



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 : CN21F772 001
Date of issue..... : 2022-01-19
Total number of pages : 59 (excluding attachments, refer to page 3)

Name of Testing Laboratory
preparing the Report : TÜV Rheinland Shanghai Co., Ltd.

Applicant's name : Shanghai Fusion Tech Co., Ltd.
Address : Floor 4 B5, 1688 North Guoquan Road, Yangpu District Shanghai, P.R. China

Test specification:

Standard..... : IEC 62368-1:2014
Test procedure : CB Scheme
Non-standard test method : N/A

TRF template used..... : IECEE OD-2020-F1:2020, Ed.1.3

Test Report Form No. : IEC62368_1D

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

Master TRF..... : Dated 2021-02-04

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

General disclaimer:

The test results presented in this report relate only to the object tested.
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Test Item description	Pro-Series 3D Printer	
Trade Mark(s)	Raise3D	
Manufacturer.....	Same as applicant	
Model/Type reference	Pro3, Pro3 Plus	
Ratings	100-240 Vac, 50/60 Hz, 600 W	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV Rheinland Shanghai Co., Ltd.	
Testing location/ address	No.177, 178, Lane 777 West Guangzhong Road, Jing'an District, Shanghai, China	
Tested by (name, function, signature)	Ben Cao/ Technical Expert	
Approved by (name, function, signature)	Sunny Sun/ Technical Reviewer	
Testing procedure: CTF Stage 1:		
<input type="checkbox"/>	N/A	
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
Testing procedure: CTF Stage 2:		
<input type="checkbox"/>	N/A	
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature).....		
Approved by (name, function, signature)		
Testing procedure: CTF Stage 3 :		
<input type="checkbox"/>	N/A	
Testing procedure: CTF Stage 4:		
<input type="checkbox"/>	N/A	
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 – National Differences (24 pages) ATTACHMENT – Photo Documentation (18 pages) Note: Total number of pages in each attachment is indicated in individual attachment.	
Summary of testing: All applicable tests are the type tests, if the routine tests involved shall be conducted by manufacturer during manufacturing.	
Tests performed (name of test and test clause): All applicable tests as described in test case and measurement sections were performed on model Pro3 Plus. The test sample is pre-production sample without serial number. The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification is 30 °C.	Testing location: TÜV Rheinland Shanghai Co., Ltd. No.177, 178, Lane 777, West Guangzhong Road, Jing'an District, Shanghai, China
Summary of compliance with National Differences (List of countries addressed): EU Group Differences, EU Special National Conditions, AU, NZ Explanation of used codes: AU=Australia, NZ= New Zealand <input checked="" type="checkbox"/> The product fulfils the requirements of - IEC 62368-1:2014 - EN 62368-1:2014+A11:2017	
Statement concerning the uncertainty of the measurement systems used for the tests <input type="checkbox"/> Internal procedure used for type testing through which traceability of the measuring uncertainty has been established: Procedure number, issue date and title: Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing. <input checked="" type="checkbox"/> Statement not required by the standard used for type 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 NCBs that own these marks.

RAISE3D

US office: Raise 3D Technologies Inc.

43 Tesla, Irvine, CA, USA

EU office: Raise3D B.V.

Stationsplein 45 Unit A4.004 Rotterdam, Netherlands

Manufacturer: Shanghai Fusion Tech Co., Ltd.

Floor 4 B5, 1688 North Guoquan Road,
Yangpu District, Shanghai, P.R. China
www.raise3d.com

Model No.: Pro3

Rating: 100-240 V~, 50/60 Hz, 600 W

Contains FCC ID: 2APQR-A



6 9 7 0 2 4 0 7 2 3 6 1 5



10151814025

For model Pro3

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US office: Raise 3D Technologies Inc.

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Floor 4 B5, 1688 North Guoquan Road,
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www.raise3d.com

Model No.: Pro3 Plus

Rating: 100-240 V~, 50/60 Hz, 600 W

Contains FCC ID: 2APQR-A



6 9 7 0 2 4 0 7 2 3 6 2 2



10151814025

For model Pro3 Plus

TEST ITEM PARTICULARS:	
Classification of use by	<input type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> + ____ %/ - ____ % <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input checked="" type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:_____
Considered current rating of protective device as part of building or equipment installation.....	16 A or 20 A; Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Class II with functional earthing <input type="checkbox"/> Not classified
Access location	<input type="checkbox"/> restricted access area <input checked="" type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient	30 °C
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP____
Power Systems	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V L-L; <input type="checkbox"/> dc mains <input type="checkbox"/> N/A
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> 60.2 kg for Pro3 Plus

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: 2021-08-15																							
Date (s) of performance of tests: 2021-08-25 to 2021-12-12																							
General remarks:																							
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>																							
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:																							
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.....:			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable																				
When differences exist; they shall be identified in the General product information section.																							
Name and address of factory (ies).....:			Nantong Pyne Intelligent Manufacturing Co., Ltd. 1F, Building D1, Phase II Plant, No. 173 Ganjiang Road, Tongzhou Bay, Nantong, Jiangsu, P.R. China																				
General product information and other remarks:																							
Product Description –																							
The sample submitted for evaluation is a 3D printer which is powered by AC mains via appliance inlet. This equipment is only allowed to be used by skilled person.																							
Model Differences –																							
Two models Pro3 and Pro3 Plus are similar in the electrical except for build print volume and machine size. See table below for details.																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Printer</th> <th colspan="2" style="width: 35%;">Pro3</th> <th colspan="2" style="width: 35%;">Pro3 Plus</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Build Volume (W x D x H)</td> <td>Single Extruder Print</td> <td>Dual Extruder Print</td> <td>Single Extruder Print</td> <td>Dual Extruder Print</td> </tr> <tr> <td>300 mm x 300 mm x 300 mm</td> <td>255 mm x 300 mm x 300 mm</td> <td>300 mm x 300 mm x 605 mm</td> <td>255 mm x 300 mm x 605 mm</td> </tr> <tr> <td>Machine Size (W x D x H)</td> <td colspan="2">620 mm x 626 mm x 760 mm</td> <td colspan="2">620 mm x 626 mm x 1105 mm</td> </tr> </tbody> </table>					Printer	Pro3		Pro3 Plus		Build Volume (W x D x H)	Single Extruder Print	Dual Extruder Print	Single Extruder Print	Dual Extruder Print	300 mm x 300 mm x 300 mm	255 mm x 300 mm x 300 mm	300 mm x 300 mm x 605 mm	255 mm x 300 mm x 605 mm	Machine Size (W x D x H)	620 mm x 626 mm x 760 mm		620 mm x 626 mm x 1105 mm	
Printer	Pro3		Pro3 Plus																				
Build Volume (W x D x H)	Single Extruder Print	Dual Extruder Print	Single Extruder Print	Dual Extruder Print																			
	300 mm x 300 mm x 300 mm	255 mm x 300 mm x 300 mm	300 mm x 300 mm x 605 mm	255 mm x 300 mm x 605 mm																			
Machine Size (W x D x H)	620 mm x 626 mm x 760 mm		620 mm x 626 mm x 1105 mm																				

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

- Some components are pre-certified, which have been evaluated according to the relevant requirements of IEC 62368-1, are employed in this product. Their suitability of use has been checked according to sub clause 4.1.1 and 4.1.2.
- Internal wiring in compliance with VW-1 is considered to satisfy requirements from IEC/TS 60695-11-21.
- Tests were repeated with each alternative source of components with identical results unless otherwise specified.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	Corresponding classification (ES)
Primary circuit	ES3
Secondary circuit after PSU output	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	Corresponding classification (PS)
Primary circuit	PS3
Secondary circuit after PSU output	PS3
USB port	PS1
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	Corresponding chemical
RTC battery in touch panel	Li-ion
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Rounded sharp edges and corners	MS1
Moving parts	MS3
Plastic fan blades of DC fan	MS3
Equipment mass (> 25 kg)	MS3
Equipment with casters	MS3
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	Corresponding classification (TS)
All accessible parts	TS1
Thermal print head and thermal base	TS3

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	Corresponding classification (RS)
LED indicating light	RS1

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
<p align="center">See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE</p> <p align="center"> <input checked="" type="checkbox"/> ES <input checked="" type="checkbox"/> PS <input checked="" type="checkbox"/> MS <input checked="" type="checkbox"/> TS <input checked="" type="checkbox"/> RS </p>

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Skilled person	ES3: Primary circuit	N/A	N/A	Earthed enclosure, isolating components
	ES1: Secondary circuit after PSU output	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All component including PCB, connector etc.	PS3: primary circuit	Ignition not occurred and temperature within the limits	All printed boards are made of V-0 class material Used of IEC components and components mounted on V-0 PCB Internal wire: VW-1 Plastic enclosure made of V-0 Metal base	N/A
7.1	Injury caused by hazardous substances			

Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
Skilled person	RTC battery in the touch panel	N/A	N/A	Comply with Annex M
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Skilled person	MS1: Rounded sharp edges and corners	N/A	N/A	N/A
	MS3: Moving parts	N/A	N/A	Instructional safeguard
	MS3: Plastic fan blades of DC fan	N/A	N/A	Equipment safeguard (the barrier of DC fan prevents its moving parts becoming accessible)
	MS3: Equipment mass (> 25 kg)	N/A	N/A	Comply with 8.6.2.2, 8.6.2.3 and 8.6.3
	MS3: Equipment with casters	N/A	N/A	Comply with 8.9.2
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Skilled person	TS1: All accessible parts	N/A	N/A	N/A
	TS3: Thermal print head and thermal base	N/A	Instructional safeguard	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	RS1: LED indicating light	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

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Clause	Requirement + Test	Result - Remark	Verdict

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	(See appended table 4.1.2)	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....:	(See Annex T.4, T.5)	P
4.4.4.3	Drop tests.....:		N/A
4.4.4.4	Impact tests.....:	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:		N/A
4.4.4.6	Glass Impact tests.....:	(See Annex T.9, Annex U)	N/A
4.4.4.7	Thermoplastic material tests.....:	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:		N/A
4.4.4.9	Accessibility and safeguard effectiveness	No hazardous live parts become accessible and all other safeguards remain effective	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to.....:		P
4.7	Equipment for direct insertion into mains socket - outlets	Not a direct plug in equipment	N/A
4.7.2	Mains plug part complies with the relevant standard.....:		N/A
4.7.3	Torque (Nm).....:		N/A
4.8	Products containing coin/button cell batteries	This equipment is not suitable for use in locations where children are likely to be present	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....	(See Annex P)	P
5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current.....	(See appended table 5.2)	P
5.2.2.3	Capacitance limits		N/A
5.2.2.4	Single pulse limits		N/A
5.2.2.5	Limits for repetitive pulses		N/A
5.2.2.6	Ringing signals	No such ringing signals	N/A
5.2.2.7	Audio signals	No such audio signals	N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V		P
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	No hygroscopic material used	P
5.4.1.3	Humidity conditioning		N/A
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree	PD 2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage	Considered in the approved PSU	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure :	Considered in the approved PSU	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	Considered in the approved PSU	P
5.4.2.3	Determining clearance using required withstand voltage :		P
	a) a.c. mains transient voltage :	OVC II, 2500 V peak	—
	b) d.c. mains transient voltage :		—
	c) external circuit transient voltage :		—
	d) transient voltage determined by measurement :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	This method is not used	N/A
5.4.2.5	Multiplication factors for clearances and test voltages :	Considered in the approved PSU	P
5.4.3	Creepage distances :	Considered in the approved PSU	P
5.4.3.1	General		P
5.4.3.3	Material Group :	Material Group IIIb shall be assumed	—
5.4.4	Solid insulation	Considered in the approved PSU	P
5.4.4.2	Minimum distance through insulation :	Considered in the approved PSU	P
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices	Considered in the approved PSU	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz :		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (M Ω)..... :		—
5.4.6	Insulation of internal wire as part of supplementary safeguard :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%).....:	93	—
	Temperature (°C)	40	—
	Duration (h)	120	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test.....:		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....:		—
	Nominal voltage U_{peak} (V).....:		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		P
5.5.1	General	Considered in the approved PSU	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.....:	Considered in the approved PSU	P
5.5.3	Transformers	Considered in the approved PSU	P
5.5.4	Optocouplers	Considered in the approved PSU	P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's	Considered in the approved PSU	P
5.5.7.1	Use of an SPD connected to reliable earthing		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:	No such circuit	N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow used for protective bonding conductor	P
5.6.3	Requirement for protective earthing conductors	To be evaluated in the detachable power cord set	N/A
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm ²).....:	1.0 mm ²	—
	Protective current rating (A)	16 A or 20 A (for North America)	—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		P
5.6.5.1	Requirement		P
	Conductor size (mm ²), nominal thread diameter (mm).	1.0 mm ² , 4 mm for protective bonding terminal	P
5.6.5.2	Corrosion	Electrochemical potential is below 0.6 V	P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance (Ω).....:	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	(See appended table 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)		—
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts	(See appended table 5.7.4)	P
5.7.5	Protective conductor current		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Supply Voltage (V).....:		—
	Measured current (mA).....:		—
	Instructional Safeguard.....:		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA).....:		N/A


6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications		P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault :	(See appended table 6.2.2)	P
6.2.2.4	PS1 :		N/A
6.2.2.5	PS2 :	Meet the requirements of Annex Q are considered to be PS2 circuits Test result see appended table Annex Q.1	P
6.2.2.6	PS3 :	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS :	No arcing PIS	N/A
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 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials :	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure	HB or better	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method "Control fire spread" used	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards :	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit		P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General..... :		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
6.4.8.1	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 in Fire Enclosure: dimensions (mm) :	No openings within the restricted volume of figure 41 in this standard	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) :	No openings within the restricted volume of figure 42 in this standard	P
	Flammability tests for the bottom of a fire enclosure :		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) :	Only allowed to be used by skilled person	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating..... :	Top cover and side enclosure are separated from PIS (heating parts) by a distance (minimum 13 mm and minimum 5 mm) Bottom enclosure is made of aluminium material	P
6.5	Internal and external wiring		P


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Clause	Requirement + Test	Result - Remark	Verdict
6.5.1	Requirements	Internal wiring in compliance with VW-1 is considered to satisfy requirements from IEC/TS 60695-11-21	P
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1	USB port comply with Annex Q.1	P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries.....	(See Annex M)	P

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	MS1: Rounded sharp edges and corners MS3: Moving parts MS3: Plastic fan blades of DC fan MS3: Equipment mass (> 25 kg) MS3: Equipment with casters	P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners	Rounded sharp edges and corners	N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	The barrier of DC fan prevents its moving parts becoming accessible. For other moving parts, stop moving when open the door or cover	P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.2	Instructional Safeguard	Instructional safeguard is provided as below: 	—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps	No such device	N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test		N/A
8.6	Stability		P
8.6.1	Product classification	Floor standing, MS3 equipment	P
	Instructional Safeguard	Not a television set	—
8.6.2	Static stability		P
8.6.2.2	Static stability test		P
	Applied Force	Equipment not overturn when it is placed on a plane at an angle of 10° from the horizontal and rotated slowly through an angle of 360° about its normal vertical axis	—
8.6.2.3	Downward Force Test	Equipment not overturn when a constant downward force of 800 N is applied	P
8.6.3	Relocation stability test		P
	Unit configuration during 10° tilt	Not overturn	—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force)		N/A
	Position of feet or movable parts		—
8.7	Equipment mounted to wall or ceiling	No such installation method	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements		P
8.9.1	Classification		P
8.9.2	Applied force	20 N apply	—
8.10	Carts, stands and similar carriers	No such device	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C)		N/A
8.11	Mounting means for rack mounted equipment	Not a rack mounted equipment	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas	No such device	N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Safeguard against thermal energy sources		P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard	Hot warning marked on the equipment as below:  High Temperature	P

