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

Ref. Certif. No.
JPTUV-003627

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

SYSTÈME CEI D'ESSAIS DE CONFORMITÉ ET DE CERTIFICATION DES EQUIPEMENTS ELECTRIQUE (IECEE)
METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product
Produit

Personal Computer

Name and address of the applicant
Nom et adresse du demandeur

Wistron Corporation
21F, 88, Sec. 1, Hsin Tai Wu Rd.
HSICHIH, TAIPEI HSIEN 221, TAIWAN, R.O.C.

Name and address of the manufacturer
Nom et adresse du fabricant

Wistron Corporation
21F, 88, Sec. 1, Hsin Tai Wu Rd.
HSICHIH, TAIPEI HSIEN 221, TAIWAN, R.O.C.

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

Wistron Corporation
7, Hsin Ann Road
Hsinchu Science-Based Ind. Park, HSINCHU 300, TAIWAN, R.O.C.

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

Input rating : refer to the test report
Protection class : I

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

Trade mark of Acer

Model/type Ref.
Ref. de type

VT7200, VT7200D, AP8400, AP8600, VT7100, VT9100

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

For differences between the models, refer to the test report.

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

PUBLICATION	EDITION
IEC 60950:1991+A1+A2+A3+A4 inclusive CENELEC Common Modifications National differences see test report	

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

12001367 001

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

TÜV

TÜV Rheinland Japan Ltd.
3-19-5 Shin-Yokohama
222-0033 Japan

Date 29.11.2001

Signature

Dipl.-Ing. W. Herlitschke

Issue 1998-09

TEST REPORT
IEC 950

Safety of information technology equipment

Report

Reference No.	<12001367 001>
Compiled by (+ signature)	M. Kera
Approved by (+ signature)	P. Perschnig
Date of issue	November 26, 2001
Contents	83 pages

This report is based on a blank test report that was prepared by KEMA using information obtained from the TRF originator (see below).

Testing laboratory

Name	TÜV Rheinland Japan Ltd., Yokohama Laboratories
Address	Festo Bldg. 5F, 1-26-10 Hayabuchi, Tsuzuki-Ku, Yokohama 224-0025, Japan
Testing location	as above

Client

Name	Wistron Corporation
Address	21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Test specification

Standard	IEC 60950:1991+A1:1992 + A2:1993 + A3:1995 + A4:1996 EN 60 950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997 EMKO-TSE(74-SEC)207/94, UL 1950, C22.2 No. 950 3rd edition, AS 3260
Test procedure	CB-scheme
Procedure deviation	Austria, Australia(for models without modem card), Belgium, Canada, China, Czech. R., Denmark, Finland, France, Germany, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Netherlands, Norway, Poland, Russian Federation, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, U.K., USA
Non-standard test method	N.A.

Test Report Form/blank test report

Test Report Form No.	I950__D/97-06
TRF originator.	FIMKO
Master TRF	reference No. I950 D, dated 97-02

Test item	
Description	Personal Computer
Trademark	Acer trade mark
Model and/or type reference	VT7200, VT7200D, AP8400, AP8600, VT7100, VT9100
Manufacturer	Same as applicant
Rating(s)	1) AC 100-127 / 200-240V, 50/60Hz, 5/3A (for AP8400, AP8600, VT7100, VT9100) 2) AC 100-127 / 220-240V, 50/60Hz, 5/3A (for VT7200, VT7200D) 3) AC 200-240V, 50/60Hz, 3A (for VT7200, VT7200D, Delta SPS model DPS-235BB-1 XX use only)
Particulars: test item vs. test requirements	
Equipment mobility	movable
Operating condition	continuous
Tested for IT power systems	Yes
IT testing, phase-phase voltage (V)	IT, 230V for Norway
Class of equipment	Class I
Mass of equipment (kg)	12kg
Protection against ingress of water	IPX0
Test case verdicts	
Test case does not apply to the test object	N(.A.)
Test item does meet the requirement	P(ass)
Test item does not meet the requirement	F(ail)
Testing	
Date of receipt of test item	November 12, 2001
Date(s) of performance of test	November 13 - 26, 2001

General remarks

This test report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item tested.

"(see remark #)" refers to a remark 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.

Factory:

Wistron Corporation
7 Hsin Ann Rd., Science-Based Ind. Park, Hsinchu 30077,
Taiwan, R.O.C.

Comments:

Brief description of the test sample:

The equipment is a tower type personal computer for general office use. The internal building-in switching power supply is an approved component according to EN 60950 standard and CB Scheme tested. For details of the power supply, see appended table 1.5.1.

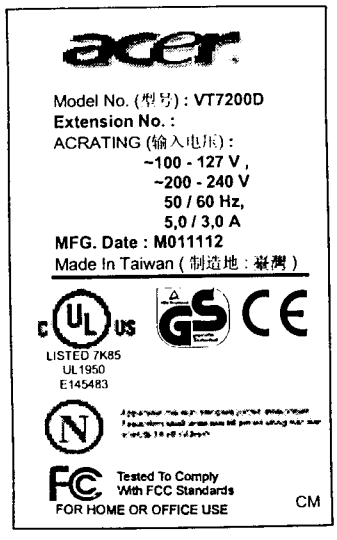
The models AP8400, AP8600 and VT7100 are similar except for model number and secondary circuit. The additional model VT7200 is similar to model VT9100 except for model name, input rating and safety extra low voltage (SELV) secondary circuit. The model VT7200D is identical to model VT7200 except for model number, alternate components and extra low voltage (SELV) secondary circuit.

Special features are:

- 1 FDD,
- 1 HDD,
- 1 CD-ROM, CD-R/RW or 1 DVD-ROM,
- 1 VGA card,
- 1 motherboard with 500MHz CPU,
- 2 USB ports

The Li-type battery is protected by a control circuit to prevent overcharging and discharging. Each o/p connector of USB, keyboard and mouse are protected by polyswitch.

