IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-049586-M1

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 MONITOR
Name and address of the applicant Nom et adresse du demandeur	TPV Electronics (Fujian) Co., Ltd. Shangzheng, Yuan Hong Road Fuqing City, Fujian Province, P.R. China
Name and address of the manufacturer Nom et adresse du fabricant	TPV Electronics (Fujian) Co., Ltd. Shangzheng, Yuan Hong Road Fuqing City, Fujian Province, P.R. China
Name and address of the factory Nom et adresse de l'usine	See additional page(s)
Ratings and principal characteristics Valeurs nominales et charactéristiques principales	AC 100-240V; 50/60Hz; 1.5A; Class I
Trademark (if any) Marque de fabrique (si elle existe)	AOC
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A
Model / Type Ref. Ref. de type	185LM000**, *970SW****, 215LM000**, *2270SW**** 195LM000**, *2070SW**** (* = 0-9, A-Z, a-z, -, \, /, + or blank)
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	For model differences, refer to the test report. Re-issue of JPTUV-049586 dated 05.02.2013, due to first 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 60950-1:2005+A1 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 partie de ce Certificat	17028284 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

TÜVRheinland®

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Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
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Web: www.tuv.com

Date: 11.03.2013

Signature: Ing. M. Eichenseder

1. TPV Technology (Beijing) Co., Ltd.
   No. 10, Jiu Xian Qiao Rd.
   Chao Yang District, Beijing 100016
   P.R. China

2. Tatung Mexico S.A. de. C.V.
   Ave. Rosa Ma. Fuentes #7050
   Complejo Industrial Fuentes
   C.P. 32320, Cd. Juarez. Chih,
   MEXICO

3. TPV Display Technology (Wuhan)
   Co., Ltd.
   Unique No. 11, Zhuankou Development
   District of Economic Technological
   Development Zone, Wuhan City 430056, P.R. China

4. TPV Electronics (Fujian) Co., Ltd.
   Shangzheng, Yuan Hong Road
   Fuqing City, Fujian Province
   P.R. China

5. Envision Industry of Electronic
   Products Ltd.
   895, Joao Marcos Pozzetti Street,
   Industrial District II,
   69.075-215 Manaus, Am, Brazil

6. Tatung Czech s.r.o
   U Nove Hospody 4
   30100 Plzen
   Czech Republic

7. Envision Industry of Electronic
   Products Ltd.
   Rodovia Anhanguera S/N-KM 49
   13.205-700 Tijuco Preto-Jundiaí-SP-
   Brazil

8. TPV Displays Polska Sp. z o.o.
   ul. Zlotego Smoka 9
   66-400 Gorzów Wlkp.
   Poland

9. L&T Display Technology (Fujian) Ltd.
   Optoelectronic Park, Rongqiao
   Economic and Technological
   Development Zone
   Fuqing, Fujian 350301, P.R. China

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

Report Ref. No.: 17028284 002

Date: 11.03.2013

Signature: Ing. M. Eichenseder

10. TPV Display Technology (Beihai) Co., Ltd.
China Electronic Beihai Industry Park, Northeast of the Crossing Between Taiwan Road and Jilin Road, Beihai City, Guangxi, P.R. China

11. Envision Industry of Electronic Products Ltd.
Av Torquato Tapajós 7503, Galpão : II Bloco: B-Condomínio de Galpões-Tarumã-Manaus, AM, Brazil

12. TPV Technology (Qingdao) Co., Ltd.
No.99 Huoju Road, High-tech Industrial Development Zone
Qingdao City, Shandong Province, P.R. China

13. TPV Display Technology (China) Co., Ltd.
No. 106 Jinghai 3 Rd., BDA
Beijing City 100176
P.R. China

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

Report Ref. No.: 17028284 002

Date: 11.03.2013

Signature: Ing. M. Eichenseder

Test Report issued under the responsibility of:

TÜVRheinland®

TEST REPORT

IEC 60950-1
Information technology equipment – Safety – Part 1: General requirements

Report Number. ..... :	17028284 002
Date of issue..... :	Mar.4, 2013
Total number of pages	9
CB Testing Laboratory..... :	TÜV Rheinland (Shenzhen) Co., Ltd.
Address ..... :	3 & 4 F, Cybio Technology Building No. 1, Langshan No. 2 Road South, 5th Industrial Area, High-Tech Industry Park North, Nanshan District, 518057, Shenzhen, P.R. China
Applicant's name..... :	TPV Electronics (Fujian) Co., Ltd.
Address ..... :	Shangzheng, Yuan Hong Road, Fuqing City, Fujian Province, P.R. China
Manufacturer's name……..:	Same as applicant
Address ..... :	Same as applicant
Test specification:	
Standard ..... :	IEC 60950-1:2005 (2nd Edition); Am 1:2009
Test procedure ..... :	CB Scheme
Non-standard test method…….. :	N/A
Test Report Form No..... :	IEC60950_1C
Test Report Form(s) Originator ..... :	SGS Fimko Ltd
Master TRF..... :	Dated 2012-08

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This 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 IECEE 02.

