



Test Report issued under the responsibility of:



TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number : 200902278SHA-001

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Testing Laboratory : Intertek Testing Services Shanghai

Address : Building No. 86, 1198 Qinzhou Road (North) 200233 Shanghai CHINA

Applicant's name : GlobTek, Inc.

Address : 186 Veterans Dr. Northvale, NJ 07647 USA

Test specification:

Standard..... : IEC 62368-1:2014 (Second Edition)

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC62368_1B

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

Master TRF : 2014-03

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Test Item description	ICT/ITE Power supply
Trade Mark	
Manufacturer	Same as applicant
Model/Type reference	<p>GT*96225*P*****_*</p> <p>(The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.</p> <p>The 2nd "*" can be 0, 1, 2 or 3, denote the different mechanical construction, "0" means open frame, "1" means L frame, "2" means cage, "3" means potted.</p> <p>The 3rd "*" can be "001" to "225", denotes the rated output wattage designation from 1W to 225W, in step of 1 denote 1W.</p> <p>The 4th "*" can be "12" to "54" or "12.0" to "54.0", denote the standard rated output voltage designation from 12.0V to 54.0Vdc, in step of 0.1 denote 0.1V.</p> <p>The 5th "*" can be optional, blank or A to H, denote the AUX Output voltage code.</p> <p>The 6th "*" can be Blank, -C or -D, related to PCB size, Blank="2"x4", -C="3"x5", -D="7"x4.22".</p> <p>The 7th "*" =-F or F means Open Frame class I or class II with functional earth</p> <p>=-FW or FW means Open Frame class II</p> <p>=-P2 or P2 means Encapsulated Type, class II</p> <p>=-P3 or P3 means Encapsulated Type, class I or class II with functional earth</p> <p>The last * denote any six character, which can be 0-9 or A-Z or ()[] or – or blank for marketing purposes, -* can be blank.)</p>
Ratings	<p>Input: 100-240V~, 50-60Hz or 50/60Hz, 3.0A;</p> <p>Output: 12.0-54.0VDC, Max. 18.75A, Max. 225W.</p> <p>See model list for detail.</p>

Model list:

Model without AUX output voltage	Output Voltage	Max. output current	Max. output power
GT*96225*P**-F/FW/P2/P3-*	12.0-54.0Vdc	18.75A	225W
GT*96225*P**F/FW/P2/P3-*			
GT*96225*P**-C-F/FW/P2/P3-*			
GT*96225*P**-CF/FW/P2/P3-*			
GT*96225*P**-D-F/FW/P2/P3-*	12.0-54.0Vdc	18.75A	225W
GT*96225*P**-DF/FW/P2/P3-*			

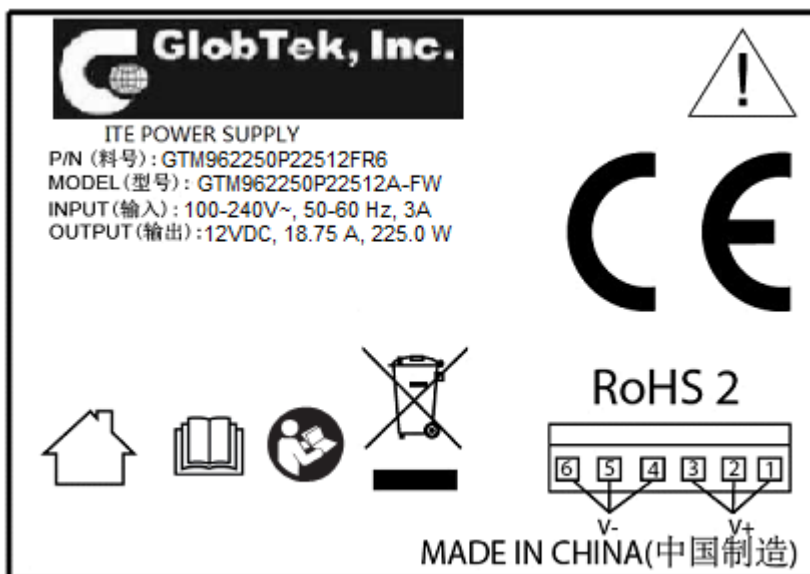
Model with AUX output voltage	Main Output Voltage	Max. output current	AUX output voltage	AUX output current	Max. output power
GT*96225*P**A*-F/FW/P2/P3-*	12.0-54.0Vdc	18.75A	12Vdc	Max 1.2A	225W
GT*96225*P**A*F/FW/P2/P3-*			12Vdc	Max 1.2A	225W
GT*96225*P**B*-F/FW/P2/P3-*	12.0-24.0Vdc	18.75A	5Vdc	Max 1.2A	225W
GT*96225*P**B*F/FW/P2/P3-*			6Vdc		225W
GT*96225*P**C*-F/FW/P2/P3-*			7Vdc		225W
GT*96225*P**C*F/FW/P2/P3-*			8Vdc		225W
GT*96225*P**D*-F/FW/P2/P3-*			9Vdc		225W
GT*96225*P**D*F/FW/P2/P3-*			10Vdc		225W
GT*96225*P**E*-F/FW/P2/P3-*			11Vdc		225W
GT*96225*P**E*F/FW/P2/P3-*					
GT*96225*P**F*-F/FW/P2/P3-*					
GT*96225*P**F*F/FW/P2/P3-*					
GT*96225*P**G*-F/FW/P2/P3-*					
GT*96225*P**G*F/FW/P2/P3-*					
GT*96225*P**H*-F/FW/P2/P3-*					
GT*96225*P**H*F/FW/P2/P3-*					

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	Intertek Testing Services Shanghai
Testing location/ address		Building No.86, 1198 Qinzhou Road (North), 200233 Shanghai, China
<input type="checkbox"/>	Associated Testing Laboratory:	
Testing location/ address		
Tested by (name + signature)		Albert Zhou (Engineer)
Approved by (name + signature)		Will Wang (Mandated Reviewer)
<div>Albert Zhou</div> <div>Will Wang</div>		
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1	
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2	
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4	
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		

<p>List of Attachments (including a total number of pages in each attachment):</p> <p>Appendix No.1: photos of the product: from page 73 to 92, total 20 pages.</p> <p>Appendix No.2: Group differences for the CENELEC countries and national difference for UK: from page 93 to 103, total 11 pages.</p> <p>Appendix No.3: National differences for USA and Canada: from page 104 to 110, total 7 pages.</p> <p>Appendix No.4: National differences for Australia and New Zealand: from page 111 to 122, total 12 pages.</p> <p>Appendix No.5: National differences for Japan: from page 123 to 126, total 4 pages.</p>	
<p>Summary of testing:</p> <p>From the result of our examination and tests in the submitted samples, conclude they comply with the requirements of the standard IEC 62368-1:2014 (Second Edition) & EN 62368-1:2014 + AC:15 + A11:2017.</p>	
<p>Tests performed (name of test and test clause):</p> <p>5.2 Classification and limits of electrical energy sources</p> <p>5.4.1.8 Determination of working voltage</p> <p>5.4.1.10.3 Ball pressure test</p> <p>5.4.2 Clearances</p> <p>5.4.3 Creepage distances</p> <p>5.4.8 Humidity conditioning</p> <p>5.4.9 Electric strength test</p> <p>5.7.2.1 Measurement of touch current</p> <p>6.2.2.2 Power measurement for worst-case load fault</p> <p>6.2.2.3 Power measurement for worst-case source fault</p> <p>6.4.3.3 Single Fault Conditions test</p> <p>B.2.5 Input test</p> <p>B.3.5 Maximum load at output terminals</p> <p>F.3.10 Permanence of markings</p> <p>G.5.3.3 Overload test of Transformers</p> <p>T.2 Steady force test, 10 N</p>	<p>Testing location:</p> <p>Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North), 200233 Shanghai, China</p>
<p>Summary of compliance with National Differences:</p> <p>List of countries addressed</p> <p>Group difference for CENELEC countries and national differences UK, USA and Canada, Japan, Australia and New Zealand are considered.</p> <p><input checked="" type="checkbox"/> The product fulfils the requirements of IEC 62368-1:2014 (Second Edition) & EN 62368-1:2014 + AC:15 + A11: 2017.</p>	


Copy of marking plate (representative):

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.



Note:

The marking plates of the other models listed in this report are identical with below except model name and output parameter.

For class I models,  shall be added near earthing terminal.



If  logo is suitable or not, evaluated in end product.

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

TEST ITEM PARTICULARS:	
Classification of use by	<input type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection.....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input checked="" type="checkbox"/> other: __Built-in__
Considered current rating of protective device as part of building or equipment installation	16 A; Installation location: <input type="checkbox"/> building; <input checked="" type="checkbox"/> equipment
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input checked="" type="checkbox"/> Not classified
Access location	<input type="checkbox"/> restricted access location <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:	--
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP20
Power Systems	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V _{L-L}
Altitude during operation (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> <5000 m
Altitude of test laboratory (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> <50 m
Mass of equipment (kg)	170g for Open Frame Construction 230g for L Frame Construction 250g for Full Cage Construction 500g for Potted/Encapsulated Construction

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..... :	2020-09-21
Date (s) of performance of tests :	2020-09-21 to 2020-11-27
GENERAL REMARKS:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(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> <p><i>This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.</i></p> <p>Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input 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)	Factory 1 GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA Factory 2 GlobTek (Suzhou) Co., Ltd Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China
GENERAL PRODUCT INFORMATION:	
<p>Product Description – Product covered by this report is built-in I.T.E. power supply module, which is open frame type for indoor use only. The installation, use for the insulation construction, humidity conditioning and heating in end product shall be finally determined in the end product.</p> <p>Disconnection from the mains supply, mechanical strength and fire enclosure are not considered in this report. The enclosure shall be at least V-0.</p>	

Transformers used in all models are with same construction. The turns of secondary winding may be added or reduced according different output voltage.

All models have same PCB, but some non-critical components may be adjusted according different output voltage. The parameters of these components depend on output voltage.

The size of PCB type Blank=2"x4" is 101.6mm*50.8mm; the size of PCB type -C=3"x5" is 127mm*76.2mm, the size of PCB type -D=7"x4.22" is 177.8mm*107.188mm.

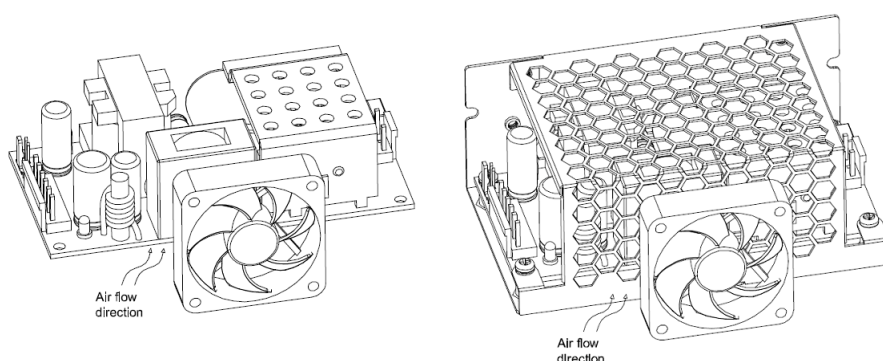
The products were not intended to be used in maximum recommended ambient exceed of 50 °C.

The differences between models followed by -F, F, -P3, P3 or -FW, FW, -P2, P2 are the earthing wire for functional earth. The models followed by -F, F or -P3, P3 have earthing wire maybe for functional earth or protective earth. The models followed by -FW, FW or -P2, P2 have not earthing wire for functional earth.

The products are not intended to use in environment which altitude exceed 5000m.

For models GT*96225*P12015***-*: output 15VDC, 7.0A at Tma=60 Deg.C;

For Models with output power more than 140W, fan (12Vdc, Max. 15W) should provide approximately 10CFM, in direction noted below:



The products are not intended to use in environment which altitude exceed 5000m.

Additional application considerations –

- normal conditions **N.C.**
- functional insulation **FI**
- double insulation **DI**
- between parts of opposite polarity BOP
- short circuit **SC**
- overload **O/L**
- single fault conditions **S.F.C**
- basic insulation **BI**
- supplementary insulation **SI**
- reinforced insulation **RI**
- open circuit **OC**

Indicate used abbreviations (if any)

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)
Secondary circuit of built-in power supply	ES1
Primary circuit of built-in power supply	ES3

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)
Secondary output circuit less than 100W of built-in power supply	PS2
Primary circuit of built-in power supply and secondary output more than 100W models	PS3

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
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)
N/A	N/A
N/A	N/A

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)
N/A	N/A
N/A	N/A

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)
N/A	N/A

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

N/A

N/A

ENERGY SOURCE DIAGRAM

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

☒ **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	ES1: Internal secondary circuit after T1 sec. output	N/A	N/A	N/A
Ordinary	ES3: Internal primary circuit of built-in power supply	N/A	N/A	Fire enclosure shall be provided in end installation
Ordinary	ES3: Primary circuits and secondary output circuit	N/A	N/A	Reinforced via transformer and creepage/clearance distances
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All combustible materials shall be within the fire enclosure. It shall be considered in end product.	PS3: All circuits shall be inside the fire enclosure	Normal temperature below ignition temperature	Fire enclosure; fire barrier; Suitable component and material shall be used	N/A
All combustible materials shall be within the fire enclosure. It shall be considered in end product.	PS2: Secondary output circuit less than 100W	Normal temperature below ignition temperature	Suitable component and material used	
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	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)
It shall be considered in end product.	N/A	N/A	N/A	N/A
		N/A	N/A	N/A
9.1	Thermal Burn			
Body Part	Energy Source	Safeguards		

(e.g., Ordinary)	(TS2)	Basic	Supplementary	Reinforced
It shall be considered in end product.	N/A	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	(See appended table 4.1.2)	P
4.1.2	Use of components	(See appended table 4.1.2)	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	Evaluated in end product. Output part is considered only.	P
4.4.4.2	Steady force tests.....:	(See Annex T.4, T.5)	N/A
4.4.4.3	Drop tests	(See Annex T.7)	N/A
4.4.4.4	Impact tests	Evaluated in end product.	N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:	No such parts.	N/A
4.4.4.6	Glass Impact tests	No glass used.	N/A
4.4.4.7	Thermoplastic material tests.....:	Evaluated in end product.	N/A
4.4.4.8	Air comprising a safeguard.....:	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness	Only output part is considered. It shall be double check in end product.	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	Internal components and wiring.	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard.....:		N/A
4.7.3	Torque (Nm)		N/A
4.8	Products containing coin/button cell batteries	No such parts.	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		—
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.....:	Evaluated in end product.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications..... :	ES3: Internal primary circuit of built-in power supply ES1: Internal secondary circuit after T1 sec. output.	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits :	(See appended table 5.2)	P
5.2.2.4	Single pulse limits :		N/A
5.2.2.5	Limits for repetitive pulses :		N/A
5.2.2.6	Ringing signals :		N/A
5.2.2.7	Audio signals :		N/A
5.3	Protection against electrical energy sources	See table "OVERVIEW OF EMPLOYED SAFEGUARDS"	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	Only output part considered. It shall be double check in end product.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only output part considered. It shall be double check in end product.	P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V :	ES3 voltages less than 420 V peak	P
	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 part.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning :	No hygroscopic material.	N/A
5.4.1.4	Maximum operating temperature for insulating materials :	Considered to be class 130 (B)	P
5.4.1.5	Pollution degree :	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		N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such circuit.	N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage	2500Vpeak	—
	b) d.c. mains transient voltage	N/A	—
	c) external circuit transient voltage	N/A	—
	d) transient voltage determined by measurement ... :	N/A	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2.4)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages	Up to 5000m.	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	Material group IIIb is used	—
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		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material	Polyester tape used in the transformers.	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs)	2 layers	P
5.4.4.6.3	Non-separable thin sheet material	Triple-insulating winding	P
5.4.4.6.4	Standard test procedure for non-separable thin sheet material	Approved TIW used	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		P
5.4.4.9	Solid insulation at frequencies >30 kHz	Evaluated according to 5.4.9.1	P
5.4.5	Antenna terminal insulation	No such part.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.6	Insulation of internal wire as part of supplementary safeguard	(See appended table 5.4.4.2)	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	Built-in product, it shall be double check in end product.	P
	Relative humidity (%).....	93%	—
	Temperature (°C)	40°C	—
	Duration (h)	120h	—
5.4.9	Electric strength test	(See appended table 5.4.9) It shall be double check in end product for accessible part.	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....		—
	Nominal voltage U_{peak} (V).....		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers	(See Annex G.5.3)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.4	Optocouplers	Approved component	P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's	VDR used between L and N	P
5.5.7.1	Use of an SPD connected to reliable earthing	No such use	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.....:	(See Annex G.10.3)	N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		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	Independent built-in modules. Should be evaluated in end product	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		P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance (Ω).....:	0.042Ω	P
5.6.7	Reliable earthing	For class I models	P
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.2.1	Measurement of touch current	L/N – output: Max.0.168mA<0.707mA peak (Limit) Other part shall be double check in end product.	P
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)	Single connection	—
	Multiple connections to mains (one connection at a time/simultaneous connections)	N/A	—
5.7.4	Earthed conductive accessible parts		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		P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault	(See appended table 6.2.2)	P
6.2.2.4	PS1	Not considered	N/A
6.2.2.5	PS2	Output circuit less than 100W	P
6.2.2.6	PS3	All circuits inside the equipment enclosure (by declaration)	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS :	Soldering connections on PCB in primary circuit are considered as arcing PIS.	P
6.2.3.2	Resistive PIS :	Varistor in primary circuit is considered as resistive PIS.	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		N/A
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 :	It shall be considered in end product	N/A
6.3.1 (b)	Combustible materials outside fire enclosure	It shall be considered in end product	N/A
6.4	Safeguards against fire under single fault conditions		N/A
6.4.1	Safeguard Method	It shall be considered in end product	N/A
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		N/A
6.4.5.2	Supplementary safeguards :	(See appended tables 4.1.2 and Annex G)	N/A
6.4.6	Control of fire spread in PS3 circuit	(See appended tables 4.1.2 and Annex G)	N/A
6.4.7	Separation of combustible materials from a PIS	All internal Power sources are enclosed by fire enclosure.	N/A
6.4.7.1	General :		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	Built-in power supply	N/A
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.2	Requirements for a fire enclosure	The enclosure shall be made of V-0 class material or better.	N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	Need double evaluated in end product.	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)	Need double evaluated in end product.	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)	Need double evaluated in end product.	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	The enclosure shall be made of V-0 class material or better.	N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm ²)	(See appended table 4.1.2)	—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		N/A
	External port limited to PS2 or complies with Clause Q.1	End product shall be evaluated according to this standard also.	N/A

