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INTERNATIONAL ELECTROTECHNICAL
COMMISSION (IEC)
COMMISSION ELECTROTECHNIQUE
INTERNATIONALE (CEI)

Ref. Certif. No.

DK-6770

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)
MÉTHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Name and address of the applicant
Nom et adresse du demandeur

Name and address of the manufacturer
Nom et adresse du fabricant

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

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

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

Model/type Ref.
Ref. de type

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

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*

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

Industrial Computer

Advantech Co Ltd
4th Fl, 108-3 Ming-Chuan Rd
Shing-Tien City, Taipei Hsien, Taiwan

Advantech Co Ltd
4th Fl, 108-3 Ming-Chuan Rd
Shing-Tien City, Taipei Hsien, Taiwan

See Appendix

115/230 Vac, 50/60 Hz, 10/5.5A, Class I

ADVANTECH

IPC-610XXX-XXXXX, IPC-610XXX-XXXX-XXXXX, IPC-6606XX-XXXXX

IP20, Where X may be any alphanumeric character or blank

PUBLICATION

EDITION

IEC 60950:1999

3rd

E180881-A10-CB-1

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

Date 2003-06-30

Signature

Karina Christiansen
Certification Manager



An Affiliate of
**Underwriters
Laboratories Inc.**

UL International Demko A/S
Lyskaer 8, P.O. Box 514
DK-2730 Herlev, Denmark
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Internal Ref.:
Jakob Petersen

Appendix to CB Certificate No. 6770

Production Site:

- 1) Advantech Co., Ltd.
5th, Fl. 1, Lane 169 Kang-Ning Street, Xi-Zhi Town Taipei Hsien, Taiwan.
- 2) Advantech Co., Ltd.
3rd Fl, 10 Lane 130, Ming Chuan Rd, Hsin-Tien City, Taipei Hsien, Taiwan.
- 3) Superior Co., Ltd.
Tien-song Area, Qingxing Town, Dongguan, Guangdong, China.
- 4) Advantech Co., Ltd.
No. 600, Han-Pu Road, Yu-Shan, Kun-Shan, Jiang Su, China.

Herlev, 2003-06-30


Karina Christiansen
Certification Manager

UL International Demko A/S

Lyskaer 8, P.O. Box 514
DK-2730 Herlev, Denmark
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An Affiliate of
**Underwriters
Laboratories Inc.®**

COVER PAGE FOR TEST REPORT

Test Item Description:	Industrial Computer
Model/Type Reference:	IPC-610-XXX-XXXXX, IPC-610XXX-XXXX-XXXXX and IPC-6606XX-XXXXX, where X may be any alphanumeric character or blank.
Rating(s):	I/P : 115/230 V ac, 50/60 Hz, 10/5.5 A
Standards:	IEC60950, Third Edition (1999)
Applicant Name and Address:	ADVANTECH CO LTD 4TH FL 108-3 MING-CHUAN RD SHING-TIEN CITY TAIPEI HSIEN TAIWAN
Factory Location(s):	1) ADVANTECH CO., LTD. 5TH, FL. 1, LANE 169 KANG-NING STREET, XI-ZHI TOWN TAIPEI HSIEN, TAIWAN. 2) ADVANTECH CO., LTD. 3RD FL, 10 LANE 130, MING CHUAN RD, HSIN-TIEN CITY, TAIPEI HSIEN, TAIWAN. 3) SUPERIOR CO., LTD. TIENSONG AREA, QINGXING TOWN, DONGGUAN, GUANGDONG, CHINA. 4) ADVANTECH CO., LTD. NO. 600, HAN-PU ROAD, YU-SHAN, KUN-SHAN, JIANG SU, CHINA.
This Report includes the following parts, in addition to this cover page: <ol style="list-style-type: none">1. Specific Technical Criteria2. Clause Verdicts3. Critical Components4. Test Results5. National Differences6. Enclosures	
All applicable tests according to the above standard(s) have been carried out. Test results are valid only for the tested equipment. This Test Report can be reproduced only in whole. Amendments and corrections can be reproduced only with the original CB Test Report. Written permission from UL International Demko A/S is required if the test report is copied in part.	

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TEST REPORT IEC 60950 Safety of information technology equipment	
Report Reference No	E180881-A10-CB-1
Compiled by (+ signature)	Rasul M. Balacu
Reviewed by (+ signature)	Jakob Petersen
Approved by (+ signature)	Jakob Petersen
Date of issue	2003-06-27
CB Testing Laboratory	UL International Demko A/S
Address	Lyskaer 8, 2730, Herlev, Denmark
Testing location/procedure	CBTL <input checked="" type="checkbox"/> SMT <input type="checkbox"/> TMP <input type="checkbox"/>
Address	UL International Demko A/S, Lyskaer 8, 2730, Herlev, Denmark
Applicant's name	ADVANTECH CO LTD
Address	4TH FL 108-3 MING-CHUAN RD SHING-TIEN CITY TAIPEI HSIEN TAIWAN
Test specification:	
Standard	IEC60950, Third Edition (1999)
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	1950__F/00-03
TRF originator	FIMKO
Master TRF	dated 00-02
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Test item description	Industrial Computer
Trade Mark	ADVANTECH
	
Model/Type reference	IPC-610-XXX-XXXXX, IPC-610XXX-XXXX-XXXXX and IPC-6606XX-XXXXX, where X may be any alphanumeric character or blank.
Manufacturer	SAME AS APPLICANT
Rating	I/P : 115/230 V ac, 50/60 Hz, 10/5.5 A

Marking Plate - Refer to Enclosure titled Miscellaneous for copy.

Particulars: test item vs. test requirements

Equipment mobility.....: movable
Operating condition.....: continuous
Mains supply tolerance (%).....: +10%, -10%
Test for IT power systems.....: No
IT testing, phase-phase voltage (V): N/A
Class of equipment: Class I (earthed)
Mass of equipment (kg): 15.8 (for Model IPC-610-XXX-XXXXX), 8.6 (for Model IPC-6606XX-XXXXX)
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: P(Pass)
- test object does not meet the requirement: F(Fail)

General remarks:

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by a NCB in accordance with IEC 60335-1.

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.

"(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.

General Product Information:	
Report Summary	
All applicable tests according to the referenced standard(s) have been carried out.	
Product Description	
Power Supply, motherboard and optional provided HDD with CPU housed in metal enclosures.	
Model Differences	
- Models IPC-610-XXX-XXXXXX, IPC-610XXX-XXXX-XXXXXX are similar to Model IPC-6606XXX-XXXXXX except for enclosure type and power supply source. - Model IPC-610-XXX-XXXXXX is identical to Model IPC-610XXX-XXXX-XXXXXX except for model designation.	
Additional Information	
N/A	
Engineering Consideration	
The product was submitted and tested for use at the manufacturer's recommended ambient temperature (T _{mra}) of..... :	50 °C
The power supply means are :	Detachable power cord, Pluggable A or B
The product is intended for use on the following systems..... :	TN
The equipment disconnect device is considered to be :	Appliance inlet
The following circuit locations (with circuit/schematic designation) were investigated as a limited power source..... :	PS/2 port.
Engineering Conditions of Acceptability	
When installed in an end-product, consideration must be given to the following:	

