



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..... : ENS2408080026S00101R  
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Name of Testing Laboratory preparing the Report ..... : EMTEK (Shenzhen) Co., Ltd  
Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

Applicant's name ..... : Guangzhou Licheng Electronic Technology Co., Ltd  
Address ..... : 101, 1st Floor, Building 3, No. 99 Tianyuan Road, Yonghe Economic Zone, Huangpu District, Guangzhou City, China

Test specification:

Standard ..... : IEC 62368-1:2018  
Test procedure..... : CB Scheme  
Non-standard test method ..... : N/A

TRF template used ..... : IECEE OD-2020-F1:2021, Ed.1.4  
Test Report Form No. .... : IEC62368\_1E  
Test Report Form(s) Originator.... : UL(US)  
Master TRF ..... : Dated 2022-04-14

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**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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<b>Test item description</b> .....	55 inches high brightness LCD monitor	
<b>Trade Mark(s)</b> .....		
<b>Manufacturer</b> .....	Same as Applicant	
<b>Model/Type reference</b> .....	LCD-55H	
<b>Ratings</b> .....	Input: 100-240V~, 50/60Hz, 3A Max.	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/> <b>CB Testing Laboratory:</b>	EMTEK (Shenzhen) Co., Ltd	
<b>Testing location/ address</b> .....	Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China	
<b>Tested by (name, function, signature) .....</b>	<b>Alan Ye / Project Handler</b>	
<b>Approved by (name, function, signature) ..</b>	<b>Angel Lan / Reviewer</b>	
<input type="checkbox"/> <b>Testing procedure: CTF Stage 1:</b>		
<b>Testing location/ address</b> .....		
<b>Tested by (name, function, signature) .....</b>		
<b>Approved by (name, function, signature) ..</b>		
<input type="checkbox"/> <b>Testing procedure: CTF Stage 2:</b>		
<b>Testing location/ address</b> .....		
<b>Tested by (name, function, signature) .....</b>		
<b>Witnessed by (name, function, signature) . :</b>		
<b>Approved by (name, function, signature) .. :</b>		
<input type="checkbox"/> <b>Testing procedure: CTF Stage 3:</b>		
<input type="checkbox"/> <b>Testing procedure: CTF Stage 4:</b>		
<b>Testing location/ address</b> .....		
<b>Tested by (name, function, signature) .....</b>		
<b>Witnessed by (name, function, signature) . :</b>		
<b>Approved by (name, function, signature) .. :</b>		
<b>Supervised by (name, function, signature) :</b>		

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

- National Differences (9 pages)
- Enclosures (10 pages)

**Summary of testing:****Tests performed (name of test and test clause):**

Glass fixation test (4.4.3.7, T.9)  
 Classification of electrical energy sources (5.2)  
 Temperature measurements (5.4.1.4, 9.3, B.1.5, B.2.6)  
 Minimum Clearances/Creepage distance (5.4.2, 5.4.3)  
 Humidity conditioning (5.4.8)  
 Electric strength tests (5.4.9)  
 Stored discharge on capacitors (5.5.2.2)  
 Resistance of protective conductors and terminations (5.6.6)  
 Unearthed accessible parts (5.7.4)  
 Earthed accessible conductive part (5.7.5)  
 Power source circuit classifications (6.2.2)  
 Input test (B.2.5)  
 Abnormal operating and fault condition tests (B.3, B.4)  
 Durability, legibility and permanence of markings (F.3.9, F.3.10)  
 Protection circuits for batteries provided within the equipment (M.3)  
 Circuits intended for interconnection with building wiring (LPS) (Annex Q.1)  
 Steady force test (T.2, T.3, T.5)  
 Impact tests (T.6, T.9)

**Testing location:**

EMTEK (Shenzhen) Co., Ltd  
 Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

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

USA / Canada.

- The product fulfills the requirements of UL 62368-1 3rd Edition, Revised October 22, 2021.
- The product fulfills the requirements of CAN/CSA C22.2 No. 62368-1:19, 3rd Edition, Revised October 22, 2021.



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

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

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

**Information on uncertainty of measurement:**

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

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

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

**Copy of marking plate:**

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

**Remark:**

For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

Test item particulars:	
<b>Product group</b> .....	<input type="checkbox"/> end product <input checked="" type="checkbox"/> built-in component
<b>Classification of use by</b> .....	<input checked="" type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Children likely present <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person
<b>Supply connection</b> .....	<input checked="" type="checkbox"/> AC mains <input type="checkbox"/> DC mains <input type="checkbox"/> not mains connected: <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
<b>Supply tolerance</b> .....	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +        %/ -        % <input type="checkbox"/> None
<b>Supply connection – type</b> .....	<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"/> 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:
<b>Considered current rating of protective device</b> .....	<input checked="" type="checkbox"/> 20A Location: <input checked="" type="checkbox"/> building <input type="checkbox"/> equipment <input type="checkbox"/> N/A
<b>Equipment mobility</b> .....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> direct plug-in <input checked="" type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> wall/ceiling-mounted <input type="checkbox"/> SRME/rack-mounted <input type="checkbox"/> other:
<b>Overvoltage category (OVC)</b> .....	<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:
<b>Class of equipment</b> .....	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified <input type="checkbox"/>
<b>Special installation location</b> .....	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> restricted access area <input type="checkbox"/> outdoor location <input type="checkbox"/>
<b>Pollution degree (PD)</b> .....	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
<b>Manufacturer's specified T<sub>ma</sub></b> .....	45°C <input type="checkbox"/> Outdoor: minimum                      °C
<b>IP protection class</b> .....	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP ____
<b>Power systems</b> .....	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - 230 V L-L <input type="checkbox"/> not AC mains
<b>Altitude during operation (m)</b> .....	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> m
<b>Altitude of test laboratory (m)</b> .....	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> m
<b>Mass of equipment (kg)</b> .....	Approx. 20kg

<b>Possible test case verdicts:</b>	
- 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)
<b>Testing:</b>	
Date of receipt of test item .....	2024-08-22
Date (s) of performance of tests .....	2024-08-22 to 2024-09-09
<b>General remarks:</b>	
"(See Enclosure #)" refers to additional information appended to the report.	
"(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:</b>	
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
<b>When differences exist; they shall be identified in the General product information section.</b>	
Name and address of factory (ies) .....	Guangzhou Licheng Electronic Technology Co., Ltd 101, 1st Floor, Building 3, No. 99 Tianyuan Road, Yonghe Economic Zone, Huangpu District, Guangzhou City, China



**General product information and other remarks:****Product Description:**

The equipment is Class I 55 inches high brightness LCD monitor which is intended to use as Audio/video, information and communication technology equipment.

1. This equipment consists of following critical parts:
  - LCD module 55" with LED backlight;
  - The rear is an open structure, and only the front panel can be accessed after finally installed;
  - Approved Building-in Switching Power Supply;
  - Main board (are ES1 circuit, at the same time, the customer defines that all secondary terminals are inaccessible after final installation).
2. A separately approved/certified power cord that incorporates plugs which complies with the special national requirements shall be provided with this unit when marking in the specified countries.

**Additional Information:**

The Label in Copy of marking plate is a draft of an artwork pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

**Engineering Conditions of Acceptability**

1. The following end-product enclosures are required: Mechanical, Fire, Electrical (except front panel side).
2. This equipment was not evaluated for system mounting. When installed in the end product proper evaluation should be considered.



<b>OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS</b>				
<b>Clause</b>	<b>Possible Hazard</b>			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: X capacitor connected between L and N	Assumed to be accessible by Ordinary person	N/A	N/A	See 5.5.2.2
ES3: All circuits except all secondary terminals	Assumed to be accessible by Ordinary person	See 5.4.2, 5.4.3	PE	Recognized Switching Power Supply board used, and Built-in component, enclosure should be provided in end product
ES1: All secondary terminals	Assumed to be accessible by Ordinary person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
PS3: All circuits except all secondary terminals	Metal enclosure	See 6.3	See 6.4.5, 6.4.6	Building-in equipment, shall evaluated in final system
PS3: All circuits except all secondary terminals	PCB	See 6.3	V-1 or better	N/A
PS3: All circuits except all secondary terminals	Internal / external wiring	See 6.3	See 6.5	N/A
PS3: All circuits except all secondary terminals	The other components/materials	See 6.3	See 6.4.5, 6.4.6	N/A
PS1: All secondary terminals	The other components/materials	N/A	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
RTC battery on mainboard (Electrolyte)	Assumed to be accessible by Ordinary person	N/A	N/A	See Annex M.3
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R

MS3: Equipment mass	Ordinary person	N/A	N/A	Stationary equipment
Sharp edges and corners (Building-in equipment, shall be evaluated in final system)	Ordinary person	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS3: Internal parts/circuits	Ordinary	N/A	N/A	Building-in equipment, shall evaluated in final system
TS1: Accessible surfaces (front panel side).	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LED backlight circuit ( $<10^4$ cd/ m <sup>2</sup> )	Ordinary	N/A	N/A	N/A
RS1: LED Indicator	Ordinary	N/A	N/A	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

**ENERGY SOURCE DIAGRAM**

**Optional.** Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems.

Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings

ES     PS     MS     TS     RS

**Details see OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS**



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Clause	Requirement + Test	Result - Remark	Verdict
<b>4</b>	<b>GENERAL REQUIREMENTS</b>		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. See also Annex G.	P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (°C) ..... :		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness	The equipment is a building-in type, consider on the front panel side. Other sides should be evaluated in final system.	P
4.4.3.1	General		P
4.4.3.2	Steady force tests	The equipment is a building-in type, consider on the front panel side (See appended Table T.2, T.3, T.4, T.5). Other sides should be evaluated in final system.	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	The equipment is a building-in type, consider on the front panel side (see appended Table T.6, T.9).  Other sides should be evaluated in final system.	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests	Laminated glass used for panel	N/A
4.4.3.7	Glass fixation tests		P
	Glass impact test (1J)	1J, 204mm, 3 times	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Push/pull test (10 N)	10N	P
4.4.3.8	Thermoplastic material tests		N/A
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness		P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks	No safety interlock used	N/A
<b>4.5</b>	<b>Explosion</b>		P
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions, See appended table B.2.6, B.3 and B.4, Annex M	P
4.5.2	No explosion during normal/abnormal operating condition		P
	No harm by explosion during single fault conditions		P
<b>4.6</b>	<b>Fixing of conductors</b>		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test .....		P
<b>4.7</b>	<b>Equipment for direct insertion into mains socket-outlets</b>		N/A
4.7.2	Mains plug part complies with relevant standard .. :	Not direct plug-in equipment	N/A
4.7.3	Torque (Nm) .....		N/A
<b>4.8</b>	<b>Equipment containing coin/button cell batteries</b>		N/A
4.8.1	General		N/A
4.8.2	Instructional safeguard .....		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
<b>4.9</b>	<b>Likelihood of fire or shock due to entry of conductive object</b>		P
<b>4.10</b>	<b>Component requirements</b>		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	Complied	P
<b>5</b>	<b>ELECTRICALLY-CAUSED INJURY</b>		P
<b>5.2</b>	<b>Classification and limits of electrical energy sources</b>		P
5.2.2	ES1, ES2 and ES3 limits	See below	P
5.2.2.2	Steady-state voltage and current limits .....	(See appended table 5.2)	P
5.2.2.3	Capacitance limits .....	(See appended table 5.2)	P
5.2.2.4	Single pulse limits .....		N/A
5.2.2.5	Limits for repetitive pulses .....		N/A
5.2.2.6	Ringing signals		N/A
5.2.2.7	Audio signals		N/A
<b>5.3</b>	<b>Protection against electrical energy sources</b>		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Under single fault conditions in the circuit between the ES2/ES3 circuits and accessible ES1 circuits, the current or voltage levels shall not exceed the ES1 limits	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
	Accessibility to outdoor equipment bare parts	Indoor equipment	N/A
5.3.2.2	Contact requirements		N/A
	Test with test probe from Annex V	Building-in equipment, shall evaluated in final system	—
5.3.2.2 a)	Air gap – electric strength test potential (V) .....		N/A
5.3.2.2 b)	Air gap – distance (mm) .....		N/A
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
<b>5.4</b>	<b>Insulation materials and requirements</b>		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials .....	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P



