



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 : 200903084SHA-001

Date of issue : 2020-11-25

Total number of pages : 137 pages

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

Copyright © 2014 Worldwide System for Conformity Testing and Certification of Electrotechnical Equipment and Components (IECEE), Geneva, Switzerland. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.


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

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

General disclaimer:

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

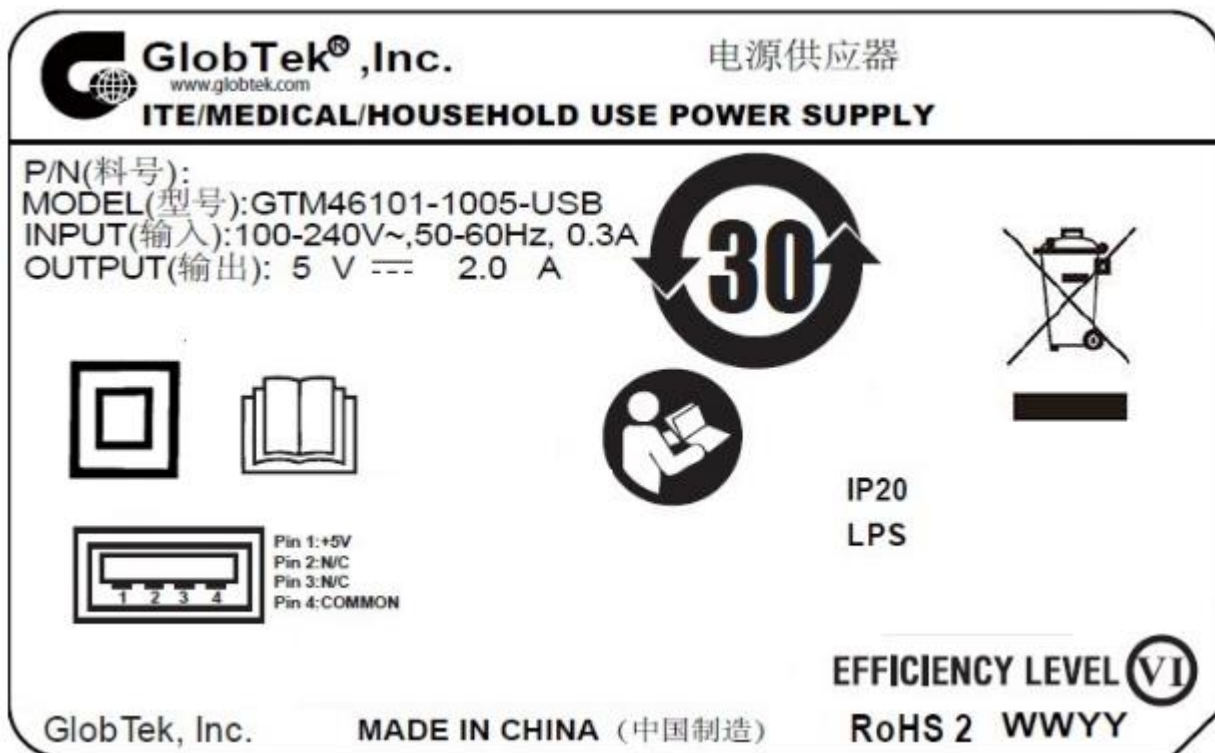
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test Item description	ITE Power Supply	
Trade Mark		
Manufacturer	Same as applicant	
Model/Type reference	GT*46101-***-USB (Refer to Model Differences table for details)	
Ratings	Input: 100-240V~, 50-60Hz, 0.3A; Output: 5-5.5VDC, Max 13W	
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 CB Testing Laboratory:		
Testing location/ address		
Tested by (name + signature)	Albert Zhou (Engineer)	
Approved by (name + signature)	Will Wang (Mandated Reviewer)	
Testing procedure: TMP/CTF Stage 1		
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
Testing procedure: WMT/CTF Stage 2		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
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 product, from page 61 to page 71, total 11 pages</p> <p>Appendix No.2: Group differences for CENELEC countries, from page 72 to page 80, total 9 pages</p> <p>Appendix No.3: Group differences for the CENELEC countries and national differences for USA and Canada, from page 81 to page 86, total 6 pages</p> <p>Appendix No.4: National differences for Australia/New Zealand, from page 87 to page 97, total 11 pages</p> <p>Appendix No.5: National differences for Japan, from page 98 to page 101, total 4 pages</p> <p>Appendix 6 to 22: Supplementary tests on plug portion, from page 102 to page 137, total 36 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>T.3 Steady force test, 30 N</p> <p>T.4 Steady force test, 100 N</p> <p>T.7 Drop test</p> <p>T.8 Stress relief test</p> <p>Remark:</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)</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 differences for CENELEC countries and national differences for Japan, Australia/New Zealand, US and Canadian 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.



TEST ITEM PARTICULARS:	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection.....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:_____
Considered current rating of protective device as part of building or equipment installation	16 or 20 A; Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III
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:	For models GT*46101-*05*-USB: 40 °C For models GT*46101-*06*-USB: 35 °C
IP protection class	<input type="checkbox"/> IPX0 <input checked="" type="checkbox"/> IP20
Power Systems	<input checked="" type="checkbox"/> TN <input checked="" 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)	<input checked="" type="checkbox"/> Approx. 0.058 kg
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	2020-09-28
Date (s) of performance of tests	2020-09-28 to 2020-11-06
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>Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.</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>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60068-2-1:	
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:	
Product Description – Product covered by this report is ITE power supply module. 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	

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 models GT*46101-*05*-USB were evaluated for maximum manufacturer's recommended ambient of 40 °C.

The models GT*46101-*06*-USB were evaluated for maximum manufacturer's recommended ambient of 35 °C.

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

Model Differences –

GT*46101-***-USB

The 1st “*” can be “M” or “-” or “H” for market identification and not related to safety.

The 2nd “*” denote the rated output wattage designation, which can be “01” to “13”, in step of 1 denote 1W.

The 3rd “*” denote the standard rated output voltage designation, which can be “05”, “06”,

The 4th “*” is optional deviation, subtracted from standard output voltage, which can be “-0.5” to “-0.9”, in step of 0.1 denote 0.1V, or blank to indicate no voltage different.

The 3rd and 4th “**” together denote the output voltage, with a range of 5-5.5 volts.

Model list:

Model	Output Voltage	Max. output current	Max. output power
GT*46101-*05*-USB	5	2A	10W
GT*46101-*06*-USB	5.1-5.5V	2.54A	13W

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)
Internal primary circuit of built-in power supply	ES3
USB output	ES1

Electrically-caused fire (Clause 6):

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

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS	Corresponding classification (PS)
All primary circuits and secondary circuits inside the equipment enclosure	PS3
USB output	PS2

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)
Sharp edges and corners	MS1
Equipment mass	MS1

Thermal burn injury (Clause 9)

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

Example: Hand-held scanner – thermoplastic enclosure

TS1

Source of thermal energy	Corresponding classification (TS)
Accessible surfaces which is touched occasionally for very short periods	TS1
--	--

Radiation (Clause 10)

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

Example: DVD – Class 1 Laser Product

RS1

Type of radiation	Corresponding classification (RS)
LED indicator	RS1

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	ES3: Internal primary circuit of built-in power supply	N/A	N/A	Enclosure
Ordinary	ES1: USB output	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All combustible materials within equipment fire enclosure	PS3: All primary circuits and secondary circuits inside the equipment enclosure	Normal temperature below ignition temperature	Fire enclosure; fire barrier; Suitable component and material used	N/A
No such part	PS2: USB output	Normal temperature below ignition temperature	PCB V-0, wire insulation and tubing VW-1, all other components are mounted on PCB.	N/A
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
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)
Ordinary	MS1: Sharp edges and corners	N/A	N/A	N/A
Ordinary	MS1: Equipment mass	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Accessible surfaces	N/A	N/A	N/A
--	--	--	--	--
10.1	Radiation			
Body Part	Energy Source	Safeguards		

(e.g., Ordinary)	(Output from audio port)	Basic	Supplementary	Reinforced
Ordinary	RS1: LED indicator	N/A	N/A	N/A
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		P
4.4.4.2	Steady force tests.....:	(See Annex T.4, T.5)	P
4.4.4.3	Drop tests.....:	(See Annex T.7)	P
4.4.4.4	Impact tests.....:	Direct plug-in equipment	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	N/A
4.4.4.74	Thermoplastic material tests.....:	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness		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	P
4.7	Equipment for direct insertion into mains socket - outlets		P
4.7.2	Mains plug part complies with the relevant standard.....:	(See Evaluation sheet for plug portion)	P
4.7.3	Torque (Nm).....:	Max. 0.02 Nm	P
4.8	Products containing coin/button cell batteries		N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction	No battery	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.....:	No openings. Can't be entry.	N/A

IEC 62368-1			
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: USB 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 :		N/A
5.2.2.4	Single pulse limits :		N/A
5.2.2.5	Limits for repetitive pulses :		N/A
5.2.2.6	Ringing signals :		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		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V :	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		P
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		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure :	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(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 :		—
	c) external circuit transient voltage :		—
	d) transient voltage determined by measurement ... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2.4)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages :	1.48 for clearances	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	The thin sheet materials of polyester tape used in 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		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz :		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation resistance (MΩ).....:		—
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		P
	Relative humidity (%).....:	93	—
	Temperature (°C)	40	—
	Duration (h)	120	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		P
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
5.5.4	Optocouplers		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's	(See Annex G.8)	P
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:	(See Annex G.10.3)	N/A
5.6	Protective conductor		N/A
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		N/A
	Protective bonding conductor size (mm ²).		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm).		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω).....:		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	L/N – terminal: U2=0.083mA, U3=0.090mA L/N – plastic enclosure: U2=0.076mA, U3=0.081mA	P
5.7.2.2	Measurement of prospective touch voltage		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection)		—
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts		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	No such circuit	N/A
6.2.2.5	PS2	USB output	P
6.2.2.6	PS3	All primary circuits and secondary circuits inside the equipment enclosure	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	All PS3 parts or circuit in the fire enclosure	P
6.2.3.2	Resistive PIS	All PS3 parts or circuit in the fire enclosure	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method		P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		P
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		P
6.4.3.1	General		P
6.4.3.2	Supplementary Safeguards		P
	Special conditions if conductors on printed boards are opened or peeled		P
6.4.3.3	Single Fault Conditions	(See appended table 6.4.3)	P
	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	No parts after USB output	P
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		P
6.4.7	Separation of combustible materials from a PIS		P
6.4.7.1	General	(See tables 6.2.3.1 and 6.2.3.2)	P
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Min. V-1	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	No opening	P
	Needle Flame test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	No opening	P
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating		N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		N/A
	External port limited to PS2 or complies with Clause Q.1		N/A

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

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		P
8.1	General		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards	MS1	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	Approx. 0.058 kg, MS1	N/A
8.6.1	Product classification		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructional Safeguard.....:		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....:		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....:		N/A
	Position of feet or movable parts.....:		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force.....:		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C).....:		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A

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

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

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	TS1 for Accessible surfaces.	P
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		P
10.2	Radiation energy source classification	RS1: LED indicator	P
10.2.1	General classification		P
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

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

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

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 :	(See Clause G.5)	N/A
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnect of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See marking plate	—
F.3.2.2	Model identification	See marking plate	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....	See marking plate	—
F.3.3.4	Rated voltage	See marking plate	—
F.3.3.4	Rated frequency	See marking plate	—
F.3.3.6	Rated current or rated power	See marking plate	—
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.1	Mains appliance outlet and socket-outlet markings..... :		N/A
F.3.5.2	Switch position identification marking :		N/A
F.3.5.3	Replacement fuse identification and rating markings..... :	FS1: T1AL, 250V	P
F.3.5.4	Replacement battery identification marking :		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		P
F.3.6.2.1	Class II equipment with or without functional earth		P
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :		—
F.3.8	External power supply output marking	See marking plate	P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
j)	j) Replaceable components or modules providing safeguard function		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration :	Compliance with standard IEC 60083 & IEC 60320	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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°		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
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....	Tested with appliance	P
	Position.....		—
	Method of protection		—
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)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		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)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
G.8.1	General requirements	No such part	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		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	Approved Y1 capacitors used	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)		N/A
	Type test voltage Vini		—
	Routine test voltage, Vini,b		—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	(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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	UL approved	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	Direct plug-in.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		P
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

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	O.5	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object		P
	Location and Dimensions (mm)	No openings	—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	Openings in transportable equipment in relation to metalized 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
	T _c (°C)		—
	T _r (°C)		—
	T _a (°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

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

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
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	Approved materials used	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N	(See appended table T3)	P
T.4	Steady force test, 100 N	(See appended table T4)	P
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test	(See appended table T7)	P
T.8	Stress relief test	(See appended table T8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m)		—
T.10	Glass fragmentation test	(See sub-clause 4.4.4.9)	N/A
T.11	Test for telescoping or rod antennas		N/A

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

	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:	(See Annex T)	N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment	External enclosure & output wire	P
V.2	Accessible part criterion		P

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

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹	
Enclosure (all parts)	SABIC INNOVATIVE PLASTICS B V	SE1X	Min. V-1 at 1,5 mm thickness, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329	
Alt.	SABIC INNOVATIVE PLASTICS B V	C2950	Min. V-0 at 1,5 mm thickness, 75°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329	
Alt.	SABIC INNOVATIVE PLASTICS B V	CX7211 EXCY0098 945	Min. V-1 at 1,5 mm thickness, 85°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329	
Alt.	SABIC JAPAN L L C	SE1X	Min. V-1 at 1,5 mm thickness, 105°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780	
Alt.	SABIC JAPAN L L C	C2950	Min. V-0 at 1,5 mm thickness, 75°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780	
Alt.	SABIC JAPAN L L C	CX7211 EXCY0098 945	Min. V-1 at 1,5 mm thickness, 85°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E207780	
Alt.	SABIC INNOVATIVE PLASTICS US L L C	915R(GG)	V-0, 120°C, Min. thickness: 1,5mm	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E121562	
Alt.	TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	Min. V-0 at 1,5 mm thickness, 115°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E50075	
Alt.	CHI MEI Corporation	PA-765A	Min. V-1 at 1,5 mm thickness, 80°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E56070	
Alt.	CHI MEI Corporation	PC-540	Min. V-0 at 1,5 mm thickness, 70°C	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E56070	
Alt.	LG CHEM (GUANGZHOU) ENGINEERING PLASTICS CO LTD	LUPOY EF- 1006F(m)	V-0, 120°C, Min. thickness: 1,5mm	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E248280	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	COVESTRO DEUTSCHLAND AG [PC RESINS]	FR6005 + (z)	V-0, 120°C, Min. thickness: 1,5mm	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E41613
Alt.	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD	PC2330	V-0, 120°C, Min. thickness: 1,5mm	IEC 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E225348
Coupler	GlobTek, Inc.	Q-coupler	Max. 240V, Max. 2,0A	IEC 60320-1	Tested with appliance
PCB	WALEX ELECTRONIC (WUXI) CO LTD	T2 T2A T2B T4	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E154355
Alt.	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1 2V0 FR4	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E243157
Alt.	CHEERFUL ELECTRONIC (HK) LTD	02 03 03A	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E199724
Alt.	DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E251754
Alt.	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	YLH-1	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E251781
Alt.	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	02V0 03V0 04V0	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E186016
Alt.	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	DKV0-3A DGV0-3A	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E177671
Alt.	KUOTIANG ENT LTD	C-2 C-2A C-4	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E227299
Alt.	SHENZHEN TONGCHUANGXI N ELECTRONICS CO LTD	TCX	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E250336

