



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. : SHES230200276301

Date of issue : 2024-02-01

Total number of pages : 79 Pages

Name of Testing Laboratory : SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
preparing the Report

Applicant's name : Hangzhou Hikvision Digital Technology Co., Ltd.

Address : No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China

Test specification:

Standard : IEC 62368-1:2018

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_1E

Test Report Form(s) Originator.... : UL(US)

Master TRF : Dated 2022-04-14

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General disclaimer:

The test results presented in this report relate only to the object tested.

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Test item description	LED Display Unit	
Trade Mark(s)	HIKVISION	
Manufacturer	Same as applicant	
Model/Type reference	DS-D4212MI-070H(B), DS-D4215MI-070H(B), DS-D4218MI-070H(B)	
Ratings	100 V a.c. – 240 V a.c., 50 Hz / 60 Hz, 4,5 A; Class I	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.	
Testing location/ address	588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.	
Tested by (name, function, signature)	Leo Wang Project Engineer	
Approved by (name, function, signature) ..	Emilien Li 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 – 19 pages of Photos documents;
 Attachment 2 – 23 pages of European group differences and national differences;
 Attachment 3 – 2 pages of Circuit PCB layout;
 Attachment 4 – 3 page of Construction of transformer;
 Attachment 5 – 2 page of Safety information.

Summary of test

The sample(s) tested complies with the requirements of IEC 62368-1: 2018, EN IEC 62368-1:2020+ A11:2020 and AS/NZS 62368.1:2022

Normal work:

1. The 'three vertical bar signal' used as defined in 3.2.1.3 of IEC 60107-1:1997 to the display.
2. Accessible picture controls adjusted as to obtain the maximum power consumption.
3. LCD maximum brightness.

Each USB 2.0 port: 0,5A

Heating test:

Tma = 45°C (declared by manufacturer)

K-type thermocouple used for temperature measurement.

Tests performed (name of test and test clause):

- ☒ 4. General requirements
- ☒ 5. Electrically-caused injury
- ☒ 6. Electrically-caused fire
- ☒ 7. Injury caused by hazardous substances
- ☒ 8. Mechanically-caused injury
- ☒ 9. Thermal burn injury
- ☒ 10. Radiation
- ☒ Annex B. Normal operating condition tests, abnormal operating condition tests and single fault condition tests
- ☒ Annex F.3.9. Performance of Marking test
- ☒ Annex M Equipment containing batteries and their protection circuits
- ☒ Annex Q. Limited Power Source
- ☒ Annex T. Mechanical strength tests
- ☒ Annex V. Determination of accessible parts

Testing location:

SGS-CSTC Standards Technical Services
(Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612
Shanghai, China

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

1. EU Group Differences (EN IEC 62368-1:2020+A11:2020)
2. EU Special National Conditions, EU A-deviations: DE, DK, FI, FR, GB, IE, NO, SE

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

☒ **The products fulfil the requirements.**

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-D4212MI-070H(B)

HIKVISION**LED Display Unit****Model: DS-D4212MI-070H(B)****SN: A12345678****I/P: 100-240V~,50/60Hz,4.5A****Manufacturer: Hangzhou Hikvision Digital Technology Co.,Ltd.****Address: No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China****HDMI™****Made in China****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) 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 place on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.
- 3) The marking plates for other models are of the same pattern except for model name.

Test item particulars:			
Product group	☒ end product	☐ built-in component	
Classification of use by	☒ Ordinary person	☒ Children likely present	
	☒ Instructed person		
	☒ Skilled person		
Supply connection	☒ AC mains	☐ DC mains	
	☐ 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		
	☐ pluggable equipment type B -		
	☐ non-detachable supply cord		
	☐ appliance coupler		
	☐ permanent connection		
	☐ mating connector	☐ other:	
Considered current rating of protective device	☒ For North America: 20 A;		
	For other markets except North America: 16 A.		
	Location:	☒ building	☐ equipment
	☐ N/A		
Equipment mobility	☒ movable	☐ hand-held	☐ transportable
	☐ direct plug-in	☐ stationary	☐ for building-in
	☒ wall/ceiling-mounted	☐ SRME/rack-mounted	
	☐ other:		
Overvoltage category (OVC)	☐ OVC I	☒ OVC II	☐ OVC III
	☐ OVC IV	☐ other:	
Class of equipment	☒ Class I	☐ Class II	☐ Class III
	☐ Not classified		
Special installation location	☒ N/A	☐ restricted access area	
	☐ outdoor location		
Pollution degree (PD)	☐ PD 1	☒ PD 2	☐ PD 3
Manufacturer's specified T_{ma}	45 °C	☐ Outdoor: minimum	°C
IP protection class	☒ IPX0	☐ IP__	
Power systems	☒ TN	☒ TT	☐ IT - V _{L-L}
	☐ not AC mains		
Altitude during operation (m)	☐ 2000 m or less	☒ _3000 m	
Altitude of test laboratory (m)	☒ 2000 m or less	☐ 100 m	
Mass of equipment (kg)	☒ 30,5 kg		

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: 2023-02-22 Date (s) of performance of tests: 2023-02-22 to 2023-03-01	
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. This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx . Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.	
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: Declaration letter.pdf, date on 2023-01-14
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.

General product information:**Product Description –**

Functions	The equipment under test is Class I LED Display Unit which powered by AC mains. EUT is composed of 5 display modules which contains one certificated building-in power supply and each display module comes with an uncertified power module
Material of enclosure	Metal & Plastic
Others	Indoor use only
Interface	2X HDMI port, 2 X USB 2.0 ports; 1 x AC inlet, 1 X debug port, 1 X WLAN port
Model difference	All models are identical except model name which has no impact for safety.

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

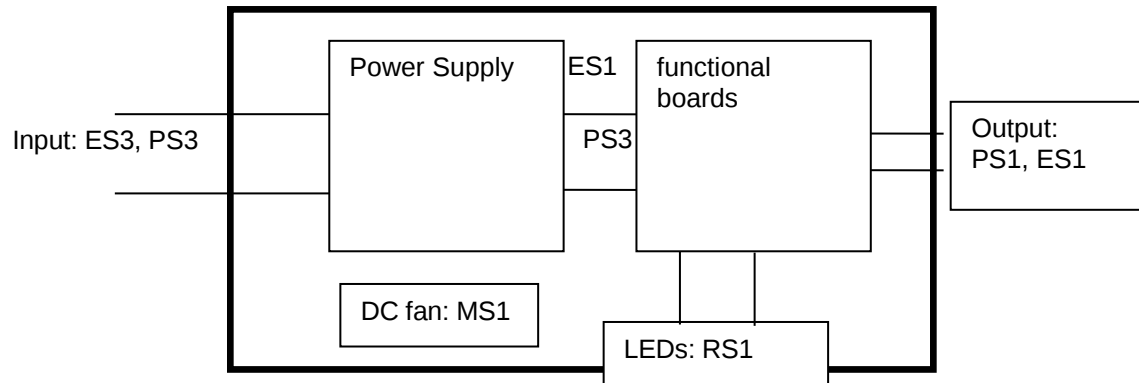
N/A

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: Internal circuits	Ordinary person	Basic Insulation	Protective Earthing	Y1 capacitor, transformer, and optocoupler; reinforced clearance and creepage distance. Enclosure
ES1: Output ports	Ordinary person	N/A	N/A	N/A
ES1: Enclosure	Ordinary person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: All internal circuits	Enclosure, materials inside and outside the enclosure	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
PS1: Output	Output	N/A	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
Lithium coin battery	Ordinary person	N/A	N/A	Comply with Annex M
8	Mechanically-caused injury			
Class and Energy Source	Body Part	Safeguards		

(e.g. MS3: Plastic fan blades)	(e.g. Ordinary)	B	S	R
MS1: Sharp edges and corners	Ordinary person	N/A	N/A	N/A
MS3: Equipment mass	Ordinary person	N/A	N/A	Comply with CI 8.6
MS1: DC fan	Ordinary person	N/A	N/A	N/A
MS3: Wall-mounted	Ordinary person	N/A	N/A	Comply with CI 8.7
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: All accessible parts	Ordinary person	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LEDs	Ordinary person	N/A	N/A	N/A
Supplementary Information:				
“B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM

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



Enclosure: ES1, MS1, TS1

Mass: MS3; Wall-mounted: MS3

■ ES ■ PS ■ MS ■ TS ■ RS

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of this standard and the relevant component standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of this standard.	P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (°C) :		N/A
4.1.5	Constructions and components not specifically covered	No such part	N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Annex T.2, T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	(See Annex T.6)	P
4.4.3.5	Internal accessible safeguard tests	Not accessible by ordinary person	N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P
4.4.3.9	Air comprising a safeguard	(See Annex T)	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.3.10	Accessibility, glass, safeguard effectiveness		P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks		N/A
4.5	Explosion		N/A
4.5.1	General		N/A
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	N/A
	No harm by explosion during single fault conditions	(See Clause B.4)	N/A
4.6	Fixing of conductors		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test..... :	All conductors that may defeat a safeguard. (See Clause T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard .. :		N/A
4.7.3	Torque (Nm)		N/A
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	Professional Equipment	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification and limits of electrical energy sources		P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current limits	(See appended table 5.2)	P
5.2.2.3	Capacitance limits	(See appended table 5.2)	P
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
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	ES1 to ES1	N/A
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V		-
5.3.2.2 a)	Air gap – electric strength test potential (V)		N/A
5.3.2.2 b)	Air gap – distance (mm)	See table 5.4.2, 5.4.3	P
5.3.2.3	Compliance		P
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	Material is non-hygroscopic		P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
5.4.1.5	Pollution degrees	2	P
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 test		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	(See appended table 5.4.1.8)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat test.....:	(See appended table 5.4.1.10.2)	N/A
5.4.1.10.3	Ball pressure test	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2.2)	P
	Temporary overvoltage	(See appended table 5.4.2.3)	—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage	2500Vpk	—
5.4.2.3.2.3	d.c. mains transient voltage		—
5.4.2.3.2.4	External circuit transient voltage.....:		—
5.4.2.3.2.5	Transient voltage determined by measurement		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages	3000m 1,14	P
5.4.2.6	Clearance measurement	(See appended table 5.4.2)	P
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	—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.3)	P
5.4.4	Solid insulation	Uncertified power module: The top and bottom of power supply primary side were isolated by Insulating sheet	P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		P
5.4.4.5	Insulating compound forming cemented joints	IEC 60747-5-5 approved optocoupler used.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6	Thin sheet material	The thin sheet materials of polyester tape used in transformers are reinforced insulation. The Core near primary was used.	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	2 layers insulating tape wrapped around transformers body as reinforced insulation.	P
	Number of layers (pcs)	2	P
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs)		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		P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V)	(See appended Table 5.4.4.9)	N/A
	Alternative by electric strength test, tested voltage (V), K_R		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
5.4.5.3	Insulation resistance ($M\Omega$)		N/A
	Electric strength test		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature ($^{\circ}C$), duration (h)	93%, 40 $^{\circ}C$, 120h	—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.10.3	Verification for insulation breakdown for impulse test		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation ΔU_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
5.4.11.3	Test method and compliance		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid		N/A
5.4.12.3	Compatibility of an insulating liquid		N/A
5.4.12.4	Container for insulating liquid		N/A
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See sub-clause 5.4 or Annex G.12)	P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPDs	(See Annex G.8)	P
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RCD rated residual operating current (mA) :		—
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
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	Certified AC inlet	P
	Protective earthing conductor size (mm ²) :	See table 4.1.2	—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors	Each display module has bonding	P
	Protective bonding conductor size (mm ²). :	See table 4.1.2	—
5.6.4.2	Protective current rating (A)..... :	16A/20A	P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	GND pin of AC inlet was used as protective earthing terminal	P
	Terminal size for connecting protective bonding conductors (mm) :	Complied with 5.6.6 and the minimum sizes in table 32.	P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system	All the conductors meet the required conductor sizes. All the Terminals meet the required Terminal sizes.	P
5.6.6.1	Requirements		P
5.6.6.2	Test Method..... :	(See appended table 5.6.6)	P
5.6.6.3	Resistance (Ω) or voltage drop..... :	(See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²). :		N/A
	Class II with functional earthing marking :		N/A
	Appliance inlet cl & cr (mm)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts :	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts :	(See appended table 5.7.5)	P
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA) :		N/A
	b) Equipment connected to unearthed external circuits, current (mA) :		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES :	(See appended table 5.8)	N/A
	Air gap (mm)..... :		N/A
6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications..... :	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS :	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS :	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials :	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Control fire spread.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions :	(See appended table B.4)	N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		P
6.4.6	Control of fire spread in PS3 circuits		P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		P
	Openings dimensions (mm)..... :	No opening	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm)..... :	No opening.	P
	Flammability tests for the bottom of a fire enclosure	(See Clause S.3)	N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties		P
	Openings dimensions (mm)..... :	No opening.	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating :	Enclosure is metal and V-0 plastic.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.9	Flammability of insulating liquid.....:	Control fire spread.	N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Suitable UL recognized wiring which is PVC insulated and rated VW-1 used.	P
6.5.2	Requirements for interconnection to building wiring:		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets.....:		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances		P
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)		N/A
	Personal safeguards and instructions:		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010).....:		—
7.6	Batteries and their protection circuits		P

8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		N/A
8.4.1	Safeguards	No sharp edges or corners, MS1	N/A
	Instructional Safeguard.....:		N/A
8.4.2	Sharp edges or corners		N/A
8.5	Safeguards against moving parts		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	The DC Fan is within the limits under normal and fault conditions. DC Fan EF50101B2-C06C-A99: $K = 6 \times 10^{-7}(0,0192 \times 18^2 \times 3800^2) = 53,9$ $3800/15000 + 53,9/2400 = 0,213 < 1$; According to above calculation, moving fans blade are considered not likely to cause injury.	P
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm)		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N).....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm)		N/A
8.6	Stability of equipment		P
8.6.1	General	Equipment mass: MS3	P
	Instructional safeguard.....:		P
8.6.2	Static stability		P
8.6.2.2	Static stability test	The equipment was tipped at any angle from the vertical up to and including 10°	P
8.6.2.3	Downward force test		P
8.6.3	Relocation stability		N/A
	Wheels diameter (mm)	No wheels	—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test		N/A
8.7	Equipment mounted to wall, ceiling or other structure		P
8.7.1	Mount means type	Mounted > 2m MS3	P
8.7.2	Test methods	Mounting means provided with the equipment.	P
	Test 1, additional downwards force (N).....:	Test 1: additional downwards force of 897N is applied to the gravity centre for 1 min; additional horizontal force of 50N is applied laterally for 1 min.	P
	Test 2, number of attachment points and test force (N).....:		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm).....:		N/A
8.8	Handles strength		N/A
8.8.1	General		N/A
8.8.2	Handle strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of handles.....:		—
	Force applied (N)		—
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test		N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions.....:		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N)		—
8.10.6	Thermoplastic temperature stability		N/A
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General		N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard.....:		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied.....:		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	Telescoping or rod antennas		N/A
	Button/ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Touch temperature limits		P
9.3.1	Touch temperatures of accessible parts	(See appended table)	P
9.3.2	Test method and compliance		P
9.4	Safeguards against thermal energy sources		P
9.5	Requirements for safeguards		P
9.5.1	Equipment safeguard		P
9.5.2	Instructional safeguard.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance	(See appended table 9.6)	N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification		P
	Lasers		—
	Lamps and lamp systems	RS1 for LEDs	—
	Image projectors	No such part	—
	X-Ray	No such part	—
	Personal music player	No such part	—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		P
10.4.1	General requirements		P
	Instructional safeguard provided for accessible radiation level needs to exceed		P
	Risk group marking and location	RS1 for LEDs	P
	Information for safe operation and installation		P
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure		N/A
10.4.3	Instructional safeguard		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons		—
10.5.3	Maximum radiation (pA/kg).....	(See appended tables B.3 & B.4)	—
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....		N/A
	Unweighted RMS output voltage (mV).....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Digital output signal (dBFS)		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30)		N/A
	Warning for MEL ≥ 100 dB(A)		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV).....		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	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		N/A
B.2.3	Supply voltage and tolerances	10%	P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General		P
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	Audio amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	(See appended table B.3)	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		P
B.4.4	Functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnection of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions	(See appended table B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	See Annex M	P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus..... :		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Electrical energy source classification for audio signals		N/A
	Maximum non-clipped output power (W)..... :		—
	Rated load impedance (Ω)		—
	Open-circuit output voltage (V)..... :		—
	Instructional safeguard		—
E.2	Audio amplifier normal operating conditions		N/A
	Audio signal source type		—
	Audio output power (W)..... :		—
	Audio output voltage (V)		—
	Rated load impedance (Ω)		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	With all target countries local language	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	The Unit of Voltage, Current and frequency used.	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate	P
F.3.2.2	Model identification	See copy of marking plate	P
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage..... :	AC	P
F.3.3.4	Rated voltage	See copy of marking plate	P
F.3.3.5	Rated frequency	50/60Hz	P
F.3.3.6	Rated current or rated power..... :	See copy of marking plate	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings :		N/A
F.3.5.2	Switch position identification marking..... :		N/A
F.3.5.3	Replacement fuse identification and rating markings :	Uncertified power supply F1: T5A/250Vac	P
	Instructional safeguards for neutral fuse :		N/A
F.3.5.4	Replacement battery identification marking :		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal..... :	Certified appliance inlet used.	P
F.3.6.1.2	Protective bonding conductor terminals :		N/A
F.3.6.2	Equipment class marking :		N/A
F.3.6.3	Functional earthing terminal marking :		N/A
F.3.7	Equipment IP rating marking :	IPX0 not marked	N/A
F.3.8	External power supply output marking :		N/A
F.3.9	Durability, legibility and permanence of marking	The label was subject to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. with cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		P

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Clause	Requirement + Test	Result - Remark	Verdict
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment	See marking plate for detail	P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General		P
G.1.2	Ratings, endurance, spacing, maximum load	See table 4.1.2	P
G.1.3	Test method and compliance		P
G.2	Relays		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices		P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions..... :	(See appended table B.4)	P
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration :	The appliance inlet complied with IEC 60320-1	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Reinforced insulation.	P
G.5.1.2	Protection against mechanical stress	Insulating sheet material provided.	P
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle) :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method..... :	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position :	See critical components table	P
	Method of protection..... :	Regulating network	P
G.5.3.2	Insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings..... :		—
G.5.3.3	Transformer overload tests	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding temperatures		P
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	DC fan	P
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		P
G.5.4.6.2	Tested in the unit		P
	Maximum Temperature :	See table B.3.	P
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage :		—
G.6	Wire Insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.6.1	General	See G.5 for insulation in wound component.	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		P
G.7.1	General requirements		P
	Type..... :	See Table 4.1.2	—
G.7.2	Cross sectional area (mm ² or AWG) :		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)..... :		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) :		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, <i>D</i> (mm) :		—
	Radius of curvature after test (mm) :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Varistors inside metal enclosure	P
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		P
G.9.1	Requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
	IC limiter output current (max. 5A)	See table 4.1.2	—
	Manufacturers' defined drift		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	Capacitors and RC units		P
G.11.1	General requirements		P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Approved Optocouplers	P
	Type test voltage $V_{ini,a}$	Min 4000V	—
	Routine test voltage, $V_{ini,b}$	Min 4000V	—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Pressurized liquid filled components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required	No such part	N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test..... :		—
	Mains voltage that impulses to be superimposed on :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test :		—
G.16.3	Capacitor discharge test..... :		N/A
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz) :		—
H.3.1.2	Voltage (V) :		—
H.3.1.3	Cadence; time (s) and voltage (V) :		—
H.3.1.4	Single fault current (mA):..... :		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
J.1	General		N/A
	Winding wire insulation..... :		—
	Solid round winding wire, diameter (mm)..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²)..... :		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard..... :		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance..... :		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2..... :		N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements		P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		P
L.4	Single-phase equipment		P
L.5	Three-phase equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L.6	Switches as disconnect devices		P
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
	Instructional safeguard :		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements		P
M.2	Safety of batteries and their cells		P
M.2.1	Batteries and their cells comply with relevant IEC standards :	See Table 4.1.2	P
M.3	Protection circuits for batteries provided within the equipment		P
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		P
	Unintentional charging of a non-rechargeable battery		P
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		P
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance :	(See appended table M.4.2)	N/A
M.4.3	Fire enclosure :		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): :		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.6	Safeguards against short-circuits		P
M.6.1	External and internal faults		P
M.6.2	Compliance		P
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.4	Marking :		N/A
M.8	Protection against internal ignition from external spark sources of batteries with aqueous electrolyte		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s) :		—
M.8.2.3	Correction factors :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		P
	Instructional safeguard :	Sufficient information declared in the user manual.	P
N	ELECTROCHEMICAL POTENTIALS		P
	Material(s) used :	Pollution degree considered	—

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Clause	Requirement + Test	Result - Remark	Verdict
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm)..... :	(See appended table 5.4.2, 5.4.3)	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General		P
P.2	Safeguards against entry or consequences of entry of a foreign object		P
P.2.1	General		P
P.2.2	Safeguards against entry of a foreign object		P
	Location and Dimensions (mm) :	No opening	—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T _c (°C) :		—
	Duration (weeks) :		—
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output		P
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		P
Q.1.2	Test method and compliance :	See Table Q.1	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Current rating of overcurrent protective device (A) :		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) :		N/A
	Current limiting method :		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test :		—
R.3	Test method		N/A
	Cord/cable used for test :		—
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material :		—
	Wall thickness (mm) :		—
	Conditioning (°C) :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material :		—
	Wall thickness (mm) :		—
	Conditioning (°C) :		—
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples :		—
	Wall thickness (mm) :		—
S.4	Flammability classification of materials		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
S.5	Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test		P
	Swing test		P
T.7	Drop test		N/A
T.8	Stress relief test.....	(See appended table T.8)	P
T.9	Glass Impact Test.....		N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted.....		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :		N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS		P
V.1	Accessible parts of equipment		P
V.1.1	General	Not accessible without tool	P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe	No such plugs, jacks, connectors	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P
V.2	Accessible part criterion		P
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance : (See appended table X)		N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by :		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure :		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means	(See Annex P.4)	N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3 :		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test :	(See Table T.6)	N/A

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
264 Vac	USB to earth	Normal	--	0,034mA pk	--	60Hz	ES1--
		Abnormal – See B.3 and B.4	--	0,034mA pk	--	60Hz	
		Single fault –F1 fuse open	--	0,053mA pk	--	60Hz	
		Single fault – Ground open	--	0,136mA pk	--	60Hz	
264 Vac	Plastic to earth	Normal	--	0,001mA pk	--	60Hz	
		Abnormal – See B.3 and B.4	--	0,001mA pk	--	60Hz	
		Single fault –F1 fuse open	--	0,001mA pk	--	60Hz	
264 Vac	Screen to earth	Normal	--	0,001mA pk	--	60Hz	
		Abnormal – See B.3 and B.4	--	0,001mA pk	--	60Hz	
		Single fault –F1 fuse open	--	0,001mA pk	--	60Hz	
264 Vac	T301 after Pin 5,7-6	Normal	9,2Vpk	--	SS	126kHz	ES1
		Abnormal	9,2Vpk	--	SS	126kHz	ES1
		Single fault-Fuse OC	0	--	SS	--	ES1

Supplementary information:

1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.

