SPECIFIC INSPECTION CRITERIA

BA1.0	**Special Instructions to UL Representative**
BA1.1	N/A

BB1.0	**Supporting Documentation**
BB1.1	The following documents located at the beginning of this Procedure supplement the requirements of this Test Report: A. Authorization - The Authorization page may include additional Factory Identification Code markings. B. Generic Inspection Instructions - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report. ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report. ii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

BC1.0	**Markings and instructions**	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL60950, Third Edition (2000).	
Standard Clause	Clause Title	Marking or Instruction Details
1.7.1	Power rating - Ratings	Ratings (voltage, frequency/dc, current)
	Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File
	Power rating - Model	Model Number
1.7.6	Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
1.7.8.3	Symbols - On/Off switch	All other controls to be marked with I for "ON" (60417-2-IEC-5007) and O for "OFF" (60417-2-IEC-5008)
1.7.15	Replaceable batteries	"CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions."

BD1.0	**Production-Line Testing Requirements**
BD1.1	Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.

Model	Component	Removable Parts	Test probe location	Test Potential V rms	Test Potential V dc	Test Time, s
N/A						

BD1.2	Earthing Continuity Test Exemptions - This test is not required for the following models:
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:
BD1.4	Electric Strength Test Component Exemptions - The following solid-state components may disconnected from the remainder of the circuitry during the performance of this test:

BE1.0	**Sample and Test Specifics for Follow-Up Tests at UL**
BE1.1	

Model	Component	Material	Test	Sample(s)	Test Specifics
N/A					

SPECIFIC TECHNICAL CRITERIA

UL 60950 Safety of information technology equipment	
Report Reference No........................:	E180881-A7-UL-1
Compiled by ....:	Derek Chen
Reviewed by ....:	Yasli Tsai
Date of issue ....:	2004-07-02
Standards ....:	UL60950, Third Edition (2000) CAN/CSA-C22.2 No. 60950-00, Third Edition (2000)
Test procedure ....:	Listing
Non-standard test method ....:	N/A
Test item description ....:	Industrial Computer
Trademark ....:	ADVANTECH
Model and/or type reference ....:	IPC-611XX-XXXXX, IPC-611XXL-ACN and IPC-610XXX-XXL, Where the X may be any alphanumeric character or blank.
Rating(s) ....:	115/230 Vac, 60/50 Hz, 9/5 A

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) ....:	16.6
Protection against ingress of water ....:	IP20
Possible test case verdicts:	
- test case does not apply to the test object ....:	N / A
- test object does meet the requirement ....:	Pass
- test object does not meet the requirement ....:	Fail (acceptable only if a corresponding, less stringent national requirement is "Pass")
General remarks:	
- "(see Enclosure #)" refers to additional information appended to the Test Report	
- "(see appended table)" refers to a table appended to the Test Report	
- Throughout the Test Report a point is used as the decimal separator	

General Product Information:		
CA1.0	**Report Summary**	
CA1.1	N/A	
CB1.0	**Product Description**	
CB1.1	- Power Supply, motherboard and optional provided HDD, CD-ROM, FDD with CPU housed in metal enclosures.	
CC1.0	**Model Differences**	
CC1.1	Models IPC-611XXL-ACN and IPC-610XXX-XXL are similar to original models IPC-611XX-XXXXX except for SELV circuit and model designation.	
CD1.0	**Additional Information**	
CD1.1	N/A	
CE1.0	**Technical Considerations**	
CE1.2	The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tmra) of:	40°C
CE1.3	The power supply means are:	Detachable power cord, Pluggable A or B
CE1.4	The product is intended for use on the following systems:	TN
CE1.5	The equipment disconnect device is considered to be:	Appliance inlet

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

1	**GENERAL**		Pass

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)..............:	60/50	Pass
	Rated current (A)...:	9/5 A	Pass
	Manufacturer's name/Trademark ....:	Advantech Co., Ltd. / ADVANTECH	Pass
	Type/model..:	IPC-611XX-XXXXX, IPC-611XXL-ACN and IPC-610XXX-XXL, Where the 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 ....:		N/A
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
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

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict
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

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 accessible SAPS is covered by earthed metal enclosure. 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
2.1.1.6	Manual controls	The equipment does not contain any knobs, handles, levers, or the like.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

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 verification 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		Pass
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition		Pass
	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) ....:	Uoc=5.07 V, Isc=2.33 A, VA=8.93	-
	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 (mm²), AWG ....:	9 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 (mm²), 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 = 30A Resistance < 0.1ohm	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.	Pass
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.	Pass
2.9.2	Humidity conditioning		N/A
2.9.3	Requirements for insulation		N/A
2.9.4	Insulation parameters		Pass
2.9.5	Categories of insulation	Functional	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 <=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

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
	10 N pull test		N/A
3.1.10	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 (mm²),AWG ....:	9 A, 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

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) ....:		N/A
4.3.3	Adjustable controls		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	The equipment is provided with a replaceable lithium battery protected.	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
	Equipment using lasers	Investigated during separate component certification.	N/A

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

4.4	**Protection Against Hazardous Moving Parts**		Pass
4.4.1	General	Equipment does not have any hazardous moving parts.	N/A
4.4.2	Protection in operator access areas	Fan guard used.	Pass
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Dimensions (mm) ....:	Metal, two pieces construction, overall 482 by 480 by 177 mm high, 1.2 mm thick minimum, secured together by mechanical fit and screws. Also provided with ventilation opening as described below. Front side: Provided with numerous openings, each opening measured 19.6 by 2.9 mm, covering one area of 108 by 115.3 mm. Rear side: Provided with numerous openings, each opening measured 19.7 by 2.9 mm, covering one area of 260 by 19.7 mm. Also provide with numerous openings for one additional dc cooling fan, measured maximum 11.2 by 6.3 mm. Alternate enclosure - Metal, two pieces construction, overall 482 by 480 by 177 mm high, 1.2 mm thick minimum, secured together by mechanical fit and screws. Also provided with ventilation opening as described below. Front side: Provided with numerous openings, each opening measured 19.6 by 2.9 mm, covering one area of 108 by 115.3 mm. Rear side: Provided with numerous openings, each opening measured 19.7 by 2.9 mm, covering one area of 260 by 19.7 mm. Also provide with numerous openings for one additional dc cooling fan, measured maximum 11.2 by 6.3 mm. Alternate- Same as above except for not providing ventilation openings for additional dc cooling fan on rear side.	-

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Clause	Requirement + Test	Result - Remark	Verdict

4.6.2	Bottoms of fire enclosures	No bottom opening provided.	Pass
	Construction of the bottom ....:		-
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..............................:		-

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

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Clause	Requirement + Test	Result - Remark	Verdict

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass

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) ....:	254/60 Hz	-
	Measured current (mA) ....:	Max, 0.70mA	-
	Max. allowed current (mA) ....:	3.5mA	-
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

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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 between the phases before the fuse complies with method (a), other operation insulation complies with method (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults	Blocked ventilation openings test: Result see appended table. Fan stalled test: Result see appended table. Connector overload test: Result see appended table. See appended table for other details.	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

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

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Clause	Requirement + Test	Result - Remark	Verdict

