FCC TEST REPORT

FCC ID : RVG SCM15-23W

Applicant : **Shenzhen Feeling Electronics Co.,Ltd.**
Building L, Jingtie Industry Park, Heao, Henggang, Longgang, Shenzhen, China

Equipment Under Test (EUT) :

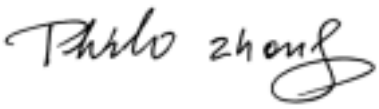
Product description : Energy Saving Lamp

Model No. : SCM-15W,SCM-20W,SCM-23W

Standards : FCC Part18

Date of Test : June 05, 2004

Test Engineer : Jimmy Lee

Reviewed By : 

PERPARED BY:
Shenzhen Huatongwei International Inspection Co., Ltd
Keji S,12th,Road, Hi-tech Industrial Park, Shenzhen, Guangdong, China

FCC Registration Number: 662850

2 Contents

3 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 1GHz)	FCC PART 18: 2003	ANSI C63.4:1992	Class B	N/A
Conducted Emission (150KHz to 30MHz)	FCC PART 18: 2003	ANSI C63.4:1992	Class B	PASS

4 General Information

4.1 Client Information

Applicant:	**Shenzhen Feeling Electronics Co.,Ltd.**
Address of Applicant:	Building L, Jingtie Industry Park, Heao, Henggang, Longgang, Shenzhen, China

4.2 General Description of E.U.T.

Product description:	Energy Saving Lamp
Model No.:	SCM-15W,SCM-20W,SCM-23W

4.3 Details of E.U.T.

Power Supply:	120VAC / 60Hz

4.4 Description of Support Units

The EUT has been tested as an independent unit.

4.5 Standards Applicable for Testing

The customer requested FCC tests for a Energy Saving Lamp. The standards used were FCC Part18.

4.6 Test Methodology

All measurements contained in this report are conducted with FCC Measurement Procedure MP-5, technical requirements for Methods of Measurement of Radio-Noise Emission from ISM Equipment.

4.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC – Registration No.: 662850**

  Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 662850, November 17, 2003.

4.8 Test Location

All Emissions testswere performed at:-Shenzhen Huatongwei International Inspection Co., Ltd. at Keji S,12th,Road, Hi-tech Industrial Park, Shenzhen, Guangdong, China.

5 Equipment Used during Test

	Conducted Emission Test					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Series No.**	**Specification**	**Last Cal.**
1	EMI Test Receiver	Rohde&schwarz	ESCS30	100038	9 kHz to 2750 MHz	2003.11.12
2	Artificial Mains	Rohde&schwarz	ESH2-Z5	100028	9kHz-30 MHz, Continous Current 4*25 A	2003.11.12
3	Pulse Limiter	Rohde&schwarz	ESHSZ2	100044		2003.11.12
4	EMI Test Software	Rohde&schwarz	ESK1	N/A	Version1.60	

6 Conducted Emission Test

Product:	Energy Saving Lamp / SCM-15W,SCM-20W,SCM-23W
Test Requirement:	FCC Part 18
Test Method:	Based on FCC Part 18
Test Date:	June 05, 2004
Frequency Range:	150kHz to 30MHz
Class:	Class B
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

6.1 Test Equipment

Please refer to Section 5 this report.

6.2 Test Procedure

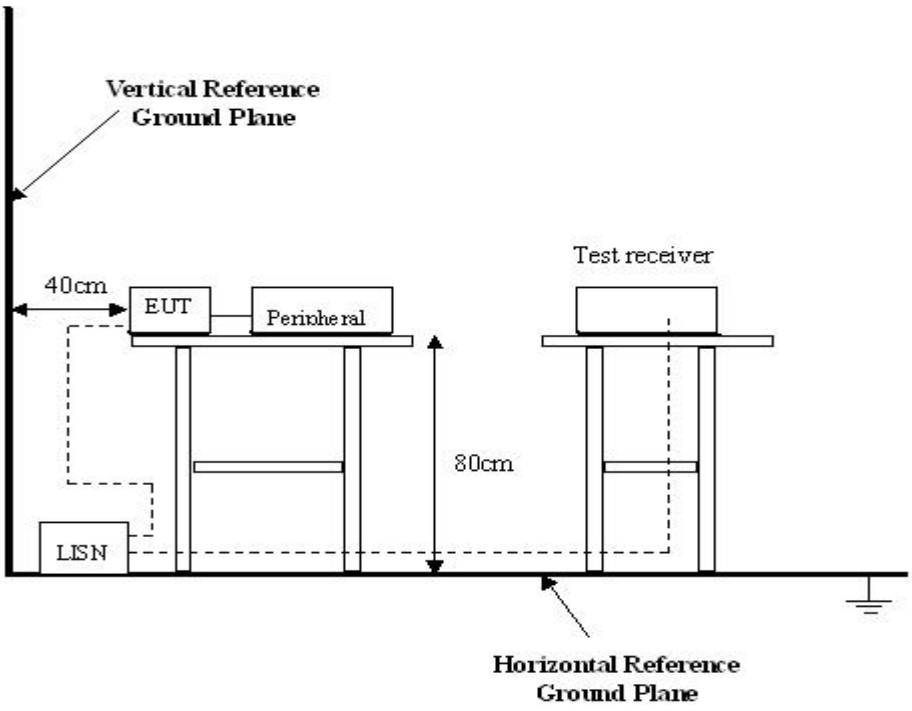
1. During the conducted emission test, the power cord of the EUT is connected to the auxiliary outlet of the LISN.
2. The EUT was tested according to FCC MP-5. The frequency spectrum from 150kHz to 30MHz was investigated.
3. The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