2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.

5.4.1.8	TABLE: Working voltage measurement					P
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments	
T301 Pin1-5		171	352	60	--	
T301 Pin1-6		143	280	60	--	
T301 Pin1-7		142	276	60	--	
T301 Pin2-5		143	284	60	--	

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Clause	Requirement + Test		Result - Remark	
T301 Pin2-6	143	288	60	--
T301 Pin2-7	144	296	60	--
T301 Pin3-5	232	424	<30K	Max Vrms (T301)
T301 Pin3-6	231	432	<30K	Max Vpeak (T301)
T301 Pin3-7	228	424	<30K	--
T301 Pin4-5	141	256	60	--
T301 Pin4-6	141	256	60	--
T301 Pin4-7	141	264	60	--
CY3 Pin1-2	154	320	60	--
PC301 Pin1-3	128	253	60	--
PC301 Pin1-4	129	250	60	--
PC301 Pin2-3	127	246	60	--
PC301 Pin2-4	129	247	60	--
PC300 Pin1-3	142	293	60	--
PC300 Pin1-4	136	280	60	--
PC300 Pin2-3	134	273	60	--
PC300 Pin2-4	132	270	60	--
Supplementary information:				

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics			N/A
Method.....:		ISO 306 / B50		—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)	
--	--	--	--	
--	--	--	--	
Supplementary information:				

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics				P
Allowed impression diameter (mm):			≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	
AC connector	See table 4.1.2	3,14	125	1,10	
Supplementary information:					

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Functional:								
PCB: L to N before fuse	420	250	0,06	1,8	2,8	--	2,5	2,8
Basic/supplementary:								
LN to earth	420	250	0,06	1,8	3,7	--	2,5	3,7
Fuse F1 on PCB trace	420	250	0,06	1,8	3,1	--	2,5	3,1
Primary trace to earth under CY1, CY2	420	250	0,06	1,8	7,2	--	2,5	7,2
Reinforced:								
Primary trace to secondary CY3	420	250	0,06	3,5	7,4	--	5	7,4
Primary trace to secondary PC301, PC300	420	250	0,06	3,5	6,6	--	5	6,6
Between primary and core transformer T301	432	250	<30K	3,5	8,1	--	5	8,1
Between primary and secondary transformer T301	432	250	<30K	3,5	8,1	--	5	8,1
Supplementary information:								
Supplementary information:								
1. The transformer core considered as secondary circuit. The transformer core was wrapped with tape								
2. Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed.								
3. The equipment was evaluated for a maximum operating altitude of 3000m.								

5.4.4.2	TABLE: Minimum distance through insulation				P
Distance through insulation (DTI) at/of		Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
Mylar sheet cover the uncertified power supply module(Black)		550	Plastic	0,4	0,4
Supplementary information:					

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz						N/A
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)	
--	--	--	--	--	--	--	
--	--	--	--	--	--	--	
Supplementary information:							
For frequencies >30 kHz:							

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
L to N (fuse opened)		DC	2500	No
Basic/supplementary:				
L & N to Metal enclosure		DC	2500	No
Reinforced:				
Transformer(T301) Primary winding to core		DC	4000	No
Transformer(T301) Primary winding to secondary winding		DC	4000	No
L/N to secondary circuit		DC	4000	No
L/N to plastic enclosure		DC	4000	No
Routine Tests:				
--		--	--	--
Supplementary information:				

5.5.2.2	TABLE: Stored discharge on capacitors				P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class
264,60Hz	L-N	N	off	0V	ES1
264,60Hz	L-N	N	on	0V	ES1
264,60Hz	L-N	RB1 OC	off	0V	ES1
264,60Hz	L-N	RB1 OC	on	0V	ES1

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information:			
X-capacitors installed for testing are: See table 4.1.2.			
[x] bleeding resistor rating: See table 4.1.2			
[] ICX:			
1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit			

5.6.6	TABLE: Resistance of protective conductors and terminations				P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
L/N to the furthest Metal part	32	2	0,928	0,029	
L/N to the furthest Metal part	40	2	1,200	0,030	
Supplementary information:					

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)	
Output terminal	Normal	264Vac	--	0,034mA _{pk}	60Hz	ES1
Output terminal	Abnormal – See B.3 and B.4	264Vac	--	0,034mA _{pk}	60Hz	ES1
Output terminal	Single fault –F1 fuse open	264Vac	--	0,053mA _{pk}	60Hz	ES1
Output terminal	Single fault – Ground open	264Vac	--	0,136mA _{pk}	60Hz	ES1
Plastic enclosure	Normal	264Vac	--	0,001mA _{pk}	60Hz	ES1
Plastic enclosure	Abnormal – See B.3 and B.4	264Vac	--	0,001mA _{pk}	60Hz	ES1
Plastic enclosure	Single fault –F1 fuse open	264Vac	--	0,001mA _{pk}	60Hz	ES1
Supplementary information:						

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V)	264V / 60Hz			—
Phase(s)	[x] Single Phase; [] Three Phase: [] Delta [] Wye			—
Power Distribution System	[x] TN [x]TT [] IT			—
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
L/N to metal enclosure	No.1	0,912	--
Supplementary Information:			
Worst case of normal and reverse condition was considered.			

5.8	TABLE: Backfeed safeguard in battery backed up supplies					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
--	--	--	--	--	--	--
Supplementary information:						
Abbreviation: SC= short circuit, OC= open circuit						

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class
Internal circuits	--	--	--	--	--	PS3 without testing
USB	Normal	5,12	1,08	5,30	--	PS1
HDMI	Normal	5,08	0	0	--	PS1
Supplementary information:						
USB output was protected by certified IC						

6.2.3.1	TABLE: Determination of Arcing PIS				P
Location		Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
All primary circuits		--	--	--	Yes
Supplementary information:					
All primary circuits are considered as Arcing PIS without test.					

6.2.3.2	TABLE: Determination of resistive PIS			P
Location		Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
The internal circuit except primary		--	--	Yes
Supplementary information:				
Abbreviation: SC= short circuit; OC= open circuit				
The internal circuit except primary is considered as resistive PIS without test.				

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
8.5.5	TABLE: High pressure lamp			N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No
--	--	--	--	--
Supplementary information:				

9.6	TABLE: Temperature measurements for wireless power transmitters							N/A
Supply voltage (V)..... :								—
Max. transmit power of transmitter (W)..... :								—
Foreign objects	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm	
	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)
--	--	--	--	--	--	--	--	--
Supplementary information:								

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

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements			P
Supply voltage (V)..... :	90V a.c/ 60Hz.	264V a.c. / 50Hz.	--	—
Ambient temperature during test T_{amb} (°C) :	25,0	25,0	--	—
Maximum measured temperature T of part/at:	T (°C)			Allowed T_{max} (°C)
TB1L	66,4	66,4	--	80
C24	69,1	69,2	--	95
C1	68,0	68,1	--	90
PCB near RTH1	74,1	74,3	--	105
TB1 V+	67,1	67,1	--	80
LF1	73,7	73,6	--	130
C30	70,6	70,7	--	95
PCB near BD1	73,9	73,9	--	105
C9	67,0	67,0	--	90
PCB near Q1	72,2	78,2	--	105
T1 core	70,8	71,5	--	110
T1 winding	72,3	73,7	--	110
PCB near Q100	72,2	72,5	--	105
Plastic enclosure(screen)*	45,0	45,4	--	77
Metal enclosure near power board*	37,5	37,7	--	70
L1	68,8	68,7	--	130
CX1	67,3	67,6	--	110
EB1	74,0	73,7	--	105
CX2	66,5	66,7	--	110
CY1	66,4	66,6	--	125
MOV1	70,0	69,7	--	130
CY2	67,1	67,2	--	125
CY3	70,5	70,7	--	125
PC300	68,6	69,2	--	110
PC301	69,1	69,6	--	110
LC102	68,4	68,9	--	130
T301 winding	76,2	76,0	--	90

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
T301 core	75,5			75,2			90
PCB near T1	71,6			71,7			105
PCB near UL9(DS-70218)	68,2			68,7			105
PCB near CPU(DS-78001)	72,1			72,5			105
BAT	68,4			68,6			Ref
PCB near J1(DS-70280)	65,6			65,9			105
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:							
Supplementary information: Note 1: T_{ma} should be considered as directed by applicable requirement Note 2: T_{ma} 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 temperature point list in this table has shifted to T_{ma} 45°C. The limited value of power supply unit temperature refers to the power supply test report.							

B.2.5		TABLE: Input test						P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90	50	4,42	--	394,80	--	F1	4,42	Normal operation condition,
100	50	3,93	4,5	390,42	--	F1	3,93	Normal operation condition,
240	50	1,85	4,5	386,19	--	F1	1,85	Normal operation condition,
264	50	1,75	--	383,28	--	F1	1,75	Normal operation condition,
90	60	4,43	--	395,42	--	F1	4,43	Normal operation condition,
100	60	3,95	4,5	391,58	--	F1	3,95	Normal operation condition,
240	60	1,86	4,5	382,26	--	F1	1,86	Normal operation condition,
264	60	1,77	--	387,46	--	F1	1,77	Normal operation condition.
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured.								

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

B.3, B.4		TABLE: Abnormal operating and fault condition tests				P
Ambient temperature T_{amb} (°C)..... :		See below				—
Power source for EUT: Manufacturer, model/type, output rating .. :		See table 4.1.2				—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
USB	SC	264	10min	F1	4,41	USB output shutdown immediately, no damage no hazard.
USB	OL	90	3h	F1	4,43→4,48 →4,41	Max. temp. measured: T1 coil = 55,5 °C, T1 core =53,6 °C, Ambient=24,7°C, T301 coil=47,2°C, T301 core=46,4°C USB output loaded to 1,1A, EUT normal work, when load to 1,2A, USB output shutdown, no damage no hazard.
HDMI	SC	264	10min	F1	4,41	HDMI output shutdown immediately, no damage no hazard.
Fan	Locked	90	3h	F1	4,43	Max. temp. measured: T1 coil = 52,9 °C, T1 core =51,2 °C, Ambient=24,6°C, T301 coil=47°C, T301 core=46,3°C The EUT normal operation. No damaged, No hazards.
T301 transformer output (Pin 5,7-6)	OL	90	4h	F1	4,34→4,91 →6,07→1,3 1	Max. temp. measured: Metal enclosure = 37,3 °C, Screen =47 °C, Ambient=23,5°C, T301 coil=75,1°C, T301 core=72,6°C T301 output 20A→40A→57A→0A, output 57A after a while, fuse damage, no hazard.
EB1	SC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.

IEC 62368-1						
Clause	Requirement + Test					Result - Remark
Q1(G-D)	SC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
Q1(D-S)	SC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
Q1(G)	OC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
Q2(G-D)	SC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
Q2(D-S)	SC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
PC301 Pin1-2	SC	264	10min	F1	0,08	EUT shutdown immediately, no damage, no hazard.
PC301 Pin3-4	SC	264	10min	F1	0,08	EUT shutdown immediately, no damage, no hazard.
PC301 Pin1	OC	264	10min	F1	0,08	EUT shutdown immediately, fuse F1 damage, no hazard.
PC301 Pin2	OC	264	10min	F1	0,08	EUT shutdown immediately, no damage, no hazard.
T301 Pin1-2	SC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
T301 Pin3-4	SC	264	10min	F1	0,09	EUT shutdown immediately, no damage, no hazard.
T301 Pin5-6	SC	264	10min	F1	0,05	EUT shutdown immediately, no damage, no hazard.
Q301 (G-D)	SC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
Q302 (G-S)	SC	264	10min	F1	0,08	EUT shutdown immediately, no damage, no hazard.
Q303 (G)	OC	264	10min	F1	0,01	EUT shutdown immediately, fuse F1 damage, no hazard.
Supplementary information:						
Sc: Short Circuit; Ol: overload Oc: Open Circuit.						
All alternate fuses were tested with same results.						

M.3	TABLE: Protection circuits for batteries provided within the equipment	P
Is it possible to install the battery in a reverse polarity position?	No	—
Equipment Specification	Charging	

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
	Voltage (V)				Current (A)		
	100-240Vac				4,5		
Manufacturer/type	Battery specification						
	Non-rechargeable batteries			Rechargeable batteries			
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)	
			Voltage (V)	Current (A)			
See table 4.1.2	300mA	--	--	--	--	--	
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C)					60		--
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
CX147	SC	Rapid-discharge	10min	--	2,6mA	3V	NL, NS, NE, NF
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery					N/A
Maximum specified charging voltage (V)			--			—
Maximum specified charging current (A)			--			—
Highest specified charging temperature (°C)			--			
Lowest specified charging temperature (°C)			--			--
Battery manufacturer/type	Operating and fault condition	Measurement			Observation	
		Charging voltage (V)	Charging current (A)	Temp. (°C)		
--	--	--	--	--	--	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature						

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)						P
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
USB	Normal	5,12	60	1,08	8	5,3	100
HDMI	Normal	5,08	60	0	8	0	100

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

Supplementary Information:

Sc: Short circuit.

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Part/Location	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Internal components	--	--	--	10	5	The clearance and creepage distances do not be reduced below the required values.	
Front of enclosure	plastic	See table 4.1.2	--	250	5	Class 3 energy sources not become accessible. Safeguards remain effective.	
Side of enclosure	metal	See table 4.1.2	--	250	5	Class 3 energy sources not become accessible. Safeguards remain effective.	
Back of enclosure	metal	See table 4.1.2	--	250	5	Class 3 energy sources not become accessible. Safeguards remain effective.	
Supplementary information:							

T.6, T.9	TABLE: Impact test				P
Location/part	Material	Thickness (mm)	Height (mm)	Observation	
Front of enclosure	plastic	See table 4.1.2	1300	Intact	
Side of enclosure	metal	See table 4.1.2	1300	Intact	
Back of enclosure	metal	See table 4.1.2	1300	Intact	
Supplementary information:					

T.7	TABLE: Drop test					N/A
Location/part	Material	Thickness (mm)	Height (mm)	Observation		

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
--	--	--	--	--
Supplementary information:				

T.8	TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Front of enclosure	plastic	See table 4.1.2	76	7	Intact	
Mylar	plastic	See table 4.1.2	87	7	Intact	
Supplementary information:						

X	TABLE: Alternative method for determining minimum clearances distances				N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)		
--	--	--	--		
Supplementary information:					

IEC 62368-1			
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 1,5mm thickness	IEC 62368-1: 2018	Test with appliance	
Building-in power supply	Mean Well Enterprises Co.,Ltd	LRS-50-12	Input:100-240Vac,50/60Hz ,0.95A Max;Output:12V /4.2A,50.4W Max	IEC 62368-1: 2018	TUV Rh: JPTUV-137050-M1; Report: CN22KWDS 002	
PCB	GUANGZHOU FAST-PRINT CIRCUIT TECHNOLOGY CO LTD	M11	V-0, 130 °C	UL 94, UL 796	UL E204460	
Alternative	CHINA CIRCUIT TECHNOLOGY (SHANTOU) CORP	S6	V-0, 130 °C	UL 94, UL 796	UL E99006	
Alternative	VICTORY GIANT TECHNOLOGY (HUIZHOU) CO LTD	SH	V-0, 130 °C	UL 94, UL 796	UL E248779	
Alternative	SUNSHINE GLOBAL CIRCUITS CO LTD	SS-3	V-0, 130 °C	UL 94, UL 796	UL E229342	
Alternative	VICTORY GIANT TECHNOLOGY (HUIZHOU) CO LTD	SH13	V-0, 130 °C	UL 94, UL 796	UL E248779	
Alternative	SHENZHEN BOMIN ELECTRONIC CO LTD	BM1	V-0, 130 °C	UL 94, UL 796	UL E213371	
Alternative	HUIZHOU CHINA EAGLE ELECTRONIC TECHNOLOGY CO LTD	CA-F121	V-0, 130 °C	UL 94, UL 796	UL E198681	
Alternative	Interchangeable	Interchangeable	V-1 or better, 105°C	UL 94, UL 796	UL	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
DC Fan	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO.,LTD.	EF50101B2- C06C-A99	12 V,0,06 A,3,4 CFM, 3800RPM	EN 62368-1:2014	TUV Rh: R 50275749
RTC Battery	GUANGZHOU TIANQIU ENTERPRISE CO LTD	CR1220	Max Abnormal Charging Current 2.5mA Max Abnormal Charging Voltage 3.5V dc	UL1642	UL MH48705
Switch with AC inlet	LECI Electronics Co., Ltd	RS601 series	AC250 V, 6(4) A, 10E3	DIN EN 61058-1-1 (VDE 0630-1- 1):2017-02; EN 61058-1-1:2016 IEC 61058-1:2016 IEC 61058-1- 1:2016 DIN EN IEC 61058-1 (VDE 0630-1):2018-08; EN IEC 61058- 1:2018	VDE 40017430
Plug (EU)	LINOYA ELECTRONIC TECHNOLOGY CO LTD	XYP-02L	250V~ ,16A	DIN VDE 0620-2- 1/A1 (VDE 0620-2- 1/A1):2017-09 DIN VDE 0620-2-1 (VDE 0620-2- 1):2016-01	VDE 40015292
-Alt.	Interchangeable	Interchangeable	250V~ ,16A	DIN VDE 0620-2- 1/A1 (VDE 0620-2- 1/A1):2017-09 DIN VDE 0620-2-1 (VDE 0620-2- 1):2016-01	VDE
Power cord	LINOYA ELECTRONIC TECHNOLOGY CO LTD	H05VV-F	3*0,75mm ²	DIN EN 50525-2-11 (VDE 0285-525-2- 11):2012-01; EN 50525-2-11:2011	VDE 40035072
-Alt.	Interchangeable	Interchangeable	3*0,75mm ²	DIN EN 50525-2-11 (VDE 0285-525-2- 11):2012-01; EN 50525-2-11:2011	VDE
Power connector	LINOYA ELECTRONIC TECHNOLOGY CO LTD	XYC-03	250V~ ,10A	DIN EN 60320-1 (VDE 0625- 1):2016-04; EN 60320-1:2015 + AC:2016 IEC 60320-1:2015	VDE 40016051

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
-Alt.	Interchangeable	Interchangeable	250V~, 10A	DIN EN 60320-1 (VDE 0625-1):2016-04; EN 60320-1:2015 + AC:2016 IEC 60320-1:2015	VDE
Earthing terminal	Interchangeable	Interchangeable	Min 4mm diameter	IEC 62368-1: 2018	Test with appliance
Primary wire (L/N)	XINGDA ELECTRONICS WIRE & CABLE CO LTD	1015	Min. 600V, VW-1 or batter, min 16AWG, min. 105°C,	UL 758	UL E187208
Alternative	Interchangeable	Interchangeable	Min. 600V, VW-1 or batter, min 18AWG, min. 80°C	UL 758	UL
Earthing wire 1	Sichuan Yaoqiang Technology Co Ltd	1015	Min. 600V, VW-1, min 16AWG, min. 105°C, green/yellow color	UL 758	UL E476292
Earthing wire 2	Zhejiang Londa Electronic Wire & Cable Co Ltd	1015	Min. 600V, VW-1, min 14AWG, min. 105°C, green/yellow color	UL 758	UL E205056
Black connector between two uncertified power modules	SUZHOU XINHILON ENGINEERING PLASTICS CO LTD	AG(x)V0	Min 1,5mm, V-0, 65°C	UL94	UL E349642
Connectors for Use in Data, Signal, Control and Power Applications between two uncertified power modules	TYCO ELECTRONICS CORP	1955555-Y	230VAC, 16A	IEC 61984(ed.2)	UL E28476 UL TEC-00697
Tube of primary wire	YUEQING TIANDA ELECTRONIC SHEATH CO LTD	DF(D)250-3.0	VW-1, 600VAC Max, 125 °C	UL224	UL E233894

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
IC current limiter (UK1)	SG MICRO CORP	SGM2584AYN5G /TR	Input: 2,5-5,5VDC; Output: 2,5-5,5VDC, Maximum 1100mA	IEC 62368-1:2018	SGS: BE-39069; SHES21030 0494201
Alternative	DIODES INC	AP2822	Input: 2,5-5,5VDC; Output: 0,5-2,0A	IEC 62368-1:2014	UL: US-34501-UL; Report: E339337-A6001-CB-1
Power supply board:					
PCB	Longnan Champion Asia Electronic Technology Co Ltd.	F-D	V-0, 130°C	UL 796	UL E254215
Alternative	JIANGMEN BENLIDA PRINTED CIRCUIT CO.,LTD	BLD-B,BLD-D	V-0, 130°C	UL 796	UL E203640
Alternative	TOPSEARCH PRINTED CIRCUITS (HK) LTD	TS-D-8V03C SG TS-D-7V04 SG	V-0, 130°C	UL 796	UL E96016
Alternative	SHENZHEN WUZHU TECH CO LTD	WZ-6(@)	V-0, 130°C	UL796	UL E170968
Alternative	SHEN ZHEN MANKUN TECHNOLOGY CO., LTD	MK-D,MK-D600,MK-DC	V-0, 130°C	UL 796	UL E248237
Alternative	VICTORY GIANT TECHNOLOGY (HUIZHOU) CO LTD	SH1,SH9	V-0, 130°C	UL 796	UL E248779
Alternative	RONG HUI ELECTRONICS (HUIZHOU) CO LTD	RH-3	V-0, 130°C	UL 796	UL:E252098
Alternative	XIN FENG FU CHANG FA ELECTRONIC CO LTD	FCF-3	V-0, 130°C	UL 796	UL E232205
Alternative	MEIZHOU DINGTAI P C B CO LTD	DT-2	V-0, 130°C	UL 796	UL E320008