Copy of marking plate



IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	Comply with IEC 950 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards. (see appended tables)	P
1.5.2	Evaluation and testing components	Components which are certified to IEC and / or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
	Dimensions (mm) of mains plug for direct plug-in .....:	The equipment is not plug-in type	N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)		N
1.5.3	Transformers	Transformers used are suitable for their intended application and comply with the relevant requirements of the standard	P
1.5.4	High voltage components (component; manufacturer; flammability) .....:	No high voltage components used.	N
1.5.5	Interconnecting cables	Interconnection cables for signal output are carrying only SELV on an energy level below 240VA. → Except for the insulation material, there are no further requirements to the interconnection cable.	P
1.5.6	Mains Capacitors	X-capacitor in approved SPS.	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.6	Power interface		P
1.6.1	Steady state input current	Highest load according to 1.2.2.1 for this equipment is the HiFD, HDD and CD-ROM permanently access, dummy load of 60W at o/p connectors and power supply with 80% of rated maximum power. (see appended table)	P
	Current deviation during normal operating cycle	< +10%	P
1.6.2	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	N
1.6.3	Neutral conductor insulated from earth and body	The neutral is not identified in the equipment. Basic insulation for rated voltage between earthed parts and primary phases.	P
1.6.4	Components in equipment intended for IT power system	Phase-to-earth designed according to phase-to-phase working voltage. Y2 type capacitor used between phase-to-earth.	P
1.6.5	Mains supply tolerance (V) .....:	-10% (for 100V/200V) +6% (for 127V) +10% (for 240V) Documentation specifies a rating of AC 100-127V/ 200-240V at 50/60Hz. Relevant tests were done with the range of 90-134/180-264V at 50/60Hz.	P
1.7	Marking and instructions		P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.1	Rated voltage (V) ..... :	1) ~ 100-127V / ~220-240V 2) ~200-240V (for Delta SPS, model DPS-235BB-1 XX use only)	P
	Symbol of nature of supply for d.c. ..... :	mains from AC source	N
	Rated frequency (Hz) ..... :	50/60 Hz	P
	Rated current (A) ..... :	1) 5.0A/3.0A 2) 3A	P
	Manufacturer ..... :	Not shown.	N
	Trademark ..... :	Acer trade mark	P
	Type/model ..... :	AP8400, AP8600, VT7100, VT9100, VT7200, VT7200D	P
	Symbol of Class II ..... :	Class I equipment	N
	Certification marks ..... :	TÜV Rheinland GS mark, CUL, N, UL	N
1.7.2	Safety instructions	The users manual contains information for operation, installation, servicing, transport, storage and technical data. The operation guide is provided to the user. Marking for laser class I type CD-ROM Driver, the German, English, French, Spanish, Nordic wording: CLASS 1 LASER PRODUCT, LASER DE CLASSE 1 PRODUIT, LASER KLASSE 1, LASER DE LA CLASSE I	P
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N
1.7.4	Marking for voltage setting/frequency setting ... :	Voltage setting is part of the approved power supply.	P
1.7.5	Marking at power outlets ..... :	No power outlet.	N
1.7.6	Marking at fuseholders ..... :	Fuse marking in the approved power supply.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.7.1	Protective earthing terminals	Appliance inlet used.	N
1.7.7.2	Terminal for external primary power supply conductors	No terminal.	N
1.7.8.1	Identification and location of switches and controls .....:	The marking and indication of the functional switch is located that indication of function is clearly. The power switch is located on the back.	P
1.7.8.2	Colours of controls and indicators .....:	No safety relevant indicators.	N
1.7.8.3	Symbols according to IEC 417 .....:	Marking for push-push type front panel functional switch according to IEC60417, No. 5009 (line half inside circle). Power switch on back side is part of the approved power supply (IEC 60417, No. 5007, 5008), circle for off, line for on.	P
1.7.8.4	Figures used for marking .....:	No indicators for different positions.	N
1.7.8.5	Location of markings and indications for switches and controls .....:	Stand-by switch: The marking for the switch is located beside the knob of the switch. Power switch: The marking for the switch is located on the knob of the switch.	P
1.7.9	Isolation of multiple power sources .....:	Only one supply from the mains.	P
1.7.10	Instructions for installation to IT power system	In the installation manual: The product is also designed for IT power system with phase-to-phase voltage 230V.	P
1.7.11	Instructions when protection relies on building installation	Connected to the mains by pluggable type A.	N
1.7.12	Marking when leakage current exceeds 3,5 mA	Leakage current does not exceed 3.5mA.	N
1.7.13	Indication at thermostats and regulating devices	No adjustable thermostats.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.14	Language of safety markings/instructions	Instructions related to safety and marking provided in English language. User manual is in English. User manuals in other languages will be provided with the national approval.	P
	Language .....:	English.	—
1.7.15	Durability and legibility	The label was subjected to the permanence of marking test. The label was rubbed with cloth for 15s and then again for 15s with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting of the label edge.	P
1.7.16	Removable parts	No required markings placed on removable parts.	P
1.7.17	Warning text for replaceable lithium batteries	German. Versions in other languages will be provided when submitted for national certificate approval	P
	Language .....:	English.	—

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.18	Operator access with a tool .....:	The inside of the personal computer is regarded to be operator access area. This area is accessible when enclosure of PC is be disassembled with a screwdriver. When the enclosure is disassembled, the earthed metal enclosure of SPS is accessible. However, the SPS enclosure can be opened with the same screw driver as the screw head is in same construction. Therefore, the SPS provided with electric shock hazard symbol (ISO 3864, No. 5036) to discourage the user to access.	P
1.7.19	Equipment for restricted access locations .....:	No restricted access location.	N

2	PROTECTION FROM HALZARDS	P

2.1	Protection against electric shock and energy hazards		P
2.1.1	Access to energized parts	See below	P
2.1.2	Protection in operator access areas	The construction of this metal enclosure prevents the accessibility to any parts with only basic insulation to ELV or hazardous voltage with test pin or test finger.	N
	Test by inspection .....:	dto	N
	Test with test finger .....:	dto	N
	Test with test pin .....:	dto	N
2.1.3.1	Insulation of internal wiring in an ELV circuit accessible to operator	Equipment is for the use of sevice personnel only.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Working voltage (V); distance (mm) through insulation .....:		N
2.1.3.2	Operator accessible insulation of internal wiring at hazardous voltage	No hazardous voltage wiring in operator accessible area.	N
2.1.4.1	Protection in service access areas	Hazardous voltage only in the inside of the SPS. At circuits of SPS is no service work in operation mode necessary.	P
2.1.4.2	Protection in restricted access locations	It is not intended to be used in restricted locations	N
2.1.5	Energy hazard in operator access area	The overall output of the SPS is below 240VA.	P
2.1.6	Clearances behind conductive enclosures	Refer to 4.2.3.	P
2.1.7	Shafts of manual controls	None at ELV or hazardous voltage	N
2.1.8	Isolation of manual controls	None at ELV or hazardous voltage	N
2.1.9	Conductive casings of capacitors	Casings of capacitors are considered as if directly connected to the respective circuitry. None at hazardous voltage accessible.	P
2.1.10	Risk of electric shock from stored charge on capacitors connected to mains circuit	Tests were done with the approval of switching power supply.	N
	Time-constant (s); measured voltage (V) .....:		—

2.2	Insulation		P
2.2.1	Methods of insulation	The insulation materials provided in the equipment with adequate thickness and adequate creepage distance over their surface and clearance distance through air.	P
2. 2.2	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used	P
2.2.3	Humidity treatment	Total time elapsed: 48 hours	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Humidity (%) .....:	93% R.H.	—
	Temperature (°C) .....:	25°C	—
2.2.4	Requirements for insulation	Please refer to 5.3, 2.9 and 5.1.	P
2.2.5	Insulation parameters	Both parameters were considered.	P
2.2.6	Categories of insulation	The adequate levels of safety insulation are provided and maintained to comply with the requirements of this standard.	P
2.2.7.1	General rules for working voltages	Considered	P
2.2.7.2	Clearances in primary circuits	Considered	P
2.2.7.3	Clearances in secondary circuits	Considered	P
2.2.7.4	Creepage distances	Considered	P
2.2.7.5	Electric strength tests	Considered	P
2.2.8.1	Bridging capacitors		N
2.2.8.2	Bridging resistors		N
2.2.8.3	Accessible parts		N

