

FCC Certification Test Report

(FCC Part18 Subpart C)

Product Name : Separated Energy-Saving Lamp

Trade Name : HAIJIE

Model No. : YPZ 120/18-2U.RR.D-F

FCC ID : ZGGYPZ120182U

Applicant: BeiJing HaiJieMingRui Technology Co.,Ltd.
95-038 Taizhouwu Haidian District Beijing

Manufacturer: BeiJing HaiJieMingRui Technology Co.,Ltd.
95-038 Taizhouwu Haidian District Beijing

Test Lab Name: Inventec (Pudong) Corporation
699 Pu-xing Road, Minhang District, Shanghai
201114, China

Date of Receipt : 4/6/2011
Date of Test : 4/8/2011~4/12/2011
Issued Date : 4/12/2011
Report No. : LABE100101-ROF
Version No. : 01
Release No. : 01

The test results are only related to the sample under test.

The measurement traceability is based on all test equipments calibration, directly or indirectly traced to SI.

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Test Summary

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EUT Voltage : AC 120V, 150mA, 18W

Applicable Standards : FCC 47 CFR Part 18 Subpart C, Oct. 1st, 2010
FCC / OST MP-5, Feb. 1986

Test Results : Complied with the test standards

Performed Location : Inventec (Pudong) Corporation
699 Pu-xing Road, Minhang District, Shanghai
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1. General Information

1.1 EUT Description

Product Name : Separated Energy-Saving Lamp
Trade Name : HAIJIE
Model No. : YPZ 120/18-2U.RR.D-F
FCC ID : ZGGYPZ120182U
EUT Rated Voltage : AC 120V, 150mA, 18W

1.2 Mode of Operation

Item	Test Mode
1	Normal

2. Test Facility

The Test site used by Inventec (Pudong) Corporation to collect test data is located in 699 Pu-xing Road, Minhang District, Shanghai, 201114, China.

Test site at Inventec (Pudong) Corporation 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 September 24, 2007. 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.: 156746. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Inventec (Pudong) Corporation is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program, Lab Code 500018-0; VCCI certification: the registration No. C-2913, T-1664, R-2663, R-2664, G-88 and G-89; Nemko Authorisation Aut. No.: ELA 606

3. Technical Information of Testing

3.1 Summary of Test Result

Performed Test Item	Normative References	Test result
Conducted Emission	FCC 47 CFR Part 18 Subpart C section 15.307, Oct.1 st , 2010 FCC / OST MP-5 section 7, Feb. 1986	PASS
Radiated Emission (9kHz-30MHz)	FCC 47 CFR Part 18 Subpart C section 15.305(b), Oct.1 st , 2010 FCC / OST MP-5 section 5, Feb. 1986	PASS

3.2 Measurement Uncertainty

Test Item	Frequency Range	Expanded Uncertainty	Description
Conducted Emission	0.15-30MHz	1.03dB	k=2

Note: the coverage factor k=2 yields approximately a 95% level of confidence for the near-normal distribution typical of most measurement results.

3.3 Test Environment

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10-40	24
	Humidity (%RH)	N/A	53
Radiated Emission (9kHz-30MHz)	Temperature (°C)	10-40	22
	Humidity (%RH)	N/A	48

Note: The temperature requirement is recommended by section 5.3.2 of MP-5, Feb. 1986

4. Conducted Emission

4.1 Test Standard

FCC Part 18 Subpart C section 15.307, Oct.1st, 2010 Consumer equipment
FCC / OST MP-5 section 7, Feb. 1986