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 1.5.1)	Pass
1.5.2	Evaluation and testing of components		Pass
	Dimensions (mm) of mains plug for direct plug-in .:	The equipment is not direct plug-in type.	N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N).....:	The equipment is not direct plug-in type.	N/A
1.5.3	Thermal controls	No thermal control.	N/A
1.5.4	Transformers		N/A
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of IEC 60950.	Pass
1.5.6	Capacitors in primary circuits	Investigated as an element of power supply certification.	N/A
1.5.7	Double or reinforced insulation bridged by components	Investigated as an element of power supply certification.	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		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	The steady state input current of the equipment does not exceed the RATED CURRENT by more than 10% under NORMAL LOAD.(see appended table 1.6.2)	Pass
1.6.3	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	N/A
1.6.4	Neutral conductor		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1.7	Marking and Instructions		Pass
1.7.1	Power rating	Rating marking readily visible to operator see below for details.	Pass
	Rated voltage(s) or voltage range(s) (V)	115/230 Vac	Pass
	Symbol for nature of supply for d.c.	AC source	Pass
	Rated frequency or frequency range (Hz).....	50/60Hz	Pass
	Rated current (A).....	10/5.5 A	Pass
	Manufacturer's name/Trademark	Advantech Co., Ltd. / ADVANTECH	Pass
	Type/model.....	IPC-610-XXX-XXXXX, IPC-610XXX-XXXX-XXXXX and IPC-6606XX-XXXX, where X may be any alphanumeric character or blank.	Pass
	Symbol of Class II	Class I equipment.	N/A
	Other symbols	Additional symbol maybe provided in national approval.	Pass
	Certification marks.....	UL, c-UL.	Pass
1.7.2	Safety instructions	Operating/safety instructions made available to the user.	Pass
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	Voltage selector selects between 115 V and 230 V and is a simple control near the inlet. The equipment is auto-ranging. (Only when Model IPC-610-XXX-XXXXX with power supply model PRM401PFC)	Pass
1.7.5	Power outlets on the equipment	No outlet.	N/A
1.7.6	Fuse identification.....	Investigated as an element of power supply certification.	N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals	Investigated during separate certification of power supply.	N/A
1.7.7.2	Terminal for a.c. mains supply conductors	Appliance inlet used.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.8	Controls and indicators	See below.	Pass
1.7.8.1	Identification, location and marking.....:	The marking and indication of the power switch is located that indication of function is clear.	Pass
1.7.8.2	Colours.....:	A green LED is illuminated when the unit is operation.	Pass
1.7.8.3	Symbols according to IEC 60417.....:	Marking for see-saw switch with line I for "ON" and circle O for "OFF". (60417-1-IEC-5007 and 60417-1-IEC-5008)	Pass
1.7.8.4	Markings using figures.....:	Figures are not used for indicating different positions of controls.	Pass
1.7.9	Isolation of multiple power sources.....:		N/A
1.7.10	IT power system	Investigated during separate certification of power supply.	N/A
1.7.11	Thermostats and other regulating devices		N/A
1.7.12	Language.....:	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	-
1.7.13	Durability	The marking(s) withstood the required test.	Pass
1.7.14	Removable parts	No removable part.	N/A
1.7.15	Replaceable batteries	The equipment is provided with a replaceable lithium battery. The statement is marking close to the battery or in the serving instructions.	Pass
	Language.....:	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	-
1.7.16	Operator access with a tool.....:	There is no hazard parts can be touched for operator access with a tool.	Pass
1.7.17	Equipment for restricted access locations.....:	No restricted access location.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
2	PROTECTION FROM HAZARDS		Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in OPERATOR access areas	As the installation guide specifies directions for the operator how to add additional memory cards or add-on cards inside the enclosure, the inside of this INDUSTRIAL COMPUTER is considered as operator accessible area. Even the INDUSTRIAL COMPUTER enclosure is disassembled, the hazardous part is covered by earthed metal chassis. The construction of this metal enclosure prevents the access, using test finger, test pin or test probe to any parts having only basic insulation to ELV or hazardous voltage.	Pass
2.1.1.1	Access to energized parts	See below	Pass
	Test by inspection	Operator cannot 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 any openings or seams of the whole enclosure.	Pass
	Test with test probe	No TNV circuits.	N/A
2.1.1.2	Battery compartments.....		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V); distance (mm) through insulation		-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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		N/A
	Time-constant (s); measured voltage (V).....:		-
2.1.2	Protection in service access areas	No maintenance work in operation mode necessary.	N/A
2.1.3	Protection in restricted access locations	It is not intended to be used in restricted locations.	N/A

2.2	SELV Circuits		Pass
2.2.1	General requirements	42.4 V peak or 60 V DC are not exceeded in SELV circuit under normal operation or single fault condition.	Pass
2.2.2	Voltages under normal conditions (V)	Between any SELV circuits 42.4 V peak or 60 V DC are not exceeded.	Pass
2.2.3	Voltages under fault conditions (V).....:	Critical fault condition in SELV reliability is investigation in separate power supply evaluation.	Pass
2.2.3.1	Separation by double or reinforced insulation (method 1)	Investigated during separate certification of power supply.	N/A
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	See 2.2.2 and 2.2.3. No direct connection between SELV and any primary circuits.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.3	TNV Circuits		N/A
2.3.1	Limits		N/A
	Type of TNV circuits		-
2.3.2	Separation from other circuits and from accessible parts		N/A
	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		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz)		-
	Measured current (mA)		-
	Measured voltage (V)		-
	Measured capacitance (µF)		-
2.4.3	Connection of limited current circuits to other circuits		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.5	Limited Power Sources		Pass
	Inherently limited output		N/A
	Impedance limited output		N/A
	Overcurrent protective device limited output	The PS/2 output comply with table 2B under normal operation condition and the Polyswitch used in PS/2 connector.	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):	See table 1.5.1.	-
	Current rating of overcurrent protective device (A):		-

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.6	Provisions for Earthing and Bonding		Pass
2.6.1	Protective earthing		Pass
2.6.2	Functional earthing	Secondary functional earthing is connected to protectively earthed conductive part that separated from primary by basic insulation.	Pass
2.6.3	Protective earthing and protective bonding conductors	See below.	Pass
2.6.3.1	Size of protective earthing conductors		Pass
	Rated current (A), cross-sectional area (mm ²), AWG	10 A, min. 1.0 mm square/16 AWG required.	-
2.6.3.2	Size of protective bonding conductors	See 2.6.3.3	Pass
	Rated current (A), cross-sectional area (mm ²), AWG		-
2.6.3.3	Rated current (A), type and nominal thread diameter (mm)	See below.	Pass
	Resistance (Ohm) of earthing conductors and their terminations, test current (A)	Test current = 40 A. 0.012 ohm for IPC-610 series; 0.009 ohm for IPC-6606 series.	Pass
2.6.3.4	Colour of insulation.....	Evaluated as part of the power supply.	N/A
2.6.4	Terminals	See 2.6.1	Pass
2.6.4.1	Protective earthing and bonding terminals	Appliance inlet used and the unit meet the test requirement of 2.6.3.3.	Pass
	Rated current (A), type and nominal thread diameter (mm)		-
2.6.4.2	Separation of the protective earthing conductor from protective bonding conductors	Appliance inlet used.	Pass
2.6.5	Integrity of protective earthing	See below.	Pass
2.6.5.1	Interconnection of equipment	No interconnection of hazardous voltages.	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switches or fuses in earthing conductors.	Pass
2.6.5.3	Disconnection of protective earth	Appliance inlet provided.	Pass

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.6.5.4	Parts that can be removed by an operator	It is not possible to disconnect earth without disconnecting mains and protective earth makes earlier and breaks later than the supply connectors. No other operator removable parts with safety critical earth connection.	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		N/A
2.6.5.7	Screws for protective bonding	In approved power supply.	N/A
2.6.5.8	Reliance on telecommunication network	No TNV	N/A

2.7	Overcurrent and Earth Fault Protection in Primary Circuits		Pass
2.7.1	Basic requirements	Approved Power Supply used	Pass
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices	Investigated as an element of power supply certification.	N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel.....		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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	Critical insulation investigation is investigated as an element of power supply certification.	N/A
2.9.2	Humidity conditioning	Investigated during separate certification of power supply.	N/A
2.9.3	Requirements for insulation		N/A
2.9.4	Insulation parameters		Pass
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

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

2.10	Clearances, Creepage Distances and Distances Through Insulation		Pass
2.10.1	General		Pass
2.10.2	Determination of working voltage		N/A
2.10.3	Clearances	All critical clearance in primary circuits are considered in separate power supply evaluation.	Pass
2.10.3.1	General		Pass
2.10.3.2	Clearances in primary circuit		N/A
2.10.3.3	Clearances in secondary circuits	(See appended table 5.3.)	Pass
2.10.3.4	Measurement of transient levels		N/A
2.10.4	Creepage distances	(see appended table)	Pass
	CTI tests	Material group IIIb; $100 \leq \text{CTI} < 175$.	-
2.10.5	Solid insulation	Investigated during separate certification of power supply.	N/A
2.10.5.1	Minimum distance through insulation		N/A
2.10.5.2	Thin sheet material	Investigated during separate certification of power supply.	N/A
	Number of layers (pcs)		-
	Electric strength test.....		-
2.10.5.3	Printed boards		N/A
	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	Investigated during separate certification of power supply.	N/A
	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		N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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.....		N/A
	Temperature T1= T2 + Tmra - Tamb +10K (°C)		N/A
2.10.8	Spacings filled by insulating 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
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IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

3.1	General		Pass
3.1.1	Current rating and overcurrent protection	All wires/conductors possess adequate cross-sectional areas for their intended application and Internal wiring are adequately insulated.	Pass
3.1.2	Protection against mechanical damage	The wires are well routed away from sharp edges, etc. and are adequately fixed to prevent excessive strain on wire and terminals.	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		N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Non-metallic materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	All conductors are reliable secured.	N/A
3.1.10	10 N pull test		N/A
	Sleeving on wiring		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

3.2	Connection to A.C. Mains Supplies		Pass
3.2.1	Means of connection	Appliance inlet used.	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
	Number of conductors, diameter (mm) of cable and conduits.....		-
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320. The power cord can be inserted without difficulties and does not support the unit.	Pass
3.2.5	Power supply cords	Power supply cord suitable for application and subject to country's national code and regulations to be provided by the manufacturer	N/A
	Type.....		-
	Rated current (A), cross-sectional area (mm ²),AWG	10 A maximum, min. 1.0 mm square/16 AWG required.	-
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N).....		-
	Longitudinal displacement (mm).....		-
3.2.7	Protection against mechanical damage	No parts under this unit likely to damage the power supply cord. No sharp edges.	N/A
3.2.8	Cord guards	The equipment does not use a non-detachable power supply cord.	N/A
	D (mm); test mass (g)		-
	Radius of curvature of cord (mm)		-
3.2.9	Supply wiring space		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

