Certificate of Compliance

with

European Low Voltage Directive

No. 10001 228 001

Type of equipment:	**AAEON Technology Inc.**
Certificate holder:	**2U LAN Port Rackmount Firewall Platform**
Type designation:	**FWS-825**
Technical data:	**Rating (s) : 100-240Vac, 10A, 50-60Hz**

A sample of the equipment has been tested for CE-marking according to the EC Low Voltage Directive, 73/23/EEC, 93/68/EEC.

Standard(s) used for showing compliance with the essential requirements of the directive:

Standard(s):	*Test report(s):*	*Issued by:*	*Date(s):*
IEC 60950-1:2001 EN 60950-1:2001+A11:2004	10001 228 001	Cerpass	January 19, 2006

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.

Edward Lin

Testing Department

Jackie Lin

Certification Department

TEST REPORT

IEC 60950-1 and/or EN 60950-1

Information technology equipment – Safety –

Part 1: General requirements

Report reference No. .....:	<10001 228 001>
Tested by (printed name and signature) .....:	Alan Tong
Approved by (printed name and signature) .....:	Edward Lin
Date of issue .....:	Jan. 19, 2006
Testing Laboratory Name .....:	Cerpass Consultancy Corp.
Address .....:	5F, No. 35, Lane 188, Ruiguang Rd., Neihu District Taipei City, Taiwan
Testing location .....:	Same as above
Applicant's Name .....:	AAEON Technology Inc.
Address .....:	5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei Hsien, Taiwan
Test specification	
Standard .....:	IEC 60950-1:2001 EN 60950-1:2001+A11:2004
Test procedure .....:	Service of CE Marking in LVD
Non-standard test method .....:	N.A.
Test item description .....:	2U LAN Port Rackmount FirewallPlatform
Manufacturer.....:	Same as applicant
Trademark .....:	AAEON
Model and/or type reference .....:	FWS-825
Serial number .....:	Pre-production samples w/o serial numbers
Rating(s) .....:	100-240Vac, 10A, 50-60Hz

Particulars: test item vs. test requirements	
Equipment mobility	Movable equipment
Operating condition	Continuous
Mains supply tolerance (%)	±10%
Tested for IT power systems	Yes (for Norway)
IT testing, phase-phase voltage (V)	IT, 230V (for Norway)
Class of equipment	I
Mass of equipment (kg)	8.35
Protection against ingress of water	IPX0
Test case verdicts	
Test case does not apply to the test object	N/A
Test item does meet the requirement	P(ass)
Test item does not meet the requirement	F(ail)
Testing	
Date of receipt of test item	Jan. 5, 2006
Date(s) of performance of test	Jan. 5, 2006 ~ Jan. 12, 2006

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.

Factory:

Same as Client.

Comments:

The equipment is a 2U LAN Port Rackmount Firewall Platform which provided with two PS/2 ports, four USB ports, six 10/100/1000 Mbps RJ-45 copper traffic ports and one RS-232/422/485 serial port connector for general office use.

The CPU is CELERON 3.8GHz.

The equipment provided rack mounted function. According to installation manual, keep ventilation openings is positioned horizontally and not vertically. The openings won't become bottom openings.

There are no any operator accessible areas within the equipment.

Other remarks:

The manufacturer declared that the max. operating temp. is 40°C.

Copy of marking plate(s):

IEC 60950-1 / 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 controls provided.	**N**
1.5.4	Transformers	Used transformer in approved switching power supply, which is suitable for their intended application and comply with the relevant requirements of the standard.	**N**
1.5.5	Interconnecting cables	Interconnection o/p cable to other device is carrying only SELV on an energy level below 240VA. → Except for the insulation material, there are no further requirements for the o/p interconnection cable.	**P**
1.5.6	Capacitors in primary circuits ..... :	X2 and Y2 Capacitors used in approved SPS.	**N**
1.5.7	Double insulation or reinforced insulation bridged by components	Neither bridging capacitors nor bridging resistors.	**N**
1.5.7.1	General		**N**
1.5.7.2	Bridging capacitors		**N**
1.5.7.3	Bridging resistors		**N**
1.5.7.4	Accessible parts		**N**
1.5.8	Components in equipment for IT power systems	Approved SPS used.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.6	Power interface		**P**
1.6.1	AC power distribution systems	TN power system. IT power system for Norway.	**P**
1.6.2	Input current	Highest load according to 1.2.2.1 for this equipment is cross reading and writing between HDD, communicating with PC via PC link with highest transmitting speed for all LAN ports, card reader, the dummy loads of 2.5W in each USB ports. Results see appended table.	**P**
1.6.3	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	**N**
1.6.4	Neutral conductor	The neutral is not identified in the equipment. Basic insulation for rated voltage between earthed parts and primary phases.	**P**

1.7	Marking and instructions		**P**
1.7.1	Power rating	See below.	**P**
	Rated voltage(s) or voltage range(s) (V) ..... :	100-240V~	**P**
	Symbol for nature of supply, for d.c. only..... :	Only a.c. mains supply.	**N**
	Rated frequency or rated frequency range (Hz) :	50-60Hz	**P**
	Rated current (mA or A) ..... :	10A	**P**
	Manufacturer's name or trademark or identification mark ..... :	See copy of the marking plate.	**P**
	Type/model or type reference ..... :	See copy of the marking plate.	**P**
	Symbol for Class II equipment only ..... :	Class I equipment.	**N**
	Other symbols ..... :	Additional symbols or markings do not give rise to misunderstanding.	**P**
	Certification marks ..... :	Not shown.	**N**
1.7.2	Safety instructions	The user's manual contains information for operation, installation, servicing, transport, storage and technical data.	**P**
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.4	Supply voltage adjustment ..... :	Full range voltage design, no necessary adjustment.	**N**
	Methods and means of adjustment; reference to installation instructions ..... :	Ditto.	**N**
1.7.5	Power outlets on the equipment ..... :	No outlets provided.	**N**
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :	Fuse marking on the approved power supply.	**N**
1.7.7	Wiring terminals	The equipment with appliance inlet.	**N**
1.7.7.1	Protective earthing and bonding terminals ..... :	Ditto.	**N**
1.7.7.2	Terminal for a.c. mains supply conductors	Ditto.	**N**
1.7.7.3	Terminals for d.c. mains supply conductors	Ditto.	**N**
1.7.8	Controls and indicators	See below.	**N**
1.7.8.1	Identification, location and marking ..... :	No switch provided.	**N**
1.7.8.2	Colours ..... :	No safety involved for these indicator LEDs.	**N**
1.7.8.3	Symbols according to IEC 60417 ..... :	Marking for push-push type switch according IEC 60417, No. 5010.	**P**
1.7.8.4	Markings using figures ..... :	No figures used.	**N**
1.7.9	Isolation of multiple power sources ..... :	Only one supply from the mains.	**N**
1.7.10	IT power distribution systems	Shall be evaluated when submitted for Norway national approval.	**N**
1.7.11	Thermostats and other regulating devices	No thermostats provided.	**N**
1.7.12	Language(s) ..... :	User's manual and marking rating are in English. Versions in other languages will be provided when national certificate approval.	**—**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.13	Durability	The labels were subjected to the permanence of marking test. The labels were 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 labels. The marking on the labels did not fade. There was no curling or lifting of the label's edges.	**P**
1.7.14	Removable parts	No removable parts provided.	**P**
1.7.15	Replaceable batteries	The Lithium type RTC battery is exchangeable → Warning text provided in user's manual.	**P**
	Language(s) ..... :	English	—
1.7.16	Operator access with a tool..... :	No operator accessible area which needs to be accessed by the use of a tool.	**N**
1.7.17	Equipment for restricted access locations..... :	Not limited for use in restricted access locations.	**N**

