FCC TEST REPORT

Product Name	:	Induction Lamp Ballast
Trade Name	:	Macro Light, Juying
Model Number	:	ML80i, ML120i, ML150i, ML200i, ML250i, ML300i
Serial Number	:	N/A
FCC ID	:	ZUS-GC572797
FCC Registered Test Site Number	:	510007
Technical Data	:	120-277V~ 50/60Hz, ML80i:80W, ML120i:120W, ML150i:150W ML200i:200W, ML250i:250W, ML300i:300W
Report Number	:	EESZD02150004R1
Date	:	July 15, 2011
Regulations	:	See below

Standards	Results
☒ FCC Part 18: 2009	PASS

Prepared for:

Shanghai Juying Electronics Technology Co., Ltd
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Prepared by:

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TABLE OF CONTENTS

Description Page

1. GENERAL INFORMATION

Applicant & Address:	Shanghai Juying Electronics Technology Co., Ltd 602 Room, unit65, No.155 Liming Road, Minhang, Shanghai. P.R.China
Manufacturer Site:	Shanghai Bitwise electric motor & appliances Co., ltd No.2017/3 Jiangchuan Rd, Minhang Shanghai, P.R.China
Type of Test:	DECLARATION OF CONFORMITY
Product Name:	Induction Lamp Ballast
Trade Name:	Macro Light, Juying
Model Number:	ML80i, ML120i, ML150i, ML200i, ML250i, ML300i
Serial Number:	N/A
FCC ID	ZUS-GC572797
FCC Registered Test Site Number	510007
Date of test:	February 15, 2011 to July 14, 2011

Condition of Test Sample: Normal

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

Prepared by : Gavin Song
Gavin Song

Reviewed by : Louisa Lu
Louisa Lu

Approved by : Jimmy Li
Manager

Date : July 15, 2011

2. TEST SUMMARY

The EUT has been tested according to the following specifications:

Standard	Test Item	Test
FCC 18.307	Conducted Emission	Yes
FCC 18.305	Radiated Emission	Yes

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement items	Value
Conducted emission	2.6 dB
Radiated emission	4.4 dB

4. PRODUCT INFORMATION

Mode:	ML80i, ML120i, ML150i, ML200i, ML250i, ML300i
Technical Data:	120-277V~ 50/60Hz, ML80i:80W, ML120i:120W, ML150i:150W ML200i:200W, ML250i:250W, ML300i:300W
Model difference:	All of models are identical except the power. The model number of test sample is ML300i, and the test results are applicable to the others.

5. FACILITIES AND ACCREDITATIONS

5.1 TEST FACILITY

All test facilities used to collect the test data are located at Building C, Hongwei Industrial Zone, Baoan 70 District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4, CISPR 16-1-1 and other equivalent standards

5.2 TEST EQUIPMENT LIST

Instrumentation: The following list contains equipments used at CTI for testing.
The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

Equipment used during the tests:

Radiated Emission Test (3m Chamber 30MHz-1GHz)				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Due Date**
3M Chamber & Accessory Equipment	ETS-LINDGREN	FACT-3	3510	07/09/2012
Spectrum Analyzer	Agilent	E4443A	MY46185649	03/29/2012
Loop Antenna	ETS-LINGREN	6502	00071730	07/31/2012
Multi device Controller	ETS-LINGREN	2090	00057230	N/A

Conducted Emission Test at Mains Ports (Shielding Room No. 1)				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Due Date**
Receiver	R&S	ESCI	100435	07/10/2012
LISN	R&S	ENV216	100098	04/29/2012

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories

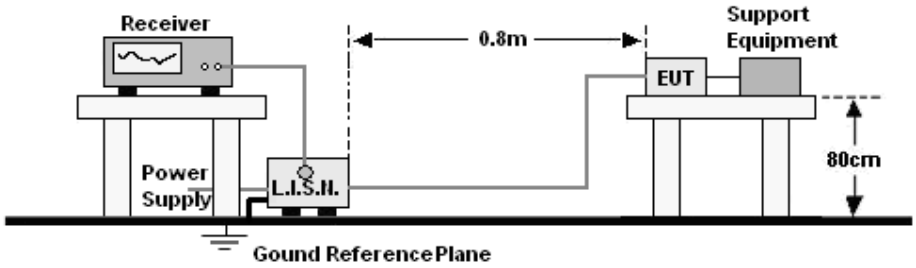
6. FCC CONDUCTED EMISSION TEST

6.1 LIMITS OF FCC CONDUCTED EMISSION TEST

Frequency	Conducted Limit
	Q.P.(dBuV)
450kHz-2.51MHz	47.96
2.51MHz-3MHz	69.5
3MHz-30MHz	47.96

Note: the tighter limit applies at the band edges.

