

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT  
UNINTENTIONAL RADIATOR CERTIFICATION TO  
FCC PART 18 REQUIREMENT**

**for**

**CFLs**

**M/N: 7W/ELX, 8W/ELX**

**FCC ID: WQD7-8WELX**

**Trade Name: Not Applicable**

**Report No.: SHEE080331259301-02**

**Issue Date: Sept. 24, 2008**

Prepared for

**GREENLITE LIGHTING CORPORATION  
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Prepared by

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## 1. General Information

**Applicant:** GREENLITE LIGHTING CORPORATION  
102-115 Brunswick Blvd POINTE-CLAIRE, Quebec

**Manufacturer:** JIANGXI ELEGANT LIGHTING CO LTD  
No. 713, Xihou St., Guixi, Jiangxi, China

**Trade Name:** Not Applicable

**Product Name :** CFLs

**M/N:** 7W/ELX, 8W/ELX

**Report No.:** SHEE080331259301-02

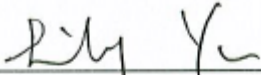
**Date of Test:** Apr. 01, 2008 to Aug. 31, 2008

### We hereby certify that:


The above equipment was tested by Centre Testing International (CTI), The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 18.

The test results of this report relate only to the tested sample identified in this report.


Prepared by :

  
Lily Yan

Inspected by :

  
Christy Chen

Approved by:

  
Jacky Guo  
General Manager

Date :

Oct. 30, 2008



## 2. Product Information

**Product name:** CFLs  
**Model name:** 7W/ELX, 8W/ELX  
**Trade name:** Not Applicable  
**Technical data:** input voltage: AC120 V/60Hz  
7W/ELX: A lamp 7W, AC 120V/60 Hz  
8W/ELX: A lamp 8W, AC 120V/60 Hz  
**Model difference:** The models 7W/ELX and 8W/ELX are identical in schematic, PCB layout and appearance except the rated power.  
Both of the models are tested conducted emission, and 7W/ELX is tested radiated emission..  
**Function:** Lighting

## 3. Test Methodology

Both conducted and radiated tests were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at a distance 3 meters from the antenna to EUT.

## 4. Test Facility

The 3m Semi-Anechoic chamber test site and conducted measurement facility used to collect the radiated data is located on the address:

1F., Building C, Hongwei Industrial Zone 70 District., Baoan, Shenzhen, Guangdong, China.

The Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 requirements. The test site Registration Number: 614926

## 5. Special Accessories

Not available for this EUT intended for grant.

## 6. Equipment Modifications

Not available for this EUT intended for grant.

## **7. Test Condition**

### **7.1 Test Configuration**

The device was configured for testing in a typical fashion (as a customer would normally use it). During the tests, the EUT and the supported equipments were installed to meet FCC requirement and operated in a manner which tends to maximize its emission level in a typical application.

### **7.2 Test Procedure**

#### **Conducted Emissions:**

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2003, conducted emissions from the EUT are measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

#### **Radiated Emissions:**

The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max emission, the relative positions of this hand-held transmitter (EUT) were rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.

### **7.3 EUT operation**

EUT was tested according to the following operation modes provided by the specifications given by the manufacturer, and reported the worst emissions.

### **7.4 Peripherals / Support Equipment Used**

Following peripheral devices and interface cables were connected during the measurement:

**Type of Peripheral Equipment Used: None**

**Type of Cables Used: None**

## 7.5 Limit

### Conducted Emission:

According to section 18.307(c) Conducted Emission Limits is as following:

Frequency (MHz)	Maximum RF Line Voltage
	Q.P.( dBuV)
0.45-2.51	48
2.51-3.0	69.5
3.0-30	48

### Radiated Emission:

According to section 18.305(c) Radiated Emission Limits is as following:

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m Q.P.)
30-88	3	40.0
88-216	3	43.5
216-1000	3	46.0

Remark:

1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

## 8. Summary of Test Results

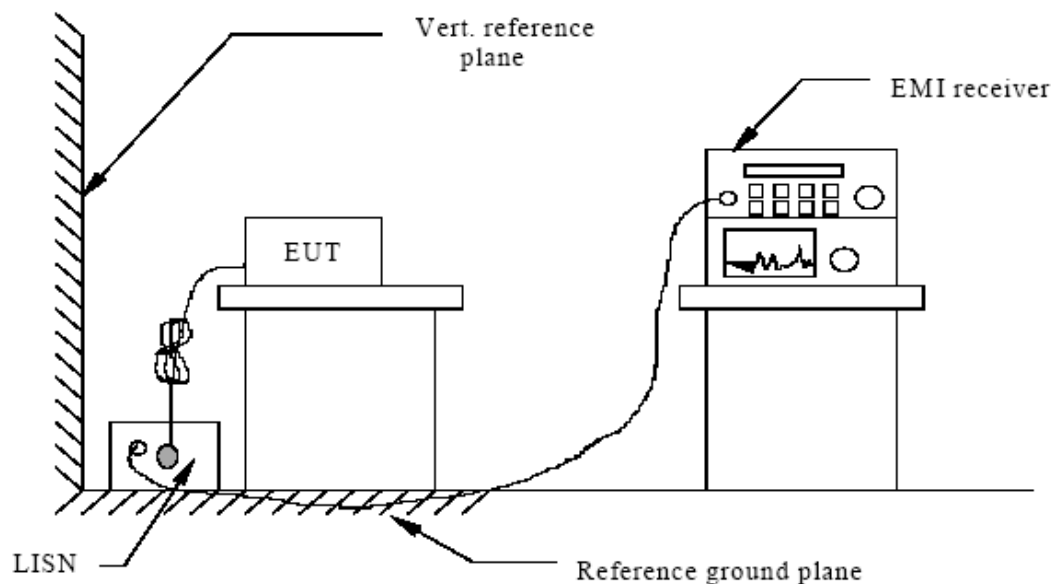
FCC Rules	Description Of Test	Result
§18.307(c)	Conducted Emission	Compliant
§18.305(c)	Radiated Emission	Compliant

## 9. Conducted Emissions Test

### 9.1 Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane, connected to the LISN, and worked normally during the whole test.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. If the EUT emission level was less -6dB to the Q.P. limit in Peak mode, then the emission signal was re-checked using Q.P. detector.
4. Repeat above procedures until all frequencies measured were completed.

### 9.2 Test Set-up (Block Diagram of Configuration)



### 9.3 Measurement Equipment Used

Equipment Type	Manufacturer	Model Number	Serial Number	Last Calibration	Calibration Due
Receiver	R&S	ESCI	100435	01/29/2008	01/28/2009
LISN	ETS	3816	00060336	06/07/2008	06/06/2009

### 9.4 Measurement Results

**Limit** : FCC Part 18 Conduction  
**EUT** : CFLs  
**M/N** : See belows  
**Mode** : Normal

**Power** : AC 120V/60HZ  
**Temperature** : 24°C  
**Humidity** : 53%  
**Tested by** : Lily Yan

M/N : 7W/ELX

FCC Conducted Emission Test Result													
Frequency (MHz)	Reading Level (dBUV)			Correct Factor (dB)	Measurement (dBUV)			Limits (dBUV)		Margin		Result (P/F)	Remarks (L/N)
	Peak	Q.P.	Avg.		Peak	Q.P.	Avg.	Q.P.	Avg.	Q.P.	Avg.		
0.5300	19.71	15.80	--	21.56	41.27	37.36	--	48.00	--	-10.64	--	P	L
0.9900	18.85	9.56	--	21.54	40.39	31.10	--	48.00	--	-16.90	--	P	L
1.0220	19.12	10.71	--	21.53	40.65	32.24	--	48.00	--	-15.76	--	P	L
1.2500	19.56	12.18	--	21.39	40.95	33.57	--	48.00	--	-14.43	--	P	L
1.4620	21.69	15.02	--	21.26	42.95	36.28	--	48.00	--	-11.72	--	P	L
1.6700	24.03	21.24	--	21.13	45.16	42.37	--	48.00	--	-5.63	--	P	L
0.4580	13.90	9.04	--	21.62	35.52	30.66	--	48.00	--	-17.34	--	P	N
0.5740	10.99	3.14	--	21.54	32.53	24.68	--	48.00	--	-23.32	--	P	N
0.7300	13.47	7.69	--	21.53	35.00	29.22	--	48.00	--	-18.78	--	P	N
0.9900	13.02	8.55	--	21.54	34.56	30.09	--	48.00	--	-17.91	--	P	N
1.2180	17.12	10.55	--	21.41	38.53	31.96	--	48.00	--	-16.04	--	P	N
1.6980	24.89	22.41	--	21.11	46.00	43.52	--	48.00	--	-4.48	--	P	N

