Application for FCC

On Behalf of
Simplex(Suzhou) Co., Ltd.

Summary

The equipment comply with the requirements according to the following standard(s):

47CFR Part 18 (2006): Industrial, Scientific, and Medical Equipment

FCC/OET MP-5 (1986): FCC Methods of Measurements of Radio Noise Emissions From Industrial, Scientific, and Medical Equipment

ANSI C63.4 (2003): Interim Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz.

Description

The appliances were tested by Intertek Testing Services ETL SEMKO Shanghai Limited and found compliance with relevant requirements described in FCC Part 18 RF lighting Device.

Test results are contained in this test report and Intertek Testing Services ETL SEMKO Shanghai Limited is assumed full responsibility for the accuracy and completeness of these measurements.

The test report applies to tested samples only and shall not be reproduced in part without written approval of Intertek Testing Services ETL SEMKO Shanghai Limited.

Date of Test: March 13, 2007
Date of Issue: April 16, 2007

Prepared by:

Star Guo

Star Guo *(Engineer)*

Report Approved by:

Ada Zou *(Reviewer)*

Description of Test Facility

Name of Firm :	Intertek Testing Service Shanghai Limited
Site Location :	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
Name of contact :	Mr. Steve Li
Phone :	86-21-64956565 ext. 271
Fax :	86-21-54262353
E-mail address:	Jonny.Jing@intertek.com

CONTENTS

1.Applicant Information

Applicant :	Simplex(Suzhou) Co., Ltd. Xing Pu Road, Suzhou , Jiangsu Province ,China
Manufacturer 1:	Simplex (Suzhou) Co.,Ltd. Xing Pu Road, Suzhou , Jiangsu Province ,China
Manufacturer 2:	TWIN GROWTH ELECTRONICS (SUZHOU) CO., LTD. Mudu Town , Suzhou , Jiangsu Province , China
Difference between models:	Different models
Country of origin:	P.R. China
Name of contact:	Mr. Shen Ying Ping
Telephone:	86-512-66262625
Telefax:	86-512-66262113

2.Information of Equipment Under Test (EUT)

2.1 Identification of the EUT

Equipment:	Self Ballasted lamps
Type of EUT:	☑ Production ☐ Pre-product ☐ Pro-type
Type/model:	TLE-11W, TLE-13W, TLE-15W, TLE-20W, TLE-23W, TLE-25W
FCC ID:	VCWTLEX
Serial number:	none
Date of sample receipt	2007-03-13
Date of test	2007-03-13~2007-04-16
Rating:	120V~, 60Hz
Operation frequency :	none

2.2 Additional information about the EUT

There are two different type of portable light for consumer use, consumer limit apply.

2.3 Peripheral equipment

none

3. Conducted Powerline Measurement

3.1 Conduction Limit for non-consumer RF lighting device

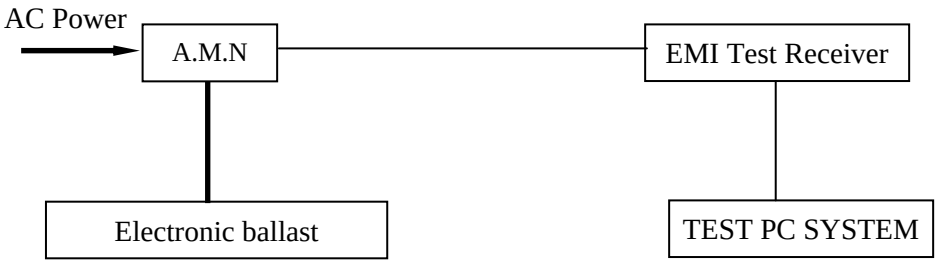
Frequency (MHz)	Maximum RF line voltage measured with a 50uH/50 ohm LISN	
	(μV)	dB(μV)
0.45-2.51 MHz	250	47.9
2.51-3.0 MHz	3000	69.5
3.0-30 MHz	250	47.9
RF Line Voltage dB(μV) = 20 lg RF Line Voltage (μV)		

3.2 Instruments List

The following instruments were used during the measurement of RF voltage conducted back into the power lines.

Equipment	Type	Manu.	Internal no.	Cal. Date	Due date
Test Receiver	ESCS 30	R&S	EC 2107	2007-2-9	2008-2-8
A.M.N.	ESH3-Z5	R&S	EC 2109	2007-2-9	2008-2-8
Shielded room	-	Zhongyu	EC 2838	2004-2-3	2009-2-2
Therom-Hygrograph	ZJ1-2A	S.M.I.F.	EC 3326	2006-12-28	2007-12-27

3.3 Test Setup



Note: ——— means “power line”
——— means “signal line”

3.4 Test Configuration

The Conducted Powerline Measurement was proceeded in a shielded room.

