	Test Report issued under the responsibility of: **NCB TÜV SÜD Product Service GmbH** **Ridlerstr. 65, 80339 Munich** **Germany**	

TEST REPORT

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

Report Number. .....:	028-713029942-000
Date of issue.....:	2013-11-14
Total number of pages	40
CB Testing Laboratory.....:	TÜV SÜD Product Service GmbH
Address .....:	Ridlerstrasse 65, 80339 Munich, Germany
Applicant's name.....:	Kontron Europe GmbH
Address .....:	Oskar-vom-Miller-Strasse 1, 85386 Eching, Germany
Manufacturer's name.....:	Kontron Europe GmbH
Address .....:	Oskar-vom-Miller-Strasse 1, 85386 Eching, Germany
Test specification:	
Standard.....:	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure .....:	Conformity testing
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC60950_1E
Test Report Form(s) Originator .....:	SGS Fimko Ltd
Master TRF.....:	Dated 2013-07

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

Test item description .....:	Industrial PC
Trade Mark .....:	kontron
Manufacturer.....:	Kontron Europe GmbH
Model/Type reference.....:	Kiss 4U V2 PCI-762-A
Ratings .....:	100-240V
	4.5A max.
	50-60Hz

Testing procedure and testing location:			
☒	**CB Testing Laboratory:**	TÜV SÜD Product Service GmbH	
Testing location/ address .....:		Ridlerstrasse 65, 80339 Munich, Germany	
☐	**Associated CB Testing Laboratory:**		
Testing location/ address .....:			
	Tested by (name + signature) .....:	Mario Fischer	
	Approved by (name + signature) .....:	Ralph Fischer	
☐	**Testing procedure: TMP**		
Testing location/ address .....:			
	Tested by (name + signature) .....:		
	Approved by (name + signature) .....:		
☐	**Testing procedure: WMT**		
Testing location/ address .....:			
	Tested by (name + signature) .....:		
	Witnessed by (name + signature) ....:		
	Approved by (name + signature) .....:		
☐	**Testing procedure: SMT**		
Testing location/ address .....:			
	Tested by (name + signature) .....:		
	Approved by (name + signature) .....:		
	Supervised by (name + signature)...:		

List of Attachments (including a total number of pages in each attachment):		
1	Photo documentation	**06**

Summary of testing:
The presented test units were found to be in compliance with the test specifications.

Tests performed (name of test and test clause):	**Testing location:**
The laboratory equipment has been tested according to standard IEC 60950-1. All applicable tests according to the above-specified standard have been carried out. Test results are valid only for the tested equipment. This test report can be reproduced only in whole.	TÜV SÜD Product Service GmbH Ridlerstr. 65, 80339 Munich, Germany

Summary of compliance with National Differences

List of countries addressed: N/A

☒ **The product fulfils the requirements of** IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Abbreviations:

EUT – Equipment under testing
SFC – Single fault condition
PRI – mains circuit
SEC – secondary circuit
LV/LC – limited energy circuit
SELV – safety extra low voltage
SIP/SOP – Signal Input / Signal Output

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

(Additional requirements for markings. See 1.7 NOTE)

Label is not the final version

Test item particulars.....:	
Equipment mobility.....:	[] movable [] hand-held [] transportable [] stationary [x] for building-in [] direct plug-in
Connection to the mains.....:	[x] pluggable equipment [x] type A [] type B [] permanent connection [x] detachable power supply cord [] 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/-10%
Tested for IT power systems .....:	[x] Yes [] No
IT testing, phase-phase voltage (V) .....:	230V
Class of equipment .....:	[x] Class I [] Class II [] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) .....:	16A(DE); 20A(CA,US)
Pollution degree (PD) .....:	[] PD 1 [x] PD 2 [] PD 3
IP protection class .....:	N/A
Altitude during operation (m) .....:	520
Altitude of test laboratory (m) .....:	520
Mass of equipment (kg) .....:	17.8
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing.....:	
Date of receipt of test item.....:	2013-09-24
Date(s) of performance of tests .....:	2013-10-01 to 2013-11-08

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.