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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5	Pollution degrees .....	Pollution degree 2	--
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage .....	Evaluated in certified Switching Power Supply	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Evaluated in certified Switching Power Supply	P
5.4.1.10.2	Vicat test.....		N/A
5.4.1.10.3	Ball pressure test .....	Evaluated in certified Switching Power Supply	P
5.4.2	Clearances	Procedure 2 is higher. Hence the determination of clearance is by procedure 2.  (See appended table 5.4.2, 5.4.3)	P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2, 5.4.3)	P
	Temporary overvoltage .....	2000V peak	—
5.4.2.3	Procedure 2 for determining clearance	(See appended table 5.4.2, 5.4.3)	P
5.4.2.3.2.2	a.c. mains transient voltage .....	2500V peak	—
5.4.2.3.2.3	d.c. mains transient voltage .....	No connections to d.c. mains.	—
5.4.2.3.2.4	External circuit transient voltage.....	No connections to external circuit with transient voltage.	—
5.4.2.3.2.5	Transient voltage determined by measurement .....		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....	See above	N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....		N/A
5.4.2.6	Clearance measurement .....	(See appended table 5.4.2, 5.4.3)	P
5.4.3	Creepage distances	(See appended table 5.4.2, 5.4.3)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.3.1	General	See below	P
5.4.3.3	Material group .....	IIIb	—
5.4.3.4	Creepage distances measurement .....	(See appended table 5.4.2, 5.4.3)	P
5.4.4	Solid insulation		N/A
5.4.4.1	General requirements		N/A
5.4.4.2	Minimum distance through insulation .....		N/A
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices	Evaluated in certified Switching Power Supply	P
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	Evaluated in certified Switching Power Supply	P
	Number of layers (pcs) .....	Evaluated in certified Switching Power Supply	P
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs) .....		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material .....		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	Evaluated in certified Switching Power Supply	P
5.4.4.9	Solid insulation at frequencies >30 kHz, $E_P$ , $K_R$ , $d$ , $V_{PW}$ (V) .....	Evaluated in certified Switching Power Supply	P
	Alternative by electric strength test, tested voltage (V), $K_R$ .....		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance ( $M\Omega$ ) .....		N/A
	Electric strength test .....		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Relative humidity (%), temperature (°C), duration (h) .....	95%, 40°C, 120h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for type test of solid insulation.....:	Compliance was checked immediately following temperature test in 5.4.1.4 and test on a sample of the transformer raised to the relevant temperature as measured during that test. After Humidity conditioning, retested	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits	No such external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test .....		N/A
5.4.10.2.3	Steady-state test.....:		N/A
5.4.10.3	Verification for insulation breakdown for impulse test .....		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage $U_{op}$ (V).....:		—
	Nominal voltage $U_{peak}$ (V).....:		—
	Max increase due to variation $\Delta U_{sp}$ .....		—
	Max increase due to ageing $\Delta U_{sa}$ .....		—
5.4.11.3	Test method and compliance .....		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid .....		N/A
5.4.12.3	Compatibility of an insulating liquid .....		N/A
5.4.12.4	Container for insulating liquid .....		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
<b>5.5</b>	<b>Components as safeguards</b>		P
5.5.1	General	See the following details.	P
5.5.2	Capacitors and RC units	Evaluated in certified Switching Power Supply	P
5.5.2.1	General requirement	See the following details.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector .....	(See appended table 5.5.2.2)	P
5.5.3	Transformers	Evaluated in certified Switching Power Supply	P
5.5.4	Optocouplers	Evaluated in certified Switching Power Supply	P
5.5.5	Relays	Evaluated in certified Switching Power Supply	P
5.5.6	Resistors		N/A
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable .....		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA) .....		—
<b>5.6</b>	<b>Protective conductor</b>		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements	See below. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
5.6.2.2	Colour of insulation	Green and yellow	P
5.6.3	Requirement for protective earthing conductors	Approved AC inlet used, no power supply cord provided	P
	Protective earthing conductor size (mm <sup>2</sup> ) .....	Approved AC inlet used	—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors	Complied with requirement of Clause 5.6.6	P
	Protective bonding conductor size (mm <sup>2</sup> ) .....	Bonding wire: min. 12AWG	—
5.6.4.2	Protective current rating (A) .....	20A	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.5	Terminals for protective conductors		P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	Approved appliance inlet used for connecting protective earthing conductor	P
	Terminal size for connecting protective bonding conductors (mm)..... :	Terminal for protective bonding conductor comply with 5.6.6 Thread diameter (screw type): min. 3.5mm. Thread diameter (pillar type): min. 3.0mm	P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system	See below. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
5.6.6.1	Requirements		P
5.6.6.2	Test Method..... :	(See appended table 5.6.6)	P
5.6.6.3	Resistance ( $\Omega$ ) or voltage drop..... :	(See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm <sup>2</sup> )..... :		N/A
	Class II with functional earthing marking .....		N/A
	Appliance inlet cl & cr (mm)..... :		N/A
<b>5.7</b>	<b>Prospective touch voltage, touch current and protective conductor current</b>		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	Figure 4 of IEC 60990 is used in determination of limits of ES1.	P
5.7.2.2	Measurement of voltage	Figure 4 of IEC 60990 is used in determination of limits of ES1.	P
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4 and sub-clauses 5.3 and 5.4 of IEC 60990 applied	P
5.7.4	Unearthed accessible parts .....	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts .....	(See appended table 5.7.5)	P
5.7.6	Requirements when touch current exceeds ES2 limits	Current not exceeding ES2.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA) .....		N/A
	b) Equipment connected to unearthed external circuits, current (mA) .....		N/A
<b>5.8</b>	<b>Backfeed safeguard in battery backed up supplies</b>		N/A
	Mains terminal ES..... :	No such parts.	N/A
	Air gap (mm)..... :		N/A

<b>6</b>	<b>ELECTRICALLY- CAUSED FIRE</b>		P
<b>6.2</b>	<b>Classification of PS and PIS</b>		P
6.2.2	Power source circuit classifications..... :	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS .....	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS .....	(See appended table 6.2.3.2)	P
<b>6.3</b>	<b>Safeguards against fire under normal operating and abnormal operating conditions</b>		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials .....	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure .....		N/A
<b>6.4</b>	<b>Safeguards against fire under single fault conditions</b>		P
6.4.1	Safeguard method	Method of control of fire spread was applied.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions .....		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P



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Clause	Requirement + Test	Result - Remark	Verdict
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: -Printed board: V-1 min. -Wire insulation: complying with Clause 6.5. -All other components: at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g) or components complying to relevant IEC standard -Isolating transformer: complying with G.5.3.	P
6.4.6	Control of fire spread in PS3 circuits	Building-in equipment, shall evaluated in end system	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	Building-in equipment, shall evaluated in end system	N/A
6.4.8.2	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		N/A
	Openings dimensions (mm)..... :	Building-in equipment, shall evaluated in end system	N/A
6.4.8.3.4	Bottom openings and properties		N/A
	Openings dimensions (mm)..... :	Building-in equipment, shall evaluated in end system	N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties		N/A
	Openings dimensions (mm)..... :	Building-in equipment, shall evaluated in end system	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c) .....		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating .....		N/A
6.4.9	Flammability of insulating liquid.....		N/A
<b>6.5</b>	<b>Internal and external wiring</b>		<b>P</b>
6.5.1	General requirements	Internal input wires comply with UL 758, which has the equivalent requirement with IEC/TS 60695-11-21.	P
6.5.2	Requirements for interconnection to building wiring .....		N/A
6.5.3	Internal wiring size (mm <sup>2</sup> ) for socket-outlets.....		N/A
<b>6.6</b>	<b>Safeguards against fire due to the connection to additional equipment</b>		<b>P</b>

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

<b>8</b>	<b>MECHANICALLY-CAUSED INJURY</b>		<b>P</b>
8.2	<b>Mechanical energy source classifications</b>		<b>P</b>
8.3	<b>Safeguards against mechanical energy sources</b>		<b>P</b>
8.4	<b>Safeguards against parts with sharp edges and corners</b>		<b>P</b>
8.4.1	Safeguards	MS1 for accessible surface of equipment. MS3 for Mass of equipment	P
	Instructional Safeguard .....		N/A
8.4.2	Sharp edges or corners		P
8.5	<b>Safeguards against moving parts</b>		<b>N/A</b>
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	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
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts	No moving parts.	N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm) .....		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly .....		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts .....		N/A
8.5.4.3.3	Disconnection from the supply	Approved power switch used.	P
8.5.4.3.4	Cut type and test force (N).....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps	No high pressure lamps.	N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm) .....		N/A
<b>8.6</b>	<b>Stability of equipment</b>		N/A
8.6.1	General	Building-in equipment	N/A
	Instructional safeguard.....:		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test .....		N/A
8.6.2.3	Downward force test		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
8.6.3	Relocation stability		N/A
	Wheels diameter (mm) .....		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test .....		N/A
<b>8.7</b>	<b>Equipment mounted to wall, ceiling or other structure</b>		N/A
8.7.1	Mount means type .....		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N).....		N/A
	Test 2, number of attachment points and test force (N).....		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm).....		N/A
<b>8.8</b>	<b>Handles strength</b>		N/A
8.8.1	General		N/A
8.8.2	Handle strength test		N/A
	Number of handles.....		—
	Force applied (N) .....		—
<b>8.9</b>	<b>Wheels or casters attachment requirements</b>		N/A
8.9.2	Pull test		N/A
<b>8.10</b>	<b>Carts, stands and similar carriers</b>		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions .....		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N) .....		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N) .....		—
8.10.6	Thermoplastic temperature stability		N/A
<b>8.11</b>	<b>Mounting means for slide-rail mounted equipment (SRME)</b>		N/A
8.11.1	General	Not such equipment	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard .....		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied.....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
<b>8.12</b>	<b>Telescoping or rod antennas</b>		N/A
	Button/ball diameter (mm) .....	No antennas	—

<b>9</b>	<b>THERMAL BURN INJURY</b>		P
<b>9.2</b>	<b>Thermal energy source classifications</b>		P
<b>9.3</b>	<b>Touch temperature limits</b>		P
9.3.1	Touch temperatures of accessible parts .....	All internal parts are classified as TS3.  All accessible surfaces (front panel side) are classified as TS1, see appended table 5.4.1.4, 9.3, B.1.5, B.2.6.  However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
9.3.2	Test method and compliance		P
<b>9.4</b>	<b>Safeguards against thermal energy sources</b>		P
<b>9.5</b>	<b>Requirements for safeguards</b>		P
9.5.1	Equipment safeguard		P
9.5.2	Instructional safeguard.....	Instructional safeguard is not required.	N/A
<b>9.6</b>	<b>Requirements for wireless power transmitters</b>		N/A
9.6.1	General	No such parts.	N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance .....		N/A

<b>10</b>	<b>RADIATION</b>		P
<b>10.2</b>	<b>Radiation energy source classification</b>		P
10.2.1	General classification	See table of "Overview of employed safeguards" for details	P
	Lasers .....	No laser radiation.	—
	Lamps and lamp systems.....		—
	Image projectors .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	X-Ray..... :		—
	Personal music player ..... :		—
<b>10.3</b>	<b>Safeguards against laser radiation</b>		N/A
	The standard(s) equipment containing laser(s) comply .....:		N/A
<b>10.4</b>	<b>Safeguards against optical radiation from lamps and lamp systems (including LED types)</b>		P
10.4.1	General requirements	LED used for indicating light and LED backlight (less than 10000cd/m <sup>2</sup> ) used within this equipment is considered as RS1	P
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location.....:		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure .....:		N/A
10.4.3	Instructional safeguard ..... :		N/A
<b>10.5</b>	<b>Safeguards against X-radiation</b>		N/A
10.5.1	Requirements	No such x-radiation generated from the equipment	N/A
	Instructional safeguard for skilled persons ..... :		—
10.5.3	Maximum radiation (pA/kg)..... :		—
<b>10.6</b>	<b>Safeguards against acoustic energy sources</b>		N/A
10.6.1	General	Not such equipment.	N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$ , dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A
	Digital output signal (dBFS).....:		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30) .....:		N/A
	Warning for MEL $\geq$ 100 dB(A) .....:		N/A
10.6.4	Measurement methods		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
10.6.5	Protection of persons		N/A
	Instructional safeguards .....		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV).....		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$ , dB(A).....		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$ , dB(A).....		N/A