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	ZHUHAI KINGSUN ELECTRONICS AND TECHNOLOGY CO LTD	KS-D,KS-D1,KS-D2	V-0, 130°C	UL 796	UL E465853
Alternative	Huizhou China Eagle Electronic Technology Co Ltd	CA-F120	V-0, 130°C	UL 796	UL E198681
Alternative	ELEC & ELTEK MULTILAYER PCB LTD	E3330E	V-0, 130°C	UL 796	UL E54926
Alternative	SHENZHEN KINWONG ELECTRONIC CO LTD	5、5C(%)、10、10B	V-0, 130°C	UL 796	UL E243951
Alternative	SHEN ZHEN SUN & LYNN CIRCUITS CO LTD	SL-2,SL-D,SL-HD	V-0, 130°C	UL 796	UL E234156
Alternative	HUIZHOU GLORYSKY ELECTRONICS CO LTD	GS-D,GS-D1,GS-D3	V-0, 130°C	UL 796	UL E257384
Alternative	YIYANG MINGZHENGHONG ELECTRONICS CO LTD	BR-CL-1,BR-DL-1,BR-DL-2	V-0, 130°C	UL 796	UL E331251
Alternative	SHENZHEN BOMIN ELECTRONIC CO LTD	BM2,BM-2,BM6,BM6-1	V-0, 130°C	UL 796	UL E213371
Alternative	AOSHIKANG TECHNOLOGY CO LTD	K-2	V-0, 130°C	UL 796	UL E239218
Alternative	HUIZHOU WELGAO ELECTRONICS CO LTD	W-1, W-5	V-0, 130°C	UL 796	UL E310226
Alternative	GUANG DONG XING DA HONG YE ELECTRONIC CO LTD	XD-102	V-0, 130°C	UL 796	UL E193079

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Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Shenzhen Xunjiexing Technology Co Ltd	JX01	V-0, 130°C	UL 796	UL E305654
Alternative	JIANGXI ZHIBOXIN TECHNOLOGY CO LTD	DS01,DS02	V-0, 130°C	UL 796	UL E465280
Alternative	SHENZHEN STARIVER CIRCUITS CO LTD	SR-01A	V-0, 130°C	UL 796	UL E258603
Alternative	GuangDong Kingshine Electronic Technology Co Ltd	D0,D1	V-0, 130°C	UL 796	UL E358874
Alternative	GanZhou YiHao New Materials Co Ltd	YH-D	V-0, 130°C	UL 796	UL E519757
Alternative	CHANGZHOU AOHONG ELECTRONICS CO LTD	AOH-2,AOH-4	V-0, 130°C	UL 796	UL E303981
Alternative	Interchangeable	Interchangeable	Min V-1, 130°C	UL 796	UL
Mylar sheet (Black)	SUZHOU OMAI OPTICAL MATERIALS CO LTD	SE42B	V-0, Min. thickness 0,4mm, 80°C	UL746, UL94	UL E249605
Discharged resistance(RB1, RB2,RB3,RB4)	TA-I Technology (Suzhou) Co., Ltd	SMD1206	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance
Alternative	Walsin Technology Corporation	WR12	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance
Alternative	Ralec Technology(Kunshan)Co.,Ltd.	RTT06	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance
Alternative	ROYAL ELECTRONIC FACTORY(THAILAND)CO.,LTD	1206	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance
Alternative	Uniroyal Electronics Industry Co., Ltd.	1206	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	FENG HUA ADVANCED TECHNOLOGY (HOLDING)CO., LTD	1206	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance
Alternative	Yageo Electronics (China)Co., Ltd.	RC1206	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance
Alternative	Interchangeable	Interchangeable	680Kohm,1/4W	IEC 62368-1: 2018	Tested within appliance
AC connector (CNB1)	ZHEJIANG AMA & HIEN TECHNOLOGY CO LTD	VHC-2AW-D, VH-nA, VH-nAW, VH-nY, VHR-nA, VHR-nAW	250V,10A, 85°C	EN61984:2009-11 EN61984:2009	VDE 40044095
Alternative	Zhejiang Jieshitai Electronics Co., Ltd.	A3962 A-(02~14),A3962 AW-(02~14),A3962 AWG-(02~14),A3962 Y-(02~14)	250V,7A, 105°C	EN61984:2009-11 EN61984:2009	VDE 40025278
Alternative	SUZHOU XINYA ELECTRONIC COMMUNICATION CO LTD	W7913-02RVA, D7913-02P	250V,7A, 85°C	EN61984:2009 IEC61984:2008	TUV NORD 4478016406 748-012
Alternative	Suzhou Xinya Electronic Communication Co., Ltd.	M3962 Series	250V,7A, 85°C	IEC 61984:2008 EN 61984:2009	TUV NORD 4478016406 748-013
Transformer(T3 01)	Guangzhou Shiyuan Electronic Technology Company Limited	SYEQ3611-T004A	Class A	IEC 62368-1: 2018	Tested within appliance
Bobbin	CHANG CHUN PLASTICS CO LTD	T200HF	150°C, V-0	UL 94, UL746	UL E59481
Tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT*(b)(g)	130°C	UL 510	UL E165111
Tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	92	180°C	UL 510	UL E17385

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Clause	Requirement + Test		Result - Remark		Verdict
Triple insulated wire	Great Leoflon Industrial Co., Ltd.	TRW(F)*(UL) TRW(F) Serie(s)(VDE)	155°C	UL 2353	UL E211989 VDE 136581
Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFL	200°C	UL 224	UL E156256
Fuse(F1)	Shenzhen Lanson Electronics Co., Ltd.	SMT	T5A 250V	UL 248-1 UL 248-14 IEC60127-1 IEC60127-3	UL E221465 VDE 40013102
--Alternate	Suzhou Walter Electronic Co. Ltd.	2010 (UL) 2010 Serie(s) (VDE)	T5A 250V	UL 248-1 UL 248-14 IEC60127-1 IEC60127-3	UL E56092 VDE 40018781
--Alternate	XC Electronics (Shen Zhen) Corp. Ltd.	5TE	T5A 250V	UL 248-1 UL 248-14 IEC60127-1 IEC60127-3	UL E249609 VDE 40036821 VDE 40029550
--Alternate	Littelfuse, Inc.	392 +, &(UL) 392(VDE)	T5A 250V	UL 248-1 UL 248-14 IEC60127-1 IEC60127-3	UL E67006 VDE 126983
--Alternate	Dongguan Chevron Electronic Technology Co., Ltd.	SET	T5A 250V	UL 248-1 UL 248-14 IEC60127-1 IEC60127-3	UL E358589 VDE 40038565 TUV:J 50426507
--Alternate	Dongguan Better Electronics Technology Co., Ltd.	932	T5A 250V	UL 248-1 UL 248-14 IEC60127-1 IEC60127-3	UL E300003 VDE 40033369
--Alternate	HOLLYLAND CO LTD(UL) Hollyland Company Limited(VDE)	5ET	T5A 250V	UL 248-1 UL 248-14 IEC60127-1 IEC60127-3	UL E156471 VDE 40015669
Thermistor(NTC 1)	Thinking Electronic Industrial Co., Ltd.	SCK-2R58	8A, 2,5Ω	UL 1434 EN60539-1, EN60730-1 IEC 62368-1: 2018	UL E138827 TUV Rheinland: R 50050155
--Alternate	JOYIN CO., LTD.	JNR15S2R5M(T UV) 15S2R5M (UL)	8A, 2,5Ω	UL 1434 EN60539-1, EN60730-1 IEC 62368-1: 2018	UL E171531 TUV Rheinland: R 50236285
--Alternate	Interchangeable	Interchangeable	Min. 8A, 2,5Ω at 25°C	IEC 62368-1: 2018	Tested within appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Optocoupler (PC300,PC301)	Lite-On Technology Corporation	LTV-817(VDE) LTV-817, LTV-817S(UL)	Di ≥0,4mm, Ex ≥7,0mm, 100°C	UL 1577 IEC 60747-5-5	UL E113898 VDE 40015248
--Alternate	Everlight Electronics Co., Ltd.	EL817	Di ≥0,4mm, Ex ≥7,6mm, 100°C	UL 1577 IEC 60747-5-5	UL E214129 VDE 132249
--Alternate	COSMO Electronics Corporation(VDE)) Cosmo Electronics Corp(UL)	K1010(VDE) K1010X* 1010X*(UL)	Di ≥0,4mm, Ex ≥6,5mm, 100°C	UL 1577 IEC 60747-5-5	VDE 101347 UL E169586
--Alternate	CT Micro International Corporation(VDE)) CT MICROELECTRONICS FAR EAST LTD(UL)	CT817	Di ≥0,4mm, Ex ≥7,0mm, 100°C	UL 1577 IEC 60747-5-5	VDE 40039590 UL E364000
--Alternate	Shenzhen Orient Components Co. Ltd.	ORPC817	Di ≥0,4mm, Ex ≥7,6mm, 100°C	UL 1577 IEC 60747-5-5	UL E323844 VDE 40029733
Varistor (MOV1)	Thinking Electronic Industrial Co., Ltd.	TVR14681	Φ14,680V, V-0, 6KV/3KA, 85°C	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E314979 VDE 005944
--Alternate	Thinking Electronic Industrial Co., Ltd.	TVR14681-D	Φ14,680V, V-0, 6KV/3KA, 85°C	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E314979 VDE 40021243

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	TDK (ZHUHAI FTZ) CO., LTD. (UL) TDK Electronics GmbH & Co OG (VDE)	SIOV-SFS14K420E2K1 (UL) S14* (VDE)	Φ14,680V, V-0, 6KV/3KA, 40/105/56	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E321126 VDE 40027582
--Alternate	Centra Science Corp	CNR-14D681K	Φ14,680V, V-0, 6KV/3KA, 40/085/56	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E316325 VDE 40008220
--Alternate	GUANGDONG FENGHUA ADVANCED TECHNOLOGY HOLDING CO LTD. XIANHUA NEW SENSITIVE COMPONENTS BRANCH	FNR-14K681	Φ14,680V, V-0, 6KV/3KA, 85°C	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E325462 VDE 40008242
--Alternate	JOYIN CO LTD	14N681K	Φ14,680V, 40/85/56, 6KV/3KA	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E325508 VDE 005937

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	BESTBRIGHT ELECTRONICS CO LTD	681KD14(UL) 14D681K(VDE)	Φ14,680V, 40/85/56, 6KV/3KA	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E327997 VDE 40027827
--Alternate	Thinking Electronic Industrial Co., Ltd.	TVR14681-M	Φ14,680V, 6KV/3KA, 40/125/56	UL 1449 DIN EN IEC 61051-2:2023-10; EN IEC 61051-2:2021 IEC 61051-1:2018 IEC 61051-2:2021 IEC 61051-2-2:1991 DIN EN IEC 61051-1:2019-07; EN IEC 61051-1:2018	UL E314979 VDE 40036061
X Capacitor (CX2, CX1)	Carli Electronics Co., Ltd.	MPX	0,47uF,275/310 Vac, 100°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E120045 VDE 40008520

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	0,47uF,280/305 Vac, 110°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E252286 VDE 40018690
--Alternate	EUROPTRONIC (SUZHOU) CO LTD(UL) Europtronic (SuZhou) Co. Ltd.(VDE)	MPX2	0,47uF,275/305 Vac, 110°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E521918 VDE 40025981
--Alternate	FOSHAN CITY XINYUAN ELECTRONIC CO LTD	MKP-X2	0,47uF,275/305/310Vac, 100°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E318581 VDE 40027433

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	Guangdong Fengming Electronic Tech Co., Ltd.	MKP-X2	0,47uF,275/305/310Vac, 105°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E345487 VDE 40025702
--Alternate	Xiamen Faratronic Co. Ltd.	MKP62	0,47uF,275/305/310Vac,100°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E186600 VDE 40000358
--Alternate	ZhuHai Sung Ho Electronics Co. Ltd.	CMPP(UL) CMPP series(ENEC)	0,47uF,275/305/310Vac,105°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E327138 ENEC ENEC-02976-A1

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Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	KEMET ELECTRONICS ITALIA SRL(UL) KEMET Electronics Corporation(ENE C)	R.46	0,47uF,275Vac/ 300Vac/310Vac, 110°C	UL 60384-14 DIN EN 60384- 14/A1 (VDE 0565- 1-1/A1):2017-04; EN 60384- 14:2013/A1:2016 IEC 60384- 14:2013 IEC 60384- 14:2013/AMD1:20 16 DIN EN 60384-14 (VDE 0565-1- 1):2014-04; EN 60384-14:2013-08	UL E97797 ENEC V4413(Cert ID), DAT9700014 1.1(product ID)
--Alternate	Nistronics (Jiangxi) Co., Ltd.	MER	0,47uF,310Vac, 105°C	UL 60384-14 DIN EN 60384- 14/A1 (VDE 0565- 1-1/A1):2017-04; EN 60384- 14:2013/A1:2016 IEC 60384- 14:2013 IEC 60384- 14:2013/AMD1:20 16 DIN EN 60384-14 (VDE 0565-1- 1):2014-04; EN 60384-14:2013-08	UL E338685 VDE 40047423
--Alternate	Sichuan Zhongxing Electr. Co. Ltd.	MKP61	0,47uF,275/305 VAC,100°C	UL 60384-14 DIN EN 60384- 14/A1 (VDE 0565- 1-1/A1):2017-04; EN 60384- 14:2013/A1:2016 IEC 60384- 14:2013 IEC 60384- 14:2013/AMD1:20 16 DIN EN 60384-14 (VDE 0565-1- 1):2014-04; EN 60384-14:2013-08	UL E217215 VDE 40032626

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Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	Nistronics (Jiangxi) Co., Ltd.	MPR	0,47uF,310Vac/275Vac,100°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E338685 VDE 40032056
--Alternate	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	MPX	0,47uF,275/305/310 Vac, 110°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E208107 VDE 40034679
--Alternate	NANJING TENGGEN RONG GUANG DA ELECTRONIC SALES CO., LTD.	MKP	0,47uF,275/280/300/305/310 Vac,110°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E502081 VDE 40049725

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	Yangzhou Nissei Electronics Co., Ltd.	MP1	0,47uF,275Vac/ 300Vac/ 305Vac/ 310Vac,85°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E351313 VDE 40041628
Y1 Capacitor (CY1, CY3, CY2, CY4)	TDK Corporation	CD	470pF, 250Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E37861 VDE 40029780
--Alternate	TDK Corporation	CD (UL) CD (miniature series)(VDE)	470pF, 400Vac 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E37861 VDE 40017931

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	Yinan Don's Electronic Component Co., Ltd.	CT81	470pF, 250Vac or 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E145038 VDE 135256
--Alternate	Walsin Technology Corp	AH Series(UL) AH(VDE)	470pF, 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E146544 VDE 40001804
--Alternate	TDK CORPORATION	CD series(ENEC) CD(UL)	470pF, 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	ENEC ENEC-01048-A3 UL E37861

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	Murata Mfg. Co., Ltd.	KX \$\$ (UL) KX (VDE)	470pF, 250/300V ac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E37921 VDE 40002831
--Alternate	Kunshan Wansheng Electronics Co., Ltd	CT7	470pF, AC 500/400/300/250 V, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E249006 VDE 40012143
--Alternate	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	470pF, 250Vac or 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E154899 VDE 40036393

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F(UL) F Series(ENEC)	470pF,250Vac or 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E154899 ENEC-01195
--Alternate	SICHUAN TERUIXIANG TECHNOLOGY INTERNATIONAL CO LTD (UL) Sichuan Teruixiang Electronics Co Ltd (ENEC)	TRX(UL) TRX series(ENEC)	470pF,250Vac or 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E315719 ENEC-02084
--Alternate	MURATA MFG CO LTD	EA	470pF,300Vac/250Vac,125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E37921 ENEC: SE/16008-1A

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
--Alternate	SICHUAN TERUIXIANG TECHNOLOGY INTERNATIONAL CO LTD (UL) Shenzhen Teruixiang Electronic Co, Ltd. (VDE)	TY(UL) TY-Series(VDE)	470pF,500Vac or 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E315719 VDE 40031733
--Alternate	ANSHAN KEIFAT ELECTRONIC CERAMIC TECHNICAL CO LTD(UL) Anshan Kei Fat Electronic Ceramic Technical Co., Ltd.(VDE)	CT7	470pF,250Vac or 400Vac, 125°C	UL 60384-14 DIN EN 60384-14/A1 (VDE 0565-1-1/A1):2017-04; EN 60384-14:2013/A1:2016 IEC 60384-14:2013 IEC 60384-14:2013/AMD1:2016 DIN EN 60384-14 (VDE 0565-1-1):2014-04; EN 60384-14:2013-08	UL E232980 VDE 40043423
PFC Choke(L1)	Guangzhou Shiyuan Electronic Technology Company Limited	SYEQ3814Z-L220uB	130°C	IEC 62368	Tested within appliance
Bobbin	CHANG CHUN PLASTICS CO LTD	T200HF	150°C, V-0	UL 94, UL746	UL E59481
Triple insulated wire	E&B TECHNOLOGY CO LTD	E&B-XXXB(UL) E&B-XXXB*(VDE)	130°C	UL 2353	UL E315265 VDE 40023473
Wire	Shen Zhen Chengwei Industry Co., Ltd.	(x)UEW-F-(&)-(*)	155°C	UL1446	UL E227475
Wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEW/U@	130°C	UL 1446	UL E201757
Wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT*(b)(g)	130°C	UL 510	UL E165111
Varnish	ELANTAS PDG, INC.	468-2FC(d)	130°C	UL 1446	UL E75225
Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFL	200°C	UL 224	UL E156256
Common Choke(LC1)	Guangzhou Shiyuan Electronic Technology Company Limited	SYT10-L350uA	130°C	IEC 62368	Tested within appliance
Wire	Shenzhen yancheng Compound Line Co.,Ltd	xUEW@/130	130°C	UL 1446	UL E360434
Wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
Triple insulated wire	SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO LTD	DRTIW-B	130°C	UL 2353 DIN EN 62368-1/A11 (VDE 0868-1/A11):2017-11; EN 62368-1:2014/A11:2017 IEC 62368-1:2014 DIN EN 62368-1 (VDE 0868-1):2016-05; EN 62368-1:2014	UL E335841 VDE 40032470
Triple insulated wire	Great Leoflon Industrial Co., Ltd.	TRW(B)*(UL) TRW(B) Serie(s)(VDE)	130°C	UL 2353	UL E211989 VDE 136581
Triple insulated wire	E&B TECHNOLOGY CO LTD	E&B-XXXB(UL) E&B-XXXB*(VDE)	130°C	UL 2353	UL E315265 VDE 40023473
Triple insulated wire	Suzhou Yusheng Electronic Co Ltd	TIW-B*,TWE-3*(UL) TIW-B,TWE-3(VDE)	130°C	UL 2353	UL E332529 VDE 40033527
BASE	CHANG CHUN PLASTICS CO LTD	T200HF	150°C, V-0	UL 94, UL746	UL E59481

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

Common Choke(LC102,L C103)	Guangzhou Shiyuan Electronic Technology Company Limited	SYT16-L006mA	130°C	IEC 62368	Tested within appliance
BASE	CHANG CHUN PLASTICS CO LTD	T200HF	150°C, V-0	UL 94, UL746	UL E59481
Wire	SHENZHEN CHENGWEI INDUSTRY CO LTD	(x)UEW-F-(&)-(*)	155°C	UL 1446	UL E227475
Wire	TAI-I COPPER (GUANZHOU) CO LTD	UEW	130°C	UL 1446	UL E234896
Wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
PCB	HON TAI MATERIAL CO LTD	HT-E3503	130°C	UL746	UL E122230
PCB	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160A	130°C	UL746	UL E123995
Varnish	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD	E962	130°C	UL 1446	UL E335405
Varnish	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T-4260(a)	130°C	UL 1446	UL E228349
MOS (Q1, Q2, Q301, Q302)	Interchangeable	Interchangeable	Min.4A, Min.600V	IEC 62368-1: 2018	Tested within appliance
Diode (DB1, DB2, DB3, DB4)	Interchangeable	Interchangeable	Min.1A, Min.800V	IEC 62368-1: 2018	Tested within appliance
CAP (EB1, EB2)	Interchangeable	Interchangeable	Max.100uF, Min.400V	IEC 62368-1: 2018	Tested within appliance

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.