M/N : 8W/ELX

FCC Conducted Emission Test Result													
Frequency (MHz)	Reading Level (dBUV)			Correct Factor (dB)	Measurement (dBUV)			Limits (dBUV)		Margin		Result (P/F)	Remarks (L/N)
	Peak	Q.P.	Avg.		Peak	Q.P.	Avg.	Q.P.	Avg.	Q.P.	Avg.		
1.1760	17.01	9.32	--	21.43	38.44	30.75	--	48.00	--	-17.25	--	P	L
1.2360	18.50	4.96	--	21.40	39.90	26.36	--	48.00	--	-21.64	--	P	L
1.3940	21.41	10.90	--	21.30	42.71	32.20	--	48.00	--	-15.80	--	P	L
1.5200	22.87	18.96	--	21.22	44.09	40.18	--	48.00	--	-7.82	--	P	L
1.5640	20.08	22.08	--	21.20	41.28	43.28	--	48.00	--	-4.72	--	P	L
1.6780	25.24	21.53	--	21.13	46.37	42.66	--	48.00	--	-5.34	--	P	L
0.4500	14.97	9.81	--	21.62	36.59	31.43	--	48.00	--	-16.57	--	P	N
0.6340	13.31	10.94	--	21.53	34.84	32.47	--	48.00	--	-15.53	--	P	N
1.4860	22.25	16.29	--	21.24	43.49	37.53	--	48.00	--	-10.47	--	P	N
1.5300	17.34	18.10	--	21.22	38.56	39.32	--	48.00	--	-8.68	--	P	N
1.6380	21.83	19.03	--	21.15	42.98	40.18	--	48.00	--	-7.82	--	P	N
3.3320	18.73	18.18	--	20.38	39.11	38.56	--	48.00	--	-9.44	--	P	N

Freq.

