

TPV Electronics (Fujian) Co., Ltd.
Mr. Xinliang Wu
RD-SE
Rongqiao Economic and
Technological Development Zone
Fuqing City, Fujian Province
P. R. China

Date : 12.10.2017
Our ref. : Wangwend ZJ
Your ref.: 164103805

Ref : CB Certificate Japan

Type of Equipment : LCD Monitor
Model Designation : See Certificate
Certificate No. : JPTUV-080331-M1
Report No. : 17059694 002

Dear Mr. Xinliang Wu,

Thank you very much for your interest in our services.

Please find enclosed your certification documents.

We appreciate your support and would like to offer our assistance in the approval of your future products through our extensive range of technical services.

Please feel free to contact us whatever your requirements may be.

With kind regards,

Certification Body

Miao Mai



CC: TPV Electronics (Fujian) Co., Ltd.

Enclosure



Ref. Certif. No.

JPTUV-080331-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.
Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian Province, P. R. China

Name and address of the manufacturer
Nom et adresse du fabricant

TPV Electronics (Fujian) Co., Ltd.
Rongqiao Economic and Technological Development Zone, 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 caractéristiques 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

238LM000**, **2490*****, 270LM000**, **2790*****
(* = 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 2^{ème} page)

For model differences, refer to the test report.
Re-issue of JPTUV-080331 dated 05.05.2017, 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+A2
See Test Report for National Differences

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

17059694 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 Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
Phone + 81 45 914-3888
Fax + 81 45 914-3354
Mail: info@jpn.tuv.com
Web: www.tuv.com

Date: 12.10.2017

Signature: Miao Mai

1. TPV Display Technology (Wuhan)
Co., Ltd.
Unique No. 11, Zhuankou Development
District of Economic Technological
Development Zone, Wuhan City 430056, P. R. China
2. TPV Electronics (Fujian) Co., Ltd.
Shangzheng, Yuan Hong Road
Fuqing City, Fujian Province
P. R. China
3. Envision Industry of Electronic
Products Ltd.
Rodovia Anhanguera S/N-KM 49
Tijuco Preto-Jundiá-SP-
13.205-700, Brazil
4. L&T Display Technology (Fujian) Ltd.
Optoelectronic Park, Rongqiao
Economic and Technological
Development Zone
Fuqing, Fujian 350301, P. R. China
5. TPV Electronics (Fujian) Co., Ltd.
Rongqiao Economic and
Technological Development Zone
Fuqing City, Fujian Province
P. R. China
6. Trend Smart CE Mexico S de RL de CV
Avenida Sor Juana Ines de la Cruz
de 19602 Nueva Tijuana,
22435 Tijuana Baja California
MEXICO
7. 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
8. TPV Technology (Qingdao)
Co., Ltd.
No.99 Huoju Road, High-tech
Industrial Development Zone
Qingdao City, Shandong Province, P. R. China
9. 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.: 17059694 002

Date: 12.10.2017

Signature:

Miao Mai

10. Hefei Huntkey Display Technology Co., Ltd.
South Jinxiu Road,
East Qingtan Road, Economic And
Technological Development Zone, Hefei, Anhui 230601, P. R. China
11. TPV Electronics (Fujian) Co., Ltd.
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Technological Development Zone,
Fuqing City, Fujian Province 350301, P. R. China
12. Envision Indústria de Produtos Eletrônicos Ltda.
Av. Torquato Tapajós, 2236,
Flores - CEP 69058-830 - Manaus/AM
Brazil

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

Report Ref. No.: 17059694 002



Date: 12.10.2017

Signature:

Miao Mai



Test Report issued under the responsibility of:



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

Report Number..... : 17059694 002
 Date of issue..... : Oct. 11, 2017
 Total number of pages : 9

Applicant's name : **TPV Electronics (Fujian) Co., Ltd.**
 Address..... : Rongqiao Economic and Technological Development Zone,
 Fuqing City, Fujian Province, P.R.China

Test specification:
 Standard : IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure..... : CB Scheme

Non-standard test method : N/A

Test Report Form No..... : IEC60950_1F
 Test Report Form(s) Originator.... : SGS Fimko Ltd
 Master TRF : Dated 2014-02

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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.

