



Test Report issued under the responsibility of:



**TEST REPORT**  
**IEC 62368-1**  
**Audio/video, information and communication technology equipment**  
**Part 1: Safety requirements**

**Report Number**..... : 60445700 002  
**Date of issue** ..... : Jul.22,2022  
**Total number of pages** ..... : 54

**Name of Testing Laboratory preparing the Report** ..... : TÜV Rheinland (Shenzhen) Co., Ltd.

**Applicant's name** ..... : TPV Electronics (Fujian) Co., Ltd.

**Address** ..... : Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian, P.R.China

**Test specification:**

**Standard** ..... : IEC 62368-1:2018  
**Test procedure**..... : CB Scheme  
**Non-standard test method**..... : N/A

**TRF template used** ..... : IECEE OD-2020-F1:2021, Ed.1.4

**Test Report Form No.**..... : IEC62368\_1E

**Test Report Form(s) Originator**.... : UL(US)

**Master TRF** ..... : Dated 2022-04-14

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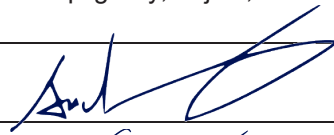
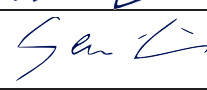
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**General disclaimer:**

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.

<b>Test item description</b> .....	LCD MONITOR (LED backlight)	
<b>Trade Mark(s)</b> .....	AOC	
<b>Manufacturer</b> .....	Same as applicant	
<b>Model/Type reference</b> .....	AG275***** (* can be 0-9, A-Z, a-z, -, \, /, + or blank, represent different enclosure colour for marketing purpose only, no technical difference.)	
<b>Ratings</b> .....	I/P: 100-240V~, 50/60Hz, 1.5A	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input type="checkbox"/>	<b>CB Testing Laboratory:</b>	<b>TÜV Rheinland (Shenzhen) Co., Ltd.</b>
<b>Testing location/ address</b> .....	CTF Stage 1 procedure used. For address of testing location see "Test procedure: CTF Stage 1" below.	
<b>Tested by (name, function, signature)</b> .....		
<b>Approved by (name, function, signature)</b> ..		
<input checked="" type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	TPV Electronics (Fujian) Co., Ltd.
<b>Testing location/ address</b> .....	Shangzheng, Yuan Hong Road Fuqing City, Fujian, P.R.China	
<b>Tested by (name, function, signature)</b> .....	Anderson Wang Senior Project Manager	
<b>Approved by (name, function, signature)</b> ..	Steven Lin Technical Reviewer	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	
<b>Testing location/ address</b> .....		
<b>Tested by (name, function, signature)</b> .....		
<b>Witnessed by (name, function, signature)</b> . :		
<b>Approved by (name, function, signature)</b> .. :		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	
<b>Testing location/ address</b> .....		
<b>Tested by (name, function, signature)</b> .....		
<b>Witnessed by (name, function, signature)</b> . :		
<b>Approved by (name, function, signature)</b> .. :		
<b>Supervised by (name, function, signature)</b> :		

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

- Measurement Section (4 Pages)
- Photo documentation (8 Pages)

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

name of test	test clause number
Classification of electrical energy sources	5.2
Accessibility to electrical energy sources and safeguards (Accessibility test)	5.3.2
Maximum operating temperature test (Heating test)	5.4.1.4, 9.3, B.1.5, B.2.6
Determination of working voltage	5.4.1.8
Minimum Clearances/Creepage distance	5.4.2, 5.4.3
Humidity test	5.4.8
Electric strength test	5.4.9
Safeguards against capacitance discharge test	5.5.2.2
Resistance of the protective bonding system (Ground continuity test)	5.6.6
Unearthed accessible parts	5.7.4
Earthed accessible conductive part test	5.7.5
Electrical Power Source (PS) measurements for classification	6.2.2
Top Openings in Fire Enclosure	6.4.8.3.3
Bottom Openings in Fire Enclosure	6.4.8.3.4
Input test	Annex B.2.5
Abnormal operating and fault condition tests	Annex B.3, B.4
Transformer insulation	Annex G.5.3.2
Transformer overload	Annex G.5.3.3
Safeguards against entry of foreign object	Annex P.2.2
Adhesive test	Annex P.4
Limited power source test (LPS)	Annex Q.1
Steady force test, 10N, 30N, 250N	Annex T.2, T.3, T.5

**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, CA, DK, SG, US

Explanation of used codes: CA=Canada, DK=Denmark, SG=Singapore, US=United States of America

**The product fulfils the requirements of EN IEC 62368-1:2020+ A11:2020 and BS EN IEC 62368-1:2020 + A11: 2020.**

For National Differences see corresponding Attachment of original report 60445700 001.