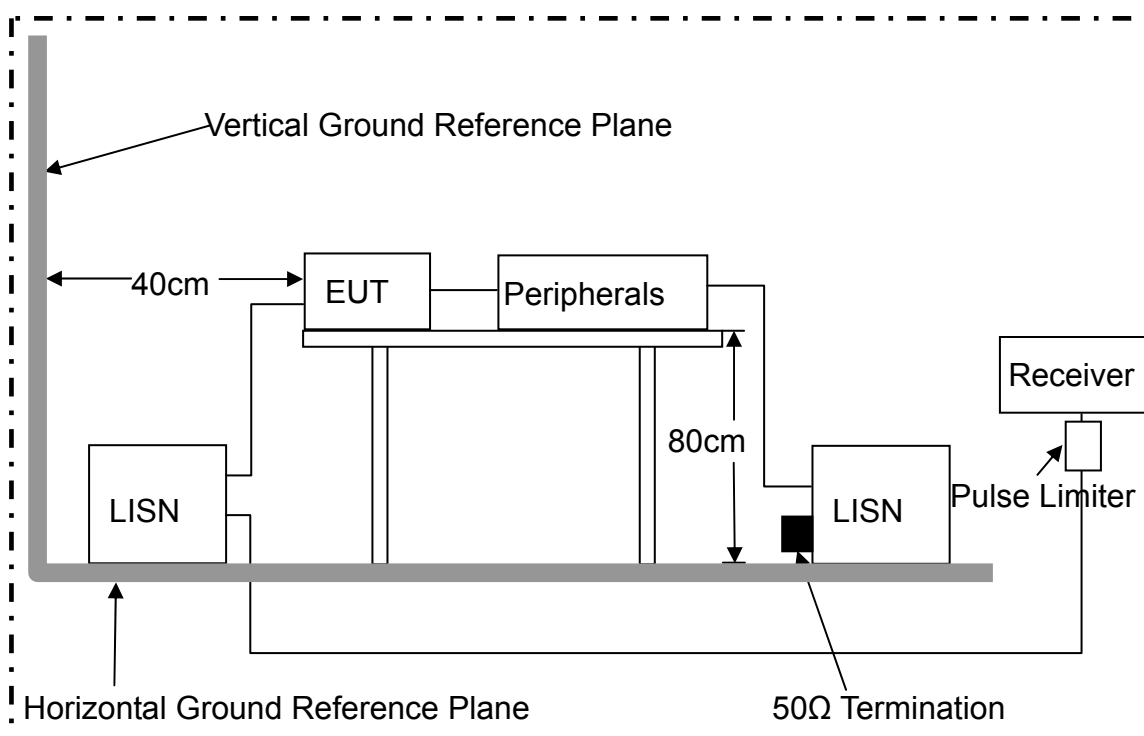
4.2 Limits for Conducted Emission

Non-consumer equipment		
Frequency (MHz)	Maximum RF line Voltage (μ V)	Maximum RF line Voltage (dB μ V)
0.45 – 1.6	1000	60
1.6 - 30	3000	70
Consumer equipment		
0.45 – 2.51	250	48
2.51 – 3	3000	70
3 -30	250	48

Note1: ()dB μ V=20log() μ V;

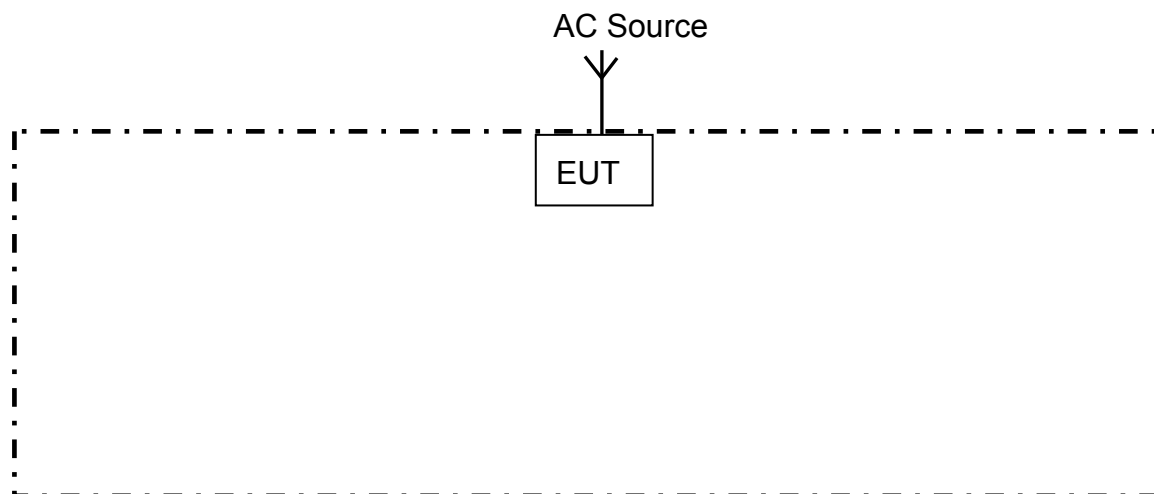
Note2: The tighter limits shall apply at the boundary between two frequency ranges.

