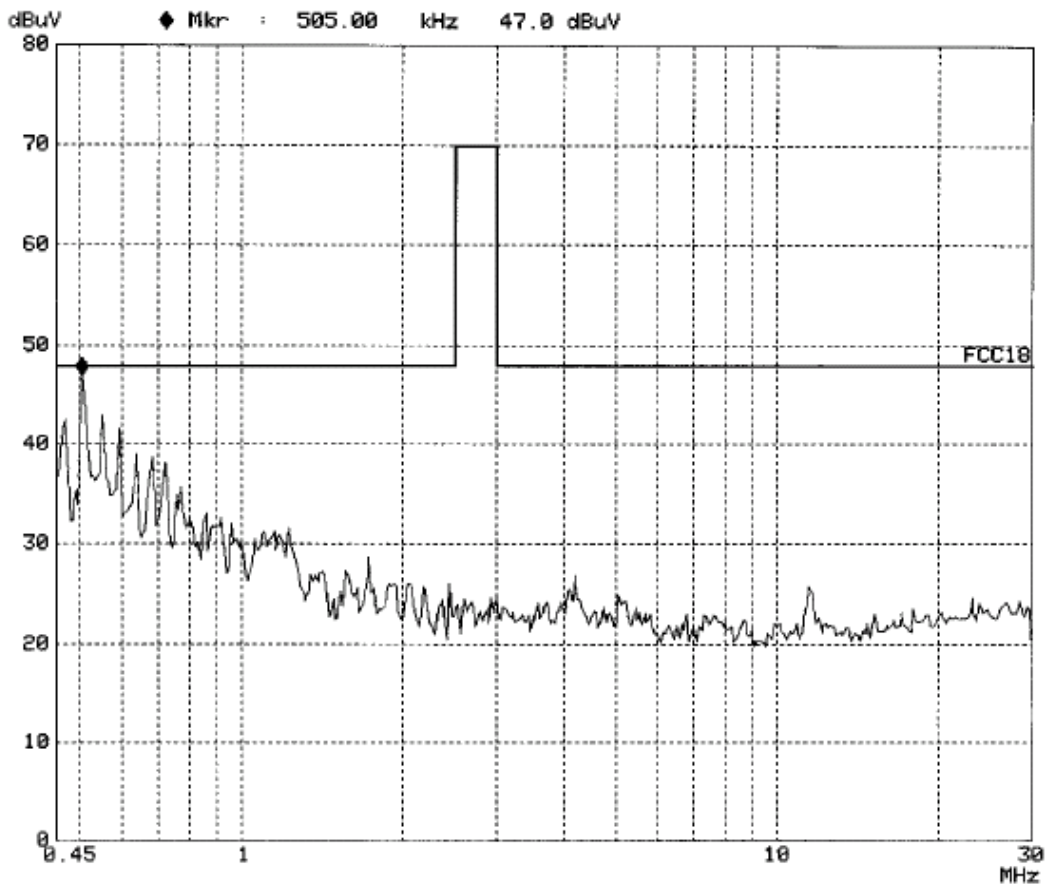
Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
450k	30M	5k	9k	PK	10ms AUTO	LN OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP

Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



Conducted Disturbance Test FCC Part 18

EUT: CFL
 Manuf: Foshan
 Op Cond: ON
 Operator: Davis
 Test Spec: AC 120V/60Hz L
 Comment: Temp: 25
 Humi: 55%
 Date: 04. Nov 05 23:33

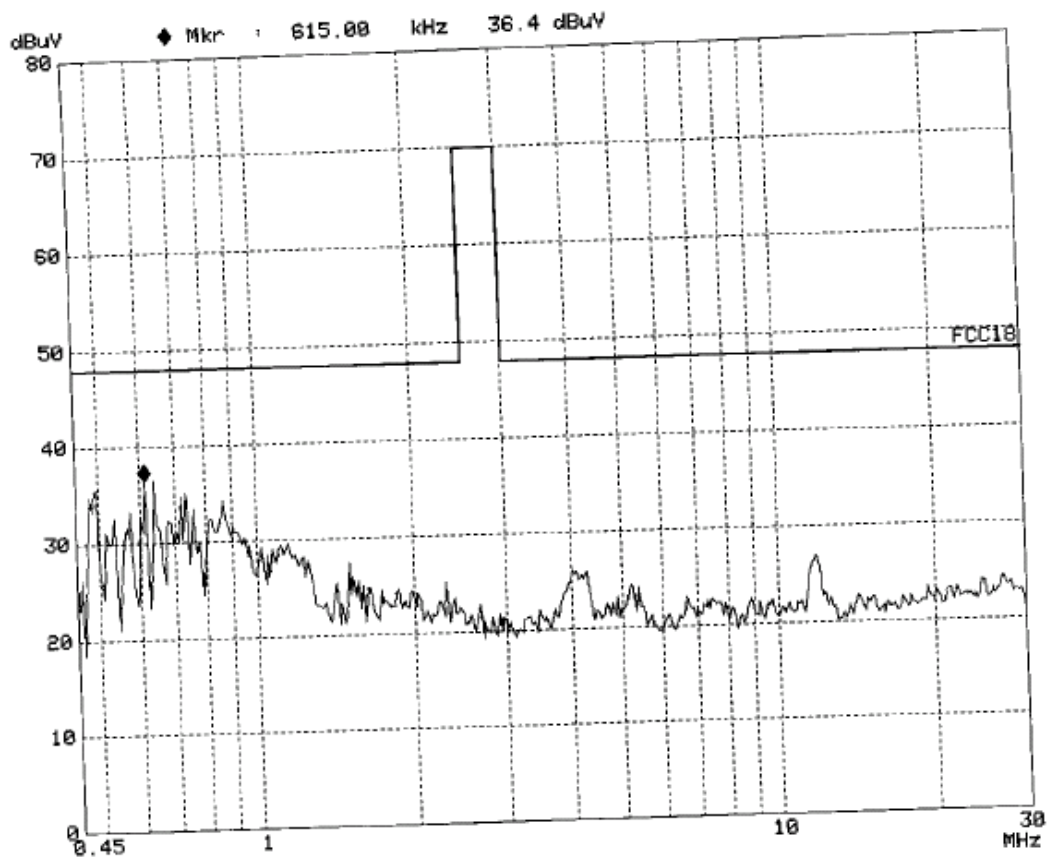
M/N: F607W

Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
450k	30M	5k	9k	PK	10ms AUTO LN	OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP
 Meas Time: 1 s
 Subranges: 25
 Acc Margin: 6dB



Conducted Disturbance Test FCC Part 18

EUT: CFL M/N: F607W
 Manuf: Foshan
 Op Cond: ON
 Operator: Davis
 Test Spec: AC 120V/60Hz N
 Comment: Temp: 25
 Humi: 55%
 Date: 04. Nov 05 23:24

Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten Preamp
450k	30M	5k	9k	PK	10ms AUTO	LN OFF

Transducer No.	Start	Stop	Name
1	9k	30M	FACTOR

Final Measurement: x QP

Meas Time: 1 s
 Subranges: 25
 Acc Margin: 6dB

