

IEC SYSTEM FOR CONFORMITY TESTING
AND CERTIFICATION OF ELECTRICAL
EQUIPMENT (IECEE)
CB SCHEME

SYSTÈME CEI D'ESSAIS DE CONFORMITÉ
ET DE CERTIFICATION DES ÉQUIPEMENTS
ÉLECTRIQUES (IECEE)
METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product
Produit

Industrial Computer

Name and address of the applicant
Nom et adresse du demandeur

Advantech Co., Ltd.,
No. 1 Alley 20, Lane 26, Rueiguang Road, Neihu District Taipei 114, Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

Advantech Co., Ltd.,
No. 1 Alley 20, Lane 26, Rueiguang Road, Neihu District Taipei 114, Taiwan

Name and address of the factory
Nom et adresse de l'usine

See Appendix

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

See Appendix

Trade mark (if any)
Marque de fabrique (si elle existe)

ADVANTECH

Model/type Ref.
Ref. de type

See Appendix

Additional information (if necessary)
Information complémentaire (si nécessaire)

IP20

A sample of the product was tested and found
to be in conformity with
*Un échantillon de ce produit a été essayé et a été
considéré conforme à la*

PUBLICATION

EDITION

IEC 60950:1999

3rd

as shown in the Test Report Ref. No.
which form part of this certificate
*comme indiqué dans le Rapport d'essais numéro
de référence
qui constitue une partie de ce certificat*

133526-01

This CB Test Certificate is issued by the National Certification Body
Ce Certificate d'essai OC est établi par l'Organisme National de Certification

Date 2002-11-07

Signature

Karina Christiansen
Certification Manager

UL International Demko A/S

Lyskaer 8, P.O. Box 514
DK-2730, Herlev, Denmark
Telephone: +45 44856565
Fax: +45 44856500



A Subsidiary of
**Underwriters
Laboratories Inc.®**

Internal Ref.:

Rasul M. Balacu

Appendix to CB Certificate No. 5809

The Certificate covers the following:

133526-01-0001; ACP-4001BP-25Z; ACP-4001BP-2ZC1; ACP-4001P4-2ZC3;
ACP-4001P4-2ZC4; ACP-4001P4-2ZC5; 115/230 Vac, 50/60 Hz; 10/5 A;

Production Site:

Advantech Co., Ltd.,
FL 5, No. 1, Lane 169, Kang-Ning street, Xi-Zhi, Taipei, Taiwan

Advantech Co., Ltd.,
3 Rd FL, 10 Lane 130, Ming-Chuan Rd., Shing-Tien City, Taipei, Taiwan

Herlev, 2002-11-07


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Internal Ref.:
Rasul M. Balacu

Appendix to CB Certificate No. 5810

The Certificate covers the following:

133526-01-0002; ACP-4001BP-30Z; ACP-4001P4-3ZC1; ACP-4001P4-3ZC3; ACP-4001P4-3ZC4; ACP-4001P4-3ZC5; 100-127/200-240 Vac, 50/60 Hz; 9/4.5 A; IP20

Production Site:

Advantech Co., Ltd.,
FL 5, No. 1, Lane 169, Kang-Ning street, Xi-Zhi, Taipei, Taiwan

Advantech Co., Ltd.,
3 Rd FL, 10 Lane 130, Ming-Chuan Rd., Shing-Tien City, Taipei, Taiwan

Herlev, 2002-11-07



Karina Christiansen
Certification Manager

UL International Demko A/S

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Produit

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Name and address of the factory
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See Appendix

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Valeurs nominales et caractéristiques principales

See Appendix

Trade mark (if any)
Marque de fabrique (si elle existe)

ADVANTECH

Model/type Ref.
Ref. de type

See Appendix

Additional information (if necessary)
Information complémentaire (si nécessaire)

IP20

PUBLICATION

EDITION

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IEC 60950:1999

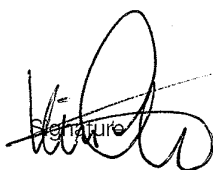
3rd

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Internal Ref.:

Rasul M. Balacu

Appendix to CB Certificate No. 5811

The Certificate covers the following:

133526-01-0003; ACP-4001BP-30R; ACP-4001P4-3RM3 ; ACP-4001P4-3RM4;
100-240 Vac, 50/60 Hz; 6A;

Production Site:

Advantech Co., Ltd.,
FL 5, No. 1, Lane 169, Kang-Ning street, Xi-Zhi, Taipei, Taiwan

Advantech Co., Ltd.,
3 Rd FL, 10 Lane 130, Ming-Chuan Rd., Shing-Tien City, Taipei, Taiwan

Herlev, 2002-11-07


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COVER PAGE FOR TEST REPORT

IEC 60950 (1999) Third Edition.

Equipment:	Industrial Computer
Model/Type:	ACP-4001xx-yyzz (xx = BP, P4, yy = 25, 30, 2Z, 3Z, 3R, zz = Z, R, C1, C3, C4, C5, M3, M4 or blank)
Rated values from the marking plate:	1). 115/230 Vac, 50/60 Hz, 10/5 A or 2). 100-127/200-240 Vac, 50/60 Hz, 9/4.5 A or 3). 100-240 Vac, 50/60 Hz, 6 A See General Product Information for details.
Applicant:	Advantech Co., Ltd. No.1, Alley 20, Lane 26, Rueiguang Road, Neihs District, Taipei, Taiwan
Manufactured at:	1). Advantech Co., Ltd. FL 5, No. 1, Lane 169, Kang-Ning street, Xi-Zhi, Taipei, Taiwan 2). Advantech Co., Ltd. 3 Rd FL, 10 Lane 130, Ming-Chuan Rd., Shing-Tien City, Taipei, Taiwan

This equipment has been tested according to standard IEC 60950 (1999) Third Edition.

All applicable tests according to the above specified standard(s) have been carried out.

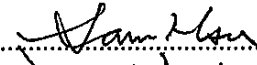
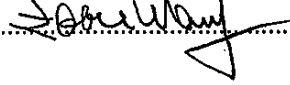
Test results are valid only for the tested equipment.

This Test Report can be reproduced only in whole.

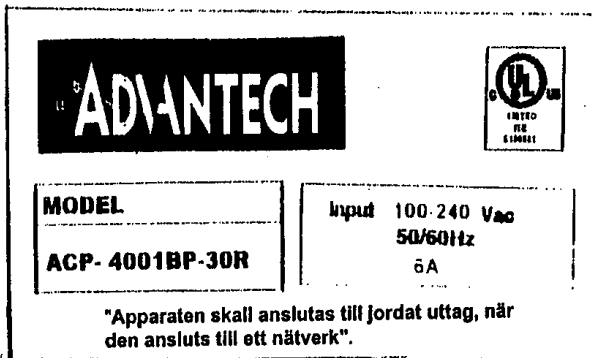
Written permission from Underwriters Laboratories Inc. is required if the test report is copied in part.

This test report includes the following documents:

1. Cover and Comment Pages - 1 pages
2. Test Report - 47 pages
3. National Deviation - Enclosure 1 - 33 pages
4. Photographs - Enclosure 2 - 8 pages
5. Circuit Diagram and PCB Layout - Enclosure 3 - 3 pages

TEST REPORT IEC 60950 Safety of information technology equipment	
Report Reference No.	02NK95097
Compiled by (+ signature).....	Sam Hsu 
Reviewed by (+ signature)	Zenon Wang 
Date of issue	2002 October 30
This report is based on a blank test report that was prepared by FIMKO using information obtained from the TRF originator (see below).	
Testing laboratory name	UL International DEMKO A/S
Address	Lyskaer 8, DK-2730 Herlev, Denmark
Testing location	Lyskaer 8, DK-2730 Herlev, Denmark
Client name	Advantech Co., Ltd.
Address	No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei, Taiwan
Standard	IEC 60950, 3 rd Edition (1999)
Test procedure	CB Scheme
Procedure deviation	Argentina, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Korea, Netherlands, Norway, Poland, Portugal, Russian, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, United Kingdom, USA, CENELEC
Non-standard test method	N/A
Test Report Form/blank test report	
Test Report Form No.	I950__F/00-03
TRF originator	FIMKO
Master TRF	dated 00-02
Copyright reserved to the bodies participating in the IECEE Schemes (CB and CB-FCS) and/or the bodies participating in the C.I.G (CCA-ENEC).	
Test item description	Industrial Computer
Trademark	ADVANTECH
Model and/or type reference	ACP-4001xx-yyzz (xx = BP, P4, yy = 25, 30, 2Z, 3Z, 3R, zz = Z, R, C1, C3, C4, C5, M3, M4 or blank)
Manufacturer	Same as applicant See General Product Information for factory information details.
Rating(s)	1). 115/230 Vac, 50/60 Hz, 10/5 A or 2). 100-127/200-240 Vac, 50/60 Hz, 9/4.5 A or 3). 100-240 Vac, 50/60 Hz, 6 A See General Product Information for details.

Copy of marking plate:



Particulars: test item vs. test requirements

Equipment mobility : movable
 Operating condition : continuous
 Mains supply tolerance (%) : +10%, -10%
 Tested for IT power systems : No
 IT testing, phase-phase voltage (V) : N/A
 Class of equipment : Class I (earthed).
 Mass of equipment (kg) : 17
 Protection against ingress of water : IP20

Possible test case verdicts:

- test case does not apply to the test object : N / A
- test object does meet the requirement : Pass
- test object does not meet the requirement : Fail

General remarks:

- "(see Enclosure #)" refers to additional information appended to the Report.
- "(see appended table)" refers to a table appended to the Report.
- Throughout this report a point is used as the decimal separator.

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
 This report is not valid as a CB Test Report unless appended to a CB Test Certificate issued by a NCB in accordance with IEC 60335-2-69.

General product information:

- The equipment Model ACP-4001xx-yyzz is an Industrial Computer of information technology equipment for general office use.
- The internal building-in switching power supply is a CB Certified component (see table 1.5.1 for details).
- The component was submitted and tested for use in a maximum manufacturer's recommended ambient (Tmra) of 40°C.
- The following accessible locations are part of a limited current circuit: D/A Inverter.
- The following circuits have been evaluated as a limited power source: USB connector
- Models ACP-4001BP-25Z, ACP-4001BP-2ZC1, ACP-4001P4-2ZC3, ACP-4001P4-2ZC4 and ACP-4001P4-2ZC5 are identical except for model designation.
- Models ACP-4001BP-30Z, ACP-4001P4-3ZC1, ACP-4001P4-3ZC3, ACP-4001P4-3ZC4 and ACP-4001P4-3ZC5 are identical except for model designation.
- Models ACP-4001BP-30R, ACP-4001P4-3RM3 and ACP-4001P4-3RM4 are identical except for model designation.
- Models ACP-4001BP-25Z, ACP-4001BP-30Z and ACP-4001BP-30R are identical except for input rating and internal power supply.
- Unless otherwise indicated, all tests were performed on Model ACP-4001P4-3ZC4.
- Tests performed on Model ACP-4001P4-3ZC4 were considered to be representative of other Models.
- The test samples were pre-production sample without serial numbers

The electrical input rating of the models are as below:

Model name	Input Rating
ACP-4001BP-25Z	115/230 Vac, 50/60 Hz, 10/5 A
ACP-4001BP-2ZC1	115/230 Vac, 50/60 Hz, 10/5 A
ACP-4001P4-2ZC3	115/230 Vac, 50/60 Hz, 10/5 A
ACP-4001P4-2ZC4	115/230 Vac, 50/60 Hz, 10/5 A
ACP-4001P4-2ZC5	115/230 Vac, 50/60 Hz, 10/5 A
ACP-4001BP-30Z	100-127/200-240 Vac, 50/60 Hz, 9/4.5 A
ACP-4001P4-3ZC1	100-127/200-240 Vac, 50/60 Hz, 9/4.5 A
ACP-4001P4-3ZC3	100-127/200-240 Vac, 50/60 Hz, 9/4.5 A
ACP-4001P4-3ZC4	100-127/200-240 Vac, 50/60 Hz, 9/4.5 A
ACP-4001P4-3ZC5	100-127/200-240 Vac, 50/60 Hz, 9/4.5 A
ACP-4001BP-30R	100-240 Vac, 50/60 Hz, 6 A
ACP-4001P4-3RM3	100-240 Vac, 50/60 Hz, 6 A
ACP-4001P4-3RM4	100-240 Vac, 50/60 Hz, 6 A

Factories:

1). Advantech Co., Ltd.

FL 5, No. 1, Lane 169, Kang-Ning street, Xi-Zhi, Taipei, Taiwan

2). Advantech Co., Ltd.