10	RADIATION		P
10.2	Radiation energy source classification		P

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Clause	Requirement + Test	Result - Remark	Verdict
10.2.1	General classification	LED indicating light is classified RS1	P
10.3	Protection against laser radiation	No laser source	N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault..... :		N/A
	Instructional safeguard		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons		N/A
10.4.1.b)	RS3 accessible to a skilled person..... :		N/A
	Personal safeguard (PPE) instructional safeguard..... :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 . :		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		N/A
10.4.1.f)	UV attenuation..... :		N/A
10.4.1.g)	Materials resistant to degradation UV		N/A
10.4.1.h)	Enclosure containment of optical radiation..... :		N/A
10.4.1.i)	Exempt Group under normal operating conditions..... :		N/A
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation	No such source	N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards..... :		N/A
	Instructional safeguard for skilled person..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation		—
	Abnormal and single-fault condition		N/A
	Maximum radiation (pA/kg)..... :		N/A
10.6	Protection against acoustic energy sources	No such source	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguards		N/A
	Equipment safeguard prevent ordinary person to RS2.....		—
	Means to actively inform user of increase sound pressure.....		—
	Equipment safeguard prevent ordinary person to RS2.....		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output.....		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A).....		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A).....		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements.....	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers	No such device	N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements.....	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector	No such device	N/A
B.3.5	Maximum load at output terminals	No such device	N/A
B.3.6	Reverse battery polarity	Not possible, protected by construction	P
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.2	Temperature controlling device open or short-circuited	(See appended table B.4)	P
B.4.3	Motor tests		P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature	(See Clause G.5)	P
B.4.4	Short circuit of 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 disconnect of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging 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 apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		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
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		—
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructions – Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Located on the side enclosure	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate	—
F.3.2.2	Model identification	See copy of marking plate	—
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 supply voltage.....	See copy of marking plate	—
F.3.3.4	Rated voltage	See copy of marking plate	—
F.3.3.5	Rated frequency	See copy of marking plate	—
F.3.3.6	Rated current or rated power	See copy of marking plate	—
F.3.3.7	Equipment with multiple supply connections	Single supply connection	N/A
F.3.4	Voltage setting device	No such device	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings.....	No such device	N/A
F.3.5.2	Switch position identification marking	ON/OFF symbol according to IEC 60417 is provided on the mains switch	P
F.3.5.3	Replacement fuse identification and rating markings.....	Marked on the fuseholder	P
F.3.5.4	Replacement battery identification marking		P
F.3.5.5	Terminal marking location	Terminal marking is not placed on the removable parts	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		P
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		P
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :	IPX0	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	This marking is provided in the user manual	P
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard	Similar sentence is provided in the user manual	P
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment	Placed on the equipment and explained in the user manual	P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		P
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements	Approved switch used	P
G.1.2	Ratings, endurance, spacing, maximum load		P
G.2	Relays		N/A
G.2.1	General requirements	No such component used	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs	No such component used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No such component used	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)		—
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors	No such component used	N/A
G.3.4	Overcurrent protection devices	Approved current fuse used	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration	Approved appliance inlet used	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No such plug used	N/A
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....	(See Annex J)	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Considered in the approved PSU	P
G.5.1.2 b)	Construction subject to routine testing	Conducted by manufacturer	N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C)		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....:	Meet the requirements in G.5.3.2 and G.5.3.3	P
	Position.....:	Between primary and secondary circuit	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Method of protection	Electronic protection	—
G.5.3.2	Insulation		P
	Protection from displacement of windings.....		—
G.5.3.3	Overload test	Considered in the approved PSU	P
G.5.3.3.1	Test conditions	Tested in the complete equipment	P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		P
G.5.4.1	General requirements	Clause G.5.4.6 is applicable to cooling DC fan that is used for air-handling only	P
	Position		—
G.5.4.2	Test conditions		P
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		P
G.5.4.6.2	Tested in the unit		P
	Maximum Temperature	(See appended table B.4)	P
	Electric strength test (V)	No voltage exceed ES1	N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		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
G.6.1	General	Considered in the approved PSU	P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	General requirements	To be evaluated in the national approval	N/A
	Type.....:		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG)..... :		—
G.7.2	Compliance and test method		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)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).... :		—
G.7.3.2.4	Strain relief comprised of polymeric 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	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Considered in the approved PSU	P
G.8.2	Safeguard against shock		P
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such component used	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A)		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements	No such component used	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P
G.11.1	General requirements	Considered in the approved PSU	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 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)	Considered in the approved PSU	P
	Type test voltage Vini		—
	Routine test voltage, Vini,b		—
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
	Compliance with cemented joint requirements (Specify construction)		—
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.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15	Liquid filled components		N/A
G.15.1	General requirements	No such component used	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours	No such component used	N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	No such function	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing 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 complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	Approved TIW used in secondary winding of transformer	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		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
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		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	Appliance inlet as disconnect device	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		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	Requirements		P
M.2.2	Compliance and test method (identify method) .. :		P
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		P
M.3.3	Compliance :	(See appended Tables and Annex M.3 and M.4)	P
M.4	Additional safeguards for equipment containing secondary lithium battery	Primary battery used	N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature :		—
M.4.2.2 b)	Single faults in charging circuitry :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) :		N/A
M.6.2	Leakage current (mA) :		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		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 (Determination of compliance: inspection, data review; or abnormal testing) :		N/A
N	ELECTROCHEMICAL POTENTIALS		P
	Metal(s) used :	Electrochemical potential is below 0.6 V	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied :		—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object	No openings	P
	Location and Dimensions (mm) :		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts :		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Tc (°C)..... :		—
	Tr (°C) :		—
	Ta (°C)..... :		—
P.4.2 b)	Abrasion testing :		N/A
P.4.2 c)	Mechanical strength testing :		N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition	(See appended table Annex Q.1)	P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) :		—
	Current limiting method..... :		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). :		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)..... :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm).....:		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A
	Samples, material		—
	Wall thickness (mm).....:		—
	Conditioning (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		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	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....:		—
	Height (m)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas	No such device	N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements	No CRT	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....		N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

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	
Enclosure (located top and bottom)	LG Chem (Guangzhou) Engineering Plastics Co. Ltd.	AF312C	ABS, V-0, 70°C, min. 4.0 mm thickness	UL 94	UL E248280	
Top cover, side enclosure	SABIC JAPAN L L C	PC0703R	PC, V-2, 80°C min. 4.0 mm thickness	UL 94	UL E207780	
Bottom Enclosure	--	--	Aluminium, 1.2 mm thickness	IEC/EN 62368-1	Test with appliance	
Appliance inlet with integrated fuse-holder	Yueqing Jiaxin Technology Co., Ltd.	DB-14-01	AC 250V, 10A, C14	EN 60320-1:2015	TUV Rh R 50462149	
Mains switch	Yueqing Jiaxin Technology Co., Ltd.	KCD1-D	10A, 125/250 VAC, T125	EN IEC 61058-1:2018 EN 61058-1-1:2016	TUV Rh R 50523689	
Fuse (used in appliance inlet)	XC Electronics (Shen Zhen) Corp. Ltd.	5F	10A, 250V	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40009609	
Internal power supply unit	MEAN WELL Enterprises Co., Ltd.	UHP-200-24	I/P: 100-240V~, 50/60Hz, 2.6A O/P: 24 Vdc, 8.4 A	IEC 62368-1:2014	CB Certif. No. JPTUV-099418-M1	
Internal power supply unit	MEAN WELL Enterprises Co., Ltd.	UHP-500-24	I/P: 100-240V~, 50/60Hz, 5.8A O/P: 24 Vdc, 20.9 A	IEC 62368-1:2014	CB Certif. No. JPTUV-101581-M1	
Internal wire	XINYA ELECTRONIC CO LTD	1015	105°C, VW-1, 20AWG, 600V	UL 758	UL E170689	
Internal wire	XINYA ELECTRONIC CO LTD	1015	105°C, VW-1, 16AWG, 600V	UL 758	UL E170689	
Internal wire	XINYA ELECTRONIC CO LTD	1015	105°C, VW-1, 18AWG, 600V	UL 758	UL E170689	
Internal wire	XINYA ELECTRONIC CO LTD	1015	105°C, VW-1, 28AWG, 600V	UL 758	UL E170689	
Internal wire	SHANGHAI XIANGYI ELECTRONIC EQUIPMENTS CO LTD	2468	80°C, VW-1, 24AWG, 300V	UL 758	UL E332958	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Internal wire	DONGGUAN ZHONGZHENG WIRE & CABLE TECH CO LTD	2468	80°C, VW-1, 28AWG, 300V	UL 758	UL E336285
Internal wire	DONGGUAN YAOBO ELECTRONIC CO LTD	2468	80°C, VW-1, 28AWG, 300V	UL 758	UL E332441
Internal wire	DONGGUAN YAOBO ELECTRONIC CO LTD	2468	80°C, VW-1, 24AWG, 300V	UL 758	UL E332441
Internal wire	DONGGUAN YAOBO ELECTRONIC CO LTD	2468	80°C, VW-1, 20AWG, 300V	UL 758	UL E332441
Internal wire	XINYA ELECTRONIC CO LTD	2468	80°C, VW-1, 28AWG, 30V	UL 758	UL E170689
Internal wire	DONGGUAN YAOBO ELECTRONIC CO LTD	20276	80°C, VW-1, 26AWG, 30V	UL 758	UL E332441
Internal wire	DONGGUAN YAOBO ELECTRONIC CO LTD	1571	80°C, VW-1, 28AWG, 30V	UL 758	UL E332441
Internal wire	DONGGUAN YAOBO ELECTRONIC CO LTD	2725	80°C, VW-1, 30V	UL 758	UL E332441
Internal wire	SUZHOU JINHAOYU WIRE & CABLE CO LTD	2468	80°C, VW-1, 28AWG, 300V	UL 758	UL E341986
Internal wire	SUZHOU JINHAOYU WIRE & CABLE CO LTD	2468	80°C, VW-1, 24AWG, 300V	UL 758	UL E341986
Internal wire	SUZHOU JINHAOYU WIRE & CABLE CO LTD	2468	80°C, VW-1, 20AWG, 300V	UL 758	UL E341986
Internal wire	SUZHOU JINHAOYU WIRE & CABLE CO LTD	20276	80°C, VW-1, 26AWG, 30V	UL 758	UL E341986
Internal wire	SUZHOU JINHAOYU WIRE & CABLE CO LTD	1571	80°C, VW-1, 28AWG, 30V	UL 758	UL E341986
Internal wire	XINYA ELECTRONIC CO LTD	2725	80°C, VW-1, 30V	UL 758	UL E341986

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Connector	CJTCONN	C6201HF-4P	105°C,V-0, 23A, 600V	UL 1977	UL E326732
Connector	CJTCONN	C6201HM-4P	105°C,V-0, 23A, 600V	UL 1977	UL E326732
DC fan	Shenzhen Huaxia Hengtai Electronic Co., Ltd.	DA03510B24 M	DC24V, 0.03A, 8000rpm	EN IEC 62368-1:2020+A11	Test report S202111174 20001, issued by Fangguang Inspection & Testing Co., Ltd.
DC fan	Shenzhen Huaxia Hengtai Electronic Co., Ltd.	DA08020B24 M	DC24V, 0.10A, 2500rpm	EN IEC 62368-1:2020+A11	TUV Rh R 50473399
DC fan	Shenzhen Huaxia Hengtai Electronic Co., Ltd.	DZ12038B24M A	DC24V, 0.70A, 3500rpm	EN IEC 62368-1:2020+A11	TUV Rh R 50473162
DC fan (used in thermal print head)	Shenzhen Boardway Technology Co., Ltd.	BF04010H12	DC12V, 0.15A, 9000rpm	EN IEC 62368-1:2020+A11	Test report CTB2111150 15S(REV1), issued by Shenzhen CTB Testing Technology Co., Ltd.
Stepper motor	Changzhou Bohong Appliance Co., Ltd.	35HW27F08A B-08	DC12-24V, 0.8A, 1.2kgf.cm, 200-300rpm	IEC/EN 62368-1	Test with appliance
Stepper motor	Changzhou Bohong Appliance Co., Ltd.	42HB48F1AB	DC12-24V, 1.0A, 4.0kgf.cm, 200-300rpm	IEC/EN 62368-1	Test with appliance
Stepper motor	Changzhou Bohong Appliance Co., Ltd.	42HB48F1AB-01	DC12-24V, 1.0A, 4.0kgf.cm, 200-300rpm	IEC/EN 62368-1	Test with appliance
Stepper motor	WUXI CORONA ELECTRONICS & TECHNOLOGY CO., LTD	DS238MG	Operating Voltage: 4.8V-6V, Stall current 1.2A-1.5A, Stall torque 3.74kg.cm-4.76kg.cm	IEC/EN 62368-1	Test with appliance
Heating element	Shenzhen Superb Heater Technology Co., Ltd.	4*18	24V, 35W	IEC/EN 62368-1	Test with appliance
Heating element	Shenzhen Fulianda Electric Heater Manufacture Co., Ltd.	C2205GJ-0003	24V, 400W	IEC/EN 62368-1	Test with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
PCB	Shanghai Fastpcb Circuit Technology Corporation Limited	DS1, ML-M1	V-0, 130 °C	UL 796	UL E300750
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			—
Part		Material	Oven Temperature (°C)	Comments
4.8.4.3	TABLE: Battery replacement test			—
Battery part no.:				—
Battery Installation/withdrawal		Battery Installation/Removal Cycle		Comments
		1		
		2		
		3		
		4		
		5		
		6		
		8		
		9		
		10		
4.8.4.4	TABLE: Drop test			—
Impact Area		Drop Distance	Drop No.	Observations
			1	
			2	
			3	
4.8.4.5	TABLE: Impact			—
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
4.8.4.6	TABLE: Crush test			—
Test position		Surface tested	Crushing Force (N)	Duration force applied (s)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
(The following mechanical tests are conducted in the sequence noted.)			
Supplementary information:			

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result			N/A
Test position		Surface tested	Force (N)	Duration force applied (s)
Supplementary information:				

5.2	Table: Classification of electrical energy sources						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	264 Vac	Primary circuit	Normal	264 Vrms	--	60	ES3
			Abnormal				
			Single fault – SC/OC				
2	264 Vac	Secondary circuit after PSU output	Normal	24.2 Vdc	--	--	ES1
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
5.2.2.3 - Capacitance Limits							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		
--	--	--	Normal	--	--	--	
			Abnormal	--	--		
			Single fault – SC/OC	--	--		
5.2.2.4 - Single Pulses							

IEC 62368-1							
Clause		Requirement + Test		Result - Remark			Verdict
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
Test Conditions: Normal – Abnormal - Supplementary information: SC=Short Circuit, OC=Open Circuit							

