

TEST REPORT

Reference No..... : WTZ15S0425596E
FCC ID : BJM-TIH-F1500
Applicant..... : Tatung Company
Address..... : 22 Chungshan N Road Sec 3, Taipei 10451, Taiwan
Manufacturer : The same as above
Address..... : The same as above
Product Name..... : Induction Cooker
Model No..... : TIH-F1500SU, TIH-F1500HU
Standards : FCC PART18
Date of Receipt sample : Apr. 24, 2015
Date of Test : Apr. 24 – May. 16, 2015
Date of Issue..... : May. 21, 2015
Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

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Compiled by:



Zero Zhou / Project Engineer

Approved by:



Philo Zhong / Manager

1 Test Summary

Test Item	Test Requirement	Class	Test Method	Test Result
AC Line Conducted Emissions (9kHz to 30MHz)	FCC PART 18	18.307(c)	FCC OST/MP-5:1986	Pass
Field Strength (9kHz to 30MHz)	FCC PART 18	18.305(c)	FCC OST/MP-5:1986	Pass

Remark:

Pass Test item meets the requirement
Fail Test item does not meet the requirement
N/A Test case does not apply to the test object

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3 General Information

3.1 General Description of E.U.T.

Product Name : Induction Cooker
Model No..... : TIH-F1500SU, TIH-F1500HU
Product Type..... : Consumer equipment
Operating Frequency : Below 90KHz
Model Difference : Motherboard and Circuit principle of above product are the same,
only the control panel is different.
Remark..... : TIH-F1500SU and TIH-F1500HU are the tested samples.

3.2 Details of E.U.T.

Technical Data : AC 120V, 60Hz, 1500W

3.3 Standards Applicable for Testing

The tests were performed according to following standards:

FCC PART 18 Electronic Code of Federal Regulations- Industrial Scientific,
Scientific, and medical equipment.

3.4 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A-1**

Waltek Services(Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration 7760A-1, July 12, 2012.

- **FCC – Registration No.: 880581**

Waltek Services (Shenzhen) Co., Ltd. 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 880581, April 29, 2014.

- **FCC – Registration No.: 328995**

Waltek Services(Shenzhen) 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 328995, December 3, 2014.

3.5 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

3.6 Abnormalities from Standard Conditions

None.

4 Equipment Used during Test

4.1 Equipment List

Conducted Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMI Test Receiver	R&S	ESCI	100947	Sep.15, 2014	Sep.14, 2015
2.	LISN	R&S	ENV216	100115	Apr.10, 2015	Apr.09, 2016
3.	Cable	Top	TYPE16(3.5 M)	-	Sep.15, 2014	Sep.14, 2015
3m Semi-anechoic Chamber for Radiation(TDK), 30~1000MHz						
Item	Equipment	Manufacturer	Model No.	Serial No	Last Calibration Date	Calibration Due Date
1	Test Receiver	R&S	ESCI	101296	Sep.15,2015	Sep.14,2016
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Sep.15,2015	Sep.14,2016
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Sep.15,2015	Sep.14,2016
5	Cable	HUBER+SUHNER	CBL2	525178	Sep.15,2015	Sep.14,2016

4.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

4.3 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	9kHz~30MHz	±3.64dB	(1)
Field Strength	9KHz~30MHz	±5.03dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

5 Emission Test Results

5.1 Conduction Emission

Test Requirement : FCC PART 18
 Test Method : FCC OST/MP-5:1986
 Test Result..... : Pass
 Frequency Range : 9kHz to 30MHz
 Class : 18.307(c)
 Limit :

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.009–0.05	110	-
0.05–0.15	90–80*	-
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50
*Decreases with the logarithm of the frequency.		

5.1.1 E.U.T. Operation

Operating Environment:

Temperature : 23°C
 Humidity : 53.6%RH
 Atmospheric Pressure..... : 101kPa

EUT Operation:

Input Voltage..... : AC 120V/60Hz
 Operating Mode : Max power mode, Min power mode
 Remark : TIH-F1500SU

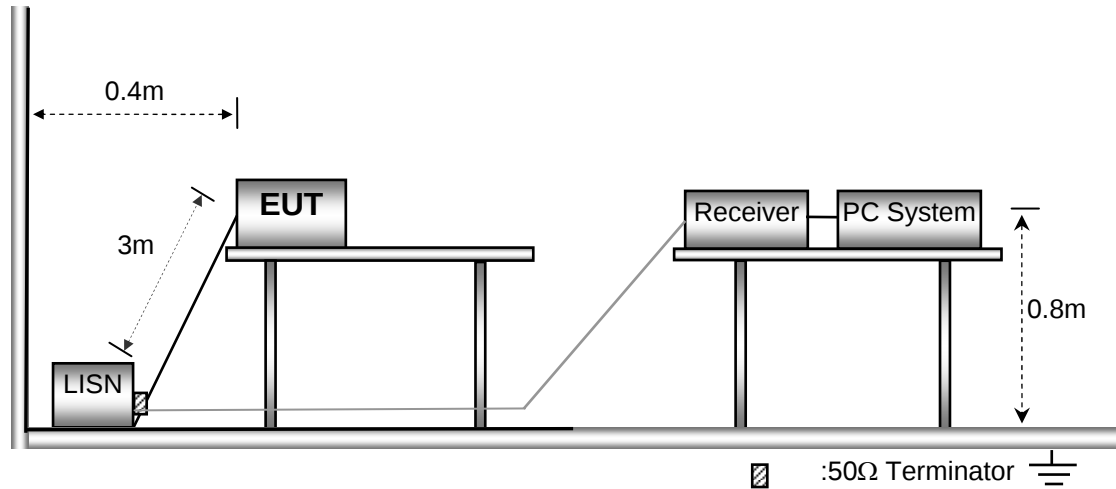
The worst mode is Max power mode and the data is shown as follow.

TIH-F1500HU

The worst mode is Max power mode and the data is shown as follow.

5.1.2 Block Diagram of Test Setup

The Mains Terminals Disturbance Voltage tests were performed in accordance with the FCC OST/MP-5:1986.

