Test Report issued under the responsibility of:

TÜVRheinland®

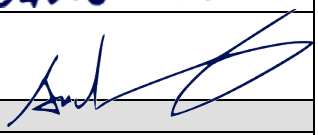
TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number ..... :	**50346758 003**
Date of issue ..... :	2022-Jul-26
Total number of pages ..... :	9
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 62368-1:2014
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_1D
Test Report Form(s) Originator .. :	UL(US)
Master TRF ..... :	Dated 2022-04-14

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 (LED Backlight)	
Trade Mark(s) .....:		AOC	
Manufacturer.....:		Same as applicant	
Model/Type reference .....:		Q24P2, Q24P2C, Q24P2********, 24P2, 24P2C, 24P2********, 24E2, 24E2********, U24N3********, Q24N3********, 24N3******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)	
Ratings .....:		I/P: 100-240V~, 50/60Hz, 1.5A or 2.0A	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☐	**CB Testing Laboratory:**	TÜV Rheinland (Shenzhen) Co., Ltd.	
Testing location/ address.....:		CTF Stage 1 procedure used. For address of testing location see “Test procedure: CTF Stage 1” below.	
Tested by (name, function, signature) .....:			
Approved by (name, function, signature).....:			
☒	**Testing procedure: CTF Stage 1:**	TPV Electronics (Fujian) Co., Ltd.	
Testing location/ address.....:		Shangzheng, Yuan Hong Road Fuqing City, Fujian, P.R.China	
Tested by (name, function, signature) .....:		Solina Zhao Project Engineer	
Approved by (name, function, signature).....:		Anderson Wang Technical Reviewer	
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address.....:			
Tested by (name, function, signature) .....:			
Witnessed by (name, function, signature).....:			
Approved by (name, function, signature).....:			
☐	**Testing procedure: CTF Stage 3 :**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address.....:			
Tested by (name, function, signature) .....:			
Witnessed by (name, function, signature).....:			
Approved by (name, function, signature).....:			
Supervised by (name, function, signature) ...:			

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

- N/A

Summary of testing:

Tests performed (name of test and test clause):

name of test	test clause number
Input test	Annex B.2.5

The EUT passed the test.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the CTF Stage 1 laboratory described on page 2.

Summary of compliance with National Differences (List of countries addressed):

List of countries addressed:

EU Group Differences, EU Special National Conditions, CA, DK, IT, JP, US

Explanation of used codes: CA=Canada, DK=Demark, IT=Italy, JP=Japan, US=United States of America

The product fulfils the requirements of EN 62368-1:2014+ A11:2017 and BS EN 62368-1:2014+ A11:2017

For National Differences see corresponding Attachment of original 50346758 001 for the detail.

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:

- See original report 50346758 001-002 for the details.

TEST ITEM PARTICULARS:	
Classification of use by ..... :	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection ..... :	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☐ None
Supply Connection – Type ..... :	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other:_____
Considered current rating of protective device as part of building or equipment installation ..... :	20 A; Installation location: ☒ building; ☐ equipment
Equipment mobility ..... :	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: _____
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III ☐ Class II with functional earthing ☐ Not classifed
Access location ..... :	☐ restricted access area ☒ N/A
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient ..... :	40 °C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power Systems ..... :	☒ TN ☐ TT ☐ IT - ____ $V_{L-L;}$ ☐ dc mains ☐ N/A
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ 5000 m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) ..... :	☒ Whole unit with base type B: Max. 5.11kg; Base type A: 0.35kg; Base type B: 1.65kg; Base type C: 1.81kg.

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.....:	28.Jun.2021
Date (s) of performance of tests .....:	22.Jul.2021

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 ☐ comma / ☒ 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 50346758 002 for the details.

General product information and other remarks:

Product Description –

Description of change(s):

1. Add new construction for all models: original main board 715G9496 used with original power board 715G7300.

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

Change	Testing	Comments
1.	- Annex B.2.5 Input test	The power consumption of new construction is not higher than that of original construction, no heating test is required.