IEC 62368-1						
Clause	Requirement + Test		Result - Remark		Verdict	
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements				P	
		Supply voltage (V) :	90	264	—	
		Ambient T _{min} (°C) :	--	--	—	
		Ambient T _{max} (°C) :	--	--	—	
		Tma (°C) :	30	30	—	
Maximum measured temperature T of part/at:		T (°C)			Allowed T _{max} (°C)	
Normal operating condition						
AC Inlet		46.0	52.5	42.5	50.1	70
Rear cooling fan 2		57.4	63.9	57.9	65.5	110
Y capacitor at PSU (UHP-200-24)		53.2	59.7	40.8	48.4	85
Transformer at PSU (UHP-200-24)		56.4	62.9	47.6	55.2	110
Y capacitor at PSU (UHP-500-24)		63.3	69.8	54.2	61.8	85
Transformer at PSU (UHP-500-24)		63.1	69.6	55.0	62.6	110
Internal wire		40.5	47.0	32.9	40.5	80
Y axis stepper motor		59.0	65.5	61.2	68.8	110
PCB near Q3 (power control board)		49.3	55.8	46.9	54.5	130
Camera		36.7	43.2	31.4	39.0	--
Z axis stepper motor		66.8	73.3	71.8	79.4	110
X axis stepper motor		74.3	80.8	79.1	86.7	110
Rear cooling fan 1		53.2	59.7	57.1	64.7	110
Thermal print head (left)		90.3	96.8	88.4	96.0	*
Thermal print head (right)		90.5	97.0	86.5	94.1	*
Enclsoure of thermal print head		60.1	66.6	72.3	79.9	100 (TS2)
Front DC fan for thermal print head		77.4	83.9	83.8	91.4	110
PCB near U7 (at thermal print head)		72.0	78.5	84.0	91.6	130
Right DC fan for thermal print head		73.0	79.5	88.6	96.2	110
Connector (heating work platform)		69.5	76.0	73.5	81.1	85
High temperature wire		62.6	69.1	63.5	71.1	105
Heating work platform		100.4	106.9	100.3	107.9	*
Inductor at main control board		50.0	56.5	49.2	56.8	130
CPU at main control board		59.8	66.3	55.3	62.9	130
CPU at touch panel		77.6	84.1	74.1	81.7	130
Battery at touch panel		60.6	67.1	56.3	63.9	--
Ambient		23.5	30	22.4	30	--
Reset button at touch panel		41.7	43.2	38.1	40.7	77 ¹⁾

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Touch panel	45.2	46.7	39.1	41.7	77 ¹⁾
Top plastic cover	56.1	57.6	56.5	59.1	77 ¹⁾
Front metal enclosure	32.4	33.9	38.0	40.6	60 ¹⁾
Side plastic enclosure	35.1	36.6	41.8	44.4	77 ¹⁾
Rear plastic enclosure	34.3	35.8	39.9	42.5	77 ¹⁾
Mains switch	32.9	34.4	32.6	35.2	77 ¹⁾
Handle	28.8	30.3	27.1	29.7	77 ¹⁾
Ambient	23.5	25	22.4	25	--
Abnormal or single fault condition	DC fan for thermal print head (Front)		DC fan for thermal print head (Side)		--
Supply voltage (V)	264		264		--
AC Inlet	42.1	49.4	42.8	49.1	300
Rear cooling fan 2	65.0	72.3	62.0	68.3	165
Y capacitor at PSU (UHP-200-24)	78.0	85.3	78.0	84.3	300
Transformer at PSU (UHP-200-24)	64.6	71.9	64.6	70.9	165
Y capacitor at PSU (UHP-500-24)	71.8	79.1	66.8	73.1	300
Transformer at PSU (UHP-500-24)	71.2	78.5	70.2	76.5	165
Internal wire	57.3	64.6	59.3	65.6	300
Y axis stepper motor	63.7	71.0	61.7	68.0	165
PCB near Q3 (power control board)	63.7	71.0	64.7	71.0	300
Camera	41.2	48.5	32.2	38.5	300
Z axis stepper motor	69.3	76.6	69.3	75.6	165
X axis stepper motor	82.2	89.5	75.2	81.5	165
Rear cooling fan 1	56.8	64.1	58.8	65.1	165
Thermal print head (left)	90.9	98.2	90.9	97.2	*
Thermal print head (right)	90.4	97.7	90.4	96.7	*
Enclosure of thermal print head	72.2	79.5	71.2	77.5	100 (TS2)
Front DC fan for thermal print head	80.4	87.7	76.5	82.8	165
PCB near U7 (at thermal print head)	73.6	80.9	74.6	80.9	300
Right DC fan for thermal print head	74.0	81.3	84.2	90.5	165
Connector (heating work platform base)	70.6	77.9	69.6	75.9	300
High temperature wire	65.4	72.7	64.4	70.7	300
Heating work platform	103.2	110.5	104.2	110.5	*
Inductor at main control board	54.0	61.3	53.0	59.3	300
CPU at main control board	63.9	71.2	65.9	72.2	300

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
CPU at touch panel	73.1	80.4	72.1	78.4	300
Battery at touch panel	60.2	67.5	60.2	66.5	300
Ambient	22.7	30	23.7	30	--
Reset button at touch panel	40.3	42.6	40.3	41.6	87 ²⁾
Touch panel	46.5	48.8	46.4	47.7	87 ²⁾
Top plastic cover	57.7	60.0	58.7	60.0	87 ²⁾
Front metal enclosure	46.0	48.3	38.0	39.3	70 ²⁾
Side plastic enclosure	48.0	50.3	42.0	43.3	87 ²⁾
Rear plastic enclosure	47.8	50.1	43.8	45.1	87 ²⁾
Mains switch	39.1	41.4	36.1	37.4	87 ²⁾
Handle	31.1	33.4	32.1	33.4	87 ²⁾
Ambient	22.7	25	23.7	25	--
Abnormal or single fault condition	Rear Fan (Up)		Rear Fan (Down)		--
Supply voltage (V)	264		264		--
AC Inlet	45.8	51.8	46.0	52.1	300
Rear cooling fan 2	57.5	63.5	57.2	63.3	165
Y capacitor at PSU (UHP-200-24)	53.0	59.0	53.7	59.8	300
Transformer at PSU (UHP-200-24)	56.7	62.7	56.4	62.5	165
Y capacitor at PSU (UHP-500-24)	63.7	69.7	64.1	70.2	300
Transformer at PSU (UHP-500-24)	62.8	68.8	62.6	68.7	165
Internal wire	40.8	46.8	40.7	46.8	300
Y axis stepper motor	59.6	65.6	58.6	64.7	165
PCB near Q3 (power control board)	49.2	55.2	49.3	55.4	300
Camera	37.1	43.1	37.4	43.5	300
Z axis stepper motor	66.9	72.9	67.5	73.6	165
X axis stepper motor	74.8	80.8	74.6	80.7	165
Rear cooling fan 1	53.4	59.4	53.4	59.5	165
Thermal print head (left)	90.4	96.4	90.5	96.6	*
Thermal print head (right)	90.1	96.1	90.4	96.5	*
Enclosure of thermal print head	59.7	65.7	60.1	66.2	100 (TS2)
Front DC fan for thermal print head	77.4	83.4	77.6	83.7	165
PCB near U7 (at thermal print head)	71.8	77.8	72.1	78.2	300
Right DC fan for thermal print head	73.2	79.2	72.4	78.5	165
Connector (heating work platform base)	69.7	75.7	69.5	75.6	300
High temperature wire	62.4	68.4	62.0	68.1	300

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Heating work platform	103.8	109.8	103.6	109.7	*
Inductor at main control board	50.1	56.1	49.1	55.2	300
CPU at main control board	60.4	66.4	60.0	66.1	300
CPU at touch panel	78.0	84.0	77.3	83.4	300
Battery at touch panel	60.3	66.3	60.3	66.4	300
Ambient	24.0	30	23.9	30	--
Reset button at touch panel	42.1	43.1	41.9	43.0	87 ²⁾
Touch panel	45.6	46.6	45.6	46.7	87 ²⁾
Top plastic cover	55.6	56.6	56.1	57.2	87 ²⁾
Front metal enclosure	32.0	33.0	31.9	33.0	70 ²⁾
Side plastic enclosure	35.0	36.0	34.8	35.9	87 ²⁾
Rear plastic enclosure	34.7	35.7	34.5	35.6	87 ²⁾
Mains switch	32.9	33.9	33.0	34.1	87 ²⁾
Handle	29.2	30.2	29.0	30.1	87 ²⁾
Ambient	24.0	25	23.9	25	--
Abnormal or single fault condition	Openings		--	--	--
Supply voltage (V)	264		--	--	--
AC Inlet	43.0	50.9	--	--	300
Rear cooling fan 2	57.6	65.5	--	--	165
Y capacitor at PSU (UHP-200-24)	40.1	48.0	--	--	300
Transformer at PSU (UHP-200-24)	47.0	54.9	--	--	165
Y capacitor at PSU (UHP-500-24)	54.6	62.5	--	--	300
Transformer at PSU (UHP-500-24)	55.2	63.1	--	--	165
Internal wire	32.9	40.8	--	--	300
Y axis stepper motor	61.3	69.2	--	--	165
PCB near Q3 (power control board)	47.4	55.3	--	--	300
Camera	31.7	39.6	--	--	300
Z axis stepper motor	72.1	80.0	--	--	165
X axis stepper motor	78.8	86.7	--	--	165
Rear cooling fan 1	57.3	65.2	--	--	165
Thermal print head (left)	88.9	96.8	--	--	*
Thermal print head (right)	86.6	94.5	--	--	*
Enclosure of thermal print head	71.6	79.5	--	--	100 (TS2)
Front DC fan for thermal print head	83.7	91.6	--	--	165
PCB near U7 (at thermal print head)	84.2	92.1	--	--	300
Right DC fan for thermal print head	88.2	96.1	--	--	165
Connector (heating work platform base)	63.2	71.1	--	--	300

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Clause	Requirement + Test			Result - Remark		Verdict	
High temperature wire	63.5	71.4	--	--		300	
Heating work platform	100.5	108.4	--	--		*	
Inductor at main control board	43.9	51.8	--	--		300	
CPU at main control board	55.3	63.2	--	--		300	
CPU at touch panel	74.3	82.2	--	--		300	
Battery at touch panel	56.4	64.3	--	--		300	
Ambient	22.1	30	--	--		--	
Reset button at touch panel	38.1	41.0	--	--		87 ²⁾	
Touch panel	39.5	42.4	--	--		87 ²⁾	
Top plastic cover	56.7	59.6	--	--		87 ²⁾	
Front metal enclosure	37.7	40.6	--	--		70 ²⁾	
Side plastic enclosure	41.6	44.5	--	--		87 ²⁾	
Rear plastic enclosure	39.6	42.5	--	--		87 ²⁾	
Mains switch	32.7	35.6	--	--		87 ²⁾	
Handle	26.8	29.7	--	--		87 ²⁾	
Ambient	22.1	25	--	--		--	
Supplementary information:							
1) touch temperature limit under normal operating condition for TS1 (duration > 1 s and < 10 s)							
2) touch temperature limit under abnormal or single fault operating condition for TS2 (duration > 1 s and < 10 s)							
* only touched by skilled person and instructional safeguard provide.							
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)							

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm)..... :			—
Object/ Part No./Material	Manufacturer/t rademark	T softening (°C)	
Supplementary information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.3	TABLE: Ball pressure test of thermoplastics		P
Allowed impression diameter (mm)		≤ 2 mm	—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
*	*	*	*
Supplementary information:			
* Considered in the approved PSU			

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
*	*	*	*	*	*	*	*
Supplementary information:							
Note 1: Only for frequency above 30 kHz							
Note 2: See table 5.4.2.4 if this is based on electric strength test							
Note 3: Provide Material Group							
* Considered in the approved PSU							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage				P
	Overvoltage Category (OV):				OVC II
	Pollution Degree:				2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)	
*		*	*	*	
Supplementary information:					
* Considered in the approved PSU					

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
Supplementary information:				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements	P
--	--	---

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
*	*	*	*	*	*
Supplementary information:					
* Considered in the approved PSU					

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
--		--	--	--
Reinforced:				
Unit: Primary circuit to secondary circuit		DC	4000	No
Routine Tests: conducted by manufacturer				
--		--	--	--
Supplementary information:				

5.5.2.2	TABLE: Stored discharge on capacitors				P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
*	*	*	*	*	*
Supplementary information:					
X-capacitors installed for testing are: [x] bleeding resistor rating: [] ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition * Considered in the approved PSU					

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

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Earth pin of AC inlet to farthest metal part		32	120	--	0.081
Earth pin of AC inlet to farthest metal part		40	120	--	0.077
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage:			—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
<u>Metal enclosure</u>		1	1.06 mA peak
		2*	--
		3	--
		4	--
		5	--
		6	--
		8	--
Supplementary Information:			
Notes: [1] Supply voltage is the anticipated maximum Touch Voltage [2] Earthed neutral conductor [Voltage differences less than 1% or more] [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3 [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

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

6.2.2	Table: Electrical power sources (PS) measurements for classification					P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification	
264	Secondary circuit after PSU output	Power (W) :	--	> 100	PS3	
		V _A (V) :	--	--		
		I _A (A) :	--	--		
Supplementary Information:						
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits						

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				N/A
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V _p) and normal operating condition rms current (I _{rms}) is greater than 15.					

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
All components located within the EUT are considered as resistive PIS	--	--	--	--	Yes
Supplementary Information:					
A combination of voltmeter, VA and ammeter I _A may be used instead of a wattmeter.					
If a separate voltmeter and ammeter are used, the product of (V _A x I _A) is used to determine Resistive PIS classification.					
A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, <u>or</u> (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.5	TABLE: High Pressure Lamp		N/A
Description	Values	Energy Source Classification	
Lamp type.....:		—	
Manufacturer		—	
Cat no.:		—	
Pressure (cold) (MPa).....:		MS_	
Pressure (operating) (MPa)		MS_	
Operating time (minutes)		—	
Explosion method		—	
Max particle length escaping enclosure (mm) .:		MS_	
Max particle length beyond 1 m (mm).....:		MS_	
Overall result			
Supplementary information:			

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	5.28	--	469.6	--	F1	5.28	Normal operating
90	60	5.35	--	475.7	--	F1	5.35	Normal operating
100	50	5.17	--	503.5	600	F1	5.17	Normal operating
100	60	5.18	--	504.6	600	F1	5.18	Normal operating
240	50	2.01	--	458.0	600	F1	2.01	Normal operating
240	60	2.02	--	461.2	600	F1	2.02	Normal operating
264	50	1.84	--	450.6	--	F1	1.84	Normal operating
264	60	1.87	--	457.3	--	F1	1.87	Normal operating
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured								

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					25			—
Power source for EUT: Manufacturer, model/type, output rating ..:					See appended table 4.1.2			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Opeings	Blocked	264	1 h	F1	1.84->1.84	K	See table 5.4.1.4, 6.3.2, 9.0, B.2.	Unit can work normally. No hazard. No damaged.

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Clause	Requirement + Test				Result - Remark			Verdict
X-axis stepper motor	Locked	264	1 h	F1	1.84->0.551	--	--	Screen prompt error and stop. No high temperature occurred during the period. No hazard. No damaged.
Y-axis stepper motor	Locked	264	1 h	F1	1.84->0.551	--	--	Screen prompt error and stop. No high temperature occurred during the period. No hazard. No damaged.
Z-axis stepper motor	Locked	264	1 h	F1	1.84->0.551	--	--	Screen prompt error and stop. No high temperature occurred during the period. No hazard. No damaged.
Supplementary information:								
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.								

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C)					25			—
Power source for EUT: Manufacturer, model/type, output rating ..					See appended table 4.1.2			—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Rear Fan (Up)	Locked	264	1 h	F1	1.84->1.84	K	See table 5.4.1.4, 6.3.2, 9.0, B.2.	Unit can work normally. No hazard. No damaged.