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

8	MECHANICALLY-CAUSED INJURY		N/A
8.1	General	It shall be double checked in end product.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.2	Mechanical energy source classifications		N/A
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	(Evaluated in end product)	N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No 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		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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 N		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		N/A
9.2	Thermal energy source classifications	It shall be checked in end product.	N/A
9.3	Safeguard against thermal energy sources		N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard		N/A
9.4.2	Instructional safeguard		N/A

10	RADIATION		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault..... :		N/A
	Instructional safeguard :		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons :		N/A
10.4.1.b)	RS3 accessible to a skilled person..... :		N/A
	Personal safeguard (PPE) instructional safeguard..... :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 . :		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions :		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		N/A
10.4.1.f)	UV attenuation..... :		N/A
10.4.1.g)	Materials resistant to degradation UV :		N/A
10.4.1.h)	Enclosure containment of optical radiation..... :		N/A
10.4.1.i)	Exempt Group under normal operating conditions..... :		N/A
10.4.2	Instructional safeguard :		N/A
10.5	Protection against x-radiation		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

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

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements.....	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers		N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements.....	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector	No such parts	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.2	Temperature controlling device open or short-circuited		N/A
B.4.3	Motor tests		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 appended table B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :		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

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Clause	Requirement + Test	Result - Remark	Verdict
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Graphic symbols are compliant with IEC 60417 or ISO 3864-2 or ISO 7000.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on outer enclosure and is readily visible.	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate.	—
F.3.2.2	Model identification	See copy of marking plate.	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....	AC	—
F.3.3.4	Rated voltage	See copy of marking plate.	—
F.3.3.4	Rated frequency	See copy of marking plate.	—
F.3.3.6	Rated current or rated power	See copy of marking plate.	—
F.3.3.7	Equipment with multiple supply connections	Only one mains supply connection provided.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings	No mains appliance outlet and socket-outlet.	N/A
F.3.5.2	Switch position identification marking	No switch	N/A
F.3.5.3	Replacement fuse identification and rating markings	The fuse is marked with F1, F2: T4A 250V	P
F.3.5.4	Replacement battery identification marking	No battery	N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	Evaluated in end product.	N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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)		N/A
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 :	Evaluated in end product.	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		N/A
F.3.10	Test for permanence of markings		N/A
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
	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)	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		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		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices		P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....	(See appended Table B.4)	N/A
G.4	Connectors		P
G.4.1	Spacings	Certified mains connector used.	N/A
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		N/A
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....	Approved TIW used	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Approved TIW used	N/A
G.5.1.2 b)	Construction subject to routine testing		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....:	Meet the requirement in G.5.3.2 and G.5.3.3	P
	Position.....:	Used in a low-voltage power supply	—
	Method of protection	Non-inherently short-circuit proof transformers protected by electronic circuit	—
G.5.3.2	Insulation		P
	Protection from displacement of windings.....:	The end turns are reliably fixed by tape, the whole transformer varnished	—
G.5.3.3	Overload test	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Certified TIW is used	P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements	Evaluated in end product	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	(See appended table 5.4.11.1)	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		P
G.8.2	Safeguard against shock	(see appended table 4.1.2)	P
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test	Clause 6.4.1 is not applicable.	N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A)		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements		N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P
G.11.1	General requirements	Certified Y capacitors used	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)	(see appended table 4.1.2)	P
	Type test voltage V _{ini}	(see appended table 4.1.2)	—
	Routine test voltage, V _{ini,b}	(see appended table 4.1.2)	—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces		P
	Distance through insulation	Min. 0.4mm	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 : (See G.13)		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 sc5.4.8 – 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	Certified TIW used	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		N/A
L.1	General requirements	Building-in type, should be evaluated in end product.	N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.8	Multiple power sources		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		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
M.6	Prevention of short circuits and protection from other effects of electric current		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 :		—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied :	All applicable figures	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements	Evaluated in end product	N/A
P.2.2	Safeguards against entry of foreign object		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
	Openings in transportable equipment		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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	No 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	(See G.13.6.2)	N/A
P.4.2 c)	Mechanical strength testing	(See Annex T)	N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)).		N/A

IEC 62368-1			
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		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		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements	Evaluated in end product.	N/A
T.2	Steady force test, 10 N	For components	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test		N/A
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	(See sub-clause 4.4.4.9)	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)		N/A
V.1	Accessible parts of equipment	Should be double evaluated in end product.	N/A
V.2	Accessible part criterion		N/A

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

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹
Plastic cover (For model GTM962253P *****-*)	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	PPE+PS, Min. V-1, Min. thickness: 2.0mm, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	SE100	PPE+PS, Min. V-1, Min. thickness: 2.0mm, 95°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	C2950	PC/ABS, Min. V-0, Min. thickness: 2.0mm, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	CX7211 EXCY0098	PC/ABS, Min. V-0, Min. thickness: 2.0mm, 90°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	945 940	PC, Min. V-0, Min. thickness: 2.0mm, 120°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	HF500R	PC, V-0, Min. thickness: 2.0mm, 125°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC JAPAN L L C	SE1X, SE1	PPE+PS, Min. V-1, Min. thickness: 2.0mm, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	C2950	PC/ABS, Min. V-0, Min. thickness: 2.0mm, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	CX7211	PC/ABS, Min. V-0, Min. thickness: 2.0mm, 90°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	945 940	PC, Min. V-0, Min. thickness: 2.0mm, 120°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	SABIC JAPAN L L C	HF500R	PC, V-0, Min. thickness: 2.0mm, 125°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780
Alt. use	COVESTRO DEUTSCHLAND AG [PC RESINS	6485+	PC, Min. V-0, Min. thickness: 2.0mm, 115°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E41613
Alt. use	TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	PC, Min. V-0, Min. thickness: 2.0mm, 115°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E50075
Alt. use	CHI MEI CORPORATION	PA-765A	ABS, Min. V-0, Min. thickness: 2.0mm, 85°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E56070
Alt. use	CHI MEI CORPORATION	PC-540	PC/ABS, Min. V-0, Min. thickness: 2.0mm, 70°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E56070
PCB	JIANGXI ZHONG XIN HUA ELECTRONICS INDUSTRY CO LTD	ZXH-2	Min.1.6 mm thickness, min. V-0, 130°C	IEC 62368-1 UL94 UL 796	Tested with appliance UL E331298
Alt. use	SHUANG MING INDUSTRY CO LTD	T005V0 T015V0	Min.1.6 mm thickness, min. V-0, 130°C	IEC 62368-1 UL 94 UL 796	Tested within appliance UL E78017
Alt. use	SHANGHAI H- FAST ELECTRONICS CO LTD	211001	Min.1.6 mm thickness, min. V-0, 130°C	IEC 62368-1 UL 94 UL 796	Tested within appliance UL E337862
Alt. use	GUANGDE BOYA XINXING ELECTRONIC TECHNOLOGY CO LTD	BY-1	Min. 1.6 mm thickness, min. V-0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E475783
Alt. use	SHENZHEN GOLDEN BOARD CIRCUIT	JYH-2	Min. 1.6 mm thickness, min. V-0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E489124
Alt. use	ZHEJIANG WANZHENG ELECTRONICS SCIENCE & TECHNOLOGY CO LTD	JWZ-2	Min. 1.6 mm thickness, min. V-0, 130°C	IEC 62368-1 UL 796	Tested with appliance UL E302598

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Fuse (F1, F2) (F2 is optional)	Conquer Electronics Co., Ltd.	UDA series	T4A, AC250V,	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40008022 UL E82636
Alt. use	Suzhou Walter Electronic Co. Ltd.	TSC Series	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40016670 UL E56092
Alt. use	Littelfuse Inc	215-Serie(s)	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40013521 UL E10480
Alt. use	Conquer Electronics Co., Ltd.	MST	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017118 UL E82636
Alt. use	Suzhou Walter Electronic Co. Ltd.	2010 Serie(s)	T4A, AC250V	IEC 60127-1 IEC 60127-3	VDE 40018781
Alt. use	Bel Fuse Ltd.	RST	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40011144 UL E20624
Alt. use	Cooper Bussmann LLC	SS-5	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015513 UL E19180
Alt. use	Shenzhen Lanson Electronics Co. Ltd.	SMT	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012592 UL E221465
Alt. use	Dongguan Better Electronics Technology Co., Ltd.	932	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40033369 UL E300003
Alt. use	Hollyland Company Limited	5ET	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015669 UL E156471

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	Sunny East Enterprise Co. Ltd.	CFD	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40030246 UL E133774
Alt. use	Conquer Electronics Co., Ltd	MET	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017157 UL E82636
Alt. use	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017009 UL E213695
Alt. use	Suzhou Walter Electronic Co. Ltd.	ICP-Series	T4A, AC250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012824 UL E220181
Alt. use	Suzhou Walter Electronic Co. Ltd.	2020	T4A, AC250V	IEC 60127-1 IEC 60127-3	VDE 40042706
Alt. use	Conquer Electronics Co., Ltd	MMT	T4A, AC250V	IEC 60127-1 IEC 60127-3	TUV RH R50304067
Alt. use	Bel Fuse Ltd.	RSTA	T4A, AC250V	IEC 60127-1 IEC 60127-3	VDE 40039089
Alt. use	Littelfuse Inc.	TE5 400	T4A, AC250V	IEC 60127-1 IEC 60127-3	VDE 40026355
Heat shrinkable tubing used on F1 and F2 (Optional)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR RSFR-H RSFR-HPF	600V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E203950
Alt. use	QIFURUI ELECTRONICS CO	QFR-h	600V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E225897
Alt. use	DONGGUAN SALIPT CO LTD	SALIPT S-901-300 SALIPT S-901-600	Min. 300V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E209436

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (+) K-2 (CB)	Min. 300V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E214175
Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	Min. 300V, 125°C	IEC/EN 62368-1 UL 224	Tested within appliance UL E180908
X capacitor (CX1) (Optional)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	MPX	Max. 0.68μF, Min. 250V, 110°C X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40034679 UL E208107
Alt. use	Tenta Electric Industrial Co. Ltd.	MEX	Max. 0.68μF, Min. 250V, X2 40/100/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 119119 UL E222911
Alt. use	Joey Electronics (Dong Guan) Co., Ltd.	MPX	Max. 0.68μF, Min. 275V, X2 40/105/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032481 UL E216807
Alt. use	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Max. 0.68μF, Min. 250V, X2 40/110/56/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40015608 UL E183780
Alt. use	Yuo Yu Electronics Co. Ltd.	MPX	Max. 0.68μF, Min. 250V, X2 40/100/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032392 UL E200119
Alt. use	Sinhua Electronics (Huzhou) Co., Ltd.	MPX	Max. 0.68μF, Min. 250V, X2 40/100/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40014686 UL E237560
Alt. use	Cheng Tung Industrial Co., Ltd.	CTX	Max. 0.68μF, Min. 250V, 110°C X1 or X2	UL 60384-14 UL 1414	VDE 40022642 UL E193049
Alt. use	Dain Electronics Co., Ltd.	MEX	Max. 0.68μF, Min. 250V, X2 40/100/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018798 UL E147776
Alt. use	Dain Electronics Co., Ltd.	MPX	Max. 0.68μF, Min. 250V, X2 40/100/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018798 UL E147776

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	Dain Electronics Co., Ltd.	NPX	Max. 0.68μF, Min. 250V, X2 40/100/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018798 UL E147776
Alt. use	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX - Series	Max. 0.68μF, Min. 250V, X2 40/100/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40022417 UL E311166
Alt. use	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Max 0.68μF, Min.250V,110°C X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018690 UL E252286
Alt. use	DONG GUAN AJC INDUSTRIAL CO., LTD	MPX/MKP	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40045532 UL E477850
Alt. use	Foshan Shunde Chuang Ge Electronic Industrial Co., Ltd.	MKP-X2	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14	VDE 40008922
Alt. use	Okaya Electric Industries Co. LTD	RE-Series	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14	VDE 40028657
Alt. use	Hongzhi Enterprises Ltd.	MPX (X2)	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14	VDE 40023936
Alt. use	Foshan Shunde Beijiao Hua Da Electric Industrial Co., Ltd.	HD MKP series	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14	VDE 40027182
Alt. use	Vishay Electrónica Portugal, Lda	F 1772 Serie(s)	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14	VDE 40005095
Alt. use	WINDAY ELECTRONIC (DONG GUAN) CO., LTD	MPX series	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14	VDE 40018071
Alt. use	Hua Jung Components Co., Ltd.	MKP	Max 0.68μF, Min.250V,100°C X2	IEC/EN 60384-14	ENEC SE/0252-5E

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Y capacitor (CY3, CY4) (Optional)	TDK Corporation	CD	Y1, Min.250VAC, max. 4700pF, 25/125/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40029780 UL E37861
Alt. use	Success Electronics Co., Ltd.	SE	Y1, min.250VAC, max. 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037211 UL E114280
Alt. use	Success Electronics Co., Ltd.	SB	Y1, min.250VAC, max. 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037221 UL E114280
Alt. use	Walsin Technology Corp.	AH	Y1, min.250VAC, max. 4700pF, 40/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001804 UL E146544
Alt. use	Haohua Electronic Co.	CT 7	Y1, min.250VAC, max. 4700pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40003902 UL E233106
Alt. use	Murata Mfg. Co., Ltd.	KX	Y1, min.250VAC, max. 4700pF, 40/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40002831 UL E37921
Alt. use	Jyh Chung Electronic Co., Ltd.	JD	Y1, min.250VAC, max. 4700pF, 40/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 137027 UL E187963
Alt. use	WELSON INDUSTRIAL CO LTD	WD	Y1, min.250VAC, max. 4700pF, 55/125/21/C	IEC/EN 60384-14	VDE 40016157 UL E104572
Alt. use	JYA-NAY Co., Ltd.	JN	Y1, AC250V, max. 4700pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001831 UL E201384
Line filter (LF1) (Optional)	GlobTek/Zhong Tong/HEJIA/BOAM/ENG	LF045	130°C	IEC 62368-1	Tested with appliance
Line filter (LF2) (Optional)	GlobTek/ZhongTong/HEJIA/BOAM/ENG	LF046	130°C	IEC 62368-1	Tested with appliance
Line filter (L1) (Optional)	GlobTek/ZhongTong/HEJIA/BOAM/ENG	LF047	130°C	IEC 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Transformer (T1)	GlobTek / ENG / BOAM / HAOPUWEI	TF094 for 12-14.9V TF095 for 15-18.9V TF096 for 19-23.9V TF097 for 24-31.9V TF098 for 32-41.9V TF099 for 42-54V	Class B, with critical component listed below	IEC 62368-1	Tested with appliance
- Insulation system used in T1	ENG	ENG130-1	Class 130 (B)	IEC 62368-1	Tested with appliance
Alt. use	GlobTek	GTX-130-TM	Class 130 (B)	IEC 62368-1	Tested with appliance
Alt. use	SHAN DONG BOAM ELECTRIC CO LTD	BOAM-01	Class 130 (B)	IEC 62368-1	Tested with appliance
Alt. use	SHAN DONG BOAM ELECTRIC CO LTD	B1	Class 130 (B)	IEC 62368-1	Tested with appliance
Alt. use	WUXI HAOPUWEI ELECTRONICS CO LTD	ZT-130	Class 130 (B)	IEC 62368-1	Tested with appliance
- Triple-insulated wire	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B, reinforced insulation	IEC 62368-1 UL 2353 UL 60601-1	VDE 136581 UL E211989
Alt. use	COSMOLINK CO. Ltd.	TIW-M Serie(s)	Class B, reinforced insulation	IEC 62368-1 UL 2353 UL 60601-1	VDE 138053 UL E213764