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

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

☐ **Yes**

☒ **Not applicable**

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

Name and address of factory (ies) ..... : Kontron Europe GmbH
Oskar-vom-Miller-Strasse 1,
85386 Eching,
Germany

General product information:

KISS 4U V2 is a scalable 4U (19") platform, that can be equipped with either a motherboard or a Single Board Computer (SBC) board, supporting various system configurations (refer to "KISS 4U V2 Systems - Configuration Guides" on our website). The flexible customer-specific hardware system configuration and the robust construction with excellent mechanical stability of the KISS 4U V2 platform offer the superior qualities of a computer designed for operation in harsh industrial environment.
The KISS 4U V2 platform is designed to be installed in 19" racks.

The KISS 4U PCI 76x provides fourteen USB 2.0 ports and six serial ATA ports integrated RAID 0, 1, 5, 10 function with transfer rates up to 3Gb/s. KISS 4U PCI 761 features a wealth of I/O ports, including two COM ports (1 x RS-232, 1 x RS-232/422/485), dual Gigabit LAN controllers, DisplayPort, VGA, HD audio, CompactFlash™, and PS/2 keyboard and mouse ports. The built-in Watchdog Timer (1~255 seconds/minutes) keeps system running smoothly.

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		P
1.5	**Components**		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	R/C PSU used	N/A
1.5.5	Interconnecting cables	No cables available	N/A
1.5.6	Capacitors bridging insulation	R/C PSU used	N/A
1.5.7	Resistors bridging insulation	R/C PSU used	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		P
1.5.9	Surge suppressors	R/C PSU used	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	**Power interface**		P
1.6.1	AC power distribution systems		P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		P
1.7	**Marking and instructions**		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated voltage(s) or voltage range(s) (V) .....:	100-240V	P
	Symbol for nature of supply, for d.c. only .....:		N/A
	Rated frequency or rated frequency range (Hz) ....:	50-60Hz	P
	Rated current (mA or A) .....:	4.5A max.	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark .....:	**kontron**	P
	Model identification or type reference .....:	Kiss 4U V2 762-A	P
	Symbol for Class II equipment only .....:		N/A
	Other markings and symbols .....:	CE	P
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
1.7.2.2	Disconnect devices		N/A
1.7.2.3	Overcurrent protective device	Not applicable for pluggable equipment type A equipment.	N/A
1.7.2.4	IT power distribution systems	R/C PSU was suitable for IT-p.d.s.	P
1.7.2.5	Operator access with a tool	The areas containing hazard(s) are inaccessible to the operator.	P
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment .....:		N/A
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:		N/A
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals .....:		P
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		P
1.7.8.1	Identification, location and marking .....:	Stand –dy switch	P
1.7.8.2	Colours .....:		N/A
1.7.8.3	Symbols according to IEC 60417 .....:	Symbol 5009 used	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.8.4	Markings using figures .....:		N/A
1.7.9	Isolation of multiple power sources .....:		N/A
1.7.10	Thermostats and other regulating devices .....:		N/A
1.7.11	Durability		P
1.7.12	Removable parts		P
1.7.13	Replaceable batteries .....:		P
	Language(s) .....:	German	—
1.7.14	Equipment for restricted access locations.....:		N/A
2	**PROTECTION FROM HAZARDS**		P
2.1	**Protection from electric shock and energy hazards**		P
2.1.1	Protection in operator access areas	R/C PSU accordingly enclosed. SEC part is SELV DC	P
2.1.1.1	Access to energized parts	Only SELV DC available	N/A
	Test by inspection .....:		N/A
	Test with test finger (Figure 2A) .....:		N/A
	Test with test pin (Figure 2B) .....:		N/A
	Test with test probe (Figure 2C) .....:		N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)	(see appended tables 2.10.2 and 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards .....:	No DC mains; R/C PSU delivered less than 240 VA per channel	N/A
2.1.1.6	Manual controls		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		N/A
	a) Capacitor connected to the d.c. mains supply ..:	R/C (see TABLE 1.5.1)	N/A
	b) Internal battery connected to the d.c. mains supply .....:	R/C (see TABLE 1.5.1)	N/A
2.1.1.9	Audio amplifiers .....:	See cl. 2.1.1.1 See separate test report IEC/EN 60065	N/A
2.1.2	Protection in service access areas		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.3	Protection in restricted access locations		N/A
2.2	**SELV circuits**		P
2.2.1	General requirements	(see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V) .....:	Within SELV limits.	P
2.2.3	Voltages under fault conditions (V) .....:	Within SELV limits	P
2.2.4	Connection of SELV circuits to other circuits .....:	R/C PSU used	P
2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits.....:		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....:		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed .....:		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed .....:		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz).....:		—
	Measured current (mA) .....:		—
	Measured voltage (V).....:		—