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	PACIFIC WIN INDUSTRIAL LTD	PW-02 PW-03	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E228070
Alt.	GOLDEN TRIANGLE PCB & TECHNOLOGIES LTD	GT-D	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E340752
Alt.	SHENZHEN CITY BOXING SCIENCE AND TECHNOLOGY CO LTD	KV1 KV2	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E333277
Alt.	GUANG DONG XING DA HONG YE ELECTRONIC CO LTD	XD-106 XD-103 XD-102 XD-105C XD-105B	Min. 1,6 mm thickness, min. V-0, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E193079
Fuse resistor (RF1)	ANHUI CHANGSHENG ELECTRONICS CO LTD	RXF21-1W	2Ω, 1W	IEC/EN 62368-1 UL 248-1 UL 248-14	Tested with appliance UL E306095
Alt.	SHENZHEN GREAT ELECTRONICS CO LTD	RXF-1W	2Ω, 1W	IEC/EN 62368-1 UL 248-1 UL 248-14	Tested with appliance UL E301541
Alt.	JIANGSU XINYANG ELECTRONIC COMPONENT CO LTD	RF10-1W	2Ω, 1W	IEC/EN 62368-1 UL 248-1 UL 248-14	Tested with appliance UL E312842
Alt.	SHENZHEN KAYOCOTA ELECTRONICS CO LTD	FRKNP-1WS	2Ω, 1W	IEC/EN 62368-1 UL 248-1 UL 248-14	Tested with appliance UL E318056
Alt.	ANHUI CHANGSHENG ELECTRONICS CO LTD	FRT-1W	2Ω, 1W	IEC/EN 62368-1 UL 248-1 UL 248-14	Tested with appliance UL E306095
Alt.	TZAI YUAN ENTERPRISE CO LTD	KNF1W	2Ω, 1W	IEC/EN 62368-1 UL 248-1 UL 248-14	Tested with appliance UL E355632
Fuse (FS1) (Optional)	Conquer Electronics Co., Ltd.	MST series	T1AL, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017118 UL E82636

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Ever Island Electric Co., Ltd. And Walter Electric	2010	T1AL, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40018781 UL E220181
Alt.	Bel Fuse Ltd.	RST-Serie(s)	T1AL, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40011144 UL E20624
Alt.	Cooper Bussmann LLC	SS-5	T1AL, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015513 UL E19180
Alt.	Walter Electronic Co. Ltd.	ICP-Series	T1AL, 250V, wrapped with heat shrinkable tubing.	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012824 UL E56092
Alt.	Das & Sons International Ltd.	385T series	T1AL, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40008524 UL E205718
Alt.	Shenzhen Lanson Electronics Co. Ltd.	SMT	T1AL, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012592 UL E221465
Alt.	Hollyland Company Limited	5ET	T1AL, 250V	IEC 60127-1 IEC 60127-3	VDE 40015669
Alt.	Dongguan Better Electronics Technology Co., Ltd.	932	T1AL, 250V	IEC 60127-1 IEC 60127-3	VDE 40033369
Alt.	Dongguan Better Electronics Technology Co., Ltd.	334 - series	T1AL, 250V	IEC 60127-1 IEC 60127-3	VDE 40025428
Alt.	Conquer Electronics Co., Ltd.	PTU	T1AL, 250V	IEC 60127-1 IEC 60127-3	VDE 40001462
Y capacitor (CY1, CY2) (optional)	TDK Corporation	CD	Y1, AC250V, max. 4700pF, 25/085/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40029780 UL E37861
Alt.	Success Electronics Co., Ltd.	SE	Y1, AC250V, or AC500V, max 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037211 VDE 40020002

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Success Electronics Co., Ltd.	SB	Y1, AC250V, max 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037221 VDE 40020001
Alt.	Success Electronics Co., Ltd.	SF	Y1, AC250V, max 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40019457
Alt.	Success Electronics Co., Ltd.	SL	Y1, AC250V, max 4700pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40019465
Alt.	Murata Mfg. Co., Ltd.	KX	Y1, AC250V, max 4700pF, 25/125/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40002831 UL E37921
Alt.	Walsin Technology Corp.	AH	Y1, AC250V, max 4700pF, 25/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001804 UL E146544
Alt.	JYA-NAY Co., Ltd.	JN	Y1, AC250V, max 4700pF, 25/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001831 UL E201384
Alt.	Haohua Electronic Co.	CT 7	Y1, AC250V, max 4700pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40003902 UL E233106
Alt.	Hongzhi Enterprises Ltd.	Y	Y1, AC250V, max 4700pF, 25/085/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40004354 UL E192572
Alt.	Jerro Electronics Corp.	JX-series	Y1, AC250V, max 4700pF, 40/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032158 UL E333001
Alt.	JUHONG ELE COMPANY	JB	Y1, AC250V, max 4700pF, 40/125/21/C	IEC/EN 60384-14	ENEC-01320-M1
Alt.	Xiangtai Electronic (Shenzhen) Co., Ltd.	YO-series	Y1, AC400V, max 4700pF, 25/125/21/C	IEC/EN 60384-14	VDE 40036880
Transformer (T1) ³⁾	GlobTek / BOAM / HAOPUWEI / ENG	XF00955	Class B, with critical component listed below	IEC/EN 62368-1	Tested with appliance
- Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U (UL E201757)	MW28-C, 130° C	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWS/U (UL E201757)	MW75-C, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	JUNG SHING WIRE CO LTD	UEW-4 (UL E174837)	MW75C, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	JUNG SHING WIRE CO LTD	UEY-2 (UL E174837)	MW28-C, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130 (UL E335065)	MW75-C, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130 (UL E158909)	MW75-C, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB (UL E206882)	MW75#, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	JIANGSU DARTONG M & E CO LTD	UEW (UL E237377)	MW 75-C, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	SHANDONG SAINT ELECTRIC CO LTD	UEW/130 (UL E194410)	MW75#, 130° C	IEC/EN 62368-1	Tested with appliance
Alt.	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW (UL E222214)	MW 79#, 130° C	IEC/EN 62368-1	Tested with appliance
-Triple-insulated wire (Secondary)	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B, reinforced insulation	IEC/EN 62368-1 UL 2353 UL 60601-1	VDE 136581 UL E211989
- Alt.	COSMOLINK CO. Ltd.	TIW-M Serie(s)	Class B, reinforced insulation	IEC/EN 62368-1 UL 2353 UL 60601-1	VDE 138053 UL E213764
- Alt.	Furukawa Electric Co., Ltd. Electronics & Automotive Systems Company Global Business Development Division	TEX-E	Class B, reinforced insulation	IEC/EN 62368-1 UL 2353 UL 60601-1	VDE 006735 UL E206440

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
- Alt.	TOTOKU ELECTRIC CO LTD	TIW-2	Reinforced insulation, rated 130° C (Class B)	IEC/EN 62368-1 UL 2353 UL 60601-1	VDE 40005152 UL E249037
- Alt.	E&B TECHNOLOGY CO LTD	E&B-XXXB E&B-XXXB-1	Reinforced insulation, Class B	IEC/EN 62368-1 UL 2353 UL 60601-1	VDE 40023473 UL E315265
- Alt.	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TIW	Reinforced insulation, Class B	IEC/EN 62368-1 UL 2353 UL 60601-1	Tested with appliance UL E249037
- Alt.	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	Reinforced insulation, Class B	IEC/EN 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/EN 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
- Alt.	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150°C, thickness 0.45 mm min.	IEC/EN 62368-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E41429
- Alt.	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150°C, thickness 0.45 mm min.	IEC/EN 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/EN 62368-1 UL 510	Tested with appliance UL E17385
- Alt.	BONDTEC PACIFIC CO LTD	370S	Min.130°C	IEC/EN 62368-1 UL 510	Tested with appliance UL E175868
- Alt.	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT WF	Min.130°C	IEC/EN 62368-1 UL 510	Tested with appliance UL E165111
- Alt.	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Min.130°C	IEC/EN 62368-1 UL 510	Tested with appliance UL E246950
- Alt.	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min.130°C	IEC/EN 62368-1 UL 510	Tested with appliance UL E246820

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
-PTFE tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT / TFS	Min. 300V, 200°C	IEC/EN 62368-1	Tested with appliance UL E156256
-Alt.	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	WF	600V, 200°C	IEC/EN 62368-1	Tested with appliance UL E203950
-Alt.	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T / CB-TT-S	Min. 300V, 200°C	IEC/EN 62368-1	Tested with appliance UL E180908
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. 2) Description line content is optional. Main line description needs to clearly detail the component used for testing 3) 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	
1	264	USB output	Normal	5.57Vdc	--	--	ES1
			Abnormal	5.57Vdc	--	--	
			Single fault – T1 sec. (SC)	0.2Vdc	--	--	
			Single fault – RS9 (SC)	0.2Vdc	--	--	
			Single fault – RS9 (OC)	0.2Vdc	--	--	
5.2.2.3 - Capacitance Limits							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		
--	--	--	Normal	--	--	--	
			Abnormal	--	--		
			Single fault – SC/OC	--	--		
5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	lpk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

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

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	--	--	--	
<p>Test Conditions:</p> <p>Normal – Test with rated output current.</p> <p>Abnormal – Test with max. output current.</p> <p>Supplementary information: SC=Short Circuit, OC=Short Circuit</p>							

IEC 62368-1							
Clause	Requirement + Test			Result - Remark		Verdict	
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P	
	Supply voltage (V)	90Vac	264Vac	90Vac	264Vac	—	
	Ambient T _{min} (°C)	40	40	35	35	—	
	Ambient T _{max} (°C)	40	40	35	35	—	
	T _{ma} (°C)	40	40	35	35	—	
Maximum measured temperature T of part/at:		T (°C)			Allowed T _{max} (°C)		
Model GTM46101-1005-USB							
T1 winding	96	91	--	--	*110		
T1 core	96	91	--	--	*110		
C2 body	94	81	--	--	105		
CY1 body	77	72	--	--	105		
PCB	93	85	--	--	130		
Enclosure (external surface)	70	66	--	--	77		
USB terminal	71	69	--	--	77		
Model GTM46101-1306-0.9-USB							
T1 winding	--	--	96	87	*110		
T1 core	--	--	94	86	*110		
C2	--	--	91	77	105		
CY1	--	--	72	64	105		
PCB	--	--	87	76	130		
External enclosure	--	--	63	57	77		
USB terminal	--	--	65	62	77		
Model GTM46101-1306-0.5-USB							
T1 winding	--	--	100	91	*110		
T1 core	--	--	99	90	*110		
C2	--	--	100	81	105		
CY1	--	--	74	66	105		
PCB	--	--	91	79	130		
External enclosure	--	--	65	59	77		
USB terminal	--	--	69	65	77		
Supplementary information:							
*: as the temperature of winding was measured by thermocouples, the limit value was reduced by 10°C.							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							
Note 1: Tma should be considered as directed by applicable requirement							
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)							

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)	
Enclosure (SE1X)	SABIC	125	1.3	
Enclosure (C2950)	SABIC	125	1.3	
Enclosure (CX7211)	SABIC	125	1.4	
Enclosure (EXCY0098)	SABIC	125	1.3	
Enclosure (945)	SABIC	125	1.3	
Enclosure (915R(GG))	SABIC	125	1.3	
Enclosure (LN-1250P)	TEIJIN CHEMICALS LTD	125	1.4	
Enclosure (LN-1250G)	TEIJIN CHEMICALS LTD	125	1.4	
Enclosure (PA-765A)	CHI MEI Corporation	125	1.3	
Enclosure (PC-540)	CHI MEI Corporation	125	1.3	
Bobbin (T375J)	CHANG CHUN PLASTICS CO LTD	125	1.0	
Bobbin (T375HF)	CHANG CHUN PLASTICS CO LTD	125	1.0	
Bobbin (PM-9820)	SUMITOMO BAKELITE CO LTD	125	1.0	
Bobbin (CP-J-8800)	HITACHI CHEMICAL CO LTD	125	1.0	
Supplementary information:--				

IEC 62368-1								
Clause	Requirement + Test			Result - Remark			Verdict	
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 current fuse (BI)	2000	240	<30kHz	1.88 (1.27 x 1.48)	3.7	2.4	3.7	
Two ends of the current fuse (BI)	2000	240	<30kHz	1.88 (1.27 x 1.48)	3.0	2.4	3.0	
Live parts to accessible parts (RI)	2000	240	<30kHz	1.88 (1.27 x 1.48)	8.2	2.4	8.2	
Primary circuits to secondary circuits (RI)	2000	240	<30kHz	3.76 (2.54 x 1.48)	10.5	4.8	10.5	
Primary winding to secondary winding (RI)	2000	240	<30kHz	3.76 (2.54 x 1.48)	7.5	4.8	7.5	
Secondary winding to core (RI)	2000	240	<30kHz	3.76 (2.54 x 1.48)	7.8	4.8	7.8	
Core to secondary parts (RI)	2000	240	<30kHz	3.76 (2.54 x 1.48)	7.6	4.8	7.6	
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 Note 4: Multiplication factors for Clearances is 1.48								

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

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
Line and Neutral before current fuse (BI)		2500	2.22 (1.5 x 1.48)	3.7
Two ends of the current fuse (BI)		2500	2.22 (1.5 x 1.48)	3.0
Live parts to accessible parts (RI)		2500	2.22 (1.5 x 1.48)	8.2
Primary circuits to secondary circuits (RI)		2500	4.44 (3.0 x 1.48)	10.5
Primary winding to secondary winding (RI)		2500	4.44 (3.0 x 1.48)	7.5
Secondary winding to core (RI)		2500	4.44 (3.0 x 1.48)	7.8
Core to secondary parts (RI)		2500	4.44 (3.0 x 1.48)	7.6
Supplementary information: Multiplication factors for Clearances is 1.48				

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)	
T1 transformer bobbin (RI)	352	<100kHz	Phenolic	0.400	0.60	
Insulating tapes in transformer T1 (RI)	352	<100kHz	Polyethylene	0.045	2 layers x 0.05	
Supplementary information: Multiplication factors for test voltages is 1.24						

IEC 62368-1			
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
Basic/supplementary:				
Fuse two end (When fuse breaks down)		DC	3224 (2600 x 1.24)	No
Reinforced:				
Primary circuit to body		DC	4960 (4000 x 1.24)	No
Primary circuit to secondary circuit		DC	4960 (4000 x 1.24)	No
Primary winding to secondary winding of T1		DC	4960 (4000 x 1.24)	No
Secondary winding to core		DC	4960 (4000 x 1.24)	No
Insulation tape around transformer per layer		DC	4960 (4000 x 1.24)	No
Primary and secondary of Y1 capacitor		DC	4960 (4000 x 1.24)	No
Supplementary information: Multiplication factors for test voltages is 1.24				