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	Furukawa Electric Co., Ltd. Electronics & Automotive Systems Company Global Business Development Division	TEX-E	Class B, reinforced insulation	IEC 62368-1 UL 2353 UL 60601-1	VDE 006735 UL E206440
Alt. use	TOTOKU ELECTRIC CO LTD	TIW-2	Reinforced insulation, rated 130° C (Class B)	IEC 62368-1 UL 2353 UL 60601-1	VDE 40005152 UL E249037
Alt. use	E&B TECHNOLOGY CO LTD	E&B-XXXB E&B-XXXB-1	Reinforced insulation, Class B	IEC 62368-1 UL 2353 UL 60601-1	VDE 40023473 UL E315265
Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TIW	Reinforced insulation, Class B	IEC 62368-1 UL 2353 UL 60601-1	Tested with appliance UL E249037
Alt. use	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	Reinforced insulation, Class B	IEC 62368-1 UL 2353 UL 60601-1	VDE 40037495 UL E357999
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375J T375HF	V-0, 150°C, thickness 0.45 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
Alt. use	CHANG CHUN PLASTICS CO LTD	4130	V-0, 140°C, thickness 0.74 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
Alt. use	SUMITOMO BAKELITE CO LTD	PM-9820 PM-9830	V-0, 150°C, thickness 0.45 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E41429
Alt. use	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150°C, thickness 0.45 mm min.	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E42956
- Insulating tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 1350T-1 44	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E17385

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	BONDTEC PACIFIC CO LTD	370S(b)	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E175868
Alt. use	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT WF	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E165111
Alt. use	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A(b)	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E246950
Alt. use	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX(a)(b)	Min.130°C	IEC 62368-1 UL 510	Tested with appliance UL E246820
- PTFE tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT / TFS	Min. 300V, 200°C	IEC 62368-1	Tested with appliance UL E156256
Alt. use	SHENZHEN WOER HEAT- SHRINKABLE MATERIAL CO LTD	WF	600V, 200°C	IEC 62368-1	Tested with appliance UL E203950
Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T / CB- TT-S	Min. 300V, 200°C	IEC 62368-1	Tested with appliance UL E180908
Alt. use	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD	LING FREE PTFE TUBE	600V, 200°C	IEC 62368-1	Tested with appliance UL E352366
Varistor MOV1 (Optional)	CENTRA SCIENCE CORP	CNR- 10D471K, CNR- 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008220
Alt. use	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005944

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	SUCCESS ELECTRONICS CO LTD	SVR10D471K SVR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030401
Alt. use	Lien Shun Electronics Co., Ltd.	10D471K 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005858
Alt. use	CERAMATE TECHNICAL CO LTD	GNR10D471K GNR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40031745
Alt. use	BRIGHTKING (SHENZHEN) CO LTD	14D471K 10D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027827
Alt. use	JOYIN CO LTD	10N471K 14N471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005937
Alt. use	Walsin Technology Co., Ltd.	SR471K10D SR471K14D	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40010090
Photo coupler (U4)	VISHAY Semiconductor GmbH.	TCLT1009 VOL618A	Dti=0.5mm Int. , dcr=6.0mm EXT.dcr=7.7mm, thermal cycling test, 110°C	IEC/EN 60747-5-2	VDE 132473
Alt. use	Everlight Electronics Co., Ltd.	EL1019	Dti=0.5mm Int. , dcr=6.0mm EXT.dcr=7.7mm, thermal cycling test, 110°C	IEC/EN 60747-5-2	VDE 40028391
Alt. use	COSMO Electronics Corporation	KT1019	Dti=0.6mm Int. , dcr=4.0mm EXT.dcr=5.0mm, thermal cycling test, 115°C	IEC/EN 60747-5-2	VDE 40031267
Alt. use	Lite-On Technology Corporation	LTV-1009	Dti=0.8mm Int. , EXT.dcr=7.8mm, thermal cycling test, 110°C	IEC/EN 60747-5-2	VDE 138213

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Connector (J1 and J2) (Not for potted models used)	JAPAN SOLDERLESS TERMINAL MFG CO LTD	VH series	Min. 240V;	IEC/EN 62368-1	Tested with appliance UL E60389
Alt. use	JOINT TECH ELECTRONIC INDUSTRIAL CO LTD	A7920 series A3960 series	Min. 250V;	IEC/EN 62368-1	Tested with appliance UL E179987
Alt. use	ZHEJIANG HONGXING ELECTRICAL CO LTD	HX396XX- YYY series	Min. 250V;	IEC/EN 62368-1	Tested with appliance UL E228500
Alt. use	MOLEX L L C	41791 series	Min. 240V;	IEC/EN 62368-1	Tested with appliance UL E29179
Rectifier bridge (BD1)	Interchangeable	Interchangeable	Min. 2A, Min. 600V	IEC/EN 62368-1	Tested with appliance
Electrolytic capacitor (C3)	Interchangeable	Interchangeable	60-150uF, Min. 400V, 105 °C	IEC/EN 62368-1	Tested with appliance
Bleeder resistor (R1A, R1B) (Optional)	Interchangeable	Interchangeable	Min. 2MΩ, Min. 1/8W	IEC/EN 62368-1	Tested with appliance
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. 2) For all transformers under all manufacturers.					

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 or Vdc)	I (Apk or Arms)	Hz	
Model: GT*96225*P22554***_*							
1	264Vac	Primary circuits supplied by a.c. mains supply	Normal	--	--	--	ES3 (declaration)
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
2	264Vac	Output circuit	Normal	53.82Vdc	-	74.39kHz	ES1
			Abnormal (OL)	53.91Vdc	-	--	
			Single fault – R36 open	53.92Vdc	-	--	
3	90Vac	Output circuits	Normal	53.80Vdc	--	--	ES1
			Abnormal (OL)	53.91Vdc	--	--	
			Single fault – R36 open	53.92Vdc	--	--	

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

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
--	--	--	--	--	--	--

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)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

Test Conditions:

Normal – Test with rated output current.

Abnormal – Test with max. output current.

Supplementary information: SC=Short Circuit, OC=Short Circuit, OL=Overloaded

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V)	85	90	264	—
	Ambient T _{min} (°C)	24	24	24	—
	Model	GTM962250P22512*-FW GTM962250P22512*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		34	32	26	70
2.Line chock of LF1		75	74	35	85
3.Varistor MOV1		51	48	29	60
4.E-capacitor		60	57	46	80
5.X-capacitor (CX1)		44	42	30	75
6.Line chock of L2		68	67	44	85
7.PCB under BD1		49	48	33	105
8.PCB near T1		93	94	96	105
9.Output Quick Connector		54	53	55	70
10.Transformer (T1) Winding		77	75	73	85
11.Transformer (T1) Core		74	73	71	Ref.
12.Optocoupler U4		56	55	52	85
13.CY3 body		71	70	70	100
Supplementary information: The maximum ambient temperature is 50°C. In the course of practical use, a fan used to provide approximately 10CFM.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V):	85	90	264	—
	Ambient T _{min} (°C):	24	24	24	—
	Model:	GTM962250P14012*-FW GTM962250P14012*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		45	42	34	70
2.Line chock of LF1		81	80	53	85
3.Varistor MOV1		57	55	39	60
4.E-capacitor		75	73	60	80
5.X-capacitor (CX1)		59	57	43	75
6.Line chock of L2		79	78	59	85
7.PCB under BD1		77	75	52	105
8.PCB near T1		79	75	75	105
9.Output Quick Connector		66	65	61	70
10.Transformer (T1) Winding		82	83	80	85
11.Transformer (T1) Core		79	82	78	Ref.
12.Optocoupler U4		73	72	66	85
13.CY3 body		88	87	78	100
Supplementary information: The maximum ambient temperature is 50°C.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V):	85	90	264	—
	Ambient T _{min} (°C):	24	24	24	—
	Model:	GTM962250P22524*-FW GTM962250P22524*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		31	30	26	70
2.Line chock of LF1		78	75	34	85
3.Varistor MOV1		50	49	29	60
4.E-capacitor		56	54	42	80
5.X-capacitor (CX1)		41	39	29	75
6.Line chock of L2		49	47	34	85
7.PCB under BD1		49	46	31	105
8.PCB near T1		62	61	60	105
9.Output Quick Connector		32	31	31	70
10.Transformer (T1) Winding		66	64	62	85
11.Transformer (T1) Core		67	64	61	Ref.
12.Optocoupler U4		53	51	46	85
13.CY3 body		46	47	45	100
Supplementary information: The maximum ambient temperature is 50°C. In the course of practical use, a fan used to provide approximately 10CFM.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V):	85	90	264	—
	Ambient T _{min} (°C):	24	24	24	—
	Model:	GTM962250P14024*-FW GTM962250P14024*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		41	41	36	70
2.Line chock of LF1		80	80	54	85
3.Varistor MOV1		55	54	42	60
4.E-capacitor		73	71	59	80
5.X-capacitor (CX1)		57	55	42	75
6.Line chock of L2		82	81	64	85
7.PCB under BD1		73	72	53	105
8.PCB near T1		63	60	55	105
9.Output Quick Connector		44	43	42	70
10.Transformer (T1) Winding		81	80	76	85
11.Transformer (T1) Core		79	78	72	Ref.
12.Optocoupler U4		70	68	61	85
13.CY3 body		75	73	64	100
Supplementary information: The maximum ambient temperature is 50°C.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V)	85	90	264	—
	Ambient T _{min} (°C)	24	24	24	—
	Model	GTM962250P22538*-FW GTM962250P22538*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		33	30	25	70
2.Line chock of LF1		74	71	33	85
3.Varistor MOV1		46	45	28	60
4.E-capacitor		49	47	37	80
5.X-capacitor (CX1)		42	40	29	75
6.Line chock of L2		67	66	41	85
7.PCB under BD1		48	46	31	105
8.PCB near T1		55	54	52	105
9.Output Quick Connector		34	33	33	70
10.Transformer (T1) Winding		77	75	72	85
11.Transformer (T1) Core		70	68	64	Ref.
12.Optocoupler U4		50	49	45	85
13.CY3 body		42	41	40	100
Supplementary information: The maximum ambient temperature is 50°C. In the course of practical use, a fan used to provide approximately 10CFM.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V):	85	90	264	—
	Ambient T _{min} (°C):	24	24	24	—
	Model:	GTM962250P14038*-FW GTM962250P14038*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		42	40	33	70
2.Line chock of LF1		81	80	50	85
3.Varistor MOV1		57	61	40	60
4.E-capacitor		72	71	56	80
5.X-capacitor (CX1)		56	53	41	75
6.Line chock of L2		81	81	60	85
7.PCB under BD1		71	69	49	105
8.PCB near T1		54	53	52	105
9.Output Quick Connector		41	40	41	70
10.Transformer (T1) Winding		82	82	77	85
11.Transformer (T1) Core		75	73	68	Ref.
12.Optocoupler U4		64	60	55	85
13.CY3 body		66	63	59	100
Supplementary information: The maximum ambient temperature is 50°C.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V):	85	90	264	—
	Ambient T _{min} (°C):	24	24	24	—
	Model:	GTM962252P22554*-FW GTM962252P22554*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		31	29	25	70
2.Line chock of LF1		69	66	32	85
3.Varistor MOV1		40	37	27	60
4.E-capacitor		55	53	41	80
5.X-capacitor (CX1)		35	34	28	75
6.Line chock of L2		54	52	35	85
7.PCB under BD1		45	42	29	105
8.PCB near T1		43	41	40	105
9.Output Quick Connector		29	28	29	70
10.Transformer (T1) Winding		70	67	64	85
11.Transformer (T1) Core		64	62	59	Ref.
12.Optocoupler U4		42	41	39	85
13.CY3 body		40	40	39	100
Supplementary information: The maximum ambient temperature is 50°C. In the course of practical use, a fan used to provide approximately 10CFM.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V):	85	90	264	—
	Ambient T _{min} (°C):	24	24	24	—
	Model:	GTM962252P14054*-FW GTM962252P14054*-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		37	36	31	70
2.Line chock of LF1		80	81	50	85
3.Varistor MOV1		56	57	40	60
4.E-capacitor		70	69	55	80
5.X-capacitor (CX1)		56	55	41	75
6.Line chock of L2		77	76	54	85
7.PCB under BD1		60	58	43	105
8.PCB near T1		55	52	49	105
9.Output Quick Connector		41	40	39	70
10.Transformer (T1) Winding		76	75	68	85
11.Transformer (T1) Core		72	74	65	Ref.
12.Optocoupler U4		64	61	55	85
13.CY3 body		63	61	55	100
Supplementary information: The maximum ambient temperature is 50°C.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V)	85	90	264	—
	Ambient T _{min} (°C)	24	24	24	—
	Model	GTM962253P14054*-P2 GTM962253P14054*-P3			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.Enclosure		35	32	30	70
2.Line chock of LF1		71	68	50	85
3.Varistor MOV1		45	41	35	60
4.E-capacitor		60	58	51	80
5.X-capacitor (CX1)		42	38	34	75
6.Line chock of L2		62	57	46	85
7.PCB under BD1		58	52	45	105
8.PCB near T1		50	46	42	105
9. Supply cord		30	29	28	55
10.Output wire		29	28	29	55
11.Transformer (T1) Winding		80	77	72	85
12.Transformer (T1) Core		76	75	66	Ref.
13.Optocoupler U4		48	46	43	85
14.CY3 body		50	48	46	100
Supplementary information: The maximum ambient temperature is 50°C.					

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Thermal requirements				P
	Supply voltage (V):	85	90	264	—
	Ambient T _{min} (°C):	60	60	60	—
	Model:	GTM962250P12015-F			—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
1.AC Quick Connector		64	62	61	95
2.Line chock of LF1		70	68	64	110
3.Varistor MOV1		66	64	62	85
4.E-capacitor		67	66	65	105
5.X-capacitor (CX1)		65	65	63	100
6.Line chock of L2		75	71	64	110
7.PCB under BD1		72	70	64	130
8.PCB near T1		67	67	67	130
9.Output Quick Connector		61	61	61	95
10.Transformer (T1) Winding		74	74	73	110
11.Transformer (T1) Core		66	65	65	Ref.
12.Optocoupler U4		63	63	63	110
13.CY3 body		66	65	65	125
Supplementary information: The test performed under 60°C thermal chamber. The test load 15V, 7A for derating testing.					

