Ningbo Symay Electrical Appliances Enterprise Co., Ltd

TEST REPORT

SCOPE OF WORK:
EMC directive (2014/30/EU) – EMC report

Model:
CM-101*(*=A or S), details refer to Page 7

REPORT NUMBER
180501970SHA-001

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Report no. 180501970SHA-001

Applicant	:	**Ningbo Symay Electrical Appliances Enterprise Co., Ltd.** **18.Yantanghe Road, Daqi Sub-district, Beilun District, 315000** **Ningbo, Zhejiang, P. R. China**
Manufacturer	:	**Ningbo Symay Electrical Appliances Enterprise Co., Ltd.** **18.Yantanghe Road, Daqi Sub-district, Beilun District, 315000** **Ningbo, Zhejiang, P. R. China**
Manufacturing site	:	**Ningbo Symay Electrical Appliances Enterprise Co., Ltd.** **18.Yantanghe Road, Daqi Sub-district, Beilun District, 315000** **Ningbo, Zhejiang, P. R. China**

Summary

The equipment complies with the requirements according to the following standard(s) or Specification:

EN 55014-1:2017: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1: Emission

EN 55014-2:2015: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 2: Immunity – Product family standard

EN 61000-3-2:2014: Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16A per phase)

EN 61000-3-3:2013: Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16A per phase and not subject to conditional connection

PREPARED BY:	**REVIEWED BY:**
Reggie Yuan	Leo Ye
Project Engineer	Reviewer

Contents

Revision History

Report No.	Version	Description	Issued Date
180501970SHA-001	Rev. 01	Initial issue of report	August 03, 2018

Measurement result summary

TEST ITEM	TEST RESULT	NOTE
Mains terminal continuous disturbance voltage	Pass	
Mains terminal discontinuous disturbance voltage/click	Pass	
Continuous disturbance power	Pass	
Radiated Emission	Pass	
Harmonics	Pass	
Voltage fluctuation-Flicker	Pass	
Electrostatic Discharge (ESD)	Pass	
RF electromagnetic field susceptibility	NA	
Electric Fast Transient /Burst (EFT/B)	Pass	
Surge	Pass	
Injected Current	Pass	
Voltage dips and interruption	Pass	

Notes: 1: NA =Not Applicable

1. GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name	:	Coffee Maker
Type/Model	:	CM-101*(*=A or S), CM-102A, CM-105*(*=A, B, EA or EA1), CM-106*(*=A or S), CM-107*(*=A, B, BS, or EA), CM-108*(*=blank, A, E, S, T, AT, ET or TS), CM-109*(*=blank, A, B, E, S, T, AT, BT, ES, ET, TS or ETS), CM-111*(*=-1 or A-1), CM-112*(*=blank, -1, A, B or A-1), CM-113, CM-116, CM-118*(*=A or A-1), CM-119*(*=blank or A), CM-121*(*=A, E, AT or ET), CM-122*(*=A, E, AT or ET), CM-123*(*=A or S), CM-125A, CM-126*(*=T or TA), CM-127*(*=E or ET)
Description of EUT	:	This report is based on 171102024SHA-001, 170801288SHA-001, 160400591SHA-001, 160400591SHA-001/A1, 160400591SHA-001/A2, 140900069HZH-001, 140900069HZH-001/A1, 140900069HZH-001/A2, 140900069HZH-001/A3, 140900069HZH-001/A4, 140900069HZH-001/A5 and 140900069HZH-001/A6. Details refer to Page 8 and Page 9.
Rating	:	220-240V~, 50-60Hz, Class I CM-113: 420-500W; CM-101*(*=A or S), CM-102A, CM-106*(*=A or S): 550-650W; CM-111*(*=-1 or A-1), CM-112*(*=blank, -1, A, B or A-1), CM-116, CM-118*(*=A or A-1), CM-119*(*=blank or A): 650-750W; CM-108*(*=blank, A, E, S, T, AT, ET or TS), CM-109*(*=blank, A, B, E, S, T, AT, BT, ES, ET, TS or ETS), CM-123*(*=A or S), CM-125A, 126*(*=T or TA): 800W; CM-121*(*=AT or ET), CM-122*(*=AT or ET), CM-127ET: 900W; CM-105*(*=A, B, EA or EA1), CM-107*(*=A, B, BS, or EA), CM-121*(*=A or E), CM-122*(*=A or E), CM-127E: 950W;
Brand name	:	NIL
Mains lead	:	1.0 m, (un)shielded, (non)detachable
Data cable	:	/
EUT type	:	☒ Table-top ☐ Floor standing
☐ EUT is toy, defined as		☐ Category A ☐ Category B ☐ Category C ☐ Category D ☐ Category E
Sample received date	:	/
Sample Identification No.	:	/
Date of test	:	/

Description of EUT:

The products covered by this report are coffee maker, for household and indoor use, which incorporates temperature limiter and thermal link or self-resetting thermostat and thermal link.

Model	Rating (W)	Pot	Water level (Cup)	Switch	Metal decoration	keep warm plate
CM-101A	550-650	A	6	E		√
CM-101S	550-650	A	6	E	I	√
CM-102A	550-650	A	6	E		√
CM-105A	950	A	10	E	K	√
CM-105B	950	A	10	E		√
CM-105EA	950	A	10	G	K	√
CM-105EA1	950	A	10	G	J	√
CM-106A	550-650	A	5	E		√
CM-106S	550-650	A	5	E	I	√
CM-107A	950	A	15	E		√
CM-107B	950	A	15	E		√
CM-107BS	950	A	15	E	I	√
CM-107EA	950	A	15	G		√
CM-108	800	A	10	E	I	√
CM-108A	800	A	10	E	K	√
CM-108E	800	A	10	G	I	√
CM-108S	800	A	10	E	K	√
CM-108T	800	B	8	F	I	
CM-108AT	800	B	8	F	K	
CM-108ET	800	B	8	G	I	
CM-108TS	800	B	8	F	K	
CM-109	800	A	12	E		√
CM-109A	800	A	12	E	K	√
CM-109B	800	A	12	E	J	√
CM-109E	800	A	12	G		√
CM-109S	800	A	12	E	K	√
CM-109T	800	B	10	F		
CM-109AT	800	B	10	F	K	
CM-109BT	800	B	10	F	J	
CM-109ES	800	A	12	G	I	√
CM-109ET	800	B	10	G		
CM-109TS	800	B	10	F	K	
CM-109ETS	800	B	10	G	I	
CM-111-1	650-750	D	3,5	H	I	
CM-111A-1	650-750	D	3,5	H	I	
CM-112	650-750	D	3,5	H	K	
CM-112-1	650-750	D	3,5	H	K	
CM-112A	650-750	D	3,5	H	K	
CM-112B	650-750	D	3,5	E	K	
CM-112A-1	650-750	D	3,5	H	K	
CM-113	420-500	C	2,5	H	I	

Model	Rating (W)	Pot	Water level (Cup)	Switch	Metal decoration	keep warm plate
CM-116	650-750	D	7	H		
CM-118A	650-750	C, D	3	E	I	
CM-118A-1	650-750	C, D	3	E	I	
CM-119	650-750	D	3,5	G	K	
CM-119A	650-750	D	3,5	G	K	
CM-121A	950	A	12	E	K	√
CM-121E	950	A	12	G	K	√
CM-121AT	900	B	10	E	K	
CM-121ET	900	B	10	G	K	
CM-122A	950	A	15	E	K	√
CM-122E	950	A	15	G	K	√
CM-122AT	900	B	10	E	K	
CM-122ET	900	B	10	G	K	
CM-123A	800	A	12	H		
CM-123S	800	A	12	H	I	
CM-125A	800	A	10	H	I	
CM-126T	800	B	8	H	I	
CM-126TA	800	B	8	H	I	
CM-127E	950	A	15	G	K	√
CM-127ET	900	B	10	G	K	

A	Glass pot
B	Vacuum cup
C	Ceramic cup
D	Stainless steel insulated cup
E	Light touching electrical switch
F	Temperature limiter switch(on/off)
G	Electrical switch with LCD
H	Temperature limiter reset switch + power switch
I	The upper part is decorated with metal
J	The lower part is decorated with metal
K	Both upper and lower part is decorated with metal
√	Yes
Blank	No
1 Cup	125mL

CM-107A is same as CM-107B except for CM-107B is taller than CM-107A. CM-108A is same as CM-108S except for the switch of CM-108A is on the side, CM-108S is on the front, same way as CM-109A and CM-109S. CM-108AT is same as CM-108TS except for the metal decoration at the bottom of CM-108AT is a circle, CM-108S only around the switch.
CM-111-1 is same as CM-111A-1 except for the metal decoration of CM-111-1 is narrow than CM-111A-1, same way as CM-119 and CM-119A. CM-112 is same as CM-112A except for the metal decoration of CM-112 is narrow than CM-112A, same way as CM-112-1 and CM-112A-1; CM-112 is same as CM-112-1 except for shape of temperature limiter reset switch, same way as CM-112A and CM-112A-1.
CM-118A is same as CM-118A-1 except for power PCB. CM-126T is same as CM-126TA except for the shape of the filter, CM-126T is square, CM-126TA is round. Therefore, the original test data of CM-105B, CM-108S, CM-108E and CM-122E are listed in the report as representative.

1.2 Description of Test Facility

Name	:	Intertek Testing Services Hangzhou
Address	:	16 No. 1 Ave., Xiasha Economic Development District, Hangzhou 310018, China
Telephone	:	86 571 28997803
Telefax	:	86 571 28997888
The test facility is recognized, certified, or accredited by these organizations	:	CNAS Accreditation Lab Registration No. CNAS L2955

2. TEST SPECIFICATIONS

2.1 Normative Standards

IEC 61000-4-2:2008: Electromagnetic Compatibility (EMC) – Part 4-2: testing and measurement techniques – electrostatic discharge immunity test

IEC 61000-4-3:2006+A1:2007+A1:2010: Electromagnetic Compatibility (EMC) – Part 4-3: testing and measurement techniques – radiated, radio frequency, electromagnetic field immunity test

IEC 61000-4-4:2012: Electromagnetic Compatibility (EMC) – Part 4-4: testing and measurement techniques – electric fast transient/burst immunity test

IEC 61000-4-5:2014: Electromagnetic Compatibility (EMC) – Part 4-5: testing and measurement techniques – section 5: surge immunity test

IEC 61000-4-6:2013: Electromagnetic Compatibility (EMC) – Part 4-6: testing and measurement techniques – section 6: immunity to conducted disturbance, induced by radio frequency field

IEC 61000-4-11:2004: Electromagnetic Compatibility (EMC) – Part 4-11: testing and measurement techniques –voltage dips, short interruption and voltage variations immunity test

IEC 61000-4-22:2010: Electromagnetic compatibility (EMC) – Part 4-22: Testing and measurement techniques − Radiated emissions and immunity measurements in fully anechoic rooms (FARs)

Note: there are no magnetic sensitive components included in this EUT and magnetic field immunity test according to EN 61000-4-8 is therefore not required.

2.2 Mode of operation during the test

Within this test report, EUT was tested under all available operation modes and tested under its rating voltage and frequency. Other voltage and frequency is specified if used.

2.3 Test Peripherals used

Item No	Description	Band and Model	S/No
1	-	-	-

2.4 Record of climatic conditions

Test Item	Temperature (°C)	Relative Humidity (%)	Pressure (Kpa)
Mains terminal continuous disturbance voltage	24	42	NA
Mains terminal discontinuous disturbance voltage/click	24	42	NA
Continuous disturbance power	24	42	NA
Radiated Emission	NA	NA	NA
Harmonics	23	41	NA
Voltage fluctuation-Flicker	23	41	NA
Electrostatic Discharge (ESD)	24	41	101
RF electromagnetic field susceptibility	NA	NA	NA
Electric Fast Transient /Burst (EFT/B)	24	41	NA
Surge	24	41	NA
Injected Current	24	41	NA
Voltage dips and interruption	24	41	NA

Notes: NA =Not Applicable

2.5 Instrument list

Conducted Emission / Disturbance Power / Tri-loop Test / CDN method					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Test receiver	R&S	ESCI	EH 2003	2019-06-07
☑	Attenuator	R&S	ESH3-Z2	EH 2314	2019-06-07
☑	A.M.N.	R&S	ESH2-Z5	EH 2005	2019-06-07
☑	Absorbing clamp	Lüthi	MDS 21	EH 1331	2019-06-04
☑	Attenuator	-	AI-N-6-2W	EH 2387	2019-06-07
☐	CDN	Lüthi	CDN L-801 AF2	EH 2246-1	2019-03-26
☐	CDN	Lüthi	CDN L-801 M2	EH 2246-2	2019-03-26
☐	CDN	Lüthi	CDN L-801 M3	EH 2246-3	2019-03-26
☐	Attenuator	-	ATT-2W1G-B-06	EH 2246-4	2019-03-25
☐	Tri-loop	Schwarzbeck	HXYZ 9170	EH 1332	2019-06-07
☐	Voltage Probe	R&S	ESH2-Z3	EH 2004	2019-06-07
☐	Voltage Probe	Schwarzbeck	TK 9420	EH 2307	2019-06-07
☐	I.S.N.	Schwarzbeck	ISN S8	EH 2413	2018-11-26
☑	Shielded room	Zhongyu	GB88	EH 1184	2019-07-14
Discontinuous Disturbance Voltage					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Click meter	AFJ	CL55C	EH 2223	2018-10-22
☑	LISN	AFJ	LS16C	EH 2223-1	2019-06-07
☑	A.M.N.	R&S	ESH2-Z5	EH 2005	2019-06-07
☐	Switching operation box	AFJ	SW04/32	EH 2223-2	Not required
☑	Shielded room	Zhongyu	GB88	EH 1184	2019-07-14
Harmonics / Flicker					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Harmonic-flicker system	EM TEST	DPA 500	EH 2008	2019-06-07
		EM TEST	ACS 500	EH 2008-1	2019-06-07
ESD					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	ESD generator	KIKUSUI	KES4021	EH 1330	2019-06-10
☑	Shielded room	Zhongyu	GB88	EH 1184	2019-07-14
EFT / Surge / Voltage Dips / Power frequency magnetic fields					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Conduct immunity system	EM TEST	UCS 500 M6 B	EH 2013	2019-06-07
☑	Automatic transformer	EM TEST	MV 2616	EH 2014	Not required
☐	Ring wave	EVERFINE	EMS61000-12C	EH 2447	2019-10-16

	generator				
☐	Capacity clamp	EM TEST	HFK	EH 2017	2019-06-07
☐	Magnetic loop	EM TEST	MS 100	EH 2016	2019-06-07
☐	Current transformer	EM TEST	MC 2630	EH 2015	2019-06-07
☑	Shielded room	Zhongyu	GB88	EH 1183	2019-07-14
Conducted Immunity					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Signal generator	EM TEST	CWS 500 C	EH 2009	2019-06-07
☑	Attenuator	EM TEST	ATT6/75	EH 2010	2019-06-07
☑	CDN	EM TEST	CDN M2/M3	EH 2011	2019-06-07
☐	EM clamp	Lüthi	EM 101	EH 2012	2019-06-07
☑	Shielded room	Zhongyu	GB88	EH 1183	2019-07-14
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☑	Therom-Hygrograph	Shanghai Meteorological	ZJ 1-2A	EH 1099	2018-08-06
☑	Therom-Hygrograph	Shanghai Meteorological	ZJ 1-2A	EH 1098	2018-08-06
☑	Therom-Hygrograph	Shanghai Meteorological	ZJ 1-2A	EH 1091	2018-08-06
☑	Pressure meter	Shanghai Fengyun	FYP-1	EH 2340	2019-05-20
☐	Luxmeter	Hangzhou Xinye	XYI-III	EH 2448	2018-08-16
☐	Lamp holder	-	-	EH 1329	Not required

2.6 Measurement Uncertainty

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted emission at mains ports	9kHz ~ 150kHz	3.32 dB
	150kHz ~ 30MHz	2.96 dB
Continuous disturbance voltage at load terminal	150kHz ~ 30MHz	2.61 dB
Continuous disturbance voltage at control terminal	150kHz ~ 30MHz	3.38 dB
Mains terminal discontinuous disturbance voltage/click	-	3.67 dB
Continuous disturbance power	30MHz ~ 300MHz	4.16 dB
Radiated emissions up to 1 GHz	30MHz ~ 1GHz	4.90 dB
Radiated emissions above 1 GHz	1GHz ~ 6GHz	5.02 dB
	6GHz ~ 18GHz	5.28 dB
Harmonic current emission	-	3.03%
Voltage fluctuations and flicker	-	11.77%
ESD	-	6.65%
Radiated susceptibility	-	2.38%
EFT test at main terminal	-	18.33%
EFT test at signal/telecom terminal	-	18.36%
Surge test at main terminal	-	11.57%
Injected current test at main terminal	-	2.59 dB
Injected current test at unshielded signal terminal	-	3.01 dB
Voltage dips and interruption	-	11.57%

Emission Test

3. Mains/Load/Control Terminal Continuous Disturbance Voltage

Test result: **PASS**

3.1 Terminal Voltage Limits for the frequency range 9kHz to 30MHz

3.1.1 General limits

Frequency range (MHz)	Mains ports		Associated ports			
	Disturbance voltage		Disturbance voltage		Disturbance current	
	Limits dB(μV)		Limits dB(μV)		Limits dB(μV)	
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.15 ~ 0.5	66 ~ 56 *	66 ~ 56 *	80	70	40 ~ 30 *	30 ~ 20 *
0.5 ~ 5.0	56	56	74	64	30	20
5.0 ~ 30	60	60	74	64		

Notes:
1. * means the limit decreasing linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.
2. If the quasi-peak measurements meet the average limit, the EUT shall be deemed to meet both limits and the measurements using the average detector need not be carried out.

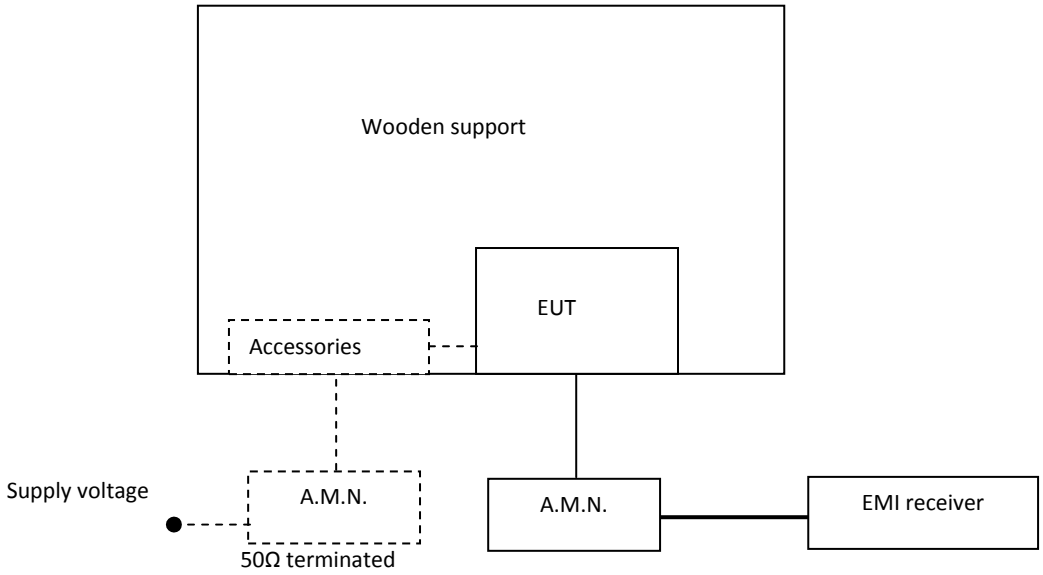
3.1.2 Limits for mains port of tools

	P ⩽ 700 W		700 W < P ⩽ 1 000 W		P > 1 000 W	
Frequency range (MHz)	Limits dB(μV)		Limits dB(μV)		Limits dB(μV)	
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.15-0.35	66-59*	59-49*	70-63*	63-53*	76-69*	69 ~ 59 *
0.35-5	59	49	63	53	69	59
5-30	64	54	68	58	74	64

Notes:
1. * means the limit decreasing linearly with the logarithm of the frequency in the range 0.15MHz to 0.35MHz.
2. If the quasi-peak measurements meet the average limit, the EUT shall be deemed to meet both limits and the measurements using the average detector need not be carried out.

3.2 Block Diagram of Test Setup

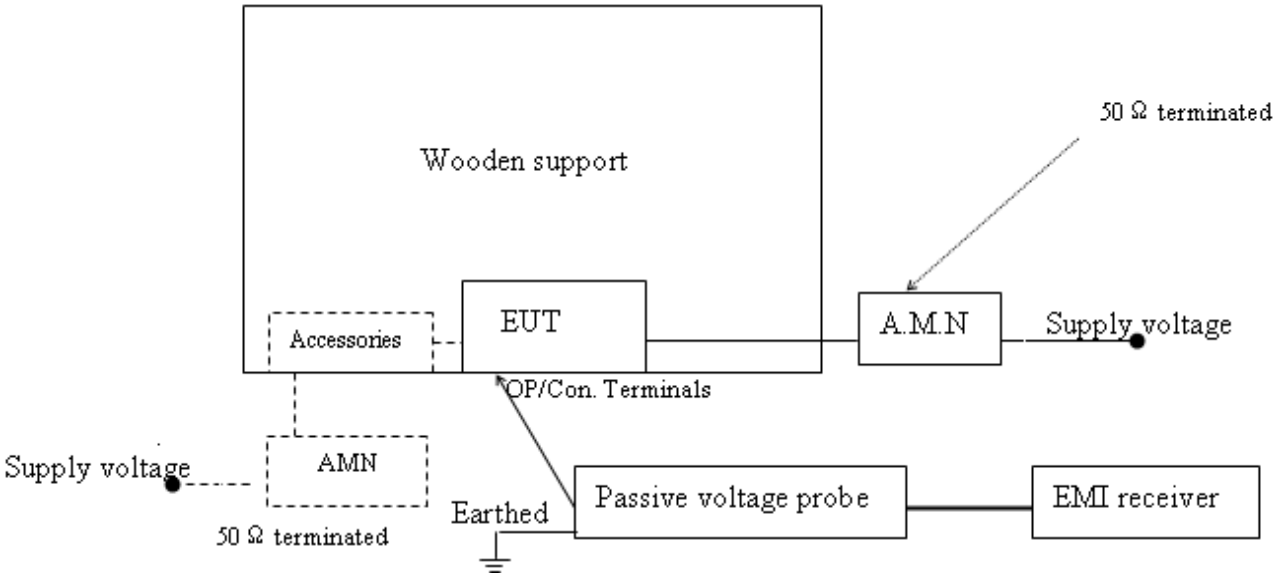
☒ At mains terminal



☒ For table top equipment, wooden support is 0.8m height table

☐ For floor standing equipment, wooden support is 0.1m height rack.

☐ At Associated ports



Note: ——— : power line
——— : signal line
- - - - - - - - : means the test setup while available

3.3 Test Setup and Test Procedure

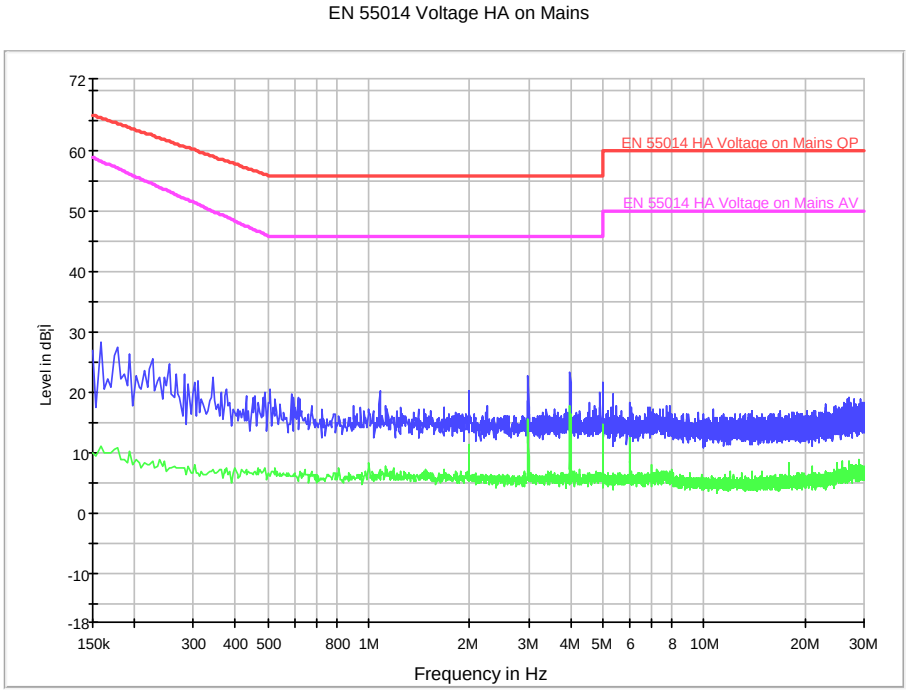
Measurement was performed in shielded room, and instruments used were according to clause 5.1 of EN 55014-1 if applicable.
Detailed test procedure and arrangement was according to clause 5.2 of EN 55014-1.
Measurement methods was according to clause 5.4 of EN 55014-1.
Operation conditions of EUT was according to clause 6 of EN 55014-1.
Frequency range 150kHz – 30MHz was checked and EMI receiver measurement bandwidth was set to 9kHz.

3.4 Test Protocol

For Mains ports: Pass

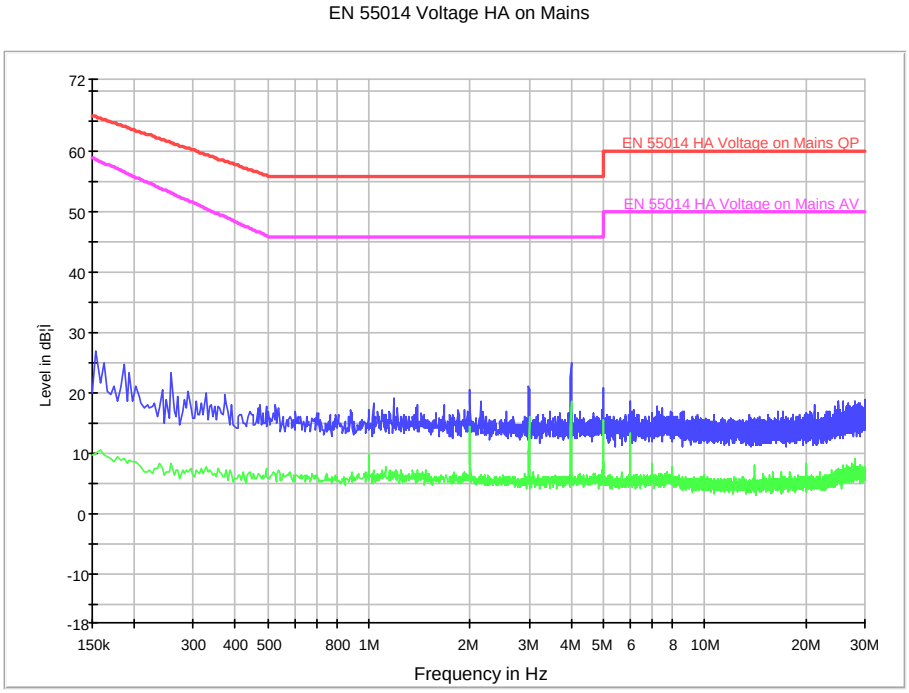
CM-105B

L-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.550000	*	56.00	*	*	46.00	*
1.000000	*	56.00	*	*	46.00	*
1.400000	*	56.00	*	*	46.00	*
2.000000	*	56.00	*	*	46.00	*
3.500000	*	56.00	*	*	46.00	*
6.000000	*	60.00	*	*	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

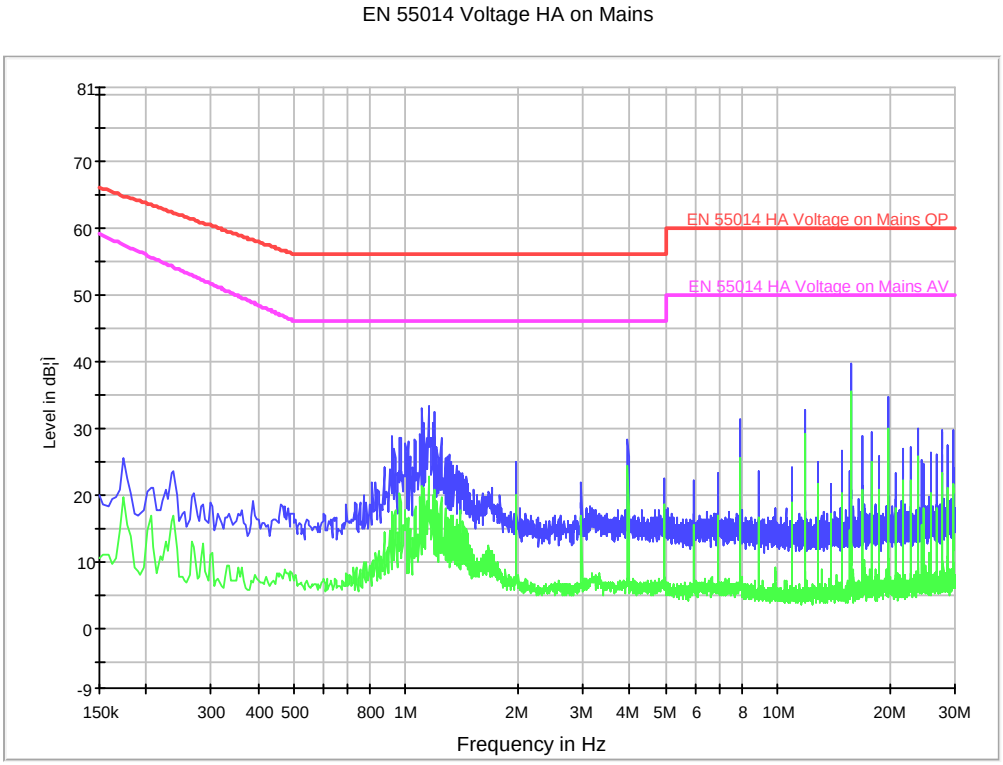
N-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.550000	*	56.00	*	*	46.00	*
1.000000	*	56.00	*	*	46.00	*
1.400000	*	56.00	*	*	46.00	*
2.000000	*	56.00	*	*	46.00	*
3.500000	*	56.00	*	*	46.00	*
6.000000	*	60.00	*	*	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

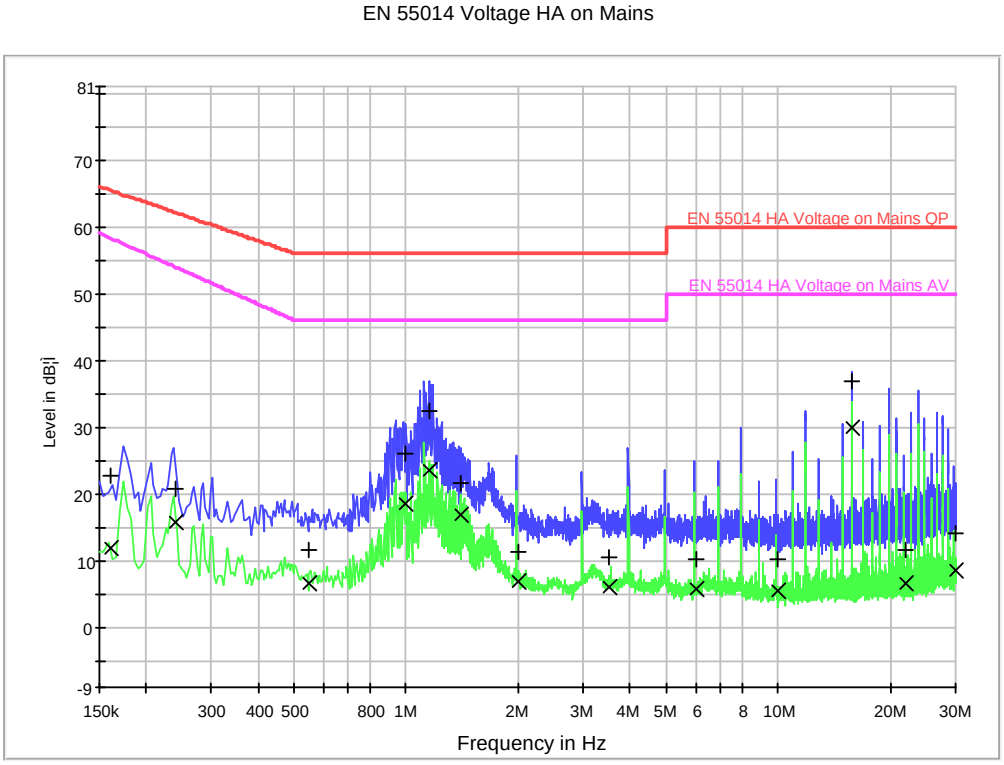
CM-108S

L-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.550000	*	56.00	*	*	46.00	*
1.000000	*	56.00	*	*	46.00	*
1.400000	*	56.00	*	*	46.00	*
2.000000	*	56.00	*	*	46.00	*
3.500000	*	56.00	*	*	46.00	*
6.000000	*	60.00	*	*	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

N-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.550000	*	56.00	*	*	46.00	*
1.000000	*	56.00	*	*	46.00	*
1.400000	*	56.00	*	*	46.00	*
2.000000	*	56.00	*	*	46.00	*
3.500000	*	56.00	*	*	46.00	*
6.000000	*	60.00	*	*	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

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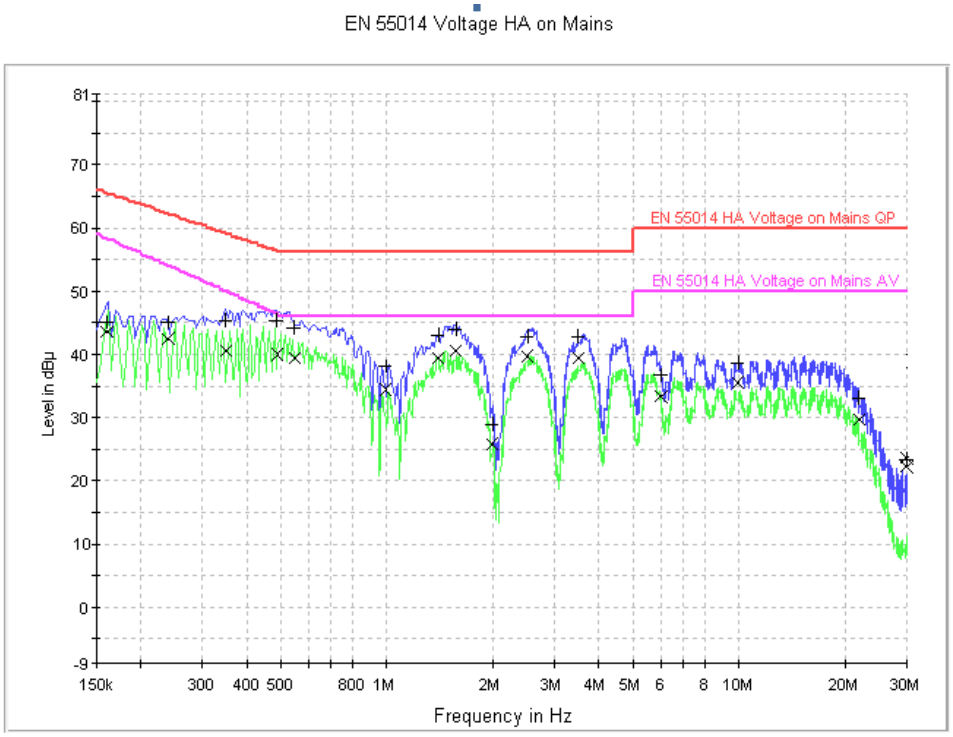
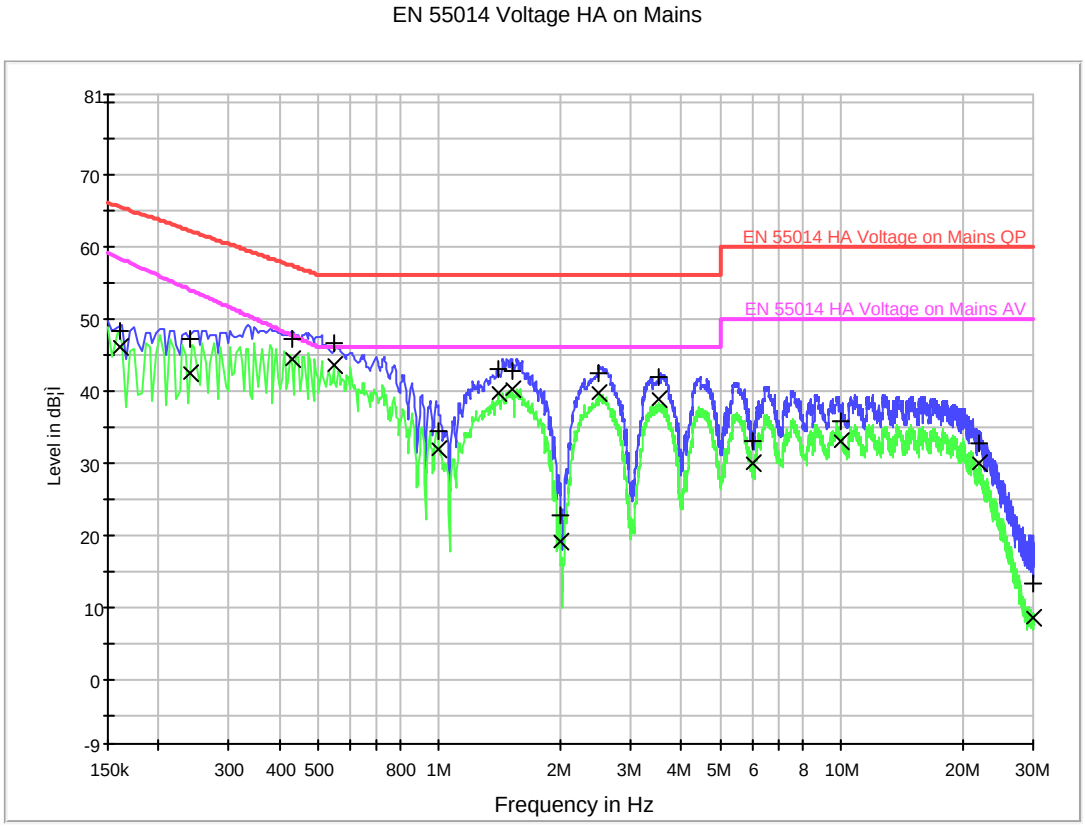
L-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.350000	*	58.96	*	40.42	49.85	*
0.486000	*	56.24	*	39.99	46.31	*
0.550000	*	56.00	*	39.30	46.00	*
1.000000	*	56.00	*	*	46.00	*
1.400000	*	56.00	*	39.34	46.00	*
1.570000	*	56.00	*	40.35	46.00	*
2.000000	*	56.00	*	*	46.00	*
2.506000	*	56.00	*	39.60	46.00	*
3.500000	*	56.00	*	39.37	46.00	*
6.000000	*	60.00	*	*	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