Reading level

Factor

Emission level

Limit

Margin

= Emission frequency in MHz

= Uncorrected Analyzer/Receiver reading

= Cable loss + insertion loss

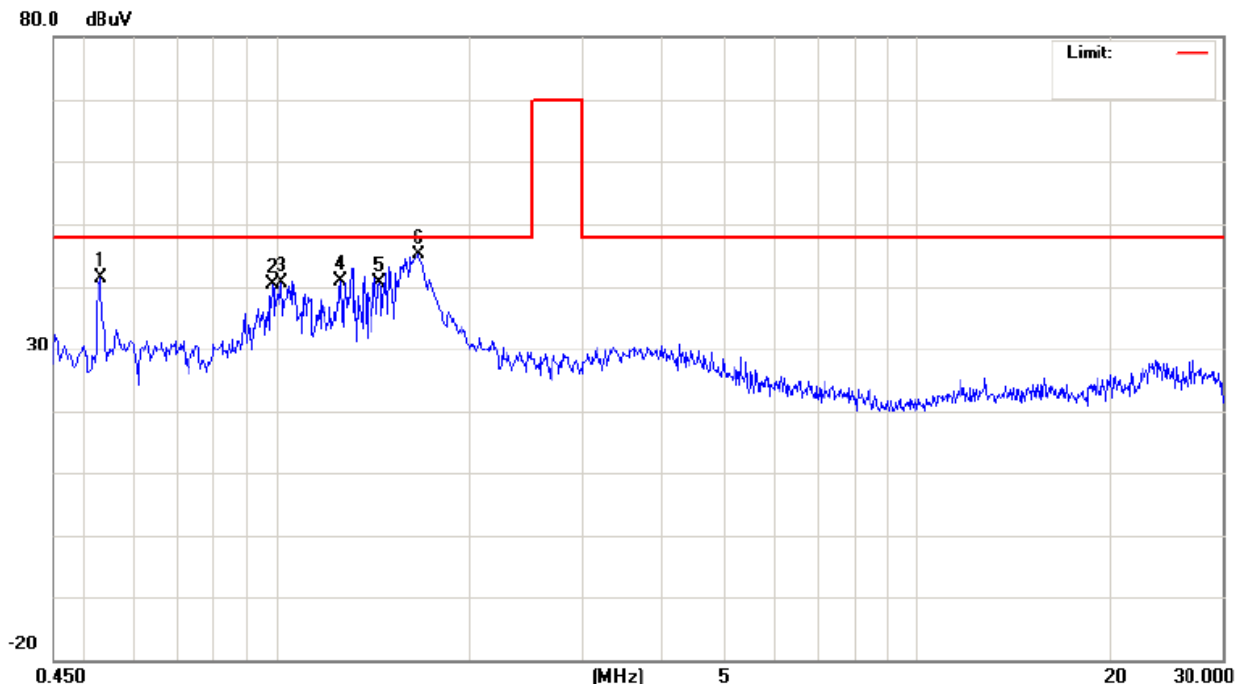
= Reading level + Factor

= Limit stated in standard

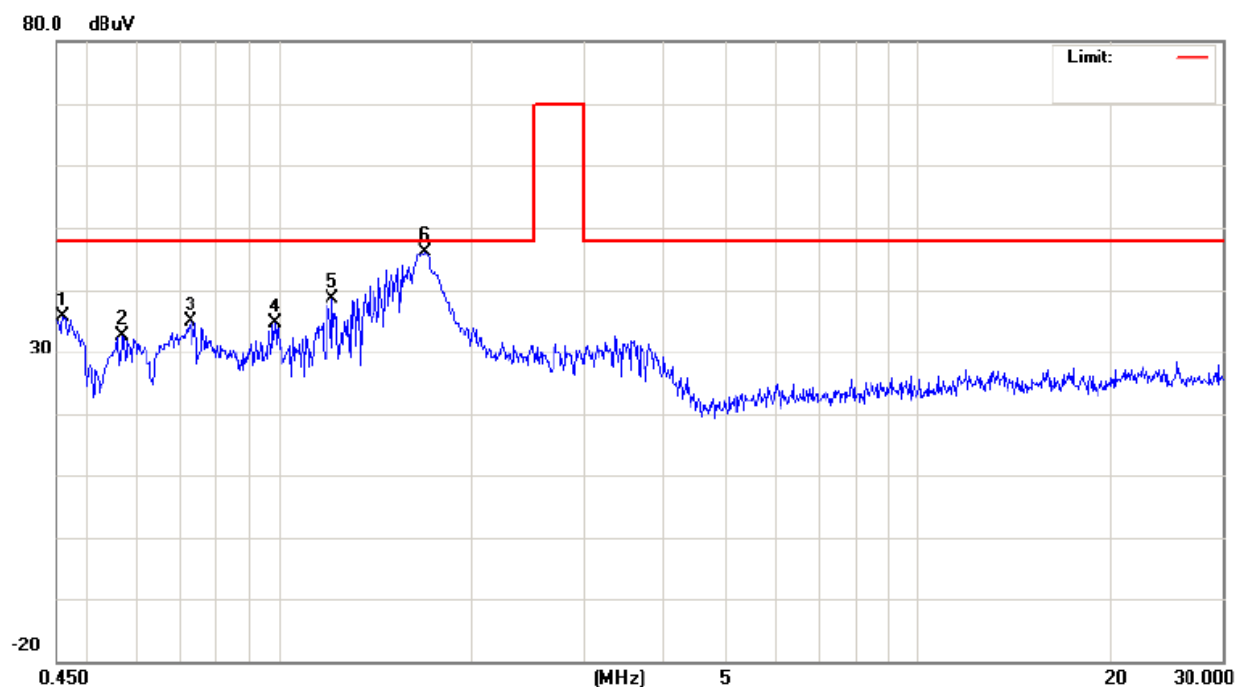
= Reading in reference to limit

## Graph of Conducted Emissions:

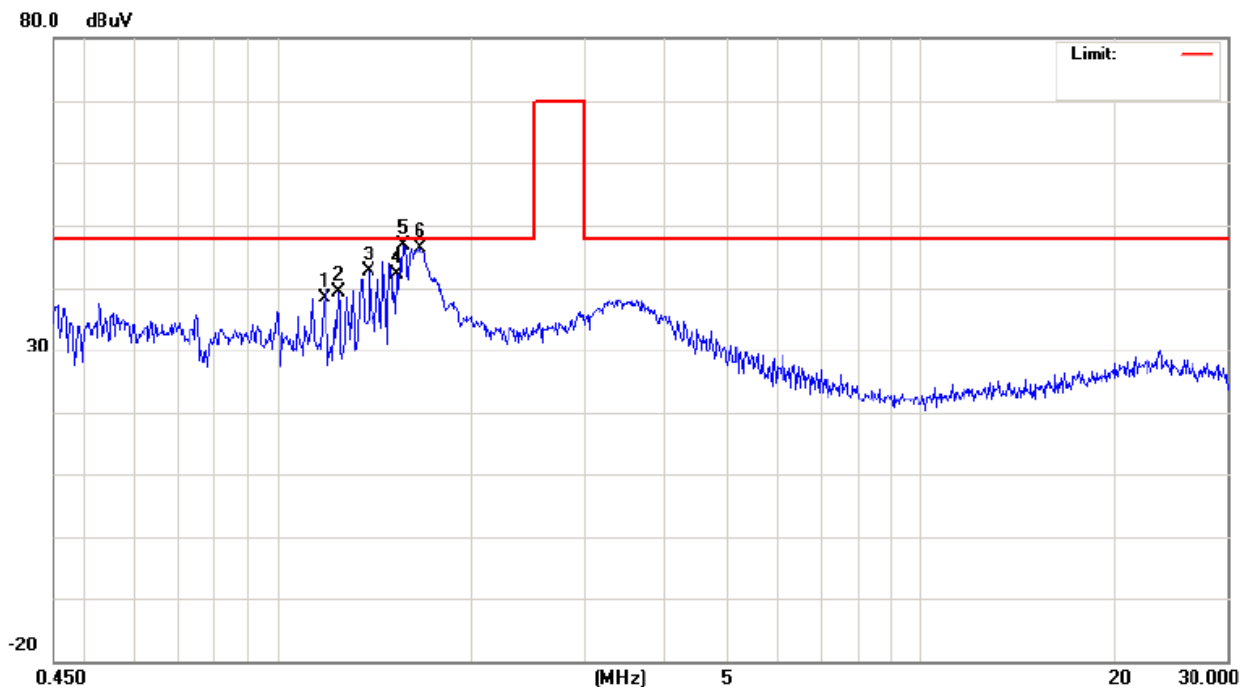
L: (normal Mode for 7W/ELX)



