





TEST REPORT	
IEC 60950-1 and/or EN 60950-1, First Edition	
Information technology equipment – Safety –	
Part 1: General requirements	
Report reference No	51270
Tested by (printed name and signature)	Edward Hollen 
Approved by (printed name and signature)	David Atkinson 
Date of issue	08 Sep. 2005
Testing Laboratory Name	Nemko USA, Inc. Phone: (+1) 858 755 5525
Address	11696 Sorrento Valley Rd., Suite F, San Diego, CA 92121 USA
Testing location	CBTL <input checked="" type="checkbox"/> CCATL <input type="checkbox"/> SMT <input type="checkbox"/> TMP <input type="checkbox"/>
Address	11696 Sorrento Valley Rd., Suite F, San Diego, CA 92121 USA
Applicant's Name	Intel Corporation
Address	5200 N. E. Elam Young Parkway, Hillsboro, OR, 97124-6497 USA
Test specification	
Standard	IEC 60950-1:2001 and/or EN 60950-1:2001, First Edition
Test procedure	CB-scheme
Non-standard test method	Not used
Test Report Form No.	IECEN60950_1B
TRF originator	SGS Fimko Ltd
Master TRF	dated 2003-03
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Test item description	Server main board, for building in.
Trademark	None
Manufacturer	Intel Corporation
Model and/or type reference	S". Series
Serial number	Sample with no serial number
Rating(s)	SELV

N-TRF Rev 2005-04



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Name and address of production-sites (Factories):

Intel Factory Code: BN
Inventec Corporation Taoyuan Plant
255 Jen Ho Road, Sec. 2, Nan ShinLi, Tachi
Taoyan, Taiwan

Intel Factory Code: BZ
Inventec (Pudong) Corporation
699 Puxing Road
201114 Shanghai China

Intel Factory Code: QI
Quanta Computer, Inc.
No. 188. Wen Hwa 2nd Road,
Kuei Shan Hsiang, Taoyuan Shien Taiwan

Intel Factory Code: BP
Iventec Corporation Taoyuan Plant
Plot 102, Bayan Lepas Industrial Estate
11900 Bayan Lepas Penang Malaysia

Intel Factory Code: IM
Solectron Technology Sdn Bhd
Plot 13, Phase 4, Pral Industrial Estate,
13600 Pral, Pinang Malaysia

Intel Factory Code: KK
Samsung Electronics Co., Ltd.
Computer Division
416 Maetan-3dong, Paldal-ku, Suwom
Kyungki-do, 442-742 Korea

Copy of marking plate:

No marking label provided, manufacturer's identification mark and model designation is either etched or silk-screened on the PWB.

Tested according to national requirements for the following countries:

All CENELEC members as listed in EN 60950-1:2001 + A11:2004.

All CB members as listed in CB Bulletin 107A, May 2004.

At the time of issuing this report only limited countries are listed for IEC 60950-1:2001, in addition country deviations for IEC 60950 3rd ed., are included.

List from IEC 60950, 3rd ed.:

Countries listed in CB Bulletin No. 107A, dated May 2004 as follows: Argentina (AR), Austria (AT), Australia (AU) (including New Zealand (NZ)), Belgium (BE), Brazil (BR), Canada (CA), Switzerland (CH), China (CN), Czech Republic (CZ), Germany (DE), Denmark (DK), Spain (ES), Finland (FI), France (FR), United Kingdom (GB), Hungary (HU), Ireland (IE), Israel (IL), India (IN), Italy (IT), Japan (JP), Korea (KR), Malaysia (MY), The Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Russia (RU), Sweden (SE), Singapore (SG), Slovenia (SI), Slovakia (SK), Turkey (TR), Ukraine (UA), United States (US), South Africa (ZA).

All country deviations listed in the CB Bulletin are covered by the Common Modifications, Special National Conditions, National Deviations, and National Requirements noted above except for the following countries which are documented in Country Deviation Appendixes attached to this report:

China: CB Bulletin No. 107A, dated May 2004.

Israel: Test results according to SI 60950 : 2000.

Japan: CB Bulletin No. 107A, dated May 2004.

Singapore: Test results according to SS 337: 2001.

List from IEC 60950-1:

Countries listed in CB Bulletin No. 107A, dated May 2004 as follows: Argentina (AR), Austria (AT), Australia (AU), Belgium (BE), Canada (CA), Switzerland (CH), Germany (DE), Denmark (DK), Finland (FI), France (FR), United Kingdom (GB), Greece (GR), Hungary (HU), Israel (IL), India (IN), Italy (IT), Korea (KR), Malaysia (MY), Netherlands (NL), Norway (NO), Poland (PL), Sweden (SE), Singapore (SG), Slovenia (SI), United States (US).

All country deviations listed in the CB Bulletin are covered by the Common Modifications, Special National Conditions, National Deviations, and National Requirements noted above except for the following countries which are documented in Country Deviation Appendixes attached to this report:

Australia (including New Zealand): CB Bulletin No. 107A, dated May 2004.

Canada: CB Bulletin No. 107A, dated May 2004.

Korea: CB Bulletin No. 107A, dated May 2004.

United States: CB Bulletin No. 107A, dated May 2004.



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Summary of testing:

General	Class III equipment for building-in. To be installed in the end product where the suitability of installation is to be evaluated in the end product.
1.7.12 Language of Instructions	Instructions shall be supplied in a language suitable for the country into which the product is to be sold.
4.5 Heating	No Heating Test was performed on the units. Heating Test must be considered in the end use product. Equipment for building-in.

List of attachments:

Country deviations: Australia (6 pages), Canada (5 pages), China (1 page), Israel (1 page), Japan (5 pages), Korea (1 page), Singapore (1 page), USA (5 pages)



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Test items particulars	
Equipment mobility	Equipment for building-in.
Operating condition	Normal load:
	No testing requiring normal load condition.
Mains supply tolerance (%).....	Class III equipment for building-in.
Tested for IT power systems	No
IT testing, phase-phase voltage (V) :	N/A
Class of equipment	Class III equipment for building-in.
Mass of equipment (kg).....	0.3kg
Protection against ingress of water	IP X0 (not evaluated for ingress of water)
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)
No verdict considered necessary	—
Testing	
Date of receipt of test item	2005-09-01
Date(s) of performance of test	2005-09-07
General remarks	
"This report is not valid as a CB Test Report unless appended by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IEC 60950-1".	
The test result presented in this report relate only to the object(s) tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.	
"(refer to attachment #)" refers to additional information appended to the report. "(refer to appended table)" refers to a table appended to the report.	
Throughout this report a comma (point) is used as the decimal separator.	



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General product information:

The subject equipment is a server main board assembly for building-in intended for installation in a server.

This test report is an upgrade for the subject equipment to IEC 60950-1 1st Edition and replaces the previous test report, Ref. No. 16263. In addition, this test report documents a change in the model designation to "S." Series", and the addition of S5000".

The S." Series consists of the following base models:

SE7210".

SE7221".

SE7320".

SE7520".

SE7525".

S5000".

The "." in the above model designation may be up to 5 additional alpha numerical characters that denote minor SELV circuit options, or different software options, not affecting safety.

Maximum recommended ambient (T_{mra}): 45°C

Connection to the supply: Equipment for building-in, PWB.

1.1.2 - Additional requirements:

Exposure to extreme temperatures, excessive dust, moisture or vibration; to flammable gases; to corrosive or explosive atmospheres:

This equipment is intended to operate in a "normal" environment (Offices and homes).

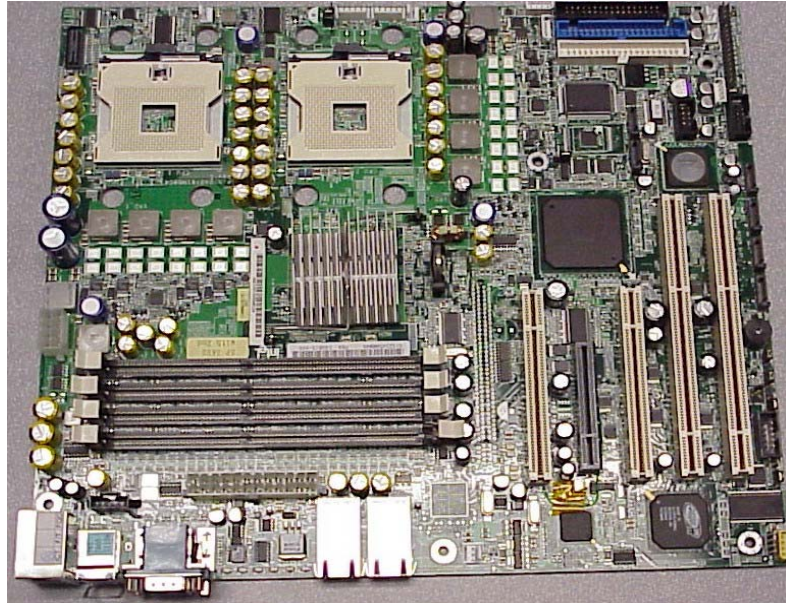
Electromedical equipment connected to the patient:

This equipment is not an electromedical equipment intended to be physically connected to a patient.

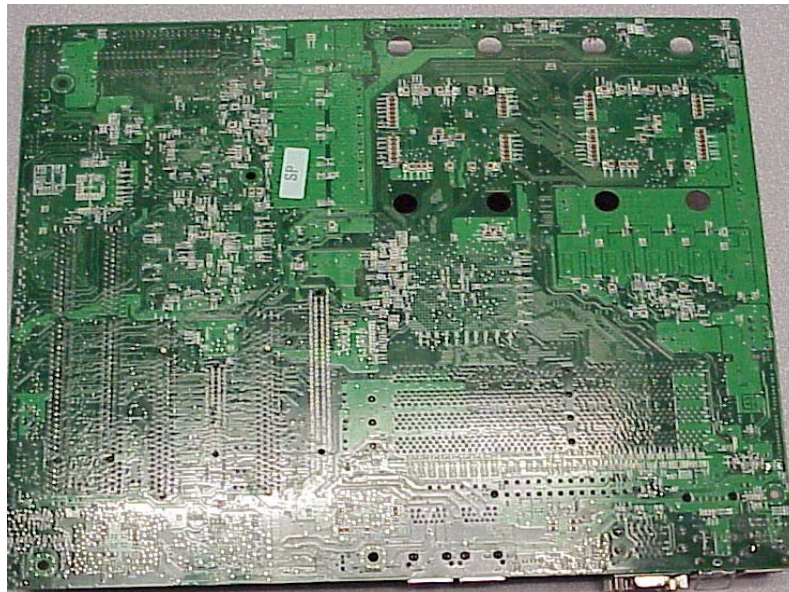
Equipment used in vehicles, ships or aircrafts, in tropical countries, or at elevations > 2000m:

This equipment is intended to operate in a "normal" environment (Offices and homes).

