



TEST REPORT

Application No.: SHEM2105004058HS
Applicant:
Address of Applicant:

Manufacturer:
Address of Manufacturer:

Factory:
Address of Factory:

Equipment Under Test (EUT):

EUT Name: Air Fryer
Model No.: Refer to page 2
Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Standards: EN 55014-1:2017, EN 55014-2:2015
EN 61000-3-2:2014, EN 61000-3-3:2013
CISPR 14-1:2016, CISPR 14-2:2015
IEC 61000-3-2:2018, IEC 61000-3-3:2013+AMD1:2017

Date of Receipt: 2019-11-28
Date of Test: 2019-12-03
Date of Issue: 2021-05-10

Test Result :	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Parlan Zhan

Parlan Zhan
E&E Section Manager



The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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Model No.:

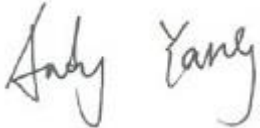

GLA-506, GLA-601, GLA-603, GLA-607, GLA-608, GL-608A, GLA-608B, GLA-620, GLA-605, GLA-606, GLA-609, GLA609A, GLA-610, GLA-611, GLA-612, GLA-617, GLA-618, GLA-711, GLA-712, GLA-611-D, GLA-612-D, GLA-711-D, GLA-712-D, GLA-301, GLA-302, GLA-305, GLA-306, GLA-307, GLA-308, GLA-308A, GLA-309, GLA-310, GLA-615, GLA-615A, GLA-616, GLA-616A, GLA-715, GLA-716, GLA-717, GLA-718, GLA-719, GLA-720, GLA-815, GLA-816, GLA-816A, GLA-501, GLA-502, GLA-505, GLA-901, GLA-902, GLA-905, GLA-906, GLA-502A, GLA-331, GLA-332, GLA-531, GLA-532, GLA-1007, GLA-201, GLA-201A, GLA-202, GLA-203, GLA-203A, GLA-205, GLA-206, GLA-207

Add Model No.:

GLA-3011, GLA-3011A, GLA-3011B, GLA-3012, GLA-3012A, GLA-608C



Revision Record			
Version	Description	Date	Remark
00	Add models	2021-05-10	Based on SHEM201101009101 (Original Report No.:SHEM191101924301)

Authorized for issue by:			
			
		<hr/> Andy Yang / Project Engineer	
			
		<hr/> Bruce Tang / Reviewer	

2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	EN 55014-1:2017	CISPR 16-2-1	N/A	Pass
Discontinuous Disturbance (150kHz-30MHz)	EN 55014-1:2017	EN 55014-1:2017	N/A	Pass
Disturbance Power	EN 55014-1:2017	CISPR 16-2-2	N/A	Pass
Harmonic Current Emission	EN 61000-3-2:2014	EN 61000-3-2:2014	Class A	Pass
Voltage Fluctuations and Flicker	EN 61000-3-3:2013	EN 61000-3-3:2013	Clause 5 of EN 61000-3-3	Pass
Immunity Part				
Item	Standard	Method	Requirement	Result
Electrostatic Discharge	EN 55014-2:2015	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass
Electrical Fast Transients/Burst at Power Port	EN 55014-2:2015	EN 61000-4-4:2012	1kV 5/50ns Tr/Td 5kHz Repetition Frequency	Pass
Surge at Power Port	EN 55014-2:2015	EN 61000-4-5:2014	1.2/50µs Tr/Td 1kV Line to Line 2kV Line to Ground	Pass
Voltage Dips and Interruptions	EN 55014-2:2015	EN 61000-4-11:2004	For 50Hz: 0 % UT for 0.5per 40 % UT for 10per 70 % UT for 25per For 60Hz: 0 % UT for 0.5per 40 % UT for 12per 70 % UT for 30per	Pass
Conducted Immunity at Power Port (150kHz-230MHz)	EN 55014-2:2015	EN 61000-4-6:2014	3Vrms (emf),80%,1kHz Amp. Mod.	Pass

N/A: Not applicable

Remark:

EN 55014-1:2017 is identical with CISPR 14-1:2016

EN 55014-2:2015 is identical with CISPR 14-2:2015

EN 61000-3-2:2014 is identical with IEC 61000-3-2:2018

EN 61000-3-3:2013 is identical with IEC 61000-3-3:2013+AMD1:2017



Note1: Declaration of EUT Family Grouping:

There are series models mentioned in this report and they are the similar in electrical and electronic characters. Only the model GLA-506 was tested since their differences are model number and appearance.

Note2: We add models GLA-3011, GLA-3011A, GLA-3011B, GLA-3012, GLA-3012A, GLA-608C in this report. The new models mentioned in this report are the same as the original models, in Electronic or Electrical characters. Which were already EMC tested in the report SHEM201101009101. So the new models in this report are deemed to fulfil the EMC requirements without testing.

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4 General Information

4.1 Details of E.U.T.

Power supply: AC 220-240V, 50/60Hz 1800W
 Test voltage: AC 230V 50Hz
 Cable: AC cable 1m

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conducted Emission at mains port using AMN	2.6dB (9kHz to 150kHz)
		2.4dB (150kHz to 30MHz)
2	Conducted Emission at mains port using VP	1.8 dB (9kHz to 30MHz)
3	Conducted Emission at telecommunication port using AAN	4.2 dB (150kHz to 30MHz)
4	Radiated Power	3.2dB
5	Radiated Emission	4.5dB (30MHz-1GHz)
		5.1dB (1GHz-6GHz)
		5.4dB (6GHz-18GHz)
6	Radiated Disturbance (disturbance current in a LLAS)	2.4dB (9kHz to 30MHz)

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.4 Test Location

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

Tests were sub-contracted.

Ningbo Joysun Product Testing Service Co., Ltd.
No. 66, Qingyi Road, Hi-Tech Distric, Ningbo, Zhejiang, China

4.5 Test Facility

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

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (LAB CODE: 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

- **FCC (Designation Number: CN5033)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 Monitoring of EUT for All Immunity Test

Visual: Working Status of the EUT

5 Equipment List

CE

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
EMI receiver	ESCI	100708	R&S	2020/2/23
Artificial mains network	ENV216	101022	R&S	2020/2/23
Artificial mains network	ESH2-Z5	100198	R&S	2020/2/23
Pulse Limiter	ESH3-Z2	100847	R&S	2020/2/23
Control Room2	(11.2*5.2*3.3)	N/A	Albatross	2020/3/2

Click

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Digital Discontinuous Analyzer	DDA55	14041744114	AFJ	2019/12/9
Artificial mains network	LT32C/10	32031738270	AFJ	2019/12/9

DP

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
EMI receiver	ESCI	101213	R&S	2020/2/23
orbit	KMS 6000	N/A	R&S	2020/2/23
Absorbing clamp	MSD-21	100309	R&S	2020/2/23
Shielding Room1	(10*6.1*3.3)	N/A	Albatross	2020/3/2

Harmonic & Voltage Fluctuations and Flicker

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Harmonic and flicker test system	DPA500	V0746103124	EM TEST	2020/2/23
AC Power Source	500lix-400-413	58311	CI	2020/2/23
Shielding Room1	(10*6.1*3.3)	N/A	Albatross	2020/3/2
Harmonic and flicker test system(3phase)	DPA503	V0828104013	EM TEST	2020/2/23
AC Power Source	61705	617050000124	Chroma	2020/2/23
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2020/3/2

ESD

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
ESD gun	dito	DITO B07040	EM TEST	2020/2/23

EFT

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Surge, Burst and Dip test system	UCS500-M6B	V0746103125	EM TEST	2020/2/23
booster	MV2616	V0746103126	EM TEST	2020/2/23
Coupling clamp	HFK	0108-27	EM TEST	2020/2/23
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2020/3/2

Surge

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Surge, Burst and Dip test system	UCS500-M6B	V0746103125	EM TEST	2020/2/23
booster	MV2616	V0746103126	EM TEST	2020/2/23
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2020/3/2

