Certificate of Compliance

with

European Low Voltage Directive

No. T1006184-598

Type of equipment: **5 LAN ports Desktop Network Appliance**

Certificate holder: **AAEON Technology Inc.**

Type designation: **xxxxFWS-2150xx-xxx-xxxxxxx (x=A-Z, 0-9, "-" or blank)**

Technical data: **Input: 19Vdc, 3.16A**

A sample of the equipment has been tested for CE-marking according to the EC Low Voltage Directive, 2006/95/EC
Standard used for showing compliance with the essential requirements of the directive:

Standard(s):	*Test report(s):*	*Issued by:*	*Date(s):*
IEC 60950-1:2005 EN 60950-1:2006 +A11:2009	T1006184-598	Cerpass	July 12, 2010

The referred test report(s) show that the product fulfills the requirements in the EC Low Voltage Directive for CE marking. On this basis, together with the manufacturer's own documented production control, the manufacturer (or his European authorized representative) can in his EC Declaration of Conformity verify compliance with the EC Low Voltage Directive.

CE

Sprewell Chien

Sprewell Chien
Engineering Department

TEST REPORT

IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006

Information technology equipment – Safety – Part 1: General requirements

Report Reference No. ..... :	<T1006184-598>
Tested by (printed name and signature) ..... :	Cavy Chen
Approved by (printed name and signature) ..... :	Miller Chang
Date of issue ..... :	July 12, 2010
Testing Laboratory Name ..... :	Cerpass Technology Corp.
Address ..... :	9F, No. 200, Gangcian Rd., Neihu District Taipei City, Taiwan
Applicant's name ..... :	AAEON Technology Inc.
Address ..... :	5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan
Test specification:	
Standard ..... :	IEC 60950-1:2005 (2nd Edition) and/or EN 60950-1:2006 + A11:2009
Test procedure ..... :	Service of CE Marking in LVD
Non-standard test method..... :	N.A.
Test item description ..... :	5 LAN ports Desktop Network Appliance
Trade Mark ..... :	AAEON Teconology Inc.
Manufacturer ..... :	Same as applicant
Model/Type reference ..... :	xxxxFWS-2150xx-xxx-xxxxxxx (x=A-Z, 0-9, "-" or blank)
Ratings ..... :	19Vdc, 3.16A

Particulars: test item vs. test requirements	
Equipment mobility ..... :	Movable
Connection to the mains ..... :	Not directly connected to the mains
Operating condition ..... :	Continuous
Access location ..... :	Compliance shall be evaluated for final system.
Over voltage category (OVC) ..... :	Other; Not directly connected to the mains
Mains supply tolerance (%) or absolute mains supply values ..... :	N/A
Tested for IT power systems ..... :	N/A
IT testing, phase-phase voltage (V) ..... :	N/A
Class of equipment ..... :	Class III
Considered current rating (A) ..... :	N/A
Pollution degree (PD) ..... :	PD 2
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	< 2000 m
Altitude of test laboratory (m) ..... :	< 2000 m
Mass of equipment (kg) ..... :	1.65kg
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..... :	June 30, 2010
Date(s) of performance of tests..... :	June 30, 2010 – July 02, 2010

General remarks:

This report shall not be reproduced except in full without the written approval of the testing laboratory.
The test results presented in this report relate only to the item(s) tested.
”(see remark #)" refers to a remark appended to the report.
"(see Annex #)" refers to an annex appended to the report.
Throughout this report a point is used as the decimal separator.

Factor(ies):

1. AAEON Technology Inc.
   5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan

General product information:

This equipment, model xxxxFWS-2150xx-xxx-xxxxxxx, is a class III 5 LAN ports Desktop Network Appliance which is intended to use with computer, local area network.

Other comments:

The maximum operating temperature is defined as +40 °C.

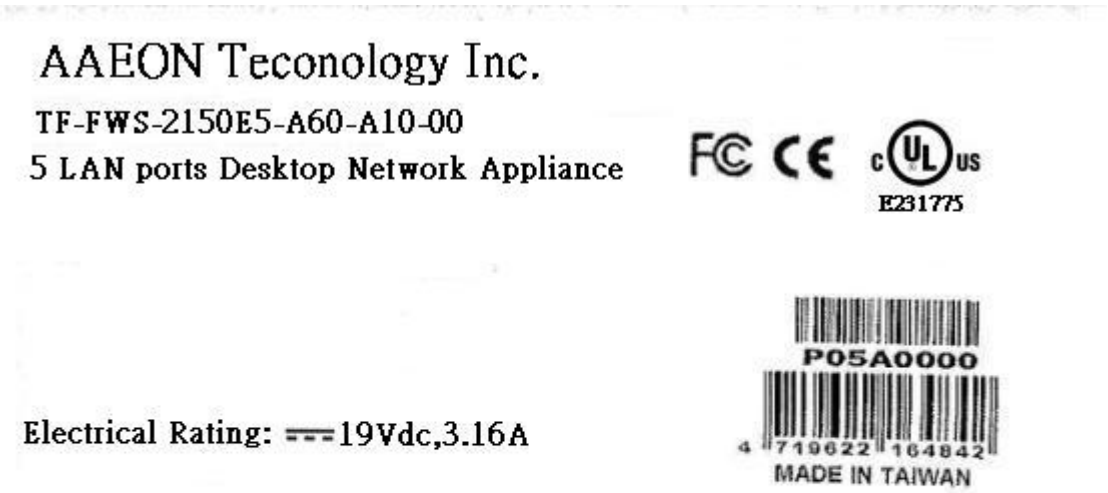
The equipment consists of HDD, mother board and electronic components mounted on PWB and housed with metallic enclosure secured together by screw.