Photographs: (Representative of all PWBs.)



PWB Top (1)



PWB Bottom (2)

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

1	GENERAL		—
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1.5	Components		—
1.5.1	General		—
	Comply with IEC 60950 or relevant component standard	Refer to appended table 1.5.1.	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	No isolating transformer in the equipment.	N/A
1.5.5	Interconnecting cables	No interconnecting cables.	N/A
1.5.6	Capacitors in primary circuits	Class III equipment for building-in.	N/A
1.5.7	Double insulation or reinforced insulation bridged by components	Class III equipment for building-in.	N/A
1.5.7.1	General	Refer below:	—
1.5.7.2	Bridging capacitors	Class III equipment for building-in.	N/A
1.5.7.3	Bridging resistors	Class III equipment for building-in.	N/A
1.5.7.4	Accessible parts	Class III equipment for building-in.	N/A
1.5.8	Components in equipment for IT power systems	Class III equipment for building-in.	N/A

1.6	Power interface		—
1.6.1	AC power distribution systems	Class III equipment for building-in.	N/A
1.6.2	Input current	Class III equipment for building-in. No test considered necessary.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.6.3	Voltage limit of hand-held equipment	Class III equipment for building-in.	N/A
1.6.4	Neutral conductor	Class III equipment for building-in.	N/A

1.7	Markings and instructions		—
1.7.1	Power rating	Class III equipment for building-in. Not rated.	N/A
	Rated voltage(s) or voltage range(s) (V)	Class III equipment for building-in.	N/A
	Symbol for nature of supply, for d.c. only	Class III equipment for building-in.	N/A
	Rated frequency or rated frequency range (Hz)	Class III equipment for building-in.	N/A
	Rated current (mA or A)	Class III equipment for building-in.	N/A
	Manufacturer's name or trademark or identification mark	Manufacturer's identification mark used, ID is: E139761.	P
	Type/model or type reference	S". Series.	P
	Symbol ø for Class II equipment only	Class III equipment for building-in.	N/A
	Other symbols	The additional marking does not give rise to misunderstandings.	P
	Certification marks	Class III equipment for building-in. To be evaluated in end use.	—
1.7.2	Safety instructions	No precautions are necessary. Additionally to be evaluated in end use.	N/A
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment	None, class III equipment for building-in.	N/A
1.7.5	Power outlets on the equipment	No standard power outlet.	N/A
1.7.6	Fuse identification	No fuses.	N/A
1.7.7	Wiring terminals	Class III equipment for building-in.	N/A
1.7.7.1	Protective earthing and bonding terminals ...	Class III equipment for building-in.	N/A
1.7.7.2	Terminal for a.c. mains supply conductors	Class III equipment for building-in.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Not considered to be connected to d.c. mains supply.	N/A
1.7.8	Controls and indicators	No controls or indicators.	N/A
1.7.8.1	Identification, location and marking	No controls affecting safety.	P
1.7.8.2	Colours	No indicators with colours where safety is involved.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.8.3	Symbols	No additional symbols provided.	N/A
1.7.8.4	Markings using figures	No controls.	N/A
1.7.9	Isolation of multiple power sources	Class III equipment for building-in.	N/A
1.7.10	IT power distribution systems	Class III equipment for building-in.	N/A
1.7.11	Thermostats and other regulating devices	No adjustable thermostats or other regulating devices.	N/A
1.7.12	Language	No precautions are necessary. Additionally to be evaluated in end use.	—
1.7.13	Durability	The marking withstands required tests.	P
1.7.14	Removable parts	No removable parts.	N/A
1.7.15	Replaceable batteries	Class III equipment for building in. To be evaluated in end use.	N/A
	Language		—
1.7.16	Operator access with a tool	Class III equipment for building-in.	N/A
1.7.17	Equipment for restricted access locations	Equipment not intended for installation in RAL.	N/A

2	PROTECTION FROM HAZARDS		—
2.1	Protection from electric shock and energy hazards		—
2.1.1	Protection in operator access areas	Refer below:	—
2.1.1.1	Access to energized parts	Class III equipment for building in. To be evaluated in end use.	N/A
	Test by inspection		—
	Test with test finger		—
	Test with test pin		—
	Test with test probe		—
2.1.1.2	Battery compartments	No TNV or battery compartments present.	N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV.	N/A
	Working voltage (V); minimum distance (mm) through insulation		—
2.1.1.4	Access to hazardous voltage circuit wiring	Class III equipment for building in. To be evaluated in end use.	N/A
2.1.1.5	Energy hazards	Class III equipment for building in. To be evaluated in end use.	P



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Clause	Requirement – Test	Result – Remark	Verdict
2.1.1.6	Manual controls	No shafts of knobs etc. at ELV or hazardous voltage or TNV.	N/A
2.1.1.7	Discharge of capacitors in equipment	Class III equipment for building-in.	N/A
	Time-constant (s); measured voltage (V)		—
2.1.2	Protection in service access areas	No service access.	N/A
2.1.3	Protection in restricted access locations	Equipment not intended for installation in RAL.	N/A

2.2	SELV circuits		—
2.2.1	General requirements	Class III equipment, within SELV limits.	P
2.2.2	Voltages under normal conditions (V).....	Class III equipment, within SELV limits.	P
2.2.3	Voltages under fault conditions (V).....	Class III equipment, within SELV limits.	N/A
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)	Class III equipment, within SELV limits.	N/A
2.2.3.2	Separation by earthed screen (method 2)	Class III equipment, within SELV limits.	N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)	Class III equipment, within SELV limits.	N/A
2.2.4	Connection of SELV circuits to other circuits.	SELV circuits are only connected to other SELV circuits.	P

2.3	TNV circuits		—
2.3.1	Limits	No TNV circuits.	N/A
	Type of TNV circuits.....		—
2.3.2	Separation from other circuits and from accessible parts		—
	Insulation employed		—
2.3.3	Separation from hazardous voltages		—
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		—
2.4	Limited current circuits		—



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Clause	Requirement – Test	Result – Remark	Verdict
2.4.1	General requirements	No limited current circuits.	N/A
2.4.2	Limit values		—
	Frequency (Hz)		—
	Measured current (mA)		—
	Measured voltage (V)		—
	Measured capacitance (µF)		—
2.4.3	Connection of limited current circuits to other circuits		—

2.5	Limited power sources		
	Inherently limited output	All I/O circuits leaving the equipment are limited to LPS and comply with secondary wiring protection by logic limited circuitry or PTCs.	P
	Impedance limited output		—
	Overcurrent protective device limited output		—
	Regulating network limited output under normal operating and single fault condition		—
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		—
	Output voltage (V), output current (A), apparent power (VA)		—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		—
2.6.1	Protective earthing	Class III equipment. Not applicable.	N/A
2.6.2	Functional earthing	Class III equipment. Not applicable.	N/A
2.6.3	Protective earthing and protective bonding conductors	Class III equipment. Not applicable.	N/A
2.6.3.1	General		—
2.6.3.2	Size of protective earthing conductors		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors		—



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IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance (Ω) of earthing conductors and their terminations, test current (A)		—
2.6.3.5	Colour of insulation		—
2.6.4	Terminals	Class III equipment. Not applicable.	N/A
2.6.4.1	General		—
2.6.4.2	Protective earthing and bonding terminals		—
	Rated current (A), type and nominal thread diameter (mm).....		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		—
2.6.5	Integrity of protective earthing	Class III equipment. Not applicable.	N/A
2.6.5.1	Interconnection of equipment		—
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		—
2.6.5.3	Disconnection of protective earth		—
2.6.5.4	Parts that can be removed by an operator		—
2.6.5.5	Parts removed during servicing		—
2.6.5.6	Corrosion resistance		—
2.6.5.7	Screws for protective bonding		—
2.6.5.8	Reliance on telecommunication network or cable distribution system		—

2.7	Overcurrent and earth fault protection in primary circuits		—
2.7.1	Basic requirements	Class III equipment for building-in.	N/A
	Instructions when protection relies on building installation		—
2.7.2	Faults not covered in 5.3		—
2.7.3	Short-circuit backup protection		—
2.7.4	Number and location of protective devices ...		—
2.7.5	Protection by several devices		—
2.7.6	Warning to service persons		—
2.8	Safety interlocks		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.8.1	General principles	No safety interlocks.	N/A
2.8.2	Protection requirements		—
2.8.3	Inadvertent reactivation		—
2.8.4	Fail-safe operation		—
2.8.5	Moving parts		—
2.8.6	Overriding		—
2.8.7	Switches and relays		—
2.8.7.1	Contact gaps (mm)		—
2.8.7.2	Overload test		—
2.8.7.3	Endurance test		—
2.8.7.4	Electric strength test		—
2.8.8	Mechanical actuators		—

2.9	Electrical insulation		—
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials are used as insulation. No driving belts or couplings are used.	P
2.9.2	Humidity conditioning	Class III equipment. Testing not considered necessary.	N/A
	Humidity (%)		—
	Temperature (°C)		—
2.9.3	Grade of insulation	Insulation is considered to be functional insulation.	P

2.10	Clearances, creepage distances and distances through insulation		—
2.10.1	General	All circuits are SELV circuits and earth. The insulation considered is functional. To be evaluated in end use. No measurement considered necessary.	N/A
2.10.2	Determination of working voltage	Class III equipment. No measurement considered necessary.	N/A
2.10.3	Clearances	Class III equipment. No measurement considered necessary.	N/A
2.10.3.1	General	Refer below:	—
2.10.3.2	Clearances in primary circuits	Class III equipment for building-in.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.3.3	Clearances in secondary circuits	Only functional insulation. Refer to 5.3.4.	P
2.10.3.4	Measurement of transient voltage levels	Measurement not relevant.	N/A
2.10.4	Creepage distances	Class III equipment. No measurement considered necessary.	N/A
	CTI tests		—
2.10.5	Solid insulation	Refer below:	—
2.10.5.1	Minimum distance through insulation	Class III equipment. No measurement considered necessary.	N/A
2.10.5.2	Thin sheet material	Class III equipment. No measurement considered necessary.	N/A
	Number of layers (pcs).....		—
	Electric strength test		—
2.10.5.3	Printed boards	Class III equipment. No measurement considered necessary.	N/A
	Distance through insulation		—
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs).....		—
2.10.5.4	Wound components	Class III equipment. No measurement considered necessary.	N/A
	Number of layers (pcs).....		—
	Two wires in contact inside wound component; angle between 45° and 90°		—
2.10.6	Coated printed boards	No special coating in order to reduce distance.	N/A
2.10.6.1	General		—
2.10.6.2	Sample preparation and preliminary inspection		—
2.10.6.3	Thermal cycling		—
2.10.6.4	Thermal ageing (°C).....		—
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		—
	Electric strength test		—
2.10.7	Enclosed and sealed parts.....	No enclosed or hermetically sealed components.	N/A
	Temperature $T_1=T_2 = T_{ma} - T_{amb} + 10K$ (°C)...		—