<b>B</b>	<b>NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS</b>		P
<b>B.1</b>	<b>General</b>		P
B.1.5	Temperature measurement conditions	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
<b>B.2</b>	<b>Normal operating conditions</b>		P
B.2.1	General requirements.....	Maximum rated output applied	P
	Audio Amplifiers and equipment with audio amplifiers .....		N/A
B.2.3	Supply voltage and tolerances	$\pm 10\%$ of rated voltage	P
B.2.5	Input test.....	(See appended table B.2.5)	P
<b>B.3</b>	<b>Simulated abnormal operating conditions</b>		P
B.3.1	General	(See appended table B.3, B.4)	P
B.3.2	Covering of ventilation openings	Building-in equipment, shall evaluated in end system	N/A
	Instructional safeguard .....	Not such equipment.	N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector	No voltage selector	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions .....	(See appended table B.3, B.4)	P
<b>B.4</b>	<b>Simulated single fault conditions</b>		P
B.4.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test	Building-in equipment, shall evaluated in end system	N/A
B.4.4	Functional insulation	(See appended table B.3, B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards.	N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	Evaluated in certified Switching Power Supply	P
B.4.6	Short circuit or disconnection of passive components	Evaluated in certified Switching Power Supply	P
B.4.7	Continuous operation of components	The equipment is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Compliance during and after single fault conditions .....:	During and after a single fault condition, a class 1 or class 2 energy sources did not become a class 3 energy source.  For a class 3 energy source, during and after a single fault condition, at least one safeguard continued to comply with the relevant safeguard requirements.	P
B.4.9	Battery charging and discharging under single fault conditions	Ultracapacitor was considered. See Annex M	P
<b>C</b>	<b>UV RADIATION</b>		N/A
<b>C.1</b>	<b>Protection of materials in equipment from UV radiation</b>		N/A
C.1.2	Requirements	No such UV RADIATION provided within the equipment.	N/A
C.1.3	Test method		N/A
<b>C.2</b>	<b>UV light conditioning test</b>		N/A
C.2.1	Test apparatus .....		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
<b>D</b>	<b>TEST GENERATORS</b>		N/A
<b>D.1</b>	<b>Impulse test generators</b>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>D.2</b>	<b>Antenna interface test generator</b>		N/A
<b>D.3</b>	<b>Electronic pulse generator</b>		N/A
<b>E</b>	<b>TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS</b>		N/A
<b>E.1</b>	<b>Electrical energy source classification for audio signals</b>		N/A
	Maximum non-clipped output power (W) .....		—
	Rated load impedance ( $\Omega$ ) .....		—
	Open-circuit output voltage (V) .....		—
	Instructional safeguard .....		—
<b>E.2</b>	<b>Audio amplifier normal operating conditions</b>		N/A
	Audio signal source type .....		—
	Audio output power (W).....		—
	Audio output voltage (V).....		—
	Rated load impedance ( $\Omega$ ) .....		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
<b>F</b>	<b>EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS</b>		P
<b>F.1</b>	<b>General</b>		P
	Language .....	English version provided. (Version in other language will be provided when submitted for national approval)	—
<b>F.2</b>	<b>Letter symbols and graphical symbols</b>		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are compliance with IEC 60027-1	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphic symbols are compliance with IEC 60417 or ISO 3864-2 or ISO 7000	P
<b>F.3</b>	<b>Equipment markings</b>		P
F.3.1	Equipment marking locations	Equipment marking is located on its exterior surface and is readily visible	P
F.3.2	Equipment identification markings	See the following details.	P
F.3.2.1	Manufacturer identification .....	See copy of marking plate	P
F.3.2.2	Model identification .....	See copy of marking plate	P
F.3.3	Equipment rating markings	See the following details.	P
F.3.3.1	Equipment with direct connection to mains		P



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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage.....:	~	P
F.3.3.4	Rated voltage .....	See copy of marking plate	P
F.3.3.5	Rated frequency .....	See copy of marking plate	P
F.3.3.6	Rated current or rated power .....	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections	No multiple supply connections	N/A
F.3.4	Voltage setting device	No voltage setting device	N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings .....	No mains appliance outlet and socket-outlet	N/A
F.3.5.2	Switch position identification marking .....	The IEC 60417-5007 and IEC 60417-5008 (I and 0) are marked on the power switch.	P
F.3.5.3	Replacement fuse identification and rating markings .....	Evaluated in the test report of Switching Power Supply	P
	Instructional safeguards for neutral fuse .....		N/A
F.3.5.4	Replacement battery identification marking .....	No such battery on the equipment	N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification	See below.	P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal.....:	Marked on certified AC inlet	P
F.3.6.1.2	Protective bonding conductor terminals .....		N/A
F.3.6.2	Equipment class marking .....	Class I equipment	N/A
F.3.6.3	Functional earthing terminal marking .....	Class I equipment	N/A
F.3.7	Equipment IP rating marking .....	IPX0	P
F.3.8	External power supply output marking .....	Not external power supply.	N/A
F.3.9	Durability, legibility and permanence of marking	The marking is durable and legible, and can be easily discernible under normal lighting conditions.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.  After each test, the marking remained legible.	P
<b>F.4</b>	<b>Instructions</b>		P
	a) Information prior to installation and initial use	Contained in user manual	P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection	Relevant safety caution texts and installation instruction are available.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		P
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		P
	h) Protective conductor current exceeding ES2 limits	Not exceed ES2.	N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
<b>F.5</b>	Instructional safeguards		P
<b>G</b>	<b>COMPONENTS</b>		P
<b>G.1</b>	<b>Switches</b>		P
G.1.1	General	Approved power switch used. (See appended table 4.1.2)	P
G.1.2	Ratings, endurance, spacing, maximum load		P
G.1.3	Test method and compliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>G.2</b>	<b>Relays</b>		P
G.2.1	Requirements	Evaluated in certified Switching Power Supply	P
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
<b>G.3</b>	<b>Protective devices</b>		P
G.3.1	Thermal cut-offs	No thermal cut-offs used	N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics	No Thermal links	N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors	No PTC thermistors	N/A
G.3.4	Overcurrent protection devices	Fuse used on the approved Switching Power Supply	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:	(See appended table B.4)	N/A
<b>G.4</b>	<b>Connectors</b>		P
G.4.1	Spacings	The AC inlet complied with IEC 60320-1.	P
G.4.2	Mains connector configuration .....	The AC inlet complied with IEC 60320-1.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No misconnection likely.	P
<b>G.5</b>	<b>Wound components</b>		P
G.5.1	Wire insulation in wound components	Evaluated in certified Switching Power Supply	P
G.5.1.2	Protection against mechanical stress	Evaluated in certified Switching Power Supply	P



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Clause	Requirement + Test	Result - Remark	Verdict
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle) .....		—
	Test temperature (°C).....		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method .....	Evaluated in certified Switching Power Supply	P
	Position.....	Evaluated in certified Switching Power Supply	—
	Method of protection.....	Evaluated in certified Switching Power Supply	P
G.5.3.2	Insulation		P
	Protection from displacement of windings.....	Evaluated in certified Switching Power Supply	—
G.5.3.3	Transformer overload tests	Evaluated in certified Switching Power Supply	P
G.5.3.3.1	Test conditions	Evaluated in certified Switching Power Supply	P
G.5.3.3.2	Winding temperatures	Evaluated in certified Switching Power Supply	P
G.5.3.3.3	Winding temperatures – alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter.....		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation .....		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	DC fan used for internal power supply	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.1	General requirements	Building-in equipment, shall evaluated in end system	P
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) .....		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature .....		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage .....		—
<b>G.6</b>	<b>Wire Insulation</b>		P
G.6.1	General	Approved lead wire used. Evaluated in certified Switching Power Supply	P
G.6.2	Enamelled winding wire insulation		N/A
<b>G.7</b>	<b>Mains supply cords</b>		N/A
G.7.1	General requirements	No mains cord provided.	N/A
	Type.....		—
G.7.2	Cross sectional area (mm <sup>2</sup> or AWG).....		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) .....		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, <i>D</i> (mm) .....		—
	Radius of curvature after test (mm).....		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
<b>G.8</b>	<b>Varistors</b>		P
G.8.1	General requirements	Evaluated in certified Switching Power Supply	P
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
<b>G.9</b>	<b>Integrated circuit (IC) current limiters</b>		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A) .....		—
	Manufacturers' defined drift .....		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
<b>G.10</b>	<b>Resistors</b>		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
<b>G.11</b>	<b>Capacitors and RC units</b>		P
G.11.1	General requirements	Evaluated in certified Switching Power Supply	P
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
<b>G.12</b>	<b>Optocouplers</b>		P



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Clause	Requirement + Test	Result - Remark	Verdict
	Optocouplers comply with IEC 60747-5-5 with specifics	Evaluated in certified Switching Power Supply	P
	Type test voltage $V_{ini,a}$ .....	Evaluated in certified Switching Power Supply	—
	Routine test voltage, $V_{ini,b}$ .....	Evaluated in certified Switching Power Supply	—
<b>G.13</b>	<b>Printed boards</b>		P
G.13.1	General requirements	See appended table 4.1.2	P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation .....		N/A
	Number of insulation layers (pcs) .....		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
<b>G.14</b>	<b>Coating on components terminals</b>		N/A
G.14.1	Requirements .....	No coating on component terminals considered to affect creepage or clearances.	N/A
<b>G.15</b>	<b>Pressurized liquid filled components</b>		N/A
G.15.1	Requirements	No such device provided within the equipment.	N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
<b>G.16</b>	<b>IC including capacitor discharge function (ICX)</b>		P
G.16.1	Condition for fault tested is not required	Evaluated in certified Switching Power Supply	P
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test.....:		—
	Mains voltage that impulses to be superimposed on .....		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test .....		—
G.16.3	Capacitor discharge test.....:		N/A
<b>H</b>	<b>CRITERIA FOR TELEPHONE RINGING SIGNALS</b>		N/A
<b>H.1</b>	<b>General</b>		N/A
<b>H.2</b>	<b>Method A</b>		N/A
<b>H.3</b>	<b>Method B</b>		N/A
H.3.1	Ringling signal	No telephone 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		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) .....		N/A
<b>J</b>	<b>INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION</b>		P
<b>J.1</b>	<b>General</b>		P
	Winding wire insulation.....:	Certified triple insulation wire used. Evaluated in certified Switching Power Supply	—
	Solid round winding wire, diameter (mm).....:		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm <sup>2</sup> ) .....		N/A
<b>J.2/J.3</b>	Tests and Manufacturing		—
<b>K</b>	<b>SAFETY INTERLOCKS</b>		N/A
<b>K.1</b>	<b>General requirements</b>		N/A
	Instructional safeguard .....	No safety interlock provided within the equipment.	N/A
<b>K.2</b>	<b>Components of safety interlock safeguard mechanism</b>		N/A
<b>K.3</b>	<b>Inadvertent change of operating mode</b>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>K.4</b>	<b>Interlock safeguard override</b>		N/A
<b>K.5</b>	<b>Fail-safe</b>		N/A
K.5.1	Under single fault condition		N/A
<b>K.6</b>	<b>Mechanically operated safety interlocks</b>		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance .....		N/A
<b>K.7</b>	<b>Interlock circuit isolation</b>		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm) .....		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm) .....		N/A
	Electric strength test before and after the test of K.7.2 .....		N/A
K.7.2	Overload test, Current (A) .....		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
<b>L</b>	<b>DISCONNECT DEVICES</b>		P
<b>L.1</b>	<b>General requirements</b>	The AC appliance coupler used as disconnect device	P
<b>L.2</b>	<b>Permanently connected equipment</b>		N/A
<b>L.3</b>	<b>Parts that remain energized</b>	No such parts when coupler used.	N/A
<b>L.4</b>	<b>Single-phase equipment</b>	Disconnect device disconnects all poles simultaneously.	P
<b>L.5</b>	<b>Three-phase equipment</b>		N/A
<b>L.6</b>	<b>Switches as disconnect devices</b>		N/A
<b>L.7</b>	<b>Plugs as disconnect devices</b>		N/A
<b>L.8</b>	<b>Multiple power sources</b>		N/A
	Instructional safeguard .....		N/A
<b>M</b>	<b>EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS</b>		P
<b>M.1</b>	<b>General requirements</b>		P
<b>M.2</b>	<b>Safety of batteries and their cells</b>		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards.....		N/A
<b>M.3</b>	<b>Protection circuits for batteries provided within the equipment</b>	RTC battery was considered, see Annex M.3.	P



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Clause	Requirement + Test	Result - Remark	Verdict
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery	(See appended Tables Annex M.3)	P
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		P
M.3.3	Compliance	(See appended Tables Annex M.3)	P
<b>M.4</b>	<b>Additional safeguards for equipment containing a portable secondary lithium battery</b>		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance .....		N/A
M.4.3	Fire enclosure.....		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): .....		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
<b>M.5</b>	<b>Risk of burn due to short-circuit during carrying</b>		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
<b>M.6</b>	<b>Safeguards against short-circuits</b>		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
<b>M.7</b>	<b>Risk of explosion from lead acid and NiCd batteries</b>		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate .....		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m <sup>3</sup> /h).....		N/A
M.7.3	Ventilation tests		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%):.....:		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate .....		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%):.....:		N/A
M.7.4	Marking.....:		N/A
<b>M.8</b>	<b>Protection against internal ignition from external spark sources of batteries with aqueous electrolyte</b>		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume $V_z$ ( $m^3/s$ ) .....		—
M.8.2.3	Correction factors .....		—
M.8.2.4	Calculation of distance $d$ (mm) .....		—
<b>M.9</b>	<b>Preventing electrolyte spillage</b>		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
<b>M.10</b>	<b>Instructions to prevent reasonably foreseeable misuse</b>		N/A
	Instructional safeguard .....		N/A
<b>N</b>	<b>ELECTROCHEMICAL POTENTIALS</b>		P
	Material(s) used.....:	The internal metal enclosure is made of mild steel, screw spring washer are made of Ni on steel. Less than 0.6V	—
<b>O</b>	<b>MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES</b>		P
	Value of $X$ (mm) .....	Complied.	—
<b>P</b>	<b>SAFEGUARDS AGAINST CONDUCTIVE OBJECTS</b>		N/A
<b>P.1</b>	<b>General</b>		N/A
<b>P.2</b>	<b>Safeguards against entry or consequences of entry of a foreign object</b>		N/A
P.2.1	General		N/A
P.2.2	Safeguards against entry of a foreign object	Building-in equipment, shall evaluated in final system	N/A
	Location and Dimensions (mm) .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts.....:		N/A
P.2.3.2	Consequence of entry test.....:		N/A
<b>P.3</b>	<b>Safeguards against spillage of internal liquids</b>		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
<b>P.4</b>	<b>Metallized coatings and adhesives securing parts</b>		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, Tc (°C).....:		—
	Duration (weeks).....:		—
<b>Q</b>	<b>CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING</b>		P
<b>Q.1</b>	<b>Limited power sources</b>		P
Q.1.1	Requirements		P
	a) Inherently limited output	(See appended table Q.1)	P
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Q.1)	P
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance.....:	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A).....:		N/A
<b>Q.2</b>	<b>Test for external circuits – paired conductor cable</b>		N/A
	Maximum output current (A).....:		N/A
	Current limiting method.....:		—
<b>R</b>	<b>LIMITED SHORT CIRCUIT TEST</b>		N/A
<b>R.1</b>	<b>General</b>		N/A
<b>R.2</b>	<b>Test setup</b>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Overcurrent protective device for test .....		—
<b>R.3</b>	<b>Test method</b>		N/A
	Cord/cable used for test .....		—
<b>R.4</b>	<b>Compliance</b>		N/A
<b>S</b>	<b>TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		N/A
<b>S.1</b>	<b>Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W</b>		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
<b>S.2</b>	<b>Flammability test for fire enclosure and fire barrier integrity</b>		N/A
	Samples, material.....		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
<b>S.3</b>	<b>Flammability test for the bottom of a fire enclosure</b>		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples .....		—
	Wall thickness (mm).....		—
<b>S.4</b>	<b>Flammability classification of materials</b>		N/A
<b>S.5</b>	<b>Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W</b>		N/A
	Samples, material.....		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
<b>T</b>	<b>MECHANICAL STRENGTH TESTS</b>		P
<b>T.1</b>	<b>General</b>		P

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Clause	Requirement + Test	Result - Remark	Verdict
<b>T.2</b>	<b>Steady force test, 10 N .....</b>	The equipment is a building-in type, consider on the front panel side (See appended table T.2, T.3, T.4, T.5). Other sides should be evaluated in final system.	P
<b>T.3</b>	<b>Steady force test, 30 N .....</b>	The equipment is a building-in type, consider on the front panel side (See appended table T.2, T.3, T.4, T.5). Other sides should be evaluated in final system.	P
<b>T.4</b>	<b>Steady force test, 100 N .....</b>		N/A
<b>T.5</b>	<b>Steady force test, 250 N .....</b>	The equipment is a building-in type, consider on the front panel side (See appended table T.2, T.3, T.4, T.5). Other sides should be evaluated in final system.	P
<b>T.6</b>	<b>Enclosure impact test</b>	The equipment is a building-in type, consider on the front panel side (See appended table T.6, T.9). Other sides should be evaluated in final system.	P
	Fall test		P
	Swing test		N/A
<b>T.7</b>	<b>Drop test .....</b>		N/A
<b>T.8</b>	<b>Stress relief test .....</b>		N/A
<b>T.9</b>	<b>Glass Impact Test .....</b>	1J, 204mm. All safeguards remain effective.	P
<b>T.10</b>	<b>Glass fragmentation test</b>		N/A
	Number of particles counted .....		N/A
<b>T.11</b>	<b>Test for telescoping or rod antennas</b>		N/A
	Torque value (Nm) .....		N/A
<b>U</b>	<b>MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION</b>		N/A
<b>U.1</b>	<b>General</b>		N/A
	Instructional safeguard :		N/A
<b>U.2</b>	<b>Test method and compliance for non-intrinsically protected CRTs</b>		N/A
<b>U.3</b>	<b>Protective screen</b>		N/A
<b>V</b>	<b>DETERMINATION OF ACCESSIBLE PARTS</b>		P
<b>V.1</b>	<b>Accessible parts of equipment</b>		P

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Clause	Requirement + Test	Result - Remark	Verdict
V.1.1	General	The customer defines that the front panel of the final system is accessible to ordinary personnel.  However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
<b>V.2</b>	<b>Accessible part criterion</b>		P
<b>X</b>	<b>ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)</b>		N/A
	Clearance..... :		N/A
<b>Y</b>	<b>CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES</b>		N/A
<b>Y.1</b>	<b>General</b>		N/A
<b>Y.2</b>	<b>Resistance to UV radiation</b>		N/A
<b>Y.3</b>	<b>Resistance to corrosion</b>		N/A
<b>Y.3</b>	<b>Resistance to corrosion</b>		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by .....		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure.....:		N/A
Y.3.5	Compliance		N/A
<b>Y.4</b>	<b>Gaskets</b>		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods.....:		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
<b>Y.5</b>	<b>Protection of equipment within an outdoor enclosure</b>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3 .....		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
<b>Y.6</b>	<b>Mechanical strength of enclosures</b>		N/A
Y.6.1	General		N/A
Y.6.2	Impact test.....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type <sup>1)</sup>	Additional Info <sup>2)</sup>	
264Vac/60Hz	USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -	Normal	5.24Vdc	--	SS	DC	ES1
		Abnormal Output overload	5.24Vdc	--	SS	DC	ES1
		Single fault: (Refer to fault condition on table B.4, unit shutdown)	0Vdc	--	SS	DC	ES1
264Vac/60Hz	USB3 (J5, on mainboard2: BH-4K02-EA) output + to -	Normal	5.06Vdc	--	SS	DC	ES1
		Abnormal Output overload	5.06Vdc	--	SS	DC	ES1
		Single fault: (Refer to fault condition on table B.4, unit shutdown)	0Vdc	--	SS	DC	ES1
264Vac/60Hz	LED Backlight (JP3 pin + to -)	Normal	63.2Vdc	--	SS	DC	ES2
Supplementary information: SC=Short Circuit							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							
3) Power board other parts considered in certified Switching Power Supply.							
4) Secondary terminals (USB1&USB2, USB3, HDMI, DP) "-" and earthing are same potential.							

5.4.1.8	TABLE: Working voltage measurement				N/A
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments	
--	-----	-----	-----	-----	
--	-----	-----	-----	-----	
Supplementary information:					

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Method.....:	ISO 306 / B50		—

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Clause	Requirement + Test	Result - Remark	Verdict

Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)
--	--	--	--
--	--	--	--
Supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics				N/A
Allowed impression diameter (mm) .....				≤ 2 mm	—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	
--	--	--	--	--	
Supplementary information:					

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U <sub>p</sub> (V)	U <sub>ms</sub> (V)	Freq <sup>1)</sup> (KHz)	Required cl (mm)	cl (mm)	E.S. <sup>2)</sup> (V)	Required cr (mm)	cr (mm)
Line/Neutral to Earth on power supply (model RSP-320-24) terminal block (BI)	420	240	60	1.5	11.0	--	2.4	11.0
Line to Neutral on power supply (model RSP-320-24) terminal block (BI)	420	240	60	1.5	9.0	--	2.4	9.0
Line/Neutral on power supply (model RSP-320-24) to accessible metal enclosure (BI)	420	240	60	1.5	4.0	--	2.4	6.4
Live part of power supply (model RSP-320-24) to secondary wire (RI)	420	240	60	3.0	12.0	--	4.8	12.0
Line/Neutral to Earth on power supply (model LRS-50-12) terminal block (BI)	420	240	60	1.5	8.0	--	2.4	8.0



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Clause	Requirement + Test				Result - Remark			Verdict
Line to Neutral on power supply (model LRS-50-12) terminal block (BI)	420	240	60	1.5	7.0	--	2.4	7.0
Line/Neutral on power supply (model LRS-50-12) to accessible metal enclosure (BI)	420	240	60	1.5	3.8	--	2.4	6.0
Live part of power supply (model LRS-50-12) to secondary wire (RI)	420	240	60	3.0	10.0	--	4.8	10.0
Line/Neutral on AC inlet to accessible metal enclosure (BI)	420	240	60	1.5	14.2	--	2.4	14.2
Supplementary information:								
1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied) 3) (SI) = Supplementary Insulation, (BI)= Basic Insulation, (RI) = Reinforced Insulation 4) Power board considered in certified Switching Power Supply report.								

5.4.4.2	TABLE: Minimum distance through insulation				N/A
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)	
Supplementary information:					
Power board considered in certified Switching Power Supply report.					

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz					N/A
Insulation material	$E_p$	Frequency (kHz)	$K_R$	Thickness $d$ (mm)	Insulation	$V_{PW}$ (Vpk)
Supplementary information:						
Considered in certified Switching Power Supply.						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No	

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Clause	Requirement + Test	Result - Remark	Verdict

L to N (Fuse disconnected) (FI)	DC	2500	No
Primary to Earth (Metal Enclosure) (BI)	DC	2500	No
Primary to secondary terminals (RI)	DC	4000	No
Supplementary information:			
Note 1: Electric strength tests are also conducted after sub-clause 5.4.8 for all sources.			
Note 2: (FI) = Functional Insulation, (BI) = Basic Insulation, (RI) = Reinforced Insulation.			
Note 3: All testing Including after Humidity required of clause 5.4.8, there are including unit, transformer and all Power board: Considered in certified Switching Power Supply.			

5.5.2.2	TABLE: Stored discharge on capacitors					P
Location	Supply voltage (V)	Operating and fault condition <sup>1)</sup>	Switch position	Measured voltage (Vpk)	ES Class	
L to N	264	Normal	On	12Vpk	ES1	
L to N	264	R2 (on power supply model: LRS-50-12), OC	On	28Vpk	ES1	
L to N	264	R1 (on power supply model: RSP-320-24), OC	On	20Vpk	ES1	
Supplementary information:						
X-capacitors installed for testing: see certified Switching Power Supply report.						
[x] bleeding resistor rating: see certified Switching Power Supply report.						
[] ICX:						
1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit						

5.6.6	TABLE: Resistance of protective conductors and terminations				P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance ( $\Omega$ )	
PE pin of AC Inlet to the farthest part of metal enclosure	40	2	0.60	0.015	
Supplementary information:					

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V <sub>rms</sub> or V <sub>pk</sub> )	Current (A <sub>rms</sub> or A <sub>pk</sub> )	Freq. (Hz)	

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Clause	Requirement + Test	Result - Remark	Verdict

*	--	--	--	--	--	--
Supplementary information:						
*: See appended table 5.2						

5.7.5	TABLE: Earthed accessible conductive part				P
Supply voltage (V) .....	264Vac/60Hz				---
Phase(s) .....	[x] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye				--
Power Distribution System .....	[x] TN [ ] TT [ ] IT				--
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment		
Earthed accessible parts	1 (earth opened)	Normal: 3.64mA <sub>peak</sub> Reverse: 3.64mA <sub>peak</sub>	--		
Supplementary Information:					

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

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power <sup>1)</sup> (W)	Time (S)	PS class
All internal circuits	Normal	--	--	--	--	PS3 (Declared)
USB1(J50, on mainboard1: 3399F) output	Worst-case load fault	4.86	1.3	6.32	3	PS1
	U2701 Pin 5 to Pin 1, SC	4.62	1.5	6.93	3	PS1
USB2(J51, on mainboard1: 3399F) output	Worst-case load fault	4.86	1.3	6.32	3	PS1
	U9625 Pin 5 to Pin 1, SC	4.62	1.5	6.93	3	PS1
HDMI1 (on mainboard1:	Worst-case load fault	0	0	0	3	PS1



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Clause	Requirement + Test	Result - Remark				Verdict
3399F) output						
HDMI2 (on mainboard1: 3399F) output	Worst-case load fault	0	0	0	3	PS1
USB3(J5, on mainboard2: BH-4K02-EA) output	Worst-case load fault	4.31	2.2	9.48	3	PS1
	U12 Pin 5 to Pin 6, SC	0	0	0	3	PS1
HDMI(on mainboard2: BH-4K02-EA) output	Worst-case load fault	0	0	0	3	PS1
DP(on mainboard2: BH-4K02-EA) output	Worst-case load fault	0	0	0	3	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

6.2.3.1	TABLE: Determination of Arcing PIS				P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No	
All internal circuits/components	--	--	--	Yes (declaration)	
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.					
* An Arcing PIS is considered to exist in primary circuits and secondary circuits.					

6.2.3.2	TABLE: Determination of resistive PIS			P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No	
All internal circuits/components	--	--	Yes (declaration)	
Supplementary information:				
A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.				
If a separate voltmeter and ammeter are used, the product of (VA x IA) 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				

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Clause	Requirement + Test	Result - Remark	Verdict

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.

8.5.5	TABLE: High pressure lamp				N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No	
--	--	--	--	--	
Supplementary information:					

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

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Clause	Requirement + Test	Result - Remark			Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements				P
Supply voltage (V)..... :	90V/60Hz	90V/60Hz	264V/60Hz	264V/60Hz	—
Ambient temperature during test $T_{amb}$ (°C) .... :	See below	See below	See below	See below	—
Maximum measured temperature $T$ of part/at:	$T$ (°C)				Allowed $T_{max}$ (°C)
At room temperature Shift to 45°C					
AC inlet	35.7	56.1	33.4	54.0	70
Internal primary wire	34.8	55.2	34.4	55.0	105
LF1 wining (RSP-320-24)	45.9	66.3	37.9	58.5	130
LF2 wining (RSP-320-24)	45.0	65.4	37.3	57.9	130
LF3 wining (RSP-320-24)	44.2	64.6	39.6	60.2	130
T1 coil (RSP-320-24)	53.1	73.5	55.3	75.9	110
T1 core (RSP-320-24)	44.1	64.5	46.3	66.9	110
L100 winding (RSP-320-24)	50.3	70.7	52.0	72.6	130
Internal secondary wire (RSP-320-24)	58.3	78.7	50.8	71.4	80
LF1 wining (LRS-50-12)	58.1	78.5	60.8	81.4	130
T1 coil (LRS-50-12)	57.7	78.1	61.2	81.8	110
T1 core (LRS-50-12)	50.7	71.1	51.0	71.6	110
L100 winding (LRS-50-12)	40.4	60.8	39.8	60.4	130
Internal secondary wire (LRS-50-12)	39.1	59.5	39.7	60.3	80
L9 winding (BH-4K02-E)	74.8	95.2	79.0	99.6	130
PCB near U9 (BH-4K02-E)	58.2	78.6	61.0	81.6	130
L3 winding (BH-4K02-E)	52.9	73.3	54.9	75.5	130
PCB near heat sink (BH-4K02-E)	54.5	74.9	56.6	77.2	130
EC1 body (BH-4K02-E)	48.6	69.0	50.8	71.4	105
PCB near U1 (BH-4K02-E)	48.7	69.1	50.6	71.2	130
PCB near IC1 (3399F)	44.6	65.0	44.6	65.2	130
PCB near heat sink (3399F)	48.1	68.5	47.9	68.5	130
PCB near IC2 (3399F)	52.0	72.4	52.0	72.6	130
RTC battery (3399F)	43.4	63.8	43.5	64.1	Ref.
L2 winding (HL-6L004)	50.9	71.3	53.3	73.9	130



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Clause	Requirement + Test				Result - Remark		Verdict
PCB near IC1 (HL-6L004)	42.6	63.0	46.4	67.0	130		
L5 winding (HL-6L004)	58.0	78.4	60.4	81.0	130		
PCB near IC2 (HL-6L004)	49.4	69.8	52.1	72.7	130		
PCB near D12 (HL-6L004)	66.3	86.7	68.8	89.4	130		
C18 body (HL-6L004)	56.9	77.3	59.3	79.9	105		
PCB near Q14 (HL-6L004)	52.8	73.2	55.8	76.4	130		
PCB near UC1 (SQ19_DRD_CONTROL)	54.2	74.6	56.4	77.0	130		
PCB near U6 (SQ19_DRD_CONTROL)	60.6	81.0	62.6	83.2	130		
L7 winding (SQ19_DRD_CONTROL)	52.9	73.3	55.1	75.7	130		
Ambient	24.6	45.0	24.4	45.0	--		
Accessible parts (calculated to 25°C)							
Metal enclosure (front)	44.9	45.3	47.4	48.0	60		
Screen	34.7	35.1	44.6	45.2	71		
Power Switch	29.5	29.9	32.5	33.1	77		
Ambient	24.6	25.0	24.4	25.0	--		
Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
--	--	--	--	--	--	--	--
Supplementary information:							
Note 1: T <sub>ma</sub> should be considered as directed by applicable requirement							
Note 2: T <sub>ma</sub> is not included in assessment of Touch Temperatures (Clause 9)							
Note 3: The maximum ambient temperature specified by manufacturer is 45°C. Heating test was conducted in 20-25°C ambient, all points except external accessible parts was adjusted to 45°C T <sub>ma</sub> , the points of external accessible parts was adjusted to 25°C ambient.							
Note 4: Test condition:							
DP mode: The unit is running three vertical bar signal on LCD display with maximum contrast and maximum brightness, USB1&USB2(on mainboard1: 3399F) port loaded with 1.0A, USB3(on mainboard2: BH-4K02-E) port loaded with 0.5A.							

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	2.174	--	185.1	--	--	--	DP mode: Maximum normal load
90	60	2.177	--	186.8	--	--	--	
100	50	1.928	3.0	183.9	--	--	--	
100	60	1.932	3.0	184.3	--	--	--	
240	50	0.860	3.0	180.2	--	--	--	

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Clause	Requirement + Test				Result - Remark			Verdict

240	60	0.865	3.0	181.2	--	--	--	HDMI mode: Maximum normal load
264	50	0.797	--	180.1	--	--	--	
264	60	0.801	--	181.8	--	--	--	
90	50	2.146	--	183.3	--	--	--	
90	60	2.150	--	184.2	--	--	--	
100	50	1.897	3.0	182.1	--	--	--	
100	60	1.901	3.0	183.2	--	--	--	
240	50	0.843	3.0	178.5	--	--	--	
240	60	0.846	3.0	180.8	--	--	--	
264	50	0.787	--	179.2	--	--	--	
264	60	0.792	--	180.1	--	--	--	USB mode: Maximum normal load
90	50	2.119	--	181.9	--	--	--	
90	60	2.123	--	183.5	--	--	--	
100	50	1.894	3.0	180.1	--	--	--	
100	60	1.898	3.0	181.5	--	--	--	
240	50	0.820	3.0	174.7	--	--	--	
240	60	0.825	3.0	176.8	--	--	--	
264	50	0.768	--	173.2	--	--	--	
264	60	0.771	--	175.3	--	--	--	

**Supplementary information:**

Equipment may be have rated current or rated power or both. Both should be measured.

Maximum normal load: The unit is running three vertical bar signal on LCD display with maximum contrast and maximum brightness, USB1&USB2(on mainboard1: 3399F) port loaded with 1.0A, USB3(on mainboard1: BH-4K02-E) port loaded with 0.5A.

B.3, B.4		TABLE: Abnormal operating and fault condition tests					P
Ambient temperature $T_{amb}$ (°C)..... :					25		—
Power source for EUT: Manufacturer, model/type, outputrating .. :					See table 4.1.2		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
USB1(J50, on mainboard1: 3399F) Output	Overload	264Vac / 60Hz	3h52mins	--	--	Unit operated normally, USB1 loaded maximum current is 1.2A, USB1 Port shutdown when load to 1.3A. Recoverable when fault removed, no damage, no hazards.	

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
						Input current(A): 0.801→0.818→0.822→0.512  Component temperature: T1 coil(RSP-320-24)/74.7°C T1 core(RSP-320-24)/66.5°C T1 coil(LRS-50-12)/83.0°C T1 core(LRS-50-12)/72.0°C  Ambient/45.0°C  Metal enclosure (front)/48.2°C  Screen/44.8°C  Switch/33.1°C  Ambient/25.0°C.  Touch voltage:  USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 5.24Vdc.  USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 5.06Vdc.
USB3(J5, on mainboard2: BH-4K02-E) Output	Overload	264Vac / 60Hz	4h55mi ns	--	--	Unit operated normally, loaded maximum current is 2.2A, USB Port shutdown when load to 2.3A. Recoverable when fault removed, no damage, no hazards.  Input current(A): 0.801→ 0.834→ 0.871→ 0.514  Component temperature: T1 coil(RSP-320-24)/75.3°C T1 core(RSP-320-24)/66.3°C T1 coil(LRS-50-12)/82.9°C T1 core(LRS-50-12)/72.1°C  Ambient/45.0°C  Metal enclosure (front)/45.7°C  Screen/48.0°C  Switch/47.5°C  Ambient/25.0°C.

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
						Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 5.24Vdc.  USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 5.06Vdc.
USB1(J50, on mainboard1: 3399F) Output	SC	264Vac / 60Hz	10mins	--	--	Unit operated normally, only USB1 shutdown. Recoverable when fault removed, no damage, no hazards.  Touch voltage: USB1 (J50, on mainboard1: 3399F) output + to -: 0Vdc. USB2 (J51, on mainboard1: 3399F) output + to -: 5.24Vdc.  USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 5.06Vdc.
USB2(J51, on mainboard1: 3399F) Output	SC	264Vac / 60Hz	10mins	--	--	Unit operated normally, only USB2 shutdown. Recoverable when fault removed, no damage, no hazards.  Touch voltage: USB1 (J50, on mainboard1: 3399F) output + to -: 5.24Vdc. USB2 (J51, on mainboard1: 3399F) output + to -: 0Vdc.  USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 5.06Vdc.
USB3(J5, on mainboard2: BH-4K02-E) Output	SC	264Vac / 60Hz	10mins	--	--	Unit operated normally, only USB3 shutdown. Recoverable when fault removed, no damage, no hazards.  Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 5.24Vdc. USB3 (J5, on mainboard2:



IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
						BH-4K02-EA) output + to -: 0Vdc.
Switching Power Supply (RSP-320-24) Output	SC	264Vac / 60Hz	10mins	--	--	Unit shutdown, recoverable when fault removed, no damage, no hazards. Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 0Vdc. USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 0Vdc.
Switching Power Supply (LRS-50-12) Output	SC	264Vac / 60Hz	10mins	--	--	Unit shutdown, recoverable when fault removed, no damage, no hazards. Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 0Vdc. USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 0Vdc.
LED Backlight (JP3) pin + to metal enclosure	SC	264Vac / 60Hz	10mins	--	--	Unit shutdown, recoverable when fault removed, no damage, no hazards. Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 0Vdc. USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 0Vdc.
LED Backlight (JP3) pin + to USB1 pin +	SC	264Vac / 60Hz	10mins	--	--	Unit shutdown, recoverable when fault removed, no damage, no hazards. Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 0Vdc. USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 0Vdc.
LED Backlight (JP3) pin + to	SC	264Vac / 60Hz	10mins	--	--	Unit shutdown, recoverable when fault removed, no

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
USB2 pin +						damage, no hazards. Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 0Vdc. USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 0Vdc.
LED Backlight (JP3) pin + to USB3 pin +	SC	264Vac / 60Hz	10mins	--	--	Unit shutdown, recoverable when fault removed, no damage, no hazards. Touch voltage: USB1&USB2 (J50&J51, on mainboard1: 3399F) output + to -: 0Vdc. USB3 (J5, on mainboard2: BH-4K02-EA) output + to -: 0Vdc.
Supplementary information:						
<p>The room ambient temperature is 20 to 25°C.</p> <ol style="list-style-type: none"> <li>After each of above test, unit can pass the dielectric strength test specified in table 5.4.9.</li> <li>Alternate fuse was tested for each fault if the fuse is operated, the same results.</li> <li>No ignition during and after all tests.</li> <li>Output voltage comply with ES1 during and after all tests.</li> <li>SC=Short Circuit; OC=Open Circuit. OL= Overload</li> <li>Test condition: DP mode: The unit is running three vertical bar signal on LCD display with maximum contrast and maximum brightness, USB1&amp;USB2(on mainboard1: 3399F) port loaded with 1.0A, USB3(on mainboard2: BH-4K02-E) port loaded with 0.5A.</li> <li>During and after abnormal operating conditions and during single fault conditions the output voltage: <ul style="list-style-type: none"> <li>(a) at all ES1 outlets or connectors not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a single fault condition and after 3 s of introducing abnormal operating conditions; and</li> <li>(b) of a USB outlet or connector not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after 3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions.</li> </ul> </li> </ol>						

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

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
	--				--		
Manufacturer/type	Battery specification						
	Non-rechargeable batteries			Rechargeable batteries			
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)	
			Voltage (V)	Current (A)			
--	--	--	--	--	--	--	
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C) .....				--	--		--
Component No.	Fault condition	Charge/discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
RTC battery (J2, on mainboard1: 3399F)	Normal	Charging	10mins	--	0.01mA	--	NL, NS, NE, NF.
RTC battery (J2, on mainboard1: 3399F)	D9302 pin 3-1, SC	Unintentional charging	10mins	--	0.02mA	--	NL, NS, NE, NF.
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery					N/A
Maximum specified charging voltage (V) .....						---
Maximum specified charging current (A) .....						---
Highest specified charging temperature (°C) .....						
Lowest specified charging temperature (°C) .....						
Battery manufacturer/type	Operating and fault condition	Measurement			Observation	
		Charging voltage (V)	Charging current (A)	Temp. (°C)		
--	--	--	--	--	--	
Supplementary information:						

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)				P
Output	Condition	U <sub>oc</sub> (V)	Time (s)	I <sub>sc</sub> (A)	S (VA)

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

Circuit				Meas.	Limit	Meas.	Limit
USB1(J50, on mainboard 1: 3399F) output	Worst-case load fault	5.24	5	1.3	8	6.32	100
USB1(J50, on mainboard 1: 3399F) output	U2701 Pin 5 to Pin 1, SC	5.24	5	1.5	8	6.93	100
USB2(J51, on mainboard 1: 3399F) output	Worst-case load fault	5.24	5	1.3	8	6.32	100
USB2(J51, on mainboard 1: 3399F) output	U9625 Pin 5 to Pin 1, SC	5.24	5	1.5	8	6.93	100
HDMI1 (on mainboard 1: 3399F) output	Worst-case load fault	0	5	0	8	0	100
HDMI2 (on mainboard 1: 3399F) output	Worst-case load fault	0	5	0	8	0	100
USB3(J5, on mainboard 2: BH-4K02-EA) output	Worst-case load fault	4.95	5	2.2	8	9.48	100
USB3(J5, on mainboard 2: BH-4K02-EA) output	U12 Pin 5 to Pin 6, SC	0	5	0	8	0	100
HDMI(on mainboard 2: BH-4K02-EA) output	Worst-case load fault	0	5	0	8	0	100



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Clause	Requirement + Test	Result - Remark					Verdict
DP(on mainboard 2: BH-4K02-EA) output	Worst-case load fault	0	5	0	8	0	100
Supplementary Information:							
SC=Short circuit, OC=Open circuit							

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Internal component or part (T.2)	--	--	--	10	5	Clearances is not reduced, no hazard	
Metal Enclosure of certified Switching Power Supply (T.3)	Metal	See certified Switching Power Supply report	--	30	5	No damage, no hazard	
Metal Enclosure (front)	See appended table 4.1.2	See appended table 4.1.2	--	250	5	No damage, no hazard	
Front LCD panel	See appended table 4.1.2	See appended table 4.1.2	--	250	5	No damage, no hazard	
Supplementary information:							
The equipment is a building-in type, consider on the front panel side only, other sides should be evaluated in final system.							

T.6, T.9	TABLE: Impact test				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Metal Enclosure (front)	See appended table 4.1.2	See appended table 4.1.2	1300	All safeguards remain effective.	
Front LCD panel	See appended table 4.1.2	See appended table 4.1.2	1300	All safeguards remain effective.	
Supplementary information:					
The equipment is a building-in type, consider on the front panel side only, other sides should be evaluated in final system.					

T.7	TABLE: Drop test				N/A
Location/Part	Material	Thickness	Height	Observation	

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

T.8	TABLE: Stress relief test					N/A
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
--	--	--	--	--	--	
Supplementary information:						

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

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

4.1.2	TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1)</sup>	
Metal Enclosure (front)	Interchangeable	Interchangeable	Min. 0.6mm thickness	IEC/EN/UL 62368-1	Tested with appliance	
LCD panel	LG Display Co., Ltd.	LD550EGY	54.64 inch TFT LCD, with LED backlight	IEC/EN/UL 62368-1	Tested with appliance	
AC inlet	RICH BAY CO LTD	R-301SN	6A, 250Vac. 70°C	UL 60320-1	UL E184638	
Power switch	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	PS8A	VDE: AC 250 V, 6 (4) A; AC 125 V, 12 A; UL: 8A 250Vac, 10A 125Vac; min. 105°C, Endurance minimum 10000 cycle, PD2, Glow- wire test 850°C	IEC/ EN 61058-1 UL 61058-1	VDE 40027141 UL E236875	
(Alternative)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	PS8A-11	10A 125Vac, 8A 250Vac; min. 125°C, Endurance minimum 10000 cycle, PD2, Glow- wire test 850°C	IEC/ EN 61058-1 UL 61058-1	VDE 40024550 UL E236875	
Heat shrink tubing (used for AC inlet)	WOER HEAT- SHRINKABLE MATERIAL CO LTD	RSFR-H	125°C, 600V, VW-1	UL 224	UL E203950	
Alternative	Interchangeable	Interchangeable	Min. 125°C, 600V, VW-1	UL 224	UL	
Internal primary wire (Power switch to Switching Power Supply)	Interchangeable	Interchangeable	Min. 300V, min. 12AWG, min. 105°C, VW-1	UL 758	UL	
Protective bonding wire	Interchangeable	Interchangeable	Min. 300V, min. 12AWG, min. 105°C, VW-1, green and yellow	UL 758	UL	
Internal secondary wire (Switching Power Supply output)	Interchangeable	Interchangeable	Min. 300V, min. 22 AWG, min. 80°C, VW-1	UL 758	UL	
All PCB	Interchangeable	Interchangeable	V-1 or better, min. 130°C	UL 796	UL	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Internal plastic parts	Interchangeable	Interchangeable	Minimum V-2.	UL 94, UL 746C	UL
Connectors and receptacles (secondary circuits)	Interchangeable	Interchangeable	Copper alloy pins housed in bodies of plastic rated V-2 minimum.	UL 94, UL 746C	UL
RTC battery (J2)	Panasonic Energy Co., Ltd.	CR2032*	Not rechargeable, 3Vdc, 225mAh, Max Abnormal Charge Current 10mA	UL 1642	UL MH12210
Switching Power Supply	MEAN WELL Enterprises Co., Ltd.	RSP-320-24	Input: 100-240Vac, 50/60Hz, 4.0A; Output: 24Vdc, 13.4A. Tma: 50°C. Altitude during operation: 5000m. 1 pcs used	IEC 62368-1:2018 UL 62368-1	CB by UL (Demko) Certif. No: DK-82561-UL, DK-82561-M1-UL, DK-82561-M2-UL, DK-82561-M3-UL; Report No.: E183223-4788449065-1 original, E183223-4788449065-1 Correction 1, E183223-4788449065-1 Amendment 2, E183223-4788449065-1 Amendment 3. UL E183223
Switching Power Supply	MEAN WELL Enterprises Co., Ltd.	LRS-50-12	Input: 100-240Vac, 50/60Hz, 1.0A; Output: 12Vdc, 4.2A. Tma: 50°C. Altitude during operation: 5000m. 1 pcs used	IEC 62368-1:2018 UL 62368-1	CB by TUV Rh Certif. No: JPTUV-137050, JPTUV-137050-M1; Report No.: CN22KWDS 001, CN22KWDS 002. UL E183223
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					



IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT**  
**IEC 62368-1**  
**U.S.A. AND CANADA NATIONAL DIFFERENCES**  
 (Audio/video, information and communication technology equipment – Part 1: Safety requirements)

<b>Differences according to</b> .....	CSA/UL 62368-1:2019
<b>TRF template used:</b> .....	IECEE OD-2020-F3, Ed. 1.1
<b>Attachment Form No.</b> .....	US_CA_ND_IEC62368_1E
<b>Attachment Originator</b> .....	UL(US)
<b>Master Attachment</b> .....	Dated 2022-03-04

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**IEC 62368-1 - US and Canadian National Differences**  
**Special National Conditions based on Regulations and Other National Differences**

1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		P
1 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.		N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.		N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits ( $\leq 200V$ per conductor to earth).		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.		N/A
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1 (4.1.17)	For lengths exceeding 3.05 m, external interconnecting cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.		N/A
	For lengths 3.05 m or less, external interconnecting cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		N/A
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.		N/A
4.8 (4.8.3, 4.8.4.5, 4.8.5)	Coin / button cell batteries have modified special construction and performance requirements.		N/A
5.4.2.3.2 (5.4.2.3.2.1)	Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CEC requirements.		N/A
5.5.9	Receptacles, rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.		N/A
5.7.8 (5.7.8.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A

**IEC62368\_1E - ATTACHMENT**

Clause	Requirement + Test	Result - Remark	Verdict
Annex F (F.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.		N/A
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.		N/A
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Section 400.4 of the NEC and Rule 4-012 of the CEC, i.e., marked "W."		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.		N/A



**IEC62368\_1E - ATTACHMENT**

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.		N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.		N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.		N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A



**IEC62368\_1E - ATTACHMENT**

Clause	Requirement + Test	Result - Remark	Verdict
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Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a minimum flammability classification of V-1.		N/A
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.4)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or that are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."		N/A
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position, where mounted in an enclosure, vertically mounted <b>disconnect switches</b> and <b>circuit breakers</b> with vertical operating means extending outside the enclosure are required to indicate in a location visible when accessing the external operating means whether the switch or circuit breaker is in the open (off) or closed (on) position.		N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A

**IEC62368\_1E - ATTACHMENT**

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-400 and 10-612.		N/A
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CEC may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix "W" marked on the flexible cord.		N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A
Annex DVA (Q)	If applicable per NEC 725.121(C), some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and rated current output for per conductor for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.		N/A
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1 are required to be marked with the voltage rating and "Class 2" or equivalent. The marking is located adjacent to the terminals and visible during wiring.		N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CEC, may be applicable to ITE installed outdoors with connections to communication systems.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centres, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.		P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.2.1)	For safe and reliable connection to a mains, permanently connected equipment is to be provided.		N/A
Annex DVH (DVH.2.2)	Additional considerations for D.C. mains.		N/A
Annex DVH (DVH.3.2.1)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.		N/A
Annex DVH (DVH.3.2.3)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
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Annex DVH (DVH.3.2.4)	All associated mains supply terminals are located in proximity to each other and to the main protective earthing terminal, if any.		N/A
Annex DVH (DVH.3.2.5)	Terminals are located, guarded or insulated so that, should a strand of a conductor escape when the conductor is fitted, there is no likelihood of accidental contact between such a strand and accessible conductive parts or unearthed conductive parts separated from accessible conductive parts by supplementary insulation only.		N/A
Annex DVH (DVH.3.3)	When field connection to an external circuit is via wires (example, free conductors), the wires are not smaller than 18 AWG (0.82 mm <sup>2</sup> ) and the free length of the wire inside an outlet box or wiring compartment is 150 mm or more.		N/A
Annex DVH (DVH.3.4)	Size of protective earthing conductors and terminals		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH.4.1)	Wire bending space		N/A
Annex DVH (DVH.4.2)	Volume of wiring compartment		N/A
Annex DVH (DVH.4.3)	Separation of circuits		N/A
Annex DVH (DVH.5)	Equipment markings and instructional safeguards		N/A
Annex DVH (DVH.5.1)	Identification of protective earthing terminal		N/A
Annex DVH (DVH.5.2)	Identification of terminal for earthed conductor (neutral)		N/A
Annex DVH (DVH.5.3)	Identification of terminals for aluminium conductors		N/A
Annex DVH (DVH.5.4)	Wire temperature ratings		N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

**Enclosures**

Type	Supplement ID	Description
Photographs	3-01	Front Overview
Photographs	3-02	Rear Overview
Photographs	3-03	Internal view 1
Photographs	3-04	Internal view 2
Photographs	3-05	AC Inlet view
Photographs	3-06	Internal view 3
Photographs	3-07	Switching Power Supply (model RSP-320-24) view 1
Photographs	3-08	Switching Power Supply (model RSP-320-24) view 2
Photographs	3-09	Switching Power Supply (model LRS-50-12) view 1
Photographs	3-10	Switching Power Supply (model LRS-50-12) view 2
Photographs	3-11	Mainboard1(3399F) view 1
Photographs	3-12	Mainboard1(3399F) view 2
Photographs	3-13	Mainboard2(BH-4K02-E) view 1
Photographs	3-14	Mainboard2(BH-4K02-E) view 2
Photographs	3-15	Logic board view 1
Photographs	3-16	Logic board view 2
Photographs	3-17	Constant current board view 1
Photographs	3-18	Constant current board view 2

