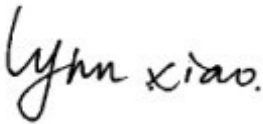

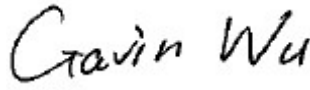




TEST REPORT

Report No.:	EM201301169	Application No.:	ZJ00039006
Client:	FRUTO INDUSTRIAL INTERNATIONAL LIMITED		
Address:	UNIT 1921, 19/F, CHINA SHINE PLAZ.3-15 LIN HE XI ROAD, TIANHE DISTRICT, GUANGZHOU, CHINA		
Sample Description:	Induction cooker		
Model:	BI001		
Adding Model:	/		
FCC ID:	ZBN-BI001		
Test Specification:	<u>FCC PART 18: 2012</u>		
Issue Date:	2014-1-9		
Test Result:	<i>Pass.</i>		
Prepared By:	Reviewed By:	Approved By:	
Lynn Xiao / Test Engineer	Jane Cao / Test Engineer	Gavin Wu / Manager	
			
Date: 2014-1-9	Date: 2014-1-9	Date: 2014-1-9	
Other Aspects:			
/			
Abbreviations: <i>ok / P = passed; fail / F = failed; n.a. / N = not applicable</i>			
The test result in this test report refers exclusively to the presented test sample. This report shall not be reproduced except in full, without the written approval of GRGT.			

GRG Metrology and Test Co., Ltd.

Address: 163, Pingyun Road, West of Huangpu Avenue, Guangzhou, Guangdong, P.R. China

Tel:+86-20-38699960

Fax:+86-20-38695185

Email: emc@grg.net.cn

http://www.grgtest.com

Ver.:2011.1.1

DIRECTIONS OF TEST

- 1. This station carries out test task according to the national regulation of verifications which can be traced to National Primary Standards and BIPM.**
- 2. The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.**
- 3. If there is any objection concerning the test, the client should inform the laboratory within 15 days from the date of receiving the test report.**

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1. TEST RESULT SUMMARY

FCC PART 18:2012			
Standard	Item	Limit / Severity	Result
FCC PART 18:2012 & MP-5:1986	Conducted Emission	18.307(a)	PASS
	Radiated Emission	18.305(b)	PASS

2 GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name : FRUTO INDUSTRIAL INTERNATIONAL LIMITED
 Address : UNIT 1921, 19/F, CHINA SHINE PLAZ.3-15 LIN HE XI ROAD,
 TIANHE DISTRICT, GUANGZHOU, CHINA

2.2 MANUFACTURER

Name : ZhongShan YaXin Electric Co.,Ltd.
 Address : No.13 FengShuo Road, NanTou Town, ZhongShan City

2.3 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment : Induction cooker
 Model No. : BI001
 Additional Model : /
 Trade Name : /
 Power Supply : AC 120V/60Hz
 Mode : Mode 1: maximum heating load
 Sample submitting way : Provided by customer Sampling
 Note : /

3 LABORATORY AND ACCREDITATIONS

3.1 LABORATORY

The tests and measurements refer to this report were performed by EMC Laboratory of Guangzhou GRG Metrology and Test Co., Ltd.

Add. 163 Pingyun Rd, West of Huangpu Ave, Guangzhou, 510656, P. R. China

Telephone : +86-20-38699959, 38699960, 38699961

Fax : +86-20-38695185

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	FCC Listed Lab No. 688188
China	CNAS No.L0446
China	DILAC No.DL175
Canada	Registration No.: 8355A-1

4 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:

Measurement		Frequency	Uncertainty
Conducted disturbance		9kHz~150kHz	2.6 dB
		150kHz~30MHz	2.4 dB
Radiated disturbance	Horizontal	30MHz~1000MHz	4.2 dB
	Vertical	30MHz~1000MHz	4.4 dB

Note: This uncertainty represents an expanded uncertainty factor of $k=2$.

5 LIST OF USED TEST EQUIPMENT AT GRGT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conducted Disturbance (CE)				
EMI Receiver	Rohde & Schwarz	ESCI	100529	2014-07-21
L.I.S.N	SCHWARZBECK	NSLK 8127	8127450	2014-08-21
Shielded room	ETS	RFD_100	3728	2014-03-25
Radiated Disturbance (RE)				
Bi-Log Antenna	ETS-LINDGREN	3142C	00075971	2014-05-25
EMI Receiver	Rohde & Schwarz	ESU 40	100106	2014-01-23
Semi anechoic chamber	ETS	966(RFD-F/A-100)	3730	2014-03-25

6 EMISSION TEST

6.1 CONDUCTED DISTURBANCE

6.1.1 LIMITS

Frequency range	Limits (dB μ V)	
	Quasi-peak	Average
9kHz ~ 50kHz	110	—
50kHz ~ 150kHz	90 ~ 80	—
150kHz ~ 0.5MHz	66~56	56~46
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

NOTE: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 150kHz to 0.5MHz.

6.1.2 TEST PROCEDURES

For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). An EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

– Either the bottom or the rear of the EUT shall be at a controlled distance of 40 cm from a reference ground plane. This ground plane is normally the wall or floor of a shielded room. It may also be a grounded metal plane of at least 2 m by 2 m. The facility also complies with the AC line conducted test site criteria set forth in ANSI C63.4-2009. This is physically accomplished as follows:

- 1) Place the EUT on a table of non-conducting material which is at least 80 cm high.
- 2) All other conductive surfaces of the EUT shall be at least 80 cm from the reference ground plane;
- 3) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 cm to 40 cm long, hanging approximately in the middle between the ground plane and the table.
- 4) I/O cables that are connected to a peripheral shall be bundled in the centre. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.

