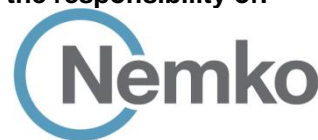




Test Report issued under the responsibility of:



www.nemko.com

TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number : 445801
Date of issue : 2021-08-27
Total number of pages : 77, refer to page 4 for attachments.

Name of Testing Laboratory preparing the Report : Nemko Shanghai Ltd. Shenzhen Branch

Applicant's name : GlobTek, Inc.
Address : 186 Veterans Dr. Northvale, NJ 07647 USA

Test specification:

Standard : IEC 62368-1:2014

Test procedure : CB Scheme

Non-standard test method : N/A

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

Test Report Form No. : IEC62368_1D

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

Master TRF : Dated 2021-02-04

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

General disclaimer:

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

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	ICT/ITE Power Supply
Trade Mark(s)	
Manufacturer	Same as applicant
Model/Type reference	<p>GT-41052-WWVV-X.X (WW is the standard output wattage, with a maximum value of "15". VV is the standard rated output voltage designation, with a maximum value of "24"; which can be 05, 06, 07, 09, 12, 15, 18, 20, 24, 48. -X.X denote the output voltage differentiator, subtracting X.X volts from standard output voltage VV in 0.01V increments, the actual output voltage rang is 5-48Vdc, blank is to indicate the no voltage different.)</p>
Ratings	<p>Input: 100-240 Va.c.; 50-60 Hz; 0,6 A Output: See general product information</p>

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	Nemko Shanghai Ltd. Shenzhen Branch
Testing location/ address		Unit CD, Floor 2 & Floor 10, Tower 2, Kefa Road 8#, Hi-Technology Park, Nanshan District, Shenzhen, Guangdong, China
Tested by (name, function, signature)		Jefferson Li (Project Handler)
Approved by (name, function, signature)		Jane Sun (Verificator)
<div style="text-align: right;">   </div>		
<hr/>		
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
<hr/>		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature)		
Approved by (name, function, signature)		
<hr/>		
<input type="checkbox"/>	Testing procedure: CTF Stage 3 :	
<input type="checkbox"/>	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)		
<hr/>		

List of Attachments (including a total number of pages in each attachment): 1. Photos (6 pages) 2. PCB layout (1 page) 3. Transformer specification (1 page) 4. European Group differences and National differences (9 pages) 5. Australian/New Zealand differences (11 pages) 6. Japan differences (4 pages) 7. USA/Canada differences (6 pages) 8. EU plug test report, report no. 445801/P. (issued by Nemko)																											
Summary of testing:																											
Tests performed (name of test and test clause): <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #f2f2f2;"> <th style="text-align: left; padding: 2px;">Clause</th> <th style="text-align: left; padding: 2px;">Test(s)</th> </tr> </thead> <tbody> <tr><td style="padding: 2px;">4</td><td style="padding: 2px;">General Requirements</td></tr> <tr><td style="padding: 2px;">5</td><td style="padding: 2px;">Electrically-caused injury</td></tr> <tr><td style="padding: 2px;">6</td><td style="padding: 2px;">Electrically-caused fire</td></tr> <tr><td style="padding: 2px;">9</td><td style="padding: 2px;">Thermal burn injury</td></tr> <tr><td style="padding: 2px;">B</td><td style="padding: 2px;">Normal operating condition tests, abnormal operating condition tests and single fault condition tests</td></tr> <tr><td style="padding: 2px;">F</td><td style="padding: 2px;">Equipment markings, instructions, and instructional safeguards</td></tr> <tr><td style="padding: 2px;">G</td><td style="padding: 2px;">Components</td></tr> <tr><td style="padding: 2px;">L</td><td style="padding: 2px;">Disconnect devices</td></tr> <tr><td style="padding: 2px;">O</td><td style="padding: 2px;">Measurement of creepage distances and clearances</td></tr> <tr><td style="padding: 2px;">Q</td><td style="padding: 2px;">Circuits intended for interconnection with building wiring</td></tr> <tr><td style="padding: 2px;">T</td><td style="padding: 2px;">Mechanical strength tests</td></tr> <tr><td style="padding: 2px;">V</td><td style="padding: 2px;">Determination of accessible parts</td></tr> </tbody> </table>	Clause	Test(s)	4	General Requirements	5	Electrically-caused injury	6	Electrically-caused fire	9	Thermal burn injury	B	Normal operating condition tests, abnormal operating condition tests and single fault condition tests	F	Equipment markings, instructions, and instructional safeguards	G	Components	L	Disconnect devices	O	Measurement of creepage distances and clearances	Q	Circuits intended for interconnection with building wiring	T	Mechanical strength tests	V	Determination of accessible parts	Testing location: See page 3
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Summary of compliance with National Differences (List of countries addressed): List of countries addressed - Europe, Australia / New Zealand, Japan and USA / Canada. <input checked="" type="checkbox"/> The product fulfils the requirements of IEC 62368-1: 2014 (Second Edition) and EN 62368-1: 2014+A11:2017.																											
Statement concerning the uncertainty of the measurement systems used for the tests (may be required by the product standard or client) <input type="checkbox"/> Internal procedure used for type testing through which traceability of the measuring uncertainty has been established: Procedure number, issue date and title:																											

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

☒ **Statement not required by the standard used for type testing**

(Note: When IEC or ISO standard requires a statement concerning the uncertainty of the measurement systems used for tests, this should be reported above. The informative text in parenthesis should be delete in both cases after selecting the applicable option)

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.



The symbol (IEC 60417-5172) for Class II equipment without functional earth connection is moulded near marking label:



Calibration	All instruments used in the tests given in this test report are calibrated and traceable to national or international standards. Further information about traceability will be given on request.
Measurement uncertainty	Measurement uncertainties are calculated for all instruments and instrument set-ups given in this report. Calculations are based on the principles given in the standard EA-4/02 (Dec. 1999), IEC Guide 115:2007 and other relevant internal Nemko-procedures. Further information about measurement uncertainties will be given on request.
Evaluation of results	If not explicitly stated otherwise in the standard, the test is passed if the measured value is equal to or below (above) the limit line, regardless of the measurement uncertainty. If the measured value is above (below) the limit line, the test is not passed - ref IEC Guide 115:2007. The instrumentation accuracy is within limits agreed by IECEE-CTL.

TEST ITEM PARTICULARS:	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input checked="" type="checkbox"/> Children likely to be present
Supply Connection	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:_____
Considered current rating of protective device as part of building or equipment installation.....	16A (20A for Canada and US); Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Class II with functional earthing <input type="checkbox"/> Not classified
Access location	<input type="checkbox"/> restricted access area <input checked="" type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient	40°C
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP____
Power Systems	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input checked="" type="checkbox"/> IT - 230V L-L; <input type="checkbox"/> dc mains <input type="checkbox"/> N/A
Altitude during operation (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> 3000 m
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> _____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> Weight Approx.: 0.16 kg Dimension Approx.: 74 x 44 x 40 mm (excluding plug pin and output wire)

Possible test case verdicts:	
- test case does not apply to the test object: N/A	
- test object does meet the requirement: P (Pass)	
- test object does not meet the requirement: F (Fail)	
Testing	
Date of receipt of test item.....: 2021-06-30	
Date (s) of performance of tests: 2021-07-01 – 2021-08-23	
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC62368-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....:	1. GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA 2. GlobTek (Suzhou) Co., Ltd Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

General product information and other remarks:
Product Description –

The product is a Class II direct plug-in AC/DC adapter with detachable plug.

After evaluated, the product also fulfilled of the requirements of BS EN 62368-1:2014+A11:2017 except plug part.

External enclosure is plastic material of V-0 grade and totally enclosed with ultrasonic welding without screws.

The unit provided with difference Replaceable plug module which are North American (US), European (EU) and United Kingdom (UK):

- US plug: has been evaluated the torque test only, for plug requirement should be checked when marketed into the country.
- EU plug: has been evaluated by Nemko.
- UK plug: has been evaluated the torque test only, for plug requirement should be checked when marketed into the country.

Normal load: Rated output value.

Maximum recommended ambient (T_{mra}): 40 °C

This equipment is intended to operate in a "normal" environment (Offices and homes).

Electromedical equipment connected to the patient:

This equipment is not an electromedical equipment intended to be physically connected to a patient.

Equipment used in vehicles, ships or aircrafts, in tropical countries, or at elevations > 2000m:

This equipment is intended to operate in a "normal" environment (Offices and homes) and is intended to be operated under altitude up to 3000m, so the clearance is multiplied by the altitude correction factor (1.14 linear interpolation used), specified in table A.2 of IEC 60664-1.

Model Differences –

Model name and model difference:

Model name	Output voltage (V)	Max. Output current (A)	Max. Output wattage (W)	Transformer
GT-41052-WW05	5	2.60	13	XF00167
GT-41052-WW06-X.X	5.01-6	2.60	15	
GT-41052-WW07-X.X	6.01-7	2.49	15	
GT-41052-WW09-X.X	7.01-9	2.13	15	XF00168
GT-41052-WW12-X.X	9.01-12	1.66	15	
GT-41052-WW15-X.X	12.01-15	1.24	15	
GT-41052-WW18-X.X	15.01-18	0.99	15	XF00169
GT-41052-WW20-X.X	18.01-20	0.83	15	
GT-41052-WW24-X.X	20.01-24	0.74	15	
GT-41052-WW48-X.X	24.01-48	0.62	15	XF00299
All transformers have same construction except winding turns for different voltage output.				

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

N/A

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)

(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)

Electrically-caused injury (Clause 5):

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: +5 V dc input

ES1

Source of electrical energy	Corresponding classification (ES)
All circuits except DC output	ES3
DC output	ES1

Electrically-caused fire (Clause 6):

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS	Corresponding classification (PS)
All circuits	PS3
DC output	PS2
Varistor (ZNR), contact points on plug and on PCB	Arcing PIS
Primary circuits and secondary circuits	Resistive PIS

Injury caused by hazardous substances (Clause 7)

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component

Glycol

Source of hazardous substances	Corresponding chemical
N/A	N/A

Mechanically-caused injury (Clause 8)

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit

MS2

Source of kinetic/mechanical energy	Corresponding classification (MS)
Sharp edge and corners (outside enclosure)	MS1
Equipment mass (0.16kg)	MS1

Thermal burn injury (Clause 9)

(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)

Example: Hand-held scanner – thermoplastic enclosure

TS1

Source of thermal energy	Corresponding classification (TS)
External surfaces that need not be touched to operate the equipment (1s<t<10s).	TS1

Radiation (Clause 10)

(Note: List the types of radiation present in the product and the corresponding energy source classification.)