N-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.430000	*	57.25	*	44.38	47.63	*
0.550000	46.48	56.00	*	43.57	46.00	*
1.000000	*	56.00	*	*	46.00	*
1.400000	*	56.00	*	39.66	46.00	*
1.514000	*	56.00	*	40.10	46.00	*
2.000000	*	56.00	*	*	46.00	*
2.494000	*	56.00	*	39.52	46.00	*
3.500000	*	56.00	*	38.91	46.00	*
6.000000	*	60.00	*	*	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

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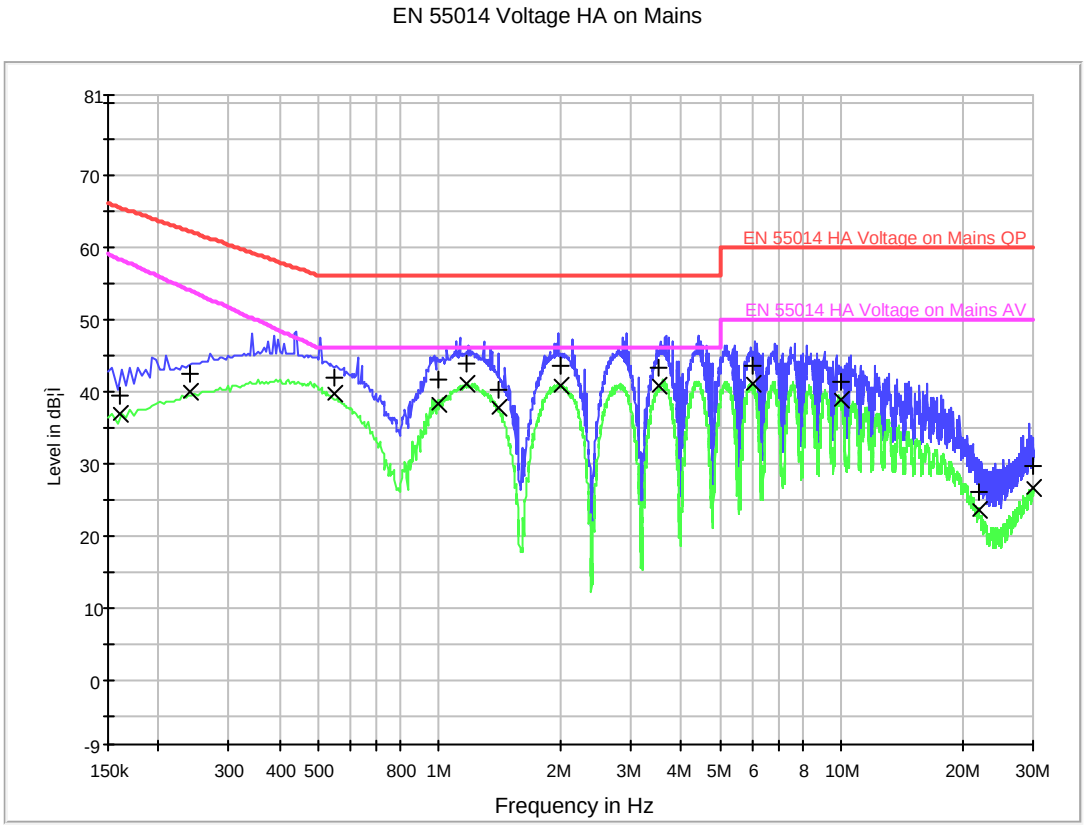
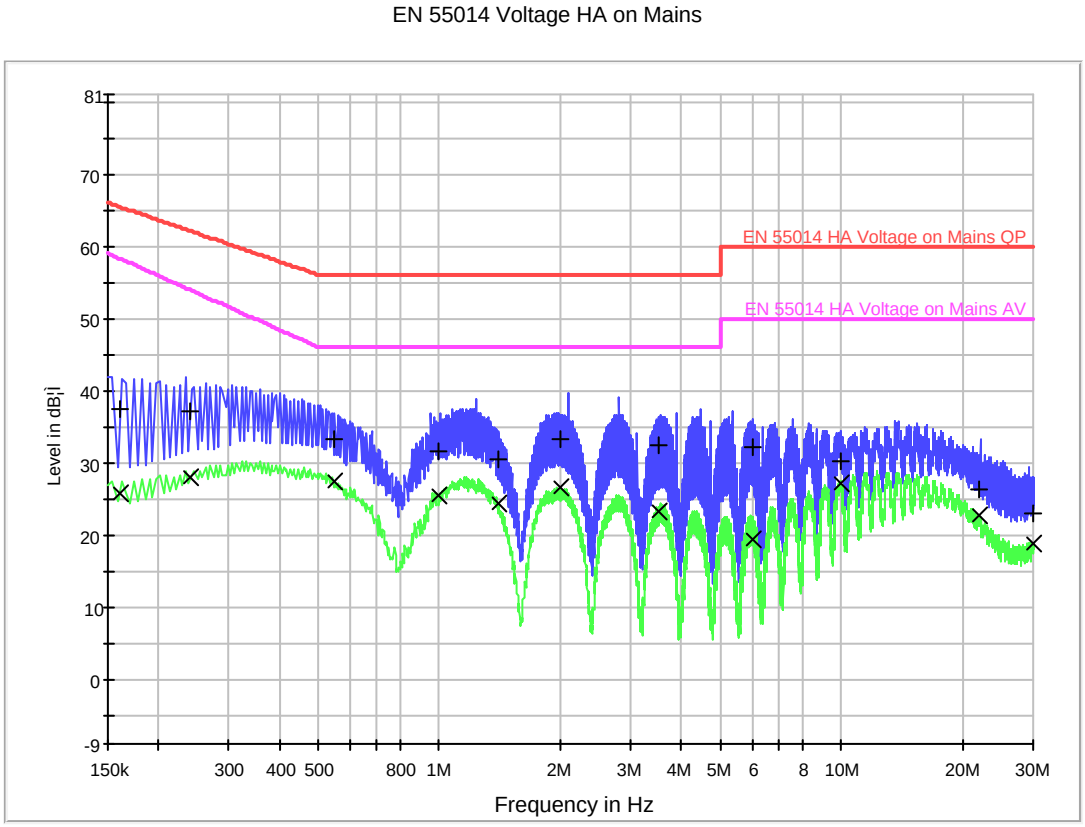
L-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.550000	*	56.00	*	39.58	46.00	*
1.000000	*	56.00	*	38.32	46.00	*
1.174000	*	56.00	*	41.11	46.00	*
1.400000	*	56.00	*	37.72	46.00	*
2.000000	*	56.00	*	40.83	46.00	*
3.500000	*	56.00	*	40.59	46.00	*
6.000000	*	60.00	*	41.07	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

N-line:



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
0.160000	*	65.46	*	*	58.30	*
0.240000	*	62.10	*	*	53.93	*
0.550000	*	56.00	*	*	46.00	*
1.000000	*	56.00	*	*	46.00	*
1.400000	*	56.00	*	*	46.00	*
2.000000	*	56.00	*	*	46.00	*
3.500000	*	56.00	*	*	46.00	*
6.000000	*	60.00	*	*	50.00	*
10.000000	*	60.00	*	*	50.00	*
22.000000	*	60.00	*	*	50.00	*
30.000000	*	60.00	*	*	50.00	*
Note: * means the emission level 10dB below the relevant limit.						

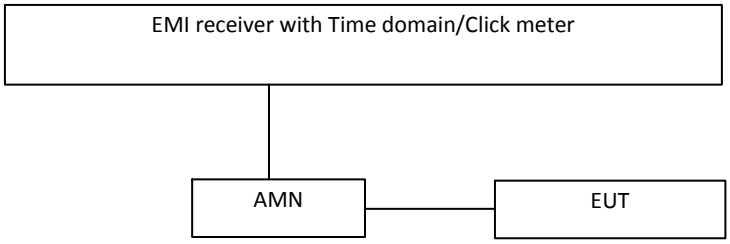
For Associated ports: NA

Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Reading (dBuV)	Limit (dBuV)	Margin (dB)
Note: * means the emission level 20dB below the relevant limit.						

4. Mains terminal discontinuous disturbance voltage/click

Test result: PASS

4.1 Block Diagram of Test Setup



4.2 Test Setup and Test Procedure

Measurement was performed in shielded room, and instruments used were according to clause 5.1 of EN 55014-1 if applicable.
Detailed test procedure and arrangement was according to clause 5.2 of EN 55014-1.
Measurement methods was according to clause 5.4 of EN 55014-1.
Operation conditions of EUT was according to clause 6 of EN 55014-1.
0.15MHz, 0.5MHz, 1.4MHz and 30MHz were spot checked, and upper quartile methods used during measurement.
The final judgment of test result was according to figure 6 of EN 55014-1.

4.3 Test Protocol

Frequency (MHz)	0.15	0.5	1.4	30.0
Permitted limit for continuous interference (dBµV)	66.0	56.0	56.0	60.0
Counted click number	0	0	0	0
Observed time (min)	120	120	120	120
Click duration (ms)	-	-	-	-
Click rate N	0	0	0	0
Factor	-	-	-	-
Permitted limits for clicks (dBµv)	-	-	-	-
Counted clicks exceeding the limits	-	-	-	-
Test result	Pass	Pass	Pass	Pass
Any other descriptions: None of the caused clicks has a duration level exceed the quasi-peak limit of continuous disturbance, so it shall be deemed to comply with the limits.				

5. Continuous disturbance power

Test result: **PASS**

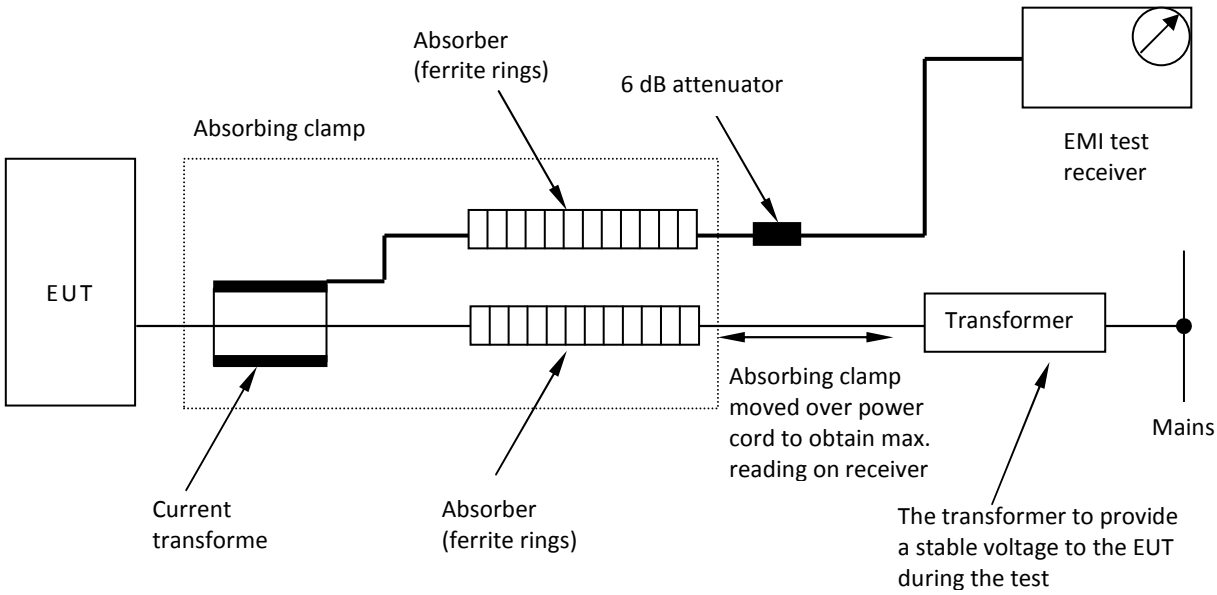
5.1 Continuous disturbance power limit

	General		P ⩽ 700 W		700 W < P ⩽ 1 000 W		P > 1 000 W	
Frequency range (MHz)	Limits dB(pW) Quasi-peak	Average	Limits dB(pW) Quasi-peak	Average	Limits dB(pW) Quasi-peak	Average	Limits dB(pW) Quasi-peak	Average
30-300	45-55*	35-45*	45-55*	35-45*	49-59*	39-49*	55-65*	45 55*

Notes:

1. * means the limit decreasing linearly with the logarithm of the frequency in the range 30MHz to 300MHz.
2. If the quasi-peak measurements meet the average limit, the EUT shall be deemed to meet both limits and the measurements using the average detector need not be carried out.

5.2 Block diagram of test set up



5.3 Test Procedure

Measurement was performed in shielded room, and instruments used were according to clause 5.1 of EN 55014-1 if applicable.
Detailed test procedure and arrangement was according to clause 5.3 of EN 55014-1.
Measurement methods was according to clause 5.4 of EN 55014-1.
Operation conditions of EUT was according to clause 6 of EN 55014-1.
Frequency range 30MHz – 300MHz was checked and EMI receiver measurement bandwidth was set to 120kHz.

5.4 Test Protocol

For Mains ports: Pass

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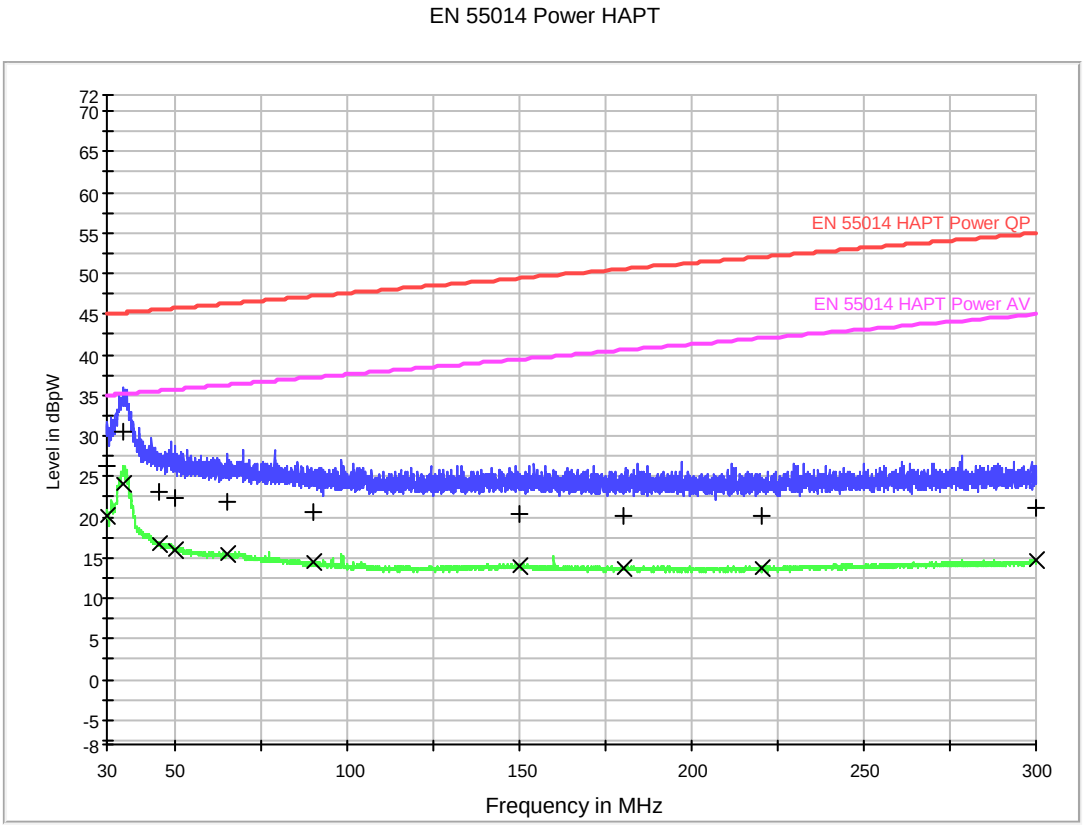

Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)
30.000000	*	45.00	*	*	35.00	*
34.800000	*	45.18	*	*	35.18	*
45.000000	*	45.56	*	*	35.56	*
50.000000	*	45.74	*	*	35.74	*
65.000000	*	46.30	*	*	36.30	*
90.000000	*	47.22	*	*	37.22	*
150.000000	*	49.44	*	*	39.44	*
180.000000	*	50.56	*	*	40.56	*
220.000000	*	52.04	*	*	42.04	*
300.000000	*	55.00	*	*	45.00	*
Note: * means the emission level 10dB lower than the relevant limit.						

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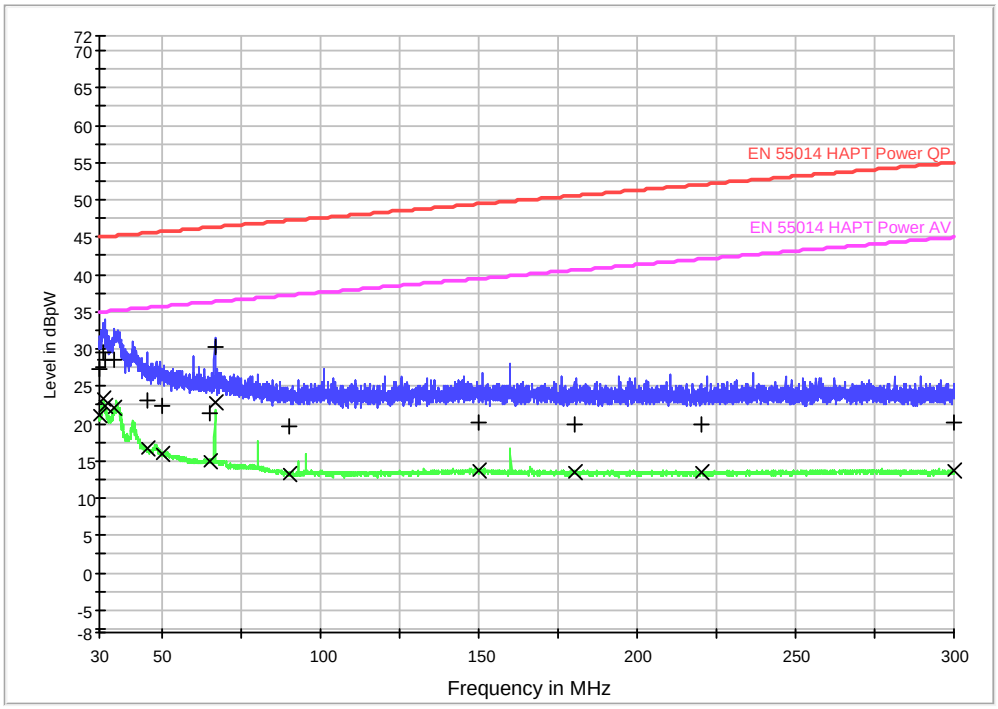
EN 55014 Power HAPT



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)
30.000000	*	45.00	*	*	35.00	*
31.120000	*	45.04	*	*	35.04	*
31.880000	*	45.07	*	*	35.07	*
34.760000	*	45.18	*	*	35.18	*
45.000000	*	45.56	*	*	35.56	*
50.000000	*	45.74	*	*	35.74	*
65.000000	*	46.30	*	*	36.30	*
66.640000	*	46.36	*	*	36.36	*
90.000000	*	47.22	*	*	37.22	*
150.000000	*	49.45	*	*	39.44	*
180.000000	*	50.56	*	*	40.56	*
220.000000	*	52.04	*	*	42.04	*
300.000000	*	55.00	*	*	45.00	*
Note: * means the emission level 10dB lower than the relevant limit.						

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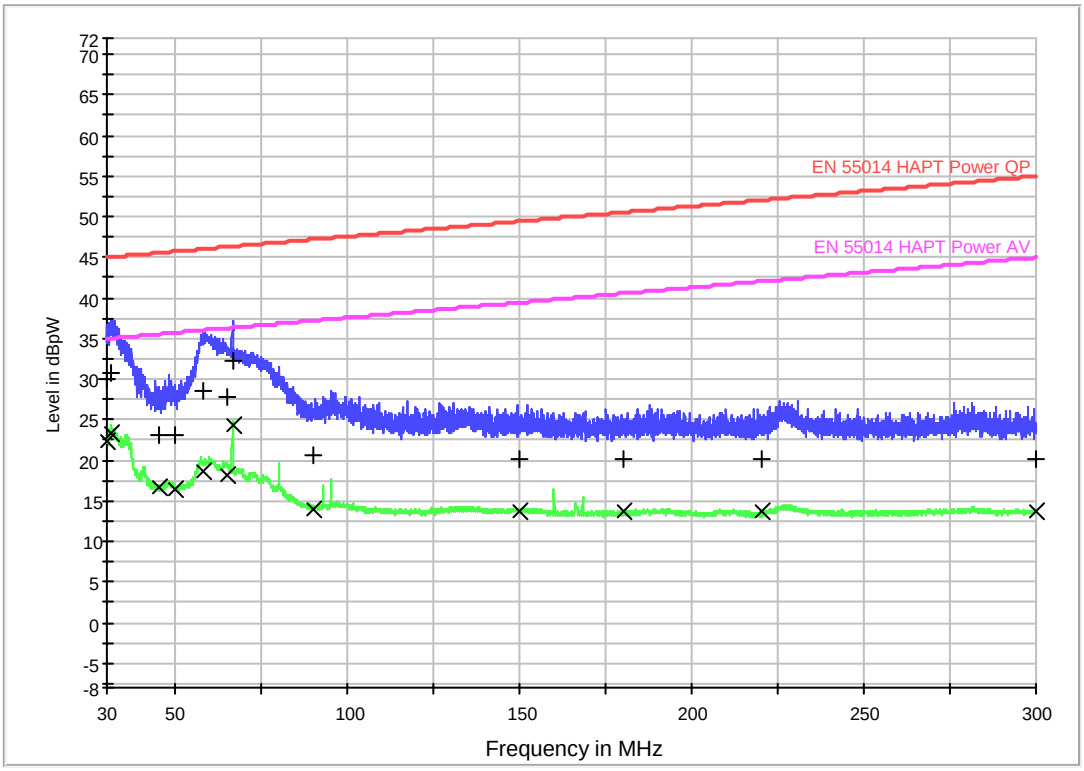
EN 55014 Power HAPT



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)
30.000000	*	45.00	*	*	35.00	*
30.960000	*	45.04	*	*	35.04	*
45.000000	*	45.56	*	*	35.56	*
50.000000	*	45.74	*	*	35.74	*
57.960000	*	46.04	*	*	36.04	*
65.000000	*	46.30	*	*	36.30	*
66.640000	*	46.36	*	*	36.36	*
90.000000	*	47.22	*	*	37.22	*
150.000000	*	49.45	*	*	39.44	*
180.000000	*	50.56	*	*	40.56	*
220.000000	*	52.04	*	*	42.04	*
300.000000	*	55.00	*	*	45.00	*
Note: * means the emission level 10dB lower than the relevant limit.						

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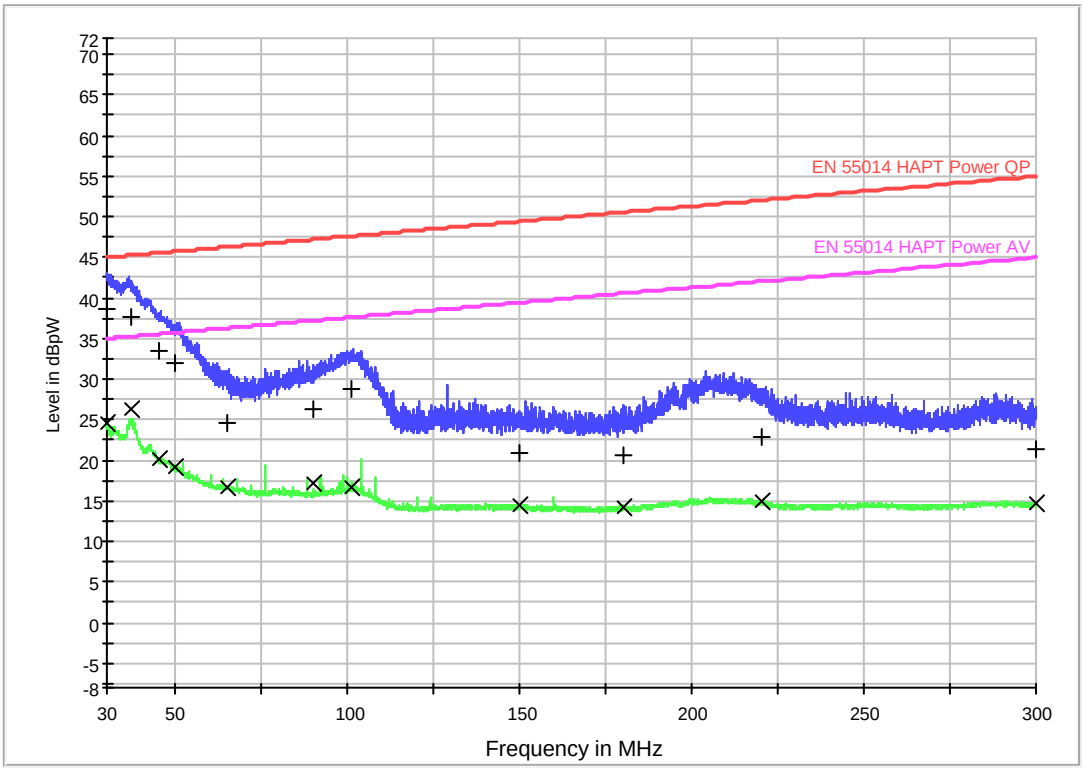
EN 55014 Power HAPT



Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)
30.000000	38.61	45.00	*	*	35.00	*
37.000000	37.75	45.26	*	26.23	35.26	*
45.000000	*	45.56	*	*	35.56	*
50.000000	*	45.74	*	*	35.74	*
65.000000	*	46.30	*	*	36.04	*
90.000000	*	47.22	*	*	36.30	*
101.200000	*	47.64	*	*	36.36	*
150.000000	*	49.44	*	*	37.22	*
180.000000	*	50.56	*	*	39.44	*
220.000000	*	52.04	*	*	40.56	*
300.000000	*	55.00	*	*	42.04	*
Note: * means the emission level 10dB lower than the relevant limit.						

For Associated ports: NA

Frequency (MHz)	Quasi-peak			Average		
	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)	Corrected Reading (dBpW)	Limit (dBpW)	Margin (dB)
Note: * means the emission level 20dB below the relevant limit.						

6. Radiated emission

Test result: **PASS**

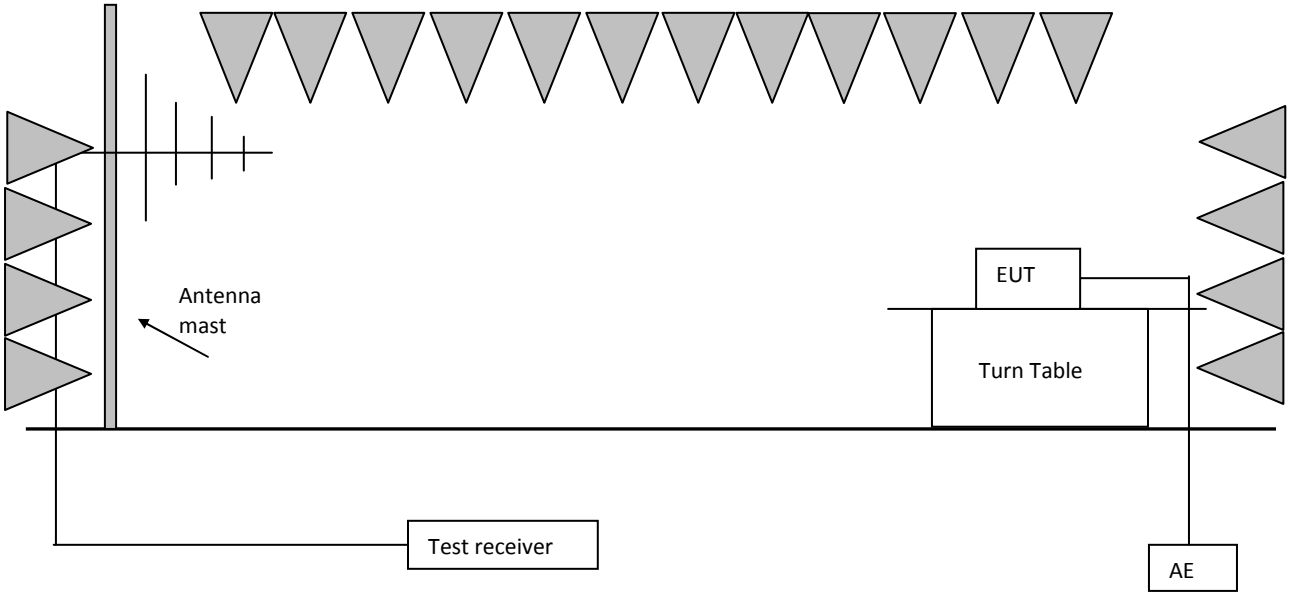
☒ As for in the disturbance power test all emission readings from the EUT are lower than the applicable limits (Table 2a) reduced by the margin (Table 2b) and the maximum clock frequency is less than 30MHz, the EUT is deemed to comply with the Radiated Emission requirement without test.

6.1 Limit

☐ Radiated emission limit from frequency range 30MHz – 1000MHz

Frequency (MHz)	Permitted limit in dBµV/m (Quasi-peak) of Measurement Distance 3m	Permitted limit in dBµV/m (Quasi-peak) of Measurement Distance 10m
30 ~ 230	40	30
230 ~ 300	47	37
Notes: 1. For the measurement distance other than 3m and 10m, the limit is varied according to 20dB/10 decades. 2. The gray rows are selected items.		

6.2 Block diagram and test set up



The measurement was applied in a semi-anechoic chamber.
Operation conditions of EUT was according to clause 6 of EN 55014-1.
Measurement was performed according to clause 10 of CISPR 32.
Setting of EUT is according to clause 5.3.4.3 of EN 55014-1.
The bandwidth setting on test receiver was 120kHz.
The frequency range from 30MHz to 300MHz was checked.

6.3 Test Protocol

Horizontal

Vertical

Polarization	Frequency (MHz)	Corrected Reading (dBuV/m)	Corrected Factor (dB/m)	Limits (dBuV/m)	Margin (dBuV/m)
Horizontal					
Vertical					

6.4 Test Facility Description

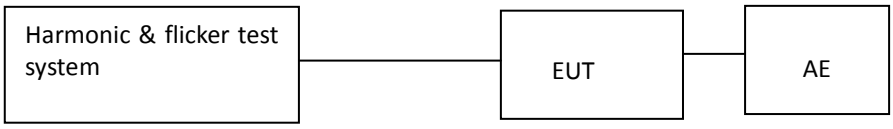
The test and test instruments mentioned above was conducted in the following test facility:

Intertek Testing Services Shanghai
Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China

7. Harmonics

Test result: PASS

7.1 Block Diagram of Test Setup



7.2 Test Setup and Test Procedure

Harmonics of the fundamental current were measured up to 40 order harmonics using a digital power meter with an analogue output and frequency analyser which was integrated in the harmonic & flicker test system. The measurements were carried out under steady conditions.

☐ Measuring instrumentation according to IEC 61000-4-7:2002+A1:2008

☐ This product is not defined as lighting equipment, and has rated power less than 75W, therefore, no limit apply according to EN 61000-3-2

☐ The EUT is kitchen machines as listed in the scope of IEC 60335-2-14, therefore, is deemed to conform to the harmonic current limits of this standard without further testing.

7.3 Test Protocol

CM-105B

Power and THD results - DS: 1

True power P:	806.3W	Apparent power S:	806.4VA
Reactiv power Q:	5.38var	Power factor:	1.000
THD (U):	0.001	THD (I):	0.005
Crest Factor (U):	1.416	Crest Factor (I):	1.431

Average harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.475			
2	3.639E-3			PASS
3	4.475E-3			PASS
4	4.093E-3			PASS
5	3.953E-3			PASS
6	3.415E-3			PASS
7	3.830E-3			PASS
8	3.381E-3			PASS
9	4.130E-3			PASS
10	3.467E-3			PASS
11	3.949E-3			PASS
12	3.128E-3			PASS
13	2.788E-3			PASS
14	3.023E-3			PASS
15	3.562E-3			PASS
16	2.713E-3			PASS
17	1.780E-3			PASS
18	2.529E-3			PASS
19	2.605E-3			PASS
20	2.017E-3			PASS
21	1.084E-3			PASS
22	2.110E-3			PASS
23	2.020E-3			PASS
24	1.998E-3			PASS
25	1.089E-3			PASS
26	1.494E-3			PASS
27	1.913E-3			PASS
28	1.447E-3			PASS
29	1.492E-3			PASS
30	1.369E-3			PASS
31	1.702E-3			PASS
32	1.230E-3			PASS
33	2.340E-3			PASS
34	1.498E-3			PASS
35	1.202E-3			PASS
36	1.289E-3			PASS
37	1.994E-3			PASS
38	1.106E-3			PASS
39	1.030E-3			PASS

40	1.179E-3			PASS

Maximum harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.488			
2	3.992E-3			PASS
3	5.531E-3			PASS
4	4.693E-3			PASS
5	4.694E-3			PASS
6	4.070E-3			PASS
7	4.258E-3			PASS
8	3.712E-3			PASS
9	4.322E-3			PASS
10	3.690E-3			PASS
11	4.125E-3			PASS
12	3.350E-3			PASS
13	3.006E-3			PASS
14	3.244E-3			PASS
15	3.782E-3			PASS
16	2.883E-3			PASS
17	2.011E-3			PASS
18	2.810E-3			PASS
19	2.814E-3			PASS
20	2.354E-3			PASS
21	1.266E-3			PASS
22	2.319E-3			PASS
23	2.248E-3			PASS
24	2.207E-3			PASS
25	1.387E-3			PASS
26	2.045E-3			PASS
27	2.207E-3			PASS
28	1.699E-3			PASS
29	1.752E-3			PASS
30	1.844E-3			PASS
31	2.025E-3			PASS
32	1.637E-3			PASS
33	2.611E-3			PASS
34	1.728E-3			PASS
35	1.592E-3			PASS
36	1.578E-3			PASS
37	2.138E-3			PASS
38	1.260E-3			PASS
39	1.271E-3			PASS
40	1.415E-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.

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Power and THD results - DS: 1

True power P:	784.6W	Apparent power S:	784.7VA
Reactiv power Q:	6.78var	Power factor:	1.000
THD (U):	0.001	THD (I):	0.001
Crest Factor (U):	1.416	Crest Factor (I):	1.431

Average harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.367			
2	459.787E-6			PASS
3	837.209E-6			PASS
4	2.050E-3			PASS
5	1.086E-3			PASS
6	619.029E-6			PASS
7	873.433E-6			PASS
8	624.799E-6			PASS
9	978.198E-6			PASS
10	678.322E-6			PASS
11	860.273E-6			PASS
12	846.582E-6			PASS
13	1.110E-3			PASS
14	755.049E-6			PASS
15	969.478E-6			PASS
16	639.018E-6			PASS
17	869.170E-6			PASS
18	1.070E-3			PASS
19	1.094E-3			PASS
20	729.942E-6			PASS
21	1.143E-3			PASS
22	1.034E-3			PASS
23	886.330E-6			PASS
24	640.463E-6			PASS
25	1.094E-3			PASS
26	733.933E-6			PASS
27	1.203E-3			PASS
28	655.177E-6			PASS
29	686.939E-6			PASS
30	736.179E-6			PASS
31	1.287E-3			PASS
32	694.351E-6			PASS
33	969.396E-6			PASS
34	607.650E-6			PASS
35	752.204E-6			PASS
36	840.743E-6			PASS
37	970.014E-6			PASS
38	616.144E-6			PASS
39	696.813E-6			PASS
40	814.428E-6			PASS

Maximum harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.390			
2	644.306E-6			PASS
3	1.545E-3			PASS
4	2.523E-3			PASS
5	1.460E-3			PASS
6	842.580E-6			PASS
7	1.317E-3			PASS
8	796.723E-6			PASS
9	1.118E-3			PASS
10	786.807E-6			PASS
11	1.291E-3			PASS
12	990.028E-6			PASS
13	1.328E-3			PASS
14	875.622E-6			PASS
15	1.388E-3			PASS
16	861.428E-6			PASS
17	1.305E-3			PASS
18	1.228E-3			PASS
19	1.339E-3			PASS
20	875.060E-6			PASS
21	1.528E-3			PASS
22	1.172E-3			PASS
23	1.058E-3			PASS
24	871.187E-6			PASS
25	1.346E-3			PASS
26	898.552E-6			PASS
27	1.824E-3			PASS
28	803.219E-6			PASS
29	1.138E-3			PASS
30	846.302E-6			PASS
31	1.451E-3			PASS
32	822.789E-6			PASS
33	1.440E-3			PASS
34	831.208E-6			PASS
35	986.116E-6			PASS
36	1.011E-3			PASS
37	1.268E-3			PASS
38	785.511E-6			PASS
39	996.492E-6			PASS
40	968.084E-6			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.