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Clause	Requirement – Test	Result – Remark	Verdict
2.10.8	Spacings filled by insulating compound.....	No such components.	N/A
	Electric strength test		—
2.10.9	Component external terminations	Coating not used.	N/A
2.10.10	Insulation with varying dimensions	No such transformers.	N/A

3	WIRING, CONNECTIONS AND SUPPLY		—
3.1	General		—
3.1.1	Current rating and overcurrent protection	Class III equipment for building-in. To be evaluated in end use.	N/A
3.1.2	Protection against mechanical damage		—
3.1.3	Securing of internal wiring		—
3.1.4	Insulation of conductors		—
3.1.5	Beads and ceramic insulators		—
3.1.6	Screws for electrical contact pressure		—
3.1.7	Insulating materials in electrical connections		—
3.1.8	Self-tapping and spaced thread screws		—
3.1.9	Termination of conductors		—
	10 N pull test		—
3.1.10	Sleeving on wiring		—

3.2	Connection to an a.c. mains supply or a d.c. mains supply		—
3.2.1	Means of connection	Class III equipment for building-in. No connection to an a.c. or d.c. mains supply.	N/A
3.2.1.1	Connection to an a.c. mains supply		—
3.2.1.2	Connection to a d.c. mains supply		—
3.2.2	Multiple supply connections		—
3.2.3	Permanently connected equipment		—
	Number of conductors, diameter (mm) of cable and conduits		—
3.2.4	Appliance inlets		—
3.2.5	Power supply cords		—
3.2.5.1	AC power supply cords		—
	Type		—



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Clause	Requirement – Test	Result – Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		—
3.2.6	Cord anchorages and strain relief		—
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		—
3.2.8	Cord guards		—
	D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		—

3.3	Wiring terminals for connection of external conductors		—
3.3.1	Wiring terminals	Class III equipment for building-in. No mains connection.	N/A
3.3.2	Connection of non-detachable power supply cords		—
3.3.3	Screw terminals		—
3.3.4	Conductor sizes to be connected		—
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		—
	Rated current (A), type and nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		—
3.3.7	Grouping of wiring terminals		—
3.3.8	Stranded wire		—

3.4	Disconnection from the mains supply		—
3.4.1	General requirement	Class III equipment for building-in. No mains connection.	N/A
3.4.2	Disconnect devices		—
3.4.3	Permanently connected equipment		—
3.4.4	Parts which remain energized		—
3.4.5	Switches in flexible cords		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.4.6	Single-phase equipment and d.c. equipment		—
3.4.7	Three-phase equipment		—
3.4.8	Switches as disconnect devices		—
3.4.9	Plugs as disconnect devices		—
3.4.10	Interconnected equipment		—
3.4.11	Multiple power sources		—

3.5	Interconnection of equipment		—
3.5.1	General requirements	Considered.	P
3.5.2	Types of interconnection circuits.....	SELV circuit only.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A

4	PHYSICAL REQUIREMENTS		—
4.1	Stability		—
	Angle of 10°	Due to nature of equipment, no test considered necessary. Equipment for building-in.	N/A
	Test: force (N)		—

4.2	Mechanical strength		—
4.2.1	General	Class III equipment for building-in. To be evaluated in end use.	N/A
4.2.2	Steady force test, 10 N	Class III equipment for building-in. To be evaluated in end use.	N/A
4.2.3	Steady force test, 30 N	Class III equipment for building-in. To be evaluated in end use.	N/A
4.2.4	Steady force test, 250 N	Class III equipment for building-in. To be evaluated in end use.	N/A
4.2.5	Impact test	Class III equipment for building-in. To be evaluated in end use.	N/A
	Fall test		—
	Swing test		—
4.2.6	Drop test	Class III equipment for building-in. To be evaluated in end use.	N/A
4.2.7	Stress relief test	Class III equipment for building-in. To be evaluated in end use.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.2.8	Cathode ray tubes	Class III equipment for building-in. To be evaluated in end use.	N/A
	Picture tube separately certified.....		—
4.2.9	High pressure lamps	No high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Class III equipment for building-in. To be evaluated in end use.	N/A

4.3	Design and construction		—
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls; force (N)	No handles or manual controls.	N/A
4.3.3	Adjustable controls	No hazardous adjustable controls.	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur.	P
4.3.5	Connection of plugs and sockets	SELV connector does not comply with IEC 60320 or 60083.	P
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Dimensions (mm) of mains plug for direct plug-in		—
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N).....		—
4.3.7	Heating elements in earthed equipment	No heating elements.	N/A
4.3.8	Batteries	The lithium battery is adequately protected. Refer to appended table 4.3.8.	P
4.3.9	Oil and grease	Insulation is not exposed to oil, grease etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not generate ionizing radiation or use a laser, and does not contain flammable liquids or gases. LED's are diffused type.	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N/A
4.3.12	Flammable liquids	The equipment does not contain flammable liquid.	N/A
	Quantity of liquid (l)		—
	Flash point (°C)		—
4.3.13	Radiation; type of radiation	No radiation sources.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.13.1	General		—
4.3.13.2	Ionizing radiation	The equipment does not generate ionizing radiation.	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not produce UV radiation.	N/A
	Part, property, retention after test, flammability classification		—
4.3.13.4	Human exposure to ultraviolet (UV) radiation	The equipment does not produce UV radiation.	N/A
4.3.13.5	Laser (including LEDs)	LEDs are diffused type.	N/A
	Laser class		—
4.3.13.6	Other types	The equipment does not generate other types of radiation.	N/A
4.4	Protection against hazardous moving parts		—
4.4.1	General	No hazardous moving parts.	N/A
4.4.2	Protection in operator access areas	No hazardous moving parts.	N/A
4.4.3	Protection in restricted access locations	Not intended for installation in RAL.	N/A
4.4.4	Protection in service access areas	No hazardous moving parts.	N/A
4.5	Thermal requirements		—
4.5.1	Maximum temperatures	No testing considered necessary.	N/A
	Normal load condition per Annex L		—
4.5.2	Resistance to abnormal heat	No testing performed.	N/A
4.6	Openings in enclosures		—
4.6.1	Top and side openings	Class III equipment for building-in. To be evaluated in end use.	N/A
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	Class III equipment for building-in. To be evaluated in end use.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Construction of the bottom.....		—
4.6.3	Doors or covers in fire enclosures	Class III equipment for building-in. To be evaluated in end use.	N/A
4.6.4	Openings in transportable equipment	Class III equipment for building-in. To be evaluated in end use.	N/A
4.6.5	Adhesives for constructional purposes	Class III equipment for building-in. To be evaluated in end use.	N/A
	Conditioning temperature (°C)/time (weeks)		—

4.7	Resistance to fire		—
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 is used.	P
	Method 1, selection and application of components wiring and materials	Refer to appended table 1.5.1.	P
	Method 2, application of all of simulated fault condition tests	Method 1 is used.	N/A
4.7.2	Conditions for a fire enclosure	Class III equipment for building-in. To be evaluated in end use.	N/A
4.7.2.1	Parts requiring a fire enclosure		—
4.7.2.2	Parts not requiring a fire enclosure		—
4.7.3	Materials		
4.7.3.1	General	Components and materials have adequate flammability classification. Refer to appended table 1.5.1 (List of Critical Components).	P
4.7.3.2	Materials for fire enclosures	Class III equipment for building-in. To be evaluated in end use.	—
4.7.3.3	Materials for components and other parts outside fire enclosures	Class III equipment for building-in. To be evaluated in end use.	—
4.7.3.4	Materials for components and other parts inside fire enclosures	Class III equipment for building-in. To be evaluated in end use.	—
4.7.3.5	Materials for air filter assemblies	No air filters in the equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N/A



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5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		—
5.1	Touch current and protective conductor current		—
5.1.1	General	Class III equipment with no TNV. No testing considered necessary. To be evaluated in end use.	N/A
5.1.2	Equipment under test (EUT)		—
5.1.3	Test circuit		—
5.1.4	Application of measuring instrument		—
5.1.5	Test procedure		—
5.1.6	Test measurements		—
	Test voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)		—
5.1.7	Equipment with touch current exceeding 3.5 mA		—
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		—
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		—
	Test voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		—
5.2	Electric strength		—
5.2.1	General	Class III equipment. Electric Strength not considered necessary. To be evaluated in end use.	N/A
5.2.2	Test procedure		—

5.3	Abnormal operating and fault conditions		—
5.3.1	Protection against overload and abnormal operation	Class III equipment, no testing considered necessary.	N/A
5.3.2	Motors	No motors in equipment.	N/A
5.3.3	Transformers	No transformers.	N/A
5.3.4	Functional insulation	Complies with c), materials mounted on V-1 or better material.	P
5.3.5	Electromechanical components	No electromechanical components.	N/A
5.3.6	Simulation of faults	No testing considered necessary. Refer to 5.3.4.	N/A
5.3.7	Unattended equipment	No thermostats, temperature limiter or thermal cut-outs.	N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	No testing considered necessary.	N/A

6	CONNECTION TO TELECOMMUNICATION NETWORKS		—
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		—
6.1.1	Protection from hazardous voltages		—
6.1.2	Separation of the telecommunication network from earth		—
6.1.2.1	Requirements	No TNV circuits.	—
	Test voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		—

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements	No TNV circuits.	—
6.2.2	Electric strength test procedure		—
6.2.2.1	Impulse test		—
6.2.2.2	Steady-state test		—
6.2.2.3	Compliance criteria		—

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	No TNV circuits.	—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment	No connection to a cable distribution system.	—
7.2	Protection of equipment users from overvoltages on the cable distribution system		—
7.3	Insulation between primary circuits and cable distribution systems		—
7.3.1	General		—
7.3.2	Voltage surge test		—
7.3.3	Impulse test		—

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg and of stationary equipment (see 4.7.3.2)		—
A.1.1	Samples	All materials have suitable flame class, no additional testing considered necessary.	—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C) ...		—
A.1.3	Mounting of samples		—
A.1.4	Test flame		—
A.1.5	Test procedure		—
A.1.6	Compliance criteria		—
	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)		—
A.2.1	Samples, material		—
	Wall thickness (mm).....		—
A.2.2	Conditioning of samples		—
A.2.3	Mounting of samples		—
A.2.4	Test flame		—
A.2.5	Test procedure		—