Example: DVD – Class 1 Laser Product

RS1

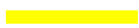
Type of radiation	Corresponding classification (RS)

ENERGY SOURCE DIAGRAM

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



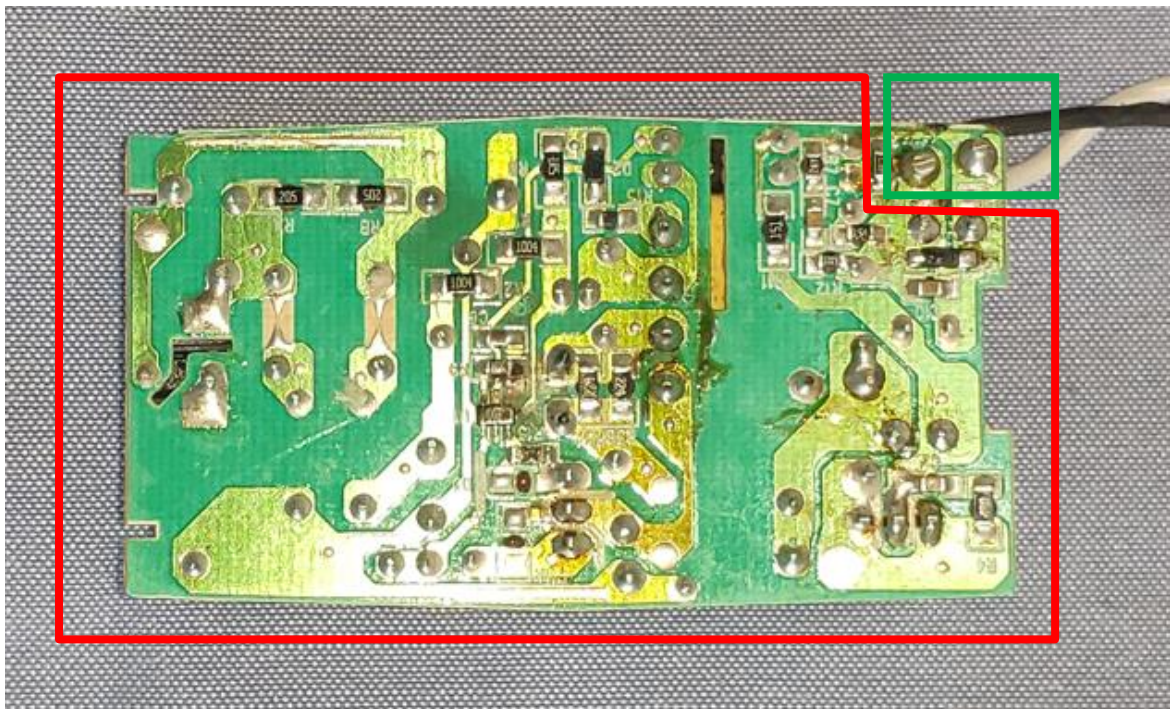
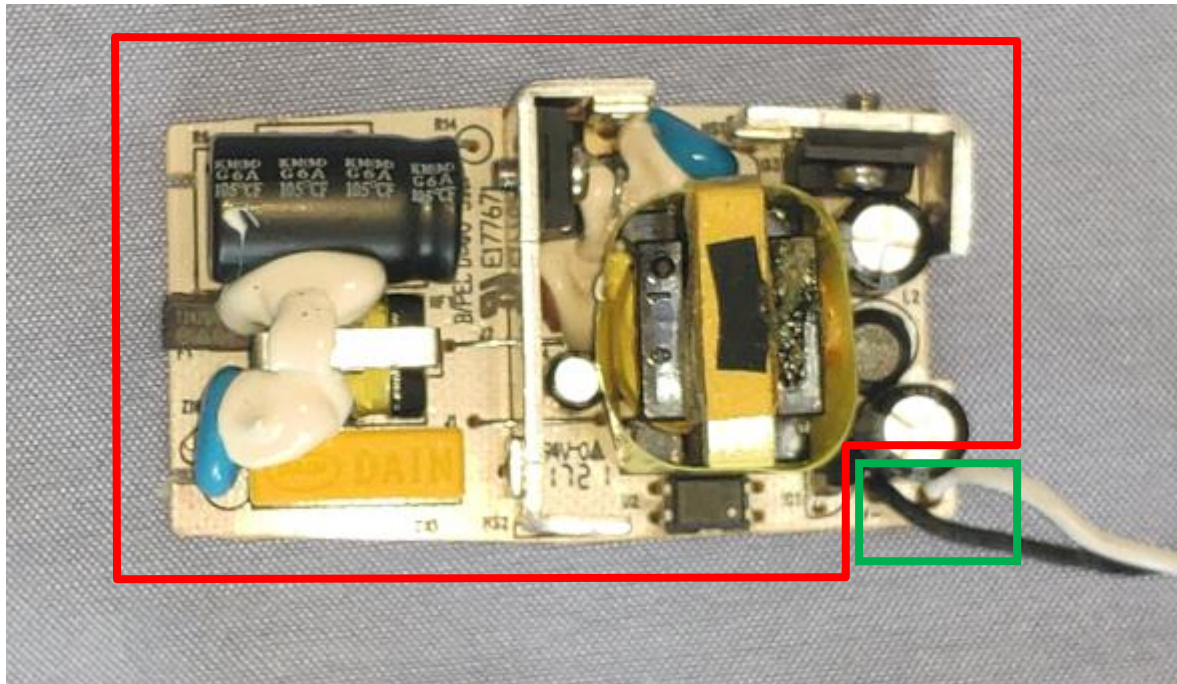
Class 1



Class 2



Class 3



☒ ES

☐ PS

☐ MS

☐ TS

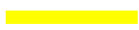
☐ RS

ENERGY SOURCE DIAGRAM

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



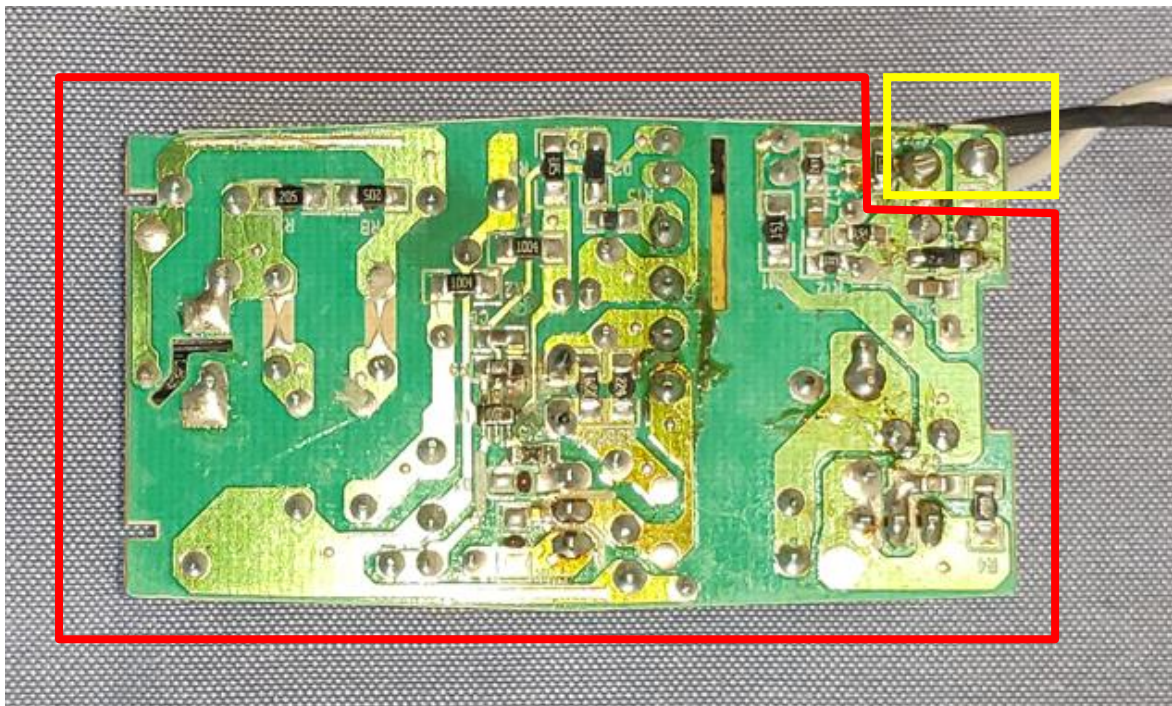
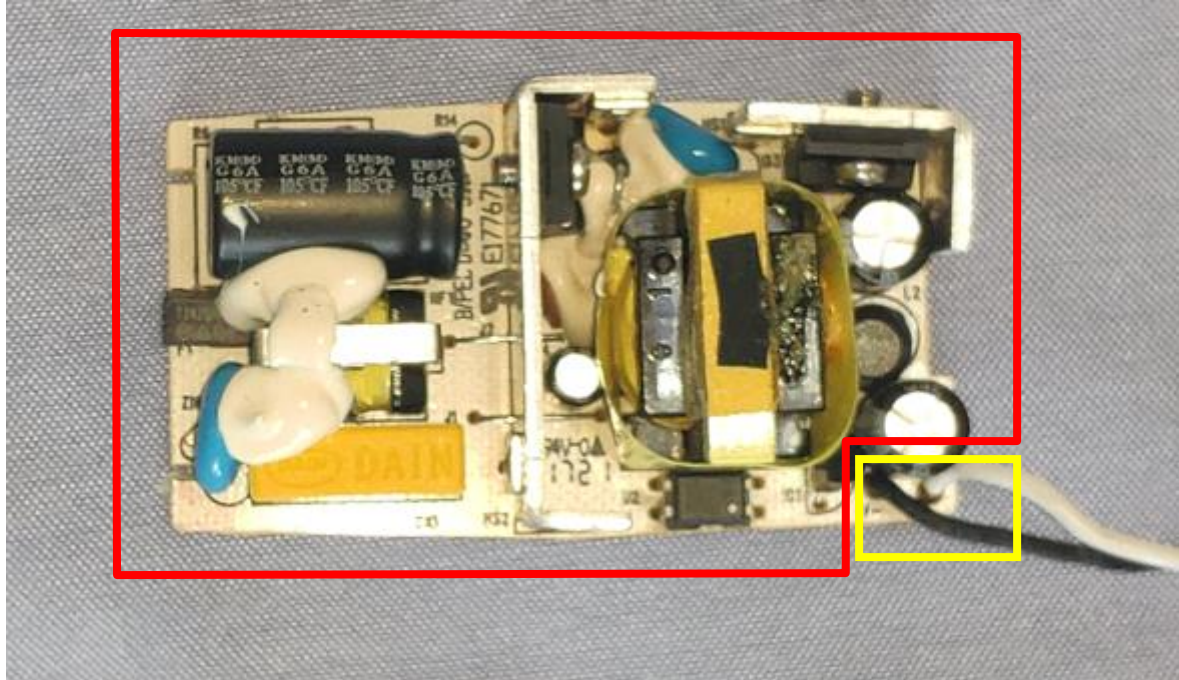
Class 1



Class 2



Class 3



☐ ES

☒ PS

☐ MS

☐ TS

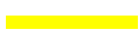
☐ RS

ENERGY SOURCE DIAGRAM

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



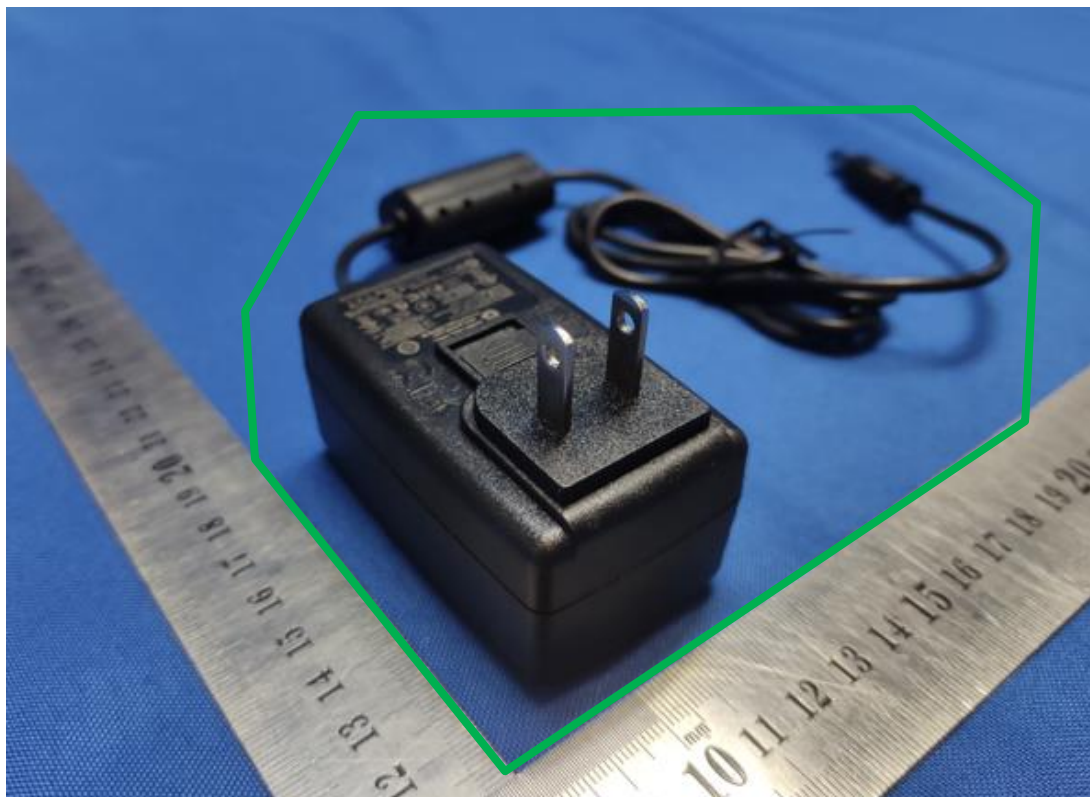
Class 1



Class 2



Class 3



☐ ES

☐ PS

☒ MS

☒ TS

☐ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary person	ES3: All circuits except DC output	N/A	N/A	Enclosure
Ordinary person	ES3: All circuits except DC output	N/A	N/A	Distance cl.5.4.2 and 5.4.3; Solid insulation 5.4.4; Component : Annex G
Ordinary person	ES3: Primary circuit (X-cap)	N/A	N/A	Bleeder resistor cl.5.5.2.2
Ordinary person	ES3: Secondary circuit before DC output	N/A	N/A	Single fault in table 5.2.2.2
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Entry of foreign objects	PS3	N/A	N/A	No openings
Internal combustible material	PS3	1)	Min. V-1 PCB, Min. V-0 Enclosure; components comply with cl 6.4.6	N/A
Output circuit	PS2	Comply with Annex Q	N/A	N/A
1) No ignition, Components inside of fire enclosure which measured temperature <300°C during test, refer to table 5.4.1.4, 6.3.2, 9.0, B.2.6 Note: Arcing and resistive PIS is within PS3 circuit, metal enclosure provided.				
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced

				(Enclosure)
Ordinary person	MS1: Sharp edges and corners (none)	N/A	N/A	N/A
Ordinary person	MS1: Less than 7kg (0.16kg)	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person	TS1: Enclosure (thermoplastic)	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

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

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	Refer to summary of testing and appended table 4.1.2.	P
4.1.2	Use of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 62368-1.	P
4.1.3	Equipment design and construction	Equipment is adequately designed and constructed.	P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	See below:	P
4.4.4.2	Steady force tests.....:	(See Annex T.4)	P
4.4.4.3	Drop tests.....:	(See Annex T.7)	P
4.4.4.4	Impact tests.....:		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:	Internal part was not accessible.	N/A
4.4.4.6	Glass Impact tests.....:	No glass.	N/A
4.4.4.7	Thermoplastic material tests.....:	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:	(See Annex T.2)	P
4.4.4.9	Accessibility and safeguard effectiveness	All safeguards remain effective.	P
4.5	Explosion		P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to.....:	(See Annex T.2)	P
4.7	Equipment for direct insertion into mains socket - outlets		P
4.7.2	Mains plug part complies with the relevant standard.....:	See general product information.	P
4.7.3	Torque (Nm).....:	<0.1Nm	P
4.8	Products containing coin/button cell batteries	No such battery.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery.....:		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....	No openings.	N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	See below:	P
5.2.2.2	Steady-state voltage and current.....	(See appended table 5.2.2.2)	P
5.2.2.3	Capacitance limits	(See appended table 5.2.2.3)	P
5.2.2.4	Single pulse limits	No single pulses generated.	N/A
5.2.2.5	Limits for repetitive pulses	No repetitive pulses generated.	N/A
5.2.2.6	Ringing signals	No ringing signal generated.	N/A
5.2.2.7	Audio signals	No audio signals.	N/A
5.3	Protection against electrical energy sources	Complied.	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	Sufficient safeguard was provided between energy source and ordinary, instructed and skilled persons.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES3 parts were not accessible to ordinary and instructed persons.	P
5.3.2.2	Contact requirements	No openings in the enclosure.	N/A
	a) Test with test probe from Annex V		N/A
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire	No such terminal.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	Insulating material complied with cl. 5 and Annex T. No hygroscopic material.	P
5.4.1.3	Humidity conditioning	See clause 5.4.8 and 5.4.9	P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4) Transformer insulation system is certified by UL.	P
5.4.1.5	Pollution degree	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions	Not used.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	Not used.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.8	Determination of working voltage	(See appended table 5.4.2.2, 5.4.2.4 & 5.4.3)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	No such part.	N/A
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure :	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage :	(See appended table 5.4.2.2)	P
	a) a.c. mains transient voltage :	2500Vp	—
	b) d.c. mains transient voltage :		—
	c) external circuit transient voltage :		—
	d) transient voltage determined by measurement :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Not used.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages :	Multiplication factor 1.14 for clearance is used. (<3000m)	P
5.4.3	Creepage distances :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group :	IIIb	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation	Evaluated with cl. 5.4.4.4	P
5.4.4.4	Solid insulation in semiconductor devices	Certificated optocoupler used and comply with G.12 (See appended table 4.1.2)	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material	(See appended table 5.4.9)	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs) :	(See appended table 5.4.9)	—
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material :		N/A
5.4.4.6.5	Mandrel test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.7	Solid insulation in wound components	Insulation on winding wire complies with G.6.	P
5.4.4.9	Solid insulation at frequencies >30 kHz	cl.5.4.9.1 is considered and with uniform field strength.	P
5.4.5	Antenna terminal insulation	No Antenna terminal used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		—
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	For equipment and all source transformers	P
	Relative humidity (%).....	95% r.h.	—
	Temperature (°C)	40°C	—
	Duration (h)	120hr	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test	Test voltage based on transient voltages.	P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.11	Insulation between external circuits and earthed circuitry	(See appended table 5.4.9)	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....		N/A
	Nominal voltage U_{peak} (V).....		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.1	General		P
5.5.2	Capacitors and RC units	See below.	P
5.5.2.1	General requirement	CX1 and CY1 complied with IEC 60384-14.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:	(See appended table 5.2.2.2)	P
5.5.3	Transformers	T1 (See Annex G.5.3)	P
5.5.4	Optocouplers	U2 (See Annex G.12)	P
5.5.5	Relays	No such component used.	N/A
5.5.6	Resistors	Resistors served as a safeguard, but not bridging basic, supplementary or reinforced insulation.	P
5.5.7	SPD's	(See Annex G.8)	P
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class II equipment.	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm).		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks	Figure 4 of IEC 60990 was used in determining of the limit of ES1.	P
5.7.2.1	Measurement of touch current	(See appended table 5.2.2.2)	P
5.7.2.2	Measurement of prospective touch voltage	Class II equipment.	N/A
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)	Single connection	—
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts	Class II equipment.	N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA)		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	Refer to Energy Source identification and classification table for power source.	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault	Not measured due to all of internal circuits were determined PS3 under worst-case load fault condition.	N/A
6.2.2.4	PS1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.5	PS2	(See appended table 6.2.2)	P
6.2.2.6	PS3	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2) All combustible materials are within fire enclosure.	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	Measured temperature <300degC. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure	No combustible material outside fire enclosure.	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Control fire spread was used.	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	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	All circuits except DC output are PS3, DC output is PS2.	P
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G) Fire enclosure used and output cable complied cl. 6.5.	P
6.4.6	Control of fire spread in PS3 circuit	Secondary wire complied with IEC 60695-11-21, PCB is V-1 min. and the enclosure made of V-0.	P
6.4.7	Separation of combustible materials from a PIS	Varistor (ZNR) and contact points on plug are arcing PIS, and all circuit are resistive PIS. Fire enclosure is made by V-0 material. Components complied with requirement, detail refer to table 6.2.3.1 and 6.2.3.2.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.1	General.....:	All components are within PIS fire cone, refer to table 6.2.3.1 and 6.2.3.2.	P
6.4.7.2	Separation by distance	All components are within PIS fire cone, refer to table 6.2.3.1 and 6.2.3.2.	P
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties	Fire enclosure is made of V-0 material.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier.	N/A
6.4.8.2.2	Requirements for a fire enclosure	Available power <4000W. Fire enclosure is made of V-0 material.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	No openings in the fire enclosure.	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 in Fire Enclosure: dimensions (mm)		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....:	Fire enclosure is made of V-0 material.	P
6.5	Internal and external wiring		P
6.5.1	Requirements	Internal wires complied with IEC 60695-11-21. The test method described in IEC 60695-11-21 is considered equivalent to that test wiring materials which bearing VW-1 rating (according to UL758).	P
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring	Equipment is not intended to provide power over the wiring system.	N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1	Complied with clause Q.1.	P

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Clause	Requirement + Test	Result - Remark	Verdict

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances	No hazardous substances.	N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions :		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010):		—
7.6	Batteries.....:		N/A

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		N/A
8.2	Mechanical energy source classifications	MS1: No sharp edges or corners. Mass less than 7kg (0.16kg)	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	No such part.	N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks:		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....:		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N):		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....:		N/A
8.6	Stability	MS1.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.6.1	Product classification		N/A
	Instructional Safeguard		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....		N/A
	Position of feet or movable parts.....		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C).....		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	Refer to Energy Source identification and classification table for thermal energy source.	P
9.3	Safeguard against thermal energy sources	Enclosure limited to TS1.	N/A
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.4.2	Instructional safeguard		N/A

