Test Report issued under the responsibility of:

TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number ..... :	SUES240300016802-M1
Date of issue ..... :	2024-06-25; Amendment 1: 2024-12-11
Total number of pages ..... :	27 pages
Name of Testing Laboratory preparing the Report ..... :	SGS-CSTC Standards Technical Services Co., Ltd. Suzhou Branch
Applicant's name ..... :	Hangzhou Hikvision Digital Technology Co., Ltd.
Address ..... :	No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China
Test specification:	
Standard ..... :	IEC 62368-1:2014
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No. ..... :	IEC62368_1D
Test Report Form(s) Originator .. :	UL(US)
Master TRF ..... :	Dated 2022-04-14

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test Item description ..... :		LCD Display Unit	
Trade Mark(s) ..... :		HIKVISION	
Manufacturer..... :		Same as applicant	
Model/Type reference ..... :		See Page 8	
Ratings ..... :		100-240 Va.c., 50/60 Hz, 5 A; Class I	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	SGS-CSTC Standards Technical Services Co., Ltd. Suzhou Branch	
Testing location/ address .....:		No.10, Weiye Road, Kunshan Development Zone, Suzhou, Jiangsu, China	
Tested by (name, function, signature) .....:		Cookie Zhang Project Engineer	
Approved by (name, function, signature) .....:		Ade Wu Reviewer	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address ..... :			
Tested by (name, function, signature) .....:			
Approved by (name, function, signature) .....:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address .....:			
Tested by (name, function, signature) .....:			
Witnessed by (name, function, signature).....:			
Approved by (name, function, signature) .....:			
☐	**Testing procedure: CTF Stage 3 :**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address .....:			
Tested by (name, function, signature) .....:			
Witnessed by (name, function, signature).....:			
Approved by (name, function, signature) .....:			
Supervised by (name, function, signature) .....:			

List of Attachments (including a total number of pages in each attachment):

Attachment 1 – 1 pages of Photos documents;

Summary of testing:

The sample(s) tested complies with the requirements of IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017.

Unless otherwise specified, the EUT with model DS-D2055LU-Y was selected as representative model for full testing, the EUT with model DS-D2055HE-G, DS-D2055HR-G, DS-D2055HU-Y, DS-D2055LR-G, DS-D2055UL-0B for the clause 5.4.1.4, 6.3.2, 9.0, B.2.6, B.3, B.4, B.2.5 additional tests were considered necessary.

Amendment 1 Report:
The original Test Report Ref. No. SUES240300016801, dated on 2024-06-25 was modified to include following changes and/or additions:
-Add alternative power supply, Switch and Screen.
- Update the marking label due to the rated current
- Update factory information

After comparison, the following tests were considered necessary for model DS-D2055UL-1B:
1. Cl 5.4.2, 5.4.3 Minimum Clearances/Creepage distance
2. B.2.5 Input test
3. 5.2 Electrical energy source classifications
4. 5.4.1.4 & 9.2.6 Maximum operating temperature for insulating materials Temperatures on Accessible Surfaces
5. 5.4.9 Electric Strength test
6. 5.7 Touch current of earthed conductive parts accessible
7. B.3-B.4 Single fault conditions
8. 5.4.8 Humidity Conditioning test

This test report is not valid without the original CB Test Report Ref. SUES240300016801, dated on 2024-06-25

Heating test:
Tma = 40°C (declared by manufacturer)

K-type thermocouple used for temperature measurement.

Tests performed (name of test and test clause):	**Testing location:**
☒ 5. Electrically-caused injury ☒ 9. Thermal burn injury ☒ Annex B. Normal operating condition tests, abnormal operating condition tests and single fault condition tests	SGS-CSTC Standards Technical Services Co., Ltd. Suzhou Branch No.10, Weiye Road, Kunshan Development Zone, Suzhou, Jiangsu, China

Summary of compliance with National Differences (List of countries addressed):

1. EU Group Differences (EN 62368-1:2014+A11:2017)
2. EU Special National Conditions, EU A-deviations: DE, DK, FI, GB, IE, NO, SE

Explanation of used codes: DE=Germany, DK=Denmark, FI=Finland, GB= United Kingdom, IE=Ireland, NO=Norway, SE=Sweden