General disclaimer:
 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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description..... : LCD Monitor
 Trade Mark..... : AOC
 Manufacturer : Same as applicant.
 Model/Type reference..... : 238LM000** **2490*****; 270LM000**, **2790*****
 (* can be 0-9, A-Z, a-z, "+", "-", "/", "\" or blank, Represent different enclosure color and sales region for marketing purpose. No technology differences)
 Ratings..... : I/P: 100-240Vac, 50/60Hz, 1.5A

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.
Testing location/ address	East of F/1, F/2~F/4, Building 1, Cybio Technology Building No. 6 Langshan No.2 Road, North Hi-tech Industry Park 518057 Shenzhen Nanshan District CHINA
<input type="checkbox"/> Associated CB Testing Laboratory:	
Testing location/ address	
Tested by (name + signature).....	Wendy Wang Project Engineer 
Approved by (name + signature).....	Aegean Li Technical Reviewer 
<input type="checkbox"/> Testing procedure: TMP/CTF Stage 1:	
Testing location/ address	
Tested by (name + signature).....	
Approved by (name + signature).....	
<input type="checkbox"/> Testing procedure: WMT/CTF Stage 2:	
Testing location/ address	
Tested by (name + signature).....	
Witnessed by (name + signature).....	
Approved by (name + signature).....	
<input type="checkbox"/> Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address	
Tested by (name + signature).....	
Witnessed 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

Total number of pages in each attachment is indicated in individual attachment.

Summary of testing:**Tests performed (name of test and test clause):**

Following tests performed during evaluation

name of test	test clause number
Input Current Test	1.6.2
Steady force test, 250 N	4.2.4
Impact test	4.2.5
Stress relief test	4.2.7
EUT passed the tests.	

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

List of countries addressed:

EU Group Differences, EU Special National Conditions, EU A-Deviations, AT, AU*, BE, CA, CH, CN, CZ, DE, DK, FI, FR, GB, GR, HU, IT, IL*, JP*, KR*, NL, NO, PL, SE, SI, SK, US

Explanation of used codes: AT=Austria, AU=Australia, BE=Belgium, CA=Canada, CH=Switzerland, CN=P.R.China, CZ=Czech Republic, DE=Germany, DK=Denmark, FI=Finland, FR=France, GB=United Kingdom, GR=Greece, HU=Hungary, IT=Italy, IL=Israel, JP=Japan, KR=Korea, NL=The Netherlands, NO=Norway, PL=Poland, SE=Sweden, SI=Slovenia, SK=Slovakia, US=United States of America

For National Differences see end of this test report.

* National differences to IEC 60950-1:2005 (Second Edition) + Am 1:2009 evaluated.

The product fulfils the requirements of EN 60950-1:2006 + A11: 2009 + A1: 2010 +A12: 2011 +A2: 2013

See national deviation report in attachment of original report 17059694 001.

Copy of marking plate

See original report 17059694 001.

Test item particulars	
Equipment mobility	<input checked="" type="checkbox"/> movable (for unit with stand base) <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input checked="" type="checkbox"/> stationary (for unit without stand base) <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	±10% (requested by client)
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16A (20A for North America)
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	≤5000
Altitude of test laboratory (m)	<2000
Mass of equipment (kg)	Approx. 3.63kg (for 23.8 inch model with base stand); approx. 4.52kg (for 27.0 inch model with base stand); base stand type A: 0.65kg; base stand type B: 1.69kg
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	Aug. 25, 2017
Date(s) of performance of tests	Aug. 25, 2017 to Aug. 29, 2017
General remarks:	
"(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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 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).....: See original report 17059694 001.

General product information:

Description of change(s):

1. Add alternative panel only for 27 inch models: **M270HTN**.* (AUO)**.
2. Add alternative power board **715G8852 type D**, type D is identical to original type C except for following secondary circuits differences:
 E-cap C820 changed to be optional;
 Size of heatsink used near D905 increased;
3. Add alternative main board **715G9250** (with VGA, HDMI, DP, Audio ports), it is used only with power board 715G8852 type D.
4. Correct ripple capacitor E-cap C907 listed in original CB report to C904 due to typing error.
5. Add plastic enclosure source, see appended table 1.5.1.

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

Change	Testing	Comments
1.	N/A	See appended table 1.5.1 for details. Due to power consumption specified in panel spec not higher than that listed in original report, no additional test required.
2-3.	1.6.2 Input current test	See appended photos. See following pages for details. Due to power consumption not higher than that listed in original report, no temperature rise test required.
4.	N/A	See appended table 1.5.1 for details. Note: All C907 typed in original report should be C904.
5.	4.2.4 Steady force test, 250 N 4.2.5 Impact test 4.2.7 Stress relief test	See following pages for details.

