
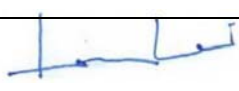
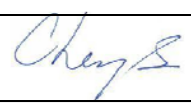




TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number..... : SHES160300161902 Date of issue..... : 2016-08-03 Total number of pages 62 pages	
Applicant's name GlobTek, Inc. Address..... : 186 Veterans Dr. Northvale, NJ 07647, USA	
Test specification: Standard IEC 60950-1: 2005 (Second Edition) + Am 1: 2009 + Am 2: 2013 Test procedure SGS-CSTC 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 Copyright © 2014 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed. This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.	
General disclaimer: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	
Test item description..... : Trade Mark..... : Manufacturer Model/Type reference..... : Ratings..... :	ITE Power Supply  GlobTek®, Inc. Same as applicant GT-86120-WWVV-W2Z, GT-86120-WWVVHW2Z (see page 6 for model designation) Input: 100 - 240 Vac; 50 / 60 Hz; 0,5 A DC-Output: 5 V, max 2 A or 12 V, max 1 A Class II

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing location/ address.....:		588 West Jindu Road, Xinqiao Town, Songjiang, 201612 Shanghai, China
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address.....:		
Tested by (name + signature)		Lancer Lei 
Approved by (name + signature).....:		Cherry Sun 
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address.....:		
Tested by (name + signature)		
Approved by (name + signature).....:		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address.....:		
Tested by (name + signature)		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address.....:		
Tested by (name + signature)		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
Supervised by (name + signature)		

List of Attachments (including a total number of pages in each attachment):

Attachment 1 – 12 pages of Photo documents;
Attachment 2 – 3 pages of Circuit diagram and PCB layout;
Attachment 3 – 1 page of User manual;
Attachment 4 – 19 pages of European group differences and national differences;

Summary of testing:

The sample(s) tested complies with 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.

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Models GT-86120-1005-W2E, GT-86120-1212-W2E, GT-86120-1005 and GT-86120-1212 are selected for tests. Unless otherwise specified, models GT-86120-1005-W2E and GT-86120-1212-W2E are tested.

Heating test (4.5):

Ta = 50 °C (declared by manufacturer)

Tamb = 50-51 °C

Tests were carried out at 90 Va.c. and 264 Va.c..

K-type thermocouple used for temperature measurement.

Tests performed (name of test and test clause):

- ☒ 1. GENERAL
- ☒ 2. PROTECTION FROM HAZARDS
- ☒ 3. WIRING, CONNECTIONS AND SUPPLY
- ☒ 4. PHYSICAL REQUIREMENTS
- ☒ 5. ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS
- ☐ 6. CONNECTION TO TELECOMMUNICATION NETWORKS
- ☐ 7. CONNECTION TO CABLE DISTRIBUTION SYSTEMS

Testing location:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
588 West Jindu Road, Xinqiao Town, Songjiang, 201612 Shanghai, China

Summary of compliance with National Differences:
List of countries addressed

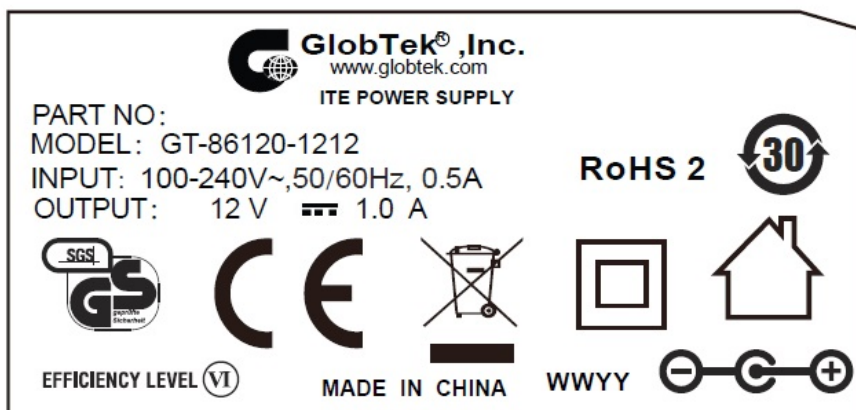
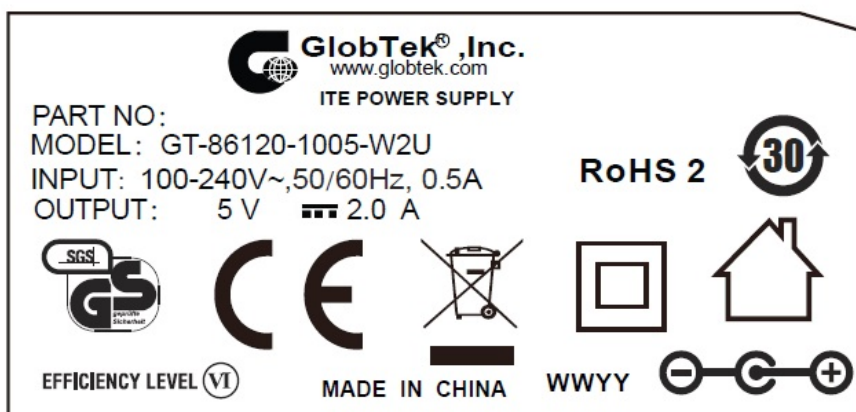
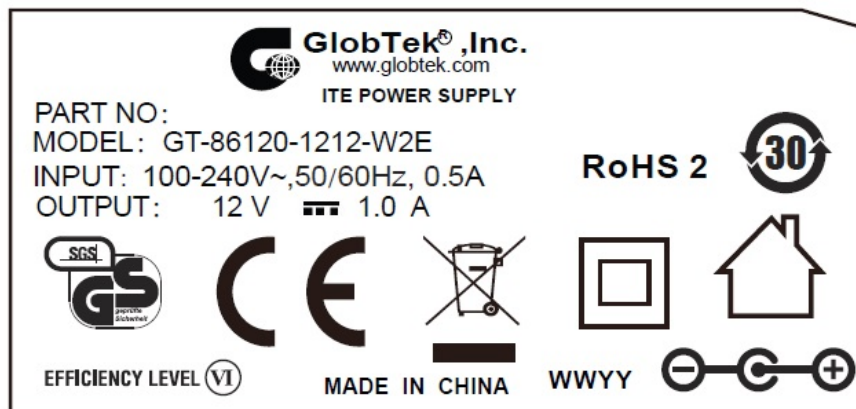
1. EU Group Differences (EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011+ A2: 2013)
2. EU Special National Conditions: none
3. Risk analysis and evaluation for PAHS has been performed (AfPS GS 2014:01 PAK, EK1 374-089 Rev2): see PAHS risk assessment report no. SHES1603001619IT/CHEM

The product fulfils the above requirements.

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 National Certification Body that own these marks.

(Additional requirements for markings. See 1.7 NOTE)



Remark: The marking is representative of all models

Marking for other models are same as above except model name and output parameters.

Test item particulars.....:	
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in
Connection to the mains.....:	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
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%
Tested for IT power systems	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V)	230V
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)	16 A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IP20
Altitude during operation (m)	Up to 3000m for models GT-86120-WWVV-W2Z Up to 5000m for models GT-86120-WWVVHW2Z
Altitude of test laboratory (m)	≤ 100 m
Mass of equipment (kg)	Max 0,071 kg
Possible test case verdicts:	
- test case does not apply to the test object.....: N/A	
- test object does meet the requirement.....: P (Pass)	
- test object does not meet the requirement.....: F (Fail)	
Testing.....:	
Date of receipt of test item	2016-03-18
Date (s) of performance of tests	2016-03-18 to 2016-04-08
General remarks:	

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma is used as the decimal separator.

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Unless otherwise stated: (a) the results shown in this document refer only to the sample(s) tested and (b) such sample(s) are retained for 3 months. This document cannot be reproduced except in full, without prior approval of the company.

Manufacturer's Declaration per sub-clause 4.2.5 of IECCE 02:

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

☐ Yes
☒ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) : GlobTek (Suzhou) Co.,Ltd.
Building 4, 76 Jinling East Road, Suzhou Industrial Park, Suzhou, 215021 Jiangsu, China

General product information:

Product name	ITE Power Supply
Model	GT-86120-WWVV-W2Z, GT-86120-WWVVHW2Z
Explanation of model designation	WW is the standard output wattage, with a maximum value of "12"; VV is the standard rated output voltage designation, can be "05" or "12"; Z designates type of plug and can be E for European plug, U for British plug -W2Z can be optional, when it is blank, denote to be with replaceable plug
Power rating	Input: 100 - 240 Vac; 50 / 60 Hz; 0,5 A DC-Output: 5 V, max 2 A or 12 V, max 1 A
Functions	The EUT are Class II switching power adaptors for ITE and designed for continuous operation. They are indoor use only. The power adapter's top enclosure is secured to bottom enclosure by ultrasonic welding
Model difference	Model GT-86120-WWVV-W2Z is technical identical to GT-86120-WWVVHW2Z, except the PCB layout. All models of GT-86120-WWVV-W2Z / GT-86120-WWVVHW2Z are identical to each other except differences in plug type, and components T1, R19, R15, R16, R18, R10, R17, C5, R9, JP1, R5, C4, R22, R12, R13, R11, R11A and D8 when with different output current and output voltage.

Model list:

Model	Output voltage	Output current	Output power
GT-86120-WW05-W2Z, GT-86120-WW05HW2Z	5 Vdc	Max 2 A	Max 10 W
GT-86120-WW12-W2Z, GT-86120-WW12HW2Z	12 Vdc	Max 1 A	Max 12 W

Examples of model name and relevant output ratings:

Model	Output voltage	Output current
GT-86120-1005-W2E	5 V	2 A
GT-86120-1212-W2E	12 V	1 A

The power pin part of European plug is fixed into the enclosure of plug portion by a screw. The pin part of British plug is moulded into the enclosure of plug portion.

PCB layout:

There are two types of PCB layout, The PCB REV:1 is identical to REV:3, only except for the PCB trace under CY1.

The equipment was evaluated for a maximum operating altitude of 3000 m for PCB REV:1.

The equipment was evaluated for a maximum operating altitude of 5000 m for PCB REV:3.

Model	PCB Layout	Altitude
GT-86120-WWVV-W2Z	PCB REV:1	3000m
GT-86120-WWVVHW2Z	PCB REV:3	5000m

Fuse & varistor configuration:

There are two current fuses (F1 & F2) and one varistor (MOV1) within equipment. The configuration for them are below:

Configuration	F1	F2	MOV1
1	T6,3A	T2A	Optional
2	T6,3A	3,3ohm	Optional
3	T2A	Jumper	Optional
4	3,3ohm	Jumper	Optional
5	none	T1A	none
6	none	3,3ohm	none

Abbreviations used in the report:

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


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

1	GENERAL		—
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1.5	Components		—
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	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Transformers used are suitable for their intended applications and comply with relevant parts of this standard and particularly Annex C, see Annex C – Transformers.	P
1.5.5	Interconnecting cables		P
1.5.6	Capacitors bridging insulation	Y1 capacitor according to IEC 60384-14.	P
1.5.7	Resistors bridging insulation	No such resistor.	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		N/A
1.5.9	Surge suppressors	The VDR is in compliance with Annex Q	P
1.5.9.1	General		P
1.5.9.2	Protection of VDRs	Fuses used in series with VDR.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.3	Bridging of functional insulation by a VDR	Certified VDR connected between line and neutral, located after fuse.	P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		—
1.6.1	AC power distribution systems	TN, and IT for Norway.	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment.	N/A
1.6.4	Neutral conductor		P

1.7	Marking and instructions		—
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	100 - 240 V	P
	Symbol for nature of supply, for d.c. only		N/A
	Rated frequency or rated frequency range (Hz)	50 / 60 Hz	P
	Rated current (mA or A)	0,5 A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	Trade mark :  GlobTek® ,Inc.	P
	Model identification or type reference	GT-86120-WWVV-W2Z, GT-86120-WWVVHW2Z	P
	Symbol for Class II equipment only	Class II symbol used on label.	P
	Other markings and symbols		P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking	See below.	P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	The plug is considered as the disconnect device.	P
1.7.2.3	Overcurrent protective device	Not pluggable equipment type B or permanently connected equipment.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.4	IT power distribution systems	The following or similar information should be given in the installation instruction: "This product is also designed for IT power distribution system with phase-to-phase voltage 230V".	N/A
1.7.2.5	Operator access with a tool	No tool used for access to operator access area.	N/A
1.7.2.6	Ozone	Not produce ozone.	N/A
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage adjustment.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	F1: T6.3AL or T2.0AL or 3.3ohm 2W MAX; F2: T1AL or T2.0AL or 3.3ohm 2W MAX	P
1.7.7	Wiring terminals	Direct plug-in.	N/A
1.7.7.1	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 part.	N/A
1.7.8.1	Identification, location and marking		N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417.....		N/A
1.7.8.4	Markings using figures	No control uses figures.	N/A
1.7.9	Isolation of multiple power sources	No multiple power source.	N/A
1.7.10	Thermostats and other regulating devices	No such device.	N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts	No marking placed on removable parts	P
1.7.13	Replaceable batteries	No battery.	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations.....		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2	PROTECTION FROM HAZARDS		—
2.1	Protection from electric shock and energy hazards		—
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts		P
	Test by inspection	See below.	P
	Test with test finger (Figure 2A)	No access.	P
	Test with test pin (Figure 2B)	No access.	P
	Test with test probe (Figure 2C)	No TNV circuit.	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV.	N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	All accessible parts are separated from internal wiring at hazardous voltage by double or reinforced insulation.	P
2.1.1.5	Energy hazards	No energy hazard in operator access area. Checked by means of the test finger. (see appended table 2.1.1.5)	P
2.1.1.6	Manual controls	No such part.	N/A
2.1.1.7	Discharge of capacitors in equipment	The capacitance of the input circuit is $< 0.1\mu F$.	P
	Measured voltage (V); time-constant (s)	No test necessary.	—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ...		N/A
	b) Internal battery connected to the d.c. mains supply ...		N/A
2.1.1.9	Audio amplifiers	No such part.	N/A
2.1.2	Protection in service access areas		P
2.1.3	Protection in restricted access locations	Not intended to be used in RAL.	N/A

2.2	SELV circuits		—
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	SELV circuits are only connected to other SELV circuits.	P

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

2.3	TNV circuits		—
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		—
2.4.1	General requirements		P
2.4.2	Limit values	35,12mA / 0,7mA	P
	Frequency (Hz)	50,18kHz / 60Hz	—
	Measured current (mA).....	3,2mA / 0,46mA	—
	Measured voltage (V)	6,4V / 227mV	—
	Measured circuit capacitance (nF or μ F).....	CY1 2200pF	—
2.4.3	Connection of limited current circuits to other circuits		P

2.5	Limited power sources		—
	a) Inherently limited output		P
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	(see appended table 2.5)	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).....		—
	Current rating of overcurrent protective device (A) ..		—

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

2.6	Provisions for earthing and bonding		—
2.6.1	Protective earthing	Class II.	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		N/A
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N/A
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

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

2.7	Overcurrent and earth fault protection in primary circuits		—
2.7.1	Basic requirements	Protective devices are integrated in equipment.	P
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		P
2.7.3	Short-circuit backup protection	The building installation is considered as providing short circuit backup protection.	P
2.7.4	Number and location of protective devices		P
2.7.5	Protection by several devices	Two fuses located together.	P
2.7.6	Warning to service personnel	After operation of the protective device, the equipment is still under voltage if it is connected to an IT-power distribution system. A warning is required for service persons. Norway does not require this warning. See also Sub-clause 2.7.4.	N/A

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

2.9	Electrical insulation		—
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials are used as insulation. No driving belts or couplings used.	P
2.9.2	Humidity conditioning	Tested for 120 hrs.	P
	Relative humidity (%), temperature (°C) :	95%, 40 °C	—
2.9.3	Grade of insulation	Insulation is considered to be functional, basic, supplementary, reinforced or double insulation.	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used :	Method 1	—

2.10	Clearances, creepage distances and distances through insulation		—
2.10.1	General		P
2.10.1.1	Frequency :	Considered.	P
2.10.1.2	Pollution degrees :	2	P
2.10.1.3	Reduced values for functional insulation		P
2.10.1.4	Intervening unconnected conductive parts	Considered.	P
2.10.1.5	Insulation with varying dimensions	No such insulation.	N/A
2.10.1.6	Special separation requirements	Not used.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	The circuit will not generate starting pulse.	N/A
2.10.2	Determination of working voltage	(see appended table 2.10.2)	P
2.10.2.1	General		P
2.10.2.2	RMS working voltage	(See appended table 2.10.2)	P
2.10.2.3	Peak working voltage	(See appended table 2.10.2)	P
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply :	2500V	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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Clearances in secondary circuits	Only the functional insulation in secondary circuits complied with clause 5.3.4.	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.	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	Not connected to 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	Not considered.	N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components		P
2.10.5.12	Wire in wound components	Certified TIW used in transformer.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Working voltage		P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U	Triple insulation wire used as secondary winding of transformer.	P
	Two wires in contact inside wound component; angle between 45° and 90°	Insulation tape and tube.	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	Coatings not used over terminations to increase effective clearance and creepage distances.	N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		—
3.1	General		—
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	P
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	P
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation.	P
3.1.4	Insulation of conductors		P
3.1.5	Beads and ceramic insulators	No such component.	N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	Terminations cannot become displaced so that clearances and creepage distances can be reduced.	P
	10 N pull test		P
3.1.10	Sleeving on wiring		N/A
3.2	Connection to a mains supply		—
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply	Direct plug-in equipment.	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	Not permanently connected equipment.	N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	Direct plug-in equipment.	N/A
3.2.5	Power supply cords	Direct plug-in equipment.	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	Direct plug-in equipment	N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N/A
3.3	Wiring terminals for connection of external conductors		—
3.3.1	Wiring terminals	The equipment is not permanently connected or provided with a non-detachable power supply cord.	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		—
3.4.1	General requirement		P
3.4.2	Disconnect devices	The plug of direct plug-in is considered to be the disconnect device.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.4	Parts which remain energized	No part remain energized after the disconnect device is pull out.	P
3.4.5	Switches in flexible cords	No switch in flexible cord.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices	The plug of direct plug-in is considered to be the disconnect device.	P
3.4.10	Interconnected equipment	No interconnections using hazardous voltages.	N/A
3.4.11	Multiple power sources		N/A

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

4	PHYSICAL REQUIREMENTS		—
4.1	Stability		—
	Angle of 10°	Direct plug-in equipment.	N/A
	Test force (N)	Not floor-standing equipment.	N/A

4.2	Mechanical strength		—
4.2.1	General		P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	No hazard.	P
4.2.3	Steady force test, 30 N		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)	1000 mm	P
4.2.7	Stress relief test	85°C; 7 h	P
4.2.8	Cathode ray tubes	No cathode ray tube.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamp.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not intended to be mounted on a wall or ceiling.	N/A
4.3	Design and construction		—
4.3.1	Edges and corners	All edges and corners are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N)..... :		N/A
4.3.3	Adjustable controls	No adjustable control.	N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets	SELV connectors do not comply with IEC 60320 or IEC 60083.	P
4.3.6	Direct plug-in equipment		P
	Torque	Max 0,03Nm	—
	Compliance with the relevant mains plug standard	EU plug (Fixed plug): the plug has been evaluated according to EN 50075 by TUV, report No. 16066710 001; EU plug (Replaceable plug): the plug has been evaluated according to EN 50075 by TUV, report No. 16066710 001; British plug (Fixed plug): the plug has been evaluated according to BS 1363-1+A1+A2+A3 by TUV, report No. 16066710 001; British plug (Replaceable plug): the plug has been evaluated according to BS 1363-1+A1+A2+A3 by TUV, report No. 16066710 001;	P
4.3.7	Heating elements in earthed equipment	No such part.	N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No oil and grease.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.10	Dust, powders, liquids and gases	Not intend to product dust, or using powders, liquids and gases.	N/A
4.3.11	Containers for liquids or gases	No such containers used.	N/A
4.3.12	Flammable liquids	No 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
4.3.13.2	Ionizing radiation	No 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	No UV lamp used.	N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	No 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)		N/A
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		—
4.4.1	General	No moving parts.	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

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Clause	Requirement + Test	Result - Remark	Verdict

	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		—
4.5.1	General		P
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		—
4.6.1	Top and side openings	No opening in the equipment.	P
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	No opening in the equipment.	P
	Construction of the bottom, dimensions (mm) ..		—
4.6.3	Doors or covers in fire enclosures	No cover can be removed by hand.	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		—
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials	(See appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure covers all parts.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	The fire enclosure is of min V-1 material.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No parts outside the fire enclosure.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		P
4.7.3.5	Materials for air filter assemblies	No air filter.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage component.	N/A
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		—
5.1	Touch current and protective conductor current		—
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)	See below.	P
5.1.2.1	Single connection to an a.c. mains supply	No interconnection of equipment.	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply	No multiple power sources.	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Tested for connection to IT power distribution system (also relevant for TN or TT power distribution system).	P
5.1.4	Application of measuring instrument	Measuring instrument D1 is used.	P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Supply voltage (V)	(see appended table 5.1)	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	(see appended table 5.1)	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)....		—
5.1.7	Equipment with touch current exceeding 3,5 mA	The touch current does not exceed 3.5mA.	N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Not connected to a telecommunication network or a cable distribution system.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

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

5.3	Abnormal operating and fault conditions		—
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No motors.	N/A
5.3.3	Transformers	See Annex C and appended table C.2.	P
5.3.4	Functional insulation.....	Complies with a), b) and c).	P
5.3.5	Electromechanical components	No such components.	N/A
5.3.6	Audio amplifiers in ITE	No audio amplifier.	N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests	No reduction of clearance and creepage distances. Electric strength test made.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		—
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Clause	Requirement + Test	Result - Remark	Verdict
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		—
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		—
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		—
	Max. output current (A)		—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		—
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		—

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Clause	Requirement + Test	Result - Remark	Verdict
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples.....:		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material.....:		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
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

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Clause	Requirement + Test	Result - Remark	Verdict

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		—
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
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)		—
	Position	T1: Primary to secondary.	—
	Manufacturer	(See appended table 1.5.1)	—
	Type	(See appended table 1.5.1)	—
	Rated values	(See appended table 1.5.1)	—
	Method of protection	Inherent protection	—

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Clause	Requirement + Test	Result - Remark	Verdict
C.1	Overload test	(See appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2 and C2)	P
	Protection from displacement of windings..... :	(see appended table C.2)	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		—
D.1	Measuring instrument	Figure D.1 used.	P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		—
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		—
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		—
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
	b) Transients from a telecommunication network		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.6	Determination of minimum clearances		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		—
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		—
	Metal(s) used		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		—
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)		—
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)		—
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)		—
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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.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)		—
	- Preferred climatic categories	Certified VDR used. (see appended table 1.5.1)	P
	- Maximum continuous voltage	Certified VDR used. (see appended table 1.5.1)	P
	- Combination pulse current	Certified VDR used. (see appended table 1.5.1)	P
	Body of the VDR Test according to IEC60695-11-5.....		P
	Body of the VDR. Flammability class of material (min V-1).....		P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		—
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)		—
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		—
			—

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

U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		—
		The TIW of T1 was certified by UL.	—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		—
V.1	Introduction	IT and TN	P
V.2	TN power distribution systems		P

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		—
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)		—
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)		—
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)		—
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AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		—
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BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
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CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		—
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		—
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		—
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

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⁾	
Transformer (T1) For models with 5V output 3)	/ GlobTek / HAOPUWEI / BOAM / HEJIA 2)	90E12PT05-xxx (“xxx” to denote the part number, can be any alphanumeric character for marketing purposes only.)	Pri. Winding: (pin 2-1) Φ0,32mmx1px 100Ts (pin 5-4) Φ0,32mmx1px 19Ts (pin 4-NC) Φ0,25mmx1px 16Ts Sec. Winding: (pin 6-7) Φ0,50mmx2px 8Ts Class B	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance	
Transformer (T1) For models with 12V output 3)	/ GlobTek / HAOPUWEI / BOAM / HEJIA 2)	90E12PT12-xxx (“xxx” to denote the part number, can be any alphanumeric character for marketing purposes only.)	Pri. Winding: (pin 2-1) Φ0,32mmx1px 100Ts (pin 5-4) Φ0,32mmx1px 18Ts (pin 4-NC) Φ0,32mmx1p x7Ts Sec. Winding: (pin 6-7) Φ0,55mmx1px 15Ts Class B	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance	
-Bobbin	Hitachi Chemical Co Ltd	CP-J-8800	Phenolic, V-0, 150 °C , Min. thickness 0,71mm	UL 94, UL 746C	UL E42956	
(Alternate)	Chang Chun Plastics Co Ltd	T375J,T373J T375HF	Phenolic, V-0, 150 °C, min. 0,71 mm thickness	UL 94, UL 746C	UL E59481	
(Alternate)	Sumitomo Bakelite Co Ltd	PM-9820, PM-9630	Phenolic, V-0, 150 °C, min. 0,51 mm thickness	UL 94, UL 746C	UL E41429	
-Magnet wire	TAI-I Electric Wire & Cable	UEW	130 °C	UL 1446	UL E85640	

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Pacific Electric Wire & Cable Co Ltd	DD-NYU	130 °C	UL 1446	UL E84081
(Alternative)	Heshan Jiangci Wire & Cable Co Ltd	XUEW-ULx	130 °C	UL 1446	UL E192838
(Alternative)	Shen Zhen City Chengwei Industry Co Ltd	2UEW	130 °C	UL 1446	UL E227475
(Alternative)	Interchangeable	Interchangeable	130 °C	UL 1446	UL
-Triple insulated wire for secondary winding	Furukawa Electric Co Ltd	TEX-E	Class B	IEC 60950:2005 +A1 EN 60950:2006+ A11+A1+A12	VDE 6735
(Alternate)	Cosmolink Co Ltd	TIW-M	Class B	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2: 2013	VDE 138053
(Alternate)	Young Chang Silicone Co Ltd	STW-B	Class B	IEC 60950:2005 +A1 EN 60950:2006+ A11+A1+A12	VDE 40013359
(Alternate)	Great Leoflon Industrial Co Ltd	TRW (B)	Class B	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2: 2013	VDE 136581
(Alternate)	E&B Technology Co Ltd	E&B-B-X.XX	Class B	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2: 2013	VDE 40023473
(Alternate)	Dah Jin Technology Co Ltd	TLW-B	Class B	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2: 2013	VDE 40019324

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternate)	Yusheng Electric Co., Ltd.	TIW-B, TWE-3	Class B	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2: 2013	VDE 40033527
-Insulation tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	CT, PZ	130 °C	UL 510	UL E165111
(Alternate)	Symbio Inc	35660, 35661, 35660Y	130 °C	UL 510	UL E50292
(Alternate)	3M Company Electrical Markets Div (Emd)	1350-F1,1350-F2	130 °C	UL 510	UL E17385
Enclosure	SABIC Innovative Plastics Us L L C	SE1X	PPE+PS, V-1, 105°C, minimum 1,5 mm thickness.	UL 94	UL E121562
(Alternative)	SABIC Japan L L C	SE1X	PPE+PS, V-1, 105°C, minimum 1,5 mm thickness.	UL 94	UL E207780
(Alternative)	Asahi Kasei Chemicals Corp Xyron Polymer	540V	PPE, V-1, 105°C, minimum 1,5 mm thickness.	UL 94	UL E82268
(Alternative)	Bayer Materialscienc e Ag	6485	PC, V-0, 115°C, minimum 1,5 mm thickness.	UL 94	UL E41613
(Alternative)	SABIC Japan L L C	925U	PC, V-0, 115°C, minimum 1,5 mm thickness.	UL 94	UL E207780
(Alternative)	Idemitsu Kosan Co Ltd	AZ2201	PC, V-0, 125°C, minimum 1,5 mm thickness.	UL 94	UL E48268
(Alternative)	SABIC Japan L L C	CH6410	PC, V-0, 100°C, minimum 1,5 mm thickness.	UL 94	UL E207780
PCB	Shenzhen Wuzhu Tech Co Ltd	WZ-4	V-0, 130°C	UL 94	UL E170968

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Huizhou Shunjia Electronics Co Ltd	SJ-B	V-0, 130°C	UL 94	UL E320884
(Alternative)	Interchangeable	Interchangeable	V-1 or better, 130°C	UL 94	UL
Primary lead wire	Dong Ju	1007	80°C, Min. 24AWG, VW-1, min. 300V	UL 758	UL E189674
(alternative)	Interchangeable	Interchangeable	Min.80°C, min. 24AWG, VW-1, min. 300V	UL 758	UL
Output wire	LiCheng Electronics	1185	80°C, min. 22AWG min. VW-1, min. 300V	UL 758	UL E205058
(Alternative)	Interchangeable	Interchangeable	Min. 80°C, min. 22AWG min. VW-1, min. 300V	UL 758	UL
Fuse (F1) (optional)	Littelfuse Wickmann Werke	392	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VED 126983
(Alternative)	Conquer Electronics Co Ltd	MST	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40017118
(Alternative)	Cooper Bussmann LLC	SS-5	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40015513
(Alternative)	Bel Fuse Inc	RST	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40011144
(Alternative)	Chi Lick Schurter Limited	SPT	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40014285

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Conquer Electronics Co Ltd	PTU	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40001462
(Alternative)	Littelfuse Inc	877	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40023242
(Alternative)	Walter Electronic Co. Ltd	2010	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40018781
(Alternative)	Nippon Seisen Cable Ltd	SLT series	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40013103
(Alternative)	Walter Electronic Co Ltd	ICP	T2,0A, T6,3A, 250Vac, Sub-miniature type	EN 60127-1:2006+A1:2011 EN 60127-3:1996+A2:2003	VDE 40012824
Fusible resistor (F1) (optional)	Chang Sheng	FRT	3,3 Ω , 2W; 3,3 Ω , 1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
(Alternative)	TZAI YUAN	KNF	3,3 Ω , 2W; 3,3 Ω , 1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
(Alternative)	Hua Sheng Electronics	FKN	3,3 Ω , 2W; 3,3 Ω , 1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
(Alternative)	Shenzhen Great	RXF series	3,3 Ω , 2W; 3,3 Ω , 1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Fuse (F2) (optional)	Littelfuse Wickmann Werke	392	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VED 126983
(Alternative)	Conquer Electronics Co Ltd	MST	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40017118
(Alternative)	Cooper Bussmann LLC	SS-5	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40015513
(Alternative)	Bel Fuse Inc	RST	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40011144
(Alternative)	Chi Lick Schurter Limited	SPT	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40014285
(Alternative)	Conquer Electronics Co Ltd	PTU	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40001462
(Alternative)	Littelfuse Inc	877	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40023242
(Alternative)	Walter Electronic Co. Ltd	2010	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40018781
(Alternative)	Nippon Seisen Cable Ltd	SLT series	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40013103
(Alternative)	Walter Electronic Co Ltd	ICP	T1,0A, T2,0A, 250Vac, Sub-miniature type	EN 60127- 1:2006+A1:2011 EN 60127- 3:1996+A2:2003	VDE 40012824
Fusible resister (F2) (optional)	Chang Sheng	FRT	3,3 Ω ,2W; 3,3 Ω ,1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	TZAI YUAN	KNF	3,3 Ω ,2W; 3,3 Ω ,1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
(Alternative)	Hua Sheng Electronics	FKN	3,3 Ω ,2W; 3,3 Ω ,1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
(Alternative)	Shenzhen Great	RXF series	3,3 Ω ,2W; 3,3 Ω ,1W	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
Varistor (MOV1) (optional)	Centra Science Corp	CNR10D471K, CNR14D471K	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 127092
(Alternative)	Uppermost Electronic Industries Co Ltd	V10K300, V10K320, V10K350, V10K385, V14K300, V14K320, V14K350, V14K385	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 010108
(Alternative)	Jya-Nay Co Ltd	10D471K, 14D471K	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 40023949
(Alternative)	Joyin Co Ltd	JVR10N471K, JVR14N471K	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 005937

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Panasonic Corporation	10DK471U, 14DK471U	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 005912
(Alternative)	Thinking Electronic Industrial Co Ltd	TVR10471, TVR14471	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 005944
(Alternative)	Guangdong Fenghua Advanced Technology Holding Co Ltd. Xianhua New Sensitive Components Branch	FNR-10K471, FNR-14K471	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 40008242
(Alternative)	Brightking (Shenzhen)Co Ltd	10D471K, 14D471K,	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 40027827
(Alternative)	Littelfuse Inc	V300- V385LA10P, V300- V385LA20AP, V10E300P- 385P, V14E300P- 385P	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 116895
(Alternative)	Guangxi New Future Information Industry Co Ltd	10D471K, 14D471K,	Min. 300Vac, min. 385Vdc, fulfilled 6kV/3kA pulse test.	IEC/EN 61051- 1:2007-04 IEC/EN 61051- 2:1991-01 IEC 60950-1:2005 Annex Q	VDE 40030322

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Common choke (LF1)	GlobTek/ HAOPUWEI/ BOAM/ HEJIA	30C040120-xxx ("xxx" to denote the part number, can be any alphanumeric character for marketing purposes only.)	L1: Pin 1-2: Φ0,12*120Ts L2: Pin 4-3: Φ0,12*120Ts Min.30mH 130 °C	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
-Bobbin	Chang Chun Plastics Co Ltd	T375J,T373J , T375HF	Phenolic, V-0, 150 °C, min. 0,71 mm thickness	UL 94	UL E59481
(Alternative)	Sumitomo Bakelite Co Ltd	PM-9820, PM- 9630	Phenolic, V-0, 150 °C, min. 0,51 mm thickness	UL 94	UL E41429
Bridge diode (BD1)	Interchangeable	Interchangeable	Min.1A, min. 1000V	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
Electrolytic Cap. (C1, C2)	Interchangeable	Interchangeable	6,8-22μF, Min. 400Vdc (for100- 240VAC or 200- 240VAC), Min.200Vdc (for100- 120AC) 105°C	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
IC (U1)	Interchangeable	Interchangeable	Min.2A, min.600V	IEC 60950-1:2005 + A1 + A2 EN 60950-1: 2006 + A11 + A1 + A12+ A2	Tested with appliance
Y-Capacitor (CY1) (Optional)	Success Electronics Co Ltd	SE, SB	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384- 14: 2005	VDE40020002
(Alternative)	Tdk-Epc Corp	CD	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384- 14: 2005	VDE 124321

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Murata Mfg Co Ltd	KX	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14: 2005	VDE 40002831
(Alternative)	Jya-Nay Co Ltd	JN	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14: 2005	VDE 40001831
(Alternative)	Welson Industrial Co Ltd	WD	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14: 2005	VDE 115455
(Alternative)	Samwha Capacitor	SD	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type Max. 2200pF, min.	IEC/EN 60384-14: 2005	VDE 40015804
(Alternative)	Nanjing Yuyue Electronics Co., Ltd.	CT7	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14: 2005	VDE 40008010
(Alternative)	Yinan Don's Electronic Component Co	CT81	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14: 2005	VDE 135256
(Alternative)	Jyh Hsu (Jec) Electronics Ltd	JD, JY	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14: 2005	VDE 40038642 VDE 40038643
Photo Coupler (U3)	Sharp Corp Electronic Components And Devices Div	PC817, PC123	Cr.&Cl.=min.5, 1 mm Dti.=min>0,4m m Minimum110° C	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2	VDE 40008087
(Alternative)	Lite-On Technology Corp	LTV-817	Cr.&Cl.=min.7, 0 mm Dti.=min>0,4m m Minimum110° C	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2	VDE40015248

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alternative)	Everlight Electronics Co Ltd	EL 817	Cr.&Cl.=min.5, 2 mm Dti.=min>0,4m m Minimum110° C	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2	VDE132249
(Alternative)	Cosmo Electronics Corp	K1010, KP1010	Cr.&Cl.=min.5, 3 mm Dti.=min>0,4m m Minimum110° C	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2	VDE101347
(Alternative)	Fairchild Semiconductor Corp	H11A817B	Cr.&Cl.=min.5, 3 mm Dti.=min>0,4m m Minimum100° C	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2	VDE 40026857
(Alternative)	Bright Led Electronics Corp	BPC817B, BPC817C	Cr.&Cl.=min.5, 2 mm Dti.=min>0,4m m Minimum110° C	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2	VDE 40007240
(Alternative)	Renesas Electronics Corporation	PS2561	Cr.&Cl.=min.7, 0mm Dti.=min>0,4m m Minimum110° C	IEC 60950:2005 +A1+A2 EN 60950:2006+ A11+A1+A12+A2	VDE 40008862
Heat-shrinkable tube wrapped F1 and F2	Shenzhen Woer	RSFR RSFR-H	125°C, VW-1, 600V	UL 224	UL E203950
(Alternative)	Interchangeable	Interchangeable	125°C, VW-1, 600V	UL 224	UL
Mylar sheet between primary and secondary components	SUMITOMO BAKELITE CO LTD	AV-Lite DP 901	Diallyl Phthalate (DAP), V-0, thickness min.: 0,4mm. min.105°C,	UL 94	UL E41429
(alternative)	SABIC INNOVATIVE PLASTICS US L L C	FR700	PC, V-0, thickness: min. 0,4mm; min.105°C	UL 94	UL E61257

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(alternative)	DUPONT HONGJI FILMS FOSHAN CO LTD	EM, MO31	PET, VTM-2, thickness: min. 0,4mm; min.105°C	UL 94	UL E241830
(alternative)	Kanglongxin	PC-811A, PC-813A	PC, VTM-2, thickness: min. 0,4mm; min.80°C	UL 94	UL E315185
(alternative)	MIANYANG LONGHUA FILM CO LTD	PC-770, PC-770A, PC-870A, PC-1870A, PP-BK18	PC, VTM-0, thickness: min. 0,4mm; min.80°C	UL 94	UL E254551
(alternative)	JiangSu YuXing	CY28	PET, VTM-2, thickness: min. 0,4mm; min.105°C	UL 94	UL E212271

Supplementary information:

1) **Provided evidence ensures the agreed level of compliance. See OD-CB2039.**

2): The transformers with the same model from different manufacturers have the same construction.

3): Transformer type 90E12PT05-xxx is the same construction as 90E12PT12-xxx except winding turns.

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : See appended table 1.5.1 List of critical components		
Type..... : See appended table 1.5.1 List of critical components		
Separately tested : Tested with appliance		
Bridging insulation : RI		
External creepage distance..... : See appended table 1.5.1 List of critical components		
Internal creepage distance : See appended table 1.5.1 List of critical components		
Distance through insulation : See appended table 1.5.1 List of critical components		
Tested under the following conditions..... : Tested with appliance		
Input..... : --		
Output..... : --		
supplementary information		
--		

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
GT-86120-1005-W2E							
90/50Hz	0,24	--	12,71	F1, F2	0,24	Rated load	
100/50Hz	0,22	0,5	12,55	F1, F2	0,22	Rated load	
240/50Hz	0,12	0,5	12,39	F1, F2	0,12	Rated load	
264/50Hz	0,11	--	12,42	F1, F2	0,11	Rated load	
90/60Hz	0,24	--	12,63	F1, F2	0,24	Rated load	
100/60Hz	0,21	0,5	12,50	F1, F2	0,21	Rated load	
240/60Hz	0,11	0,5	12,30	F1, F2	0,11	Rated load	
264/60Hz	0,11	--	12,43	F1, F2	0,11	Rated load	
GT-86120-1212-W2E							
90/50Hz	0,27	--	14,87	F1, F2	0,27	Rated load	
100/50Hz	0,24	0,5	14,66	F1, F2	0,24	Rated load	
240/50Hz	0,13	0,5	14,35	F1, F2	0,13	Rated load	
264/50Hz	0,12	--	14,24	F1, F2	0,12	Rated load	
90/60Hz	0,27	--	14,84	F1, F2	0,27	Rated load	
100/60Hz	0,24	0,5	14,63	F1, F2	0,24	Rated load	
240/60Hz	0,12	0,5	14,31	F1, F2	0,12	Rated load	
264/60Hz	0,12	--	14,32	F1, F2	0,12	Rated load	

Supplementary information:

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (Vd.c.)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
GT-86120-1005-W2E					
5,0	2,0	5,14	3,1	14,6	
GT-86120-1212-W2E					
12,0	1,0	12,22	1,4	16,4	
supplementary information:					
The above measurements are the maximum values (max. V and max. A not obtained at the same time).					

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.	
GT-86120-1212-W2E				
Transformer secondary pin 7-6		61,0	--	--
E-capacitor C8		--	12,6	D8
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
GT-86120-1212-W2E				
D8 short circuited		0 (unit shut down immediately)		
supplementary information:				
--				

2.5	TABLE: Limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (Vd.c.)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
GT-86120-1005-W2E						

Output	Normal condition	5,14	3,1	8	14,6	100
Output	U3 pin 1-2, s-c	*	*	*	*	*
Output	U3 pin 3-4, s-c	*	*	*	*	*
Output	U3 pin 1, o-c	*	*	*	*	*
Output	U3 pin 3, o-c	*	*	*	*	*
Output	R11, s-c	*	*	*	*	*
GT-86120-1212-W2E						
Output	Normal condition	12,22	1,4	8	16,4	100
Output	U3 pin 1-2, s-c	*	*	*	*	*
Output	U3 pin 3-4, s-c	*	*	*	*	*
Output	U3 pin 1, o-c	*	*	*	*	*
Output	U3 pin 3, o-c	*	*	*	*	*
Output	R11, s-c	*	*	*	*	*
supplementary information:						
o-c= open circuit, s-c = short circuit.						
* Unit shut down.						

2.10.2	Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments	
T1 pin1-6	188	352	--	
T1 pin2-6	232	452	--	
T1 pin4-6	190	352	--	
T1 pin5-6	194	412	--	
T1 pin1-7	191	396	--	
T1 pin2-7	222	448	--	
T1 pin4-7	193	368	--	
T1 pin5-7	193	364	--	
U3 pin1-3	198	364	--	
U3 pin1-4	197	363	--	
U3 pin2-3	189	364	--	
U3 pin2-4	187	364	--	
CY1	195	356	--	

supplementary information:
--

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)	
GT-86120-WWVW-W2Z (with PCB REV:1)							
Functional:							
Line trace to Neutral trace after fuse F1	420	250	1,8	3,0	2,5	3,0	
Line trace to Neutral trace after fuse F2	420	250	1,8	2,6	2,5	2,6	
PCB trace under fuse F1	420	250	1,8	2,6	2,5	2,6	
PCB trace under fuse F2	420	250	1,8	2,8	2,5	2,8	
Basic/supplementary:							
--	--	--	--	--	--	--	
Reinforced:							
Primary components to accessible enclosure	420	250	4,6	6,1	5,0	6,1	
Unit: Primary components (with 10N) to secondary components (with 10N) transformer core to D8	452	250	4,8	6,8	5,0	6,8	
Unit: Primary components (with 10N) to secondary components (with 10N) transformer core to C8	452	250	4,8	5,1	5,0	5,1	
Unit: Primary components (with 10N) to secondary components (with 10N) T1 core to U4	452	250	4,8	7,3	5,0	7,3	
PCB: primary to secondary traces under transformer (T1)	452	250	4,8	9,3	5,0	9,3	
PCB: primary to secondary traces under CY1	420	250	4,6	5,1	5,0	5,1	
PCB: primary to secondary traces under U3	420	250	4,6	6,0	5,0	6,0	
Transformer (T1): primary winding to secondary winding	452	250	4,8	6,4	5,0	6,4	
Transformer (T1): core to secondary winding	452	250	4,8	7,4	5,0	7,4	

Supplementary information:

1. Internal wire and insulation sheet between transformer and secondary components were double fixed by soldering and glue.
2. The transformer core considered as primary circuit.
3. There is one mylar sheet between transformer and secondary components used as reinforced insulation (min. thickness: 0.4mm)
4. Concentric windings on EF20 size bobbin. At least 2 layers of insulation tape between primary (enamelled copper wire) and secondary windings (triple insulation wire), 2 layers on outer winding. There are no contact point of primary winding and secondary winding. At least 2 layers insulation tape wrapped on transformer core. 2 layer insulation tape cover secondary side of transformer core.
5. Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed.
6. The equipment was evaluated for a maximum operating altitude of 3000 m. Therefore the requirements of IEC 606641 for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1.14

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)	
GT-86120-WWVHW2Z (with PCB REV:3)							
Functional:							
Line trace to Neutral trace after fuse F1	420	250	2,3	3,0	2,5	3,0	
Line trace to Neutral trace after fuse F2	420	250	2,3	2,6	2,5	2,6	
PCB trace under fuse F1	420	250	2,3	2,6	2,5	2,6	
PCB trace under fuse F2	420	250	2,3	2,8	2,5	2,8	
Basic/supplementary:							
--	--	--	--	--	--	--	
Reinforced:							
Primary components to accessible enclosure	420	250	6,0	6,1	6,0	6,1	
Unit: Primary components (with 10N) to secondary components (with 10N) transformer core to D8	452	250	6,3	6,8	6,3	6,8	
Unit: Primary components (with 10N) to secondary components (with 10N) transformer core to C8	452	250	6,3	7,1	6,3	7,1	
Unit: Primary components (with 10N) to secondary components (with 10N) T1 core to U4	452	250	6,3	7,3	6,3	7,3	

PCB: primary to secondary traces under transformer (T1)	452	250	6,3	7,6	6,3	7,6
PCB: primary to secondary traces under CY1	420	250	6,0	6,1	6,0	6,1
PCB: primary to secondary traces under U3	420	250	6,0	6,1	6,0	6,1
Transformer (T1): primary winding to secondary winding	452	250	6,3	6,4	6,3	6,4
Transformer (T1): core to secondary winding	452	250	6,3	7,4	6,3	7,4
Live part to accessible surface (for dischargeable plug)	420	250	6,0	6,1	6,0	6,1

Supplementary information:

1. Internal wire and insulation sheet between transformer and secondary components were double fixed by soldering and glue.
2. The transformer core considered as primary circuit.
3. There is one mylar sheet between transformer and secondary components used as reinforced insulation (min. thickness: 0.4mm)
4. Concentric windings on EF20 size bobbin. At least 2 layers of insulation tape between primary (enamelled copper wire) and secondary windings (triple insulation wire), 2 layers on outer winding. There are no contact point of primary winding and secondary winding. At least 2 layers insulation tape wrapped on transformer core. 2 layer insulation tape cover secondary side of transformer core. For more details see photo document.
5. Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed.
6. The equipment was evaluated for a maximum operating altitude of 5000 m. Therefore the requirements of IEC 606641 for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1.48

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	420	250	3000V _a c	0,4	1)
Photo Coupler (U3)	420	250	3000V _a c	0,4	1)
Supplementary information:					
1) See appended table 1.5.1.					

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available					--				N/A
Is it possible to install the battery in a reverse polarity position?					--				N/A
	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:									Verdict
- 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 : -- Manufacturer : -- Type / model..... : -- Voltage : -- Capacity..... : -- Tested and Certified by (incl. Ref. No.)..... : -- Circuit protection diagram: -- --		

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)	90V/ 50Hz	90V/ 50Hz	264V/ 60Hz	264V/ 60Hz	--	—
	Ambient T_{min} (°C)	--	--	--	--	--	—
	Ambient T_{max} (°C)	--	--	--	--	--	—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T (°C) $T_{ma}=40^{\circ}\text{C}$
GT-86120-1005-W2E		Horizo ntal	Vertic al	Horiz ontal	Vertic al	--	--
Plug holder		62,9	60,9	60,2	58,8	--	--
Input wire		71,5	68,8	63,7	61,8	--	80
Varistor MOV1 body		68,4	51,1	62,6	68,0	--	85
PCB under BD1		80,9	76,8	67,7	64,8	--	130
E-capacitor C1		84,0	81,2	70,3	68,2	--	105
LF1 winding		90,5	88,4	70,7	69,1	--	130
E-capacitor C2		87,2	86,1	78,7	78,1	--	105
PCB under U1		100,2	97,8	95,0	93,8	--	130
T1 winding		88,7	88,4	90,1	89,2	--	110
T1 core		87,6	87,0	87,2	78,9	--	110
Photo coupler U3		72,1	72,6	72,3	70,0	--	100
Y-capacitor CY1		80,8	81,6	81,2	82,4	--	125
PCB under D8		100,2	100,8	102,8	104,6	--	130
E-capacitor C8		82,9	83,4	83,7	84,7	--	105
LF2 winding		78,1	78,8	78,5	79,5	--	130
Output wire		66,4	67,3	66,4	67,7	--	80
Enclosure inside near T1		74,4	74,1	74,1	74,3	--	100
Enclosure outside near T1		66,4	67,0	66,4	67,3	--	95
Ambient		50,4	50,6	50,4	50,8	--	--
GT-86120-1212-W2E		Horizo ntal	Vertic al	Horiz ontal	Vertic al	--	--
Plug holder		56,5	56,3	55,1	55,3	--	--
Input wire		76,2	75,9	63,2	63,7	--	80
Varistor MOV1 body		81,8	81,7	68,0	71,5	--	85
PCB under BD1		99,5	97,7	72,4	67,6	--	130
E-capacitor C1		100,9	101,0	76,2	76,2	--	105
LF1 winding		105,0	99,9	74,4	75,1	--	130
E-capacitor C2		97,1	98,6	79,4	80,6	--	105
PCB under U1		115,4	114,2	98,1	97,1	--	130

T1 winding	92,5	92,0	89,1	88,7	--	110
T1 core	91,2	90,9	88,5	88,4	--	110
Photo coupler U3	75,4	72,6	72,3	70,1	--	100
Y-capacitor CY1	81,9	81,6	79,3	79,2	--	125
PCB under D8	98,1	97,8	98,0	97,5	--	130
E-capacitor C8	76,0	75,0	75,0	74,2	--	105
LF2 winding	75,8	74,7	74,7	73,7	--	130
Output wire	59,5	58,9	59,0	58,7	--	80
Enclosure inside near T1	74,1	73,1	72,1	71,2	--	100
Enclosure outside near T1	67,6	66,1	67,6	64,8	--	95
Ambient	50,7	50,7	50,7	50,6	--	--
Supplementary information: For component with temperature marking, allowed $T = T_{max} + T_{amb} - T_{ma}$						
Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)
--	--	--	--	--	--	--
Supplementary information: Rated maximum ambient temperature of 50°C.						

4.5.5	TABLE: Ball pressure test of thermoplastic parts			P
	Allowed impression diameter (mm):	≤ 2 mm		—
Part		Test temperature (°C)	Impression diameter (mm)	
Enclosure		125	Max 1,4	
Supplementary information: Tested for all enclosure materials, see appended table 1.5.1.				

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

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
L - output connector	0,13	0,25	--	
N - output connector	0,13	0,25	--	
L - enclosure with metal foil	0,01	0,25	--	

N - enclosure with metal foil	0,01	0,25	--
supplementary information:			
Test voltage: 264V/60Hz; Capacity: CY1=2200pF			

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
Functional:				
Different polarity of power supply (Fuse or Fusible resistor disconnection)		AC	1500	No
Basic				
--		--	--	--
Reinforced:				
Unit: Primary circuit to secondary circuit		AC	3000	No
Unit: Primary circuit to enclosure with metal foil		AC	3000	No
Transformer: Primary winding to secondary winding		AC	3000	No
Transformer: Core to secondary winding		AC	3000	No
One layer insulation tape		AC	3000	No
Mylar sheet		AC	3000	No
Supplementary information: All testing Including after Humidity required of clause 2.9, there are including unit, transformer and all material of transformer, see appended tables 1.5.1. Core of transformer T1 is considered as primary circuit.				

5.3	TABLE: Fault condition tests					P
Ambient temperature (°C)		25 °C (if not specified)			—	
Power source for EUT: Manufacturer, model/type, output rating		--			—	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
GT-86120-1005-W2E Tested with Fuse F1(6.3A), F2(2.0A or 3.3ohm) and MOV1 for combination 1 and combination 2						
MOV1	s-c	264	1 s	F1,F2	--	*Current Fuse (F1) opened immediately, no hazard.
BD1	s-c	264	1 s	F1,F2	--	*Current Fuse (F2) opened immediately, no hazard.
C1	s-c	264	1 s	F1,F2	--	*Current Fuse (F2) opened immediately, no hazard.
C2	s-c	264	1 s	F1,F2	--	*Current Fuse (F2) opened immediately, no hazard.

U1 pin 6-8	s-c	264	1 s	F1,F2	--	*Current Fuse (F2) opened immediately, U1 damaged, no hazard.
U1 pin 6-1	s-c	264	1 s	F1,F2	--	*Current Fuse (F2) opened immediately, Z2 damaged, no hazard.
U3 pin 1-2	s-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
U3 pin 3-4	s-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
U3 pin 1	o-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
U3 pin 3	o-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
R11	s-c	264	30 min	F1,F2	0,12	Normal operation, no damage, no hazard.
T1 pin 1-2	s-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
T1 pin 4-5	s-c	264	30 min	F1,F2	0,06	Unit shutdown immediately, recoverable, no hazard.
T1 pin 6-7	s-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
D8	s-c	264	30 min	F1,F2	0,03	Unit shutdown immediately, recoverable, no hazard.
C8	s-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
Output	s-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.
Output	o-l	264	6h 24min	F1,F2	Max 0,15	Output current overload to 1,3A, unit shutdown immediately at 1,31A, no hazard. Max temperature of: T1 coil: 99,5°C, T1 core: 98,7°C, Ambient: 50,0°C.

Transformer	o-l	264	4h 36min	F1,F2	Max 0,15	Output load to 1,0A, transformer current overload to 0,3A; unit shutdown immediately at 0,31A, no hazard. Max temperature of: T1 coil: 105,2°C, T1 core: 104,5°C, Ambient: 50,0°C.
GT-86120-1005-W2E Tested with Fuse F1(2.0A or 3.3ohm), F2 Jumper and MOV1 for combination 3 and combination 4						
MOV1	s-c	264	1 s	F1	--	* Fuse (F1) opened immediately, no hazard.
BD1	s-c	264	1 s	F1	--	* Fuse (F1) opened immediately, no hazard.
C1	s-c	264	1 s	F1	--	* Fuse (F1) opened immediately, no hazard.
C2	s-c	264	1 s	F1	--	* Fuse (F1) opened immediately, no hazard.
U1 pin 6-8	s-c	264	1 s	F1	--	* Fuse (F1) opened immediately, U1 damaged, no hazard.
U1 pin 6-1	s-c	264	1 s	F1	--	* Fuse (F1) opened immediately, Z2 damaged, no hazard.
GT-86120-1005-W2E Tested with Fuse F1 Jumper and F2(1.0A or 3.3ohm) for combination 5 and combination 6						
BD1	s-c	264	1 s	F2	--	* Fuse (F2) opened immediately, no hazard.
C1	s-c	264	1 s	F2	--	* Fuse (F2) opened immediately, no hazard.
C2	s-c	264	1 s	F2	--	* Fuse (F2) opened immediately, no hazard.
U1 pin 6-8	s-c	264	1 s	F2	--	* Fuse (F2) opened immediately, U1 damaged, no hazard.
U1 pin 6-1	s-c	264	1 s	F2	--	* Fuse (F2) opened immediately, Z2 damaged, no hazard.
GT-86120-1212-W2E						
Output	s-c	264	30 min	F1,F2	0,02	Unit shutdown immediately, recoverable, no hazard.

Output	o-l	264	2h 36min	F1,F2	Max 0,13	Output current overload to 2,6A, unit shutdown immediately at 2,7A, no hazard. Max temperature of: T1 coil: 109,7°C, T1 core: 108,1°C, Ambient: 50,3°C.
Transformer	o-l	264	4h 18min	F1,F2	Max 0,14	Output load to 2,0A, transformer current overload to 0,6A; unit shutdown immediately at 0,7A, no hazard. Max temperature of: T1 coil: 112,0°C, T1 core: 110,7°C, Ambient: 50,6°C.

Supplementary information:

- 1) s-c: short circuit, o-c: open circuit, o-l: overload.
 - 2) YC: Cheesecloth charred or flamed
- NT: Tissue paper remained intact
RF: Repeat all fuse result were the same.
YT: Tissue paper charred or flamed
IP: Internal protection operated (list component)
I/P: Input current
RF: Repeat all fuse result were same
IP: Internal protection operated (list component)
*: All types of current fuse in table 1.5.1 are considered.

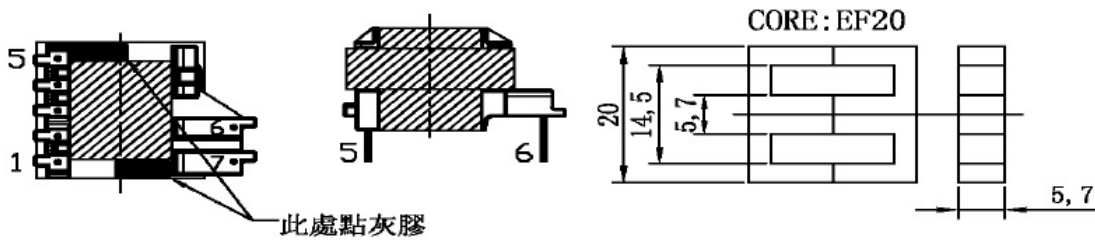
C.2		TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
T1	Reinforced: Primary to secondary	452	250	3000 Va.c.	6,3	6,3	0,4	
T1	Reinforced: Secondary winding to core	452	250	3000 Va.c.	6,3	6,3	0,4	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T1	Reinforced: Primary to secondary			3000 Va.c.	6,4	6,4	TIW	
T1	Reinforced: Secondary winding to core			3000 Va.c.	7,4	7,4	TIW	
supplementary information:								
All testing Including after Humidity required of clause 2.9, there are including unit, transformer from all manufacturers and all material of transformer, see appended tables 1.5.1. 5000 altitude applied for transformer.								

C.2

TABLE: transformers

P

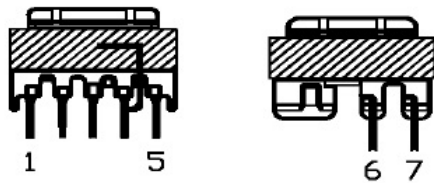
T1, type 90E12PT05-xxx



5. 感值

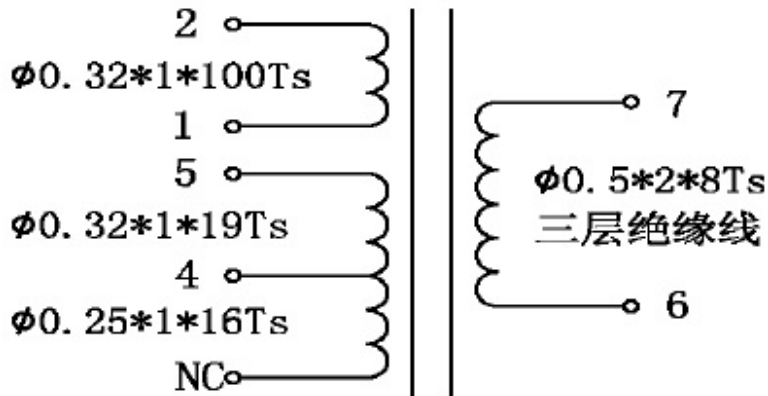
INDUCTANCE: AT 50KHz 1V

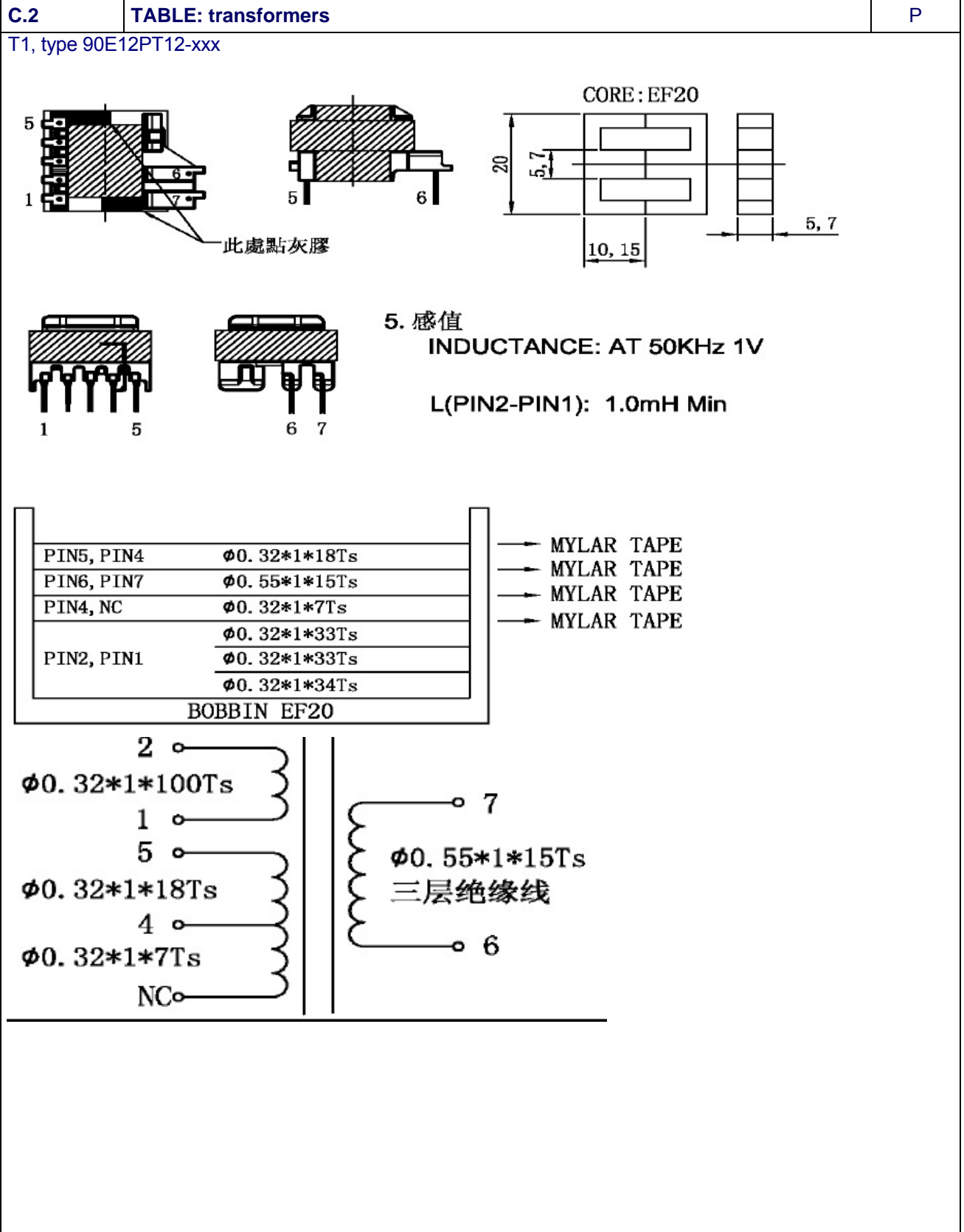
L(PIN2-PIN1): 1.5mH Min



PIN5, PIN4	$\phi 0.32*1*19Ts$	MYLAR TAPE
PIN6, PIN7	$\phi 0.5*2*8Ts$	MYLAR TAPE
PIN4, NC	$\phi 0.25*1*16Ts$	MYLAR TAPE
	$\phi 0.32*1*33Ts$	MYLAR TAPE
PIN2, PIN1	$\phi 0.32*1*33Ts$	
	$\phi 0.32*1*34Ts$	

BOBBIN EF20





*****End of Test report*****

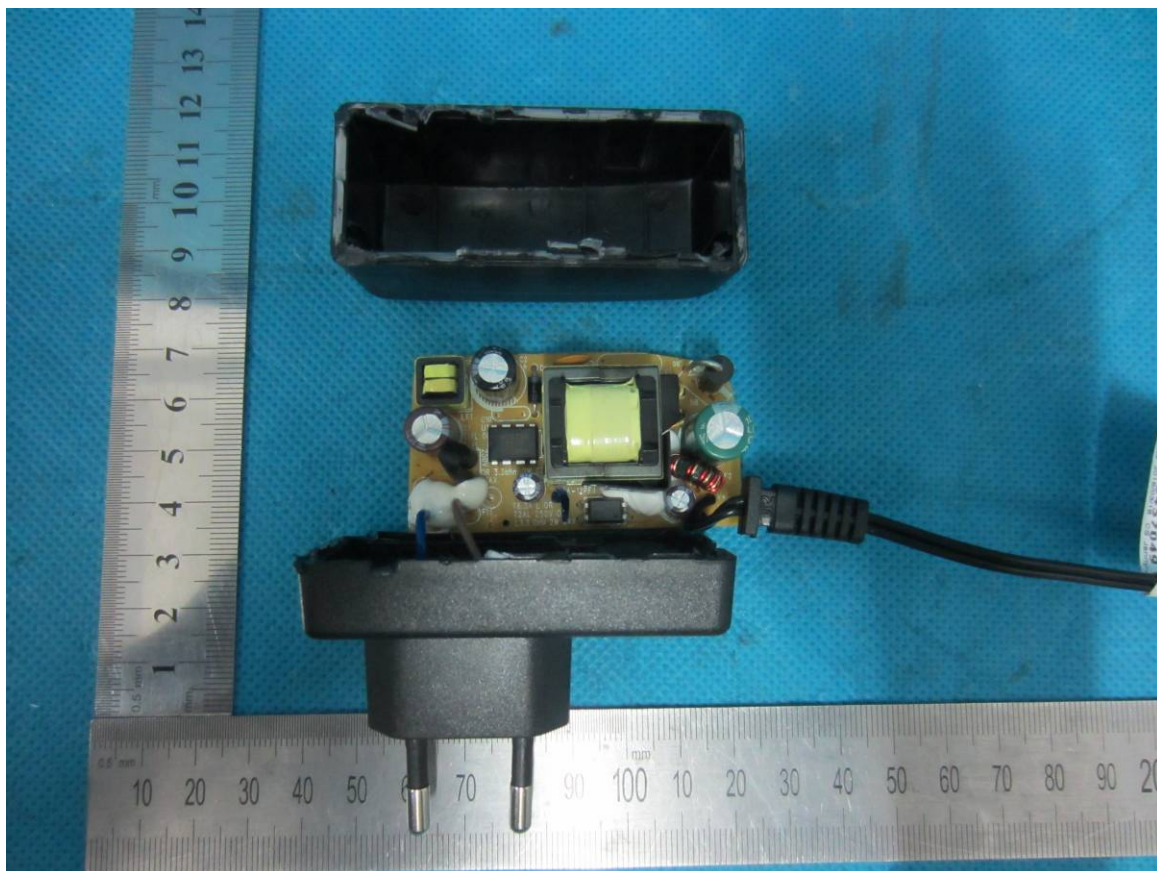
Attachment 1 Photo documentation

General view (Model GT-86120-1212HW2E)



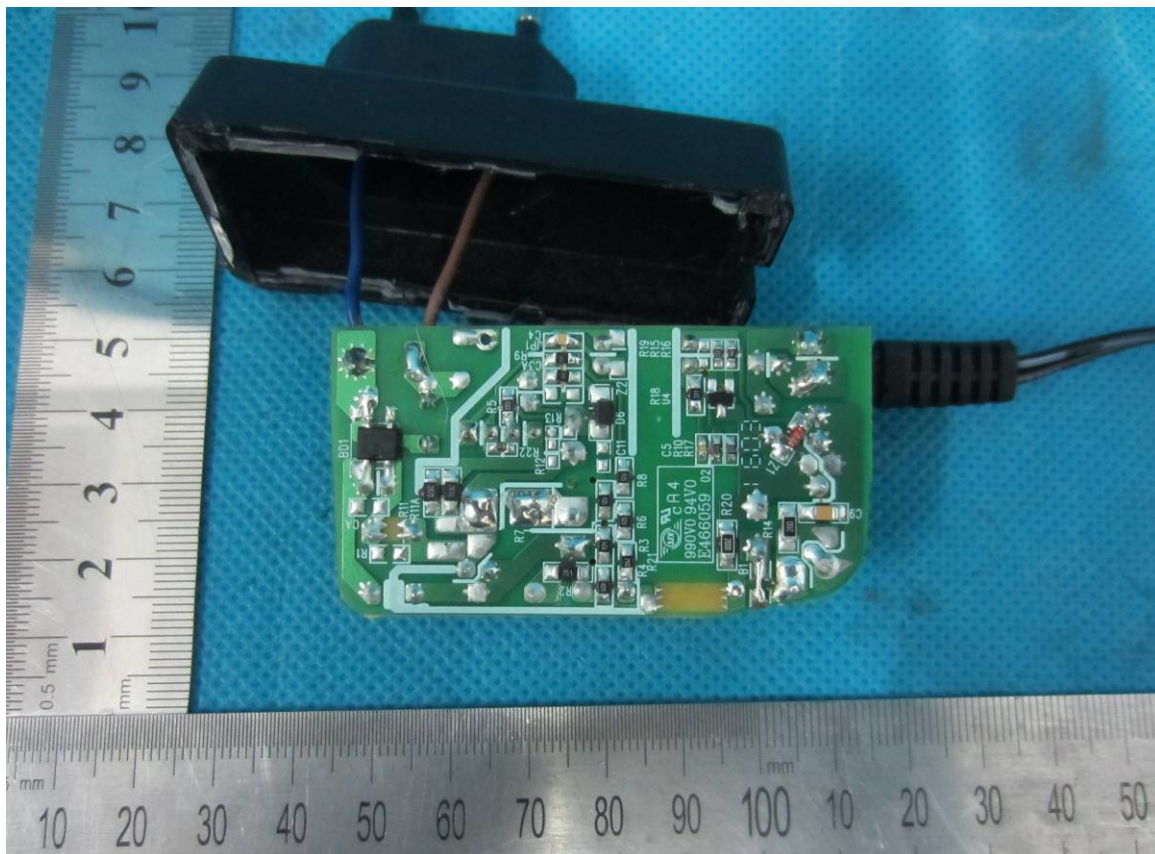
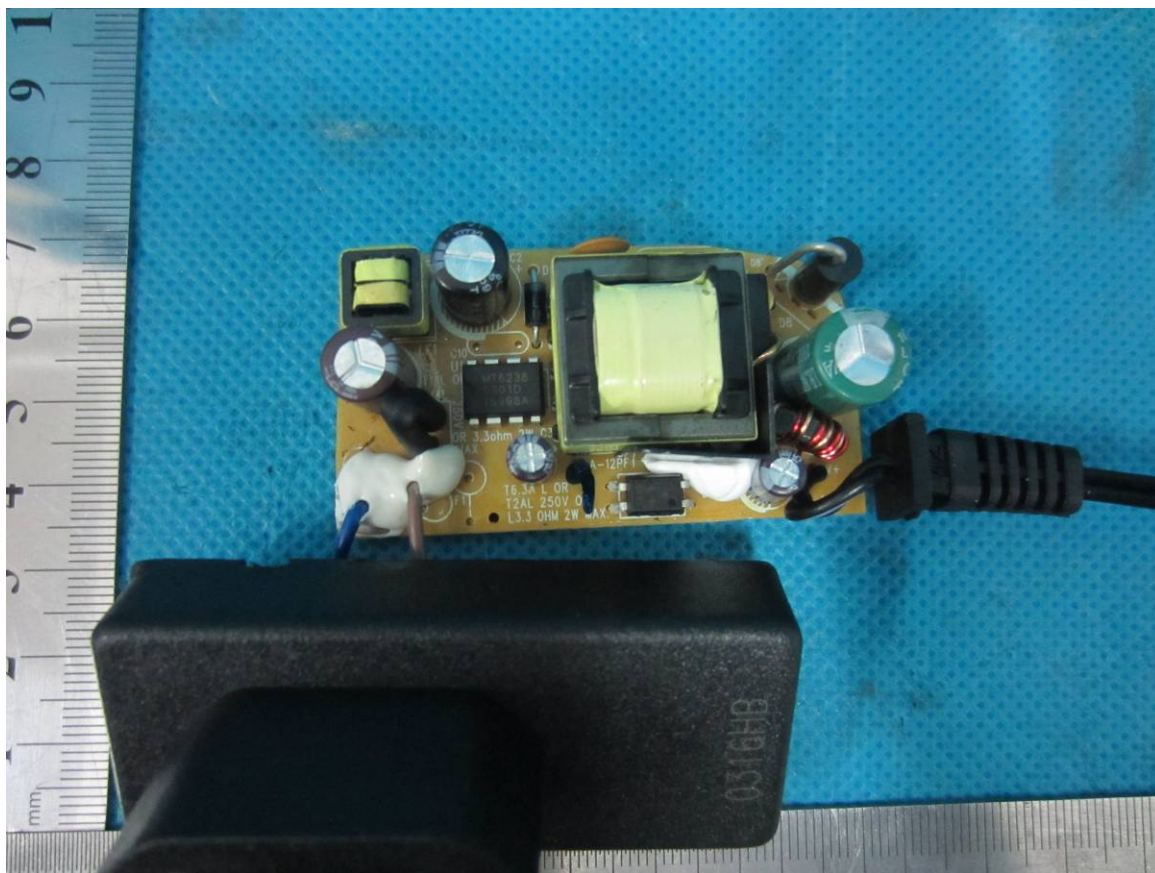
Attachment 1 Photo documentation

General view (Model GT-86120-1212HW2E)



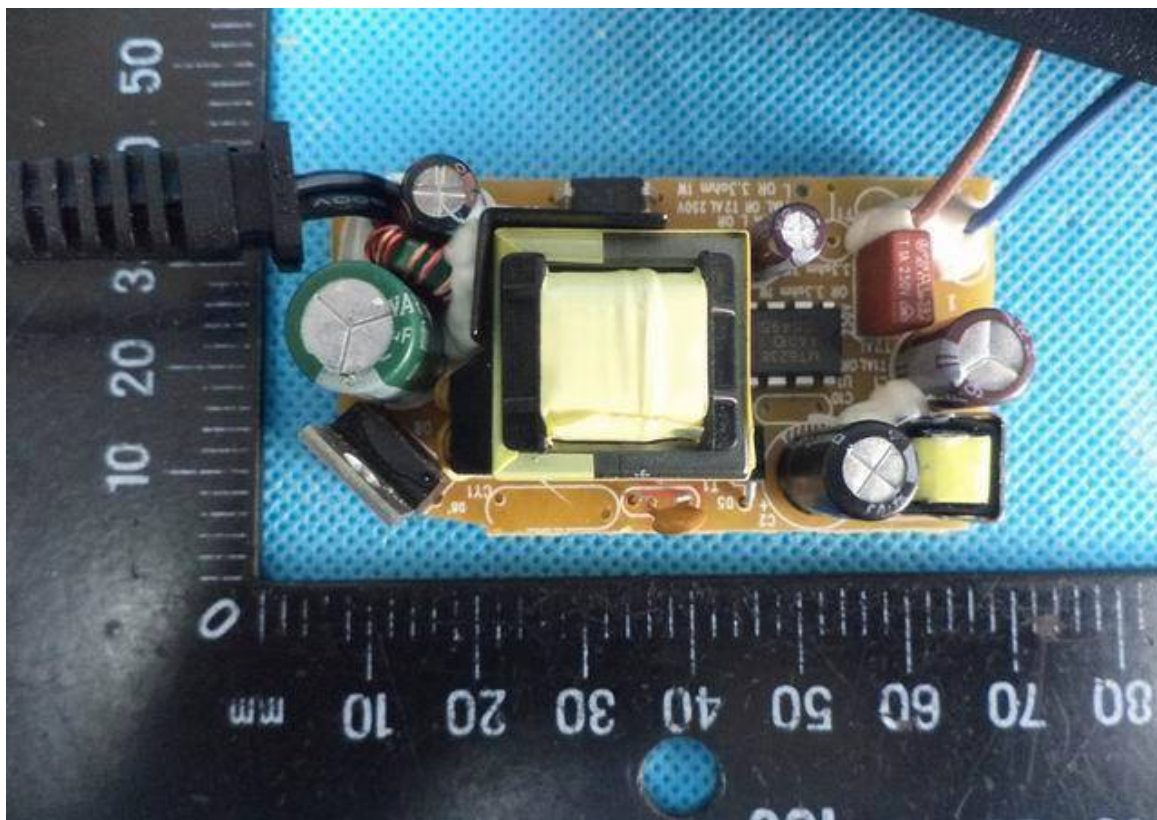
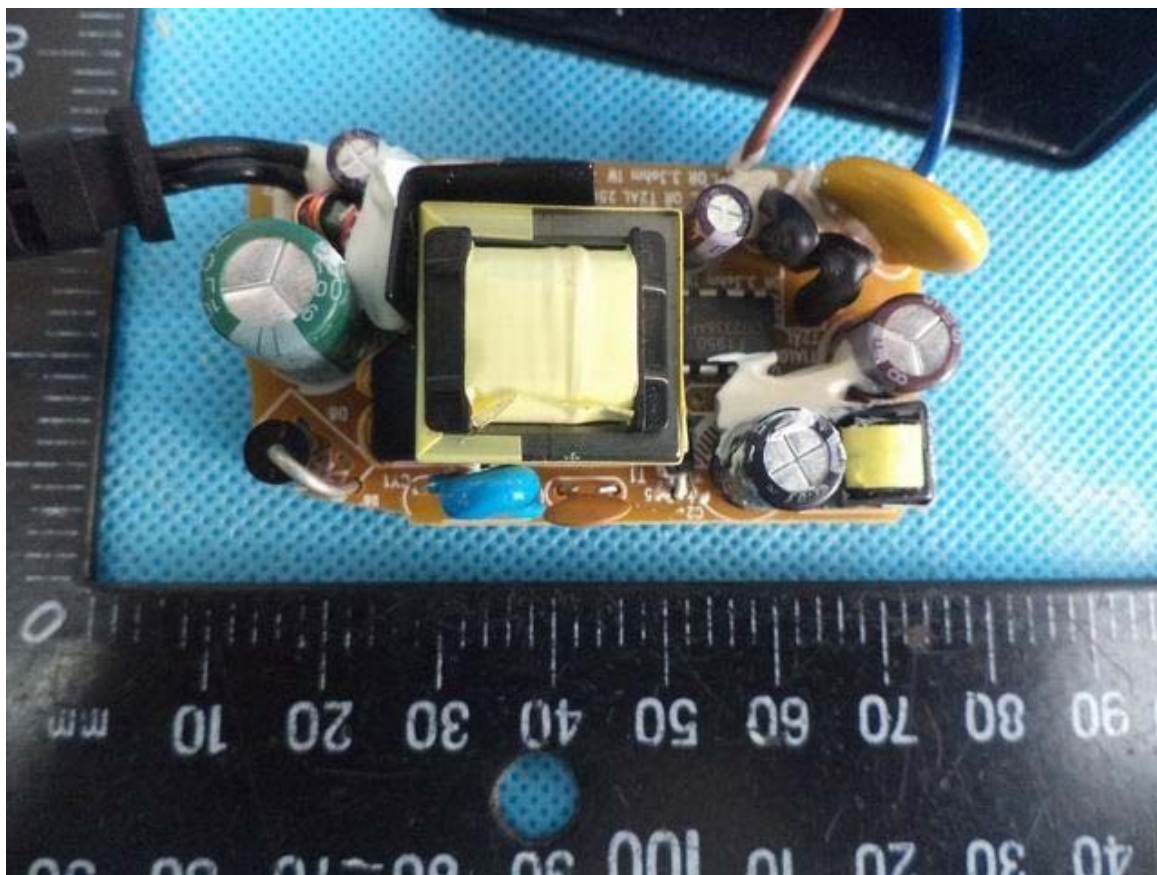
Attachment 1 Photo documentation

PCB (Model GT-86120-1212HW2E, PCB REV:3)



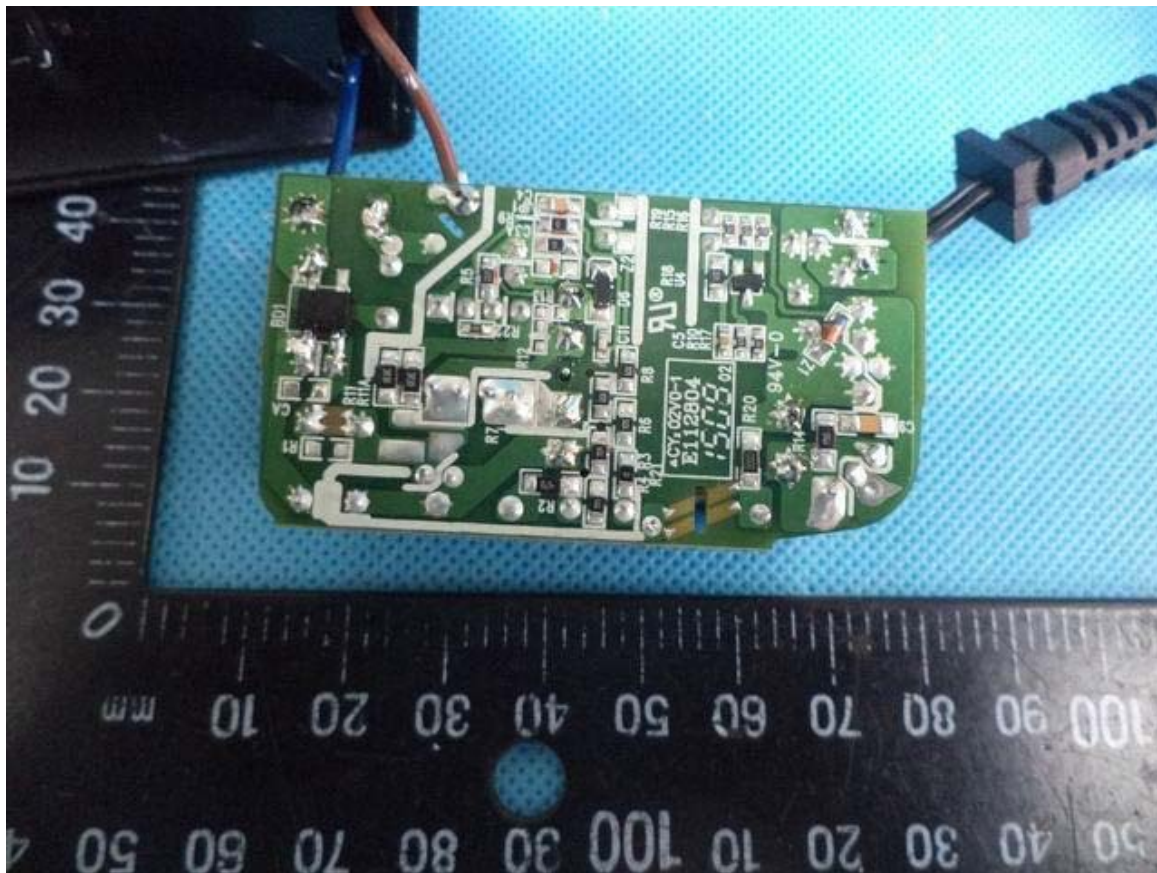
Attachment 1 Photo documentation

PCB (Model GT-86120-1212HW2E, Different Configurations of fuse / varistor)

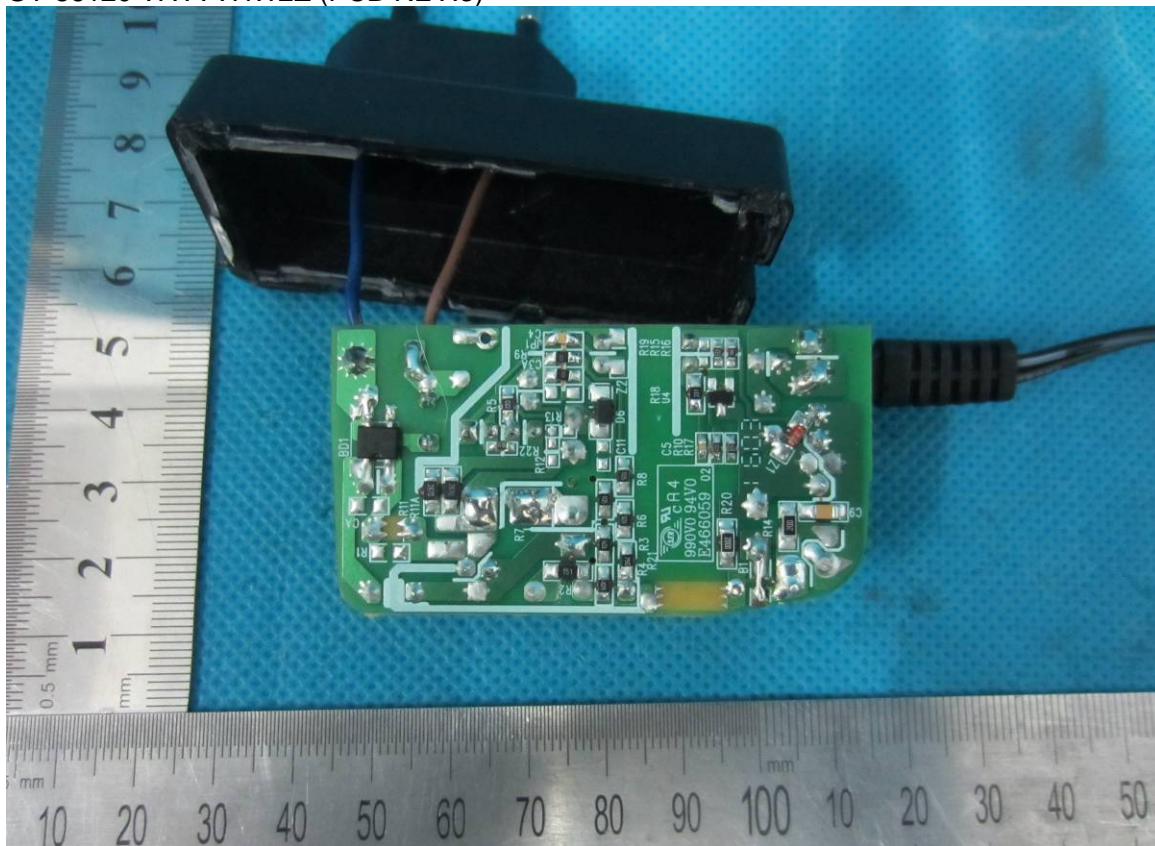


Attachment 1 Photo documentation

GT-86120-WWVV-W2Z (PCB REV:1)



GT-86120-WWVVHW2Z (PCB REV:3)



Attachment 1 Photo documentation

General view (Model GT-86120-WWVV-W2U)



Attachment 1 Photo documentation

General view (Model GT-86120-WWVV)



Attachment 1 Photo documentation

General view (Model GT-86120-WWVV)



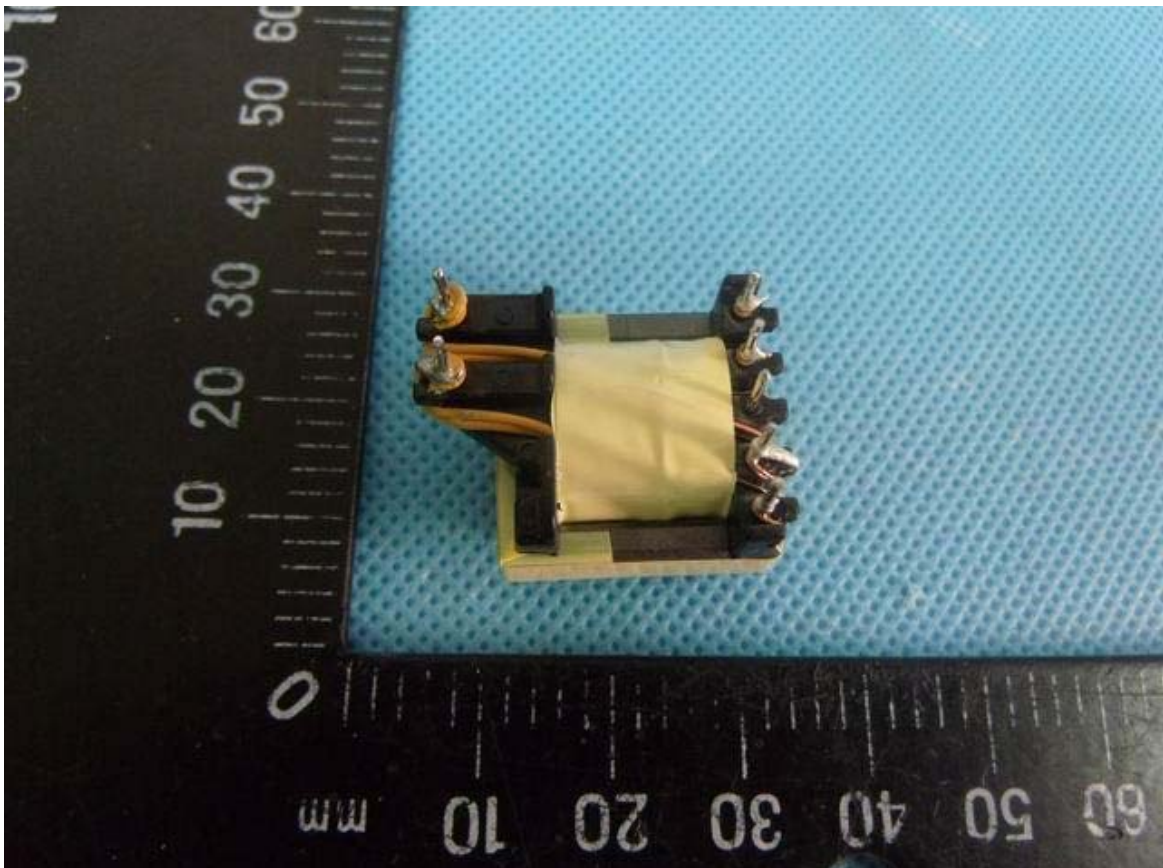
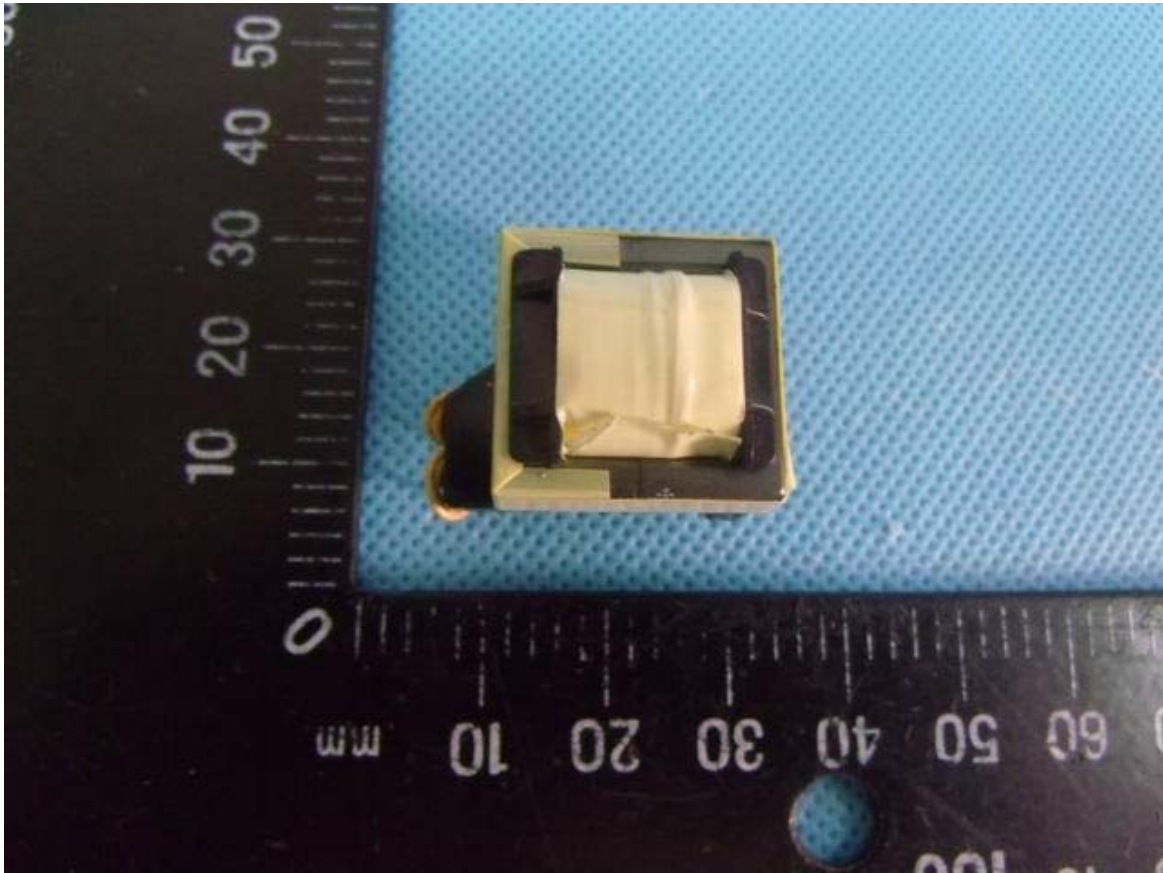
Attachment 1 Photo documentation

General view (Model GT-86120-WWVV)



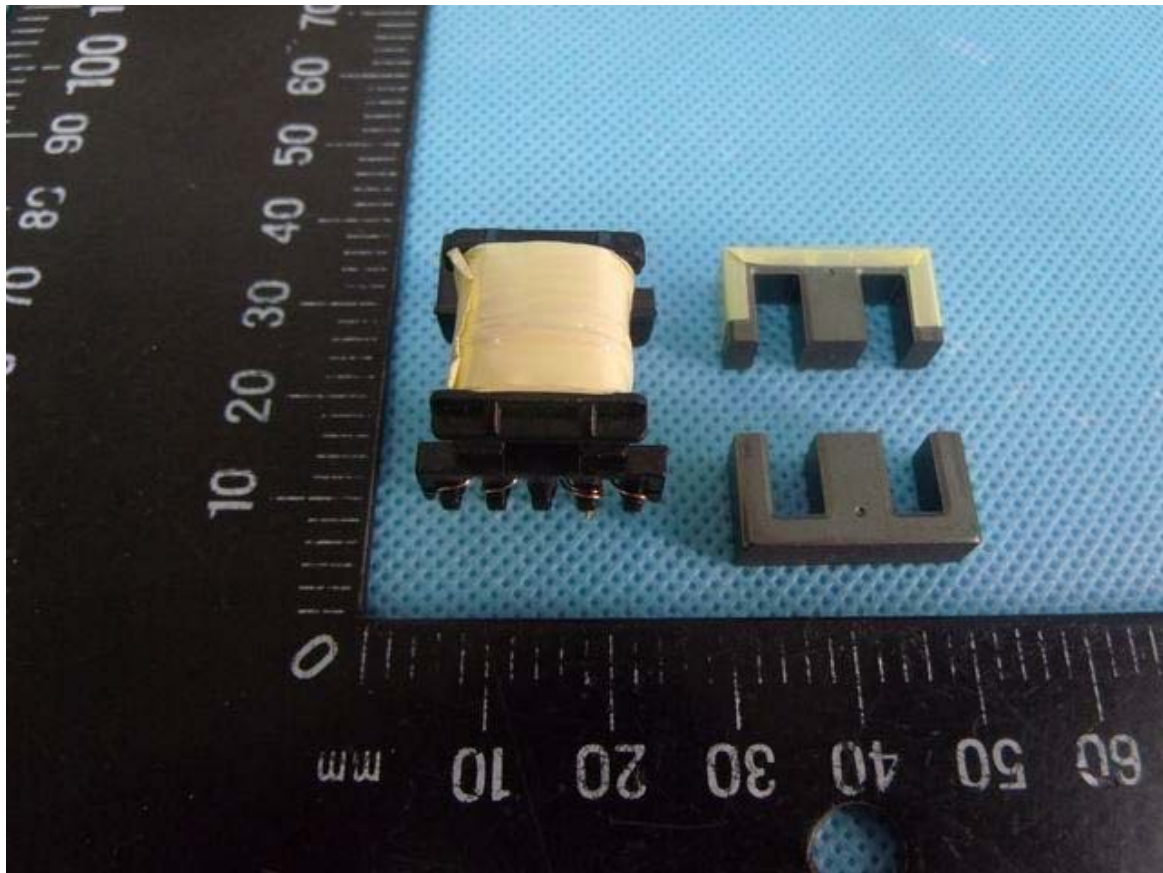
Attachment 1 Photo documentation

Transformer



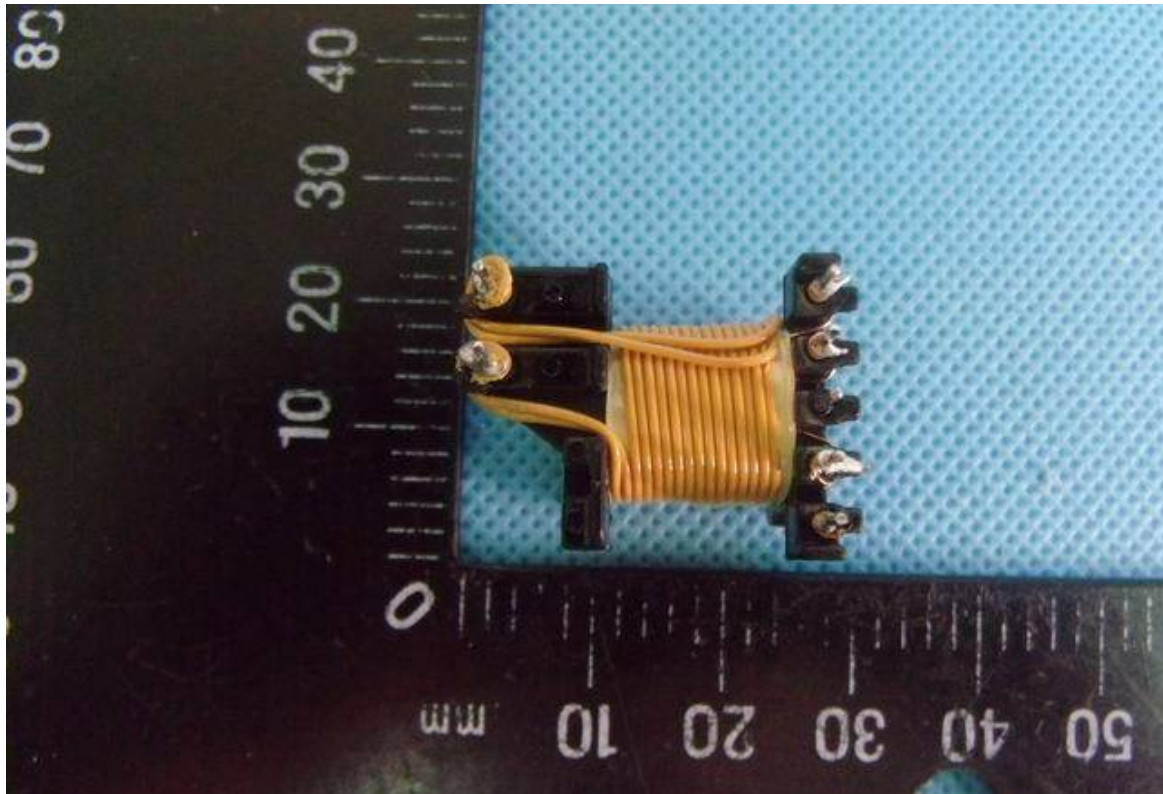
Attachment 1 Photo documentation

Transformer



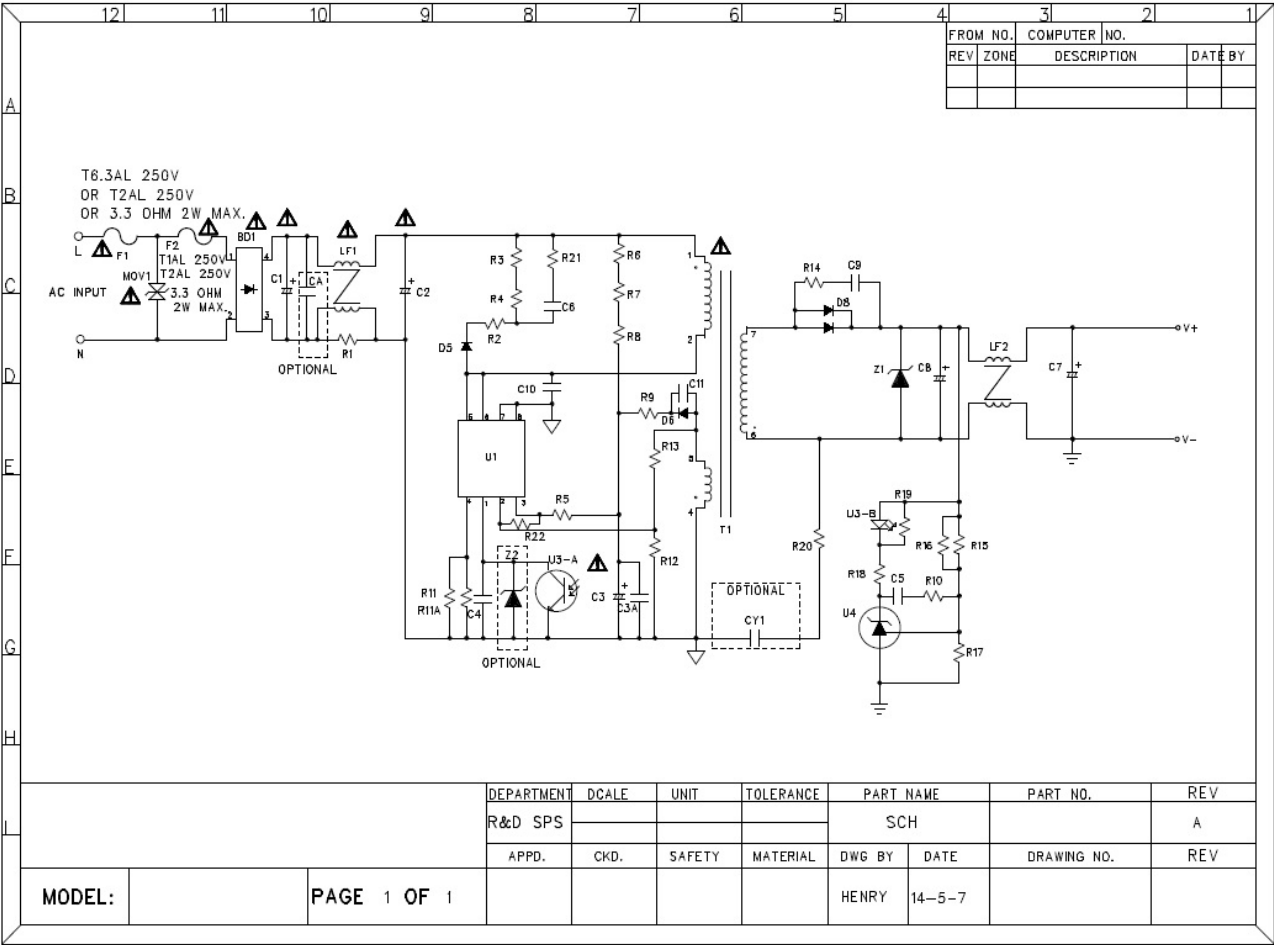
Attachment 1 Photo documentation

Transformer

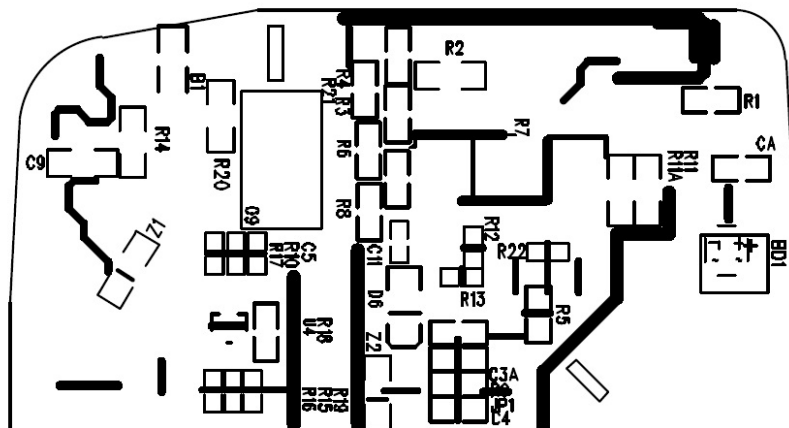
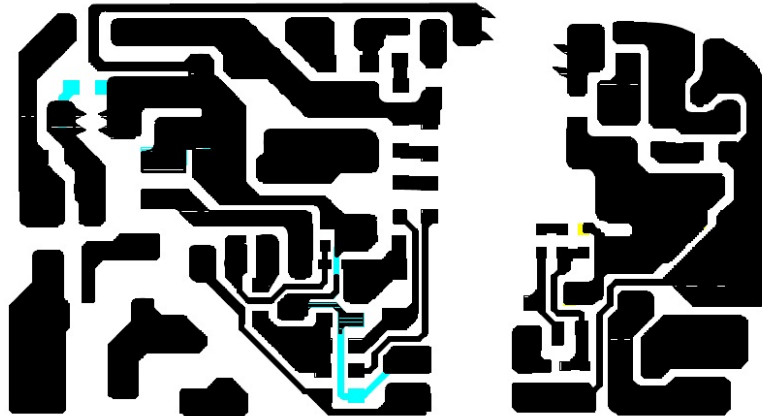
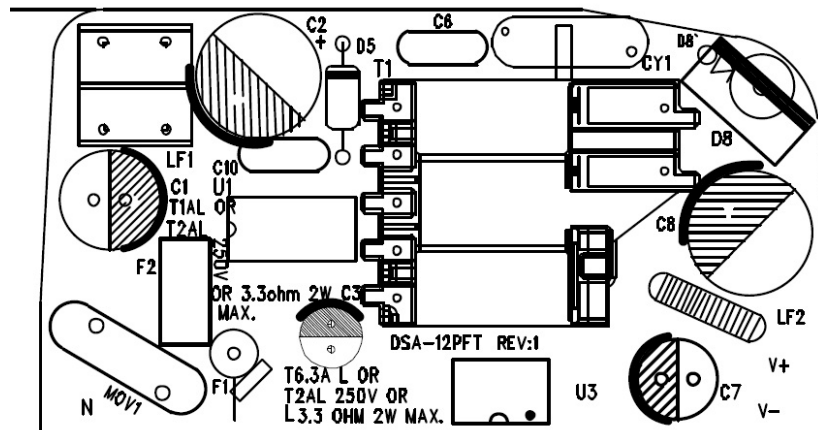


*****End of Attachment 1****

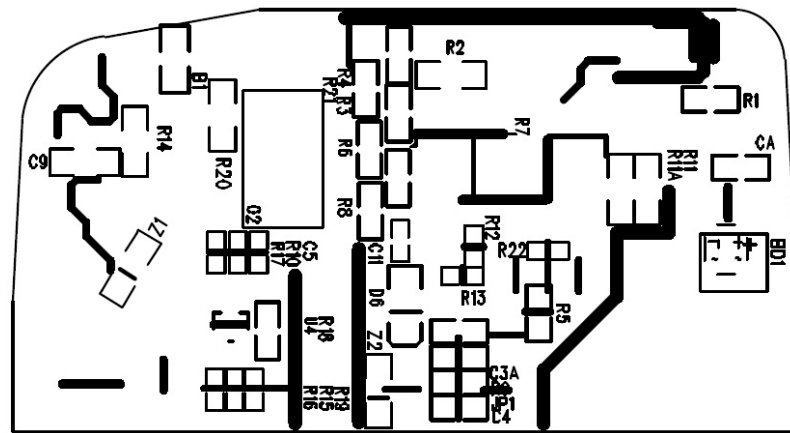
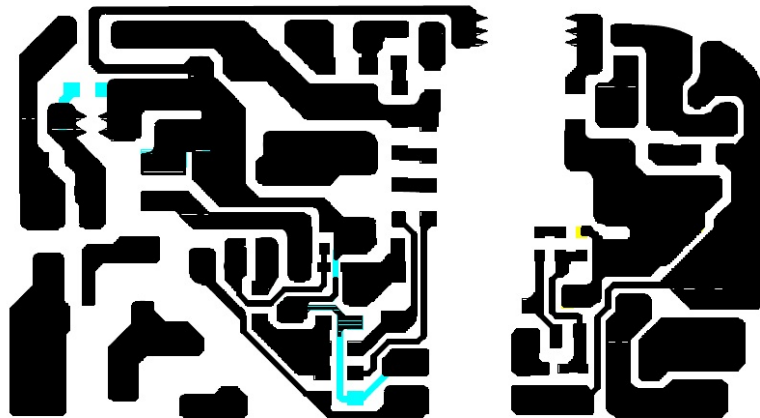
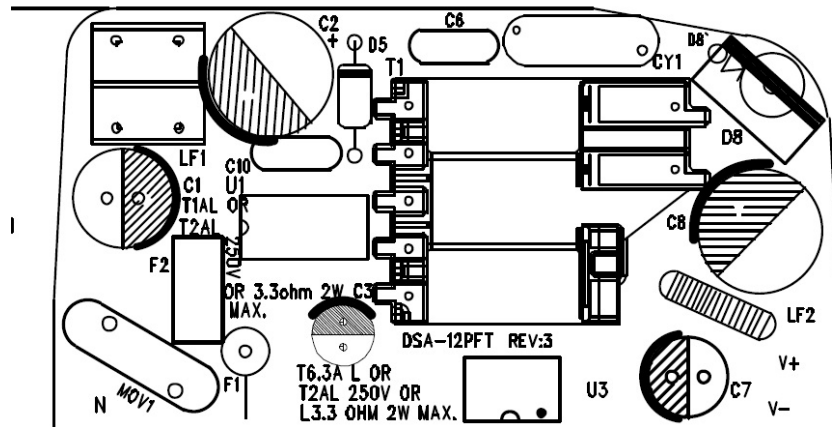
Circuit diagram



PCB Layout (REV:1)



PCB Layout (REV:3)



*****End of attachment 2*****

Attachment 3 Safety Information in User Manual

Allgemeines (General)

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

Um den zur Zeit gültigen Sicherheitsbestimmungen zu genügen, müssen die folgenden Hinweise beim Einsatz dieses Schaltnetzteils berücksichtigt werden:

1. The appliance is used for IT and similar electronic apparatus. It is certified according to the relevant safety standards IEC60950 and EN60950.

Dieses Netzgerät ist ein Tischgerät IT und Datenverarbeitungseräten. Es ist geprüft nach den einschlägigen Bestimmungen IEC60950, und EN60950.

2. The output power taken from the supply must not exceed the rating given on the switching power supply.

Die Ausgangsleistung darf die auf dem Netzgerät angegebenen Werte nicht übersteigen.

3. The appliance 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. Das Gerät muss entsorgt werden.

4. The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.

Die Steckdose muß in der Nähe der Einrichtung angebracht und leicht zugänglich sein.

5. The appliance shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the appliance.

Das Gerät darf nicht Spritzwasser oder tropfenden Flüssigkeiten ausgesetzt werden. Kein mit Wasser gefüllten Gefäße auf dem Gerät abstellen.

6. The switching power supply should be used in ventilated condition, should not cover the power supply with other things.

Das Batterieladegerät sollte unter belüfteter Bedingung benutzt werden. Der Netzanschluss darf nicht mit anderen Dingen bedecken werden.

*****End of Attachment 3*****

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – 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
Copyright © 2013 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.	

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 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		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

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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


IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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> <p>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</p> <p>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> <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

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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

IEC60950_1E - ATTACHMENT			
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>The equipment is provided with a fuse and complies with a).</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'.		—						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Not permanently connected equipment.	N/A						
3.2.5.1	<p>Replace “60245 IEC 53” by “H05 RR-F”;</p> <p>“60227 IEC 52” by “H03 VV-F or H03 VVH2-F”;</p> <p>“60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”.</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 (0,75) ^{b)}</td><td>1,0 </td></tr><tr><td>Over 10 up to and including 16 (1,0) ^{c)}</td><td>1,5 </td></tr></table> <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>	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	No power supply cord provided.	N/A
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								

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Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	No ionizing radiation.	N/A
Bibliography	Additional EN standards.		—

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.	Class II	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.	Not intended to be connected to cable distribution system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Class II	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).	Class II	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.	No TNV circuit.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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>	Class II	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>		

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Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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

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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)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011.</p> <p>For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a.</p> <p>Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b.</p> <p>Justification the Heavy Current Regulations, 6c</p>		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuit.	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.	No TNV circuit.	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.		P
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.	Direct plug-in equipment.	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.	No TNV circuit.	N/A
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>	EN 50075 plug provided.	P

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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
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>		
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>	EN 50075 plug provided.	P

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Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

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>	EN 50075 plug provided.	P
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>	EN 50075 plug provided.	P
3.2.1.1	<p>In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>	EN 50075 plug and BS1363 plug provided.	P

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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
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.	EN 50075 plug provided.	P
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.	Direct plug-in equipment.	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.	Direct plug-in equipment.	P
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.	Direct plug-in equipment.	P

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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
5.1.7.1	<p>In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <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
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. 	No TNV circuit.	N/A

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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. 	No TNV circuit.	N/A
6.1.2.2	<p>In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>	No TNV circuit.	N/A
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	Not intended to be connected to cable distribution system.	N/A
7.3 (A11:2009)	<p>In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>	Not intended to be connected to cable distribution system.	N/A

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**Attachment 4 Deviation of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
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

*****End of Attachment 4*****