☒ **The product fulfils the above requirements. which have been considered in original CB test report Ref. SUES240300016801, dated on 2024-06-25 and this report.**

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other:… (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

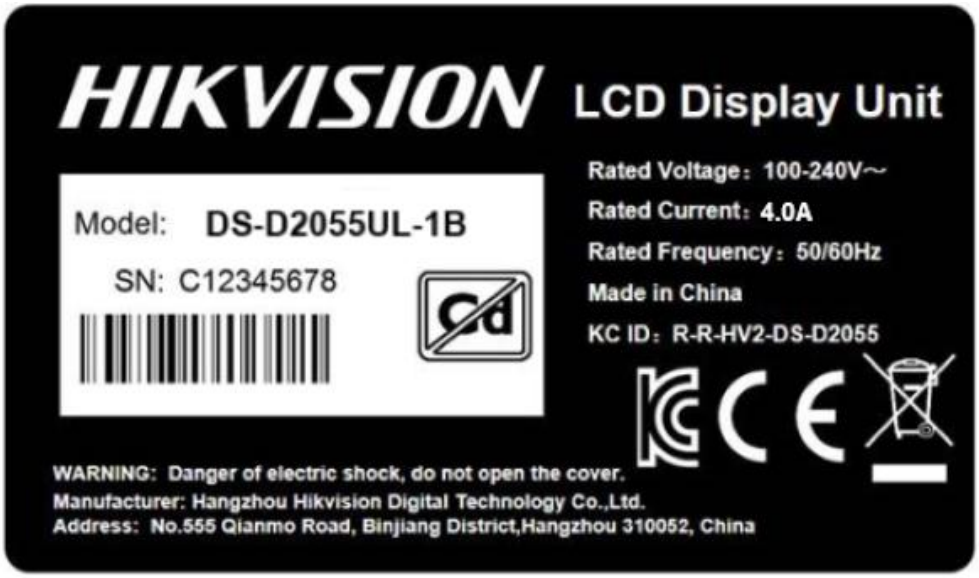
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective National Certification Body that own these marks.

Marking for model DS-D2055LE-G

Marking for model DS-D2055UL-1B



Remark:

1) The Height of CE logo shall not be less than 5 mm; Height of WEEE logo shall not be less than 7 mm.

2) The marking plates for other models are of the same pattern except for model name.

3) As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

TEST ITEM PARTICULARS:	
Classification of use by ..... :	☒ Ordinary person ☒ Instructed person ☒ Skilled person ☒ Children likely to be present
Supply Connection ..... :	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☐ None
Supply Connection – Type ..... :	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other: Not directly connected to mains
Considered current rating of protective device as part of building or equipment installation ..... :	16 A for other area; 20A for north America; Installation location: ☐ building; ☒ equipment
Equipment mobility ..... :	☐ movable ☐ hand-held ☐ transportable ☒ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: Not directly connected to mains
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III
Access location ..... :	☐ restricted access location ☒ N/A
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient ..... :	40°C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power Systems ..... :	☒ TN ☒ TT ☐ IT - ____ V_{L-L} ☐ N/A
Altitude during operation (m) ..... :	☒ 2000 m or less ☐ _____ m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) ..... :	☒ 31,6kg

Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement .....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing .....:	
Date of receipt of test item.....:	2024-11-20
Date (s) of performance of tests .....:	2024-11-20 to 2024-11-22

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	☒ **Yes** ☐ **Not applicable** **Factory declaration letter.pdf, dated 2024-03-15.**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....:	1. Hangzhou Hikvision Technology Co., Ltd. No. 700, Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China. 2. Hangzhou Hikvision Electronics Co., Ltd. No. 299, Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou, Zhejiang, 311500, China. 3. Chongqing Hikvision technology Co., Ltd. No. 118, Haikang Road, Area C, Jianqiao Industrial Park, Dadukou District, Chongqing, 401325, China. 4. Wuhan Haorong Technology Co., Ltd. No.1 Qinglong Road (Extension Line), Zhifang Street, Jiangxia District, Wuhan City, Hubei, China.