3 Rd FL, 10 Lane 130, Ming-Chuan Rd., Shing-Tien City, Taipei, Taiwan

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1	GENERAL		Pass
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1.5	Components		Pass
1.5.1	Comply with IEC 950 or relevant component standard	(see appended table)	Pass
1.5.2	Evaluation and testing of components	<p>Components certified to IEC harmonized standard and checked for correct application.</p> <p>Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950 and the relevant component Standard.</p> <p>Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950.</p>	Pass
	Dimensions (mm) of mains plug for direct plug-in	Not direct plug-in equipment.	N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)	Not direct plug-in equipment.	N/A
1.5.3	Thermal controls	There are no thermal controls.	N/A
1.5.4	Transformers	Evaluated during separate certification of power supply.	N/A
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of this standard.	Pass
1.5.6	Capacitors in primary circuits	Evaluated as an element of power supply certification.	N/A
1.5.7	Double or reinforced insulation bridged by components	Evaluated during separate certification of power supply.	N/A
1.5.7.1	Bridging capacitors		N/A
1.5.7.2	Bridging resistors		N/A
1.5.7.3	Accessible parts		N/A
1.5.8	Components in equipment for IT power systems	Not for use on IT systems.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.6	Power interface		Pass
1.6.1	AC power distribution systems	AC power distribution systems are classify as TN.	Pass
1.6.2	Input current	(see appended table) The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under NORMAL LOAD.	Pass
1.6.3	Voltage limit of hand-held equipment	The unit is not a hand-held equipment.	N/A
1.6.4	Neutral conductor	Neutral insulation is provided in the power supply.	Pass

1.7	Marking and instructions		Pass
1.7.1	Power rating	Rating marking readily visible to operator.	Pass
	Rated voltage(s) or voltage range(s) (V)	See General Product Information for details.	Pass
	Symbol for nature of supply for d.c.		N/A
	Rated frequency or frequency range (Hz)	See General Product Information for details.	Pass
	Rated current (A)	See General Product Information for details.	Pass
	Manufacturer's name/Trademark	Advantech Co., Ltd. / ADVANTECH	Pass
	Type/model	ACP-4001xx-yyzz (xx = BP, P4, yy = 25, 30, 2Z, 3Z, 3R, zz = Z, R, C1, C3, C4, C5, M3, M4 or blank)	Pass
	Symbol of Class II		N/A
	Other symbols	Additional symbols may be provided when submitted for National Approval.	Pass
	Certification marks	UL, c-UL.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2	Safety instructions	Safety instructions in English. Other languages will be provided when submitted for national approval.	Pass
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment	Equipment is auto-ranging.	N/A
1.7.5	Power outlets on the equipment	No standard power outlets are provided.	N/A
1.7.6	Fuse identification	Evaluated during separate certification of power supply.	N/A
1.7.7	Wiring terminals		Pass
1.7.7.1	Protective earthing and bonding terminals	Unit employs an appliance inlet.	Pass
1.7.7.2	Terminal for a.c. mains supply conductors		N/A
1.7.8	Controls and indicators	See below.	N/A
1.7.8.1	Identification, location and marking	The function of controls affecting safety is obvious regardless of language.	Pass
1.7.8.2	Colours	A green LED is illuminated when the unit is operating.	Pass
1.7.8.3	Symbols according to IEC 60417	The push-push switch is marked with the correct symbol (60417-1-IEC-5010).	Pass
1.7.8.4	Markings using figures	Figures are not used for indicating different positions of controls.	N/A
1.7.9	Isolation of multiple power sources	There is only one connection to hazardous voltages.	N/A
1.7.10	IT power system	Not intended for use on IT power systems.	N/A
1.7.11	Thermostats and other regulating devices	No thermostats or similar regulating devices.	N/A
1.7.12	Language	Reviewed only English markings/instructions.	—
1.7.13	Durability	The marking(s) withstood the required test.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.14	Removable parts	No marking is located on (a) removable part(s).	Pass
1.7.15	Replaceable batteries	The required warning is in the service manual.	Pass
	Language.....:	Only English language reviewed.	—
1.7.16	Operator access with a tool.....:	No operator access areas require the use of a tool.	Pass
1.7.17	Equipment for restricted access locations.....:	Equipment not intended for installation in a RESTRICTED ACCESS LOCATION.	N/A

2	PROTECTION FROM HAZARDS	Pass
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2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in OPERATOR access areas		Pass
2.1.1.1	Access to energized parts	No operator access to energized parts.	Pass
	Test by inspection	Operator can not contact with any parts with only basic insulation to ELV or hazardous voltage.	Pass
	Test with test finger	No access with test finger to any parts with only basic insulation to ELV or hazardous voltage.	Pass
	Test with test pin	The test pin cannot touch hazardous voltage through and openings or seams of the whole enclosure.	Pass
	Test with test probe	No TNV present.	N/A
2.1.1.2	Battery compartments	No TNV present.	N/A
2.1.1.3	Access to ELV wiring	No internal wiring in an ELV circuits is accessible to the operator.	N/A
	Working voltage (V); distance (mm) through insulation		—

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.4	Access to hazardous voltage circuit wiring	No internal wiring accessible to the user.	N/A
2.1.1.5	Energy hazards	No hazardous energy circuits are accessible.	N/A
2.1.1.6	Manual controls	The equipment does not contain any knobs, handles, levers, or the like.	N/A
2.1.1.7	Discharge of capacitors in the primary circuit	Evaluated during separate certification of power supply.	Pass
	Time-constant (s); measured voltage (V)		—
2.1.2	Protection in service access areas	No bare parts operating at HAZARDOUS VOLTAGES in a service access area.	N/A
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		Pass
2.2.1	General requirements	SELV levels are maintained after single fault condition.	Pass
2.2.2	Voltages under normal conditions (V)	All accessible voltages are less than 42.4 Vp or 60 V dc and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V)	Evaluated during separate certification of power supply.	N/A
2.2.3.1	Separation by double or reinforced insulation (method 1)	SELV wiring which may contact hazardous voltage parts provided with double or reinforced. Evaluated during separate certification of power supply.	Pass
2.2.3.2	Separation by earthed screen (method 2)		N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N/A
2.2.4	Connection of SELV circuits to other circuits	The SELV has not connect to Primary circuit directly.	Pass
2.3	TNV circuits		N/A
2.3.1	Limits		N/A
	Type of TNV circuits		—

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed.....:		—
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....:		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....:		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	Limited current circuits		Pass
2.4.1	General requirements		Pass
2.4.2	Limit values	2 mA dc.	Pass
	Frequency (Hz).....:	Frequency not exceeding 1 kHz.	—
	Measured current (mA).....:	The steady-state current drawn through a non-inductive resistor did not exceed 0.7 mA peak a.c., or 2 mA d.c.	—
	Measured voltage (V)	Voltage U exceeds 0.45 kV peak or d.c., but does not exceed 15 kV peak or d.c.	—
	Measured capacitance (µF).....:	Circuit capacitance did not exceed 45/U nF.	—
2.4.3	Connection of limited current circuits to other circuits	The LIMITED CURRENT CIRCUIT connected to other circuits complies with the requirements of Sub-clause 2.4.1.	Pass
2.5	Limited power sources		Pass
	Inherently limited output	The USB output complies with table 2B under normal operation condition.	Pass
	Impedance limited output		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

	Overcurrent protective device limited output	Polyswitch used in the equipment. See table 1.5.1 for Polyswitch specification.	Pass
	Regulating network limited output under normal operating and single fault condition		N/A
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA)..... :		—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		Pass
2.6.1	Protective earthing	Accessible parts are earthed.	Pass
2.6.2	Functional earthing	The functional earthing (SELV ground) have separated from hazardous part by Double/Reinforce Insulation.	Pass
2.6.3	Protective earthing and protective bonding conductors	Unit employs an appliance inlet.	Pass
2.6.3.1	Size of protective earthing conductors	Unit employs an appliance inlet.	Pass
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.2	Size of protective bonding conductors		Pass
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Rated current (A), type and nominal thread diameter (mm)	Unit employs an appliance inlet.	Pass
	Resistance (Ω) of earthing conductors and their terminations, test current (A)	Max. 23.1 mOhm (25A/1min), Max. 18.2 mOhm (30A/2min)	Pass
2.6.3.4	Colour of insulation	Evaluated as an element of power supply certification.	N/A
2.6.4	Terminals		N/A
2.6.4.1	Protective earthing and bonding terminals	Evaluated during separate certification of power supply.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Rated current (A), type and nominal thread diameter (mm)	Earthing terminal in the appliance inlet.	—
2.6.4.2	Separation of the protective earthing conductor from protective bonding conductors	Unit employs an appliance inlet.	Pass
2.6.5	Integrity of protective earthing		Pass
2.6.5.1	Interconnection of equipment	This unit has its own earthing connection. Any other units connected via the output shall be provided SELV only. The equipment does not comprise class I and class II.	Pass
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or fuse in earthing conductor.	Pass
2.6.5.3	Disconnection of protective earth	Disconnection of the protective earth at one assembly removes connection of HAZARDOUS VOLTAGES from the other assemblies at the same time.	Pass
2.6.5.4	Parts that can be removed by an operator	It is not possible to disconnect earth without disconnecting mains.	Pass
2.6.5.5	Parts removed during servicing	Connections to protective earthing cannot be removed unless hazardous voltage is removed from the part simultaneously.	Pass
2.6.5.6	Corrosion resistance	No risk of corrosion. Complies with Annex J.	Pass
2.6.5.7	Screws for protective bonding	Screws not used for protective bonding.	N/A
2.6.5.8	Reliance on telecommunication network		N/A

2.7	Overcurrent and earth fault protection in primary circuits		Pass
2.7.1	Basic requirements	Protective devices are integrated in the equipment.	Pass
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3	The protective device is properly sized and mounted.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
2.7.3	Short-circuit backup protection	The equipment is pluggable Type A.	Pass
2.7.4	Number and location of protective devices	Evaluated as an element of power supply certification.	N/A
2.7.5	Protection by several devices	Evaluated as an element of power supply certification.	N/A
2.7.6	Warning to service personnel.....		N/A
2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Interlocks with moving parts		N/A
2.8.6	Overriding an interlock		N/A
2.8.7	Switches and relays in interlock systems		N/A
2.8.7.1	Contact gaps (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test (V)		N/A
2.8.8	Mechanical actuators		N/A
2.9	Electrical insulation		Pass
2.9.1	Properties of insulating materials	Electric strength test was conducted after the humidity treatment.	Pass
2.9.2	Humidity conditioning	Humidity treatment performed to 120 hrs in condition: 95%, 40 °C.	Pass
2.9.3	Requirements for insulation	No flash over or breakdown of insulation.	Pass
2.9.4	Insulation parameters	Both parameters were considered.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.5	Categories of insulation	The adequate level of safety insulation is provided and maintained to comply with the requirements of this standard.	Pass
2.10	Clearances, creepage distances and distances through insulation		Pass
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.2	Determination of working voltage	Evaluated during separate certification of power supply.	Pass
2.10.3	Clearances	All critical clearance distances are covered in power supply evaluation.	Pass
2.10.3.1	General		Pass
2.10.3.2	Clearances in primary circuit	Evaluated during separate certification of power supply.	Pass
2.10.3.3	Clearances in secondary circuits	See 5.3.4.	Pass
2.10.3.4	Measurement of transient levels		N/A
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4) Creepages in primary circuits covered in power supply evaluation.	Pass
	CTI tests	Group IIIb values used	—
2.10.5	Solid insulation	Evaluated as an element of power supply certification.	Pass
2.10.5.1	Minimum distance through insulation	All critical distances through insulation are covered in power supply evaluation.	Pass
2.10.5.2	Thin sheet material	All critical distances through insulation are covered in power supply evaluation.	Pass
	Number of layers (pcs)		—
	Electric strength test		—
2.10.5.3	Printed boards	PWB is not used as reinforced or supplementary insulation.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs)		N/A
2.10.5.4	Wound components	All critical distances through insulation are covered in power supply evaluation.	Pass
	Number of layers (pcs)		N/A
	Two wires in contact inside component; angle between 45° and 90°		N/A
2.10.6	Coated printed boards	No special coating used.	N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C)		N/A
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test		—
2.10.7	Enclosed and sealed parts	No hermetically sealed or enclosed components used.	N/A
	Temperature $T_1 = T_2 + T_{mra} - T_{amb} + 10K$ (°C).....		N/A
2.10.8	Spacings filled by insulating compound	No components treated with insulation compound.	N/A
	Electric strength test		—
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

3	WIRING, CONNECTIONS AND SUPPLY		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection	All wires/conductors possess adequate cross-sectional areas for their intended application.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	Pass
3.1.3	Securing of internal wiring	The wires are positioned in such a manner that prevents excessive strain, loosening of terminal connections and damage of conductor insulation.	Pass
3.1.4	Insulation of conductors	Insulation on internal conductors are considered to be of adequate quality and suitable for the application and the working voltages involved. All internal wirings are UL Recognized and rated minimum 300 Vac.	Pass
3.1.5	Beads and ceramic insulators	The equipment does not have any beads or similar insulators.	N/A
3.1.6	Screws for electrical contact pressure	The equipment does not have any screw-type connections.	N/A
3.1.7	Non-metallic materials in electrical connections	No contact pressure through insulating material.	Pass
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections. Machine screws only.	Pass
3.1.9	Termination of conductors	Ref. to 3.3.2	Pass
	10 N pull test		Pass
3.1.10	Sleeving on wiring	Sleeving is not used as supplementary insulation.	N/A

3.2	Connection to a.c. mains supplies		Pass
3.2.1	Means of connection	The unit is provided with an appliance inlet.	Pass
3.2.2	Multiple supply connections	Single mains supply.	N/A
3.2.3	Permanently connected equipment	The equipment is not permanently connected.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