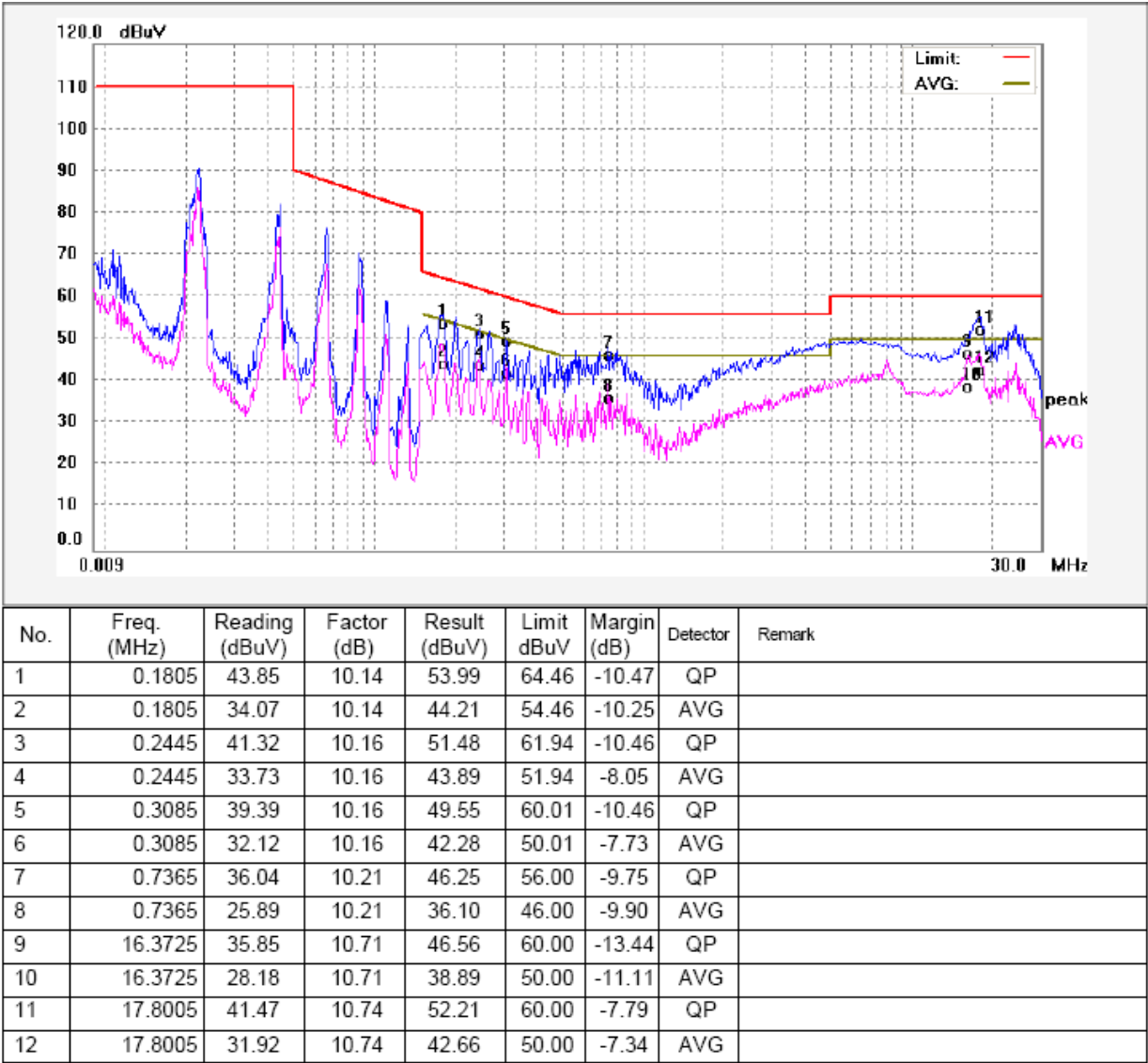


5.1.3 Measurement Data

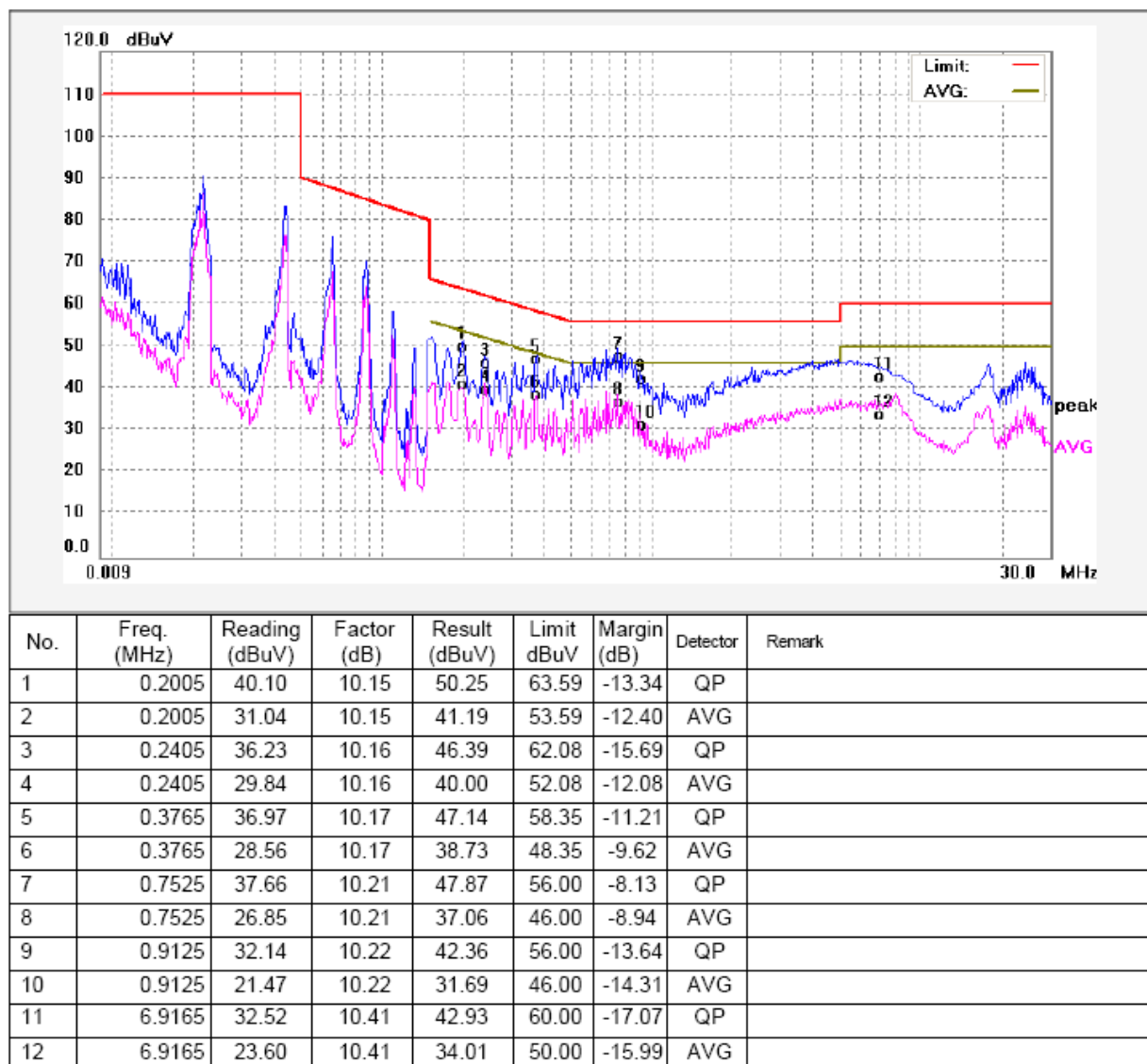
The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line. According to the data in section 5.1.4, the EUT complied with the FCC PART 18.307(c) standards.

5.1.4 Conduction Emission Test Data

Model: TIH-F1500SU
Live Line:

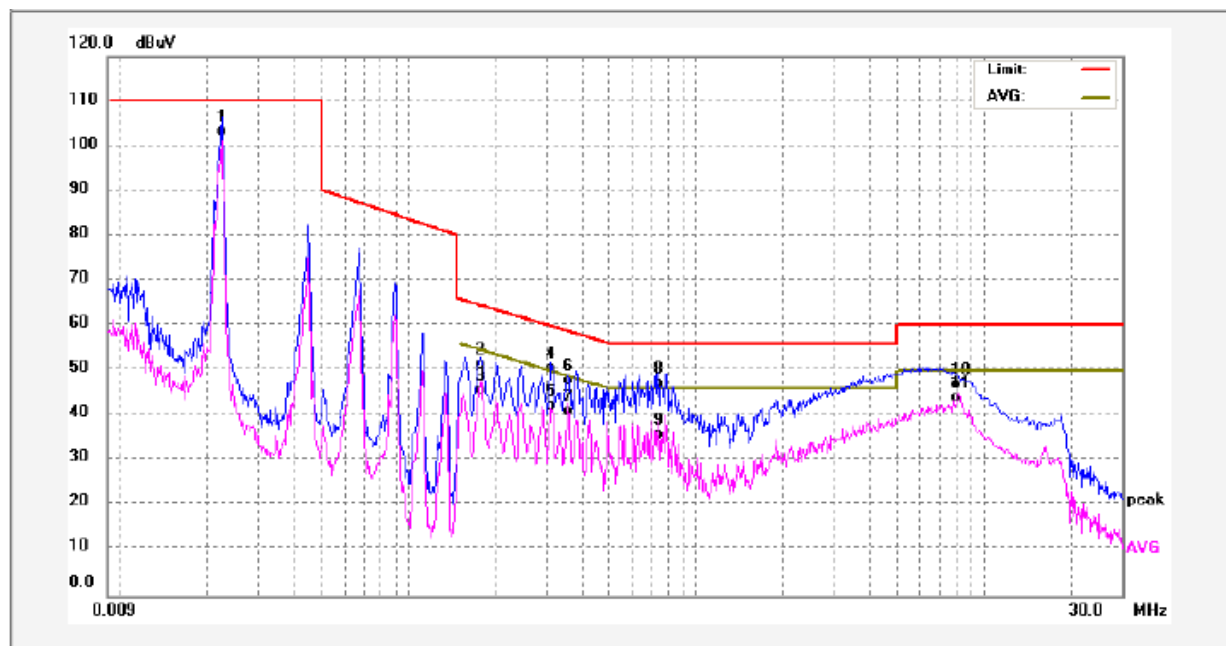


Neutral Line:



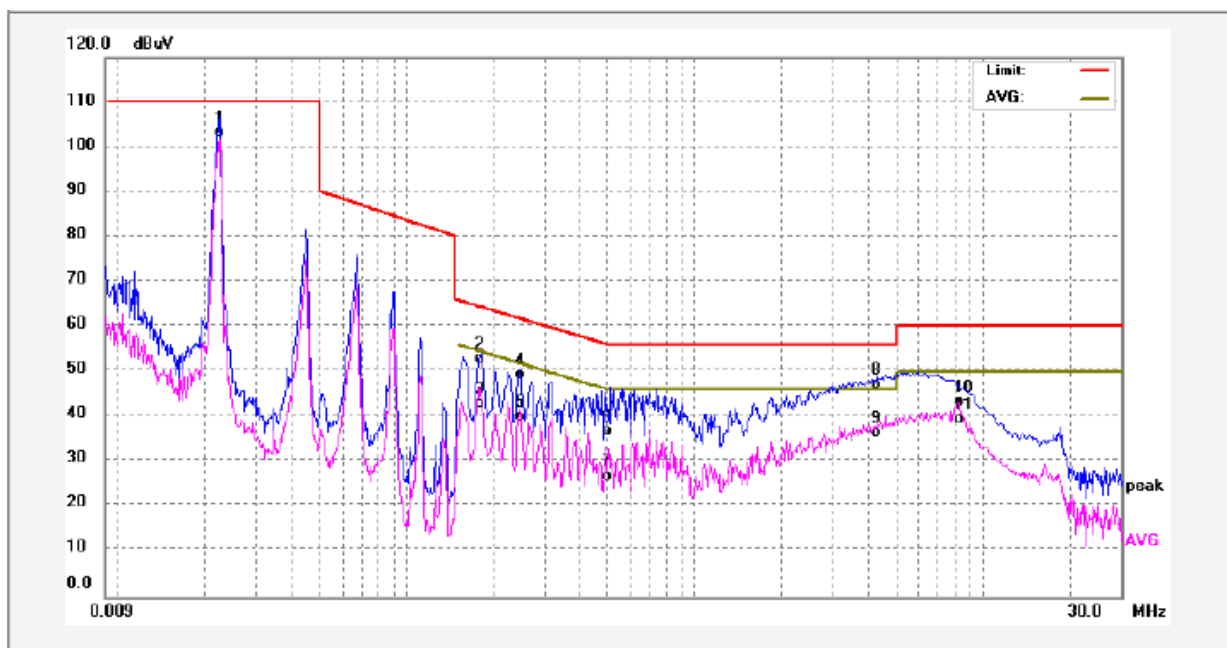
Model: TIH-F1500HU

Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Remark
1	0.0224	92.19	10.71	102.90	110.00	-7.10	QP	
2	0.1780	41.22	10.10	51.32	64.48	-13.16	QP	
3	0.1780	35.77	10.10	45.87	54.57	-8.70	AVG	
4	0.3140	40.38	10.11	50.49	59.82	-9.33	QP	
5	0.3140	32.09	10.11	42.20	49.86	-7.66	AVG	
6	0.3580	37.73	10.11	47.84	58.74	-10.90	QP	
7	0.3580	30.71	10.11	40.82	48.77	-7.95	AVG	
8	0.7420	37.15	10.18	47.33	56.00	-8.67	QP	
9	0.7420	25.65	10.18	35.83	46.00	-10.17	AVG	
10	8.1020	36.77	10.31	47.08	60.00	-12.92	QP	
11	8.1020	33.56	10.31	43.87	50.00	-6.13	AVG	

Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.0224	92.43	10.71	103.14	110.00	-6.86	QP	
2	0.1819	42.96	10.10	53.06	64.30	-11.24	QP	
3	0.1819	32.85	10.10	42.95	54.39	-11.44	AVG	
4	0.2500	39.36	10.10	49.46	61.69	-12.23	QP	
5	0.2500	30.01	10.10	40.11	51.75	-11.64	AVG	
6	0.5100	26.66	10.12	36.78	56.00	-19.22	QP	
7	0.5100	16.75	10.12	26.87	46.00	-19.13	AVG	
8	4.2819	36.95	10.24	47.19	56.00	-8.81	QP	
9	4.2819	26.26	10.24	36.50	46.00	-9.50	AVG	
10	8.2220	32.92	10.31	43.23	60.00	-16.77	QP	
11	8.2220	29.16	10.31	39.47	50.00	-10.53	AVG	

5.2 Field Strength

Test Requirement : FCC PART 18
 Test Method : FCC OST/MP-5:1986
 Test Result : Pass
 Frequency Range : 9KHz to 30MHz
 Class. : 18.305(c)
 Limit..... :

Induction cooking ranges	Below 90 kHz	Any	1,500	*30
	On or above 90 kHz	Any	300	*30
*Induction cooking ranges manufactured prior to February 1, 1980, shall be subject to the field strength limits for miscellaneous ISM equipment. This device operation below 90kHz, limit is 1500uV/m @30m For 3m, distance correction factor=40*log(30/3)=40dB; For 3m Limit, 20log(1500uV/m)+40=103.5dBuV/m				

5.2.1 E.U.T. Operation

Operating Environment:

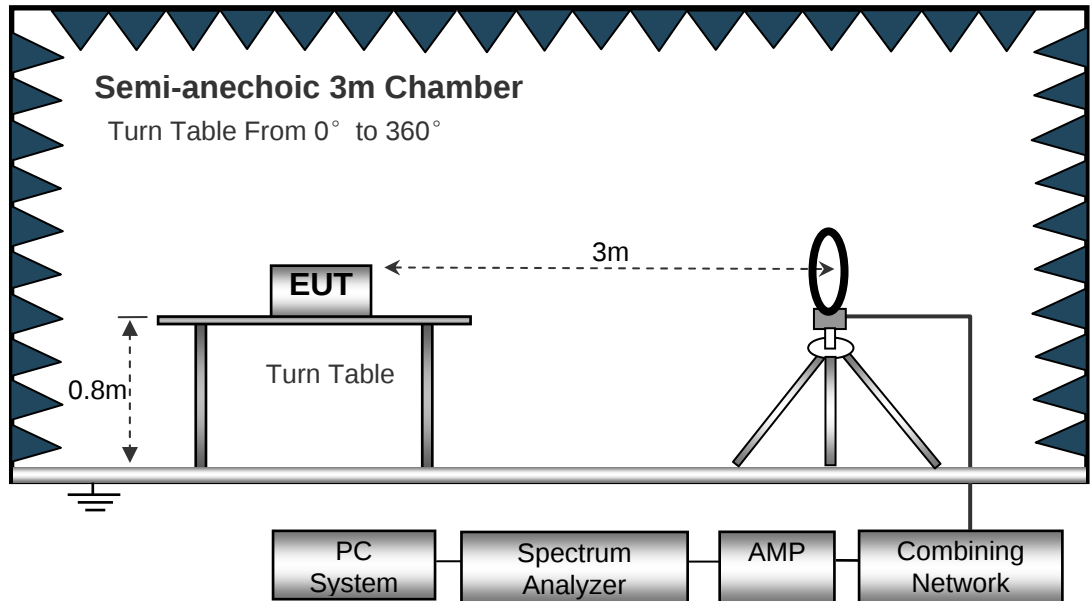
Temperature : 23°C
 Humidity : 54.1%RH
 Atmospheric Pressure..... : 101kPa

EUT Operation:

Input Voltage : AC 120V/60Hz
 Operating Mode : Max power mode, Min power mode
 Remark : TIH-F1500SU
 The worst mode is Max power mode and the data is shown as follow.
 TIH-F1500HU
 The worst mode is Max power mode and the data is shown as follow.

5.2.2 Block Diagram of Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the FCC OST/MP-5:1986.



5.2.3 Measurement Data

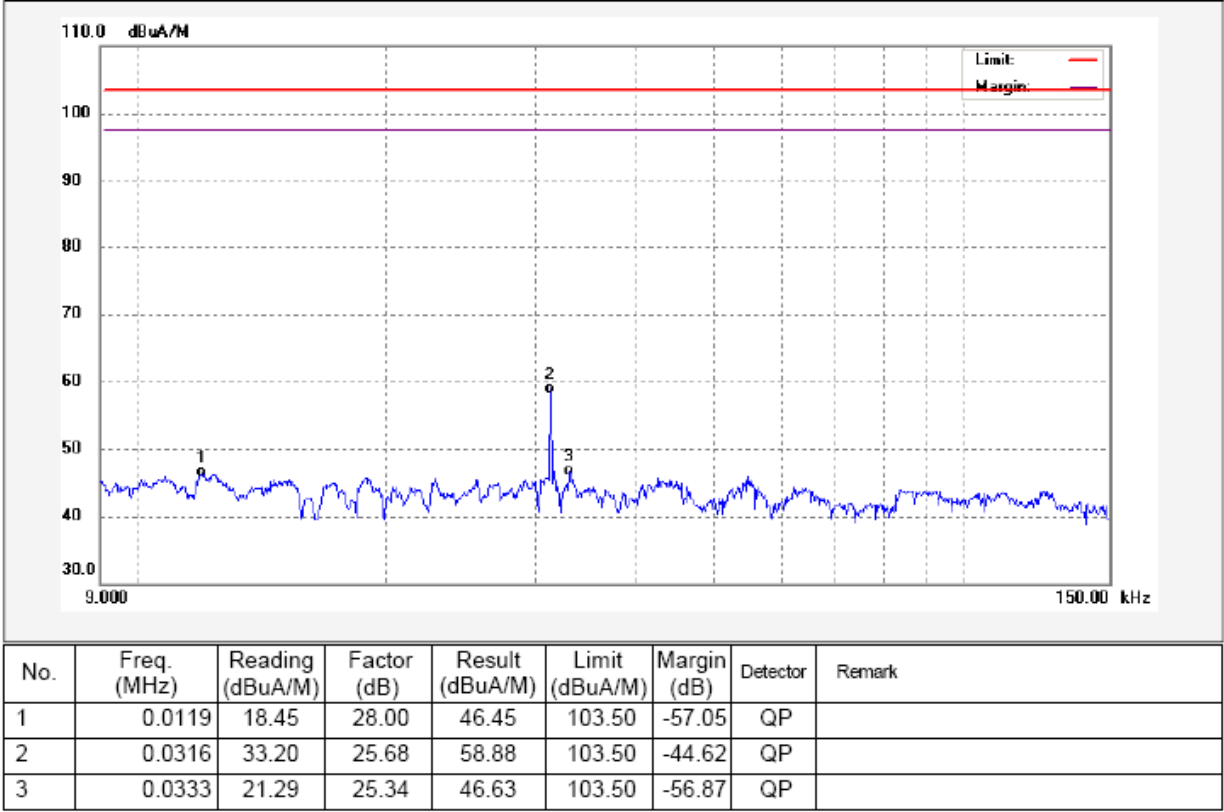
The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Quasi-peak measurements were performed if peak emissions were within 6dB of the Quasi-peak limit line.