6.3 Conducted Test Setup

The conducted emission tests were performed using the setup accordance with the FCC MP-5 measurement procedure.

The EUT is tested independently.

The power supply used by the EUT is connected to a 120VAC / 60Hz power source.



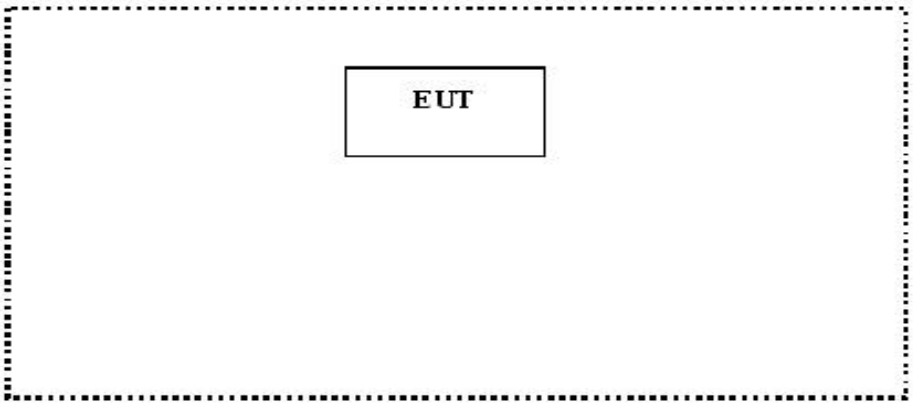
6.4 EUT Operating Condition

Operating condition is according to FCC MP-5.

A. Setup the EUT and simulators as shown on follow.

B. Enable RF signal and confirm EUT active.

C. Modulate output capacity of EUT up to specification.



6.5 Conducted Emission Limits

Frequency of Emission (MHz)	Conducted Limit (dBuV)- Quasi-peak
0.15— 0.5	66-56
0.5 — 5.0	56
5.0 — 30	60

Note: In the above limits, the tighter limit applies at the band edges.

6.6 Spectrum Analyzer

The spectrum analyzer is configured during the conduction test is as follows:

Start Frequency ····· 150 kHz
Stop Frequency ····· 30 MHz
Sweep Speed ····· Auto
IF Bandwidth ····· 9 kHz
Video Bandwidth ····· 100 kHz
Quasi-Peak Adaptor Bandwidth ····· 9 kHz
Quasi-Peak Adaptor Mode ····· Normal

6.7 Frequency Range Of Measurements

Frequency band in which device operates (MHz)	Range of frequency measurements	
	Lowest frequency	Highest frequency
Below 1.705	Lowest frequency generated in the device, but not lower than 9 kHz.	30MHz.
1.705 to 30	Lowest frequency generated in the device, but not lower than 9 kHz.	400MHz.
30 to 500	Lowest frequency generated in the device or 25MHz, whichever is lower.	Tenth harmonic or 1,000MHz, whichever is higher.
500 to 1,000	Lowest frequency generated in the device or 100MHz, whichever is lower.	Tenth harmonic.
Above 1,000	do	Tenth harmonic or highest detectable emission.