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Clause	Requirement + Test				Result - Remark			Verdict
Rear Fan (Down)	Locked	264	1 h	F1	1.84-> 1.84	K	See table 5.4.1.4, 6.3.2, 9.0, B.2.	Unit can work normally. No hazard. No damaged.
DC fan for thermal print head (Side)	Locked	264	1 h	F1	1.84-> 1.84	K	See table 5.4.1.4, 6.3.2, 9.0, B.2.	Unit can work normally. No hazard. No damaged.
DC fan for thermal print head (Front)	Locked	264	1 h	F1	1.84-> 1.84	K	See table 5.4.1.4, 6.3.2, 9.0, B.2.	Unit can work normally. No hazard. No damaged.
CN5 for heating work platform	SC	264	10 mins	F1	1.84-> 0.05	--	--	Unit cannot work. No high temperature occurred during the period. No hazard. No damaged.
CN6 for heating work platform	OC	264	10 mins	F1	1.84-> 0.05	--	--	Unit cannot work. No high temperature occurred during the period. No hazard. No damaged.
Left side light J28	SC	264	10 mins	F1	1.84-> 0.05	--	--	Unit cannot work. No high temperature occurred during the period. No hazard. No damaged.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Right side light J50	SC	264	10 mins	F1	1.84->0.05	--	--	Unit cannot work. No high temperature occurred during the period. No hazard. No damaged.
Temperature sensor for 3D printer extrusion head	SC	264	10 mins	F1	1.84->0.05	--	--	Screen prompt error and stop. No high temperature occurred during the period. No hazard. No damaged.
Temperature sensor for 3D printer extrusion head	OC	264	10 mins	F1	1.84->0.05	--	--	Screen prompt error and stop. No high temperature occurred during the period. No hazard. No damaged.
Q27 (D to S) at 5.04.11001A—S600 Motion	SC	264	1 h	F1	0.4->1A/200W	--	--	Screen prompt error, sensor damaged, do not print. Key location temperature at Tamb: 24.5°C printer extrusion head: 280°C No hazard.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Q30 (D to S) at 5.04.11001A— —S600 Motion	SC	264	1 h	F1	0.4-> 1A/200W	--	--	Screen prompt error, sensor damaged, do not print. Key location temperature at Tamb: 24.5°C printer extrusion head: 280°C No hazard.
Q3 (D to S) at 5.04.4005A02A	SC	264	1 h	F1	0.4-> 1A/200W	--	--	Always heating. Key location temperature at Tamb: 23.4°C Heating work platform: 114°C Top cover: 52.6°C Rear enclosure: 46.5°C Handle: 29.5°C No hazard No damaged
Access sensor for front door	SC	264	10 mins	F1	1.84-> 0.4	--	--	Stop print. No high temperature occurred during the period. No hazard. No damaged.
Access sensor for side door	SC	264	10 mins	F1	1.84-> 0.4	--	--	Stop print. No high temperature occurred during the period. No hazard. No damaged.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Access sensor for top cover	SC	264	10 mins	F1	1.84->0.4	--	--	Stop print. No high temperature occurred during the period. No hazard. No damaged.
Supplementary information:								
SC=Short circuit, OC=Open circuit								

Annex M.3	TABLE: Batteries								P
The tests of Annex M are applicable only when appropriate battery data is not available									--
Is it possible to install the battery in a reverse polarity position? :							No		--
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	0	--	0	--	--	--	--	--	--
Max. current during fault condition	300 mA (C4 SC)	--	0.42 mA (D1 pin 1-2 SC)	--	--	--	--	--	--
Test results:								Verdict	
- Chemical leaks						No		P	
- Explosion of the battery						No		P	
- Emission of flame or expulsion of molten metal						No		P	
- Electric strength tests of equipment after completion of tests								N/A	
Supplementary information:									
SC=Short circuit, OC=Open circuit									

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries					N/A
Battery/Cell No.	Test conditions	Measurements			Observation	
		U	I (A)	Temp (C)		
	Normal					
	Abnormal					
	Single fault –SC/OC					

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Normal				
	Abnormal				
	Single fault – SC/OC				
Supplementary Information:					
Battery identification	Charging at T _{lowest} (°C)	Observation	Charging at T _{highest} (°C)	Observation	
Supplementary Information:					

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
USB port	Normal load	4.98	2.21	≤ 8	10.21	≤ 100
	U58 Pin2 to Pin6 SC	5.02	0	≤ 8	0	≤ 100
	PU5 Pin25 to Pin21 SC	0	0	≤ 8	0	≤ 100
Supplementary Information:						
SC=Short circuit, OC=Open circuit						
Remark: B24 and PU5 damaged						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Component	--	--	10	5	After the force test, the clearance and creepage distance were not below the required values	
Enclosure	Plastic	4.0	250	5	No damaged	
Enclosure	Aluminium	1.2	250	5	No damaged	
Supplementary information:						
The steady force was applied in turn to the top, bottom and sides.						

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

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Horizontal surface of enclosure	Plastic	4.0	1300	No damaged	
Vertical surface of enclosure	Plastic	4.0	1300	No damaged	
Supplementary information:					

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Supplementary information:					

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Plastic	4.0	70	7	No damaged	
Supplementary information:						

--End of test report--

IEC62368_1D - 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 62368-1:2014+A11:2017			
Attachment Form No.: EU_GD_IEC62368_1D_II			
Attachment Originator: Nemko AS			
Master Attachment: Date 2021-02-04			
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	CENELEC COMMON MODIFICATIONS (EN)					--																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.					--																																				
CONTENTS	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					--																																				
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list: <table><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	--
0.2.1	Note	1	Note 3	4.1.15	Note																																					
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5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note																																					
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5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4																																					
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.					P																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.					P																																				

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	<p>Add the following new subclause after 4.9:</p> <p>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):</p> <p>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;</p> <p>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;</p> <p>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.</p> <p>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>		P
5.4.2.3.2.4	<p>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>		N/A
10.2.1	<p>Add the following to ^{c)} and ^{d)} in table 39:</p> <p>For additional requirements, see 10.5.1.</p>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>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 presets 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.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p>Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p>Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>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).</p> <p>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</p>		N/A
G.7.1	<p>Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>	To be evaluated in the national approval	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	<p>Add the following standards:</p> <p>Add the following notes for the standards indicated:</p> <p>IEC 60130-9 NOTE Harmonized as EN 60130-9.</p> <p>IEC 60269-2 NOTE Harmonized as HD 60269-2.</p> <p>IEC 60309-1 NOTE Harmonized as EN 60309-1.</p> <p>IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series.</p> <p>IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4.</p> <p>IEC 60664-5 NOTE Harmonized as EN 60664-5.</p> <p>IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified).</p> <p>IEC 61508-1 NOTE Harmonized as EN 61508-1.</p> <p>IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1.</p> <p>IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4.</p> <p>IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6.</p> <p>IEC 61643-1 NOTE Harmonized as EN 61643-1.</p> <p>IEC 61643-21 NOTE Harmonized as EN 61643-21.</p> <p>IEC 61643-311 NOTE Harmonized as EN 61643-311.</p> <p>IEC 61643-321 NOTE Harmonized as EN 61643-321.</p> <p>IEC 61643-331 NOTE Harmonized as EN 61643-331.</p>		--
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>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.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		P
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>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</p>	The equipment is not direct plug-in equipment	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	<p>Denmark</p> <p>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.</p>		N/A
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>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</p> <ul style="list-style-type: none"> • 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. <p>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</p> <ul style="list-style-type: none"> • 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 1,5kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • 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; <p>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.</p>		N/A
5.5.2.1	<p>Norway</p> <p>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>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.		P
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.	Considered	P
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.		P
5.7.5	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

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>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.</p> <p>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.</p> <p>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:</p> <p>“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)”</p> <p>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.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“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 nettet.”</p> <p>Translation to Swedish:</p> <p>“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.”.</p>		N/A

IEC62368_1D - ATTACHMENT			
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
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	The equipment is not direct plug-in equipment	N/A
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 poly-phase 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

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	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.	The equipment is not direct plug-in equipment	N/A
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.	To be evaluated in the national approval	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	To be evaluated in the national approval	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 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.	To be evaluated in the national approval	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		--
10.5.2	<p>Germany</p> <p>The following requirement applies:</p> <p>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.</p> <p><i>Justification:</i></p> <p>German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address:</p> <p>Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
<p align="center">ATTACHMENT TO TEST REPORT IEC 62368-1 DENMARK NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements</p>			
Differences according to: DS/EN 62368-1:2014			
Attachment Form No.: DK_ND_IEC62368_1D			
Attachment Originator: UL (Demko)			
Master Attachment: 2021-02-04			
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	National Differences		P
4.1.15	<p>To the end of the subclause the following is added:</p> <p>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.</p> <p>The marking text in the applicable countries shall be as follows: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.”</p>	Provided in the user manual	P
5.2.2.2	<p>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.</p>		N/A
5.6.1	<p>Add to the end of the subclause:</p> <p>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.</p> <p>Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>		P
5.7.5	<p>To the end of the subclause the following is added:</p> <p>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.</p>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	<p>To the end of the subclause the following is added:</p> <p>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.</p>		N/A
G.4.2	<p>To the end of the subclause the following is added:</p> <p>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.</p> <p>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.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase 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.</p> <p>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.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>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</p> <p>Justification: Heavy Current Regulations, Section 6c</p>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
<p align="center">ATTACHMENT TO TEST REPORT IEC 62368-1 ITALY NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)</p>			
Differences according to: CEI EN 62368-1:2016			
Attachment Form No.: IT_ND_IEC62368_1D			
Attachment Originator: IMQ S.p.A.			
Master Attachment: Date 2021-02-04			
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	National Differences	--
F.1	<p>Italy</p> <p>The following requirements shall be fulfilled:</p> <ul style="list-style-type: none"> • The power consumption in Watts (W) shall be indicated on TV receivers and in their instruction for use (Measurement according to EN 60555-2). Note: <i>EN 60555-2 has since been replaced by IEC 60107-1:1997.</i> • TV receivers shall be provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language. • Marking for controls and terminals shall be in Italian language. Abbreviation and international symbols are allowed provided that they are explained in the instruction for use. • The ECC manufacturers are bound to issue a conformity declaration according to the above requirements in the instruction manual. The correct statement for conformity to be written in the instruction manual, shall be: <i>Questo apparecchio è fabbricato nella CEE nel rispetto delle disposizioni del D.M. marzo 1992 ed è in particolare conforme alle prescrizioni dell'art. 1 dello stesso D.M.</i> • The first importers of TV receivers manufactured outside EEC are bound to submit the TV receivers for previous conformity certification to the Italian Post Ministry (PP.TT). The TV receivers shall have on the backcover the certification number in the following form: D.M. 26/03/1992 xxxxx/xxxxx/S or T or pT S for stereo T for Teletext pT for retrofitable teletext <i>Justification:</i> Ministerial Decree of 26 March 1992 : National rules for television receivers trade. NOTE/: <i>Ministerial decree above contains additional, but not safety relevant requirements</i> 	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to : AS/NZS 62368.1:2018			
TRF template used: : IEC62368-1:2014, Ed. 1.1			
Attachment Form No. : AU_NZ_ND_IEC62368_1D			
Attachment Originator : JAS-ANZ			
Master Attachment : 2021-04-19			
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	National Differences		--
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	<p>Add the following to the list of normative references:</p> <p>The following normative documents are referenced in Appendix ZZ:</p> <p>-AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i></p> <p>-AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i></p> <p>-AS/NZS 3191, <i>Electric flexible cords</i></p> <p>-AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i></p> <p>-AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i></p> <p>-AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i></p> <p>-AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i></p> <p>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i></p> <p>-AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i></p>		P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.1.1	<p>Application of requirements and acceptance of materials, components and subassemblies</p> <p>1 Replace the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'.</p> <p>2 Replace the text 'IEC 60065' with 'AS/NZS 60065'.</p>		P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	<p>Requirements</p> <p>Delete the text of the second paragraph and replace with the following:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>		N/A
4.7.3	<p>Compliance Criteria</p> <p>Delete the first paragraph and Note 1 and Note 2 and replace with the following:</p> <p>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</p>		N/A
4.8	<p>Delete existing clause title and replace with the following:</p> <p>4.8 Products containing coin/button cell batteries</p>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.1	General 1 Second dashed point, delete the text and replace with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, insert the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, renumber the existing Note as 'NOTE 2'. 4 Fifth dashed point, delete the word 'lithium'.	No such battery	N/A
4.8.2	Instructional Safeguard First line, <i>delete</i> the word 'lithium'.		N/A
4.8.3	Construction First line, after the word 'Equipment' <i>insert</i> the words 'containing one or more coin/button batteries and'		N/A
4.8.5	Compliance criteria Delete the first paragraph and replace with the following: Compliance is checked by applying a force of 30 N +/-1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General Delete the first paragraph and replace with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.		N/A
Table 29	<i>Replace</i> the table with the following:		N/A

IEC62368_1D - ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV	7.0 kV for hand-held telephones	1.5 kV	3 kV
	10/700 μs	and headsets, 2.5 kV for other equipment. 10/700 μs		
Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV 10/700 μs ^c		1.0 kV	1.5 kV
^a Surge suppressors shall not be removed.				
^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.				
^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.				
5.4.10.2.2	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.			N/A
5.4.10.2.3	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.			N/A
6	Electrically-caused fire			P
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202			P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)			N/A
8.5.4	Special categories of equipment comprising moving parts			N/A
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows <i>replace</i> 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.			N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6	Stability of equipment		P
8.6.1 and Table 36	Requirements 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: ^c The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements' 4. Table 36, <i>add</i> the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'	Noted	P
8.6.1	After Clause 8.6.1 add the following new clauses: 8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	Mains appliance outlet and socket-outlet markings Replace 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.	No such device	N/A
Annex G Paragraph G.4.2	Mains connectors 1 In the second line insert 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line insert 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 Add the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.	No such connector used	N/A
Paragraph G.5.3.1	Transformers, General 1 In the third dashed point replace 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point replace 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.	Used in approved power supply unit	P
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, replace 'IEC 60320-1' with 'AS/NZS 60320.1'	To be evaluated in the national approval	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Table G.5	Sizes of conductors 1 In the second row, first column, delete '6' and replace with '7.5' 2 In the second row, second column, delete '0,75' and replace with '0.75 ^b 3 Delete Note 1. 4 Replace 'NOTE 2' with 'NOTE:'. 5 Delete the text of 'Footnote b' and replace with the following: ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c replace 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d replace 'IEC 60320-1' with 'AS/NZS 60320.1'	To be evaluated in the national approval	N/A
Annex M Paragraph M.3.2	Protection circuits for batteries provided within the equipment, Test method After the first dashed point <i>add</i> the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.	No such battery	N/A

	Special national conditions (if any)		--
6.201	External power supplies, docking stations and other similar devices For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when	Not such devices	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	charging secondary lithium batteries. <i>Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4</i>		
6.202	Resistance to fire—Alternative tests		N/A
6.202.1	<p>General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following:</p> <p>a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.</p> <p>b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.</p> <p>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</p> <p>For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p>	Equipment under test materials used and components in compliance with requirements of IEC 62368-1 Alternative test methods were not considered	N/A

