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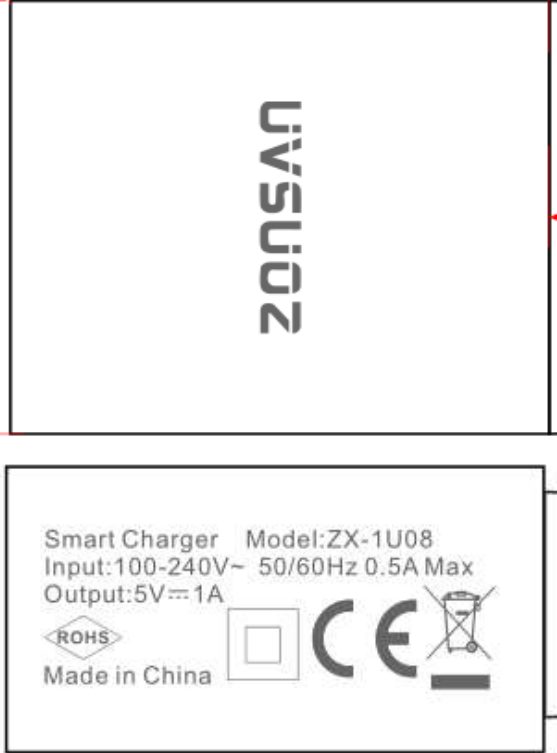
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TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number	: 170809078GZU-001
Date of issue	: 5 Sep., 2017
Total number of pages	: 81 pages
Applicant's name	[REDACTED]
Address	[REDACTED]
Test specification:	
Standard	: IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
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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General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description	Smart Charger
Trade Mark	ZONSAN
Manufacturer	Same as applicant
Model/Type reference	ZX-1U08
Ratings	Input: 100-240V~, 50/60Hz, 0.5A max., Class II Output: 5Vdc, 1A

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Testing location/ address		Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
<input type="checkbox"/>	Associated CB Testing Laboratory:	N/A
Testing location/ address		N/A
Tested by (name + signature)		King Xu Senior Project Engineer
Approved by (name + signature)		Spark He Technical Team Leader
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	N/A
Testing location/ address		N/A
Tested by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	N/A
Testing location/ address		N/A
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	N/A
Testing location/ address		N/A
Tested by (name + signature)		N/A
Witnessed by (name + signature)		N/A
Approved by (name + signature)		N/A
Supervised by (name + signature).....		N/A


<p>List of Attachments (including a total number of pages in each attachment): See the appendix (page 48-81) in this test report for details.</p>	
<p>Summary of testing:</p>	
<p>Tests performed (name of test and test clause): All applicable test</p>	<p>Testing location: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China</p>
<p>Summary of compliance with National Differences: Group and National differences of all CENELEC members have been considered. <input checked="" type="checkbox"/> The product fulfils the requirements of IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 and EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2:2013.</p>	
<p>Copy of marking plate: The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.</p> <div style="text-align: center;">  </div> <p>Remark: - The above marking are the minimum requirements required by the safety standard. For the final productions samples, the additional markings which do not give rise to misunderstanding may be added. - The dimension for height of CE mark is at least 5mm height and the height of WEEE directive mark is at least 7mm height.</p>	

Test item particulars:	
Equipment mobility:	<input checked="" 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
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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V)	--
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
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	--
Altitude during operation (m)	<2000
Altitude of test laboratory (m)	<100
Mass of equipment (kg)	0.01kg

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	08 Aug., 2017
Date (s) of performance of tests	08 Aug., 2017 to 24 Aug., 2017

General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> <p>When determining the test conclusion, the Measurement Uncertainty of test has been considered.</p> <p>This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.</p> <p>The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:	
<p>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</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable</p>
When differences exist; they shall be identified in the General product information section.	
<p>Name and address of factory (ies) : ShenZhen ZONSAN Innovation Technology Co., Ltd. 4 floor Building 11, Yicun Industrial Park, Buji longgang Area, Shenzhen Guangdong, China</p>	
General product information:	
<p>The equipment under tests is Smart Charger with integral plug. External enclosure is totally enclosed with ultrasonic welding, for information technology equipment and office equipment use only.</p> <p>The plug complies with EN 50075.</p>	
Abbreviations used in the report:	
<p>- normal conditions N.C. - functional insulation FI - double insulation DI - between parts of opposite polarity BOP</p>	<p>- single fault conditions S.F.C - basic insulation BI - supplementary insulation SI - reinforced insulation RI</p>
Indicate used abbreviations (if any)	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
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		N/A
1.5.7	Resistors bridging insulation		N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
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		P
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
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	TN power distribution system	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
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	100-240V~	P
	Symbol for nature of supply, for d.c. only.....:		N/A
	Rated frequency or rated frequency range (Hz) ...:	50/60	P
	Rated current (mA or A)	0.5A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	ZONSAN	P
	Model identification or type reference	ZX-1U08	P
	Symbol for Class II equipment only		P
	Other markings and symbols	Additional symbol or marking does not give rise to misunderstanding used	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	Pluggable equipment type A	N/A
1.7.2.4	IT power distribution systems		P
1.7.2.5	Operator access with a tool	No such area	N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles	Continuous	N/A
1.7.4	Supply voltage adjustment	No such device	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No power outlet used	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fusing resistor: 10R/1W	P
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals	No protective earthing and bonding terminals.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	No such component	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Single power source used	N/A
1.7.10	Thermostats and other regulating devices	No such device	N/A
1.7.11	Durability		P
1.7.12	Removable parts	No such parts	N/A
1.7.13	Replaceable batteries	No batteries used	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 are not accessible	P
	Test with test finger (Figure 2A)	The concerned hazardous parts are not accessible	P
	Test with test pin (Figure 2B)	The concerned hazardous parts are not accessible	P
	Test with test probe (Figure 2C)	No TNV circuit within the equipment	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)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	(see appended table 2.1.1.5)	P
2.1.1.6	Manual controls	No such device	N/A
2.1.1.7	Discharge of capacitors in equipment	No such capacitor was used	N/A
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply	Connected to a.c. mains supply only	N/A
	a) Capacitor connected to the d.c. mains supply . :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers	No such amplifier	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		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)	P
2.2.4	Connection of SELV circuits to other circuits	only connect to SELV circuits	P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuit	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.....		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements		P
2.4.2	Limit values	0.7mA	P
	Frequency (Hz)	60Hz	—
	Measured current (mA).....	0.07mA	—
	Measured voltage (V)	35mV	—
	Measured circuit capacitance (nF or μF).....	1000pF	—

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Clause	Requirement + Test	Result - Remark	Verdict

2.4.3	Connection of limited current circuits to other circuits		N/A
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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		N/A
	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) .:		—

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

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Clause	Requirement + Test	Result - Remark	Verdict
	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

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Integral part of equipment	P
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7	The protection device is well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	The building installation is considered as providing shortcircuit backup protection	P
2.7.4	Number and location of protective devices :	1 pc (F1)	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 such device	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	Humidity treatment performed for 48h.	P
	Relative humidity (%), temperature (°C)	93%RH, 30°C	—
2.9.3	Grade of insulation	Considered.	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used	Method 1 used	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	45.4KHz for Transformer	P
2.10.1.2	Pollution degrees	Pollution degrees 2	P
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
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	See appended table 2.10.3 and 2.10.4	P
2.10.2.1	General		P
2.10.2.2	RMS working voltage	245Vrms	P
2.10.2.3	Peak working voltage	472Vpeak	P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages	2500V	P

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Clause	Requirement + Test	Result - Remark	Verdict
	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	Considered 2500V	P
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
	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	(see appended table 2.10.3 and 2.10.4)	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		N/A
2.10.5.5	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		P
2.10.5.7	Separable thin sheet material		P
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
	Electric strength test	(see appended table 5.2)	—
2.10.5.11	Insulation in wound components	T1	P
2.10.5.12	Wire in wound components		P
	Working voltage	(see appended table 2.10.2)	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U	Approved triple insulated wire as secondary winding wire in transformer	P
	Two wires in contact inside wound component; angle between 45° and 90°	The insulating tape and teflon tube is provided to protect against mechanical stress	P
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

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Clause	Requirement + Test	Result - Remark	Verdict

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	(see appended table 5.2)	N/A
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		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		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

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Clause	Requirement + Test	Result - Remark	Verdict

	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		P
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
3.3.1	Wiring terminals	No such terminal	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	Direct plug as part of the equipment is considered as the disconnect device	P
3.4.3	Permanently connected equipment	No such device within the EUT	N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.6	Number of poles - single-phase and d.c. equipment	The disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices	No switches as disconnect device	N/A
3.4.9	Plugs as disconnect devices		P
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources	Only one supply connection	N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits	SELV circuit	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuit	N/A
3.5.4	Data ports for additional equipment	No such data port	N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	Direct-in type	N/A
	Test force (N)		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	The EUT is still complying with relevant requirements of this standard after 10 N force is applied to the components	P
4.2.3	Steady force test, 30 N	No such part	N/A
4.2.4	Steady force test, 250 N	No hazard.	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	88°C	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.8	Cathode ray tubes	No such device	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No such device	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	The outer surface of the EUT is smooth	P
4.3.2	Handles and manual controls; force (N)	No such part	N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	Enclosure fixed by ultrasonic welding	P
4.3.5	Connection by plugs and sockets		P
4.3.6	Direct plug-in equipment		P
	Torque	0.012Nm Max.	—
	Compliance with the relevant mains plug standard	See appendix	P
4.3.7	Heating elements in earthed equipment	No such parts.	N/A
4.3.8	Batteries	No 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	No insulation exposed to oil and grease	N/A
4.3.10	Dust, powders, liquids and gases	Equipment do not produce dust, not use powder, liquid and gas	N/A
4.3.11	Containers for liquids or gases	No 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		N/A
4.3.13.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)		
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No moving part within equipment	N/A
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict

4.5.2	Temperature tests		P
	Normal load condition per Annex L	Rated load with continuous operation.	—
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	(see appended table 4.5.5)	P

4.6	Openings in enclosures		N/A
4.6.1	Top and side openings		N/A
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom, dimensions (mm) ...		—
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
	Conditioning temperature (°C), time (weeks).....		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 used	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		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	Components and materials have adequate flammability classification. See appended table 1.5.1.	P
4.7.3.2	Materials for fire enclosures	(see appended table 1.5.1)	P

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Clause	Requirement + Test	Result - Remark	Verdict
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	(see appended table 1.5.1)	P
4.7.3.5	Materials for air filter assemblies	No such devices	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		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	Measuring instrument as in annex D.1 is used	P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Supply voltage (V)	264V	—
	Measured touch current (mA)	Max.: 0.06 mA	—
	Max. allowed touch current (mA)	0.25 mA	—
	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	No TNV circuit within the EUT	N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—

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Clause	Requirement + Test	Result - Remark	Verdict

	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	Method a, b or c	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE	No such component.	N/A
5.3.7	Simulation of faults	Result see appended table 5.3	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	Refer to below.	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

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Clause	Requirement + Test	Result - Remark	Verdict

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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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)		—
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		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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	See table 1.5.1	—
	Manufacturer	See table 1.5.1	—
	Type	See table 1.5.1	—
	Rated values	See table 1.5.1	—
	Method of protection	Electronic protection	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings..... :	Protected by bobbin, insulation tape	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—

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Clause	Requirement + Test	Result - Remark	Verdict
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		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	- Preferred climatic categories		N/A
	- Maximum continuous voltage		N/A
	- Combination pulse current		N/A
	Body of the VDR Test according to IEC60695-11-5.....		N/A
	Body of the VDR. Flammability class of material (min V-1).....		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
		See separate test report	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		See separate test report	—
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
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

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Clause	Requirement + Test	Result - Remark	Verdict

BB	ANNEX BB, CHANGES IN THE SECOND EDITION	—
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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
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

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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	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	PC, V-0, 130°C, min, thickness: 1.5mm	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E121562	
Plug holder	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	PC, V-0, 130°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E121562	
Y-cap. (CY1)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	CD-series	1000pF max., 400Vac, 125°C, Y1	IEC 60384-14	VDE 40025754	
Y-cap. (CY1) Alternative	SHENZHEN HAOTIAN ELECTRONIC CO LTD	HT	1000pF max., 400Vac, 125°C, Y1	IEC 60384-14	VDE 40029300	
Y-cap. (CY1) Alternative	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	1000pF max., 400Vac, 125°C, Y1	IEC 60384-14	VDE 40036393	
Y-cap. (CY1) Alternative	HAOHUA ELECTRONIC CO	CT7	1000pF max., 400Vac, 125°C, Y1	IEC 60384-14	VDE 40003902	
Y-cap. (CY1) Alternative	Dongguan Cigu Electronic Technology Co., Ltd,	CD-series	1000pF max., 400Vac, 125°C, Y1	IEC 60384-14	VDE, S, TUV or other EU cert.	
Fuse resistor (F1)	DONGGUAN HONGDA ELECTRONIC TECHNOLOGY CO LTD	RXF (RX21)	10ohm, 1W	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E359590	
Heat-Shrinkable Tube (cover on F1)	SHENZHEN WOLIDA TRADING CO LTD	RSFR-H	600V, 125°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E329530	

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Heat-Shrinkable Tube (cover on F1) Alternative	SUMITOMO ELECTRIC FINE POLYMER INC	818	300V, 200°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E48762
Heat-Shrinkable Tube (cover on F1) Alternative	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR	600V, 125°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E203950
Heat-Shrinkable Tube (cover on F1) Alternative	DONGGUAN SALIPT CO LTD	SALIPT S-901-300	300V, 200°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E209436
PCB	KINGBOARD LAMINATES HOLDINGS LTD	KB-3150, KB-5150N	V -0, 130°C	UL 94, UL 796	UL E123995
PCB Alternative	SHANDONG JINBAO ELECTRONICS CO LTD	ZD-95(G)F	V -0, 130°C	UL 94, UL 796	UL E141940
PCB Alternative	GOLDENMAX INTERNATIONAL TECHNOLOGY (ZHUHAI) LTD	GDM-C3	V -0, 130°C	UL 94, UL 796	UL E330731
PCB Alternative	Interchangeable	Interchangeable	V -0, 130°C	UL 94, UL 796	UL
Transformer (T1)	Luo tian xian feng da si electronic Co., LTD	ZX-1U08SC	Class B	Applicable parts of IEC / EN 60950-1	Test with appliance
Transformer (T1) Alternative	Shenzhen LiShengjia Electronic Technology Co., LTD	ZX-1U08SC	Class B	Applicable parts of IEC / EN 60950-1	Test with appliance
-Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEW	130°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E201757
-Magnet wire Alternative	TAYA ZHANGZHOU WIRES CABLE CO LTD	UEW-B	130°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E354216

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
-Magnet wire Alternative	SHANTOU SHENGANG ELECTRICAL INDUSTRIAL CO LTD	XUEW	130°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E239508
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375J	V-0, 150°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E59481
-Bobbin Alternative	SUMITOMO BAKELITE Co Ltd.	PM-9820	V-0, 150°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E41429
-Insulating tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ	130°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E165111
-Insulating tape Alternative	JINGJIANG JINGYANG INSULATING PRODUCT CO LTD	JY-133	130°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E309872
-Triple Insulated Wire	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C	IEC / EN 60950- 1	VDE 006735
-Triple Insulated Wire Alternative	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B	130°C	IEC / EN 60950- 1	VDE 40033527
-Teflon tube	GREAT HOLDING INDUSTRIAL CO LTD	TFT	300V, 200°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E156256
-Teflon tube Alternative	FLUO TECH INDUST	TFT	300V, 200°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E175982
- Varnish	HITACHI CHEMICAL CO LTD	WP-2952F- 2G(Y)	130°C	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E72979
Insulation sheet	FORMEX, DIV OF ILLINOIS TOOL WORKS INC, FORMERLY	Formex GL- (a)(d)(f2)	V-0, 125 °C, min thickness: 0.4mm	Applicable parts of IEC / EN 60950-1	Test with appliance and UL E121855
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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

1.5.1	TABLE: Opto Electronic Devices		N/A
<p>Manufacturer :</p> <p>Type :</p> <p>Separately tested :</p> <p>Bridging insulation :</p> <p>External creepage distance :</p> <p>Internal creepage distance :</p> <p>Distance through insulation :</p> <p>Tested under the following conditions :</p> <p>Input :</p> <p>Output :</p>			
supplementary information			

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

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
90V 50Hz	0.130	—	6.89	F1	0.130	At max. normal load	
90V 60Hz	0.133	—	6.92	F1	0.133	At max. normal load	
100V 50Hz	0.119	0.5	6.83	F1	0.119	At max. normal load	
100V 60Hz	0.123	0.5	6.86	F1	0.123	At max. normal load	
240V 50Hz	0.061	0.5	6.76	F1	0.061	At max. normal load	
240V 60Hz	0.067	0.5	6.81	F1	0.067	At max. normal load	
264V 50Hz	0.058	—	6.82	F1	0.058	At max. normal load	
264V 60Hz	0.065	—	6.84	F1	0.065	At max. normal load	
Supplementary information:							

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)		
5	1	5.02	1.35	5.88		
Supplementary information:						

2.1.1.5 c) 2)	TABLE: stored energy			N/A
Capacitance C (µF)	Voltage U (V)		Energy E (J)	
—	—		—	
Supplementary information:				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			P
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
Output	—	5.02	—	
T1 pin 7-8	24.4	—	—	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)	
DS3 (S-C)		0Vdc (output)	
Supplementary information:			

2.5	TABLE: Limited power sources				P
Condition:	Input voltage (Va.c.)	Output voltage Uoc (Vd.c.)	Short-circuit output current Isc (A)	Apparent power S (VA)	
Normal: Output	264V 50Hz	5.02	1.35	5.88	
Supplementary information:					
Limit:					
1) Output current $I_{sc} \leq 8A$ and apparent power $\leq 100VA$ for output $U_{oc} \leq 30V_{d.c}$					
2) Also refer to Clause 5.3 TABLE: Fault condition tests.					