CI

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Attenuator	75-A-FFN-06	141733	BIRD	2020/2/23
CDN for Two/There Supply Main Line	FCC-801-M2/M3-16A	7079	FISCHER	2020/2/23
CDN for Two/There Supply Main Line	CDN-M2+3	A2210412/2016	Frankonia	2020/2/23
Coupling/Decoupling Network	DC2600M2	327429	AR	2020/2/23
Decoupling network	F-203I-23MM-DCN	8225	FISCHER	2020/2/23
EM injection clamp	F-203I-23MM	8562	FISCHER	2020/2/23
POWER AMPLIFIER	75A250A	327549	AR	2020/2/23
Integrated measurement system	IMS	100012	R&S	2020/2/23
Smart sensor technology	NRP-Z91	100520	R&S	2020/2/23
Control Room1	(11.2*5.2*3.3)	N/A	Albatross	2020/3/2
Conduct Immunity Test System	CIT-10-75	126B1413/2016	Frankonia	2020/2/23
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2020/3/2

Dips

Equipment	Model No	Inventory No	Manufacturer	Cal Due Date
Surge, Burst and Dip test system	UCS500-M6B	V0746103125	EM TEST	2020/2/23
booster	MV2616	V0746103126	EM TEST	2020/2/23
Shielding Room2	(10*4.9*3.0)	N/A	Albatross	2020/3/2

6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement:	EN 55014-1:2017
Test Method:	CISPR 16-2-1
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 59dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

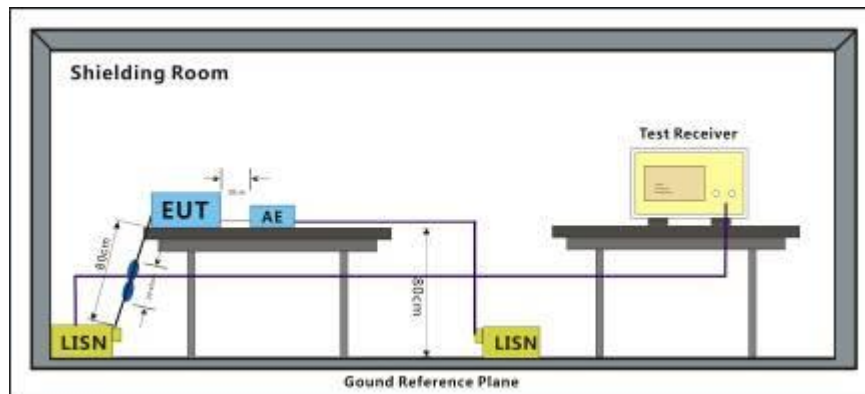
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar

Test mode: a:Heating mode: Keep EUT heating continuously.

6.1.2 Test Setup Diagram

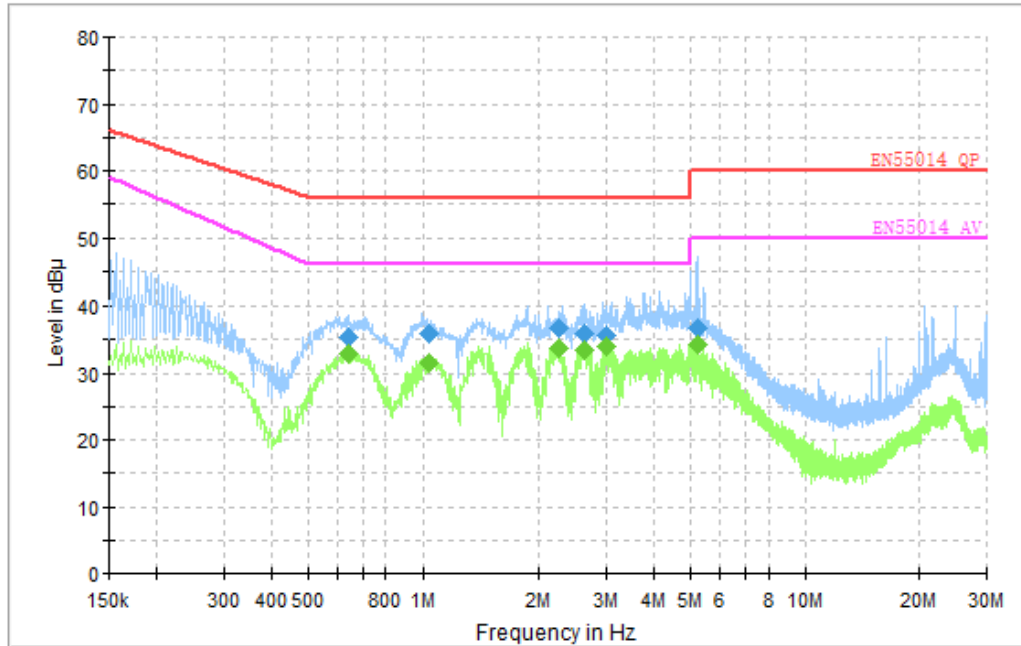


6.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes: Emission Level=Read Level + LISN Factor + Cable Loss

Mode:a; Line:Live Line



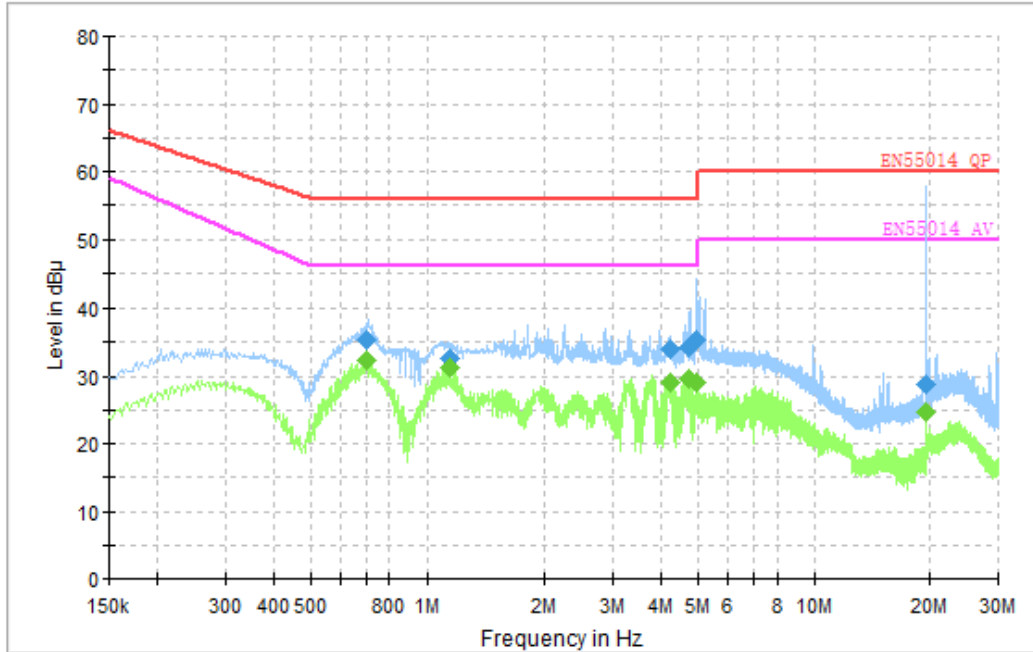
Final Result 1

Frequency (MHz)	QuasiPeak (dB µV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)	Comment
0.641000	35.4	1000.0	9.000	Off	L1	10.8	20.6	56.0	
1.041000	35.9	1000.0	9.000	Off	L1	10.8	20.1	56.0	
2.246000	36.6	1000.0	9.000	Off	L1	10.8	19.4	56.0	
2.630000	36.0	1000.0	9.000	Off	L1	10.8	20.0	56.0	
3.017000	35.5	1000.0	9.000	Off	L1	10.8	20.5	56.0	
5.198000	36.6	1000.0	9.000	Off	L1	10.8	23.4	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB µV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)	Comment
0.641000	32.9	1000.0	9.000	Off	L1	10.8	13.1	46.0	
1.041000	31.4	1000.0	9.000	Off	L1	10.8	14.6	46.0	
2.246000	33.7	1000.0	9.000	Off	L1	10.8	12.3	46.0	
2.630000	33.3	1000.0	9.000	Off	L1	10.8	12.7	46.0	
3.017000	34.1	1000.0	9.000	Off	L1	10.8	11.9	46.0	
5.198000	34.2	1000.0	9.000	Off	L1	10.9	15.8	50.0	