4.3 Test setup at SR5 CE Test Site



4.4 Configuration of EUT and Peripherals

4.4.1 EUT and Peripherals Setup Chart








4.4.2 Test Peripherals List

No peripheral is used in this test.

4.4.3 Test Setup Description

1	Setup the EUT as section 4.4.1;
2	Set the power source to be AC 120V,60Hz, warmed EUT 15 minutes;
3	Keep the EUT lighting during test.

4.5 Test Equipment

Instrument	Manufacturer	Type No.	Serial No	Cal. Date	Cal. Interval	Cal. Body
Test Receiver	R&S	ESCI	100525	1/18/2011	1Y	SIMT 
LISN	SCHWARZBECK	NSLK8127	8127-462	1/18/2011	1Y	SIMT 
LISN	SCHWARZBECK	NNLK8121	8121-493	1/18/2011	1Y	SIMT 
Pulse Limiter	R&S	ESH3-Z2	100734	1/18/2011	1Y	SIMT 
50ohm Termination	-	50ohmT	387880(RN)	1/18/2011	1Y	SIMT 

Note: Calibration is performed with test equipment and standards directly or indirectly traceable by means of approved calibration techniques to the national/international standards, which realize the physical units of measurement according to the International System of Units (SI).

4.6 Test Procedure

The measuring process is according to section 7 of FCC / OST MP-5 standard and laboratory internal procedure "Conducted Emission Measurement SOP"TMSP11".

In the conducted emission measurement, the EUT and all peripheral devices were set up on a non-metallic table which was 0.8m height above the ground plane, and 0.4m far away from the vertical plane. The EUT was powered by a Line Impedance Stabilization Network (L.I.S.N), other peripheral devices were powered by AC mains through the second Line Impedance Stabilization Network (L.I.S.N). For the measurement, the first L.I.S.N measuring port was terminated by 50Ω measuring equipment and the second L.I.S.N measuring port was terminated by a 50Ω resistive load. All measurements were done on the phase and neutral line of the EUT's power cord. All cables or wires placement were verified to find out the maximum emission.

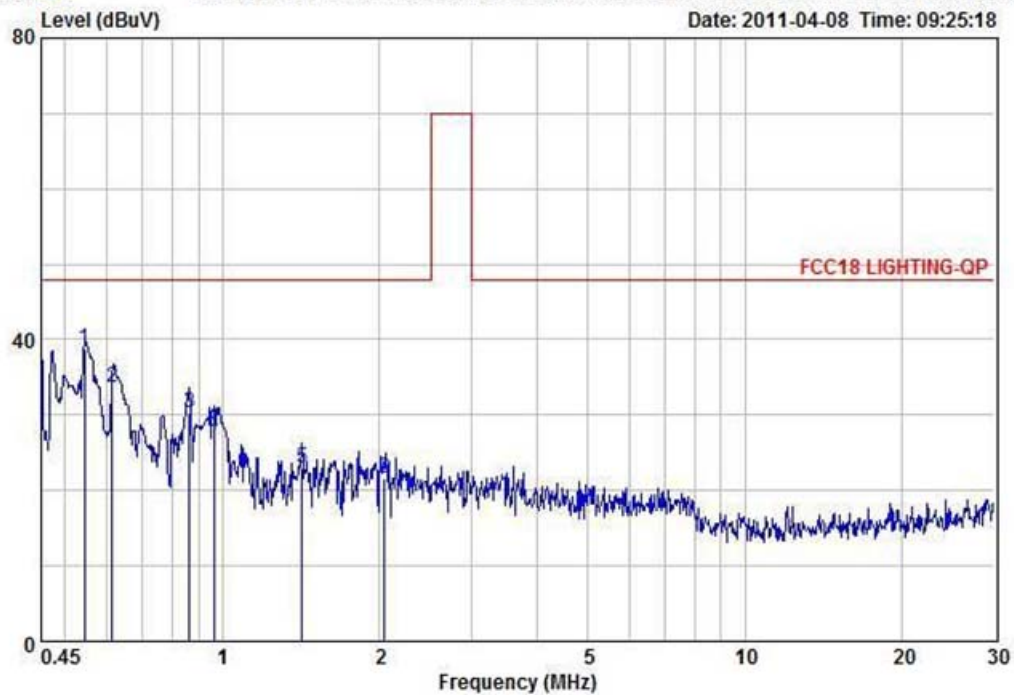
The bandwidth of measuring receiver was set at 9 kHz.