The equipment is power supplied from the external power adaptor. Otherwise, the adaptor which is intended to be used with this equipment in the regional market should be stated in the specified type in the instruction by suitable regional languages.

The label drawing is a draft of an artwork for marking plates pending approval by National Certification Bodies and it shall be affixed to products prior to such an approval.

Copy of marking plate:

(Representative)



IEC/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 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or with the safety aspects of the relevant IEC/EN component standards. See appended table 1.5.1.	P
1.5.2	Evaluation and testing of components	Components that 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 thermal control.	N/A
1.5.4	Transformers	No such components provided.	N/A
1.5.5	Interconnecting cables	No interconnecting cable provided.	N/A
1.5.6	Capacitors bridging insulation	No such capacitor.	N/A
1.5.7	Resistors bridging insulation	No such resistor.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Same as above.	N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	Same as above.	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	Same as above.	N/A
1.5.8	Components in equipment for IT power systems	Class III equipment.	N/A
1.5.9	Surge suppressors	No such suppressor provided.	N/A
1.5.9.1	General	Same as above.	N/A
1.5.9.2	Protection of VDRs	Same as above.	N/A
1.5.9.3	Bridging of functional insulation by a VDR	Same as above.	N/A
1.5.9.4	Bridging of basic insulation by a VDR	Same as above.	N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR	Same as above.	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6	Power interface		P
1.6.1	AC power distribution systems	Class III equipment.	N/A
1.6.2	Input current	Highest load according to 1.2.2.1 for this equipment is operated in link mode. See appended table 1.6.2.	P
1.6.3	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	N/A
1.6.4	Neutral conductor	Class III equipment.	N/A
1.7	Marking and instructions		P
1.7.1	Power rating	See below.	P
	Rated voltage(s) or voltage range(s) (V) ..... :	19Vdc	P
	Symbol for nature of supply, for d.c. only ..... :	See the marking plate.	P
	Rated frequency or rated frequency range (Hz) ... :	DC source.	N/A
	Rated current (mA or A) ..... :	3.16A	P
	Manufacturer's name or trade-mark or identification mark ..... :	AAEON Teconology Inc.	P
	Model identification or type reference ..... :	xxxxFWS-2150xx-xxx-xxxxxxx (x=A-Z, 0-9, "-" or blank)	P
	Symbol for Class II equipment only ..... :	Class III equipment.	N/A
	Other markings and symbols ..... :	Additional symbols or markings do not give rise to misunderstanding.	P
1.7.2	Safety instructions and marking	See below.	P
1.7.2.1	General	The user's manual contains information for operation, installation, servicing, transport, storage and technical data. The operation guide is provided to the user.	P
1.7.2.2	Disconnect devices	This equipment is not permanently connected equipment	N/A
1.7.2.3	Overcurrent protective device	This equipment is not permanently connected equipment or pluggable equipment.	N/A
1.7.2.4	IT power distribution systems	Class III equipment.	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.5	Operator access with a tool	No tool is required to gain access to operator access area.	N/A
1.7.2.6	Ozone	No ozone produces within this equipment.	N/A
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment ..... :	No adjustment of supply voltage necessary.	N/A
	Methods and means of adjustment; reference to installation instructions ..... :	Same as above.	N/A
1.7.5	Power outlets on the equipment ..... :	No outlet provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :	No such component used.	N/A
1.7.7	Wiring terminals	No such terminals provided.	N/A
1.7.7.1	Protective earthing and bonding terminals ..... :	See below.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Class III equipment.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Same as above.	N/A
1.7.8	Controls and indicators	No controls or indicators	N/A
1.7.8.1	Identification, location and marking ..... :	See below.	N/A
1.7.8.2	Colours ..... :	No safety relevant control or indicator.	N/A
1.7.8.3	Symbols according to IEC 60417 ..... :	No symbol used.	N/A
1.7.8.4	Markings using figures ..... :	No indicators for different positions of control.	N/A
1.7.9	Isolation of multiple power sources ..... :	Only one supply connection.	N/A
1.7.10	Thermostats and other regulating devices ..... :	No such device provided.	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 s and then again for 15 s 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 neither curling nor lifting of the label edge.	P