3.3	Wiring Terminals for Connection of External Conductors		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	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	The appliance inlet is considered to be the disconnect device.	Pass
3.4.2	Disconnect devices	Ref. to 3.4.1	Pass
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment	Disconnect device disconnects both poles simultaneously.	Pass
3.4.7	Three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

3.5	Interconnection of Equipment		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits	The power supply is considered for connection to SELV only.	Pass
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection circuits.	N/A

4	PHYSICAL REQUIREMENTS		Pass
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4.1	Stability		Pass
	Angle of 10°	This unit is of a stable mechanical construction and does not overbalance when tilted to an angle of 10 degrees from its normal upright position.	Pass
	Test: force (N)	Equipment is not a floor standing unit.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

4.2	Mechanical strength		Pass
4.2.1	General	See below.	Pass
4.2.2	Steady force test, 10 N	10N applied to components. No energy or other hazards.	Pass
4.2.3	Steady force test, 30 N	No hazards as result of the 30N test.	Pass
4.2.4	Steady force test, 250 N	250N applied to all outer enclosure. No energy or other hazards.	Pass
4.2.5	Impact test	No hazard as result from impact test.	Pass
4.2.6	Drop test		N/A
4.2.7	Stress relief	Metal enclosure used.	N/A
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

4.3	Design and Construction		Pass
4.3.1	Edges and corners	All edges and corners judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N)	For Model IPC-610 series, the shape of the handle is such that an axial pull is likely to be applied. The force applied: 50 N.	Pass
4.3.3	Adjustable controls	Investigated during separate certification of power supply.	N/A
4.3.4	Securing of parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heat shrunk tubing are used.	Pass
4.3.5	Connection of plugs and sockets	No interchangeable plugs/ sockets.	N/A
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque (Nm).....		-
4.3.7	Heating elements in earthed equipment	No heating element.	N/A
4.3.8	Batteries	A replaceable lithium battery provided with blocking resistor, R219, rated 1000 W and a diode, D38, in series to prevent the reverse charging current. Disposal marking or equivalent marking located adjacent to battery or in User/Service manual.	Pass
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (l)		N/A
	Flash point (°C).....		N/A
4.3.13	Radiation; type of radiation		N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

	Equipment using lasers	evaluated in seperate component evaluation.	N/A
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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)	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	Investigated as an element of power supply certification.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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).....:	Model IPC-610-XXX-XXXXX: Front: Two rows of 13 openings, each opening measures 40 mm by 3 mm. Rear: Each individual opening measures 20 mm by 3 mm, total 26 openings. Model IPC-6606XX-XXXXX: Front: Three rows of 16 openings, each opening measures 24 mm by 3 mm. Rear: Each individual opening measures 20 mm by 3 mm, total 31 openings.	-
4.6.2	Bottoms of fire enclosures	Openings in the bottom of any size under an internal chassis barrier, which itself complies with the requirements for a FIRE ENCLOSURE.	Pass
	Construction of the bottom	Each individual opening measures 20 mm by 3 mm, total 31 openings.	-
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment	Not transportable equipment.	N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature/time		-

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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	fire enclosure covers all parts.	Pass
4.7.2.2	Parts not requiring a fire enclosure	See 4.7.2	N/A
4.7.3	Materials		Pass
4.7.3.1	General	See below.	Pass
4.7.3.2	Materials for fire enclosures	The enclosure is metal.	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better or mounted on a PWB rated V-1 or better. Internal wiring is UL Recognized, rated VW-1 or FT-1 (where needed).	Pass
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components	.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		Pass
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IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

5.1	Touch current and protective conductor current		Pass
5.1.1	General	See below.	Pass
5.1.2	Equipment under test (EUT)		Pass
5.1.3	Test circuit		Pass
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	Pass
5.1.5	Test procedure	The touch current was measured from primary to metal enclosure.	Pass
5.1.6	Test measurements	See below	Pass
	Test voltage (V).....:	253 Vac / 60 Hz	-
	Measured current (mA).....:	Max. 1.5 mA	-
	Max. allowed current (mA).....:	3.5 mA	-
5.1.7	Equipment with touch current exceeding 3.5 mA ...:	Touch current does not exceed 3.5 mA.	Pass
5.1.8	Touch currents to and from telecommunication networks	No TNV	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network	No TNV	N/A
	Test voltage (V).....:	No TNV	-
	Measured current (mA).....:	No TNV	-
	Max. allowed current (mA).....:	No TNV	-
5.1.8.2	Summation of touch currents from telecommunication networks	No TNV	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

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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		N/A
5.3.3	Transformers	The protection of the power supply and transformer are approved with the approval of the power supply.	Pass
5.3.4	Functional insulation.....:	Functional insulation complies with the requirements (a), (b), or (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults	Faults in primary and secondary components and Functional insulation were already considered during the approval of the power supply. Blocked ventilation openings test: Result see appended table. Fan stalled test: Result see appended table. Connector overload test: Result see appended table. No other abnormal tests necessary.	Pass
5.3.7	Unattended equipment		N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation was noted during the tests.	Pass

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
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IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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

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
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IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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)		-
	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)		-

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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
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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 retest		N/A

IEC 60950			
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 retest, HF-1 or HF-2		N/A
A.7.9	Permitted retest, 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 retest		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 retest		N/A

A.10	Stress relief conditioning (see 4.2.7)		N/A
	Temperature (°C)		-

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		-
	Manufacturer		-
	Type.....		-
	Rated values.....		-
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		-
	Electric strength test: test voltage (V).....		-
B.6	Running overload test for 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)		-

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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

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		-

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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

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⁾	
Power Supply (only for Model IPC-610-XXX- XXXXX)	Delta Electronics Inc.	DPS-300KBxx	I/P: 100- 120/200-240Vac, 47/63Hz, 10/5A. O/P: +5V/30A, - 5V/0.5A, +12V/13A, - 12V/0.8A, 3.3V/26A, +5Vsb/2.0A	UL 60950, IEC 60950	UL, TUV, TUV- Rh CB cert. no. JPTUV -002869	
Power Supply (for all models)	Delta Electronics Inc.	DPS-300GB-1	I/P: 100- 120/200-240Vac, 47/63Hz, 9/4.5A. O/P: +5V/30A, - 5V/0.3A, +12V/15A, - 12V/0.8A, 3.3V/28A, +5Vsb/2.0A	UL 60950, IEC 60950	UL, TUV, TUV- Rh CB cert. no. JPTUV -002869	
Power Supply (only for Model IPC-610-XXX- XXXXX)	Power Research Technology Co., Ltd. (PRT)	PRM401PFC	I/P: 100-240Vac, 50/60Hz, 8/5A. O/P: +5V/50A, - 5V/1.0A, +12V/27A, - 12V/3.0A, 3.3V/30A, +5Vsb/1.0A	UL 60950, IEC 60950	UL, TUV, TUV PS CB cert. no. DE 2-002938	
Power Supply (for all models)	FSP Group Inc.	FSP250- 60ATV(PF)	I/P: 115/230 Vac, 60/50Hz, 10/5A. O/P: +5V/27A, - 5V/0.3A, +12V/13A, - 12V/0.8A, 3.3V/20A, +5Vsb/2.0A	UL 60950, IEC 60950	UL, TUV, Nemko CB cert. no. NO 15217	
Hard Drive (Optional)	Various	--	+5/+12Vdc, 1.5/1.8A maximum.	UL 60950, EN 60950	UL, TUV, Demko	
Floppy Drive (Optional) (two provided)	Various	--	+5/+12Vdc, 1.5/1.8A maximum.	UL 60950, EN 60950	UL, TUV, Demko	
CD-ROM Drive (Optional)	Various	--	+5/+12Vdc, 1.5/1.8A maximum.	UL 60950, EN 60825-1	UL, TUV, Demko	