5.2.4 Field Strength Test Data

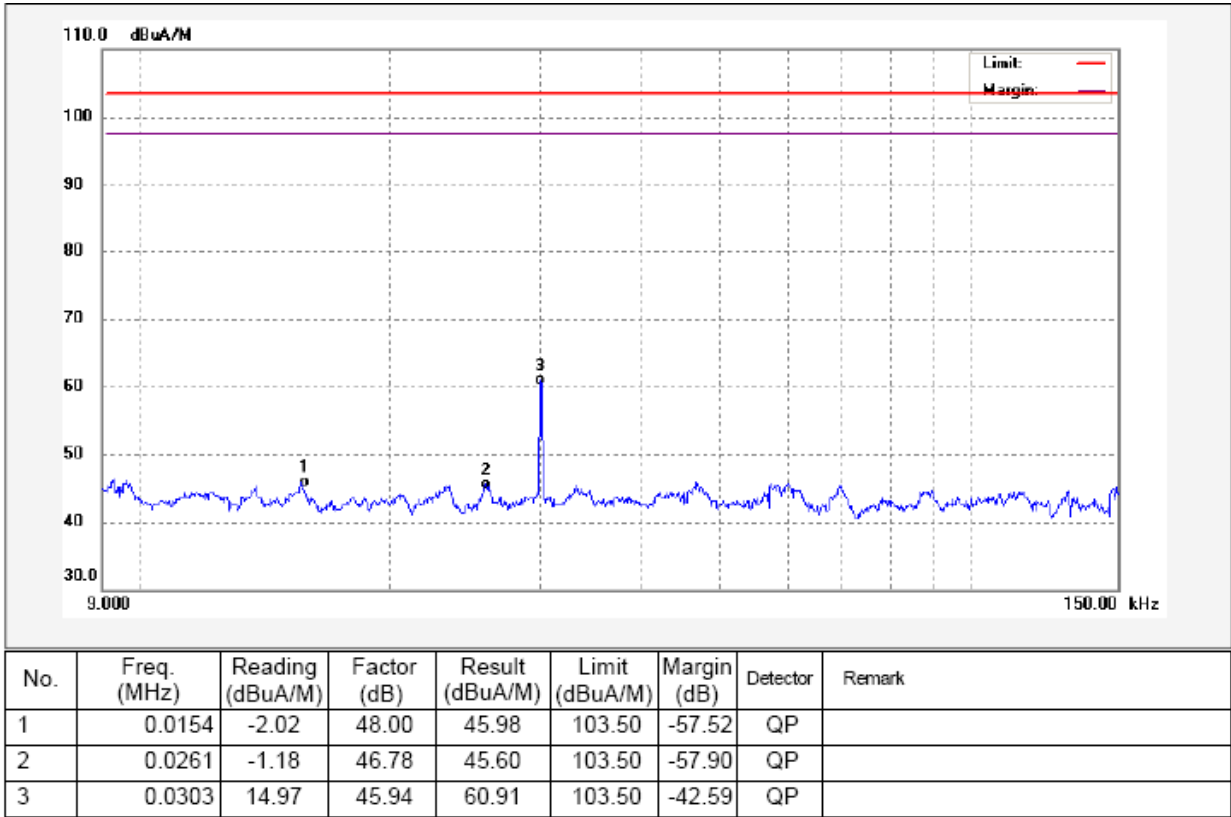
Model: TIH-F1500SU

9KHz – 150KHz

Antenna Polarization: Vertical



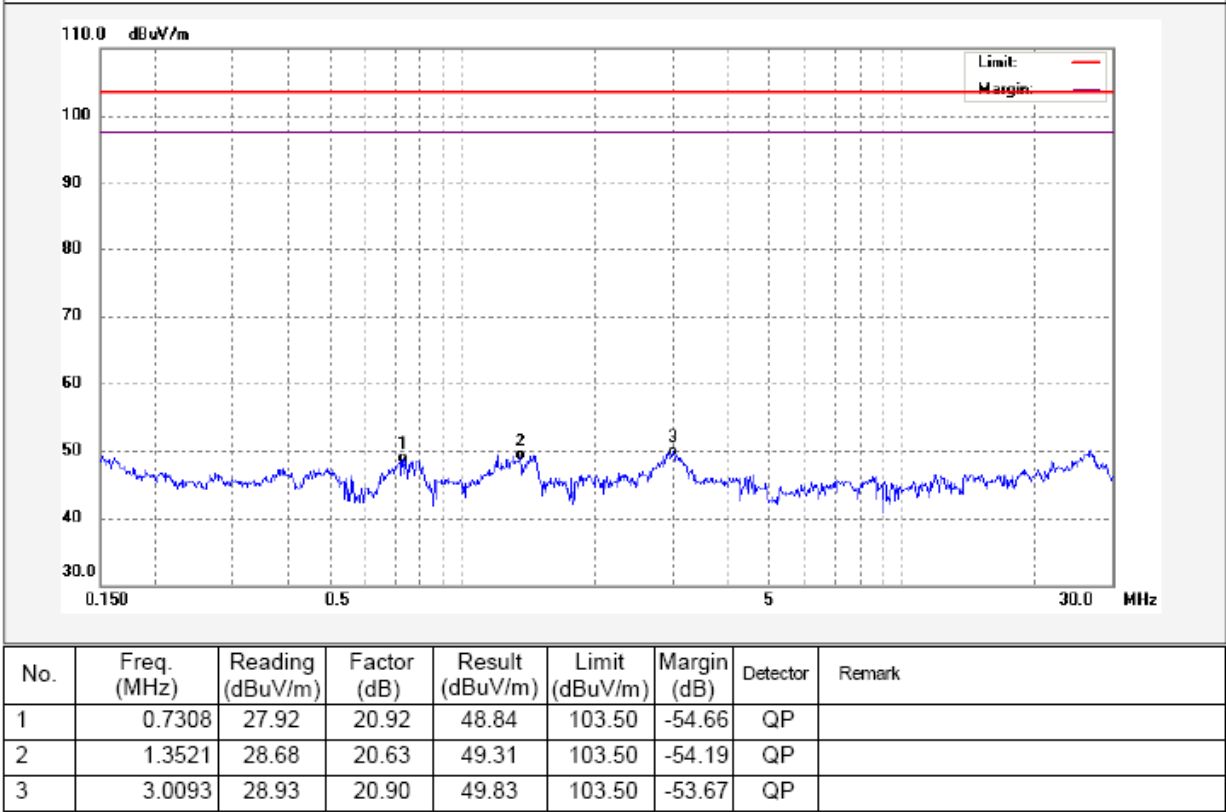
Antenna Polarization: Horizontal



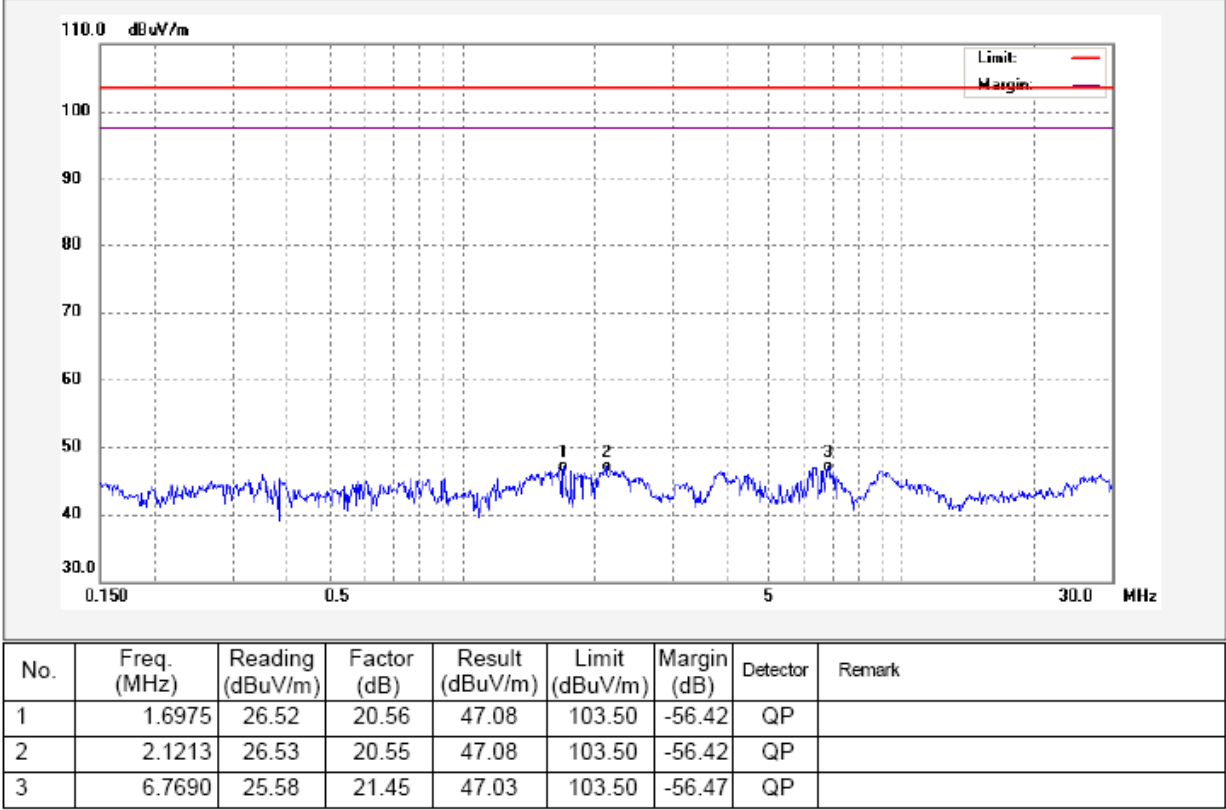
Model: TIH-F1500SU

