NVLAP LAB CODE 200707-0

FCC PART 18
MEASUREMENT AND TEST REPORT

For

ZHEJIANG NVC LAMPS CO., LTD

No. 201-16, Tongda Road, South Zone, Hushan District,

Jiangshan, Zhejiang, China

FCC ID: VVOESS-26

Report Type:	**Product Type:**
Original Report	CFL

Test Engineer:	Allan An
Report Number:	RSZ08101752
Report Date:	2009-02-17
Reviewed By:	Lisa Zhu EMC Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *ZHEJIANG NVC LAMPS CO., LTD*'s model: *ESS-18W/20W; ESS-23W; ESS-26W*, or the "EUT" as referred to in this report is a *CFL* which measures approximately: *ESS-18W/20W*: 12.0 cm L x 6.0 cm W x 6.0 cm H, *ESS-23W*: 12.5 cm L x 6.0 cm W x 6.0 cm H, *ESS-26W*: 13.0 cm L x 6.0 cm W x 6.0 cm H, rated input voltage: AC 120V/60Hz.

** All measurement and test data in this report was gathered from production sample serial number: 0810521 (Assigned by BACL, Shenzhen). The EUT was received on 2008-10-17.*

Objective

The following test report is prepared on behalf of *ZHEJIANG NVC LAMPS 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 MP-5, FCC Methods of Measurements of Radio Noise Emissions from ISM Equipment, February 1986. All measurement was performed at Bay Area Compliance Laboratories 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 Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories 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 Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

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The current scope of accreditations can be found at
http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

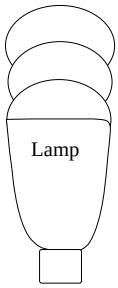
Justification

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

Equipment Modifications

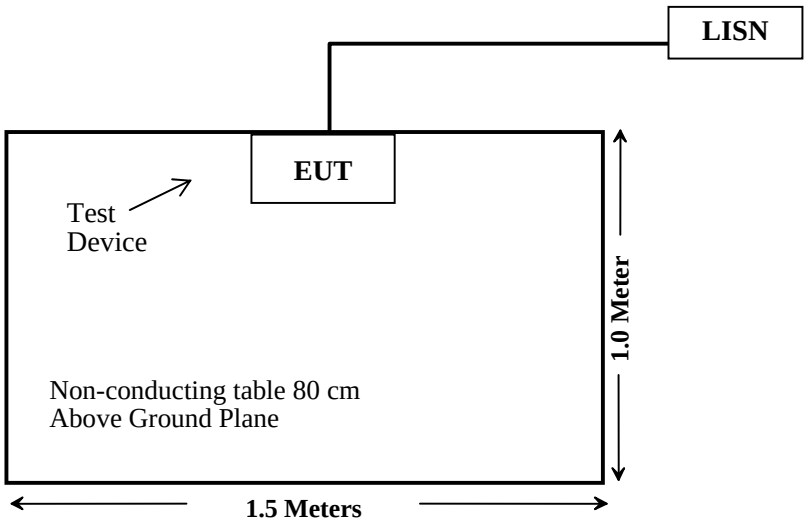
No modifications were made to the unit tested.