IEC 60950					
Clause	Requirement + Test		Result - Remark		Verdict
RTC Battery	Rayovac Corp.	BR2335, BR2032, BF2325	3.0Vdc, 300mAh	UL1416	UL, -
RTC Battery	Mitsubishi Chemical Corp.	CR2032	3.0Vdc, 300mAh	UL1416	UL, -
RTC Battery	Sanyo Energy (U.S.A) Corp.	CR2032	3.0Vdc, 300mAh	UL1416	UL, -
Protective device (Polyswitch) for PS/2	Raychem Corp.	SMD-150-2018	5Vdc, 1.1A	--	UL, -
Protective device (Pigtail Fuse) for PS/2	Littelfuse Inc.	251	125V, 3A	IEC 60127-3	UL, VDE
System Fan (for Model IPC-610-XXX-XXXXX)	Adda Corp.	AD1212HB-A71GL	+12Vdc, 0.37A, 88CFM	UL 60950, EN 60950	UL, TUV
System Fan (for Model IPC-6606XX-XXXXX)	Adda Corp.	AD0912HB-A70GL	+12Vdc, 0.25A52.5 CFM	UL 60950, EN 60950	UL, TUV
System Fan (for Model IPC-6606XX-XXXXX)	Sunonwealth Electric Machine Industry Co.,Ltd	KD1209PTB1-6	+12Vdc, 0.19A, 50CFM	UL 60950, EN 60950	UL, TUV
System Fan (for Model IPC-6606XX-XXXXX)	delta electronics inc	AFB0912VH-F00	+12Vdc, 0.4A, 67.8CFM	UL 60950, EN 60950	UL, TUV
CPU Fan	Dynaeon Industrial Co., Ltd.	DF1206BH	+12Vdc, 0.30	UL 60950, EN 60950	UL, TUV
Enclosure (for Model IPC-610-XXX-XXXXX)	Various	--	Metal, 2.0 mm thick min. Overall 453 mm by 430 mm by 180 mm or 503 mm by 430 mm by 180 mm.	--	--, --
Enclosure (for Model IPC-6606XX-XXXXX)	Various	--	Metal, 1.2 mm thick min. Overall 173 mm by 256 mm by 395 mm.	--	--, --
PWB	Various	--	Rated V-1 or better, 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 IPC-610XXX-XXXXY)	--	--	--	--	--	(Power supply: FSP Group Inc., model FSP250-60ATV(PF)
--	--	103.5V/50Hz	70.1	810	--	Maximum normal load
--	--	103.5V/60Hz	70.1	850	--	Maximum normal load
--	10	115V/50Hz	69.3	740	--	Maximum normal load
--	10	115V/60Hz	70.2	740	--	Maximum normal load
--	--	126.5V/50Hz	71.4	748	--	Maximum normal load
--	--	126.5V/60Hz	67.1	751	--	Maximum normal load
--	--	207V/50Hz	68.2	402	--	Maximum normal load
--	--	207V/60Hz	67.3	405	--	Maximum normal load
--	5.5	230V/50Hz	70.2	410	--	Maximum normal load
--	5.5	230V/60Hz	70.2	415	--	Maximum normal load
--	--	253V/50Hz	72.1	432	--	Maximum normal load
--	--	253V/60Hz	72.3	458	--	Maximum normal load
Model IPC-6606XXX-XXXXX	--	--	--	--	--	(Power supply: FSP Group Inc., model FSP250-60ATV(PF)
--	--	103.5V/50Hz	64.3	750	--	Maximum normal load
--	--	103.5V/60Hz	65.6	746	--	Maximum normal load
--	10	115V/50Hz	62.3	745	--	Maximum normal load
--	10	115V/60Hz	61.6	727	--	Maximum normal load
--	--	126.5V/50Hz	65.1	731	--	Maximum normal load
--	--	126.5V/60Hz	64.3	730	--	Maximum normal load
--	--	207V/50Hz	75.1	405	--	Maximum normal load
--	--	207V/60Hz	76.3	412	--	Maximum normal load
--	5.5	230V/50Hz	73.7	425	--	Maximum normal load
--	5.5	230V/60Hz	75.2	452	--	Maximum normal load
--	--	253V/50Hz	79.1	496	--	Maximum normal load
--	--	253V/60Hz	81.1	497	--	Maximum normal load
Model IPC-610XXX-XXXXY	--	--	--	--	--	(Power supply: delta Electronics Inc., model DPS-300KBxx)
--	--	90V/50Hz	182.0	3090	--	Maximum normal load
--	--	90V/60Hz	182.0	3030	--	Maximum normal load
--	10	100V/50Hz	182.0	2830	--	Maximum normal load
--	10	100V/60Hz	179.0	2720	--	Maximum normal load
--	--	120V/50Hz	180.0	2470	--	Maximum normal load
--	--	120V/60Hz	180.0	2390	--	Maximum normal load
--	--	127V/50Hz	180.0	2350	--	Maximum normal load
--	--	127V/60Hz	180.0	2280	--	Maximum normal load

IEC 60950						
Clause	Requirement + Test				Result - Remark	Verdict
--	--	180V/50Hz	178.0	1790	–	Maximum normal load
--	--	180V/60Hz	180.0	1690	–	Maximum normal load
--	5.5	200V/50Hz	180.0	1610	–	Maximum normal load
--	5.5	200V/60Hz	180.0	1540	–	Maximum normal load
--	--	240V/50Hz	180.0	1410	–	Maximum normal load
--	--	240V/60Hz	180.0	1330	–	Maximum normal load
--	--	254V/50Hz	180.0	1320	–	Maximum normal load
--	--	254V/60Hz	179.0	1280	–	Maximum normal load
supplementary information:						
"Maximum normal load" was defined as follows: The unit continuously crossed reading and writing data between HDD and working continuously.						

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)	
--	--	--	--	--	--	--	
supplementary information:							
- All critical clearance/creepage in primary circuit are considered in power supply evaluation. - All circuits are SELV, only functional insulation required.							

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).....	See below	—
	t1 (°C)	--	—
	t2 (°C)	--	—
temperature rise dT of part/at:		dT (K)	required dT (K)
Model IPC-610XXX-XXXXX (Power supply: FSP Group Inc., model FSP250-60ATV(PF))		103.5V/126.5V/207V/253V	--
Ambient		24.9°C/25.1°C/25.4°C/25.4°C	--
PWB near Q8		19.9/20.1/19.8/20.1	55
RTC Battery body		12.4/12.5/12.4/12.5	--
U19 body		14.9/15.0/14.9/15.1	--
CPU body		15.9/16.1/15.9/16.1	--
L16 coil		19.8/20.0/19.9/20.0	55
L6 coil		15.5/15.7/15.6/15.8	55
C51 body		11.8/12.0/11.9/12.0	35
PWB Q25 body		11.3/11.5/11.4/11.5	55
HDD body		8.7/9.0/8.9/9.0	--
CDROM body		5.4/5.7/5.5/5.7	--
FDD body		9.2/9.4/9.2/9.4	--
Power Supply		--	--
PWB near the BD1		13.6/13.5/12.7/12.7	55
FL2 coil		13.3/13.0/11.0/11.2	55
C2 body		8.7/9.2/8.5/8.9	35
FL3 coil		11.4/11.2/10.3/10.4	55
FL3 core		10.9/10.8/9.9/10.0	55
FL1 coil		12.6/13.2/11.4/12.2	55
FL1 core		10.4/11.0/9.8/10.5	55
T1 coil		8.5/8.9/8.6/8.9	40
T1 core		12.0/12.5/11.9/12.4	40
T2 coil		8.2/8.6/8.1/8.5	40
T2 core		8.9/9.2/8.7/9.2	40
T3 coil		13.5/14.7/13.5/14.7	40
T3 core		11.3/12.0/11.2/12.0	40
PWB near Q2		14.4/15.9/14.3/15.8	55
T0 coil		10.4/10.2/10.1/10.1	55
T0 core		11.0/10.6/10.9/10.7	55
Enclosure inside near the power		5.5/5.7/5.5/5.8	--
Enclosure outside near the power		6.3/6.3/6.2/6.6	20
Model IPC-610XXX-XXXXY (Power supply: FSP Group Inc., model FSP250-60ATV(PF))		230V ventilation opening block/230V power fan stalled/230V system fan stalled	--
Ambient		25.4°C/25.1°C/25.4°C	--
PWB near Q8		31.8/21.1/20.2	--

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
RTC Battery body	23.2/11.9/12.7	--	
U19 body	26.4/15.9/15.1	--	
CPU body	27.2/17.0/16.2	--	
L16 coil	31.4/20.8/20.1	--	
L6 coil	27.1/16.6/15.7	--	
C51 body	23.6/13.0/12.2	--	
PWB Q25 body	23.2/12.1/11.7	--	
HDD body	20.5/9.9/9.1	--	
CDROM body	17.9/7.0/5.8	--	
FDD body	21.1/10.6/9.6	--	
Power Supply	--	--	
PWB near the BD1	25.2/20.3/12.7	--	
FL2 coil	23.8/18.6/11.1	--	
C2 body	21.7/13.7/8.6	--	
FL3 coil	23.3/16.4/10.4	--	
FL3 core	22.6/16.1/10.0	--	
FL1 coil	24.5/20.6/11.8	--	
FL1 core	23.8/18.6/10.1	--	
T1 coil	22.0/15.2/8.8	100	
T1 core	24.9/20.6/12.5	100	
T2 coil	21.8/15.5/8.4	100	
T2 core	22.2/17.1/9.0	100	
T3 coil	26.6/23.8/14.2	100	
T3 core	24.3/19.0/11.7	100	
PWB near Q2	28.4/16.7/14.8	--	
T0 coil	22.7/14.6/10.2	--	
T0 core	23.6/14.9/10.9	--	
Enclosure inside near the power	18.8/7.1/5.5	--	
Enclosure outside near the power	22.7/8.6/7.7	--	
Model IPC-6606XXX-XXXXXX (Power supply: FSP Group Inc., model FSP250-60ATV(PF))	103.5V/126.5V/207V/253V	--	
Ambient	24.5°C/24.7°C/24.7°C/24.7°C	--	
PWB near Q8	21.9/21.8/21.7/21.4	55	
RTC Battery body	15.0/15.0/14.9/14.7	--	
U19 body	17.0/17.1/17.0/16.8	--	
CPU body	16.3/16.4/16.3/16.0	--	
L16 coil	20.9/21.0/21.1/20.8	55	
L6 coil	15.4/15.6/15.5/15.1	55	
C51 body	12.7/12.9/13.0/12.7	35	
PWB Q25 body	15.8/15.9/15.9/15.6	55	
HDD body	9.4/9.6/9.5/9.2	--	
CDROM body	5.5/5.8/5.9/5.4	--	
FDD body	3.6/4.0/4.2/3.7	--	
Power Supply	--	--	
PWB near the BD1	13.2/13.0/12.4/12.2	55	
FL2 coil	13.3/13.1/11.3/11.3	55	
C2 body	8.0/8.6/8.0/8.1/25.3	35	