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

6.2.2		Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s ^{*)}	PS Classification	
A	Model GTM46101-1306-0.5-USB USB output	Power (W) :	17.1	17.1	PS2	
		V _A (V) :	5.72	--		
		I _A (A) :	2.51	--		
Supplementary Information: (*) Measurement taken only when limits at 3 seconds exceed PS1 limits						

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

B.2.5	TABLE: Input test							P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
Model GTM46101-1005-USB								
90	0.2461	--	12.85	--	RF1	0.2461	Max Normal Load,	50 Hz
90	0.2453	--	12.83	--	RF1	0.2453	Max Normal Load,	60 Hz
100	0.2284	0.3	12.73	--	RF1	0.2284	Max Normal Load,	50 Hz
100	0.2262	0.3	12.72	--	RF1	0.2262	Max Normal Load,	60 Hz
240	0.1217	0.3	12.48	--	RF1	0.1217	Max Normal Load,	50 Hz
240	0.1205	0.3	12.46	--	RF1	0.1205	Max Normal Load,	60 Hz
264	0.1101	--	12.66	--	RF1	0.1101	Max Normal Load,	50 Hz
264	0.1088	--	12.63	--	RF1	0.1088	Max Normal Load,	60 Hz
Model GTM46101-1306-0.9-USB								
90	0.2678	--	13.98	--	RF1	0.2678	Max Normal Load,	50 Hz
90	0.2664	--	13.97	--	RF1	0.2664	Max Normal Load,	60 Hz
100	0.2392	0.3	14.02	--	RF1	0.2392	Max Normal Load,	50 Hz
100	0.2385	0.3	14.01	--	RF1	0.2385	Max Normal Load,	60 Hz
240	0.1294	0.3	13.73	--	RF1	0.1294	Max Normal Load,	50 Hz
240	0.1286	0.3	13.71	--	RF1	0.1286	Max Normal Load,	60 Hz
264	0.1163	--	13.64	--	RF1	0.1163	Max Normal Load,	50 Hz
264	0.1158	--	13.62	--	RF1	0.1158	Max Normal Load,	60 Hz
Model GTM46101-1306-0.5-USB								

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

B.2.5	TABLE: Input test							P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
90	0.3115	--	16.70	--	RF1	0.3115	Max Normal Load, 50 Hz	
90	0.3108	--	16.68	--	RF1	0.3108	Max Normal Load, 60 Hz	
100	0.2874	0.3	16.73	--	RF1	0.2874	Max Normal Load, 50 Hz	
100	0.2865	0.3	16.72	--	RF1	0.2865	Max Normal Load, 60 Hz	
240	0.1571	0.3	16.36	--	RF1	0.1571	Max Normal Load, 50 Hz	
240	0.1567	0.3	16.33	--	RF1	0.1567	Max Normal Load, 60 Hz	
264	0.1393	--	16.17	--	RF1	0.1393	Max Normal Load, 50 Hz	
264	0.1388	--	16.15	--	RF1	0.1388	Max Normal Load, 60 Hz	
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured								

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					25			—
Power source for EUT: Manufacturer, model/type, output rating ..					See below			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (hour)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Model GTM46101-1005-USB output	O/L	264	1	RF1	0.125A	T1 winding	77.0	No hazards
Model GTM46101-1005-USB output	O/L	90	1	RF1	0.275A	T1 winding	85.0	No hazards
Model GTM46101-1306-0.9-USB output	O/L	264	1	RF1	0.118A	T1 winding	81	No hazards
Model GTM46101-1306-0.9-USB output	O/L	90	1	RF1	0.269A	T1 winding	90	No hazards

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					25			—
Power source for EUT: Manufacturer, model/type, output rating ..:					See below			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (hour)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Model GTM46101-1306-0.5-USB output	O/L	264	1	RF1	0.139A	T1 winding	84	No hazards
Model GTM46101-1306-0.5-USB output	O/L	90	1	RF1	0.311A	T1 c winding oil	93	No hazards
Supplementary information: Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
B.4	TABLE: Fault condition tests							P
Ambient temperature (°C)					25			—
Power source for EUT: Manufacturer, model/type, output rating .:					See below			—
Component No.	Fault Condition	Supply voltage, (V)	Test time (min)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Model GTM46101-1005-USB								
Output	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
C4	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
Q1 pinD-S	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
Q1 pinG-S	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
T1 pin1-2	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
T1 pinCT1-CT2	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
C1	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
BD1	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
Model GTM46101-1306-0.9-USB								
Output	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
C4	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
Q1 pinD-S	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
Q1 pinG-S	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
T1 pin1-2	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
T1 pinCT1-CT2	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
C1	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
BD1	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
Model GTM46101-1306-0.5-USB								
Output	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
C4	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
Q1 pinD-S	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
Q1 pinG-S	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
T1 pin1-2	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
T1 pinCT1-CT2	SC	90/264	10mins	RF1	0.011	--	--	Unit shut down. No hazards.
C1	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
BD1	SC	90/264	<1s	RF1	>2.1→0	--	--	Fuse (RF1) opened. No hazards.
Supplementary information: - short circuit SC; - open circuit OC; - overload O/L								

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

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal wire	PVC	--	10	5	No hazards	
Enclosure	Plastic	Min. 1.5	30	5	No hazards	
Enclosure	Plastic	Min. 1.5	100	5	No hazards	
Supplementary information:--						

T.7	TABLE: Drop tests					P
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation		
Whole product	Plastic enclosure	Min. 1.5	1000	No hazards		
Supplementary information:--						

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Whole product	Plastic enclosure	Min. 1.5	89.2	7	No hazards	
Supplementary information:--						

source not found.

Photographs:

PHOTO 1: EXTERNAL VIEW



PHOTO 2: EXTERNAL VIEW



PHOTO 3: EXTERNAL VIEW



PHOTO 4: EXTERNAL VIEW

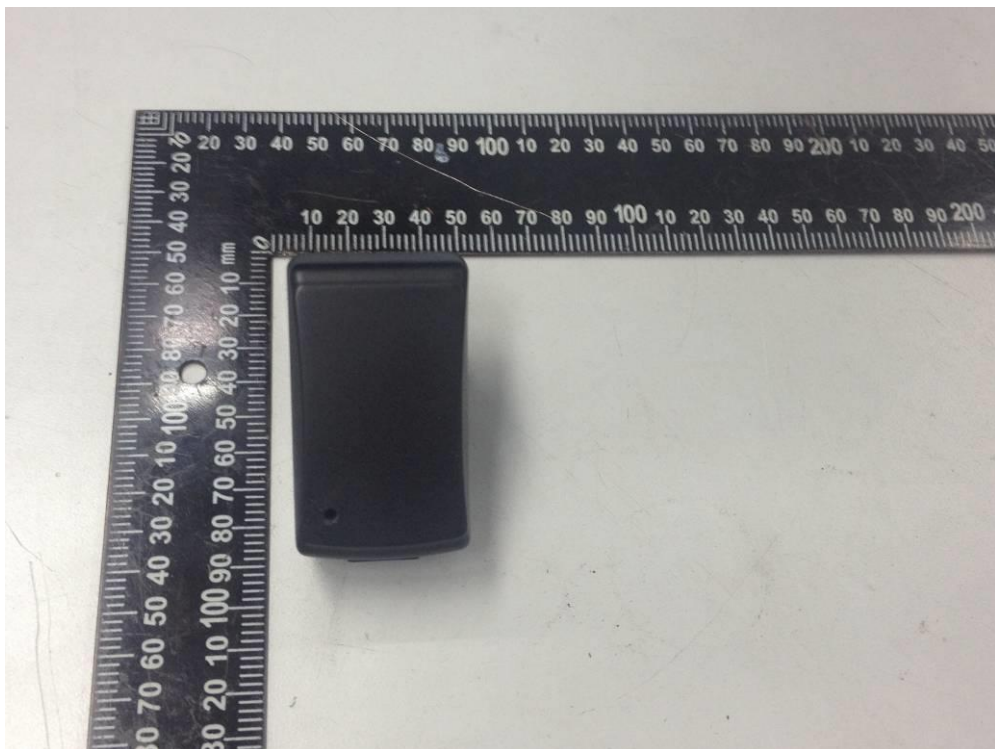


PHOTO 5: INTERNAL VIEW



PHOTO 6: INTERNAL VIEW



PHOTO 7: INTERNAL VIEW WITH LED



PHOTO 8: INTERNAL VIEW WITH LED



PHOTO 9: PCB VIEW

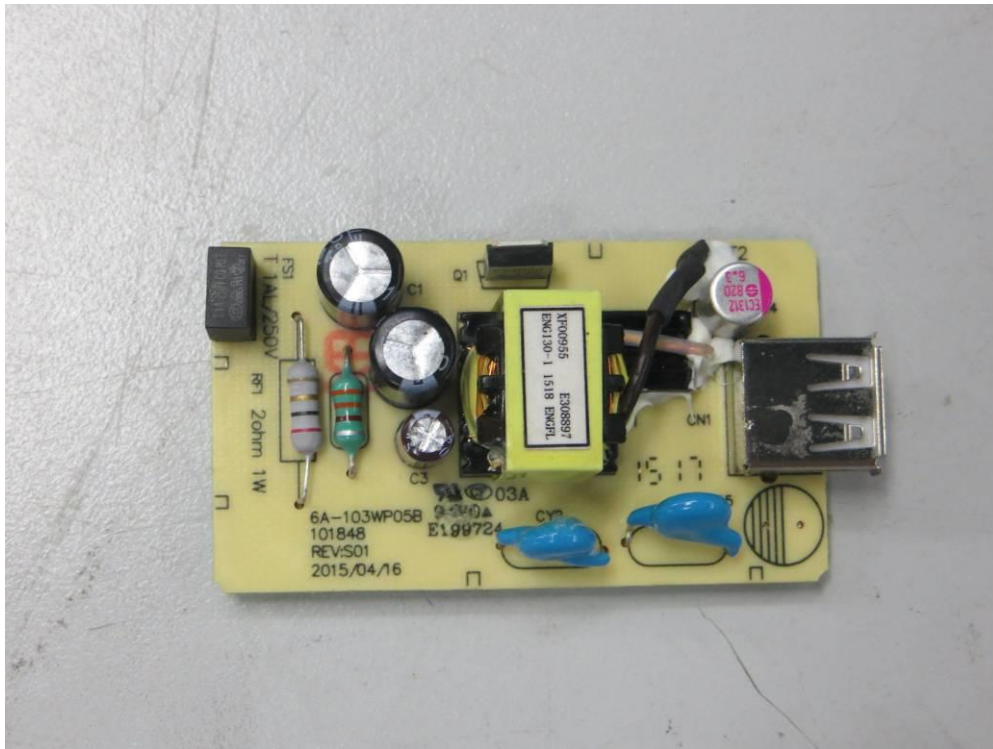


PHOTO 10: PCB VIEW

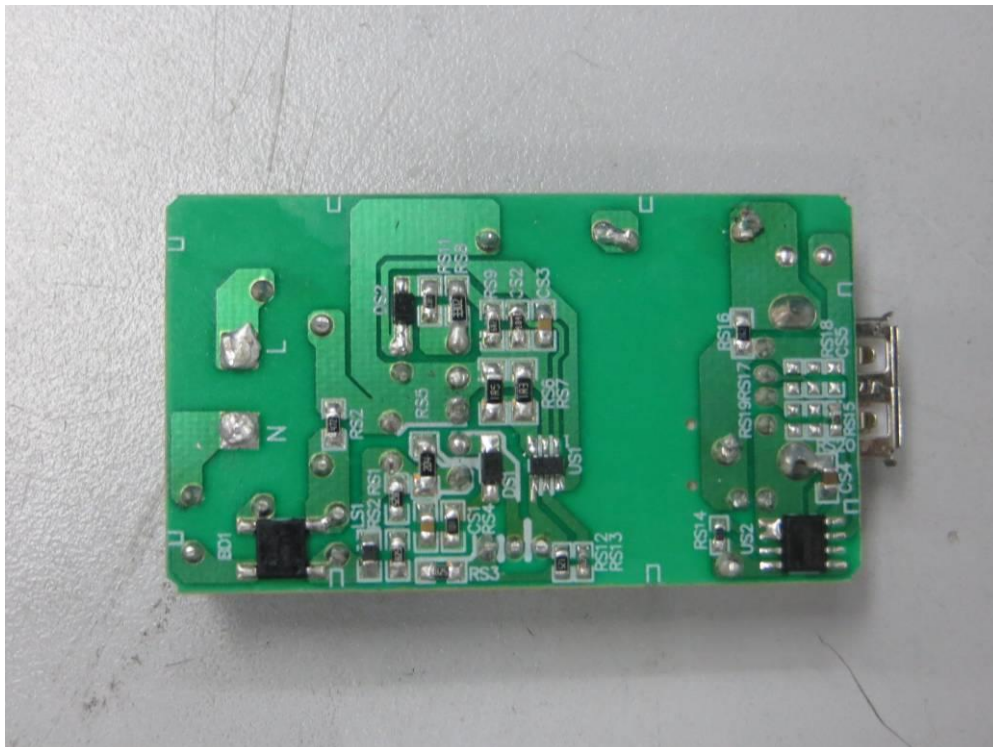


PHOTO 11: PCB VIEW WITH LED

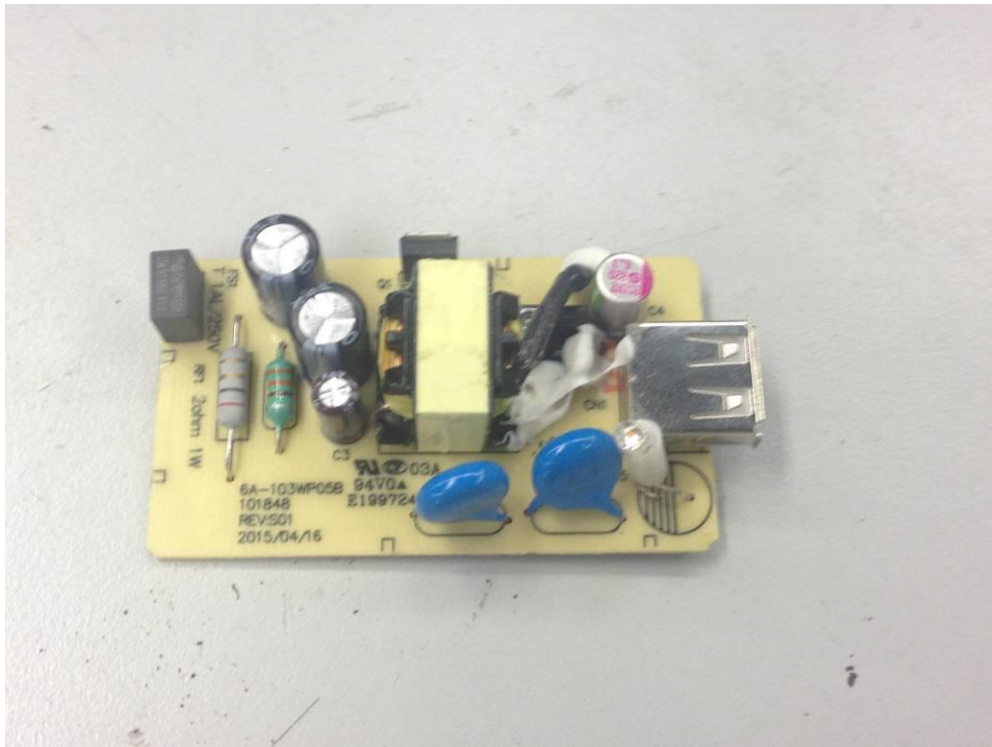


PHOTO 12: PCB VIEW WITH LED

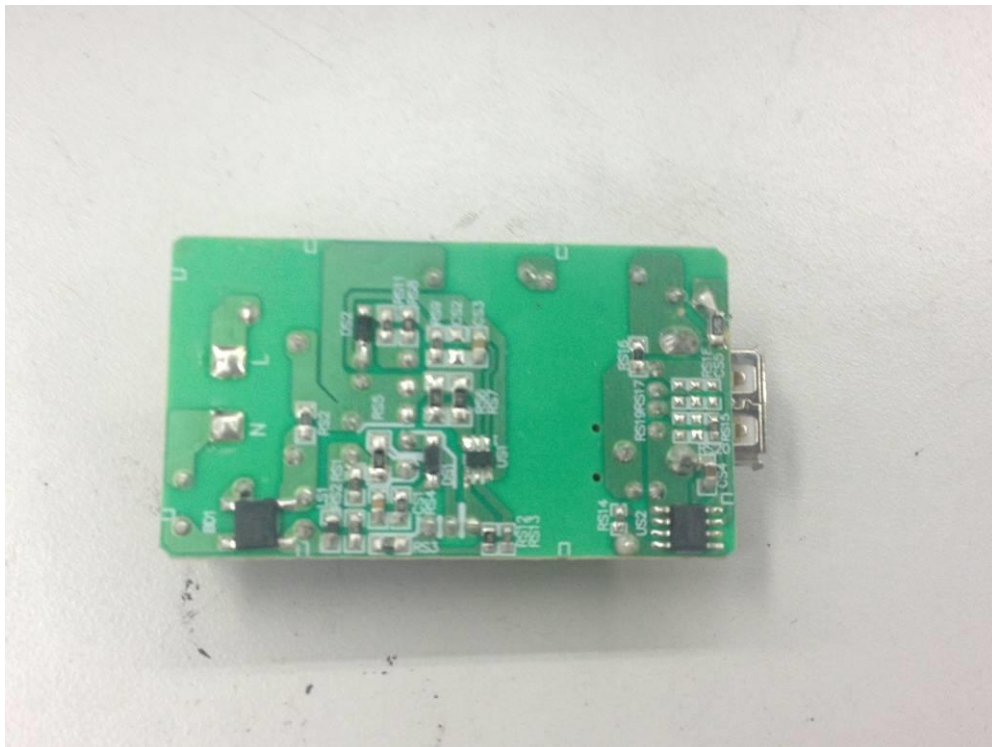


Photo 13: TRANSFORMER VIEW



Photo 14: TRANSFORMER VIEW

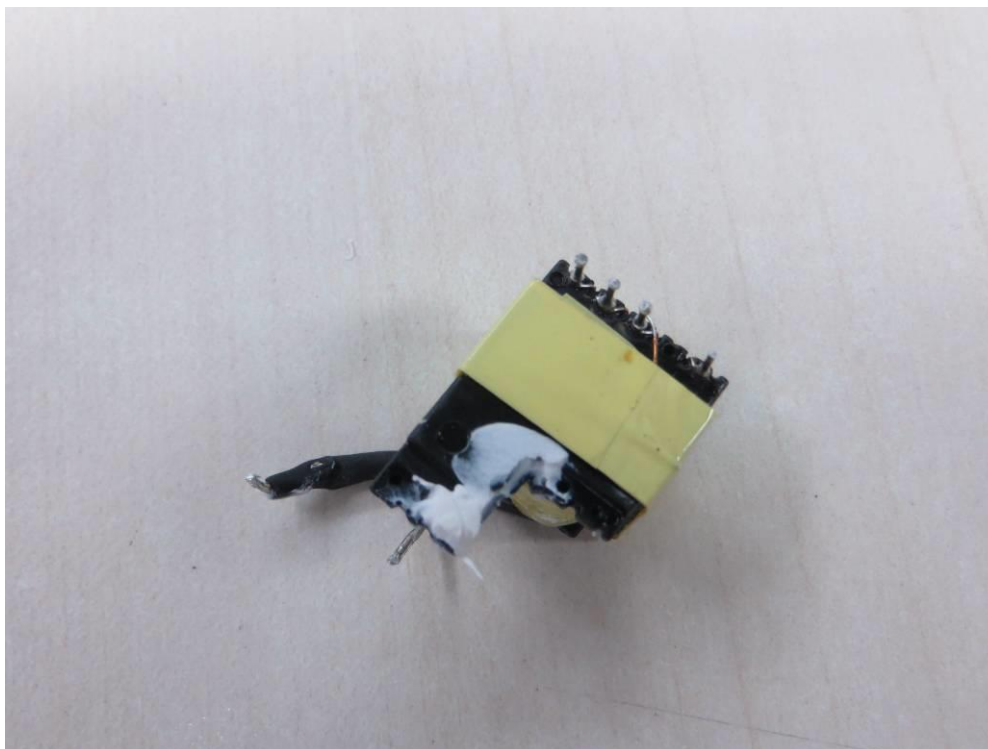


PHOTO 15: TRANSFORMER VIEW

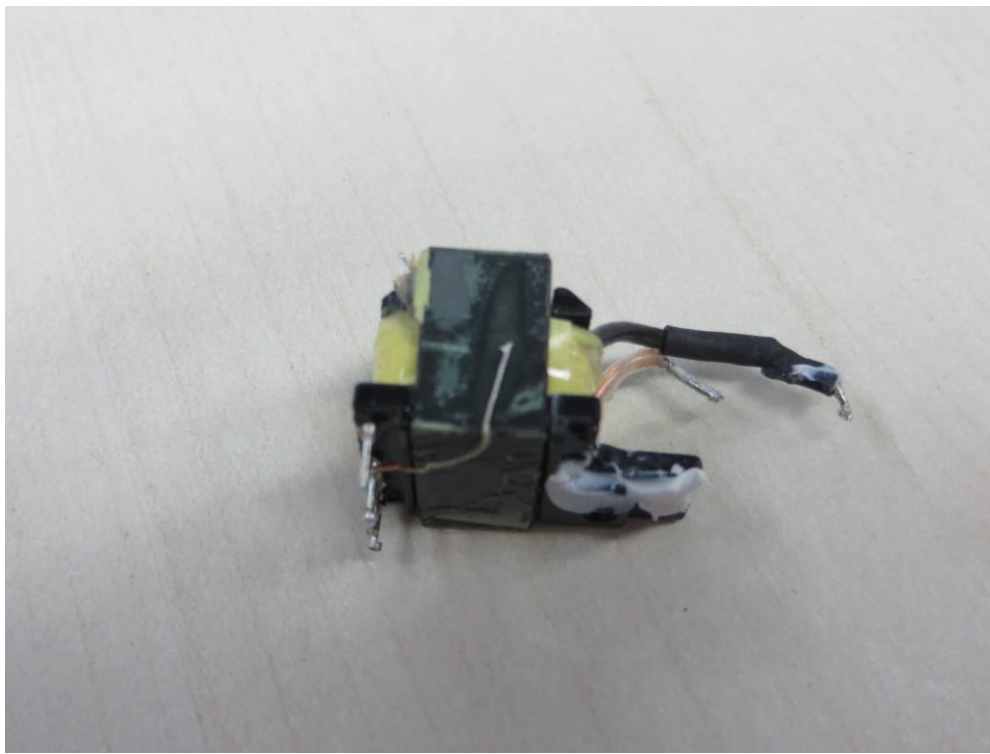


PHOTO 16: TRANSFORMER VIEW

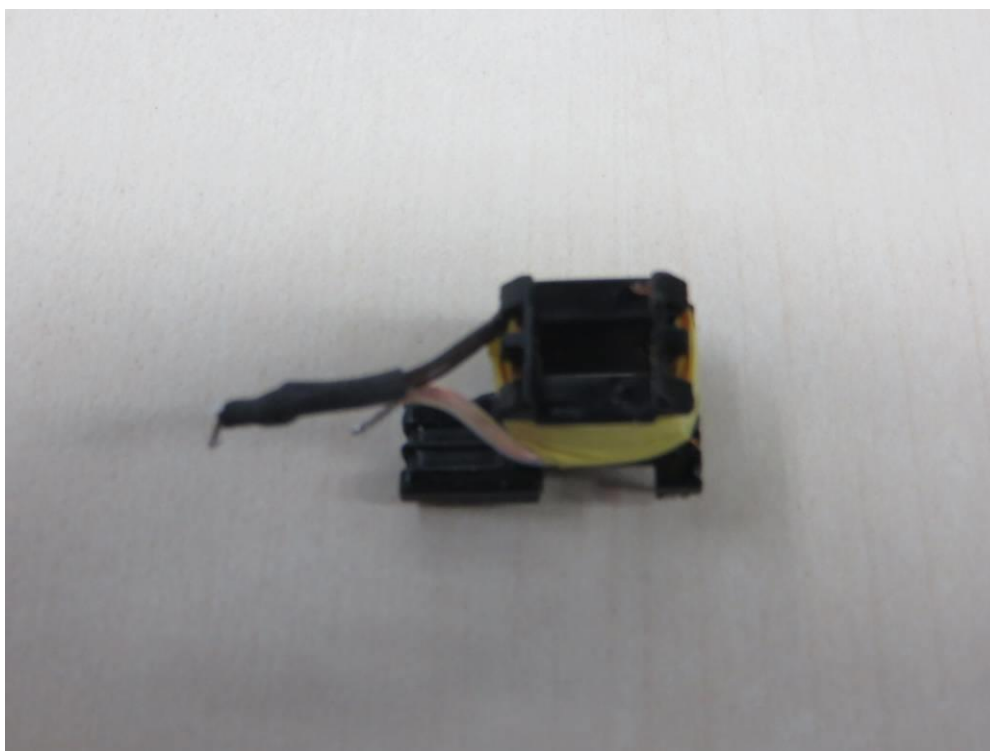


PHOTO 17: TRANSFORMER VIEW

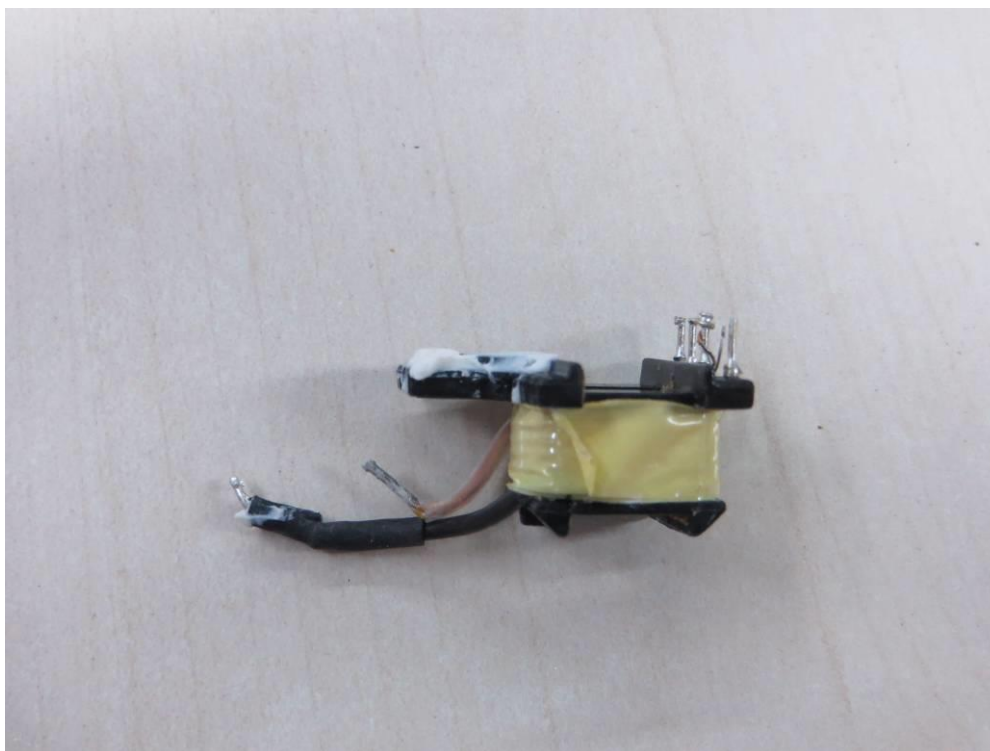


PHOTO 18: TRANSFORMER VIEW

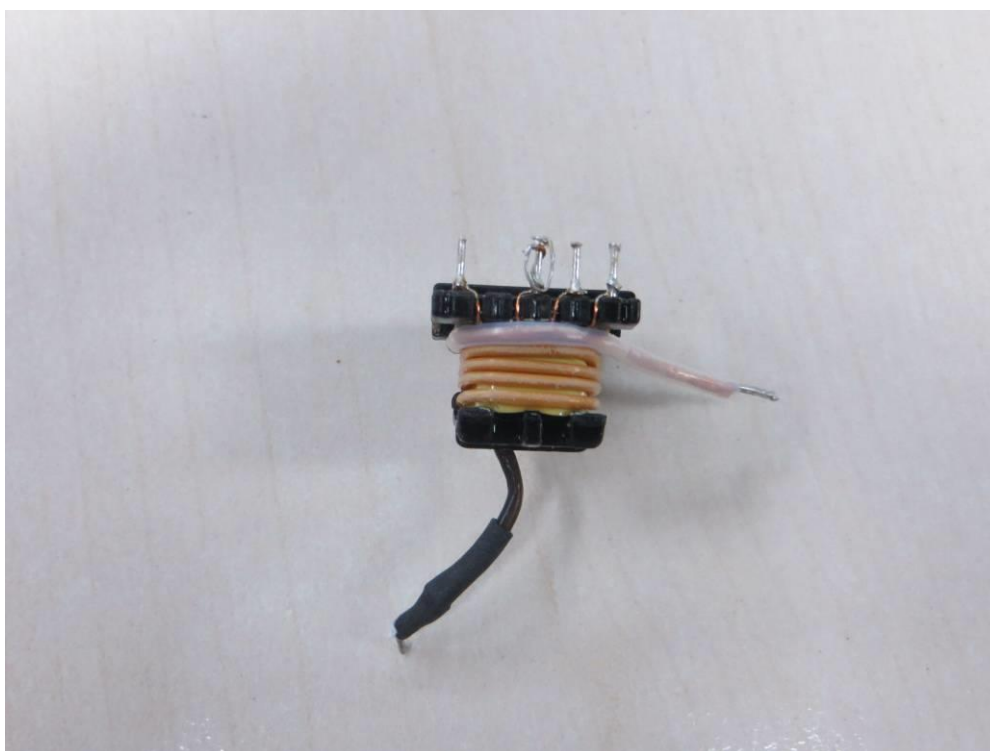


PHOTO 19: TRANSFORMER VIEW



PHOTO 20: TRANSFORMER VIEW

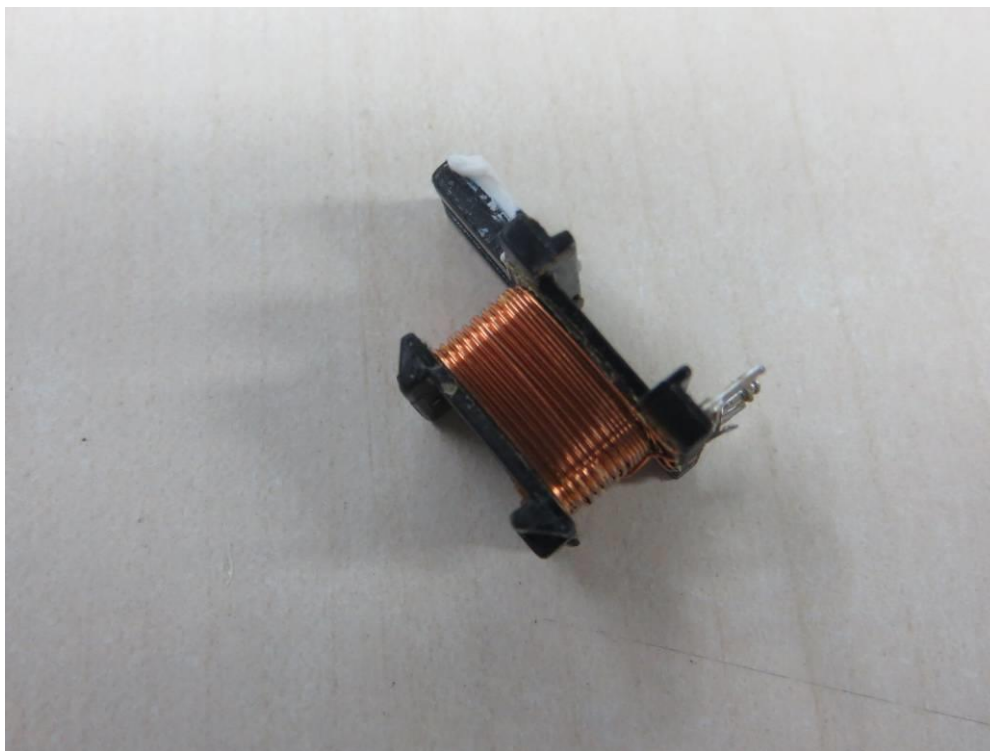


PHOTO 21: TRANSFORMER VIEW



ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix No.2: Group and national differences for the CENELEC countries

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																																					
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																																					
	For special national conditions, see Annex ZB.					P																																				

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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph:</p> <p><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:</p> <p>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.</p> <p>10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A
G.7.1	<p>Add the following note:</p> <p>NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		P

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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	<p>Denmark</p> <p>After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; <p>the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</p>		N/A

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	<p>Norway</p> <p>After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</p>		N/A
5.5.6	<p>Finland, Norway and Sweden</p> <p>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.</p>		N/A
5.6.1	<p>Denmark</p> <p>Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>		N/A
5.6.4.2.1	<p>Ireland and United Kingdom</p> <p>After the indent for pluggable equipment type A, the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.</p>		N/A
5.6.5.1	<p>To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm² to 1,5 mm² in cross-sectional area.</p>		N/A
5.7.5	<p>Denmark</p> <p>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.</p>		N/A

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
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable:</p> <p>To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>		N/A
G.4.2	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a</p> <p><i>Justification:</i> Heavy Current Regulations, Section 6c</p>		N/A
G.4.2	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		N/A

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	<p>United Kingdom</p> <p>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.</p> <p>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>		N/A
G.7.1	<p>Ireland</p> <p>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</p>		N/A
G.7.2	<p>Ireland and United Kingdom</p> <p>To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.</p>		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	<p>Germany</p> <p>The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i> 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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix No.3: National differences for US and Canada

<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
Copyright © 2015 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.	

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
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment		N/A
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.	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
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (F.3.3.3)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."		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
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1 are marked with the voltage rating and "Class 2" or equivalent; marking is located adjacent to the terminals and visible during wiring.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	See Table 4.1.2.	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.	Direct plug-in type	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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix No.4: National differences for Australia/New Zealand

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: 2018-02			
Copyright © 2017 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		P
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	<p>Add the following to the list of normative references:</p> <p>The following normative documents are referenced in Appendix ZZ:</p> <p>-AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i></p> <p>-AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i></p> <p>-AS/NZS 3191, <i>Electric flexible cords</i></p> <p>-AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i></p> <p>-AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i></p> <p>-AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i></p> <p>-AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i></p> <p>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i></p>		P

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<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 <i>Replace</i> the text ‘IEC 60950-1’ with ‘AS/NZS 60950.1:2015’.</p> <p>2 <i>Replace</i> the text ‘IEC 60065’ with ‘AS/NZS 60065’.</p>		P
4.7	Equipment for direct insertion into mains socket-outlets		P
4.7.2	<p>Requirements</p> <p><i>Delete</i> the text of the second paragraph and <i>replace</i> with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>		P
4.7.3	<p>Compliance Criteria</p> <p><i>Delete</i> the first paragraph and Note 1 and Note 2 and <i>replace</i> with the following: <i>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i></p>		P
4.8	<p><i>Delete</i> existing clause title and <i>replace</i> with the following: 4.8 Products containing coin/button cell batteries</p>		N/A

ATTACHMENT						
Clause	Requirement + Test			Result - Remark		Verdict
4.8.1	General 1 Second dashed point, <i>delete</i> the text and <i>replace</i> with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, <i>insert</i> the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, <i>renumber</i> the existing Note as 'NOTE 2'. 4 Fifth dashed point, <i>delete</i> the word 'lithium'.					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	Replace the table with the following:					N/A
Parts		Impulse test		Steady state test		N/A
		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.						

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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1 and Table 36	Requirements 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: ° The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements' 4. Table 36, <i>add</i> the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'		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.		P
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Table G.5	Sizes of conductors 1 In the second row, first column, <i>delete</i> '6' and <i>replace</i> with '7.5' 2 In the second row, second column, <i>delete</i> '0,75' and <i>replace</i> with '0.75 ^b 3 <i>Delete</i> Note 1. 4 <i>Replace</i> 'NOTE 2' with 'NOTE:'. 5 <i>Delete</i> the text of 'Footnote b' and <i>replace</i> with the following: ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M Paragraph M.3.2	Protection circuits for batteries provided within the equipment, Test method After the first dashed point <i>add</i> the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		P

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>		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, according to AS/NZS 60695.11.10. <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to</p>		N/A

ATTACHMENT									