	Number of conductors, diameter (mm) of cable and conduits		—
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320.	Pass
3.2.5	Power supply cords	Power supply cord, suitable for the application and subject to country's national code and regulations, is to be provided by the manufacturer or distributor.	N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.6	Cord anchorages and strain relief	The equipment does not use a non-detachable power supply cord	N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage	Cord not exposed to sharp points or edges.	Pass
3.2.8	Cord guards		N/A
	D (mm); test mass (g)	The equipment does not use a non-detachable power supply cord	—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space	The equipment is not permanently connected or provided with a non-detachable power supply cord	N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Equipment with detachable power supply cord, connected on appliance inlet.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.3.4	Rated current (A), cord/cable type, cross-sectional area (mm ²)		N/A
3.3.5	Rated current (A), type and nominal thread diameter (mm)		N/A
3.3.6	Wiring terminals design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the a.c. mains supply		Pass
3.4.1	General requirement		Pass
3.4.2	Disconnect devices	The equipment is provided with an appliance coupler.	Pass
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	No accessible parts on the supply side of the disconnect device.	N/A
3.4.5	Switches in flexible cords	No isolating switch in the cord set.	Pass
3.4.6	Single-phase equipment	The unit is not a multi-phase equipment.	N/A
3.4.7	Three-phase equipment	The unit is single-phase equipment.	N/A
3.4.8	Switches as disconnect devices	A switch is not considered the disconnect device.	N/A
3.4.9	Plugs as disconnect devices	The appliance inlet is considered to be the disconnect device.	N/A
3.4.10	Interconnected equipment	No interconnection of hazardous voltages or energy levels.	N/A
3.4.11	Multiple power sources	The equipment only receives power from one source.	N/A

3.5	Interconnection of equipment		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits	No ELV interconnections.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

3.5.3	ELV circuits as interconnection circuits		N/A
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4	PHYSICAL REQUIREMENTS		Pass
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4.1	Stability		N/A
	Angle of 10°	Based on construction, the test was deemed not necessary.	N/A
	Test: force (N).....:		N/A

4.2	Mechanical strength		Pass
4.2.1	General		Pass
4.2.2	Steady force test, 10 N	10N were applied to components. No energy or other hazards.	Pass
4.2.3	Steady force test, 30 N	No hazard as a result of the 30 N test.	Pass
4.2.4	Steady force test, 250 N	No hazards as a result of the 250 N test.	Pass
4.2.5	Impact test	500g steel sphere ball fall or swing from 1.3m height onto whole enclosure. No safety relevant damages.	Pass
4.2.6	Drop test	Unit is not hand-held, direct plug-in, or transportable.	N/A
4.2.7	Stress relief	Metal Enclosure used.	N/A
4.2.8	Cathode ray tubes	The equipment does not have any CRT	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	The equipment does not have any high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ...:	Mounting means withstands four times unit weight or 50N minimum.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
4.3	Design and construction		Pass
4.3.1	Edges and corners	All edges and corners are rounded and smooth.	Pass
4.3.2	Handles and manual controls; force (N).....:		N/A
4.3.3	Adjustable controls	The equipment is auto-ranging	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances over supplementary or reinforced insulation is likely to occur.	Pass
4.3.5	Connection of plugs and sockets	The equipment does not have any interchangeable plugs/sockets.	Pass
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque (Nm)		—
4.3.7	Heating elements in earthed equipment	The equipment does not have any heating elements.	N/A
4.3.8	Batteries	Battery is protected against charging current by R377 and Q22.	Pass
4.3.9	Oil and grease	The insulation of the internal wiring is not exposed to oil, grease, etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or employ powders, liquids or gases.	N/A
4.3.11	Containers for liquids or gases	The equipment does not contain liquids.	N/A
4.3.12	Flammable liquids.....:	The equipment does not use any flammable liquids.	N/A
	Quantity of liquid (l).....:		N/A
	Flash point (°C).....:		N/A
4.3.13	Radiation; type of radiation	Certified Class 1 CD-ROM laser products may be employed.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

	Equipment using lasers	Laser storage devices separately certified for compliance to IEC 60825-1.	Pass
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4.4	Protection against hazardous moving parts		N/A
4.4.1	General	Equipment does not have any hazardous moving parts.	N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A

4.5	Thermal requirements		Pass
4.5.1	Temperature rises	(see appended table) The equipment and its component parts did not attain excessive temperatures during normal operation.	Pass
	Normal load condition per Annex L	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established.	Pass
4.5.2	Resistance to abnormal heat	No parts at hazardous voltage are directly mounted on thermoplastic parts.	N/A

4.6	Openings in enclosures		Pass
4.6.1	Top and side openings	Foreign objects entering the enclosure will not contact bare parts at hazardous voltage or energy. (No hazardous parts within 5° projection).	Pass
	Dimensions (mm)	Front: Numerous openings, overall area 115.9 by 107 mm each. Each opening 20 by 3 mm. Right: Numerous openings, overall area 121 by 50.5 mm each. Each opening 16 by 2.4 mm.	—

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.2	Bottoms of fire enclosures	No openings.	N/A
	Construction of the bottom		—
4.6.3	Doors or covers in fire enclosures	Doors or covers are not used as a fire enclosure.	Pass
4.6.4	Openings in transportable equipment	Unit not transportable.	N/A
4.6.5	Adhesives for constructional purposes	Adhesives not used for securement of internal barriers or screens.	N/A
	Conditioning temperature/time		—
4.7	Resistance to fire		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials which minimize the possibility of ignition and spread of flame.	Pass
4.7.2	Conditions for a fire enclosure	With having the following components: - components with windings - wiring - semiconductor devices, transistors, diodes, integrated circuits - resistors, capacitors, inductors The fire enclosure is required.	Pass
4.7.2.1	Parts requiring a fire enclosure	A fire enclosure covers all parts.	Pass
4.7.2.2	Parts not requiring a fire enclosure		Pass
4.7.3	Materials		Pass
4.7.3.1	General	The propagation of fire is minimized through the fire enclosure construction.	Pass
4.7.3.2	Materials for fire enclosures	The fire enclosure is metal.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.3	Materials for components and other parts outside fire enclosures	Fire enclosure covers all parts.	Pass
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better Internal wiring is UL Recognized, marked VW-1 or FT-1 and strapped by individual cable ties (where needed).	Pass
4.7.3.5	Materials for air filter assemblies	The air filter assemblies located outside the FIRE ENCLOSURE, provided that the filter materials are separated by a metal screen from parts that could cause ignition.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General		Pass
5.1.2	Equipment under test (EUT)		Pass
5.1.3	Test circuit	Single phase equipment intended only for connection to star TN or TT system.	N/A
5.1.4	Application of measuring instrument	Test made to 10X20 cm metal foil in contact with accessible non-conductive part.	Pass
5.1.5	Test procedure		Pass
5.1.6	Test measurements		Pass
	Test voltage (V)		—
	Measured current (mA)	Max. 2.15 mA	—
	Max. allowed current (mA)	3.5 mA (Class I movable)	—
5.1.7	Equipment with touch current exceeding 3.5 mA	Touch current is < 3.5 mA.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.1.8	Touch currents to and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network		N/A
	Test voltage (V)		—
	Measured current (mA)		—
	Max. allowed current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A

5.2	Electric strength		Pass
5.2.1	General	Based on the electric strength test the use of the insulating materials within the equipment is satisfactory.	Pass
5.2.2	Test procedure	No insulation breakdown detected during the test. (see appended table)	Pass

5.3	Abnormal operating and fault conditions		Pass
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	Pass
5.3.2	Motors	Fan motor evaluated as part of component evaluation and all disk drive motors evaluated as part of component evaluation.	Pass
5.3.3	Transformers	Evaluated during separate certification of power supply.	N/A
5.3.4	Functional insulation	Functional insulation complies with the requirements (a), (b), or (c).	Pass
5.3.5	Electromechanical components	The equipment does not have any electromechanical components in the secondary.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.6	Simulation of faults	<p>Faults in primary and secondary components and Functional insulation were already considered during the approval of the power supply.</p> <p>Blocked ventilation openings test: Result see appended table.</p> <p>Fan stalled test: Result see appended table.</p> <p>Connector overload test: Result see appended table.</p> <p>See appended table for other details.</p>	Pass
5.3.7	Unattended equipment	The equipment does not have any thermostats, temperature limiters, or thermal cut-outs.	N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	<p>No fire, emission of molten metal or deformation was noted during the tests.</p> <p>Electric Strength tests performed after abnormal and fault tests.</p>	Pass

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples, material		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame		N/A
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4, 8		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	High current arcing ignition test (see 4.7.3.2)		N/A
A.3.1	Samples, material		—
	Wall thickness (mm)		—
A.3.5	Compliance criteria		N/A
	Sample 1 number of arcs to ignition (pcs).....		—
	Sample 2 number of arcs to ignition (pcs).....		—
	Sample 3 number of arcs to ignition (pcs).....		—
	Sample 4 number of arcs to ignition (pcs).....		—
	Sample 5 number of arcs to ignition (pcs).....		—
A.4	Hot wire ignition test (see 4.7.3.2)		N/A
A.4.1	Samples, material.....		—
	Wall thickness (mm)		—
A.4.5	Compliance criteria		N/A
	Sample 1 ignition time (s)		—
	Sample 2 ignition time (s)		—
	Sample 3 ignition time (s)		—
	Sample 4 ignition time (s)		—
	Sample 5 ignition time (s)		—
A.5	Hot flaming oil test (see 4.6.2)		N/A
A.6	Flammability tests for classifying materials V-0, V-1 or V-2		N/A
A.6.1	Samples, material.....		—
	Wall thickness (mm)		—
A.6.5	Compliance criteria		N/A
A.6.6	Permitted re-test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HFB		N/A
A.7.1	Sample, material.....:		—
	Wall thickness (mm)		—
A.7.4	Compliance criteria		N/A
A.7.5	Compliance criteria, HF-2		N/A
A.7.6	Compliance criteria, HF-1		N/A
A.7.7	Compliance criteria, HBF		N/A
A.7.8	Permitted re-test, HF-1 or HF-2		N/A
A.7.9	Permitted re-test, HBF		N/A
A.8	Flammability test for classifying materials HB		N/A
A.8.1	Samples, material.....:		—
	Sample thickness (mm).....:		—
A.8.2	Conditioning of samples; temperature (°C).....:		N/A
A.8.4	Test procedure		N/A
A.8.5	Compliance criteria		N/A
A.8.6	Permitted re-test		N/A
A.9	Flammability test for classifying materials 5V		N/A
A.9.1	Samples, material.....:		—
	Sample thickness (mm).....:		—
A.9.4	Test procedure, test bars		N/A
A.9.5	Test procedure, test plaques		N/A
A.9.6	Compliance criteria		N/A
A.9.7	Permitted re-test		N/A
A.10	Stress relief conditioning (see 4.2.7)		N/A
	Temperature (°C).....:		—

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for DC motors in secondary circuits		N/A
B.7	Locked-rotor overload test for DC motors in secondary circuits		N/A
B.7.1	Test procedure		N/A
B.7.2	Alternative test procedure; test time (h)		N/A
B.7.3	Electric strength test		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection.....		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings.....		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V):		N/A
G.3	Determination of telecommunication network transient voltage (V) :		N/A
G.4	Determination of required withstand voltage (V) :		N/A
G.5	Measurement of transient levels (V) :		N/A
G.6	Determination of minimum clearances :		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
	Ionizing radiation		N/A
	Measured radiation (mR/h) :		—
	Measured high-voltage (kV) :		—
	Measured focus voltage (kV) :		—
	CRT markings :		—

J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal used :		—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) :		N/A
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V) :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (f)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA).....		—
M.3.2	Tripping device and monitoring voltage.....		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A

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

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical components					Pass
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
SPS	Delta Electronics Inc.	DPS-300GB-1B REV	I/P: 100-127, 200-240 Vac, 47-63 Hz, 9/4.5A. O/P: +5V/30A, +12V/15A, +3.3V/28A, -5V/0.3A, -12V/0.8A, +5Vsb/2A	IEC 60950	UL, CB cert. No. JPTUV-002323A1	
	FSP Group Inc.	FSP250-60ATV (PF)	I/P: 115/230 Vac, 50/60 Hz, 10/5A. O/P: +5V/27A, +12V/13A, +3.3V/20A, -5V/0.3A, -12V/0.8A, +5Vsb/2A	IEC 60950	UL, Nemko CB cert. No. NO 15217	
	Zippy Technology Corp.	MRT-6300P	I/P: 100-240 Vac, 50-60 Hz, 6-3 A. O/P: +5V/25A, +12V/16A, +3.3V/18A, -5V/0.5A, -12V/0.5A, +5Vsb/2A	IEC 60950	UL, TUV CB cert. No. JPTUV-003873	
DC Fan	Delta Electronics Inc.	AFB0912HH	12 Vdc, 0.25 A, 57.92CFM	EN 60950	UL, VDE	
H.D.D.	--	--	5Vdc, 0.6A 12Vdc, 0.9A	EN 60950	TUV, UL	
CD-ROM	--	--	5 Vdc, 0.9 A 12 Vdc, 1.5 A	IEC 60950, IEC 60825-1	UL, TUV	
Enclosure	--	--	Metal, min. 1.0 mm thick	UL 94	UL	
LCD Panel	LG Electronics Inc.	LP064V1	6.4" VGA TFT	--	--	