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
FL3 coil		11.9/11.6/10.9/10.7	55
FL3 core		10.9/10.9/10.2/10.1	55
FL1 coil		13.2/14.0/12.3/12.7	55
FL1 core		11.0/11.8/10.7/11.0	55
T1 coil		8.6/9.0/8.8/8.7/24.2	40
T1 core		11.6/12.3/11.8/12.0	40
T2 coil		8.7/9.1/8.9/8.8	40
T2 core		9.3/9.8/9.4/9.4	40
T3 coil		14.6/16.3/45.0/15.9	40
T3 core		13.2/14.5/13.6/14.1	40
PWB near Q2		13.7/15.7/13.9/15.2	55
T0 coil		12.3/12.1/12.2/11.9	55
T0 core		13.0/12.7/13.1/12.7	55
Enclosure inside near the power		5.5/7.1/5.7/5.4	--
Enclosure outside near the power		4.0/5.1/4.7/4.4	20
Model IPC-6606XXX-XXXXXX (Power supply: FSP Group Inc., model FSP250-60ATV(PF))		230V ventilation opening block/230V power fan stalled/230V system fan stalled	--
Ambient		24.9°C/24.8°C/24.7°C	--
PWB near Q8		38.0/23.2/26.1	--
RTC Battery body		28.9/16.2/13.2	--
U19 body		33.3/18.1/20.4	--
CPU body		31.6/17.2/21.8	--
L16 coil		36.0/24.8/26.1	--
L6 coil		31.0/16.3/19.7	--
C51 body		28.4/13.5/17.6	--
PWB Q25 body		30.9/16.5/22.9	--
HDD body		24.9/10.2/12.4	--
CDROM body		20.1/6.0/5.4	--
FDD body		16.5/4.4/2.9	--
Power Supply		--	--
PWB near the BD1		28.9/21.3/13.8	--
FL2 coil		28.1/20.5/12.4	--
C2 body		14.2/20.4/10.1	--
FL3 coil		27.8/18.3/11.4	--
FL3 core		27.5/17.8/11.0	--
FL1 coil		28.5/22.3/13.7	--
FL1 core		28.4/20.6/12.2	--
T1 coil		15.3/22.9/11.0	100
T1 core		26.6/20.7/14.2	100
T2 coil		25.9/17.1/11.9	100
T2 core		26.2/18.7/12.5	100
T3 coil		31.1/27.1/18.0	100
T3 core		30.0/23.3/15.7	100
PWB near Q2		31.1/27.8/16.8	--
T0 coil		28.3/17.3/12.0	--

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
T0 core		28.9/18.1/12.9	--
Enclosure inside near the power		20.7/8.7/4.5	--
Enclosure outside near the power		22.8/7.3/3.7	--
Model IPC-610XXX-XXXXX (Power supply: Delta Electronics Inc., model DPS-300KBxx)		90V/254	--
CD-ROM body		11.4/9.8	--
HDD body		18.7/18.0	--
FDD body		8.1/7.7	--
CPU1 body		17.4/16.8	--
CPU2 body		31.1/30.2	--
U12 body		27.2/26.5	--
PCB under CPU2		19.1/18.8	55
C43 body		8.7/8.1	35
RAM body		13.8/13.3	--
BAT body		24.3/23.6	--
L1 coil		18.3/16.8	55
FL1 coil		20.3/17.7	55
T1 coil		17.6/16.8	40
T901 coil		17.9/18.2	55
Surface of system		5.8/6.5	20
Ambient		28.6°C/28.6°C	--
Model IPC-610XXX-XXXXX (Power supply: Delta Electronics Inc., model DPS-300KBxx)		240V stalled fan/240V blocked ventilation openings	--
CD-ROM body		42.1/18.4	--
HDD body		49.4/26.8	--
FDD body		44.3/19.6	--
CPU1 body		63.6/32.6	--
CPU2 body		70.8/41.1	--
U12 body		69.9/41.1	--
PCB under CPU2		64.7/33.8	--
C43 body		54.2/24.1	--
RAM body		59.4/29.7	--
BAT body		64.1/35.2	--
L1 coil		74.7/29.0	--
FL1 coil		69.3/43.4	--
T1 coil		93.7/31.7	100
T901 coil		109.3/37.1	--
Surface of system		31.5/10.9	--
Ambient		29.4°C/34.8°C	--
Model IPC-610XXX-XXXXX (Power supply: Delta Electronics Inc., model DPS-300GB-1)		90V/132V/180V/264V	--
U11 body		13.0/10.0/9.0/10.0	--
U21 body		9.0/7.0/7.0/7.0	--
HDD body		8.0/9.0/7.0/8.0	--
FL1 coil		23.0/19.0/18.0/18.0	55
FL2 coil		21.0/17.0/16.0/16.0	55
FL5 coil		14.0/12.0/11.0/8.0	55

IEC 60950					
Clause	Requirement + Test			Result - Remark	Verdict
L3 coil	14.0/13.0/12.0/13.0			55	
T901 coil	16.0/15.0/14.0/15.0			55	
L301 coil	16.0/15.0/14.0/15.0			55	
T1 coil	26.0/25.0/24.0/25.0			40	
PC body	5.0/6.0/3.0/4.0			20	
Ambient	26.0°C/26.0°C/25.0°C/25.0°C			--	
Model IPC-610XXX-XXXXX (Power supply: Power Research Technology Co., Ltd., model PRM401PFC)	90V/132V/180V/264V			--	
U11 body	10.0/10.0/9.0/9.0			--	
U21 body	8.0/9.0/8.0/8.0			--	
HDD body	7.0/7.0/6.0/6.0			--	
L2 coil	22.0/18.0/16.0/15.0/			55	
NF1 coil (on main board)	16.0/12.0/10.0/8.0			55	
L1 coil (on main board)	18.0/14.0/11.0/8.0			55	
T1 coil	9.0/9.0/8.0/8.0			40	
T2 coil	25.0/25.0/24.0/24.0/			40	
NF1 (on inlet board)	11.0/9.0/7.0/6.0			55	
PC body	3.0/3.0/2.0/2.0			20	
FDD body	5.0/5.0/4.0/4.0			--	
Ambient	26.0°C/26.0°C/26.0°C/26.0°C			--	
temperature rise dT of winding:	R ₁ (Ω)	R ₂ (Ω)	dT (K)	required dT (K)	insulation class
--	--	--	--	--	--
supplementary information:					
Without specified ambient temperature in users manual, therefore the ambient temperature assumed as 50°C, the max. temperature rise is calculated as follows:					
Winding components:					
- Transformer, Class A: dT _{max} = 75K - 10K-(50-25)K = 40 K					
Components with:					
- max. absolute temp. of 85°C (Electrolyte capacitor): dT _{max} = (85-50)K = 35 K					
- max. absolute temp. of 105°C (Cap., Line choke, PWB): dT _{max} = (105-50)K = 55 K					
User Accessible Area:					
- material is metal (45K) dT _{mx} = 45K-(50-25)K = 20K					

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
Primary to Secondary		4242 Vdc	No
Primary to Earth		3000 Vdc	No
supplementary information:			
N/A			

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: fault condition tests					Pass
	ambient temperature (°C) :				25	—
	model/type of power supply..... :				See appended table 1.5.1	—
	manufacturer of power supply..... :				See appended table 1.5.1	—
	rated markings of power supply :				See appended table 1.5.1	—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
Model IPC-610XXX-XXXXY (Power supply: FSP Group Inc., model FSP250-60ATV(PF))	--	--	--	--	--	--
Ventilation openings	Blocked	230 / 60Hz	2.0 hrs	--	--	NB, NC, NT, (see 4.5.1 Heating Test for details)
Power fan	Stalled	230 / 60Hz	2.0 hrs	--	--	NB, NC, NT, (see 4.5.1 Heating Test for details)
system fan	Stalled	230 / 60Hz	1.5 hrs	--	--	NB, NC, NT, (see 4.5.1 Heating Test for details)
Model IPC-6606XXX-XXXXX (Power supply: FSP Group Inc., model FSP250-60ATV(PF))	--	--	--	--	--	--
Ventilation openings	Blocked	230 / 60Hz	2.0 hrs	--	--	NB, NC, NT, (see 4.5.1 Heating Test for details)
Power fan	Stalled	230 / 60Hz	2.5 hrs	--	--	NB, NC, NT, (see 4.5.1 Heating Test for details)
system fan	Stalled	230 / 60Hz	1.5 hrs	--	-	NB, NC, NT, (see 4.5.1 Heating Test for details)