General product information and other remarks:

Product Description –

Functions	The equipment under test is Class I LCD Display Unit, which powered by Built-in power supply.
Material of enclosure	Metal & plastic
Other features	Indoor use only

Model list and model differences:

Model / Type Ref.			
DS-D2055LU-Y	DS-D2055HU-Y	DS-D2055LE-Y	DS-D2055HE-Y
DS-D2055LR-Y	DS-D2055HR-Y	DS-D2055LU-G	DS-D2055HU-G
DS-D2055LE-G	DS-D2055HE-G	DS-D2055LR-G	DS-D2055HR-G
DS-D2055NL-B	DS-D2055NH-B	DS-D2055NL-E	DS-D2055NH-E
DS-D2055NL-B/G	DS-D2055NH-B/G	DS-D2055NL-E/G	DS-D2055NH-E/G
DS-D2055NL-F/G	DS-D2055NH-F/G	DS-D2055NL-B/Y	DS-D2055NH-B/Y
DS-D2055NL-E/Y	DS-D2055NH-E/Y	DS-D2055NL-F/Y	DS-D2055NH-F/Y
DS-D2065UH-B	DS-D2065UL-B/Y	DS-D2065UH-B/Y	DS-D2065HU-M
DS-D2065LU-Y	DS-D2065HU-Y	DS-D2065LU-M	DS-D2055UL-1B
DS-D2055UL-0B	DS-D2055UH-0B	DS-D2055UL-0A	DS-D2055UH-0A
DS-D2055UL-0C	DS-D2055UH-0C	DS-D2055EL-0C	DS-D2055EH-0C
DS-D2055EL-0A	DS-D2055EH-0A	DS-D2055EL-0B	DS-D2055EH-0B
DS-D2055RL-0C	DS-D2055RH-0C	DS-D2055RL-0A	DS-D2055RH-0A
DS-D2055RL-0B	DS-D2055RH-0B	DS-D2055******	--
“*” stands for 0-9, A-Z, /, - or blank.			

Model Differences –

All models are identical except for model name, power supply, panel

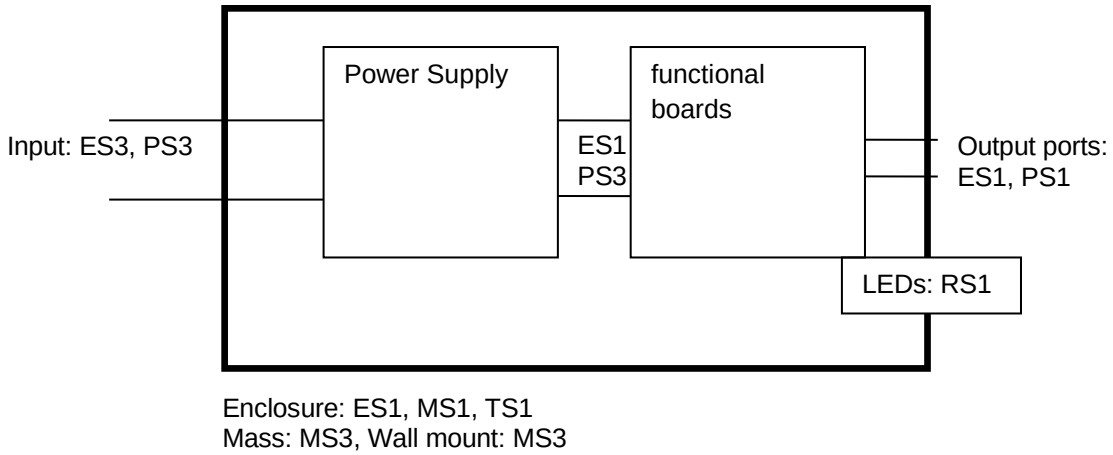
Additional application considerations – (Considerations used to test a component or sub-assembly) –

N/A

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	**Corresponding classification (ES)**
Internal Power Supply primary circuits	ES3
other internal circuits	ES1
Enclosure	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
Power input	PS3
All internal circuits	PS3
Signal ports	PS1
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	**Corresponding chemical**
Battery	Lithium
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	**Corresponding classification (MS)**
Sharp edges and corners	MS1
Equipment mass	MS3
Wall mount	MS3
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	**Corresponding classification (TS)**
Accessible parts	TS1
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	**Corresponding classification (RS)**
LEDs	RS1

ENERGY SOURCE DIAGRAM

Indicate which energy sources are included in the energy source diagram. Insert diagram below