Mode:a; Line:Neutral Line



Final Result 1

Frequency (MHz)	QuasiPeak (dB μV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)	Comment
0.698000	35.4	1000.0	9.000	Off	N	10.7	20.6	56.0	
1.152000	32.5	1000.0	9.000	Off	N	10.7	23.5	56.0	
4.234000	33.9	1000.0	9.000	Off	N	10.8	22.1	56.0	
4.746000	34.4	1000.0	9.000	Off	N	10.8	21.6	56.0	
4.949000	35.3	1000.0	9.000	Off	N	10.8	20.7	56.0	
19.468000	28.6	1000.0	9.000	Off	N	11.1	31.4	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB μV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)	Comment
0.698000	32.4	1000.0	9.000	Off	N	10.7	13.6	46.0	
1.152000	31.3	1000.0	9.000	Off	N	10.7	14.7	46.0	
4.234000	29.1	1000.0	9.000	Off	N	10.8	16.9	46.0	
4.746000	29.5	1000.0	9.000	Off	N	10.8	16.5	46.0	
4.949000	29.0	1000.0	9.000	Off	N	10.8	17.0	46.0	
19.468000	24.7	1000.0	9.000	Off	N	11.1	25.3	50.0	

6.2 Discontinuous Disturbance (150kHz-30MHz)

Test Requirement:	EN 55014-1:2017		
Test Method:	EN 55014-1:2017		
Frequency Range:	150kHz to 30MHz		
Limit:			
0.15MHz	Limit=66dB(μV)+Lq Lq= 20 lg(30/N) dB	Lq= 44 dB 0.2≤N<30	N < 0.2
0.5MHz	Limit=56dB(μV)+Lq Lq= 20 lg(30/N) dB	Lq= 44 dB 0.2≤N<30	N < 0.2
1.4MHz	Limit=56dB(μV)+Lq Lq=20 lg(30/N) dB	Lq= 44 dB 0.2≤N<30	N < 0.2
30MHz	Limit=60dB(μV)+Lq Lq= 20 lg(30/N) dB	Lq= 44 dB 0.2≤N<30	N < 0.2

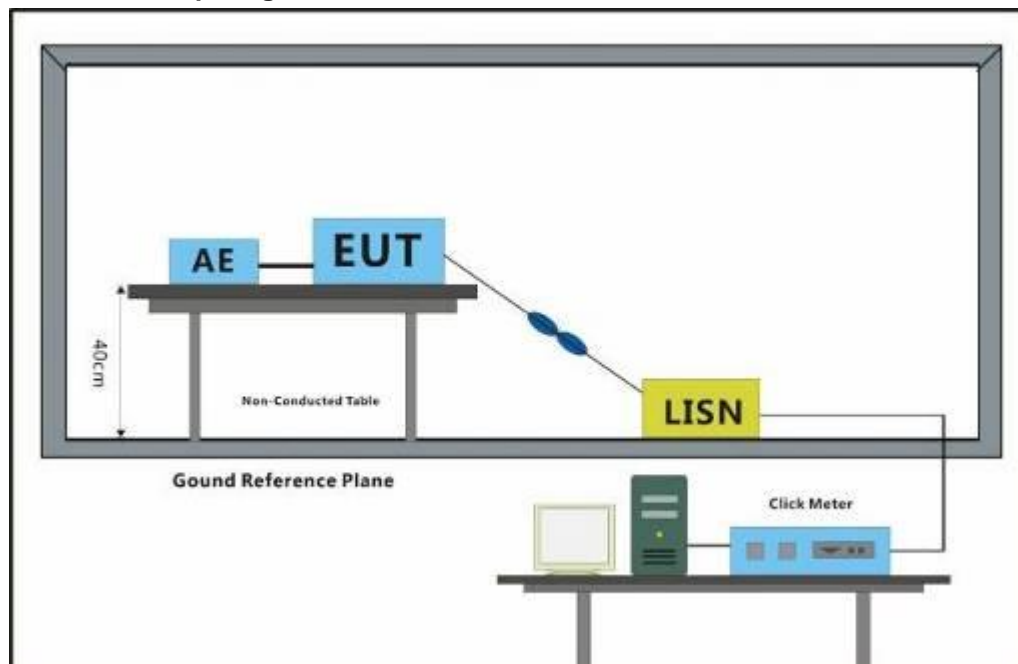
Lq is click limit, N is click rates

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.2.1 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar
 Test mode: a:Heating mode: Keep EUT heating continuously.

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

Mode a

Run A Observation time T1= 47mins50secs				
Switching Operation : -		Factor : -		
Frequency (MHz)	150kHz	500kHz	1.4MHz	30MHz
Limit value (L) (dBµV)	66	56	56	60
Short clicks	40	11	13	0
long clicks	0	0	0	0
Total (short + long) n	40	11	13	0
Click Rate :	0.84	0.23	0.23	0.23
<input checked="" type="checkbox"/> EUT has a click rate N of not more than five and which has instantaneous switching(the duration of each click is less than 10ms) shall be deemed to comply the limits, independent of the amplitude of the clicks.				
Run B Observation time T2= -				
Frequency (MHz)	150kHz	500kHz	1.4MHz	30MHz
Limit value (L) (dBµV)				
Short clicks				
long clicks				
Total (short + long) n				
Limit=Run A/4				

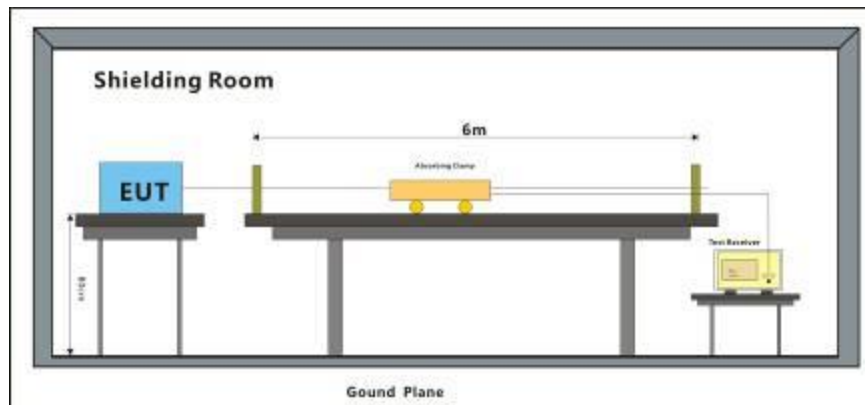
6.3 Disturbance Power

Test Requirement: EN 55014-1:2017
 Test Method: CISPR 16-2-2
 Frequency Range: 30MHz to 300MHz
 Limit:
 30MHz- 300MHz 45dB(pw)-55dB(pw) quasi-peak, 35dB(pw)-45dB(pw) average
 Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 300MHz

6.3.1 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1001 mbar
 Test mode: a:Heating mode: Keep EUT heating continuously.

6.3.2 Test Setup Diagram

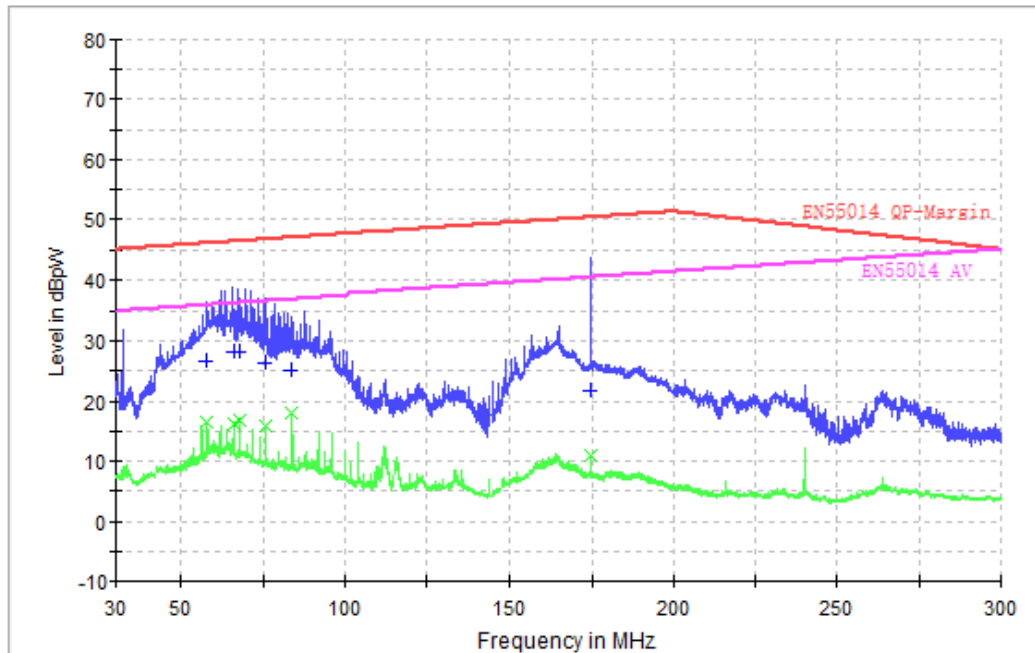


6.3.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes: Emission Level=Read Level + Aux Factor + Cable Loss