2.3	Safety extra-low voltage (SELV) circuits		P
2.3.1	Voltage (V) of SELV circuits under normal operating conditions and after a single fault .....:	42.4V peak or 60VDC are not exceeded in SELV circuit under normal operation or single fault condition	—
2.3.2	Voltage (V) between any two conductors of SELV circuit(s) and for Class I equipment between any conductor of SELV circuit and equipment protective earthing terminal under normal operating conditions .....:	Between any SELV circuits 42.4V peak or 60VDC are not exceeded	P
2.3.3	Voltage (V) of SELV in the event of a single failure of basic or supplementary insulation or of a component .....:	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V DC were not exceed and SELV limits not for longer than 0.2 seconds, see abnormal results 5.4.6.	—

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Method used for separation .....:	Method 1	P
2.3.4	Additional constructional requirements	In multiway connectors and other cable ties prevent contact to hazardous parts in case of loosening of connection or conductor breakage. IEC 60083 and IEC 60320 connectors are not used in SELV.	P
2.3.5	Connection of SELV circuits to other circuits	See 2.3.2 and 2.3.3. No direct connection between SELV and any primary circuits.	N

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

2.5	Provisions for earthing		P
2.5.1	Class I equipment	Basic insulated conductive parts touchable in operator area earthed reliably.	P
	Warning label for service personnel		N
2.5.2	Protective earthing in Class II equipment	Class I equipment	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.5.3	Switches/fuses in earthing conductors	No switches or fuses in earthing conductor.	P
2.5.4	Assured earthing connection for Class I equipment in systems comprising Class I and Class II equipment	This unit has its own earthing connection. Any other units connected via the interconnecting cable to other unit shall provide SELV only. The equipment does not comprise class I and class II	P
2.5.5	Green/yellow insulation	Green/yellow wire from inlet to chassis in the approved SPS.	P
2.5.6	Continuity of earth connections	It is not possible to disconnect earth without disconnecting mains as an appliance inlet is used.	P
2.5.7	Making and breaking of protective earthing connections	Plug or inlet, earthing connected before and disconnected after hazardous voltage. No other operator removable parts.	P
2.5.8	Disconnection protective earthing connections	It is not necessary to disconnect earthing except for the removing of the earthed parts itself	P
2.5.9	Protective earthing terminals for fixed supply conductors or for non-detachable power supply cords		N
2.5.10	Corrosion resistance	All safety earthing connections in compliance with Annex J.	P
2.5.11	Resistance (Ω) of protective earthing conductors ≤ 0,1 Ω	≤ 0,1 Ω	P
	Test current (A) .....:	(See appended table 2.5.11).	—

2.6	Disconnection form primary power		P
2.6.1	General requirements	The appliance inlet is considered to be the disconnect device.	P
2.6.2	Type of disconnect device .....:	Appliance inlet	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.3	Disconnect device in permanently connected equipment	Pluggable equipment type A.	N
2.6.4	Parts of disconnect device which remain energized	When plug or inlet is disconnected no remaining parts with hazardous voltage in the equipment	P
2.6.5	Switches in flexible cords	No isolation switch provided.	N
2.6.6	Disconnection of both poles simultaneously for single-phase equipment	The plug or inlet disconnects both poles simultaneously.	P
2.6.7	Disconnection of all phase conductors of supply in three-phase equipment	Single phase equipment.	N
2.6.8	Marking of switch acting as disconnect device	See 1.7.8	N
2.6.9	Installation instructions if plug on power supply cord acts as disconnect device	See 1.7.2	N
	Language .....:		—
2.6.11	Interconnected equipment	Certified plug or inlet, earthing connected before phases are connected	P
2.6.12	Multiple power sources	Only one supply connection for every SPS provided.	N

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on 16A rated fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Overcurrent protection is provided by the built-in device fuse	P
2.7.2	Protection against faults not covered in 5.4	The protection devices are well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A, the building installation is considered as providing short circuit protection	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.4	Number and location of protective devices .....:	Overcurrent protection by polyswitch for keyboard, mouse and USB connector.	P
2.7.5	Protection by several devices	Overcharging protection by control circuit for Li-battery.	P
2.7.6	Warning to service personnel	With reversible type plug to the mains, hazardous voltage may be still presented in the equipment after the internal fuse opens. However, as it is considered that the plug to the mains will be disconnected during service work, no marking were requested.	P
2.8	Safety interlock *No operator accessible areas which presents hazards in the meaning of this standard.*		N
2.8.2	Design		N
2.8.3	Protection against inadvertent reactivation		N
2.8.4	Reliability		N
2.8.5	Overriding an interlock		N
2.8.6.1	Contact gap (m) .....:		N
2.8.6.2	Switch performing 50 cycles		N
2.8.6.3	Electric strength test: test voltage (V) .....:		N
2.8.7	Protection against overstress		N
2.9	Clearances, creepage distances and distances through insulation		P
	Nominal voltage (V) .....:	AC 240V max.	—
	General		P
2.9.2	Clearances	See below	P
2.9.2.1	Clearances in primary circuits	(see appended table 2.9.2 and 2.9.3)	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.9.2.2	Clearances in secondary circuits	In compliance with 5.4	N
2.9.3	Creepage distances	(see appended table 2.9.2 and 2.9.3)	P
	CTI tests .....:	CTI rating for all materials of min. 100.	—
2.9.4.1	Minimum distances through insulation		N
2.9.4.2	Thin sheet material	The thin material used in main transformer of the approved power supplies.	N
	Number of layers (pcs) .....:		N
	Electrical strength test: test voltage (V) .....:		N
2.9.4.3	Printed boards	Not applied for.	N
	Distance through insulation .....:		N
	Electric strength test at voltage (V) for thin sheet insulating material .....:		N
	Number of layers (pcs) .....:		N
2.9.4.4	Wound components without interleaved insulation	No wound components used.	N
	Number of layers (pcs) .....:		N
	Two wires in contact inside component; angle between 45° and 90°		N
	Routine testing for finished component		N
2.9.5	Distances (mm) on coated printed boards .....:	No coated printed wiring boards.	N
	Routine testing for electric strength		N
2.9.6	Enclosed and sealed parts	No hermetically sealed components.	N
	Temperature T1 (°C) .....:		N
	Humidity % .....:		N
2.9.7	Spacings filled by insulating compound	No component applied for.	N
	Temperature T1 (°C) .....:		N
	Humidity % .....:		N
2.9.8	Component external terminations	(see appended table 2.9.2 and 2.9.3)	P
2.9.9	Insulation with varying dimensions	Insulation kept homogenous.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.10	Interconnection of equipment		P
2.10.1	General requirements	See below.	P
2.10.2	Type of interconnection circuits .....:	Interconnection circuits of SELV through the output connectors and TNV to TNV connection. No ELV interconnection circuits.	P
2.10.3	ELV circuits as interconnection circuits	No ELV interconnection.	N
2.11	Limited power source		N
	Use of limited power source .....:	Supplied from the mains.	N
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Cross-sectional area of internal wiring/interconnecting cables	All internal wires are UL recognized wiring that is PVC insulated, rated VW-1, min. 80°C, 300V. Internal wiring gauge is suitable for current intended to be carried.	P
	Protection of internal wiring and interconnecting cables	No internal wire for primary power distribution.	N
3.1.2	Wireways	Wires do not touch sharp edges and heat sinks which could damage the insulation and cause hazard.	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
3.1.3	Fixing of internal wiring	Internal wires with only basic isolation are routed so that they are not close to any live bare components. The wires are secured by solder pins and quick connect terminals so that a loosening of the terminal connection is unlikely.	P
3.1.4	Fixing of uninsulated conductors	Securely held on PCB. No hazard.	P
3.1.5	Insulation of internal wiring	The insulation of the individual conductors are suitable for the application and the working voltage. For the insulation material see 3.1.1.	P
3.1.6	Wires coloured green/yellow only for protective earth connection	See 2.5.5.	P
3.1.7	Fixing of beads and similar ceramic insulators	Not used.	N
3.1.8	Required electrical contact pressure	Electrical and earthing connections screwed two or more complete threads into metal. No screws of insulating material for electrical and earthing connections, or where supplementary or reinforced insulation could be impaired by a metal replacement.	P
3.1.9	Reliable electrical connections	All current carrying and safety earthing connections are metal to metal.	P
3.1.10	End of stranded conductor	No risk of stranded conductors coming loose.	P
3.1.11	Use of spaced thread screws/thread-cutting screws	No self tapping screws are used.	P