6.2	**Protection of Equipment Users From Overvoltages on Telecommunication Networks**		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

6.3	**Protection of Telecommunication Wiring System From Overheating**		N/A
	Max. output current (A) ....:		-
	Current limiting method ....:		-

A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A

A.1	**Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)**		N/A
A.1.1	Samples, material..:		-
	Wall thickness (mm)..:		-
A.1.2	Conditioning of samples; temperature (°C)............:		N/A
A.1.3	Mounting of samples ....:		N/A
A.1.4	Test flame		N/A
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s) ....:		-
	Sample 2 burning time (s) ....:		-
	Sample 3 burning time (s) ....:		-

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Clause	Requirement + Test	Result - Remark	Verdict

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).......................................:		-

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) ....:		-

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Clause	Requirement + Test	Result - Remark	Verdict

A.4	**Hot wire ignition test (see 4.7.3.2)**		N/A
A.4.1	Samples, material...:		-
	Wall thickness (mm)...:		-
A.4.5	Compliance criteria		N/A
	Sample 1 ignition time (s)....................................:		-
	Sample 2 ignition time (s)....................................:		-
	Sample 3 ignition time (s)....................................:		-
	Sample 4 ignition time (s)....................................:		-
	Sample 5 ignition time (s)....................................:		-

A.5	**Hot flaming oil test (see 4.6.2)**		N/A

A.6	**Flammability tests for classifying materials V-0, V-1 or V-2**		N/A
A.6.1	Samples, material...:		-
	Wall thickness (mm)...:		-
A.6.5	Compliance criteria		N/A
A.6.6	Permitted retest		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

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) ....:		-

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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) ....:		-

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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...:		-

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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

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical components					Pass
Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
Power Supply	Delta	DPS-300GB-1XX	Input: 100-127/ 200-240Vac, 9/ 4.5A, 60/50Hz. Output: +12Vdc/15A, +5Vdc/28A, +3.3Vdc/30A, -12Vdc/0.8A, -5Vdc/0.3A, +5VSB/2A	QQGQ2	UL	3-16
Power Supply	FSP	FSP250-60ATV, FSP250-60ATV (PF)	Input: 115/230Vac, 9/ 5A, 60/50Hz. Output: +12Vdc/13A, +5Vdc/27A, +3.3Vdc/20A, -12Vdc/0.8A, -5Vdc/0.3A, +5VSB/2A	QQGQ2	UL	3-16
Alternate, Power Supply	FSP Group Inc.	FSP300-60PLN(3)	I/P: 100-240 Vac, 50-60 Hz, 10A. O/P: +5V/30A, -5V/0.3A, +12V/18A, -12V/0.8A, +3.3V/28A, +5Vsb/2.0A	QQGQ2	UL	3-16
Hard Disk (Optional)	Various	--	+5/+12Vdc, 1.5/1.8A maximum.	NWGQ2	UL	3-16
Floppy Disk (Optional)	Various	--	+5/+12Vdc, 1.5/1.8A maximum.	NWGQ2	UL	3-16
CD-ROM Drive (Optional)	Various	--	+5/+12Vdc, 1.5/1.8A maximum.	NWGQ2	UL	3-16

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RTC Battery (BT1 for main board P/N: PCA-6178) (BAT1 for main board P/N: SMB-2501)	Rayvoas	BR2032	3.0Vdc, 190mAh, Max. Abnormal Charging Current 4 mA	BBCV2	UL	3-16
RTC Battery (BT1 for main board P/N: PCA-6178) (BAT1 for main board P/N: SMB-2501)	Rayvoas	BR2335	3.0Vdc, 300mAh, Max. Abnormal Charging Current 5 mA	BBCV2	UL	3-16
DC Fan	Delta	EFB1212H	+12Vdc, 0.27A, 82.28 CFM	GPWV2	UL	3-16
DC Fan	Delta	AFB1212SH	+12Vdc, 0.53A, 113.06 CFM	GPWV2	UL	3-16
DC Fan	Rotechnic	MGA12012HB-O25	+12Vdc, 0.45A, 87.85 CFM	GPWV2	UL	3-16
DC Fan	Adda	AD1212HB-A71GL	+12Vdc, 0.37A, 85.20 CFM	GPWV2	UL	3-16
Alternate, System Fan	Delta electronics inc	AFB1212H	12Vdc, 0.35A max., 74.41CFM min.	GPWV2	UL	3-16
Alternate, System Fan	Delta electronics inc	EFB1212SH	12Vdc, 0.75A max., 102.06CFM min.	GPWV2	UL	3-16
Alternate, System Fan	Yate Loon Electronics Co., Ltd.	D12BH-12	12Vdc, 0.3A max., 77.2CFM min.	GPWV2	UL	3-16
CPU Fan	Sanyo	109X9412T5H036	+12 Vdc, 0.16A	GPWV2	UL	3-16
CPU Fan	Yen Sun	FD1250109B-2A	+12 Vdc, 2.16W	GPWV2	Ul	3-17
CPU Fan	Everflow Precision Industrial Co., Ltd.	R126010BU	+12 Vdc, 0.25A	GPWV2	Ul	3-16
Enclosure	--	--	Metal	--	UL	3-13
Polyswitch	Tyco Raychem Div.	miniSMDC110	8Vdc, 2.2A	XGPU2	UL	3-16

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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
--	--	103V/50Hz	136.8	1354	1354	Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: SMB-2501.
--	--	103V/60Hz	137.4	1386	1386	Same as above
--	9	115V/50Hz	135.8	1250	1250	Same as above
--	9	115V/60Hz	136.2	1265	1265	Same as above
--	--	127V/50Hz	134.3	1112	1112	Same as above
--	--	127V/60Hz	135.4	1165	1165	Same as above
--	--	207V/50Hz	125.6	723	723	Same as above
--	--	207V/60Hz	129.8	738	738	Same as above
--	5	230V/50Hz	126.7	657	657	Same as above
--	5	230V/60Hz	130.1	671	671	Same as above
--	--	253V/50Hz	126.5	601	601	Same as above
--	--	253V/60Hz	129.5	640	640	Same as above
--	--	103V/50Hz	141.6	1436	1436	Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: PCA-6178.
--	--	103V/60Hz	142.1	1418	1418	Same as above
--	9	115V/50Hz	143.3	1287	1287	Same as above
--	9	115V/60Hz	142.1	1282	1282	Same as above
--	--	127V/50Hz	141.5	1198	1198	Same as above
--	--	127V/60Hz	142.5	1204	1204	Same as above
--	--	207V/50Hz	138.0	763	763	Same as above
--	--	207V/60Hz	138.4	763	763	Same as above
--	5	230V/50Hz	136.1	700	700	Same as above
--	5	230V/60Hz	136.4	701	701	Same as above
--	--	253V/50Hz	132.8	650	650	Same as above
--	--	253V/60Hz	133.4	646	646	Same as above
--	--	103V/50Hz	128.4	1525	1525	Power Supply: FSP Group Inc., Type FSP250-60ATV, Main Board: SMB-2501.
--	--	103V/60Hz	127.6	1520	1520	Same as above
--	9	115V/50Hz	127.4	1428	1428	Same as above
--	9	115V/60Hz	128.3	1416	1416	Same as above
--	--	127V/50Hz	128.7	1387	1387	Same as above
--	--	127V/60Hz	128.7	1373	1373	Same as above
--	--	207V/50Hz	122.8	865	865	Same as above
--	--	207V/60Hz	123.1	861	861	Same as above
--	5	230V/50Hz	124.7	823	823	Same as above
--	5	230V/60Hz	123.4	820	820	Same as above
--	--	253V/50Hz	125.1	787	787	Same as above
--	--	253V/60Hz	125.7	769	769	Same as above