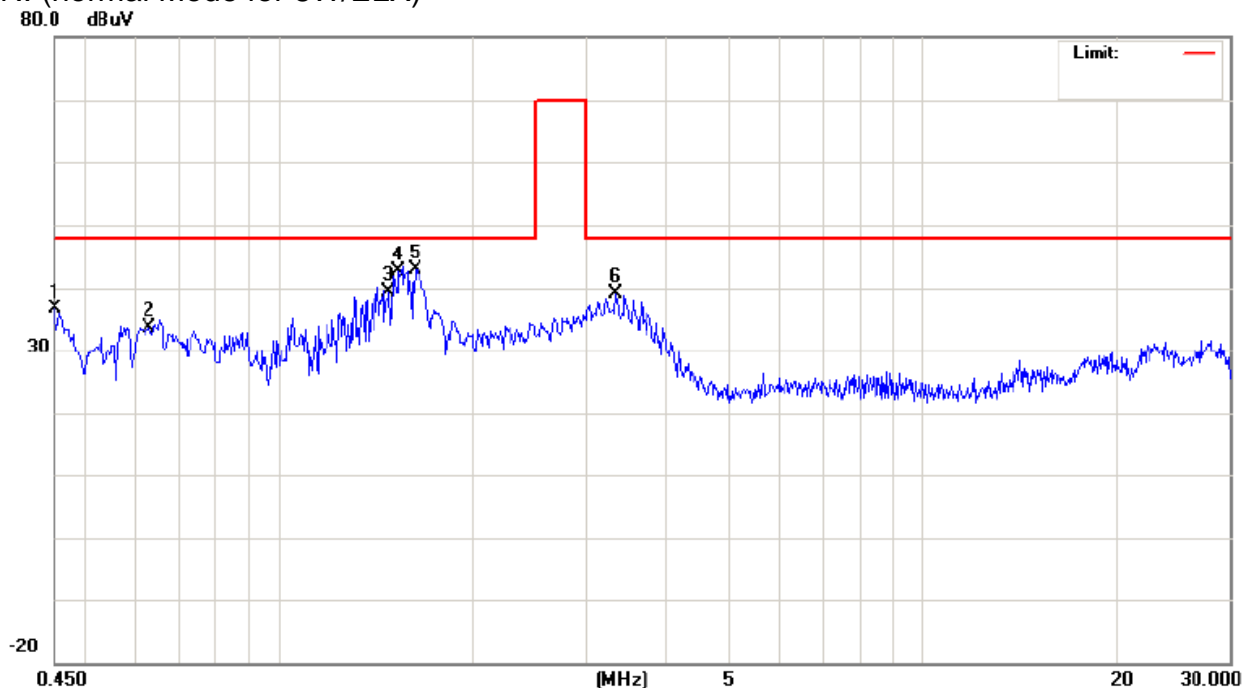
N: (normal Mode for 7W/ELX)



L: (normal Mode for 8W/ELX)



N: (normal Mode for 8W/ELX)