See below table for construction details:

Model	Panel size	Power board	Main board	USB board	Plastic enclosure	Metal enclosure	Base
238LM000** **2490*****	23.8 inch	715G7300	715G8776	N/A	Type A	Type A	Type A
		715G8852 type A	715G8776	715G8765		Type B	Type B
		715G8852 type B	715G7762	N/A		Type A	
270LM000** **2790*****	27.0 inch	715G7300	715G8776 715G7778	N/A	Type A'	Type A	Type A
		715G8852 type A	715G8776	715G8765		Type B	Type B
		715G8852 type C	715G8853				
		715G8852 type D	715G9250				

Note:

1. Base type A is stationary base, base type B is rotatable base;
2. Plastic enclosure Type A is identical to type A' except for smaller size of appearance due to different panel size;
3. Power board type B is identical to type A except for: 1) different construction of line chock L901; 2) Bridging Diode BD902 is optional; 3) X-cap C903 is optional; 4) different size of Heat sink HS901; 5) slight different in secondary circuit; 6) used without USB board;
4. Power board type C is identical to type A except for slight different in secondary circuit.
- 5. Power board type D is identical to type C except for slight different in secondary circuit.**

Definition of variable(s):

Variable:	Range of variable:	Content:
*	0-9, A-Z, a-z, "+", "-", "/", "\" or blank	Represent different enclosure color and sales region for marketing purpose. No technology differences

History of amendments and modifications:

Ref. No. 17059694 001, dated Apr. 25, 2017 (original test report)
 Ref. No. 17059694 002, dated Oct. 11, 2017 (modification)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.4	Steady force test, 250 N	Test performed on plastic enclosure.	P
4.2.5	Impact test	500g steel ball falls freely from 1.3m on top, back and bottom of plastic enclosure, no access to hazardous parts.	P
	Fall test		P
4.2.7	Stress relief test	70°C, 7 hours, no deformation on all sources of plastic enclosure.	P

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
LCD Panel with LED backlight for 27.0 inch models	TPV	TPM270WF*- ***** (* can be 0-9, A-Z or blank for marketing purpose only)	27 inch TFT type, with LED back light, power consumption: 21.95W; LED Array Voltage: 65V	--	Tested in equipment	
	CHIMEI INNOLUX	M270HGE-*** (* can be 0-9, A-Z or blank for marketing purpose only)	27 inch TFT type, with LED back light, power consumption: 22.72W; LED Array Voltage: 60V	--	Tested in equipment	
	SAMSUNG	LTM270HP** (* can be 0-9, A-Z or blank for marketing purpose only)	27 inch TFT type, with LED back light, power consumption: 21.3W; LED Array Voltage: 47.0V	--	Tested in equipment	
	LG Display	LM270WQ* (* can be 0-9, A-Z or blank for marketing purpose only)	27 inch TFT type, with LED back light, power consumption: 24.1W; LED Array Voltage: 54.7V	--	Tested in equipment	
	INNOLUX	M270K**-*** (* can be 0-9, A-Z or blank for marketing purpose only)	27 inch TFT type, with LED back light, power consumption: 27.9W; LED Array Voltage: 36.3V	--	Tested in equipment	

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	L&T	LM270W**-**** (* can be 0-9, A-Z or blank for marketing purpose only)	27 inch TFT type, with LED back light, power consumption: 14.75W; LED Array Voltage: 47.3V	--	Tested in equipment
	AUO	M270HTN**.* (* can be 0-9, A-Z or blank for marketing purpose only)	27 inch TFT type, with LED back light, power consumption: 23.54W; LED Array Voltage: 54V	--	Tested in equipment
Plastic Enclosure (Alt.)	PONTEX POLYBLEND CO LTD	AFE5000N, AFE5100N, 9004BK	HB or better, 2.0mm thickness min. 60°C	UL 94	UL (E205938)
Supplementary information:					
1. Provided evidence ensures the agreed level of compliance.					