**Use of uncertainty of measurement for decisions on conformity (decision rule) :**

No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

Other:... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

**Information on uncertainty of measurement:**

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

**Copy of marking plate:**

Refer to original report 60445700 001 for original rating labels.

<b>Test item particulars:</b>			
<b>Product group</b> .....	<input checked="" type="checkbox"/> end product	<input type="checkbox"/> built-in component	
<b>Classification of use by</b> .....	<input checked="" type="checkbox"/> Ordinary person	<input checked="" type="checkbox"/> Children likely present	
	<input type="checkbox"/> Instructed person		
	<input type="checkbox"/> Skilled person		
<b>Supply connection</b> .....	<input checked="" type="checkbox"/> AC mains	<input type="checkbox"/> DC mains	
	<input type="checkbox"/> not mains connected:		
	<input type="checkbox"/> ES1	<input type="checkbox"/> ES2	<input type="checkbox"/> ES3
<b>Supply tolerance</b> .....	<input checked="" type="checkbox"/> +10%/-10%		
	<input type="checkbox"/> +20%/-15%		
	<input type="checkbox"/> + %/ - %		
	<input type="checkbox"/> None		
<b>Supply connection – type</b> .....	<input checked="" type="checkbox"/> pluggable equipment type A -		
	<input type="checkbox"/> non-detachable supply cord		
	<input checked="" type="checkbox"/> appliance coupler		
	<input type="checkbox"/> direct plug-in		
	<input type="checkbox"/> pluggable equipment type B -		
	<input type="checkbox"/> non-detachable supply cord		
	<input type="checkbox"/> appliance coupler		
	<input type="checkbox"/> permanent connection		
	<input type="checkbox"/> mating connector	<input type="checkbox"/> other:	
<b>Considered current rating of protective device</b> .....	<input checked="" type="checkbox"/> 20 A;		
	Location:	<input checked="" type="checkbox"/> building	<input type="checkbox"/> equipment
	<input type="checkbox"/> N/A		
<b>Equipment mobility</b> .....	<input checked="" type="checkbox"/> movable	<input type="checkbox"/> hand-held	<input type="checkbox"/> transportable
	<input type="checkbox"/> direct plug-in	<input type="checkbox"/> stationary	<input type="checkbox"/> for building-in
	<input checked="" type="checkbox"/> wall/ceiling-mounted	<input type="checkbox"/> SRME/rack-mounted	
	<input type="checkbox"/> other:		
<b>Overvoltage category (OVC)</b> .....	<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:	
<b>Class of equipment</b> .....	<input checked="" type="checkbox"/> Class I	<input type="checkbox"/> Class II	<input type="checkbox"/> Class III
	<input type="checkbox"/> Not classified	<input type="checkbox"/>	
<b>Special installation location</b> .....	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> restricted access area	
	<input type="checkbox"/> outdoor location	<input type="checkbox"/>	
<b>Pollution degree (PD)</b> .....	<input type="checkbox"/> PD 1	<input checked="" type="checkbox"/> PD 2	<input type="checkbox"/> PD 3
<b>Manufacturer's specified T<sub>ma</sub></b> .....	40 °C	<input type="checkbox"/> Outdoor: minimum	°C
<b>IP protection class</b> .....	<input checked="" type="checkbox"/> IPX0	<input type="checkbox"/> IP__	
<b>Power systems</b> .....	<input checked="" type="checkbox"/> TN	<input type="checkbox"/> TT	<input type="checkbox"/> IT - V <sub>L-L</sub>
	<input type="checkbox"/> not AC mains		
<b>Altitude during operation (m)</b> .....	<input type="checkbox"/> 2000 m or less	<input checked="" type="checkbox"/> 5000 m	
<b>Altitude of test laboratory (m)</b> .....	<input checked="" type="checkbox"/> 2000 m or less	<input type="checkbox"/> m	
<b>Mass of equipment (kg)</b> .....	Approx. 9.35kg (with base); Base weight: 2.61kg		
<b>Possible test case verdicts:</b>			
- 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)		