Configuration of Test Setup



EUT

Block Diagram of Test Setup



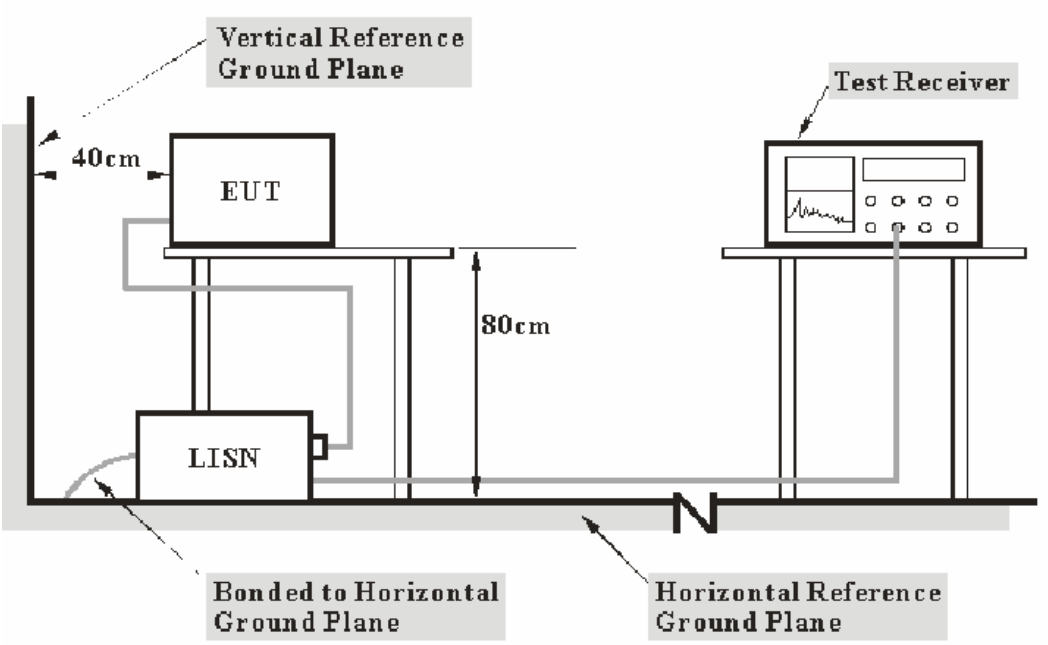
CONDUCTED EMISSIONS

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 Laboratories 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	***IF B/W***
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	12208	N/A	N/A
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2008-03-25	2009-03-25
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2008-03-25	2009-03-25

***** Com-Power's LISN were used as the supporting equipment.
*** Statement of Traceability:** Bay Area Compliance Laboratories 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 was 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:

*ESS-18W/20W***: 4.30 dB** at **1.670 MHz** in the **Neutral** conductor mode.

*ESS-23W***: 4.10 dB** at **0.460 MHz** in the **Line** conductor mode.

*ESS-26W***: 5.60 dB** at **0.530 MHz** in the **Neutral** conductor mode.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

Testing was performed by Allan An on 2008-11-03.

Test Mode: On (ESS-18W/20W)

Line Conducted Emissions				FCC Part 18.307	
Frequency (MHz)	**Amplitude (dBµV)**	**Detector (PK/QP/AV)**	**Conductor (Line/Neutral)**	**Limit (dBµV)**	**Margin (dB)**
1.670	43.70	PK	Neutral	48.00	4.30
1.490	41.60	PK	Neutral	48.00	6.40
0.570	40.60	PK	Neutral	48.00	7.40
0.480	38.90	PK	Neutral	48.00	9.10
1.455	38.00	PK	Line	48.00	10.00
1.190	37.60	PK	Neutral	48.00	10.40
0.595	37.10	PK	Line	48.00	10.90
0.680	36.60	PK	Line	48.00	11.40
1.015	36.40	PK	Line	48.00	11.60
1.805	35.60	PK	Line	48.00	12.40
2.065	34.70	PK	Line	48.00	13.30
13.505	25.40	PK	Neutral	48.00	22.60

Test Mode: On (ESS-23W)

Line Conducted Emissions				FCC Part 18.307	
Frequency (MHz)	**Amplitude (dBµV)**	**Detector (PK/QP/AV)**	**Conductor (Line/Neutral)**	**Limit (dBµV)**	**Margin (dB)**
0.460	43.90	PK	Line	48.00	4.10
0.450	39.90	PK	Neutral	48.00	8.10
0.555	39.80	PK	Line	48.00	8.20
1.570	39.00	PK	Line	48.00	9.00
0.540	37.70	PK	Neutral	48.00	10.30
0.630	36.80	PK	Neutral	48.00	11.20
1.145	35.70	PK	Line	48.00	12.30
0.930	35.60	PK	Neutral	48.00	12.40
10.850	33.70	PK	Line	48.00	14.30
29.950	29.90	PK	Line	48.00	18.10
29.985	29.80	PK	Neutral	48.00	18.20
9.595	25.10	PK	Neutral	48.00	22.90