Clause	Requirement + Test	Result - Remark	Verdict						
	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						
	<div><div>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</div><table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle-flame</td><td>Delete the first and second paragraphs and replace with the following:</td></tr></table></div>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle-flame	Delete the first and second paragraphs and replace with the following:		N/A
Clause of AS/NZS 60695.11.5	Change								
9 Test procedure									
9.2 Application of needle-flame	Delete the first and second paragraphs and replace with the following:								

ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
		<p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s ± 1 s.</p>		
	9.3 Number of test specimens	<p><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.</p>		
	11 Evaluation of test results	<p><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.</p>		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.			
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</p>			N/A

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>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>		
6.202.5	<p>Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source.</p> <p>The test is not carried out if—</p> <ul style="list-style-type: none"> – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p><i>Conformance shall be determined using the smallest thickness of the material.</i></p> <p>NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>	V-0	N/A
6.202.6	<p>For open circuit voltages greater than 4 kV</p> <p>Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under</p>		N/A

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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix No.5: National differences for Japan

ATTACHMENT TO TEST REPORT			
IEC 62368-1 (JAPAN) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to: J62368-1 (H30)			
Attachment Form No.: JP_ND_IEC62368_1B			
Attachment Originator.....: UL (JP)			
Master Attachment: Date 2018-11-22			
Copyright © 2018 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.		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.		N/A
5.6.2.2	This requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.		N/A

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm ² or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		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.		N/A
6.4.3.3	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		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
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		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.		P
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.		N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		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
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

ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.		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.		N/A
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

Appendix No.6: Equipment combined with two-pole plug (Class II)

Supplementary tests on plug portion according to EN 50075:1990

Clause	Requirement + Test	Result - Remark	Verdict
1.	Dimensions (Clause 7 of EN 50075)		
	Plugs shall comply with standard size. (Standard sheet 1)		P
2.	Protection Against Electric Shock (Clause 8 of EN 50075)		
2.1	Live parts of plugs with the exception of the bare metal parts of the pins, shall not be accessible. (Clause 8.1 of EN 50075)		P
2.2	It shall not be possible to make connection between a pin of a plug and a live socket contact of a socket-outlet while the other pin is an accessible. (Clause 8.2 of EN 50075)		P
2.3	External parts of plugs, with the exception of pins, shall be of insulating material. (Clause 8.3 of EN 50075)		P
3.	Construction (Clause 9 of EN 50075)		
3.1	The plug cannot be opened by hand or by using a general purpose tool. (Clause 9.1 of EN 50075)		P
3.2	Pins of plugs shall be solid and shall have adequate mechanical strength. (Clause 9.3 of EN 50075)		P
3.3	Pins of plugs shall be locked against rotation and adequately fixed into the body of the plug. (Clause 9.4 of EN 50075)		P
3.4	Plugs shall be provided with soldered, crimped or equally effective permanent connection. (Clause 9.5 of EN 50075)		P
3.5	Plug shall be shaped in such a way and made of such a material that they can easily be withdrawn by hand from a socket-outlet. (by gripping the product enclosure, Clause 9.6 of EN 50075)		P
4.	Resistance to Humidity (Clause 10 of EN 50075)		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	The integrated pins were tested together with the product. (See test report for product)		
5.	Insulation Resistance and Electric Strength (Clause 11 of EN 50075)		N/A
	(See test report for product)		
6.	Mechanical Strength (Clause 13 of EN 50075)		
	Plug shall have adequate mechanical strength to withstand the stresses imposed during use.		P
6.1	The plugs are pressed between two flat surfaces with a force of 150N for 5min. 15min after removal of the force, the plug shall not show such deformation as would result in undue alteration of the dimensions which ensure safety. (Clause 13.1 of EN 50075)		P
6.2	The plug is tested in a tumbling barrel. (Clause 13.2 of EN 50075, fall number is shown in test report for product) After the test, the plug shall show no damage within the meaning of this standard, in particular: --- no part shall become detached or loosened. --- the pin shall not turn when a torque of 0.4Nm is applied. Note: A section of the pin is square constructed for preventing the rotation.		P
6.3	The pins is held in a suitable clamp in such a position that the straight part of a steel wire (D=1+-0.02mm, U-shaped) rests on the plug pin. The plug is caused to move backwards and forwards, so that the wire rubs along the pin. The number of the movements is 20 000, and the rate of the operation is 25 movements per min. (Clause 13.3 of EN 50075)		P
	After the test, the pin show no damage which may effect safety or impair the further use of the plug, in particular, the insulating sleeve shall not have punctured or rucked up.		P

Clause	Requirement + Test	Result - Remark	Verdict
6.4	A pull force of 40N is applied for 60s on each pin in turn in the direction of the longitudinal axis of the pin. The pull is applied 60min after the plug has been placed in a heating cabinet of 70°C. After the plug cooling down to ambient temperature, any pin shall not have displaced in the body of the plug more than 1mm. (Clause 13.4 of EN 50075)		P
7.	Resistance to Heat and to Ageing (Clause 14 of EN 50075)		P
8.	Current-carrying Parts and Connections (Clause 15 of EN 50075)		
8.1	Connection, electrical and mechanical, shall withstand the mechanical stresses occurring in normal use, and electrical connections shall be designed that contact pressure is not transmitted through insulating material. (Clause 15.1 & 15.2 of EN 50075)		P
8.2	Current-carrying parts shall be of copper or an alloy containing at least 58% of copper. (Clause 15.3 of EN 50075)		P
9.	Creepage Distance, Clearances, and Distances Through Insulation (Clause 16 of EN 50075)		P
10.	Resistance of Insulating Material to Abnormal Heat and to fire (Clause 17 of EN 50075)		P

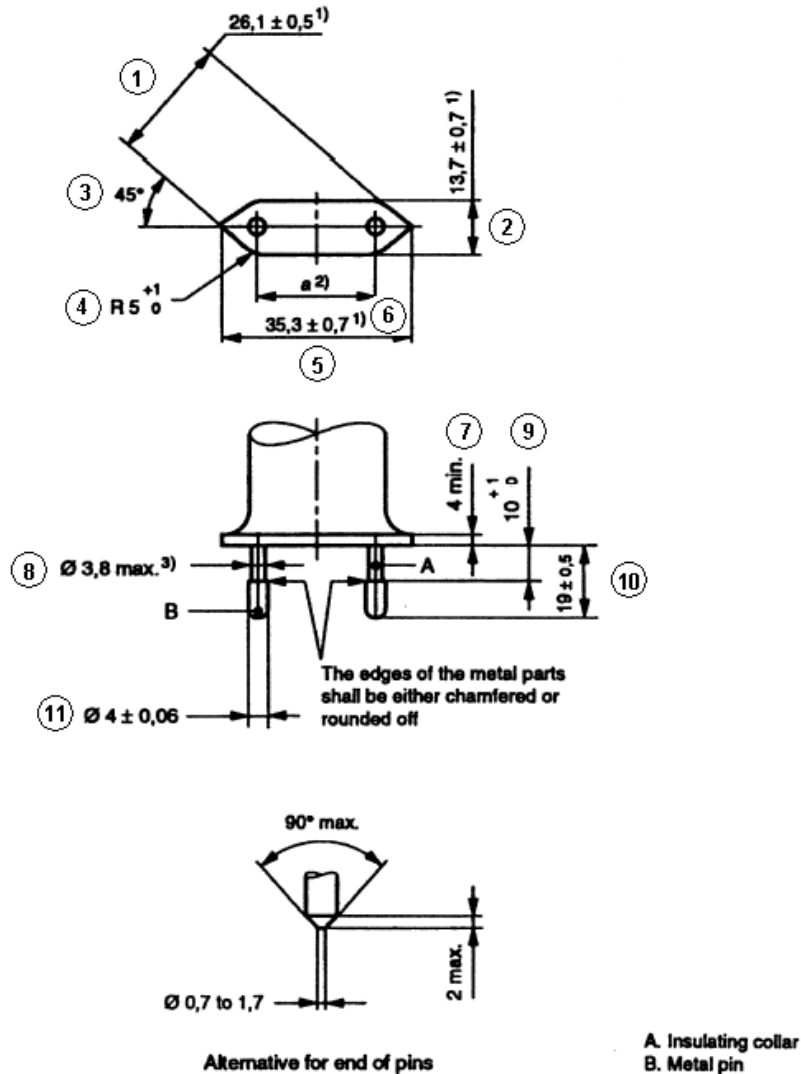
Appendix No.7: Dimension Checking for Two-pin plug according to EN50075

	<p style="text-align: center;">DIMENSIONS</p> <p style="text-align: center;">Checked by means of measurement according to EN50075 Standard sheet 1 (see appendix no.8)</p>	P
--	---	---

<i>Position</i>	Requirement (mm)	Measured (mm)	<i>Verdict</i>
1	25,6 – 26,6	25,84	P
2	13 – 14,4	13,98	P
3	45°	45°	P
4	R5 – 6	R5,4	P
5	34,6 – 36	35,09	P
6	18-19,2 in the plane of the engagement face	18,15	P
	17-18 at the ends of the pins	17,55	P
7	4min	-	N/A
8	φ3,8max	φ3,42	P
9	10-11	10,05	P
10	18,5 – 19,5	19,12	P
11	φ3,94 - φ4,06	φ3,98	P
	Dimensions of position 1, 2 and 3 shall not be exceeded within a distance of 18mm from the engagement face of the plug	19,15	P
	The edges of the metal parts shall be either chamfered or rounded off	Rounded off	P

Appendix No.8:

EN50075: 1990 Standard sheet 1



Dimensions in millimetres

¹⁾ These dimensions shall not be exceeded within a distance of 18 mm from the engagement face of the plug.