■ **ES** ■ **PS** ■ **MS** ■ **TS** ■ **RS**

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	**Possible Hazard**			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	ES3: Power Supply primary circuits	Basic Insulation	Protective Earthing	Enclosure
Ordinary person	ES1: Secondary internal circuits	N/A	N/A	N/A
Ordinary person	ES1: Enclosure	N/A	N/A	N/A
Ordinary person	ES1: Output port	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Internal combustible materials	PS3: Internal circuits	1. No ignition occurred. 2. No parts exceeding 90% of its spontaneous ignition temperature. 3. combustible material outside fire enclosure is of min HB	1. PCB is of min V-1 material 2. All other components were mounted on min V-1 PCB or of min V-2 or small parts of combustible material less than 4g. 3. Fire enclosure provided	N/A
Output port	PS1: Output terminals	1. No ignition occurred. 2. No parts exceeding 90% of its spontaneous ignition temperature.	N/A	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	battery hazards	N/A	N/A	annex M

8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	MS1: Sharp edges and corners	N/A	N/A	N/A
Ordinary person	MS3: Equipment mass	N/A	N/A	Fixed
Ordinary person	MS3: Wall mount	N/A	N/A	adequate mounting means
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	TS1: Accessible parts	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	RS1: LEDs	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details. (2) “N” – Normal Condition; “A” – Abnormal Condition; “S” Single Fault				

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Clause	Requirement + Test	Result - Remark	Verdict
5	**ELECTRICALLY-CAUSED INJURY**		P
5.2.1	Electrical energy source classifications ..... :		P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current..... :		P
5.2.2.3	Capacitance limits ..... :	approved internal power supply	N/A
5.2.2.4	Single pulse limits ..... :		N/A
5.2.2.5	Limits for repetitive pulses ..... :		N/A
5.2.2.6	Ringing signals ..... :		N/A
5.2.2.7	Audio signals ..... :		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V ..... :	Checked by V.1.3.	P
	b) Electric strength test potential (V) ..... :		N/A
	c) Air gap (mm) ..... :		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning ..... :	approved internal power supply	P
5.4.1.4	Maximum operating temperature for insulating materials ..... :		P
5.4.1.5	Pollution degree ..... :	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage	approved internal power supply	P
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature..... :	(See appended table 5.4.1.10.2)	N/A
5.4.1.10.3	Ball pressure ..... :	(See appended table 5.4.1.10.3)	N/A
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage ..... :	2500	—
	b) d.c. mains transient voltage ..... :		—
	c) external circuit transient voltage ..... :		—
	d) transient voltage determined by measurement ..... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2.4)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages ..... :		N/A
5.4.3	Creepage distances ..... :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group ..... :	IIIb	—
5.4.4	Solid insulation	approved internal power supply	N/A
5.4.4.2	Minimum distance through insulation ..... :	(See appended table 5.4.4.2)	N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material ..... :	(See appended Table 5.4.9)	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz ..... :	(See appended Table 5.4.4.9)	N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ)..... :		—
5.4.6	Insulation of internal wire as part of supplementary safeguard ..... :	(See appended table 5.4.4.2)	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	approved internal power supply for solid insulation	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Relative humidity (%)....:	96	—
	Temperature (°C) ....:	40	—
	Duration (h) ....:	120	—
5.4.9	Electric strength test....:	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits	(See appended table 5.4.9)	N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test ....:	(See appended table 5.4.9)	N/A
5.4.10.2.3	Steady-state test....:	(See appended table 5.4.9)	N/A
5.4.11	Insulation between external circuits and earthed circuitry ....:	(See appended table 5.4.9)	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V)....:		—
	Nominal voltage U_{peak} (V)....:		—
	Max increase due to variation U_{sp} ....:		—
	Max increase due to ageing ΔU_{sa} ....:		—
	$U_{op}= U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ ....:		—
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units	Approved internal power supply.	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector....:	Approved internal power supply.	P
5.5.3	Transformers	Approved internal power supply.	P
5.5.4	Optocouplers	Approved internal power supply.	P
5.5.5	Relays		N/A
5.5.6	Resistors	Approved internal power supply.	P
5.5.7	SPD's	Approved internal power supply.	P
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:	(See Annex G.10.3)	N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation		P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm^2) .....:	min. 0,75	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2). .....:	min. 0,75	—
	Protective current rating (A) ..... :	<25A	—
5.6.4.3	Current limiting and overcurrent protective devices		P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Requirement		P
	Conductor size (mm^2), nominal thread diameter (mm). .....:	min. 0,75mm^2, min. 3,5mm	P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance (Ω).....:	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current .....:	(See appended table 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection) .....:		—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....:		—
5.7.4	Earthed conductive accessible parts.....:	(See appended Table 5.7.4)	P
5.7.5	Protective conductor current		N/A
	Supply Voltage (V).....:		—
	Measured current (mA).....:		—
	Instructional Safeguard.....:	(See F.4 and F.5)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA).....:		N/A
9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications	TS1 for accessible parts.	P
9.3	Safeguard against thermal energy sources	Enclosure safeguard	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard .....:	Not used.	N/A
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	No such part.	N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector ..... :		N/A
B.3.5	Maximum load at output terminals ..... :	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
Metal enclosure	Interchangeable	Interchangeable	Min. thickness: 0,8	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Test with appliance
Plastic enclosure	KINGFA SCI & TECH CO LTD	JH960 6(M), JH960 6(M) (ccc) (##), JH960-6(M) (ccc) (##)	V-0/5VB, Min. 2,0 mm thickness, 75°C	UL94 UL746	UL E171666
Built-in Power supply	Shenzhen MEGMEET Electrical Co., Ltd	MLT199FL-J	Input: 100-240VAC, 50/60Hz, 5, 0A(Max); Output: +5VSB/0, 7A,+5Vdc/2, 5A,+12Vdc/2, 0A,+24Vdc/9,0A; 45°C	IEC 62368-1:2014	SGS CB Cert No.: FI-43445; Report No.: SZES191001660601
Alternative	**Shenzhen MEGMEET Electrical Co., Ltd**	**MLT186FL**	**Input: 100-240VAC, 50/60Hz, 4A(Max); Output: STB (+5VDC, 0.5A); V5 (+5VDC, 2A); V12 (+12VDC, 2.5A); V24 (+24VDC, 8A); Total output power≤200W**	**IEC 62368-1:2018**	**TUV SUD CB Cert No.: SG PSB-IV-09306; Report No.: 211-21230783**
RTC Battery	GUANGZHOU TIANQIU ENTERPRISE CO LTD	CR1220	Max Abnormal Charging Current 2,5mA Max Abnormal Charging Voltage 3,5V dc	UL1642	UL MH48705
PCB	VICTORY GIANT TECHNOLOGY (HUIZHOU) CO LTD	SH	V-0,130°C	UL796	UL E248779
Alternative	GUANGZHOU FAST-PRINT CIRCUIT TECHNOLOGY CO LTD	M11	V-0,130°C	UL796	UL E204460
Alternative	SHENZHEN KINWONG ELECTRONIC CO LTD	8B	V-0,130°C	UL796	UL E243951