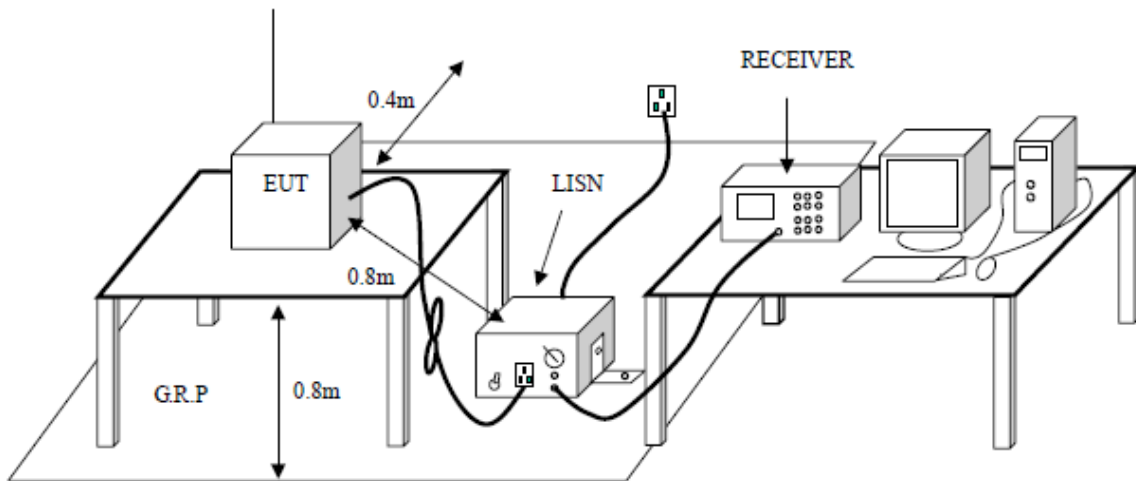
EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test. A scan was taken on both power lines, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. The test data of the worst-case condition(s) was recorded.

6.1.3 EMI TEST RECEIVE SETUP

The EMI test receiver was set to investigate the spectrum from 9 kHz to 30 MHz. During the conducted emission test, the EMI test receiver was set with the following configurations:

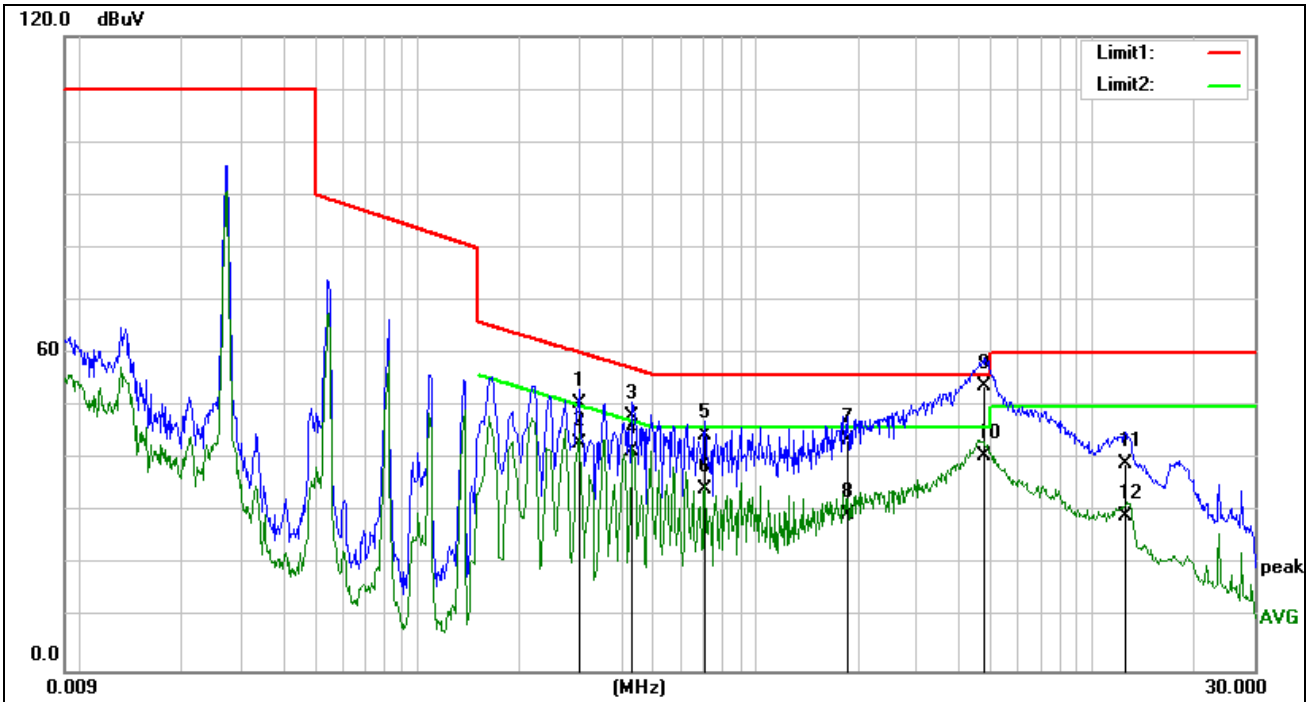
Frequency Range	IF B/W
9kHz-150kHz	200Hz
150kHz-30MHz	9kHz