6.2 BLOCK DIAGRAM OF TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

6.3 PROCEDURE OF CONDUCTED EMISSION TEST

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room and connected to the main through Line Impedance Stability Network (LISN). This provided a 50ohm coupling impedance for the tested equipments.

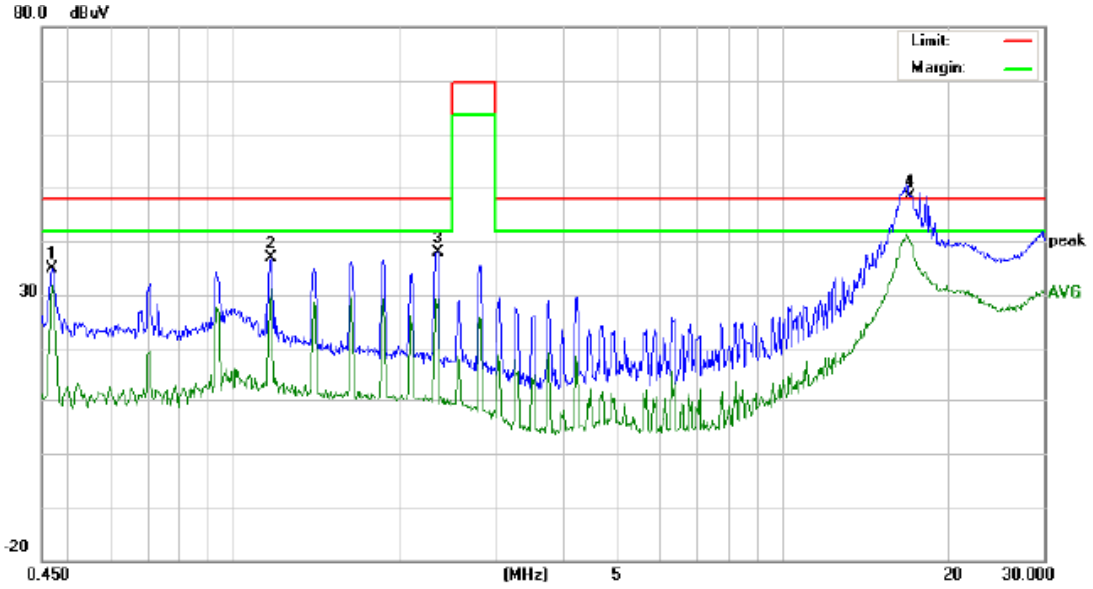
b. The bandwidth of the field strength meter (Receiver) was set at 9kHz in 450kHz ~ 30MHz.

c. The disturbance levels and the frequencies of at least two highest disturbances were recorded from each power line which comprises the EUT.

6.4 TEST RESULT OF CONDUCTED EMISSION TEST

EUT	:	Induction Lamp Ballast	**Voltage**	:	AC120V/ 60Hz
M/N	:	ML300i	**Temperature**	:	23℃
Mode	:	Normal	**Humidity**	:	56%

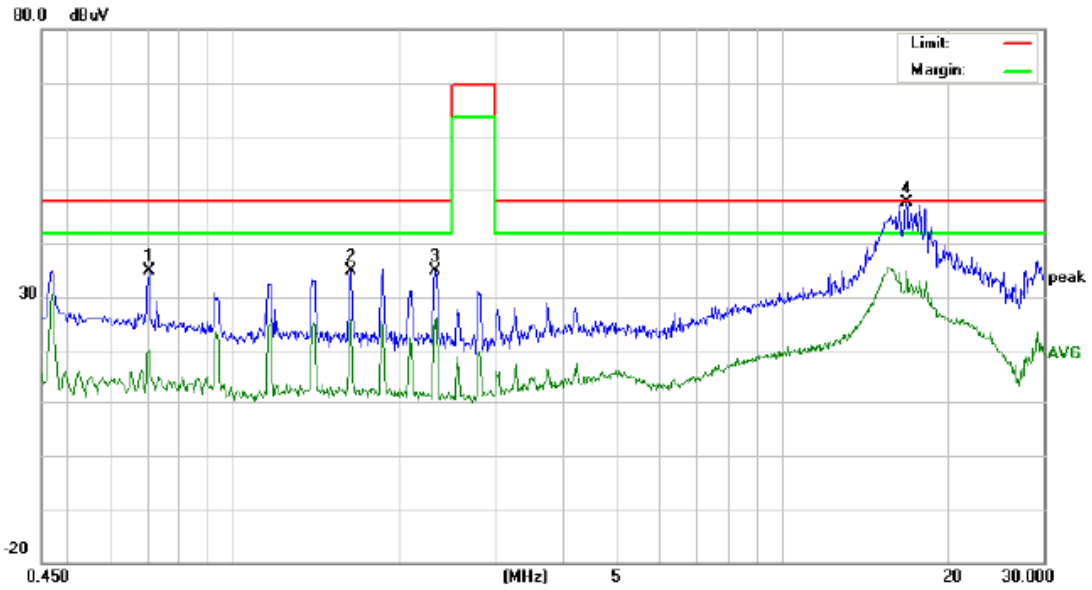
L:



Site site #1 Phase: *L1* Temperature: 25
Limit: FCC PART 18 Conduction LIGHT Power: AC 120V/60Hz Humidity: 56 %
EUT: Induction Lamp Ballast
M/N: ML300i
Mode: Normal
Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F Comment
1	0.4699	24.98			9.86	34.84			47.96		-13.12		P
2	1.1739	26.97			9.92	36.89			47.96		-11.07		P
3	2.3660	27.86			9.96	37.82			47.96		-10.14		P
4	17.1760	40.39	35.69		10.27	50.66	45.96		47.96		-2.00		P

N:



Site site #1 Phase: N Temperature: 25

Limit: FCC PART 18 Conduction LIGHT Power: AC 120V/60Hz Humidity: 56 %

EUT: Induction Lamp Ballast

M/N: ML300i

Mode: Normal

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.7060	24.78			10.04	34.82			47.96		-13.14		P	
2	1.6460	24.89			9.94	34.83			47.96		-13.13		P	
3	2.3460	24.79			9.96	34.75			47.96		-13.21		P	
4	16.9260	37.30	32.85		10.25	47.55	43.10		47.96		-4.86		P	

7. FCC RADIATED EMISSION TEST

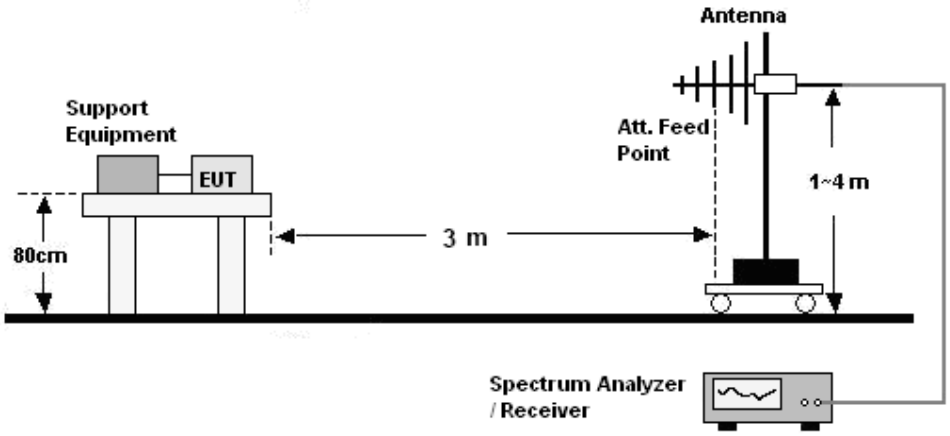
7.1 LIMITS OF FCC RADIATED EMISSION TEST

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit** (dBuV/m Q.P.)
30MHz-88MHz	3	40
88MHz-216MHz	3	43.5
216MHz-1000MHz	3	46

NOTE: 1. The lower limit shall apply at the transition frequency.

2. The limits shown above are based on measuring equipment employing a CISPR quasi-peak detector function for frequencies below or equal to 1000MHz.

7.2 BLOCK DIAGRAM OF TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.3 PROCEDURE OF RADIATED EMISSION TEST

a. The EUT was placed on the top of a turntable 0.8 meters above the ground in the chamber, 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The table was rotated 360 degrees and the broadband antenna is varied from one to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set to make the measurement.