<b>Testing:</b>	
<b>Date of receipt of test item</b> .....: 11.May.2022	
<b>Date (s) of performance of tests</b> .....: 11.May.2022 - 01.Jul.2022	
<b>General remarks:</b>	
<p>"(See Enclosure #)" refers to additional information appended to the report.          "(See appended table)" refers to a table appended to the report.</p> <p><b>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</b></p>	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IECCE 02:</b>	
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 .....	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>Not applicable</b>
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies) .....</b> :	
<ol style="list-style-type: none"> <li>1 TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian, P.R. China</li> <li>2 TPV Electronics (Fujian) Co., Ltd. Shangzheng, Yuan Hong Road, Fuqing City, Fujian, P.R. China</li> <li>3 TPV Electronics (Fujian) Co., Ltd. Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing City, 350301, Fujian, P.R. China</li> <li>4 L&amp;T Display Technology (Fujian) Ltd. Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing, 350301, Fujian, P.R. China</li> <li>5 TPV Display Technology (China) Co., Ltd. No. 106 Jinghai 3 Rd., BDA, 100176, Beijing, P.R. China</li> <li>6 TPV Display Technology (Wuhan) Co., Ltd. Unique No. 11, Zhuankou Development District of Economic Technological Development Zone, 430056, Wuhan City, P.R. China</li> <li>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</li> <li>8 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</li> <li>9 Envision Indústria de Produtos Eletrônicos Ltda. Av. Torquato Tapajós, 2236, Flores - CEP 69058-830 - Manaus/AM, Brazil</li> <li>10 TPV Technology (Thailand) Co., Ltd. No.267 Mu7, Tha Tum Sub- District, Si Maha Pho District, Prachin Buri Province, Thailand</li> <li>11 GeneTouch Corp. No. 9 Neixi Rd., Luzhu Dist., Taoyuan City, 338012, Taiwan</li> <li>12 Dixon Technologies (India) Ltd. EMC-2, Shed No. 2,4,5,6 &amp; 7, Near Tirupati Airport, Village Govindhavaram, Munagalapalem Post, Revenue Vikruthamala, Yerpedu Mandelam, District-Chittoor, Andhra Pradesh, 517526, India</li> <li>13 Fábrica Austral de Productos Eléctricos S.A. Islas Malvinas 1180, Rio Grande (9420), Provincia de Tierra del Fuego, Antártida e Islas del Atlántico Sur, Argentina</li> </ol>	

**General product information and other remarks:****Product Description –**

Description of change(s):

1. Add alternative construction used with:
  - a) new power board **715GD294**;
  - b) new main board **715GD197**;
  - c) new USB board **715GD179**;
  - d) new metal enclosure **type B and type B'**. Meanwhile, original metal enclosure mentioned in original report 60445699 001 named as type A;
2. Add new alternative main board **715GD218**, which is used with power board 715GA321 only;
3. Add alternative USB board 715GD179 metal enclosure type B as mentioned above, for construction with power board 715GA321;
4. Update factories list due to the client's request.

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

Change	Testing	Comments
1.-3.	- See Summary of testing on Page 3 for the details.	See following pages for details. The measured power consumption of new main board and USB board is not higher than that measured with original main board and USB board in original report 60445699 001. Additional heating test for construction with original power board was not required.
4.	- N/A	See Page 6-7 for the details.

**Model Differences –**

All models are identical except for different enclosure color and type designation.

Table 1: Definition of variable(s):

Variable:	Range of variable:	Content:
*	0-9, A-Z, a-z, -, \, /, + or blank	Represent different enclosure color for marketing purpose only, no technical difference.

Table 2: construction details

Construction	Power board	Main board	USB board	Metal enclosure
1	715GA321	715GB818	715GC428 <b>715GD179</b>	Type A Type B Type B'
		<b>715GD218</b>	<b>715GD179</b>	
2	<b>715GD294</b>	<b>715GD197</b>	<b>715GD179</b>	

Remark: Metal enclosure type B is similar with type A, no different condition of heat sink was existed between two types of metal enclosure. And Metal enclosure type B is identical to type B' except for additional opening in the rear of metal enclosure.

History of amendments and modifications:

Ref. No. 60445700 001 dated Nov.01,2021 (original test report)

Ref. No. 60445700 002 dated Jul.22,2022 (modification)