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Clause	Requirement + Test	Result - Remark	Verdict

Alternative	HUIZHOU CHINA EAGLE ELECTRONIC TECHNOLOGY CO LTD	CA-F121	V-0, 130°C	UL796	UL E198681
Alternative	Interchangeable	Interchangeable	Min V-1, 130°C	UL796	UL
Power cord	Phino Electric Co.,Ltd	H05VV-F	3x0.75mm^2	DIN VDE 50525-2-11	VDE 113841
Power plug	Phino Electric Co.,Ltd	PHP-206	AC250V, 16A	DIN VDE 0620-2-1	VDE 40013375
Connector	Phino Electric Co.,Ltd	PHS-301	AC250V, 10A	DIN VDE 60320-1	VDE 40038017
Rocker Switch	ZHEJIANG LECI ELECTRONICS CO LTD	RS601D1-2010011BB	6(4)A, 250VAC	DIN EN60058-1(VDE 0630-1):2008-09: EN61058-1:2002+A2:2008 IEC 61058-1(ed.2);am1;am2	VDE 40017430
Switch for appliances	ZHEJIANG LECI ELECTRONICS CO LTD	RS601D seris	6A, 250VAC	DIN EN 61058-1(VDE 0630-1):2008-09;EN 61058-1:2002+A2:2008 IEC 61058-1(ed.2);am1;am2	40017430
Alternative	**Zhe Jiang Bei Er Jia Electronic Co., Ltd.**	**PS8A**	**6A, 250VAC**	**DIN EN 61058-1(VDE 0630-1):2008-09;EN 61058-1:2002+A2:2008 IEC 61058-1(ed.2);am1;am2**	**VDE 40027141**
AC inlet	Zhejiang Leci Electronics Co., Ltd	DB-14	AC250V,10A	DIN EN 60320-1(VDE 0625-1):2016-04;EN 60320-1:2015+AC:2016 DIN EN 60320-3(VDE 0625-3):2015-11;EN 60320-3:2014 IEC 60320-1:2015+COR1:2016; IEC 60320-3:2014	VDE 40032137

