

IEC**IECEE**
CB
SCHEME

Ref. Certif. No.

JPTUV-004669-M1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEMESYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC**CB TEST CERTIFICATE**
CERTIFICAT D'ESSAI OCProduct
Produit

Personal Computers

Name and address of the applicant
Nom et adresse du demandeurAdvantech Co., Ltd.
4F, No. 108-3, Ming Chuan Rd.
Hsin Tien City, Taipei Hsien 231, Taiwan, R.O.C.Name and address of the manufacturer
Nom et adresse du fabricantAdvantech Co., Ltd.
4F, No. 108-3, Ming Chuan Rd.
Hsin Tien City, Taipei Hsien 231, Taiwan, R.O.C.Name and address of the factory
Nom et adresse de l'usineAdvantech Co., Ltd.
Fl.5, No.1, Lane 169, Kang-Ning St.
Xi-Zhi, Taipei Hsien 221, Taiwan, R.O.C.Rating and principal characteristics
Valeurs nominales et caractéristiques principalesInput Rating : DC 18-25V, 3.5A
Protection Class : III

ADVANTECH trademark

Trade mark (if any)
Marque de fabrique (si elle existe)PPC-L126x-yy
x = B-Z, 0-9 or blank
y = any alphanumeric character or blankModel/type Ref.
Ref. de typeFor differences between the models, refer to the test report
Remark : Replaces JPTUV-004669 dated 02.08.2002,
due to first modification.Additional information (if necessary)
Information complémentaire (si nécessaire)**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 laIEC 60950:1991 + A1 + A2 + A3 + A4
inclusive CENELEC Common Modifications
National differences see test reportAs 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

12003036 002

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de CertificationTUV Rheinland
Berlin BrandenburgTUV Rheinland Japan Ltd.
Shin Yokohama Daini Center Bldg. 9F
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Yokohama 222-0033 Japan
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Date: 06.01.2003

Signature:

Dipl.-Ing. R. Keller

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

Reference No.: <12003036 002>

Compiled by (+ signature).....: *P. Petschnig*Approved by (+ signature): *M. Kera*Date of issue: December 26th, 2002

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: Advantech Co., Ltd.

Address.....: 4F., No. 108-3, Ming Chuan Rd., Hsin Tien City, Taipei Hsien 231,
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
3rd edition, AS 3260

Test procedure: CB-scheme

Procedure deviation: Argentina, Austria, Brazil, Belgium, Canada, China, The Czech
Republic, Denmark, Finland, France, Germany, Greece, Hungary,
India, Ireland, Italy, Japan, Rep. of Korea, The Netherlands,
Poland, Russian Federation, Singapore, Slovakia, Slovenia, South
Africa, Spain, 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: Personal Computers

Trademark: ADVANTECH

Model and/or type reference: PPC-L126x-yy (x=B-Z, 0-9 or blank; y can be any alphanumeric
character or blank)

Manufacturer: Same as client

Rating(s).....: DC 18-25V, 3.5A max.



The construction of the Personal Computers model PPC-L126x-yy (x = B-Z, 0-9 or blank; y can be any alphanumeric character or blank) has been modified as follows:

1. Add alternative source of LCD panel.
2. Add alternative source of DC/AC Inverter.

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

Modification	Testing	Comments	Result
1	N/A	No safety impact. For source details refer to appended table 1.5.1.	P
2	<ul style="list-style-type: none">• Limited current measurement• Heating test	For test results see appended sub-clause 2.4 and tables 2.4 and 5.1. For source details refer to 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:

Advantech Co., Ltd.

F5., No. 1, Lane 169, Kang-Ning St. Xi-Zhi, Taipei Hsien 221, Taiwan, R.O.C.

History of amendments and modifications:

Ref. No. 12003036 001, dated July 29th, 2002 (original test report)



IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.4	Limited current circuits		P
2.4.2	Frequency (Hz)	(see appended table)	—
	Measured current (mA)	(see appended table)	P
2.4.3	Measured voltage (V)		—
	Measured capacitance (µF)		N
2.4.4	Measured voltage (V)	< 15000	—
	Measured charge (µC)	< 45	P
2.4.5	Measured voltage (V)		—
	Measured energy (mJ)		N
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

1.5.1 TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
LCD Panel	Tottori SANYO Electric Co., Ltd.	MXS121022010	TFT type, SVGA 12.0 inch	--	--
DC/AC Inverter	Lecerf Technology Co., Ltd.	LV-104-S	i/p: DC 13.2V, 700mA max. o/p: 700Vrms, 6mA max. 1300Vrms (no load)	--	--
- transformer (T2)	Lecerf Technology Co., Ltd.	X03	Class 105°C	--	--

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

2.4 TABLE: limited current circuit measurement						P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
DC/AC Inverter model LV-104-S manufactured by Lecerf Technology Co., Ltd.						
Normal condition:						
T2 pin 7 to pin 9	75.2	37.6	131.6	70		
T2 pin 7 to earth	30	15	125	70		
T2 pin 9 to earth	12	6	44.25	30.98		
CN3 pin 1 to pin 3	25.2	12.6	48.54	33.98		
CN3 pin 1 to pin 3	24.8	12.4	48.54	33.98		
CN3 pin 1 to pin 3	0.392	0.196	0.059	0.7		
Single fault condition: L2 short circuit						
T2 pin 7 to pin 9	75.2	37.6	113.6	70		
T2 pin 7 to earth	29.6	14.8	25.64	17.95		
T2 pin 9 to earth	11.4	5.7	37.88	26.52		
CN3 pin 1 to pin 3	28.4	14.2	50	35		
CN3 pin 1 to pin 3	28.8	14.4	49.02	34.31		
CN3 pin 1 to pin 3	0.456	0.228	0.059	0.7		
Single fault condition: Q8 (C-E) short circuit						
T2 pin 7 to pin 9	78	39	126.6	70		
T2 pin 7 to earth	94	47	126.6	70		

T2 pin 9 to earth	14.4	7.2	44.25	30.98	
CN3 pin 1 to pin 3	44	22	44.64	31.25	
CN3 pin 1 to pin 3	44	22	44.64	31.25	
CN3 pin 1 to pin 3	0.312	0.156	0.025	0.7	

Note:

The output current has been measured as voltage drop across a non-inductive 2kΩ resistor as a load.

5.1	TABLE: temperature rise measurements					P
	test voltage (V)	19Vd.c.			—	
	t1 (°C)				—	
	t2 (°C)				—	
temperature rise ΔT of part/at:		ΔT (K)		required ΔT (K)		
DC/AC Inverter model LV-104-S manufactured by Lecerf Technology Co., Ltd.						
L2 coil		38		60		
T2 coil		37		60		
Ambient temperature (°C) at:		24				
temperature rise ΔT of winding:		R ₁ (Ω)	R ₂ (Ω)	ΔT (K)	required ΔT (K)	insulation class
<p>Comments:</p> <p>The temperatures were measured under the worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in above</p> <p>With a specified ambient temperature of 45°C, the max. temperature rise is calculated as follows:</p> <p>Components having:</p> <ul style="list-style-type: none"> • maximum absolute temperature of 105°C → ΔT_{max} = (105-45)K = 60K 						

Product: **Personal Computers**
Type Designation: **PPC-L126x-yy (x = B-Z, 0-9 or blank; y = any alphanumeric character or blank)**
Report Number: **12003036 002**