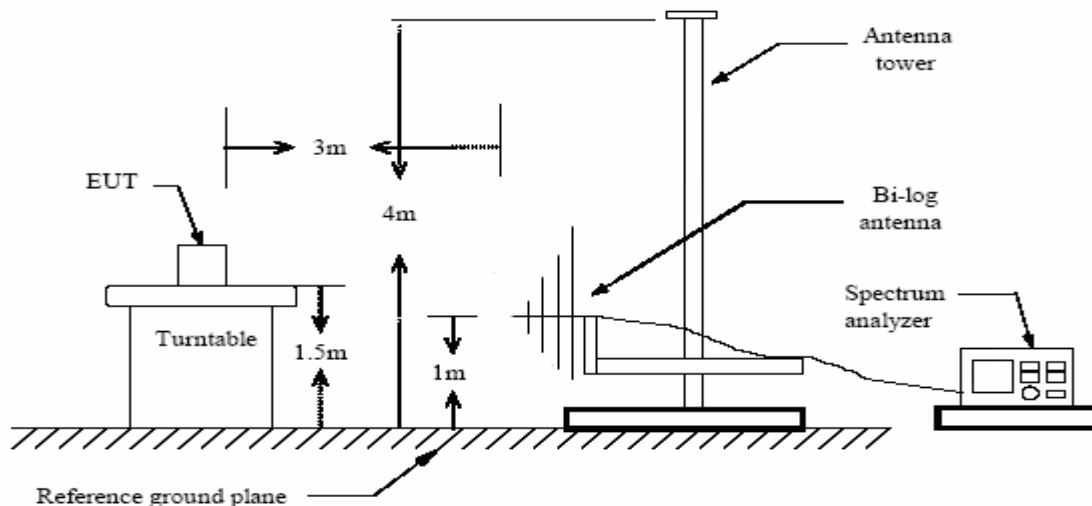
## 10. Radiated Emission Test

### 10.1 Measurement Procedure

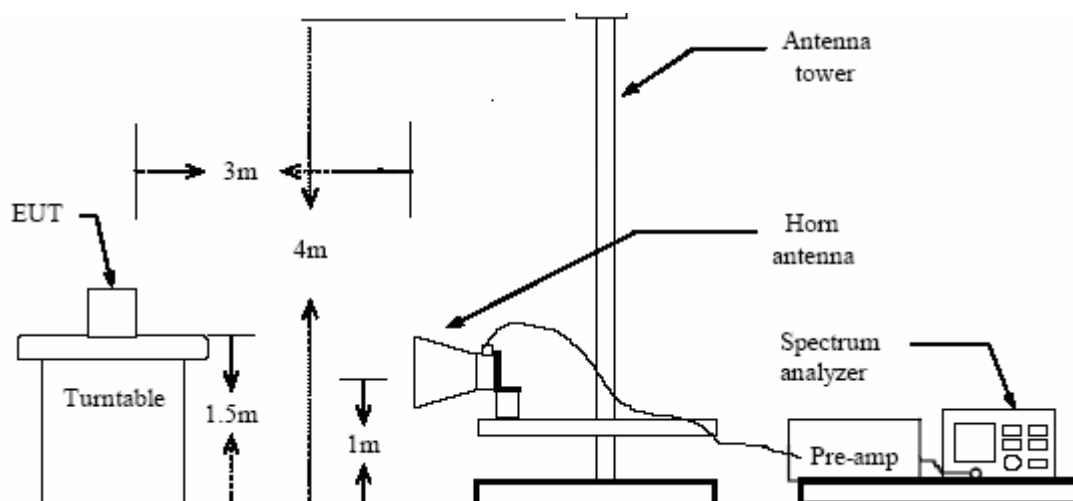
1. The EUT was placed on a turn table which is 0.8m above ground plane, and worked normally during the whole test.
2. Maximum procedure was performed on the twelve highest emissions to ensure EUT compliance.
3. If the EUT emission level was less  $-6\text{dB}$  to the Q.P. limit in Peak mode, then the emission signal was re-checked using Q.P. detector.
4. Repeat above procedures until all frequencies measured were completed.

### 10.2 Test Set-up (Block Diagram of Configuration)

#### A. Radiated Emission Test Set-Up, Frequency below 1000MHz



#### B. Radiated Emission Test Set-Up, Frequency above 1000MHz



### 10.3 Measurement Equipment Used

Equipment Type	Manufacturer	Model Number	Serial Number	Last Calibration	Calibration Due
Spectrum Analyzer	Agilent	E4443A	MY46185649	06/29/2008	06/28/2009
Biconilog Antenna	ETS	3142C	920250	05/30/2008	05/29/2009
ETS Horn Antenna	ETS	3117	57410	05/30/2008	05/29/2009
Multi device Controller	ETS	2090	00057230	06/07/2008	06/06/2009

### 10.4 Measurement Results

**Limit** : FCC Part 18 Radiation      **Power** : AC 120V/60Hz  
**EUT** : CFLs      **Temperature** : 26°C  
**M/N** : 7W/ELX      **Humidity** : 60%  
**Mode** : Normal      **Tested by** : Lily Yan

(The chart below shows the highest readings taken from the final data)