Test Mode: On (ESS-26W)

Line Conducted Emissions				FCC Part 18.307	
Frequency (MHz)	**Amplitude (dBµV)**	**Detector (PK/QP/AV)**	**Conductor (Line/Neutral)**	**Limit (dBµV)**	**Margin (dB)**
0.530	42.40	PK	Neutral	48.00	5.60
1.565	42.40	PK	Neutral	48.00	5.60
1.410	42.20	PK	Neutral	48.00	5.80
0.620	41.60	PK	Neutral	48.00	6.40
1.360	38.90	PK	Line	48.00	9.10
1.230	38.60	PK	Neutral	48.00	9.40
0.480	37.10	PK	Line	48.00	10.90
1.625	37.10	PK	Line	48.00	10.90
2.055	36.90	PK	Neutral	48.00	11.10
0.645	36.60	PK	Line	48.00	11.40
0.560	35.50	PK	Line	48.00	12.50
0.790	35.00	PK	Line	48.00	13.00

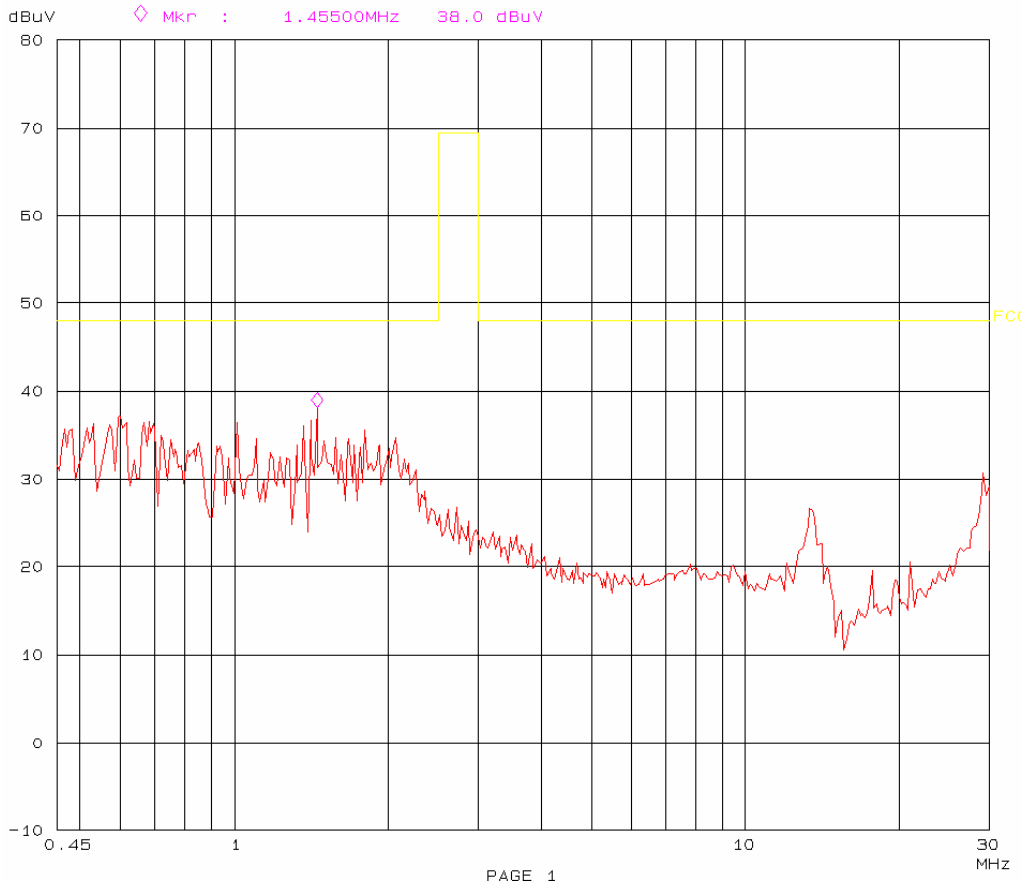
Plot(s) of Test Data

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

Model: ESS-18/20W

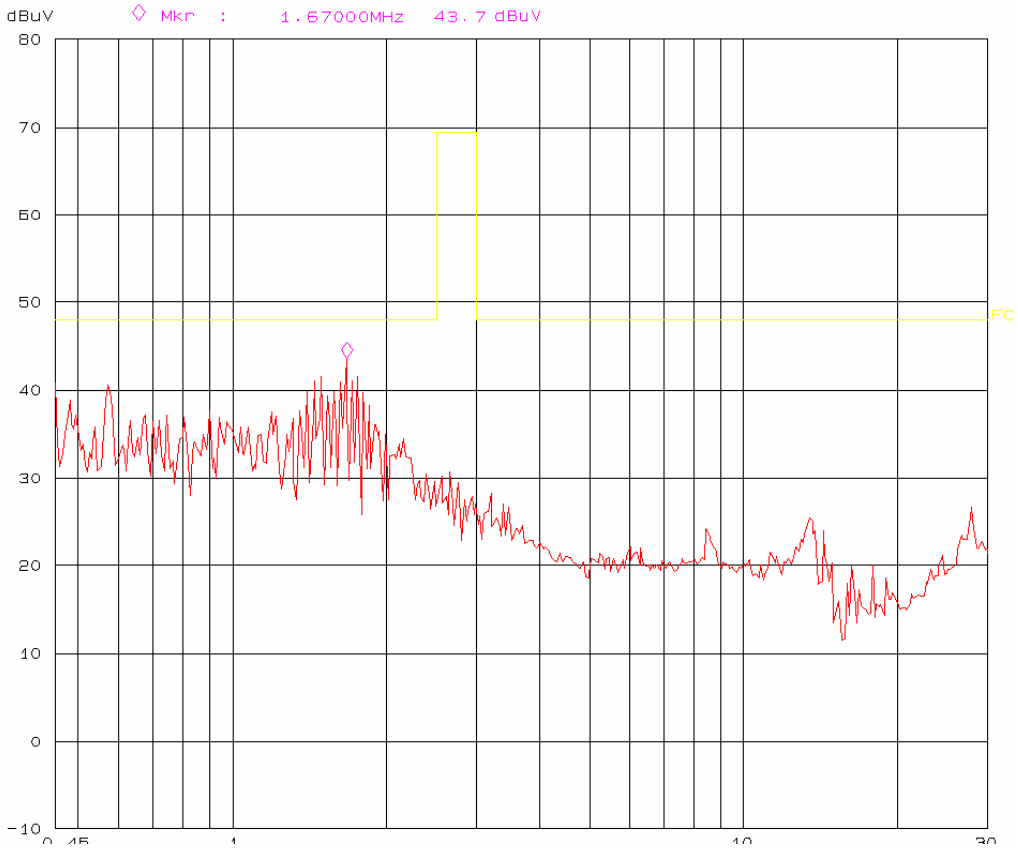
Conducted emission
FCC Part18

EUT:	CFL	ESS-18W/20W
Manuf:	NVC	
Op Cond:	On	
Operator:	Allan	
Test Spec:	AC 120V 60Hz L	
Comment:	Temp: 25 Hum: 56%	
	BACL	