	Measured circuit capacitance (nF or µF) .....:		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	**Limited power sources**	(see appended table 2.5)	N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Regulating network limited output under normal operating and single fault condition		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....:		—
	Current rating of overcurrent protective device (A) .:		—
	Use of integrated circuit (IC) current limiters	(See Annex CC)	
2.6	**Provisions for earthing and bonding**		P
2.6.1	Protective earthing		P
2.6.2	Functional earthing		P
	Use of symbol for functional earthing .....:	Power supply cord not provided with the equipment.	P
2.6.3	Protective earthing and protective bonding conductors		P
2.6.3.1	General		P
2.6.3.2	Size of protective earthing conductors		P
	Rated current (A), cross-sectional area (mm^2), AWG .....:	4.5A. 0.75mm², 18AWG, standard cord-set	—
2.6.3.3	Size of protective bonding conductors	R/C PSU, in dc part there is no PE available	N/A
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
	Protective current rating (A), cross-sectional area (mm^2), AWG.....:		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min).....:		N/A
2.6.3.5	Colour of insulation .....:	Green-yellow	P
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		P
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.3	Disconnection of protective earth		P
2.6.5.4	Parts that can be removed by an operator		P
2.6.5.5	Parts removed during servicing		P
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		P
2.7.1	Basic requirements		N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7	R/C PSU	N/A
2.7.3	Short-circuit backup protection	Typ A, Part of R/C PSU	P
2.7.4	Number and location of protective devices .....:	Part of R/C PSU	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel .....:		N/A
2.8	**Safety interlocks**		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....:		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test	(see appended table 5.2)	N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°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		P
	Method(s) used ..... :	Method 1 used	—
2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General		P
2.10.1.1	Frequency ..... :	50/60Hz	P
2.10.1.2	Pollution degrees ..... :	Pollution Degree 2	P
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances	Separation takes place in the already R/C PSU therefore no measurement have been conducted	P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply ..... :	Overvoltage category II for primary circuit and transient voltage 2500Vpeak.	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)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Clearances in secondary circuits	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.3.5	Clearances in circuits having starting pulses	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.3.6	Transients from a.c. mains supply ..... :	2500V	P
2.10.3.7	Transients from d.c. mains supply ..... :		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems ..... :		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply ..... :	OVC II	N/A
	For a d.c. mains supply ..... :		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	Separation takes place in the already R/C PSU therefore no measurement have been conducted	P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests ..... :	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation	Separation takes place in the already R/C PSU therefore no measurement have been conducted	P
2.10.5.1	General		P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs) ..... :		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.10	Thin sheet material – alternative test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage .....:		N/A
	a) Basic insulation not under stress .....:		N/A
	b) Basic, supplementary, reinforced insulation .....:		N/A
	c) Compliance with Annex U .....:		N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....:		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test	(see appended table 2.10.5)	—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage .....:		N/A
	- Basic insulation not under stress .....:		N/A
	- Supplementary, reinforced insulation .....:		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.6.2	Coated printed boards	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	(see appended table 2.10.3 and 2.10.4)	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation	(see appended table 2.10.5)	N/A
	Number of insulation layers (pcs).....:		N/A
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	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	(see appended table 5.2)	N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		P
3.1	**General**		P
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	(see appended table 5.2)	P
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		P
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A
3.2	**Connection to a mains supply**		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply		P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....:		—
3.2.4	Appliance inlets		P
3.2.5	Power supply cords		P
3.2.5.1	AC power supply cords		P
	Type .....:	See list of critical components	—
	Rated current (A), cross-sectional area (mm^2), AWG .....:	See list of critical components	—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Mass of equipment (kg), pull (N) .....:		—
	Longitudinal displacement (mm) .....:		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm) .....:		—
3.2.9	Supply wiring space		N/A