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
Tested on with Panel M270K**-*** (INNOLUX), power board: 715G8852 type D and main board: 715G9250, USB board 715G8765							
VGA mode							
90V/50Hz	0.93	--	50.8	F901	0.93	Normal load condition	
90V/60Hz	0.92	--	50.7	F901	0.92	Normal load condition	
100V/50Hz	0.84	1.5	50.3	F901	0.84	Normal load condition	
100V/60Hz	0.84	1.5	50.4	F901	0.84	Normal load condition	
240V/50Hz	0.47	1.5	49.8	F901	0.47	Normal load condition	
240V/60Hz	0.46	1.5	49.4	F901	0.46	Normal load condition	
264V/50Hz	0.44	--	49.9	F901	0.44	Normal load condition	
264V/60Hz	0.43	--	49.8	F901	0.43	Normal load condition	
HDMI mode							
90V/50Hz	0.94	--	52.2	F901	0.94	Normal load condition	
90V/60Hz	0.94	--	52.3	F901	0.94	Normal load condition	
100V/50Hz	0.85	1.5	52.1	F901	0.85	Normal load condition	
100V/60Hz	0.85	1.5	52.1	F901	0.85	Normal load condition	
240V/50Hz	0.48	1.5	51.7	F901	0.48	Normal load condition	
240V/60Hz	0.48	1.5	51.7	F901	0.48	Normal load condition	
264V/50Hz	0.45	--	51.8	F901	0.45	Normal load condition	

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
264V/60Hz	0.45	--	51.8	F901	0.45	Normal load condition
DP mode						
90V/50Hz	0.94	--	52.3	F901	0.94	Normal load condition
90V/60Hz	0.94	--	52.3	F901	0.94	Normal load condition
100V/50Hz	0.85	1.5	52.2	F901	0.85	Normal load condition
100V/60Hz	0.85	1.5	52.2	F901	0.85	Normal load condition
240V/50Hz	0.48	1.5	51.8	F901	0.48	Normal load condition
240V/60Hz	0.48	1.5	51.8	F901	0.48	Normal load condition
264V/50Hz	0.45	--	51.7	F901	0.45	Normal load condition
264V/60Hz	0.45	--	51.8	F901	0.45	Normal load condition
Supplementary information:						
1. Operated under 100% brightness, 100% contrast, full white screen, optimal resolution@60Hz, 2 pieces of speakers loaded with 1KHz noise and turned to maximum volume, each USB 3.0 port loaded with 5V/0.9A, USB 3.0 port with fast charging function loaded 5V/1.5A, which consumed maximum output power consumption.						