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	No access with test finger and test pin to any parts with only basic insulation to ELV or hazardous voltage. Any hazardous parts accessible are unlikely.	**P**
	Test by inspection ..... :	Ditto.	**P**
	Test with test finger ..... :	Ditto.	**P**
	Test with test pin ..... :	Ditto.	**P**
	Test with test probe ..... :	No TNV.	**N**
2.1.1.2	Battery compartments ..... :	No battery compartment.	**N**
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	**N**
	Working voltage (Vpeak or Vrms); minimum distance (mm) through insulation	Ditto.	—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	**N**
2.1.1.5	Energy hazards ..... :	No energy hazard in operator access area. The connectors on the equipment are only for signal i/p and o/p on a low energy level.	**P**
2.1.1.6	Manual controls	No conductive shafts of operating knobs and handles.	**N**
2.1.1.7	Discharge of capacitors in equipment	No risk of electric shock. Done in the approval of the switching power supply.	**N**
	Time-constant (s); measured voltage (V)..... :	Ditto.	**—**
2.1.2	Protection in service access areas	No maintenance work in operation mode necessary.	**N**
2.1.3	Protection in restricted access locations	The unit is not limited to be used in restricted access locations.	**N**

2.2	SELV circuits		
2.2.1	General requirements	See below.	**P**
2.2.2	Voltages under normal conditions (V) ..... :	Between any conductor of the SELV circuits 42.4V peak or 60Vd.c. 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 120Vd.c. were not exceed and SELV limits not for longer than 0.2 seconds.	**P**
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)	Double or reinforced for the highest working voltage across a particular insulation is provided.	**P**
2.2.3.2	Separation by earthed screen (method 2)		**N**
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		**N**
2.2.4	Connection of SELV circuits to other circuits .....:	See 2.2.2 and 2.2.3.	**P**

2.3	TNV circuits		**N**
2.3.1	Limits		**N**
	Type of TNV circuits ..... :		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.3.2	Separation from other circuits and from accessible parts		**N**
	Insulation employed..... :		—
2.3.3	Separation from hazardous voltages		**N**
	Insulation employed..... :		—
2.3.4	Connection of TNV circuits to other circuits		**N**
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally		**N**

2.4	Limited current circuits		**N**
2.4.1	General requirements		**N**
2.4.2	Limit values		**N**
	Frequency (Hz)..... :		—
	Measured current (mA) ..... :		—
	Measured voltage (V) ..... :		—
	Measured capacitance (μF)..... :		—
2.4.3	Connection of limited current circuits to other circuits		**N**

2.5	Limited power sources		**P**
	Inherently limited output		**P**
	Impedance limited output	Protective device of PS/2 ports comply with EN 60730-1, clauses 15, 17, J15 and J17.	**P**
	Overcurrent protective device limited output		**N**
	Regulating network limited output under normal operating and single fault condition		**N**
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		**N**
	Output voltage (V), output current (A), apparent power (VA)..... :	Results see appended table.	—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		**P**
2.6.1	Protective earthing	In approved SPS.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.2	Functional earthing	Secondary functional earthing is separated to primary by reinforced or double insulation. No green/yellow wire used at secondary.	**P**
2.6.3	Protective earthing and protective bonding conductors	See below.	**P**
2.6.3.1	General	No power cord provided.	**N**
2.6.3.2	Size of protective earthing conductors	See sub-clause 2.6.3.4, rated current below 16A.	**N**
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors	See sub-clause 2.6.3.4, rated current below 16A.	**N**
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.4	Resistance (Ω) of earthing conductors and their terminations, test current (A) ..... :	See appended table 2.6.3.4.	**P**
2.6.3.5	Colour of insulation ..... :	No green/yellow wire used except in approved SPS.	**P**
2.6.4	Terminals	See below.	**P**
2.6.4.1	General	Appliance inlet considered as protective earthing terminal.	**P**
2.6.4.2	Protective earthing and bonding terminals	Ditto.	**P**
	Rated current (A), type and nominal thread diameter (mm) ..... :	Ditto.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Ditto.	**P**
2.6.5	Integrity of protective earthing	See below.	**P**
2.6.5.1	Interconnection of equipment	Interconnecting equipment shall provide SELV only.	**N**
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No components in PE conductors.	**P**
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect earth without disconnecting mains as an appliance inlet is used.	**P**
2.6.5.4	Parts that can be removed by an operator	Appliance inlet used.	**P**
2.6.5.5	Parts removed during servicing	Ditto.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.5.6	Corrosion resistance	All part comprising the connections are plated and metal to metal which comply with annex J.	**P**
2.6.5.7	Screws for protective bonding	Only ISO thread screw used in metal chassis for protective bonding. No self-tapping or spaced thread screws.	**P**
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV.	**N**

2.7	Overcurrent and earth fault protection in primary circuits		**P**
2.7.1	Basic requirements	Equipment relies on 16 A rated fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short-circuit. Over current protection is provided by the built-in fuse.	**P**
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	**N**
2.7.2	Faults not covered in 5.3	The protection device is well dimensioned and mounted.	**P**
2.7.3	Short-circuit backup protection	Pluggable equipment type A. The building installation is considered as providing short-circuit backup protection.	**P**
2.7.4	Number and location of protective devices ..... :	Over current protection by one built-in fuse in approved SPS.	**P**
2.7.5	Protection by several devices	Only one fuse provided.	**N**
2.7.6	Warning to service personnel..... :	No service work necessary.	**N**

2.8	Safety interlocks		**N**
2.8.1	General principles		**N**
2.8.2	Protection requirements		**N**
2.8.3	Inadvertent reactivation		**N**
2.8.4	Fail-safe operation		**N**
2.8.5	Moving parts		**N**
2.8.6	Overriding		**N**
2.8.7	Switches and relays		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.8.7.1	Contact gaps (mm) ..... :		**N**
2.8.7.2	Overload test		**N**
2.8.7.3	Endurance test		**N**
2.8.7.4	Electric strength test		**N**
2.8.8	Mechanical actuators		**N**

2.9	Electrical insulation		**P**
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	**P**
2.9.2	Humidity conditioning	Carried out for 120 h.	**P**
	Humidity (%) ..... :	95% R.H.	—
	Temperature (°C) ..... :	40°C	—
2.9.3	Grade of insulation	Adequate levels of safety insulation were provided and maintained to comply with the requirements of this standard.	**P**