A.2.6	Compliance criteria		—
	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, 8		—
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.3	Hot flaming oil test (see 4.6.2)		—
A.3.1	Mounting of samples		—
A.3.2	Test procedure		—
A.3.3	Compliance criterion		—

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	No motors provided.	—
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		—
B.3	Maximum temperatures		—
B.4	Running overload test		—
B.5	Locked-rotor overload test		—
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		—
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		—
B.7.1	Test procedure		—
B.7.2	Alternative test procedure; test time (h).....		—
B.7.3	Electric strength test		—
B.8	Test for motors with capacitors		—
B.9	Test for three-phase motors		—
B.10	Test for series motors		—



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	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position	None present	—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test		—
C.2	Insulation		—
	Protection from displacement of windings.....		—
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N/A
D.1	Measuring instrument	No testing considered necessary.	—
D.2	Alternative measuring instrument	No testing considered necessary.	—
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		N/A
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Summary of the procedure for determining minimum clearances	Annex G not used.	—
G.2	Determination of mains transient voltage (V).....		—
G.2.1	AC mains supply		—
G.2.2	DC mains supply		—
G.3	Determination of telecommunication network transient voltage (V)		—
G.4	Determination of required withstand voltage (V).....		—
G.5	Measurement of transient voltage levels (V)..		—
G.6	Determination of minimum clearances.....		—
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A



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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal used	Not used.	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N/A
K.1	Making and breaking capacity	Not used.	—
K.2	Thermostat reliability; operating voltage (V)...		—
K.3	Thermostat endurance test; operating voltage (V)		—
K.4	Temperature limiter endurance; operating voltage (V)		—
K.5	Thermal cut-out reliability		—
K.6	Stability of operation		—

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

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction	No TNV.	—
M.2	Method A		—
M.3	Method B		—
M.3.1	Ringling signal		—
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		—
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		—
M.3.2.2	Tripping device		—
M.3.2.3	Monitoring voltage (V)		—

N	ANNEX N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)		N/A
N.1	ITU-T impulse test generators	Not used.	—
N.2	IEC 60065 impulse test generator		—
P	ANNEX P, NORMATIVE REFERENCES		N/A
Q	ANNEX Q, BIBLIOGRAPHY		N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)	Not used.	—
R.2	Reduced clearances (see 2.10.3)		—
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		—
S.2	Test procedure		—
S.3	Examples of waveforms during impulse testing		—
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N/A
V.1	Introduction		—
V.2	TN power distribution systems		—





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

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

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus	Not used.	—
Y.2	Mounting of test samples		—
Y.3	Carbon-arc light-exposure apparatus		—
Y.4	Xenon-arc light exposure apparatus		—

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 + A11:2004)			
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 2.1 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	Considered.	—
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.	Class III equipment for building-in. To be evaluated in end use.	N/A

1.5.1	A (SE, Ordinance 1990:944) and (CH, Ordinance on environmentally hazardous substances SR 814.013, Annex 3.2, Mercury): Add the following: NOTE – Switches containing mercury such as thermostats, relays and level controllers are not allowed.	Class III equipment for building-in. To be evaluated in end use.	N/A
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).	Class III equipment for building-in. To be evaluated in end use.	N/A
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:	Class III equipment for building-in. To be evaluated in end use.	N/A
	FI: "Laite on liitettävä suojamaadoitus-koskettimilla varustettuun pistorasiaan"		—
	NO: "Apparatet må tilkoples jordet stikkontakt"		—
	SE: "Apparaten skall anslutas till jordat uttag"		—
	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! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."		—
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.	Class III equipment for building-in. To be evaluated in end use.	N/A

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 III equipment for building-in. To be evaluated in end use.	N/A
1.7.12	A (DE, Gesetz über technische Arbeitsmittel (Gerätesicherheitsgesetz) [Law on technical labour equipment {Equipment safety law}], of 23 rd October 1992, Article 3, 3 rd paragraph, 2 nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchführung des Zweiten Abschnitts des Gerätesicherheitsgesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10 th January 1996, article 2, 4 th 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.	Must be considered before marketed in Germany.	—
1.7.15	A (CH, Ordinance on environmentally hazardous substances SR 814.013): Annex 4.10 of SR 814.013 applies for batteries.	There is no battery containing Cd or Hg in the equipment.	N/A
2.2.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.	No TNV circuits.	N/A
2.3.2	S (NO): Requirements according to this annex, 6.1.2.1 apply.	No TNV circuits.	N/A
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/A
2.6.3.3	S (GB): The current rating of the circuit shall be taken as 13 A, not 16 A.	Class III equipment for building-in. To be evaluated in end use.	N/A
2.7.1	C: Replace the subclause as follows: <i>Basic requirements</i> 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	Class III equipment for building-in. To be evaluated in end use.	N/A

	<p>by protective devices in the building installation;</p> <p>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.</p> <p>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.</p>		
	<p>S (GB): To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT.</p>		—
2.7.2	<p>C: Void.</p>	<p>Considered.</p>	—
2.10.2	<p>C: Replace in the first line "(see also 1.4.7)" by "(see also 1.4.8)".</p>	<p>Considered.</p>	—
2.10.3.1	<p>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>	<p>Class III equipment for building-in. To be evaluated in end use.</p>	N/A
3.2.1.1	<p>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:</p> <p>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</p> <p>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:</p> <p>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</p>	<p>Class III equipment for building-in. To be evaluated in end use.</p>	—

	<p>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.</p> <p>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.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>	<p>Class III equipment for building-in. To be evaluated in end use.</p>	<p>—</p>
	<p>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.</p> <p>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.</p> <p>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.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>	<p>Class III equipment for building-in. To be evaluated in end use.</p>	<p>—</p>
	<p>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.</p> <p>NOTE – 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>	<p>Class III equipment for building-in. To be evaluated in end use.</p>	<p>—</p>

	<p>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.</p>	<p>Class III equipment for building-in. To be evaluated in end use.</p>	<p>N/A</p>
4.3.13.6	<p>C: Add the following note:</p> <p>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.</p>	<p>Considered.</p>	<p>N/A</p>
6.1.2.1	<p>S (FI, NO, SE): Add the following text between the first and second paragraph:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - 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. <p>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</p> <ul style="list-style-type: none"> - 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 ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - 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; 	<p>No TNV circuits.</p>	<p>N/A</p>

	<p>- the additional testing shall be performed on all the test specimens as described in EN 132400;</p> <p>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.</p>		
6.1.2.2	<p>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.</p>	No TNV circuits.	N/A
7.1	<p>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.</p>	Class III equipment for building-in. To be evaluated in end use.	N/A
G.2.1	<p>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 G not used.	N/A
Annex H	<p>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.</p>	The unit does not emit X-ray radiation.	N/A
Annex H	<p>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 X-ray emission source. b) A licence in accordance with clause 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</p>	German A deviation withdrawn according to Amd. A11:2004.	N/A

	<p>ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.</p> <p>c) A licence 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 20 kV if</p> <ol style="list-style-type: none"> 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 <ol style="list-style-type: none"> 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. <p>d) Furthermore, a licence in accordance with clause 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</p> <ol style="list-style-type: none"> 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. 		
Annex P	<p>C: Replace the text of this annex by: See annex ZA.</p>	<p>Considered.</p>	<p>—</p>
Annex Q	<p>C: Replace the title of IEC 61032 by "Protection of persons and equipment by enclosures – Probes for verification".</p> <p>Add the following notes for the standards indicated:</p> <p>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>		<p>—</p>

