

IEC

IECEE

Ref. Certif. No.

JPTUV-004790-M3

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHLME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Notebook Computer

Name and address of the applicant
Nom et adresse du demandeur

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3, Taipei 104 Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3, Taipei 104 Taiwan

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

(See appendix for factories information)

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

Input Rating : DC 19V, 4.74A or DC 19V, 6.3A
Protection Class: III

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

1) MTC or MSL
2) micronpc or mpc

Model/type Ref.
Ref. de type

1) 8640
2) TransPort V2000

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

For differences between the models, refer to the test report
Remark : Replaces JPTUV-004790-M2 dated 19.12.2002,
due to third modification.

PUBLICATION

EDITION

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

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 forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue une partie de ce Certificat

12003092 004

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 Rheinland
Berlin Brandenburg

TÜV Rheinland Japan Ltd.
Shin Yokohama Daini Center Bldg. 9F
3-19-5, Shin Yokohama, Kohoku-ku
Yokohama 222-0033 Japan
Phone + 81 45 470-1850
Fax + 81 45 470-5221
Mail: Info@jpn.tuv.com
Web: www.tuv.com

Date: 24.03.2003

Signature:

James Philitschke
dipl.-Ing. W. Philitschke

Appendix to CB Certificate JPTUV-004790-M3
Report Number: 12003092 004

PAGE 1 OF 1

Name and address of the manufacturer
Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3
Taipei 104
Taiwan

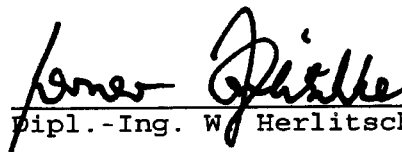
Name and address of the factory(ies)
Mitac International Corp.

1st R&D Road 2
Hsinchu Science-based Ind. Park
Hsinchu 300
Taiwan

Mitac Computer (Shun De) Ltd.

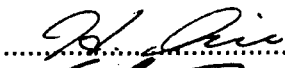

No. 1, ShunDa Rd., LunJiao
ShunDe, GuangDong
P.R. China

Date: 24.03.2003


Dipl.-Ing. W. Herlitschke<http://www.jpn.tuv.com>

Yokohama Head Office
Shin Yokohama Daini Center Bldg. 9F
3-19-5, Shin Yokohama
Kohoku-ku, Yokohama 222-0033, Japan
Tel. : (045) 470-1850
Fax : (045) 473-5221
e-mail : info@jpn.tuv.com

Yokohama Laboratory
Festo Building 5F
1-26-10, Hayabuchi, Tsuzuki-ku
Yokohama 224-0025, Japan
Tel. : (045) 592-1371
Fax : (045) 592-1374
e-mail : yoko-lab@jpn.tuv.com

<p align="center">TEST REPORT FOR AN ADDITIONAL APPROVAL</p> <p align="center">IEC 950</p> <p align="center">Safety of information technology equipment</p>	
Report	
Reference No.....	<12003092 004>
Compiled by (+ signature)	H. Irie 
Approved by (+ signature)	B. Schmid 
Date of issue	19 March, 2003
Contents	5 pages
Testing laboratory	
Name.....	TÜV Rheinland Japan Ltd., Yokohama Laboratory
Address	Festo Bldg. 5F, 1-26-10 Hayabuchi, Tsuzuki-Ku, Yokohama 224-0025, Japan
Testing location	Same as above.
Client	
Name.....	Mitac Technology Corp.
Address	9F, No. 75, Ming Sheng E. Rd., Sec. 3, Taipei 104, Taiwan
Test specification	
Standard	IEC 60950:1991+A1:1992 + A2:1993 + A3:1995 + A4:1996 EN 60950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997 EMKO-TSE(74-SEC)207/94, UL 1950, C22.2 No. 950
Test procedure	CB-scheme
Procedure deviation.....	Argentina, Austria, Belgium, Brazil, Canada, China, The Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Ireland, Israel, Italy, Japan, Rep. of Korea, The Netherlands, Norway, Poland, Portugal, Russian Fed., Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, USA
Non-standard test method.....	N.A.
Test Report Form/blank test report	
Test Report Form No.	I950__D/97-06 (CBADD60950_2)
TRF originator.....	FIMKO (modified for additional approvals by TÜV Rheinland)
Master TRF.....	reference No. I950__D, dated 1997-02 (modified by TÜV Rheinland: 2002-11)
Test item	
Description	Notebook Computer
Trademark.....	1) MTC, MSL; 2) micronpc, 3) mpc
Model and/or type reference	1) 8640; 2) TransPort V2000 3) TransPort V2000
Manufacturer	Same as client.
Rating(s)	19Vdc/4.74A (for use with adapters PA-1900-06, ADP-90FB Rev.E, FSP090-1ADC21), 19Vdc/6.3A (for use with adapter ADP-120GB C)

The construction of Notebook Computer model 8640 was modified as follows:

1. Add alternative sources of Battery packs.

For the above described modification(s) the following testing was considered to be necessary:

Modification	Testing	Comments	Result
1.	<ul style="list-style-type: none"> • Abnormal test 	For test results see appended table 5.4. For sources, see appended table 1.5.1. The fire enclosure construction is identical to original approved battery, therefore accepted without testing.	P

Remark:

This test report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE02.

Factory(ies):

1. **Mitac Computer (Shun De) Ltd.**
No. 1, ShunDa Road, LunJiao, ShunDe, GuangDong, China
2. **MITAC INTERNATIONAL CORP.**
1ST R&D, Road 2, Hsinchu Science-Based Ind. Park, Hsinchu 30077, Taiwan

History of amendments and modifications:

Ref. No. 12003092 001, dated 21 August, 2002 (original test report)
 Ref. No. 12003092 002, dated 19 November, 2002 (modification)
 Ref. No. 12003092 003, dated 16 December, 2002 (modification)
 Ref. No. 12003092 004, dated 19 March, 2003 (modification)

1.5.1	TABLE: list of critical components					P
object/part No.	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
Main Battery Pack (Optional)	Sanyo	UR18650F-SECT-QC10-MSL	Li-Ion type, DC 14.8V, 6.6AH	--	--	
- Battery Cell	Sanyo	UR18650FJ	Li-Ion type, DC 3.7V, 2.2AH	--	UL	
- Thermofuse	Therm-O-Disc	G4A	AC 250V, 10A, 98°C	DIN VDE 0821 IEC 60691	VDE, UL	
- Polyswitch	Raychem	LR4-730	DC 20V, 7.3A	IEC 60730-1	TUV, UL	
- Label Material	GE	FR-65	V-0	UL 94	UL	
- Sealed Glue	Taiwan Cemedine	G-485	--	--	--	
Main Battery Pack (Optional)	Sanyo	UR18650F-8-MSL	Li-Ion type, DC 14.8V, 4.0AH	--	--	
- Battery Cell	Sanyo	UR18650FH	Li-Ion type, DC 3.7V, 2.0AH	--	UL	
- Thermofuse	Therm-O-Disc	G4A	AC 250V, 10A, 98°C	DIN VDE 0821 IEC 60691	VDE, UL	
- Polyswitch	Raychem	LR4-730	DC 20V, 7.3A	IEC 60730-1	TUV, UL	
- Label Material	GE	FR-65	V-0	UL 94	UL	
- Sealed Glue	Taiwan Cemedine	G-485	--	--	--	

¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance

5.4	TABLE: fault condition tests						P
	ambient temperature (°C)					25°C (if no else specified)	—
	model/type of power supply					PA-1900-06	—
	manufacturer of power supply					Lite-On	—
	rated markings of power supply					100-240V, 1.5A, 50-60Hz	—
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	Result
1.	Main Battery UR18650F-SECT-QC10-MSL of Sanyo	s-c	--	5 min	--	--	Protection device inside the battery pack was activated immediately. No hazard.

	(+) – (-)						
2.	Overcharge the Main Battery UR18650F-SECT-QC10-MSL of Sanyo	--	17.8V/4.5A	7 hrs	--	--	Max. temp. of battery = 23°C at ambient 22°C, when the protection circuitry was activated immediately. No hazards.
3.	Overcharge the Main Battery UR18650F-SECT-QC10-MSL of Sanyo	Q3 (1-8) s-c	17.8V/4.5A	7 hrs	--	--	Max. temp. of battery = 27°C at ambient 19°C, when the protection circuitry was activated immediately. No hazards.
4.	Abusive charge the Main Battery UR18650F-SECT-QC10-MSL of Sanyo	--	17.8V/13.2A	7 hrs	--	--	Max. temp. of battery = 23°C at ambient 22°C, when the protection circuitry was activated immediately. No hazards.
5.	Abusive charge the Main Battery UR18650F-SECT-QC10-MSL of Sanyo	Q2 (1-8) s-c	17.8V/13.2A	7 hrs	--	--	Max. temp. of battery = 27°C at ambient 19°C, when the protection circuitry was activated immediately. No hazards.
6.	Discharge the Main Battery UR18650F-SECT-QC10-MSL of Sanyo	--	9.1A	2.2 hrs	--	--	Max. temp. of battery = 70°C at ambient 20°C.
7.	Discharge the Main Battery UR18650F-SECT-QC10-MSL of Sanyo	Q2 (1-8) s-c	9.1A	2.2 hrs	--	--	Max. temp. of battery = 79°C at ambient 20°C.
8.	Main Battery UR18650F-8-MSL of Sanyo (+) – (-)	s-c	--	5 min	--	--	Protection device inside the battery pack was activated immediately. No hazard.
9.	Overcharge the Main Battery UR18650F-8-MSL of	--	17.8V/4.0A	7 hrs	--	--	Max. temp. of battery = 23°C at ambient 22°C, when the protection circuitry was activated immediately. No hazards.

[illegible]

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Notebook Computer

Name and address of the applicant
Nom et adresse du demandeur

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3, Taipei 104 Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3, Taipei 104 Taiwan

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

(See appendix for factories information)

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

Input Rating : DC 19V, 4.74A or DC 19V, 6.3A
Protection Class: III

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

1) MTC or MSL
2) micronpc or mpc

Model/type Ref.
Ref. de type

1) 8640
2) TransPort V2000

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

For differences between the models, refer to the test report
Remark : Replaces JPTUV-004790-M1 dated 20.11.2002,
due to second modification.

PUBLICATION

EDITION

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

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 forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue une partie de ce Certificat

12003092 003

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 Rheinland
Berlin Brandenburg

TÜV Rheinland Japan Ltd.
Shin Yokohama Daini Center Bldg. 9F
3-19-5, Shin Yokohama, Kohoku-ku
Yokohama 222-0033 Japan
Phone + 81 45 470-1850
Fax + 81 45 470-5221
Mail: info@jpn.tuv.com
Web: www.tuv.com

Signature:

W. Herlitschke
Dipl.-Ing. W. Herlitschke

Date: 19.12.2002

TÜV Rheinland Japan Ltd.

Member of TÜV Rheinland Berlin Brandenburg Group

Appendix to CB Certificate JPTUV-004790-M2
Report Number: 12003092 003

PAGE 1 OF 1

Name and address of the manufacturer

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3
Taipei 104
Taiwan

Name and address of the factory(ies)

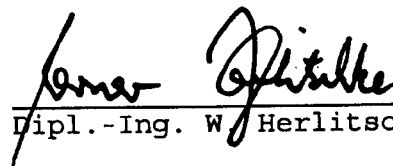
Mitac International Corp.

1st R&D Road 2
Hsinchu Science-based Ind. Park
Hsinchu 300
Taiwan

Mitac Computer (Shun De) Ltd.

No. 1, ShunDa Rd., LunJiao
ShunDe, GuangDong
P.R. China

Date: 19.12.2002



Dipl.-Ing. W. Herlitschke

<http://www.jpn.tuv.com>

Yokohama Head Office

Shin Yokohama Daini Center Bldg. 9F
3-19-5, Shin Yokohama
Kohoku-ku, Yokohama 222-0033, Japan

Tel. : (045) 470-1850
Fax : (045) 473-5221
e-mail : info@jpn.tuv.com

Yokohama Laboratory

Festo Building 5F
1-26-10, Hayabuchi, Tsuzuki-ku
Yokohama 224-0025, Japan

Tel. : (045) 592-1371
Fax : (045) 592-1374
e-mail : yoko-lab@jpn.tuv.com

TEST REPORT FOR AN ADDITIONAL APPROVAL**IEC 950****Safety of information technology equipment****Report**

Reference No.: <12003092 003>

Compiled by (+ signature): E. Otsuka

Approved by (+ signature): R. Gratton

Date of issue: 16 December, 2002

Contents: 12 pages

Testing laboratory

Name.....: TÜV Rheinland Japan Ltd., Yokohama Laboratory

Address: Festo Bldg. 5F, 1-26-10 Hayabuchi, Tsuzuki-Ku,
Yokohama 224-0025, Japan

Testing location: Same as above.

Client

Name.....: Mitac Technology Corp.

Address: 9F, No. 75, Ming Sheng E. Rd., Sec. 3, Taipei 104, Taiwan

Test specificationStandard: IEC 60950:1991+A1:1992 + A2:1993 + A3:1995 + A4:1996
EN 60950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997
EMKO-TSE(74-SEC)207/94, UL 1950, C22.2 No. 950

Test procedure: CB-scheme

Procedure deviation: Argentina, Austria, Belgium, Brazil, Canada, China, The Czech
Republic, Denmark, Finland, France, Germany, Greece, Hungary,
India, Ireland, Israel, Italy, Japan, Rep. of Korea, The
Netherlands, Norway, Poland, Portugal, Russian Fed., Singapore,
Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland,
United Kingdom, USA

Non-standard test method: N.A.

Test Report Form/blank test report

Test Report Form No.: I950__D/97-06 (CBADD60950_2)

TRF originator.: FIMKO (modified for additional approvals by TÜV Rheinland)

Master TRF.....: reference No. I950__D, dated 1997-02 (modified by TÜV
Rheinland: 2002-11)**Test item**

Description.....: Notebook Computer

Trademark.....: 1) MTC, MSL; 2) micronpc, 3) mpc

Model and/or type reference: 1) 8640; 2) TransPort V2000 3) TransPort V2000

Manufacturer: Same as client.

Rating(s): 19Vdc/4.74A (for use with adapters PA-1900-06, ADP-90FB Rev.E,
FSP090-1ADC21),
19Vdc/6.3A (for use with adapter ADP-120GB C)

The construction of Notebook Computer model 1) 8640; 2) TransPort V2000 was modified as follows:

1. Add alternative trade mark "mpc" for model TransPort V2000, which is identical to the original model except trade mark.
2. Add alternative source of approved power adaptor ADP-120GB C.
3. Add alternative rating of 19V/6.3A for models 1) 8640; 2) TransPort V2000, due to item 2.
4. Add alternative sources of Battery packs.
5. Add alternative source of Hard Disk drives.
6. Add alternative source of LCD panel.

For the above described modification(s) the following testing was considered to be necessary:

Modification	Testing	Comments	Result
1.	N/A	For model details, see subclause 1.7.1 and label.	P
2.	<ul style="list-style-type: none"> • Input test • TNV leakage current test 	For test results see appended tables 1.6 and 6.3.4.1. For source, see appended table 1.5.1.	P
3.	<ul style="list-style-type: none"> • Input test 	For test results see appended table 1.6. For ratings see copy of the marking plate and sub-clause 1.7.1.	P
4.	<ul style="list-style-type: none"> • Abnormal test 	For test results see appended table 5.4. For sources, see appended table 1.5.1. The fire enclosure construction is identical to original approved battery, therefore accepted without testing.	P
5.	N/A	No testing considered necessary. For source, see appended table 1.5.1.	P
6.	N/A	No testing considered necessary. For source, see appended table 1.5.1.	P

Remark:

This test report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE02.