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Clause	Requirement + Test	Result - Remark	Verdict

Fuse	XC ELECTRONICS (SHENZHEN) CORP LTD	5F6.3 F6.3L250V	5F6.3A250V	DIN EN 60127-1(VDE 0820-1):2007-02; EN 60127-1:2006 DIN EN 60127-2(VDE 0820 Teil 2):2004-04; EN 60127-2:2003+A1:2003 IEC60127-1(ed.2) IEC 60127-2(ed.2); am1	VDE 40009609
IC for USB (UL3, US6, US9, US10)	SG Micro Corp	SGM2584AYN5G/TR	Input Voltage Range: 2.5V to 5.5V Current Limit: 1100mA	IEC 60950-1	UL CB: DK-82510-UL
Alternative	CYG Wayon Circuit Protection Co., Ltd.	LP-ISML110	0,05A, 0,10, 6VDC	EN 62319-1:2005	TÜVRheinland R 50318402
Screen	BEIJING BOE DISPLAY TECHNOLOGY	DV550FHM-NV8	55 inch	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Test with appliance
Alternative	BEIJING BOE DISPLAY TECHNOLOGY	DV550FHM-NVC	55 inch	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Test with appliance
Alternative	LG Innotek	LD550DUN-WRA2	55 inch	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Test with appliance
Alternative	LG Innotek	LD550DUN-WPA1	55 inch	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Test with appliance
Alternative	LG Innotek	LD550DUN-TMA4	55 inch	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Test with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

Alternative	LG Innotek	LD550DUN-TMA3	55 inch	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Test with appliance
Alternative	**Optoelectronics Technology Co., Ltd.**	**MG5461B02-2**	**55 inch, 1209,6 (H) x 680,4 (V)**	**IEC 62368-1: 2018 and EN IEC 62368-1:2020+A11:2020**	**Test with appliance**
Internal primary Wire and Earth wire	ZHEJIANG LONDA ELECTRONIC WIRE & CABLE CO LTD	1007	600VAC, 105°C, 14AWG	UL 758	UL E205056
Alternative	Interchangeable	Interchangeable	600VAC, 105°C, 14AWG	UL 758	UL
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. 2) Description line content is optional. Main line description needs to clearly detail the component used for testing					

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	**Table: Classification of electrical energy sources**						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
Test with power model MLT186FL							
1	264	Plastic enclosure to earth	Normal	--	0,08mApk	60	ES1
			Abnormal – See B.3 and B.4	--	0,07mApk	60	ES1
			Single fault –F1 fuse open	--	0,07mApk	60	ES1
2	264	Terminal to earth	Normal	--	0,001mApk	60	ES1
			Abnormal – See B.3 and B.4	--	0,001mApk	60	ES1
			Single fault –F1 fuse open	--	0,001mApk	60	ES1

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**						P
	Supply voltage (V) ..... :	90VAC/ 60Hz	264VAC/50Hz	--	--	--	—
	Ambient T_{min} (°C) ..... :	21,3	23,8	--	--	--	—
	Ambient T_{max} (°C) ..... :	25,0	24,6	--	--	--	—
	Tma (°C) ..... :	40,0	40,0	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)					Allowed T_{max} (°C)
Model DS-D2055UL-1B test with power supply MLT186FL							
Metal enclosure*		35,3	33,5	--	--	--	70
Plastic enclosure*		36,8	36,2	--	--	--	77
L wire		49,8	50,7	--	--	--	130
AC inlet		52,8	52,8	--	--	--	70
CX1		64,3	56,7	--	--	--	110
LP2 winding		71,3	58,1	--	--	--	130
CX2		69,3	58,4	--	--	--	110
LP3 winding		81,7	62,0	--	--	--	130
LP4 winding		88,5	67,7	--	--	--	130
PCB near QP2		90,2	72,4	--	--	--	130
TH1 winding		87,0	83,4	--	--	--	110
TH1 core		81,2	78,4	--	--	--	110
PH3		60,4	58,7	--	--	--	100
PH5		84,2	80,2	--	--	--	100
CY1		80,9	76,3	--	--	--	125
Mylar sheet under PCB near TH1		77,9	75,3	--	--	--	130
PCB near UA1(DS-70308)		83,0	73,7	--	--	--	130
Supplementary information:							