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical components (con't)					Pass
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
Polyswitch (FS1, FS2, FS3)	Polytronics	SMD1812P050T G/S	trip current 1.0A	--	UL, TUV	
Keyboard	--	--	+5 Vdc, 1.0 A max.	--	--	
Lithium Battery	Rayovac Corp.	BR2335T3L	3 V, 0.3 A	--	UL	
Inverter	Lecerf Tec. Co., Ltd	IV-12A	I/P: 12 Vdc, 600mA O/P: 800 Vrms	--	--	
Transformer (T1) used in Inverter	Lecerf Tec. Co., Ltd	X03	Class 105 °C	--	--	
Capacitor (C8) used in Inverter	Various	Various	3 KV, 27 pF	--	--	
PCB	Various	Various	V-1 or better, min 105 °C	UL 796	UL	
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance						

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: electrical data (in normal conditions)						Pass
fuse #	I rated (A)	U (V)	P (W)	I (mA)	I fuse (mA)	condition/status	
Model: ACP-4001P4-3ZC4							
F1	--	90V/60Hz	53.7	0.64	0.64	Maximum normal load	
F1	--	90V/50Hz	53.4	0.64	0.64	Same as above	
F1	9	100V/60Hz	53.6	0.59	0.59	Same as above	
F1	9	100V/50Hz	53.4	0.59	0.59	Same as above	
F1	9	127V/60Hz	53.3	0.46	0.46	Same as above	
F1	9	127V/50Hz	53.3	0.46	0.46	Same as above	
F1	--	140V/60Hz	53.0	0.40	0.40	Same as above	
F1	--	140V/60Hz	53.0	0.40	0.40	Same as above	
F1	--	180V/60Hz	51.8	0.31	0.31	Same as above	
F1	--	180V/60Hz	51.7	0.31	0.31	Same as above	
F1	4.5	200V/60Hz	51.3	0.30	0.30	Same as above	
F1	4.5	200V/60Hz	51.3	0.30	0.30	Same as above	
F1	4.5	240V/60Hz	48.7	0.26	0.26	Same as above	
F1	4.5	240V/60Hz	48.4	0.27	0.27	Same as above	
F1	--	264V/60Hz	47.8	0.24	0.24	Same as above	
F1	--	264V/60Hz	47.7	0.25	0.25	Same as above	
Model: ACP-4001P4-2ZC4							
F1	--	103.5V/60Hz	47.2	0.60	0.60	Maximum normal load	
F1	--	103.5V/60Hz	47.0	0.59	0.59	Same as above	
F1	10	115V/60Hz	48.4	0.56	0.56	Same as above	
F1	10	115V/60Hz	48.0	0.55	0.55	Same as above	
F1	--	126.5V/60Hz	49.3	0.53	0.53	Same as above	
F1	--	126.5V/60Hz	49.0	0.52	0.52	Same as above	
F1	--	207V/60Hz	46.2	0.30	0.30	Same as above	
F1	--	207V/60Hz	46.2	0.30	0.30	Same as above	
F1	5	230V/60Hz	48.2	0.29	0.29	Same as above	
F1	5	230V/60Hz	48.0	0.28	0.28	Same as above	

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: electrical data (in normal conditions) (con't)					Pass
fuse #	I rated (A)	U (V)	P (W)	I (mA)	I fuse (mA)	condition/status
F1	--	253V/50Hz	49.5	0.27	0.27	Same as above
F1	--	253V/60Hz	49.5	0.27	0.27	Same as above
Model: ACP-4001P4-3RM4 (only one power operated)						
F1	--	90V/60Hz	71.6	0.80	0.80	Maximum normal load
F1	--	90V/60Hz	71.3	0.80	0.80	Same as above
F1	6	100V/60Hz	71.1	0.71	0.71	Same as above
F1	6	100V/60Hz	70.6	0.71	0.71	Same as above
F1	6	240V/60Hz	65.8	0.34	0.34	Same as above
F1	6	240V/60Hz	65.8	0.36	0.36	Same as above
F1	--	264V/60Hz	64.7	0.51	0.51	Same as above
F1	--	264V/60Hz	64.4	0.52	0.52	Same as above
Model: ACP-4001P4-3RM4 (two power operated)						
F1	--	90V/60Hz	101.7	1.14	1.14	Maximum normal load
F1	--	90V/60Hz	101.6	1.14	1.14	Same as above
F1	6	100V/60Hz	100.7	1.01	1.01	Same as above
F1	6	100V/60Hz	100.7	1.01	1.01	Same as above
F1	6	240V/60Hz	92.7	0.43	0.43	Same as above
F1	6	240V/60Hz	92.6	0.45	0.45	Same as above
F1	--	264V/60Hz	89.2	0.63	0.63	Same as above
F1	--	264V/60Hz	89.2	0.61	0.61	Same as above
supplementary information: Max. normal load: Copy data from CD-Rom to H.D.D. and operated with LCD max. brightness and contrast continuously.						

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					Pass
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)
Primary components of SPS to earthed metal enclosure	<420	<250	2.0	>2.5	2.5	>2.5
Primary trace of SPS to earthed metal enclosure	<420	<250	2.0	>2.5	2.5	>2.5
Power supply board to secondary main board	<420	<250	4.0	>5.0	5.0	>5.0
supplementary information: Switching power supply is approved component, the distance inside switching power supply was evaluated during approval.						

2.10.5	TABLE: distance through insulation measurements				N/A
distance through insulation di at/of:	U r.m.s. (V)	test voltage (V)	required di (mm)	di (mm)	
supplementary information:					

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

4.5	TABLE: temperature rise measurements		Pass
	test voltage (V)		—
	t1 (°C)		—
	t2 (°C)		—
temperature rise dT of part/at:		dT (K)	required dT (K)
Model: ACP-4001P4-3ZC4 (90V/50Hz/1.5hr, 264V/50Hz/1.5hr)			
L2 coil (Power)		17.3/7.2	65
L5 coil (Power)		17.5/9.6	65
L3 coil (Power)		8.4/7.9	65
T901 coil (Power)		12.0/11.5	50
T901 core (Power)		10.8/10.2	50
L301 (Power)		13.6/13.2	65
T1 coil (Power)		6.8/6.6	65
T1 core (Power)		9.4/9.2	65
L302 (Power)		11.2/11	65
L101 (Power)		6.4/6.3	65
FL2 (Power)		7.9/5.3	65
FL1 (Power)		6.7/6.1	65
CD-ROM body		6.5/6.2	--
H.D.D		8.9/8.7	--
CPU (HS) (main board)		4.3/4.2	65
U14 (HS) (main board)		8.7/8.5	65
L1 coil (main board)		5.8/5.7	65
Battery (main board)		4.4/4.2	65
T2 coil (LCD inverter)		12.8/13.0	65
T2 core (LCD inverter)		14.5/14.6	65
T3 coil (LCD inverter)		12.3/12.4	65
LCD Panel		1.6/1.6	--
Enclosure near LCD		1.1/1.1	30
Ambient		22.6°C /22.7°C	--

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

4.5	TABLE: temperature rise measurements (con't)		Pass
temperature rise dT of part/at:		dT (K)	required dT (K)
Model: ACP-4001P4-2ZC4 (103.5V/50Hz/1.5hr, 207V/50Hz/1.5hr, 253V/50Hz/2hr)			
FL3 coil (Power)		6/4.9/5.5	65
FL3 core (Power)		6.2/2.3/5.9	65
FL2 coil (Power)		6.2/5.0/5.8	65
FL1 coil (Power)		11.0/9.2/10.7	65
T1 coil (Power)		5.2/5.0/5.7	50
T1 core (Power)		7.6/7.3/8.3	50
T2 coil (Power)		6.2/5.9/7.0	65
T2 core (Power)		5.5/5.2/6.1	65
T3 coil (Power)		9.3/9.1/10.3	65
T3 core (Power)		8.2/8.0/9.0	65
L1 coil (Power)		16.4/16.8/21.5	65
L2 coil (Power)		8.2/7.9/9.4	65
PFC coil (Power)		5.1/3.8/4.2	65
PFC core (Power)		5.0/4.1/4.6	65
C2 (Power)		4.8/4.3/5.3	65
C2 (Power)		6.2/5.9/6.2	65
CD-ROM body		8.1/7.5/7.8	--
H.D.D		3.4/2.8/3.2	--
CPU (HS) (main board)		7.6/6.8/7.3	65
U14 (HS) (main board)		5.7/5.3/5.6	65
L1 coil (main board)		4.5/3.9/4.4	65
Battery (main board)		13.3/12.9/13.3	65
T2 coil (LCD inverter)		15.0/14.5/14.8	65
T2 core (LCD inverter)		12.7/12.1/12.5	65
LCD Panel		0.5/0.2/0.6	--
Enclosure near LCD		0.2/0.0/0.3	30
Ambient		23.8°C /24.0°C /24.7°C	--

4.5	TABLE: temperature rise measurements (con't)					Pass
temperature rise dT of part/at:			dT (K)		required dT (K)	
Model: ACP-4001P4-3RM4 (two power operated) 90V/50Hz/3hr, 264V/50Hz/1.5hr						
LD2 coil (Power)			5.0/4.0		65	
LD1 core (Power)			7.7/5.1		65	
L (Power)			16.6/7.3		65	
T4 coil (Power)			12.4/11.6		50	
T4 core (Power)			8.2/7.5		50	
T coil (Power)			12.8/12.1		65	
T core (Power)			9.8/9.1		65	
L8 coil (Power)			14.8/14.4		65	
L4 coil (Power)			16.1/15.7		65	
L7 coil (Power)			6.6/6.0		65	
CD-ROM Enclosure			6.7/6.3		--	
H.D.D			8.9/8.4		--	
CPU (HS) (main board)			5.0/4.6		65	
U14 (HS) (main board)			9.2/8.6		65	
L1 coil (main board)			6.2/5.6		65	
Battery (main board)			4.5/4.0		65	
T2 coil (LCD inverter)			46.0/15.3		65	
T2 core (LCD inverter)			17.6/16.9		65	
T3 coil (LCD inverter)			15.8/15.2		65	
LCD Panel			1.9/1.5		--	
Enclosure near LCD			1.6/0.6		30	
Ambient			22.6 °C/23.1 °C			
temperature rise dT of winding:		R ₁ (Ω)	R ₂ (Ω)	dT (K)	required dT (K)	insulation class

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

4.5	TABLE: temperature rise measurements (con't)	Pass
supplementary information:		
<p>The temperatures were measured by thermal couple (type T) method under worst case normal mode as described in 1.6.1 at voltage described in 1.6.5. The worst case normal mode is defined with max load of the power supply.</p> <p>With max. ambient temperature specified as 40°C, therefore, the maximum temperature rise is calculated as follows:</p> <p>Winding components:</p> <ul style="list-style-type: none">- class A $R_dT_{max} = 75K - 10K - (40-25)K = 50K$ <p>Components with:</p> <ul style="list-style-type: none">- max. absolute temp. of 105°C (Line Choke) $R_dT_{max} = (105-40)K = 65K$- max. absolute temp. of 105°C (PCB) $R_dT_{max} = (105-40)K = 65K$- material is metal (45K) $R_dT_{mx} = 45K - (40-25)K = 30K$- when no class of insulation is given, min. insulation 105°C assumed.		

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

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

5.2	TABLE: electric strength tests and impulse tests		Pass
test voltage applied between:		test voltage (V)	breakdown Yes / No
Model: ACP-4001P4-3ZC4			
Unit Primary to Secondary		DC 4242	No
Unit Primary to Earth		DC 3000	No
Model: ACP-4001P4-2ZC4			
Unit Primary to Secondary		DC 4242	No
Unit Primary to Earth		DC 3000	No
Model: ACP-4001P4-3RM4 (two power)			
Unit Primary to Secondary		DC 4242	No
Unit Primary to Earth		DC 3000	No
supplementary information:			

5.3	TABLE: fault condition tests						Pass
	ambient temperature (°C)						—
	model/type of power supply						—
	manufacturer of power supply						—
	rated markings of power supply						—
component No.	fault	test voltage (V/Hz)	test time	fuse No.	fuse current (A)	result	
Model: ACP-4001P4-3ZC4							
Fan (unit inside)	Stalled	240/60	1 hr	F1	--	Normal operation, max. Temp. at T2 core=38.6 °C, no hazards	
Fan (unit power)	Stalled	240/60	2 hrs	F1	--	Normal operation, max. Temp. at L301 coil=55.1 °C, no hazards	
Ventilation openings	Blocked	240/60	2 hrs	F1	--	Normal operation, L302 coil=54.7 °C, no hazards	
COM 1 pin1-2, 6, 8, 9	Overload	240/60	--	--	--	Circuit measured 0 Volts.	