Test item description .....:	LCD MONITOR
Trade Mark ..... :	AOC
Manufacturer ..... :	Same as applicant.
Model/Type reference..... :	185LM000**, *970SW****, 215LM000**, *2270SW****, 195LM000** , *2070SW**** (* can be 0-9, A-Z, a-z, – , \ , / , + or blank for marketing purpose)

Ratings..... :	I/P: 100-240V~, 50/60Hz, 1.5A

Testing procedure and testing location:		
☒	**CB Testing Laboratory:**	TÜV Rheinland (Shenzhen) Co., Ltd.
Testing location/ address..... :		3 & 4 F, Cybic Technology Building No. 1, Langshan No. 2 Road South, 5th Industrial Area, High-Tech Industry Park North, Nanshan District, 518057, Shenzhen, P.R. China
☐	**Associated CB Laboratory:**	N/A
Testing location/ address..... :		N/A
Tested by (name + signature)..... :		Steven Lin
Approved by (name + signature) ..... :		Aegean Li
☐	Testing procedure: **TMP**	N/A
Testing location/ address..... :		N/A
Tested by (name + signature)..... :		
Approved by (name + signature) ..... :		
☐	Testing procedure: **WMT**	N/A
Testing location/ address..... :		N/A
Tested by (name + signature)..... :		
Witnessed by (name + signature)..... :		
Approved by (name + signature) ..... :		
☐	Testing procedure: **SMT**	N/A
Testing location/ address..... :		N/A
Tested by (name + signature)..... :		
Approved by (name + signature) ..... :		
Supervised by (name + signature).... :		
☐	Testing procedure: **RMT**	N/A
Testing location/ address..... :		N/A
Tested by (name + signature)..... :		
Approved by (name + signature) ..... :		
Supervised by (name + signature).... :		

List of Attachments (including a total number of pages in each attachment):

- Photo documentation (1 page)

Summary of testing:

Tests performed (name of test and test clause):

- 1.6.2 Input test
- 4.5.2 Maximum temperatures

The EUT passed the test.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2

Summary of compliance with National Differences

See original report 17028284 001.

Copy of marking plate

Others see original report 17028284 001.

Test item particulars ..... :	
Equipment mobility ..... :	[x] movable(for unit with base stand) [] hand-held [] transportable [x] stationary(for unit without base stand) [] for building-in [] direct plug-in
Connection to the mains ..... :	[x] pluggable equipment [x] type A [] type B [] permanent connection [x] detachable power supply cord [] non-detachable power supply cord [] not directly connected to the mains
Operating condition ..... :	[x] continuous [] rated operating / resting time:
Access location ..... :	[x] operator accessible [] restricted access location
Over voltage category (OVC) ..... :	[] OVC I [x] OVC II [] OVC III [] OVC IV [] other:
Mains supply tolerance (%) or absolute mains supply values ..... :	±10% (requested by client)
Tested for IT power systems ..... :	[] Yes (only for Norway) [x] No
IT testing, phase-phase voltage (V) ..... :	N/A
Class of equipment ..... :	[x] Class I [] Class II [] Class III [] Not classified
Considered current rating of protective device as part of the building installlation (A) ..... :	<16A (20A for North America)
Pollution degree (PD) ..... :	[] PD 1 [x] PD 2 [] PD 3
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	≤5000
Altitude of test laboratory (m) ..... :	<2000m
Mass of equipment (kg) ..... :	18.5 inch model: approx. 1.95kg with base (base weight: 0.19kg); 21.5 inch model: approx. 2.46kg with base (base weight: 0.22kg) 19.5 inch model: approx. 2.3kg with base (base weight: 0.19kg)
Possible test case verdicts:	
- test case does not apply to the test object ..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing ..... :	
Date of receipt of test item ..... :	Feb, 2013
Date(s) of performance of tests ..... :	Feb, 2013