Annex ZA	<p>C: NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR RELEVANT EUROPEAN PUBLICATIONS</p> <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 referred to applies (including amendments).</p> <p>NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.</p> <table border="0"> <tr><td>—</td><td>IEC 60050-151</td></tr> <tr><td>—</td><td>IEC 60050-195</td></tr> <tr><td>EN 60065:1998 + corr. June 1999</td><td>IEC 60065 (mod):1998</td></tr> <tr><td>EN 60073:1996</td><td>IEC 60073:1996</td></tr> <tr><td>HD 566 S1:1990</td><td>IEC 60085:1984</td></tr> <tr><td>HD 214 S2:1980</td><td>IEC 60112:1979</td></tr> <tr><td>HD 611.4.1.S1:1992</td><td>IEC 60216-4-1:1990</td></tr> <tr><td>HD 21 ¹⁾ Series</td><td>IEC 60227 (mod) Series</td></tr> <tr><td>HD 22 ²⁾ Series</td><td>IEC 60245 (mod) Series</td></tr> <tr><td>EN 60309 Series</td><td>IEC 60309 Series</td></tr> <tr><td>EN 60317-43:1997</td><td>IEC 60317-43:1997</td></tr> <tr><td>EN 60320 Series</td><td>IEC 60320 (mod) Series</td></tr> <tr><td>HD 384.3 S2:1995</td><td>IEC 60364-3 (mod):1993</td></tr> <tr><td>HD 384.4.41 S2:1996</td><td>IEC 60364-4-41 (mod):1992 ³⁾</td></tr> <tr><td>EN 132400:1994 ⁴⁾</td><td>IEC 60384-14:1993</td></tr> <tr><td>+ A2:1998 + A3:1998 + A4:2001</td><td></td></tr> <tr><td>EN 60417-1</td><td>IEC 60417-1</td></tr> <tr><td>HD 625.1 S1:1996 + corr. Nov. 1996</td><td>IEC 60664-1 (mod):1992</td></tr> <tr><td>EN 60695-2-2:1994</td><td>IEC 60695-2-2:1991</td></tr> <tr><td>EN 60695-2-11:2001</td><td>IEC 60695-2-11:2000</td></tr> <tr><td>—</td><td>IEC 60695-2-20:1995</td></tr> <tr><td>—</td><td>IEC 60695-10-2:1995</td></tr> <tr><td>—</td><td>IEC 60695-11-3:2000</td></tr> <tr><td>—</td><td>IEC 60695-11-4:2000</td></tr> <tr><td>EN 60695-11-10:1999</td><td>IEC 60695-11-10:1999</td></tr> <tr><td>EN 60695-11-20:1999</td><td>IEC 60695-11-20:1999</td></tr> <tr><td>EN 60730-1:2000</td><td>IEC 60730-1:1999 (mod)</td></tr> <tr><td>EN 60825-1:1994 + corr. Febr. 1995 + A11:1996 + corr. July 1997</td><td>IEC 60825-1:1993</td></tr> <tr><td>EN 60825-2:2000</td><td>IEC 60825-2:2000</td></tr> <tr><td>—</td><td>IEC 60825-9:1999</td></tr> <tr><td>EN 60851-3:1996</td><td>IEC 60851-3:1996</td></tr> <tr><td>EN 60851-5:1996</td><td>IEC 60851-5:1996</td></tr> <tr><td>EN 60851-6:1996</td><td>IEC 60851-6:1996</td></tr> <tr><td>—</td><td>IEC 60885-1:1987</td></tr> <tr><td>EN 60990:1999</td><td>IEC 60990:1999</td></tr> <tr><td>—</td><td>IEC 61058-1:2000</td></tr> <tr><td>EN 61965:2001</td><td>IEC 61965:2000</td></tr> <tr><td>EN ISO 178:1996</td><td>ISO 178:1993</td></tr> <tr><td>EN ISO 179 Series</td><td>ISO 179 Series</td></tr> <tr><td>EN ISO 180:2000</td><td>ISO 180:1993</td></tr> </table>	—	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⁾	IEC 60384-14:1993	+ A2:1998 + A3:1998 + A4:2001		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)	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 60851-5:1996	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	—
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—	ISO 261:1998
—	ISO 262:1998
EN ISO 527 Series	ISO 527 Series
—	ISO 3864:1984
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					—
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity**)	
PWB material	Various	Various	Flame class V-1, min 105°C	UL 94	UL	
Battery 1)	Panasonic, Sony, Hitachi Maxwell, Renata	CR2032	3 Vdc, 200 mAh, 5 mA reverse current	UL 1642	UL	
Alternative		CR2450	15 mA reverse current			
Battery Protection IC	National Semiconductor	Super I/O PC87427	3 mA reverse current	UL 1950	UL refer to Appendix: Lithium Batteries	
Alternative	Analog Devices	ADM1026	SELV, includes integral reverse bias protection	Evaluated in appl.	None	
PTC (for I/O circuits) 2)	Raychem Littelfuse	MiniSMDC075	13.2 Vdc, 40 A max I _H =0.75 A, I _{TR} =1.5A	IEC 60730-1	UL, CSA, TÜV	
Alternative		MiniSMDC100	6 Vdc, 40 A max I _H =1.0 A, I _{TR} =2.0A			
Alternative		MiniSMDC110	6 Vdc, 40 A max I _H =1.1 A, I _{TR} =2.2A			
Alternative		SMD075	30 Vdc, 40 A max I _H =0.75 A, I _{TR} =1.5A			
Alternative		SMD100	30 Vdc, 40 A max I _H =1.0 A, I _{TR} =2.0A			
Alternative		SMD200	15 Vdc, 40 A max I _H =2.0 A, I _{TR} =4.0A			
Alternative		SMD250	15 Vdc, 40 A max I _H =2.5 A, I _{TR} =5.0A			
Alternative		NANOSMDC150	6 Vdc, 40 A max I _H =1.5 A, I _{TR} =3.0A			
Alternative		1812L075PR	15 Vdc, 40 A max I _H =0.75 A, I _{TR} =1.5A			
Alternative		1812L150PR	6 Vdc, 40 A max I _H =1.5 A, I _{TR} =3.0 A			
Alternative		2029S100PR	15 Vdc, 40 A max I _H =1.1 A, I _{TR} =2.2 A			
Alternative		2029L100	15 Vdc, 40 A max I _H =1.1 A, I _{TR} =2.2 A			
Alternative		3425L100	15 Vdc, 40 A max I _H =1.1 A, I _{TR} =2.2 A			



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object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ^{**)}
Alternative 2)	Bourns	3425L200	15 Vdc, 40 A max $I_H=2.0\text{ A}$, $I_{TR}=4.0\text{ A}$	IEC 60730-1	UL, CSA, TÜV
Alternative		3425L250	15 Vdc, 40 A max $I_H=2.5\text{ A}$, $I_{TR}=5.0\text{ A}$		
Alternative		MF-MSMD075	13.2 Vdc, 40 A max $I_H=0.75\text{ A}$, $I_{TR}=1.5\text{ A}$		
Alternative		MF-MSMD110	6 Vdc, 40 A max $I_H=1.1\text{ A}$, $I_{TR}=2.2\text{ A}$		
Alternative		MF-MSMD125	6 Vdc, 40 A max $I_H=1.25\text{ A}$, $I_{TR}=2.5\text{ A}$		
Alternative		MF-MSMD150	6 Vdc, 40 A max $I_H=1.5\text{ A}$, $I_{TR}=3.0\text{ A}$		
Internal Plastics (Card Guide / Retainers, Processor Cartridge, etc.)	Various	Various	Flame class V-2 min	UL 94	UL
supplementary information:					
**)	Marks listed under "Marks of conformity granted" indicates Nemko has verified the respective certifications.				
1)	Lithium batteries are provided with reverse charge protection, refer to appended table 4.3.8 for all protection options.				
2)	PTCs are provided in I/O circuits for compliance with Limited Power Source, refer to 2.5.				



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

1.6.2	TABLE: electrical data (in normal conditions)	N/A				
fuse #	I _{rated} (A)	U (V)	P (W)	I (mA)	I _{fuse} (mA)	condition/status
supplementary information:						
No test considered necessary.						

2.1.1.5 c1)	TABLE: max. V, A, VA test	N/A		
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
supplementary information:				



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2.1.1.5 c2)	TABLE: stored energy	N/A
Capacitance C (µF)	Voltage U (V)	Energy E (J)
supplementary information:		
E=0,5 CU ² x 10 ⁻⁶		

2.2	TABLE: evaluation of voltage limiting components in SELV circuits	N/A	
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
supplementary information:			
S-c=Short circuit			

2.5	TABLE: limited power sources	N/A		
No testing, PWB uses PTCs. Refer to appended table 1.5.1.				
	I _{sc} (A)		VA	
	Meas.	Limit	Meas.	Limit
supplementary information:				
S-c=Short circuit, O-c=Open circuit				



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2.10.2	Table: working voltage measurement			N/A
Location	RMS voltage (V)	Peak voltage (V)	Comments	
supplementary information:				

2.10.3 – 2.10.4	TABLE: clearance and creepage distance measurements					N/A
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)
supplementary information:						

2.10.5	TABLE: distance through insulation measurements				N/A
distance through insulation di at/of:	Up (V)	test voltage (V)	required di (mm)	di (mm)	
supplementary information:					



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4.3.8	TABLE: Batteries (Continued)	P
Battery category Lithium Manufacturer Panasonic / Sony / Hitachi Maxwell / Renata Type / model..... CR2032 CR2450 Voltage 3 Vdc Capacity 200 mAh Tested and Certified by (incl. Ref. No.).. UL		Option 2: Protection by IC with optional external resistor. Considered representative for all Server Baseboards. All Options (1 – 4) may be provided on Server Baseboards at the same time.
Circuit protection diagram:		
Max. reverse current (during fault conditions)		3.3 mA max (by calculation - 3.3 Vdc / 1 kΩ)

MARKINGS AND INSTRUCTIONS (1.7.12, 1.7.15)	
Location of replaceable battery	Class III equipment for building-in. To be evaluated in end use.
	Language(s): Class III equipment for building-in. To be evaluated in end use.
Close to the battery	—
In the servicing instructions	—
In the operating instructions	—



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4.3.8	TABLE: Batteries	P
The tests of 4.3.8 are applicable only when appropriate battery data is not available		Appropriate battery data is available
Is it possible to install the battery in a reverse polarity position?		No
Temperature		Appropriate battery data is available

	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Unintentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. spec.		Meas. current	Manuf. spec.	Meas. current	Manuf. spec.	Meas. current	Manuf. spec.
Max current during normal conditions	—	—	—	—	—	—	—	—	—
Max current during fault conditions	—	—	—	—	—	—	—	—	—
supplementary information:									

Test results:	Verdict
- Chemical leaks	No testing conducted N/A
- Explosion of the battery	—
- Emission of flame or expulsion of molten metal	—
- Electric strength test of equipment after completion of tests	—
supplementary information:	

4.5	TABLE: maximum temperatures					N/A
	test voltage (V)					—
	t _{amb1} (°C)					—
	t _{amb2} (°C)					—
maximum temperature T of part/at:		T (°C)				allowed T _{max} (°C)
temperature T of winding:		R ₁ (Ω)	R ₂ (Ω)	T (°C)	allowed T _{max} (°C)	insulation class
supplementary information:						
No testing considered necessary.						

4.5.2	TABLE: ball pressure test of thermoplastic parts			N/A
	allowed impression diameter (mm)	≤ 2 mm		—
part		test temperature (°C)	impression diameter (mm)	
supplementary information:				

4.7	TABLE: resistance to fire				N/A
part	manufacturer of material	type of material	thickness (mm)	flammability class	
supplementary information:					

5.1	TABLE: touch current measurement			N/A
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions



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supplementary information:		
Class III equipment with no TNV. No test considered necessary. To be evaluated in end use.		

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests		N/A
test voltage applied between:		test voltage (V) a.c. / d.c.	breakdown Yes / No
supplementary information			
No testing considered necessary.			

5.3	TABLE: fault condition tests		N/A			
	ambient temperature (°C)		—			
	model/type of power supply		—			
	manufacturer of power supply		—			
	rated markings of power supply		—			
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
supplementary information:						
s-c=short circuit, o-c=open circuit, o-l=overload						

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



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APPENDIX: AUSTRALIA DEVIATIONS

Test results according to CB BULLETIN No. 107A, May 2004.