²⁾ Dimension a is:

18 mm to 19,2 mm in the plane of the engagement face;

17 mm to 18 mm at the ends of the pins.

³⁾ This dimension may be increased to 4 mm within a distance of 4 mm from the engagement face of the plug.

Pin ends shall be rounded, or conical as shown in detail sketch.

The sketches are not intended to govern design except as regards the dimensions shown.

Appendix No.9: Photo for plug portion according to EN 50075:1990



The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.10: Equipment's combined with Australian plug.

The Australian plug was tested according to Annex J of AS/NZS 3112:2017:

2.2	PLUG PINS		P
2.2.1	Material for pins		P
	Current carrying parts of plug pins -copper, or copper alloy containing at least 58% copper for parts made from cold rolled sheet or at least 50% copper for other parts; or stainless steel containing at least 13% chromium and not more than 0.09% carbon.	58% copper	P
2.2.2	Assembly of pins		P
2.2.3	The exposed ends and the contact portion of plug pins shall be smooth and free from openings or indentations;		P
2.2.4	Live parts of insulated pin plugs shall not be exposed when the plug is partially or fully engaged with the associated socket.		P
	Plugs with insulated pin do not need to comply with the R20.0 +/-1 mm of Figure 2.1(e).		P
2.8	RATINGS AND DIMENSIONS OF LOW VOLTAGE PLUGS		P
2.8.1	Low voltage flat-pin plugs shall conform to the appropriate dimensions shown in Figure 2.1.		P
	the distance between a live pin of any plug and the edge of the moulding of the plug, shall be not less than 9 mm.	9.8mm min.	P
	No point on the front face of the plug is more than 0.5 mm.	No protrusion	P
2.8.4	Compliance with dimensional requirements of Figure 2.1		P
	Low voltage flat-pin or combination of flat and round pin, plugs having ratings up to 15A of Figure 2.1(a1), Figure2.1(c), Figure 2.1(d), Figure 2.1(f) or Figure 2.1(g) type shall comply with the dimensional requirements of Figure 2.1(e).		P

	Plugs with insulated pins, complying with this Standard, need not comply with dimension R20+/-1.0 mm of Figure 2.1(e)		P
2.9	INTERNAL CONNECTIONS		N/A
	A loose terminal screw or conductive material cannot bridge any live parts or earthing parts;		N/A
2.10	ARRANGEMENT OF EARTHING CONNECTIONS	No earthing pin	N/A
2.12	MARKING (No marking is applicable for the integral plug portion. See markings for transformer)		N/A
2.12.6	Configuration of plugs, viewed as from the pins, shall be earth, neutral and active in a clockwise direction. Where there is no earthing pin, the live pins shall conform to this configuration.		P
2.13	TESTS ON PLUGS		P
2.13.3	High voltage test		P
2.13.7	Mechanical strength of pin tests		P
2.13.7.1	Tumbling barrel test	See appended table 2.13.7.1	P
2.13.7.2	Pin bending test		P
	The point of application of the force shall be 14 ± 0.5 mm from the face of the plug.		P
	The direction of the force shall be along a line parallel to the face of the plug.		P
	Active and neutral pins shall be forced towards the centroid of the plug and then back to the starting point. Earth pin shall be forced but in one direction only then back to the starting point.		P
	The distance moved from the point of application shall be 7.5 ± 0.3 mm. Any "spring-back" is ignored.		P
	The travel from the starting point to the end point and back to the starting point is one cycle.		P
	The interval between successive cycles shall be a minimum of 10 s.		P
	The duration of one cycle shall be a maximum of 60 s.		P
	The pins shall be tested for 20 complete cycles.		P

	After to tests the pins shall be inspected with normal or corrected to normal vision.		P
	The pin shall not be broken off.		P
2.13.8	Temperature rise test (modified as follows)		P
	With 1.1 times rated current prescribed by transformer. The temperature rise of the terminals shall not exceed 45 K.	0.33A 16K max.	P
2.13.9	Securement of pins		P
2.13.9.1	Movement of pins		P
	Clamped 5 ± 0.5 mm and applying 18 ± 1 N to the pin at 14 ± 0.5 mm		P
	The maximum deflection shall not exceed 2.0 mm.	0.2mm	P
2.13.9.2	Fixing of pins		P
	Maintained $50 \pm 2^\circ\text{C}$ for 1 h. 60 ± 0.6 N for 10 min.		P
	The attachment of pins shall be not more than 2.4 mm or if any pin fails to return to within 0.8 mm of its nominal length specified in Figure 2.1 within 5 min of the removal of the test force.	Pins displaced: 0.51mm max; Pins return to 0.32mm max	P
2.13.13	Tests on the insulation material of insulated pin plugs, if any		P
2.13.13.2	Pressure test at high temperature		P
	Maintained for 2 h at $160 \pm 5^\circ\text{C}$. Force applied through the blade: 2,5 N		P
	Thickness within the area of impression ≥ 50 %. no cracks	Before test: 0.32mm; after test: 0.28mm	P
2.13.13.3	Static damp heat test		P
	Two damp heat cycles (12+12h), 95% relative humidity, Lower temperature $25 \pm 3^\circ\text{C}$ and upper temperature 40°C		P
	(a) the insulation resistance test in accordance with Clause 2.13.2(e); (b) high voltage test in accordance with Clause 2.13.3 and; (c) abrasion test in accordance with Clause 2.13.13.6.		P

2.13.13.4	Low temperature test		P
	Maintained at $-15 \pm 2^{\circ}\text{C}$ for 24h and returned to room temperature		P
	(a) the insulation resistance test in accordance with Clause 2.13.2(e); (b) high voltage test in accordance with Clause 2.13.3 and; (c) abrasion test in accordance with Clause 2.13.13.6.		P
2.13.13.5	Impact test at low temperature		P
	Maintained at $-15 \pm 2^{\circ}\text{C}$ for at least 24 h. a height of 100 mm. Four impacts. No cracks.		P
2.13.13.6	Abrasion test		P
	Plug pins provided with insulating sleeves: 20000 movements, 4 N (apparatus shown in fig. 23). No damage, the insulating sleeve shall not have punctured or rucked up.		P

Appendix J of AS/NZS 3112: INTEGRAL OR DETACHABLE PLUG PORTIONS OF EQUIPMENT FOR INSERTION INTO SOCKET-OUTLETS

J1	SCOPE		—
J2	DEFINITIONS		P
J2.1	Detachable plug portion		N/A
	a). Type A		N/A
	b). Type B		N/A
	c). Type C		N/A
J2.2	Integral plug portion		P
	Integral to the equipment enclosure and not detachable.		P
J2.3	Plug portion		P
	Plug portion includes the plug pins, terminals of the plug pins, external dimension of the 'maximum projection' and any connections of a detachable plug portion.		P
J3	REQUIREMENTS FOR THE PLUG PORTION		P
J3.1	General		P

	The following provisions apply to the dimensional and constructional requirements of the plug portion of equipment and any detachable connection:		—
	a). For detachable plug portions, the relevant tests are performed in the most onerous orientation.		N/A
	b). For type A detachable plug portions, the relevant requirements of AS/NZS 3105 are applicable, in addition to conformance with this appendix.		N/A
	c). For type B detachable plug portions, the conformance is shown by this appendix.		N/A
	d). For type C detachable plug portions, conformance is shown by assessment to section 2 of this standard and this appendix.		N/A
J3.2	Plug pins of plug portions		P
	The requirements of Clause 2.2 are applicable for plug pins.	See clause 2.2	P
J3.3	Ratings and dimensions for low voltage plug portions		P
	The requirements of Clauses 2.8.1 and 2.8.4 are applicable for ratings and dimensions.	See clause 2.8	P
J3.4	Internal connections for plug portions		N/A
	The requirements of Clause 2.9 are applicable for internal connections unless requirements are contained in the relevant product standard.	See clause 2.9	N/A
J3.5	Arrangement of earthing connections for plug portions		N/A
	The requirements of Clause 2.10 are applicable for the arrangement of earthing connections.	See clause 2.10	N/A
J3.6	Configuration of plug portions		P
	The requirements of Clause 2.12.6 are applicable to the configuration of the plug portion.	See clause 2.12.6	P
J4	TESTS		P
J4.1	General		—
	Plug portions of equipment shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2 for each test.		P

	Conformance for detachable plug portions shall be established by assessment with the plug portion fully assembled with the equipment.		N/A
J4.2	High voltage test		P
	The requirements of Clause 2.13.3 are applicable unless requirements are contained in the relevant product standard.	See appended table 2.13.3	P
J4.3	Mechanical strength of pin tests		P
J4.3.1	Tumbling barrel test		P
	The requirements of clause 2.13.7.1 are modified as follow:		—
	a). 500 times if the mass does not exceed 250 g.	Measured: Max. 58g	P
	b). 250 times if the mass exceeds 250 g.	Measured: Min. g	N/A
	Following each test the samples shall comply with item clause 2.13.7.1.	See appended table 2.13.7.1	P
J4.3.2	Pin bending test		P
	The pins of the plug portion not subjected to any previous tests shall be tested for conformance with the pin bending test of Clause 2.13.7.2.	See appended table 2.13.7.2	P
J4.4	Temperature rise test		P
	The relevant requirements of Clause 2.13.8 are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product Standard.	See appended table 2.13.8	P
	The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end product standards.		P
J4.5	Securement of pins of the plug portion		P
	The requirements of Clause 2.13.9 are applicable for the securement of pins.	See appended table 2.13.9	P
J4.6	Tests on the insulation material of insulated pin-plug portions		P
	The requirements of Clause 2.13.13 are applicable for insulating material of insulated plug pins.	See appended table 2.13.13.2 ~ 2.13.13.6	P
J4.7	Equipment with a plug portion intended to be supported by the contacts of a socket-outlet		P

	Equipment with a plug portion intended to be supported by the contacts of socket-outlets shall not impose undue strain on those socket-outlets.		P
	The additional torque shall not exceed 0.25Nm.	Normal position: 0.13Nm max.; Reverse position: 0.12Nm max.	P
	The flexible cord is allowed to hang freely in excess of 500mm resting on the horizontal surface during the test.		P
J4.8	Additional requirements for detachable plug portions		N/A
J4.8.1	Access to live parts		N/A
	It is not possible to contact live parts with the small test finger of Fig.13 of IEC 61032.		N/A
	It shall not be possible to incorrectly assemble the plug portion to the equipment allowing access to live parts.		N/A
	Conformance is checked by inspection and applying small test finger of Fig.13 of IEC 61032.		N/A
J4.8.2	Construction of detachable contacts where the input current of the equipment exceeds 0.2A		N/A
	Contact shall be made with both sides of each flat pin.		N/A
	It shall be permissible to use spring-assisted single-sided contacts.		N/A
	Contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material.		N/A
	The alignment and contact making properties of contacts shall be independent of terminal screws.		N/A
	The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.		N/A
	Conformance with the effectiveness of the contacts is checked by inspection and appendix J4.8.3.		N/A
J4.8.3	Plug portion detachment requirements		N/A
	Conformance is verified by inspection and the following test:		N/A

	The plug portion shall be connected and disconnected 50 times (100 strokes).		N/A
	Test with a force.....:	N	N/A
	During the test period, the plug portion shall not separate from the equipment.		N/A
	Temperature rise test for plugs shall be conducted immediately without disturbing the samples.....:	K	N/A
J4.8.4	Resistance of insulating material to heat and fire		N/A
J4.8.4.1	Resistance to heat		N/A
	For Type B detachable plug portions parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard		N/A
	This requirement does not apply to the insulation or sheath of flexible cords or internal wiring		N/A
	Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2		N/A
	The test is carried out at a temperature of $40\pm 2^{\circ}\text{C}$ plus the maximum temperature rise determined during the temperature test of Paragraph J4.4, but it shall be at least--		N/A
	a. $75\pm 2^{\circ}\text{C}$, for external parts;		N/A
	2. $125\pm 2^{\circ}\text{C}$, for parts supporting live parts		N/A
J4.8.4.2	Resistance to fire		N/A
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100. The glow-wire test temperature 'T' shall be 750°C		N/A

2.13.3	TABLE 2.2: Test No. 2 - High voltage test	P
Electric strength:		
Between:	Test voltage (V a.c.)	—
(a) Between all poles of the plug, taken in pairs.	1000	P
(b) Between live poles and any external metal, all live poles being connected together.	3000	P
(c) Between live poles and earthing terminal metal of exposed metal, all live poles being connected together.	1000	N/A
(d) Between live poles and accessible insulating part, all live poles being connected together.	3000	P
(e) For insulated pin plugs, between live poles and a metal foil applied around the insulation on each live pin for a distance of approximately 4 mm from plug face, all live poles being connected.	1250V	P

2.13.7.1	TABLE 2.2: Test No. 7a – Tumbling barrel test			P
Requirement	Test result			
	Sample 1	Sample 2	Sample 3	
After 1000 times of falls, the sample shall show no damage within the meaning of this standard:	—	—	—	
(a) Live parts shall not have become exposed to the standard test finger.	P	P	P	
(b) For earthing pin, the resistance of the plug/socket-outlet circuit shall be such that compliance with Clause 3.14.7 is maintained.	N/A	N/A	N/A	
(c) Any other function affecting safety shall not be impaired.	P	P	P	
(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created.	P	P	P	
(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.	P	P	P	

2.13.7.2	TABLE 2.2: Test No. 7b – Pin bending test			P
Requirement		Test result		
		Sample 1	Sample 2	Sample 3
Bend the pins with 20 cycles according to standard, after the tests:		—	—	—
The pins shall be inspected with normal or corrected to normal vision.		P	P	P
The pin shall not be broken off.		P	P	P

2.13.8	TABLE 2.2: Test No. 8 – Temperature rise test	P
Test current ($1.1 \times I_n$):		Test result
Tested part		—
Temperature rise on termination 1 (K):		16K
Temperature rise on termination 2 (K):		16K

2.13.9.1	TABLE 2.2: Test No. 9a – Movement of pins	P
Test condition: Preconditioned at 40°C for 1 h; Applied a force of 18 N gradually in 10 s and maintained for 10 s.		
Requirement		Test result
The maximum deflection shall not exceed 2.0 mm.		0.2mm
The plug can be inserted in the standard gauge shown in Appendix A, Appendix B and Appendix F without the application of undue force.		P
For other types of plugs, the plug can be inserted into an appropriate socket-outlet without the application of undue force.		N/A