150KHz – 30MHz

Antenna Polarization: Vertical



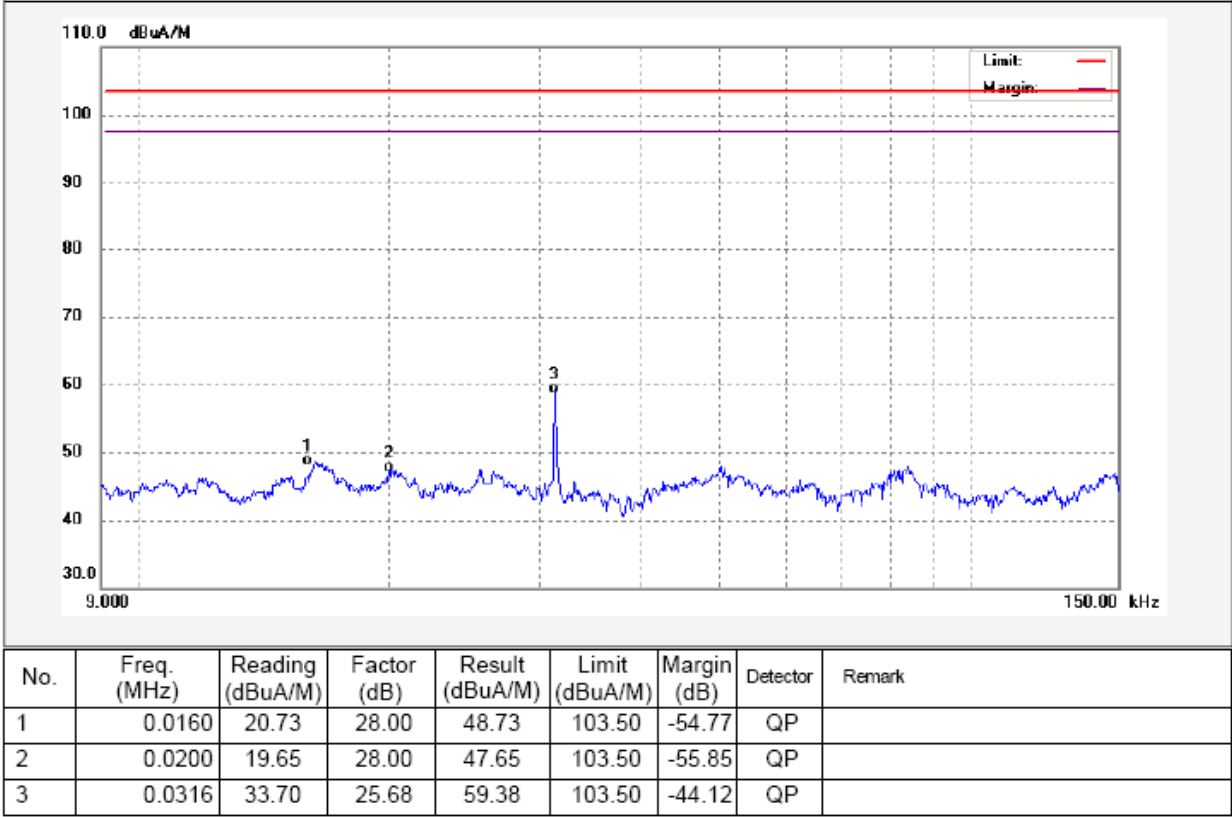
Antenna Polarization: Horizontal



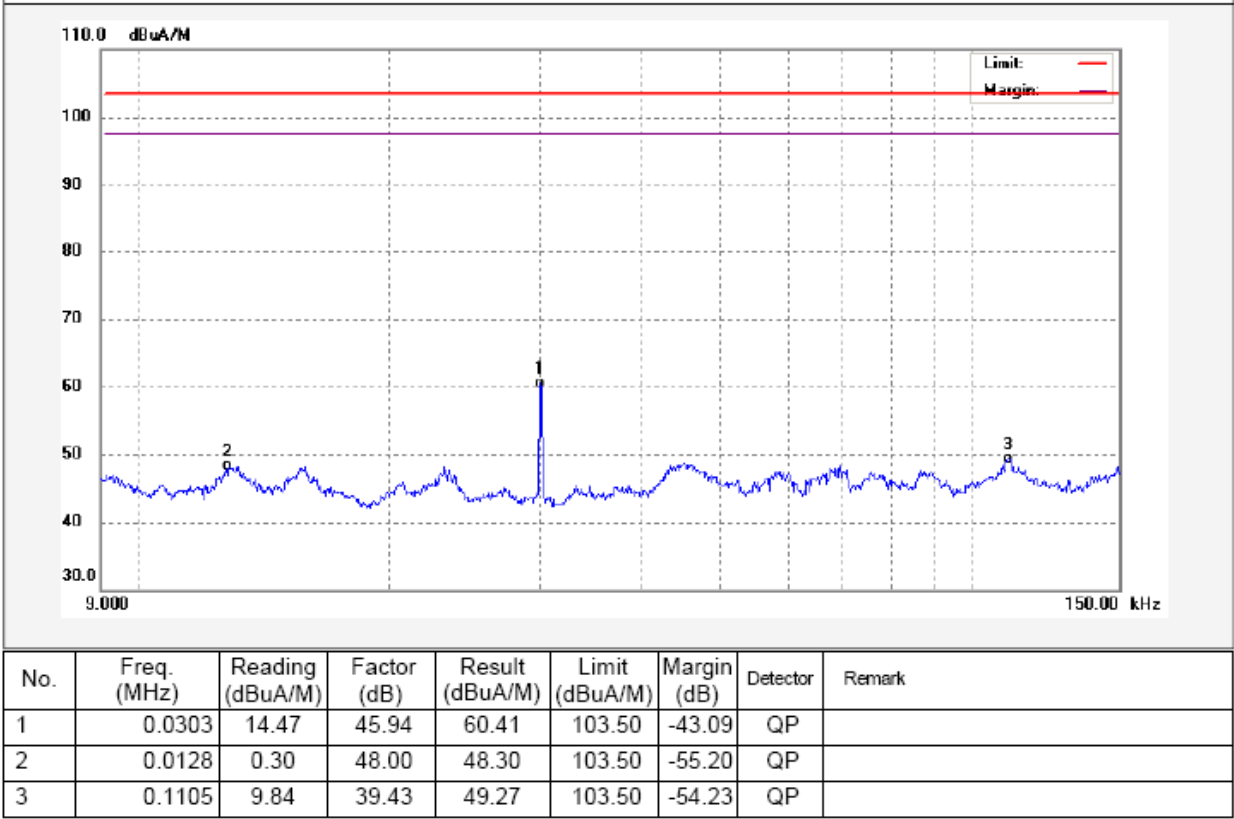
Model: TIH-F1500HU

9KHz – 150KHz

Antenna Polarization: Vertical



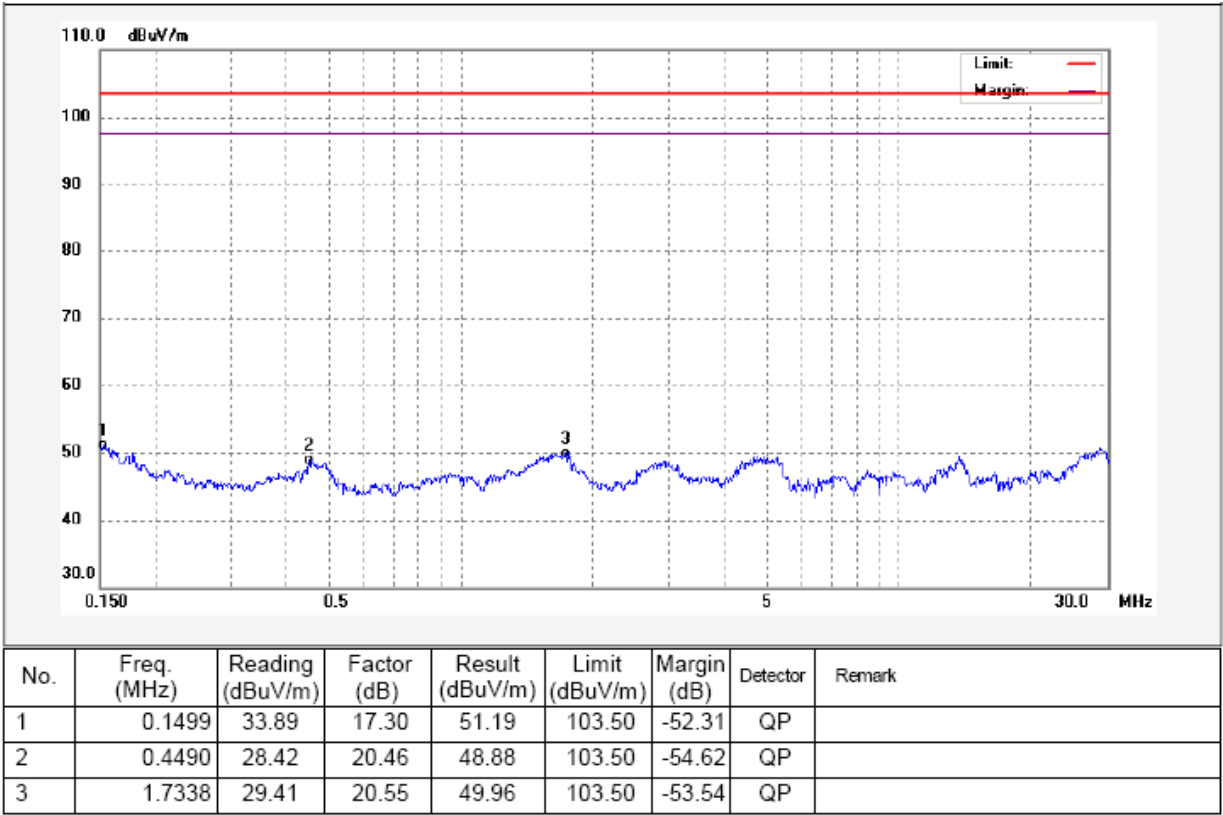