10	RADIATION		N/A
10.2	Radiation energy source classification	No Radiation.	N/A
10.2.1	General classification		N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault..... :		N/A
	Instructional safeguard		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons		N/A
10.4.1.b)	RS3 accessible to a skilled person..... :		N/A
	Personal safeguard (PPE) instructional safeguard..... :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 . :		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		N/A
10.4.1.f)	UV attenuation..... :		N/A
10.4.1.g)	Materials resistant to degradation UV		N/A
10.4.1.h)	Enclosure containment of optical radiation..... :		N/A
10.4.1.i)	Exempt Group under normal operating		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	conditions..... :		
10.4.2	Instructional safeguard :		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards..... :		N/A
	Instructional safeguard for skilled person..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation :		—
	Abnormal and single-fault condition :		N/A
	Maximum radiation (pA/kg)..... :		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards :		N/A
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers :		N/A
B.2.3	Supply voltage and tolerances	+10% / -10% (264V / 90V)	P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	No openings in enclosure.	N/A
B.3.3	D.C. mains polarity test	AC mains supplied.	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)	P
B.3.6	Reverse battery polarity	No battery.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	No audio amplifier.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remain effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited :	No such device.	N/A
B.4.3	Motor tests	No motor.	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature :		N/A
B.4.4	Short circuit of functional insulation	See below:	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated PCB used.	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnect of passive components		P
B.4.7	Continuous operation of components	No component intended for short-time operation or intermittent operation.	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	Enclosure limited to TS1 during and after single fault conditions. Accessible output terminal limited to ES1 and TS1 during and after single fault conditions. No flame during and after single fault condition.	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.9	Battery charging under single fault conditions ... :	No battery.	N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V) :		—
	Rated load impedance (Ω) :		—
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language :	English verified.	P
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	A, V, Hz	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	AC symbol (IEC 60417-5032), DC symbol (IEC 60417-5031)	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	The required marking is located on the external enclosure of the equipment.	P
F.3.2	Equipment identification markings	Refer below.	P
F.3.2.1	Manufacturer identification :	See page 2.	—
F.3.2.2	Model identification :	See page 2.	—
F.3.3	Equipment rating markings	Refer below.	P
F.3.3.1	Equipment with direct connection to mains	Refer F.3.3.3 – F.3.3.6	P
F.3.3.2	Equipment without direct connection to mains	Direct connection to mains.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.3	Nature of supply voltage.....:	The symbol ~ (IEC 60417-5032) is used for ac.	—
F.3.3.4	Rated voltage	See page 2.	—
F.3.3.5	Rated frequency	See page 2.	—
F.3.3.6	Rated current or rated power	See page 2.	—
F.3.3.7	Equipment with multiple supply connections	Single supply connection.	N/A
F.3.4	Voltage setting device	No voltage selector. Auto ranging used.	N/A
F.3.5	Terminals and operating devices	Refer below.	N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings.....:	No mains outlet.	N/A
F.3.5.2	Switch position identification marking	No switch.	N/A
F.3.5.3	Replacement fuse identification and rating markings.....:	Fuse is not replaceable by ordinary person, however fuse marking on PCB adjacent to fuse: F1 T2A/250V	P
F.3.5.4	Replacement battery identification marking	No battery.	N/A
F.3.5.5	Terminal marking location	No such terminals.	N/A
F.3.6	Equipment markings related to equipment classification	Refer below.	P
F.3.6.1	Class I Equipment	Class II equipment.	N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)	The symbol for IEC 60417- 5172 symbol is moulded near marking label.	P
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	No IP rating.	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	Marking comply with the requirements.	P
F.3.10	Test for permanence of markings	Markings withstand the required test.	P
F.4	Instructions		N/A
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards	No instructional safeguards used.	N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General requirements	No switch.	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements	No relay.	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) :		—
	Single Fault Condition :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Test Voltage (V) and Insulation Resistance (Ω) :		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices	F1 complied with IEC 60127.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Output connector can't insert into main socket-outlet.	P
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....	(See Annex J)	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Protection against mechanical stress is provided by insulation tube and insulation tape.	P
G.5.1.2 b)	Construction subject to routine testing	cl. 5.4.9.2 not used.	N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C)		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....:	IEC 62368-1 cl.G.5.3.2 & G.5.3.3.	P
	Position.....:	ES3 to ES1 in T1.	—
	Method of protection	Inherent.	—
G.5.3.2	Insulation	Reinforced. The insulation complies with the relevant requirements in clause 5 (see table 5.4.2.2, 5.4.2.4 and 5.4.3) and passes the relevant electric strength tests. (See table 5.4.9)	P
	Protection from displacement of windings.....:	Secured to the soldering pins with wrapping. (refer to transformer specific for detailed.)	—
G.5.3.3	Overload test	(See appended table B.3)	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.3.1	Test conditions	Switch mode transformer tested in the complete equipment. Load applied to the output of the power supply unit.	P
G.5.3.3.2	Winding Temperatures testing in the unit	Current limiting transformer, Class 130. Temperature limit: 175°C	P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements	No motor.	N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	Peak working voltage is ES3. Not under mechanical stress. Basic insulation is required. Certified triple insulated wire used in transformer; Peak working voltage is ES3. Reinforced insulation is required.	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements	Direct plug-in equipment.	N/A
	Type.....:		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG)..... :		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	See below	P
G.8.2	Safeguard against shock	Complies, see appended table 4.1.2.	P
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test	Control fire spread method used.	N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such component used.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A)		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		P
G.10.1	General requirements	Certified bleeder resistors (RA and RB in series) used after fuse and used as discharge safeguard. See appended table 4.1.2.	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable	Not connected with external circuit consisted of coaxial cable.	N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P
G.11.1	General requirements	Min. X2 and Y1 capacitors are certified according to IEC60384-14	P
G.11.2	Conditioning of capacitors and RC units	Capacitors complied with IEC 60384-14.	P
G.11.3	Rules for selecting capacitors	Min. X2 and Y1 capacitors are certified according to IEC60384-14	P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)	Certificated optocoupler used and comply with requirement. (See appended table 4.1.2)	P
	Type test voltage Vini		—
	Routine test voltage, Vini,b		—
G.13	Printed boards		P
G.13.1	General requirements	Basic considered (ES3 side), primary and secondary circuits are not insulated by PCB layers.	P
G.13.2	Uncoated printed boards	Safeguard complied cl.5.4.2 & 5.4.3.	P
G.13.3	Coated printed boards	Not used.	N/A
G.13.4	Insulation between conductors on the same inner surface	Inner surface not used with cemented joint requirements.	N/A
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces	Basic insulation. No thickness requirement.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	Triple insulated wire used in transformer is separately approved.	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	Both phase conductors were interrupted by mains plug.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	No parts remain energized, refer to cl.5.5.2.2.	N/A
L.4	Single phase equipment	Both poles were disconnected simultaneously.	P
L.5	Three-phase equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L.6	Switches as disconnect devices	Not used.	N/A
L.7	Plugs as disconnect devices		P
L.8	Multiple power sources	Single power source.	N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements	No battery.	N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature		—
M.4.2.2 b)	Single faults in charging circuitry		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)		N/A
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s).....		—
M.8.2.3	Correction factors.....		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used	Class II equipment.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied	Considered.	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements		N/A
P.2.2	Safeguards against entry of foreign object	No openings.	N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)		—
	Tr (°C)		—
	Ta (°C)		—
P.4.2 b)	Abrasion testing		N/A
P.4.2 c)	Mechanical strength testing		N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition	See appended table Q.1.	P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)).		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	Fire enclosure is made of V-0 material. No testing required.	N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N	(See appended table T.4)	P
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test	(See appended table T.7)	P
T.8	Stress relief test	(See appended table T.8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m)		—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....	(See Annex T)	N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

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

4.1.2	TABLE: List of critical components				
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹
PCB	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	DKV0-3A, DGV0-3A	Min. 1.6 mm thickness, min. V-0, 130°C	UL 796	UL E177671
Alt.)	Interchangeable	Interchangeable	min. V-0, 130°C	UL 796	UL
Fuse (F1)	Conquer Electronics Co., Ltd.	MST series	T2A, 250V	IEC 60127-1, IEC 60127-3, UL 248-1, UL 248-14	VDE 40017118, UL E82636
Alt.)	Suzhou Walter Electronic	2010	T2A, 250V	IEC 60127-1, IEC 60127-3, UL 248-1, UL 248-14	VDE 40018781, UL E220181
Alt.)	Bel Fuse Ltd.	RST Serie(s) RSTA Serie(s)	T2A, 250V	IEC 60127-1, IEC 60127-3, UL 248-1, UL 248-14	VDE 40011144, VDE 40039089
Alt.)	Cooper Bussmann LLC	SS-5	T2A, 250V	IEC 60127-1, IEC 60127-3, UL 248-1, UL 248-14	VDE 40015513, UL E19180
Alt.)	Shenzhen Lanson Electronics	SMT	T2A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40012592
Alt.)	Dongguan Better Electronics Technology Co., Ltd.	932	T2A, 250V	IEC 60127-1, IEC 60127-3, UL 248-1, UL 248-14	VDE 40033369, UL E300003
Alt.)	Hollyland Company Limited	5ET	T2A, 250V	IEC 60127-1, IEC 60127-3, UL 248-1, UL 248-14	VDE 40015669, UL E156471
Alt.)	Sunny East Enterprise Co. Ltd.	CFD	T2A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40030246
Alt.)	Conquer Electronics Co., Ltd.	MET	T2A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40017157
Alt.)	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10	T2A, 250V	IEC 60127 (JDYX) (JDYX7)	VDE 40017009 cULus E213695

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Y capacitor (CY1)	TDK-EPC Corporation, Capacitors Group Circuit Devices Business Group	CD	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14, UL 60384-14	VDE 40029780, UL E37861
Alt.)	Success Electronics Co., Ltd.	SE, SB	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14, UL 60384-14	VDE 40037221, VDE 40037211, UL E114280
Alt.)	Murata Mfg Co Ltd	KX Series	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14 (FOWX2)	VDE 40002796, R E37921
Alt.)	Walsin Technology Corp.	AH	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14, UL 60384-14	VDE 40001804, UL E146544
Alt.)	JYA-NAY Co., Ltd.	JN	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14, UL 60384-14	TUV 69242987, UL E201384
Alt.)	Haohua Electronic Co.	CT 7	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14, UL 60384-14	VDE 40003902, UL E233106
Alt.)	JYH CHUNG ELECTRONICS CO LTD	JD	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14	VDE 137027
Alt.)	Jerro Electronics Corp.	JX-series	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14, UL 60384-14	VDE 40032158, UL E333001
Alt.)	WELSON INDUSTRIAL CO LT D	WD	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14	VDE 40016157
Alt.)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	CD	Min. 250Vac; max. 2200pF; min. Y1, 125°C	IEC/EN 60384-14	VDE 40025754, UL E208107
X capacitor (CX1) (optional)	Cheng Tung Industrial Co., Ltd.	CTX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14	ENEC-01396-M1
Alt.)	Tenta Electric Industrial Co. Ltd.	MEX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14, UL 60384-14	VDE 119119, UL E222911
Alt.)	Joey Electronics (Dong Guan) Co., Ltd.	MPX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14, UL 60384-14	VDE 40032481, UL E216807
Alt.)	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14, UL 60384-14	VDE 40015608, UL E183780

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.)	YUON YU ELECTRONICS CO LTD	MPX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14 (FOWX2)	VDE 40032392
Alt.)	Sinhua Electronics (Shanghai) Co. Ltd.	MPX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14 (FOWX2)	VDE 40014686
Alt.)	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14 (FOWX2)	VDE 40022417
Alt.)	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14, UL 60384-14	VDE 40018798, UL E147776
Alt.)	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14 (FOWX2)	VDE 40018690
Alt.)	Foshan Shunde Chuang Ge Electronic Industrial Co., Ltd.	MKP-X2	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14	VDE 40008922
Alt.)	Okaya Electric Industries Co. LTD	RE-Series	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14, UL 60384-14	VDE 40028657, UL E47474
Alt.)	Hongzhi Enterprises Ltd.	MPX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14, UL 60384-14	VDE 40023936, UL E192572
Alt.)	Foshan Shunde Beijiao Hua Da Electric Industrial Co., Ltd.	HD-MKP	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14, UL 60384-14	VDE 40027182, UL E227157
Alt.)	VISHAY Capacitors Belgium NV	F 1772	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14	VDE 40005095
Alt.)	Winday Electronic Industrial Co., Ltd.	MPX series	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14	VDE 40018071
Alt.)	HUA JUNG COMPONENTS CO LTD	MKP	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14	ENEC SE-ENEC-2001341, UL E149075
Alt.)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	MPX	Max 0.22µF, Min.250V, 105°C	IEC/EN 60384-14	VDE 40034679, UL E208107

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	CD	Max 0.22μF, Min.250V, 105°C	IEC/EN 60384-14	VDE 40025754, UL E208107
Alt.)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	CE	Max 0.22μF, Min.250V, 105°C	IEC/EN 60384-14	VDE 40025748, UL E208107
Photo Coupler (U2)	Everlight Electronics Co., Ltd.	EL817	Dti ≥ 0.4mm, Ext.dcr&cl ≥ 7.6mm, thermal cycling test, 110°C	IEC/EN 60747-5-5, IEC/EN 62368-1	VDE 132249
Alt.)	COSMO Electronics Corporation	K1010, KP1010	Dti ≥ 0.4mm, Ext.dcr&cl ≥ 5.4mm, thermal cycling test, 115°C	IEC/EN 60747-5-5 IEC/EN 60950-1	VDE 101347
Alt.)	Lite-On Technology Corporation	LTV-817	Dti ≥ 0.4mm, Ext.dcr&cl ≥ 7.0mm, thermal cycling test, 100°C	IEC/EN 60747-5-2 IEC/EN 62368-1	VDE 40015248
Alt.)	Fairchild Semiconductor Pte Ltd	H11A817B, FOD817B	Dti ≥ 0.4mm, Ext.dcr&cl ≥ 7.0mm, thermal cycling test, 110°C	IEC/EN 60747-5-2 IEC/EN 62368-1	VDE 40026857
Alt.)	Sharp Corporation Electronic Components and Devices Group	PC817	Dti ≥ 0.4mm, Ext.dcr&cl ≥ 6.4mm, thermal cycling test, 110°C	IEC/EN 60747-5-5	VDE 40008087
Alt.)	Bright Led Electronics Corp.	BPC-817 A/B/C/D/L, BPC-817 S	Dti=0.4mm, Ext. dcr=7.6mm, thermal cycling test, 100°C	IEC/EN 60747-5-2 IEC/EN 62368-1	VDE 40007240
Alt.)	Bright Led Electronics Corp.	BPC-817 M	Dti=0.4mm, Ext. dcr=8.0mm, thermal cycling test, 100°C	IEC/EN 60747-5-2 IEC/EN 62368-1	VDE 40007240
Alt.)	Toshiba Electronic Devices & Storage Corporation	TLP817K, TLP817KF	Dti > 0,4mm, Ext cr > 7.0mm, Isolation 3000Vac min., thermal cycling test, 115°C	EN 60747-5-5, IEC/EN 62368-1	VDE 40031808