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 6.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :

☒ Yes

☐ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies)..... :

1 TPV Technology (Beijing) Co., Ltd.
No.10, Jiu Xian Qiao Rd., Chao Yang District, Beijing 100016 P.R. China

2 Tatung Mexico S.A. de. C.V.
Ave. Rosa Ma. Fuentes #7050 Complejo Industrial Fuentes C.P. 32320, Cd. Juarez. Chih, MEXICO

3 TPV Display Technology (Wuhan) Co., Ltd.
Unique No. 11, Zhuankou Development District of Economic Technological Development Zone, Wuhan City 430056, P.R. China

4 TPV Electronics (Fujian) Co., Ltd.
Yuan Hong Rd., Shang-Zheng Hong-Lu Fuqing City Fujian 350301 P.R. China

5 Envision Industry of Electronic Products Ltd.
895, Joao Marcos Pozzetti Street, Industrial District II, 69.075-215 Manaus, Am, Brazil

6 Tatung Czech s.r.o.
U Nove Hospody 4 30100 Plzen Czech Republic

7 Envision Industry of Electronic Products Ltd.
Rodovia Anhanguera S/N-KM 49, 13.205-700 Tijuco Preto-Jundiaí-SP-Brazil

8 TPV Displays Polska Sp. z o.o.
ul. Zlotego Smoka 9 66-400 Gorzów Wlkp. Poland

9 L&T Display Technology (Fujian) Ltd.
Optoelectronic Park, Rongqiao Economic and Technological, Development Zone, Fuqing, Fujian 350301, P.R. China

10 TPV Display Technology (Beihai) Co., Ltd.
China Electronic Beihai Industry Park, Northeast of the Crossing Between Taiwan Road and Jilin Road, Beihai City, Guangxi, P.R. China

11 Envision Industry of Electronic Products Ltd.
Av Torquato Tapajós 7503, Galpão : II Bloco: B – Condomínio de Galpões – Tarumã - Manaus, AM, Brazil

12 TPV Technology (Qingdao) Co., Ltd.
No.99 Huoju Road, High-tech Industrial Development Zone, Qingdao City, Shandong Province, P.R. China

13 TPV Display Technology (China) Co., Ltd.
No.106 Jinghai 3 Rd., BDA, Beijing City 100176, P.R. China.

General product information:

Description of change(s):

1. Add new models 195LM000** and *2070SW**** which are identical with original model 215LM000** except for type designation, panel size, plastic enclosure used. The shape and opening of plastic enclosure used for news model are identical with that used for original model, only the size is smaller to fit 19.5 inch panel.
2. Change the thickness of metal enclosure (top, side and bottom) to 0.5mm for all models.\
3. Change address of “TPV Electronics (Fujian) Co., Ltd.” to “Shangzheng, Yuan Hong Road, Fuqing City, Fujian Province, P.R. China”
4. Add factory of below to the certificate:
   TPV Display Technology (China) Co., Ltd.
   No106 Jinghai 3 Rd., BDA, Beijing City 100176, P.R. China.

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

Change	Testing	Comments
1.	- Critical components - Input test - Maximum temperatures	See appended tables for the added components and test data and photo documentation.
2.	- N/A	No opening on bottom of fire enclosure, metal enclosure is considered as electrical enclosure and fire enclosure, the change of thinness of metal enclosure doesn’t affect safety.
3.	- N/A	See cover page of the test report
4.	- N/A	See page 6 for the factories

Definition of variable(s):

Variable:	Range of variable:	Content:
*	0-9, A-Z, a-z, – , \ , / , + or blank	for marketing purpose, no technical difference

History of amendments and modifications:

Ref. No. 17028284 001, dated Jan.31, 2013 (original report)
Ref. No. 17028284 002, dated Mar.4, 2013 (1st modification)