6.1.4 TEST SETUP



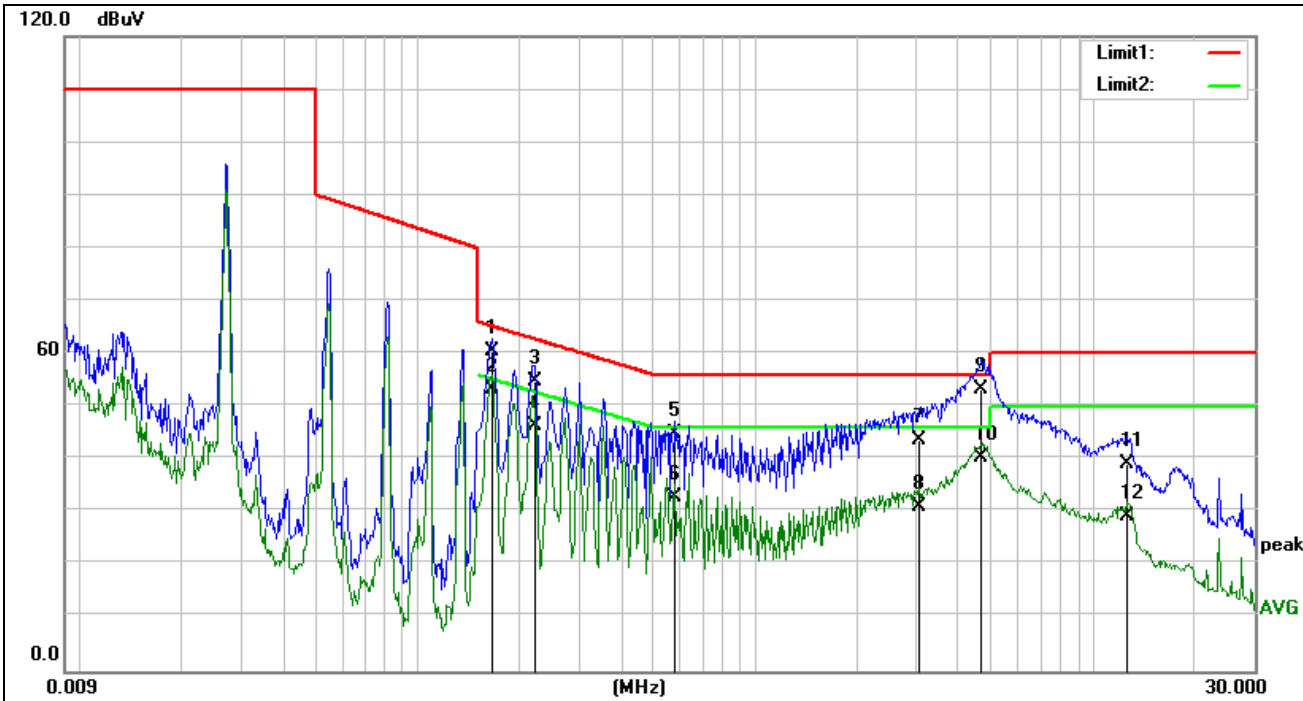
6.1.5 TEST RESULTS

Test Result:	Pass	Probe:	L1
Standard:	(CE)FCC Part 18_QP	Power Source:	AC 120V/60Hz
Test item:	Conduction Test	Date:	2013-12-16
Temp./Hum.(%RH):	23/57%RH	Time:	16:53:59
EUT:	Induction cooker	Test Mode:	Mode 1
Model:	BI001	Tested By:	liang
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.3020	44.00	6.50	50.50	60.19	-9.69	QP
2	0.3020	36.60	6.50	43.10	50.19	-7.09	AVG
3	0.4340	41.59	6.51	48.10	57.18	-9.08	QP
4	0.4340	35.09	6.51	41.60	47.18	-5.58	AVG
5	0.7100	38.03	6.47	44.50	56.00	-11.50	QP
6	0.7100	28.03	6.47	34.50	46.00	-11.50	AVG
7	1.8860	37.21	6.59	43.80	56.00	-12.20	QP
8	1.8860	23.01	6.59	29.60	46.00	-16.40	AVG
9	4.7220	46.99	6.71	53.70	56.00	-2.30	QP
10	4.7220	34.09	6.71	40.80	46.00	-5.20	AVG
11	12.4340	32.45	6.75	39.20	60.00	-20.80	QP
12	12.4340	22.55	6.75	29.30	50.00	-20.70	AVG

Test Result:	Pass	Probe:	N
Standard:	(CE)FCC Part 18_QP	Power Source:	AC 120V/60Hz
Test item:	Conduction Test	Date:	2013-12-16
Temp./Hum.(%RH):	23/57%RH	Time:	17:00:13
EUT:	Induction cooker	Test Mode:	Mode 1
Model:	BI001	Tested By:	liang
Note:	/		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1660	53.85	6.55	60.40	65.15	-4.75	QP
2	0.1660	46.65	6.55	53.20	55.15	-1.95	AVG
3	0.2220	48.35	6.45	54.80	62.74	-7.94	QP
4	0.2220	39.95	6.45	46.40	52.74	-6.34	AVG
5	0.5780	38.30	6.50	44.80	56.00	-11.20	QP
6	0.5780	26.50	6.50	33.00	46.00	-13.00	AVG
7	3.0579	36.91	6.69	43.60	56.00	-12.40	QP
8	3.0579	24.51	6.69	31.20	46.00	-14.80	AVG
9	4.6460	46.49	6.71	53.20	56.00	-2.80	QP
10	4.6460	33.79	6.71	40.50	46.00	-5.50	AVG
11	12.6940	32.38	6.72	39.10	60.00	-20.90	QP
12	12.6940	22.48	6.72	29.20	50.00	-20.80	AVG

6.2 RADIATED DISTURBANCE

6.2.1 LIMITS

Because the device is working in frequency 26 kHz, so we test radiated emission between 9 kHz~30MHz.