4.7 Test Results

Site:SR5 CE Temp/Humi:24C/53%
EUT/Model:Separated Energy-Saving Lamp
Condition:FCC18 LIGHTING-QP 8121-L1 1006
Memo: LABE100101-S2
P=18W
M/N: YPZ 120/18-2U.RR.D-F
Power:120V/60Hz

Test Engineer: Liu, roclouis
Test Mode: Normal
Pol/Phase: LINE

Data: 21 File: C:\E3 DATA\2011\2011.04\CE LAB\Commission\LABE100101\LABE100101.EM6 (31)



Item	Freq	Factor	Level	Read	Limit	Margin	Remark
	(MHz)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.55	10.17	38.76	28.59	48.00	9.24	QP
2	0.62	10.17	33.57	23.40	48.00	14.43	QP
3	0.87	10.19	30.39	20.20	48.00	17.61	QP
4	0.96	10.22	27.52	17.30	48.00	20.48	QP
5	1.42	10.27	22.88	12.61	48.00	25.12	QP
6	2.04	10.32	21.62	11.30	48.00	26.38	QP

Above data cannot be used for EMC approvals unless it contains the approved signature.

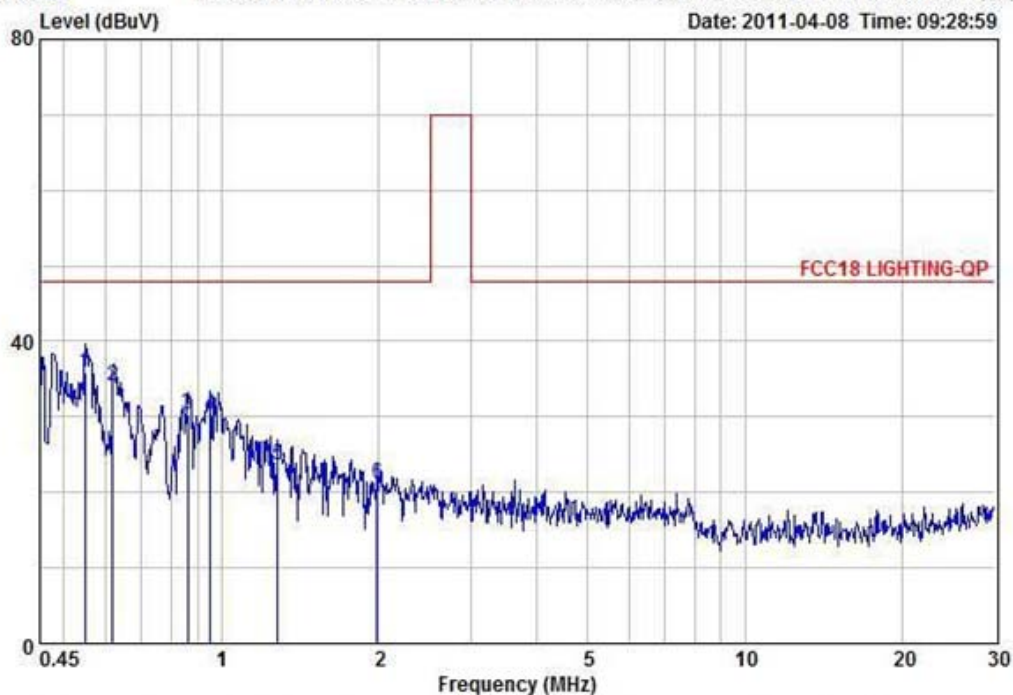
Check By Jane Gao

Approved By Jane Gao

Site:SR5 CE Temp/Humi:24C/53%
EUT/Model:Separated Energy-Saving Lamp
Condition:FCC18 LIGHTING-QP 8121-N1006
Memo: LABE100101-S2
P=18W
M/N: YPZ 120/18-2U.RR.D-F
Power:120V/60Hz

Test Engineer: Liu, roclouis
Test Mode: Normal
Pol/Phase: NEUTRAL

Data: 22 File: C:\E3 DATA\2011\2011.04\CE LAB\Commission\LABE100101\LABE100101.EM6 (31)



Item	Freq	Factor	Level	Read	Limit	Margin	Remark
	(MHz)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.55	10.26	35.85	25.59	48.00	12.15	QP
2	0.62	10.25	34.05	23.80	48.00	13.95	QP
3	0.86	10.21	30.31	20.10	48.00	17.69	QP
4	0.95	10.22	30.32	20.10	48.00	17.68	QP
5	1.28	10.26	23.56	13.30	48.00	24.44	QP
6	1.98	10.32	21.22	10.90	48.00	26.78	QP