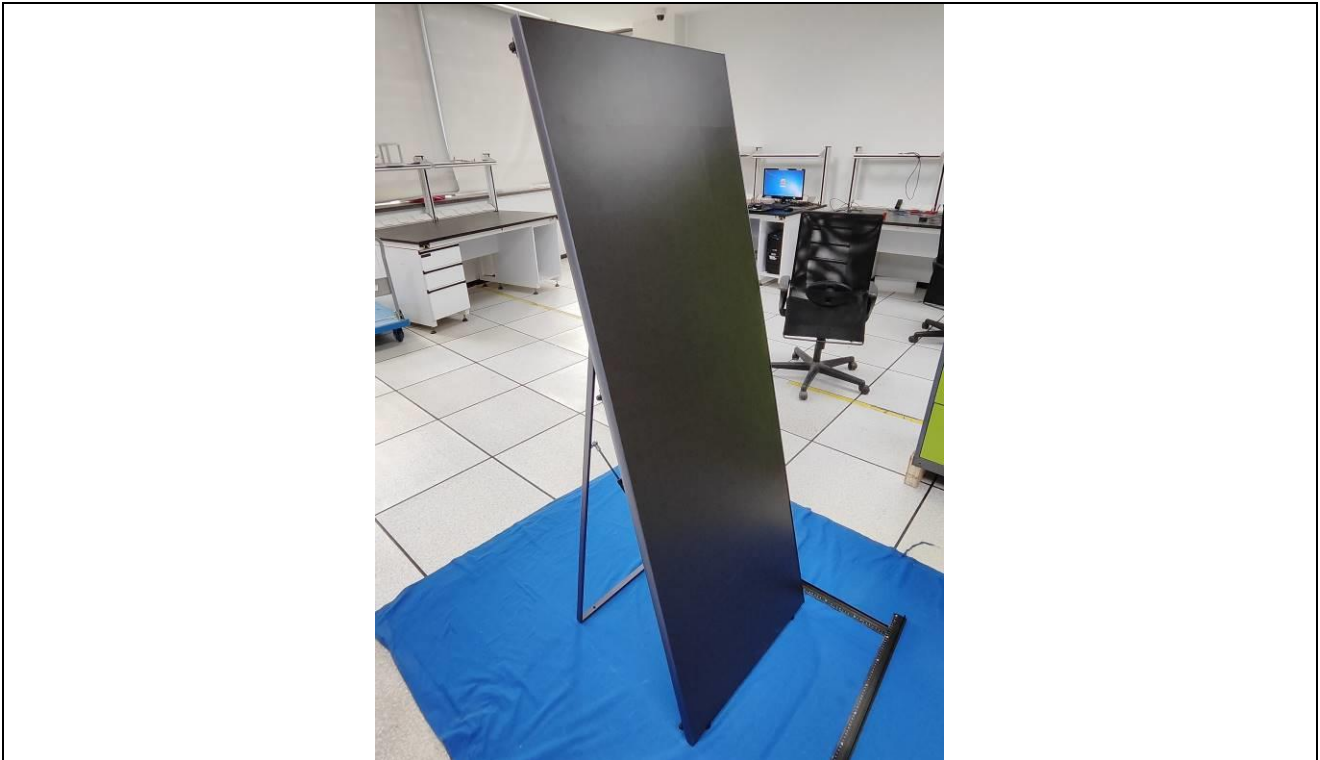
---End of Report---

Attachment 1: Photo documentation

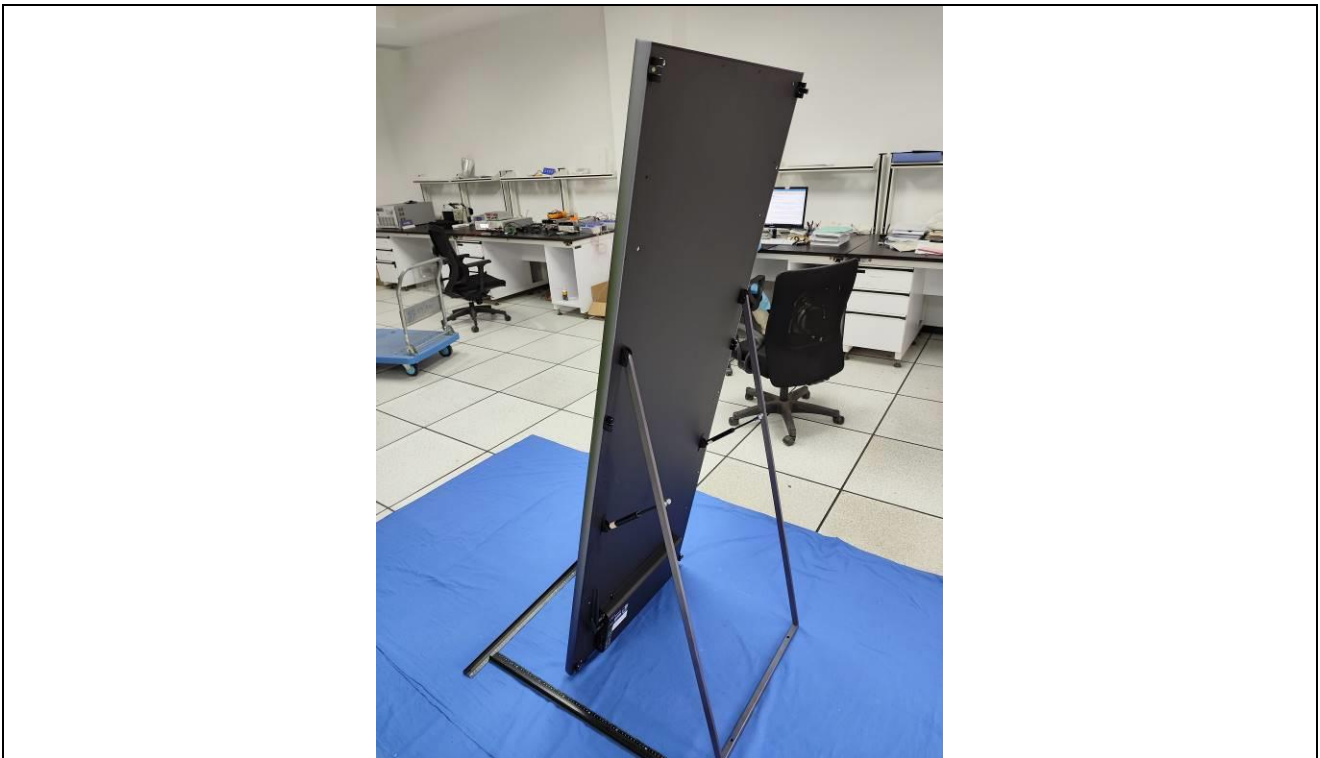
1 of 19

Report No.: SHES230200276301

Details of: General view



Details of: General view



Details of: General view



Details of: General view



Details of: Terminal view



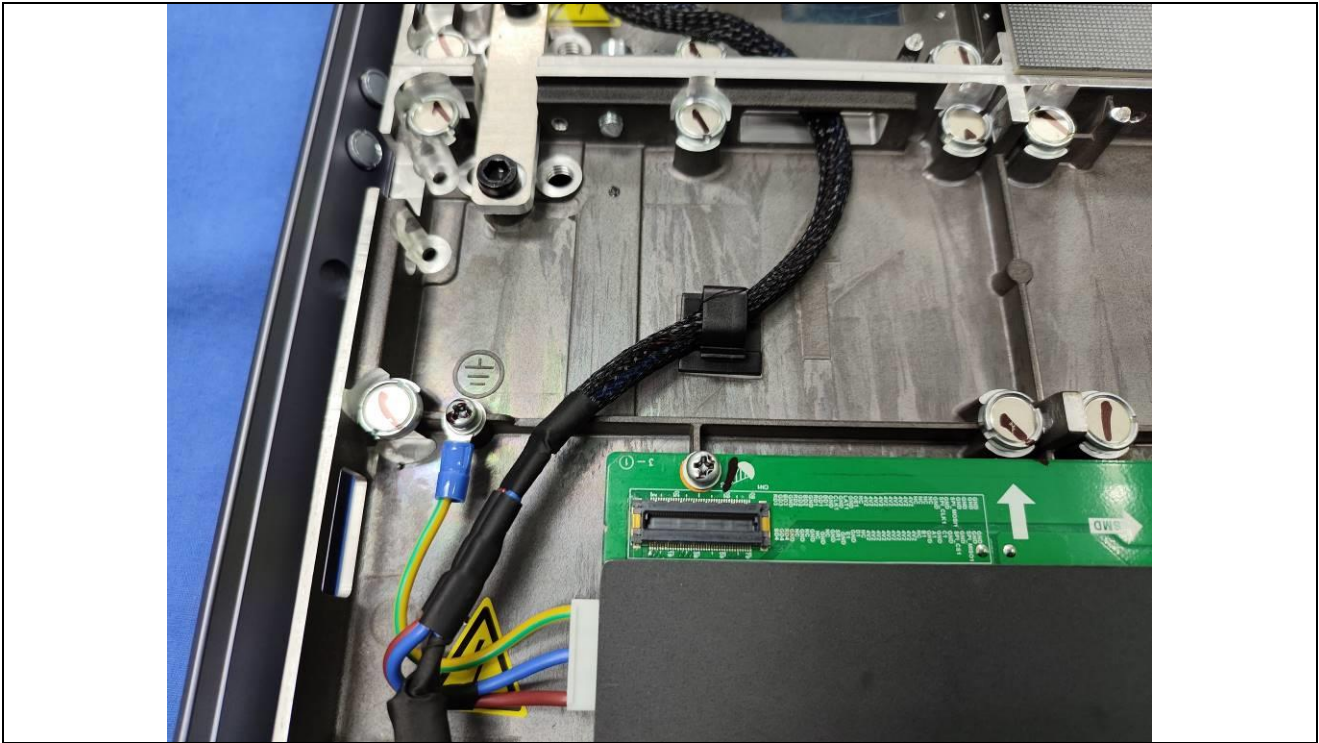
Details of: Terminal view



Details of: Internal view



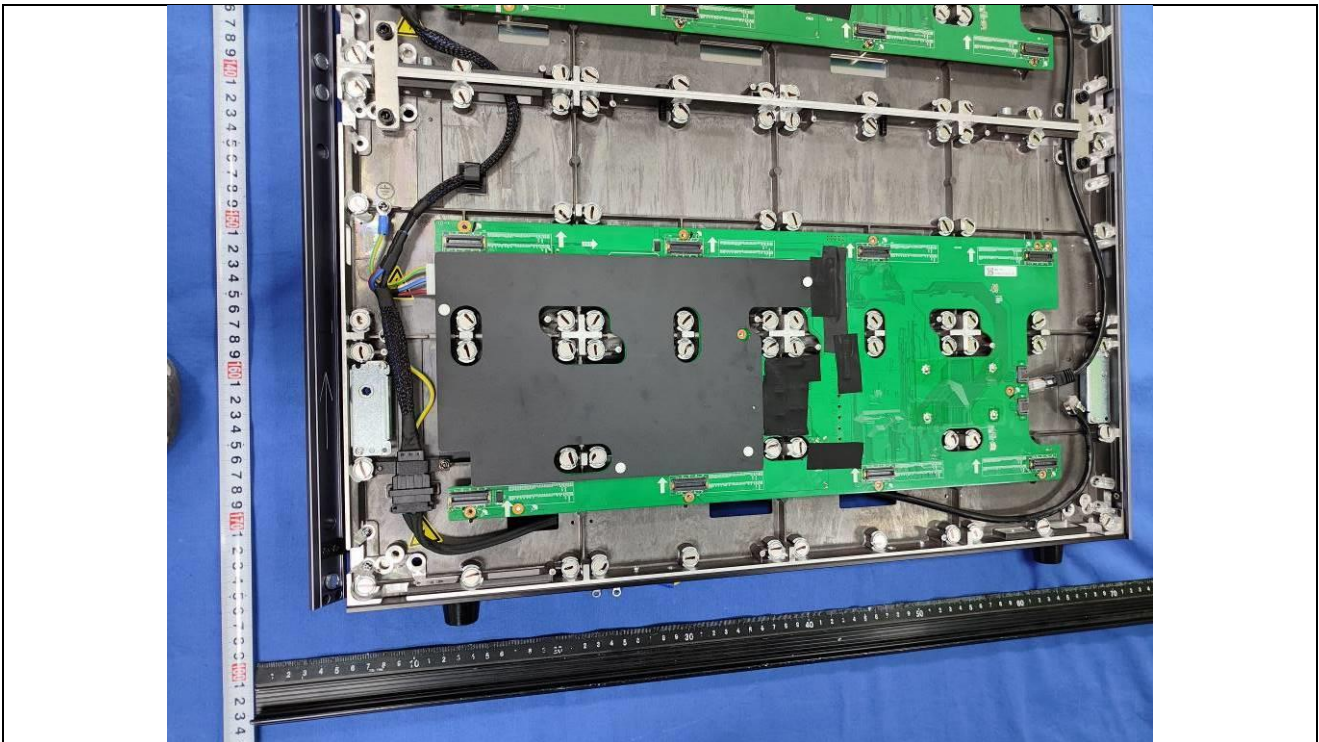
Details of: Internal view



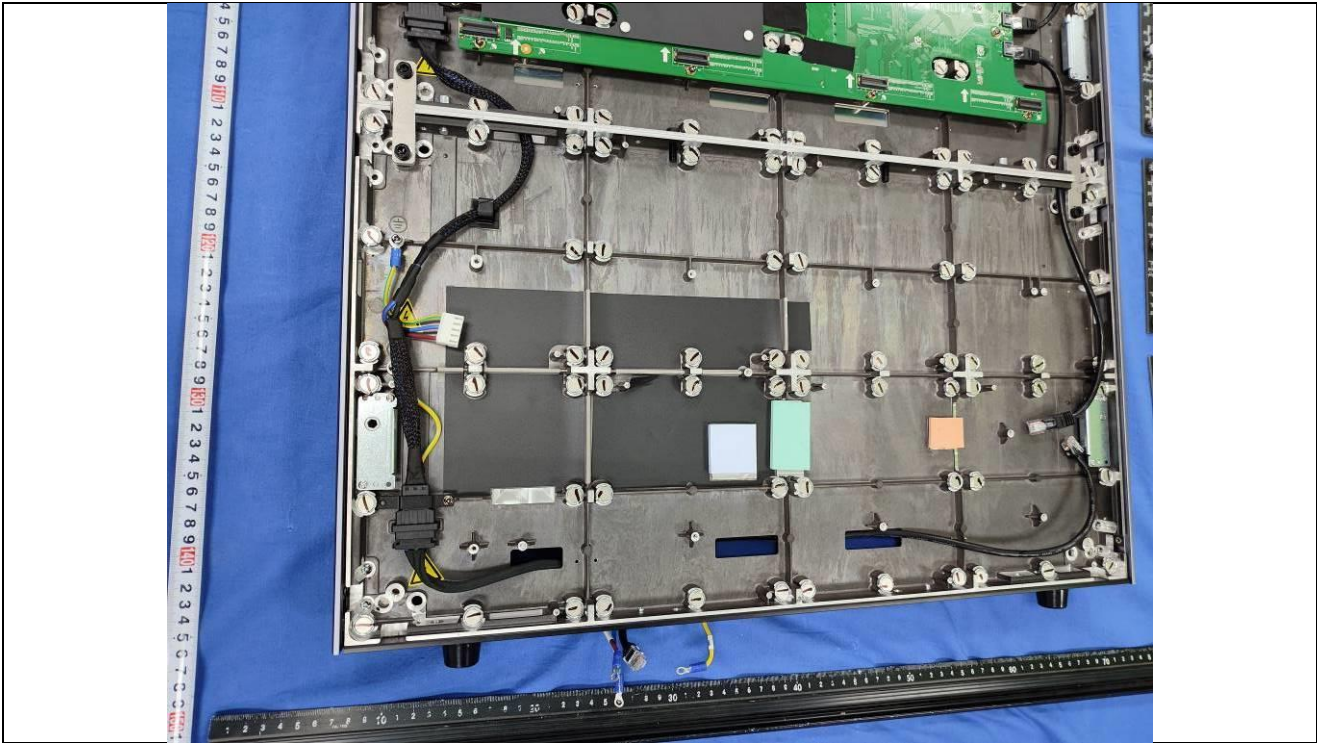
Details of: Internal view



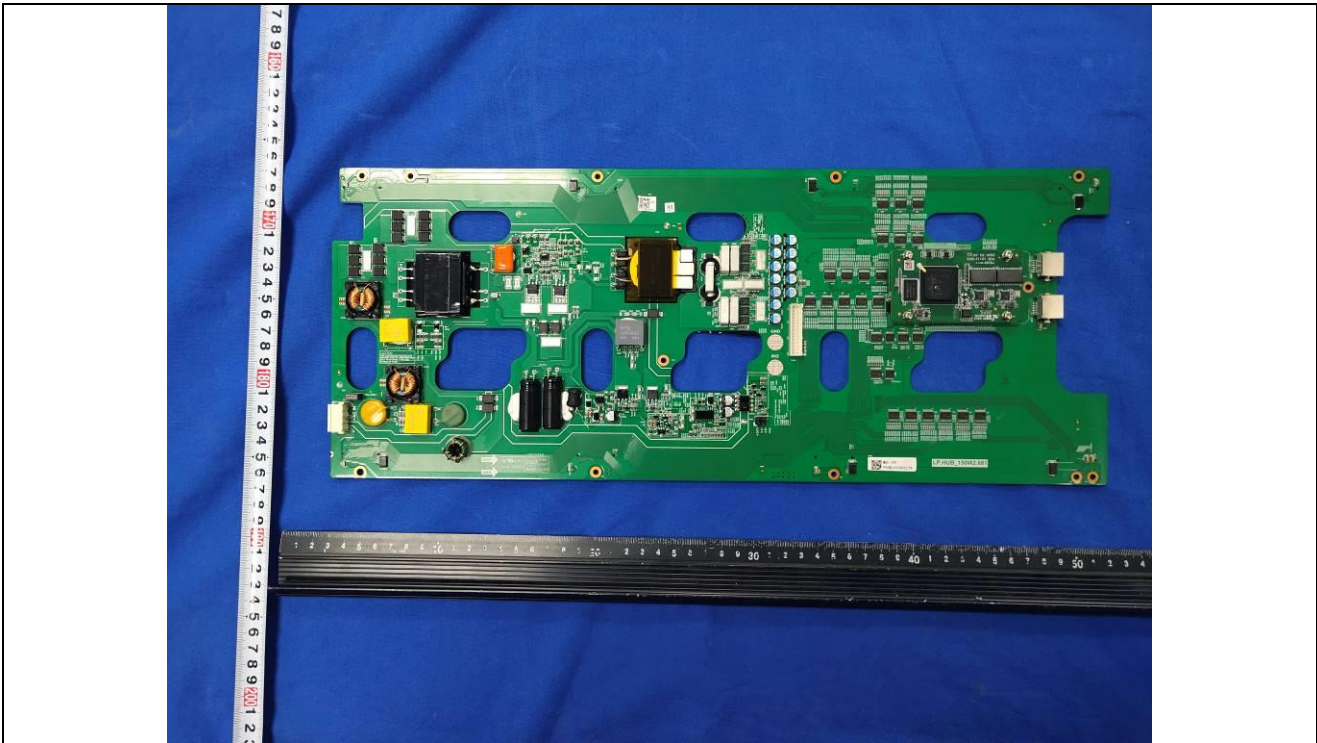
Details of: Internal view



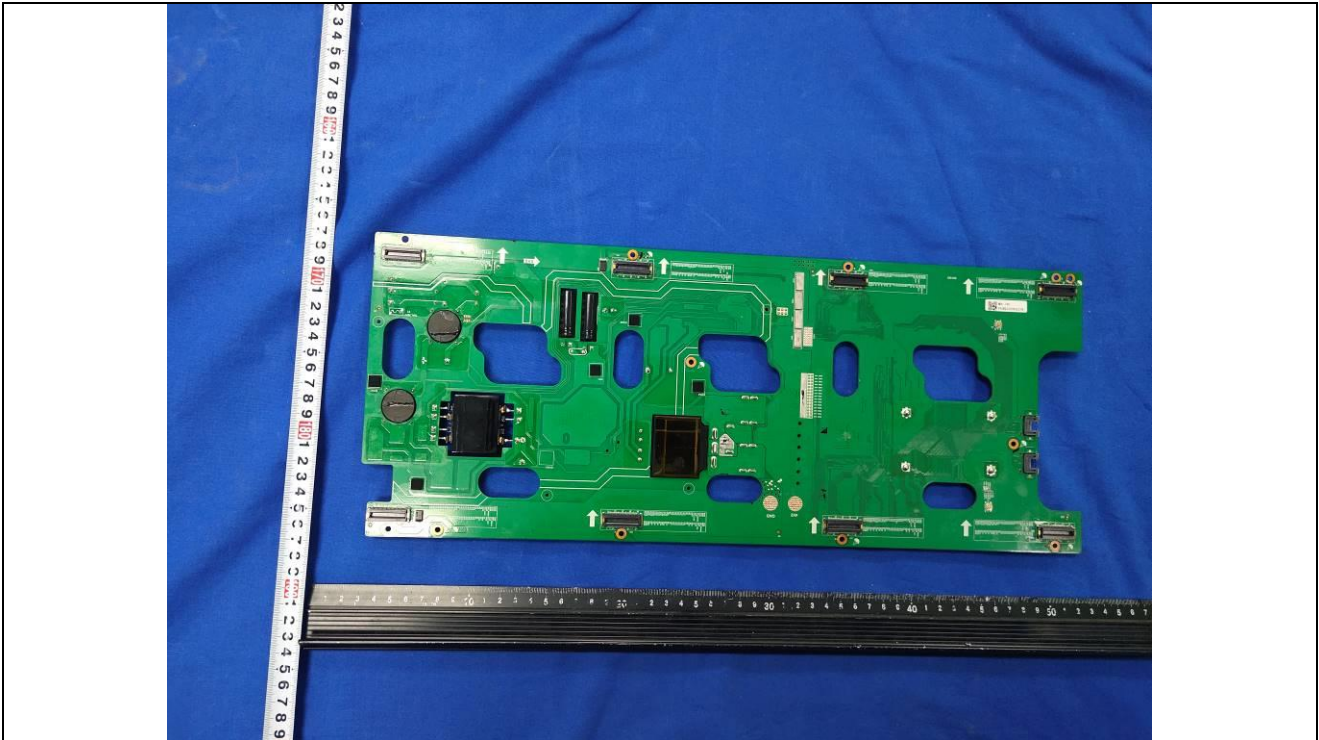
Details of: Internal view



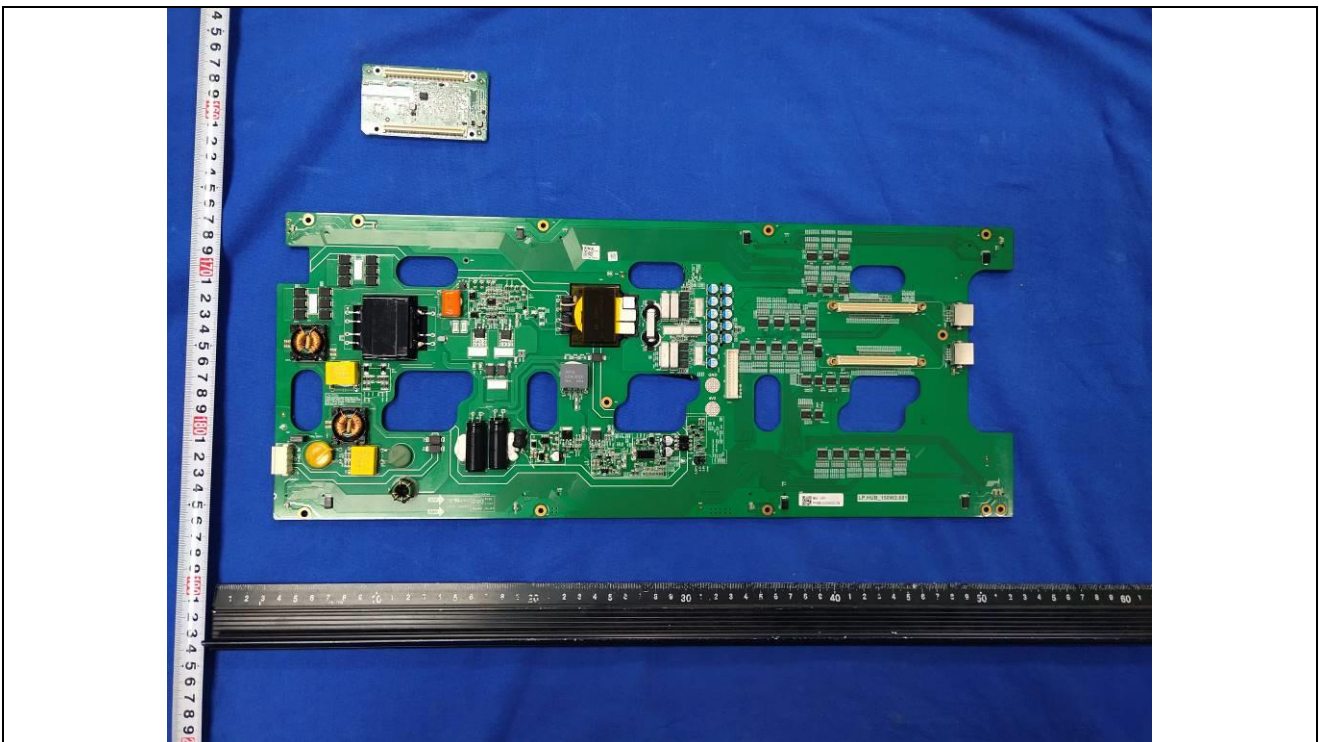
Details of: Function board



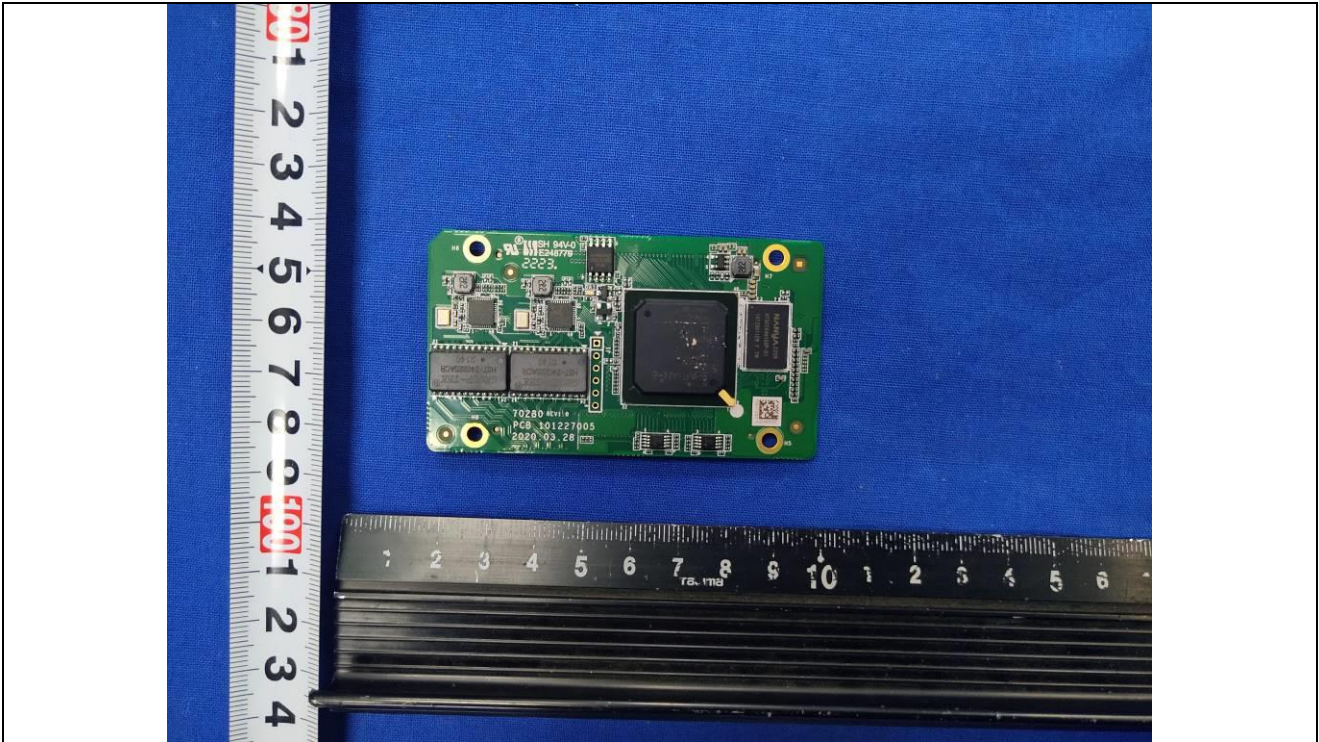
Details of: Function board



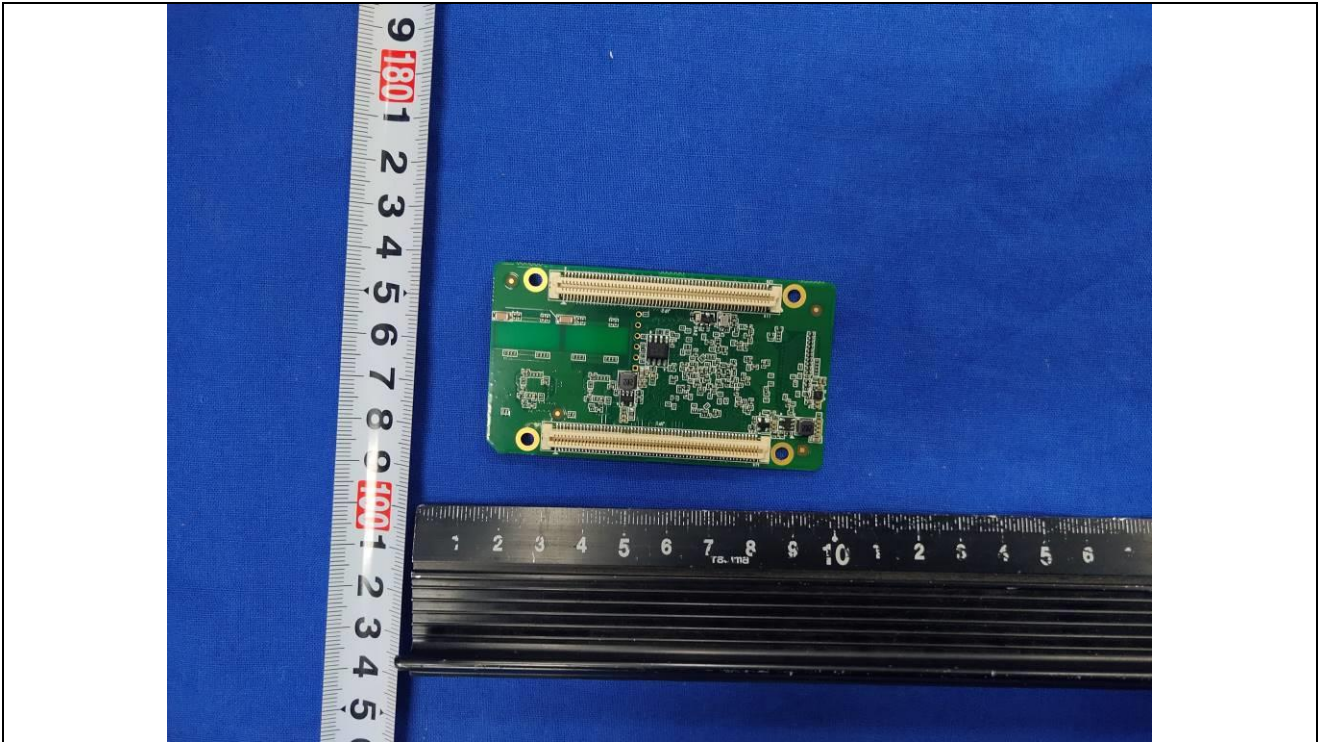
Details of: Function board



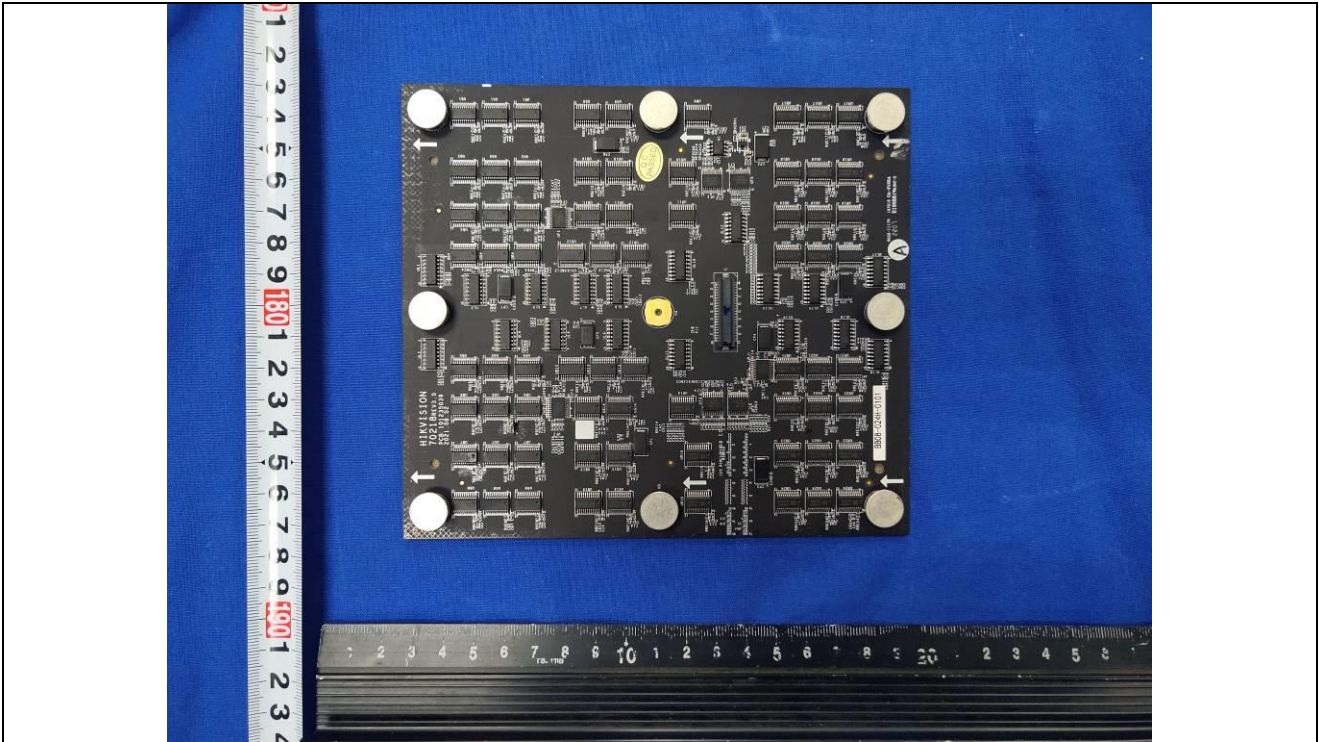
Details of: PCB



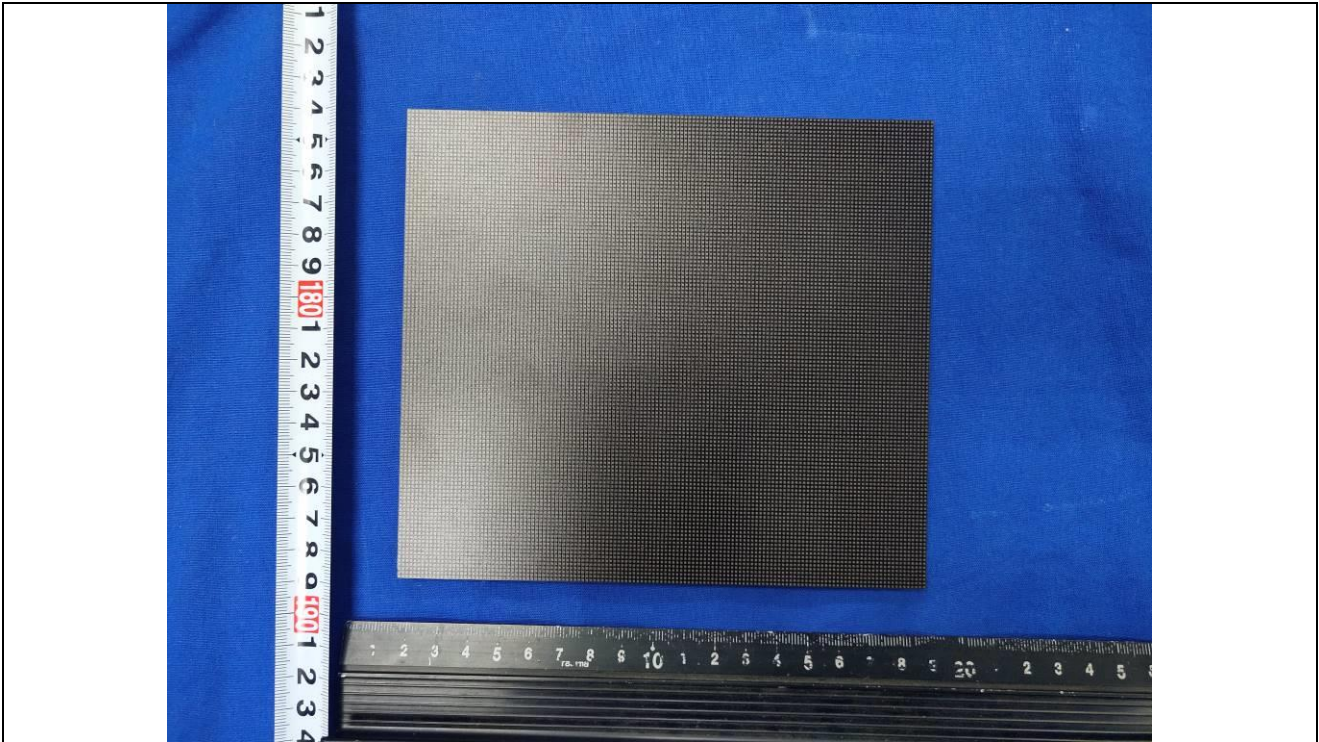
Details of: PCB



Details of: Screen



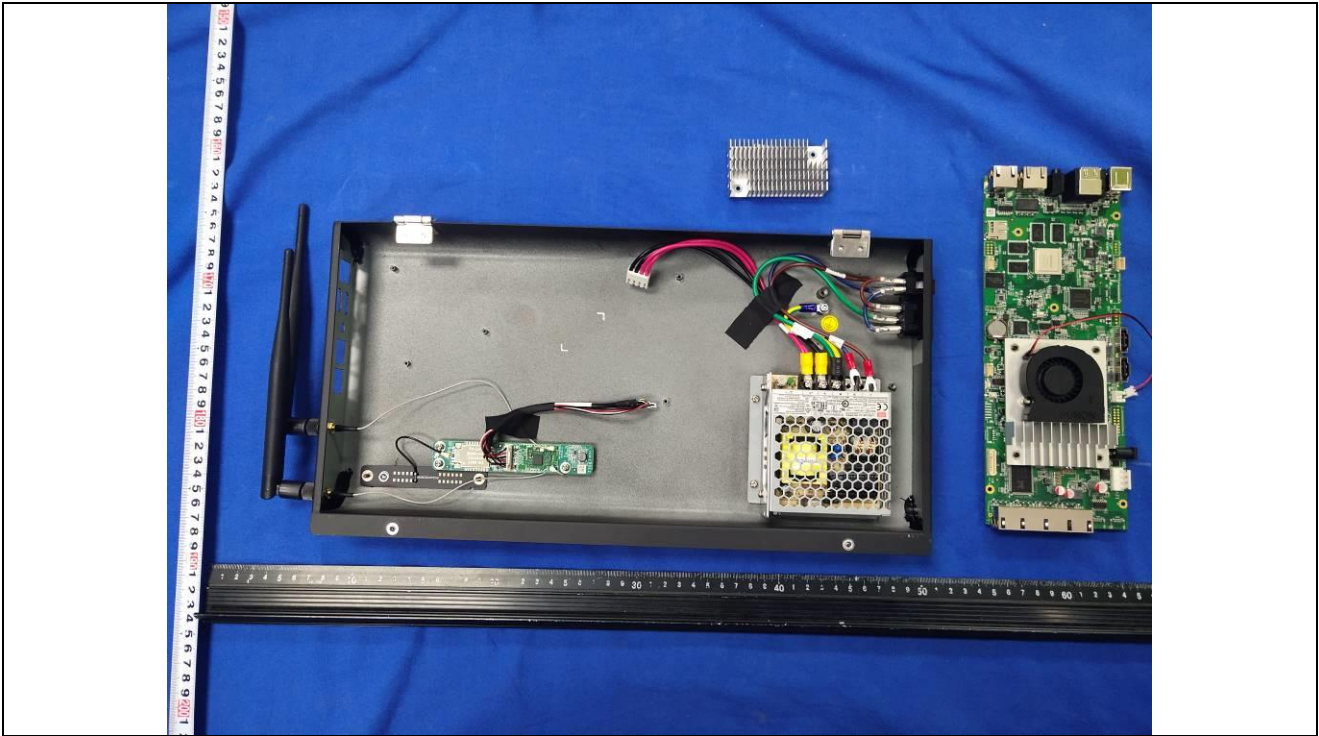
Details of: Screen



Details of: Internal View



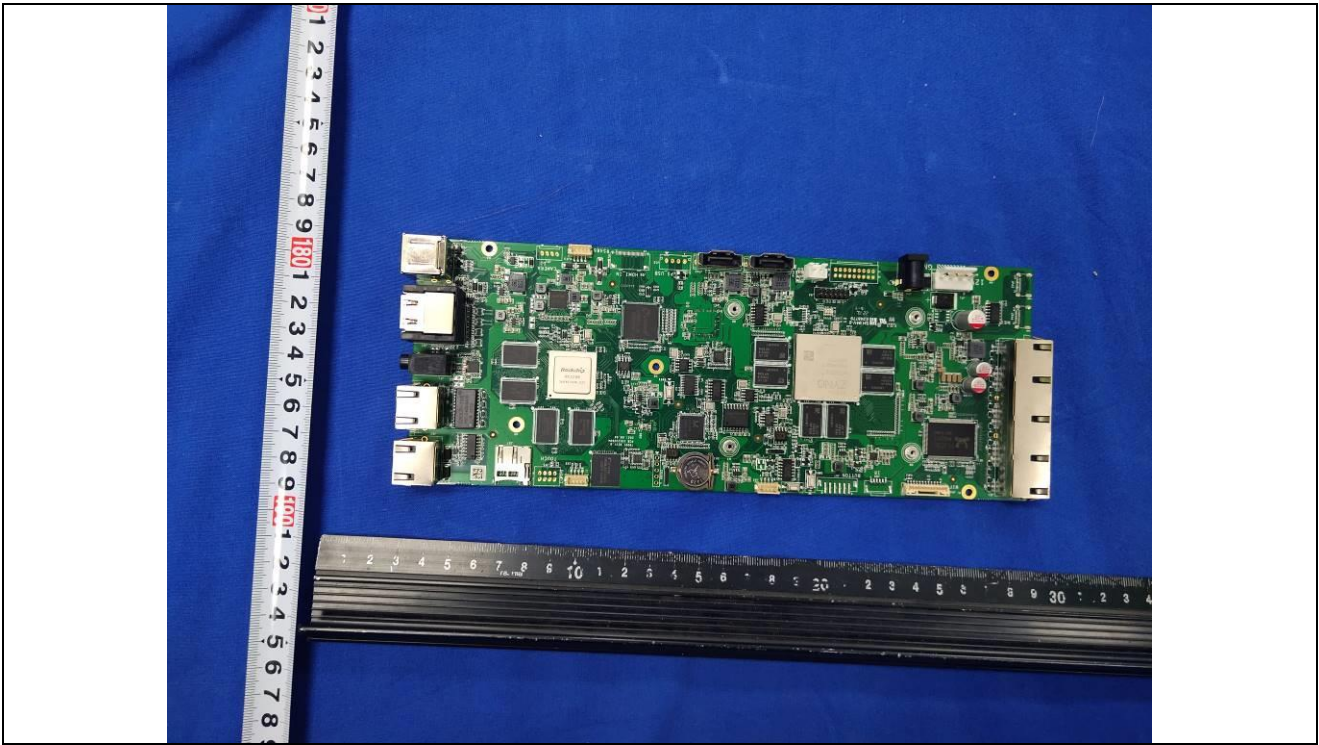
Details of: Internal View



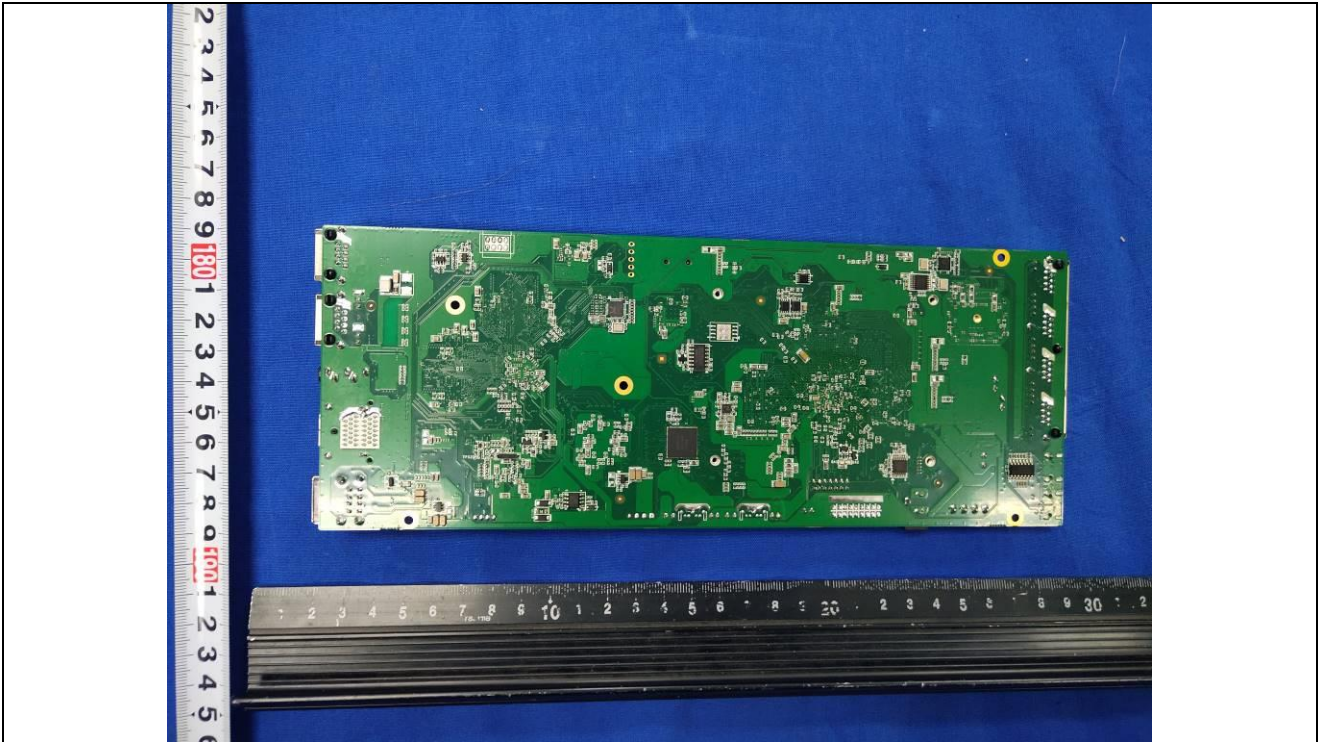
Details of: Internal View



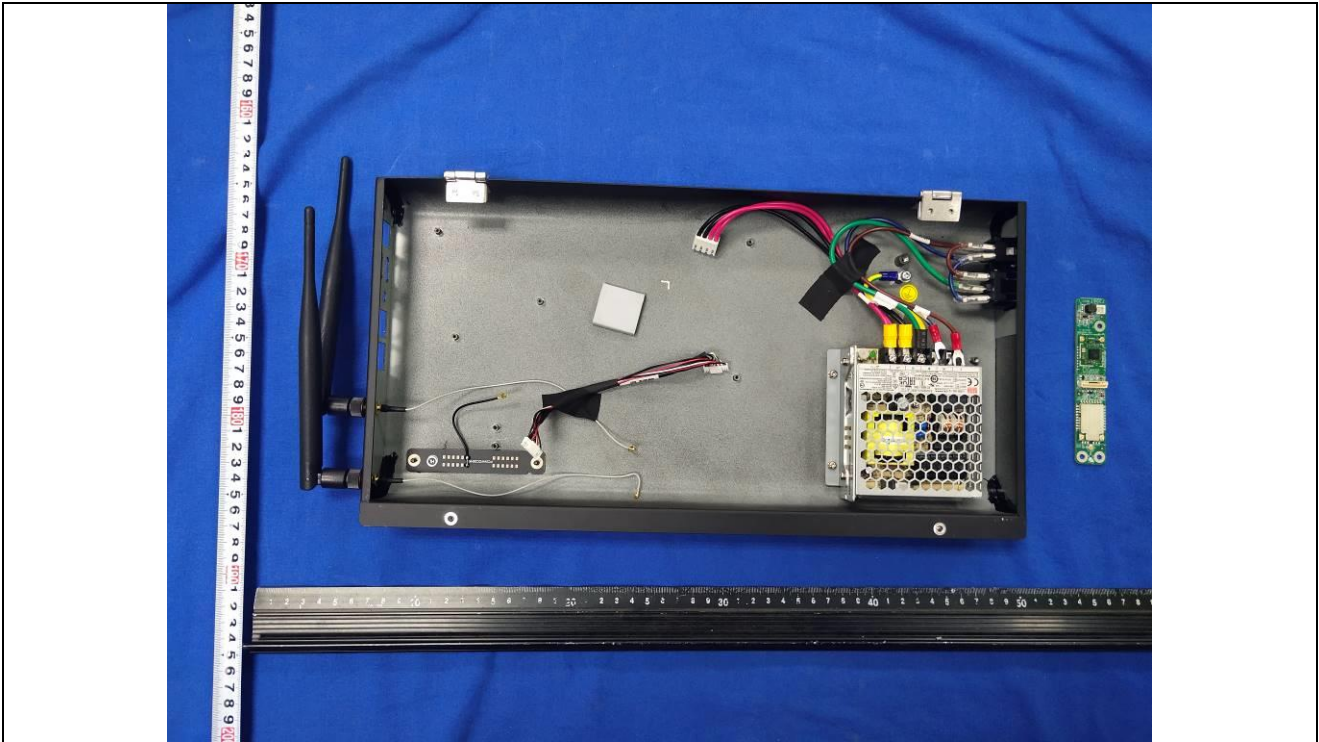
Details of: PCB



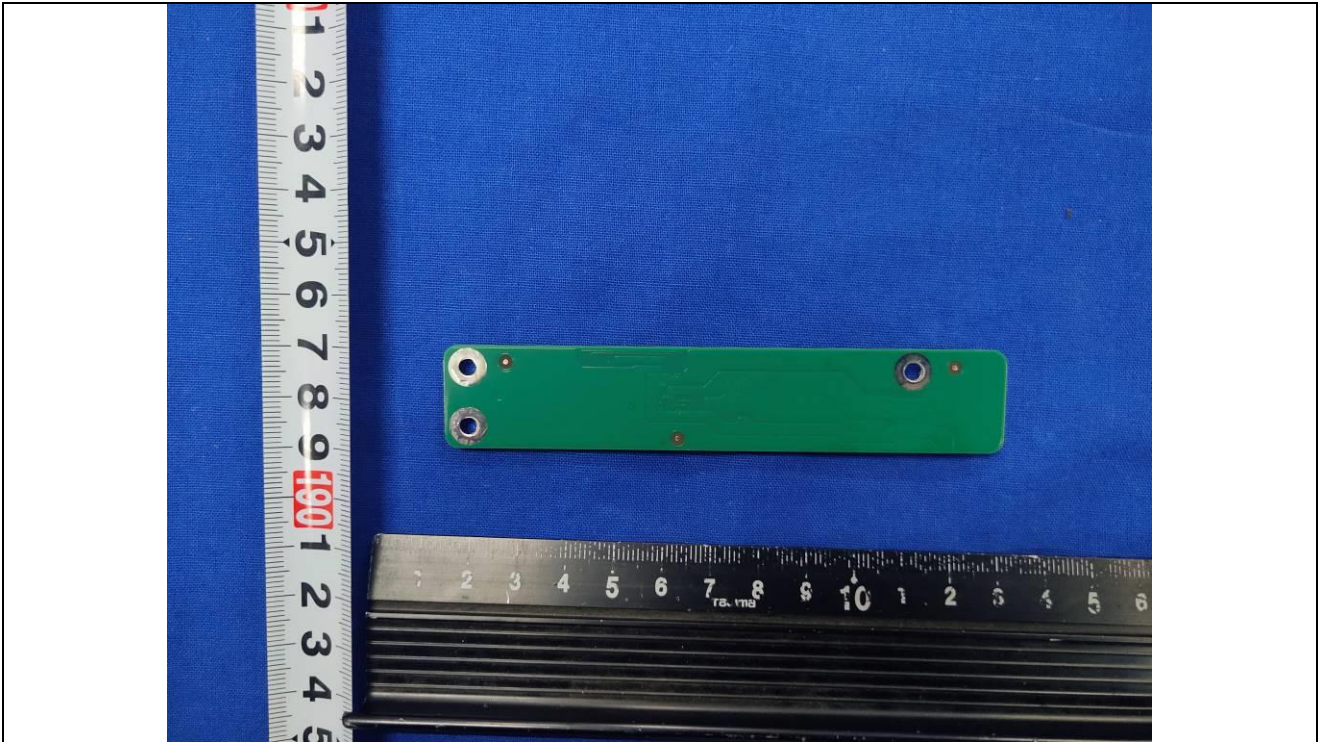
Details of: PCB



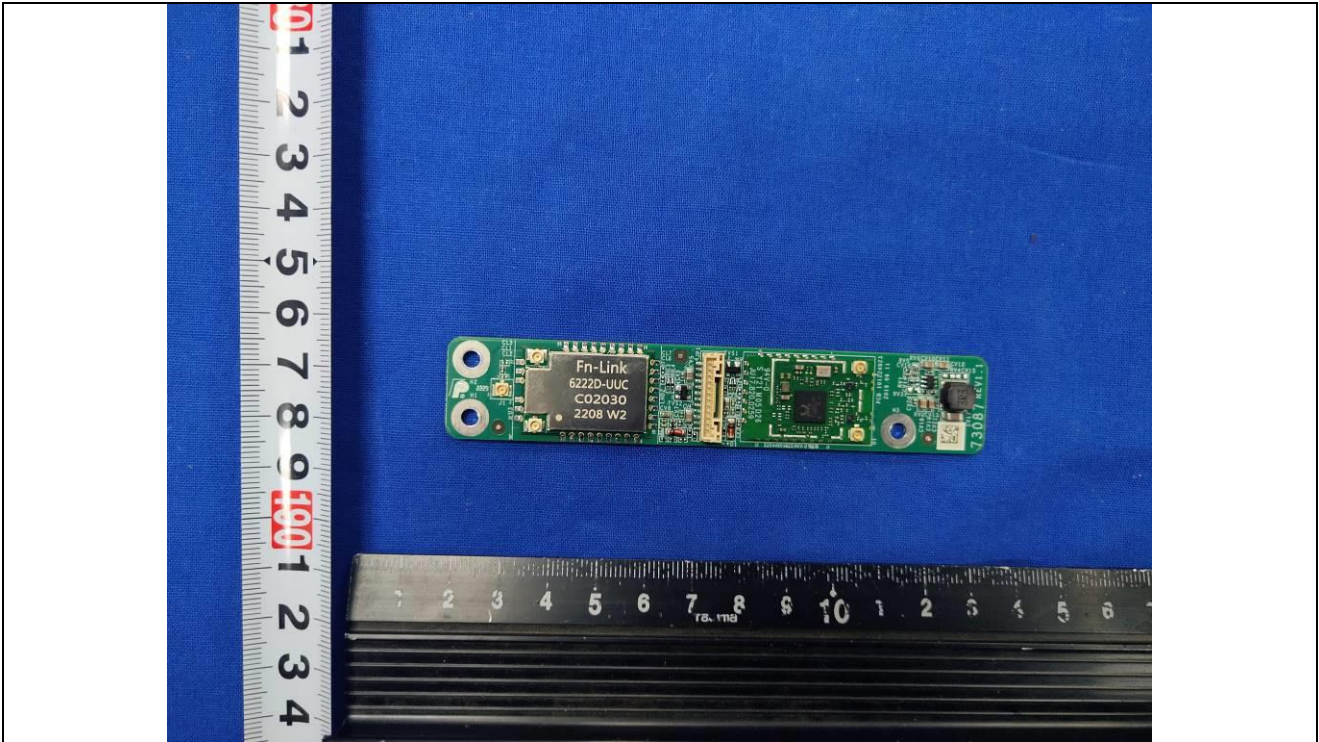
Details of: Internal View



Details of: PCB



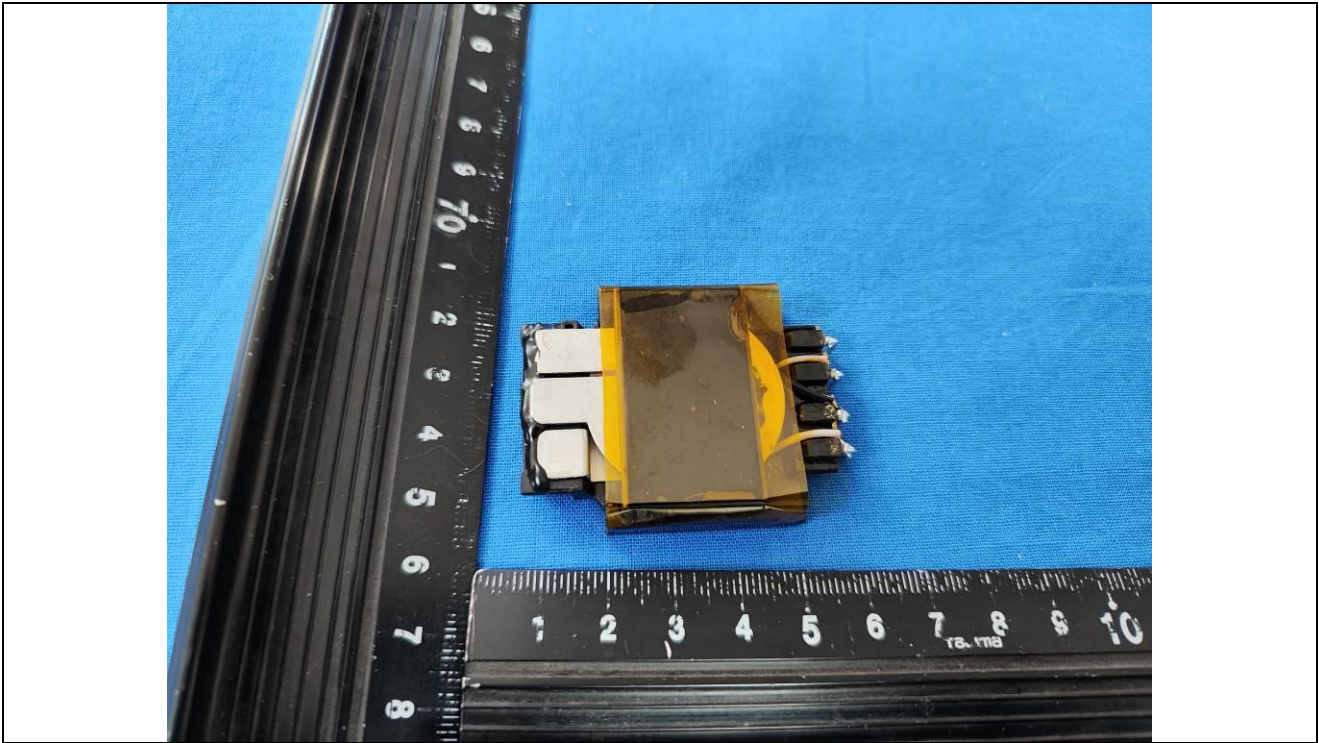
Details of: PCB



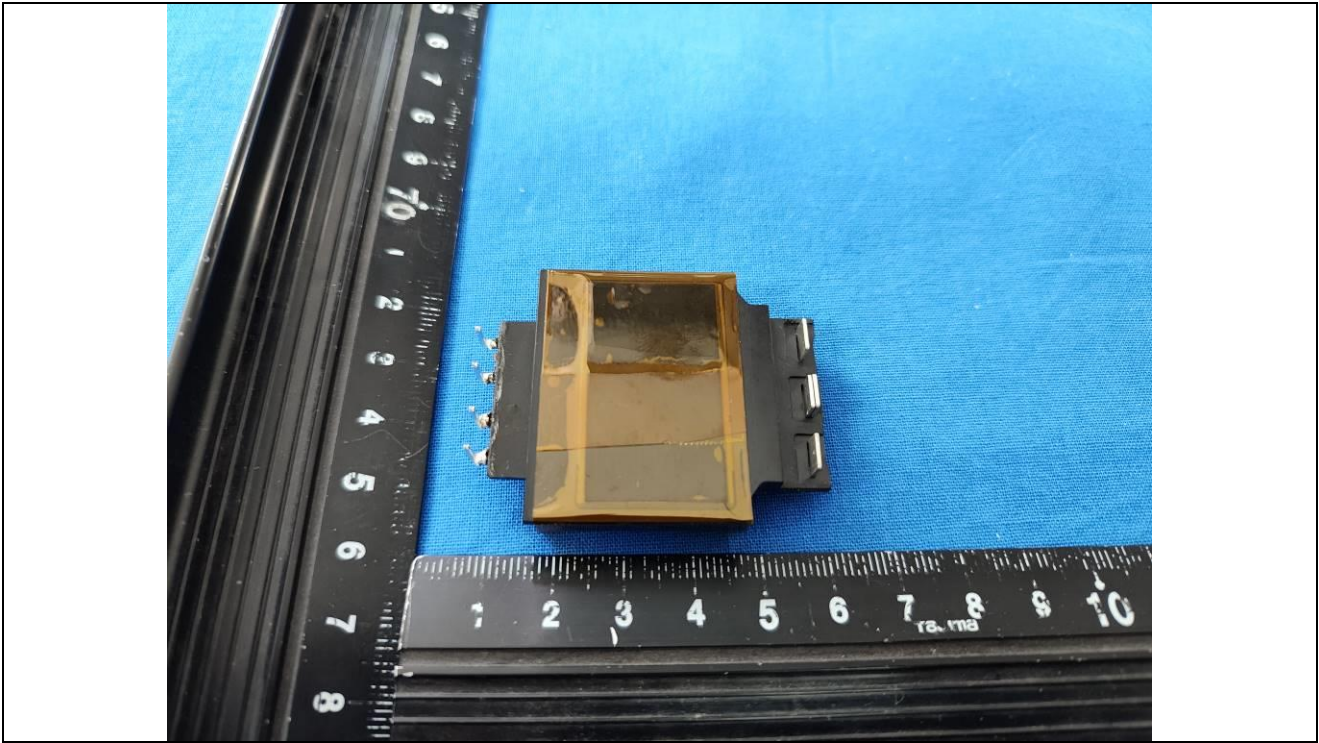
Details of: Building-in power supply



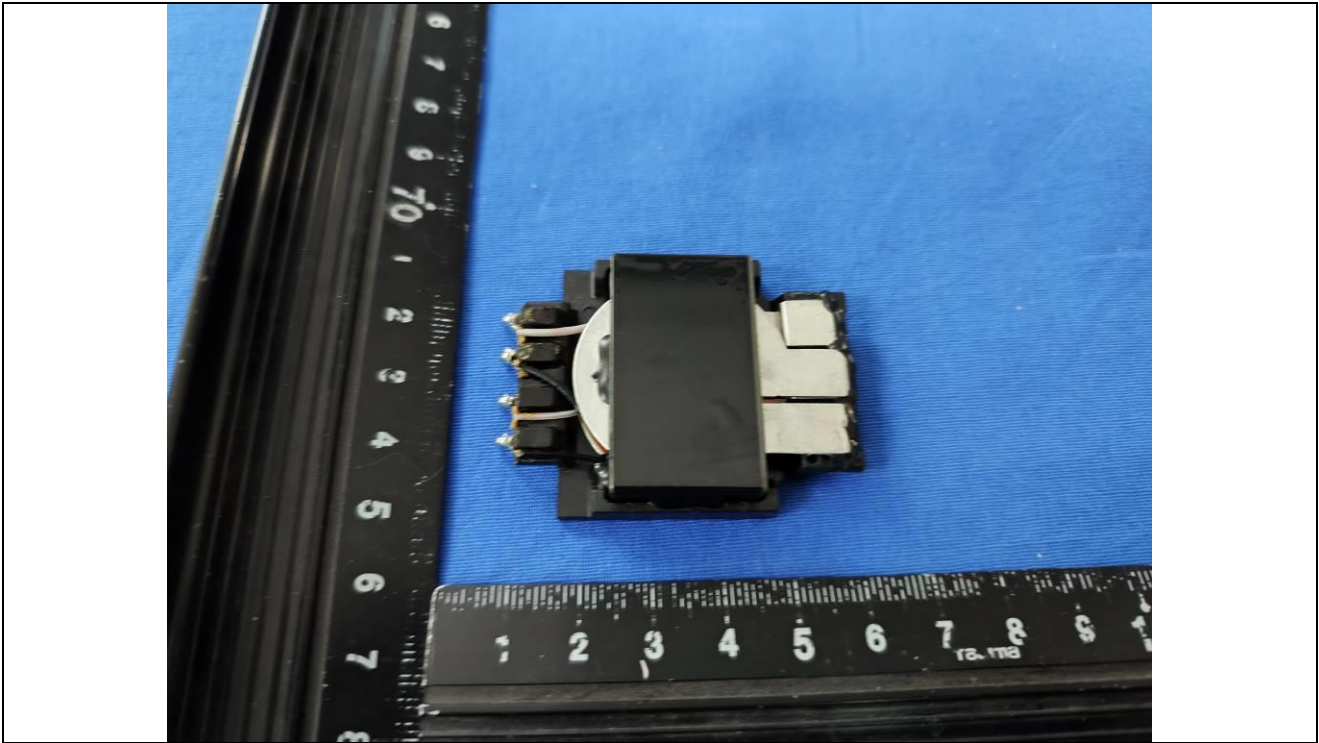
Details of: Transformer



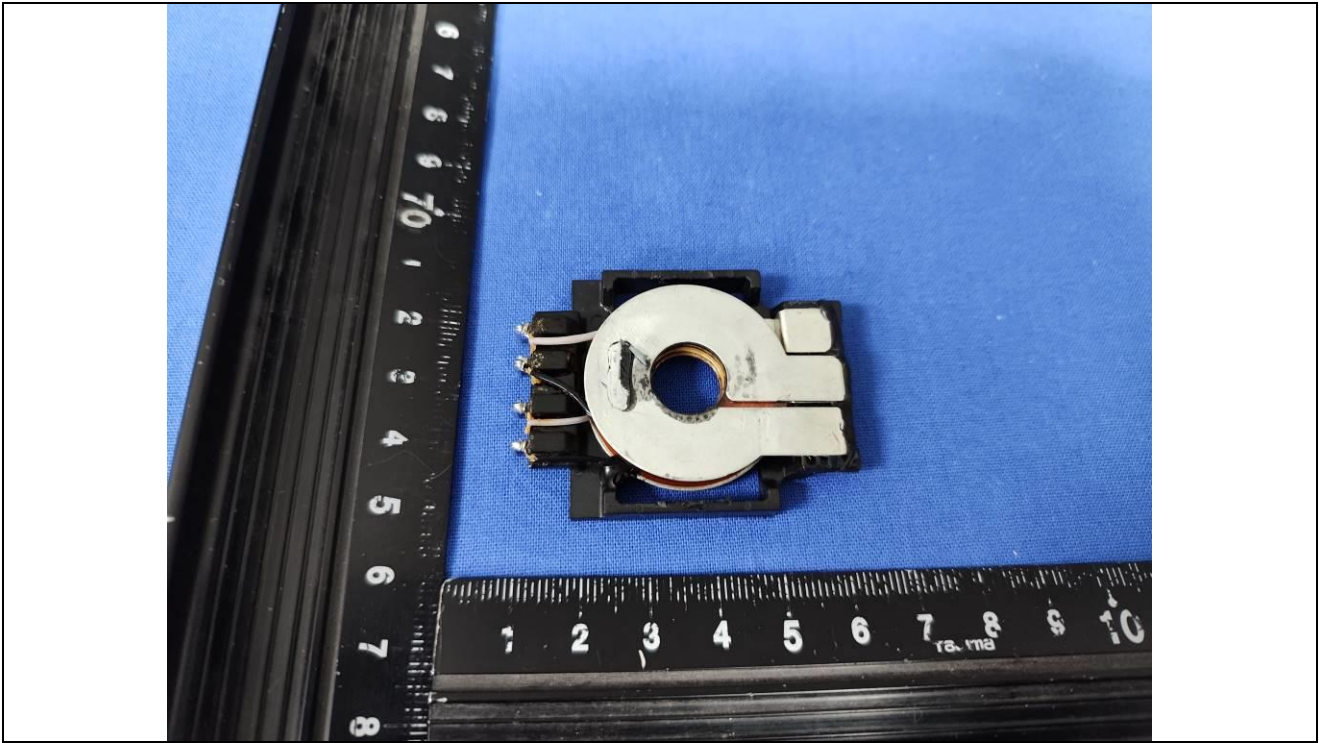
Details of: Transformer



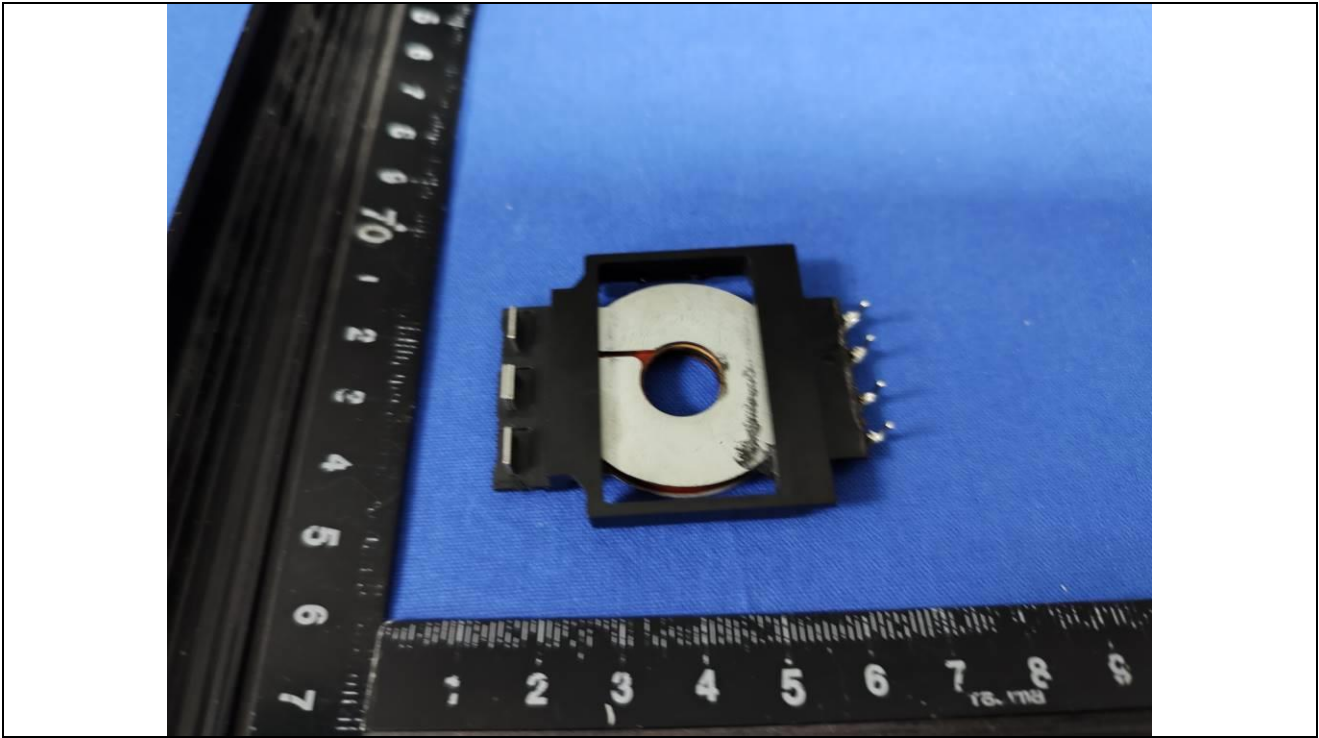
Details of: Transformer



Details of: Transformer



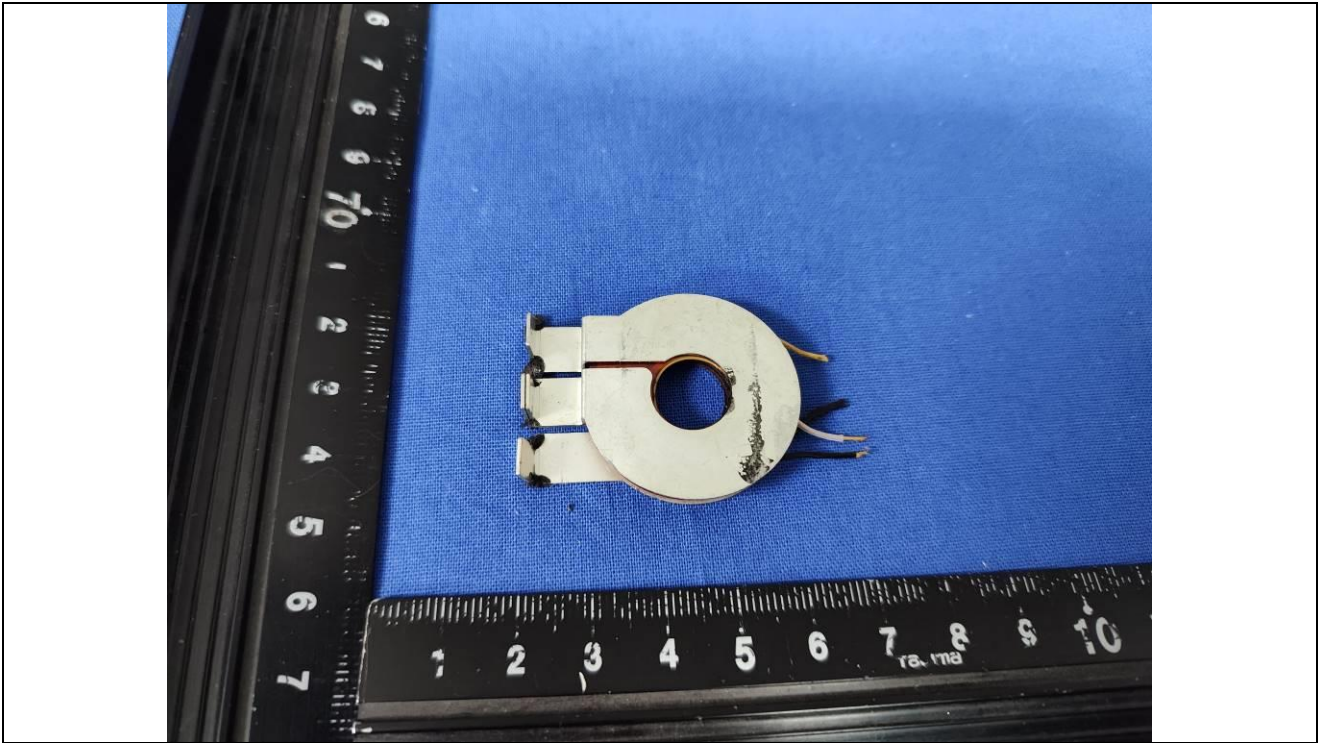
Details of: Transformer



Details of: Transformer



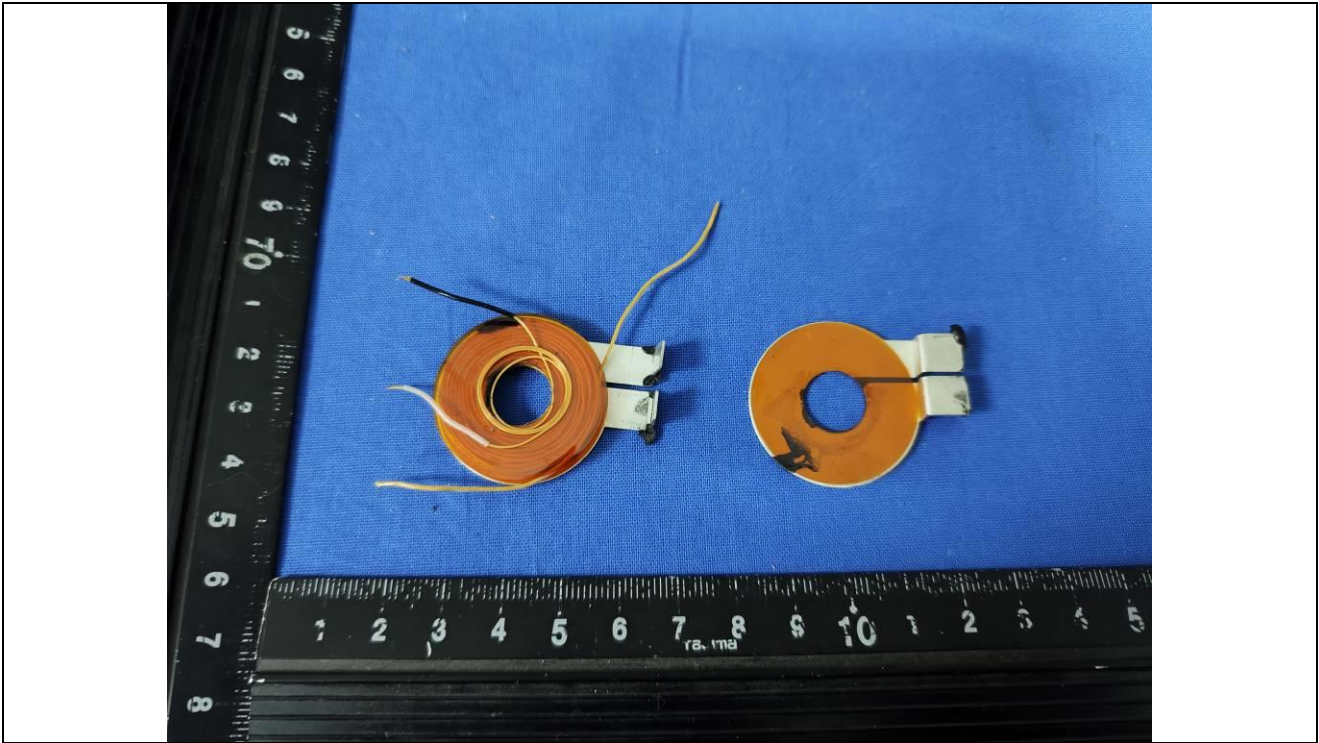
Details of: Transformer



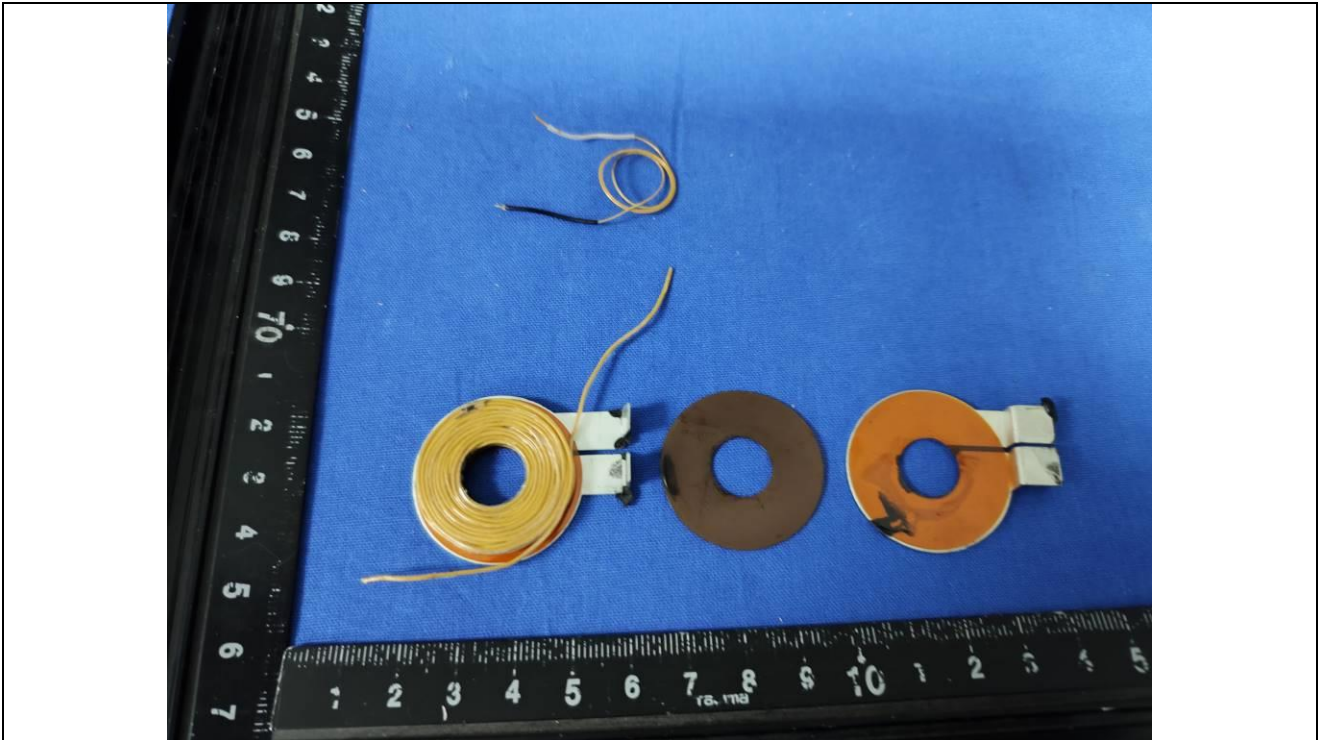
Details of: Transformer



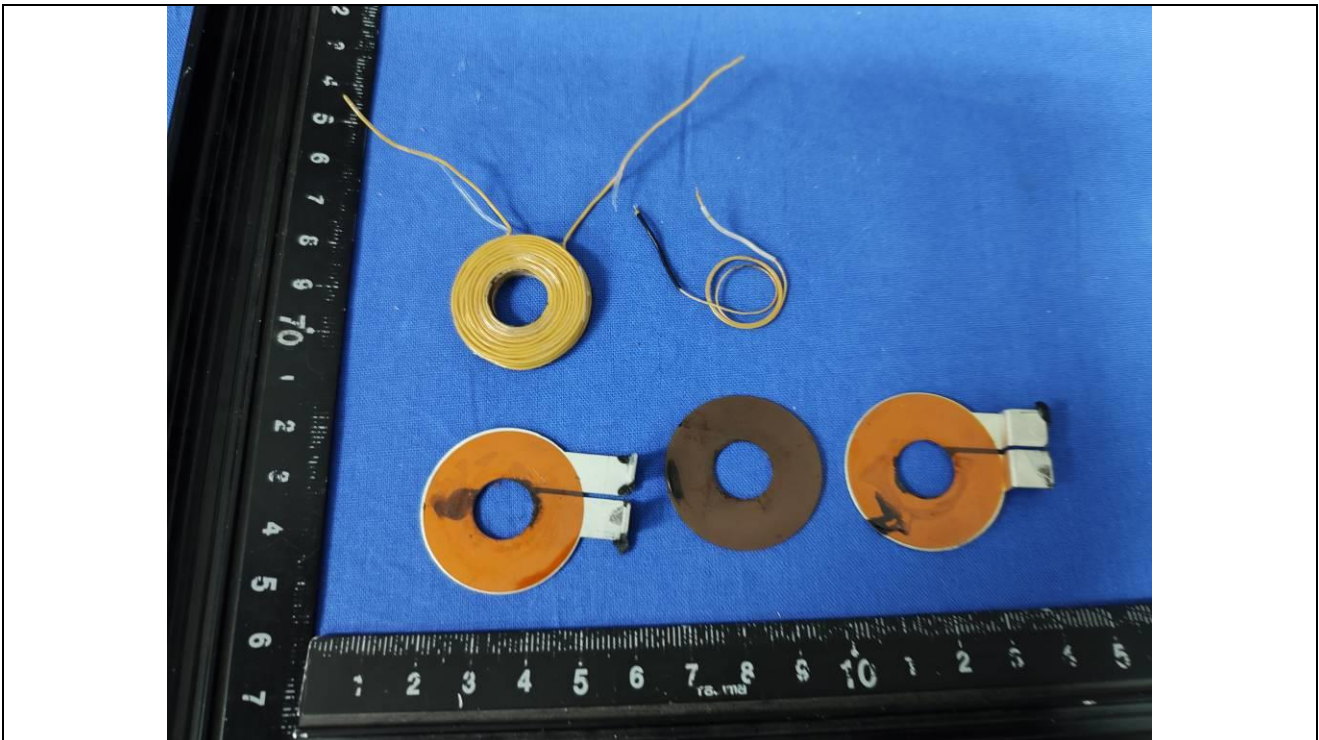
Details of: Transformer



Details of: Transformer



Details of: Transformer



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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)			
Differences according to : EN IEC 62368-1:2020+A11:2020			
Attachment Form No. : EU_GD_IEC62368_1E			
Attachment Originator : UL(Demko)			