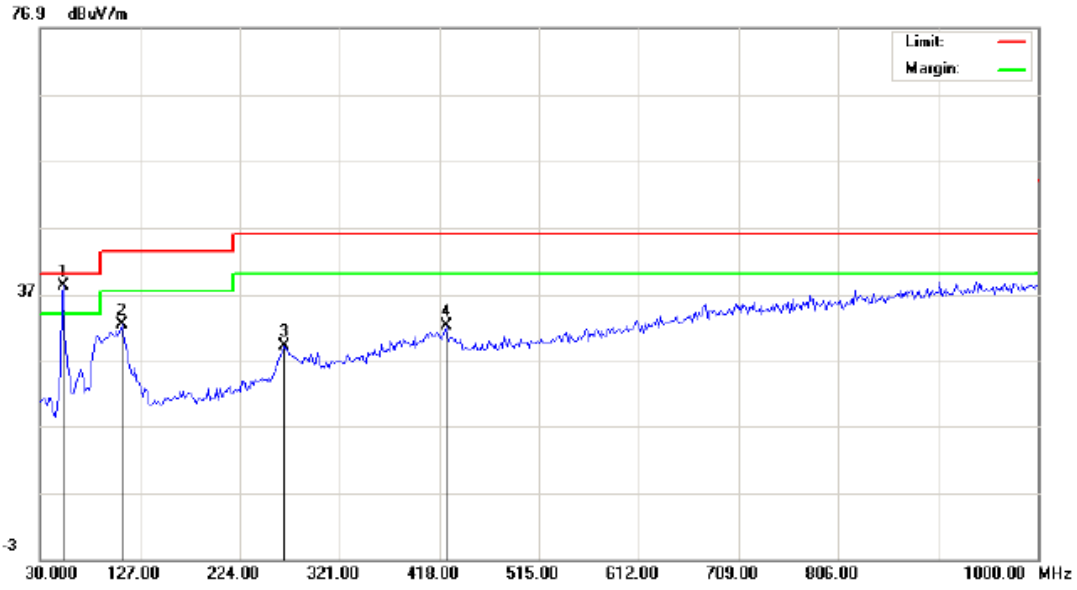
b. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.

c. The test frequency analyzer system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

7.4 TEST RESULT OF RADIATED EMISSION TEST

EUT	:	Induction Lamp Ballast	**Voltage**	:	AC120V/ 60Hz
M/N	:	ML300i	**Temperature**	:	23℃
Mode	:	Normal	**Humidity**	:	53%

H:



Site site #1 Polarization: *Horizontal* Temperature: 25

Limit: FCC PART18 Radiated Emission Power: AC120V/60Hz Humidity: 56 %

EUT: Induction Lamp Ballast

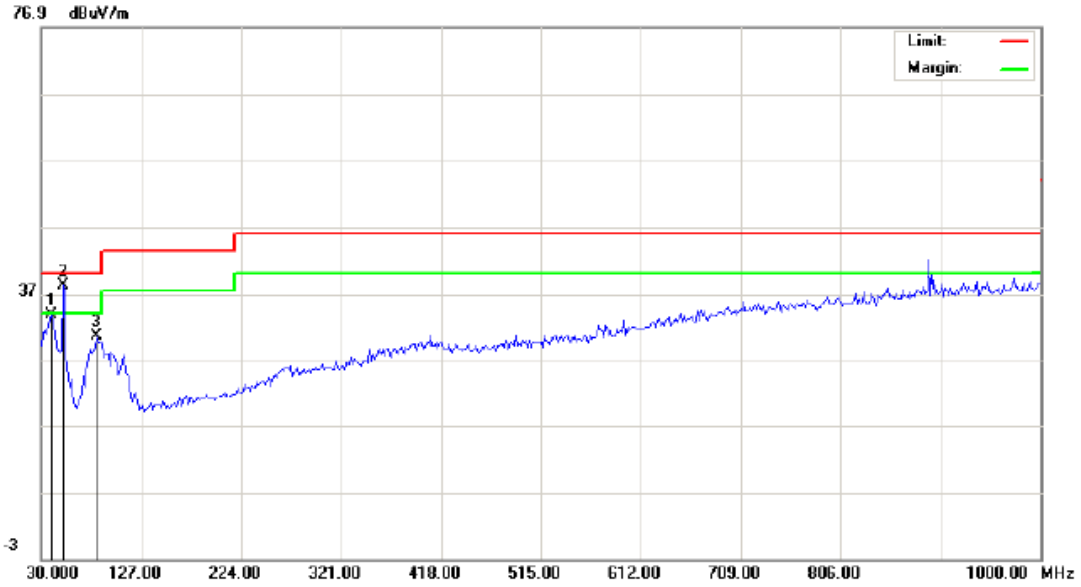
M/N: ML300i

Mode: Normal

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)		
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F Comment
1	52.6332	28.98	26.25		9.21	38.19	35.46		40.00		-4.54		P
2	109.2167	21.84			10.51	32.35			43.50		-11.15		P
3	267.6499	13.57			15.60	29.17			46.00		-16.83		P
4	424.4667	12.67			19.59	32.26			46.00		-13.74		P