The EUT was connected to AC power source through an Artificial Mains Network (A.M.N.). which provides a 50 ohm, standardized RF impedance for the measured equipment. Other support equipment was powered by another AMN.

The EUT was placed on a 1m×1.5m×0.8m wooden table and keep 40 centimeters from the wall of the earthed shielded room, which was considered as Ground Reference Plane(GRP), and kept at least 80 centimeters from any other earthed conducting surface. The EUT was placed at a distance of 80 centimeters from the AMN’s, and connected thereto by a unshielded lead of 1 meter in length.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.

The frequency range from 450 kHz to 30 MHz was checked.

The bandwidth of Test Receiver ESCS 30 was set at 10 kHz.
Both 120V and 277V operation conditions were tested

After scanned by automatic peak mode, the frequency producing the max. level was reexamined using the detector function set to the CISPR Quasi-peak mode by manual.

The EUT, support equipment and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was maximized by switching power lines,

varying the mode of operation or resolution, clock or data exchange speed, if applicable, whichever determined the worst-case emission.

During measurement, EUT was set at “Lighting ” mode.

Test Results were listed in sec. 3.6.

3.5 Test Procedure

3.5.1 Establish the test setup as sec. 3.3.
3.5.2 Set the Electronic ballast to “Lighting” mode.
3.5.3 Proceed the measurement

3.6 Test Results

■ Pass □ Fail

3.6.1 Measurement environment

Temperature : 22.7 °C Relative Humidity : 47 %

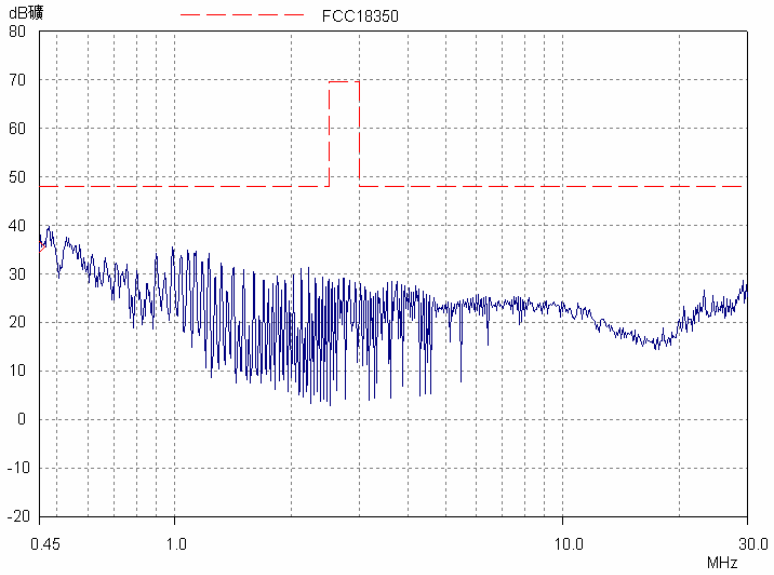
3.6.2 Data table

All emissions not listed below are too low against the prescribed limits.

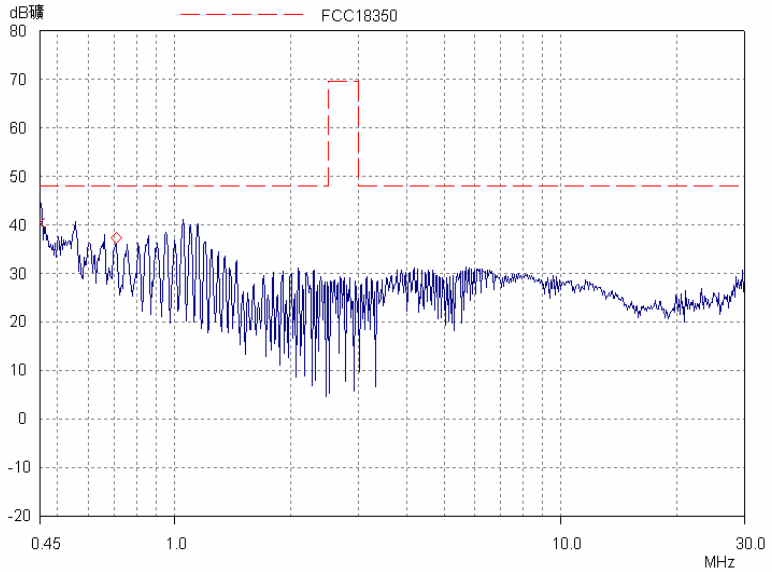
Emission level = Reading level + Factor
Factor = Insertion loss of A.M.N. + Cable loss

The highest six points were chose automatically through software by its compare the pre-scanned graph to the limit.