CM-108E

Power and THD results - DS: 1

True power P:	806.3W	Apparent power S:	806.4VA
Reactiv power Q:	5.38var	Power factor:	1.000
THD (U):	0.001	THD (I):	0.005
Crest Factor (U):	1.416	Crest Factor (I):	1.431

Average harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.475			
2	3.639E-3			PASS
3	4.475E-3			PASS
4	4.093E-3			PASS
5	3.953E-3			PASS
6	3.415E-3			PASS
7	3.830E-3			PASS
8	3.381E-3			PASS
9	4.130E-3			PASS
10	3.467E-3			PASS
11	3.949E-3			PASS
12	3.128E-3			PASS
13	2.788E-3			PASS
14	3.023E-3			PASS
15	3.562E-3			PASS
16	2.713E-3			PASS
17	1.780E-3			PASS
18	2.529E-3			PASS
19	2.605E-3			PASS
20	2.017E-3			PASS
21	1.084E-3			PASS
22	2.110E-3			PASS
23	2.020E-3			PASS
24	1.998E-3			PASS
25	1.089E-3			PASS
26	1.494E-3			PASS
27	1.913E-3			PASS
28	1.447E-3			PASS
29	1.492E-3			PASS
30	1.369E-3			PASS
31	1.702E-3			PASS
32	1.230E-3			PASS
33	2.340E-3			PASS
34	1.498E-3			PASS
35	1.202E-3			PASS
36	1.289E-3			PASS
37	1.994E-3			PASS
38	1.106E-3			PASS
39	1.030E-3			PASS
40	1.179E-3			PASS

Maximum harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.488			
2	3.992E-3			PASS
3	5.531E-3			PASS
4	4.693E-3			PASS
5	4.694E-3			PASS
6	4.070E-3			PASS
7	4.258E-3			PASS
8	3.712E-3			PASS
9	4.322E-3			PASS
10	3.690E-3			PASS
11	4.125E-3			PASS
12	3.350E-3			PASS
13	3.006E-3			PASS
14	3.244E-3			PASS
15	3.782E-3			PASS
16	2.883E-3			PASS
17	2.011E-3			PASS
18	2.810E-3			PASS
19	2.814E-3			PASS
20	2.354E-3			PASS
21	1.266E-3			PASS
22	2.319E-3			PASS
23	2.248E-3			PASS
24	2.207E-3			PASS
25	1.387E-3			PASS
26	2.045E-3			PASS
27	2.207E-3			PASS
28	1.699E-3			PASS
29	1.752E-3			PASS
30	1.844E-3			PASS
31	2.025E-3			PASS
32	1.637E-3			PASS
33	2.611E-3			PASS
34	1.728E-3			PASS
35	1.592E-3			PASS
36	1.578E-3			PASS
37	2.138E-3			PASS
38	1.260E-3			PASS
39	1.271E-3			PASS
40	1.415E-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.

CM-122E

Power and THD results - DS: 1

True power P:	910W	Apparent power S:	910VA
Reactiv power Q:	3.505var	Power factor:	1.000
THD (U):	0.001	THD (I):	0.003
Crest Factor (U):	1.413	Crest Factor (I):	1.421

Average harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.925			
2	3.075E-3			PASS
3	2.955E-3			PASS
4	3.597E-3			PASS
5	4.351E-3			PASS
6	3.067E-3			PASS
7	3.436E-3			PASS
8	2.999E-3			PASS
9	3.059E-3			PASS
10	2.678E-3			PASS
11	2.917E-3			PASS
12	2.501E-3			PASS
13	1.184E-3			PASS
14	2.302E-3			PASS
15	2.253E-3			PASS
16	1.965E-3			PASS
17	812.079E-6			PASS
18	1.941E-3			PASS
19	2.026E-3			PASS
20	1.368E-3			PASS
21	884.207E-6			PASS
22	1.228E-3			PASS
23	2.380E-3			PASS
24	1.064E-3			PASS
25	1.619E-3			PASS
26	958.533E-6			PASS
27	1.334E-3			PASS
28	788.071E-6			PASS
29	1.681E-3			PASS
30	751.520E-6			PASS
31	845.814E-6			PASS
32	861.594E-6			PASS
33	972.835E-6			PASS
34	748.321E-6			PASS
35	1.260E-3			PASS
36	820.785E-6			PASS
37	992.317E-6			PASS
38	827.583E-6			PASS
39	1.046E-3			PASS
40	683.119E-6			PASS

Maximum harmonic current results

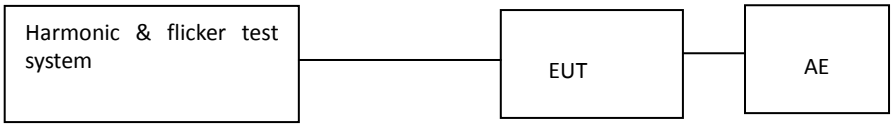
Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	3.939			
2	3.338E-3			PASS
3	3.322E-3			PASS
4	3.863E-3			PASS
5	4.724E-3			PASS
6	3.316E-3			PASS
7	3.636E-3			PASS
8	3.272E-3			PASS
9	3.331E-3			PASS
10	2.996E-3			PASS
11	3.322E-3			PASS
12	2.848E-3			PASS
13	1.558E-3			PASS
14	2.455E-3			PASS
15	2.521E-3			PASS
16	2.430E-3			PASS
17	1.169E-3			PASS
18	2.239E-3			PASS
19	2.438E-3			PASS
20	1.902E-3			PASS
21	1.104E-3			PASS
22	1.552E-3			PASS
23	2.640E-3			PASS
24	1.367E-3			PASS
25	1.923E-3			PASS
26	1.347E-3			PASS
27	1.536E-3			PASS
28	930.745E-6			PASS
29	1.851E-3			PASS
30	887.548E-6			PASS
31	1.028E-3			PASS
32	948.609E-6			PASS
33	1.137E-3			PASS
34	935.829E-6			PASS
35	1.525E-3			PASS
36	993.818E-6			PASS
37	1.139E-3			PASS
38	1.022E-3			PASS
39	1.192E-3			PASS
40	954.175E-6			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.

8. Voltage Fluctuations-Flicker

Test result: **PASS**

8.1 Block Diagram of Test Setup



8.2 Test Setup and Test Procedure

8.2.1 Definition

Flicker: impression of unsteadiness of visual sensation induced by a light stimulus whose luminance or spectral distribution fluctuates with time.

Pst: Short-term flicker severity.

Plt: long-term flicker severity.

dc: maximum steady state voltage change during an observation period.

dmax: maximum absolute voltage change during an observation period.

d(t): time function of the relative r.m.s. voltage change evaluated as a single value for each successive half period between zero-crossings of the source voltage, except during time interval in which the voltage is a steady-state condition for at least 1s.

8.2.2 Test condition

The EUT was set to produce the most unfavorable sequence of voltage changes.

8.3 Test Protocol

The tested object operated under the operating condition specified in EN 61000-3-3
The following limits apply

- the value of Pst shall not be greater than 1,0.
- the value of Plt shall not be greater than 0,65.
- Tmax, the accumulated time value of d(t) with a deviation exceeding 3,3 % during a single voltage change at the EUT terminals, shall not exceed 500 ms.
- the maximum relative steady-state voltage change, dc, shall not exceed 3,3 %.
- the maximum relative voltage change dmax, shall not exceed:

☐ 4% without additional conditions.
☐ 6 % for equipment which is:
– switched manually, or
– switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption.
☒ 7 % for equipment which is:
– attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawn mowers, portable tools such as electric drills), or
– switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.
☐ for manual switch, dmax is measured in accordance with Annex B of standard, average dmax is calculated from 24 times measurement.
☐ According to EN 61000-3-3 clause 6.1 & A.2, the EUT is either unlikely to produce significant voltage fluctuations/flicker or no limit and test were required by technical analysis and sample evaluation on the product.

CM-105B

	EUT values	Limit	Result
Pst	0.279	1.00	PASS
dc [%]	0.639	3.30	PASS
dmax [%]	0.677	7.00	PASS
dt [s]	0.000	0.50	PASS

CM-108S

	EUT values	Limit	Result
Pst	0.279	1.00	PASS
dc [%]	0.639	3.30	PASS
dmax [%]	0.677	7.00	PASS
dt [s]	0.000	0.50	PASS

CM-108E

	EUT values	Limit	Result
Pst	0.213	1.00	PASS
dc [%]	0.651	3.30	PASS
dmax [%]	0.685	7.00	PASS
dt [s]	0.000	0.50	PASS

CM-122E

	EUT values	Limit	Result
Pst	0.184	1.00	PASS
dc [%]	0.651	3.30	PASS
dmax [%]	0.675	7.00	PASS
dt [s]	0.000	0.50	PASS

Immunity Test

Performance criteria

The performance criteria are based on the general criteria of the standard and derived from the product specification

Criterion A: Normal Performance within limits specified by the manufacturer, request or purchaser.

Criterion B: Continue to operate as intended after the test. No degradation of performance or loss of function. During the test degradation of performance is allowed, however no change of actual operating state or stored date.

Criterion C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

Categories of apparatus

☐ Category I (fulfill the relevant immunity requirements without testing)

☒ Category II (Shall fulfill the tests: ESD, EFT, Inject current, Surge, Dips)

☐ Category III (Shall fulfill the tests: ESD, EM fields*)

☐ Category IV (Shall fulfill the tests: ESD, EFT, Inject current, Surge, Dips, EM fields)

Note: *only applicable to the ride on toys operating with electronic devices.

9. Electrostatic Discharge (ESD)

Test result: **PASS**

9.1 Severity Level and Performance Criterion

9.1.1 Test level

1a – Contact discharge		1b – Air discharge	
Level	Test voltage kV	Level	Test voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15
X	Special	X	Special

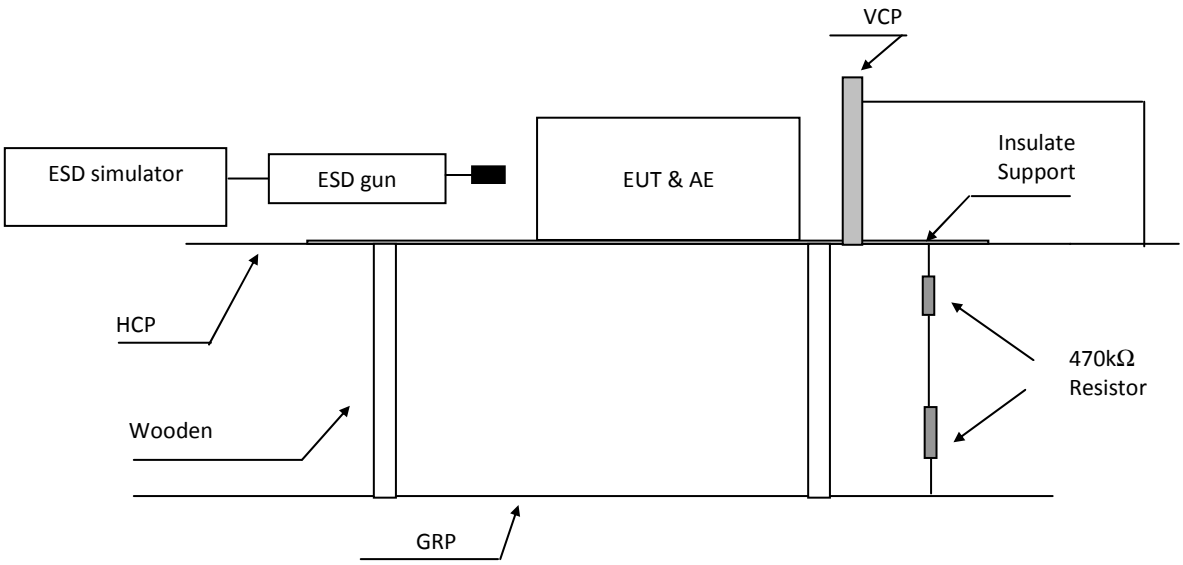
Notes:
1."X" is an open level. The level has to be specified in the dedicated equipment specification. If higher voltages than those shown are specified, special test equipment may be needed.
2. The gray rows were the selected test level.

9.1.2 Performance Criterion

Performance criterion: **B**

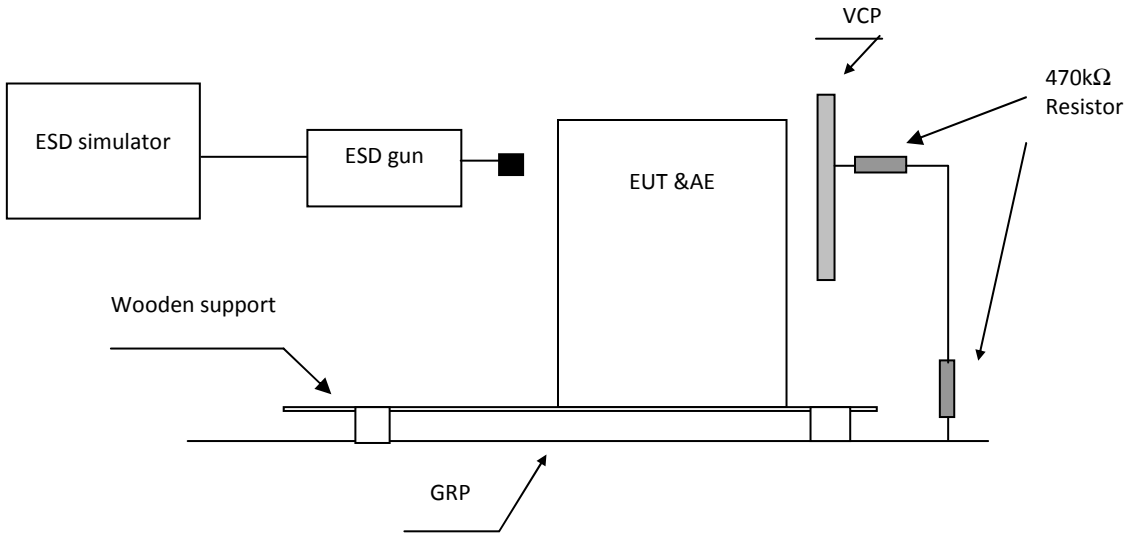
9.2 Block Diagram of Test Setup

☒ For table-top equipment



Note: HCP means Horizontal Coupling Plane
VCP means Vertical Coupling Plane
GRP means Ground Reference Plane
Wooden support is a 0.8m height table

☐ For floor standing equipment



Note: VCP means Vertical Coupling Plane
GRP means Ground Reference Plane
Wooden support is a 0.1m height rack

9.3 Test Setup and Test Procedure

Measurement was performed in shielded room.
Measurement and setting of EUT was applied according to IEC 61000-4-2 Clasuse 7.
The test method and equipment was specified by IEC 61000-4-2 with the modifications by EN 55014-2 clause 5.1.

9.4 Test Protocol

Direct discharges were applied at the following selected points:

Test point #	Test level [kV]	Air/ Contact	Polarity (+/-)	Pass/Fail/NA	Comment
A	2/4	Contact	+/-	Pass	All touchable screws of enclosure
B	2/4	Contact	+/-	Pass	Accessible metal parts of the EUT
C	2/4/8	Air	+/-	Pass	Air gap of the switch, button
D	2/4/8	Air	+/-	Pass	The air in-taking opening
E	2/4/8	Air	+/-	Pass	Slots around the EUT

Indirect contact discharges were applied to the VCP and the HCP at the following selected points:

☒ For table top equipment

Point	Description	Point	Pass/Fail/NA
HCP f	0,1m from the front of the EUT	Edge of centre, corner on HCP	Pass
HCP b	0,1m from the back of the EUT	Edge of centre, corner on HCP	Pass
HCP r	0,1m from the right side of the EUT	Edge of centre, corner on HCP	Pass
HCP l	0,1m from the left side of the EUT	Edge of centre, corner on HCP	Pass
VCP f	0,1m from the front of the EUT	Edge of centre, corner on VCP	Pass
VCP b	0,1m from the back of the EUT	Edge of centre, corner on VCP	Pass
VCP r	0,1m from the right of the EUT	Edge of centre, corner on VCP	Pass
VCP l	0,1m from the left of the EUT	Edge of centre, corner on VCP	Pass

☐ For floor standing equipment

Point	Description	Point	Pass/Fail/NA
VCP f	0,1m from the front of the EUT	Edge of centre, corner on VCP	-
VCP b	0,1m from the back of the EUT	Edge of centre, corner on VCP	-
VCP r	0,1m from the right of the EUT	Edge of centre, corner on VCP	-
VCP l	0,1m from the left of the EUT	Edge of centre, corner on VCP	-

Observation: All the functions were operated as normal during and after test.
Conclusion: The EUT met the requirements of Performance Criterion A.

10. Electromagnetic field susceptibility

Test result: **NA**

10.1 Severity Level and Performance Criterion

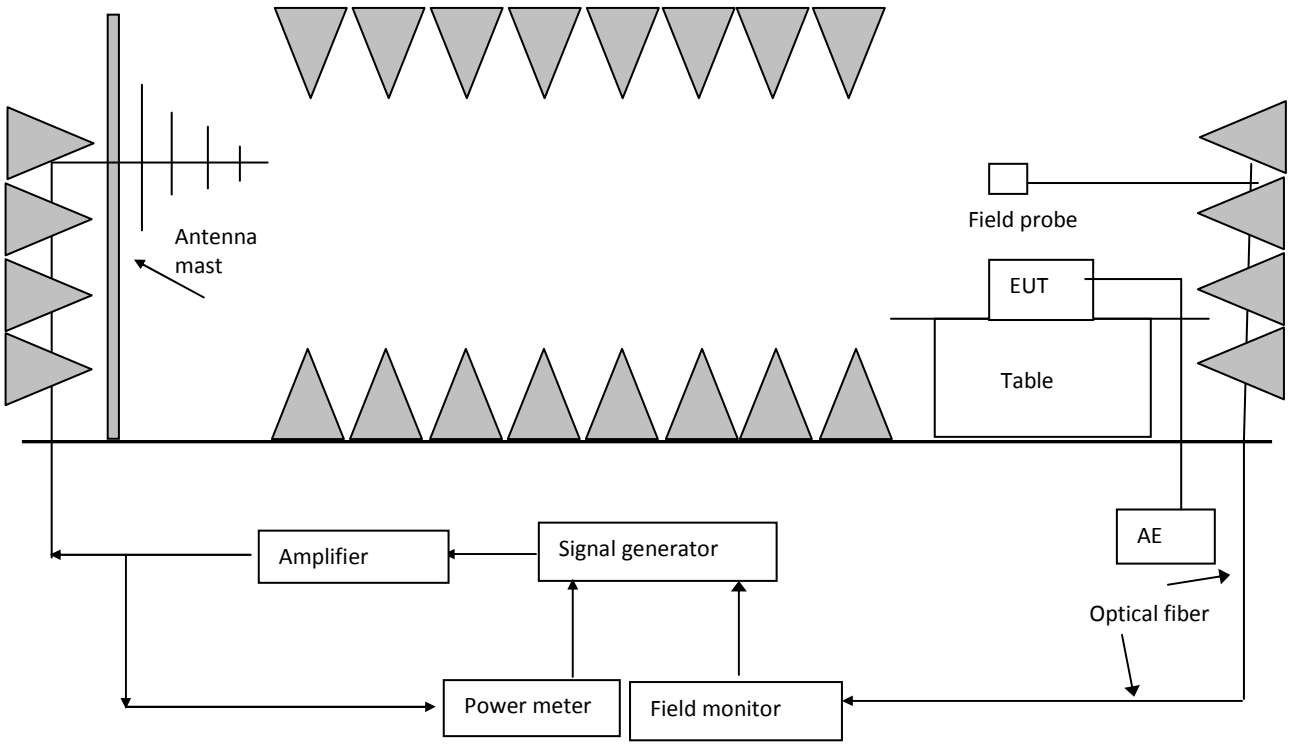
10.1.1 Test level

Level	Test field strength V/m
1	1
2	3
3	10
X	Special
Notes: 1. X is an open test level. This level may be given in the product specification. 2. The gray row is the selected test level.	

10.1.2 Performance Criterion

Performance criterion: **A**

10.2 Block diagram of test setup



10.3 Test Setup and Test Procedure

Measurement was performed in full-anechoic chamber.
Measurement and setting of EUT was applied according to IEC 61000-4-3 clause 7.
The test method and equipment was specified by IEC 61000-4-3 with additions and modifications by EN 55014-2 clause 5.5.

10.4 Test Protocol

Test no.:	Frequency (MHz)	Polarization	Test level V/m	Modulation	Exposed location	Pass/Fail/NA	Comment
1	80-1000	H & V	3	1kHz, 80%, SW, AM, 1% step size			-

Observation:
Conclusion:

10.5 Test Facility Description

The test and test instruments mentioned above was conducted in the following test facility:

Intertek Testing Services Shanghai
Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China

11. Electric Fast Transient/Burst Immunity Test

Test result: **PASS**

11.1 Severity Level and Performance Criterion

11.1.1 Test level

Open circuit output test voltage (±10%) and repetition rate of the impulses (±20%)				
Level	Input and output a.c. power ports		Input and output d.c. power ports Signal lines and control lines ports	
	Voltage peak kV	Repetition rate kHz	Voltage peak kV	Repetition rate kHz
1	0.5	5	0.25	5
2	1	5	0.5	5
3	2	5	1	5
4	4	5	2	5
X	Special	Special	Special	Special
Notes : 1. “X” is an open level. The level has to be specified in the dedicated equipment specification. 2. The gray rows were the selected test level.				

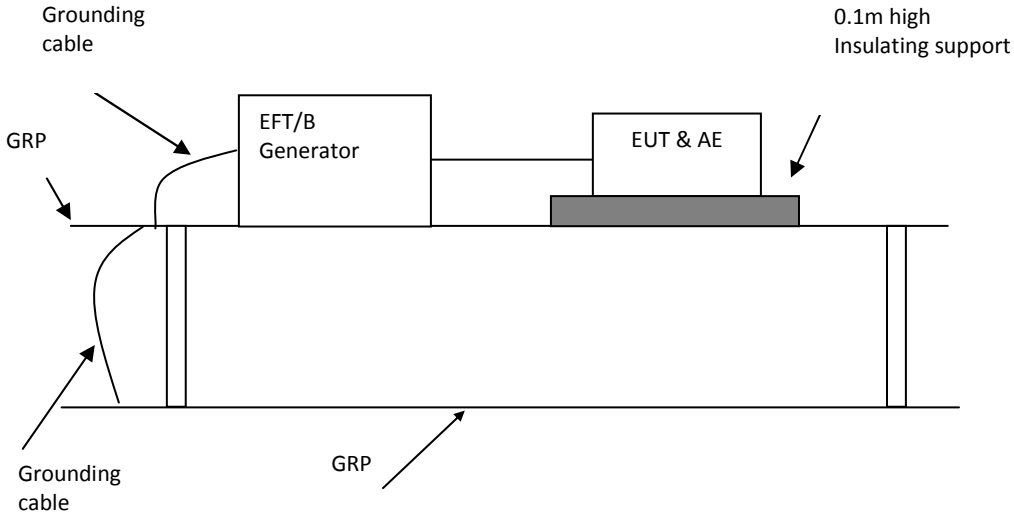
11.1.2 Performance Criterion

Performance criterion **B**

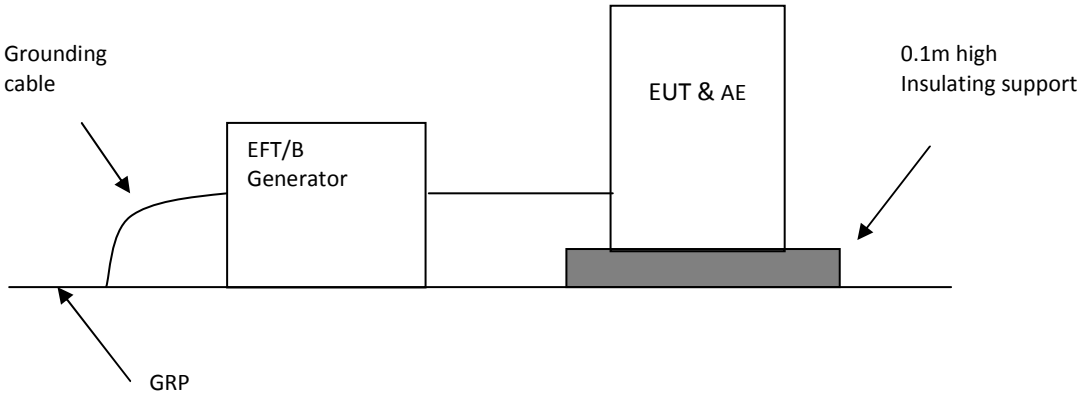
11.2 Block Diagram of Test Setup

11.2.1 Block Diagram for input a.c./d.c. power line

☒ For table-top equipment

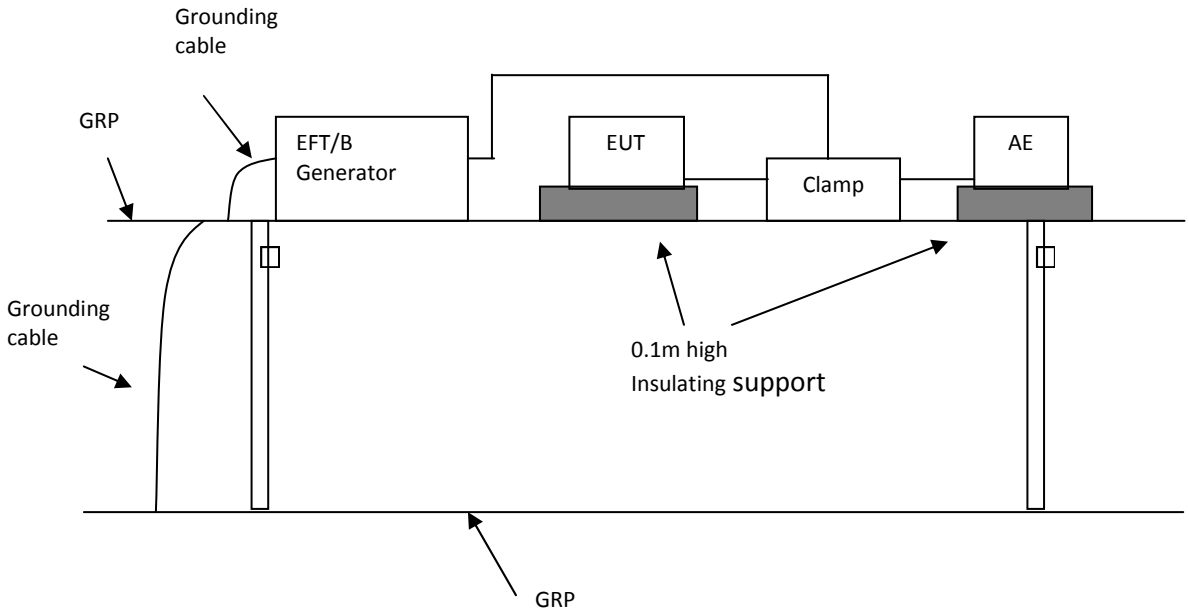


☐ For floor standing equipment

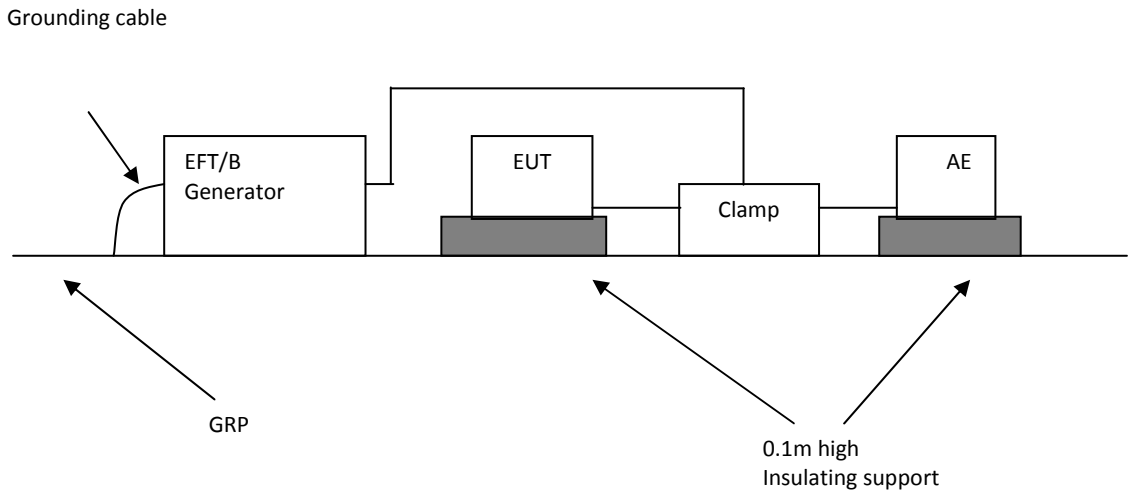


11.2.2 Block Diagram for output a.c./d.c. power line or signal/control lines

☐ For table-top equipment



☐ For floor standing equipment



11.3 Test Setup and Test Procedure

Measurement was performed in shielded room.
Measurement and setting of EUT was applied according to IEC 61000-4-4 clause 7.
The test method and equipment was specified by IEC 61000-4-4 with additions and modifications by EN 55014-2 clause 5.2.

11.4 Test Protocol

Test No.	Level [kV]	Polarity +/-	Repetition rate kHz	Line for test	Pass/Fail/NA
1	1	+/-	5	a.c. power ports	Pass
2	0.5	+/-	5	d.c. power ports	NA
3	0.5	+/-	5	Signal lines and control lines	NA

Observation: All the functions were operated as normal during and after test.
Conclusion: The EUT met the requirements of Performance Criterion A

12. Surge Immunity Test

Test result: **PASS**

12.1 Severity Level and Performance Criterion

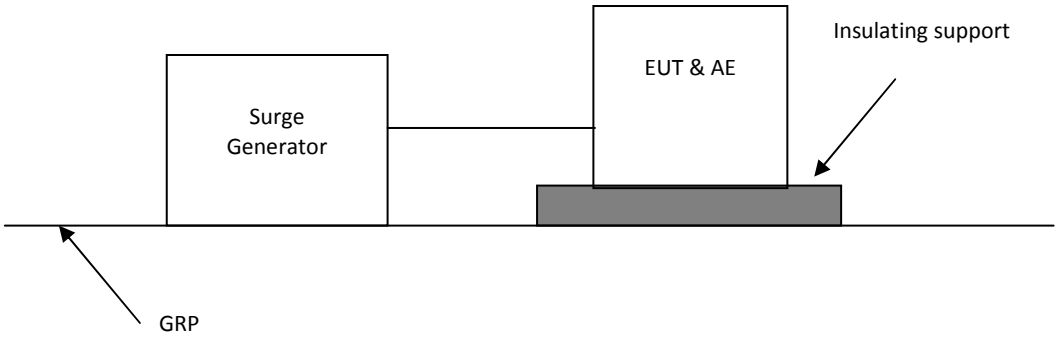
12.1.1 Test level

Level	Open-circuit test voltage ±10% kV
1	0.5
2	1.0
3	2.0
4	4.0
X*	Special
Notes: 1.”X” is an open class. This level can be specified in the product Specification 2. The gray rows are the selected level.	

12.1.2 Performance Criterion

Performance criterion **B**

12.2 Block Diagram of Test Setup



12.3 Test Setup and Test Procedure

Measurement was performed in shielded room.
Measurement and setting of EUT was applied according to IEC 61000-4-5 clause 7.
The test method and equipment was specified by IEC 61000-4-5 with modifications by EN 55014-2 clause 5.6.

12.4 Test Protocol

Test No.	Level [kV]	Polarity +/-	Angle	Line for test	Pass/Fail/NA
1	1	+	90^0	a.c. Mains (line to earth)	NA
2	1	-	270^0	a.c. Mains (line to earth)	NA
3	1	+	90^0	a.c. Mains (line to line)	Pass
4	1	-	270^0	a.c. Mains (line to line)	Pass
5	2	+	90^0	a.c. Mains (line to earth)	Pass
6	2	-	270^0	a.c. Mains (line to earth)	Pass

Observation: All the functions were operated as normal during and after test.
Conclusion: The EUT met the requirements of Performance Criterion A.

13. Immunity to Conducted Disturbances, Induced by Radio-frequency Fields

Test result: **PASS**

13.1 Severity Level and Performance Criterion

13.1.1 Test level

Frequency range 150kHz – 80MHz		
Level	Voltage level (e.m.f.)	
	U_0 [dB(uV)]	U_0 (V)
1	120	1
2	130	3
3	140	10
X	Special	Special
Notes: 1. "X" is an open level. 2. The gray row is the selected test level.		

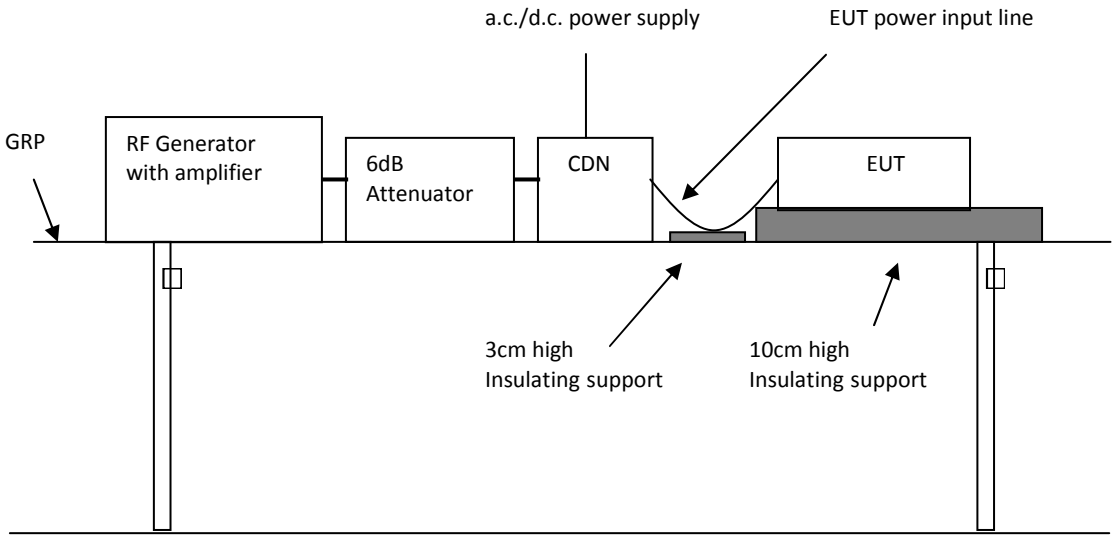
13.1.2 Performance Criterion

Performance criterion: **A**

13.2 Block Diagram of Test Setup

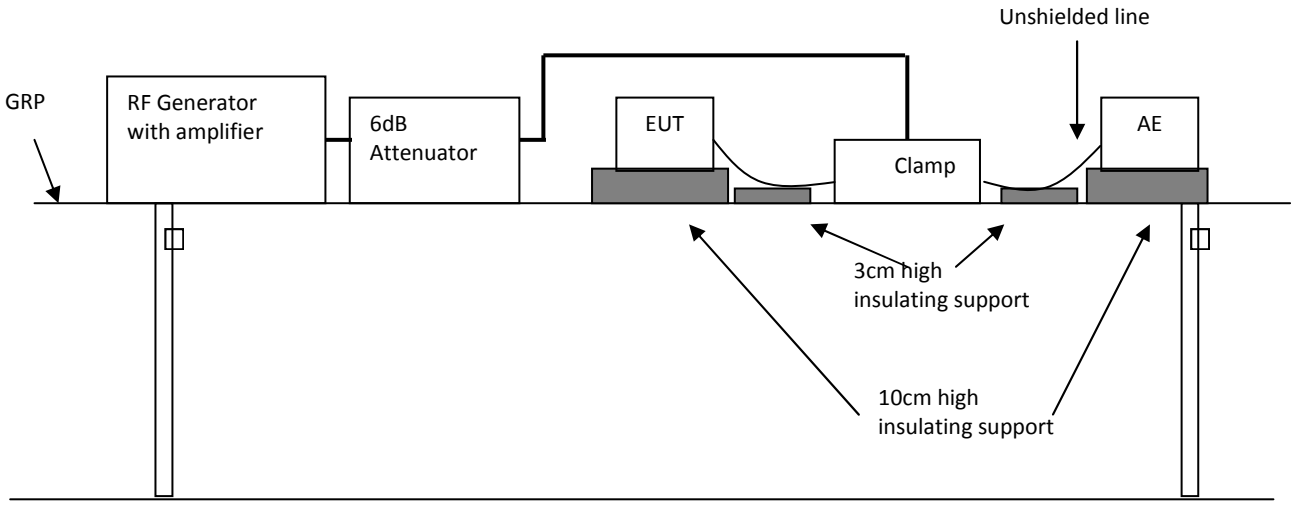
13.2.1 Block Diagram for a.c./d.c input power line

☒ Block Diagram for a.c./d.c input power line

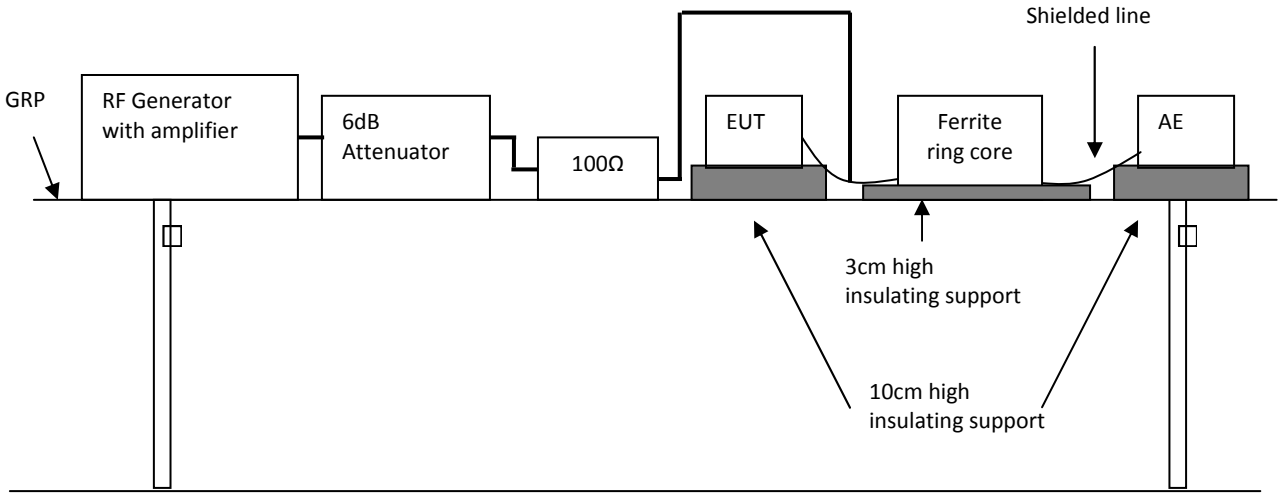


13.2.2 Block Diagram for output a.c./d.c. power line or signal/control lines

☐ Unshielded line



☐ Shielded line



13.3 Test Setup and Test Procedure

Measurement was performed in shielded room.
Measurement and setting of EUT was applied according to IEC 61000-4-6 clause 7.
The test method and equipment was specified by IEC 61000-4-6 with additions and modifications by EN 55014-2 clause 5.3, 5.4.