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--	--	103V/50Hz	129.6	1502	1502	Power Supply: FSP Group Inc., Type FSP250-60ATV, Main Board: PCA-6178.
--	--	103V/60Hz	129.0	1486	1486	Same as above
--	9	115V/50Hz	131.2	1412	1412	Same as above
--	9	115V/60Hz	130.6	1402	1402	Same as above
--	--	127V/50Hz	135.8	1356	1356	Same as above
--	--	127V/60Hz	136.2	1348	1348	Same as above
--	--	207V/50Hz	127.6	782	782	Same as above
--	--	207V/60Hz	126.8	786	786	Same as above
--	5	230V/50Hz	127.8	712	712	Same as above
--	5	230V/60Hz	128.2	716	716	Same as above
--	--	253V/50Hz	130.1	670	670	Same as above
--	--	253V/60Hz	131.3	674	674	Same as above
--	--	103V/50 Hz	121.6	1226	1226	Maximum Normal Load
--	--	103V/60 Hz	121.5	1217	1217	Maximum Normal Load
--	9	115V/50 Hz	120.5	1082	1082	Maximum Normal Load
--	9	115V/60 Hz	120.8	1087	1087	Maximum Normal Load
--	5	230V/50 Hz	116.3	553	553	Maximum Normal Load
--	5	230V/60 Hz	116.2	566	566	Maximum Normal Load
--	--	253V/50 Hz	116.3	518	518	Maximum Normal Load
--	--	253V/60Hz	116.2	532	532	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:				

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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)
Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: SMB-2501.	103 Vac, 60Hz / 127 Vac, 60 Hz / 207 Vac, 60 Hz / 254 Vac, 60 Hz / 230 Vac, 60 Hz (Blocked opening) / 230 Vac, 60Hz (All fans locked)	--
Ambient	24/26/26/24/25/24°C	--
Power Supply	--	--
T1 Coil	7/6/6/8/20/72	50 (For normal condition)
T1 Core	10/8/7/11/22/74	50 (For normal condition)
T901 Coil	13/7/7/13/24/69	50 (For normal condition)
T901 Core	14/14/14/14/24/69	50 (For normal condition)
C8 body	5/3/3/5/16/75	65 (For normal condition)
PWB near HS2	10/6/6/11/23/65	65 (For normal condition)
L101 coil	9/9/9/10/22/58	65
Enclosure outside near HS2	5/4/4/5/19/37	30 (For normal condition)
Main Board	--	--
C206 body	8/9/9/9/21/28	45
PWB near U12	10/9/8/10/23/37	65
RTC battery body	7/1/1/4/15/17	--
PWB near CPU	9/8/8/9/22/53	65
L36 coil	7/8/8/8/20/33	65
PWB near Q25	5/12/12/16/27/37	65
System	--	--
CD-ROM body	5/3/3/5/16/25	--
HDD body	10/8/8/10/21/29	--

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Clause	Requirement + Test	Result - Remark	Verdict

FDD body	6/5/5/6/15/21	--
Enclosure outside near Power Supply	2/1/1/3/16/17	30
Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: PCA-6178.	103 Vac, 60Hz / 127 Vac, 60 Hz / 207 Vac, 60 Hz / 254 Vac, 60 Hz / 230 Vac, 60 Hz (Blocked opening) / 230 Vac, 60Hz (All fans locked)	--
Ambient	26/26/26/26/26/26°C	--
Power Supply	--	--
T1 Coil	12/11/12/12/38/51	50 (For normal condition)
T1 Core	10/10/10/10/37/46	50 (For normal condition)
T901 Coil	15/15/15/15/42/55	50 (For normal condition)
T901 Core	13/13/12/12/39/54	50 (For normal condition)
C8 body	8/8/8/8/36/39	65
PWB near HS2	11/11/11/11/38/56	65
L101 coil	17/17/17/17/43/61	65
Enclosure outside near HS2	8/8/8/7/37/39	30 (For normal condition)
Main Board	--	--
U16 body	15/15/16/15/43/45	--
U13 body	16/16/17/16/46/47	--
U12 body	17/17/18/17/47/47	--
PWB near CPU	12/12/12/12/42/43	65
PWB near Q6	14/14/14/14/44/41	65
CRT body	12/12/12/12/41/39	--
L33 coil	14/14/14/14/43/41	65
C12 body	12/12/12/12/41/42	45
Control Board	--	--
PWB under Q1	11/11/11/11/40/37	65
U1 body	11/11/12/11/41/39	--
System	--	--
CD-ROM body	6/6/6/6/31/31	--
HDD body	14/14/14/14/38/35	--
FDD body	6/6/7/6/33/31	--
Enclosure outside near Power Supply	3/3/4/3/27/19	30

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Clause	Requirement + Test	Result - Remark	Verdict

Power Supply: FSP Group Inc., Type FSP250-60ATV, main Board: SMB-2501.	103 Vac, 60Hz / 127 Vac, 60 Hz / 207 Vac, 60 Hz / 254 Vac, 60 Hz / 230 Vac, 60 Hz (Blocked opening) / 230 Vac, 60Hz (All fans locked)	--
Ambient	24/25/25/25/24/24°C	--
Power Supply	--	--
T1 Coil	8/7/7/7/23/62	50 (For normal condition)
T1 Core	8/8/7/7/23/66	50 (For normal condition)
C1 body	5/5/4/4/19/72	65 (For normal condition)
L7 coil	10/12/9/11/26/54	65
T3 coil	13/9/8/8/24/34	50
T3 core	11/7/6/6/23/29	50
Enclosure inside near T1	4/3/3/2/21/37	30 (For normal condition)
Main Board	--	--
C206 body	7/6/6/5/23/30	45
PWB near U12	10/10/9/9/25/37	65
RTC battery body	2/1/1/0/17/16	--
PWB near CPU	8/8/8/8/24/53	65
L36 coil	7/7/6/6/22/32	65
PWB near Q25	15/14/13/13/29/38	65
System	--	--
CD-ROM body	5/4/4/3/17/22	--
HDD body	9/9/8/8/23/27	--
FDD body	6/5/5/4/18/19	--
Enclosure outside near Power Supply	2/1/1/0/16/14	30
Power Supply: FSP Group Inc., Type FSP250-60ATV, main Board: PCA-6178.	103 Vac, 60Hz / 127 Vac, 60 Hz / 207 Vac, 60 Hz / 254 Vac, 60 Hz / 230 Vac, 60 Hz (Blocked opening) / 230 Vac, 60Hz (All fans locked)	--
Ambient	27/26/26/26/25/25°C	--
Power Supply	--	--
T1 Coil	9/9/10/10/23/45	50 (For normal condition)
T1 Core	9/9/10/11/24/43	50 (For normal condition)