Frequency (MHz)	Quasi-peak(dBμV/m)(distance 30m)	Quasi-peak(dBμV/m)(distance 3m)
0.009 ~ 30	63.51	$63.51+20\log_{10}(30/3)=83.51$

NOTE: The test distance is 3m. This item is tested in distance 3m. Therefore, it used 3 meters measuring distance and converted limits to judge the EUT compliance with or not.

6.2.2 TEST PROCEDURE

The EUT was placed on a table, which is 0.8meter above ground. Measurements are performed at distance 3.0m with a 0.6m loop antenna as described in 2.2.4 of MP-5. The antenna shall be set at height 2m above the floor. The facility also complies with the radiated test site criteria set forth in ANSI C63.4-2009.

The FCC part 18 regulations test method must be used to find the maximum emission during Radiated Emission test. The worst case was recorded.

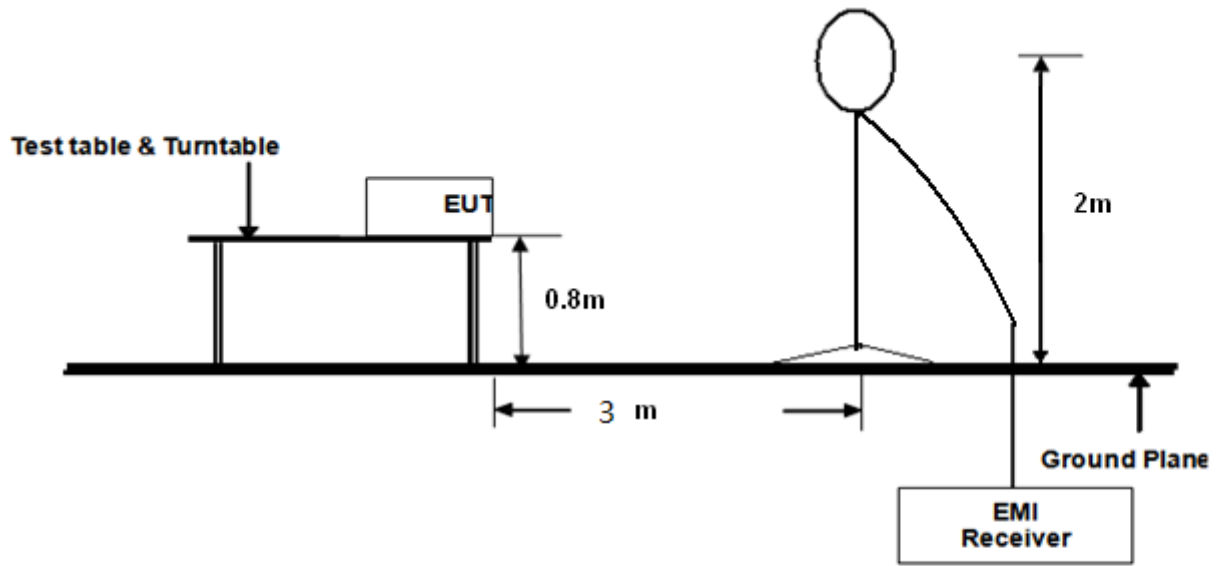
6.2.3 EMI TEST RECEIVER SETUP AND SPECTRUM ANALYZER SETUP

The system was investigated from 9 kHz to 30 MHz.

During the radiated emission test, the EMI test receiver and Spectrum Analyzer were set with the following configurations:

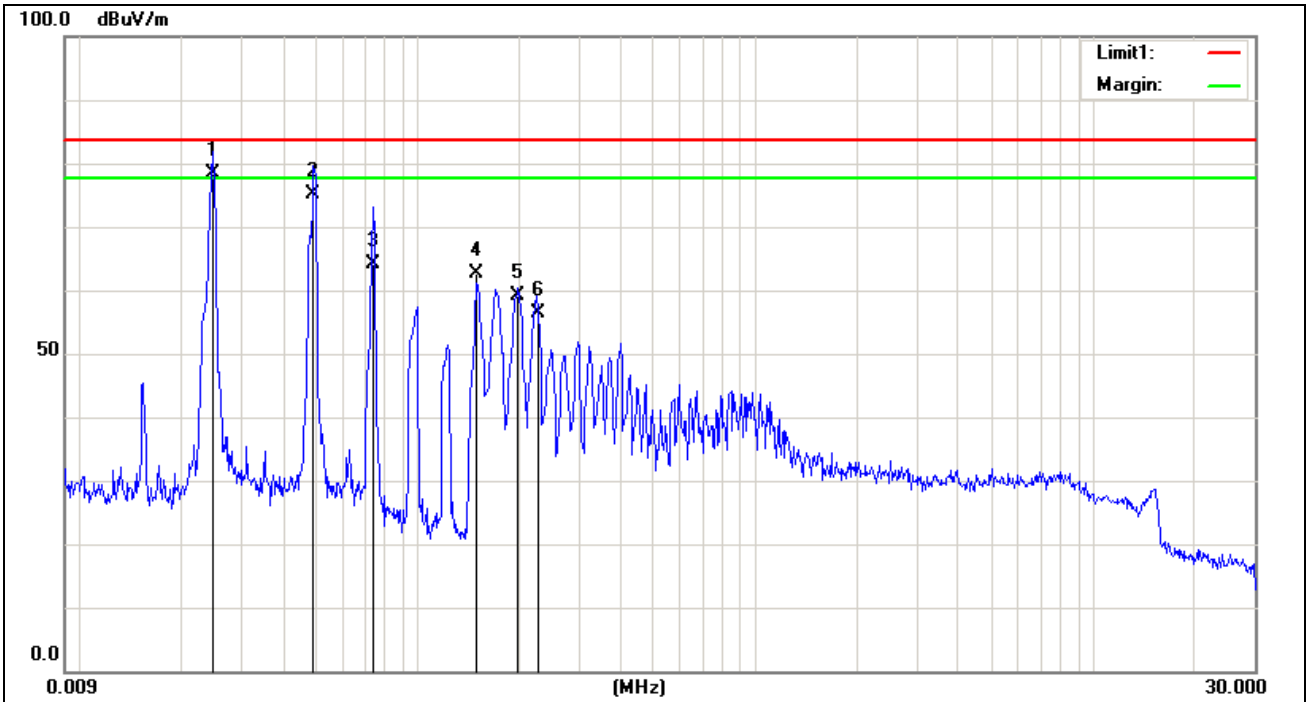
Frequency Range	IF B/W	Video B/W	IF B/W	Detector
9kHz-150kHz	200Hz	1kHz	200Hz	QP
150kHz-30MHz	9kHz	30kHz	9kHz	QP

6.2.4 TEST SETUP



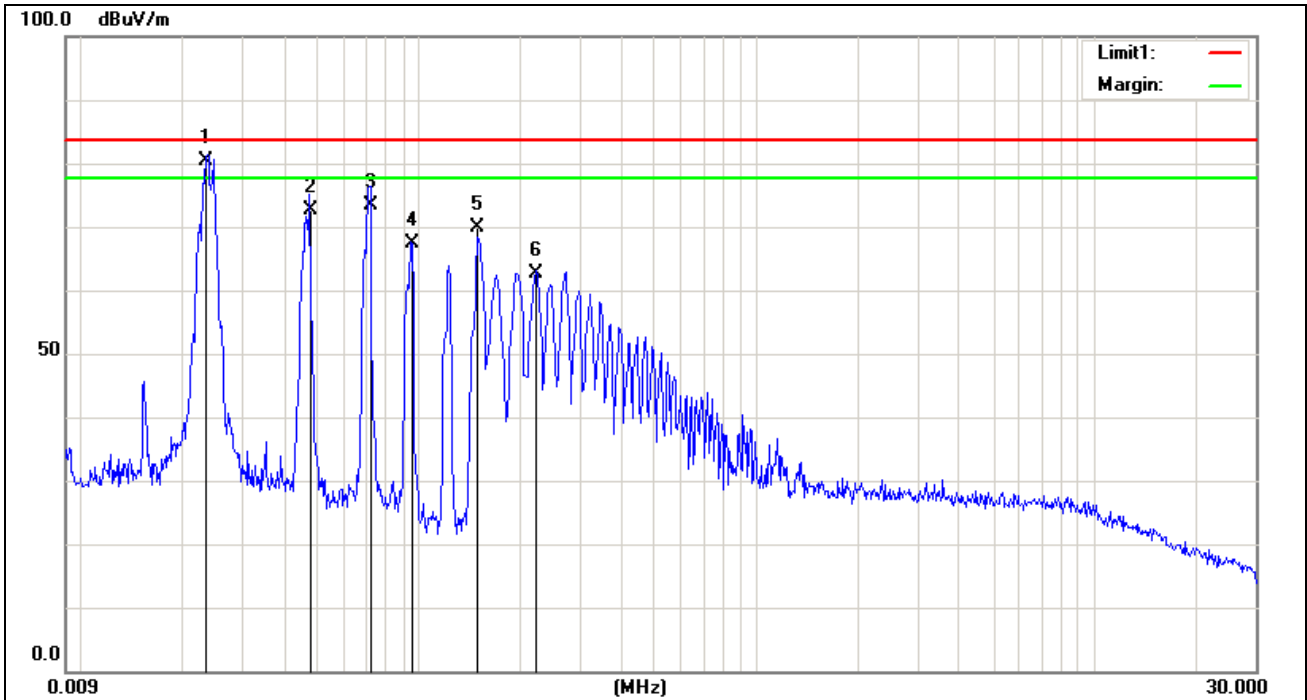
6.2.5 TEST RESULTS

Test Result:	Pass	Polarization:	Horizontal
Standard:	(RE)FCC PART 18 cook 3m	Power Source:	AC 120V/60Hz
Test item:	Radiation Test	Date:	2013-12-18
Temp./Hum.(%RH):	23/57%RH	Time:	19:24:23
EUT:	Induction cooker	Test Mode:	Mode 1
Model:	BI001	Tested By:	liang
Note:	/		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0246	56.63	21.67	78.30	83.51	-5.21	QP
2	0.0492	54.16	20.94	75.10	83.51	-8.41	QP
3	0.0739	43.36	20.84	64.20	83.51	-19.31	QP
4	0.1500	41.87	20.83	62.70	83.51	-20.81	QP
5	0.1980	38.36	20.84	59.20	83.51	-24.31	QP
6	0.2272	35.65	20.85	56.50	83.51	-27.01	QP