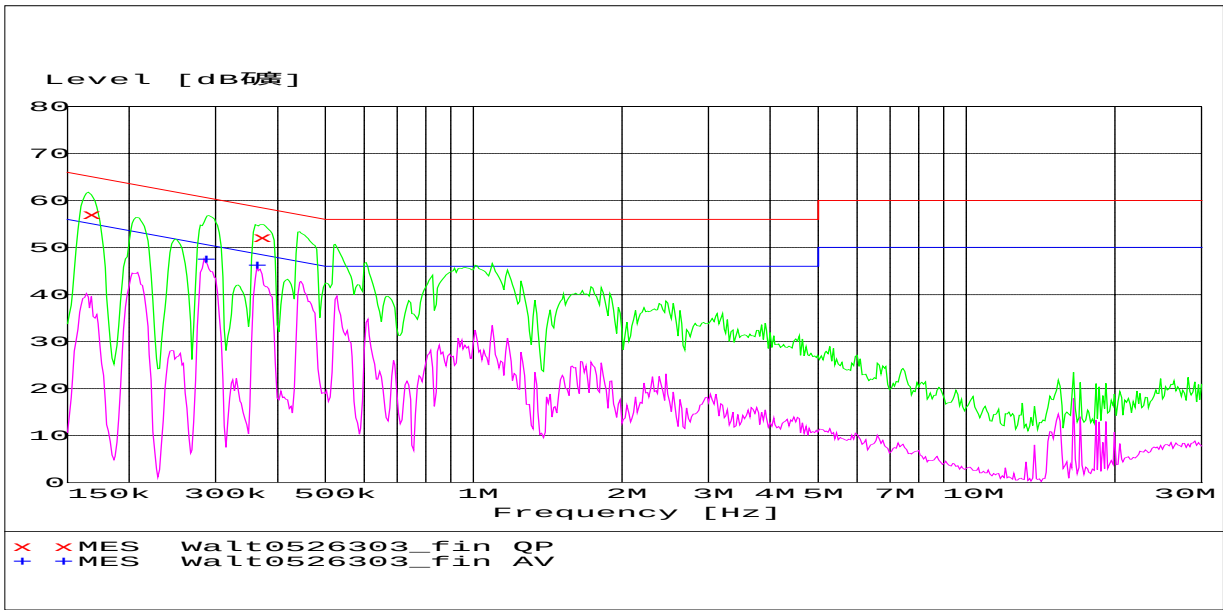
6.8 Conducted Emission Test Result

Test Item: Conducted Emission Test
Test Voltage: 120VAC / 60Hz
Test Mode: Normal
Temperature: 24 °C
Humidity: 52%RH
Test Result: PASS

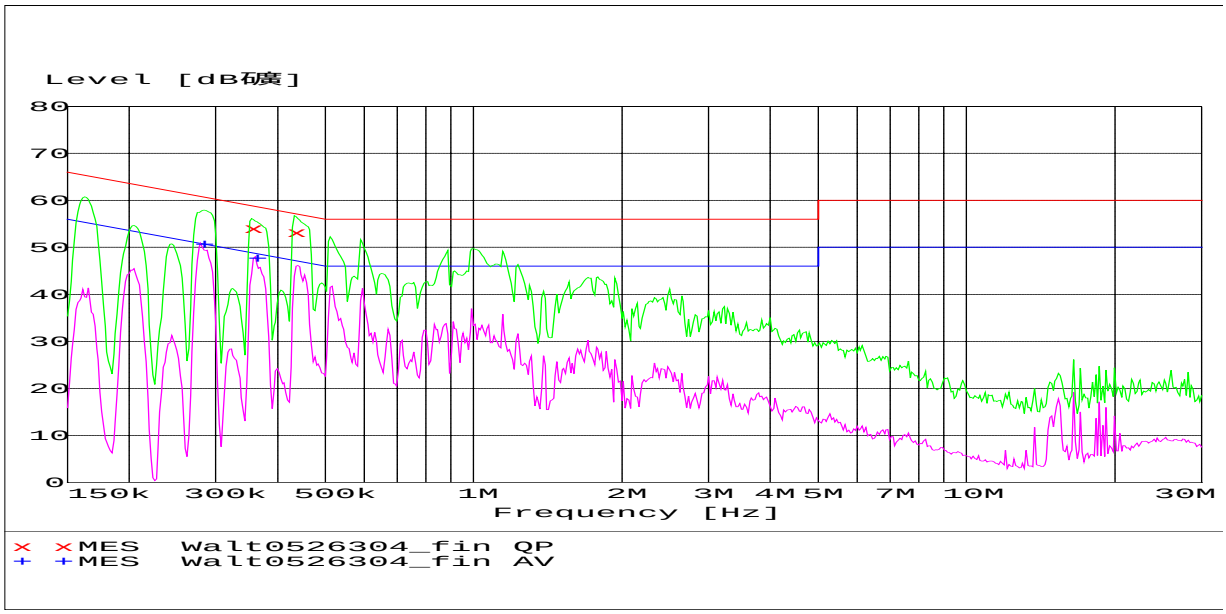
6.8.1 Measurement Data

An initial pre-scan was performed on the live and neutral lines.
No futher quasi-peak or average measurements were performed since no peak emissions were detected within 10dB line below the average limit.
Please refer to the following peak scan graph for reference.