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Clause	Requirement + Test	Result - Remark	Verdict

C1 body	6/6/6/7/21/40	65
L7 coil	13/16/14/18/35/67	65 (For normal condition)
T3 coil	9/9/9/10/23/51	50 (For normal condition)
T3 core	9/10/10/11/24/53	50 (For normal condition)
Enclosure inside near T1	4/4/5/5/21/27	30
Main Board	--	--
U16 body	10/9/10/10/26/30	--
U13 body	13/12/13/13/29/33	--
U12 body	13/12/14/14/30/34	--
PWB near CPU	10/8/10/10/26/28	65
PWB near Q6	14/12/14/13/30/33	65
CRT body	8/7/8/8/24/26	--
L33 coil	12/10/11/11/28/31	65
C12 body	9/8/10/10/26/30	45
Control Board	--	--
PWB under Q1	7/6/8/7/24/26	65
U1 body	8/7/9/9/25/27	--
System	--	--
CD-ROM body	4/4/5/5/20/23	--
HDD body	11/10/12/12/26/28	--
FDD body	6/7/8/8/21/22	--
Enclosure outside near Power Supply	2/1/2/3/16/13	30
Maximum Normal Load at 103 V, 60 Hz, Duration 2.23 hrs.	--	--
Ambient	24.9℃	--
Power supply AC inlet body	13.8	--
Power supply C6 body	6.7	45
Power supply T1 coil	14.0	50
Power supply T1 core	15.1	50
Power supply T2 coil	23.6	50
Power supply T2 core	13.9	50
Power supply LF2 coil	31.1	55
Power supply LF1 coil	16.1	55
Main board L15 coil	27.1	55
Main board C92 body	11.5	45
Main board PWB under Q14	20.8	65
Main board PWB under CPU	19.8	65
Main board PWB under U22	13.5	65
Main board PWB under U26	8.9	65
Main board BT1 body	5.0	--
CD-ROM body near motor	5.4	--
HDD body near motor	10.2	--
FDD body near motor	4.7	--
Enclosure outside near power supply	7.6	30
Maximum Normal Load at 253 V, 60Hz, Duration 1.1 hrs.	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Ambient			24.7℃	--	
Power supply AC inlet body			13.5	--	
Power supply C6 body			6.5	45	
Power supply T1 coil			13.8	50	
Power supply T1 core			14.9	50	
Power supply T2 coil			23.2	50	
Power supply T2 core			13.7	50	
Power supply LF2 coil			31.1	55	
Power supply LF1 coil			15.0	55	
Main board L15 coil			27.2	55	
Main board C92 body			11.4	45	
Main board PWB under Q14			20.6	65	
Main board PWB under CPU			19.6	65	
Main board PWB under U22			13.4	65	
Main board PWB under U26			8.9	65	
Main board BT1 body			4.8	--	
CD-ROM body near motor			5.3	--	
HDD body near motor			10.2	--	
FDD body near motor			4.6	--	
Enclosure outside near power supply			7.4	30	
temperature rise dT of winding:	R_1 (Ω)	R_2 (Ω)	dT (K)	required dT (K)	insulation class
--	--	--	--	--	--

supplementary information:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and described in 1.6.2 at voltages as described in 1.4.5
Without specified ambient temperature in users manual, therefore the ambient temperature assumed as 40°C, the max. temperature rise is calculated as follows:
Winding components:
- Transformer, Class A: dTmax = 75K - 10K-(40-25)K = 50 K
Components with:
- max. absolute temp. of 85°C (Electrolyte capacitor): dTmax = (85-40)K = 45 K
- max. absolute temp. of 105°C (Cap., Line choke, PWB): dTmax = (105-40)K = 65 K
User Accessible Area:
- material is metal (45K) dTmx = 45K-(40-25)K = 30K

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

IEC 60950			
Clause	Requirement + Test	Result - Remark	Verdict

supplementary information:

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		2367 Vdc	No
Primary to SELV		4242	No
Primary to Earth		3000	No
supplementary information:			
N/A			

5.3	TABLE: fault condition tests						Pass
	ambient temperature (°C) .... :				40		—
	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	
Opening (Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: SMB-2501.)	Blocked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details	

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Clause	Requirement + Test	Result - Remark	Verdict

All Fans (Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: SMB-2501.)	Locked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details
Opening (Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: PCA-6178.)	Blocked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details
All Fans (Power Supply: Delta Electronics Inc., Type DPS-300GB-1 XX, Main Board: PCA-6178.)	Locked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details
Opening (Power Supply: FSP Group Inc., Type FSP250-60ATV, main Board: SMB-2501.)	Blocked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details

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Clause	Requirement + Test	Result - Remark	Verdict

All Fans (Power Supply: FSP Group Inc., Type FSP250-60ATV, main Board: SMB-2501.)	Locked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details
Opening (Power Supply: FSP Group Inc., Type FSP250-60ATV, main Board: PCA-6178.)	Blocked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details
All Fans (Power Supply: FSP Group Inc., Type FSP250-60ATV, main Board: PCA-6178.)	Locked	230	1 hrs	-	-	NB, NC, NT, See Table 4.5 for details
supplementary information:						
NB - No indication of dielectric breakdown; NC - Cheesecloth remained intact; NT - Tissue paper remained intact						

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:			

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Clause	Requirement + Test	Result - Remark	Verdict

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:			

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)	

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Clause	Requirement + Test	Result - Remark	Verdict

supplementary information:		

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 10 Pages including this Cover Page)

USA / Canada

* No National Differences Declared
** Only Group Differences

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	Considered in UL approval.	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

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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

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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.0.4		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	Considered in UL approval.	Pass
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating	Considered in UL approval.	Pass

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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	Considered in UL approval.	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 then 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

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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 mm²) 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

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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		N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment comply with UL 1310 or CSA 223 mechanical assembly requirements		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)		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		N/A
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

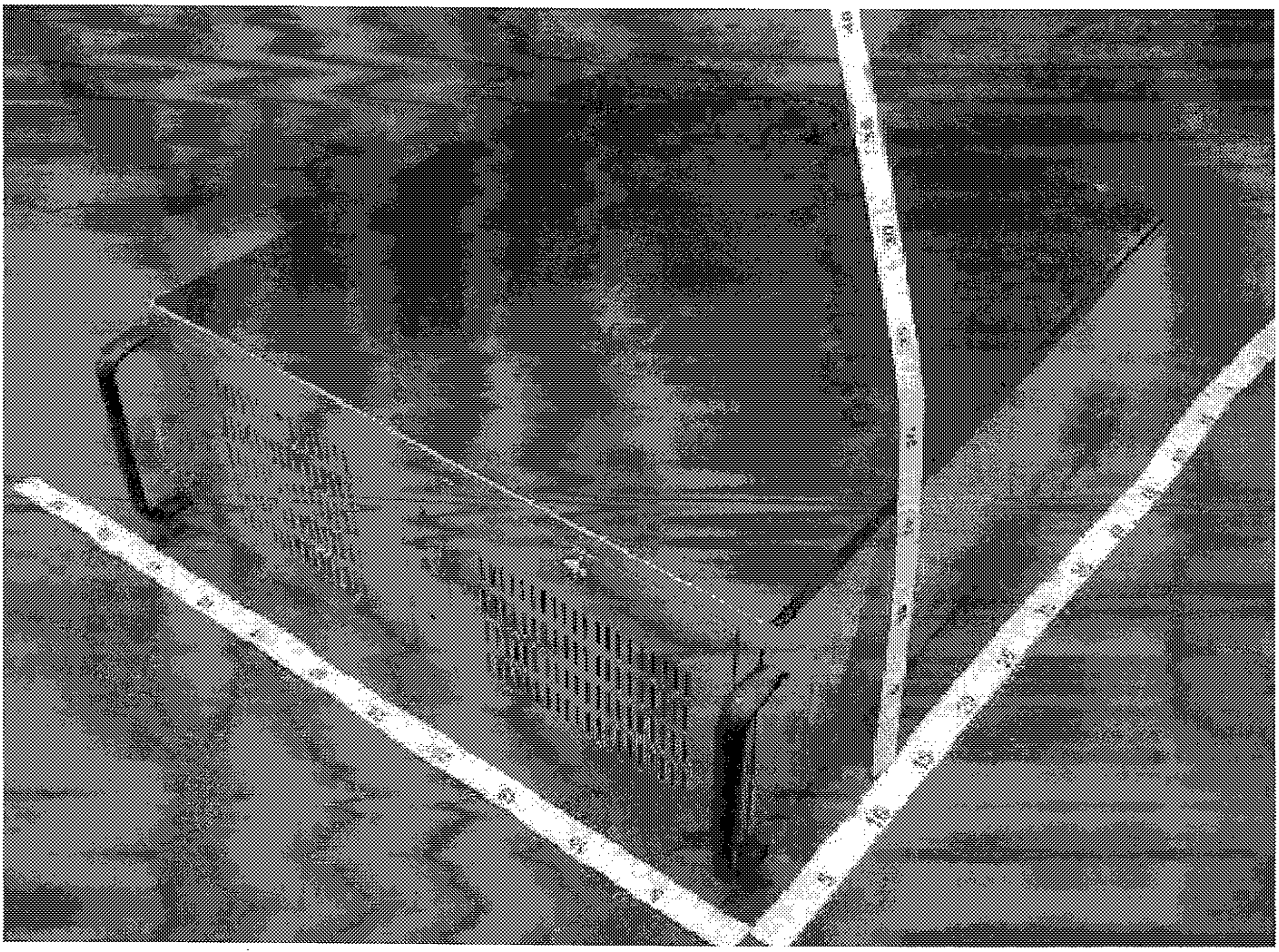
IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network		N/A
6.2.1	Special requirements for enameled wiring used as electrical separation provided between parts connected 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

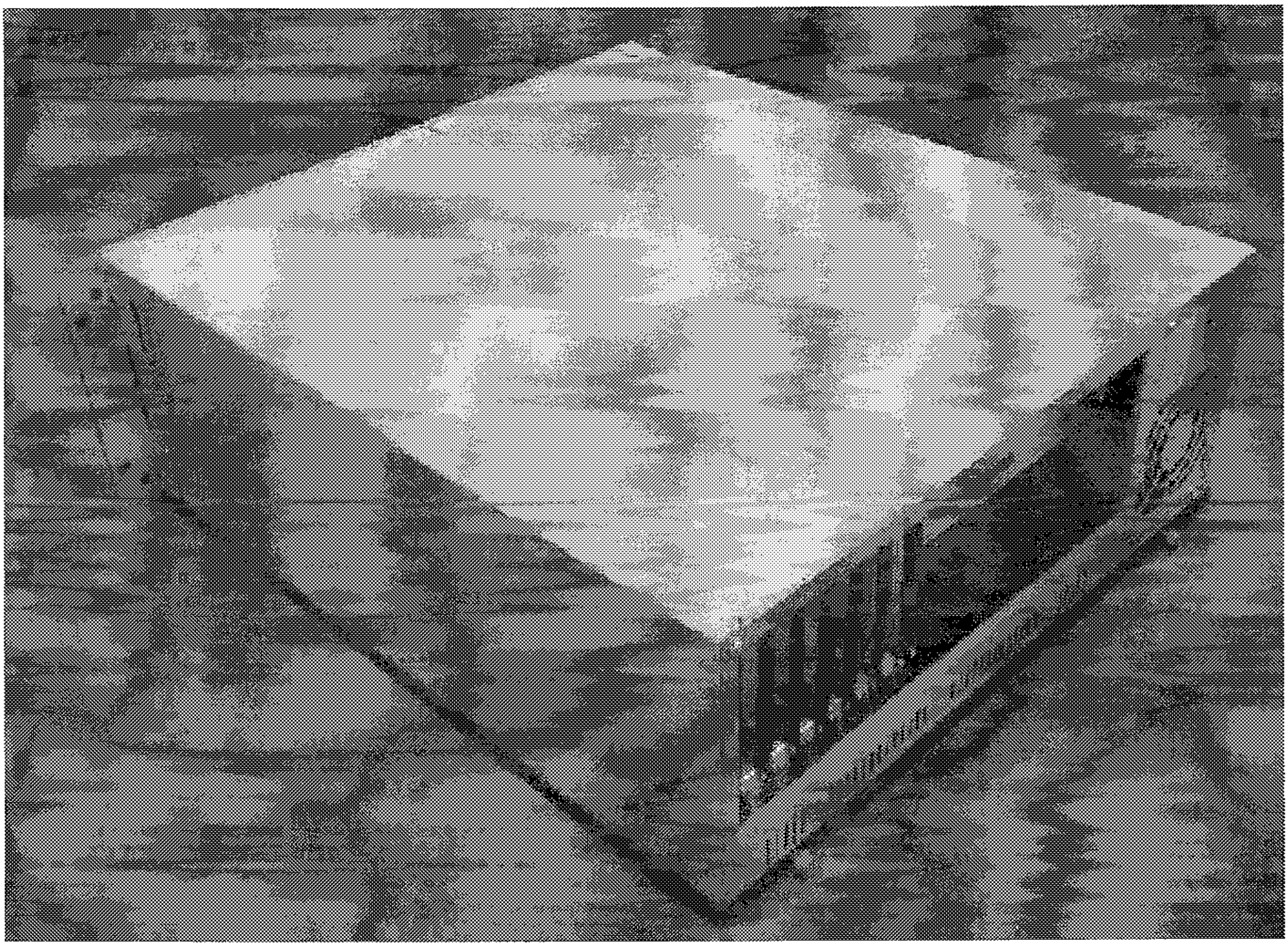
IEC 60950			
SubClause	Difference + Test	Result - Remark	Verdict
H	Ionizing radiation measurements are made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370		N/A
M.2	Continuous 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