1.7.12	Removable parts	No removable part provided.	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.13	Replaceable batteries ..... :	No battery provided.	N/A
	Language(s) ..... :	Same as above.	—
1.7.14	Equipment for restricted access locations ..... :	No restricted access location.	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	See below.	P
2.1.1.1	Access to energized parts	Same as above.	P
	Test by inspection ..... :	No concerned parts were access.	P
	Test with test finger (Figure 2A) ..... :	Same as above.	P
	Test with test pin (Figure 2B) ..... :	Same as above.	P
	Test with test probe (Figure 2C) ..... :	Same as above.	P
2.1.1.2	Battery compartments	No battery compartment.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)	Same as above.	—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	N/A
2.1.1.5	Energy hazards ..... :	No energy hazard circuit in user accessible parts.	P
2.1.1.6	Manual controls	No conductive shaft of operating knob and handle.	N/A
2.1.1.7	Discharge of capacitors in equipment	Class III equipment.	N/A
	Measured voltage (V); time-constant (s)..... :	Same as above.	—
2.1.1.8	Energy hazards – d.c. mains supply	Class III equipment.	N/A
	a) Capacitor connected to the d.c. mains supply .. :	Same as above.	N/A
	b) Internal battery connected to the d.c. mains supply ..... :	Same as above.	N/A
2.1.1.9	Audio amplifiers ..... :	No audio amplifier provided.	N/A
2.1.2	Protection in service access areas	No maintenance work in operation mode necessary.	N/A
2.1.3	Protection in restricted access locations	The unit is not intended to be used in restricted locations.	N/A
2.2	SELV circuits		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V) ..... :	Between any SELV circuits 42.4V peak or 60VDC are not exceeded.	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 DC were not exceed and SELV limits not for longer than 0.2 seconds.	P
2.2.4	Connection of SELV circuits to other circuits ..... :	See 2.2.2 and 2.2.3. No direct connection between SELV and any primary circuits.	N/A
2.3	TNV circuits ***No TNV circuit within this equipment.***		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 ***No such circuit within this equipment.***		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz) ..... :		—
	Measured current (mA)..... :		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	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)		—
2.6	Provisions for earthing and bonding ***Class III equipment.***		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
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
	Protective current rating (A), cross-sectional area (mm^2), AWG ..... :		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) ..... :		N/A
2.6.3.5	Colour of insulation ..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), type, nominal thread diameter (mm)..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	Overcurrent and earth fault protection in primary circuits ***Class III equipment.***		N/A
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		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices ..... :		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel ..... :		N/A
2.8	Safety interlocks ***No such device within this equipment.***		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
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.8.7.1	Contact gaps (mm) ..... :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A
2.9	Electrical insulation ***Class III equipment and only SELV circuit within this equipment.***		P
2.9.1	Properties of insulating materials		N/A
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C) ..... :		—
2.9.3	Grade of insulation	Functional insulation.	P
2.9.4	Separation from hazardous voltages	See below.	N/A
	Method(s) used ..... :	Class III equipment, which is separated from hazardous voltage by double/reinforced insulation.	—
2.10	Clearances, creepage distances and distances through insulation ***The unit is supplied from DC connector that provides SELV. Only SELV inside the unit. See also 5.3.4.***		P
2.10.1	General	Functional insulation only.	P
2.10.1.1	Frequency ..... :		N/A
2.10.1.2	Pollution degrees ..... :		N/A
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		N/A
2.10.3.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply ..... :		N/A
	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		N/A
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply ..... :		N/A
2.10.3.7	Transients from d.c. mains supply ..... :		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems ..... :		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	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		N/A
2.10.4.1	General		N/A
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests..... :		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		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		—