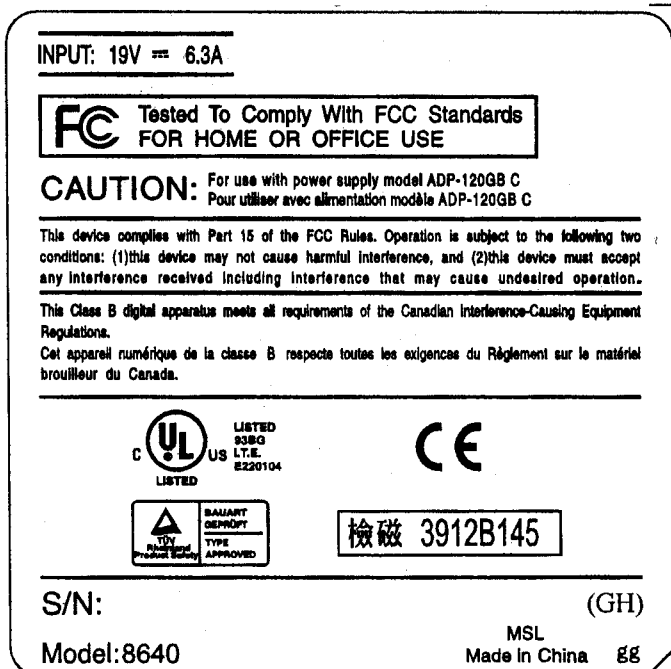
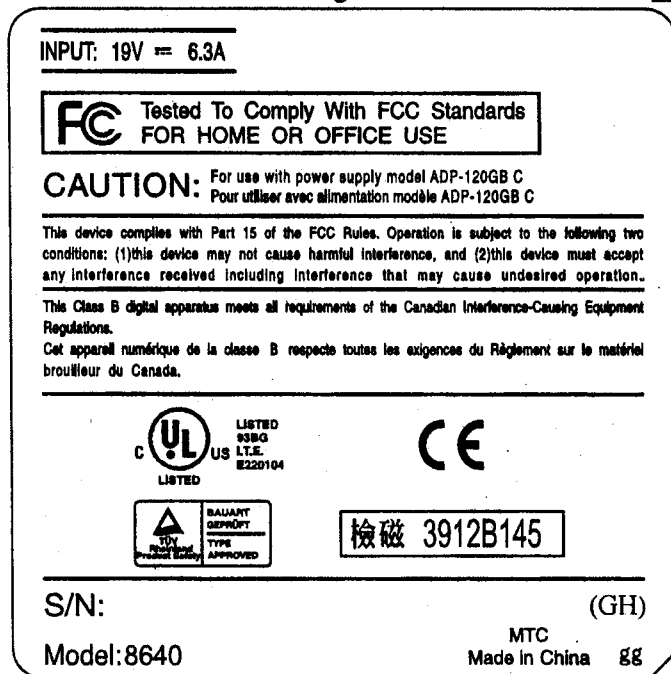
Factory(ies):

1. **Mitac Computer (Shun De) Ltd.**
No. 1, ShunDa Road, LunJiao, ShunDe, Guangdong, China
2. **MITAC INTERNATIONAL CORP.**
1ST R&D, Road 2, Hsinchu Science-Based Ind. Park, Hsinchu 30077, Taiwan

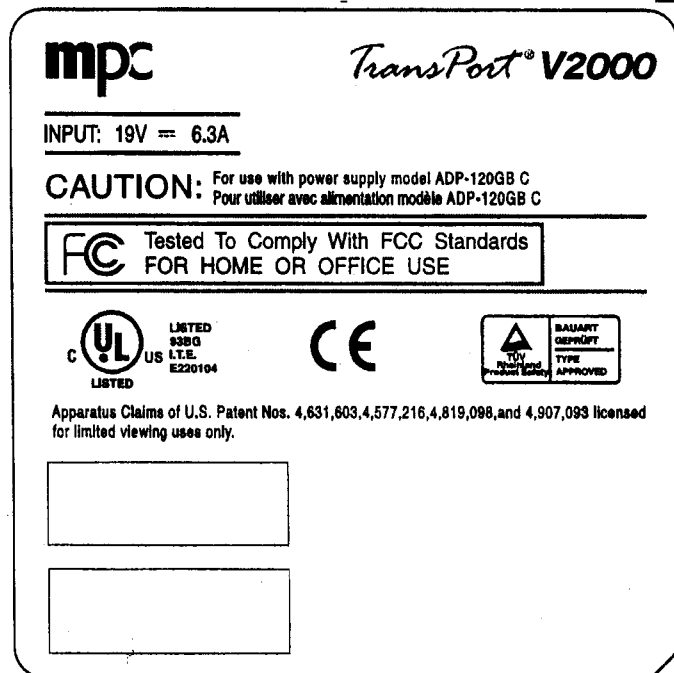
History of amendments and modifications:

Ref. No. 12003092 001, dated 21 August, 2002 (original test report)
 Ref. No. 12003092 002, dated 19 November, 2002 (modification)
 Ref. No. 12003092 003, dated 16 December, 2002 (modification)

Copy of marking plate(s):



Copy of marking plate(s):



Copy of marking plate(s):

RECHARGEABLE BATTERY 14.8V = 4000mAh
DO NOT CRUSH, PUNCTURE, INCINERATE
OR SHORT EXTERNAL CONTACTS.

CAUTION:

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended
by the equipment manufacturer. Discard used batteries
according to manufacturer's instructions.

ATTENTION:

Il y a danger d'explosion s'il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par le
constructeur. Mettre au rebut les batteries usagées
conformément aux instructions du fabricant.

VORSICHT:

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller
empfohlenen gleichwertigen Typ. Entsorgung gebrauchter
Batterien nach Angaben des Herstellers.

BATTERY PACK: PANASONIC CGR-B/T19SE-8-MSL
P/N: 442673400008



RECHARGEABLE BATTERY 14.8V = 4000mAh
DO NOT CRUSH, PUNCTURE, INCINERATE
OR SHORT EXTERNAL CONTACTS.

CAUTION:

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended
by the equipment manufacturer. Discard used batteries
according to manufacturer's instructions.

ATTENTION:

Il y a danger d'explosion s'il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par le
constructeur. Mettre au rebut les batteries usagées
conformément aux instructions du fabricant.

VORSICHT:

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller
empfohlenen gleichwertigen Typ. Entsorgung gebrauchter
Batterien nach Angaben des Herstellers.

BATTERY PACK: MOLICEL ICR18650G75085-8-MSL
P/N: 442673400009



IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.1	Rated voltage (V)	19V (no connection to the mains)	N
	Symbol of nature of supply for d.c.	DC symbol used. (no connection to the mains)	N
	Rated frequency (Hz)	No connection to the mains.	N
	Rated current (A)	6.3A (for use with adapter ADP-120GB C) (no connection to the mains)	N
	Manufacturer	Not shown	N
	Trademark	1. MTC 2. MSL 3. mpc	P
	Type/model	1. 8640 2. 8640 3. TransPort V2000	P
	Symbol of Class II	Class III equipment	N
	Certification marks	TÜV Rheinland Bauart mark, UL, CUL	N

1.5.1	TABLE: list of critical components					P
object/part No.	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
Switching Power Supply Adapter	Delta	ADP-120GB C	I/P: 100-240 V, 1.8 A, 50-60 Hz Class II, rated temp. 40°C, O/P: DC 19 V, 6.3 A	IEC 60950	TUV, CB (TUV Rheinland)	
Hard Disk Drive	Hitachi	DK23EA-xy (x = 01-99, w, y = A-Z or blank)	DC 5 V, 0.5 A	IEC 60950	TUV	
	Fujitsu	MHS2xxxAy (x = 0-9, y = T or R)	DC 5 V, 0.55 A	IEC 60950	TUV	
Main Battery Pack (Optional)	Panasonic	CGR-B/T19SE-8-MSL	Li-Ion type, DC 14.8 V, 4.0AH	----	----	
- Battery Cell	Matsushita	CGR18650A	Li-Ion type, DC 3.7 V, 2.0AH	----	UL	
- thermofuse	Therm-O-Disc	G4A	AC 250V, 10A, 98□	DIN VDE 0821 IEC 60691	VDE	
-polyswitch	Raychem	LR4-730	DC 20 V, 7.3 A	IEC 60730-1	TUV	
- Label Material	GE	FR-65	V-0	UL 94	UL	
- Sealed Glue	Taiwan Cemedine	G-485	----	----	----	
Main Battery Pack (Optional)	Panasonic	ICR18650G7508 5-8-MSL	Li-Ion type, DC 14.8 V, 4.0AH	----	----	
- Battery Cell	E-One Moli	ICR18650G	Li-Ion type, DC 3.7 V, 2.0AH	----	UL	
- thermofuse	Therm-O-Disc	G4A	AC 250V, 10A, 98□	DIN VDE 0821 IEC 60691	VDE	
-polyswitch	Raychem	LR4-730	DC 20 V, 7.3 A	IEC 60730-1	TUV	
- Label Material	GE	FR-65	V-0	UL 94	UL	
- Sealed Glue	Taiwan Cemedine	G-485	----	----	----	
LCD	Hyundai	HT15X3* (* = 0-9, followed by hyphen and by three digits 001-999)	15", TFT	IEC 60950	TUV, UL	
1) an asterisk indicates a mark which assures the agreed level of surveillance						

1.6	TABLE: electrical data (in normal conditions)					N
fuse #	I _{rated} (A)	U (V)	P (W)	I (mA)	I _{fuse} (mA)	condition/status
--	6.3	19.13	--	4.7	--	Unit operated with Delta ADP-120GB C adapter (adapter: I/P 240V, 60Hz, 0.65A, 105W) normal load condition (measured on notebook): PC on, main battery pack trickle charging
--	6.3	19.17	--	4.2	--	Unit operated with Delta ADP-120GB C adapter (adapter: I/P 240V, 60Hz, 0.61A, 92W) normal load condition (measured on notebook): PC off, main battery pack fast charging
--	--	90/60Hz	105	1.17	--	Unit operated with Delta ADP-120GB C adapter at normal load condition (measured on adapter): PC on, main battery pack trickle charging
--	--	90/50Hz	105	1.11	--	dto
--	1.8	100/60Hz	105	1.06	--	dto
--	1.8	100/50Hz	105	1.03	--	dto
--	1.8	240/60Hz	105	0.65	--	dto
--	1.8	240/50Hz	105	0.65	--	dto
--	--	254/60Hz	105	0.63	--	dto
--	--	254/50Hz	105	0.63	--	dto
--	--	264/60Hz	105	0.61	--	dto
--	--	264/50Hz	105	0.61	--	dto

5.1	TABLE: temperature rise measurements		P
	test voltage (V)	100V-10%/240V+10%	—
	t1 (°C)		—
	t2 (°C)		—
temperature rise dT of part/at:		dT (K)	required dT (K)
For unit operated with Delta adapter type ADP-120GB C:			
Adapter AC Inlet (rated 70□)		23/19	35
Adapter choke coil FL1 (rated 105□)		45/39	70
Adapter choke coil FL2 (rated 130□)		47/39	95
Adapter choke coil L1 (rated 130□)		47/43	95

Adapter choke coil L8 (rated 130□)	46/44	95			
Adapter Storage Capacitor C1 (rated 105□)	45/43	70			
Adapter heatsink Q1	47/52	--			
Adapter T1 coil (Class B)	53/52	75			
Adapter T51 coil (Class E)	45/43	70			
Adapter top of enclosure	27/26	60			
DC/AC inverter transformer coil (rated 105□)	37/38	70			
CD-ROM drive	24/24	--			
HDD drive	35/34	--			
CPU heat sink	23/22	--			
Bottom housing below CPU	10/11	60			
Li-Ion Battery Pack Body	5/6	--			
User Accessible Metal Part (PIO Port)	15/14	35			
External FDD case	3/4	--			
Room ambient at	29□/28□	--			
temperature rise dT of winding:	R ₁ (Ω)	R ₂ (Ω)	dT (K)	Required dT (K)	insulation class

Comments:

The temperature were measured under worst case normal mode as described in 1.6.1 at voltages described in 1.6.5 in Notebook operation condition and battery charging condition. Highest load according to 1.2.2.1 for this equipment is the CD-ROM, FDD, HDD permanently access and max. brightness and contrast for LCD back light circuit and charge of empty battery .

Ambient temperature 35□ is specified; therefore, the max. temperature rise is calculated as follows:

Winding components:

Class E: dTmax = 90K - 10K – (35 –25)K = 70K

Class B: dTmax = 95K - 10K – (35 –25)K = 75K

Component with:

- max. absolute temp. of 70°C -> dTmax = (70-35) K = 35K

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

- max. absolute temp. of 120°C -> dTmax = (120-35) K = 85K

- max. absolute temp. of 130°C -> dTmax = (130-35) K = 95K

External surface which may be touched with:

dTmax = 70K- (35 – 25) = 60K (Plastic)

dTmax = 45K-(35-25) K = 35K (Metal)

5.4	TABLE: fault condition tests						P
	ambient temperature (°C) : See below						—
	model/type of power supply : ADP-120GB C						—
	manufacturer of power supply : Delta						—
	rated markings of power supply : See appended table 1.5.1						—
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	Result
1.	Main Battery CGR-B/T19SE-8-MSL of Panasonic (+) - (-)	s-c	--	5 min	--	--	Protection device inside the battery pack was activated immediately. No hazard.
2.	Main Battery ICR18650G7 5085-8-MSL of Molitel (+) - (-)	s-c	--	5 min	--	--	Protection device inside the battery pack was activated immediately. No hazard.
3.	Overcharge the Main Battery CGR-B/T19SE-8-MSL of Panasonic	--	17.8V/4.0A	7 hrs	--	--	Max. temp. of battery = 22□ at ambient 21□, when the protection circuitry was activated immediately. No hazards.
4.	Overcharge the Main Battery CGR-B/T19SE-MSL of Panasonic	PCM Q3 (1-8) shorted	17.8V/4.0A	7 hrs	--	--	Max. temp. of battery = 22□ at ambient 21□, when the protection circuitry was activated immediately. No hazards.
5.	Abusive charge the Main Battery CGR-B/T19SE-8-MSL of Panasonic	--	17.8V/8.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
6.	Abusive charge the Main Battery CGR-B/T19SE-8-MSL of Panasonic	PCM Q2 (1-8) shorted	17.8V/8.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
7.	Overcharge the Main	--	17.8V/4.0A	7 hrs	--	--	Max. temp. of battery = 22□ at ambient 21□, when the

	Battery ICR18650G7 5085-8-MSL of Molicel						protection circuitry was activated immediately. No hazards.
8.	Overcharge the Main Battery ICR18650G7 5085-8-MSL of Molicel	PCM Q3 (1- 8) shorte d	17.8V/4.0A	7 hrs	--	--	Max. temp. of battery = 22□ at ambient 21□, when the protection circuitry was activated immediately. No hazards.
9.	Abusive charge the Main Battery ICR18650G7 5085-8-MSL of Molicel	--	17.8V/8.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
10.	Abusive charge the Main Battery ICR18650G7 5085-8-MSL of Molicel	PCM Q2 (1- 8) shorte d	17.8V/8.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
11.	Discharge the Main Battery CGR- B/T19SE-8- MSL of Panasonic	--	7.5A	2.5 hrs	--	--	Max. temp. of battery = 65□ at ambient 21□
12.	Discharge the Main Battery CGR- B/T19SE-8- MSL of Panasonic	PCM Q2 (1- 8) shorte d	7.5A	2 hrs	--	--	Max. temp. of battery = 82□ at ambient 21□
13.	Discharge the Main Battery ICR18650G7 5085-8-MSL of Molicel	--	7.5A	2 hrs	--	--	Max. temp. of battery = 60□ at ambient 21□
14.	Discharge the Main Battery ICR18650G7 5085-8-MSL of Molicel	PCM Q2 (1- 8) shorte d	7.5A	2 hrs	--	--	Max. temp. of battery = 64□ at ambient 21□
supplementary information							

6.3.4.1	TABLE: TNV leakage current measurement			P
Condition	current of maximum leakage to Tip or Ring (mA)	--	Comments	
I. For Modem card model V1456VQL-P1(INT) of Askey:				
From Line 1 to Tip	0.1	--	Modem card model V1456VQL-P1(INT) of Askey is installed in Notebook PC model 8640 with AC adapter model ADP-120GB C of Delta	
From Line 1 to Ring	0.1	--	dto	
From Line 2 to Tip	0.1	--	dto	
From Line 2 to Ring	0.1	--	dto	
II. For Modem card model WLL030M of Askey:				
From Line 1 to Tip	0.09	--	Modem card model WLL030M of Askey is installed in Notebook PC model 8640 with AC adapter model ADP-120GB C of Delta	
From Line 1 to Ring	0.09	--	dto	
From Line 2 to Tip	0.09	--	dto	
From Line 2 to Ring	0.09	--	dto	
III. For Modem card model CTX 708 of Creatix:				
From Line 1 to Tip	0.1	--	Modem card model CTX 708 of Creatix is installed in Notebook PC model 8640 with AC adapter model ADP-120GB C of Delta	
From Line 1 to Ring	0.1	--	dto	
From Line 2 to Tip	0.1	--	dto	
From Line 2 to Ring	0.1	--	dto	
Input voltage : 264V				
Input frequency : 60Hz				
Overall capacity : in approved SPS				
(measurement was carried out at 110% of the rated input voltage and highest rated frequency)				

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Notebook Computer

Name and address of the applicant
Nom et adresse du demandeur

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3, Taipei 104 Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3, Taipei 104 Taiwan

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

(See appendix for factories information)

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

Input Rating : DC 19V, 4.74A
Protection Class: III

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

- 1) MTC or MSL
- 2) micronpc

Model/type Ref.
Ref. de type

- 1) 8640
- 2) TransPort V2000

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

For differences between the models, refer to the test report
Remark : Replaces JPTUV-004790 dated 26.08.2002,
due to first modification.

PUBLICATION

EDITION

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

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 forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue une partie de ce Certificat

12003092 002

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 Rheinland
Berlin Brandenburg

TÜV Rheinland Japan Ltd.
Shin Yokohama Daini Center Bldg. 9F
3-19-5, Shin Yokohama, Kohoku-ku
Yokohama 222-0033 Japan
Phone + 81 45 470-1850
Fax + 81 45 470-5221
Mail: info@jpn.tuv.com
Web: www.tuv.com

Signature:

W. Herlitschke
dipl.-Ing. W. Herlitschke

Date: 20.11.2002

TÜV Rheinland Japan Ltd.

Member of TÜV Rheinland Berlin Brandenburg Group

PAGE 1 OF 1

Appendix to CB Certificate JPTUV-004790-M1
Report Number: 12003092 002

Name and address of the manufacturer

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3
Taipei 104
Taiwan

Name and address of the factory(ies)

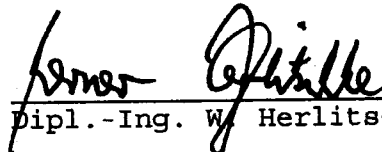
Mitac International Corp.

1st R&D Road 2
Hsinchu Science-based Ind. Park
Hsinchu 300
Taiwan

Mitac Computer (Shun De) Ltd.

