



EN 60 950			
Clause	Requirement - Test	Result -remark	Verdict

TEST REPORT	
EN 60950	
Safety of information technology equipment including electrical business equipment	
Report reference No.:	
Compiled by (+ signature) :	Leon Tien _____
Approved by (+ signature) :	Edward Su _____
Date of issue:	April 18, 2003
Testing laboratory:	Quietek Corporation
Address:	5F, No. 20, Lane 76, Rueiguang Rd., Neihu, Taipei Cuty, Taiwan, R.O.C.
Testing location:	as above
Applicant:	Belkin Corporation
Address:	Boeing Avenue 333 1119 PH* Schiphol-Rijk * The Netherlands.
Standard:	IEC60 950:1991 + A1:1992 + A2:1993 + A3:1995 + A4:1996 EN60 950:1992 + A1:1993: A2:1993 +A3:1995 + A4:1997 +A11:1997
Test procedure:	Standard
Type of test object:	Wireless USB Adaptor
Trademark:	Belkin
Model / type reference:	F5D6050
Manufacturer:	Same as applicant.
Address:	
Rating:	-- (USB type)

Other Aspects:

The completed test report – includes the following documents: (total page 28)

Test results given in this report only relate to the specimen(s) tested, calibrated or measured.
 This report shall not be reproduced other than in full without the written consent of Quietek Corporation.

Test item particulars:	
Equipment mobility.....:	movable
Operating condition	continuous
Tested for IT power systems.....:	No
IT testing, phase-phase voltage(v).....:	N.A.
Class of equipment.....:	Class III
Mass of equipment (kg).....:	Approx. 0.12kg
Protection against ingress of water.....:	IPXO
Possible test case verdicts:	
- test case does not apply to the object.....:	N(A.)
- test object does meet the requirement.....:	P(ass)
- test object does not meet the requirement.....:	F(ail)
General remarks:	
“(see remark #)” refers to a remark appended to the report.	

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“(see appended table)” refers to a table appended to the report.
 Throughout this report a point is used as the decimal separator.
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Comments:

Brief description of the test sample:

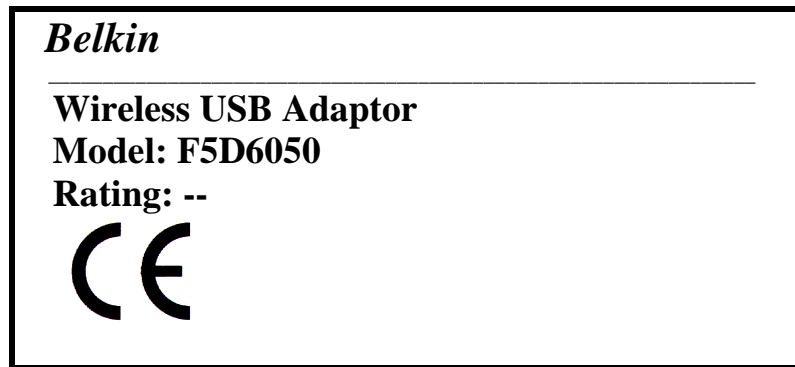
** According to EN 60950:1992+A1+A2+A3+A4+A11 standard.

Enclosure - overall 100 by 80 by 28 mm, 1.6 mm thick minimum, secured together by screws.

The devices are for continuous operation.

The ambient temperature for **40°C**.

Copy of marking plate



1	GENERAL	P
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1.5	Components	P
1.5.1	Comply with IEC 60 950 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards. (see appended tables)
1.5.2	Evaluation and testing components	Components which are certified to IEC and /or national

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		standards are used correctly within their ratings. Components not covered by IEC Standards are tested under the conditions present in the equipment.	
	Dimensions (mm) of mains plug for direct plug-in.....:	The equipment is not plug-in type	N
	Torque and pull test of mains plugs for direct plug-in; torque (Nm); pull (n)		N
1.5.3	Transformers		N
1.5.4	High voltage components (component; manufacturer; flammability).....:	No high voltage components used.	N
1.5.5	Interconnecting cables		N
1.5.6	Mains Capacitors	USB type	N

1.6	Power interface		N
1.6.1	Steady state input current	--A	N
	Current deviation during normal operating Cycle	<+10%	N
1.6.2	Voltage limit of hand-held equipment	This appliance is not a hand-held Equipment.	N
1.6.3	Neutral conductor insulated from earth and Body	Power source from USB port.	N
1.6.4	Components in equipment intended for IT Power system	Equipment was not applied for the IT power system.	N
1.6.5	Mains supply tolerance (V).....:		N

1.7	Marking and instructions		P
1.7.1	Rated voltage (V).....:	--Vdc	N
	Symbol of nature of supply for d.c.....:	Mains from USB port	N
	Rated frequency (Hz):	--	N
	Rated current(A).....:	--	N
	Manufacturer.....:	Same as applicant.	P
	Trademark.....:	Belkin	P
	Type/model.....:	F5D6050	P
	Symbol of Class II.....:	Class III equipment	N
	Certification marks.....:	None	N
1.7.2.	Safety instructions	The users manual contains information for operation, installation, servicing, transport, storage and technical data., The operation guide is provided to the user. No other special installation instruction required as the equipment is class III.	P
1.7.3	Short duty cycles	Equipment is designed for	N