2.13.9.2	TABLE 2.2: Test No. 9b – Fixing of pins	P		
Test condition: Heated to 50°C for 1 h; Applied a force of 60 N gradually in 10 s and maintained for 10 min.				
Requirement		Test result		
		Pin 1	Pin 2	Earth Pin
Any pin shall not be displaced relative to the adjacent material of the body by more than 2.4 mm at any time during these tests		0.51mm	0.51mm	N/A
Any pin shall return to within 0.8 mm of its nominal length specified in Figure 2.1 (a1) within 5 min of the removal of the test force		0.32mm	0.32mm	N/A

2.13.13.2	TABLE 2.2: Test No. 13a – Pressure test at high temperature			P
Test condition: heating at 160°C for 2h, applied a force of 2.5N through the blade to the specimen				
Requirement		Test result		
		Before test	After test	verdict
The thickness within the area of impression shall be not less than 50% of the thickness measured before the test.		P	P	P

No cracks on the insulation material.	No cracks	No cracks	P
The dimension of the insulating material shall not have changed below the minimum size shown in fig2.4	P	P	P

2.13.13.3	TABLE 2.2: Test No. 13b – Static damp heat test	P
Test condition: two damp heat cycles (12+12h), 95% relative humidity, Lower temperature 25±3°C and upper temperature 40°C		
Requirement		Test result
after this treatment and after recovery to room temperature, this specimen shall be subjected to:		—
(a) the insulation resistance test		P
(b) high voltage test		P
(c) abrasion test		P

2.13.13.4	TABLE 2.2: Test No. 13c – Low temperature test	P
Test condition: maintained at –15±2°C for 24h and returned to room temperature		
Requirement		Test result
after this treatment and after recovery to room temperature, this specimen shall be subjected to:		—
(a)the insulation resistance test		P
(b)high voltage test		P
(c)abrasion test		P

2.13.13.5	TABLE 2.2: Test No. 13d – Impact test at low temperture	P
Test condition: Test temperature (°C): -15 Duration: 24 hours		
Requirement		Test result
After the test the specimen shall show no damage within the meaning of this standard		P

2.13.13.6	TABLE 2.2: Test No. 13e – Abrasion test	P
-----------	---	---

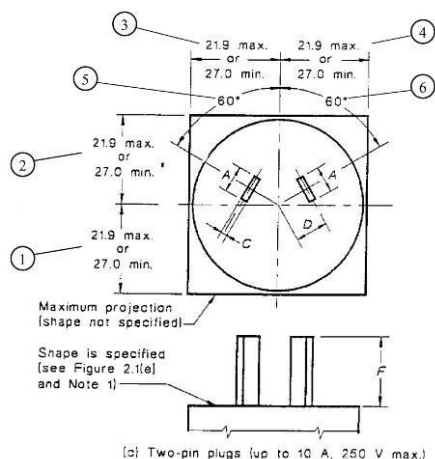
Test condition: 20000 movements,30 movements per min.	
Requirement	Test result
After the test:	—
The pins shall show no damage which may affect safety or impair the further use of the plug	P
The insulating sleeve shall not have punctured or rucked up.	P

Appendix No.11: Dimension Checking for Two-pin plug (Up to 10 A rating) According to AS/NZS 3112: 2017

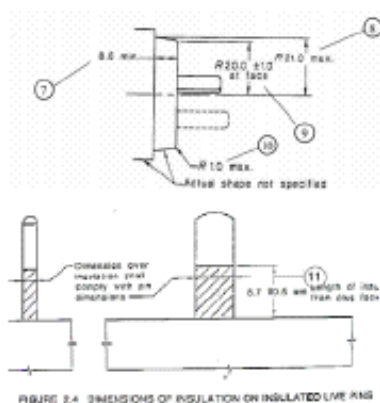
CHECKING OF DIMENSIONS

Dimensions checked by gauge and measurement

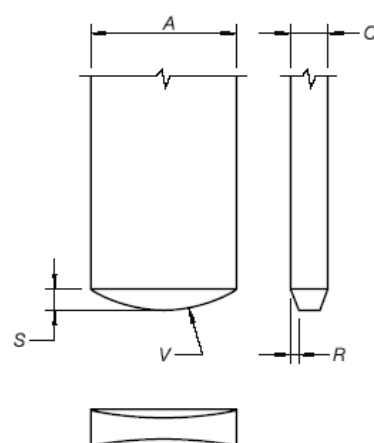
Standard sheet Figure 2.1 (c)



Standard sheet Figure 2.1 (e)



Standard sheet Figure 2.1 (h)



Position	Required (mm)	By Measurement (mm)	By the gauge shown in Figure A1
A	6.35±0.15	6,35	-
B	-	-	-
C	1.63 ^{+0.15} _{-0.50}	1,64	-
D	7.92	-	OK
E	-	-	-
F	17.06±0.4	17,17	-
G	-	-	-
R	0.35±0.05	0,32	-
S	0.90±0.10	0,84	-
T	≥0.60	-	-
V	6	-	OK
1	21.9 max. or 27.0 min.	21,14	-
2	21.9 max. or 27.0 min.	21,14	-
3	21.9 max. or 27.0 min.	62,88	-
4	21.9 max. or 27.0 min.	20,65	-
5	60°	-	OK
6	60°	-	OK
7	8.6 min.	12,15	-
8	21.0 max.	20,75	-

9	20.0±1.0	20,61	-
10	1.0 max	0,34	-
11	8.7±0.5	8,95	-

Appendix No.12: Photos of Australian plug portion



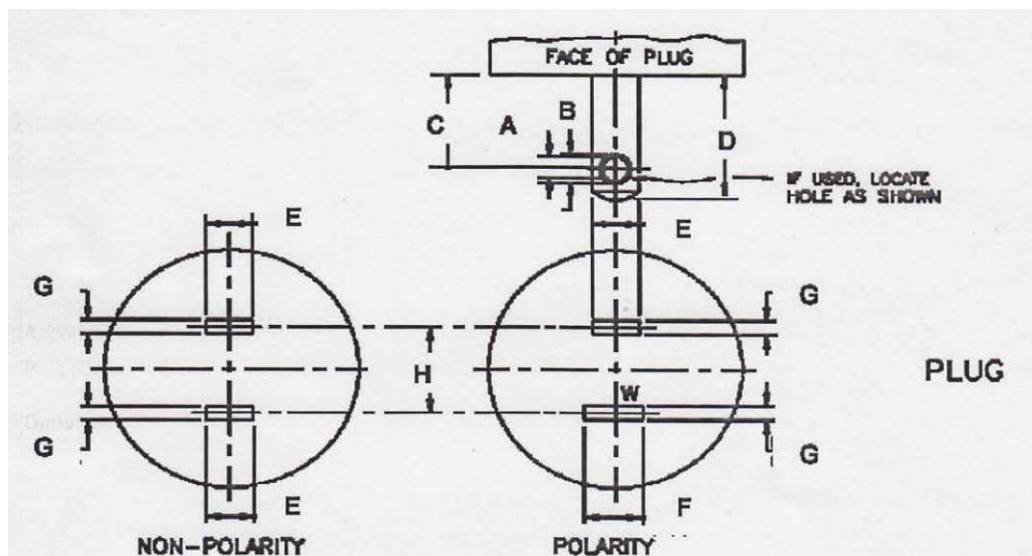
The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.13: Equipment combined with NEMA 1-15 plug portion according to UL 1310: 2018 Ed.7+R:16Aug2019.

Clause	Requirement + Test	Main Clause	Verdict
7.11	Weight and moment computation		P
	WY/Z shall not exceed 48 ounces (1361g)	54.12g	P
	WY/S shall not exceed 48 ounces (1361g)	36.88g	P
	WX shall not exceed 80 ounce-inches (0.56N·m)	0.011Nm	P
	W shall not exceed 28 ounces (794g)	58g	P
43	Direct Plug-In Blade Secureness Test		P
43.1	General		P
43.2	Displacement of blade; (mm)	0.02mm	P
44	Direct Plug-In Security of Input Contacts Test		P
44.1	General		P
44.1.1	No risk of fire or electric shock		P
44.1.2	Each blade; 30 pounds-force (133 N)		P
44.1.3	Both blades and the grounding pin; 40 pounds-force (178 N)		P
44.2	Removable, folding, and retractable blade units		P
	The folding or retractable blades of the unit shall withstand 6000 cycles of rotating the blades from the plug-in position to the fully recessed position		P
	The removable blades of the unit shall withstand 6000 cycles of removal and attachment		P
	The temperature test was conducted, for the specified locations below, before and after the blade cycling		P
	Following the cycling and temperature tests the sample was subjected to the Blade Secureness Test and Input Contacts Security Test		P
46.4	Rod pressure test		P

Clause	Requirement + Test	Main Clause	Verdict
	Dielectric voltage withstand test between:	Primary to secondary: 1480VAC Primary to enclosure: 1480VAC	P
46.5	Resistance to crushing; 75 pounds-force (334N)		P

Appendix No.14: Dimensions of NEMA 1-15 plug portion



Symbol	Requirement (inch)	Measured (inch)		Symbol	Requirement (inch)	Measured (inch)
A	0.120 – 0.130	0.123		E	0.240 – 0.260	0.248
B	0.151 – 0.161	0.157		F	0.307 – 0.322	--
C	0.449 – 0.479	0.466		G	0.055 – 0.065	0.057
D	0.625 – 0.718	0.656		H	0.495 – 0.505	0.498
Perimeter faces to the plug blades shall not be less than 7.9 mm (intended for use with children's toys) or 5.1 mm from any point of either blade						12.39

Appendix No.15: Photos for NEMA 1-15 plug portion.



The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.16: Equipment combined with BS-plug portion

Supplementary tests on plug portion according to BS 1363-1:2016 + A1:2018

Clause	Requirement - Test	Result-Remark	Verdict
12.1	Dimensions (Checked according to figure 4a)	See appendix no. 17 - 19	P
12.2	Outline of adaptor shall not exceed the dimension shown in Figure 4a for a distance of not less than 6.35 mm from the engagement surface	8.9mm	P
	Pin disposition, length and body outline shall be checked by use of the gauge shown in Figure 5		P
12.3	L/N pin was more than 9.5 mm from the periphery of the plug measured along the engagement surface	9.6mm	P
12.7	The base and cover of rewireable plugs shall be adaptor plugs having the cover fixed by screws shall be firmly secured to each other, It shall not be possible to remove the cover unless the adaptor is completely withdrawn from the socket-outlet. Fixing screws shall be captive. The test is carried out using apparatus similar to that shown in Figure 6		N/A
12.9	After the temperature rise test (clause 16). Use test probe 11 of BS EN 61032:1998 is applied a force 30 -5/0 N. During and after the test, it was not possible to touch the live parts		P
12.11	Adaptor plug pins shall be constructed of brass, except for sleeves of pins as specified in 12.18		P
	All exposed surfaces of the adaptor plug pins shall be smooth and free from burrs or sharp edges and other irregularities which could cause damage or excessive wear to corresponding socket contacts or shutters		P
	Those surfaces of the non-solid adaptor plug pins which are visible when the adaptor is correctly assembled shall be free of apertures		P
	All seams and joints of non-solid adaptor plug pins shall be closed over their entire length		P
	For solid pins, conformity shall be checked by 12.11.4.1		P
	For non-solid pins, compliance shall be checked by 12.11.4.2		N/A

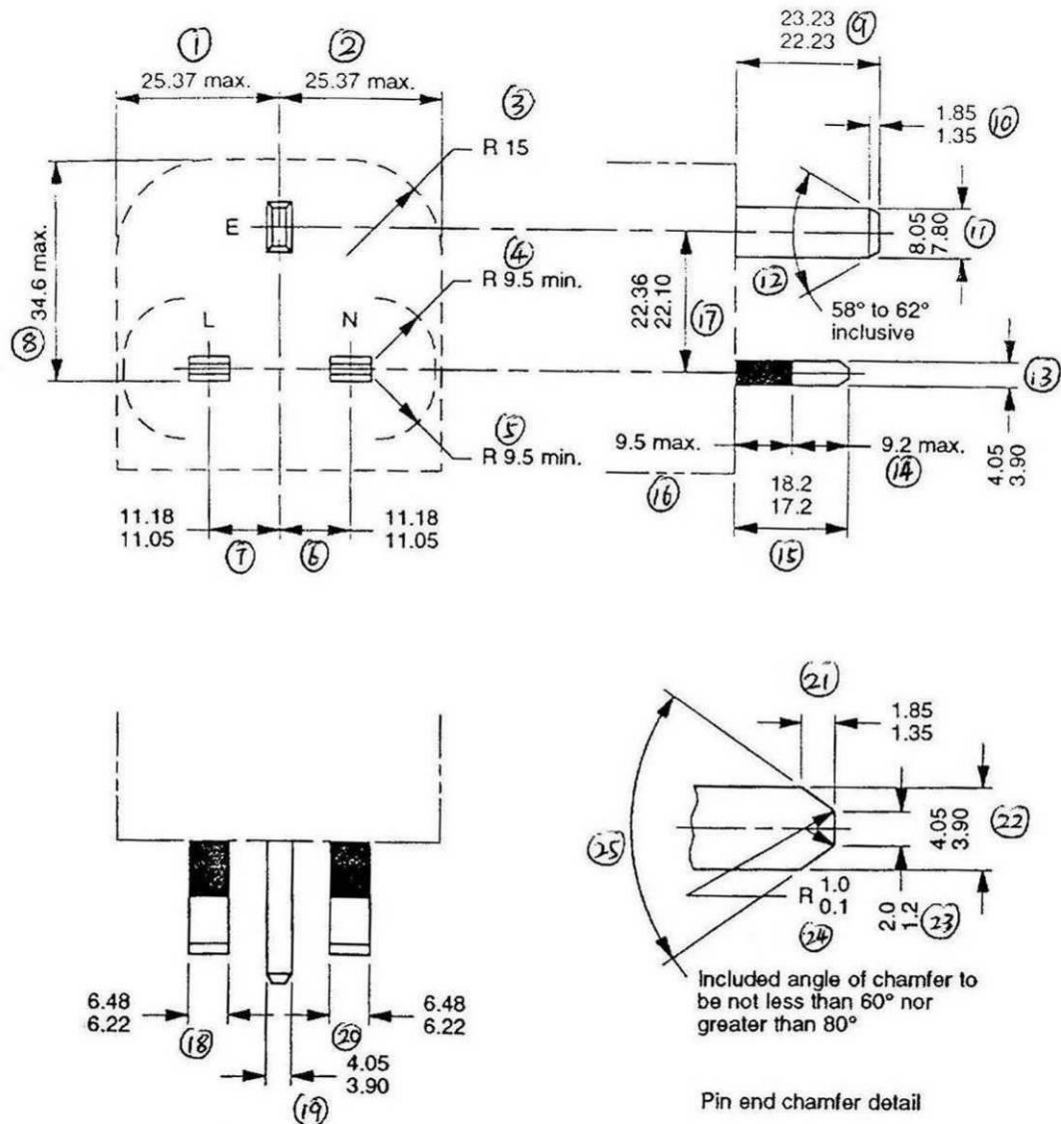
Clause	Requirement - Test	Result-Remark	Verdict
	Adaptors with non-solid pins shall not cause excessive wear to socket contacts or shutters of socket-outlets in accordance with BS 1363-2:1995		N/A
	Adaptor plug pins shall have adequate mechanical strength to ensure that they cannot be distorted by twisting. Apply a torque $1\text{N.m} \pm 10\%$ for $60 \pm 5/0$ S. After each pin has been separately twisted, the plug was fit the gauge in fig. 5. Repeated with opposite direction		P
12.13	Adaptors shall be so designed that when fully assembled the pins are adequately retained in position such that there is no likelihood of them becoming detached from the adaptor during normal use		P
	Each pin is subjected for $60 \pm 5/0$ S to a pull of $100 \pm 2/0$ N without jerks in the direction of the major axis. The plug is mounted using the steel plate shown in fig.7. The apparatus is placed within an oven and the pull is applied at least 1 h after the plug body has attained the test temperature of $70^\circ\text{C} \pm 5^\circ\text{C}$ while maintained at this temperature. After the test, the plug pin shall fit into the gauge and comply with 12.2.1		P
12.14	The degree of flexibility of mounting of the plug pins or the angular movement of the pins in the base shall be not greater than $3^\circ 30'$. See fig. 8		P
	Test procedure refers to standard. During each test, the declination from the horizontal measured on the scale was not exceed $3^\circ 30'$ and comply with 12.2.1		P
12.17	Plug pin sleeves shall have adequate electric strength, resistance to abrasion and resistance to deformation due to overheating of pins.	200°C	P
12.18	Live and neutral adaptor plug pins shall be fitted with insulating sleeves. See fig.4. Sleeves shall not fitted to any earthing adaptor plug pin		P