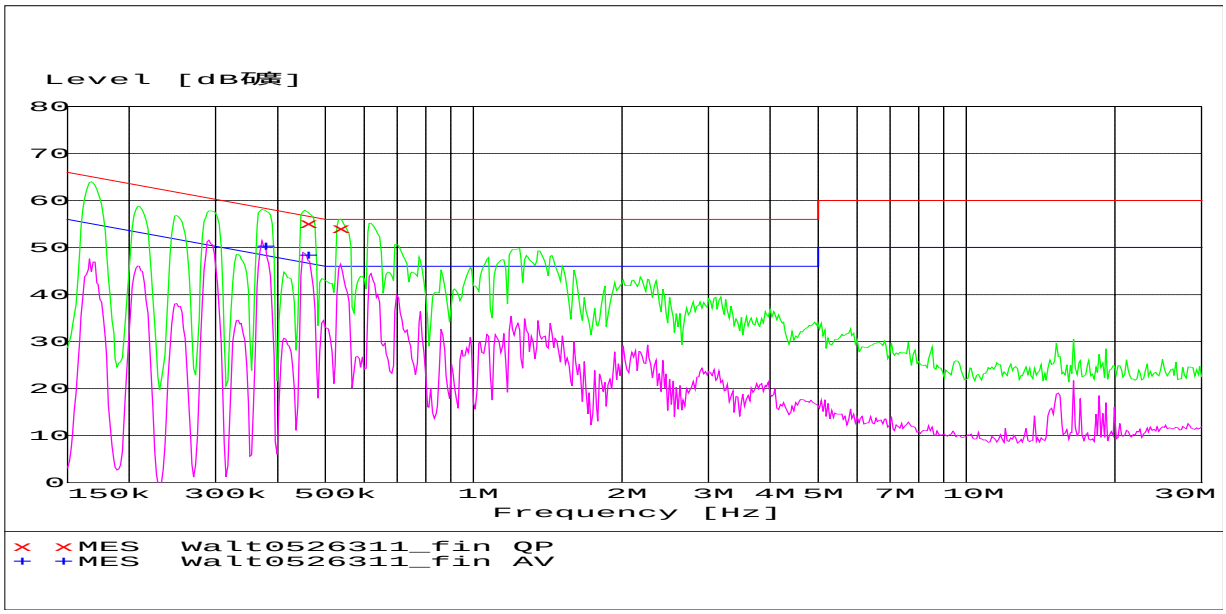
SCM-15W for Live Line



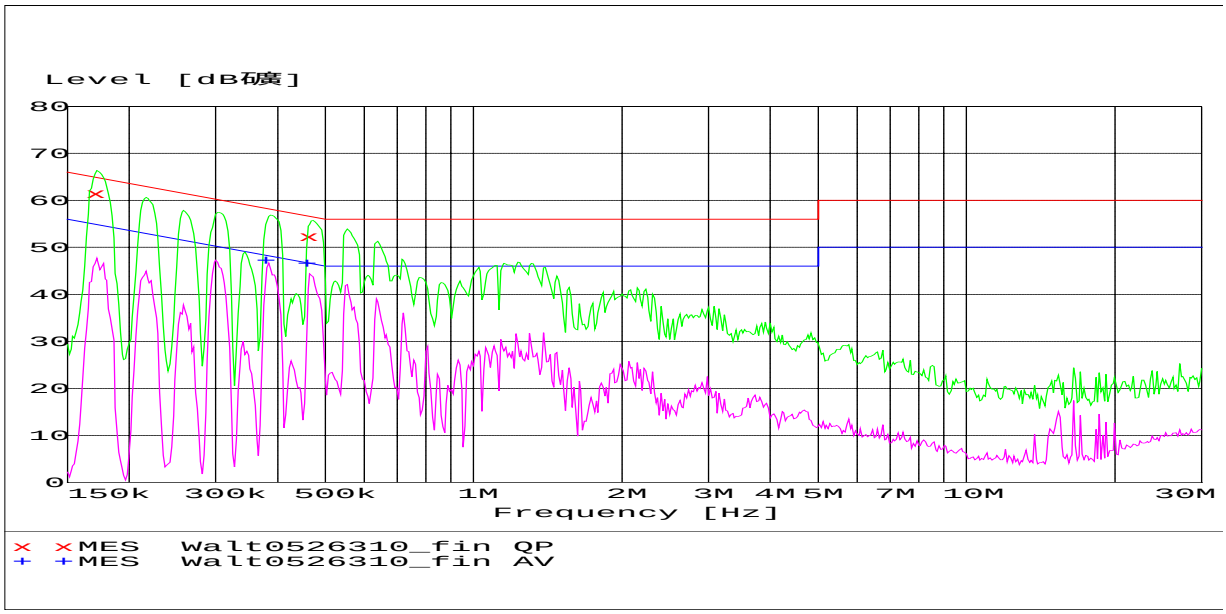
SCM-15W for Neutral Line



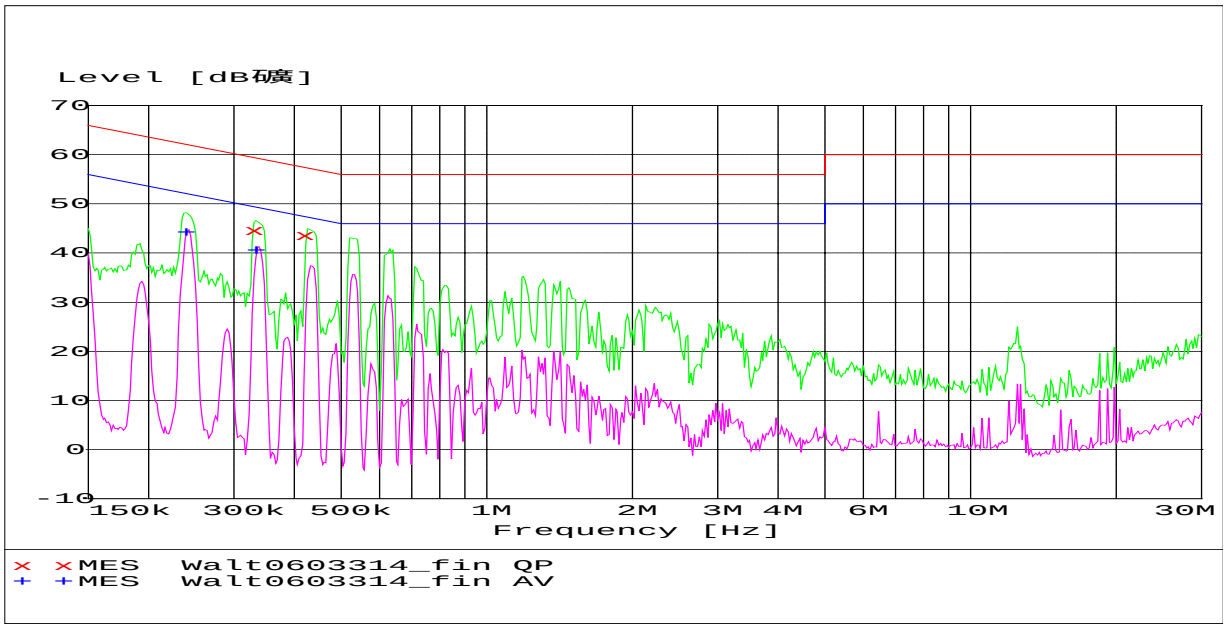
SCM-20W for Live Line



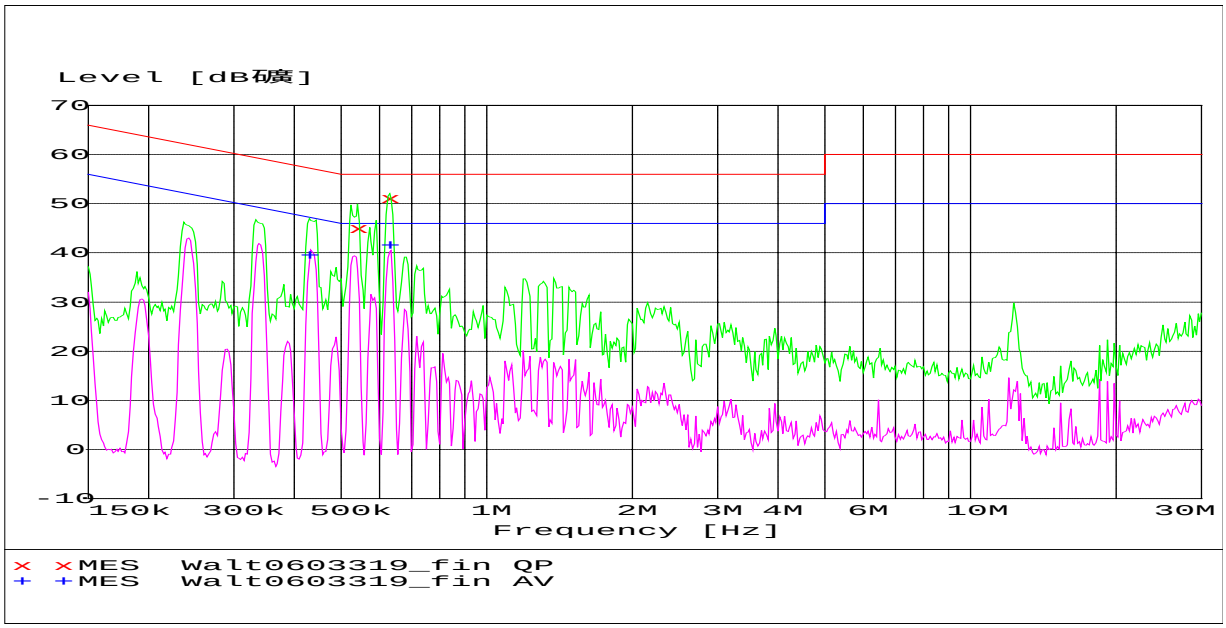
SCM-20W for Neutral Line



SCM-23W for Live Line



SCM-23W for Neutral Line



6.8.2 Conducted Emissions Test Data for SCM-15W

Freq. MHz	Line	QP Reading dBuV	Limit dBuV	Margin dB	AV Reading dBuV	Limit dBuV	Margin dB
0.166365	Live	57.20	65.0	7.8	36.4	55.0	18.6
0.283740	Live	55.30	61.0	5.7	45.3	51.0	5.7
0.369086	Live	52.2	59.0	6.8	44.9	49.0	4.1
0.354660	Neutral	53.9	59.0	5.1	45.1	49.0	3.9
0.432847	Neutral	53.2	57.0	3.8	43.5	47.0	3.5
0.485091	Neutral	48.50	56.0	7.5	38.2	46.0	7.8