13.4 Test Protocol

☒ EUT is not required for electromagnetic susceptibility

Test No.	Frequency (MHz)	Level V (r.m.s.)	Modulation	Injected point	Pass/Fail/NA
1	0.15~230	3	1kHz, 80%, SW, AM, 1% step size	a.c. power ports	Pass
2	0.15~230	1	1kHz, 80%, SW, AM, 1% step size	d.c. power ports	NA
3	0.15~230	1	1kHz, 80%, SW, AM, 1% step size	signal lines and control lines	NA

☐ For EUT test Electromagnetic field susceptibility

Test No.	Frequency (MHz)	Level V (r.m.s.)	Modulation	Injected point	Pass/Fail/NA
1	0.15~80	3	1kHz, 80%, SW, AM, 1% step size	a.c. power ports	-
2	0.15~80	1	1kHz, 80%, SW, AM, 1% step size	d.c. power ports	-
3	0.15~80	1	1kHz, 80%, SW, AM, 1% step size	signal lines and control lines	-

Observation: All the functions were operated as normal during and after test.
Conclusion: The EUT met the requirements of Performance Criterion A.

14. Voltage Dips, Short Interruptions and Voltage Variations Immunity Test

Test result: **PASS**

14.1 Severity Level and Performance Criterion

14.1.1 Test level

Test level % U_T	Voltage dip and short interruptions % U_T	Duration (in period)	
		50Hz	60Hz
0	100	0.5 cycle	0.5 cycle
40	60	10 cycles	12 cycles
70	30	25 cycles	30 cycles

Notes:

1.“*” for 0.5 period, the test shall be made in positive and negative polarity, i.e. starting at 0° and 180°, respectively.

2. “**” means “x” is an open duration. This duration can be given in the product specification. Utilities in Europe have measured dips and short interruptions of duration between ½ a period and 3000 periods, but duration less than 50 periods are most common.

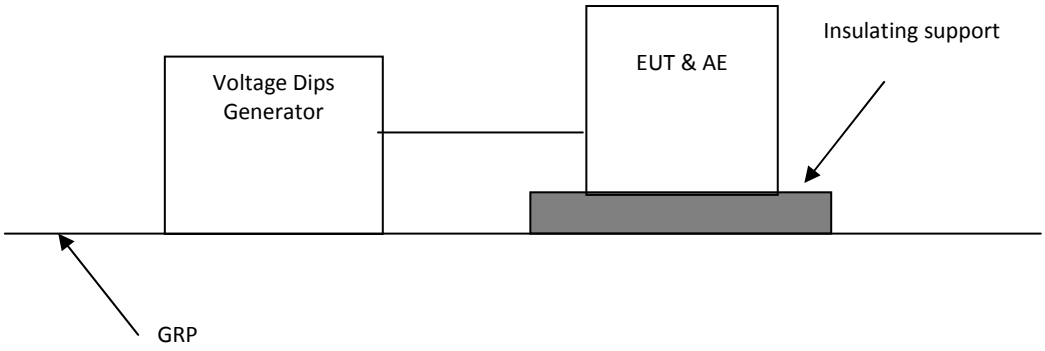
3. If the EUT is tested for voltage dips of 100%, it is generally unnecessary to test for other levels for the same durations. However, for some cases (safeguard systems or electro-mechanical devices) it is not true. The product specification or product committee shall give an indication of the applicability of this note.

4. The gray rows are selected test level.

14.1.2 Performance Criterion

Performance criterion: **C**

14.2 Block diagram of test setup



14.3 Test Setup and Test Procedure

Measurement was performed in shielded room.
Measurement and setting of EUT was applied according to IEC 61000-4-11 clause 7.
The test method and equipment was specified by IEC 61000-4-11 with additions and modifications by EN 55014-2 clause 5.7.

14.4 Test Protocol

Test no.	% U_T	Voltage dip and short interruptions % UT	Duration (in periods)	Pass/Fail/NA
1	70	30%	25 cycles at 50Hz	Pass
			30 cycles at 60Hz	Pass
2	40	60%	10 cycles at 50Hz	Pass
			12 cycles at 60Hz	Pass
3	0	100% pos half cycle	0.5 cycle at 50Hz	Pass
			0.5 cycle at 60Hz	Pass
4	0	100% neg half cycle	0.5 cycle at 50Hz	Pass
			0.5 cycle at 60Hz	Pass

Observation: At test level of 70%, the EUT worked unsteadily. Once the interference is removed, it recovered its normal mode at once.
Conclusion: The EUT met the requirements of Performance Criterion B.

Appendix I: Photograph of equipment under test

Photo 1.

Description: front view of CM-101A

Photo 2.

Description: side view of CM-101A

Photo 3.
Description: side view of CM-101A

Photo 4.
Description: back view of CM-101A, CM-101S

Photo 5.
Description: top view of CM-101A, CM-101S

Photo 6.
Description: bottom view of CM-101A

Photo 7.
Description: heating plate view of CM-101A, CM-101S, CM-102A

Photo 8.
Description: lid open view of CM-101A

Photo 9.
Description: internal view of CM-101A, CM-101S

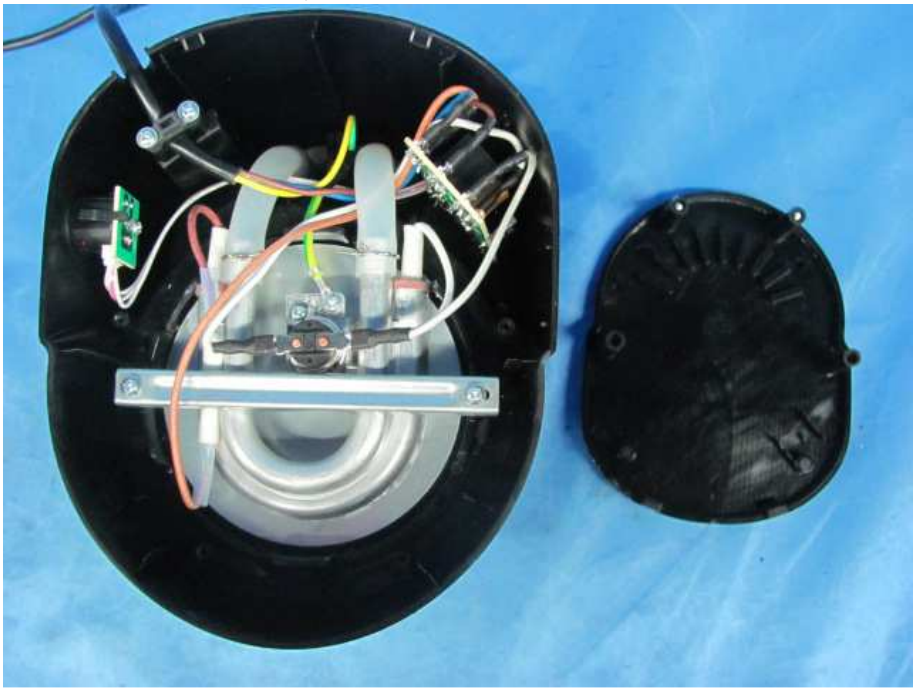


Photo 10.
Description: power PCB view of CM-101A, CM-101S, CM-102A, CM-105A, CM-105B, CM-107A, CM-107B, CM-112B, CM-118A-1, CM-121A, CM-121AT, CM-122A, CM-122AT

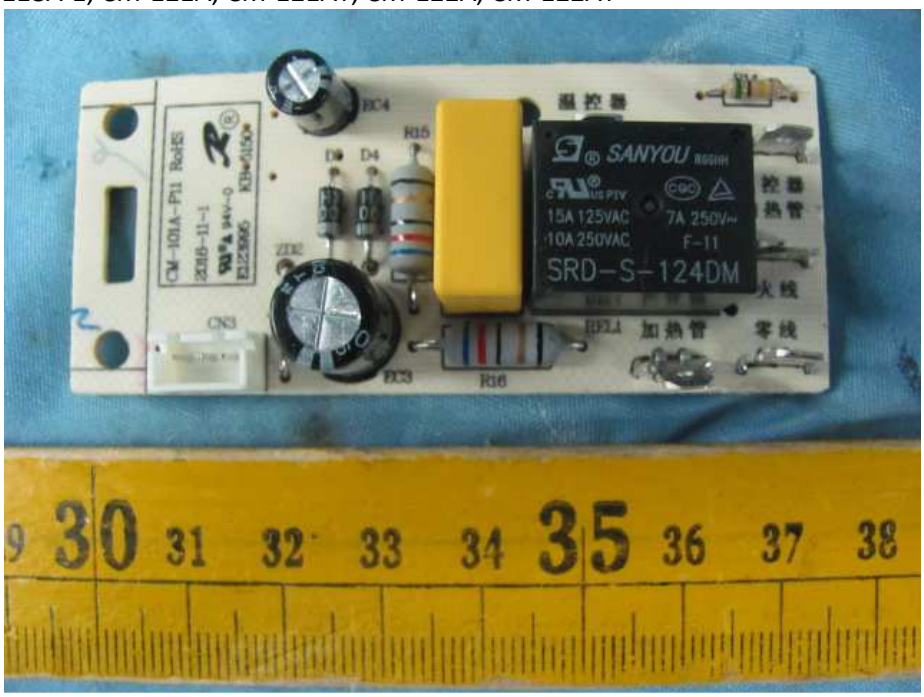


Photo 11.
Description: power PCB view of CM-101A, CM-101S, CM-102A, CM-105A, CM-105B, CM-107A, CM-107B, CM-112B, CM-118A-1, CM-121A, CM-121AT, CM-122A, CM-122AT

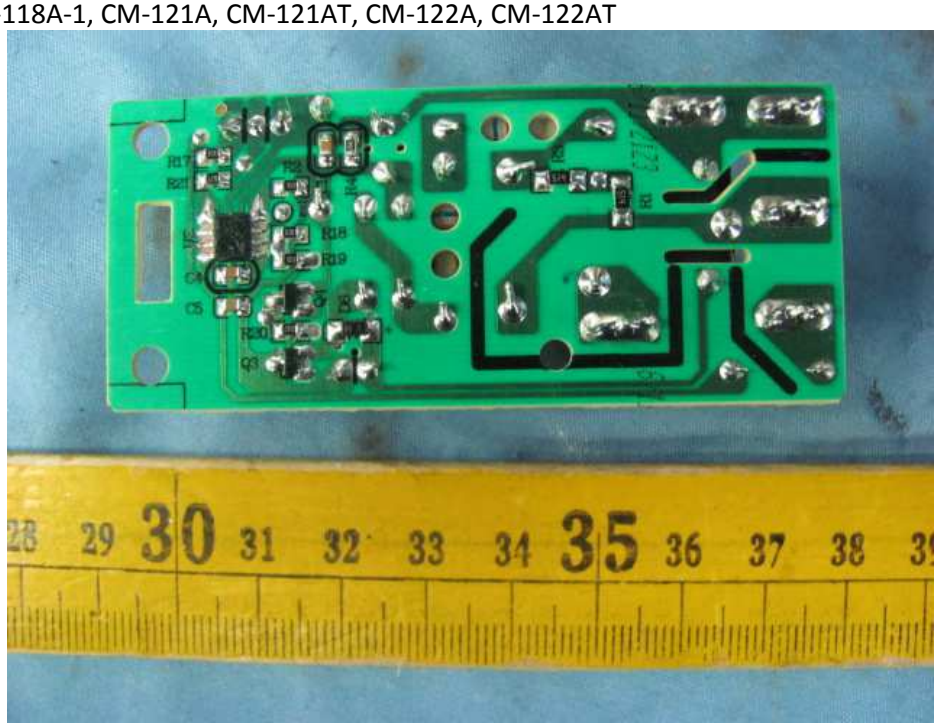


Photo 12.
Description: control PCB view of all models with switch E

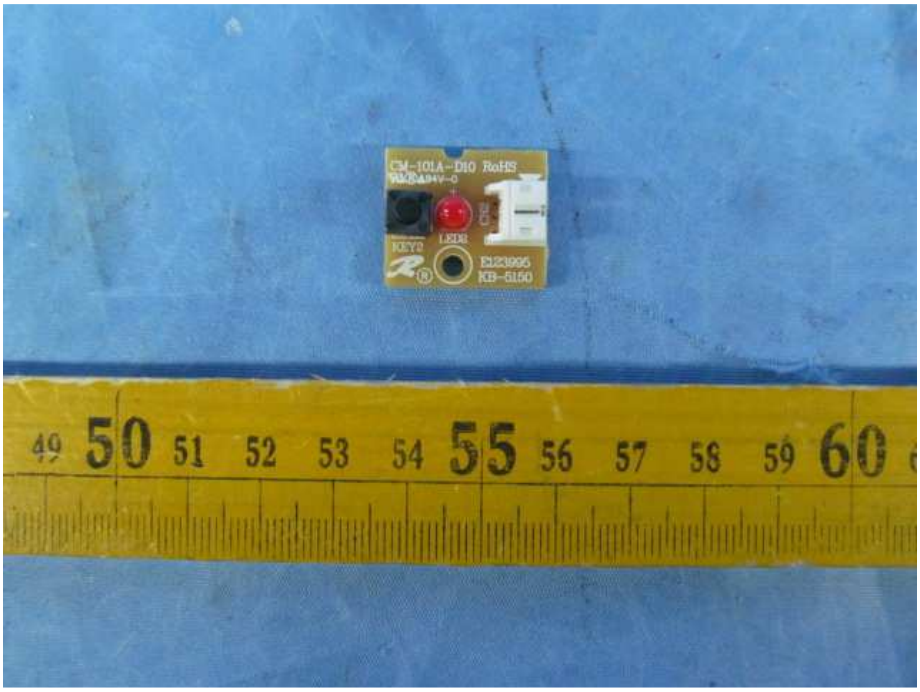


Photo 13.
Description: control PCB view of all models with switch E

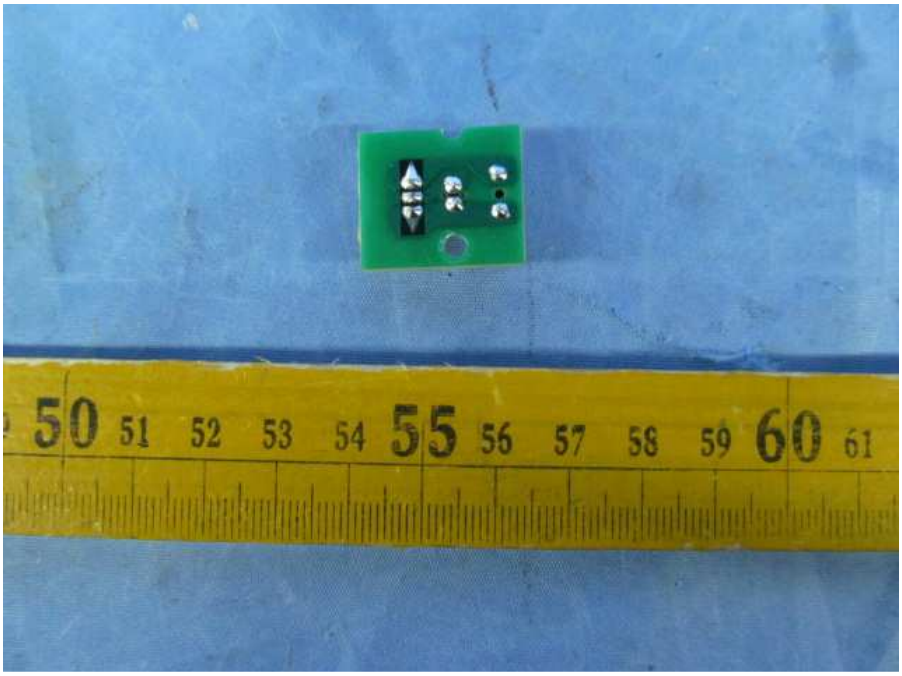


Photo 14.
Description: earthing connecting view of CM-101A, CM-101S

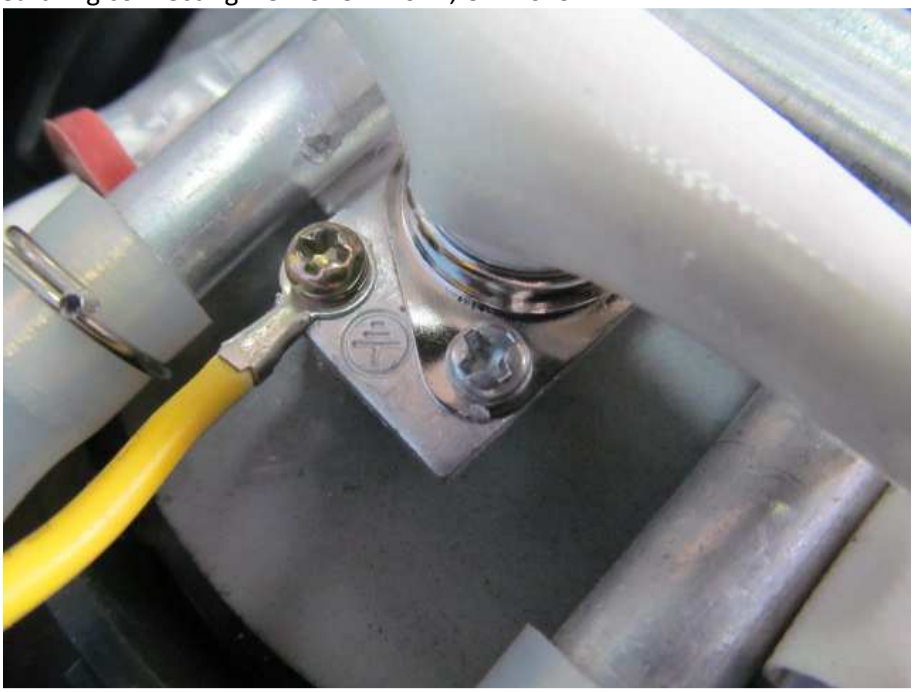


Photo 15.
Description: pot view of CM-101A, CM-101S, CM-102A

Photo 16.
Description: front view of CM-101S

Photo 17.
Description: side view of CM-101S

Photo 18.
Description: side view of CM-101S

Photo 19.
Description: bottom view of CM-101S

Photo 20.
Description: lid open view of CM-101S

Photo 21.
Description: lid open view of CM-101S

Photo 22.
Description: front view of CM-102A

Photo 23.
Description: side view of CM-102A

Photo 24.
Description: side view of CM-102A

Photo 25.
Description: back view of CM-102A

Photo 26.
Description: top view of CM-102A

Photo 27.
Description: bottom view of CM-102A

Photo 28.
Description: lid open view of CM-102A

Photo 29.
Description: lid open view of CM-102A

Photo 30.
Description: internal view of CM-102A

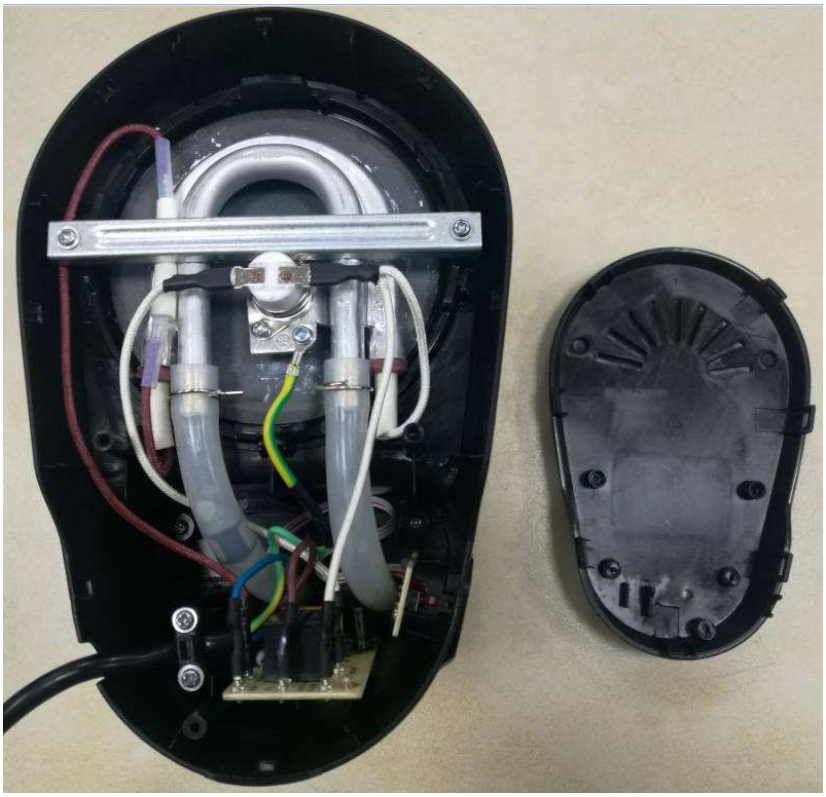


Photo 31.
Description: earthing connecting view of all models with pot A (except for CM-101A, CM-101S)

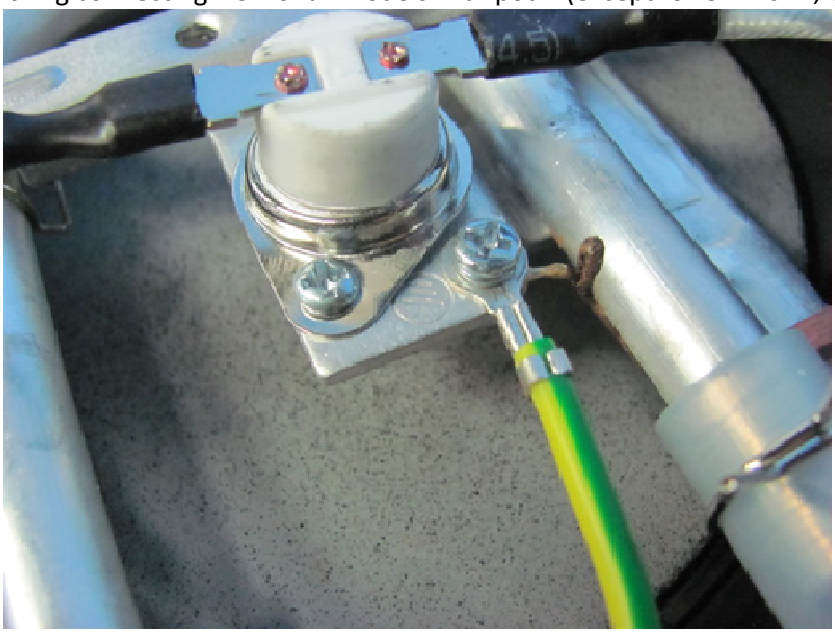


Photo 32.
Description: front view of CM-105A

Photo 33.
Description: side view of CM-105A

Photo 34.
Description: side view of CM-105A

Photo 35.
Description: back view of CM-105A

Photo 36.
Description: top view of CM-105A, CM-105B, CM-105EA, CM-105EA1

Photo 37.
Description: bottom view of CM-105A, CM-105B, CM-105EA, CM-105EA1

Photo 38.
Description: lid open view of CM-105A, CM-105B, CM-105EA, CM-105EA1

Photo 39.
Description: internal view of CM-105A

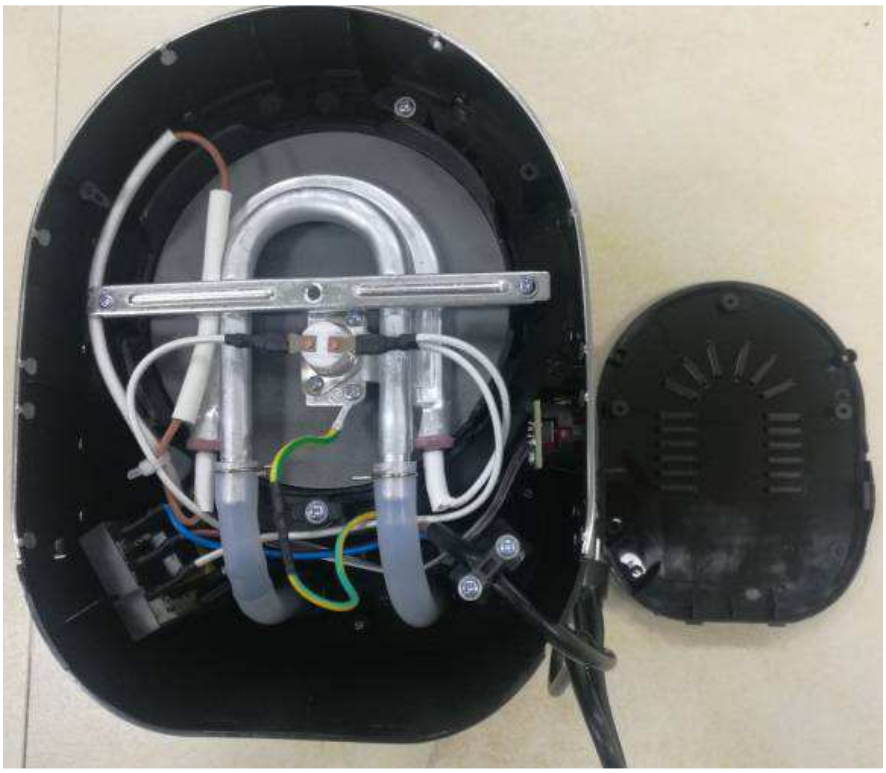


Photo 40.
Description: front view of CM-105B

Photo 41.
Description: side view of CM-105B

Photo 42.
Description: side view of CM-105B

Photo 43.
Description: back view of CM-105B

Photo 44.
Description: internal view of CM-105B

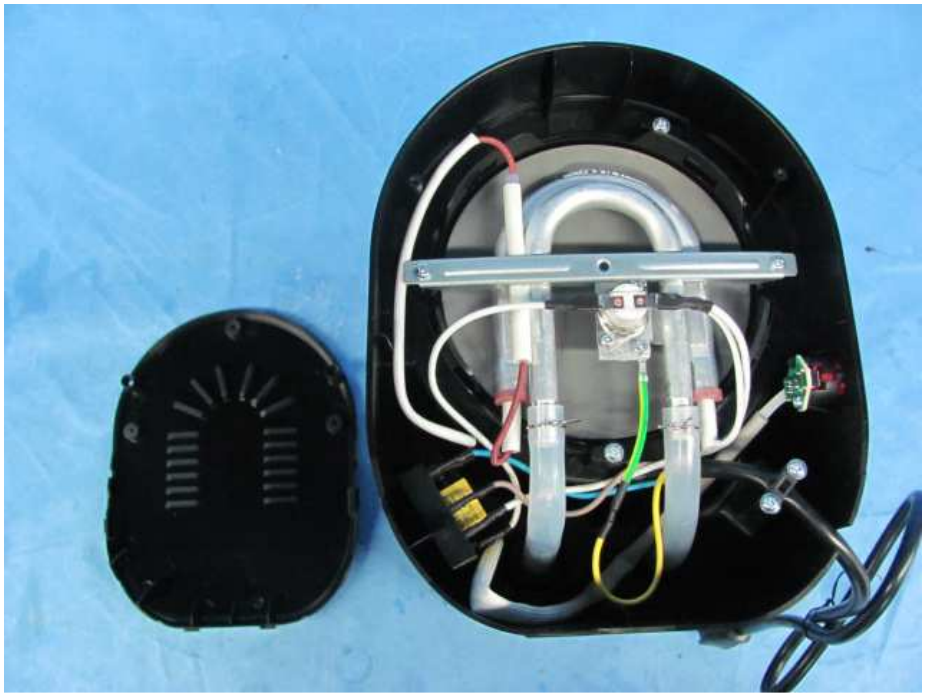


Photo 45.
Description: front view of CM-105EA

Photo 46.
Description: side view of CM-105EA

Photo 47.
Description: side view of CM-105EA

Photo 48.
Description: back view of CM-105EA

Photo 49.
Description: control panel of CM-105EA

Photo 50.
Description: internal view of CM-105EA, CM-105EA1

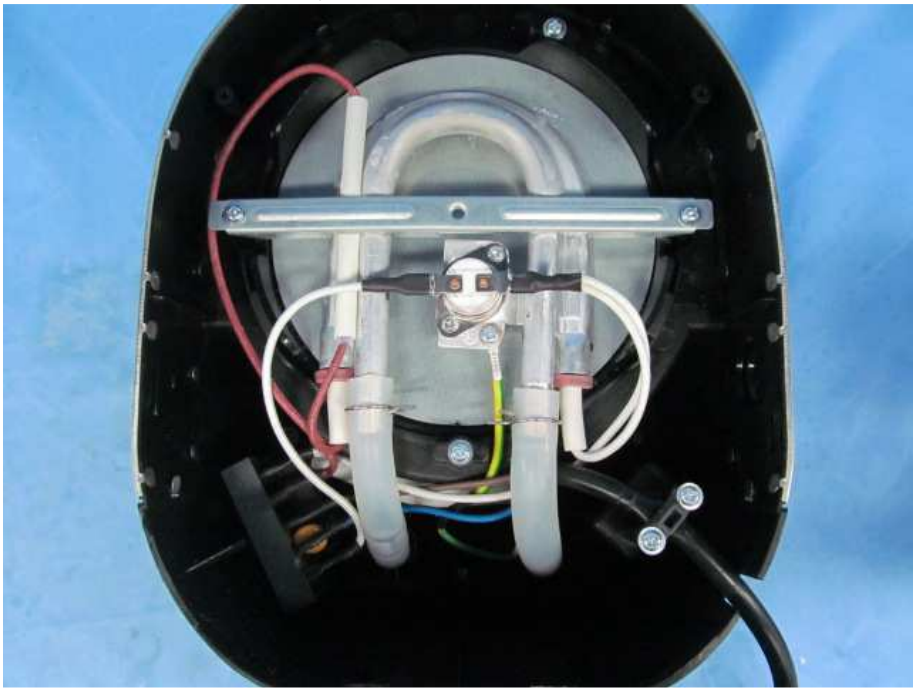


Photo 51.
Description: internal upper view of CM-105EA, CM-105EA1

Photo 52.
Description: power PCB view of CM-105EA, CM-105EA1, CM-107EA, CM-108E, CM-108ET, CM-109E, CM-109ES, CM-109ET, CM-109ETS, CM-119, CM-119A, CM-121E, CM-121ET, CM-122E, CM-122ET, CM-127E, CM-127ET

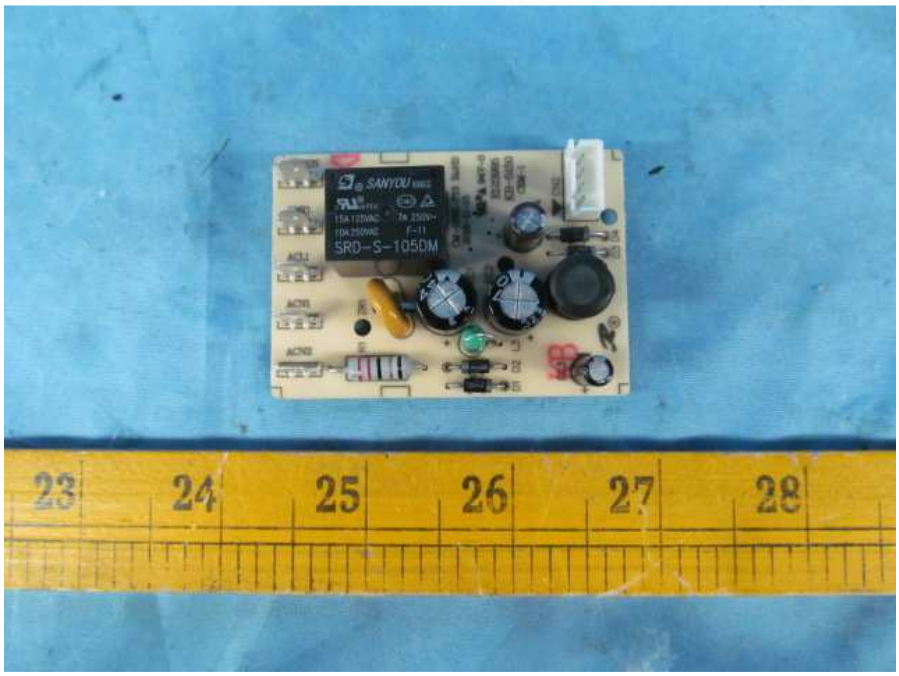


Photo 53.
Description: power PCB view of CM-105EA, CM-105EA1, CM-107EA, CM-108E, CM-108ET, CM-109E, CM-109ES, CM-109ET, CM-109ETS, CM-119, CM-119A, CM-121E, CM-121ET, CM-122E, CM-122ET, CM-127E, CM-127ET.

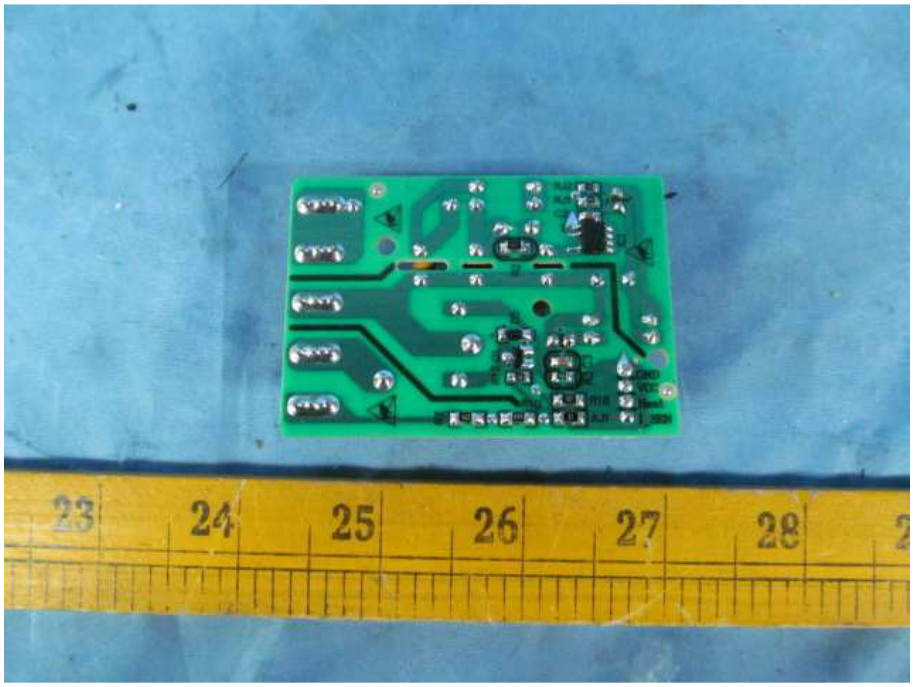


Photo 54.
Description: control PCB view of CM-105EA, CM-105EA1

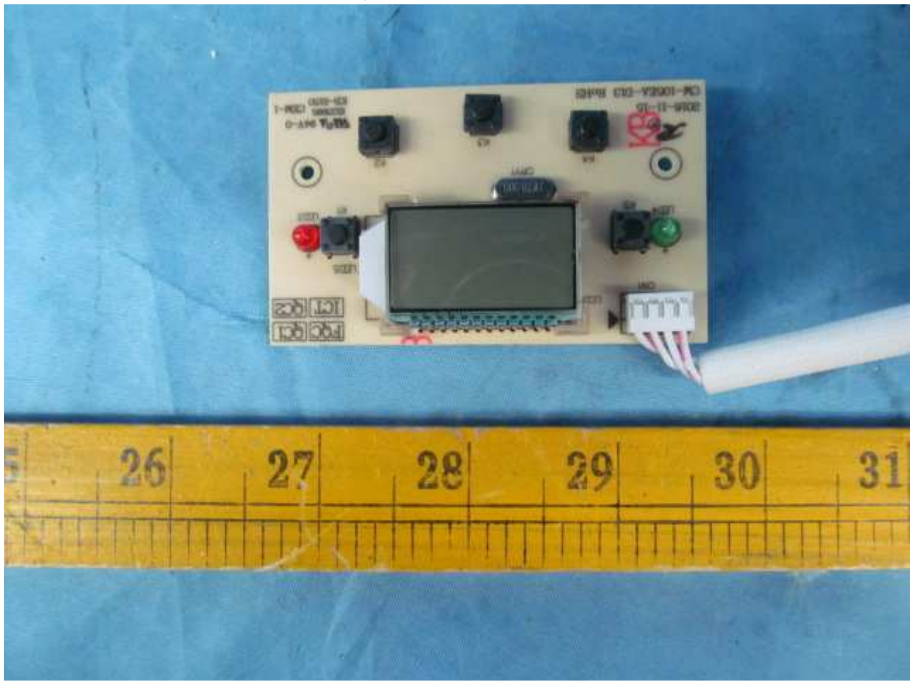


Photo 55.
Description: control PCB view of CM-105EA, CM-105EA1

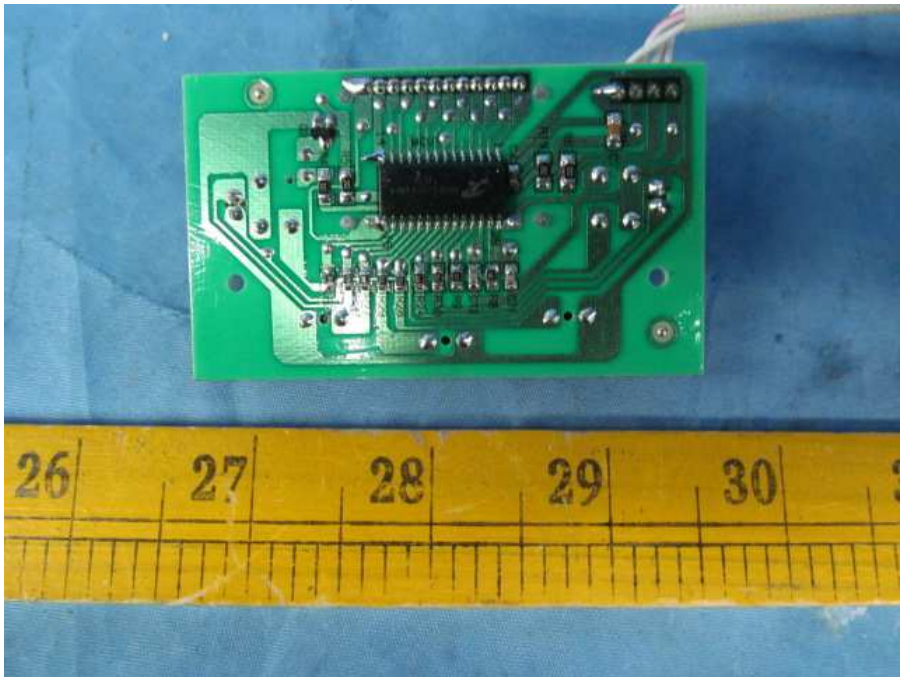


Photo 56.
Description: front view of CM-105EA1

Photo 57.
Description: front view of CM-106A

Photo 58.
Description: side view of CM-106A

Photo 59.
Description: side view of CM-106A

Photo 60.
Description: back view of CM-106A, CM-106S

Photo 61.
Description: top view of CM-106A, CM-106S

Photo 62.
Description: bottom view of CM-106A, CM-106S

Photo 63.
Description: lid open view of CM-106A, CM-106S

Photo 64.
Description: lid open view of CM-106A, CM-106S

Photo 65.
Description: internal view of CM-106A, CM-106S

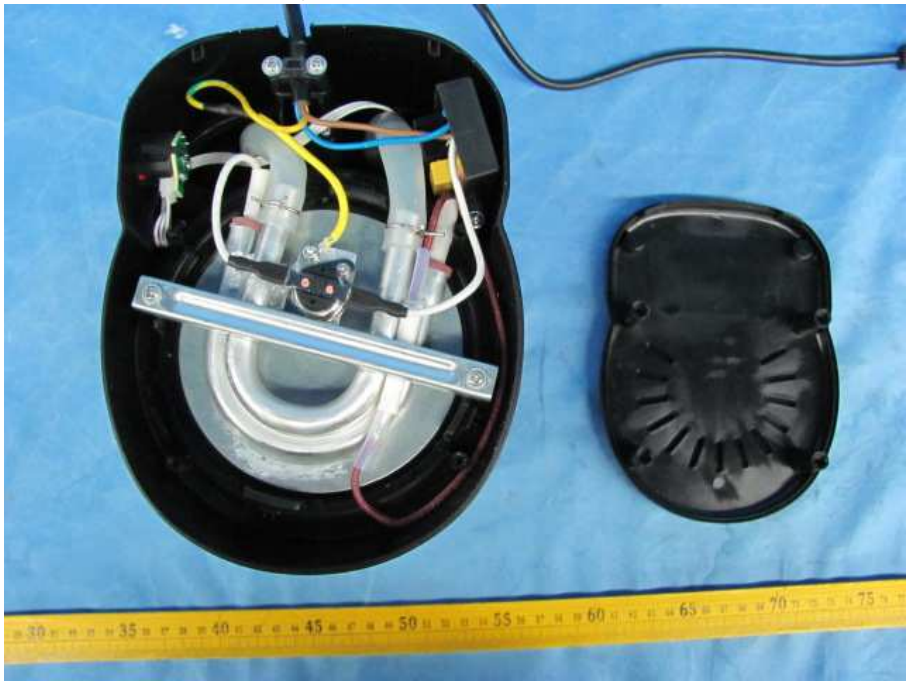


Photo 66.
Description: power PCB view of CM-106A, CM-106S, CM-107BS, CM-108, CM-108S, CM-108A, CM-109, CM-109S, CM-109B, CM-109A, CM-118A.