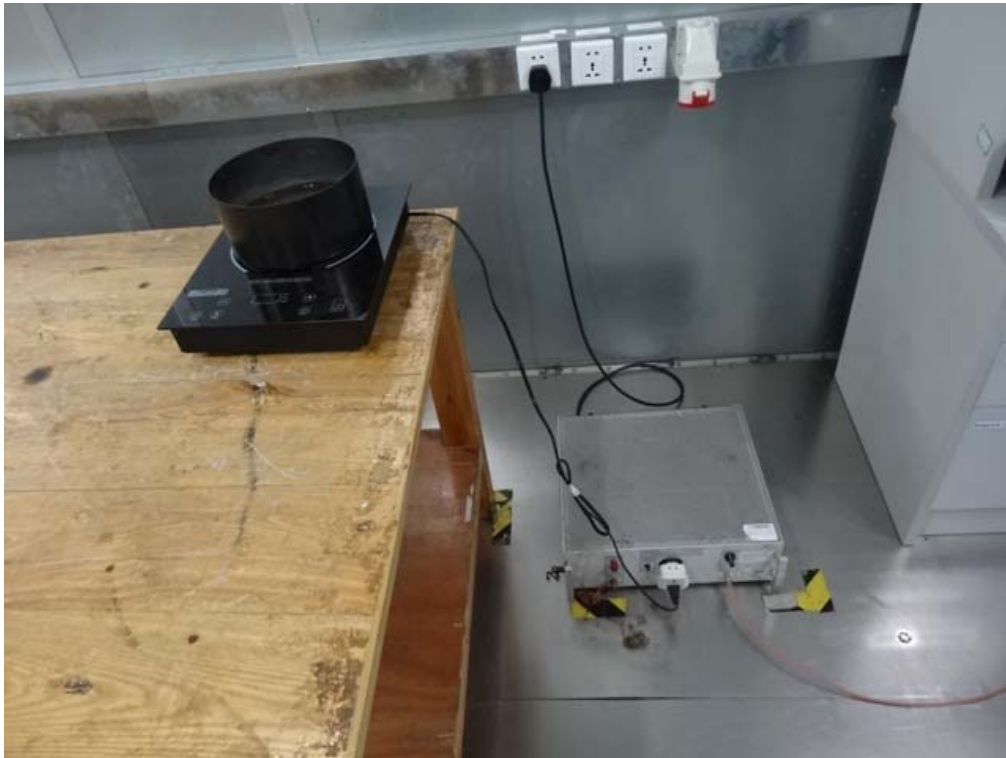
Test Result:	Pass	Polarization:	Vertical
Standard:	(RE)FCC PART 18 cook 3m	Power Source:	AC 120V/60Hz
Test item:	Radiation Test	Date:	2013-12-18
Temp./Hum.(%RH):	23/57%RH	Time:	19:14:41
EUT:	Induction cooker	Test Mode:	Mode 1
Model:	BI001	Tested By:	liang
Note:	/		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0235	58.56	21.74	80.30	83.51	-3.21	QP
2	0.0478	51.64	20.96	72.60	83.51	-10.91	QP
3	0.0719	52.65	20.85	73.50	83.51	-10.01	QP
4	0.0954	46.68	20.82	67.50	83.51	-16.01	QP
5	0.1500	48.97	20.83	69.80	83.51	-13.71	QP
6	0.2220	41.85	20.85	62.70	83.51	-20.81	QP