3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) .....:		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....:		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	**Disconnection from the mains supply**		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	Appliance coupler	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Single-phase equipment	P
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		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		P
3.5.2	Types of interconnection circuits ..... :	SE LV-SELV only	P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	R/C Mainboard	P
4	**PHYSICAL REQUIREMENTS**		P
4.1	**Stability**		P
	Angle of 10°		P
	Test force (N) ..... :		N/A
4.2	**Mechanical strength**		P
4.2.1	Generals		P
	Rack-mounted equipment.	(see Annex DD) Rack-mounted equipment not availabe and was not testet	N/A
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		P
	Fall test		P
	Swing test		N/A
4.2.6	Drop test; height (mm) ..... :		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified ..... :	(see separate test report or attached certificate)	N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ..... :		N/A
4.3	**Design and construction**		P
4.3.1	Edges and corners		P
4.3.2	Handles and manual controls; force (N) .....:		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets		P

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
4.3.8	Batteries	R/C Mainboard with internal R/C clock source used	P
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery	R/C	P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery	R/C	P
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids ..... :		N/A
	Quantity of liquid (l) ..... :		N/A
	Flash point (°C) ..... :		N/A
4.3.13	Radiation	Laser class 1 in R/C DVD drive	P
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	Laser class 1 in R/C DVD drive	P
4.3.13.5.1	Lasers (including laser diodes)	Laser class 1 in R/C DVD drive	P
	Laser class ..... :	1	—
4.3.13.5.2	Light emitting diodes (LEDs)		
4.3.13.6	Other types ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4	**Protection against hazardous moving parts**		P
4.4.1	General		N/A
4.4.2	Protection in operator access areas .....:		N/A
	Household and home/office document/media shredders	(see Annex EE)	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		P
4.4.5.1	General		P
	Not considered to cause pain or injury. a)……:	<1	P
	Is considered to cause pain, not injury. b) ……:		N/A
	Considered to cause injury. c) ……:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……:		N/A

4.5	**Thermal requirements**		P
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L .....:	Other buissness equipment	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat .....:	(see appended table 4.5.5)	P

4.6	**Openings in enclosures**		P
4.6.1	Top and side openings		P
	Dimensions (mm) .....:	Openings with a diameter <4mm to secondary circuits (SELV but more than 100VA)	—
4.6.2	Bottoms of fire enclosures		P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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		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	(see appended table 5.3)	N/A
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure	PSU delivered more than 8A	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures		P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		P
4.7.3.5	Materials for air filter assemblies		P
4.7.3.6	Materials used in high-voltage components		N/A
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		**P**
5.1	**Touch current and protective conductor current**		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		P
5.1.4	Application of measuring instrument		P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Supply voltage (V) ..... :	264	—
	Measured touch current (mA) ..... :	0.30	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Max. allowed touch current (mA) .....:	3.5	—
	Measured protective conductor current (mA) .....:	-	—
	Max. allowed protective conductor current (mA)...:	-	—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....:		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....:		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

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

5.3	**Abnormal operating and fault conditions**		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	(see appended Annex B)	N/A
5.3.3	Transformers	(see appended Annex C)	N/A
5.3.4	Functional insulation.....:	a)	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE .....:	See separate test report IEC/EN 60065	N/A
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
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	(see appended table 5.2)	N/A
	Supply voltage (V) ..... :		—
	Current in the test circuit (mA) ..... :		—
6.1.2.2	Exclusions ..... :		N/A
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test	(see appended table 5.2)	N/A
6.2.2.2	Steady-state test	(see appended table 5.2)	N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) ..... :		—
	Current limiting method ..... :		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	**General**		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test	(see appended table 5.2)	N/A
7.4.3	Impulse test	(see appended table 5.2)	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
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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**	(see appended table 5.3)	N/A
B.4	**Running overload test**	(see appended table 5.3)	N/A
B.5	**Locked-rotor overload test**		N/A
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	**Running overload test for d.c. motors in secondary circuits**		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) ..... :		N/A
B.7	**Locked-rotor overload test for d.c. motors in secondary circuits**		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	**Test for motors with capacitors**	(see appended table 5.3)	N/A
B.9	**Test for three-phase motors**	(see appended table 5.3)	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)**		N/A
	Position ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
	Method of protection ..... :		—
C.1	**Overload test**	(see appended table 5.3)	N/A
C.2	**Insulation**	(see appended tables 5.2 and C2)	N/A
	Protection from displacement of windings ..... :		N/A
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		P
D.1	**Measuring instrument**		P
D.2	**Alternative measuring instrument**		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		P
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	**Clearances**		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	**Determination of mains transient voltage (V)**		N/A
G.2.1	AC mains supply ..... :		N/A
G.2.2	Earthed d.c. mains supplies ..... :		N/A
G.2.3	Unearthed d.c. mains supplies ..... :		N/A
G.2.4	Battery operation ..... :		N/A
G.3	**Determination of telecommunication network transient voltage (V) ..... :**		N/A
G.4	**Determination of required withstand voltage (V)**		N/A
G.4.1	Mains transients and internal repetitive peaks ..... :		N/A
G.4.2	Transients from telecommunication networks ..... :		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5	**Measurement of transient voltages (V)**		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	**Determination of minimum clearances .....:**		N/A
H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A
J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		N/A
	Metal(s) used .....:		—
K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....:		N/A
K.3	Thermostat endurance test; operating voltage (V) .....:		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....:		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation	(see appended table 5.3)	N/A
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		N/A
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		N/A
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) ..... :		—
M.3.1.2	Voltage (V) ..... :		—
M.3.1.3	Cadence; time (s), voltage (V) ..... :		—
M.3.1.4	Single fault current (mA) ..... :		—
M.3.2	Tripping device and monitoring voltage ..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) ..... :		N/A
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	**ANNEX P, NORMATIVE REFERENCES**		—
Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		N/A
	- Preferred climatic categories ..... :		N/A
	- Maximum continuous voltage ..... :		N/A
	- Combination pulse current ..... :		N/A
	Body of the VDR Test according to IEC60695-11-5.....:		N/A
	Body of the VDR. Flammability class of material (min V-1).....:		N/A
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
		See separate test report	—

U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
		See separate test report	—

V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		N/A
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A

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)**	N/A

N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N/A
CC.1	General		N/A
CC.2	Test program 1……:		N/A
CC.3	Test program 2……:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A

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

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

1.5.1	**TABLE: List of critical components**				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
- Description:					