No. 1, ShunDa Rd., LunJiao
ShunDe, GuangDong
P.R. China

Date: 20.11.2002


Dipl.-Ing. W. Herlitschke

<http://www.jpn.tuv.com>

Yokohama Head Office

Shin Yokohama Daini Center Bldg. 9F
3-19-5, Shin Yokohama
Kohoku-ku, Yokohama 222-0033, Japan

Tel. : (045) 470-1850
Fax : (045) 473-5221
e-mail : info@jpn.tuv.com

Yokohama Laboratory

Festo Building 5F
1-26-10, Hayabuchi, Tsuzuki-ku
Yokohama 224-0025, Japan

Tel. : (045) 592-1371
Fax : (045) 592-1374
e-mail : yoko-lab@jpn.tuv.com

TEST REPORT FOR AN ADDITIONAL APPROVAL**IEC 950****Safety of information technology equipment****Report**

Reference No.....: < 12003092 002 >

Compiled by (+ signature): *P. Petschnig*Approved by (+ signature): *M. Matsubara*

Date of issue: 19 November, 2002

Contents: 5 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

Testing laboratory: TÜV Rheinland Japan Ltd., Yokohama Laboratory

Address: Festo Bldg. 5F, 1-26-10 Hayabuchi, Tsuzuki-Ku,
Yokohama 224-0025, Japan

Testing location: TÜV Rheinland Japan Ltd., Yokohama Laboratory

Client

Name.....: Mitac Technology Corp.

Address: 9F, No. 75, Ming Sheng E. Rd., Sec. 3, Taipei 104, Taiwan

Test specificationStandard: IEC 60950:1991+A1:1992 + A2:1993 + A3:1995 + A4:1996
EN 60950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997
EMKO-TSE(74-SEC)207/94, UL 1950, C22.2 No. 950

Test procedure: CB-scheme

Procedure deviation: Argentina, Austria, Belgium, Brazil, Canada, China, The Czech
Republic, Denmark, Finland, France, Germany, Greece, Hungary,
India, Ireland, Israel, Italy, Japan, Rep. of Korea, The Netherlands,
Norway, Poland, Portugal, Russian Fed., Singapore, Slovakia,
Slovenia, South Africa, Spain, Sweden, Switzerland, United
Kingdom, USA

Non-standard test method: N.A.

Test Report Form/blank test report

Test Report Form No.: Cbaddapp.doc

TRF originator.: TÜV Rheinland

Test item

Description: Notebook Computer

Trademark: 1) MTC, MSL; 2) micronpc

Model and/or type reference: 1) 8640; 2) TransPort V2000

Manufacturer: Same as client.

Rating: 19Vdc, 4.74A

The construction of Notebook Computer model 8640 was modified as follows:

1. Delete description of "R.O.C." in address of applicant, manufacturer and factory.
2. Correct DVD-ROM & CD-R/RW Drive rating.
3. Add alternative source of battery pack.
4. Add OEM model as TransPort V2000 (micronpc). The model is identical to original approved model 8640 except for model name and trademark.

For the above described modification the following testing was considered to be necessary:

Modification	Testing	Comments	Result
1, 4.	N/A	No safety impact, no further testing considered necessary.	P
2.	N/A	The sources of optical storage device are not control in the table 1.5.1. Acceptance should be given by national approval.	P
3.	<ul style="list-style-type: none"> ■ Abnormal test 	For test result see appended table. For source, see appended table 1.5.1.	P

General remarks

A. History of the modifications:

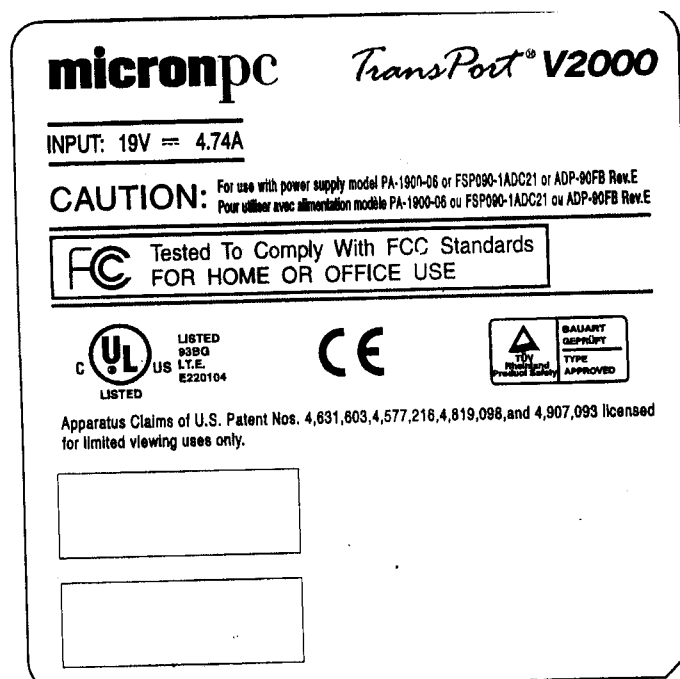
The original Test Report Ref. No. 12003092 001, dated Aug. 21, 2002 was modified as follows:

- Modification: 002
- Non-technical change: None

B. Factory:

1. **Mitac Computer (Shun De) Ltd.**
No. 1, ShunDa Road, LunJiao, ShunDe, GuangDong, China
2. **MITAC INTERNATIONAL CORP.**
1ST R&D, Road 2, Hsinchu Science-Based Ind. Park, Hsinchu 30077, Taiwan

Copy of the marking plate :



IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

1.7.1	Rated voltage (V)	19V (no connection to the mains)	N
	Symbol of nature of supply for d.c.	DC symbol used. (no connection to the mains)	N
	Rated frequency (Hz)	No connection to the mains.	N
	Rated current (A)	4.74A (no connection to the mains)	N
	Manufacturer	Not shown	N
	Trademark	micronpc	P
	Type/model	TransPort V2000	P
	Symbol of Class II	Class III equipment	N
	Certification marks	TÜV Rheinland Bauart mark, UL, CUL	N

1.5.1	TABLE: list of critical components				
object/part No.	manufac- turer/trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
DVD-ROM & CD-R/RW Drive	Various	Various	Max. ratings: DC 5 V, 2.0 A Laser Class 1	--	--
Main Battery Pack (Optional)	Molicel	ICR18650G7508 5-MSL	Li-Ion type, DC 14.8 V, 6.0AH	--	--
- Battery Cell (12 provided)	E-One Moli	ICR18650G	Li-Ion type, DC 3.7 V, 2.0AH	--	UL
- Thermofuse	Therm-O-Disc	G4A	AC 250V, 10A, 98°C	DIN VDE 0821 IEC 60691	VDE
- Polyswitch	Raychem	LR4-730	DC 20 V, 7.3 A	IEC 60730-1	TÜV
- Label Material	GE	FR-65	V-0	UL 94	UL
- Sealed Glue	Taiwan Cemedine	G-485	V-2	--	UL
1) An asterisk indicates a mark which assures the agreed level of surveillance					

5.4	TABLE: fault condition tests	P
-----	------------------------------	---

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

	ambient temperature (°C)		see below		—		
	model/type of power supply		PA-1900-06		—		
	manufacturer of power supply		Lite-On		—		
	rated markings of power supply		100-240Vac, 1.5A, 50-60Hz		—		
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
01	Main Battery (+) – (-)	s-c	14.8V	5 min	--	--	Protection device inside the battery pack was activated immediately. No hazard.
02	Overcharge the Main Battery	--	17.8V/4.5A	7 hrs	--	--	Max. temp. of battery = 25°C at ambient 24°C, when the protection circuitry was activated immediately. No hazards.
03	Overcharge the Main Battery	PCM Q3 (1-8) shorted	17.8V/4.5A	7 hrs	--	--	Max. temp. of battery = 28°C at ambient 24°C, when the protection circuitry was activated immediately. No hazards.
04	Abusive charge the Main Battery	--	17.8V/12.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
05	Abusive charge the Main Battery	Q2 (1-8) shorted	17.8V/12.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
06	Discharge the Main Battery	--	7.8A	1.9 hrs	--	--	Max. temp. of battery = 64°C at ambient 24°C.
07	Discharge the Main Battery	PCM Q2 (1-8) shorted	7.8A	1.9 hrs	--	--	Max. temp. of battery = 99°C at ambient 24°C.

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

Name and address of the applicant

Nom et adresse du demandeur

Name and address of the manufacturer

Nom et adresse du fabricant

Name and address of the factory

Nom et adresse de l'usine

Rating and principal characteristics

Valeurs nominales et caractéristiques principales

Trade mark (if any)

Marque de fabrique (si elle existe)

Model/type Ref.

Ref. de type

Additional information (if necessary)

Information complémentaire (si nécessaire)

A sample of the product was tested and found
to be in conformity with

*Un échantillon de ce produit a été essayé et a été
considéré conforme à la*

as shown in the Test Report Ref. No.

which form part of this certificate

*comme indiqué dans le Rapport d'essais numéro
de référence*

qui constitue une partie de ce certificat

This CB Test Certificate is issued by the National Certification Body

Ce Certificat d'essai OC est établi par l'Organisme National de Certification

Notebook Computer

Mitac Technology Corp.

9F, No. 75

Ming Sheng E. Rd, Sec. 3, TAIPEI 104, TAIWAN, R.O.C.

Mitac Technology Corp.

9F, No. 75

Ming Sheng E. Rd, Sec. 3, TAIPEI 104, TAIWAN, R.O.C.

(See appendix for factories information)

Input Rating : DC 19V, 4.74A
Protection Class: III

1) MTC, 2) MSL

8640

PUBLICATION

EDITION

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

12003092 001



TÜV Rheinland Japan Ltd.

3-19-5 Shin-Yokohama

222-0033 Japan

Date 26.08.2002

Signature

M. Lechtermann
Dipl.-Ing. M. Lechtermann

Name and address of the manufacturer

Mitac Technology Corp.
9F, No. 75
Ming Sheng E. Rd, Sec. 3
Taipei 104
Taiwan, R.O.C.

Name and address of the factory(ies)

Mitac International Corp.

1st R&D Road 2
Hsinchu Science-based Ind. Park
Hsinchu 300
Taiwan, R.O.C.

Mitac Computer (Shun De) Ltd.

No. 1, ShunDa Rd., LunJiao
ShunDe, GuangDong
P.R. China

Date: 26.08.2002


Dipl.-Ing. M. Lechtermann

<http://www.jpn.tuv.com>

— **Yokohama Head Office**

Shin Yokohama Daini Center Bldg. 9F
3-19-5, Shin Yokohama
Kohoku-ku, Yokohama 222-0033, Japan

Tel. : (045) 470-1850
Fax : (045) 473-5221
e-mail: info@jpn.tuv.com

Yokohama Laboratory

Festo Building 5F
1-26-10, Hayabuchi, Tsuzuki-ku
Yokohama 224-0025, Japan

Tel. : (045) 592-1371
Fax : (045) 592-1374
e-mail: yoko-lab@jpn.tuv.com

TEST REPORT

IEC 950

Safety of information technology equipment

Report

Reference No. : <12003092 001>

Compiled by (+ signature) : M. Ide

Approved by (+ signature) : M. Matsubara

Date of issue : 21 August, 2002

Contents : 80 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 : TÜV Rheinland Japan Ltd., Yokohama Laboratories

Client

Name : Mitac Technology Corp.

Address : 9F, No. 75, Ming Sheng E. Rd., Sec. 3, Taipei 104, Taiwan, R.O.C.

Test specification

Standard : IEC 60950:1991+A1:1992 + A2:1993 + A3:1995 + A4:1996
EN 60950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997
EMKO-TSE(74-SEC)207/94, UL 1950, C22.2 No. 950

Test procedure : CB-scheme

Procedure deviation : Argentina, Austria, Belgium, Brazil, Canada, China, The Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Ireland, Israel, Italy, Japan, Rep. of Korea, The Netherlands, Norway, Poland, Portugal, Russian Fed., Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, 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

Copyright reserved to the bodies participating in the Committee of Certification Bodies (CCB) and/or the bodies participating in the CENELEC Certification Agreement (CCA).

Test item

Description : Notebook Computer

Trademark : MTC, MSL

Model and/or type reference : 8640

Manufacturer : Same as client.

Rating(s) : 19Vdc, 4.74A

Particulars: test item vs. test requirements

Equipment mobility: Movable equipment
 Operating condition: Continuous operation
 Tested for IT power systems: No
 IT testing, phase-phase voltage (V).....: N.A.
 Class of equipment: Class III
 Mass of equipment (kg): 3.23kg
 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: August, 2002
 Date(s) of performance of test.....: August, 2002

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:

1. **Mitac Computer (Shun De) Ltd.**
 No. 1, ShunDa Road, LunJiao, ShunDe, GuangDong, China
2. **MITAC INTERNATIONAL CORP.**
 1ST R&D, Road 2, Hsinchu Science-Based Ind. Park, Hsinchu 30077, Taiwan, R.O.C.

Comments:
Brief description of the test sample:

The equipment model 8640 is a Notebook Personal Computer for general office use. The model has two trademarks (MTC and MSL) for marketing purpose only.

The external adaptor is evaluated according to Standard IEC 60950:1991+A1+A2+A3+A4. Details of the adaptor, see appended table 1.5.1.

This report contains national deviation as the class III equipment itself is subject of this CB report, but CB countries using for external power adapter should investigate while the equipment under test is submitted for national approval.

The test samples were pre-production models without serial numbers.

The sources of optical storage device are not controled in the table 1.5.1. Evaluation should be given by national approval.

Copy of the marking plate :


INPUT: 19V = 4.74A


FC Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE


CAUTION: For use with power supply model PA-1900-06 or FSP000-1ADC21 or ADP-80FB Rev.E
Pour utiliser avec alimentation modèle PA-1900-06 ou FSP000-1ADC21 ou ADP-80FB Rev.E

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

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

 LISTED
835Q
L.T.E.
E220104
C US LISTED



 BAAJANT
SERVOPT
TYPE
APPROVED

S/N: (S)

Model: 8640 MSL
Made in China gg


INPUT: 19V = 4.74A


FC Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE


CAUTION: For use with power supply model PA-1900-06 or FSP000-1ADC21 or ADP-80FB Rev.E
Pour utiliser avec alimentation modèle PA-1900-06 ou FSP000-1ADC21 ou ADP-80FB Rev.E

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

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

 LISTED
835Q
L.T.E.
E220104
C US LISTED



 BAAJANT
SERVOPT
TYPE
APPROVED

S/N: (S)

Model: 8640 MTC
Made in China gg

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	Transformer 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 cable for signal output to monitor/accessories and signal from keyboard/accessories are carrying only SELV voltages 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 only used in approved adapter.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.6	Power interface		N
1.6.1	Steady state input current	Highest load according to 1.2.2.1 for this equipment is the DVD/CD-RW ROM, FDD, HDD permanently access, max. brightness and contrast for LCD back light circuit and charged with empty battery pack. Four dummy loads of 2.5W in connection to represent the USB load. The operator can connect additional options like a parallel printer or a serial device. The output power of max. 0.5W is considered to be negligible.	N
	Current deviation during normal operating cycle		N
1.6.2	Voltage limit of hand-held equipment	This notebook PC is not a hand-held equipment.	N
1.6.3	Neutral conductor insulated from earth and body	Only SELV supply, no connection to the mains.	N
1.6.4	Components in equipment intended for IT power system	Only SELV supply, no connection to the mains.	N
1.6.5	Mains supply tolerance (V)	Only SELV supply, no connection to the mains.	N

1.7	Marking and instructions		P
1.7.1	Rated voltage (V)	19V (no connection to the mains)	N
	Symbol of nature of supply for d.c.	DC symbol used. (no connection to the mains)	N
	Rated frequency (Hz)	No connection to the mains.	N
	Rated current (A)	4.74A (no connection to the mains)	N
	Manufacturer	Not shown	N
	Trademark	MTC, MSL	P
	Type/model	8640	P
	Symbol of Class II	Class III equipment	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Certification marks	TÜV Rheinland Bauart mark, UL, CUL	N
1.7.2	Safety instructions	<p>The users manual contains information for operation, installation, servicing, transport, storage and technical data. The operation guide is provided to the user.</p> <p>Marking for laser class I type CD-ROM Driver, DVD ROM Driver and CD-RW Driver, the wording:</p> <p>CLASS 1 LASER PRODUCT KLASSE 1 LASER APPARAT</p> <p>No other special installation instruction required as the equipment is class III.</p>	P
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N
1.7.4	Marking for voltage setting/frequency setting	No voltage setting	N
1.7.5	Marking at power outlets	No standard power outlet.	N
1.7.6	Marking at fuseholders	No fuseholder.	N
1.7.7.1	Protective earthing terminals	SELV supply.	N
1.7.7.2	Terminal for external primary power supply conductors	SELV supply.	N
1.7.8.1	Identification and location of switches and controls :	The marking and indication of the indicators are located that indication of funtion is clear.	P
1.7.8.2	Colours of controls and indicators	No safety involved controls or indicators.	N
1.7.8.3	Symbols according to IEC 417	Notebook switch with symbol according to IEC 60417, No. 5009 (line half inside circle).	P
1.7.8.4	Figures used for marking	No indicator for different position.	N
1.7.8.5	Location of markings and indications for switches and controls	Switch marking placed on switch knob.	P
1.7.9	Isolation of multiple power sources	Only SELV supply.	N
1.7.10	Instructions for installation to IT power system	No connection to the mains.	N
1.7.11	Instructions when protection relies on building installation	Only SELV supply, no connection to the mains.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.12	Marking when leakage current exceeds 3,5 mA	Only SELV supply, no connection to the mains.	N
1.7.13	Indication at thermostats and regulating devices	No possibility of adjustment of thermal switch inside the battery.	N
1.7.14	Language of safety markings/instructions	Marking and Instruction related to safety provided in English language. Version in other languages will be provided when 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 soaked with water for 15 sec. and then again for 15 sec. 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 or lifting of the label edge.	P
1.7.16	Removable parts	Rating plate on the bottom side of the equipment.	P
1.7.17	Warning text for replaceable lithium batteries	The Lithium type RTC battery and battery pack are exchangeable→ Warning text provided in user's manual and service instruction.	P
	Language	German, English, Danish, Norwegian, Swedish, Finnish, French	—
1.7.18	Operator access with a tool	No operator access area with tool.	N
1.7.19	Equipment for restricted access locations	No restricted access location.	N