Master Attachment : 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	CENELEC COMMON MODIFICATIONS (EN)		P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed "Z".		P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
1	Modification to Clause 3 .		N/A
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.1	momentary exposure level, MEL metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.		N/A
3.3.19.3	sound exposure, E A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is $\text{Pa}^2 \text{s}$. $E = \int_0^T p(t)^2 dt$		N/A
3.3.19.4	sound exposure level, SEL logarithmic measure of sound exposure relative to a reference value, E_0 , typically the 1 kHz threshold of hearing in humans. Note 1 to entry: SEL is measured as A-weighted levels in dB. $SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$ Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	digital signal level relative to full scale, dBFS levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	Modification to Clause 10		N/A
10.6	Safeguards against acoustic energy sources Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	Introduction Safeguard requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an ordinary person, that: – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment. Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3. NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360. NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible. Listening devices sold separately shall comply with the requirements of 10.6.6. These requirements are valid for music or video mode only. The requirements do not apply to: – professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. – a player while connected to an external amplifier that does not allow the user to walk around		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.		N/A
10.6.2	Classification of devices without the capacity to estimate sound dose		N/A
10.6.2.1	General This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		N/A
10.6.2.2	RS1 limits (to be superseded, see 10.6.3.2)		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		
10.6.2.3	RS2 limits (to be superseded, see 10.6.3.3) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1.		N/A
10.6.2.4	RS3 limits RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	Classification of devices (new)		N/A
10.6.3.1	General Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.3.2	RS1 limits (new) RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		N/A
10.6.3.3	RS2 limits (new) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		N/A