APPENDIX A. PHOTOGRAPH OF THE TEST ARRANGEMENT

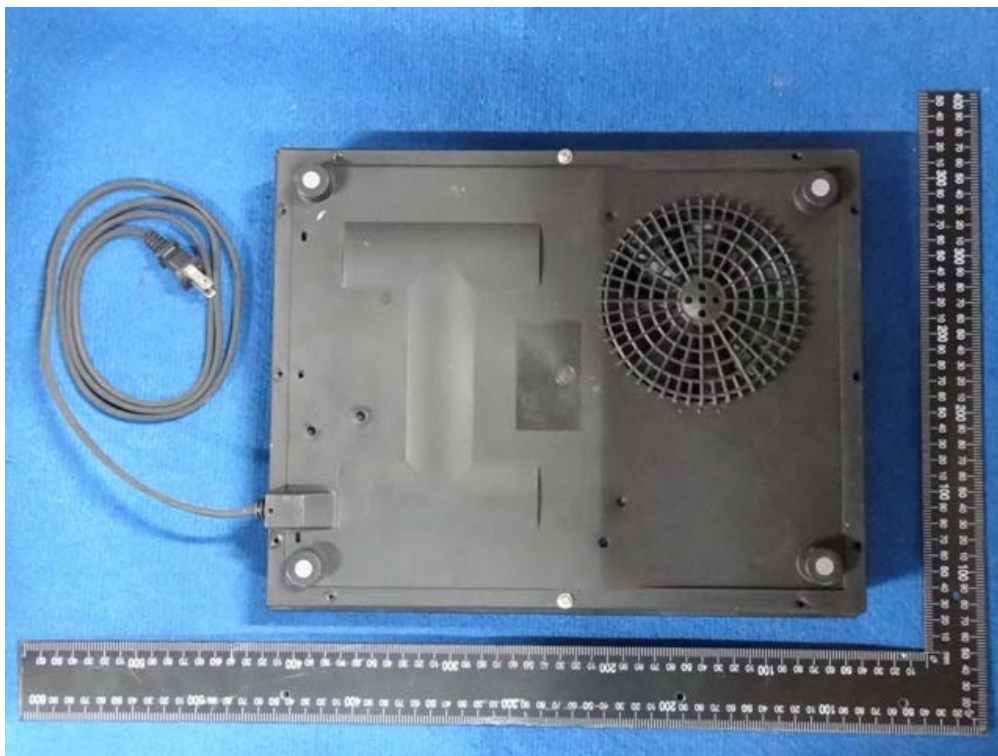
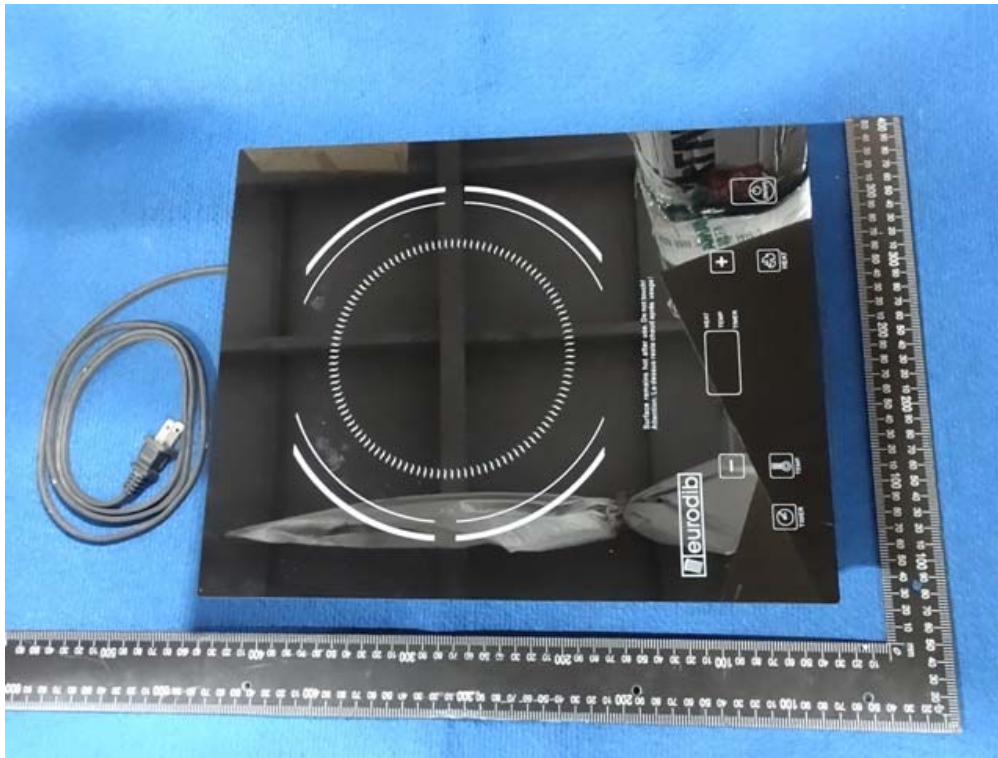
CE