FCC Radiated Emission Test Result													
Frequency (MHz)	Reading Level (dBuV)			Correct Factor (dB)	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)		Result (P/F)	Remarks (H/V)
	Peak	Q.P.	Avg.		Peak	Q.P.	Avg.	Q.P.	Avg.	Q.P.	Avg.		
30.0000	8.52	--	--	17.63	26.15	--	--	40.00	--	<-10	--	P	H
104.3667	8.33	--	--	10.13	18.46	--	--	43.50	--	<-10	--	P	H
283.8167	7.98	--	--	15.16	23.14	--	--	46.00	--	<-10	--	P	H
408.3000	6.62	--	--	18.44	25.06	--	--	46.00	--	<-10	--	P	H
704.1500	9.07	--	--	24.72	33.79	--	--	46.00	--	<-10	--	P	H
911.0833	10.05	--	--	26.77	36.82	--	--	46.00	--	<-6	--	P	H
31.6767	15.44	--	--	16.67	32.11	--	--	40.00	--	<-10	--	P	V
44.5500	13.85	--	--	10.51	24.36	--	--	40.00	--	<-10	--	P	V
76.8833	14.76	--	--	8.64	23.40	--	--	40.00	--	<-10	--	P	V
104.3667	13.20	--	--	10.13	23.33	--	--	43.50	--	<-10	--	P	V
545.7167	11.51	--	--	21.36	32.87	--	--	46.00	--	<-10	--	P	V
930.4833	13.47	9.78	--	26.88	40.35	36.66	--	46.00	--	-9.34	--	P	V

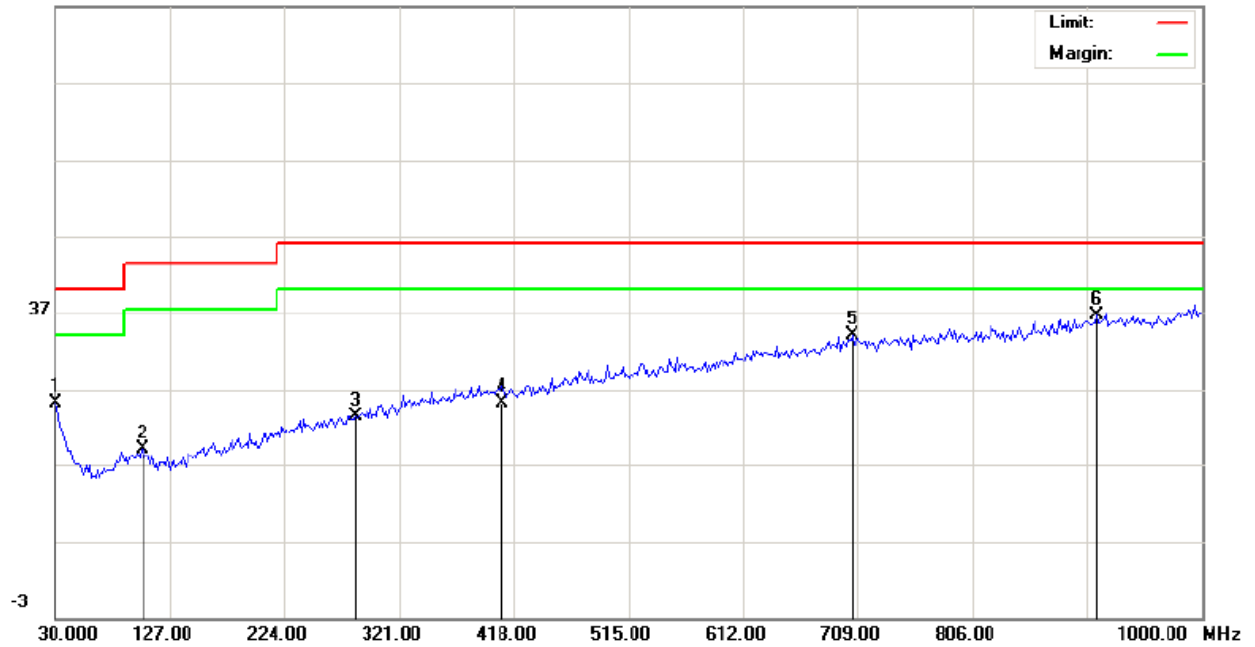
Freq. = Emission frequency in MHz  
 Raw Data (dBuV/m) = Uncorrected Analyzer / Receiver reading  
 Corr. Factor (dB) = Correction factors of antenna factor and cable loss  
 Emiss. Leve = Raw reading converted to dBuV/m and CF added  
 Limit dBuV/m = Limit stated in standard  
 Margin dB = Reading in reference to limit  
 PK = Peak Reading  
 QP = Quasi-peak

### Graph of Radiated Emissions:

H:(Antenna)

Below 1GHz(normal mode)