2	PROTECTION FROM HAZARDS	P
---	-------------------------	---

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.1	Protection against electric shock and energy hazards <i>Supply from an approved SPS adaptor which is considered to carry SELV at below 240VA only. For the TNV-circuit see 6.2.2 and 6.4.1. No risk of electrical shock or energy hazards.</i>		P
2.1.1	Access to energized parts		P
2.1.2	Protection in operator access areas		N
	Test by inspection		N
	Test with test finger		N
	Test with test pin		N
2.1.3.1	Insulation of internal wiring in an ELV circuit accessible to operator		N
	Working voltage (V); distance (mm) through insulation		N
2.1.3.2	Operator accessible insulation of internal wiring at hazardous voltage		N
2.1.4.1	Protection in service access areas	No maintenance work in operation mode necessary.	N
2.1.4.2	Protection in restricted access locations		N
2.1.5	Energy hazard in operator access area	The battery cell is not accessible.	P
2.1.6	Clearances behind conductive enclosures		N
2.1.7	Shafts of manual controls		N
2.1.8	Isolation of manual controls		N
2.1.9	Conductive casings of capacitors		N
2.1.10	Risk of electric shock from stored charge on capacitors connected to mains circuit		N
	Time-constant (s); measured voltage (V)		—

2.2	Insulation <i>The notebook computer is supplied from an approved SPS adaptor that provides SELV voltages. Only SELV voltages and limited current circuits inside the notebook computer.</i> <i>The insulation for fax modem card, see below.</i>		P
2.2.1	Methods of insulation	The insulation materials provided in the equipment with adequate thickness and adequate creepage distance	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
		over their surface and clearance distance through air.	
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: 120h	P
	Humidity (%)	95% R.H.	—
	Temperature (°C)	40°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 is provided and maintained to comply with the requirements of this standard.	P
2.2.7.1	General rules for working voltages	Working voltage is considered to be within the TNV-3 parameters with $U_{DC} \leq 120V$, $U_{AC} \leq 70.7V$. Therefore the following values have been used for tables 5 and 6: $U_{DC} \leq 125V$, $U_{peak} \leq 140V$, $U_{rms} \leq 100V$.	P
2.2.7.2	Clearances in primary circuits	No primary circuit.	N
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	No bridging components.	N
2.2.8.2	Bridging resistors	No bridging components.	N
2.2.8.3	Accessible parts		N

2.3	Safety extra-low voltage (SELV) circuits <i>Supply from an approved SPS adaptor which is considered to carry SELV at below 240VA only. No higher voltages generated.</i>	P
-----	---	---

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
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.	—
	Method used for separation	Class III equipment.	N
2.3.4	Additional constructional requirements	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.	P
2.3.8	Construction of SELV circuits		N
2.3.9	SELV circuits connected to other circuits		N

2.4	Limited current circuits		P
2.4.2	Frequency (Hz)	The peak drop voltage was measured with a scope at a 2k Ω resistor. Results see appended table.	—
	Measured current (mA)	See above.	P
2.4.3	Measured voltage (V)	>450V	—
	Measured capacitance (μ F)		N
2.4.4	Measured voltage (V)	1700V	—
	Measured charge (μ C)	< 45 μ C	P
2.4.5	Measured voltage (V)		—
	Measured energy (mJ)		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.4.6	Limited current circuit supplied from or connected to other circuits	Limited current circuit are supplied from SELV and meet 2.4.2 to 2.4.5 under normal and single fault condition.	P

2.5	Provisions for earthing <i>Class III equipment</i>		N
2.5.1	Class I equipment		N
	Warning label for service personnel		N
2.5.2	Protective earthing in Class II equipment		N
2.5.3	Switches/fuses in earthing conductors		N
2.5.4	Assured earthing connection for Class I equipment in systems comprising Class I and Class II equipment		N
2.5.5	Green/yellow insulation		N
2.5.6	Continuity of earth connections		N
2.5.7	Making and breaking of protective earthing connections		N
2.5.8	Disconnection protective earthing connections		N
2.5.9	Protective earthing terminals for fixed supply conductors or for non-detachable power supply cords		N
2.5.10	Corrosion resistance		N
2.5.11	Resistance (Ω) of protective earthing conductors $\leq 0,1 \Omega$		N
	Test current (A)		—

2.6	Disconnection from primary power <i>No supply from primary power.</i>		N
2.6.1	General requirements		N
2.6.2	Type of disconnect device		N
2.6.3	Disconnect device in permanently connected equipment		N
2.6.4	Parts of disconnect device which remain energized		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.5	Switches in flexible cords		N
2.6.6	Disconnection of both poles simultaneously for single-phase equipment		N
2.6.7	Disconnection of all phase conductors of supply in three-phase equipment		N
2.6.8	Marking of switch acting as disconnect device		N
2.6.9	Installation instructions if plug on power supply cord acts as disconnect device		N
	Language		—
2.6.11	Interconnected equipment		N
2.6.12	Multiple power sources		N

2.7	Overcurrent and earth fault protection in primary circuits <i>With SELV supply from AC adaptor, no primary circuits → N/A</i>		N
2.7.1	Basic requirements		N
2.7.2	Protection against faults not covered in 5.4		N
2.7.3	Short-circuit backup protection		N
2.7.4	Number and location of protective devices		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel		N

2.8	Safety interlock <i>No operator accessible areas which presents hazards in the meaning of this standard.</i>		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

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

2.9	Clearances, creepage distances and distances through insulation		P
	Nominal voltage (V)	Only SELV voltages, limited current circuits or TNV-3 circuits.	—
	General		N
2.9.2	Clearances	See below	P
2.9.2.1	Clearances in primary circuits		N
2.9.2.2	Clearances in secondary circuits	(see appended table 2.9.2 and 2.9.3)	P
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	All circuits in the notebook are SELV, limited current circuit and TNV-3 circuit, therefore only operational or basic insulation required. For Norway and Sweden national deviation, the supplementary insulation is required for TNV-3 circuit. See appended table.	P
2.9.4.2	Thin sheet material	For Norway and Sweden national deviation, the supplementary insulation is required for TNV-3 circuit.	P
	Number of layers (pcs)	2 layers	P
	Electrical strength test: test voltage (V)	1500Vac for each layers.	P
2.9.4.3	Printed boards		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		N
	Number of layers (pcs)		N
	Two wires in contact inside component; angle between 45° and 90°		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Routine testing for finished component		N
2.9.5	Distances (mm) on coated printed boards		N
	Routine testing for electric strength		N
2.9.6	Enclosed and sealed parts		N
	Temperature T1 (°C)		N
	Humidity %		N
2.9.7	Spacings filled by insulating compound		N
	Temperature T1 (°C)		N
	Humidity %		N
2.9.8	Component external terminations		N
2.9.9	Insulation with varying dimensions		N

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 connectors. 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		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

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	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 heatsinks that could damage the insulation and cause hazard.	P
3.1.3	Fixing of internal wiring	Internal wires with basic isolation. The wires are secured by quick connect terminals so that a loosening 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		N
3.1.6	Wires coloured green/yellow only for protective earth connection	See 2.5.5.	N
3.1.7	Fixing of beads and similar ceramic insulators	Not used.	N
3.1.8	Required electrical contact pressure	Electrical connections screwed two or more complete threads into metal.	P
3.1.9	Reliable electrical connections	All current carrying connections are metal to metal.	P
3.1.10	End of stranded conductor	No soft soldered wires under contact pressure.	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 <i>No connection to primary power</i>		N
3.2.1	Type of connection	Appliance inlet on adapter.	N
	Design of product with more than one supply connection	Only one mains supply.	N
3.2.2	Provision for permanent connection	Not permanently connected.	N
	Size (mm) of cables and conduits		N
3.2.3	Appliance inlet	On approved AC adapter.	N
3.2.4	Type and cross-sectional area (mm ²) of power supply cord	The power cord was not provided.	N
3.2.5	Cord anchorage		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	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 <i>see clause 3.2.1</i>		N
	D (mm)		—
	Test: mass (g)		—
	Radius of curvature of the cord $\leq 1,5$ D		N
3.2.8	Supply wiring space		N

3.3	Wiring terminals for external power supply conductors <i>No connection to primary power.</i>		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
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

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Angle of 10°	This notebook is of a stable mechanical construction and does not overbalance when tilted to an angle of 10° from its normal upright position with and without LCD screen open conditions.	P
	Test: force (N)	Equipment is not a floorstanding unit.	N
4.1.2	Protection against personal injury	Not used except in DVD ROM, CD-ROM, CD-RW, HDD and FDD, but no accessible to the user.	P
4.1.3	Warning and means provided for stopping the moving part	No accessible 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
4.2.2	Internal enclosures 30 N ± 3 N; 5 s	30N applied to internal enclosure.	P
4.2.3	External enclosures 250 N ± 10 N; 5 s	250N applied to outer enclosure.	P
4.2.4	Steel ball tests		P
	Fall test	500g steel sphere ball fall, from 1.3m height onto outer plastic enclosure near modem card and battery pack.	P
	Swing test	500g steel sphere ball as pendulum onto outer plastic enclosure near modem card and battery pack. No safety relevant damages.	P
4.2.5	Drop test	Desk-top equipment without telephone handset or acoustic function accessory.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
4.2.6	Heat test for enclosures of moulded or formed thermoplastic materials: 7 h; T (°C)	After 7h at 70°C and cooling down to room temperature, no shrinkage, distortion or loosening of enclosure parts was noticeable on the notebook computer.	P
4.2.7	Compliance criteria	No safety relevant damages to impact the requirements of 2.1.5, 2.9, 4.1.2 and 6.2.2.	P
4.2.8	Mechanical strength of cathode ray tubes		N

4.3	Construction details		P
4.3.1	Changing of setting for different power supply voltages	Single voltage.	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		N
	Test: force (N)		N
4.3.6	Driving belts/couplings shall not ensure electrical insulation	Not used for insulation.	N
4.3.7	Retaining of sleeves	Sleeving on wiring reliable kept in position by cable ties or by the use of heatshrink sleeving. See table 2.9.4.1.	N
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 heatshrink tubing are used.	P
4.3.11	Resistance to oil and grease	Insulation not in contact with oil or grease	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
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, CD-RW and DVD ROM, this component was evaluated according to relevant standard for laser product which is IEC 60 825-1 and EN 60 825-1 approved. Therefore, complied with this clause without further test. Laser Class 1 symbol appeared on CD-ROM, DVD ROM, CD-RW and in user's manual. The LED power is far below LED class 1 limit.	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 openings.	P
	Dimensions (mm)		—
4.3.16	Openings in the sides of enclosure	No hazardous parts within the area of 5° projection.	P
	Dimensions (mm)		—
4.3.17	Interchangeable plugs and sockets	In operator and service area, mismatch 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
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		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Construction of protection circuit	<p>For non-rechargeable lithium type RTC battery :</p> <ul style="list-style-type: none"> There is no reverse polarity installation could be happen due to design of battery compartment. The battery is protected from reverse charging by diode D515 and R808. <p>For rechargeable Li-Ion type battery:</p> <ul style="list-style-type: none"> There is no reverse polarity installation could be happen due to design of package. The battery is further protected from high temperature by poly switch and thermal fuse built inside the battery pack. Over-charge, over-discharge and over current protection are further prevented by battery pack protection control board. <p>Results see appended table.</p>	P
4.3.22	<p>Ageing of barrier/screen secured with adhesive</p> <p><i>The rating label of battery pack is considered as a part of enclosure, therefore the adhesive for the battery pack needs to perform the following tests. The test has been performed on all sources of battery pack. For sources, see appended table 1.5.1.</i></p> <p><i>The mylar sheet placed above the bottom openings was secured by mechanical construction and no ageing test required.</i></p>		P
	Day 1: temperature (°C); time (weeks)	100°C±2°C for one week	P
	<p>Day 8/22/57:</p> <p>a) temperature (°C) for 1 h</p> <p>b) temperature (°C) for 4 h</p> <p>c) temperature (°C) over 8 h</p>	<p>a) Remove from oven and leave at 25°C for 1h.</p> <p>b) Place in freezer at -40°C for 4h.</p> <p>c) Remove from freezer and allow to come to 25°C for 8h.</p>	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	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:	a) Place in a compartment at 95% relative humidity for 72h. b) Remove and leave at 25°C for 1 h. c) Place in oven at 100°C for 4h. d) Remove and allow sample to reach 25°C over 8h.	P

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
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	Enclosure material of V-1 min.	P
4.4.5	Conditions for fire enclosures	See 4.4.5.1	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
4.4.5.1	Components which require fire enclosure: manufacturer, flammability	With having the following components: <ul style="list-style-type: none"> ■ 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 bottom openings. The bottom openings are under the certified DC fan and CPU heatsink or a layer of mylar sheet with flammability class VTM-0. There is no opening for battery pack with label.	P
4.4.7	Doors or covers in fire enclosures	No door or cover within fire enclosure.	N
4.4.8	Flammable liquids	No flammable liquids in this unit.	N

5	THERMAL AND ELECTRICAL REQUIREMENTS	P
---	-------------------------------------	----------

5.1	Heating	P
	Heating tests	(see appended table) P

5.2	Earth leakage current <i>Class III equipment.</i>	N
5.2.1	General	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
5.2.2	Leakage current		N
5.2.3	Single-phase equipment		N
	Test voltage (V)		—
	Measured current (mA)		—
	Max. allowed current (mA)		—
5.2.4	Three-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		N
	Test voltage (V)		—
	Measured current (mA)		—
	Max. allowed current (mA)		—
	Cross-sectional area (mm ²) of internal protective earthing conductor		—
	Warning label		N

5.3	Electric strength <i>Class III equipment</i>		N
5.3.1	General		N
5.3.2	Test procedure		N

5.4	Abnormal operating and fault conditions		P
5.4.2	Motors	Approved components used.	P
5.4.3	Transformers	The protection of the SPS and transformer are approved with the approval of the SPS adaptor.	P
5.4.4	Compliance of operational insulation <i>Power supply is approved component, the over-current protection of the power supply ensures that there occur no hazard if there is short circuit in the SELV circuit.</i>		P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	Method used	Method c) considered. Due to <ul style="list-style-type: none"> all components are mounted on PCB of flammability class V-1 wiring is insulated by PVC no risk of electrical shock No test had been performed.	N
5.4.5	Electromechanical components in secondary circuits	No electromechanical components.	N
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. The battery is the most critical components as it stores a significant amount of energy and contains toxic substances. This battery is protected against overcharging and short with an IEC approved thermal fuse, polyswitch and internal circuits. Results see appended table.	P
5.4.7	Test in any expected condition and foreseeable misuse	Ventilation blocked test: Result see appended table. DC fan locked test: Result see appended table. No hazard by operating buttons and controls not in accordance with the instructions.	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.	P
5.4.10	Ball-pressure test of thermoplastic parts; impression shall not exceed 2 mm	None of them outside the approved power supply adaptor.	N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

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 card generates only signals within the limits of TNV-1 circuits.	P
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	Signal converter with turn ratio 1:1. Limits of TNV-3 can not be exceeded.	P
6.2.1.3	Operating voltages generated externally	Basic insulation is maintained between TNV circuits and unearthed operator-accessible conductive parts in main board and modem card.	N
	Voltage (V) in SELV circuit, TNV-1 circuit or accessible conductive part	dto	N
6.2.1.4	Separation from hazardous voltages	TNV circuit separated to circuit at hazardous voltage by double insulation in approved power supply adaptor.	P
	Insulation between TNV circuit and circuit at hazardous voltage	(see appended table 2.9.2, 2.9.3 and 2.9.4)	P
	Method used	Double insulation.	P
6.2.1.5	Connection of TNV circuits to other circuits	TNV has no connection to other circuit.	N
	Insulation (mm) between TNV circuit supplied conductively from secondary circuit and hazardous voltage circuit	Both TNV and SELV separated to primary by reinforced or double insulation (by SPS adaptors).	P

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
6.2.2.1	Protection against contact with bare conductive parts of TNV-2 and TNV-3 circuits	No access with test finger or test probe to any bare conductive TNV circuits. The test probe cannot touch contacts of phone/line jack.	P
	Test with test finger	dto	P
	Test with test probe	dto	P
6.2.2.2	Battery compartments		N
	Marking next to door/on door		N

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 card generates only signals within the limits of TNV-1 circuits.	P
6.3.2	Use of protective earthing <i>The protection of the telecommunication network does not rely on earthing.</i>		N
	Language of installation instructions		N
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed	Only TNV circuit connected to telecommunication network.	P
6.3.3.2	Exclusions		N
6.3.4.1	Limitation of leakage current (mA) to telecommunication network	<0.25mA	P
6.3.4.2	Summation of leakage currents from telecommunication network		N

6.4	Protection of equipment users from voltages on the telecommunication networks		P
6.4.1	Separation requirements	Adequate electrical separation between TNV-3 to a) key caps area d) plastic enclosure e) user accessible connectors	P
6.4.2	Test procedure	By 6.4.2.2.	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	2121V d.c. applied for 1 minute between TNV and conductive foil covered key caps area.	P
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	2121V d.c. applied for 1 minute between TNV to conductive foil wrapped plastic enclosure. Higher voltage is used due to Norway and Sweden national deviations.	P
6.4.2.2 c)	circuitry which is provided for connection of other equipment; test at 1,0 kV	2121V d.c. applied for 1 minute between TNV to SELV circuits. Higher voltage is used due to Norway and Sweden national deviations.	P
6.4.2.3	Compliance criteria	No isolation breakdown.	P

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

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
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		P
A.3	High current arcing ignition test		N
A.3.6	Number of arcs		N
A.4	Hot wire ignition test		N