Photo 67.
Description: power PCB view of CM-106A, CM-106S, CM-107BS, CM-108, CM-108S, CM-108A, CM-109, CM-109S, CM-109B, CM-109A, CM-118A.

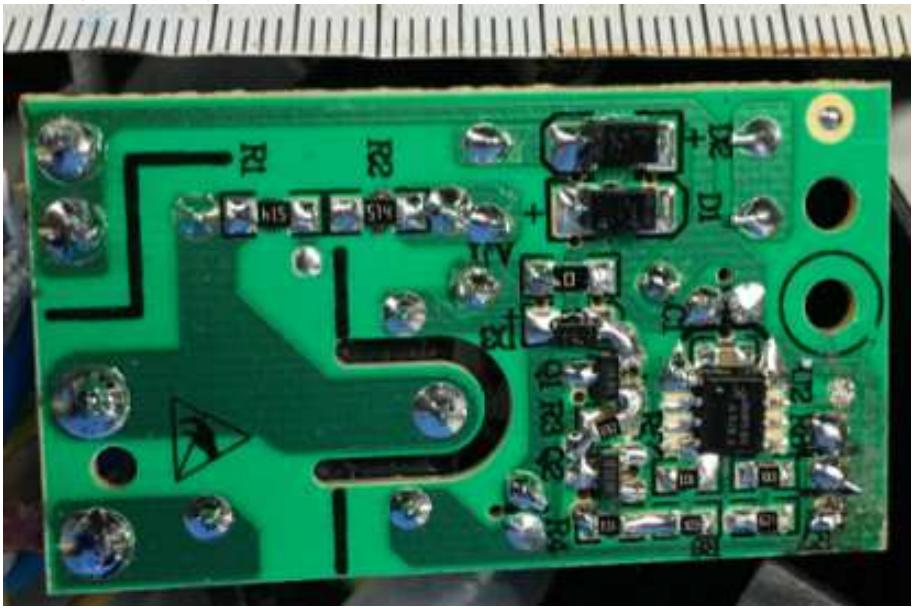


Photo 68.
Description: front view of CM-106S

Photo 69.
Description: front view of CM-107A, CM-107B

Photo 70.
Description: side view of CM-107A, CM-107B, CM-107BS

Photo 71.
Description: side view of CM-107A, CM-107B, CM-107BS

Photo 72.
Description: back view of CM-107A, CM-107B, CM-107BS, CM-107EA

Photo 73.
Description: top view of CM-107A, CM-107B, CM-107BS, CM-107EA

Photo 74.
Description: bottom view of CM-107A, CM-107B, CM-107BS, CM-107EA

Photo 75.
Description: lid open view of CM-107A, CM-107EA

Photo 76.
Description: lid open view of CM-107A, CM-107EA

Photo 77.
Description: internal view of CM-107A, CM-107B

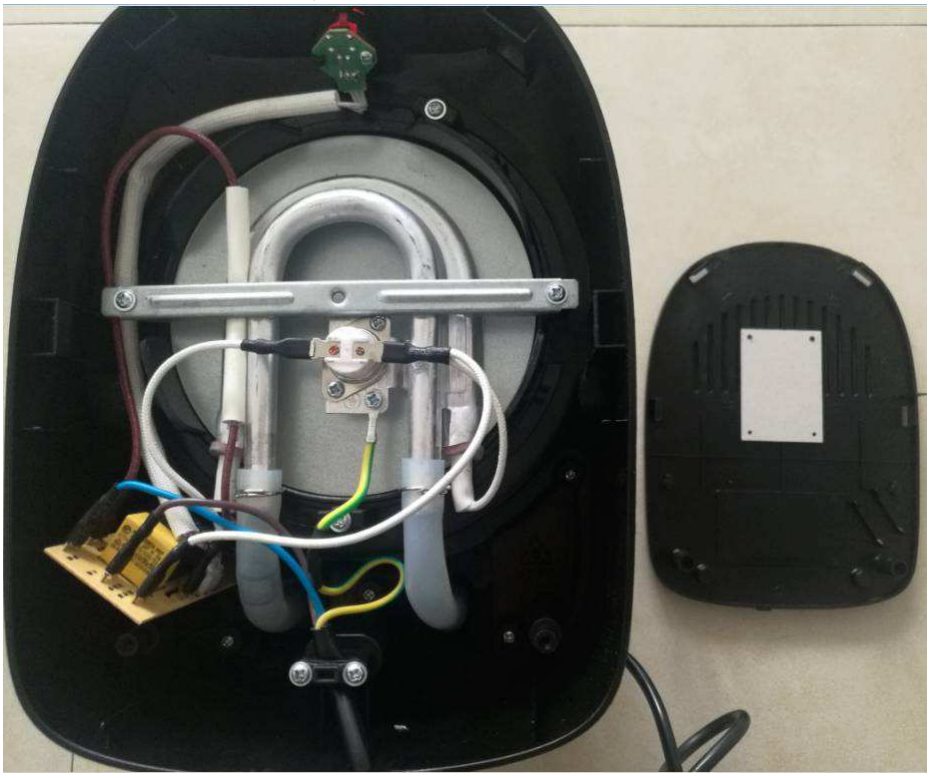


Photo 78.
Description: lid open view of CM-107B, CM-107BS

Photo 79.
Description: lid open view of CM-107B, CM-107BS

Photo 80.
Description: front view of CM-107BS

Photo 81.
Description: internal view of CM-107BS

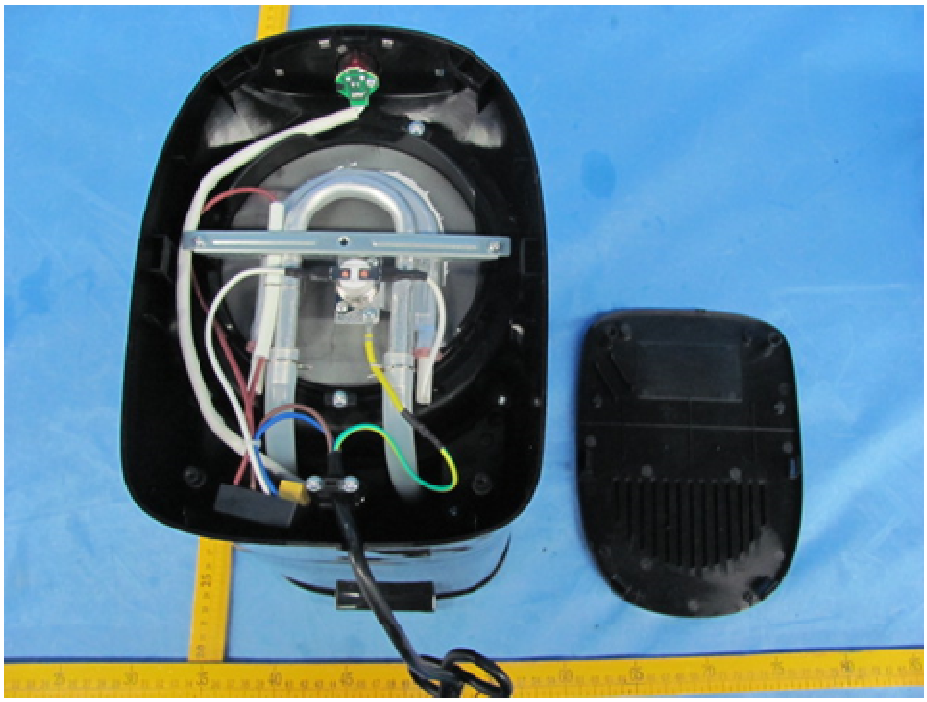


Photo 82.
Description: front view of CM-107EA

Photo 83.
Description: side view of CM-107EA

Photo 84.
Description: side view of CM-107EA

Photo 85.
Description: control panel view of CM-107EA

Photo 86.
Description: internal view of CM-107EA

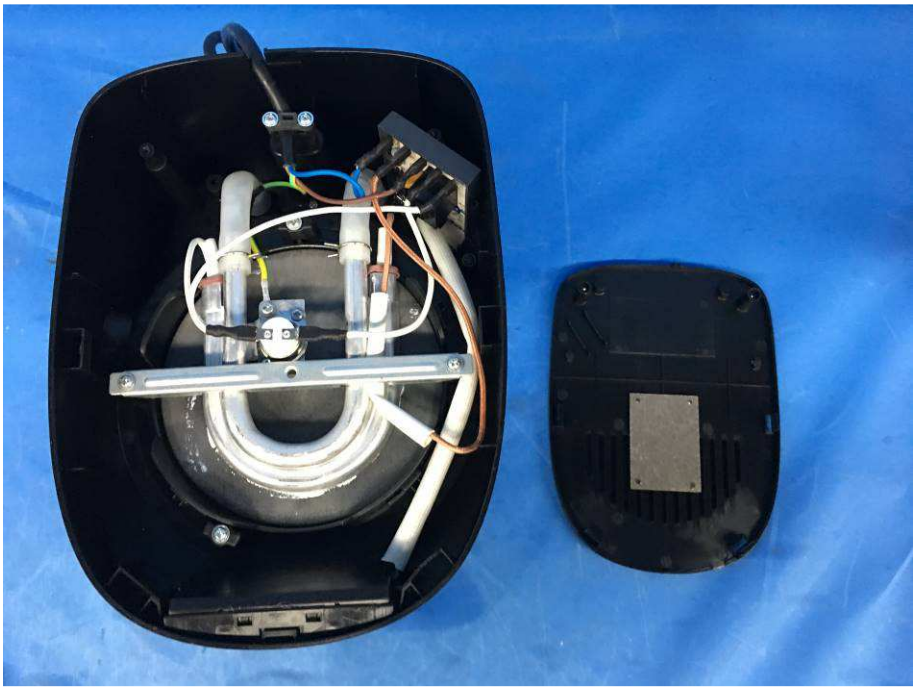


Photo 87.
Description: control PCB view of CM-107EA

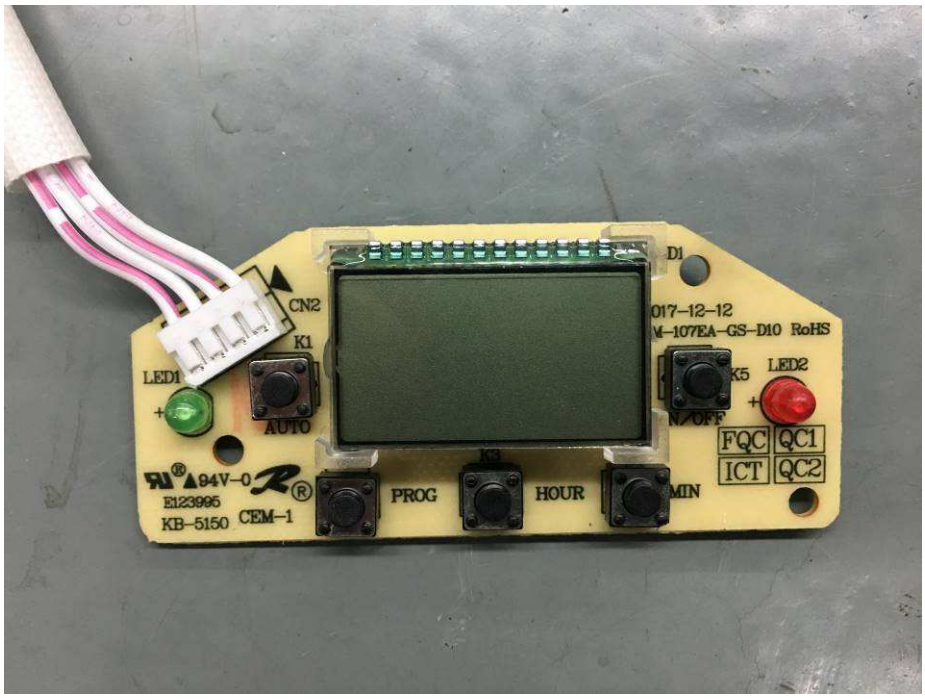


Photo 88.
Description: control PCB view of CM-107EA

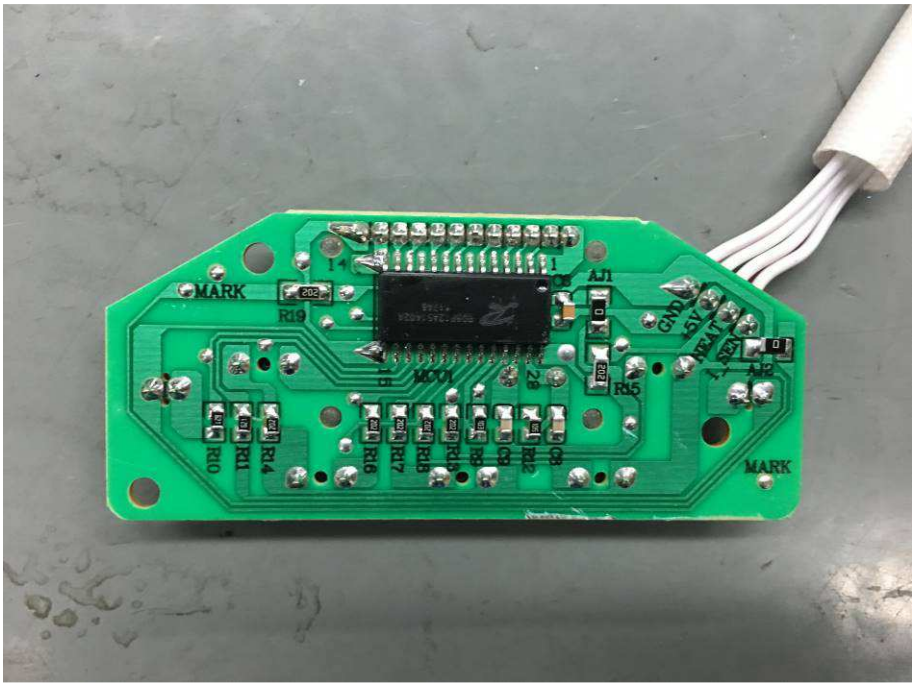


Photo 89.
Description: front view of CM-108 series

Photo 90.
Description: front view of CM-108 series

Photo 91.
Description: front view of CM-108

Photo 92.
Description: side view of CM-108

Photo 93.
Description: side view of CM-108

Photo 94.
Description: back view of CM-108 series

Photo 95.
Description: bottom view of CM-108 series

Photo 96.
Description: top view of CM-108 series

Photo 97.
Description: lid open view of CM-108 series

Photo 98.
Description: lid open view of CM-108 series

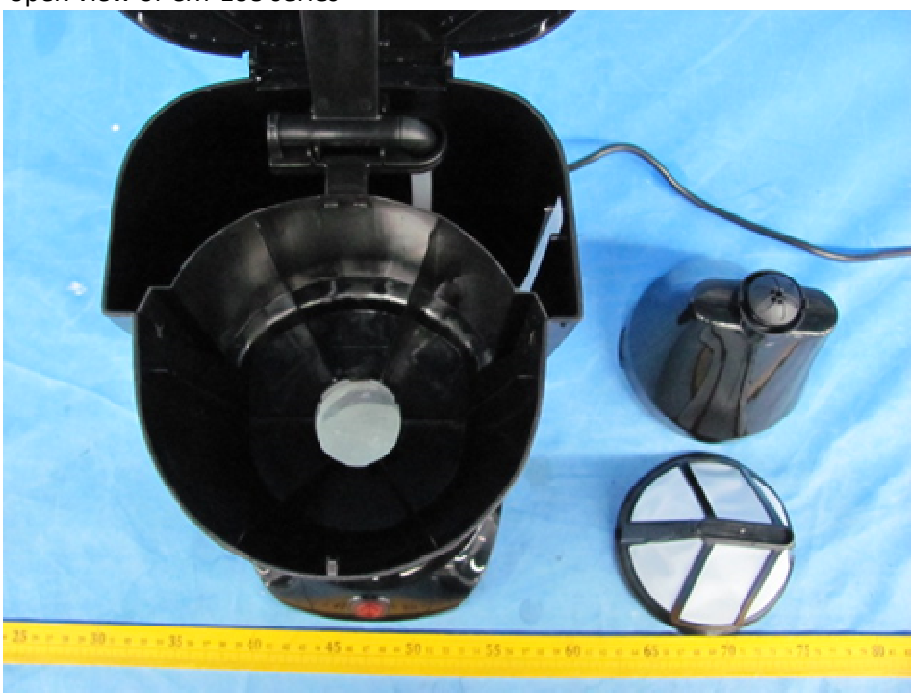


Photo 99.
Description: internal view of CM-108, CM-108S

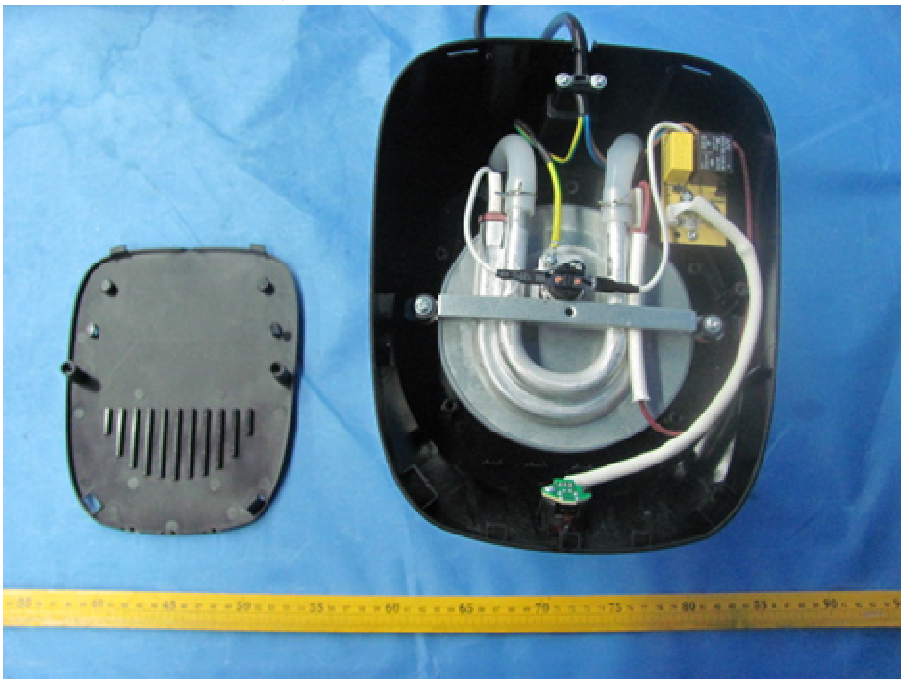


Photo 100.
Description: internal view of CM-108E

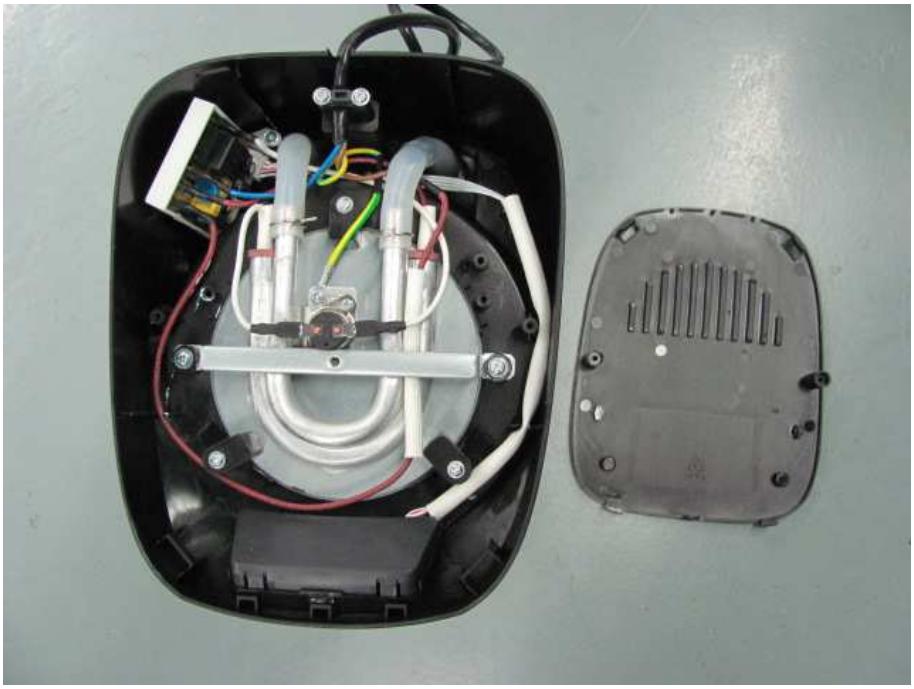


Photo 101.
Description: control PCB view of CM-108E

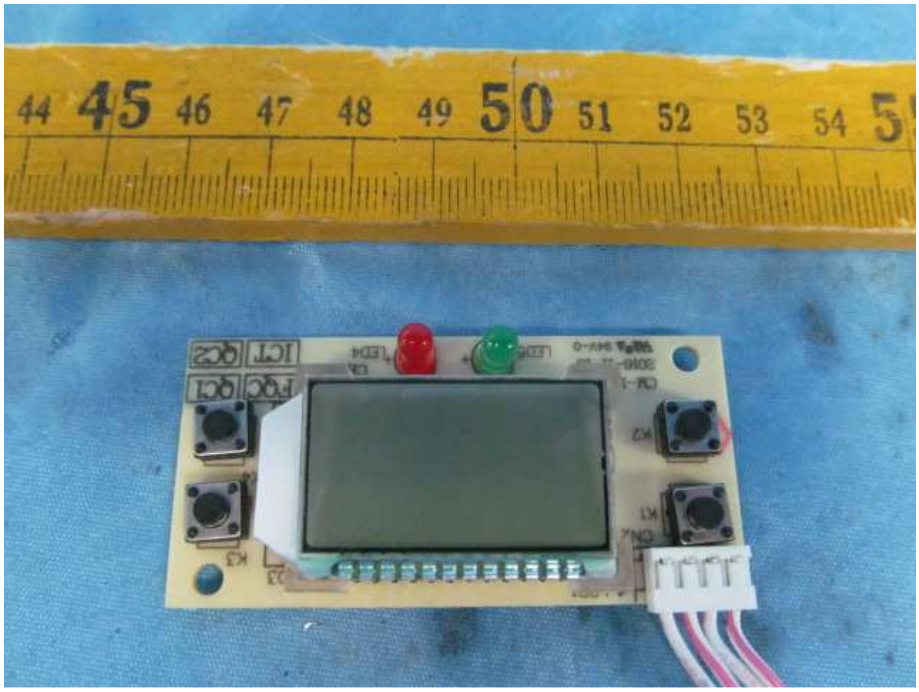


Photo 102.
Description: control PCB view of CM-108E

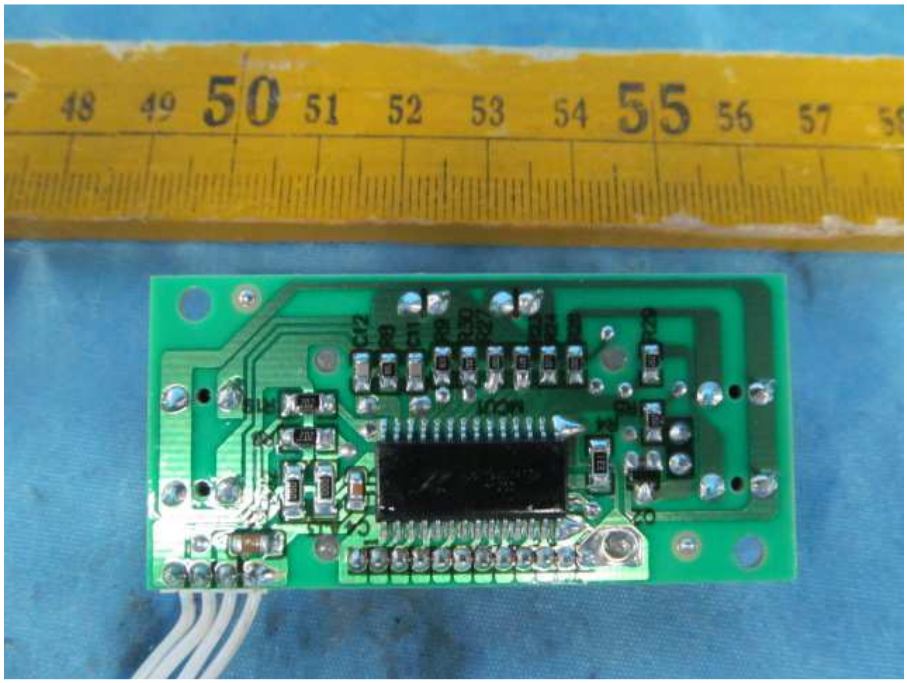


Photo 103.
Description: internal view of CM-108T, CM-108TS

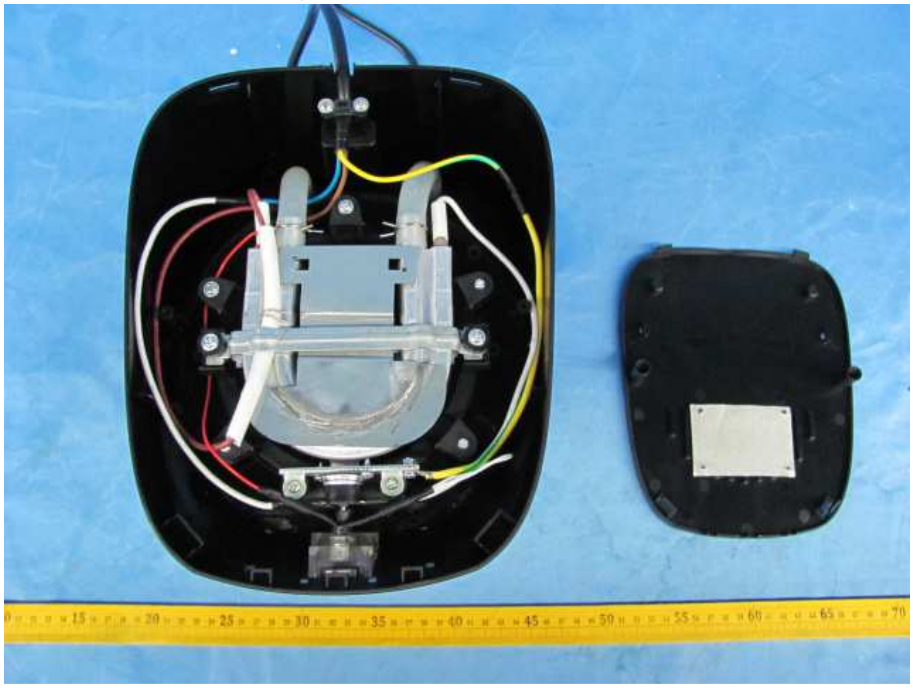


Photo 104.
Description: earthing connecting view of CM-108T, CM-108TS, CM-108ET, CM-108AT, CM-109T, CM-109TS, CM-109ET, CM-109ETS, CM-109BT, CM-109AT.

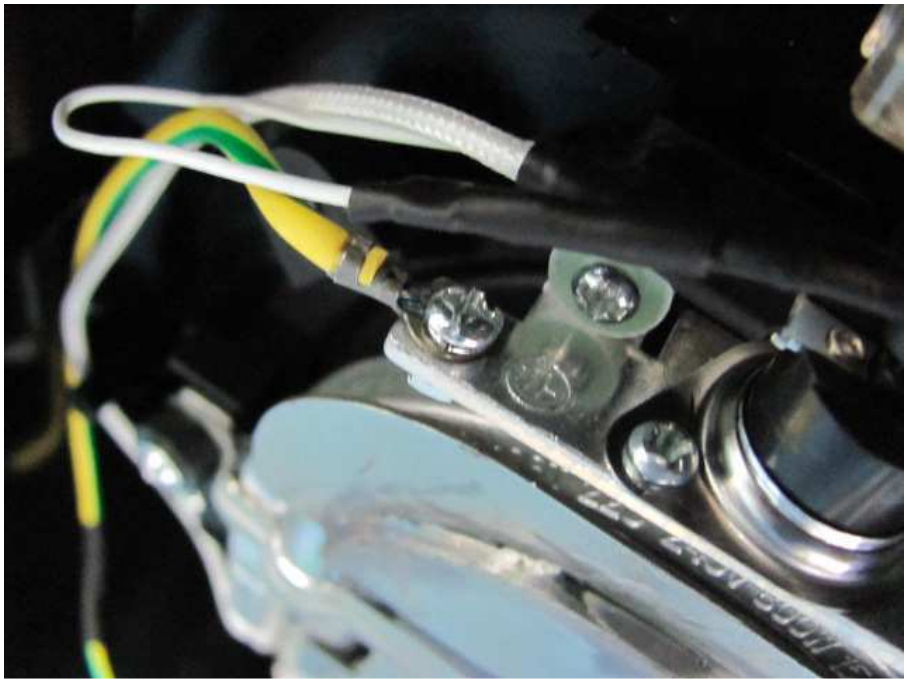


Photo 105.
Description: temperature limiter view of CM-108T, CM-108TS, CM-108AT, CM-109T, CM-109TS, CM-109BT, CM-109AT.

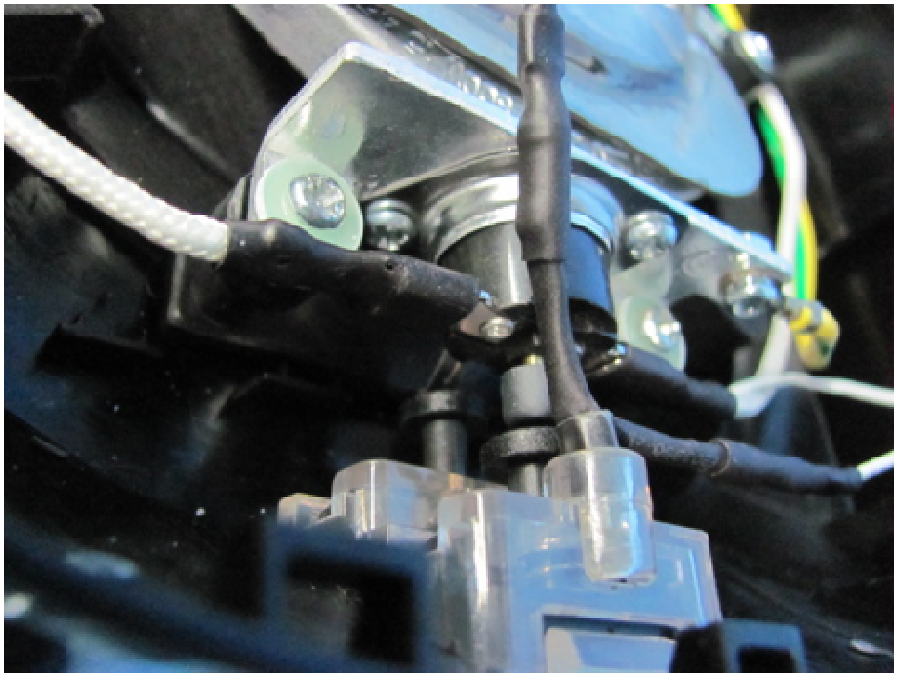


Photo 106.
Description: cup view of CM-108, CM-108S, CM-108A, CM-108E.

Photo 107.
Description: front view of CM-108ET

Photo 108.
Description: side view of CM-108ET

Photo 109.
Description: side view of CM-108ET

Photo 110
Description: internal view of CM-108ET

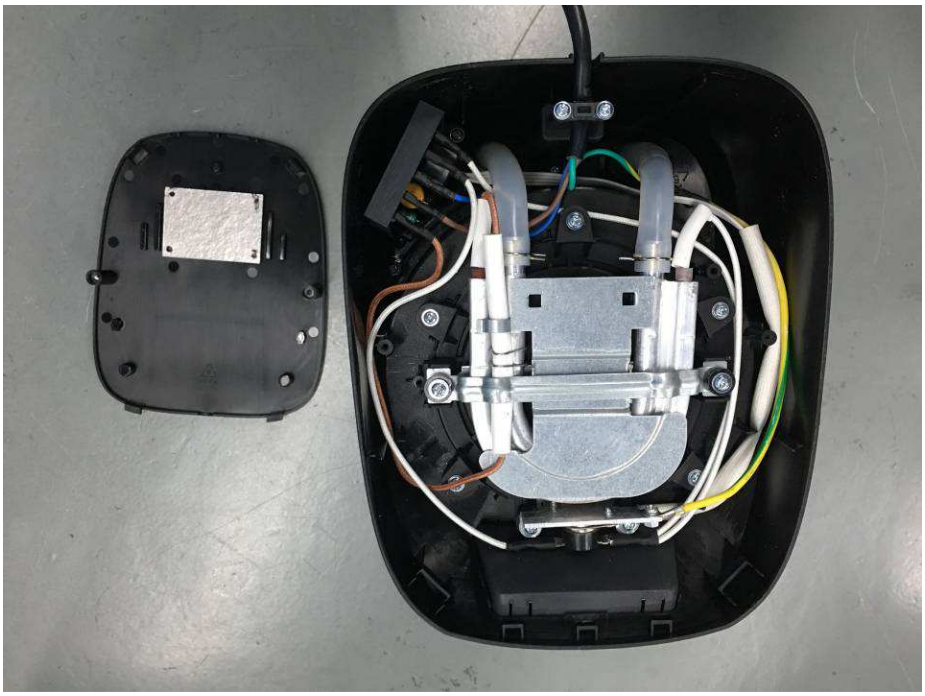


Photo 111
Description: temperature limiter view of CM-108ET, CM-109ET, CM-109ETS.