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict

1.7	**Marking and instructions**		**P**
1.7.1	Power rating and identification markings	See below.	**P**
1.7.1.1	Power rating marking	See below.	**P**
	Multiple mains supply connections.....:		**N/A**
	Rated voltage(s) or voltage range(s) (V) ..... :	See copy of marking plate for details	**P**
	Symbol for nature of supply, for d.c. only..... :	AC source	**N/A**
	Rated frequency or rated frequency range (Hz) .... :	See copy of marking plate for details	**P**
	Rated current (mA or A) ..... :	See copy of marking plate for details	**P**
1.7.1.2	Identification markings	See below.	**P**
	Manufacturer's name or trade-mark or identification mark ..... :	See copy of marking plate for details	**P**
	Model identification or type reference ..... :	See copy of marking plate for details	**P**
	Symbol for Class II equipment only ..... :	Class I equipment.	**N/A**
	Other markings and symbols ..... :	Additional symbol or marking does not give rise to misunderstanding.	**P**
1.7.2	Safety instructions and marking	English safety instruction provided.	**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 for 19.5 inch model	L&T	LM195WD*-**** (*can be 0-9, A-Z or blank)	19.5" panel with LED backlight The declared power consumption is 10.76W and backlight input voltage is 36.6V in specification.	IEC 60950-1	Tested in equipment
	CHIMEI INNOLUX	M195FGE-*** (*can be 0-9, A-Z or blank)	19.5" panel with LED backlight The declared power consumption is 13.83W and backlight input voltage is 28.8V in specification.	IEC 60950-1	Tested in equipment
Metal enclosure for all models	--	--	Metal thickness: min. 0.5mm	--	--
Supplementary information: 1. Provided evidence ensures the agreed level of compliance.					

1.6.2	TABLE: electrical data (in normal conditions)					P
Fuse #	Irated (A)	U(V)/F(Hz)	P (W)	I (A)	Ifuse (A)	Condition/status
Test on model 195LM000** with panel M195FGE-***(CHIMEI INNOLUX), VGA mode						
F901	--	90/50	16.2	0.30	0.30	Maximum normal load
F901	--	90/60	16.2	0.30	0.30	Maximum normal load
F901	1.5	100/50	16.2	0.28	0.28	Maximum normal load
F901	1.5	100/60	16.2	0.28	0.28	Maximum normal load
F901	1.5	240/50	16.1	0.17	0.17	Maximum normal load
F901	1.5	240/60	16.1	0.17	0.17	Maximum normal load
F901	--	264/50	16.0	0.15	0.15	Maximum normal load
F901	--	264/60	16.0	0.15	0.15	Maximum normal load
Note: Maximum normal load: maximum brightness, maximum contrast, full white screen.						

4.5	TABLE: maximum temperatures			P
	test voltage (V) .....:	a) 90V/50Hz, b) 264V/60Hz		—
	t1 (°C) .....:	--		—
	t2 (°C) .....:	--		—
Maximum temperature T of part/at:		T (°C)	allowed T_{max} (°C)	

Test voltage	a)	b)	--
Test on model 195LM000**			
AC Inlet CN901 (on power board)	37.1	33.6	47.1
C902 body (on power board)	38.4	39.7	62.1
PCB near NR901 (on power board)	45.3	41.1	82.1
C904 body (on power board)	42.9	41.9	62.1
L901 coil (on power board)	44.3	44.5	72.1
PCB near BD901 (on power board)	43.1	40.1	82.1
C907 body (on power board)	46.7	46.7	82.1
C900 body (on power board)	46.1	44.1	62.1
T901 coil (on power board)	52.6	51.3	87.1
T901 core (on power board)	48.6	46.9	87.1
U902 body (on power board)	49.7	49.7	77.1
PCB near D906 (on power board)	49.7	46.2	82.1
PCB near U901 (on power board)	42.1	40.1	82.1
PCB near L801 (on power board)	48.1	48.1	82.1
PCB near U801 (on power board)	45.2	48.5	82.1
PCB near U401 (on main board)	42.5	47.8	82.1
Metal enclosure	35.8	37.3	47.1
Plastic enclosure inside near T901	36.1	39.7	--
Panel surface	38.1	36.8	72.1
Plastic enclosure outside	33.4	34.6	37.1
Ambient	17.1	17.4	--

Temperature T of winding:	R_1 (Ω)	R2 (Ω)	T (°C)	allowed T_{max} (°C)	insulation class

Supplementary information:

1. The temperatures were measured under the worst case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 at voltages as described above.
2. With a specified ambient temperature of 40°C. Temperature limits are calculated as follows:

   Winding components providing safety isolation:

   - Class B → Tmax = 120 - 10 - 40 + Tamb

   Components with maximum absolute temperature of others:

   - Tmax = Tmax of component - 40 + Tamb

Product: LCD MONITOR

Type Designation: 185LM000**, *970SW****, 215LM000**, *2270SW****, 195LM000** , *2070SW****

Figure 1. Front view for 195LM000**

Figure 2. Back view for 195LM000**