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

* The test results of touchable surface temperature were considered base on ambient temperature 25°C.

Other temperture point list in this table has shifted to Tma 40°C.

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)[1]	Required cl (mm)	cl (mm) [2]	Required[3] cr (mm)	cr (mm)
Functional:							
--	--	--	--	--	--	--	--
Basic:							
L/N to metal enclosure Test with power model MLT186FL	420	250	--	1,5	>8	2,5	>8
Supplementary information: The certified internal power supply unit was used.							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
L/N to metal enclosure Test with power model MLT186FL		2500Vpk	1,5	>8
Supplementary information:				

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
L/N to metal enclosure		DC	2500Vpk	No
Reinforced:				
L/N to terminal		DC	4000Vpk	No
L/N to plastic enclosure		DC	4000Vpk	No
Routine Tests:				
--		--	--	--
Supplementary information: Test with power model MLT186FL				

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.2.2, 5.7.4	**TABLE: Earthed accessible conductive part**		P
Supply voltage .....:		264V	—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
Earthing Pin		1	Test with power model MLT186FL: 0,152mArms/0,153mApk
		2*	-
		3	-
		4	-
		5	-
		6	-
		8	-

Supplementary Information:

The reversed has been considered.

Notes:

[1] Supply voltage is the anticipated maximum Touch Voltage

[2] Earthed neutral conductor [Voltage differences less than 1% or more]

[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3

[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.

[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Model DS-D2055UL-1B test with power supply MLT186FL							
90V/50Hz	2,07	--	185,82	--	F1	2,07	USB load 0.5A Brightness maximum
100V/50Hz	1,84	5	183,53	--	F1	1,84	
240V/50Hz	0,79	5	175,65	--	F1	0,79	
264V/50Hz	0,76	--	175,10	--	F1	0,76	
90V/60Hz	2,07	--	186,35	--	F1	2,07	
100V/60Hz	1,84	5	183,50	--	F1	1,84	
240V/60Hz	0,79	5	175,64	--	F1	0,79	
264V/60Hz	0,76	--	175,03	--	F1	0,76	
Supplementary information: Equipment may be have rated current or rated power or both. Both should be measured. USB 2.0 load 0,5A. Brightness was set max.							

B.3	TABLE: Abnormal operating condition tests								P
Ambient temperature (°C) .....:					25°C if not specified				—
Power source for EUT: Manufacturer, model/type, output rating .:					--				—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation	
Model DS-D2055UL-1B test with power supply MLT186FL									
Ventilation Openings	Blocked	90	3h	F1	2,07	K	TH1 coil: 71,7°C; TH1 core: 65,3°C; Metal enclosure: 33,5°C; Ambient: 21,1°C	EUT normal work, no damage, no hazard	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