IEC 60950						
Clause	Requirement + Test			Result - Remark		Verdict
Model IPC-610XXX-XXXXY (Power supply: Delta Electronics Inc., model DPS-300KBxx)	--	--	--	--	--	--
Fan	Stalled	240 / 60Hz	660 min	--	--	NB, NC, NT, (see 4.5.1 Heating Test for details)
Ventilation openings	Blocked	240 / 60Hz	590 min	--	-	NB, NC, NT, (see 4.5.1 Heating Test for details)
Print port pin1	Overload	240 / 60Hz	1 hr	--	--	NC, NT, NB
Print port pin2-9	Overload	240 / 60Hz	-	--	--	C
Print port pin10-13	Overload	240 / 60Hz	1 sec	--	--	B
Print port pin14	Overload	240 / 60Hz	1 hr	--	--	NC, NT, NB
Print port pin15	Overload	240 / 60Hz	1 sec	--	--	B
Print port pin16	Overload	240 / 60Hz	-	--	--	C
Print port pin17	Overload	240 / 60Hz	1 hr	--	--	NC, NT, NB
Print port pin18-25	Overload	240 / 60Hz	-	--	--	C
RJ45 pin1-8	Overload	240 / 60Hz	-	--	--	C
COM 1, 2 pin1-2	Overload	240 / 60Hz	-	--	--	C
COM 1, 2 pin3-4	Overload	240 / 60Hz	1 sec	--	--	B
COM 1, 2 pin5-6	Overload	240 / 60Hz	-	--	--	C
COM 1, 2 pin7	Overload	240 / 60Hz	1 sec	--	--	B
COM 1, 2 pin8-9	Overload	240 / 60Hz	-	--	--	C
VGA pin1-8	Overload	240 / 60Hz	-	--	--	C
VGA pin9	Overload	240 / 60Hz	1hr	--	--	NC, NT, NB
VGA pin10-11	Overload	240 / 60Hz	-	--	--	C
VGA pin12	Overload	240 / 60Hz	1 sec	--	--	B
VGA pin13	Overload	240 / 60Hz	1 hr	--	--	NC, NT, NB

IEC 60950						
Clause	Requirement + Test			Result - Remark		Verdict
VGA pin14	Overload	240 / 60Hz	-	--	--	C
VGA pin15	Overload	240 / 60Hz	1 sec	--	--	B
Keyboard pin1	Overload	240 / 60Hz	-	--	--	C
Keyboard pin2	Overload	240 / 60Hz	1 hr	--	--	NC, NT, NB
Keyboard pin3-4	Overload	240 / 60Hz	1 sec	--	--	B
Keyboard pin5-6	Overload	240 / 60Hz	-	--	--	C
Mouse pin1	Overload	240 / 60Hz	-	--	--	C
Mouse pin2	Overload	240 / 60Hz	1 hr	--	--	B
Mouse pin3-4	Overload	240 / 60Hz	1 sec	--	--	B
Mouse pin5-6	Overload	240 / 60Hz	-	--	--	C
supplementary information:						
NB - No indication of dielectric breakdown NC - Cheesecloth remained intact NT - Tissue paper remained intact B - Circuit measures less than 12.5 mA C - Circuit measures O Volts						

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 $t_2 + t_3$	
supplementary information:			

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 $t_2 + t_3$	
supplementary information:			

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)
supplementary information:				

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
supplementary information:				

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)
supplementary information:				

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)	
supplementary information:			

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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)	
supplementary information:			

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)
supplementary information:					

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)
supplementary information:					

Enclosure

National Differences

(Total 31 Pages including this Cover Page)

Argentina
Australia / New Zealand
Austria**
Belgium**
China*
Czech Republic*
Denmark
Finland
France**
Germany
Greece**
Group
Hungary*
India*
Ireland
Israel*
Italy**
Japan
Korea
Netherlands**
Norway
Poland*
Russia*
Slovakia*
Slovenia*
South Africa*
Spain
Sweden
Switzerland
USA / Canada
United Kingdom
Yugoslavia*

* No National Differences Declared

** Only Group Differences

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Argentina - Differences to IEC60950, Third Edition (1999)			
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.	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	N/A
1.7.12	Language of safety markings/instructions is Spanish	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	N/A
General	Household power supply sources are 220 V a.c., 50 Hz		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Australia / New Zealand - Differences to IEC60950, Third Edition (1999)			
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".		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		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					
SubClause	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 are a in mm2)		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]		
*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).					
NOTE 1: AWG and kcmil sizes are provided for information only. These items are commonly used to designate wire sizes in North America.					
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.		N/A		

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
4.3.6	<p>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.</p> <p>The additional torque to be applied to maintain the engagement face in the vertical plane shall not exceed 0.25 Nm</p>		N/A
4.3.13	For the purpose of this standard compliance with AS/NZS 2211.1 is deemed to be compliance with IEC60825.1	evaluated in seperate component evaluation.	N/A
4.7	Add after the clause: For alternative resistance to fire test methods, refer to AS/NZS, Annex YY.		N/A
6.2.2	<p>Replace the first paragraph by:</p> <p>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.</p>		N/A
6.2.2.1	<p>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, U_c is:</p> <p>- for 6.2.1a): 7.0 kV for hand-held telephones and for headsets; 2.5 kV for other equipment;</p> <p>-for 6.2.1b) and 6.2.1c): 1.5 kV.</p> <p>NOTES:</p> <p>1. The 7 kV impulse is to simulate lightning surges on typical Australian rural and semi-rural network lines.</p> <p>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.</p>		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
6.2.2.2	<p>In Australia, the electrical separation is subjected to an electric strength test according to 5.2.2.</p> <p>The a.c. test voltage is:</p> <p>-for 6.2.1a): 3 kV -for 6.2.1b) and 6.2.1c): 1.5 kV</p> <p>NOTES:</p> <p>1. Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>2. The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Denmark - Differences to IEC60950, Third Edition (1999)			
1.2.4.1	Certain types of Class I appliances (see sub-clause 3.2.1) may be provided with plug not establishing earthing continuity when inserted into Danish socket-outlets.		N/A
1.7.2	Supply cords of Class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text: "Vigtigt ! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket (IEC 417, No. 5019) eller (IEC 417, No. 5017)." If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning".	There is no such power cord 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.		N/A
1.7.5.b	Class II equipment shall not be fitted with socket-outlets for providing power to other equipment.		N/A
1.7.15	Caution text concerning lithium batteries: ADVARSEL! Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren. 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.	See Enclosure-Miscellaneous.	Pass

IEC 60950			
SubClause	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>	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 is determined by the country's local Certification Body.	N/A
Finland - Differences to IEC60950, Third Edition (1999)			
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE - EQUIPMENT TYPE B only.		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Germany - Differences to IEC60950, Third Edition (1999)			
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
H.a	a) A license is required by those who operate an X-ray emission source		N/A
H.b	<p>b) A license in accordance with Clause 1 is not required by those who operate an Xray 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) Xrays are generated and</p> <p>ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer</p>		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
H.c	<p>c) A license in accordance with Clause 1 is also not required by persons who operate a X-ray emission source on which the electron acceleration voltage exceeds 20 kV if:</p> <ul style="list-style-type: none">1) The X-ray emission source has been granted a type approval and2) It is adequately indicated on the X-ray emission source that<ul style="list-style-type: none">i) X-rays are generatedii) 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 andiii) the electron acceleration voltage not exceed the maximum value stipulated by the manufacturer or importer		N/A
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> <ul 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			
SubClause	Difference + Test	Result - Remark	Verdict

Group - Differences to IEC60950, Third Edition (1999)			
2.7.1	Replace the text of this Sub-Clause by: Basic requirements To protect against excessive current, short circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b), and c)	Investigated as an element of power supply certification.	Pass
2.7.1.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	Investigated as an element of power supply certification.	Pass
2.7.1.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
2.7.1.c	c).It is permitted for PLUG GABLE 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
2.7.1.c	If reliance is placed on protection in the building installation. the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building Installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A
2.7.2	This subclause has been declared 'void'		N/A
3.2.3	Delete NOTE 1, and in table 3A delete the conduit sizes in parentheses.		N/A
3.2.5	Replace as follows: "60245 IEC 53" by "H05 RR-F" "60227 IEC 52" by "H03 VV-F or H03 VVH2-F" "60227 IEC 53" by "H05 VV-F or H05 VVH2-F"		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Q	<p>Add the following notes for the standards indicated:</p> <p>IEC 60127 series NOTE. Harmonized as EN 60127 series (not modified)</p> <p>IEC 60529 NOTE: Harmonized as EN 60529: 1991 (not modified)</p> <p>IEC 61032 NOTE: Harmonized as EN 61032: 1998 (not modified)</p>		N/A
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Ireland - Differences to IEC60950, Third Edition (1999)			
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.	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 is determined by the country's local Certification Body.	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.		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Japan - Differences to IEC60950, Third Edition (1999)			
1.2.4.101	Addition: Definition of CLASS 0I EQUIPMENT	The unit cannot use in the Class 0I application.	N/A
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"		N/A
1.7.101	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"		Pass
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:"		Pass

IEC 60950			
SubClause	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
2.6.101	For plugs with a lead wire for earthing, the lead wire is not earthed by a clip		N/A
2.6.101	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, 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
4.5.1	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 3rd 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			
SubClause	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
U.2.2	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			
SubClause	Difference + Test	Result - Remark	Verdict