IEC62368_1D - ATTACHMENT											
Clause	Requirement + Test	Result - Remark	Verdict								
6.202.2	<p>Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.</p>		N/A								
6.202.3	<p>Testing of insulating materials</p> <p>Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE: Contacts in components such as switch contacts are considered to be connections</p>		N/A								
	<p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test.</p> <p>However, parts shielded by a barrier which meets the needle-flame test need not be tested</p>		N/A								
	<p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle-flame</td><td><p><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following:</p><p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p><p>The duration of application of the test flame shall be 30 s ±1 s.</p></td></tr><tr><td>9.3 Number of test</td><td><i>Replace</i> with the</td></tr></table>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle-flame	<p><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s ±1 s.</p>	9.3 Number of test	<i>Replace</i> with the		N/A
Clause of AS/NZS 60695.11.5	Change										
9 Test procedure											
9.2 Application of needle-flame	<p><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s ±1 s.</p>										
9.3 Number of test	<i>Replace</i> with the										

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Clause	Requirement + Test		Verdict
	<p>specimens</p> <p>following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</p>		
	<p>11 Evaluation of test results</p> <p>Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>		
	<p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.</p>		
6.202.4	<p>Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>		N/A
6.202.5	<p>Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source.</p>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>The test is not carried out if—</p> <ul style="list-style-type: none"> – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p><i>Conformance shall be determined using the smallest thickness of the material.</i></p> <p>NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		
6.202.6	<p>For open circuit voltages greater than 4 kV</p> <p>Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.</p>		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1.201	<p>8.6.1.201 Instructional safeguard for fixed-mount television sets</p> <p>MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment.</p> <p>The elements of the instructional safeguard shall be as follows:</p> <ul style="list-style-type: none"> – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – element 4: the following or equivalent text: <p>To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions</p>		N/A
8.6.1.202	<p>Restraining device</p> <p>MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage.</p> <p>Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.</p>		N/A

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APPENDIX to Test Report No.:

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FOTO-DOKUMENTATION
PHOTO-DOCUMENTATION

Bild / Picture 1:



Bild / Picture 2:



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Bild / Picture 3:



Bild / Picture 4:



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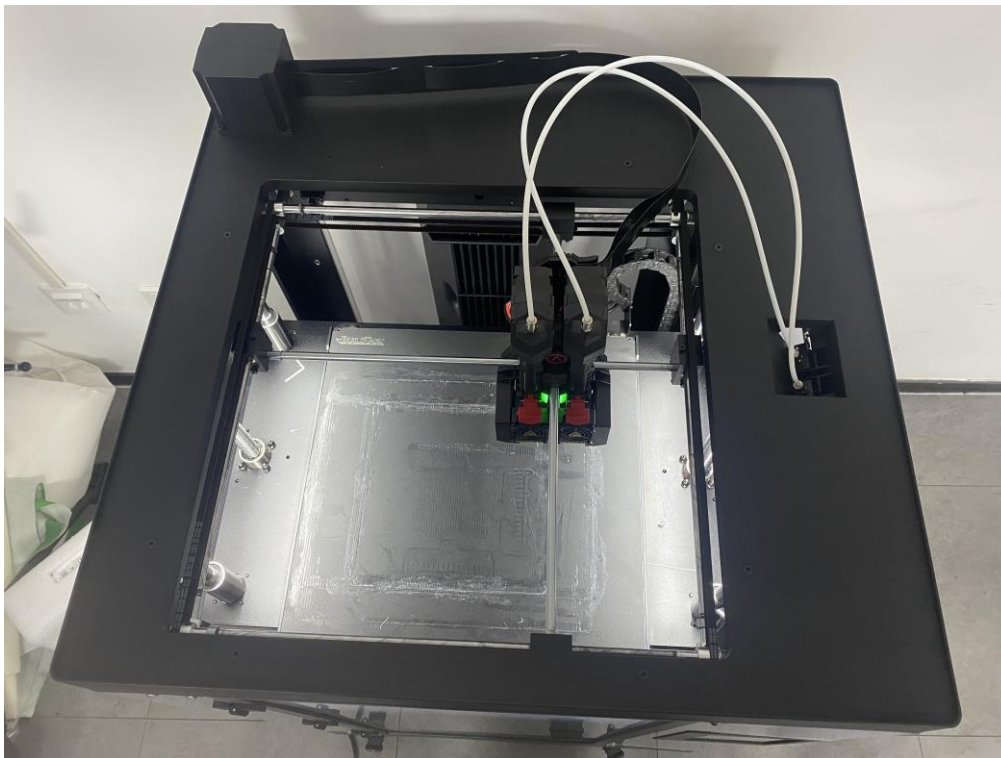


Bild / Picture 6:



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Bild / Picture 7:

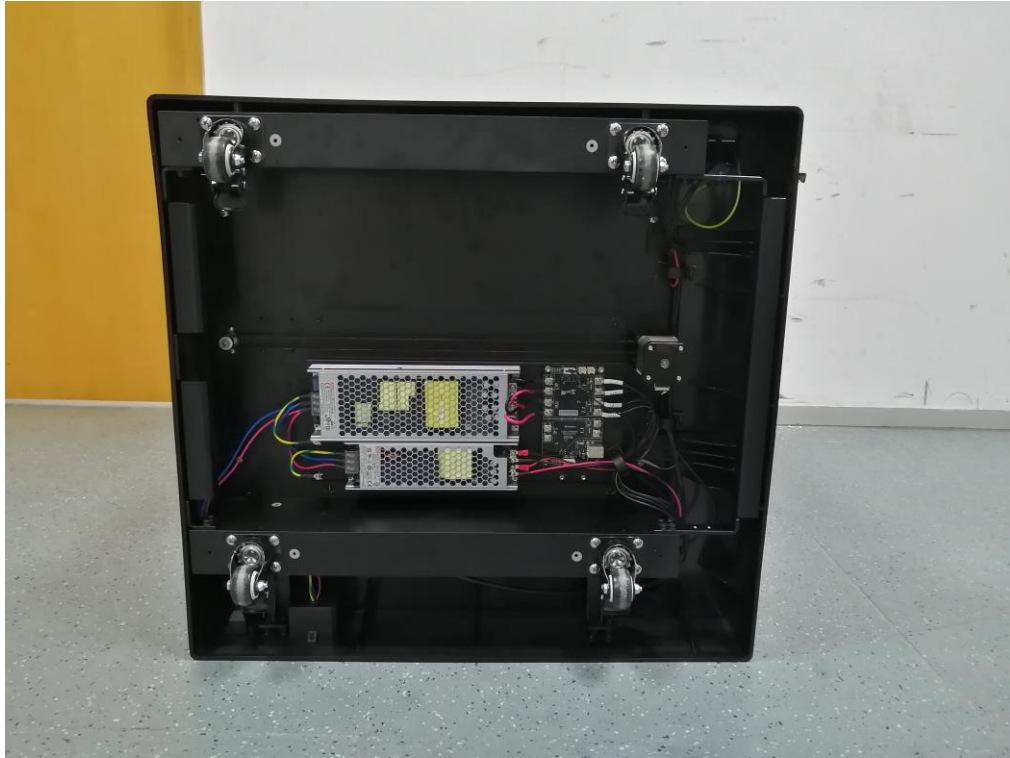


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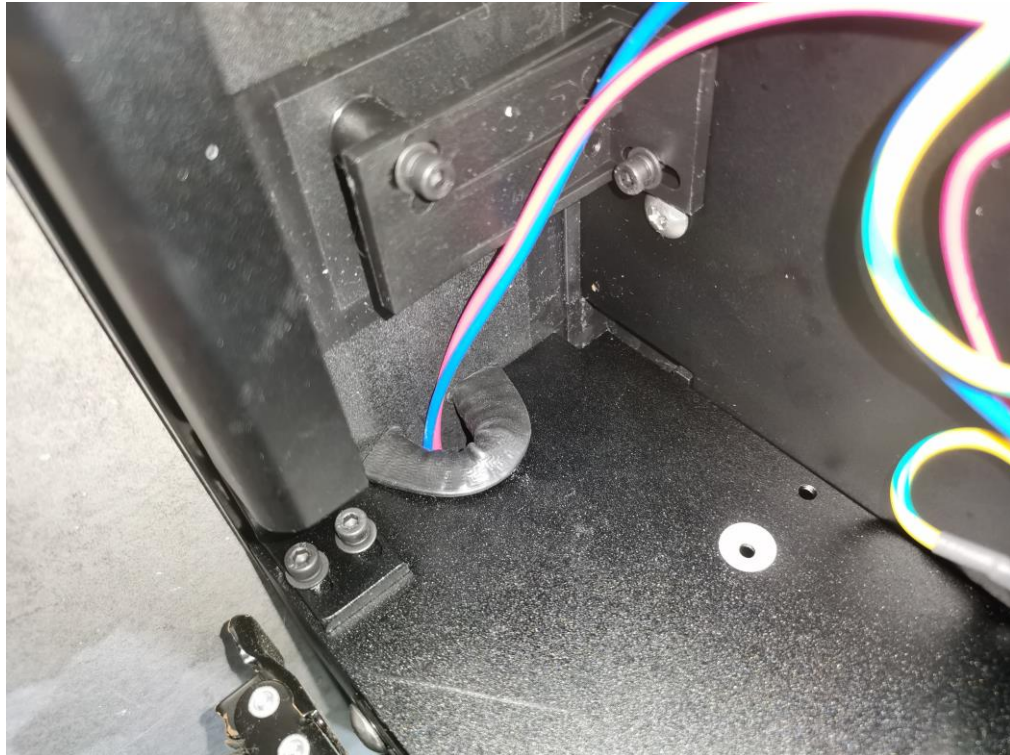
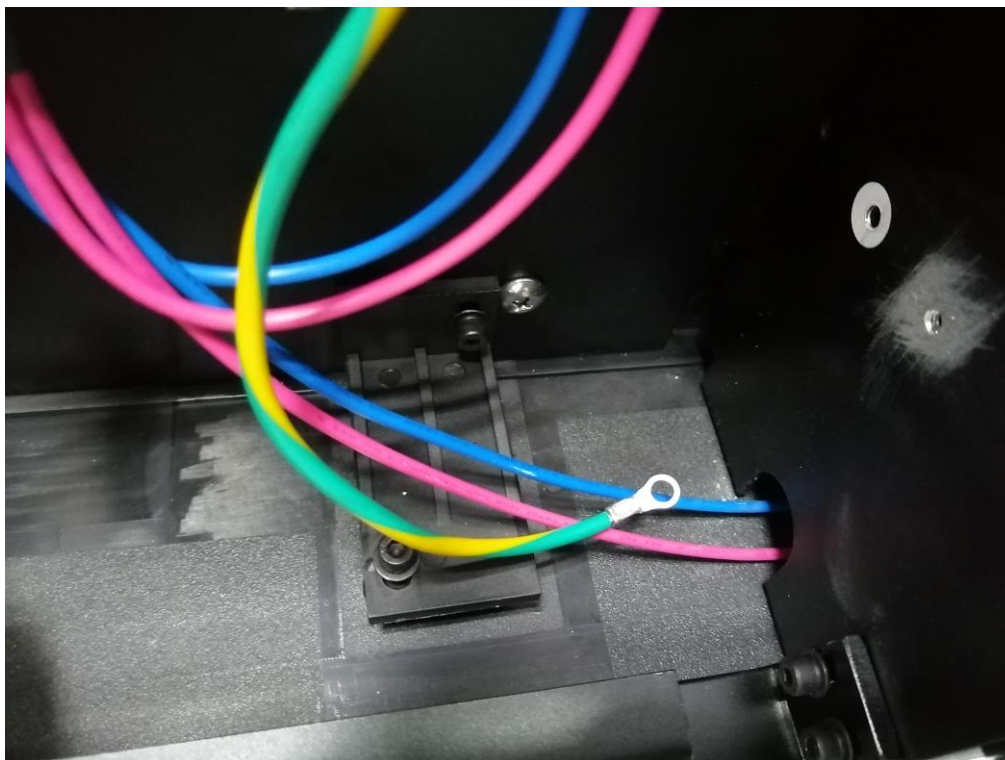


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Bild / Picture 9:



Bild / Picture 10:



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Bild / Picture 11:

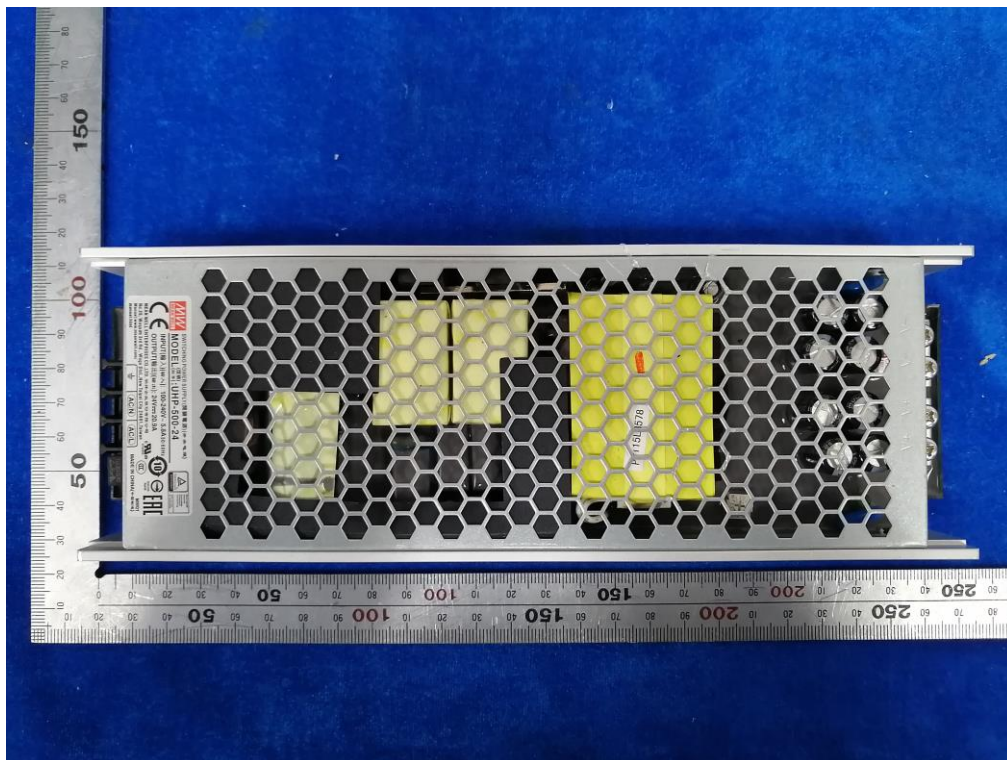
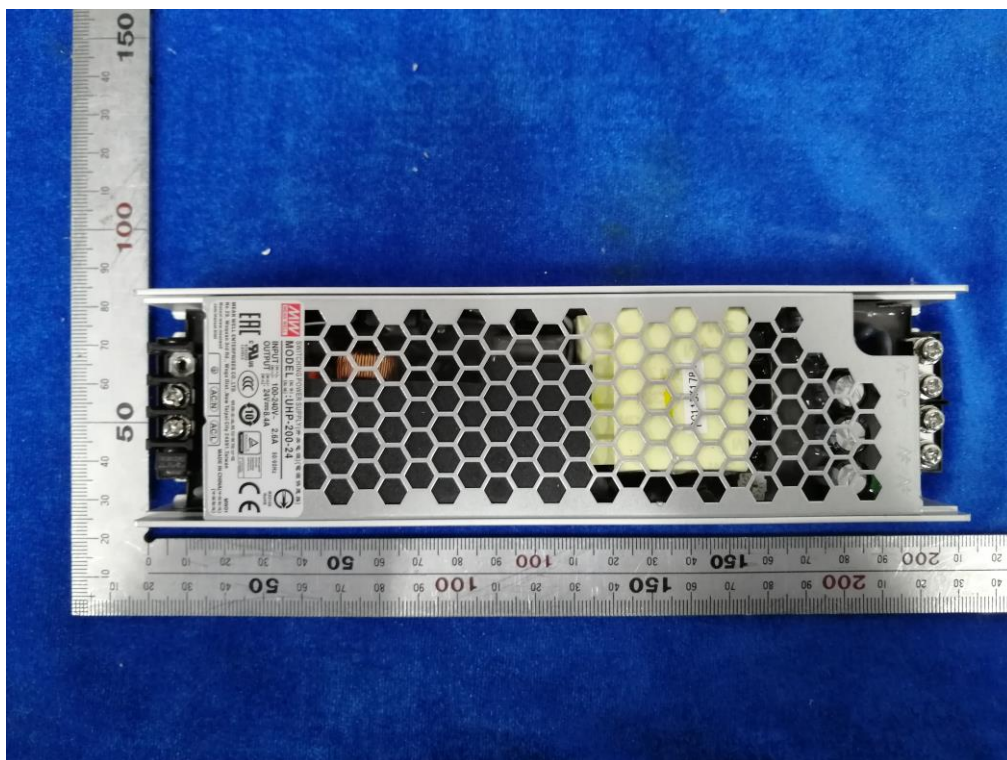