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
A.4.6	Ignition time (s)		N
A.5	Hot flaming oil test		N
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		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)		—
	Electric strength test: test voltage (V)		—

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
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		P
	Position	TR1 (on Creatix modem card type CTX 708)	—
	Manufacturer	Atech	—
	Type	ATS-348A	—
	Rated values	Class A	—
	Temperatures		P
	Thermal cut-out		N
C.1	Overload test		N
	Conventional transformer		N
C.2	Insulation		N
	Precautions	(See transformer construction check).	P
	Retaining of end turns of all windings		P
	Earthing test at 25 A		N
C.3	Electric strength test		P

H	ANNEX H, IONIZING RADIATION		N
	Ionizing radiation		N
	Measured radiation		—
	Measured high-voltage (kV)		—

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
	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

C.2	Safety isolation transformer		P
Construction details:			
Transformer TR1			
Mfr.: Atech			
Type : ATS-348A			
Recurring peak voltage	≤140V 0-p		
Required clearance for basic			
insulation (from table 5)	1.0mm		
Effective voltage dc	≤125V		
Required creepage for basic			
insulation (from table 6)	1.5mm		
Measured minimum creepages			
Location	inside (mm)	outside (mm)	
TNV-SELV	3.8	3.8	
TNV-core	2.2	2.2	
SELV-core	1.6	1.6	
prim-prim	%	%	
Measured minimum clearances			
Location	inside (mm)	outside (mm)	
TNV-SELV	3.8	3.8	
TNV-core	2.2	2.2	
SELV-core	1.6	1.6	
prim-prim	%	%	
Construction:			
Concentric windings on bobbin, two layers insulation between TNV and secondary windings. 2.2mm distance tape on both sides of TNV winding. 2.2mm distance tape on near TNV pin side and 1.6mm distance tape on near secondary pin side of secondary winding to keep clearance and creepage. Outer winding is secondary.			
Pin numbers			
TNV	1-2		

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
SELV		4-3	
Bobbin			
Material		Sumitomo Chemical Co., Ltd., LCP, type E4008	
Thickness		≥0.5mm	
Electric strength test			
With AC 1500V after humidity treatment			
Result		pass	

1.5.1	TABLE: list of critical components				
object/part No.	manufac- turer/trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Switching Power Supply Adapter	Lite-On	PA-1900-06	I/P: 100-240V, 1.5A, 50-60Hz Class II O/P: DC 19V, 4.74A	IEC 60950	TÜV, UL, CB (by Nemko, Cert. No.: NO 14720, Report No.: 200151198)
	Delta	ADP-90FB Rev.E	I/P: 100-240V, 1.5A, 50-60Hz Class II O/P: DC 19V, 4.74A	IEC 60950	TÜV, UL, CB (by Nemko, Cert. No.: NO 13702, Report No.: 200138219)
	FSP	FSP090-1ADC21	I/P: 100-240V, 1.6A, 50-60 Hz Class II O/P: DC 19 V, 4.74 A	IEC 60950	TÜV, UL, CB (by VDE, Cert. No.: DE1-16319, Report No.: 2260100-3336- 0017/19326)
External Floppy Disk Drive (Optional)	Mitsumi	D35XFU (X = 0-9)	DC 5 V, 1 A	IEC 60950	TÜV, UL
	NEC	UF0002-XXX (X = 0-9 or blank)	DC 5 V, 0.5 A	IEC 60950	TÜV, UL
Hard Disk Drive	Hitachi	DK23Dw-xy (x = 01-99, w, y = A-Z or blank)	DC 5 V, 0.5 A	IEC 60950	TÜV, UL

IEC 950					
Clause	Requirement – Test		Result – Remark		Verdict
	IBM	IC25N0nnATCS0 4-n (n = 0-9)	DC 5 V, 1.0 A	IEC 60950	TÜV, UL
	Fujitsu	MHR2xxxAT (x = 0-9)	DC 5 V, 0.55 A	IEC 60950	TÜV, UL
CD-ROM Drive	Various	Various	Max. ratings: DC 5 V, 1.5 A Laser Class 1	--	--
DVD-ROM Drive	Various	Various	Max. ratings: DC 5 V, 1.8 A Laser Class 1	--	--
CD-R/RW Drive	Various	Various	Max. ratings: DC 5 V, 1.5 A Laser Class 1	--	--
DVD-ROM & CD-R/RW Drive	Various	Various	Max. ratings: DC 5 V, 1.5 A Laser Class 1	--	--
Main Battery Pack (Optional)	Panasonic	CGR-B/T19SE- SMP	Li-Ion type, DC 14.8 V, 6.0AH	--	--
- Battery Cell (12 provided)	Matsushita	CGR18650A	Li-Ion type, DC 3.7 V, 2.0AH	--	UL
- Thermofuse	Therm-O-Disc	G7F	AC 250V, 5A, 93°C	DIN VDE 0821 IEC 60691	VDE
- Polyswitch	Raychem	LR4-730	DC 20 V, 7.3 A	IEC 60730-1	TÜV
	Polytronics	LRD-730	DC 20 V, 7.3 A	IEC 60730-1	TÜV
- Label Material	GE	FR-65	V-0	UL 94	UL
- Sealed Glue	Taiwan Cemedine	G-485	V-2	--	UL
Main Battery Pack (Optional)	Panasonic	CGR-B/T19SE- MSL	Li-Ion type, DC 14.8 V, 6.0AH	--	--
- Battery Cell (12 provided)	Matsushita	CGR18650A	Li-Ion type, DC 3.7 V, 2.0AH	--	UL
- Thermofuse	Therm-O-Disc	G4A	AC 250V, 10A, 98°C	DIN VDE 0821 IEC 60691	VDE
- Polyswitch	Raychem	LR4-730	DC 20 V, 7.3 A	IEC 60730-1	TÜV
- Label Material	GE	FR-65	V-0	UL 94	UL
- Sealed Glue	Taiwan Cemedine	G-485	V-2	--	UL

IEC 950					
Clause	Requirement – Test		Result – Remark		Verdict
RTC Battery Cell	Toshiba	CR2032	Lithium type, DC 3V, 220mAH	--	UL
	Mitsubishi	CR2032	Lithium type, DC 3V, 220mAH	--	UL
	Hitachi Maxell	CR2032	Lithium type, DC 3V, 210mAH	--	UL
	Varta	CR2032	Lithium type, DC 3V, 230mAH	--	UL
	Sony	CR2032	Lithium type, DC 3V, 220mAH	--	UL
	Matsushita	CR2032	Lithium type, DC 3V, 220mAH	--	UL
DC-AC Inverter	MSL	PWA-STINGRAY	I/P: DC 5V, 1.5A O/P: AC 1.55kV, 6.0 mA max.	--	--
- transformer (T1)	TMP	SIT16260-0839	Class 105°C	--	--
	XTREME	273001050072	Class 105°C	--	--
- Fuse (F1)	Littelfuse	429	DC 32 V, 2.5 A max.	--	UL
	Bel	C1Q	DC 63 V, 2.5 A max.	--	UL
	Cooper	3216FF	DC 63 V, 2.5 A max.	--	UL
	Rohm	ICP-S	DC 50 V, 2.3 A	--	UL
DC-AC Inverter	Sumida	IV-13130/T	I/P: DC 5V, 1.1A. O/P: AC 1.7kV, 6.0 mA max.	--	--
- transformer (T1)	Sumida	CL-13130TAZ	Class 105°C	--	--
- Fuse (F1)	Littelfuse	429	DC 32 V, 2.5 A max.	--	UL
	Bel	C1Q	DC 63 V, 2.5 A max.	--	UL
	Cooper	3216FF	DC 63 V, 2.5 A max.	--	UL

IEC 950					
Clause	Requirement – Test		Result – Remark		Verdict
	Rohm	ICP-S	DC 50 V, 2.3 A max.	--	UL
DC-AC Inverter	MTC	DA1-05A01	I/P: DC 5V, 1.5A O/P: AC 1.55kV, 6.7 mA max.	--	--
- transformer (T1)	Yao Sheng	YST-A202810	Class 105°C	--	--
	XTREME	273001050080	Class 105°C	--	--
- Fuse (F1)	Littelfuse	429	DC 32 V, 2.5 A max.	--	UL
	Bel	C1Q	DC 63 V, 2.5 A max.	--	UL
	Cooper	3216FF	DC 6 V, 2.5A max.	--	UL
	Rohm	ICP-S	DC 50V, 2.3A	--	UL
CPU DC Fan	Auric Precision	DFC501005H70T	DC 5 V, 0.3 A, 8.84 CFM min.	IEC 60950	TÜV
DC Fan	Sunonwealth	KD0502PHB2-8	DC 5V, 0.12A, 3.1 CFM min.	IEC 60950	TÜV
	Sunonwealth	GB0535PDV2-8	DC 5V, 0.3A, 1.4 CFM min.	IEC 60950	TÜV
LCD	Quanta Display	QD141X1LHYZ (Y, Z = 0-9, A-Z or blank)	14.1", TFT	IEC 60950	TÜV
	CMO	N141XXXX	14.1", TFT	--	UL
	AUO	B141YYYY (Y = 0-9, A-Z or blank or dash)	14.1", TFT	--	UL
	Hannstar	HSD150PXXX (X= 0-9, A-Z or blank)	15", TFT	IEC 60950	TÜV
	AUO	B150XXXX (X = 0-9, A-Z or blank or dash)	15", TFT	--	UL
	Samsung	LTN150P1-L04	15", TFT	--	--
Modem Card (Optional)	Askey	V1456VQL-P1(INT)	5Vdc, 0.3 A	IEC 60950 with Nordic deviation	TÜV, N, CB by Nemko

IEC 950					
Clause	Requirement – Test		Result – Remark		Verdict
-Insulator	Mitsubishi Plastic	FR-02	VTM-0, min. 0.04 mm thick, two layers provided	UL 94	UL
-Insulated Wire	--	--	VW-1, min. 300V, 80°C	--	UL
Modem Card (Optional)	Askey	WLL030M	3.3Vdc, 0.3A	IEC 60950 with Nordic deviation	TÜV, N, CB by Nemko
-Insulator	Dupont-Toray	100HN	VTM-0, min. 0.025 mm thick, two layers provided	UL 94	UL
	Mitsubishi Plastic	FR-02	VTM-0, min. 0.04 mm thick, two layers provided	UL 94	UL
-Insulated Wire	--	--	VW-1, min. 300V, 80°C	--	UL
Modem Card (Optional)	Creatix	CTX 708	5Vdc, 0.08A; 3.3V, 0.08A	--	--
- Capacitors (C38, C39)	Novacap	LS1808Nxxx302N	250V, 1000pF max.	EN 132400 IEC 60384-14/1993 IEC 60950	TÜV, UL
- Relay (LS1)	Matsushita	AQY210S	I/P: 3V, 50mA O/P: 350V, 0.1A	DIN VDE 0884	TÜV, UL
	Cosmo	KAQV210S	di=0.8 mm	IEC 60950	TÜV, FIMKO
- Transformer (TR1)	Atech	ATS-348A	Class A	IEC 60950	FIMKO, NEMKO
- Optical Isolator (U4)	Cosmo	KPC357NT	di=0.4 mm	IEC 60950	TÜV, FIMKO, UL
-Insulator	Toray	Lumirror S10	VTM-2, min. 0.023 mm thick, two layers provided	UL 94	UL
	Mitsubishi Plastic	FR-02	VTM-0, min. 0.04 mm thick, two layers provided	UL 94	UL
-Insulated Wire	--	--	VW-1, min. 300V, 80°C	--	UL

IEC 950					
Clause	Requirement – Test		Result – Remark		Verdict
Capacitors (Located on TNV circuits of main board for isolation with SELV)	Murata	GC	250V, 1000pF max., Y2 type	IEC 60384-14 VDE 0565	VDE
	Novacap	LS1808Nxxx302N (xxx = capacitance code, y = tolerance code)	250V, 1000pF max., Y3 type with 2.5kV impulse test	EN 132400 IEC 60384- 14/1993 IEC 60950	TÜV
	Johanson	SC	250V, 1000pF max., Y3 type with 2.5kV impulse test	EN 132400 IEC 60384- 14/1993 EN 60950	SEMKO
Plastic Enclosure	Teijin Chemical	TN-3813B	V-1, min. 1.0 mm thick	UL 94	UL
Mylar Sheet for Bottom Openings	Mitsubishi Plastic	FR-02	VTM-0, min. 0.04 mm thick	UL 94	UL
Interior Wiring	--	--	VW-1, min. 30V, 80°C	--	UL
Printed Wiring Board	--	--	V-0, 105°C	UL94	UL
Speaker	--	--	8Ω, 1 watt	--	--
1) An asterisk indicates a mark which assures the agreed level of surveillance 2) The sources of optical storage device are not control in the table 1.5.1. Acceptance should be given by national approval.					

1.6	TABLE: electrical data (in normal conditions)					N
fuse #	I _{rated} (A)	U (V)	P (W)	I (A)	I _{fuse} (A)	condition/status
--	4.74	19.14	--	4.2	--	Unit operated with Lite-On PA-1900-06 adapter (adapter: I/P 240V, 60Hz, 0.41A, 94W) normal load condition (measured on notebook): PC on, main battery pack trickle charging

IEC 950						
Clause	Requirement – Test			Result – Remark		Verdict
--	4.74	19.12	--	4.2	--	Unit operated with Lite-On PA-1900-06 adapter (adapter: I/P 240V, 60Hz, 0.41A, 91W) normal load condition (measured on notebook): PC off, main battery pack fast charging
Fuse	--	90/60Hz	94	1.01	--	Unit operated with Lite-On PA-1900-06 adapter at normal load condition (measured on notebook): PC on, main battery pack trickle charging
Fuse	--	90/50Hz	94	1.01	--	dto
Fuse	1.5	100/60Hz	94	0.91	--	dto
Fuse	1.5	100/50Hz	94	0.91	--	dto
Fuse	1.5	240/60Hz	94	0.41	--	dto
Fuse	1.5	240/50Hz	94	0.41	--	dto
Fuse	--	254/60Hz	94	0.39	--	dto
Fuse	--	254/50Hz	94	0.39	--	dto
Fuse	--	264/60Hz	94	0.39	--	dto
Fuse	--	264/50Hz	94	0.39	--	dto
--	4.74	18.70	--	4.3	--	Unit operated with Delta ADP-90FB Rev.E adapter (adapter: I/P 240V, 60Hz, 0.42A, 98W) normal load condition (measured on notebook): PC on, main battery pack trickle charging
--	4.74	18.73	--	4.2	--	Unit operated with Delta ADP-90FB Rev.E adapter (adapter: I/P 240V, 60Hz, 0.42A, 96W) normal load condition (measured on notebook): PC off, main battery pack fast charging
Fuse	--	90/60Hz	98	1.08	--	Unit operated with Delta ADP-90FB Rev.E adapter at normal load condition (measured on notebook): PC on, main battery pack trickle charging
Fuse	--	90/50Hz	98	1.07	--	dto
Fuse	1.5	100/60Hz	98	0.97	--	dto
Fuse	1.5	100/50Hz	98	0.97	--	dto
Fuse	1.5	240/60Hz	98	0.42	--	dto

IEC 950						
Clause	Requirement – Test				Result – Remark	Verdict
Fuse	1.5	240/50Hz	98	0.42	--	dto
Fuse	--	254/60Hz	98	0.40	--	dto
Fuse	--	254/50Hz	98	0.40	--	dto
Fuse	--	264/60Hz	98	0.39	--	dto
Fuse	--	264/50Hz	98	0.39	--	dto
--	4.74	18.22	--	4.4	--	Unit operated with FSP FSP090-1ADC21 adapter (adapter: I/P 240V, 60Hz, 0.42A, 97W) normal load condition (measured on notebook): PC on, main battery pack trickle charging
--	4.74	18.22	--	4.4	--	Unit operated with FSP FSP090-1ADC21 adapter (adapter: I/P 240V, 60Hz, 0.42A, 96W) normal load condition (measured on notebook): PC off, main battery pack fast charging
Fuse	--	90/60Hz	97	1.08	--	Unit operated with FSP FSP090-1ADC21 adapter at normal load condition (measured on notebook): PC on, main battery pack trickle charging
Fuse	--	90/50Hz	97	1.07	--	dto
Fuse	1.6	100/60Hz	97	0.96	--	dto
Fuse	1.6	100/50Hz	97	0.96	--	dto
Fuse	1.6	240/60Hz	97	0.42	--	dto
Fuse	1.6	240/50Hz	97	0.42	--	dto
Fuse	--	254/60Hz	97	0.42	--	dto
Fuse	--	254/50Hz	97	0.42	--	dto
Fuse	--	264/60Hz	97	0.47	--	dto
Fuse	--	264/50Hz	97	0.47	--	dto

2.4	TABLE: limited current circuit measurement					P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	

IEC 950						
Clause	Requirement – Test			Result – Remark		Verdict
For DC/AC Inverter Model PWA-STINGRAY of “MSL”:						
normal condition						
CN2 pin1 to 2	22.4	11.2	59.1	41.37		
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with Lamp disconnected						
CN2 pin1 to 2	22.3	11.2	61.7	57.9		
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with C15 shorted						
CN2 pin1 to 2	32.6	16.3	61.1	42.77		
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with R13 open						
CN2 pin1 to 2	35.4	17.7	60.6	42.42		
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with R16 open						
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with R13 open						
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with R15 open						

IEC 950					
Clause	Requirement – Test			Result – Remark	
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with C16 open					
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with C2 open					
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with D1 (1-3) short					
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
For DC/AC Inverter Model IV13130/T of "Sumida":					
normal condition					
CN2 pin1 to 2	19.9	10.0	58.3	40.81	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with Lamp disconnected					
CN2 pin1 to 2	19.7	9.9	58.4	40.88	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated

IEC 950					
Clause	Requirement – Test			Result – Remark	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with C1 shorted					
CN2 pin1 to 2	30.0	15.0	58.4	40.88	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with R16 open					
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with R10 open					
CN2 pin1 to 2	19.2	9.6	57.3	40.11	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with R10 opened					
CN2 pin1 to 2	24.3	12.2	57.9	40.53	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with C13 opened					
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with D1 (1-3) short					
CN2 pin1 to 2	38.8	19.4	57.1	39.97	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated

IEC 950						
Clause	Requirement – Test			Result – Remark		Verdict
For DC/AC Inverter Model DA1-05A01 of “MTC”:						
normal condition						
CN2 pin1 to 2	22.4	11.2	59.8	41.86		
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with Lamp disconnected						
CN2 pin1 to 2	35.2	17.6	62.2	43.54		
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with C15 shorted						
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with C17 shorted						
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with R16 opened						
CN2 pin1 to 2	4.8	2.4	75.0	52.5		
CN2 pin 1 to earth	4.72	2.36	74.6	52.2		
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated	
single fault condition with Q1 (C-E) shorted						
CN2 pin1 to 2	4.48	2.24	73.9	51.73		
CN2 pin 1 to earth	4.36	2.18	74.4	52.08		
T1 pin 5 to earth	4.04	2.02	74.6	52.22		
single fault condition with C2 shorted						
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated	
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated	

IEC 950					
Clause	Requirement – Test			Result – Remark	Verdict
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
single fault condition with D1 (1-3) shorted					
CN2 pin1 to 2	--	--	--	--	Unit shutdown with protection circuit activated
CN2 pin 1 to earth	--	--	--	--	Unit shutdown with protection circuit activated
T1 pin 5 to earth	--	--	--	--	Unit shutdown with protection circuit activated
Note:					
The tests for CN2 pin 2 to earth was not performed by circuit estimation and engineering judgment.					