Conducted emission
FCC Part18

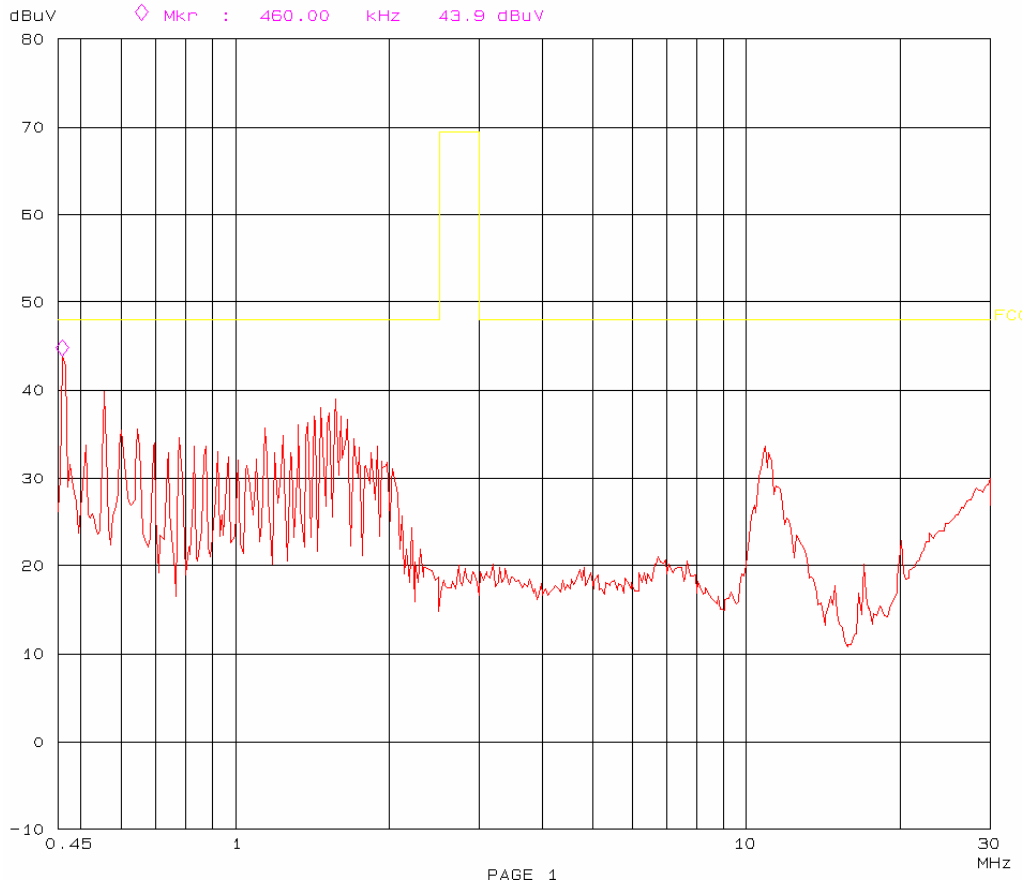
EUT:	CFL	ESS-18W/20W
Manuf:	NVC	
Op Cond:	On	
Operator:	Allan	
Test Spec:	AC 120V 60Hz N	
Comment:	Temp: 25 Hum: 56%	
	BACL	