2.10	Clearances, creepage distances and distances through insulation		**P**
2.10.1	General	See 2.10.3, 2.10.4 and 2.10.5.	**P**
2.10.2	Determination of working voltage	▪ Unit was connected to a 240V TN power system. ▪ 2.10.10 not applied for.	**P**
2.10.3	Clearances	See below.	**P**
2.10.3.1	General	Alternate method of Annex G was not considered.	**P**
2.10.3.2	Clearances in primary circuits	Clearance distance inside the SPS has been evaluated during type approval.	**P**
2.10.3.3	Clearances in secondary circuits	Refer to 5.3.4.	**N**
2.10.3.4	Measurement of transient voltage levels	Alternate Annex G not considered.	**N**
2.10.4	Creepage distances	Creepage distance inside the SPS has been evaluated during type approval. Insulation between other parts in the equipment is functional and is tested according to 5.3.4.	**P**
	CTI tests ..... :	CTI rating for all materials of minimum 100.	—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.5	Solid insulation	See below.	**P**
2.10.5.1	Minimum distance through insulation	Photo couplers used in approved power supply.	**P**
2.10.5.2	Thin sheet material	The thin sheet material used in main transformer of the approved power supply.	**N**
	Number of layers (pcs) ..... :	Ditto.	**—**
	Electric strength test	Ditto.	**—**
2.10.5.3	Printed boards	Not applied for.	**N**
	Distance through insulation		**N**
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs) ..... :		**N**
2.10.5.4	Wound components	No wound components without interleaved insulation used.	**N**
	Number of layers (pcs) ..... :		**N**
	Two wires in contact inside wound component; angle between 45° and 90° ..... :		**N**
2.10.6	Coated printed boards	No coated printed boards.	**N**
2.10.6.1	General		**N**
2.10.6.2	Sample preparation and preliminary inspection		**N**
2.10.6.3	Thermal cycling		**N**
2.10.6.4	Thermal ageing (°C) ..... :		**N**
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		**N**
	Electric strength test		—
2.10.7	Enclosed and sealed parts ..... :	No hermetically sealed components.	**N**
	Temperature $T_1=T_2 + T_{ma} – T_{amb}$ +10K (°C) ..... :		**N**
2.10.8	Spacings filled by insulating compound ..... :	Photo couplers are approved components used in the approved power supply. No other components applied for.	**N**
	Electric strength test	Ditto.	—
2.10.9	Component external terminations		**N**
2.10.10	Insulation with varying dimensions	No reduction of distances considered.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3	WIRING, CONNECTIONS AND SUPPLY		**P**
3.1	General		**P**
3.1.1	Current rating and overcurrent protection	All internal wires are UL recognized wiring which is PVC insulated, rated VW-1, min. 80 °C, 18AWG. Internal wiring is PVC insulated, the wiring gauge is suitable for current intended to be carried.	**P**
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heatsinks, which could damage the insulation and cause hazard.	**P**
3.1.3	Securing of internal wiring	Internal wires are secured via glue so that a loosening of the terminal connection is unlikely.	**P**
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation material see 3.1.1.	**P**
3.1.5	Beads and ceramic insulators	Not used.	**N**
3.1.6	Screws for electrical contact pressure	Electrical connections screwed two or more complete threads into metal. No screws of insulating material for electrical connections, or where supplementary or reinforced insulation could be impaired by a metal replacement.	**P**
3.1.7	Insulating materials in electrical connections	All connections are metal to metal.	**N**
3.1.8	Self-tapping and spaced thread screws	No self- tapping or spaced thread screws are used.	**P**
3.1.9	Termination of conductors	All conductors are reliably secured.	**P**
	10 N pull test	10 N pull test performed for all relevant conductors. No hazards caused hereby.	**P**
3.1.10	Sleeving on wiring	No sleevings used as supplementary insulation.	**N**

3.2	Connection to an a.c. mains supply or a d.c. mains supply		**P**
3.2.1	Means of connection ..... :	See below.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.1.1	Connection to an a.c. mains supply	Appliance inlet provided.	**P**
3.2.1.2	Connection to a d.c. mains supply		**N**
3.2.2	Multiple supply connections	Only one supply from the mains.	**N**
3.2.3	Permanently connected equipment	Unit is not a permanently connected equipment.	**N**
	Number of conductors, diameter (mm) of cable and conduits ..... :		—
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320-1. The connector of the power cord can be inserted without difficulties and does not support the unit.	**P**
3.2.5	Power supply cords		**N**
3.2.5.1	AC power supply cords		**N**
	Type..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
3.2.5.2	DC power supply cords		**N**
3.2.6	Cord anchorages and strain relief		**N**
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage	No parts under this unit likely to damage the power supply cord. No sharp edge.	**P**
3.2.8	Cord guards		**N**
	D (mm); test mass (g) ..... :		—
	Radius of curvature of cord (mm)..... :		—
3.2.9	Supply wiring space		**N**

3.3	Wiring terminals for connection of external conductors *Unit with detachable power supply cord, connected on appliance inlet.*		**N**
3.3.1	Wiring terminals		**N**
3.3.2	Connection of non-detachable power supply cords		**N**
3.3.3	Screw terminals		**N**
3.3.4	Conductor sizes to be connected		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		—
3.3.5	Wiring terminal sizes		**N**
	Rated current (A), type and nominal thread diameter (mm) ..... :		—
3.3.6	Wiring terminals design		**N**
3.3.7	Grouping of wiring terminals		**N**
3.3.8	Stranded wire		**N**

3.4	Disconnection from the mains supply		**P**
3.4.1	General requirement	See below.	**P**
3.4.2	Disconnect devices	Appliance coupler.	**P**
3.4.3	Permanently connected equipment	Not a permanently connected equipment.	**N**
3.4.4	Parts which remain energized	When appliance coupler is disconnected no remaining parts with hazardous voltage in the equipment.	**P**
3.4.5	Switches in flexible cords		**N**
3.4.6	Single-phase equipment and d.c. equipment	The appliance coupler disconnects both poles simultaneously.	**P**
3.4.7	Three-phase equipment	Single phase.	**N**
3.4.8	Switches as disconnect devices		**N**
3.4.9	Plugs as disconnect devices		**N**
3.4.10	Interconnected equipment	Interconnection to other devices by secondary output only.	**N**
3.4.11	Multiple power sources		**N**

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 through sec connector.	**P**
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	**N**

4	PHYSICAL REQUIREMENTS	**P**
4.1	Stability	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Angle of 10°	This appliance is of a stable mechanical construction and does not overbalance when tilted to an angle of 10° from its normal upright position.	**P**
	Test: force (N).....:	Equipment is not a floor standing unit.	**N**

4.2	Mechanical strength		**P**
4.2.1	General	See below. After tests, unit complies with the requirements of sub-clauses 2.1.1, 2.6.1, 2.10 and 4.4.1.	**P**
4.2.2	Steady force test, 10 N		**N**
4.2.3	Steady force test, 30 N	30 N applied to enclosure of SPS.	**P**
4.2.4	Steady force test, 250 N	250 N applied to outer enclosure. No energy or other hazards.	**P**
4.2.5	Impact test	No hazard as result from steel ball impact test.	**P**
	Fall test	Ditto.	**P**
	Swing test	Ditto.	**P**
4.2.6	Drop test	Not a direct plug-in equipment.	**N**
4.2.7	Stress relief test	Metal chassis.	**N**
4.2.8	Cathode ray tubes	No CRT in the unit.	**N**
	Picture tube separately certified ..... :	Ditto.	**N**
4.2.9	High pressure lamps	No high pressure lamp provided.	**N**
4.2.10	Wall or ceiling mounted equipment; force (N) ... :		**N**

4.3	Design and construction		**P**
4.3.1	Edges and corners	Edges and corners of the enclosure are rounded and smoothed.	**P**
4.3.2	Handles and manual controls; force (N).....:	Force 50N applied.	**P**
4.3.3	Adjustable controls	Full range voltage design, no controls provided.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.4	Securing of parts	Mechanical fixings in such a way designed that they will withstand mechanical stress occurring in normal use.	**P**
4.3.5	Connection of plugs and sockets	Mismating of connectors either not possible or does not result in any hazard.	**P**
4.3.6	Direct plug-in equipment	Not a direct plug-in equipment.	**N**
	Dimensions (mm) of mains plug for direct plug-in ..... :		**N**
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)..... :		**N**
4.3.7	Heating elements in earthed equipment	No such elements.	**N**
4.3.8	Batteries	Results see appended table 5.3.	**P**
4.3.9	Oil and grease	Insulation in intended use not considered to be exposed to oil or grease.	**N**
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	**N**
4.3.11	Containers for liquids or gases	No container for liquids or gases provided.	**N**
4.3.12	Flammable liquids..... :	No flammable liquids provided.	**N**
	Quantity of liquid (l)..... :		**N**
	Flash point (°C)..... :		**N**
4.3.13	Radiation; type of radiation ..... :	See below.	**P**
4.3.13.1	General	No ionizing radiation or laser or flammable liquids presents.	**P**
4.3.13.2	Ionizing radiation		**N**
	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**
	Part, property, retention after test, flammability classification .....:		**N**
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		**N**
4.3.13.5	Laser (including LEDs)	The LED used as indicating lights.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Laser class .....:	For below the limit of Laser class 1.	—
4.3.13.6	Other types .....:		**N**

4.4	Protection against hazardous moving parts		**P**
4.4.1	General	See below.	**P**
4.4.2	Protection in operator access areas	A metal fan guard protects the secondary DC Fan. It could not access into the blade of DC Fan.	**P**
4.4.3	Protection in restricted access locations		**N**
4.4.4	Protection in service access areas		**N**

4.5	Thermal requirements		**P**
4.5.1	Maximum temperatures	Refer to appended table 4.5.1	**P**
	Normal load condition per Annex L ..... :	See 1.6.2.	**P**
4.5.2	Resistance to abnormal heat	Used in approved SPS.	**N**

4.6	Openings in enclosures		**P**
4.6.1	Top and side openings	No openings on the top and no hazardous parts within 5 ° projection area at the side openings.	**P**
	Dimensions (mm) ..... :	See appended table.	—
4.6.2	Bottoms of fire enclosures	Protection against emission of flame, molten metal, flaming or glowing particles or drops by the fire enclosure. There are no openings at bottom of enclosure.	**P**
	Construction of the bottom ..... :	See appended table.	—
4.6.3	Doors or covers in fire enclosures	No doors or covers provided.	**N**
4.6.4	Openings in transportable equipment	Not a transportable equipment.	**N**
4.6.5	Adhesives for constructional purposes		**N**
	Conditioning temperature (°C)/time (weeks)..... :		—

4.7	Resistance to fire		**P**
4.7.1	Reducing the risk of ignition and spread of flame	See below.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Method 1, selection and application of components wiring and materials	The fire enclosure is provided and is made of metal.	**P**
	Method 2, application of all of simulated fault condition tests		**N**
4.7.2	Conditions for a fire enclosure	See below.	**P**
4.7.2.1	Parts requiring a fire enclosure	With having the following components: ▪ components with windings ▪ internal wiring ▪ semiconductor devices, transistors, diodes, integrated circuits ▪ resistors, capacitors, inductors The fire enclosure is required.	**P**
4.7.2.2	Parts not requiring a fire enclosure	See 4.7.2.1.	**N**
4.7.3	Materials		**P**
4.7.3.1	General	PCB rated V-1 or better.	**P**
4.7.3.2	Materials for fire enclosures	Metal chassis.	**N**
4.7.3.3	Materials for components and other parts outside fire enclosures	None.	**N**
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are V-2 or better.	**P**
4.7.3.5	Materials for air filter assemblies	No air filter provided.	**N**
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	**N**

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		**P**
5.1	Touch current and protective conductor current		**P**
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	**P**
5.1.2	Equipment under test (EUT)	EUT has only one mains connection.	**P**
5.1.3	Test circuit	Equipment of figure 5A used.	**P**
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	**P**
5.1.5	Test procedure	The touch current was measured from primary to earth.	**P**
5.1.6	Test measurements	See below.	**P**
	Test voltage (V) ..... :	See appended table 5.1.6.	—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Measured touch current (mA) ..... :	See appended table 5.1.6.	—
	Max. allowed touch current (mA) ..... :	See appended table 5.1.6.	—
	Measured protective conductor current (mA) .... :		—
	Max. allowed protective conductor current (mA) :		—
5.1.7	Equipment with touch current exceeding 3.5 mA ..... :	Neither stationary permanently connected equipment nor stationary pluggable equipment type B.	**N**
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks	No TNV circuit connection.	**N**
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		**N**
	Test voltage (V) ..... :		—
	Measured touch current (mA) ..... :		—
	Max. allowed touch current (mA) ..... :		—
5.1.8.2	Summation of touch currents from telecommunication networks ..... :		**N**

5.2	Electric strength		**P**
5.2.1	General	See appended table 5.2.	**P**
5.2.2	Test procedure	See appended table 5.2.	**P**

5.3	Abnormal operating and fault conditions		**P**
5.3.1	Protection against overload and abnormal operation	Ventilation openings blocked and DC Fan locked tests: results see appended table 5.3. Besides, there is no other foreseeable misuse likely to happen.	**P**
5.3.2	Motors	Certified DC Fan used.	**P**
5.3.3	Transformers	Approved power supply. No other transformer.	**N**
5.3.4	Functional insulation ..... :	Results see appended table 5.3.	**P**
5.3.5	Electromechanical components	No electromechanical component provided.	**N**
5.3.6	Simulation of faults	Results see appended table 5.3.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
5.3.7	Unattended equipment	None of the listed components was provided.	**N**
5.3.8	Compliance criteria for abnormal operating and fault conditions	Neither burn the equipment nor molten metal was emitted. Electric strength test primary → SELV and primary → PE were passed.	**P**

6	CONNECTION TO TELECOMMUNICATION NETWORKS		**N**
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		**N**
6.1.1	Protection from hazardous voltages		**N**
6.1.2	Separation of the telecommunication network from earth		**N**
6.1.2.1	Requirements		**N**
	Test voltage (V) ..... :		—
	Current in the test circuit (mA) ..... :		—
6.1.2.2	Exclusions ..... :		**N**

6.2	Protection of equipment users from overvoltages on telecommunication networks		**N**
6.2.1	Separation requirements		**N**
6.2.2	Electric strength test procedure		**N**
6.2.2.1	Impulse test		**N**
6.2.2.2	Steady-state test		**N**
6.2.2.3	Compliance criteria		**N**

6.3	Protection of the telecommunication wiring system from overheating		**N**
	Max. output current (A)..... :		—
	Current limiting method ..... :		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		**N**
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		**N**
7.2	Protection of equipment users from overvoltages on the cable distribution system		**N**
7.3	Insulation between primary circuits and cable distribution systems		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
7.3.1	General		**N**
7.3.2	Voltage surge test		**N**
7.3.3	Impulse test		**N**

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		**N**
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.1.1	Samples..... :		—
	Wall thickness (mm) ..... :		—
A.1.2	Conditioning of samples; temperature (°C)..... :		**N**
A.1.3	Mounting of samples ..... :		**N**
A.1.4	Test flame (see IEC 60695-11-3)		**N**
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		**N**
A.1.6	Compliance criteria		**N**
	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.2.1	Samples, material..... :		—
	Wall thickness (mm) ..... :		—
A.2.2	Conditioning of samples		**N**
A.2.3	Mounting of samples ..... :		**N**
A.2.4	Test flame (see IEC 60695-11-4)		**N**
	Flame A, B or C ..... :		—
A.2.5	Test procedure		**N**
A.2.6	Compliance criteria		**N**
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—
	Sample 3 burning time (s) ..... :		—
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4 and 8		**N**
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Sample 3 burning time (s) ..... :		—
A.3	Hot flaming oil test (see 4.6.2)		**N**
A.3.1	Mounting of samples		**N**
A.3.2	Test procedure		**N**
A.3.3	Compliance criterion		**N**

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		**N**
B.1	General requirements		**N**
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
B.2	Test conditions		**N**
B.3	Maximum temperatures		**N**
B.4	Running overload test		**N**
B.5	Locked-rotor overload test		**N**
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) .....:		—
B.6	Running overload test for d.c. motors in secondary circuits		**N**
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		**N**
B.7.1	Test procedure		**N**
B.7.2	Alternative test procedure; test time (h) .....:		**N**
B.7.3	Electric strength test		**N**
B.8	Test for motors with capacitors		**N**
B.9	Test for three-phase motors		**N**
B.10	Test for series motors		**N**
	Operating voltage (V) .....:		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		**N**
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Method of protection ..... :		—
C.1	Overload test		**N**
C.2	Insulation		**N**
	Protection from displacement of windings..... :		**N**
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**
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		**N**
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		**P**
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		**N**
G.1	Summary of the procedure for determining minimum clearances		**N**
G.2	Determination of mains transient voltage (V) ..... :		**N**
G.2.1	AC mains supply		**N**
G.2.2	DC mains supply		**N**
G.3	Determination of telecommunication network transient voltage (V) ..... :		**N**
G.4	Determination of required withstand voltage (V) :		**N**
G.5	Measurement of transient levels (V)..... :		**N**
G.6	Determination of minimum clearances..... :		**N**
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		**N**
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		**P**
	Metal used .....:	Complied.	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		**N**
K.1	Making and breaking capacity		**N**
K.2	Thermostat reliability; operating voltage (V)..... :		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
K.3	Thermostat endurance test; operating voltage (V) ..... :		**N**
K.4	Temperature limiter endurance; operating voltage (V) ..... :		**N**
K.5	Thermal cut-out reliability		**N**
K.6	Stability of operation		**N**

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)		**P**
L.1	Typewriters		**N**
L.2	Adding machines and cash registers		**N**
L.3	Erasers		**N**
L.4	Pencil sharpeners		**N**
L.5	Duplicators and copy machines		**N**
L.6	Motor-operated files		**N**
L.7	Other business equipment	See 1.6.2.	**P**

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		**N**
M.1	Introduction		**N**
M.2	Method A		**N**
M.3	Method B		**N**
M.3.1	Ringing signal		**N**
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**
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		**N**
M.3.2.2	Tripping device		**N**
M.3.2.3	Monitoring voltage (V) ..... :		**N**

N	ANNEX N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)		**N**
N.1	ITU-T impulse test generators		**N**
N.2	IEC 60065 impulse test generator		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
P	ANNEX P, NORMATIVE REFERENCES		**P**
Q	ANNEX Q, BIBLIOGRAPHY		**P**
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		**N**
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		**N**
R.2	Reduced clearances (see 2.10.3)		**N**
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		**N**
S.1	Test equipment		**N**
S.2	Test procedure		**N**
S.3	Examples of waveforms during impulse testing		**N**
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		**N**
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		**N**
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		**P**
V.1	Introduction		**P**
V.2	TN power distribution systems	Considered.	**P**
V.3	TT power systems		**N**
V.4	IT power systems	IT-power system for Norway.	**P**
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		**N**
W.1	Touch current from electronic circuits		**N**
W.1.2	Earthed circuits		**N**
W.2	Interconnection of several equipments		**N**
W.2.1	Isolation		**N**
W.2.2	Common return, isolated from earth		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
W.2.3	Common return, connected to protective earth		**N**

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

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		**N**
Y.1	Test apparatus ..... :		**N**
Y.2	Mounting of test samples ..... :		**N**
Y.3	Carbon-arc light-exposure apparatus ..... :		**N**
Y.4	Xenon-arc light exposure apparatus ..... :		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
CENELEC COMMON MODIFICATIONS [C], SPECIAL NATIONAL CONDITIONS [S] AND A-DEVIATIONS (NATIONAL DEVIATIONS) [A] (EN 60950-1:2001, Annex ZB and Annex ZC)			**P**
General	C: Delete all the "country" notes in the reference document according to the following list: 1.1.5 Note 2, 1.5.8 Note 2, 1.6.1 Note 1.7.2 Note 4, 1.7.12 Note 2, 2.6 Note 2.2.3 Note, 2.2.4 Note, 2.3.2 Note 2, 7, 8 2.3.3 Note 1, 2, 2.3.4 Note 2,3, 2.7.1 Note 2.10.3.1 Note 4, 3.2.1.1 Note, 3.2.3 Note 1, 2 3.2.5.1 Note 2, 4.3.6 Note 1,2, 4.7.2.2 Note 4.7.3.1 Note 2, 6.1.2.1 Note, 6.1.2.2 Note 6.2.2 Note, 6.2.2.1 Note 2, 6.2.2.2 Note 7 Note 4, 7.1 Note G2.1 Note 1, 2, Annex H Note 2	Deleted.	**P**
1.2.4.1	S (DK): 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.	No power cord provided.	**N**
1.5.1	A (SE, Ordinance 1990:944 and CH, Ordinance on environmentally hazardous substances SR 814.013, Annex 3.2, Mercury): Add NOTE – Switches containing mercury such as thermostats, relays and level controllers are not allowed.	No such switches used.	**N**
1.5.8	S (NO): Due to the IT power system used (see annex V, Fig. V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Complied.	**P**
1.7.2	S (FI, NO, SE): 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:	No such consideration.	**N**
	FI: "Laite on liitettävä suojamaadoitus-koskettimilla varustettuun pistorasiaan"	Ditto.	**N**
	NO: "Apparatet må tilkoples jordet stikkontakt"	Ditto.	**N**
	SE: "Apparaten skall anslutas till jordat uttag"	Ditto.	**N**
	A (DK, 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!	Ditto.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	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 instalationsvejledning."		
1.7.5	S (DK): 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.	No socket-outlets provided.	**N**
1.7.5	A (DK, Heavy Current Regulations): CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	Class I equipment.	**N**
1.7.12	A (DE, Gesetz über technische Arbeitsmittel (Gerätesicherheitsgesetz) [Law on technical labour equipment {Equipment safety law}], of 23rd October 1992, Article 3, 3rd paragraph, 2nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchführung des Zweiten Abschnitts des Gerätesicherheits-gesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10th January 1996, article 2, 4th paragraph item 2): Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	Shall be evaluated when submitted for national approval.	**N**
1.7.15	A (CH, Ordinance on environmentally hazardous substances SR 814.013): Annex 4.10 of SR 814.013 applies for batteries.	RTC battery is in compliance with requirements of IEC 60950-1. Overall compliance needs to be evaluated during the national approval process.	**N**
	A (DE, Regulation on protection against hazards by X-ray, of 8th January 1987, Article 5 [Operation of X-ray emission source], clauses 1 to 4): a) A licence is required by those who operate an	This national difference was deleted by A11 of EN 60950-1.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	X-ray emission source. b) A licence in accordance with Cl. 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if 1) the local dose rate at a distance of 0,1 m from the surface does not exceed 1 µSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A licence in accordance with Cl. 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. d) Furthermore, a licence in accordance with Cl. 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV if 1) the X-rays are generated only by intrinsically safe CRTs complying with Enclosure III, No. 6, 2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measures and specified in the device and 3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.		
2.2.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.3.2	S (NO): Requirements according to this annex, 6.1.2.1 apply.	No TNV circuits.	**N**
2.3.3 and 2.3.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.	No TNV circuits.	**N**
2.6.3.3	S (GB): The current rating of the circuit shall be taken as 13 A, not 16 A.		**P**
2.7.1	C: 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.	Replaced.	**P**
	S (GB): To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT OF DIRECT PLUG-IN EQUIPMENT, protective device shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT.	Not a direct plug-in equipment.	**N**
2.7.2	C: Void.	Void.	**N**
2.10.2	C: Replace in the first line "(see also 1.4.7)" by "(see also 1.4.8)".	Replaced.	**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.3.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage and will remain at 230 V in case of a single earth fault	Considered.	**P**
3.2.1.1	S (CH): 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 10A. 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	No power supply cord provided.	**N**
	S (DK): Supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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 ply-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.	Ditto.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	S (ES): 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.	Ditto.	**N**
	S (GB): 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 Socket 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.	Ditto.	**N**
	S (IE): 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.	Ditto.	**N**
3.2.3	C: Delete Note 1 and in Table 3A, delete the conduit sizes in parentheses.	Ditto.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.5.1	C: 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[1)] Over 6 up to and including 10 (0,75)[2)] 1,0 Over 10 up to and including 16 (1,0)[3)] 1,5 In the Conditions applicable to Table 3B delete the words "in some countries" in condition [1)]. In Note 1, applicable to Table 3B, delete the second sentence.	Ditto.	**N**
3.2.5.1	S (GB): A power supply cord with conductor of 1,25 mm^2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Ditto.	**N**
3.3.4	C: 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.	Ditto.	**N**
3.3.4	S (GB): 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.	Ditto.	**N**
4.3.6	S (GB): The torque test is performed using a socket outlet complying with BS 1363 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, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C.	Not a direct plug-in equipment.	**N**
	S (IE): 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.	Ditto.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.13.6	C: Add the following note: NOTE 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 are currently under development.	No such consideration.	**N**
6.1.2.1	S (FI, NO, SE): Add the following text between the first and second paragraph: 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 2.10.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.7 shall be performed using 1,5 kV), and - is subject to ROUTINGE 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 60950:2000, 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	No TNV.	**N**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	sequence of tests as described in EN 132400.		
6.1.2.2	S (FI, NO, SE): The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and 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.	Ditto.	**N**
7.1	S (FI, NO, SE): Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	No cable distribution system.	**N**
G.2.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault.		**P**
Annex H	C: Replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 μSv/h (0,1 mR/h) (see note). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete Note 2.	No CRT.	**N**
Annex P	C: Replace the text of this annex by: See annex ZA.	Replaced.	**P**
Annex Q	C: Replace the title of IEC 61032 by "Protection of persons and equipment by enclosures – Probes for verification". Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized as EN 60127 (Series) (not modified) IEC 60269-2-1 NOTE Harmonized as HD 630.2.1 S4:2000 (modified) IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified) IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified) IEC 61140 NOTE Harmonized as EN 61140:2001 (not modified) ITU-T Recommendation K.31 NOTE in Europe, the suggested document is EN 50083-1.		**P**

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
Annex ZA	C: NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR RELEVANT EUROPEAN PUBLICATIONS		**P**

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referrd to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

—	IEC 60050-151
—	IEC 60050-195
EN 60065:1998 + corr. June 1999	IEC 60065 (mod):1998
EN 60073:1996	IEC 60073:1996
HD 566 S1:1990	IEC 60085:1984
HD 214 S2:1980	IEC 60112:1979
HD 611.4.1.S1:1992	IEC 60216-4-1:1990
HD 21 [1)] Series	IEC 60227 (mod) Series
HD 22 [2)] Series	IEC 60245 (mod) Series
EN 60309 Series	IEC 60309 Series
EN 60317-43:1997	IEC 60317-43:1997
EN 60320 Series	IEC 60320 (mod) Series
HD 384.3 S2:1995	IEC 60364-3 (mod):1993
HD 384.4.41 S2:1996	IEC 60364-4-41 (mod):1992 [3)]
EN 132400:1994 [4)] + A2:1998 + A3:1998 + A4:2001	IEC 60384-14:1993
EN 60417-1	IEC 60417-1
HD 625.1 S1:1996 + corr. Nov. 1996	IEC 60664-1 (mod):1992
EN 60695-2-2:1994	IEC 60695-2-2:1991
EN 60695-2-11:2001	IEC 60695-2-11:2000
—	IEC 60695-2-20:1995
—	IEC 60695-10-2:1995
—	IEC 60695-11-3:2000
—	IEC 60695-11-4:2000
EN 60695-11-10:1999	IEC 60695-11-10:1999
EN 60695-11-20:1999	IEC 60695-11-20:1999
EN 60730-1:2000	IEC 60730-1:1999 (mod)

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	EN 60825-1:1994 + corr. Febr. 1995 + A11:1996 + corr. July 1997	IEC 60825-1:1993	
	EN 60825-2:2000	IEC 60825-2:2000	
	—	IEC 60825-9:1999	
	EN 60851-3:1996	IEC 60851-3:1996	
	EN 60851-5:1996	IEC 60825-5:1996	
	EN 60851-6:1996	IEC 60851-6:1996	
	—	IEC 60885-1:1987	
	EN 60990:1999	IEC 60990:1999	
	—	IEC 61058-1:2000	
	EN 61965:2001	IEC 61965:2000	
	EN ISO 178:1996	ISO 178:1993	
	EN ISO 179 Series	ISO 179 Series	
	EN ISO 180:2000	ISO 180:1993	
	—	ISO 261:1998	
	—	ISO 262:1998	
	EN ISO 527 Series	ISO 527 Series	
	—	ISO 386:1984	
	EN ISO 4892 Series	ISO 4892 Series	
	—	ISO 7000:1989	
	EN ISO 8256:1996	ISO 8256:1990	
	—	ISO 9772:1994	
	EN ISO 9773:1998	ISO 9773:1998	
	—	ITU-T:1988 Recommendation K.17	
	—	ITU-T:2000 Recommendation K.21	
	1) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series 2) The HD 22 series is related to, but not directly equivalent with the IEC 60245 series 3) IEC 60364-4-41:1992 is superseded by IEC 60364-4-41:2001 4) EN 132400, Sectional Specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains (Assessment level D), and its amendments are related to, but not directly equivalent to IEC 60384-14		

1.5.1	TABLE: list of critical components				P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1.]
Switching Power Supply	Seventeam Electronics Co., Ltd.	ST-352UAG-05E	i/p: AC 100-240V, 50/60Hz, 10A, Class I, ambient:25°C o/p: DC+3.3V/17A, DC+5V/25A, DC+12V/25A, DC-12V/0.5A, DC+5Vsb/2A +3.3V & +5V=125W max.; +3.3V & +5V & +12V=334W max.; Total power: 350W max.	EN 60950-1: 2001; IEC 60950-1:2001	TÜV; CB by TÜV Rh (Cert. no. JPTUV-009521)
Enclosure	--	--	Metal, thickness 1.0 mm min.	--	--
PCB	--	--	V-1 or better, 105°C min.	UL 94	UL
Hard Disk Drive (Optional)	--	--	DC5V/12V, 1.5A/2A max.	IEC/EN 60950: 1999 or IEC/EN 60950-1	TÜV
PTC (P2)	Raychem	miniSMDC110	DC6V, 1.1A	EN 60730-1	TÜV
	Bourns	MF-MSMC110	DC6V, 1.1A	EN 60730-1	TÜV
Lithium Battery (BAT1)	Rayovac	BR2335	3V, 302mAh	UL 1642	UL
DC Fan (for CPU)	Nidec Taiwan	D06T-12T3S14 AJ	DC12V, 0.58A, 35.3CFM	EN 60950-1	TÜV
DC Fan (for System)	Yen Sun	FD126025HB-N	DC12V, 0.18A 25.1CFM	EN 60950-1	TÜV
Note(s): 1. An asterisk indicates a mark that assures the agreed level of surveillance.					

1.6.2	TABLE: electrical data (in normal conditions)					P
Fuse #	Irated (A)	U (V/Hz)	P (W)	I (A)	Ifuse (A)	Condition/status
--	--	90/50	241.4	2.84	2.84	Max. Normal load

--	--	90/60	241.4	2.84	2.84	Ditto.
--	10	100/50	239.2	2.52	2.52	Ditto.
--	10	100/60	239.2	2.52	2.52	Ditto.
--	10	240/50	231.5	1.04	1.04	Ditto.
--	10	240/60	231.5	1.04	1.04	Ditto.
--	--	254/50	230.3	0.988	0.988	Ditto.
--	--	254/60	230.3	0.988	0.988	Ditto.
--	--	264/50	230.1	0.95	0.95	Ditto.
--	--	264/60	230.1	0.95	0.95	Ditto.
Note(s):						

2.1.1.5	TABLE: max. V, A, VA test				**N**
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Note(s):					

2.1.1.7	TABLE: discharge test			**N**
Condition	τ calculated (s)	τ measured (s)	t u$\rightarrow$ 0V (s)	Comments
Note(s):				

2.2.2	TABLE: Hazardous voltage measurement			**N**
Transformer	Location	max. Voltage		Voltage Limitation Component
		V peak	V d.c.	
Note(s):				

2.2.3	TABLE: SEL voltage measurement	**N**
Location	Voltage measured (V)	Comments

Note(s):		

2.4.2	TABLE: limited current circuit measurement				**N**
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments
Note(s):					

2.5	TABLE: limited power source measurement		**P**
	Limits	Measured	Verdict
According to Table 2B (normal condition), For USB1 (Uoc=5.03Vdc)			
current (in A)	8	1.4	P
apparent power (in VA)	25.15	5.6	P
According to Table 2B (normal condition), For USB2 (Uoc=5.03Vdc)			
current (in A)	8	1.4	P
apparent power (in VA)	25.15	5.6	P
According to Table 2B (normal condition), For USB3 (Uoc=5.03Vdc)			
current (in A)	8	1.5	P
apparent power (in VA)	25.15	5.85	P
According to Table 2B (normal condition), For USB4 (Uoc=5.03Vdc)			
current (in A)	8	1.5	P
apparent power (in VA)	25.15	5.85	P
According to Table 2B (U20 pin 1-3 short), For USB4 (Uoc=5.03Vdc)[1)]			
current (in A)	8	4.4	P
apparent power (in VA)	25.15	5.98	P
According to Table 2B (normal condition), For PS/2 (Mouse) (Uoc=5.03Vdc)			
current (in A)	8	2.1	P
apparent power (in VA)	25.15	8.9	P
According to Table 2B (normal condition), For PS/2 (Keyboard) (Uoc=5.03Vdc)			
current (in A)	8	2.1	P
apparent power (in VA)	25.15	8.9	P
Note(s): 1) The test result is represented to all other USB ports.			

2.6.3.4	TABLE: ground continue test		P
Location	Resistance measured (mΩ)	Comments	
Earth Pin of inlet to Metal chassis	10.6	25A, 1 minute	
Earth Pin of inlet to Metal chassis	8	40A, 2 minutes	
Note(s):			

2.10.2	Table: working voltage measurement			N
Location	RMS voltage (V)	Peak voltage (V)	Comments	
Note(s):				

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					N
Clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required dcr (mm)	dcr (mm)
Note(s):						

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

4.5.1	TABLE: maximum temperatures			P
	test voltage (V) .....:	A) 90Vac B) 264Vac		—
	t1 (°C) .....:	--		—
	t2 (°C) .....:	--		—
Maximum temperature T of part/at:		T (°C)		allowed T_{max} (°C)
Test voltage		**A**	**B**	**--**
For Switching Power Supply:				

AC Inlet body	33.8	48.2	33.2	47.4	70
C43 body	36.3	50.7	36	50.2	85
HS2 body of SD2	43.1	57.5	42.8	57	105
C5 body	42	56.4	40.2	54.4	85
C11 body	47.6	62	46.6	60.8	85
IC3 body	45.3	59.7	45.6	59.8	100
HS1 body of Q3	51.6	66.2	48.6	62.8	105
L3 coil	53.7	68.1	47.8	62	105
L2 coil	41.3	55.7	38.6	52.8	105
L1 coil	48.6	63	46.6	60.8	105
T1 primary coil	53.3	67.7	48	62.2	110
T1 secondary coil	55.8	70.2	55.8	70	110
T1 core	35.7	50.1	35.6	49.8	110
T2 primary coil	43	57.4	42.8	57	110
T2 secondary coil	38.3	52.7	38.2	52.4	110
T2 core	35.1	49.5	35.6	49.8	110
L12 coil	45.6	60	45.7	59.9	105
For Main board:					
CPU1 (near to PCB)	37.7	52.1	37.5	51.7	105
U18 (near to PCB)	38.4	52.8	38.4	52.6	105
U22 (near to PCB)	35.7	50.1	35.5	49.7	105
U15 (near to PCB)	45.4	59.8	45.4	59.6	105
RTC battery (near to PCB)	30.3	44.7	30.2	44.4	105
H.D.D.	34	48.4	34	48.2	--
U36 (near to PCB)	29.8	44.2	29.6	43.8	105
For other parts:					
Metal enclosure outside (near to power supply)	29.5	43.9	29.5	43.7	70
Ambient	25.6	40	25.8	40	--

Temperature T of winding:	R_1 (Ω)	R_2 (Ω)	T (°C)	allowed T_{max} (°C)	insulation class

Note(s):

1. The temperatures were measured under worst normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.
2. With a rated maximum ambient temperature of 40 °C, the maximum temperature rises are calculated as follows:

Winding components providing safety isolation:
- Class B (T1, T2) → Tmax = 120°C – 10°C = 110°C (for SPS)

Components with maximum absolute temperature of:

- max. absolute temp. of 70°C (AC Inlet) → Tmax = 70°C (for SPS)
- max. absolute temp. of 85°C (C5, C11, C43) → Tmax = 85°C (for SPS)
- max. absolute temp. of 100°C (IC3) → Tmax = 100°C (for SPS)
- max. absolute temp. of 105°C (L1, L2, L3, L12) → Tmax = 105°C (for SPS)
- max. absolute temp. of 105°C (PCB) → Tmax = 105°C (for SPS and Main board)

Operator touchable surface with maximum temperature rise of:
- max. absolute temp. of 70°C (metal enclosure) → Tmax = 70°C

4.5.2	TABLE: ball pressure test of thermoplastic parts		**N**
	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	--	None.
Front	7mm x 3mm max.	Numerous rectangular openings, neither hazardous voltage nor energized nor components present within 5^o project area.
	∅3mm	Numerous circular openings, openings dimension that do not exceed 5mm in diameter.
Rear	∅3mm	Numerous circular openings, openings dimension that do not exceed 5mm in diameter.
Sides	∅3.4 max.	Numerous circle openings, neither hazardous voltage nor energized nor components present within 5^o project area.

Bottom	--	None.
Note(s):		

4.7	Table: resistance to fire			**N**
Part	manufacturer of material	type of material	thickness (mm)	flammability class
Note(s):				

5.1.6	TABLE: touch current measurement			**P**
Condition	L→ terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments
Switch on	1.5	1.5	3.5	To metal chassis
Note(s): Supply voltage: 264V, 60Hz Overall capacity: in approved SPS.				