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.)	Renesas Electronics Corp.	PS2701-1	Ext. Dcr&Cl: ≥5.0mm, DTI: ≥0.4mm Thermal cycling test, 100°C	IEC/EN 60747-5-5	VDE 40008902, UR E72422
Varistor 1) (ZNR) (Optional)	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K	Max. Continuous voltage: min 300Vac(rms), 125°C, The coating is V-0	IEC 61051-2 IEC 60950-1	VDE 005944
Alt.)	Thinking Electronic Industrial Co., Ltd.	TVR10471-M	Max. Continuous voltage: min 300Vac(rms), 125°C, The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	CUS E314979, VDE 40036061
Alt.)	Centra Science Corp.	10D471K, 14D471K	Max. Continuous voltage: min 300Vac(rms), 125°C The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE 40008220
Alt.)	Success Electronics Co Ltd	SVR10D471K, SVR14D471K	Max. Continuous voltage: min 300Vac(rms), 125°C The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE 40030401
Alt.)	Success Electronics Co., Ltd.	SVR10D471K	Max. Continuous voltage: min 300Vac(rms), 125°C, The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE 123677, UL E502378
Alt.)	Walsin Technology Co., Ltd.	VZ10D471K, VZ14D471K	Max. Continuous voltage: min 300Vac(rms), 125°C The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE 40010090
Alt.)	Lien Shun Electronics Co., Ltd.	10D471K, 14D471K	Max. Continuous voltage: min 300Vac(rms), 125°C The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE400058 58
Alt.)	Ceramate Techn. Co., Ltd.	GNR10D471K , GNR14D471K	Max. Continuous voltage: min 300Vac(rms), 125°C The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE400317 45

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.)	Brightking (Shenzhen) Co., Ltd.	14D471K, 10D471K	Max. Continuous voltage: min 300Vac(rms), 125°C The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE400278 27
Alt.)	BRIGHTKING (SHENZHEN) CO LTD	471KH10-(+)	Max. Continuous voltage: min 300Vac(rms), 125°C, The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	UL E327997, TUV B170296048 003
Alt.)	Joyin Co., Ltd.	10N471K, 10S471K, 14N471K	Max. Continuous voltage: min 300Vac(rms), 125°C, The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE 005937
Alt.)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	07D471K, 10D471K, 14D471K	Max. Continuous voltage: min 300Vac(rms), 125°C, The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE 40023049
Alt.)	Guangdong Huiwan Electronics Technology Co Ltd	V-471K-10D, V-471K-10E, V-471K-14D, V-471-14E	Max. Continuous voltage: min 300Vac(rms), 125°C, The coating is V-0	IEC 61051-2, IEC 60950-1 Annex Q	VDE 40043880
Line Filter (NF1) 2)	GlobTek, Haopuwei, BOAM, Top Nation	NF00001D	130°C	IEC 62368-1, UL94	Tested with appliance, UL
Bobbin	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6), T375HF	V-0, 150°C	UL94	UL E59481
Transformer (T1) 3)	GlobTek	XF00167(5-7V), XF00168(7.01-15V), XF00169(15.01-24V), XF00299(24.01-48V)	Class B (EIS: type GTX-130-TM, UL E243347)	IEC 62368-1, UL 1446	Tested with appliance, UL
Alt.)	Haopuwei	XF00167(5-7V), XF00168(7.01-15V), XF00169(15.01-24V), XF00299(24.01-48V)	Class B (EIS: type ZT-130, UL E315275)	IEC 62368-1, UL 1446	Tested with appliance, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.)	BOAM	XF00167(5-7V), XF00168(7.01-15V), XF00169(15.01-24V), XF00299(24.01-48V)	Class B (EIS: type BOAM-01, UL E252329)	IEC 62368-1, UL 1446	Tested with appliance, UL
-Triple-insulated wire (Secondary)	Great Leoflon Industrial Co., Ltd.	TRW (B)*	130°C	IEC 62368-1, UL 2353	VDE 136581, UL E211989
Alt.)	COSMOLINK CO. Ltd.	TIW-M	130°C	IEC 62368-1, UL 2353	VDE 138053, UL E213764
Alt.)	Furukawa Electric Co., Ltd.	TEX-E	130°C	IEC 62368-1, UL 2353	VDE 006735, UL E206440
Alt.)	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTFW-B	130°C	IEC 62368-1, UL 2353	VDE 40037495, UL E357999
Alt.)	TOTOKU ELECTRIC CO LTD	TIW- 2SLZX\$+, TIW- 2SLZXY\$+	130°C	IEC/EN 61558-1, IEC 61558-2-16, UL 2353	VDE 40044910, UL E166483
Alt.)	E&B TECHNOLOGY CO LTD	E&B-XXXB, E&B-XXXB-1	130°C	UL 2353	UL E315265
Alt.)	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	130°C	IEC 62368-1, UL 2353	VDE 40037495, UL E357999
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6), T375HF	Phenolic, V-0, 150°C	UL 94	UL E59481
Alt.)	SUMITOMO BAKELITE CO LTD	PM-9820, PM-9630	Phenolic, V-0, 150°C	UL 94	UL E41429
Alt.)	SHOWA DENKO MATERIALS TECHNO SERVICE CO., LTD.	CP-J-8800	Phenolic, V-0, 150°C	UL 94	E514814
-Insulating tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1(b), 1350T-1, 44	Min.130°C	UL 510	UL E17385
Alt.)	BONDTEC PACIFIC CO LTD	370S(b)	Min.130°C	UL 510	UL E175868

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ*(b), CT*(c)(g) , CT(b)(g)	Min.130°C	UL 510	UL E165111
Alt.)	HUIZHOU YAHUA ELECTRONIC TECHNOLOGY CO LTD	CT	Min.130°C	UL 510	UL E495875
Alt.)	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A(b)	Min.130°C	UL 510	UL E246950
Alt.)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX*	Min.130°C	UL 510	UL E246820
Plastic Enclosure & Plug Holder Material	SABIC INNOVATIVE PLASTICS B V	HF500R(f2)	V-0, 125°C, min. thickness: 2.0 mm	UL 94	UL E45329
Alt.)	SABIC INNOVATIVE PLASTICS B V	945 (GG)	V-0, 120°C, min. thickness: 2.0 mm	UL 94	UL E45329
Alt.)	SABIC JAPAN L L C	945 (GG)	V-0, 120°C, min. thickness: 2.0 mm	UL 94	UL E207780
Alt.)	TEIJIN LIMITED RESIN AND PLASTIC	LN- 1250G(#)(*)	V-0, 120°C, min. thickness: 2.0 mm	UL 94	UL E50075
Bleeder Resistor (RA, RB) (two in series)	VISHAY COMPONENTS INDIA PVT. LTD	VR37	2MΩ, 1/2W	IEC 62368-1 Annex G.10	VDE 40002857
Alt.)	Yageo Components (Suzhou)	HHV Series	2MΩ, 1/2W	IEC 62368-1 Annex G.10	VDE: 40031974
Alt.)	TZAI YUAN ENTERPRISE CO LTD	HSMD, SMD	2MΩ, 1/2W	UL 62368-1	E354677
Alt.)	PROSPERITY DIELECTRICS CO LTD	FVS03, TF06V, FVS05, TF08V, FVS06, TF12V, FVS20, TF20V, FVS25, TF25V	2MΩ, 1/2W	UL 62368-1	E358325

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt.)	VIKING TECH CORPORATION KAOSHIUNG BRANCH	HVR05 series (c), HVR06 series (d),	2MΩ, 1/2W	UL 62368-1	E490339
Output wire	Interchangeable	Interchangeable	Min. VW-1, Min. 20AWG, Min. 300V, Min. 80°C	UL 758	UL
Rectifier (BD1)	Interchangeable	Interchangeable	Min.800V, 1A	IEC 62368-1	Tested with appliance
Electrolytic capacitor (C1)	Interchangeable	Interchangeable	Min.400V, Max.22μF, 105°C	IEC 62368-1	Tested with appliance
MOSFET (Q1)	Interchangeable	Interchangeable	Min.7A, 600V	IEC 62368-1	Tested with appliance
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. 1) Varistor complies with UL 1449 which cover the required 15 combination pulses 6kV (1.2/50μs)/ 3Ka (8/20μs) test. This is stricter than table I group 1 of IEC 61051-2. 2) NF1 shares the same construction from different vendors. 3) T1 shares the same construction from different vendors.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	TABLE: Stress Relief test		—
	Part	Material	Oven Temperature (°C)
4.8.4.3	TABLE: Battery replacement test		—
	Battery part no.:		—
	Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	
4.8.4.4	TABLE: Drop test		—
	Impact Area	Drop Distance	Drop No.
			1
			2
			3
4.8.4.5	TABLE: Impact		—
	Impacts per surface	Surface tested	Impact energy (Nm)
4.8.4.6	TABLE: Crush test		—
	Test position	Surface tested	Crushing Force (N)
			Duration force applied (s)
Supplementary information:			

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

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

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

5.2		Table: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (A _{pk} or A _{rms})	Hz	
1	264Vac	Primary Circuit	Normal	N/A	N/A	N/A	ES3
			Abnormal	N/A	N/A	N/A	
			Single fault – SC/OC	N/A	N/A	N/A	
2	264Vac	DC output port (GT-41052-1548)	Normal	48.1 V	N/A	d.c.	ES1
			Abnormal	48.1 V	N/A	d.c.	
			Single fault – SC/OC	0 V	N/A	d.c.	
3	264Vac	DC output port (GT-41052-1524)	Normal	24.4 V	N/A	d.c.	ES1
			Abnormal	24.4 V	N/A	d.c.	
			Single fault – SC/OC	0 V	N/A	d.c.	
4	264Vac	DC output port (GT-41052-1509)	Normal	9.16 V	N/A	d.c.	ES1
			Abnormal	9.16 V	N/A	d.c.	
			Single fault – SC/OC	0 V	N/A	d.c.	
5	264Vac	DC output port (GT-41052-1305)	Normal	5.34 V	N/A	d.c.	ES1
			Abnormal	5.34 V	N/A	d.c.	
			Single fault – SC/OC	0 V	N/A	d.c.	
6	264Vac	DC output port (GT-41052-1509)	Normal	N/A	0.402 mApk	a.c. (60Hz)	ES1
			Abnormal	N/A	0.402mApk	a.c. (60Hz)	
			Fault (Refer to fault condition on table B.4, output shutdown)	N/A	0.402mApk	a.c. (60Hz)	
			Fault (Refer to fault condition on table B.4, fuse open)	N/A	0.462mApk	a.c. (60Hz)	

IEC 62368-1							
Clause		Requirement + Test			Result - Remark		Verdict
7	264Vac	Accessible Enclosure (with metal foil) to earth (GT-41052-1509)	Normal ¹⁾	N/A	0.001 mApk	a.c. (60Hz)	ES1
5.2.2.3 - Capacitance Limits							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		
1	264	CX1	Normal	220nF Max.	373V	ES3	
			Abnormal	N/A	N/A		
			Single fault – SC/OC	N/A	N/A		
5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Abnormal	N/A	N/A	N/A	
			Single fault – SC/OC	N/A	N/A	N/A	
5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
N/A	N/A	N/A	Normal	N/A	N/A	N/A	N/A
			Abnormal	N/A	N/A	N/A	
			Single fault – SC/OC	N/A	N/A	N/A	
Test Conditions: Normal – Abnormal - Supplementary information: SC=Short Circuit, OC=Short Circuit ¹⁾ Fault and abnormal condition test no effect on the touch current test result.							