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		Continuous operation.	
1.7.4	Marking for voltage setting/frequency setting:	No setting	N
1.7.5	Marking at power outlets.....:	No output	N
1.7.6	Marking at fuseholders.....:		N
1.7.7.1	Protective earthing terminals	The equipment id class III.	N
1.7.7.2	Terminal for external primary power supply conductors	No terminal.	N
1.7.8.1	Identification and location of switches and controls.....:	None	N
1.7.8.2	Colours of controls and indicators.....:	No safety relevant indicators	N
1.7.8.3	Symbols according to IEC 60417.....:	No used.	N
1.7.8.4	Figures used for marking.....:	No indicators for different positions.	N
1.7.8.5	Location of marking and indications for switches and controls.....:	Not used.	N
1.7.9	Isolation of multiple power sources	Only one supply from the mains.	N
1.7.10	Instructions for installation to IT power system	Equipment was not applied for IT power system.	N
1.7.11	Instructions when protection relies on building Installation	Connected to the mains by pluggable type A.	
1.7.12	Marking when leakage current exceeds 3.5mA	Leakage current does not exceed 3.5mA.	N
1.7.13	Indication at thermostats and regulating devices	No adjustable thermostats.	N
1.7.14	Language of safety marking/instructions	Instruction related to safety provided in English. User manual is in English.	P
	Language.....:	English	—
1.7.15	Durability and legibility	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. and then again for 15 sec. with the cloth soaked with HEXANE. After this test there was no Damage to the label. The marking on the label did not fade. There was no curling nor lifting of the label edge.	P
1.7.16	Removable parts	No required marking placed on removable parts.	P
1.7.17	Warning text for replaceable lithium batteries		N
	Language.....:	English	—
1.7.18	Operator access with a tool.....:	The inside of the router is regarded to be operator access area. This area is accessible when enclosure of router is be disassembled with a screwdriver.	P
1.7.19	Equipment for restricted access locations.....:	No restricted access location.	N

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2	FUNDAMENTAL DESIGN REQUIREMENTS	P
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2.1	Protection against electric shock and energy hazards		N
2.1.1	Access to energized parts	See below	N
2.1.2	Protection in operator access areas	The unit is class III.	N
	Test by inspection.....:	Dto	N
	Test with test finger.....:	Dto	N
	Test with test pin.....:	Dto	N
2.1.3.1	Insulation of internal wiring in an ELV circuit accessible to operator	NO ELV wiring in operator accessible area.	N
	Working voltage (V); distance (mm) through insulation.....:		N
2.1.3.2	Operator accessible insulation of internal Wiring at hazardous voltage	No hazardous voltage wiring in operator accessible area.	N
2.1.4.1	Protection in service access areas		N
2.1.4.2	Protection in restricted access locations	It is not intended to be used in restricted locations.	N
2.1.5	Energy hazard in operator access area		N
2.1.6	Clearances behind conductive enclosures	Refer to 4.2.3.	P
2.1.7	Shafts of manual controls	None at ELV or hazardous voltage.	N
2.1.8	Isolation of manual controls	None at ELV or hazardous voltage.	N
2.1.9	Conductive casings of capacitors	Casings of capacitors are considered as if directly connected to the respective circuitry. None at hazardous voltage accessible.	P
2.1.10	Risk of electric shock from stored charge on capacitors connected to mains circuit	Non-used.	N
	Time-constant (s); measured voltage(V).....:		—

2.2	Insulation		P
2.2.1	Methods of insulation	The insulation materials provided in the equipment with adequate thickness and adequate creepage distance over their surface and clearance distance through air.	P
2.2.2	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.2.3	Humidity treatment	Total time elapsed: 48 Hours	P
	Humidity(%).....:	93% R.H.	—
	Temperature(°C)	25°C	—
2.2.4	Requirements for insulation	Please refer to 5.3, 2.9 and	P

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		5.1.	
2.2.5	Insulation parameters	Both parameters were considered.	P
2.2.6	Categories of insulation	The adequate levels of safety insulation is provided and maintained to comply with the requirements of this standard.	P
2.2.7	Determination of Working voltage	SELV	N
2.2.7.1	General rules for working voltages		N
2.2.7.2	Clearances in primary circuits		N
2.2.7.3	Clearances in secondary circuits		N
2.2.7.4	Creepage distances		N
2.2.7.5	Electric strength tests		N
2.2.8	Double or reinforced insulation bridged by components	No component bridged reinforced or double insulation.	N
2.2.8.1	Bridging capacitors		N
2.2.8.2	Bridging resistors		N
2.2.8.3	Accessible parts		N

2.3	Safety extra-low voltage (SELV) circuits		P
2.3.1	Voltage (V) of SELV circuits under normal operating conditions and after a single fault...:	42.4V peak or 60VDC are not exceeded in SELV circuit under normal operation or single fault condition	—
2.3.2	Voltage (V) between any two conductors of SELV circuit(s) and for Class I equipment between any conductor of SELV circuit and equipment protective earthing terminal under normal operating conditions.....:	Between any SELV circuits 42.4V peak of 60VDC are not exceeded.	P
2.3.3	Voltage (V) of SELV in the event of a single failure of basic or supplementary insulation or of a component.....:	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120VDC were not exceed and SELV limits not for longer than 0.2 seconds, see abnormal results 5.4.6.	—
	Method used for separation.....:	Method 1	P
2.3.4	Additional constructional requirements	In multiway connectors and other cable ties prevent contact to hazardous parts in case of connection or conductor breakage. IEC 60083 and IEC 60320 connectors are not used in SELV.	P
2.3.5	Connection of SELV circuits to other circuits	See 2.3.2 and 2.3.3. No direct connection between SELV and any primary circuits.	N

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2.4 Limited current circuits			N
2.4.2	Frequency (Hz).....:		—
	Measured current (mA).....:		N
2.4.3	Measured voltage (V).....:		—
	Measured capacitance (μ F).....:		N
2.4.4	Measured voltage (V).....:		—
	Measured charge (μ C).....:		N
2.4.5	Measured voltage (V).....:		—
	Measured energy (mJ).....:		N
2.4.6	Limited current circuit supplied from or connected to other circuits.....:		N

2.5 Provisions for earthing			N
2.5.1	Class I equipment	The equipment is class III.	N
	Warning label for service personnel		N
2.5.2	Protective earthing in class II equipment		N
2.5.3	Switches/fuses in earthing conductors		N
2.5.4	Assured earthing connection for class I equipment in systems comprising Class I and Class II equipment		N
2.5.5	Green/yellow insulation		N
2.5.6	Continuity of earth connections		N
2.5.7	Making and breaking of protective earthing connections		N
2.5.8	Disconnection protective earthing connections		N
2.5.9	Protective earthing terminals for fixed supply conductors of for non-detachable power supply cords		N
2.5.10	Corrosion resistance		N
2.5.11	Resistance (Ω) of protective earthing conductors $\leq 0.1 \Omega$		N
	Test current (A)		—

2.6 Primary power isolation			N
2.6.1	General requirements	The unit is class III	N
2.6.2	Type of disconnect device.....:		N
2.6.3	Disconnect device in permanently connected equipment		N
2.6.4	Parts of disconnect device which remain energized		N
2.6.5	Switches in flexible cords		N
2.6.6	Disconnection of both poles simultaneously for single-phase equipment		N
2.6.7	Disconnection of all phase conductors of supply in three-phase equipment		N
2.6.8	Marking of switch acting as disconnect device		N
2.6.9	Installation instructions if plug on power supply cord acts as disconnect device		N
	Language.....:		—
2.6.11	Interconnected equipment		N
2.6.12	Multiple power sources		N

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2.7	Overcurrent and earth fault protection in primary circuits		N
2.7.1	Basic requirements		N
2.7.2	Protection against faults not covered in 5.4		N
2.7.3	Short-circuit backup protection		N
2.7.4	Number and location of protective devices...:		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel		N

2.8	Safety interlock <i>No operator accessible areas which presents hazards in the meaning of This standard.</i>		N
2.8.2	Design		N
2.8.3	Protection against inadvertent reactivation		N
2.8.4	Reliability		N
2.8.5	Overriding an interlock		N
2.8.6.1	Contact gap (m).....:		N
2.8.6.2	Switch performing 50 cycles		N
2.8.6.3	Electric strength test: test voltage (V).....:		N
2.8.7	Protection against overstress		N

2.9	Clearances, creepage distances and distances through insulation		P
	Nominal voltage (V).....:	--	—
	General		P
2.9.2	Clearances	See below	P
2.9.2.1	Clearances in primary circuits	(see appended table 2.9.2 and 2.9.3)	P
2.9.2.2	Clearances in secondary circuits	(see appended table 2.9.2 and 2.9.3)	P
2.9.3	Creepage distances	(see appended table 2.9.2 and 2.9.3)	P
	CTI tests.....:	CTI rating for all material of min.100.	—
2.9.4.1	Minimum distances through insulation	(see appended table 2.9.4)	N
2.9.4.2	Thin sheet material		N
	Number of layers (pcs).....:		N
	Electrical strength test: test voltage(V).....:		N
2.9.4.3	Printed boards	Not applied for	N
	Distance through insulation.....:	(see appended table 2.9.4)	N
	Electric strength test at voltage (V) for thin sheet insulating material.....:	(see appended table 5.3)	N
	Number of layers (pcs).....:		N
2.9.4.4	Wound components without interleaved insulation	No wound components without interleaved insulation. (see appended table 2.9.4 and Annex U)	N
	Number of layers (pcs).....:		N
	Two wires in contact inside component; angle between		N

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	45° and 90°		
	Routine testing for finished component		N
		boards. (see appended table 2.9.4)	
	Routine testing for electric strength		N
2.9.6	Enclosed and sealed parts	No coated printed wiring boards. (see appended table 5.3)	N
	Temperature T1 (°C).....:		N
	Humidity %.....:		N
2.9.7	Spacings filled by insulating compound	No component applied for	N
	Temperature T1 (°C).....:		N
	Humidity %.....:		N
2.9.8	Component external terminations	(see appended table 2.9.2, and 2.9.3)	P
2.9.9	Insulation with varying dimensions	(see appended table 2.9.2, and 2.9.3 and 2.9.4)	N

2.10	Interconnection of equipment		P
2.10.1	General requirements	See below.	N
2.10.2	Type of interconnection circuits.....:	Interconnection circuits of SELV through the output connectors. No ELV interconnection circuits.	P
2.10.3	ELV circuits as interconnection circuits	No ELV interconnection.	N

2.11	Limited power source		N
	Use of limited power source.....:	Supplied from the mains.	N

3	WIRING, CONNECTION AND SUPPLY		P
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3.1	General		P
3.1.1	Cross-sectional area of internal wiring/ interconnecting cables	All internal wires are UL recognized wiring that is PVC insulated, rated VW-1, min. 80 °C, 300V. Internal wiring gauge is suitable for current intended to be carried. (see appended table 5.1)	P
	Protection of internal wiring and interconnecting cables	No internal wire for primary power distribution.	N
3.1.2	Wireways	Wires do not touch sharp edges and heatsinks which could damage the insulation and cause hazard.	P
3.1.3	Fixing of internal wiring	Internal wires with only basic isolation are routed so that they	P

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		are not close to any live bare components. The wires are secured by solder pins and quick connect terminals so that a loosening of the terminal connection is unlikely.	
3.1.4	Fixing of uninsulated conductors	Securely held on PCB. No hazard.	P
3.1.5	Insulation of internal wiring	The insulation of the individual conductors are suitable for the application and the working voltage. For the insulation material see 3.1.1.	P
3.1.6	Wires coloured green/yellow only for protective earth connection	See 2.5.5.	P
3.1.7	Fixing of beads and similar insulators	Not used.	N
3.1.8	Required electrical contact pressure		N
3.1.9	Reliable electrical connections		N
3.1.10	End of stranded conductor		N
3.1.11	Use of spaced thread screws/thread-cutting screws		N

3.2	Connection to primary power		N
3.2.1	Type of connection.....:		N
	Design of product with more than one supply Connection.....:		N
3.2.2	Provision for permanent connection.....:		N
	Size (mm) of cables and conduits.....:		N
3.2.3	Appliance inlet		N
3.2.4	Type and cross-sectional area of power supply Cord.....:		N
3.2.5	Cord anchorage		N
	Test: 25 times; 1 s; pull (N).....:		—
	Longitudinal displacement \leq 2 mm.....:		N
3.2.6	Protection of power supply cord		N
3.2.7	Cord guard	<i>see clause 3.2.1</i>	N
	D (mm):		—
	Test: mass (g)		—
	Radius of curvature of the cord \leq 1.5 D		N
3.2.8	Supply wiring space		N

3.3	Wiring terminals for external power supply conductors <i>Unit with detachable power supply cord, connected on appliance inlet.</i>		N
3.3.1	Terminals		N
3.3.2	Special non-detachable cord		N
	Type of connection.....:		—
	Pull test at 5 N		N
3.3.3	Screws and nuts		N
3.3.4	Fixing of conductors		N
3.3.5	Connection of connectors		N

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3.3.6	Size of terminals		N
	Nominal thread diameter (mm).....:		N
3.3.7	Protection against damage of conductors		N
3.3.8	Terminal location		N
3.3.9	Test with 8 mm stranded wire		N

4	PHYSICAL REQUIREMENTS		P
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4.1	Stability and mechanical hazards		P
4.1.1	Stability tests		P
	Angle of 10°	The unit is provided with 4 stabilizer feet. 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).....:	Not floor-standing equipment	N
4.1.2	Protection against personal injury		N
4.1.3	Warning and means provided for stopping the moving part.....:	No hazardous moving parts.	N
4.1.4	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.1.5	Enclosure of a high pressure lamp	No lamp with cold pressure of 0.2MPa or not pressure 0.4MPa.	N

4.2	Mechanical strength and stress relief		P
4.2.1	General		P
4.2.2	Internal enclosures 30 N ± 3 N; 5 s	No internal enclosure	N
4.2.3	External enclosures 250 N ± 10 N; 5 s	250N applied to outer enclosure.	P
4.2.4	Steel sphere tests		N
	<i>Hazardous voltages are contained in the approved ADAPTOR and in the cable to the power switch.. As the ADAPTOR is complete enclosed by an earthed metal enclosure which meets the requirements of 2.1.2 and the cable is reinforced isolated, no steel sphere fall test and swung test are therefore not considered to be necessary for the server enclosure.</i>		
	Fall test		N
	Swing test		N
4.2.5	Drop test		N
4.2.6	Heat test for enclosures of moulded or formed Thermoplastic materials:7 h; T(°C)	Hazardous voltages are contained in the approved ADAPTOR and in cable to the power switch. As the ADAPTOR is complete enclosed by an earthed metal enclosure which meets the requirements of 2.1.2, the oven test is not considered to be	N

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		necessary.	
4.2.7	Compliance criteria	No safety relevant damages to impact the requirements of 2.1.2, 2.1.5, 2.5.1, 2.5.2, 2.9 and 4.1.2.	P
4.2.8	Mechanical strength of cathode ray tubes	Unit does not employ a cathode ray tube.	N

4.3	Construction details		P
4.3.1	Changing of setting for different power supply voltages	No setting.	N
4.3.2	Adjustment of accessible control devices	None that would cause hazard.	P
4.3.4	Prevention of dangerous concentration of dust, liquid and gas	Equipment in intended use not considered to be exposed to there.	N
4.3.5	Fixing of knobs, grips, handles, levers		P
	Test: force (N).....:	30N on front panel switch.	P
4.3.6	Driving belts/couplings shall not ensure electrical insulation	Not used for insulation.	N
4.3.7	Retaining of sleeves	Sleeving on wiring reliable kept in position by cable ties or by the use of heatshrink sleeving.	P
4.3.9	Protection of loosening parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heatshrink tubing are used.	P
4.3.11	Resistance to oil and grease	Insulation not in contact with oil or grease.	N
4.3.12	Protection against harmful concentration of ionizing radiation ultraviolet light, LED, laser or flammable gases (for LED and laser see IEC 60825-1)	No ionizing radiation or flammable liquids presents	P
4.3.13	Securing of screwed connections	No connection likely to be exposed to mechanical stress are provided in unit.	P
4.3.15	Openings in the top of enclosure	No top opening.	P
	Dimensions (mm).....:	See appended table.	—
4.3.16	Openings in the sides of enclosure	No parts at hazardous voltage within 5 degrees projector area of openings.	P
	Dimensions(mm).....:	See appended table.	—
4.3.17	Interchangeable plugs and sockets	In operator and service area, mismatch of connectors were prevented by incompatible form or location.	P
4.3.18	Torque test of equipment with built-on plug		N
	Additional torque (Nm).....:		N
4.3.19	Protection against excessive pressure		N
4.3.20	Protection of heating elements in Class I	No heating elements.	N

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	equipment		
4.3.21	Protection of lithium batteries		P
	Construction of protection circuit.....:		N
4.3.22	Ageing of barrier/screen secured with adhesive		N
	Day 1:temperature (°C); time (weeks).....:		N
	Day 8/22/57: a) temperature (°C) for 1 h b) temperature (°C) for 4 h c) temperature (°C) over 8 h.....:		N
	Day 9/23/58: a) relative humidity (%) for 72 h b) temperature (°C) for 1 h c) temperature (°C) for 4 h d) temperature (°C) over 8 h.....:		N

4.4 Resistance to fire		P
4.4.1	Methods of achieving resistance to fire	Use of materials with the required flammability classes. P
4.4.2	Minimizing the risk of ignition	Electrical parts are not likely to ignite nearby materials. Parts not protected against overheating under fault conditions. Temperatures see 5.1 P
	Printed board: manufacturer; type; flammability.....:	See 1.5.1 appended table. P
4.4.3.2	Material and component: manufacturer; type; flammability.....:	Internal components except small parts are V-2, HF-2 or better. P
4.4.3.3	Exemptions.....:	Considered. P
4.4.3.4	Wiring harnesses: manufacturer; flammability:	Insulating material consists of PVC. P
4.4.3.5	Cord anchorage bushings: manufacturer; flammability.....:	No cord anchorage. N
4.4.3.6	Air filter assemblies: manufacturer; flammability.....:	No air filter assemblies. N
4.4.4	Enclosures and decorative parts: manufacturer; flammability.....:	The enclosure of the unit is in metal except for the front panel. The flammability class of the front panel is HB. P
4.4.5	Conditions for fire enclosures	See 4.4.5.1 P
4.4.5.1	Components which require fire enclosure: manufacturer : flammability.....:	With having the following components: ■ components with windings ■ wiring P

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		<ul style="list-style-type: none"> ■ semiconductor devices, transistors, diodes, integrated circuits ■ resistors, capacitors, inductors The fire enclosure is required.	
4.4.5.2	Components not requiring fire enclosure.....:	See 4.4.5.1	N
4.4.6	Fire enclosure construction	Protection against emission of flame, molten metal, flaming or flowing particles or drops by the fire enclosure with no bottom opening.	P
4.4.7	Doors and covers	No door or cover within fire enclosure.	N
4.4.8	Flammable liquids	No flammable liquids in this unit.	N

5	THERMAL AND ELECTRICAL REQUIREMENTS	N
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5.1	Heating	N
	Heating tests	N

5.2	Earth leakage current	N	
5.2.1	General	The leakage current was measured from primary to chassis.	N
5.2.2	Leakage current	(see attached tables)	N
	Test voltage (V).....:	(see attached table)	—
	Measured current (mA).....:	(see attached table)	—
	Max. allowed current (mA).....:	3.5mA	—
5.2.3	Single-phase equipment	See 5.2.2	N
	Test voltage (V).....:		—
	Measured current(mA).....:		—
	Max. allowed current (mA).....:		—
5.2.4	Three-phase equipment	Single phase equipment	N
	Test voltage (V).....:		—
	Measured current(mA).....:		—
	Max. allowed current (mA).....:		—
5.2.5	Equipment with earth leakage current exceeding 3.5mA	Leakage current does not exceed 3.5mA	N
	Test voltage (V).....:		—
	Measured current(mA).....:		—
	Max. allowed current (mA).....:		—
	Warning label		N

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5.3	Electric strength		N
5.3.1	General		N
5.3.2	Test procedure		N

5.4	Abnormal operating and fault conditions		N
5.4.2	Motors	Not provided (see appended table)	N
5.4.3	Transformers	Not provided	N
5.4.4	Compliance of operational insulation <i>Power supply is approved component, the over-current protection of the power supply ensures that there occur no hazard if there is short circuit in the SELV circuit.</i>		N
	Method used.....:		N
5.4.5	Electromechanical components in secondary circuits	No electromechanical components.	N
5.4.6	Other components and circuits		N
5.4.7	Test in any expected condition and foreseeable misuse		N
5.4.8	Unattended use of equipment having thermostats, temperature limiters etc.	None of them are used.	N
5.4.9	Compliance		N
5.4.10	Ball pressure test of thermoplastics parts; impression shall not exceed 2 mm	None of them outside the approved power supply.	N

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
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6.1	General		N
6.2	TNV circuits and protection against electric shock		N
6.2.1.1	Limits of the TNV circuits		N
6.2.1.1 a)	TNV-1 circuits		N
6.2.1.1 b)	Tnv-2 and TNV-3 circuits		N
6.2.1.2	Separation from other circuits and from accessible parts		N
	Voltage (V) in SELV circuits, TNV-1 circuits and accessible conductive parts in event of single insulation fault or component failure....:		N
6.2.1.3	Operating voltages generated externally		N
	Voltage (V) in SELV circuit, TNV-1 circuit or accessible conductive part.....:		N
6.2.1.4	Separation from hazardous voltages.....:		N
	Insulation between TNV circuit and circuit at hazardous voltage		N
	Method used :		N
6.2.1.5	Connection of TNV circuits to other circuits		N
	TNV circuit supplied conductively from a secondary circuit.....:		N
6.2.2.1	Protection against contact with TNV circuits		N
	Test with test finger		N
	Test with test probe		N
6.2.2.2	Battery compartments		N

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Clause	Requirement - Test	Result -remark	Verdict
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	Marking next to door/on door		N
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6.3	Protection of telecommunication network service personnel, and other users of the telecommunication network, from hazards in the equipment		N
6.3.1	Protection from hazardous voltages		N
6.3.2	Use of protective earthing <i>The protection of the telecommunication network does not rely on earthing.</i>		N
	Language of installation instructions.....:		N
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed		N
	Insulation (mm) between TNV circuit and circuitry that may be earthed.....:		N

6.4	Protection of the equipment user from voltage on the telecommunication network		N
6.4.1	Separation requirements		N
6.4.2	Test procedure		N
6.4.2.1	Impulse test: separation between TNV-1 circuits/ TNV-3 circuits and:		N
6.4.2.1 a)	Unearthed conductive parts/non-conductive parts of the equipment which are held or touched during normal use; test at 2.5 kV		N
6.4.2.1 b)	parts and circuitry that can be touched by the test finger; test at 1.5kV		N
6.4.2.1 C)	Circuitry which is provided for connection of other equipment; test at 1.5 kV		N
6.4.2.2	Electric strength test: separation between TNV-1 circuits/TNV-3 circuits and:		N
6.4.2.2 a)	Unearth conductive parts/non-conductive parts of the equipment which are held or touched during normal use; test at 1.5 kV		N
6.4.2.2 b)	parts and circuitry that can be touched by the test finger ; test at 1.0KV		N
6.4.2.2 c)	circuitry which is provided for connection of other equipment; test at 1.0 kV		N
6.4.2.3	Compliance criteria		N

6.5	Protection of telecommunication wiring system form overheating <i>Modem card is not intended to supply other units via telecommunication line.</i>		N
	Maximum continuous output current (A).....:		N

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
A.1	Flammability test for fire enclosures of moveable equipment having a total mass less than 18 kg, and of stationary equipment		N
A.2	Flammability test for fire enclosures of moveable equipment having a total mass not exceeding 18 kg, and for materials located within fire enclosures		P
A.3	High current arcing ignition test		N
A3.6	Number of arcs.....:		N
A.4	Hot wire ignition test		N
A.4.6	Ignition time (s).....:		N

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Clause	Requirement - Test	Result -remark	Verdict

A.5	Hot flaming oil test		N
A.6	Flammability test for classifying materials V-O, V-1 or V-2		N
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HBF		N
A.8	Flammability test for classifying materials HB		N
A.9	Flammability test for classifying materials 5V		
A	Preconditioning: 7 days (168 h); temperature (°C).....:		—
	Mounting of samples during test.....:		—
	Wall thickness.....:		—
	Sample 1 burning time.....:		N
	Sample 2 burning time.....:		N
	Sample 3 burning time.....:		N
	Material: compliance with the requirements		N
	Manufacturer of tested material.....:		—
	Type of tested material.....:		—
	Additional information.....:		—

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS		N
B.1	General requirements		N
	Position.....:		—
	Manufacturer.....:		—
	Type.....:		—
	Rated voltage (V) or current (A).....:		—
B.2	Test conditions		N
B.3	Maximum temperatures	(see appended table 5.4)	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 DC motor in secondary circuits		N
B.7	Locked-rotor overload test for DC motor in secondary circuits		N
B.7.2	Test time (h).....:		N
B.7.3	Test time (h).....:		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Test voltage (V).....:		—

C	ANNEX C, TRANSFORMERS		N
	Position.....:		-
	Manufacturer.....:		-
	Type.....:		-
	Rated values.....:		-
	Thermal cut-out	(see appended table 5.1)	N
	Temperatures	(see appended table 5.4)	N

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Clause	Requirement - Test	Result -remark	Verdict

C.1	Overload test	(see 5.4.3)	N
	Conventional transformer		
C.2	Insulation		N
	Precautions.....:	(see transformer construction check next page)	N
	Retaining of end turns of all windings	dto	N
	Earthing test at 25A	dto	N
C.3	Electric strength test	(see 5.3)	N

H	ANNEX H, IONIZING RADIATION		N
	Ionizing radiation		N
	Measured radiation.....:		—
	Measured high-voltage.....:		—
	Measured focus voltage.....:		—
	CRT markings.....:		—
	Approved by.....:		—
	Publication used.....:		—

U	ANNEX U, INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION		N
	See separate test report		N

1.5.1	TABLE: list of critical components					P
object/part No.	manufacturer /trademark	type/model	Technical	standard	mark(s) of conformity	
Enclosure	--	--	V-1 or Better	UL94	UL	
PCB	--	--	V-1 or better	UL 94	UL	

¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance.

1.6	TABLE: electrical data (in normal conditions)					
fuse #	Irated (A)	U (V)	P (W)	I (A)	Ifuse (mA)	condition/status

4.3.14/15 & 4.4.6	Table: enclosure push		
Location	Force (N)	Comments	
Bottom	250	No damage	
Side	250	No damage	
Top	250	No damage	

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Clause	Requirement - Test	Result -remark	Verdict
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5.1	TABLE: temperature rise measurements					N
	test voltage (V)					—
	temperature rise dT of part/at:	Channel	V/0Hz	ΔT (°C)	254V/0Hz	ΔT (°C)

5.4	TABLE: fault condition tests						
	ambient temperature (°C)						—
	model/type of power supply						—
	manufacturer of power supply						—
	rated markings of power supply						—
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
1	Ventilation openings	blocked	240/60Hz	1.6hrs	--		No hazardous See heating attachment

2.5.11	TABLE: ground continue test			N
Location		Resistant measured (Ω)	Comments	

2.9.2 and 2.9.3	TABLE: clearance and creepage distance measurements						N
Clearance and creepage distance dcr at/of:		Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	Required dcr (mm)	dcr (mm)

Note: Creepage distances and clearances between primary and secondary are all in approved switching power supply.

2.9.4.1	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: In approved switching power supply.

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Clause	Requirement - Test	Result -remark	Verdict

4.3.14/15 & 4.4.6	Table: enclosure openings	N
Location	Size (mm)	Comments

5.2	TABLE: leakage current measurement:			N
Condition	Current Tip (mA)	current Ring (mA)	Comments	
Line				
Neutral				

5.3	TABLE: electric strength measurements			N
test voltage applied between:		test voltage (V)	Breakdown	

5.4	TABLE: fault condition tests						N
<i>For ADAPTOR, test were done in the approval of switching power supply, others See below.</i>							
ambient temperature (°C).....:		29°C				—	
model/type of power supply.....:						—	
manufacturer of power supply.....:						—	
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

5.4.10	TABLE: ball pressure test of thermoplastics		N
Done in the approval of switching power supply. No other test item necessary.			
Part	test temperature (°C)	Impression diameter (mm)	

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Clause	Requirement - Test	Result -remark	Verdict
APPENDIX	EN 60950:1992+A1:1993:+A2:1993+A3:1995+A4:1997+A11:1997 Test Report (IEC Publication 60950 2nd edition, 1991+Amd.1, 1992+Amd.2, 1993 +Amd.3, 1995+Amd.4, 1996) CENELEC common modification, Special National condition, Nation deviation and other information.		P
EXPLANATION FOR ABBREVIATIONS			
C=CENELEC common modification, S=Special National condition, D=National Deviation, F=Other information, AT=Austria, GB=Great Britain, CH=Switzerland, DE=Germany, DK=Denmark,F1=Finland, FR=France, No=Norway, SE=Sweden. P=Pass, F=Fail, N=Not applicable. Place in the column to the right.			
1.2.4.1 S	(DK). Certain types of Class I appliances (see 3.2.1.) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets.	Not applied for.	N
1.5.1 D	(SE). Add the following: NOTE: Switches containing mercury such as thermostats, relay and level controllers are not allowed.	Not applied for	N
1.7.2.S	(NO). If separation between the mains and a communication system/network, other than public telecommunication networks, relies upon connection to safety earth, the equipment shall have a marking stating that it must be connected to an earthed mains socket-outlet. Note: For requirements for equipment to be connected to a public telecommunication network: See 6.2.1.4	Not applied for.	N
1.7.2 S	(SE). If the separation between the mains and a SELV terminal relies upon connection to the safety earth, the apparatus shall have a marking stating that it must be connected to an earthed main socket-outlet when a SELV circuit is connected to network passing both unearthed and earthed electrical environment. The marking text shall be in Swedish and as follows: "Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk".	Not applied for.	N
1.7.2 D	(DK). Supply cords of Class I appliances, which are 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 market eller". If essential for the safety of the appliance, 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 øvirge ledere, se medfølgende installationsvejledning".	Not applied for.	N
1.7.2 C	Delete note 4.	Deleted.	N
1.7.5 S	(DK). Socket-outlets for providing power to other appliances 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 appliances of Class I.	Not applied for.	N
1.7.5 D	(DK). Class II appliances shall not be fitted with socket-outlets for providing power to other appliances.	Not applied for.	N

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Clause	Requirement - Test	Result -remark	Verdict
1.7.14 D	(DE). Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labor equipment, also for imported technical labor equipment shall be written in German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	Not applicable.	N
1.7.17 D	(CH). Annex 4.10 of SR 814.013 (ordinance on environmentally hazardous substances) applies for batteries.	Not applied for.	N
2.1.3.1 C	Table 0, first column, replace "Over 50" by "over 350".	Replaced.	P
2.3.3 C	Delete Method 4 and the line in note 1 relating to this method.	Deleted.	N
2.3.6 S	(FR). Method 3 is not acceptable.	Not applied.	N
2.3.6 C	Delete the note.	Deleted.	N
2.3.7 C	Replace the text of this sub-clause by: Void.	Replaced.	N
2.3.9 S	(NO). Marking and insulation requirements according to this annex, subclauses 1.7.02 and 6.2.01.4 b) apply.	Not applied for.	N
2.5.2 S	(DK, NO) add after the first paragraph:" The above exception is not acceptable in Pluggable equipment type A"	Not applied for.	N
2.5.2 C	Delete the note.	Deleted.	N
2.7.1 C	<p>Replace the text of this sub-clause by : Basic requirements: To protect against excess current, short-circuits and earth faults in primary circuits, protective devices shall be included ether as integral parts of the equipment or as a part of the building installation, subject to all of the following a), b), c) and d):</p> <p>(a) Except as detailed in (b) and (c), protective devices necessary to comply with the requirements of Sub-clause 5.4 shall be included as integral parts of the equipment.</p> <p>(b) For components in series with the mains input to the equipment such as the supply cord, appliance coupler, RFI filter and switch, short circuit and earth fault protection may be provided with protective devices in the installation.</p> <p>(c) It is permitted for equipment with rated current exceeding 16A, which is 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 breaker, is fully specified in the installation instruction.</p> <p>(d) If reliance is placed on protection in the building installation, the installation instructions shall comply with sub-clause 1.7.11 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 and 1.7.11 does not apply.</p>	Replaced.	P
2.7.2 C	Replace the text of this sub-clause by: Void.	Replaced.	N

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Clause	Requirement - Test	Result -remark	Verdict
2.8.4 C	Delete the note.	Deleted.	N
2.9.1 S	(NO). Due to the IT power systems used, the mains supply voltage is considered to be equal to the phase-to-phase voltage.	Not applied for.	N
2.11 C	Delete notes 1.2 and 3.	Deleted.	N
3.2.1 S	(DK). Supply cords of single phase appliances having a rated current not exceeding 10 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 10A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations Section 107-1-D1 or EN 60309-2.	Not applied for.	N
3.2.1 S	(CH). Supply cords of equipment having a rated current not exceeding 10a shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets <u>SEV 6532-2</u> , 1991 Plug type 15 3P+N+PE 250/400V,10A <u>SEV 6533-2</u> , 1991 Plug type 11L+N 250V,10A <u>SEV 6534-2</u> , 1991 Plug type 12L+PE 250V, 10A EN60 309 applies for plugs for currents exceeding 10A	Not applied for.	N
3.2.1 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 Statutory Instrument 1788:1994- The Plugs and Sockets etc. (safety) Regulations 1994, unless exempted by those regulations.	Not applied for.	N
3.2.2 C	Delete the note and in table 10, delete the value in parentheses.	Deleted.	N
3.2.4 S	(GB). A power supply cord with conductor of 1.25 mm ² is allowed for equipment with rated current over 10A and up to and including 13A.	Not applied for.	N
3.2.4 C	Replace “245 IEC 60053” by “H05 RR-F”, “227 IEC 60052” by “H03VV-F or Ho3 VVH2-F” and “227 IEC 60053” by “H05 VV-F or h05 VVH2-F”	Replaced.	N

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Clause	Requirement - Test	Result -remark	Verdict
	<p>In table 11, replace the first four lines by the following:</p> <p style="padding-left: 40px;">Up to and including 6 0.75”</p> <p>Over 6 Up to and including 10 1.0 (0.75)”</p> <p>Over 10 Up to and including 16 1.5 (1.0)”</p> <p>In the conditions applicable to table 11, delete the words “in some countries” in condition 1).</p> <p>In the note delete the second sentence.</p>		
3.2.5 S	(GB). The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10A and up to and including 13A is : 1.25mm ² to 1.5mm ² nominal cross-sectional area.	Not applied for.	N
3.3.5 C	In table 13, replace the fourth and the fifth lines by: Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4	Replaced.	N
4.3.12 C	Amend the third compliance paragraph as follows: For equipment using LEDs or lasers, compliance is checked according to EN 60825-1. Add a note: NOTE: If equipment falling within the scope of EN 60950 is inherently a class 1 laser product i.e. it contains no embedded laser or LED of a higher class number, then a laser warning label or other laser warning statement is not required (see 1.1 of EN 60825-1)	See report IEC 60950.	P
4.3.18 S	(GB). This test should be performed using an appropriate socket-outlet with an earthing contact.	Not applied for.	N
4.4.4 C	Delete note 2.	Deleted.	N
5.4.9 S	(NO). The electric strength test after the tests of 5.4.4, 5.4.5, 5.4.6, 5.4.7 and 5.4.8 includes testing of basic insulation in Class I equipment.	Not applied for.	N
6.1 S	(CH). Protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245V.)	Not applied for.	N
6.2.1.2 C 6.2.1.3 C	Add at the end of each sub-clause: This sub-clause only applies to TNV circuits normally operating in excess of the limits of SELV circuits.	No TNV.	N
6.2.2.1.4b S	(NO). Insulation between parts conductively connected to the supply mains and parts connected to a public telecommunication network shall comply with the requirements for double or reinforced insulation.	Not applied for.	N
6.2.2.1.4b S	(FI). This method is only permitted for permanently connected equipment or for pluggable equipment type B.	Not applied for.	N
6.2.1.4 C	Delete notes.	Deleted.	N
6.2.1.5 S	(NO). Requirements in 6.2.1.4, Note 2, apply	Not applied for.	N
6.3.3. S	(NO). 6.3.3 is applicable for pluggable equipment type A	Not applied for.	N

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Clause	Requirement - Test	Result -remark	Verdict
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	and B and for permanently connected equipment.		
6.4.1 C	Delete note 2.		N
6.4.2.1 C	Delete note 2.		N
6.4.2.1 D	(AT). Equipment shall comply with $U_c=2.0KV$ in cases b) and c).	Not applied for.	N
Annex H. D	(DE) a) A license is required by those who operate an X-ray emission source. b) A license in accordance with clause 1 is not required by those who operated 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 0.1m from the surface does not exceed 1MSv/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 license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20KV , 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-ray are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local does 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 license in accordance with clause 1 is also nor 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 intrinsically safety CRTs complying with Enclosure III, No.6,	No CRT.	N

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Clause	Requirement - Test	Result -remark	Verdict
	2) the values stipulated in accordance with Enclosure III, bi, 6.2 are limited by technical.		
Annex P C	Replace the text of this annex by: See annex ZA.	Replaced.	N
Annex Q C	Add for IEC 60529: Note: Endorsed by EN 60529:1991(not modified) Add of IEC 60707 Note: Endorsed by HD441:1993 (not modified) Add for IEC 61058-1: Note: Endorsed by EN 61058:1992 (not modified.)	Added.	N

Clause	Requirement - Test	Result -remark	Verdict
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VIEW 1



VIEW 2

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Clause	Requirement - Test	Result -remark	Verdict
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VIEW 3



VIEW 4