Variations to IEC 60950-1:2001 for application in Australia and New Zealand

Clause	Requirement - Test	Result - Remark	Verdict
ZZ.1 Introduction			
This Annex sets out variations between this Standard and IEC 60950-1:2001. These variations indicate national variations for purposes of the IECEE CB Scheme and will be published in the IECEE CB Bulletin. These variations are indicated within the body of the Standard.			
ZZ.2 Variations			
The variations are as follows:			
1.2	Between the definitions for 'Person, service' and 'Range, rated frequency' insert the following: Potential ignition source 1.2.12.201	Considered.	—
1.2.12.15	After the definition of 1.2.12.15, add the following: 1.2.12.201 potential ignition source: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003.	Considered.	—
1.5.1	Add the following to the end of first paragraph: 'or the relevant Australian/New Zealand Standard'.	All critical components are IEC, UL or CSA certified.	P
1.5.2	Add the following to the end of first and third dash items: 'or the relevant Australian/New Zealand Standard'.	All critical components are IEC, UL or CSA certified.	P
2.1	Delete the Note.	Considered.	—
3.2.3	Delete Note 2.	Considered.	—



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3.2.5.1	Modify Table 3B as follows: Delete the first four rows and replace with	Considered.	N/A
Table 3B - Sizes of conductors			
RATED CURRENT OF EQUIPMENT A		Minimum conductor sizes	
		Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see note 2
Over 0.2 up to and including	3	0,5 ¹⁾	18 [0,8]
Over 3 up to and including	7.5	0,75	16 [1,3]
Over 7.5 up to and including	10	(0,75) ²⁾	16 [1,3]
Over 10 up to and including	16	(1,0) ³⁾	14 [2]
<p>Replace footnote 1) with the following: ¹⁾ This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191). Delete Note 1.</p>			
4.3.6	Replace paragraph three with: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.	Not direct plug-in equipment.	N/A
4.3.13.5	Add the following to the end of the first paragraph: , or AS/NZS 2211.1'.“.	Considered.	P
4.7	Add the following paragraph: For alternative tests refer to Clause 4.7.201.	Considered.	N/A



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4.7.201	<p>Add the following after Clause 4.7.3.6.</p> <p>4.7.201 Resistance to fire – Alternative tests</p> <p>4.7.201.1 General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following:</p> <p>Components that are contained in an enclosure having a flammability category of FV-0 according to AS/NZS 4695.707 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.</p> <p>The following parts which would contribute negligible fuel to a fire: small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category FV-1, or better, according to AS/NZS 4695.707.</p> <p>NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another.</p> <p>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5.</p> <p>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glowwire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.</p> <p>4.7.201.2 Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material.</p> <p>The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p> <p>4.7.201.3 Testing of insulating materials</p> <p>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.</p>	Considered.	N/A
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4.7.201	<p>The test shall be also carried out on other parts of insulating material which are within a distance of 3mm of the connection.</p> <p>NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications:</p> <table border="1" data-bbox="418 724 911 1375"> <thead> <tr> <th>Clause of AS/NZS 4695.2.2</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td>5 Severities</td> <td> <i>Replace with:</i> The duration of application of the test flame shall be 30 s \pm 1 s. </td> </tr> <tr> <td>8 Test procedure</td> <td></td> </tr> <tr> <td>8.2</td> <td> <i>Replace the first sentence with:</i> The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. </td> </tr> <tr> <td>8.4</td> <td> The first paragraph does not apply. <i>Addition:</i> If possible, the flame shall be applied at least 10 mm from a corner. </td> </tr> <tr> <td>8.5</td> <td> <i>Replace with:</i> The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test. </td> </tr> <tr> <td>10 Evaluation of test results</td> <td> <i>Replace with:</i> The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. </td> </tr> </tbody> </table>	Clause of AS/NZS 4695.2.2	Change	5 Severities	<i>Replace with:</i> The duration of application of the test flame shall be 30 s \pm 1 s.	8 Test procedure		8.2	<i>Replace the first sentence with:</i> The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1.	8.4	The first paragraph does not apply. <i>Addition:</i> If possible, the flame shall be applied at least 10 mm from a corner.	8.5	<i>Replace with:</i> The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test.	10 Evaluation of test results	<i>Replace with:</i> The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.	Considered.	N/A
Clause of AS/NZS 4695.2.2	Change																
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10 Evaluation of test results	<i>Replace with:</i> The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.																



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4.7.201	<p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.</p> <p>4.7.201.4 Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p> <p>4.7.201.5 Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE. The test is not carried out if the — Printed board does not carry any POTENTIAL IGNITION SOURCE; Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category FV-1 or better according to AS/NZS 4695.707, or the printed boards are protected by an enclosure meeting the flammability category FV-0 according to AS/NZS 4695.707, or made of metal, having openings only for connecting wires which fill the openings completely; or Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category FV-0 according to AS/NZS 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Compliance shall be determined using the smallest thickness of the material.</p> <p>NOTE – Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.</p>	Considered.	N/A
6.2.2	<p>Add the symbol NZ in the right hand margin beside the first paragraph.</p> <p>Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2. Delete the note.</p>	No TNV present.	N/A



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6.2.2.1	<p>Add the symbol NZ in the right hand margin beside the first paragraph including Note 1. Delete Note 2</p> <p>Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, U_c, is: for 6.2.1 a):7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and for 6.2.1 b) and 6.2.1 c):1.5 kV. NOTE 201 – The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 – The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>	No TNV present.	N/A
6.2.2.2	<p>Add the symbol NZ in the right hand margin beside the second paragraph. Delete the Note.</p> <p>Add the following after the second paragraph: In Australia (this variation does not apply in New Zealand), the a.c. test voltage is: for 6.2.1 a):3 kV; and for 6.2.1 b) and 6.2.1 c):1.5 kV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>	No TNV present.	N/A
Annex P	<p>Add the following Normative References to Annex P: IEC 60065, Audio, Video and similar electronic apparatus—Safety requirements AS/NZS 3191, Approval and test specification—Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets AS/NZS 4695.707, Fire hazard testing of electrotechnical products—Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source</p>	Considered.	—
Index	<p>Between the entries for 'polyimide insulating material' and 'powder' insert the following: potential ignition source 1.12.201, 4.7.201.3, 4.7.201.5</p>	Considered.	—



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APPENDIX: CANADA DEVIATIONS

Test results according to CB BULLETIN No. 107A, May 2004.

Clause	Requirement - Test	Result - Remark	Verdict
	<p>Canada and the United States of America have adopted a single, bi-national standard, CAN/CSA C22.2 No. 60950-1/UL60950-1, First Edition, which is based on IEC 60950-1, First Edition. Effective April 1, 2003, this standard may be used for product certification immediately, however, the previous version of the standard may also be used until April 1, 2005.</p> <p>Note: The previous version is CAN/CSA C22.2 No.60950-00/UL 60950 Third Edition, based on IEC 60950, 3rd Edition. Refer to the "IEC 60950, 3rd Edition, CA" section of this CB bulletin for the national differences in this version of the standard. This bi-national standard should be consulted for further details on the Special National Conditions and Other Differences summarized below.</p>		—
	<p>Those requirements are identified as Special National Conditions since they are directly related to the Canadian Electrical code (CEC), Part 1 and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and other building installations in Canada.</p> <p>Notes:</p> <ul style="list-style-type: none"> • "CEC" denotes Canadian Electrical Code. • "NEC" denotes US National Electrical Code. • Due to common Canadian and US national differences, products that are in compliance with the Canadian national differences are also considered in compliance with the US national differences. 		—
1.1.1	<p>All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.</p>	<p>The equipment is provided with appliance inlet.</p>	P
1.4.14	<p>For pluggable Equipment Type A, the protection in the insulation is assume to be 20 A.</p>	<p>Considered.</p>	P
1.5.5	<p>For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g. DP, CL2) specified in the NEC. For length 3.05m or less, external interconnecting flexible cord and cable assemblies which are not types specified in the NEC are required to have special construction features and identification markings.</p>	<p>No external interconnecting flexible cord and cable assemblies exceeding 3.05m.</p>	N/A



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1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions". Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions", unless it is part of a range that extends into the "Normal Operating Conditions".	Only one phase conductor.	N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source (or TNV) current limiting, it shall not be operator-accessible unless it is not interchangeable.	All I/O interfaces are limited to LPS by inherent logic limited circuits and internal PTC's in a certified component.	N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets, receptacles and medium-base or smaller lampholders if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require transformer overcurrent protection.	No standard supply outlets, receptacles, lampholders or such transformers.	N/A
3.2	Wiring methods (terminals, leads etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	The equipment is provided with an appliance inlet.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Cord set not evaluated. The unit shall be provided with an approved mains cord set complying with Canadian regulations. Refer to Summary of Testing.	—
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	The equipment is not permanently connected to the mains.	N/A
3.2.5	Power supply cords are required to be no longer than 4.5m in length. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.	Cord set not evaluated. The unit shall be provided with an approved mains cord set complying with Canadian regulations. Refer to Summary of Testing.	—
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected to the mains.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	The equipment is provided with an appliance inlet.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3mm ²).	The equipment is provided with an appliance inlet.	—



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3.3.4	Terminals for permanent wiring, including protective earthing terminals are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and specially marked when specified (1.7.7).		—
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the motor is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3hp (locked rotor current over 43 A).	No such motors in the equipment.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the “on” position indicated by the handle in the up position.	Switch is not used as disconnect device.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	No battery in the equipment.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquids within the equipment.	N/A
4.3.13	Equipment with lasers is required to meet Code of Federal Regulations 21CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No laser or LEDs in the equipment.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	The equipment has no combustible area greater than 27 cubic feet.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² or a single dimension greater than 1.8 m, are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	The equipment has no combustible material greater than 0.93m ² or single dimension greater than 1.8m.	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	The equipment does not produce ionizing radiation.	N/A



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	<p>The following key national differences are based on requirements other than national regulatory requirements. The bi-national standard (CAN/CSA C22.2 No. 60950-1/UL 60950-1, First Edition) referenced above should be consulted for further details on the national differences summarized below.</p>		
1.5.1	<p>Components of equipment must be suitable for the application, and must comply with the requirements of the equipment standard and the applicable national (Canadian and/or U.S.) component or material standards, as far as they may apply.</p> <p>The acceptance will be based on the following:</p> <p>I) A component Certified by a Canadian or U.S. National Certification Body (NCB) to a Canadian or U.S. component standard will be checked for correct application and use in accordance with its specified rating. Where necessary, it will also be subject to the applicable tests of the equipment standard.</p> <p>J) A component, which has a CB Test Certificate for compliance with a relevant IEC component standard, will be checked for correct application and use in accordance with its specified ratings. Where necessary, it will also be subject to the applicable tests of the equipment standard, and to the applicable tests of the Canadian and/or U.S. component or material standard, under the conditions occurring in the equipment.</p> <p>K) A component, which has no approval as in A) or B) above or which is used not in accordance with its specified ratings, will be subject to the applicable tests of the equipment standard, and to the applicable tests of the Canadian and/or U.S. component or material standard, under the conditions occurring in the equipment.</p> <p>L) Some components may require annual re-testing, which may be carried out by the manufacturer, CSA International or another laboratory</p>	<p>All critical components are IEC certified. Refer to list of critical components (appended table 1.5.1) in main CB report.</p>	P
2.3.1	<p>For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 Vdc, the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA dc under normal operating conditions.</p>	<p>No TNV circuitry.</p>	N/A
2.3.2	<p>In the event of a single fault, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.</p>	<p>No TNV circuitry.</p>	N/A
2.6.3.3	<p>When subject to impedance testing, protective earthing and bonding is required to be subjected to the additional test conditions specified.</p>	<p>Tested at 40 A, refer to main CB report.</p>	P