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Check By Jane Gao

Approved By Jane Gao

4.8 Test Photograph

Test Mode : Normal

Description: Front View of Conducted Emission Test Setup



Test Mode : Normal

Description: Back View of Conducted Emission Test Setup



5. Radiated Emission (9 kHz-30MHz)

5.1 Test Standard

FCC Part 18 Subpart C section 15.305(b), Oct.1st, 2010

FCC / OST MP-5 section 5, Feb. 1986

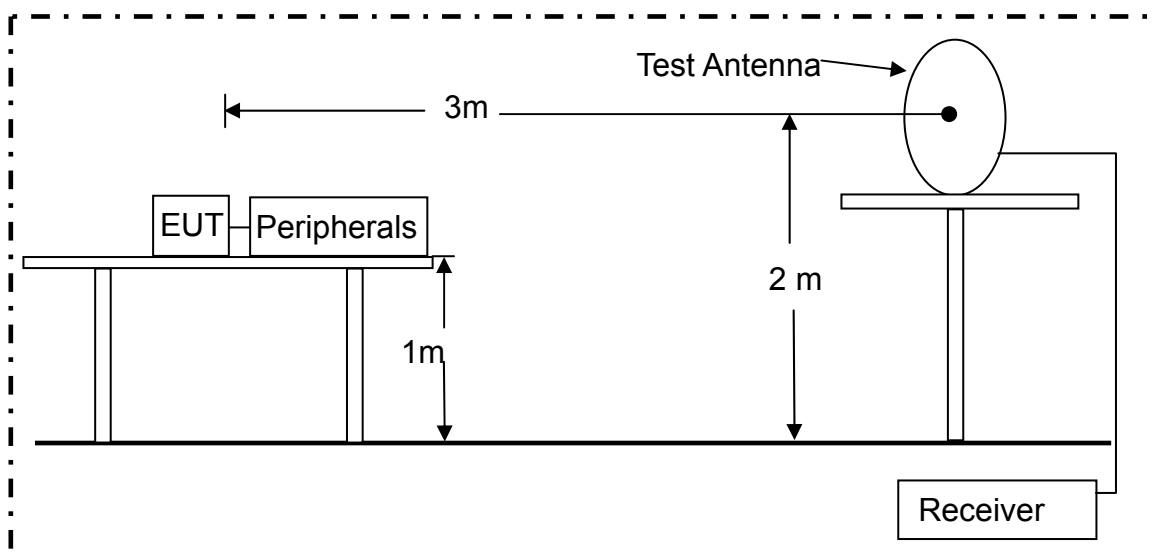
5.2 Limits for Radiated Emission

For any non-ISM frequency equipment which generated RF Power below 500W

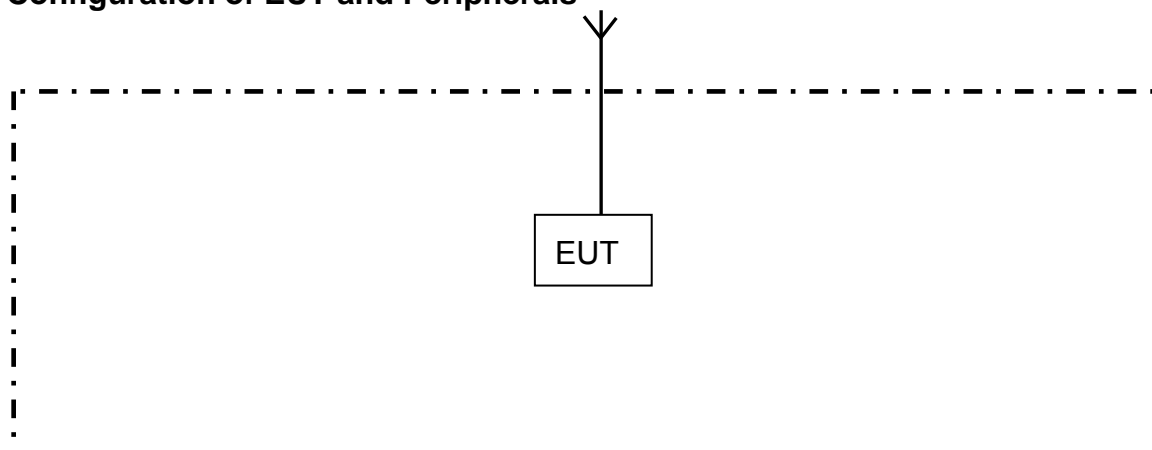
Frequency (MHz)	Distance (meters)	Field Strength Limit ($\mu\text{V/m}$)	Field Strength Limit ($\text{dB}\mu\text{V/m}$)
0.009 - 30	300(3)	15 (1500)	23.5 (63.5)

Note: (1) () is 3 meters limit;
(2) () $\text{dB}\mu\text{V/m} = 20\lg () \mu\text{V/m}$;

5.3 Test setup at SAC2 3m-18G Chamber



5.4 Configuration of EUT and Peripherals





5.4.1 Test Peripherals List

No peripheral is used in this test.

5.4.2 Test Setup Description

1	Setup the EUT as section 5.4.1;
2	Set the power source to be AC 120V,60Hz, warmed EUT 15 minutes;
3	Keep the EUT lighting during test.

5.5 Test Equipment

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Interval	Cal. Body
Loop antenna	CHASE	HLA6120	1193	6/12/2010	1Y	CEPREI 
Receiver	R&S	ESCI	100524	1/12/2011	1Y	SIMT 

Note: Calibration is performed with test equipment and standards directly or indirectly traceable by means of approved calibration techniques to the national/international standards, which realize the physical units of measurement according to the International System of Units (SI).

5.6 Test Procedure

The measuring process is according to section 5 of FCC / OST MP-5 standard.

The EUT and all simulators are placed on a turntable which is 1 meter above ground, Distance between the EUT and receiving antenna was set at 3 meters. During the radiated measurement, the turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna is set 2 meters height to find out the maximum emission level. One receiving antenna was used for all polarizations detection at the same time. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

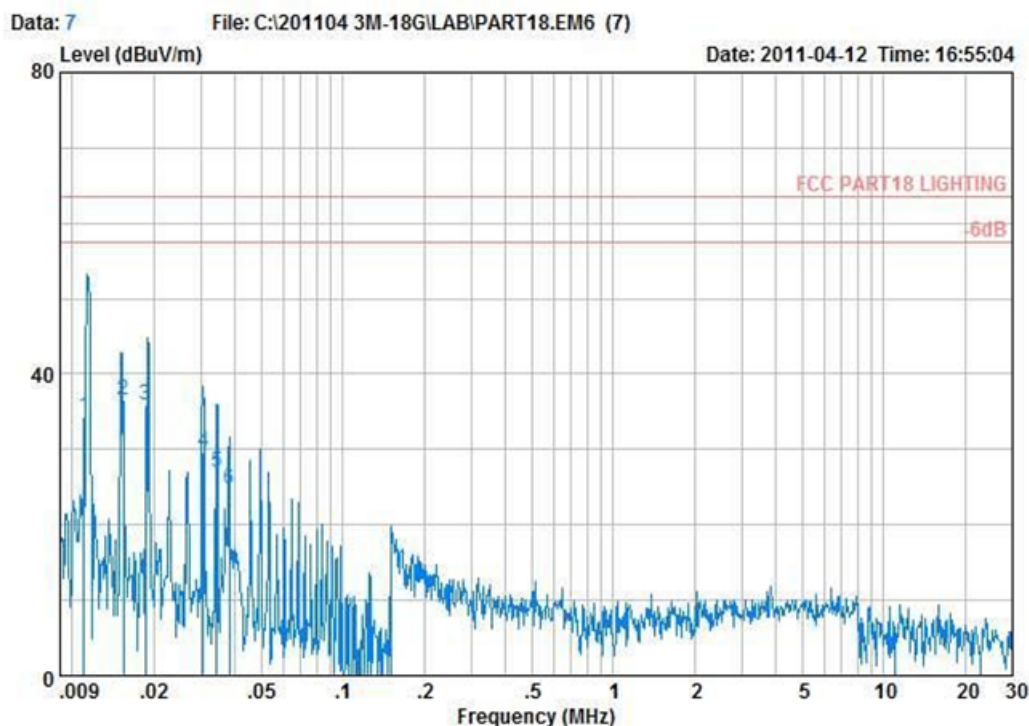
Radiated emissions were investigated over the frequency range from 9 kHz to 150 kHz using a receiver resolution bandwidth of 200Hz in Quasi-Peak detector.

Radiated emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver resolution bandwidth of 9 kHz in Quasi-Peak detector.

5.7 Test Results

Site: SAC2 3m-18G Temp/Humi: 22°C / 48%
EUT/Model: Separated Energy-Saving Lamp
Condition: FCC PART18 LIGHTING LOOP ANTENNA
Memo: M/N: YPZ 120/18-2U.RR.D-F
Power: 120V 60Hz

Test Engineer: Ryan
Test Mode: Normal
Pol/Phase:



Item	Freq (MHz)	Factor (dB)	Level (dBuV/m)	Read (dBuV/m)	Limit (dBuV/m)	Over (dB)	Remark	Height (cm)	Angle (deg)
1	0.01100	22.71	34.31	11.60	63.50	-29.19	QP	200	0
2	0.01543	22.18	36.48	14.30	63.50	-27.02	QP	200	0
3	0.01866	22.07	35.87	13.80	63.50	-27.63	QP	200	0
4	0.03048	21.66	29.66	8.00	63.50	-33.84	QP	200	0
5	0.03428	20.94	26.94	6.00	63.50	-36.56	QP	200	0
6	0.03805	20.80	24.80	4.00	63.50	-38.70	QP	200	0

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Check By Jane Gao

Approved By Jane Gao

5.8 Test Photograph

Test Mode : Normal

Description: Front View of Radiated Emission (9 kHz-30MHz) Test Setup



Test Mode : Normal

Description: Back View of Radiated Emission (9 kHz-30MHz) Test Setup



6. Attachment (EUT Photograph)

(1) EUT Photo-Front Side



(2) EUT Photo-Back Side



(3) EUT Photo-Remove PCB



(4) EUT Photo-Lamp Tube



(5) EUT Photo-PCB Front View



(6) EUT Photo- PCB Back View



-----The End-----