Input voltage: 120V~, 60Hz
Model:TLE-11W

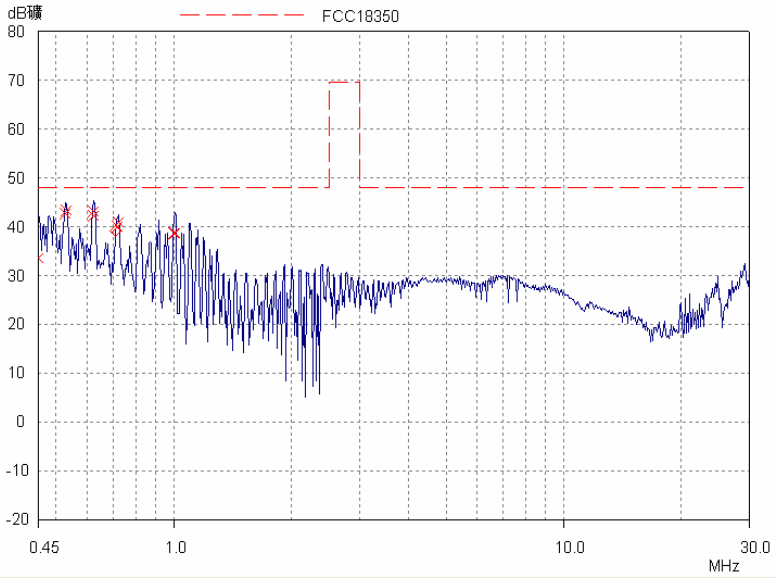


Input voltage: 120V~, 60Hz
Model:TLE-13W



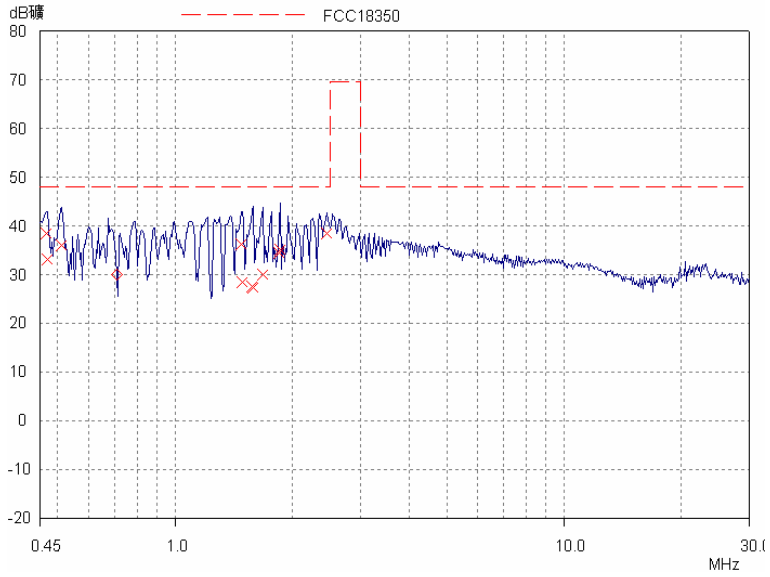
Frequency	Quasi Pk	Limit	Delta	Phase
MHz	dBµV	dBµV	dB	/PE
0.45	40.47	48.00	7.53	L1/gnd

Input voltage: 120V~, 60Hz
Model: TLE-15W



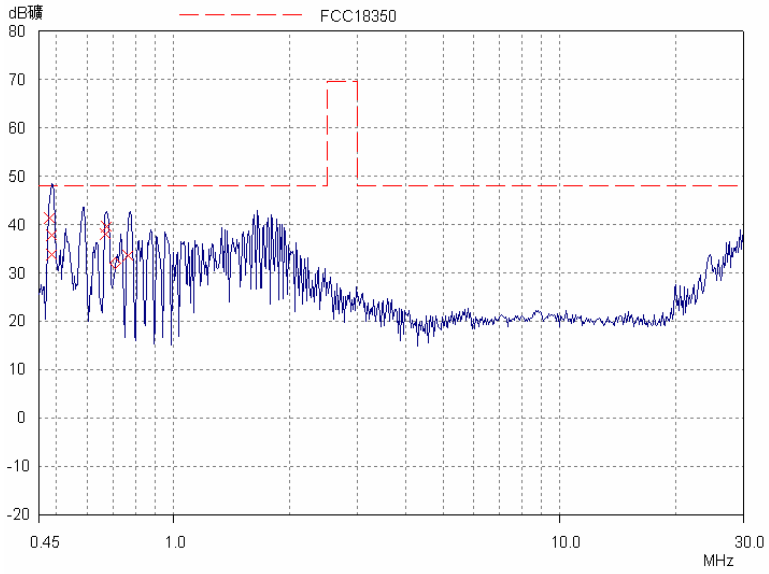
Frequency MHz	Quasi Pk dBµV	Limit dBµV	Delta dB	Phase /PE
0.45	33.47	48.00	14.53	N /gnd
0.52791	42.74	48.00	5.26	N /gnd
0.53002	43.43	48.00	4.57	L1/gnd
0.62178	42.26	48.00	5.74	L1/gnd
0.62427	43.15	48.00	4.85	L1/gnd
0.71788	40.12	48.00	7.88	N /gnd
0.72075	40.87	48.00	7.13	N /gnd
0.99989	38.71	48.00	9.29	N /gnd
1.00791	38.74	48.00	9.26	N /gnd