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm) :		≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Bobbin (T375J)	CHANG CHUN PLASTICS CO LTD	125	1.2	
Bobbin (T375HF)	CHANG CHUN PLASTICS CO LTD	125	1.2	
Bobbin (4130)	CHANG CHUN PLASTICS CO LTD	125	1.2	
Bobbin (PM-9820)	SUMITOMO BAKELITE CO LTD	125	1.1	
Bobbin (PM-9830)	SUMITOMO BAKELITE CO LTD	125	1.1	
Bobbin (CP-J-8800)	HITACHI CHEMICAL CO LTD	125	1.2	
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)
Line and neutral before fuse (BI)	2000	240	<30kHz	1.88	3.50	2.5	3.50
Different pole of fuse (BI)	2000	240	<30kHz	1.88	2.52	2.5	2.52
Transformer secondary winding to core (RI)	2000	240	74.39kHz	3.76	>8.20	5.0	>8.20
Transformer primary winding to secondary winding (RI)	2000	240	74.39kHz	3.76	>12.0	5.0	>12.0
Primary circuit to secondary circuit over PCB (RI)	2000	240	74.39kHz	3.76	6.33	5.0	6.33
Primary and secondary (two sides of CY3 & CY4) (BI + SI)	2000	240	74.39kHz	1.88 + 1.88	3.77 + 4.11	2.5 + 2.5	3.77 + 4.11
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 IIIb							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage		P
	Overvoltage Category (OV):		II
	Pollution Degree:		2

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Clause	Requirement + Test	Result - Remark	Verdict
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
Line and neutral before fuse (BI)	2500	2.22	3.50
Differnet pole of fuse (BI)	2500	2.22	2.52
Transformer secondary winding to core (RI)	2500	4.44	>8.20
Transformer primary winding to secondary winding (RI)	2500	4.44	>12.0
Primary circuit to secondary circuit over PCB (RI)	2500	4.44	6.33
Primary and secondary (two sides of CY3 & CY4) (BI + SI)	2500	2.22 + 2.22	3.77 + 4.11
Supplementary information: 1. FI: insulation; BI: Basic insulation; SI: Supplementary insulation; RI: Reinforced insulation. 2. With the equipment to be operated at 5000m above sea level max. the minimum clearances shall be multiplied by the factor 1.48. 3. A force of 10 N is applied to the internal components and 30 N is applied to the enclosure when measuring the distances. 4. The core of transformer (T1) is considered as primary winding, the TIW is used in secondary winding of transformer (T1).			

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)	Material	Required DTI (mm)	DTI (mm)	
PCB	352	74.39kHz	--	0.4	Min. 1.6	
Bobbin	352	74.39kHz	--	0.4	Min. 0.7	
Supplementary information:						

5.4.9	TABLE: Electric strength tests				P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No		
Basic insulation:					
Line and neutral before fuse (Fuse disconnected)	DC	2500	No		
Reinforced:					
Primary and secondary	DC	4000	No		
Primary and secondary of T1 in itself	DC	4000	No		
Core and secondary of T1 in itself	DC	4000	No		

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Primary and secondary of CY		DC	4000	No
Insulation tape: one layer		DC	4000	No
Supplementary information:				

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	
Model: GT*96225*P22512***-*						
Output	Normal operation	Power (W) :	--	227.2	PS3	
		V _A (V) :	--	12.0		
		I _A (A) :	--	18.93		
Model: GT*96225*P22524***-*						
Output	Normal operation	Power (W) :	--	240.6	PS3	
		V _A (V) :	--	23.82		
		I _A (A) :	--	10.1		
Model: GT*96225*P22538***-*						
Output	Normal operation	Power (W) :	--	234.27	PS3	
		V _A (V) :	--	38.28		
		I _A (A) :	--	6.12		
Model: GT*96225*P22554***-*						
Output	Normal operation	Power (W) :	--	231.86	PS3	
		V _A (V) :	--	53.92		
		I _A (A) :	--	4.30		
Supplementary Information:						
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits						

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test					P
Model: GT*96225*P22512***_*						
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
85	2.9979	--	255.6	F1, F2	2.9979	Max Normal Load, 50Hz
90	2.8351	--	254.2	F1, F2	2.8351	Max Normal Load, 50 Hz
90	2.8354	--	254.4	F1, F2	2.8354	Max Normal Load, 60 Hz
100	2.5139	3.0	251.8	F1, F2	2.5139	Max Normal Load, 50 Hz
100	2.5142	3.0	251.9	F1, F2	2.5142	Max Normal Load, 60 Hz
240	1.0700	3.0	244.1	F1, F2	1.0700	Max Normal Load, 50 Hz
240	1.0704	3.0	244.3	F1, F2	1.0704	Max Normal Load, 60 Hz
264	0.9764	--	243.7	F1, F2	0.9764	Max Normal Load, 50 Hz
264	0.9768	--	243.8	F1, F2	0.9768	Max Normal Load, 60 Hz
Model: GT*96225*P14012***_*						
85	1.7822	--	156.23	F1, F2	1.7822	Max Normal Load, 50Hz
90	1.7340	--	155.66	F1, F2	1.7340	Max Normal Load, 50 Hz
90	1.7363	--	155.72	F1, F2	1.7363	Max Normal Load, 60 Hz
100	1.5732	3.0	155.27	F1, F2	1.5732	Max Normal Load, 50 Hz
100	1.5745	3.0	155.33	F1, F2	1.5745	Max Normal Load, 60 Hz
240	0.6916	3.0	152.16	F1, F2	0.6916	Max Normal Load, 50 Hz
240	0.6941	3.0	152.42	F1, F2	0.6941	Max Normal Load, 60 Hz
264	0.6317	--	151.46	F1, F2	0.6317	Max Normal Load, 50 Hz
264	0.6325	--	151.65	F1, F2	0.6325	Max Normal Load, 60 Hz
Supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test						P
Model: GT*96225*P22524***-*							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
85	2.9028	--	247.30	F1, F2	2.9028	Max Normal Load, 50Hz	
90	2.7318	--	245.50	F1, F2	2.7318	Max Normal Load, 50 Hz	
90	2.7319	--	245.54	F1, F2	2.7319	Max Normal Load, 60 Hz	
100	2.4408	3.0	243.50	F1, F2	2.4408	Max Normal Load, 50 Hz	
100	2.4410	3.0	243.53	F1, F2	2.4410	Max Normal Load, 60 Hz	
240	1.0347	3.0	236.28	F1, F2	1.0347	Max Normal Load, 50 Hz	
240	1.0349	3.0	236.31	F1, F2	1.0349	Max Normal Load, 60 Hz	
264	0.9446	--	253.47	F1, F2	0.9446	Max Normal Load, 50 Hz	
264	0.9448	--	253.49	F1, F2	0.9448	Max Normal Load, 60 Hz	
Model: GT*96225*P14024***-*							
85	1.7857	--	157.32	F1, F2	1.7857	Max Normal Load, 50Hz	
90	1.7234	--	155.12	F1, F2	1.7234	Max Normal Load, 50 Hz	
90	1.7236	--	155.20	F1, F2	1.7236	Max Normal Load, 60 Hz	
100	1.5617	3.0	154.66	F1, F2	1.5617	Max Normal Load, 50 Hz	
100	1.5620	3.0	154.68	F1, F2	1.5620	Max Normal Load, 60 Hz	
240	0.6848	3.0	151.45	F1, F2	0.6848	Max Normal Load, 50 Hz	
240	0.6850	3.0	151.47	F1, F2	0.6850	Max Normal Load, 60 Hz	
264	0.6278	--	151.15	F1, F2	0.6278	Max Normal Load, 50 Hz	
264	0.6281	--	151.32	F1, F2	0.6281	Max Normal Load, 60 Hz	
Supplementary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test					P
Model: GT*96225*P22538***-*						
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
85	2.9450	--	251.0	F1, F2	2.9450	Max Normal Load, 50 Hz
90	2.8136	--	252.9	F1, F2	2.8136	Max Normal Load, 50 Hz
90	2.8138	--	253.1	F1, F2	2.8138	Max Normal Load, 60 Hz
100	2.4952	3.0	250.7	F1, F2	2.4952	Max Normal Load, 50 Hz
100	2.4955	3.0	250.9	F1, F2	2.4955	Max Normal Load, 60 Hz
240	1.0588	3.0	242.2	F1, F2	1.0588	Max Normal Load, 50 Hz
240	1.0590	3.0	242.4	F1, F2	1.0590	Max Normal Load, 60 Hz
264	0.9718	--	242.5	F1, F2	0.9718	Max Normal Load, 50 Hz
264	0.9721	--	242.7	F1, F2	0.9721	Max Normal Load, 60 Hz
Model: GT*96225*P14038***-*						
85	1.7743	--	155.24	F1, F2	1.7743	Max Normal Load, 50Hz
90	1.7088	--	153.41	F1, F2	1.7088	Max Normal Load, 50 Hz
90	1.7112	--	153.55	F1, F2	1.7112	Max Normal Load, 60 Hz
100	1.5464	3.0	152.70	F1, F2	1.5464	Max Normal Load, 50 Hz
100	1.5479	3.0	152.77	F1, F2	1.5479	Max Normal Load, 60 Hz
240	0.6794	3.0	149.43	F1, F2	0.6794	Max Normal Load, 50 Hz
240	0.6806	3.0	149.65	F1, F2	0.6806	Max Normal Load, 60 Hz
264	0.6215	--	149.33	F1, F2	0.6215	Max Normal Load, 50 Hz
264	0.6231	--	149.58	F1, F2	0.6231	Max Normal Load, 60 Hz
Supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test						P
Model: GT*96225*P22554***-*							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
85	2.9159	--	248.8	F1, F2	2.9159	Max Normal Load, 50 Hz	
90	2.7493	--	247.2	F1, F2	2.7493	Max Normal Load, 50 Hz	
90	2.7498	--	247.3	F1, F2	2.7498	Max Normal Load, 60 Hz	
100	2.4568	3.0	244.9	F1, F2	2.4568	Max Normal Load, 50 Hz	
100	2.4571	3.0	245.1	F1, F2	2.4571	Max Normal Load, 60 Hz	
240	1.0359	3.0	236.7	F1, F2	1.0359	Max Normal Load, 50 Hz	
240	1.0360	3.0	236.8	F1, F2	1.0360	Max Normal Load, 60 Hz	
264	0.9475	--	236.3	F1, F2	0.9475	Max Normal Load, 50 Hz	
264	0.9476	--	236.4	F1, F2	0.9476	Max Normal Load, 60 Hz	
Model: GT*96225*P14054***-*							
85	1.7033	--	153.11	F1, F2	1.7033	Max Normal Load, 50 Hz	
90	1.6915	--	151.80	F1, F2	1.6915	Max Normal Load, 50 Hz	
90	1.6920	--	151.95	F1, F2	1.6920	Max Normal Load, 60 Hz	
100	1.5199	3.0	150.82	F1, F2	1.5199	Max Normal Load, 50 Hz	
100	1.5211	3.0	151.07	F1, F2	1.5211	Max Normal Load, 60 Hz	
240	0.6737	3.0	148.24	F1, F2	0.6737	Max Normal Load, 50 Hz	
240	0.6740	3.0	148.87	F1, F2	0.6740	Max Normal Load, 60 Hz	
264	0.6192	--	148.79	F1, F2	0.6192	Max Normal Load, 50 Hz	
264	0.6195	--	148.02	F1, F2	0.6195	Max Normal Load, 60 Hz	
Supplementary information:							

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

B.3 & B.4		TABLE: Abnormal operating condition tests Fault condition tests				P
	Ambient temperature (°C)				25, if no else specified	—
	Power source for EUT: Manufacturer, model/type, output rating				Chroma, 61512, 18kVA	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
GTM962250P22512A-FW						
Output	OL	90	2h	F1, F2	2.879	Output overload to 18.922A, no hazard. T1 winding: 77°C Output connector: 55°C
Output	SC	264	2h	F1, F2	1.020	Output overload to 18.918A, no hazard. T1 winding: 75°C Output connector: 58°C
GTM962250P22524A-FW						
Output	OL	90	2h	F1, F2	2.941	Output overload to 10.024A, no hazard. T1 winding: 65°C Output connector: 32°C
Output	SC	264	2h	F1, F2	1.046	Output overload to 10.023A, no hazard. T1 winding: 63°C Output connector: 32°C
GTM962250P22538A-FW						
Output	OL	90	2h	F1, F2	2.871	Output overload to 6.113A, no hazard. T1 winding: 78°C Output connector: 34°C
Output	SC	264	2h	F1, F2	1.047	Output overload to 6.113A, no hazard. T1 winding: 75°C Output connector: 34°C
GTM962250P22554A-FW						
Output	OL	90	2h	F1, F2	2.826	Output overload to 4.299A, no hazard. T1 winding: 66°C Output connector: 30°C
Output	SC	264	2h	F1, F2	1.003	Output overload to 4.297A, no hazard. T1 winding: 70°C Output connector: 30°C
C28	SC	90/264	1s	F1, F2	0	Output circuit protected instantly. Unit is recoverable. No damage. No hazard.
BD1	SC	90/264	1s	F1, F2	0	Unit shutdown, immediately. Fuse opened. No damage. No hazard.
C3	SC	90/264	1s	F1, F2	0	Unit shutdown, immediately. Fuse opened. No damage. No hazard.

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
Q1	SC	90/264	1s	F1, F2	0	Unit shutdown, immediately. Fuse opened. No damage. No hazard.
Q3	SC	90/264	1s	F1, F2	0	Unit shutdown, immediately. Fuse opened. No damage. No hazard.
U4 pin 1-2	SC	90/264	1s	F1, F2	0	Output circuit protected instantly. Unit is recoverable. No damage. No hazard.
U4 pin 3-4	SC	90/264	1s	F1, F2	0	Output circuit protected instantly. Unit is recoverable. No damage. No hazard.
C27	SC	90/264	1s	F1, F2	0	Output circuit protected instantly. Unit is recoverable. No damage. No hazard.
Supplementary information: “Sc” means short-circuited test, “Ol” means overload test, “Oc” means open-circuited test; “Uoc” means output voltage without load.						

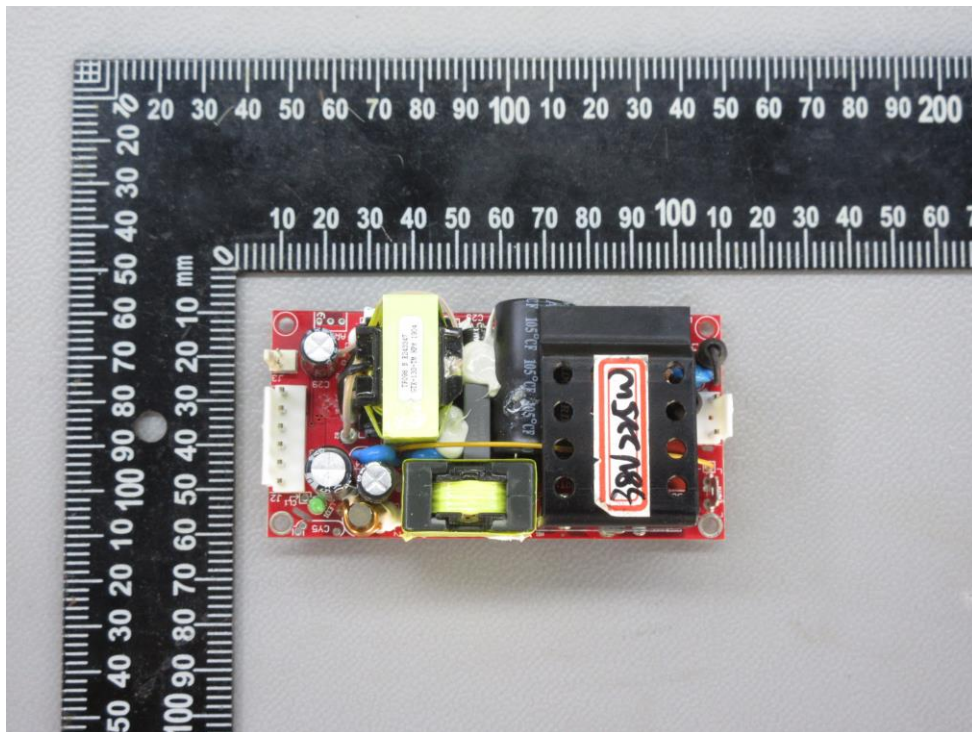
T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Components (T.2)	--	--	10	5	Cr. And Cl. Is considered after force test.	
Supplementary information: Building-in EUT, T.2 is considered for components only, others should be evaluated in end product.						

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Supplementary information: Building-in EUT should be evaluated in end product.					