Photographs 3-01

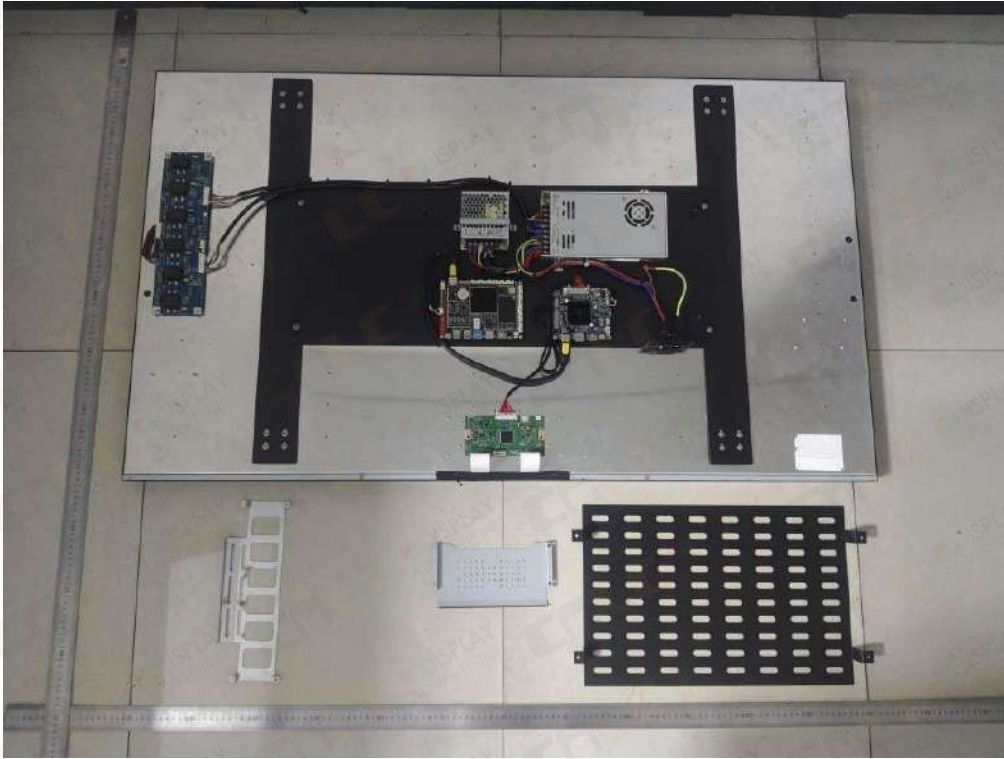


Photographs 3-02

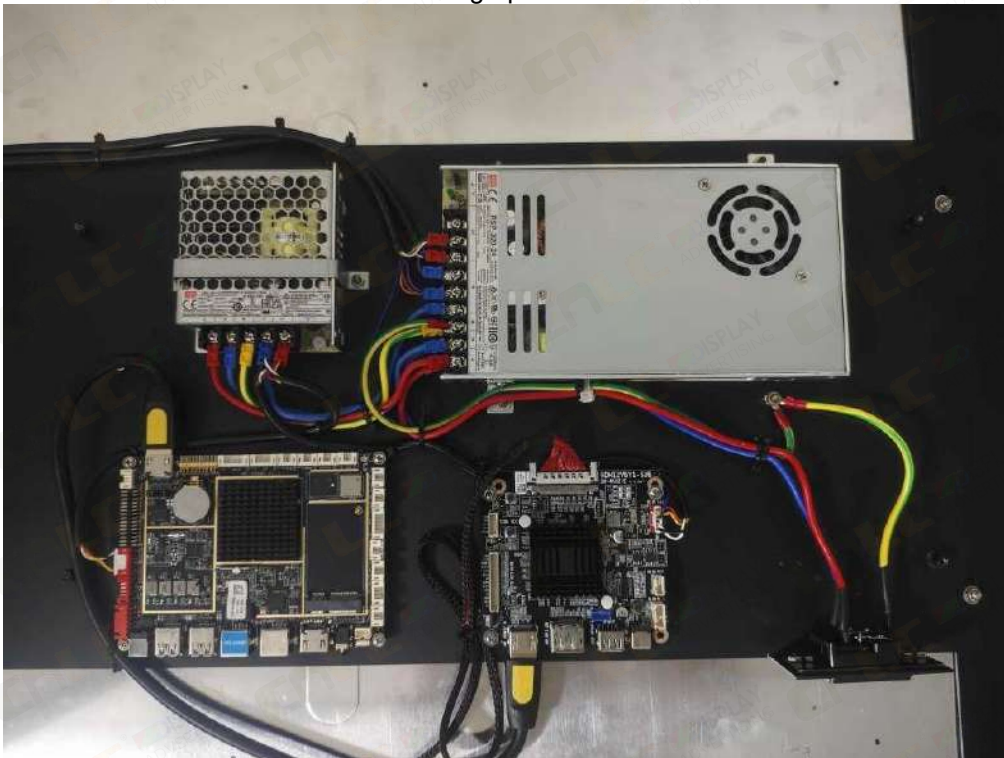




Photographs 3-03



Photographs 3-04

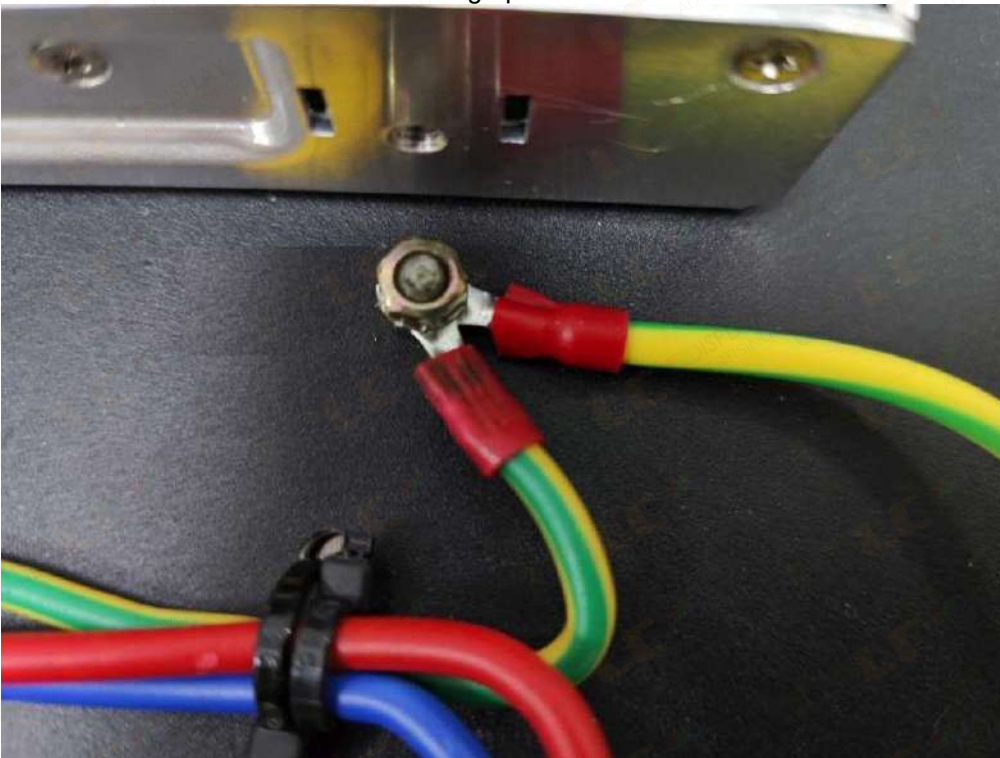




Photographs 3-05



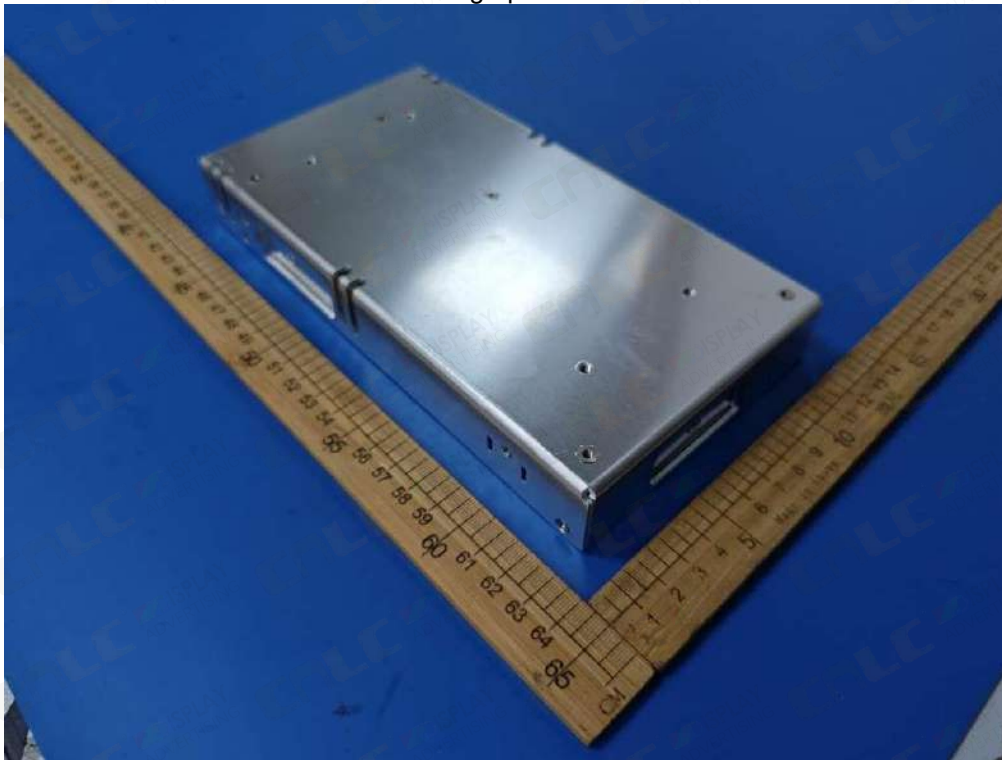
Photographs 3-06



Photographs 3-07

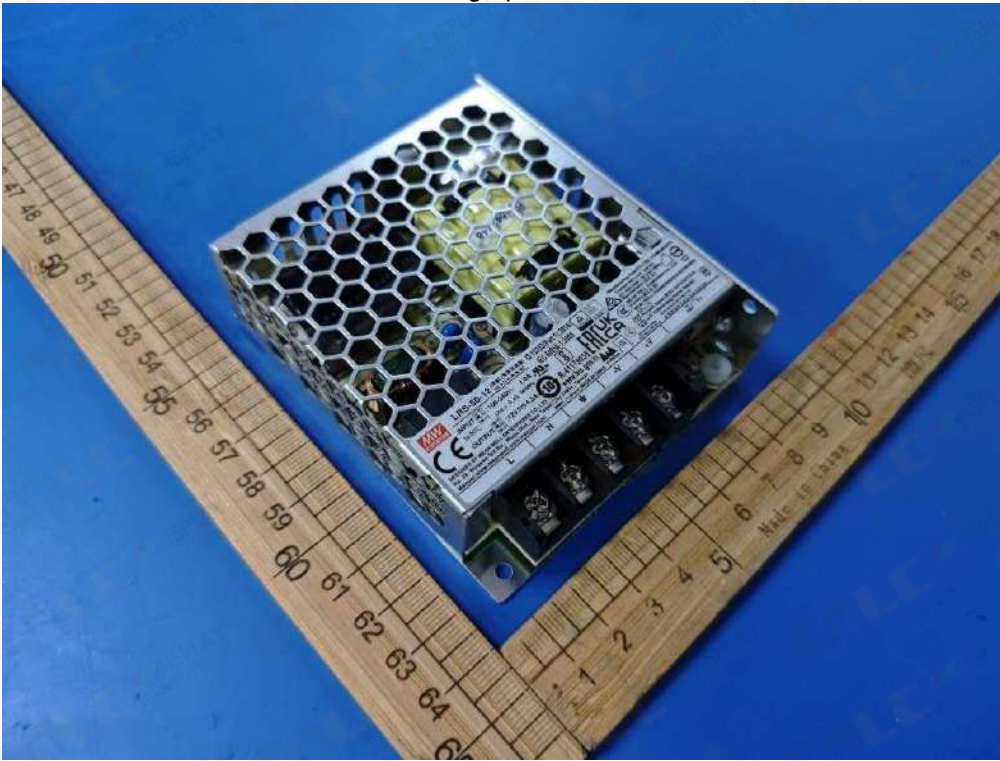


Photographs 3-08

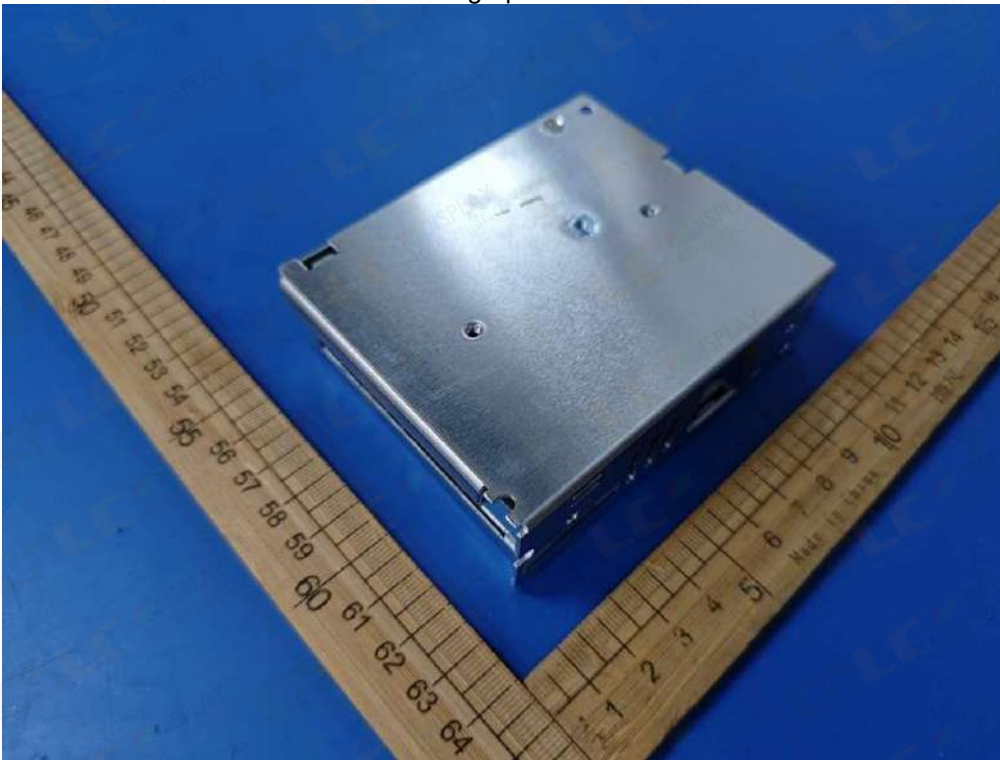