10.6.4	Requirements for maximum sound exposure		N/A
10.6.4.1	Measurement methods All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	Protection of persons Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE 1 Volume control is not considered a safeguard. Between RS2 and an ordinary person, the basic safeguard may be replaced by an instructional safeguard in accordance with Clause F.5, except that the instructional safeguard shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the instructional safeguard may be given through the equipment display during use. The elements of the instructional safeguard shall be as follows: – element 1a: the symbol , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording An equipment safeguard shall prevent exposure of an ordinary person to an RS2 source without intentional physical action from the ordinary person and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off. The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A skilled person shall not be unintentionally exposed to RS3.		
10.6.5	Requirements for dose-based systems		N/A
10.6.5.1	General requirements Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration. The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.		
10.6.5.2	Dose-based warning and requirements When a dose of 100 % CSD is reached, and at least at every 100 % further increase of CSD, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically decrease to compliance with class RS1. The warning shall at least clearly indicate that listening above 100 % CSD leads to the risk of hearing damage or loss.		N/A
10.6.5.3	Exposure-based requirements With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		

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

10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed “programme simulation noise” as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.		N/A
10.6.6.2	Corded listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.3	Cordless listening devices In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above mentioned programme simulation noise, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.4	Measurement method <i>Measurements shall be made in accordance with EN 50332-2 as applicable.</i>		N/A
3	Modification to the whole document		P

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
	Delete all the “country” notes in the reference document according to the following list:					P
	0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2