Photo 112
Description: front view of CM-108A

Photo 113
Description: side view of CM-108A

Photo 114
Description: side view of CM-108A

Photo 115
Description: internal view of CM-108A

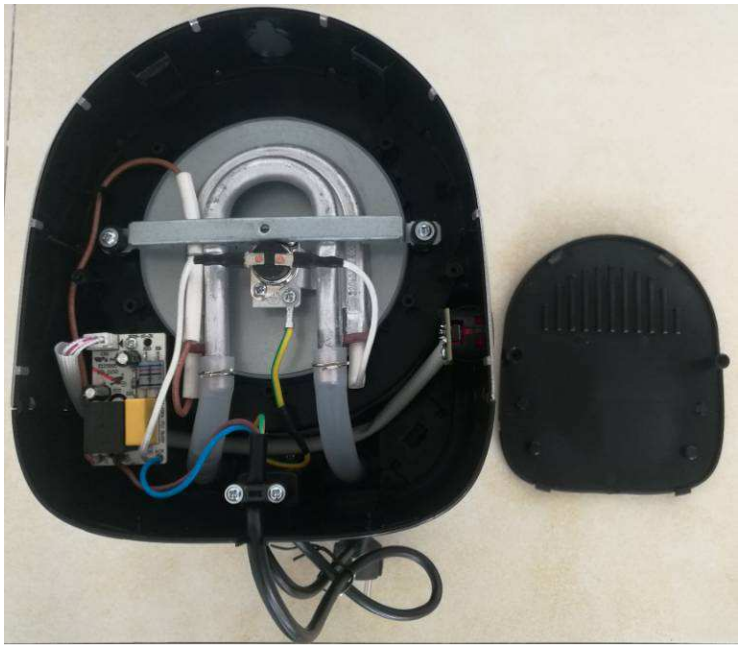


Photo 116
Description: front view of CM-108AT

Photo 117
Description: side view of CM-108AT

Photo 118
Description: side view of CM-108AT

Photo 119
Description: internal view of CM-108AT

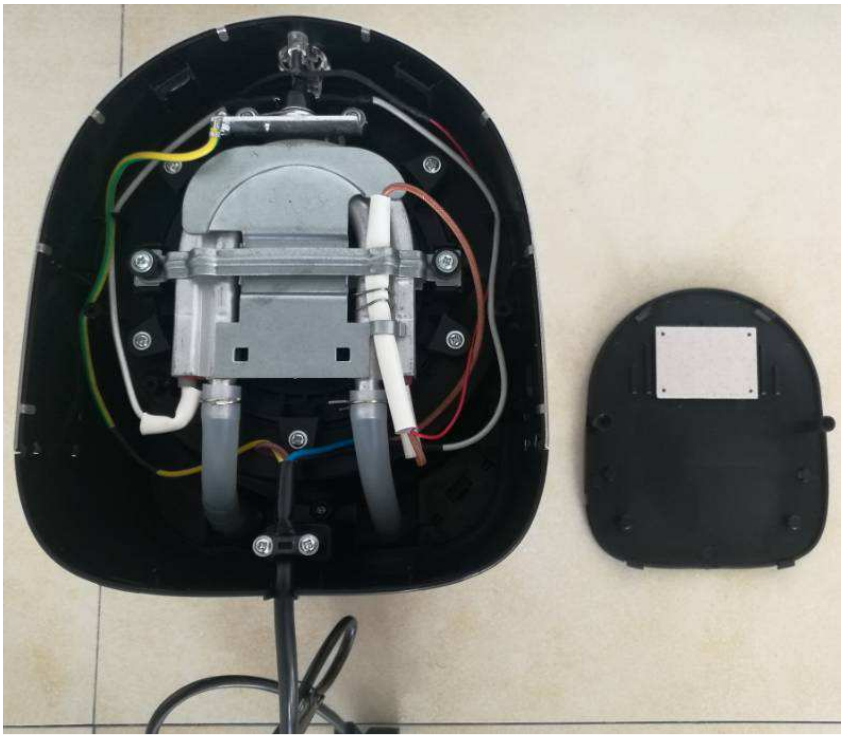


Photo 120
Description: heating plate view of CM-108T, CM-108TS, CM-108ET, CM-108AT

Photo 121
Description: heating plate view of CM-108, CM-108S, CM-108A, CM-108E

Photo 122
Description: cup view of CM-108T, CM-108TS, CM-108AT

Photo 123
Description: switch view of CM-108

Photo 124
Description: switch view of CM-108S

Photo 125
Description: switch view of CM-108E

Photo 126
Description: switch view of CM-108T

Photo 127
Description: switch view of CM-108TS

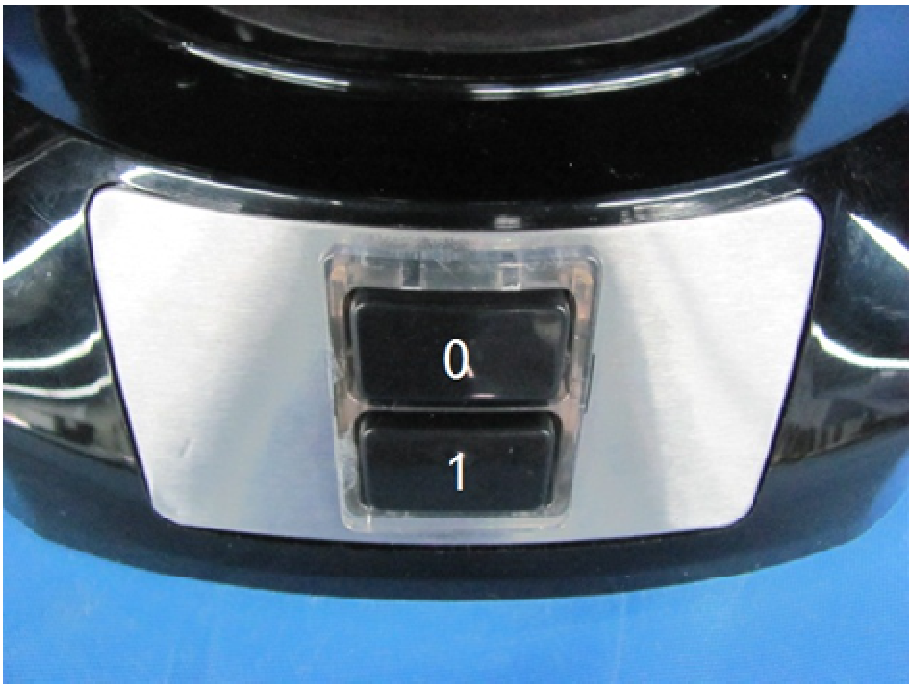


Photo 128
Description: switch view of CM-108A

Photo 129
Description: switch view of CM-108AT

Photo 130
Description: Overview of CM-109, CM-109S, M-109B

Photo 131
Description: front view of CM-109

Photo 132
Description: side view of CM-109

Photo 133
Description: back view of CM-109 series

Photo 134
Description: side view of CM-109

Photo 135
Description: top view of CM-109 series

Photo 136
Description: lid open view of CM-109 series

Photo 137
Description: lid open view of CM-109 series

Photo 138
Description: bottom view of CM-109 series

Photo 139
Description: switch view of CM-109

Photo 140
Description: switch view of CM-109B, CM-109S

Photo 141
Description: internal view of CM-109, CM-109B, M-109S

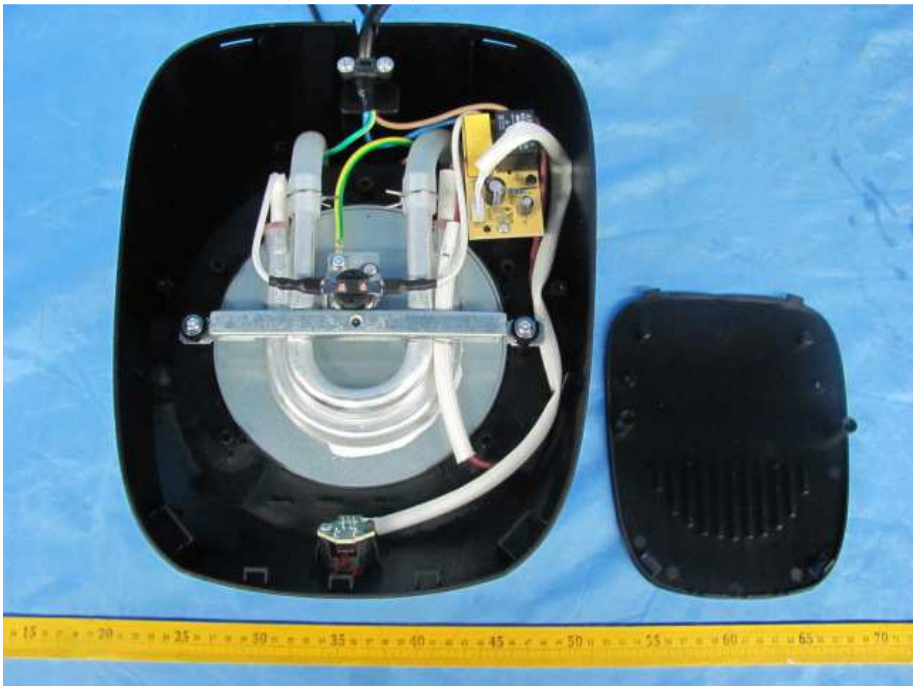


Photo 142
Description: cup view of CM-109, CM-109B, CM-109S, CM-109E, CM-109ES, CM-109A

Photo 143
Description: Overview of CM-109T, CM-109TS, CM-109BT

Photo 144
Description: over view of CM-109T

Photo 145
Description: side view of CM-109T

Photo 146
Description: side view of CM-109T

Photo 147
Description: internal view of CM-109T, CM-109TS, CM-109BT

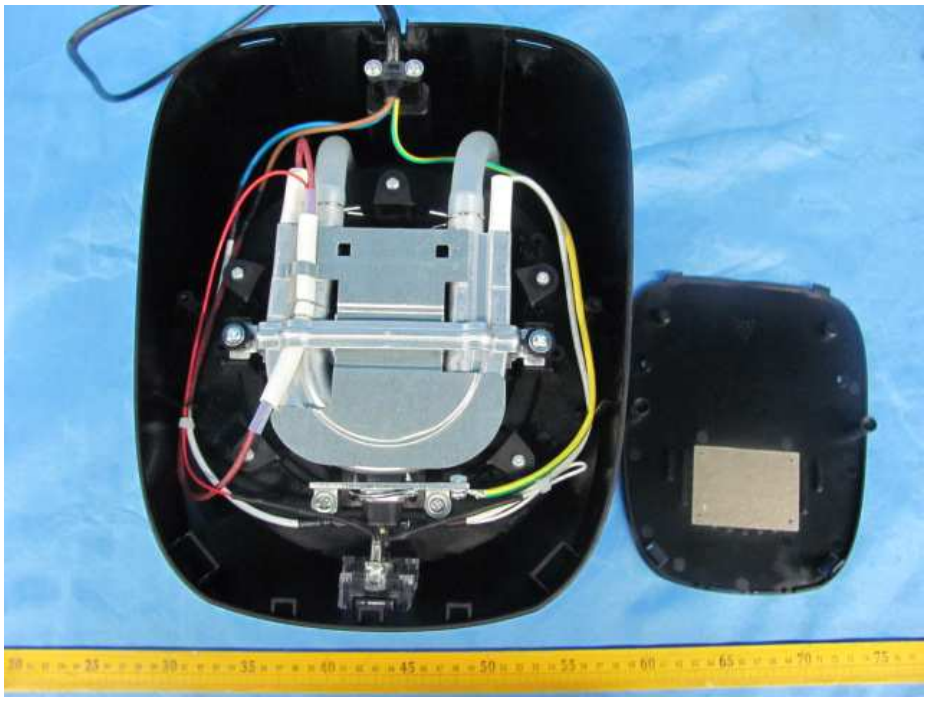


Photo 148
Description: internal switch view of CM-109T, CM-109TS, CM-109BT, CM-109AT

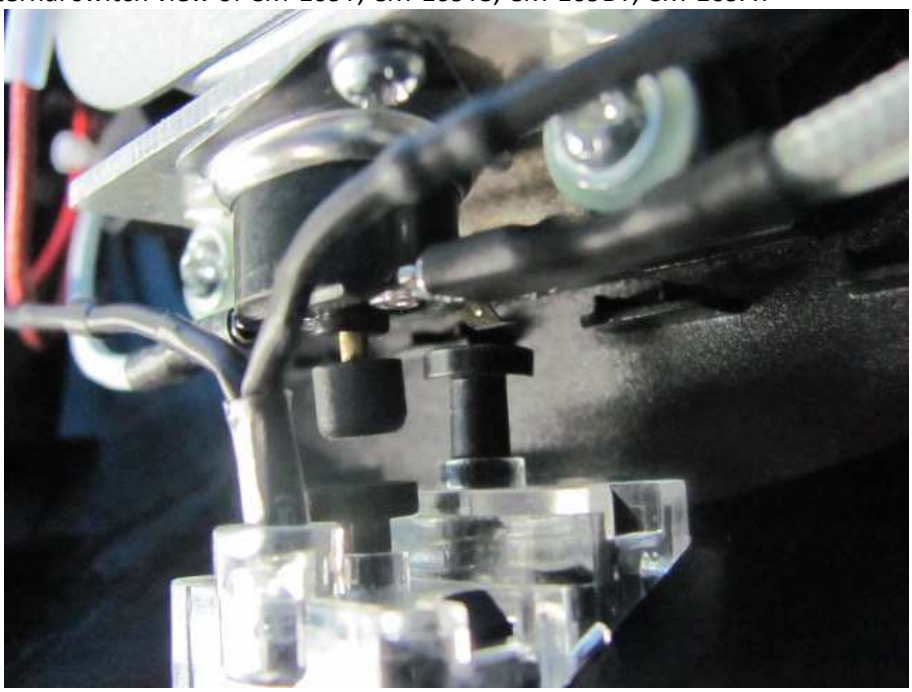


Photo 149
Description: earthing view of CM-109T, CM-109TS, CM-109BT, CM-109AT

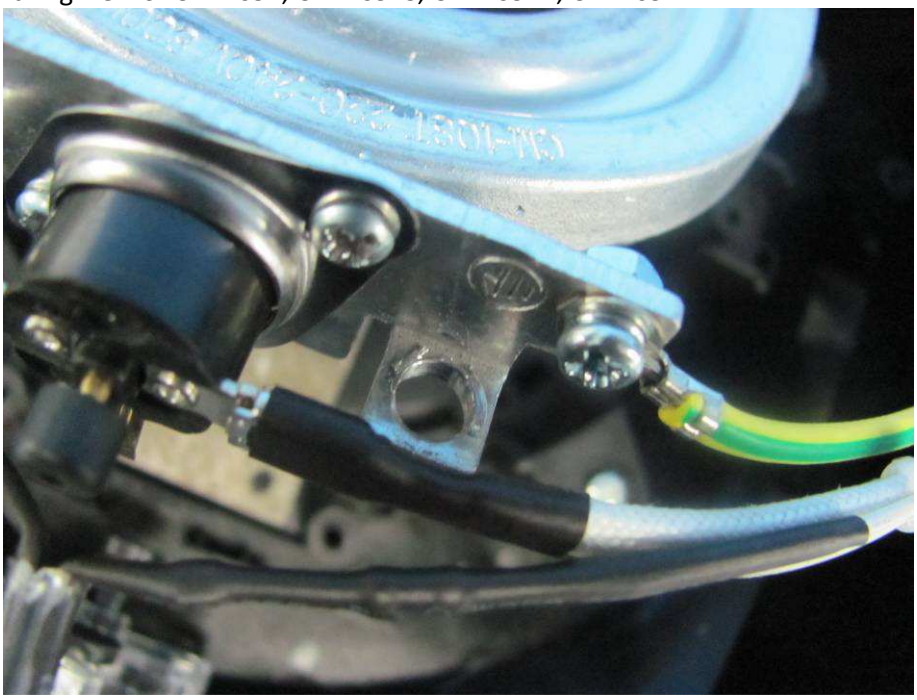


Photo 150
Description: switch view of CM-109TS, CM-109BT

Photo 151
Description: switch view of CM-109T

Photo 152
Description: cup view of CM-109T, CM-109TS, CM-109BT, CM-109ET, CM-109ETS

Photo 153
Description: over view of CM-109E, CM-109ES

Photo 154
Description: over view of CM-109E

Photo 155
Description: Side view of CM-109E

Photo 156
Description: Side view of CM-109E

Photo 157
Description: internal view of CM-109E, CM-109ES

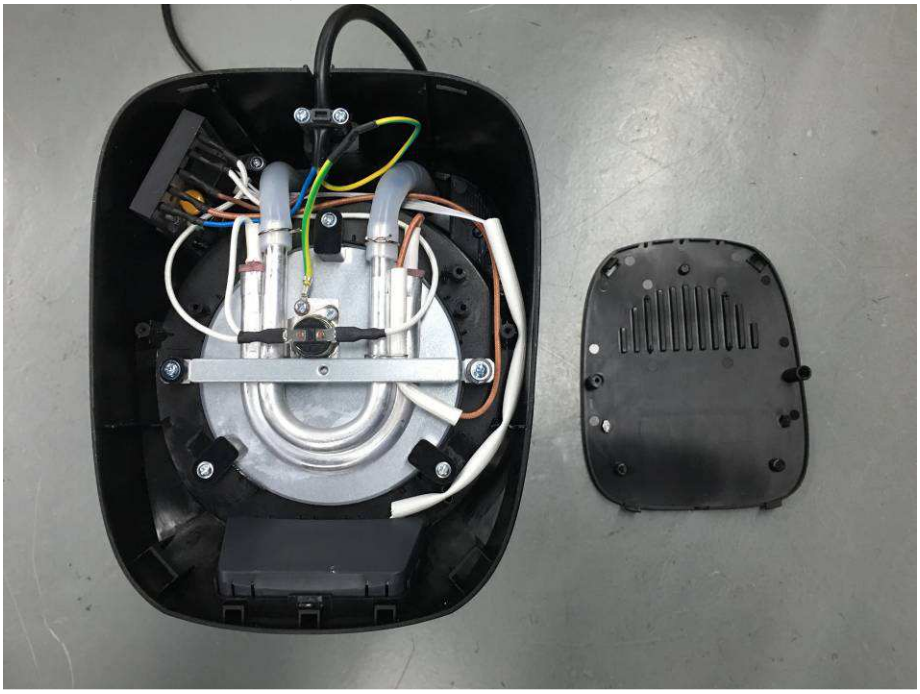


Photo 158
Description: control PCB view of CM-109E, CM-109ES, CM109ET, CM-109ETS

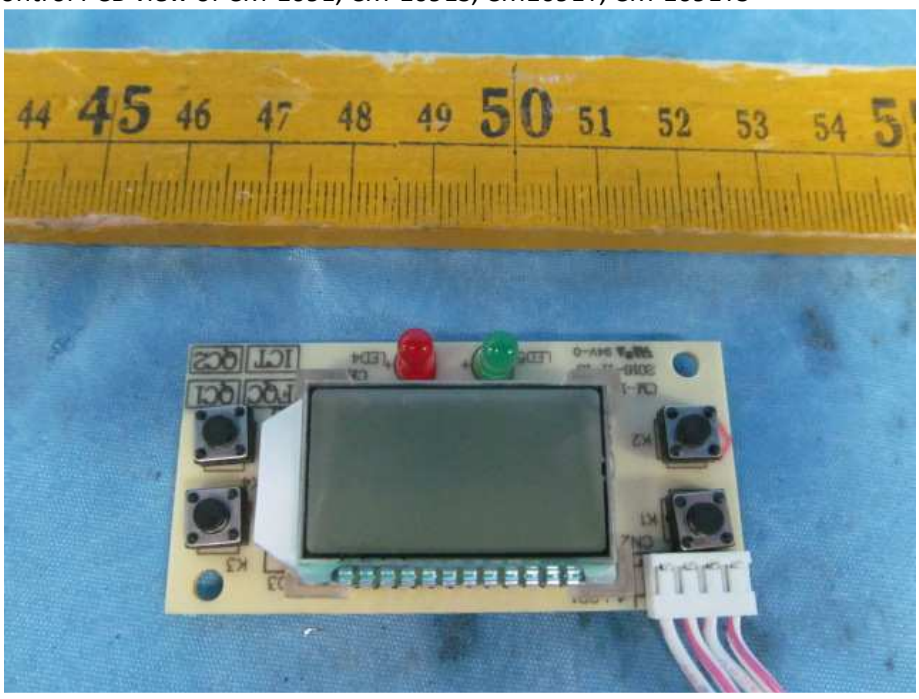


Photo 159
Description: control PCB view of CM-109E, CM-109ES, CM109ET, CM-109ETS

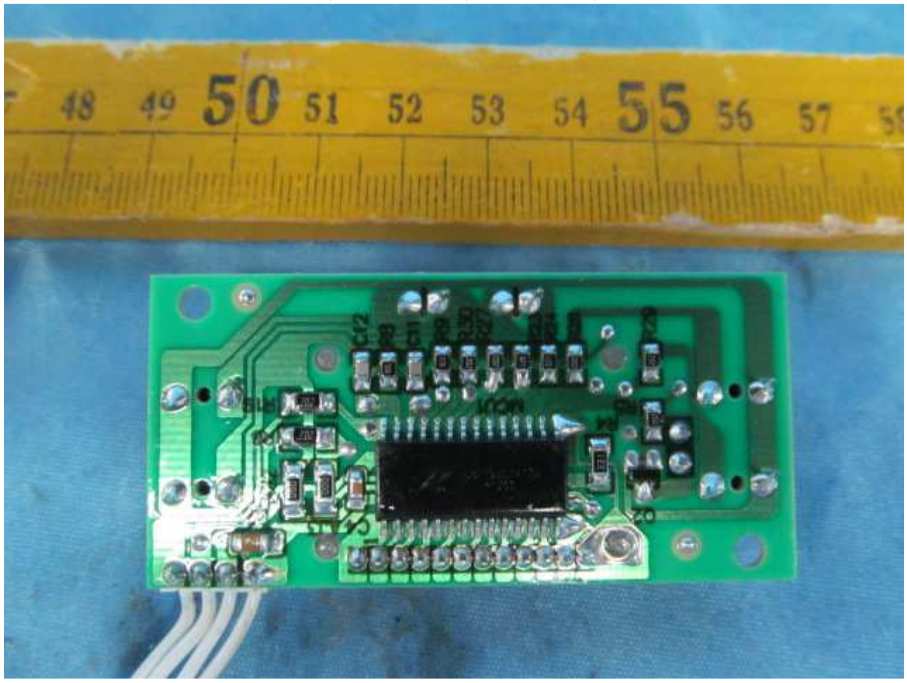


Photo 160
Description: switch view of CM-109E, CM-109ES, CM-109ET, CM-109ETS

Photo 161
Description: Overview of CM-109ET, CM-109ETS

Photo 162
Description: front view of CM-109ET

Photo 163
Description: Side view of CM-109ET

Photo 164
Description: Side view of CM-109ET

Photo 165
Description: internal view of CM-109ET, CM-109ETS

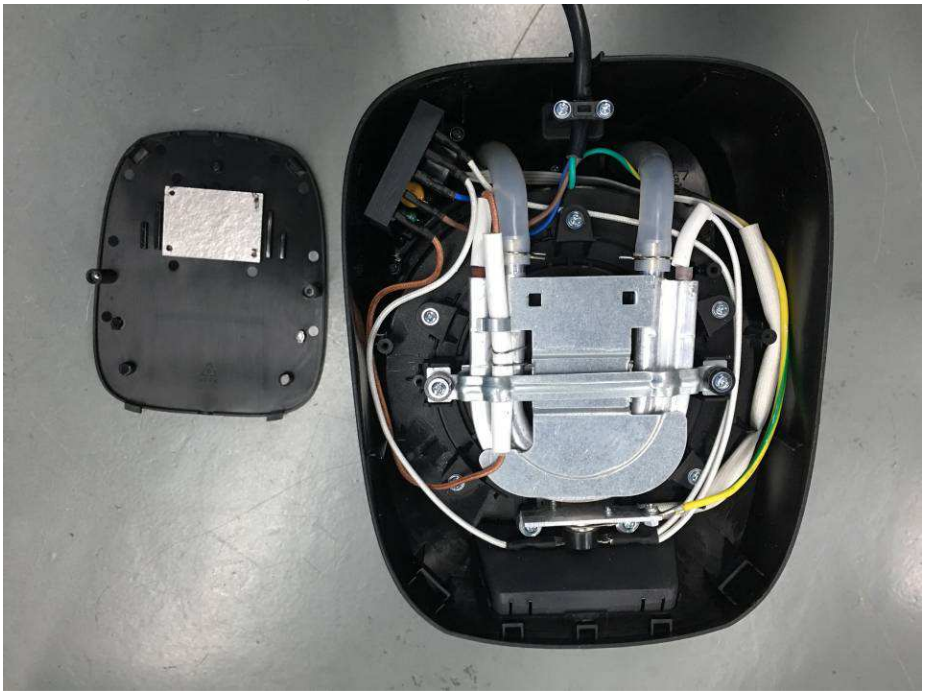


Photo 166
Description: internal view of CM-109ET, CM-109ETS

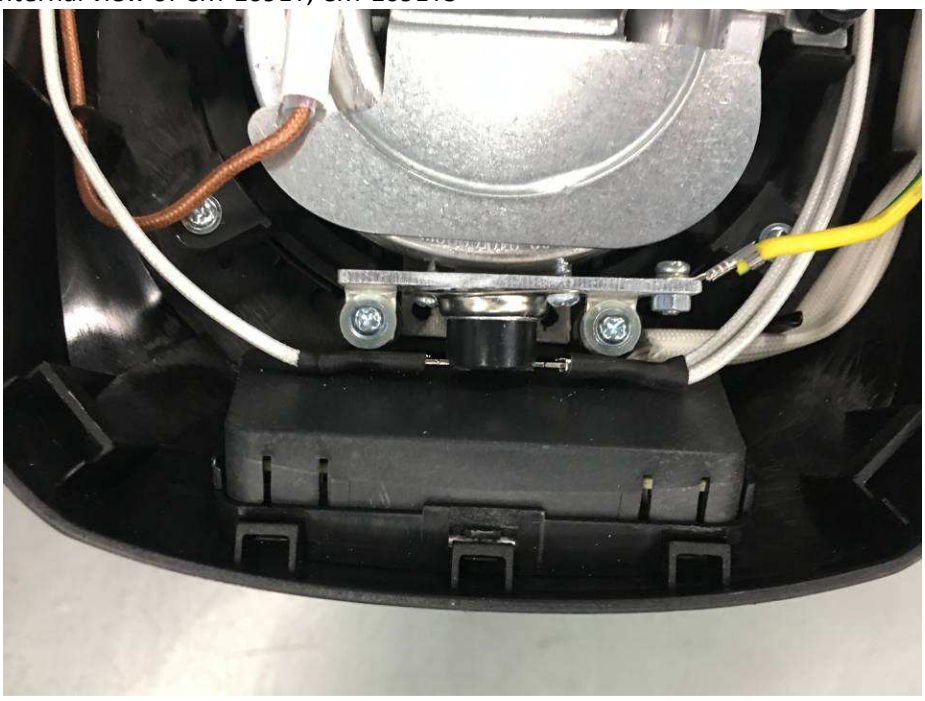


Photo 167
Description: over view of CM-109AT, CM-109A

Photo 168
Description: over view of CM-109A

Photo 169
Description: side view of CM-109A

Photo 170
Description: side view of CM-109A

Photo 171
Description: internal view of CM-109A

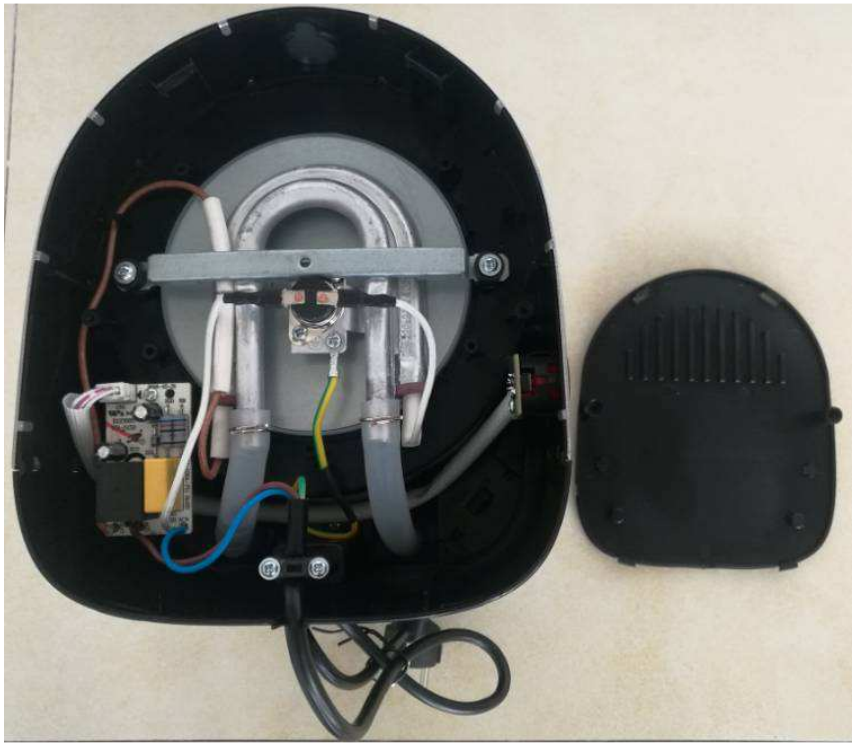


Photo 172
Description: Front view of CM-109AT

Photo 173
Description: side view of CM-109AT

Photo 174
Description: side view of CM-109AT

Photo 175
Description: internal view of CM-109AT

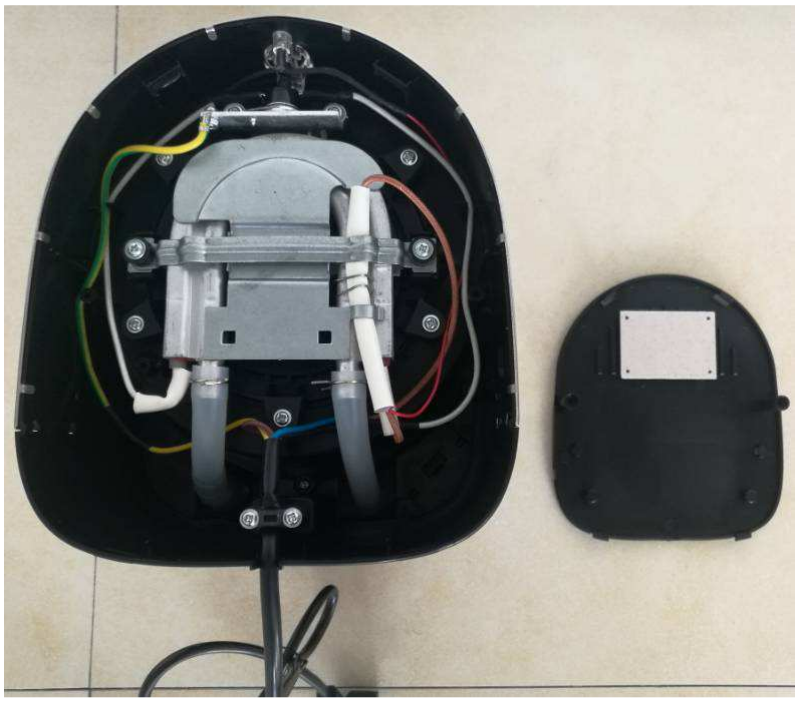


Photo 176
Description: internal view of CM-109AT

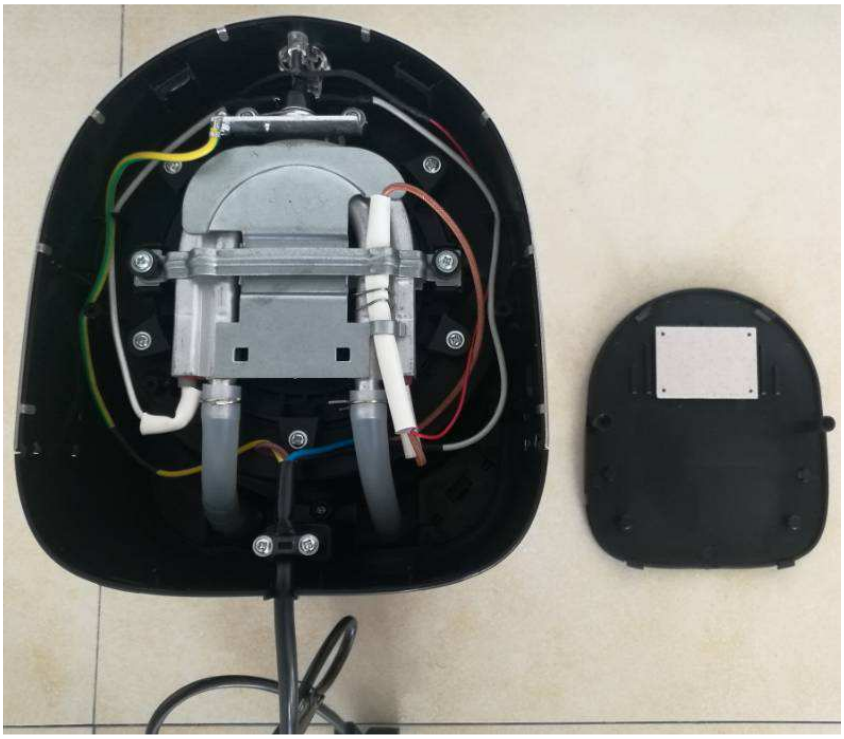


Photo 177
Description: switch view of CM-109T, CM-109TS, CM-109ET, CM-109ETS, CM-109BT, CM-109AT

Photo 178
Description: heating plate view of CM-109, CM-109S, CM-109A, CM-109B, CM-109E