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3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instructions requirements	The equipment is connected to ac power system.	N/A
4.2.8.1	Enclosures around CRT's with a face area of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRTs in the equipment.	N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	The equipment has no handles.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV circuitry.	N/A
6.2.1	Enamel coating on winding wire not considered electrical separation unless subjected to special investigation.	No TNV circuitry.	N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuitry.	N/A
6.5	Equipment connected to a telecommunications network and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure tests.	No TNV circuitry.	N/A
M.2	Continuous ringing signals up to 16mA only are permitted if the equipment is subject to special installation and performance restrictions.	No TNV circuitry.	N/A



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APPENDIX: CHINA DEVIATIONS

Test results according to CB BULLETIN No. 107A, May 2004

Clause	Requirement - Test	Result - Remark	Verdict
1	<p>Supply tolerance</p> <p>Item 1.4.5 of IEC60950 stipulates the tolerance of rated voltage is +6% and -10%, while GB4943-2001 makes a specification of tolerance of +10% and -10%.</p>	<p>China nominal supply voltage is 220 V; Tested at 240 V + 6% = 254 V.</p>	P
2	<p>Power rating marking</p> <p>Item 1.7.1 of IEC60950 does not specify concrete figures of markings for supply voltage and frequency, instead, descriptions are given by examples. But the examples do not include China's mains voltage. GB4943-2001 stipulates that:</p> <p>A single rated voltage shall be expressed as 220V.</p> <p>When a rated voltage range is given, the range shall cover 220V.</p> <p>When a variety of rated voltages or rated voltage ranges are given, one of them shall be 220V, and shall be set as 220V when dispatched from the factory.</p> <p>Rated frequency or rated frequency range shall be 50Hz or include 50Hz. If a unit is not provided with a means for direct connection to the AC mains supply, it need not be marked with any electrical rating</p>	<p>Unit is rated 100-240 V, 50 / 60 Hz.</p>	P
3	<p>Plate and warning marking in Chinese</p> <p>Item 1.7.12 of GB4943-2001 stipulates: instructions and equipment markings related to safety shall be in standardized Chinese.</p>	<p>Must be considered before marketing in China.</p>	—
4	<p>Power supply plug</p> <p>According to China's particular standards for power supply plug, it is added in article 3.2.1 of GB4943-2001 that plug connecting equipment with AC mains supply shall be in accordance with requirements of GB1002.</p>	<p>A cord separately certified according to the relevant standards, is to be used when supplied to China.</p>	—



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APPENDIX: ISRAEL DEVIATIONS

Test results according to SI 60950 : 2000

Variations to IEC 60950:1999 for application in Israel.

Clause	Requirement - Test	Result - Remark	Verdict
1.2.12.1	TN Power Distribution The mains system in Israel in TN-S or TN-C or TN-C-S.	Tested for TN systems.	P
1.7	Marking and Instructions The package of the equipment shall be marked in Hebrew, and shall include: The name of the manufacturer, The name of the product, The country and year of production, The name and address of the importer. The marking shall be on a rectangular label (of at least 52mm x 24mm). The letters height should be at least 2mm. The color of the label shall be in contrast to the color of the package.	Must be considered before marketing in Israel.	—
1.7.12	Language All instructions and warnings concerning safety should be in the Hebrew language.	Must be considered before marketing in Israel.	—
2.101	EMC The equipment shall comply with SI 961 part 6 (CISPR 22 + 24).	Must be considered before marketing in Israel.	—
3.2.1.1	Connection to an a.c. mains supply Additional note : In Israel the mains supply plug shall comply with the Israeli standard SI 32.	Power cord not checked, must be considered before marketing in Israel.	—
3.2.3	Permanently connected equipment Additional note below table 3A: In Israel the diameter of the conduit shall comply with the Electricity Law.	Not permanently connected equipment.	N/A



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APPENDIX: JAPAN DEVIATIONS
Test results according to CB BULLETIN No. 107A, May 2004

Clause	Requirement - Test	Result - Remark	Verdict
1.2	<p>Addition: Add the following terms.</p> <p>Equipment, Class 0I 1.2.4.101 Material, VTM 1.2.12.101</p>	Considered.	—
1.2.4.101	<p>Addition: CLASS 0I EQUIPMENT: Equipment where protection against electric shock is achieved by:</p> <p>a) using BASIC INSULATION, and</p> <p>b) providing a means of connecting to the protective earthing conductor in the building wiring those conductive parts that are otherwise capable of assuming HAZARDOUS VOLTAGES if the BASIC INSULATION fails, and</p> <p>c) using a supply cord without earthing conductor and a plug without earthing wire although the equipment has externally an earth terminal or a lead wire for earthing.</p> <p>Equipment provided with a cord set having a two-pin type plug with a lead wire for earthing is also regarded as Class 0I.</p> <p>NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation as well as an operating part as SELV circuit.</p>	Considered.	N/A
1.2.12.1	<p>Replacement: FLAMMABILITY CLASSIFICATION OF MATERIALS: The recognition of the burning behaviour of materials and their ability to extinguish if ignited. Materials are classified as in 1.2.12.2 to 1.2.12.9, and 1.2.12.101 when tested in accordance with annex A.</p> <p>NOTE 1 - When applying the requirements in this standard, HF-1 CLASS FOAMED MATERIALS are regarded as better than those of CLASS HF-2, and HF-2 better than HBF.</p> <p>NOTE 2 - Similarly, other MATERIALS, including rigid (engineering structural) foam of CLASSES 5V or V-0 are regarded as better than those of CLASS V-1, V-1 better than V-2, and V-2 better than HB.</p> <p>NOTE 3 - Similarly, for thin MATERIALS, VTM-0 Class materials are regarded as better than those of VTM-1 Class, and VTM-1 better than VTM-2.</p>	Considered.	—



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Clause	Requirement - Test	Result - Remark	Verdict
1.2.12.101	<p>Addition: VTM CLASS MATERIAL: Thin MATERIALS fulfil the specified conditions during the test of clause A.101 applied for materials that the test and evaluation of clauses A.6 to A.10 is difficult to enforce. Materials are classified to three classifications as VTM-0, VTM-1 and VTM-2 according to the conditions after the removal of the test flame.</p>	Considered.	—
1.7.101	<p>Addition: Marking for CLASS 0I EQUIPMENT</p> <p>For CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the mains plug or the main body:</p> <p>“Provide an earthing connection”</p> <p>Moreover, for CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the main body or written in the operating instructions:</p> <p>“Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”</p>	Class I equipment.	N/A
2.1.1.1	<p>Replacement: Replace “IEC 60083” to “IEC 60083 or JIS C 8303” in 2.1.1.1 b).</p>	Considered	—
2.6.3.1	<p>Addition: Add the following after 1st paragraph.</p> <p>This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.</p>	Considered	—
2.6.4.1	<p>Replacement: Replace 2nd sentence in 1st paragraph.</p> <p>For CLASS I EQUIPMENT with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal.</p>	Considered	P
2.6.5.4	<p>Replacement: Replace 1st sentence.</p> <p>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:</p>	Considered	P



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Clause	Requirement - Test	Result - Remark	Verdict
2.6.101	<p>Addition: Earthing of CLASS 01 EQUIPMENT</p> <p>Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V.</p> <p>For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip.</p> <p>CLASS 01 EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external where easily visible.</p>	Class I Equipment.	N/A
3.2.5	Delete 1) in Table 3B.	Considered	—
4.2.8	<p>Addition: Add the following informative remark after the last sentence.</p> <p>Remark - IEC 61965 is also applicable instead of IEC 60065.</p>	Considered	—
4.5.1	<p>Addition: Add the following to suffix 5) as specified in “Conditions applicable to Table 4A, Parts 1 and 2”.</p> <p>With regard to Table 4A, insulating materials complying with Japanese requirements (refer to Japanese differences for the current IEC 60335-1 (3rd Edition) in CB Bulletin 101B) are also acceptable.</p> <p>Add a suffix 7) in “Conditions applicable to Table 4A, Parts 1 and 2”.</p> <p>In the right column of Table 4A, Part 1, add suffix 7) to “50” (K), corresponding to “- without T – marking” in the left column so as to become “50 7”.</p> <p>Add 7) to Table 4A, Part 2 as follows.</p> <p>7) This value shall apply only to wiring or cords complying with relevant IEC standards. Others shall comply with Japanese requirements (refer to Japanese differences for the current IEC 60335-1 (3rd Edition) in CB Bulletin 101B).</p>	Considered.	P
4.7.3.2	<p>Addition: Add the following in 7th paragraph.</p> <p>- for thin materials, e.g., flexible printed boards, etc., used inside equipment, be of FLAMMABILITY CLASS VTM-2 or better.</p>	Considered.	P



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Clause	Requirement - Test	Result - Remark	Verdict																																					
5.1.6	<p>Replacement: Replace Table 5A.</p> <table border="1"> <thead> <tr> <th>Type of equipment</th> <th>Terminal A of measuring instrument connected to:</th> <th>Maximum TOUCH CURRENT mA r.m.s.¹⁾</th> <th>Maximum PROTECTIVE CONDUCTOR CURRENT</th> </tr> </thead> <tbody> <tr> <td>ALL equipment</td> <td>Accessible parts and circuits not connected to protective earth</td> <td>0,25</td> <td>-</td> </tr> <tr> <td>HAND-HELD</td> <td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td> <td>0,75</td> <td>-</td> </tr> <tr> <td>MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>STATIONARY, PLUGGABLE TYPE A</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>ALL other STATIONARY EQUIPMENT</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>- not subject to the conditions of 5.1.7</td> <td></td> <td>-</td> <td>5 % of input current</td> </tr> <tr> <td>- subject to the conditions of 5.1.7</td> <td></td> <td>-</td> <td></td> </tr> <tr> <td>HAND-HELD</td> <td>Equipment main protective earthing terminal (if any) CLASS 01 EQUIPMENT</td> <td>0,5</td> <td>-</td> </tr> <tr> <td>Others</td> <td></td> <td>1,0</td> <td>-</td> </tr> </tbody> </table> <p>¹⁾ If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.</p>	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	Accessible parts and circuits not connected to protective earth	0,25	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT	3,5	-	STATIONARY, PLUGGABLE TYPE A	3,5	-	ALL other STATIONARY EQUIPMENT	3,5	-	- not subject to the conditions of 5.1.7		-	5 % of input current	- subject to the conditions of 5.1.7		-		HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 01 EQUIPMENT	0,5	-	Others		1,0	-	Considered.	P
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾	Maximum PROTECTIVE CONDUCTOR CURRENT																																					
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HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 01 EQUIPMENT	0,5	-																																					
Others		1,0	-																																					
5.3.8.2	<p>Replacement: Replace 3rd Item as follows.</p> <p>- BASIC INSULATION between the PRIMARY CIRCUIT and accessible conductive parts of CLASS I or 01 EQUIPMENT;</p>	Considered	P																																					
Annex A	<p>Addition: Add the subclause A.101 with the title "Flammability tests for classifying materials VTM" and the following: Thin sheet materials shall comply with ISO 9773.</p>	Considered	N/A																																					
Annex G	<p>Addition: Add the following to the Note for Table G.1.</p> <p>2. In Japan, MAINS TRANSIENT VOLTAGE for equipment with a Nominal AC MAINS SUPPLY VOLTAGE of 100V is to be decided based on the column where Nominal AC MAINS SUPPLY VOLTAGE in Table G.1 is 150V.</p>	Considered	N/A																																					
Annex P	<p>Addition: Add "IEC 61965:2000, Mechanical Safety for Cathode Ray Tubes".</p>	Considered	N/A																																					
Annex U	<p>Replacement: Replace 2nd paragraph.</p> <p>This annex covers to round winding wires having diameters between 0.05 mm and 5.00 mm.</p>	Refer to PSU test report.	N/A																																					
U.2.1	<p>Replacement: Electric strength</p> <p>The test sample is prepared according to IEC 60851-5:1997, 4.4.1 (for a twisted pair). The sample is then subjected to the test of 5.2.2 of this standard, with a test voltage not less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows:</p> <p>- for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000 V, or;</p> <p>- for REINFORCED INSULATION, 6000 V.</p>	Refer to PSU test report.	N/A																																					