Clause	Requirement - Test	Result-Remark	Verdict
12.19.3	Abrasion test – 10 000 times in each direction(20 000 movements) at a rate of 25 movements to 30 movements per min. (fig. 9) After the test, the sleeve shall show no damage and also shall not have been penetrated or creased, satisfy the tests in 12.19.2		P
13.10	The total mass of the equipment with all specified connectors shall not exceed 800 g. The torque exerted on a socket shall not exceed 0.7 N·m. The test apparatus as Figure 37	Compliance with the main standard	N/A
	Additional: Products with torque exceeding 0.25Nm do not comply with the main standard hence full compliance with the main standard cannot be claimed		N/A
Additional test for ISODs according to BS 1363-1:2016 + A1:2018			
12.9.1	All exposed surfaces of plug pins shall be smooth and free from burrs or sharp edges and other irregularities which could cause damage or excessive wear to corresponding socket contacts or shutters		P
12.9.4	Apply a force of 1100 ±10/0N at a rate not exceeding 10 mm/min. After this test the plug should fit the gauge to fig. 5		P
	Apply a force of 400 ±10/0N at a rate 10 ± 2 mm/min. Deflection shall not exceed 1.5 mm. After this test the plug should fit the gauge to fig. 5		P
12.9.6	ISODs shall have adequate mechanical strength to ensure that they cannot be distorted by twisting. Apply a torque 1N.m ± 10% for 60 ±5/0 S. After each pin has been separately twisted, the plug shall fit the gauge in fig. 5. Repeated with opposite direction		P

Appendix No.17: Dimensions of BS1363 plug portion

Dimensions Checked by means of measurement according to BS1363-1 Fig. 4 (see appendix no. 18)			
Position	Requirement (mm)	Measured (mm)	Verdict
1	25.37max	24.02	P
2	25.37max	24.02	P
3	R15min	Measured by gauge	P
4	R9.5min	9.60	P
5	R9.5min	9.60	P
6	11.05-11.18	11.12	P
7	11.05-11.18	11.12	P
8	34.6max	30.50	P
9	22.23-23.23	22.60	P
10	1.35-1.85	1.55	P
11	7.80-8.05	8.03	P
12	58°-62° inclusive	60°	P
13	3.90-4.05	3.99	P
14	9.2max	8.88	P
15	17.2-18.2	18.05	P
16	9.5max	9.17	P
17	22.10-22.36	22.21	P
18	6.22-6.48	6.26	P
19	3.90-4.05	4.03	P
20	6.22-6.48	6.26	P
21	1.35-1.85	1.81	P
22	3.90-4.05	3.98	P
23	1.2-2.0	1.24	P
24	R0.1-R1.0	R0.55	P
25	60°-80° inclusive	68°	P
Outline of the plug not exceed the dimension shown in figure 4 at least 6.35mm from the engagement surface		8.90	P

Appendix No.18: BS1363-3 Fig 4

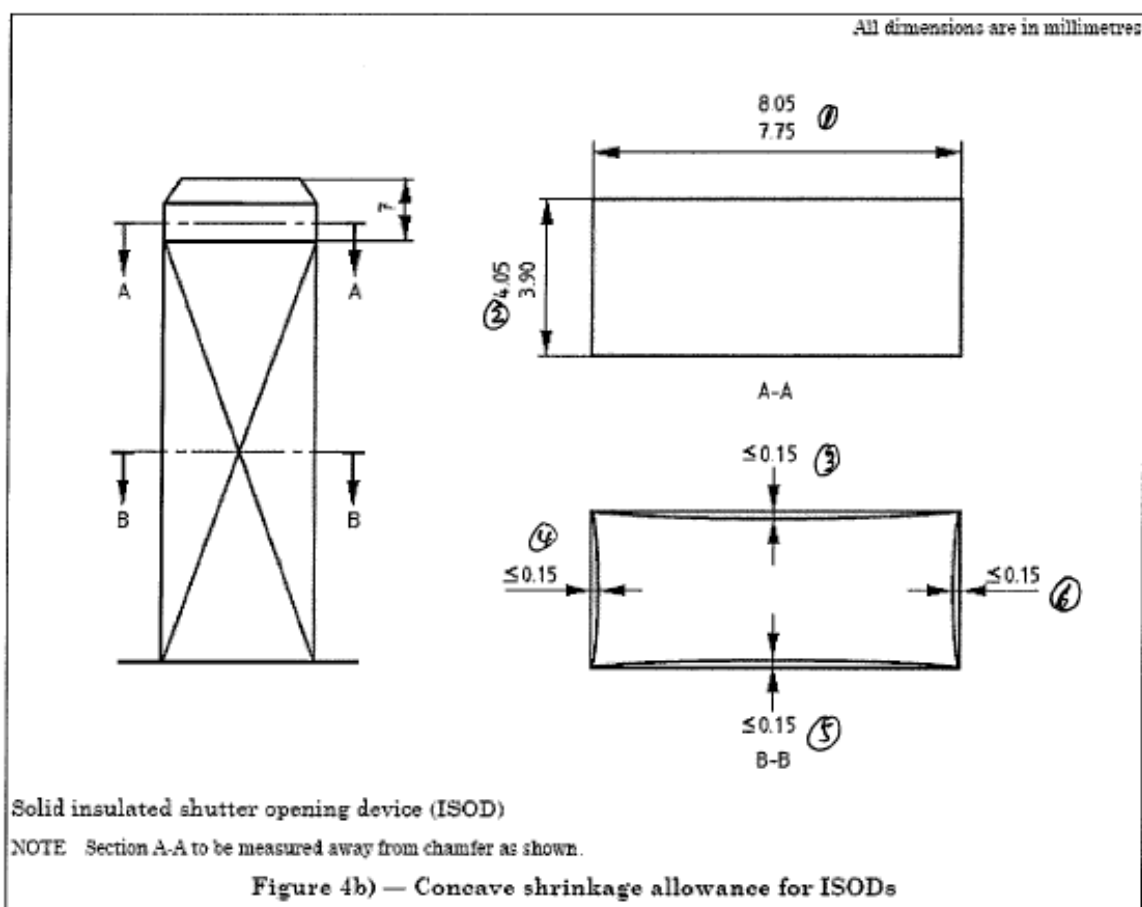


All dimensions are in millimetres.

Figure 4. Dimensions and disposition of pins (see clause 12)

Appendix No.19: Concave shrinkable allowance for ISODs

Dimensions Checked by means of measurement according to BS1363-1 Fig. 4b			
Position	Requirement (mm)	Measured (mm)	Verdict
1	7.75-8.05	8.03	P
2	3.90-4.05	3.99	P
3	≤ 0.15	0.01	P
4	≤ 0.15	0.01	P
5	≤ 0.15	0.01	P
6	≤ 0.15	0.01	P

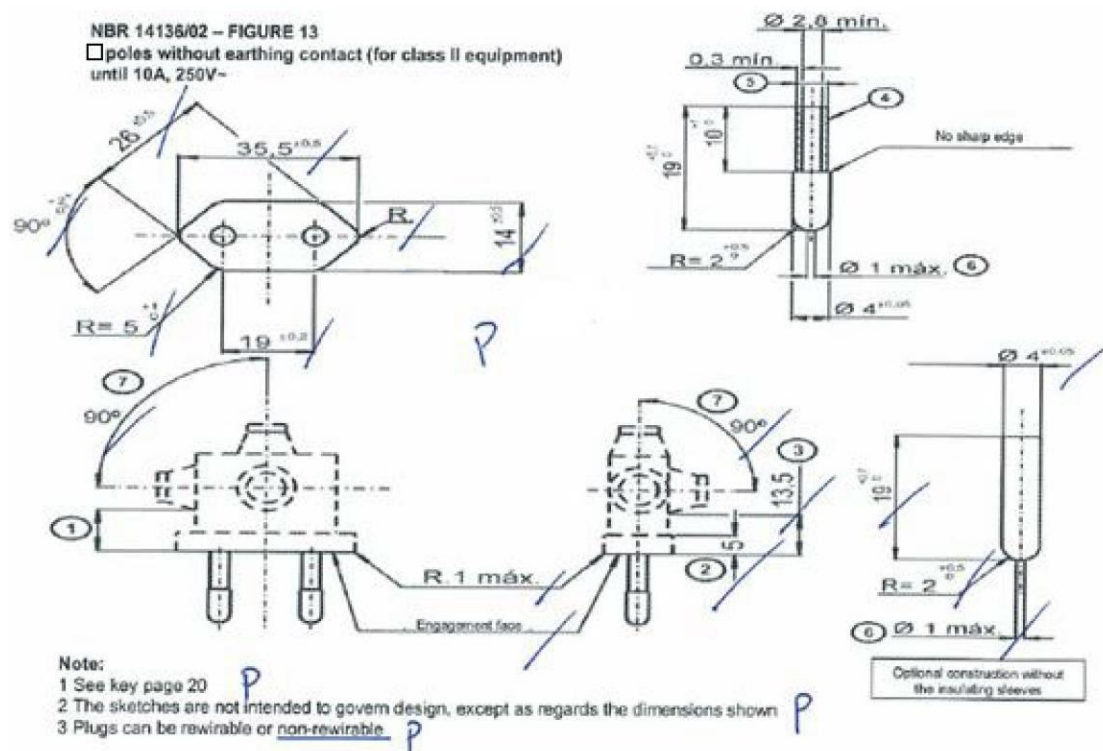


Appendix No.20: Photo for BS1363 plug



The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.22: Evaluation sheet of NBR 14136 Figure 13 plug



Key of page 20:

- 1– The distance between the engagement face and the cord or cord guard, if any, shall be at least 14 mm
 - 2– Within this distance, the outline shall be not smaller than the engagement face.
 - 3– Within this distance, the outline shall be not larger than the engagement face.
 - 4– Insulating sleeves on the current-carrying pins are optional
- If the insulating sleeves are separate parts, they shall enter the plug by at least 3mm measured from the engagement face.
- 5– The external diameter of the insulating sleeves shall not be larger than the diameter of the uninsulated part of the pins.
 - 6– To avoid damage to shutters, the ends of the pins shall show neither sharp edges nor burrs. They shall be of rounded shape as shown.
 - 7– The angle of 90° represents the maximum permissible area for the orientation of the entry of the flexible cable or cord.

Plug Marking for the 10A 250V~ Plug:

- Cable section of 0.5mm² - 2.5A 250V~
- Cable section of 0.75mm² - 10A 250V~
- Cable section of 1mm² - 10A 250V~
- Cable section of 1.5mm² - 10A 250V~
- Cable section of 2.5mm² - 10A 250V~

Appendix No.23: Evaluation sheet of IRAM 2063 plug

25	RESISTANCE TO HEAT	
25.2	Parts of insulating material of fixed socket-outlets necessary to retain current-carrying parts and parts of the earthing circuit in position, as well as parts of the front surface zone of 2 mm wide surrounding the phase and neutral pin entry holes: ball-pressure test at $(125 \pm 2)^{\circ}\text{C}$ for 1 h	P
	After the test: diameter of impression ≤ 2 mm: 0.67 mm	P
25.3	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)	---
	Test temperature ($^{\circ}\text{C}$): $(70 \pm 2)^{\circ}\text{C}$ / $(40 \pm 2)^{\circ}\text{C}$ + highest temperature rise determined during the test of clause 19	---
	After the test: diameter of impression ≤ 2 mm:	---

28	RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING	P
28.1	Resistance to abnormal heat and to fire	P
28.1.1	Glow-wire test	
	For parts of fixed accessories necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 850°C	P
	No visible flame and no sustained glowing	P
	Flame and glowing extinguish within 30 s:	P
	No ignition of the tissue paper	P
	For parts of fixed accessories needed to retain the earth terminal in position in a box: test temperature 650°C	---
	No visible flame and no sustained glowing	---
	Flame and glowing extinguish within 30 s:	---
	No ignition of the tissue paper	---
	For parts of portable accessories necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 750°C	P
	No visible flame and no sustained glowing	P
	Flame and glowing extinguish within 30 s:	P
	No ignition of the tissue paper	P
	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: test temperature 650°C	---
	No visible flame and no sustained glowing	---
	Flame and glowing extinguish within 30 s:	---
	No ignition of the tissue paper	---

28.1	Table: Glow wire	P
Tested part:	Temperature of test ($^{\circ}\text{C}$)	Result
Plug	850	P

Appendix No.24: Evaluation sheet of IRAM 2063 plug

6.4	PLUG PINS MEASUREMENT		
	Measured in mm	Allowed in mm	Verdict
- Phase Pin:			
Length:	18.03,18.05,18.04	18,2 ± 0,2 (18.0/18.4)	P
Wide:	6.25,6.26,6.25	6,25 ± 0,1 (6.15/6.35)	P
Thickness:	1.57,1.55,1.56	1,55 ± 0,07 (1.48/1.62)	P
- Neutral Pin:			
Length:	18.10,18.09,18.08	18,2 ± 0,2 (18.0/18.4)	P
Wide:	6.23, 6.25,6.23	6,25 ± 0,1 (6.15/6.35)	P
Thickness:	1.51,1.51,1.52	1,55 ± 0,07 (1.48/1.62)	P
- Pin of earth			
Length:	---	21,4 ± 0,2 (21.2/21.6)	---
Wide:	---	6,25 ± 0,1 (6.15/6.35)	---
Thickness:	---	1,55 ± 0,07 (1.48/1.62)	---
Perimeter:	11.86,11.86, 11.85	≥ 8mm	P
Comments:	-		

Photos:

