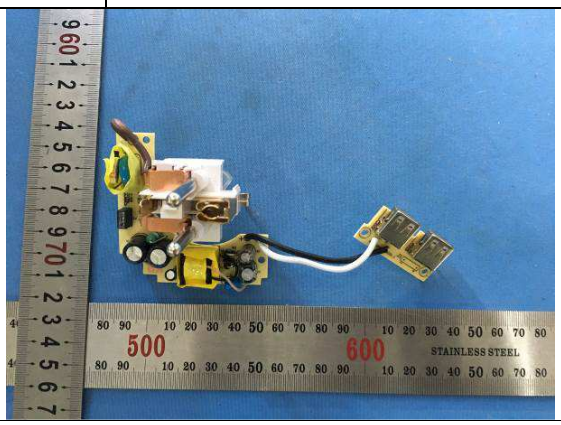
TEST REPORT N°: LCI-18MY2401VTSC

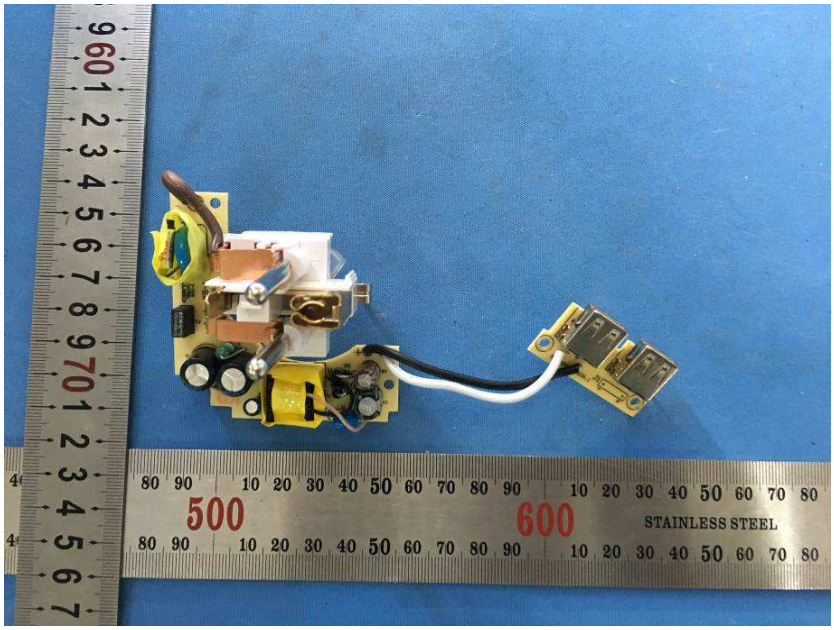
TEST REPORT

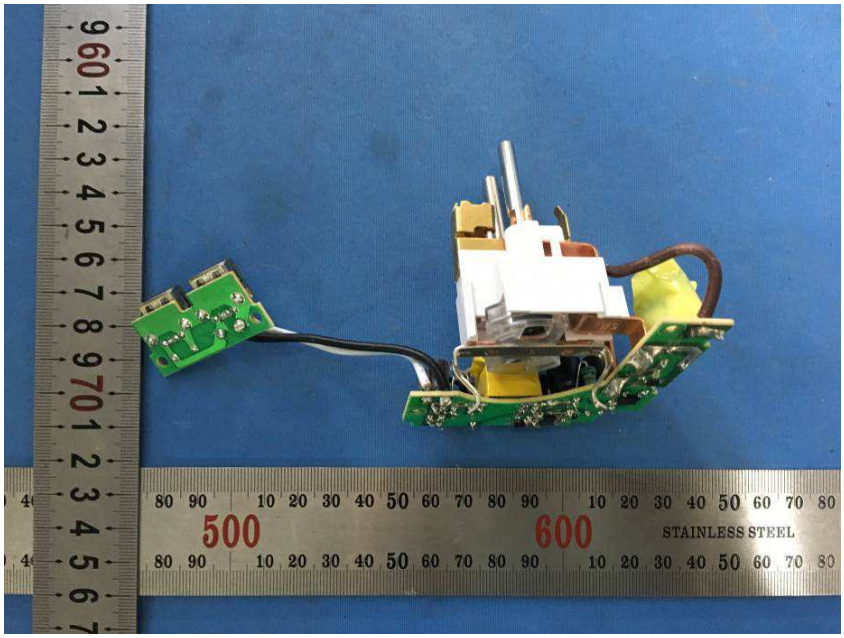
To:	Legrand Limoges		To:	-
Attn:	OLIVIER CHABROUX		Attn:	-
Address:	128 Av du Marechal De Lattre De Tassigny 87045 LIMOGES Cedex France		Address:	-
Fax:	--		Fax:	-
E-mail:	--		E-mail:	-
This document includes: 78 pages				
Factory name:	NINGBO BANMEN ELECTRIC APPLIANCE CO.,LTD			
Location:	East Industrial Zone, Guanhaiwei, Cixi, Zhejiang, 315314, China		Sample No:	SH180522/104
			Start date:	May 24, 2018
			Finish date:	January 04, 2019
			Standards used: (Date):	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
			Sections examined:	All relevant
			Re-testing:	None
USB Charger /X17-USB-2			Remark / Note:	None

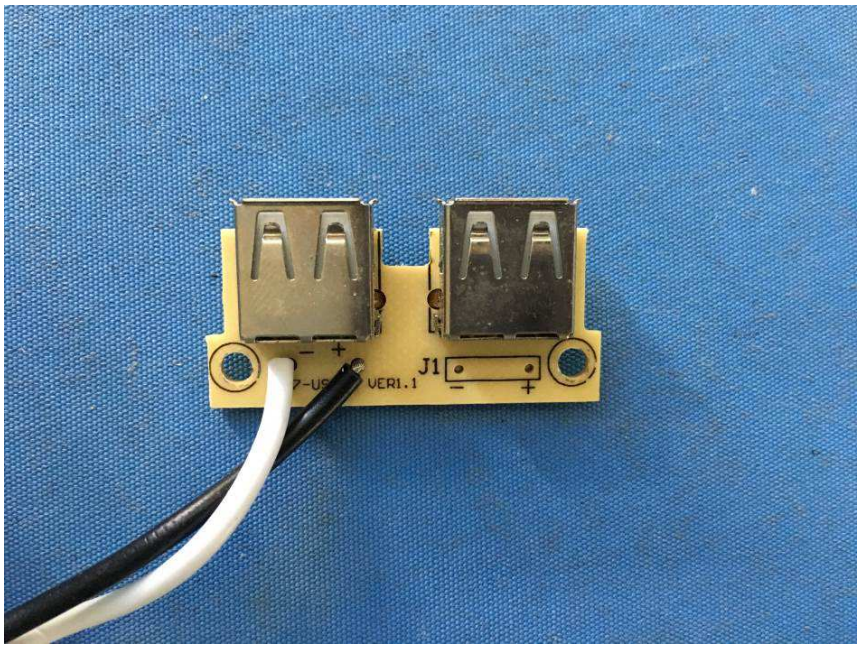
CONCLUSION: **The sample satisfies to the clauses examined.**

Test done by,	Approved by,
Summer XIA Project Engineer	Tom ZHANG Project Manager

Pictures of tested sample



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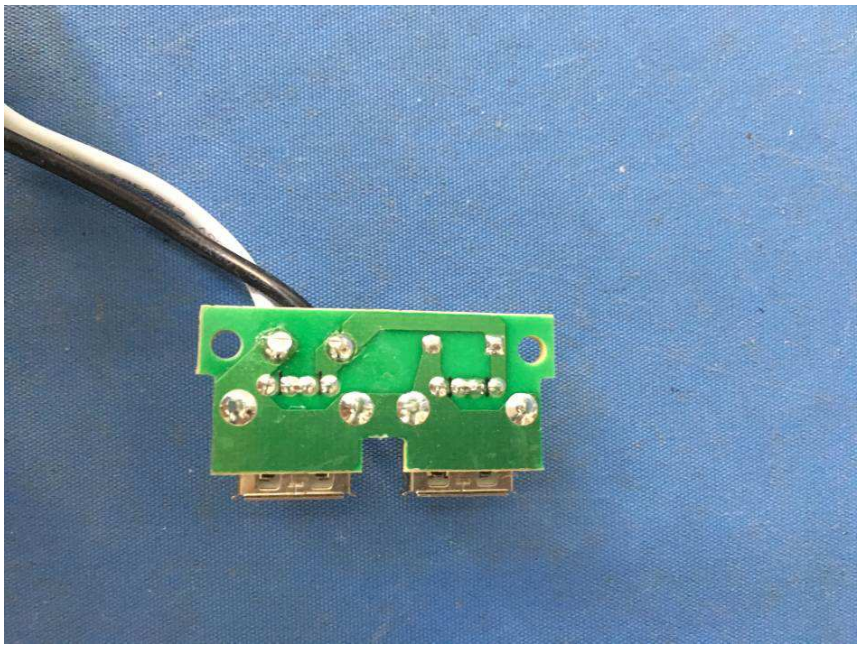

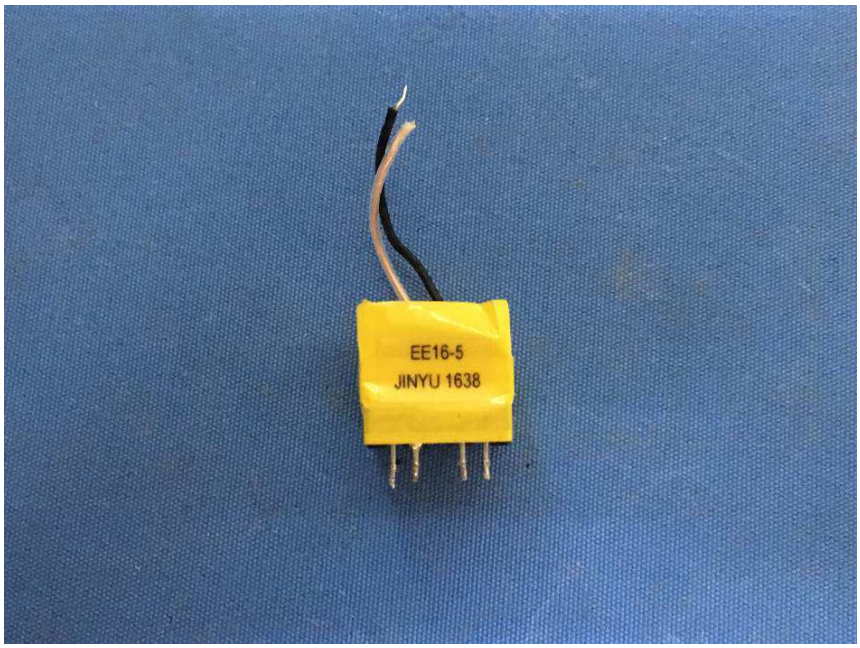
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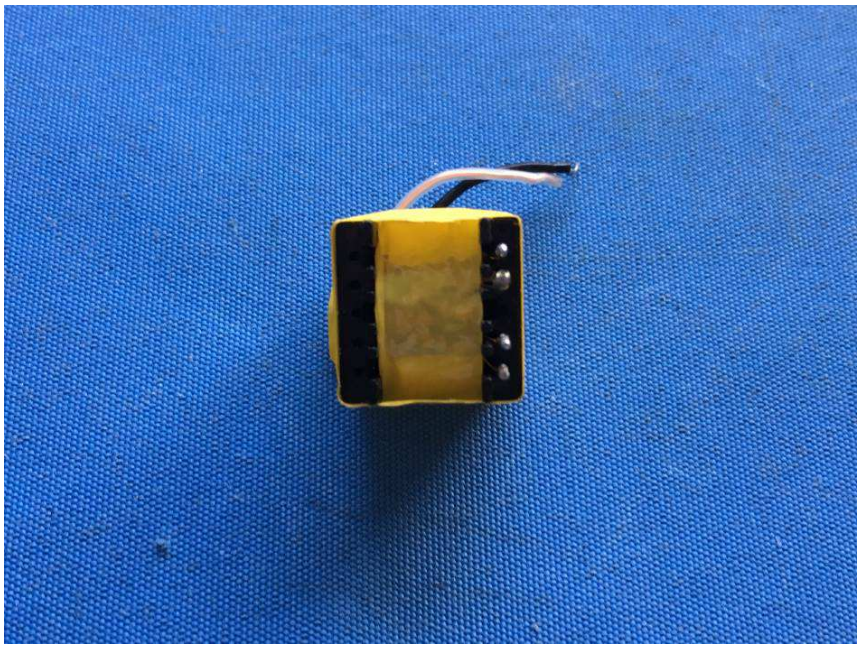

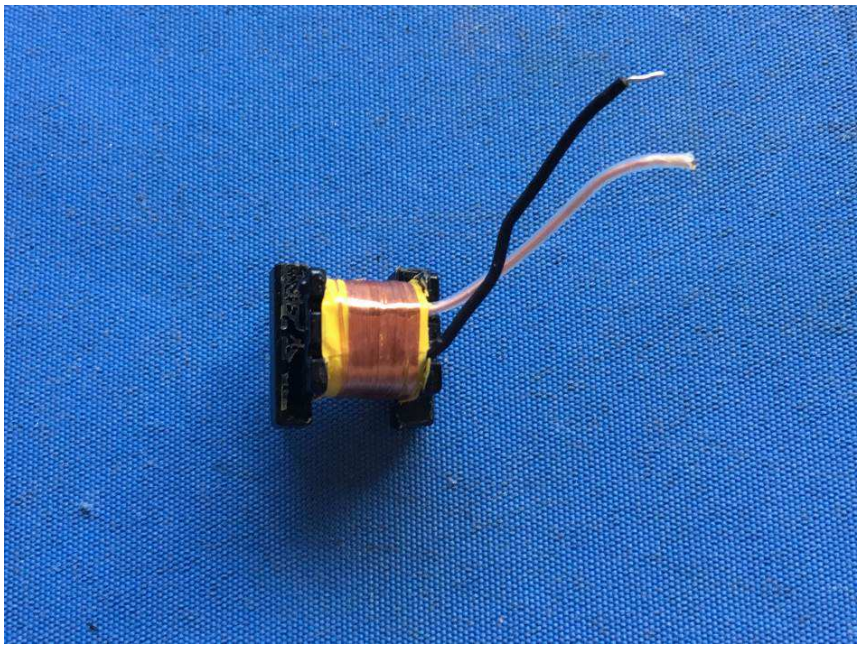

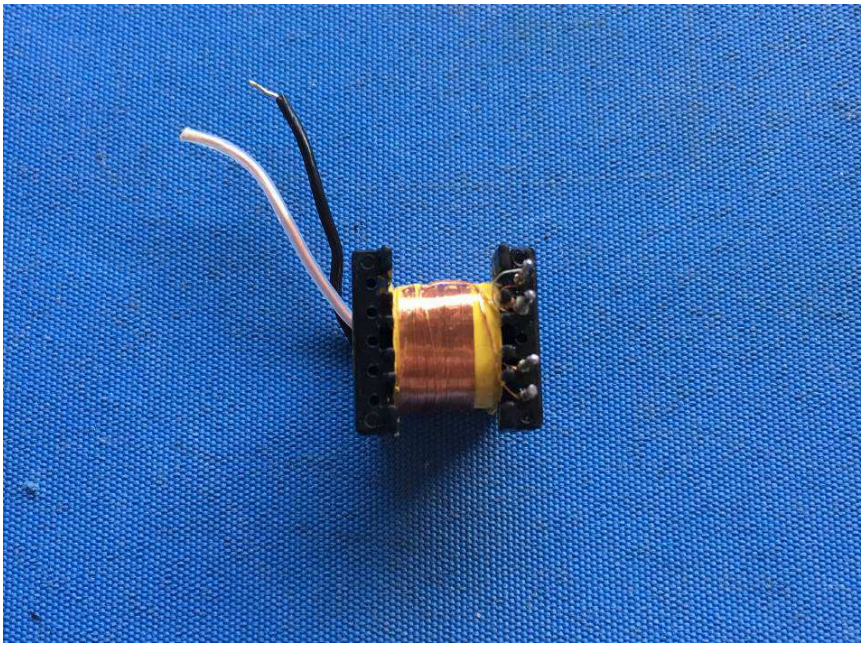

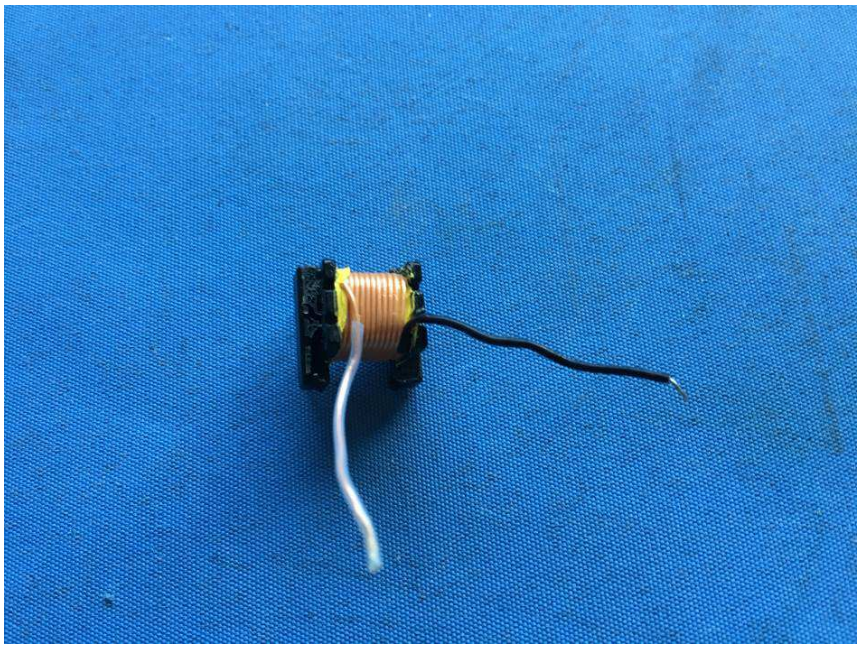

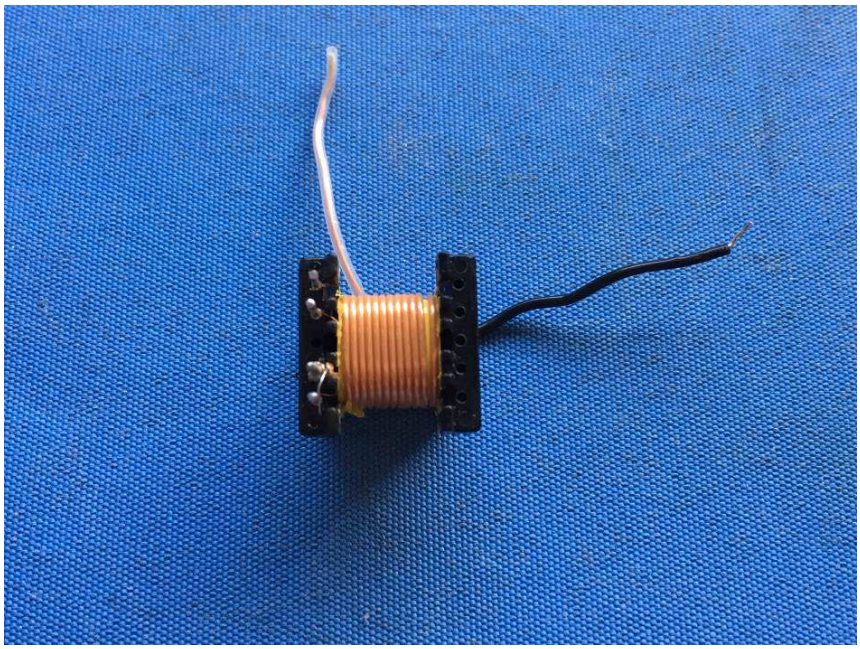

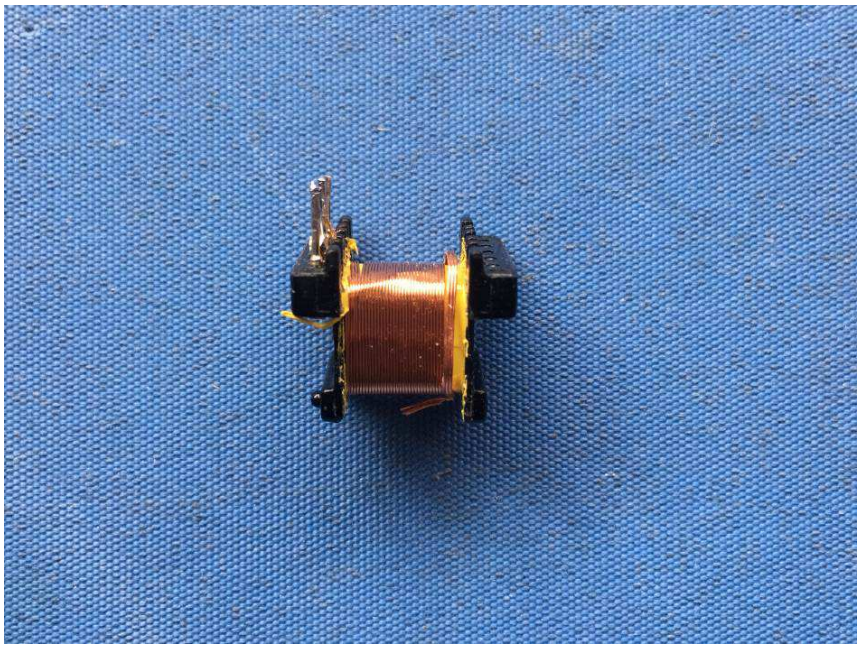

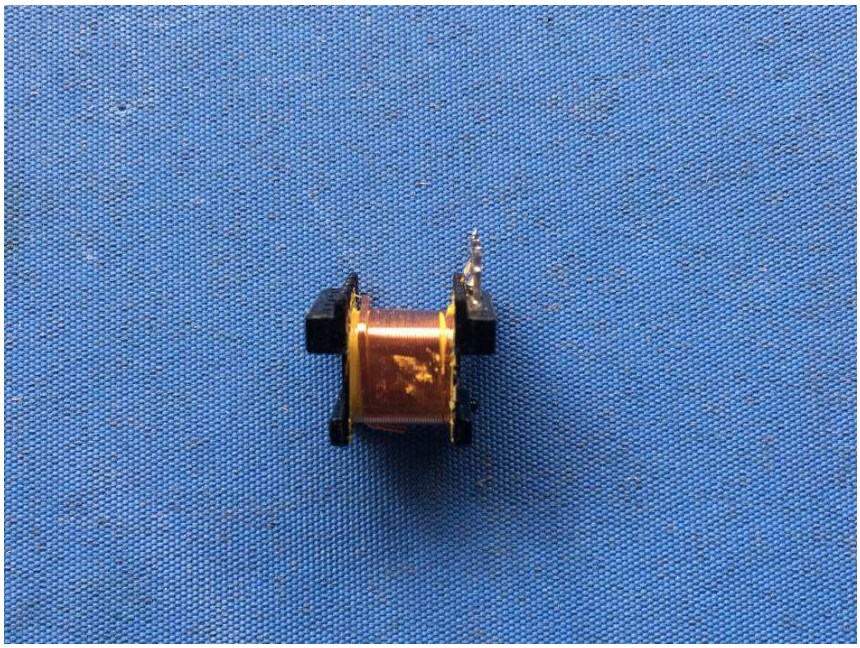

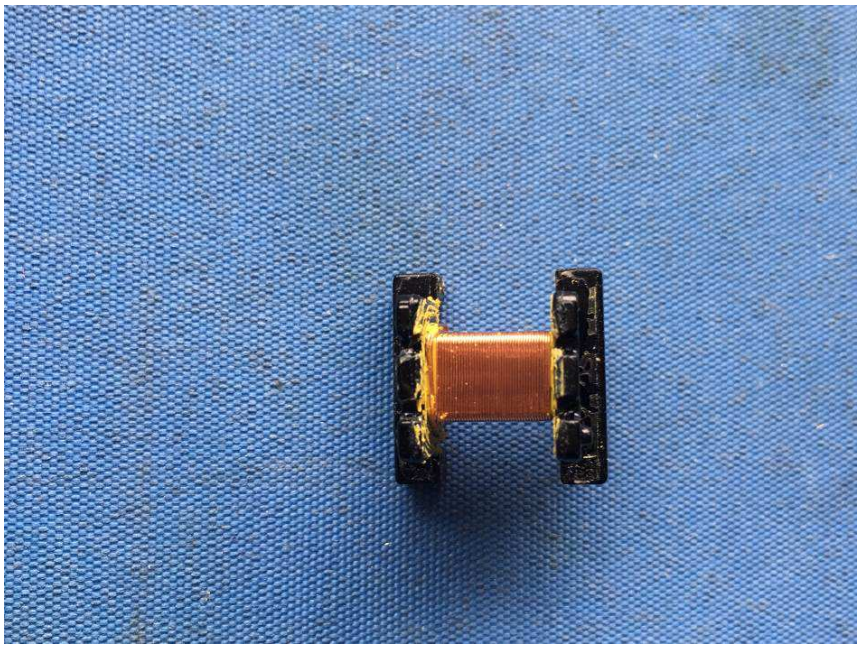

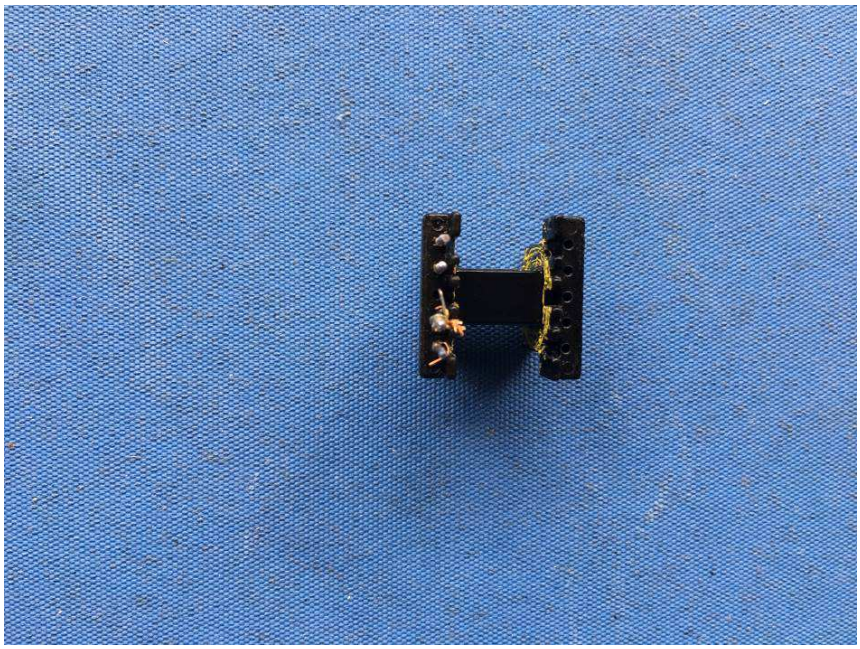

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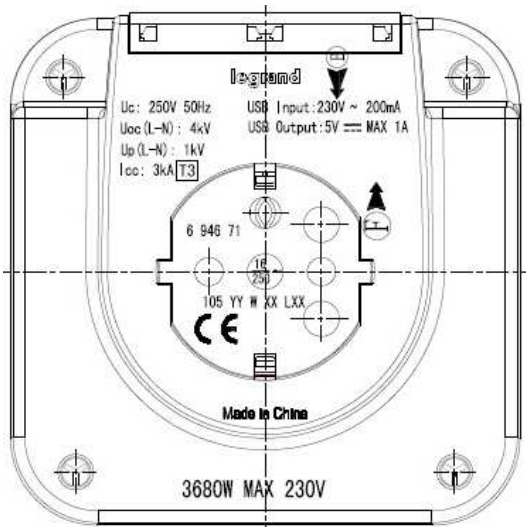
Test item description..... :	
Trade Mark .....:	legrand
Manufacturer.....:	Legrand Limoges
Model/Type reference.....:	X17-USB-2
Ratings.....:	I/P: 230V~, 50Hz, 200mA, O/P: 5V ⎓ 1A Max.

Copy of marking plate:



Marking on end of product

Marking on the PCB

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Summary of testing:

- The samples complied with the requirements of standard EN 60950-1:2006+A11:2009+A1:2010 +A12:2011+A2:2013
- Unless otherwise specified, all related tests were performed at around 25°C ambient temperatures in an open bench.
- The tests are done by using two resistors, each one drawing a current of 500mA from the USB 5VDC output.
- Only test USB module.

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Test item particulars..... :	
Equipment mobility .....:	[] movable [] hand-held [] transportable [] stationary [X] for building-in [] direct plug-in
Connection to the mains.....:	[] pluggable equipment [X] type A [] type B [] permanent connection [] detachable power supply cord [X] non-detachable power supply cord [] not directly connected to the mains
Operating condition.....:	[X] continuous [] rated operating / resting time:
Access location .....:	[X] operator accessible [] restricted access location
Over voltage category (OVC) .....:	[] OVC I [X] OVC II [] OVC III [] OVC IV [] other:
Mains supply tolerance (%) or absolute mains supply values .....:	-10 % to +10%
Tested for IT power systems .....:	[] Yes [X] No
IT testing, phase-phase voltage (V) .....:	--
Class of equipment .....:	[] Class I [] Class II [] Class III [X] Not classified
Considered current rating of protective device as part of the building installlation (A) .....:	16 A
Pollution degree (PD) .....:	[] PD 1 [X] PD 2 [] PD 3
IP protection class .....:	IPX0
Altitude during operation (m) .....:	Up to 2000m
Altitude of test laboratory (m) .....:	Not over 2000m
Mass of equipment (kg) .....:	0.076kg approx.
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A (or N)
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	May 24, 2018
Date(s) of performance of tests.....:	May 25, 2018 to June 20, 2018

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General remarks:
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 testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.
General product information:
- The EUT is a USB Charger for build-in use with 1A maximum output that used for DC supplied information equipment. - The manufacturer specified maximum ambient temperature is 25°C.

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
1	**GENERAL**		P
1.5	**Components**		P
1.5.1	General	See below.	P
	Comply with IEC 60950-1 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards. (see appended table 1.5.1).	P
1.5.2	Evaluation and testing of components	Components which are certified to IEC and /or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls	No such device.	N/A
1.5.4	Transformers	Transformer used is suitable for the intended application and comply with the relevant requirements of the standard and particularly with those of Annex C.	P
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors bridging insulation	VDE approved Y1 capacitor used	P
1.5.7	Resistors bridging insulation		N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
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	Approved VDR used	P
1.5.9.1	General		P
1.5.9.2	Protection of VDRs		P
1.5.9.3	Bridging of functional insulation by a VDR		P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	**Power interface**		P
1.6.1	AC power distribution systems	TN power system.	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	This appliance is not hand-held equipment.	N/A
1.6.4	Neutral conductor	The neutral is not identified in the equipment. Reinforced insulation for rated voltage between secondary parts and primary phases.	P
1.7	**Marking and instructions**		P
1.7.1	Power rating and identification markings	See below.	P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:	Not multiple manis supply	N/A
	Rated voltage(s) or voltage range(s) (V) .....:	230~	P
	Symbol for nature of supply, for d.c. only.....:		N/A
	Rated frequency or rated frequency range (Hz) ....:	50Hz	P
	Rated current (mA or A) .....:	200mA	P

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EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark ..... :	legrand	P
	Model identification or type reference ..... :	X17-USB-2	P
	Symbol for Class II equipment only ..... :	For building-in, will be verified in end product.	N/A
	Other markings and symbols ..... :	Additional symbol or marking does not give rise to misunderstanding.	P
1.7.2	Safety instructions and marking	For building-in, will be verified in end product.	N/A
1.7.2.1	General	For building-in, will be verified in end product.	N/A
1.7.2.2	Disconnect devices	For building-in, will be verified in end product.	N/A
1.7.2.3	Overcurrent protective device	No such component.	N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool	Not such equipment.	N/A
1.7.2.6	Ozone	The equipment does 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 selector.	N/A
	Methods and means of adjustment; reference to installation instructions ..... :		N/A
1.7.5	Power outlets on the equipment ..... :	No outlets provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :	The rating of current fuse is marked on PCB to fuse. F2: T500mA/ 250V	P
1.7.7	Wiring terminals	Building-in product,should be evaluated in the end product.	N/A
1.7.7.1	Protective earthing and bonding terminals ..... :		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No d.c. mains supply.	N/A
1.7.8	Controls and indicators	No safety related switches or indicators.	N/A
1.7.8.1	Identification, location and marking ..... :		N/A
1.7.8.2	Colours ..... :		N/A
1.7.8.3	Symbols according to IEC 60417..... :		N/A
1.7.8.4	Markings using figures ..... :	No figures used.	N/A
1.7.9	Isolation of multiple power sources ..... :		N/A
1.7.10	Thermostats and other regulating devices ..... :	No such component.	N/A
1.7.11	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec.And thenagain for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade.There was no curling and lifting of the label edge.	P
1.7.12	Removable parts	No removable part.	N/A
1.7.13	Replaceable batteries ..... :	No batteries provided.	N/A
	Language(s) ..... :		—
1.7.14	Equipment for restricted access locations ..... :	Not limited for use in restricted access locations.	N/A

2	**PROTECTION FROM HAZARDS**		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	Building-in product,should be evaluated in the end product.	N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
2.1.1.1	Access to energized parts	Building-in product,should be evaluated in the end product.	N/A
	Test by inspection ..... :	See above.	N/A
	Test with test finger (Figure 2A) ..... :	See above.	N/A
	Test with test pin (Figure 2B) ..... :	See above.	N/A
	Test with test probe (Figure 2C) ..... :	No TNV.	N/A
2.1.1.2	Battery compartments	No battery compartment.	N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV accessible to the operator.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	Building-in product,should be evaluated in the end product.	N/A
2.1.1.5	Energy hazards ..... :	Energy does not exceed 240VA between any two points in accessible parts (o/p connector of secondary circuit). Results see appended table 2.1.1.5. No energy hazard in operator access area.	P
2.1.1.6	Manual controls	No manual control.	N/A
2.1.1.7	Discharge of capacitors in equipment		N/A
	Measured voltage (V); time-constant (s)..... :		—
2.1.1.8	Energy hazards – d.c. mains supply	No direct connected to d.c. mains supply.	N/A
	a) Capacitor connected to the d.c. mains supply .. :	No direct connected to 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 audio amplifier.	N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
2.1.2	Protection in service access areas	No maintenance works in operation mode necessary.	N/A
2.1.3	Protection in restricted access locations	The unit is not limited to be used in restricted access locations.	N/A
2.2	**SELV circuits**		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V) ..... :	42.4V peak or 60V d.c. is not exceeded in SELV circuit under normal operation. (see appended table 2.2)	P
2.2.3	Voltages under fault conditions (V) ..... :	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V d.c. were not exceeded within 0.2 sec. and limits 42.4V peak and 60V d.c. were not exceeded for longer than 0.2 sec.	P
2.2.4	Connection of SELV circuits to other circuits .....:	See 2.2.2 and 2.2.3.	P
2.3	**TNV circuits**		N/A
2.3.1	Limits	No TNV circuits.	N/A
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions ..... :		N/A
2.3.3	Separation from hazardous voltages		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Insulation employed ..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed ..... :		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		P
2.4.1	General requirements	See below.	P
2.4.2	Limit values	7mA	P
	Frequency (Hz) ..... :	10KHz	—
	Measured current (mA)..... :	2.75mA	—
	Measured voltage (V)..... :	5.5V	—
	Measured circuit capacitance (nF or µF) ..... :	2200pF	—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	**Limited power sources**		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	(see appended table 2.5)	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) .:		—
	Use of integrated circuit (IC) current limiters		
2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
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

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
2.7	**Overcurrent and earth fault protection in primary circuits**		P
2.7.1	Basic requirements	Equipment relies on 16A rated fuse or circuit breaker of the wall outlet protection of the building installation in regard to L and N short-circuit. Over current protection is provided by the built-in fuse.	P
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7		N/A
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 ..... :	Over current protection by one built-in current fuse.	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel ..... :	No service work necessary.	N/A
2.8	**Safety interlocks**		N/A
2.8.1	General principles	No safety interlocks.	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

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		P
2.9.1	Properties of insulating materials		P
2.9.2	Humidity conditioning	Test for 48hrs.	P
	Relative humidity (%), temperature (°C) ..... :	93%, 30°C	—
2.9.3	Grade of insulation	The adequate levels of safety insulation is provided and maintained to comply with the requirements of this standard.	P
2.9.4	Separation from hazardous voltages	The secondary circuit is separated from hazardaous voltages by reinforce insulation.	P
	Method(s) used ..... :	Method 1	—
2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General	See 2.10.3, 2.10.4 and 2.10.5.	P
2.10.1.1	Frequency ..... :	Complied with.	P
2.10.1.2	Pollution degrees ..... :	Pollution degree 2.	P
2.10.1.3	Reduced values for functional insualtion		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	See below.	P

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
2.10.2.1	General	Complied with.	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 below	P
2.10.3.1	General	Annex F is considered.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply ..... :	2500 Vpk considered.	P
	b) Earthed d.c. mains supplies ..... :		N/A
	c) Unearthed d.c. mains supplies ..... :		N/A
	d) Battery operation ..... :		N/A
2.10.3.3	Clearances in primary circuits	See appended table 2.10.3 and 2.10.4	P
2.10.3.4	Clearances in secondary circuits	Compliance with clause 5.3.4.	P
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply ..... :	1500 Vpk assumed.	P
2.10.3.7	Transients from d.c. mains supply ..... :		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems ..... :		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains suplply		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 below.	P
2.10.4.1	General	See appended table 2.10.3 and 2.10.4.	P
2.10.4.2	Material group and caomparative tracking index	Material group IIIb is assumed to be used.	P

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Clause	Requirement – Test	Result - Remark	Verdict
	CTI tests..... :	CTI rating for all materials of min. 100.	—
2.10.4.3	Minimum creepage distances	Only the functional insulation in secondary circuits complied with clause 5.3.4.	P
2.10.5	**Solid insulation**	Complied with 2.10.5.2 to 2.10.5.14 and 5.2.	P
2.10.5.1	General	See below.	P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	No such construction.	N/A
2.10.5.4	Semiconductor devices	No such construction.	N/A
2.10.5.5.	Cemented joints	No such construction.	N/A
2.10.5.6	Thin sheet material – General	Complied with.	P
2.10.5.7	Separable thin sheet material	Reinforced insulation.	P
	Number of layers (pcs) ..... :	3 layers	—
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	Electric strength test applied to each layer.	P
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components	See below.	P
2.10.5.12	Wire in wound components	Reinforced insulation.	P
	Working voltage ..... :	See appended table 2.10.2.	P
	a) Basic insulation not under stress ..... :		P
	b) Basic, supplemetary, reinforced insulation ..... :	Complied with 2.10.5.6 and annex U.	P
	c) Compliance with Annex U ..... :	Complied with annex U.	P

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Clause	Requirement – Test	Result - Remark	Verdict
	Two wires in contact inside wound component; angle between 45° and 90° ..... :	Insulating sleeving provided.	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	No additional insulation	N/A
	Working voltage ..... :		N/A
	- Basic insulation not under stress ..... :		N/A
	- Supplemetary, reinforced insulation ..... :		N/A
2.10.6	**Construction of printed boards**	See below.	P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) ..... :		N/A
2.10.7	**Component external terminations**		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	Pollution Degree 2	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	No hermetically sealed component.	N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		P
3.1	General		P
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	The insulation of the individual conductors are suitable for the application and the working voltage. For the insulation material see 3.1.1.	N/A
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	No such screws provided.	N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws	No self tapping screws are used.	N/A
3.1.9	Termination of conductors	All conductors are reliable secured.	P
	10 N pull test	Complied.	P
3.1.10	Sleeving on wiring		N/A
3.2	**Connection to a mains supply**		P
3.2.1	Means of connection		P

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Clause	Requirement – Test	Result - Remark	Verdict
3.2.1.1	Connection to an a.c. mains supply	The product which has Class II contruction is built into the end product. "Ac input wires are passed through a hole into the PCB and soldered."	N/A
3.2.1.2	Connection to a d.c. mains supply	AC Source	N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords	No power cord.	N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
3.2.5.2	DC power supply cords	No power supply cord, only for building-in product	N/A
3.2.6	Cord anchorages and strain relief	No power supply cord, only for building-in product	N/A
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards	No cord guard, only for building-in product	N/A
	Diameter or minor dimension D (mm); test mass (g) ..... :		—
	Radius of curvature of cord (mm) ..... :		—
3.2.9	Supply wiring space	Not permanent connection or non-detachable power cord type	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) ..... :		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	**Disconnection from the mains supply**		P
3.4.1	General requirement	The plug is used as disconneted device in end product.	P
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords	No flexible cords.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices	The product which has Class II contruction is built into the end product.	N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
3.5	**Interconnection of equipment**		P
3.5.1	General requirements	This power supply is not considered for connection to TNV.	P
3.5.2	Types of interconnection circuits ..... :	Interconnection circuits of SELV through the connector. No ELV interconnection circuits.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection	N/A
3.5.4	Data ports for additional equipment	No such ports	N/A
4	**PHYSICAL REQUIREMENTS**		N/A
4.1	Stability		N/A
	Angle of 10°	For building-in product	N/A
	Test force (N) ..... :		N/A
4.2	**Mechanical strength**		P
4.2.1	General		P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	10N applied to components	P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		N/A
4.2.5	Impact test	For building-in product only, To be considered in the end product	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) ..... :	For building-in product only, to be considered in the end product	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
4.2.7	Stress relief test	For building-in product only, to be considered in the end product	N/A
4.2.8	Cathode ray tubes	No CRT provided.	N/A
	Picture tube separately certified ..... :		N/A
4.2.9	High pressure lamps	No high pressure lamps provided.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ..... :	Not intended to be mounted on a wall or ceiling.	N/A
4.2.11	Rotating solid media		N/A
	Test to cover on the door……..:		N/A
4.3	**Design and construction**		P
4.3.1	Edges and corners	For building-in product only, to be considered in the end product	N/A
4.3.2	Handles and manual controls; force (N) .....:	No handle or manual control.	N/A
4.3.3	Adjustable controls	No control device.	N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection by plugs and sockets	For building-in product only, to be considered in the end product	N/A
4.3.6	Direct plug-in equipment	.	N/A
	Torque ..... :		—
	Compliance with the relevant mains plug standard ..... :		N/A
4.3.7	Heating elements in earthed equipment	No heating element.	N/A
4.3.8	Batteries	No batteries provided.	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	- 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 provided.	N/A
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N/A
4.3.11	Containers for liquids or gases	No container for liquid or gas.	N/A
4.3.12	Flammable liquids ..... :	No flammable liquid.	N/A
	Quantity of liquid (l) ..... :		N/A
	Flash point (°C) ..... :		N/A
4.3.13	Radiation	No such compoent.	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) ..... :		—
	Measured high-voltage (kV) ..... :		—
	Measured focus voltage (kV) ..... :		—
	CRT markings ..... :		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification ..... :		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ..... :		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	No such component	N/A
4.3.13.5.1	Lasers (including laser laser diodes)		N/A
	Laser class ..... :		—
4.3.13.5.2	Light emitting diodes (LEDs)	Indicating light used only	
4.3.13.6	Other types ..... :		N/A

4.4	**Protection against hazardous moving parts**	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
4.4.1	General	No hazardous 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
	Use of symbol or warning ……..:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……..:		N/A
4.5	**Thermal requirements**		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	(See appended table 4.5)	P
	Normal load condition per Annex L ..... :	(See appended table 1.6.2)	—
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)	N/A
4.6	**Openings in enclosures**		N/A
4.6.1	Top and side openings	No openings	N/A
	Dimensions (mm) ..... :		—
4.6.2	Bottoms of fire enclosures		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	Construction of the bottomm, dimensions (mm) .. :		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) ..... :		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks)..... :		—
4.7	**Resistance to fire**		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	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	For building-in product only, to be considered in the end product	N/A
4.7.2.1	Parts requiring a fire enclosure		N/A
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	Parts mounted on PCB of flammability class V-0.	P
4.7.3.2	Materials for fire enclosures	For building-in product only, to be considered in the end product	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
4.7.3.4	Materials for components and other parts inside fire enclosures		N/A
4.7.3.5	Materials for air filter assemblies	No air filters provided.	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	N/A
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		**P**
5.1	**Touch current and protective conductor current**		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Equipment of figure 5A used.	P
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	P
5.1.5	Test procedure	The touch current was measured from mains to DC output connector	P
5.1.6	Test measurements	See below.	P
	Supply voltage (V) ..... :	(See appended table 5.1.6)	—
	Measured touch current (mA) ..... :	(See appended table 5.1.6)	—
	Max. allowed touch current (mA) ..... :	(See appended table 5.1.6)	—
	Measured protective conductor current (mA) ..... :		—
	Max. allowed protective conductor current (mA) .. :		—

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Clause	Requirement – Test	Result - Remark	Verdict
5.1.7	Equipment with touch current exceeding 3,5 mA	Neither stationary permanently connected equipment nor stationary pluggable equipment type B.	N/A
5.1.7.1	General ..... :		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No TNV.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) ..... :		—
	Measured touch current (mA) ..... :		—
	Max. allowed touch current (mA) ..... :		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports ..... :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

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

5.3	**Abnormal operating and fault conditions**		P
5.3.1	Protection against overload and abnormal operation	Output overload test, the most unfavorable load test. (see appended table 5.3)	P
5.3.2	Motors	No motors used	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
5.3.3	Transformers	With the shorted o/p of the transformer, no high temperature of the transformer was recorded. Results of the short-circuit tests see appended table 5.3 and Annex C.	P
5.3.4	Functional insulation ..... :	Method c). Test results see appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical component provided.	N/A
5.3.6	Audio amplifiers in ITE ..... :	No such component.	N/A
5.3.7	Simulation of faults	Results see appended table.	P
5.3.8	Unattended equipment	None of the listed components was provided.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary to SELV was passed.	P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No TNV.	N/A
	Supply voltage (V) ..... :		—
	Current in the test circuit (mA) ..... :		—
6.1.2.2	Exclusions ..... :		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) ..... :		—
	Current limiting method ..... :		—

7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	General	Not connected to cable distribution system	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

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Clause	Requirement – Test	Result - Remark	Verdict
A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples ..... :		—
	Wall thickness (mm) ..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples ..... :		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
A.2.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.2.3	Mounting of samples ..... :		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C ..... :		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		N/A
B.1	General requirements		N/A
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) ..... :		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) ..... :		—
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		P
	Position ..... :	T1	—
	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 ..... :	By protection circuit design.	—
C.1	Overload test	See appended table 5.3.	P
C.2	Insulation	See appended table	P
	Protection from displacement of windings ..... :		P
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		P
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A

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

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Clause	Requirement – Test	Result - Remark	Verdict
K.2	Thermostat reliability; operating voltage (V) ..... :		N/A
K.3	Thermostat endurance test; operating voltage (V) ..... :		N/A
K.4	Temperature limiter endurance; operating voltage (V) ..... :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	Maximum normal load.	P
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction	No telephone signal.	N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) ..... :		—
M.3.1.2	Voltage (V) ..... :		—
M.3.1.3	Cadence; time (s), voltage (V) ..... :		—
M.3.1.4	Single fault current (mA) ..... :		—
M.3.2	Tripping device and monitoring voltage ..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) ..... :		N/A
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	**ANNEX P, NORMATIVE REFERENCES**		—
Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		N/A
	a) Preferred climatic categories ..... :		N/A
	b) Maximum continuous voltage ..... :		N/A
	c) Pulse current ..... :		N/A
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
			—

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Clause	Requirement – Test	Result - Remark	Verdict

U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		P
			—

V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		P
V.1	Introduction		P
V.2	TN power distribution systems	Single-phase TN power system considered and used for testing.	P

W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N/A
Y.1	Test apparatus .....:		N/A
Y.2	Mounting of test samples .....:		N/A
Y.3	Carbon-arc light-exposure apparatus .....:		N/A
Y.4	Xenon-arc light exposure apparatus .....:		N/A
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		P

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Clause	Requirement – Test	Result - Remark	Verdict

AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**	N/A

BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**	—

CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N/A
CC.1	General		N/A
CC.2	Test program 1……:		N/A
CC.3	Test program 2……:		N/A

DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N……..:		N/A
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……:		N/A

EE	**ANNEX EE, Household and home/office document/media shredders**		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols……:		N/A
	Information of user instructions, maintenance and/or servicing instructions……:		N/A
EE.3	Inadvertent reactivation test……:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols……:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) ……..:		N/A
	Test with wedge probe (Figure EE1 and EE2) ……:		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

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_1F
Attachment Originator.....:	SGS Fimko Ltd
Master Attachment .....:	Date 2014-02

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”		N/A
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		N/A
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
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.		N/A
1.1.1 (A1:2010)	**Replace** the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		N/A
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N/A

TEST REPORT N°: LCI-18MY2401VTSC

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N/A
	Zx Protection against excessive sound pressure from personal music players		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. 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. 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. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. 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. The requirements do not apply to: – hearing aid equipment and professional equipment; 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.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	– 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. 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. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		N/A
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1. 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. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. For music where the average sound pressure (long term LAeq,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. NOTE 4 Classical music typically has an average sound pressure (long term LAeq,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. 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.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods."  **Figure 1 – Warning label (IEC 60417-6044)** 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.		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed "programme simulation noise" described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. 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.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A
	Zx.4.3 Wireless listening devices In wireless mode: – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A
2.7.1	Replace the subclause as follows: Basic requirements 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): 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; 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;		N/A
	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. 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.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 | 0,75 [a] | Over 6 up to and including 10| (0,75) [b] 1,0 | Over 10 up to and including 16| (1,0) [c] 1,5 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a]. In NOTE 1, applicable to Table 3B, delete the second sentence.		N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation).		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**	—

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In **Denmark**, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In **Finland, Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	In **Finland**, **Norway** and **Sweden**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A
1.7.2.1 (A11:2009)	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. 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. 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: “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).”		

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	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. Translation to Norwegian (the Swedish text will also be accepted in Norway): “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.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		N/A
1.7.2.1 (A2:2013)	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. 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.”		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 1.7.5 (A11:2009)	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. For **CLASS II EQUIPMENT** the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A
1.7.5 (A2:2013)	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c		N/A
2.2.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In **Finland**, **Norway** and **Sweden** there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	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: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A 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: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998:Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE .250 V, 16 A		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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. 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.		N/A
3.2.1.1 (A2:2013)	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. 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. 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. Justification the Heavy Current Regulations, 6c		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	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. 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. 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. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		N/A
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In **Ireland**, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In **Finland**, **Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - 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. 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 - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
6.1.2.2	In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

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

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

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

1.5	**TABLE: list of critical components and materials**	**P**

Component	Manufacturer/ trademark	Type/model	Value / rating	Standard	Approval/ Reference
PCB	JIAXING CENTURY ELECTRONIC CO LTD	CS-1	V-0, 130°C	UL 796 UL 94	UL E234969
Fuse(F1)	SCHOTT JAPAN CORPORATION	SF113U-1	113°C, 15A/250V	UL 60691	UL E71747
Fuse(F2)	SHENZHEN LANSON ELECTRONICS CO LTD	3K T500mA250V	250V, 500mA	EN 60127-1:2006+A1:2011 +A2:2015 EN 60127-3:2015	VDE 40010682
Varistor（MOV1）	CERAMATE TECHNICAL CO LTD	GNR14D471K	85°C, 50-680Vac	IEC 61051-2: 1991	VDE 40031745
Insulation tape on fuse(F1)	SHENZHEN WOLIDA TRADING CO LTD	RSFR-H	600V,125°C	UL 510	UL E329530
Y capacitor(Y1)	HONGZHI ENTERPRISES CO .LTD	Y	2200pF, 400Vac, 85°C	IEC 60384-14:2013+ A1:2016	VDE 40038760
Transformer	NINGBO JINYU ELECTRONICS CO LTD	JINYU 130-TM	Class 130 (B)	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013	Test with appliance
-primary coil	SHANDONG SAINT ELECTRIC CO LTD	MW75-C	130°C	UL 1446	UL E194410
-secondary coil	GREAT LEOFLON INDUSTRIAL CO LTD	TRWB	130°C	UL 1446 EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013	UL E211989 VDE 136581

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

Component	Manufacturer/ trademark	Type/model	Value / rating	Standard	Approval/ Reference
-tube	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	WF	200°C	UL 224	UL E203950
-bobbin	CHANGCHU PLASTICS CO LTD	T375J	150°C	UL 1446	UL E59481
-insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT	130°C	UL 510	UL E165111
-varnish	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T4260(a)	130°C	UL 1446	UL E228349
Internal output wire	ZHEJIANG XINXIN ELECTRONIC WIRE ROD CO LTD	1015	20AWG, VW-1, 105°C, 600V	UL 758	UL E225383
[1]) an asterisk indicates a mark which assures the agreed level of surveillance					

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

1.6.2	**TABLE: Electrical data (in normal conditions)**					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
207/50Hz	0.079	--	7.2	F2	0.079	Maximum load: 5Vdc/ 1A
230/50Hz	0.073	0.2	7.3	F2	0.073	Maximum load: 5Vdc/ 1A
253/50Hz	0.070	--	7.5	F2	0.070	Maximum load: 5Vdc/ 1A
Supplementary information:--						

2.1.1.5 c) 1)	**TABLE: max. V, A, VA test**	P

Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
5.0	1.0	5.1	1.15	5.8
supplementary information:--				
--				

2.1.1.5 c) 2)	**TABLE: stored energy**	N/A

Capacitance C (µF)	Voltage U (V)	Energy E (J)
--	--	--
--	--	--
supplementary information: --		
--		

2.2	**TABLE: evaluation of voltage limiting components in SELV circuits**	P

Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
Transformer T1 pin A to pin B	18.5	--	T1
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

Transformer T1 pin A to pin B short circuit	0(unit shutdown)
supplementary information:--	
--	

2.5	**TABLE: limited power sources**	P

Circuit output tested:

Measured Uoc (V) with all load circuits disconnected:

	I_{sc} (A)		VA	
	Meas.	Limit	Meas.	Limit
Normal condition Uoc=5.1V	1.15	8	5.8	100
Single fault: D3 Sc	0	8	0	100
Single fault: R10 Sc, Uoc=5.1V	1.15	8	5.8	100

supplementary information:--

Sc=Short circuit, Oc=Open circuit

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

2.10.2	**Table: working voltage measurement**	P

Location	RMS voltage (V)	Peak voltage (V)	Comments
T1 pin 1-A	**204**	335	**Max. RMS voltage**
T1 pin 2-A	180	324	
T1 pin 3-A	184	391	
T1 pin 4-A	190	333	
T1 pin 1-B	188	326	
T1 pin 2-B	174	318	
T1 pin 3-B	196	**396**	**Max. Peak**
T1 pin 4-B	198	339	
CY1 primary to secondary	196	319	
supplementary information:--			
--			

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

2.10.3 and 2.10.4	**TABLE: Clearance and creepage distance measurements**					P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional:						
Line to Neutral	420	230	1.5	3.0	2.3	3.0
Basic/supplementary:						
Under Fuse (F2)	420	230	2.0	3.09	2.3	3.09
Reinforced:						
C9 to R2	420	230	4.0	7.25	4.6	7.25
R4 to R10	420	230	4.0	10.54	4.6	10.54
Primary to secondary of T1 on PCB soldering	420	230	4.0	6.8	4.6	6.8
Primary to secondary of Y1 Capacitor	420	230	4.0	7.76	4.6	7.76
Supplementary information:--						

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)
Bobbin of Transformer	420	230	3000	0.4	0.7
Supplementary information: --					

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

4.3.8	**TABLE: Batteries**								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available				--					---
Is it possible to install the battery in a reverse polarity position?				--					--
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--
Test results:				--					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:--									

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

4.5	**TABLE: Thermal requirements**				P
	Supply voltage (V) .....:	207V/50Hz	253V/50Hz	--	—
	Ambient T_{min} (°C) .....:	See below	See below	--	—
	Ambient T_{max} (°C) .....:	See below	See below	--	—
Maximum measured temperature T of part/at::		T (°C)			Allowed T_{max} (°C)
MOVI body		30.3	34.4	--	85
C1 body		32.7	36.4	--	105
L1 body		26.4	28.4	--	130
T1 coil		52.3	57.8	--	110
T1 core		50.8	56.1	--	110
C7 body		44.8	49.0	--	105
Internal wire		34.2	35.8	--	105
PCB near DB1		31.5	35.0	--	130
PCB near U1		49.5	55.3	--	130
Y1 body		38.2	43.2	--	85
Ambient		24.1°C	24.7°C	--	--

Supplementary information: The specified maximum ambient temperature is 25°C

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Supplementary information:

4.5.5	**TABLE: Ball pressure test of thermoplastic parts**		N/A
	Allowed impression diameter (mm) ..... :	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)
--	--	--

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

Supplementary information:

4.7	**TABLE: Resistance to fire**				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
PCB	JIAXING CENTURY ELECTRONIC CO LTD	CS-1	0.5	V-0	UL E234969
Supplementary information:See table 1.5					

5.1	**TABLE: touch current measurement**		P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
L/N to Output terminal	0.07/0.07	0.25	To secondary terminal, switch “e” closed
supplementary information:			

5.2	**TABLE: Electric strength tests, impulse tests and voltage surge tests**		P
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:			
--	--	--	--
Basic/supplementary:			
Line to Neutral (Fuse disconnect)	AC	1500	No
Reinforced:			
L/N to Output terminal	AC	3000	No
Transformer (T1) primary to secondary	AC	3000	No
One layer of insulation tape used in (T1)	AC	3000	No
Supplementary information:--			

EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

5.3	**TABLE: Fault condition tests**		P
	Ambient temperature (°C) ..... :	26.2°C	—
	Power source for EUT: Manufacturer, model/type, output rating ..... :	--	—

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
DB1 pin1 to pin 2	SC	230	1s	F2	0	Fusing (F2) opened instantly, No hazards.
C1	SC	230	1s	F2	0	Fusing (F2) opened instantly, No hazards.
D6	SC	230	10mins	F2	0.008	Unit shutdown instantly, no damaged, no hazards.
C8	SC	230	10mins	F2	0.008	Unit shutdown instantly, no damaged, no hazards.
U1 pin1-8	SC	230	1s	F2	0	Fusing (F2) opened instantly, No hazards.
T1 pin1-3	SC	230	1s	F2	0	Fusing (F2) opened instantly, No hazards.
T1 pin2-4	SC	230	1s	F2	0	Fusing (F2) opened instantly, No hazards.
T1 pinA-B	SC	230	10mins	F2	0.008	Unit shutdown instantly, no damaged, no hazards.
Output	SC	230	10mins	F2	0.008	Unit shutdown instantly, no damaged, no hazards.
USB output	OL	230	100mins	F2	73mA to 81mA to 8.2mA	Unit shutdown when output terminals loaded to 1.16A. Max temp. of T1 coil: 58.2°C, T1 core: 55.1°C, Ambient :23.4°C, No damaged, no hazards.
T1 pin6 -7	OL	230	95mins	F2	73mA to 82mA to 6mA	Unit shutdown when output terminals loaded to 0.19A. Max temp. of T1 coil: 57.1°C, T1 core: 54.2°C, Ambient :23.7°C, No damaged, no hazards.
Supplementary information: 1) In fault column, where sc = short-circuited, oc = open-circuited, ol=overloaded.						