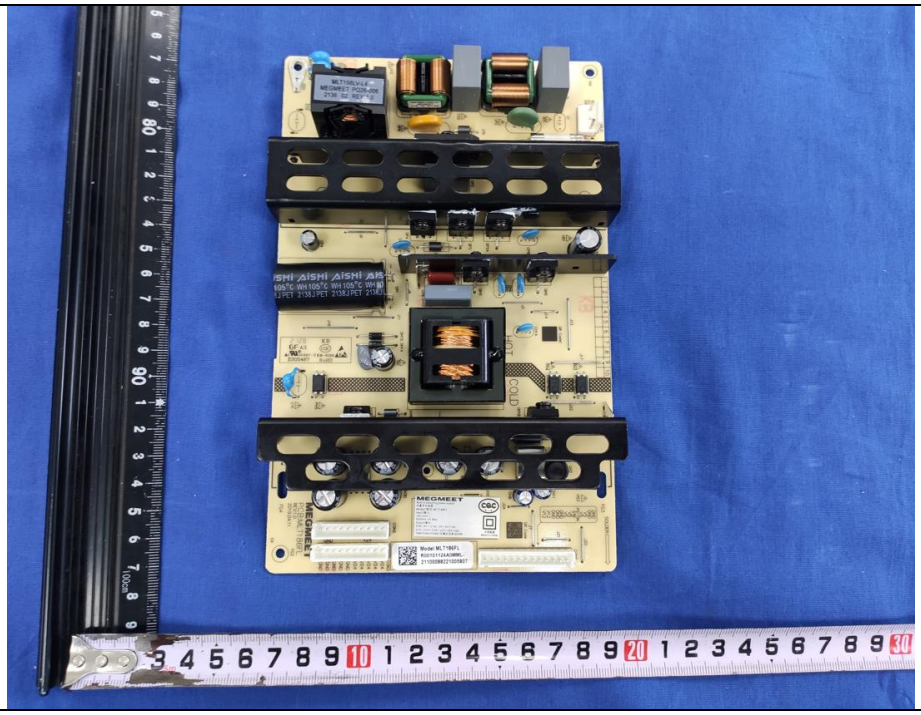
B.3	TABLE: Abnormal operating condition tests		P
Ambient temperature (°C) .....:		25°C if not specified	—
Power source for EUT: Manufacturer, model/type, output rating .:		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
USB	Overload	90	3h	F1	2,09→2,15→2,17→2,03	K	TH1 coil: 70,1°C; TH1 core: 64,2°C; Metal enclosure: 32,2°C; Ambient: 22°C	USB load 0,8A→1,5A→2,1A→0A, no damage, no hazard.

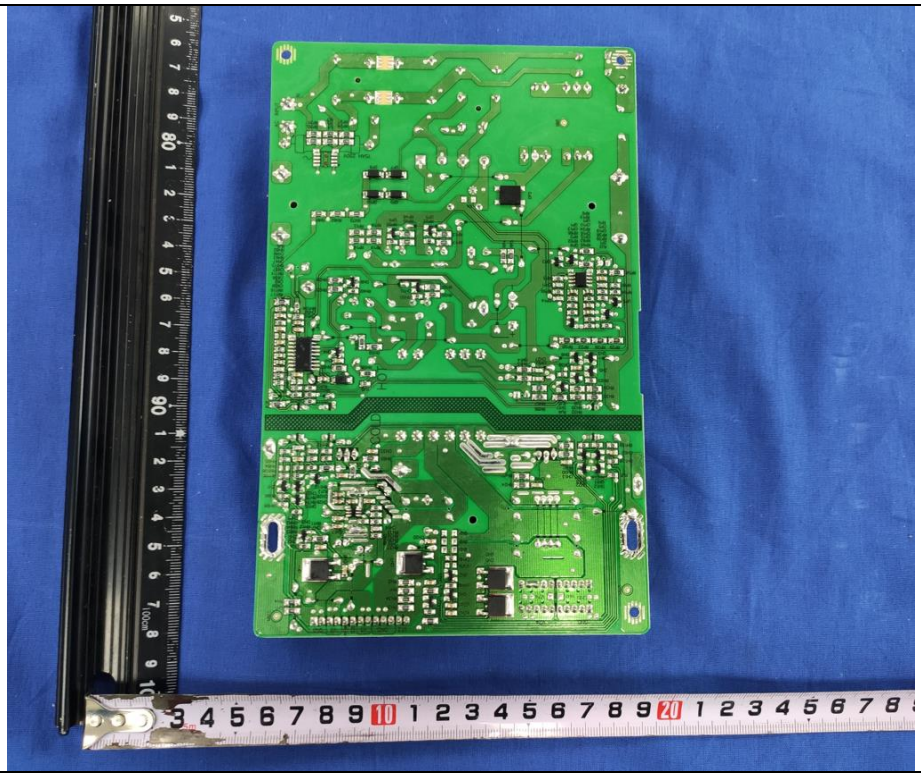
Supplementary information:
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.

---End of Report---

Details of: Alternative power supply (Model: MLT186FL)



Details of: General View (Model: MLT186FL)



*******End of Attachment 1*******