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: fault condition tests (con't)						Pass
component No.	fault	test voltage (V/Hz)	test time	fuse No.	fuse current (A)	result	
COM 1 pin3-4, 7	Overload	240/60	--	--	--	Circuit measured less than 12.5 mA.	
VGA pin4, 9, 11	Overload	240/60	--	--	--	Circuit measured 0 Volts.	
VGA pin1-3, 12-15	Overload	240/60	--	--	--	Circuit measured less than 12.5 mA.	
LAN all pins	Overload	240/60	--	--	--	Circuit measured 0 Volts.	
Keyboard / Mouse pin3, 6	Overload	240/60	--	--	--	Circuit measured 0 Volts.	
Keyboard / Mouse pin1, 2, 4-5	Overload	240/60	--	--	--	Circuit measured less than 12.5 mA.	
USB pin1, 6	Overload	240/60	--	--	--	Circuit measured 0 Volts.	
USB pin 2-3, 4-5	Overload	240/60	--	--	--	Circuit measured less than 12.5 mA.	
Model: ACP-4001P4-2ZC4							
Fan (unit inside)	Stalled	230/60	2 hrs	F1	--	Normal operation, max. Temp. at L1 coil=46.1 °C, no hazards	
Fan (unit power)	Stalled	230/60	2 hrs	F1	--	Normal operation, max. Temp. at L1 coil=50.9 °C, no hazards	
Ventilation openings	Blocked	230/60	4 hrs	F1	--	Normal operation, max. Temp. at L1 coil=52.9 °C, no hazards	
Model: ACP-4001P4-3RM4 (two power operated)							
Fan (unit inside)	Stalled	240/60	1.5 hrs	F1	--	Normal operation, max. Temp. at T2 core=40.7 °C, no hazards	
Fan (unit power)	Stalled	240/60	1.5 hrs	F1	--	Normal operation, max. Temp. at L4 coil=41.7 °C, no hazards	
Ventilation openings	Blocked	240/60	3.5 hrs	F1	--	Normal operation, max. Temp. at L4 coil=90.0 °C, no hazards	
supplementary information:							

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

A.6.5	TABLE: flammability test for classifying materials V-0, V-1 or V-2		N/A
sample No. / ref.	afterflame time (s) t_1 or t_2	afterflame + afterglow (s) after 2nd flame application $t_2 + t_3$	
1/A			
2/A			
3/A			
4/A			
5/A			
6/B			
7/B			
8/B			
9/B			
10/B			

A.6.6	TABLE: flammability re-test for classifying materials V-0, V-1 or V-2		N/A
sample No.	afterflame time (s) t_1 or t_2	afterflame + afterglow (s) after 2nd flame application $t_2 + t_3$	
11			
12			
13			
14			
15			

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

A.7.4, A.7.5, A.7.6 and A.7.7	TABLE: flammability test for classifying foam materials HF-1, HF-2 or HBF			N/A
sample No. / ref.	flame time (s)	glow time (s)	flaming/glowing distance from the end (mm)	comment (for A.7.7 burning rate mm/min)
1/A				
2/A				
3/A				
4/A				
5/A				
6/B				
7/B				
8/B				
9/B				
10/B				

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

A.7.8	TABLE: flammability re-test for classifying foam materials HF-1 or HF-2			N/A
sample No.	flame time (s)	glow time (s)	flaming/glowing distance from the end (mm)	comment
11				
12				
13				
14				
15				

A.7.9	TABLE: flammability re-test for classifying foam materials HBF			N/A
sample No.	flame time (s)	glow time (s)	flaming/glowing distance from the end (mm)	comment (for A.7.7 burning rate mm/min)
11				
12				
13				
14				
15				

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

A.8.5	TABLE: flammability test for classifying materials HB		N/A
sample No.	flaming/glowing rate mm/min	flaming/glowing distance from reference mark (mm)	
1			
2			
3			

A.8.6	TABLE: flammability re-test for classifying materials HB		N/A
sample No.	flaming/glowing rate mm/min	flaming/glowing distance from reference mark (mm)	
4			
5			
6			

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

A.9.6	TABLE: flammability test for classifying materials 5V				N/A
sample	test bars		test plaques		
No./ref.	flaming + glowing time (s)	burning distance (mm)	position	flaming + glowing time (s)	burning distance (mm)
1/A			A		
2/A			B		
3/A			C		
4/A			D		
5/A					
6/B			A		
7/B			B		
8/B			C		
9/B			D		
10/B					

A.9.7	TABLE: flammability re-test for classifying materials 5V				N/A
sample	test bars		test plaques		
No.	flaming + glowing time (s)	burning distance (mm)	position	flaming + glowing time (s)	burning distance (mm)
11			A		
12			B		
13			C		
14			D		
15					
supplementary information:					

ENCLOSURE No. 1

NATIONAL DIFFERENCES TO IEC 60950 (1999) THIRD EDITION

**Argentina
Australia
Austria (see note below)
Belgium (only Group differ.)
Canada/USA
China (no differ. declared)
Czech Republic (only Group differ.)
Denmark
Finland
France (see note below)
Germany
Greece (only Group differ.)
Group
Hungary (only Group differ.)
India (no differ. declared)
Ireland
Israel (see note below)
Italy (only Group differ.)
Japan
Korea
Netherlands (only Group differ.)
Norway
Poland (see note below)
Russia (no differ. declared)
Singapore
Slovakia (no differ. declared)
Slovenia (only Group differ.)
South Africa (see note below)
Spain
Sweden
Switzerland
United Kingdom
Yugoslavia (no differ. declared)**

(Total 33 Pages including this Cover Page)

Note:

National Differences to IEC 60950, 3rd Edition not declared at this time.

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Argentinean Differences to IEC 60950 Third Edition			
General	Household power supply sources are 220 V a.c., 50 Hz		N/A
1.5.2	Certified plug according to IRAM 2063 (two prong) or IRAM 2073 (three prong) are used in accordance with their ratings		N/A
1.7.2	Operating/safety instructions made available to the user in Spanish. Product information appears on the product..		N/A
1.7.12	Language of safety markings/instructions is Spanish		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Australian and New Zealand Differences to IEC 60950 Third Edition			
1.2.12.11	POTENTIAL IGNITION SOURCE Possible fault such as a faulty contact or interruption in an electrical connection, including a conductive pattern on printed boards, which can start a fire if, under normal operating conditions, the open circuit voltage exceeds 50 V (peak) ac or dc and the product of this open circuit voltage and the measured current through this possible fault exceeds 15 VA		N/A
1.5.1	Add to the first paragraph: "or the relevant Australian or New Zealand Standard".	All critical components are certified components.	N/A
1.5.2	Add to the first and third dashed items after the words "IEC Component Standard": "or the relevant Australian or New Zealand Standard".		N/A
1.6.1	Add: AC power distribution systems classified as TT or IT are not allowed	Unit not evaluated for use in IT system.	Pass
1.7.12	Add to the first paragraph: In Australia and New Zealand all safety instructions shall be in English.	Only English instructions reviewed.	Pass

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
3.2.5	Substitute for Table 3B: SIZES OF CONDUCTORS		N/A
	Rated current of Equipment A	Minimum conductor sizes Nominal kcmil (cross section area in mm ²) AWG or kcmil (see note 1)	
	Over 0.2 up to and including 3	0.5*	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) 1.00	16 [1.3]
	Over 10 up to and including 16	(1.0) 1.5	14 [2]
	Over 16 up to and including 25	2.5	12 [3]
	Over 25 up to and including 32	4	10 [5]
	Over 32 up to and including 40	6	8 [8]
	Over 40 up to and including 63	10	6 [13]
	Over 63 up to and including 80	16	4 [21]
	Over 80 up to and including 100	25	2 [33]
	Over 100 up to and including 125	35	1 [42]
	Over 125 up to and including 160	50	0 [53]
	Over 160 up to and including 190	70	000 [85]
	Over 190 up to and including 230	95	0000 [107]
	Over 230 up to and including 260	120	250 kcmil [126]
	Over 260 up to and including 300	150	300 kcmil [152]
	Over 300 up to and including 340	185	400 kcmil [202]
	Over 340 up to and including 400	240	500 kcmil [253]
	Over 400 up to and including 460	300	600 kcmil [304]
	<p>*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 Note 2 to Table 2.17 of AS/NZS 3191).</p> <p>NOTE 1: AWG and kcmil sizes are provided for information only. These items are commonly used to designate wire sizes in North America</p>		
4.3.6	Replace the third paragraph: Equipment having pins for insertion into socket-outlets shall comply with 2.8.1, 2.8.4, 2.10, 2.12.6 and 2.14.6 of AS/NZS 3112, using the 10 A gauge in Appendix A of AS/NZS 3112.	Not direct plug-in equipment.	N/A
	The equipment is inserted, as in normal use, into a socket outlet capable of accepting a 10 A plug complying with Fig. 2.1(a) of AS/NZS 3112. The socket outlet has a horizontal pivot at a distance of 8 mm behind the engagement face of the socket, and in the plane of the lower intersection of the center-lines of the contact apertures. The additional torque to be applied to maintain the engagement face in the vertical plane shall not exceed 0.25 Nm		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
4.3.13	For the purpose of this standard compliance with AS/NZS 2211.1 is deemed to be compliance with IEC60825.1	Laser storage devices separately certified for compliance to IEC 60825-1.	Pass
4.7	Add after the clause: For alternative resistance to fire test methods, refer to AS/NZS, Annex YY.		N/A
6.2.2	Replace the first paragraph by: In Australia (not in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.	No TNV present.	N/A
6.2.2.1	In Australia, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulses test generator of Annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, Uc is: - for 6.2.1a): 7 kV for hand-held telephones and for headsets; 2.5 kV for other equipment; - for 6.2.1b) and 6.2.1c): 1.5 kV. NOTES: 1. The 7 kV impulse is to simulate lightning surges on typical Australian rural and semi-rural network lines. 2. The value of 2.5 kV for case (a) has been chosen primarily to ensure adequacy of the insulation concerned, and it does not necessarily simulate likely overvoltages.		N/A
6.2.2.2	In Australia, the electrical separation is subjected to an electric strength test according to 5.2.2. <u>The a.c. test voltage is:</u> -for 6.2.1a): 3 kV -for 6.2.1b) and 6.2.1c): 1.5 kV NOTES: 1. Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. 2. The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Canada/USA Differences to IEC 60950 Third Edition			
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part 1		Pass
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions		Pass
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded		N/A
	Special requirements apply to equipment intended for use outdoors	Not for outdoor use.	N/A
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1		Pass
	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2		Pass
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like	Interconnecting cables comply with the relevant requirements of this standard.	Pass
	External cable assemblies which exceed 3.05m in length to be types specified in the NEC and CEC		N/A
	Detachable external interconnecting cables 3.05m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable..:		Pass
	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope		N/A
	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233	There are no Telephone line and extension cords used.	N/A
	For other than limited power and TNV circuits, the type of output circuit identified for output connector		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor :		N/A
	Equipment voltage rating not higher than rating of the plug except under special conditions		N/A
1.7.2	Wiring terminals supplying Class 2 outputs marked with voltage rating and "Class 2" or equivalent..... :		N/A
1.7.6	Special fuse replacement marking for operator accessible fuses :		N/A
	Lamp replacement information indicated on lampholder in operator access area :	There is no lamp used.	N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor :	Unit employs an appliance inlet.	N/A
2.1.1	Screw shell of Edison-base lampholder tied to the neutral conductor		N/A
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover	No TNV present.	N/A
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.	No TNV present.	N/A
	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through the 2000 Ohm resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions		N/A
	Limits for measurements across 5000 Ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4		N/A
2.3.2	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and routine testing	No TNV present.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or the Limited Power Source definition, not interchangeable with devices of higher ratings if operator replaceable		N/A
	VA for limited power source measured after 60 s of operation		Pass
2.6	Protective earthing terms applied per CEC, Part 1, Sec. 0 and NEC Art. 100		N/A
	Units having receptacles for output a.c. power connectors which are generated from an internal separately derived source have the grounded circuit conductor suitably bonded to earth		N/A
2.6.3.3	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit		N/A
	Protective bonding conductors and their terminals of non-standard constructions (e.g. PWB traces) evaluated to limited short-circuit test of CSA C22.2 No.4		N/A
2.6.4.1	Field wiring terminals for earthing conductors must be suitable for wire sizes (gauge) used in US and Canada	Unit employs an appliance inlet.	Pass
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1		N/A
	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating		N/A
	Data for selection of special external branch circuit overcurrent devices marked on the appliance		N/A
	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring.....		N/A
	Additional requirements for overcurrent protection apply to equipment provided with panelboards		N/A
2.10.5.4	Multi-layer winding wire subject to UL wire requirements in addition to 2.10.5.4 and Annex U	Evaluated as an element of power supply certification.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
3.1.1	Permissible combinations of internal wiring/ external cable sizes for overcurrent and short circuit protection	All wires/conductors possess adequate cross-sectional areas for their intended application.	Pass
	All interconnecting cables protected against overcurrent and short circuit	All wires/conductors possess adequate cross-sectional areas for their intended application.	N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1	Evaluated during separate certification of power supply.	N/A
3.2.1	Permitted use for flexible cords and plugs	Unit employs an appliance inlet.	N/A
	Flexible cords provided with attachment plug rated 125% of equipment current rating		Pass
	Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug	Class I equipment.	N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC and CEC, Part 1	The equipment is not permanently connected.	N/A
	Equipment compatible with suitable trade sizes of conduits and cables		Pass
	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm ²) and not less than 152 mm in length for connection of field installed wiring	The equipment is not permanently connected.	N/A
	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate		N/A
	Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system. A method of securing wiring or instructions must be provided to ensure the wiring is protected from abuse		N/A



IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
3.2.5	Length of power supply cord 1.5 to 4.5 m unless shorter length used when intended for a special installation		N/A
	Conductors in power supply cords sized according to NEC and CEC, Part I		N/A
	Power supply cords and cord sets incorporate flexible cords suitable for the particular application		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source	The equipment does not use a non-detachable power supply cord	N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment to properly make the field connections	The equipment is not permanently connected or provided with a non-detachable power supply cord	N/A
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3		N/A
	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means		N/A
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm ²) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention		N/A
3.3.4	Terminals suitable to accept wire sizes (gauge) used in the U.S. and Canada		N/A
	Terminals accept current-carrying conductors rated 125% of the equipment current rating		N/A
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads		N/A
	Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
	Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor		N/A
3.3.8	Connectors and field wiring terminals involving external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used		N/A
	Marking located adjacent to terminals and visible during wiring		N/A
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically mounted disconnect devices, oriented so up position of handle is "on"		N/A
3.4.10	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 min require battery disconnect means		N/A
3.6	Connections to a centralized DC power system comply with requirements for branch circuits in Sub-clause 3.2	The equipment does not connect to a centralized DC power system.	N/A
	Earthing of d.c. powered equipment provided		N/A
	Overcurrent and earth fault protection in accordance with 2.7 either provided in equipment or as part of building installation		N/A
	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard		N/A
	Equipment with earthed terminal (terminal for the grounded conductor) of power source connected to frame of the unit provided with special instructions and provision for earthing		N/A
	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
	Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment.....:		N/A
	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment.....:		N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more	No CRT provided.	N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion	The equipment does not have any high pressure lamps.	N/A
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg tested at four times the weight of the unit.....:		N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment comply with UL 1310 or CSA 223 mechanical assembly requirements	Not Direct Plug-In unit.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment comply with ANSI/NFPA 30 (Table NAE. 7)	The equipment does not use any flammable liquids.	N/A
	Equipment using replenishable liquids marked to indicate type of liquid to be used		N/A
4.3.13	Equipment which produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible		N/A
	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370)	Certified Class 1 CD-ROM/DVD-ROM laser products may be employed.	Pass
4.7.1	Automated information storage equipment intended to contain more than 0.76 mm ³ of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system		N/A
4.7.3	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke-producing characteristics		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
	Low smoke-producing characteristics evaluated according to UL 2043		N/A
	Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations		N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m ² or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications		N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent	Internal wiring is UL Recognized, marked VW-1 or FT-1.	Pass
5.1.8.1.1	Touch current due to ringing voltage for equipment containing telecommunication network leads	No TNV present.	N/A
5.1.8.2	When multiple ports receive ringing voltage, simulated ringing applied to 3 % if ports in excess of 3		N/A
	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections		N/A
5.3.6	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator	Connector overload test has been conducted.	Pass
	Tests interrupted by opening of a component repeated two additional times	Evaluated during separate certification of power supply.	N/A
5.3.8.1	Test interrupted by opening of wire or trace continued by shorting gap		Pass
6	Specialized instructions, as appropriate, provided for equipment which may be connected to a telecommunications network	No TNV present.	N/A
	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.....		N/A
6.2.1	Special requirements for enameled wiring used as electrical separation provided between parts connected to telecommunication network and telecommunication circuitry intentionally isolated from network	No TNV present.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
	Digital line termination equipment (e.g., NCTE) subject to separation requirements.		N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection:	No TNV present.	N/A
	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable		N/A
6.4	Additional requirements for equipment intended for connection to a telecommunication network using cable subject to overvoltage from power line failures (Fig. 6C).....:	No TNV present.	N/A
	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions		N/A
6.5	Acoustic pressure from an ear piece less than 136 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets, and 121 dBA for insert earphones, for long duration disturbances	No TNV present.	N/A
Annex H	Ionizing radiation measurements are made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370	The equipment does not generate ionizing radiation or contain flammable liquids or gases.	N/A
Annex M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations	No TNV present.	N/A
Annex M.4	Special requirements for message waiting and similar telecommunications signals		N/A
Annex NAB	Equipment intended for connection to centralized d.c. power systems is required to comply with special earthing, wiring, and supply voltage tolerance requirements		N/A
Annex NAC	Equipment intended for use with a generic secondary protector shall be marked with suitable instructions		N/A
Annex NAC	Equipment intended for use with a specific primary or secondary protector shall be marked with suitable instructions		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Danish Differences to IEC 60950 Third Edition			
1.2.4.1	Certain types of Class I appliances (see sub-clause 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets.	Power supply cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer; proper application to be determined by the country's local Certification Body.	N/A
1.7.2	<p>Supply cords of Class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text:</p> <p>"Vigtigt ! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket</p> <p> eller  "</p> <p>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:</p> <p>"For tilslutning af de øvrige ledere, se medfølgende installationsvejledning".</p>	No such power supply cord will be provided.	N/A
1.7.5 (a)	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.	No standard power outlets are provided.	N/A
1.7.5 (b)	Class II equipment shall not be fitted with socket-outlets for providing power to other equipment.	No standard power outlets are provided.	N/A
1.7.15	<p>Caution text concerning lithium batteries:</p> <p>ADVARSEL!</p> <p>Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.</p> <p>Udskiftning må kun ske med batteri af samme fabrikat og type.</p> <p>Levér det brugte batteri tilbage til leverandøren.</p> <p>The size of the warning must be a minimum of 26 x 52 mm, the background shall be yellow colour with black frame, and the text in black colour. A white background is acceptable in the User's Instruction and in the Service Manual.</p>	It should be provided when national approval.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
3.2.1	<p>Supply cord of single-phase equipment having a rated current not exceeding 10 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 contact 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 10 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-1-D1 or EN 60309-2.</p>	The rated current is less then 10A.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Finnish Differences to IEC 60950 Third Edition			
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE-EQUIPMENT TYPE B only.	No TNV present.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
German Differences to IEC 60950 Third Edition			
1.7.12	<p>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.</p> <p>NOTE: Of this requirement, rules for use even only by service personnel are not exempted.</p>	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	N/A
Annex H (a)	a) A license is required by those who operate an X-ray emission source		N/A
Annex H (b)	<p>b) A license 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 :</p> <p>1) The local dose rate at a distance of 0.1 m from the surface does not exceed 1 µSv/h and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-rays are generated and</p> <p>ii) the electron acceleration voltage must not exceed the value stipulated by the manufacturer or importer</p>		N/A
Annex H (c)	<p>c) A license in accordance with Clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if:</p> <p>1) The X-ray emission source has been granted a type approval and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-rays are generated,</p> <p>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</p> <p>iii) the electron acceleration voltage does not exceed the maximum value stipulated by the manufacturer or importer</p>		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Annex H (d)	<p>d) Furthermore, a license in accordance with Clause 1 is also not required by persons who operate X-ray emission source 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 intrinsically safety CRTs complying with Enclosure III, No. 62) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measured and specified in the device and3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Group/CENELEC Common Differences to IEC 60950 Third Edition			
2.7.1	Replace the text of this Sub-Clause by: <u>Basic requirements</u> 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)	Evaluated during separate certification of power supply.	Pass
(a)	a). Except as detailed in b) and c), protective devices necessary to comply with the requirements of subclause 5.3 shall be Included as parts of the equipment	The overcurrent protective device is included as parts of certified power supply.	Pass
(b)	b). For components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short circuit and earth fault protection may be provided by protective devices in the building installation.		N/A
(c)	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 instruction.		N/A
	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.	Protective devices are integrated in the equipment.	N/A
2.7.2	This subclause has been declared 'void'		Pass
3.2.3	Delete NOTE 1, and in table 3A delete the conduit sizes in parentheses.	Deleted.	Pass
3.2.5	Replace as follows: "60245 IEC 53" by "H05 RR-F" "60227 IEC 52" by "H03 W-F or H03 WH2-F" "60227 IEC 53" by "H05 W-F or H05 WH2-F"	Power supply cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer; proper application to be determined by the country's local Certification Body.	N/A

IEC 60950 Third Edition												
Sub-Clause	Difference + Test	Result - Remark	Verdict									
	<p>In table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6</td><td>0.75¹⁾</td><td></td></tr><tr><td>Over 6 up to and including 10</td><td>0.75²⁾</td><td>1.0</td></tr><tr><td>Over 10 up to and including 16</td><td>1.0³⁾</td><td>1.5</td></tr></table> <p>In the Conditions applicable to table 3B delete the words "in some countries" in condition 1. In NOTE 1, delete the second sentence.</p>	Up to and including 6	0.75 ¹⁾		Over 6 up to and including 10	0.75 ²⁾	1.0	Over 10 up to and including 16	1.0 ³⁾	1.5		N/A
Up to and including 6	0.75 ¹⁾											
Over 6 up to and including 10	0.75 ²⁾	1.0										
Over 10 up to and including 16	1.0 ³⁾	1.5										
3.3.4	<p>In table 3D, delete the fourth line - conductor sizes for 10 to 13 A. and replace with the following:</p> <table><tr><td>Over 10 up to & including 16</td><td>1.5 to 2.5</td><td>1.5 to by 4.</td></tr></table> <p>Delete the fifth line - conductor sizes 13 to 16A.</p>	Over 10 up to & including 16	1.5 to 2.5	1.5 to by 4.		N/A						
Over 10 up to & including 16	1.5 to 2.5	1.5 to by 4.										
4.3.13	<p>Replace the second compliance paragraph by: For equipment using LEDs or lasers, compliance is checked according to EN 60825- 1.</p>	Laser storage devices separately certified for compliance to EN 60825-1.	Pass									
	<p>NOTE 1 - if equipment falling within the scope of EN 60950 is inherently a class 1 laser product, i.e. it contains no embedded laser or LD of a higher class number, then a laser warning label or other laser warning statement is not required (see 1.1 of EN 60825-1). Renummer the NOTE below the third compliance paragraph as NOTE 2.</p>	Laser storage devices separately certified for compliance to EN 60825-1.	Pass									
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA the dose rate shall not exceed 1µSv/h (0.1 mR/h) (see note). Account is taken of the background level.</p> <p>Replace the NOTE as follows: NOTE - These values appear in directive 96/29/Euratom.</p>		N/A									
Annex P	<p>Replace the text of this annex by: See annex ZA</p>	Replaced.	Pass									
Annex Q	<p>Add the following notes for the standards indicated:</p> <p>IEC 60127 series NOTE. Harmonized as EN 60127 series (not modified) IEC 60529 NOTE: Harmonized as EN 60529: 1991 (not modified) IEC 61032 NOTE: Harmonized as EN 61032:1998 (not modified)</p>		N/A									