Mode:a



Limit and Margin-QP

Frequency (MHz)	QuasiPeak (dBpW)	Meas. Time (ms)	Bandwidth (kHz)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBpW)	Comment
57.960000	26.8	1000.0	120.000	6.6	19.2	46.0	
65.940000	28.1	1000.0	120.000	7.1	18.2	46.3	
67.920000	28.1	1000.0	120.000	7.3	18.3	46.4	
75.900000	26.4	1000.0	120.000	7.4	20.3	46.7	
83.940000	25.1	1000.0	120.000	7.0	21.9	47.0	
174.540000	21.8	1000.0	120.000	5.3	28.6	50.4	

Limit and Margin-AV

Frequency (MHz)	Average (dBpW)	Meas. Time (ms)	Bandwidth (kHz)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBpW)	Comment
57.960000	16.6	1000.0	120.000	6.6	19.4	36.0	
65.940000	16.3	1000.0	120.000	7.1	20.1	36.3	
67.920000	16.9	1000.0	120.000	7.3	19.5	36.4	
75.900000	16.0	1000.0	120.000	7.4	20.7	36.7	
83.940000	18.1	1000.0	120.000	7.0	18.9	37.0	
174.540000	11.0	1000.0	120.000	5.3	29.4	40.4	

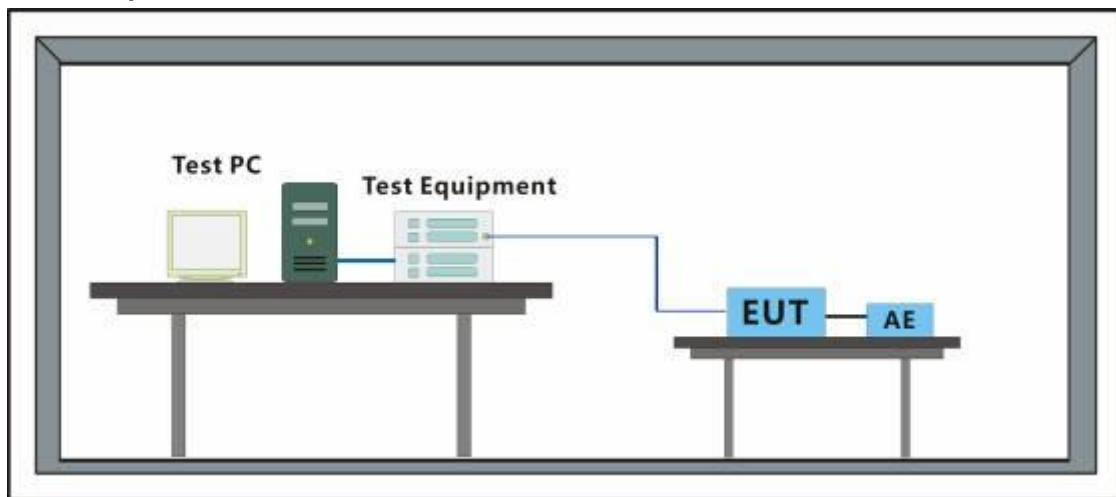
6.4 Harmonic Current Emission

Test Requirement: EN 61000-3-2:2014
Test Method: EN 61000-3-2:2014
Frequency Range: 100Hz to 2kHz

6.4.1 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar
Test mode: a:Heating mode: Keep EUT heating continuously.

6.4.2 Test Setup



6.4.3 Measurement Data

Mode:a

Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	3.357			
2	6.710E-3	0.621	1.08	PASS
3	27.320E-3	1.188	2.30	PASS
4	7.717E-3	1.795	430.00E-3	PASS
5	8.487E-3	0.744	1.14	PASS
6	7.040E-3	2.347	300.00E-3	PASS
7	5.295E-3	0.688	770.00E-3	PASS
8	5.978E-3	2.599	230.00E-3	PASS
9	5.724E-3	1.431	400.00E-3	PASS
10	5.619E-3	3.054	184.00E-3	PASS
11	4.993E-3	1.513	330.00E-3	PASS
12	5.688E-3	3.710	153.33E-3	PASS
13	4.802E-3	2.287	210.00E-3	PASS
14	4.070E-3	3.097	131.43E-3	PASS
15	4.131E-3	2.754	150.00E-3	PASS
16	3.953E-3	3.437	115.00E-3	PASS
17	3.495E-3	2.641	132.35E-3	PASS
18	3.486E-3	3.410	102.22E-3	PASS
19	3.050E-3	2.576	118.42E-3	PASS
20	2.625E-3	2.853	92.00E-3	PASS
21	2.810E-3	1.748	160.71E-3	PASS
22	2.045E-3	2.445	83.64E-3	PASS
23	1.862E-3	1.269	146.74E-3	PASS
24	1.955E-3	2.550	76.66E-3	PASS
25	1.988E-3	1.473	135.00E-3	PASS
26	1.782E-3	2.518	70.77E-3	PASS
27	1.473E-3	1.178	124.99E-3	PASS
28	1.396E-3	2.124	65.71E-3	PASS
29	1.321E-3	1.135	116.39E-3	PASS
30	1.187E-3	1.935	61.33E-3	PASS
31	1.416E-3	1.301	108.87E-3	PASS
32	1.319E-3	2.294	57.50E-3	PASS
33	1.170E-3	1.144	102.27E-3	PASS
34	1.185E-3	2.190	54.12E-3	PASS
35	1.435E-3	1.488	96.44E-3	PASS
36	1.468E-3	2.872	51.11E-3	PASS
37	1.085E-3	1.190	91.21E-3	PASS
38	1.128E-3	2.330	48.42E-3	PASS
39	1.188E-3	1.373	86.53E-3	PASS
40	1.189E-3	2.585	46.00E-3	PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	7.178			
2	62.694E-3	3.870	1.62	PASS
3	81.119E-3	2.351	3.45	PASS
4	48.914E-3	7.584	645.00E-3	PASS
5	38.315E-3	2.241	1.71	PASS
6	32.599E-3	7.244	450.00E-3	PASS
7	27.375E-3	2.380	1.15	PASS
8	25.215E-3	7.309	345.00E-3	PASS
9	22.264E-3	3.711	600.00E-3	PASS
10	20.398E-3	7.391	276.00E-3	PASS
11	18.446E-3	3.726	495.00E-3	PASS
12	17.301E-3	7.523	229.99E-3	PASS
13	15.810E-3	5.019	315.00E-3	PASS
14	15.716E-3	7.972	197.15E-3	PASS
15	13.772E-3	6.121	225.00E-3	PASS
16	12.986E-3	7.528	172.50E-3	PASS
17	12.100E-3	6.095	198.52E-3	PASS
18	11.919E-3	7.773	153.33E-3	PASS
19	10.749E-3	6.051	177.63E-3	PASS
20	10.717E-3	7.766	138.00E-3	PASS
21	9.572E-3	5.956	160.71E-3	PASS
22	9.367E-3	7.466	125.46E-3	PASS
23	8.388E-3	5.716	146.74E-3	PASS
24	8.402E-3	7.307	114.99E-3	PASS
25	7.637E-3	5.657	135.00E-3	PASS
26	7.428E-3	6.997	106.16E-3	PASS
27	7.494E-3	5.996	124.99E-3	PASS
28	7.234E-3	7.339	98.57E-3	PASS
29	6.903E-3	5.931	116.39E-3	PASS
30	6.943E-3	7.547	92.00E-3	PASS
31	6.686E-3	6.141	108.87E-3	PASS
32	6.351E-3	7.363	86.25E-3	PASS
33	6.183E-3	6.046	102.27E-3	PASS
34	6.774E-3	8.344	81.18E-3	PASS
35	6.664E-3	6.910	96.44E-3	PASS
36	6.554E-3	8.549	76.66E-3	PASS
37	5.682E-3	6.230	91.21E-3	PASS
38	5.438E-3	7.487	72.63E-3	PASS
39	5.505E-3	6.362	86.53E-3	PASS
40	5.548E-3	8.041	69.00E-3	PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Maximum harmonic voltage results