Input voltage: 120V~, 60Hz
Model: TLE-20W



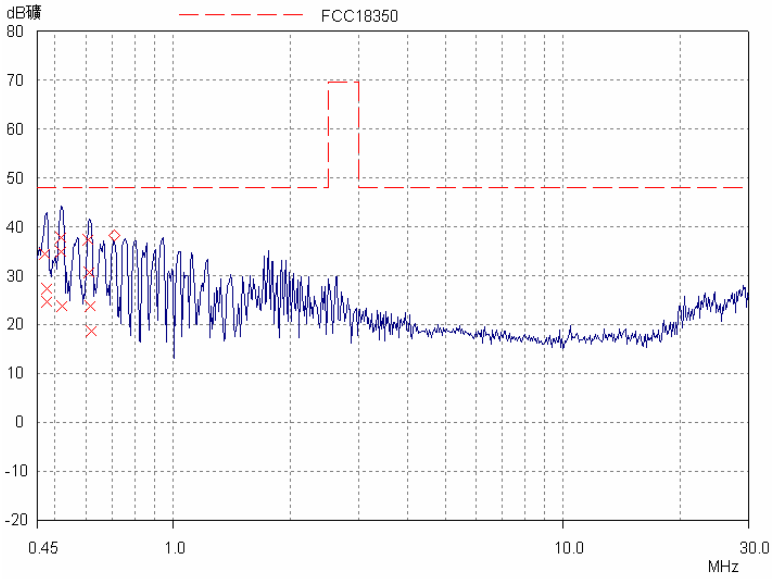
Frequency MHz	Quasi Pk dBµV	Limit dBµV	Delta dB	Phase /PE
0.46646	38.39	48.00	9.61	N /gnd
0.46832	33.20	48.00	14.80	N /gnd
0.50927	35.94	48.00	12.06	N /gnd
1.48454	36.24	48.00	11.76	N /gnd
1.49048	28.46	48.00	19.54	N /gnd
1.58245	27.49	48.00	20.51	N /gnd
1.58878	27.37	48.00	20.63	L1/gnd
1.68011	30.00	48.00	18.00	L1/gnd
1.85643	34.37	48.00	13.63	L1/gnd
1.86386	35.22	48.00	12.78	N /gnd
2.45493	38.42	48.00	9.58	N /gnd

Input voltage: 120V~, 60Hz
Model: TLE-23W



Frequency	Quasi Pk	Limit	Delta	Phase
MHz	dBµV	dBµV	dB	/PE
0.47776	41.27	48.00	6.73	L1/gnd
0.48352	37.78	48.00	10.22	N /gnd
0.48545	33.76	48.00	14.24	L1/gnd
0.66811	38.09	48.00	9.91	L1/gnd
0.67346	39.67	48.00	8.33	N /gnd
0.76523	33.67	48.00	14.33	L1/gnd

Input voltage: 120V~, 60Hz
Model: TLE-25W



Frequency MHz	Quasi Pk dBµV	Limit dBµV	Delta dB	Phase /PE
0.4702	34.43	48.00	13.57	L1/gnd
0.47396	27.31	48.00	20.69	N /gnd
0.47586	24.65	48.00	23.35	L1/gnd
0.51541	37.90	48.00	10.10	L1/gnd
0.51747	34.89	48.00	13.11	L1/gnd
0.52162	23.68	48.00	24.32	N /gnd
0.60465	37.42	48.00	10.58	L1/gnd
0.61193	30.60	48.00	17.40	N /gnd
0.61438	23.87	48.00	24.13	N /gnd
0.61931	18.73	48.00	29.27	N /gnd

Note:

All data listed are Quasi-Peak value.

Test Engineer: Star Guo Date of test: 2007-04-16

Star Guo

3.7 Measurement Uncertainty

Measurement uncertainty of conducted power line test is ±3.34dB
The measurement uncertainty is given with a confidence of 95%, k=2.