	3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2
	5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3
	5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note
	5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note
	5.5.2.1	Note	5.5.8	Note	5.6.4.2.1	Note 2 and 3 and 4
	5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2
	8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2
	10.6.1	Note 3	F.3.3.6	Note 3	Y.4.1	Note
	Y.4.5	Note				
4	Modification to Clause 1					P
1	Add the following note: <i>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</i>					P

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

5	Modification to 4.Z1		P
4.Z1	Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		P
6	Modification to 5.4.2.3.2.4		N/A
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.		N/A
7	Modification to 10.2.1		N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.		N/A

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

8	Modification to 10.5.1		N/A
10.5.1	Add the following after the first paragraph: For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus. Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made. For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
9	Modification to G.7.1		P
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		P

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

10	Modification to Bibliography		N/A
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
11	ADDITION OF ANNEXES		N/A
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
4.1.15	Denmark, Finland, Norway and Sweden To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark : "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland : "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway : "Apparatet må tilkoples jordet stikkontakt" In Sweden : "Apparaten skall anslutas till jordat uttag"		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	Finland and Sweden To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		P
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A, the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.2.1	France After the indent for pluggable equipment type A , the following is added: – in certain cases, the protective current rating of the circuit supplied from the mains is taken as 20 A instead of 16 A.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.6.8	Norway To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment . See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