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
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		—
	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		N/A
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

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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		N/A
3.1.1	Current rating and overcurrent protection	All wires have suitable and adequate current capability.	P
3.1.2	Protection against mechanical damage	No sharp edge within this equipment.	P
3.1.3	Securing of internal wiring	All internal wiring is secured well.	P
3.1.4	Insulation of conductors	The conductors have adequate insulation ability.	P
3.1.5	Beads and ceramic insulators	No such insulator.	N/A
3.1.6	Screws for electrical contact pressure	No screw used for electrical connection.	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal.	N/A
3.1.8	Self-tapping and spaced thread screws	No self-tapping or spaced thread screws used.	N/A
3.1.9	Termination of conductors	See below.	P
	10 N pull test	Well secured and keep suitable spacing as the required value.	P
3.1.10	Sleeving on wiring	No sleeving used as supplementary insulation.	N/A
3.2	Connection to a mains supply ***Class III equipment.***		N/A
3.2.1	Means of connection		N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
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

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		—
	Rated current (A), cross-sectional area (mm²), AWG ..... :		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) ..... :		—
	Radius of curvature of cord (mm) ..... :		—
3.2.9	Supply wiring space		N/A
3.3	Wiring terminals for connection of external conductors ***Class III equipment.***		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 ***Class III equipment.***		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.1	General requirement		N/A
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		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		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
3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits ..... :	Interconnection circuits of SELV circuits through output connector.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection circuits	N/A
3.5.4	Data ports for additional equipment	Supplied from an external power adaptor which is complied with LPS.	P
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	The equipment did not exceed 7.0kg.	N/A
	Test force (N) ..... :	No such consideration.	N/A
4.2	Mechanical strength ***Class III equipment and only SELV circuit within this equipment.***		N/A
4.2.1	General		N/A
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.5	Impact test		N/A
	Fall test		N/A
	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 ..... :		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	The outer surfaces of the equipment are smooth and rounded.	P
4.3.2	Handles and manual controls; force (N) ..... :	No such handle or control.	N/A
4.3.3	Adjustable controls	No such control.	N/A
4.3.4	Securing of parts	No such parts.	N/A
4.3.5	Connection by plugs and sockets	Mismatching of connectors either not possible or does not result in any hazard.	P
4.3.6	Direct plug-in equipment	Not direct plug-in type.	N/A
	Torque ..... :	Same as above.	—
	Compliance with the relevant mains plug standard ..... :	Same as above.	N/A
4.3.7	Heating elements in earthed equipment	No heating element.	N/A
4.3.8	Batteries	No battery within this equipment.	N/A
	- Overcharging of a rechargeable battery	Same as above.	N/A
	- Unintentional charging of a non-rechargeable battery	Same as above.	N/A
	- Reverse charging of a rechargeable battery	Same as above.	N/A
	- Excessive discharging rate for any battery	Same as above.	N/A
4.3.9	Oil and grease	Insulation in intended use not considered to be exposed to oil and grease.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.10	Dust, powders, liquids and gases	EUT in intended use does not produce dust or use powders, liquids or gases.	N/A
4.3.11	Containers for liquids or gases	No container within this equipment.	N/A
4.3.12	Flammable liquids ..... :	No liquid within this equipment.	N/A
	Quantity of liquid (l) ..... :	Same as above.	N/A
	Flash point (°C) ..... :	Same as above.	N/A
4.3.13	Radiation	See below.	P
4.3.13.1	General	Same as above.	P
4.3.13.2	Ionizing radiation	No ionizing radiation or flammable liquids present.	N/A
	Measured radiation (pA/kg) ..... :	Same as above.	—
	Measured high-voltage (kV) ..... :	Same as above.	—
	Measured focus voltage (kV) ..... :	Same as above.	—
	CRT markings ..... :	Same as above.	—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	No UV radiation.	N/A
	Part, property, retention after test, flammability classification ..... :	Same as above.	N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ..... :	No UV radiation.	N/A
4.3.13.5	Laser (including LEDs)	AEL of LED far below the limiting values for LED Class 1.	P
	Laser class ..... :	Below Class 1.	—
4.3.13.6	Other types ..... :	No such consideration.	N/A

4.4	Protection against hazardous moving parts ***No hazard moving part within this equipment.***		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas ..... :		N/A
4.4.3	Protection in restricted access locations ..... :		N/A
4.4.4	Protection in service access areas		N/A

4.5	Thermal requirements		P
4.5.1	General	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.5.2	Temperature tests	See appended table 4.5.	P
	Normal load condition per Annex L ..... :	Operation at rated load.	—
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 ..... :	No thermoplastic part at hazardous voltage.	N/A
4.6	Openings in enclosures		P
4.6.1	Top and side openings	See below.	P
	Dimensions (mm) ..... :	See appended table 4.6.1, 4.6.2.	—
4.6.2	Bottoms of fire enclosures	See below.	P
	Construction of the bottom, dimensions (mm) ..... :	See appended table 4.6.1, 4.6.2.	—
4.6.3	Doors or covers in fire enclosures	No such door or cover.	N/A
4.6.4	Openings in transportable equipment	Not such equipment.	N/A
4.6.4.1	Constructional design measures	Same as above.	N/A
	Dimensions (mm) ..... :	Same as above.	—
4.6.4.2	Evaluation measures for larger openings	Same as above.	N/A
4.6.4.3	Use of metallized parts	Same as above.	N/A
4.6.5	Adhesives for constructional purposes	No such consideration.	N/A
	Conditioning temperature (°C), time (weeks) ..... :	Same as above.	—
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	Method 1 used.	P
	Method 2, application of all of simulated fault condition tests	Same as above.	N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	Same as above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.2.2	Parts not requiring a fire enclosure	The appliance with: Supply of components in the secondary circuit by a limited power source adaptor. The components are mounted on PCB material of flammability rating V-1 min., the fire enclosure construction is not required.	P
4.7.3	Materials		P
4.7.3.1	General	See appended table 1.5.1 for PCB material.	P
4.7.3.2	Materials for fire enclosures	See below.	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures	See sub-clause 4.7.2.2	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Same as above.	N/A
4.7.3.5	Materials for air filter assemblies	No air filter assembly within this equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage component within this equipment.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS ***Class III equipment, no connection to primary power directly, and no telecommunication network or cable distribution system within this equipment.***		N/A
5.1	Touch current and protective conductor current		N/A
5.1.1	General		N/A
5.1.2	Configuration of equipment under test (EUT)		N/A
5.1.2.1	Single connection to an a.c. mains supply		N/A
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		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Supply voltage (V) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured touch current (mA) ..... :		—
	Max. allowed touch current (mA) ..... :		—
	Measured protective conductor current (mA) ..... :		—
	Max. allowed protective conductor current (mA) ... :		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General ..... :		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		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		N/A
5.2.1	General		N/A
5.2.2	Test procedure		N/A

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	Abnormal operation test performed. See appended table 5.3.	P
5.3.2	Motors	No motor within this equipment.	N/A
5.3.3	Transformers	No transformer within this equipment.	N/A
5.3.4	Functional insulation ..... :	Method c). Result see appended table 5.3.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.5	Electromechanical components	No such component.	N/A
5.3.6	Audio amplifiers in ITE ..... :	No audio amplifier within this equipment.	N/A
5.3.7	Simulation of faults	See appended table 5.3.	P
5.3.8	Unattended equipment	No thermostat, temperature limiter nor thermal cut-out provided.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire occurred and no molten metal was emitted. Electric strength test was not required.	P
5.3.9.1	During the tests	Same as above.	P
5.3.9.2	After the tests	Same as above.	N/A
6	CONNECTION TO TELECOMMUNICATION NETWORKS ***No telecommunication network circuits within equipment.***		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V) ..... :		—
	Current in the test circuit (mA) ..... :		—
6.1.2.2	Exclusions ..... :		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks ***No telecommunication network circuits within equipment.***		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 ***Not such equipment intended to provide power over telecommunication network.***		N/A
	Max. output current (A) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Current limiting method ..... :		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS ***No cable distribution system within this equipment.***		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples ..... :		—
	Wall thickness (mm)..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples ..... :		N/A
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 ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm)..... :		—
A.2.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.2.3	Mounting of samples ..... :		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C ..... :		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position ..... :		—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) ..... :		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) ..... :		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
	Method of protection ..... :		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings ..... :		N/A
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N/A
D.1	Measuring instrument		N/A
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)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply ..... :		N/A
G.2.2	Earthed d.c. mains supplies ..... :		N/A
G.2.3	Unearthed d.c. mains supplies ..... :		N/A
G.2.4	Battery operation ..... :		N/A
G.3	Determination of telecommunication network transient voltage (V) ..... :		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks ..... :		N/A
G.4.2	Transients from telecommunication networks ..... :		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	See sub-clause 1.6.2.	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) ..... :		—
M.3.1.2	Voltage (V) ..... :		—
M.3.1.3	Cadence; time (s), voltage (V) ..... :		—
M.3.1.4	Single fault current (mA) ..... :		—
M.3.2	Tripping device and monitoring voltage ..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) ..... :		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
			—
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—

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Clause	Requirement + Test	Result - Remark	Verdict

EN 60950-1:2006 – CENELEC COMMON MODIFICATIONS		
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations	P
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2; 1.5.1 Note 2 & 3; 1.5.7.1 Note 1.5.8 Note 2; 1.5.9.4 Note; 1.7.2.1 Note 4, 5 & 6 2.2.3 Note; 2.2.4 Note; 2.3.2 Note 2.3.2.1 Note 2; 2.3.4 Note 2; 2.6.3.3 Note 2 & 3 2.7.1 Note; 2.10.3.2 Note 2; 2.10.5.13 Note 3 3.2.1.1 Note; 3.2.4 Note 3.; 2.5.1 Note 2 4.3.6 Note 1 & 2; 4.7 Note 4; 4.7.2.2 Note 4.7.3.1 Note 2; 5.1.7.1 Note 3 & 4; 5.3.7 Note 1 6 Note 2 & 5; 6.1.2.1 Note 2; 6.1.2.2 Note 6.2.2 Note 6.; 2.2.1 Note 2; 6.2.2.2 Note 7.1 Note 3; 7.2 Note; 7.3 Note 1 & 2 G.2.1 Note 2; Annex H Note 2	P
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
1.5.1	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	N/A
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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; 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
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
3.3.4	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	Add the following NOTE: 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. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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
Biblio-graphy	Additional EN standards.	—

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

ZB	SPECIAL NATIONAL CONDITIONS	N/A
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
1.5.7.1	In **Finland**, **Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.	N/A
1.5.8	In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	N/A
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	N/A
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 suojamaadoituskoskettimilla varustettuun pistorasiaan" In Norway: “Apparatet må tilkoples jordet stikkontakt” In Sweden: “Apparaten skall anslutas till jordat uttag”	N/A
1.7.5	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.	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

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Clause	Requirement + Test	Result - Remark	Verdict

2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.	N/A
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	N/A
2.10.5.13	In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	N/A
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, 16 A SEV 5934-2.1998 Plug Type 23 L+N+PE 250 V, 16 A	N/A
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	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

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Clause	Requirement + Test	Result - Remark	Verdict

3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	N/A
3.2.1.1	In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	N/A
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.	N/A
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 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
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

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1	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. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement 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. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, 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 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		N/A
6.1.2.2	In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In **Finland**, **Norway** and **Sweden**, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In **Norway** and **Sweden**, there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building installation.		N/A
7.3	In **Norway**, for installation conditions see EN 60728-11:2005.		N/A

ZC	A-DEVIATIONS (informative)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	**Sweden** (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.	N/A
1.5.1	**Switzerland** (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.	N/A
1.7.2.1	**Denmark** (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: “For tilslutning af de øvrige ledere, se medfølgende installationsvejledning.”	N/A
1.7.2.1	**Germany** (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.	N/A
1.7.5	**Denmark** (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	N/A
1.7.13	**Switzerland** (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.	N/A
5.1.7.1	**Denmark** (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.	N/A

1.5.1	TABLE: List of critical components				P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1.]
Power Adapter	Various	Various	O/P: 19Vdc, 3.42A min., 40°C minimum, Class I or Class II. LPS.	EN 60950-1 IEC 60950-1	CB issued by National Certification Body
Metal Enclosure	--	--	1.0 mm minimum thick.	--	--
HDD (Optional)	--	--	5Vdc, 1.5A maximum	EN 60950-1 IEC 60950-1	TUV, UL
RTC Battery (BAT1)	Matsushita	CR2032	Maximum abnormal charge current 10mA	UL 1642	UL
Polyfuse (P1)	Raychem	miniSMDC110xxxxxxxxxxxxxxxxxxx (x= 0-9, A-Z, ".", "-" or blank)	8V, 1.1A	EN 60730-1	TÜV
PCB	--	--	V-1 min., 105°C min.	UL 796	UL
1. An asterisk indicates a mark that assures the agreed level of surveillance.					

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I rated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
DC 19	1.01	3.16	19.19	--	--	Maximum normal operation.
Note:						

2.5	Limited Power Source Measurements					N/A
Output Tested	Measured		Single Fault Condition	Maximum		
	From	To		U_{oc}	I_{sc}	VA (5s)
Note:						

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)	

Note:						

2.10.5	TABLE: Distance through insulation measurements					N/A
Distance through insulation (DTI) at/of:	U peak (V)	U r.m.s. (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Note:						

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										
Note:										

4.5	TABLE: Thermal requirements		P
	Supply voltage (V) .....:	19Vdc	—
	Ambient T_{min} (°C) .....:	See below.	—
	Ambient T_{max} (°C) .....:	See below.	—

Maximum measured temperature T of part/at::	T (°C)	Allowed T_{max} (°C)
PCB near U7	64.4	105
PCB near U8	71.4	105
PCB near U9	74.2	105
PCB near U20	61.9	105
PCB near U22	76.1	105
PCB near U26	67.2	105
RTC Battery	64.8	--
H.D.D	53.4	--
Enclosure outside near U22	47.2	70
Tamb	25.1	--
Tma	40.0	--

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

Note:

1. The temperature were measured under the worse case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 at voltage as described above.
2. All values for T(°C) are re-calculated from Tamb respectively.
3. The maximum ambient temperature (Tma) permitted by the manufacturer's specification is 40°C.

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)

Note:

4.6.1, 4.6.2	Table: enclosure openings	P

Location	Size (mm)	Comments
Top side	--	No openings.
Front side	--	No openings.
Left side	3.4 x 2.4	No any hazardous voltage and energy with 5° vertical projection area according Figure 4D.
Right side	3.4 x 2.4	No any hazardous voltage and energy with 5° vertical projection area according Figure 4D.
Rear side	--	No openings.
Bottom side	--	No openings.
Note(s):		

4.7	Table: Resistance to fire	P

Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--
Note: See appended table 1.5.1.					

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests	N/A

Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Note:			

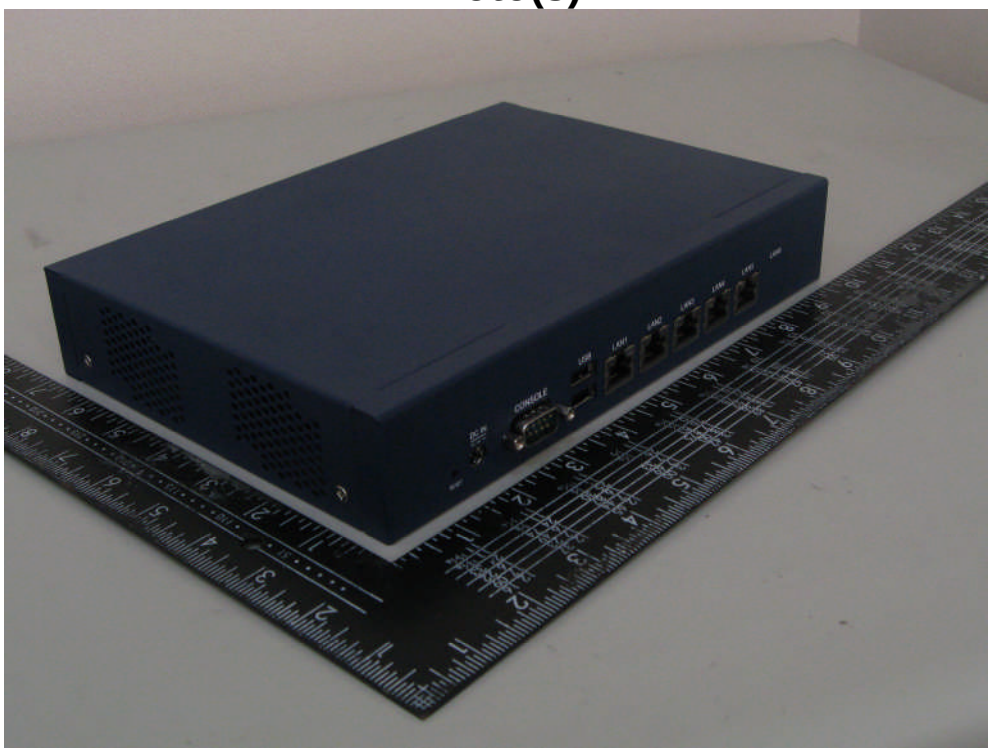
5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C) .....:	See below.	—
	Power source for EUT: Manufacturer, model/type, output rating .....:	See appended table 1.5.1.	—

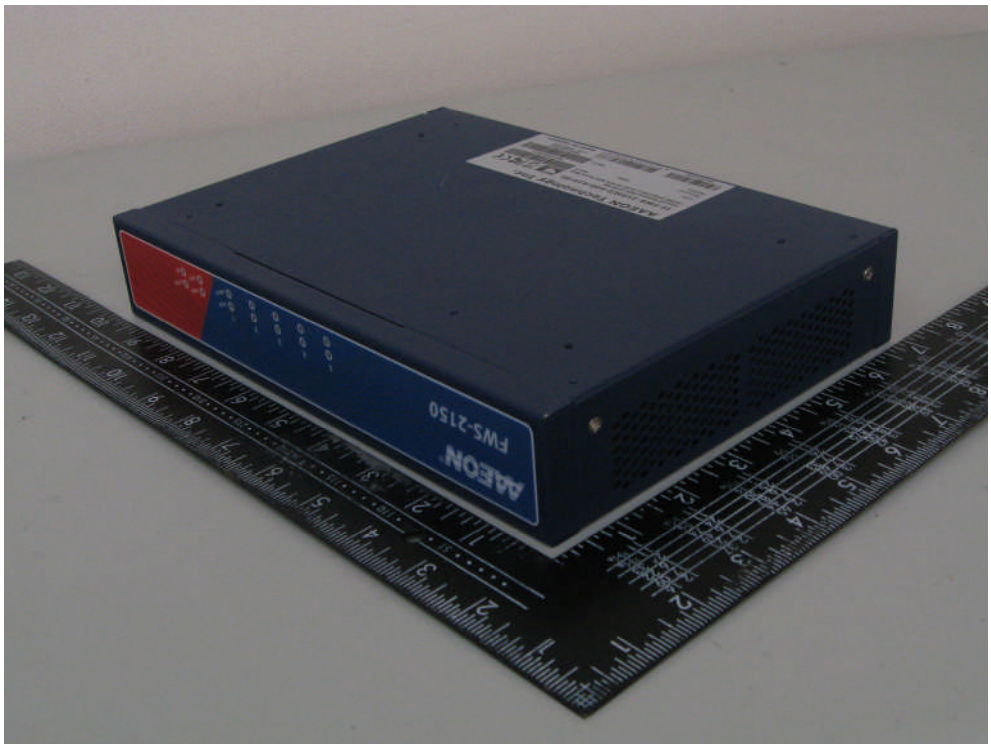
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Ventilation openings	Blocked	19Vdc	2hr	--	--	Unit normal operation. No hazard, no damage.