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	230.74	100.323		
2	24.38E-3	0.011	0.2	PASS
3	74.27E-3	0.032	0.9	PASS
4	18.69E-3	0.008	0.2	PASS
5	14.71E-3	0.006	0.4	PASS
6	7.55E-3	0.003	0.2	PASS
7	11.38E-3	0.005	0.3	PASS
8	8.84E-3	0.004	0.2	PASS
9	15.95E-3	0.007	0.2	PASS
10	8.81E-3	0.004	0.2	PASS
11	16.68E-3	0.007	0.1	PASS
12	10.30E-3	0.004	0.1	PASS
13	12.20E-3	0.005	0.1	PASS
14	7.51E-3	0.003	0.1	PASS
15	11.65E-3	0.005	0.1	PASS
16	8.76E-3	0.004	0.1	PASS
17	12.19E-3	0.005	0.1	PASS
18	10.15E-3	0.004	0.1	PASS
19	13.39E-3	0.006	0.1	PASS
20	11.09E-3	0.005	0.1	PASS
21	11.09E-3	0.005	0.1	PASS
22	8.08E-3	0.004	0.1	PASS
23	8.64E-3	0.004	0.1	PASS
24	8.58E-3	0.004	0.1	PASS
25	8.54E-3	0.004	0.1	PASS
26	7.23E-3	0.003	0.1	PASS
27	8.62E-3	0.004	0.1	PASS
28	11.10E-3	0.005	0.1	PASS
29	9.12E-3	0.004	0.1	PASS
30	11.16E-3	0.005	0.1	PASS
31	7.19E-3	0.003	0.1	PASS
32	7.93E-3	0.003	0.1	PASS
33	8.63E-3	0.004	0.1	PASS
34	8.67E-3	0.004	0.1	PASS
35	13.28E-3	0.006	0.1	PASS
36	8.67E-3	0.004	0.1	PASS
37	11.83E-3	0.005	0.1	PASS
38	10.14E-3	0.004	0.1	PASS
39	7.67E-3	0.003	0.1	PASS
40	7.29E-3	0.003	0.1	PASS

Power and THD results - DS: 1

True power P:	1.65kW	Apparent power S:	1.65kVA
Reactive power Q:	8.299var	Power factor:	1.000
THD (U):	0	THD (I):	0.005
Crest Factor (U):	1.414	Crest Factor (I):	1.419

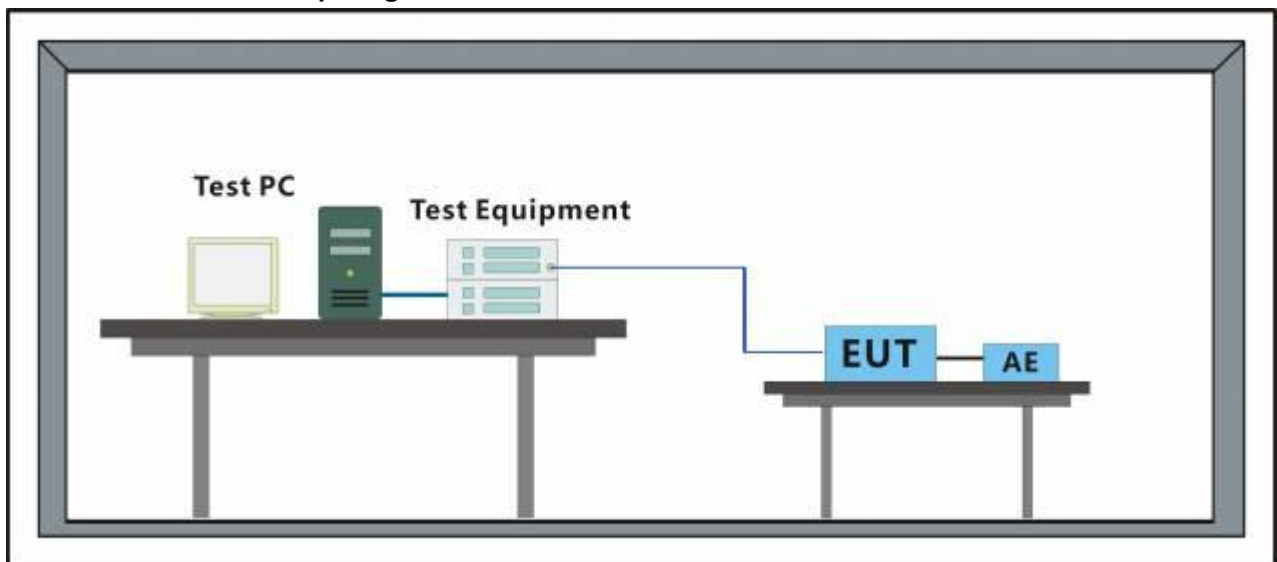
6.5 Voltage Fluctuations and Flicker

Test Requirement: EN 61000-3-3:2013
Test Method: EN 61000-3-3:2013

6.5.1 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1003 mbar
Test mode: a:Heating mode: Keep EUT heating continuously.

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

Mode:a

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.569	1.00	PASS
dc [%]	1.563	3.30	PASS
dmax [%]	1.683	7.00	PASS
Tmax [s]	0.000	0.50	PASS

7 Immunity Test Results

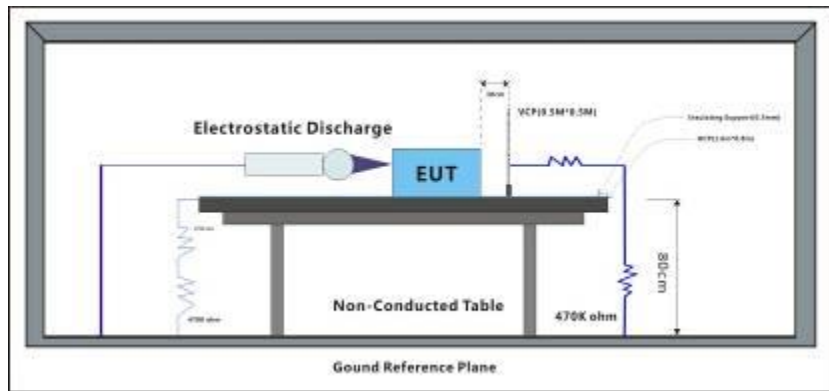
7.1 Performance Criteria Description in EN 55014-2:2015

- Criterion A** The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
- Criterion B** The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation and from what the user may reasonably expect from the apparatus if used as intended.
- Criterion C** Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

7.2 Electrostatic Discharge

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-2:2009
 Performance Criterion: B
 Discharge Impedance: 330Ω/150pF
 Number of Discharge: Minimum 10 times at each test point
 Discharge Mode: Single Discharge
 Discharge Period: 1 second minimum

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 51 % RH Atmospheric Pressure: 1002 mbar
 Test mode: a:Heating mode: Keep EUT heating continuously.

7.2.3 Test Results:

- Observations: Test Point:
1. All insulated enclosure and seams.
 2. All accessible metal parts of the enclosure.
 3. All side

Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	8	+	1	A
Air Discharge	8	-	1	A
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Horizontal Coupling	4	+	3	A
Horizontal Coupling	4	-	3	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

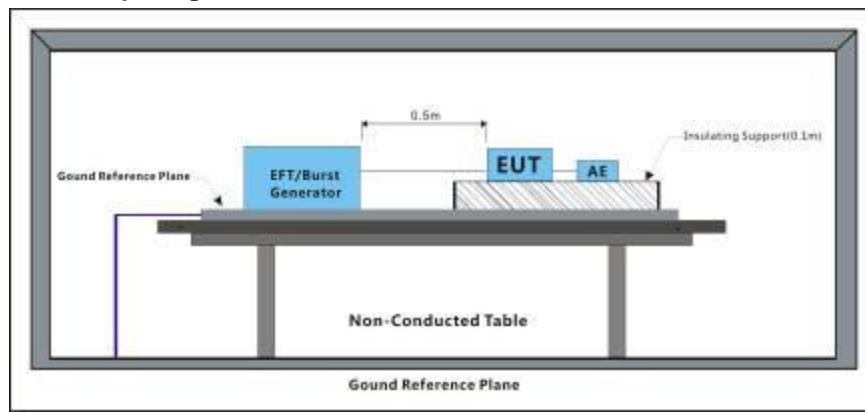
Results:

A: No degradation in the performance of the EUT was observed.