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements				P		
	Supply voltage (V) :	90V, 60Hz	264V, 60Hz	—			
	Ambient T _{min} (°C) :	—	—	—			
	Ambient T _{max} (°C) :	—	—	—			
	T _{ma} (°C) :	—	—	—			
Maximum measured temperature T of part/at:		T (°C)		Allowed T _{max} (°C)			
GT-41052-1548:							
Capacitor CX1 body		78.4	72.3	105			
Inductor NF1 coil		108.8	77.9	120 *)			
Bulk Capacitor C1		84.6	73.2	105			
PCB near R6		95.6	82.8	130			
T1 winding		93.4	104.5	110 *)			
Inductor L2		76.4	87.0	95 *)			
Bulk Capacitor C9		64.0	70.3	105			
Bulk Capacitor C8		76.9	87.4	105			
Ambient		40	40	—			
Touch temperature							
Enclosure outside		46.6	44.8	77 (TS1 **)			
Ambient		25	25	—			
Supplementary information:							
If no limit is stated, temperature is for reference only. T _{mra} =40°C.) Temperature limits of winding include less 10°C for thermocouple measurement method.) Considered as >1s and <10s.							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:							
Supplementary information:							
Note 1: T _{ma} should be considered as directed by applicable requirement							
Note 2: T _{ma} is not included in assessment of Touch Temperatures (Clause 9)							

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements						P	
		Supply voltage (V) :	90V, 60Hz		264V, 60Hz		—	
		Ambient T _{min} (°C) :	—		—		—	
		Ambient T _{max} (°C) :	—		—		—	
		Tma (°C) :	—		—		—	
Maximum measured temperature T of part/at:			T (°C)				Allowed T _{max} (°C)	
GT-41052-1524:								
Capacitor CX1 body			80.7		72.5		105	
Inductor NF1 coil			109.4		86.7		120 *)	
BD1 body			108.8		93.7		—	
Bulk capacitor C1			86.2		83.3		105	
T1 winding			95.6		105.1		110 *)	
T1 core			90.7		100.5		110 *)	
PCB near heatsink			97.4		117.8		130	
Enclosure Inside near T1			74.0		79.7		—	
Ambient			40		40		—	
Touch temperature								
Enclosure outside			46.9		46.1		77 (TS1 ^{**)}	
Ambient			25		25		—	
Supplementary information:								
If no limit is stated, temperature is for reference only. Tmra=40°C.) Temperature limits of winding include less 10°C for thermocouple measurement method.)) Considered as >1s and <10s.								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								
Supplementary information:								
Note 1: Tma should be considered as directed by applicable requirement								
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)								

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements						P		
		Supply voltage (V) :	90V, 60Hz		264V, 60Hz		—		
		Ambient T _{min} (°C) :	—		—		—		
		Ambient T _{max} (°C) :	—		—		—		
		Tma (°C) :	—		—		—		
Maximum measured temperature T of part/at:			T (°C)				Allowed T _{max} (°C)		
GT-41052-1509:									
Capacitor CX1 body			83.9		74.9		105		
Inductor NF1 coil			119.9		86.8		120 *)		
BD1 body			112.6		89.9		—		
Bulk capacitor C1			94.1		84.5		105		
T1 winding			105.9		108.6		110 *)		
T1 core			98.6		100.6		110 *)		
PCB near heatsink			109.4		117.4		130		
Enclosure Inside near T1			79.8		82.7		—		
Ambient			40		40		—		
Touch temperature									
Enclosure outside			52.0		53.6		77 (TS1) **)		
Ambient			25		25		—		
Supplementary information:									
If no limit is stated, temperature is for reference only. Tmra=40°C. *) Temperature limits of winding include less 10°C for thermocouple measurement method. **) Considered as >1s and <10s.									
Temperature T of winding:			t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:									
Supplementary information:									
Note 1: Tma should be considered as directed by applicable requirement									
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)									

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P		
		Supply voltage (V) :	90V, 60Hz		264V, 60Hz	—		
		Ambient T _{min} (°C) :	—		—	—		
		Ambient T _{max} (°C) :	—		—	—		
		T _{ma} (°C) :	—		—	—		
Maximum measured temperature T of part/at:			T (°C)			Allowed T _{max} (°C)		
GT-41052-1305:								
Capacitor CX1 body			93.3		87.3	105		
Inductor NF1 coil			104.4		89.9	120 *)		
BD1 body			102.0		89.0	—		
Bulk capacitor C1			93.8		86.9	105		
T1 winding			98.3		105.9	110 *)		
T1 core			96.0		104.8	110 *)		
PCB near heatsink			100.0		108.1	130		
Enclosure Inside near T1			74.4		81.3	—		
Ambient			40		40	—		
Touch temperature								
Enclosure outside			47.0		54.0	77 (TS1 ^{**)}		
Ambient			25		25	—		
Supplementary information:								
If no limit is stated, temperature is for reference only. T _{mra} =40°C.) Temperature limits of winding include less 10°C for thermocouple measurement method.) Considered as >1s and <10s.								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								
Supplementary information:								
Note 1: T _{ma} should be considered as directed by applicable requirement								
Note 2: T _{ma} is not included in assessment of Touch Temperatures (Clause 9)								

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Clause	Requirement + Test	Result - Remark	Verdict

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

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm) :		≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Plug holder, type HF500R(f2)	SABIC INNOVATIVE PLASTICS B V	125	1.00	
Plug holder, type 945(GG)	SABIC INNOVATIVE PLASTICS B V	125	1.93	
Plug holder, type 945(GG)	SABIC JAPAN L L C	125	1.08	
Plug holder, type LN-1250G(#)(*)	TEIJIN LIMITED RESIN AND PLASTIC	125	1.20	
Supplementary information:				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm) ^{**) *)}	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Basic:							
Line trace to Neutral trace before fuse (on PCB trace)	340	240	0.06	1.8	2.1	2.5	3.2 1)
Fuse in to out (on fuse body)	340	240	0.06	1.8	3.9	2.5	3.9
Fuse in to out (on PCB trace)	340	240	0.06	1.8	2.0	2.5	3.5 1)
Reinforced:							
CY1 (pri.) to CY1 (sec.) (on CY1 body)	340	240	0.06	3.5	4.3	5.0	5.5
T1 (pri) to T1 (sec.) (on PCB trace)	475	268	65.2	3.5	7.2	5.4 2)	7.2

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Clause	Requirement + Test			Result - Remark			Verdict
Pri. to Sec. (on PCB trace)	475	268	65.2	3.5	6.0	5.4 2)	6.0
Plug contact points on plug adapter to User accessible surface	340	240	0.06	3.5	5.5	5.0	5.5
Below for Transformer T1:							
Reinforced: Primary pin – Secondary pin	475	268	65.2	3.5	10.0	5.4 2)	>10.0
Reinforced: Primary pin – Core – Secondary pin	475	268	65.2	3.5	7.0	5.4 2)	7.0
Reinforced: Primary winding – Secondary pin	475	268	65.2	3.5	5.5	5.4 2)	5.5
Supplementary information:							
Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test Note 3: Provide Material Group No distance reduced after 10 N force applied to various components: Internal wire, CY1, HS1 and HS2. At least two layers insulation tape wrapped around T1, detail refer to photos. Solid glue add on C1, F1, NF1, ZNR, CX1, CY1, D1, C3, detail refer to photos. *) A multiplier factor (1.14) was used to consider the additional altitude requirement for clearance as described under General product information. **) Limit considered by cl.5.4.2.3.4 with required withstand voltage (2500V). Procedure 2 is used. 1) One gap > 1mm width; 2) Linear interpolation method used.							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage				P
	Overvoltage Category (OV):				
	Pollution Degree:				
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)	
Supplementary information:					
Requirement considered in table 5.4.2.2.					

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

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Clause	Requirement + Test			Result - Remark	Verdict
5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements				P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz) ¹⁾	Material	Required DTI (mm)	DTI (mm)
Reinforced: Plastic enclosure	475	65.2	Plastic	0.4mm	2.0mm
Reinforced: Transformer bobbin	475	65.2	Phenolic	0.4mm	0.85mm
Reinforced: Insulation tape outside transformer	475	65.2	Plastic	2 layers	2 layers
Supplementary information:					
Test voltage 4000Vp. No flash over or insulation breakdown after test. ¹⁾ cl.5.4.9.1 is considered and field strength is uniform. High switching frequency is not considered.					

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V) 1)	Breakdown Yes / No
Basic / Supplementary				
Live – Neutral (disconnected fuse)		DC	2500 V	No
Live/Neutral – GND terminal of PCB		DC	2500 V	No
Reinforced:				
Primary – Output terminals		DC	4000 V	No
Primary – Enclosure (wrapped with foil)		DC	4000 V	No
T1 Primary – Core – Secondary		DC	4000 V	No
2 layers insulation tape wrapped around T1(tested with one layer)		DC	4000 V	No
Supplementary information:				
1) Method of transient voltage considered.				

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Clause	Requirement + Test	Result - Remark	Verdict

5.5.2.2	TABLE: Stored discharge on capacitors					P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
264	Phase to Neutral	N	N/A	12	ES1	
Supplementary information:						
X-capacitors installed for testing are: CX1 =Max.0.22μF						
[X] bleeding resistor rating: RA= RB=Max.2MΩ. Approved resistor, see table 4.1.2.						
[] ICX:						
Notes:						
A. Test Location:						
Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth						
B. Operating condition abbreviations:						
N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition						

5.6.6.2	TABLE: Resistance of protective conductors and terminations				N/A
Accessible part		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage			—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
		1	N/A
		2*	N/A
		3	1)
		4	N/A
		5	2)
		6	N/A
		8	N/A
Supplementary Information:			
Notes: [1] Supply voltage is the anticipated maximum Touch Voltage [2] Earthed neutral conductor [Voltage differences less than 1% or more] [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3 [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided. 1) Norway IT power system Line fault condition was evaluated, which is as same as TN, TT system earthing conductor fault condition, other IT power system is not evaluated. 2) Not applicable, single-phase equipment			

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	Table: Electrical power sources (PS) measurements for classification					P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification	
A	All circuits before DC output port	Power (W) :	N/A	N/A	PS3	
		V _A (V) :	N/A	N/A		
		I _A (A) :	N/A	N/A		
B	DC output (GT-41052-1548) Normal	Power (W) :	N/A	21.6	PS2	
		V _A (V) :	N/A	48.2		
		I _A (A) :	N/A	0.45		
	DC output (GT-41052-1548) Single fault: R13, S-C	Power (W) :	N/A	0 **	PS2	
		V _A (V) :	N/A	0 **		
		I _A (A) :	N/A	0 **		
	DC output (GT-41052-1548) Single fault: R6, S-C	Power (W) :	N/A	47.1	PS2	
		V _A (V) :	N/A	48.2		
		I _A (A) :	N/A	0.98		
C	DC output (GT-41052-1305) Normal	Power (W) :	N/A	36.0	PS2	
		V _A (V) :	N/A	5.34		
		I _A (A) :	N/A	6.76		
	DC output (GT-41052-1305) Single fault: R13, S-C	Power (W) :	N/A	0 **	PS2	
		V _A (V) :	N/A	0 **		
		I _A (A) :	N/A	0 **		
	DC output (GT-41052-1305) Single fault: R6, S-C	Power (W) :	N/A	23.3	PS2	
		V _A (V) :	N/A	5.34		
		I _A (A) :	N/A	4.52		
Supplementary Information:						
S-C= short circuit.						
*) Measurement taken only when limits at 3 seconds exceed PS1 limits.						
**) Unit shutdown, detailed refer to table B.4 also.						
The above measurements are the maximum values (max. V and max. A obtained at the same time).						

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)			P
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No
Contact points on plug and on PCB *)	240	16	3840	Yes **)
Varistor (ZNR)	N/A	N/A	N/A	Yes **)
Supplementary information:				
<p>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.</p> <p>*) The PCB is secured with the enclosure slot. The contact of the plug conductor part to the L/N PCB trace is secured by spring on the pin contact and the enclosure slot. The spring and PCB has tested with 10N and can not be moved when the PCB inserted into the slot. PCB is fixed in position by the plastic enclosure and the slot. See photos for detailed.</p> <p>**) V-0 fire enclosure used.</p>				

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
All Circuits	N/A	N/A	N/A	N/A	Yes *)
Supplementary Information:					
<p>A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.</p> <p>If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.</p> <p>A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, <u>or</u> (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.</p> <p>*) V-0 fire enclosure used.</p>					

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

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	
GT-41052-1305:									
90	50	0.310	--	17.57	--	F1	0.310	Maximum rated Load	
90	60	0.317	--	17.60	--	F1	0.317	Maximum rated Load	
100	50	0.289	0.6	17.45	--	F1	0.289	Maximum rated Load	
100	60	0.292	0.6	17.48	--	F1	0.292	Maximum rated Load	
240	50	0.151	0.6	17.31	--	F1	0.151	Maximum rated Load	
240	60	0.159	0.6	17.42	--	F1	0.159	Maximum rated Load	
264	50	0.140	--	17.55	--	F1	0.140	Maximum rated Load	
264	60	0.145	--	17.57	--	F1	0.145	Maximum rated Load	
GT-41052-1509:									
90	50	0.346	--	19.72	--	F1	0.346	Maximum rated Load	
90	60	0.347	--	19.80	--	F1	0.347	Maximum rated Load	
100	50	0.311	0.6	19.50	--	F1	0.311	Maximum rated Load	
100	60	0.314	0.6	19.52	--	F1	0.314	Maximum rated Load	
240	50	0.157	0.6	19.44	--	F1	0.157	Maximum rated Load	
240	60	0.160	0.6	19.46	--	F1	0.160	Maximum rated Load	
264	50	0.143	--	19.53	--	F1	0.143	Maximum rated Load	
264	60	0.145	--	19.54	--	F1	0.145	Maximum rated Load	
GT-41052-1524:									
90	50	0.326	--	18.62	--	F1	0.326	Maximum rated Load	
90	60	0.329	--	18.60	--	F1	0.329	Maximum rated Load	