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Irish Differences to IEC 60950 Third Edition			
3.2.1	Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 – National Standards Authority of Ireland (Section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations, 1997.		N/A
4.3.6	DIRECT PLUG-IN EQUIPMENT 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.	Nor Direct Plug-In Unit.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Japanese Differences to IEC 60950 Third Edition			
1.2.4.101	Addition: Definition of CLASS 0I EQUIPMENT		Pass
1.2.12.1	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"		N/A
1.2.12.101	Addition: Definition of VTM CLASS MATERIAL		N/A
1.7.101	Addition: Marking for CLASS 0I EQUIPMENT The following instruction is indicated on the visible place of the mains plug or the main body: "Provide an earthing connection"	The equipment is class I unit and does not used in the application.	N/A
	The following instruction is indicated on the visible place on the main body or written in the operating instructions: "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."		N/A
2.1.1.1	Replace: "IEC 60083" by "IEC 60083 or JIS C 8303" in 2.1.1.1 b)		N/A
2.6.3.1	Add the following after 1st paragraph: "This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT"		N/A
2.6.4.1	Replace 2nd sentence in 1st paragraph: "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"		N/A
2.6.5.4	Replace 1st sentence: "Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:"		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
2.6.101	Addition: Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing not used for equipment having a rated voltage exceeding 150 V		N/A
	For plugs with a lead wire for earthing, the lead wire is not earthed by a clip		N/A
	CLASS 0I EQUIPMENT provided with an earthing terminal or lead wire for earthing in the external where easily visible		N/A
3.2.5	Delete the following statement from a note 1 in Table 3B: "For RATED CURRENT up to 3A ₂ , a nominal cross-sectional area of 0.5 mm ² is permitted in some countries provided that the length of the cord does not exceed 2 m"		N/A
4.2.8	Add the following informative remark after the last sentence: "IEC 61965 is also applicable instead of IEC 60065"		N/A
4.5.1	Add the following to note 5) of Table 4A, Part 2: "With regard to Table 4A, insulating materials complying with Japanese requirements (refer to Japanese differences for IEC 60335-1 3rd Edition in CB Bulletin 101B) are also acceptable"		N/A
	Add a note reference ⁷⁾ to "50", in the right column of Table 4A, Part 1 and add a note 7 to Table 4A, Part 2 as follows: "7) This value apply only to wiring or cords complying with relevant IEC standards. Others comply with Japanese requirements (refer to Japanese differences for IEC 60335-1 3 rd Edition in CB Bulletin 101B)"		N/A
4.7.3.2	Add the following in 7th paragraph: "- for thin materials, e.g., flexible printed boards, etc., used inside equipment, be of FLAMMABILITY CLASS VTM-2 or better"		N/A
5.1.6	Replace Table 5A to include maximum TOUCH CURRENT values for CLASS 0I EQUIPMENT		N/A
5.3.8.2	Replace 3rd Item as follows: "- BASIC INSULATION between the PRIMARY CIRCUIT and accessible conductive parts of CLASS I or 0I EQUIPMENT;"		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Annex_A	Add the subclause A.101 titled: "Flammability tests for classifying materials VTM" and the following: "Thin sheet materials shall comply with ISO 9773"		N/A
Annex_G	Add to the Note for Table G.1. "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"		N/A
Annex_P	Add: "IEC 61965:2000, Mechanical Safety for Cathode Ray Tubes"		N/A
Annex_U	Replace 2nd paragraph as follows: "This annex covers to round winding wires having diameters between 0.05 mm and 5.00 mm"		N/A
U.2.1	Replacement: Electric strength "The test sample is prepared per IEC 60851-5:1997, 4.4.1 (for a twisted pair and subjected to the test of 5.2.2, 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: - for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000 V, or; - for REINFORCED INSULATION, 6000 V"		N/A
U.2.2	Replacement: Flexibility and adherence Test 8 of IEC 60851-3:1996, 5.1.1, using the mandrel diameter of Table U.1 (mm)		N/A
	Test voltage not less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard and not less than: - 1500 V for BASIC INSULATION or SUPPLEMENTARY INSULATION, or; - 3000 V for REINFORCED INSULATION		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Korean Differences to IEC 60950 Third Edition			
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains comply with the Korean requirement (KSC 8305)		N/A
7	Addition: EMC. The apparatus shall comply with the relevant CISPR requirements		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Norwegian Differences to IEC 60950 Third			
1.5.8	Due to the IT power system used (see annex V, figure V.7), capacitors are required to be rated for the applicable phase-to-phase voltage (230 V).		N/A
1.7.2	CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a communication network where safety relies on connection to protective earth, require a marking stating that the equipment must be connected to an earthed mains socket-outlet.		N/A
2.2.4	Requirements according to sub-clauses 1.7.2 and 6.1.2.1 apply for this clause.		N/A
2.3.2	Requirements according to sub-clause 6.1.2.1 apply for this clause.	No TNV present.	N/A
2.3.3	Requirements according to sub-clause 6.1.2.1 apply for this clause.	No TNV present.	N/A
2.3.4	Requirements according to sub-clauses 1.7.2 and 6.1.2.1 apply for this clause.	No TNV present.	N/A
2.10.3.1	Due to the IT power distribution system used (see annex V, figure 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.	Unit not evaluated for use in IT system.	N/A
6.1.2.1	Note 2. Add the following text between the first and second paragraph: If this insulation is solid, including Insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below.	No TNV present.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
	If this insulation forms part of a semiconductor component e.g. an optocoupler, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition: - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV): and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1.5 kV.		N/A
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.		N/A
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE-EQUIPMENT TYPE B only.		N/A
Annex G.2	Due to the IT power distribution system used (see annex V, figure 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.	Unit not evaluated for use in IT system.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Swedish Differences to IEC 60950 Third Edition			
1.5.1	Add the following: NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed.	There are no components containing mercury.	N/A
1.7.2	If the separation between the mains and a SELV terminal relies upon connection to safety earth, the apparatus shall have a marking stating that it must be connected to an earthed mains socket-outlet. The marking text shall be in Swedish and as follows: "Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk" .	Considered.	Pass
6.1.2.1	Note 1. Add the following text between the first and second paragraph: If this insulation is solid, including Insulation forming part of a component, it shall at least consist of either: - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below.	No TNV present.	N/A
	If this insulation forms part of a semiconductor component e.g. an optocoupler, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition: - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV): and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1.5 kV.		N/A
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.		N/A
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE-EQUIPMENT TYPE B only.		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Singapore - Differences to IEC 60950 Third Edition			
General	<p>IT Power Systems are not allowed in the Republic of Singapore and all clauses related to IT Power Systems are not applicable.</p> <p>For a.c. power distribution systems, only TN-S and TT systems are allowed</p>	Unit not evaluated for use in IT system.	Pass
2.9.2	<p>(a) After the first paragraph, insert the following: Under tropical conditions, the duration of the humidity conditioning is 5 days (120h) at a temperature: $40 \pm 2^{\circ}\text{C}$ with relative humidity: 90% to 95%. Conditions described in IEC Publications 60068-2-3: 1969 – “Test Ca: Damp Heat, Steady State” (temperature: $40 \pm 2^{\circ}\text{C}$, relative humidity: 90% to 95 %) apply to insulation to be used under tropical conditions. The additional requirement on humidity conditioning is drawn from Clause 10.2 of IEC 60065: 1998</p>	Humidity treatment performed to 120 hrs in condition: 95%, 40°C .	Pass
2.10.6.5	<p>Delete “(48 h)”</p> <p>Explanation: To be consistent with 2.9.2</p>	Deleted.	Pass
3.2.8	Replace “ $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ” by “ $27^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ”		N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Spanish Differences to IEC 60950 Third Edition			
3.2.1	<p>Supply cords of single-phase equipment having a rated current not exceeding:</p> <ul style="list-style-type: none">- 2.5 A shall be provided with a plug according to UNE EN 50075:1993- 10 A shall be provided with a plug according to UNE 20315:1994 <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 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 the UNE-EN 60309-2.</p>	<p>Power supply cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer; proper application to be determined by the country's local Certification Body.</p>	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
Swiss Differences to IEC 60950 Third Edition			
1.5.1	Add the following: NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed.	There are no components containing mercury.	N/A
1.7.15	Annex 4.10 of SR 814.013 (Ordinance on environmentally hazardous substances) applies for batteries.		N/A
3.2.1	Supply cords of equipment having a rated current not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A EN 60309 applies for plugs for currents exceeding 10 A.	Power supply cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer; proper application to be determined by the country's local Certification Body.	N/A
6.1	Protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245 V).	No TNV present.	N/A

IEC 60950 Third Edition			
Sub-Clause	Difference + Test	Result - Remark	Verdict
UK National Differences to IEC 60950 Third Edition			
3.2.1	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 1786: 1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Power supply cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer; proper application to be determined by the country's local Certification Body.	N/A
3.2.5	A power supply cord with conductor of 1.25 mm ² is allowed for equipment with a rated current over 10A and up to and including 13A.		N/A
3.3.4	The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10A up to and including 13A is: 1.25 mm ² to 1.5 mm ² nominal cross-sectional area.		N/A
4.3.6	This test should be performed using an appropriate socket outlet with an earthing contact.		N/A

ENCLOSURE No. 2

Photographs

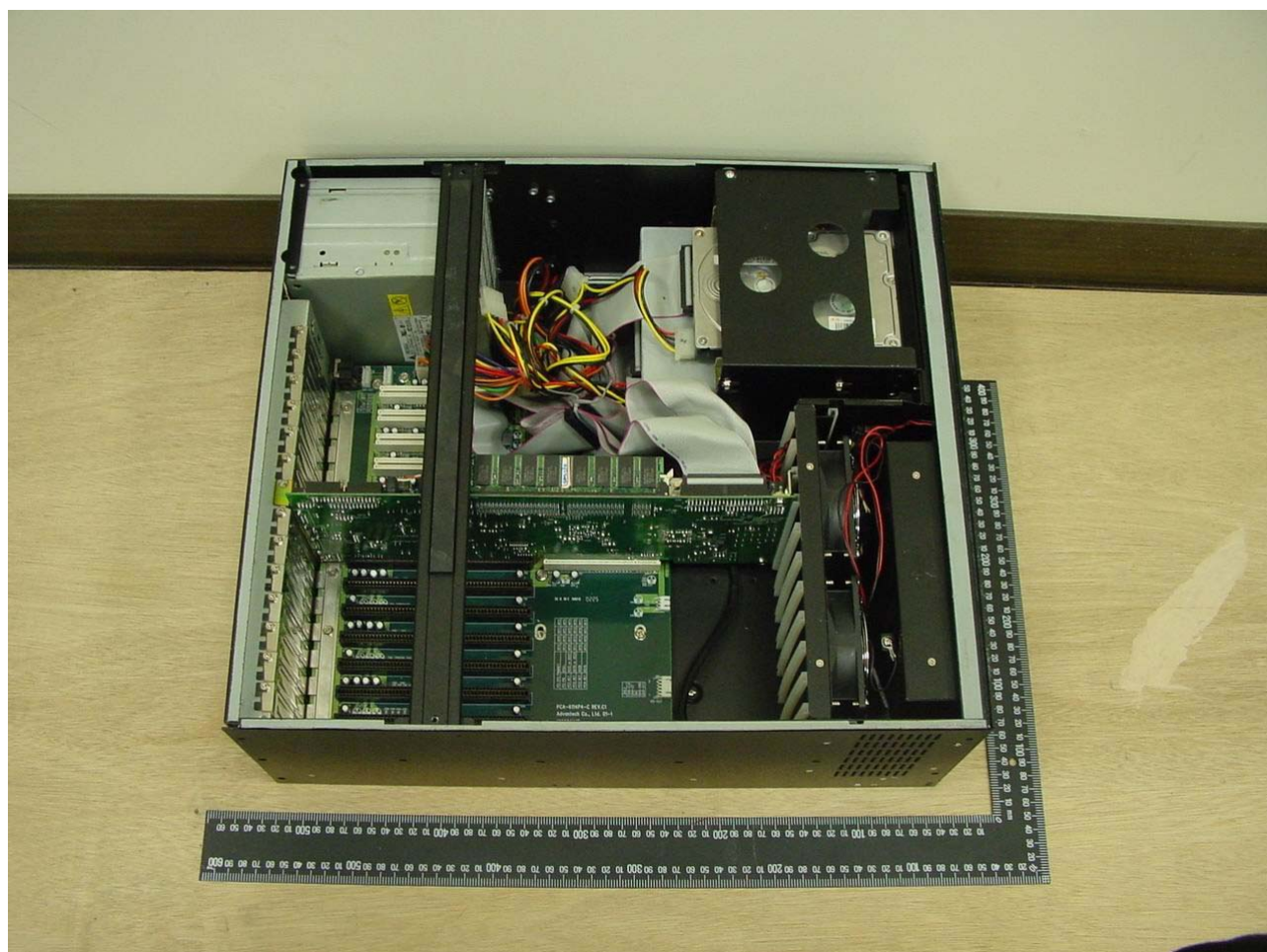
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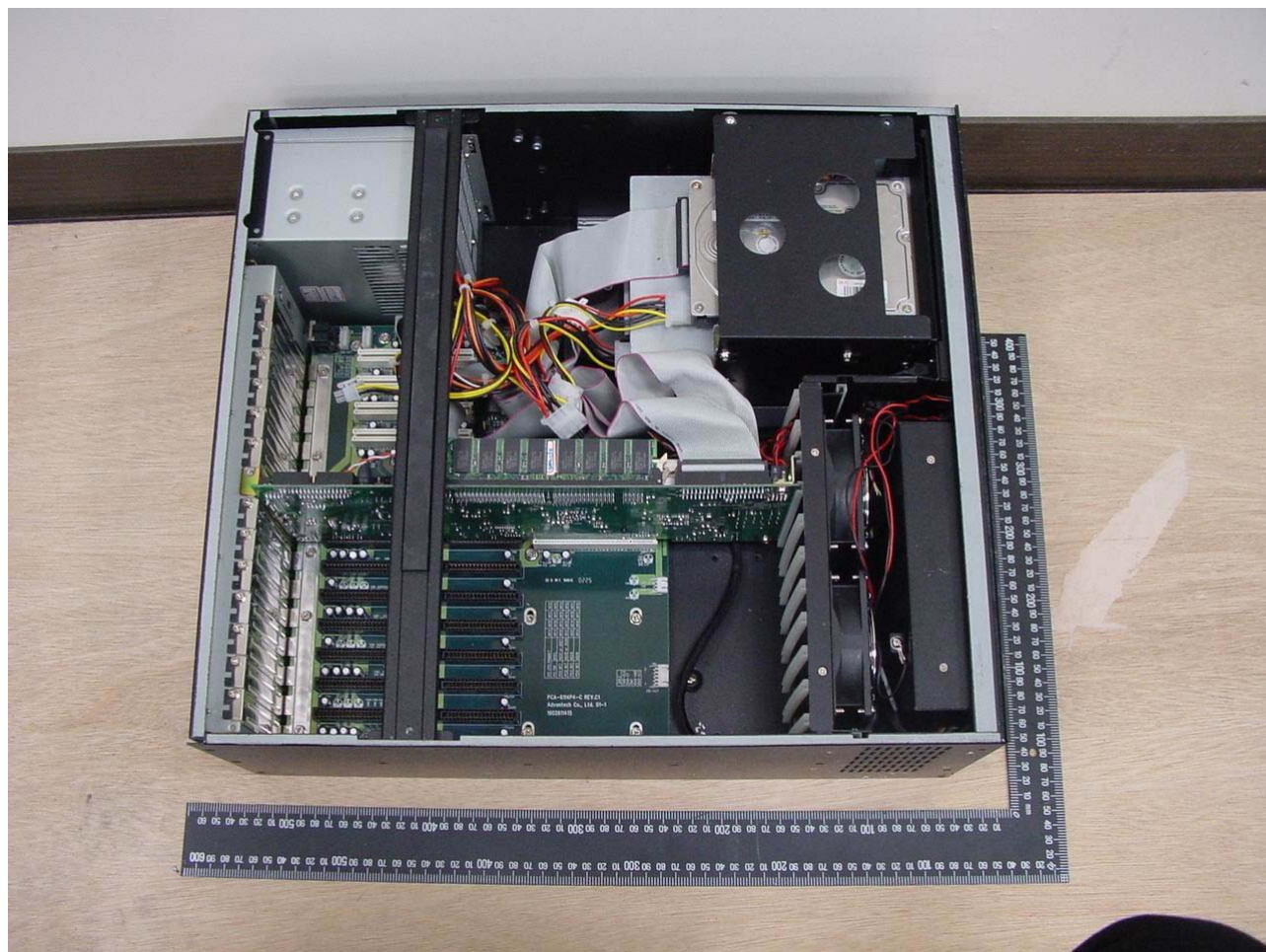