7.3 Electrical Fast Transients/Burst at Power Port

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-4:2012
 Performance Criterion: B
 Repetition Frequency: 5kHz
 Burst Period: 300ms
 Test Duration: 2 minute per level & polarity

7.3.1 Test Setup Diagram



7.3.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 51 % RH Atmospheric Pressure: 1002 mbar
 Test mode: a: Heating mode: Keep EUT heating continuously.

7.3.3 Test Results:

Test Line	Level (kV)	Polarity	CDN/Clamp	Result / Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

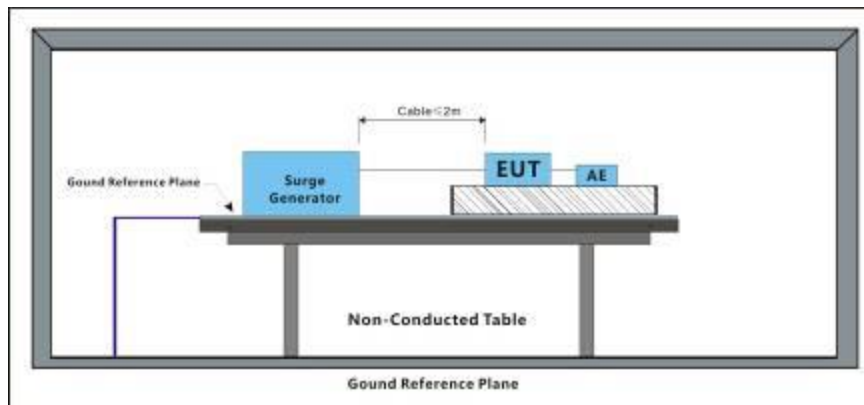
Results:

A: No degradation in the performance of the EUT was observed.

7.4 Surge at Power Port

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-5:2014
 Performance Criterion: B
 Interval: 60s between each surge
 No. of surges: 5 positive at 90°, 5 negative at 270°.

7.4.1 Test Setup Diagram



7.4.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 51 % RH Atmospheric Pressure: 1002 mbar
 Test mode: a:Heating mode: Keep EUT heating continuously.

7.4.3 Test Results:

Test Line	Level (kV)	Polarity	Phase (deg)	Result / Observations
L-N	1	+	90°	A
L-N	1	-	270°	A
L-PE	2	+	90°	A
L-PE	2	-	270°	A
N-PE	2	+	90°	A
N-PE	2	-	270°	A

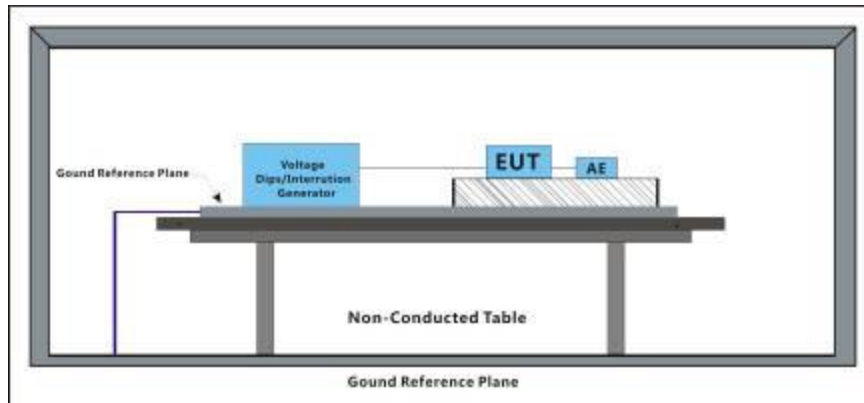
Results:

A: No degradation in the performance of the EUT was observed.

7.5 Voltage Dips and Interruptions

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-11:2004
 Performance Criterion: For 50Hz:
 0% of UT (Rated Voltage) for 0.5 Cycle: C;
 40% of UT for 10 Cycle: C;
 70% of UT for 25 Cycle: C
 For 60Hz:
 0% of UT (Rated Voltage) for 0.5 Cycle: C;
 40% of UT for 12 Cycle: C;
 70% of UT for 30 Cycle: C
 No. of Dips / Interruptions: 3 per Level
 Time between dropout 10s

7.5.1 Test Setup Diagram



7.5.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 51 % RH Atmospheric Pressure: 1002 mbar
 Test mode: a: Heating mode: Keep EUT heating continuously.

7.5.3 Test Results:

Level % UT	Phase (deg)	Duration	No. of Dips / Interruptions	Result / Observations
0	0°	0.5 Cycles	3	A
0	180°	0.5 Cycles	3	A
40	0°	10 Cycles	3	A
40	180°	10 Cycles	3	A
70	0°	25 Cycles	3	A
70	180°	25 Cycles	3	A

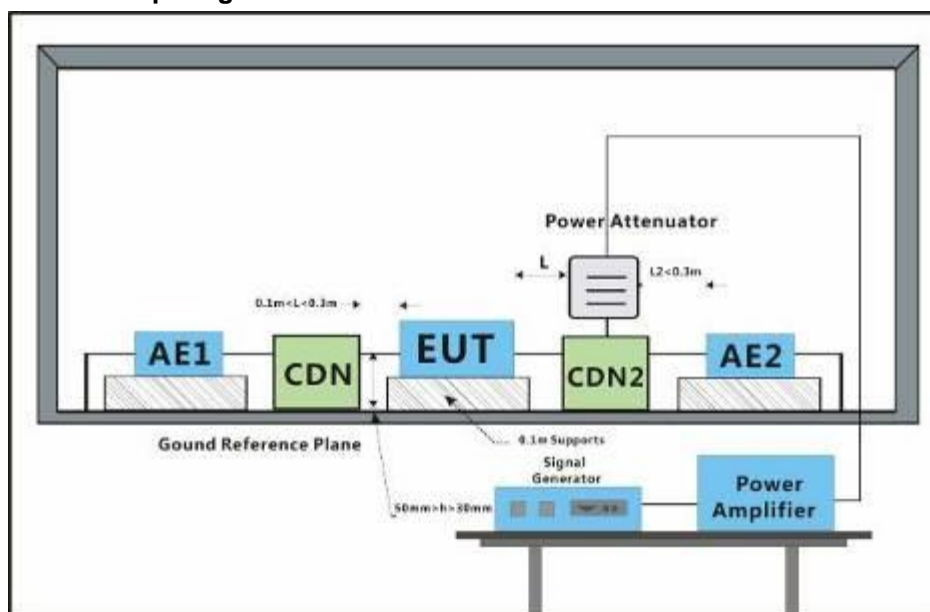
Results:

A: No degradation in the performance of the EUT was observed.

7.6 Conducted Immunity at Power Port (150kHz-230MHz)

Test Requirement: EN 55014-2:2015
 Test Method: EN 61000-4-6:2014
 Performance Criterion: A
 Frequency Range: 0.15MHz to 230MHz
 Modulation: 80%, 1kHz Amplitude Modulation
 Step Size: 1%

7.6.1 Test Setup Diagram



7.6.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode: a: Heating mode: Keep EUT heating continuously.

7.6.3 Test Results:

Cable port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
AC power port	3	CDN	2s	A

Results:

A: No degradation in the performance of the EUT was observed.