Photo 179
Description: Over view of CM-111-1

Photo 180
Description: Over view of CM-111-1

Photo 181
Description: Over view of CM-111-1, CM-111A-1

Photo 182
Description: Over view of CM-111-1

Photo 183
Description: top view of CM-111-1

Photo 184
Description: bottom view of CM-111-1, CM-111A-1

Photo 185
Description: Reset switch button view of CM-111-1, CM-111A-1

Photo 186
Description: power switch button view of CM-111-1, CM-111A-1

Photo 187
Description: water tank view of CM-111-1

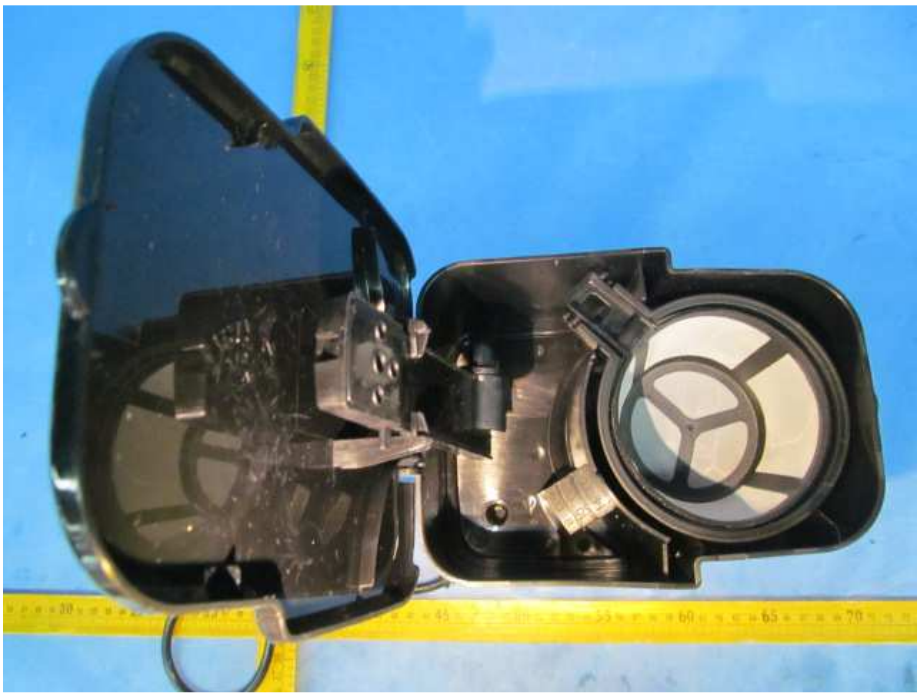


Photo 188
Description: internal view of CM-111-1, CM-111A-1

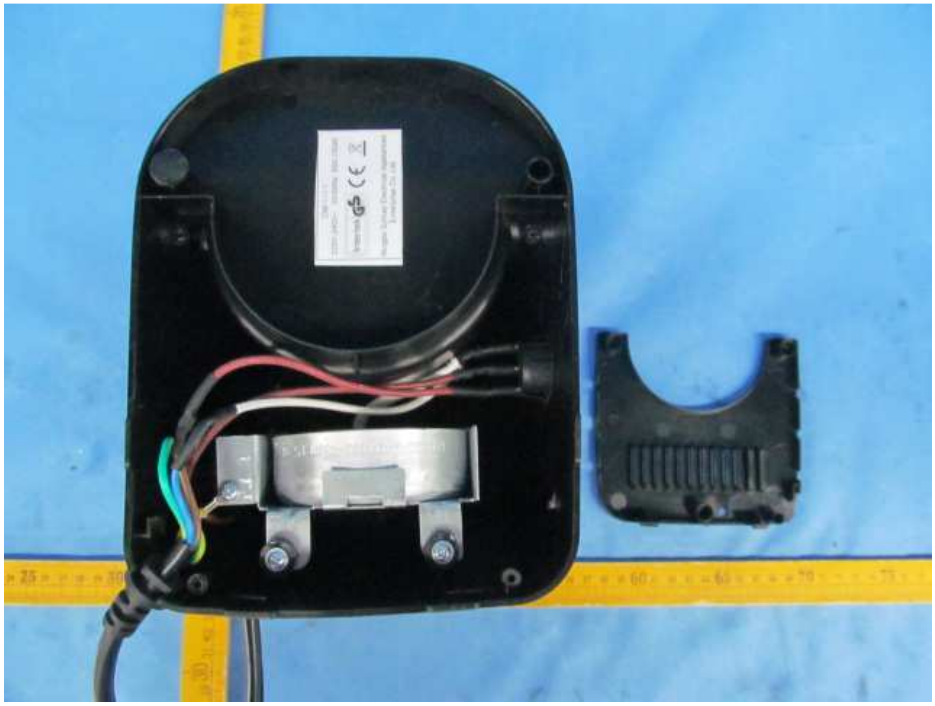


Photo 189
Description: heating element view of CM-111-1, CM-111A-1

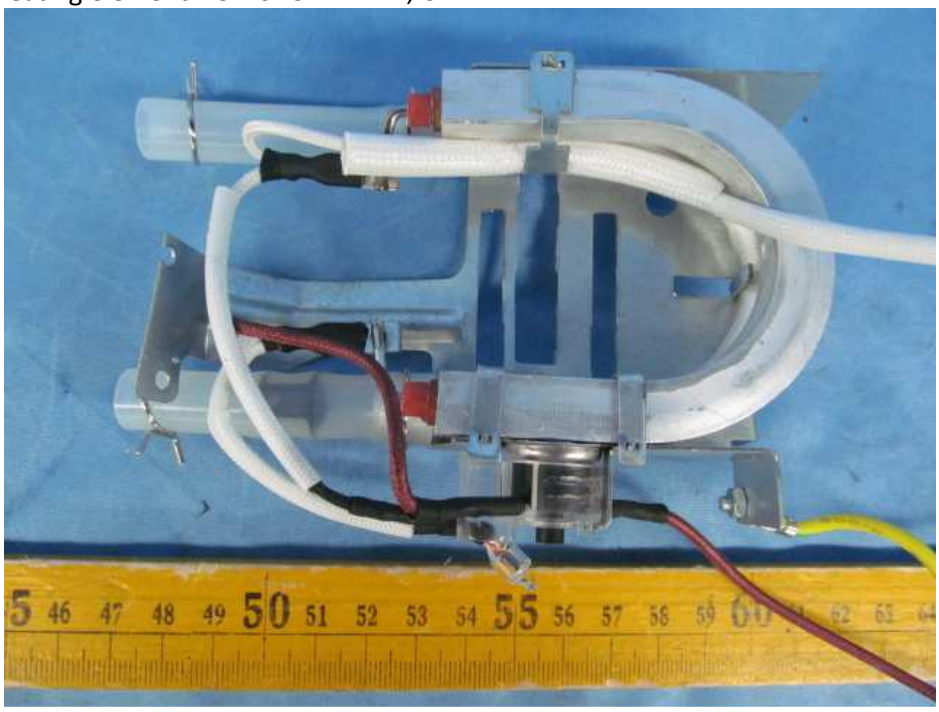


Photo 190
Description: Over view of CM-111A-1

Photo 191
Description: Over view of CM-111A-1

Photo 192
Description: Over view of CM-111A-1

Photo 193
Description: top view of CM-111A-1

Photo 194
Description: water tank view of CM-111A-1

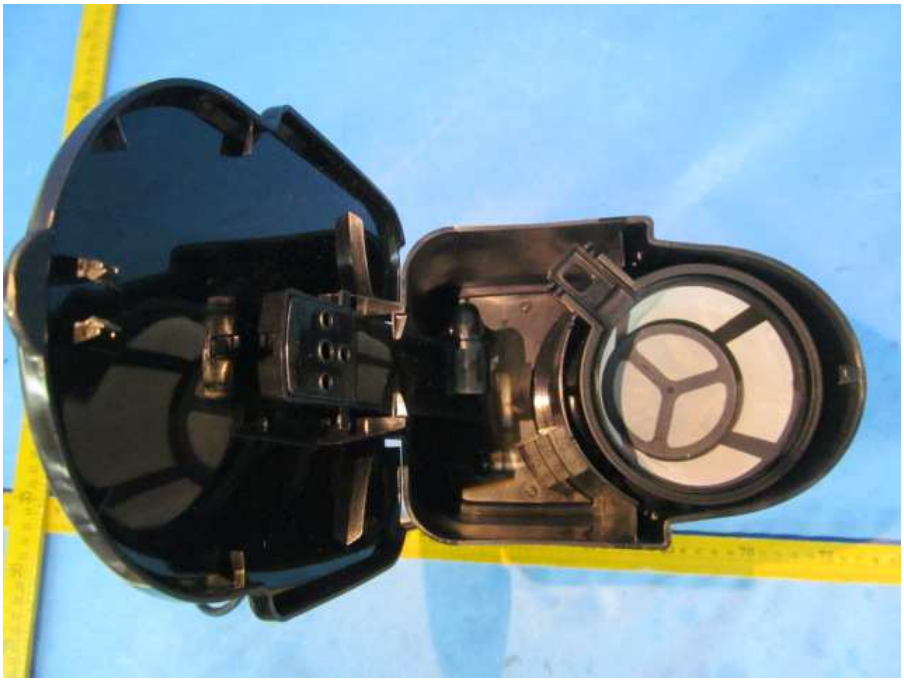


Photo 195
Description: front view of CM-112, CM-112-1

Photo 196
Description: side view of CM-112, CM-112-1

Photo 197
Description: bottom view of CM-112 series

Photo 198
Description: Lid open view of CM-112, CM-112-1

Photo 199
Description: Switch button view of CM-112, CM-112A

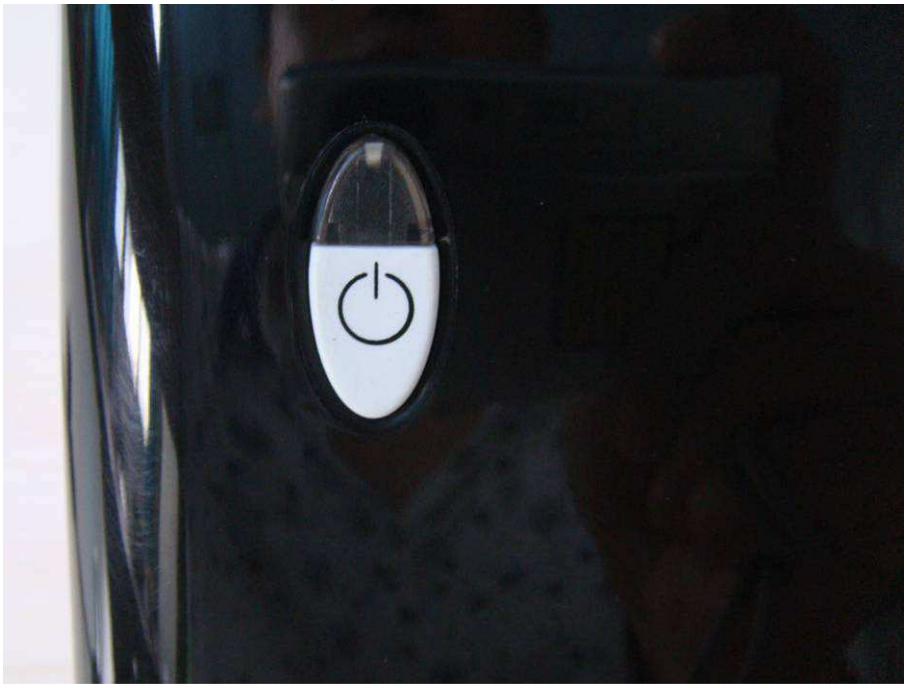


Photo 200
Description: internal view of CM-112, CM-112-1, CM-112A, CM-112A-1

Photo 201
Description: Earthing connecting view of CM-112 series

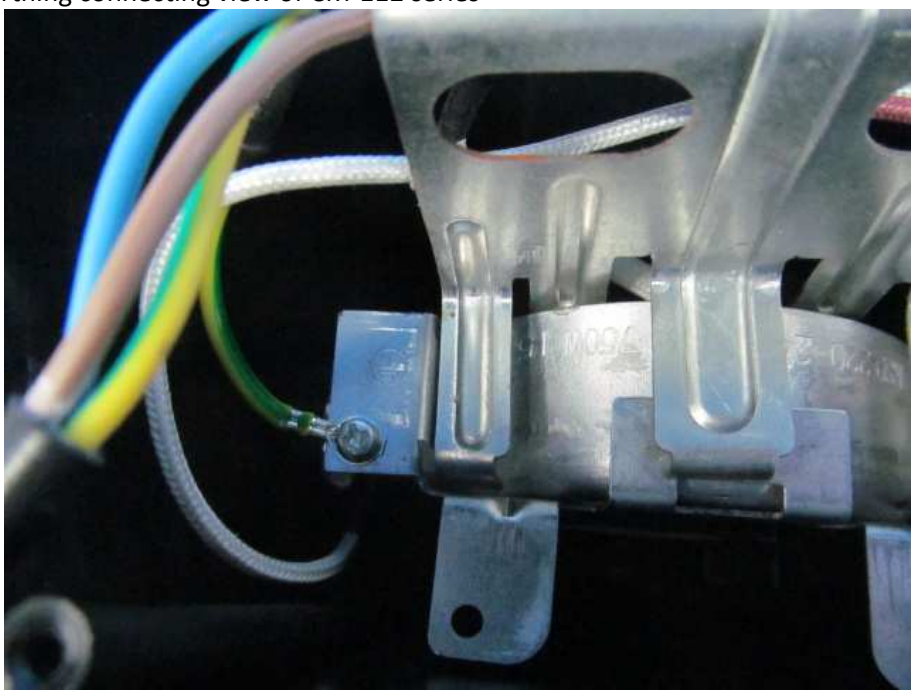


Photo 202
Description: heating element view of CM-112 series

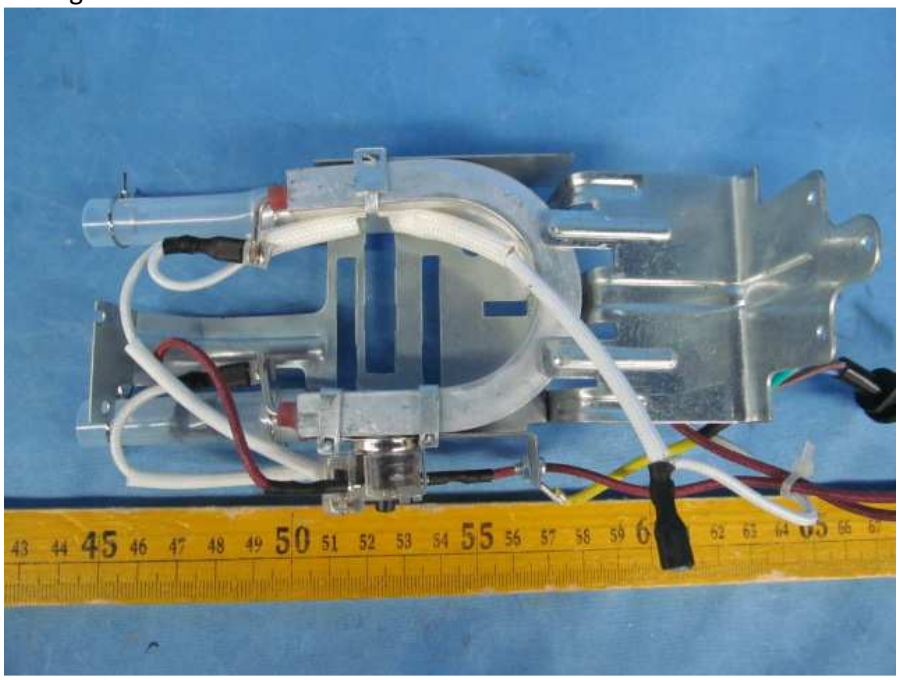


Photo 203
Description: Cup view of CM-112 series

Photo 204
Description: front view of CM-112A, CM-112A-1, CM-112B

Photo 205
Description: side view of CM-112A, CM-112A-1

Photo 206
Description: side view of CM-112A

Photo 207
Description: top view of CM-112A, CM-112A-1, CM-112B

Photo 208
Description: back view of CM-112A, CM-112A-1, CM-112B

Photo 209
Description: Lid open view of CM-112A, CM-112A-1, CM-112B

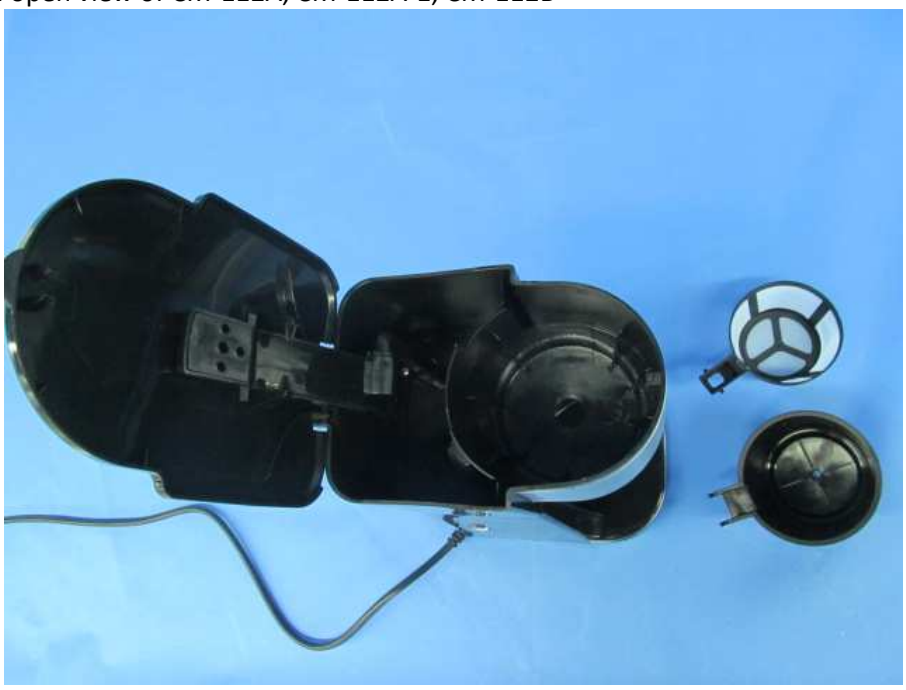


Photo 210
Description: Over view of CM-112-1

Photo 211
Description: side view of CM-112A-1

Photo 212
Description: side view of CM-112B

Photo 213
Description: side view of CM-112B

Photo 214
Description: internal view of CM-112B

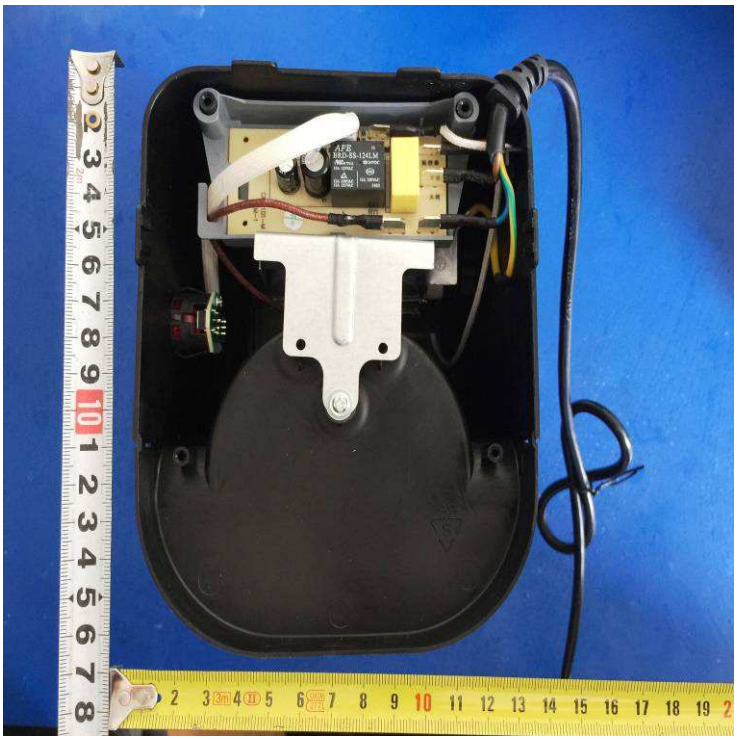


Photo 215
Description: heating element view of CM-112B

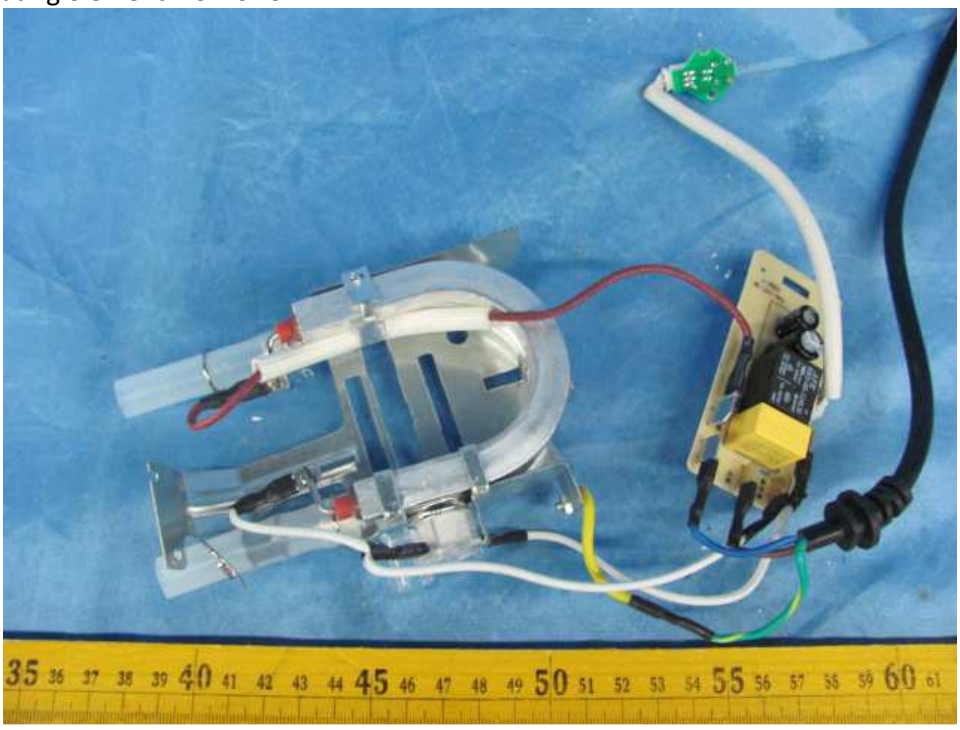


Photo 216
Description: earthing view of CM-112B

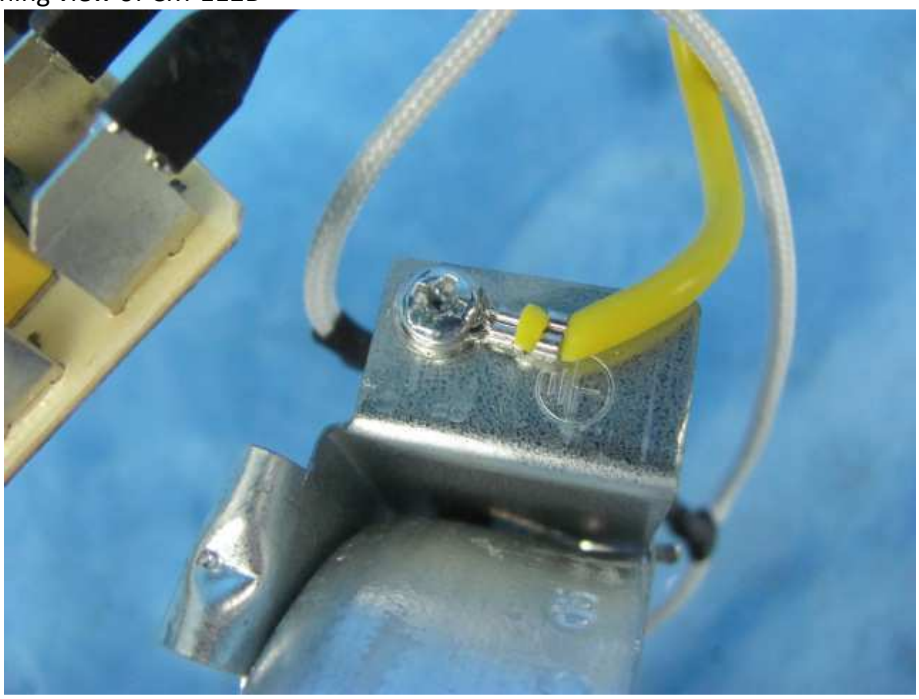


Photo 217

Description: over view of CM-113

Photo 218

Description: side view of CM-113

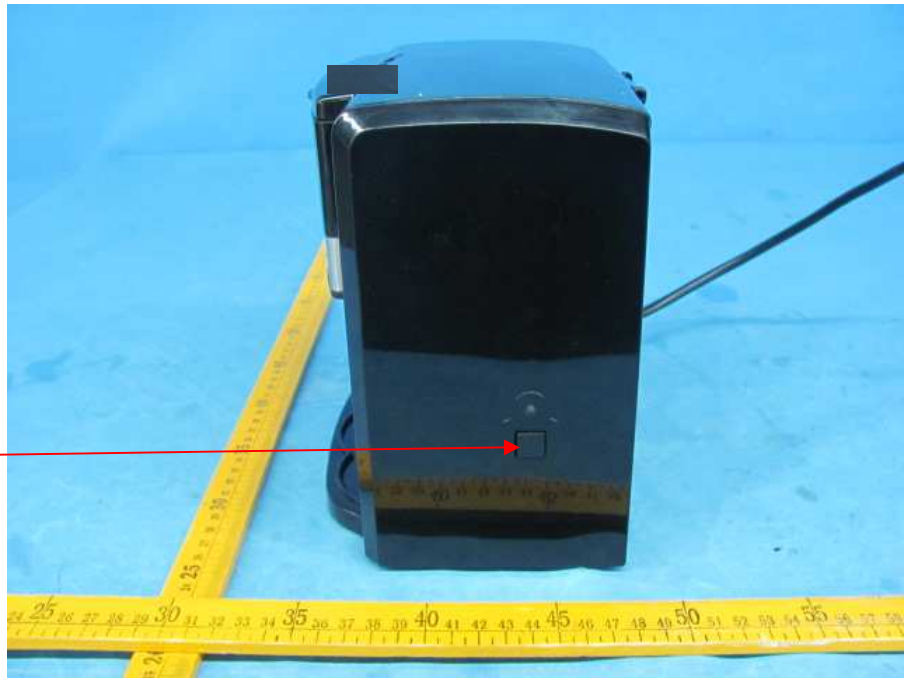


Photo 219

Description: side view of CM-113

Photo 220

Description: back view of CM-113

Photo 221

Description: top view of CM-113

Photo 222

Description: bottom view of CM-113

Photo 223
Description: Switch view of CM-113, CM-116

Photo 224

Description: lid open view of CM-113

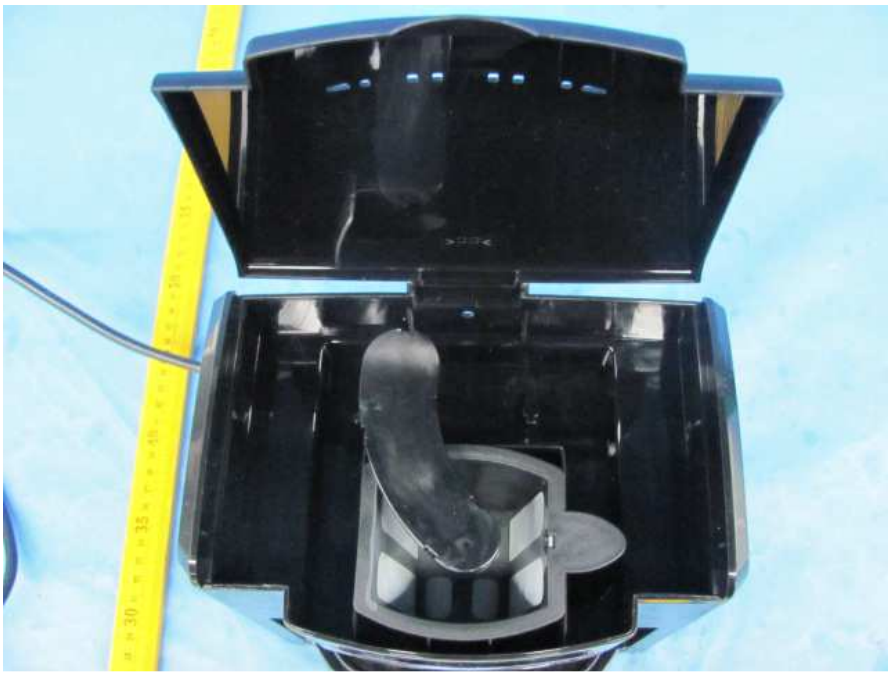


Photo 225

Description: water level view of CM-113

Photo 226

Description: internal view of CM-113

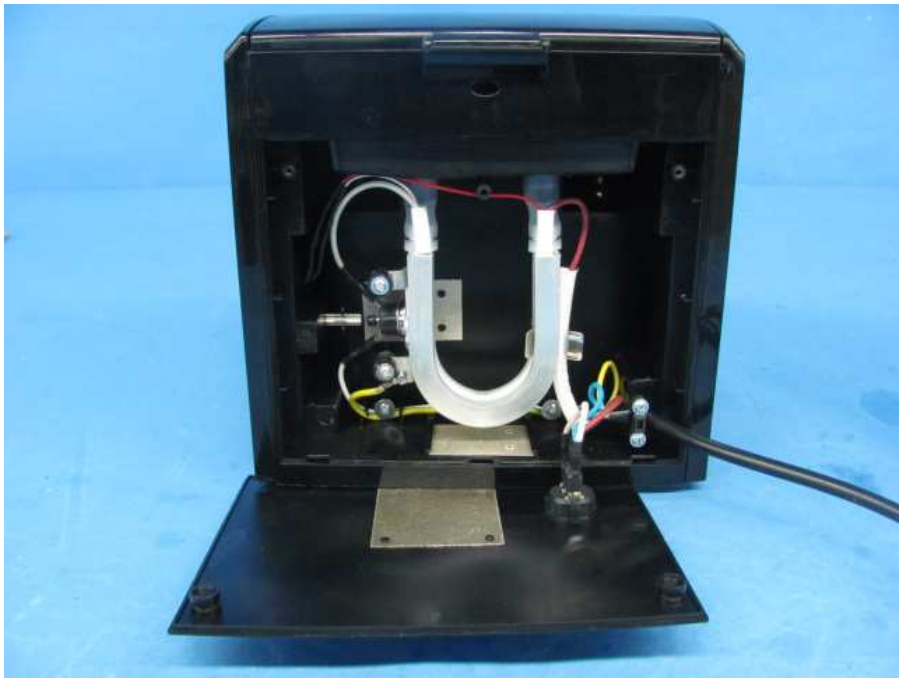


Photo 227

Description: Heating element view of CM-113

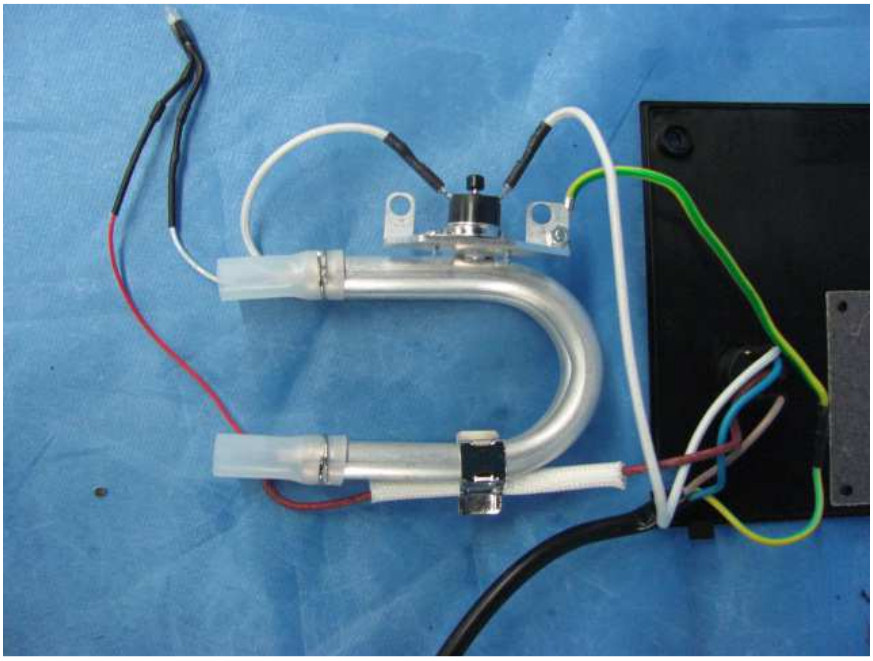


Photo 228

Description: Earthing view of CM-113

Photo 229

Description: over view of CM-116

Photo 230

Description: side view of CM-116

Photo 231

Description: side view of CM-116

Photo 232

Description: back view of CM-116

Photo 233

Description: top view of CM-116

Photo 234

Description: bottom view of CM-116

Photo 235
Description: lid open view of CM-116

Photo 236

Description: water level view of CM-116

Photo 237

Description: internal view of CM-116

Photo 238

Description: Heating element view of CM-116

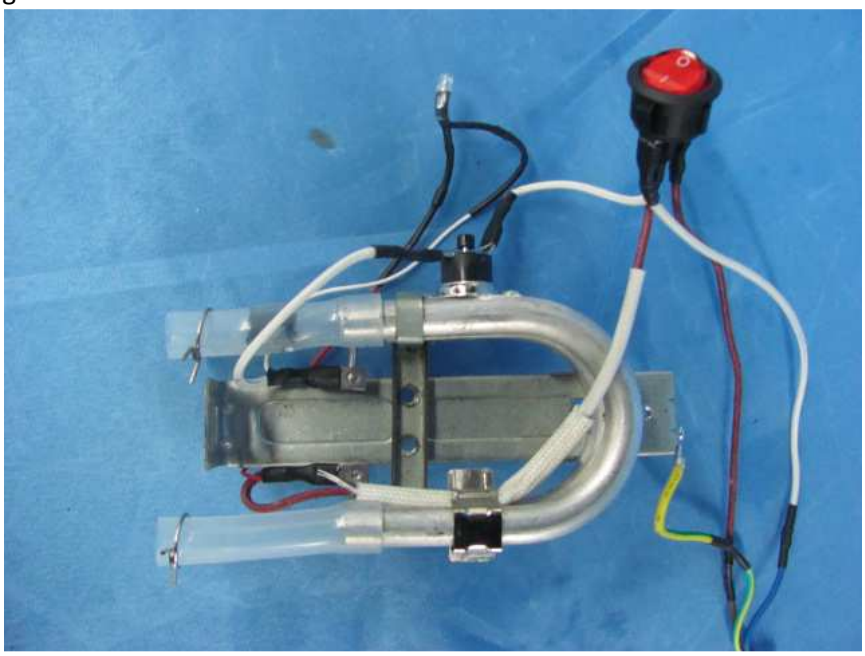


Photo 239

Description: Earthing view of CM-116

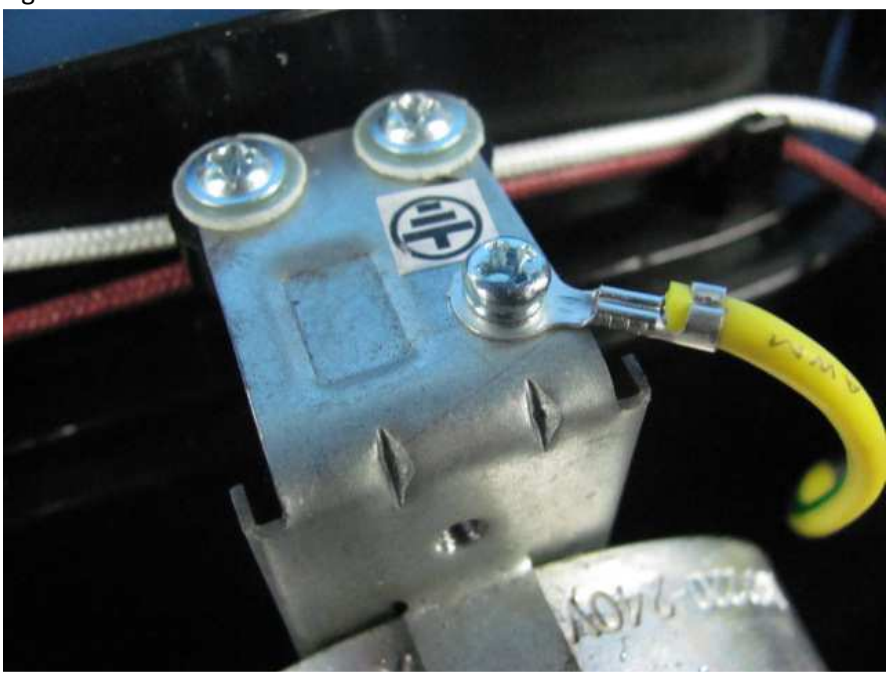


Photo 240

Description: Over view of CM-118A, CM-118A-1

Photo 241
Description: Over view of CM-118A, CM-118A-1

Photo 242
Description: Over view of CM-118A, CM-118A-1

Photo 243
Description: Over view of CM-118A, CM-118A-1

Photo 244
Description: Top view of CM-118A, CM-118A-1

Photo 245
Description: Bottom view of CM-118A, CM-118A-1

Photo 246
Description: water level view of CM-118A, CM-118A-1

Photo 247
Description: internal view of CM-118A, CM-118A-1

Photo 248
Description: heating element view of CM-118A, CM-118A-1

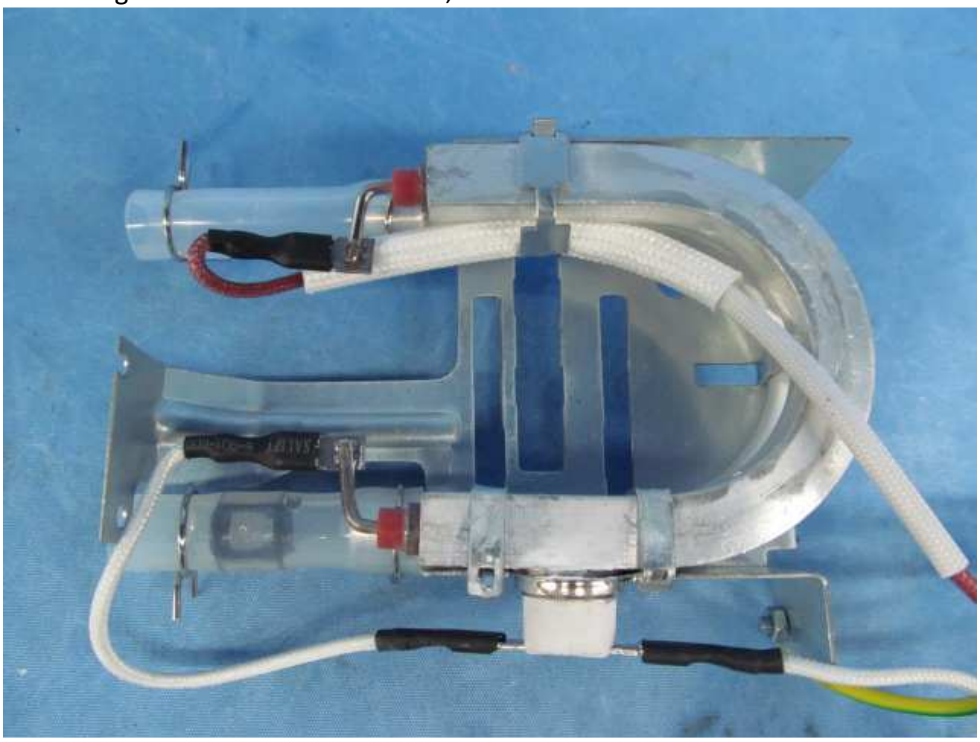


Photo 249
Description: Earthing view of CM-118A, CM-118A-1

Photo 250
Description: Over view of CM-119

Photo 251
Description: Over view of CM-119

Photo 252
Description: Over view of CM-119, CM-119A

Photo 253
Description: Over view of CM-119

Photo 254
Description: top view of CM-119

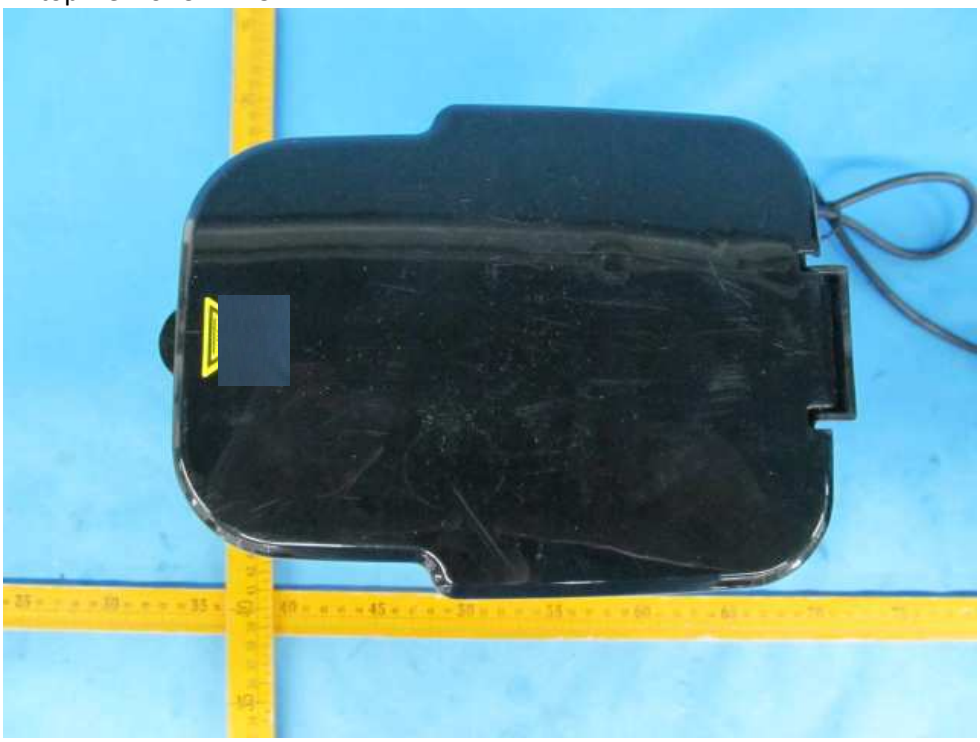


Photo 255
Description: bottom view of CM-119, CM-119A

Photo 256
Description: switch button view of CM-119, CM-119A

Photo 257
Description: water tank view of CM-119

Photo 258
Description: internal view of CM-119, CM-119A

Photo 259
Description: heating element view of CM-119, CM-119A

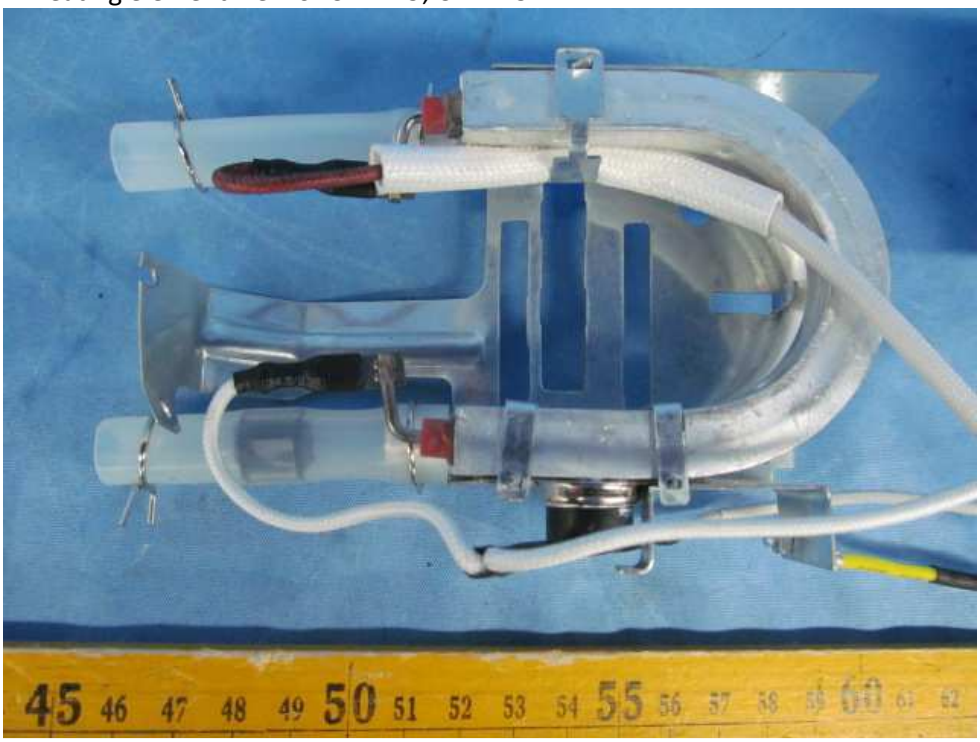


Photo 260
Description: Over view of CM-119A

Photo 261
Description: Over view of CM-119A

Photo 262
Description: Over view of CM-119A

Photo 263
Description: Top view of CM-119A

Photo 264
Description: Water tank view of CM-119A

Photo 265

Description: front view of CM-121A

Photo 266

Description: side view of CM-121A, CM-121E

Photo 267
Description: side view of CM-121A, CM-121E

Photo 268
Description: back view of CM-121A, CM-121E

Photo 269
Description: top view of CM-121 series, CM-122 series, CM-127 series

Photo 270
Description: bottom view of CM-121 series, CM-122 series, CM-127 series