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Bild / Picture 13:



Bild / Picture 14:



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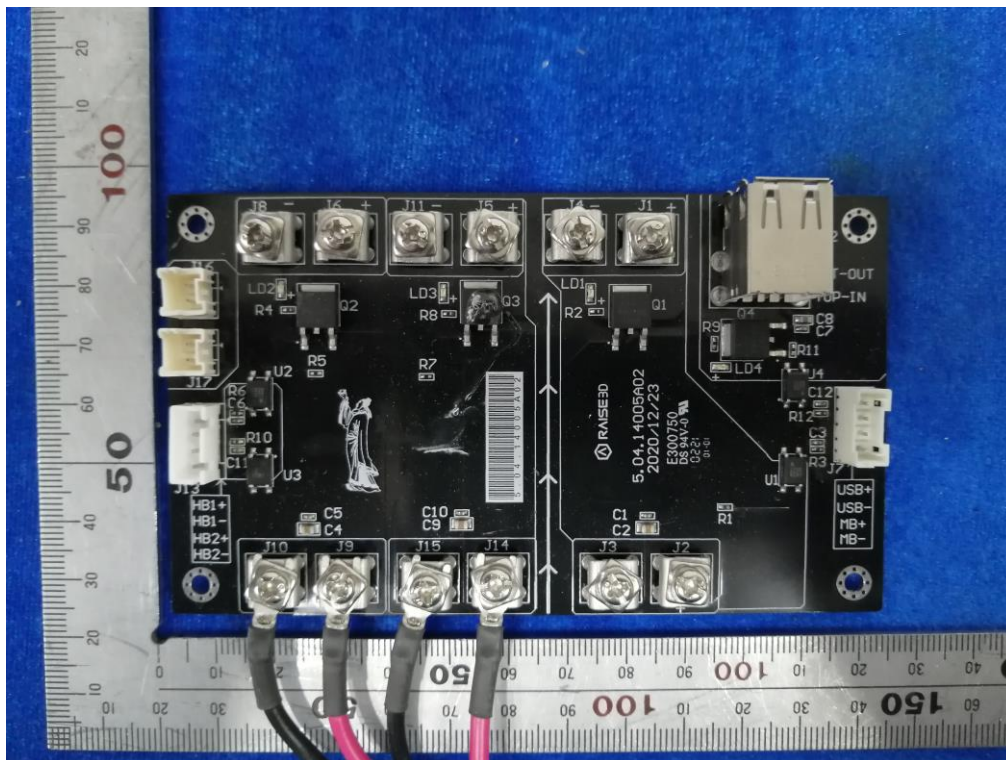


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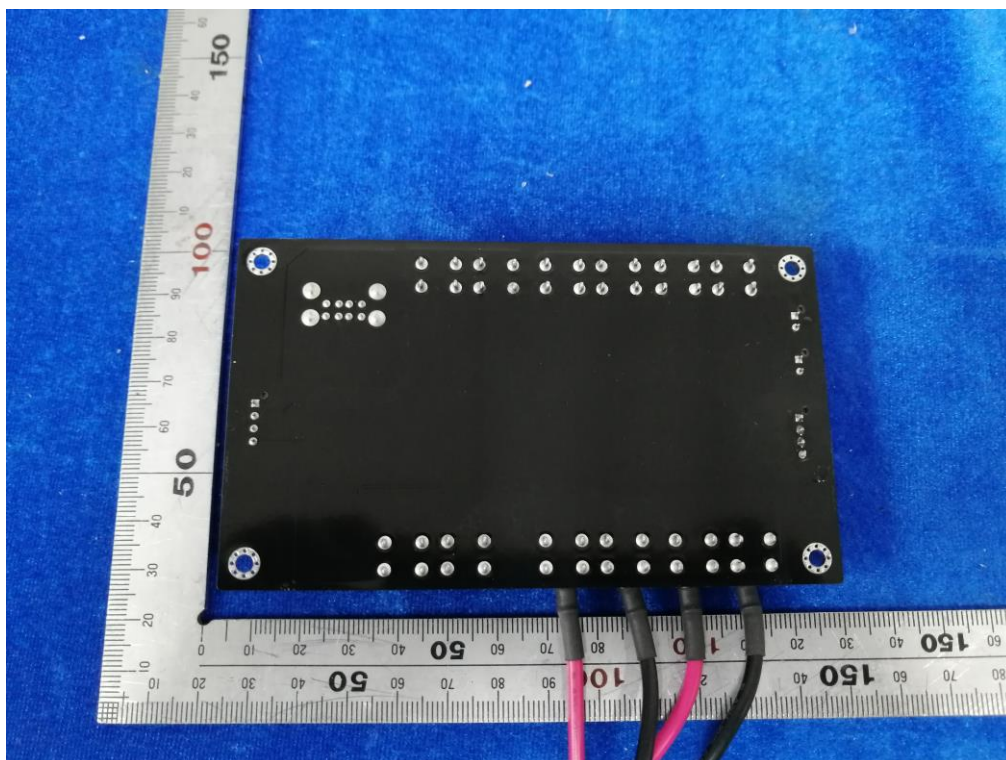


FOTO-DOKUMENTATION
PHOTO-DOCUMENTATION

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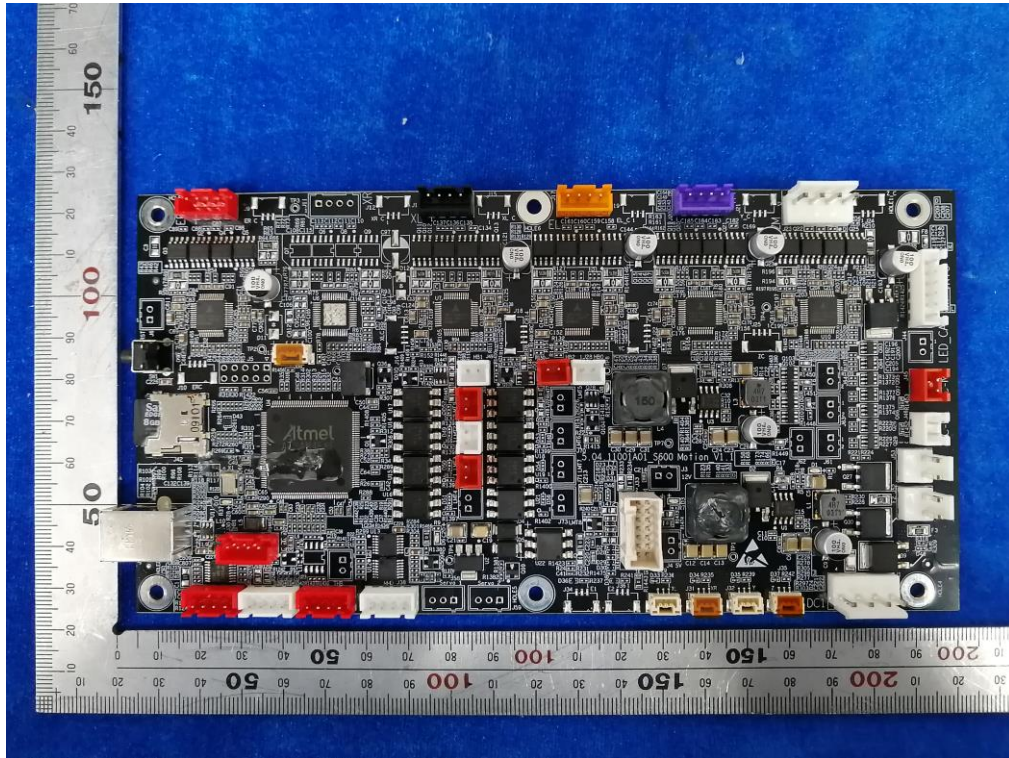
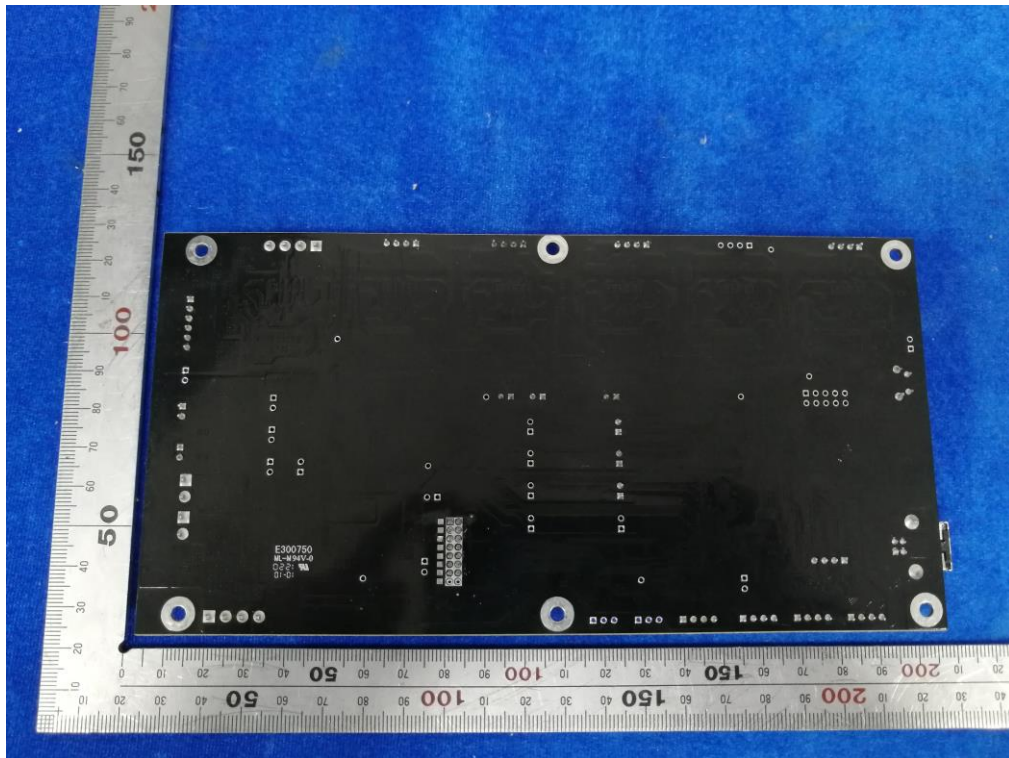


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Bild / Picture 19:

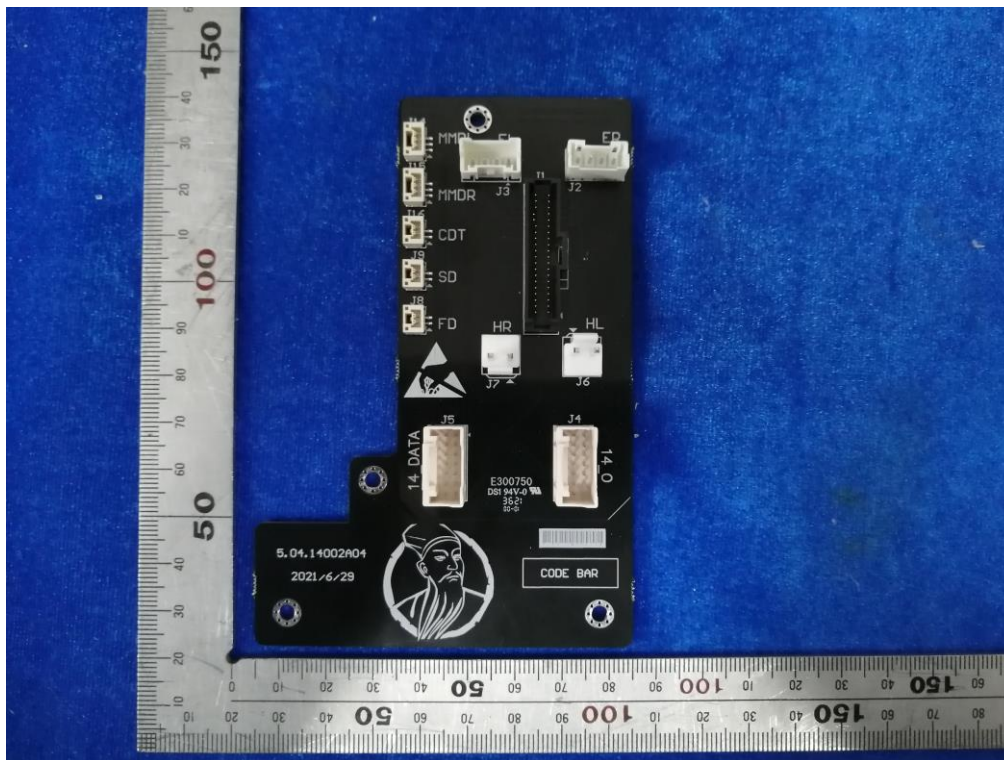
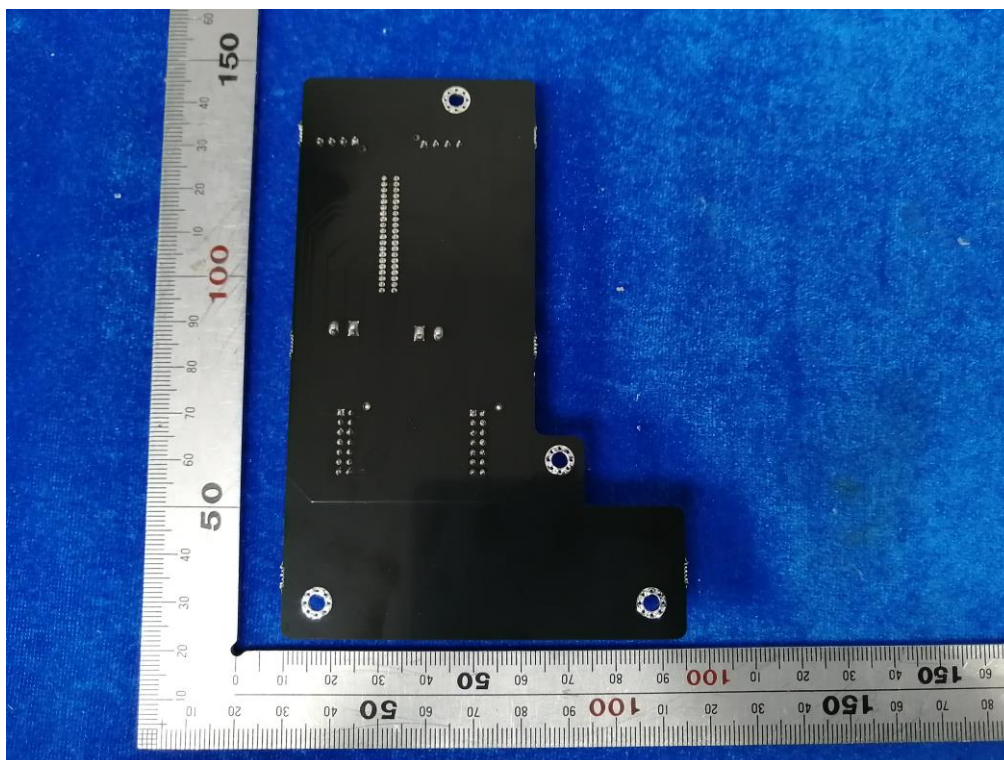