5.2	TABLE: electric strength tests and impulse tests		**P**
Test voltage applied between:		Test voltage (V)	Breakdown
Unit: primary and SELV		DC 4242	No
Unit: primary and metal chassis		DC 3060	No
Note(s):			

5.3	TABLE: fault condition tests		**P**
	ambient temperature (°C) .....:	See below.	—
	model/type of power supply .....:	See appended table 1.5.1	—
	manufacturer of power supply .....:	See appended table 1.5.1	—
	rated markings of power supply .....:	See appended table 1.5.1	—

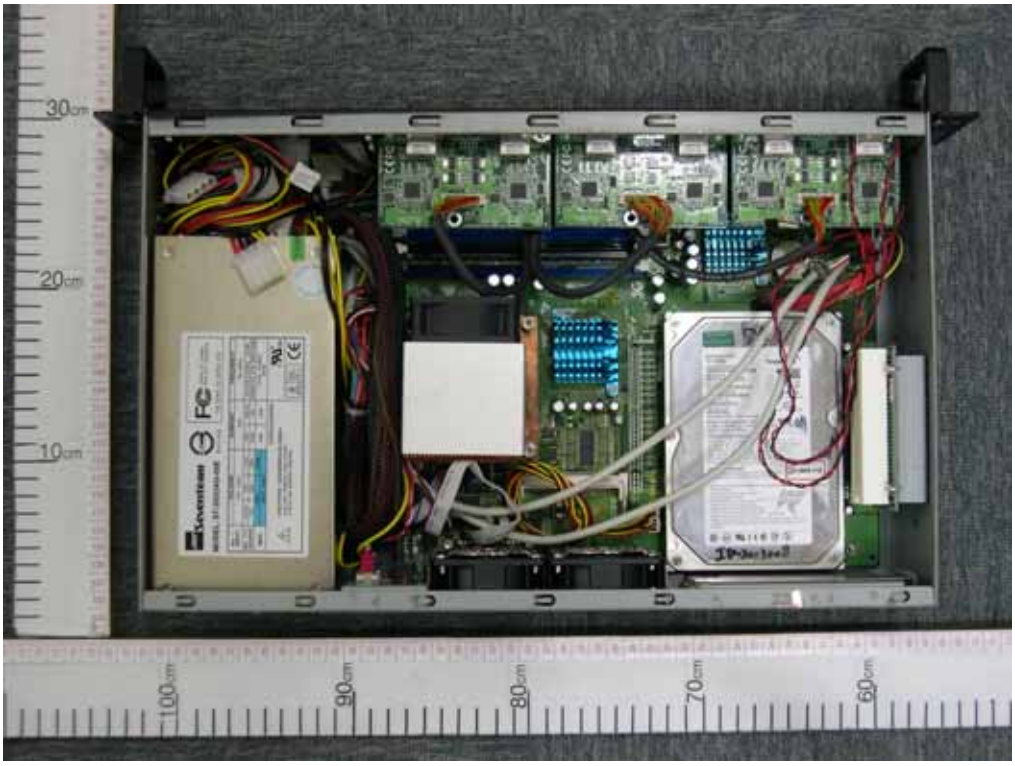
No.	Component no.	Fault	Test voltage (V)	Test time	Fuse no.	Fuse current (A)	Result
01	Ventilation openings	blocked	240Vac	1.5 h	F1	1.04	Temp. is stable, T1 (SPS)= 85.1°C, T2 (SPS)= 65.7°C ambient =26.8°C, no hazards.

02	DC Fan (for CPU)	locked	240Vac	1.5 h	F1	1.04-> 0.03	Unit shut down, T1 (SPS)= 62.6°C, T2 (SPS)= 69.8°C ambient =26.5°C, no hazards.
03	DC Fan (for System) (near rear/left side)	locked	240Vac	1 h	F1	1.04	Temp. is stable, T1 (SPS)= 54°C, T2 (SPS)= 43.4°C ambient =26.3°C, no hazards.
04	DC Fan (for System) (near rear/right side)	locked	240Vac	1 h	F1	1.04	Temp. is stable, T1 (SPS)= 54.8°C, T2 (SPS)= 44.1°C ambient =26.3°C, no hazards.
05	RTC battery abnormal reverse current with DD1 pin 1-2	s-c	240Vac	10 min	F1	1.04	The charging current is 3.23mA, no hazards.
06	RTC battery abnormal reverse current with DD1 pin 2-3	s-c	240Vac	10 min	F1	1.04	The charging current is 3 mA, no hazards.
07	U20 pin 1-3	s-c	240Vac	10 min	F1	1.04	Temp. is stable, T1 (SPS)= 55.8°C, T2 (SPS)= 42.8°C ambient =25.8°C, no hazards.

Note(s):

1) Used abbreviations: where s-c = short-circuited.

Maximum temperatures limitation of safety isolation transformers based on a test temperature of 25°C:
- Class B: Tmax = 175 °C - (40-25) °C = 160 °C.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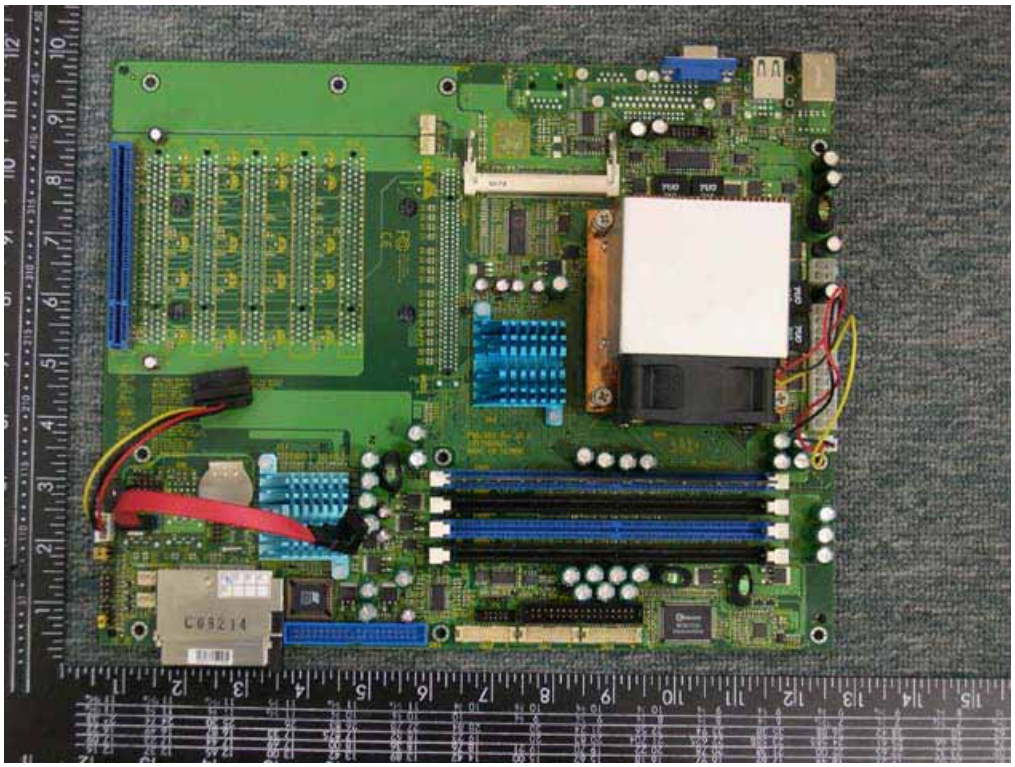
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