D16, Pin 1-2 (For RTC battery charging)	s-c	--	10 min	--	--	No hazards. Current = 3.05mA.
Note:						

M.2	TABLE: Criteria for telephone ringing signals (European method)								N/A
Between parts	I_{DC} (mA)	I_P (mA)	I_{PP} (mA)	t_1 (ms)	t_2 (ms)	I_{TS1} (ms)	Limit (ms)	I_{TS2} (ms)	Limit (ms)
Supplementary information:									
Note:									

Photo(s)





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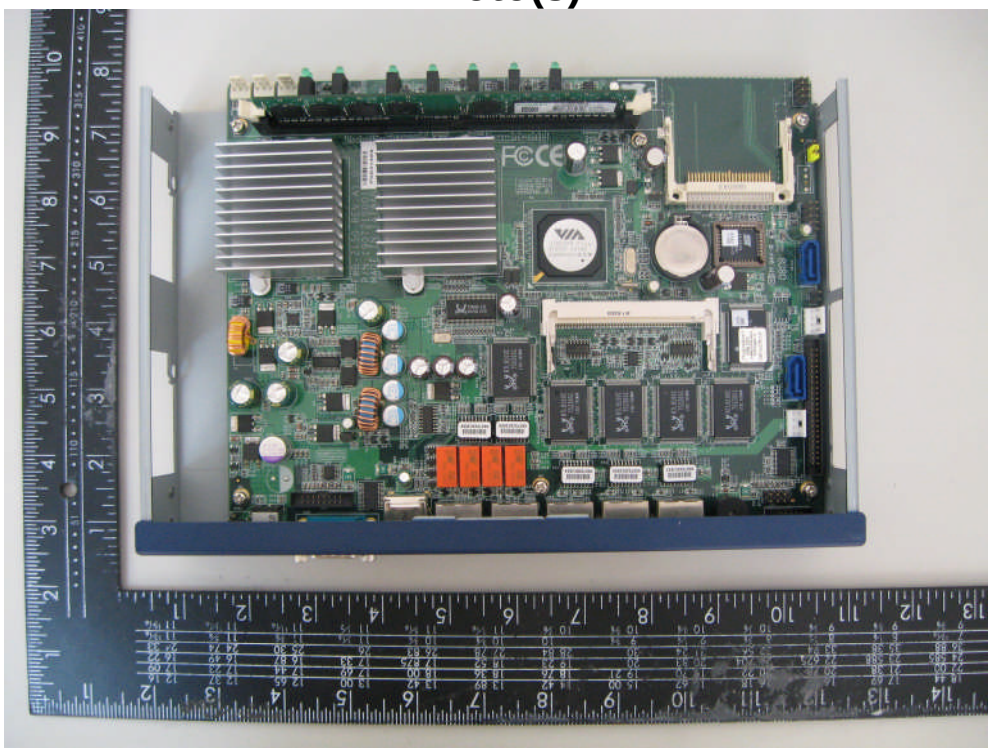

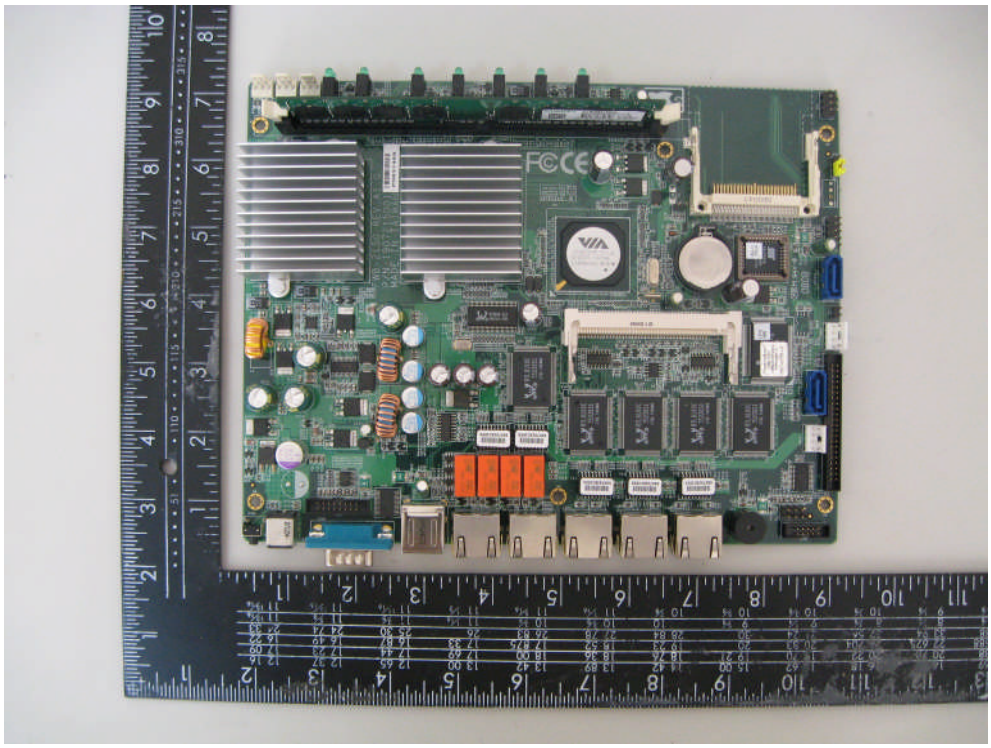

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