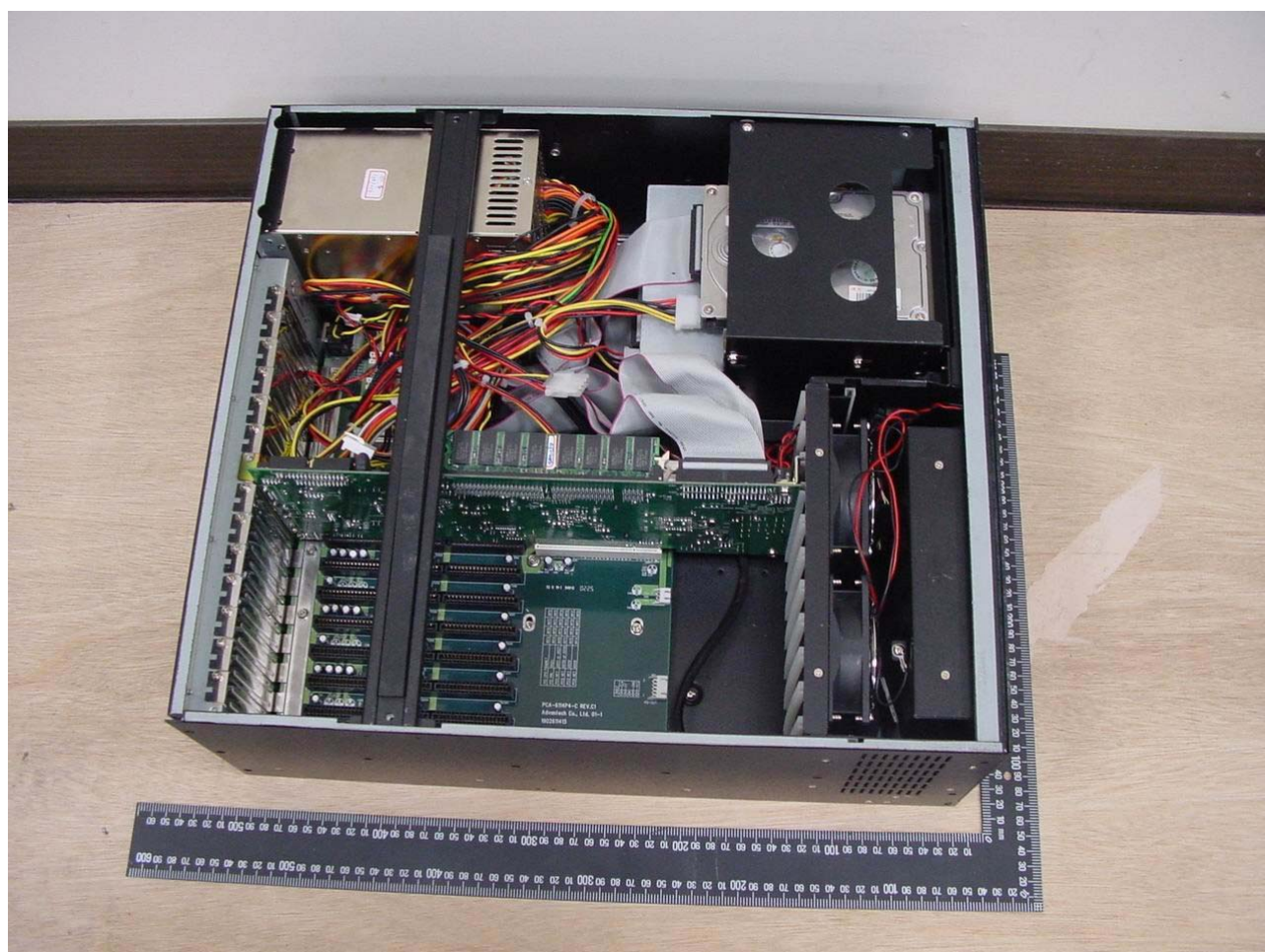
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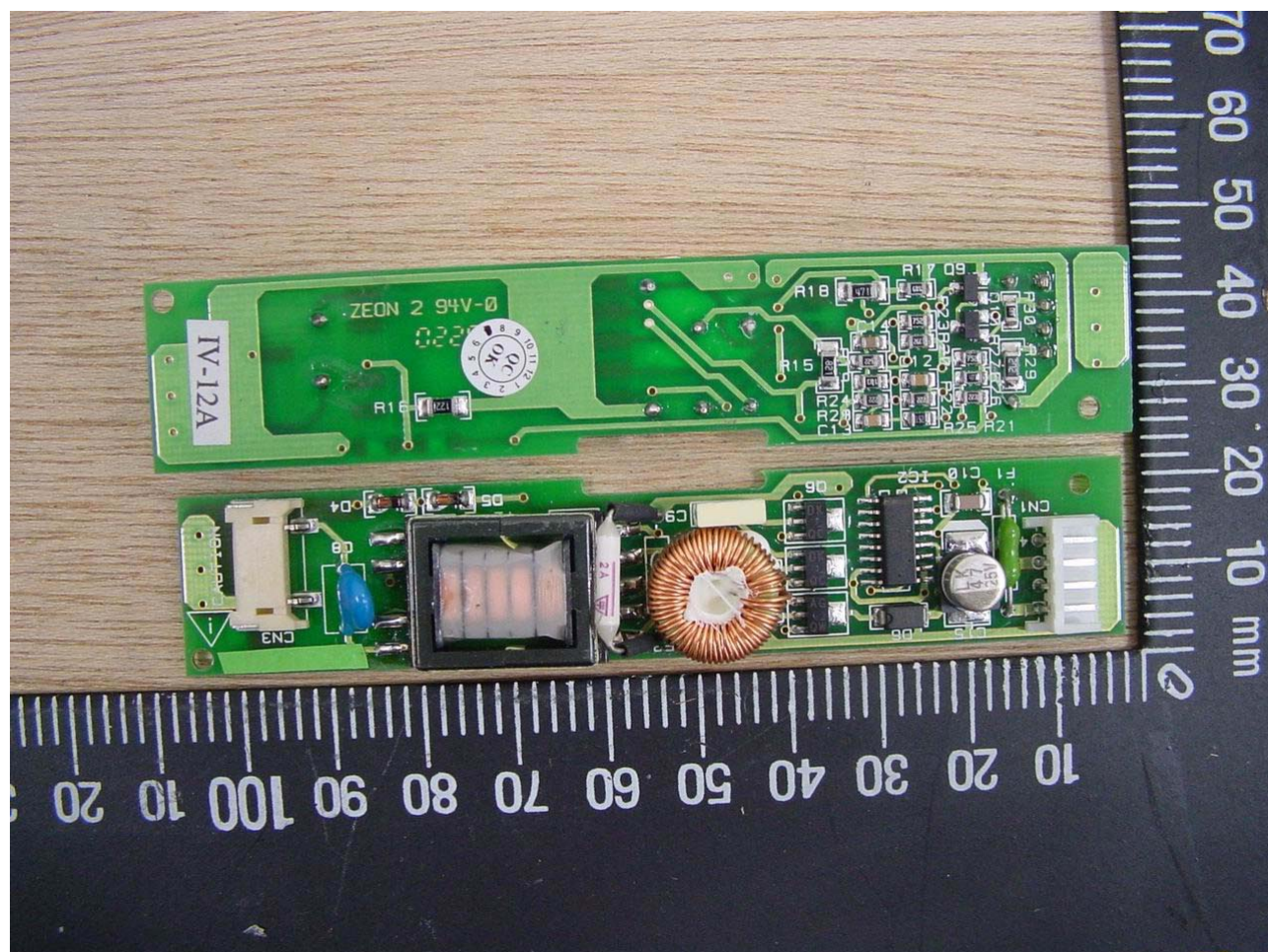


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Model: ACP-4001P4-3RM4

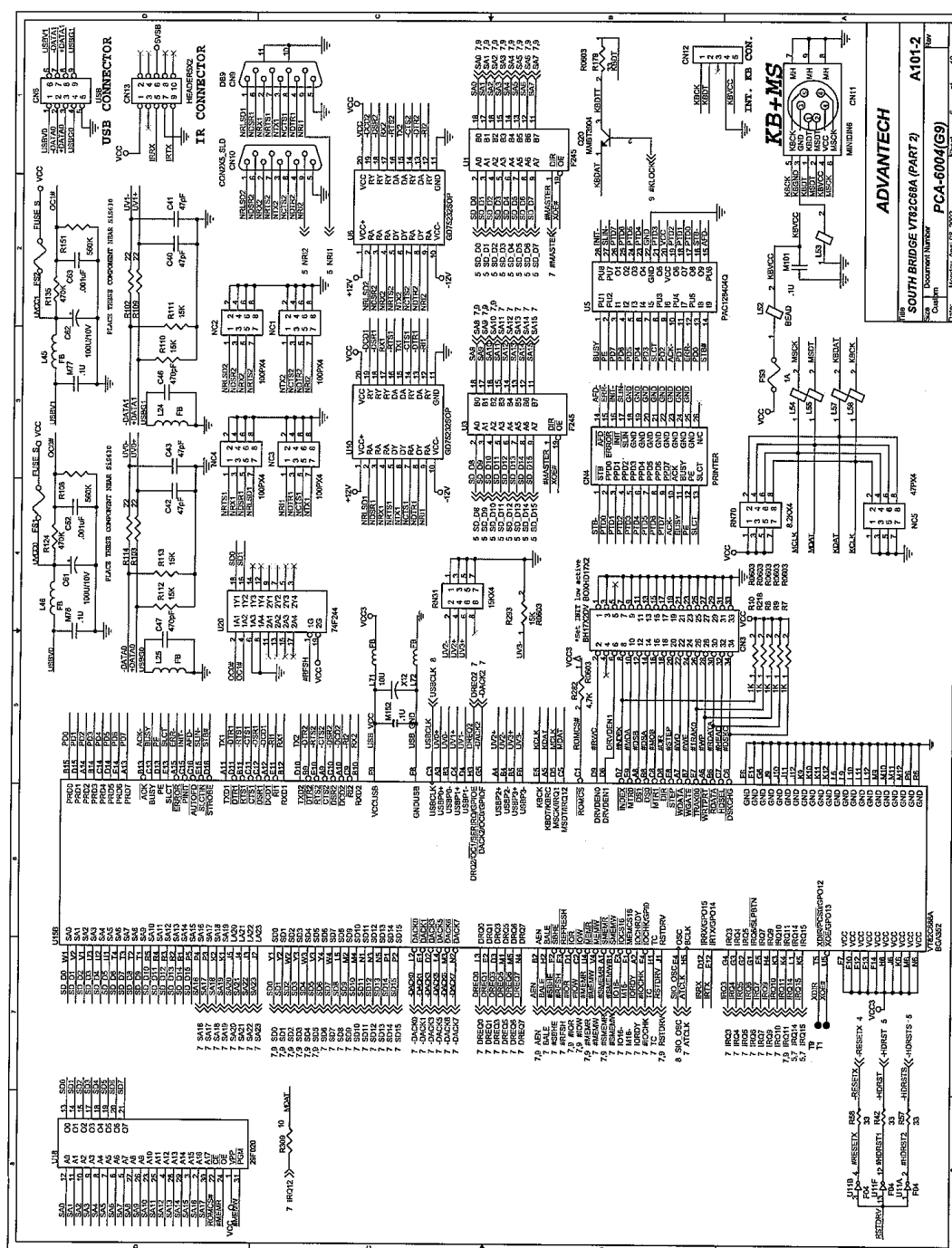




ENCLOSURE No. 3

Circuit Diagram and PCB Layout

(Total 3 Pages including this Cover Page)



Inverter