Korea - Differences to IEC60950, Third Edition (1999)			
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	It should be provided when national approval.	N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Norway - Differences to IEC60950, Third Edition (1999)			
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.		N/A
2.3.3	Requirements according to sub-clause 6.1.2.1 apply for this clause.		N/A
2.3.4	Requirements according to sub-clauses 1.7.2 and 6.1.2.1 apply for this clause.		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.		N/A
6.1.2.1	<p>Note 2.</p> <p>Add the following text between the first and second paragraph:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0.4 mm, which shall pass the electric strength test below. 		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
6.1.2.1	<p>If this insulation forms part of a semiconductor component e.g. an optocoupler, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition:</p> <ul style="list-style-type: none">- passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1.5 kV multiplied by 1.6 (the electric strength test of 2.10.7 shall be performed using 1.5 kV): and- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1.5 kV.		N/A
6.1.2.1	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
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.		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Spain - Differences to IEC60950, Third Edition (1999)			
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>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 is determined by the country's local Certification Body.</p>	N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

Sweden - Differences to IEC60950, Third Edition (1999)			
1.5.1	Add the following: NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed.		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".	The separation between the mains and a SELV terminal does not rely upon connection to safety earth.	N/A
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.		N/A
6.1.2.1	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
6.1.2.1	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE-EQUIPMENT TYPE B only.		N/A
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Switzerland - Differences to IEC60950, Third Edition (1999)			
1.5.1	Add the following: NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.15	Annex 4.10 of SR 814.013 (Ordinance on environmentally hazardous substances) applies for batteries.	It should be considered in national approval.	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.	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 is 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).		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

USA / Canada - Differences to IEC60950, Third Edition (1999)			
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part1.		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
1.1.2	Special requirements apply to equipment intended for use outdoors		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
1.5.1	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		Pass
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector		N/A
1.5.5	External cable assemblies which exceed 3.05 m in length to be types specified in the NEC and CEC		N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable		N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope		N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233		N/A
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
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
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
1.7.6	Lamp replacement information indicated on lampholder in operator access area		N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor		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		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.		N/A
2.3.1.b	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
2.3.1.b	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		N/A
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
2.5	VA for limited power source measured after 60 s of operation		N/A
2.6	Protective earthing terms applied per CEC, Part 1, Sec. 0 and NEC Art. 100		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
2.6	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
2.6.3.3	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		Pass
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the appliance		N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1		N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring		N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards		N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating		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		N/A
3.1.1	Permissible combinations of internal wiring/external cable sizes for overcurrent and short circuit protection		N/A
3.1.1	All interconnecting cables protected against overcurrent and short circuit		N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1		N/A
3.2.1	Permitted use for flexible cords and plugs		Pass
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating		Pass

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
3.2.1	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		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		N/A
3.2.3	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		N/A
3.2.3	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate		N/A
3.2.3	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
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables		N/A
3.2.5	Length of power supply cord 1.5 to 4.5 m unless shorter length used when intended for a special installation		Pass
3.2.5	Conductors in power supply cords sized according to NEC and CEC, Part I		Pass
3.2.5	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		N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment to properly make the field connections		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
3.3	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

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
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
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating		N/A
3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used		N/A
3.3.6	Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor		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
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
3.3.8	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 with motor rated more than 1/3 hp or more than 120 V		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	Not connect to centralized DC power system.	N/A
3.6	Earthing of d.c. powered equipment provided		N/A
3.6	Overcurrent and earth fault protection in accordance with 2.7 either provided in equipment or as part of building installation		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
3.6	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
3.6	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
3.6	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
3.6	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment		N/A
3.6	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
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more		N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion		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	619.36 N force applied for Model IPC-610 series	Pass
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment comply with UL 1310 or CSA 223 mechanical assembly requirements		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment comply with ANSI/NFPA 30(Table NAE. 7)		N/A
4.3.12	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
4.3.13	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370)	evaluated in seperate component evaluation.	N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
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
4.7.3	Low smoke-producing characteristics evaluated according to UL 2043		N/A
4.7.3	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, rated VW-1 or FT-1 (where needed).	Pass
5.1.8.1.1	Touch current due to ringing voltage for equipment containing telecommunication network leads		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
5.1.8.2	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		Pass
5.3.6	Tests interrupted by opening of a component repeated two additional times		N/A
5.3.8.1	Test interrupted by opening of wire or trace continued by shorting gap		N/A
6	Specialized instructions, as appropriate, provided for equipment which may be connected to a telecommunications network		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
6	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		N/A
6.2.1	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		N/A
6.3	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)		N/A
6.4	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		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 marked with suitable instructions		N/A
Annex NAC	Equipment intended for use with a specific primary or secondary protector marked with suitable instructions		N/A

IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict

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		N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations		N/A
M.4	Special requirements for message waiting and similar telecommunications signals		N/A

United Kingdom - Differences to IEC60950, Third Edition (1999)			
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.	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 is 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

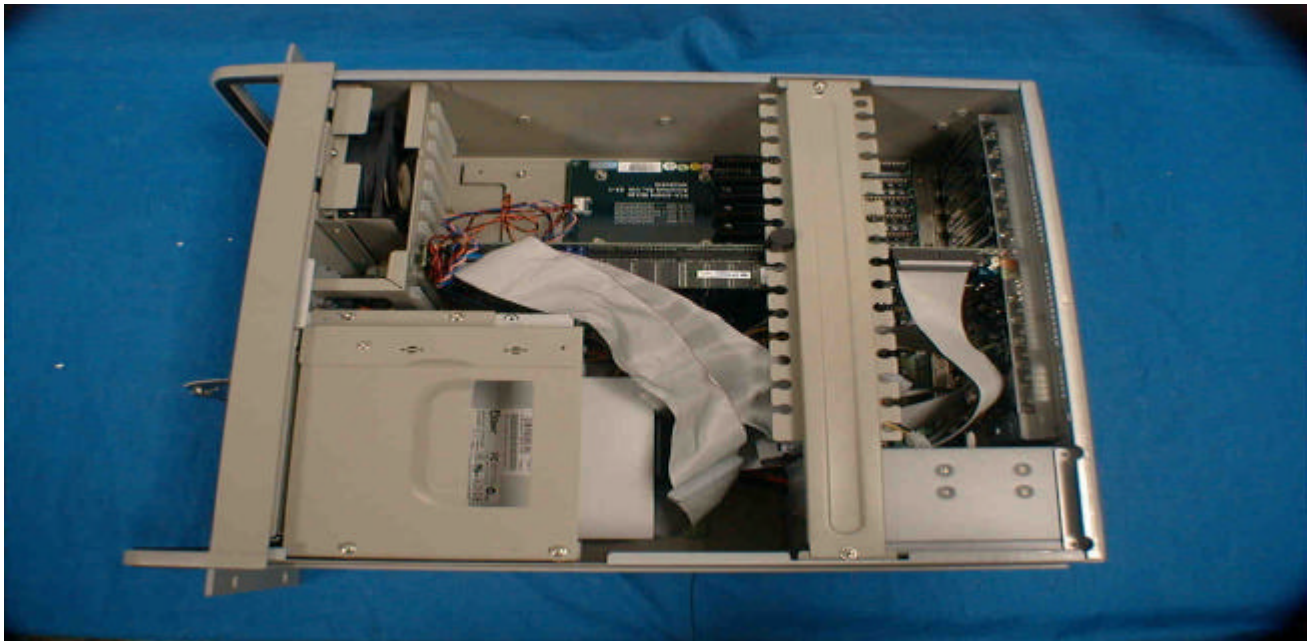
Enclosure **Photographs**

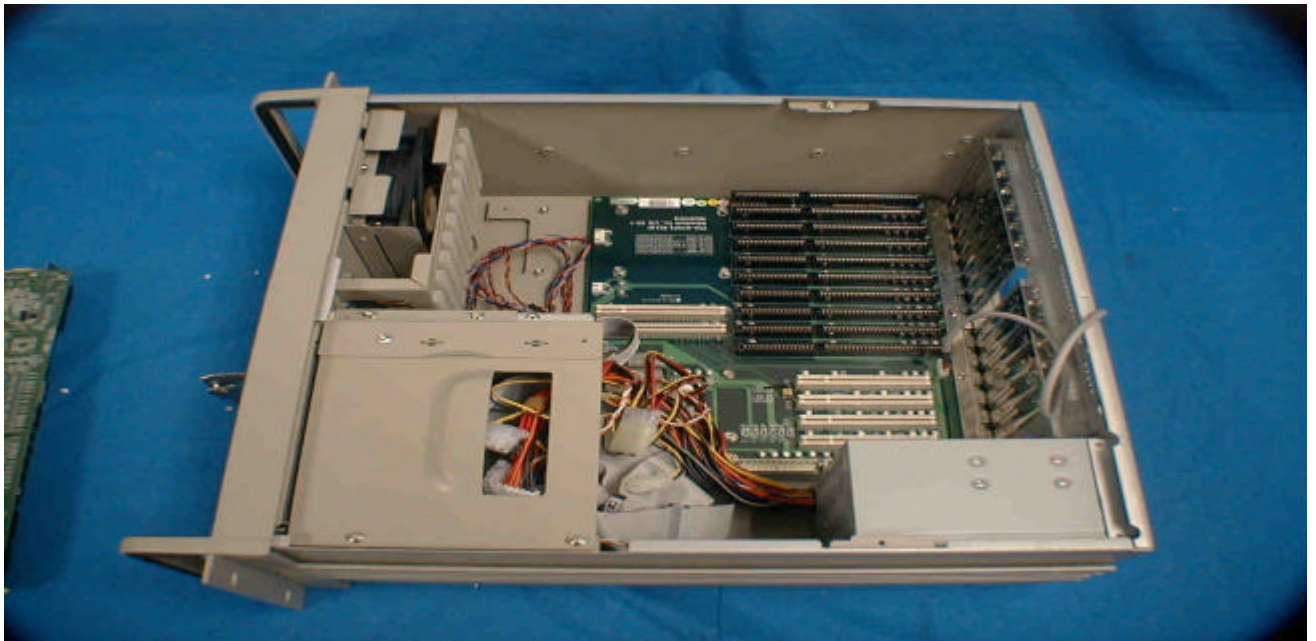
(Total 11 Pages including this Cover Page)

