



Test Report issued under the responsibility of:

Intertek

TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number : 170300645SHA-001

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Testing Laboratory : Intertek Testing Services Shanghai

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

Applicant's name : GlobTek, Inc.

Address : 186 Veterans Dr. Northvale, NJ 07647 USA

Test specification:

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

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC62368_1B

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

Master TRF : 2014-03

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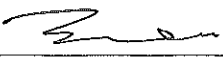
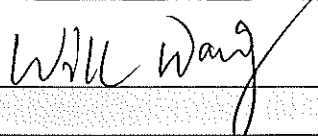
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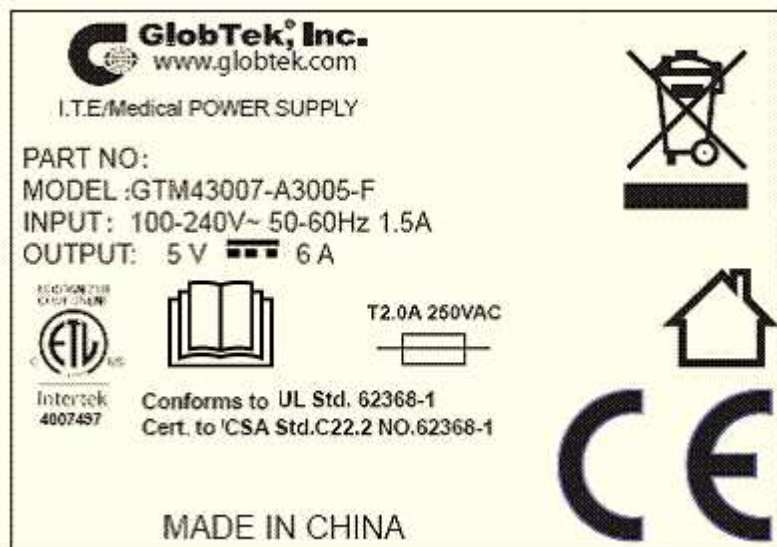
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Test Item description	I.T.E. Power supply	
Trade Mark	 GlobTek, Inc. www.globtek.com	
Manufacturer	Same as applicant	
Model/Type reference	GT*43007-**** (Refer to page 6 for details.)	
Ratings	Input: 100-240V~, 50-60Hz, 1.5A; Output: Refer to page 7 for details	
Testing procedure and testing location:		
<input checked="" type="checkbox"/> CB Testing Laboratory:	Intertek Testing Services Shanghai	
Testing location/ address	Building No.86, 1198 Qinzhou Road (North), 200233 Shanghai, China	
<input type="checkbox"/> Associated Testing Laboratory:		
Testing location/ address		
Tested by (name + signature).....	Susanna Xu (Engineer)	
Approved by (name + signature)	Will Wang (Mandated Reviewer)	
<input type="checkbox"/> Testing procedure: TMP/CTF Stage 1		
Testing location/ address		
Tested by (name + signature).....		
Approved by (name + signature)		
<input type="checkbox"/> Testing procedure: WMT/CTF Stage 2		
Testing location/ address		
Tested by (name + signature).....		
Witnessed by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/> Testing procedure: SMT/CTF Stage 3 or 4		
Testing location/ address		
Tested by (name + signature).....		
Approved by (name + signature)		
Supervised by (name + signature).....		

List of Attachments (including a total number of pages in each attachment): Page 60–65 : Photograph (total 6 pages) Page 66–69 : European group differences and national differences (total 4 pages)	
Summary of testing: 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).	
Tests performed (name of test and test clause): 5.2 Classification and limits of electrical energy sources 5.4.1.8 Determination of working voltage 5.4.1.10.3 Ball pressure test 5.4.2 Clearances 5.4.3 Creepage distances 5.4.8 Humidity conditioning 5.4.9 Electric strength test 5.7.2.1 Measurement of touch current 6.2.2.2 Power measurement for worst-case load fault 6.2.2.3 Power measurement for worst-case source fault 6.4.3.3 Single Fault Conditions test B.2.5 Input test B.3.5 Maximum load at output terminals F.3.10 Permanence of markings G.5.3.3 Overload test of Transformers T.2 Steady force test, 10 N	Testing location: Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North), 200233 Shanghai, China
Summary of compliance with National Differences: List of countries addressed Group differences for CENELEC are considered. <input checked="" type="checkbox"/> The product fulfils the requirements of IEC 62368-1:2014 (Second Edition).	
Copy of marking plate (representative): The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.	



Note:

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

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



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

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

TEST ITEM PARTICULARS:	
Classification of use by	<input type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection.....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input type="checkbox"/> pluggable equipment type A - <input checked="" type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input checked="" type="checkbox"/> other: __Built-in__
Considered current rating of protective device as part of building or equipment installation	16 A; Installation location: <input type="checkbox"/> building; <input checked="" type="checkbox"/> equipment
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
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 maxium operating ambient:	--
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP20
Power Systems	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V _{L-L}
Altitude during operation (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> <5000 m
Altitude of test laboratory (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> <50 m
Mass of equipment (kg)	--
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..... :	2017-03-03
Date (s) of performance of tests..... :	2017-03-16 ~ 2017-09-20
GENERAL REMARKS:	
<p>“(See Enclosure #)” refers to additional information appended to the report. “(See appended table)” refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> <p><i>This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.</i></p> <p>Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	Factory 1 GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA Factory 2 GlobTek (Suzhou) Co., Ltd Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China
GENERAL PRODUCT INFORMATION:	
<p>Product Description –</p> <p>Product covered by this report is built-in I.T.E. power supply module, which is open frame type for indoor use only.</p> <p>The installation, use for the insulation construction, humidity conditioning and heating in end product shall be finally determined in the end product.</p> <p>Disconnection from the mains supply, mechanical strength and fire enclosure are not considered in this report. The enclosure shall be at least V-0.</p> <p>Model similarity: GT*43007-*****</p> <p>The 1st "*" can be 'M' or '-' or 'H' for market identification and not related to safety.</p> <p>The 2nd "*" is A, B, or C and is related to PCB size: A= 2"x3", B=2"x4", C=3"x5". The different PCB sizes are only for installation purpose in end product with no safety spacing modification.</p> <p>The 3rd "*" denote the rated output wattage designation, which can be "01" to "60", with interval of 1.</p>	

The 4th "" denote the standard rated output voltage designation, which can be "05", "07", "09", "12", "15", "18", "24", "36" or "48". Each standard rated output voltage designation corresponds to a transformer model. Each transformer model is identical in insulation construction including clearance and creepage except number of turns per coil.

The 5th "" is optional deviation, subtracted from standard output voltage, which can be "-0.1" to "-11.9" with interval of 0.1, or blank to indicate no voltage different.

The 4th and 5th asterisks together denote the output voltage with a range of 5-48 volts.

The 6th "" can be "-F" or "-FW". "-F" represent Class I construction models and "-FW" represent Class II construction models.

Model list:

The difference between transformers is the turns of secondary winding.

Model	Output Voltage	Max. output current	Max. output power	Transformer
GT*43007-**05**	5	6A	30W	TF024 (5-6.5Vdc) TF025 (6.6-8.9Vdc) TF026 or TF026X (9-13Vdc) TF027 (13.1-17Vdc) TF028 (17.1-24.9Vdc) TF029 (25-34.9Vdc) TF032 (35-48Vdc)
GT*43007-**07**	5.1-7V	6A	30W	
GT*43007-**09**	7.1-9V	5A	45W	
GT*43007-**12**	9.1-12V	5.0A	60W	
GT*43007-**15**	12.1-15V	5.0A	60W	
GT*43007-**18**	15.1-18V	4.0A	60W	
GT*43007-**24**	18.1-24V	3.31A	60W	
GT*43007-**36**	24.1-36V	2.50A	60W	
GT*43007-**48**	36.1-48V	1.66A	60W	

GTM43007-A3005-F, GTM43007-A4509-F, GTM43007-A6024-F, GTM43007-A6036-F, GTM43007-A6048-F are selected for typical models. Input test, energy hazards test, voltage under normal or fault conditions test, limited power source test, temperature test and abnormal test were performed on model GT*43007-*6012**.

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 secondary circuit of built-in power supply	ES1
Internal primary circuit of built-in power supply; Internal circuit of socket-outlet	ES3

Electrically-caused fire (Clause 6):

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

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS	Corresponding classification (PS)
USB output circuit	PS1
Primary circuits inside the enclosure	PS3

Injury caused by hazardous substances (Clause 7)

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

Example: Liquid in filled component

Glycol

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

Mechanically-caused injury (Clause 8)

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

Example: Wall mount unit

MS2

Source of kinetic/mechanical energy	Corresponding classification (MS)
N/A	N/A
N/A	N/A

Thermal burn injury (Clause 9)

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

Example: Hand-held scanner – thermoplastic enclosure

TS1

Source of thermal energy	Corresponding classification (TS)
N/A	N/A
N/A	N/A

Radiation (Clause 10)

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

Example: DVD – Class 1 Laser Product

RS1

Type of radiation	Corresponding classification (RS)
N/A	N/A
N/A	N/A

ENERGY SOURCE DIAGRAM

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

☐ **ES** ☐ **PS** ☐ **MS** ☐ **TS** ☐ **RS**

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	ES1: Internal secondary circuit after T1 sec. output	N/A	N/A	N/A
Ordinary	ES3: Internal primary circuit of built-in power supply	N/A	N/A	Enclosure
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All combustible materials shall be within the fire enclosure. It shall be considered in end product.	PS3: Primary circuits shall be inside the enclosure	N/A	N/A	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
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
It shall be considered in end product.	N/A	N/A	N/A	N/A
		N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
It shall be considered in end product.	N/A	N/A	N/A	N/A
--	--	--	--	--
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

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

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	(See appended table 4.1.2)	P
4.1.2	Use of components	(See appended table 4.1.2)	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions..... :	Building-in EUT	N/A
4.4.4	Safeguard robustness	Evaluated in end product. Output part is considered only.	P
4.4.4.2	Steady force tests..... :	(See Annex T.4, T.5)	N/A
4.4.4.3	Drop tests :	(See Annex T.7)	N/A
4.4.4.4	Impact tests :	Evaluated in end product.	N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests..... :	No such parts.	N/A
4.4.4.6	Glass Impact tests..... :	No glass used.	N/A
4.4.4.7	Thermoplastic material tests..... :	Evaluated in end product.	N/A
4.4.4.8	Air comprising a safeguard..... :	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness	Only output part is considered. It shall be double check in end product.	P
4.5	Explosion		P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to :	Internal components and wiring.	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard..... :		N/A
4.7.3	Torque (Nm) :		N/A
4.8	Products containing coin/button cell batteries	No such parts.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery..... :		—
4.8.4	Battery Compartment Mechanical Tests :		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object..... :	Evaluated in end product.	N/A

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: Internal secondary circuit after T1 sec. output.	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits :	(See appended table 5.2)	P
5.2.2.4	Single pulse limits :		N/A
5.2.2.5	Limits for repetitive pulses :		N/A
5.2.2.6	Ringing signals :		N/A
5.2.2.7	Audio signals :		N/A
5.3	Protection against electrical energy sources	See table "OVERVIEW OF EMPLOYED SAFEGUARDS"	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	Only output part considered. It shall be double check in end product.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only output part considered. It shall be double check in end product.	P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V :	ES3 voltages less than 420 V peak	P
	b) Electric strength test potential (V) :		N/A
	c) Air gap (mm) :		N/A
5.3.2.4	Terminals for connecting stripped wire	No such part.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning :	No hygroscopic material.	N/A
5.4.1.4	Maximum operating temperature for insulating materials :	Considered to be class 130 (B)	P
5.4.1.5	Pollution degree :	Pollution degree 2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such circuit.	N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature..... :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.3	Ball pressure	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage	2500V _{peak}	—
	b) d.c. mains transient voltage	N/A	—
	c) external circuit transient voltage	N/A	—
	d) transient voltage determined by measurement ... :	N/A	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2.4)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages	Up to 5000m.	P
5.4.3	Creepage distances	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group	Material group IIIb is used	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material	Polyester tape used in the transformers.	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs)	2 layers	P
5.4.4.6.3	Non-separable thin sheet material	Triple-insulating winding	P
5.4.4.6.4	Standard test procedure for non-separable thin sheet material	Approved TIW used	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		P
5.4.4.9	Solid insulation at frequencies >30 kHz	Evaluated according to 5.4.9.1	P
5.4.5	Antenna terminal insulation	No such part.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.6	Insulation of internal wire as part of supplementary safeguard	(See appended table 5.4.4.2)	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	Built-in product, it shall be double check in end product.	N/A
	Relative humidity (%).....		—
	Temperature (°C)		—
	Duration (h)		—
5.4.9	Electric strength test	(See appended table 5.4.9) It shall be double check in end product for accessible part.	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....		—
	Nominal voltage U_{peak} (V).....		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....		N/A
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	Approved component	P

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		N/A
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 – USB port: Max.0.17mA<0.707mA peak (Limit) Other part shall be double check in end product.	P
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		P

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Clause	Requirement + Test	Result - Remark	Verdict
	System of interconnected equipment (separate connections/single connection)	Single connection	—
	Multiple connections to mains (one connection at a time/simultaneous connections)	N/A	—
5.7.4	Earthed conductive accessible parts		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA)		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications		P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault	(See appended table 6.2.2)	P
6.2.2.4	PS1	USB output circuit	P
6.2.2.5	PS2	Not considered	N/A
6.2.2.6	PS3	All primary circuits inside the equipment enclosure (Evaluated in end product)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	No arcing PIS	N/A
6.2.3.2	Resistive PIS	Primary circuits inside the enclosure	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
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	Electrical enclosures	P
6.4	Safeguards against fire under single fault conditions		N/A
6.4.1	Safeguard Method	It shall be considered in end product	N/A
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	N/A
6.4.6	Control of fire spread in PS3 circuit	(See appended tables 4.1.2 and Annex G)	N/A
6.4.7	Separation of combustible materials from a PIS	All internal Power sources are enclosed by fire enclosure.	N/A
6.4.7.1	General		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		N/A
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	The enclosure shall be made of V-0 class material.	N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	Need double evaluated in end product.	N/A
	Needle Flame test		N/A

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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)	Need double evaluated in end product.	N/A
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)	Need double evaluated in end product.	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	The enclosure shall be made of V-0 class material.	N/A
6.5	Internal and external wiring		P
6.5.1	Requirements		P
6.5.2	Cross-sectional area (mm ²)	(See appended table 4.1.2)	—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1		P

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

8	MECHANICALLY-CAUSED INJURY		N/A
8.1	General	It shall be double checked in end product.	N/A
8.2	Mechanical energy source classifications		N/A
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	(Evaluated in end product)	N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No moving parts	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard.....		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....		N/A
8.6	Stability		N/A
8.6.1	Product classification		N/A
	Instructional Safeguard		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....		N/A
	Position of feet or movable parts		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm)		—

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

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :		N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector..... :	No such parts	N/A
B.3.5	Maximum load at output terminals..... :	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited..... :		N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature..... :		N/A
B.4.4	Short circuit of functional insulation	(See appended table B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :		N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V) :		—
	Rated load impedance (Ω) :		
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		N/A
F.1	General requirements	Evaluated in end product	N/A
	Instructions – Language :		—
F.2	Letter symbols and graphical symbols		N/A
F.2.1	Letter symbols according to IEC60027-1		N/A
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		N/A
F.3	Equipment markings		N/A
F.3.1	Equipment marking locations		N/A
F.3.2	Equipment identification markings		N/A
F.3.2.1	Manufacturer identification :		—

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.2.2	Model identification		—
F.3.3	Equipment rating markings		N/A
F.3.3.1	Equipment with direct connection to mains		N/A
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....		—
F.3.3.4	Rated voltage		—
F.3.3.4	Rated frequency		—
F.3.3.6	Rated current or rated power		—
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
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.....		N/A
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)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking		—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		N/A
F.3.10	Test for permanence of markings		N/A
F.4	Instructions		N/A
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		N/A
	c) Equipment intended to be fastened in place		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
j)	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
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). :		—

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....	Approved TIW used	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Physical separation provided.	P
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).....:	Meet the requirement in G.5.3.2 and G.5.3.3	P
	Position.....:	Used in a low-voltage power supply	—
	Method of protection	Non-inherently short-circuit proof transformers protected by electronic circuit	—
G.5.3.2	Insulation		P
	Protection from displacement of windings.....:	The end turns are reliably fixed by tape, the whole transformer varnished	—
G.5.3.3	Overload test	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	Certified TIW is used as secondary winding.	P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements	Evaluated in end product	N/A
	Type.....		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG).....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry	(See appended table 5.4.11.1)	N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock	(see appended table 4.1.2)	N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test	Clause 6.4.1 is not applicable.	N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P
G.11.1	General requirements	Certified 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
	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		P
	Distance through insulation	Min. 0.4mm	P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	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	Certified TIW used	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature:		—
M.4.2.2 b)	Single faults in charging circuitry:		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
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	All applicable figures	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements	Evaluated in end product	N/A
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids	No internal liquids	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	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
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources	The USB output circuit	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition		P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		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		N/A
	Samples, material		—
	Wall thickness (mm)	--	—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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	Evaluated in end product.	N/A
T.2	Steady force test, 10 N	For components	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test		N/A
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....:		—
	Height (m)		—
T.10	Glass fragmentation test	(See sub-clause 4.4.4.9)	N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:	(See Annex T)	N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		N/A
V.1	Accessible parts of equipment	Should be double evaluated in end product. Considered output terminal can be accessible only.	N/A
V.2	Accessible part criterion		N/A

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

4.1.2	TABLE: List of critical components					P
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./, Edition	Mark(s) & Certificates of conformity 1	
PCB material	PACIFIC WIN INDUSTRIAL LTD	PW-02 PW-03	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E228070	
Alt.	YILIHUA	YLH-1 YLH-2	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E251781	
Alt.	AREX	02V0 04V0	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E186016	
Alt.	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	DKV0-3A DGV0-3A	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E177671	
Alt.	SHENZHEN TONGCHUANGXI N ELECTRONICS CO LTD	TCX	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E250336	
Alt.	WALEX ELECTRONIC (WUXI) CO LTD	T2, T2A, T2B T4	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E154355	
Alt.	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1 2V0 FR4	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E243157	
Alt.	CHEERFUL ELECTRONIC (HK) LTD	02 03 03A	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E199724	
Alt.	DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E251754	
Alt.	KUOTIANG ENT LTD	C-2 C-2A	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1 UL 796	Tested with appliance UL E227299	
Alt.	YUANMAN PRINTED CIRCUIT CO LTD	1V0	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E74757	
Alt.	SUZHOU XINKE ELECTRONICS CO LTD	XK-2, XK-3	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E213590	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	HS-S	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E229877
Alt.	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E213009
Alt.	HUIZHOU SHUNJIA ELECTRONICS CO LTD	SJ-B	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E320884
Alt.	SHANGHAI H-FAST ELECTRONIC CO LTD	211001, 411001	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL E337862
Alt.	Interchangeable	Interchangeable	Min. V-0, min 1.6 mm thickness, 130°C	IEC/EN 62368-1	Tested with appliance UL Approved.
Fuse (F1, F2) (F2 is optional.)	Conquer Electronics Co., Ltd.	MST	T 2 AL, 250 V, Rated breaking capacity 100A	IEC/EN 60127-2	VDE 40017118 UL E82636
Alt.	Ever Island Electric Co., Ltd. and Walter Electric	2010	T 2 AL, 250 V, Rated breaking capacity 130A	IEC/EN 60127-2	VDE 40018781 UL E220181
Alt.	Bel Fuse Ltd.	RST	T2AL, 250V, Rated breaking capacity 100A	IEC/EN 60127-2	VDE 40011144 UL E20624
Alt.	Das & Sons International Ltd.	385T series	T2AL, 250V, Rated breaking capacity 35A	IEC/EN 60127-2	VDE 40008524 UL E205718
Alt.	Shenzhen Lanson Electronics Co. Ltd.	SMT	T2AL, 250V, Rated breaking capacity 35A	IEC/EN 60127-2	VDE 40012592 UL E221465
Alt.	Walter Electronic Co. Ltd.	ICP series	T2AL, 250V, Rated breaking capacity 50A	IEC/EN 60127-2	VDE 40012824 UL E56092
Alt.	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10 series	T2AL, 250V, Rated breaking capacity 50A	IEC/EN 60127-2	VDE 40017009 UL E213695
Alt.	Sun Electric Co.	5T	T2AL, 250V, Rated breaking capacity 100A	IEC/EN 60127-2	VDE 40027241 UL E166522
Alt.	Bel Fuse Ltd.	5ST	T2AL, 250V, Rated breaking capacity 35A	IEC/EN 60127-2	VDE 40000507 UL E20624

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Dongguan Better Electronics Technology Co., Ltd.	932	T2A, 250V, Rated breaking capacity 100A	IEC/EN 60127-2	VDE 40033369 UL E300003
Alt.	Hollyland Compoany Limited	5ET	T2A, 250V, Rated breaking capacity 63A	IEC/EN 60127-2	VDE 40015669 UL E156471
Alt.	Sunny East Enterprise Co. Ltd.	CFD-Serie(s)	T2A, 250V, Rated breaking capacity 50A	IEC/EN 60127-2	VDE 40030246 UL E133774
Alt.	Conquer Electronics Co., Ltd.	MET series	T2A, 250V, Rated breaking capacity 35A	IEC/EN 60127-2	VDE 40017157 UL E82636
Earthing wire for class I model	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1007, 1015	Min. 18AWG, min. 300Vac, min. 80°C	IEC/EN 62368-1	Tested with appliance UL E237831
Alt.	SUZHOU YEMAO ELECTRONIC CO LTD	1007, 1015	Min. 18AWG, min. 300Vac, min. 80°C	IEC/EN 62368-1	Tested with appliance UL E353532
Alt.	ZHUANG SHAN CHUAN ELECTRICAL PRODUCTS (KUNSHAN) CO LTD	1007, 1015	Min. 18AWG, min. 300Vac, min. 80°C	IEC/EN 62368-1	Tested with appliance UL E333601
Alt.	GLOBTEK INC	1007, 1015	Min. 18AWG, min. 300Vac, min. 80°C	IEC/EN 62368-1	Tested with appliance UL E464257
Alt.	Interchangeable	Interchangeable	Min. 18AWG, min. 300Vac, min. 80°C	IEC/EN 62368-1	Tested with appliance UL approved
Heatsink (HS1)	Interchangeable	Interchangeable	Aluminum. Approximate overall dimension 60mm by 15mm, min.1.5mm thick, secured to PWB by soldering	IEC/EN 62368-1	Tested with appliance
Heatsink (HS2) (for 5-9V)	Interchangeable	Interchangeable	Aluminum. Approximate overall dimension 50mm by 22mm by 38mm, min.1.0mm thick, secured to PWB by soldering	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt.	Interchangeable	Interchangeable	Aluminum. Approximate overall dimension 50mm by 22mm by 38mm, min.1.2mm thick, secured to PWB by soldering	IEC/EN 62368-1	Tested with appliance
Alt.	Interchangeable	Interchangeable	SPCC. Approximate overall dimension 50mm by 14mm by 38mm, min.1.2mm thick, secured to PWB by soldering	IEC/EN 62368-1	Tested with appliance
Heatsink (HS2) (for 9.1-48V)	Interchangeable	Interchangeable	Aluminum. Approximate overall dimension 50mm by 6mm by 18mm, min.1.4mm thick, secured to PWB by soldering	IEC/EN 62368-1	Tested with appliance
Alt.	Interchangeable	Interchangeable	SPCC. Approximate overall dimension 50mm by 14mm by 38mm, min.1.2mm thick, secured to PWB by soldering	IEC/EN 62368-1	Tested with appliance
Insulation tape provided on heatsink1	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min.130°C	IEC/EN 62368-1	Tested with appliance UL E246820
Alt.	3M COMPANY	1350F-1 1350T-1	Min.130°C	IEC/EN 62368-1	Tested with appliance UL E17385
Alt.	BONDTEC PACIFIC CO.,LTD	370S	Min.130°C	IEC/EN 62368-1	Tested with appliance UL E175868
Alt.	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ series CT series WF series	Min.130°C	IEC/EN 62368-1	Tested with appliance UL E165111
Alt.	JINGJIANG JINGYI	JY25-A	Min.130°C	IEC/EN 62368-1	Tested with appliance UL E246950

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Insulation tubing provided on heatsink or fuse or class I earth wire1	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR RSFR-H RSFR-HPF	600V, 125°C	IEC/EN 62368-1	Tested with appliance UL E203950
Alt.	QIFURUI ELECTRONICS CO	QFR-h	600V, 125°C	IEC/EN 62368-1	Tested with appliance UL E225897
Alt.	DONGGUAN SALIPT CO LTD	SALIPT S-901-300 SALIPT S-901-600	Min. 300V, 125°C	IEC/EN 62368-1	Tested with appliance UL E209436
Alt.	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (+) K-2 (CB)	Min. 300V, 125°C	IEC/EN 62368-1	Tested with appliance UL E214175
Alt.	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	Min. 300V, 125°C	IEC/EN 62368-1	Tested with appliance UL E180908
Alt.	SHENZHEN WOLIDA TRADING CO LTD	RSFR-H	600V, 125°C	IEC/EN 62368-1	Tested with appliance E329530
Y-Capacitor (CY1, CY2) (optional)	SUCCESS ELECTRONICS CO LTD	SE SB	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 40037221 VDE 40037211 UL E114280
Alt.	MURATA MFG CO LTD	KX	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 40002831 UL E37921
Alt.	WALSIN TECHNOLOGY CORP	AH	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 40001804 UL E146544
Alt.	JYA-NAY CO LTD	JN	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 40001831 UL E201384
Alt.	HAOHUA ELECTRONIC CO	CT7	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 40003902 UL E233106
Alt.	JERRO ELECTRONICS CORP	JX-series	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 40032158 UL E333001
Alt.	TDK CORP	CD	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 124321 UL E37861
Alt.	Hongzhi	Y	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 40004354
Alt.	WELSON INDUSTRIAL CO LTD	WD	Type Y1, 2200pF, min. 250V, 125°C	IEC/EN 60384-14	VDE 115455 UL E104572

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
X Capacitor (CX1) (optional)	Cheng Tung	CTX	0.33uF, 310V, 110°C, type X1 or X2	IEC/EN 60384-14	VDE 40022642 UL E193049
Alt.	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	0.33uF, 275V, 100°C, type X2	IEC/EN 60384-14	VDE 40015608 UL E183780
Alt.	Dain Electronics Co., Ltd.	MPX, MEX and NPX	0.33uF, 250V, 110°C, type X2	IEC/EN 60384-14	VDE 40018798 UL E147776
Alt.	Sinhua Electronics (Huzhou) Co., Ltd.	MPX	0.33uF, 300V, 110°C, type X2	IEC/EN 60384-14	VDE 40014686 UL E237560
Alt.	Hongzhi Enterprises Ltd.	MPX	0.33uF, 250V, 100°C, type X2	IEC/EN 60384-14	VDE 40023936 UL E192572
Alt.	Jiangsu Xinghua Huayu Co., Ltd.	MPX	0.33uF, 250V, 100°C, type X2	IEC/EN 60384-14	VDE 40022417 UL E311166
Optocoupler (U2)	LITE-ON Technology Corporation	LTV-817	Ext. Cr: min. 8.01 mm; DTI: min. 0.6 mm; Thermal cycling test. Max. operating temp.: 115°C	IEC/EN 60950-1	VDE 40015248 UL E113898
Alt.	Everlight Electronics Co., Ltd.	EL817	Ext. Cr: min. 7.7 mm; DTI: min. 0.5 mm; Thermal cycling test. Max. operating temp.: 110°C	IEC/EN 60950-1	VDE 132249 UL E214129
Alt.	Fairchild Semiconductor Pte. Ltd.	FOD817B	Ext. Cr: min. 7.8 mm; DTI: min. 0.6 mm; Thermal cycling test. Max. operating temp.: 115°C	IEC/EN 60950-1	VDE 40026857 UL E90700
Transformer (T1)	GlobTek/BOAM/HAOPUWEI	TF024 for 5-6.5V TF025 for 6.6-8.9V TF026 or TF026X for 9-13V TF027 for 13.1-17V TF028 for 17.1-24.9V TF029 for 25-34.9V TF032 for 35-48V	Class B, with critical component listed below	IEC/EN 62368-1	Tested with appliance
-Insulation system	GLOBTEK INC	GTX-130-TM	Class B	IEC/EN 62368-1	Tested with appliance UL E243347

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
-Alt.	SHAN DONG BOAM ELECTRIC CO LTD	BOAM-01	Class B	IEC/EN 62368-1	Tested with appliance UL E252329
-Alt.	WUXI HAOPUWEI ELECTRONICS CO LTD	ZT-130	Class B	IEC/EN 62368-1	Tested with appliance UL E315275
-Magnet wire (Primary)	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U	130°C	IEC/EN 62368-1	Tested with appliance UL E201757
-Alt.	JUNG SHING WIRE CO LTD	UEW-4 UEY-2	130°C	IEC/EN 62368-1	Tested with appliance UL E174837
-Alt.	JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130	130°C	IEC/EN 62368-1	Tested with appliance UL E335065
-Alt.	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130	130°C	IEC/EN 62368-1	Tested with appliance UL E158909
-Alt.	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB	130°C	IEC/EN 62368-1	Tested with appliance UL E206882
-Alt.	JIANGSU DARTONG M & E CO LTD	UEW	130°C	IEC/EN 62368-1	Tested with appliance UL E237377
-Alt.	SHANDONG SAINT ELECTRIC CO LTD	UEW/130	130°C	IEC/EN 62368-1	Tested with appliance UL E194410
-Alt.	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW	130°C	IEC/EN 62368-1	Tested with appliance UL E222214
-Secondary wire of T1 (TIW)	GREAT LEOFLON INDUSTRIAL CO LTD	TRW (B)	Min.130°C	IEC/EN 60950-1	Tested with appliance UL E211989
-Alt.	COSMOLINK CO LTD	TIW-M	Min.130°C	IEC/EN 60950-1	Tested with appliance UL E213764
-Alt.	FURUKAWA ELECTRIC CO LTD	TEX-E	Min.130°C	IEC/EN 60950-1	Tested with appliance UL E206440
-Alt.	TOTOKU ELECTRIC CO LTD	TIW-2	Min.130°C	IEC/EN 60950-1	Tested with appliance UL E166483

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
-Alt.	E&B TECHNOLOGY CO LTD	E&B-XXXB E&B-XXXB-1	Min.130°C	IEC/EN 60950-1	Tested with appliance UL E315265
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375J T375HF	V-0, 150°C, min thickness: 0.6mm	IEC/EN 62368-1	Tested with appliance UL E59481
-Alt.	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150°C, min thickness: 0.6mm	IEC/EN 62368-1	Tested with appliance UL E41429
-Alt.	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150°C, min thickness: 0.6mm	IEC/EN 62368-1	Tested with appliance UL E42956
-Insulating tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 1350T-1	130°C	IEC/EN 62368-1	Tested with appliance UL E17385
-Alt.	BONDTEC PACIFIC CO LTD	370S	130°C	IEC/EN 62368-1	Tested with appliance UL E175868
-Alt.	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT WF	130°C	IEC/EN 62368-1	Tested with appliance UL E165111
-Alt.	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	130°C	IEC/EN 62368-1	Tested with appliance UL E246950
-Alt.	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	130°C	IEC/EN 62368-1	Tested with appliance UL E246820
Connector (CON1)	JOINT TECH ELECTRONIC INDUSTRIAL CO LTD	A7920WV-2P	Min 250V	IEC/EN 62368-1	Tested with appliance UL E179987
Alt.	MOLEX INCORPORATED	41791 series	Min 250V	IEC/EN 62368-1	Tested with appliance UL E179987
Supplementary information: 1) 2 layers of insulating tape or 1 layer of min. 0.4 mm thickness insulating tube can be used alternatively for wrapping around heatsink. 2) TF026 and TF026X are same except model number.					

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	264Vac	Primary circuits supplied by a.c. mains supply	Normal	--	--	--	ES3 (declaration)
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
2	264Vac	USB output	Normal	47.65 Vdc max.(no load) (GTM43007-A6048-F)	-	61.69kHz	ES1
			Single fault – R13 open	41.1Vdc (GTM43007-A6048-F)	-	--	
			Single fault – R21 open	41.1Vdc (GTM43007-A6048-F)	-	--	
3	90Vac	USB output	Normal	47.96 Vdc max.	--	--	ES1
			Single fault – R13 open	41.5Vdc (GTM43007-A6048-F)	--	--	
			Single fault – R21 open	41.7Vdc (GTM43007-A6048-F)	--	--	

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

5.2.2.3 - Capacitance Limits

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

5.2.2.4 - Single Pulses

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

5.2.2.5 - Repetitive Pulses

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

Test Conditions:

Normal – Test with rated output current.

Abnormal – Test with max. output current.

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

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements				P		
	Supply voltage (V) :	90	264	—			
	Ambient T _{min} (°C) :	40	40	—			
	Ambient T _{max} (°C) :	40	40	—			
	Tma (°C) :	45	45	—			
Maximum measured temperature T of part/at:		T (°C)		Allowed T _{max} (°C)			
LF1 winding		66.3	57.9	125			
CX1 body		59	55.5	95			
C8 body		78.7	71.5	100			
T1 winding		89.5	92.7	115			
T1 core		86.7	90	For reference			
PCB near Q1 (HS1)		76.7	74.8	125			
PCB near Q2 (HS2)		81.6	79.1	125			
U2		75	74.1	105			
C9 body		74.5	75.6	100			
Supplementary information:							
Max. Operation ambient is considered as 45 °C which declared by the manufacturer.							
Tested on model: GTM43007-A3005-F.							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							
Note 1: Tma should be considered as directed by applicable requirement							
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)							

IEC 62368-1							
Clause	Requirement + Test	Result - Remark		Verdict			
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements			P			
	Supply voltage (V) :	90	264	—			
	Ambient T _{min} (°C) :	40	40	—			
	Ambient T _{max} (°C) :	40	40	—			
	Tma (°C) :	45	45	—			
Maximum measured temperature T of part/at:		T (°C)		Allowed T _{max} (°C)			
LF1 winding		77.4	61.7	125			
CX1 body		65.1	60.9	95			
C8 body		87.3	77.7	100			
T1 winding		94.6	99.0	115			
T1 core		97.8	102.6	For reference			
PCB near Q1 (HS1)		94.8	81.3	125			
PCB near Q2 (HS2)		99.6	101.2	125			
U2		85.8	87.0	105			
C9 body		85	84.2	100			
Supplementary information:							
Max. Operation ambient is considered as 45 °C which declared by the manufacturer.							
Tested on model: GTM43007-A4509-F							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							
Note 1: Tma should be considered as directed by applicable requirement							
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)							

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements				P		
	Supply voltage (V) :	90	264	—			
	Ambient T _{min} (°C) :	40	40	—			
	Ambient T _{max} (°C) :	40	40	—			
	Tma (°C) :	45	45	—			
Maximum measured temperature T of part/at:		T (°C)		Allowed T _{max} (°C)			
LF1 winding		77.4	61.7	125			
CX1 body		65.1	60.9	95			
C8 body		87.3	77.7	100			
T1 winding		94.6	99.0	115			
T1 core		97.8	102.6	For reference			
PCB near Q1 (HS1)		94.8	81.3	125			
PCB near Q2 (HS2)		99.6	101.2	125			
U2		85.8	87.0	105			
C9 body		85	84.2	100			
Supplementary information: Max. Operation ambient is considered as 45 °C which declared by the manufacturer. Tested on model: GTM43007-A6024-F							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information: Note 1: Tma should be considered as directed by applicable requirement Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)							

IEC 62368-1							
Clause	Requirement + Test	Result - Remark		Verdict			
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements			P			
	Supply voltage (V)	90	264	—			
	Ambient T _{min} (°C)	40	40	—			
	Ambient T _{max} (°C)	40	40	—			
	Tma (°C)	45	45	—			
	Maximum measured temperature T of part/at:	T (°C)		Allowed T _{max} (°C)			
	LF1 winding	72.6	59.3	125			
	CX1 body	68.9	56.4	95			
	C8 body	91.9	74.3	100			
	T1 winding	105.2	113.3	115			
T1 core	102.1	116.6	For reference				
PCB near Q1 (HS1)	106.8	83.6	125				
PCB near Q2 (HS2)	89.3	96.7	125				
U2	88.9	97.1	105				
C9 body	70.1	76.1	100				
Supplementary information:							
Max. Operation ambient is considered as 45 °C which declared by the manufacturer.							
Tested on model: GTM43007-A6048-F							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							
Note 1: Tma should be considered as directed by applicable requirement							
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)							

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements				P		
	Supply voltage (V) :	90	264	—			
	Ambient T _{min} (°C) :	40	40	—			
	Ambient T _{max} (°C) :	40	40	—			
	Tma (°C) :	45	45	—			
Maximum measured temperature T of part/at:		T (°C)		Allowed T _{max} (°C)			
LF1 winding		69.7	57.1	125			
CX1 body		65.4	54.5	95			
C8 body		88.2	74.7	100			
T1 winding		109.5	112	115			
T1 core		108.6	114.5	For reference			
PCB near Q1 (HS1)		87.7	80.5	125			
PCB near Q2 (HS2)		109.5	95.7	125			
U2		83.8	95.2	105			
C9 body		88.7	77.2	100			
Supplementary information:							
Max. Operation ambient is considered as 45 °C which declared by the manufacturer.							
Tested on model: GTM43007-A6012-F							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							
Note 1: Tma should be considered as directed by 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)	
Bobbin (T375J)	CHANG CHUN PLASTICS CO LTD	125	1.2	
Bobbin (T375HF)	CHANG CHUN PLASTICS CO LTD	125	1.2	
Bobbin (PM-9820)	SUMITOMO BAKELITE CO LTD	125	1.1	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Bobbin (CP-J-8800)	HITACHI CHEMICAL CO LTD	125	1.2
Supplementary information:--			

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Line and neutral before fuse (BI)	2000	240	60Hz	1.27	3.2	2.40	3.2
Different pole of fuse (BI)	2000	240	60Hz	1.27	3.0	2.40	3.0
Transformer secondary winding to core (RI)	2000	240	60Hz	2.54	11.0	4.80	11.0
Transformer primary winding to secondary winding (RI)	2000	240	60Hz	2.54	11.0	4.80	11.0
Primary circuit to secondary circuit over PCB (RI)	2000	240	60Hz	2.54	6.00	4.80	6.86
Primary and protective earthed parts(BI) (Class I model only)	2000	240	60Hz	1.27	3.0	2.40	4.26
Primary and secondary (two sides of U2) (RI)	2000	240	60Hz	2.54	6.0	4.80	7.0
Primary and secondary (two sides of CY1 & CY2) (BI + SI)	2000	240	60Hz	1.27+1.27	4.5 + 4.5	2.40+2.40	5.0 + 5.06
Primary heatsink to secondary circuit (RI)	2000	240	60Hz	2.54	10	4.80	10
Primary circuit to secondary heatsink (RI)	2000	240	60Hz	2.54	10	4.80	10
Supplementary information: Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test Note 3: Provide Material group IIIb							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)	

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 fuse (BI)		2500	1.5X1.48=2.22	3.2
Differnet pole of fuse (BI)		2500	1.5X1.48=2.22	3.0
Transformer secondary winding to core (RI)		2500	3.0x1.48=4.44	11.0
Transformer primary winding to secondary winding (RI)		2500	3.0x1.48=4.44	11.0
Primary circuit to secondary circuit over PCB (RI)		2500	3.0x1.48=4.44	6.00
Primary and protective earthed parts(BI) (Class I model only)		2500	1.5X1.48=2.22	3.0
Primary and secondary (two sides of U2) (RI)		2500	3.0	6.0
Primary and secondary (two sides of CY1 & CY2) (BI + SI)		2500	2.22+2.22	4.5 + 4.5
Primary heatsink to secondary circuit (RI)		2500	3.0x1.48=4.44	10
Primary circuit to secondary heatsink (RI)		2500	3.0x1.48=4.44	10
Line and neutral before fuse (BI)		2500	1.5X1.48=2.22	3.2
Supplementary information:				
1. FI: insulation; BI: Basic insulation; SI: Supplementary insulation; RI: Reinforced insulation.				
2. With the equipment to be operated at 5000m above sea level max. the minimum clearances shall be multiplied by the factor 1.48.				
3. A force of 10 N is applied to the internal components and 30 N is applied to the enclosure when measuring the distances.				
4. The core of transformer (T1) is considered as primary winding, the TIW is used in secondary winding of transformer (T1).				
5. 2 layers of insulating tape or 1 layer of min. 0.4 mm thickness insulating tube can be used alternatively for wrapping around heatsink.				
6. There is a slot wide > 1 mm between these two parts.				
The whole ferrite core is wrapped around 2 layers of insulating tape.				

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)	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
PCB (RI)	336	<30kHz	--	0.4	Min. 1.6
Secondary winding of transformer (RI)	544	<30kHz	--	3 layers insulation wire comply with Annex U	Certified TIW according to Annex U
Supplementary information:					

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Basic insulation:				
Line and neutral before fuse (F1 disconnected)		DC	2600	No
Two terminal of fuse(F1 disconnected)		DC	2600	No
Reinforced:				
Primary and secondary		DC	4000	No
Primary and secondary of T1 in itself		DC	4000	No
Core and secondary of T1 in itself		DC	4000	No
Primary and secondary of CY		DC	4000	No
Insulation tape: one layer		DC	4000	No
Supplementary information: USB circuit at the downstream of overvoltage protection device is evaluated as the requirement of OVC II.				

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	USB output	Power (W) :	-	83.2VA max. (GTM43007-A6048-F)	PS2	
		V _A (V) :	-	41.6 V		
		I _A (A) :	-	2A max.		
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 (mA)	I rated (mA)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
Tested on model GTM43007-A3005-F								
264Vac	0.30	-	36.6	F1, F2	0.30	Normal operation with 5Vdc output, 6A.		
240Vac	0.32	1.5	36.4	F1, F2	0.32			
100Vac	0.68	1.5	36.5	F1, F2	0.68			
90Vac	0.77	-	36.8	F1, F2	0.77			
Tested on model: GTM43007-A4509-F								
264Vac	0.41	-	52.5	F1, F2	0.41	Normal operation with 9Vdc output, 5A.		
240Vac	0.46	1.5	52.5	F1, F2	0.46			
100Vac	0.95	1.5	53.1	F1, F2	0.95			
90Vac	1.07	-	53.6	F1, F2	1.07			
Tested on model: GTM43007-A6024-F								
264Vac	0.53	-	66.9	F1, F2	0.53	Normal operation with 24Vdc output, 2.5A.		
240Vac	0.57	1.5	66.6	F1, F2	0.57			
100Vac	1.22	1.5	68.0	F1, F2	1.22			
90Vac	1.41	-	68.9	F1, F2	1.41			
Tested on model: GTM43007-A6036-F								
264Vac	0.52	-	66.8	F1, F2	0.52	Normal operation with 36Vdc output, 1.66A.		
240Vac	0.56	1.5	66.6	F1, F2	0.56			
100Vac	1.22	1.5	68.3	F1, F2	1.22			
90Vac	1.42	-	69.3	F1, F2	1.42			
Tested on model: GTM43007-A6048-F								
264Vac	0.53	-	68.4	F1, F2	0.53	Normal operation with 48Vdc output, 1.25A.		
240Vac	0.57	1.5	68.3	F1, F2	0.57			
100Vac	1.21	1.5	68.4	F1, F2	1.21			
90Vac	1.40	-	69.1	F1, F2	1.40			
Tested on model: GTM43007-A6012-F								

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Clause	Requirement + Test				Result - Remark	Verdict
264Vac	0.44	-	69.5	F1, F2	0.44	Normal operation with 12Vdc output, 5A.
240Vac	0.47	1.5	69.3	F1, F2	0.47	
100Vac	1.08	1.5	70.6	F1, F2	1.08	
90Vac	1.24	-	70.9	F1, F2	1.24	
Supplementary information: The measured input current at rated voltage shall be less than 110 % of rated current.						

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, (mA)	T-couple	Temp. (°C)	Observation
USB port (GTM43007-A6048-F)	O/L	264	6 hrs.	F1, F2	0.53→0.64	T1 winding	125.9	While output overload to 2.0 A, No damage, no hazards. Damaged: Max. Voltage: 47.96 Vdc
USB port (GTM43007-A6036-F)	O/L	264	6 hrs.	F1, F2	0.52→0.50	T1 winding	119.4	While output overload to 2.5 A, No damage, no hazards. Damaged: Max. Voltage: 35.97 Vdc
USB port (GTM43007-A6024-F)	O/L	264	6 hrs.	F1, F2	0.51→0.74	T1 winding	122.7	While output overload to 3.5 A, No damage, no hazards. Damaged: Max. Voltage: 23.95 Vdc

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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, (mA)	T-couple	Temp. (°C)	Observation
USB port (GTM43007-A4509-F)	O/L	264	6 hrs.	F1, F2	0.41→0.50	T1 winding	106	While output overload to 6.5 A, No damage, no hazards. Damaged. Max. Voltage: 9.1 Vdc
USB port (GTM43007-A3005-F)	O/L	264	6 hrs.	F1, F2	0.30→0.40	T1 winding	94	While output overload to 8.6 A, No damage, no hazards. Damaged. Max. Voltage: 5.01 Vdc
USB port (GTM43007-A6036-F)	O/L	264	6 hrs.	F1, F2	0.44→0.63	T1 winding	116.5	Total testing duration: 6 hours. While output overload to 7.6 A, No damage, no hazards. Damaged. Max. Voltage: 12.18 Vdc
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.								

B.4	TABLE: Fault condition tests						P
Ambient temperature (°C) :					25, if no else specified		—
Power source for EUT: Manufacturer, model/type, output rating :					See appended table 1.5.1		—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	

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Clause	Requirement + Test				Result - Remark	Verdict
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BD1	S	90/264	< 1 sec.	F1, F2	0.53→ >4.2→0	Observation: Fuse (F1) opened. No hazards
C8	S	90/264	< 1 sec.	F1, F2	0.53→ >4.2→0	Observation: Fuse (F1) opened. No hazards
Q1	S	90/264	10 mins	F1, F2	0.53→ 0.03	Observation: Unit shut down. No hazards.
U2 Sec.	S	90/264	10 mins	F1, F2	0.53→ 0.03	Observation: Unit shut down. No hazards.
U2 Pri.	S	90/264	10 mins	F1, F2	0.53→ 0.03	Observation: Unit shut down. No hazards.
U2 Sec.	O	90/264	10 mins	F1, F2	0.53→ 0.03	Observation: Unit shut down. No hazards.
U2 Pri.	O	90/264	10 mins	F1, F2	0.53→ 0.03	Observation: Unit shut down. No hazards.
D2	S	90/264	10 mins	F1, F2	0.53→ 0.03	Observation: Unit shut down. No hazards.
T1 pin 5 to pin 8	S	90/264	10 mins	F1, F2	0.53→ 0.03	Observation: Unit shut down. No hazards.

Supplementary information:

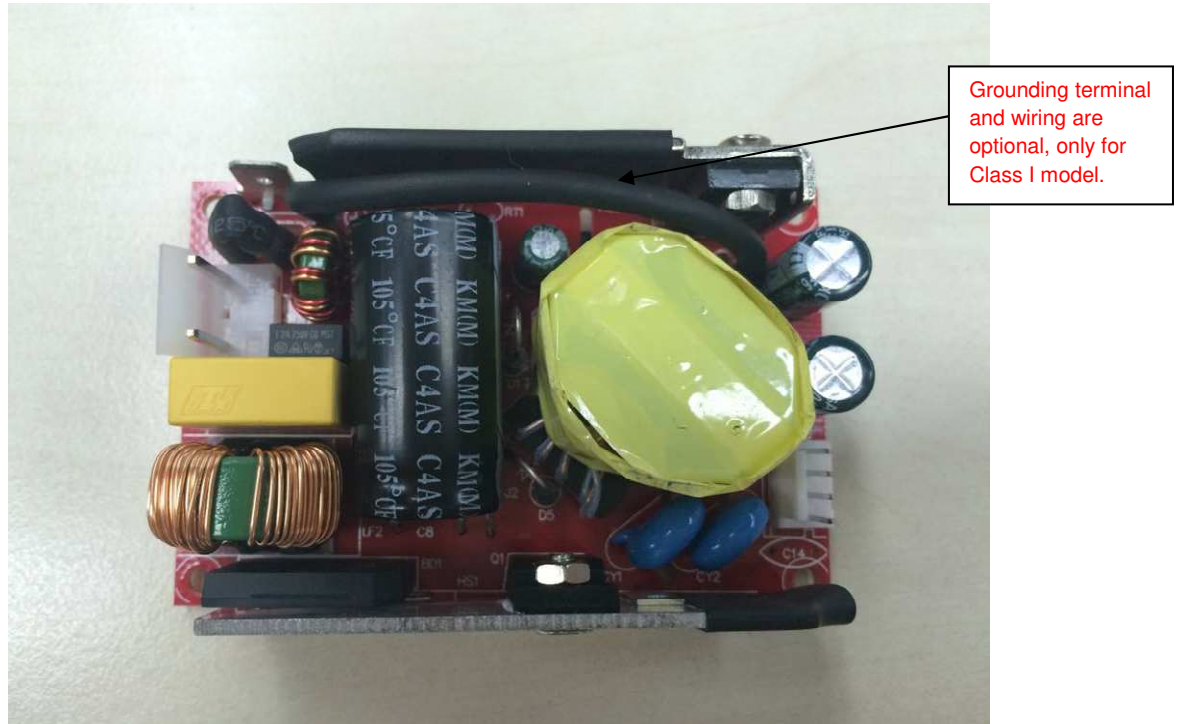
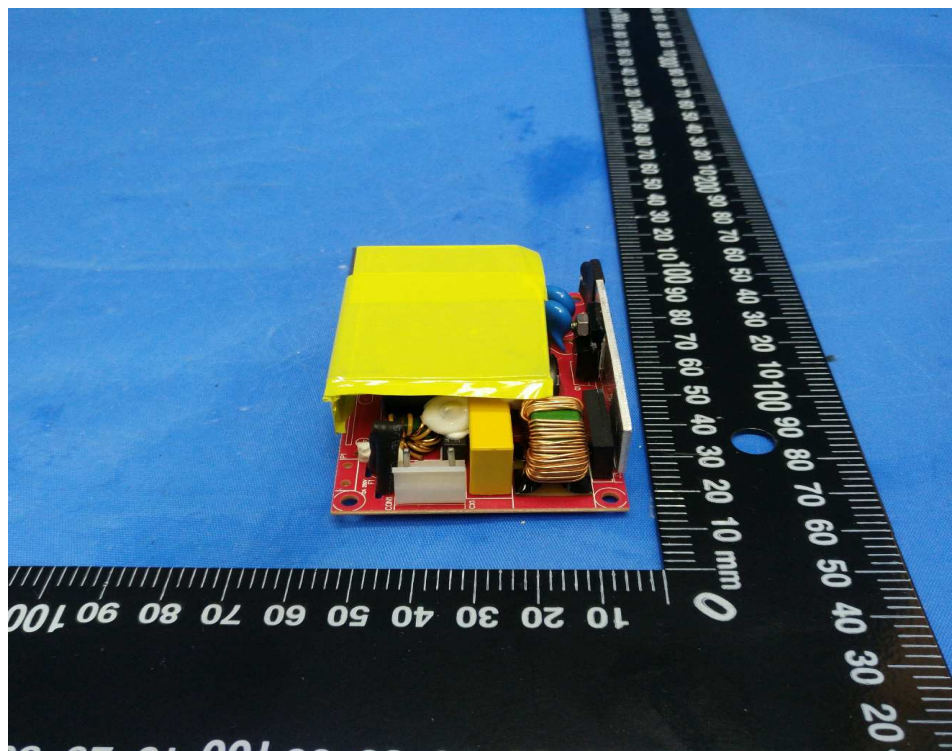
1. S: Short-circuited; O: Open-circuited; O/L: Overloaded; B: Blocked; L: Locked.
2. Observation: The observations during and after fault condition tests.
3. Damaged: Which component (components) damaged during the fault condition test.
4. Temp: The maximum temperature of transformer (T1) winding.
5. Max. Voltage: The maximum accessible voltage of DC output terminal during the fault condition test.
6. During fault condition where the fuse opened, the test was repeated ten times to ensure no hazard.
7. During fault condition where the fuse did not open, the test was repeated three times.
8. The electric strength test performed after fault condition test and see appended table 5.2 for detailed test conditions.

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Clause	Requirement + Test	Result - Remark	Verdict

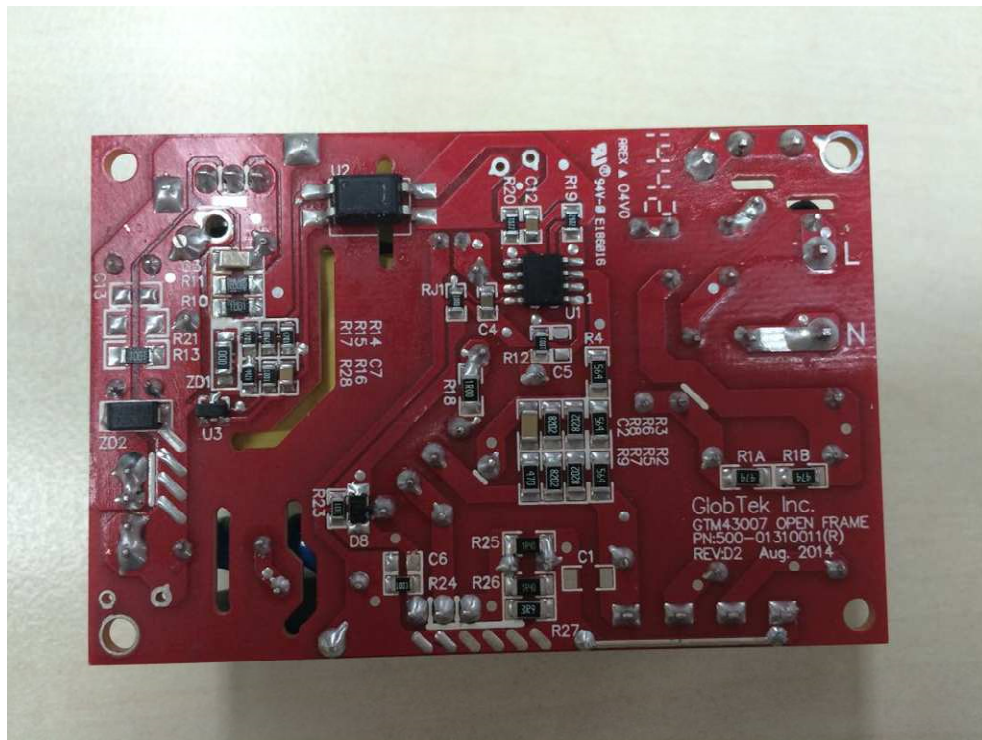
T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
components	--	--	10	5	Cr. And Cl. Is considered after force test.	
Supplementary information: Building-in EUT, T.2 is considered for components only, others should be evaluated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

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

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

Photographs:**COMPONENT SIDE VIEW OF BOARD WITH SMALL SIZE HEATSINK****COMPONENT SIDE VIEW OF BOARD WITH LARGE SIZE HEATSINK**

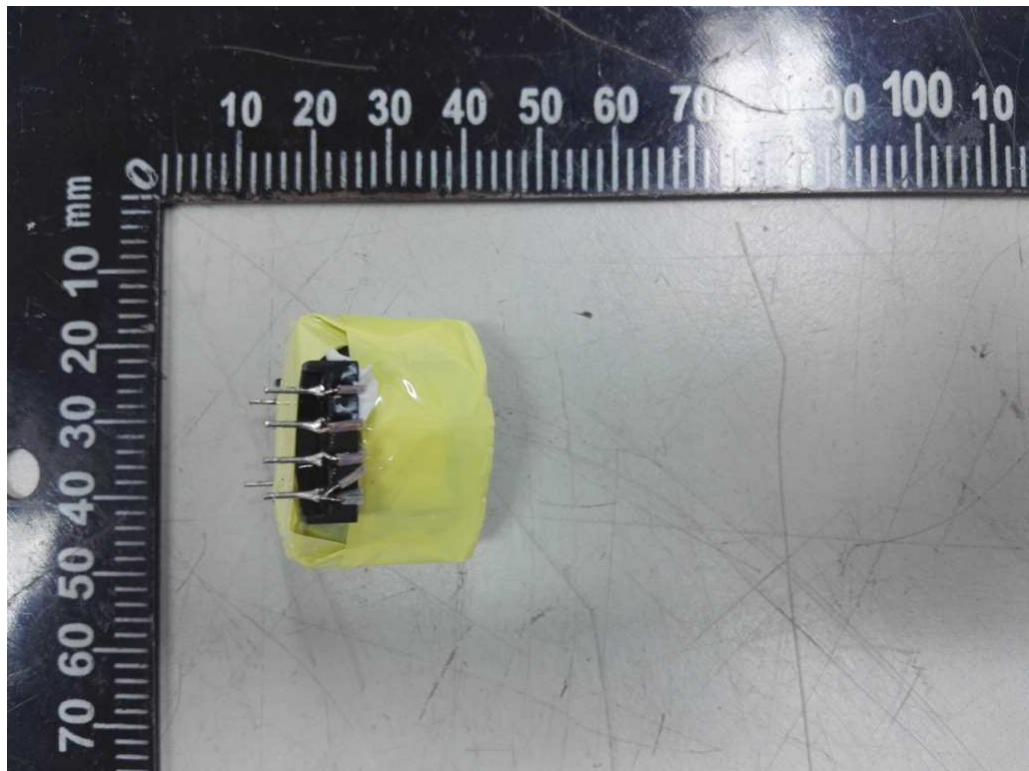
SOLDERING SIDE VIEW OF BOARD



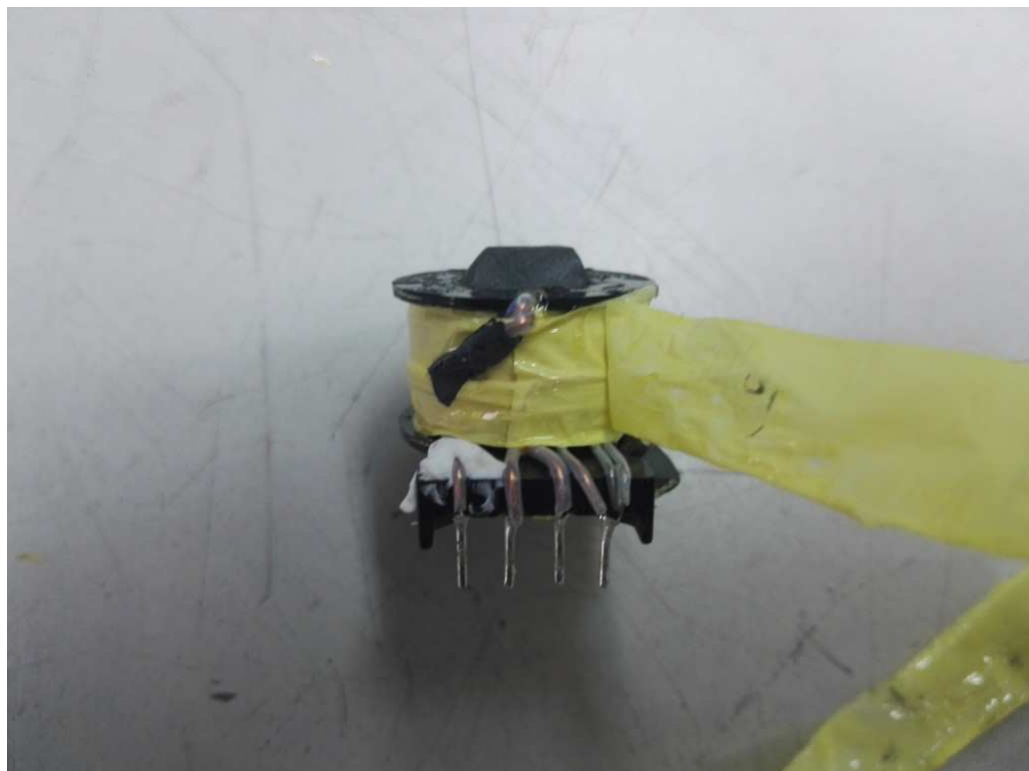
Transformer



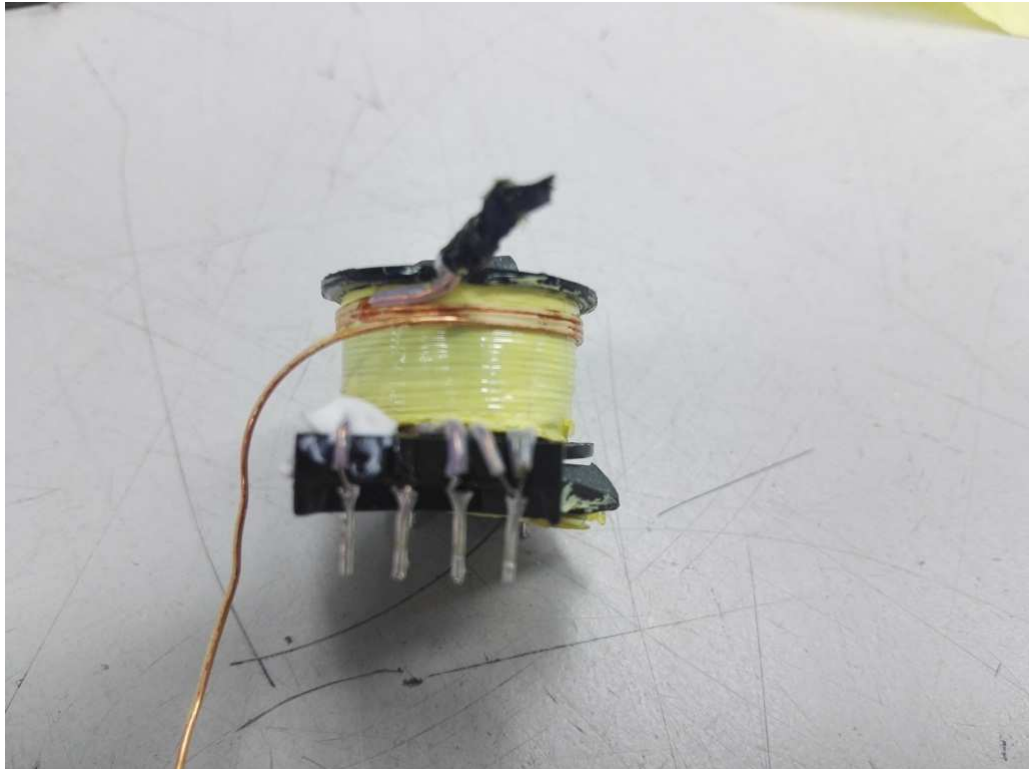
Transformer



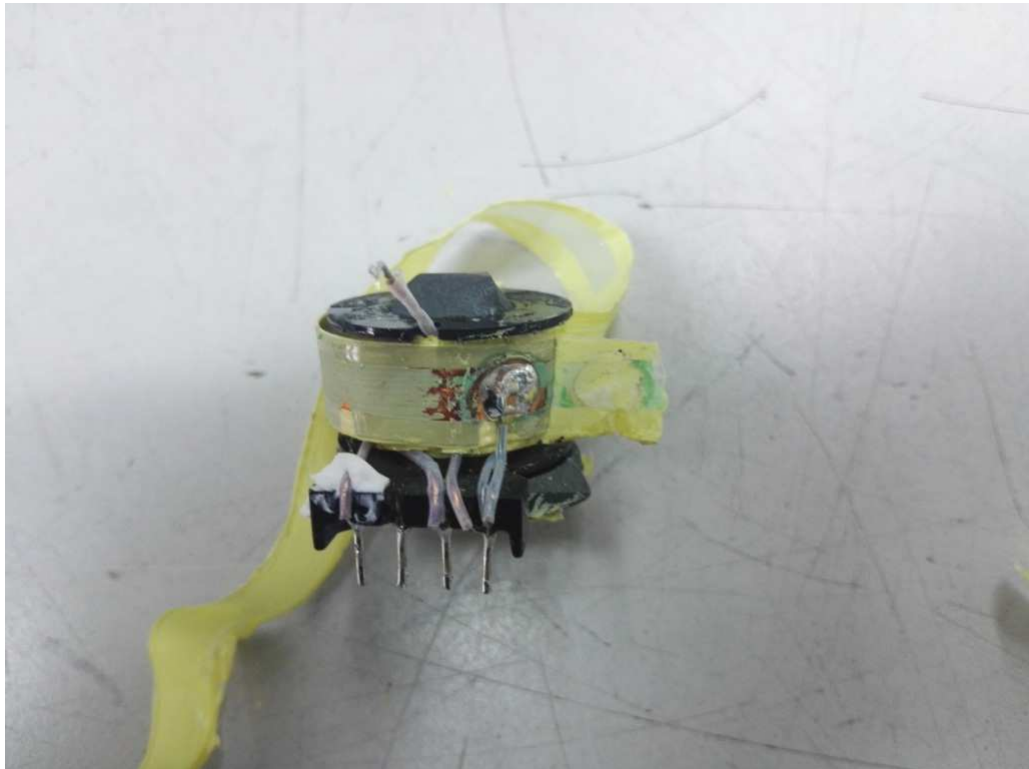
Transformer



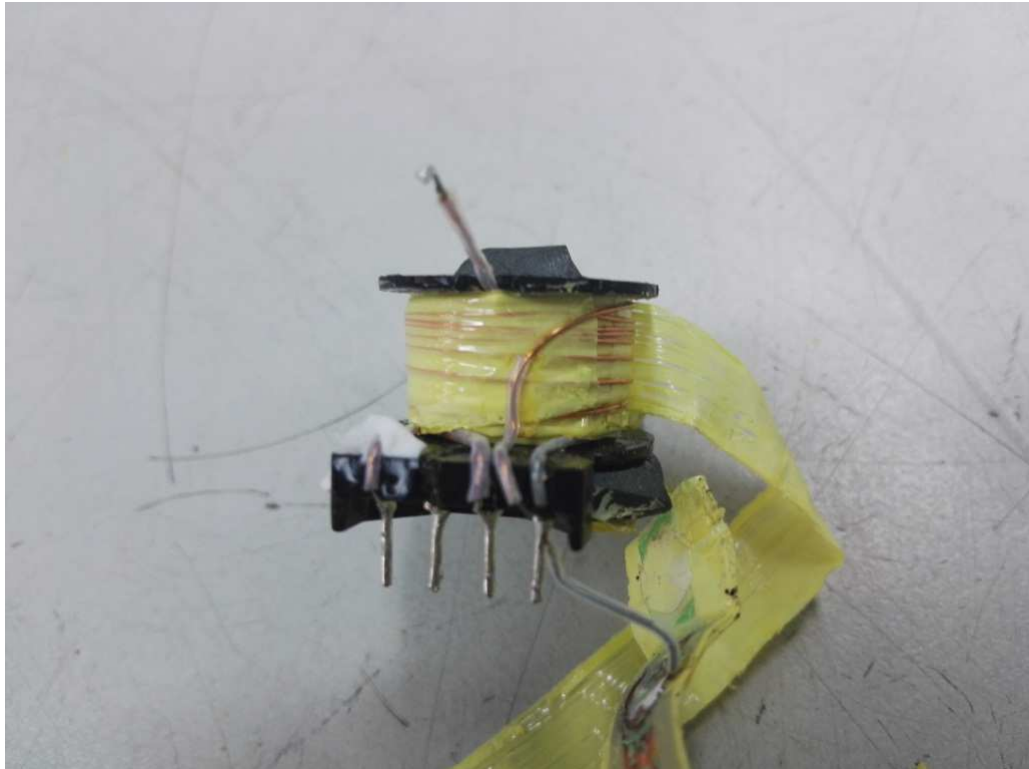
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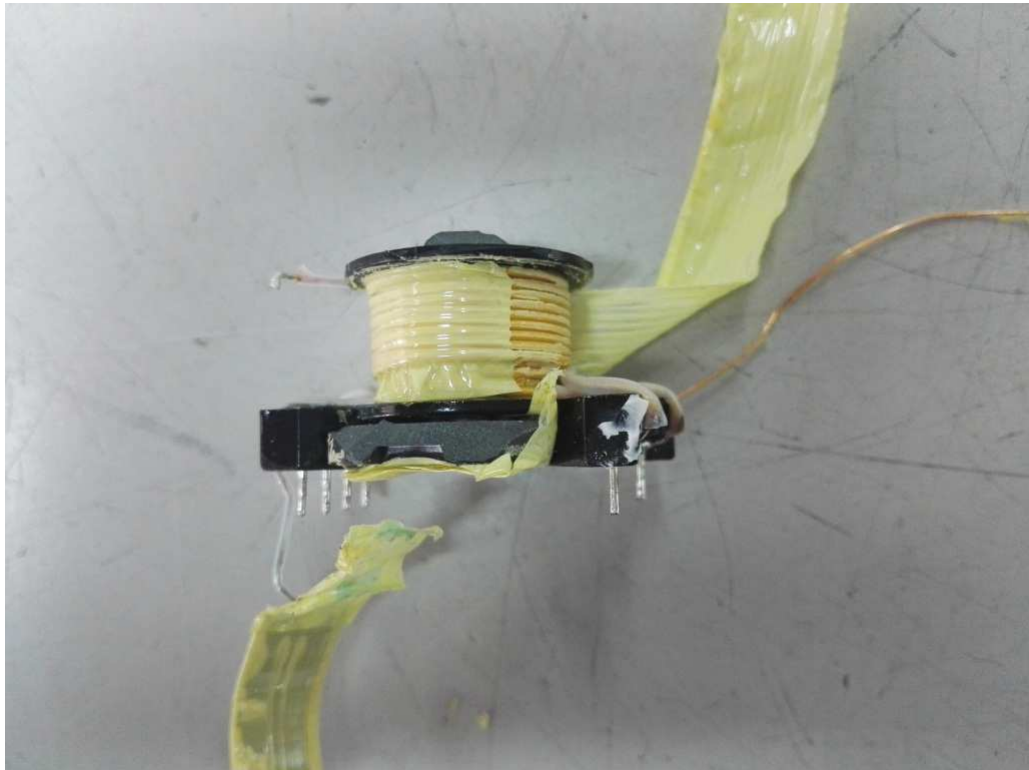
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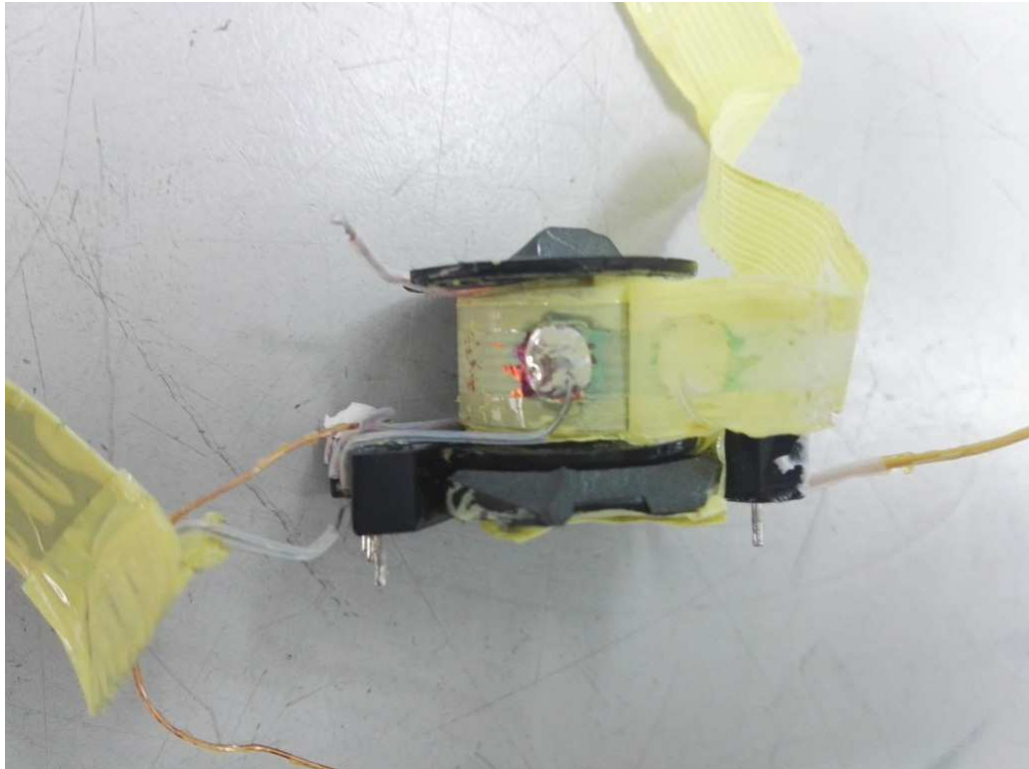
Transformer



Transformer



Transformer



Transformer



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<p align="center">ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment Part 1: Safety requirements)</p>			
Differences according to : EN 62368-1:2014			
Attachment Form No. : EU_GD_IEC62368_1B			
Attachment Originator : Intertek Semko AB			
Master Attachment : Date (2015-08)			
Copyright © 2015 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE)			

	CENELEC COMMON MODIFICATIONS (EN)		
1	NOTE Z1		P
4.Z1	Protective devices included as integral parts of the equipment or as parts of the building installation:		P
	a) Included as parts of the equipment		P
	b) For components in series with the mains; by devices in the building installation		N/A
	c) For pluggable type B or permanently connected; by devices in the building installation		N/A
5.4.2.3.2.4	Interconnection with external circuit		N/A
10.2.1	Additional requirements in 10.5.1		N/A
10.5.1	RS1 compliance measurement conditions		N/A
10.6.2.1	EN 71-1:2011, 4.20 and methods and distances		N/A
10.Z1	Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz		N/A
G.7.1	NOTE Z1		N/A

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	Denmark, Finland, Norway and Sweden: Class I pluggable equipment type A marking		N/A
4.7.3	United Kingdom: Torque test socket-outlet BS 1363, and the plug part BS 1363.		N/A
5.2.2.2	Denmark: Warning for high touchcurrent		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	Finland and Sweden: Separation of the telecommunication network from earth		N/A
5.5.2.1	Norway: Capacitors rated for the applicable line-to-line voltage (230 V).		P
5.5.6	Finland, Norway and Sweden: Resistors used as basic safeguard or bridging basic insulation comply with G.10.1 and G.10.2.		N/A
5.6.1	Denmark: Protection for pluggable equipment type A; integral part of the equipment		N/A
5.6.4.2.1	Ireland and United Kingdom: The protective current rating is taken to be 13 A		N/A
5.6.5.1	Ireland and United Kingdom: Conductor sizes of flexible cords to be accepted by terminals for equipment rated 10 A to 13 A		N/A
5.7.5	Denmark: The installation instruction affixed to the equipment if high protective conductor current		N/A
5.7.6.1	Norway and Sweden: Television distribution system isolation text in user manual		N/A
5.7.6.2	Denmark: Warning for high touch current		N/A
B.3.1 and B.4	Ireland and United Kingdom: Tests conducted using an external miniature circuit breaker or protective devices included as an integral part of the direct plug-in equipment		N/A
G.4.2	Denmark: Appliances rated ≤ 13 A provided with a plug according to DS 60884-2-D1:2011.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Class I equipment provided with socket-outlets provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.		N/A
	If a single-phase equipment having rated >13 A or poly-phase equipment provided with a supply cord with a plug, plug in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.		N/A
	Mains socket outlets intended for providing power to Class II apparatus rated 2,5 A in accordance with DS 60884-2-D1:2011 standard sheet DKA 1-4a.		N/A
	Other current rating socket outlets in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.		N/A
	Mains socket-outlets with earth 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		N/A
G.4.2	United Kingdom: The plug part of direct plug-in equipment assessed to BS 1363		N/A
G.7.1	United Kingdom: Equipment fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768		N/A
G.7.1	Ireland: Apparatus provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use		N/A
G.7.2	Ireland and United Kingdom: A power supply cord for equipment which is rated over 10 A and up to and including 13 A.		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.2	Germany: Cathode ray tube intended for the display of visual images, authorization or application of type approval and marking.		N/A
F.1	Italy: The power consumption in Watts (W) indicated on TV receiver and in instruction for use		N/A
	TV receivers provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language.		N/A
	Marking for controls and terminals in Italian language.		N/A
	Conformity declaration according to the above requirements in the instruction manual		N/A
	First importers of TV receivers manufactured outside EEC previous conformity certification to the Italian Post Ministry and Certification number on the backcover.		N/A