Antenna Polarization: Horizontal



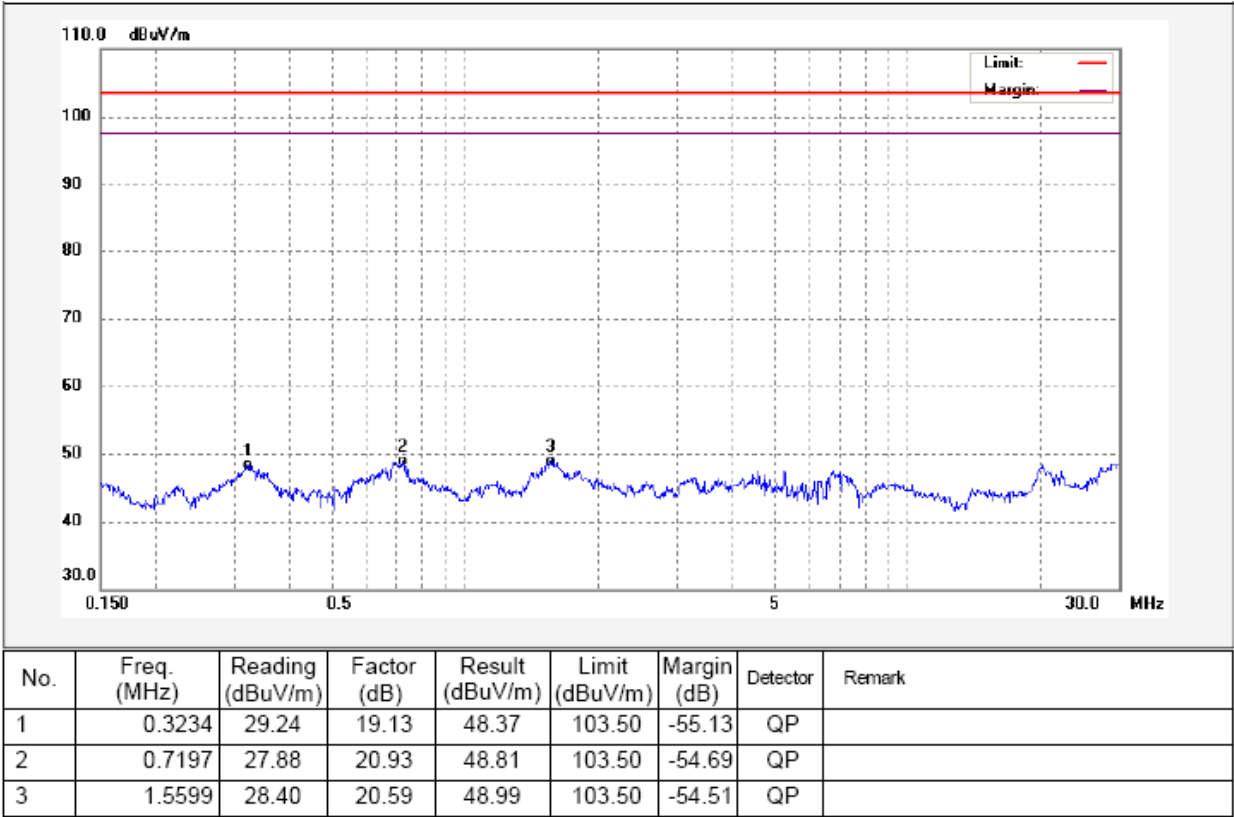
Model: TIH-F1500HU

150KHz – 30MHz

Antenna Polarization: Vertical

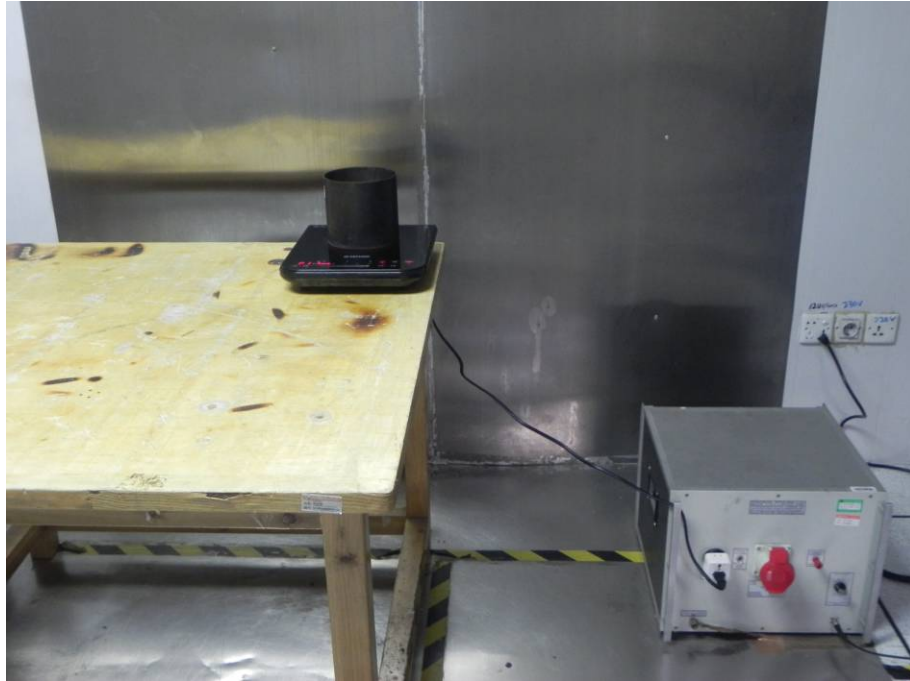


Antenna Polarization: Horizontal

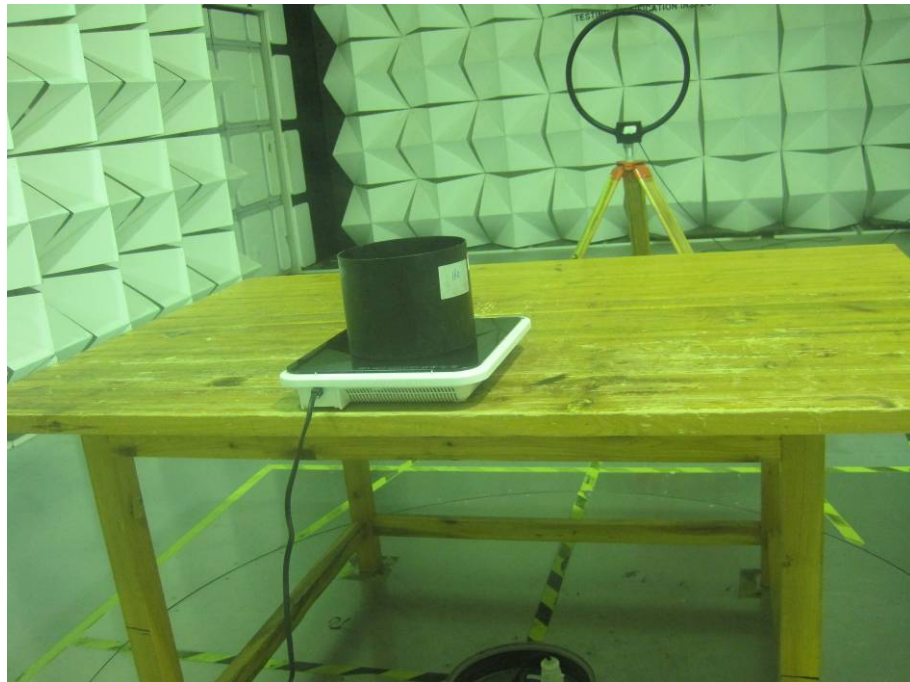


6 Photographs – Test Setup