RE

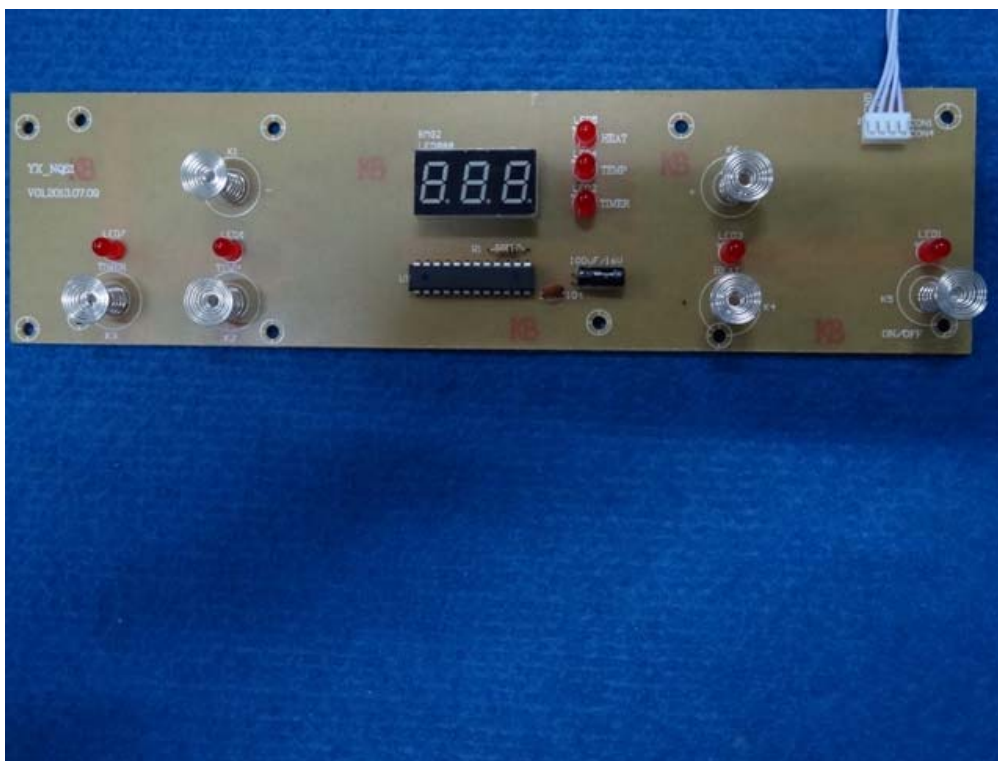
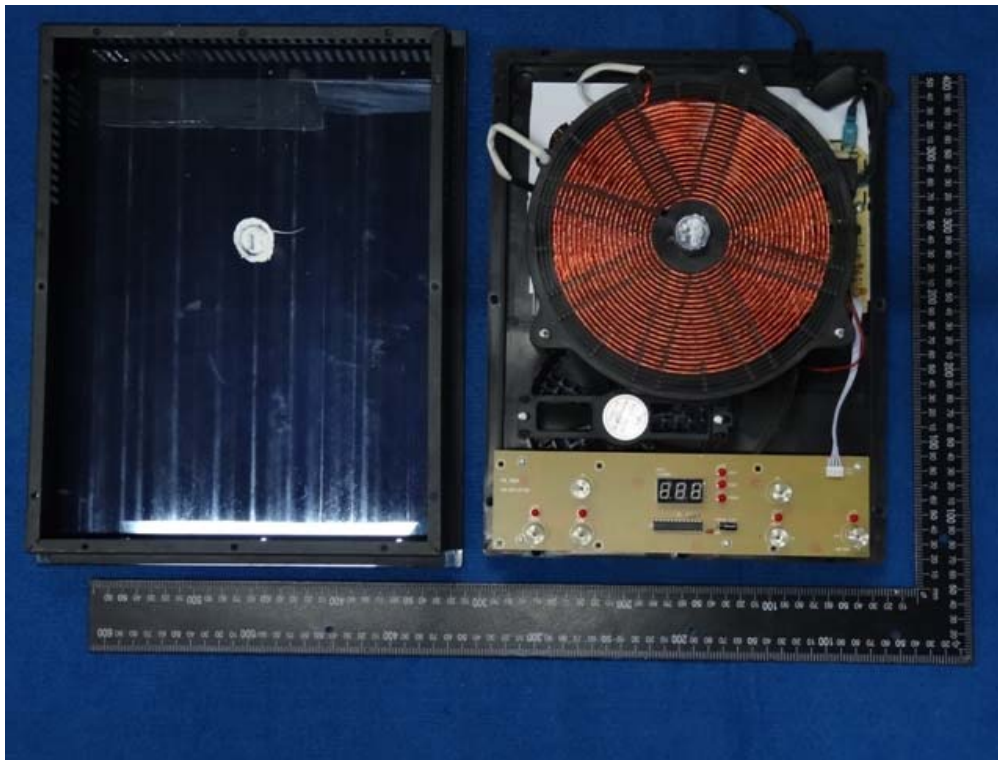


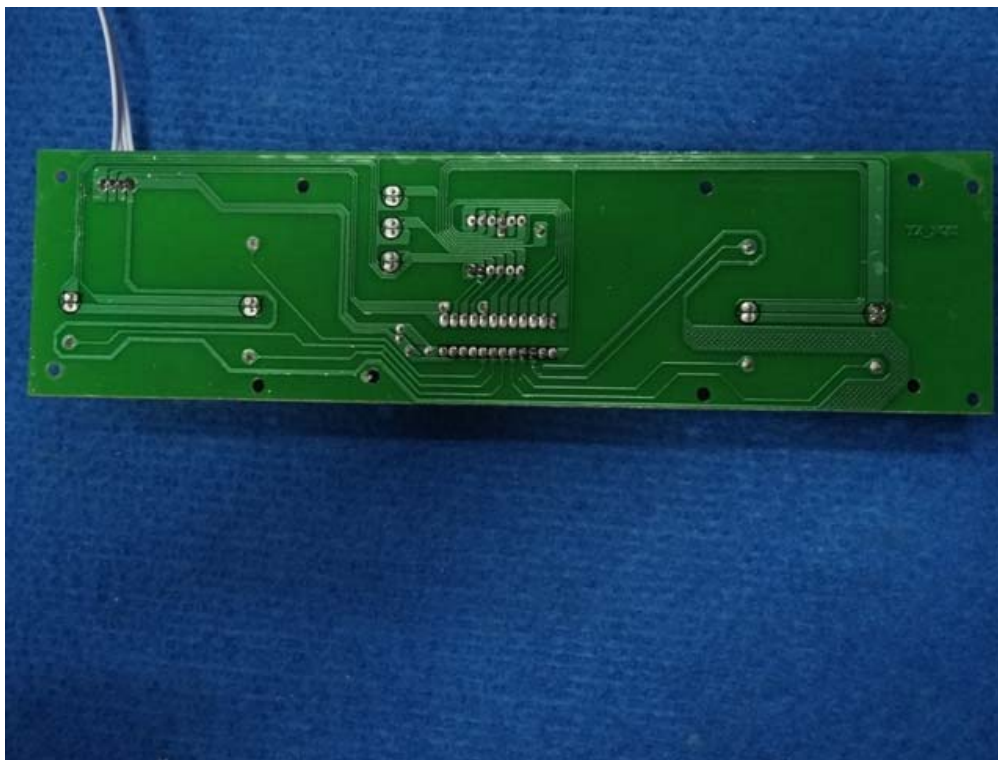
APPENDIX B. PHOTOGRAPHS OF EUT













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