History of amendments and modifications:

Ref. No. 50346758 001, dated Mar.25, 2020 (original report)
Ref. No. 50346758 002, dated Apr.15, 2022 (modification)
Ref. No. 50346758 003, dated Jul.26, 2022 (modification)

Model Differences –

Table 1: Definition of variable(s):

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

Table 2: Construction details

Model	Power board	Main board [1.]	USB board	Metal enclosure	Base stand [2.]	Plastic enclosure [3.]
Q24P2, Q24P2C, Q24P2********, 24P2, 24P2C, 24P2********, 24E2, 24E2********, U24N3********, Q24N3********, 24N3********	715G7300	715G9494 **715G9496**	N/A	Type A	Type A	Type A
	715G7610	715G9483 715G9485 715G9496 715GD060	715GB017	Type B	Type B Type C	Type B
	715GB004	715GA987 715GB065	715GB001	Type C	Type B Type C	Type B

Supplementary information:

1. Base type A is stationary type.
   Base type B is height adjustable and rotational, which can be rotated with 90° clockwise or 90° anti-clockwise
2. Base type C rotational, which can be rotated with 90° clockwise or 90° anti-clockwise
3. Plastic enclosure type B is identical to type A except for adding rear openings for USB ports.

Additional application considerations – N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Test with power board 715G7300 and main board 715G9496								
HDMI mode								
90	50	0.377	--	20.8	--	F901	0.377	Maximum normal load
90	60	0.382	--	20.8	--	F901	0.382	Maximum normal load
100	50	0.348	1.5	20.7	--	F901	0.348	Maximum normal load
100	60	0.352	1.5	20.7	--	F901	0.352	Maximum normal load
240	50	0.203	1.5	20.4	--	F901	0.203	Maximum normal load
240	60	0.206	1.5	20.6	--	F901	0.206	Maximum normal load
264	50	0.189	--	20.5	--	F901	0.189	Maximum normal load
264	60	0.191	--	20.6	--	F901	0.191	Maximum normal load
VGA mode								
90	50	0.343	--	19.0	--	F901	0.343	Maximum normal load
90	60	0.347	--	18.9	--	F901	0.347	Maximum normal load
100	50	0.314	1.5	18.8	--	F901	0.314	Maximum normal load
100	60	0.316	1.5	18.8	--	F901	0.316	Maximum normal load
240	50	0.179	1.5	18.8	--	F901	0.179	Maximum normal load
240	60	0.180	1.5	18.9	--	F901	0.180	Maximum normal load
264	50	0.167	--	18.8	--	F901	0.167	Maximum normal load
264	60	0.167	--	18.6	--	F901	0.167	Maximum normal load
DP mode								
90	50	0.347	--	21.5	--	F901	0.347	Maximum normal load
90	60	0.350	--	21.4	--	F901	0.350	Maximum normal load
100	50	0.320	1.5	21.3	--	F901	0.320	Maximum normal load
100	60	0.323	1.5	21.1	--	F901	0.323	Maximum normal load
240	50	0.191	1.5	21.1	--	F901	0.191	Maximum normal load
240	60	0.193	1.5	21.0	--	F901	0.193	Maximum normal load
264	50	0.178	--	21.0	--	F901	0.178	Maximum normal load
264	60	0.178	--	20.9	--	F901	0.178	Maximum normal load
Supplementary information:								
1. Maximum normal load: maximum brightness, maximum contrast, full white screen (Test both with full white screen and three bar screen, and worse test result was recorded in this table).								

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Customer's Testing Facility according to CTF stage 1 or CTF stage 2 procedure has been used.
Note: This page may be removed when CTF stage 1 or CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

Clause	Test description	Equipment No.
☒ Annex B.2.5	Input test	921061908143, 2340, 2209-006185

Equipment list mentioned on above table						
Equipment No.	**Object Description**	**Range Used**	**Manufacturer**	**Model number**	**Interval in months G/C**	**Next date G/C**
921061908143	AC Power Source	Input: 110/220 ±15 % output: 0-300Vac,47-63Hz	APC	KDF-11005G	12	07-Sep-2022
2340	Power meter	Input: 200-250Vac, 50/60Hz or 60Hz output: Current Range: 0-20A, Voltage Range: 0-500Vac	IDRC	Cp-320A	12	11-Oct-2022
2209-006185	Video pattern Generator	Input: 90-132/180-250Vac, 50/60 Hz,1.5A Fuse: T2A/250V Output: Range: 3.126-250MHz	Chroma	2325	12	01-Dec-2022

Statement of Measurement Uncertainty

The Test Report shall include a statement concerning the uncertainty of the measurement systems used for the tests conducted when it is required by the standard, client or other authorities.
In such cases, the table below is to be used for reporting U of M.

This page may be removed from the final Test Report when not required. See also clause 4.8 in OD 2020 for more details.

Clause #	Parameter/ Measurement / test method	Requirement % or k	Calculated U of M*

*Note: Calculations leading to the reported value are on file with the NCB