2.10.2	Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments	
For Transformer (T1)				
T1 pin 1-7	219	400	—	
T1 pin 1-8	218	380	—	
T1 pin 2-7	218	344	—	
T1 pin 2-8	218	348	—	
T1 pin 3-7	245	472	Max. Vpeak, Vrms	
T1 pin 3-8	241	464	—	
T1 pin 4-7	220	368	—	
T1 pin 4-8	219	344	—	
For bridging capacitor (CY1)				
CY1 Pri. – Sec.	218	344	—	
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)
L/N before Fusing resistor (F1) (BI)	340	240	2.0	4.3	2.4	4.3
Two poles of Fusing resistor (F1) (BI)	340	240	2.0	2.9	2.4	2.9
Live parts to accessible enclosure (RI)	340	240	4.0	5.5	4.8	6.0
Pri. Circuit to sec. circuit (RI)	472	245	4.2	5.2	5.0	5.2
Pri. Winding to sec. winding (RI)	472	245	4.2	8.2	5.0	8.2
Sec. winding to core (RI)	472	245	4.2	8.1	5.0	8.1
Core to sec. parts (RI)	472	245	4.2	5.4	5.0	5.4
Supplementary information:						
1). FI: Functional insulation; BI: Basic insulation; SI: Supplementary insulation; RI: Reinforced insulation.						
2). The core of transformer (T1) is considered as primary component, the triple insulation wire is used as secondary winding of transformer.						

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)	
Enclosure	340	240	3000	0.4	1.5	
Insulation sheet	472	245	3000	0.4	0.4	
Thin sheet material at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required layers	Layers	
Insulation tape of T1	472	245	3000	2	2	
Supplementary information: Transformer T1 core was wrapped with insulation tape. Transformer T1 body was wrapped with insulation tape. AC wire were fixed with solder and glue.						

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

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available									
Is it possible to install the battery in a reverse polarity position?									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:									

4.3.8	TABLE: Batteries								N/A
Battery category.....		(Lithium, NiMh, NiCad, Lithium Ion ...)							
Manufacturer.....									
Type / model.....									
Voltage.....									
Capacity.....		mAh							
Tested and Certified by (incl. Ref. No.).....									
Circuit protection diagram:									

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

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	
Language(s)	
Close to the battery	
In the servicing instructions	
In the operating instructions	

4.5	TABLE: Thermal requirements			P
	Supply voltage (V)	90Vac	264Vac	—
	Ambient T _{min} (°C)	24.7	24.9	—
	Ambient T _{max} (°C)	25.7	25.7	—
	Maximum measured temperature T of part/at::	T (°C) Correct to Amb <u>_25_</u>		Allowed T _{max} (°C)
	Plug holder	31.9	31.1	120
	PCB near BD1	60.9	54.3	130
	C1	54.0	49.4	105
	C2	64.2	59.5	105
	L1	63.0	57.3	110
	T1 winding	82.3	75.7	110
	T1 core	70.2	69.0	ref
	CY1	58.2	55.0	125
	PCB under T1	72.0	69.5	130
	PCB near DS3	68.7	68.1	130
	C4	63.0	63.1	105
	Enclosure inside (Top T1)	47.1	45.6	ref
	Enclosure inside (bottom T1)	78.0	74.5	ref
	Enclosure outside (Top T1)	44.8	43.9	95
	Enclosure outside (bottom T1)	65.5	64.2	95
	Supplementary information:			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm)	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Bobbin		125	0.77
Plug holder		125	0.79
Supplementary information:			

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
--	--	--	--	--	--	
Supplementary information: see table 1.5.1						

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
L/N to accessible parts	0.01	0.25		
L/N to secondary circuit	0.06	0.25		
Supplementary information:				

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

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	
Line and Neutral after F1 open	AC	1500	No	
Input circuit and accessible enclosure	AC	3000	No	
Input circuit and output terminal	AC	3000	No	
Transformer: Pri. Winding and Sec. winding	AC	3000	No	
Transformer: Core and Sec. winding	AC	3000	No	
One layer insulation tape	AC	3000	No	
Insulation sheet	AC	3000	No	
Supplementary information:				
1). FI: Functional insulation; BI: Basic insulation; SI: Supplementary insulation; RI: Reinforced insulation.				
2). The core of transformer (T1) is considered as primary component, the triple insulation wire is used as secondary winding of transformer.				

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)		25°C, if no otherwise specified			—
	Power source for EUT: Manufacturer, model/type, output rating		--			—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
C4	S	264	10mins	F1	0.005 max.	Observation: EUT protected immediately, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc
DS3	S	264	10mins	F1	0.018A max.	Observation: EUT protected immediately, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc
T1 Pin 7-8	S	264	10mins	F1	0.036A max.	Observation: EUT protected immediately, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)				25°C, if no otherwise specified	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
T1 Pin 3-4	S	264	10mins	F1	0.02A max.	Observation: EUT protected immediately, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc
T1 Pin 1-2	S	264	10mins	F1	0.02A max.	Observation: EUT protected immediately, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc
U1 Pin 3-7	S	264	10mins	F1	0.01A max.	Observation: EUT protected immediately, no hazards. . Damage: -- Temp: -- °C Max. Voltage: --Vdc
Output terminal	S	264	10mins	F1	0.006A max.	Observation: EUT protected immediately, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc
Output terminal	O/L	264	4hrs45m ins	F1	0.0728A max.	Observation: The steady state was attained at output current 1.33A. Circuit protection when output current > 1.33A. Sample can reset to normal condition. Damage: -- Winding Temp: 93.3°C Max. Voltage: 4.97Vdc

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

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C)	25°C, if no otherwise specified	—
	Power source for EUT: Manufacturer, model/type, output rating	--	—

Com- ponent No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
C1	S	264	<1s	F1	--	Observation: EUT shut down immediately, fusing resistor opened, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc
DB1	S	264	<1s	F1	--	Observation: EUT shut down immediately, fusing resistor opened, no hazards. Damage: -- Temp: -- °C Max. Voltage: --Vdc

Note:

- 1) S: Short-circuited; O/L: Over load; O: Open-circuited.
- 2) Observation: The observations during and after abnormal tests.
- 3) Damaged: Which component (components) damaged during the fault condition test.
- 4) Temp: The maximum temperature of transformer winding. Limit: 155°C
- 5) Max. Voltage: The maximum accessible voltage of output terminal during the fault condition test.
- 6) For fusing resistor (F1) opened, the test repeated 10 times have the same result, no hazards.

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)
T1	Reinforced (Pri. -sec.)	472	245	3000Vac	4.2	5.0	*)
T1	Reinforced (Core -sec.)	472	245	3000Vac	4.2	5.0	*)
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.)			3000Vac	8.2	8.2	TIW used
T1	Reinforced (Core - sec.)			3000Vac	8.1	8.1	TIW used
supplementary information:							

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

C.2	TABLE: transformers	P
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Transformer

1	2	3	4	5	6	7	8	9	10	11	12
			REVISION		DATE		REVISER		物料编号: 122-DTR0059		
ISSUE ZONE			DESCRIPTION		2017-08-19		A2				
START			FINISH		WIRE SIZE		TURNS				
N1	2	1	φ0.13mm*1C 2UEW		140		地均密绕三层		HI-POT		
N2	3	-	φ0.13mm*4C 2UEW		11		居中密绕		SEC SHORT		
N3	4	3	φ0.10mm*2C 2UEW		26		居中密绕		SEC SHORT		
N4	6	5	φ0.40mm*1C TEX-B		10		居中密绕		电感量 测试条件 PIN2-1=1.3mH±5% 10KHz 0.3V		

1. Main View

3. 电气原理图

2. Side View

4. 标识

XX/YY: 物料替代号/生产日期
用于变压器标识

5. 绕线结构图

备注:

1. 初级PCB3次增加长度, 按式式4-6 标注; 5mm 磁芯材料为PCB3或同等材料;
2. 初级磁芯方向为A朝上, B朝下, 磁芯材料1-4朝左, 磁芯材料5-6朝右;
3. Full绝缘漆后磁芯干燥, 磁芯用Low EMI 绝缘漆包, 变压器真空充氮后让其在真空炉中干燥, 所有材料要受环境, 符合RoHS.

JUKE ELECTRONICS CO., LTD			
DESIGN	CHECKED	APPROVED	UNIT mm
MODEL NO.	PART NO.	PART NAME	MATERIAL
			DATE
			SIZE A4

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
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<p>ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety –</p>			
Part 1: General requirements			
Differences according to:		EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013	
Attachment Form No.		EU_GD_IEC60950_1E	
Attachment Originator		SGS Fimko Ltd	
Master Attachment		Date 2013-09	
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

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 (A2:2013)	Add the following annexes: 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		P
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 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 4.7.3.1Note 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		P
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		P

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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.		N/A
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

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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
	Zx Protection against excessive sound pressure from personal music players		N/A
	<p>Zx.1 General 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: 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> <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: while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used.</p> <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: hearing aid equipment and professional equipment;</p> <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

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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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> <ul style="list-style-type: none"> 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 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>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> <ul style="list-style-type: none"> a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and 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 		N/A


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Clause	Requirement + Test	Result - Remark	Verdict
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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</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>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

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: “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)		---
	<p>Zx.4.1 Wired listening devices with analogue input 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. 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

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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 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 In wireless mode: 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> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p>Zx.5 Measurement methods 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

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Clause	Requirement + Test	Result - Remark	Verdict
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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>		N/A
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

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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	<p>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”.</p> <p>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 </p> <p>In the conditions applicable to Table 3B delete the words “in some countries” in condition^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>		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	<p>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 </p> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>		N/A
4.3.13.6 (A1:2010)	<p>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).</p>		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	<p>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.</p>		N/A
Bibliography	Additional EN standards.		—

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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)

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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

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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.</p> <p>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>		

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
	<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): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplest utstyr – og er tilkoplest 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." Translation to Swedish: "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 (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

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Clause	Requirement + Test	Result - Remark	Verdict
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. 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. 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. Justification the Heavy Current Regulations, 6c		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.		P
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.		P
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

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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>		N/A
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

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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	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. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	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.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	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: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Should be evaluated during national approve	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 <ul style="list-style-type: none"> 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

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
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

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
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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	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.		N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3 (A11:2009)	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A

Appendix: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
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**Annex ZD
(informative)**

IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

Appendix: Plug portion (EN 50075)

Equipment's combined with two-pole plug (Class II)

Supplementary tests on plug portion according to EN 50075 or IEC 60884-1

	Requirement - Test	References to clause in		Result-Remark	Comply
		IEC 60884-1	EN 50075		
1	Plug portion				P
	CEE 7 Standard Sheet			XVI	P
	EN 50 075				P
2	Dimensions				P
	Checking dimensions by measuring and by gauges according to Standard sheet				P
	The edges of the metal-pins, Chamfered or rounded off			Rounded	P
3	Protection against electric shock				P
a	Test finger (75N, 1 min in 35°C) or Applicable appliance standard	10.1	8.1		P
b	Single pole insertion. Checked with gauge: Fig 4 or C19A or C19B (CEE 7)	10.3	8.2		P
c	Compression test 150 N, 5 min.	10.1	13.1		P
d	External parts made of insulating material	10.4	8.3		P
4	Construction				P
a	Test on pins which are not solid	14.2	9.3		N/A
b	Pins shall be locked against rotation 0.4 Nm 1 min.	24.2	13.2		P

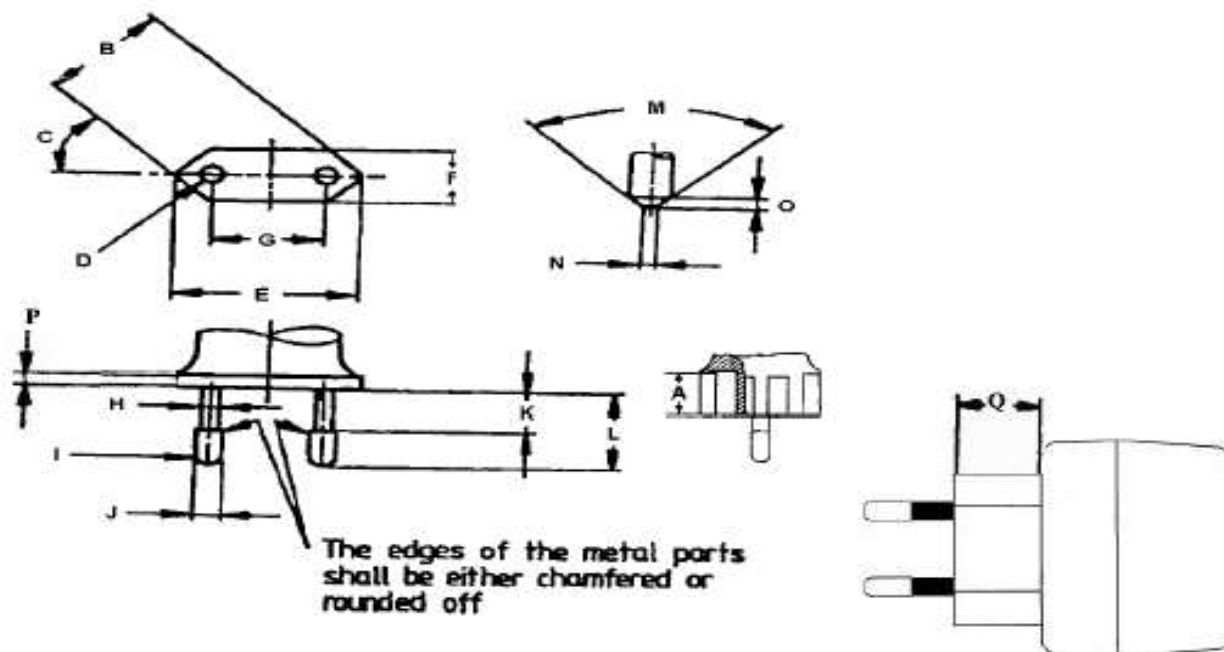
Appendix: Plug portion (EN 50075)

	Requirement - Test	References to clause in		Result-Remark	Comply
		IEC 60884-1	EN 50075		
		IEC 60884-1	EN 50075		
c	Pins shall be adequately fixed in the body 1 min. Temperature 70°C 40 N for plugs < 2,5 A 50 N for plugs > 2,5 A	24.10	13.4		P
d	Pins of copper or copper alloy min 58% copper or equivalent	26.5-26.6	15.3	> 58%	P
e	Plug shall not impose undue strain on fixed socket-outlets, 0,25 Nm	14.23.2		0.012 Nm Max.	P
f	Abrasion test on the insulating sleeves 20 000 movements	24.7	13.3		P
5	Resistance of insulating material to abnormal heat, to fire and to tracking				P
a	Compression test 1 h in 80°C	25.4	14.1.2		P
b	Glow-wire test 750°C	28.1.1	17		P
c	Resistance to tracking 175V (other than ordinary)	28.2			N/A

Appendix: Plug portion (EN 50075)

Two-pin plugs for class II appliances (Up to 2.5 A rating)

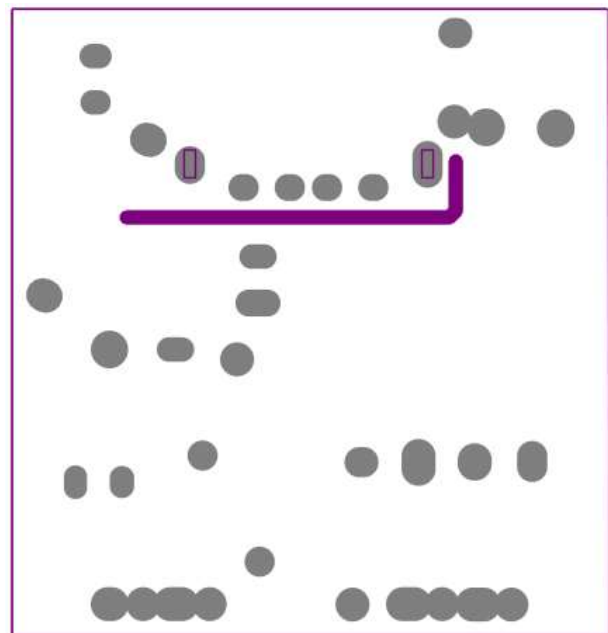
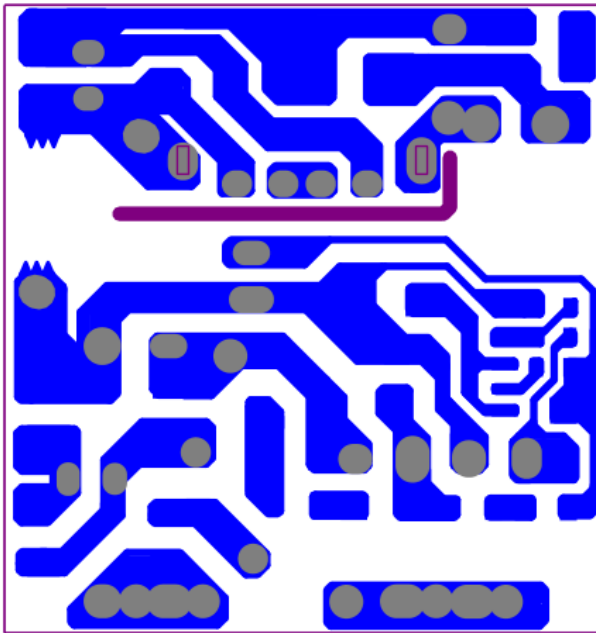
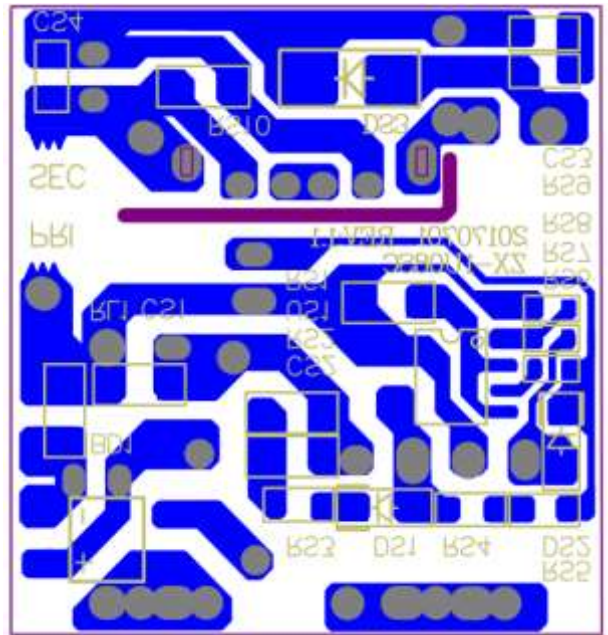
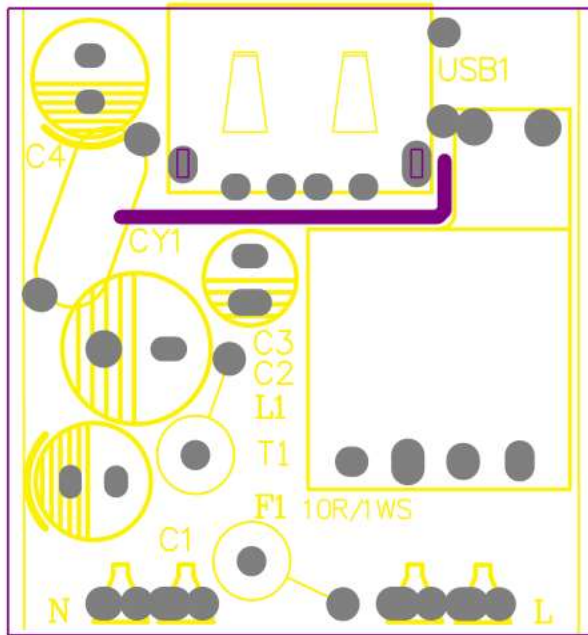
According to EN 50075 - Standard Sheet and IEC 60083 - Standard C5



Symbol	Requirement (mm)	Measured (mm)
A	≥ 16.5	--
B	25.6 - 26.6	26.29-26.51
C	45 °	--
D	R 5.0 – 6.0	R 6.0
E	34.6 – 36.0	35.35-35.71
F	13.0 – 14.4	13.98
G	Engagement 18.0 – 19.2	18.4
G	End 17.0 – 18.0	17.37
H	Within 4 mm from engagement face ≤ 4.0mm	3.79
	Above 4 mm from engagement face ≤ 3.8mm	3.43

Symbol	Requirement (mm)	Measured (mm)
I	--	--
J	3.94 – 4.06	3.98-4.02
K	10.0 – 11.0	10.39
L	18.5 – 19.5	18.91
M	≤ 90 °	--
N	0.7 – 1.7	--
O	≤ 2.0	<2.0
P	≥ 4.0	--
Q	≥ 18.0	18.35

Appendix: PCB layout



INSTRUCTION MANUAL

Please keep observed safety notes before use

Technische Daten (Technical data)

Model: ZX-1U08

Input: 100-240V~, 50/60Hz, 0.5A max., Class II

Output: 5Vdc, 1.0A



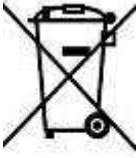

General (Allgemeines)

To comply with the published safety standards, the following must be observed when using this power supply.

Um den veröffentlichten gültigen Sicherheitsbestimmungen zu entsprechen, müssen die nachstehenden Maßnahmen beim Einsatz dieser Netzgeräte berücksichtigt werden.

1. For information technology equipment and office equipment use only.
Nur für Bürogeräte und Geräte der Informationstechnik.
2. The output power taken from the supply must not exceed the rating given on the power supply.
Die Ausgangsleistung darf die auf dem Netzerät angegebenen Werte nicht übersteigen.
3. The adaptor is not intended to be repaired by service personnel in case of failure or component defect (unit can be thrown away).
In einem Fehlerfall werden Teile des Gerätes, bzw. das Gerät selbst, nicht durch den Kundendienst repariert (Wegwerfgerät).
4. The external flexible cable or cord of this transformer cannot be replaced; If the cord is damaged, the transformer should be scrapped.
Das äußere flexible Transformer-Kabel kann nicht ersetzt werden! Im Falle einer Beschädigung des Kabels, sollten Sie den Transformer entsorgen.
5. The disconnection from line voltage is made by pulling the mains plug.
Die Trennung vom Netz erfolgt durch ziehen des Netzsteckers.
6. The socket-outlet shall be installed near the equipment and shall be easily accessible.
Die Steckdose muß in der Nähe der Einrichtung angebracht und leicht zugänglich sein.
7. DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
Gebrauchte Geräte sollten nicht mit dem Haushaltsabfall vermischt entsorgt werden. Bringen Sie das Gerät separat zu einer entsprechenden Sammelstelle.

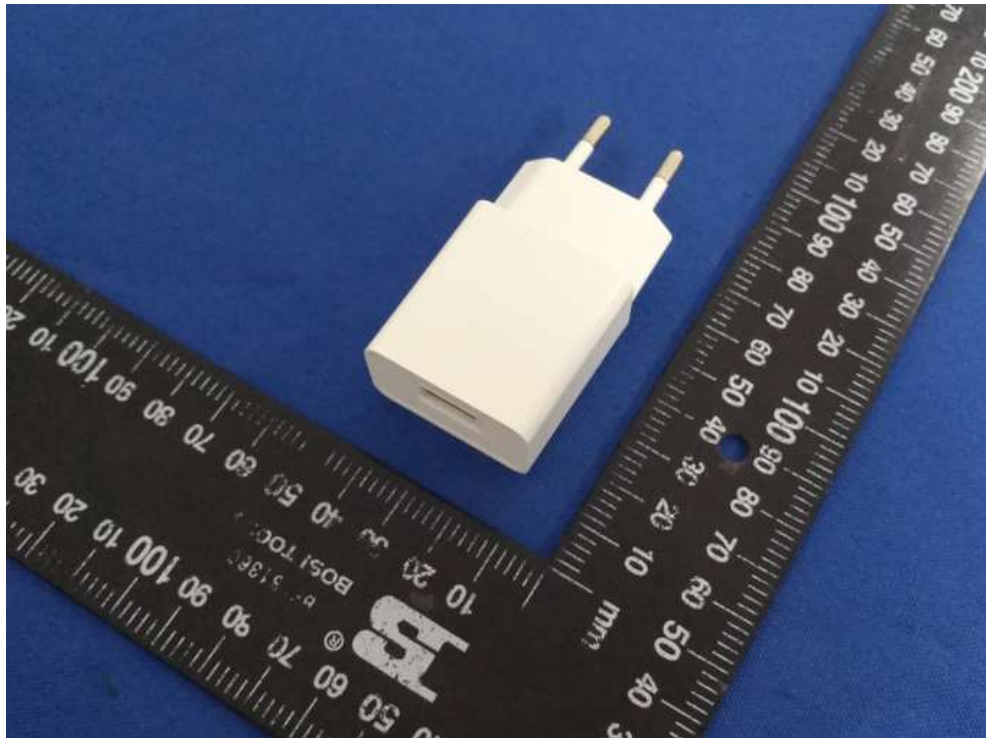
Appendix: User manual

Korrekte Entsorgung dieses Produkts	
 	Innerhalb der EU weist dieses Symbol darauf hin, dass dieses Produkt nicht über den Hausmüll entsorgt werden darf. Altgeräte enthalten wertvolle recyclingfähige Materialien, die einer Wiederverwertung zugeführt werden sollten und um der Umwelt bzw. der menschlichen Gesundheit nicht durch unkontrollierte Müllbeseitigung zu schaden. Bitte entsorgen Sie Altgeräte deshalb über geeignete Sammelsysteme oder senden Sie das Gerät zur Entsorgung an die Stelle, bei der Sie es gekauft haben. Diese wird dann das Gerät der stofflichen Verwertung zuführen.
Correct Disposal of this product	
 	This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

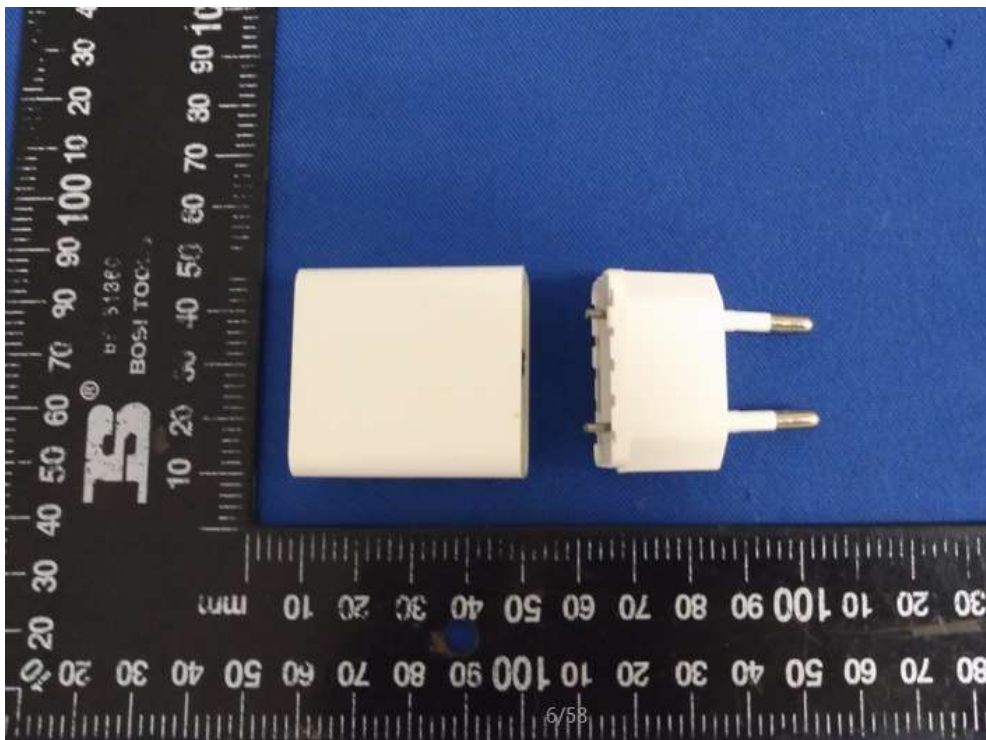
Manufacturer name: ShenZhen ZONSAN Innovation Technology Co., Ltd.

Manufacturer address: 4 floor Building 11, Yicun Industrial Park, Buji longgang Area, Shenzhen Guangdong, China

Appendix: Photos

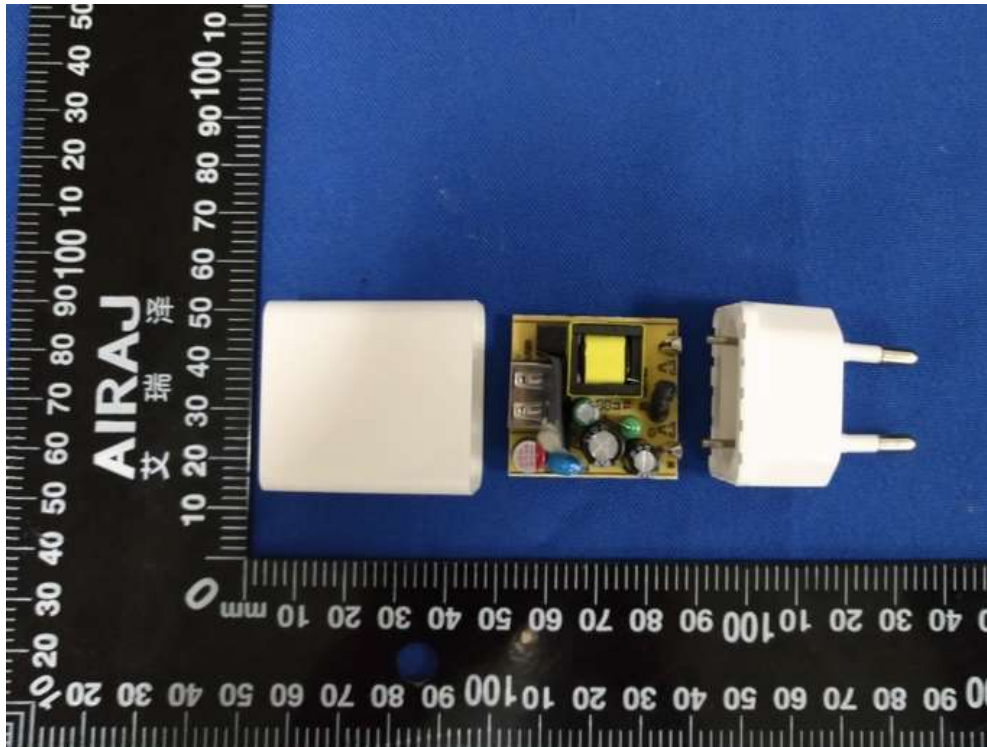


External view

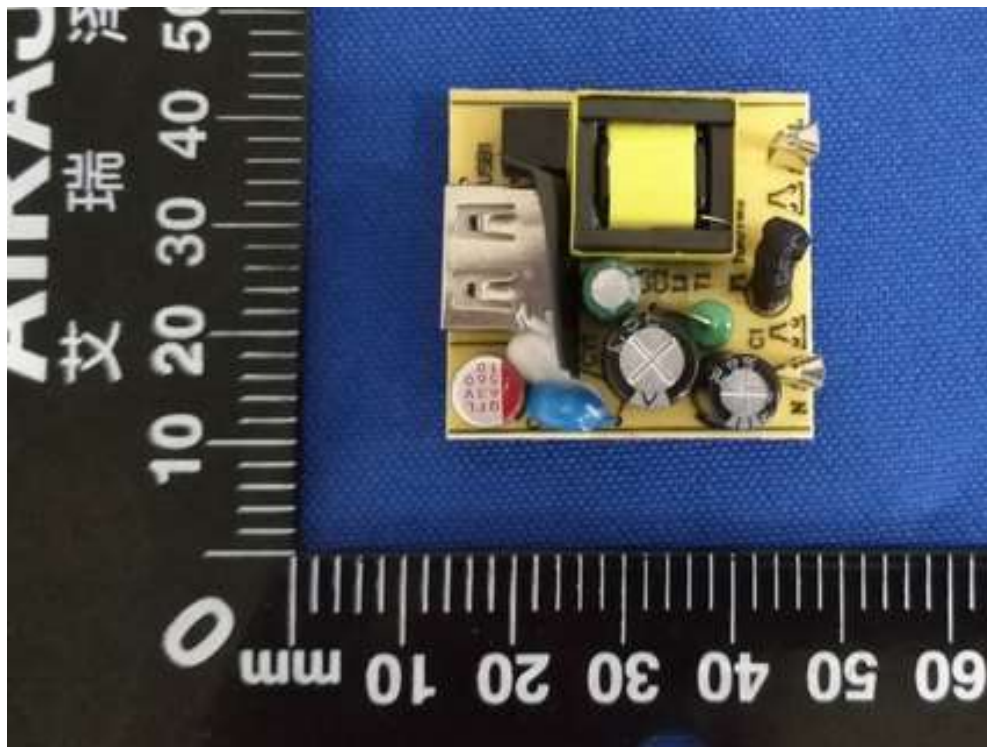


Internal view

Appendix: Photos

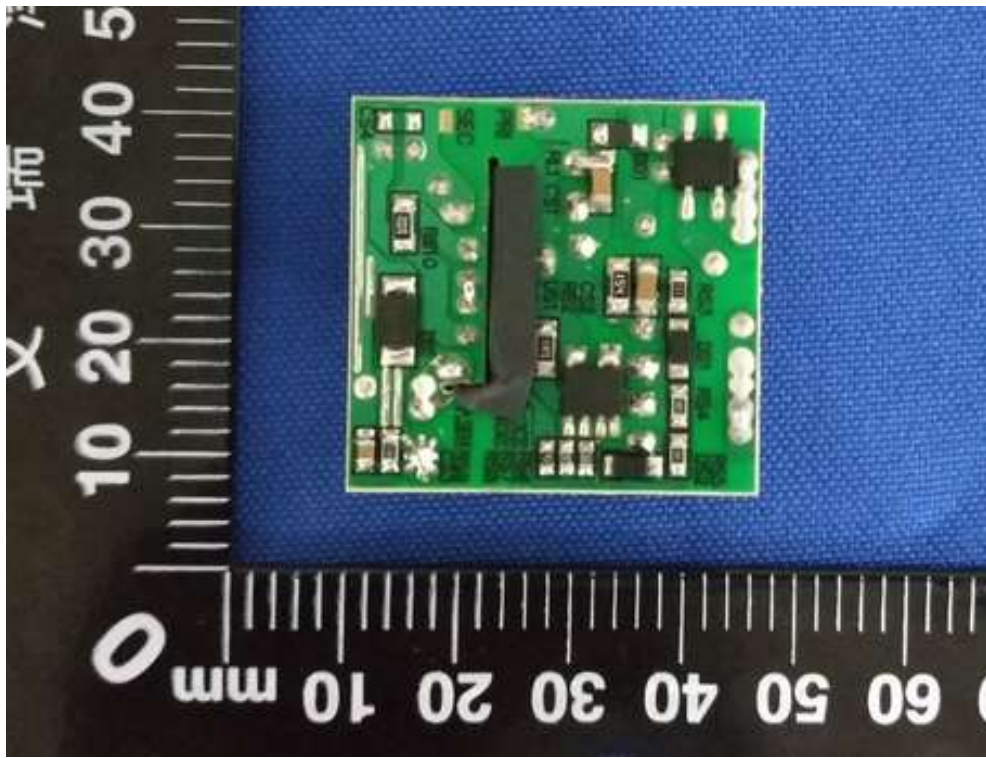


Internal view