3.2	Connection to primary power		P
3.2.1	Type of connection .....:	Appliance inlet.	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Design of product with more than one supply connection .....:	Approved power supply has its own mains connection.	N
3.2.2	Provision for permanent connection .....:	Not permanently connected.	N
	Size (mm) of cables and conduits .....:		N
3.2.3	Appliance inlet	The appliance inlet complies with IEC 60320 and is located at the rear of the unit.	P
3.2.4	Type and cross-sectional area (mm²) of power supply cord .....:	Not provided for this CB approval. However, selection in power cord set was mentioned in the manual and shall be applied with the national approval.	P
3.2.5	Cord anchorage		N
	Test: 25 times; 1 s; pull (N) .....:		—
	Longitudinal displacement ≤ 2 mm .....:		N
3.2.6	Protection of power supply cord	No parts under this unit likely to damage the power supply cord. No sharp edges	P
3.2.7	Cord guard	*see clause 3.2.1*	N
	D (mm) .....:		—
	Test: mass (g) .....:		—
	Radius of curvature of the cord ≤ 1,5 D		N
3.2.8	Supply wiring space		N

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

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
3.3.6	Size of terminals		N
	Nominal thread diameter (mm) .....:		N
3.3.7	Protection against damage of conductors		N
3.3.8	Terminal location		N
3.3.9	Test with 8 mm stranded wire		N
4	PHYSICAL REQUIREMENTS		P
4.1	Stability and mechanical hazards		P
4.1.1	Stability tests		P
	Angle of 10°	This appliance is of a stable mechanical construction and does not overbalance when tilted to an angle of 10° from its normal upright position.	P
	Test: force (N) .....:	Equipment is not a floor standing unit.	N
4.1.2	Protection against personal injury	Fan of SPS, accessible at the rear panel, is covered by metal grid.	P
4.1.3	Warning and means provided for stopping the moving part .....:	No hazardous moving parts.	N
4.1.4	Edges and corners	Edges and corners of the enclosure are rounded	P
4.1.5	Enclosure of a high pressure lamp	No lamp with cold pressure of 0.2MPa or hot pressure 0.4MPa.	N
4.2	Mechanical strength and stress relief		P
4.2.1	General		P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
4.2.2	Internal enclosures 30 N ± 3 N; 5 s	30N force tested on internal enclosure (SPS and modem cover).	P
4.2.3	External enclosures 250 N ± 10 N; 5 s	250N applied to outer enclosure.	P
4.2.4	Steel ball tests *Hazardous voltages are contained in the approved SPS. As the SPS is complete enclosed by an earthed metal enclosure which meets the requirements of 2.1.2, no hazardous parts would be accessible with damaged PC´s enclosure. The steel sphere fall test and swung test are therefore not considered to be necessary for the PC enclosure.*		N
	Fall test		N
	Swing test		N
4.2.5	Drop test		N
4.2.6	Heat test for enclosures of moulded or formed thermoplastic materials: 7 h; T (°C) .....:	7h at 70°C in oven for modem cover	P
4.2.7	Compliance criteria	No safety relevant damages to impact the requirements of 2.1.2, 2.1.5, 2.5.1, 2.5.2, 2.9, 4.1.2. and 6.2.2.	P
4.2.8	Mechanical strength of cathode ray tubes	Unit does not employ a cathode ray tube	N