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Clause		Requirement + Test				Result - Remark		Verdict	
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	
100	50	0.295	0.6	18.42	--	F1	0.295	Maximum rated Load	
100	60	0.306	0.6	18.43	--	F1	0.306	Maximum rated Load	
240	50	0.162	0.6	18.83	--	F1	0.162	Maximum rated Load	
240	60	0.160	0.6	18.80	--	F1	0.160	Maximum rated Load	
264	50	0.155	--	19.28	--	F1	0.155	Maximum rated Load	
264	60	0.156	--	19.34	--	F1	0.156	Maximum rated Load	
GT-41052-1548:									
90	50	0.321	--	18.12	--	F1	0.326	Maximum rated Load	
90	60	0.323	--	18.12	--	F1	0.329	Maximum rated Load	
100	50	0.293	0.6	17.86	--	F1	0.295	Maximum rated Load	
100	60	0.296	0.6	17.87	--	F1	0.306	Maximum rated Load	
240	50	0.165	0.6	18.24	--	F1	0.162	Maximum rated Load	
240	60	0.168	0.6	18.24	--	F1	0.160	Maximum rated Load	
264	50	0.158	--	18.71	--	F1	0.155	Maximum rated Load	
264	60	0.160	--	18.82	--	F1	0.156	Maximum rated Load	
Supplementary information:									
Equipment may be have rated current or rated power or both. Both should be measured See General product information for load conditions.									

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Clause	Requirement + Test	Result - Remark	Verdict

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					25°C, if not specify the ambient temperature.			—
Power source for EUT: Manufacturer, model/type, output rating .:								—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
GT-41052-1509: *)								
DC output 1)	O-L	264	3hrs 4min	F1	0.145→ 0.178→ 0.230→ 0	T1 coil	144.0	Temperature was stable when output loaded to 2.2A. When increase to 2.35A, unit shut down. Recoverable when fault removed. No hazard. No damage.
						T1 bobbin	133.0	
						Enclosure outside (top)	81.2	
						Enclosure outside (bottom)	78.4	
						Output cord	47.7	
						Ambient	26.0	
Supplementary information:								
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4. O-L=overload. Electric strength tests conducted after abnormal condition, no flash over or insulation breakdown. After above abnormal condition test, the output comply with ES1 limit.								

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Clause	Requirement + Test	Result - Remark	Verdict

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C)					25°C, if not specify the ambient temperature.			—
Power source for EUT: Manufacturer, model/type, output rating .:								—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
GT-41052-1509:								
U2 pin 1- pin 2	SC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.
U2 pin 3- pin 4	SC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.
U2 pin 1	OC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.
T1 pin A – pin B	SC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.
D3	SC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.
C4	SC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.

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Clause	Requirement + Test				Result - Remark			Verdict
C6	SC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.
Q1, pin D - G	SC	264	1 s	F1	*)	--	--	F1 opened immediately. Nohazard.
Q1, pin D - S	SC	264	1 s	F1	*)	--	--	F1 opened immediately. Nohazard.
T1 pin 2 - 3	SC	264	1 s	F1	*)	--	--	F1 opened immediately. Nohazard.
T1 pin 4 - 5	SC	264	1 s	F1	*)	--	--	F1 opened immediately. Nohazard.
BD1 AC - +	SC	264	1 s	F1	*)	--	--	F1 opened immediately. Nohazard.
BD1 AC - -	SC	264	1 s	F1	*)	--	--	F1 opened immediately. Nohazard.
C1	SC	264	1 s	F1	*)	--	--	F1 opened immediately. Nohazard.
DC output pin + - pin	SC	264	10 min	F1	0.022	--	--	Shutdown immediately. Recoverable when fault removed. No damage. Nohazard.
Supplementary information:								
SC=short circuit, OC=open circuit. *) Fuse current is more than fuse rating times 2.1, repeated the test with each source of fuse and same result come out. After above fault condition test, the output complies with ES1 limit. After each of above test, EUT can pass the Hi-pot test.								

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Clause	Requirement + Test	Result - Remark	Verdict

Annex M.3	TABLE: Batteries								N/A	
The tests of Annex M are applicable only when appropriate battery data is not available										
Is it possible to install the battery in a reverse polarity position?..... :										
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Max. current during normal condition										
Max. current during fault condition										
Test results:									Verdict	
- Chemical leaks										
- Explosion of the battery										
- Emission of flame or expulsion of molten metal										
- Electric strength tests of equipment after completion of tests										
Supplementary information:										

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

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries				N/A
Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
	Normal				
	Abnormal				
	Single fault –SC/OC				
	Normal				
	Abnormal				
	Single fault – SC/OC				
Supplementary Information:					
Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation	
Supplementary Information:					

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

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
GT-41052-1548:						
Output port	Normal	48.2	0.45	3.11	21.6	100
	Single fault: R13 (S-c)	0 *)	0	3.11	0	100
	Single fault: R6 (S-c)	48.2	0.98	3.11	47.1	100
GT-41052-1524:						
Output port	Normal	24.4	1.82	8	23.2	100
	Single fault: R13 (S-c)	0 *)	0	8	0	100
	Single fault: R6 (S-c)	24.4	0.72	8	17.6	100
GT-41052-1509:						
Output port	Normal	9.16	3.06	8	28.0	100
	Single fault: R13 (S-c)	0 *)	0	8	0	100
	Single fault: R6 (S-c)	9.16	2.71	8	24.8	100
GT-41052-1305:						
Output port	Normal	5.34	6.76	8	36.0	100
	Single fault: R13 (S-c)	0 *)	0	8	0	100
	Single fault: R6 (S-c)	5.34	4.52	8	23.3	100
Supplementary Information:						
S-c=short circuit) Unit shut down.						

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

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Enclosure	Thermoplastic	2.0mm min.	100N	5sec	Safeguards remained effective	
Internal wire, CY1, HS1 and HS2	--	--	10N	5sec	Safeguards remained effective	
Supplementary information:						

T.6, T.9	TABLE: Impact tests				N/A
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Supplementary information:					

T.7	TABLE: Drop tests				P
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Enclosure	Thermoplastic	2.0mm min.	1000	Safeguards remained effective	
Supplementary information:					

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Thermoplastic	2.0mm min.	95	7	No risk of shrinkage or distortion on material	
Supplementary information:						

- End of report -

Photos

External view



External view (with US plug)



Photos

External view (with EU plug)



External view (with UK plug)



Photos

Detachable plug removed



1): Detachable plug (rear)

Detachable plug removed

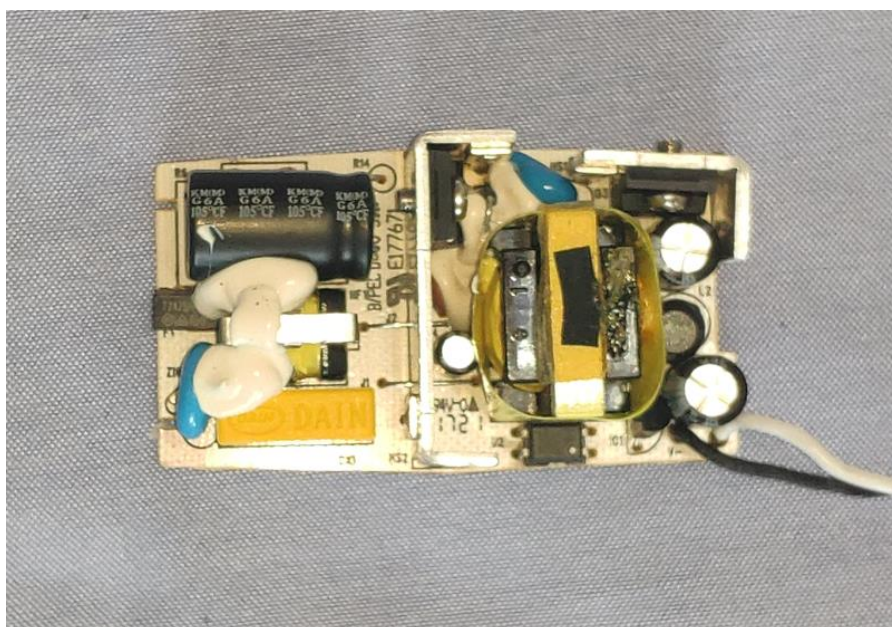


Photos

Internal view

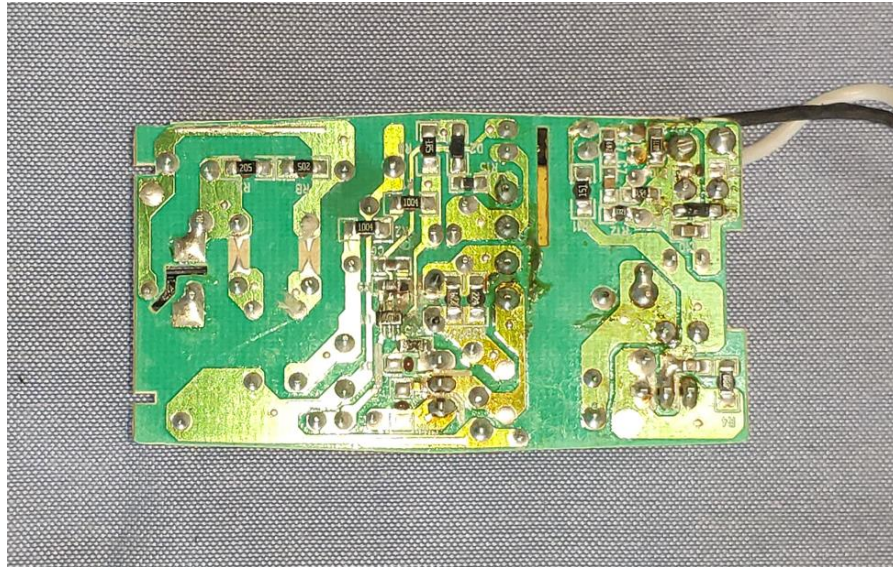


PCB view



Photos

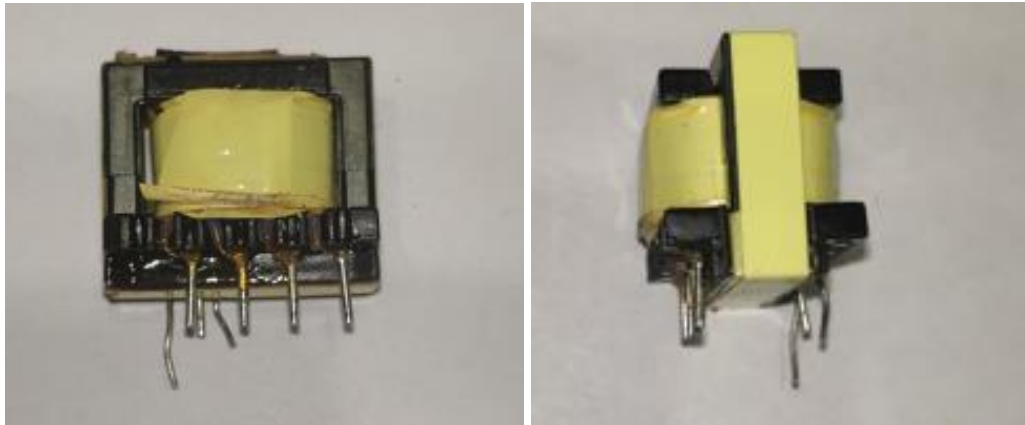
PCB view



Transformer



Photos



IEC62368_1D - ATTACHMENT																																										
Clause	Requirement + Test			Result - Remark		Verdict																																				
<p align="center">ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)</p>																																										
Differences according to : EN 62368-1:2014+A11:2017																																										
Attachment Form No. : EU_GD_IEC62368_1D_II																																										
Attachment Originator : Nemko AS																																										
Master Attachment : Date 2021-02-04																																										
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.																																										
	CENELEC COMMON MODIFICATIONS (EN)					P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".					P																																				
CONTENTS	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords					P																																				
	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list: <table border="1" data-bbox="351 1332 1332 1792"> <tbody> <tr> <td>0.2.1</td> <td>Note</td> <td>1</td> <td>Note 3</td> <td>4.1.15</td> <td>Note</td> </tr> <tr> <td>4.7.3</td> <td>Note 1 and 2</td> <td>5.2.2.2</td> <td>Note</td> <td>5.4.2.3.2.2 Table 13</td> <td>Note c</td> </tr> <tr> <td>5.4.2.3.2.4</td> <td>Note 1 and 3</td> <td>5.4.2.5</td> <td>Note 2</td> <td>5.4.5.1</td> <td>Note</td> </tr> <tr> <td>5.5.2.1</td> <td>Note</td> <td>5.5.6</td> <td>Note</td> <td>5.6.4.2.1</td> <td>Note 2 and 3</td> </tr> <tr> <td>5.7.5</td> <td>Note</td> <td>5.7.6.1</td> <td>Note 1 and 2</td> <td>10.2.1 Table 39</td> <td>Note 2, 3 and 4</td> </tr> <tr> <td>10.5.3</td> <td>Note 2</td> <td>10.6.2.1</td> <td>Note 3</td> <td>F.3.3.6</td> <td>Note 3</td> </tr> </tbody> </table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
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10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.																																									
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.			Considered.		P																																				