V:



Site site #1 Polarization: *Vertical* Temperature: 25

Limit: FCC PART18 Radiated Emission Power: AC 120V/60Hz Humidity: 56 %

EUT: Induction Lamp Ballast

M/N: ML300i

Mode: Normal

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	39.7000	22.63			11.12	33.75			40.00		-6.25		P	
2	51.0167	28.80	25.21		9.39	38.19	34.60		40.00		-5.40		P	
3	83.3499	21.53			9.03	30.56			40.00		-9.44		P	

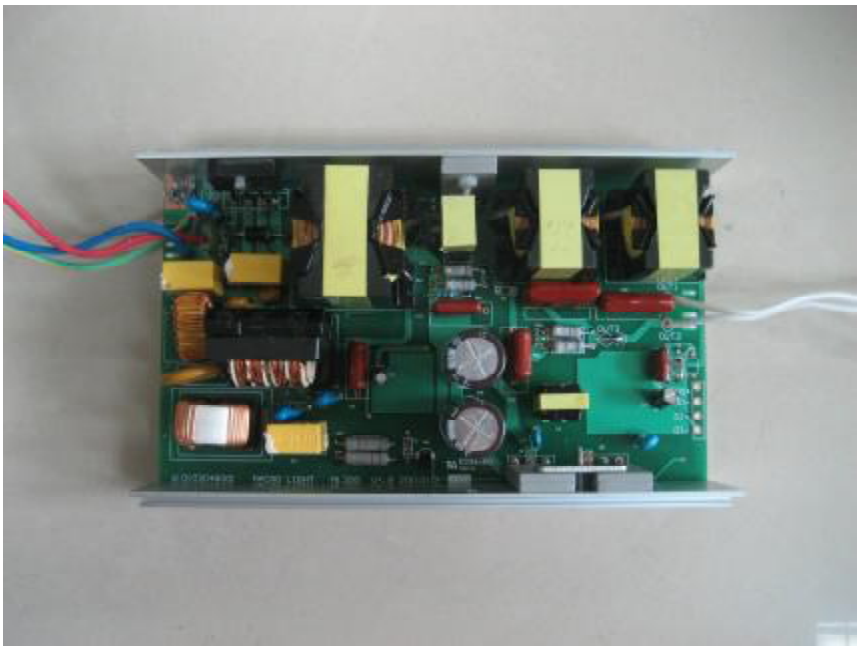
APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

TEST SETUP OF CONDUCTED EMISSION

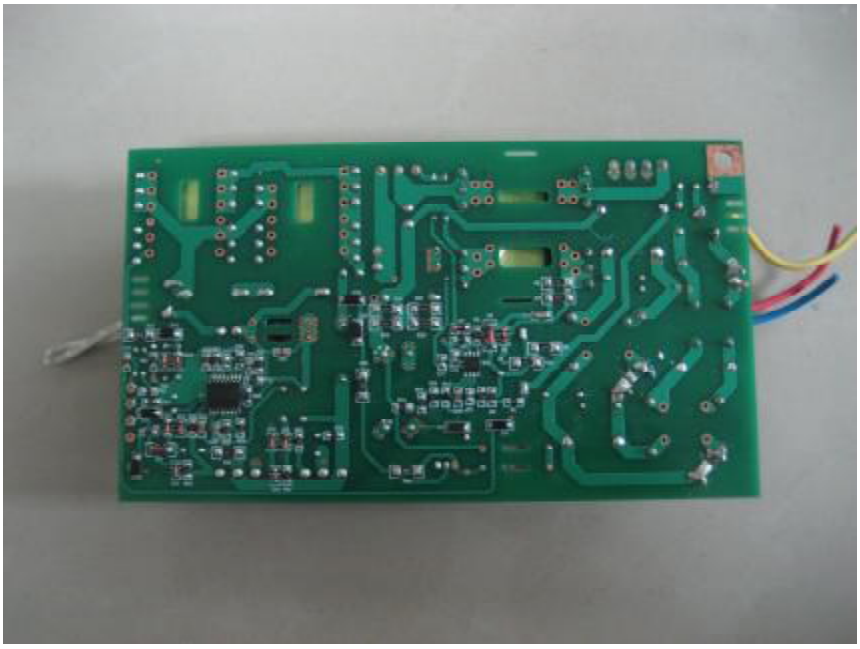
TEST SETUP OF RADIATED EMISSION

APPENDIX 2 EXTERNAL PHOTOS OF EUT

View of EUT-1



View of EUT-2



View of EUT-3

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