Model: ESS-23W

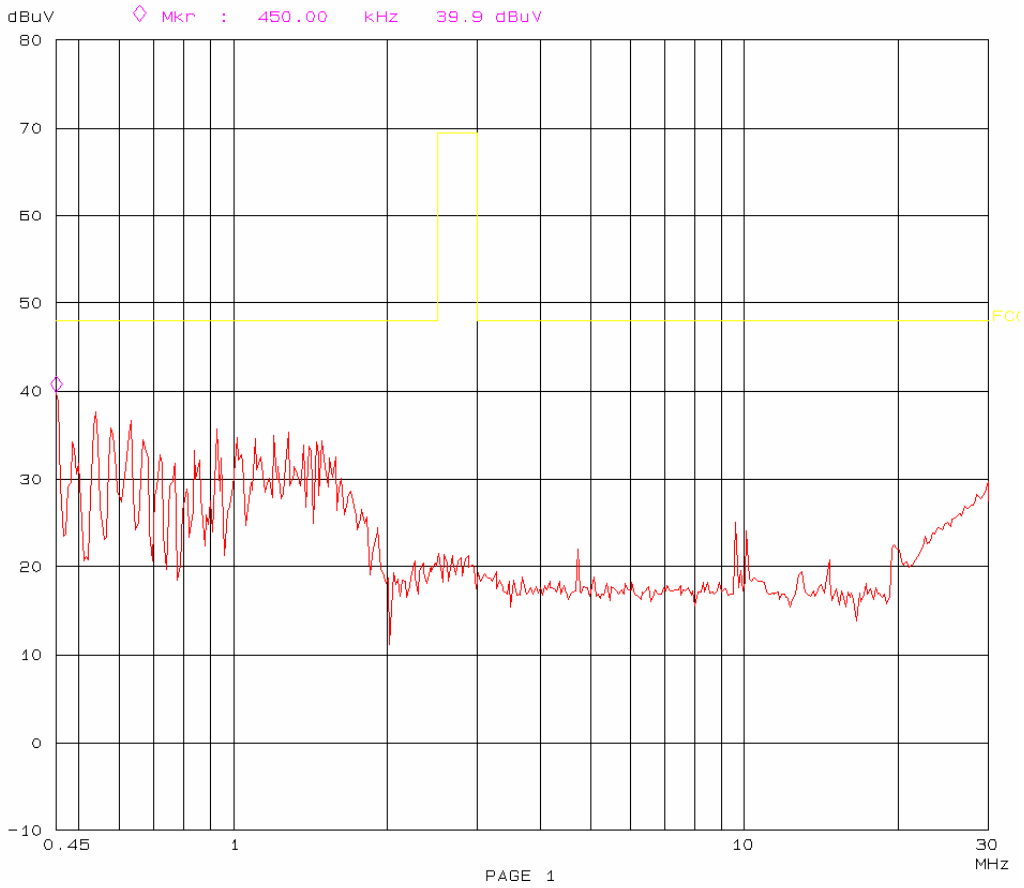
Conducted emission
FCC Part18

EUT:	CFL	ESS-23W
Manuf:	NVC	
Op Cond:	On	
Operator:	Allan	
Test Spec:	AC 120V 60Hz L	
Comment:	Temp: 25 Hum: 56%	
	BACL	



Conducted emission
FCC Part18

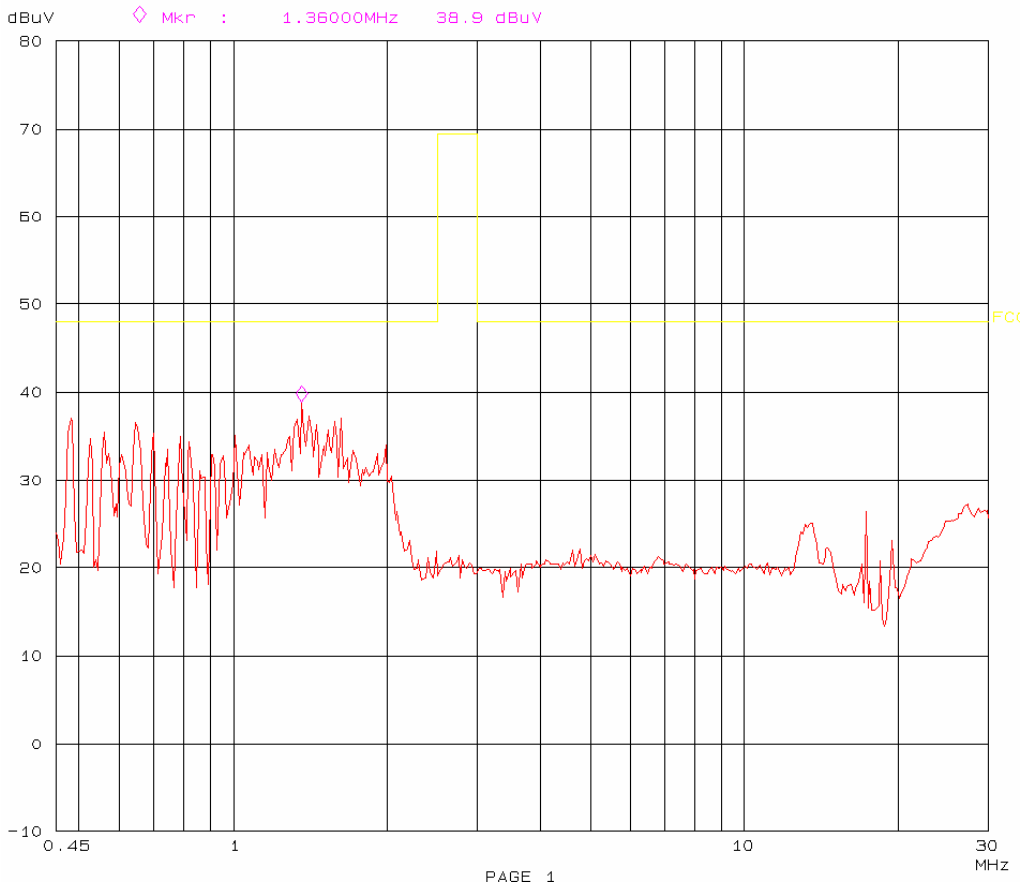
EUT:	CFL	ESS-23W
Manuf:	NVC	
Op Cond:	On	
Operator:	Allan	
Test Spec:	AC 120V 60Hz N	
Comment:	Temp: 25 Hum: 56%	
	BACL	