Photo 271
Description: heating plate view of CM-121A, CM-122A,

Photo 272
Description: Lid open view of CM-121 series

Photo 273
Description: Lid open view of CM-121 series

Photo 274
Description: internal view of CM-121A, CM-122A

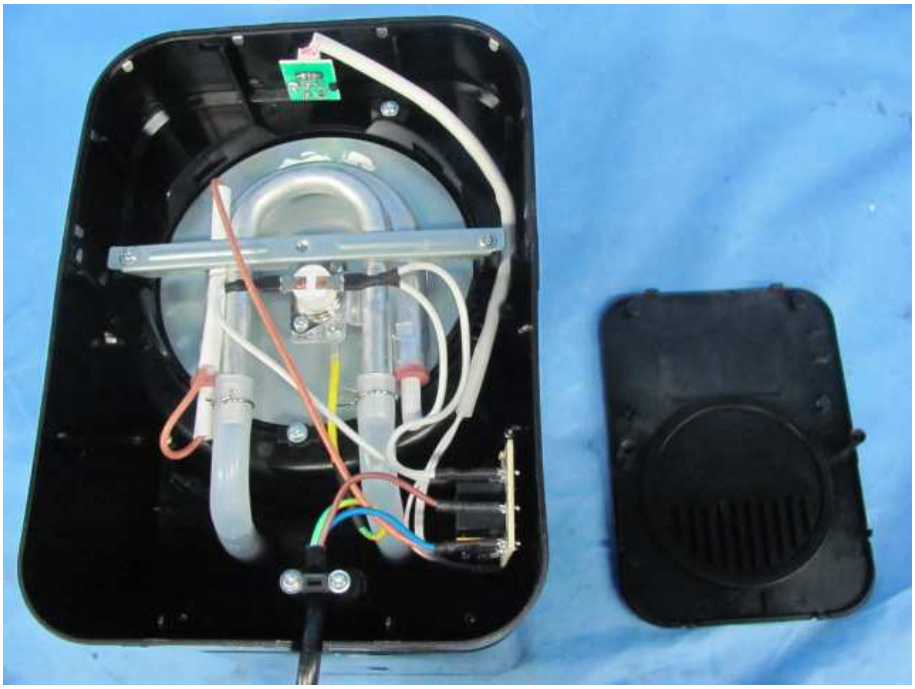


Photo 275
Description: Heating element view of CM-121A, CM-121E, CM-122A, CM-122E

Photo 276
Description: Earthing view of CM-121A, CM-121E, CM-122A, CM-122E

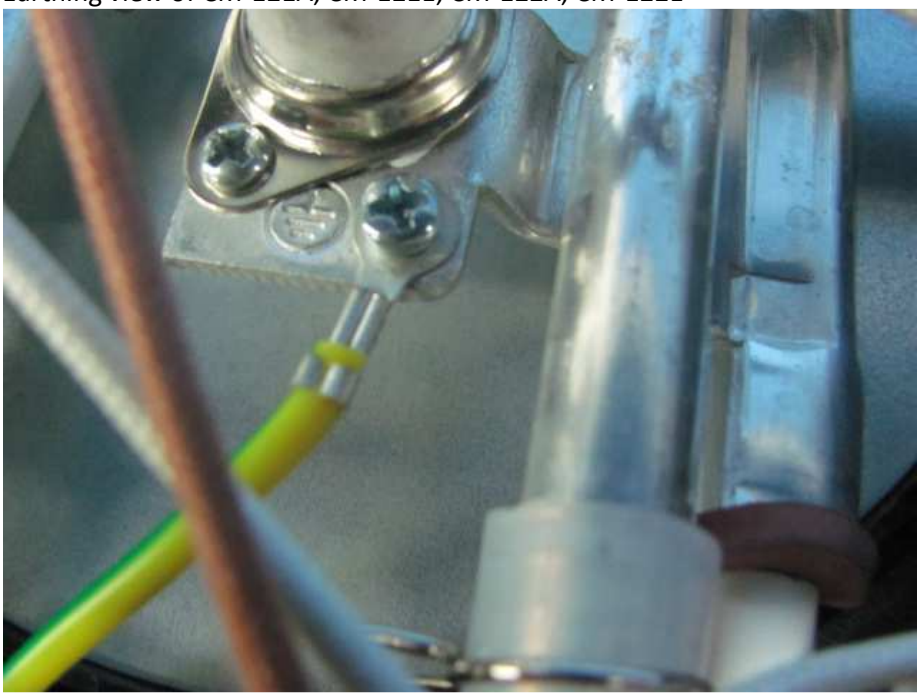


Photo 277
Description cup view of CM-121A, CM-121E

Photo 278
Description: front view of CM-121E

Photo 279
Description: control panel view of CM-121E, CM-122E

Photo 280
Description: heating plate view of CM-121E, CM-122E, CM-127E

Photo 281
Description: internal view of CM-122 series, CM-127 series

Photo 282
Description: internal view of CM-121E, CM-122E

Photo 283
Description: internal view of CM-121E, CM-122E, CM-127E

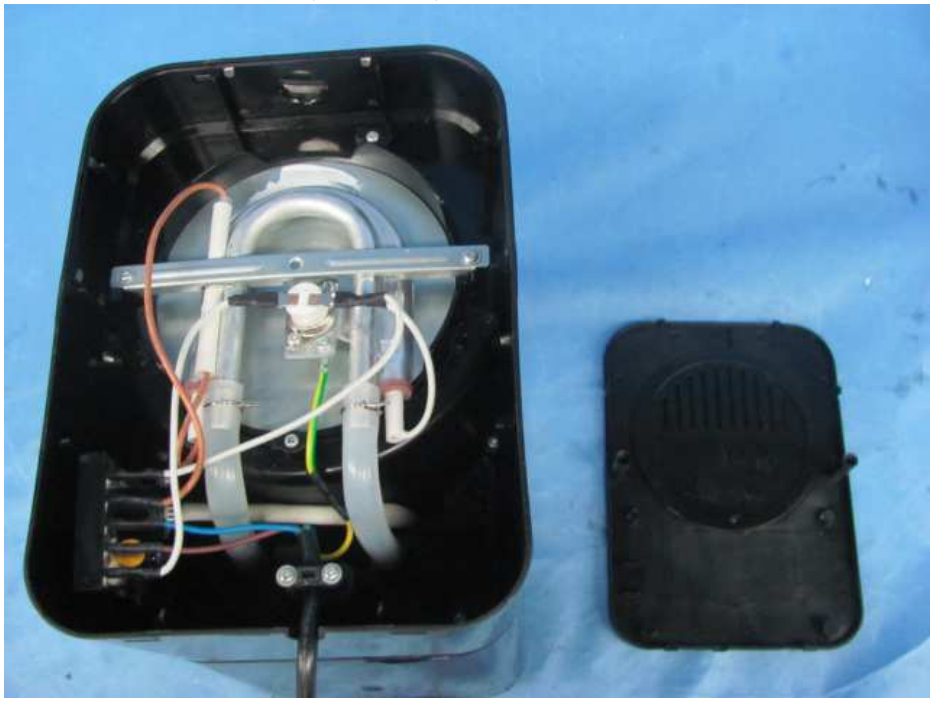


Photo 284
Description: control PCB view of CM-121E, CM-121ET, CM-122E, CM-122ET

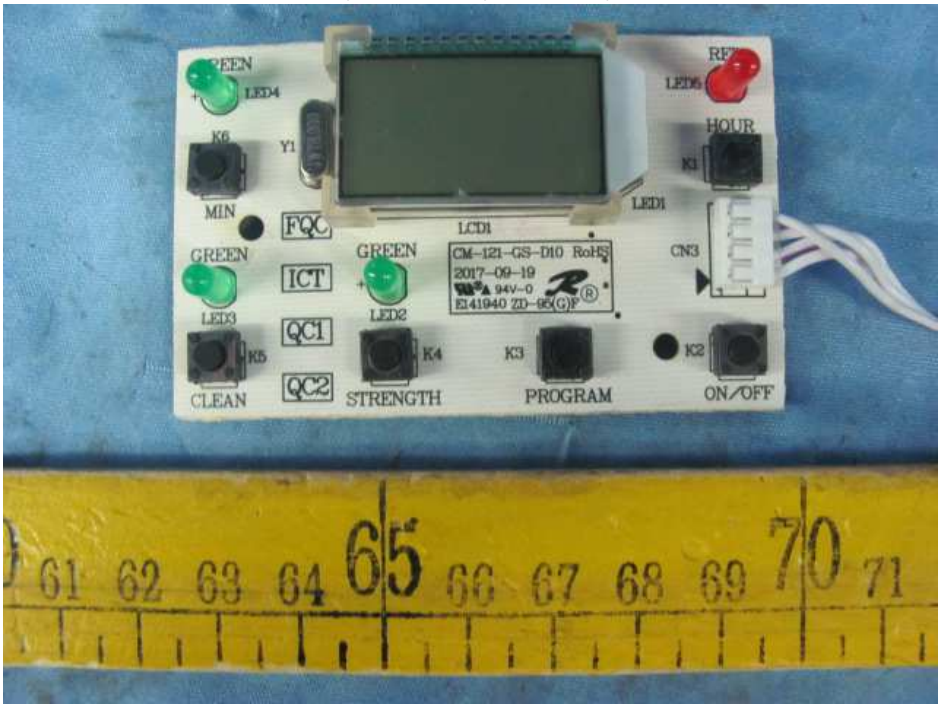


Photo 285
Description: control PCB view of CM-121E, CM-121ET, CM-122E, CM-122ET

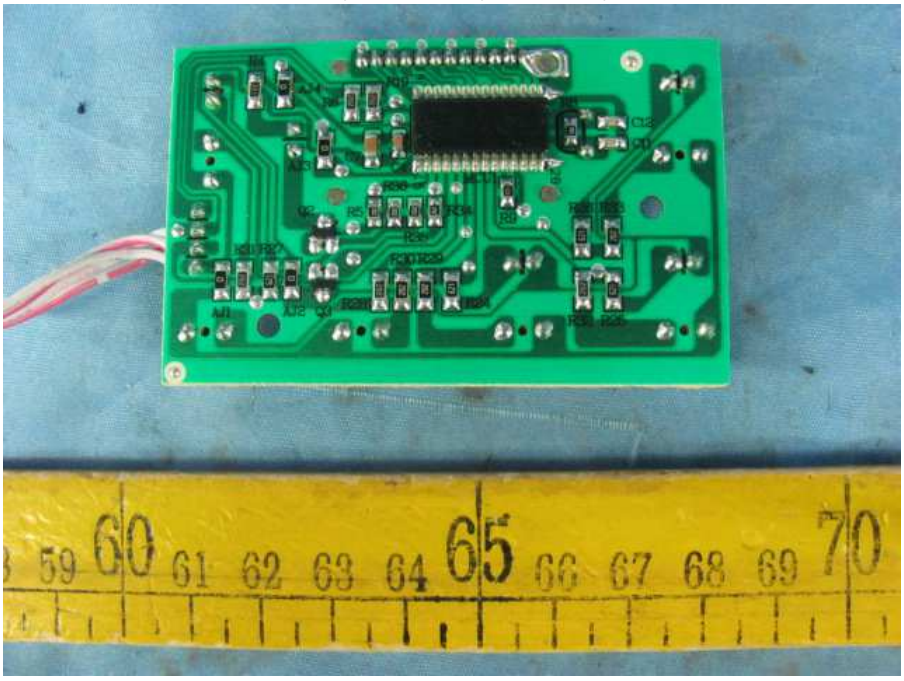


Photo 286
Description: front view of CM-122A

Photo 287
Description: side view of CM-122A, CM-122E

Photo 288
Description: side view of CM-122A, CM-122E

Photo 289
Description: back view of CM-122A, CM-122E

Photo 290
Description: Front view of CM-121AT, CM-121ET

Photo 291
Description: side view of CM-121AT, CM-121ET

Photo 292
Description: side view of CM-121AT, CM-121ET

Photo 293
Description: heating plate view of CM-121AT, CM-122AT

Photo 294
Description: internal view of CM-121AT, CM-122AT

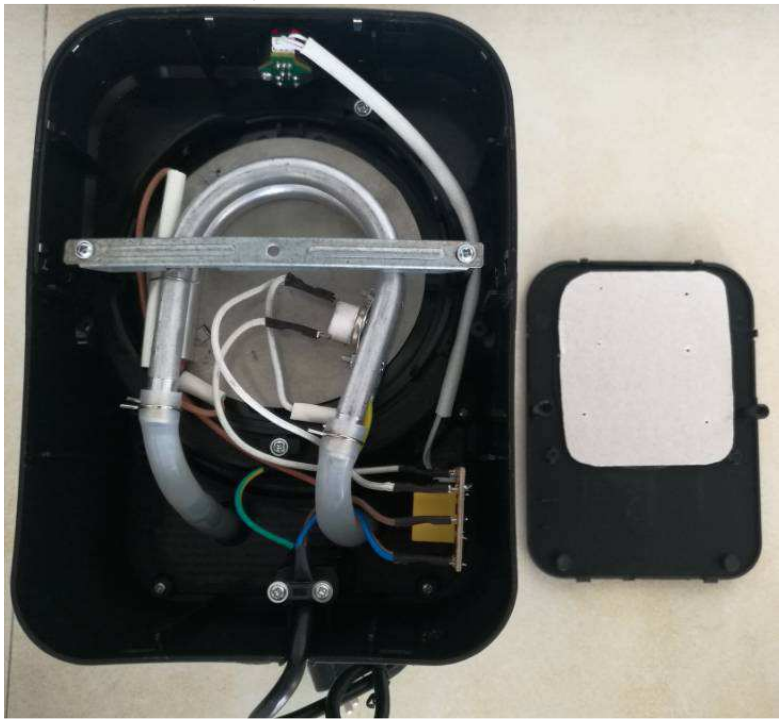


Photo 295
Description: Front view of CM-121ET

Photo 296
Description: heating plate view of CM-121ET， CM-122ET

Photo 297
Description: side view of CM-121ET, CM-122ET, CM-127ET

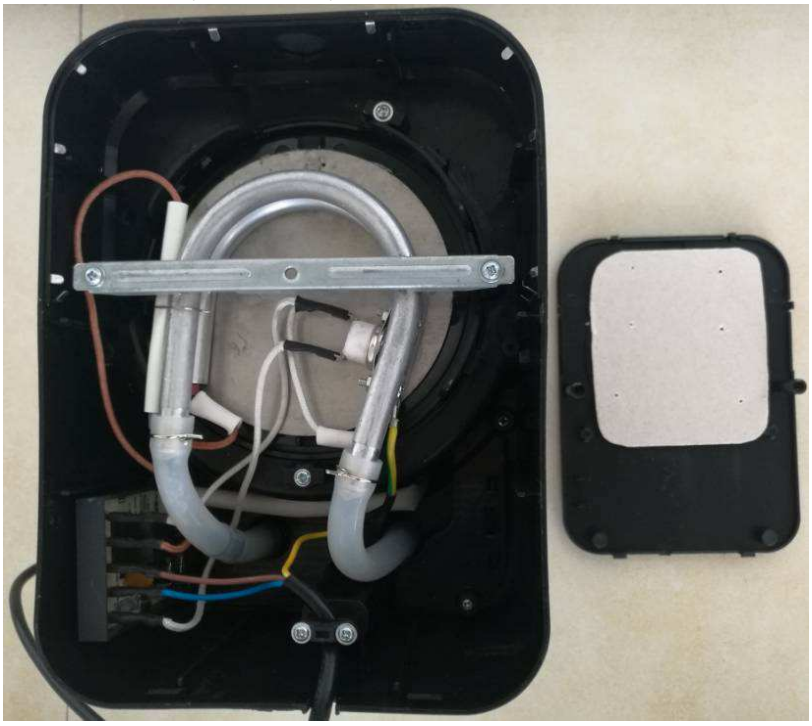


Photo 298
Description: control PCB view of CM-121ET, CM-122ET

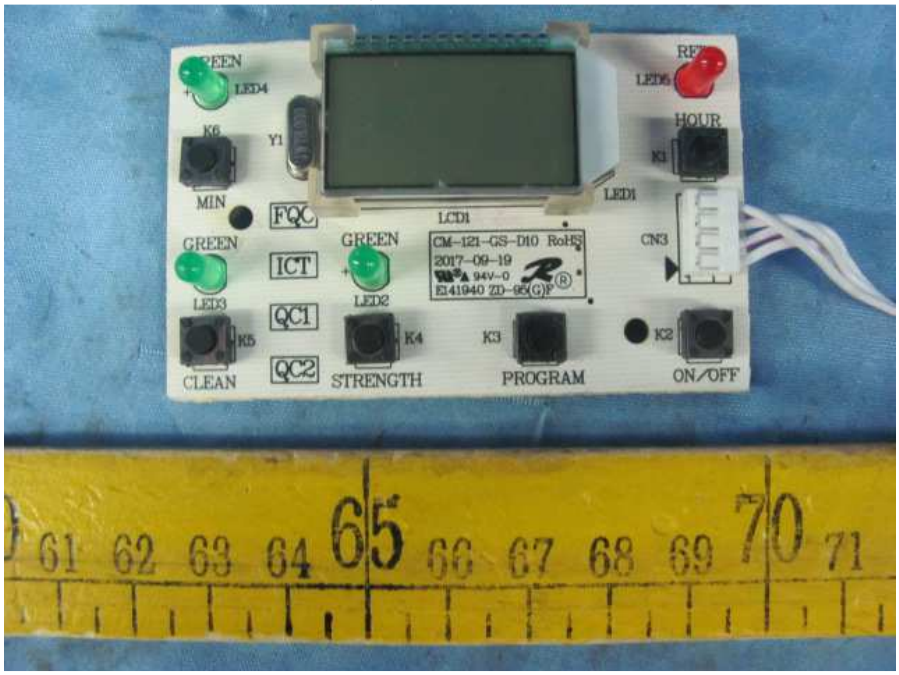


Photo 299
Description: control PCB view of CM-121ET, CM-122ET

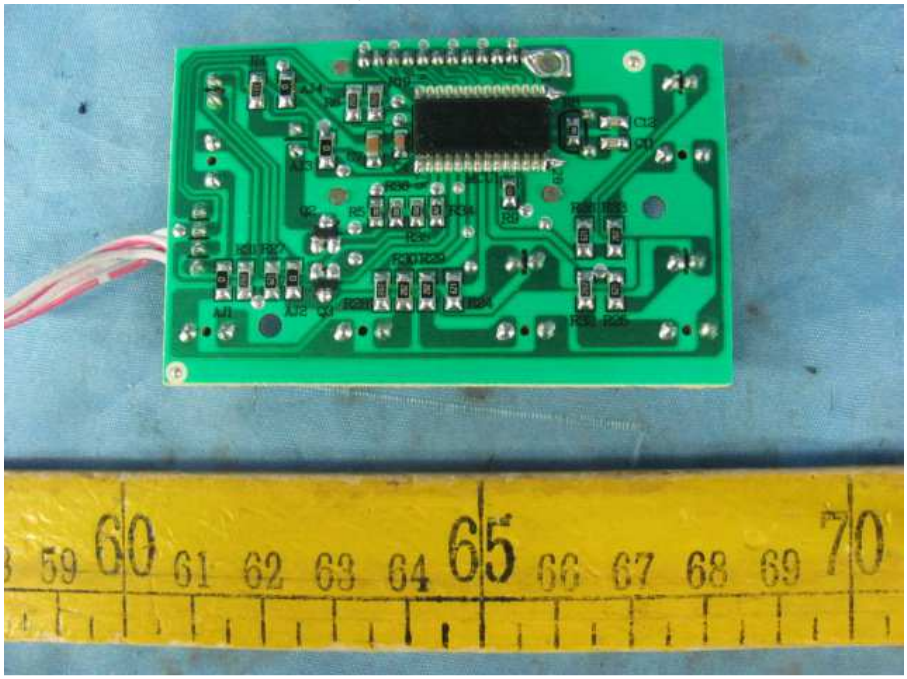


Photo 300
Description: over view of CM-122ET, CM-122AT

Photo 301
Description: over view of CM-122AT

Photo 302
Description: side view of CM-122AT, CM-122ET

Photo 303
Description: side view of CM-122AT， CM-122ET

Photo 304
Description: cup view of CM-121AT, CM-121ET, CM-122AT, CM-122ET, CM-127ET

Photo 305
Description: front view of CM-123A

Photo 306
Description: side view of CM-123A

Photo 307
Description: side view of CM-123A

Photo 308
Description: back view of CM-123A, CM-123S

Photo 309
Description: top view of CM-123A, CM-123S

Photo 310
Description: bottom top view of CM-123A, CM-123S

Photo 311
Description: heating plate view of CM-123A, CM-123S

Photo 312
Description: Lid open view of CM-123A, CM-123S

Photo 313
Description: Lid open view of CM-123A, CM-123S

Photo 314
Description: internal view of CM-123A, CM-123S

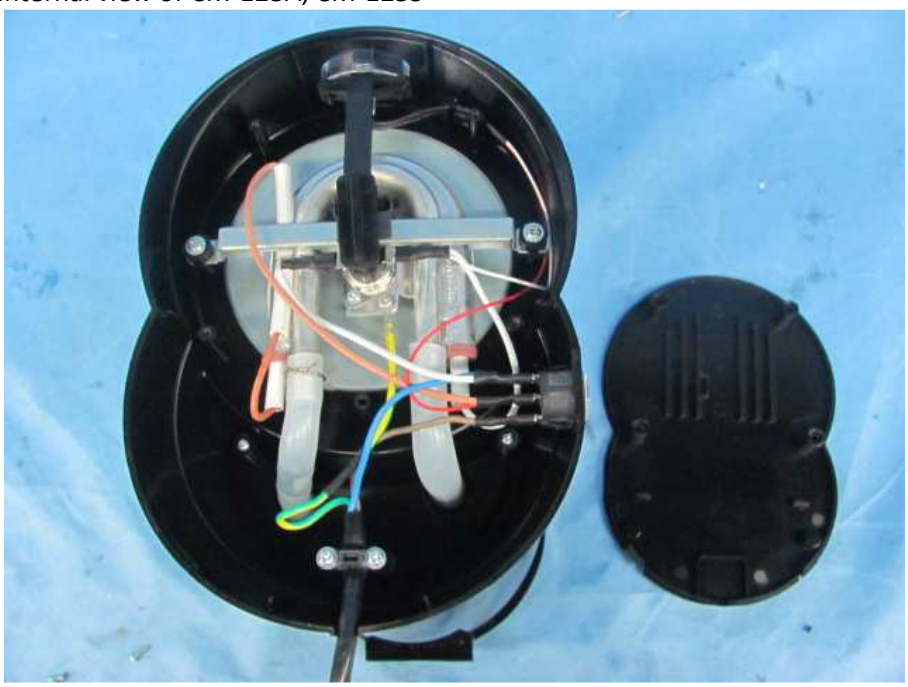


Photo 315
Description: Heating element and earthing view of CM-123A, CM-123S

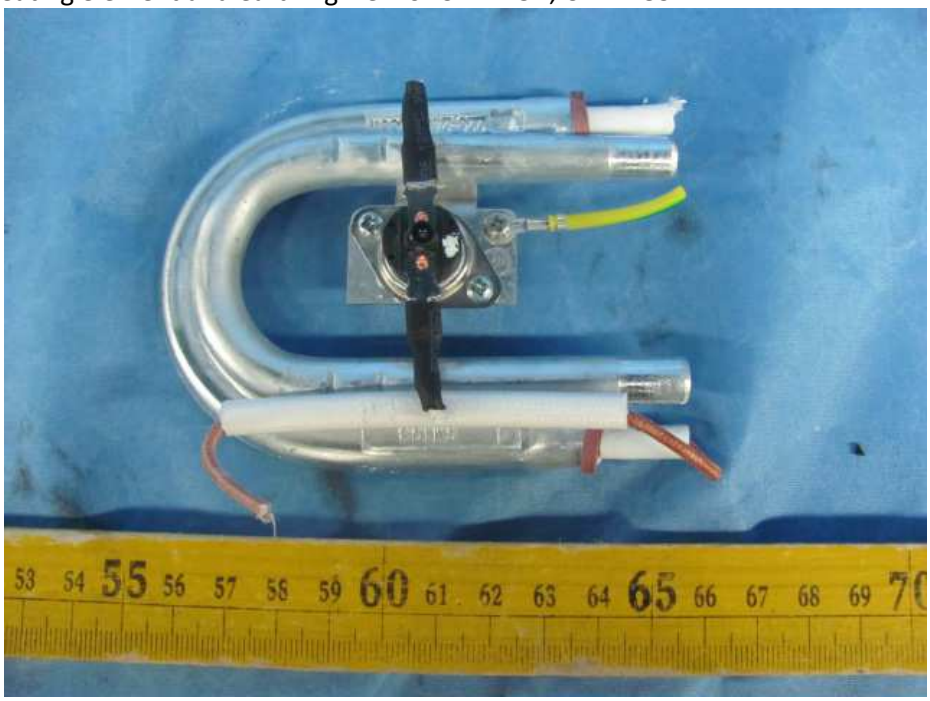


Photo 316
Description: cup view of CM-123A, CM-123S

Photo 317
Description: over view of CM-123S

Photo 318
Description: side view of CM-123S

Photo 319
Description: side view of CM-123S

Photo 320
Description: front view of CM-125A

Photo 321
Description: side view of CM-125A

Photo 322
Description: side view of CM-125A

Photo 323
Description: back view of CM-125A

Photo 324
Description: top view of CM-125A, CM-126T

Photo 325
Description: bottom view of CM-125A

Photo 326
Description: lid open view of CM-125A, CM-126T

Photo 327
Description: internal view of CM-125A, CM-126T

Photo 328
Description: internal view of CM-125A

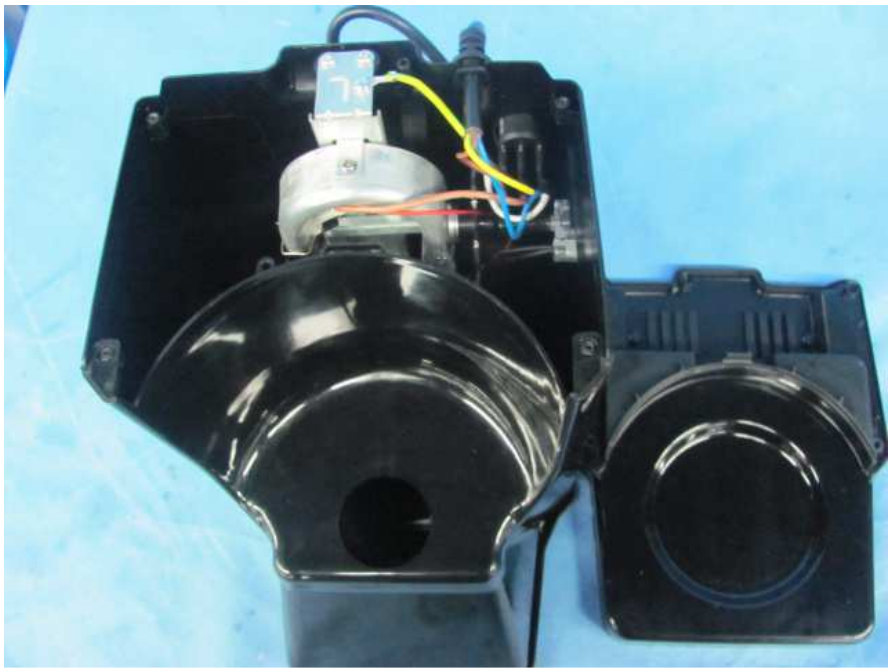


Photo 329
Description: Heating element view of CM-125A, CM-126T

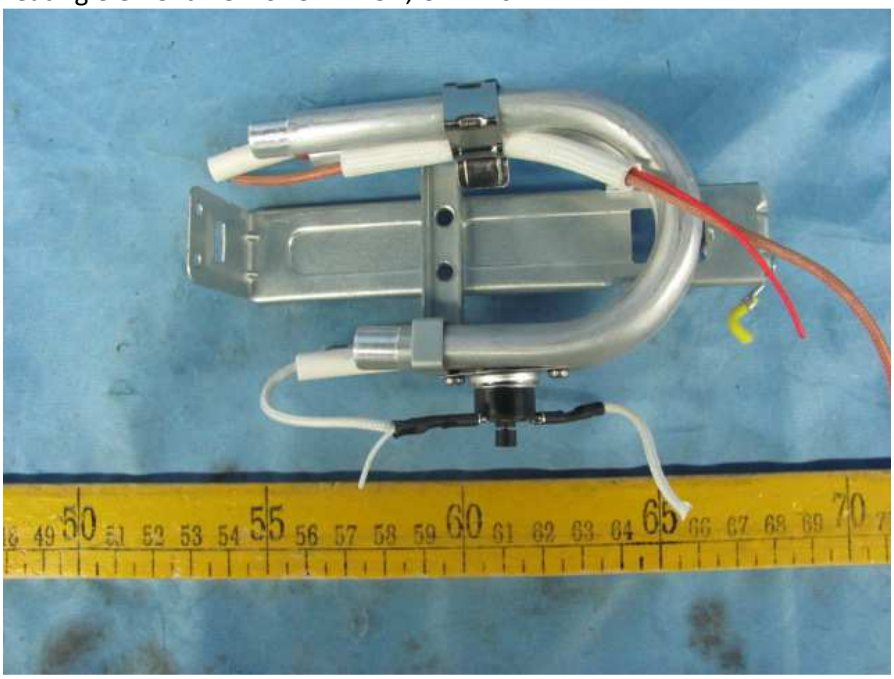


Photo 330
Description: internal and earthing view of CM-125A, CM-126T

Photo 331
Description: cup view of CM-125A

Photo 332
Description: front view of CM-126T

Photo 333
Description: side view of CM-126T

Photo 334
Description: side view of CM-126T

Photo 335
Description: back view of CM-126T, CM-126TA

Photo 336
Description: bottom view of CM-126T, CM-126TA

Photo 337
Description: internal view of CM-126T, CM-126TA

Photo 338
Description: internal view of CM-126T, CM-126TA

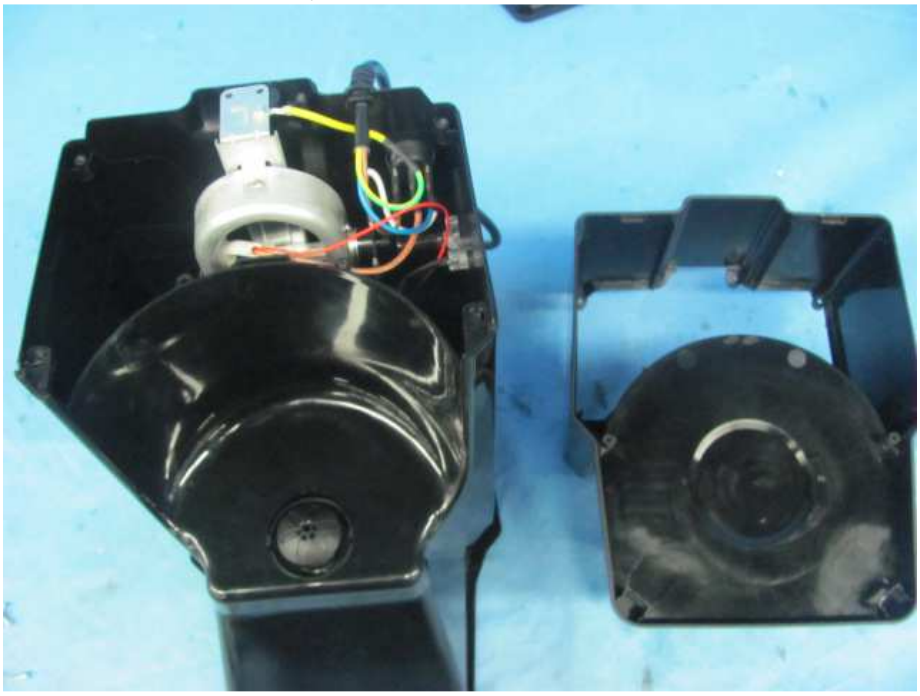


Photo 339
Description: vacuum cup view of CM-126T

Photo 340
Description: front view of CM-126TA

Photo 341
Description: side view of CM-126TA

Photo 342
Description: side view of CM-126TA

Photo 343
Description: lid open view of CM-126TA

Photo 344
Description: over view of CM-127E, CM-127ET

Photo 345
Description: over view of CM-127E

Photo 346
Description: side view of CM-127E

Photo 347
Description: side view of CM-122AT,CM-122ET

Photo 348
Description: control PCB view of CM-127E, CM-127ET

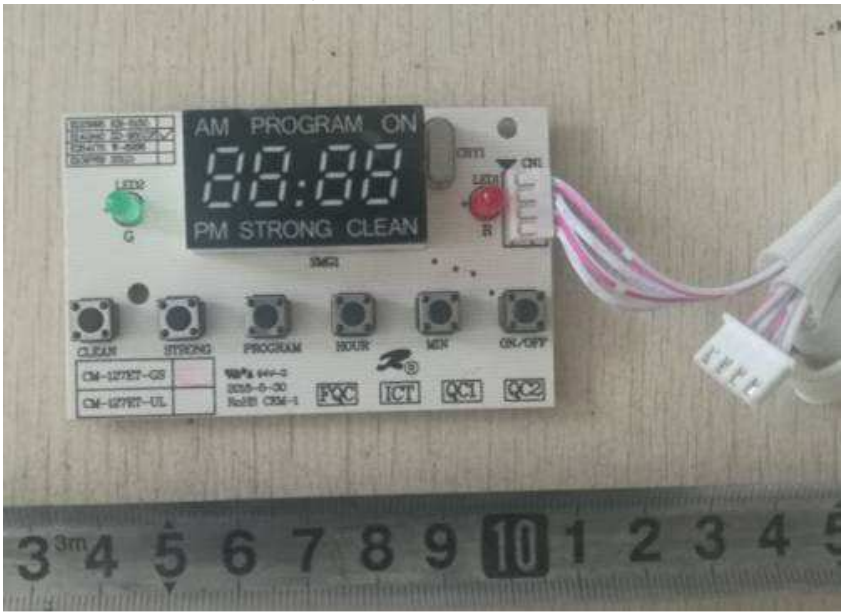
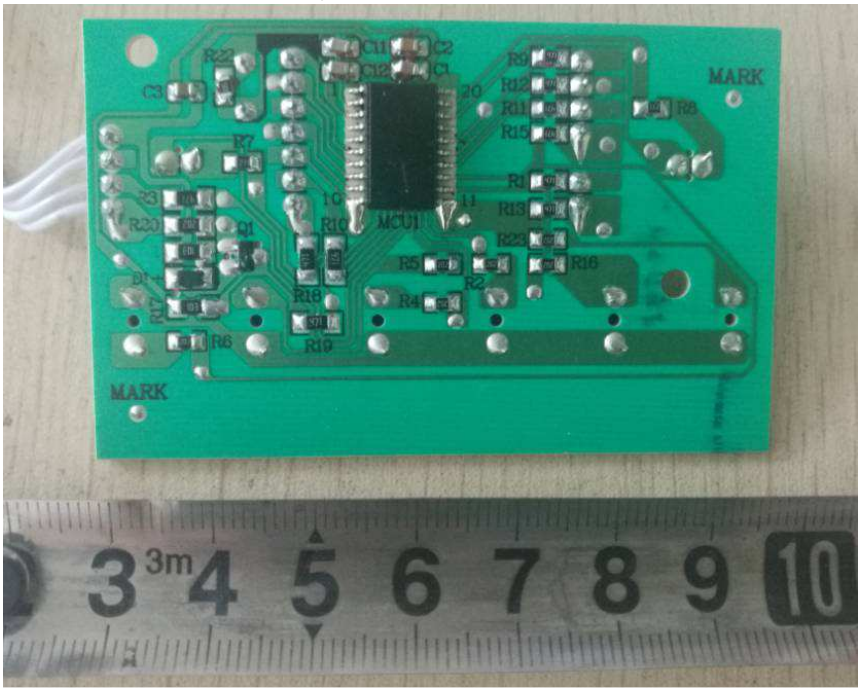


Photo 349
Description: control PCB view of CM-127E, CM-127ET



END of the report