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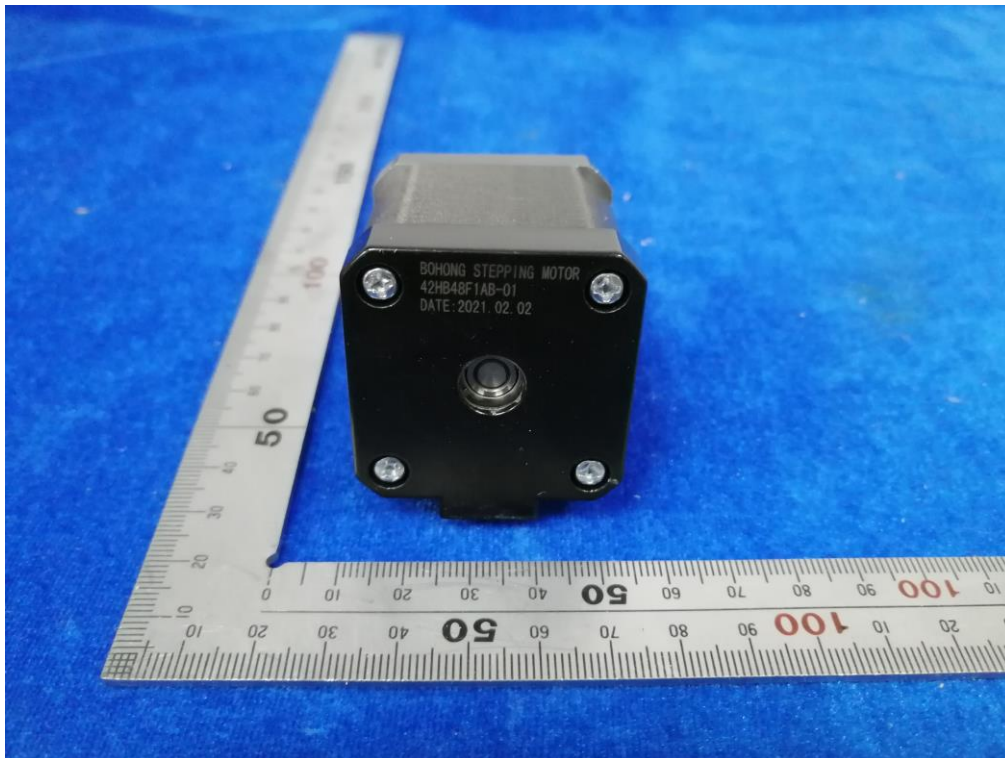
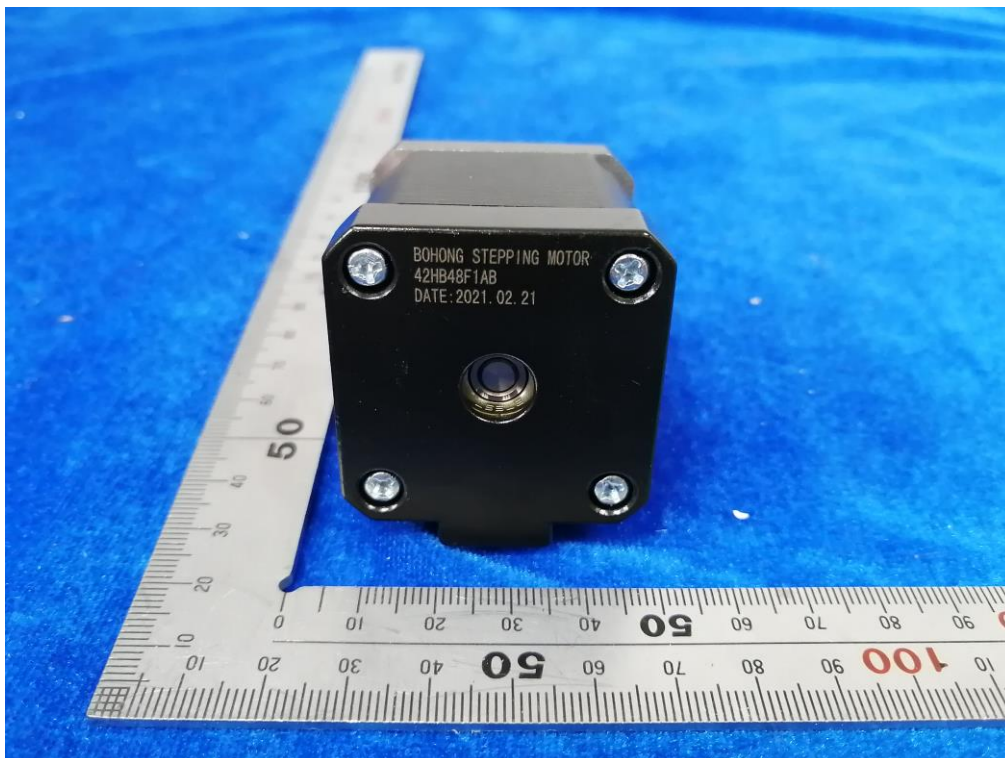


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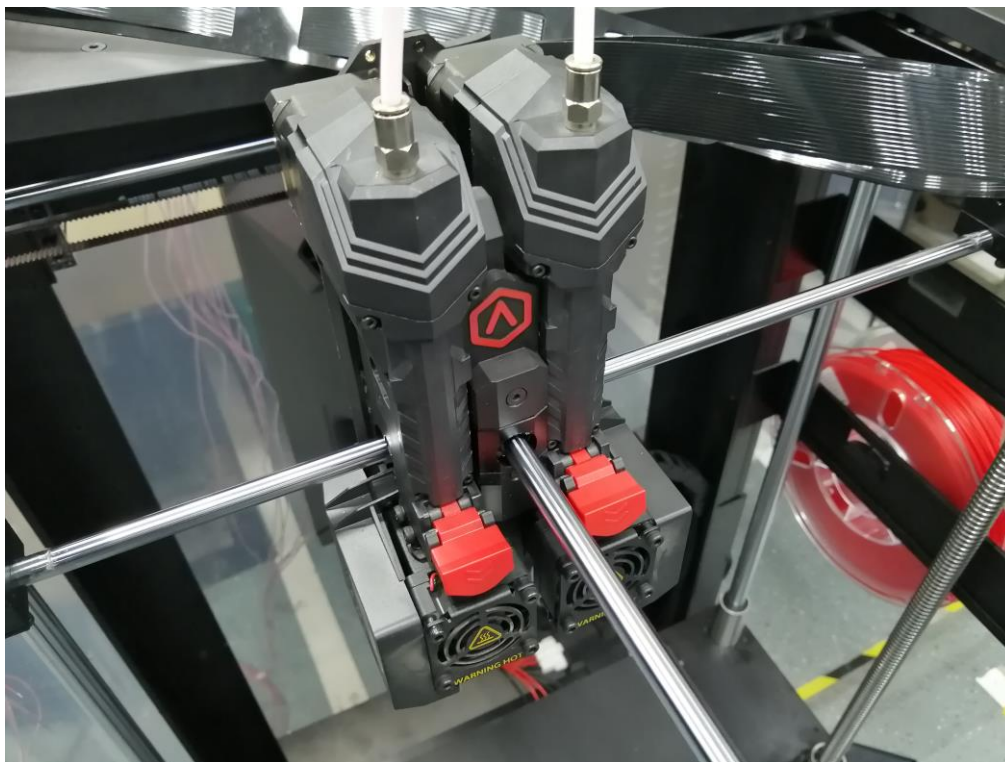


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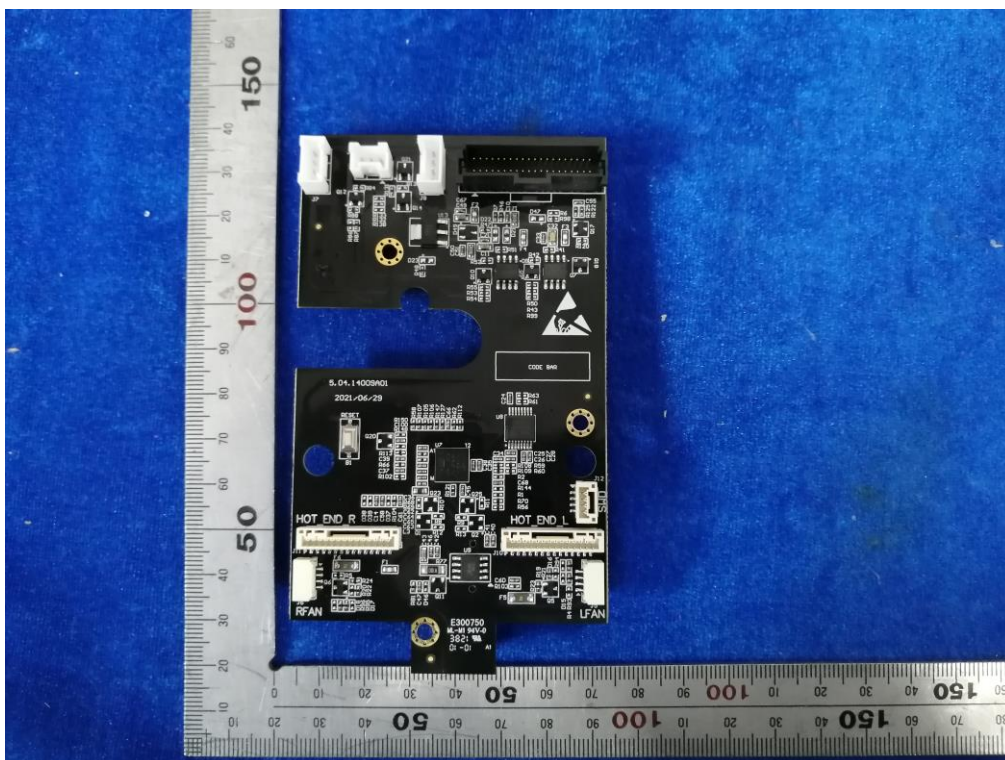


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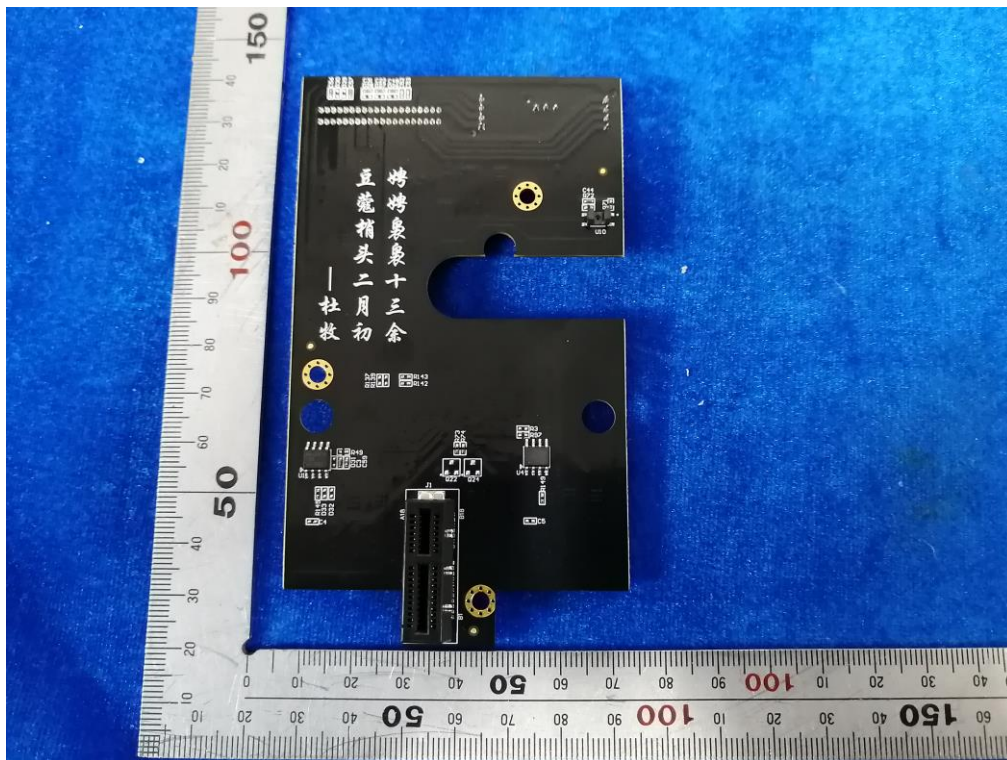


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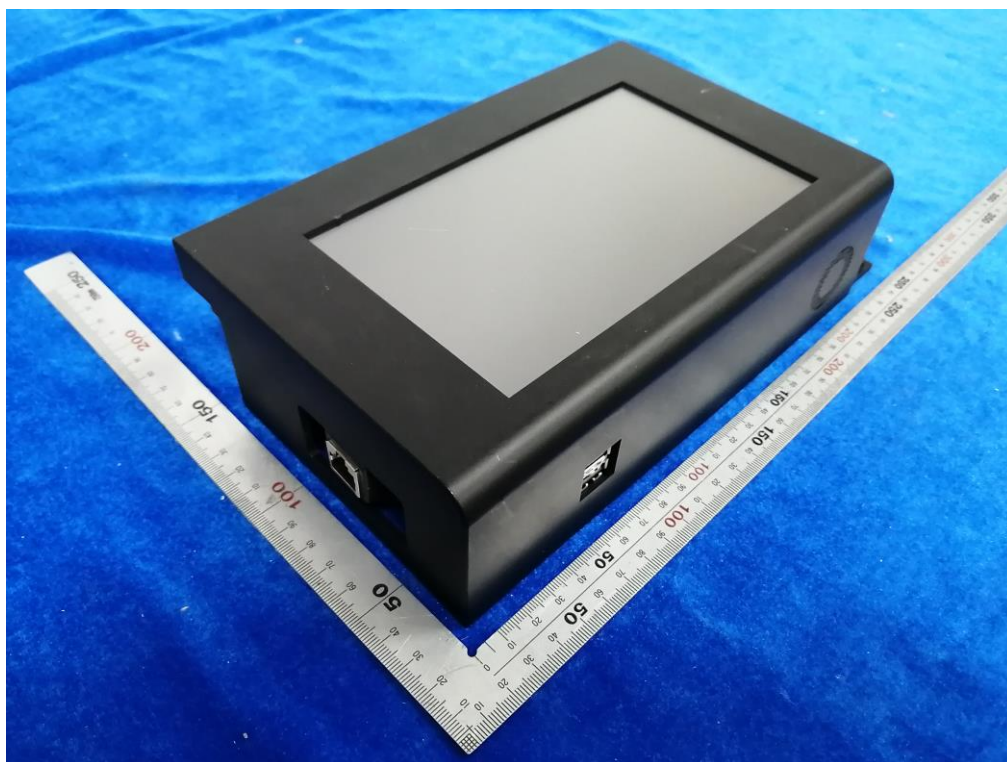