4.Z1	<p>Add the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>	<p>The equipment is provided with Fuse. F1 inside equipment.</p>	P
5.4.2.3.2.4	<p>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>		N/A
10.2.1	<p>Add the following to ^{c)} and ^{d)} in table 39:</p> <p>For additional requirements, see 10.5.1.</p>		N/A

10.5.1	<p>Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p>Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p>Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A
G.7.1	<p>Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>	Not cover in this report.	N/A

Bibliography	<p>Add the following standards:</p> <p>Add the following notes for the standards indicated:</p> <p>IEC 60130-9 NOTE Harmonized as EN 60130-9.</p> <p>IEC 60269-2 NOTE Harmonized as HD 60269-2.</p> <p>IEC 60309-1 NOTE Harmonized as EN 60309-1.</p> <p>IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series.</p> <p>IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4.</p> <p>IEC 60664-5 NOTE Harmonized as EN 60664-5.</p> <p>IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified).</p> <p>IEC 61508-1 NOTE Harmonized as EN 61508-1.</p> <p>IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1.</p> <p>IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4.</p> <p>IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6.</p> <p>IEC 61643-1 NOTE Harmonized as EN 61643-1.</p> <p>IEC 61643-21 NOTE Harmonized as EN 61643-21.</p> <p>IEC 61643-311 NOTE Harmonized as EN 61643-311.</p> <p>IEC 61643-321 NOTE Harmonized as EN 61643-321.</p> <p>IEC 61643-331 NOTE Harmonized as EN 61643-331.</p>		P
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>	Class II equipment.	N/A
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>	Must be considered when marketing to this country.	--
5.2.2.2	<p>Denmark</p> <p>After the 2nd paragraph add the following:</p> <p>A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A

5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>For separation of the telecommunication network from earth the following is applicable:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 	Not TNV.	N/A
5.5.2.1	<p>Norway</p> <p>After the 3rd paragraph the following is added:</p> <p>Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</p>	Capacitors rated min. 250V.	P
5.5.6	<p>Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.</p>		N/A

5.6.1	<p>Denmark</p> <p>Add to the end of the subclause</p> <p>Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.</p> <p><i>Justification:</i></p> <p>In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>	Class II equipment.	N/A
5.6.4.2.1	<p>Ireland and United Kingdom</p> <p>After the indent for pluggable equipment type A, the following is added:</p> <p>– the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.</p>		N/A
5.6.5.1	<p>To the second paragraph the following is added:</p> <p>The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm² to 1,5 mm² in cross-sectional area.</p>	Direct plug-in equipment.	N/A
5.7.5	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A

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

B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable:</p> <p>To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>		N/A
G.4.2	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a</p> <p><i>Justification:</i> Heavy Current Regulations, Section 6c</p>	<p>Direct plug-in equipment.</p> <p>Not Class I equipment. And no Mains socket outlet.</p>	N/A
G.4.2	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		N/A

G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Direct plug-in equipment.	N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard	Direct plug-in equipment.	N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.	Direct plug-in equipment.	N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de	Not CRT.	N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to : AS/NZS 62368.1:2018			
TRF template used:..... : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : AU_NZ_ND_IEC62368_1D			
Attachment Originator : JAS-ANZ			
Master Attachment..... : 2021-04-19			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		
2	Add the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i> -AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i> -AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i> -AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> -AS/NZS 60695.11.10, <i>Fire hazard testing, Part</i>		P

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>11.10: Test flames—50 W horizontal and vertical flame test methods</p> <p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.1.1	<p>Application of requirements and acceptance of materials, components and subassemblies</p> <p>1 Replace the text ‘IEC 60950-1’ with ‘AS/NZS 60950.1:2015’.</p> <p>2 Replace the text ‘IEC 60065’ with ‘AS/NZS 60065’.</p>		P
4.7	Equipment for direct insertion into mains socket-outlets		
4.7.2	<p>Requirements</p> <p>Delete the text of the second paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>	Must be considered when marketing to this country.	--
4.7.3	<p>Compliance Criteria</p> <p>Delete the first paragraph and Note 1 and Note 2 and replace with the following: <i>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i></p>	Must be considered when marketing to this country.	--
4.8	<p>Delete existing clause title and replace with the following: 4.8 Products containing coin/button cell batteries</p>		

IEC62368_1D ATTACHMENT						
Clause	Requirement + Test			Result - Remark		Verdict
4.8.1	General 1 Second dashed point, <i>delete</i> the text and <i>replace</i> with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, <i>insert</i> the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, <i>renumber</i> the existing Note as 'NOTE 2'. 4 Fifth dashed point, <i>delete</i> the word 'lithium'.			No such battery.		N/A
4.8.2	Instructional Safeguard First line, <i>delete</i> the word 'lithium'.					N/A
4.8.3	Construction First line, after the word 'Equipment' <i>insert</i> the words 'containing one or more coin/button batteries and'					N/A
4.8.5	Compliance criteria <i>Delete</i> the first paragraph and <i>replace</i> with the following: <i>Compliance is checked by applying a force of 30 N +/- 1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.</i>					N/A
5.4.10.2	Test methods					
5.4.10.2.1	General <i>Delete</i> the first paragraph and <i>replace</i> with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.					N/A
Table 29	Replace the table with the following:					N/A
Parts		Impulse test		Steady state test		
		New Zealand	Australia	New Zealand	Australia	
Parts indicated in Clause 5.4.10.1 a) ^a		2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs	1.5 kV	3 kV	
Parts indicated in Clause 5.4.10.1 b) and c) ^b		1.5 kV 10/700 µs ^c		1.0 kV	1.5 kV	
^a Surge suppressors shall not be removed. ^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment. ^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.						

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.2	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
5.4.10.2.3	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	Electrically-caused fire		
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202	Alternative tests not performed.	N/A
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)		P
8.5.4	Special categories of equipment comprising moving parts		
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows <i>replace</i> 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	Stability of equipment		

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1 and Table 36	Requirements 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: ° The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements' 4. Table 36, <i>add</i> the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'	MS1.	N/A
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	Mains appliance outlet and socket-outlet markings <i>Replace</i> 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.	No mains outlet.	N/A
Annex G Paragraph G.4.2	Mains connectors 1 In the second line <i>insert</i> 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line <i>insert</i> 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 <i>Add</i> the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.	Direct plug-in equipment.	N/A
Paragraph G.5.3.1	Transformers, General 1 In the third dashed point <i>replace</i> 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'	Direct plug-in equipment.	N/A

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	<p>External power supplies, docking stations and other similar devices</p> <p>For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage—</p> <ul style="list-style-type: none"> – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. <p>For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn.</p> <p>NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries.</p> <p><i>Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4</i></p>	See main report.	P
6.202	Resistance to fire—Alternative tests		
6.202.1	<p>General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following:</p> <ol style="list-style-type: none"> Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. The following parts which would contribute negligible fuel to a fire: <ul style="list-style-type: none"> – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.</p>	Alternative tests not performed.	N/A

IEC62368_1D ATTACHMENT									
Clause	Requirement + Test	Result - Remark	Verdict						
	<i>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</i> For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5. The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.	Alternative tests not performed.	N/A						
6.202.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.		N/A						
6.202.3	Testing of insulating materials Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections		N/A						
	For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test need not be tested		N/A						
	<div><div>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</div><table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle-flame</td><td><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be</td></tr></table></div>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle-flame	<i>Delete</i> the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be		N/A
Clause of AS/NZS 60695.11.5	Change								
9 Test procedure									
9.2 Application of needle-flame	<i>Delete</i> the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be								

IEC62368_1D ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
		applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ± 1 s.		
	9.3 Number of test specimens	Replace with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.		
	11 Evaluation of test results	Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.			
6.202.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning			N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>		
6.202.5	<p>Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source.</p> <p>The test is not carried out if—</p> <ul style="list-style-type: none"> – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p><i>Conformance shall be determined using the smallest thickness of the material.</i></p> <p>NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		N/A
6.202.6	<p>For open circuit voltages greater than 4 kV</p> <p>Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.</p>		N/A

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

IEC 62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 (JAPAN) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to : J62368-1 (2020)			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : JP_ND_IEC62368_1D			
Attachment Originator : UL (JP)			
Master Attachment : Date 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.	Considered.	P
5.6.1	Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.	Not applicable.	N/A
5.6.2.1	Mains connection of class 0I equipment: Instructional safeguard in accordance with Clause F.3.6.1A; Mains plug having a lead wire for protective earthing connection of class 0I equipment; Independent main protective earthing terminal installed by ordinary person.	Class II equipment.	N/A
5.6.2.2	This requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.		N/A

IEC 62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm ² or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.	Class II equipment.	N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.	Class II equipment.	N/A
6.4.3.3	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.	No applicable.	N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.	No applicable.	N/A

IEC 62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.	No applicable.	N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) ^{b,c}	Considered.	P
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.	Class II equipment.	N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.	See main report.	P
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.	Class II equipment.	N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		N/A
F.4	Instruction for audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A. Installation instruction for the protective earthing connection for class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment.		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.	No thermal link used.	N/A

IEC 62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.		N/A
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.		N/A
G.4.2	Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal. Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.		N/A
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.	No mains socket-outlet.	N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.	Direct plug-in equipment.	N/A
G.8.3.3	Withstand $1,71 \times 1,1 \times U_0$ for 5 s.	No such part.	N/A

IEC62368_1D 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)			
Differences according to : CSA/UL 62368-1:2014			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : US_CA_ND_IEC62368_1D			
Attachment Originator : UL(US)			
Master Attachment : Dated 2021-02-04			
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IEC 62368-1 - US and Canada National Differences Special National Conditions based on Regulations and Other National Differences			
1.1	All equipment is to be designed to allow installation according to the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, 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
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.	The EUT is not used to distribute power.	N/A
4.1.17	For lengths exceeding 3.05 m, external interconnecting flexible cord and 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 flexible cord and cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment		N/A
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.	Max. output rating is listed on the product.	P
Annex G (G.7.1)	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
Annex G (G.7.3)	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
Annex G (G.7.5)	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
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 _{peak} or 60 V d.c., 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 M	Battery packs for stationary applications comply with special component requirements.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (1)	Equipment intended for use in spaces used for environmental air 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 ³ (27 cu ft) 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. & Canadian Regulations.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	See main report.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) 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 min. flammability classification of V-1.		N/A
Annex DVA (10.3.1)	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (F.3.3.3)	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 are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."	One phase.	N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up 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.	No mains outlet.	N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).	No isolated ground.	N/A
Annex DVA (G.4.3)	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
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 (Annex M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1 are marked with the voltage rating and "Class 2" or equivalent; marking is located adjacent to the terminals and visible during wiring.		N/A
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 have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	See table 4.1.2. in main report. The power supply cord is not evaluated, only with the other component comply with the 4.1.2	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 in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.		N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		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, complies 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
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