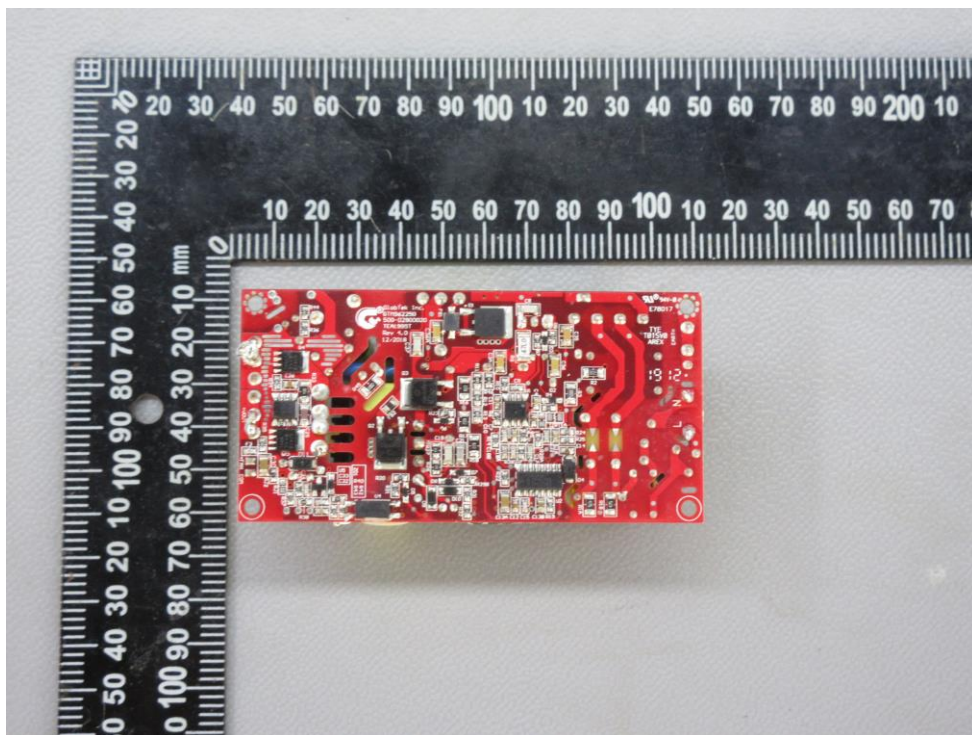
T.8	TABLE: Stress relief test					N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Supplementary information: Building-in EUT should be evaluated in end product.						

Photographs:

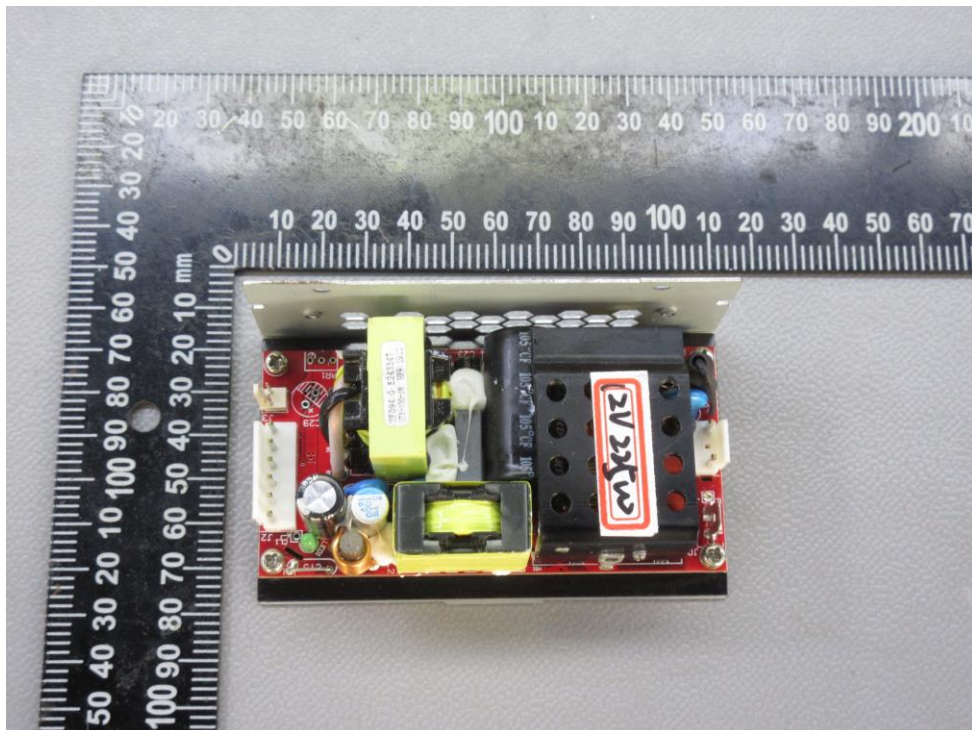
External view for open frame models



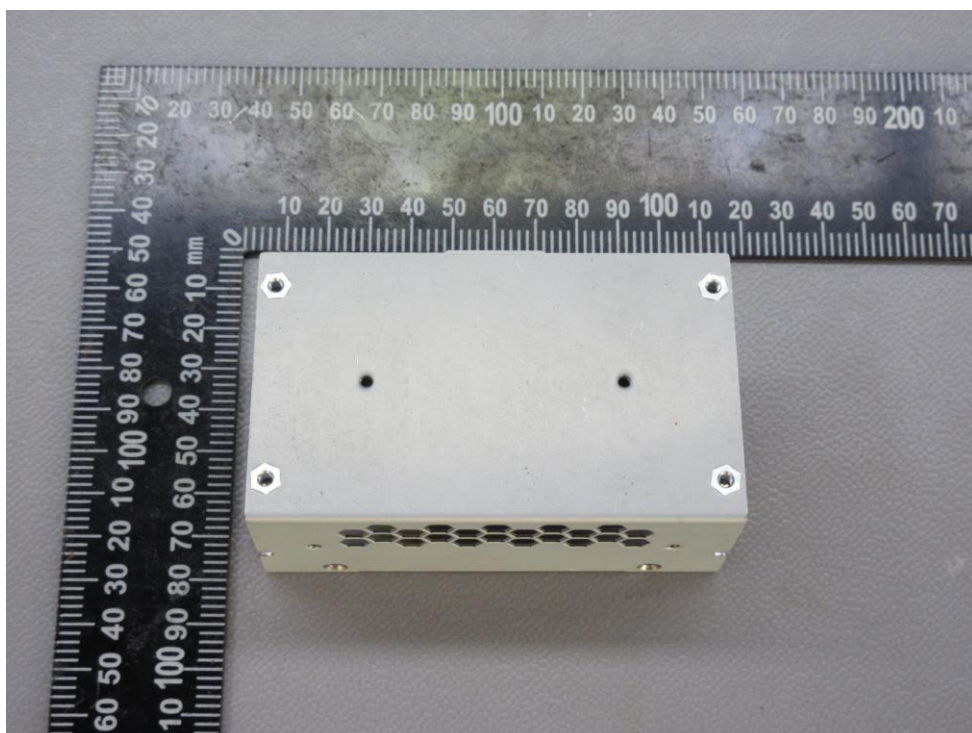
External view for open frame models



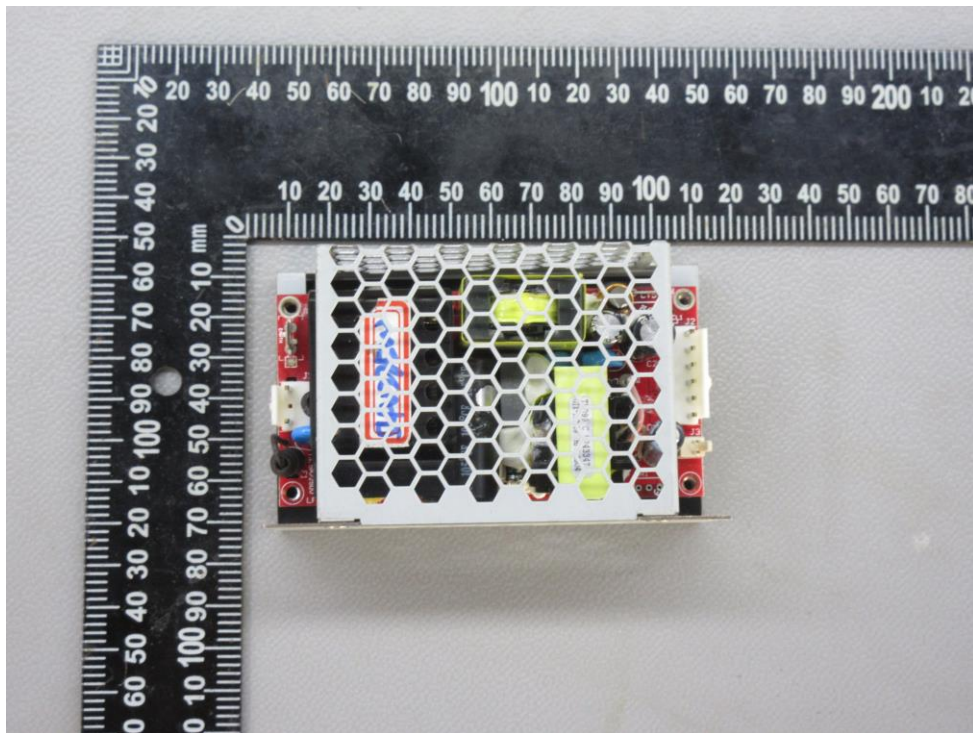
External view for L frame models



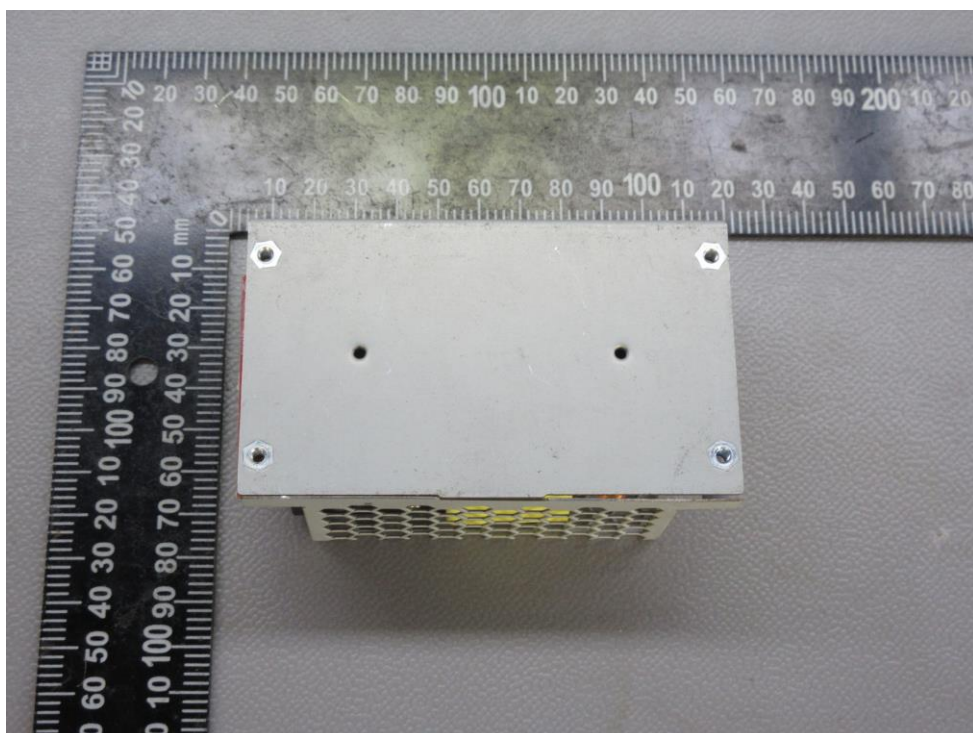
External view for L frame models



External view for cage models



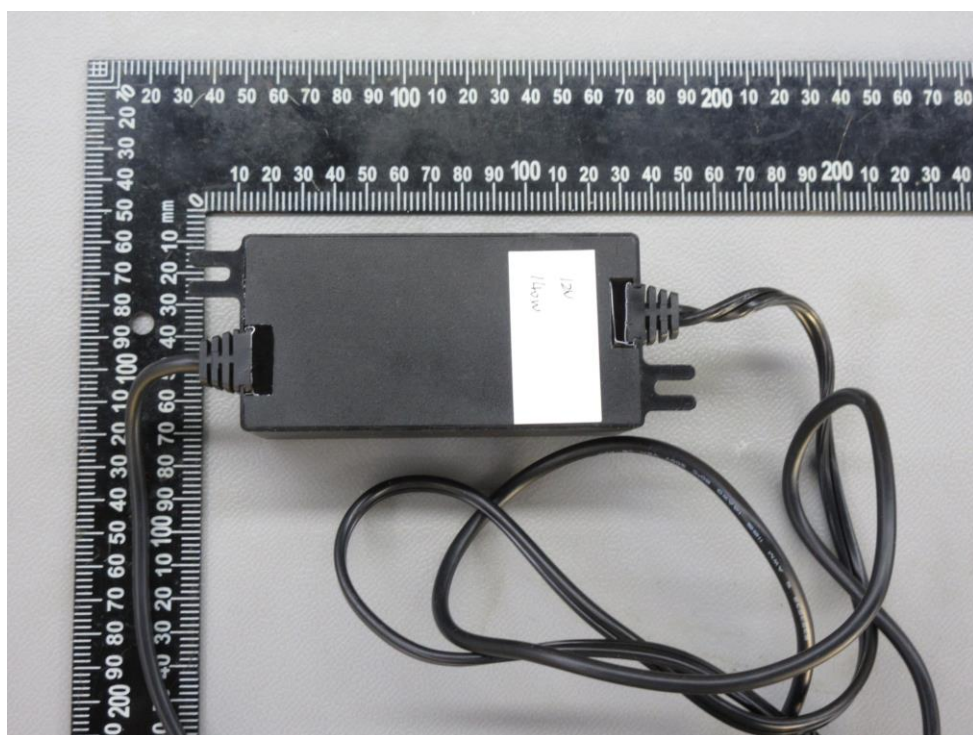
External view for cage models



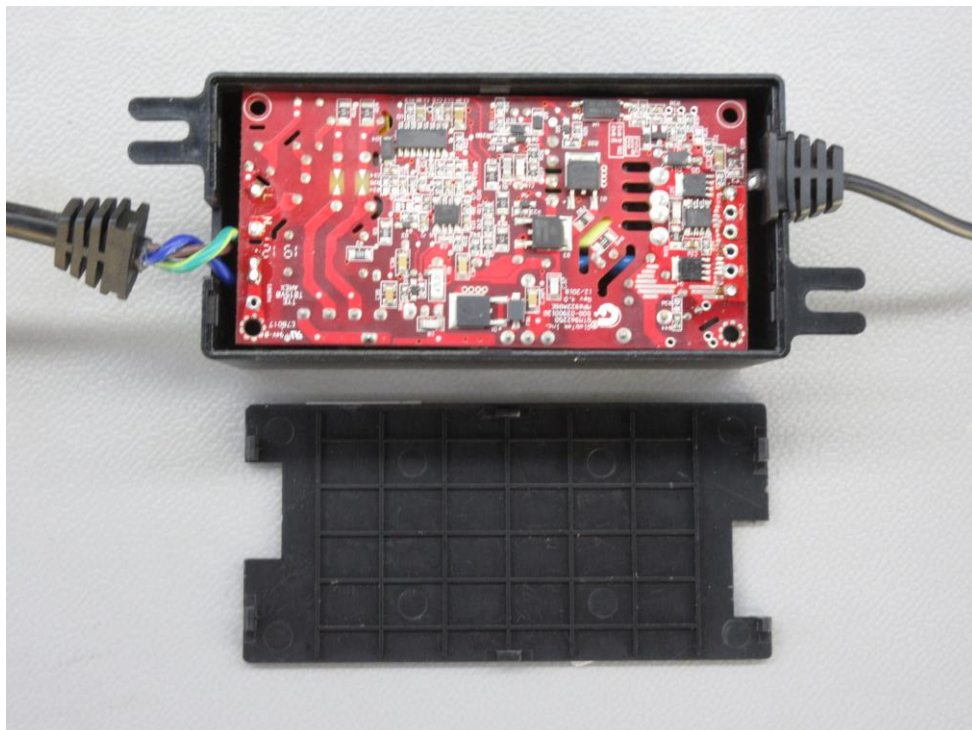
External view for potted models



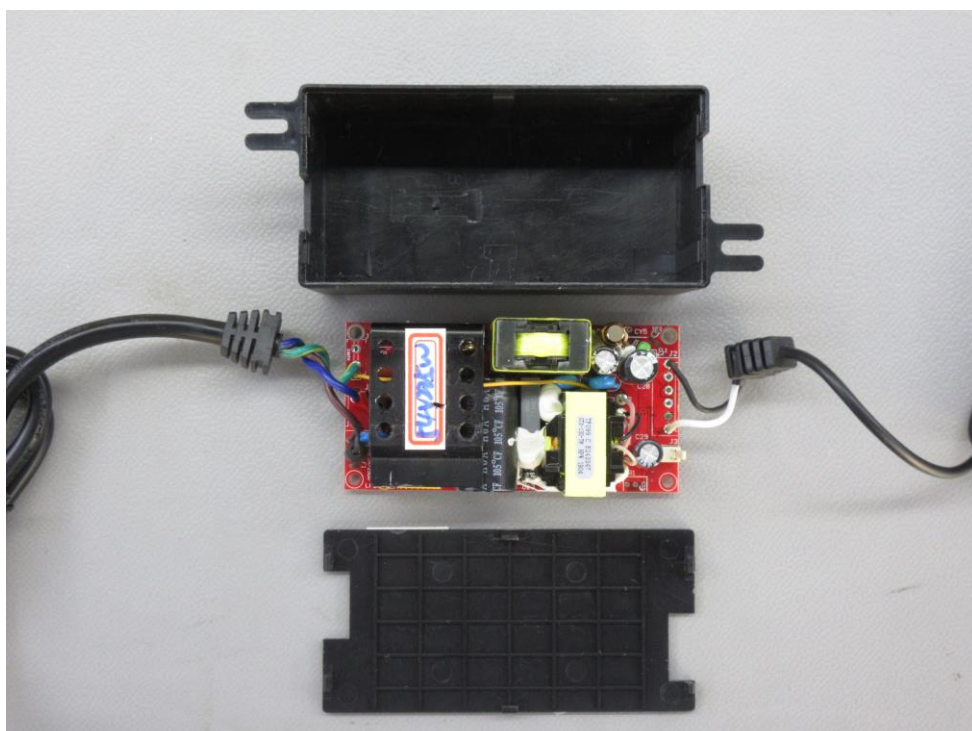
External view for potted models



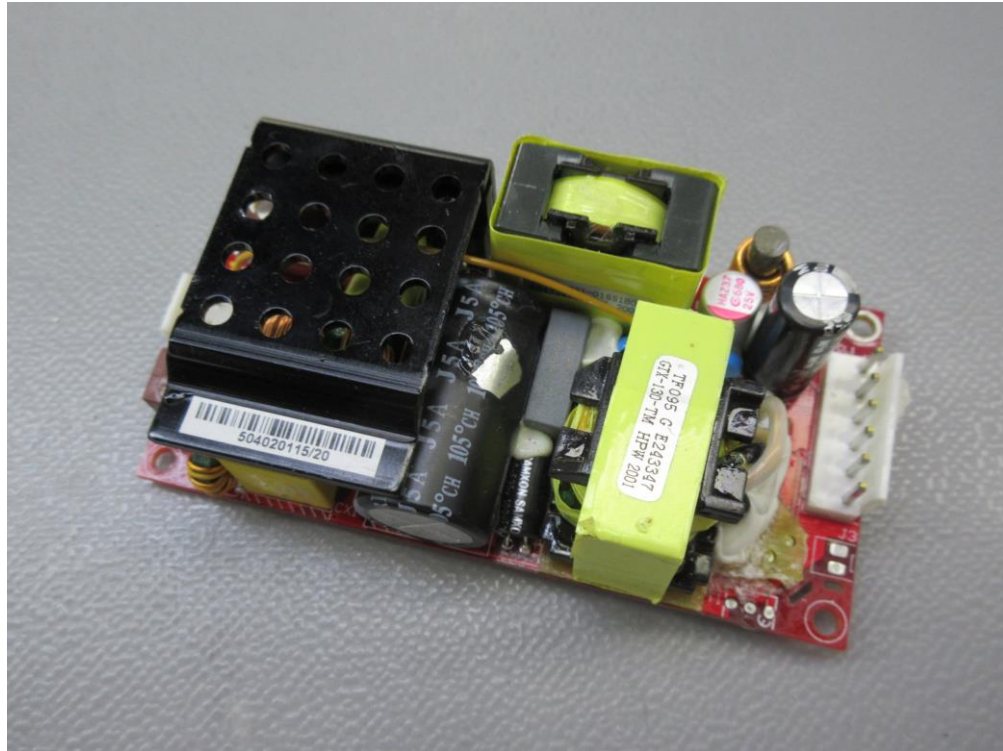
Internal view for potted models



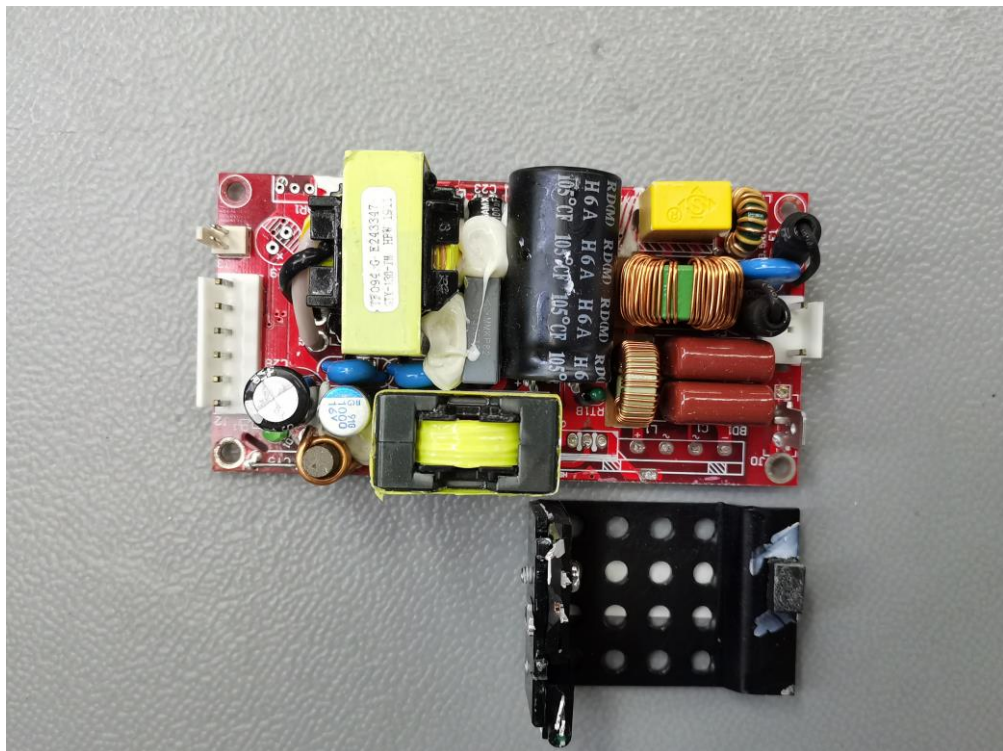
Internal view for potted models



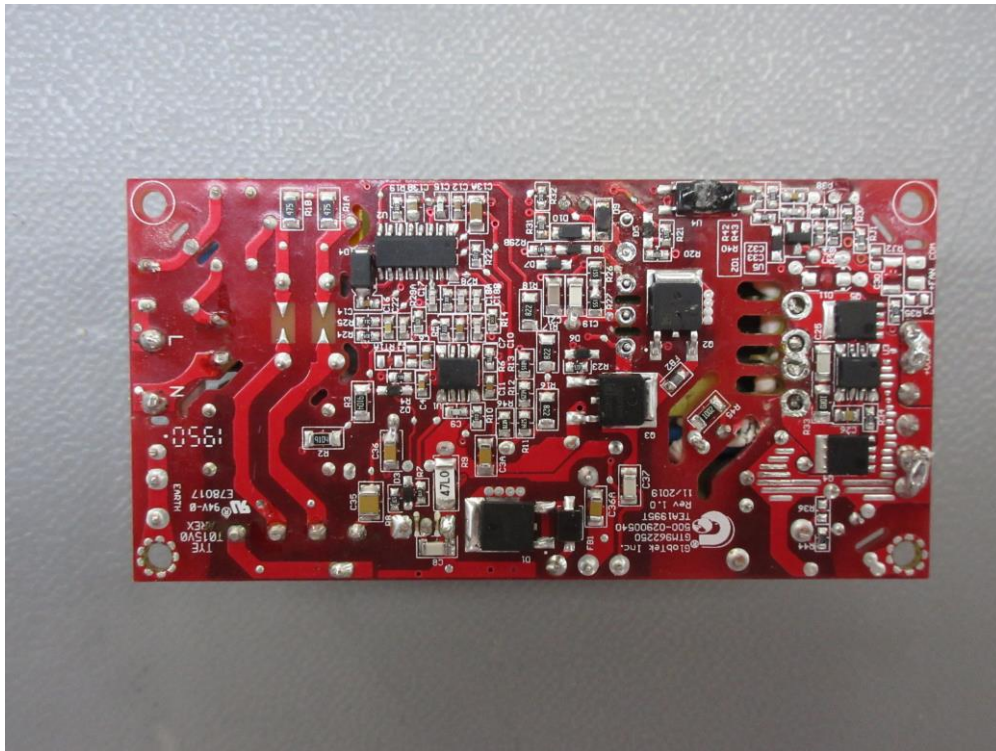
External view for open frame models



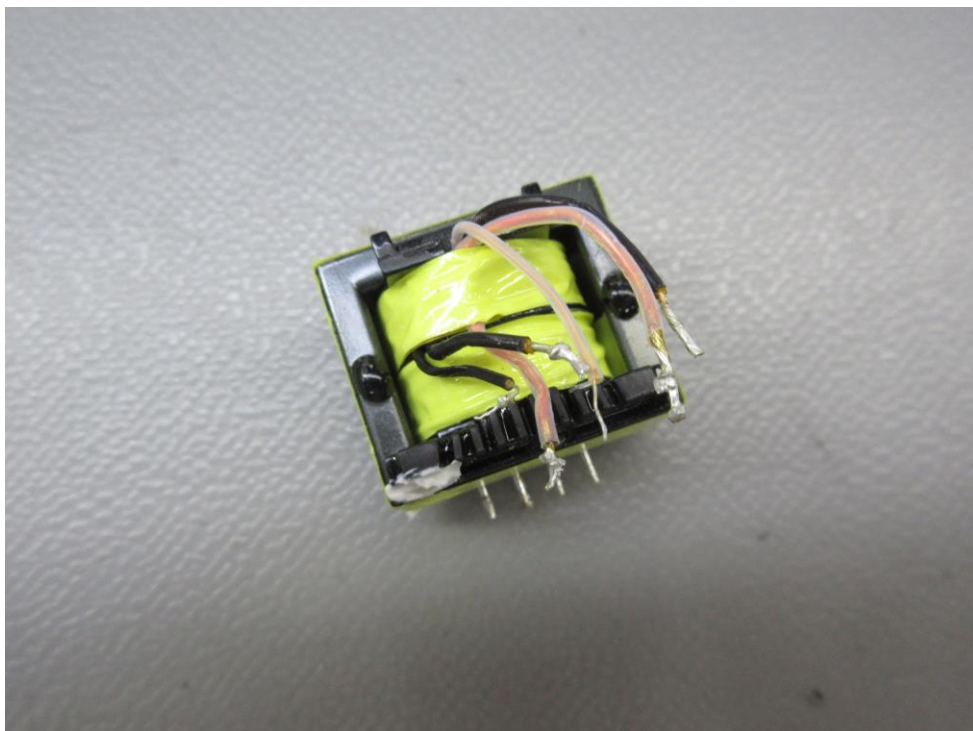
External view for open frame models



External view for open frame models



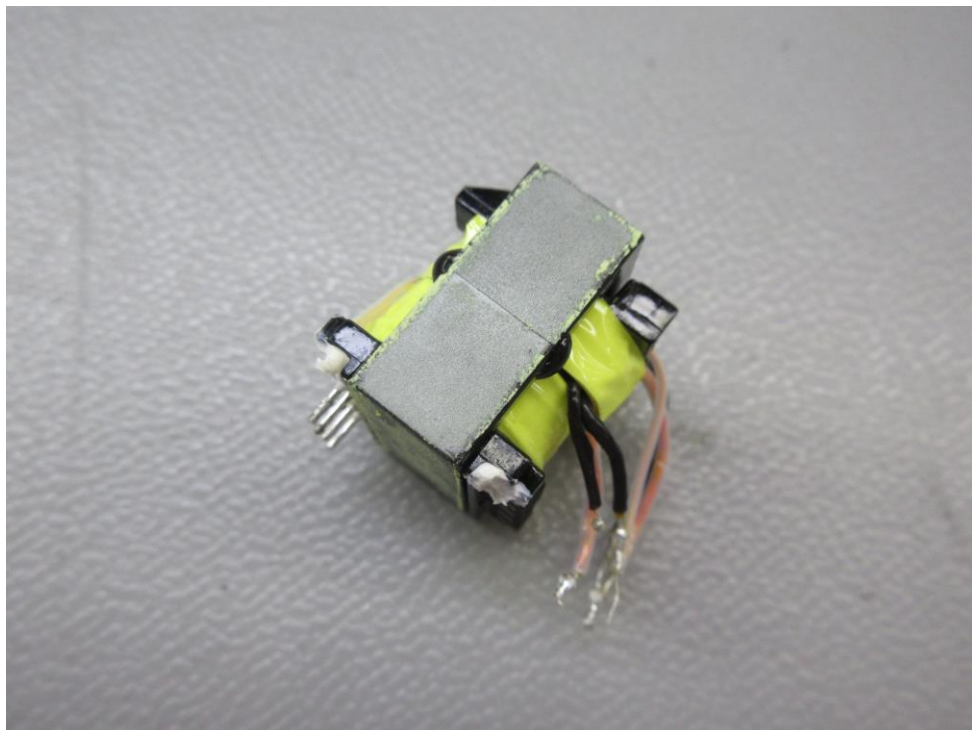
Transformer view



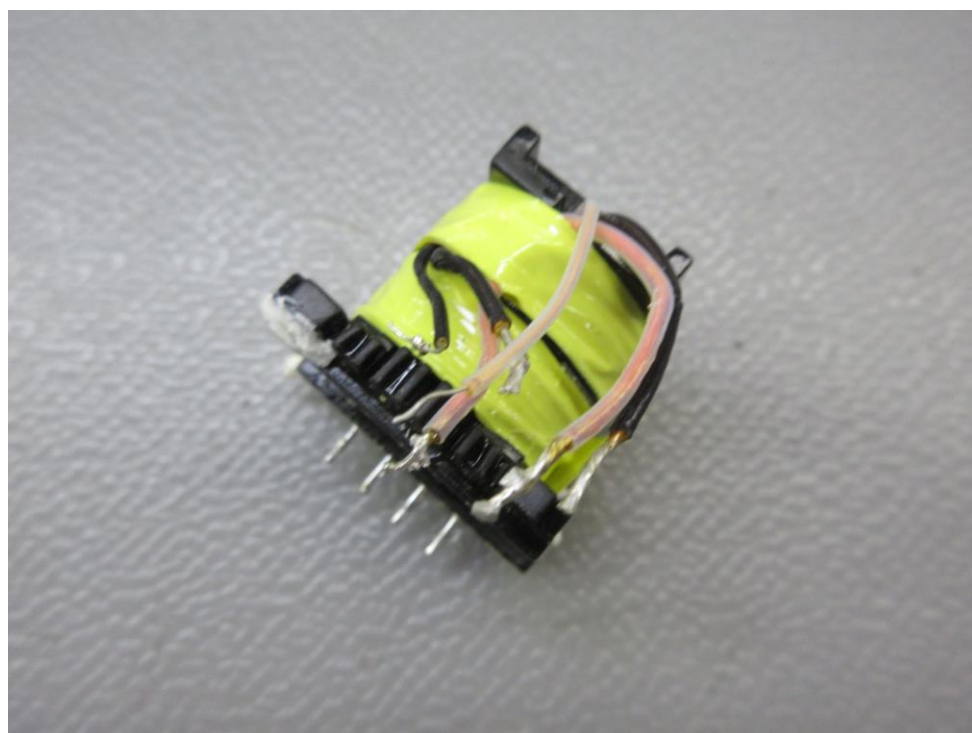
Transformer view



Transformer view



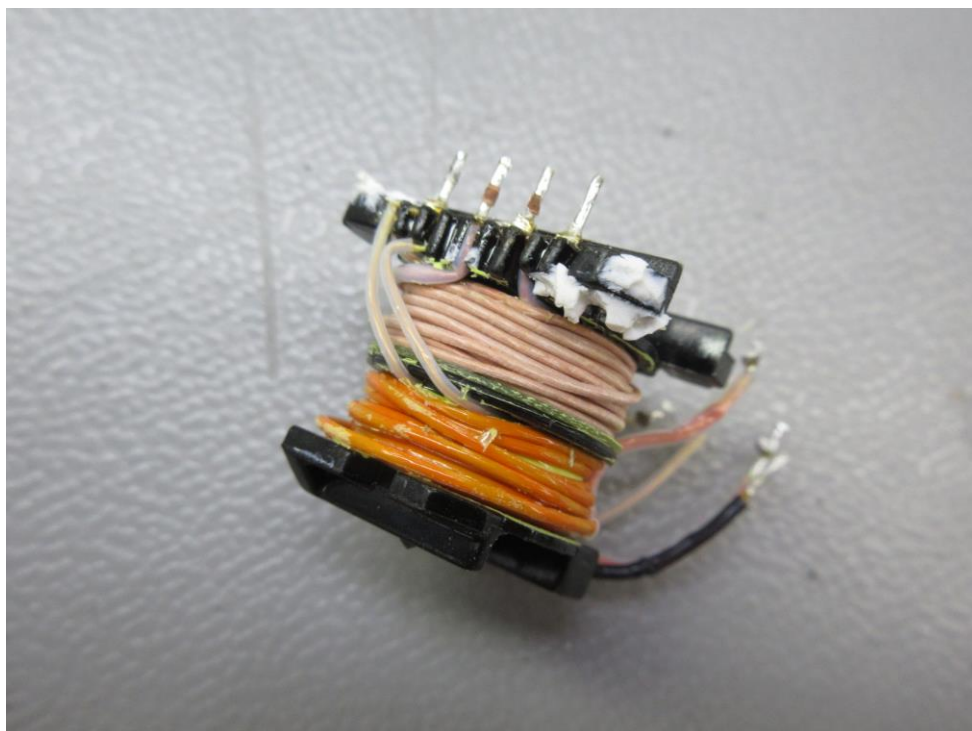
Transformer view



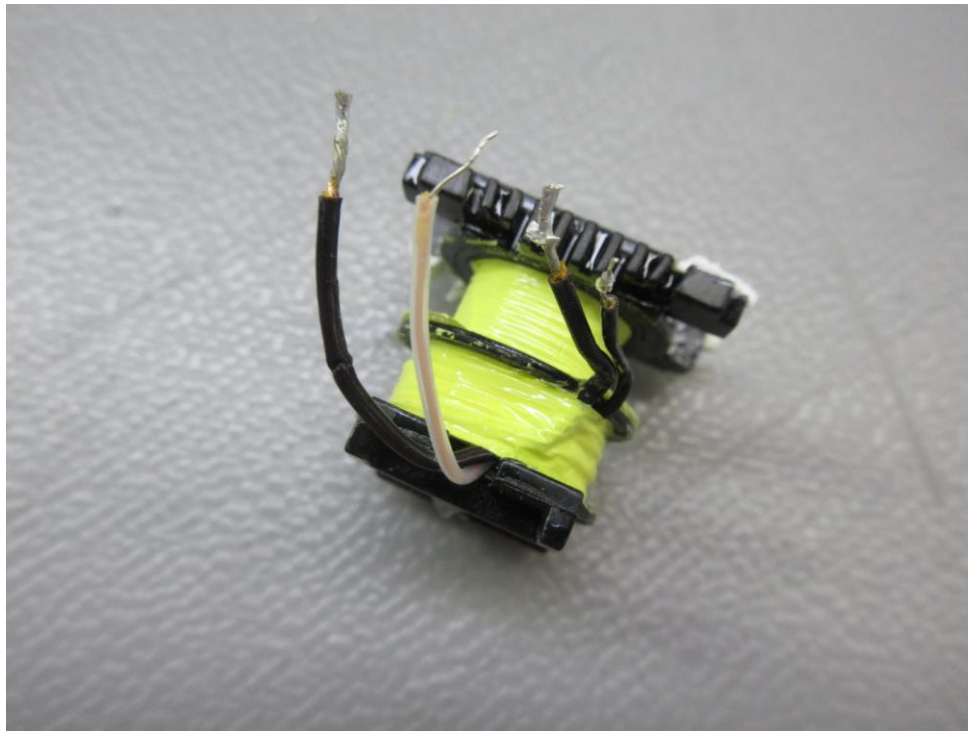
Transformer view



Transformer view



Transformer view



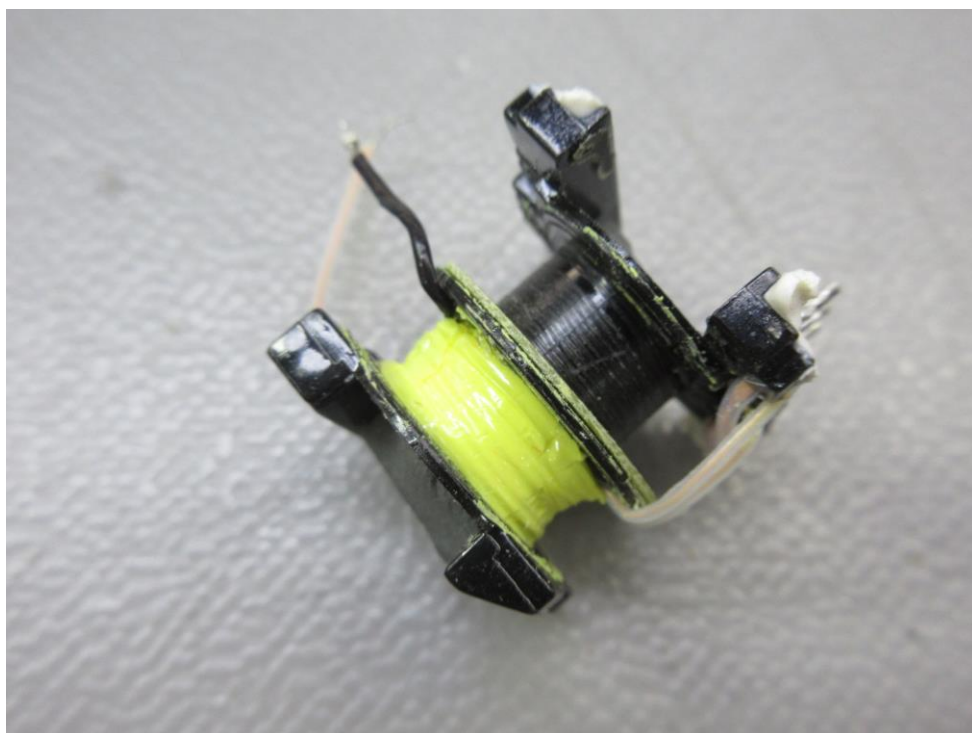
Transformer view



Transformer view



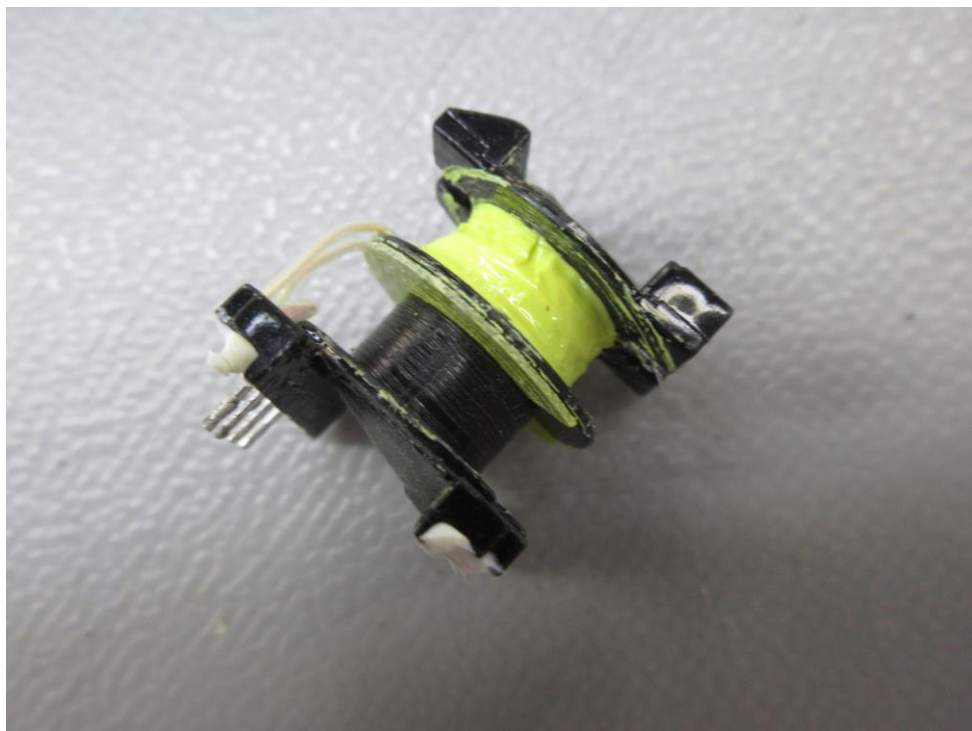
Transformer view



Transformer view



Transformer view



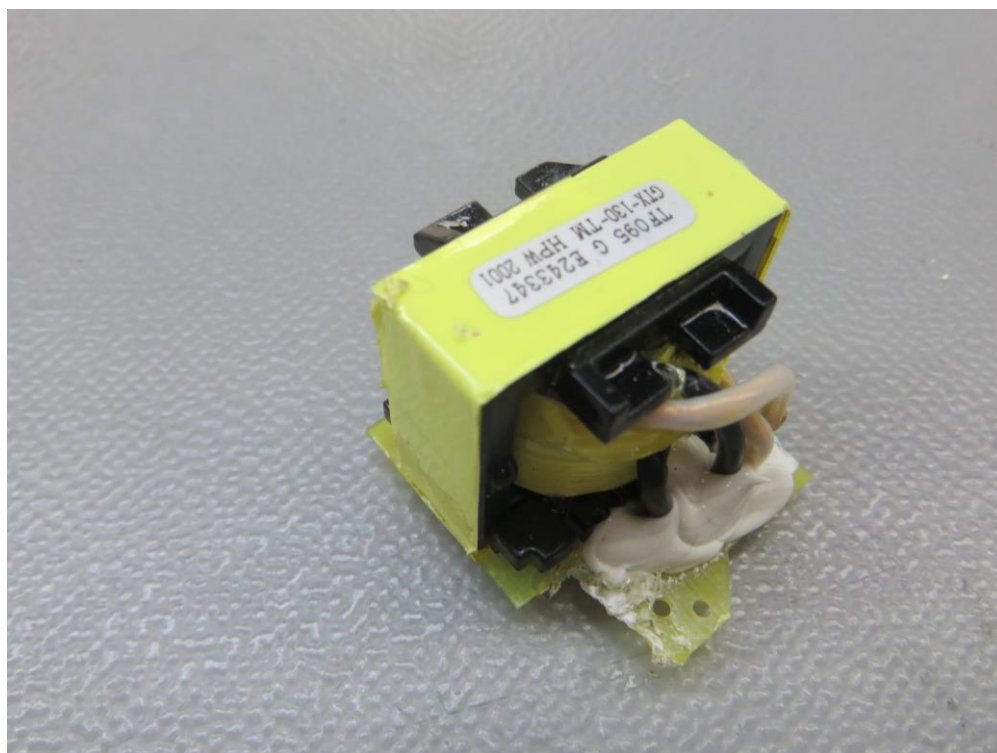
Transformer view



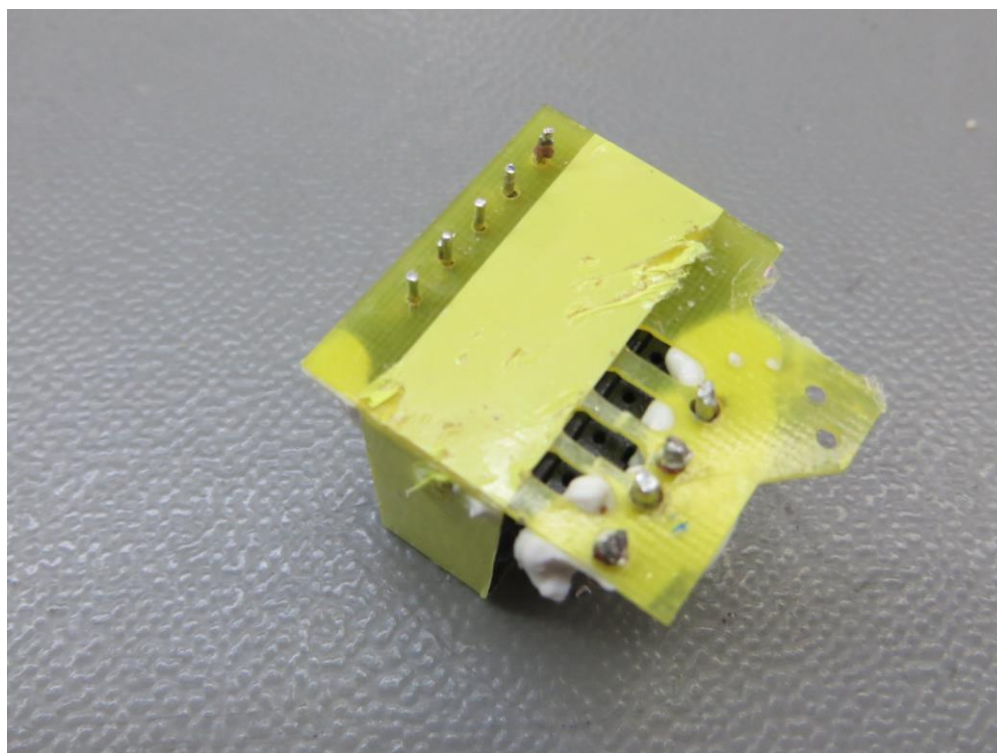
Transformer view



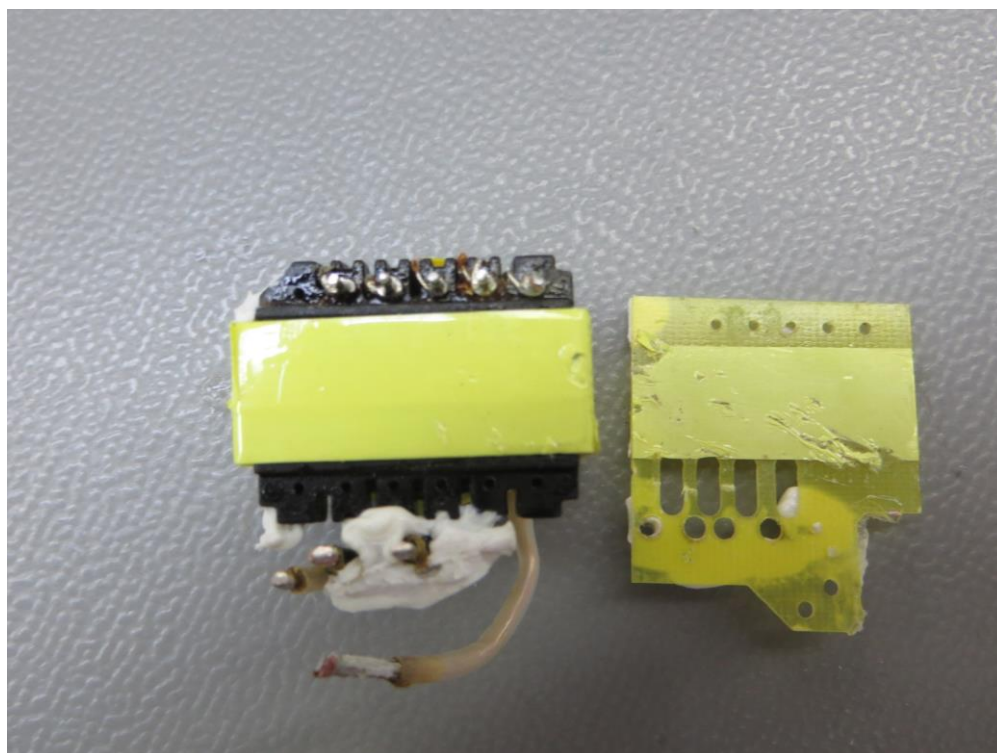
Transformer view



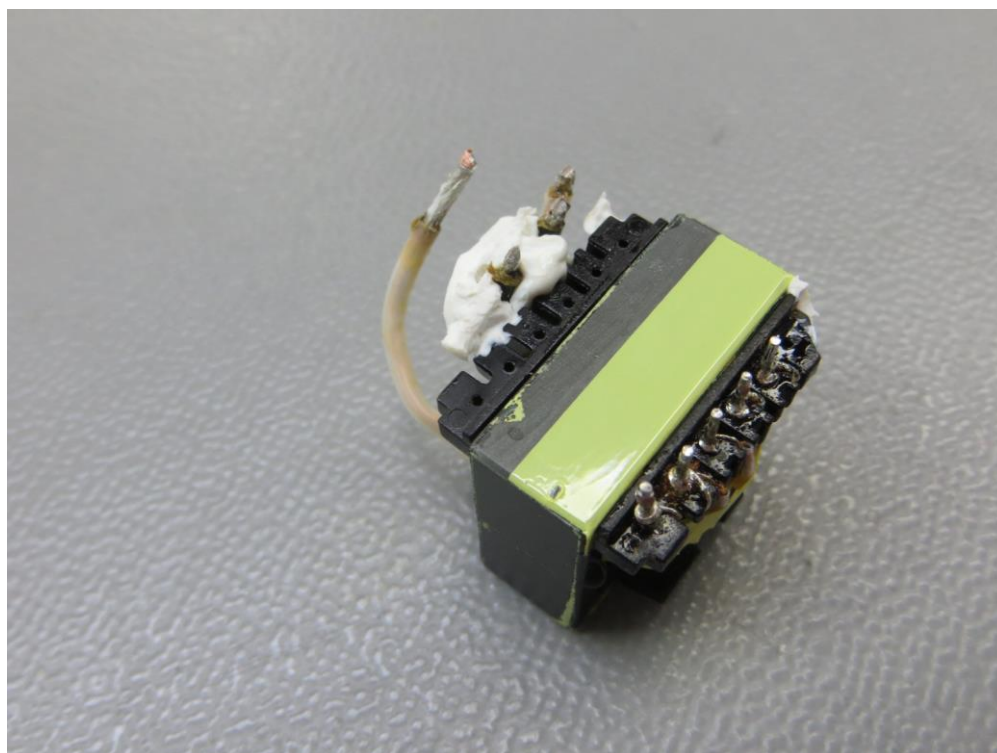
Transformer view



Transformer view



Transformer view



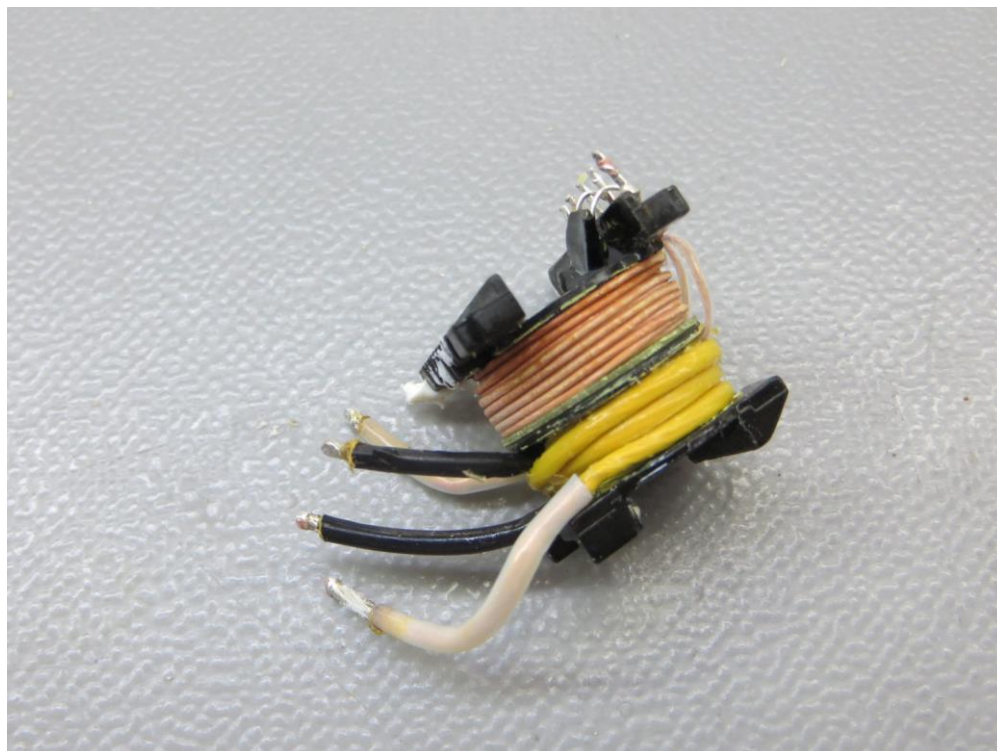
Transformer view



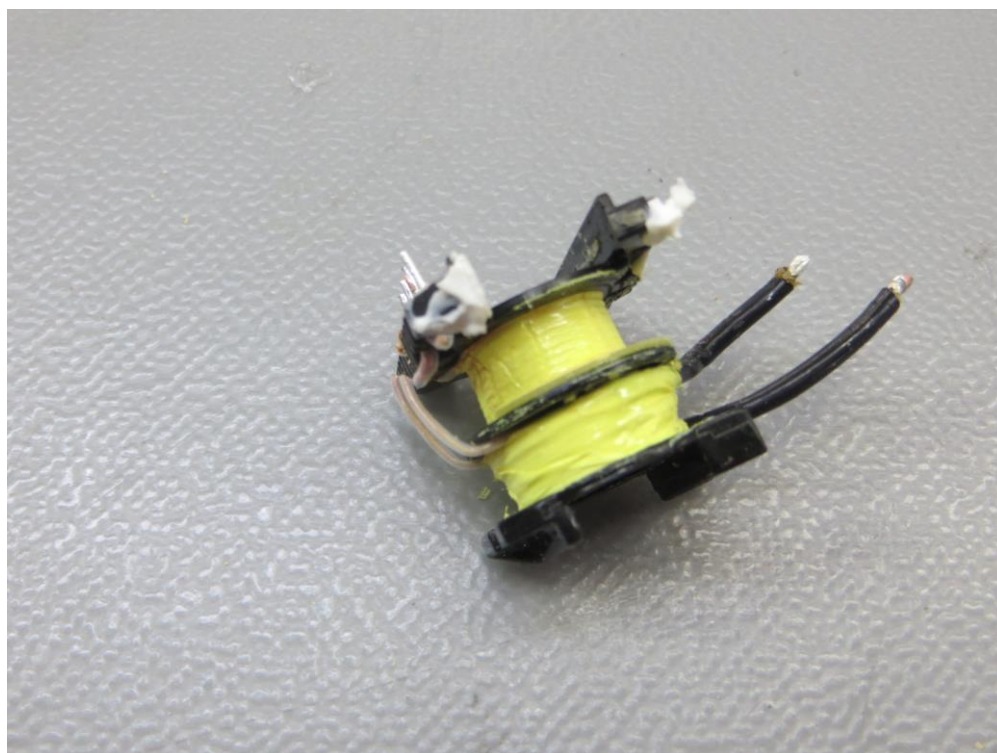
Transformer view



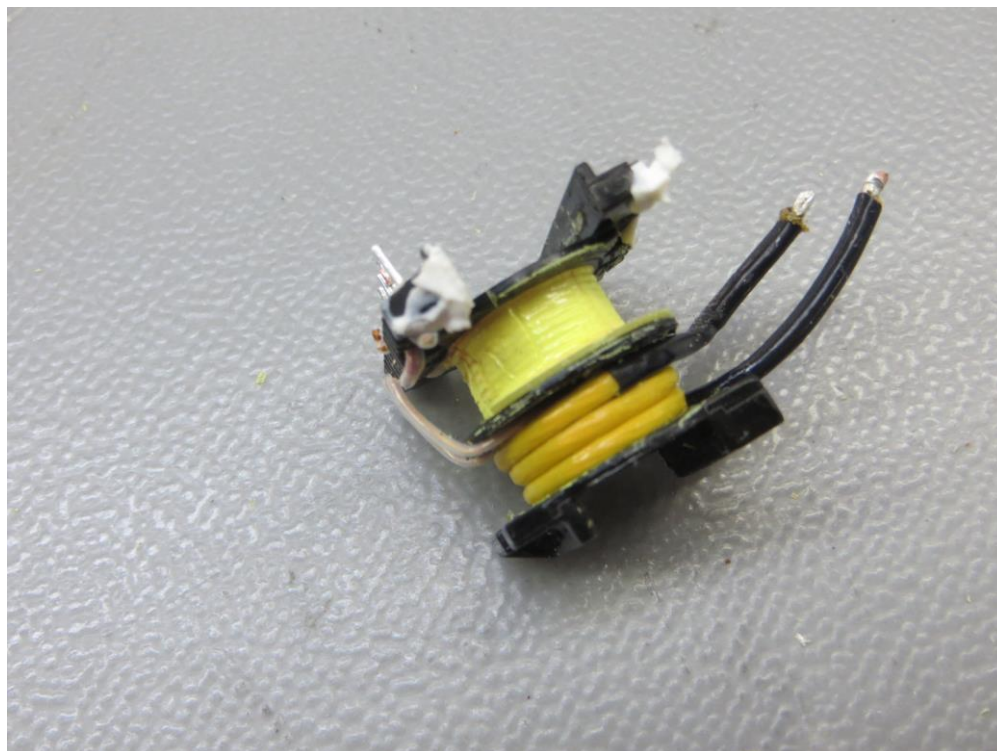
Transformer view



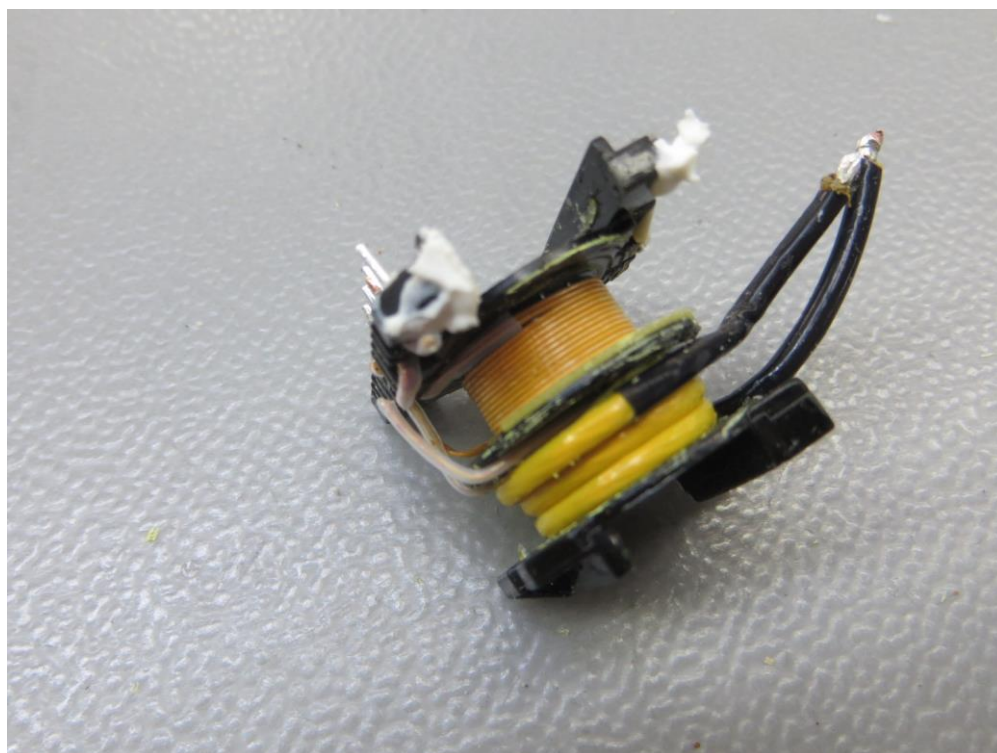
Transformer view



Transformer view



Transformer view



Transformer view



Transformer view



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT																																										
IEC 62368-1																																										
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES																																										
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)																																										
Differences according to: EN 62368-1:2014+A11:2017																																										
Attachment Form No.: EU_GD_IEC62368_1B_II																																										
Attachment Originator.....: Nemko AS																																										
Master Attachment: Date 2017-09-22																																										
Copyright © 2017 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”.					--																																				
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><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
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																																					
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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.					P																																				

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.		P
4.Z1	Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains , protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment , to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		P
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.		N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p>Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p>Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		P
Bibliography	Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		P
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	Denmark, Finland, Norway and Sweden To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark : "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland : "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway : "Apparatet må tilkoples jordet stikkontakt" In Sweden : "Apparaten skall anslutas till jordat uttag"		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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; <p>the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</p>		N/A
5.5.2.1	<p>Norway</p> <p>After the 3rd paragraph the following is added:</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>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.		P
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>“Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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>		P
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></p> <p>Heavy Current Regulations, Section 6c</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	United Kingdom To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		P
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.		P
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	<p>Germany</p> <p>The following requirement applies:</p> <p>For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i></p> <p>German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<p align="center">ATTACHMENT TO TEST REPORT IEC 62368-1 2th Ed. U.S.A. NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements</p>			
Differences according to: CSA/UL 62368-1:2014			
Attachment Form No.: US&CA_ND_IEC623681B			
Attachment Originator: UL(US)			
Master Attachment: Date 2015-06			
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IEC 62368-1 - US and Canadian 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.		P
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.	Should be evaluated during national approval.	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.	Should be evaluated during national approval.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A
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.	Not such equipment	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.	Should be evaluated during national approval.	N/A
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.	Should be evaluated during national approval.	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.	Should be evaluated during national approval.	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.	Should be evaluated during national approval.	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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	No battery.	N/A
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.	Not such equipment or application as below.	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.		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.		P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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."		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.		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).		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.	No such fuse provided.	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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	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.	Should be evaluated with end product.	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
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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

IEC62368_1B - 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			
Attachment Form No.: AU_NZ_ND_IEC62368_1B			
Attachment Originator.....: JAS-ANZ			
Master Attachment: 2019-02-04			
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	National Differences		
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	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>	Should be evaluated with end product.	P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i></p> <p>-AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i></p> <p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.1.1	<p>Application of requirements and acceptance of materials, components and subassemblies</p> <p>1 Replace the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'.</p> <p>2 Replace the text 'IEC 60065' with 'AS/NZS 60065'.</p>		P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	<p>Requirements</p> <p>Delete the text of the second paragraph and replace with the following:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>		N/A
4.7.3	<p>Compliance Criteria</p> <p>Delete the first paragraph and Note 1 and Note 2 and replace with the following:</p> <p>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.8	<i>Delete</i> existing clause title and <i>replace</i> with the following: 4.8 Products containing coin/button cell batteries		N/A
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'.		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		N/A
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	<i>Replace</i> the table with the following:		N/A

IEC62368_1B - ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV 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.				
5.4.10.2.2	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.			N/A
5.4.10.2.3	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.			N/A
6	Electrically-caused fire			P
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202			P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)			P