6.1 Photograph –Conduction Emission Test Setup



6.2 Photograph –Field Strength Test Setup





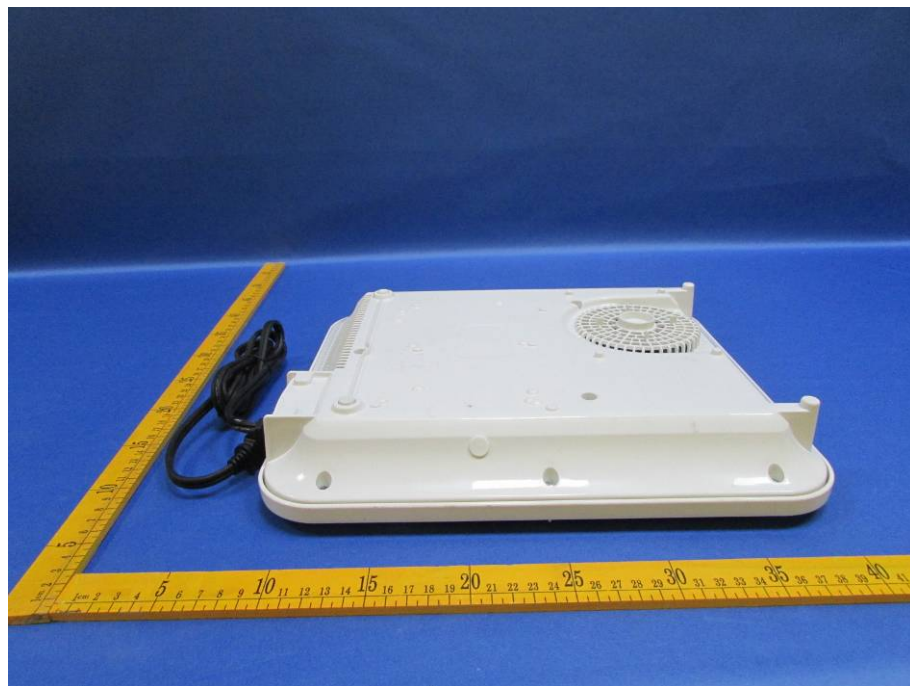




Model: TIH-F1500HU

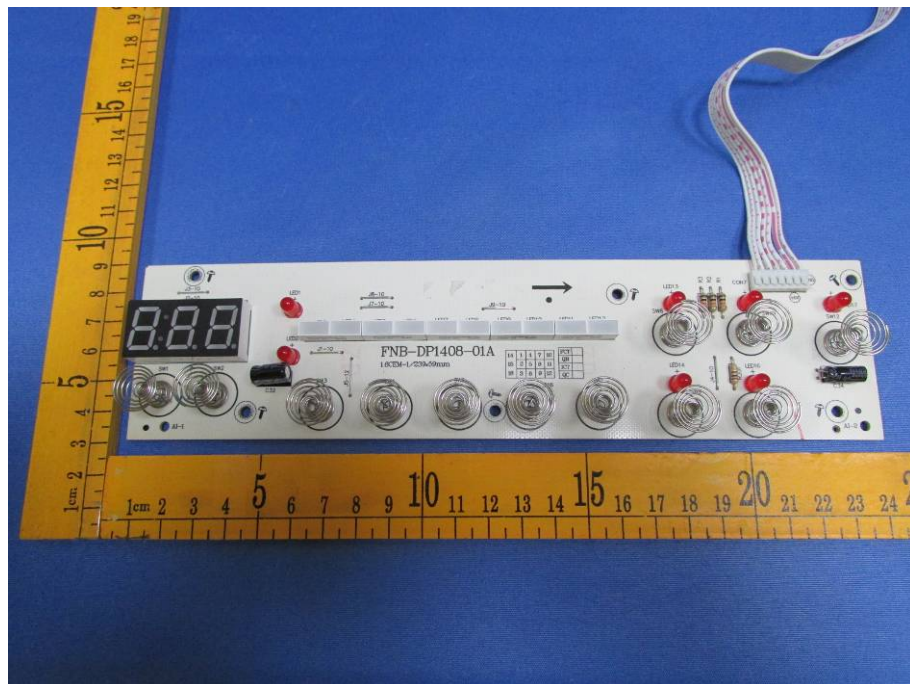


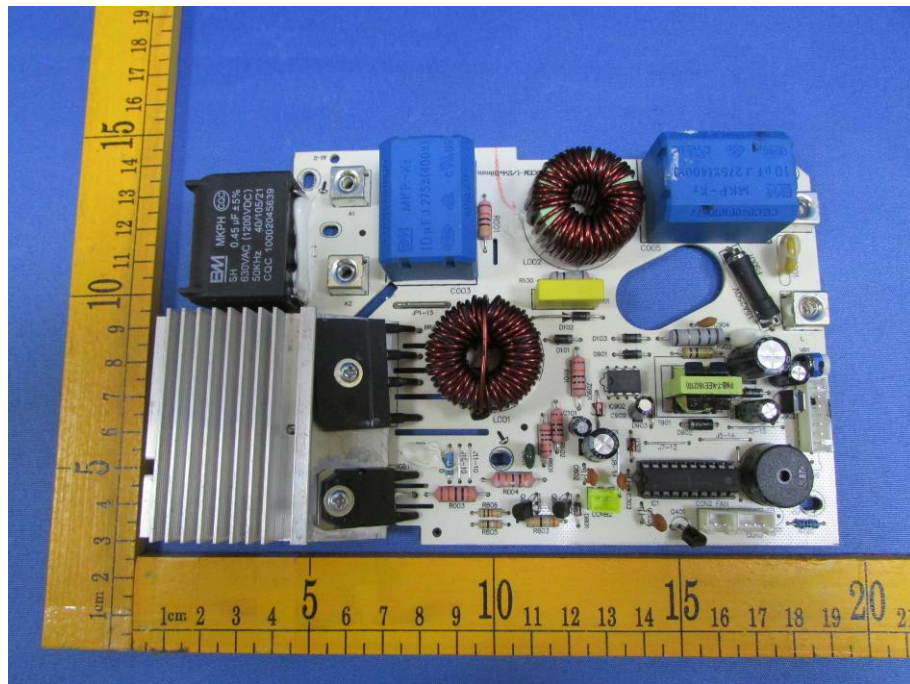
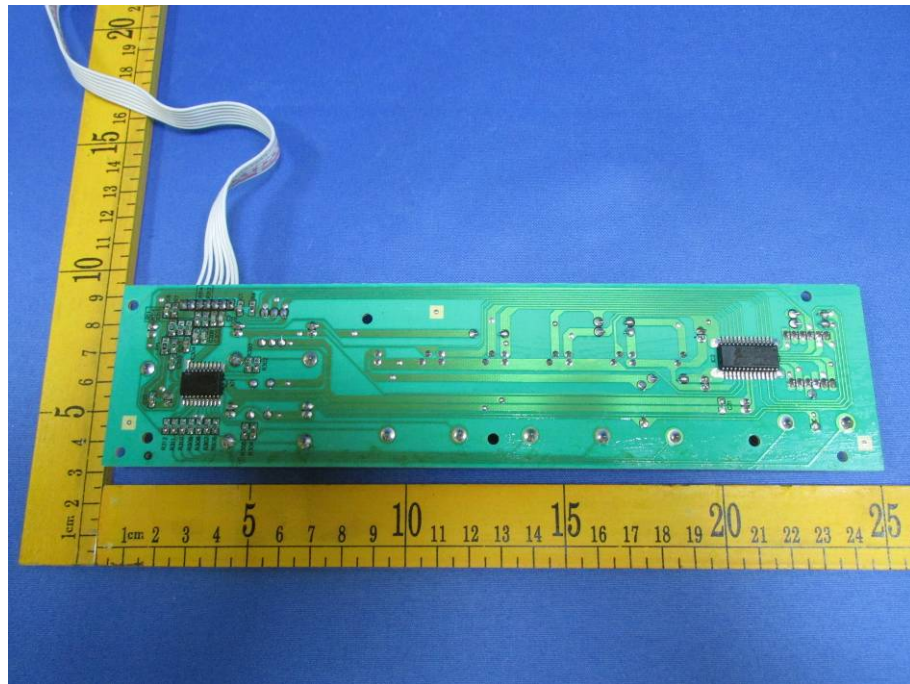