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Bild / Picture 27:



Bild / Picture 28:

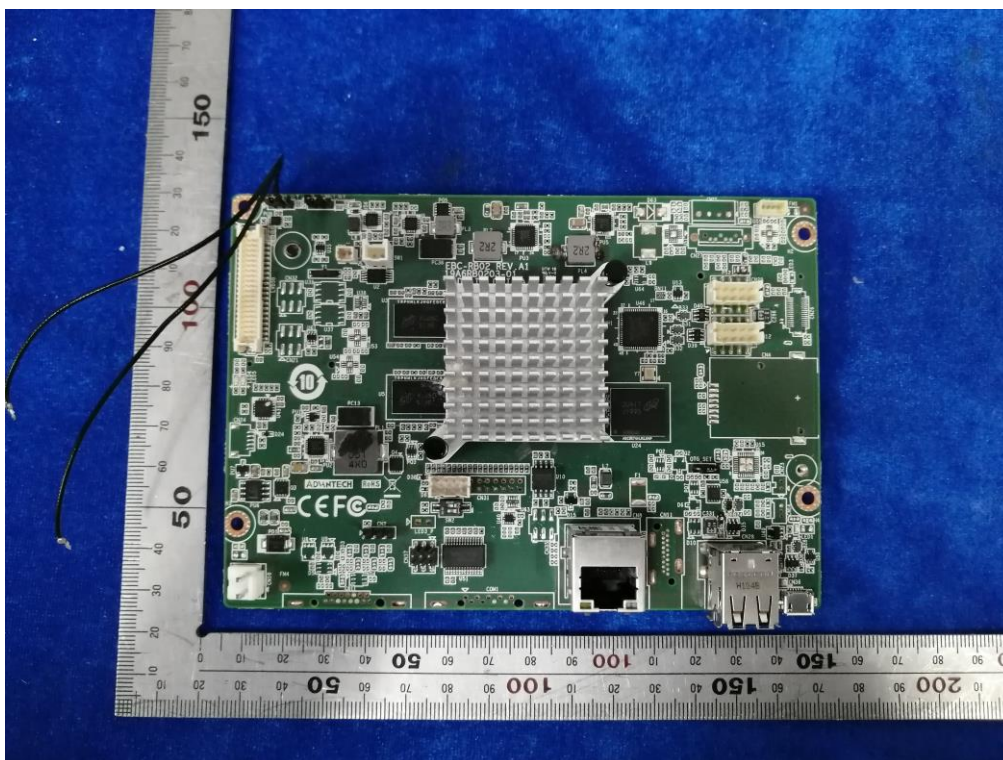


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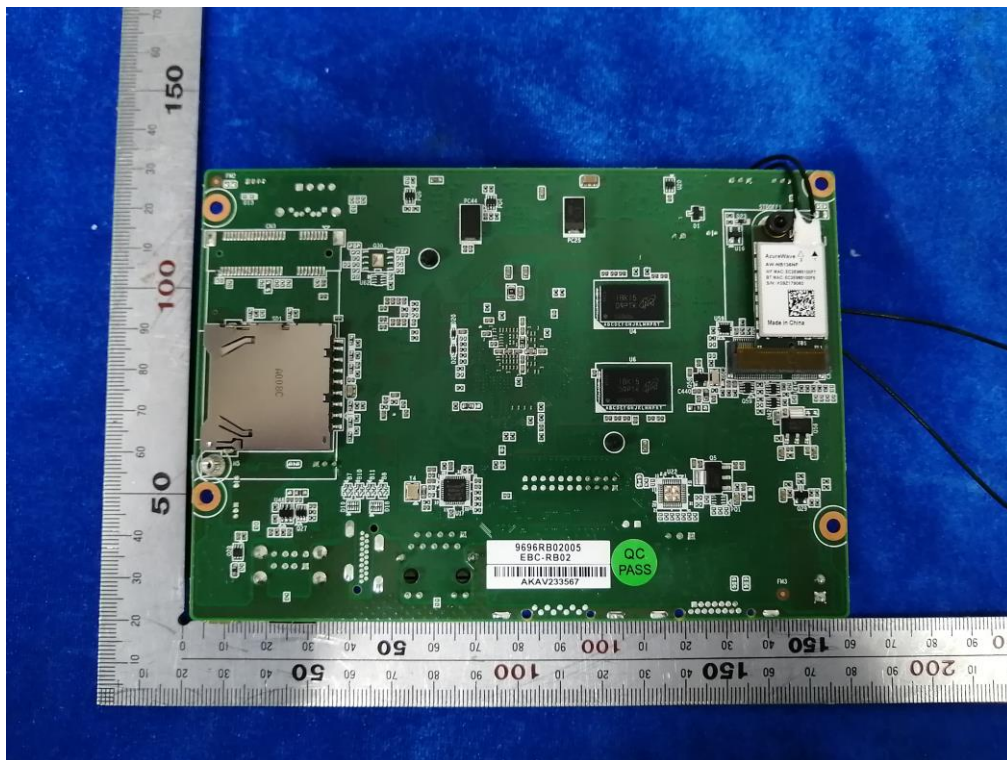
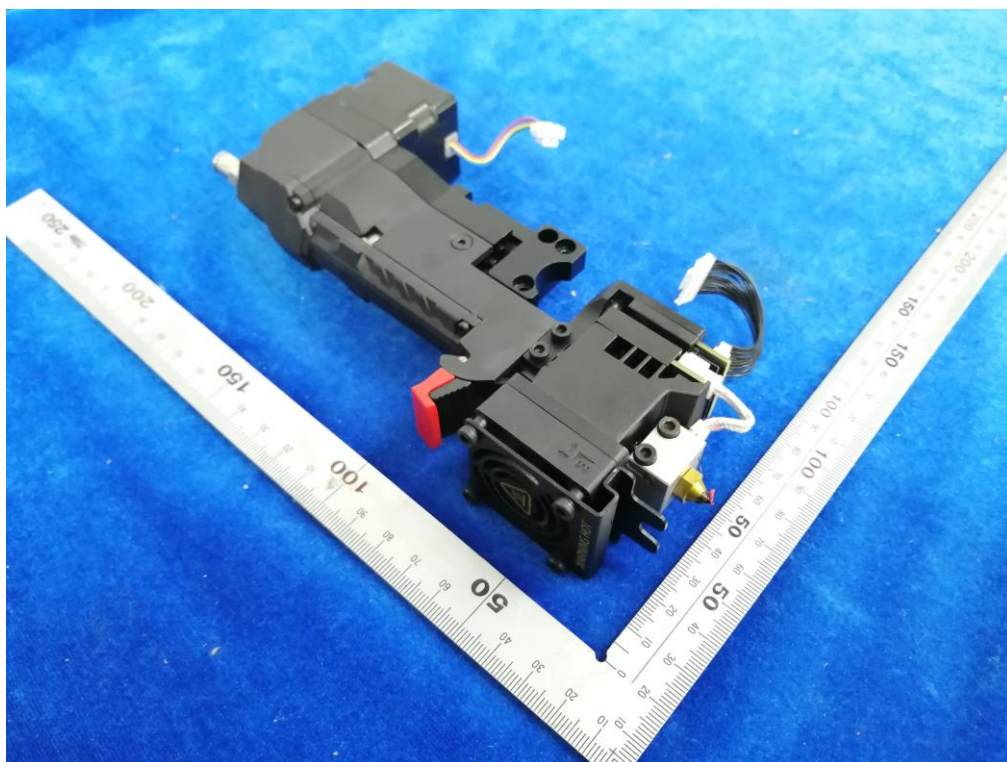


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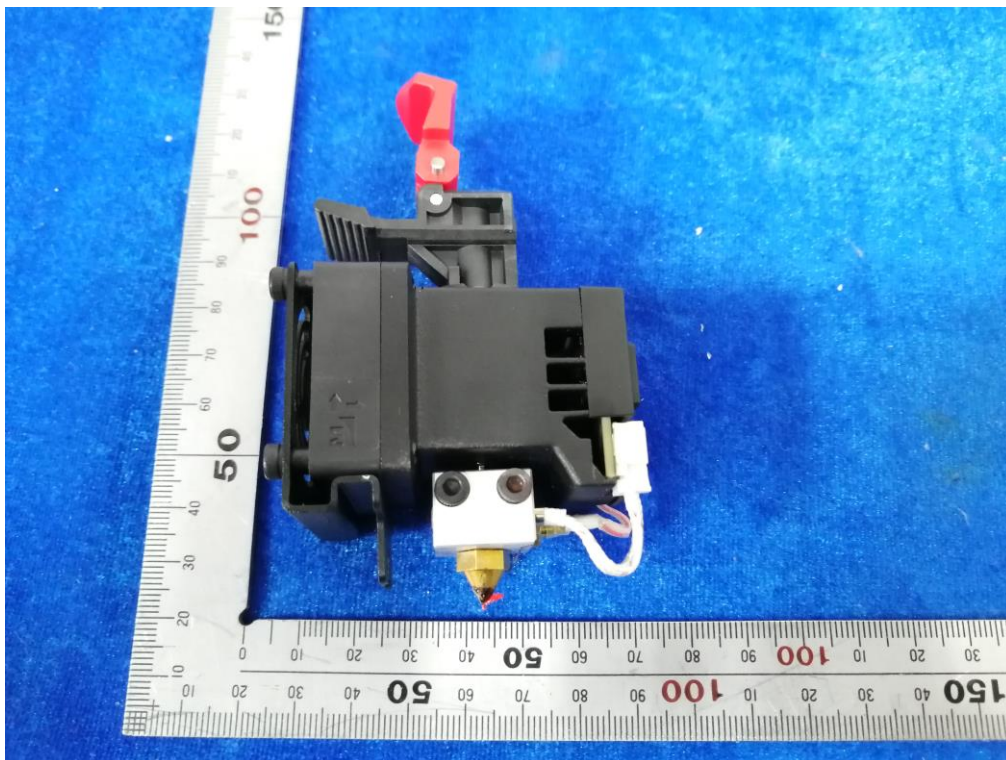


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Bild / Picture 33:

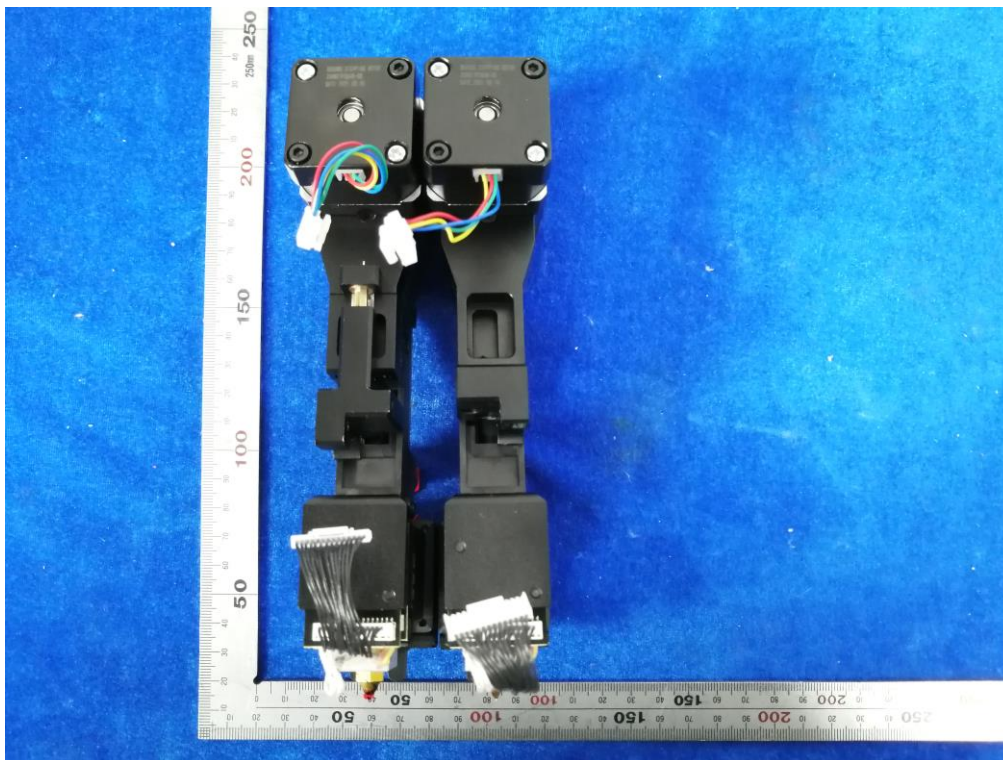
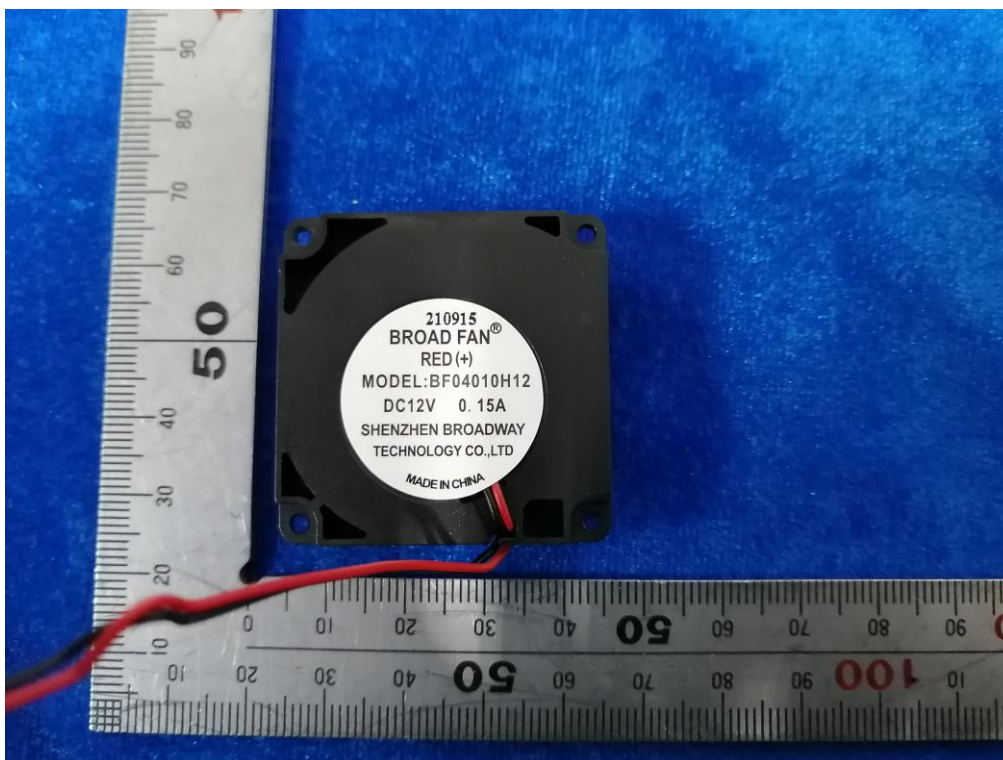


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Bild / Picture 36:

