



Test Report issued under the responsibility of:

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TEST REPORT
IEC 60950-1
Information technology equipment – Safety –
Part 1: General requirements

Report Number..... : 171001665SHA-001

Date of issue..... : 2018-07-30

Total number of pages 142

Applicant's name GlobTek, Inc.

Address..... : 186 VETERANS DRIVE NORTHVALE NJ 07647 USA

Test specification:

Standard IEC 60950-1:2005 (Second Edition) + A1:2009 + A2:2013

Test procedure CB Scheme

Non-standard test method N/A

Test Report Form No. : IEC60950_1F

Test Report Form(s) Originator : SGS Fimko Ltd

Master TRF Dated 2014-02

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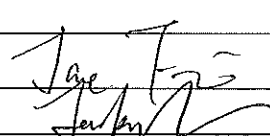
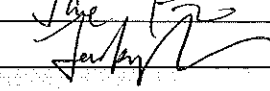
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

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

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Test item description :	ITE POWER SUPPLY
Trade Mark :	 GlobTek® ,Inc. (GlobTek) <small>www.globtek.com</small>
Manufacturer	Same as applicant
Model/Type reference	GT*86100-**-W2** (Details refer page 9)
Ratings	Input: 100-240V~,50-60Hz,0.3A Output: 5-5.2VDC, Max.2A Max 10W

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	Intertek Testing Services Shanghai
Testing location/ address.....:		Building No. 86, 1198 Qinzhou Road (North) 200233 Shanghai CHINA
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address.....:		
Tested by (name + signature).....:		Jane Fei(Engineer) 
Approved by (name + signature).....:		Jacky Shu (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).....:		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
Supervised by (name + signature).....:		

<p>List of Attachments (including a total number of pages in each attachment):</p> <p>Page 62-81: Group- and national differences for the CENELEC countries</p> <p>Page 82-128: National differences for Singapore, Japan, China, Korea, Australia and New Zealand, USA and Canada.</p> <p>Page 129-142: Photos.</p>	
<p>Summary of testing: All tests are performed and the most disadvantageous results are recorded. We conclude that the appliances comply with this standard.</p>	
<p>Tests performed (name of test and test clause):</p> <p>1.6.2 Input current test</p> <p>1.7.11 Marking durability test</p> <p>2.1.1.1 b Finger test</p> <p>2.1.1.1 c Pin test</p> <p>2.1.1.7 Stored Discharge on Capacitors Test</p> <p>2.2.2 Voltage under Normal Conditions Test</p> <p>2.2.3 Voltage under Fault Conditions Test</p> <p>2.4 Limited current circuits Test</p> <p>2.5 Limited Power Sources Test</p> <p>2.9.2 Humidity conditioning test</p> <p>2.10.2 Determination of Working Voltage Test</p> <p>2.10.3 & 2.10.4 Clearances and Creepage Distances Measurement</p> <p>4.2.4 Mechanical strength – steady force test, 250N</p> <p>4.2.6 Mechanical strength – drop test</p> <p>4.2.7 Mechanical strength – stress relief test</p> <p>4.5.2 Temperature test</p> <p>4.5.5 Ball pressure test</p> <p>5.1 Touch current test</p> <p>5.2 Electric strength test</p> <p>5.3 Abnormal operating and fault conditions test</p> <p>From the result of our examination and tests in the submitted samples, conclude they comply with the requirements of the standards IEC 60950-1:2005 (Second Edition) + A1:2009 + A2:2013 and EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 +A2:2013.</p>	<p>Testing location:</p> <p>Intertek Testing Services Shanghai</p> <p>Building No. 86, 1198 Qinzhou Road (North)</p> <p>200233 Shanghai CHINA</p>

Summary of compliance with National Differences:

The test report covers group- and national differences for the CENELEC countries.

The national differences for Singapore have been checked according to IEC 60950-1 1st ed.

The national differences for Japan have been checked according to IEC 60950-1:2005 + A1:2009 + A2:2013.

The national differences for China have been checked according to IEC 60950-1 2nd ed.

The national difference for Korea has been checked according to IEC 60950-1 2nd ed. + A1.

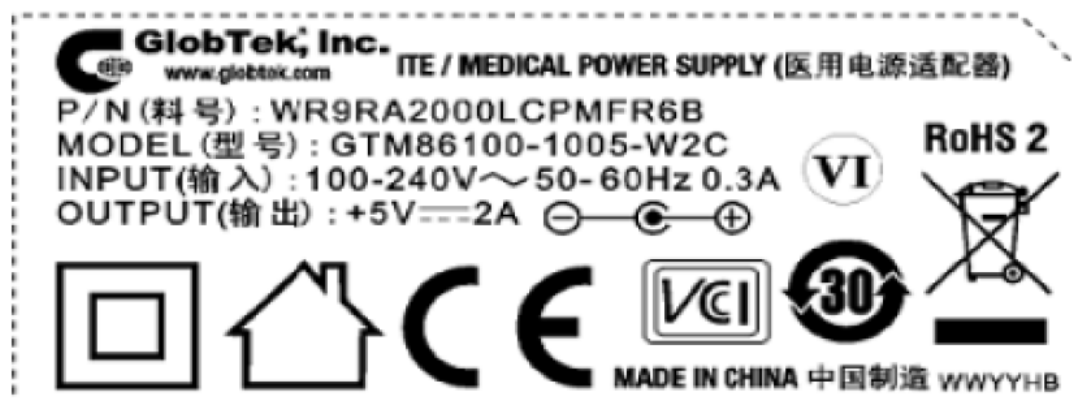
The national differences for Australia and New Zealand have been checked according to IEC 60950-1, Ed. 2.2 (2013).

The national differences for USA and Canada have been checked according to IEC 60950-1 with A1: 2009 and A2:2013.

☒ **The product fulfils the requirements of IEC 60950-1:2005 (Second Edition) + A1:2009 + A2:2013 and EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2:2013.**

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 above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

Other models are with similar label as corresponding above models except different model name and output ratings.

Test item particulars.....:	
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in
Connection to the mains.....:	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains <input type="checkbox"/> Equipment is a PSU for building-in to be evaluated in the end product.
Operating condition.....:	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
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:
Mains supply tolerance (%) or absolute mains supply values	+10%/-10%
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16A (20A for North America)
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	Max. 5000m
Altitude of test laboratory (m)	50m
Mass of equipment (kg)	Approx. 0.046kg
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	2017-10-30
Date (s) of performance of tests	2017-10-30 to 2018-03-01

General remarks:

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

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“(See Enclosure #)” refers to additional information appended to the report.

“(See appended table)” refers to a table appended to the report.

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

When determining for test conclusion, measurement uncertainty of tests has been considered.

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The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid.

The samples submitted from for evaluation are representative of the products from each factory.

Manufacturer’s Declaration per sub-clause 4.2.5 of IEC60950:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

☒ **Yes**
☐ **Not applicable**
When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....:

1. GlobTek, Inc.
186 VETERANS DRIVE NORTHVALE NJ 07647
USA
2. GlobTek (Suzhou) Co., Ltd
Building 4, No. 76 JinLing East Road, Suzhou
Industrial Park, Suzhou, JiangSu, 215021, China

General product information:

Product covered by this report is ITE power supply module. GT*86100-**-W2** series for Limited Power Source (LPS) application.

Direct plug-in power supplies are provided with suitable external enclosure. The external enclosure and plug holder parts of the enclosure are ultrasonic welded.

The power supplies are rated class II equipment.

All models have the similar circuit schematic, components, critical components and also the similar construction. The difference is minor secondary circuit, plug type, output ratings and output wires.

GT*86100-**-W2**:

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

The 2nd “*” denotes the rated output wattage designation, which can be “01” to “10”, with interval of 1.

The 3rd “*” denotes the rated output voltage designation, which can be “05”, “5.1”, “5.2” or “05”, “05.1”, “05.2”.

The 4th “*” designates type of plug and can be E for European plug, U for British plug, blank for North American /Japan plug/Taiwan plug, C for China plug, A for Australia plug, K for Korea plug.

The 5th “*” can be “-USB” or blank, -USB denote the power supplies use USB port, when it is blank, denote the power supplies use DC output wires.

Models GTM86100-1005-W2E-USB and GTM86100-1005-W2A are tested as typical models, model differences were also considered in this report.

Model	Output Voltage	Max. output current	Max. output power
GT*86100-**-W2**	5-5.2VDC	2A	10W
GTM86100-1005-W2E-USB	5VDC	2A	10W
GTM86100-1005-W2A	5VDC	2A	10W

All models were evaluated for maximum manufacturer's recommended ambient of 40 °C

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	FI	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI


Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1	GENERAL		P
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1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls		N/A
1.5.4	Transformers		P
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors bridging insulation	CY1,CY2 capacitors according to IEC60384-14	P
1.5.7	Resistors bridging insulation		P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		P
1.5.9.1	General		P
1.5.9.2	Protection of VDRs		P
1.5.9.3	Bridging of functional insulation by a VDR		P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		P
1.6.1	AC power distribution systems		P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	See marking page	P
	Symbol for nature of supply, for d.c. only	See marking page	P
	Rated frequency or rated frequency range (Hz)	See marking page	P
	Rated current (mA or A)	See marking page	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	See page 2	P
	Model identification or type reference	See page 2	P
	Symbol for Class II equipment only		P
	Other markings and symbols	The additional marking does not give rise to misunderstandings.	P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
1.7.2.2	Disconnect devices		P
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment		N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fuse locations and markings are on PCB adjacent to fuse F1 for GT*86100-**-W2*. RT1+F1 for GT*86100-**-W2*-USB.	P
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7.2	Terminals for a.c. mains supply conductors	The equipment is not permanently connected or provided with a nondetachable power supply cord.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Not intended for connection to DC mains.	N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking		N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417		N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices		N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries		N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations		N/A
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts		P
	Test by inspection	The concerned hazardous parts aren't accessible	P
	Test with test finger (Figure 2A)	The concerned hazardous parts aren't accessible	P
	Test with test pin (Figure 2B)	Hazardous live parts aren't accessible	P
	Test with test probe (Figure 2C)		N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	No energy hazard in output (see appended tables 2.1.1.5)	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s)	$V_{t=1sec}=5.2V$; $\tau=28ms$	—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

2.2	SELV circuits		P
2.2.1	General requirements	(see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V)	(see appended table 2.2)	P
2.2.3	Voltages under fault conditions (V)	(see appended table 2.2 and 5.3)	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits.	P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits	N/A
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.5	Test for operating voltages generated externally		N/A
2.4	Limited current circuits		P
2.4.1	General requirements	Measuring instrument D.1 in Annex D is used	P
2.4.2	Limit values	(see appended table 2.4)	P
	Frequency (Hz)	(see appended table 2.4)	—
	Measured current (Ma)	(see appended table 2.4)	—
	Measured voltage (V)	(see appended table 2.4)	—
	Measured circuit capacitance (nF or μ F)	CY1, CY2: 2200pF	—
2.4.3	Connection of limited current circuits to other circuits		P
2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		P
	Use of integrated circuit (IC) current limiters		—
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) .:		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	Class II equipment.	N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG.....		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG.....		—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N/A
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements		P
	Instructions when protection relies on building installation		P
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		P
2.7.4	Number and location of protective devices:	Protection by one building in current fuse in Line.	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel:		N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlock.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm):		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials		P
2.9.2	Humidity conditioning	120h	P
	Relative humidity (%), temperature (°C):	93%, 40°C	—
2.9.3	Grade of insulation	Insulation is considered to be functional, reinforced or double insulation	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	Separation from hazardous voltages	Separated from hazardous voltage by reinforced or double insulation	P
	Method(s) used	Method 1	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	120KHz	P
2.10.1.2	Pollution degrees	2	P
2.10.1.3	Reduced values for functional insulation		P
2.10.1.4	Intervening unconnected conductive parts		P
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		P
2.10.2.1	General		P
2.10.2.2	RMS working voltage		P
2.10.2.3	Peak working voltage		P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply	100-240V	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests.....	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		P
2.10.5.1	General		P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		P
2.10.5.5.	Cemented joints		P
2.10.5.6	Thin sheet material – General		P
2.10.5.7	Separable thin sheet material		P
	Number of layers (pcs).....	2 layers for insulation tape around transformer	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	(see appended table 2.10.5)	P
	Electric strength test		—
2.10.5.11	Insulation in wound components		P
2.10.5.12	Wire in wound components	Approved TIW was used.	P
	Working voltage	See appended table 2.10.2.	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation	Reinforced insulation	P
	c) Compliance with Annex U	See Annex U	P
	Two wires in contact inside wound component; angle between 45° and 90°	Not in contact between primary winding and secondary winding. The insulating tape is provided to protect against mechanical stress	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection	Integrated mains plug	P
3.2.1.1	Connection to an a.c. mains supply		P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Only one supply connection.	N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N/A
3.3	Wiring terminals for connection of external conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	Integrated mains plug	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles – single-phase and d.c. equipment	Single-phase	P
3.4.7	Number of poles – three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		P
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits		P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	See table 2.5	P
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Angle of 10°	EUT with a mass less than 7kg.	N/A
	Test force (N)	Not a floor-standing unit.	N/A

4.2	Mechanical strength		P
4.2.1	General		P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)	1000mm	P
4.2.7	Stress relief test	After 7h at 84.0°C and cooling down to room temperature, no shrinkage, distortion or loosening of enclosure parts was noticeable on the unit.	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A

4.3	Design and construction		P
4.3.1	Edges and corners		P
4.3.2	Handles and manual controls; force (N)..... :		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets		P
4.3.6	Direct plug-in equipment		P
	Torque	0.02Nm(EU type) 0.04Nm(AU type)	—
	Compliance with the relevant mains plug standard	Meet the requirements of relevant mains plug standard.	P
4.3.7	Heating elements in earthed equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.8	Batteries		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
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation		P
4.3.13.1	General		P
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (Pa/kg)		—
	Measured high-voltage (Kv)		—
	Measured focus voltage (Kv)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		P
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	The visible LED indicators are diffuse type.	—
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. A).....:		N/A
	Is considered to cause pain, not injury. B)		N/A
	Considered to cause injury. C)		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning		N/A

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L	L.7	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat		N/A

4.6	Openings in enclosures		P
4.6.1	Top and side openings		P
	Dimensions (mm)	No openings in the enclosure.	—
4.6.2	Bottoms of fire enclosures		P
	Construction of the bottom, dimensions (mm) .. :	No openings in the enclosure.	—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Conditioning temperature (°C), time (weeks) :		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Enclosure of Direct Plug-in units meets requirements for fire enclosure.	P
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	The fire enclosure is minimum V-1 material.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		P
5.1.4	Application of measuring instrument		P
5.1.5	Test procedure		P
5.1.6	Test measurements		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Supply voltage (V)	264V	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	(see appended table 5.1)	—
	Measured protective conductor current (mA)	--	—
	Max. allowed protective conductor current (mA)....	--	—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (Ma)		—
	Max. allowed touch current (Ma)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure		P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		N/A
5.3.3	Transformers	(see appended Annex C)	P
5.3.4	Functional insulation.....	c)	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (Ma)		—
6.1.2.2	Exclusions		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—

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Clause	Requirement + Test	Result - Remark	Verdict
A.2.7	Alternative test acc. To IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	T1 on mains PCB	—
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
	Method of protection	Protected by circuit	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2 and C2)	P
	Protection from displacement of windings	Comply for requirement	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (Ma)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A

N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

P	ANNEX P, NORMATIVE REFERENCES		—
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Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	- Preferred climatic categories	See appended table 1.5.1	P
	- Maximum continuous voltage	See appended table 1.5.1	P
	- Combination pulse current	See appended table 1.5.1	P
	Body of the VDR Test according to IEC60695-11-5.....	See appended table 1.5.1	P
	Body of the VDR. Flammability class of material (min V-1).....	See appended table 1.5.1	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved TIW	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
X.1	Determination of maximum input current		P
X.2	Overload test procedure		P
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250N, including end stops.....		N/A
DD.4	Compliance.....		N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A
	Information of user instructions, maintenance and/or servicing instructions.....		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A):		N/A
	Test with wedge probe (Figure EE1 and EE2):		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Enclosure (all parts)	SABIC JAPAN L L C	SE1X	V-1, Min. thickness: 1.5mm, 105°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	SE100	V-1, Min. thickness: 1.5mm, 80°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	940	V-0, Min. thickness: 1.5mm, 120°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	CX7211	V-0, Min. thickness: 1.5mm, 90°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	C2950	V-0, Min. thickness: 1.5mm, 75°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	925U	V-0, Min. thickness: 1.5mm, 115°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	945	V-0, Min. thickness: 1.5mm, 120°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	CH6410	V-0, Min. thickness: 1.5mm, 100°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC JAPAN L L C	EXCY0198	V-0, Min. thickness: 1.5mm, 100°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780	
Alt. use	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	V-1, Min. thickness: 1.5mm, 105°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E45329	
Alt. use	SABIC INNOVATIVE PLASTICS B V	C2950	V-0, Min. thickness: 1.5mm, 75°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E45329	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	SABIC INNOVATIVE PLASTICS B V	CX7211	V-0, Min. thickness: 1.5mm, 90°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	945	V-0, Min. thickness: 1.5mm, 120°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	HF500R	V-0, Min. thickness: 1.5mm, 125°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E45329
Alt. use	ASAHI KASEI CORPORATION	540V	V-1, Min. thickness: 1.5mm, 100°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance E82268
Alt. use	COVESTRO DEUTSCHLAND AG [PC RESINS]	FR6005	V-0, Min. thickness: 1.5mm, 105°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E41613
Alt. use	COVESTRO DEUTSCHLAND AG [PC RESINS]	6485	V-0, Min. thickness: 1.5mm, 115°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E41613
Alt. use	IDEMITSU KOSAN CO LTD	AZ2201	V-0, Min. thickness: 1.5mm, 125°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E48268
European plug	GlobTek	--	2.5A, 250VAC	EN 50075	Tested with appliance
AU plug	GlobTek	--	10A, 250VAC	AS/NZS 3112	Tested with appliance
Plug holder	SABIC Japan L L C	SE1X	V-1, Min. thickness: 1.5mm, 105°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780
Alt. use	SABIC JAPAN L L C	945	V-0, Min. thickness: 1.5mm, 120°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E207780
Alt. use	NAN YA PLASTICS CORP PLASTICS 3RD DIV	6410G5	V-0, Min. thickness: 1.5mm, 115°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E130155
Alt. use	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	V-1, Min. thickness: 1.5mm, 105°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E45329

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	SABIC INNOVATIVE PLASTICS B V	945	V-0, Min. thickness: 1.5mm, 120°C	IEC/EN 60950-1 UL 94 UL 746C	Tested with appliance UL E45329
PCB	Shenzhen Wuzhu Tech Co Ltd	WZ-4	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E170968
Alt. use	WALEX ELECTRONIC(WU XI)CO LTD	T2, T2A, T2B, T4	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E154355
Alt. use	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1, 2V0 FR4	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E243157
Alt. use	Huizhou Shunjia Electronics Co Ltd	SJ-B	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E320884
Alt. use	Cheerful Electronics(HK)Ltd	02,03,03A	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E199724
Alt. use	Dongguan Daysun Electronic Co Ltd	DS2	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E251754
Alt. use	Suzhou City Yilihua Electronics Co Ltd	YLH-1	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E251781
Alt. use	DAFENG AREX ELECTRONICS TECHNOLOGY CO LTD	02V0 ,04V0,0 3V0	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E186016
Alt. use	BRITE PLUS ELECTRONICS(SU ZHOU)CO LTD	DKV0-3A DGV0-3A	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E177671
Alt. use	KUOTIANG ENT LTD	C-2 C-2A	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E227299

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	SHENZHEN TONGCHUANXIN ELECTRONICS CO LTD	TCX	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E250336
Alt. use	PACIFIC WIN INDUSTRIAL LTD	PW-02 PW-03	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E228070
Alt. use	YUANMAN PRINTED CIRCUIT CO LTD	1V0	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E74757
Alt. use	SUZHOU XINKE ELECTRONICS CO LTD	XK-2,XK-3	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E231590
Alt. use	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	HS-S	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E229877
Alt. use	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E213009
Alt. use	SHANGHAI H-FAST ELECTRONIC CO LTD	211001,411001	V-0, 130° C Min. 1.0mm	Applicable parts of IEC/EN 60950-1	Tested with appliance UL E337862
Resistor Fuse(RT1)(For mdoel series: GT*86100-**-W2*-USB only)	Anhui Changsheng Electronics Co., Ltd	RXF21-2W	3.3ohm, 2W	IEC/EN 60950-1	VDE 40024768
Alt. use	Shenzhen Great Electronics Co. Ltd.	RXF	3.3ohm, 2W	IEC/EN 60950-1	VDE 40026608
Alt. use	Shenzhen Kayocota Electronics Co., Ltd	FRKNP	3.3ohm, 2W	IEC/EN 60950-1	VDE 40043957
Alt. use	TZAI YUAN Enterprise Co., Ltd	KNF	3.3ohm, 2W	IEC/EN 60950-1	VDE 40035589
Current fuse (F1)	LITTELFUSE WICKMANN WERKE	392	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 126983 UL E67006

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	Ever Island Electric Co., Ltd. & Walter Electric	2010 series	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40018781 UL E220181
Alt. use	Shenzhen Lanson Electronics Co. Ltd.	SMT	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012592 UL E221465
Alt. use	Conquer Electronics Co., Ltd.	MST	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017157 UL E82636
Alt. use	Cooper Bussmann LLC	SS-5	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015513 UL E19180
Alt. use	Bel Fuse Ltd.	RST-Serie(s)	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40011144 UL E20624
Alt. use	SMART ELECTRONICS INC	SPT	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40014285 UL E238986
Alt. use	SUNNY EAST ENTERPRISE CO LTD	TSP series	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40027173 UL E133774
Alt. use	Conquer Electronics Co., Ltd.	PTU	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017157 UL E82636
Alt. use	Littelfuse Inc	877	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40023242 UL E10480
Alt. use	NIPPON SEISEN CABLE LTD	SLT	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40013103 UL E120786

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	Walter Electronic Co. Ltd.	ICP	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012824 UL E56092
Alt. use	XC ELECTRONICS (SHENZHEN) CORP LTD	5TE	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40029550 UL E249609
Alt. use	XC ELECTRONICS (SHENZHEN) CORP LTD	4T series	T1A or 2A, 250V sub-miniature fuse	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40029295 UL E249609
Y capacitor (CY1, CY2) (Optional)	TDK-EPC Corporation, Capacitors Group Circuit Devices Business Group	CD	Y1, AC250V, max 2200pF, 25/085/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40029780 UL E37861
Alt. use	Murata Mfg. Co., Ltd.	KX	Y1, AC250V, max 2200pF, 25/125/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40002831 UL E37921
Alt. use	Success Electronics Co., Ltd.	SE	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037211 UL E114280
Alt. use	Success Electronics Co., Ltd.	SB	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037221 UL E114280
Alt. use	JYA-NAY Co., Ltd.	JN	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001831 UL E201384
Alt. use	WELSON INDUSTRIAL CO LT D	WD	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40016157 UL E104572

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	SAMWHA CAPACITOR CO LTD	SD	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40015804 UL E97754
Alt. use	NAN JING YUYUE ELECTRONICS CO LTD	CT7	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40008010 UL E237728
Alt. use	YINAN DON'S ELECTRONIC COMPONENT CO LTD	CT81	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 135256 UL E145038
Alt. use	JYH CHUNG ELECTRONICS CO LTD	JD	Y1, AC400V, max 2200pF, 30/125/56/C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 137027 UL E187963
Alt. use	JYH CHUNG ELECTRONICS CO LTD.	JY	Y2, AC300V, max 2200pF, 30/125/56/C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 137027 UL E187963
Transformer (T1)	GlobTek / BOAM / HAOPUWEI / Dee Van Enterprise Co., Ltd.	90E10PFX0- xxxx for Model: GT*86100-**- W2*-USB only; 90E10PF02- xxxx for Model: GT*86100-**- W2* only ("xxxx" to denote the part number, can be any alphanumeric character for marketing purposes only.	Class B	IEC/EN 60950-1	Tested with appliance
-Bobbin	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150°C, thickness 0.45 mm min.	IEC/EN 60950-1 UL 94	Tested with appliance UL E42956

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- Alt. use	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150°C, thickness 0,45 mm min.	IEC/EN 60950-1 UL 94	Tested with appliance UL E41429
- Alt. use	SUMITOMO BAKELITE CO LTD	PM-9630	V-0, 150°C, thickness 0,45 mm min.	IEC/EN 60950-1 UL 94	Tested with appliance UL E41429
- Alt. use	CHANG CHUN PLASTICS CO LTD	T375J	V-0, 140°C, thickness 0,74 mm min.	IEC/EN 60950-1 UL 94	Tested with appliance UL E59481
- Alt. use	CHANG CHUN PLASTICS CO LTD	T373J	V-0, 150°C, thickness 0,45 mm min.	IEC/EN 60950-1 UL 94	Tested with appliance UL E59481
- Alt. use	CHANG CHUN PLASTICS CO LTD	T375HF	V-0, 150°C, thickness 0,45 mm min.	IEC/EN 60950-1 UL 94	Tested with appliance UL E59481
- Magnet wire	Golden Ocean	UEW-X	130°C	IEC/EN 60950-1	Tested with appliance UL E225143
Alt. use	Da Yang	UEW	130°C	IEC/EN 60950-1	Tested with appliance UL E176101
Alt. use	Wa Tai	UEW	130°C	IEC/EN 60950-1	Tested with appliance UL E243939
Alt. use	Feng Ching	UEW	130°C	IEC/EN 60950-1	Tested with appliance UL E172395
Alt. use	TAI-I	UEW	130°C	IEC/EN 60950-1	Tested with appliance UL E234896
Alt. use	NINGBO JINTIAN NEW MATERIAL CO LTD	2UEW	155°C	IEC/EN 60950-1	Tested with appliance UL E227047
-Triple- insulated wire (Secondary)	Furukawa Electric Co., Ltd.	TEX-E	Class B, reinforced insulation	IEC/EN 60950-1 UL 2353	VDE 006735 UL E206440
- Alt. use	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B,TWE-3	Class B, reinforced insulation	IEC/EN 60950-1 UL 2353	VDE 40033527 UL E332529

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- Alt. use	DAH JIN TECHNOLOGY CO LTD	TLW-B	Class B, reinforced insulation	IEC/EN 60950-1 UL 2353	VDE 40019324 UL E236542
- Alt. use	Furukawa Electric Co., Ltd.	TEX-E	Class B, reinforced insulation	IEC/EN 60950-1 UL 2353	VDE 006735 UL E206440
- Alt. use	COSMOLINK CO. Ltd.	TIW-M	Class B, reinforced insulation	IEC/EN 60950-1 UL 2353	VDE 138053 UL E213764
- Alt. use	YOUNG CHANG SILICONE CO LTD	STW-B	Class B, reinforced insulation	IEC/EN 60950-1 UL 2353	VDE 40013359 UL E303298
- Alt. use	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B, reinforced insulation	IEC/EN 60950-1 UL 2353	VDE 136581 UL E211989
- Alt. use	E&B TECHNOLOGY CO LTD	E&B-B-X.XX	Reinforced insulation, Class B	IEC/EN 60950-1 UL 2353	VDE 40023473 UL E315265
- Alt. use	DONGGUAN KOSHEN INSULATOR CO LTD	TIW-B	Reinforced insulation, Class B	IEC/EN 60950-1 UL 2353	Tested with appliance UL E365580
-Insulating tape	SYMBIO INC	35660,35661, 35660Y	130°C	IEC/EN 60950-1 UL 510	Tested with appliance UL E50292
- Alt. use	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1, 1350T-1	130°C	IEC/EN 60950-1 UL 510	Tested with appliance UL E17385
- Alt. use	BONDTEC PACIFIC CO LTD	370S	130°C	IEC/EN 60950-1 UL 510	Tested with appliance UL E175868
- Alt. use	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ, CT, WF	130°C	IEC/EN 60950-1 UL 510	Tested with appliance UL E165111
- Alt. use	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	130°C	IEC/EN 60950-1 UL 510	Tested with appliance UL E246950

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- Alt. use	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	130°C	IEC/EN 60950-1 UL 510	Tested with appliance UL E246820
-PTFE tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT, TFS	300V, 200°C	IEC/EN 60950-1	Tested with appliance UL E156256
-Alt. use	SHENZHEN WOER HEAT- SHRINKABLE MATERIAL CO LTD	WF	600V, 200°C	IEC/EN 60950-1	Tested with appliance UL E203950
-Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T, CB-TT-S	300V, 200°C	IEC/EN 60950-1	Tested with appliance UL E180908
-Alt. use	ZEUS	TFE-TW-300, TFE-SW-600	Min.300V, 200°C.	IEC/EN 60950-1	Tested with appliance UL E64007
Varistor MOV1 (Optional)(For Model: GT*86100-**- W2* only)	CENTRA SCIENCE CORP	CNR- 10D471K, CNR- 10D511K, CNR- 14D471K, CNR- 14D511K	Min. 300Vac, 40/85/56, fulfilled 6kV/3kA pulse test. V-1.	IEC 61051-2 IEC 60950-1	VDE40008220 UL E316325
-Alt. use	Joyin Co Ltd	JVR10N471K, JVR10N511K, JVR14N471K, JVR14N511K	Min. 300Vac, 40/85/56, fulfilled 6kV/3kA pulse test. V-1.	IEC 61051-2 IEC 60950-1	VDE 005937
-Alt. use	Fenghua Advanced Technology Holding Co Ltd. Xianhua New Sensitive Components & Sensor Branch Co.	FNR- 10K471K, FNR- 10K511K, FNR- 14K471K, FNR-14K511K	Min. 300Vac, min. 385Vdc, 40/85/56, fulfilled 6kV/3kA pulse test. V-1.	IEC 61051-2 IEC 60950-1	VDE 40008242

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-Alt. use	Success Electronics Co Ltd	SVR10D471K, SVR10D511K, SVR14D471K, SVR14D511K	Min. 300Vac, min. 385Vdc, 40/85/56, fulfilled 6kV/3kA pulse test. V-1.	IEC 61051-2 IEC 60950-1	VDE 123677
-Alt. use	Thinking Electronic Industrial Co Ltd	TVR10471K, TVR10511K, TVR14471K, TVR14511K	Min. 300Vac, min. 385Vdc, 40/85/56, fulfilled 6kV/3kA pulse test. V-1.	IEC 61051-2 IEC 60950-1	VDE 40021243
-Alt. use	Brightking Inc.	CNR471KD10, CNR511KD10, CNR471KD14, CNR511KD14	Min. 300Vac, min. 385Vdc, 40/85/56, fulfilled 6kV/3kA pulse test. V-1.	IEC 61051-2 IEC 60950-1	VDE 40022070
-Alt. use	Brightking (Shenzhen) Co., Ltd.	14D471K, 14D511K	Min. 300Vac, min. 385Vdc, 40/85/56, fulfilled 6kV/3kA pulse test. V-1.	IEC 61051-2 IEC 60950-1	VDE 40027827
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. For all transformers under all manufacturers.					

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
Model: GTM86100-1005-W2E-USB							
90	0.248	--	13.5	F1	0.248	Max Normal Load, 50 Hz	
90	0.262	--	13.4	F1	0.262	Max Normal Load, 60 Hz	
100	0.227	0.3	13.4	F1	0.227	Max Normal Load, 50 Hz	
100	0.243	0.3	13.4	F1	0.243	Max Normal Load, 60 Hz	
240	0.126	0.3	13.6	F1	0.126	Max Normal Load, 50 Hz	
240	0.133	0.3	13.6	F1	0.133	Max Normal Load, 60 Hz	
264	0.120	--	13.9	F1	0.120	Max Normal Load, 50 Hz	
264	0.125	--	13.9	F1	0.125	Max Normal Load, 60 Hz	
Model: GTM86100-1005.2-W2E-USB							
90	0.247	--	13.3	F1	0.247	Max Normal Load, 50 Hz	
90	0.251	--	13.4	F1	0.251	Max Normal Load, 60 Hz	
100	0.229	0.3	13.2	F1	0.229	Max Normal Load, 50 Hz	
100	0.231	0.3	13.3	F1	0.231	Max Normal Load, 60 Hz	
240	0.126	0.3	13.4	F1	0.126	Max Normal Load, 50 Hz	
240	0.128	0.3	13.7	F1	0.128	Max Normal Load, 60 Hz	
264	0.118	--	13.6	F1	0.118	Max Normal Load, 50 Hz	
264	0.120	--	13.8	F1	0.125	Max Normal Load, 60 Hz	
Model: GTM86100-1005-W2A							
90	0.244	--	13.5	F1	0.244	Max Normal Load, 50 Hz	
90	0.244	--	13.5	F1	0.244	Max Normal Load, 60 Hz	
100	0.220	0.3	13.5	F1	0.220	Max Normal Load, 50 Hz	
100	0.222	0.3	13.4	F1	0.222	Max Normal Load, 60 Hz	
240	0.122	0.3	13.8	F1	0.122	Max Normal Load, 50 Hz	
240	0.120	0.3	13.5	F1	0.120	Max Normal Load, 60 Hz	
264	0.116	--	13.6	F1	0.116	Max Normal Load, 50 Hz	
264	0.114	--	14.0	F1	0.114	Max Normal Load, 60 Hz	
Supplementary information:							

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
Model: GTM86100-1005.2-W2A						
90	0.243	--	13.6	F1	0.243	Max Normal Load, 50 Hz
90	0.246	--	13.6	F1	0.246	Max Normal Load, 60 Hz
100	0.219	0.3	13.4	F1	0.219	Max Normal Load, 50 Hz
100	0.225	0.3	13.4	F1	0.225	Max Normal Load, 60 Hz
240	0.123	0.3	13.6	F1	0.123	Max Normal Load, 50 Hz
240	0.122	0.3	13.5	F1	0.122	Max Normal Load, 60 Hz
264	0.114	--	14.0	F1	0.114	Max Normal Load, 50 Hz
264	0.116	--	13.7	F1	0.116	Max Normal Load, 60 Hz
Supplementary information:						

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Model: GTM86100-1005-W2E-USB					
5Vdc	2.0	5.13Vdc	2.44A	12.2	
Model: GTM86100-1005-W2A					
5Vdc	2.0	5.10Vdc	2.43A	12.1	
supplementary information:					
The above measurements are the maximum values (max. V and max. A not obtained at the same time).					

2.4	Limited Current Circuits Test				P
Condition:	Measured between	Voltage (Vp/Vdc)	Current (mA)	Circuit capacitance (Uf)	Remarks
Model GTM86100-1005-W2E-USB					
Normal	CY2 sec. pin to earth	17.5mVpeak	0.04 Max.	CY1,CY2:2200pF	<0.7mA
Model GTM86100-1005-W2A					
Normal	CY2 sec. pin to earth	17.3mVpeak	0.04 Max.	CY1,CY2:2200pF	<0.7mA
supplementary information:					

2.5	TABLE: Limited power sources				P
Circuit output tested:					
Note: Measured Uoc (V) with all load circuits disconnected:					
Model: GTM86100-1005-W2E-USB					
Components	Uoc (V)	I _{sc} (A)		VA	
		Meas.	Limit	Meas.	Limit
Normal condition	5.1	2.4	≤ 8.0 A	9.8	≤ 100 VA
Single fault condition (R4 Short circuit)	--	0	≤ 8.0 A	0	≤ 100 VA
supplementary information:					

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Model: GTM86100-1005-W2E-USB							
L to N before fuse(FI)	384	272	2.3 ¹	Min.4.0	2.4	Min.4.0	
Two poles of fuse(FI)	384	272	2.3 ¹	Min.3.0	2.4	Min.3.0	
CY1 Primary Pin to another Pin(BI)	340	240	3.0 ¹	3.9	3.0	3.9	
CY2 Secondary Pin to another Pin(SI)	340	240	3.0 ¹	4.2	3.0	4.2	
Live parts to Enclosure parts(RI)	396	272	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Live parts to accessible parts(RI)	396	272	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Primary circuit to secondary circuits (PCB trace under T1) (RI)	412	273	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Transformer Primary winding to secondary winding(RI)	412	273	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Transformer Primary winding to core(RI)	412	273	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Model: GTM86100-1005-W2A							
L to N before fuse(FI)	385	273	2.3 ¹	Min.4.0	2.4	Min.4.0	
Two poles of fuse(FI)	385	273	2.3 ¹	Min.3.0	2.4	Min.3.0	
CY1 Primary Pin to another Pin(BI)	340	240	3.0 ¹	3.9	3.0	3.9	
CY2 Secondary Pin to another Pin(SI)	340	240	3.0 ¹	4.2	3.0	4.2	
Live parts to Enclosure parts(RI)	400	274	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Live parts to accessible parts(RI)	400	274	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Primary circuit to secondary circuits (PCB trace under T1) (RI)	420	276	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Transformer Primary winding to secondary winding(RI)	420	276	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	
Transformer Primary winding to core(RI)	420	276	6.0 ¹	Min.7.0	6.0 ²	Min.7.0	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1. Required value was multiplied by the factor 1,48 due to the maximum specified altitude of 5000m
2. Required creepage not less than required clearance
3. Minimum 0.4 mm thick Mylar sheet or two layers of insulating tape wrap around internal conductive parts along the enclosure joint. This method is applied only to the model sold to high elevation region. Otherwise, the clearance and creepage distance is measured as 5.7/5.7 mm.
4. Two layers of insulating tape or two layers of insulating tube wrap around the heatsink.

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Model: GTM86100-1005-W2E-USB						
T1 transformer bobbin (RI)		412	273	3000	0.4	0.6
Triple Insulating wire in transformer T1 (RI)		412	273	4500	3 layers	3 layers
Insulating tapes in transformer T1 (RI)		412	273	3000/1 layer	2 layers	2 layers
Thin sheet material at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required layers	Layers
Insulation tape around transformer		412	273	3000	2	2
Model: GTM86100-1005-W2A						
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
T1 transformer bobbin (RI)		420	276	3000	0.4	0.6
Triple Insulating wire in transformer T1 (RI)		420	276	4500	3 layers	3 layers
Insulating tapes in transformer T1 (RI)		420	276	3000/1 layer	2 layers	2 layers
Thin sheet material at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required layers	Layers
Insulation tape around transformer		420	276	3000	2	2
Supplementary information:						

IEC 60950-1				
Clause	Requirement + Test		Result - Remark	Verdict
4.5	TABLE: Thermal requirements			P
	Supply voltage (V)	90	264	—
	Ambient T_{min} (°C)	40	40	—
	Model	GTM86100-1005-W2E-USB		—
Maximum measured temperature T of part/at.....:		T (°C)		Allowed T_{max} (°C)
1.Enclosure Inside near Inlet Blade		64.3	57.9	75
2. PWB near Rectifier Bridge (BD1)		91.3	80.5	130
3.Choke (L1) Coil		87.2	78.0	110
4. Capacitor (C1) body near Transform		85.5	76.9	105
5. Capacitor (C2) body near Transform		89.3	81.4	105
6. PWB near near Q1		103.0	94.6	130
7.Transformer (T1) Primary Winding		105.2	102.4	110*
8.Transformer (T1) Secondary Winding		103.8	99.7	110*
9.Transformer (T1) Core		98.9	94.3	Ref.
10.CY1 body near Transformer		85.0	81.0	125
11.CY2 body near Transformer		81.0	78.5	125
12.Capacitor (C7) body		76.9	75.8	105
13.Capacitor (C8) body		97.9	92.8	105
14.Enclosure Inside near Transformer (T1) Top		70.9	68.8	75
15.Enclosure Outside near Transformer (T1) Top		67.7	65.4	95
Supplementary information: * indicated thermocouple method was used to measure the winding, so the limit value reduced 10K.				

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	TABLE: Thermal requirements		P
	Supply voltage (V)	90 264	—
	Ambient T_{min} (°C)	40 40	—
	Model	GTM86100-1005-W2A	—
Maximum measured temperature T of part/at.....:		T (°C)	Allowed T_{max} (°C)
1.Enclosure Inside near Inlet Blade		64.7 53.9	75
2. PWB near Rectifier Bridge (BD1)		87.8 64.6	130
3.Choke (L1) Coil		99.1 68.4	110
4. Capacitor (C1) body near Transform		84.3 66.3	105
5. Capacitor (C2) body near Transform		91.5 79.8	105
6. Transformer (T1) Primary Winding		91.2 86.2	110*
7.Transformer (T1) Secondary Winding		92.1 91.4	110*
8.Transformer (T1) Core		92.0 86.5	Ref.
9.CY1 body near Transformer		80.7 76.3	125
10.CY2 body near Transformer		69.0 67.3	125
11.Capacitor (C7) body		80.1 79.3	105
12.Capacitor (C8) body		67.2 66.4	105
13.Enclosure Inside near Transformer (T1) Top		61.9 59.5	75
14.Enclosure Outside near Transformer (T1) Top		61.1 59.2	95
15.Output Cord		59.2 58.1	80
16. MOV1 near PCB		85.6 72.4	130
Supplementary information:* indicated thermocouple method was used to measure the winding, so the limit value reduced 10K.			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Enclosure (all parts)	SABIC JAPAN L L C	SE1X	Min. thickness: 1.5mm	V-1	UL	
Alt. use	SABIC JAPAN L L C	SE100	Min. thickness: 1.5mm	V-1	UL	
Alt. use	SABIC JAPAN L L C	940	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC JAPAN L L C	CX7211	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC JAPAN L L C	C2950	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC JAPAN L L C	925U	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC JAPAN L L C	945	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC JAPAN L L C	CH6410	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC JAPAN L L C	EXCY0198	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	Min. thickness: 1.5mm	V-1	UL	
Alt. use	SABIC INNOVATIVE PLASTICS B V	C2950	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC INNOVATIVE PLASTICS B V	CX7211	Min. thickness: 1.5mm	V-0	UL	
Alt. use	SABIC INNOVATIVE PLASTICS B V	945	Min. thickness: 1.5mm	V-0	UL	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	SABIC INNOVATIVE PLASTICS B V	HF500R	Min. thickness: 1.5mm	V-0	UL
Alt. use	ASAHI KASEI CORPORATION	540V	Min. thickness: 1.5mm	V-1	UL
Alt. use	COVESTRO DEUTSCHLAND AG [PC RESINS]	FR6005	Min. thickness: 1.5mm	V-0	UL
Alt. use	COVESTRO DEUTSCHLAND AG [PC RESINS]	6485	Min. thickness: 1.5mm	V-0	UL
Alt. use	IDEMITSU KOSAN CO LTD	AZ2201	Min. thickness: 1.5mm	V-0	UL
PCB	Shenzhen Wuzhu Tech Co Ltd	WZ-4	Min. thickness: 1.0mm	V-0	UL
Alt. use	WALEX ELECTRONIC(WUX I)CO LTD	T2, T2A, T2B, T4	Min. thickness: 1.0mm	V-0	UL
Alt. use	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1, 2V0 FR4	Min. thickness: 1.0mm	V-0	UL
Alt. use	Huizhou Shunjia Electronics Co Ltd	SJ-B	Min. thickness: 1.0mm	V-0	UL
Alt. use	Cheerful Electronics(HK)Ltd	02,03,03A	Min. thickness: 1.0mm	V-0	UL
Alt. use	Dongguan Daysun Electronic Co Ltd	DS2	Min. thickness: 1.0mm	V-0	UL
Alt. use	Suzhou City Yilihua Electronics Co Ltd	YLH-1	Min. thickness: 1.0mm	V-0	UL
Alt. use	DAFENG AREX ELECTRONICS TECHNOLOGY CO LTD	02V0 ,04V0,03V0	Min. thickness: 1.0mm	V-0	UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	BRITE PLUS ELECTRONICS(SU ZHOU)CO LTD	DKV0-3A, DGV0-3A	Min. thickness: 1.0mm	V-0	UL
Alt. use	KUOTIANG ENT LTD	C-2, C-2A	Min. thickness: 1.0mm	V-0	UL
Alt. use	SHENZHEN TONGCHUANXIN ELECTRONICS CO LTD	TCX	Min. thickness: 1.0mm	V-0	UL
Alt. use	PACIFIC WIN INDUSTRIAL LTD	PW-02, PW-03	Min. thickness: 1.0mm	V-0	UL
Alt. use	YUANMAN PRINTED CIRCUIT CO LTD	1V0	Min. thickness: 1.0mm	V-0	UL
Alt. use	SUZHOU XINKE ELECTRONICS CO LTD	XK-2,XK-3	Min. thickness: 1.0mm	V-0	UL
Alt. use	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	HS-S	Min. thickness: 1.0mm	V-0	UL
Alt. use	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	Min. thickness: 1.0mm	V-0	UL
Alt. use	SHANGHAI H-FAST ELECTRONIC CO LTD	211001,411001	Min. thickness: 1.0mm	V-0	UL
Supplementary information:					

5.1	TABLE: touch current measurement			P
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions
GTM86100-1005-W2E-USB				
L/N to enclosure(with metal foil)	0.003	0.25	--	
L/N to output	0.084	0.25	--	
GTM86100-1005-W2A				
L/N to enclosure(with metal foil)	0.005	0.25	--	
L/N to output	0.087	0.25	--	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

supplementary information:

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
GTM86100-1005-W2E-USB, GTM86100-1005-W2A				
Primary circuit to body (RI)		AC	3000	No
Primary circuit to secondary circuit (RI)		AC	3000	No
Primary winding to secondary winding of T1 (RI)		AC	3000	No
Primary winding to core (RI)		AC	3000	No
Insulation tape around transformer per layer		AC	3000	No
Insulation sheet		AC	1500	No
Primary and secondary of Y1 capacitor		DC	4242	No
Supplementary information:				

5.3	TABLE: Fault condition tests					P
Ambient temperature (°C)		22-25, if no else specified			—	
Power source for EUT: Manufacturer, model/type, output rating		--			—	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
GTM86100-1005-W2E-USB						
C1	Sc	264	1s	F1	>10→0	Fuse F1 opened immediately no hazard
C2	Sc	264	1s	F1	>10→0	Fuse opened immediately no hazard
R6	Sc	264	2h	F1	0.121	Unit work normally no hazard
R3	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
D5	Sc	264	2h	F1	0.121	Unit work normally no hazard
D6	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
R4	Sc	264	1s	F1	>10→0	Fuse F1 opened immediately no hazard

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
R11	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
R13	Sc	264	2h	F1	0.121	Unit work normally no hazard
T1 pin1-2	Sc	264	1s	F1	>10→0	Fuse F1 opened immediately no hazard
T1 pin6-7	Sc	264	1h	F1	0.03	Unit shutdown immediately recoverable no hazard
R16	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
D8	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
C9	Sc	264	2h	F1	0.121	Unit work normally no hazard
Output	OI	264	2h	--	--	Max. output current: 2.4A. T1 winding: 130°C, Ta: 23°C.
GTM86100-1005-W2A						
C1	Sc	264	1s	F1	>10→0	Fuse F1 opened immediately no hazard
C2	Sc	264	1s	F1	>10→0	Fuse F1 opened immediately no hazard
R6	Sc	264	2h	F1	0.114	Unit work normally no hazard
R3	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
D1	Sc	264	2h	F1	0.114	Unit work normally no hazard
R8	Sc	264	1s	F1	>10→0	Fuse F1 opened immediately no hazard
R9	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
T1 pin 1-2	Sc	264	1s	F1	>10→0	Fuse F1 opened immediately no hazard
T1 pin A-B	Sc	264	1h	F1	0.03	Unit shutdown immediately recoverable no hazard
R12	Sc	264	1h	F1	0.02	Unit shutdown immediately recoverable no hazard
Output	OI	264	2h	--	--	Max. output current: 2.4A. T1 winding: 125.5°C, Ta: 23°C.
Supplementary information: “Sc” means short-circuited test, “OI” means overload test, “Oc” means open-circuited test; “Uoc” means output voltage without load.						

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

C.2		TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
GTM86100-1005-W2E-USB								
T1	Reinforced (Pri. – core)	412	273	3000	6.0 ²	6.0 ²	Triple insulated winding comply with Annex U	
T1	Reinforced (Pri. – Sec.)	412	273	3000	6.0 ²	6.0 ²	Triple insulated winding comply with Annex U	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T1	Reinforced (Pri. – Sec.)			3000	Min.7.0	Min.7.0	2	
T1	Reinforced (Pri. – core)			3000	Min.7.0	Min.7.0	2	
GTM86100-1005-W2A								
T1	Reinforced (Pri. – core)	420	276	3000	6.0 ²	6.0 ²	Triple insulated winding comply with Annex U	
T1	Reinforced (Pri. – Sec.)	420	276	3000	6.0 ²	6.0 ²	Triple insulated winding comply with Annex U	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T1	Reinforced (Pri. – Sec.)			3000	Min.7.0	Min.7.0	2	
T1	Reinforced (Pri. – core)			3000	Min.7.0	Min.7.0	2	
supplementary information: 1. Each transformer model is identical in insulation construction including clearance and creepage except number of turns per coil. 2. Altitude correction factor for clearances for an altitude of 5000 m (based on IEC 60664-1:2007): 1.48. 3. Core is regarded as secondary parts.								

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

C.2	TABLE: transformers	P
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GTM86100-1005-W2E-USB

PIN3 --> PIN1	φ0.25*1*32Ts	MYLAR TAPE
PIN5 --> NC	φ0.16*3*10Ts	
PIN6 --> PIN7	φ0.4*2*7Ts 三層絕緣線	
PIN4 --> PIN5	φ0.22*2*16Ts	
PIN2 --> PIN3	φ0.25*1*34Ts	

BOBBIN:EPC-17

2

φ0.25*1*68Ts

3

φ0.25*1*32Ts

1

φ0.22*2*16Ts

4

φ0.22*2*16Ts

5

φ0.16*3*10Ts

NC

6

φ0.4*2*7Ts

三層絕緣線

7

18.8MAX

18.8MAX

1

5

7

1

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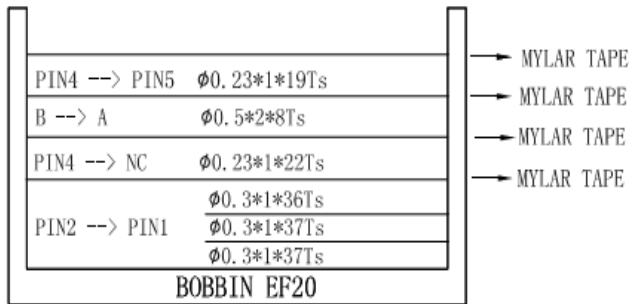
1

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

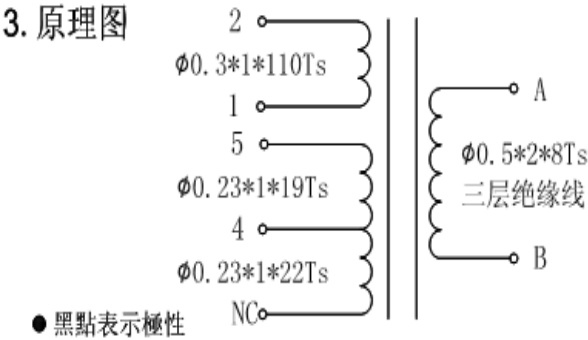
C.2	TABLE: transformers	P	
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GTM86100-1005-W2A

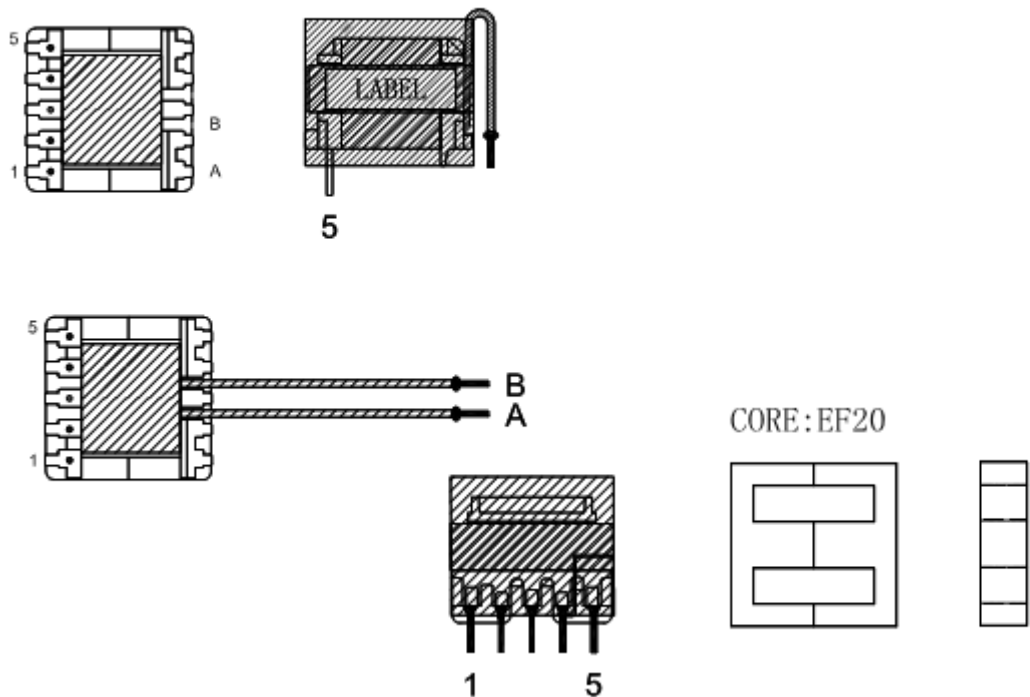
1.绕线顺序图



3. 原理图



4. 三视图



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<p align="center">ATTACHMENT TO TEST REPORT IEC 60950-1</p> <p align="center">EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES</p> <p align="center">Information technology equipment – Safety –</p> <p align="center">Part 1: General requirements</p>			
Differences according to : EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013			
Attachment Form No. : EU_GD_IEC60950_1F			
Attachment Originator : SGS Fimko Ltd			
Master Attachment : Date 2014-02			
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS
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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)							
Clause	Requirement + Test				Result - Remark		Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it's amendmets are prefixed "Z"						P
Contents	Add the following annexes:						P
(A2:2013)	Annex ZA (normative)		Normative references to international publications with their corresponding European publications				
	Annex ZB (normative)		Special national conditions				
	Annex ZD (informative)		IEC and CENELEC code designations for flexible cords				
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list:						P
	1.4.8	Note 2	1.5.1	Note 2 & 3	1.5.7.1	Note	
	1.5.8	Note 2	1.5.9.4	Note	1.7.2.1	Note 4, 5 & 6	
	2.2.3	Note	2.2.4	Note	2.3.2	Note	
	2.3.2.1	Note 2	2.3.4	Note 2	2.6.3.3	Note 2 & 3	
	2.7.1	Note	2.10.3.2	Note 2	2.10.5.13	Note 3	
	3.2.1.1	Note	3.2.4	Note 3.	2.5.1	Note 2	
	4.3.6	Note 1 & 2	4.7	Note 4	4.7.2.2	Note	
	4.7.3.1	Note 2	5.1.7.1	Note 3 & 4	5.3.7	Note 1	
	6	Note 2 & 5	6.1.2.1	Note 2	6.1.2.2	Note	
	6.2.2	Note	6.2.2.1	Note 2	6.2.2.2	Note	
	7.1	Note 3	7.2	Note	7.3	Note 1 & 2	
	G.2.1	Note 2	Annex H	Note 2			
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list:						P
	1.5.7.1	Note	6.1.2.1	Note 2			
	6.2.2.1	Note 2	EE.3	Note			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		P
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		P
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N/A
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx Protection against excessive sound pressure from personal music players		N/A
	<p>Zx.1 General</p> <p>This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> is designed to allow the user to listen to recorded or broadcast sound or video; and primarily uses headphones or earphones that can be worn in or on or around the ears; and allows the user to walk around while in use. <p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used. <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> hearing aid equipment and professional equipment; <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</p> <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A
	<p>Zx.2 Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <p>equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and</p> <p>a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1.</p> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <p>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</p> <p>b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <ol style="list-style-type: none"> 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.3 Warning</p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p>  <p>Figure 1 – Warning label (IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	<p>Zx.4.1 Wired listening devices with analogue input</p> <p>With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.</p> <p>This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.4.2 Wired listening devices with digital input</p> <p>With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.</p> <p>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A
	<p>Zx.4.3 Wireless listening devices</p> <p>In wireless mode:</p> <ul style="list-style-type: none"> with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p>Zx.5 Measurement methods</p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>		P
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		P
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	Replace “60245 IEC 53” by “H05 RR-F”; “60227 IEC 52” by “H03 VV-F or H03 VVH2-F”; “60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”. In Table 3B, replace the first four lines by the following: Up to and including 6 0,75 ^{a)} Over 6 up to and including 10 (0,75) ^{b)} 1,0 Over 10 up to and including 16 (1,0) ^{c)} 1,5 In the conditions applicable to Table 3B delete the words “in some countries” in condition ^{a)} . In NOTE 1, applicable to Table 3B, delete the second sentence.		N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In Finland , Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A
1.7.2.1 (A11:2009)	<p>In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p>		

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		N/A
1.7.2.1 (A2:2013)	<p>In Denmark, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in Denmark shall be as follows: In Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”</p>		N/A
1.7.5 1.7.5 (A11:2009)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011.</p> <p>For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a.</p> <p>Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b.</p> <p>Justification the Heavy Current Regulations, 6c</p>		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	<p>In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p>		N/A
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>		
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Justification the Heavy Current Regulations, 6c</p>		N/A
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	<p>In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
3.2.1.1	<p>In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.</p>		N/A
3.2.4	<p>In Switzerland, for requirements see 3.2.1.1 of this annex.</p>		N/A
3.2.5.1	<p>In the United Kingdom, a power supply cord with conductor of 1,25 mm² is allowed for equipment with a rated current over 10 A and up to and including 13 A.</p>		N/A
3.3.4	<p>In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is:</p> <ul style="list-style-type: none"> • 1,25 mm² to 1,5 mm² nominal cross-sectional area. 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT. 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<p align="center">ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)</p>			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 		N/A
6.1.2.2	<p>In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N/A
7.3 (A11:2009)	<p>In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	National differences for Singapore		—
		IEC 60950-1, 1st edition	

The following is the national differences in accordance with safety authority website www.safety.org.sg/ , ref. Singapore Consumer Protection (Safety Requirements) - Information booklet - chapter 7 (page 23 - 26). Based on information by Singapore NCB – PSB Corp.

7 SAFETY AUTHORITY'S REQUIREMENTS

The Safety Authority monitors the safety of the controlled goods sold in Singapore by investigating all complaints, incidents and accidents reported to the authority. Experiences gained are translated into the Safety Authority's Requirements. These requirements are to be fulfilled in addition to the applicable safety standards.

Applicable to all electrical products				
No	Item	Requirement	Result - Remark	Verdict
2	Controlled Goods incorporated with additional function	The additional function must be tested to its applicable safety standard.		P
3	All appliances	All appliances must be tested to 230 VAC.	The voltage range includes 230Vac.	P
4	Voltage selector (voltage mis-match test)	Appliance fitted with voltage selector shall be tested as follows: Connect appliance to 230 VAC mains with voltage selector switch to settings not suitable for operation at 230 VAC.	No voltage selector.	N/A
5	Tropical condition test	All appliances (with tropical test requirements in applicable Standards) shall comply with the tropical condition test as stated in the relevant IEC Standards.		P
6	Class I appliances (3-pin mains plug)	All Class I appliances must be fitted with 3-pin mains plugs complied with SS 145/SS 472 that are registered with the Safety Authority.		N/A
7	Class II appliances (mains plug)	a) All Class II appliances must be fitted with 2-pin mains plug (Appendix T) complied with EN 50075. b) Class II appliances that are fitted with 3-pin mains plugs must use plugs that are complied with SS 145 and registered with the Safety Authority.		P
8	Appliances rated \geq 3 kW or connected to fixed wiring	Electric appliance \geq 3kW must be connected to fixed wiring. All connection to fixed wiring must be in accordance with Code of Practice CP5.	Not exceed 3kW.	N/A

IEC 60950-1				
Clause	Requirement + Test		Result - Remark	Verdict
9	Detachable power cord set (consists of mains plug, mains cord and appliance connector)	Detachable power cord set must be listed in the test report critical component list.		N/A
10	Circuit diagrams	Circuit diagrams must be indicated with component's values for products tested to IEC 60065 and IEC 60950-1.		P
11	Circuit diagrams of electronic modules in electrical appliances	Circuit diagrams of the electronic modules in the electrical appliances must be provided.		P
12	Controlled goods likely to be treated as toy by children	Controlled goods, having an enclosure, which is shaped and decorated so that it is likely to be treated as a toy by children, shall not be accepted for certification and registration.	The shape and function are not considered for toy.	N/A
Applicable to AC adaptor				
14	3-pin AC adaptor (Appendix V)	Test report showing that the 3-pin complied with sub-clauses 12.1 & 12.3 of SS 246 must be submitted.		N/A
15	2-pin AC adaptor (Appendix V)	The 2-pin (Appendix T) shall comply with EN 50075	See the appendix page.	P
16	Detachable power supply cord set not supplied by Registered Supplier	Registered Supplier who is not supplying the detachable power supply cord set together with the AC Adaptor must provide written instruction to its customer on the type of approved detachable power cord set to use.		N/A
Applicable to computer products				
17	CD/DVD ROM (used in personal computer)	Test certificate showing that CD/DVD ROM has complied with IEC 825 must be provided.	No CD/DVD ROM provided.	N/A
18	Modem Card (used in personal computer)	Modem card incorporated in the personal computer must be tested at set level (sub-clauses 5.1 & 6 of IEC 60950-1) or at component level.	No modem card provided.	N/A
Applicable to plasma/LCD display monitor				
37	Plasma/LCD display monitor with TV tuner	Plasma/LCD display monitor tested to IEC 60950-1 would require additional test to clauses 9 (related to antenna only), 10.1, 10.2, 10.3 and 12.5 of IEC 60065.	No TV tuner.	N/A


IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

J 60950-1(H29) TEST REPORT (Deviations from IEC 60950-1:2005 + Amd. 1:2009 + Amd. 2:2013) Electrical Appliances and Materials Safety Act Article 8, 9 and Appendix 12.			
1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.		N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: <ul style="list-style-type: none"> - using BASIC INSULATION, and - providing either of the following a) or b) in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. <ul style="list-style-type: none"> a) Provision of 2-pin plug with earthing lead including the condition of that 2-pin adaptor with earthing lead wire is provided or recommended. b) Provision of an independent earthing terminal, when 2-core mains cord (without earthing conductor) is used. Note – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation.		N/A
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	<p>Replace the first paragraph with the follows:</p> <p>Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards, or components shall have equivalent to or better properties than these.</p> <p>Replace Note 1 with the following:</p> <p>Note 1 Components complying with the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p> <p>Note 2 JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p> <p>Add the following after the last paragraph:</p> <p>For an appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1, the size of the connector shall comply with relevant standard sheet of IEC 60320-1 or JIS C 8283-1. A power supply cord set complying with JIS C 8286 is regarded to comply with this requirement.</p> <p>Note 3 A power supply cord set provided with appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1 should comply with JIS C 8286.</p>		P
1.5.2	<p>Add the following Note 2 after the 4th dashed paragraph:</p> <p>Note 2 See 1.7.5A when Type C.14 appliance coupler rated 10 A per JIS C 8283-1 is used with an equipment rated not more than 125 V and rated more than 10 A.</p>		P
1.5.5	<p>Add the following Note after the last paragraph:</p> <p>NOTE An interconnection cord sets provided with interconnecting coupler for mains supply complying with JIS C 8283-2-2 should comply with JIS C 8286.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.9.1	Add the following in the last of NOTE 1. Gas discharge tube connected in series with VDR may be used.		N/A
1.7	Replace EE.2 and EE.4 with the following: JA.1 Shredder warning JA.3 Shredder power disconnection		N/A
1.7.1.2	Replace first and second dashed paragraphs with the followings: - manufacturer's or responsible company's name or trade-mark or identification mark; - manufacturer's or responsible company's model identification or type reference;		P
1.7.2.1	Add the following after 2nd paragraph. Instruction or equipment marking regarding safety shall be written in Japanese unless otherwise permitted in this standard.		N/A
1.7.2.5	Replace the last sentence with the following: An acceptable marking for an electric shock  hazard is (6.2.4 of JIS S 0101).		N/A
1.7.5	Replace 2nd paragraph with the following. Socket-outlets conforming to JISC8303 are examples of standard power supply outlets.		N/A


IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.7.5A	<p>Add the following new clause. after 1.7.5</p> <p>1.7.5A Appliance Coupler</p> <p>If appliance coupler according to IEC60320-1, C.14(rated current: 10A) is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction.</p> <p>“Use only designated cord set attached in this equipment”</p> <p><i>Example in Japanese:</i></p> <p>“この機器に同こん(梱)した指定の電源コードセ</p> <p>If appliance coupler is used for connection to the mains and if the cord set is not provided within the package for the equipment, suitable information regarding to the cord set shall be described in the user instruction</p> <p><i>Note Since the combination of appliance inlet with earthing pin and two-core cord set(without earthing conductor) is special, the cord set should be attached in the equipment and the use instruction should provide the information that the cord set is exclusively used with the equipment and not allowed to use with other equipments.</i></p>		N/A
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.7.14A	<p>Add the following new clause. after 1.7.14</p> <p>1.7.14A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following or equivalent instructions shall be marked.</p> <p>- the following instruction shall be marked on the mains plug or on the visible place of the main body</p> <p>“Provide an earthing connection”</p> <p><i>Example in Japanese:</i> “必ず接地接続を行ってください。”</p> <p>- the following marking shall be marked on the visible place of the main body or written in the operating instructions:</p> <p>“Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”</p> <p><i>Example in Japanese:</i> 接地接続は必ず、電源プラグを電源につなぐ前 また、接地接続を外す場合は、必ず電源プラグを</p>		N/A
1.7.14B	<p>Add the following new clause after 1.7.14A</p> <p>1.7.14B Protective earthing conductor used for CLASS 0I equipment</p> <p>For CLASS 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment, the suitable information for the protective earthing connection shall be provided in the instruction manual. (See 2.6.3.2)</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.1.1.1	<p>Replace item b) of 2.1.1.1 with the following.</p> <p>b) A test with the test finger, Figure 2A, which shall not contact parts described above when applied to openings in the ENCLOSURES after removal of parts that can be detached by an OPERATOR, including fuseholders, and with OPERATOR access doors and covers open. It is permitted to leave lamps in place for this test. Connectors that can be separated by an OPERATOR, other than those complying with JIS C 8303 or JIS C 8285 or IEC 60309 series or JIS C 8283 series or IEC 60320 series, shall also be tested during disconnection. But even if the connector does not comply with these standards, the one having equivalent to or better performance need not be tested during disconnection.</p> <p>Note 4 Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>		N/A
2.5	Replace "IEC 60730-1" with "JIS C 9730-1" (in item b).		N/A
2.6.2	<p>Delete the following line.</p> <p>• the symbol , IEC 60417-5018 (2011-07);</p>		N/A
2.6.3.2	<p>Add the following after 1st paragraph.</p> <p>However where the single core conductor is used for protective earthing lead or earthing cord for CLASS 0I equipment, either of the following condition shall be met.</p> <ul style="list-style-type: none"> - Use of annealed copper wire with 1.6mm diameter or corrosion-inhibiting metal wire equivalent or higher in term of strength and thickness. - Single core cord or single core cable with 1.25mm² or more cross-sectional area 		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.6.3.5	<p>Add the following after 1st paragraph.</p> <p>However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is the formed together with mains plug and appliance connector.</p>		N/A
2.6.4.2	<p>Replace 1st paragraph with the following.</p> <p>Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal. However, for CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal other than appliance inlet, the separate main protective earthing terminal may be treated as mains protective earthing terminal.</p>		N/A
2.6.5.4	<p>Replace the first sentence with the following.</p> <p>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:</p> <p>Add the following after last paragraph:</p> <p>Note For CLASS 0I EQUIPMENT, 1.7.14A is applied instead of this requirement.</p>		P
2.6.5.8A	<p>Add the following new clause. after 2.6.5.8</p> <p>2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.</p>		N/A
2.7.6	<p>Replace "ISO 3864, No. 5036" with "6.2.4 of JIS S 0101".</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.3.1	<p>Replace the 8th paragraph with the following</p> <p>The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2. Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>		N/A
2.10.3.2 Table 2J	<p>In Japan, the value of the main power supply transient voltage for the nominal ac main power supply voltage of 100 V is determined by applying the row of AC main power supply voltage 150 V.</p>		P
2.10.4.3	<p>Replace the 6th paragraph with the following</p> <p>The above minimum CREEPAGE DISTANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2. Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>		P
2.10.9	<p>Replace "1.4.5" in 3rd paragraph with "1.4.12".</p>		N/A
3.2.3	<p>Add the following after the third paragraph.</p> <p>Table 3A applies when cables complying JIS C 3662 series of standards or JIS C 3663 series of standards are used. In case of other cables, cable entries shall be so designed that the cable could be fitted in a conduit.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.2.4	<p>Add the following as fourth dash.</p> <p>- be so constructed that mechanical stress shall not transmit to the soldering part of inlet terminal during insertion or removal of the connector except that the body of the inlet is secured and is secured not only soldering.</p>		P
3.2.5.1	<p>Add the following after Note 3:</p> <p>Note 4 In Japan, mains cords having equivalent to or better electro-mechanical and fire safety performance as above and complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance can be used.</p> <p>Replace the paragraph after Note 3 with the following.</p> <p>For equipment required to have protective earthing, a PROTECTIVE EARTHING CONDUCTOR shall be included in the MAINS SUPPLY cord except for CLASS 0I EQUIPMENT having separate protective earthing conductor from mains cord.</p> <p>Add the following after the second paragraph after Note 3:</p> <p>Note 5 For the cross-sectional area of mains cord described in Note 4, relevant Japanese wiring regulation can be applied.</p>		N/A
3.2.5A	<p>Add the following new clause after 3.2.5</p> <p>3.2.5A AC mains plug</p> <p>Mains plug for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-1 or equivalent to or better performance. Power supply cord set complying with JIS C 8286 is regarded to meet the requirements. Mains plug with fuse link for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-2-1 or equivalent to or better performance.</p> <p>Note Mains plug complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.</p>		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

3.3.4 Table 3D	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 series of standards or JIS C 3663 series of standards, the terminals shall be suitable for the size of the intended cables.		N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.		N/A
4.2.8	Add the following after the first paragraph: Note Intrinsically protected picture tube is required to comply with JIS C 6965 in clause 18 of JIS C 6065. No intrinsically protected picture tube which is out of scope of JIS C 6965 is required to test according to sub-clause 18.2 of JIS C 6065.		N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.		N/A
4.3.5	Replace 1st dashed paragraph with the following. Within a manufacturer's unit or system, plugs and sockets likely to be used by the OPERATOR or by a SERVICE PERSON shall not be employed in a manner likely to create a hazard due to misconnection. In particular, connectors complying with IEC 60320/JIS C 8283 series or JIS C 8303 or JIS C 8358 shall not be used for SELV CIRCUITS or TNV CIRCUITS. Keying, location or, in the case of connectors accessible only to a SERVICE PERSON, clear markings are permitted to meet the requirement.		N/A
4.3.6	Replace the 1st paragraph with the following DIRECT PLUG-IN EQUIPMENT shall not impose undue stress on the socket-outlet. The mains plug part shall comply with the standard for the relevant mains plug. (see 3.2.5A)		P
4.4.2	Replace the paragraph with the following: HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall also comply with Annex JA.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.5.3	Add the following note to footnote b) of Table 4B: NOTE In case no data for the material is available, Appendix 4, 1. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances is regarded as maximum temperature limit of the material.		N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.		N/A
5.1.6	Replace Table 5A. as follows		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ^a	Maximum PROTECTIVE CONDUCTOR CURRENT
	ALL equipment	Accessible parts and circuits not connected to protective earth ^b	0,25	-
	HAND-HELD	Main protective earthing terminal of CLASS I EQUIPMENT	0,75	-
		Main protective earthing terminal of CLASS 0 I EQUIPMENT	0,5	-
	MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT)	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-
		Main protective earthing terminal of CLASS 0 I EQUIPMENT	1.0	-
	STATIONARY, PLUGGABLE TYPE A	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-
		Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0	-
	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	Main protective earthing terminal of CLASS I EQUIPMENT	3.5 -	- 5 % of input current
		Main protective earthing terminal of CLASS 0 I EQUIPMENT	1.0 -	- -
	a If peak values of TOUCH CURRENT are measured, the maximum values are obtained by multiplying the r.m.s.values in the table by 1,414.			
	b Some unearthed accessible parts are covered in 1.5.6 and 1.5.7 and the requirements of 2.4 apply. These may be different from those in 5.1.6.			
Annex G	Replace the paragraph before Table G.2 with the following The above minimum CREEPAGE DISTANCES for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series, JIS C 8283 series, IEC60320 series, JIS C 8303, and Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.			N/A


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Clause	Requirement + Test	Result - Remark	Verdict

Annex V V.1	Replace "3.1.2" in the first line of V.1 with "312" in first line.		P
Annex W W.1	Replace the third sentence in the first paragraph with the following: Floating circuits can exist in CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and earthed circuits can exist in CLASS II EQUIPMENT.		N/A
Annex BB	This annex is not applicable.		N/A
Annex CC CC.2	Replace the third dashed paragraph with the following: <i>- 10 000 cycles of turning enable on and off with the input connected to a capacitor rated 425 uF ± 10 uF and shorting the output;</i>		N/A
CC.3	Add note at end of CC.3: Note: The fast blow fuse should be the one complying with IEC 60127-2.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

CC.4	<p>Replace the 2nd dashed paragraph with the following:</p> <ul style="list-style-type: none"> - 10 000 cycles of turning enable on and off with a $100 \Omega \pm 5 \Omega$ resistor and a $425 \mu\text{F} \pm 10 \mu\text{F}$ capacitor in parallel with the output; <p>Replace the 4th dashed paragraph with the following:</p> <ul style="list-style-type: none"> - 10 000 cycles of turning enable on and off with the input connected to a capacitor rated $425 \mu\text{F} \pm 10 \mu\text{F}$ and shorting the output; <p>Replace the 5th dashed paragraph with the following:</p> <ul style="list-style-type: none"> -10 000 cycles of turning the input pin on and off with a capacitor rated $425 \mu\text{F} \pm 10 \mu\text{F}$ connected to the input supply while keeping enable active and shorting the output; <p>Replace the 6th dashed paragraph with the following:</p> <ul style="list-style-type: none"> -10 000 cycles of turning the input pin on and off with an ferrite-core inductor having $350 \text{ mH} \pm 10 \text{ mH}$ inductance at 1 kHz and less than 1Ω d.c. resistance connected to the input supply and return while keeping enable active and shorting the output; <p>Replace the 10th dashed paragraph with the following:</p> <ul style="list-style-type: none"> -3 cycles of exposing the device (not energized) to $70^\circ\text{C} \pm 2^\circ\text{C}$ for 24 h; followed by at least 1 h at room ambient; followed by at least 3 h at $-30^\circ\text{C} \pm 2^\circ\text{C}$; followed by 3 h at room ambient; <p>Replace the 11th dashed paragraph with the following:</p> <ul style="list-style-type: none"> -10 cycles of exposing the device (while energized) to $50^\circ\text{C} \pm 2^\circ\text{C}$ for 10 min; followed by 10 min at $0^\circ\text{C} \pm 2^\circ\text{C}$ with a 5 min period of transition from one state to the other; 		N/A
Annex EE	Replace Annex EE with the following Annex JA.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

	<p style="text-align: center;">Annex JA (normative) Document shredding machines</p> <p>HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall additionally comply with the requirements of this annex.</p> <p>JA.1 Markings and instructions</p> <p>The symbol  (JIS S 0101:2000, 6.2.1) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible;</p> <ul style="list-style-type: none"> - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. <p>JA.2 Inadvertent reactivation</p> <p>Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1.</p> <p>JA.3 Disconnection from the mains supply</p> <p>Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.</p> <p>If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols.</p> <p>Compliance is checked by inspection.</p> <p>JA.4 Protection against hazardous moving parts</p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p>		

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Clause	Requirement + Test	Result - Remark	Verdict

Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool.

Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.

N/A

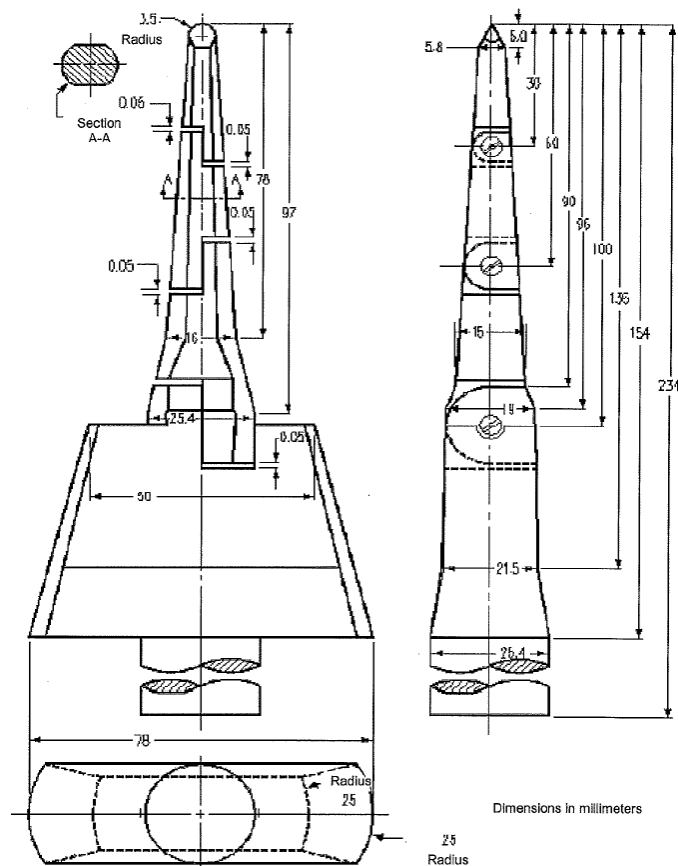
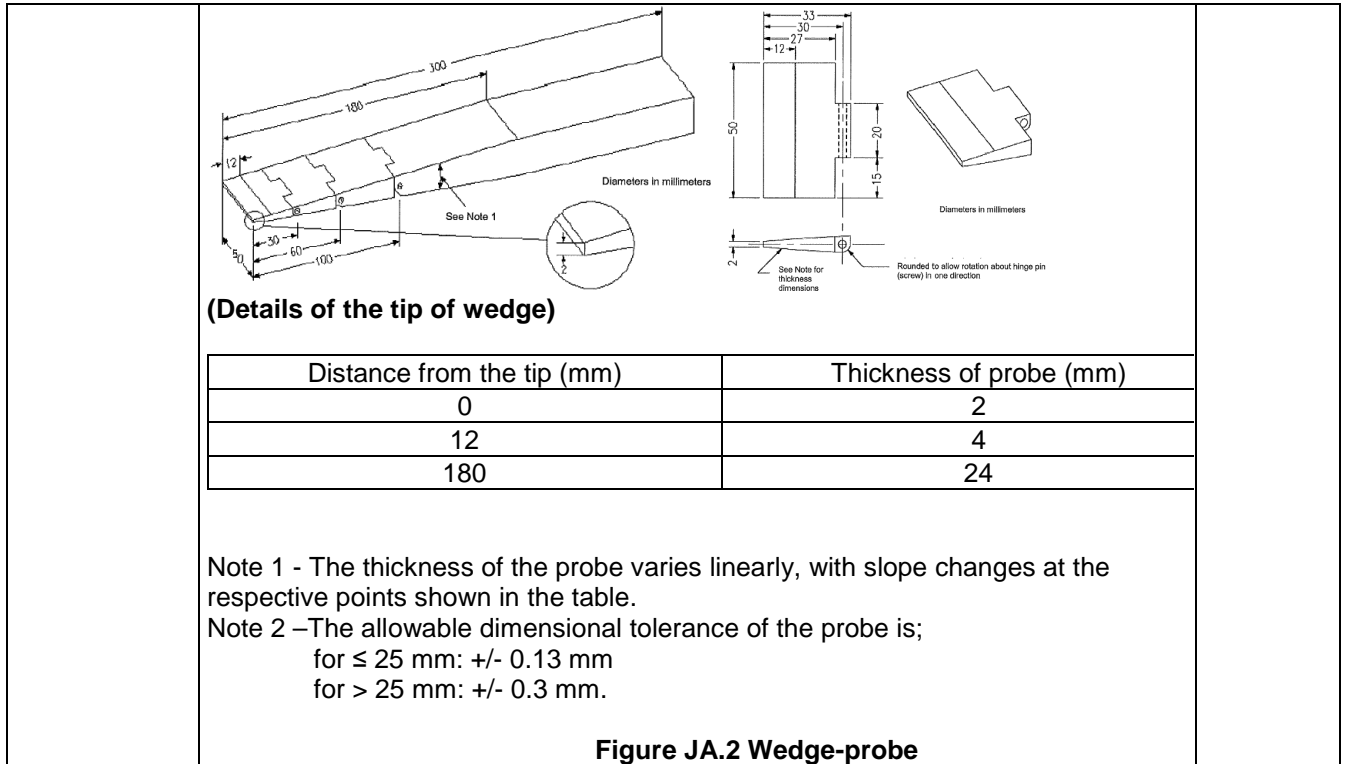




Figure JA.1 Test finger

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict





IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	National differences for China IEC 60950-1, 2nd edition		—
1.1.2	GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Amend the third dashed paragraph of 1.1.2 as: ——equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;	Altitude: <5000 m	N/A
1.4.5	After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. The first dash paragraph "-the RATED VOLTAGE is 230V single -phase or 400V three-phase, in which case the tolerance shall be taken as +10% and -10%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011		P
1.4.12.1	Tma in clause 1.4.12.1 amended as: Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.		P
1.5. 2	Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.		N/A
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	It shall be checked for proper certificate of these countries' certification before products are sold in the market.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	<p>Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured.</p> <p>And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.</p>		P
1.7.2.1	<p>Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions:</p> <p>For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used at altitude not exceeding 2000m."</p>  <p>For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used in not-tropical climate regions."</p>  <p>If only the symbol used, the explanation of the symbol shall be contained in the instruction manual.</p> <p>The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.</p>	<p>Altitude: <5000 m</p> <p>The marking label shall be checked for proper certificate of these countries' certification before products are sold in the market.</p>	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	<p>Amended the first paragraph as:</p> <p>Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3.</p> <p>Delete note of Clause 2.7.1.</p>		P
2.9.2	<p>First section of Clause 2.9.2 amended as two sections:</p> <p>Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature 40 ± 2 °C and a relative humidity of (93 ± 3) %. During this conditioning the component or subassembly is not energized.</p> <p>For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93 ± 3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur.</p> <p>Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered.</p> <p>Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.</p>		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.1	Amend the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0.1 mm increment.	Altitude: <5000 m.	N/A
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K、2L and 2M.		N/A
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1 (IEC 60664-1) . For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.	Altitude: <5000 m.	N/A
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.		N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.		P
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		P
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	<p>Added annex DD: Instructions for the new safety warning labels.</p> <p>DD.1 Altitude warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefore it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m.</p> <p>DD.2 Climate warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.</p>	It shall be checked for proper certificate of these countries' certification before products are sold in the market.	N/A
Annex EE (informative)	<p>Added annex EE:</p> <p>Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighu.</p>	It shall be checked for proper certificate of these countries' certification before products are sold in the market.	N/A
Other amendments	<p>In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.</p>		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Quoting standards and reference documents	<p>The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows:</p> <p>If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments.</p> <p>For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies; - The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. <p>When quoting several chapters or clauses of the international standard, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. 		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1:2005 and GB 4943.1-2011.		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 (AUSTRALIA/NEW ZEALAND) NATIONAL DIFFERENCES (Information technology equipment-safety)			
Differences according to : AS/NZS 60950.1:2015			
Attachment Form No. : AU_NZ_ND_IEC60950_1F			
Attachment Originator..... : JAS-ANZ			
Master Attachment..... : 2016-12			
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	National Differences		
Appendix ZZ	Variations to IEC 60950-1, Ed 2.2 (2013) for Australia and New Zealand		P
1.2	DEFINITIONS		P
	After definition 'PERSON, SERVICE', insert the following new definition: POTENTIAL IGNITION SOURCE.....1.2.12.201	Added.	P
1.5	COMPONENTS		P
1.5.1	1. First paragraph, insert the following text after the words 'IEC component standard': or the relevant Australian/New Zealand Standard 2. In the Note, insert the following text after the word standard: or the relevant Australian/New Zealand Standard 3. Second paragraph, delete the words 'without further evaluation'	Added.	P
1.5.2	1. First paragraph, insert the following text after the word 'standard' or an Australian/New Zealand Standard 2. First paragraph, second dash item, second line, insert the following text after the word 'standard' or an Australian/New Zealand Standard 3. First paragraph, second dash item, last line, insert the following text after the word 'standard': or an Australian/New Zealand Standard	Added.	P
1.7	MARKINGS AND INSTRUCTIONS		P
1.7.1.3	Delete existing text and replace with the following: Graphical symbols placed on the equipment as a requirement of this standard, shall be in accordance with IEC 60417 or ISO 3864-2 or ISO 7000, if available. In the absence of suitable symbols, the manufacturer may design specific graphical symbols. Symbols as required by this standard placed on the equipment shall be explained in the user manual	Replaced.	P
2.9	ELECTRICAL INSULATION		N/A
2.9.2	Variation Second paragraph, delete the word 'designated'	Deleted.	N/A
3.2.5	POWER SUPPLY CORDS		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Table 3B	Variation 1. <i>Delete</i> the first four rows and replace with the following:			Direct plug-in type	N/A
	Over 0.2 up to and including 3	0.5 ^a	18 [0.8]		
	Over 3 up to and including 7.5	0.75	16 [1.3]		
	Over 7.5 up to including 10	(0.75) ^b 1.00	16 [1.3]		
	Over 10 up to including 16	(1.0) ^c 1.5	14 [2]		
	2. <i>Delete</i> NOTE 1 and renumber existing NOTE 2 as 'NOTE'				N/A
	3. <i>Delete</i> Footnote ^a and replace with the following: ^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the to the plug does not exceed 2 m (0,5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191)				N/A
4.3	DESIGN AND CONSTRUCTION				P
4.3.6	Variation <i>Delete</i> the third paragraph and <i>replace</i> with the following:				P
	<i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets</i>			Evaluated during national approval	P
4.3.8	Addition Eighth paragraph, <i>insert</i> the following new note after the first dash item:				N/A
	NOTE 6.201 In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.			No battery.	N/A
4.3.13.5.1	Variation <i>Delete</i> the first paragraph and <i>replace</i> with the following: Except as permitted below, equipment shall be classified and labelled according to IEC 60825-1 or AS/NZS 60825.1, IEC 60825-2 or AS/NZS 60825.2 and IEC 60825-12, as applicable			No lasers.	N/A
	Third paragraph, first sentence, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1				N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Fourth paragraph, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
4.7	RESISTANCE TO FIRE		P
4.7	Addition At the end of Clause 4.7, <i>insert</i> the following text: For alternate tests refer to Clause 4.7.201		P
6	CONNECTION TO TELECOMMUNICATIONS NETWORKS		N/A
6.2.2	Variation For Australia only, <i>delete</i> the first paragraph and Note, and <i>replace</i> with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2		N/A
6.2.2.1	Variation For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator Reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c , is: (i) For 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii) For 6.2.1 b) and 6.2.1 c): 1.5kV		N/A
	NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines		N/A
	NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages		N/A
6.2.2.2	Variation For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is (i) for 6.2.1 a): 3kV; and (ii) for 6.2.1b) and 6.2.1c): 1.5kV		N/A
	NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.		N/A
	NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
7	CONNECTION TO CABLE DISTRIBUTION NETWORK		N/A
7.3	Addition <i>Add</i> the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex P	Addition Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		P
	Special national conditions (if any)		P
1.2.12	FLAMMABILITY		P
1.2.12.15	Addition After Clause 1.2.12.15, <i>insert</i> the following new clause:		P
1.2.12.201	POTENTIAL IGNITION SOURCE Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA		P
	Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS		P
	NOTE 1 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE		P
	NOTE 2 This definition is from AS/NZS 60065:2012, Clause 2.8.11.		P
4	PHYSICAL REQUIREMENTS		N/A
4.1	Addition After Clause 4.1, <i>insert</i> new Clause 4.1.201 as follows:		N/A
4.1.201	Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065		N/A
4.3	DESIGN AND CONSTRUCTION		N/A
4.3.8	Addition After Clause 4.3.8, <i>add</i> the following new clause as follows		N/A
4.3.8.201	Products containing coin/button cell batteries and batteries designated R1 The requirements of AS/NZS 60065:2012 Amendment 1:2015, Clause 14.10.201 apply for this Clause.		N/A
4.7	RESISTANCE TO FIRE		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.7.3.6	Addition After Clause 4.7.3.6, <i>add</i> new clauses as follows:		N/A
4.7.201	Resistance to fire—Alternative tests		N/A
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.	The alternative method is not considered.	N/A
	b) The following parts which would contribute negligible fuel to a fire: — small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; — small electrical components, such as capacitors with a volume not exceeding 1,750 mm ³ , integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10		N/A
	NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another		N/A
	<i>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5</i>		N/A
	<i>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5</i>		N/A
	The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.7.201.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.	The alternative method is not considered.	N/A
4.7.201.3	Testing of insulating materials Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:	The alternative method is not considered.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Clause of AS/NZS 60695.11.5	Change		
	9 Test procedure			
	9.2 Application of Needle-flame	<i>Delete</i> the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ± 1 s		
	9.3 Number of test specimens	<i>Delete</i> existing text and <i>replace</i> with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.		
	11 Evaluation of test results	<i>Delete</i> existing text and <i>replace</i> with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part			N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.7.201.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3 by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.	The alternative method is not considered.	N/A
	NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.		N/A
	NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing		N/A
	NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
4.7.201.5	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.	The alternative method is not considered.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	<p>The test is not carried out if the</p> <ul style="list-style-type: none"> – Printed board does not carry any POTENTIAL IGNITION SOURCE; – Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely <p><i>Compliance shall be determined using the smallest thickness of the material.</i></p>		N/A
	<p>NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 m when the circuit supplied is disconnected.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	National differences for Korea	IEC 60950-1, 2nd edition; Am 1:2009	
1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	To be evaluated when submitted for the national approval.	N/A
8	EMC The apparatus shall comply with the relevant CISPR standards.	To be evaluated when submitted for the national approval.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013 U.S.A. NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to	UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014
Attachment Form No.	US_ND_IEC60950_1F
Attachment Originator	UL
Master Attachment	Date 2014-07
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	Special national conditions	
1.1.1	All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75	P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the /NEC	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and	N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions"		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable		N/A
2.6	Equipment with isolated ground (earthing) receptacles is in compliance with NEC 250.146(D) and CEC 10-112 and 10-906(8)		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0		N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm ²)		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7)		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration"		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30		N/A
4.3.13.5.1	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370)		N/A
	Other National Differences		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cut-offs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables		P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts		P
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT		N/A
4.3.2	Equipment with handles complies with special loading tests		N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1:2009 and A2:2013

CANADA NATIONAL DIFFERENCES

Information technology equipment – Safety – Part 1: General requirements

Differences according to : CAN/CSA-C22.2 No. 60950-1-07, Amd 1:2011, Amd 2:2014

Attachment Form No. : CA_ND_IEC60950_1F

Attachment Originator..... : CSA

Master Attachment..... : Date (2015-05)

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1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A:		P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC/NEC are required to have special construction features and identification markings.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	See main TRF cl 1.7.1	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.6	Equipment with isolated ground (earthing) receptacles are required to comply with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for US/Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.3.5	First column of Table 3E revised to require "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5.1	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043.		N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

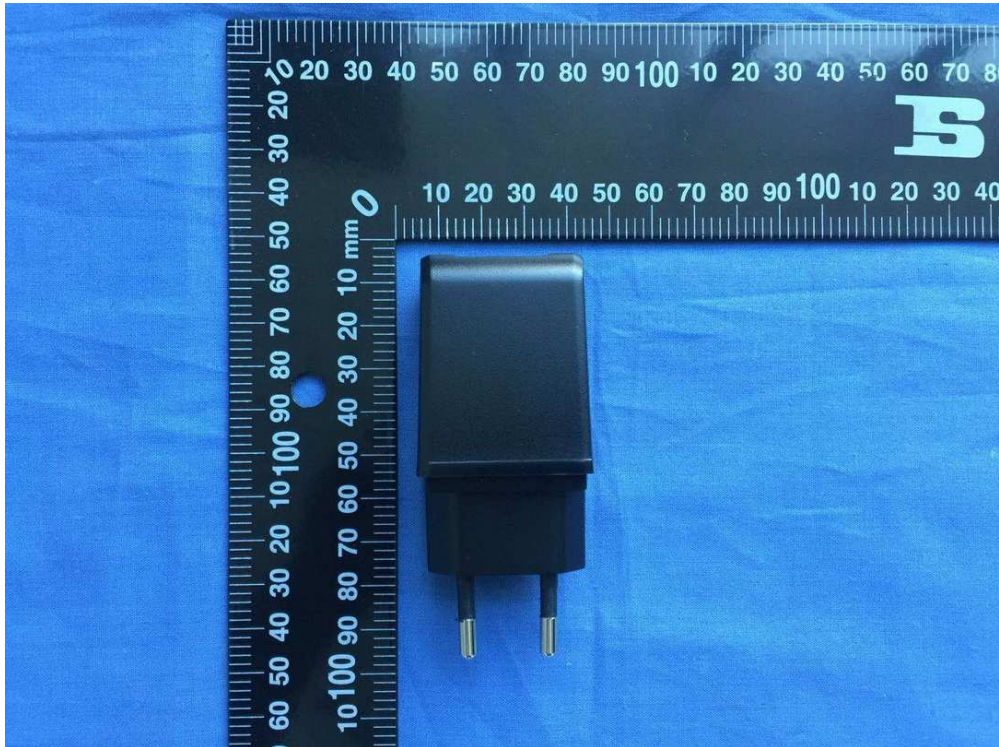
OTHER DIFFERENCES

The following key national differences are based on requirements other than national regulatory requirements.

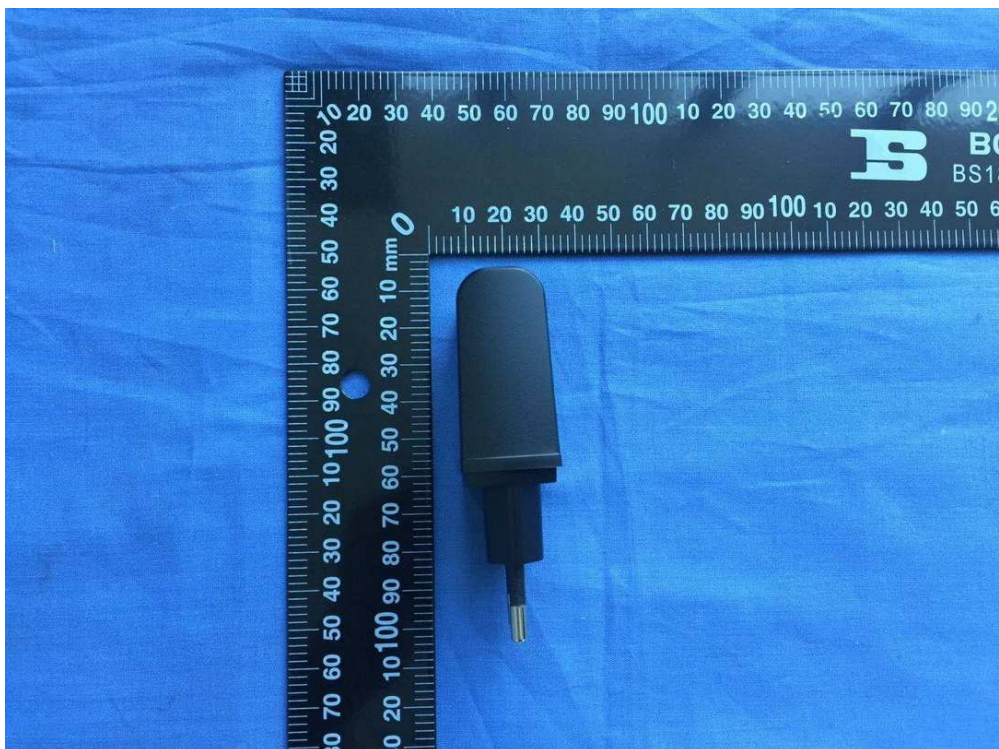
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.		P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		—
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092).		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	UL articulated accessibility probe (Fig EE.3) required for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

GTM86100-1005-W2E-USB External view



GTM86100-1005-W2E-USB External view



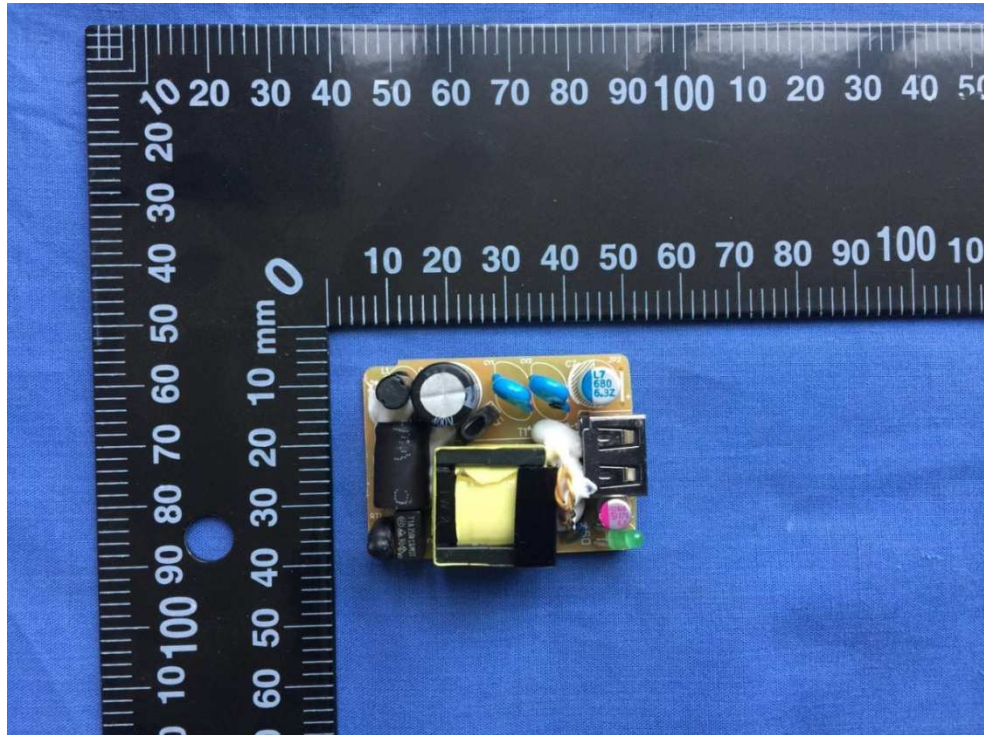
GTM86100-1005-W2A-USB External view



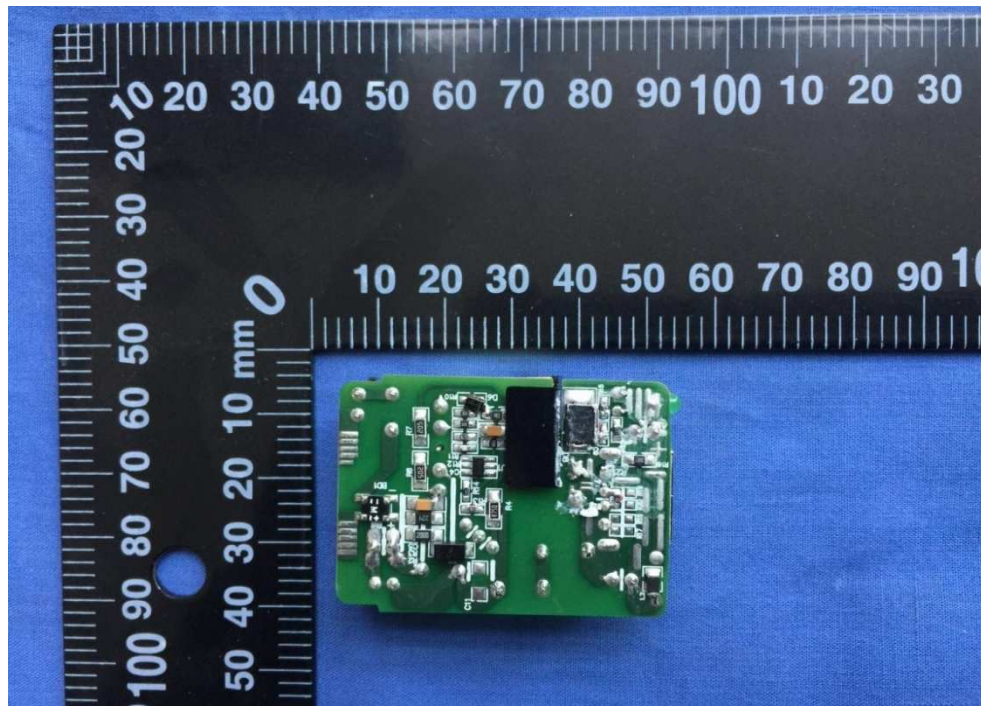
GTM86100-1005-W2A-USB External view



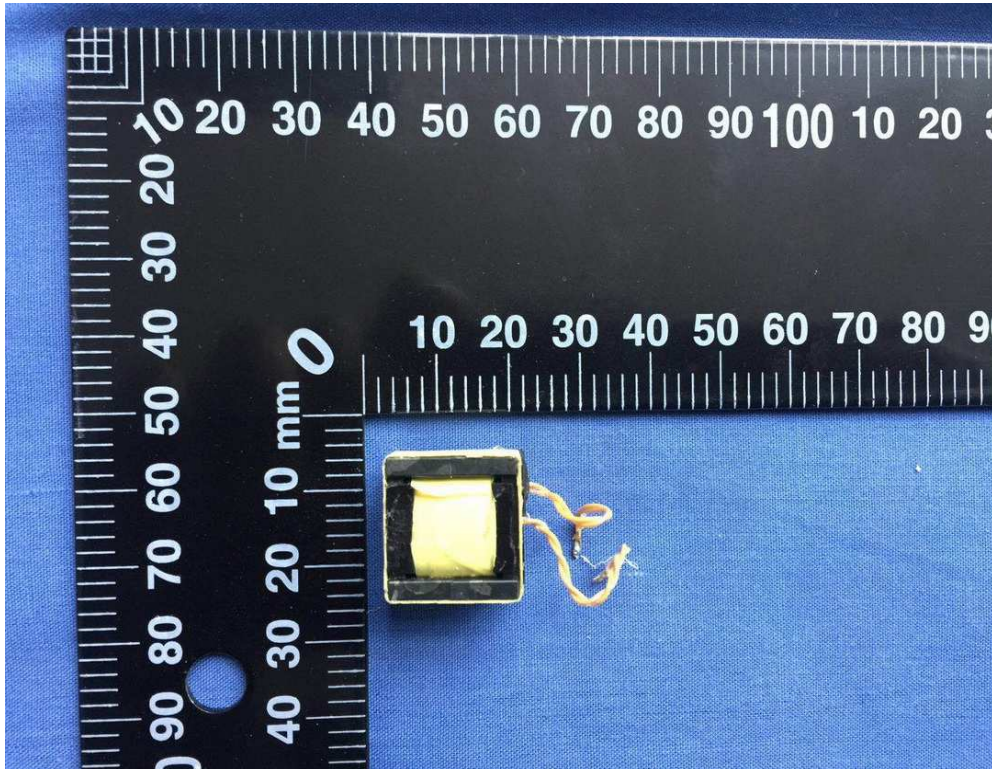
GTM86100-1005-W2E-USB Internal view – Component side view of PCB



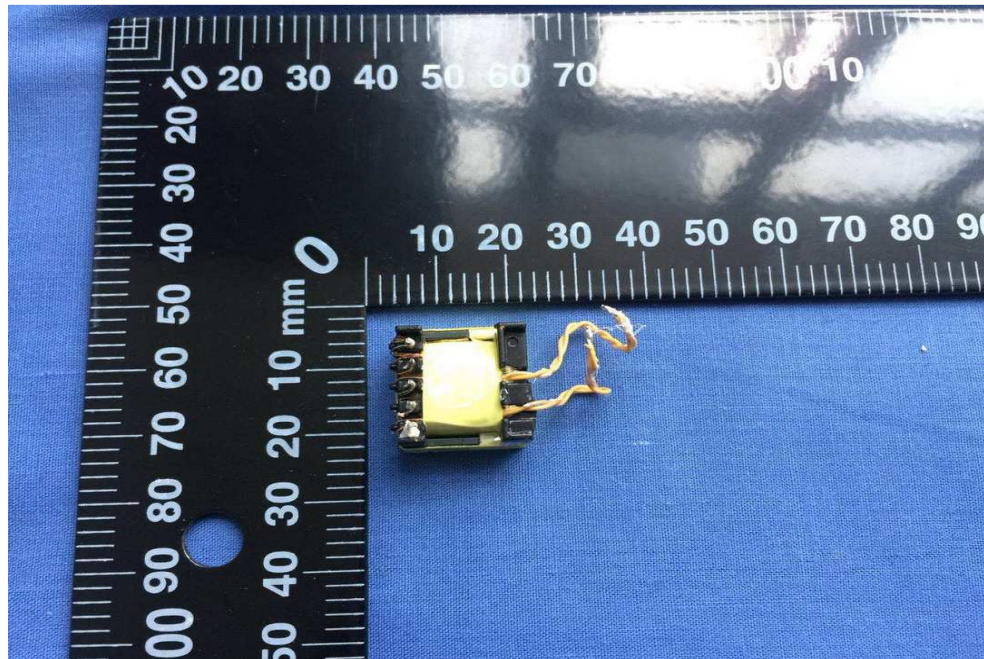
GTM86100-1005-W2E-USB Internal view – Soldering side view of PCB



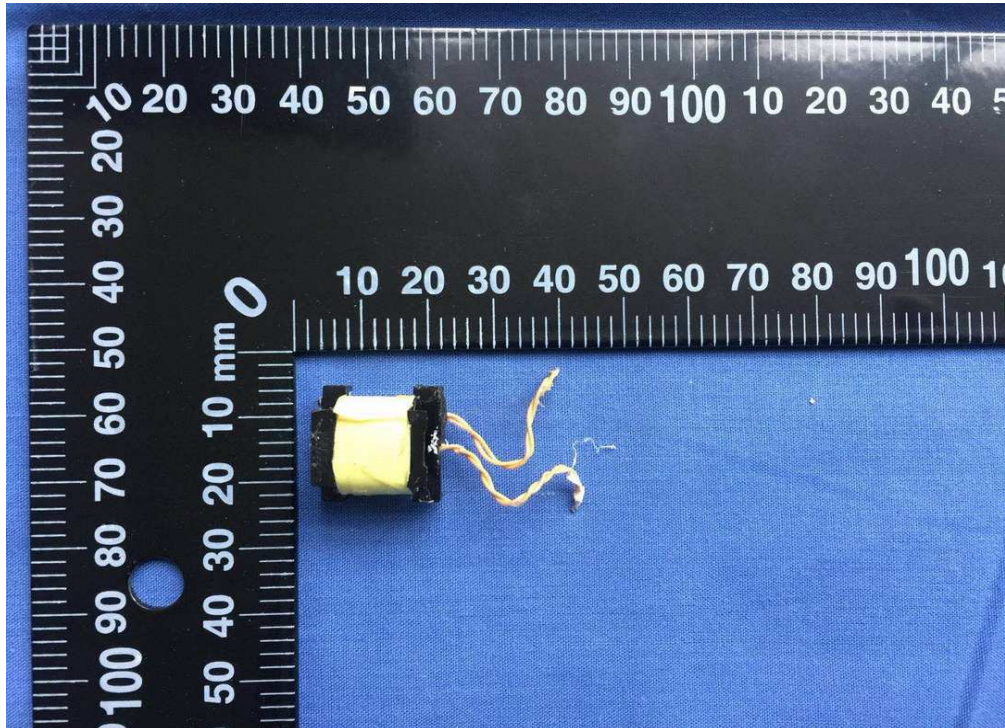
External view of transformer



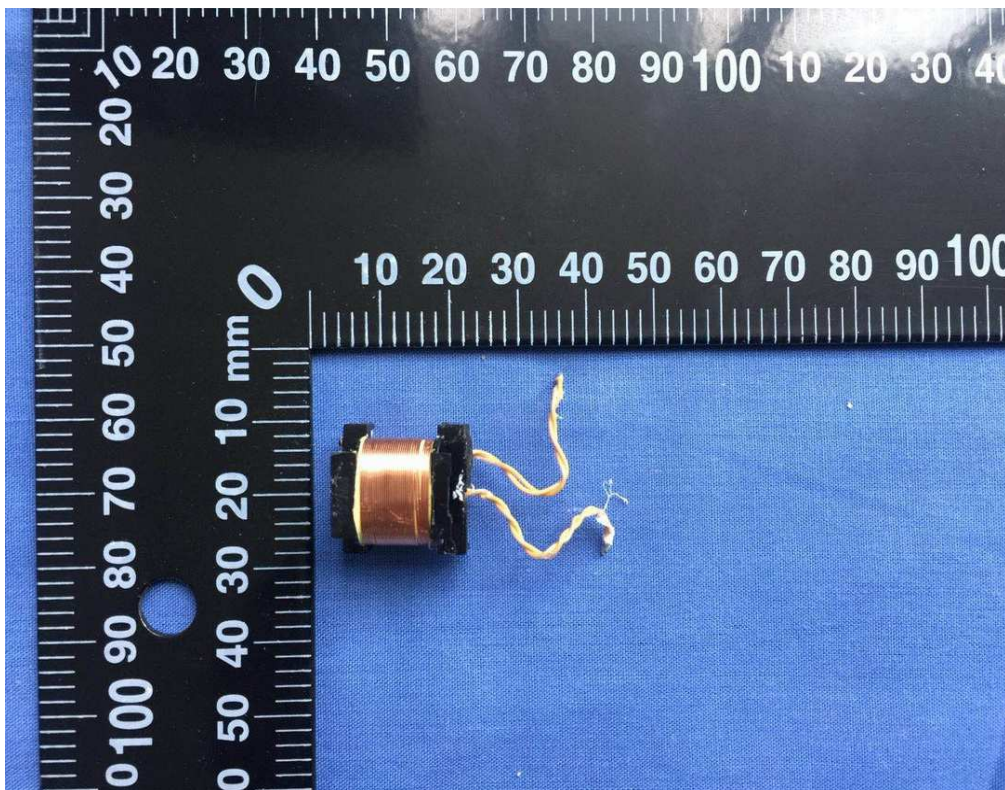
External view of transformer



Transformer



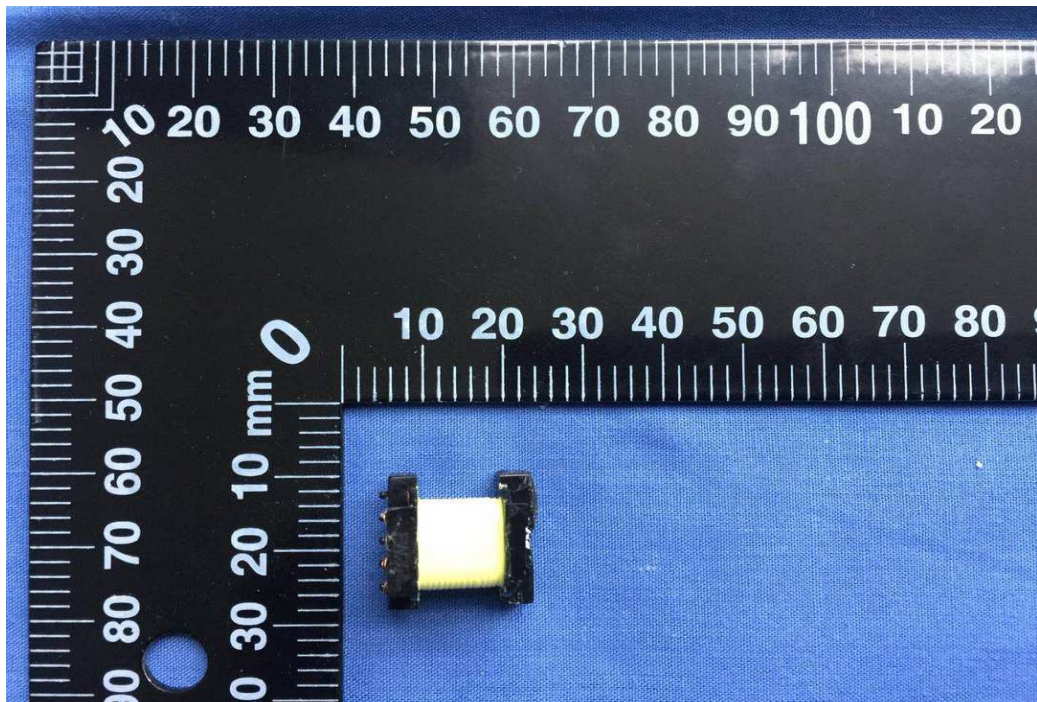
Primary winding view of mains transformer



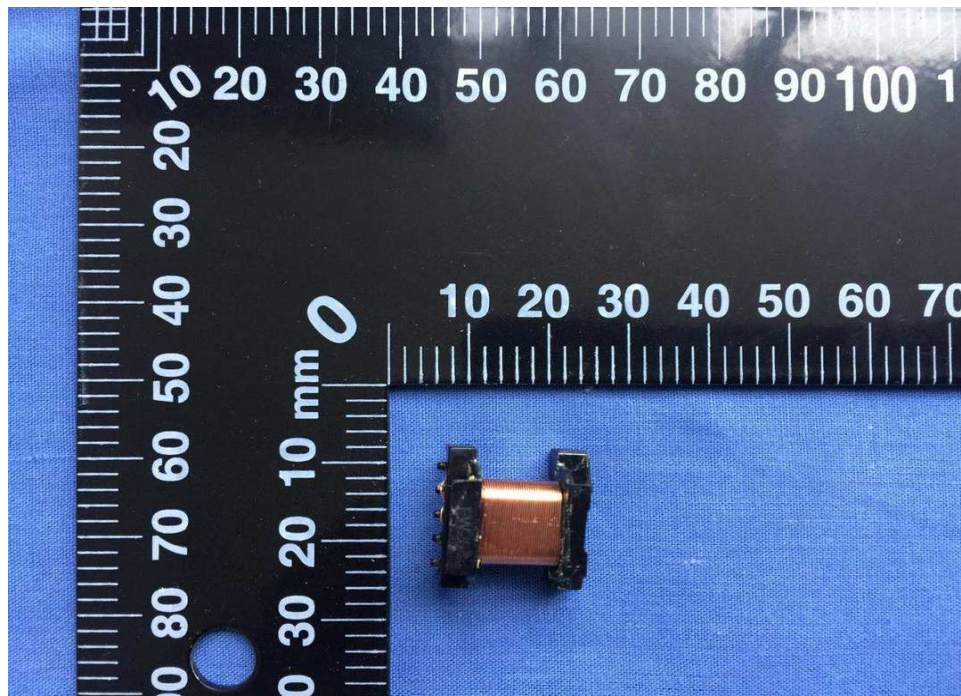
Secondary winding view of mains transformer (TIW)



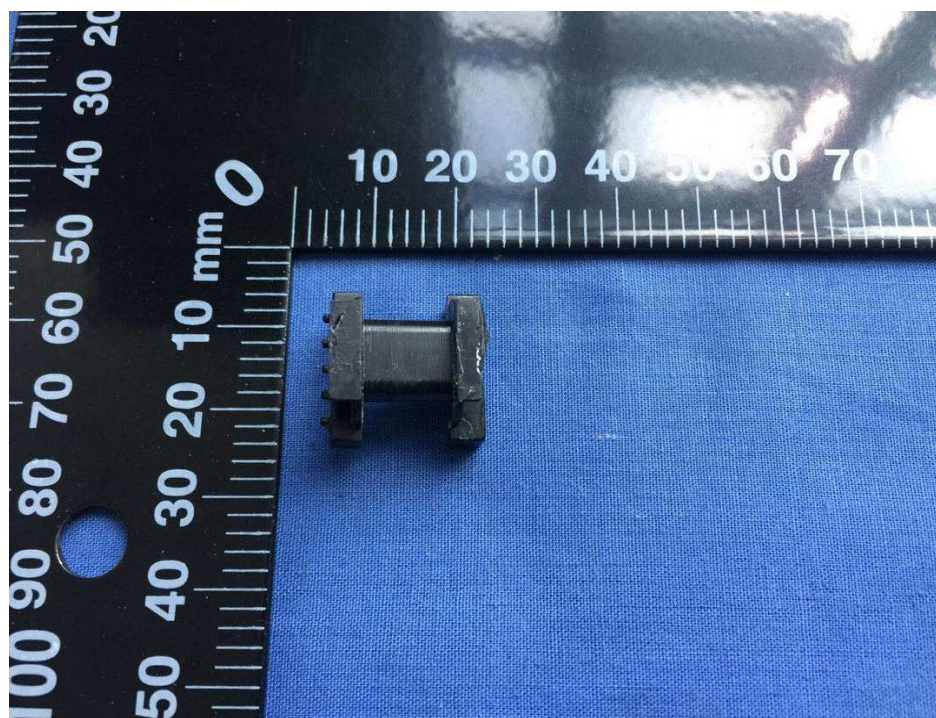
Transformer



Transformer



Bobbin view of transformer



GTM86100-1005-W2E External view



GTM86100-1005-W2E External view



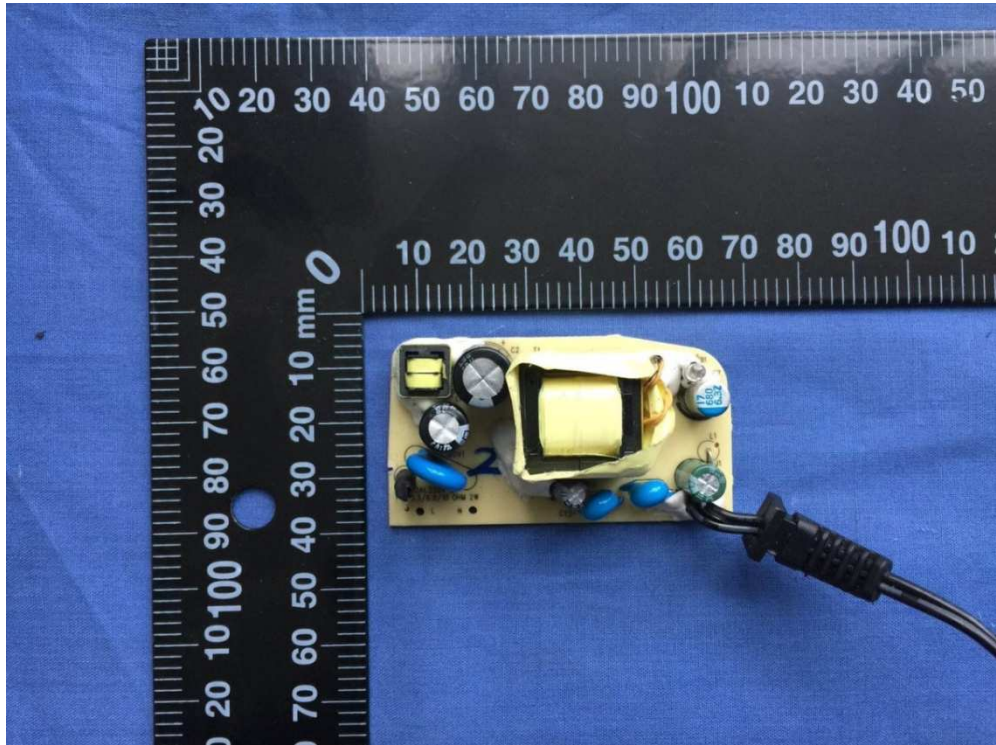
GTM86100-1005-W2A External view



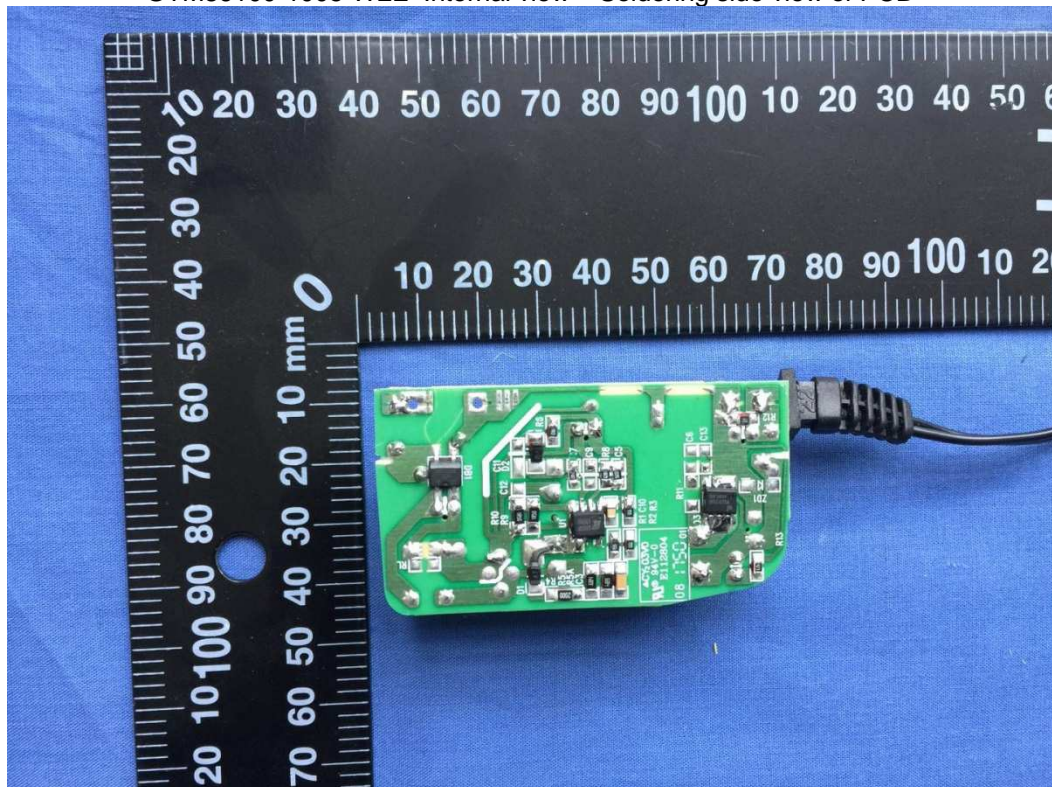
GTM86100-1005-W2A External view



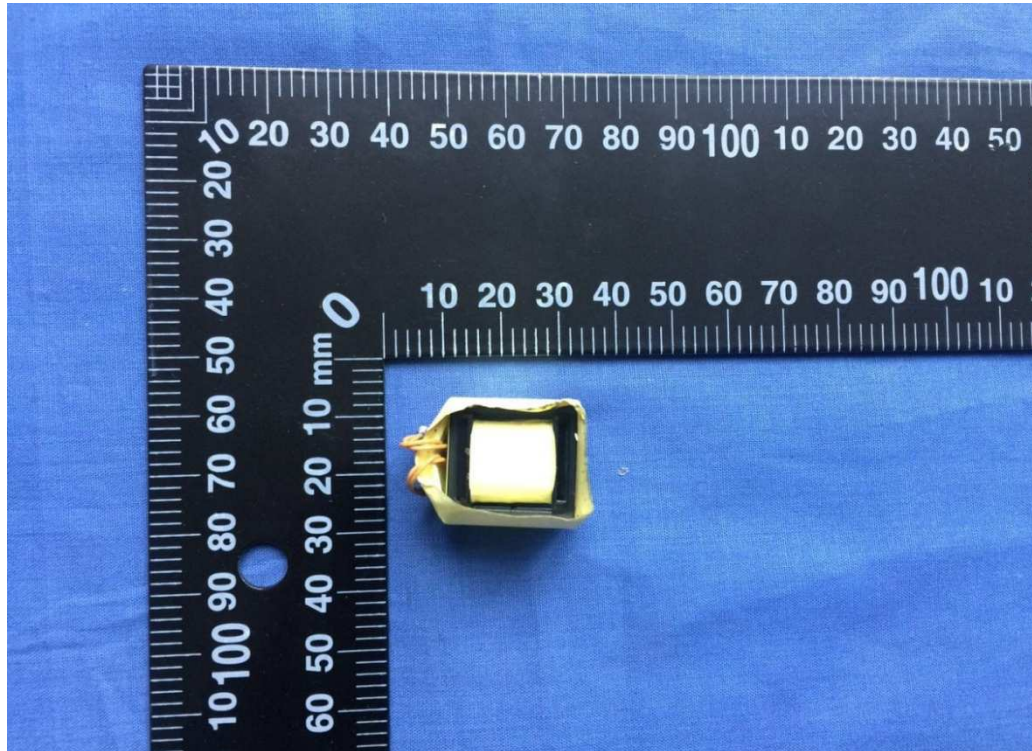
GTM86100-1005-W2E Internal view – Component side view of PCB



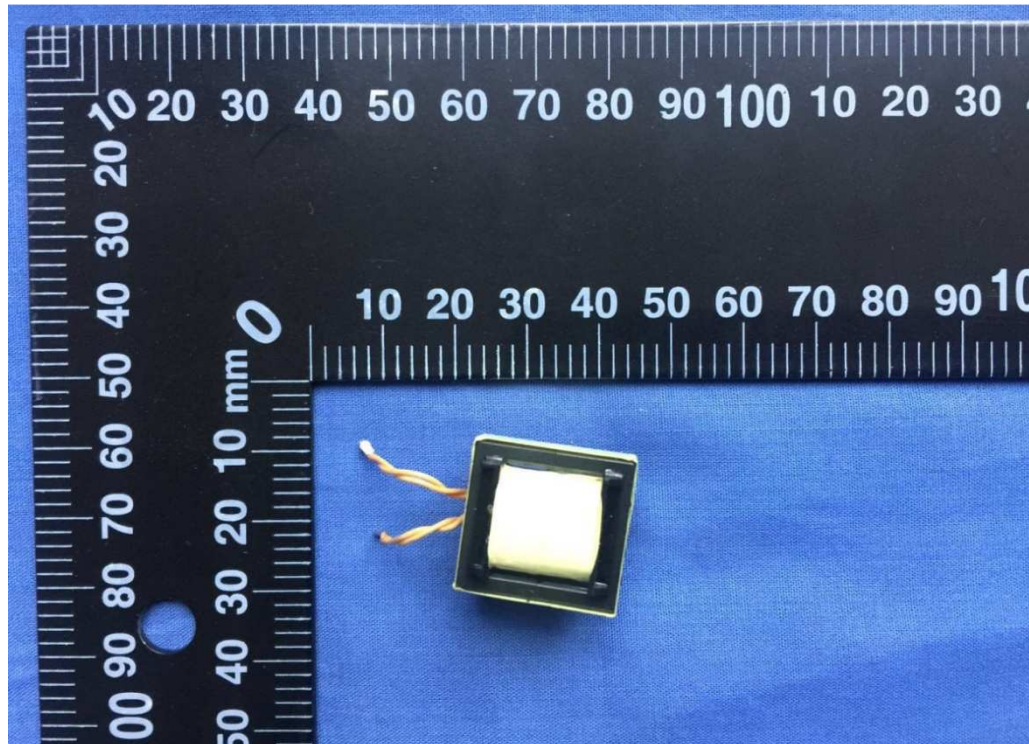
GTM86100-1005-W2E Internal view – Soldering side view of PCB



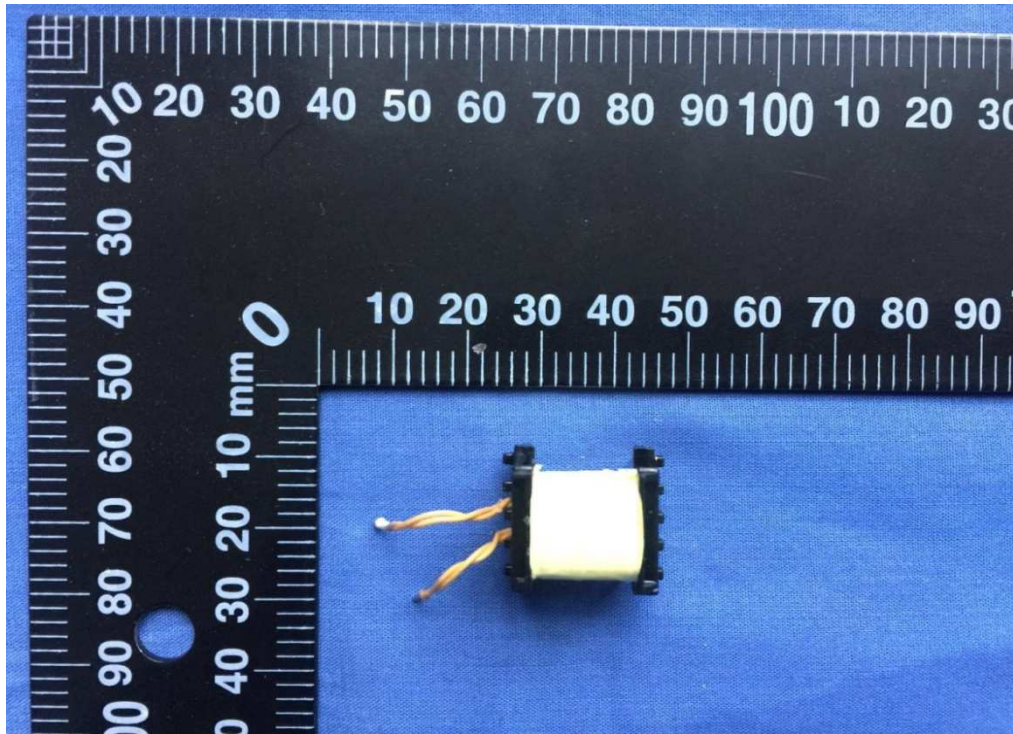
External view of transformer



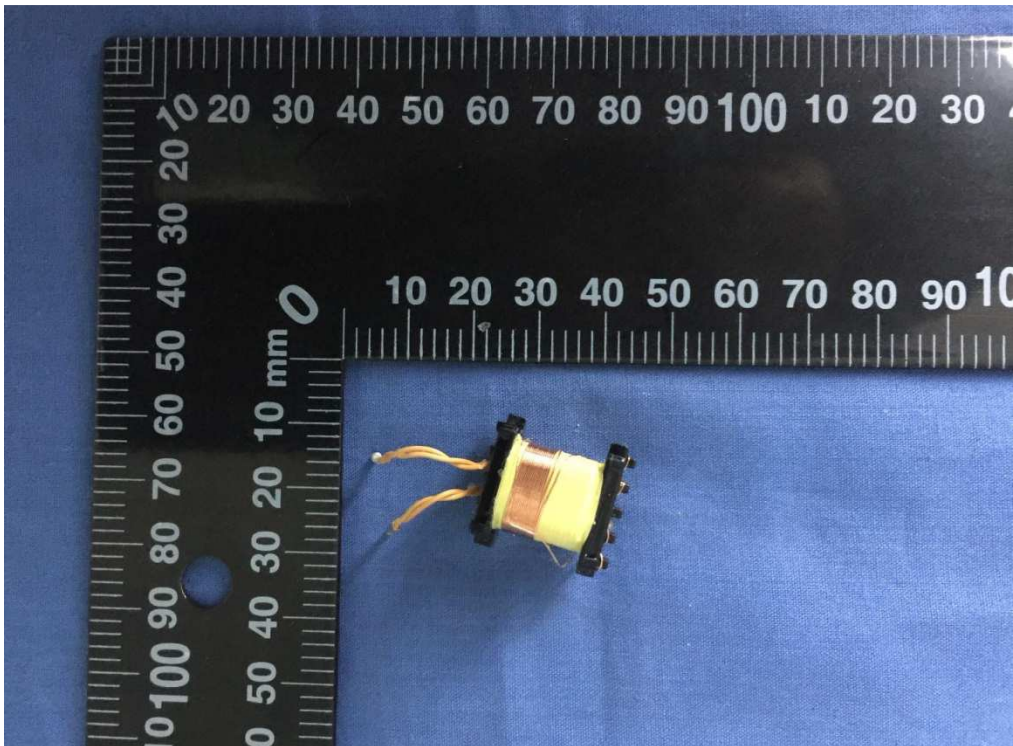
Transformer



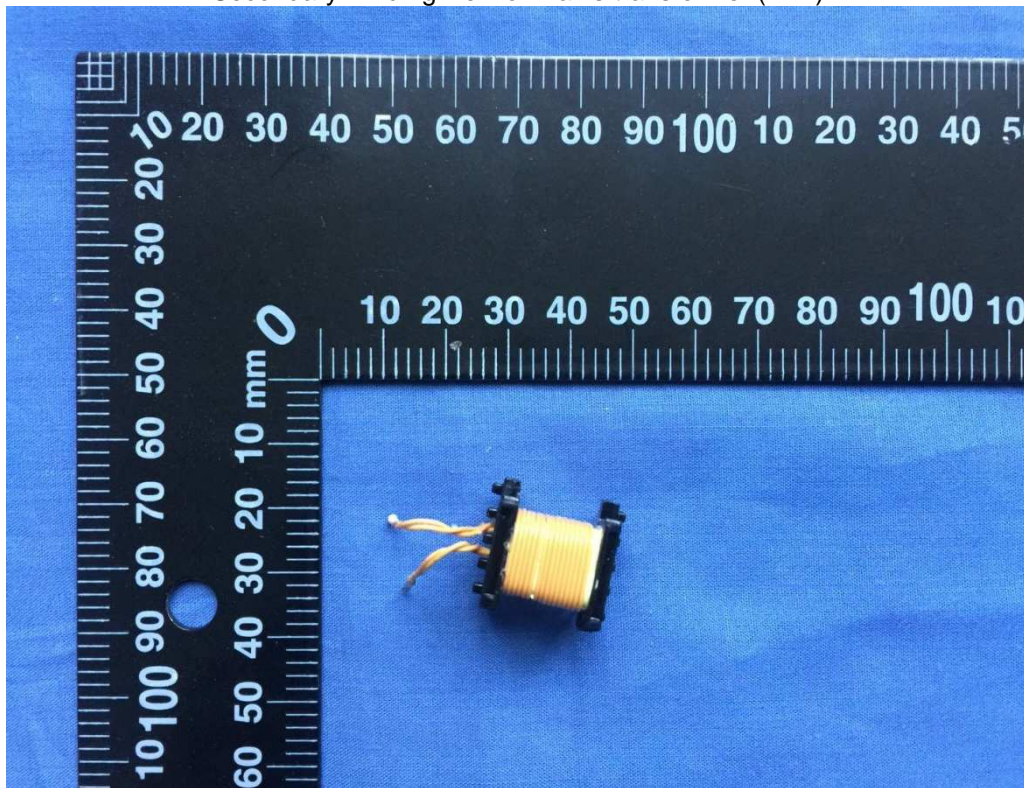
Transformer



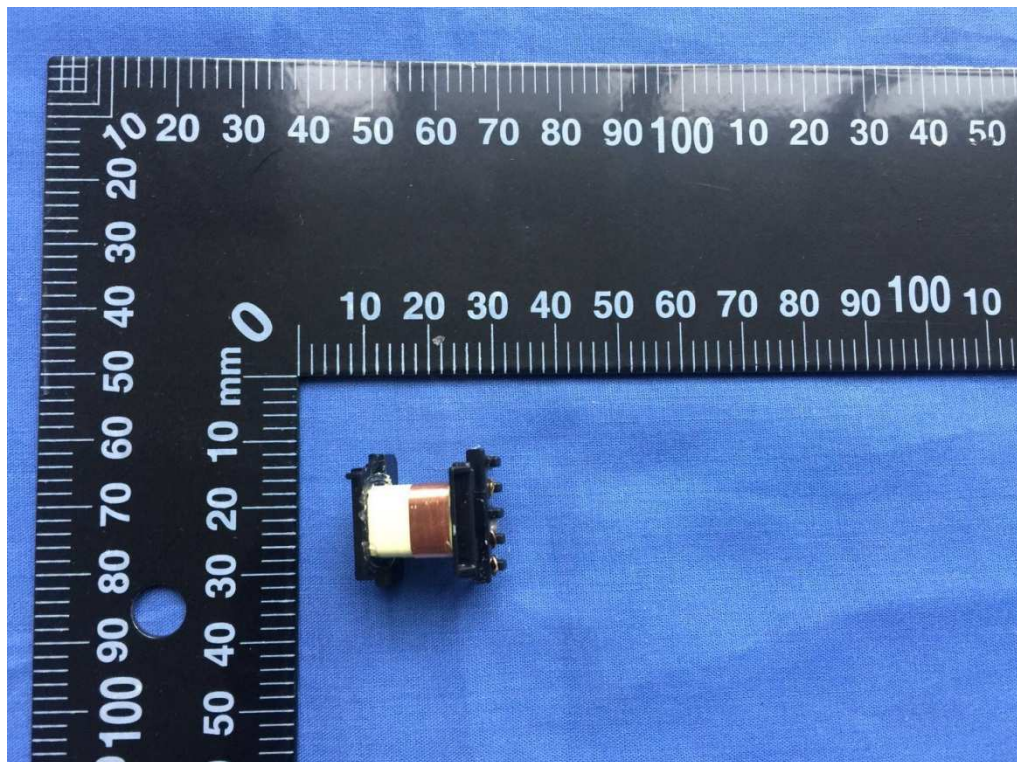
Transformer



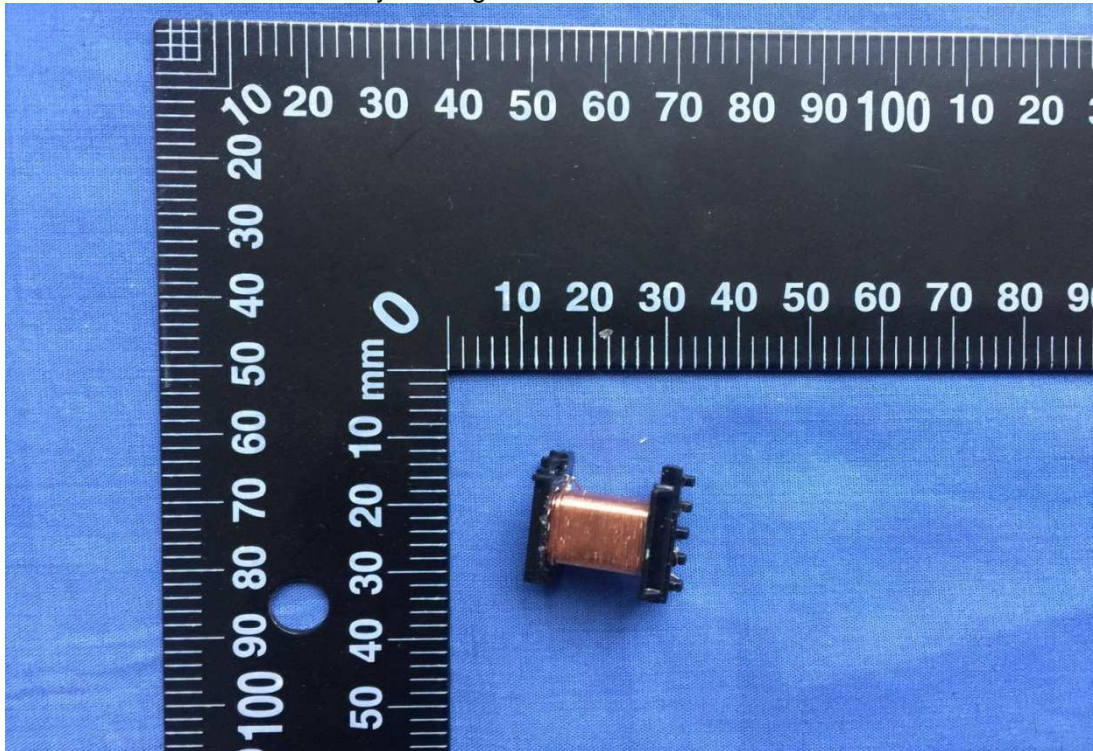
Secondary winding view of mains transformer (TIW)



Transformer



Primary winding view of mains transformer



Bobbin view of transformer