6.8.3 Conducted Emissions Test Data for SCM-20W

Freq. MHz	Line	QP Reading dBuV	Limit dBuV	Margin dB	AV Reading dBuV	Limit dBuV	Margin dB
0.457679	Live	53.2	57.0	3.8	45.0	47.0	2.0
0.532488	Live	51.3	56.0	4.7	43.3	46.0	2.7
0.637802	Live	50.70	56.0	5.3	41.5	46.0	4.5
0.169043	Neutral	61.40	65.0	3.6	43.6	55.0	11.4
0.375007	Neutral	53.60	58.0	4.4	44.60	48.0	3.4
0.457767	Neutral	54.4	65.0	10.6	41.00	45.0	4.0

6.8.4 Conducted Emissions Test Data for SCM-23W

Freq. MHz	Line	QP Reading dBuV	Limit dBuV	Margin dB	AV Reading dBuV	Limit dBuV	Margin dB
0.236230	Live	46.1	62.0	15.9	43.2	52.0	8.8
0.327504	Live	44.6	60.0	15.4	39.6	50.0	10.4
0.415946	Live	43.5	58.0	14.5	37.4	48.0	10.6
0.426004	Neutral	45.5	56.0	10.5	38.5	46.0	7.5
0.536754	Neutral	44.9	56.0	11.1	39.6	46.0	6.4
0.624491	Neutral	51.1	56.0	4.9	40.3	46.0	5.7

7 Photographs of Testing

7.1 Conducted Emission Test View for SCM-15W

7.2 Conducted Emission Test View for SCM-20W

7.3 Conducted Emission Test View for SCM-23W

8 FCC ID Label

This device complies with Part 18 of the FCC Rules. Operation is subject to the following two conditions:(1)this device may not cause harmful interference,and (2) this device must accpt any interference received, including interference that may cause undesired operation.

The Label must not be a stick-on paper. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Proposed Label Location on EUT

EUT Top View/ proposed FCC Mark Location