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Enclosure	Kontron	1U short	176.5mm*482.6 mm *522mm (H*B*T)	-	-
Labels	Schreiner Group Gmbh & Co Kg Oberschleissheim , Germany	13-154/81-134/39-38	Construction : (Adhesive, Base, Ink, Overlay material)	UL 969	UL
PSU	FSP Ground INC.	FSP400-60PFB	100-240Vac; 6-3A; 60-50Hz; 400W Output: 12V1V, 16 A Output: +12V2V, 10 A Output: -12 V, 0.5 A Output: +5 V, 20 A Output: +5VsbV, 2,5 A Output: -5V, 0.3A Output: +3.3 V, 20 A With derating maximum 88% Load, because temperature was higher	IEC 60950-1:2005 (2nd Edition) and/or EN 60950-1:2006, A11: 2009	TÜV; UL
Power supply cord (Europe)	Feller	VII	H05VV-F3G-1.00mm 10A / 250V	IEC60227; IEC60320	VDE
Power Button	Jackson Electronics Industrial Corp.	JS-7578	1A 125VAC	-	Accepted
PCI-board	Suntak Multilayer	STM-5	Tmax:130°C	UL94V-0	UL
CPU Board (Mainboard)	Kontron	PCI-762	See Manual of component	UL94V-0	UL
CPU Cooler Fan	Delta	AFB0612EH	12Vdc; 0.48A	UL507	UL; CSA
Fan (Chassis)	Sumon	KDE1209PTV1	12Vdc; 3.5W	UL507; EN 60950-1:2006+A11	cRU®us; TÜV Rheinland
Internal USB Cable	DER AN ELECTRIC WIRE & CABLE co LTD	Style 2725	60 or 80 °C, 30Vac	UL 758	UL
Internal SATA-Cable	Vega Tech	Style 2725	60 or 80 °C, 30Vac	UL758	UL
Front USB	Logwell	Singl Layer	Rated V0	-	Accepted

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Hard Disk Drive	Western Digital	WD2002FYPS	2TB; 5Vdc-0.6A; 12Vdv-0.45A	UL60950	cRU®us
DVD/CD RW Drive	Sony Optical Inc.	AD-7240s	5Vdc-1.5A; 12Vdc-2.5A	UL60950	cRU®us
Air Filter	Bridge-Stone Corp.	HR	HR-13, Class 2	UL900	RU®
Battery	Panasonic	CR2032	+3Vdc	UL 1642	UL
Supplementary information: **[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039**.					

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

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
60Hz						
90	1.048	Max 4.5A	93	-	-	
100	0.959	Max 4.5A	94	-	-	
240	0.446	Max 4.5A	91	-	-	
264	0.435	Max 4.5A	91	-	-	
50Hz						
90	1.126	Max 4.5A	100	-	-	
100	1.020	Max 4.5A	101	-	-	
240	0.472	Max 4.5A	100	-	-	
264	0.456	Max 4.5A	100	-	-	
Supplementary information:						

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

Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
supplementary information:				
R/C PSU				

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.	
	12.1	12	

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
supplementary information:	

2.5	**TABLE: Limited power sources**	N/A

Circuit output tested:

Note: Measured Uoc (V) with all load circuits disconnected:

Components	Sample No.	Uoc (V)	I_{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
supplementary information:						
Sc=Short circuit, Oc=Open circuit, R/C PSU						

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2.10.2	**Table: working voltage measurement**	N/A

Location	RMS voltage (V)	Peak voltage (V)	Comments
supplementary information:			
R/C PSU			

2.10.3 and 2.10.4	**TABLE: Clearance and creepage distance measurements**					N/A
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:						
Basic/supplementary:						
Reinforced:						
Supplementary information: R/C PSU						

2.10.5	**TABLE: Distance through insulation measurements**				N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Supplementary information: R/C PSU					

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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: R/C mainboard with internal clock source used		

4.3.8	TABLE: Batteries	N/A

Battery category.....	:	(Lithium, NiMh, NiCad, Lithium Ion …)
Manufacturer	:	
Type / model.....	:	
Voltage	:	
Capacity.....	:	mAh
Tested and Certified by (incl. Ref. No.)	:	

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

4.5	TABLE: Thermal requirements						P
	Supply voltage (V) ……:	264	90				—
	Ambient T_{min} (°C) ……:	23	23			50	—
	Ambient T_{max} (°C) ……:	23	23			50	—
Maximum measured temperature T of part/at……:		T (°C)					Allowed T_{max} (°C)
1. Ambient		23	23			50	50
2. Ambient inside neare CPU		33	33			60	60
3. CPU Cooler		38	38			65	70
4. PSU above travo		27	28			55	70
5. Molex plug yellow wire		28	28			55	95
6. Top Enclusure obove CPU		24	24			51	70
Supplementary information: PSU max ambient temperature 60°C after derating to max 88% Load							

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)
Supplementary information:			

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4.7	TABLE: Resistance to fire				N/A
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Supplementary information:					

5.1	TABLE: touch current measurement		P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
S=0; e(NC)=1; P1=L1	0.30	3.5	
S= 0; e(NC)= 1; P1= N	0.29	3.5	
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:				
L1+N to PE		AC	1500	No
L1+N to PE		DC	2121	No
Reinforced:				
Supplementary information:				

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C) .....:	23	—
	Power source for EUT: Manufacturer, model/type, output rating .....:	Croma AC Source Type:6430	—

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Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
	Cooling openings outputs blocked	264	2:00:00	-	N/A	TC2=anbient inside- 51°C TC3=CPU cooler- 54°C Temperature was stable No Damage No risc of flame
	Cooling ventilations locked	264	1:08:00	-	N/A	TC2=anbient inside- 45°C TC3=CPU cooler- 41°C Temperature was stable No Damage No risc of flame
	SIP SOP SC	264	0:30:00	-	N/A	Device works normal No Damage No risc of flame
Supplementary information:						

C.2	TABLE: transformers						N/A
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
supplementary information:							

C.2	TABLE: transformers	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

List of test equipment used:
(Note: This is an example of the required attachment. Other forms with a different layout but containing similar information are also acceptable.)

Geräte-Nr.	T-ID	Bezeichnung	Typ	Seriennummer	Klasse	Status	Kalibriert am	Kalibriert bis
03103411090	9180	Multimeter	MetraHit Extra	VH1101	AKTIV	FREI	16.01.2013	16.01.2014
03107013001	9684	Berührungsstrom-Messvorrichtung	BSM-500KK	2013BSM04V02-Tüv	AKTIV	FREI	28.02.2013	28.02.2014
01104012007	9605	Temp. Datencollector 24 Kanal	MV1024	S5MB06530	AKTIV	FREI	12.02.2013	12.02.2014
03103296003	3837	Wattmeter digital	WT 110	26BV1054	AKTIV	FREI	18.04.2013	18.04.2014
03301809023	8307	Stahlmaßstab, 20cm	Holex	45-5712	AKTIV	FREI	07.10.2009	31.10.2014
03304711079	9008	Plattformwaage, elektronisch	IFB 30K5DM	WF100434	AKTIV	FREI	08.07.2013	31.07.2014
03109997006	3881	Funkwecker	RM 212		AKTIV	FREI	22.03.2012	31.03.2017
03309903022	3985	Handstoppuhr			AKTIV	FREI	29.07.2010	31.07.2014
03023613001	9699	Hochspannungsgerät	S 331 1Fm	13030802	AKTIV	FREI	20.03.2013	31.03.2014
01107005007	238	Ableitstrom-Messbox	60950/61010	5007	AKTIV	FREI	20.08.2013	20.08.2014
01103512002	9580	Schutzleiterprüfgerät 60A	AR-3160 Hyamp 3	9390238	AKTIV	FREI	13.11.2012	13.11.2013
01101510001	8774	Kraftmessgerät digital Alluris	FMI-220C5	A9510E026	AKTIV	FREI	17.12.2012	17.12.2013