4.3	Construction details		P
4.3.1	Changing of setting for different power supply voltages	Part of the approved power supply.	N
4.3.2	Adjustment of accessible control devices	None that would cause hazard	P
4.3.4	Prevention of dangerous concentration of dust, powder, liquid and gas	Equipment in intended use not considered to be exposed to these.	N
4.3.5	Fixing of knobs, grips, handles, levers		P
	Test: force (N) .....:	30N on front panel switch.	P
4.3.6	Driving belts/couplings shall not ensure electrical insulation	Not used for insulation.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.7	Retaining of sleeves	Sleevings on wiring reliable kept in position by cable ties or by the use of heatshrunk sleeving.	P
4.3.9	Protection of loosening parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heatshrunk tubing are used	P
4.3.11	Resistance to oil and grease	Insulation not in contact with oil or grease	N
4.3.12	Protection against harmful concentration of ionizing radiation, ultraviolet light, laser or flammable gases (for laser see IEC 825-1)	No ionizing radiation or flammable liquids presents. For CD-ROM or DVD-ROM drive, this component was evaluated according to relevant standard for laser product which is IEC 60825-1 and EN 60 825-1 approved. Therefore, complied with this clause without further test. Laser Class 1 symbol appeared on CD-/DVD-ROM and inside the user's manual. LED output power far below the limits for LED class 1.	P
4.3.13	Securing of screwed connections	No connection likely to be exposed to mechanical stress are provided in unit.	P
4.3.15	Openings in the top of enclosure	No top opening.	P
	Dimensions (mm) .....:	See appended table.	—
4.3.16	Openings in the sides of enclosure	No hazardous voltages within 5° projection area.	P
	Dimensions (mm) .....:	See appended table.	—
4.3.17	Interchangeable plugs and sockets	In operator and service area, mismate of connectors were prevented by incompatible form or location.	P
4.3.18	Torque test for direct plug-in equipment		N
	Additional torque (Nm) .....:		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.19	Protection against excessive pressure		N
4.3.20	Protection of heating elements in Class I equipment	No heating elements.	N
4.3.21	Protection of lithium batteries		P
	Construction of protection circuit .....:	Prevent from force charging by D9 and R241 in series of battery (BT1). The battery can be mounted reverse. However, with D9 as protection device no discharge of BT1 can happen.	P
4.3.22	Ageing of barrier/screen secured with adhesive		N
	Day 1: temperature (°C); time (weeks) .....:		N
	Day 8/22/57: a) temperature (°C) for 1 h b) temperature (°C) for 4 h c) temperature (°C) over 8 h .....:		N
	Day 9/23/58: a) relative humidity (%) for 72 h b) temperature (°C) for 1 h c) temperature (°C) for 4 h d) temperature (°C) over 8 h .....:		N
4.4	Resistance to fire		P
4.4.1	Methods of achieving resistance to fire	Use of materials with the required flammability classes.	P
4.4.2	Minimizing the risk of ignition	Electrical parts are not likely to ignite nearby materials. Parts not protected against overheating under fault conditions. Temperatures see 5.1	P
	Printed board: manufacturer; type; flammability :	See 1.5.1 appended table	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
4.4.3	Flammability of materials and components	See below.	P
4.4.3.2	Material and component: manufacturer; type; flammability ..... :	Internal components except small parts are V-2, HF-2 or better.	P
4.4.3.3	Exemptions ..... :	Considered.	P
4.4.3.4	Wiring harnesses: manufacturer; flammability .. :	Insulating material consists of PVC.	P
4.4.3.5	Cord anchorage bushings: manufacturer; flammability ..... :	No cord anchorage.	N
4.4.3.6	Air filter assemblies: manufacturer; flammability :	No air filter assemblies	N
4.4.4	Enclosures and decorative parts: manufacturer; flammability ..... :	Protective enclosure (metal) with decorative front plastic panel. The front panel assumed as decorative part, therefore the flammability class HB of that plastic material was acceptable.	P
4.4.5	Conditions for fire enclosures	See 4.4.5.1	P
4.4.5.1	Components which require fire enclosure: manufacturer; flammability ..... :	With having the following components: • components with windings • wiring • semiconductor devices, transistors, diodes, integrated circuits • resistors, capacitors, inductors The fire enclosure is required.	P
4.4.5.2	Components not requiring fire enclosure ..... :	See 4.4.5.1	N
4.4.6	Fire enclosure construction	Protection against emission of flame, molten metal, flaming or glowing particles or drops by the fire enclosure with no bottom opening.	P
4.4.7	Doors and covers in fire enclosures	No door or cover within fire enclosure.	N
4.4.8	Flammable liquids	No flammable liquids in this unit.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
5	THERMAL AND ELECTRICAL REQUIREMENTS		P
5.1	Heating		P
	Heating tests	(see appended table 5.1)	P
5.2	Earth leakage current		P
5.2.1	General	The leakage current was measured from primary to chassis.	P
5.2.2	Leakage current	(see attached table)	P
	Test voltage (V) ..... :	(see attached table)	—
	Measured current (mA) ..... :	(see attached table)	—
	Max. allowed current (mA) ..... :	3.5mA	—
5.2.3	Single-phase equipment	See 5.2.2	P
	Test voltage (V) ..... :		—
	Measured current (mA) ..... :		—
	Max. allowed current (mA) ..... :		—
5.2.4	Three-phase equipment	Single phase equipment	N
	Test voltage (V) ..... :		—
	Measured current (mA) ..... :		—
	Max. allowed current (mA) ..... :		—
5.2.5	Equipment with earth leakage current exceeding 3.5 mA	Leakage current does not exceed 3.5mA	N
	Test voltage (V) ..... :		—
	Measured current (mA) ..... :		—
	Max. allowed current (mA) ..... :		—
	Cross-sectional area (mm²) of internal protective earthing conductor ..... :		—
	Warning label		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
5.3	Electric strength		P
5.3.1	General	All tests voltages were applied for 1 minute in the chamber after the humidity test of 2.2.3 and in warm conditions after the heating test of 5.1. No isolation breakdown was observed (results see appended tables).	P
5.3.2	Test procedure	(see appended table)	P

5.4	Abnormal operating and fault conditions		P
5.4.2	Motors	(See appended table 5.4)) The cooling fan for the CPU is locked rotor protected. With the locked rotor, this protection turns in cycling mode in which the temp. is kept below the temp. under normal conditions. Other motors are used in the appliance which are certified HDDs, HiFD and CD-/DVD-ROMs.	P
5.4.3	Transformers	The protection of transformers are approved with the approval of the SPS.	P
5.4.4	Compliance of operational insulation *Power supply is an approved component, the over-current protection of the power supply ensure that there occur no hazards if there is short circuit in the SELV circuit.*		P
	Method used .....:	Method a)	P
5.4.5	Electromechanical components in secondary circuits	No electromechanical components.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
5.4.6	Other components and circuits	Faults in primary and secondary components and operational insulation were already considered during the approval of the SPS. No other component fault test necessary.	P
5.4.7	Test in any expected condition and foreseeable misuse	No hazard by operating buttons and controls not in accordance with the instructions. Ventilation openings covered and cooling fan for unit locked: (see appended table 5.4). No hazards	P
5.4.8	Unattended use of equipment having thermostats, temperature limiters etc.	None of them are used.	N
5.4.9	Compliance	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary → SELV and primary →ground were passed.	P
5.4.10	Ball-pressure test of thermoplastic parts; impression shall not exceed 2 mm	None of them outside the approved power supply.	N
6	CONNECTION TO TELECOMMUNICATION NETWORKS.		P
6.1	General		P
6.2	TNV circuits		P
6.2.1.1	Limits of the TNV circuits		P
6.2.1.1 a)	TNV-1 circuits	The modem cards generate only signals within the limits of TNV-1 circuits.	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
6.2.1.1 b)	TNV-2 and TNV-3 circuits	The telecommunication network is considered to be TNV-3 circuit.	P
6.2.1.2	Separation from other circuits and from accessible parts	Basic insulation between TNV and SELV provided. Requirements of 6.4.1 are applicable.	P
	Voltage (V) in SELV circuits, TNV-1 circuits and accessible conductive parts in event of single insulation fault or component failure .....:	Limits of TNV-3 can not be exceeded.	P
6.2.1.3	Operating voltages generated externally	Basic insulation provided.	N
	Voltage (V) in SELV circuit, TNV-1 circuit or accessible conductive part .....:		N
6.2.1.4	Separation from hazardous voltages .....:	TNV circuit only connected to SELV circuit.	N
	Insulation between TNV circuit and circuit at hazardous voltage		N
	Method used .....:		N
6.2.1.5	Connection of TNV circuits to other circuits	TNV circuit only connected to SELV circuit.	N
	Insulation (mm) between TNV circuit supplied conductively from secondary circuit and hazardous voltage circuit .....:	Considered.	P
6.2.2.1	Protection against contact with bare conductive parts of TNV-2 and TNV-3 circuits	With the disconnected telecommunication cable the connector pins at the modem cards or at the plug may be touched. However, in this case the generated voltages are in compliance witch the requirements for TNV-1 circuits (see 6.2.1.1).	N
	Test with test finger	No access with test finger.	P
	Test with test probe	No access with test probe.	P
6.2.2.2	Battery compartments	No battery compartment.	N
	Marking next to door/on door		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
6.3	Protection of telecommunication network service personnel, and users of other equipment connected to the telecommunication network, from hazards in the equipment		**P**
6.3.1	Protection from hazardous voltages	The modem cards generate only signals within the limits of TNV-1 circuits.	**P**
6.3.2	Use of protective earthing *The protection of the telecommunication network does not rely on earthing.*		**N**
	Language of installation instructions .....:		**N**
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed	See appended table 5.3.	**P**
6.3.3.2	Exclusions .....:		**N**

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
6.3.4.1	Limitation of leakage current (mA) to telecommunication network .....:	▪ **M3-5614PM3:** Line to Tip/Ring: I=0.067mA Neutral to Tip/Ring: I=0.055mA ▪ **M3-5614PM3G:** Line to Tip/Ring: I=0.11mA Neutral to Tip/Ring: I=0.096mA ▪ **V1456VQH20B:** Line to Tip/Ring: I=0.103mA Neutral to Tip/Ring: I=0.094mA ▪ **V1456VQH20C:** Line to Tip/Ring: I=0.083mA Neutral to Tip/Ring: I=0.07mA ▪ T62M206 Line to Tip/Ring: I=0.035mA Neutral to Tip/Ring: I=0.035mA ▪ 1456VQH75D (INT) Line to Tip/Ring: I=0.050mA Neutral to Tip/Ring: I=0.050mA	**P**
6.3.4.2	Summation of leakage currents from telecommunication network .....:	Only one modem card is intended to be used.	**N**

6.4	Protection of the equipment users from voltages on the telecommunication networks		**P**
6.4.1	Separation requirements	Applied.	**P**
6.4.2	Test procedure	6.4.2.2 applied.	**P**
6.4.2.1	Impulse test: separation between TNV-1 circuits/TNV-3 circuits and:		**N**

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
6.4.2.1 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 2,5 kV		N
6.4.2.1 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,5 kV		N
6.4.2.1 c)	circuitry which is provided for connection of other equipment; test at 1,5 kV		N
6.4.2.2	Electric strength test: separation between TNV-1 circuits/TNV-3 circuits and:		P
6.4.2.2 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 1,5 kV	No handheld parts.	N
6.4.2.2 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,0 kV	No isolation breakdown. (See appended table 5.3)	P
6.4.2.2 c)	circuitry which is provided for connection of other equipment; test at 1,0 kV	No isolation breakdown. (See appended table 5.3)	P
6.4.2.3	Compliance criteria	Complied.	P

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

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N
A.1	Flammability test for fire enclosures of moveable equipment having a total mass exceeding 18 kg, and of stationary equipment		N
A.2	Flammability test for fire enclosures of moveable equipment having a total mass not exceeding 18 kg, and for materials located within fire enclosures		N
A.3	High current arcing ignition test		N
A.3.6	Number of arcs .....:		N
A.4	Hot wire ignition test		N
A.4.6	Ignition time (s) .....:		N
A.5	Hot flaming oil test		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
A.6	Flammability test for classifying materials V-0, V-1 or V-2		N
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HBF		N
A.8	Flammability test for classifying materials HB		N
A.9	Flammability test for classifying materials 5V		N
A	Tested material		N
	Preconditioning: 7 days (168 h); temperature (°C) .....:		—
	Mounting of samples during test .....:		—
	Wall thickness .....:		—
	Sample 1 burning time .....:		N
	Sample 2 burning time .....:		N
	Sample 3 burning time .....:		N
	Material: compliance with the requirements		N
	Manufacturer of tested material .....:		—
	Type of tested material .....:		—
	Additional information .....:		—
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS *DC fan for CPU is an approved component.*		N
B.1	General requirements		N
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated voltage (V) or current (A) .....:		—
B.2	Test conditions		N
B.3	Maximum temperatures		N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days) .....:		—

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Electric strength test: test voltage (V) .....:		—
B.6	Running overload test for DC motor in secondary circuits		N
B.7	Locked-rotor overload test for DC motor in secondary circuits		N
B.7.2	Test time (h) .....:		N
B.7.3	Test time (h) .....:		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Test voltage (V) .....:		—

C	ANNEX C, TRANSFORMERS		N
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
	Temperatures		N
	Thermal cut-out		N
C.1	Overload test		N
	Conventional transformer		N
C.2	Insulation		N
	Precautions .....:		N
	Retaining of end turns of all windings		N
	Earthing test at 25 A		N
C.3	Electric strength test		N

H	ANNEX H, IONIZING RADIATION		N
	Ionizing radiation		N
	Measured radiation .....:		—

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
	Certified by .....:		—
	Standard used .....:		—

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

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
PWB	various	various	V-0, 105°C	UL 94	UL
Front bezel	various	various	HB	UL 94	UL
Detachable power cord (For European market only)	King Cord	Plug: KC015 Connector: KC-003	250V, 10A	IEC 60320 VDE 0620 VDE 0625	VDE
	Yeh Yang	Wire: H05VV-F	3G, 0.75mm^2	VDE 0281	VDE
	Ta Hsing	Wire: H05VV-F	3G, 0.75mm^2	VDE 0281	VDE
	Walsin Lihwa	Wire: H05VV-F	3G, 0.75mm^2	VDE 0281	VDE
Lithium battery	Hitachi Maxell	CR2032	3Vdc, 220mAh	--	UL
	Matsushita	CR2032	3Vdc, 220mAh	--	UL
	Rayovac	CR2032	3Vdc, 220mAh	--	UL
	Sony	CR2032	3Vdc, 220mAh	--	UL
	Mitsubishi	CR2032	3Vdc, 220mAh	--	UL
	Toshiba	CR2032	3Vdc, 220mAh	--	UL
Polyswitch	Raychem	MiniSMDC110	6Vdc, 1.1A	--	UL
	Raychem	RUE110	30Vdc, 1.1A	DIN44080, DIN44081	TÜV, UL
	Raychem	RUE135	30Vdc, 1.35A	DIN44080, DIN44081	TÜV, UL

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

Switching power supply	Sirtec	SI-X200M3	I/P: 100-127/200-240Vac, 5/3A, 50/60Hz O/P: 5Vdc/20A, 12Vdc/8A, 3.3Vdc/14A, 5VSB/3A, -5Vdc/0.3A, -12Vdc/0.5A class I	IEC 60950	TÜV, UL, NEMKO (CB)
	Delta Electronics, Inc.	DPS-200PB-95 BX	I/P: 100-120V~/6A, 200-240V~/3A, 47-63Hz O/P: 5Vdc/22A, 12Vdc/6A, 3.3Vdc/14A, 5VSB/3A, -5Vdc/0.1A, -12Vdc/0.8A class I	IEC 60950	TÜV, NEMKO (CB)
	Sirtec International Co., Ltd.	SI-X200P3	100-127V/200-240V, 50/60Hz, 6/3A	IEC 60950	UL,TÜV Nemko, CB (TÜV Japan)

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

	Delta Electronics, Inc.	DPS-300GB-1XX	I/P: 9/4.5A,100 - 127V /200 - 240V, 47-63HZ O/P: 12V/5V/3.3V/5 Vsb/-12V/-5V 15A/30A/28A/2 A/0.8A/0.3A Class: I	IEC 60950	UL,TUV Nemko, CB (TÜV Japan)
	Delta Electronics, Inc.	DPS-300KB-1XX	I/P: 9/4.5A,100 - 127V /200 - 240V, 47-63HZ O/P: 12V/5V/3.3V/5 Vsb/-12V/-5V 15A/30A/26A/2 A/0.8A0.5A Class: I	IEC 60950	UL,TUV, Nemko, CB (TÜV Japan)
	Delta Electronics, Inc.	DPS-235BB XX (X=0-9, A-Z or blank)	AC 100-127V / 200-240V, 47-63Hz, 5/3A	EN 60950	UL,TÜV Nemko, CB (TÜV)
	Delta Electronics, Inc.	DPS-235BB-1 XX (X=0-9, A-Z or blank)	AC 200-240V, 47-63Hz, 3A	EN 60950	TÜV, Nemko, CB (TÜV)
	Delta Electronics, Inc.	DPS-200PB-112 XX (X=0-9, A-Z or blank)	AC 100-127V / 200-240V, 47-63Hz, 5/3A	EN 60950	UL,TÜV Nemko, CB (TÜV)
Floptical Disc Driver	Matsushita Kotobuki Electronics Industries Inc.	LKM-F933-1 LKM-F934-1	5Vdc/2.7A Laser class 1	EN 60950 EN 60825-1	TÜV, Semko, UL
Floppy Disk Drive	Newtronics Co.	D35XM3	5/12Vdc, 1.0A	IEC 60950	TÜV, UL
	Matsushita	JU-2XYAXXXX	5/12Vdc, 1.2A	IEC 60950	TÜV, UL
ZIP Drive	Iomega Corp.	Z250ATAPI	5Vdc/0.25A	EN 60950	TÜV, UL
		Z100ATAPI	5Vdc/0.8A	EN 60950	TÜV , UL
Hard Disk Drive	Quantum	3.5 series 5.25 series	5/12Vdc, 1.5A	IEC 60950	TÜV, UL

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

	Seagate	ST3XXXXY ST5XXXY ST5XXXXY	5/12Vdc, 1.5A	IEC 60950	TÜV, UL
	Maxtor Corp.	8XXXXYX 9XXXXYX	5/12Vdc, 0.6A	IEC 60950	TÜV, UL
	IBM	IC35L0nnAVER 07-y	5Vdc, 0.3A 12Vdc, 0.5A	IEC 60950	UL, TÜV
	Seagate	ST3XXXXYYX	5Vdc, 1.5A 12Vdc, 1.5A	IEC 60950	UL, TÜV
(only VT7200D)	Maxtor Corp.	2XXXXYYY	5Vdc, 1.0A 12Vdc, 3.0A	IEC 60950	UL, TÜV
(only VT7200D)	Maxtor Corp.	4XXXXYYY	5Vdc, 1.0A 12Vdc, 3.0A	IEC 60950	UL, TÜV
DVD-ROM (optional)	Hitachi	GD-2500#	5/12Vdc, 0.7/1.0A Laser class 1	IEC 60950, IEC 60825-1	TÜV, UL, S
		GD-3000# GD-5000#	5/12Vdc, 1.0/0.5A Laser class 1	IEC 60950, IEC 60825-1	TÜV, UL, S
		GD-7000	1.2A/5Vdc Laser class 1	IEC 60950	UL,TUV Semko
	Pioneer	DVD-116xxx	5Vdc, 0.8A 12Vdc, 1.3A	IEC 60950	UL, TÜV, Fimko
CD-R/RW	Sony	CRX100E-XX	5/12Vdc, 1.3/1.8A Laser class 1	IEC 60950 IEC 60825-1	TÜV, UL
	Aopen Inc	CRW 9420	5Vdc/2.0A Laser class 1	EN 60950 EN 60825-1	TÜV, UL
	Sony Electronics Inc.	CRX140E-XX	1.2A/5Vdc Laser class 1	IEC 60950 EN 60825-1	UL,TUV
	Aopen Inc.	CRW1232	5Vdc, 1.0A 12Vdc, 1.4A	IEC 60950	UL, TÜV
(only VT7200D)	Aopen Inc.	CRW2Y4Y	5Vdc, 2.0A 12Vdc, 1.4A	IEC 60950	UL, TÜV
	LG Electronics Inc.	CED-8080B	1.2A/5Vdc Laser class 1	IEC 60950 EN 60825-1	UL,TUV

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

CD-ROM	Aopen Inc.	CD-94. /... , CD-95. /...	0.9A/5Vdc Laser class 1	IEC 60950 EN 60825-1	UL/CUL Nemko Remark: Acceptance of this component should be decided when the national approval is done
	Aopen Inc.	CD-95.E/...	5Vdc, 0.9A, 12Vdc, 1.5A	IEC 60950	UL, TÜV
	Aopen Inc.	CD-93.E/... CD-94.E/...	5/12Vdc, 0.9/1.5A Laser class 1	IEC 60950 IEC 60825-1	NEMKO, UL
• Tray motor	Matsushita	MDN3BL3DLRA	2Vdc, 98.3mA	--	--
	Mabuchi Motor	RF-300CA	2Vdc, 125mA	--	--
• Sled motor	Matsushita	MDN3JL4DSG	3Vdc, 90mA	--	--
	Sanyo Seike	JCL9B	3Vdc, 18mA	--	--
	Mabuchi Motor	RF300CA-13300, RF300C-13300	2Vdc, 125mA	--	--
• Slide motor	Matsushita	BM3L3E5	12Vdc, 540mA	--	--
	Victor Company	EN24HA	12Vdc, 800mA	--	--
	Matsushita	BML5E6CRA	12Vdc, 700mA	--	--
		BML3E5CRC	12Vdc, 650mA	--	--
• Optical pickup	Sanyo Seike	SPU3220, SPU3224, SPU3227	5Vdc, 5mW	--	--
• Laser diode	Rohm Co.	RLD-78MA	791nm, 134μW	--	--
	Sony	SLD105UL-52	787nm, 77.5μW	--	--
	Tottori Sanyo	DL-3150-103	787nm, 159μW	--	--
• Leading base	GE Plastic	SE100	V-0	UL 94	UL
• Traverse base	GE Plastic Japan	HM3020	V-1	UL 94	UL
• Front bezel	Chi Mei	PA-765A	V-0	UL 94	UL
• PCB	--	--	V-0, 105°C	UL 94	UL