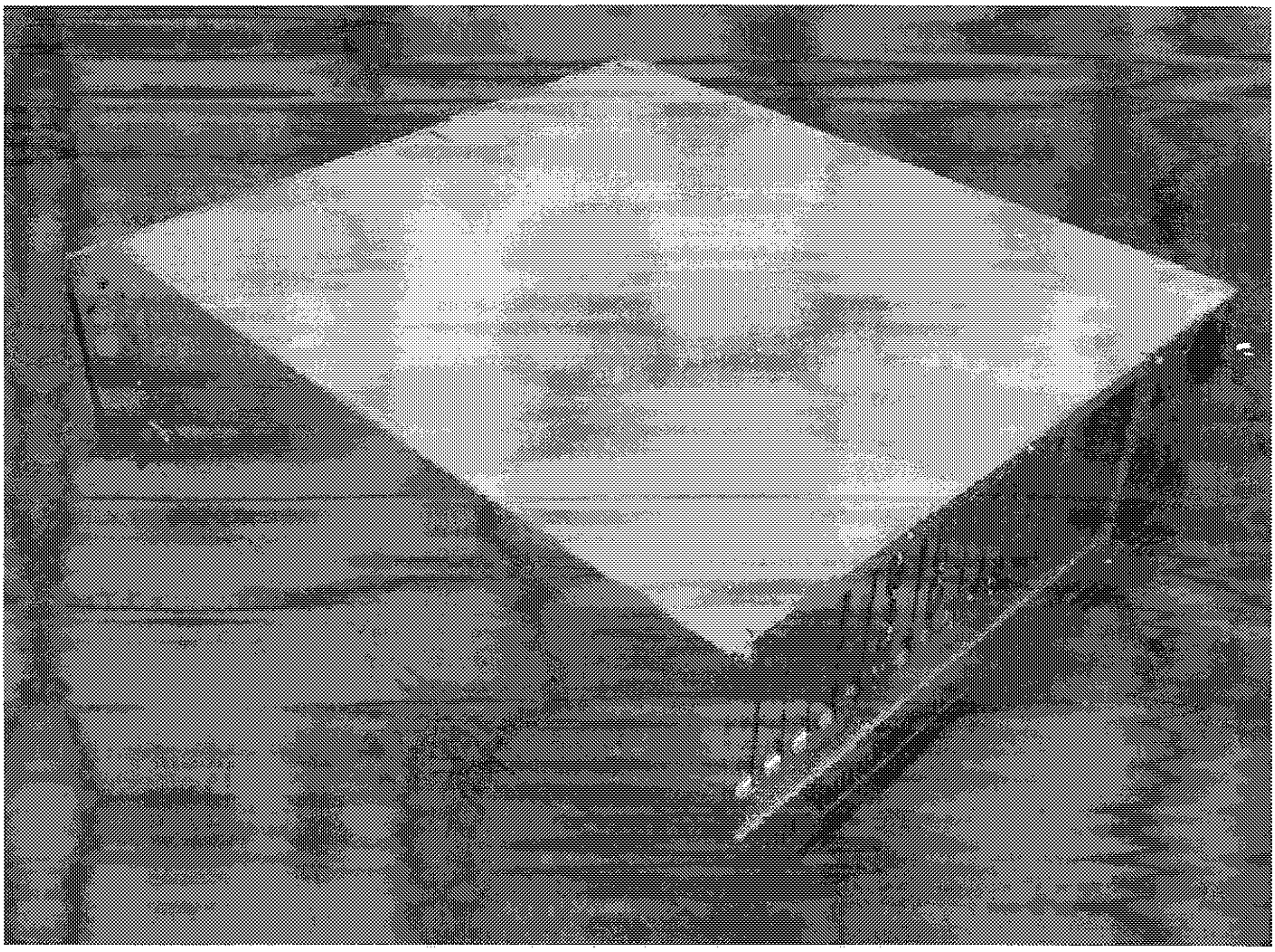
Enclosure
Photographs

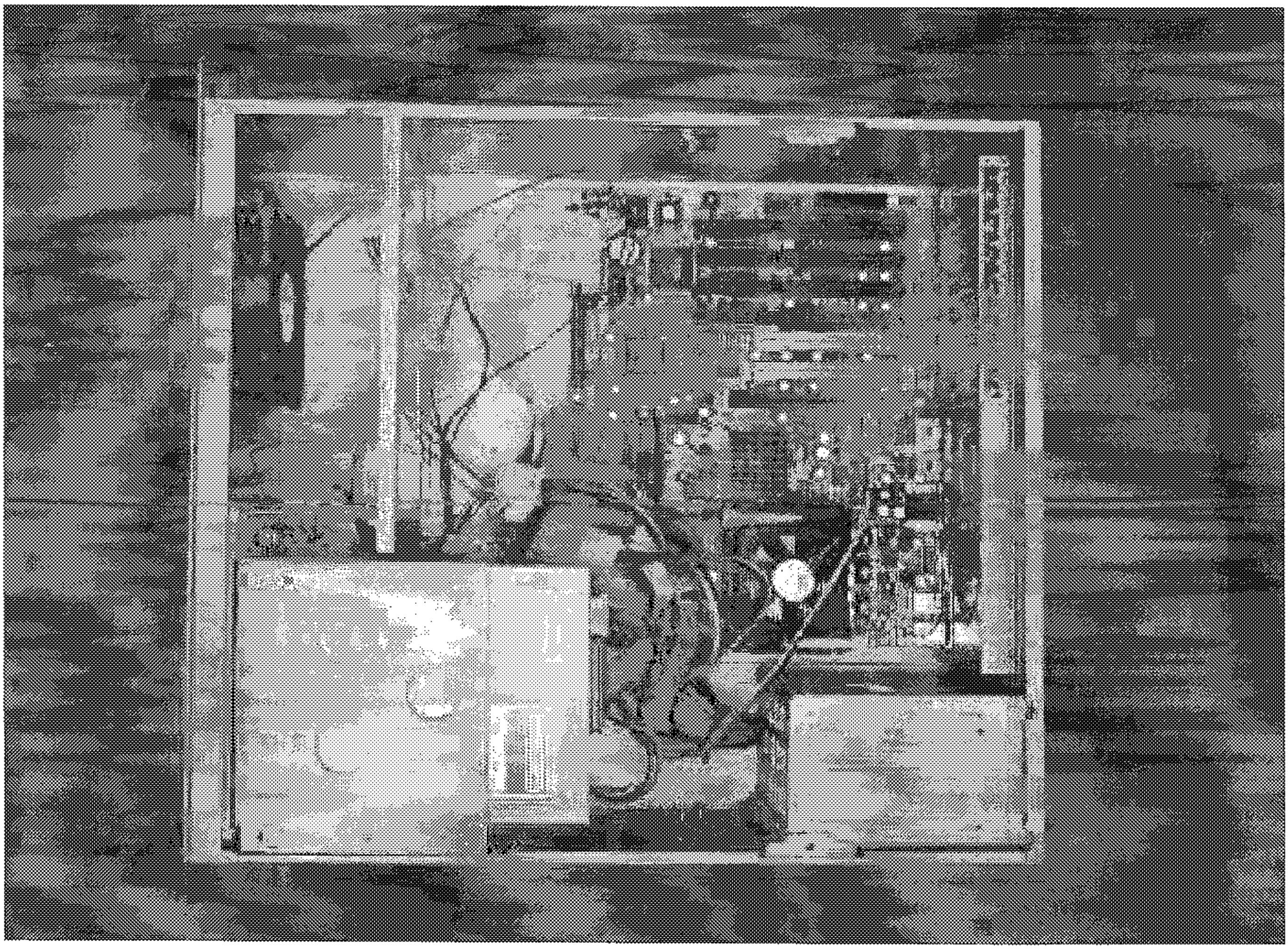
(Total 9 Pages including this Cover Page)

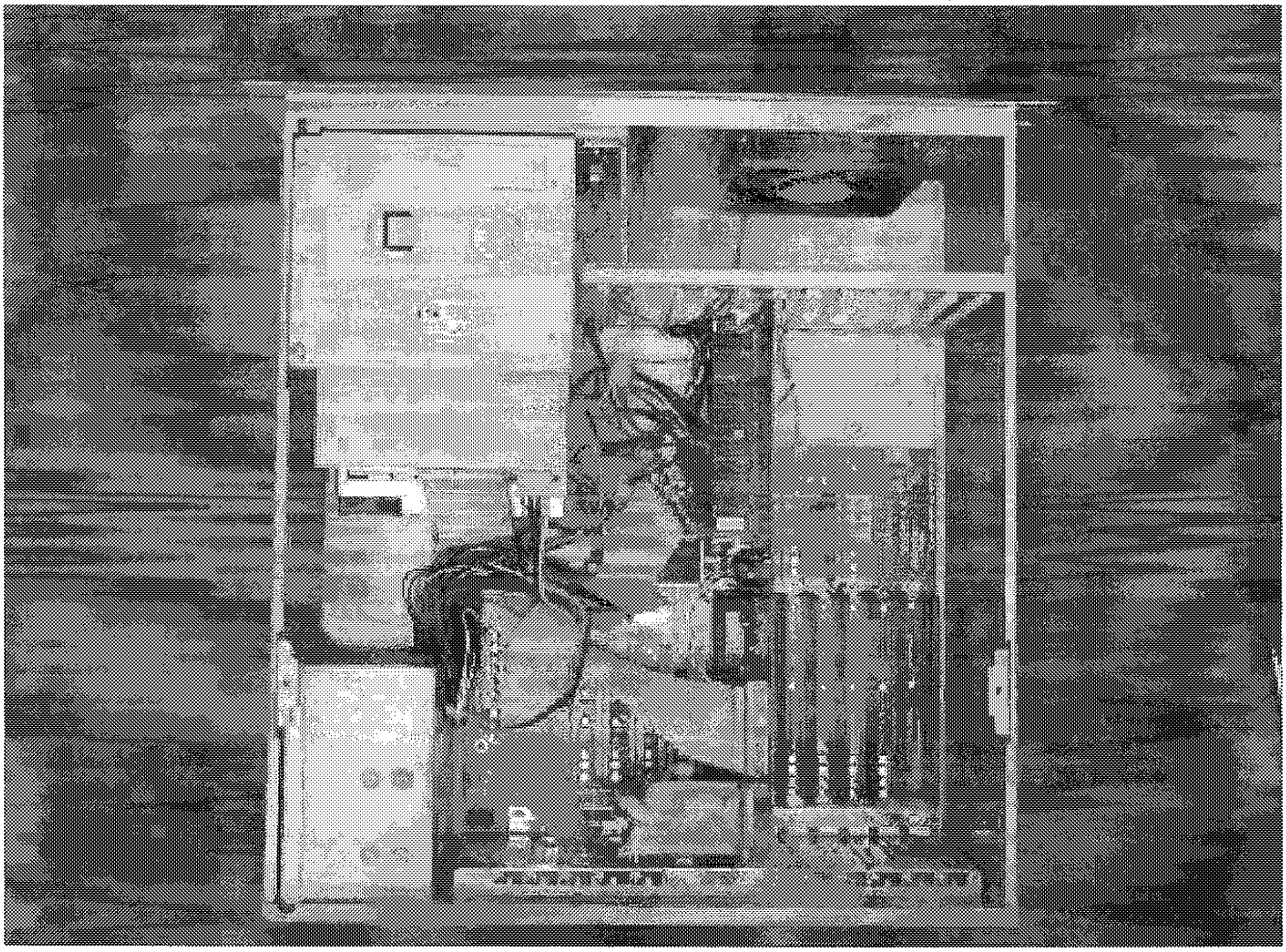
Supplement Id	Description
3-13	Front view of unit
3-14	Rear view of unit
3-15	Rear view of unit - Alternative
3-16	Internal view of unit
3-17	Internal view of unit - Alternative
3-18	Main board view
3-19	Main board view - Alternative
3-20	Mainboard view- Alternate

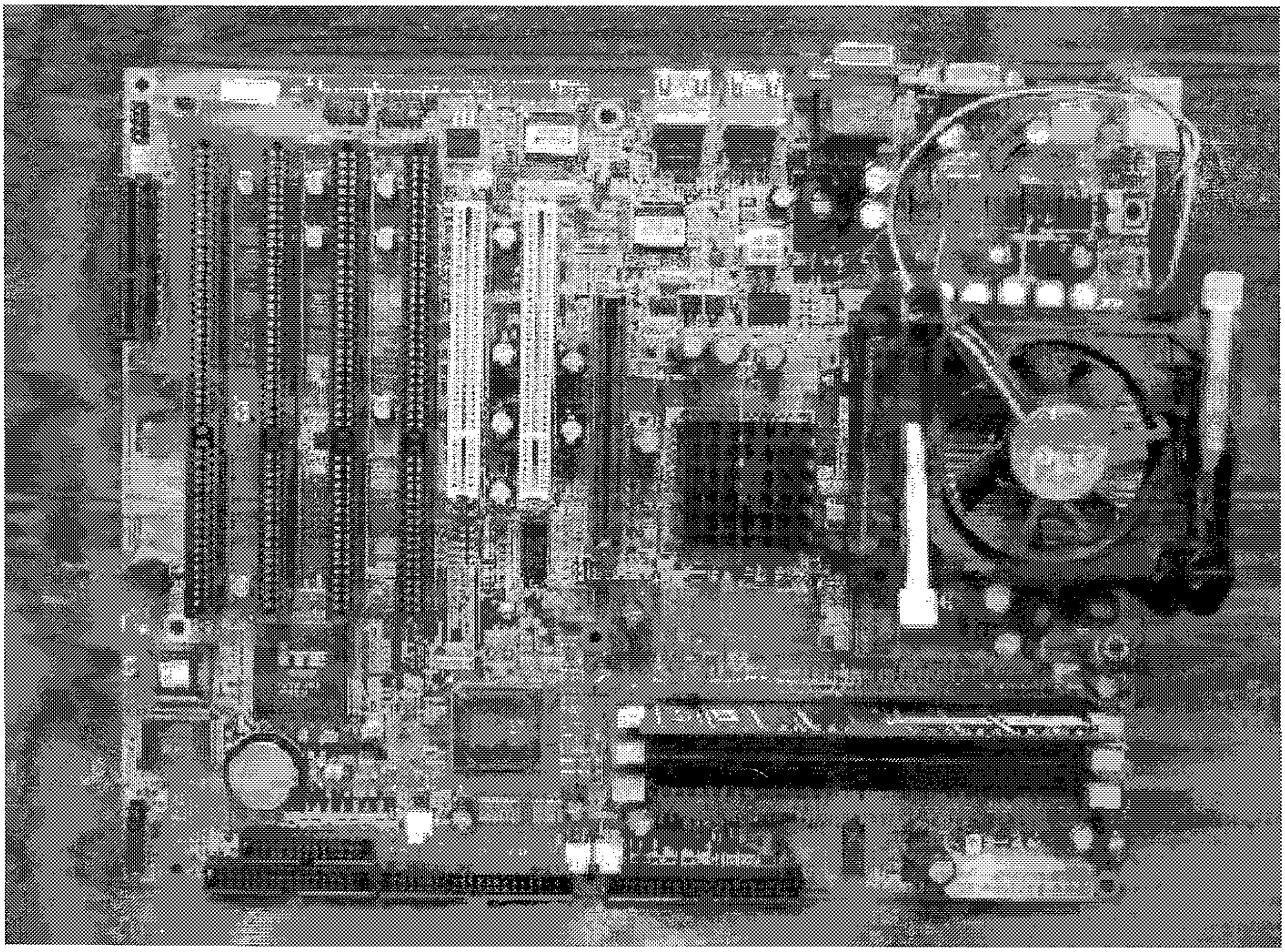


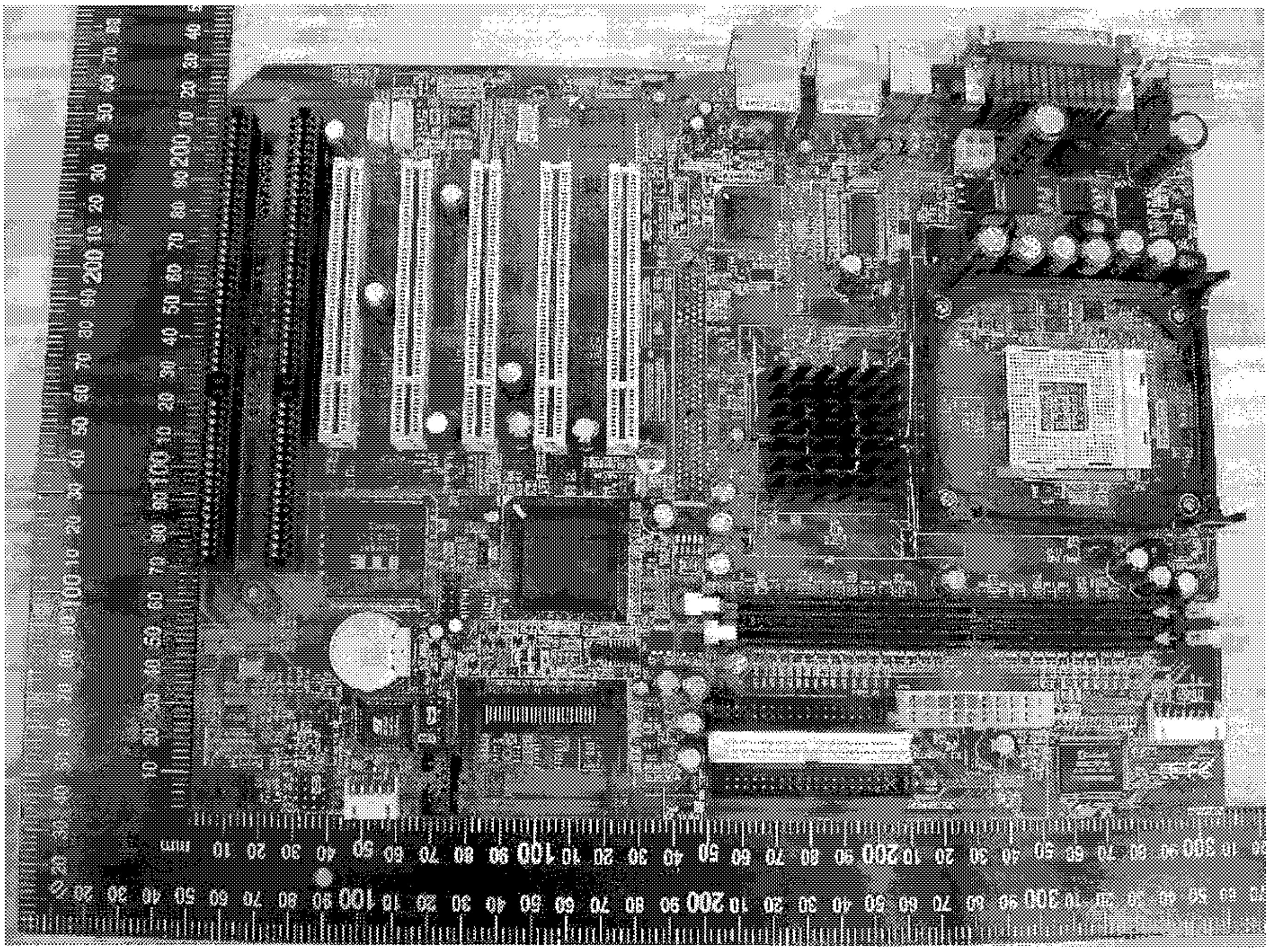












Enclosure
Miscellaneous

(Total 2 Pages including this Cover Page)

Supplement Id	Description
7-01	Marking Label

INDUSTRIAL COMPUTER
MODEL: IPC-611XX-XXX
RATING: 115 / 230 VAC, 60/50Hz, 9 / 5 A

THIS DEVICE COMPLES WITH PART 15 FCC RULES OPERATION
ISSUBJECT 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 OPERATOR.

ADVANTECH CO., LTD.

Enclosure
Test Record

(Total 2 Pages including this Cover Page)

Supplement Id	Description
-	Test Record 1

Test Record No. 1

The following tests were conducted:

Test	Comments
Input Test - Single-Phase (1.6.2)	
Limited Power Source Measurements Test (2.5)	
Earthing Test II (2.6.3.3, 2.6.1)	
Humidity Test (2.9.1, 2.9.2, 5.2.2)	
Enclosure Push Test (4.2.3, 4.2.4, 4.2.1)	
Impact Test (4.2.5, 4.2.1)	
Lithium Battery Reverse Current Measurement Test (4.3.8)	
Heating (Temperature) Test (4.5.1, 1.4.12, 1.4.13, 3.3.2)	
Touch Current Test (Single-Phase / Polyphase; TN/TT System) (5.1, D)	
Electric Strength Test (5.2.2)	"UL"
Abnormal Operation Tests (5.3.1-5.3.8.2)	"UL"
Overload of Operator Accessible Connector Test (5.3.6)	

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard.

The manufacturer submitted representative production samples of Industrial computer, Model IPC-611XX-XXX.
Tests were conducted by Advance Data Technology, Taoyuan, Taiwan under CAP.
Tests noted by the initials "UL" were witnessd by the UL staff member.