8.5.4	Special categories of equipment comprising moving parts			N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
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'		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'.		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.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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'.		P
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
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.		N/A
	Special national conditions (if any)		N/A

IEC62368_1B - 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 table B.3 & B.4	P
6.202	Resistance to fire—Alternative tests		N/A
6.202.1	<p>General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following:</p> <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, 		N/A

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	according to AS/NZS 60695.11.10. 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.		
	<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.		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
	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	following modifications:		
	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 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	<i>Replace</i> 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	<i>Replace</i> 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			

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Clause	Requirement + Test	Result - Remark	Verdict
	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	<p>Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>		N/A
6.202.5	<p>Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source.</p> <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 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>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</p> <p>– 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> <p><i>Conformance shall be determined using the smallest thickness of the material.</i></p> <p>NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		
6.202.6	<p>For open circuit voltages greater than 4 kV</p> <p>Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.</p>		N/A

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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. 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 		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. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

<p align="center">ATTACHMENT TO TEST REPORT</p> <p align="center">IEC 62368-1</p> <p align="center">(JAPAN) NATIONAL DIFFERENCES</p> <p align="center">(Audio/video, information and communication technology equipment – Part 1: Safety requirements)</p>			
Differences according to J62368-1 (H30)			
Attachment Form No. JP_ND_IEC62368_1B			
Attachment Originator UL (JP)			
Master Attachment Date 2018-11-22			
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	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.		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.		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.	Should be evaluated with end product.	P
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

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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 cab tire 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.		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.		P
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.		P
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.		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

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Clause	Requirement + Test	Result - Remark	Verdict
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.		N/A
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.		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}		N/A
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.		N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.		N/A
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.		P
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.		P
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

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Clause	Requirement + Test	Result - Remark	Verdict
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.		N/A
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.		P
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.		P
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.		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.		N/A
G.8.3.3	Withstand $1,71 \times 1.1 \times U_0$ for 5 s.		N/A