Model: ESS-26W

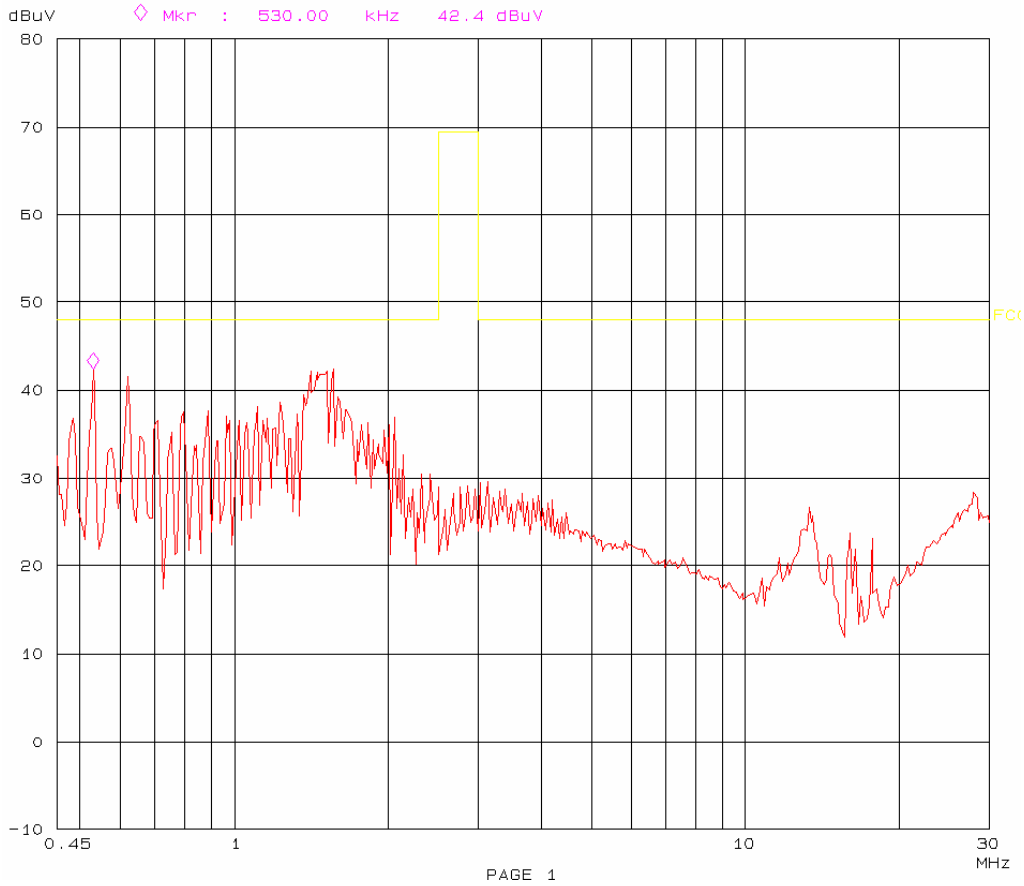
Conducted emission
FCC Part18

EUT:	CFL ESS-26W
Manuf:	NVC
Op Cond:	On
Operator:	Allan
Test Spec:	AC 120V 60Hz L
Comment:	Temp: 25 Hum: 56% BACL



Conducted emission
FCC Part18

EUT:	CFL ESS-26W
Manuf:	NVC
Op Cond:	On
Operator:	Allan
Test Spec:	AC 120V 60Hz N
Comment:	Temp: 25 Hum: 56%
	BACL



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