8 Photographs

8.1 Conducted Emissions at Mains Terminals (150kHz-30MHz) Test Setup



8.2 Discontinuous Disturbance (150kHz-30MHz) Test Setup



8.3 Disturbance Power Test Setup



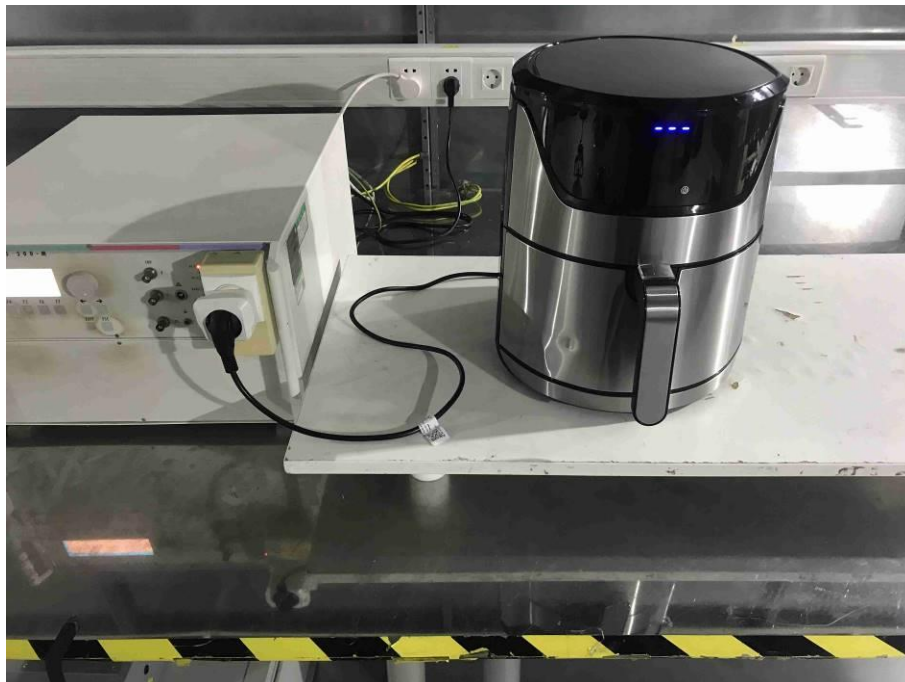
8.4 Harmonic & Voltage Fluctuations and Flicker Test Setup



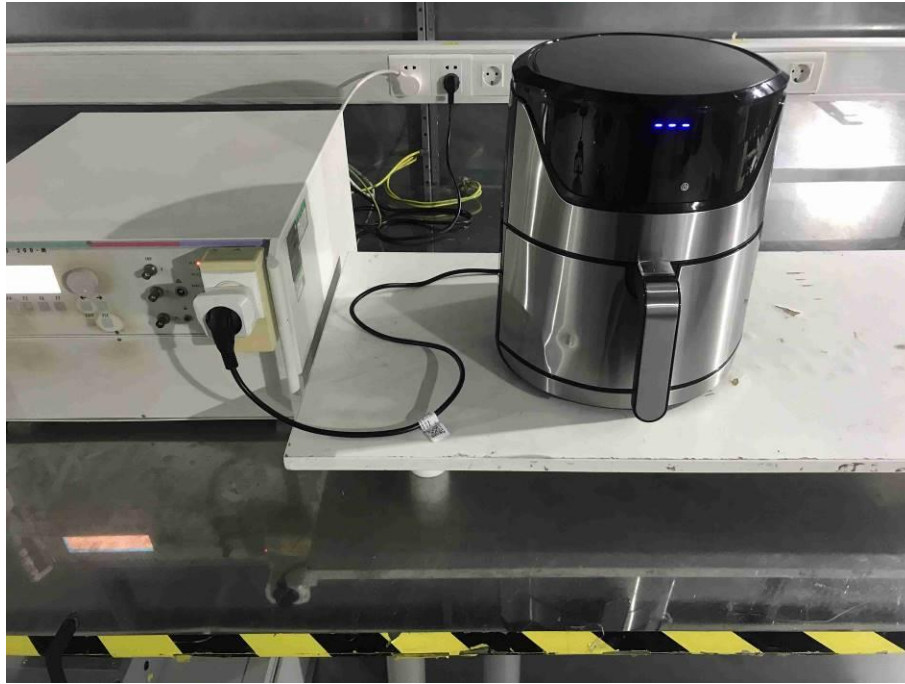
8.5 Electrostatic Discharge Test Setup



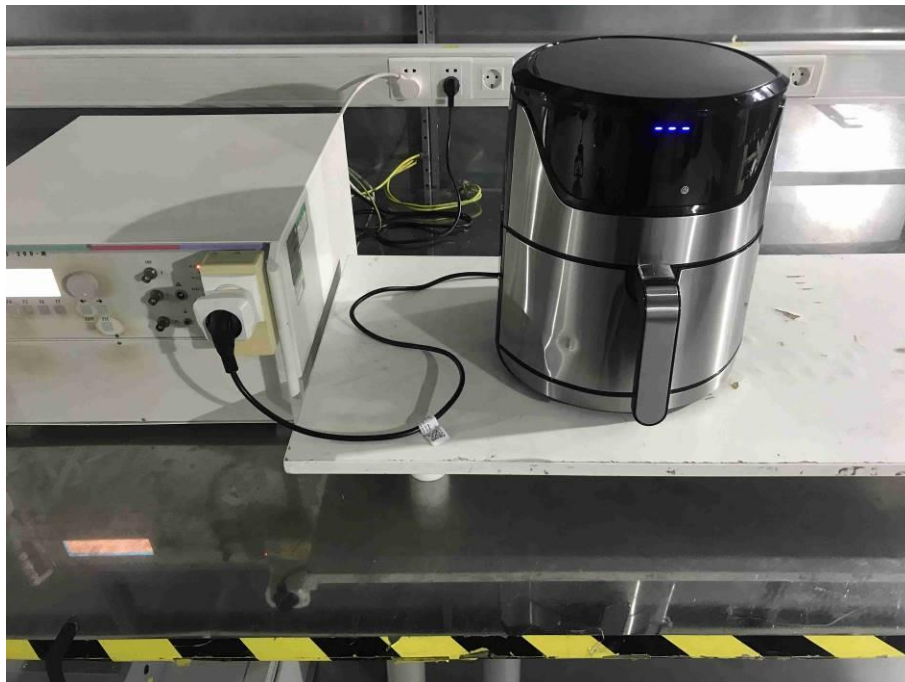
8.6 Electrical Fast Transients/Burst at Power Port Test Setup