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

5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
5.7.7.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
8.5.4.2.3	United Kingdom Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met		N/A

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

G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c		N/A
	United Kingdom To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

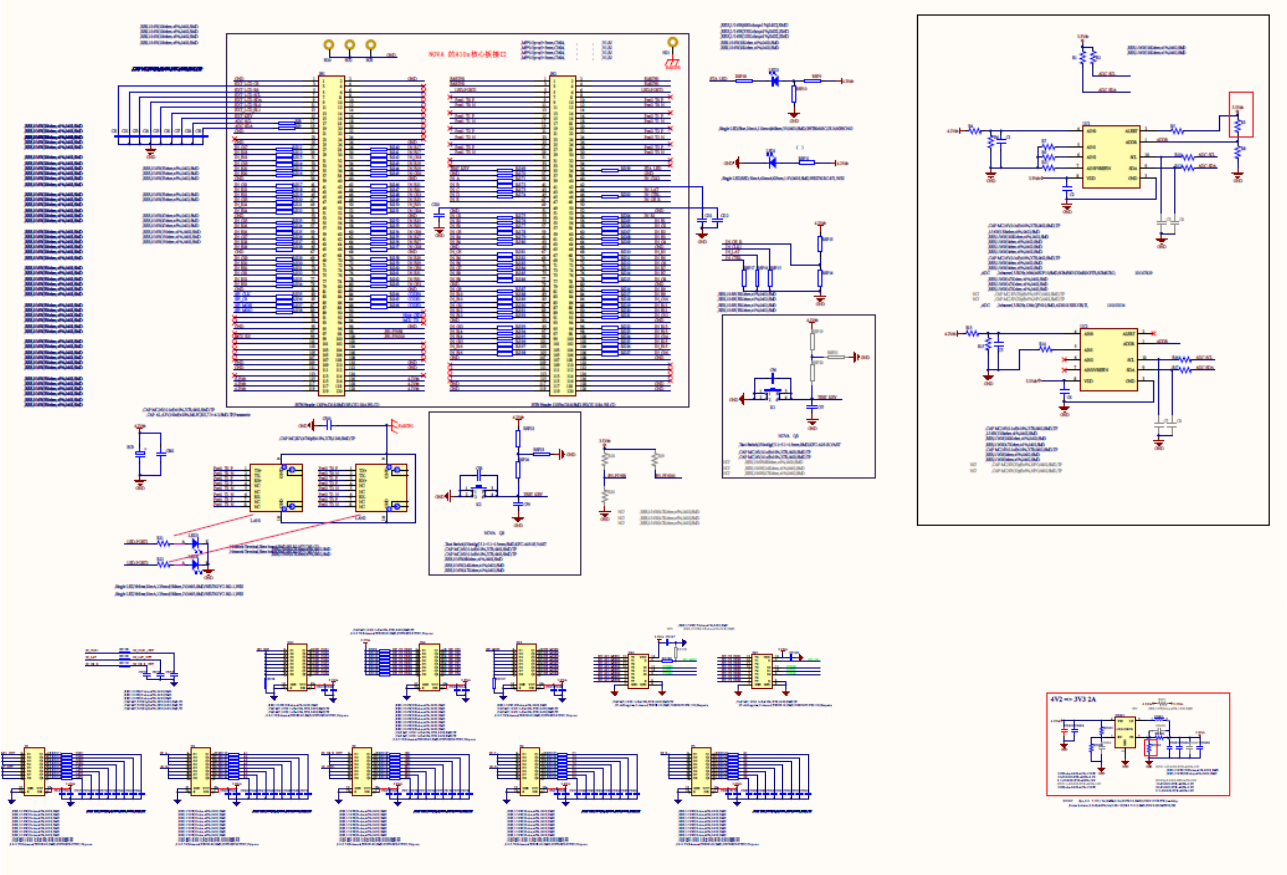
IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de		N/A

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

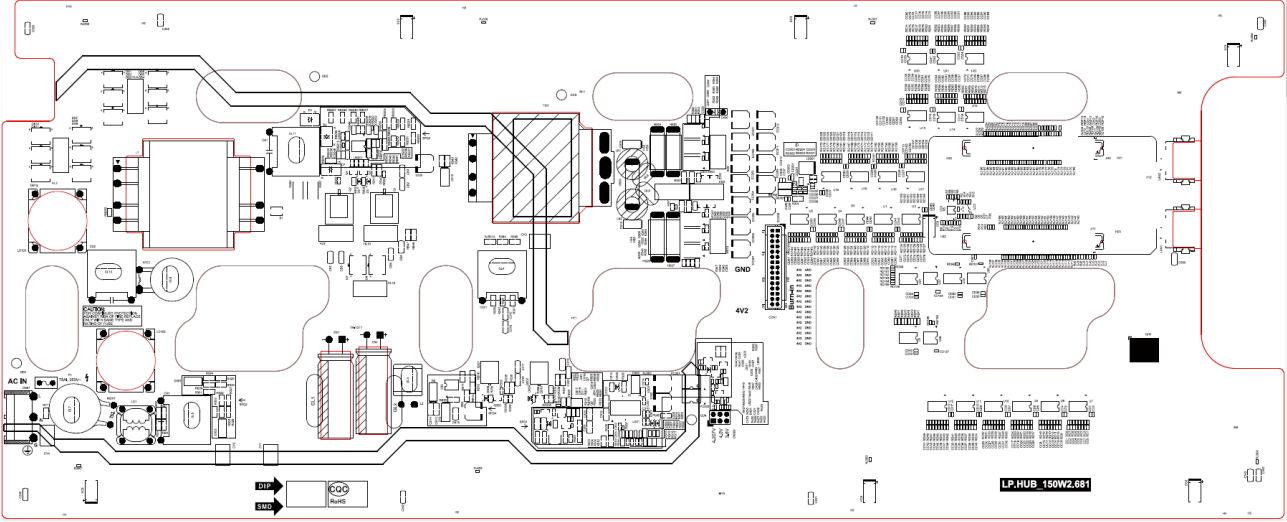
ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)		N/A					
	<table><tr><th rowspan="2">Type of flexible cord</th><th colspan="2">Code designations</th></tr><tr><th>IEC</th><th>CENELEC</th></tr></table>		Type of flexible cord	Code designations		IEC	CENELEC	N/A
	Type of flexible cord	Code designations						
		IEC	CENELEC					
	PVC insulated cords							
	Flat twin tinsel cord	60227 IEC 41	H03VH-Y					
	Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F					
	Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F					
	Rubber insulated cords							
	Braided cord	60245 IEC 51	H03RT-F					
	Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F					
	Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F					
	Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F					
	Cords having high flexibility							
	Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H					
	Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H					
	Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H					
	Cords insulated and sheathed with halogen-free thermoplastic compounds							
Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F						
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F						

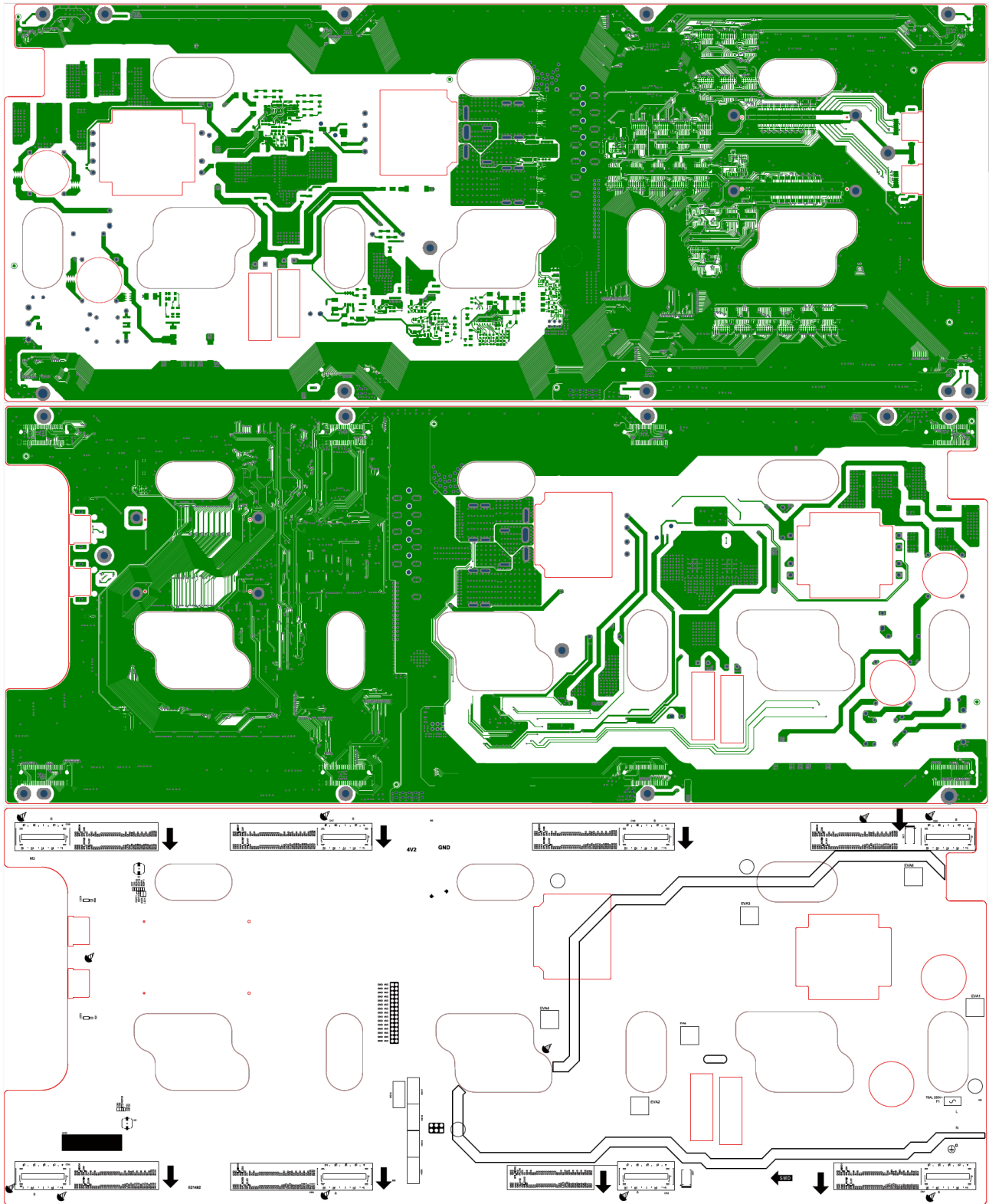
---End of Attachment 2---

Circuit Diagram



PCB Layout

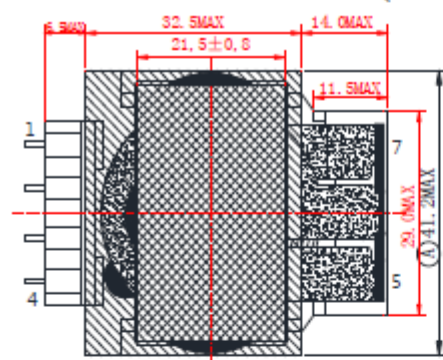




*****End of attachment 3*****

Transformer T301

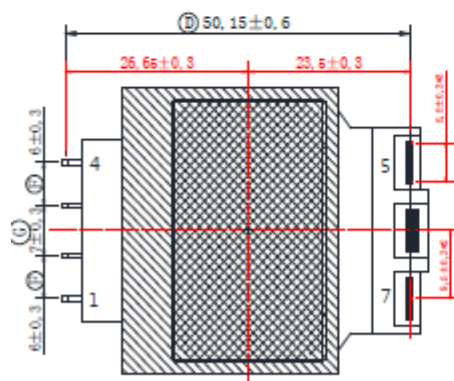
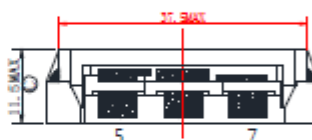
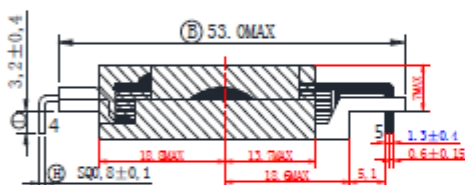
1. OUTLINE DIMENSION: (UNIT: mm)/外形尺寸 (单位: mm)



A-I为重点管控尺寸			
A	41.2MAX	F	6.0±0.3
B	53.0MAX	G	7.0±0.3
C	11.5MAX	H	5Q0.8±0.1
D	50.15±0.6	I	3.2±0.4

标签内容:

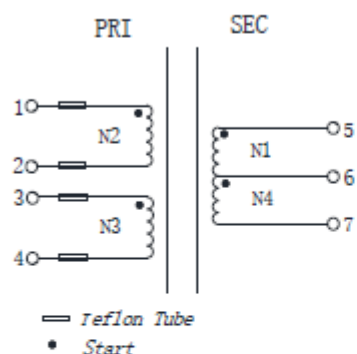
产品型号/Part No.		版本号/Rev.	
SYEQ3611-T004A		1.0	
YYWW23		SY	
ZZZ		ZZZ	
周期代码		视源	
Date Code		G01, G02...	



NOTE:

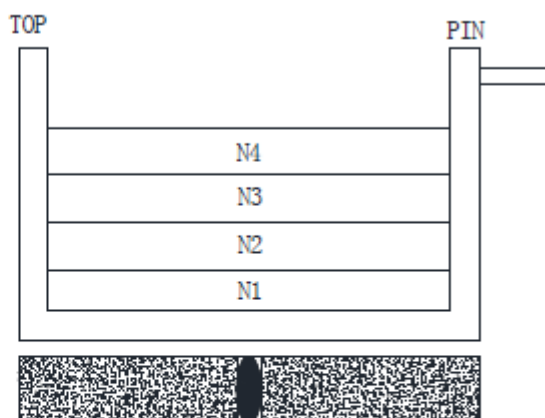
- 骨架全脚. Skeleton foot.
- 气隙磁芯装于顶部, 气隙内点环氧树脂胶 (胶量大于中柱面积3/4); 两侧磁芯与骨架接合处、PIN1-4脚侧顶部磁芯与铜片接合处、PIN4脚右侧与次级侧铜片处点胶固定. 如图所示. The air gap magnetic core is installed at the top, and the air gap point is epoxy resin glue (the glue amount is greater than 3/4 of the column area); The joint between the magnetic core and the skeleton on both sides, the joint between the magnetic core and the copper sheet on the top of the pin1-4 foot, the lower right side of the PIN4 foot and the secondary side of the copper sheet are fixed by dispensing.
- 固定磁芯用宽20mm的黑色胶带包2TS, 外围再包30mm的高温胶带单层2TS或者两层1.2TS (如图所示). The magnetic core is fixed with 20mm wide black tape wrapped with 2TS, and 30mm high temperature tape wrapped with a single layer of 2TS or two layers of 1.2TS (as shown in the figure).
- 产品不需要真空含浸. (The product does not require vacuum immersion.)
- 产品顶部需贴标签, 标签为透明底白字、喷码或激光印字. The top of the product shall be labeled with transparent white lettering, jet code or laser printing.

2.CIRCUIT DIAGRAM/电原图理



N2/N3进出套管可用黑白套管加以区分

3.CONSTRUCTION DIAGRAM/内部结构图

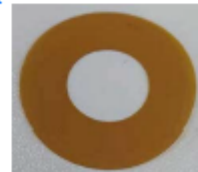


4.WINDING INFORMATIONS TABLE/绕制明细表

WINDING G 绕组	S-F 起头-收尾	WIRE 线规	TURN 圈数	TAPE TURES 胶带圈数	WINDING CONDITION 绕线方式	功能说明 Function
N1	5-6	铜圈 W=10mm*T=0.6mm	1Ts	/	纯铜线圈	SEC1
0.1mm 垫片						
N2	1-2	TRIPLE WIRE-F ϕ 0.17*7P	46Ts	/	密绕/CLOSE	PRI
0.1mm 垫片						
N3	3-4	TRIPLE WIRE-F ϕ 0.2	4TS	/	密绕/CLOSE	VCC
0.1mm 垫片						
N4	6-7	铜圈 W=10mm*T=0.6mm	1TS	/	纯铜线圈	SEC2

NOTE:

- 绕线方向:N2,N3 绕组不交叉.Winding direction: N2,N3 does not cross inding.
- 垫片如右图所示. Gasket is shown in the figure on the right.
- N2,N3 摆放顺序依制程需要调整. N2,N3 placement order according to the process needs to adjust.



6.MATERIAL LITS/材料清单

NO.	ITEM	MATERIAL	SPEC	STAND ARD	MANUFACTURY	UL NO.
1	磁芯 CORE	EQ36/11 HE4	N/A	N/A	RUYUAN EAST SUNSHINE MAGNETIC MATERIALS CO.,LTD 乳源东阳光磁性材料有限公司	N/A
		EQ36/11 KP4	N/A	N/A	MIANYANG KAIYUAN MAGNETIC MATERIAL CO.,LTD 绵阳开元磁性材料有限公司	N/A
		EQ36/11 JF44	N/A	N/A	WUXI SPINEL MAGNETIC CO.,LTD 无锡斯贝尔磁性材料有限公司	N/A
		EQ36/11 DMR40	N/A	N/A	HENGDIAN GROUP DMEGC MAGNETICS CO.,LTD横店集团东磁股份有限公司	N/A
2	锡条 BAR TIN	Sn99.3Cu0.7H	N/A	N/A	SHENZHEN TAIYO ENTERPRISES LIMITED 深圳太和兴实业发展有限公司	N/A
3	环氧树脂 EPOXY	3300	90℃	N/A	DONGGUAN EATTO ELECTRONIC MATERIAL CO.,LTD 东莞市力多电子材料有限公司	E218090
		BG-610A BG-610B	130℃	N/A	DONGGUAN TOPKEY ELECTRONIC CO LTD 东莞市拓格电子有限公司	E356931
4	骨架 BOBBIN	TYPE: EQ3611 T200HF	150℃ V-0	UL94	CHANG CHUN PLASTICS CO.,LTD. 长春人造树脂厂股份有限公司	E59481
5	胶带 TAPE	CT*(b)(g)	130℃ V-0	UL510	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD 靖江市亚华压敏胶带有限公司	E165111
		92	180℃ V-0	UL510	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
6	三层绝缘 线 TRIPLE WIRE	TRW(F)	155℃ V-0	UL2353	GREAT HOLDING INDUSTRIAL CO., LTD 昆山澳偉电子科技有限公司	UL:E211989 VDE: 136581
7	铁氟龙套 管 PTTE Tube	TFL	200℃ VW-1	UL224	GREAT HOLDING INDUSTRIAL CO., LTD 昆山澳偉电子科技有限公司	E156256
8	Copper Ring /铜片	COPPER	N/A	N/A	深圳紫高机电有限公司 Shen Zhen Zi Gao Metail Materials co.ltd	N/A

*****End of attachment 4*****

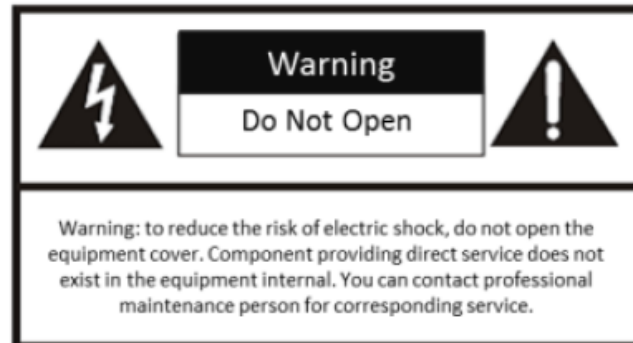
Safety Instruction

For safety concerns, the device has been strictly tested before shipment. However, incorrect installation or usage may lead to hazardous results such as electric shock and fire. To ensure the service life and best performance of the device, please read the notice and plate signs carefully and follow the safety instructions. Keep this guide properly for later use.

Caution

- To ensure safety, the installation parts and the wall should support four times the weight of the device.
- Install the device no more than 5 mm away from the wall or other metal racks in case of lamp board drop resulting in electric shock.
- Please set the brightness of the LED display within 500 nits to avoid power overload.
- The device may generate radio interference in indoor environment. Necessary precautions may be required.
- To reduce the risk of fire or electric shock, please do not expose the device to rain or humid environment.
- Electric discharge may last for a short period of time after the power is shut down. Please wait two minutes after the power is shut down before operating the device.
- To avoid the risk of electric shock, please do not operate when the power is on.
- Please do not plug and unplug the power cable when the power is on.
- Ensure the correct wire sequence of the terminals connected to the AC power supply.
- Do not place anything containing liquid on the device to avoid the risk of fire or electric shock caused by liquid-splashing.
- The device is only suitable for installation on the concrete or non-flammable surfaces, to prevent molten material from dripping to the bottom during fire caused by internal failure.
- Keep 90 degrees when moving and using the device.

- After installation, there should be no openings around the LED module. The bottom bracket under the wire outlet position should completely cover the bottom hole only to let the wire out, to prevent the molten material from dripping to the bottom during fire caused by internal failure.



 Warning

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- Disconnect the power plug before maintenance.
- Make sure the power supply is well-grounded.
- The protective grounding of the device should be reliably connected to the building protective grounding.
- To reduce the risk of electric shock, install protective shield on the exposed connector after installing LED screen.
- Disconnect the power plug before installing the protective shield.
- A disconnecting device should be provided on the outside of the equipment. A single device is recommended for AC 220 V / 230 V / 240 V, 6 A circuit breakers. When multiple devices are superimposed, a suitable circuit breaker should be selected according to the total rated current, but it must not exceed the building equipped circuit specifications.
- To prevent injury, the device must be securely fixed to the ground, wall, ceiling, or steel frame. The all-in-one rack should be fixed to the ground with expansion screws.
- The supporting rack can only be used with the device. Using it with other devices may cause instability and injury.
- The device can only be used with the supporting rack. Using it with other equipment (such as a cart, shelf, or handling device) may cause instability and injury.
- Please strictly follow the installation method in this guide.
- The external wire connection between device and hazardous electronic terminals should be operated by professionals.
- This is a class A product and may cause radio interference in which case the user may be required to take adequate measures.

*****End of attachment 5*****