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)	
Creatix modem card type CTX 708							
PCB: TNV-3 components/traces on modem card (with 10N force) → secondary components/traces (with 10N force) on notebook	≤420	≤250	2.0	3.0	2.5	3.0	
PCB: TNV-3 components/traces on modem card (with 10N force) → secondary components/traces (with 10N force) on modem card	≤420	≤250	2.0	↓	2.5	↓	
under C38, C39				3.5		3.5	
under U4				4.7		4.7	
Q1→D8				3.7		3.7	
PCB: TNV-3 components/traces in modem translation board → secondary (SELV) components/traces in modem translation board	≤420	≤250	2.0	↓	2.5	↓	
- under C156, C167				2.7		2.7	

IEC 950						
Clause	Requirement – Test			Result – Remark		Verdict
PCB: TNV-3 components/traces in modem translation board → secondary (SELV) components/traces in notebook computer	≤420	≤250	2.0	3.0	2.5	3.0
1. Operational insulation shorted, see 5.4.4 2. The insulation distances between primary and secondary are in approved power supply adaptor only. 3. Two layers of insulator are placed between modem card and notebook computer metal plate to meet the insulation requirement between SELV and TNV-3 circuit. 4. TNV wires from modem translation board to modem card is further tube.						

2.9.4.1	TABLE: distance through insulation measurements				P
distance through insulation di at/of:	U r.m.s. (V)	test voltage (V)	required di (mm)	di (mm)	
PVC tube of TNV wires for modem card (supplementary insulation)	250	1500	0.4	0.4	

4.3.15/16 & 4.4.6	Table: enclosure openings		P
Location	Size (mm)	Comments	
Bottom	12mm x 2mm	Numerous rectangular openings. The bottom openings are under the certified DC fan and CPU heatsink or a layer of mylar sheet with flammability class VTM-0.	
Rear	12mm x 2mm	Numerous rectangular openings for CPU heatsink. No hazardous parts within the area of 5° projection.	
Front	None		
Top	None		

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

5.1	TABLE: temperature rise measurements		P
	test voltage (V)	100V-10%/240V+10%	—
	t1 (°C)		—
	t2 (°C)		—
temperature rise dT of part/at:		dT (K)	required dT (K)
For unit operated with Lite-On adapter type PA-1900-06:			
Adapter AC Inlet		58/54	60
Adapter choke L001 coil (rated 120°C)		47/36	85
Adapter choke L002 coil (rated 130°C)		66/41	95
Adapter choke L003 coil (rated 130°C)		67/51	95
Adapter choke L010 coil (rated 130°C)		57/48	95
Adapter Storage Capacitor C051 (rated 105°C)		53/49	70
Adapter heatsink Q050		69/62	--
Adapter T050 coil (Class B)		63/60	75
Adapter top of enclosure		29/27	60
DC/AC inverter transformer coil (rated 105°C)		33/34	70
CD-ROM drive		21/20	--
HDD drive		35/36	--
CPU heat sink		20/20	--
Bottom housing below CPU		9/9	60
Li-Ion Battery Pack Body		4/4	60
User Accessible Metal Part		13/13	35
External FDD case		4/5	60
Room ambient at		30°C /30°C	--
For unit operated with Delta adapter type ADP-90FB Rev.E:			
Adapter AC Inlet		44/40	60
Adapter choke coil FL1 (rated 120°C)		62/57	85
Adapter choke coil FL2 (rated 130°C)		77/62	95
Adapter choke coil L1 (rated 130°C)		78/67	95
Adapter choke coil L8 (rated 130°C)		69/66	95

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
Adapter Storage Capacitor C2 (rated 105°C)			
		70/68	70
Adapter heatsink Q1			
		79/77	--
Adapter T1 coil (Class E)			
		61/61	70
Adapter top of enclosure			
		44/43	60
DC/AC inverter transformer coil (rated 105°C)			
		34/44	70
CD-ROM drive			
		22/24	--
HDD drive			
		38/38	--
CPU heat sink			
		20/20	--
Bottom housing below CPU			
		8/8	60
Li-Ion Battery Pack Body			
		5/6	60
User Accessible Metal Part			
		13/13	35
External FDD case			
		3/3	60
Room ambient at			
		30°C/30°C	--
For unit operated with FSP adapter type FSP090-1ADC21:			
Adapter AC Inlet			
		47/30	60
Adapter choke coil L1 (rated 90°C)			
		55/36	55
Adapter choke coil L2 (rated 130°C)			
		77/46	95
Adapter choke coil L3 (rated 130°C)			
		80/50	95
Adapter choke coil L4 (Class B)			
		70/47	75
Adapter Storage Capacitor C4 (rated 105°C)			
		68/48	70
Adapter heatsink Q7			
		76/56	--
Adapter T1 coil (Class B)			
		65/47	75
Adapter top of enclosure			
		40/28	60
DC/AC inverter transformer coil (rated 105°C)			
		42/33	70
CD-ROM drive			
		23/22	--
HDD drive			
		36/35	--
CPU heat sink			
		18/20	--
Bottom housing below CPU			
		7/9	60
Li-Ion Battery Pack Body			
		5/6	60
User Accessible Metal Part			
		11/13	35
External FDD case			
		3/4	60
Room ambient at			
		32°C/30°C	--

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

temperature rise dT of winding:	R ₁ (Ω)	R ₂ (Ω)	dT (K)	Required dT (K)	insulation class

Comments:

The temperatures were measured under worst case normal mode as described in 1.6.1 at voltages described in 1.6.5 in Notebook operation condition and battery charging condition. Highest load according to 1.2.2.1 for this equipment is the DVD/CD-RW ROM, FDD, HDD permanently access and max. brightness and contrast for LCD back light circuit and charge of empty battery. Four dummy loads of 2.5W is added to represent the USB port.

Ambient temperature 35°C is specified; therefore, the max. temperature rise is calculated as follows:

Winding components:

- class E → dT_{max} = 90K - 10K - (35-25)K = 70K

- class B → dT_{max} = 95K - 10K - (35-25)K = 75K

Electrolyte capacitor or components with:

- max. absolute temp. of 90°C → dT_{max} = (90-35) K = 55K

- max. absolute temp. of 105°C → dT_{max} = (105-35) K = 70K

- max. absolute temp. of 120°C → dT_{max} = (120-35) K = 85K

- max. absolute temp. of 130°C → dT_{max} = (130-35) K = 95K

User accessible parts

- plastic parts → dT_{max} = 70K - (35-25) K = 60K

- metal parts → dT_{max} = 45K - (35-25) K = 35K

5.3	TABLE: electric strength measurements		P
test voltage applied between:		test voltage (V)	breakdown
1 layer of insulator for modem card		AC 1500V	No
PVC tube of TNV wires for modem card		AC 1500V	No

5.4	TABLE: fault condition tests	P
-----	------------------------------	---

IEC 950							
Clause	Requirement – Test				Result – Remark		Verdict
	ambient temperature (°C)				see below		—
	model/type of power supply				PA-1900-06		—
	manufacturer of power supply				Lite-On		—
	rated markings of power supply				see table 1.5.1		—
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
01	RTC battery (+) – (-)	s-c	--	2 hrs	--	--	For all types: No hazards
02	Main Battery CGR- B/T19SE- SMP of Panasonic (+) – (-)	s-c	14.8V	5 min	--	--	Protection device inside the battery pack was activated immediately. No hazard.
03	Main Battery CGR- B/T19SE- MSL of Panasonic (+) – (-)	s-c	14.8V	5 min	--	--	Protection device inside the battery pack was activated immediately. No hazard.
04	Overcharge the Main Battery CGR- B/T19SE- SMP of Panasonic	--	17.8V/6.0A	7 hrs	--	--	Max. temp. of battery = 25°C at ambient 24°C, when the protection circuitry was activated immediately. No hazards.
05	Overcharge the Main Battery CGR- B/T19SE- SMP of Panasonic	PCM U5 (1-8) shorted	17.8V/6.0A	2.2 hrs	--	--	Max. temp. of battery = 25°C at ambient 24°C, when the protection circuitry was activated immediately. No hazards.
06	Overcharge the Main Battery CGR- B/T19SE- MSL of Panasonic	--	17.8V/6.0A	7 hrs	--	--	Max. temp. of battery = 25°C at ambient 24°C, when the protection circuitry was activated immediately. No hazards.

IEC 950							
Clause	Requirement – Test				Result – Remark		Verdict
07	Overcharge the Main Battery CGR-B/T19SE-MSL of Panasonic	PCM Q3 (1-8) shorted	13.4V/6.0A	2.2 hrs	--	--	Max. temp. of battery = 25°C at ambient 24°C, when the protection circuitry was activated immediately. No hazards.
08	Abusive charge the Main Battery CGR-B/T19SE-SMP of Panasonic	--	17.8V/12.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
09	Abusive charge the Main Battery CGR-B/T19SE-SMP of Panasonic	U4 (1-8) shorted	17.8V/12.0A	2.2 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
10	Abusive charge the Main Battery CGR-B/T19SE-MSL of Panasonic	--	17.8V/12.0A	7 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
11	Abusive charge the Main Battery CGR-B/T19SE-MSL of Panasonic	Q2 (1-8) shorted	17.8V/12.0A	2.2 hrs	--	--	Protection device inside the battery pack was activated immediately. No hazard.
12	Discharge the Main Battery CGR-B/T19SE-SMP of Panasonic	--	7.4A	2.5 hrs	--	--	Max. temp. of battery = 69°C at ambient 24°C.

IEC 950							
Clause	Requirement – Test					Result – Remark	Verdict
13	Discharge the Main Battery CGR-B/T19SE-SMP of Panasonic	PCM U4 (1-8) shorted	7.4A	2.5 hrs	--	--	Max. temp. of battery = 72°C at ambient 24°C.
14	Discharge the Main Battery CGR-B/T19SE-MSL of Panasonic	--	7.7A	2.5 hrs	--	--	Max. temp. of battery = 74°C at ambient 24°C.
15	Discharge the Main Battery CGR-B/T19SE-MSL of Panasonic	PCM Q2 (1-8) shorted	7.7A	2.5 hrs	--	--	Max. temp. of battery = 84°C at ambient 24°C.
16	Ventilation openings blocked	--	240	3.5 hrs	--	--	Max. temp. for the following components of SPS are recorded: T050 coil (SPS) = 89°C L001 coil (SPS) = 67°C L002 coil (SPS) = 72°C L003 coil (SPS) = 82°C L010 coil (SPS) = 79°C Enclosure of notebook=39 °C. No hazards.
17	CPU Fan Locked	--	240	1.8 hrs	--	--	Max. temp. for the following components of SPS are recorded: T050 coil (SPS) = 75°C L001 coil (SPS) = 59°C L002 coil (SPS) = 63°C L003 coil (SPS) = 72°C L010 coil (SPS) = 69°C Enclosure of notebook =44°C. No hazards.

IEC 950							
Clause	Requirement – Test					Result – Remark	Verdict
18	2nd Cooling Fan (near VGA Chip) Locked	--	240	4.4 hrs	--	--	Max. temp. for the following components of SPS are recorded: T050 coil (SPS) = 80°C L001 coil (SPS) = 63°C L002 coil (SPS) = 67°C L003 coil (SPS) = 76°C L010 coil (SPS) = 73°C Enclosure of notebook = 40°C. No hazards.
19	3rd Cooling Fan (near CPU) Locked	--	240	1.2 hrs	--	--	Max. temp. for the following components of SPS are recorded: T050 coil (SPS) = 76°C L001 coil (SPS) = 59°C L002 coil (SPS) = 63°C L003 coil (SPS) = 72°C L010 coil (SPS) = 69°C Enclosure of notebook = 39°C. No hazards.

5.4.10	TABLE: ball pressure test of thermoplastics <i>Done in the approval of switching power supply. No other test item necessary.</i>			N
	required impression diameter (mm): ≤ 2 mm			—
part	test temperature (°C)		impression diameter (mm)	



6.3.4.1	TABLE: TNV leakage current measurement			P
Condition	current L→TNV (mA)	current N→TNV (mA)	comments	
Measured with Lite-On adaptor model PA-1900-06 and Askey modem card type V1456VQL-P1(INT)				
From L/N to Tip	0.15	0.15		
From L/N to Ring	0.15	0.15		

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
Measured with Delta adaptor model ADP-90FB Rev.E and Askey modem card type V1456VQL-P1(INT)			
From L/N to Tip	0.09	0.09	
From L/N to Ring	0.09	0.09	
Measured with FSP adaptor model FSP090-1ADC21 and Askey modem card type V1456VQL-P1(INT)			
From L/N to Tip	0.15	0.15	
From L/N to Ring	0.15	0.15	
Measured with Lite-On adaptor model PA-1900-06 and Askey modem card type WLL030M			
From L/N to Tip	0.14	0.14	
From L/N to Ring	0.14	0.14	
Measured with Delta adaptor model ADP-90FB Rev.E and Askey modem card type WLL030M			
From L/N to Tip	0.09	0.09	
From L/N to Ring	0.09	0.09	
Measured with FSP adaptor model FSP090-1ADC21 and Askey modem card type WLL030M			
From L/N to Tip	0.14	0.14	
From L/N to Ring	0.14	0.14	
Measured with Lite-On adaptor model PA-1900-06 and Creatix modem card type CTX 708			
From L/N to Tip	0.15	0.15	
From L/N to Ring	0.15	0.15	
Measured with Delta adaptor model ADP-90FB Rev.E and Creatix modem card type CTX 708			
From L/N to Tip	0.09	0.09	
From L/N to Ring	0.09	0.09	
Measured with FSP adaptor model FSP090-1ADC21 and Creatix modem card type CTX 708			
From L/N to Tip	0.14	0.14	
From L/N to Ring	0.14	0.14	
Input voltage : 264V Input frequency : 60Hz Overall capacity : in approved SPS			

6.4.2.2	TABLE: electric strength measurements	P
test voltage applied between:	test voltage (V)	breakdown

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
TNV to SELV connectors		AC 1500	No
TNV to notebook enclosure		AC 1500	No
TNV to keyboard		AC 1500	No
Note: The test has been performed on all sources of modem card.			

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	EN 60950:1992+A1:1993:+A2:1993 + A3:1995 + A4:1997 + A11:1997 TEST REPORT (IEC Publication 60950 2nd edition, 1991+Amd.1,1992+Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996) CENELEC common modification, Special National condition, Nation deviation and other information according to CB Bulletin No. 101A, December 2001		P
EXPLANATION FOR ABBREVIATIONS C=CENELEC common modification, S=Special National condition, D=National deviation, F=Other information, AT=Austria, GB=Great Britain, CH=Switzerland, DE=Germany, DK=Denmark, FI=Finland, FR=France, NO=Norway, SE=Sweden. P=Pass, F=Fail, N=Not applicable. place in the column to the right.			
1.2.4.1 S	(DK). Certain types of Class I appliances (see sub-clause 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets.	Class III equipment.	N
1.5.1 D	(SE). Add the following: NOTE: Switches containing mercury such as thermostats, relay and level controllers are not allowed.	No such switch.	N
1.6.4 S	(NO). Note 2: In Norway, due to the IT power system used, capacitors are required to be rated for the applicable phase-to-phase voltage (230V)	No mains connection.	N
1.7.2 S	(NO). Note 4: In Norway, if separation between the mains and a communication system/network, other than public telecommunication networks, relies upon connection to safety earth, the equipment shall have a marking stating that it must be connected to an earthed mains socket-outlet. NOTE: For requirements to be connected to a public telecommunication network, see 6.2.1.4.	Class III equipment.	N
1.7.2 S	(SE). If the separation between the mains and a SELV terminal relies upon connection to the safety earth, the apparatus shall have a marking stating that it must be connected to an earthed mains socket-outlet when a SELV circuit is connected to network passing both unearthed and earthed electrical environment. The marking text shall be in Swedish and as follows: "Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk".	Class III equipment.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.2 D	(DK). Supply cords of Class I appliances, which are delivered without a plug, must be provided with a visible tag with the following text: "Vigtigt. Lederen med grøn/gul isolation må Kun tilsluttes en klemme mærket  eller  ". If essential for the safety of the appliance, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning".	Class III equipment.	N
1.7.2 C	Delete note 4.	Deleted	N
1.7.5 S	(DK). Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a when used on Class I equipment.	No socket outlet.	N
1.7.5 D	(DK). Class II appliances shall not be fitted with socket-outlets for providing power to other appliances.	No socket outlet.	N
1.7.14 D	(DE). Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labor equipment, also for imported technical labor equipment shall be written in German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	No technical labor equipment.	N
1.7.17 D	(CH). (Ordinance on environmentally hazardous substances SR 814.013) Annex 4.10 of SR 814.013 applies for batteries.	To be evaluated in national approval.	N
2.3.3 C	Delete Method 4 and the line in note 1 relating to this method	Deleted.	N
2.3.6 C	Delete the note.	Deleted.	N
2.3.5 S	(NO). In Norway, marking and insulation requirements according to subclause 1.7.2, Note 4, and 6.2.1.4, Note 2, apply.	Class III equipment.	N
2.3.6 S	(FR). Method 3 is not acceptable.	Class III equipment.	N
2.3.7 C	Replace the text of this sub-clause by: Void.	Replaced.	N
2.3.9 S	(NO). Marking and insulation requirements according to this annex, subclauses 1.7.02 and 6.2.01.4 b) apply.	No marking required.	N
2.5.2 S	(DK, NO) Add after the first paragraph: "The above exception is not acceptable in pluggable equipment type A "	Added.	N
2.5.2 C	Delete the note.	Deleted.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1 C	<p>Replace the text of this sub-clause by: Basic requirements</p> <p>To protect against excess current, short-circuits and earth faults in primary circuits, protective devices shall be included either as integral parts of the equipment or as a part of the building installation, subject to all of the following a), b), c) and d):</p> <p>(a) Except as detailed in (b) and (c), protective devices necessary to comply with the requirements of Sub-clause 5.4 shall be included as integral parts of the equipment.</p> <p>(b) For components in series with the mains input to the equipment such as the supply cord, appliance coupler, RFI filter and switch, short circuit and earth fault protection may be provided with protective devices in the installation.</p> <p>(c) It is permitted for equipment with rated current exceeding 16A, which is pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breaker, is fully specified in the installation instruction</p> <p>(d) If reliance is placed on protection in the building installation, the installation instructions shall comply with Sub-clause 1.7.11 except that for pluggable equipment Type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet and 1.7.11 does not apply.</p>	Replaced.	N
2.7.2 C	Replace the text of this sub-clause by: Void.	Replaced.	N
2.8.4 C	Delete the note.	Deleted.	N
2.9.1 S	(NO). Note 3: In Norway, due to the IT power systems used, the mains supply voltage is considered to be equal to the phase-to-phase voltage.	No mains connection.	N
2.9.4.2 C	<p>Amend the last line on page 117a as follows –</p> <p>Solvent-based enamel coating on winding wire is not considered to be insulation in thin sheet material.</p> <p>Add a new sentence below the text on page 117a as follows –</p> <p>Requirements for wound components are given in 2.9.4.4.</p>		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.9.4.4 C	<p>Modify the title as follows –</p> <p>2.9.4.4 Wound components</p> <p>Replace the first paragraph and the two dashed paragraphs as follows –</p> <p>Unless one of the following situations applies, interleaved BASIC, SUPPLEMENTARY or REINFORCED INSULATION complying with 2.9.4.1 or 2.9.4.2 shall be provided between the windings.</p> <ul style="list-style-type: none"> - the insulation on the winding wire complies with 2.9.4.1; or - the winding wire complies with annex U; or - the insulation between the windings is provided for separation between ZNV circuits and other parts in compliance with 6.4.1. <p>Note – Examples of insulation of winding wire complying with annex U are polyamide and FEP.</p>		N
2.11 C	Delete notes 1, 2 and 3.	Deleted.	N
3.2.1 S	<p>(DK). Supply cords of single phase appliances having a rated current not exceeding 10A shall be provided with a plug according to the Heavy Current Regulations Section 107-2-D1.</p> <p>Class I equipment provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a rated current exceeding 10A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations Section 107-1-D1 or EN 60309-2.</p>	No power cord set provided for this country.	N
3.2.1 S	<p>(CH). Supply cords of equipment having a rated current not exceeding 10A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets</p> <p>SEV 6532-2,1991 Plug type 15 3P+N+PE 250/400V, 10A</p> <p>SEV 6533-2,1991 Plug type 11 L+N 250V, 10A</p> <p>SEV 6534-2,1991 Plug type 12 L+N+PE 250V, 10A</p> <p>EN 60 309 applies for plugs for currents exceeding 10A</p>	No power cord set provided for this country.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.1 S	(GB). Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard plug" in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. Note: "standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	No power cord set provided for this country.	N
3.2.2 C	Delete the note and in table 10, delete the values in parentheses.	Deleted.	N
3.2.4 S	(GB). A power supply cord with conductor of 1.25mm ² is allowed for equipment with rated current over 10A and up to and including 13A.	No power cord set provided for this country.	N
3.2.4 C	Replace "60245 IEC 53" by "H05 RR-F", "60227 IEC 52" by "H03 VV-F or H03 VVH2-F" and "60227 IEC 53" by "H05 VV-F or H05 VVH2-F". In table 11, replace the first four lines by the following: Up to and including 6 0.75 ¹⁾ Over 6 up to and including 10 1.0 (0.75) ²⁾ Over 10 up to and including 16 1.5 (1.0) ³⁾ In the conditions applicable to table 11, delete the words "in some countries" in condition 1). In the Note delete the second sentence.	Replaced.	N
3.3.5 C	In table 13, replace the fourth and the fifth lines by: Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4	Replaced.	N
3.3.5 S	(GB). The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10A and up to and including 13A is: 1.25mm ² to 1.5mm ² nominal cross-sectional area.	Class III equipment.	N
4.3.18 S	(GB). This test should be performed using an appropriate socket-outlet with an earthing contact.	Class III equipment.	P
4.4.4 C	Delete note 2.	Deleted.	N
5.4.9 S	(NO). Note: In Norway, the electric strength test includes testing of basic insulation in Class I pluggable equipment type B and permanently connected equipment.	Not applied for.	N
6.1 S	(CH). Protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245V).	No protective means.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
6.2.1.2 C 6.2.1.3 C	Add at the end of the sub-clause: This sub-clause only applies to TNV circuits normally operating in excess of the limits of SELV circuits.	Added	P
6.2.1.2 S	(SE). Supplementary insulation for a primary circuit is required between any TNV circuit and any circuit that has a connection to a protective earthing terminal. In Sweden, this requirement does not apply to permanently connected equipment or pluggable equipment Type B.	Considered.	P
6.2.1.2 S	(NO). In Norway, supplementary insulation for a primary circuits is required between any TNV circuit and any circuit that has a connection to a protective earthing terminal. This requirement does not apply to permanently connected equipment or to pluggable equipment type B, installed in areas where equipotential bonding has been applied, e.g. a telecommunication Central Office.	Considered.	P
6.2.1.4 C	Delete the notes.	Deleted.	N
6.2.1.4 S	(NO). Note 2: In Norway, method b) is not permitted. Insulation between parts conductively connected to the supply mains and parts connected to a public telecommunication network shall comply with the requirements for double or reinforced insulation.	Double or reinforced insulation provided by approved SPS adaptor.	P
6.2.1.4b) S	(FI). Method b) is permitted only for permanently connected equipment or for pluggable equipment Type B.		N
6.2.1.5 S	(NO). Note 2: In Norway, requirements according to 6.2.1.4, Note 2, apply	No protective earthing terminal.	N
6.3.3. S	(NO). In Norway, 6.3.3 is applicable for pluggable equipment type A and B and for permanently connected equipment.	Considered.	P
6.3.3.1 S	(SE). In Sweden, requirements according to this annex ZB, subclause 6.2.1.2 apply.	As the SELV circuitry might be earthed, supplementary insulation between SELV and TNV for primary circuit provided.	P
6.3.3.1 S	(NO). In Norway, requirements according to subclause 6.2.1.2, national difference, 6.2.1.4, Note 2, and 6.3.3.2, Note 1, applied.	Considered.	P
6.3.3.2 S	(NO). Note 1: In Norway, exclusions are applicable for permanently connected equipment and pluggable equipment Type B only.	No permanently connected equipment and pluggable equipment type B.	N
6.4.1 C	Delete note 2.	Deleted.	N
6.4.2.1 C	Delete note 2.	Deleted.	N
6.4.2.1 D	(AT). Equipment shall comply with $U_c = 2.0\text{kV}$ in cases b) and c).	6.4.2.2 applied.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
Annex H. D	<p>(DE)</p> <p>a) A license is required by those who operate an X-ray emission source.</p> <p>b) A license in accordance with clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV, if</p> <p>1) the local dose rate at a distance of 0.1m from the surface does not exceed 1µSv/h and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-rays are generated and</p> <p>ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.</p> <p>c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV, if</p> <p>1) the X-ray emission source has been granted a type approval and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-ray are generated,</p> <p>ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and</p> <p>iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.</p> <p>d) Furthermore, a license in accordance with clause 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV, if</p> <p>1) the X-rays are generated only by intrinsically safety CRTs complying with Enclosure III, No.6,</p> <p>2) the values stipulated in accordance with Enclosure III, bi, 6.2 are limited by technical measures and specified in the device and</p> <p>3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.</p>	No CRT.	N
Annex P C	<p>Replace the text of this annex by:</p> <p>See annex ZA.</p>	Replaced.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
Annex Q C	Add for IEC 60529: Note: Endorsed by EN 60529:1991 (not modified) Add for IEC 60707 Note: Endorsed by HD441:1983 (not modified) Add for IEC 61058-1: Note: Endorsed by EN 61058:1992 (not modified).	Added.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	<p>EMKO-TSE(74-SEC)207/94 TO</p> <p>EN 60950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997 TEST REPORT</p> <p>(IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)</p> <p>Nordic Explanations, and other information not covered by Appendix EN 60950:1992, + A1:1993 + A2:1993 + A3:1995 + A4:1997+A11:1997.</p>		P
<p>EXPLANATION FOR ABBREVIATIONS</p> <p>NF=Nordic Explanations and other information. DK=Denmark, FI=Finland, NO=Norway, SE=Sweden.</p> <p>P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.</p>			
1.2.02.01 NF	(DK,FI,NO,SE). The heating test of separate power supplies of personal computers is carried out according to their rated output values marked on the power supplies.	Approved adapter.	N
1.5.01 NF	<p>(DK,FI,NO,SE). The following capacitors are accepted across the mains:</p> <p>1) X1 capacitor which complies with Publication IEC 60 384-14.</p> <p>2) X2 capacitor which complies with Publication IEC 60 384-14 and which has been subjected to a pulse test according to § 12.11.2, except the value of the voltage is reduced to 2.5 kV.</p> <p>3) X2 capacitor which complies with Publication IEC 60 384-14 in case the endurance test of § 12.11.2 has been modified so that the resistor of 220Ω through which the voltage of 1000 V rms is applied to the capacitor under test, is short circuited.</p> <p>4) Capacitor which complies with Publication HD 195 S6, § 14.2.</p>	Approved adapter.	N
1.5.02 NF	(DK,FI,NO,SE). Transient protection components shall be installed in such a way that insulation for protection against electric shock will not be bridge. This means that transient protection components must not be connected to safety earthed parts in pluggable equipment or to other accessible parts.	No transient protection components.	N
	-3.2.3 (DK,FI,NO,SE). Interconnection couplers in accordance with EN 60 320-2-2 are accepted. Outlets of non-standard types are not accepted.	No outlet.	N
1.7.01 NF	-1st dash (DK). When supplied in Denmark the appliances shall be set to 230 V .	No mains connection.	N
	-5th dash (DK). The equipment may instead be provided with a marking indicating name, trade-mark or identify of the responsible vendor.	See report page 3 for details.	P
2.1.04 NF	(DK,FI,NO,SE). For monitors, warning label is not required for repairing area, neither the partial shielding against contact although the voltage is > 42.4 V peak or > 60 V d.c.	Not a monitor.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.5.11 NF	(DK,FI,NO,SE). Due to installation fuses of 16A, the earth resistance shall always be controlled at 25 A.	Class III equipment.	N
2.6.06 NF	(DK,FI,NO,SE). The plug is regarded to be a disconnect device and therefore a single pole mains switch is acceptable (TC 74-WG 8's recommendation).	Appliance inlet considered as disconnect device.	N
2.6.11 NF	(DK,FI,NO). The warning label on an appliance with two or several supply connections shall be in the official language of the country in question.	Only one supply from the mains.	N
	(DK,FI,NO). UPS-appliances can be fitted with a signal lamp instead of a warning label, under the condition that the function and location of the signal lamp is correct. Audible signal is not acceptable as warning.	Equipment is not a UPS.	N
2.7.03 NF	(DK,FI,NO,SE). A single-pole protective device is acceptable.	Class III equipment.	N
2.9.01 NF	(DK,FI,NO,SE). Pollution Degree 3 is considered applicable for the following equipment which is within the scope of this standard: Document Shredder Machines.	Equipment is not a shredding machine	N
4.2.07 NF	(DK,FI,NO,SE). If there are visible cracks on the apparatus after the mechanical strength test, the apparatus is not rejected, if it still complies with the other requirements of subclause 4.2.7.	No visible cracks.	P
4.4.04 NF	(DK,FI). Fire enclosure is required if the available power exceeds the values of a limited power source. The limited power source shall incorporate an isolating transformer and shall comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Not required.	N
	(NO). A fire enclosure is not required in spots of the equipment where the available power does not exceeded 50 VA and the available voltage 42.4 V (peak) or 60 V d.c.	Not required.	N
5.4.06 NF	(DK,FI,NO,SE). Faults need not to be carried out in circuits which are supplied by an isolating transformer and which comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Considered.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict

APPENDIX	China National Differences according to CB Bulletin, No. 101A, December 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.4.5, 1.6.5	The minimum supply tolerance is -10%, +6%; GB4943 sub-clause 1.4.5 and 1.6.5: The minimum supply tolerance is -10%, +10% according to Chinese situation.	Class III equipment.	N
	IEC standard for plug is IEC 60083. The Chinese National standard for Plugs is GB1002-1996, which is not equivalent with IEC60083.	No mains connection	P

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict

APPENDIX	Japanese National Differences according to CB Bulletin No. 101A, December 2001 REPORT (IEC Publication 60950 : 1991 + A1 + A2 + A3 + A4)		P
----------	---	--	---

EXPLANATION FOR ABBREVIATIONS

P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.

2.9.2.1	Delete entire column headed by [Nominal mains supply voltage $\leq 150V$ (Transient rating 1500V)] in Table 3. Delete $>150V$ from column headed by "Nominal mains supply voltage $>150V$, $\leq 300V$ (Transient rating 2500V)" in Table 3.	Class III equipment.	N
2.9.2.2	Delete entire column headed by "Nominal mains supply voltage $\leq 150V$ (Maximum transient in secondary circuit 800V see condition 6)" in Table 5	Class III equipment.	N
2.9.4.4	Replacement: The following shall replace the entire existing paragraphs: Title: Wounded components BASIC, SUPPLEMENTARY, DOUBLE or REINFORCED INSULATION is permitted in a wounded component using one of the following a), b), or c) constructions or the wounded component must use interleaved insulation which complies with 2.9.4.1 or 2.9.4.2: a) the winding wire is insulated with insulation complying with 2.9.4.1 other than solution based type enamel coatings. b) the winding wire is insulated with extruded multi-layers or wrapped layers of tape (each layer can be tested for electric strength) which complies with 2.9.4.1 and complies with annex U. c) the winding wire is insulated with extruded multi layers or wrapped layers of tape (test can be only performed on finished winding wire) and complies with annex U. Note 1 – see also 6.4.1. As to c), the number of constructional layers applied to the conductor to determine the grade of insulation of the winding wire shall not be less than as follows: * if BASIC INSULATION is required, a minimum of two layers or one extruded layer	Different Japanese standard text considered.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>* if SUPPLEMENTARY INSULATION is required, a minimum of two layers or two extruded layers</p> <p>* if REINFORCED INSULATION is required, a minimum of three layers or three extruded layers</p> <p>As to b) and c), in case the CREEPAGE DISTANCES between wrapped layers of tape are less than Table 6 under Pollution degree 1, the distance between layers must be reliably cement together with insulation compound complying with 2.9.7 and with the test voltage in annex U.2 (Type tests) increased to 1.6 times.</p> <p>Note 2 – In case one layer of material is wrapped 50% or more, it is considered as two layers</p> <p>Where two insulated wires or one bare wire and one insulated wire are contacted inside the component and cross each other at an angle between 45° and 90°, physical separation shall be provided, for example in the form of insulating sleeving or sheet material, or by applying two times of the specified insulating layer(s), to relieve mechanical stress at the crossover point.</p> <p>The finished component shall pass ROUTINE TESTING for electric strength using the value of test voltage in 5.3.</p> <p>Compliance is checked by visual inspection and measurement, and as specified in annex U. However, the tests are not repeated if the material data sheets confirm compliance with annex U.</p>		
5.1	<p>Addition:</p> <p>Add the following to 5) as specified in Conditions applicable to table 16, parts 1 and 2</p> <p>With regards to 1), insulating materials complying with Japanese requirement (Refer to Japanese difference for current IEC 60335-1 (3rd Edition) in CB Bulletin 94B), can be taken of data for that material to determine the appropriate maximum temperature rise.</p>	For other than those complied with IEC standards, refer to added condition 8) below.	P
Annex U	<p>Replacement:</p> <p>ANNEX U (normative)</p> <p>Insulated winding wires for use without interleaved insulation (see 2.9.4.4)</p> <p>This annex specifies winding wire whose insulation may be used to provide BASIC, SUPPLEMENTARY or REINFORCED</p>	Replaced, no insulated winding wires for use without interleaved insulation.	N