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Clause	Requirement - Test	Result - Remark	Verdict												
U.2.2	<p>Replacement: Flexibility and adherence</p> <p>Test 8 of IEC 60851-3:1996, 5.1.1, using the mandrel diameters of table U.1. The test sample is then examined in accordance with IEC 60851-3:1996, 5.1.1.4, followed by the test of 5.2.2 of this standard except applying the test voltage between the wire and the mandrel. A test voltage shall not be less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows:</p> <ul style="list-style-type: none"> - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500 V, or; - for REINFORCED INSULATION, 3000 V. 	Refer to PSU test report.	N/A												
Table U.1	<p>Replacement: Mandrel diameter</p> <table border="1" data-bbox="407 898 1008 1037"> <thead> <tr> <th data-bbox="407 898 657 932">Nominal Conductor diameter mm</th> <th data-bbox="657 898 1008 932">Mandrel diameter mm ± 0,2 mm</th> </tr> </thead> <tbody> <tr> <td data-bbox="407 932 657 947">0,05 – 0,34</td> <td data-bbox="657 932 1008 947">4,0</td> </tr> <tr> <td data-bbox="407 947 657 961">0,35 – 0,49</td> <td data-bbox="657 947 1008 961">6,0</td> </tr> <tr> <td data-bbox="407 961 657 976">0,50 – 0,74</td> <td data-bbox="657 961 1008 976">8,0</td> </tr> <tr> <td data-bbox="407 976 657 991">0,75 – 2,49</td> <td data-bbox="657 976 1008 991">10,0</td> </tr> <tr> <td data-bbox="407 991 657 1026">2,50 – 5,00</td> <td data-bbox="657 991 1008 1026">4 times of the diameter of conductor ¹⁾</td> </tr> </tbody> </table> <p>¹⁾ in compliance with IEC 60317-43.</p> <p>The tension to be applied to the wire during winding on the mandrel is calculated from the wire diameter to be equivalent to 118 Mpa ± 10 % (118 N/mm² ± 10 %).</p>	Nominal Conductor diameter mm	Mandrel diameter mm ± 0,2 mm	0,05 – 0,34	4,0	0,35 – 0,49	6,0	0,50 – 0,74	8,0	0,75 – 2,49	10,0	2,50 – 5,00	4 times of the diameter of conductor ¹⁾	Refer to PSU test report.	N/A
Nominal Conductor diameter mm	Mandrel diameter mm ± 0,2 mm														
0,05 – 0,34	4,0														
0,35 – 0,49	6,0														
0,50 – 0,74	8,0														
0,75 – 2,49	10,0														
2,50 – 5,00	4 times of the diameter of conductor ¹⁾														



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APPENDIX: KOREA DEVIATIONS
Test results according to CB BULLETIN No. 107A, May 2004.

Clause	Requirement - Test	Result - Remark	Verdict
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305 and 8305).	A plug, separately certified according to the Korean standards, is to be used when supplied to Korea. Refer to Summary of Testing.	—
7	Addition EMC The apparatus shall comply with the relevant CISPR standards.	Must be considered before marketing in Korea.	—



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APPENDIX: SINGAPORE DEVIATIONS

Test results according to SS 337: 2001

Clause	Requirement - Test	Result - Remark	Verdict						
The following is the national differences in accordance with SS 337: 2001 based on information by Singapore NCB – PSB Corp.									
1.2.8.6	After NOTE 2, insert the following: NOTE 3 – This definition for SELV CIRCUIT differs from the term “SELV system” as given in SS CP 5.	Considered.	—						
2.9.2	After the first paragraph, insert the following: Under tropical conditions the duration of the humidity conditioning is 5 days (120h) at a temperature (t) of 40°C ± 2°C with a relative humidity of 90% to 95%.	Humidity treatment performed for 120h at 40°C as part of PSU certification, refer to PSU test report.	N/A						
2.10.6.5	Delete “48h”.	Considered.	—						
3.2.8	Replace “23°C ± 2°C by “27°C ± 2°C”.	Considered.	—						
Attention is also drawn to the following:									
1	For a.c. power distribution systems, only TN-S and TT systems are allowed in the Republic of Singapore.	IT power system evaluated only for Norway.	N/A						
2	Where the phrase “this standard” appears, it should be read as “Singapore Standard SS 337”.	Considered.	—						
3	The comma has been used throughout as a decimal marker in IEC60950, whereas in Singapore standards it is practice to use a full-point on the baseline as the decimal marker.	Considered.	—						
4	The IEC standards referred to shall be replaced by Singapore Standards as follows: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">International standard</td> <td style="width: 50%;">Corresponding Singapore Standard</td> </tr> <tr> <td>IEC 60065</td> <td>SS 143 : 2000</td> </tr> <tr> <td>IEC 60227</td> <td>SS 358 : -</td> </tr> </table>	International standard	Corresponding Singapore Standard	IEC 60065	SS 143 : 2000	IEC 60227	SS 358 : -	Considered.	—
International standard	Corresponding Singapore Standard								
IEC 60065	SS 143 : 2000								
IEC 60227	SS 358 : -								



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APPENDIX: USA DEVIATIONS

Test results according to CB BULLETIN No. 107A, May 2004.

Clause	Requirement - Test	Result - Remark	Verdict
	The United States of America and Canada have adopted a single, bi-national standard, CAN/CSA C22.2 No. 60950-1/UL60950-1, First Edition, which is based on IEC 60950-1, First Edition. This bi-national standard should be consulted for further details on the national conditions and differences summarized below.		
	The following is a summary of the key national differences based on national regulatory requirements, such as the National Electrical Code (NEC) ANSI/ NFPA 70-2002, which are referenced in legislation and which form the basis for the rules and practices followed in the electrical and building installations.		
1.1.1	All equipment is to be designed to allow installations in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	The equipment is provided with appliance inlet.	P
1.4.14	For pluggable Equipment Type A, the protection in the insulation is assume to be 20 A.	Considered.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g. DP, CL2) specified in the NEC. For length 3.05m or less, external interconnecting flexible cord and cable assemblies which are not types specified in the NEC are required to have special construction features and identification markings.	No external interconnecting flexible cord and cable assemblies.	P
1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions". Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions", unless it is part of a range that extends into the "Normal Operating Conditions".	Only one phase conductor.	N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source (or TNV) current limiting, it shall not be operator-accessible unless it is not interchangeable.	All I/O interfaces are limited to LPS by inherent logic limited circuits and internal PTCs in a certified component	N/A



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2.7.1	Suitable NEC branch circuit protection is required for all standard supply outlets, receptacles and medium-base or smaller lampholders if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 V or more, and rated 10 kVA or more, require transformer overcurrent protection.	No standard supply outlets, receptacles, lampholders or such transformers.	N/A
3.2	Wiring methods (terminals, leads etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	The equipment is provided with an appliance inlet.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Cord set not evaluated. The unit shall be provided with an approved mains cord set complying with US regulations. Refer to Summary of Testing.	—
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	The equipment is not permanently connected to the mains.	N/A
3.2.5	Power supply cords are required to be no longer than 4.5m in length. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.	Cord set not evaluated. The unit shall be provided with an approved mains cord set complying with US regulations. Refer to Summary of Testing..	—
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected to the mains.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	The equipment is provided with an appliance inlet.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3mm ²).		—
3.3.4	Terminals for permanent wiring, including protective earthing terminals are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and specially marked when specified (1.7.7).		—
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the motor is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3hp (locked rotor current over 43 A).	No such motors in the equipment.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	Switch is not considered disconnect device, however it is properly mounted.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	No battery in the equipment.	N/A



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4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquids within the equipment.	N/A
4.3.13	Equipment with lasers is required to meet Code of Federal Regulations 21CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No laser or LEDs in the equipment.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	The equipment has no combustible area greater than 27 cubic feet.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² or a single dimension greater than 1.8 m, are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	The equipment has no combustible material greater than 0.93m ² or single dimension greater than 1.8m.	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	The equipment does not produce ionizing radiation.	N/A



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	The following key national differences are based on requirements other than national regulatory requirements.		
1.5.1	<p>Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements.</p> <p>These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, surge suppressors, switches (including interlock switches), thermal cutoffs, thermostats, multi-layer transformer winding wire, tubing, wire connectors and wire and cables</p>	<p>All critical components are IEC certified. See list of critical components (appended table) in main CB report.</p>	P
2.3.1	<p>For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 Vdc, the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA dc under normal operating conditions.</p>	<p>No TNV circuitry.</p>	N/A
2.3.2	<p>In the event of a single fault, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.</p>		—
2.6.3.4	<p>When subject to impedance testing, protective earthing and bonding is required to be subjected to the additional test conditions specified.</p>	<p>Refer to PSU test report.</p>	N/A
3.2.1.2	<p>Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instructions requirements</p>	<p>The equipment is connected to ac power system.</p>	N/A
4.2.8.1	<p>Enclosures around CRT's with a face area of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.</p>	<p>No CRTs in the equipment.</p>	N/A



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4.3.2	Equipment with handles is required to comply with special loading tests.	The equipment has no handles.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV circuitry.	N/A
6.2.1	Enamel coating on winding wire not considered electrical separation unless subjected to special investigation.	No TNV circuitry.	N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuitry.	N/A
6.5	Equipment connected to a telecommunications network and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure tests.	No TNV circuitry.	N/A