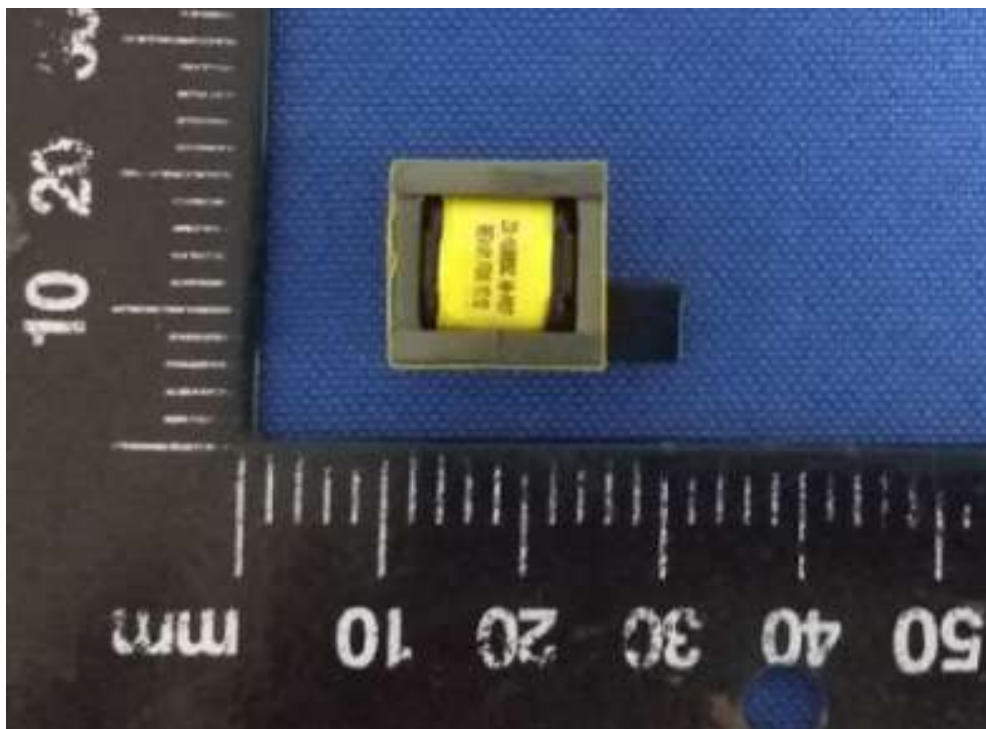


Internal view

Appendix: Photos

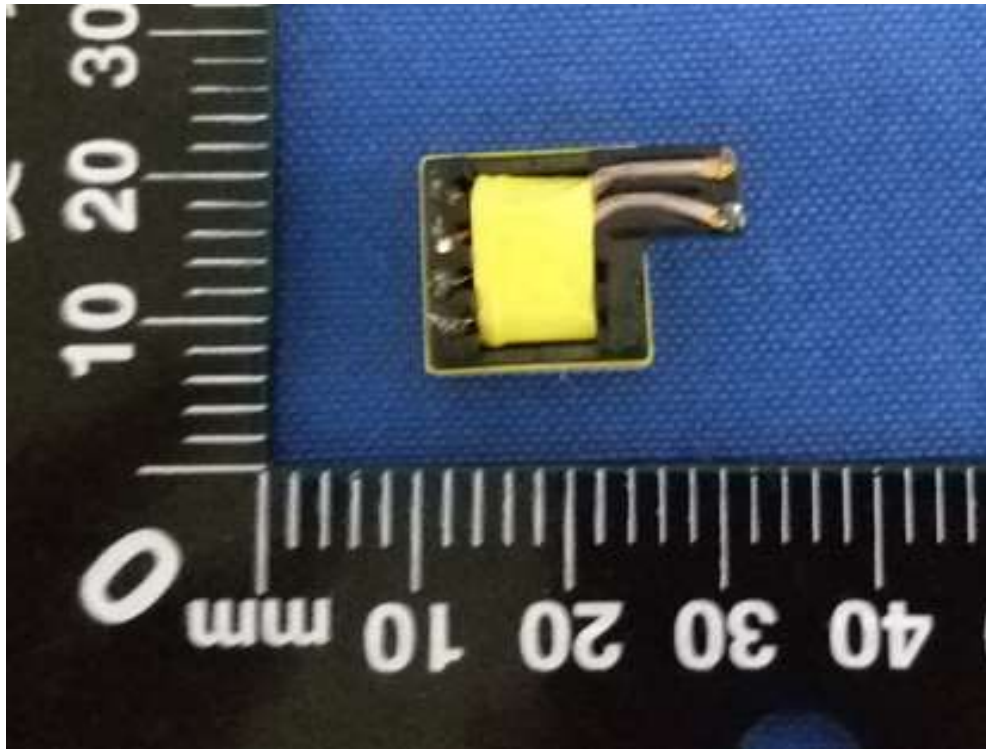


Internal view



Transformer view

Appendix: Photos

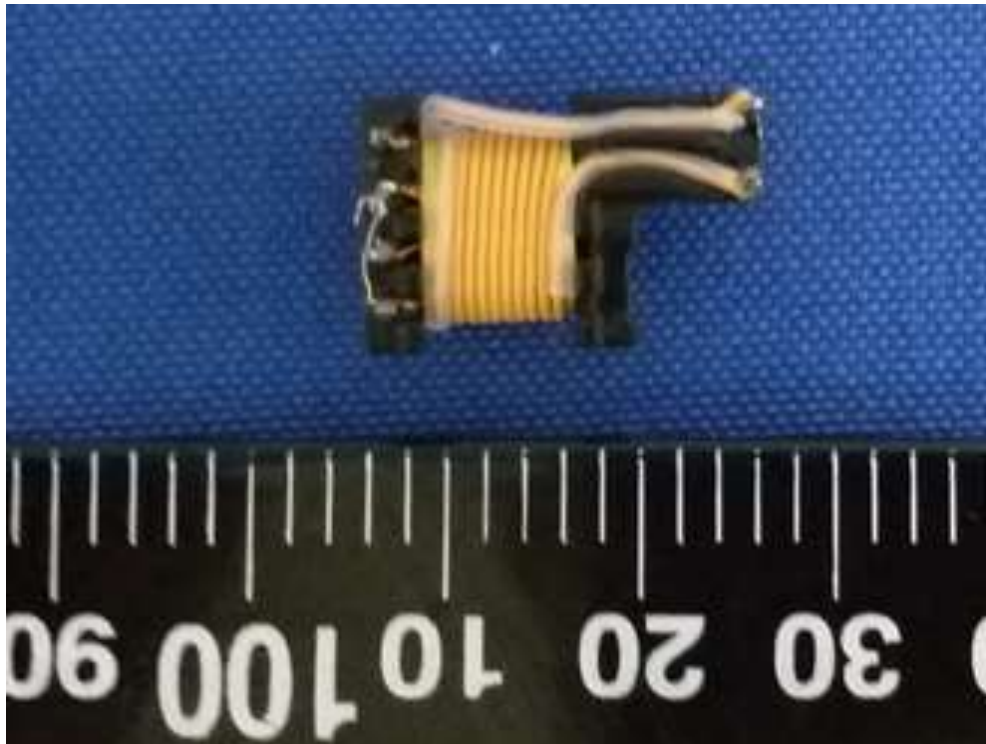


Transformer view

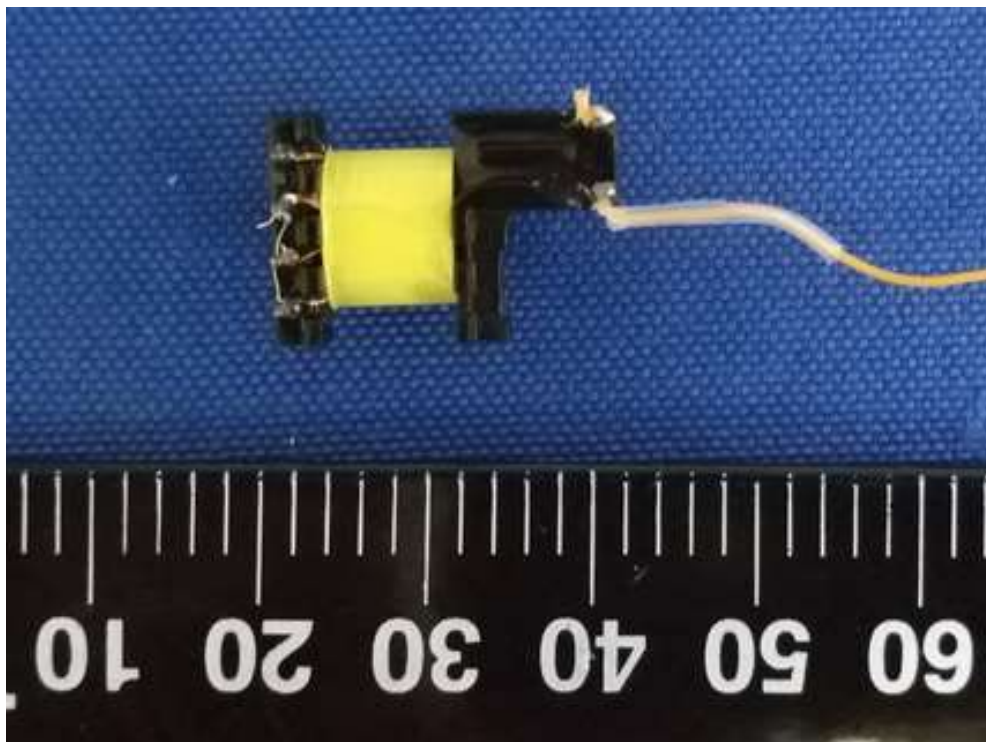


Transformer view

Appendix: Photos

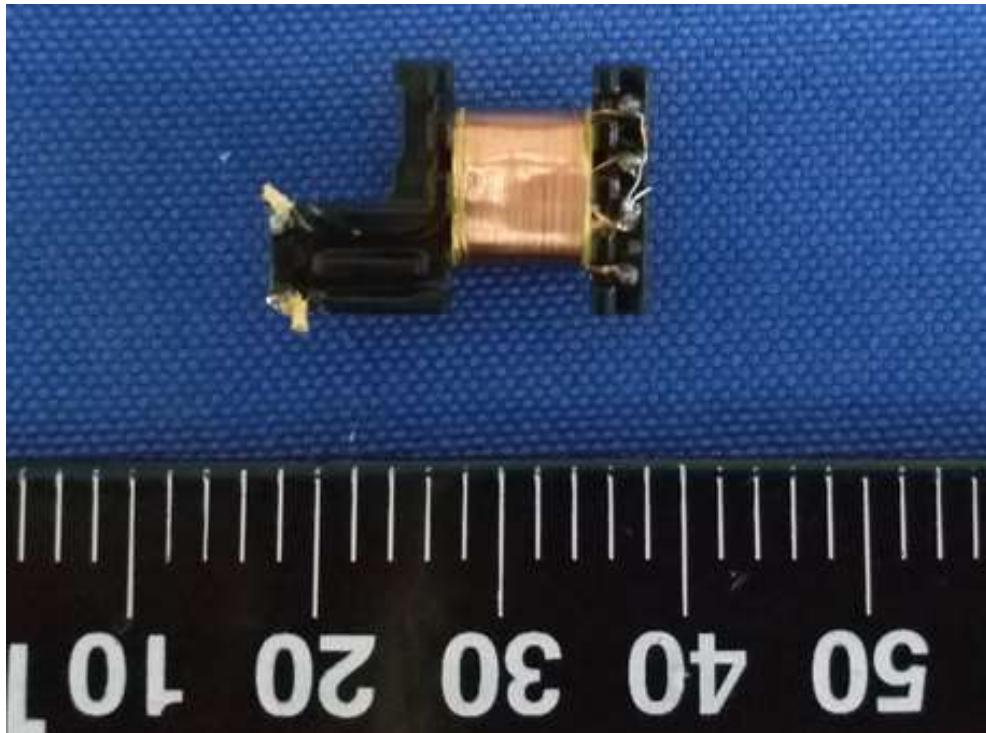


Transformer view

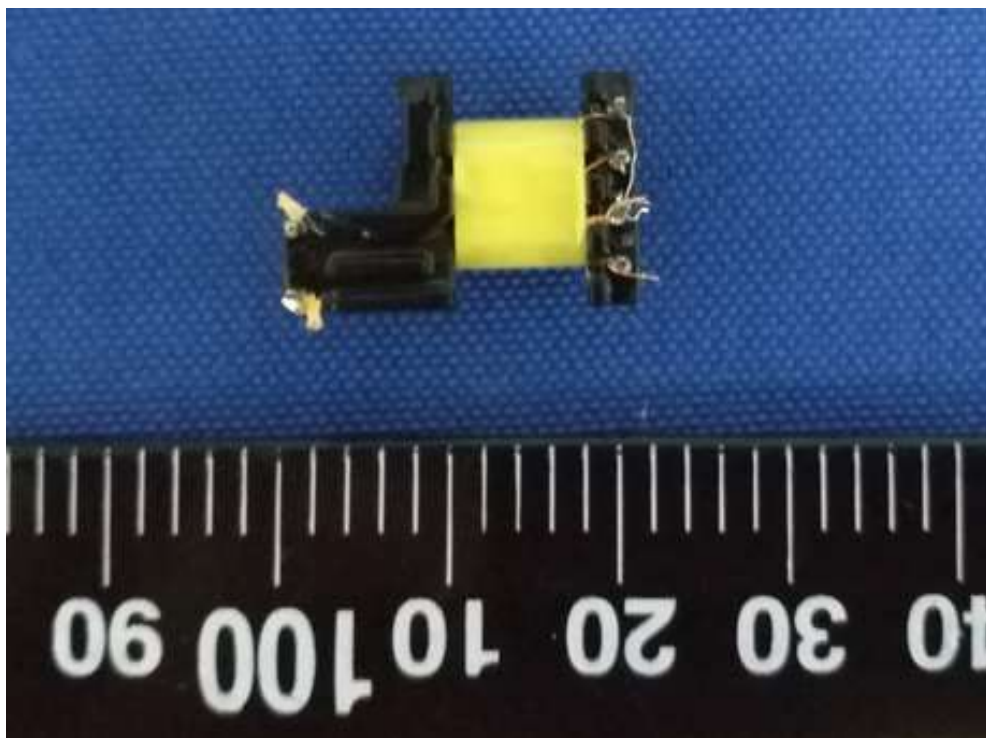


Transformer view

Appendix: Photos

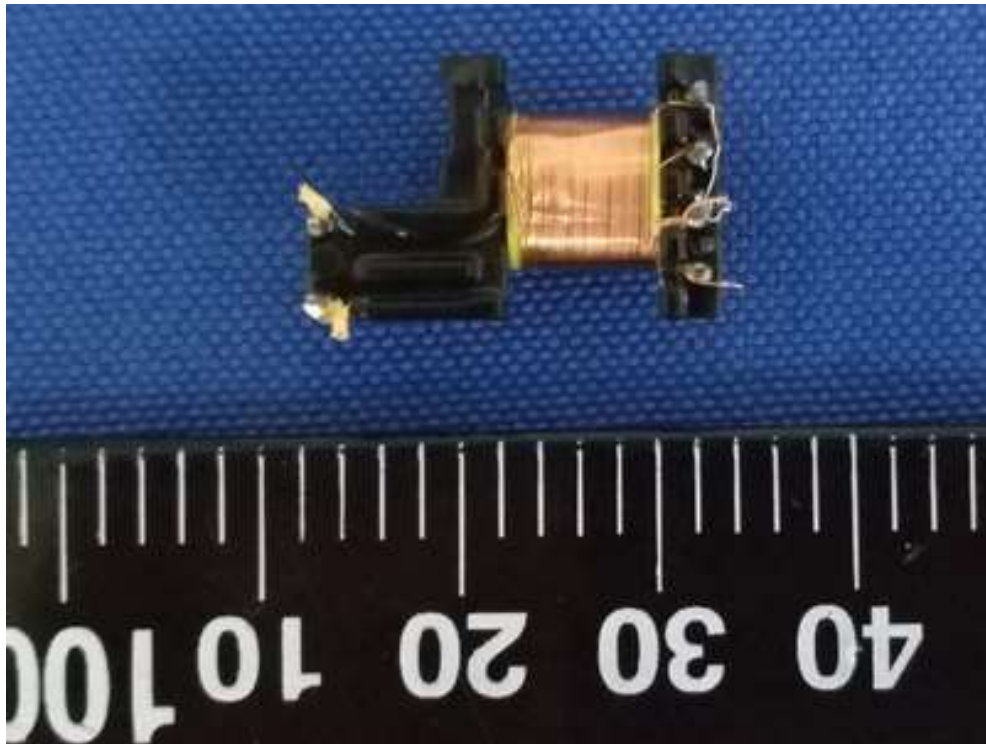


Transformer view



Transformer view

Appendix: Photos

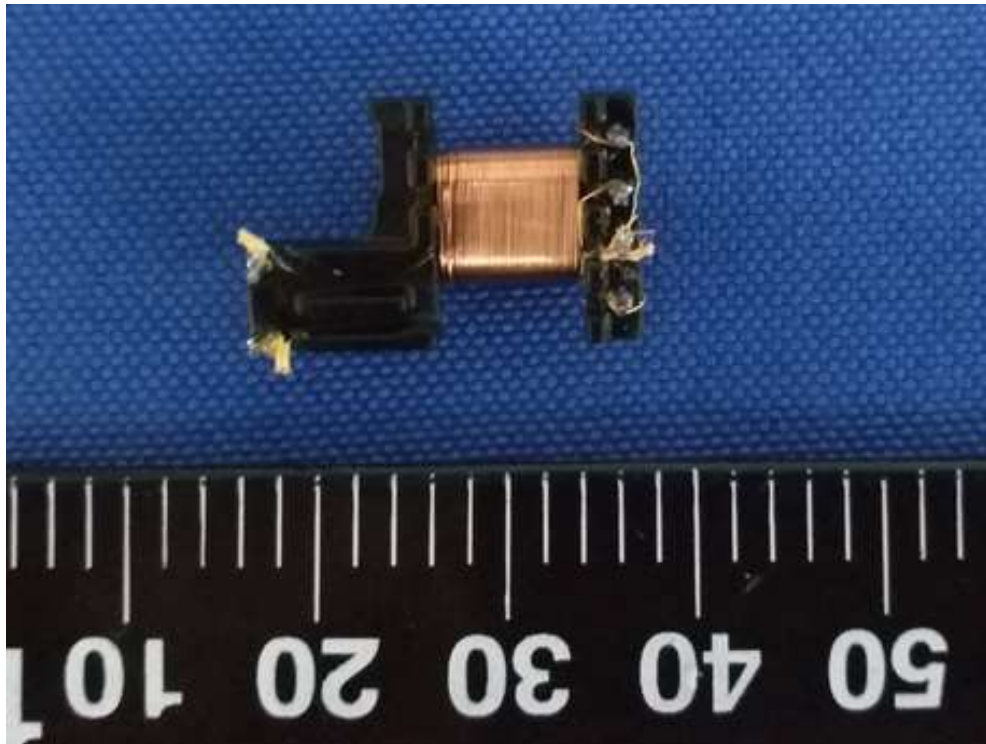


Transformer view



Transformer view

Appendix: Photos



Transformer view



Transformer view