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

Fax/modem card	CIS Technology	M3-51614PM3 M3-5614PM3G	5Vdc, 300mA	EN 60950	UL, NEMKO (CB)
	Askey Computer Corp.	V1456VQH20B V1456VQH20 C	5Vdc, 40mA	EN 60950	TÜV, UL, NEMKO
(only VT7200D)	Askey Computer Corp.	V1456VQH75 D (INT)	5Vdc, 300mA	EN 60950	TÜV, UL, FIMKO
Fax / Modem	Ambit Microsystems Corp.	T62M154.00	5Vdc,500mA	IEC 60950	UL Nemko
(only VT7200D)	Ambit Microsystems Corp.	T62M206	5Vdc, 30mA	IEC 60950	TUV, CSA
Enclosure	various	metal	1mm	--	--
[1]) an asterisk indicates a mark which assures the agreed level of surveillance					

1.6	TABLE: electrical data (in normal conditions)					P
fuse #	Irated (A)	U (V)	P (W)	I (A)	Ifuse (A)	condition/status
F1	--	90V/50Hz	174	3.21	3.21	Max. normal load
F1	--	90V/60Hz	170	3.10	3.10	dto.
F1	5	100V/50Hz	173	2.91	2.91	dto.
F1	5	100V/60Hz	170	2.78	2.78	dto.
F1	5	127V/50Hz	173	2.42	2.42	dto.
F1	5	127V/60Hz	171	2.34	2.34	dto.
F1	5	134V/50Hz	172	2.33	2.33	dto.
F1	5	134V/60Hz	172	2.24	2.24	dto.
F1	--	140V/50Hz	173	2.26	2.26	dto.
F1	--	140V/60Hz	172	2.18	2.18	dto.
F1	--	180V/50Hz	169	1.67	1.67	dto.
F1	--	180V/60Hz	168	1.60	1.60	dto.
F1	3	200V/50Hz	169	1.52	1.52	dto.
F1	3	200V/60Hz	169	1.48	1.48	dto.
F1	3	240V/50Hz	171	1.34	1.34	dto.
F1	3	240V/60Hz	171	1.30	1.30	dto.

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Clause	Requirement – Test	Result – Remark	Verdict

F1	--	254V/50Hz	173	1.28	1.28	dto.
F1	--	254V/60Hz	173	1.26	1.26	dto.
F1	--	264V/50Hz	169	1.23	1.23	dto.
F1	--	264V/60Hz	170	1.20	1.20	dto.

2.1.10	TABLE: discharge test				N
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	comments	
Overall capacity : in approved SPS					
Discharge resistor : in approved SPS					

2.5.11	TABLE: ground continue test		P
Location		Resistant measured (Ω)	Comments
inlet ground pin to metal enclosure		0.011	25A test current, 1 minute
inlet ground pin to metal enclosure		0.014	30A test current, 2 minutes
Test current = 25A/1min, 30A/2min			

2.9.2 and 2.9.3	TABLE: clearance and creepage distance measurements					P
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)
TNV to other PC components (which are not part of the fax/modem card)	≤140	≤100	2.0	≥2.0	2.5*)	≥2.5

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

Notes:

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

TNV circuits of the modem cards are covered by plastic case.

2.9.4.1	TABLE: distance through insulation measurements				N
distance through insulation di at/of:		U r.m.s. (V)	test voltage (V)	required di (mm)	di (mm)
Note: In approved switching power supply.					

4.3.15/16 & 4.4.6	Table: enclosure openings		P
Location		Size (mm)	Comments
Top		None	--
Left side		3.15x3.15mm	covering an area of 22x315mm
Rear side		∅2.9mm	covering an area of 22x260mm for ventilation
		∅90mm	DC fan of power supply, in a projected area of 5 degree no hazardous bare parts
Bottom		None	--

5.1	TABLE: temperature rise measurements		P
	test voltage (V) .....:	100V-10% 240V+6%/ 240V+10%	—

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	t1 (°C) .....:		—
	t2 (°C).....:		—

temperature rise dT of part/at:	dT (K)	required dT (K)
SPS		
T0 coil	12/6/5	55*)
T3 coil	8/8/10	55*)
L0 coil	16/9/7	70*)
C6	6/5/5	50*)
T4 coil	10/10/7	55*)
T5 coil	14/20/7	55*)
D28	15/15/15	--
Q1	13/21/14	--
IC1	11/12/20	--
Enclosure	5/5/6	35
Fan enclosure	7/7/6	--
System		
U9	15/14/14	--
U17	9/8/15	--
CPU heat sink	13/12/12	--
Q3	28/28/25	--
CD-ROM	7/6/6	--
FDD	5/2/4	--
HDD	9/7/8	--
Enclosure	3/2/2	35
Room ambient at	25°C/24°C/25°C	--

*) For the approved switching power supply all winding components considered to be rated isolation class A respectively 105°C (class A IEC 60085) and capacitors 85°C.

temperature rise dT of winding:	R_1 (Ω)	R_2 (Ω)	dT (K)	required dT (K)	insulation class

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

Comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in 1.6.5.

With a specified ambient temperature of 35°C for all models, the max. temperature rise is calculated as follows:

Winding components:

- class A → dTmax = 75K - 10K - (35 - 25)K = 55K

Electrolyte capacitor or components with:

- max. absolute temp. of 85°C → dTmax = (85-35) K = 50K
- max. absolute temp. of 105°C → dTmax = (105-35) K = 70K

5.2	TABLE: leakage current measurement		P
Condition	current L→PE (mA)	current N→PE (mA)	comments
Switch ON	0.74/0.76	0.69/0.74	
Switch OFF	1.12/1.18	0.273/0.258	

Input voltage : 254V/264V

Input frequency : 60Hz

Overall capacity : in approved SPS

5.3	TABLE: electric strength measurements	P
test voltage applied between:	test voltage (V)	breakdown
primary and secondary	DC 4242V	No
primary and ground	DC 2121V	No
TNV to ground	1500Vac	No
TNV to secondary	1500Vac	No
TNV to metal enclosure *)	1000 Vac	No
TNV to secondary *)	1000 vac	No