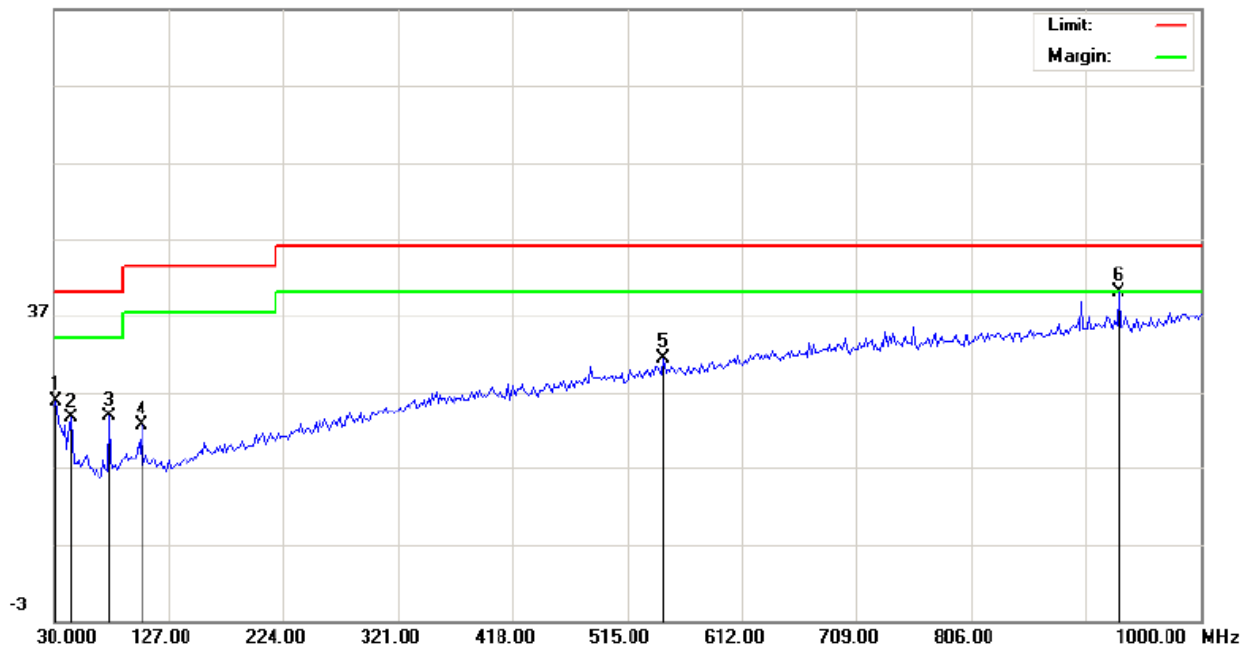
76.9 dBuV/m



V:(Antenna)

Below 1GHz(normal Mode)

76.9 dBuV/m



## **11. Measurement Uncertainty**

Conduction Uncertainty :  $\pm 2.8\text{dB}$

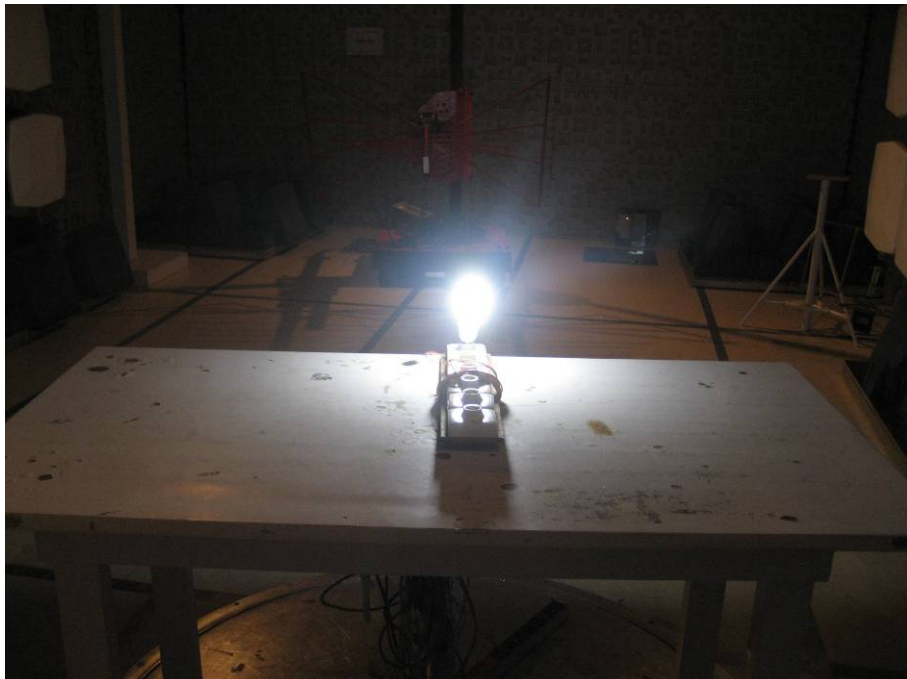
Radiation Uncertainty :  $\pm 3.4\text{dB}$

## APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

### CONDUCTED EMISSION TEST



### RADIATED EMISSION TEST



## APPENDIX 2 EXTERNAL PHOTOGRAPHS OF EUT



Whole View of EUT (7W/ELX)



Whole View of EUT (8W/ELX)

-----End of the report-----