Photographs 3-09



Photographs 3-10





Photographs 3-11



Photographs 3-12

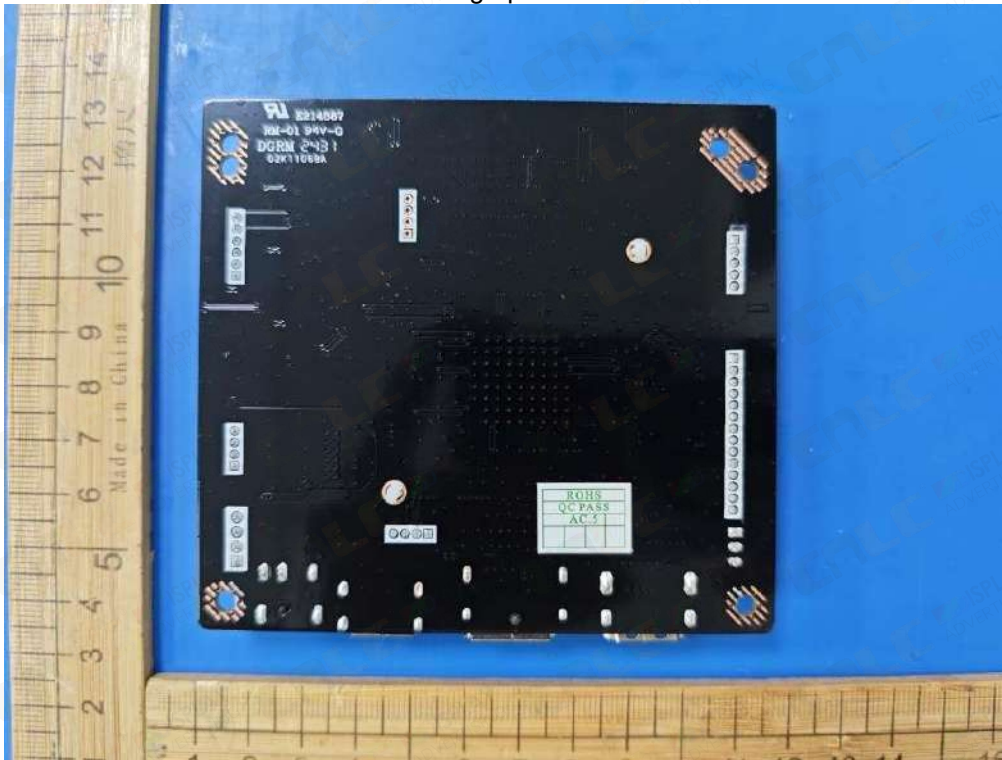




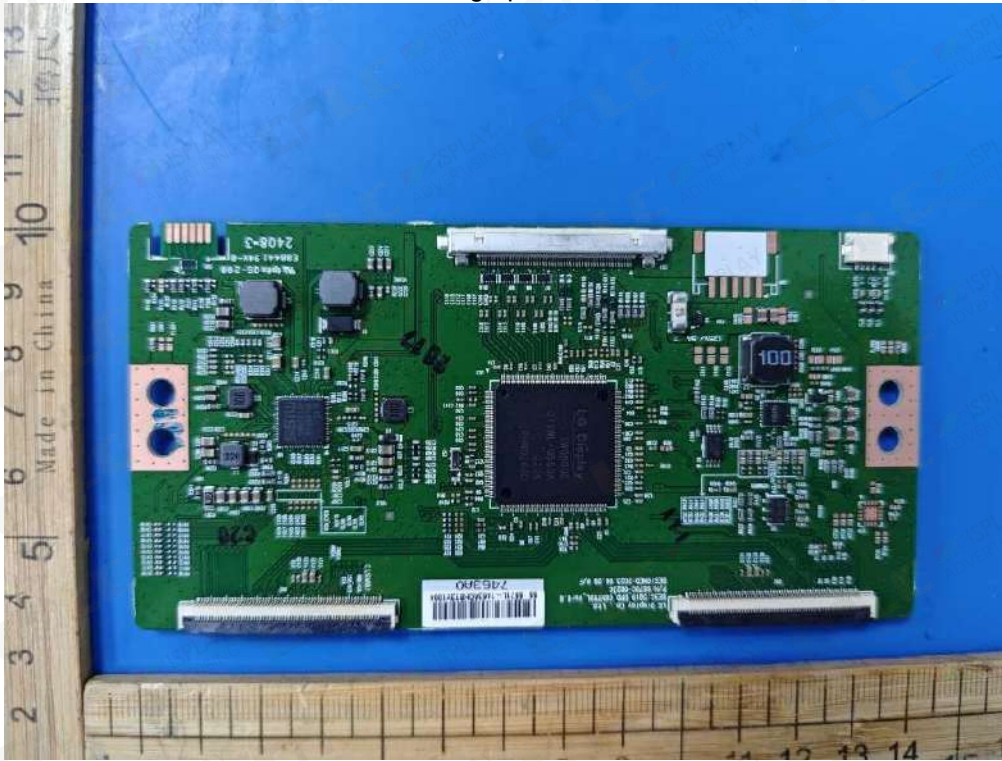
Photographs 3-13



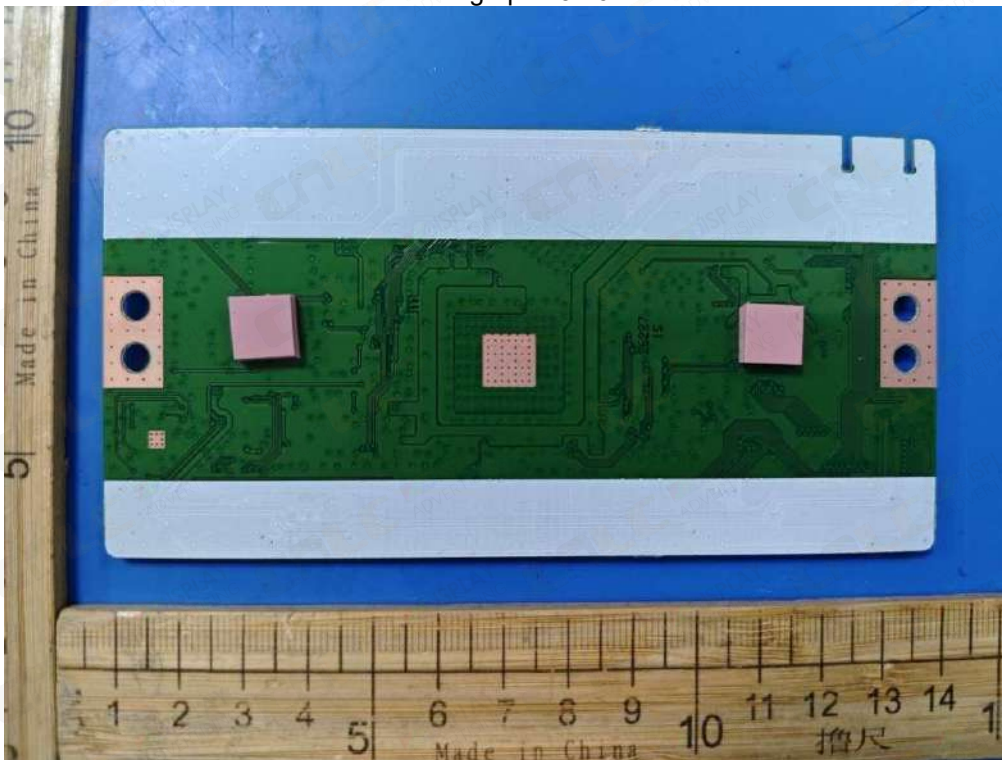
Photographs 3-14



Photographs 3-15

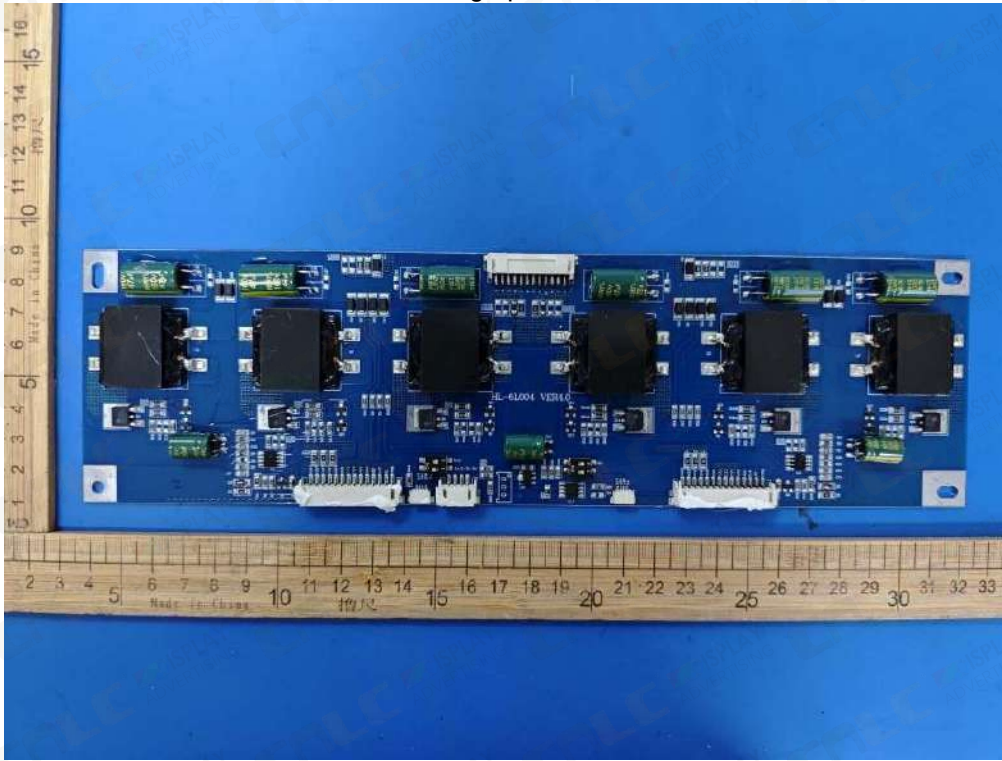


Photographs 3-16





Photographs 3-17



Photographs 3-18