Supplement Id	Description
3-01	Front view of Model IPC-610 series
3-02	Rear view of Model IPC-610 series
3-03	Internal view of Model IPC-610 series with mainboard
3-04	Internal view of Model IPC-610 series without mainboard
3-05	Front view of Model IPC-6606 series
3-06	Rear view of Model IPC-6606 series
3-07	Internal view of Model IPC-6606 series with mainboard
3-08	Internal view of Model IPC-6606 series without mainboard
3-09	Interior mainboard-1
3-10	Interior mainboard-2



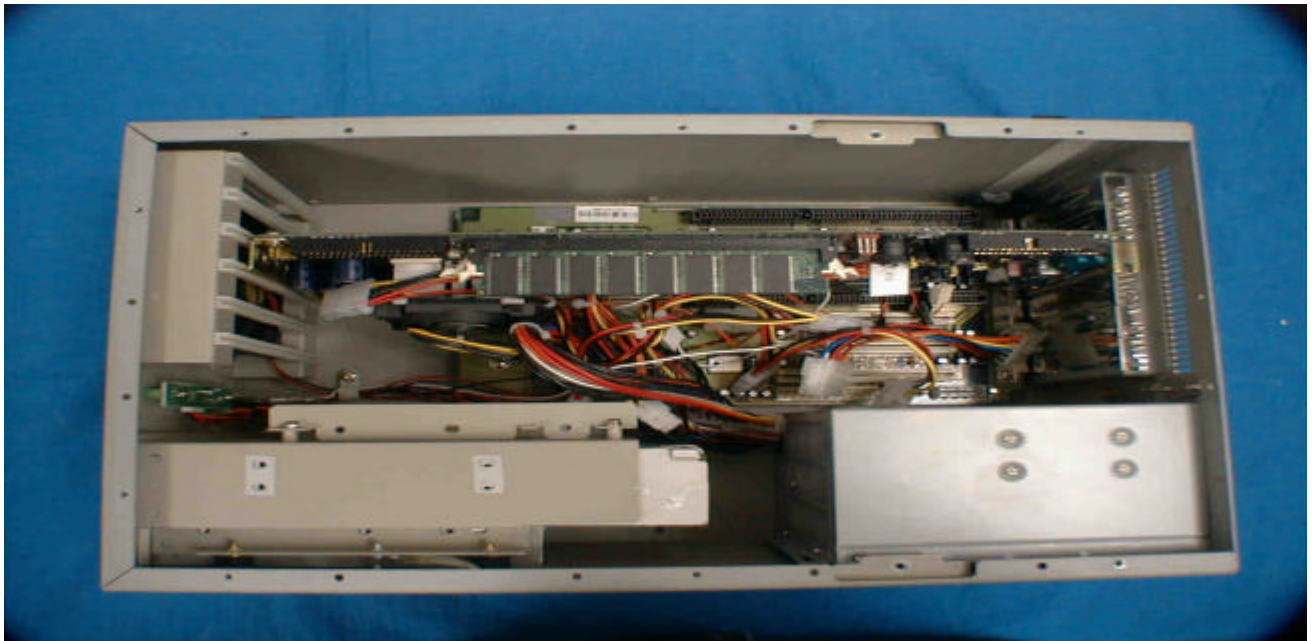




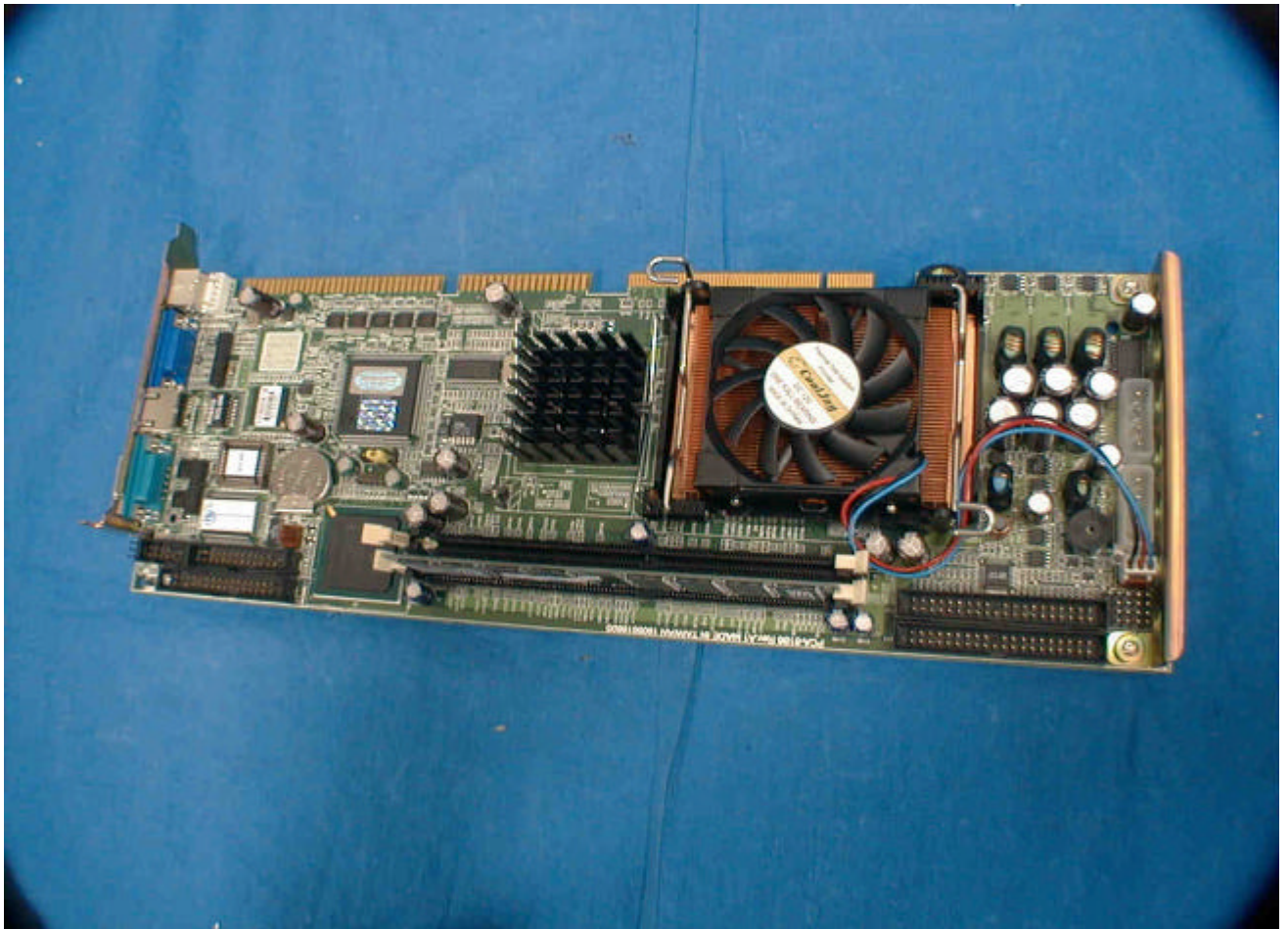














Enclosure
Miscellaneous

(Total 2 Pages including this Cover Page)

Supplement Id	Description
7-01	Label

ADVANTECH[®]

ADVANTECH CO., LTD.
<http://www.advantech.com>
MADE IN TAIWAN

Industrial Computer

MODEL NO: IPC-610XXX-XXXXX

INPUT:115/230Vac, 50/60Hz, 10/5.5A



LISTED
I.T.E
E180881



Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

This device complies with the requirements in part 15 of the FCC rule: Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

ADVARSEL!

**Lithiumbatteri - Eksplosionsfare ved fejlagtig
håndtering.**

**Udskiftning må kun ske med batteri af samme
fabrikat og type.**

Lever det brugte batteri tilbage tilleverandoren.