8.7 Surge at Power Port Test Setup



8.8 Voltage Dips and Interruptions Test Setup

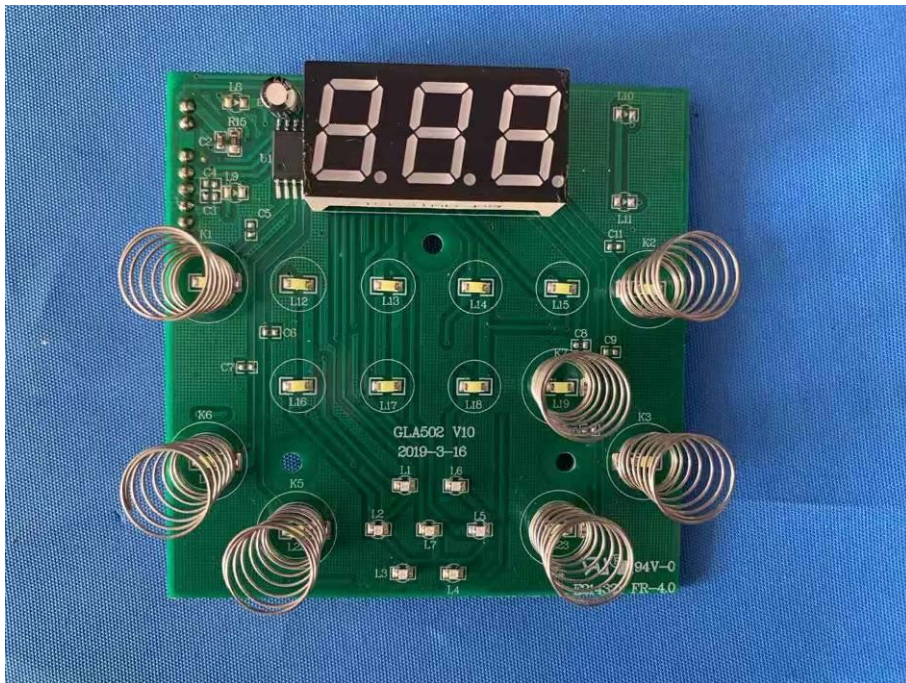


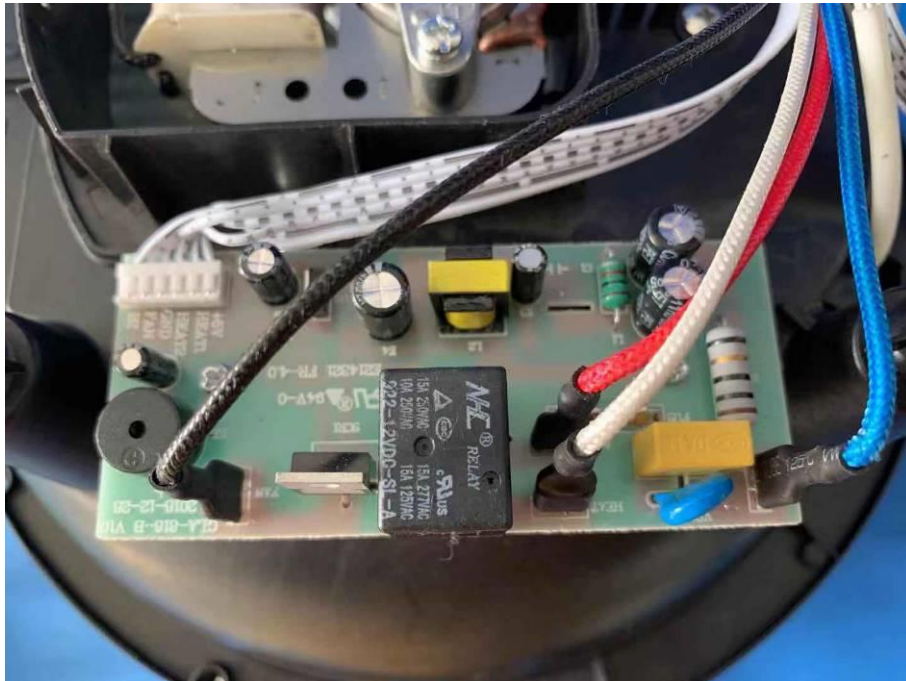
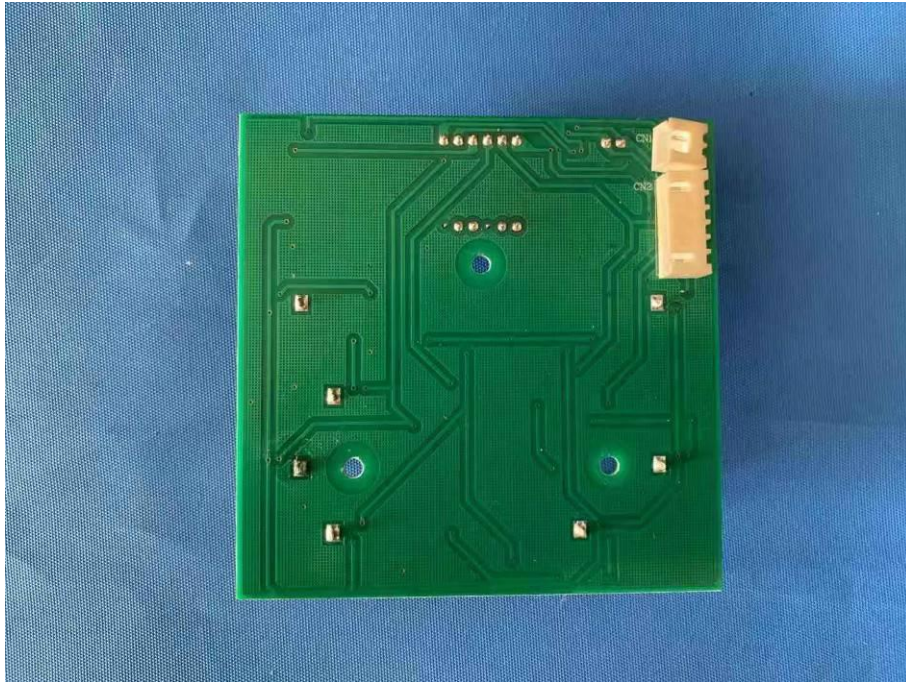
8.9 Conducted Immunity at Power Port (150kHz-230MHz) Test Setup

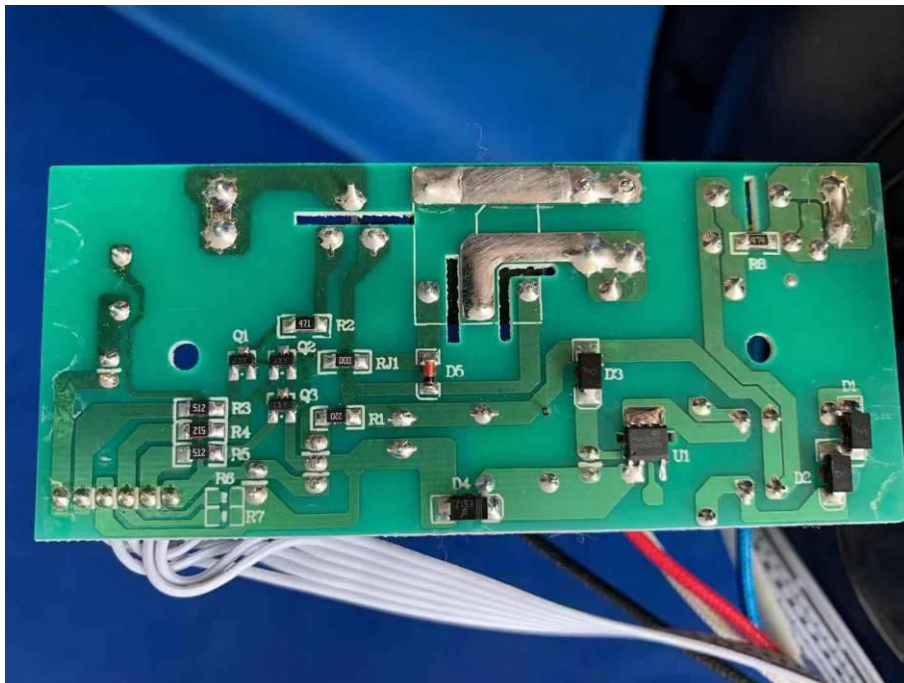
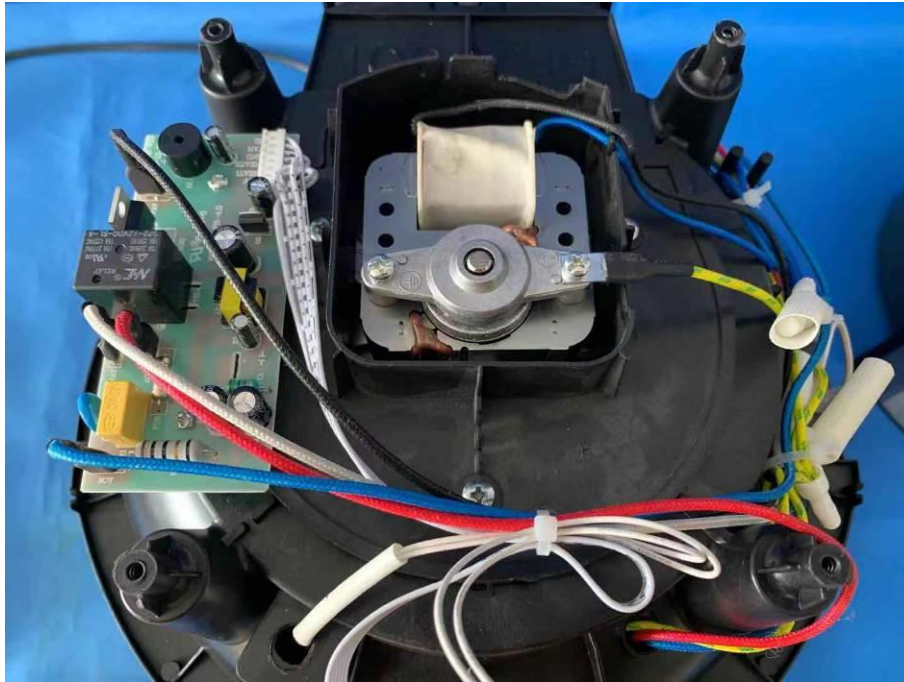


8.10 EUT Constructional Details









--End of the Report--