National Deviation													
Clause	Requirement – Test	Result – Remark	Verdict										
	<p>INSULATION in wound components without interleaved insulation.</p> <p>This annex applies to round winding wire whose diameter is between 0.2mm and 1.00mm. With regard to other size, refer to IEC 60851.</p>												
	<p>U.1 Wire construction</p> <p>If the wire is insulated with two or more spirally wrapped layers of tape, the overlap of layers shall be adequate to ensure continued overlap during manufacture of the wound component. In order to maintain the overlap of layers, wire insulation layer of wrapped layers of tape must be adequately secured.</p>		N										
	<p>U.2 Type tests</p> <p>Unless it specifies, the wire shall pass the following six TYPE TESTS U.2.1 to U.2.4, carried out at a temperature between 15°C and 35°C and a relative humidity between 45% and 75%. Refer to the IEC 60851 first edition.</p>		N										
	<p>U.2.1 Electric strength</p> <p>Test 13 of IEC 60851-5 (1988), 4.3.1 (test for twisted wire pairs), with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. whichever is the greater.</p>		N										
	<p>U.2.2 Adherence and flexibility</p> <p>Test 8 of IEC 60851-3, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>Table U.2.2.2 – Mandrel</p> <table><tr><td>Nominal diameter of conductor (mm)</td><td>Mandrel diameter (mm±0.2mm)</td></tr><tr><td>(20) – 0.34</td><td>4.0</td></tr><tr><td>(21) – 0.49</td><td>6.0</td></tr><tr><td>(22) – 0.74</td><td>8.0</td></tr><tr><td>(23) – 1.00</td><td>10.0</td></tr></table> <p>The tension of winding wire while wire is wrapped around the mandrel, should be calculated so that it is equivalent to 118Mpa±10% (118N/mm²±10%) from winding wire radial.</p>	Nominal diameter of conductor (mm)	Mandrel diameter (mm±0.2mm)	(20) – 0.34	4.0	(21) – 0.49	6.0	(22) – 0.74	8.0	(23) – 1.00	10.0		N
Nominal diameter of conductor (mm)	Mandrel diameter (mm±0.2mm)												
(20) – 0.34	4.0												
(21) – 0.49	6.0												
(22) – 0.74	8.0												
(23) – 1.00	10.0												
	<p>U.2.3 Heat shock</p> <p>Test 9 of IEC 60851-6, 3.1 and IEC 60851-3,</p>		N										

National Deviation																								
Clause	Requirement – Test				Result – Remark	Verdict																		
	<p>5.1.1.1, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>The temperature of oven is specified in the following Table U.2.3.</p> <p>Table U.2.2 shows and explains required mandrel diameter and tension.</p> <p>Test must be performed at room ambient after taking out from oven.</p> <p>Table U.2.3 – Oven Temperature</p> <table><tr><td>Class</td><td>A</td><td>E</td><td>B</td><td>F</td><td>H</td></tr><tr><td></td><td>(105)</td><td>(120)</td><td>(130)</td><td>(155)</td><td>(180)</td></tr><tr><td>Oven Temp.</td><td>200</td><td>215</td><td>225</td><td>240</td><td>260</td></tr></table> <p>(°C±2°C)</p>				Class	A	E	B	F	H		(105)	(120)	(130)	(155)	(180)	Oven Temp.	200	215	225	240	260		
Class	A	E	B	F	H																			
	(105)	(120)	(130)	(155)	(180)																			
Oven Temp.	200	215	225	240	260																			
	<p>U.2.4 Retention of electric strength after bending</p> <p>Test 13 of IEC 60851-5 (1988), 4.6.1 c, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>Table U.2.2 shows and explains required mandrel diameter and tension.</p>					N																		
	<p>U.3 Routine test</p> <p>Winding wire is subjected to electric strength test during the production in accordance with U.3.1 and U.3.2 by wire manufacturer.</p>					N																		
	<p>U.3.1 Full-length test</p> <p>Winding wire is subjected to electric strength test during the production for full wire length, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. or 4.2kV peak minimum.</p>					N																		
	<p>U.3.2 Audit test</p> <p>Test must be carried out according to IEC 60851-5 (1988) for twisted wire pairs. Electric strength test, with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. or 8.4kV peak minimum.</p>					N																		

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Korean National Differences according to CB Bulletin, No. 101A, December 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
General	LIMITATIONS - Voltage ratings As national supply voltage is subject to be increased to 220V, an appliance rated 220V is to be allowed to obtain type approval in Korea. Either an appliance rated 110V or 220/110V is not allowed. When an appliance is supplied in Korea, it shall be set to and marked with 220V. But free voltage appliance by SMPS (Switching Mode Power Supply) is allowed and it shall be marked with "100-220V".	100-240V for adaptor.	N
General	LIMITATIONS – Frequency Only appliances having supply frequency of 60Hz or a frequency range including 60Hz are accepted. When an appliance is supplied in Korea, it shall be set to and marked with 60Hz.	50-60Hz for adaptor.	N
General	LIMITATIONS - Instruction Instruction manuals and appliance markings related to safety, including nameplate shall be in Korean or graphical symbols in IEC Publication 60417.	Instruction manual will be in Korean.	N
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirements (KSC 8305).	No power cord provided for this country.	N
7	Addition: Radio frequency interference The apparatus shall comply with the relevant CISPR requirements.	The CISPR requirements have to be evaluated when submitted for national approval.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict

APPENDIX	Singapore National Differences according to CB Bulletin, No. 101A, December 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
General	IT Power Systems are not allowed in the Republic of Singapore and all clauses related to IT Power Systems are not applicable.	No direct mains connection.	N
2.2.3	(a) After the first paragraph, insert the following: Conditions described in IEC Publication 60068-2-3: Test Ca: Damp Heat, Steady State (temperature: 40±2°C, relative humidity: 90% to 95%) shall apply to insulation to be used under tropical conditions. (b) At the end of the last paragraph, insert the following note: NOTE: The additional requirement on humidity conditioning is drawn from Clause 10.2 of IEC 60065:1985.	Complied.	P

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Israel National Differences according to CB Bulletin, No. 101A, December 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.2.12.1	TN Power Distribution: The mains system in Israel is TN-S or TN-C or TN-C-S.	No direct mains connections.	N
1.7	Marking and Instructions: The package of the equipment shall be marked in Hebrew, and shall include: (a) The name of the manufacturer (b) The country of production (c) The year of production (d) The name and the address of the importer (e) The marking shall be on a rectangular label (of at least 50mm X 24mm) (f) The letters height should be at least 2mm (g) The color of the label shall be in contrast to the color of the package.	Shall be evaluated in national mark approval.	N
1.7.14	Language: All instructions and warnings concerning safety should be in the Hebrew language	Shall be evaluated in national mark approval.	N
2.101	EMC: The equipment shall comply with SI 961 part 6 (CISPR 22 + 24)	Shall be provided and evaluated in national mark approval.	N
3.2.2	Permanently connected equipment: Additional note below table 10: In Israel the diameter of the conduit shall comply with the Electricity Law.		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict

APPENDIX	<p>Canadian National Differences according to CB Bulletin No. 101A, December 2001</p> <p>(IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)</p>		P
----------	--	--	----------

EXPLANATION FOR ABBREVIATIONS

P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.

Special National Conditions			
1.1.1	All equipment installations are required to be in accordance with the Canadian Electrical Code (CEC). Part 1, CAN/CSA C22.1, and with National Electrical Code (NEC), ANSI/NFPA 70, and, unless marked or otherwise identified, the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	P
1.7.1	<p>Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.</p> <p>A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extended into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than specified "Normal Operating Condition," unless it is part of a range that extends into the "Normal Operating Conditions."</p>	No direct mains connection.	N
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes and be rated 125 percent of the equipment rating.	Class III equipment.	N
2.5.11	When subject to impedance testing, protective earthing and bonding are required to be tested to the additional test conditions that originate in CAN/CSA C22.2 No. 0.4.	Class III equipment.	N
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) in rated more than 12 A, or (c) is rated more than 1/3 hp (locked rotor current over 43 A).	Not motor control device.	N
2.6.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No vertically mounted disconnect switch or circuit breaker.	N
2.6.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power off circuit.	No battery system.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	<p>Suitable NEC/CEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders if the supply branch circuit protection is not suitable.</p> <p>Power distribution transformers distributing power at 100 volts or more, and rated 10KVA or more, required transformer overcurrent protection.</p> <p>Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.</p>	No power outlet.	N
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V, 15A.	No direct mains connection.	N
2.11	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	Class III equipment.	N
3.1.12	<p>For lengths exceeding 2 m, external interconnecting flexible cord and cable assemblies are required to be suitable cable type (e.g. DP, CL2) described in the NEC.</p> <p>For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies which are not types specified in the CEC/NEC are required to have special construction features and identification markings.</p>		N
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the CEC/NEC.	No power cord set provided for this country.	N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	No power cord set provided for this country.	N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted. except for certain equipment, such as ATMs.	No power cord set provided for this country.	N
3.2.4	<p>Power supply cords are required to be not longer than 4.5 m in length.</p> <p>Flexible power supply cords are required to be compatible with article 400 of the NEC</p>	No power cord set provided for this country.	N
3.2.8	Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.	No power cord set provided for this country.	N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CAN/CSA No. 0.	No power cord set provided for this country.	N
3.3.3	Wiring binding screws are not permitted to attach conductors larger than 10 AWG (5.3mm ²).	No power cord set provided for this country.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21 CFR 1040 and Canadian Radiation Emitting Devices Act, REDR C1370, as applicable.	Approved CD-ROM, DVD-ROM, CD-R/RW and DVD ROM & CD-R/RW shall be used. Evaluation should be done when national approval.	N
4.4.1	For computer room application, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	No automated information storage system.	N
4.4.4	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² or a single dimension greater than 1.8 m, are required to have flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Enclosure is far smaller than 0.9m ² or 1.8m in a single dimension.	N
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid.	N
Annex H	Equipment that produces ionizing radiation is required to comply with Code of Federal Regulations, 21 CFR 1020 and/or Canadian Radiation Emitting Devices Act, REDR C1370, as applicable.		N
Other Differences			
1.5.1	<p>Components of equipment must be suitable for the application, and must comply with the requirements of the equipment standard and the Canadian or U.S. components standards, as far as they may apply.</p> <p>The acceptance will be based on the following:</p> <p>A) A component certified by a Canadian or U.S. NCB to a Canadian or U.S. component standard will be checked for correct application and use in accordance with its specified rating. Where necessary, it will also be subjected to the applicable tests of the equipment standard.</p> <p>B) A component which has a CB Test Certificate for compliance with a relevant IEC component standard will be checked for correct application and use in accordance with its specified ratings. Where necessary, it will also be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian and U.S. component standard, under the conditions occurring in the equipment.</p>	Components are UL or CSA approved, see component list 1.5.1.	P

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>C) A component which has no approval as in A) or B) above or which is used not in accordance its specified ratings, will be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian or U.S. component standard, under the conditions occurring in the equipment.</p> <p>D) Some components may require annual re-testing which may be carried out by the manufacturer, CSA or another laboratory.</p>		
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing wiring and marking requirements.	No connection to centralized d.c. power system.	N
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.	No wall or ceiling mounted equipment.	N
4.1.7	Equipment with handles is required to comply with special loading tests.	No handles.	N
4.2.9	Enclosures around C.R.T's having a diagonal dimension of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N
6.2.1.1	Under normal operating conditions, the maximum acceptable TNN-2 and TNV-3 circuit levels for other than ringing signals are: $(U_{ac}/42.4 + U_{dc}/60) \leq 1$.	Complied.	P
6.2.2.2	Access restrictions to TNV-2 and TNV-3 circuits in battery compartment also apply to TNV-1 circuits.	No battery compartment.	N
6.3.4.3	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement tests.	To be evaluated in national approval.	N
6.4.1	Enamel coating on winding wire not considered electrical separation unless subject to special investigation.	No enamel coating on winding wire is considered as electrical separation.	N
6.4.3	Equipment connected to a telecommunications network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.	To be evaluated in national approval.	N
6.5	Where a fuse is used to provide current limiting, it shall not be operator-accessible unless it is not interchangeable.	No used.	N
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	To be evaluated in national approval.	N
M.2	Continuous ringing signals up to 16 mA only are permitted if subject to special installation and performance restrictions.	No telephone ringing signals generated.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict

APPENDIX	US National Differences according to CB Bulletin No. 101A, December 2001 for IEC 60950 (1991) 2nd Edition, Amendment No.1 (1992), Amendment No. 2 (1993), Amendment No. 3 (1995) and Amendment No. 4 (1996)		P
----------	---	--	----------

EXPLANATION FOR ABBREVIATIONS

P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.

The following national differences are based on national regulatory requirements.

1.1.1	All equipment installations are required to be in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for the Protection Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	P
1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240V, 3-wire) require a special marking format for electrical rating. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions". Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions", unless it is part of a range that extends into the "Normal Operating Conditions".	Class III equipment.	N
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes and be rated 125 percent of the equipment rating.	Class III equipment.	N
2.5.11	The capacity of the connection between the earthing terminal and parts required to be earthed is required to comply with CAN/CSA C22.2 No. 0.4.	Class III equipment.	N
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) is rated more than 12A, or (c) is rated more than 1/3 hp (locked rotor current over 43A).	No motor control device.	N
2.6.8	Vertically mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the "up" position.	No vertically mounted disconnect switch or circuit breaker.	N
2.6.11	For computer room applications, equipment with battery systems capable of supplying 750VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	No such battery.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	<p>Suitable NEC/CEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders if the supply branch circuit protection is not suitable.</p> <p>Power distribution transformers distributing power at 100 volts or more, and rated 10kVA or more, require transformer overcurrent protection.</p> <p>Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.</p>	No standard supply outlets or medium-base or smaller lampholders.	N
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V, 15A.	Class III equipment.	N
2.11	Where a fuse is used to provide current limiting, it shall not be operator-accessible unless it is not interchangeable.	No limited power source applied for.	N
3.1.12	<p>For lengths exceeding 3.05m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g. DP, CL2) described in the NEC.</p> <p>For length 3.05m or less, external interconnecting flexible cord and cable assemblies which are not types specified in the NEC are required to have special construction features and identical markings.</p>		N
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC	No power cord set provided for this country.	N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	No power cord set provided for this country.	N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted.	Appliance inlet on adapter.	N
3.2.4	<p>Power supply cords are required to be no longer than 4.5m in length.</p> <p>Flexible power supply cords are required to be compatible with Article 400 of the NEC.</p>	No power cord set provided for this country.	N
3.2.8	Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.	No power cord set provided for this country.	N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	No power cord set provided for this country.	N
3.3.3	Wire binding screws are not permitted to attach supply conductors larger than 10 AWG (5.3mm ²).	No wire binding screws.	N
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21CFR 1040 and Canadian Radiation Emitting Devices Act, REDR C1370.	Approved CD-ROM, DVD-ROM, CD-R/RW and DVD ROM & CD-R/RW shall be used. Evaluation should be done when national approval.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
4.4.1	For computer room applications, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	No automated information storage system.	N
4.4.4	For computer room applications, enclosures with combustible material measuring greater than 0.93mm ² or having a single dimension greater than 1.8m are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Enclosure is far smaller than 0.9m ² or 1.8m in a single dimension.	N
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid.	N
The following national differences are based on requirements other than national regulatory requirements.			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, cathode ray tubes, circuit breakers, communication circuit accessories, cord sets and power supply cords, enclosures (outdoor), flexible cords and cables, fuses, fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, lampholders, limit controls, printed wiring, protectors for communication circuits, receptacles, solid state controls, supplementary protectors, surge suppressors, switches, thermal cutoffs, thermostats, tubing, wire connectors, and wire and cables.	Components are UL approved, see component list 1.5.1.	P
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing, wiring and marking requirements.	No connection to centralized d.c. power system.	N
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.	No wall or ceiling mounted equipment.	N
4.1.7	Equipment with handles is required to comply with special loading tests.	No handles.	N
4.2.9	Enclosures around CRT's with a face area of 160mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
6.2.1.1	The maximum acceptable TNV circuit levels for other than ringing signals are: normal condition- $(U_{ac}/42.4 + U_{dc}/42.4 \leq 1 \text{ for } U_{dc} \leq 21.2 \quad (U_{ac}/32.8 + U_{dc}/60) \leq 1 \text{ for } U_{dc} > 21.2$ abnormal conditions- $(U_{ac}/70.7 + U_{dc}/120) \leq 1$	Complied.	P
6.2.2.2	Access restrictions to TNV-2 and TNV-3 circuits in battery compartments also apply to TNV-1 circuits.	No battery compartments.	N
6.3.4.3	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement test.	To be evaluated when national approval.	N
6.4.1	Enamel coating on winding wire are not considered electrical separation unless subjected to special investigation.	No enamel coating on winding wire is considered as electrical separation.	N
6.4.3	Equipment connected to a telecommunication network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.	No earphone.	N
6.5	Equipment intended to provide power over the telecommunication wiring system is required to limit output current to values which will not damage the telecommunication wiring system.	Equipment is not intended to supply other units via telecommunication line.	N
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage.	To be evaluated when national approval.	N
M.2	Continuous ringing signals up to 16mA only are permitted if subjected to special installation and performance restriction.	No telephone ringing signals generated.	N