Test Report issued under the responsibility of:

TÜVRheinland®

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

Report Number ..... :	CN210AKB 004
Date of issue ..... :	22.Jun.2022
Total number of pages ..... :	49
Name of Testing Laboratory preparing the Report ..... :	TÜV Rheinland (Shenzhen) Co., Ltd.
Applicant's name ..... :	**TPV Electronics (Fujian) Co., Ltd.**
Address ..... :	Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian, P.R.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

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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

General disclaimer:

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

Test item description .....:	LCD monitor (LED backlight)
Trade Mark(s) .....:	AOC
Manufacturer.....:	Same as applicant
Model/Type reference .....:	U34P2*******, Q34P2********, 34P2********, U34E2*******, Q34E2********, 34E2********, C*34E2*********, C34E2********* , C*34P2*********, C34P2*********, U34G3********, Q34G3********, 34G3********, C*34G3********; U32P2********, Q32P2********, 32P2********, C*32P2*********, C32P2*********, U32E2********, Q32E2********, 32E2********, C*32E2*********, C32E2*********, U32G3********, Q32G3********, 32G3********, C*32G3********, U32N3********, Q32N3********, 32N3******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank for marketing purpose only, no technical difference.)
Ratings .....:	I/P: 100-240V~, 50/60Hz, 1.5A or 2.0A

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☐	**CB Testing Laboratory:**	TÜV Rheinland (Shenzhen) Co., Ltd.	
Testing location/ address ..... :		CTF Stage 1 procedure used. For address of testing location see “Test procedure: CTF Stage 1” below.	
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) .. :			
☒	**Testing procedure: CTF Stage 1:**	TPV Electronics (Fujian) Co., Ltd.	
Testing location/ address ..... :		Shangzheng, Yuan Hong Road Fuqing City, Fujian, P.R.China	
Tested by (name, function, signature) ..... :		Crystal Xu Project Engineer	Crystal Xu
Approved by (name, function, signature) .. :		Anderson Wang Technical Reviewer	
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address ..... :			
Tested by (name, function, signature)			
Witnessed by (name, function, signature) . :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature) . :			
Approved by (name, function, signature) .. :			
Supervised by (name, function, signature) :			

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

- Photo documentation (1 Page)
- Measurement Section (3 Pages)

Summary of testing:

Tests performed (name of test and test clause):

name of test	test clause number
Classification of electrical energy sources	5.2
Accessibility to electrical energy sources and safeguards (Accessibility test)	5.3.2
Maximum operating temperature test (Heating test)	5.4.1.4, 9.3, B.1.5, B.2.6
Determination of working voltage	5.4.1.8
Minimum Clearances/Creepage distance	5.4.2, 5.4.3
Humidity test	5.4.8
Electric strength test	5.4.9
Safeguards against capacitance discharge test	5.5.2.2
Resistance of the protective bonding system (Ground continuity test)	5.6.6.2
Unearthed accessible conductive part test	5.7.4
Earthed accessible conductive part test	5.7.5
Electrical Power Source (PS) measurements for classification	6.2.2
Input test	Annex B.2.5
Abnormal operating and fault condition tests	Annex B.3, B.4
Adhesive test	Annex P.4
Limited power source test (LPS)	Annex Q.1
Steady force test, 10N	Annex T.2

The EUT passed the test.

Testing location:

1) All tests as described in Test Case and Measurement Sections were performed at the CTF stage 1 described on page 2.

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

EU Group Differences, EU Special National Conditions, CA, DK, US

Explanation of used codes: CA=Canada, DK=Demark, US=United States of America

☒ **The product fulfils the requirements of EN IEC 62368-1:2020+ A11:2020 and BS EN IEC 62368-1: 2020+ A11:2020**

For National Differences see corresponding Attachment.

See original report CN210AKB 001 for the details.

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:

See original report CN210AKB 001 for the details.

Test item particulars:	
Product group ..... :	☒ end product ☐ built-in component
Classification of use by ..... :	☒ Ordinary person ☒ Children likely present ☐ Instructed person ☐ Skilled person
Supply connection ..... :	☒ AC mains ☐ DC mains ☐ not mains connected: ☐ ES1 ☐ ES2 ☐ ES3
Supply tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ + %/ - % ☐ None
Supply connection – type ..... :	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other:
Considered current rating of protective device ..... :	☒ 20 A; Location: ☒ building ☐ equipment ☐ N/A
Equipment mobility ..... :	☒ movable ☐ hand-held ☐ transportable ☐ direct plug-in ☐ stationary ☐ for building-in ☒ wall/ceiling-mounted ☐ SRME/rack-mounted ☐ other:
Overvoltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III ☐ Not classified ☐
Special installation location ..... :	☒ N/A ☐ restricted access area ☐ outdoor location ☐
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified T_{ma} ..... :	40 °C ☐ Outdoor: minimum °C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power systems ..... :	☒ TN ☐ TT ☐ IT - V_{L-L} ☐ not AC mains
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ 5000 m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ m
Mass of equipment (kg) ..... :	For 34.0 inch models with base type A: 9.85kg; For 31.5 inch models with base type A: 9.63kg; Base stand type A: 3.16kg; Base stand type B: 1.48kg; Base stand type C: 1.66kg; Base stand type D: 2.77kg; Base stand type E: 3.07kg.

Possible test case verdicts:

- test case does not apply to the test object ....: N/A

- test object does meet the requirement.....: P (Pass)

- test object does not meet the requirement....: F (Fail)

Testing:

Date of receipt of test item .....: 23.May.2022

Date (s) of performance of tests .....: 07.Jun.2022 - 16.Jun.2022

General remarks:

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

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

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

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

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

Name and address of factory (ies) ..... : See original report CN210AKB 003 for the details.

General product information and other remarks:

Description of change(s):

1. Add new power board 715GA864 for 34.0 inch models, which is used with main board 715GA661 and 715GD177;
2. Add information of metal enclosure in "Table 2: Construction details" as mentioned below, due to missing in original report CN210AKB 001-003;
3. Correct "Base type C can be rotated clockwise and anti-clockwise" to "Base type C is height adjustable only" due to typing error in original report CN210AKB 001.

Table 1: For the above described change(s) the following was considered to be necessary :

Change	Testing	Comments
1.	- See Summary of testing on Page 3 for the details.	See following pages for the details.
2.	- N/A	See Page 7 for the details
3.	-N/A	See below table 2 for the details.

Table 2: Construction details

Models	Power board	Main board	USB board	Base	Metal enclosure
U34P2*******, Q34P2********, 34P2********, U34E2*******, Q34E2********, 34E2********, C*34E2*********, C34E2*********, C*34P2*********, C34P2*********, U34G3********, Q34G3********, 34G3********, C*34G3********	715GB321	715GA732	N/A	Type A Type B Type C	Type A Type B Type C
	715GB240	715G9485 715G9823 715G9584	N/A		
	715GB314	715GB273 715GB058	715GB001		
		715GA661	715GB017		
	715GC894	715GA661 715GD177	715GB017	Type C Type E	Type D
	715GC778	715GB058	715GB001	Type E	Type E
	715GA864	715GA661 715GD177	N/A	Type B Type C	Type C
U32P2********, Q32P2********, 32P2********, C*32P2*********, C32P2*********, U32E2********, Q32E2********, 32E2********, C*32E2*********, C32E2*********, U32G3********, Q32G3********, 32G3********, C*32G3********. U32N3********, Q32N3********, 32N3********	715GB240	715G9823	N/A	Type A Type B Type C Type D	Type A Type B Type C
	715GB314	715GA732	N/A		
		715G9823 715GA732	715GB017		
		715GA987 715GB058	715GB001		
Note: The USB board and speakers are optional used.					

History of amendments and modifications:
Ref. No. CN210AKB 001, dated 12.Jul.2021 (Original report)
Ref. No. CN210AKB 002, dated 18.Feb.2022 (Modification)
Ref. No. CN210AKB 003, dated 06.May.2022 (Modification)
Ref. No. CN210AKB 004, dated 22.Jun.2022 (Modification)

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: L/N pin of appliance inlet	Ordinary	--	--	Bleeder resistors
ES3: Primary circuit	Ordinary	Air gap	Plastic enclosure	Transformer, Y-caps, Photo Couplers
ES1: +19V output of SPS	Ordinary	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: >100 watt circuit	Combustible materials inside power board	Ignition not occur	Fire enclosure	--
PS2: <100 Watt circuit	Combustible materials supplied by +19V outputs of SPS	Ignition not occur	Mounted on V-1 min. PCB	--
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS3: Wall mount	Ordinary	--	--	Compliance with test 8.7.2
MS2: Equipment mass	Ordinary	N/A	N/A	Compliance with test 8.6
MS1: Edges and corners	Ordinary	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
TS1: Accessible parts	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: Indicating lights	Ordinary	N/A	N/A	N/A
RS1: LED backlight of LCD	Ordinary	N/A	N/A	N/A

panel				

Supplementary Information:

"B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard

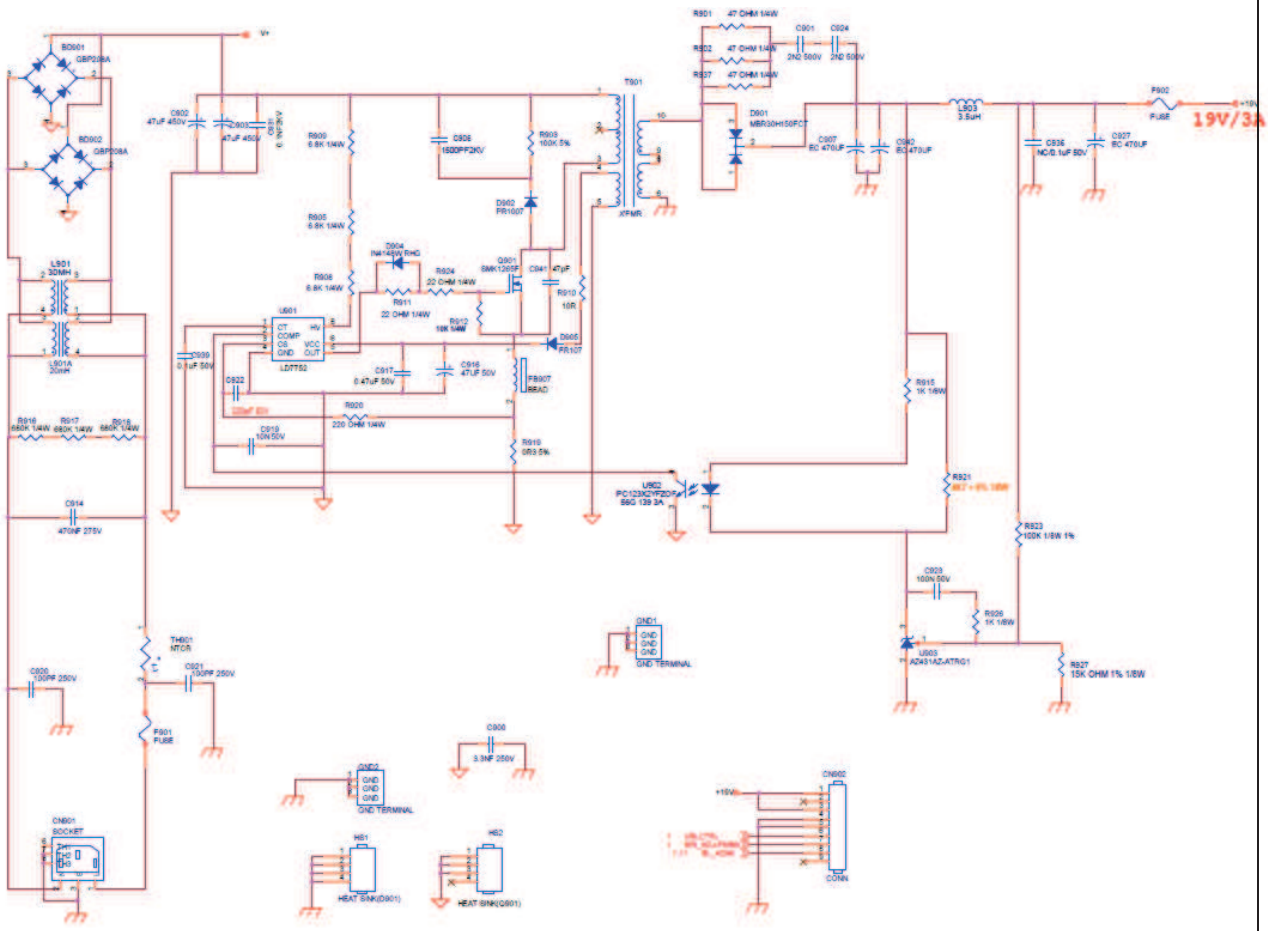
ENERGY SOURCE DIAGRAM

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

ES3, ES2, ES1 (See "OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS" for the details),

PS2, PS3 (See "OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS" for the details)



☒ ES ☒ PS ☐ MS ☐ TS ☐ RS

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2.	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible part which could cause injury.	P
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness	For adhesives securing parts serving as safeguards, see Annex P.4. Others see below.	P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.3, T.4, T.5)	P
4.4.3.4	Impact tests	See Annex T.	P
4.4.3.5	Internal accessible safeguard tests	See Annex T.	P
4.4.3.8	Thermoplastic material tests	Phenolic material used and described in subclauses 5.4.1.10 to 5.4.1.10.3. 70ºC, 7 hours, no deformation on all sources of plastic enclosure.	P
4.4.3.9	Air comprising a safeguard		P
4.4.3.10	Accessibility, glass, safeguard effectiveness	Compliance checked.	P
4.5	**Explosion**		P
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions.	P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	**Fixing of conductors**		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test ..... :	(See Clause T.2)	P
4.9	**Likelihood of fire or shock due to entry of conductive object**		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.10	**Component requirements**		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays		N/A
5	**ELECTRICALLY-CAUSED INJURY**		P
5.2	**Classification and limits of electrical energy sources**		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	(See Clause E.1)	P
5.3	**Protection against electrical energy sources**		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	See “OVERVIEW OF EMPLOYED SAFEGUARDS” table.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors	See above.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES2 or ES3 source cannot accessed by ordinary persons and ES3 source cannot accessed by instructed persons. Double or reinforced safeguard is provided between ES2 or ES3 and ordinary persons or instructed persons.	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements	See below.	P
	Test with test probe from Annex V	Test probe V.1, V.2 applied.	—
5.3.2.2 a)	Air gap – electric strength test potential (V) .....:	(See appended table 5.4.9)	P
5.3.2.2 b)	Air gap – distance (mm) .....:	Complied with the minimum distance requirement. (See appended table 5.4.2.2, 5.4.2.4 and 5.4.3.)	P
5.3.2.3	Compliance		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	**Insulation materials and requirements**		P
5.4.1.2	Properties of insulating material	Hygroscopic materials are not used for 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)	P
5.4.1.5	Pollution degrees .....:	Pollution degree 2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage .....:	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Bobbin materials of transformer are phenolic that is accepted without further tests. Others see appended table 5.4.1.10.3.	P
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test .....:	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.1	General requirements	See above.	P
	Clearances in circuits connected to AC Mains, Alternative method	See below.	P
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
	Temporary overvoltage .....:	2000V	—
5.4.2.3	Procedure 2 for determining clearance	(See appended table 5.4.2.3)	P
5.4.2.3.2.2	a.c. mains transient voltage.....:	2500V	—
5.4.2.3.2.3	d.c. mains transient voltage .....:		—
5.4.2.3.2.4	External circuit transient voltage.....:		—
5.4.2.3.2.5	Transient voltage determined by measurement .....:		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....:	(See appended table 5.4.2)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....:	Multiplication factor is 1.48 for altitude up to 5000m.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.6	Clearance measurement .....:	(See appended table 5.4.2)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group .....:	Material group IIIb assumed.	—
5.4.3.4	Creepage distances measurement .....:	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation .....:	(See appended table 5.4.4.2)	P
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	Reinforced insulation.	P
	Number of layers (pcs) .....:	2.	P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P, K_R, d, V_{PW} (V) ..... :	(See appended Table 5.4.4.9) or (See appended Table 5.4.9)	P
	Alternative by electric strength test, tested voltage (V), K_R ..... :		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature (°C), duration (h) ..... :	Performed at 40 °C, 95% R.H. for 120h.	—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation.....:	(See appended table 5.4.9)	P
5.5	**Components as safeguards**		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement	X-Cap. and Y-Cap. are IEC 60384-14 approval components and complied with Annex G.11.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector ..... :	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See Clause G.12)	P
5.5.5	Relays		N/A
5.5.6	Resistors	(See Clause G.10)	P
	RCD rated residual operating current (mA)..... :		—
5.6	**Protective conductor**		P
5.6.2	Requirement for protective conductors		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6	**Protective conductor**		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements	No switch or overcurrent protective device in protective conductor.	P
5.6.4	Requirements for protective bonding conductors	See below.	P
5.6.4.1	Protective bonding conductors	Total Cross-sectional area of protective bonding traces and metal cramp of AC inlet complied with Clause 5.6.6 and Table G.7.	P
	Protective bonding conductor size (mm^2). ..... :	0.6	—
5.6.4.2	Protective current rating (A)..... :	20A	P
5.6.5	Terminals for protective conductors	Screws fixing earthed PCB trace to metal chassis for protective bonding. Size of screws is according with Table 32.	P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	No power cord used.	P
	Terminal size for connecting protective bonding conductors (mm) .....:	3.7 mm	P
5.6.5.2	Corrosion	Complied.	P
5.6.6	Resistance of the protective bonding system	See below.	P
5.6.6.1	Requirements	See below.	P
5.6.6.2	Test Method..... :	(See appended table 5.6.6)	P
5.6.6.3	Resistance (Ω) or voltage drop..... :	(See appended table 5.6.6)	P
5.7	**Prospective touch voltage, touch current and protective conductor current**		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	Figure 5 of IEC 60990 was used in determining of the limit of ES2.	P
5.7.2.2	Measurement of voltage	See above.	P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts ..... :	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts ..... :	(See appended table 5.7.5)	P
6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	**Classification of PS and PIS**		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2	Power source circuit classifications.....:	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE.	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS .....:	All components located within power board are considered as arcing PIS.	P
6.2.3.2	Resistive PIS .....:	All components located within the equipment are considered as resistive PIS.	P
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials ..... :	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure .....:	Min. HB	P
6.4	**Safeguards against fire under single fault conditions**		P
6.4.1	Safeguard method	The method “Control fire spread” is selected.	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		N/A
6.4.5	Control of fire spread in PS2 circuits	See below.	P
6.4.5.2	Supplementary safeguards	Certified wire insulation is used. Components other than PCB and wires are: - mounted on PCB rated V-1 or better, or - made of V-2/VTM-2 or better. (See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuits	Providing fire enclosure for PS3 circuit.	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

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties	See below	P
6.4.8.2.1	Requirements for a fire barrier	Metal enclosure and V-0 Mylar sheet used as fire enclosure.	P
6.4.8.2.2	Requirements for a fire enclosure	Metal enclosure and V-0 Mylar sheet used as fire enclosure.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		P
	Openings dimensions (mm)..... :	See attachment: Measurement Section for the details.	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm)..... :	See attachment: Measurement Section for the details.	P
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties		P
	Openings dimensions (mm)..... :	See attachment: Measurement Section for the details.	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating ..... :	Metal enclosure and V-0 Mylar sheet used as fire enclosure.	P
6.4.9	Flammability of insulating liquid.....:		N/A
6.5	**Internal and external wiring**		P
6.5.1	General requirements	Internal or external wiring materials are compliant with IEC 60950-1 according to Sub-clause 4.1.1. Furthermore, the test method described in IEC 60695-11-21 is considered equivalent to that test wiring materials for VW-1. All internal wiring are using VW-1 material.	P
6.5.2	Requirements for interconnection to building wiring ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.5.3	Internal wiring size (mm^2) for socket-outlets..... :		N/A
6.6	**Safeguards against fire due to the connection to additional equipment**		P
9	**THERMAL BURN INJURY**		P
9.2	**Thermal energy source classifications**		P
9.3	**Touch temperature limits**		P
9.3.1	Touch temperatures of accessible parts .....:	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.3.2	Test method and compliance	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification	The following parts are considered as RS1 without tests: - Indicating lights; - LED backlight of LCD panel	P
	Lasers ..... :		—
	Lamps and lamp systems..... :		—
	Image projectors ..... :		—
	X-Ray..... :		—
	Personal music player ..... :		—
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.1	**General**		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	**Normal operating conditions**		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	(See Annex E)	P
B.2.3	Supply voltage and tolerances	±10%	P
B.2.5	Input test ..... :	(See appended table B.2.5)	P
B.3	**Simulated abnormal operating conditions**		P
B.3.1	General	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	(See appended table B.3)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard ..... :		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions	(See appended table B.3)	P
B.3.8	Safeguards functional during and after abnormal operating conditions..... :	(See appended table B.3)	P
B.4	**Simulated single fault conditions**		P
B.4.1	General	See below.	P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		N/A
B.4.4	Functional insulation	For traces before fuse, comply with the clearance/creepage for basic insulation, others are considered to perform short-circuited during the tests.	P
B.4.4.1	Short circuit of clearances for functional insulation	See above.	P
B.4.4.2	Short circuit of creepage distances for functional insulation	See above.	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnection of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions ..... :	(See appended table B.4)	P
B.4.9	Battery charging and discharging under single fault conditions		N/A
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	**General**		P
	Language ..... :	English. Versions in other languages will be provided when national certificate approval.	—
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	**Equipment markings**		P
F.3.1	Equipment marking locations	The equipment marking is provided and is readily visible in operator access area.	P
F.3.2	Equipment identification markings	See below.	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 below.	P
F.3.3.1	Equipment with direct connection to mains	See below.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage ..... :	See copy of marking plate.	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		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :		N/A
F.3.5.2	Switch position identification marking..... :		N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :	Fuses are not replaceable by ordinary person. The marking is adjacent to the fuse. Build-in fuse F901 (on primary): T4AL/250Vac. F902(on secondary for LPS): T4AL/250Vac	P
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal ..... :	Appliance inlet is provided. The symbol IEC 60417-5019 was located on appliance inlet.	P
F.3.6.1.2	Protective bonding conductor terminals ..... :	Terminals was not identified.	P
F.3.9	Durability, legibility and permanence of marking	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.10	Test for permanence of markings	Marking is durable and legible. The marking plate has no curling and is not able to be removed easily.	P
F.4	**Instructions**		P
	a) Information prior to installation and initial use	Provided in user's manual.	P
	b) Equipment for use in locations where children not likely to be present	Figure V.1 considered for test.	N/A
	c) Instructions for installation and interconnection	Provided in user's manual.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place	For wall mounting function, provided in user's manual.	P
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard	The instruction is provided in the user's manual.	P
G	**COMPONENTS**		P
G.3	**Protective devices**		P
G.3.4	Overcurrent protection devices	Current fuse complying with IEC 60127 as overcurrent protection device.	P
G.4	**Connectors**		P
G.4.1	Spacings	The appliance inlet complied with IEC 60320-1.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No misconnection likely.	P
G.5	**Wound components**		P
G.5.1	Wire insulation in wound components	Approved triple insulated wire of all transformer used as separation for insulation between primary windings and secondary windings.	P
G.5.1.2	Protection against mechanical stress	Physical separation provided by tube to relieve mechanical stress at the crossover point.	P
G.5.3	Transformers		P
G.5.3.1	Compliance method ..... :	Meet the requirements in G.5.3.2 and G.5.3.3.	P
	Position ..... :	T901	P
	Method of protection ..... :	Overcurrent protection.	P
G.5.3.2	Insulation	See attachment Transformer table.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings ..... :	Displacement of windings is unlikely.	—
G.5.3.3	Transformer overload tests	(See appended table B.3 & B.4)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment.	P
G.5.3.3.2	Winding temperatures	(See appended table B.3 & B.4)	P
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :	See attachment Transformer table.	P
G.6	**Wire Insulation**		P
G.6.1	General		P
G.10	**Resistors**		P
G.10.1	General	Approved source is used.	P
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	**Capacitors and RC units**		P
G.11.1	General requirements	X-Capacitors and Y-Capacitors used as safeguard and complied with IEC/EN 60384-14. (See appended table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units	At least 21 days at 40 ± 2°C and 93±3% RH.	P
G.11.3	Rules for selecting capacitors	The selection followed with tables G.9 and G.12.	P
G.12	**Optocouplers**		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Approved components used.	P
	Type test voltage $V_{ini,a}$..... :		—
	Routine test voltage, $V_{ini,b}$..... :		—
G.13	**Printed boards**		P
G.13.1	General requirements	See below.	P
G.13.2	Uncoated printed boards	(see appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
L	**DISCONNECT DEVICES**		P
L.1	**General requirements**	Appliance Inlet as disconnect device.	P
L.2	**Permanently connected equipment**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L.3	**Parts that remain energized**	When the power cord is removed from the inlet no remaining parts with hazardous voltage in the equipment.	P
L.4	**Single-phase equipment**	The disconnect device disconnects both poles simultaneously.	P
N	**ELECTROCHEMICAL POTENTIALS**		P
	Material(s) used ..... :	The internal metal enclosure is made of mild steel, screw spring washer are made of Ni on steel, the combined electrochemical potential is below 0.6V according to Annex N.	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Value of *X* (mm)..... :	Considered.	—
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		P
P.1	**General**		P
P.2	**Safeguards against entry or consequences of entry of a foreign object**		P
P.2.1	General	See below.	P
P.2.2	Safeguards against entry of a foreign object	Internal metal chassis are provided as internal barrier.	P
	Location and Dimensions (mm) ..... :	See attachment: Measurement Section for the details.	—
P.2.3	Safeguards against the consequences of entry of a foreign object	See above.	P
P.2.3.1	Safeguard requirements	Complied.	P
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts ..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	**Safeguards against spillage of internal liquids**		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	**Metallized coatings and adhesives securing parts**		P

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Clause	Requirement + Test	Result - Remark	Verdict
P.4.1	General	Ripple Capacitor is considered as safeguard. Adhesive for Mylar sheet is considered as safeguard.	P
P.4.2	Tests	After test mentioned above, all safeguards remain effective.	P
	Conditioning, T_C (°C) ..... :	100.0 for C902 and C903 100.0 for adhesive for mylar sheet.	—
	Duration (weeks)..... :	1	—
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	**Limited power sources**		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		N/A
	d) Overcurrent protective device limited output	(See appended table Q.1)	P
	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
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		P
T.2	**Steady force test, 10 N ..... :**	(See appended table T.2)	P

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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[1)]	Additional Info [2)]	
264V, 60Hz	+19V output to "-" / GND	Normal	20.7Vdc	--	SS	--	ES1
		Abnormal – (see table B.3 for details, maximum result recorded)	20.7Vdc	--	SS	--	
		Single fault – (see table B.4 for details, maximum result recorded)	0Vdc	--	SS	--	
264V, 60Hz	LED backlight output to "-" / GND	Normal	40.6Vdc	--	SS	--	ES1
		Abnormal – (see table B.3 for details, maximum result recorded)	40.6Vdc	--	SS	--	
		Single fault – (see table B.4 for details, maximum result recorded)	0Vdc	--	SS	--	
264V, 60Hz	L&N pin of AC inlet	Normal	373	--	CP	Total: 0.47μF (C914)	ES3
		Abnormal	--	--	--	--	
		Single fault – SC/OC	--	--	--	--	
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

5.4.1.8	TABLE: Working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
T901: Pin 1 to pin 6	241	378	--	
T901: Pin 1 to pin 8,9	241	413	--	
T901: Pin 1 to pin 10	244	481	--	
T901: Pin 3 to pin 6	**290**	**556**	56.2k	**Max. Vpeak and Max. Vrms**
T901: Pin 3 to pin 8,9	285	544	--	

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Clause	Requirement + Test	Result - Remark	Verdict

T901: Pin 3 to pin 10	274	547	--	
T901: Pin 4 to pin 6	241	463	--	
T901: Pin 4 to pin 8,9	238	434	--	
T901: Pin 4 to pin 10	237	400	--	
T901: Pin 5 to pin 6	237	372	--	
T901: Pin 5 to pin 8,9	237	381	--	
T901: Pin 5 to pin 10	240	406	--	
U902 Pin1-3	253	391	--	
U902 Pin1-4	253	391	--	
U902 Pin2-3	252	391	--	
U902 Pin2-4	251	391	--	
C900 primary pin – secondary pin	237	372	--	
Supplementary information:				
Input Voltage is 240Vac, 60Hz.				

5.4.2, 5.4.3	**TABLE: Minimum Clearances/Creepage distance**							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1)] (Hz)	Required cl (mm)	cl (mm)	E.S. [2)] (V)	Required cr (mm)	cr (mm)
Basic/supplementary:								
Under fuse (F901)	420	250	--	2.3	3.1	--	2.5	3.1
Before fuse (between L-N)	420	250	--	2.3	3.7	--	2.5	3.7
Line-GND	420	250	--	2.3	3.0	--	2.5	3.0
Neutral-GND	420	250	--	2.3	3.7	--	2.5	3.7
Under C920	420	250	--	2.3	3.0	--	2.5	3.0
Under C921	420	250	--	2.3	3.7	--	2.5	3.7
C902 to metal enclosure	420	250	--	2.3	4.0	--	2.5	4.0
Basic/supplementary:								
Under T901	**556**	**290**	56.2K	4.5	8.8	--	5.8	8.8
Under C900	420	250	--	4.5	7.7	--	5.0	7.7
U902 primary pin to U902 secondary pin (trace side)	420	250	--	4.5	8.3	--	5.0	8.3

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Clause	Requirement + Test	Result - Remark	Verdict

Secondary component D901 to core	**556**	**290**	56.2K	4.5	11.0	--	5.8	11.0

Supplementary information:

Supplementary information:

1) There is one slot measured 1mm width.
2) Core of main transformer T901 consider as primary.
3) One mylar sheet is fixed between primary component trace and panel to fulfill the requirement for reinforced insulation. See table 5.4.9 for the electric strength test for mylar.
4) Glued component: C902, C903.
5) Considered altitude correction factor 1.48 for clearances for an altitude of 5000m.
6) For clearance and creepage that did not describe above are far larger than limit above.

5.4.4.2	**TABLE: Minimum distance through insulation**			P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
Photo coupler (reinforced insulation)	420	Reinforced	0.4	*1)*
Mylar sheet	420	Reinforced	0.4	min. 0.4
Plastic Enclosure (reinforced insulation)	420	Reinforced	0.4	*1)*
Bobbin of transformer	556	Reinforced	0.4	min. 0.45

Supplementary information:

1) For details refer to appended table 4.1.2.

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
Basic/supplementary:			
Unit primary to earthed metal part	AC	2500	No
Reinforced:			
L/N to accessible plastic enclosure with metal foil	AC	4000	No
Unit primary to secondary (output)	DC	4000	No
T901 1): primary to secondary	AC	4000	No
T901 1): core to secondary	AC	4000	No
T901 1): each layer of insulation tape	AC	4000	No

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Clause	Requirement + Test	Result - Remark	Verdict

Mylar sheet around power board [2)]	AC	4000	No
Supplementary information:			
1. For all sources of transformer; 2. For all source of mylar sheet; 3. The tests mentioned above were performed after humidity test and heating test.			

5.5.2.2	**TABLE: Stored discharge on capacitors**				P
Location	Supply voltage (V)	Operating and fault condition [1)]	Switch position	Measured voltage (Vpk)	ES Class
L-N	264V, 60Hz	N	N/A	0	ES1
Supplementary information:					
X-capacitors installed for testing: See Table 4.1.2 [x] bleeding resistor rating: See Table 4.1.2 [x] ICX: See Table 4.1.2 Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit					

5.6.6	**TABLE: Resistance of protective conductors and terminations**			P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
PE terminal of AC inlet to internal metal enclosure	40	2	0.16	0.004
PE terminal of AC inlet to C920 trace	40	2	0.16	0.004
PE terminal of AC inlet to C921 trace	40	2	0.17	0.004
Supplementary information:				

5.7.4	**TABLE: Unearthed accessible parts**					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	
L/N to All secondary port	(See table B.2, B.3, B.4 for details, maximum result recorded)	264V, 60Hz	--	0.01mApk	--	ES1
			--	0.01mApk	--	
			--	0.01mApk	--	
L/N to button of	(See table B.2,	264V, 60Hz	--	0.01mApk	--	ES1

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Clause	Requirement + Test	Result - Remark	Verdict

key board	B.3, B.4 for details, maximum result recorded)		--	0.01mApk	--	
			--	0.01mApk	--	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

5.7.5	**TABLE: Earthed accessible conductive part**			P
Supply voltage (V) ..... :	264Vac			—
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	
L – metal enclosure	1	0.33	Switch “e” open	
N – metal enclosure	1	0.33	Switch “e” open	
Supplementary Information:				
1) Tested with normal, abnormal and single-fault condition, and maximum value was recorded.				

6.2.2	**TABLE: Power source circuit classifications**					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power[1)] (W)	Time (S)	PS class
Output of SPS	(See Table Annex Q.1)	(See Table Annex Q.1)	(See Table Annex Q.1)	(See Table Annex Q.1)	5	PS2
Data ports of main board	(See Table Annex Q.1)	(See Table Annex Q.1)	(See Table Annex Q.1)	(See Table Annex Q.1)	5	PS2
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit. 1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						

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	
2)	2)	2)	2)	2)	
Supplementary information:					
1) 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. 2) All components located within power board are considered as arcing PIS.					

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
3)	3)	3)	3)
Supplementary information:			

Abbreviation: SC= short circuit; OC= open circuit

1) 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.

2) A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

3) All components located within the EUT are considered as resistive PIS.

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements				P
Supply voltage (V)..... :	264V/ 60Hz	90V/ 60Hz	--	--	—
Ambient temperature during test T_{amb} (°C) .... :	40.0	40.0	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
HDMI mode	Horizontal		--	--	
AC inlet near "L" (on power board)	51.4	53.8	--	--	70
X-cap C914 (on power board)	59.4	68.7	--	--	100
Y-cap C920 (on power board)	52.9	54.4	--	--	125
Y-cap C921 (on power board)	52.1	55.1	--	--	125
Y-cap C900 (on power board)	60.1	64.3	--	--	125
E-cap C902 (on power board)	56.6	60.0	--	--	105
L901 Coil (on power board)	64.0	92.7	--	--	105
L903 Coil (on power board)	71.1	71.4	--	--	105
L801 Coil (on power board)	80.4	82.0	--	--	105
T901 Coil (on power board)	79.5	81.7	--	--	110
T901 Core (on power board)	82.7	82.2	--	--	110
Optical coupler U902 body (on power board)	69.5	66.4	--	--	85
PCB near TH901 (on power board)	64.7	79.0	--	--	100

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PCB near BD901&BD902 (on power board)	60.2	72.6	--	--	105
PCB near Q901 (on power board)	76.9	75.7	--	--	105
PCB near D901 (on power board)	81.1	83.0	--	--	105
PCB near main IC (on main board)	58.5	58.4	--	--	105
Mylar between panel & power board	64.0	63.7	--	--	80
Ambient	40.0	40.0	--	--	--
Touch temperature for accessible part under normal condition					
Metal enclosure near T901	34.6	35.4	--	--	70
Plastic enclosure outside near T901	30.0	30.4	--	--	94
Panel surface	36.4	36.6	--	--	94
Button	27.9	27.9	--	--	77
Ambient	25.0	25.0	--	--	--

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

Supplementary information:

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

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

Noto 3: With a specified ambient temperature of 40°C. All recorded temperature have been calculated to ambient temperature 40°C. Temperature limits are calculated as follows:

Winding components providing safety isolation:

- Class B: Tmax = 120 - 10

Components with maximum absolute temperature of others:

- Tmax = Tmax of component

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
Test on power board 715GA864 with main board 715GA661								
HDMI mode								
90	50	0.882	--	48.3	--	F901	0.882	Maximum normal load
90	60	0.847	--	48.1	--	F901	0.847	Maximum normal load
100	50	0.794	1.5	47.9	--	F901	0.794	Maximum normal load
100	60	0.768	1.5	47.7	--	F901	0.768	Maximum normal load
240	50	0.384	1.5	46.6	--	F901	0.384	Maximum normal load

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240	60	0.377	1.5	46.6	--	F901	0.377	Maximum normal load
264	50	0.360	--	46.9	--	F901	0.360	Maximum normal load
264	60	0.353	--	46.9	--	F901	0.353	Maximum normal load
DP mode								
90	50	0.874	--	48.0	--	F901	0.874	Maximum normal load
90	60	0.842	--	47.9	--	F901	0.842	Maximum normal load
100	50	0.788	1.5	47.5	--	F901	0.788	Maximum normal load
100	60	0.763	1.5	47.4	--	F901	0.763	Maximum normal load
240	50	0.382	1.5	46.3	--	F901	0.382	Maximum normal load
240	60	0.373	1.5	46.1	--	F901	0.373	Maximum normal load
264	50	0.356	--	46.5	--	F901	0.356	Maximum normal load
264	60	0.350	--	46.4	--	F901	0.350	Maximum normal load
Test on power board 715GA864 with main board 715GD177								
HDMI mode								
90	50	0.665	--	35.2	--	F901	0.665	Maximum normal load
90	60	0.673	--	35.2	--	F901	0.673	Maximum normal load
100	50	0.614	1.5	35.1	--	F901	0.614	Maximum normal load
100	60	0.625	1.5	35.1	--	F901	0.625	Maximum normal load
240	50	0.335	1.5	34.8	--	F901	0.335	Maximum normal load
240	60	0.332	1.5	34.8	--	F901	0.332	Maximum normal load
264	50	0.316	--	35.1	--	F901	0.316	Maximum normal load
264	60	0.310	--	35.1	--	F901	0.310	Maximum normal load
DP mode								
90	50	0.661	--	35.0	--	F901	0.661	Maximum normal load
90	60	0.672	--	35.0	--	F901	0.672	Maximum normal load
100	50	0.610	1.5	34.9	--	F901	0.610	Maximum normal load
100	60	0.620	1.5	35.0	--	F901	0.620	Maximum normal load
240	50	0.331	1.5	34.6	--	F901	0.331	Maximum normal load
240	60	0.327	1.5	34.6	--	F901	0.327	Maximum normal load
264	50	0.311	--	34.9	--	F901	0.311	Maximum normal load
264	60	0.306	--	34.8	--	F901	0.306	Maximum normal load
Supplementary information:								
1. Maximum normal load: Three vertical bar signal which as defined in 3.2.1.3 of 60107-1 display with maximum brightness, maximum contrast.								

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Clause	Requirement + Test	Result - Remark	Verdict

B.3, B.4	**TABLE: Abnormal operating and fault condition tests**						P
Ambient temperature T_{amb} (°C)..... :							—
Power source for EUT: Manufacturer, model/type, outputrating .. :							—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Ventilation openings	blocked	90	1.0h	F901	0.842	Unit normal operation, no hazards, no damage. After temperature reached stable, max. measured temp. in T901 coil = 70.9°C, T901 core = 71.4°C, AC inlet = 43.3°C, Plastic enclosure outside near T901 = 34.6°C, Panel = 41.5°C, Button = 33.0°C, Ambient = 25.0°C	
+19V output	o-l	90	2.0h	F901	1.395	Winding loaded to 1.2A additional before shut down. No hazards. Max. measured temp. in T901 coil = 94.7°C, T901 core = 90.4°C, AC inlet = 43.6°C, Plastic enclosure outside near T901 = 31.5°C, Panel = 36.5C, Button = 31.0°C, Ambient = 25.0°C	
BD901 pin1-4	s-c	264	<1 sec	F901	--	Fuse F901 opened instantly, no hazard.	
C903	s-c	264	<1 sec	F901	--	Fuse F901 opened instantly, no hazard.	
U901 pin 3-8	s-c	264	5 min	F901	0.04	Unit shut down, U901 damaged. Repeated the test with three times and same result come out. No hazards.	
U901 pin 2-8	s-c	264	5 min	F901	0.04	Unit shut down, U901 damaged. Repeated the test with three times and same result come out. No hazards.	
U901 pin 6-8	s-c	264	5 min	F901	0.04	Unit shut down, U901 damaged. Repeated the test with three times and same result come out. No hazards.	
T901 pin 1 to pin 3	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.	

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T901 pin 4 to pin 5	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
T901 pin 6 to pin 10	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
+19V output to earth	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
U902 pin 1 - 2	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
U902 pin 3 - 4	o-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
U902 pin 1	o-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
Q901 pin G-S	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
Q901 pin D-G	s-c	264	5 min	F901	0.04	Unit shut down, Q901 damaged. Repeated the test with three times and same result come out. No hazards.
Q901 pin D-S	s-c	264	5 min	F901	0.04	Unit shut down, Q901 damaged. Repeated the test with three times and same result come out. No hazards.
D901	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
R927	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.
R923	s-c	264	5 min	F901	0.04	Unit shut down, no damaged, no hazard.

Supplementary information:

1. The unit passed 4000V hi-pot test between primary and accessible output connector after single fault test above.
2. In fault column, where s-c=short-circuited, o-c=open-circuited.
3. For fuse opened conditions were tested with each source of fuse.
4. For component damaged conditions have been repeated twice (three tests total) with same result.
5. Temp. limit of transformer according to table G.3 is 175°C-10-(40°C-Tamb) for Class B.

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						P
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Circuit output tested: +19V output of power board 715GA864							
2)	Normal condition	19.0	5	5.0	52.6 (40)	90.0	250

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Supplementary Information:
Supplementary information: 1) Input Voltage is 264Vac, 60Hz. 2) +19V output with fuse that will break the circuit within 120 s with a current equal to 210%. Current limit of table 2C reduced to breaking capacity of the fuse (40A).

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 components	--	--	--	10	5	The clearance and creepage distances do not be reduced below the required values.
Supplementary information:						

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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[1)]
Switching mode power supply board: 715GA864					
AC-Inlet (CN901)	Solteam	ST-01	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	ENEC16/FI/20/10036, UL E200241
Alt.)	Zhangjiagang Huajie Electronic Co., Ltd.	SA-4S, SA-4S 1	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	VDE 40003610, UL E154342
Alt.)	Zhangjiagang Huajie Electronic Co., Ltd.	SA-4S 9, SA-4S 6	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	TUV R 50293856 0001-0012, UL E154342
Alt.)	Zhangjiagang Huajie Electronic Co., Ltd.	SA-4S 7	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	TUV R 50293856 0001-0012, UL E154342
Alt.)	Zhangjiagang Huajie Electronic Co., Ltd.	SA-4D	10A, 250Vac	EN 60320-1, ANSI/UL60320-1	TUV R 50274698 0001-0002, UL E154342
Alt.)	Rong Feng	SS-120, SS-7B	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	VDE 40028101, UL E102641
Alt.)	Kunshan DLK Electronics	CDJ-3	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	VDE 40010513, UL E217394
Alt.)	Kunshan DLK Electronics	CDJ-3-1	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	VDE 40015913, UL E217394
Alt.)	Kunshan DLK Electronics	CDJ-7, CDJ-7 1	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	SE-ENEC-2001967, CB by ITS Certifi. No SE-91104, UL E317189
Alt.)	TECX	TU-301 series	10A, 250Vac	ANSI/UL60320-1	UL E220004
Alt.)	Yueqing Hongchang	DB-14 series, DB-14-14-R, DB-14-05, DB-14-15, DB-14-07, DB-14-11-L, DB-14-14-L, DB-14-23	10A, 250Vac	IEC/EN 60320-1, ANSI/UL60320-1	VDE 40028645, UL E327347

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	INALWAYS ELECTRONICS INC	0707-1, 0714-1, 0711-2	10A, 250Vac	ANSI/UL60320-1	UL E94191
Fuse (F901) on primary	Littelfuse Inc.	382	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40018250, UL E67006
Alt.)	Littelfuse Inc.	392	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 126983, UL E67006
Alt.)	Littelfuse Inc.	443	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-7, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50310551 0001-0004, UL E10480
Alt.)	Conquer	MET	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40017155, UL E82636
Alt.)	Conquer	MST	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40017118, UL E82636
Alt.)	Conquer	PTU	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40001462, UL E82636
Alt.)	Conquer	SEI	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-7, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50371756 0001, UL E82636
Alt.)	Cooper Bussmann LLC	SR-5	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40020046, UL E19180,
Alt.)	Cooper Bussmann LLC	SS-5	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40015513, UL E19180
Alt.)	Walter	2000	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40018787, UL E220181
Alt.)	Walter	2010 Serie(s)	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40018781, UL E220181

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	Walter	1032ST	T4AL, 250Vac	EN 60127-1, EN 60127-7, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50406605 0001-0003, UL E56092
Alt.)	Walter	2040	T4AL, 250Vac	EN 60127-1, EN 60127-4, ANSI/UL 248-1, ANSI/UL 248-14	TUV J 50426356 0001-0002, UL E56092
Alt.)	Walter	ICP-Series	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40012824, UL E56092
Alt.)	Better	932	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40033369, UL E300003
Alt.)	Better	244	T4AL, 250Vac	EN 60127-1, EN 60127-4, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50335764 0001-0003, UL E300003
Fuse (F902) (sec. for LPS)	Littelfuse Inc.	382	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40018250, UL E67006
Alt.)	Littelfuse Inc.	392	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 126983, UL E67006
Alt.)	Littelfuse Inc.	443	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-7, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50310551 0001-0004, UL E10480
Alt.)	Conquer	MET	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40017155, UL E82636
Alt.)	Conquer	MST	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40017118, UL E82636
Alt.)	Conquer	PTU	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40001462, UL E82636
Alt.)	Conquer	SEI	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-7, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50371756 0001, UL E82636

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	Cooper Bussmann LLC	SR-5	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40020046, UL E19180,
Alt.)	Cooper Bussmann LLC	SS-5	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40015513, UL E19180
Alt.)	Walter	2000	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40018787, UL E220181
Alt.)	Walter	2010 Serie(s)	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40018781, UL E220181
Alt.)	Walter	1032ST	T4AL, 250Vac	EN 60127-1, EN 60127-7, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50406605 0001-0003, UL E56092
Alt.)	Walter	2040	T4AL, 250Vac	EN 60127-1, EN 60127-4, ANSI/UL 248-1, ANSI/UL 248-14	TUV J 50426356 0001-0002, UL E56092
Alt.)	Walter	ICP-Series	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40012824, UL E56092
Alt.)	Better	932	T4AL, 250Vac	IEC/ EN 60127-1, IEC/ EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE 40033369, UL E300003
Alt.)	Better	244	T4AL, 250Vac	EN 60127-1, EN 60127-4, ANSI/UL 248-1, ANSI/UL 248-14	TUV R 50335764 0001-0003, UL E300003
Y- Capacitor (C920, C921) Y1 or Y2 type (optional)	Walsin	AC	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40001829, UL E146544
Alt.)	Walsin	AH	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40001804, UL E146544
Alt.)	TDK	CS	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40029781, UL E37861

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	TDK	CD	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40029780, UL E37861
Alt.)	Murata	KX	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40002831, UL E37921
Alt.)	Murata	KH	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40002796, UL E37921
Alt.)	JYA-NAY	JY, JN	Max. 100pF, 250Vac, 125°C	ANSI/UL 60384-14	UL E201384
Alt.)	Hongming	F	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40036393, UL E154899
Alt.)	Wansheng	CT7	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40012143, UL E249006
Alt.)	Haohua	CT7	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40003902, UL E233106
Alt.)	Samwha	SD	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40015804, UL E97754
Alt.)	Success	SB	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40037221, UL E114280
Alt.)	Success	SE	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40037218, UL E114280
Alt.)	Yinan Don's	CT81	Max. 100pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 135256, UL E145038
Y- Capacitor (C900) Y1 type (optional)	Walsin	AH	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 UL 60384-14	VDE 40001804, UL E146544
Alt.)	TDK	CD	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 UL 60384-14	VDE 40029780, UL E37861
Alt.)	Murata	KX	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 UL 60384-14	VDE 40002831, UL E37921
Alt.)	JYA-NAY	JN	Max. 3300pF, 250Vac, 125°C	ANSI/UL 60384-14	UL E201384

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	Hongming	F	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40036393, UL E154899
Alt.)	Wansheng	CT7	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40012143, UL E249006
Alt.)	Haohua	CT7	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40003902, UL E233106
Alt.)	Samwha	SD	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40015804, UL E97754
Alt.)	Success	SE	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40037218, UL E114280
Alt.)	Success	SB	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40037221, UL E114280
Alt.)	Yinan Don's	CT81	Max. 3300pF, 250Vac, 125°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 135256, UL E145038
X-Capacitor (X1 or X2 type) (C914) (optional)	Ultra Tech Xiphi	HQX	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40024534, UL E183780
Alt.)	Faratronic	MKP62	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40000358, UL E186600
Alt.)	Hua Jung	MKP	Max. 0.47µF, Min. 250Vac, 110°C	ANSI/UL 60384-14	UL E149075
Alt.)	Nanjing Tengen Rongguangda	MKP	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40028680, UL E200596
Alt.)	Europtronic	MPX	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40018238, UL E211347
Alt.)	Europtronic	MPX2	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40025981, UL E211347
Alt.)	Liow Gu	GS-L	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40023391, UL E186321

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

Alt.)	KEMET ELECTRONICS ITALIA SRL	R.46	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	ENEC DAT97000141, UL E97797
Alt.)	TDK	B3292	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40010694, UL E97863
Alt.)	ZhuHai Sung Ho Electronics Co., Ltd.	CMPP	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40026078, UL E327138
Alt.)	Jianghao	CBB62B	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE 40018690, UL E252286
Alt.)	Interchangeable	Interchangeable	Max. 0.47µF, Min. 250Vac, 110°C	IEC/EN 60384-14 ANSI/UL 60384-14	VDE, UL
Photo Coupler (U902)	Sharp	PC123	Di more than 0.4mm, ext. more than 8.0mm, 5000Vac, 110°C.	IEC/EN 60747-5-5, ANSI/UL 1577	VDE 40008087, UL E64380
Alt.)	Vishay Semiconductor	TCET1103-3034	Di more than 0.5mm, ext. cr more than 7.7mm, 4000Vac, 100°C.	EN 60747-5-5	VDE 40028080
Alt.)	Everlight Electronics Co., Ltd.	EL817	Di more than 0.5mm, ext. cr more than 8.0mm, 4000Vac, 110°C.	IEC/EN 60747-5-5, ANSI/UL 1577	VDE 132249, UL E214129
Alt.)	Everlight Electronics Co., Ltd.	EL817M (VDE), EL817 (UL)	Di more than 0.5mm, ext. cr more than 8.0mm, 4000Vac, 110°C.	IEC/EN 60747-5-5	VDE 132249, UL 214129
Alt.)	TOSHIBA	TLP781F , TLP781	Di more than 0.5mm, ext. cr more than 6.5mm, 4800Vac, 115°C.	EN 60747-5-5, ANSI/UL 1577	VDE 40021173, UL E67349

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

Alt.)	TOSHIBA	TLP421F	Di more than 0.4mm, ext. cr more than 8.0mm, 5000Vac, 110°C.	IEC/EN 60747-5-5	VDE 40010944
Alt.)	RENESAS ELECTRONICS CORPORATION	PS2561-1, PS2561L-1, PS2561L1-1, PS2561L2-1, PS2561DL1-1	Di more than 0.4mm, ext. cr more than 7.0mm, 5000Vac, 100°C.	EN 60747-5-5, ANSI/UL 1577	VDE 40008862, UL E72422
Alt.)	Everlight Electronics Co., Ltd.	EL1013 V (VDE), EL1013 (UL)	Di more than 0.4mm, ext. cr more than 8.1mm, 4000Vac, 110°C.	IEC/EN 60747-5-5, ANSI/UL 1577	VDE 40028391, UL E214129
Alt.)	Lite-On	LTV-817	Di more than 0.6mm, ext. cr more than 7.0mm, 4800Vac, 115°C.	IEC/EN 60747-5-5, ANSI/UL 1577	VDE 40015248, UL E113898
Bleeder Resistor (R916, R917, R918)	Guangdong Fenghua Advanced Technology Holding Co., Ltd.	RVS-06K155FT	Max. 680KΩ, min. 1/4W	IEC 62368-1	CB issued by NEMKO(CB report No. 336992 and CB cert No. NO99692)
Alt.)	Guangdong Fenghua Advanced Technology Holding Co., Ltd.	RS-06K155FT	Max. 680KΩ, min. 1/4W	IEC 62368-1	CB issued by NEMKO(CB report No. 337017 and CB cert No.NO99693)
Alt.)	Yageo Corporation	RV1206XX-07155ML (The first X can be D,F or J. the secondary X can be R or K)	Max. 680KΩ, min. 1/4W	IEC 62368-1	CB issued by UL(CB report No. E491387-4787887815-1 Original, CB cert No. DK-64853-UL)

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

Alt.)	Tzai Yuan Enterprise Co., Ltd.	HSMD12061M5J , SMD12061M5J	Max. 680KΩ, min. 1/4W	IEC 62368-1	CB issued by UL (CB report No. OFF-12CA24616-A-1, OFF12CA24616-A-1 am1 and E354677-12CA24616-A-1. CB cert No.DK-29431-UL, DK-29431-A1-UL and DK-29431-A1-M1-UL)
Line Choke (L901) (Optional)	CHANNELON	73G174-192-H	105°C	--	--
Alt.)	LI TAI	73G174-192-L	105 °C	--	--
Alt.)	TAICHANG	73G174-192-S	105 °C	--	--
Alt.)	PSA	73G174-192-F	105 °C	--	--
Alt.)	ASET	73G174-192-X	105 °C	--	--
Transformer (T901) (Alt.)	HAINING	380GL19P0170 J	Class 130 material (B)	Applicable parts of IEC 62368-1 and according to IEC 60085	Accepted by TÜV Rheinland
Bobbin	Sumitomo	PM-9820	V-0, Phenolic, 150°C	UL 94	UL E41429
Triple insulation wire	COSMOLINK	TIW-M	Max.130°C	IEC/EN 60950-1, VDE0805 Teil1, UL 2353	UL E50292
Insulation tape	JingJiang YaHua Pressure Sensitive Glue Co., Ltd	CT	PET film insulating tape, 130°C	UL510	UL E165111
Teflon tube	GREAT HOLDING	TEFLON TUBE TFL	200°C	UL 224	UL E156256
Transformer (T901) (Alt.)	LI TAI	380GL19P0170 L	Class 130 material (B)	Applicable parts of IEC 62368-1 and according to IEC 60085	Accepted by TÜV Rheinland
Bobbin	CHANGCHUN PLASTICS	T200NA	V-0, Phenolic, 150°C	UL94	UL E59481
Triple insulation wire	COSMOLINK	TIW-M	Max.130°C	UL 510	UL E50292

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

Insulation tape	JingJiang YaHua Pressure Sensitive Glue Co., Ltd	CT	PET film insulating tape, 130°C	UL 510	UL E165111
Alt.)	SYMBIO INC	35660Y*(%)	PET film insulating tape, 130°C	UL 510	UL E50292
Teflon tube	GREAT HOLDING	TEFLON TUBE TFL	200°C	UL 224	UL E156256
Transformer (T901) (Alt.)	Phoenix	380GL19P0170 P	Class 130 material (B)	Applicable parts of IEC 62368-1 and according to IEC 60085	Accepted by TÜV Rheinland
Bobbin	Sumitomo	PM-9820	V-0, Phenolic, 150°C	UL 94	UL E41429
Triple insulation wire	YUSHENG	TIW-B(x)	Max.130°C	UL 2353	UL E332529
Insulation tape	JingJiang YaHua Pressure Sensitive Glue Co., Ltd	CT	PET film insulating tape, 130°C	UL510	UL E165111
Alt.)	SYMBIO INC	35660Y*(%)	PET film insulating tape, 130°C	UL510	UL E156256
Teflon tube	GREAT HOLDING	TEFLON TUBE TFL	200°C	UL 224	UL E156256
Transformer (T901) (Alt.)	TAICHANG	380GL19P0170 S	Class 130 material (B)	Applicable parts of IEC 62368-1 and according to IEC 60085	Accepted by TÜV Rheinland
Bobbin	Sumitomo	PM-9820	V-0, Phenolic, 150°C	UL 94	UL E41429
Triple insulation wire	YUSHENG	TIW-B	Max.130°C	UL 2353	UL E332529
Insulation tape	JingJiang YaHua Pressure Sensitive Glue Co., Ltd	CT	PET film insulating tape, 130°C	UL510	UL E165111
Teflon tube	GREAT HOLDING	TEFLON TUBE TFL	200°C	UL 224	UL E156256
- Margin tape	YAHUA	No.44	130°C	UL 510	UL E165111
Alt.)	SYMBIO INC	NO. 35661	130°C	UL 510	UL E50292
Rating information of components which are not critical components					

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

PCB	Interchangeable	Interchangeable	V-1 or better, min. 105°C	UL 796	UL
Thermistor (TH901)	Interchangeable	Interchangeable	Min. 3Ω at 25°C, min. 2A	--	--
Current sensor resistor (R919)	Interchangeable	Interchangeable	Min. 0.3Ω, 2W	--	--
Bridging Diode (BD901, BD902) (Optional)	Interchangeable	Interchangeable	Min.500V, min.2A	--	--
Ripple Capacitor (C902, C903)	Interchangeable	Interchangeable	47-150μF, max. 450V, 105°C	--	--
Transistor (Q901)	Interchangeable	Interchangeable	Min.500V, min.2A	--	--

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Customer's Testing Facility according to CTF stage 1 or CTF stage 2 procedure has been used.
Note: This page may be removed when CTF stage 1 or CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

Clause	Test description	Equipment No.
☒ 5.2	Classification of electrical energy sources	921061908143, 2340, 921091603167, 21880307041, 21E10610099
☒ 5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperature test (Heating test)	921061908143, 2340, 21Z80105001, 921321806007, 2209-006185
☒ 5.4.1.8	Determination of working voltage	921061908143, 2340, 921091603167
☒ 5.4.2.2, 5.4.2.4 and 5.4.3	Minimum Clearances/Creepage distance	21AJ0102049
☒ 5.4.8	Humidity test	921451911023, 21470208035
☒ 5.4.9	Electric strength test	21470208035
☒ 5.5.2.2	Safeguards against capacitance discharge test	921061908143, 2340, 921091603167, 21E10610099
☒ 5.6.6.2	Resistance of the protective bonding system (Ground continuity test)	21470208035
☒ 5.7.2.2, 5.7.4	Earthed accessible conductive part test	21880307041
☒ 6.2.2	Electrical Power Source (PS) measurements for classification	921061908143, 2340, 21E10610099, 921621912275, 21580403031
☒ Annex B.2.5	Input test	921061908143, 2340, 2209-006185 (OR 2209-006184)
☒ Annex B.3	Simulated abnormal operating and single fault conditions	921061908143, 2340, 21Z80105001, 921321806007, 921621912275, 21580403031, 2209-006185 (OR 2209-006184)
☒ Annex B.4	Simulated abnormal operating and single fault conditions	921061908143, 2340, 21Z80105001, 921321806007, 921621912275, 21580403031
☒ Annex P.4	Adhesive test	921452004025
☒ Annex Q.1	Limited power source test (LPS)	921061908143, 2340, 21E10610099, 921621912275, 21580403031

☒ Annex T.2, T.3	Steady force test, 10N	21AK0305009

Equipment list mentioned on above table						
Equipment No.	**Object Description**	**Range Used**	**Manufacturer**	**Model number**	**Interval in months G/C**	**Next date G/C**
921452004025	high-low temperature test chamber	-40~150°C	Keheng	WGDW-225	12	11-Apr-2023
921061908143	AC Power Source	Input: 110/220 ±15 % output: 0-300Vac,47-63Hz	APC	KDF-11005G	12	07-Sep-2022
2318011076	AC Power Source	Input: 110/220V ±15 % output: 0-300Vac,47-63Hz	APC	AFC-0.5KW	12	09-Dec-2022
921621912275	Electronic load	Input:220VAC, 50 Hz or 60 Hz±2% output: Maximum, 300W, 60V, 60A	Prodigit	3311F*2+3312F*2+3300F	12	06-Dec-2022
21470208035	Hi-pot/Grounding tester	Input: 220VAC, 50 Hz or 60 Hz±2%. output: Maximum, 0.05-5KVAC, 0.05-6KVDC, 0.1-10Ma, current: (Ground-Earth) 3.0-30.0Aac	Zentech	9032A	12	08-Dec-2022
218803070441	Leakage current meter	Input: Two (2) 9 volt, NEDA type 1604A alka line batteries, Output Sensitivity: Full scale meter deflection equals 1 volt RMS (measured with a 1M_, 12 pF load), Voltage Range: 0-300 volts (AC or DC), Current Range: 10MIU,3MIU,1MIU	Simpson	SIMPSON-228	12	23-Feb-2023
921321806007	Temperature recorder	Input: 100-240VAC, 50Hz or 60Hz±2% output: -200-1370°C, k Type	Yokogawa	DR-230	12	28-Jul-2022
921091603167	Oscillograph	Bandwidth:1GHz Maximum Memory:5MB Maximum Sample Rate:5GS/s	Tektronix	MSO4104B-L	12	08-Dec-2022
21AK0305009	Push pull gage	Output: Max. 100N	ALGOL	AN-100	12	11-Nov-2022

21580403031	Multimeter	Input: 4 alkaline battery, NEDA,15A, Output: Voltmeter Range: 0-1000 volts (AC or DC), Current Range:0-10A	FLUKE	189	12	24-Jan-2023
21E10610099	Thermo-Hygrograph	Temperature Range:-35-45°C, Humidity:30%-100%RH, Recording period:7d	Shanghai Meteorlogical Instrument	ZJ 1-2B	12	28-Jun-2022
21AJ0102049	Digital Vernier caliper	Input: 1.5V Button cell, 0-200mm, Minimum resolution:0.01mm, Range:0-200mm	Mitutoyo	0-200	12	15-Jan-2023
2340	Power meter	Input: 200-250Vac, 50/60Hz or 60Hz output: Current Range: 0-20A, Voltage Range: 0-500Vac	IDRC	Cp-320A	12	11-Oct-2022
2209-006185	Video pattern Generator	Input: 90-132/180-250Vac, 50/60 Hz,1.5A Fuse: T2A/250V Output: Range: 3.126-250MHz	Chroma	2325	12	01-Dec-2022
21Z80105001	Timer	/	Shanghai Stopwatch Factory	/	12	28-Sep-2022
921451911023	Humidity Chamber	+20~60°C	Keheng	KTH-1800-(+20)-TP	12	16-Nov-2022

Statement of Measurement Uncertainty

The Test Report shall include a statement concerning the uncertainty of the measurement systems used for the tests conducted when it is required by the standard, client or other authorities.
In such cases, the table below is to be used for reporting U of M.

This page may be removed from the final Test Report when not required. See also clause 4.8 in OD 2020 for more details.

Clause #	Parameter/ Measurement / test method	Requirement % or k	Calculated U of M*

*Note: Calculations leading to the reported value are on file with the NCB

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

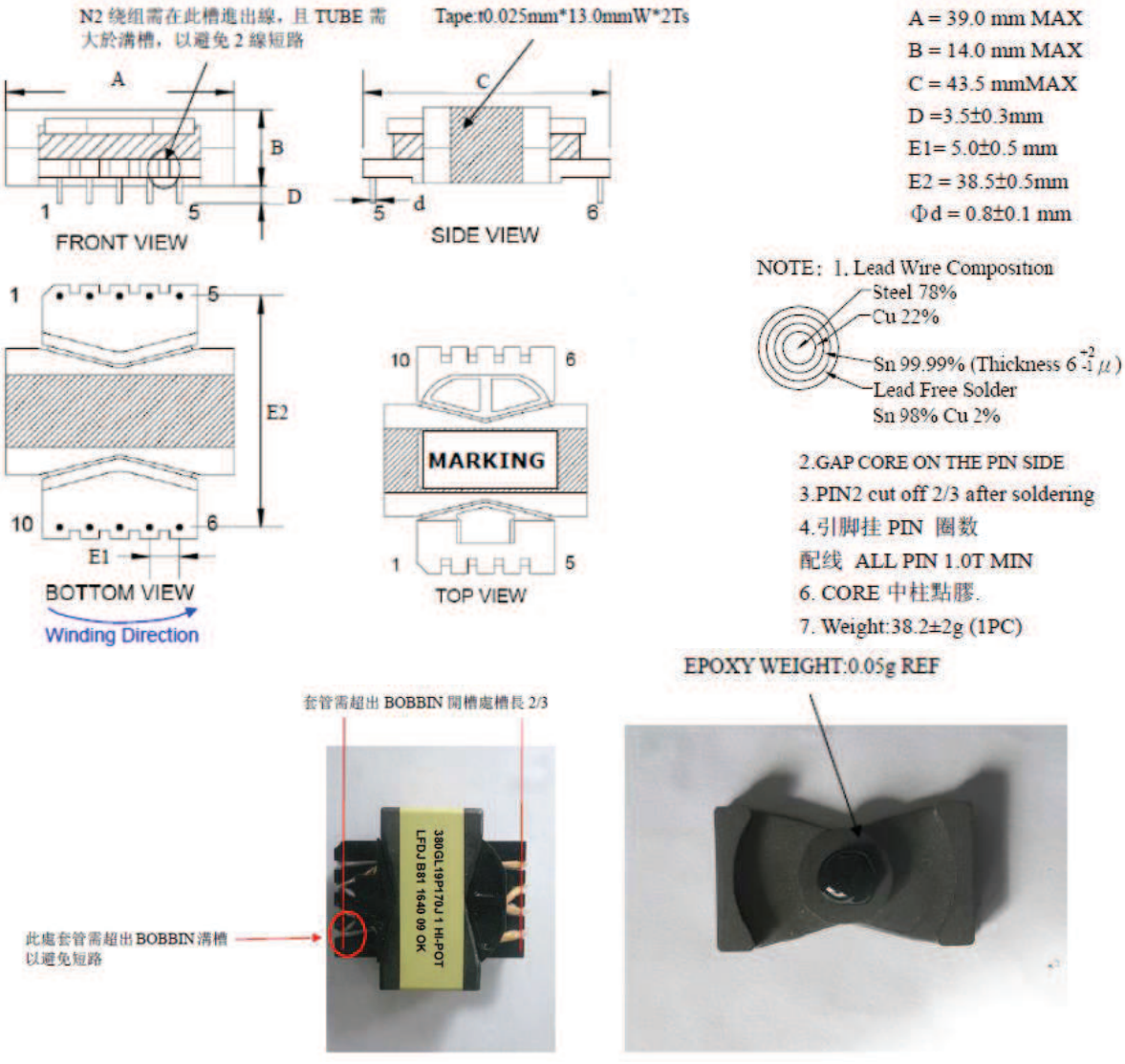
G.5.3.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V	Working voltage rms / V	Required electric strength	Required clearance / mm	Required creepage distance / mm	Required distance thr. insul.
T901	Input terminal to output winding (RI)	556	290	AC 4000V	4.5	5.8	Min. 2 layers tape
T901	Input terminal to output terminal (RI)	556	290	AC 4000V	4.5	5.8	Min. 2 layers tape
T901	Input winding to output winding (RI)	556	290	AC 4000V	4.5	5.8	Min. 2 layers tape
T901	Input winding to output terminal (RI)	556	290	AC 4000V	4.5	5.8	Min. 2 layers tape
T901	Output winding to Core (RI)	556	290	AC 4000V	4.5	5.8	--
T901	Output terminal to Core (RI)	556	290	AC 4000V	4.5	5.8	--
Loc.	Input winding to Core (BI)			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T901	Input terminal to output winding (RI)			AC 4000V	Triple insulated wire used for secondary	Triple insulated wire used for secondary	--
T901	Input terminal to output terminal (RI)			AC 4000V	37.0	37.0	--
T901	Input winding to output winding (RI)			AC 4000V	Triple insulated wire used for secondary	Triple insulated wire used for secondary	--
T901	Input winding to output terminal (RI)			AC 4000V	9.0	9.0	--
T901	Output terminal to Core (RI)			AC 4000V	Triple insulated wire used for secondary	Triple insulated wire used for secondary	--

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

T901	Output winding to Core (RI)	AC 4000V	8.3	8.3	--
Supplementary information: All sources of transformer were checked with same construction.					

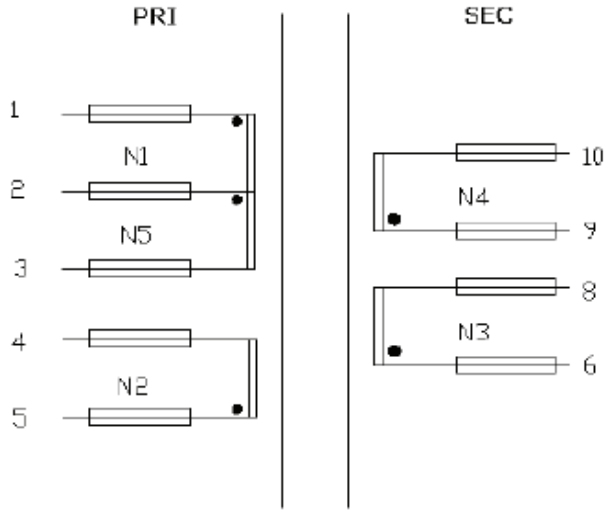
G.5.3.2	TABLE: transformers	P

Construction:



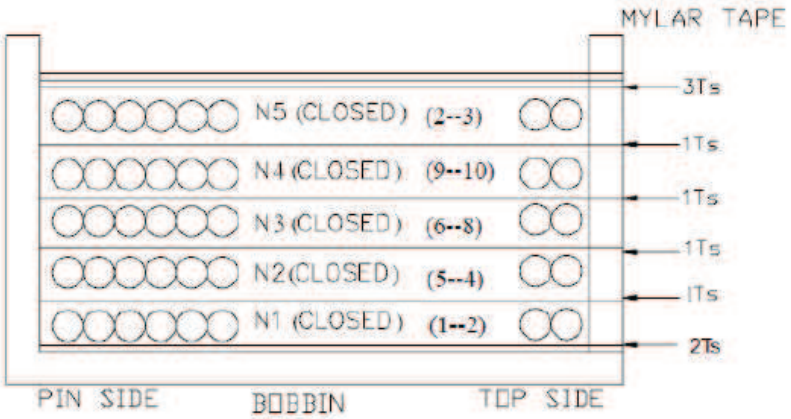
IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

PIN	TUBE LENGTH
1,2	25mm MIN
4,5	22mm MIN
6,8	20mm MIN
9,10	20mm MIN
2,3	20mm MIN



● WINDING START

▭ TUBE



NOTE:

1. EVERY LEAD WIRE MUST HAVE FIX TAPE.
2. ALL PINS ADD TUBE, THE TUBE MUST BE OVER MARGIN TAPE.

NO.	Winding	Terminal	Wire	Turns	Remark	MARGIN mm	TAPE 2Ts
1	N1	1-2	UEW φ0.40*1	14	CLOSED	/	1T
2	N2	5-4	UEW φ0.20*2	6	CLOSED	/	1T
3	N3	6-8	TIW-M φ0.55*2	2	CLOSED	/	1T
4	N4	9--10	TIW-M φ0.45*2	4	CLOSED	/	1T
6	N5	2--3	UEW φ0.40*1	14	CLOSED	/	3T

Concentric windings on phenolic bobbin. Three layers of insulation tape are provided around outer winding and outer winding is primary. Triple insulated wire used for secondary, therefore core is considered as primary. All winding leads are covered by tube.

Product: LCD monitor (LED backlight)

Type Designation: See Page 2 of main report for the details.

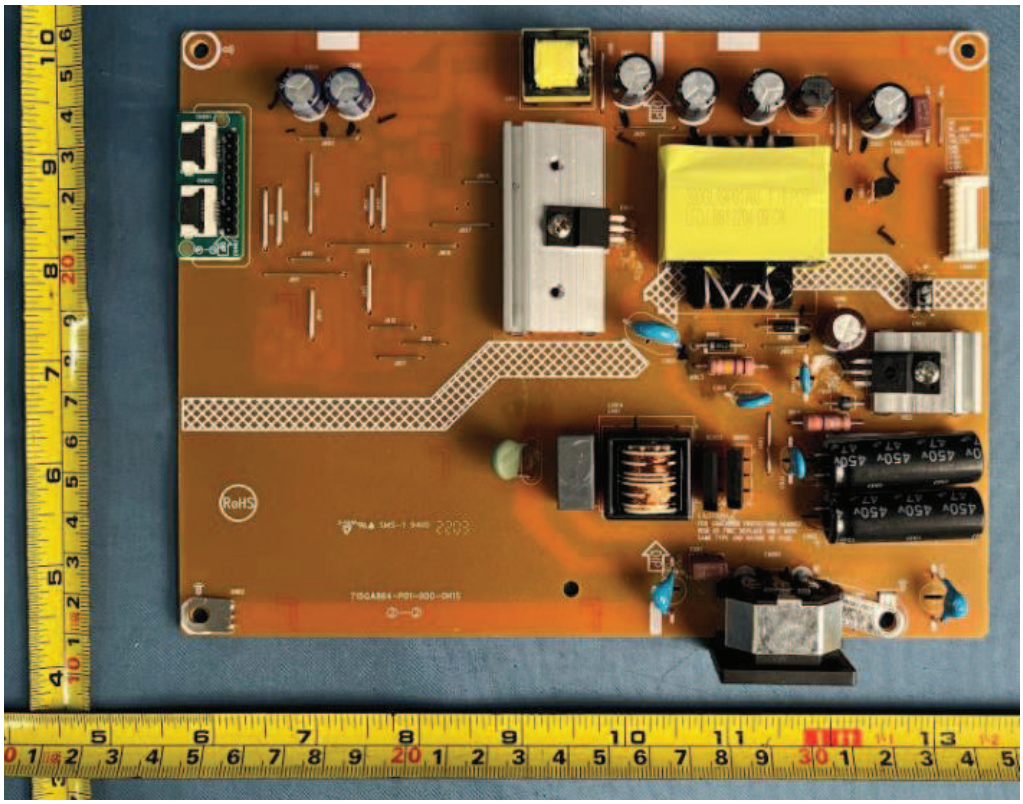


Figure 1. Power board 715GA864

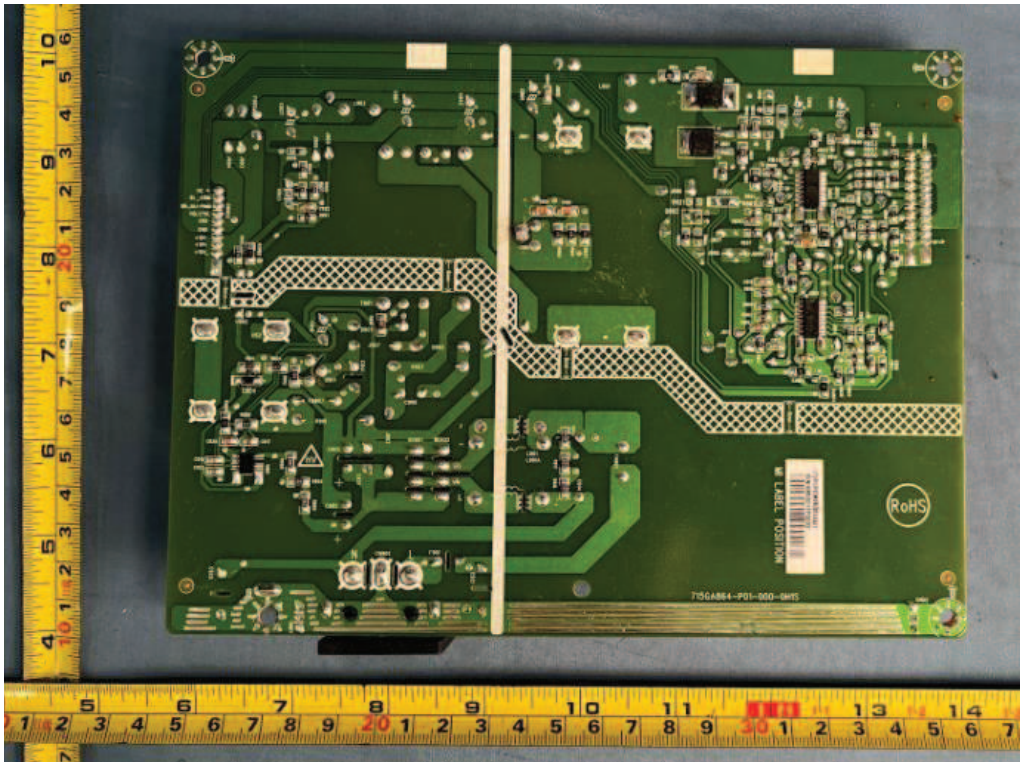


Figure 2. Power board 715GA864