IEC IECEE CB SCHEME

Ref Certif. No.

JPTUV-006129-M2

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	LCD Type Computer
Name and address of the applicant Nom et adresse du demandeur	Advantech Co., Ltd. 4F, No. 108-3, Ming Chuan Rd. Hsin Tien City, Taipei Hsien 231 Taiwan
Name and address of the manufacturer Nom et adresse du fabricant	Advantech Co., Ltd. 4F, No. 108-3, Ming Chuan Rd. Hsin Tien City, Taipei Hsien 231 Taiwan
Name and address of the factory Nom et adresse de l'usine	Advantech Co., Ltd. Fl.5, No.1, Lane 169, Kang-Ning St. Xi-Zhi, Taipei Hsien 221 Taiwan
Rating and principal characteristics Valeurs nominales et caractéristiques principales	Input Rating : AC 100-240V, 50-60Hz, 3A max. Protection Class: I
Trade mark (if any) Marque de fabrique (si elle existe)	ADVANTECH
Model/type Ref. Ref. de type	PPC-15yXXX, PPC-12yXXX (y = 0 to 9, X = alphanumeric character or blank)
Additional information (if necessary) Information complémentaire (si nécessaire)	For differences between the models, refer to the test report Re-issue of JPTUV-006129-M1 dated 09.10.2003, due to second modification.
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 60950:1999 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	12005202 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

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Berlin Brandenburg

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Date: 26.12.2003

Signature: Dipl.-Ing. R. Keller

10061-1 4.03

TEST REPORT FOR AN ADDITIONAL APPROVAL
IEC 60950 and/or EN 60950
Safety of information technology equipment

Report reference No	<12005202 003>
Tested by (printed name and signature)	S. Hartter
Approved by (printed name and signature)	M. Kera
Date of issue	December 21, 2003
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	CBTL ☒ CCATL ☐ SMT ☐ TMP ☐
Address	Same as above.
Applicant's Name	Advantech Co., Ltd.
Address	4F., No. 108-3, Ming Chuan Rd., Hsin Tien City, Taipei Hsien 231, Taiwan.
Test specification	
Standard	IEC 60950:1999 EN 60950:2000 CAN/CSA C22.2 No. 60950/UL 60950 third edition, J60950 (H14), K60950, UL 60950
Test procedure	CB-scheme
Procedure deviation	Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, The Netherlands, Norway, Poland, Portugal, Russian Federation, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States
Non-standard test method	N.A.
Test Report Form No.	IECEN60950A (CBADD60950_3 Rev B)
TRF originator	SGS FIMKO Ltd (modified for additional approvals by TÜV Rheinland)
Master TRF	Dated 2003-03
Test item description	LCD Type Computer
Manufacturer	Same as applicant.
Trademark	ADVANTECH®
Model and/or type reference	PPC-15yXXX, PPC-12yXXX (y=0 to 9; X=alphanumeric character or blank)
Serial number	Pre-production sample without serial number
Rating(s)	100-240Vac, 50-60Hz, 3A max.

The construction of LCD Type Computer model PPC-xyT was modified as follows:

1. Change model designation from PPC-xyT (x=15) and PPC-xyT(x=12) into PPC-15yXXX and PPC-12yXXX (y=0 to 9; X=alphanumeric character or blank) respectively. In model name, 'y' and 'X' are for marketing pusposes.
2. Add and alternative sources of LCD panel for model PPC-15yXXX.
3. Add an alternative source of DC/AC inverter for model PPC-15yXXX.

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

Modification	Testing	Comments	Result
1	N/A	No tests are considered necessary.	P
2, 3.	• Limited current circuit measurement • Heating test	For test results, see sub-clause 2.4 and tables 2.4.2 and 4.5.1. 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(ies):

See report 001.

History of amendments and modifications:

Ref. No. 12005202 001, dated May 12, 2003 (original test report)
Ref. No. 12005202 002, dated October 8, 2003 (modification)
Ref. No. 12005202 003, dated December 21, 2003 (modification)

IEC 60 950			
Clause	Requirement – Test	Result – Remark	Verdict
2.4	Limited current circuits		P
2.4.1	General requirements	See below.	P
2.4.2	Limit values	See appended table 2.4.2	P
	Frequency (Hz) .....:	Dto.	—
	Measured current (mA).....:	Dto.	—
	Measured voltage (V) .....:	Dto.	—
	Measured capacitance (µF).....:	<0.1µF	—
2.4.3	Connection of limited current circuits to other circuits	Complies.	P

1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity1)
LCD Panel (for model PPC-15yXXX)	AU Optronics Corp.	M150XN07	TFT type, XGA 15.0 inch	--	--
Inverter (for model PPC-15yXXX)	Lecerf Technology Co., Ltd.	LV-1201-D	13.2V, 1300mA, max. O/P volt: 710Vrms max. open Volt: 1500Vrms	--	--
-Transformer (T1, T2)	Lecerf Technology Co., Ltd.	X03	105°C	--	--
- Fuse (F1)	Various	Various	2A maximum, 125V	--	UL
1) an asterisk indicates a mark which assures the agreed level of surveillance					

2.4.2	TABLE: limited current circuit measurement					P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
Inverter model LV-1201-D manufactured by Lecerf Technology Co., Ltd.						
Normal condition:						
T1 pin 7 to pin 9 (earth)	11	5.5	55	38.5		
Single fault condition: L1 short						
T1 pin 7 to pin 9 (earth)	0	0	--	--	Unit shutdown	
Single fault condition: Q3 (C-E) short						
T1 pin 7 to pin 9 (earth)	0	0	--	--	Unit shutdown	
Note: The output current has been measured as voltage drop across a non-inductive 2kΩ resistor as a load.						

4.5.1	TABLE: temperature rise measurements		P
	test voltage (V) .....:	90Va.c.	—
	t1 (°C) .....:		—
	t2 (°C) .....:		—
temperature rise ΔT of part/at:		ΔT (K)	required ΔT (K)
Test with DC/AC Inverter model LV-1201-D manufactured by Lecerf Technology Co., Ltd.			
L1 coil (PCB)		32	60
T1 coil		25	60

Ambient temperature (°C) at:	28	--

Add/delete table rows by means of [Ctrl-Insert] or [Ctrl-Delete] when the cursor is inside the table.temperature rise ΔT of winding:	R1 (Ω)	R2 (Ω)	ΔT (K)	required ΔT (K)	insulation class

Comments:

The temperatures were measured under worst case normal mode as described in 1.6.2 at voltages described in above.

With a specified ambient temperature of 45°C, the max. temperature rise is calculated as follows:

Components having:

- maximum absolute temperature of 105°C → ΔTmax=(105-45)K=60K