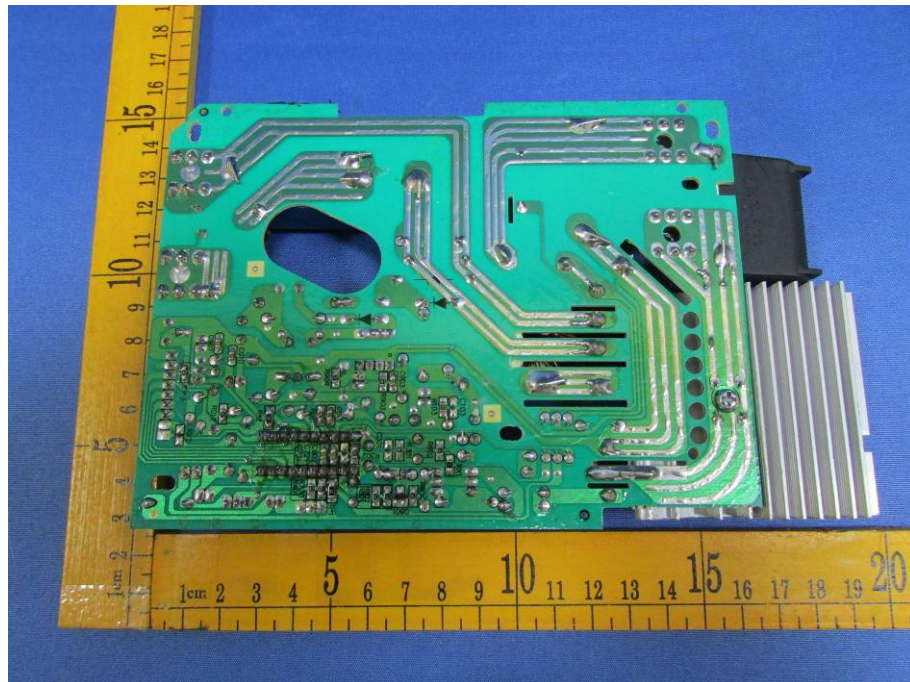


7.2 EUT – Open View

Model: TIH-F1500SU

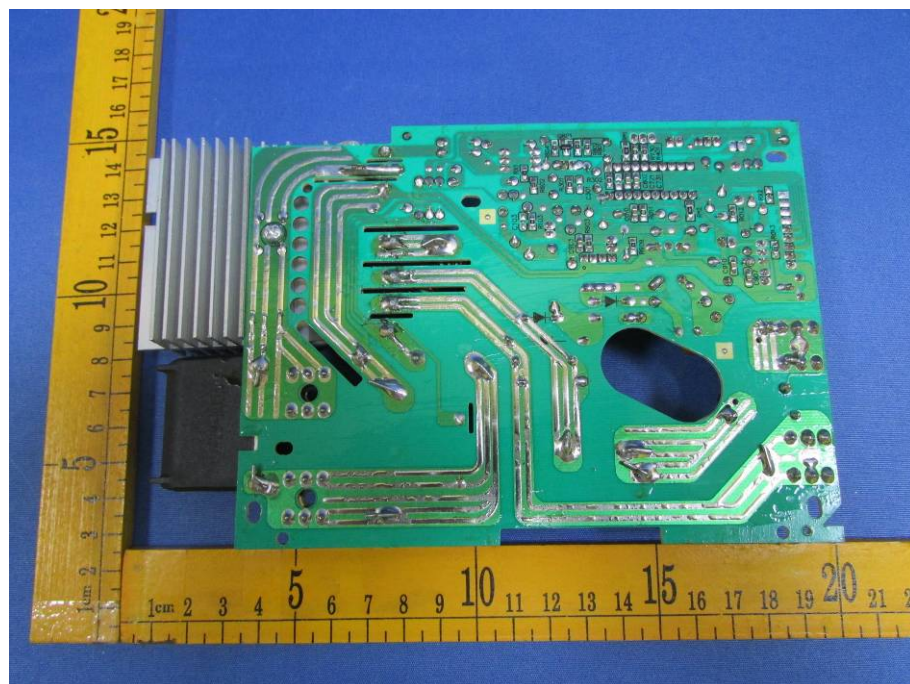
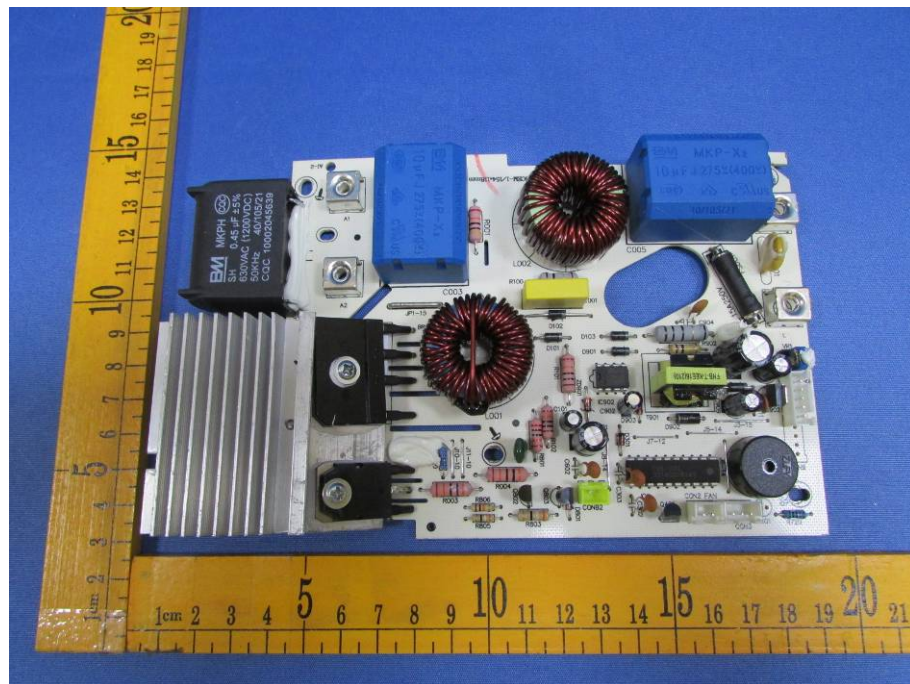


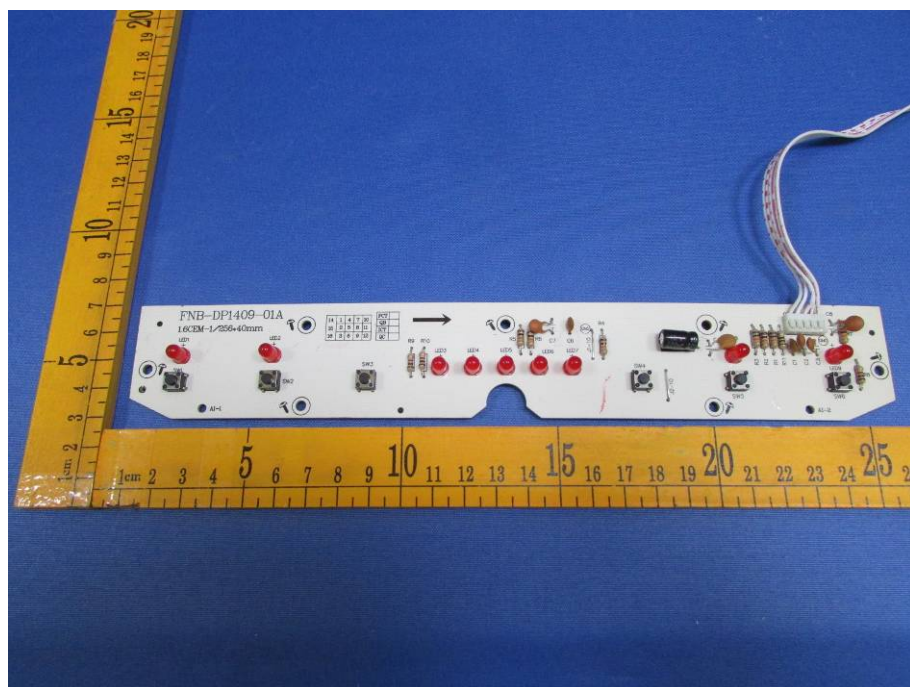
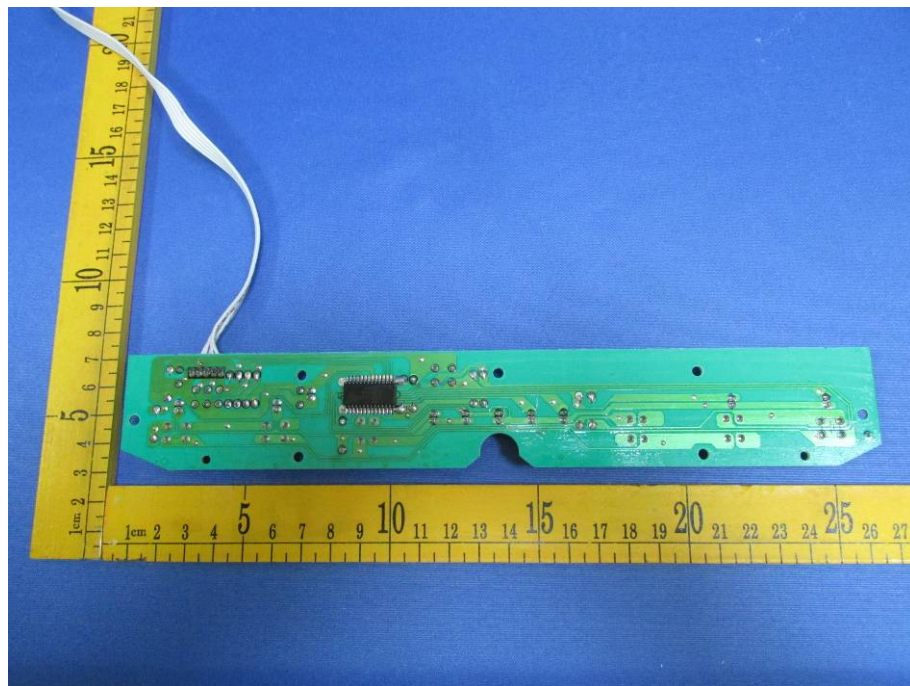




Model: TIH-F1500HU







=====End of Report=====