Product: LCD Monitor

Type Designation: 238LM000**, **2490*****, 270LM000**, **2790*****



Figure 1. Main board 715G9250



Figure 2. Main board 715G9250

Product: LCD Monitor

Type Designation: 238LM000**, **2490*****, 270LM000**, **2790*****

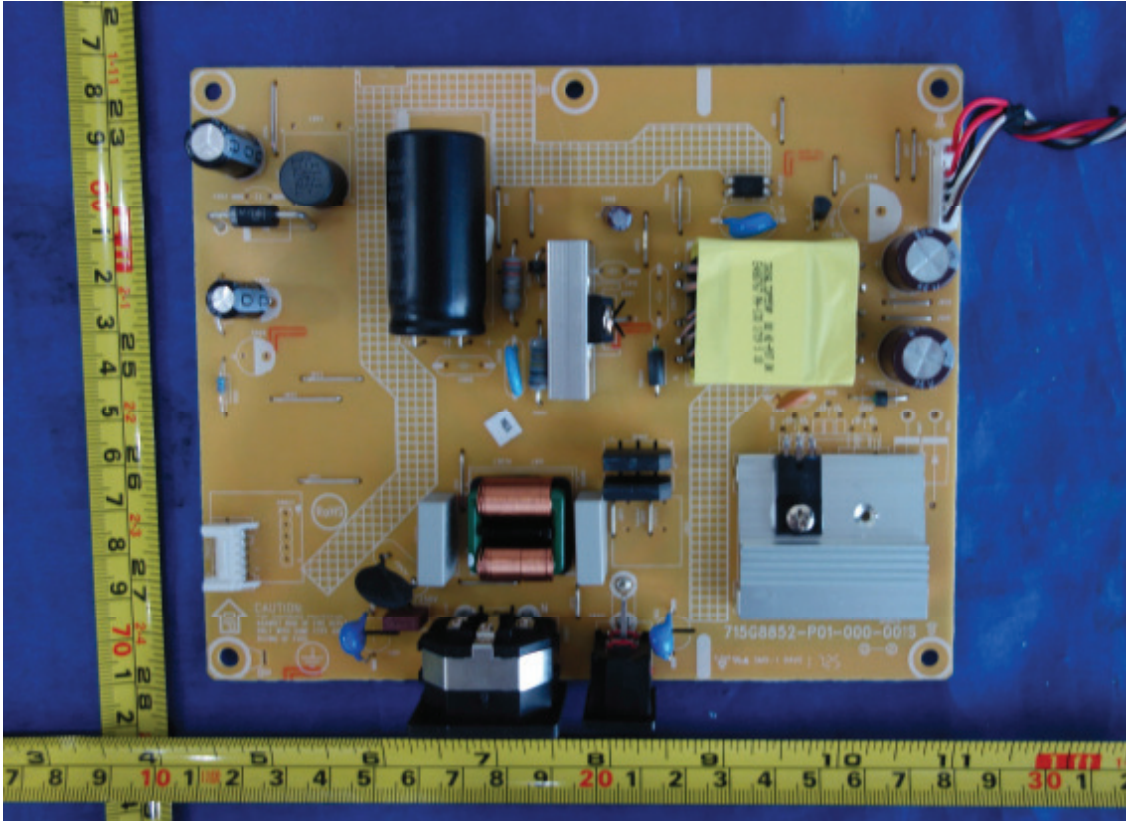


Figure 3. 715G8852 type D

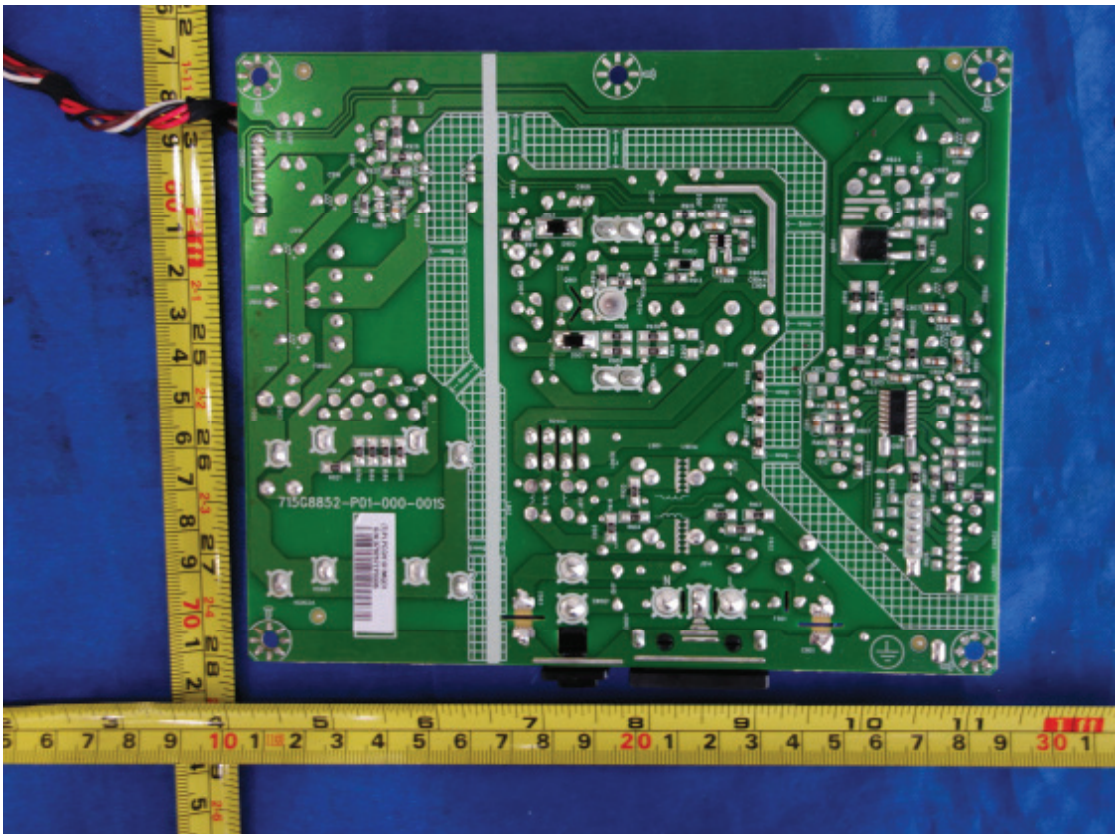


Figure 4. 715G8852 type D